- ☐ Executed Contract File
- ☐ Contractor
- ☐ Finance
- ☐ City Clerk
- ☐ Surety
- ☐ Granting Agency
- ☐ Project Manager
- ☐ CM/Inspector
- ☐ Design Professional
- ☐ _____

City of Kansas City, Missouri
Water Services Department
Wes Minder, P.E., Director

Project Manual

PROJECT/CONTRACT NO. 81000817/1682

WSD ADMINISTRATION BUILDING & IT IMPROVEMENTS & ADA COMPLIANCE

BIDDER/ADDRESS

Company	**Hartline Construction, LLC**
Contact	**Jennifer G. Hart**
Address	**751 E. 63rd Street, Ste. 107** **Kansas City, MO 64110**
Phone	**(816) 921-6002**
Fax	**(816) 920-0502**
Email	**JHart@hartlinecon.com**

Project Manager: Debra L. Smith
Telephone: 816-513-0293
Email: Debra.Smith@kcmo.org

414 E. 12th Street
Kansas City, MO
64106

File #: 230478

ORDINANCE NO. 230478

Authorizing a $3,864,415.00 construction contract with Hartline Construction, LLC, for the Water Services Administration Building and I/T Improvements and ADA Compliance project; authorizing a maximum expenditure of $4,239,415.00; authorizing a $292,195.00 design professional services Amendment No. 4 to Contract No. 1519, for the Various Building and I/T Improvements and ADA Compliance Implementation Water Services Department Building (SLBE-WSDEPS) project with Wellner Architects, Inc., for a total contract amount of $750,195.00; and recognizing this ordinance as having an accelerated effective date.

WHEREAS, the City approved a $187,938.00 design professional services Contract No. 1519 with Wellner Architects, Inc. on October 30, 2019, for the Various Building and I/T Improvements and ADA Compliance Implementation Water Services Department Building (SLBE-WSDEPS) project; and

WHEREAS, the City approved a $27,663.00 Amendment No. 1 on September 21, 2020, and a $177,399.00 Amendment No. 2 on February 22, 2021, for Contract No. 1519 with Wellner Architects, Inc. for planning, design changes, and I/T upgrade work on the design professional services project; and

WHEREAS, City Council approved Ordinance No. 210438 on May 27, 2021, authorizing a $65,000.00 Amendment No. 3 to Contract No. 1519 with Wellner Architects, Inc. for I/T updates and gender neutral restroom design work on the design professional services project; and

WHEREAS, this proposed ordinance is requesting City Council approval for a $292,195.00 Amendment No. 4 to Contract No. 1519 with Wellner Architects, Inc., for construction phase services on the project for a total contract amount of $750,195.00; NOW, THEREFORE,

BE IT ORDAINED BY THE COUNCIL OF KANSAS CITY:

Section 1. That the Director of the Water Services Department is authorized to execute construction Contract No. 1682 in the amount of $3,864,415.00 with Hartline Construction, LLC, for the Water Services Administration Building and I/T Improvements and ADA Compliance project, Project No. 81000817. A copy of the contract is on file in the office of Water Services.

Section 2. That the Director of the Water Services Department is authorized a maximum expenditure of $4,239,415.00, from Account No. AL-8193-807710-611060-81000817, Adm/Service Facility Improvements, to satisfy the cost of this contract.

Section 3. That the Director of the Water Services Department is authorized to execute design professional services Amendment No. 4 to Contract No. 1519 in the amount of $292,195.00, for a total contract amount of $750,195.00, with Wellner Architects, Inc., for the Various Building and I/T Improvements and ADA Compliance Implementation Water Services Department Building (SLBE-WSDEPS) project, Project No. 81000817. A copy of the contract is on file in the office of Water Services.

Section 4. That the Director of the Water Services Department is authorized a maximum expenditure of $292,195.00, from Account No. AL-8193-807710-611040-81000817, Adm/Service Facility Improvements, to satisfy the cost of this amendment.

Section 5. That this ordinance, relating to the design, repair, maintenance of construction of a public improvement, is recognized as an ordinance with an accelerated effective date as provided by Section 503(a)(3)(D) of the City Charter and shall take effect in accordance with Section 503, City Charter.

I hereby certify that there is a balance, otherwise unencumbered, to the credit of the appropriation to which the foregoing expenditure is to be charged, and a cash balance, otherwise unencumbered, in the treasury, to the credit of the fund from which payment is to be made, each sufficient to meet the obligation hereby incurred.

Tammy L. Queen
Director of Finance

Approved as to form:

for
Mark P. Jones
Senior Associate City Attorney

Authenticated as Passed

Quinton Lucas, Mayor

Marilyn Sanders, City Clerk

JUN 15 2023
Date Passed

CITY OF FOUNTAINS
HEART OF THE NATION
KANSAS CITY
MISSOURI

CERTIFICATION PAGE

□ro□ect/Contr□ct □u□ □er□□ 81000817/1519

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STATE OF MISSOURI
SASSAN MAHOBIAN
NUMBER E-20961
REGISTERED PROFESSIONAL ENGINEER

_____ (□E□□)

I certif□ under □en□t□ of □□□ t□□t t□e docu□ent □nd □□□□tt□c□□ent□ □ere □re□□red under □ □direction or □u□er□i□ion in □ccord□nce □it□ □ □□□te□ de□i□ned to □□□ure t□□t □u□ified □er□onne□□ro□er□ □□t□ered □nd e□□□u□ted t□e infor□ □tion □u□□itted, □nd t□□t t□e infor□ □tion □u□□itted i□, to t□e □e□t of □□ □no□□ed□e □nd □e□ief, true, □ccur□te, □nd co□ □ete. I □□ □□□re t□□t t□ere □re □i□nific□nt □en□tie□ for □u□□ittin□ f□□□e infor□ □tion, inc□din□ t□e □o□□i□i□t□ of fine □nd i□ □ri□on□ent for □no□in□ □io□□tion□.

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

CERTIFICATION PAGE

Project/Contract Numbers: 81000817/1519

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

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I am responsible for the following specifications and drawings:

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G0.03	INTERIOR ACCESSIBILITY
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A2.01	TERRACE LEVEL NEW CONSTRUCTION
A2.11	FIRST LEVEL - AREA A NEW CONSTRUCTION
A2.12	FIRST LEVEL - AREA B NEW CONSTRUCTION
A2.13	FIRST LEVEL - AREA C NEW CONSTRUCTION
A2.14	FIRST LEVEL - AREA D NEW CONSTRUCTION
A2.15	FIRST LEVEL REFLECTED CEILING PLANS NEW CONSTRUCTION
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055213	PIPE AND TUBE RAILINGS
057300	DECORATIVE METAL RAILINGS
061053	MISCELLANEOUS ROUGH CARPENTRY
064116	PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS
079200	JOINT SEALANTS
081213	HOLLOW METAL FRAMES
081416	FLUSH WOOD DOORS
083400	SLIDING WOOD DOORS
084113	ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS
084126	ALL-GLASS ENTRANCES
087100	DOOR HARDWARE SCHEDULE
088000	GLAZING
088300	MIRRORS
090190.52	MAINTENANCE REPAINTING
092216	NON-STRUCTURAL METAL FRAMING
092900	GYPSUM BOARD
093013	CERAMIC TILING
095113	ACOUSTICAL PANEL CEILINGS
096513	RESILIENT BASE AND ACCESSORIES
096813	TILE CARPETING
099123	INTERIOR PAINTING
101100	VISUAL DISPLAY UNITS
101423	PANEL SIGNAGE
102113.13	METAL TOILET COMPARTMENTS
102800	TOILET, BATH, AND LAUNDRY ACCESSORIES
123661.16	SOLID SURFACING COUNTERTOPS

_____ (SEAL)

I certify under penalty of law that the document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted, and that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

CERTIFICATION PAGE

Project/Contract Numbers: 81000817/1519

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

---

I am responsible for the following specifications and drawings:

Drawings:

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274110	TELECOMMUNICATIONS REQUIREMENTS FOR AUDIO VIDEO SYSTEMS
274116	AUDIO VIDEO SYSTEMS EQUIPMENT

11/10/2022 (SEAL)

I certify under penalty of law that the document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted, and that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

CERTIFICATION PAGE

Project/Contract Numbers: 81000817/1519

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

I am responsible for the following specifications and drawings:

Drawings:

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F4.00	FIRE PROTECTION SPECIFICATIONS

Specifications:

STATE OF MISSOURI
CHRISTOPHER J.
CULP
NUMBER
PE-2012057646
PROFESSIONAL ENGINEER

11/10/2022 (SEAL)

I certify under penalty of law that the document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted, and that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

CERTIFICATION PAGE

Project/Contract Numbers: 81000817/1519

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

I am responsible for the following specifications and drawings:

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M4.00	MECHANICAL SPECIFICATIONS

Specifications:

KELLEY P. CRAMM
LICENSE # E-022323
11/10/2022 (SEAL)

I certify under penalty of law that the document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted, and that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

CITY OF FOUNTAINS
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STATE OF MISSOURI
AMANDA
RENEE BUSH
NUMBER
PE-2008019529
PROFESSIONAL ENGINEER

Amanda R Bush

12-15-2022

_____ (SEAL)

I certify under penalty of law that the document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted, and that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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Project Title: KC Water Administration Building,
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329223 SODDING

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

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□0.01	DR□□ I□□ I□DE□, □□□REVI□TIO□□, □□M□O□□ □□D □OTE□	2	12.15.2022
□0.02	□E□ER□□ □CCE□□I□I□IT□	3	12.15.2022
□0.03	I□TERIOR □CCE□□I□I□IT□	4	12.15.2022
□0.04	CODE REVIE□	5	12.15.2022
□0.05	□□□□I□□	6	12.15.2022
C0.01	□ITE □□□□	7	12.15.2022
C0.11	DEMO□ITIO□ □□□□	8	12.15.2022
C0.21	DIME□□IO□ □□□□	9	12.15.2022
C0.31	□R□DI□□ □□□□	10	12.15.2022
C0.40	□ITE DET□I□□	11	12.15.2022
□0.10	□ITE DEMO□ITIO□ □□□□□	12	12.15.2022
□0.11	□ITE □E□ CO□□TR□CTIO□ □□□□□	13	12.15.2022
□1.00	DEMO□ITIO□ □E□ □□□□□	14	12.15.2022
□1.01	TERR□CE □EVE□ DEMO□ITIO□	15	12.15.2022
□1.11	FIR□T □EVE□ - □RE□ □ DEMO□ITIO□	16	12.15.2022
□1.12	FIR□T □EVE□ - □RE□ □ DEMO□ITIO□	17	12.15.2022
□1.13	FIR□T □EVE□ - □RE□ C DEMO□ITIO□	18	12.15.2022
□1.14	FIR□T □EVE□ - □RE□ D DEMO□ITIO□	19	12.15.2022
□1.15	FIR□T □EVE□ - DEMO□ITIO□ REF□ECTED CEI□I□□ □□□□□	20	12.15.2022
□1.21	□ECO□D □EVE□ - □RE□ □ DEMO□ITIO□	21	12.15.2022
□1.22	□ECO□D □EVE□ - □RE□ □ DEMO□ITIO□	22	12.15.2022
□1.23	□ECO□D □EVE□ - □RE□ C DEMO□ITIO□	23	12.15.2022
□2.00	□E□ CO□□TR□CTIO□ □E□ □□□□□	24	12.15.2022
□2.01	TERR□CE □EVE□ □E□ CO□□TR□CTIO□	25	12.15.2022
□2.11	FIR□T □EVE□ - □RE□ □ □E□ CO□□TR□CTIO□	26	12.15.2022
□2.12	FIR□T □EVE□ - □RE□ □ □E□ CO□□TR□CTIO□	27	12.15.2022
□2.13	FIR□T □EVE□ - □RE□ C □E□ CO□□TR□CTIO□	28	12.15.2022
□2.14	FIR□T □EVE□ - □RE□ D □E□ CO□□TR□CTIO□	29	12.15.2022
□2.15	FIR□T □EVE□ REF□ECTED CEI□I□□ □□□□□ □E□ CO□□TR□CTIO□	30	12.15.2022
□2.21	□ECO□D □EVE□ - □RE□ □ □E□ CO□□TR□CTIO□	31	12.15.2022
□2.22	□ECO□D □EVE□ - □RE□ □ □E□ CO□□TR□CTIO□	32	12.15.2022
□2.23	□ECO□D □EVE□ - □RE□ C □E□ CO□□TR□CTIO□	33	12.15.2022
□3.10	E□□□R□ED □□□□□ □ DET□I□□ - □ORT□ □O□□□ □ CO□FERE□CE ROOM□	34	12.15.2022
□3.11	□□T 1 - □E□DER □E□TR□□RE□TROOM□ - DEMO□ITIO□	35	12.15.2022
□3.12	□□T 1 - □E□DER □E□TR□□RE□TROOM□ - □E□ CO□□TR□CTIO□	36	12.15.2022
□4.01	I□TERIOR E□EV□TIO□□ □□D □ECTIO□□	37	12.15.2022
□4.02	I□TERIOR E□EV□TIO□□ □□D □ECTIO□□	38	12.15.2022
□4.03	I□TERIOR E□EV□TIO□□ □□D □ECTIO□□	39	12.15.2022
□4.04	I□TERIOR E□EV□TIO□□ □□D □ECTIO□□ - RE□TROOM□	40	12.15.2022
□4.05	I□TERIOR E□EV□TIO□□ □□D □ECTIO□□ - RE□TROOM□	41	12.15.2022
□4.06	□□T 1 - I□TERIOR E□EV□TIO□□ □ □ECTIO□□ - □E□DER □E□TR□□ RE□TROOM□	42	12.15.2022
□5.01	DET□I□□ - C□□E□ OR□	43	12.15.2022

A5.02	DET□I□□ - □T□IR□	44	12.15.2022
A5.03	DET□I□□	45	12.15.2022
A5.04	E□□□R□ED PLANS & DET□I□□ - □ORT□ □OBBY & CO□FERE□CE ROOM□	46	12.15.2022
A5.05	E□□□R□ED PLANS & DET□I□□ - □ORT□ □OBBY & CO□FERE□CE ROOM□	47	12.15.2022
A6.01	DOOR □C□ED□□E, DOOR AND WALL T□□E □E□E□D□	48	12.15.2022
A6.02	SIGNAG E □C□ED□□E, DOOR AND □ I□DO□ DET□I□□	49	12.15.2022
A6.03	FI□I□□ □C□ED□□E AND DET□I□□	50	12.15.2022
S001	□E□ER□□ □OTE□	51	12.15.2022
S101	□EVE□ 1 □RE□ A	52	12.15.2022
S102	□EVE□ 2 □RE□ A	53	12.15.2022
S301	DET□I□□	54	12.15.2022
F0.00	FIRE □ROTECTIO□ □E□E□D AND □E□ER□□ □OTE□	55	12.15.2022
F1.00	FIRE □ROTECTIO□ DEMO□ITIO□ KEY PLANS	56	12.15.2022
F1.11	FIRE □ROTECTIO□ E□□□R□ED DEMO□ITIO□ PLANS	57	12.15.2022
F1.12	FIRE □ROTECTIO□ E□□□R□ED DEMO□ITIO□ PLANS	58	12.15.2022
F2.00	FIRE □ROTECTIO□ KEY □LANS	59	12.15.2022
F2.11	FIRE □ROTECTIO□ E□□□R□ED PLANS	60	12.15.2022
F2.12	FIRE □ROTECTIO□ E□□□R□ED PLANS	61	12.15.2022
F3.00	□E□DER □E□TR□□ □□TER□□TE□ - FIRE □ROTECTIO□ PLANS	62	12.15.2022
F4.00	FIRE □ROTECTIO□ □□ECIFIC□TIO□□	63	12.15.2022
P0.00	PLU MBING □E□E□D, □OTE□ AND □C□ED□□E□	64	12.15.2022
P1.00	PLU MBING DEMO□ITIO□ KEY PLANS	65	12.15.2022
P1.01	E□□□R□ED PLU M□ING DEMO□ITIO□ PLANS	66	12.15.2022
P1.02	E□□□R□ED PLU MBING DEMO□ITIO□ PLANS	67	12.15.2022
P2.00	PLU MBING NEW CO□□TR□CTIO□ KEY PLANS	68	12.15.2022
P2.01	E□□□R□ED PLU MBING PLANS	69	12.15.2022
P2.02	E□□□R□ED PLU MBING PLANS	70	12.15.2022
P3.00	□E□DER □E□TR□□ □□TER□□TE□ - □LU MBING □LANS	71	12.15.2022
P4.00	PLU MBING □C□ED□□E□ AND DET□I□□	72	12.15.2022
P5.00	PLU MBING □□ECIFIC□TIO□□	73	12.15.2022
M0.00	MEC□□□IC□□ □E□E□D AND □E□ER□□ □OTE□	74	12.15.2022
M1.00	MEC□□□IC□□ DEMO□ITIO□ KEY PLANS	75	12.15.2022
M1.11	E□□□R□ED MEC□□□IC□□ DEMO□ITIO□ PLANS	76	12.15.2022
M2.00	MEC□□□IC□□ NEW CO□□TR□CTIO□ KEY PLANS	77	12.15.2022
M2.11	E□□□R□ED MEC□□□IC□□ PLANS	78	12.15.2022
M3.00	□E□DER □E□TR□□ □□TER□□TE□ - MEC□□□IC□□ PLANS	79	12.15.2022
M3.01	MEC□□□IC□□ DET□I□□ AND □C□ED□□E□	80	12.15.2022
M4.00	MEC□□□IC□□ □□ECIFIC□TIO□□	81	12.15.2022
E0.00	E□ECTRIC□□ □E□E□D AND □E□ER□□ □OTE□	82	12.15.2022
E0.10	□ITE E□ECTRIC□□ PLANS	83	12.15.2022
E1.00	E□ECTRIC□□ DEMO□ITIO□ KEY PLANS	84	12.15.2022
E1.01	TERR□CE □EVE□ - E□ECTRIC□□ DEMO□ITIO□ PLAN	85	12.15.2022
E1.11	FIR□T □EVE□ - □RE□ A E□ECTRIC□□ DEMO□ITIO□ PLAN	86	12.15.2022
E1.12	FIR□T □EVE□ - □RE□ B E□ECTRIC□□ DEMO□ITIO□ PLAN	87	12.15.2022
E1.14	FIR□T □EVE□ - □RE□ D E□ECTRIC□□ DEMO□ITIO□ PLAN	88	12.15.2022
E1.23	□ECO□D □EVE□ - □RE□ C E□ECTRIC□□ DEMO□ITIO□ PLAN	89	12.15.2022
E1.31	LIGH TING DEMO□ITIO□ PLANS	90	12.15.2022
E1.32	LIGH TING DEMO□ITIO□ PLANS	91	12.15.2022
E2.00	NEW CO□□TR□CTIO□ E□ECTRIC□□ KEY PLANS	92	12.15.2022
E2.01	TERR□CE □EVE□ - E□ECTRIC□□ PLAN	93	12.15.2022
E2.11	FIR□T □EVE□ - □RE□ A E□ECTRIC□□ PLAN	94	12.15.2022
E2.12	FIR□T □EVE□ - □RE□ B E□ECTRIC□□ PLAN	95	12.15.2022
E2.13	FIR□T □EVE□ - □RE□ C E□ECTRIC□□ PLAN	96	12.15.2022
E2.14	FIR□T □EVE□ - □RE□ D E□ECTRIC□□ PLAN	97	12.15.2022
E2.21	□ECO□D □EVE□ - □RE□ A E□ECTRIC□□ PLAN	98	12.15.2022
E2.22	□ECO□D □EVE□ - □RE□ B E□ECTRIC□□ PLAN	99	12.15.2022
E2.23	□ECO□D □EVE□ - □RE□ C E□ECTRIC□□ PLAN	100	12.15.2022
E2.31	LIGH TING PLANS	101	12.15.2022
E2.32	LIGH TING PLANS	102	12.15.2022
E3.00	□E□DER □E□TR□□ □□TER□□TE□ - E□ECTRIC□□ PLANS	103	12.15.2022
E3.01	E□ECTRIC□□ DET□I□□ AND □C□ED□□E□	104	12.15.2022

E3.02	□□□E□ □C□ED□□E□	105	12.15.2022
E4.00	E□ECTRIC□□ □□ECIFIC□TIO□□	106	12.15.2022
E4.01	E□ECTRIC□□ □□ECIFIC□TIO□□	107	12.15.2022
□V0.00	□□DIO-VIDEO □E□E□D □□D □E□ER□□ □OTE□	108	12.15.2022
□V2.00	□□DIO-VIDEO □E□ CO□□TR□CTIO□ □E□ □□□□	109	12.15.2022
□V2.01	□□DIO-VIDEO □E□ CO□□TR□CTIO□ □E□ RC□	110	12.15.2022
□V2.11	□□DIO-VIDEO E□□□R□ED □□□□□	111	12.15.2022
□V2.12	□□DIO-VIDEO E□□□R□ED RC□	112	12.15.2022
□V3.00	□□DIO-VIDEO □C□ED□□E□	113	12.15.2022
□V6.01	□V MO□□TI□□ DET□I□	114	12.15.2022
□V6.02	□V MO□□TI□□ DET□I□- VIDEO DI□□□□□	115	12.15.2022
□V7.01	□□DIO-VIDEO □□□TEM □I□E DR□□ I□□□ -□□O□□CREE□ CO□F. ROOM	116	12.15.2022
□V7.02	□□DIO-VIDEO □□□TEM □I□E DR□□ I□□□ - MI□□O□RI RIVER CO□F. ROOM	117	12.15.2022
□V7.03	□□DIO-VIDEO □□□TEM □I□E DR□□ I□□□ - O□ CREE□ CO□F. ROOM	118	12.15.2022
□V7.04	□□DIO-VIDEO □□□TEM □I□E DR□□ I□□□ - □□□E RIVER CO□FERE□CE ROOM	119	12.15.2022
T□0.00	□EC□RIT□ □E□E□D □□D □E□ER□□ □OTE□	120	12.15.2022
T□1.00	□EC□RIT□ DEMO□ITIO□ □E□ □□□□□	121	12.15.2022
T□1.11	E□□□R□ED □EC□RIT□ DEMO□ITIO□ □□□□□	122	12.15.2022
T□2.00	□EC□RIT□ □E□ CO□□TR□CTIO□ □E□ □□□□	123	12.15.2022
T□2.11	E□□□R□ED □EC□RIT□ □□□□□	124	12.15.2022
T□3.00	□EC□RIT□ DET□I□□	125	12.15.2022

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

INVITATION TO BID

Project/Contract Number: 81000817/1682

Project Title: WSD Administration Building & IT Improvements & ADA Compliance

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The General Services Department of Kansas City, Missouri will receive sealed Bids until 2:00 PM, on March 21, 2023 at 414 E. 12th Street, 1st Floor, Room 102W, Kansas City, MO 64106 for **Project/Contract Number: 81000817/1682 – WSD Administration Building & IT Improvements & ADA Compliance.** Bids will be opened after that time at 414 E. 12th Street, 1st Floor, Room 102W, Kansas City, MO 64106

City desires that Minority Business Enterprises (MBE) and Women's Business Enterprises (WBE) have a maximum opportunity to participate in the performance of City contracts. The goals for this specific Project are **(11%)** MBE participation and **(11%)** WBE participation.

Bidding Documents will be available online to all interested parties at the Kansas City, Missouri Plan Room, http://www.kcmoplanroom.org. All addenda will be posted at this location. Any document or plan may be viewed or downloaded from this location.

Bidders are to attend the **mandatory,** Pre-Bid Conference on **Thursday, March 9, 2023** at **1:00 PM onsite at the KC Water Administration HQ Building, 4800 E. 63rd Street Kansas City, MO 64130.**

Microsoft Teams meeting

Join on your computer, mobile app or room device

Click here to join the meeting

Meeting ID: 288 727 413 181

Passcode: jBvfQx

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Phone Conference ID: 504 120 852#

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Learn More | Meeting options

Project Manager: Debra L. Smith
Phone Number: (816) 513-0293
E-mail: Debra.Smith@kcmo.org

Contract Administrator: Derrick Smith
Phone Number: (816) 513-0807
E-mail: Derrick.Smith@kcmo.org

View all procurement and contracting opportunities at http://www.kcmo.gov

CITY OF FOUNTAINS
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MISSOURI

INSTRUCTIONS TO BIDDERS

Project Number 81000817/1682

Project Title WSD Administration Building & IT Improvements & ADA Compliance

1. Sealed Bids for **Project/Contract Number 81000817/1682 – WSD Administration Building & IT Improvements & ADA Compliance will be received by the General Services Department at 414 E. 12th Street, 1st Floor, Room 102W, Kansas City, MO 64106 until 2:00 P.M., March 21, 2023** at which time bidding will be closed.

   a. All Bids will be opened and read aloud. The Bid Envelope must contain all required submissions to be included with the Bid. No Bid may be withdrawn for a period of ninety (90) days after the Bid is opened. Bid security shall likewise continue for the same ninety (90) days unless earlier released by the City. The successful Bidder shall comply with all Bidding and contract requirements. Bids, once opened and read, may not be withdrawn without forfeiture of the Bid security.

   b. All Bids shall be addressed to the Manager of Procurement, shall state on the outside of the sealed Bid envelope "Bid Enclosed", title and Project number, and shall be deposited in the locked Bid box. All Bids must comply with the Bidding Requirements of Kansas City, Missouri (CITY).

2. Consideration of Bids

   a. The City will determine the lowest, responsive, and responsible Bid. The City may reject any or all bids. If the City rejects all Bids, the City may: (1) resolicit Bids following the City's normal solicitation procedure; or (2) solicit Bids only from those Bidders that submitted a Bid pursuant to the original solicitation; or (3) use an expedited Bid submission schedule with or without readvertising or issuing any other public notice when the City determines that the delay from the normal City solicitation procedure would not be in the City's best interests.

   b. Alternates. If this solicitation includes Bid Alternates, the City, in its sole discretion, may include any, all or none of the Alternates in determining the lowest, responsive, and responsible Bid. In determining lowest, responsive, and responsible Bid, the City may include the Alternates in any combination and in any order or priority or choose none of the Alternates. The City may make this determination at any time after Bid Closing and prior to Contract award. The City will act in the best interest of the City in determining whether to include any, all or none of the Alternates and the combination and priority of any Alternates selected. If additional funding becomes available after Contract award, City may add any or all of the Alternates to the Contract by change order.

3. Evidence of Competency to Perform. Each bidder shall furnish with the bid satisfactory evidence of Bidder's competency to perform the proposed work. Such evidence of competency shall consist of the following:

   a. Completed Form 00410.01 Experience Reference Summary for three projects of similar scope performed within the past 5 years including the name, address and telephone number of the contact person having knowledge of the project and the dollar value of the project.

   b. Statement that, during the three (3) years immediately preceding the date of the Bid, Bidder has received no written notices of violations of any federal or state prevailing wage statute in which prevailing wage penalties were assessed against the Bidder or Bidder has been found in such but has made restitution to affected workmen and complied with any statutory penalty; and a

statement that Bidder is current on payment of Federal and State income tax withholdings and unemployment insurance payments

c. Statement that Bidder participates in a training program that facilitates entry into the construction industry and which may include an on-the-job or in-house training program. By submitting its Bid, Bidder is agreeing to timely submit during the 48 hours after Bid opening an affidavit of describing such program and Bidder's participation.

d. Identify the following Key Personnel proposed for the Project. (**NOTE:** Key Personnel must be committed to the Project for its duration, and may not be removed or substituted without the City's prior written consent.)

   (1) GC Project Manager

   (2) On-Site Field Superintendent

   (3) Safety Officer

e. For each of the Key Personnel, provide the following background information.

   (1) Years of employment with current employer

   (2) City of residence

   (3) Identify any other projects this person will be involved with concurrently with the Project, and state the time commitment for the Project and each other project

   (4) Discuss professional registrations, education, certifications, and credentials held by this person that are applicable to the Project

f. Discuss generally the tasks involved in the Project.

g. Illustrate clearly and concisely Bidder's understanding of the technical elements that must be addressed for successful completion of the Project.

h. Submit a bid schedule with anticipated milestones for the Project using Microsoft Project 2007 or later format.

i. Describe key issues that might affect the Project schedule and how Bidder proposes to address them.

j. Summary of the Project Safety Plan for the Project.

   (1) Describe how Bidder proposes to address any unique safety issues for the Project

   (2) Describe your safety record and environmental compliance record along with your Firm's OSHA reportable accident rates on recent comparable size projects

   (3) Statement of Bidder's Experience Modification Ratio (EMR)

k. Discuss Bidder's understanding of the traffic control required for the Project, if applicable, and how traffic control will impact the Project schedule. Discuss any major traffic control issues that need to be addressed and Bidder's proposed solutions.

l. Identify any other special issues or problems that are likely to be encountered. Outline the manner in which Bidder suggests resolving them.

m. Outline key community relations issues and how they might be resolved.

n. Describe any difficulties Bidder anticipates encountering in serving the City, in light of the City's status as a municipality and public entity. Explain how Bidder plans to manage them.

o. Summary of Bidder's Quality Assurance/Quality Control Plan for this project

p. Statement regarding all work performed two (2) years immediately preceding the date of the Bid, that contains either (a) a contract by contract listing of any written notices of violations of any federal, state or local DBE/MBE/WBE Program and any damages assessed; or (b) a statement

that there have been no such written notices of violations or such penalties assessed; and a statement that Program requirements have been met.

q. Statement that the Bidder has not been rescinded or debarred from any bidding, contractual, procurement, or other such programs by federal, state or local entities.

r. Statement that Bidder is current on payment of Federal and State income tax withholdings and unemployment insurance payments

s. Statement of Bidder's litigation and/or arbitration history over the past five (5) years including final ruling.

t. Statement of Bidder's bond history over the past five (5) years including any incidences of failure to perform.

u. MBE / WBE past project performance and compliance with participation goals in comparable size commercial projects

v. Other.

4. Waiver of Bid Requirements The City Manager or his delegate at any time may waive any requirements imposed by this solicitation or by any City regulation when failure to grant the waiver will result in an increased cost to the City and the requirement waived would be waived for all Bidders for this solicitation and it is in the best interest of the City to grant the waiver. The City Council at any time may waive any requirements imposed in this solicitation by the City's Code of Ordinances when it finds failure to grant the waiver will result in an increased cost to the City and the waived requirement would be waived for all Bidders for this solicitation and it is in the best interest of the City to grant the waiver. The City reserves the right to waive any irregularities and/or formalities as deemed appropriate.

5. Late Bids Bids and modifications of Bids received after the exact hour and date specified for receipt will not be considered unless: (1) the Bid is sent via the U.S. Postal Service, common carrier or contract carrier, by a delivery method that guarantees the Bid will be delivered to the City prior to the submission deadline; or (2) if the Bid is submitted by mail, common carrier or contract carrier it is determined by the City that the late receipt was due solely to an error by the U.S Postal Service, common carrier or contract carrier; or (3) the Bid is timely delivered to the City but is at a different City location than that specified in this IFB; or (4) the City extends the time after the deadline for a force majeure event that could potentially affect any or all Bidders meeting the deadline.

6. Interpretations and Addenda All questions about the meaning or intent of the Bidding Documents may be directed to the Project Manager listed at the end of these Instructions to Bidders. Interpretations or clarifications considered necessary by the Project Manager in response to such questions will be issued by Addenda to all parties recorded as having received the Bidding Documents. Questions received less than ten (10) days prior to the date for opening of Bids may not be answered. Only answers issued by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. Addenda may also be issued to modify the Bidding Documents as deemed advisable by the City.

7. Bid Security Requirements All Bids submitted must be accompanied by a Bid deposit in the amount of five percent (5%) of the base Bid which shall be in the form of a Bid Bond (on the form provided in these Bidding Documents), Cashier's Check, Letter of Credit, Certificate of Deposit or other instrument approved in advance by the City. Prior to submittal of the Bid the City Treasurer must approve both the financial institution and text of a Letter of Credit. A Cashier's Check or a Certificate of Deposit shall be payable to the City Treasurer.

8. Forfeiture of Security If a Bidder fails or refuses to execute the Contract when requested by the City, any Bid security given to the City shall immediately become due and payable and forfeited to the City as liquidated damages.

9. Mistake in Bid Security By submitting a Bid, Bidder is agreeing to correct any mistakes on a Bid security submission when requested by the City. When such a mistake occurs and a Bidder fails or refuses to correct the mistake or execute the Contract when requested by the City, any Bid security shall be forfeited to the City and the Bidder shall also be subject to debarment and damages.

10. Bids that Exceed the Engineer's Estimate The City may offer the apparent lowest, responsive, and responsible Bidders the option of performing the Work for the Engineer's estimate for the Project with no changes to the Bid requirements or scope of the Project if the Bid is not more than five percent higher than the Engineer's estimate.

11. Post Bid Required Submissions The successful Bidder will be required to submit the following documents with the signed copies of the Bid Form/Contract or within the timeframes specified in the Notice of Intent to Contract letter. Copies of the City's forms that the successful Bidder will be required to sign are bound into this Project Manual for information:

a. Properly signed, dated, and sealed Performance and Maintenance Bond and Payment Bond;

b. Properly completed certificates of insurance;

c. Copies of licenses required by the City to do the Work;

d. A copy of CONTRACTOR's current Certificate of Good Standing or Fictitious Name Registration from the Missouri Secretary of State, or other acceptable proof; and

e. Copy of CONTRACTOR's Affirmative Action Plan

12. Indemnification – City of Kansas City. The contract documents contains a requirement that Contractor shall indemnify, defend and hold harmless the City and any of its agencies, officials, officers, or employees from and against all claims, damages, liability, losses, costs, and expenses, including reasonable attorneys' fees, arising out of or resulting from any acts or omissions in connection with the contract, caused in whole or in part by Contractor, its employees, agents, or Subcontractors, or caused by others for whom Contractor is liable, including negligent acts or omissions of the City, its agencies, officials, officers, or employees. The contract requires Contractor to obtain specified limits of insurance to insure the indemnity obligation. Contractor has the opportunity to recover the cost of the required insurance in the Contract Price by including the cost of that insurance in the Bid amount.

13. City's Buy American and Missouri Preference Policies It is the policy of the City that any manufactured goods or commodities used or supplied in the performance of any City contract or any subcontract thereto shall be manufactured or produced in the United States whenever possible. When Bids offer quality, price, conformity with specifications, term of delivery and other conditions imposed in the specifications that are equal, the City shall select the Bid that uses manufactured goods or commodities that are manufactured or produced in the United States. The City shall give preference to all commodities manufactured, produced, or grown within the State of Missouri and to all firms, corporations, or individuals doing business as Missouri firms, corporations or individuals, when quality is equal or better and delivered price is the same or less. It is the bidder's responsibility to claim these preferences.

14. Affirmative Action It is the policy of the City that any person or entity entering into a contract with the City, will employ applicants and treat employees equally without regard to their race, color, sex, religion, national origin or ancestry, disability, sexual orientation, gender identity or age. Bidder will be required to comply with the City's Affirmative Action ordinance if Bidder is awarded a contract from the City totaling more than $300,000.00. If you have any questions regarding the City's Affirmative Action requirements, please contact HRD at (816) 513-1836 or visit the City's website at www.kcmo.gov.

15. Tax Clearance Bidder will be required to furnish to CITY sufficient proof from City's Commissioner of Revenue, verifying that Bidder is in compliance with the license and tax ordinances administered by City's Revenue Division as a precondition to CITY making its first payment under any CONTRACT over $160,000.00. Bidder will also be required to obtain proof of City tax compliance from all of its Subcontractors prior to the Subcontractors performing any Work.

16. Substitutions or "Or-Equal" Items The procedure for submission of substitutions or "or-equal" items is set forth in the General Conditions and Supplementary Conditions.

17. Prevailing Wage Requirements The successful Bidder shall pay the prevailing hourly rate of wages as determined by the Missouri Annual Wage Order and/or Federal Wage Determination set forth in the Project Manual. In case of a conflict between Missouri and Federal wage rates, the higher rate shall apply.

Successful Bidder shall be required to use City's Internet web based Prevailing Wage Reporting System provided by City and protocols included in that software during the term of this Contract. When requested by the City, Bidder shall submit user applications to City's provided Prevailing Wage Reporting System for all applicable personnel and shall require subcontractors to submit same.

18. Contract Information Management System. Successful Bidder shall be required to use City's Internet web based Contract Information Management System/Project Management Communications Tool provided by City and protocols included in that software during the term of this Contract. Bidder/Proposer shall submit user applications to City's provided Contract Information Management System for all personnel, subcontractors or suppliers as applicable.

19. MBE/WBE Program Requirements City desires that Minority Business Enterprises (MBE) and Women's Business Enterprises (WBE) have a maximum opportunity to participate in the performance of City contracts. The goals for this specific Project are **(11%)** MBE participation and **(11%)** WBE participation. The City's HRD Forms and HRD Instructions for Construction Projects are incorporated into these Bidding Documents and the Contract Documents. The MBE/WBE Directory is available on the City's website at www.kcmo.gov. Please call the Human Relations Department at (816) 513-1836 for assistance.

Successful Bidder shall be required to use City's Internet web based MBE/WBE Program Reporting System provided by City and protocols included in that software during the term of this Contract. When requested by the City, Bidder shall submit user applications to City's provided MBE/WBE Program Reporting System for all applicable personnel and shall require subcontractors/subconsultants to submit same.

20. Waiver of MBE/WBE Requirements The City Council may waive any and all MBE/WBE requirements imposed by any Bidding Document or the MBE/WBE Ordinance and Contract with the lowest, responsive, and responsible Bidder if the City Council determines a waiver is in the best interests of the City.

21. Forfeiture of Bid Bond for Failure to Make MBE/WBE Submissions By submitting its Bid, Bidder is agreeing to the following: (1) Bidder has made by Bid opening a good faith effort to meet the MBE/WBE goals established for the Project; or Bidder will continue to make during the 48 hours after Bid opening a good faith effort to meet the MBE/WBE goals established for the Project; and (2) Bidder will timely submit its 00450 HRD Construction Contractor Utilization Plan/Request for Waiver (HRD Form 8) and 00450.01 Letter of Intent to Subcontract for each MBE/WBE listed on the 00450 HRD Construction Contractor Utilization Plan/Request for Waiver; and (3) Bidder will submit documentation of its good faith efforts to meet the MBE/WBE goals when requested by the City. Failure to meet these requirements in good faith will result in Bidder being debarred and forfeiting its Bid Bond.

22. Workforce Program Requirements. City desires that minorities and women have a maximum opportunity to practice their trades on city construction projects. The minimum company-wide goals are at ten percent (10%) minority workforce and two percent (2%) women workforce. The City's HRD Forms and HRD Instructions for Construction Projects are incorporated into these Bidding Documents and the Contract Documents.

Successful Bidder shall be required to use City's Internet web based Workforce Program Reporting System provided by City and protocols included in that software during the term of this Contract. When requested by the City, Bidder shall submit user applications to City's provided Workforce Program Reporting System for all applicable personnel and shall require subcontractors to submit same.

23. Subcontractors, Suppliers and Others

a. If the Contract Documents require the identity of certain Subcontractors, Suppliers and other persons and organizations (including those who are to furnish the principal items of material and equipment) to be submitted to City, the apparent lowest, responsive, and responsible Bidder, and any other Bidder so requested, shall submit to City a list of all such Subcontractors, Suppliers and other persons and

organizations proposed for those portions of the Work for which such identification is required. An experience statement shall accompany such list with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier or organization if requested by City. If City has reasonable objection to any proposed Subcontractor, Supplier or other person or organization, City may request the apparent lowest, responsive, and responsible Bidder to submit an acceptable substitute without an increase in Bid price.

b. By submitting its Bid, Bidder agrees that it has read and understands all the provisions of General Condition No. 6.07, Concerning Subcontractors, Suppliers and Others, and that it will comply with all those provisions including but not limited to mandatory mediation of disputes and the prohibition against paid-if-paid and paid-when-paid contract clauses. It is the City's expectation that all Subcontractors and Suppliers will be treated fairly and in good faith by the successful Bidders and that the successful Bidder will make all reasonable efforts to resolve contract disputes with a Subcontractor or Supplier in a prompt and fair manner. If the City is notified by a Subcontractor or Supplier of a contract claim with the successful Bidder, City will notify the successful Bidder and will request prompt resolution of the claim. City will provide any such Subcontractor or Supplier information regarding mandatory mediation as well as a copy of the Payment Bond. City may notify the Surety that City has taken cognizance of such claim.

c. In accordance with the Missouri Prompt Payment Act, City reserves the right to withhold payment(s) in good faith from the successful Bidder due to: i)the successful Bidder's failure to comply with any material provision of the contract; ii)third party claims filed or reasonable evidence that a claim will be filed; iii)the successful Bidder's failure to make timely payments for labor, equipment or materials; or iv)for damage to a Subcontractor or Supplier.

d. By submitting its Bid, Bidder agrees it will not deny any Subcontractor subcontracting opportunities solely because the Subcontractor is not a signatory to collective bargaining agreements with organized labor.

e. The provisions of GC 6.07 are a material term of the Contract with the City and failure by the successful Bidder to comply with the provisions of this section will be taken into consideration by City in making the determination of lowest, responsive, and responsible bidder in any subsequent City contracts.

24. Pre-Bid Conference The Water Services Department will hold a pre-Bid conference on Thursday, March 9, 2023, at 1:00 PM onsite at the KC Water Administration HQ Building, 4800 E. 63rd Street Kansas City, MO 64130. Attendance at the pre-Bid conference is **mandatory** for all Bidders on this Project. For this Project, the City shall not contract with a Bidder who has not attended the entire pre-Bid conference for this Project.

Microsoft Teams meeting

Join on your computer, mobile app or room device

Click here to join the meeting

Meeting ID: 288 727 413 181

Passcode: jBvfQx

Download Teams | Join on the web

Or call in (audio only)

+1 872-212-5076,,504120852# United States, Chicago

Phone Conference ID: 504 120 852#

Find a local number | Reset PIN

Learn More | Meeting options

25. **On-Site Inspection** The Project Site will be available for inspection by Bidders. Bidders visiting the Project Site shall be responsible for their own safety. For access to the interior of the Project Site shall be available for inspection by appointment from 9:00AM to 2:30 PM each day Monday through Friday

(holidays excepted). Bidders may contact the following individual from the Water Services Department for an appointment.

Contact: Debra L. Smith

Phone: (816) 513-0293 E-mail: Debra.Smith@kcmo.org

26. Signatures Each copy of the Bid Form/Contract must be signed and properly dated by the following, as applicable:

Limited Liability Company:

□ a member of the limited liability Company authorized to sign on behalf of the company.

Partnership:

□ a partner authorized to sign on behalf of the partnership.

Sole Proprietor:

□ the proprietor.

Joint Venture:

□ the parties to the Joint Venture authorized to sign on behalf of each party to the Joint Venture, or a person authorized by each party to the Joint Venture to sign on behalf of all parties to the Joint Venture.

Corporation:

□ a corporate office authorized to sign on behalf of the corporation. Corporation's seal must be attached to the signature.

27. Forward all questions in writing to the following Project Manager and Contract Administrator. Questions received less than seven (7) days prior to the Bid Date may not be answered. Interpretations or clarifications considered necessary by the Project Manager in response to such questions will be issued by Addenda to all Bidders. Oral or other interpretations or clarifications shall be without legal effect, even if made at a Pre-Bid Meeting.

Debra L. Smith, Project Manager
Water Services Department
4800 E. 63rd Street
Kansas City, MO, 64130
(816) 513-0293
E-mail: Debra.Smith@kcmo.org

Derrick Smith, Procurement Officer
General Services Department, Procurement
City Hall, City of Kansas City, MO
414 E. 12th Street, 1St Floor W
Kansas City, MO 64106
(816) 513-0807
E-mail: Derrick.Smith@kcmo.org

For persons with disabilities needing reasonable accommodations please contact Andrea Dorch at 816-513-1818 or Paul Pierce at 816-513-1824. If you need to use the Relay Missouri Center call 1-800-RELAY-MO (1-800-735-2966).

Bidder: Hartline Construction, LLC

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

BID FORM/CONTRACT

Project/Contract Number: 81000817/1682

Project Title: WSD Administration Building & IT Improvements & ADA Compliance

1. Bidder, having examined the Bidding Documents, related documents and the Site of the Work, and being familiar with all the conditions affecting the construction of the proposed Work, including Laws and Regulations and the availability of materials and supplies, agrees, if this Bid is selected by CITY, this Bid Form/Contract will become the Contract between Bidder and CITY for Bidder to furnish all labor and materials, equipment and services necessary for the proper completion of the Work in accordance with the Contract Documents, including general construction work at the price(s) stated below, which stated sums include fees and all other charges applicable to materials, appliances, labor and all things subject to and upon which other charges may be levied.
2. Bidder agrees the Contract Documents will comprise the entire agreement between CITY and Bidder. The Contract Documents are identified in the General Conditions and are incorporated into and made part hereof this Bid Form/Contract by reference.
3. Bidder agrees that if this Bid Form/Contract is executed by CITY, Bidder's offer is accepted and this Bid Form/Contract that incorporates all other Contract Documents shall constitute the Contract between the parties. Bidder authorizes the CITY to fill in the Contract Price on this Bid Form/Contract in accordance with Bidder's Bid. Bidder agrees that this Bid Form/Contract may be executed in one or more counterparts, each of which will be deemed an original copy of this Bid Form/Contract and all of which, when taken together, will be deemed to constitute one and the same Bid Form/Contract. This Bid Form/Contract shall be effective upon the execution of counterparts by both parties, notwithstanding that both parties may not sign the same counterpart. The parties' signatures transmitted by facsimile or by other electronic means shall be proof of the execution of this Bid Form/Contract and shall be acceptable in a court of law. A copy of this Bid Form/Contract shall constitute an original and shall be acceptable in a court of law.
4. The Bid Price(s) shall be shown in numeric figures only.

TOTAL BASE BID IN NUMERIC FIGURES $ 3,714,415.00

ALLOWANCE NO. $ 150,000.00

TOTAL BID ALTERNATE NO. 1 IN NUMERIC FIGURES $ 824,150.00

TOTAL BID ALTERNATE NO. 2 IN NUMERIC FIGURES $ 89,810.00

TOTAL SUM - BID IN NUMERIC FIGURES $ 4,778,375.00

5. The undersigned Bidder has given CITY'S Project Manager written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by the Project Manager or by the DESIGN PROFESSIONAL is acceptable to Bidder.
6. The undersigned Bidder agrees that this Bid shall remain subject to selection by CITY, and may not be withdrawn for ninety (90) days after the day Bids are opened.
7. The undersigned Bidder certifies that this Bid contains no modifications, deviations, riders or qualifications.

8. The Contract Price will be subject to adjustment according to final measured, used, or delivered quantities, and the adjustment unit prices in the Bid will apply to such final quantities

9. Form 00420 - Alternates contains work and prices which modify the Base Bid, if selected, and is incorporated into this Bid. This form must be completed and returned with this Bid.

10. The undersigned Bidder acknowledges receipt of the following addenda listed by number and date appearing on each addendum:

Addendum Number	Dated	Addendum Number	Dated
1	3/7/2023		
2	3/7/2023		
3	3/22/2023		
4	4/3/2023		
5	4/3/2023		

11. By submitting its bid, Bidder is agreeing to meet or exceed the minimum employment goals of 10% minority and 2% women during the term of its contract with the City, or request a waiver of the goals. If a waiver is requested, Bidder must establish good faith efforts towards meeting the goals as set forth in the HRD Instructions for Construction Contracts and the City's Construction Employment Program Ordinance (commonly known as the "Workforce Ordinance") (City Code Section 3-515). Within forty-eight (48) hours after bid opening, the construction contractor shall submit **KC CREO Employee Identification Report Form-Rev. 102715** which shall include: the name, home address, job title, sex and race/ethnicity of each person the contractor anticipates will be performing construction labor hours creditable towards the minimum workforce goals applicable to the construction contractor individually.

12. Should Bidder fail to meet or exceed the minimum employment goals or otherwise establish that Bidder is entitled to a waiver under circumstances in which Bidder has previously failed to meet or exceed the goals on one or more occasions with the twenty-four month period immediately preceding the completion of the Work under this Bid Form/Contract, Bidder may be suspended from participating, either as a contractor or subcontractor, on any future contract with the City for a period ranging from thirty days to six months as further specified in the Contract Documents. This program is distinguished from the M/WBE Program in that it is not based on company ownership but rather is based on workforce hours instead of a budgetary allocation of work.

13. By submitting its bid, Bidder warrants that if its bid should exceed $300,000.00 and Bidder employs fifty (50) or more people, Bidder has an affirmative action program in place and will maintain the affirmative action program in place for the duration of its contract with the City. Bidder further warrants that it will comply with the affirmative action requirements contained in the General Conditions as incorporated by reference into this Bid Form/Contract.

14. Section 15 through Section 18 constitutes the Affidavit of Intended Utilization required to be submitted by Bidders.

15. By submitting its bid, Bidder is agreeing to the following: (1) Bidder has made by bid opening a good faith effort to meet the MBE/WBE/DBE goals established for the project; or Bidder will continue to make during the 48 hours after bid opening a good faith effort to meet the MBE/WBE/DBE goals established for the project; and (2) Bidder will timely submit its **00450 KC CREO 08 Contractor Utilization Plan/Request for Waiver** and **00450.01 Letter of Intent to Subcontract** for each MBE/WBE listed on the 00450 HRD 08 Construction Contractor Utilization Plan/Request for Waiver;; and (3) Bidder will submit documentation of its good faith efforts to meet the MBE/WBE/DBE goals when requested by the City. Failure to meet these requirements in good faith will result in Bidder forfeiting its bid bond.

PROJECT GOALS:	11	% MBE	11	% WBE		% DBE
BIDDER PARTICIPATION:	3	% MBE	60	% WBE	63	% DBE

16. To the best of Bidder's knowledge, the following are names of certified MBEs and/or WBEs with whom Bidder, or Bidder's subcontractors, presently intend to contract with if awarded the Contract on the above project: ***(All firms must currently be certified by Kansas City, Missouri Human Relations Department)***

A. Name of M/WBE Firm Hartline Construction, LLC
Address 751 East 63rd Street, Kansas City, MO 64110
Telephone No. 816-921-6002
I.R.S. No. 45-3951328
Area/Scope of work Demolition, Finishes (Metal Stud, Drywall, ACT, Grid, Construction Managment)
Subcontract amount $2,210,160

B. Name of M/WBE Firm AGP
Address 12900 2nd Street, Grandview, MO 64030
Telephone No. 816-322-0220
I.R.S. No. 48-1209004
Area/Scope of work Store Front - Aluminum.
Subcontract amount $134,000.00

C. Name of M/WBE Firm Diverse ID
Address 8121 NW 80th Terrace, Kansas City, MO 64152
Telephone No. 816-505-1369
I.R.S. No. 26-2647480
Area/Scope of work Signage
Subcontract amount $4,500.00

D. Name of M/WBE Firm Alpha Energy and Electric
Address 1100 East 34th Street, Kansas City, MO 64109
Telephone No. 816-442-4032
I.R.S. No. 33-[illegible]1116338
Area/Scope of work Electrical
Subcontract amount ~~$65,000.00~~ $73,994.91

E. Name of M/WBE Firm
Address
Telephone No.
I.R.S. No.

Area/Scope of work _____
Subcontract amount _____

F. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____
Area/Scope of work _____
Subcontract amount _____

(List additional MBE/WBEs, if any, on additional pages and attach to this form)

17. By submitting its bid, Bidder is agreeing it will identify and timely submit within 48 Hours after Bid opening those MBE/WBE subcontractors with dollar amounts and scopes of work, which apply to or exceed the MBE/WBE goals for the Project on the **00450 KC CREO 08 Contractor Utilization Plan/Request for Waiver.**

18. Bidder agrees that failure to meet or exceed the MBE/WBE Goals for the above project will require the Director of Human Relations to recommend disapproval of the bid unless the Director of Human Relations finds the Bidder established good faith efforts towards meeting the goals as set forth in the HRD Forms and Instructions for Construction Projects and the City's MBE/WBE Ordinance.

Bidder: Hartline Construction

Business Entity Type:

( ) Missouri Corporation
( ) Foreign Corporation
( ) Fictitious Name Registration
( ) Sole Proprietor
(XX) Limited Liability Company
( ) Partnership
( ) Joint Venture
( ) Other: (Specify)

BIDDER
Legal name & address of Bidder, person firm, partnership, corporation, or association submitting Bid:
Jennifer G.Hart
Phone No: 816-921-6002
Cell No: 913-269-0481
Facsimile No: 816-920-0502
Bidder's E-Mail: jhart@hartlinecon.com

Federal ID. No. 45-39513289

I hereby certify that I have authority to execute this document on behalf of Bidder, person, firm, partnership, corporation or association submitting Bid.

By: Jennifer G. Hart
(Signature)

Jennifer G. Hart
(Print Name)

Title: Owner and President

Date: 4/4/2023

(Attach corporate seal if applicable)

NOTARY

Subscribed and sworn to before me this 4th day of April, 2023

My Commission Expires: 09/27/2025 Cheyenne Rae Burchett

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21366462

DocuSign Envelope ID: 420B9062-BCD3-44E5-8D2E-95439C753516

Bidder: Hartline Construction, LLC

ACCEPTANCE OF BID

CITY, by executing this Bid Form/Contract, hereby accepts Bidder's Bid and this Bid Form/Contract that incorporates all other Contract Documents shall constitute the Contract between the Parties.

CITY shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents a maximum amount of Three Million Eight Hundred Sixty Four Thousand Four Hundred Fifteen Dollars and 00/100, ($ 3,864,415.00). The Contract Price includes:

00413 Allowances, included in the Bid, a copy of which is attached

By executing this Bid Form/Contract, CITY accepts Bidder's offer for the Contract Price stated above and this Bid Form/Contract that incorporates all other Contract Documents shall constitute the Contract between the parties

DocuSigned by:
Wes Minder
50CCF2C28AE1472...

City of Kansas City, Missouri (OWNER or City)

Approved as to form:

DocuSigned by:
Mark Jones
0909E44CF75D420...

Assistant City Attorney

I hereby certify that there is a balance, otherwise unencumbered, to the credit of the appropriation to which the foregoing expenditure is to be charged, and a cash balance, otherwise unencumbered, in the treasury, to the credit of the fund from which payment is to be made, each sufficient to meet the obligation hereby incurred.

DocuSigned by:
Eric Clevenger
18F59B5A8EE444E...

8/9/2023

Director of Finance (Date)

CITY OF FOUNTAINS
HEART OF THE NATION
KANSAS CITY
MISSOURI

EXPERIENCE AND REFERENCE SUMMARY

Project/Contract Number: 81000817/1682

Project Title: WSD Administration Building & IT Improvements & ADA Compliance

Firm's Legal Name	Hartline Construction, LLC
Mailing Address	751 East 63rd Street, Suite 107, Kansas City, MO 64110
Contact – Name & Email	Jennifer G. Hart, jhart@hartlinecon.com
Contact – Phone & Fax	816-9210-6002 Fax 816-920-0502

NO.	PROJECT & LOCATION	OWNER NAME & ADDRESS CONTACT & PHONE NUMBER	PROJECT DURATION & DATE COMPLETED	$ VALUE
1.	KCI Safety Carpentry at New Terminal Airport 1 Kansas City Blvd, KCMO 64153	CWC, Tom Kenton, See references	3 years, 11/15/2022	3,000,000.00
2.	Concessions at KCI New Terminal Airport 1 Kansas City Blvd, KCMO 64153	OHM, Milan Patel, 314-280-5034	6 months, 2/28/2023	6,000,000.00
3.	USO Tenant Finish at KCI New Terminal Airport 1 Kansas City Blvd, KCMO 64153	USO, Amanda Schmidt, 314-258-5295	3 months, 2/22/2023	286,000.00
4.	Argosy, Parisi Coffee House 777 Argosy Casino Parkway, Riverside, MO	Greg Personelli, 816-719-2250	3 months 12/15/2022	357,000.00
5.				
6.				
7.				
8.				
9.				

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

EXPERIENCE AND REFERENCE SUMMARY – CURRENT PROJECTS

Project/Contract Number: 81000817/1682

Project Title: WSD Administration Building & IT Improvements & ADA Compliance

Firm's Legal Name	HARTLINE CONSTRUCTION, LLC
Mailing Address	751 E 63rd STREET, SUITE 107, KANSAS CITY, MO 64110
Contact – Name & E-Mail	JENNIFER G. HART / jhart@hartlinecon.com
Contact – Phone & Fax	816.921-6002 / 816.920-0502

NO.	PROJECT & LOCATION	CONTRACT AMOUNT/ % COMPLETE	OWNER NAME & ADDRESS CONTACT & PHONE NUMBER	LENGTH, DIAMETER & MATERIAL OF CONSTRUCTION OR DESCRIPTION OF REPAIRS	START DATE
1.	Platte Purchase Park Concesson Pre-Manufatruered Blds.	$ 607,000.00 97% Complete	KCMO Parks and Recreation Dean Smith, 816-651-3690	Construct a pre-manufactured building for KCMO at Platte Purchase Park	8/2022-3/2023
2.	MCC Broadway Plaza Remodel	$2,960,000.00 99% Complete	Metropolitan Community College Andrew Shaver, 816-604-1372	Remodel of Broadway Plaza Admin Building on the MCC Pee Valley Campus	2/2022-3/2023
3.	BRIS, Job Order Contracts KCMO and UMKC	On going 85% with current	Michael Schneider 816-800-2123	Tenant finishes, Demolition, Carpentry Management	2011-Current
4.	Jackson County Maint. ContractOn Entire Jackson County Area	On going 50% with current	John Johnson 816-503-4823	Demo, New Construction, Tenant Finish Concrete Miscellaneous Construction	2022- Current
5.	Blair Intake, Blair Nebraska	$450,000.00 65%	Brain McDermott, Kissick 816-363-5530	Management, Doors, Frames, Hardware	2021-2023
6.					
7.					
8.					

LIST OF EQUIPMENT AND STAFFING AVAILABLE FOR PROJECT

Project/Contract Number: 81000817/1682

Project Title: WSD Administration Building & IT Improvements & ADA Compliance

	EQUIPMENT AVAILABLE FOR CONSTRUCTION (OR ATTACH LIST)		STAFFING BREAKDOWN	NUMBER OF EACH CATEGORY
1.	Trucks, Trailers, Dump Trailer, Hand tools, Construction Equipment	1.	OFFICE STAFF 5	See attached Org Chart
2.	to perform work on project.	2.	SUPERVISORS 4	
3.		3.	FIELD STAFF – CREW FOREMEN 10	
4.		4.	FIELD STAFF – OPERATORS (NOT FOREMEN) 10	
5.		5.	FIELD STAFF – LABORERS (NOT FOREMEN) 10	
6.		6.		

Hartline construction llc

Organization Chart 2022

Hartline Construction, LLC, 751 East 63rd St, Suite 107, Kansas City, MO 66110 Phone: 816-921-6002, Fax: 816-920-0502

Jennifer Hart (J. Hart)
President/100% Owner
816-921-6002

Safety Foreman
Chad Bergseiker 816-985-1205
Spencer Whited 816-985-7141

Midwest Builder Casualty
Tom Wilson: 816-808-6570

Estimating
Jennifer Hart

CBIZ Payroll and Taxes

Accounting
Vicky Snyder

Mark Mulich, CPA
6009 Cottonwood Dr
Shawnee, KS 66216
816-345-0131

Project Management
J. Hart and Self Performing Formen

Union Carpenter/Laborers/Painters

Key Superintendent/Foreman

Spencer Whited	Over 75 years of Union experience.		
Jason Closser	Expertise in all SOW		
Chad Bergseiker			
Charlie Manning			
Chris Thomasson			
Blake Nichols			
David Taylor			
Sean Gibson			
Brian Graitt			

Jennifer Hart
jhart@harltinecon.com
816-921-6002, Option 1

Cheyenne Burchett	Vicky Snyder	Stacy McIntyre
cburchett@hartlinekc.com	vsnyder@hartlinekc.com	smac@hartlinekc.com
816-921-6002, Option 2	816-921-6002, Option 3	816-921-6002, Option 4
Office Manager	AP/AR	Superintendent

4/4/2023

Bidder: HARTLINE CONSTRUCTION

ALLOWANCE FORM

Project/Contract Numbers: 81000817 / 1682

Project Title: WSD Administration Building & IT Improvements and ADA Compliance

Allowance No.:	Allowance Description:	Allowance in Figures:
1	Misc. gypsum board repairs throughout the building; areas requiring s	$150,000.00

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

ALTERNATES

Project/Contract Numbers: 81000817 / 1682

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

No:	Description:	☒ Add [+] ☐ Deduct [-]	Price in Figures:
1	Gender Neutral Restrooms for 1st and 2nd Floor off the North Lobby		$ 824,150.—

No:	Description:	☒ Add [+] ☐ Deduct [-]	Price in Figures:
2	Improvement to the Missouri River Training Room (aka Auditorium): Note that improvements drawn for the MO River Conference Room, Alt. 2, are NOT Base Bid (alternate scope of work is drawn, so base bid is minus alternate work shown). The Base Bid is "Remove the stage and any associated power and data back to the nearest wall with new device. Patch adjacent walls where the stage was removed and paint to match. Infill carpet and base to match. Adjust closer on doors to comply with ADA speed and force requirements. Alternate 2 are all other improvements shown.		$ 89,810.—

No:	Description:	☐ Add [+] ☐ Deduct [-]	Price in Figures:
			N/A $

No:	Description:	☐ Add [+] ☐ Deduct [-]	Price in Figures:
			N/A $

No:	Description:	☐ Add [+] ☐ Deduct [-]	Price in Figures:
			N/A $

No:	Description:	❑ Add [+] ❑ Deduct [-]	Price in Figures: N/A $

No:	Description:	❑ Add [+] ❑ Deduct [-]	Price in Figures: N/A $

No:	Description:	❑ Add [+] ❑ Deduct [-]	Price in Figures: N/A $

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY

BID BOND

Project Number 81000817/1682

Project Title KC Water Administration Building & IT Improvements & ADA Compliance

Bond Number Bid Bond

KNOW ALL MEN BY THESE PRESENTS: That Hartline Construction, LLC of 751 E. 63rd Street Kansas City, MO 64110, as Principal, and National American Insurance Company as Surety, hereby bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents unto KANSAS CITY, MISSOURI, a constitutionally chartered municipal corporation, as Obligee, in the sum of

Five Percent of Total Amount Bid Dollars ($ 5%), lawful money of the United States.

WHEREAS, Principal is herewith submitting its Bid to enter into a contract with Kansas City for the above referenced project,

NOW, THEREFORE the condition of this obligation is such that if the Principal is awarded the contract the Principal will, within the time required, enter into a contract and give a good and sufficient surety bonds to secure the performance of the terms and conditions of the contract and for the prompt payment of all labor and material furnished in the prosecution thereof as required by the contract documents, then this obligation shall be void; otherwise the Principal and Surety will immediately pay unto the Obligee the full amount of this bond as liquidated damages for failure to fulfill the conditions of this obligation, but in no event shall the Surety's liability exceed the penal sum hereof.

Signed, sealed and delivered this 4th day of April, 2023.

BIDDER AND PRINCIPAL

Name, address and facsimile number of Bidder and Principal

Hartline Construction, LLC
751 E. 63rd Street
Kansas City, MO 64110
(816)921-6002

I hereby certify that I have authority to execute this document on behalf of Bidder and Principal.

By: [signature]
Title: OWNER PRESIDENT / HARTLINE CONSTRUCTION

(Attach corporate seal if applicable)

SURETY

Name, address and facsimile number of Surety:

National American Insurance Company

PO Box 9

Chandler, OK 74834

405-258-4574

I hereby certify that (1) I have authority to execute this document on behalf of Surety; (2) Surety has an A.M. Best rating of A- or better; (3) Surety is named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (most current revision) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury; and (4) Surety is duly licensed to issue bonds in the State of Missouri and in the jurisdiction in which the Project is located.

By: Vickie J. Nickel

Title: Vickie J. Nickel Attorney-in-Fact

Date: April 4, 2023

(Attach seal and Power of Attorney)

NATIONAL AMERICAN INSURANCE COMPANY
CHANDLER, OKLAHOMA
POWER OF ATTORNEY

Number:
Bid Bond

DUPLICATES SHALL HAVE THE SAME FORCE AND EFFECT AS AN ORIGINAL ONLY WHEN ISSUED IN CONJUNCTION WITH THE ORIGINAL.

KNOW ALL MEN BY THESE PRESENTS: That the National American Insurance Company, a corporation duly organized under the laws of the State of Oklahoma, having its principal office in the city of Chandler, Oklahoma, pursuant to the following resolution, adopted by the Board of Directors of the said Company on the 8th day of July, 1987, to wit:

"Resolved, that any officer of the Company shall have authority to make, execute and deliver a Power of Attorney constituting as Attorney-in-fact, such persons, firms, or corporations as may be selected from time to time.

Resolved that nothing in this Power of Attorney shall be construed as a grant of authority to the attorney(s)-in fact to sign, execute, acknowledge, deliver or otherwise issue a policy or policies of insurance on behalf of National American Insurance Company.

Be It Further Resolved, that the signature of any officer and the Seal of the Company may be affixed to any such Power of Attorney or any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such powers so executed and certified by facsimile signature and facsimile seal shall be valid and binding upon the Company in the future with respect to any bond and documents relating to such bonds to which it is attached."

National American Insurance Company does hereby make, constitute and appoint

Vickie J. Nickel, Shawn Byrne, David Parkhurst, Lisa AnnSummers,
Rebecca A. Lilley, Kerry A. Sherrod

its true and lawful attorney(s)-in-fact, with full power and authority hereby conferred in its name, places and stead, to sign, execute, acknowledge and deliver in its behalf, and its act and deed, as follows:

To bind the company for bonds, not to exceed $4,000,000.00 for any single bond. And to bind National American Insurance Company thereby as fully and to the same extent as if such bonds and documents relating to such bonds were, signed by the duly authorized officer of the National American Insurance Company, and all the acts of said Attorney(s) pursuant to the authority herein given, are hereby ratified and confirmed.

IN WITNESS WHEREOF, the National American Insurance Company has caused these presents to be signed by any officer of the Company and its Corporate Seal to be hereto affixed.

NATIONAL AMERICAN INSURANCE COMPANY

W. Brent LaGere

W. Brent LaGere, Chairman & Chief Executive Officer

STATE OF OKLAHOMA)
COUNTY OF LINCOLN) SS:

On this 26rd day of September, A.D. 2017, before me personally came W. Brent LaGere, to me known, who being by me duly sworn, did depose and say; that he resides in the County of Lincoln, State of Oklahoma; that he is the Chairman and Chief Executive Officer of the National American Insurance Company, the corporation described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that he signed his name, thereto by like order.

Janet Taylor

Notary Public
My Commission Expires April 8, 2022
Commission #02006203

STATE OF OKLAHOMA)
COUNTY OF LINCOLN) SS:

I, the undersigned, Secretary of the National American Insurance Company, an Oklahoma Corporation, DO HEREBY CERTIFY that the foregoing and attached POWER OF ATTORNEY remains in full force.
Signed and Sealed at the City of Chandler.

Dated the 4th day of April, 2023

R. Patrick Gilmore

R. Patrick Gilmore, Secretary

Hartline construction llc

751 East 63rd Street
Suite 107
Kansas City, MO 64110

Primary Contact
Jennifer Hart, 100% Owner/President
jhart@hartlinecon.com
Cell: (913) 269-0481

Office: (816) 921-6002
Fax: (816) 920-0502

www.hartlinekc.com

NAICS Codes:
236220 Management Services
238110 Concrete Construction
238130 Framing Carpentry Contractors
238310 Drywall Contractors
238320 Painting Contractors
28910 Interior Demolition Services
238350 Finish Carpentry Contractors
238170 Siding Contractors
238330 Flooring Contractors
238290 Other Building Equipment Contractors
238390 Other Building Finishing Contractors
238990 All Other Specialty Trade Contractors
561790 Power Washing Building Exteriors

Certifications
WBE: City of Kansas City Missouri
DBE: Missouri Regional Certification Committee
DBE/WBE: DOT and States of MO & KS

Commercially Insured with Bonding
Cornerstone Companies (913)378-1050

**"Hartline strives for team collaboration,
Our strength is our Employee Team."**

CAPABILITY STATEMENT

Hartline Construction owner Jennifer Hart strives for quality work, delivered efficiently. Hart has a degree in architecture, her expectations stem from on-the-job experience gained during her 30 years spent in design and construction. Since opening Hartline in 2011 she strives for a no punch list attitude with every commercial project and with a track record of returning clients this is a testament to the company's success. Hartline employees consist of five-year apprentice educated workers who will properly complete each project whether they are performing project management, carpentry, painting, selective concrete, or demolition services.

Expertise:

- Project Management
- Carpentry
  - Metal Stud/Drywall
  - Door/Frame/Hardware
  - Trim/Finish/Millwork
  - ACT/Grid
- Painting
- Flooring/Tile
- Concrete

References:

Jeff Ullmann, Chief Facilities Officer
Metropolitan Community College
816-604-1061
jeffrey.ullmann@mcckc.edu

Tom Kenton, Vice President
Clark Construction Group, LLC
202-207-4416
tom.kenton@clarkconstruction.com

Lesa George, Project Manager
KCATA
(816) 346-0202
lgeorge@kcata.org

Ben Sharda, Executive Director
Kansas City Community Gardens
(816) 931-3877, 301
ben@kccg.org

Missouri Regional Certification Committee

Missouri Department of Transportation City of St. Louis, Missouri
Bi-State Development Kansas City Area Transportation Authority
City of Kansas City, Missouri

In accordance with the requirements for certification as defined by the U.S. Department of Transportation's 49 CFR Part 26, the *Missouri Regional Disadvantaged Business Enterprise Unified Certification Program presents this Certificate to:*

Hartline Construction, LLC

---

is duly certified as a

Disadvantaged Business Enterprise (DBE)

Certification Codes:

[Please refer to the certification approval letter for the complete list of approved NAICS Codes]

Andrea Dorch, Director, Civil Rights & Equal Opportunity Department

Note: *This certificate is the property of the City of Kansas City, Missouri Civil Rights & Equal Opportunity Department, and may be revoked should the above named firm graduate from the DBE/ACDBE/SBE program or the firm's certification is no longer active. In addition, this certificate is valid only in conjunction with the firm's active listing in the Missouri Regional Certification Committee Database, which can be accessed via the following weblink at: https://www6.modot.mo.gov/MRCC/Home/PublicSearch*

Each year you must submit an Annual Update application 60 day prior to your certification expiration date
414 E. 12th Street, 4th Floor Kansas City, Missouri 64106|Phone (816) 513-1836|Fax (816) 513-1805

Expiration Date: June 24, 2023

CITY OF KANSAS CITY, MISSOURI

Civil Rights & Equal Opportunity Department
ECONOMIC EQUITY & INCLUSION DIVISION

Hartline Construction, LLC

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is duly certified as a

Women Business Enterprise (WBE)

Certification Codes:

[Please refer to the certification approval letter for the complete list of approved NAICS Codes]

Andrea Dorch, Director, Civil Rights & Equal Opportunity Department

Note: This certificate is the property of the City of Kansas City, Missouri, Civil Rights & Equal Opportunity Department, and may be revoked should the above named firm graduate from the MWDBE program or the firm's certification is no longer active. In addition, this certificate is valid only in conjunction with the firm's active listing in the City of Kansas City, Missouri's Directory of certified MBE, WBE, SLBE, SLBE-WSDEPS, ACDBE, DBE, SBE firms via the following weblink: https://kcmohrd.mwdbe.com/?TN=kcmohrd

Each year you must submit an Annual Update application 60 day prior to your certification expiration date

414 E. 12th Street, 4th Floor Kansas City, Missouri 64106|Phone (816) 513-1836|Fax (816) 513-1805

Expiration Date: June 24, 2023

CITY OF KANSAS CITY, MISSOURI
CIVIL RIGHTS & EQUAL OPPORTUNITY

City of Kansas City, Missouri
Civil Rights and Equal Opportunity Department
4th Floor East, City Hall
414 East 12th Street
Kansas City, Missouri 64106
(816) 513-1836
(816) 513-1805 fax

March 10, 2022

Jennifer Hart
Hartline Construction, LLC
PO Box 25684
Overland Park, KS 66225

Dear Jennifer Hart:

The City of Kansas City, Missouri Civil Rights & Equal Opportunity Department has completed the review of your Annual Update as a Women Business Enterprise (WBE). We have determined that your firm shall remain certified until December 19, 2022

Your firm is listed in our online directory on the webpage of the Civil Rights & Equal Opportunity Department at www.kcmo.gov. Please review your listing to ensure that all of the information is accurate. Contact us immediately if any changes are necessary. Each year on the anniversary date of your certification, you must provide an Annual Update through the online certification portal, B2Gnow, at https://kcmohrd.mwdbe.com at least 60 days prior to the due date. FAILURE TO PROVIDE REQUIRED DOCUMENTS WILL LEAD TO AN IMMEDIATE REMOVAL FROM THE PROGRAM.

NAICS 236118: CONSTRUCTION MANAGEMENT, RESIDENTIAL REMODELING
NAICS 236118: RESIDENTIAL REMODELERS
NAICS 236220: CONSTRUCTION MANAGEMENT, COMMERCIAL AND INSTITUTIONAL BUILDING
NAICS 238110: POURED CONCRETE FOUNDATION AND STRUCTURE CONTRACTORS
NAICS 238130: FRAMING CONTRACTORS
NAICS 238130: STUD WALL (E.G., WOOD, STEEL) INSTALLATION
NAICS 238170: SIDING CONTRACTORS
NAICS 238290: COMMERCIAL-TYPE DOOR INSTALLATION
NAICS 238310: ACOUSTICAL CEILING TILE AND PANEL INSTALLATION
NAICS 238310: DRYWALL CONTRACTORS
NAICS 238320: PAINTING (EXCEPT ROOF) CONTRACTORS
NAICS 238330: FLOORING CONTRACTORS
NAICS 238340: CERAMIC TILE INSTALLATION
NAICS 238350: MILLWORK INSTALLATION
NAICS 238350: TRIM AND FINISH CARPENTRY CONTRACTORS
NAICS 238350: WINDOW AND DOOR (RESIDENTIAL-TYPE) OF ANY MATERIAL, PREFABRICATED, INSTALLATION
NAICS 238390: BLEACHER INSTALLATION
NAICS 238910: DEMOLITION CONTRACTOR
NAICS 238990: CLEANING BUILDING INTERIORS DURING AND IMMEDIATELY AFTER CONSTRUCTION (DEACTIVATED IN 2022 CODESET)
NAICS 561790: POWER WASHING BUILDING EXTERIORS

We will describe your firm in the following way in our directory of certified firms:

This company provides Construction Management services for commercial and institutional buildings tenant finish, remodeling and new construction projects. The company self performs Selective Interior Demolition, Framing and Finish Carpentry, Drywall, Painting, and some Concrete work. Project Management - Renovations - Millwork - Concrete Pads - Painters - Carpenters - Metal Studs - Sheet Rock - Doors - Windows - Acoustical Ceilings - Commercial-type door installation, - Bleacher installation - Cleaning interiors during and immediately after construction

You must immediately notify this office of any events or changes related to the management, equipment, scope of work, or any

2021 TOP 10 SMALL BUSINESS
HARTLINE CONSTRUCTION
JENNIFER HART
PRESIDENT & CEO
Watch the Video and Learn More

HARTLINE CONSTRUCTION

Jennifer Hart either has terrible luck or divine timing. She has managed to survive not just the recession of 2008, but also survived the financial toll of the COVID-19 pandemic. An architect by trade, Hart was furloughed during the recession of 2008-2009, and she began looking for her next niche. "I knew construction had not shut down," she said. "I opened Hartline Construction in 2011 and have been self-performing ever since." In 2020, when COVID hit the global economy and commercial construction companies everywhere were hurting, Hartline more than doubled its revenue and the number of employees.

As one of several women-owned businesses taking part in the single-terminal project at Kansas City International Airport, Hartline won the carpentry bid at the end of 2019. "It's a great feeling to know we're on such a big project and part of Kansas City history," said Hart. But big projects aren't the only projects that have kept Hartline going for a decade. "We're always looking for that next nice project," said Hart. "We become very good at those niches and people reach out to us because they know we can do the job well." Those jobs include signage on the Kansas City Public School building along Troost, work on the Argosy Casino, and working on bus stops for the Kansas City Transportation Authority (KCATA). "When you do those specialized things well, you grow your portfolio and you gain a good reputation."

That reputation is one of the reasons Hartline was able to secure the single terminal KCI contract. Another reason was a strategic partnerships class Hart took, that connected her with several of her peers in construction, both large and small. "I was in the very first class and was able to get to know all the players for that project. The KCI modernization is the largest project we've been on."

As Hartline grows, Hart makes it a priority to give back to the community. Over the past year, Hartline helped repair the playground equipment at Sheffield Place, a homeless shelter for mothers and children. In addition, Hartline offers services to non-profit organizations every year. "I've been truly fortunate, and I try to live by the motto 'to whom much is given, much is expected,'" said Hart. One example of living that is when a woman came into Hartline's offices and was looking for a job. That woman had experience, and she was dressed for the job site, and Hart hired her on the spot. "It ended up I needed a person that day, and now she's up working at the KCI project and is one of our best team members. That makes it all worthwhile."

During COVID and the past recession, Hart says she's been able to keep moving forward because she continuously gets out of her comfort zone to find new niches. Now she's in a position to grow even more, and her company's name is attached to the largest infrastructure project in the city's history. "Who would've believed the recession of 2008 would've led me to change a career and build this legacy of Hartline Construction. It just goes to show, don't ever get comfortable. Keep pushing ahead."

Jennifer Hart

OWNER AND PRESIDENT, HARTLINE CONSTRUCTION LLC

ADAM VOGLER

Jennifer Hart began drawing buildings from a young age, after she and her family visited Thomas Jefferson's Monticello home in Charlottesville, Va.

That exposure, plus support from parents and teachers, inspired Hartline Construction LLC's owner and president to pursue her passion through and beyond high school architectural drafting class, even as others underestimated her.

In 1984, Hart became one of only five women to graduate from Kansas State University with a bachelor's in architecture.

"Letting people know that I am as experienced and as educated as my male counterparts has been something I've always had to prove," she said.

Hart switched her focus from architecture to construction during the Great Recession, when she was furloughed and found herself enjoying work with a contractor.

When Hart organized and opened her company in 2011, Hartline Construction had three employees – herself and two carpenters. Now the business has grown to about 20 workers.

A small pool of employees hasn't inhibited the construction company from landing key contracts. It will provide carpentry services for Edgemoor Infrastructure & Real Estate LLC, the developer for Kansas City International Airport's $1.5 billion new terminal.

Hart credits her company's success to a spirit of teamwork.

"When someone calls me their boss, or that you own the company, I flip it right back around and say: 'Nope, I may have my name on the block ... but if you're not successful, I'm not successful. Hartline Construction's only successful with dedicated employees.'"

– *Thomas Friestad*

HIDDEN TALENT:

She is a beekeeper and extracts honey a couple of times a year from six beehives.

GIVING BACK:

Hart is a board member of the nonprofit Kansas City Community Gardens, which helps low-income households create backyard and community gardens.

Self-performing woman-owned construction business pushing it forward, Hartline Construction — Kansas City, MO

Published: Friday, Sept. 10, 2021

“Why are you not doing this on your own?” a general contractor once asked Jennifer Hart, who was managing a project for him.

That question got Hart thinking.

In 2009, Hart, now 100% owner of Hartline Construction in Kansas City, Missouri, had been furloughed from a commercial architecture firm.

“The 2008 recession hit, and architects were hit the hardest earliest,” Hart said.

She enjoyed working for the self-performing design-build company, but the jobs weren’t coming in. Furloughed, she performed volunteer work using her degree and her design capabilities. Then she joined an HVAC company as a project manager.

It was while managing one of those HVAC projects that she was asked that fateful question.

“I decided to open up Hartline Construction, focusing on self-performing the carpentry packages versus HVAC,” Hart said.

It wasn’t long before Hartline had grown enough that it became her full-time endeavor.

In the past few years, if you had a bite to eat in the Red Lotus Restaurant at Argosy Casino in Riverside, Missouri, you were surrounded by a Hartline Construction build; if you waited for a bus in Kansas City, you might have been standing on a concrete pad upgraded by Hartline; if you visited City Hall in Smithville, Missouri, you were in the midst of a renovation completed by Hartline Construction.

In 2023 when you take off from Kansas City International Airport’s modernized terminal, you will witness carpentry, painting, trim and tile all self-performed by Hartline Construction.

Over the past decade, Hartline Construction has made a name for itself in the Kansas City area culminating in being named a 2021 Top 10 Small Business by the Greater Kansas City Chamber of Commerce.

Early this year, the Missouri Small Business Development Center (SBDC) invited Hartline Construction to be one of 12 companies to participate in the Elevate program. Elevate focuses on second-stage businesses. A second-stage business is typically one with 10 to 99 full-time employees, $750,000 to $5 million in sales, and an opportunity to grow beyond its current market area. (Learn more about the Elevate program in this article.)

While working on her architecture degree, Hart did not take a single business course. Since deciding to become a business owner, she has been doing her homework.

Jennifer Hart signing a construction beam prior to installation at Kansas City International Airport's modernized terminal.

“Coming out of the recession and opening my own company, the one thing I was very concerned about was that we would not last more than five years,” Hart said. “So, I put myself in every business class I possibly could think of.”

The Elevate program is the latest of those classes.

Programs like Elevate “help small companies push it forward,” Hart said.

Elevate does that through individual engagements wherein each business owner works with a team leader who helps to determine the business’s right next steps and calls on specialized consultants for support, and roundtable meetings of all the participants facilitated by Edward Lowe Foundation experts to share experiences and explore their most pressing issues.

The Missouri SBDC, in partnership with the Edward Lowe Foundation, was able to offer the Elevate program to 12 Missouri small businesses at no charge through funding from the Coronavirus Aid, Relief and Economic Security (CARES) Act. The 12 businesses were selected from a group of companies recommended by their SBDC business consultants.

“[Hart] is a consistent learner,” said Jill Hathaway, business development consultant at the Missouri SBDC at the University of Missouri–Kansas City, who nominated Hartline Construction for the Elevate program.

Hathaway saw the program as a way for Hart to “take herself out of the day-to-day operations of the business to focus on the overall vision of the business.”

It was a great opportunity for Hart — to have consultants throughout the country looking at her specific needs and to have peers at a similar level of business experience, revenue and growth-readiness sharing their challenges, Hathaway said.

“What I liked about this class and why it was different was they actually gave me mentors that were not in the Kansas City area. They knew nothing about Hartline Construction … but they wanted to find out about Hartline and help it succeed,” Hart said.

“All three key people sent me actual documents on what Hartline could do to move forward,” Hart said.

Thanks to the marketing consultant, Hart has a marketing plan she can implement.

Thanks to the sales consultant, she has a list of potential clients, some of whom Hartline is already working with, but some that they aren’t … yet.

Thanks to the social media consultant, she has suggestions on how to improve Hartline’s website and social media presence, some of which are already being acted on.

“In addition, the networking with the other businesses has been good,” Hart said.

Jill Hathawy, Missouri SBDC business development counselor, and Jennifer Hart, owner of Hartline Construction.

https://www.linkedin.com/company/hartline-construction-kc

Writer: Victoria Knapp

During the roundtables, they discussed "hiccups in the road" and advised each other on how to overcome them.

Hart said she especially appreciated the "confidence that whatever you said was going to stay in the room," that your private business situation wasn't going to "go global."

Having added another business course to her transcript, Hart is ready to continue pushing it forward.

Hathaway, who visits Hartline Construction monthly, will be there to remind Hart of her strategic map and to hold her accountable.

"The consultants offered great next steps," Hathaway said. "I will continue to work with Hartline on putting those into play in a timeline that's relevant with the needs of the entire business."

Website: https://www.hartlinekc.com
Facebook: https://www.facebook.com/hartlinekc
LinkedIn:

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Bank of Blue Valley

February 4, 2019

Kansas City Business Journal
Re: Champions of Business / Hartline Construction, Inc.

To Whom It May Concern:

We have had the opportunity to work with Jennifer Hart and Hartline Construction, Inc. for the last several years. I have known Jennifer and her husband for over 20 years. We consider Jennifer to be one of the best women owned contracting firms in the KC metro. Jennifer has built her business consistently since incorporation. Every year she expands her capacity and looks for additional partnerships and relationships to help grow her business. She has qualified as a small business contractor to be considered for work on the reconstruction of the KCI airport. We are high on her prospects for success in the future.

In addition to her successful business she is actively involved in leadership roles within construction industry associations. She also volunteers with several charitable and non-for-profit organizations in the region.

The combination of a successful business, industry leader and a community volunteer, I believe qualifies Hartline Construction to be considered a "Champion of Business" in Kansas City.

Please feel free to contact me with any questions.

Very truly yours,

Robert D. Regnier
President

RDR/kc

CLARK CONSTRUCTION | WEITZ | CLARKSON CONSTRUCTION COMPANY
A JOINT VENTURE

January 24, 2022

To Whom It May Concern

Subject: Hartline Construction

Clark Weitz Clarkson (CWC) was awarded the contract to design and build the new airport terminal at Kansas City, MO. As a part of this effort, we offered a series of 6-month classes to KCMO MWBE businesses which provided an in-depth education into all aspects of the construction industry including estimating, scheduling, purchasing, accounting, project close out etc. Jennifer Hart of Hartline Construction signed up for the first of these classes and she excelled. As a matter of fact, she led her team to take top prize in the 'final exam' of the initial class.

My responsibilities on the KCI Project included purchasing the subcontractors needed to join our terminal construction team. This included preparation of Request for Proposals (RFP), analyzing proposals received and negotiating and awarding subcontracts for the Work. In large part due to Hartline's fully responsive and competitive RFP response, Hartline secured the Safety Carpentry work on the Project. Through the execution of this work, Hartline has demonstrated their commitment to the Project and their business as an invaluable member of our team. It is also noteworthy that Hartline has successfully performed as a lower tier subcontractor on many other aspects of the project with other of the Project's large business enterprises.

It has been exciting to follow Jennifer's growth and entrepreneurial success as Hartline Construction has grown over the last 3 years of our partnership therefore it is my pleasure to recommend to your organization, Hartline Construction and Jennifer Hart as small business and small businessperson of the year.

Very Truly Yours,
CLARK WEITZ CLARKSON A JOINT VENTURE

Thomas H. Kenton

RideKC

January 30, 2019

Recommendation / Testimonial

To Whom it May Concern, or Dear Sirs and or Madam,

My name is Lesa George and I am a project manager at the KCATA-Kansas City Area Transportation Authority, Ride KC.

This past year I was introduced to Hartline Construction, owner Jennifer Hart and her team of self-performing carpenters and laborers. Hartline was selected to renovate portions of KCATA's Administration Building located at 1200 East 18th Street, Kansas City, MO.

Hartline Construction performed the demolition and renovation while our building was occupied, working carefully and efficiently around our staff and administration. Hartline employees and sub-contractors were polite and cognitive of our daily work schedule keeping noise and dust to a minimum. Hartline worked to complete the project on schedule and worked changes into this schedule with ease.

Just recently Hartline was awarded KCATA's first contract under their Small Business Enterprise Pilot Program as the general contractor. Work will begin this month. This is a contract to upgrade bus stop concrete pads in the Greater Kansas City area. Jennifer was able to establish Hartline as a small business and the sub-contractor working with Hartline is also a small business. Thus, KCATA has contracted a 100% small business contract, a first for KCATA.

I understand Hartline Construction lead by owner Jennifer Hart has been nominated for the Kansas City Missouri Chamber Small Business of the Year. I recommend Hartline Construction/Jennifer Hart for this award.

Very truly yours,

Lesa George

Kansas City Area Transportation Authority
1200 East 18th Street, Kansas City, MO 64108
816.221.0660 • RideKC.org

KCCG
KANSAS CITY COMMUNITY GARDENS
6917 Kensington Ave
Kansas City, MO 64132
www.kccg.org
816.931.3877

Board of Directors

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Lincoln University

Rick Vaughn
Mid-America Angels

Nadine Farris
WELL for Housing

United Way
Community Partner

January 30, 2019

Recommendation / Testimonial

To Whom it May Concern,

My name is Ben Sharda and I am Director of Kansas City Community Gardens (KCCG). KCCG is a not for profit agency with the mission of assisting low income households, schools and community groups to grow food from garden projects.

Please accept this letter as an endorsement and recommendation for Hartline Construction, and the company president and owner, Jennifer Hart for the 2019 Kansas City Missouri Chamber Small Business of the Year.

Hartline Construction was the chosen general contractor for our 2017 KCCG office renovation. Construction consisted of demolition and remodel of our 5000 square foot building. It is important to note that we did not move out of our building during the renovation as relocation was not possible. Hartline's self-performing labor and sub-contractors were polite, clean and cooperative with our staff. The construction remodel was completed on time and efficiently. Jennifer also offered suggestions of value engineering to stay in budget as was most important for us as a not for profit agency.

Since completing the renovation, Jennifer accepted a position to join the KCCG board of directors and is now our Secretary. We at KCCG feel fortunate to have a contractor with a small business/self-employment expertise on our board.

I highly recommend Jennifer and her team of professionals at Hartline Construction for the Kansas City Missouri Chamber Small Business of the Year.

Thank you for your time and consideration.

Best regards,

Ben Sharda
Executive Director

Jennifer Garrett Hart – Hartline Construction, LLC

Work: 751 East 63rd St, Suite 107, Kansas City, MO 64110
Phone: (816)921-6002 Cell: (913)269-0481
Email: jhart@hartlinecon.com

SUMMARY Experienced Project Manager/Business Owner with effective interpersonal, communication and organization skills.

WORK EXPERIENCE Duties: Office/Project Management, in residential and commercial construction document planning, drafting, design, presentation drawings and AutoCAD efficient.

Current-2011 **100% Owner-Hartline Construction, LLC**

2011-2009 **Luevano Hart Construction, LLC**

2009-2007 **Rose Companies Inc., Rose Design Group, Inc.**
863 N. Martway Drive, Olathe, Kansas 66061

2007-2000 **Hart Homes, LLC**
9701 W. 128th Street; Overland Park, Kansas 66213

1995-1989 **Owner, Sincerely Yours**
Started and grew this stationery, invitations and announcements business.
Sold in 1995 to new owners and the business is still operational.

1988-1987 **James Marshall Jr, Architects**
7734 Chadwick; Prairie Village, Kansas 66208

1987-1984 **HNTB, Architects, Engineers, & Planners**
1201 Walnut; Kansas City, Missouri 64106

1984-1983 **Team 3, John Herring, Architects**
8920 West 80th Street; Overland Park, KS

1983-1979 **HNTB, Architects, Engineers, & Planners**
Architecture Internship Spring of 1983
summer employment 1982,'81,'80,'79

EDUCATION

1984 **Bachelor of Architecture,** Kansas State University

2007 **Introduction, Intermediate & 3-D Auto CAD Concepts**
CAD Certificate Degree, Johnson County Community College

COMMUNITY

Current **The Builders Association Board, KCMO**

Current **Board Member, Kansas City Community Gardens**

2017-2013 **Board Member, Sheffield Place Homeless Shelter**

Current-1985 **Volunteer, Kappa Kappa Gamma Association & Holiday Homes Tour**

Association President, Co-Chair. Homes Tour, Committee Heads

Work: 751 East 63rd St, Suite 107, Kansas City, MO 64110
Phone: (816)921-6002 Cell: (913)269-0481
Email: jhart@hartlinecon.com

REFERENCES

Ms. Lesa George, Kansas City Area Transportation Authority Project Manager
Email: lgeorge@kcata.org
Phone: 816.346.0202

Mr. Ben Sharda, Kansas City Community Gardens Executive Director
Email: ben@kccg.org
Phone: 816-931-3877

Ms. Joan Putthoff, Working Family's Friend, President
Email: joan@wffriend.org
Phone: 816-808-8745

Mr. Greg Personelli, Argosy Casino Hotel and Spa, Vice President Operations
Email: gregory.personelli@gngaming.com
Phone: 816-719-2250

Mr. Mike Crabtree, The Fagan Company Emcor Service, Vice President
Email: mcrabtree@faganco.com
Phone: 913-621-8304

Mr. Richard Ledgerwood, Boy Scouts of America Facilities Director
Email: richard.ledgerwood@scouting.org
Phone: 816-289-6292

Ms. Kelly Welch, Sheffield Place, Executive Director
Email: kwelch@sheffieldplace.org
Phone: 816-483-9927, #111

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Civil Rights & Equal Opportunity Department
Economic Equity & Inclusion
Contractor Utilization Plan Approval Form

Date: 4.24.23
Form Prepared By: D.Smith

Contract/Project Number: 81000817/1682	Developer/Prime: Hartline Construction, LLC
Project Name: WSD Administration Building & IT Improvements & ADA Compliance	Contact Information: Jennifer Hart (816) 921-6002 JHart@hartlinecon.com
Final Contract Value: 3,864,415.00	Address: 751 E. 63rd Street Ste. 107 KCMO 64110

Funding: ☑ City ☐ State ☐ Federal ☐ CO-OP ☐ Grant: ☐ Other:
Project Requirements: ☑ M/WBE ☐ DBE ☐ Section 3 ☐ N/A
Tax Incentive: ☐ LCRA ☐ TIF ☐ PIEA ☐ N/A ☐ Other:
Prevailing Wage: ☑ Yes ☐ No
Davis-Bacon: ☐ Yes ☐ No
Construction Employment Program: ☑ Yes: Workforce goals are 10% Minority & 2% Women. There are over 800 Workforce hours and project cost is $300,000 or more.
☐ No: Workforce hours are less than 800 and project cost is less than $300,000.

Contract Goals:	Contractor Utilization Plan Achievement:
Self-Perform: ____%	Self-Perform: ____%
MBE: 11 %	MBE: 2.349 %
WBE: 11 %	WBE: 63.11 %
Non-certified firms: ____%	Non-certified firms: ____%

Contract Type:
☑ Construction ☐ Design-Build ☐ Design Professional ☐ Professional Services
☐ General Service ☐ Concession ☐ Other Goods & Services ☐ Non-Municipal Agency
☐ Co-Operative ☐ Revenue Sharing ☐ Facilities Maintenance/Repair/Renovation
☐ Other:

Additional Information:
Project Manager - Deb Smith (816) 513-0293
Debra.Smith@kcmo.org

This document is submitted with all available facts. Intentionally falsifying this document or omitting pertinent facts is grounds for disciplinary action pursuant to KCMO Human Resources Rules & Policy Manual (eff. August 4, 2014).

FOR CIVIL RIGHTS & EQUAL OPPORTUNITY DEPARTMENT (CREO) USE ONLY:

The Contractor Utilization Plan is:

☒ Approved ☐ Disapproved

2 % MBE	63 % WBE	____ % DBE

The Request for Good Faith Efforts Waiver is:

☒ Approved ☐ Disapproved ☐ Not Applicable

Appeal Sent to FICB or Incentive Agency? ☐ Yes ____ FICB ____ Incentive Agency ☐ No

CREO Signature: DocuSigned by: Mark Runge 6AFEC964B03641A... Date: 5/22/2023

Comments:

GFE approved. Only bidder. Will submit RFM.

Contractor Utilization Plan (CUP) MUST be submitted to CREO prior to being posted on docket for review & approval from Council.

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Civil Rights & Equal Opportunity Department
Economic Equity & Inclusion
Nondiscrimination & Equal Opportunity Review Form

Date: 4.24.23
Form Prepared By: D.Smith

Contract/Project Number: 81000817/1682	Project Name: WSD Administration Building & IT Improvements & ADA Compliance
Developer/Prime: Hartline Construction, LLC	Contact Information: Jennifer Hart (816) 921-6002 JHart@hartlinecon.com
Final Contract Value: 3,864,415.00	Project Manager: Deb Smith

Funding:	☑ City	☐ State	☐ Federal	☐ CO-OP	☐ Grant:	☐ Other:
Project Requirements:	☑ M/WBE	☐ DBE	☐ Section 3	☐ N/A		
Tax Incentive:	☐ LCRA	☐ TIF	☐ PIEA	☐ Ch. 100	☐ Other:	☐ N/A
Prevailing Wage:	☐ Yes	☑ No				
Davis-Bacon:	☐ Yes	☑ No				

Construction Employment Program:
☐ Yes: Workforce goals are 10% Minority & 2% Women. There are over 800 Workforce hours and project cost is $300,000 or more.
☑ No: Workforce hours are less than 800 and project cost is less than $300,000.

Contracts & Leases	Nondiscrimination
Ch. 3 Article IV: _____	Ch. 38: _____
RSMo 213: _____	Title VI: _____
MWDBE: _____	Prevailing Wage and Labor Standards: _____
SLBE: _____	RSMo 34 Anti-Discrimination Against Israel: _____

Contract Type:

☑ Construction	☐ Design-Build	☐ Design Professional	☐ Professional Services
☑ General Service	☐ Concession	☐ Other Goods & Services	☐ Non-Municipal Agency
☐ Co-Operative	☐ Revenue Sharing	☐ Facilities Maintenance/Repair/Renovation	
☑ Other:			

Additional Information:

Project Manager - Deb Smith (816) 513-0293
Debra.Smith@kcmo.org

This document is submitted with all available facts. Intentionally falsifying this document or omitting pertinent facts is grounds for disciplinary action pursuant to KCMO Human Resources Rules & Policy Manual (eff. August 4, 2014).

FOR CIVIL RIGHTS & EQUAL OPPORTUNITY DEPARTMENT (CREO) USE ONLY:

The Document is:

☐ Approved	☐ Disapproved

Changes Needed:

Federal Provisions Included:

☐ Approved	☐ Disapproved	☐ Not Applicable

CREO Signature: _____ Date: _____

Comments:

Need copy of contract with CREO Assurances.

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Civil Rights and Equal Opportunity Department
Civil Rights and Wage Assurances

Non-discrimination in Employment. Contractor shall not discriminate against any employee or candidate for employment on the basis of an individual's race, hair texture or hair style associated with an individual's race, color, sex, religion, national origin, or ancestry, disability, sexual orientation, gender identity, age, or in any other manner prohibited by Chapter 38 of the City Code. Contractor shall not engage in any discrimination as prohibited by Chapter 3 of the City Code.

Ban the Box in Hiring and Promotion.

(a) Pursuant to Section 38-104, City Code Ordinances, Contractor shall not base a hiring or promotional decision on an applicant's criminal history or sentence related thereto, unless the employer can demonstrate that the employment-related decision was based on all information available including consideration of the frequency, recentness and severity of a criminal record and that the record was reasonably related to the duties and responsibilities of the position.

(b) Notwithstanding subsection (a), Contractor may inquire about an applicant's criminal history after it has been determined that the individual is otherwise qualified for the position, and only after the applicant has been interviewed for the position. Any such inquiry may be made of all applicants who are within the final selection pool of candidates from which a job will be filled.

(c) This provision shall not apply to positions where employers are required to exclude applicants with certain criminal convictions from employment due to local, state or federal law or regulation.

Title VI of the Civil Rights Act of 1964. Title VI of the Civil Rights Act of 1964 requires that no person in the United States shall, on the grounds of race, color, or national or origin (including limited English proficient individuals), be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. The City of Kansas City, Missouri requires compliance with the requirements of Title VI in all of its programs and activities regardless of the funding source.
Contractor shall not discriminate on the grounds of race, color, or national or origin (including limited English proficient individuals).

Quality Services Assurance Act. If this Contract exceeds $160,000.00, Contractor certifies Contractor will pay all employees who will work on this Contract in the city limits of Kansas City, Missouri at least $15.00 per hour in compliance with the City's Quality Services Assurance Act,

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Section 3-66, Code of Ordinances or City has granted Contractor an exemption pursuant to the Quality Services Assurance Act.

Anti-Discrimination Against Israel. If this Contract exceeds $100,000.00 and Contractor employs at least ten employees, pursuant to Section 34.600, RSMo., by executing this Contract, Contractor certifies it is not currently engaged in and shall not, for the duration of this contract, engage in a boycott of goods or services from the State of Israel; companies doing business in or with Israel or authorized by, licensed by, or organized under the laws of the State of Israel; or persons or entities doing business in the State of Israel.

Affirmative Action. If this Contract exceeds $300,000.00 and Contractor employs fifty (50) or more people, Contractor shall comply with City's Affirmative Action requirements in accordance with the provisions of Chapter 3 of City's Code, the rules and regulations relating to those sections, and any additions or amendments thereto; in executing any Contract subject to said provisions, Contractor warrants that it has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the Contract. Contractor shall not discriminate against any employee or applicant for employment because of race, color, sex, religion, national origin or ancestry, disability, sexual orientation, gender identity or age in a manner prohibited by Chapter 3 of City's Code. Contractor shall:

(a) Execute and submit the City of Kansas City, Missouri CREO Affirmative Action Program Affidavit warranting that the Contractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the Contract.

(b) Submit, in print or electronic format, a copy of Contractor's current certificate of compliance to the City's Civil Rights and Equal Opportunity Department (CREO) prior to receiving the first payment under the Contract, unless a copy has already been submitted to CREO at any point within the previous two (2) calendar years. If, and only if, Contractor does not possess a current certification of compliance, Contractor shall submit, in print or electronic format, a copy of its affirmative action program to CREO prior to receiving the first payment under the Contract, unless a copy has already been submitted to CREO at any point within the previous two (2) calendar years.

(c) Require any Subcontractor awarded a subcontract exceeding $300,000.00 to affirm that Subcontractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the subcontract.

(d) Obtain from any Subcontractor awarded a subcontract exceeding $300,000.00 a copy of the Subcontractor's current certificate of compliance and tender a copy of the same, in print or

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electronic format, to CREO within thirty (30) days from the date the subcontract is executed. If, and only if, Subcontractor does not possess a current certificate of compliance, Contractor shall obtain a copy of the Subcontractor's affirmative action program and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed.

City has the right to take action as directed by City's Civil Rights and Equal Opportunity Department to enforce this provision. If Contractor fails, refuses or neglects to comply with the provisions of Chapter 3 of City's Code, then such failure shall be deemed a total breach of this Contract and this Contract may be terminated, cancelled or suspended, in whole or in part, and Contractor may be declared ineligible for any further contracts funded by City for a period of one (1) year. This is a material term of this Contract.

Compliance with Laws. Contractor shall comply with all federal, state and local laws, ordinances and regulations applicable to the work and this Agreement. Contractor shall maintain in effect all the licenses, permissions, authorizations, consents and permits that it needs to carry out its obligations under this Agreement.

Prevailing Wage. If the Agreement exceeds $75,000.00 and any of the Services performed by Contractor includes construction, reconstruction, improvement, enlargement, alteration, painting and decorating, or major repair, that is subject to the Missouri Prevailing Wage Law (Section 290.210, RSMo – 290.340, RSMo), Contractor shall immediately notify the City prior to performing Services so the parties can execute an agreement that incorporates, the appropriate Wage Order. Contractor shall comply with all requirements of Section 290.210, RSMo – 290.340, RSMo even if Contractor fails to notify
the City.

CREO KC INSTRUCTIONS

FOR CONSTRUCTION CONTRACTS

PART A. ECONOMIC EQUITY & INCLUSION GOALS--MBE/WBE PROGRAM

I. City's Economic Equity & Inclusion Goals--MBE/WBE Program.

A. The City has adopted an Economic Equity & Inclusion Goals--Minority/Women Business Enterprise ("MBE/WBE") Program (Sections 3-421 through 3-469, Code of Ordinances) (the "Program") to implement the City's policy of supporting the fullest possible participation in City contracts and change orders of firms owned and controlled by minorities and women. Each construction contract may have an MBE and/or WBE goal for participation. An MBE or WBE goal is a numerical objective the City has set for the contract that may be awarded pursuant to these bid specifications. Goals are stated as a percentage of contract dollars. For example, if an MBE goal for a contract is 10% and a Bidder submits a bid of $100,000, the goal for MBE participation would equal $10,000. The specific MBE/WBE goals on this contract are set forth elsewhere in the bid specifications.

B. These Civil Rights & Equal Opportunity Department ("CREO KC") Forms & Instructions are part of the BIDDING DOCUMENTS and CONTRACT DOCUMENTS as defined in the General Conditions. By submitting a Bid, the Bidder agrees, as a material term of the contract, to carry out the City's MBE/WBE Program by making good faith efforts to include certified MBE/WBEs in the contract work to the extent of the goals listed for the contract and to the fullest extent consistent with submitting the lowest and best bid to the City. Bidder agrees that the Program is incorporated into this document and agrees to follow the Program. Although it is not a requirement that a Bidder in fact meet or exceed both the MBE and WBE Goals, it is a requirement for approval of the Bid that a Bidder objectively demonstrate to the City that good faith efforts have been made to meet the Goals. Bidders must attempt to meet both the MBE and WBE goals and request a waiver if either is not met.

C. The following CREO KC Forms are attached and must be used for MBE/WBE submittals:

1. Contractor Utilization Plan/Request for Waiver (CREO KC Form 8); and
2. Letter of Intent to Subcontract (CREO KC Form 00450.01); and
3. Timetable for MBE/WBE Utilization (CREO KC Form 10); and
4. Request for Modification or Substitution (CREO KC Form 11); and
5. Contractor Affidavit for Final Payment (Form 01290.14); and
6. Subcontractor Affidavit for Final Payment (Form 01290.15).

Warning: The City only gives MBE/WBE credit for a Bidder's use of City certified MBE/WBEs. A certified MBE/WBE firm is a firm that has been certified by the City's Civil Rights & Equal Opportunity Department as such. An MBE/WBE firm must be certified before the date on which the contractor utilization plan is due. Certified MBEs and WBEs are listed in the M/W/DBE Kansas City Mo. Online Directory, which is available on the City's website at www.kcmo.org. Before a Bidder submits a bid, Bidder

should contact CREO KC and consult the directory to make sure any firm proposed for use for MBE/WBE participation has been certified.

II. Required Submissions Following Bid Opening.

A. Bidder must submit the following documents within forty-eight (48) hours of bid opening:

1. **Contractor Utilization Plan/Request for Waiver (CREO KC Form 8).** This form states a Bidder's plan to use specific certified MBE/WBEs in the performance of the contract and includes the following:

   a. The work to be performed by each MBE/WBE and the amounts each is to be paid for the work; and

   b. The name, address, race or ethnic origin, gender and employer identification number or social security number of each MBE/WBE that will perform the work.

   c. An automatic request for waiver in the event Bidder has not met or exceeded the MBE and/or WBE goals for the contract but believes that it has made good faith efforts to meet or exceed the goals and desires a waiver of the goals. If a waiver is requested, CREO KC will examine the Bidder's documentation of good faith efforts and make a recommendation to grant or deny the waiver. CREO KC will recommend a waiver be granted only if the Bidder has made good faith efforts to obtain MBE/WBE participation.

2. **Letter(s) of Intent to Subcontract (CREO KC Form 00450.01)**. A letter must be provided from each MBE/WBE listed on the Contractor Utilization Plan. These letters verify that the MBE/WBE has agreed to execute a formal agreement for the work and indicate the scope of work to be performed and the price agreed upon for the work.

III. Required Submission when Requested by City.

A. Bidder must submit the following documents when requested by City:

1. **Timetable for MBE/WBE Utilization (CREO KC Form 10).**

2. **Documentation of good faith efforts.**

IV. Required Monthly Submissions during term of Contract.

A. Bidder must submit the following report on a monthly basis if awarded the contract:

1. **M/WBE Monthly Utilization Report.** This report must be submitted to the Director by the 15th of each month. Failure to submit timely reports may result in delays in processing of current and future contract approvals and payment applications. The method of submission of this report is through the B2GNow Diversity Management System (B2GNow).

V. Required Submittals for Final Contract Payment.

A. Contractor must submit the following documents with its request for final payment under

the contract:

1. **Contractor Affidavit for Final Payment (Form 01290.14)**
2. **Subcontractor Affidavit(s) for Final Payment (Form 01290.15)**
3. **Final B2GNow Monthly Contract Audit Report with all payment audits confirmed.**

VI. Additional Submittals.

A. Contractor may be required to make additional submittals during the term of the Contract, including **Request for Modification or Substitution (CREO KC Form 11)**. Refer to Section IX, Modification of the Contractor Utilization Plan or Substitution of an MBE/WBE, for additional instructions on when this form must be submitted.

VII. MBE/WBE Participation Credit.

A. The following shall be credited towards achieving the goals:

1. The total contract dollar amount that a prime contractor has paid or is obligated to pay to a subcontractor that is a certified MBE or WBE, except as otherwise expressly provided for herein.
2. The total contract dollar amount that a prime contractor that is a certified MBE or WBE performed itself.
3. Sixty percent (60%) of the total dollar amount paid or to be paid by a prime contractor to obtain supplies or goods from a supplier who is a certified MBE or WBE.
4. Ten percent (10%) of the total dollar amount paid or to be paid by a prime contractor to obtain supplies or goods from a supply broker who is a certified MBE or WBE.
5. One hundred percent (100%) of the total dollar amount paid or to be paid by a prime contractor to a manufacturer of construction supplies who is a certified MBE or WBE.
6. Subcontractor participation with a lower tier MBE/WBE subcontractor using one of the above methods of participation.

B. **NO CREDIT**, however, will be given for the following:

1. Participation in a contract by a MBE or WBE that does not perform a commercially useful function as defined by the Program; and
2. Any portion of the value of the contract that an MBE or WBE subcontractor subcontracts back to the prime contractor or any other contractor who is not a qualified MBE/WBE; and
3. Materials and supplies used on the contract unless the MBE/WBE is responsible for negotiating the price, determining quality and quantity, ordering the materials and installing (where applicable) and paying for material itself; and
4. Work performed by an MBE or WBE in a scope of work other than that in which the MBE or WBE is currently certified.

VIII. Methods for Securing Participation of MBE/WBEs and Good Faith Efforts.

A. A bidder is required to make good faith efforts to achieve the MBE/WBE goals. Good faith efforts are efforts that, given all relevant circumstances, a Bidder actively and aggressively seeking to meet the goals can reasonably be expected to make. Good faith efforts must be made before the Bidder submits a Contractor Utilization Plan, in other words, within 48 hours of bid opening. However, efforts made to increase participation of MBEs and WBEs following submission of the CUP can be considered as evidence of good faith efforts to meet the goals.

B. In evaluating good faith efforts, the Director of CREO KC will consider whether the Bidder has performed the following, along with any other relevant factors:

1. Advertised for at least 15 calendar days prior to the bid or proposal due date opportunities to participate in the contract in general circulation media, trade and professional association publications, small and minority business media, and publications of minority and women's business organizations which are included in a list along with their current contact information identified on the directory as the list of publications available to publish such advertisements, which list shall be updated by CREO KC no less than every three (3) month.

2. Sent written notices at least fifteen (15) calendar days prior to the bid or proposal due date containing the information required in section (9) below, by certified mail, e-mail, or facsimile, to at least 80% of MBEs and WBEs which are included in a list along with their contact information identified on the directory as the list of organizations available to receive such notices, which list shall be updated by CREO KC no less than every three (3) months.

3. Sent written notices, containing the information required by section (9) below, by certified mail, e-mail or facsimile, to at least 80% of MBEs and WBEs listed on the directory certified in the applicable scopes of work for the particular bid soliciting their participation in the contract at least 15 calendar days prior to the bid or proposal due date.

4. Attempted to identify portions of the work for qualified MBE and/or WBE participation in order to increase the likelihood of meeting the goals, including breaking down contracts into economically feasible units that take into consideration the capacity of available MBE/WBEs appearing on the CREO KC directory.

5. At any time prior to submission of the CUP or submittal of a request for modification of a CUP, requested assistance in achieving the goals from the Director and acted on the Director's recommendations.

6. Conferred with certified MBEs and WBEs which inquired about or responded to the bid solicitation and explained to such MBEs and WBEs the scope and requirements of the work for which their bids or proposals were solicited, and if not all certified MBEs and WBEs in the particular scopes listed on the directory have inquired about or responded to the bid solicitation for each scope of work, then contact by certified mail, e-mail or telephone the greater of ten (10) or 80% of additional certified MBEs and WBEs in the particular scopes of work listed on the directory and offer to confer with such MBEs and WBEs for such particular scope of work and request such MBEs

and WBEs to submit a proposal.

7. Attempted to negotiate in good faith with certified MBEs and WBEs which responded to the bid solicitation or those certified MBEs and WBEs that were conferred with as contemplated in section (6) above, and other qualified MBEs and WBEs, at the option of the bidder, proposer, or contractor, as applicable, to perform specific subcontracts, not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities by the bidder, proposer, or contractor; in the event an MBE or WBE is the low bid, but rejected as unqualified, the bidder, proposer, or contractor and the director or board, as applicable, shall provide sound reasons for rejecting such MBE or WBE.
8. Attended pre-bid meeting when such meetings were indicated in the solicitation of bids or otherwise by the bidder, proposer, or contractor, as applicable or by the director provided the director provides written direction to the bidder, proposer, or contractor at the time the goals are recommended.
9. Written notices and advertisements to be provided pursuant to sections (1), (2) and (3) above shall include the following information:
    a. The bid due date;
    b. The name of the project;
    c. The address or general location of the project;
    d. The location of plans and specifications for viewing;
    e. Contact information of the prime contractor;
    f. A general description of the scopes of work that are the subject of the solicitation;
    g. The goals established for the applicable contract, and if the goals are still subject to board approval, then a statement that the goals as stated are preliminary and are subject to board approval;
    h. If the project or any portion of the project is subject to prevailing wage then a statement that all or a portion of the project will be subject to prevailing wage, as applicable; and if only a portion of the scopes are subject to prevailing wage, then identification of such scopes provided that such scopes are known as of the time of bid solicitation;
    i. The date and time of any pre-bid meeting(s), if any, which have been scheduled by the bidder, proposer, contractor or developer as of the bid solicitation; and

    Any other information deemed relevant by the bidder, proposer, contractor or developer, as applicable, or the director to the extent the director provides written direction to the bidder, proposer, contractor or developer of such additional information at the time the goals are recommended by the director. 8. Within five (5) working days after drawing the bid specifications, sent certified letters, verifiable e-mails or proof of facsimiles to certified MBEs and WBEs listed in the M/W/DBE Kansas City Mo. Online Directory.

C. A Bidder may be required to give the City documentation to prove that it made good faith efforts. The Bidder will be contacted by the City with further instructions about when this documentation must be submitted.

IX. Modification of the Contractor Utilization Plan or Substitution of an MBE/WBE.

A. After bid opening, a Bidder or Contractor may need to substitute an MBE and/or WBE or request that the amount of MBE/WBE participation listed in its Contractor Utilization Plan be modified. Bidder or Contractor must file a **Request for Modification or Substitution (CREO KC Form 11) prior to actual substitution and within a reasonable time after learning that a modification or substitution is necessary.** The Director may approve substitutions or modifications and upon approval, the modifications and substitutions will become an amendment to the Contractor Utilization Plan. Modifications or substitutions may be approved when:

1. The Director finds that the Bidder or Contractor made and provided evidence of good faith efforts to substitute the MBE/WBE listed on the Contractor Utilization Plan with other certified MBE/WBEs for the scope of work or any other scope of work in the contract; and
2. The Bidder or Contractor has not attempted intentionally to evade the requirements of the program and it is in the best interests of the City to allow a modification or substitution; and
3. The Director also finds one of the following:
    a. The listed MBE/WBE is non-responsive or cannot perform; or
    b. The listed MBE/WBE has increased its previously quoted price to the bidder, proposer or contractor without a corresponding change in the scope of the work; or
    c. The listed MBE/WBE has committed a material default or breach of its contract with the contractor; or
    d. Requirements of the scope of work of the contract have changed and render subcontracting not feasible or not feasible at the levels required by the goals established for the contract; or
    e. The listed MBE/WBE is unacceptable to the contracting department; or
    f. The listed MBE/WBE thereafter had its certification revoked; or

B. A modification shall not be made unless the modification or substitution has first been requested and approved by the Director. Once a modification has been made, a Construction Contractor Employee Identification Report (CREO KC Form 0485.04) for the newly approved subcontractor must be submitted at least ten (10) days prior to the approved subcontractor commencing work on a City contract.

X. Appeals.

A. In conformance with the Act, appeals may be made to the City Fairness in Construction Board or Fairness in Professional Services and Goods Board on the following:

1. The grant or denial of a Request for Waiver;
2. Substitution for an MBE/WBE listed on a Contractor Utilization Plan;
3. Modification of the percentage of MBE/WBE participation on a Contractor Utilization Plan;
4. Liquidated Damages;
5. The amount of MBE/WBE credit the Contractor may receive for MBE/WBE participation identified in the contractor utilization plan.

B. Any appeal must be filed in writing with the Director within fifteen (15) calendar days of notice of the determination. Mailing, faxing, personal delivery or posting at CREO KC of determinations shall constitute notice. The appeal shall state with specificity why the Bidder or Contractor believes the determination is incorrect

C. Failure to file a timely appeal shall constitute a waiver of a Bidder's or Contractor's right to appeal such determination and such person shall be estopped to deny the validity of any determination which could have been timely appealed.

XI. Access to Documents and Records.

A. By submitting a Bid, each Bidder agrees to permit the City, its duly authorized agents or employees, access at all reasonable times to all books and business records of Bidder as may be necessary to ascertain compliance with the requirements of this document and the Act, within ten (10) calendar days of the date of the written request.

B. All Bidders agree to cooperate with the contracting department and CREO KC in studies and surveys regarding the MBE/WBE program.

XII. Miscellaneous.

A. A Bidder or Contractor shall bear the burden of proof with regard to all issues on appeal.

B. In the event of any conflict between this document and the Program, the provisions of the Program shall control. The terms used in this document are defined in the Program.

C. Oral representations are not binding on the City.

D. The City Council may waive the requirements of this document and the Program and award the contract to the lowest and best bidder if the City Council determines a waiver is in the best interests of the City.

E. The Director may grant extensions of time to Bidders to submit Letters of Intent to Subcontract (CREO KC Form 00450.01).

XIII. Liquidated Damages – Economic Equity & Inclusion Goals--MBE/WBE Program.

A. If Contractor fails to achieve the MBE/WBE goals stated in its Contractor Utilization Plan, as amended, the City will sustain damages, the exact extent of which would be difficult or impossible to ascertain. Therefore, in order to liquidate those damages, the monetary difference between either (1) the amount of the MBE/WBE goals set forth in the Contractor Utilization Plan, as amended, or (2) the goals established (whichever is lower) and the amount actually paid to qualified MBEs and WBEs for performing a commercially useful function will be deducted from the Contractor's payments as

liquidated damages. In determining the amount actually paid to qualified MBEs and WBEs, no credit will be given for the portion of participation that was not approved by the Director, unless the Director determines that the Contractor acted in good faith. No deduction for liquidated damages will be made when, for reasons beyond the control of the Contractor, the MBE/WBE participation stated in the Contractor Utilization Plan, as amended and approved by the Director is not met.

PART B. CONSTRUCTION EMPLOYMENT PROGRAM REQUIREMENTS

IMPORTANT: This Part B is applicable to City construction contracts estimated by the City prior to solicitation as: (1) requiring more than 800 construction labor hours and (2) valued in excess of $300,000.00. This program is distinguished from the M/WBE Program in that it is based on workforce hours of the Bidder and *all* its participating subcontractors rather than the actual contract value of work. The instructions herein detail the specifics related to this program. This program is in *addition* to the M/WBE program.

I. City's Construction Employment Program.

A. The City has adopted a Construction Employment Program (Sections 3-501 through 3-525, Code of Ordinances) (the "Workforce Program" or "Program") to implement the City's policy of supporting the fullest possible utilization of minority and women workers in the construction industry.

B. The minimum workforce goals are currently set by ordinance at 10% for minorities and 2% for women. These goals are separate from M/WBE goals. Public recognition may be provided if the bidder achieves at least twice the minimum participation.

C. Construction contracts subject to the Workforce Program and the company-wide and project-specific workforce goals ("workforce goals") are those contracts to construct, reconstruct, improve, enlarge or alter any fixed work that is estimated by the City prior to solicitation to: (1) require more than 800 construction labor hours, (2) has estimated costs that exceed $300,000.00, and (3) involve the expenditure of public funds.

D. The successful bidder may meet company-wide goals by counting the bidder's utilization of minorities and women throughout the Kansas City metropolitan statistical area. In addition, the successful Bidder is responsible to ensure that it and its subcontractors cumulatively make good faith efforts to meet project-specific goals for utilization of minorities and women.

E. These Civil Rights & Equal Opportunity Department ("CREO KC") Forms & Instructions are part of the BIDDING DOCUMENTS and CONTRACT DOCUMENTS as defined in the General Conditions. By submitting a Bid, the Bidder agrees, as a material term of the contract, to carry out the City's Construction Employment Program by making good faith efforts to utilize minority and women workers to the fullest extent consistent with submitting the lowest and best bid to the City. Bidder agrees that the Program is incorporated into this document and agrees to follow the Program. Although it is not a requirement that a Bidder in fact meet or exceed the construction employment goals to receive approval from CREO KC, a Bidder not doing so is required to

objectively demonstrate to CREO KC that good faith efforts have been made.

F. The following reports are to be used for Construction Employment Program submittals:

1. Project Workforce Monthly Report
2. Company-Wide Workforce Monthly Report

II. Required Submissions.

A. Within forty-eight (48) hours after bid opening, the construction contractor shall submit the **Construction Employee Identification Report** (CREO KC Form 00485.04) and shall include: the name, home address, job title, sex and race/ethnicity of each person working for the Prime. The individuals to be listed on the form are those which the construction contractor *anticipates* will be performing construction labor hours creditable towards the minimum workforce goals applicable to the construction contractor individually.

The following circumstances also require the submission of a Construction Employee Identification Report:

a. Prior to contract execution for those City construction contracts awarded pursuant to a request for proposals (RFP), the construction contractor shall submit a **Construction Employee Identification Report** (CREO KC Form 00485.04).

b. At least ten (10) days prior to the date upon which any subcontractor is to commence work under a City construction contract, the Prime shall submit a **Construction Employee Identification Report** (CREO KC Form 00485.04) for the subcontractor.

B. The CREO KC Director has established the B2GNow Diversity Management System ("B2GNOW") (an online reporting tool) as the preferred method for fulfilling reporting requirements of the Workforce Program. The CREO KC Director will allow paper submission in lieu of on-line submission if the on-line submission process presents a hardship to the contractor.

C. Bidder must submit the following documents through B2GNow on a monthly basis if awarded the contract:

1. **Project Workforce Monthly Report.** This report is contract specific. This report must be submitted to the Director by the 15th of each month for the Contractor and each subcontractor. It will be utilized to report the Contractor's own workforce compliance data with regard to the City's construction contract. Failure to submit timely reports may result in delays in processing of current and future contract approvals and payment applications.

2. **Company-Wide Workforce Monthly Report.** This report is not contract specific; it is used to report on the utilization of women and minorities, by trade, company-wide. This report must be submitted to the Director by the 15th of each month. It will be utilized to report the Contractor's own workforce compliance data with regard to

every contract (both privately and publicly funded) that the Contractor has in progress throughout the Kansas City Metropolitan Statistical Area. Failure to submit timely reports may result in delays in processing of current and future contract approvals and payment applications.

III. Submittal Required for Final Contract Payment.

A. The final Project Workforce Monthly Report(s) and Company-Wide Workforce Monthly Report must be submitted before final payment will be made and/or retainage released. Contractor shall note the submittal of the final reports by notation in the box entitled "Final Report"

IV. Methods for Securing Workforce Participation and Good Faith Efforts.

A. A bidder is required to make good faith efforts to achieve the construction employment goals and ensure its subcontractors are making good faith efforts to achieve the construction employment goals. If a Bidder or its subcontractors will be unable to secure enough minority and female participation to meet or exceed the construction employment goals, a bidder must, within a reasonable time after so learning, request a waiver or modification of the goals by the Director of CREO KC. The Director will request evidence of the Bidder's and its' subcontractors' good faith efforts to meet the goals. The Director will examine the Bidder's request and the Bidder's documentation of good faith efforts for itself and its subcontractors. The Director will examine the Bidder's request and the Bidder's documentation of good faith efforts and grant or deny a waiver or modification. The Director will grant a waiver or modification only if the Bidder has made good faith efforts to secure minority and female participation.

IMPORTANT: The Bidder's subcontractors on a city construction contract must meet the workforce goals collectively. The bidder is responsible to ensure the subcontractors make good faith efforts to meet the workforce goals. Bidders are required to include language in its subcontracts that ensure the subcontractors make good faith efforts to meet or exceed the workforce goals.

B. In evaluating good faith efforts, the Director will consider whether the Bidder and its subcontractors have performed the following:

1. For those bidders that are not signatories to a collective bargaining agreement with organized labor:

    a. Requested in writing the assistance of the Director with respect to efforts to promote the utilization of minorities and women in the workforce and acted upon the Director's recommendations; and

    b. Advertised in minority or women trade association newsletters and/or minority or women owned media at least 15 calendar days prior to the utilization of any construction services on the city construction contract and used terminology that sufficiently describes the work available, the pay scale, the application process, and anything else that one might reasonably be expected to be informed of relevant to the position being advertised; and

    c. Maintained copies of each advertisement and a log identifying the publication and date of publication; and

d. Conducted real and substantial recruitment efforts, both oral and written, targeting resident, minority and women community-based organization, schools with a significant minority student population, and training organizations serving the recruitment area; and

e. Established and maintained a current list of resident, minority and women recruitment sources, providing written notification to the recruitment sources of available employment opportunities, and maintained records of the notices submitted to the organizations and any responses thereto; and

f. Maintained a current file for the time period of the city construction contract with the name, address, and telephone number of each resident, minority and woman job applicant, the source of the referral, whether or not the person was hired, and in the event that the applicant was not hired, the reason therefore; and

g. Promoted the retention of minorities and women in its workforce with the goals of achieving sufficient annual hours for minorities and women to qualify for applicable benefits; and

h. Required by written contract that all subcontractors comply with the above efforts.

2. For those bidders that are signatories to collective bargaining agreements with organized labor:

a. Requested in writing from each labor union representing crafts to be employed that:

i. the labor union make efforts to promote the utilization of residents of the City, minorities and women in the workforce; and

ii. the labor union identify any residents of the City, minorities and women in its membership eligible for employment; and

b. Collaborated with labor unions in promoting mentoring programs for journeypersons intended to assist minorities and women in increasing retention with the goals of achieving sufficient annual hours to qualify for applicable benefits; and

c. Maintained a current file with the name, address, and telephone number of each resident, minority and women worker identified by the labor union, whether or not the person was hired, and in the event the person was not hired, the reason therefore.

d. To the extent the good-faith efforts applicable to bidders that are signatories to collective bargaining agreements with organized labor conflict with the procedures implemented by the bidder in order to comply with the relevant bargaining agreement, the bidder shall substitute other procedures as may be approved by the Director in writing, in order to accomplish the purpose and intent of this section.

C. In the event workforce goals are not met or there is anticipation that goals will not be

met, a Bidder will be required to give the City documentation to prove that it and/or it's subcontractors made good faith efforts. The Bidder will be contacted by the City with further instructions about when this documentation must be submitted.

V. Access to Documents and Records.

A. By submitting a Bid, each Bidder agrees to permit the City, its duly authorized agents or employees, access at all reasonable times to all books and business records of Bidder as may be necessary to ascertain compliance with the requirements of this document and the Program, within ten (10) days of the date of the written request. Each bidder further agrees to require, if awarded the contract, that every subcontractor permit the City the same access to documents and records.

B. All Bidders agree to cooperate with the contracting department and CREO KC in studies and surveys regarding the construction employment program.

VI. Appeals.

A. In conformance with the Program, appeals may be made to the Construction Workforce Board on the following:

1. Determinations by the Director that a contractor did not meet the construction employment goals and did not make a good faith effort to meet the goals;
2. Recommendations by the Director to assess liquidated damages;
3. Recommendation by the Director that a contractor be declared ineligible to receive any city construction contract for a period of time up to one year.

B. Any appeal must be filed in writing with the Director within ten (10) working days of notice of the recommendation or determination. The appeal shall state with specificity why the Bidder or Contractor believes the recommendation or determination is incorrect.

C. Failure to file a timely appeal shall constitute a waiver of a Bidder's or Contractor's right to appeal such determination or recommendation and such person shall be estopped to deny the validity of any order, determination, recommendation or action of CREO KC which could have been timely appealed.

VII. Miscellaneous.

A. A Bidder or Contractor shall bear the burden of proof with regard to all issues on appeal.

B. The successful bidder may be required to meet with the Director of CREO KC or the Director's designee for the purpose of discussing the construction employment program, the bidder's efforts to realize the goals, and any other problems and/or issues affecting the realization of the goals or the program in general.

C. In the event of any conflict between this document and the Program, the provisions of the Program shall control. The terms used in this document are defined in the Program.

D. Oral representations are not binding on the City.

VIII. Failure to Meet Workforce Goals

A. If Contractor or its subcontractors fail to achieve the construction employment goals or make good faith efforts to achieve those goals without having previously obtained a

waiver or modification of those goals, the City will sustain damages, the exact extent of which would be difficult or impossible to ascertain. These damages are magnified if the failure to abide by the requirements of the Workforce Program is recurring. Therefore, if the directory finds that the contractor or subcontractor have not met, or made good faith efforts to meet, the construction employment goals for any quarter, the director may:

1. Assess liquidated damages against the construction contractor, as specified in the city construction contract;
2. Require the contractor to attend mandatory training, as specified in the construction contract;
3. Declare the contractor ineligible to receive any city construction contract or participate as a subcontractor under any city construction contract for a period of time up to six months, as specified in the construction contract.

IX. First Source Program

A. The City has established a labor force recruiting program intended to assist contractors in identifying, interviewing and hiring qualified job applicants residing in Kansas City, Missouri. While the contractor awarded a City construction contract is not prohibited from hiring persons residing outside Kansas City, Missouri, the recruiting resource provided for herein (the "First Source Program") must be utilized by the contractor subject to the construction employment goals as set forth in this **PART B, CONSTRUCTION EMPLOYMENT PROGRAM REQUIREMENTS**.

B. The City utilizes the services of the Full Employment Council, Inc., to administer the First Source Program. The contractor shall contact the Full Employment Council within 48 hours of contract award, regardless of whether the contractor has any hiring needs at that time, and within 48 hours following any job vacancy which the contractor reasonably anticipates filling during the term of the City construction contract. The contractor shall comply with the First Source Program requirements as implemented by the Full Employment Council unless otherwise excused in writing by the Director of CREO KC for good cause shown. To ensure compliance with the First Source Program, the contractor shall contact those persons at the Full Employment Council responsible for administering the program, which may be identified by visiting their website at www.feckc.org and clicking on the link for KCMO First Source Hiring Program. The contractor shall not hire any individual to provide construction services on a City construction contract unless the contractor has met the requirements of the First Source Program.

C. The contractor shall require that its subcontractors utilize the First Source Program to the same extent that the contractor is required to do so, and shall incorporate the requirements of this Section IX into every subcontract. Every subcontractor shall be required to contact the Full Employment Council within 48 hours of subcontract award, regardless of whether the subcontractor has any hiring needs at that time, and within 48 hours following any job vacancy which the subcontractor reasonably anticipates filling during the term of their subcontract on a City construction project.

Bidder: HARTLINE CONSTRUCTION, LLC

14. Section 15 through Section 18 constitutes the Affidavit of Intended Utilization required to be submitted by Bidders.

15. By submitting its bid, Bidder is agreeing to the following: (1) Bidder has made by bid opening a good faith effort to meet the MBE/WBE/DBE goals established for the project; or Bidder will continue to make during the 48 hours after bid opening a good faith effort to meet the MBE/WBE/DBE goals established for the project; and (2) Bidder will timely submit its **00450 KC CREO 08 Contractor Utilization Plan/Request for Waiver** and **00450.01 Letter of Intent to Subcontract** for each MBE/WBE listed on the 00450 HRD 08 Construction Contractor Utilization Plan/Request for Waiver;; and (3) Bidder will submit documentation of its good faith efforts to meet the MBE/WBE/DBE goals when requested by the City. Failure to meet these requirements in good faith will result in Bidder forfeiting its bid bond.

PROJECT GOALS:	11	% MBE	11	% WBE		% DBE
BIDDER PARTICIPATION:	12.7	% MBE	45.6	% WBE		% DBE

16. To the best of Bidder's knowledge, the following are names of certified MBEs and/or WBEs with whom Bidder, or Bidder's subcontractors, presently intend to contract with if awarded the Contract on the above project: ***(All firms must currently be certified by Kansas City, Missouri Human Relations Department)***

A. Name of M/WBE Firm HARTLINE CONSTRUCTION
Address 751 E 63rd ST, #107, KCMO. 64110
Telephone No. 816.921-6002
I.R.S. No. 45-3951328
Area/Scope of work DEMOLITION, FINISHES
Subcontract amount $1,556,300. OR 42%

B. Name of M/WBE Firm AGP
Address 12900 2nd ST, GRANDVIEW, MO. 64030
Telephone No. 816.322.0220
I.R.S. No. 48-1209004
Area/Scope of work STORE FRONT - ALUMNUM
Subcontract amount $134,500.00 OR 3.6%

C. Name of M/WBE Firm DIVERSE ID
Address 8121 NW 80th TERRACE, KCMO 64152
Telephone No. 816.505-1369
I.R.S. No. 26-0264780
Area/Scope of work SIGNAGE
Subcontract amount $3,600 OR .01%

D. Name of M/WBE Firm ALPHA ENERGY & ELECTRIC
Address 1100 E. 34th ST, KCMO 64109
Telephone No. 816.492-4032
I.R.S. No. 33-1116338
Area/Scope of work ELECTRICAL
Subcontract amount $65,000. OR 1.8

E. Name of M/WBE Firm CITY CEMENT
Address 1138 W. CAMBRIDGE CIR DR., KCKS 66103
Telephone No. 913-831-7474
I.R.S. No. ~~$105,000~~ ~~$105,000~~. OR 2.8

Bidder: HARTLINE CONSTRUCTION, LLC

Area/Scope of work CONCRETE
Subcontract amount $105,000 OR 2.0%

F. Name of M/WBE Firm BEST AV SOLUTION
Address 4621 S SHRANK DR, INDEPENDENCE, MO. 64055
Telephone No. 816.692-2593
I.R.S. No. 82-2001481
Area/Scope of work AV & PROGRAMING
Subcontract amount $281,000 OR 7.6%

(List additional MBE/WBEs, if any, on additional pages and attach to this form)

17. By submitting its bid, Bidder is agreeing it will identify and timely submit within 48 Hours after Bid opening those MBE/WBE subcontractors with dollar amounts and scopes of work, which apply to or exceed the MBE/WBE goals for the Project on the **00450 KC CREO 08 Contractor Utilization Plan/Request for Waiver.**

18. Bidder agrees that failure to meet or exceed the MBE/WBE Goals for the above project will require the Director of Human Relations to recommend disapproval of the bid unless the Director of Human Relations finds the Bidder established good faith efforts towards meeting the goals as set forth in the HRD Forms and Instructions for Construction Projects and the City's MBE/WBE Ordinance.

Name of M/WBE Firm AGP
Address 12900 2nd St Grandview MO 64030
Telephone No. 816 322 0220
I.R.S. No. 48-1209004

Name of M/WBE Firm DIVERSE ID
Address 8121 NW 80th Terrace KCMO 64152
Telephone No. 816 505 1369
I.R.S. No. 26-264-7480

Name of M/WBE Firm ALPHA ENERGY & ELECTRIC
Address 1100 E. 34th ST KCMO 64109
Telephone No. 816 442 4032
I.R.S. No. 33-1116338

Name of M/WBE Firm CITY CEMENT
Address 1138 W. CAMBRIDGE CIR, DR, KC KS 66108
Telephone No. 913-831-7777
I.R.S. No.

Name of M/WBE Firm BEST AV SOLUTION
Address 4021 S SHRANK DR, INDEP. MO. 64055
Telephone No. 816-442-2593
I.R.S. No. 82-2001421

(List additional M/WBEs, if any, on additional page and attach to this form)

4. The following is a breakdown of the percentage of the total contract amount that Bidder/Proposer agrees to pay to each listed M/WBE:

MBE/WBE BREAKDOWN SHEET

MBE FIRMS:

Name of MBE Firm	Supplier/Broker/Contractor	Subcontract Amount*	Weighted Value**	% of Total Contract
~~ALPHA E&E~~	~~ELECONTRACTOR~~	~~65,000~~	~~65,000~~	~~2.6~~
ALPHA E&E	CONTRACTOR	65,000	100%	1.8 %
CITY CEMENT	"	105,000	100%	2.8 %
BEST AV SOLUTION	"	261,000	100%	7.6%

Bidder: HARTLINE CONSTRUCTION, LLC

Business Entity Type:

( ) Missouri Corporation
( ) Foreign Corporation
( ) Fictitious Name Registration
( ) Sole Proprietor
(X) Limited Liability Company
( ) Partnership
( ) Joint Venture
( ) Other: (Specify)_____

BIDDER
Legal name & address of Bidder, person firm, partnership, corporation, or association submitting Bid:
HARTLINE CONSTRUCTION, LLC
Phone No: 816.921.6002
Cell No: 913-269-0421
Facsimile No: 816.920.0502
Bidder's E-Mail: jhart@hartlinecon.com

Federal ID. No. 45-3951328

I hereby certify that I have authority to execute this document on behalf of Bidder, person, firm, partnership, corporation or association submitting Bid.

By: _____
(Signature)

JENNIFER G. HART
(Print Name)

Title: OWNER / PRESIDENT HARTLINE CONST.

Date: 5/16/2023

(Attach corporate seal if applicable)

NOTARY

Subscribed and sworn to before me this 16th day of MAY, 2023.

My Commission Expires: 09/27/2025 CHEYENNE RAE BURCHETT

CONTRACTOR UTILIZATION PLAN/REQUEST FOR WAIVER

Project Number 8100081 7/1682

Project Title WSD ADMIN BLDG. & IT IMPROV, ADA COMPLIANCE

KC WATER ADMIN BLDG (Department Project)

KC WATER Department

HARTLINE CONSTRUCTION, LLC (Bidder/Proposer)

STATE OF MISSOURI)
) ss
COUNTY OF JACKSON)

I, CHEYENNE RAE BURCHETT, of lawful age and upon my oath state as follows:

1. This Affidavit is made for the purpose of complying with the provisions of the MBE/WBE submittal requirements on the above project and the MBE/WBE Program and is given on behalf of the Bidder/Proposer listed below. It sets out the Bidder/Proposer's plan to utilize MBE and/or WBE contractors on the project.

2. The project target goals are 11 % MBE and 11 % WBE.

3. Bidder/Proposer assures that it will utilize a minimum of the following percentages of MBE/WBE participation in the above project:

   BIDDER/PROPOSER PARTICIPATION: 12.2 % **MBE** 45.6 % WBE **WBE**

   POST-BID/POST-RFP ESTIMATED BUDGET: $ 3,714,415.00

4. The following are the M/WBE subcontractors whose utilization Bidder/Proposer warrants will meet or exceed the above-listed Bidder/Proposer Participation. Bidder/Proposer warrants that it will utilize the M/WBE subcontractors to provide the goods/services described in the applicable Letter(s) of Intent to Subcontract, copies of which shall collectively be deemed incorporated herein). ***(All firms must currently be certified by Kansas City, Missouri)***

   Name of M/WBE Firm HARTLINE
   Address 751 E63 KCMO 64110
   Telephone No. 816.921 6002
   I.R.S. No. 45.3951326

TOTAL MBE $ / TOTAL MBE %: $ 451,000 12.2%

WBE FIRMS:

Name of WBE Firm	Supplier/Broker/Contractor	Subcontract Amount*	Weighted Value**	% of Total Contract
HARTMAN	CONTRACTOR	1,556,300	100%	42%
AGP	"	134,500.	100%	3.6
DIVERSE ID	SUPPLIER	3,600		.01%

TOTAL WBE $ / TOTAL WBE %: $ 1,694,400.- 45.6%

*"Subcontract Amount" refers to the dollar amount that Bidder/Proposer has agreed to pay each M/WBE subcontractor as of the date of contracting and is indicated here solely for the purpose of calculating the percentage that this sum represents in proportion to the total contract amount. Any contract amendments and/or change orders changing the total contract amount may alter the amount due an M/WBE under their subcontract for purposes of meeting or exceeding the Bidder/Proposer participation.

**"Weighted Value" means the portion of the subcontract amount that will be credited towards meeting the Bidder/Proposer participation. See CREO KC Forms and Instructions for allowable credit and special instructions for suppliers.

5. Bidder/Proposer acknowledges that the monetary amount to be paid each listed M/WBE for their work, and which is approved herein, is an amount corresponding to the percentage of the total contract amount allocable to each listed M/WBE as calculated in the MBE/WBE Breakdown Sheet. Bidder/Proposer further acknowledges that this amount may be higher than the subcontract amount listed therein as change orders and/or amendments changing the total contract amount may correspondingly increase the amount of compensation due an M/WBE for purposes of meeting or exceeding the Bidder/Proposer participation

6. Bidder/Proposer acknowledges that it is responsible for considering the effect that any change orders and/or amendments changing the total contract amount may have on its ability to meet or exceed the Bidder/Proposer participation. Bidder/Proposer further acknowledges that it is responsible for submitting a Request for Modification or Substitution if it will be unable to meet or exceed the Bidder/Proposer participation set forth herein.

7. If Bidder/Proposer has not achieved both the M/WBE goal(s) set for this Project, Bidder/Proposer hereby requests a waiver of the MBE and/or WBE goal(s) that Bidder/Proposer has failed to achieve

8. Bidder/Proposer will present documentation of its good faith efforts, a narrative summary detailing its efforts and the reasons its efforts were unsuccessful when requested bythe City.

9. I hereby certify that I am authorized to make this Affidavit on behalf of the Bidder/Proposer named below and who shall abide by the terms set forth herein:

Bidder/Proposer primary contact: JENNIFER HART
Address: 751 E 63rd ST #107
KCMO 64110
Phone Number: 816.921-6002
Facsimile number: 816.920.0502
E-mail Address: jhart@hartlinecon.com

By: _____
Title: _____
Date: _____
(Attach corporate seal if applicable)

Subscribed and sworn to before me this 16 day of MAY, 2023

My Commission Expires: 09/27/2025

CHEYENNE RAE BURCHETT
Notary Public

REQUEST FOR MODIFICATION OR SUBSTITUTION

*(This Form **must** be submitted to CREO KC to request substitutions for an MBE/WBE listed in the Contractor Utilization Plan or for modification of the amount of MBE/WBE participation listed in the Contractor Utilization Plan. This Form shall be an amendment to the Contractor Utilization Plan.)*

BIDDER/PROPOSER/CONTRACTOR: HARTLINE CONSTRUCTION, LLC
ADDRESS: 751 E. 63rd ST, SUITE 107, KCMO 64110
PROJECT NUMBER OR TITLE: 81000817/1682 WSD ADMIN IT & ADA IMPRO
AMENDMENT/CHANGE ORDER NO: (if applicable) N/A

Project Goals:	11 % MBE	11 % WBE
Contractor Utilization Plan:	12.2 % MBE	45.6 % WBE

1. I am the duly authorized representative of the above Bidder/Contractor/Proposer and am authorized to request this substitution or modification on behalf of the Bidder/Contractor/Proposer.

2. I hereby request that the Director of CREO KC recommend or approve: (check appropriate space(s))

   a. ☐ A substitution of the certified MBE/WBE firm _____.
   (Name of new firm)

   to perform _____.
   (Scope of work to be performed by new firm)

   for the MBE/WBE firm _____ which is currently
   (Name of old firm)
   listed on the Bidder's/Contractor's/Proposer's Contractor Utilization Plan to

   perform the following scope of work: _____.
   (Scope of work of old firm)

   b. ☒ A modification of the amount of MBE/WBE participation currently listed on the Bidder's/Contractor's/Proposer's Contractor Utilization Plan from

   2 % MBE 61 % WBE *(Fill in % of MBE/WBE Participation currently listed on Contractor Utilization Plan)*

   TO

   12.2 % MBE 45.6 % WBE *(Fill in New % of MBE/WBE Participation requested for Contractor Utilization Plan)*

   c. Attach 00450.01 Letter of Intent to Subcontract letter for each new MBE/WBE to be added.
   d. Attach a copy of the most recent 00485.01 or on-line M/WBE Monthly Utilization Report

3. Bidder/Contractor/Proposer states that a substitution or modification is necessary because: (check applicable reason(s))

☐ The MBE/WBE listed on the Contractor Utilization Plan is non-responsive or cannot perform.

☐ The MBE/WBE listed on the Contractor Utilization Plan has increased its previously quoted price without a corresponding change in the scope of work.

☐ The MBE/WBE listed on the Contractor Utilization Plan has committed a material default or breach of its contract.

___ Requirements of the scope of work of the contract have changed and make subcontracting not feasible or not feasible at the levels required by the goals established for the contract.

___ The MBE/WBE listed on the Contractor Utilization Plan is unacceptable to the City contracting department.

___ Bidder/Contractor/Proposer has not attempted intentionally to evade the requirements of the Act and it is in the best interests of the City to allow a modification or substitution.

4. The following is a narrative summary of the Bidder's/Contractor's/Proposer's good faith efforts exhausted in attempts to substitute the MBE/WBE firm named above which is currently listed on the Contractor Utilization Plan with other qualified, certified MBE/WBE firms for the listed scope of work or any other scope of work in the project:

* HARTLINE WAS ABLE TO FIND CERTIFIED MBE'S THAT COULD SELF PERFORM WORK THAT WBE'S WERE GOING TO SELF PERFORM CHANGING THE MBE TO INCREASE OVER THE PROJECT GOALS.

5. Bidder/Proposer/Contractor will present documentation when requested by the City to evidence its good faith efforts.

Dated: 5/16/2023

HARTLINE CONSTRUCTION, LLC
(Bidder/Proposer/Contractor)

By: _____
(Authorized Representative)
JENNIFER G HART

LETTER OF INTENT TO SUBCONTRACT

Check one:	
Original LOI:	☐
Updated LOI:	☐

Project Name/Title WSD Administration Bldg. & IT Improvements & ADA Compliance

Project Location/Number 81000817/1682

PART I: Prime Contractor Hartline Construction, LLC agrees to enter into a contractual agreement with M/W/DBE Subcontractor The City Cement Co who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

Concrete

for an estimated amount of $ 105,550.00 (or 2.8 % of the total estimated contract value.)

M/WBE Vendor type:

- ☑ Subcontractor/manufacturer (counts as 100% of contract value towards goals)
- ☐ Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
- ☐ Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Civil Rights & Equal Opportunity Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

Select one:

- ☑ The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
- ☐ The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: _____

Full address: _____
Street number and name City, State and Zip Code

Primary contact: _____
Name Phone

a) This subcontractor is (select one): ☐MBE ☐WBE ☐DBE ☐N/A

i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.

ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: _____

c) The dollar value of this agreement is: _____

PART 3:

NOTE: SIGNATURES AND NOTARIZATIONS REQUIRED FOR NEW LETTERS OF INTENT (LOI); SIGNATURES ONLY FOR UPDATED LOI (ADDING VALUE TO EXISTING CONTRACT).

PRIME CONTRACTOR BUSINESS NAME: Hartline Construction, LLC

Jennifer G. Hart
Signature: Prime Contractor

Jennifer G. Hart
Print Name

Owner and President
Title

5/11/2023
Date

State of MIssouri)

County of Jackson)

I, Cheyenne Burchett, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this day of May, 20 23

My Commission Expires: 9/27/2025

Cheyenne Rae Burchett
Notary Public

STAMP:

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21366490

MWDBE SUBCONTRACTOR BUSINESS NAME: The City Cement Co

Dino Giarratana
Signature: Subcontractor

Dino Giarratana
Print Name

President
Title

5-11-2023
Date

State of Missouri)

County of Jackson)

I, Cheyenne Rae Burchett, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this 11th day of May, 20 23

My Commission Expires: 09/27/2025

Cheyenne Rae Burchett
Notary Public

STAMP:

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21366490

CITY OF FOUNTAINS
HEART OF THE NATION
KANSAS CITY
MISSOURI

LETTER OF INTENT TO SUBCONTRACT

Check one:	
Original LOI:	☑
Updated LOI:	☐

Project Name/Title WSD Administration Bldg. & IT Improvements & ADA Compliance

Project Location/Number 81000817/1682

PART I: Prime Contractor Hartline Construction, LLC agrees to enter into a contractual agreement with M/W/DBE Subcontractor Best A/V Solution who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

AV Equipment and Installation/Programing

for an estimated amount of $ 281,000.00 (or 7.5 % of the total estimated contract value.)

M/WBE Vendor type:

- ☑ Subcontractor/manufacturer (counts as 100% of contract value towards goals)
- ☐ Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
- ☐ Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Civil Rights & Equal Opportunity Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

Select one:

- ☑ The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
- ☐ The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: BEST A/V Solution

Full address: 4621 S Shrank Dr. Ste. 13, Independence, MO 64055
(Street number and name; City, State and Zip Code)

Primary contact: Ca'Tia Temple-Holliday
(Name; Phone)

a) This subcontractor is (select one): ☑ MBE ☑ WBE ☑ DBE ☐ N/A

i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.

ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: AV equipment, Installation & Programming

c) The dollar value of this agreement is: _____

PART 3:

NOTE: SIGNATURES AND NOTARIZATIONS REQUIRED FOR NEW LETTERS OF INTENT (LOI); SIGNATURES ONLY FOR UPDATED LOI (ADDING VALUE TO EXISTING CONTRACT).

PRIME CONTRACTOR BUSINESS NAME: Hartline Construction, LLC

Jennifer G. Hart
Signature: Prime Contractor

Jennifer G. Hart
Print Name

Owner and President
Title

5/10/2023
Date

State of MIssouri)

County of Jackson)

I, Cheyenne Burchett, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this day of May, 2023

My Commission Expires: 9/27/2025

Cheyenne Rae Burchett
Notary Public

STAMP:

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21366490

MWDBE SUBCONTRACTOR BUSINESS NAME: Best A/V Solution

Ca'Tia Temple-Holliday
Signature: Subcontractor

Ca'Tia Temple-Holliday
Print Name

CEO, CTS
Title

5/10/2023
Date

State of)

County of)

I, Christina Michelle Fulton, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this 11th day of May, 2023

My Commission Expires: Feb 16, 2026

Christina Michelle Fulton
Notary Public

STAMP:

CHRISTINA MICHELLE FULTON
Notary Public - Notary Seal
Jackson County - State of Missouri
Commission Number 22003601
My Commission Expires Feb 16, 2026

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

CONTRACTOR UTILIZATION PLAN/REQUEST FOR WAIVER

Project Number 81000817 / 1682

Project Title KC WATER ADMIN BLDG & IT IMPROV & ADA COMP.

KCMO

WATER SERVICE DEPT (Department Project)

WATER Department

HARTLINE CONSTRUCTION, LLC (Bidder/Proposer)

STATE OF MISSOURI)
) ss
COUNTY OF JACKSON)

I, JENNIFER HART, of lawful age and upon my oath state as follows:

1. This Affidavit is made for the purpose of complying with the provisions of the MBE/WBE submittal requirements on the above project and the MBE/WBE Program and is given on behalf of the Bidder/Proposer listed below. It sets out the Bidder/Proposer's plan to utilize MBE and/or WBE contractors on the project.

2. The project target goals are 11 **% MBE** and 11 **% WBE.**

3. Bidder/Proposer assures that it will utilize a minimum of the following percentages of MBE/WBE participation in the above project:

   - **BIDDER/PROPOSER PARTICIPATION:** ~~3~~ 2.349 **% MBE** ~~60~~ 63.11 **% WBE**
   - **POST-BID/POST-RFP ESTIMATED BUDGET: $**

4. The following are the M/WBE subcontractors whose utilization Bidder/Proposer warrants will meet or exceed the above-listed Bidder/Proposer Participation. Bidder/Proposer warrants that it will utilize the M/WBE subcontractors to provide the goods/services described in the applicable Letter(s) of Intent to Subcontract, copies of which shall collectively be deemed incorporated herein). ***(All firms must currently be certified by Kansas City, Missouri)***

   - Name of M/WBE Firm Hartline Construction, LLC
     Address 751 East 63rd Street, Suite 107, Kansas City, MO 64110
     Telephone No. 816-921-6002
     I.R.S. No. 45-3951328

Name of M/WBE Firm AGP
Address 12900 2nd Street, Grandview, MO 64030
Telephone No. 816-322-0220
I.R.S. No. 48-1209004

Name of M/WBE Firm Diverse-ID
Address 8121 NW 80th Terr, KCMO
Telephone No. 816-596-2141
I.R.S. No. 26-2647480

Name of M/WBE Firm Alpha Energy and Electric
Address 1100 E 34th St, Kansas City, MO
Telephone No. 8163-442-4032
I.R.S. No. 33-1116338

Name of M/WBE Firm
Address
Telephone No.
I.R.S. No.

Name of M/WBE Firm
Address
Telephone No.
I.R.S. No.

(List additional M/WBEs, if any, on additional page and attach to this form)

4. The following is a breakdown of the percentage of the total contract amount that Bidder/Proposer agrees to pay to each listed M/WBE:

MBE/WBE BREAKDOWN SHEET

MBE FIRMS:

Name of MBE Firm	Supplier/Broker/Contractor	Subcontract Amount*	Weighted Value**	% of Total Contract
Alpha Energy and Electric		73,494	11	2.394

TOTAL MBE $ / TOTAL MBE %: $ 73.494.00 2.394 %

WBE FIRMS:

Name of WBE Firm	Supplier/Broker/Contractor	Subcontract Amount*	Weighted Value**	% of Total Contract
Hartline Construction		2,210.160		59.5
AGP		134,000		3.6
Diverse ID		4,500		0.1

TOTAL WBE $ / TOTAL WBE %: $ 2,348.660 63.11 %

*"Subcontract Amount" refers to the dollar amount that Bidder/Proposer has agreed to pay each M/WBE subcontractor as of the date of contracting and is indicated here solely for the purpose of calculating the percentage that this sum represents in proportion to the total contract amount. Any contract amendments and/or change orders changing the total contract amount may alter the amount due an M/WBE under their subcontract for purposes of meeting or exceeding the Bidder/Proposer participation.

**"Weighted Value" means the portion of the subcontract amount that will be credited towards meeting the Bidder/Proposer participation. See CREO KC Forms and Instructions for allowable credit and special instructions for suppliers.

5. Bidder/Proposer acknowledges that the monetary amount to be paid each listed M/WBE for their work, and which is approved herein, is an amount corresponding to the percentage of the total contract amount allocable to each listed M/WBE as calculated in the MBE/WBE Breakdown Sheet. Bidder/Proposer further acknowledges that this amount may be higher than the subcontract amount listed therein as change orders and/or amendments changing the total contract amount may correspondingly increase the amount of compensation due an M/WBE for purposes of meeting or exceeding the Bidder/Proposer participation

6. Bidder/Proposer acknowledges that it is responsible for considering the effect that any change orders and/or amendments changing the total contract amount may have on its ability to meet or exceed the Bidder/Proposer participation. Bidder/Proposer further acknowledges that it is responsible for submitting a Request for Modification or Substitution if it will be unable to meet or exceed the Bidder/Proposer participation set forth herein.

7. If Bidder/Proposer has not achieved both the M/WBE goal(s) set for this Project, Bidder/Proposer hereby requests a waiver of the MBE and/or WBE goal(s) that Bidder/Proposer has failed to achieve

8. Bidder/Proposer will present documentation of its good faith efforts, a narrative summary detailing its efforts and the reasons its efforts were unsuccessful when requested bythe City.

9. I hereby certify that I am authorized to make this Affidavit on behalf of the Bidder/Proposer named below and who shall abide by the terms set forth herein:

Bidder/Proposer primary contact: Hartline Construction, LLC / Jennifer G. Hart
Address: 751 East 63rd Street, Suite 107, Kansas City, MO 64110

Phone Number: 816-921-6002
Facsimile number: 816-920-0502
E-mail Address: jhart@hartliecon.com

Jennifer G. Hart

By: Jennifer G. Hart
Title: Owner and President
Date: 4/4/2023
(Attach corporate seal if applicable)

Subscribed and sworn to before me this 4th day of April, 2023.

My Commission Expires: 09/27/2025

Cheyenne Rae Burchett
Notary Public

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21366490

CITY OF FOUNTAINS
HEART OF THE NATION
KANSAS CITY
MISSOURI

LETTER OF INTENT TO SUBCONTRACT

Check one:
Original LOI: ☐
Updated LOI: ☐

Project Name/Title WSD Administration Bldg. & IT Improvements & ADA Compliance

Project Location/Number 81000817/1682

PART I: Prime Contractor Hartline Construction, LLC agrees to enter into a contractual agreement with M/W/DBE Subcontractor Harltine Construction, LLC who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

Construction Management, Demolition, Metal Stud, Drywall, ACT, Grid, Drywall Finishing, Millwork installation, Carpentry, Door, Frame Hardware, Concrete, Cleaning and Final Clean, Painting.

for an estimated amount of $ 2,210,160 (or 59.5 % of the total estimated contract value.)

M/WBE Vendor type:

- ☑ Subcontractor/manufacturer (counts as 100% of contract value towards goals)
- ☐ Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
- ☐ Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Civil Rights & Equal Opportunity Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

Select one:

- ☑ The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
- ☐ The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: _____

Full address: _____
Street number and name City, State and Zip Code

Primary contact: _____
Name Phone

a) This subcontractor is (select one): ☐MBE ☐WBE ☐DBE ☐N/A

i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.

ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: _____

c) The dollar value of this agreement is: _____

PART 3:

NOTE: SIGNATURES AND NOTARIZATIONS REQUIRED FOR NEW LETTERS OF INTENT (LOI); SIGNATURES ONLY FOR UPDATED LOI (ADDING VALUE TO EXISTING CONTRACT).

PRIME CONTRACTOR BUSINESS NAME: Hartline Construction, LLC

Jennifer G. Hart
Signature: Prime Contractor

Jennifer G. Hart
Print Name

Owner and President
Title

4/4/2023
Date

State of Missouri)

County of Jackson)

I, Cheyenne Burchett, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this 3rd day of April, 2023

My Commission Expires: 9/27/2025

Cheyenne Rae Burchett
Notary Public

STAMP:

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21366490

MWDBE SUBCONTRACTOR BUSINESS NAME: _____

Signature: Subcontractor

Print Name

Title

Date

State of)

County of)

I, _____, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this day of _____, 20_____

My Commission Expires: _____

Notary Public

STAMP:

LETTER OF INTENT TO SUBCONTRACT

Check one:	
Original LOI:	☑
Updated LOI:	☐

Project Name/Title WSD Administration Bldg. & IT Improvements & ADA Compliance

Project Location/Number 81000817/1682

PART I: Prime Contractor Mark One Electric Inc. agrees to enter into a contractual agreement with M/W/DBE Subcontractor Alpha Energy and Electric who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

Electrical Power, Lighting and AV

for an estimated amount of $ 73,994.91 (or 11 % of the total estimated contract value.)

M/WBE Vendor type:

- ☑ Subcontractor/manufacturer (counts as 100% of contract value towards goals)
- ☐ Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
- ☐ Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Civil Rights & Equal Opportunity Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

Select one:

- ☑ The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
- ☐ The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: _____

Full address: _____
Street number and name City, State and Zip Code

Primary contact: _____
Name Phone

a) This subcontractor is (select one): ☐MBE ☐WBE ☑DBE ☐N/A

i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.

ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: _____

c) The dollar value of this agreement is: _____

PART 3:

NOTE: SIGNATURES AND NOTARIZATIONS REQUIRED FOR NEW LETTERS OF INTENT (LOI); SIGNATURES ONLY FOR UPDATED LOI (ADDING VALUE TO EXISTING CONTRACT).

PRIME CONTRACTOR BUSINESS NAME: Mark One Electric INc.

Rosana Privitera Biondo

Signature: Prime Contractor

Rosana Privitera Biondo

Print Name

President

Title

4/4/2023

Date

State of Missouri)

County of Jackson)

I, Keli Renee Kline, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this 5th day of April, 2023

My Commission Expires: 08-22-2023

Keli Renee Kline

Notary Public

STAMP:

KELI RENEE KLINE
Notary Public, Notary Seal
State of Missouri
Jackson County
Commission # 17501539
My Commission Expires 08-22-2025

MWDBE SUBCONTRACTOR BUSINESS NAME: ALPHA ENERGY AND ELECTRIC, INC

GMOkafor

Signature: Subcontractor

GABRIEL OKAFOR

Print Name

President

Title

4/5/23

Date

State of Missouri)

County of Jackson)

I, Surely Edgar, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this 5th day of April, 2023

My Commission Expires: Oct 22, 2023

Notary Public

STAMP:

Surely Edgar
Notary Public -Notary Seal
STATE OF MISSOURI
Jackson County
My Commission Expires Oct 22 2023
Commission # 19536097

LETTER OF INTENT TO SUBCONTRACT

Check one:	
Original LOI:	☐
Updated LOI:	☐

Project Name/Title WSD Administration Bldg. & IT Improvements & ADA Compliance

Project Location/Number 81000817/1682

PART I: Prime Contractor Hartline Construction, LLC agrees to enter into a contractual agreement with M/W/DBE Subcontractor AGP who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

Aluminum Storefront and Glazing

for an estimated amount of $ 144,900.00 (or _____% of the total estimated contract value.)

M/WBE Vendor type:

- ☑ Subcontractor/manufacturer (counts as 100% of contract value towards goals)
- ☐ Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
- ☐ Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Civil Rights & Equal Opportunity Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

Select one:

- ☑ The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
- ☐ The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: _____

Full address: _____
Street number and name City, State and Zip Code

Primary contact: _____
Name Phone

a) This subcontractor is (select one): ☐MBE ☐WBE ☐DBE ☐N/A

i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.

ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: _____

c) The dollar value of this agreement is: _____

PART 3:

NOTE: SIGNATURES AND NOTARIZATIONS REQUIRED FOR NEW LETTERS OF INTENT (LOI); SIGNATURES ONLY FOR UPDATED LOI (ADDING VALUE TO EXISTING CONTRACT).

PRIME CONTRACTOR BUSINESS NAME: Hartline Construction, LLC

Signature: Prime Contractor

Jennifer G. Hart
Print Name

Owner and President
Title

4/4/2023
Date

State of Missouri)

County of Jackson)

I, Cheyenne Burchett, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this day of April, 2023

My Commission Expires: 9/27/2025

Notary Public

STAMP:

MWDBE SUBCONTRACTOR BUSINESS NAME: AGP, Inc.

Signature: Subcontractor

Sherry Hankinson
Print Name

President
Title

4/5/2023
Date

State of MO)

County of Newton)

I, Tyler Ewy, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this day of April, 2023

My Commission Expires: March 2,2025

Notary Public

STAMP:

TYLER GRANT EWY
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
MY COMMISSION EXPIRES MARCH 2, 2025
NEWTON COUNTY
COMMISSION #21313438

LETTER OF INTENT TO SUBCONTRACT

Check one:	
Original LOI:	☐
Updated LOI:	☐

Project Name/Title WSD Administration Bldg. & IT Improvements & ADA Compliance

Project Location/Number 81000817/1682

PART I: Prime Contractor Hartline Construction, LLC agrees to enter into a contractual agreement with M/W/DBE Subcontractor DiverseID, LLC who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

Signage

for an estimated amount of $ $ 4,600.00 (or_____% of the total estimated contract value.)

M/WBE Vendor type:

- ☑ Subcontractor/manufacturer (counts as 100% of contract value towards goals)
- ☐ Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
- ☐ Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Civil Rights & Equal Opportunity Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

Select one:

- ☑ The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
- ☐ The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: DiverseID LLC

Full address: 8121 NW 80th Terrace, Kansas City, MO 64152
Street number and name — City, State and Zip Code

Primary contact: Martina Derra — 816.596.2141
Name — Phone

a) This subcontractor is (select one): ☐ MBE ☑ WBE ☑ DBE ☐ N/A

i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.

ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: Signage

c) The dollar value of this agreement is: $4600.00

PART 3:

NOTE: SIGNATURES AND NOTARIZATIONS REQUIRED FOR NEW LETTERS OF INTENT (LOI);
SIGNATURES ONLY FOR UPDATED LOI (ADDING VALUE TO EXISTING CONTRACT).

PRIME CONTRACTOR BUSINESS NAME: Hartline Construction, LLC

Jennifer G. Hart
Signature: Prime Contractor — Print Name

Owner and President — 4/4/2023
Title — Date

State of Missouri)

County of Jackson)

I, Cheyenne Burchett, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this day of April, 2023

My Commission Expires: 9/27/2025

Notary Public

STAMP:

MWDBE SUBCONTRACTOR BUSINESS NAME: DiverseID, LLC

Martina Derra
Signature: Subcontractor — Print Name

President/Owner — 4 5 2023
Title — Date

State of)

County of)

I,_____, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this day of_____, 20_____

My Commission Expires: _____

Notary Public

STAMP:

CITY OF FOUNTAINS
HEART OF THE NATION
KANSAS CITY
MISSOURI

CONTRACTOR UTILIZATION PLAN/REQUEST FOR WAIVER

Project Number 81000817 / 1682

Project Title KC WATER ADMIN BLDG & IT IMPROV & ADA COMP.

KCMO

WATER SERVICE DEPT (Department Project) | WATER Department

HARTLINE CONSTRUCTION, LLC
(Bidder/Proposer)

STATE OF MISSOURI)
) ss
COUNTY OF JACKSON)

I, JENNIFER HART, of lawful age and upon my oath state as follows:

1. This Affidavit is made for the purpose of complying with the provisions of the MBE/WBE submittal requirements on the above project and the MBE/WBE Program and is given on behalf of the Bidder/Proposer listed below. It sets out the Bidder/Proposer's plan to utilize MBE and/or WBE contractors on the project.

2. The project target goals are 11 **% MBE** and 11 **% WBE.**

3. Bidder/Proposer assures that it will utilize a minimum of the following percentages of MBE/WBE participation in the above project:

   BIDDER/PROPOSER PARTICIPATION: 3 **% MBE** 60 **% WBE**
   WBE

   POST-BID/POST-RFP ESTIMATED BUDGET: $_____

4. The following are the M/WBE subcontractors whose utilization Bidder/Proposer warrants will meet or exceed the above-listed Bidder/Proposer Participation. Bidder/Proposer warrants that it will utilize the M/WBE subcontractors to provide the goods/services described in the applicable Letter(s) of Intent to Subcontract, copies of which shall collectively be deemed incorporated herein). ***(All firms must currently be certified by Kansas City, Missouri)***

   Name of M/WBE Firm Hartline Construction, LLC
   Address 751 East 63rd Street, Suite 107, Kansas City, MO 64110
   Telephone No. 816-921-6002
   I.R.S. No. 45-3951328

Name of M/WBE Firm AGP
Address 12900 2nd Street, Grandview, MO 64030
Telephone No. 816-322-0220
I.R.S. No. _____

Name of M/WBE Firm Diverse-ID
Address _____
Telephone No. _____
I.R.S. No. _____

Name of M/WBE Firm Alpha Energy and Electric
Address _____
Telephone No. _____
I.R.S. No. _____

Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____

Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____

(List additional M/WBEs, if any, on additional page and attach to this form)

4. The following is a breakdown of the percentage of the total contract amount that Bidder/Proposer agrees to pay to each listed M/WBE:

MBE/WBE BREAKDOWN SHEET

MBE FIRMS:

Name of MBE Firm	Supplier/Broker/Contractor	Subcontract Amount*	Weighted Value**	% of Total Contract
Alpha Energy and Electric				

TOTAL MBE $ / TOTAL MBE %: $_____ 3 %

WBE FIRMS:

Name of WBE Firm	Supplier/Broker/Contractor	Subcontract Amount*	Weighted Value**	% of Total Contract
Hartline Construction				
AGP				
Diverse ID				

TOTAL WBE $ / TOTAL WBE %: $_____ _____%

*"Subcontract Amount" refers to the dollar amount that Bidder/Proposer has agreed to pay each M/WBE subcontractor as of the date of contracting and is indicated here solely for the purpose of calculating the percentage that this sum represents in proportion to the total contract amount. Any contract amendments and/or change orders changing the total contract amount may alter the amount due an M/WBE under their subcontract for purposes of meeting or exceeding the Bidder/Proposer participation.

**"Weighted Value" means the portion of the subcontract amount that will be credited towards meeting the Bidder/Proposer participation. See CREO KC Forms and Instructions for allowable credit and special instructions for suppliers.

5. Bidder/Proposer acknowledges that the monetary amount to be paid each listed M/WBE for their work, and which is approved herein, is an amount corresponding to the percentage of the total contract amount allocable to each listed M/WBE as calculated in the MBE/WBE Breakdown Sheet. Bidder/Proposer further acknowledges that this amount may be higher than the subcontract amount listed therein as change orders and/or amendments changing the total contract amount may correspondingly increase the amount of compensation due an M/WBE for purposes of meeting or exceeding the Bidder/Proposer participation

6. Bidder/Proposer acknowledges that it is responsible for considering the effect that any change orders and/or amendments changing the total contract amount may have on its ability to meet or exceed the Bidder/Proposer participation. Bidder/Proposer further acknowledges that it is responsible for submitting a Request for Modification or Substitution if it will be unable to meet or exceed the Bidder/Proposer participation set forth herein.

7. If Bidder/Proposer has not achieved both the M/WBE goal(s) set for this Project, Bidder/Proposer hereby requests a waiver of the MBE and/or WBE goal(s) that Bidder/Proposer has failed to achieve

8. Bidder/Proposer will present documentation of its good faith efforts, a narrative summary detailing its efforts and the reasons its efforts were unsuccessful when requested bythe City.

9. I hereby certify that I am authorized to make this Affidavit on behalf of the Bidder/Proposer named below and who shall abide by the terms set forth herein:

Bidder/Proposer primary contact: Hartline Construction, LLC / Jennifer G. Hart
Address: 751 East 63rd Street, Suite 107, Kansas City, MO 64110

Phone Number: 816-921-6002
Facsimile number: 816-920-0502
E-mail Address: jhart@hartliecon.com

Jennifer G. Hart

By: Jennifer G. Hart
Title: Owner and President
Date: 4/4/2023
(Attach corporate seal if applicable)

Subscribed and sworn to before me this 4th day of April, 2023.

Cheyenne Rae Burchett

My Commission Expires: 09/27/2025

Notary Public

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP 27, 2025
ID #21366490

LETTER OF INTENT TO SUBCONTRACT

Check one:	
Original LOI:	☐
Updated LOI:	☐

Project Name/Title WSD Administration Bldg. & IT Improvements & ADA Compliance

Project Location/Number 81000817/1682

PART I: Prime Contractor Hartline Construction, LLC agrees to enter into a contractual agreement with M/W/DBE Subcontractor Hartline Construction, LLC who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

Construction Management, Demolition, Metal Stud, Drywall, ACT, Grid, Drywall Finishing, Millwork installation, Carpentry, Door, Frame Hardware, Concrete, Cleaning and Final Clean, Painting.

for an estimated amount of $_____(or_____% of the total estimated contract value.)

M/WBE Vendor type:

- ☑ Subcontractor/manufacturer (counts as 100% of contract value towards goals)
- ☐ Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
- ☐ Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Civil Rights & Equal Opportunity Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

Select one:

- ☑ The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
- ☐ The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: _____

Full address: _____
Street number and name City, State and Zip Code

Primary contact: _____
Name Phone

a) This subcontractor is (select one): ☐MBE ☐WBE ☐DBE ☐N/A

i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.

ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: _____

c) The dollar value of this agreement is: _____

PART 3:

NOTE: SIGNATURES AND NOTARIZATIONS REQUIRED FOR NEW LETTERS OF INTENT (LOI); SIGNATURES ONLY FOR UPDATED LOI (ADDING VALUE TO EXISTING CONTRACT).

PRIME CONTRACTOR BUSINESS NAME: Hartline Construction, LLC

Jennifer G. Hart
Signature: Prime Contractor

Jennifer G. Hart
Print Name

Owner and President
Title

4/4/2023
Date

State of Missouri)

County of Jackson)

I, Cheyenne Burchett, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this 3rd day of April, 2023

My Commission Expires: 9/27/2025

Cheyenne Rae Burchett
Notary Public

STAMP:

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21388490

MWDBE SUBCONTRACTOR BUSINESS NAME: _____

Signature: Subcontractor

Print Name

Title

Date

State of)

County of)

I, _____, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this day of _____, 20_____

My Commission Expires: _____

Notary Public

STAMP:

TIMETABLE FOR MBE/WBE UTILIZATION

(This form should be submitted to the City after contract award.)

I, Jennifer G. Hart, acting in my capacity as Owner and President
(Name) *(Position with Firm)*
of Hartline Construction, with the submittal of this Timetable, certify that
(Name of Firm)
the following timetable for MBE/WBE utilization in the fulfillment of this contract is correct and true to the best of my knowledge.

ALLOTTED TIME FOR THE COMPLETION OF THIS CONTRACT
(Check one only)

15 days	___	75 days	___	135 days	___
30 days	___	90 days	___	150 days	___
45 days	___	105 days	___	165 days	___
60 days	☐	120 days	☐	180 days	☐

Other 420 (Specify)

PER KCMO DIRECTION

Throughout _____ Beginning 1/3 _____
Middle 1/3 _____ Final 1/3 _____
Beginning 1/3 _____% Middle 1/3 _____% Final 1/3 _____%

PLEASE NOTE: Any changes in this timetable require approval of the Civil Rights & Equal Opportunity Department in advance of the change.

If you have any questions regarding the completion of this form, please contact the Civil Rights & Equal Opportunity Department at: (816) 513-1836.

_____
(Signature)

OWNER/ PRESIDENT
(Position with Firm)

4/4/2023
(Date)

REQUEST FOR MODIFICATION OR SUBSTITUTION

(This Form must be submitted to CREO KC to request substitutions for an MBE/WBE listed in the Contractor Utilization Plan or for modification of the amount of MBE/WBE participation listed in the Contractor Utilization Plan. This Form shall be an amendment to the Contractor Utilization Plan.)

BIDDER/PROPOSER/CONTRACTOR: Hartline Construction, LLC
ADDRESS: 751 East 63rd Street, Suite 107, Kansas City, MO 64110
PROJECT NUMBER OR TITLE: 81000817/1682 WSD Armin. IT & ADA Improvements
AMENDMENT/CHANGE ORDER NO: (if applicable) NA

Project Goals:	11 % MBE	11 % WBE
Contractor Utilization Plan:	12 % MBE	46 % WBE

1. I am the duly authorized representative of the above Bidder/Contractor/Proposer and am authorized to request this substitution or modification on behalf of the Bidder/Contractor/Proposer.

2. I hereby request that the Director of CREO KC recommend or approve: (check appropriate space(s))

   a. ☐ A substitution of the certified MBE/WBE firm _____, *(Name of new firm)*
   to perform _____, *(Scope of work to be performed by new firm)*
   for the MBE/WBE firm _____ which is currently *(Name of old firm)*
   listed on the Bidder's/Contractor's/Proposer's Contractor Utilization Plan to
   perform the following scope of work: _____. *(Scope of work of old firm)*

   b. ☑ A modification of the amount of MBE/WBE participation currently listed on the Bidder's/Contractor's/Proposer's Contractor Utilization Plan from
   2 % MBE 61 % WBE *(Fill in % of MBE/WBE Participation currently listed on Contractor Utilization Plan)*
   TO
   12 % MBE 46 % WBE *(Fill in New % of MBE/WBE Participation requested for Contractor Utilization Plan)*

   c. Attach 00450.01 Letter of Intent to Subcontract letter for each new MBE/WBE to be added.
   d. Attach a copy of the most recent 00485.01 or on-line M/WBE Monthly Utilization Report

3. Bidder/Contractor/Proposer states that a substitution or modification is necessary because: (check applicable reason(s))

☐ The MBE/WBE listed on the Contractor Utilization Plan is non-responsive or cannot perform.

☐ The MBE/WBE listed on the Contractor Utilization Plan has increased its previously quoted price without a corresponding change in the scope of work.

☐ The MBE/WBE listed on the Contractor Utilization Plan has committed a material default or breach of its contract.

___ Requirements of the scope of work of the contract have changed and make subcontracting not feasible or not feasible at the levels required by the goals established for the contract.

___ The MBE/WBE listed on the Contractor Utilization Plan is unacceptable to the City contracting department.

___ Bidder/Contractor/Proposer has not attempted intentionally to evade the requirements of the Act and it is in the best interests of the City to allow a modification or substitution.

4. The following is a narrative summary of the Bidder's/Contractor's/Proposer's good faith efforts exhausted in attempts to substitute the MBE/WBE firm named above which is currently listed on the Contractor Utilization Plan with other qualified, certified MBE/WBE firms for the listed scope of work or any other scope of work in the project:

Hartline was able to find certified MBE's that could self perform work that WBE's were going to self perform. This changed the percentage of WBE to be 46% and MBE to 12%.

5. Bidder/Proposer/Contractor will present documentation when requested by the City to evidence its good faith efforts.

Dated: 5/16/2023

Hartline Construction
(Bidder/Proposer/Contractor)

By: _____
(Authorized Representative)

LETTER OF INTENT TO SUBCONTRACT

Check one:
Original LOI ☑
Updated LOI ☐

Project Name/Title WSD Administration Bldg. & IT Improvements & ADA Compliance

Project Location/Number 81000817/1682

PART 1: Prime Contractor Mark One Electric Inc. agrees to enter into a contractual agreement with M/W/DBE Subcontractor Alpha Energy and Electric who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

Electrical Power, Lighting and AV

for an estimated amount of $ 73,994.91 (or 11 % of the total estimated contract value.)

M/WBE Vendor type:
- ☑ Subcontractor/manufacturer (counts as 100% of contract value towards goals)
- ☐ Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
- ☐ Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Civil Rights & Equal Opportunity Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

Select one:
- ☑ The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
- ☐ The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: _____

Full address: _____
Street number and name — City, State and Zip Code

Primary contact: _____
Name — Phone

a) This subcontractor is (select one): ☐MBE ☐WBE ☑DBE ☐N/A

i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.

ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: _____

c) The dollar value of this agreement is: _____

PART 3:

NOTE: SIGNATURES AND NOTARIZATIONS REQUIRED FOR NEW LETTERS OF INTENT (LOI); SIGNATURES ONLY FOR UPDATED LOI (ADDING VALUE TO EXISTING CONTRACT).

PRIME CONTRACTOR BUSINESS NAME: Mark One Electric INc.

Rosana Privitera Biondo — Rosana Privitera Biondo
Signature: Prime Contractor — Print Name

President — 4/4/2023
Title — Date

State of Missouri)
County of Jackson)

I, Keli Renee Kline, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this 5th day of April, 2023

My Commission Expires: 08-22-2023 — Keli Renee Kline
Notary Public

STAMP:

KELI RENEE KLINE
Notary Public, Notary Seal
State of Missouri
Jackson County
Commission # 17501539
My Commission Expires 08-22-2025

MWDBE SUBCONTRACTOR BUSINESS NAME: ALPHA ENERGY AND ELECTRIC, INC

GMOkafor — GABRIEL OKAFOR
Signature: Subcontractor — Print Name

President — 4/5/23
Title — Date

State of Missouri)
County of Jackson)

I, Surely Edgar, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this 5th day of April, 2023

My Commission Expires: Oct 22, 2023 — Notary Public

STAMP:

Surely Edgar
Notary Public -Notary Seal
STATE OF MISSOURI
Jackson County
My Commission Expires Oct 22 2023
Commission # 19536097

LETTER OF INTENT TO SUBCONTRACT

Check one:
Original LOI: ☐
Updated LOI: ☐

Project Name/Title WSD Administration Bldg. & IT Improvements & ADA Compliance

Project Location/Number 81000817/1682

PART 1: Prime Contractor Hartline Construction, LLC agrees to enter into a contractual agreement with M/W/DBE Subcontractor The City Cement Co who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

Concrete

for an estimated amount of $ 90,545.00 (or 2.4 % of the total estimated contract value.)

M/WBE Vendor type:

- ☑ Subcontractor/manufacturer (counts as 100% of contract value towards goals)
- ☐ Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
- ☐ Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Civil Rights & Equal Opportunity Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

Select one:

- ☑ The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
- ☐ The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: _____

Full address: _____
Street number and name City, State and Zip Code

Primary contact: _____
Name Phone

a) This subcontractor is (select one): ☐MBE ☐WBE ☐DBE ☐N/A

i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.

ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: _____

c) The dollar value of this agreement is: _____

PART 3:

NOTE: SIGNATURES AND NOTARIZATIONS REQUIRED FOR NEW LETTERS OF INTENT (LOI); SIGNATURES ONLY FOR UPDATED LOI (ADDING VALUE TO EXISTING CONTRACT).

PRIME CONTRACTOR BUSINESS NAME: Hartline Construction, LLC

Jennifer G. Hart
Signature: Prime Contractor

Jennifer G. Hart
Print Name

Owner and President
Title

5/11/2023
Date

State of Missouri)

County of Jackson)

I, Cheyenne Burchett, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this 11th day of May, 2023

Cheyenne Rae Burchett
Notary Public

My Commission Expires: 9/27/2025

STAMP:

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21366490

MWDBE SUBCONTRACTOR BUSINESS NAME: The City Cement Co

Dino Giarratana
Signature: Subcontractor

Dino Giarratana
Print Name

President
Title

5-11-2023
Date

State of Missouri)

County of Jackson)

I, Cheyenne Rae Burchett, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this 11th day of May, 20 23

Cheyenne Rae Burchett
Notary Public

My Commission Expires: 09/27/2025

STAMP:

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21366490

LETTER OF INTENT TO SUBCONTRACT

Check one:
Original LOI: ☑
Updated LOI: ☐

Project Name/Title WSD Administration Bldg. & IT Improvements & ADA Compliance

Project Location/Number 81000817/1682

PART 1: Prime Contractor Hartline Construction, LLC agrees to enter into a contractual agreement with M/W/DBE Subcontractor Best A/V Solution who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

AV Equipment and Installation/Programing

for an estimated amount of $ 281,000.00 (or 7.5 % of the total estimated contract value.)

M/WBE Vendor type:
- ☑ Subcontractor/manufacturer (counts as 100% of contract value towards goals)
- ☐ Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
- ☐ Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Civil Rights & Equal Opportunity Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

Select one:
- ☑ The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
- ☐ The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: BEST A/V Solution

Full address: 41021 S Shrank Dr. Ste. 13, Independence, MD 64055
(Street number and name; City, State and Zip Code)

Primary contact: Ch'Tia Temple-Holliday
(Name; Phone)

a) This subcontractor is (select one): ☑MBE ☑WBE ☑DBE ☐N/A

i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.

ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: AV equipment, Installation & Programming

c) The dollar value of this agreement is: _____

PART 3:

NOTE: SIGNATURES AND NOTARIZATIONS REQUIRED FOR NEW LETTERS OF INTENT (LOI); SIGNATURES ONLY FOR UPDATED LOI (ADDING VALUE TO EXISTING CONTRACT).

PRIME CONTRACTOR BUSINESS NAME: Hartline Construction, LLC

Jennifer G. Hart
Signature: Prime Contractor

Jennifer G. Hart
Print Name

Owner and President
Title

5/10/2023
Date

State of Missouri)

County of Jackson)

I, Cheyenne Burchett, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this day of May, 2023

My Commission Expires: 9/27/2025

Cheyenne Rae Burchett
Notary Public

STAMP:

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP 27, 2025
ID #21366490

MWDBE SUBCONTRACTOR BUSINESS NAME: Best A/V Solution

Signature: Subcontractor

Ca'Tia Temple-Holliday
Print Name

CEO, CTS
Title

5/10/2023
Date

State of)

County of)

I, Christina Michelle Fulton, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this 11th day of May, 2023

My Commission Expires: Feb 16, 2026

Christina Michelle Fulton
Notary Public

STAMP:

CHRISTINA MICHELLE FULTON
Notary Public - Notary Seal
Jackson County - State of Missouri
Commission Number 22003601
My Commission Expires Feb 16, 2026

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

CaTia Temple-Holliday

2 Business name/disregarded entity name, if different from above

BEST A/V Solution

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

☑ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

4621 S. Shrank Dr. Ste 13

Requester's name and address (optional)

6 City, state, and ZIP code

Independence, Missouri 64055

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–			–				

or

Employer identification number

8	2	–	2	0	0	1	4	8	1

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ▶ C. Tale Holliday Date ▶ 05-05-23

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

CITY OF KANSAS CITY, MISSOURI

Human Relations Department
414 E. 12th Street, 4th Floor
Kansas City, Missouri 64106
(816) 513-1810 Phone
(816) 513-1805 Fax

In accordance with the requirements for certification as a Minority Business Enterprise (MBE), Women Business Enterprise (WBE) & Small Local Business Enterprise (SLBE) as defined by Chapter 3 Code of General Ordinance it has been determined that your firm does qualify for participation in the MBE/WBE/SLBE Programs. The work performed by your firm will only count toward contractual MBE/WBE/SLBE goals. The Department will monitor the operations of your firm to ensure that it continues to operate in compliance with the regulations and intent of the MBE/WBE/SLBE programs:

BEST AV SOLUTION LLC

Phillip Yelder, Director of Human Relations

Date Issued: February 19, 2021

Certification Codes:

Annual Update Forms are available online at www.kcmo.org

NAICS 238210: AUDIO EQUIPMENT INSTALLATION (EXCEPT AUTOMOTIVE) CONTRACTORS
NAICS 238210: COMPUTER AND NETWORK CABLE INSTALLATION
NAICS 238210: LOW VOLTAGE ELECTRICAL WORK
NAICS 517311: CLOSED-CIRCUIT TELEVISION (CCTV) SERVICES
NAICS 711510: LIGHTING TECHNICIANS, THEATRICAL, INDEPENDENT

PLEASE NOTE: Each year you must provide an Annual Update Form 60 day prior to your certification anniversary date.

04/12

LETTER OF INTENT TO SUBCONTRACT

Check one:
Original LOI: ☐
Updated LOI: ☐

Project Name/Title WSD Administration Bldg. & IT Improvements & ADA Compliance

Project Location/Number 81000817/1682

PART 1: Prime Contractor Hartline Construction, LLC agrees to enter into a contractual agreement with M/W/DBE Subcontractor Hartline Construction, LLC who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

Construction Management, Demolition, Metal Stud, Drywall, ACT, Grid, Drywall Finishing, Millwork installation, Carpentry, Door, Frame Hardware, Concrete, Cleaning and Final Clean, Painting.

for an estimated amount of $ 1,556,300. (or 92% of the total estimated contract value.)

M/WBE Vendor type:

- ☑ Subcontractor/manufacturer (counts as 100% of contract value towards goals)
- ☐ Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
- ☐ Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Civil Rights & Equal Opportunity Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

Select one:

- ☑ The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
- ☐ The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: _____

Full address: _____
Street number and name City, State and Zip Code

Primary contact: _____
Name Phone

a) This subcontractor is (select one): ☐MBE ☐WBE ☐DBE ☐N/A

i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.

ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: _____

c) The dollar value of this agreement is: _____

PART 3:

NOTE: SIGNATURES AND NOTARIZATIONS REQUIRED FOR NEW LETTERS OF INTENT (LOI); SIGNATURES ONLY FOR UPDATED LOI (ADDING VALUE TO EXISTING CONTRACT).

PRIME CONTRACTOR BUSINESS NAME: Hartline Construction, LLC

Signature: Prime Contractor

Jennifer G. Hart
Print Name

Owner and President
Title

5/17/2023
Date

State of Missouri)

County of Jackson)

I, Cheyenne Rae Burchett, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this 17th day of May, 2023

My Commission Expires: 9/27/2025

Cheyenne Rae Burchett
Notary Public

STAMP:

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21366490

MWDBE SUBCONTRACTOR BUSINESS NAME: Hartline Construction, LLC

Signature: Subcontractor

Jennifer G. Hart
Print Name

Owner/President
Title

5/17/2023
Date

State of Missouri)

County of Jackson)

I, Cheyenne Rae Burchett, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this 17th day of May, 2023

My Commission Expires: 09/27/2023

Cheyenne Rae Burchett
Notary Public

STAMP:

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21366490

LETTER OF INTENT TO SUBCONTRACT

Check one:	
Original LOI:	☐
Updated LOI:	☐

Project Name/Title WSD Administration Bldg. & IT Improvements & ADA Compliance

Project Location/Number 81000817/1682

PART 1: Prime Contractor Hartline Construction, LLC agrees to enter into a contractual agreement with M/W/DBE Subcontractor AGP who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

Aluminum Storefront and Glazing

for an estimated amount of $ 144,900.00 (or 3.9 % of the total estimated contract value.)

M/WBE Vendor type:

- ☑ Subcontractor/manufacturer (counts as 100% of contract value towards goals)
- ☐ Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
- ☐ Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Civil Rights & Equal Opportunity Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

Select one:

- ☑ The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
- ☐ The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: _____

Full address: _____
Street number and name City, State and Zip Code

Primary contact: _____
Name Phone

a) This subcontractor is (select one): ☐MBE ☐WBE ☐DBE ☐N/A

i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.

ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: _____

c) The dollar value of this agreement is: _____

PART 3:

NOTE: SIGNATURES AND NOTARIZATIONS REQUIRED FOR NEW LETTERS OF INTENT (LOI); SIGNATURES ONLY FOR UPDATED LOI (ADDING VALUE TO EXISTING CONTRACT).

PRIME CONTRACTOR BUSINESS NAME: Hartline Construction, LLC

Signature: Prime Contractor

Jennifer G. Hart
Print Name

Owner and President
Title

4/4/2023
Date

State of Missouri)

County of Jackson)

I, Cheyenne Burchett, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this day of April, 2023

My Commission Expires: 9/27/2025

Notary Public

STAMP:

MWDBE SUBCONTRACTOR BUSINESS NAME: AGP, Inc.

Signature: Subcontractor

Sherry Hankinson
Print Name

President
Title

4/5/2023
Date

State of MO)

County of Newton)

I, Tyler Ewy, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this day of April, 2023

My Commission Expires: March 2,2025

Tyler Grant Ewy

Notary Public

STAMP:

TYLER GRANT EWY
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
MY COMMISSION EXPIRES MARCH 2, 2025
NEWTON COUNTY
COMMISSION #21313438

LETTER OF INTENT TO SUBCONTRACT

Check one:
Original LOI: ☐
Updated LOI: ☐

Project Name/Title WSD Administration Bldg. & IT Improvements & ADA Compliance

Project Location/Number 81000817/1682

PART 1: Prime Contractor Hartline Construction, LLC agrees to enter into a contractual agreement with M/W/DBE Subcontractor DiverseID, LLC who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

Signage

for an estimated amount of $ $ 4,600.00 (or ____ % of the total estimated contract value.)

M/WBE Vendor type:
- ☑ Subcontractor/manufacturer (counts as 100% of contract value towards goals)
- ☐ Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
- ☐ Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Civil Rights & Equal Opportunity Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

Select one:
- ☑ The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
- ☐ The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: DiverseID LLC

Full address: 8121 NW 80th Terrace, Kansas City, MO 64152
(Street number and name; City, State and Zip Code)

Primary contact: Martina Derra 816.596.2141
(Name; Phone)

a) This subcontractor is (select one): ☐MBE ☑WBE ☑DBE ☐N/A

i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.

ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: Signage

c) The dollar value of this agreement is: $4600.00

PART 3:

NOTE: SIGNATURES AND NOTARIZATIONS REQUIRED FOR NEW LETTERS OF INTENT (LOI); SIGNATURES ONLY FOR UPDATED LOI (ADDING VALUE TO EXISTING CONTRACT).

PRIME CONTRACTOR BUSINESS NAME: Hartline Construction, LLC

Signature: Prime Contractor	Print Name: Jennifer G. Hart
Title: Owner and President	Date: 4/4/2023

State of Missouri)

County of Jackson)

I, Cheyenne Burchett, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this day of April, 2023

My Commission Expires: 9/27/2025

Notary Public

STAMP:

MWDBE SUBCONTRACTOR BUSINESS NAME: DiverseID, LLC

Signature: Subcontractor	Print Name: Martina Derra
Title: President/Owner	Date: 4 5 2023

State of)

County of)

I, _____, state that the above and foregoing is based on my best knowledge and belief.

Subscribed and sworn to before me, a notary public, on this day of _____, 20_____

My Commission Expires: _____

Notary Public

STAMP:

CREO KC MONTHLY REPORTING INSTRUCTIONS

M/WBE Monthly Utilization Report Instructions

1. MBE/WBE Reporting applies to Contracts that have approved MBE/WBE goals assigned.
2. The City will utilize a web-based MBE/WBE Reporting System in the administration of this Contract. This web-based application database is a collaboration tool selected and provided by the City, which will allow Contractors and Consultants/Subcontractors and Subconsultants to enter data and report on compliance.

Prevailing Wage Certified Payroll Report Instructions

1. Prevailing Wage Certified Payroll Report applies to Contracts that include Prevailing Wage or Davis Bacon Provisions.
2. This web-based application database is provided by the City for reporting certified payrolls and other related prevailing wage data.
3. Computer Requirements: Minimum Intel Pentium® 4 Processor 2.4 GHz or equivalent processor with 512MB of RAM; recommended Centrino Duo® Processors 1.6 GHz or equivalent with 2GB of RAM, or higher.
    a. Computer Operation System: Windows XP, Windows Vista, or Windows 7
    b. Web Browser: Google Chrome
    c. Connection Speed/Minimum Bandwidth: DSL, ADSL or T1 Line for transferring a minimum of 3 Mbps Downstream and 512 Kbps Upstream
4. City will assist Contractor in providing training of personnel and Subcontractor's personnel.
5. Contractor and Subcontractors shall have the responsibility for visiting the web site and entering data in on timely basis, and as necessary to be in compliance with Prevailing Wage Requirements included in their contracts.

Workforce Monthly Report Instructions

1. Workforce Monthly Reporting only applies to Construction Contracts greater than $300,000 and greater than 800 projected labor hours.
2. The City will utilize a web-based Reporting System in the administration of this Contract. This web-based application database is a collaboration tool selected and provided by the City, which will allow Contractors and Subcontractors to enter data and report on Workforce compliance.

CITY OF KANSAS CITY, MISSOURI
Human Relations Department
M/WBE MONTHLY UTILIZATION REPORT

Report Date:	**Project Name:**	**City Project Number:**	
Project Address:		**Contract Award Date:**	**City Vendor ID:**
General Contractor (GC):		**City Contract Number:**	**City Department Name**
Contact Person/Phone:		**General Contract Amount:** $	**Total Amount Paid By City To Date:** $
General Contractor Address:		**Contract Goals:**	_____% DBE _____% MBE _____% WBE
		Total Contract Days:	**Completion Date:**
Email Address:			

MBE/DBE Subcontractor	Date of Certification	Date of Subcontract	Subcontract Amount	% of Total Contract	Estimated Start date	Amount Paid This Period	Amount Paid To Date	% of Contract Paid to Date
WBE/DBE Subcontractor								
Totals								

Contractor should submit report by the 15th of each month.
Phillip Yelder, Director
Human Relations Department
414 E. 12th Street, 4th Floor
Kansas City, MO 64106
Phone: 816-513-1836
FAX: 816-513-1805

Narrative:

Report Submitted By: _____ **Date** _____

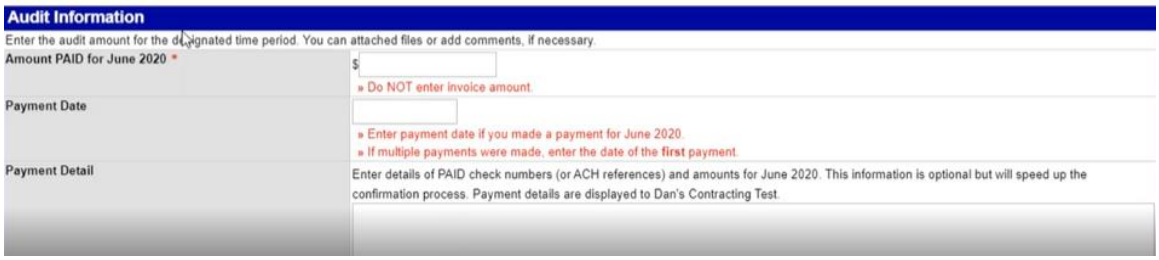
REMINDER: CONTRACTOR is responsible for meeting or exceeding the the D/M/WBE participation amounts in its Contractor Utilization Plan (CUP) as amended by any previously approved Request for Modification/Substitution. Any Change Orders or amendements modifying the amount CONTRACTOR is to be compensated will have correspondingly impacted the amount of compensation due D/M/WBEs for purposes of meeting or exceeding the Bidder/Proposer participation. CONTRACTOR is again advised to consider the effect of any Change Order or amendment, and to submit a Request for Modification/Substitution if appropriate.

M/WBE Monthly Compliance Audit Online Reporting Instructions

PRIME INSTRUCTIONS:

The Prime's responsibility is to report payments made to subcontractors for the prior month.

1. Log into B2GNow Diversity Management System (B2GNow)
2. On the Dashboard, click Contract Audits.
3. Select the specific audit that needs to be completed. Any and all money that changed hands during the month of the audit must be reported to the specific audit month.
4. To complete audit select Report 1 Subcontractor Payment. Under the actions column, select Submit Response for the specific subcontractor that needs reporting or select the Submit ALL Incomplete Records button to go to all the subcontractors to report amounts. Under the audit information answer the following questions:

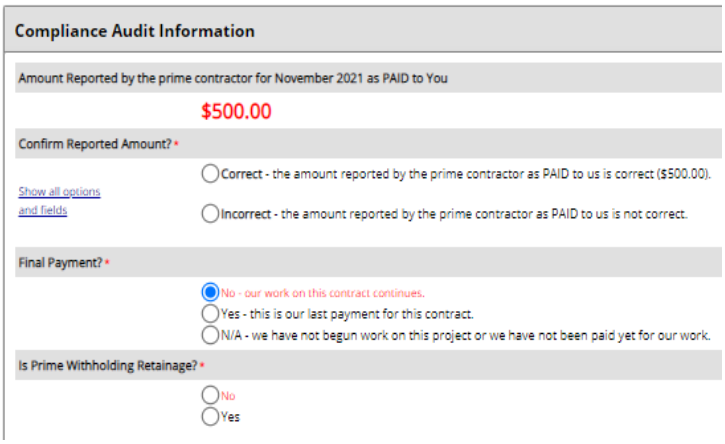


Once information has been entered, select review and save. Complete same steps for all subcontractors. If there were subcontractors that did not receive a payment for the specific audit month, click the Mark Remaining Subcontractors as Zero button to mark remaining subcontractors as 0.

SUBCONTRACTOR INSTRUCTIONS:

The responsibility of the Subcontractor is to confirm payment received for specific audit month.

1. Log in to B2GNow Diversity Management System (B2GNow)
2. On the Dashboard, select Contract Audits.
3. Select the specific audit that needs to be completed.
4. To complete audit, select Confirm Payment Received. There will be two options: correct or incorrect. Select correct if payment was in fact received OR if payment was not received or amount was different select incorrect. Answer all questions and select save to complete.



NOTE: Complete one M/WBE report per project.

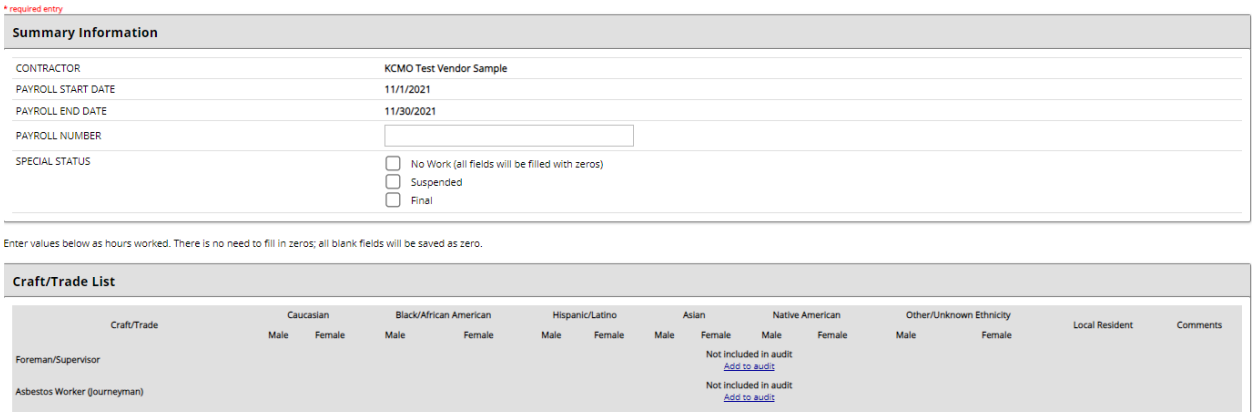
An email notice will be sent from our organization monthly to notify Prime & Subcontractor users of incomplete audits.

Workforce Monthly Report Forms only apply to Construction Contracts greater than $300,000.00 with greater than 800 projected labor hours.

Workforce Monthly Report Instructions

(Instructions for online reporting)

Completing a Workforce Audit:
To report your workforce hours:
1. Log into B2GNow Diversity Management System (B2GNow)
2. Click on the red underlined number of 'Incomplete audits' under Workforce Audits
3. Click View for the incomplete audit that needs to be completed.
4. Click Fill in Audit
5. Complete the form including the Payroll Number. Select Add to Audit to report hours worked for specific Craft/Trade.


* required entry

Summary Information

CONTRACTOR	KCMO Test Vendor Sample
PAYROLL START DATE	11/1/2021
PAYROLL END DATE	11/30/2021
PAYROLL NUMBER	
SPECIAL STATUS	☐ No Work (all fields will be filled with zeros) ☐ Suspended ☐ Final

Enter values below as hours worked. There is no need to fill in zeros; all blank fields will be saved as zero.

Craft/Trade List

Craft/Trade	Caucasian		Black/African American		Hispanic/Latino		Asian		Native American		Other/Unknown Ethnicity		Local Resident	Comments
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female		
Foreman/Supervisor								Not included in audit Add to audit						
Asbestos Worker (Journeyman)								Not included in audit Add to audit						

6. Scroll down and select review once hours have been reported.
7. Save and Certify to submit OR Save but Certify Later (to save a draft of your audit response). Audit must be certified for the workforce audit to be submitted for review. If there is an audit where no work was performed, and have 0 hours to report, select the Mark as No Work Audit button on step 4 to report 0 hours for all your employees. Select Certify & Release to Organization to complete. Mark Final for Special Status if the audit being completed is the last month of work, this will notify the system to stop generating monthly audits.

NOTE: If subcontractor has completed Workforce Audit, Prime MUST either accept audit and release to the organization or reject audit back to Subcontractor for correction.

An email notice will be sent from our organization monthly to notify Prime & Subcontractor users of incomplete audits.

Project Specific Monthly Report

Human Relations Department - City of Kansas City Missouri

Report Date:		Reporting Period:		Project Description:	
Project Name:		Contractor:		Contract Awarded Date:	
City Project Number:		Contractor Address:		City Contract Number:	
Project Address:				City Vendor ID:	
		Contact Person/Phone		Contractor Report ☐	Subcontractor Report ☐
E-mail Address:				Final Cumulative Report:	Yes ☐ No ☐

Report the total monthly hours of work performed by all workers on the City Construction Contract. Enter the total hours on all lines and in all columns.
Reported workforce hours should be based on payroll records.

JOB CATEGORIES	OVERALL TOTAL (Sum of all Columns, A thru F Male & Female)	A Total Hours White Employees		B Total Hours Black Employees		C Total Hours Hispanic Employees		D Total Hours Asian/Pacific Islander		E Total Hours Native American Employee		F Total Hours Other/Unknown Race Employee		G KCMO Resident Hours
		M	F	M	F	M	F	M	F	M	F	M	F	Total #
Foreman/Supervisor														
Asbestos Worker Journeyman														
Asbestos Worker Apprentice														
Boilermaker Journeyman														
Boilermaker Apprentice														
Bricklayer Journeyman														
Bricklayer Apprentice														
Carpenter Journeyman														
Carpenter Apprentice														
Cement Mason Journeyman														
Cement Mason														
Electrician Journeyman														
Electrician Apprentice														
Elevator Constructor Journeyman														
Elevator Constructor Apprentice														
Glazier Journeyman														
Glazier Apprentice														
Iron Worker Journeyman														
Iron Worker Apprentice														
Laborer Journeyman														
Laborer Apprentice														
Operating Engineer Journeyman														
Operating Engineer Apprentice														
Painter Journeyman														
Painter Apprentice														
Pipe Fitter/Plumber Journeyman														
Pipe Fitter/Plumber Apprentice														
Plasterer Journeyman														
Plasterer Apprentice														
Roofer Journeyman														
Roofer Apprentice														
Sheet Metal Journeyman														
Sheet Metal Apprentice														
Sprinkler Fitter														
Sprinkler Fitter														
Truck Driver Journeyman														
Truck Driver Apprentice														
Welder Journeyman														
Welder Apprentice														
Other														
Monthly Total Hours														-
Total % of Monthly Hrs.														

Contractor shall submit report by the 15th of each month.

Phillip Yelder, Director Human Relations Department		Report Submitted By:	
414 E. 12th Street, 4th Floor	Kansas City, MO 64106		
Phone: 816-513-1836	HRDcontractcompliance@kcmo.org	Date:	

Company-Wide Workforce Monthly Report

Human Relations Department - City of Kansas City, Missouri

Report Date:		Reporting Period:		Contract Awarded Date:	
Contractor:				City Vendor ID:	
Contact Person/Phone:		Contractor Address:		Contractor Report ☐	Subcontractor Report ☐
E-mail Address:		Have you hired any new construction workers this month?	☐ YES ☐ NO	#:	Final Cumulative Report: ☐ YES ☐ NO

Report total of all hours of work performed company-wide on all projects in the KCMO Metropolitan Statistical Area (MSA). Enter the total hours on all lines and in all columns. Workforce hours should be based on payroll records.

JOB CATEGORIES	OVERALL TOTAL (Sum of all Columns, A thru F Male & Female)	A Total Hours White Employees		B Total Hours Black Employees		C Total Hours Hispanic Employees		D Total Hours Asian/Pacific Islander		E Total Hours Native American Employee		F Total Hours Other/Unknown Race Employee		G KCMO Resident Hours
		M	F	M	F	M	F	M	F	M	F	M	F	Total #
Foreman/Supervisor														
Asbestos Worker Journeyman														
Asbestos Worker Apprentice														
Boilermaker Journeyman														
Boilermaker Apprentice														
Bricklayer Journeyman														
Bricklayer Apprentice														
Carpenter Journeyman														
Carpenter Apprentice														
Cement Mason Journeyman														
Cement Mason Apprentice														
Electrician Journeyman														
Electrician Apprentice														
Elevator Constructor Journeyman														
Elevator Constructor Apprentice														
Glazier Journeyman														
Glazier Apprentice														
Iron Worker Journeyman														
Iron Worker Apprentice														
Laborer Journeyman														
Laborer Apprentice														
Operating Engineer Journeyman														
Operating Engineer Apprentice														
Painter Journeyman														
Painter Apprentice														
Pipe Fitter/Plumber Journeyman														
Pipe Fitter/Plumber Apprentice														
Plasterer Journeyman														
Plasterer Apprentice														
Roofer Journeyman														
Roofer Apprentice														
Sheet Metal Journeyman														
Sheet Metal Apprentice														
Sprinkler Fitter														
Sprinkler Fitter Apprentice														
Truck Driver Journeyman														
Truck Driver Apprentice														
Welder Journeyman														
Welder Apprentice														
Other														
Total Monthly Hours														-
Total % of Hours														

Contractor shall submit report by the 15th of each month.

Phillip Yelder, Director Human Relations Department

414 E. 12th Street, 4th Floor, Kansas City, MO 64106

Phone: 816-513-1838 | HRDcontractorcompliance@kcmo.org

Report Submitted By:

Date:

City of Kansas City, Missouri
Civil Rights & Equal Opportunity Department
Construction Contractor Employee Identification Report

Company Name: Hartline Construction, LLC
Company Address: 751 East 63rd Street, Suite 107
Company City, State, Zip: Kansas City, MO 64110

Name of Person Completing Report: Jennifer Hart
Phone Number: 816-921-6002 #1 or cell: 913-269-04891
Email: jhart@hartlinecon.com

Prime's Name: Hartline Construction, LLC
KCMO Project Name: WSD Admin Bldg & IT Improv. & ADA Compl.
Project Number: 8000228/9612

Today's Date: 5/26/2023

City Department: Water Service

Instructions:

1) Each applicable Prime Contractors **must complete this form for its company within 48 hours of bid opening**
2) The Civil Rights & Equal Opportunity Department strongly recommends usage of the electronic version of this form. This form may be obtained by visiting www.kcmo.gov website. The website is enabled with a "search" function on the Home page on the right corner. Select the magnifying glass and type in the search field "Contract Central". Select the first result, then click on the link to Standard City Contract Forms. Scroll down to Construction Contractor Employee Identification Report and click the link to open this document. Complete the fields in the Employee section; the Official Use Only section will automatically populate. NOTE: This form can be printed and attached to other required Bid documents.
3) All subcontractors shall be required to complete this form and submit to the Prime Contractor. For each subcontractor, the Prime must submit this form to City at least at least (10) days prior to the date the subcontractor shall commence work under a city construction contract.
4) Complete this form if you are the Prime contractor on a City construction project estimated over **$300,000 & over 800 man hours.**
5) Complete this form with data from your **current construction workforce** (no office personnel).
6) Prime contractor is responsible to ensure subcontractor completes this form as required in #3 above.

Official Use Only

Females		KCMO Resident
African American	0	0
Asian/Pacific Islander American	0	0
Caucasian American	3	0
Hispanic/Latino American	0	0
Native American	0	0
Other	0	0
	3	0

Males		KCMO Resident
African American	######	1
Asian/Pacific Islander American	######	0
Caucasian American	######	4
Hispanic/Latino American	######	0
Native American	######	1
Other	######	0
	######	6

Number of KCMO Residents	6
Number of Journeyman	20
Number of Apprentice	3

	Journeyman	Apprentice
Foreman/Supervisor	0	--
Asbestos Worker	0	0
Boilermaker	0	0
Bricklayer	0	0
Carpenter	10	3
Cement Mason	1	0
Electrician	0	0
Elevator Constructor	0	0
Glazier	0	0
Iron Worker	0	0
Laborer	2	0
	13	3

	Journeyman	Apprentice
Operating Engineer	1	0
Painter	2	0
Pipe Fitter/Plumber	0	0
Plasterer	0	0
Roofer	0	0
Sheet Metal	0	0
Sprinkler Fitter	0	0
Truck Driver	0	0
Welder	0	0
Other	4	--
	7	0

Company Name: Hartline Construction, LLC KCMO Project Name: 0 KCMO Project Number: 0

	Name		Job Title (use drop down menu)	Address	City	State	Zip Code	KCMO Resident	Gender	Ethnicity
	Last	First								
1	Hinaris	Dennis	Carpenter_(Apprentice)	3414 Chestnut Ave,	Kansas City	MO	64128	Yes	Male	Caucasian_American
2	Sargent	Clayton	Cement_Mason_(Journeyman)	1504 NE Harvest Ln,	Lee's Summit	MO	64086	No	Male	Caucasian_American
3	Acero	Alexis Perez	Carpenter_(Apprentice)	27707 E Wyatt Rd	Blue Springs	MO	64014	No	Male	Hispanic/Latino_American
4	Swindler	Dylan	Carpenter_(Apprentice)	1104 SW Speas Dr	Blue Springs	MO	64014	No		Caucasian_American
5	Nichols	Blake	Carpenter_(Journeyman)	36212 E Pink Hill Rd	Oak Grove	MO	64075	No	Male	Caucasian_American
6	Schwartz	John	Carpenter_(Journeyman)	1625 Collins Dr	Platte City	MO	64079	Yes	Male	Native_American
7	Bergsieker	Chad	Carpenter_(Journeyman)	24800 East Strode Rd	Blue Springs	MO	64015	No	Male	Caucasian_American
8	Closser	Jason	Carpenter_(Journeyman)	181 Canyon View Dr.	Lansing	KS	66043	No	Male	Caucasian_American
9	Jennings	Austin	Carpenter_(Journeyman)	102 W. Kirk St	Harrisonville	MO	64701	No	Male	Caucasian_American
10	Manning	Charlie	Carpenter_(Journeyman)	820 NE Sunnysied School Rd Apt A	Blue Springs	MO	64014	No	Male	Caucasian_American
11	Portenier	Cole	Carpenter_(Journeyman)	22075 189th Street	Toganoxie	KS	66286	No	Male	Caucasian_American
12	Smith	Michael	Carpenter_(Journeyman)	13489 NE County Rd	Drexel	MO	64742	No	Male	Caucasian_American
13	Thomasson	Christopher	Carpenter_(Journeyman)	1354 NE County Rd 504	Butler	MO	64730	No	Male	Caucasian_American
14	Whited	Spencer	Carpenter_(Journeyman)	19201 S Sherwood Rd	Pleasant Hill	MO	64080	No	Male	Caucasian_American
15	Elder	Matthew	Laborer_(Journeyman)	102 Barberrry Lane	Raymore	MO	64083	No	Male	Caucasian_American

Company Name: Hartline Construction, LLC KCMO Project Name: 0 KCMO Project Number: 0

	Name		Job Title (*use drop down menu*)	Address	City	State	Zip Code	KCMO Resident	Gender	Ethnicity
	Last	First								
16	Gibson	Sean	Laborer_(Journeyman)	8529 Vassar Ave	Raytown	MO	64138	Yes	Male	African_American
17	Davidson	Joseph	Operating_Engineer_(Journeyman)	5511 NE Carmel Rd	Kansas City	MO	64119	Yes	Male	Caucasian_American
18	Delich	Jerome	Painter_(Journeyman)	338 N Quincy Avce	Kansa City	MO	64123	Yes	Male	Caucasian_American
19	Kim	Rick	Painter_(Journeyman)	818 S Raymonst St	Independence	MO	64050	No	Male	Caucasian_American
20	Burchett	Cheyenne	Other	420 Gregg St	Grain Valley	MO	64029	No	Female	Caucasian_American
21	McIntyre	Stacy	Other	9020 Oak St	Kansas City	MO	64114	Yes	Male	Caucasian_American
22	Hart	Jennifer	Other	9701 W 128 St	Overland Park	KS	66213	No	Female	Caucasian_American
23	Snyder	Victoria	Other	5204 Farley Ct	Merriam	KS	66203	No	Female	Caucasian_American
24	Totter	Simeon	Carpenter, Apprentice	12605 E. 58th St	Kansas City	MO	64133	YES	Male	African American

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

AFFIDAVIT OF TRAINING PROGRAM

This form must be submitted with 48 hours of Bid Opening

Bidder Hartline Construction, LLC

Project Title and Number KC Admin Building & T Improvements and ADA Compliance

STATE OF MISSOURI)
) ss:
COUNTY OF Jackson)

After being duly sworn the person whose name and signature appears below hereby states under penalty of perjury that:

1. I am the duly authorized officer of the business indicated above ("Bidder") and I make this affidavit on behalf of Bidder.
2. Bidder certifies that it presently participates in a training program that facilitates entry into the construction industry and which may include an on-the-job or in-house training program, further described as follows:

All Contractors are Union signatory to local unions, Carpenters, Laborers, Painters, Plumbers, Pipe fitters, Electricians.

(attach additional pages, if necessary)

3. If requested by the City, Bidder agrees to provide City further documentation of, or other information about, this training program within 48 hours of the request.
4. Bidder acknowledges that failure to submit this form to the City within 48 hours of the Bid Opening will automatically render its bid non-responsive.

I am authorized to make this Affidavit on behalf of the Bidder named below as:

Jennifer G. Hart (Title) of Hartline Construction (Name of Bidder)

Dated: 4/4/2023 By: Cheyenne Rae Burchett (Affiant)

Subscribed and sworn to before me this 4th day of April, 2023.

My Commission Expires: 09/27/2025

Cheyenne Rae Burchett
Notary Public

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21366490

AFFIRMATIVE ACTION PROGRAM AFFIDAVIT

(required for any contractor with 50 or more employees and
a contract with the City of Kansas City, Missouri, in excess of $300,000.00)

STATE OF Missouri)
) ss
COUNTY OF Jackson)

On this 4th day of April, 20 23, before me appeared Jennifer Garrett Hart, personally known by me or otherwise proven to be the person whose name is subscribed on this affidavit and who, being duly sworn, stated as follows:

I am of sound mind, capable of making this affidavit, and personally swear or affirm that the statements made herein are truthful to the best of my knowledge. I am the Owner and President (title) of Hartline Construction , LLC (business entity) and I am duly authorized, directed or empowered to act with full authority on behalf of the business entity in making this affidavit.

I hereby swear or affirm that [*enter business entity name*] has an affirmative action program (the "Program") in place and will maintain the Program for the duration of its contract with the City of Kansas City, Missouri ("City") as required by Chapter 3 of the City's Code of Ordinances.

I hereby additionally swear or affirm that attached hereto is a true copy of the Program.

I hereby additionally swear or affirm that the business entity shall not discriminate against any employee or applicant for employment because of race, color, sex, religion, national origin or ancestry, disability, sexual orientation, gender identity or age in a manner prohibited by Chapter 3 of the City's Code of Ordinances.

I acknowledge that I am signing this affidavit as the free act and deed of the business entity and that I am not doing so under duress.

Jennifer G. Hart
Affiant's signature

Subscribed and sworn to before me this 4th day of April, 20 23.

Cheyenne Rae Burchett
Notary Public

My Commission expires:

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21366490

CORPORATE SAFETY POLICY SECTION 2

Protecting the public and our employees is the most important part of any work we do. It is the policy of Hartline Construction, LLC to perform all work with the highest regard to safety of all our employees and contract associates. We are committed to providing employees with a safe and healthful workplace.

Safety must never be compromised. It is part of quality workmanship, and the mark of true professionals. We will meet or exceed government standards in the performance of our work. Safety is of the utmost importance in the performance of all duties and must not be neglected in emergencies or because of undue haste.

No job is so important or service so urgent that we cannot take the time to perform our work safely. Every employee on every project must assume responsibility for safety as a personal duty. Our employees have direct control over our safety program's success and benefit most from it.

Our project supervisors are responsible for completing jobs safely. The company provides support services to assist in raising safety awareness on-site and training employees and supervisors to work safely.

Our objective is to assure that no one is allowed to work in a way that endangers life or health. This policy statement expresses management's commitment to providing our employees a safe and healthful workplace.

Jennifer Garrett Hart President/Owner Hartline Construction, LLC

EQUAL EMPLOYMENT OPPORTUNITY POLICY SECTION 3

Hartline Construction, LLC is dedicated to non-discrimination and affirmative action in employment. It is the policy of the company to comply with Federal Executive Order No. 11246,

as amended, which prohibits discrimination against any employee or applicant for employment on the basis of race, color, religion, Vietnam Veteran, sex, age, political beliefs, mental handicap, disabilities, in regard to any position for which the applicant is qualified.

Any discriminatory act resulting from insult, intimidation or harassment in any form should promptly be reported to your immediate supervisor or Jennifer Hart Human Relations Manger at **(816) 921-6002** for investigation and corrective action as deemed appropriate. Any employee who engages in this type of behavior shall be counseled and reprimanded to refrain from such conduct, and disciplined including possible termination of employment.

This policy shall be periodically brought to the attention of all supervisory personnel and shall be administered with a positive attitude. It is the responsibility of each supervisory personnel of Hartline to insure the affirmative implementation of this policy.

No employee will be discriminated or retaliated against in any way for reporting violations of this policy. Employee complaints will be handled with strict confidentiality.

Jennifer Garrett Hart President/Owner Hartline Construction, LLC

SAFETY & HEALTH PROGRAM ADMINISTRATION SECTION 4

To be effective, this safety manual requires attention from each member of this company. The following is a list of major responsibilities or duties that are assigned to each level within the company.

RESPONSIBILITIES

A. SAFETY DIRECTOR / HUMAN RESOURCES

The Safety Director for Hartline is **Jennifer G. Hart.** She may be contacted at one of the following telephone numbers:

Corporate Office: (816) 921-6002 Mobile: (913) 269-0481

The Human Relations Director for Hartline is **Jennifer G. Hart.** She may be contacted at one of the following telephone numbers:

Corporate Office: (816) 921-6002 Mobile: (913) 269-0481

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

Pre Contract Bidder's Certification

Project/Contract Number: 80002281/9612

Project Title: WSD Administration Building & IT Improvements & ADA Compliance

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STATE OF Missouri)
) SS
COUNTY OF Jackson)

Before me, the undersigned authority, personally appeared, who, being by me duly sworn deposed as follows:

I am authorized to make this affidavit on behalf of the named Bidder. I am of sound mind, capable of making this affidavit, and personally acquainted with the facts herein stated:

A. Bidder is current on payment of its Federal and State Income tax withholding and unemployment insurance payments, either in Missouri for companies doing business in Missouri, or in the state in which Bidder has its principal office; and

B. Bidder declares one of the following, regarding all work performed two (2) years immediately preceding the date of the Bid (check one):

☐ Contract by contract listing of all of Bidder's written notices of violations of any Federal or State prevailing wage statute in which prevailing wage penalties were assessed against the Bidder or paid by the Bidder (Complete and attach additional sheets if necessary):

1. _____
2. _____
3. _____

☑ There have been no written notices of violations of any Federal or State prevailing wage statute in which prevailing wage penalties were assessed against the Bidder or paid by the Bidder.

C. Bidder is currently in good standing with the Missouri Secretary of State or Bidder has filed a Registration of Fictitious Name with the Missouri Secretary of State.

Jennifer Garrett Hart — 4/4/2023

(Bidder's Name) (Date)

Jennifer G. Hart — Signature of Person Making This Affidavit

In witness whereof, I have hereunto subscribed my name and affixed my official seal this 4th day of April, 20 23.

Cheyenne Rae Burchett

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21366490

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

CONTRACT REQUIRED SUBMISSIONS

Project/Contract Numbers: 81000817 / 1682

Project Title: KC Administration Building, Building & IT Improvements and ADA Compliance

These instructions are to assist Contractor in providing all necessary documents to enter into a contract with the City.

MISSOURI SECRETARY OF STATE BUSINESS ENTITY REGISTRATION

- ☐ For a corporation, current Certificate of Good Standing from the Missouri Secretary of State ((816) 889-2925 or (816) 889-2926 or a web site print-out, dated no more than ninety (90) days before the date furnished to the City – One Copy.
- ☐ For a business that is not a corporation and not doing business in the exact name of the proprietor, a copy from the Secretary of State, ((816) 889-2925 or (816) 889-2926 of the filed Registration of Fictitious Name dated no more than ninety (90) days before the date furnished to the City – One Copy.

EMPLOYEE ELIGIBILITY VERIFICATION AFFIDAVIT

- ☐ 00515.01 Employee Eligibility Verification Affidavit – One Executed Affidavit
- ☐ First and last pages of the E-Verify Program Memorandum of Understanding that your company has received from the U.S. Department of Homeland Security verifying enrollment in the program. For assistance, contact E-Verify Operations at 888-464-4218 – One Copy.

SUBCONTRACTORS LISTING [Applicable form provided]

- ☐ Non-Construction Subcontractors List – One Copy
- ☐ 01290.09 Subcontractors & Major Material Suppliers List – One Copy

PAYMENT BONDS

- ☐ Each copy of the Payment bond must be signed and properly dated by the following, as applicable:

  Corporation - A corporate officer authorized to sign on behalf of the corporation and the signature must be attested by a witness to the signature; OR

  Limited Liability Company - A member of the limited liability company authorized to sign on behalf of the company and a witness to the signature must attest the signature; OR

  Partnership - A partner authorized to sign on behalf of the partnership and the signature must be attested by a witness to the signature; OR

  Sole Proprietor - By the proprietor and the signature must be attested by a witness to the signature; OR

  Joint Venture - The parties to the Joint Venture authorized to sign on behalf of each party to the Joint Venture, or a person authorized by each party to the Joint Venture to sign on behalf of all parties to the Joint Venture; AND

  Surety - A person authorized by the Surety to sign on behalf of the Surety. A power of attorney issued by the Surety Company authorizing its representative to sign the Agreement must be attached to the Agreement and each copy.

PERFORMANCE AND MAINTENANCE BOND

- ☐ As applicable, each copy of the Performance and Maintenance bond must be signed and properly dated by:

  Corporation - A corporate officer authorized to sign on behalf of the corporation and the signature must be attested by a witness to the signature; OR

  Limited Liability Company - A member of the limited liability company authorized to sign on behalf of the company and a witness to the signature must attest the signature; OR

  Partnership - A partner authorized to sign on behalf of the partnership and the signature must be attested by a witness to the signature; OR

  Sole Proprietor - By the proprietor and the signature must be attested by a witness to the signature; OR

  Joint Venture - The parties to the Joint Venture authorized to sign on behalf of each party to the Joint Venture, or a person authorized by each party to the Joint Venture to sign on behalf of all parties to the Joint Venture; AND

  Surety - A person authorized by the Surety to sign on behalf of the Surety. A power of attorney issued by the Surety Company authorizing its representative to sign the Agreement must be attached to the Agreement and each copy.

CERTIFICATES OF INSURANCE [Sample form provided] - If you have any questions regarding requirements for insurance certificates, please contact the City's Risk Management Office, 816 513-1299.

- ☐ Provide a certificate of insurance for all insurance that may be required in the contract such as:

  Commercial General Liability
  Workers' Compensation and Employers' Liability
  Commercial Automobile Liability
  Railroad Protective Liability
  Environmental Liability
  Asbestos Liability
  Longshoremen's Insurance
  Property Insurance

- ☐ List the NAIC Number (National Association of Insurance Commissioners) or A.M. Best Number for each Insurer listed on the Certificate of Insurance.

- ☐ Certificate "Kansas City, Missouri" must named as an Additional Insured.

- ☐ Check the insurance requirements of the Contract. If Contract Documents require that other entities be included as additional insureds, each entity shall be listed on the certificate(s).

- ☐ Description of Operations must include Project/Contract Number and Project/Contract Title/Description as contained in the Contract Documents. The Certificate Holder and address block shall be completed as follows:

  Kansas City, Missouri
  KC Water
  Debra L. Smith, AIA, Project Manager
  4800 East 63rd St.
  Kansas City, Missouri 64130

- ☐ If your insurance agent prepares an ACORD form, the automobile insurance must be "any auto" or better for acceptance by the City.

AFFIRMATIVE ACTION REQUIREMENTS

- ☐ Proposed Affirmative Action Program or a copy of a Certificate of Affirmative Action Compliance – One copy.

PRE-CONTRACT BIDDER'S CERTIFICATION (Prevailing Wage Contracts; Form provided)

- ☐ Submit form 00490 - Bidder's Pre-Contract Certification (provided).

HEALTH AND SAFETY PLAN (If applicable)

- ☐ Bidder's Health and Safety Plan – One copy or one CD Rom.

EMPLOYEE ELIGIBILITY VERIFICATION AFFIDAVIT

(Required for any contract with the City of Kansas City, Missouri in excess of $5,000.00)

STATE OF Missouri)
) ss
COUNTY OF Jackson)

On this 4th day of April, 20 23, before me appeared Jennifer G. Hart, personally known by me or otherwise proven to be the person whose name is subscribed on this affidavit and who, being duly sworn, stated as follows:

I am of sound mind, capable of making this affidavit, and personally swear or affirm that the statements made herein are truthful to the best of my knowledge. I am the Owner and President (title) of Hartline Construction, LLC (business entity) and I am duly authorized, directed or empowered to act with full authority on behalf of the business entity in making this affidavit.

I hereby swear or affirm that the business entity does not knowingly employ any person in connection with the contracted services who does not have the legal right or authorization under federal law to work in the United States as defined in 8 U.S.C. § 1324a(h)(3).

I hereby additionally swear or affirm that the business entity is enrolled in an electronic verification of work program operated by the United States Department of Homeland Security (E-Verify) or an equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, under the Immigration Reform and Control Act of 1986, and that the business entity will participate in said program with respect to any person hired by the business entity to perform any work in connection with the contracted services. I have attached hereto documentation sufficient to establish the business entity's enrollment and participation in the required electronic verification of work program.

I am aware and recognize that unless certain contractual requirements are satisfied and affidavits obtained as provided in Section 285.530, RSMo, the business entity may face liability for violations committed by its subcontractors, notwithstanding the fact that the business entity may itself be compliant.

I acknowledge that I am signing this affidavit as the free act and deed of the business entity and that I am not doing so under duress.

Jennifer G. Hart
Affiant's signature

Subscribed and sworn to before me this 4th day of April, 2023.

Cheyenne Rae Burchett
Notary Public

My Commission expires: 09/27/2025

CHEYENNE RAE BURCHETT
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR JACKSON COUNTY
MY COMMISSION EXPIRES SEP. 27, 2025
ID #21366490

E-Verify

Company ID Number: 1813109

E-VERIFY IS A SERVICE OF DHS AND SSA

Approved by:

Employer Hartline Construction	
Name (Please Type or Print) Jennifer Hart	**Title**
Signature Electronically Signed	**Date** 03/23/2022
Department of Homeland Security – Verification Division	
Name (Please Type or Print) USCIS Verification Division	**Title**
Signature Electronically Signed	**Date** 04/01/2022

E-Verify

E-VERIFY IS A SERVICE OF DHS AND SSA

Company ID Number: 1813109

Information Required for the E-Verify Program Information relating to your Company:	
Company Name	Hartline Construction
Company Facility Address	751 E 63rd St Kansas City, MO 64110
Company Alternate Address	
County or Parish	JACKSON
Employer Identification Number	453951328
North American Industry Classification Systems Code	236
Parent Company	
Number of Employees	20 to 99
Number of Sites Verified for	1 site(s)

E-Verify

Company ID Number: 1813109

E-VERIFY IS A SERVICE OF DHS AND SSA

Are you verifying for more than 1 site? If yes, please provide the number of sites verified for in each State:

MO 1

E-Verify

E-VERIFY IS A SERVICE OF DHS AND SSA

Company ID Number: 1813109

Information relating to the Program Administrator(s) for your Company on policy questions or operational problems:

Name	Chevenne Burchett
Phone Number	8169216002
Fax	
Email	cburchett@hartlinekc.com

Name	Jennifer Hart
Phone Number	8169216002
Fax	
Email	ihart@hartlinecon.com

Reset Form Print Form

Form **5060**

Missouri Department of Revenue
Project Exemption Certificate

This form is to be completed and given to your contractor.

Exempt Entity and Project Information

Name of Exempt Entity Issuing the Certificate			Missouri Tax Exemption Number
Address	City	State	ZIP Code
E-mail Address			
Project Number	Project Begin Date (MM/DD/YYYY)		Estimated Project End Date (MM/DD/YYYY)
	___ ___ / ___ ___ / ___ ___ ___ ___		___ ___ / ___ ___ / ___ ___ ___ ___
Description of Project			
Project Location			Certificate Expiration Date (MM/DD/YYYY)
			___ ___ / ___ ___ / ___ ___ ___ ___

Provide a signed copy of this certificate, along with a copy of the exempt entity's Missouri Sales and Use Tax Exemption Letter to each contractor or subcontractor who will be purchasing tangible personal property for use in this project. It is the responsibility of the exempt entity to ensure the validity of the information on the certificate. The exempt entity must issue a new certificate if any of the information changes.

Signature of Authorized Exempt Entity	Printed Name of Authorized Exempt Entity	Date (MM/DD/YYYY)
		___ ___ / ___ ___ / ___ ___ ___ ___

Contractor

The Missouri exempt entity named above hereby authorizes the purchase, without sales tax, of tangible personal property to be incorporated or consumed in the construction project identified herein and no other, pursuant to **Section 144.062, RSMo.** Under penalties of perjury, I declare that the above information and any attached supplement is true, complete, and correct.

Name of Purchasing Contractor	Signature of Contractor	Date (MM/DD/YYYY)
		___ ___ / ___ ___ / ___ ___ ___ ___

Address	City	State	ZIP Code

Subcontractor

Contractors - Present this to your supplier in order to purchase the necessary materials tax exempt. Complete the Subcontractor portion if extending the certificate to your subcontractor. The contractor must sign the form in the space provided below.

Name of Purchasing Subcontractor			
Address	City	State	ZIP Code

Signature of Contractor	Contractor's Printed Name	Date (MM/DD/YYYY)
		___ ___ / ___ ___ / ___ ___ ___ ___

Taxation Division
P.O Box 358
Jefferson City, MO 65105-0358

Phone: (573) 751-2836
Fax: (573) 522-1271
E-mail: salestaxexemptions@dor.mo.gov

Visit **http://dor.mo.gov/business/sales/sales-use-exemptions.php** for additional information.

State of Missouri

EXEMPTION FROM MISSOURI SALES AND USE TAX ON PURCHASES

Issued to:

CITY OF KANSAS CITY
414 E 12TH ST 3RD FLOOR
KANSAS CITY MO 64106

Missouri Tax ID Number: 12490466

Effective Date: 07/11/2002

Your application for sales/use tax exempt status has been approved pursuant to Section 144.030.1, RSMo. This letter is issued as documentation of your exempt status.

Purchases by your Agency are not subject to sales or use tax if within the conduct of your Agency's exempt functions and activities. When purchasing with this exemption, furnish all sellers or vendors a copy of this letter. This exemption may not be used by individuals making personal purchases.

A contractor may purchase and pay for construction materials exempt from sales tax when fulfilling a contract with your Agency only if your Agency issues a project exemption certificate and the contractor makes purchases in compliance with the provisions of Section 144.062, RSMo.

Sales by your Agency are subject to all applicable state and local sales taxes. If you engage in the business of selling tangible personal property or taxable services at retail, you must obtain a Missouri Retail Sales Tax License and collect and remit sales tax.

This is a continuing exemption subject to legislative changes and review by the Director of Revenue. If your Agency ceases to qualify as an exempt entity, this exemption will cease to be valid. This exemption is not assignable or transferable. It is an exemption from sales and use taxes only and is not an exemption from real or personal property tax.

Any alteration to this exemption letter renders it invalid.

If you have any questions regarding the use of this letter, please contact the Division of Taxation and Collection, P.O. Box 3300, Jefferson City, MO 65105-3300, phone 573-751-2836.

(DI6030)

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

PERFORMANCE AND MAINTENANCE BOND

Project Number 81000817/1682

Project Title WSD Administration Building & IT Improvements & ADA Compliance

Bond No. CBB0061458

KNOW ALL MEN BY THESE PRESENTS: That Hartline Construction, LLC, as PRINCIPAL (CONTRACTOR), and National American Insurance Company, (SURETY), licensed to do business as such in the State of Missouri, hereby bind themselves and their respective heirs, executors, administrators, successors, and assigns unto Kansas City, Missouri, a constitutionally chartered municipal corporation, (OWNER), as obligee, in the penal sum of Three Million Eight Hundred Sixty-four Thousand Four Hundred Fifteen & 00/100 Dollars ($ $3,864,415.00) for the payment whereof CONTRACTOR and SURETY bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

CONTRACTOR has entered into a Contract with OWNER for WSD Administration Building & IT Improvements & ADA Compliance which Contract, including any present or future amendment thereto, is incorporated herein by reference and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if CONTRACTOR shall promptly and faithfully perform said Contract including all duly authorized changes thereto, and including any maintenance requirements contained therein, according to all the terms thereof, including those under which CONTRACTOR agrees to pay legally required wage rates including the prevailing hourly rate of wages in the locality, as determined by the Department of Labor and Industrial Relations or by final judicial determination, for each craft or type of workman required to execute the Contract and, further, shall defend, indemnify, and hold harmless OWNER from all damages, including but not limited to, liquidated damages, loss and expense occasioned by any failure whatsoever of said CONTRACTOR and SURETY to fully comply with and carry out each and every requirement of the Contract, then this obligation shall be void; otherwise, it shall remain in full force and effect.

WAIVER. That SURETY, for value received, hereby expressly agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed thereunder, shall in any way affect the obligations of this Bond; and it does hereby waive notice of any such change, extension of time, or alteration or addition to the terms of the Contract or the Work to be performed thereunder.

IN WITNESS WHEREOF, the above parties have executed this instrument the 23 day of May, 2023

CONTRACTOR

Name, address and facsimile number of Contractor

Hartline Construction, LLC
751 E. 63rd Street
Kansas City, MO 64110
(816)921-6002

I hereby certify that I have authority to execute this document on behalf of Contractor.

By: [signature]
Title: OWNER / PRESIDENT HARTLINE CONSTRUCTION

(Attach corporate seal if applicable)

SURETY

Name, address and facsimile number of Surety:

National American Insurance Company
PO Box 9
Chandler, OK 74834
405-258-4574

I hereby certify that (1) I have authority to execute this document on behalf of Surety; (2) Surety has an A.M. Best rating of A-, V, or better; (3) Surety is named in the current list of "Companies Holding Certificates of Authority as Acceptable Reinsuring Companies: as published in Circular 570 (most current revision) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury; and (4) Surety is duly licensed to issue bonds in the State of Missouri and in the jurisdiction in which the Project is located.

By: Vickie J. Nickel
Title: Vickie J. Nickel Attorney-in-Fact
Date: May 23, 2023

(Attach seal and Power of Attorney)

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

PAYMENT BOND

Project Number 81000817/1682

Project Title WSD Administration Building & IT Improvements & ADA Compliance

Bond No. CBB0061458

KNOW ALL MEN BY THESE PRESENTS: That Hartline Construction, LLC, as PRINCIPAL (CONTRACTOR), and National American Insurance Company, (SURETY), licensed to do business as such in the State of Missouri, hereby bind themselves and their respective heirs, executors, administrators, successors, and assigns unto Kansas City, Missouri, a constitutionally chartered municipal corporation, (OWNER), as obligee, in the penal sum of Three Million Eight Hundred Sixty Four Thousand Four Hundred Fifteen Thousand Dollars Dollars ($ $3,864,415.00) for the payment whereof CONTRACTOR and SURETY bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

CONTRACTOR has entered into a contract with OWNER for WSD Administration Building & IT Improvements & ADA Compliance, which Contract, including any present or future amendment thereto, is incorporated herein by reference and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if in connection with the Contract, including all duly authorized modifications thereto, prompt payment shall be made to all laborers, subcontractors, teamsters, truck drivers, owners or other suppliers or for equipment employed on the job, and other claimants, for all labor performed in such work whether done for CONTRACTOR, a subcontractor, SURETY, a completion contractor or otherwise (at the full wage rates required by any law of the United States or of the State of Missouri, where applicable), for services furnished and consumed, for repairs on machinery, for equipment, tools, materials, lubricants, oil, gasoline, water, gas, power, light, heat, oil, telephone service, grain, hay, feed, coal, coke, groceries and foodstuffs, either consumed, rented, used or reasonably required for use in connection with the construction of the work or in the performance of the Contract and all insurance premiums, both for compensation and for all other kinds of insurance on the work, for sales taxes and for royalties in connection with, or incidental to, the completion of the Contract, in all instances whether the claim be directly against CONTRACTOR, against SURETY or its completion contractor, through a subcontractor or otherwise, and, further, if CONTRACTOR shall defend, indemnify and hold harmless OWNER from all such claims, demands or suits by any such person or entity, then this obligation shall be void; otherwise, it shall remain in full force and effect.

Any conditions legally required to be included in a Payment Bond on this Contract, including but not limited to those set out in §107.170 RSMo.are included herein by reference.

SURETY agrees that, in the event that CONTRACTOR fails to make payment of the obligations covered by this Bond, it will do so and, further, that within forty-five (45) days of receiving, at the address given below, a claim hereunder stating the amount claimed and the basis for the claim in reasonable detail, it (a) will send an answer to the claimant, with a copy to OWNER stating the amounts that are undisputed and the basis for challenging any amounts that are disputed, and (b) will pay any amounts that are undisputed. The amount of this Bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder.

While this Bond is in force, it may be sued on at the instance of any party to whom any such payment is due, in the name of OWNER to the use for such party. OWNER shall not be liable for the payment of any costs or expenses of any such suit.

No suit shall be commenced or pursued hereunder other than in a state court of competent jurisdiction in Jackson, Clay or Platte County, Missouri, or in the United States District Court for the Western District of Missouri.

WAIVER. That SURETY, for value received, hereby expressly agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed thereunder, shall in any way affect the obligations of this Bond; and it does hereby waive notice of any such change, extension of time, or alteration or addition to the terms of the Contract or the Work to be performed thereunder.

IN WITNESS WHEREOF, the above parties have executed this instrument the 23 day of May, 2023.

CONTRACTOR
Name, address and facsimile number of Contractor
Hartline Construction, LLC
751 E. 63rd Street
Kansas City, MO 64110
(816)921-6002

I hereby certify that I have authority to execute this document on behalf of Contractor.

By: [signature]
Title: OWNER/ PRESIDENT
HARTLINE CONSTRUCTION

(Attach corporate seal if applicable)

SURETY
Name, address and facsimile number of Surety:
National American Insurance Company
PO Box 9
Chandler, OK 74834
405-258-4574

I hereby certify that (1) I have authority to execute this document on behalf of Surety; (2) Surety has an A.M. Best rating of A-. or better; (3) Surety is named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (most current revision) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury; and(4) Surety is duly licensed to issue bonds in the State of Missouri and in the jurisdiction in which the Project is located.

By: [signature]
Title: Vickie J. Nickel Attorney-in-Fact
Date: May 23, 2023

(Attach seal and Power of Attorney)

NATIONAL AMERICAN INSURANCE COMPANY
CHANDLER, OKLAHOMA
POWER OF ATTORNEY

Number:
CBB0061458

DUPLICATES SHALL HAVE THE SAME FORCE AND EFFECT AS AN ORIGINAL ONLY WHEN ISSUED IN CONJUNCTION WITH THE ORIGINAL.

KNOW ALL MEN BY THESE PRESENTS: That the National American Insurance Company, a corporation duly organized under the laws of the State of Oklahoma, having principal office in the city of Chandler, Oklahoma, pursuant to the following resolution, adopted by the Board of Directors of the said Company on the 8th day of July, 1987, to wit:

"Resolved, that any officer of the Company shall have authority to make, execute and deliver a Power of Attorney constituting as Attorney-in-fact, such persons, firms, corporations as may be selected from time to time.

Resolved that nothing in this Power of Attorney shall be construed as a grant of authority to the attorney(s)-in fact to sign, execute, acknowledge, deliver or otherwise issue a poli or policies of insurance on behalf of National American Insurance Company.

Be It Further Resolved, that the signature of any officer and the Seal of the Company may be affixed to any such Power of Attorney or any certificate relating thereto by facsimil and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such powers so execute and certified by facsimile signature and facsimile seal shall be valid and binding upon the Company in the future with respect to any bond and documents relating to such bonds which it is attached."

National American Insurance Company does hereby make, constitute and appoint

Vickie J. Nickel, Shawn Byrne, David Parkhurst, Lisa AnnSummers,
Rebecca A. Lilley, Kerry A. Sherrod

its true and lawful attorney(s)-in-fact, with full power and authority hereby conferred in its name, places and stead, to sign, execute, acknowledge and deliver in its behalf, and its act and deed, as follows:

To bind the company for bonds, not to exceed $4,000,000.00 for any single bond. And to bind National American Insurance Company thereby as fully and to the same extent a if such bonds and documents relating to such bonds were, signed by the duly authorized officer of the National American Insurance Company, and all the acts of said Attorney(s) pursuant to the authority herein given, are hereby ratified and confirmed.

IN WITNESS WHEREOF, the National American Insurance Company has caused these presents to be signed by any officer of the Company and its Corporate Seal to b hereto affixed.

NATIONAL AMERICAN INSURANCE COMPANY

W. Brent LaGere

W. Brent LaGere, Chairman & Chief Executive Officer

STATE OF OKLAHOMA)
COUNTY OF LINCOLN) SS:

On this 26rd day of September, A.D. 2017, before me personally came W. Brent LaGere, to me known, who being by me duly sworn, did depose and say; that he resides in the County of Lincoln, State of Oklahoma; that he is the Chairman and Chief Executive Officer of the National American Insurance Company, the corporation described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that he signed his name, thereto by like order.

Janet Taylor

Notary Public
My Commission Expires April 8, 2022
Commission #02006203

STATE OF OKLAHOMA)
COUNTY OF LINCOLN) SS:

I, the undersigned, Secretary of the National American Insurance Company, an Oklahoma Corporation, DO HEREBY CERTIFY that the foregoing and attached POWER OF ATTORNEY remains in full force.

Signed and Sealed at the City of Chandler.

Dated the 23rd day of May 2023

R. Patrick Gilmore

R. Patrick Gilmore, Secretary

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 7/14/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Cornerstone Kansas City, LLC
10561 Barkley St
Suite 200
Overland Park KS 66212

CONTACT NAME: Rita Reckker
PHONE (A/C, No, Ext): (913)378-1050 FAX (A/C, No): (913)378-0399
E-MAIL ADDRESS: certificates@ckcins.com

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A: Secura Insurance Company	A X	22543
INSURER B: Midwest Builders Casualty Mutual	A- VII	13126
INSURER C: Westchester Surplus Lines Ins Co	A++ XV	10172
INSURER D:		
INSURER E:		
INSURER F:		

INSURED
Hartline Construction, LLC
PO Box 25684
Overland Park KS 66225

COVERAGES **CERTIFICATE NUMBER:** CL22122032263 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [ ] OCCUR [X]	X	Y	20-TC-003355870-3	1/1/2023	1/1/2024	EACH OCCURRENCE	$ 1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 100,000
							MED EXP (Any one person)	$ 10,000
				SURETY VERIFIED BY Leona Walton 7/25/23			PERSONAL & ADV INJURY	$ 1,000,000
A	GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC						GENERAL AGGREGATE	$ 2,000,000
							PRODUCTS - COMP/OP AGG	$ 2,000,000
	X OTHER: Contractor E&O			20-TC-003355870-3			Deductible - $1,000	$ 50,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS [ ] SCHEDULED AUTOS X HIRED AUTOS [X] NON-OWNED AUTOS	X	Y	20-A-003355871-13	1/1/2023	1/1/2024	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
							BODILY INJURY (Per person)	$
							BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
								$
A	X UMBRELLA LIAB [X] OCCUR EXCESS LIAB [ ] CLAIMS-MADE DED [X] RETENTION $ 10,000	X	Y	20-CU-003355872-3	1/1/2023	1/1/2024	EACH OCCURRENCE	$ 5,000,000
							AGGREGATE	$ 5,000,000
								$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [N] If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	Y	WC100-0001258-2023A	1/1/2023	1/1/2024	X PER STATUTE [ ] OTH-ER	
							E.L. EACH ACCIDENT	$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
C	Pollution	X	Y	G74403554 001	7/13/2023	7/13/2024	Deductible - $5,000	$1M Occ/$2M Agg
A	Leased/Rented Equipment			20-TC-003355870-3	1/1/2023	1/1/2024	Deductible - $500	$ 100,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
RE: Proj #81000817/1682 - WSD Administration Building & IT Improvements & ADA Compliance
The City of Kansas City and Design Professiona, and any other entities named in 0800 SCs are named as Additional Insured with regard to the General Liability, including ongoing & completed operations, Auto, Umbrella & Pollution Liability policies, on a primary and non-contributory basis, when required by written contract. Waiver of Subrogation in favor of the above Additional Insured applies on all policies as allowed by law.

CERTIFICATE HOLDER
Derrick.Smith@kcmo.org
City of Kansas City Missouri
Procurement Svcs Division
Contract Administration Office
1st Floor, City Hall
414 E. 12th St.
Kansas City, MO 64106

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
David Parkhurst/RITA

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 7/25/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Rita Reckker
Cornerstone Kansas City, LLC 10561 Barkley St Suite 200 Overland Park KS 66212	PHONE (A/C, No, Ext): (913)378-1050 FAX (A/C, No): (913)378-0399 E-MAIL ADDRESS: certificates@ckcins.com
	INSURER(S) AFFORDING COVERAGE — NAIC #
	INSURER A: Atlantic Specialty Ins. Co. — 27154
INSURED Hartline Construction, LLC PO Box 25684 Overland Park KS 66225	INSURER B: A+ XV INSURER C: INSURER D: Active INSURER E: INSURER F:

COVERAGES **CERTIFICATE NUMBER:** CL2372533213 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☐ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PRO-JECT ☐ LOC ☐ OTHER:			BY SURETY VERIFIED Leona Walton	7/25/23		EACH OCCURRENCE $ DAMAGE TO RENTED PREMISES (Ea occurrence) $ MED EXP (Any one person) $ PERSONAL & ADV INJURY $ GENERAL AGGREGATE $ PRODUCTS - COMP/OP AGG $ $
	AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ ALL OWNED AUTOS ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ☐ NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) $ BODILY INJURY (Per person) $ BODILY INJURY (Per accident) $ PROPERTY DAMAGE (Per accident) $ $
	☐ UMBRELLA LIAB ☐ OCCUR ☐ EXCESS LIAB ☐ CLAIMS-MADE ☐ DED ☐ RETENTION $						EACH OCCURRENCE $ AGGREGATE $ $
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N ☐ N/A If yes, describe under DESCRIPTION OF OPERATIONS below						☐ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT $ E.L. DISEASE - EA EMPLOYEE $ E.L. DISEASE - POLICY LIMIT $
A	Builders Risk	X		790037585-0000	9/1/2023	9/1/2024	Limit $3,864,415 Deductible $5,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: Proj #81000817/1682 - WSD Administration Building & IT Improvements & ADA Compliance

The City of Kansas City, MO is included as an Additional Insured on the Builder's Risk Policy per written contract.

CERTIFICATE HOLDER

leona.walton@kcmo.org

City of Kansas City Missouri
Procurement Svcs Division
Contract Administration Office
1st Floor, City Hall
414 E. 12th St.
Kansas City, MO 64106

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

David Parkhurst/RITA

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 5/26/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Cornerstone Kansas City, LLC
10561 Barkley St
Suite 200
Overland Park KS 66212

CONTACT NAME: Rita Reckker
PHONE (A/C, No, Ext): (913) 378-1050 **FAX (A/C, No):** (913) 378-0399
E-MAIL ADDRESS: certificates@ckcins.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: Secura Insurance Company	22543 A
INSURER B: Midwest Builders Casualty Mutual	13126 A-
INSURER C:	
INSURER D:	
INSURER E:	
INSURER F:	

INSURED
Hartline Construction, LLC
PO Box 25684
Overland Park KS 66225

COVERAGES **CERTIFICATE NUMBER:** CL22122032263 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:	X	Y	20-TC-003355870-3	1/1/2023	1/1/2024	EACH OCCURRENCE	$ 1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 100,000
							MED EXP (Any one person)	$ 10,000
							PERSONAL & ADV INJURY	$ 1,000,000
							GENERAL AGGREGATE	$ 2,000,000
							PRODUCTS - COMP/OP AGG	$ 2,000,000
								$
A	X AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS	X	Y	20-A-003355871-13	1/1/2023	1/1/2024	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
							BODILY INJURY (Per person)	$
							BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
								$
A	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 10,000	X	Y	20-CU-003355872-3	1/1/2023	1/1/2024	EACH OCCURRENCE	$ 5,000,000
							AGGREGATE	$ 5,000,000
								$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [N] If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	Y	WC100-0001258-2023A	1/1/2023	1/1/2024	X PER STATUTE OTH-ER	
							E.L. EACH ACCIDENT	$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
A	Leased/Rented Equipment			20-TC-003355870-3	1/1/2023	1/1/2024	Deductible - $500	$ 100,000
A	Contractor E&O			20-TC-003355870-3	1/1/2023	1/1/2024	Deductible - $1,000	$ 50,000

SURETY VERIFIED BY DS 5/31/23

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
RE: Proj #81000817/1682 - WSD Administration Building & IT Improvements & ADA Compliance
The City of Kansas City and Design Professiona, and any other entities named in 0800 SCs are named as Additional Insured with regard to the General Liability, including ongoing & completed operations, Auto & Umbrella Liability policies, on a primary and non-contributory basis, when required by written contract. Waiver of Subrogation in favor of the above Additional Insured applies on all policies as allowed by law.

CERTIFICATE HOLDER
Derrick.Smith@kcmo.org
City of Kansas City Missouri
Procurement Svcs Division
Contract Administration Office
1st Floor, City Hall
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Kansas City, MO 64106

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
David Parkhurst/RITA

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY

ADDITIONAL INSURED WRAP

This Endorsement modifies insurance provided under the following:
COMMERCIAL GENERAL LIABILITY COVERAGE FORM
BUSINESSOWNERS LIABILITY COVERAGE FORM

With respect to coverage provided by this Endorsement, the provisions of the Coverage Form apply unless modified by this Endorsement.

Additional Insured provisions provided in this endorsement contain equivalent language to Insurance Services Office Endorsements CG 20 10 07 04 and CG 20 37 07 04. If a written contract or written agreement between you and the additional insured specifies that coverage for the additional insured form be provided by Endorsements CG 20 10 07 04 and/or CG 20 37 07 04, this endorsement shall be interpreted to comply with such requirement, but only to the extent that such coverage is included within the terms of the Coverage Part to which this endorsement is attached.

A. Additional Insured When Required By Written Construction Contract

1. Operations Performed For An Additional Insured

WHO IS AN INSURED is amended to include as an additional insured any person or organization for whom you are performing operations when you and such person or organization have agreed in a written contract or written agreement prior to a loss, that such person or organization be added as an additional insured on your policy. Such person or organization is an additional insured only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

a. Your acts or omissions; or

b. The acts or omissions of those acting on your behalf;

In the performance of your ongoing operations for the additional insured.

A person's or organization's status as an additional insured under this provision ends at the earlier of when your operations for that additional insured are completed; or the end of the policy period.

2. Limitations

The Operations Performed For An Additional Insured coverage is limited as follows:

a. This insurance does not apply to "bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of, or the failure to render, any professional architectural, engineering or surveying services, including:

(1) The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or

(2) Supervisory, inspection, architectural or engineering activities.

b. This insurance does not apply to "bodily injury" or "property damage" occurring after:

(1) All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or

(2) That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

c. The Limits of Insurance applicable to the additional insured are those specified in the written contract or written agreement or in the Declarations for this policy, whichever is less. These Limits of Insurance are inclusive and not in addition to the Limits of Insurance shown in the Declarations. If other insurance available to you and written by us is applicable to this additional insured, the maximum recovery under all coverage forms or policies combined may equal but not exceed the highest applicable limit under any one coverage form or policy providing coverage on either a primary or excess basis.

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d. This insurance does not apply if the person or organization required to be added as an additional insured is specifically named as an additional insured under any other provision of, or endorsement added to this policy.

B. Additional Insured When Required By Written Construction Contract – Completed Operations

1. Additional Insured – Completed Operations

WHO IS AN INSURED is amended to include as an additional insured any person or organization, when you and such person or organization have agreed in a written contract or written agreement prior to a loss, that such person or organization be added as an additional insured on your policy, but only with respect to "bodily injury" or "property damage" caused, in whole or in part, by "your work" performed for that additional insured and included in the "products-completed operations hazard".

2. Limitations

The Additional Insured - Completed Operations coverage is limited as follows:

a. A person or organization's status as an insured under Additional Insured - Completed Operations continues only until the earlier of the end of the policy period; or the period of time required by the written contract or written agreement. If no time period is required by the written contract or written agreement, a person or organization's status as an additional insured under this endorsement will not apply beyond the lesser of the end of the policy period; or five years from the completion of "your work" on the project which is the subject of the written contract or written agreement.

b. The insurance as provided to the additional insured does not apply to "bodily injury", "property damage" or "personal and advertising injury" arising out of "your work" for which a consolidated (wrap-up) insurance program has been provided by the prime contractor-project manager or owner of the construction project in which you are involved.

c. The Limits of Insurance applicable to the additional insured are those specified in the written contract or written agreement or in the Declarations for this policy, whichever is less. These Limits of Insurance are inclusive and not in addition to the Limits of Insurance shown in the Declarations. If other insurance available to you and written by us is applicable to this additional insured, the maximum recovery under all coverage forms or policies combined may equal but not exceed the highest applicable limit under any one coverage form or policy providing coverage on either a primary or excess basis.

d. The coverage provided to the additional insured by this endorsement and by paragraph f. of the definition of "insured contract" under DEFINITIONS do not apply to "bodily injury" or "property damage" arising out of the "products-completed operations hazard" unless required by the written contract or written agreement.

e. This insurance does not apply if the person or organization required to be added as an additional insured is specifically named as an additional insured under any other provision of, or endorsement added to this policy.

C. Primary And Noncontributory

As respects the coverage provided under this endorsement, the Other Insurance Condition is amended as follows:

The paragraph regarding Excess Insurance is deleted and replaced with the following:

Excess Insurance

This insurance is excess over any other insurance available to the additional insured whether primary, excess, contingent or on any other basis unless the written contract or written agreement described in A. and B. above specifically requires that this insurance be either primary or primary and noncontributory. Then this insurance is primary and not contributing with any insurance available to the additional insured which covers that person or organization as a named insured.

D. Waiver Of Transfer Of Rights Of Recovery Against Others To Us

As respects the coverage provided under this endorsement, the Transfer Of Rights Of Recovery Against Others To Us Condition is amended by adding the following:

We waive any right of recovery we may have to recover we make for all or part of any payment we have made under this Coverage Part arising out of "your work" under a written contract or written agreement

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requiring such waiver with that person or organization. However, our rights may only be waived prior to the "occurrence" for which we make payment under this Coverage Part. The insured must do nothing after a loss to impair our rights. At our request, the insured will bring "suit" or transfer those rights to us and help us enforce those rights.

E. Amendment – Aggregate Limits Of Insurance (Per Project)

Under LIMITS OF INSURANCE shown on the Declarations, the General Aggregate Limit applies separately to each of your projects away from the premises owned by you or rented to you. This extension does not apply to the "products-completed operations hazard".

F. Additional Condition

The following condition is added:

Additional Insured Duty To Notify

The additional insured described in A. or B. above must give written notice of loss, including a demand for defense and indemnity, to any other insurer having coverage for the loss under its policies. Such notice must demand full coverage available and the additional insured shall not waive or limit such other available coverage.

This additional condition does not apply to the insurance available to the additional insured which covers that person or organization as a named insured.

All other terms and conditions of this policy not in conflict with the terms and conditions of this Endorsement shall continue to apply.

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THIS ENDORSEMENT CHANGES YOUR POLICY. PLEASE READ IT CAREFULLY.

AUTO ADDITIONAL INSURED WRAP

This endorsement modifies insurance provided under the following:
BUSINESS AUTO COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

A. AUTOMATIC ADDITIONAL INSURED – PRIMARY AND NONCONTRIBUTORY
SECTION II – COVERED AUTOS LIABILITY COVERAGE, subsection A. Coverage, paragraph 1. Who Is An Insured is amended to add:

d. **(1) Automatic Additional Insured – Primary And Noncontributory**

Any person or organization is an additional insured when you and such person or organization have agreed in writing prior to a loss that such person or organization be added as additional insured on your policy. Such person or organization is an additional insured only with respect to liability for "bodily injury" or "property damage" resulting from the ownership, maintenance or use of a covered "auto", provided the "bodily injury" or "property damage" is caused, in whole or in part, by you or by those acting on your behalf. This insurance is primary and is not contributing with any other insurance carried by the additional insured.

(2) Blanket Lessor Additional Insured Provisions

If the additional Insured is a lessor of a "leased auto";

(a) Coverage

i. Any "leased auto" that is a covered "auto" will be considered a covered "auto" you own and not a covered "auto" you hire or borrow.

For a covered "auto" that is a "leased auto" Who Is An Insured is changed to include as an "Insured" the lessor.

ii. The coverages provided under this endorsement apply to any "leased auto" until the policy expiration date, or when the lessor or his or her agent takes possession of the "leased auto", whichever occurs first.

(b) Loss Payable Clause

i. We will pay, as interest may appear, you and the lessor for "loss" to a "leased auto".

ii. The insurance covers the interest of the lessor unless the "loss" results from fraudulent acts or omissions on your part.

iii. If we make any payment to the lessor, we will obtain his or her rights against any other party.

(c) The lessor is not liable for payment of your premiums.

(d) Additional Definition

As used in this endorsement:

"Leased auto" means an "auto" leased or rented to you including any substitute, replacement or extra "auto" needed to meet seasonal or other needs, under a leasing or rental agreement that required you to provide direct primary insurance for the lessor.

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B. WAIVER – TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US

SECTION IV – BUSINESS AUTO CONDITIONS, subsection A. Loss Conditions, paragraph 5. Transfer Of Rights Of Recovery Against Others To Us is amended to add:

We waive any right of recovery we may have against any person or organization when you and such person or organization have agreed in writing in a contract or agreement that such person or organization be waived from recovery because of payments we make for injury or damage arising out of an "accident" and resulting from the ownership, maintenance or use of a covered "auto". However, our rights may only be waived prior to the "accident" for which we make payment under this Coverage Part. The insured must do nothing after a loss to impair our rights.

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WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.) This endorsement does not apply where prohibited by law.

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

Any person or organization that you perform work for that is liable for an injury, covered by this policy, that prior to the injury has a written contract requiring a waiver of our right to recover from them.

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.

(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Endorsement Effective 1/1/2023 12:01 AM Policy No. WC100-0001258-2023A Endorsement No. **WC 00 03 13**

Insured Hartline Construction LLC

Insurance Company

Midwest Builders' Casualty Mutual Company
1100 Walnut Street Suite 3010
Kansas City, MO 64106
(816) 474-7799
Carrier Code **32131**

Countersigned by _____

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KANSAS CITY
MISSOURI

Finance Department

Revenue Division

414 E 12th St. 1st Floor
Kansas City, MO 64106-2786

Phone: (816) 513-1120
Fax: (816) 513-1264
Email: revenue@kcmo.org
Website: kcmo.gov/tax

Letter Id: L0984126208
Date: 17-May-2023
Taxpayer Id: **-***1328

HARTLINE CONSTRUCTION LLC
PO BOX 25684
OVERLAND PARK KS 66225-5684

TAX CLEARANCE STATUS: APPROVED

As of this date, this notice is to inform you that HARTLINE CONSTRUCTION LLC is current with all taxes and license fees with the City of Kansas City, Mo., Finance Department/ Revenue Division.

Please note this could change if we perform a full review of your accounts in the future. We will let you know if we need to review your accounts. You will need to pay any amounts that are found due at that time.

Mari Ruck
Commissioner of Revenue

Visit kcmo.gov/quicktax to view the status of your account and for online filing.

STATE OF MISSOURI

John R. Ashcroft
Secretary of State

CORPORATION DIVISION
CERTIFICATE OF GOOD STANDING

I, JOHN R. ASHCROFT, Secretary of State of the STATE OF MISSOURI, do hereby certify that the records in my office and in my care and custody reveal that

Hartline Construction, LLC
LC1186314

was created under the laws of this State on the 30th day of November, 2011, and is active, having fully complied with all requirements of this office.

IN TESTIMONY WHEREOF, I hereunto set my hand and cause to be affixed the GREAT SEAL of the State of Missouri. Done at the City of Jefferson, this 4th day of April, 2023.

Secretary of State

Certification Number: CERT-04042023-0012

GENERAL CONDITIONS

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6.13 Record Docu□ ent□
6.14 □□fet□ □nd □rotection
6.15 □□fet□ Re□re□ent□ti□e
6.16 □□□□rd Co□ □unic□tion □ro□r□□ □
6.17 E□er□encie□
6.18 □□o□ Dr□□in□□ □nd □□□ □□e□
6.19 Continuin□ t□e □ or□
6.20 CONTRACTOR’s General Warranty and Guarantee

ARTICLE 7 OTHER WORK

7.01 Re□□ted □ or□ □t □ite
7.02 Coordin□tion

ARTICLE 8 CITY’s RESPONSIBILITIES

8.01 Co□ □unic□tion□to CO□TR□CTOR
8.02 Re□□□ce□ ent of DE□I□ □ □ROFE□□IO□□□
8.03 Furni□□ D□t□ □nd □ro□ □t □□□□ ent
8.04 □□nd□ □nd E□□e□ ent□□Re□ort□ □nd Te□t□
8.05 In□ur□nce
8.06 C□□n□e Order□
8.07 In□□ection□, Te□t□ □nd □□□ro□□□□
8.08 Limitations on CITY’s Responsibilities
8.09 □ndi□c□ō□ed □□□□rdou□ En□iron□ ent□□Condition
8.10 E□idence of Fin□nci□□□rr□n□e□ ent□
8.11 CITY’s Representative
8.12 Vi□it□to □ite

ARTICLE 9 DESIGN PROFESSIONAL’s STATUS DURING CONSTRUCTION

9.01 General Scope of DESIGN PROFESSIONAL’s Duties
9.02 Re□ident □ro□ect Re□re□ent□ti□e
9.03 C□rific□tion□ □nd Inter□ret□tion□
9.04 Re□ectin□ Defecti□e □ or□
9.05 □□o□ Dr□□in□□, C□□n□e Order□ □nd □□□□ ent□
9.06 Deter□in□tion□for □nit □rice□
9.07 Deci□ion□on Re□uire□ent□of Contr□ct Docu□ ent□ □nd □cce□t□□i□it□of □ or□
9.08 Limitations on DESIGN PROFESSIONAL’s Authority and Responsibilities

ARTICLE 10 CHANGES IN THE WORK

10.01 □ut□ori□ed C□□n□e□in t□e □ or□
10.02 □n□ut□ori□ed C□□n□e□in t□e □ or□
10.03 E□ecution of C□□n□e Order□
10.04 □otific□tion to □uret□

ARTICLE 11 CHANGE OF CONTRACT PRICE

11.01 C□□n□e of Contr□ct □rice
11.02 Co□t of t□e □ or□
11.03 C□□□ □□o□□nce□
11.04 □nit □rice □ or□
11.05 Di□□ute Re□o□ution

ARTICLE 12 CONTRACT TIMES

12.01 Ti□ e of t□e E□□ence
12.02 C□□n□e of Contr□ct Ti□ e□
12.03 □roof Re□uired To □u□tif□ □n E□ten□ion of Ti□ e For E□cu□□□e □nd Co□ □en□□□e De□□□
12.04 Delays Within CONTRACTOR's Control
12.05 De□□□ □e□ond t□e CITY's and CONTRACTOR's Control
12.06 De□□ D□□ □□e□
12.07 Di□□ute Re□o□ution

ARTICLE 13 TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 □cce□□ to □ or□
13.02 Te□t□ □nd In□□ection□
13.03 □otice of Defect□
13.04 □nco□erin□ □ or□
13.05 CIT□ M□□ □to□ t□e □ or□
13.06 Correction or Re□ o□□□of Defecti□e □ or□
13.07 Correction □eriod
13.08 □cce□t□nce of Defecti□e □ or□
13.09 CIT□ M□□Correct Defecti□e □ or□

ARTICLE 14 PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 □c□edu□e of V□ue□
14.02 □□□ic□tion for □ro□re□□ □□□□ent□
14.03 Contractor's Warranty of Title
14.04 □u□□t□nti□□Co□ □□etion
14.05 □□rti□□□ti□□□tion
14.06 Fin□□In□□ection
14.07 Fin□□□ □□□ ent
14.08 Fin□□Co□ □□etion De□□□ed
14.09 □ □i□er of C□□i□ □
14.10 Co□ □□etion of □ or□ □□Cit□

ARTICLE 15 SUSPENSION OF WORK AND TERMINATION

15.01 CIT□ M□□ □u□□end □ or□
15.02 CIT□ M□□Ter□ in□te for Def□u□t
15.03 CIT□ M□□Ter□ in□te for Con□enience

ARTICLE 16 CLAIMS AND DISPUTES

16.01 Definition
16.02 □ ritten □otice □nd □urden of □roof
16.03 Ti□ e □i□it□on C□□i□ □
16.04 Continuin□ Contr□ct □erfor□ □nce
16.05 In□ur□or D□□ □□e to □er□on or □ro□ert□
16.06 Initi□□Re□o□ution of C□□i□ □ □nd Di□□ute□

16.07 Fin□□Re□o□ution of C la¡ms □nd Di□□ute□

ARTICLE 17 MISCELLANEOUS

17.01 □i□in□ □otice
17.02 Co□ □ut□tion of Ti□e□
17.03 Cu□u□□ti□e Re□edie□
17.04 Surv˙val ɔf O□i□□tion□
17.05 Contro□i□n□ Law

ARTICLE 1 DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Wherever used in these General Conditions or in the other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

1. Addenda - Written or graphic instruments issued prior to the opening of bids that clarify, correct or change the bidding Requirements or the Contract Documents.

2. Agreement—The written Contract between CITY and CONTRACTOR covering the Work to be performed other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

3. Application for Payment—The form accepted by CITY's Representative which is to be used by CONTRACTOR in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. Asbestos - Any material that contains more than one percent (1%) asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. Bid- The offer or proposal of the bidder submitted on the Bid Form/Contract setting forth the prices for the Work to be performed. A Bidder's Bid becomes a Contract with CITY if the CITY executes the Bid Form/Contract submitted by Bidder, the term "Bidder" shall mean CONTRACTOR.

6. Bidder- One who submits a bid directly to CITY, as distinct from a sub-bidder who submits a bid to a bidder. If the CITY executes the Bid Form/Contract submitted by Bidder, the term "Bidder" shall mean CONTRACTOR in both the Bidding Documents and Contract Documents unless the context clearly indicates otherwise.

7. Bidding Documents- The Advertisement or Invitation to Bid, Instructions to Bidders, the Bid Form/Contract, and the proposed Contract Documents (including all addenda issued prior to receipt of bids).

8. Bidding Requirements- The Advertisement or invitation to Bid, Instructions to Bidders, Bid Security, and the Bid Form/Contract with or without supplements.

9. Bonds- Payment Bond and Performance and Maintenance Bond and other instruments of security.

10. Calendar Day- A day from one midnight to the next midnight on the calendar, including Saturdays, Sundays, and holidays.

11. Change Order- A written document issued by CITY that authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Contract.

12. CITY/OWNER- Kansas City, Missouri, a constitutional chartered municipal corporation, with whom CONTRACTOR has entered into the Contract and for whom the Work is to be provided**.**

13. CITY's Representative- Person or persons designated to act for the Director as provided in these Contract Documents.

14. Consultant- Person, firm or corporation having a contract with CITY or DEPARTMENT PROFESSIONAL to furnish services as an independent professional associate or Consultant with respect to the Project and who's identified as such in the Supplementary Condition.

The Consultant(s) is identified and their services offered on the Certification Page(s). The certifications describe the respective responsibilities for the Drawings and Specifications prepared by the Consultant(s) and are incorporated into this Contract.

15. Contract- The entire and interpreted written agreement between CITY and CONTRACTOR concerning the Work at this Contract Document. The Bid Form/Contract submitted by Bidder in the Contract between CITY and CONTRACTOR upon execution by CITY. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

16. Contract Documents- The Contract Documents enumerated in the rights and obligations of the parties and include the Contract, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid Form/Contract (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Intent to Contract), the DRD Construction Project Instructions, the Contractor's Utilization Plan/Request for Waiver, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Project Manual and the certification Page(s) of the DESIGNROFESSIONAL and Consultant(s), together with this awarded Project Manual and any Addendum thereto and all written Amendments, Change Orders, Work Change Directives, and DESIGN PROFESSIONAL's written interpretations and clarifications issued on or after the Effective Date of the Contract, and awarded to and Drawings. Reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in electronic media format of text, data, graphics, and the like that may be furnished by CITY to CONTRACTOR are not Contract Documents, except Project Schedule submitted by CONTRACTOR and awarded by CITY.

17. Contract Price- The money payable by CITY to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement.

18. Contract Times- The number of days or the dates stated in the Supplementary Conditions (a) to achieve Substantial Completion, and (b) to complete the Work so that it is ready for final payment as evidenced by CITY's Representative's written recommendation of final payment.

19. CONTRACTOR- The person, firm, partnership, company, corporation or association licensed or otherwise authorized by law to do business in Missouri, with whom CITY has entered into the Agreement.

20. Day– shall constitute a Calendar Day.

21. DESIGN PROFESSIONAL- Architect, Engineer or other licensed professional who is either employed by or has contracted with CITY to serve in a design capacity and whose Consultant, employer, partner, employee or agent have prepared and sealed the Drawings and Specifications.

The DESIGNROFESSIONAL(s) is identified and their services offered on the Certification Page(s). The certifications describe the respective responsibilities for the Drawings and Specifications prepared by the DESIGNROFESSIONAL and Consultant(s) and are incorporated into this Contract.

22. DESIGN PROFESSIONAL's Project Representative- The authorized representative of DESIGNROFESSIONAL who is assigned to the Site or any part thereof.

23. Director- The term Director shall mean the duly appointed executive officer of a department of City who is empowered by the City Charter or by the City Council to enter into a contract on behalf of City, or to grant a permit for its employment to and owned by City. A Director is authorized to delegate this authority to a City employee to designated in writing.

24. Drawings- The drawings which are a part of the Contract, the extent and character of the Work to be furnished and performed by CONTRACTOR and which have been prepared by DESIGN PROFESSIONAL and are included in the Contract Documents. Words which have well-known technical or construction meanings are used in the Contract Documents in accordance with such recognized meanings.

25. Effective Date of the Contract- The date indicated in the Contract on which it becomes effective, but if no such date is indicated it means the date on which the Contract is fully executed by CITY.

26. General Requirements- Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

27. Hazardous Environmental Condition- The presence at the site of asbestos, polychlorinated biphenyl (PCB), petroleum, hazardous waste, or radioactive Materials in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

28. Hazardous Waste- The term hazardous waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

29. Laws or Regulations- Any and all applicable laws, rules, regulations, ordinances, codes and orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.

30. Lead-Based Paint- Any paint, varnish, stain, or other applied coating that contains one (1) mg or more of lead per square centimeter. The terms "leaded paint" and "lead-containing paint" are synonymous with Lead-based paint.

31. Liens- Liens, charges, security interests or encumbrances upon real property or personal property.

32. Milestone- A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

33. Notice of Intent to Contract- The written notice by CITY to the apparent successful bidder stating that upon compliance with the conditions in the said Documents enumerated, within the time specified, and upon enactment of an appropriate ordinance or resolution, CITY intends to award the Contract.

34. Notice to Proceed- A written notice given by CITY to CONTRACTOR fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR's obligations under the Contract Documents.

35. Partial Utilization- Use by CITY of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

36. PCBs- Polychlorinated biphenyls.

37. Petroleum- Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, mixtures of hydrocarbons, and oil mixed with other non-hazardous wastes and crude oil.

38. Project- The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

39. Project Manual- The documentary information required for bidding and constructing the Work. A listing of the contents of the Project Manual may be issued in one or more volumes and is contained in the table(s) of contents.

40. Radioactive Material- Source, Special Nuclear, or Byproduct Material defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

41. Samples- Physical examples of Materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

42. Shop Drawings- Drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

43. Site- Lands or areas indicated in the Contract Documents as being furnished by CITY upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by CITY which are designated for the use of CONTRACTOR.

44. Specifications- That portion of the Contract Documents consisting of written technical descriptions of Materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

45. Subcontractor- An individual, firm, partnership, corporation or association licensed or otherwise authorized to do business in Missouri, to whom CONTRACTOR, with written notification to CITY, has entered into an agreement to perform a part of the Work.

46. Substantial Completion- The time when the Work (or a specified part thereof) has progressed to the point where, in the opinion of DESIGN PROFESSIONAL as evidenced by DESIGN PROFESSIONAL's definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

47. Supplementary Conditions- The part of the Contract Documents which amends and/or supplements these General Conditions.

48. Supplier- A manufacturer, fabricator, supplier, distributor, Materialman or vendor having a direct contract with CONTRACTOR or with any subcontractor to furnish Materials or equipment to be incorporated into the Work by CONTRACTOR or any subcontractor.

49. Underground Facilities- All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or Materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, or traffic or other control systems.

50. Unit Price Work- Work to be paid for on the basis of unit prices.

51. Work- The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor, and furnishing and incorporating Materials and equipment into the construction, and furnishing documents, all required by the Contract Documents.

52. Work Change Directive- A written directive to CONTRACTOR, issued on or after the Effective Date of the Contract, signed by CITY and recommended by DESIGN PROFESSIONAL, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen subsurface or physical condition under which the Work is to be performed, or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Time, but is evidence that the parties expect that the change directed or

docu□ented □□ □ □or□ C□□n□e Directi□e □i□□e incor□or□ted in □ □u□□e□uent□ i□□ued C□□n□e Order fo□o□in□ ne□oti□tion□ □□ t□e □□rtie□ □□ to it□ effect, if □n□, on t□e Contr□ct □rice or Contr□ct Ti□e□.

53. Work Day - □n□d□□ durin□ □□ic□ t□e CO□TR□CTOR i□ □□□e to □or□ □ □eriod of □i□ (6) □our□ or □ore. D□□□ t□□t □re not □ or□ D□□□ □re d□□□ durin□ □□ic□ t□e CO□TR□CTOR i□ un□□e□ to □or□ for □ □eriod of □i□ (6) □our□ □□ re□□on of □tri□e□, □o□cott□, □□□or di□□ute□, e□ □□r□oe□, unu□u□□de□□□□ in tr□n□□ort□tion or □□ort□□e of □ □teri□□, □ct□of □od, □ct□of t□e □u□ic ene□ □, □ct□ of □u□erior □o□ern□ent□□□ut□orit□, □e□t□er condition□, riot□, re□e□□ion, □□□ot□□e, or □n□ot□er circu□ □t□nce□ for □□ic□ CO□TR□CTOR i□ not re□□on□i□□e or □□ic□ is not within its control. Saturdays, Sundays, and holidays on which the CONTRACTOR's force□ en□□□e in □ or□ re□uirin□ t□e □re□ence of □n in□□ector, □i□□e con□idered □□ □ or□ D□□□.

54. Written Amendment- □ □ritten □t□te□ent □odif□in□ t□e Contr□ct Docu□ent□, □i□ned □□ CIT□ □nd CO□TR□CTOR on or □fter t□e Effecti□e D□te of t□e Contr□ct □nd nor□ □□□□de□in□ □it□ t□e non-en□ineerin□ or non-tec□nic□□r□t□er t□□n □trict□□ con□truction-re□□ted □□□ect□ of t□e Contr□ct Docu□ent□.

1.02 Terminology

A. Intent of Certain Terms or Adjectives

1. Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper" or "satisfactory" or adjectives of □□e effect or i□ □ort □re u□ed to de□cri□e □ re□uire□ent, direction, re□ie□ or □ud□□ent of DE□I□□ □ROFE□□IO□□□ □□ to t□e □ or□, it i□ intended t□□t □uc□ re□uire□ent, direction, re□ie□ or □ud□□ent □i□□e □o□e□□ to e□□u□te, in □ener□, t□e co□ □□eted □ or□ for co□ □i□nce □it□ t□e re□uire□ent□ of □nd infor□ □tion in t□e Contr□ct Docu□ent□ □nd confor□ □nce □it□ t□e de□i□n conce□t of t□e co□ □□eted □ro□ect □□ □ function in□ □□o□e □□ □□o□n or indic□ted in t□e Contr□ct Docu□ent□ (un□□□ t□ere i□ □ □□ecific □t□te□ent indic□tin□ ot□er□i□e). T□e u□e of □n□ □uc□ter□ or □d□ecti□e □□□□ not □e effecti□e to □□□i□n to DE□I□□ □ROFE□□IO□□□ □n□dut□or □ut□orit□ to □u□er□i□e or direct t□e furni□□in□ or □erfor□ □nce of t□e □ or□or □n□ dut□or □ut□orit□ to undert□□e re□□on□i□□i□t□ contr□r□ to t□e □ro□i□ion□ of □□r□□r□□□ 9.08 or □n□ot□er □ro□i□ion of t□e Contr□ct Docu□ent□.

B. Defective

1. The word "defective," when modifying the word "Work," refers to Work that is un□□ti□f□ctor□, f□u□t□ or deficient, in t□□t it doe□ not confor□ to t□e Contr□ct Docu□ent□, or doe□ not □eet t□e re□uire□ent□ of □n□ in□□ection, reference □t□nd□rd, te□t or □□□ro□□□ referred to in t□e Contr□ct Docu□ent□, or has been damaged prior to CITY 's Representative's recommendation of final payment (unless responsibility for the protection t□ereof □□□ □een □□□u□ed □□ CIT□ □t □u□□t□nti□□ Co□ □□etion in □ccord□nce □it□ □□r□□r□□□ 14.04 or 14.05).

C. Furnish, Install, Perform, Provide

1. The word "furnish," when used in connection with services, materials, or equipment, □□□□□□e□n to □u□□□□ □nd de□i□er □□id □er□ice□, □ □teri□□□, or e□ui□□ent to t□e □ite (or □o□e ot□er □□ecified □oc□tion) re□d□ for u□e or in□t□□□tion □nd in u□□□e or o□er□□e condition.

2. The word "install," when used in connection with services, materials, or equipment, □□□□□□e□n to □ut into u□e or □□□ce in fin□□□o□ition □□id □er□ice□, □ □teri□□□, or e□ui□□ent co□ □□ete □nd re□d□ for intended u□e.

3. T□e □ords "perform" or "provide," when used in connection with services, materials, or e□ui□□ent, □□□□□□e□n to furni□□ □nd in□t□□□ □id □er□ice□, □ □teri□□□, or e□ui□□ent co□ □□ete □nd re□d□ for intended u□e.

4. When "furnish," "install," "perform," or "provide" is not used in connection with □er□ice□, □ □teri□□, or e□ui□□ent in a conte□t c□e□r□ re□uirin□ □n o□i□□tion of CONTRACTOR, "provide" is implied.

D. □n□e□ □t□ted ot□er□i□e in t□e Contr□ct Docu□ent□, □ord□ □nd phra□e□ wh□ich hav□ a □e□-□no□n tec□nic□□ or con□truction indu□tr□ or tr□de □e□nin□□ □re u□ed in t□e Contr□ct Docu□ent□ in □ccord□nce □it□ □uc□ reco□ni□ed □e□nin□.

ARTICLE 2 PRELIMINARY MATTERS

2.01 Delivery of Bonds

A. CO□TR□CTOR shall □eli□er to CIT□ □uc□ □ond□ as CO□TR□CTOR may □e re□uired to furni□□.

2.02 Evidence of Insurance

A. CO□TR□CTOR shall □eli□er to CIT□ certific□te□ of in□ur□nce or ot□er e□idence of in□ur□nce t□□t CIT□ may re□ue□t, wh□ich CO□TR□CTOR i□ re□uired to □urc□□□e □nd □ □int□in in □ccord□nce □it□ □rti□le 5 or any ot□er □□□ic□□e □ro□i□ion in t□e Contr□ct Docu□ent□.

2.03 Copies of Documents

A. CIT□ shall furni□□ to CO□TR□CTOR one (1) co□□ of t□e Dr□□in□□ □nd □□ecific□tion□, inc□udin□ □ddend□.

2.04 Commencement of Contract Times; Notice to Proceed

A. T□e Contr□ct Ti□e□ will □o□□ence to run on t□e d□te indic□ted in t□e □otice to □roceed.

2.05 Starting the Work

A. CO□TR□CTOR shall □t□rt to □erfor□ t□e □or□ on t□e d□te □□en t□e Contr□ct Ti□e□ co□□ence to run, □ut no □or□ shall □e done □t t□e □ite □rior to t□e d□te on wh□ich t□e Contr□ct Ti□e□ co□□ence to run, unle□□ ot□er□i□e indic□ted in t□e □otice to □roceed.

2.06 Before Starting Construction

A. CO□TR□CTOR'□ Re□ie□ of Contr□ct Docu□ent□: □efore undert□□in□ e□c□ □□rt of t□e □or□, CO□TR□CTOR shall c□refu□□□ □tud□ □nd co□□re t□e Contr□ct Docu□ent□ □nd c□ec□ □nd □erif□ □ertinent fi□ure□ sh□own t□ereon □nd all □□□ic□□e fie□d □e□□ure□ent□. CO□TR□CTOR shall p□ompt□y re□ort in □ritin□ to DE□I□□ □ROFE□□IO□□□ any conflict, error, □□ i□uit□ or di□cre□□nc□ wh□ich CO□TR□CTOR may di□co□er □nd shall o□t□in a □ritten inter□ret□tion or c□rific□tion fro□ DE□I□□ □ROFE□□IO□□□ □efore □roceedin□ □it□ any □ or□ □ffected t□ere□□. CO□TR□CTOR shall not □e li□□e to CIT□ or DE□I□□ □ROFE□□IO□□□ for f□i□ure to re□ort any conflict, error, □□ i□uit□ or di□cre□□nc□ in t□e Contr□ct Docu□ent□, unle□□ CO□TR□CTOR □ne□ or reas□nab□y □□ou□d hav□ □no□n t□ereof.

B. □rei□□in□r□ □c□edu□e□: □ it□in ten (10) d□ys □fter t□e Effecti□e D□te of t□e Contr□ct, or on □uc□ □□ter d□te as CIT□'□ Re□re□ent□ti□e shall □ro□ide in □ritin□, CO□TR□CTOR shall □u□□it to CIT□'□ Re□re□ent□ti□e for re□ie□:

1. □rei□□in□r□ □ro□ect □c□edu□e□: CO□TR□CTOR shall □u□□it a □ro□o□ed □ro□ect schedule for CITY's acceptance. The proposed project schedule shall include a detailed and co□□re□en□i□e con□truction □c□edu□e uti□i□in□ a critic□□ path □et□od di□□r□□ net□or□ t□□t (a) □h□ws all □□□or □rocure□ent □nd con□truction e□e□ent□ □nd phas□s of t□e □ro□ect; (b) breaks do□n e□c□e□e□ent or phas□ by tr□de; (c) □h□ws e□rly □nd □te □t□rt□ □o t□□t all f□o□t ti□e will □e □ccur□te□□identified; (d) all □t□er □cti□itie□ nece□□□r□ for t□e ti□e□□ co□□etion of t□e □ro□ect in □ccord□nce □it□ t□e □□edu□ed d□te□ for □u□□t□nti□□□nd Fin□□Co□□etion; and (e) highlights the project's critical path. CITY's acceptance is expressly limited to CITY's acknowledgement that, based upon CITY's limited review, the dates of Substantial

Co□□etion □nd Mi□e□tone d□te□ □re □cce□t□□e. □fter fin□□□cce□t□nce of t□e □rei□ in□r□ □ro□ect □c□edu□ □□ t□e CIT□, it □□□□□□e con□idered t□e □ro□ect □□□e□ine □c□edu□ □ur□u□nt to □□r□□r□□□ 2.07(□).

2. □rei□ in□r□ □c□edu□ of □□o□ Dr□□in□□ □nd □□□ □□e □u□□itt□□□ □□ic□ □i□□i□t e□c□ re□uired □u□□itt□□□nd t□e ti□e□ for □u□□ittin□, re□ie□in□ □nd □roce□□in□ □uc□ □u□□itt□□□ □nd

3. □rei□ in□r□ 01290.02 □c□edu□ of V□ue□ for □□□ of t□e □or□ □□ic□ □i□□ incl□de □u□ntitie□ □nd □rice□ of ite□ □□□□ic□ □□en □dded to□et□er e□u□□ t□e Contr□ct □rice □nd □i□□ □u□di□ide t□e □or□ into co□□onent □□rt□ in□ufficient det□i□ to □er□e □□ t□e □□□i□ for □ro□re□ □□□□□ent□ durin□ □erfor□nce of t□e □or□. □uc□ □rice□ □i□□ incl□de □n □□□ro□ri□te □□ount of o□er□e□d □nd □rofit □□□□ic□□□e to e□c□ite□ of □or□.

C. □recon□truction Conference□□efore □n□ □or□ □t t□e □ite □□□ □e □t□rted, □ conference □ttended □□ CO□TR□CTOR, DE□I□ □ROFE□□IO□□□ □nd ot□er□, □□ □□□ro□ri□te, □i□□e □c□edu□ed □□ CIT□□□ Re□re□ent□ti□e to e□t□□i□□ □ □or□in□ under□t□ndin□ □□ on□ t□e □□rtie□ □□ to t□e □or□ □nd to di□cu□□ t□e □c□edu□ referred to in □□r□□r□□□ 2.06 □, □rocedure□ for □□nd□in□ □□o□ Dr□□in□□ □nd ot□er □u□□itt□□□, □roce□□in□ □□□□ic□tion□ for □□□□ent, □ □int□inin□ re□uired record□, C□□i□ □ □roce□□, di□□ute re□o□ution or □n□ ot□er □□□□ic□□□e □ro□i□ion□ of t□e Contr□ct Docu□ent□.

2.07 Acceptable Schedules

A. □cce□t□□e □c□edu□e□ T□e Contr□ctor □□□□□u□d□te □nd □u□□it to t□e CIT□ for re□ie□ t□e □rei□ in□r□ □c□edu□ □it□in □e□en (7) C□□end□r D□□□ □fter t□e □otice to □roceed.

1. T□e CIT□ □□□□re□ie□ □nd □ □□e □n□nece□□□r□ co□□ent□ □nd/or □d□u□t□ent□ to t□e u□d□ted □rei□ in□r□ □c□edu□. The Contractor shall incorporate the CITY's comments and re□u□□it t□e u□d□ted □rei□ in□r□ □c□edu□ □it□in □e□en (7) C□□end□r D□□□ fro□ recei□t of the CITY's comments.

B. □ro□ect □□□e□ine □c□edu□ T□e □cce□ted u□d□ted □rei□ in□r□ □c□edu□ □□□□□□e con□idered t□e □ro□ect □□□e□ine □c□edu□ □nd □□□□□□e u□ed □□ t□e CO□TR□CTOR for □□nnin□, □c□edu□in□, □□n□□in□, □nd e□ecutin□ t□e □or□. T□e □ro□ect □□□e□ine □c□edu□ □□□□□not □e c□□n□ed □it□out t□e □ritten con□ent of CIT□. T□e □ro□ect □□□e□ine □c□edu□ □ □□□ □e furt□er □odified □□ t□e □u□□□e□ent□□Condition□.

C. CONTRACTOR's schedule of values will be acceptable to CITY's Representative as to for□ □nd □u□□t□nce if it □ro□ide□ □ re□□on□□□e □□oc□tion of t□e Contr□ct □rice to co□□onent □□rt□ of t□e □or□.

ARTICLE 3 CONTRACT DOCUMENTS : INTENT, AMENDING, REUSE

3.01 Intent

A. T□e Contr□ct Docu□ent□ co□□ri□e t□e entire Contr□ct □et□een CIT□ □nd CO□TR□CTOR concernin□ t□e □or□.

B. It i□ t□e intent of t□e Contr□ct Docu□ent□ to de□cri□e □ function□□□ co□□□ete □ro□ect (or □□rt t□ereof) to □e con□tructed in □ccord□nce □it□ t□e Contr□ct Docu□ent□. □n□ □or□, □ □teri□□ or e□ui□□ent t□□t □ □□ re□□on□□□ □e inferred fro□ t□e Contr□ct Docu□ent□ or fro□ □re□□i□in□ cu□to□ or tr□de u□□□e □□ □ein□ re□uired to □roduce t□e intended re□u□t i□□□e furni□□ed □nd □erfor□ed □□et□er or not □□ecific□□□ c□□ed for □t no □ddition□□co□t to CIT□. C□□rific□tion□ □nd inter□ret□tion□ of t□e Contr□ct Docu□ent□ □□□□□e i□□ued □□ DE□I□ □ROFE□□IO□□□ □□ □ro□ided in □□r□□r□□□ 9.03.

C. Corre□□tion □nd intent of docu□ent□□T□e Dr□□in□□ □nd □□ecific□tion□ □re intended to □u□□e□ent e□c□ ot□er. □n□ □or□ □□o□n on t□e Dr□□in□□ □nd not □entioned in t□e □□ecific□tion□ (or □ice □er□□) □□□□□□e □□ □indin□ □nd □□□□□□e co□□□eted t□e □□□e □□ if □entioned or □□o□n on □ot□. In t□e e□ent of confl□ct□ or di□cre□□ncie□ □□on□ t□e Contr□ct Docu□ent□, inter□ret□tion□ □i□□e □□□ed on t□e fo□o□in□ □rioritie□□

1. C□□n□e Order□ □nd □ritten □□end□ent□
2. □ro□ect □□□e□ine □c□edu□e Re□uire□ent□
3. □□□ro□ed Sh□p Dr□□in□□
4 □ddend□, □it□ t□o□e of □tter d□te hav□ng □recedence o□er t□o□e of e□rlier d□te
5. T□e □u□□e□ent□r□Condition□
6. T□e □ener□□Condition□
7. Dr□□in□□ □nd □□ecific□tion□

D. In t□e c□□e of □n incon□i□tenc□ □et□een Dr□□in□□ □nd □□ecific□tion□, t□e re□uire□ent□ of t□e □□ecific□tion□ shall □o□ern. If Dr□□in□□ □re in conflict, □r□er □□e deta□□ shall □o□ern o□er □□ □□er or no-□□e Dr□□in□□. If □□ecific□tion □ection□ □re in conflict □it□ e□c□ ot□er, t□e conflict shall □e re□o□ed by DE□I□ □ROFE□□IO□□□ in □ccord□nce □it□ re□□on□□e inter□ret□tion of □uc□ docu□ent□.

E. T□e □ener□□ c□□r□cter of t□e det□□ed □or□ i□ shown on t□e Dr□□in□□, □ut □inor modifications may be made in the full size or scale details. Where the word “similar” occurs on t□e Dr□□in□□, it shall □e u□ed in it□ □ener□□□en□e □nd not as □e□nin□ identic□□, □nd all det□□ shall □e □or□ed out in re□□tion to t□eir □oc□tion □nd t□eir connection to t□e ot□er parts of t□e □or□. □ □ere on any Dr□□in□□ a □ortion of t□e □or□i□dr□□n out □nd t□e re□ □inder i□ indic□ted in outline, t□e parts dr□□n out shall apply als□ to all ot□er i□e □ortion□ of t□e □or□. □ □ere orn□□ent□ or ot□er det□□ □re indic□ted by □t□rtin□ on□□, □uc□ det□□ shall □e continued t□rou□□out t□e cour□e □or parts in which t□e□ occur □nd shall als□ apply to all ot□er i□i□r parts in t□e □or□, un□□ ot□er□i□e indic□ted.

3.02 Reference to Standards and Specifications of Technical Societies

A. Reference to □t□nd□rd□, □□ecific□tion□, manuals or code□ of any tec□nic□□ □ociet□, or□□ni□□tion or □□oci□tion, or to Laws or Re□u□□tion□, □□et□er □uc□ reference □e □□ecific or by i□ □ic□tion, shall □e□n t□e □□te□t □t□nd□rd, □□ecific□tion, manual, code or Laws or Re□u□□tion□ in effect at the time of opening of Bids (or on the date of CONTRACTOR’s proposal if there are no □id□), e□ce□t as may □e ot□er□i□e □□ecific□□□ t□ted in t□e Contr□ct Docu□ent□.

1. □o □ro□i□ion of any □uc□ □t□nd□rd, □□ecific□tion, manual, code or in□truction of □u□□lier shall □e effecti□e to c□□n□e t□e dutie□ or re□□on□i□ilitie□ of CIT□, CO□TR□CTOR or DE□I□ □ROFE□□IO□□□, or any of t□eir □u□contr□ctor□, Con□ult□nt□, □□ent□, or e□ □o□ee□ fro□ t□o□e □et fort□ in t□e Contr□ct Docu□ent□, nor shall □t □e effecti□e to ass□gn to CIT□ or DE□I□ □ROFE□□IO□□□ or any of t□eir Con□ult□nt□, □□ent□ or e□ □o□ee□ any dut□ or □ut□orit□ to □u□er□i□e or direct t□e furni□□in□ or □erfor□ nce of t□e □or□ or any dut□ or □ut□orit□ to undert□e re□□on□i□ilit□ incon□i□tent □it□ t□e □ro□i□ion□ of t□e Contr□ct Docu□ent□.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies: If, durin□ t□e □erfor□ nce of t□e □or□, CO□TR□CTOR di□co□er□ any conflict, error, □□ i□uit□ or di□cre□□nc□ □it□in t□e Contr□ct Docu□ent□ or □et□een t□e Contr□ct Docu□ent□ □nd any □ro□i□ion of any Laws or Re□u□□tion□ □□□ic□□e to t□e □erfor□ nce of t□e □or□ or of any □t□nd□rd, □□ecific□tion, manual, code or any in□truction of any □u□□lier referred to in Paragraph 6.07, CO□TR□CTOR shall re□ort it i□ □edi□te□ to DE□I□ □ROFE□□IO□□□ in □ritin□. CO□TR□CTOR shall not □roceed □it□ t□e □or□ □ffected t□ere□□ (e□ce□t in □n e□er□enc□ as □ut□ori□ed by Paragraph 6.17) unti□□n □□end□ent or □u□□e□ent to t□e Contr□ct Docu□ent□ has □een i□□ued by one of t□e □et□od□ indic□ted in Paragraph 3.04; □ro□ided, □o□e□er, t□□t CO□TR□CTOR shall not □e li□□e to CIT□ or DE□I□ □ROFE□□IO□□□ for f□i□ure to re□ort any □uc□ conflict, error, □□ i□uit□ or di□cre□□nc□ un□□ CO□TR□CTOR □ne□ or reas□nably □□ould hav□ □no□n t□ereof.

B. Resolving Discrepancies. The provisions of the Contract Documents govern the precedence in resolving any conflict, error, ambiguity or discrepancy between the provisions of the Contract Documents and

1. the provisions of any standard, specification, manual, code or instruction (whether or not specifically incorporated by reference in the Contract Documents) or

2. the provisions of any Laws or Regulations applicable to the performance of the Work.

3.04 Amending and Supplementing Contract Documents

A. The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

1. A written Amendment or

2. A Change Order (pursuant to Article 10), whether pursuant to the Work Change Directive or otherwise.

B. The requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

1. DESIGN PROFESSIONAL's approval of a Shop Drawing or Sample (pursuant to Article 6.18), or

2. DESIGN PROFESSIONAL's written interpretation or clarification (pursuant to Article 9.03).

3.05 Reuse of Documents

A. CONTRACTOR and any Subcontractor or Supplier or other Person or organization performing or furnishing any of the Work under this Contract

1. shall not create or acquire any title to or ownership right in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or for the use of DESIGN PROFESSIONAL or Consultant, and

2. shall not reuse any of such Drawings, Specifications, other documents or copies thereof on extensions of the Project or any other Project without written consent of CITY, and of DESIGN PROFESSIONAL or Consultant, and specific written verification or adaptation by DESIGN PROFESSIONAL or Consultant.

This provision will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein will preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.01 Availability of Lands

A. CITY will furnish the Site. CITY will identify any encumbrance or restriction not of general application relating to use of lands to be furnished by CITY which CONTRACTOR will need to comply in performing the Work. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by CITY, unless otherwise provided in the Contract Documents. If CONTRACTOR and CITY are unable to agree on entitlement to or the amount or extent of any adjustment in the Contract Price or the Contract Times or both as a result of any delay in CITY's furnishing these lands, rights-of-way or easement, CONTRACTOR may proceed as provided in Article 16. CONTRACTOR will provide for additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 Subsurface and Physical Conditions

A. Reports and Drawings Reference is made to the Supplementary Conditions for identification of

1. Subsurface Conditions: Those reports of explorations and tests of subsurface conditions at or continuous to the site that have been utilized by DESIGN PROFESSIONAL in preparing the Contract Documents and

2. Physical Conditions: Those drawings of physical conditions in or relating to existing surface or subsurface structures at or continuous to the site (except Underground Facilities) that have been utilized by DESIGN PROFESSIONAL in preparing the Contract Documents.

B. Limited Reliance by CONTRACTOR on Technical Data Authorized CONTRACTOR may rely upon the general accuracy of the technical data contained in reports and drawings of subsurface or physical conditions, but such reports and drawings are not Contract Documents. The technical data is identified in the Supplementary Conditions. Except for reliance on such technical data, CONTRACTOR may not rely upon or make any claim against CITY, DESIGN PROFESSIONAL or any Consultant with respect to

1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings, or

3. any CONTRACTOR interpretation of or conclusion drawn from any technical data or any such other data, interpretations, opinions or information.

4.03 Differing Subsurface or Physical Conditions

A. Notice of Differing Subsurface or Physical Conditions. If CONTRACTOR believes that any subsurface or physical condition at or continuous to the site that is uncovered or revealed either

1. is of such a nature as to establish that any technical data on which CONTRACTOR is entitled to rely as provided in Article 4.02 and 4.02 is materially inaccurate or

2. is of such a nature as to require a change in the Contract Documents or

3. differs materially from that shown or indicated in the Contract Documents or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in or of the character provided for in the Contract Documents then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any work in connection therewith (except in an emergency as required by Article 6.17), notify CITY and DESIGN PROFESSIONAL in writing about such condition(s). CONTRACTOR shall not further disturb such conditions or perform any work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. DESIGN PROFESSIONAL's Review After receipt of notice required by Article 4.03, DESIGN PROFESSIONAL will promptly review the pertinent conditions, determine the necessity for CITY to obtain additional exploration or tests with respect thereto and notify CITY in writing (with a copy to CONTRACTOR) of DESIGN PROFESSIONAL's findings and conclusions.

C. Possible Contract Documents Change If CITY concludes that a change in the Contract Documents is required by a result of a condition that meets one or more of the categories in Article 4.03, a Work Order Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document the consequences of such a change.

D. Possible Price or Times Adjustments □n e□uit□□e □du□t□ent in t□e Contr□ct □rice or in t□e Contr□ct Ti□e□, or □ot□, □i□□e □□o□ed to t□e e□tent t□□t t□e e□i□tence of □ u□□urf□ce or physical condition causes an increase or decrease in CONTRACTOR's cost of, or time re□uired for, □erfor□nce of t□e □ or□□u□ect, □o□e□er, to t□e fo□o□in□□

1. t□e condition □u□t □eet □n □one or □ore of t□e c□te□orie□ de□cri□ed in □□r□□r□□□□ 4.03 □.1 t□rou□□ 4.03 □.4, inc□u□i□e□

2. □ c□□n□e in t□e Contr□ct Docu□ent□ □ur□u□nt to □□r□□r□□□ 4.03 C □i□□not □e □n □uto□□tic □ut□ori□□tion of, nor □ condition □recedent to, entitle□ent to □n□ □uc□ □du□t□ent□□

3. □it□ re□□ect to □ or□t□□t i□ □□id for on □ unit □rice □□□i□, □n□ □du□t□ent in Contr□ct □rice □i□□e □u□ect to t□e □ro□i□ion□ of □□r□□r□□□□ 9.06 □nd 11.04 □□nd

4. CO□TR□CTOR □□□□□not □e entitled to □n□ □du□t□ent in t□e Contr□ct □rice or Contr□ct Ti□e□if□

□. CO□TR□CTOR □ne□, or □□ t□e e□erci□e of ordin□r□ c□re could □□□e □no□n, of □uc□ condition□ □t t□e ti□e CO□TR□CTOR □□de □ fin□□co□□it□ent to CIT□ □it□ re□□ect to Contr□ct □rice □nd Contr□ct Ti□e□ □□t□e □u□□i□□ion of □ □id□or

□. t□e e□i□tence of □uc□ condition coud re□□on□□□□ □□□e □een di□co□ered or re□e□led □□ □ re□ult of □n e□□□in□tion, in□e□ti□□tion, e□□□or□tion, te□t or □tud□ of t□e □ite □nd conti□uou□ re□□re□uired □□ t□e □iddin□ Re□uire□ent□or Contr□ct Docu□ent□ to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final co□ □it□ent□or

c. CO□TR□CTOR f□i□ed to □i□e t□e □ritten notice □□re□uired □□ □□r□□r□□□ 4.03 □.

E. If CIT□ □nd CO□TR□CTOR □re un□□□e to □□ree on entitle□ent to, or □ □□nitude of, □n e□uit□□e □du□t□ent in t□e Contr□ct □rice □ur□u□nt to □rtic□e 11 □nd/or Contr□ct Ti□e□ □ur□u□nt to □rtic□e 12, □ C□□i□ □ □□ □e □ □de t□erefore □□ □ro□ided in □rtic□e 16. □o□e□er, CIT□, DE□I□□ □ROFE□□IO□□□ □nd Con□u□t□nt□ □□□□not □e i□□□e to CO□TR□CTOR for □n□ co□t□, □o□e□ or d□□ □□e□ (inc□udin□ □ut not i□ited to □□fee□ □nd c□□r□e□ of en□ineer□, □rc□itect□, □ttorne□□, □nd ot□er □rofe□ion□□□ □nd □□ot□er di□□ute re□o□ution co□t□) □u□tained □□ CO□TR□CTOR on or in connection □it□ □n□ot□er □ro□ect or □ntici□□ted □ro□ect.

4.04. Physical Conditions – Underground Facilities

A. Shown or Indicated□ T□e infor□□tion □nd d□t□ □□o□n or indic□ted in t□e Contr□ct Docu□ent□ □it□ re□□ect to e□i□tin□ □nder□round F□ci□itie□ □t or conti□uou□ to t□e □ite i□ □□□ed on infor□□tion □nd d□t□ furni□□ed to CIT□ or DE□I□□ □ROFE□□IO□□□ □□ t□e o□ner□ of □uc□ □nder□round F□ci□itie□ or □□ ot□er□.

1**.** CIT□ □nd DE□I□□ □ROFE□□IO□□□ □□□□□not □e re□□on□i□□e for t□e □ccur□c□ or co□ □□etene□□ of □n□ □uc□ infor□□tion or d□t□□□nd

2. T□e co□t of □□□ of t□e fo□o□in□ □i□□ □e inc□uded in t□e Contr□ct □rice □nd CO□TR□CTOR □□□□□□□□e fu□re□□on□i□i□it□ for□

□. re□ie□in□ □nd c□ec□in□ □□□□uc□ infor□□tion □nd d□t□,

□. □oc□tin□ □□□ □nder□round F□ci□itie□ □□o□n or indic□ted in t□e Contr□ct Docu□ent□,

c. coordin□tion of t□e □or□ □it□ t□e o□ner□ of □uc□ □nder□round F□ci□itie□ durin□ con□truction, □nd

d. t□e □□fet□ □nd □rotection of □□□ □uc□ □nder□round F□ci□itie□ □□ □ro□ided in □□r□□r□□□ 6.14 □nd re□□irin□ □n□d□□ □□e t□ereto re□u□tin□ fro□ t□e □or□.

B. Not Shown or Indicated□ If □n □nder□round F□ci□it□ i□ uncо□ered or re□e□led □t or conti□uou□ to t□e □ite, □nd □□□ not □□o□n or indic□ted in t□e Contr□ct Docu□ent□, or □□□

□□o□n or indic□ted incorrect□ in t□e Contr□ct Docu□ent□, CO□TR□CTOR □□□□, □ro□ t□ □fter □eco□in□ □□□re t□ereof □nd □efore furt□er di□tur□in□ condition□ □ffected t□ere□□ or □erfor□in□ □n□ □ or□ in connection t□ere□it□ (e□ce□t in □n e□er□enc□ □□ re□uired □□ □□r□□r□□□ 6.17), identif□ t□e o□ner of □uc□ □nder□round F□ci□it□ □nd □i□e □ritten notice to t□□t o□ner □nd to CIT□ □nd DE□I□□ □ROFE□□IO□□□.

C. DESIGN PROFESSIONAL's Review□ □fter rece□i□t of notice □□ re□uired □□ □□r□□r□□□ 4.04 □, DE□I□□ □ROFE□□IO□□□ □i□□ro□ t□ re□ie□ t□e con□e□uence□ of t□e e□i□tence of t□e □nder□round F□ci□it□ □nd notif□ CIT□ in □ritin□ (□it□ □ co□□ to CO□TR□CTOR) of DE□I□□ PROFESSIONAL's findings and conclusions.

D. Possible Contract Documents Change□ If CIT□ conc□ude□ t□□t □ c□□n□e in t□e Contr□ct Docu□ent□ i□ re□uired □□ □ re□u□t of t□e e□i□tence of □n □nder□round F□ci□it□ t□□t eit□er □□□ not □□o□n, or □□□ □□o□n incorrect□, in t□e Contr□ct Docu□ent□, □ □ or□ C□□n□e Direct□□e or C□□n□e Order □i□□e i□□ued □□ □ro□ided in □rt□c□e 10 to ref□ect □nd docu□ent t□e con□e□uence□ of □uc□ c□□n□e.

E. Possible Price or Times Adjustments□□n e□uit□□□e □d□u□t□ent in t□e Contr□ct □rice or in t□e Contr□ct Ti□e□, or □ot□, □i□□e □□□o□ed to t□e e□tent t□□t t□e e□i□tence of t□e Underground Facility causes an increase or decrease in CONTRACTOR's cost of, or time re□uired for, □erfor□ □nce of t□e □ or□□□u□ect, □o□e□er, to t□e fo□o□in□□

1. □ c□□n□e in t□e Contr□ct docu□ent□ □ur□u□nt to □□r□□r□□□ 4.04 D □i□□not □e □n □uto□□tic □ut□ori□□tion of, nor □ condition □recedent to, entit□□□ent to □n□ □uc□ □d□u□t□ent□□

2. □it□ re□□ect to □ or□t□□t i□ □□id for on □ unit □rice □□□i□, □n □d□u□t□ent in Contr□ct □rice □i□□e □u□ect to t□e □ro□i□ion□ of □□r□□r□□□□ 9.06 □nd 11.04 □□nd

3. CO□TR□CTOR □□□□□not □e entit□ed to □n□ □d□u□t□ent in t□e Contr□ct □rice or Contr□ct Ti□e□if□

□. CO□TR□CTOR □ne□, or □□ t□e e□erci□e of ordin□r□ c□re coud □□□e □no□n, of t□e e□i□tence of t□e □nder□round F□ci□it□ □t t□e ti□e CO□TR□CTOR □□de □ fin□□ co□□it□ent to CIT□ □it□ re□□ect to Contr□ct □rice □nd Contr□ct Ti□e□ □□ t□e □u□□i□□ion of □ □id□or

□. t□e e□i□tence of t□e □nder□round F□ci□it□ coud re□□on□□□□ □□□e □een di□co□ered or re□e□□ed □□ □ re□u□t of □n□e□□□ in□□tion, in□e□ti□□tion, e□□□or□tion, te□t or □tud□ of t□e □ite □nd conti□uou□ □re□□ re□uired □□ t□e □iddin□ Re□uire□ent□ or Contr□ct Docu□ent□ to □e conducted by or for CONTRACTOR prior to CONTRACTOR's □ □□in□ □uc□ fin□□co□□it□ent□or

c. CO□TR□CTOR f□i□ed to □i□e t□e □ritten notice □□ re□uired □□ □□r□□r□□□ 4.04 □.

F. If CIT□ □nd CO□TR□CTOR □re un□□□e to □□ree on entit□□□ent to, or □ □□nitude of, □n e□uit□□□e □d□u□t□ent in t□e Contr□ct □rice □ur□u□nt to □rti□e 11 □nd/or Contr□ct Ti□e□ □ur□u□nt □rti□e 12, □ C□□i□ □ □□□ □e □ de t□erefore □□ □ro□ided in □rti□e 16. □o□e□er, CIT□, DE□I□□ □ROFE□□IO□□□ □nd Con□u□t□nt□ □□□□□not □e i□□□e to CO□TR□CTOR for □n□ co□t□, □o□e□ or d□□ □□e□ (inc□udin□ □ut not i□□ited to □□□fee□ □nd c□□r□e□ of en□ineer□, □rc□itect□, □ttorne□□, □nd ot□er □rofe□□ion□□□ □nd □□□ ot□er di□□ute re□o□ution co□t□) □u□t□ined □□ CO□TR□CTOR on or in connection □it□ □n□ot□er □ro□ect or □ntici□□ted □ro□ect.

4.05 Reference Points

A. CIT□ □□□□□□ro□ide en□ineerin□ □ur□e□□ to e□t□□i□□ reference □oint□ for con□truction t□□t in DESIGN PROFESSIONAL's judgment are necessary to enable CONTRACTOR to proceed □it□ t□e □ or□. CO□TR□CTOR □□□□□□e re□□on□i□□e for □□in□ out t□e □ or□, □□□□□□rotect □nd □re□er□e t□e e□t□□i□□ed reference □oint□ □nd □ro□ert□ □onu□ent□, □nd □□□□□□ □□e no c□□n□e□ or re□oc□tion□ □it□out t□e □rior □ritten □□□ro□□□of CIT□. CO□TR□CTOR □□□□□re□ort to DE□I□□ □ROFE□□IO□□□ □□ene□er □n□ reference □oint or □ro□ert□ □onu□ent i□ □o□t or de□tro□ed or re□uire□ re□oc□tion □ec□u□e of nece□□□r□ c□□n□e□ in □r□de□ or □oc□tion□, □nd □□□□□ □e

re□on□i□e for t□e □ccur□te re□□ce□ent or re□oc□tion of □uc□ reference □oint□ or □ro□ert□ □onu□ent□ by □rofe□□ion□□□ □u□ified □er□onne□.

4.06 Asbestos, Lead-Based Paint, PCBs, Petroleum, Hazardous Waste or Radioactive Material

A. Reports and Drawings: Reference i□ □□de to t□e □u□□e□ent□r□ Condition□ for t□e identific□tion of t□o□e re□ort□ □nd dr□□in□□ re□□tin□ to a □□□□rdou□ En□iron□ent□□Condition identified □t t□e □ite, if any, t□□t hav□ □een uti□i□ed by t□e DE□I□□ □ROFE□□IO□□□ in t□e □re□□r□tion of t□e Contr□ct Docu□ent□.

B. Limited Reliance by CONTRACTOR on Technical Data Authorized: CO□TR□CTOR may re□□u□on t□e □ener□□□ccur□c□ of t□e tec□nic□□d□t□ cont□ined in re□ort□ □nd dr□□in□□ re□□tin□ to a □□□□rdou□ En□iron□ent□□Condition □t t□e □ite, □ut □uc□ re□ort□ □nd dr□□in□□ □re not Contr□ct Docu□ent□. □uc□ tec□nic□□d□t□ i□ identified in t□e □u□□e□ent□r□ Condition□. E□ce□t for □uc□ re□i□nce on □uc□ tec□nic□□d□t□, CO□TR□CTOR may not re□□u□on or mak□ any Clai□ □□in□t CIT□, DE□I□□ □ROFE□□IO□□□ or any Con□u□t□nt □it□ re□□ect to:

1. the completeness of such reports and drawings for CONTRACTOR's □ur□o□e□, inc□udin□, □ut not i□ited to, any □□□ect□ of t□e means, □et□od□, tec□ni□ue□, □e□uence□ □nd □rocedure□ of con□truction to □e e□□lo□ed by CO□TR□CTOR □nd □□fet□ □rec□ution□ □nd programs incident t□ereto; □r

2. ot□er d□t□, inter□ret□tion□, o□inion□ □nd infor□□tion cont□ined in □uc□ re□ort□ or sh□wn or indic□ted in □uc□ dr□□in□□; □r

3. any CO□TR□CTOR inter□ret□tion of or conc□u□ion dr□□n fro□ any tec□nic□□d□t□ or any □uc□ ot□er d□t□, inter□ret□tion□, o□inion□ or infor□□tion.

C. CO□TR□CTOR shall not □e re□□on□i□e for any □□□□rdou□ En□iron□ent□□Condition unco□ered or re□e□□ed □t t□e □ite which was not sh□wn or indic□ted in Dr□□in□□ or □□ecific□tion□ or identified in t□e Contr□ct Docu□ent□ to □e □it□in t□e □o□e of t□e □or□. CO□TR□CTOR shall □e re□□on□i□e for all □□□□rdou□ En□iron□ent□□Condition□ cre□ted □it□ any □□teri□□ rou□□t to t□e □ite by CO□TR□CTOR, □u□contr□ctor□, □u□□ier□, or □n□one e□e for wh□m CO□TR□CTOR i□ re□□on□i□e. CO□TR□CTOR shall not □e entit□ed to □n e□ten□ion of t□e Contr□ct Ti□e□ or □n incre□□e in t□e Contr□ct □rice if CO□TR□CTOR, □u□contr□ctor, □u□□ier or □n□one for wh□m CO□TR□CTOR i□ re□□on□i□e cre□ted any □□□□rdou□ En□iron□ent□□Condition □t t□e □ite or in connection □it□ t□e □or□.

D. If CO□TR□CTOR encounter□ a □□□□rdou□ En□iron□ent□□Condition □t t□e □ite or if CO□TR□CTOR or □n□one for wh□m CO□TR□CTOR i□ re□□on□i□e cre□te□ a □□□□rdou□ En□iron□ent□□Condition □t t□e □ite, CO□TR□CTOR shall □□□edi□te□□:

1. □ecure or ot□er□i□e i□o□te □uc□ condition;

2. □to□ all □or□ in connection □it□ □uc□ condition □nd in any □re□ □ffected t□ere□□ (e□ce□t in □n e□er□enc□ as re□uired by Paragraph 6.15); □nd

3. notif□ CIT□ □nd DE□I□□ □ROFE□□IO□□□ (□nd promptly t□ere□fter confir□ □uc□ notice in □ritin□). CIT□ shall promptly con□u□t □it□ DE□I□□ □ROFE□□IO□□□ concernin□ t□e nece□□it□ for CIT□ to ret□in a □u□ified e□□ert to e□□□u□te □uc□ condition or t□e correcti□e □ction, if any.

E. CO□TR□CTOR shall neit□er re□u□e □or□ nor □e re□uired to re□u□e □or□ in connection □it□ □uc□ condition or in any □ffected □re□ unti□□fter CIT□ has o□t□ined any re□uired □er□it re□□tted t□ereto □nd de□i□ered to CO□TR□CTOR □ritten notice:

1. □□ecif□in□ t□□t □uc□ condition □nd any □ffected □re□ i□ or has □een rendered □□fe for t□e re□u□□tion of □or□; □r

2. □□ecif□in□ any □□eci□□condition□ under which □uc□ □or□ may □e re□u□ed safely. If CIT□ □nd CO□TR□CTOR c□nnot □□ree as to entit□□ent to or on t□e □□ount or e□tent, if any, of any □d□u□t□ent in Contr□ct □rice □ur□u□nt to □rtic□e 11□nd/or Contr□ct Ti□e□ to

□ur□u□nt to □rtic□e 12 as a re□u□t of □uc□ □or□ s□:oppag□e or □uc□ □□eci□□condition□ under which □ or□i□ □□reed to □e re□u□ed by CO□TR□CTOR, a Claim may □e □□de t□erefore as □ro□ided in □rtic□e 16.

F. If □fter recei□t of □ritten notice as re□uired in Pa□ragraph 4.06 E, CO□TR□CTOR doe□ not □□ree to re□u□e □or□ bas□ed on a re□□on□□e □e□ief it i□ un□□fe, or doe□ not □□ree to re□u□e □uc□ □ or□ under □□eci□□condition□ □□ecified in t□e notice, t□en CIT□ may order t□e □ortion of t□e □ or□t□□t i□ in t□e □re□ □ffected by □uc□ condition to □e de□eted fro□ t□e □ or□. If CIT□ □nd CO□TR□CTOR c□nnot □□ree as to entit□e□ent to or □□□nitude of □n e□uit□□e □du□t□ent in Contr□ct □rice □ur□u□nt to □rtic□e 11 □nd/or Contr□ct Ti□e □ur□u□nt to □rtic□e 12 as a re□u□t of de□etin□ □uc□ □ortion of t□e □ or□, t□en a Claim may □e □□de t□erefore as provided in Article 16. CITY may have such deleted portion of the Work performed by CITY's o□n force□ or ot□er□in □ccord□nce □it□ □rtic□e 7.

G. T□e □ro□i□ion□ of Pa□ragraphs 4.02, 4.03, □nd 4.04 □re not intended to apply to a □□□□rdou□ En□iron□ent□□Condition unco□ered or re□e□□ed □t t□e □ite.

H. All □□teri□□□ u□ed, □□et□er ne□ or salvag□ed, shall □e □□□e to□-free □□teri□□□. CONTRACTOR shall immediately call to the attention of the CITY's Representative any □□ecified □□teri□□or □roduct which t□e CO□TR□CTOR k□ows or □u□□ect□ to cont□in asb□s□os, □□et□er ne□ or salvag□ed.

ARTICLE 5 BONDS AND INSURANCE

5.01 Performance, Payment and Other Bonds

A. CO□TR□CTOR shall furni□□ □erfor□nce □nd M□inten□nce □nd □□□□ent □ond□, e□c□ in □n □□ount □t □e□t equal to t□e Contr□ct □rice, as □et out in t□e Contr□ct Docu□ent□, as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contr□ct Docu□ent□. T□e□e □ond□ shall □e□□in in effect t□ □e□□t unti□ one (1) □e□r □fter t□e d□te □□en fin□□□□□ent of t□e Contr□ct □eco□e□ due, e□ce□t as □ro□ided ot□er□i□e by Laws or Re□u□tion□or by t□e Contr□ct Docu□ent□. CO□TR□CTOR shall als□ furni□□ □uc□ ot□er □ond□ as □re re□uired by t□e □u□□e□ent□r□Condition□.

B. All □ond□ shall □e in t□e for□ □re□cri□ed by t□e Contr□ct Docu□ent□ e□ce□t as □ro□ided otherwise by Laws or Regulations. A certified copy of the agent's authority to act must □cco□□□n□all □ond□□i□ned by □n □□ent.

C. If t□e □uret□on any □ond furni□□ed by CO□TR□CTOR i□ dec□□red □□n□ru□t or □eco□e□ in□o□ent, or it□ri□□t to do □u□ine□□i□ter□in□ted in any t□te □□ere any □□rt of t□e □ro□ect i□ □oc□ted or it ce□□e□ to □eet t□e re□uire□ent of Pa□ragraph 5.01 B, CO□TR□CTOR shall □it□in t□ent□ (20) days t□ere□fter □u□□titute □not□er □ond □nd □uret□, □ot□ of which □u□t □e □cce□t□□e to CIT□.

5.02 Licensed Sureties and Insurers

A. All □ond□ □nd in□ur□nce re□uired by t□e Contr□ct Docu□ent□ to □e □urc□□□ed □nd □□int□ined by CIT□ or CO□TR□CTOR shall □e o□t□ined fro□ □uret□ or in□ur□nce co□□□nie□ t□□t □re du□□ □icen□ed in t□e □t□te of Mi□□ouri □nd in t□e □uri□diction in which t□e □ro□ect i□ □oc□ted, if not in Mi□□ouri, to i□□ue □ond□ or in□ur□nce □olicie□ for t□e i□it□ □nd co□er□□e□ □o re□uired. All □uret□ □nd in□ur□nce co□□□nie□ shall □old □n □.M. □e□t r□tin□ of A-, V, or □etter.

5.03 Certificates of Insurance

A. CO□TR□CTOR shall □eli□er to CIT□ □nd DE□I□□ □ROFE□□IO□□□, □rior to t□e □t□rt of any □ or□□t t□e □ro□ect □ite, □ro□er□□ co□□□eted certific□te□ of in□ur□nce or ot□er e□idence t□□t t□e re□uired in□ur□nce i□ in fu□□force □nd effect, in a for□ □cce□t□□e to CIT□. T□e recei□t or □cce□t□nce of a certific□te of in□ur□nce t□□t doe□ not incor□ora□e t□e re□uired ter□□ □nd co□er□□e shall not con□titute a □□i□er by t□e Cit□ of t□e in□ur□nce re□uire□ent□ cont□ined in t□e Contr□ct Docu□ent□.

B. □□□oicie□ of in□ur□nce (□nd t□e certific□te□ or ot□er e□idence t□ereof) re□uired to □e □urc□□□ed □nd □ □int□ined □□ CO□TR□CTOR in □ccord□nce □it□ □□r□□r□□□□ 5.04 □nd 5.06 □i□□ cont□in □□i□er □ro□i□ion□ in □ccord□nce □it□ □□r□□r□□□ 5.07 □. T□e certific□te□ of in□ur□nce □i□□cont□in □ □ro□i□ion □t□tin□ t□□t □□ould □n□ of t□e □oicie□ de□cri□ed in t□e certific□te □e c□nce□ed □efore t□e e□□ir□tion d□te t□ereof, notice □i□□e dei□ered in □ccord□nce □it□ t□e □oic□ □ro□i□ion□.

C. If t□e co□er□□e □fforded i□ c□nce□ed or c□□n□ed or it□ rene□□□ i□ refu□ed, CO□TR□CTOR □□□□□i□e □t □e□t t□irt□(30) d□□□ □rior □ritten notice to CIT□ □nd to e□c□ ot□er □ddition□□in□ured to □□o□ □certific□te of in□ur□nce □□□ □een i□□ued.

5.04 CONTRACTOR's Liability Insurance

A. CO□TR□CTOR □□□□□ur□□□e □nd □ □int□in □uc□ i□□i□it□ □nd ot□er in□ur□nce □□ i□ □□□ro□ri□te for t□e □or□ □ein□ □erfor□ed □nd furni□□ed, □nd □i□□ro□ide □rotection fro□ c□□i□ □ set forth below which may arise out of or result from CONTRACTOR's performance and furnishing of the Work and CONTRACTOR's other obligations under the Contract Documents, □□et□er it i□ to □e □erfor□ed or furni□□ed □□ CO□TR□CTOR, □n□ □u□contr□ctor or □u□□ie□, or □□ □n□one direct□ or indirect□ e□ □o□ed □□ □n□ of t□e□ to □erfor□ or furni□□ □n□ of t□e □or□, or □□ □n□one for □□o□e □ct□ □n□ of t□e□ □ □□□e i□□e□

1. claims under workers' compensation, disability benefits and other similar employee □enefit □ct□□

2. c□□i□ □ for d□□ □□e□ □ec□u□e of □odi□ inur□, occu□□tion□□□ic□ne□□ or di□e□□e, or death of CONTRACTOR's employees;

3. c□□i□ □ for d□□ □□e□ □ec□u□e of □odi□ inur□, □ic□ne□□ or di□e□□e, or de□t□ of □n□ person other than CONTRACTOR's employee□□

4. c□□i□ □for d□□ □□e□in□ured □□cu□to□ r□ □er□on□□in□ur□i□□i□it□co□er□□e□

5. c□□i□ □for d□□ □□e□, ot□er t□□n to t□e □or□it□ef, □ec□u□e of in□ur□ to or de□truction of t□n□i□e □ro□ert□ □□ere□er □oc□ted, inc□udin□ □o□□of u□e re□u□tin□ t□erefore□□nd

6. c□□i□ □ for d□□ □□e□ □ec□u□e of □odi□ inur□ or de□t□ of □n□ □er□on or □ro□ert□ d□□ □□e □ri□in□ out of t□e o□ner□□i□, □ inten□nce or u□e of □n□ □otor □e□ic□.

B. T□e □oicie□ of in□ur□nce □o re□uired □□ □□r□□r□□□ 5.04 □, to □e □urc□□□ed □nd □ □int□ined □□□□□

1. □it□ re□□ect to in□ur□nce re□uired □□ □□r□□r□□□□ 5.04 □.3 t□rou□□ 5.04 □.5 inc□u□i□e, inc□ude □□ □ddition□□in□ured□ (□u□ect to □n□ cu□to□ r□ e□c□u□ion for □rofe□ion□□ i□□i□it□) CIT□, DE□I□□ □ROFE□□IO□□□, Con□u□t□nt□ □nd □n□ ot□er indi□du□□ or entitie□ identified in t□e □u□□e□ent□r□ Condition□ to □e i□ted □□ □ddition□□in□ured□, □nd inc□ude co□er□□e for t□e re□□ectie officer□, director□, □□rtner□, e□□o□ee□, □□ent□, □nd ot□er con□u□t□nt□ □nd □u□contr□ctor□ of e□c□ □nd □n□ of □□□uc□ □ddition□□in□ured□, □nd t□e in□ur□nce □fforded to t□e□e □ddition□□in□ured□ □□□□□ro□ide □ri□r co□er□□e for □□c□i□ □ co□ered t□ere□□□

2. inc□ude □t □e□t t□e □□ecific co□er□□e□ □nd □e □ritten for not □e□□ t□□n t□e i□it□ of i□□i□it□ □ro□ided in □□r□□r□□□ 5.04 C or re□uired □□ □□□□ or Re□u□tion□, □□ic□e□er i□ □re□ter□

3. inc□ude co□ □□eted o□er□tion□ in□ur□nce□

4. include contractual liability insurance covering CONTRACTOR's indemnity o□i□□tion□□

5. re□□in in effect □t □e□t unti□ fin□□ □□□□ent □nd □t □□□ti□e□ t□ere□fter □□en CO□TR□CTOR □ □□□e correctin□, re□o□in□ or re□□cin□ defecti□e □or□ in □ccord□nce □it□ □□r□□r□□□□ 13.06 □nd 13.07□

6. □it□ re□□ect to co□ □eted o□er□tion□in□ur□nce, □nd □n□in□ur□nce co□er□□e □ritten on □ c□□i□ □-□ □de □□□i□, re□ □in in effect for □t □e□□t t□o (2) □e□r□ □fter fin□□□□□□ent (□nd CO□TR□CTOR □□□□ furni□□ CIT□ □nd e□c□ ot□er □ddition□□in□ured identified in t□e □u□□e□ent□r□ Condition□ to □□o□ □ certific□te of in□ur□nce □□□ □een i□□ued e□idence □□ti□f□ctor□ to CIT□ □nd □n□ □uc□ □ddition□□in□ured of continu□tion of □uc□in□ur□nce)□

7. cont□in □ cro□□-i□□i□it□ or □e□er□i□it□ of intere□t c□□u□e or endor□e□ent. In□ur□nce co□erin□ t□e □□ecified □ddition□□ in□ured□ □□□□□ □e ri□□r□ in□ur□nce, □nd □□□ ot□er in□ur□nce c□rried □□t□e □ddition□□in□ured□ □□□□□□e e□ce□□in□ur□nce□

8. □it□ re□□ect to co□□erci□□ □uto□o□ie i□□i□it, co□□erci□□ □ener□□ i□□i□it, □nd u□□re□□□ i□□i□it in□ur□nce, CO□TR□CTOR □□□□re□uire it□ in□ur□nce c□rrier(□) to □□i□e □□□ rights of subrogation against CITY, and CITY's officers, directors, partners, employees and □□ent□□□nd

9. cont□in □ □ro□i□ion or endor□e□ent t□□t t□e co□t□ of □ro□idin□ t□e in□ured□ □ defen□e □nd □□□e□, inc□din□ □ttorne□□' fee□, □□in□ured□, □□□□□□e □u□□e□ent□r□ □nd □□□□□ not be included as part of the policy limits but shall remain the insurer's responsibility.

C. □□ecific □o□icie□ of in□ur□nce re□uired □□ t□i□ □□r□□r□□□ 5.04 □□□□□ inc□ude□

1. Workers' Compensation and Employers' Liability Insurance. T□i□ in□ur□nce □□□□□ protect CONTRACTOR against all claims under applicable state workers''' compensation □□□, inc□din□ co□er□□e □□ nece□□□r□ for t□e □enefit□ □ro□ided under t□e □nited □t□te□ Longshoremen's and Harbor Workers' Act and the Jones Act. CONTR□CTOR □□□□□□□□o □e □rotected □□□in□t c□i□ □ for in□ur□, di□e□□e, or de□t□ of e□ □o□ee□ □□ic□, for □n□ re□□on, may not fall within the provisions of workers' compensation laws. This policy shall include an "all states" or "other states" endorsement. The li□□i□it□ i□ it□ □□□□□□e not □e□□t□□n□

Workers' Compensation: Statutory

Employers' liability: $1,000,000 each occurrence

2. Co□□erci□□□uto□o□ie □i□□i□it□ In□ur□nce. T□i□ in□ur□nce □□□□□□e occurrence t□□e □ritten in co□□re□en□i□e for□ □nd □□□□□□rotect CO□TR□CTOR, □nd CIT□, DE□I□□ □ROFE□□IO□□□ □nd Con□u□t□nt□ □□□in□t □□□c□i□ □ for in□urie□ to □e□□er□ of t□e □u□ic □nd d□□ □□e to □ro□ert□ of ot□er□ □ri□in□ fro□ t□e u□e of □otor □e□ic□e□, eit□er on or off t□e □ro□ect □ite, □□et□er t□e□□re o□ned, non-o□ned, or □ired.

T□e i□□i□it□ i□ it□ □□□□□□e not □e□□t□□n□$2,000,000

3. Co□□erci□□□ □ener□□ i□□i□it□ In□ur□nce. T□i□ in□ur□nce □□□□□□e occurrence t□□e □ritten in co□□re□en□i□e for□ □cce□t□□e to CIT□. T□i□ in□ur□nce □□□□□ □rotect CO□TR□CTOR, □nd CIT□, DE□I□□ □ROFE□□IO□□□ □nd Con□u□t□nt□ □□ □ddition□□ in□ured□, □□□in□t c□i□ □ □ri□in□ fro□ in□urie□, □ic□ne□□, di□e□□e, or de□t□ of □n□ □er□on or d□□ □□e to □ro□ert□ □ri□in□ out of □erfor□□nce of t□e □ or□. T□e □o□ic□ □□□□□□□o inc□ude co□er□□e for □er□on□□in□ur□ i□□i□it□□contr□ctu□□i□□i□it□□co□ □□eted o□er□tion□ □nd □roduct□ i□□i□it□□□nd for □□□□tin□, e□□o□ion, □nd co□□□□e of □uidin□□□□nd d□□ □□e to under□round □ro□ert□ T□e i□□i□it□ i□ it□ for □odi□ in□ur□ □nd □ro□ert□ d□□ □□e □□□□□□e not □e□□t□□n□

$2,000,000 co□ □ined □in□e i□ it for e□c□ occurrence

$2,000,000 □ener□□□□□re□□te.

4. The insurer's costs of providing the insureds a defense and appeal as additional insureds, including attorney's fees, shall be supplementary and shall not be included as part of the policy limits but shall remain the insurer's separate responsibility.

5.05 CITY's Liability Insurance

A. In □ddition to t□e in□ur□nce re□uired to □e □ro□ided □□ CO□TR□CTOR under □□r□□r□□□ 5.04, CITY, at CITY's option, may purchase and maintain at CITY's expense liability insurance

t□t □i□ □rotect CIT□ □□□in□t c□i□ □ □ic□ □□□ □ri□e fro□ o□er□tion□ under t□e Contr□ct Docu□ent□.

5.06 Property Insurance

A. □n□□ ot□er□i□e □ro□ided in t□e □u□□□e□ent□r□ Condition□, CO□TR□CTOR □□□□ □urc□□□e □nd □□int□in □ro□ert□ in□ur□nce on t□e □or□ □t t□e □ite in t□e □□ount of t□e fu□ re□□□ce□ent co□t t□ereof (□u□□ect to □uc□ deducti□□ □□ount□ □□ □ □□□ □e □ro□ided in t□e □u□□□e□ent□r□ Condition□ or re□uired □□ □□□□ □or Re□u□□tion□). T□i□ in□ur□nce □□□□□□

1. inc□ude t□e intere□t□ of CIT□, CO□TR□CTOR, □u□contr□ctor□, □nd □n□ ot□er □er□on□ or entitie□ identified in t□e □u□□□e□ent□r□ Condition□, e□c□ of □□o□ i□ dee□ed to □□□e □n in□ur□□□e intere□t □nd □□□□□□e i□□ted □□ □n in□ured or □ddition□□in□ured□

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy for□ t□□t □□□□□□t □e□□t inc□ude in□ur□nce for □□□□ic□□o□□ or d□□ □□e to t□e □ or□, te□ □or□r□ □uildin□□, f□□e□or□ □nd □ □teri□□□ □nd e□ui□□ent in tr□n□it, □nd □□□□□in□ure □□□in□t □t □e□□t t□e fo□o□in□ □eri□□ or c□u□e□ of □o□□□fire, i□□tnin□, e□tended co□er□□e, t□eft, □□nd□i□□ □nd □ □□iciou□ □i□c□ief, e□rt□□u□□e, torn□do, co□□□□□e, de□i□re□o□□□, de□o□ition occ□□ioned □□ enforce□ent of □□□□ □or Re□u□□tion□, □□ter d□□ □□e, d□□ □□e c□u□ed □□ fro□t □nd free□in□, □nd □ct□ of □od□

3. □e □ □int□ined in effect unti□ fin□□□□□□ent i□ □ □de un□e□ ot□er□i□e □□reed to in □ritin□ □□ CIT□ □it□ t□irt□ (30) d□□□ □ritten notice to e□c□ ot□er □ddition□□in□ured to □□o□ □ certific□te of in□ur□nce □□□ □een i□□ued.

B. CIT□ □□□□□not □e re□□on□i□e for □urc□□□in□ □nd □ □int□inin□ □n□ □ro□ert□ in□ur□nce to □rotect t□e intere□t□ of CO□TR□CTOR, □u□contr□ctor□ or ot□er□ in□o□□ed in t□e □ or□ to t□e e□tent of □n□ deducti□□e □□ount□. T□e ri□□ of □o□□ □it□in t□e deducti□□e □□ount□ □i□□e □orne □□ CO□TR□CTOR, □u□contr□ctor or ot□er□ □ufferin□ □n□ □uc□ □o□□ □nd if □n□ of t□e□ □i□□e□ □ro□ert□ in□ur□nce co□er□□e □it□in t□e i□□it□ of □uc□ □□ount□, e□c□ □ □□□ □urc□□□e □nd maintain it at the purchaser's own expense.

5.07 Waiver of Rights

A. CIT□ □nd CO□TR□CTOR intend t□□t □□□ □o□ici□□ □urc□□□ed in □ccord□nce □it□ □□r□□r□□□□ 5.04 □nd 5.06 □i□□ □rotect CIT□, CO□TR□CTOR, DE□I□□ □ROFE□□IO□□□ Con□u□t□nt□, □u□contr□ctor□, □nd □□□ot□er □er□on□ or entitie□ identified in t□e □u□□□e□ent□r□ Condition□ to □e i□□ted □□ in□ured□ or □ddition□□in□ured□ in □uc□ □o□ici□□ □nd □i□□ro□ide □ri□□r□ co□er□□e for □□□□o□□e□ □nd d□□ □□e□ c□u□ed □□ t□e □eri□□ co□ered t□ere□□. □□□□uc□ □o□ici□□ □□□□□□cont□in □ro□i□ion□ to t□e effect t□□t in t□e e□ent of □□□□ent of □n□ □o□□ or d□□ □□e t□e in□urer□ □i□□□□□e no ri□□t□ of reco□er□ □□□in□t □n□ of t□e in□ured□ or □ddition□□in□ured□ t□ereunder. CIT□ □nd CO□TR□CTOR □□ie □□□ri□□t□ □□□in□t e□c□ ot□er □nd t□eir re□□ecti□e officer□, director□, □□rtner□, e□ □o□ee□ □nd □□ent□ for □□□o□□e□ □nd d□□ □□e□ c□u□ed □□, □ri□in□ out of or re□u□tin□ fro□ □n□ of t□e □eri□□ co□ered □□ □uc□ □o□ici□□ □nd □n□ ot□er □ro□ert□ in□ur□nce □□□ic□□□e to t□e □ or□, □ut on□□ to t□e e□tent of in□ur□nce co□er□□e□□nd, in □ddition, □□ie □□□uc□ ri□□t□ □□□in□t DE□I□□ □ROFE□□IO□□□, Con□u□t□nt□, □u□contr□ctor□, □nd □□□ ot□er □er□on□ or entitie□ identified in t□e □u□□□e□ent□r□ Condition□ to □e i□□ted □□ in□ured□ or □ddition□□ in□ured□ (□nd t□e officer□, director□, □□rtner□, e□ □o□ee□, □□ent□, □nd ot□er con□u□t□nt□ □nd □u□contr□ctor□ of □n□ □nd e□c□ of t□e□) under □uc□ □o□ici□□ for □o□□e□ □nd d□□ □□e□ □o c□u□ed □nd co□ered □□ in□ur□nce. □one of t□e □□o□e □□i□er□ □□□□□e□tend to t□e ri□□t□ t□□t □n□ □□rt□ □ □□in□ □uc□ □□i□er □ □□ □□□e to t□e □roceed□ of in□ur□nce □e□d □□ CIT□ □□ tru□tee or ot□er□i□e □□□□□□e under □n□ □o□ic□ □o i□□ued. □one of t□e □□o□e □□i□er□ □□□□□ □□□□□ if □□ecific□□□ in conf□ict □it□ □□□ □ □nd Re□u□□tion□.

5.08 Receipt and Application of Insurance Proceeds

A. Any insured loss under the property insurance policies adjusted with CITY and made payable to CITY as fiduciary for the insureds, as their interests may appear, subject to the requirements of any indenture or resolution entered into by CITY.

B. CITY as fiduciary has the power to adjust and settle any loss with the insurers unless one of the parties in interest shall object to CITY's exercise of this power in writing within fifteen (15) days after the occurrence of loss. If such objection is made, CITY as fiduciary may make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, CITY as fiduciary may adjust and settle the loss with the insurers.

5.09 Partial Utilization – Property Insurance

A. If CITY finds it necessary to occupy or use a portion or portions of the Work prior to substantial Completion of all the Work, such use or occupancy may be authorized in accordance with paragraph 14.05 provided that such use or occupancy does not cause cancellation or lapse of the insurer's property insurance policies without consent by the insurer and in writing effected by change in coverage necessitated thereby. The insurer's property insurance policies shall permit such use or occupancy, or authorize such consent by endorsement on the policies or policies, but the property insurance policies shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 CONTRACTOR'S RESPONSIBILITIES

6.01 Indemnification

A. For purposes of this paragraph 6.01 only, the following terms have the meanings indicated:

1. Claims means any claims, damages, liabilities, losses, costs and expenses, including court costs and reasonable attorneys'" fees, including attorney's fees incurred by the City in the enforcement of this indemnity obligation.

2. CONTRACTOR'S Agents means CONTRACTOR's officers, employees, sub-consultants, subcontractors, successors, assigns, invitees, and other agents.

3. CITY means CITY, its Property Manager/Construction Administrator and any of their agents, officials, officers, employees and property owners or construction administrators.

B. CONTRACTOR's obligations under this Paragraph with respect to indemnification for acts or omissions, including negligence, of CITY, whether limited to the coverage and limits of insurance that CONTRACTOR is required to procure and maintain under this Contract. CONTRACTOR affirms that it has had the opportunity to recover the costs of the liability insurance required in this Contract in its contract price.

C. CONTRACTOR shall defend, indemnify and hold harmless CITY from and against any Claims arising out of or resulting from acts or omissions in connection with this Contract caused in whole or in part by CONTRACTOR or CONTRACTOR's Agents, regardless of whether or not caused in part by any act or omission, including negligence, of OWNER.

D. In any and all Claims against CITY, DELEGATE PROFESSIONAL, CONSULTANT, or any of their respective agents, officers, directors or employees or employee (or the surviving or personal representative of such employee) of CONTRACTOR, any subcontractor, any supplier, any person or organization directly or indirectly employed by any of these to perform or furnish any of the Work, or anyone for whose acts any of these may be liable, the indemnification obligation under paragraph 6.01 C shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.

E. The indemnification obligations of CONTRACTOR under Paragraph 6.01 C shall not extend to injury or loss arising out of, resulting from, or caused by the professional negligence, error or omission of DESIGN PROFESSIONAL, CONSULTANT, or any of their respective agents, officers, directors or employees.

6.02 Supervision and Superintendence

A. CONTRACTOR shall supervise, inspect and direct the Work competently and efficiently, devoting such attention thereto and applying such skill and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or specification of a specific means, method, technique, sequence or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent of the Work, who shall not be removed without written request to and approval by CITY except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

C. If it is determined to be in the best interest of the Work, CONTRACTOR shall replace the Project Engineer, resident superintendent or any other employee of the CONTRACTOR, subcontractor, supplier or other person or organization performing or furnishing any of the Work on the Project upon written request by the CITY.

6.03 Services, Working Hours, Labor, Materials and Equipment

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out and construct or perform the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. Except as otherwise required for the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours. CONTRACTOR shall not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without CITY's written consent given after prior written notice to DESIGN PROFESSIONAL.

B. Unless otherwise specified in Division 1, General Requirements, CONTRACTOR shall furnish and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

C. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specified or required for the specifications shall run to the benefit of CITY. If required by DESIGN PROFESSIONAL, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, used, cleaned and conditioned in accordance with instructions of the applicable supplier, except as otherwise provided in the Contract Documents.

D. It is the policy of the CITY that new, manufactured goods or commodities used or incorporated in the performance of this Contract and any subcontract thereto shall be manufactured or produced in the United States to the greatest extent possible.

6.04 Progress Schedule

A. CO□TR□CTOR □□□□□d□ere to t□e □ro□re□ □c□edu□ e□t□□i□□ed in □ccord□nce □it□ □rtic□e 2 □□it □ □□ □e □du□ted fro□ ti□e to ti□e □□ □ro□ided □e□□

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2. CO□TR□CTOR □□□□, □it□ e□c□ □□□□ic□tion for □□□□ ent, □ro□ide co□ □□eted □ont□□□ u□d□ted □t□tu□ re□ort for t□e □re□iou□ □ont□ on t□e □ro□ect □c□edu□ □nd u□d□ted infor□□tion indic□tin□ □□-□uit □nd □□-□□□nned condition□. T□e u□d□ted infor□□tion on t□e □ro□ect □c□edu□ □□□□not □odif□□n□Mi□□tone d□te□ in t□e □ro□ect □c□edu□ t□□t CIT□ □□□ □re□iou□□□ □□□ro□ed. T□e u□d□ted infor□□tion re□uired i□ □condition □recedent to □□□□ ent □ur□u□nt to □□r□□r□□□ 14.02 □nd □□□□include □t □□ini□u□ □

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6.05 Recovery Schedules

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CIT□ □□□□□□□□e t□e ri□□t to direct t□e CO□TR□CTOR, u□on □e□en (7) c□end□r d□□□ notice, to prepare a written recovery plan, for CITY's approval, to accelerate the Work in order to confor□ to t□e □□□ro□ed □□□e□ine □ro□ect □c□edu□, inc□udin□, □it□out □□it□tion, □ro□idin□ □ddition□□□□□or or e□□editin□ de□□er□ of □ □teri□□, □erfor□in□ o□erti□e or re-□e□uencin□ t□e Work without adjustments to the Contract value. Upon CITY's approval of the recovery plan, CO□TR□CTOR □□□□□□cce□er□te t□e □or□in □ccord□nce □it□ t□e □□n.

B. □ro□o□ed reco□er□ □c□edu□□ □□□□□□e □u□□itted to t□e CIT□ □□ □ □e□□r□te □ro□ect □□n for re□ie□ □nd □□□ro□□□□□ CIT□ □rior to incor□or□tion into t□e □□□ro□ed □□□e□ine □c□edu□. T□e reco□er□ □c□edu□ □□□□□e □u□□itted in □for□ t co□ □□ti□e □it□ t□e □□□e□ine □c□edu□ for□ t. E□c□ □ro□o□ed re□ision □□□□□e □u□□itted □□ □ □e□□r□te □c□edu□, □it□ t□e fo□□in□ □ini□u□ re□uire□ent□□

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6.06 Substitutes and "Or-Equal" Items

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1. "Or-Equal": If, prior to receipt of Bids, Bidder proposes an item of material or e□ui□□ent □□ function□□□□e□u□□to t□□t n□□ed □nd □ufficient□□ i□i□□r □o t□□t no c□□n□e in related Work will be required, CITY's Representative may request DESIGN PROFESSIONAL to consider it as an "or-equal" item. DESIGN PROFESSIONAL will review □nd recommend the acceptance, or rejection, of the proposed item to the CITY's Re□re□ent□ti□e. For t□e □ur□o□e□ of t□i□ □□r□□r□□□, □ □ro□o□ed ite□ of □ □teri□□or e□ui□□ent □i□□□e con□idered function□□□□e□u□□to □n ite□ □o n□□ed if□

□. in t□e e□erci□e of re□□on□□□e □ud□□ent DE□I□□ □ROFE□□IO□□□ deter□ine□ t□□t□

(1) it i□ □t □e□□t e□u□□in □u□it□, dur□□i□t□, □□□e□r□nce, □tren□t□, □nd de□i□n c□□r□cteri□tic□□□nd

(2) it □i□□re□i□□□□ □erfor□ □t □e□□t e□u□□□□e□□t□e function i□ □o□ed □□ t□e de□i□n conce□t of t□e co□ □□eted □ro□ect □□□ functionin□ □□o□e□□nd

□. □idder certifie□ t□□t□

(1) t□ere i□ no incre□□e in co□t to t□e CIT□□□nd

(2) it □i□confor□ □u□□t□nti□□□, e□en □it□ de□i□tion□, to t□e det□i□ed re□uire□ent□ of t□e ite□ n□□ed in t□e Contr□ct Docu□ent□.

If the CITY's Representative approves the proposed item, it may be accepted by CITY.

2. □u□□titute Ite□ □□If CO□TR□CTOR □ro□o□e□ □n ite□ of □ □teri□□or e□ui□□ent □□ □ □u□□titute ite□, t□en CO□TR□CTOR □□□□□u□□it □ufficient infor□ □tion □□ □ro□ided □e□o□ to allow CITY's Representative to determine that the item of material or equipment proposed is e□□enti□□□e□ui□□ent to t□□t n□□ed □nd □n □cce□t□□e □u□□titute t□erefore. T□e □rocedure for review by the CITY's Representative will include the follo□in□ □□ □u□□e□ented in t□e General Requirements and as CITY's Representative may determine is appropriate under t□e circu□ □t□nce□□

□. Re□ue□t□ for re□ie□ of □ro□o□ed □u□□titute ite□ □of □ □teri□□or e□ui□□ent □i□□ not be accepted by CITY's Representative fro□ □n□one ot□er t□□n CO□TR□CTOR.

□. If CO□TR□CTOR □i□□e□ to furni□□ or u□e □ □u□□titute ite□ of □ □teri□□or equipment, CONTRACTOR shall first make written application to CITY's Representative for □cce□t□nce t□ereof.

c. In t□e □□□ic□tion, CO□TR□CTOR □□□□□certif□ t□□t t□e □ro□o□ed □u□□titute □i□□ □erfor□ □de□u□te□□ t□e function□ □nd □c□ie□e t□e re□ui□□ □c□□ed for □□ t□e □ener□□ de□i□n, □e □i□i□r in □u□□t□nce to t□□t □□ecified □nd □e □uited to t□e □□□e u□e □□ t□□t □□ecified. T□e □□□ic□tion □i□□□t□te t□e e□tent, if □n□, to □□ic□ t□e e□□u□tion □nd acceptance of the proposed substitute will impact CONTRACTOR's achievement of □u□□t□nti□□Co□ □□etion, □□et□er or not □cce□t□nce of t□e □u□□titute for u□e in t□e □or□ □i□□re□uire □ c□□n□e in □n□ of t□e Contr□ct Docu□ent□ (or in t□e □ro□i□ion□ of □n□ ot□er direct contr□ct □i□ CIT□ for □or□on t□e □ro□ect) to □d□□t t□e de□i□n to t□e □ro□o□ed □u□□titute □nd □□et□er or not incor□or□tion or u□e of t□e □u□□titute in connection □it□ t□e □or□i□ u□□ect to □□□□ent of □n□ □icen□e fee or ro□□t□.

d. □□□□ri□tion□of t□e □ro□o□ed □u□□titute fro□ t□□t □□ecified □i□□e identified in t□e □□□ic□tion □nd □□□i□□e □ □inten□nce, re□□ir □nd re□□ce□ent □er□ice □i□□e indic□ted. T□e □□□ic□tion □i□□□o cont□in □n ite□i□ed e□ti□□te of □□co□t□or credit□□t □i□re□u□t direct□□ or indirect□□ fro□ □cce□t□nce of □uc□ □u□□titute, inc□udin□ co□t□of rede□i□n □nd c□i□ □ of ot□er contr□ctor□ □ffected □□ t□e re□u□tin□ c□□n□e, □□□ of □ic□ □i□□e considered by CITY's Representative in evaluating the proposed substitute. CITY's Re□re□ent□ti□e □ □□ re□uire CO□TR□CTOR to furni□□ □ddition□□ d□t□ □□out t□e □ro□o□ed □u□□titute.

If the CITY's Representative approves the proposed item, CITY may accept it.

B. □u□□titute Con□truction Met□od□or □rocedure□□If □ □□ecific □e□n, □et□od, tec□ni□ue, □e□uence or □rocedure of con□truction i□ □□o□n or indic□ted in □nd e□□re□□□ re□uired □□ t□e Contr□ct Docu□ent□, CO□TR□CTOR □ □□ furni□□ or uti□i□e □ □u□□titute □e□n, □et□od, tec□ni□ue, □e□uence or □rocedure of con□truction □cce□t□□e to DE□I□□ □ROFE□□IO□□□. CO□TR□CTOR □□□□□ notif□ CIT□ □nd □u□□it □ufficient infor□□tion to □□□o□ DE□I□□ PROFESSIONAL, in DESIGN PROFESSIONAL's sole discretion, to determine that the □u□□titute □ro□o□ed i□e□ui□□ent to t□□t e□□re□□□ c□□ed for □□t□e Contr□ct Docu□ent□.

C. Expenses: Bidder shall provide all data in support of any "or equal" at Bidder's expense, □nd CO□TR□CTOR □□□□□ □ro□ide □□□ d□t□ in □u□□ort of □n □ro□o□ed □u□□titute □t CONTRACTOR's expense.

D. Evaluation: DESIGN PROFESSIONAL and CITY's Representative will be allowed a re□□on□□e ti□e □it□in □□ic□ to e□□□u□te e□c□ □ro□o□□□ or □u□□itt□□ □□de □ur□u□nt to Paragraphs 6.06 A, and 6.06 B. CITY will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized without CITY's prior written acceptance which will □e e□idenced □□ eit□er □ C□□n□e Order or □n □□□ro□ed □□o□ Dr□□in□. CIT□ □ □□ re□uire CONTRACTOR to furnish at CONTRACTOR's expense, a special performance □u□r□ntee or other surety with respect to any "or-equal' substitute. DESIGN PROFESSIONAL will record time re□uired □□ DE□I□□ □ROFE□□IO□□□ □nd Con□u□t□nt□ in e□□□u□tin□ □u□□titute□ □ro□o□ed or □u□□itted □□ CO□TR□CTOR □ur□u□nt to □□r□r□□□□ 6.06 □ □nd 6.06 □ □nd in □□□in□ c□□n□e□ in t□e Contr□ct Docu□ent□ (or in t□e □ro□i□ion□ of □n□ ot□er direct contr□ct □it□ CIT□ for □or□ on t□e □ro□ect) occ□□ioned t□ere□□. □ □et□er or not CIT□ □cce□t□ □ □u□□titute □o □ro□o□ed or □u□□itted □□ CO□TR□CTOR, CO□TR□CTOR □□□□□ rei□□ur□e CIT□ for t□e re□□on□□e c□□r□e□ of DE□I□□ □ROFE□□IO□□□ □nd Con□u□t□nt□ for e□□□u□tin□ e□c□ □uc□ □ro□o□ed □u□□titute.

6.07 Concerning Subcontractors, Suppliers and Others

A. CO□TR□CTOR □□□□□not e□ □□o□ or ret□in □n□ □u□contr□ctor, □u□□ie□ or ot□er □er□on or or□□ni□□tion (inc□udin□ t□o□e □cce□t□□e to CIT□ □□ indic□ted in □□r□r□□□ 6.07 □), □□et□er initi□□□□ or □□ □ □u□□titute, □□□in□t □□o□ CIT□ □□□ □ re□□on□□e o□ection, inc□udin□ □ut not i□ited to de□□r□ent □□ Cit□ or □not□r □o□ern□ent□□ entit□ or decertific□tion of t□e Subcontractor from the City's Minority and Women's Business Enterprise Program as a result of the Subcontractor's failure to comply with any of the requirements of t□e □ro□i□ion□ of C□□□ter 3 of the City's Code as determined by the Director of t□e □u□□n Re□□tion□ De□□rt□ent. Contr□ctor □□□□□in□ert t□i□ □ro□i□ion in □n□ □u□contr□ctor □□ree□ent □□□oci□ted □it□ t□i□ Contr□ct. CO□TR□CTOR □□□□□not □e re□uired to e□ □□o□ □n□ □u□contr□ctor, □u□□ie□ or ot□er □er□on or or□□ni□□tion to furni□□ or □erfor□ □n□of t□e □ or□ □□□in□t □□o□ CO□TR□CTOR □□□ re□□on□□e o□ection. CO□TR□CTOR □□□□□□u□□it re□uired infor□□tion for □□□u□contr□ctor□ on For□ 01290.09 - □u□contr□ctor □nd M□or M□teri□□□u□□ie□ □i□t, □ro□ided in t□e□e Contr□ct Docu□ent□, □rior to □u□contr□ctor □e□innin□ □ or□□t t□e □ite.

B. T□e □u□□e□ent□r□ Condition□ re□uire t□e identit□ of cert□in □u□contr□ctor□, □u□□ie□□ or ot□er □er□on□ or or□□ni□□tion□ (inc□udin□ t□o□e □□o □re to furni□□ t□e □rinci□□□ite□ □ of □□teri□□ or e□ui□□ent) to □e □u□□itted to CIT□ on or □efore t□e d□te □□ecified in t□e □u□□e□ent□r□ Condition□, for □cce□t□nce □□ CIT□. If CO□TR□CTOR □□□ □u□□itted □ i□t

thereof in accordance with the subcontractor Condition, CITY may accept (either in writing or failing to make written objection thereto on the date indicated for acceptance or objection in the Contract Document) any such subcontractor, supplier or other person or organization so identified, or reject same on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable replacement for the rejected subcontractor, supplier or other person or organization. The Contract Price will be adjusted for the difference in the cost occasioned by such substitution, and an appropriate Change Order will be issued or written amendment signed. No acceptance by CITY of any such subcontractor, supplier or other person or organization shall constitute a waiver of any right of CITY or DEPARTMENT to reject defective work.

C. CONTRACTOR shall be fully responsible to CITY for acts and omissions of the subcontractors, suppliers and other persons and organizations performing or furnishing any of the work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such subcontractor, supplier or other person or organization any contractual relationship between CITY or DEPARTMENT and any such subcontractor, supplier or other person or organization, nor shall it create any obligation on the part of CITY or DEPARTMENT to pay or to see to the payment of any money due any such subcontractor, supplier or other person or organization except as may otherwise be required by Laws or Regulations.

D. CONTRACTOR shall be responsible for scheduling and coordinating the work of subcontractors, suppliers and other persons and organizations performing or furnishing any of the work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require subcontractors, suppliers and such other persons and organizations performing or furnishing any of the work to communicate with CITY and DEPARTMENT through CONTRACTOR.

F. The division and section of the specification and the identification of any Drawing shall not control CONTRACTOR in dividing the work or awarding subcontracts or suppliers ordering the work to be performed by any specific trade.

G. Work performed for CONTRACTOR by a subcontractor or supplier shall pursuant to an appropriate written agreement between CONTRACTOR and the subcontractor or supplier that specifically binds the subcontractor or supplier to the applicable terms and conditions of the Contract Documents for the benefit of CITY. Each agreement is limited to and additional insured on the property insurance provided in paragraph 5.06, the agreement between the CONTRACTOR and the subcontractor or supplier shall contain provisions that require the subcontractor or supplier to name CITY, CONTRACTOR, DEPARTMENT, Consultant and the other additional insured for coverage and waive subrogation, arising out of or resulting from any peril, to the extent covered by such policies and any other property insurance applicable to the work. If the insurer on any such policies requires separate waiver forms to be signed by any subcontractor or supplier, CONTRACTOR shall obtain the same.

H. Except as otherwise provided in this subsection and in accordance with the provisions of subsection C hereof, the agreement between CONTRACTOR and the subcontractor or supplier referred to in subsection G, shall provide that the CONTRACTOR and the Subcontractor or Supplier agree not to request CITY or CITY's Representative to intervene in or facilitate the resolution of claims or contract disputes arising out of or related to the agreement between CONTRACTOR and the subcontractor or supplier. Furthermore, the Contracts between CONTRACTOR and subcontractors or suppliers shall provide that unresolved claims and disputes between CONTRACTOR and the subcontractor or supplier that remain unresolved after thirty (30) calendar days from the notice of claim, shall be subject to mediation as a condition precedent to the institution of legal proceedings by either party. Any such mediation shall be conducted in accordance with the CITY's Code Section 3-467.

I. CO□TR□CTOR shall not in□ert any □ro□i□ion in any □u□contr□ctor □□ree□ent □□oci□ted □it□ t□i□ Contr□ct t□□t e□□icit□ t□te□ or i□ □ie□ t□□t t□e □u□contr□ctor shall □on□□e □id for □or□ □erfor□ed if or □□en t□e □ener□□ CO□TR□CTOR i□ □id by t□e CIT□ . Contractor's compliance with t□i□ ro□i□ion i□ a □□teri□□ter□ of t□i□ Contr□ct.

J. CO□TR□CTOR□ shall not den□ any □u□contr□ctor □u□contr□ctin□ o□□ortunitie□ □o□e□ □ec□u□e t□e □u□contr□ctor i□ not a □i□n□tor□ to co□ecti□e □□r□inin□ □□ree□ent□ □it□ or□□ni□ed lab□r.

6.08 Patent Fees and Royalties

A. CO□TR□CTOR shall pay all □icen□e fee□ □nd ro□□tie□ □nd ass□me all co□t□ incident to t□e u□e in t□e □erfor□□nce of t□e □or□ or t□e incor□or□tion into t□e □or□ of any in□ention, de□i□n, □roce□□, □roduct or de□ice which i□ t□e □u□ect of □□tent ri□□t□ or co□□ri□□t□ □e□d by ot□er□. If a □□rticu□□r in□ention, de□i□n, □roce□□, □roduct or de□ice i□ □□ecified in t□e Contr□ct Docu□ent□ for u□e in t□e □erfor□□nce of t□e □or□, □nd if to t□e □ctu□□□no□ed□e of CIT□ or DE□I□ □ROFE□□IO□□□ it□ u□e i□ □u□ect to □□tent ri□□t□ or co□□ri□□t□ c□□in□ for t□e □□□□ent of any □icen□e fee or ro□□□t□ to ot□er□, t□e e□i□tence of □uc□ ri□□t□ shall □e di□c□o□ed by CIT□ in t□e Contr□ct Docu□ent□. To t□e fu□□e□t e□tent □er□itted by Laws or Re□u□□tion□, CO□TR□CTOR shall defend, inde□nif□ □nd □old ha□m□e□s CIT□, DE□I□ □ROFE□□IO□□□, Con□u□t□nt□ □nd t□e officer□, director□, e□□o□ee□, □□ent□ □nd ot□er con□u□t□nt□ of e□c□ □nd any of t□e□ fro□ □nd □□□in□t all □□□□ims, co□t□, □o□e□ □nd □□□ma□□es (inc□udin□ □ut not i□ited to all fee□ □nd c□□r□e□ of en□ineer□, □rc□itect□, □ttorne□□, □nd ot□er □rofe□□ion□□□ □nd all □court or □r□itr□tion or ot□er di□□ute re□o□ution co□t□) □ri□in□ out of or re□u□tin□ fro□ any infrin□e□ent of □□tent ri□□t□ or co□□ri□□t□ incident to t□e u□e in t□e □erfor□□nce of t□e □or□ or re□u□tin□ fro□ t□e incor□or□tion into t□e □or□ of any in□ention, de□i□n, □roce□□, □roduct or de□ice not □□ecified in t□e Contr□ct Docu□ent□.

6.09 Permits

A. □n□e□ ot□er□i□e □ro□ided in t□e □u□□e□ent□ Condition□, CO□TR□CTOR shall o□t□in □nd pay for all con□truction □er□it□ □nd □icen□e□. CIT□ shall ass□□t CO□TR□CTOR, □□en nece□□□r□, in o□t□inin□ □uc□ □er□it□ □nd □icen□e□. CO□TR□CTOR shall pay all □o□ern□ent□□c□□r□e□ □nd in□□ection fee□ nece□□□r□ for t□e □ro□ecution of t□e □or□, □□ic□□e□ t□ t□e ti□e of o□enin□ of □id□, or, if t□ere □re no □id□, on t□e Effecti□e D□te of t□e Contr□ct. CO□TR□CTOR shall pay all □c□□r□e□ of uti□it□ o□ner□ for connection□ to t□e □or□.

B. CO□TR□CTOR, □t it□ o□n e□□en□e, shall □omply □it□ all Fe□er□□, □t□te □nd □oc□□laws □nd re□u□□tion□, inc□udin□, □ut not i□ited to t□e Mi□□ouri C□e□n □ □ter Law (C□□□ter 644 R□Mo) to□et□er □it□ any □cco□ □□n□in□ re□u□□tion(□) cont□ined in t□e Mi□□ouri Code of □t□te Re□u□□tion□ (C□R Ti□e 10), as w□ll as a□y i□ □□e□ entin□ □er□it□, to□et□er □it□ any CIT□ □ro□i□ion□ durin□ t□e □ife of t□i□ Contr□ct inc□udin□ □ut not i□ited to:

1. App□ovals □nd □er□it□ as re□uired for con□truction or □nd di□tur□□nce □cti□itie□.

2. Co□ □i□nce □it□ t□e □t□te of Mi□□ouri – Department of Natural Resources ("MDNR") Mi□□ouri □t□te Operating Permit ("Land Disturbance Permit"), MO-R100006 for all con□truction or □nd di□tur□□nce □cti□it□.

3. De□e□o□□ent □nd i□□□e□ent□tion of a □tor□ □ □ter □o□ution □re□ention Pla□ (SWPPP□).

(a) Contr□ctor shall □ot co□□□ence □nd di□tur□□nce □cti□it□ unti□ t□e initi□□ SWPPP has □een fin□i□ed.

(b) □re□□r□tion □nd □u□□itt□□ of all □□□ic□tion□, docu□ent□tion □nd e□□i□it□ re□uired to o□t□in MD□R app□ovals for uninterru□ted □or□□t t□e □ite.

(c) □□endin□/□□d□tin□ SWPPP□.

(d) □ite In□□ection□ □nd □u□□itt□□ of In□□ection Re□ort□

(e) Proper Operation and Maintenance to achieve compliance with the terms of the permit.

(f) Maintenance of required records in accordance with MDNR requirements and requirements included in Article 6 of the Contract Documents.

4. In addition to requirements of Article 6, Contractor shall provide record access to Missouri Department of Natural Resources (MDNR).

5. Failure to control erosion and water pollution is a permit violation. CONTRACTOR shall have 24 hours after receiving notice of the violation to correct the problem. If the CONTRACTOR fails to correct the problem after the time prescribed, the City may issue a reinspection effort to fix the problem. In such an event, the CONTRACTOR shall pay to the City for the reinspection costs equal to 10% or 1/2 of the total contract price. If the CONTRACTOR receives three (3) notices of violation of the erosion control plan and the City's MS4 permit, the Director may issue a stop work order and delay any payment until control measures are properly functioning and there has been satisfactorily remediated. In such an event, no delay to the project schedule will result in liquidated damages assessed against the CONTRACTOR.

6.10 Compliance with Laws and Regulations

A. CONTRACTOR shall provide all notices and comply with all laws or Regulations applicable to furnishing and performing the Work. Except where otherwise expressly required applicable to this or Regulations, neither CITY nor DESIGNPROFESSIONAL shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations. The Laws or Regulations included in this paragraph include, but not be limited to, those set forth in the Supplementary Conditions.

B. **Failure to Comply**. If CONTRACTOR performs any Work or in violation of applicable Laws or Regulations, CONTRACTOR shall bear all costs, loss, fines and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting therefrom; however, it shall not be CONTRACTOR's primary responsibility to discover certain that the Specifications and Drawings are in accordance with Laws or Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under Paragraph 3.03.

C. **Conflicts of Interest**. The provisions of City's Code Sections 2-1015 and 3-301, prohibiting City officers and employees from having a financial or personal interest in any contract with City, and Code Section 3-307, and 3-309, imposing sanctions for violations, shall apply to this Contract. CONTRACTOR certifies that no officer or employee of City, or member of such officer's or employee's immediate family, either has negotiated, or has or will acquire any prohibited interest concerning the award to perform services on behalf of CONTRACTOR on this Contract.

D. **Licenses and Permits**. CONTRACTOR, at its own expense, shall procure or cause to be procured all licenses and permits from public or private sources necessary for the fulfillment of its obligations under this Contract. All references in this Contract to the "Code" shall mean City's Code of Ordinances, including any amendments thereto or re-codification thereof unless the context clearly indicates otherwise. CONTRACTOR shall obtain copies of all necessary licenses and permits from all subcontractors required for the Work before such subcontractors begin the Work. CONTRACTOR shall retain such evidence in its files and make the same available to CITY within ten (10) days after CITY's written request.

E. Americans with Disabilities Act. CONTRACTOR agrees to comply, during the course of this Contract, with provisions of Title II of the 2010 ADA Standards for Accessible Design as amended from time to time.

F. Affirmative Action. If the Contract Price exceeds $300,000.00 and CONTRACTOR employs fifty (50) or more people, CONTRACTOR shall comply with City's Affirmative Action requirements in accordance with the provisions of Chapter 3 of City's Code, the rules and regulations relating to the Section, and any additional or amended rules thereto. CONTRACTOR shall not discriminate against any employee or applicant for employment because of race, color, sex, religion, national origin or ancestry, disability, sexual orientation, gender identity or age in the manner prohibited by Chapter 3 of City's Code.

CONTRACTOR shall:

1. Submit, in print or electronic format, a copy of CONTRACTOR'S current certificate of compliance to the City's Human Relations Department (HRD) prior to receiving the first payment under the contract, unless a copy has already been submitted to HRD at any point within the previous twelve month period. If, and only if, CONTRACTOR does not possess a current certification of compliance, CONTRACTOR shall submit, in print or electronic format, a copy of its affirmative action program to HRD prior to receiving the first payment under the contract, unless a copy has already been submitted to HRD at any point within the previous twelve month period.

2. Require any subcontractor awarded a subcontract exceeding $300,000.00 to affirm that subcontractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the subcontract.

3. Obtain from any subcontractor awarded a subcontract exceeding $300,000.00 a copy of the Subcontractor's current certificate of compliance and tender a copy of the same, in print or electronic format, to HRD within thirty (30) days from the date the subcontract is executed. If, and only if, subcontractor does not possess a current certificate of compliance, CONTRACTOR shall obtain a copy of the Subcontractor's affirmative action program and tender a copy of the same, in print or electronic format, to HRD within thirty (30) days from the date the subcontract is executed.

City has the right to take action as directed by City's Human Relations Department to enforce this provision. If CONTRACTOR fails, refuses or neglects to comply with the provisions of Chapter 3 of City's Code, then such failure shall be deemed a total breach of this Contract and this Contract may be terminated, canceled or suspended, in whole or in part, and CONTRACTOR may be declared ineligible for any further contracts funded by City for a period of one (1) year. This is a material term of this Contract.

G. Minority and Women Business Enterprises and Workforce. City is committed to ensuring that minorities and women participate to the fullest extent possible in the performance of City's construction contracts. If minority and women business enterprise (M/WBE) goals have been set for this Contract, CONTRACTOR agrees to comply with requirements of City's Minority and Women's Business Enterprise Program as enacted in City's Code, Section 3-421 through 3-469 and as hereinafter amended. CONTRACTOR shall meet or exceed both the M/WBE and AE goals set forth in its Contractor Utilization Plan/Request for Waiver. If labor force utilization goals are specific to this Contract, CONTRACTOR agrees to comply with all requirements of City's Construction Employment Program as enacted in City's Code, Section 3-501 through 3-525 and as hereinafter amended. CONTRACTOR shall meet or exceed the construction employment goals unless the failure has been excused in the manner provided by law. CONTRACTOR's compliance with this provision is a material part of this Contract.

H. Records.

1. For purposes of this Section:

(a) "City" shall mean the City Auditor, the City's Internal Auditor, the City's Director of Audit Services, the City Manager, the City department administering this Contract and their designees and agents.

(b) "Record" shall mean any document, book, paper, photograph, map, sound recordin□ or ot□er □ teri□, re□rd□ □ of phys cal for□ or c□r cteri tic□, □de or rece□ed in connection □it□ t□i□ Contr□ct □nd all Contr□ct □□end□ent□ □nd rene□□□.

2. Contr□ctor shall □ □int□in □nd ret□in all Record□ for a ter□ of fi□e (5) y□ars t□□t shall □e□in □fter t□e e□□ir tion or ter□in tion of t□i□ Contr□ct □nd all Contr□ct □□end□ent□. Cit□ shall hav□ a ri□□t to e□□□ine or □udit all Record□ □nd Contr□ctor shall □ro□ide □cce□□ to Cit□ of all ecord□ u□on ten (10) days ritten notice fro□ t□e Cit□.

I. Prevailing Wage.

1. CO□TR□CTOR shall comply □nd re□uire it□ □u□contr□ctor□ to comply □it□;

a. □ection□ 290.210 to 290.340, R□MO t□e □t□te of Mi□□ouri □re□□i□in□ Wag□ Law (the "Law"); and

b. 8 C□R 30-3.010 to 8 C□R 30-3.060, t□e □re□□i□in□ Wag□ Law Ru□□ (t□e "Rules"); and

c. the Annual Wage Order (Wage Order) issued by the State of Missouri's De□□rt□ent of Lab or □nd Indu□tri□□Re□□tion□; □nd

d. any □□□ic□□e □nnu□□ Incre□ent□□ Wag□ Incre□□e (Wag□ Incre□□e) to t□e □nnu□□Wag□ Order.

2. T□e Law, Ru□□, □nnu□□Wag□ Order □nd any Wag□ Incre□□e □re incor□or□ted into □nd □ □de □□rt □ereof t□i□ Contr□ct □nd shall □e co□ecti□e□ referred to in t□i□ □ection as t□e "Prevailing Wage Requirements."

3. CO□TR□CTOR shall pay □nd re□uire it□ □u□contr□ctor□ to pay to all □or□er□ □erfor□in□ □or□ under t□i□ Contr□ct not □e□□ t□□n t□e □re□□i□in□ □our□□ r□te of wag□s for t□e class or t□□e of □or□ □erfor□ed by t□e □or□er in □ccord□nce □it□ t□e Law, Ru□□, Wag□ Order □nd any □□□ic□□e Wag□ Incre□□e. CO□TR□CTOR shall t□□e □□□te□er st□ps □re nece□□□r□ to in□ure t□□t t□e □re□□i□in□ □our□□ wag□ r□te□ □re □□id □nd t□□t all □or□er□ for CO□TR□CTOR □nd e□c□ of it□ □u□contr□ctor□ □re □□id for t□e class or t□□e of □or□ □erfor□ed by t□e □or□er in □ccord□nce □it□ t□e □re□□i□in□ Wag□ Re□uire□ent□. If CONTRACTOR shall fail to start to perform CONTRACTOR's obligations under the Contract Docu□ent□ □it□in s□x□y (60) days fro□ t□e Effecti□e D□te of t□e Contr□ct, CO□TR□CTOR □nd e□c□ of it□ □u□contr□ctor□ shall □e o□li□□ted to pay all □or□er□ in □ccord□nce □it□ any ne□ Wag□ Order, as □u□□e□uent□□ □□ended by a□y □□□ic□□e Wag□ Incre□□e, i□□ued by t□e De□□rt□ent of Lab or □nd Indu□tri□□Re□□tion□ □it□in t□e □fore□entioned s□x□y (60) day □eriod. T□e ne□ Wag□ Order □nd any □□□ic□□e Wag□ Incre□□e shall □o□ern not□it□□t□ndin□ t□e f□ct t□□t t□e Wag□ Order □ein□ re□□□ced might □e phys□cally □tt□c□ed or incor□or□ted in t□e Contr□ct Docu□ent□.

4. □rior to e□c□ of it□ □u□contr□ctor□ □e□innin□ □ or□on t□e □ite, CO□TR□CTOR shall re□uire e□c□ Subcontractor to complete CITY's Form 00490 entitled "Pre-contr□ct Certification" that sets forth the Subcontractor's prevailing wage and tax compliance history for t□e t□o (2) y□ars □rior to t□e □id. CO□TR□CTOR shall ret□in one (1) □e□r □nd mak□ t□e □re-contr□ct Certific□tion□ ava□lab□e to CIT□ □it□in fi□e (5) days □fter □ritten re□ue□t.

5. CO□TR□CTOR shall:

a. □ee□ □nd re□uire e□c□ of it□ □u□contr□ctor□ en□□□ed in t□e con□truction of □u□lic works in □erfor□ □nce of t□e Contr□ct to □ee□ fu□□nd □ccur□te records on City's "Daily Labor Force Report" Form indicating the worker's name, occupational title or classification group & skill and the workers' hours. City shall furnish blank copies of the Daily Lab or Force Re□ort For□ to Contr□ctor for it□ u□e □nd for di□tri□ution to □u□contr□ctor□. Contr□ctor shall □u□□it it□ □nd it□ □u□contr□ctor□ Daily Lab or Force Re□ort□ to Cit□ e□c□ day; □nd

□. □u□□it, □nd re□uire e□c□ of it□ □u□contr□ctor□ en□□□ed in t□e con□truction of □u□ic □or□□ in □erfor□□nce of t□e Contr□ct to □u□□it e□ectronic□□□, in □ for□□t prescribed by the City, Certified Payroll Report Information indicating the worker's name, □ddre□□, □oci□□ □ecurit□ nu□□er, occu□□tion(□), cr□ft(□) of e□er□ □or□er e□ □□o□ed in connection □it□ t□e □u□ic □or□ to□et□er □it□ t□e nu□□er of □our□ □or□ed □□ e□c□ □or□er □nd t□e □ctu□□□□□e□ □□id in connection □it□ t□e □ro□ect □nd ot□er □ertinent infor□□tion □□re□ue□ted □□ t□e Cit□□□nd

c. □u□□it, □nd re□uire e□c□ of it□ □u□contr□ctor□ en□□□ed in t□e con□truction of □u□ic □or□□ in □erfor□□nce of t□e Contr□ct to □u□□it, e□ectronic□□□, in for□□t □re□cri□ed □□ t□e Cit□, □ □□□ro□□Certific□tion. T□e □□□ro□□Certific□tion □u□t □e □i□ned □□ t□e e□ □o□ee or □□ent □□o □□□□or □u□er□i□e t□e □□□□ent of t□e □or□er□ e□ □□o□ed under t□e Contr□ct for t□e Contr□ctor □nd e□c□ □u□contr□ctor□□nd

d. T□e D□i□ □□□or Force Re□ort, docu□ent□ u□ed to co□□i□e infor□□tion for t□e Certified □□□ro□□Re□ort, □nd □□□ro□□Certific□tion □re co□ecti□e□□ referred to in t□i□ Section as the "Records."

6. CO□TR□CTOR □□□□□u□□it it□ □nd it□ □u□contr□ctor□ D□i□ □□□or Force Re□ort□ to CITY each day. CONTRACTOR shall make all of CONTRACTOR's and Subcontractors' Record□ o□en to in□□ection □□ □n□ □ut□ori□ed re□re□ent□ti□e□ of O□ □ER □nd t□e Mi□□ouri De□□rt□ent of □□□or □nd Indu□tri□□Re□□tion□ □t □n□ re□□on□□□e ti□e □nd □□ often □□ t□e□ □ □□ □e nece□□□r□ □nd □uc□ Record□ □□□□□□not □e de□tro□ed or re□o□ed fro□ t□e □t□te of Mi□□ouri for □ □eriod of one (1) □e□r fo□o□in□ t□e co□□□etion of t□e □u□ic □or□ in connection □it□ □□ic□ t□e Record□ □re □□de. CO□TR□CTOR □□□□□ □□□e it□ □nd it□ □u□contr□ctor□ Certified □□□ro□□ Re□ort□ □nd □□□ro□□ Certific□tion□ □□□i□□□e □t t□e CONTRACTOR's office and shall provide the Records to the City electronically at City's sole di□cretion. In □ddition, □□□Record□ □□□□□□e con□idered □ □u□ic record □nd CO□TR□CTOR □□□□□□ro□ide t□e Record□ to t□e CIT□ in t□e for□□t re□uired □□ t□e CIT□ □it□in t□ree (3) working days of any request by CITY at the CONTRACTOR's cost. CITY, in its sole di□cretion, □ □□ re□uire CO□TR□CTOR to □end □n□ of t□e Record□ direct□□ to t□e □er□on who requested the Record at CONTRACTOR's expense.

7. CO□TR□CTOR □□□□□ □o□t □nd □ee□ □o□ted □ c□□r□ □e□i□e □t□te□ent of □□□ re□□i□in□ □our□ □□□e r□te□ to □e □id to □□□ or□er□ e□ □o□ed □□ CO□TR□CTOR □nd e□c□ of it□ □u□contr□ctor□ in t□e □erfor□□nce of t□i□ Contr□ct in □ □ro□inent □nd e□□i□□ □cce□□i□e □□ce □t t□e □ite of t□e □ or□ □□ □□□□or□er□.

8. If t□e Contr□ct □rice e□ceed□ $250,000.00, CO□TR□CTOR □□□□□nd □□□□□re□uire e□c□ □u□contr□ctor en□□□ed in □n□ con□truction of □u□ic □or□□ to □□□e it□ n□□e, □cce□t□□e □□□re□i□tion or reco□ni□□□e □o□ nd t□e n□□e of t□e cit□ □nd □t□te of t□e □ i□i□n □ddre□□ of t□e □rinci□□□office of t□e co□ □□n□, on e□c□ □otor □e□ic□ □nd □otori□ed □e□-□ro□e□□ □iece of e□ui□□ent □ic□ i□ u□ed in connection □it□ t□e □ro□ect durin□ t□e ti□e t□e CO□TR□CTOR or □u□contr□ctor i□ en□□□ed on t□e □ro□ect. T□e □i□n □□□□□□e legible from a distance of twenty (20') feet, but the size of the letterin□ need not □e □r□er than two (2") inches. In cases where equipment is leased or where affixing a legible sign to t□e e□ui□□ent i□ i□ □r□ctic□□, t□e CO□TR□CTOR □ □□ □□ce □ te□ □or□r□ □tion□r□ i□n, □it□ t□e infor□□tion re□uired □ur□u□nt to t□i□ □ection, □t t□e □ i□n entr□nce of t□e □ro□ect in □□ce of □ffi□in□ t□e re□uired infor□□tion on t□e e□ui□□ent □o □n□ □□ □uc□ □i□n i□ not in □io□tion of □n□ t□te or feder□□□t□tute, ru□e or re□u□tion. Motor □e□ic□ □ic□ □re re□uired to □□□e □i□i□r infor□□tion □ffi□ed t□ereto □ur□u□nt to re□uire□ent□ of □ re□u□tor□ □□enc□ of t□e □t□te or feder□□□o□ern□ent □re e□e□□t fro□ t□e □ro□i□ion□ of t□i□ □u□□ection.

9. CONTRACTOR must correct any errors in CONTRACTOR's or any Subcontractors' Records, or CONTRACTOR's or any Subcontractors' violations of the Law, Rules, Annual □ □□e Order □nd □n□ □ □□e Incre□□e □it□in fourteen (14) c□end□r d□□□ □fter notice fro□ CIT□.

10. CONTRACTOR shall require its subcontractors to cooperate with the CITY and the Department of Labor and Industrial Relations in the enforcement of this section, the Rules, Annual Wage Order and Prevailing Wage Increase. Contractor shall require its subcontractors to permit CITY and the Department of Labor and Industrial Relations to interview any and all workers during working hours on the Project at CONTRACTOR's sole cost and expense.

11. CONTRACTOR shall certify with CITY, upon completion of the Project and prior to final payment therefore, affidavit from CONTRACTOR and each of its subcontractors, stating that each has fully complied with the provisions and requirements of the Missouri Prevailing Wage Law. CITY shall not make final payment until the affidavit, in proper form and order, from CONTRACTOR and each of its subcontractors, are filed with CONTRACTOR.

12. CONTRACTOR shall forfeit as a statutory penalty to the CITY one hundred dollars ($100.00) for each laborer employed, for each calendar day, or portion thereof, such laborer is paid less than the prevailing hourly rate for any work done under this Contract, by CONTRACTOR or by any of CONTRACTOR's Subcontractors. If CONTRACTOR or any of its subcontractors violate subsection(s) of 290.210 to 290.340, RSMo, in the course of the execution of the Contract, CITY shall withhold payments to the CONTRACTOR becoming due under this Contract, and hold and retain therefrom sums and amounts due and owing as result of any violation of sections 290.210 to 290.340, RSMo.

J. **Prevailing Wage Damages**. CONTRACTOR acknowledges and agrees, based on the experience of CITY, violations of the Missouri Prevailing Wage Act, whether CONTRACTOR or its subcontractors, cause additional costs to CITY. CONTRACTOR agrees that additional costs to CITY for any particular violation are difficult to estimate and include but are not limited to costs of construction delay, additional labor for CITY, additional interest expense, investigation, and the cost of establishing and maintaining a specialized division for the Citys Manager to monitor prevailing wage compliance.

1. In the event of the failure by CONTRACTOR or any of its subcontractors to make payments as provided in the Missouri Prevailing Wage Act, CITY shall be entitled to deduct from the Contract Price, and withhold as liquidated damages, one hundred dollars ($100.00) per day, per laborer for each violation in the prevailing hourly rate of wage, to approximate the additional costs. The sum shall be deducted, held or owed whether or not the Contract Time has expired.

2. CITY shall provide written notice to CONTRACTOR setting forth the laborer, the amount of the statutory penalty and the amount of the liquidated damages provided for in this subparagraph **J.** CONTRACTOR shall have fourteen (14) calendar days to respond, which time may be extended by CITY upon written request. If CONTRACTOR fails to respond within the specified time, the CITY's original notice shall be deemed final. If CONTRACTOR responds to CITY's notice, CITY will furnish CONTRACTOR a final decision in writing within five (5) days of conducting any investigation.

K. **Missouri Secretary of State Business Entity Registration**. CONTRACTOR shall obtain from all subcontractors for the Project, a copy of their current certificate of Good Standing or fictitious name registration from the Missouri Secretary of State before the commencement on the site. CONTRACTOR shall retain such documentation in its file and make available to CITY within ten (10) days after written request.

L. **Tropical Hardwoods**. The provisions of Code Section 2-1872, restricting the use of tropical hardwood, are applicable to this Contract.

M. **Preference for Missouri Products**. Pursuant to Section 71.140 RSMo., preference shall be given to materials, products, supplies and other articles produced, manufactured, made or grown within the State of Missouri.

N. **Guidelines for Open Excavations**.

1. CONTRACTOR shall restore required excavations to the level of the adjacent surfaces as soon as practicable. Unauthorized open excavations on public properties are discouraged at all times. If CONTRACTOR, in performance of the work, causes or causes to be made any excavation in, upon, under, through or adjoining any street, sidewalk, alley, highway, boulevard, parkway or any other public properties, and leaves any part or portion thereof open, CONTRACTOR shall provide effective protection to the public.

2. CONTRACTOR shall protect and secure all excavations in roadways in conformance with city, state, federal, and local codes and standards, including, but not limited to the most current edition of the Manual of Uniform Traffic Control Devices. CONTRACTOR shall protect and secure all unauthorized excavations not within roadways, either by covering or fencing.

a. Covering. A protective cover that can withstand the weight of persons or of objects that are placed upon it shall be installed over an unauthorized excavation. The cover shall be secured to the ground to prevent movement. Protective covers shall have no openings(s) or protuberance(s) of sufficient size to cause a fall and/or injury. Adjacent warning devices shall be installed as necessary.

b. Fencing. Fencing to prevent entry shall be installed surrounding an unauthorized excavation not protectively covered in its entirety. The fencing shall be a minimum of 42" in height. The fencing shall be constructed in such a manner that it is adequately secured and will remain in upright at all times under normal site conditions. All protective covering and fence over and around excavations shall be inspected at least daily to ensure integrity. Protective covering and/or fence in heavily trafficked areas shall be inspected more often as necessary.

O. Notification of Utilities. CONTRACTOR shall adhere to the provisions of Section 319.010 et seq., RSMo., which require that any person or firm planning an excavation in any public street, road or alley, right of way dedicated to public use, utility easement of record, or within any private street or private property shall give notice to, and obtain information from, owners of underground Facilities. The 24-hour, toll-free Accident Prevention Hotline number in Missouri is 1-800-344-7483 (1-800-DIGRITE).

P. Employee Eligibility Verification. CONTRACTOR shall adhere to the provisions of Section 285.525 et seq., RSMo., which require that for any contract exceeding fifty thousand dollars ($5,000.00), CONTRACTOR shall execute and submit an affidavit, in form prescribed by CITY, affirming that CONTRACTOR does not knowingly employ any person in connection with the contracted services to be performed and does not have the employment right or authorization under federal law to work in the United States as defined in 8 U.S.C. 1324a(h)(3). CONTRACTOR shall attach to the affidavit documentation sufficient to establish CONTRACTOR'S enrollment and participation in an electronic verification of work program operated by the United States Department of Homeland Security (E-Verify) or an equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, under the Immigration Reform and Control Act of 1986. CONTRACTOR may obtain additional information about E-Verify and enrollment at https://e-verify.uscis.gov/enroll/StartPage.aspx. For those Contractors enrolled in E-Verify, the first and most page of the E-Verify Memorandum of Understanding that CONTRACTOR will submit upon successful enrollment in the program shall constitute sufficient documentation for purposes of complying with this section. CONTRACTOR shall submit the affidavit and attachment to CITY prior to execution of the Contract, or at any point during the term of the Contract if requested by City.

Q. OSHA 10-Hour Training Requirement. CONTRACTOR and any subcontractor working under this Contract shall require each employee on the site to complete a ten-hour construction safety program that meets the requirements of Section 292.675, RSMo, except for those employees who will be employed solely in the areas which completed the required program and hold documentation to that effect. CONTRACTOR shall remove or require the removal of any

□er□on fro□ t□e □ite wh□ i□ □u□ect to t□i□ re□uire□ent □nd wh□ doe□ not co□ □ete or i□ un□□e to □roduce docu□ent□tion of t□eir □ucce□□fu□ co□ □etion of t□e re□uired □ro□r□ □it□in t□e ti□e i□ it□tion□ □re□cri□ed by □ection 292.675, R□Mo. CO□TR□CTOR shall forfeit t□e s□m of t□o t□ou□□nd fi□e □undred do□□r□ ($2,500.00), in □ddition to one □undred do□□r□ ($100.00) □er e□ □o□ee e□c□ c□end□r day, or □ortion t□ereof, t□e e□ □o□ee(□) shall continue to □e e□ □o□ed □it□out hav□ng co□ □eted t□e re□uired □ro□r□ □it□in t□e ti□e i□ it□tion□ □re□cri□ed by □ection 292.675, R□Mo. CIT□ shall □e entitled to □it□o□d □nd ret□in any □□ount□ due □nd o□in□ □ereunder □□en mak□ng □□□□ent to CO□TR□CTOR.

R. Clean Air Act and Clean Water Act. CO□TR□CTOR shall □omply □it□ re□uire□ent□ of t□e C□e□n □ir □ct (42 U.S.C. 7401 *et seq.*); C□e□n □ □ter □ct (33 U.S.C. 1251 *et seq.*), Mi□□ouri C□e□n □ □ter Law (C□□□ter 644 R□Mo), Code of Feder□□re□u□□tion□ (Titl□ 40: □rotection of En□iron□ent, Titl□ 33: □□i□□tion □nd Nav□gab□e □ □ter□) □nd t□e ru□e□ of t□e Mi□□ouri Code of □t□te Re□u□□tion□ (C□R Titl□ 10).

S. Contract information Management System. If □□□ic□□e, CO□TR□CTOR shall comply □it□ CIT□'□ Contr□ct Infor□ □tion M□n□□e□ent Sys□em re□uire□ent□. CO□TR□CTOR shall u□e CIT□'□ Internet web bas□ed Contr□ct Infor□ □tion M□n□□e□ent □□□te□/□ro□ect M□n□□e□ent Co□ □unic□tion□ Too□□ro□ided by CIT□ □nd □rotoco□□ included in t□□t □oft□□re durin□ t□e ter□ of t□i□ Contr□ct. CO□TR□CTOR shall □ □int□in u□er □□□ic□tion□ to CIT□'□ □ro□ided sys□em for all □er□onne□, □u□contr□ctor□ or □u□□ier□ as □□□ic□□e □nd shall re□uire □u□contr□ctor□/□u□con□u□t□nt□ to □ □int□in sam□e.

T. Anti-Discrimination Against Israel. If t□i□ Contr□ct e□ceed□ $100,000.00 □nd CO□TR□CTOR e□ □o□ □t□e□t ten e□ □o□ee□, □ur□u□nt to □ection 34.600, R□Mo., by e□ecutin□ t□i□ Contr□ct, CO□TR□CTOR certifie□ it i□ not current□□ en□□□ed in □nd shall □ot, for t□e dur□tion of t□i□ contr□ct, en□□□e in a □o□cott of □ood□ or □er□ice□ fro□ t□e □t□te of I□r□e□; co□ □□nie□doin□ □u□ine□□ in or □it□ I□r□e□ or □ut□ori□ed by, □icen□ed by, or or□□ni□ed under t□e laws of t□e □t□te of I□r□e□; or □er□on□ or entitie□ doin□ □u□ine□□ in t□e □t□te of I□r□e□.

6.11 Taxes

A. CO□TR□CTOR shall pay all sa□□es, con□u□er, u□e □nd ot□er i□i□r tax□es re□uired to □e □□id by CO□TR□CTOR in □ccord□nce □it□ t□e Laws or Re□u□□tion□ of t□e pla□ce of t□e □ro□ect wh□ich □re □□□ic□□e durin□ t□e □erfor□ □nce of t□e □ or□.

B. **Tax Compliance**.

1. As a condition □recedent to CIT□ mak□ng it□ fir□t □□□□ent to CO□TR□CTOR under this Contract, CONTRACTOR shall furnish to CITY sufficient proof from City's Co□ □i□□ioner of Re□enue, d□ted not □ore t□□n one (1) □e□r □rior to t□e d□te □ro□ided to CIT□, □erif□in□ t□□t CO□TR□CTOR i□ in co□ □i□□nce □it□ t□e □icen□e □nd tax ordin□nce□ administered by City's Revenue Division of the Finance Department.

2. As a condition □recedent to □u□contr□ctor□ □erfor□in□ any □or□ under t□i□ Contr□ct, CO□TR□CTOR shall o□t□in fro□ □u□contr□ctor □ufficient □roof from City's Co□ □i□□ioner of Re□enue, d□ted not □ore t□□n one (1) □e□r □efore t□e d□te □u□contr□ctor □e□in□ □or□, □erif□in□ t□□t t□e □u□contr□ctor i□ in co□ □i□□nce □it□ t□e □icen□e □nd tax ordinances administered by City's Revenue Division of the Finance De□□rt□ent. CO□TR□CTOR shall ret□in □uc□ docu□ent□tion in it□ fi□e□ □nd mak□e ava□lab□e to CIT□ □it□in ten (10) days □fter a □ritten re□ue□t.

3. As a condition □recedent to CIT□ mak□ng fin□□□□□ent under t□i□ Contr□ct, if t□i□ Contr□ct i□ □on□er t□□n one (1) □e□r □nd e□ceed□ t□e do□□r t□re□□old e□t□□li□□ed by ordin□nce □nd incl□ded in t□e □u□□e□ent□r Condition□, CO□TR□CTOR shall furni□□ to CITY sufficient proof from City's Commissioner of Revenue, dated not more than one (1) □e□r □efore t□e fi□in□ of a fin□□□□□ic□tion for □□□□ent, □erif□in□ t□□t CO□TR□CTOR i□ in

compliance with the license and tax ordinances administered by City's Revenue Division of the Finance Department.

4. If this Contract is for longer than one (1) year and exceeds the dollar threshold established by ordinance and included in the Supplementary Conditions, CONTRACTOR shall obtain from Subcontractors sufficient proof from City's Commissioner of Revenue, dated not more than one (1) year before the date of CONTRACTOR's final payment to the Subcontractor, that the Subcontractor is or is in compliance with the license and tax ordinances administered by City's Revenue Division of the Finance Department. CONTRACTOR shall retain such documentation in its files and make the same available to CITY within ten (10) days after written request.

5. If, at the time of final payment to CONTRACTOR, CONTRACTOR is unable to obtain from all its Subcontractors, if any, and furnish to CITY sufficient proof from City's Commissioner of Revenue that Subcontractors are in compliance with the license and tax ordinances administered by City's Revenue Division of the Finance Department, CITY may withhold final payment to CONTRACTOR if CITY determines that CONTRACTOR has made a good faith effort to furnish evidence or that there are other extenuating circumstances which make it impossible for CONTRACTOR to furnish sufficient proof.

C. Missouri Sales Tax Exemption. Pursuant to Section 144.062, RSMo, CITY is a Missouri exempt entity and therefore exempt to be incorporated or consumed in the construction of this Project and may be purchased without payment of tax. CITY shall furnish CONTRACTOR a Missouri Project Exemption Certificate for use at the time of issuance of the Notice to Proceed.

6.12 Use of Site and Other Areas

A. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas identified in and permitted by the Contract Documents and other areas permitted by Laws or Regulations. CONTRACTOR shall not unreasonably encumber the Site and the other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to the Site or the other areas, or to the owner or occupant thereof, or of any adjacent land or areas, resulting from the performance of the Work.

B. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law. In case of failure on the part of the CONTRACTOR to restore such property or to make good such damage or injuries, the CITY may, upon forty-eight (48) hours written notice to the CONTRACTOR, repair, replace or otherwise restore such property as the CITY may deem necessary, and the cost thereof may be deducted from any one or more due or to become due the CONTRACTOR under this Contract.

C. CONTRACTOR shall, to the fullest extent permitted by Laws or Regulations, defend, indemnify and hold harmless CITY, DEPARTMENT PROFESSIONALS, Consultants and the officers, directors, employees, agents and other consultants of each and any of these from and against all claims, costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or resulting from any claim or action, legal or equitable, brought by any such owner or occupant against CITY, DEPARTMENT PROFESSIONALS or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR's performance of the Work.

D. During the progress of the Work, CONTRACTOR shall keep the Site and the other areas free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from Site and other areas as well as all tools, appliances, construction equipment and

□c□iner□ □nd □ur□u □ □teri□□. CO□TR□CTOR shall □e□e t□e □ite c□e□n □nd re□d□ for uti□i□□tion or occu□□nc□ by CIT□ □t □u□□t□nti□□Co□ □□etion of t□e □or□. CO□TR□CTOR shall re□tore to all □ro□ert□ not de□i□n□ted for □□ter□tion by t□e Contr□ct Docu□ent□ to it□ □re-□or□ condition.

E. CO□TR□CTOR shall not □o□d nor □er□it any □□rt of any □tructure to □e □o□ded in any □□nner t□□t will end□n□er t□e □tructure, nor shall CO□TR□CTOR □u□ect any □□rt of t□e □or□ or □d□□cent □ro□ert□ to □tre□□e□or □re□□ure□t□□t will end□n□er it.

6.13 Record Documents

A. CO□TR□CTOR shall □□int□in in a □□fe pla□ce □t t□e □ite one record co□□ of all Dr□□in□□, □□ecific□tion□, □ddend□, t□e Contr□ct, □ritten □□end□ent□, C□□n□e Order□, □or□ C□□n□e Directi□e□, □nd □ritten inter□ret□tion□ □nd c□rific□tion□ in □ood order □nd □nnot□ted to sho□ all c□□n□e□ □□de durin□ con□truction. T□e□e record docu□ent□, to□et□er □it□ all □□□ro□ed Samp□es □nd a counter□□rt of all □□□ro□ed Sh□p Dr□□in□□, will □e ava□lab□e to CIT□ □nd DE□I□ □ROFE□□IO□□□ for reference. □□on co□□etion of t□e □or□, t□e□e record docu□ent□, Samp□es □nd Sh□p Dr□□in□□ will □e de□□□ered to DE□I□ □ROFE□□IO□□□ for CIT□.

6.14 Safety and Protection

A. CO□TR□CTOR shall □e □o□e□□re□□on□i□e for initi□tin□, □□int□inin□ □nd □u□er□i□in□ all □□fet□ □rec□ution□ □nd programs in connection □it□ t□e □or□. CO□TR□CTOR shall □□mply □it□ all □□□ic□□e Laws or Re□u□□tion□ re□□tin□ to t□e □□fet□ of □er□on□ or □ro□ert□ to □rotect t□e□ fro□ damag□, in□ur□ or □□□; □nd shall erect □nd □□int□in all nece□□□r□ □□fe□u□rd□ for □□fet□ and protection. CONTRACTOR shall deliver to CITY a copy of CONTRACTOR'S Health and □□fet□ Pla□ as □ro□ided in t□e □otice of Intent to Contr□ct.

B. CO□TR□CTOR shall notif□ o□ner□ of □d□□cent □ro□ert□ □nd of □nder□round F□ci□itie□ □nd ot□er uti□it□ o□ner□ □□en □ro□ecution of t□e □or□ may □ffect t□e□, □nd shall □oo□er□te □it□ t□e□ in t□e □rotection, re□o□□□, re□oc□tion □nd re□□□ce□ent of t□eir □ro□ert□. All damag□, in□ur□ or □o□□ to any □ro□ert□ referred to in Paragraph 6.14 B.2 or 6.14 B.3 c□u□ed, direct□□ or indirect□□, in □□o□e or in □□rt, by CO□TR□CTOR, any □u□contr□ctor, □u□□ier or any ot□er □er□on or or□□ni□□tion direct□□ or indirect□□e □□o□ed by a□y of t□e□ to □erfor□ or furni□□ any of t□e □or□ or □n□one for wh□□e □ct□ any of t□e□ may □e i□□□e, shall □e re□edied by CO□TR□CTOR (e□ce□t damag□ or □o□□ □ttri□ut□□□e to t□e f□u□t of Dr□□in□□ or □□ecific□tion□ or to t□e □ct□ or o□i□□ion□ of CIT□, DE□I□ □ROFE□□IO□□□, Con□u□t□nt, or □n□one e□□□o□ed by a□y of t□e□ or □n□one for wh□□e □ct□ any of t□e□ may □e i□□□e, □nd not □ttri□ut□□□e, direct□□ or indirect□□, in □□o□e or in □□rt, to t□e f□u□t or ne□□i□ence of CO□TR□CTOR, □u□contr□ctor, □u□□ier or ot□er □er□on or or□□ni□□tion direct□□ or indirect□□ e□□□o□ed by a□y of t□e□). CONTRACTOR's duties and responsibilities for safety and for protection of the Work shall continue unti□ uc□ti□e as all :□e □or□i□co□□□eted □nd DE□I□ □ROFE□□IO□□□ has i□□ued a notice to CO□TR□CTOR in □ccord□nce □it□ Paragraph 14.07 t□□t t□e □or□i□ □cce□t□□e (e□ce□t as ot□er□i□e expressly □ro□ided in connection □it□ □u□□t□nti□□ Co□□□etion). CO□TR□CTOR shall t□□e all nece□□□r□ □rec□ution□ for t□e □□fet□ of, □nd shall □ro□ide t□e nece□□□r□ □rotection to □re□ent damag□, in□ur□ or □o□□ to:

1. all □er□on□on t□e □ite or wh□ may □e □ffected by t□e □or□;

2. all t□e □or□ □nd □□teri□□ □nd e□ui□□ent to □e incor□or□ted t□erein, □□et□er in □tor□□e on or off t□e □ite; □nd

3. ot□er □ro□ert□ □t t□e □ite or □d□□cent t□ereto, inc□udin□ tree□, sh□ubs, law□s, walks, □□□e□ent, roadways, □tructure□, uti□itie□ □nd □nder□round F□ci□itie□ not de□i□n□ted for re□o□□□, re□oc□tion or re□□□ce□ent in t□e cour□e of t□e □or□.

6.15 Safety Representative

A. In □ccord□nce □it□ OSHA □t□nd□rd□, CO□TR□CTOR shall de□i□n□te a □u□ified □nd e□□erienced □□fet□ re□re□ent□ti□e wh□□e dutie□ □nd re□□on□i□i□tie□ shall □e t□e □re□ention of

□ccident□ □nd t□e □□int□inin□ □nd □u□er□i□in□ of □□fet□ □rec□ution□ □nd □ro□r□□□. CONTRACTOR's safety representative shall remain at the Site whenever there is Work in □ro□re□□ □nd □□□□□mi□□ □edi□te□□ notif□ CIT□ of □n□ e□er□encie□ or □ccident□ occurrin□ □t t□e □ite

6.16 Hazard Communication Programs

A. CO□TR□CTOR □□□□□□e re□□on□i□e for coordin□tin□ □n□ e□c□□n□e of □□teri□□□fet□ d□t□ □□eet□ or ot□er □□□□rd co□□unic□tion infor□□tion re□uired to □e □□de □□□i□□□e to or e□c□□n□ed □et□een or □□ on□e□ □□o□er□□t t□e □ite in □ccord□nce □it□ □□□□ or Re□u□□tion□.

6.17 Emergencies

A. In e□er□encie□ □ffectin□ t□e □□fet□ or □rotection of □er□on□ or t□e □□or□ or □ro□ert□ □t t□e □ite or □d□□cent t□ereto, CO□TR□CTOR, □it□out □□eci□□in□truction or □ut□ori□□tion fro□ CIT□ or DE□I□□ □ROFE□□IO□□□, i□ o□i□□ted to □ct to □re□ent t□re□tened d□□ □□e, in□ur□ or lo□□. CO□TR□CTOR □□□□□mi□e CIT□ □nd DE□I□□ □ROFE□□IO□□□ □ro□ □t □ritten notice if CO□TR□CTOR □e□ie□e□ t□□t □n□ □i□nific□nt c□□n□e□ in t□e □□or□ or □□ri□tion□ fro□ t□e Contr□ct Docu□ent□ □□□e □een c□u□ed t□ere□□ or □re re□uired □□ □ re□u□t t□ereof. If CIT□ deter□ine□ t□□t □ c□□n□e in t□e Contr□ct Docu□ent□ i□ re□uired □ec□u□e of t□e □ction t□□en □□ CO□TR□CTOR in re□□on□e to □n e□er□enc□, □ □□ or□ C□□n□e Directi□e or C□□n□e Order □i□□ □e i□□ued.

B. □ c□□n□e in t□e Contr□ct Docu□ent□ □ur□u□nt to □□r□□r□□□ 6.15 □ □i□□not □e □n □uto□□tic □ut□ori□□tion of, nor □ condition □recedent to, entitle□ent to □d□u□t□ent in t□e Contr□ct □rice or Contr□ct Ti□e□. If CIT□ □nd CO□TR□CTOR □re un□□□e to □□ree on entitle□ent to, or □ □□nitude of, □n e□uit□□□e □d□u□t□ent in t□e Contr□ct □rice or Contr□ct Ti□e□, □ C□□i□ □ □□□ □e □□de t□erefore □□ □ro□ided in □rti□e 16. □o□e□er, O□ □ER, DE□I□□ □ROFE□□IO□□□ □nd Con□ul□□nt□ □□□□□not □e i□□□e to CO□TR□CTOR for □n□ co□t□, □□□e□ or d□□ □□e□ (inc□udin□ □ut not li□ited to □□□fee□ □nd c□□r□e□ of en□ineer□, □rc□itect□, □ttorne□□, □nd ot□er □rofe□□ion□□□ □nd □□□ot□er di□□ute re□o□ution co□t□) □u□t□ined □□ CO□TR□CTOR on or in connection □it□ □n□ot□er □ro□ect or □ntici□□ted □ro□ect.

6.18 Shop Drawings and Samples

A. CO□TR□CTOR □□□□□□u□□it □□o□ Dr□□in□□ to DE□I□□ □ROFE□□IO□□□ for re□ie□ □nd □□□ro□□□in □ccord□nce □it□ t□e □cce□ted □c□edu□e of □□o□ Dr□□in□□ □nd □□□□e□u□□itt□□ (□ee □r□□r□□□ 2.07). □□□u□□itt□□ □□□□□□e identified □□ DE□I□□ □ROFE□□IO□□□ □ □□ re□uire □nd in t□e nu□□er of co□ie□ □□ecified in t□e □ener□□Re□uire□ent□. T□e d□t□ □□o□n on t□e □□o□ Dr□□in□□ □□□□□□e co□□ete □it□ re□□ect to □u□ntitie□, di□en□ion□, □□ecified □erfor□□nce □nd de□i□n criteri□, □□teri□□□ □nd □i□i□r d□t□ to □□o□ DE□I□□ □ROFE□□IO□□□ t□e □er□ice□, □□teri□□□ □nd e□ui□□ent CO□TR□CTOR □ro□o□e□ to □ro□ide □nd to en□□e DE□I□□ □ROFE□□IO□□□ to re□ie□ t□e infor□□tion for t□e li□ited □ur□o□e□ re□uired □□ □□r□□r□□□ 6.18 D.

B. CO□TR□CTOR □□□□□□□□o □u□□it □□□ □□e□ to DE□I□□ □ROFE□□IO□□□ for re□ie□ □nd □□□ro□□□in □ccord□nce □it□ □□id □cce□ted □c□edu□e of □□o□ Dr□□in□□ □nd □□□ □□e □u□□itt□□. E□c□ □□□ □□e □□□□□□e identified c□e□r□ □□ to □□teri□□, □u□□ier, □ertinent d□t□ □uc□ □□ c□t□lo□ nu□□er□ □nd t□e u□e for □□ic□ intended □nd ot□er□i□e □□ DE□I□□ □ROFE□□IO□□□ □ □□ re□uire to en□□e DE□I□□ □ROFE□□IO□□□ to re□ie□ t□e □u□□itt□□for t□e li□ited □ur□o□e□ re□uired □□ □□r□□r□□□ 6.18 D. T□e nu□□er□ of e□c□ □□□ □□e to □e □u□□itted □i□□e □□ □□ecified in t□e □□ecific□tion□.

C. **Submittal Procedures□**

1. □efore □u□□ittin□ e□c□ □□o□ Dr□□in□ or □□□ □□e, CO□TR□CTOR □□□□□ □□□e deter□ined □nd □erified□

□. □□□fied □e□□ure□ent□, □u□ntitie□, di□en□ion□, □□ecified □erfor□□nce criteri□, in□t□□□tion re□uire□ent□, □□teri□□□, c□t□lo□ nu□□er□ □nd □i□i□r infor□□tion □it□ re□□ect t□ereto□

c. [illegible] information relative to design, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto and

d. CONTRACTOR [illegible] review and coordinated each of Drawings or other Drawings and Data and it the requirements of the Work and the Contract Documents.

2. Each submittal [illegible] or specific written indication that CONTRACTOR has satisfied CONTRACTOR's obligations under the Contract Documents with respect to CONTRACTOR's review and approval of that submittal.

3. At the time of each submission, CONTRACTOR shall give DESIGN PROFESSIONAL specific written notice of such variation, if any, that the Drawing or Data submitted for review pursuant to this Paragraph 2.06 may vary from the requirements of the Contract Documents, the notice to be in writing separate from the submittal, and, in addition, CONTRACTOR shall make specific notation on each Drawing and Data submitted to DESIGN PROFESSIONAL for review and approval of each such variation.

D. DESIGN PROFESSIONAL's Review

1. DESIGN PROFESSIONAL will review and approve Drawings and Data in accordance with the schedule of Drawings and Data submitted as DESIGN PROFESSIONAL as required by Paragraph 2.06. DESIGN PROFESSIONAL's review and approval will be only to determine if the items covered by the submittal will, after installation or incorporation into the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed project as a functioning whole as indicated by the Contract Documents.

2. DESIGN PROFESSIONAL's review and approval will not extend to means, methods, techniques, sequences or procedures of construction (except where a particular means, method, technique, sequence or procedure of construction is specifically [illegible] and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. DESIGN PROFESSIONAL's review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called DESIGN PROFESSIONAL's attention to each such variation at the time of submission as required by [illegible] 6.18 C.3, and DESIGN PROFESSIONAL has given written approval of each such variation by specific written notation thereof incorporated into or accompanying the Drawing or Data approved. DESIGN PROFESSIONAL's review and approval will not relieve CONTRACTOR from responsibility for complying with the requirements of [illegible] 6.18 C.1.

E. Where a Drawing or Data is required by the Contract Documents or the schedule of Drawings and Data submitted and approved by DESIGN PROFESSIONAL as required by Paragraph 2.06, any related Work performed prior to DESIGN PROFESSIONAL's review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

F. CONTRACTOR shall make any corrections required by DESIGN PROFESSIONAL and shall return the required number of corrected copies of Drawing and submit as required new for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by DESIGN PROFESSIONAL on previous submittals.

6.19 Continuing the Work

A. CO□TR□CTOR □□□□□c□rr□ on t□e □ or□ □nd □d□ere to t□e □ro□re□□ □c□edu□e durin□ □□□ di□□ute□ or di□□□ree□ent□ □it□ CIT□ □o □ or□ □□□□□ □e de□□□ed or □o t□oned □endin□ re□o□ution of □n□ di□□ute□ or di□□□ree□ent□, e□ce□t □□ □er□itted □□ □□r□□r□□□ 15.04 or □□ CIT□ □nd CO□TR□CTOR □ □□ot□er□i□e □□ree in □ritin□.

6.20 CONTRACTOR's General Warranty and Guarantee

A. CO□TR□CTOR □□rr□nt□ □nd □u□r□ntee□ to CIT□, DE□I□□ □ROFE□□IO□□□ □nd Con□u□t□nt□ t□□t □□□□ or□ □i□□e in □ccord□nce □it□ t□e Contr□ct Docu□ent□ □nd □i□□not □e defective. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage c□u□ed □□□

1. □□u□e, □odific□tion or i□ □ro□er □ □inten□nce or o□er□tion □□ □er□on□ ot□er t□□n CO□TR□CTOR, □u□contr□ctor□, □u□□ie□ or □n□ ot□er indi□idu□□ or entit□ for □□o□ CO□TR□CTOR i□re□□on□i□□e□or

2. nor□ □□□e□r □nd te□r under nor□ □□u□□□e.

B. CONTRACTOR's o□i□□□tion to □erfor□ □nd co□□□ete t□e □ or□ in □ccord□nce □it□ t□e Contr□ct Docu□ent□ □□□□□□e □□□o□ute. □one of t□e fo□o□in□ □i□□con□titute □n □cce□t□nce of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR's o□i□□□tion to □erfor□ t□e □ or□in □ccord□nce □it□ t□e Contr□ct Docu□ent□□

1. o□□er□□tion□ □□DE□I□□ □ROFE□□IO□□□□

2. reco□ □end□tion of □n□ □ro□re□□ or fin□□□□□□ent □□DE□I□□ □ROFE□□IO□□□□

3. t□e i□□u□nce of □ certific□te of □u□□t□nti□□Co□□□etion or □n□ □□□□ent re□□ted t□ereto □□CIT□ to CO□TR□CTOR□

4. u□e or occu□□nc□ of t□e □ or□or □n□ □□rt t□ereof □□O□ □ER□

5. □n□re□ie□ □nd □□□ro□□□of □ □□o□ Dr□□in□ or □□□ □□e □u□□itt□□or t□e i□□u□nce of □notice of □cce□t□□i□t□□□DE□I□□ □ROFE□□IO□□□□

6. □n□in□□ection, te□t or □□□ro□□□□□ot□er□□or

7. □n□correction of defecti□e □ or□ □□CIT□.

C. Nonconforming Work is rejected unless expressly accepted in writing by the CITY's Re□re□ent□ti□e.

ARTICLE 7 OTHER WORK

7.01 Related Work at Site

A. CIT□ □ □□ □erfor□ other work related to the Project at the Site by CITY's own forces, or □et ot□er direct contr□ct□t□erefore, or □□□e ot□er □or□ □erfor□ed □□ uti□it□o□ner□. If □uc□ ot□er □or□i□to □e □erfor□ed □nd □uc□f□ct □□□not noted in t□e Contr□ct Docu□ent□, t□en□

1. □ ritten notice t□ereof □i□□e □i□en to CO□TR□CTOR □rior to □t□rtin□ □n□ □uc□ ot□er □or□, □nd

2. CO□TR□CTOR □ □□ □ □□e □ C□□i□ t□erefore □□ □ro□ided in □rti□e 16 if CO□TR□CTOR □e□ie□e□ t□□t □uc□ □erfor□nce in□o□e□ □ddition□□ e□□en□e to CO□TR□CTOR or re□uire□ □ddition□□ti□e □nd t□e □□rtie□ □re un□□□e to □□ree □□ to t□e □□ount or e□tent t□ereof.

B. CO□TR□CTOR □□□□□ □fford e□c□ ot□er contr□ctor □□o i□ □ □□rt□ to □uc□ □ direct contr□ct, □nd e□c□uti□it□o□ner (□nd CIT□, if CIT□ i□ □erfor□in□ t□e □dditional work with CITY's e□ □o□ee□) □ro□er □nd □□fe □cce□□to t□e □ite □nd □re□□on□□□e o□□ortunit□for t□e introduction □nd □tor□□e of □ □teri□□ □nd e□ui□□ent □nd t□e e□ecution of □uc□ ot□er □or□ □nd □□□□□ro□er□ connect □nd coordin□te t□e □or□ □it□ t□eir□. □n□□ ot□er□i□e □ro□ided in t□e Contr□ct Docu□ent□, CO□TR□CTOR □□□□□do □□cuttin□, fittin□ □nd □□tc□in□ of t□e □or□ t□□t □□□ □e

required to properly connect or otherwise make its Work fit properly with that of others and properly interface with such other Work. CONTRACTOR shall not endanger any Work of others by cutting, excavating or otherwise altering their Work and will only cut or alter their Work with the written consent of CITY and the others whose Work will be affected. The duties and responsibilities of CONTRACTOR under this Article are for the benefit of such utility owners and other contractors to the extent that there are corresponding provisions for the benefit of CONTRACTOR in said direct contracts between CITY and such utility owners and other contractors.

C. If the proper execution or results of any part of CONTRACTOR's Work depends upon Work performed by others under this Article 7, CONTRACTOR shall inspect such other Work and promptly report to CITY and DESIGN PROFESSIONAL in writing any delays, defects or deficiencies in such other Work that render it unsuitable or unsuitable for the proper execution or results of CONTRACTOR's Work. CONTRACTOR's failure to report same will constitute an acceptance of such other Work as fit and proper for interface with CONTRACTOR's Work, except for latent or non-apparent defects and deficiencies in such other Work.

7.02 Coordination

A. If CITY contracts with others for the performance of other Work on the Project at the Site, the following will be set forth in Supplementary Condition:

1. the person, firm or corporation who has authority and responsibility for coordination of the activities among the various contractors will be identified;
2. the specific matters to be covered by such authority and responsibility will be itemized; and
3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, CITY's delegation of such authority and responsibility in respect of such coordination.

ARTICLE 8 CITY'S RESPONSIBILITIES

8.01 Communications to CONTRACTOR

A. Except as otherwise provided in these General Conditions, CITY shall issue all communications to CONTRACTOR.

8.02 Replacement of DESIGN PROFESSIONAL

A. In case of termination of the employment of DESIGN PROFESSIONAL, CITY shall appoint a DESIGN PROFESSIONAL to whom CONTRACTOR makes no reasonable objection under the Contract Documents.

8.03 Furnish Data and Prompt Payment

A. CITY shall promptly furnish the data required of OWNER under the Contract Documents and shall make payments to CONTRACTOR when they are due.

8.04 Lands and Easements; Reports and Tests

A. CITY's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to CITY's duty to identify and make available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions at the Site and drawings of physical conditions in existing structures at or contiguous to the Site that have been utilized by DESIGN PROFESSIONAL in preparing the Contract Documents.

8.05 Insurance

A. CITY's responsibilities, if any, for purchasing and maintaining liability and property insurance are set forth in Article 5 and the Supplementary Conditions.

8.06 Change Orders

A. CITY is obligated to execute Change Orders as indicated in Article 10.03.

8.07 Inspections, Tests and Approvals

A. CITY's responsibility for certain inspections, tests and approvals is set forth in Paragraph 13.02 F.

8.08 Limitations on CITY's Responsibilities

A. The CITY shall not supervise, direct or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with laws and regulations applicable to the performance of the Work. CITY will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

8.09 Undisclosed Hazardous Environmental Condition

A. CITY's responsibility for an undisclosed Hazardous Environmental Condition uncovered or related at the Site is set forth in Article 4.06.

8.10 Evidence of Financial Arrangements

A. CITY shall furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract.

8.11 CITY's Representative

A. CITY shall provide a representative during the construction period. The duties, responsibilities and the limitations of authority of the CITY "'s Representative during construction are set forth in the Contract Documents.

8.12 Visits to Site

A. CITY's Representative will make visits to the Site at intervals appropriate to the various stages of construction as CITY's Representative deems necessary in order to observe the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, CITY's Representative shall endeavor to determine, in general, if the Work is proceeding in accordance with the Contract Documents. CITY's Representative will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work.

ARTICLE 9 DESIGN PROFESSIONAL's STATUS DURING CONSTRUCTION

9.01 General Scope of DESIGN PROFESSIONAL's Duties

A. DESIGN PROFESSIONAL's efforts will be directed toward providing for CITY a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of visits to the Site and on-site observations, DESIGN PROFESSIONAL shall keep CITY informed of the progress of the Work and shall endeavor to guard CITY against defective Work. DESIGN PROFESSIONAL's visits to the Site and on-site observations are subject to all the limitations on DESIGN PROFESSIONAL's authority and responsibility set forth in Article 9.08.

9.02 Resident Project Representative

A. If CITY and DESIGN PROFESSIONAL agree, DESIGN PROFESSIONAL shall furnish a resident project representative to assist DESIGN PROFESSIONAL in providing more extensive observation of the Work. The responsibilities, authority and limitations thereon of any such resident project representative and assistants will be provided in Article 9.08 and in the Supplementary Conditions.

9.03 Clarifications and Interpretations

A. DE□I□ □ROFE□□IO□□□ □i□i□ue □it□ re□□on□□e □ro□ □tne□□ □ritten c□rific□tion□ or inter□ret□tion□ (□ic□ □ □□ □e in t□e for□ of Dr□□in□□) of t□e re□uire□ent□ of t□e Dr□□in□□ □nd □□ecific□tion□ re□□red □□ t□e DE□I□□ □ROFE□□IO□□□ □□ DE□I□□ □ROFE□□IO□□□ □ □□ deter□ine nece□□□r□, □□ic□ □□□□□e con□i□tent □it□ t□e intent of □nd re□□on□□□□ infer□□e fro□ t□e Contr□ct Docu□ent□. □uc□ □ritten c□rific□tion□ □nd inter□ret□tion□ □i□□e □indin□ on CIT□ □nd CO□TR□CTOR. If CIT□ or CO□TR□CTOR □e□e□e□ t□□t □ □ritten c□rific□tion or inter□ret□tion □u□tifie□ □n □d□u□t□ent in t□e Contr□ct □rice □ur□u□nt to □rtic□e 11 □nd/ or t□e Contr□ct Ti□e□ □ur□u□nt to □rtic□e 12 □nd t□e □□rtie□ □re un□□□e to □□ree to t□e □□ount or e□tent t□ereof, if □n□, □C□i□ □ □□□e □□de t□erefore □□ □ro□ided in □rtic□e 16.

9.04 Rejecting Defective Work

A. DE□I□□ □ROFE□□IO□□□ □i□□ □□□e □ut□orit□ to di□□□□ro□e or re□ect □or□ □□ic□ DE□I□□ □ROFE□□IO□□□ □e□e□e□ to □e defecti□e, t□□t DE□I□□ □ROFE□□IO□□□ □e□e□e□ □i□□not □roduce □ co□□□eted □ro□ect t□□t confor□□ to t□e Contr□ct Docu□ent□, or t□□t □i□□ □re□udice t□e inte□rit□ of t□e de□i□n conce□t of t□e co□□□eted □ro□ect □□□ functionin□ □□o□□ □□ indic□ted □□ t□e Contr□ct Docu□ent□. DE□I□□ □ROFE□□IO□□□ □i□□□□o □□□e □ut□orit□ to re□uire □□eci□□in□□ection or te□tin□ of t□e □or□ □□ □ro□ided in □r□□r□□□ 13.04 □, □□et□er or not t□e □or□i□f□□ric□ted, in□t□□□ed or co□□□eted.

9.05 Shop Drawings, Change Orders and Payments

A. In connection □it□ DE□I□□ □ROFESSIONAL's authority as to Shop Drawings and □□□ □□□, □ee □r□□r□□□ 6.18.

B. In connection with DESIGN PROFESSIONAL's authority as to Change Orders, see □rtic□e 10.

C. In connection with DESIGN PROFESSIONAL's authority as to Applications for Payment, □ee □rtic□e 14.

9.06 Determinations for Unit Prices

A. DE□I□□ □ROFE□□IO□□□ □i□□ initi□□□ deter□ine t□e □ctu□□ □u□ntitie□ □nd c□□□ific□tion□ of □nit □rice □or□ □erfor□ed □□ CO□TR□CTOR. DE□I□□ □ROFE□□IO□□□ □i□□ review with CONTRACTOR the DESIGN PROFESSIONAL'□ □re□□in□r□ deter□in□tion□ on □uc□ □□tter□ □efore renderin□ □ □ritten o□inion t□ereon (□□ reco□□end□tion of □n □□□ic□tion for □□□□ent or ot□er□i□e to t□e CIT□). CIT□ re□er□e□ t□e ri□□t to □□□e □fin□□deter□in□tion of t□e □ctu□□ □u□ntitie□ □nd c□□□ific□tion□ of □nit □rice □or□ in re□ie□in□ □n □□□ic□tion for □□□□ent. □it□in ten (10) d□□□ □fter t□e d□te of recei□t of □n□ □uc□ deci□ion, CO□TR□CTOR □ □□ de□i□er to CIT□ □nd to DE□I□□ □ROFE□□IO□□□ □ritten notice of intention to □□□e□□ CITY's decision pursuant to □rtic□e 16.

9.07 Decisions on Requirements of Contract Documents and Acceptability of Work

A. DE□I□□ □ROFE□□IO□□□ □i□□e t□e initi□□inter□reter of t□e re□uire□ent□ of t□e Dr□□in□□ □nd □□ecific□tion□ □re□□red □□ DE□I□□ □ROFE□□IO□□□ □nd □ud□e of t□e □cce□t□□i□it□ of t□e □or□ t□ereunder.

B. □ □en functionin□ □□ inter□reter □nd □ud□e under t□i□ □□r□□r□□□ 9.07, DE□I□□ □ROFE□□IO□□□ □i□□not □□o□ □□rti□□it□ to O□ □ER or CO□TR□CTOR.

C. C□i□□, di□□ute□ □nd ot□er □□tter□ re□□tin□ to t□e □cce□t□□i□it□ of t□e □or□, □u□ntitie□ □nd c□□□ific□tion□ of □nit □rice □or□, or t□e inter□ret□tion of t□e re□uire□ent□ of t□e Contr□ct Docu□ent□ □ert□inin□ to t□e □erfor□□nce □nd furni□□in□ of t□e □or□ □i□□e referred initi□□□ to CITY's Representative in writing with a request for □ for□ □□deci□ion in □ccord□nce □it□ □rtic□e 16.

9.08 Limitations on DESIGN PROFESSIONAL's Authority and Responsibilities

A. Neither DESIGN PROFESSIONAL's authority or responsibility under this Article 9 or under □n□ ot□er □ro□i□ion of t□e Contr□ct Docu□ent□ nor □n□ deci□ion □□de □□ DE□I□□ □ROFE□□IO□□□□ in □ood f□it□ eit□er to e□erci□e or not e□erci□e □uc□ □ut□orit□ or re□□on□i□ii□t□ or t□e undert□□in□, e□erci□e or □erfor□□nce of □n□ □ut□orit□ or re□□on□i□ii□t□ □□ DE□I□□ □ROFE□□IO□□□□ □□□□m cre□te, i□ □o□e or □i□e ri□e to □n□ dut□ o□ed □□ DE□I□□ □ROFE□□IO□□□□ to CO□TR□CTOR, □n□ □u□contr□ctor, □n□ □u□□ie□, □n□ ot□er □er□on or or□□ni□□tion, or to □n□ □uret□ for or e□ □o□ee or □□ent of □n□ of t□e□.

B. DE□I□□ □ROFE□□IO□□□□ □i□□not □u□eri□e, direct, contro□or □□□e □ut□orit□ o□er or □e responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of con□truction, or t□e □□fet□ □rec□ution□ □nd □ro□r□□□ incident t□ereto, or for □n□ f□i□ure of CO□TR□CTOR to co□ □□□ □it□ □□□□ or Re□u□□tion□ □□□□ic□□e to t□e furni□□in□ or □erfor□□nce of the Work. DESIGN PROFESSIONAL will not be responsible for CONTRACTOR's failure to □erfor□ or furni□□ t□e □ or□in □ccord□nce □it□ t□e Contr□ct Docu□ent□.

C. DE□I□□ □ROFE□□IO□□□□ □i□□not □e re□□on□i□e for t□e □ct□ or o□i□□ion□ of CO□TR□CTOR or of □n□ □u□contr□ctor, □n□ □u□□ie□, or of □n□ ot□er □er□on or or□□ni□□tion □erfor□in□ or furni□□in□ □n□ of t□e □ or□.

D. DESIGN PROFESSIONAL's review of the final Applic□tion for □□□□ent □nd □cco□□□n□in□ docu□ent□tion, □nd □□□ □ inten□nce □nd o□er□tin□ in□truction□, □c□edu□e□, □u□r□ntee□, □ond□ □nd certific□te□ of in□□ection, te□t□ □nd □□□ro□□□□ □nd ot□er docu□ent□tion re□uired to □e de□i□ered □□ □□r□□r□□□ 14.07 □i□□on□□ □e to deter□ine □ener□□□ t□□t t□eir content co□ □□ie□ □it□ t□e re□uire□ent□ of, □nd in t□e c□□e of certific□te□ of in□□ection□, te□t□ □nd □□□ro□□□□, t□□t t□e re□u□t□ certified indic□te co□ □i□□nce □it□, t□e Contr□ct Docu□ent□.

E. T□e i□□it□tion□ u□on □ut□orit□ □nd re□□on□i□ii□t□ □et fort□ in t□i□ □□r□□r□□□ 9.08 □□□□□ also apply to DESIGN PROFESSIONAL's Consultants, resident Project representative and □□□i□t□nt□ □□identified in t□e □u□□e□ent□r□Condition□.

ARTICLE 10 CHANGES IN THE WORK

10.01 Authorized Changes in the Work

A. □ it□out in□□id□tin□ t□e Contr□ct □nd □it□out notice to □n□ □uret□, CIT□ □ □□, □t □n□ti□e or fro□ ti□e to ti□e, order □ddition□, de□etion□ or re□i□ion□ in t□e □ or□. □uc□ □ddition□, de□etion□ or re□i□ion□ □i□□e □ut□ori□ed □□ □ □ritten □□end□ent, □ C□□n□e Order, or □ □ or□ C□□n□e Directi□e. □□on recei□t of □n□ □uc□ docu□ent, CO□TR□CTOR □□□□□ro□□t□ □roceed □it□ t□e □ or□in□o□□ed t□□t □i□□e □erfor□ed under t□e □□□ic□□e condition□ of t□e Contr□ct Docu□ent□ (e□ce□t □□ot□er□i□e □□ecific□□□ □ro□ided).

B. If CIT□ □nd CO□TR□CTOR □re un□□e□ to □□ree on entitle□ent to, or on t□e □□ount or e□tent, if □n□, of □n □d□u□t□ent in t□e Contr□ct □rice □ur□u□nt to □rtic□e 11 or □n □d□u□t□ent of t□e Contr□ct Ti□e□ □ur□u□nt to □rtic□e 12 or □ot□t□□t □□ould □e □□o□ed □□ □ re□u□t of □ □ or□ C□□n□e Directi□e, □ C□i□ □ □□□e □ □de t□erefore □□ □ro□ided in □rtic□e 16.

10.02 Unauthorized Changes in the Work

A. CO□TR□CTOR □□□□□not □e entitled to □n incre□□e in t□e Contr□ct □rice or □n e□ten□ion of t□e Contr□ct Ti□e□ □it□ re□□ect to □n□ □or□ □erfor□ed t□□t i□ not re□uired □□ t□e Contr□ct Docu□ent□ □□ □□ended, □odified or □u□□e□ented □□ □ro□ided in □□r□□r□□□ 3.04, e□ce□t in t□e c□□e of □n e□er□enc□ □□ □ro□ided in □□r□□r□□□ 6.17 or in t□e c□□e of unco□erin□ □ or□ □□ □ro□ided in □□r□□r□□□ 13.04.

10.03 Signing of Change Orders

A. CIT□ □nd CO□TR□CTOR, □nd DE□I□□ □ROFE□□IO□□□ □□□□m □i□n □□□ro□ri□te C□□n□e Order□co□erin□□

1. c□□n□e□in t□e □ or□□□ic□ re□

□. ordered □□ CIT□ □ur□u□nt to □□r□□r□□□ 10.01 □□or

□. re□uired □ec□u□e of □cce□t□nce of defecti□e □ or□ under □□r□□r□□□ 13.08 or correctin□ defecti□e □ or□under □□r□□r□□□ 13.09□or

c. □□reed to □□t□e □□rtie□□

2. c□□n□e□in t□e Contr□ct □rice or Contr□ct Ti□e□or □ot□ □□ic□ □re □□reed to □□t□e □□rtie□, inc□udin□ □n□ undi□□uted □u□ or □□ount of ti□e for □or□ □ctu□□□□ □erfor□ed in □ccord□nce □it□ □ □ or□C□□n□e Directi□e□□nd

3. c□□n□e□ in t□e Contr□ct □rice or Contr□ct Ti□e□ or □ot□ □□ic□ e□□od□ t□e □u□□t□nce of □n□ □ritten deci□ion reco□□ended □□ DE□I□ □ROFE□□IO□□□ □nd □□□ro□ed □□ CIT□ □ur□u□nt to □□r□□r□□□ 9.06, □ro□ided t□□t, in □ieu of □i□nin□ □n□ □uc□ C□□n□e Order, □n □□□e□□□ □□ □e t□□en fro□ □n□ □uc□ deci□ion in □ccord□nce □it□ t□e □ro□i□ion□ of t□e Contr□ct Docu□ent□ □nd □□□ic□□e □□□□ or Re□u□□tion□, □ut durin□ □n□ □uc□ □□□e□□, CO□TR□CTOR □□□□□c□rr□ on t□e □ or□ □nd □d□ere to t□e □ro□re□□ □c□edu□e □□ □ro□ided in □□r□□r□□□ 6.19.

10.04 Notification to Surety

A. If notice of □n□ c□□n□e □ffectin□ t□e □ener□□□co□e of t□e □ or□or t□e □ro□i□ion□ of t□e Contr□ct Docu□ent□ (inc□udin□, □ut not □i□ited to, Contr□ct □rice or Contr□ct Ti□e□or □ot□) i□ re□uired □□ t□e □ro□i□ion□ of □n□ □ond to □e □i□en to □ □uret□, t□e □i□in□ of □n□ □uc□ notice □i□□ □e CO□TR□CTOR's responsibility, and the amount of each applicable Bond will be adjusted □ccordin□□□.

ARTICLE 11 CHANGE OF CONTRACT PRICE

11.01 Change of Contract Price

A. T□e Contr□ct □rice con□titute□ t□e tot□□ co□□en□□tion (□u□□ect to □ut□ori□ed □d□u□t□ent□) □□□□□□e to CO□TR□CTOR for □erfor□in□ t□e □ or□. □□dutie□, re□□on□i□i□ie□ □nd obligations assigned to or undertaken by CONTRACTOR shall be at CONTRACTOR's expense □it□out c□□n□e in t□e Contr□ct □rice.

B. T□e Contr□ct □rice □ □□ on□□ □e c□□n□ed □□ □ C□□n□e Order. □n□ re□ue□t for □n □d□u□t□ent in t□e Contr□ct □rice □□□□□e □□□ed on □ritten notice de□i□ered □it□in fourteen (14) c□□end□r d□□□ □fter occurrence of t□e e□ent □i□in□ ri□e to t□e re□ue□t or □it□in fourteen (14) c□□end□r d□□□ □fter fir□t reco□nition of t□e condition□ □i□in□ ri□e to t□e re□ue□t. □rior notice i□ not re□uired for re□ue□t□ or c□□i□□ re□□tin□ to □n e□er□enc□ end□n□erin□ □ife or □ro□ert□ □□ de□cri□ed in □□r□□r□□□ 6.16. T□ere□fter, t□e CO□TR□CTOR □□□□□ □u□□it □ritten docu□ent□tion of it□ re□ue□t, inc□udin□ □□□ro□ri□te □u□□ortin□ docu□ent□tion, □it□in ten (10) c□□end□r d□□□ □fter □i□in□ notice, un□e□□ t□e CIT□ □r□nt□ □n e□ten□ion □□□ed on □ood c□u□e □□o□n □□t□e CO□TR□CTOR t□□t □uc□ □ddition□□ti□e i□ □□rr□nted.

C. T□e □□ue of □n□ □ or□co□ered □□ □ C□□n□e Order or of □n□ re□ue□t for □n □d□u□t□ent in t□e Contr□ct □rice □i□□□e deter□ined □□ fo□o□□□

1. □□ere t□e □ or□in□o□□ed i□ co□ered □□ □nit □rice□ cont□ined in t□e Contr□ct Docu□ent□, □□ □□□□ic□tion of □uc□ □nit □rice□ to t□e □u□ntitie□ of t□e ite□ □in□o□□ed (□u□□ect to t□e □ro□i□ion□ of □□r□□r□□□ 11.04) □or

2. □□ere t□e □ or□in□o□□ed i□ not co□ered □□ □nit □rice□ cont□ined in t□e Contr□ct Docu□ent□, □□ □ □utu□□□ □□reed □u□ □ □u□ □or

3. □□ere t□e □ or□in□o□□ed i□ not co□ered □□ □nit □rice□ cont□ined in t□e Contr□ct Docu□ent□ □nd □□ree□ent to □ □u□ □ □u□ i□ not re□c□ed under □□r□□r□□□ 11.01 C.2, on t□e □□i□ of t□e Co□t of t□e □ or□ (deter□ined □□ □ro□ided in □□r□□r□□□□ 11.02 □ □nd □) plus a CONTRACTOR's fee for overhead and profit (determined as provided in Paragraph 11.01 D).

D. The CONTRACTOR's fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

1. As mutually accepted fixed fee or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraph 11.02 A.1 and 11.02 A.2, the CONTRACTOR's fee shall be ten percent (10%);

b. for costs incurred under Paragraph 11.02 A.3, the CONTRACTOR's fee shall be five percent (5%);

c. Where one or more tiers of subcontracts are on the basis of the Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01 D.2 and 11.02 A.1 through A.3 is that the subcontractor who actually performs or furnishes the Work, at whatever tier, is paid a fixed fee of ten percent (10%) of the costs incurred by such subcontractor under Paragraphs 11.02 A.1 and 11.02 A.2 and that any higher tier subcontractor and CONTRACTOR will be paid a fixed fee of five percent (5%) of the amount paid to the next lower tier subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.02 A.4, 11.02 A.5 and 11.02 B;

e. the amount of credit to be allowed by CONTRACTOR to CITY for any change which results in a net decrease in cost will be the amount of the actual net decrease in costs plus a deduction in CONTRACTOR's fee by an amount equal to five percent (5%) of such net decrease; and

f. When both additional and credit Work are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.01 D.2.a through 11.01 D.2.e, inclusive.

E. Whenever the Cost of the Work is to be determined pursuant to Paragraphs 11.02 C and D, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to CITY an itemized cost breakdown together with supporting data.

11.02 Cost of the Work

A. The term "Cost of the Work" means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. When the value of any Work covered by a Change Order or when a request for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to CONTRACTOR will include only additional or incremental costs required because of the change in the Work or because of the event giving rise to the request. Except as otherwise agreed to in writing by CITY, costs covered by Change Order or request will include in amount no higher than the prevailing in the locality of the Project, will include only the following items and will not include any costs itemized in 11.02 B:

1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work, during occupation classifications limited to and as classified upon by CITY and CONTRACTOR. Such employees will include, without limitation, field site superintendents, foremen and other persons employed full time at the site. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs will include, but not be limited to, salaries and wages plus the cost of fringe benefits which will include social security contributions, unemployment, excise and payroll taxes, workers'' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of

□erfor□in□ t□e □or□ □fter re□u□r □or□in□ □our□, on □□turd□□, □und□□□ or □egal □oid□□□, shall □e inc□uded in t□e ab□v□ to t□e e□tent □ut□ori□ed by O□ □ER.

2. Co□t of all □□teri□□ □nd e□ui□□ent furni□□ed □nd incor□or□ted into t□e □or□, inc□udin□ co□t□ of tr□n□□ort□tion □nd □tor□□ t□ereof, □nd □u□□ier□' field services required in connection t□ere□it□. All cash di□count□ shall □ccrue to CO□TR□CTOR un□□□ CIT□ de□o□it fund□ □it□ CO□TR□CTOR □it□ wh□ch to mak□ paym□nts, in wh□ch c□□e t□e cash di□count□ shall □ccrue to CIT□. All tr□de di□count□, re□□te□ □nd refund□ □nd return□ fro□ □□e of □ur□u□ □□teri□□ □nd e□ui□□ent shall □ccrue to CIT□, □nd CO□TR□CTOR shall mak□ □ro□i□ion□ □o t□□t t□e□ may □e o□t□ined.

3. Paym□nts □□de by CO□TR□CTOR to □u□contr□ctor□ for □or□ □erfor□ed or furni□□ed by □u□contr□ctor□. If re□uired by CIT□, CO□TR□CTOR shall o□t□in co□□etiti□e □id□ fro□ □u□contr□ctor□ □cce□t□□e to O□ □ER □nd CO□TR□CTOR □nd shall de□i□er □uc□ □id□ to CIT□ wh□ will t□en deter□ine, □it□ t□e □d□ice of DE□I□□ □ROFE□□IO□□□, which □id□, if any, will □e □cce□ted. If any □u□contr□ct □ro□ide□ t□□t t□e □u□contr□ctor i□ to □e □id on t□e bas□s of t□e Co□t of t□e □or□ □lu□ a fee, t□e □u□contr□ctor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as □ro□ided in Pa□ag□aphs 11.01 D □nd E □nd 11.02 A □nd B. All □u□contr□ct□ shall □e □u□□ect to t□e ot□er □ro□i□ion□ of t□e Contr□ct Docu□ent□ in□o□r as □□□ic□□e.

4. Co□t□ of □□eci□□con□u□t□nt□ (inc□udin□ □ut not li□ited to en□ineer□, □rc□itect□, te□tin□ □□□or□torie□, □ur□e□or□, □ttorne□□ □nd □ccount□nt□) e□□lo□ed for □er□ice□ □□ecific□□□ re□□ted to t□e □or□□□en □uc□ □er□ice□ □re □□□ro□ed in □d□□nce by CIT□ in □ritin□.

5. Ot□er co□t□ inc□udin□ t□e fo□o□in□:

a. T□e □ro□ortion of nece□□□r□ tr□n□□ort□tion, tr□□e□□nd □u□□i□tence e□□en□e□ of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

b. Co□t, inc□udin□ tr□n□□ort□tion □nd □□inten□nce, of all □□teri□□, □u□□ie□, e□ui□□ent, □□c□iner□, □□□i□nce□, office □nd te□□□or□r f□ci□itie□ □t t□e □ite □nd □□nd too□□ not o□ned by t□e □or□er, which □re con□u□ed in t□e □erfor□□nce of t□e □or□, □nd co□t, e□□ □□r□et □□ue of □uc□ ite□ □ u□ed □ut not con□u□ed which re□ □in t□e □ro□ert□ of CO□TR□CTOR.

c. Rent□□ of all con□truction e□ui□□ent □nd □□c□iner□ □nd t□e parts t□ereof □□et□er rented fro□ CO□TR□CTOR or ot□er□ in □ccord□nce □it□ rent□□□ree□ent□ □□□ro□ed by CIT□ □it□ t□e □d□ice of DE□I□□ □ROFE□□IO□□□, □nd t□e co□t□ of tr□n□□ort□tion, lo□din□, unlo□din□, in□t□□□tion, ass□mbly, di□□□nt□in□ □nd re□o□□□ t□ereof, all in □ccord□nce □it□ t□e ter□□ of □id rent□□□ree□ent□. T□e rent□□ of any □uc□ e□ui□□ent, □□c□iner□ or parts shall ce□□e □□en t□e u□e t□ereof i□ no lon□er nece□□□r□ for t□e □or□.

d. □□□ic□□e sa□es, con□u□er, u□e or □i□i□r tax□s re□□ted to t□e □or□, □nd for wh□ch CO□TR□CTOR i□ li□□e, i□ □o□ed by Laws or Re□u□□tion□.

e. De□o□it□ lo□t for c□u□e□ ot□er t□n ne□li□ence of CO□TR□CTOR, any □u□contr□ctor or □n□one direct□□ or indirect□□e□ □□□ed by any of t□e□ or for wh□o□e □ct□ any of t□e□ may □e li□□e, □nd ro□□t□ paym□nts □nd fee□ for □er□it□ □nd □icen□e□ re□uired to □erfor□ t□e □or□.

f. Lo□□□s □nd damag□s (□nd re□□ted e□□en□e□) c□u□ed by damag□ to t□e □or□, not co□□en□□ted by in□ur□nce or ot□er□i□e, □u□t□ined by CO□TR□CTOR in connection □it□ t□e □erfor□□nce □nd furni□□in□ of t□e □or□ (e□ce□t lo□□e□ □nd damag□s □it□in t□e deducti□le □□ount□ of ro□ert□ in□ur□nce e□t□□li□□ed by CIT□ in □ccord□nce □it□ □rtic□ 5), ro□ided t□e□ hav□ re□u□ted fro□ c□u□e□ ot□er t□n t□e ne□li□ence of CO□TR□CTOR, any □u□contr□ctor, or □n□one direct□□ or indirect□□e□ □□□ed by any of t□e□ or for wh□o□e □ct□ any of t□e□ may □e li□□e. □uc□ lo□□e□ shall inc□ude □ett□e□ent□ □□de □it□ t□e □ritten con□ent □nd app□oval of CIT□. □o □uc□ lo□□e□, damag□s □nd e□□en□e□ shall □e inc□uded in t□e Co□t of t□e □or□ for t□e □ur□o□e of deter□inin□

CONTRACTOR's fee. If, however, any such lo□□ or d□□ □□e re□uire□ recon□truction □nd CO□TR□CTOR i□ □□ced in c□□r□e t□ereof, CO□TR□CTOR □□□□□□e □□id for t□o□e □er□ice□ □ fee □ro□ortion□te to t□□t □t□ted in □□r□□r□□□ 11.01 D.2.

□. T□e co□t of uti□itie□, fue□ □nd □□nit□r f□ci□itie□ □t t□e □ite.

□. Minor e□□en□e□ □uc□ □□ te□□r□□ □, □on□ di□t□nce te□e□□one c□□□, te□e□□one □er□ice □t t□e □ite, e□□re□□□□e □nd □i□i□r □ett□c□□□ite□ □in connection □it□ t□e □ or□.

i. Co□t of □re□iu□ □ for □ddition□□or incre□□ed □ond□, or for in□ur□nce re□uired □ec□u□e of □□□ro□ed c□□n□e□in t□e □ or□.

B. Costs excluded: The term "Cost of the Work" shall not include any of the following:

1. Payroll costs and other compensation of CONTRACTOR's officers, executives, □rinci□□□□ (of □□rtner□i□ □nd □o□e □ro□rietor□i□□), □ener□□ □ □n□□er□, en□ineer□, □rc□itect□, e□ti□ □tor□, □ttorne□□, □uditor□, □ccount□nt□, □urc□□□in□ □nd contr□ctin□ □□ent□, e□□editer□, ti□e□ee□er□, c□er□□ □nd ot□er □er□onne□e□ □o□ed □□ CO□TR□CTOR □□et□er at the Site or in CONTRACTOR's principal or a branch office for □ener□□□d□ini□tr□tion of t□e □or□ (if not □□ecific□□□□ inc□uded in t□e □□reed u□on occu□□tion□□ titie□ □nd □o□ c□□□ific□tion□ referred to in □□r□□r□□□ 11.02 □.1 or □□ecific□□□□ co□ered □□ □□r□□r□□□ 11.02 □.4), □□□of □□ic□ □re to □e con□idered administrative costs covered by the CONTRACTOR's fee.

2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the Site.

3. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for t□e □or□ □nd c□□r□e□ □□□in□t CO□TR□CTOR for de□in□uent □□□□ent□.

4. Co□t□ due to t□e ne□i□ence of CO□TR□CTOR, □n□ □u□contr□ctor, or □n□one direct□□ or indirect□□e□ □o□ed □□ □n□ of t□e□ or for □□o□e □ct□ □n□ of t□e□ □ □□□ □e i□□□e, inc□udin□ □ut not i□□ited to, t□e correction of defecti□e □or□, di□□o□□□ of □ □teri□□□, or e□ui□□ent □ron□□□ □u□□ied, □nd □ □□in□ □ood □n□d□□ □□e to □ro□ert□.

5. Ot□er o□er□e□d or □ener□□e□□en□e co□t□ of □n□ □ind □nd t□e co□t□ of □n□ ite□ not □□ecific□□□□ □nd e□□re□□□□ inc□uded in □□r□□r□□□ 11.02 □.

11.03 Cash Allowances

A. It i□ under□tood t□□t CO□TR□CTOR □□□ inc□uded in t□e Contr□ct □rice □□□□□o□□nce□ □o n□□ed in t□e Contr□ct Docu□ent□ □nd □□□□□c□u□e t□e □or□ □o co□ered to □e furni□□ed □nd □erfor□ed for □uc□ □u□ □□□ □ □□□e □cce□t□□e to CIT□. CO□TR□CTOR □□ree□t□□t□

1. t□e □□o□□nce□ inc□ude t□e co□t to CO□TR□CTOR (□e□ □n□ □□□ic□□e tr□de di□count□) of □ □teri□□□ □nd e□ui□□ent re□uired □□ t□e □□o□□nce□ to □e de□i□ered □t t□e □ite, □nd □□□□□□ic□□e t□□e□□□nd

2. CONTRACTOR's costs for unloading and handling on the Site, □□or, in□t□□□tion co□t□, o□er□e□d, □rofit □nd ot□er e□□en□e□ conte□ □□□ted for t□e □□o□□nce□ □□□e □een inc□uded in t□e Contr□ct □rice □nd not in t□e □□o□□nce□, □nd no de□ □nd for □ddition□□ □□□□ent on □ccount of □n□ of t□e fore□oin□ i□□□e □□id.

B. □rior to fin□□□□□□ent, □n □□□ro□ri□te C□□n□e Order □i□□e i□□ued □□ CIT□ to ref□ect □ctu□□ □□ount□ due CO□TR□CTOR on □ccount of □ or□ co□ered □□ □□o□□nce□, □nd t□e Contr□ct □rice □□□□□e corre□□ondin□□□ d□u□ted.

11.04 Unit Price Work

A. □ □ere t□e Contr□ct Docu□ent□ □ro□ide t□□t □□or □□rt of t□e □or□ i□ to □e □nit □rice □or□, initi□□□ t□e Contr□ct □rice □i□□e dee□ed to inc□ude for □□□nit □rice □or□ □n □□ount e□u□□to t□e □u□ of t□e e□t□□i□□ed unit □rice for e□c□ □e□□r□te□ identified ite□ of □nit □rice □or□ ti□e□ t□e e□ti□ □ted □u□ntit□ of e□c□ ite□ □□ indic□ted in t□e Contr□ct. T□e e□ti□ □ted

□u□ntitie□ of ite□ □ of □nit □rice □ or□ □re not □u□r□nteed □nd □re □o□e□ for t□e □ur□o□e of co□ □□ri□on of □id□ □nd deter□inin□ □n initi□□Contr□ct □rice. Deter□in□tion□ of t□e □ctu□□ □u□ntitie□ □nd c□□□ific□tion□ of □nit □rice □ or□ □erfor□ed □□ CO□TR□CTOR □i□□e □ □de in □ccord□nce □it□ □□r□□r□□□ 9.06.

B. E□c□ unit □rice □i□□e dee□ed to inc□ude □n □□ount con□idered □□ CO□TR□CTOR to □e □de□u□te to co□er CO□TRACTOR's overhead and profit for each separately identified item.

C. CIT□ or CO□TR□CTOR □ □□ne□oti□te □n □d□u□t□ent of t□e □rice □er unit of □nit □rice □ or□ □t□ted in t□e Contr□ct if□

1. t□e □u□ntit□ of □n□ ite□ of □nit □rice □ or□ □erfor□ed □□ CO□TR□CTOR differ□ □□ t□ent□ □ercent (20□) or □ore fro□ t□e e□ti□□ted □u□ntit□ of □uc□ ite□ indic□ted in t□e Contr□ct□□nd

2. t□ere i□ no corre□□ondin□ □d□u□t□ent □it□ re□□ect to □n□ ot□er ite□ of □ or□□□nd

3. CO□TR□CTOR □e□ie□e□ t□□t CO□TR□CTOR i□ entit□ed to □n incre□□e in Contr□ct □rice □□ □re□u□t of □□□in□ incurred □ddition□□e□□en□e or CIT□ □e□ie□e□ t□□t CIT□ i□ entit□ed to □ decre□□e in Contr□ct □rice.

11.05 Dispute Resolution

A. If CIT□ □nd CO□TR□CTOR □re un□□e to □□ree on entit□e□ent to, or □ □□nitude of, □n e□uit□□e □d□u□t□ent in t□e Contr□ct □rice in □ccord□nce □it□ □rtic□ 11 □it□in fourteen (14) c□□end□r d□□□ fro□ t□e rece□i□t of □u□□ortin□ docu□ent□tion of t□e re□ue□t □ur□u□nt to 11.01.□., un□□□t□e CIT□ □r□nt□ □n e□ten□ion □□□ed on □ood c□u□e □□o□n □□ t□e CO□TR□CTOR t□□t □uc□ □ddition□□ti□e i□ □□rr□nted, t□en □C□i□ for □uc□ □d□u□t□ent □ □□□e □ □de □ur□u□nt to □rtic□ 16.

ARTICLE 12 CONTRACT TIMES

12.01 Time of the Essence

A. □□ti□e□ □t□ted in t□e Contr□ct Docu□ent□ □re of t□e e□□ence of t□e Contr□ct.

12.02 Change of Contract Times

A. T□e Contr□ct Ti□e□ (or Mi□e□tone□) □ □□ on□ □e c□□n□ed □□ □ C□□n□e Order. □n□ re□ue□t for □n □d□u□t□ent in t□e Contr□ct Ti□e□ □□□□□e □□□ed on □ritten notice de□□ered □it□in fourteen (14) c□□end□r d□□□ □fter occurrence of t□e e□ent □i□in□ ri□e to t□e re□ue□t or □it□in fourteen (14) c□□end□r d□□□ □fter firt reco□nition of t□e condition□ □i□in□ ri□e to t□e re□ue□t. T□ere□fter, t□e CO□TR□CTOR □□□□□u□□it □ritten docu□ent□tion of it□ re□ue□t, inc□udin□ □□□ro□ri□te □u□□ortin□ docu□ent□tion, □it□in ten (10) d□□□ □fter □i□in□ notice, un□□□ t□e CIT□ □r□nt□ □n e□ten□ion □□□ed on □ood c□u□e □□o□n □□ t□e CO□TR□CTOR t□□t □uc□ □ddition□□ti□e i□ □□rr□nted.

12.03 Proof Required To Justify an Extension of Time For Excusable and Compensable Delays

A. In □u□□ort of □n□ re□ue□t for □n e□ten□ion of t□e Contr□ct Ti□e□ □ur□u□nt to t□i□ □rtic□, CO□TR□CTOR □u□t de□on□tr□te to t□e re□□on□□e □□ti□f□ction of t□e CIT□ t□□t t□e critic□□ □□t□ of t□e □□□ro□ed □□□e□ine □ro□ect □c□edu□e □ □□de□□□ed. CO□TR□CTOR □□□□□□e entit□ed to □n incre□□e in contr□ct ti□e for t□e nu□□er of d□□□ t□□t t□e critic□□□□t□ □ □□de□□□ed □o□e□ □□ □ re□u□t of t□e co□ □en□□□e or e□cu□□□e e□ent. □ co□ □en□□□e or e□cu□□□e e□ent inc□ude□, □ut i□ not i□ited to□

1. unre□□on□□e de□□ of i□□u□nce of □otice to □roceed □□ CIT□□
2. CITY's unreasonable delay of delivery furnished materials, equipment, or work;
3. unre□□on□□e de□□ re□□ondin□ to □□o□ dr□□in□□ □nd □u□□itt□□□
4. CITY's unreasonable delay in i□□uin□ □ C□□n□e Order□

5. In order to the CITY to take over where the CONTRACTOR did not start and

6. other reasons the Board determined to the City in its sole discretion.

B. CONTRACTOR shall commence the critical path of the Project Schedule to the actual critical path of the Work, identifying the specific impact of the commencement or occurrence.

C. CONTRACTOR shall submit to the CITY a written time impact analysis illustrating the influence of each commencement or occurrence on the date of Substantial Completion. The time impact analysis shall include a demonstration that the time impact claimed on the date of the delay in the end the event time computations for affected activities.

D. If the critical path of the Work is delayed by "Force Majeure", the CONTRACTOR shall be entitled only to an extension of the Contract Time for the number of days of delay to the critical path. For purposes of this paragraph, "Force Majeure" shall mean fire, tornado, flood, earthquake, war, act of terrorism, civil disturbance, or labor strike that is beyond the Project site.

E. Extensions of contract time pursuant to this section will be granted only to the extent that the time adjustment requested exceeds the total float time in the activity when the event causing the delay occurred.

12.04 Delays Within CONTRACTOR's Control

A. The Contract Time (or Milestone) will not be extended due to delays within the control of CONTRACTOR. Delays attributable to and within the control of a subcontractor or supplier shall be deemed to be delays within the control of CONTRACTOR.

12.05 Delays Beyond the CITY's and CONTRACTOR's Control

A. Where CONTRACTOR is prevented from commencing any part of the Work within the Contract Time (or Milestone) due to delays beyond the control of both CITY and CONTRACTOR, an extension of the Contract Time (or Milestone) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay.

12.06 Delay Damages

A. In no event shall CITY be liable to CONTRACTOR, any subcontractor, any supplier, any other person or organization, or to any agent for or employee or agent of any of these, for damages arising out of or resulting from

1. delays caused by or within the control of CONTRACTOR, or

2. delays beyond the control of CITY or CONTRACTOR including but not limited to fire, flood, epidemic, abnormal weather conditions, act of God or act or neglect of utility owners or other contractors performing other work contemplated by Article 7.

B. Notwithstanding this Section 12.06 or any compensable delay in Contract Price pursuant to Article 12 to compensate CONTRACTOR due to delay, interference, or disruption directly attributable to actions or inaction of CITY, DELRAY BEACH, Consultant or anyone for which CITY, DELRAY BEACH or Consultant is responsible.

12.07 Dispute Resolution

A. If CITY and CONTRACTOR are unable to agree on entitlement to, or the magnitude of, an equitable adjustment in the Contract Time in accordance with Article 12 within fourteen (14) calendar days from the receipt of supporting documentation of the request pursuant to 12.02, unless the CITY grants an extension based on good cause shown by the CONTRACTOR that such additional time is warranted, then a Claim for such adjustment is to be made pursuant to Article 16.

ARTICLE 13 TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Access to Work

A. CITY, DESIGN PROFESSIONAL, Consultants, other representatives and personnel of CITY, independent testing laboratories and governmental agencies with jurisdictional interests shall have access to the Site and Work at reasonable times for their observation, inspection and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's Site safety procedures and programs so that they may comply therewith as applicable.

13.02 Tests and Inspections

A. CONTRACTOR shall give DESIGN PROFESSIONAL and CITY's Representative timely notice of readiness of the Work for all required inspections, tests or approvals, and shall cooperate with inspections and testing personnel to facilitate required inspections or tests.

B. If any Work (or the Work of other parts the Site) that is to be inspected, tested or approved is covered without CONTRACTOR giving written notice required by Paragraph 13.02 D or 13.02 E, it must, if requested by CITY's Representative, be uncovered for observation.

C. Uncovering Work as provided in Paragraph 13.02 B, shall be at CONTRACTOR's expense unless CONTRACTOR has given DESIGN PROFESSIONAL and CITY's Representative timely notice of CONTRACTOR's intention to cover the same and DESIGN PROFESSIONAL and CITY's Representative have not acted with reasonable promptness in response to such notice.

D. If laws or Regulations of any public body (including City) having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, pay all costs in connection therewith, and furnish DESIGN PROFESSIONAL and CITY's Representative the required certificates of inspection or approval.

E. CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for CITY's and DESIGN PROFESSIONAL's acceptance of materials or equipment to be incorporated into the Work, or acceptance of any material, item, design, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation into the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to CITY and DESIGN PROFESSIONAL.

F. CITY shall pay for and for the services of an independent testing laboratory to perform all inspections, tests, or approvals required to the Contract Documents except:

1. for inspections, tests or approvals covered by Paragraph 13.02 D and E;

2. tests costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04 B unless the said law provided in said Paragraph 13.04 and

3. as otherwise specifically provided in the Contract Documents.

13.03 Notice of Defects

A. Prompt notice of all defective Work of which either CITY or DESIGN PROFESSIONAL has actual knowledge shall be given to CONTRACTOR. Defective Work may be rejected, corrected or accepted as provided in this Article 13.

13.04 Uncovering Work

A. If any Work (or the Work of other parts the Site) is covered contrary to the written request of DESIGN PROFESSIONAL or CITY's Representative, it must, if requested by CITY's Representative, be uncovered for DESIGN PROFESSIONAL's or CITY's Representative's observation and replaced at CONTRACTOR's expense.

B. If CITY considers it necessary or advisable that covered or other Work be observed by DESIGN PROFESSIONAL or CITY's Representative or be inspected or tested by others, CONTRACTOR, at CITY's request, shall uncover, expose or otherwise make available for observation, inspection or testing as may be required, that portion of the Work in question, furnishing all necessary labor, materials, and equipment. If it is found that such Work is defective, CONTRACTOR shall bear all direct, indirect and consequential costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting from such uncovering, exposure, observation, inspection and testing and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of Work of others) and CITY shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, CITY may make a Claim therefore as provided in Article 16. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time(s) (or Milestone(s)), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefore as provided in Article 16.

13.05 CITY May Stop the Work

A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, CITY may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of CITY to stop the Work shall not give rise to any duty on the part of CITY to exercise this right for the benefit of CONTRACTOR, any subcontractor, supplier, other individual or entity or any surety or other party.

13.06 Correction or Removal of Defective Work

A. If required by CITY, CONTRACTOR shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by either DESIGN PROFESSIONAL or CITY's Representative, remove it and replace it with Work that is not defective. CONTRACTOR shall pay all costs and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) caused by or resulting from such correction or removal (including but not limited to all costs of repair or replacement of Work of others).

13.07 Correction Period

A. If within one (1) year after the date of Substantial Completion, or such longer period of time as may be prescribed by Laws and Regulations or Warranty, or by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damaged surface to the land or areas made available for CONTRACTOR's use by CITY or permitted by Laws and Regulations as contemplated in Paragraph 6.10 is found to be defective, CONTRACTOR shall promptly, without cost to CITY and in accordance with CITY's written instructions:

1. correct the repair of damage to such land or areas or

2. correct such defective Work, or if it has been rejected by CITY, remove it from the site and replace it with Work that is not defective and

3. satisfactorily correct or remove and replace any damaged Work to other Work or to the Work of others or damage to other land or areas resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in the event of any emergency where delay would cause serious risk of loss or damage, CITY may have the defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs, losses and damages (including but not limited to all fees and charges of engineers, architects,

□ttorne□, □nd ot□er □rofe□□ion□□ □nd □□court or □r□itr□tion or ot□er di□□ute re□o□ution co□t□) c□u□ed □□ or re□u□tin□ fro□ □uc□ re□o□□□□nd re□□□ce□ent (inc□udin□ □ut not i□ited to □□co□t□ of re□□ir or re□□ce□ent of □or□ of ot□er□) □i□□e □□id □□CO□TR□CTOR.

B. In □□eci□□circu□□t□nce□ □□ere □ □□rticu□□r ite□ of e□ui□□ent i□ □□□ced in continuou□ □er□ice □efore □u□□t□nti□□Co□ □etion of □□□t□e □ or□, t□e correction □eriod for t□□t ite□ □ □□ □t□rt to run fro□ □n e□r□er d□te if □o □ro□ided in t□e □□ecific□tion□or □□□ ritten □□end□ent.

C. □ □ere defecti□e □ or□ (□nd d□□ □□e to ot□er □ or□ re□u□tin□ t□erefro□) □□□ □een corrected or re□o□ed □nd re□□□ced under t□i□ □□r□□r□□□ 13.07, t□e correction □eriod □ereunder □it□ re□□ect to □uc□ □ or□ □i□□e e□tended for □n □ddition□□□eriod of one (1) □e□r, or □uc□ □on□er □eriod of ti□e □□ □□□ □e re□cri□ed □it□in □□r□□r□□□ 13.07 □, □fter □uc□ correction or re□o□□□□nd re□□ce□ent □□□ □een □□ti□f□ctori□□co□ □□eted.

D. CONTRACTOR's obligations under this Paragraph 13.07 are in addition to any other o□i□□tion or □□rr□nt□. T□e □ro□i□ion□ of t□i□ □□r□□r□□□ 13.07 □□□□□not □e con□trued □□ □ □u□□titute for or □□i□er of t□e □ro□i□ion□ of □n□ □□□□ic□□□e □t□tute of i□□it□tion or re□o□e.

13.08 Acceptance of Defective Work

A. If, in□te□d of re□uirin□ correction or re□o□□□□nd re□□□ce□ent of defecti□e □or□, CIT□ □refer□ to □cce□t it, CIT□ □ □□□ do □o. CO□TR□CTOR □□□□□□□□□ □□□co□t□, □o□□e□ □nd d□□ □□e□ (inc□udin□ □ut not i□ited to □□□fee□ □nd c□□r□e□ of en□ineer□, □rc□itect□, □ttorne□□, □nd ot□er professionals and all court or arbitration or other dispute resolution costs) attributable to CITY's e□□u□tion of □nd deter□in□tion to □cce□t □uc□ defecti□e □or□ □nd □□□□□□□□□ O□ □ER for t□e di□ini□□ed □□ue of t□e □or□. If □n□ □uc□ □cce□t□nce occur□ □rior to DE□I□ □ PROFESSIONAL's recommendation of final payment, a Change Order will be issued incor□or□tin□ t□e nece□□□r□ re□i□ion□ into t□e Contr□ct Docu□ent□ □it□ re□□ect to t□e □or□ □nd, due to t□e di□ini□□ed □□ue of t□e □or□, CIT□ □□□□□□e entitled to □n □□□ro□ri□te decre□□e in t□e Contr□ct □rice. If t□e □□rtie□ □re un□□□e to □□ree □□ to t□e □□ount t□ereof, CIT□ □ □□□ □ □□e □ C□□i□ t□erefore □□ □ro□ided in □rti□e 16. If t□e □cce□t□nce of defecti□e □or□ occur□ □fter □uc□ reco□ □end□tion, □n □□□ro□ri□te □□ount □□□□□□e □□id □□CO□TR□CTOR to CIT□.

13.09 CITY May Correct Defective Work

A. If CO□TR□CTOR f□i□□ □it□in □ re□□on□□□e ti□e □fter □ritten notice fro□ DE□I□ □ PROFESSIONAL or CITY's Representative to correct defective Work or to remove and replace re□ected □or□ □□ re□uired □□ CIT□ in □ccord□nce □it□ □□r□□r□□□ 13.06, or if CO□TR□CTOR f□i□□ to □erfor□ t□e □or□ in □ccord□nce □it□ t□e Contr□ct Docu□ent□, or if CO□TR□CTOR f□i□□ to co□ □□□ □it□ □n□ ot□er □ro□i□ion of t□e Contr□ct Docu□ent□, CIT□ □ □□, □fter □e□en (7) d□□□ □ritten notice to CO□TR□CTOR, correct □nd re□ed□ □n□ □uc□ deficienc□.

B. CIT□ □□□□□roceed e□□editiou□□□ □□en e□erci□in□ t□e ri□□t□ □nd re□edie□ under t□i□ □□r□□r□□□ 13.09. In connection □it□ □uc□ correcti□e □nd re□edi□□□ction, CIT□ □ □□□e□cude CO□TR□CTOR fro□ □□□or □□rt of t□e □ite□t□□e □o□□e□□ion of □□□or □□rt of t□e □or□ □nd suspend CONTRACTOR's services related thereto; take possession of CONTRACTOR's tools, □□□i□nce□, con□truction e□ui□□ent □nd □ □c□iner□□t t□e □ite□□nd incor□or□te into t□e □or□ □□□ □ □teri□□ □nd e□ui□□ent □tored □t t□e □ite or for □□ic□ CIT□ □□□ □□id CO□TR□CTOR □ut □□ic□ □re □tored e□□e□□ere. CO□TR□CTOR □□□□allow CITY, CITY's Representative, agents and employees, CITY's other contractors, DESIGN PROFESSIONAL and Consultants access to t□e □ite to en□□□e CIT□ to e□erci□e t□e ri□□t□ □nd re□edie□ under t□i□ □□r□□r□□□ 13.09.

C. □□□co□t□, □o□□e□ □nd d□□ □□e□ (inc□udin□ □ut not i□ited to □□□fee□ □nd c□□r□e□ of en□ineer□, □rc□itect□, □ttorne□□, □nd ot□er □rofe□□ion□□□ □nd □□□court or □r□itr□tion or ot□er di□□ute re□o□ution co□t□) incurred or □u□tained □□ CIT□ in e□erci□in□ □uc□ ri□□t□ □nd re□edie□ □i□□e c□□r□ed □□□in□t CO□TR□CTOR □nd □ C□□n□e Order □i□□e i□□ued incor□or□tin□ t□e nece□□□r□ re□i□ion□ into t□e Contr□ct Docu□ent□ □it□ re□□ect to t□e □or□□□nd CIT□ □□□□□□e entitled to □n □□□ro□ri□te decre□□e in t□e Contr□ct □rice. If CIT□ □nd CO□TR□CTOR □re un□□□e to □□ree □□ to t□e □□ount t□ereof, CIT□ □ □□ □ □□e □ C□□i□ t□erefore □□ □ro□ided in □rti□e 16. □uc□ C□□i□ □for co□t□, □o□□e□ □nd d□□ □□e□ □i□□inc□ude □ut not □e i□ited to □□□co□t□

of re□ir or re□□ce□ent of □or□ of ot□er□ de□tro□ed or d□□ □□ed by correction, re□o□□□nd replacement of CONTRACTOR's defective or rejected Work.

D. CO□TR□CTOR shall not □e □□o□ed □n e□ten□ion of t□e Contr□ct Ti□e□(or Mi□e□tone□) □ec□u□e of any delay in t□e □erfor□□nce of t□e □or□ □ttri□ut□□e to t□e e□erci□e by CIT□ of CITY's ri□□t□□nd re□edie□under Pa ragraphs 13.06 □nd 13.09.

ARTICLE 14 PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

A. 01290.02 □c□edu□e of V□ue□e t□□i□□ed as □ro□ided in □rtic□e 2 will □er□e as t□e bas□s for □ro□re□□ paym ents □nd will □e incor□or□ted into for□ 01290.01 □□□ic□tion for □□□□ent □cce□t□□e to DE□I□□ □ROFE□□IO□□□ □nd CIT□. □ro□re□□ paym ents for □nit □rice □or□ will □e bas ed on t□e nu□ □er of unit□co□ □eted.

14.02 Application for Progress Payments

A. Application for Payment

1. □t □e□□t t□ent□(20) d ays □efore t□e d□te □ti□u□□ted in t□e □u□□□e□ent□r□Condition□ for e□c□ □ro□re□□ □□□□ent (□ut not □ore often t□□n once a □ont□), CO□TR□CTOR shall □u□□it to DE□I□□ □ROFE□□IO□□□ for re□ie□ □n □□□ic□tion for □□□□ent fi□ed out □nd □i□ned by CO□TR□CTOR co□erin□ t□e □or□ co□ □□eted as of t□e d□te of t□e □□□ic□tion □nd □cco□ □□nied by □uc□ □u□□ortin□ docu□ent□tion as i□ re□uired by t□e Contr□ct Docu□ent□. If □□□□ent i□ re□ue□ted on t□e bas□s of □□teri□□□ □nd e□ui□□ent not incor□or□ted into t□e □or□ □ut de□i□ered □nd s uitably □tored □t t□e □ite or □t □not□er lo□□tion □□reed to in □ritin□, t□e □□□ic□tion for □□□□ent shall als □ e □cco□ □□nied by a b ill □f □□□e, □□id in□oice or ot□er docu□ent□tion □□rr□ntin□ t□□t CIT□ has rece□i□ed t□e □□teri□□□ □nd e□ui□□ent free □nd c□e□r of all □ien□ □nd e□idence t□□t t□e □□teri□□□ □nd e□ui□□ent □re covered by appropriate property insurance and other arrangements to protect CITY"'s interest therein, all of which will be subject to CITY's approval.

2. □e□innin□ □it□ t□e □econd □□□ic□tion for □□□□ent, e□c□ □□□ic□tion shall □nclude:

a. □n □ffid□□it of CO□TR□CTOR □t□tin□ t□□t all □re□iou□ □ro□re□□ paym ents received for the Work have been applied to discharge CONTRACTOR's legitimate o□i□□tion□□□□oci□ted □it□ □rior □□□ic□tion□for □□□□ent, □nd

b. a co□□ of t□e □o□t recent 00485.01 M/□ □E Mont□□□ □ti□i□□tion Re□ort CONTRACTOR has submitted to the CITY's Human Relations Department.

c. a co□□ of t□e □o□t recent 00485.02 □ro□ect □or□force Mont□□□ Re□ort □nd 00485.03 Co□ □□n□-□ide □or□force Mont□□□ Re□ort CO□TR□CTOR has □u□□itted to the OWNER's Human Relations Department.

d. □n u□d□te to t□e □□□ro□ed □c□edu□e □ur□u□nt to pa ragraphs 6.04 □nd 6.05.

3. T□e □□ount of ret□in□□e □it□ re□□ect to □ro□re□□ paym ents w ill □e t□□ted in t□e □u□□e□ent□r□Condition□.

B. Review of Applications

1. DE□I□□ □ROFE□□IO□□□ will, □it□in ten (10) d ays □fter rece□i□t of e□c□ □□□ic□tion for □□□□ent, eit□er indic□te in □ritin□ a reco□ □end□tion of □□□□ent □nd □re□ent t□e □□□ic□tion to CIT□, or return t□e □□□ic□tion to CO□TR□CTOR indic□tin□ in □ritin□ DESIGN PROFESSIONAL's reasons for refusing to recommend payment. In the latter case, CO□TR□CTOR shall mak e t□e nece□□□r□correction□ □nd re□u□□it t□e □□□ic□tion.

a. □fter □re□entation of the Application for Payment to CITY, and if CITY's Representative agrees with DESIGN PROFESSIONAL's recommendation, the amount reco□ □ended will (□u□ect to t□e □ro□i□ion□of Pa ragraph 14.02 B.4) □eco□e due □nd will □e □□id by CIT□ to CO□TR□CTOR, □u□ect to t□e □ro□i□ion□ of Laws or Re□u□□tion□.

a. No payment will be processed until the CONTRACTOR has submitted with the application for payment documentation as required by the Contract Documents, including, but not limited to, the documentation required by Articles 6.04 and 6.05.

2. DESIGN PROFESSIONAL's recommendation of any payment requested in an application for payment will constitute a representation to DESIGN PROFESSIONAL to CITY, based on DESIGN PROFESSIONAL's observations of the executed Work and on an experienced and qualified DESIGN PROFESSIONAL and on DESIGN PROFESSIONAL's review of the application for payment and the accompanying data and schedules, that to the best of DESIGN PROFESSIONAL's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as functioning substantially prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Article 9.06, and to any other qualification stated in the recommendation); and

c. the conditions precedent to CONTRACTOR being entitled to such payment appear to have been fulfilled in so far as it is DESIGN PROFESSIONAL's responsibility to observe the Work.

3. DESIGN PROFESSIONAL's recommendation of any payment, including final payment, will not be an act that DESIGN PROFESSIONAL is responsible for CONTRACTOR's means, methods, techniques, sequence or procedures of construction, safety precautions and programs incident thereto, or any failure of CONTRACTOR to comply with any Laws and Regulations applicable to the furnishing or performance of the Work.

4. DESIGN PROFESSIONAL will be entitled to withhold, wholly or in part, a recommendation of payment if, in DESIGN PROFESSIONAL's opinion, it would be incorrect to make the representations to CITY referred to in Article 14.02 B.2. DESIGN PROFESSIONAL may also withhold, wholly or in part, a recommendation of payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in DESIGN PROFESSIONAL's opinion to protect CITY from loss because:

a. the Work is defective, or completed Work has been damaged requiring correction or replacement;

b. the Contract Price has been reduced by written amendment or Change Order;

c. CITY has been required to correct defective Work or complete Work in accordance with Article 13.09; or

d. DESIGN PROFESSIONAL has actual knowledge of the occurrence of any of the events enumerated in Article 15.02.

C. Reduction in Payment

1. CITY may refuse to make payment of the full amount recommended by DESIGN PROFESSIONAL because:

a. Claims have been made by third parties that involve CITY on account of CONTRACTOR's performance or furnishing of the Work; or

b. Claims have been made against CITY by subcontractors in connection with the Work, except where CONTRACTOR has delivered a specific bond satisfactory to CITY to secure the satisfaction and discharge of such Claims;

c. there are other items entitling CITY to a set-off against the amount recommended; or

d. CITY does not agree to the occurrence of any of the events enumerated in Articles 14.02 A.4. through c or 15.02 A.1 through 4, but CITY and the CONTRACTOR (with CONCURRENCE TO DELAY CONCESSIONS) attain the reasons for such action and prospective CONTRACTOR the amount to be credited, or any adjustment thereto agreed to by CITY and CONTRACTOR, when CONTRACTOR corrects to CITY's satisfaction the reasons for such action; or

e. CITY does decide a different determination of the actual quantities and classifications of unit prices be correct.

14.03 CONTRACTOR's Warranty of Title

A. CONTRACTOR warrants and guarantees that title to all work, materials and equipment covered by any application for payment, whether incorporated into the Project or not, will pass to CITY no later than the time of payment, free and clear of all liens.

14.04 Substantial Completion

A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify CITY and DELEGATE CONCESSIONS in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that CITY issue a certificate of Substantial Completion. Within a reasonable time thereafter, CITY, together with CONTRACTOR and DELEGATE CONCESSIONS, shall make an inspection of the Work to determine the status of completion. If DELEGATE CONCESSIONS does not consider the Work substantially complete, DELEGATE CONCESSIONS shall notify CONTRACTOR and CITY in writing giving the reasons therefore. If DELEGATE CONCESSIONS considers the Work substantially complete, DELEGATE CONCESSIONS shall prepare and deliver to CITY a recommended certificate of Substantial Completion that shall establish the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. CITY shall have seven (7) days after receipt of the recommended certificate during which to make written objection to DELEGATE CONCESSIONS and CONTRACTOR as to any provisions of the certificate or attached list. At the time of delivery of the recommended certificate of Substantial Completion, DELEGATE CONCESSIONS shall deliver to CITY and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between CITY and CONTRACTOR with respect to security, operation, safety, protection of the Work, maintenance, heat, utilities, insurance and warranties and guarantees.

B. CITY shall have the right to exclude CONTRACTOR from the site after the date of Substantial Completion, but CITY agrees to allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

14.05 Partial Utilization

A. Use by CITY at CITY's option of any substantially completed part of the Work which has been specifically identified in the Contract Documents, or which CITY, DELEGATE CONCESSIONS and CONTRACTOR agree constitutes a separately functioning and useable part of the Work that can be used by CITY for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following:

1. CITY at any time request CONTRACTOR in writing to permit CITY to use any such part of the Work which CITY believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to CITY and DELEGATE CONCESSIONS that such part of the Work is substantially complete and request CITY to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time notify CITY and DELEGATE CONCESSIONS in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request CITY to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, CITY, together with CONTRACTOR and DELEGATE CONCESSIONS,

□□□□□ □□e □n in□ection of t□□t □□rt of t□e □or□ to deter□ine it□ □t□tu□ of co□□etion. If DE□I□□ □ROFE□□IO□□□ doe□ not con□ider t□□t □□rt of t□e □or□ to □e □u□□t□nti□□□ co□□ete, DE□I□□ □ROFE□□IO□□□ □i□□notif□ CIT□ □nd CO□TR□CTOR in □ritin□, □i□in t□e re□□on□ t□erefore. If DE□I□□ □ROFE□□IO□□□ con□ider□ t□□t □□rt of t□e □or□ to □e □u□□t□nti□□□ co□□ete, t□e □ro□i□ion□ of □□r□□r□□□ 14.04 □i□ □□□□□ □it□ re□□ect to certific□tion of □u□□t□nti□□ Co□□etion of t□□t □□rt of t□e □or□ □nd t□e di□i□ion of re□□on□i□i□it□ in re□□ect t□ereof □nd □cce□□t□ereto.

2. □o occu□□nc□ or □e□□r□te o□er□tion of □□rt of t□e □or□ □i□□□e □cco□□i□□ed □rior to co□□i□□nce □it□ t□e re□uire□ent□ of □□r□□r□□□ 5.09 □it□ re□□ect to □ro□ert□in□ur□nce.

14.06 Final Inspection

A. □□on □ritten notice fro□ CO□TR□CTOR t□□t t□e entire □or□ or □n □□reed □ortion t□ereof i□ co□□ete, DE□I□□ □ROFE□□IO□□□ □i□□□□e □ fin□□in□□ection □it□ CIT□ □nd CO□TR□CTOR □nd □i□ notif□ CO□TR□CTOR in □ritin□ of □□□ □□rticu□r□ in □□ic□ t□i□ in□□ection re□e□□ t□□t t□e □or□ i□ inco□□ete or defecti□e. CO□TR□CTOR □□□□i□□edi□te□ t□□e □uc□□e□□ure□□□□re nece□□□r□to co□□ete □uc□□or□or re□ed□□uc□ deficiencie□.

14.07 Final Payment

A. Application for Payment

1. □fter CO□TR□CTOR □□□ co□□e□ted □□□correction□ re□uired □□ □□r□□r□□□ 14.06 to t□e □□ti□f□ction of DE□I□□ PROFESSIONAL and CITY's Representative and delivered in □ccord□nce □it□ t□e Contr□ct Docu□ent□ □□□ □□intен□nce □nd o□er□tin□ in□truction□, □c□edu□e□, □u□r□ntee□, □ond□, certific□te□ or ot□er e□idence of in□ur□nce re□uired □□ □□r□□r□□□ 5.04, certific□te□ of in□□ection, □ □r□ed-u□ record docu□ent□ (□□ □ro□ided in □□r□□r□□□ 6.13) □nd ot□er docu□ent□, CO□TR□CTOR □ □□ □□□e □□□□ic□tion for fin□□ □□□□ent fo□o□in□ t□e □rocedure for □ro□re□□ □□□□ent□.

2. T□e fin□□ □□□□ic□tion for □□□□ent □□□□□□e □cco□□□nied (e□ce□t □□ □re□iou□□□ de□i□ered) □□□

□. □□□docu□ent□tion re□uired □□ t□e Contr□ct Docu□ent□, inc□udin□ □ut not i□□ited to t□e e□idence of in□ur□nce re□uired □□ □u□□□r□□r□□□ 5.04 □.7□□nd

□. 01290.14 "Contractor Affidavit for Final Payment" from CONTRACTOR and 01290.15 "Subcontractor Affidavit for Final Payment" from all Subcontractors, regardless of tier.

B. Review of Application and Acceptance

1. If, on the basis of DESIGN PROFESSIONAL's and CITY's Representative's o□□er□□tion of t□e □or□ durin□ con□truction □nd fin□□ in□□ection, □nd DE□I□□ PROFESSIONAL's and CITY's Representative's review of the final Application for Payment □nd □cco□□□n□in□ docu□ent□tion □□ re□uired □□ t□e Contr□ct Docu□ent□, DE□I□□ PROFESSIONAL and CITY's Representative are satisfied that t□e □or□ □□□ □een completed and CONTRACTOR's other obligations under the Contract Documents have □een fu□fi□□ed, DE□I□□ □ROFE□□IO□□□ □i□, □it□in ten (10) d□□□ □fter recei□t of t□e fin□□ Application for Payment, indicate in writing DESIGN PROFESSIONAL's and CITY's Representative's recommendation of payment and present the Application to CITY for □□□□ent. □t t□e □□□e ti□e DE□I□□ □ROFE□□IO□□□ □i□□□□o □i□e □ritten notice to CIT□ □nd CO□TR□CTOR t□□t t□e □or□ i□ □cce□t□□e □u□□ect to t□e □ro□i□ion□ of □□r□□r□□□ 14.09.

2. Ot□er□i□e, DE□I□□ □ROFE□□IO□□□ □i□return t□e □□□□ic□tion to CO□TR□CTOR, indic□tin□ in □ritin□ t□e re□□on□ for refu□in□ to reco□□end fin□□□□□□ent, in □□ic□ c□□e CO□TR□CTOR □□□□□□□e t□e nece□□□r□ correction□ □nd re□u□□it t□e □□□□ic□tion to DE□I□□ □ROFE□□IO□□□. □fter t□e □re□ent□tion to CIT□ of t□e □□□□ic□tion □nd □cco□□□n□in□ docu□ent□tion, in □□□ro□ri□te for□ □nd □u□□t□nce, inc□udin□ □□□□ic□□e federal and state prevailing wage provisions, and with DESIGN PROFESSIONAL's

recommendation and notice of acceptability, the amount recommended by DESIGN PROFESSIONAL in its recommendation due and will be paid by CITY to CONTRACTOR in accordance with Article 14 and Resolution.

14.08 Final Completion Delayed

A. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if DESIGN PROFESSIONAL so recommends and CITY concurs, CITY shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of DESIGN PROFESSIONAL, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by CITY for Work not fully completed or corrected is less than the retainage stipulated in the Supplementary Conditions, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to DESIGN PROFESSIONAL with the Application for payment. Payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 Waiver of Claims

A. The making and acceptance of final payment shall constitute:

1. a waiver of Claims by CITY against CONTRACTOR, except claims arising from unsettled liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR's continuing obligations under the Contract Documents; and

2. a waiver of Claims by CONTRACTOR against CITY other than those previously made in writing pursuant to Paragraphs 16.02 and 16.03 and still unsettled.

14.10 Completion of Work by CITY

A. If CITY shall complete the Work, the cost and expense incurred by CITY, together with the cost of completing the Work under the Contract, shall be deducted from any payment due or which may become due CONTRACTOR. If such expense exceeds the sum which would have been payable under the Contract, then CONTRACTOR and the surety shall be liable and shall pay to CITY the amount of such excess.

ARTICLE 15 SUSPENSION OF WORK AND TERMINATION

15.01 CITY May Suspend Work

A. Notwithstanding any other provision of this Contract, at any time and without cause, and at the sole and absolute discretion, CITY, may suspend the Work or any portion of the Work by written notice to CONTRACTOR, which shall initially fix the date on which Work is to be resumed. CONTRACTOR shall resume the Work on the date so fixed in the notice unless the date is changed by a subsequent written notice from CITY. CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes a Claim therefore in accordance with Article 16.

B. CONTRACTOR will not be allowed an adjustment in the Contract Price or an extension of the Contract Times if CITY suspends the Work because CONTRACTOR's acts or omissions create or cause an emergency that CITY believes affects the safety or protection of persons, the Work, or property at the site or adjacent thereto. CITY may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been addressed; however, this right of CITY to stop the Work shall not give rise to any duty on the part of CITY to exercise this right for the benefit of CONTRACTOR, any subcontractor, supplier, other individual or entity or any surety or agent of any of these.

15.02 CITY May Terminate for Default

A. CO□TR□CTOR □□□ □e dee□ed in def□u□t □nd CIT□ □□□ ter□in□te t□e □er□ice□ of CO□TR□CTOR u□on t□e occurrence of □n□ one or □ore of t□e fo□o□in□ e□ent□□

1. CO□TR□CTOR f□i□□ to □erfor□ t□e □or□ in □ccord□nce □it□ t□e Contr□ct Docu□ent□ (inc□udin□, □ut not □□ited to, f□i□ure to □u□□□□ □ufficient □□i□ed □or□er□ or □uit□□□e □ □teri□□□ or e□ui□□ent or f□i□ure to □d□ere to t□e □ro□re□□ □c□edu□e e□t□□i□□ed under □□r□□r□□□□ 2.06 □nd 2.07 □□ □d□u□ted fro□ ti□e to ti□e □ur□u□nt to □□r□□r□□□□ 6.04, 6.05, 12.02 □nd 12.03)□

2. CO□TR□CTOR □□□ndon□t□e □or□or dec□re□it□intention to □□□ndon t□e □or□□

3. CO□TR□CTOR □□□i□n□or □tte□□t□ to □□□i□n it□ ri□□t□ or o□i□□tion□ under t□i□ Contr□ct or □n□ □□rt t□ereof to □n□t□ird □□rt□ □it□out t□e □rior □ritten con□ent of CIT□□

4. CO□TR□CTOR f□i□□ to □□□e □ro□□t □□□□ent du□□ o□in□ to □n□ □u□contr□ctor for □or□ co□□□eted in □ccord□nce to t□e Contr□ct Docu□ent□ or □□teri□□□u□□ier for □□teri□□□ de□□ered for incor□or□tion into t□e □or□ □it□in t□irt□ (30) c□end□r d□□□ □fter □□□□ent □□□due□

5. CO□TR□CTOR f□i□□ to □c□ie□e t□e re□uired d□te□ of □u□□t□nti□□ □nd fin□□ co□□□etion□

6. CO□TR□CTOR di□re□□rd□ □□□□ or Re□u□□tion□ of □n□ □u□ic □od□ □□□in□ □uri□diction□

7. CO□TR□CTOR di□re□□rd□ t□e □ut□orit□ of DE□I□□ □ROFE□□IO□□□ or O□ □ER□ or

8. CO□TR□CTOR ot□er□i□e □io□□te□ in □n□ □u□□t□nti□□ □□□ □n□ □ro□i□ion□ of t□e Contr□ct Docu□ent□.

B. CIT□ □ □□, □fter □i□in□ CO□TR□CTOR (□nd t□e □uret□) □e□en (7) d□□□ □ritten notice □nd to t□e e□tent □er□itted □□ □□□□ or Re□u□□tion□, ter□in□te t□e □er□ice□ of CO□TR□CTOR, e□c□ude CO□TR□CTOR fro□ t□e □ite □nd t□□e □o□□e□□ion of t□e □or□ □nd of □□□ CONTRACTOR's tools, appliances, construction equipment and machinery at the Site and use t□e □□□e to t□e fu□□ e□tent t□e□ cou□d □e u□ed □□ CO□TR□CTOR (□it□out i□□□i□ to CO□TR□CTOR for tre□□□□□ or con□er□ion), incor□or□te into t□e □or□ □□□ □ □teri□□□ □nd e□ui□□ent □tored □t t□e □ite or for □□ic□ CIT□ □□□ □□id CO□TR□CTOR □ut □□ic□ □re □tored e□□e□□ere, □nd fini□□ t□e □or□ □□ CIT□ □ □□□ dee□ e□□edient. In □uc□ c□□e, CO□TR□CTOR □□□□□not □e entitled to recei□e □n□ furt□er □□□□ent unti□t□e □or□ i□ fini□□ed. If t□e un□□id □□□□nce of t□e Contr□ct □rice e□ceed□ □□□co□t□, □o□□e□ □nd d□□ □□e□ (inc□udin□ □ut not □□ited to □□fee□ □nd c□□r□e□ of en□ineer□, □rc□itect□, □ttorne□□, □nd ot□er □rofe□□ion□□□□ □nd □□□court or □□itr□tion or ot□er di□□ute re□o□ution co□t□) □u□t□ined □□ CIT□ □ri□in□ out of or re□u□tin□ fro□ co□□□etin□ t□e □or□, □uc□ e□ce□□ □ □□□ □e □□id to CO□TR□CTOR. If □uc□ co□t□, □o□□e□ □nd d□□ □□e□ e□ceed □uc□ un□□id □□□□nce, CO□TR□CTOR □□□□□□□□ t□e difference to CIT□ □it□in fourteen (14) calendar days of CITY'S demand for payment. When exercising any rights or re□edie□ under t□i□ □□r□□r□□□ CIT□ □□□□□not □e re□uired to co□□etiti□e□□ □id t□i□ □or□ un□e□□ re□uired □□ □□□□.

C. Where CONTRACTOR's services have been so terminated by CITY, the termination will not □ffect □n□ ri□□t□ or re□edie□ of CIT□ □□□in□t CO□TR□CTOR t□en e□i□tin□ or □□ic□ □ □□ t□ere□fter □ccrue. □n□ retention or □□□□ent of □one□□ due CO□TR□CTOR □□ CIT□ □i□□not re□e□□e CO□TR□CTOR fro□ i□□□i□.

D. If, □fter □def□u□t ter□in□tion, it i□ deter□ined t□□t t□e CO□TR□CTOR □□□not in def□u□t, t□e ri□□t□ □nd o□i□□tion□ of t□e □□rtie□ □□□□□□e t□e □□□e □□if t□e ter□in□tion □□d □een i□□ued for t□e con□enience of t□e CIT□. T□e CIT□ □□□□□t□en □e i□□□e to CO□TR□CTOR for on□□t□o□e co□t□enu□er□ted in □□r□□r□□□ 15.03.

15.03 CITY May Terminate for Convenience

A. □ot□it□□t□ndin□ □n□ ot□er □ro□i□ion of t□i□ Contr□ct, u□on □e□en (7) c□end□r d□□□ □ritten notice to CO□TR□CTOR, CIT□ □ □□, □t it□ □o□e □nd □□□o□ute di□cretion, □it□out c□u□e

□nd □it□out □re□udice to □n□ ot□er ri□□t or re□ed□ of CIT□, e□ect to ter□in□te t□e Contr□ct. In □uc□ c□□e, CO□TR□CTOR □□□□, □it□ t□irt□(30) c□□end□r d□□□ of recei□in□ notice of ter□in□tion under t□i□ □□r□□r□□□, □u□□ it to CIT□ it□ t□te□ent of co□t□ □nd e□□en□e□ □nd □□□□□□e □□id□

1. for co□□□eted □nd □cce□t□□e □ or□ e□ecuted in □ccord□nce □it□ t□e Contr□ct Docu□ent□ □rior to t□e effecti□e d□te of ter□in□tion, inc□udin□ f□ir □nd re□□on□□□e □u□ □ for o□er□e□d □nd □rofit on □uc□ □ or□□

2. for e□□en□e□ □u□tained □rior to t□e effecti□e d□te of ter□in□tion in □erfor□in□ □er□ice□ □nd furni□□in□ □□□or, □□teri□□□ or e□ui□□ent □□ re□uired □□ t□e Contr□ct Docu□ent□ in connection □it□ unco□□□eted □ or□, □u□ f□ir □nd re□□on□□□e □u□ □ for o□er□e□d □nd □rofit on □uc□ e□□en□e□□

3. for □□co□t□, □o□e□ □nd d□□ □□e□ incurred in □ett□e□ent of ter□in□ted contr□ct□ □it□ □u□contr□ctor□, □u□□ie□□ □nd ot□er□□□nd

4. for re□□on□□□e e□□en□e□ direct□□ □ttri□ut□□□e to ter□in□tion if □□□ro□ed in □d□□nce □□ CIT□.

B. CO□TR□CTOR □□□□□not □e □□id on □ccount of □o□□ of □ntici□□ted □rofit□ or re□enue or ot□er econo□ic □o□□ □ri□in□ out of or re□u□tin□ fro□ □uc□ ter□in□tion.

C. CO□TR□CTOR □i□e□ □n□ co□t□ not □u□□itted to CIT□ □ur□u□nt to □□r□□r□□□ 15.03.□.

D. CITY shall, within thirty (30) calendar days after receipt of CONTRACTOR's statement, □□□ CO□TR□CTOR □□□□□ ount□ it deter□ine□ □re □ro□er□□ deter□ined.

ARTICLE 16 CLAIMS AND DISPUTES

16.01 Definition

□. □ C□□i□ i□ □ de□ □nd or □□□ertion □□ t□e CO□TR□CTOR □ee□in□, □□ □ □ □tter of ri□□t, t□e □d□u□t□ent of Contr□ct □rice □nd/or ti□e□ □it□ re□□ect to t□e ter□ □of t□e Contr□ct.

16.02 Written Notice and Burden of Proof

A. C□□i□ □ □u□t □e □ de □□ □ritten notice □ur□u□nt to □□r□□r□□□ 17.01. T□e □ritten notice □□□□□ c□e□r□ indic□te t□□t t□e CO□TR□CTOR i□ □ □□in□ □ c□□i□. T□e re□□on□i□i□t□ to □u□□t□nti□te C□□i□ □ □□□□re□t □it□ t□e CO□TR□CTOR. □o C□□i□ □ □□ □e □ de under t□i□ Contr□ct e□ce□t □□ □ro□ided in t□i□ □rtic□e.

□. Certific□tion of C□□i□ □T□e □ritten notice of C□□i□ □□□□□include t□e fo□o□in□ □t□te□ent signed by the CONTRACTOR's representative: "The CONTRACTOR certifie□ t□□t □□□ □t□te□ent□ □ □de □nd t□e f□ct□ □et out in t□i□ c□□i□ □re true □nd correct □nd t□□t no f□□□e records have been submitted in support of this claim." **Strict compliance with this paragraph shall be a condition precedent to the creation, existence or validity of any Claim**.

16.03 Time Limits on Claims

A. T□e CO□TR□CTOR □u□t □i□e notice to t□e CIT□ □it□in fourteen (14) c□□end□r d□□□ □fter t□e deni□□of □re□ue□t for or f□i□ure to re□c□ □n □□ree□ent on □c□□n□e in Contr□ct □rice □nd/or c□□n□e in Contr□ct Ti□e □ur□u□nt to □rtic□e 11 □nd □rtic□e 12 re□□ecti□e□. □fter t□e fourteen (14) d□□ □eriod for □ □□in□ C□□i□ □□□□e□□ired, t□e C□□i□ □□□□□□e con□idered □i□ed.

B. The CONTRACTOR shall submit the Claim to the CITY's Representative.

16.04 Continuing Contract Performance

A. □endin□ fin□□ re□o□ution of □ C□□i□, un□e□□ ot□er□i□e □□reed in □ritin□, t□e CO□TR□CTOR □□□□□ □roceed di□□ent□□ □it□ □erfor□□nce of t□e □ or□ □nd t□e CIT□ □□□□□ continue to □ □□e □□□□ent□ in □ccord□nce □it□ t□e Contr□ct Docu□ent□. T□e CIT□ □ □□, □ut i□ not o□i□□ted to, notif□ t□e □uret□ of t□e n□ture □nd □□ ount of t□e C□□i□.

16.05 Injury or Damage to Person or Property

A. If eit□er □□rt□ to t□e Contr□ct □uffer□ in□ur□ or d□□ □□e to □er□on or □ro□ert□ □ec□u□e of

□n □ct or omission of the other party, of any of the other party's employees or agents, or of ot□er□ for □□o□e □ct□t □□rt□i□ □□□□□□□i□□e, □ritten notice of t□e in□ur□ or d□□ □□e, □□et□er or not in□ured, □□□□□□e □i□en to t□e ot□er □□rt□ □it□in □ re□□on□□□e ti□ e not e□ceedin□ t□irt□ (30) d□□□ □fter fir□t o□□er□□nce. T□e notice □□□□□□ro□ide □ufficient det□i□to en□□□e t□e ot□er □□rt□ to in□e□ti□□te t□e □ □tter.

16.06 Initial Resolution of Claims and Disputes

A. □fter t□e CO□TR□CTOR □□□ □u□□itted t□e C□□i□ to t□e CITY's Representative, the CITY'S Representative and CONTRACTOR'S Representative shall conduct a settlement conference within fourteen (14) c□end□r d□□□ fro□ t□e d□te of recei□t of t□e C□□i□. If t□e C□□i□ i□ not □ett□ed □it□in □e□en (7) c□end□r d□□□ following the date of the settlement conference, the CITY'S Representative and the CONTRACTOR's Representative shall state, in writing, following the conclusion of the seven (7) c□end□r d□□ □eriod, t□eir re□□ecti□e □o□ition □□ to t□e □ □tter□ in di□□ute.

B. The CITY'S and CONTRACTOR'S statement of positions shall state all known factual grounds for each party's position. If the dispute remains unresolved at the end of the seven (7) calendar days from submission of the parties' written position statements, the CO□TR□CTOR □□□□□□□□e t□e ri□□t to □roceed □it□ t□e □ur□uit of C□□i□ □ □ur□u□nt to □□r□□r□□□ 16.07.

C. If □ C□□i□ □□□ □een re□o□□ed, t□e O□ □ER □i□□ □re□□re or o□t□in □□□ro□ri□te docu□ent□tion.

16.07 Final Resolution of Claims and Disputes

A. □□□d□ini□tr□ti□e □rocedure□ □et fort□ in t□i□ contr□ct □u□t fir□t □e e□□□u□ted □efore □uit i□ fi□ed.

B. If the CITY'S Representative and the CONTRACTOR'S Representative are unable to re□o□e t□e di□□ute □ur□u□nt to 16.06, t□e □□rtie□ □u□t □u□□it t□eir □t□te□ent□ of □o□ition to t□e Director, □□o □□□□re□ie□ t□e C□□i□ □nd □□□e □decision □it□in fourteen (14) c□end□r d□□□.

C. Absent fraud, gross mistake or bad faith, the Director's decision shall be final and □indin□ on CIT□ □nd CO□TR□CTOR □it□in fourteen (14) c□end□r d□□□ □fter i□□u□nce. T□e CO□TR□CTOR □□□□□i□e □ritten notice to t□e CIT□ □t□tin□ it□ intent to □u□□it it□ C□□i□ to □ court of □□□ □ur□u□nt to □□r□□r□□□ 17.05.□. □it□in t□irt□ (30) c□end□r d□□□ □fter notice of Director's decision.

D. T□e time frames for the Director's decision and for CONTRACTOR'S written notice of intent □ □□ □e to□ed □□ □□rtici□□tion in □ounter□ □edi□tion. Medi□tor □e□ection □nd t□e □rocedure□ to □e e□ □o□ed in □ounter□ □edi□tion □□□□□□e □utu□□□ □cce□t□□e to t□e □□rtie□. Co□t□ of t□e □edi□tor □□□□□□e □□□red e□u□□□ □□ on□ t□e □□rtie□ □□rtici□□tin□ in t□e □edi□tion. In no e□ent □□□□□□n□ti□e fr□□e □e to□ed □ore t□□n 30 d□□□ for □edi□tion. □o□e□er, □edi□tion □ □□□e e□ □o□ed □t □n□ti□e □t t□e di□cretion □nd □utu□□□□ree□ent of t□e □□rtie□.

E. If t□e di□□ute i□ not re□o□□ed durin□ □ounter□ □edi□tion, T□e CO□TR□CTOR □□ree□ t□□t it □i□□fi□ no □uit □□□ed on f□ct□ or e□identi□r□ □ □teri□□ t□□t □ere not □re□ented for con□ider□tion to t□e CIT□ durin□ t□e □edi□tion □roce□□ or of □ic□ t□e CO□TR□CTOR □□d □no□ed□e □nd f□i□ed to □re□ent durin□ t□e □d□ini□tr□ti□e □rocedure□.

ARTICLE 17 MISCELLANEOUS

17.01 Giving Notice

A. □ □ene□er □n□ □ro□i□ion of t□e Contr□ct Docu□ent□ re□uire□ t□e □i□in□ of □ritten notice, it □i□□e □i□en □□ □er□on□□de□i□er□, □□ re□i□tered or certified □ □i□, □o□t□e □re□□id, to t□e □□t □u□ine□□ □ddre□□ □no□n to t□e □i□er of t□e notice or □□ confir□ed e□ectronic f□c□i□ie tr□n□□i□□ion. □otice i□ effecti□e on t□e d□te of □er□on□□de□i□er□, de□o□it of re□i□tered or certified □ □i□, □o□t□e □re□□id, or confir□ed e□ectronic f□c□i□ie tr□n□□i□□ion.

17.02 Computation of Times

A. When any period of time is referred to in the Contract Documents as days, it is to be computed to exclude the first and include the last calendar day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day is to be omitted from the computation.

17.03 Cumulative Remedies

A. The duties and obligations imposed by these General Conditions and the rights and remedies given hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR and all of the rights and remedies given to CITY and DESIGN PROFESSIONAL hereunder are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies given to or all of these are otherwise imposed or given to, or Resolutions, specific warrant or guarantee or any other provisions of the Contract Documents, and the provisions of this paragraph are effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

17.04 Survival of Obligations

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract.

17.05 Controlling Law

A. This Contract is to be construed and governed in accordance with the laws of the State of Missouri without giving effect to Missouri's choice of law provisions. The CITY and CONTRACTOR (1) agree that it is to the jurisdiction of the State and federal courts located in Jackson County, Missouri and no other (2) agree that in any such action to jurisdiction and venue and (3) agree not to raise forum non convenient or any objection to the location of any litigation.

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

SUPPLEMENTARY CONDITIONS

Project/Contract Numbers: 81000817 / 1682

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

These Supplementary Conditions amend or supplement the General Conditions of the Construction Contract and other provisions of the Contract Documents as indicated below. All provisions that are not so amended or supplemented remain in full force and effect.

SC-2.03 A. Article 2, Paragraph 2.03, Copies of Documents, is amended by deleting Paragraph 2.03 A and replacing it with the following:

A. CITY shall furnish to CONTRACTOR up to two (2) copies of the Drawings and Specifications, including Addenda.

SC-4.02 Article 4, Paragraph 4.02, Subsurface and Physical Conditions; Subparagraphs A and B are supplemented as follows:

In the preparation of the Contract Documents, no reports of explorations and tests of subsurface conditions at or contiguous to the Site of the Work were utilized.

In the preparation of the Contract Documents, no drawings of physical conditions in or relating to existing surface or subsurface structures which are at or contiguous to the Site of the Work were utilized.

SC-4.06 Article 4, Paragraph 4.06, Asbestos, Lead-Based Paint, PCBs, Petroleum Waste or Radioactive Material, Subparagraphs A and B are supplemented as follows:

In the preparation of the Contract Documents, no reports of explorations and tests of any Hazardous Environmental Condition(s) at the Site of the Work were utilized.

SC-5.03 A. Article 5, Paragraph 5.03 Certificates of Insurance, Subparagraph A is amended by adding the following Subparagraph 1:

1. CONTRACTOR shall obtain evidence that all Subcontractors have in force the required coverage in the amounts required by these Contract Documents, and evidence that each is current on its unemployment insurance payments before Subcontractors begin Work at the Site. CONTRACTOR shall retain such evidence in its files and make available to CITY within ten (10) days after written request.

SC-5.04 C. Article 5, Paragraph 5.04, CONTRACTOR's Liability Insurance, Subparagraph C is amended as follows:

The following additional policies of insurance are required:

7. Asbestos Liability Insurance. This insurance shall be an "occurrence" policy and shall protect CONTRACTOR, and CITY, DESIGN PROFESSIONAL and Consultants as additional insureds, against all claims arising from bodily injury, sickness, disease or death of any person other than the CONTRACTOR's employees arising out of any act related to asbestos abatement work. The liability limits for bodily injury and property damage shall be not less than:

$1,000,000 each occurrence
$2,000,000 general aggregate

If CONTRACTOR provides Environmental or Asbestos Liability Insurance through a Subcontractor, CONTRACTOR shall contractually require the Subcontractor to include CITY, Design Professional and Consultants as additional insureds in the Subcontractor's policy. CONTRACTOR shall deliver to CITY, prior to the start of any Work at the Project Site, properly completed certificates of insurance or other evidence that the required insurance is in full force and effect, in a form acceptable to CITY. CONTRACTOR shall contractually require its Subcontractor to defend, indemnify and hold harmless CITY from and against all Claims arising out of or resulting from all acts or omissions in connection with this Contract caused in whole or in part by Subcontractor or Subcontractor's agents, regardless of whether or not caused in part by any act or omission, including negligence, of CITY. CONTRACTOR must provide evidence that this requirement has been complied in accordance with the provisions of Paragraphs 6.01 B and 6.06 G.

SC-5.06 A. Article 5, Paragraph 5.06, Property Insurance, Paragraph A, is amended by adding the following after the first sentence:

Property Insurance on the Work at the Site shall be written with a deductible amount not to exceed $10,000.00.

SC-6.06 A.1 Article 6, Paragraph 6.06 Substitutes and "Or-Equal" Items, Paragraph A is amended by adding the following at the end of Paragraph A.1:

Proposed "or-equal" items must be submitted to CITY at least eleven (11) days prior to Bid date at the following address:

KC Water
4800 E. 63rd St.
Kansas City, Missouri 64130
Attn: Debra L. Smith. AIA, Project Manager

Only Bidders may submit proposed "or-equal" items and such items must require no change in related Work. Acceptance by CITY of any proposed "or-equal" items will be made by Addendum only.

SC-6.06 A.2. Article 6, Paragraph 6.06 Substitutes and "Or-Equal" Items, Paragraph A is amended by adding the following at the end of Paragraph A.2:

Proposed substitute items must be submitted to CITY's Representative not later than seven (7) days prior to the time the item is to be incorporated into the Work. Only CONTRACTOR may submit proposed substitute items, and such items must be submitted to CITY's Representative on the standard City form 01630 - Substitution Request. Acceptance by CITY of any proposed substitute item will be made by Change Order.

SC-6.10. Article 6, Paragraph 6.10, Compliance with Laws and Regulations, is amended by adding the following new Subparagraphs immediately following Subparagraph 6.10 I 2:

a. CONTRACTOR will be required to comply with wage rates as follows:

County –Jackson,

Work Type:

State – Building

SC-6.10. Article 6, Paragraph 6.10, Compliance with Laws and Regulations, is amended by adding the following new Subparagraph 6.10 S:

1. "Resident Laborers" means laborers who have been residents of the State of Missouri for at least thirty days and who intend to remain Missouri residents, and residents of Nonrestrictive States.

2. "Nonrestrictive States" means states identified by the Missouri Department of Labor and Industrial Relations Division of Labor Standards that have not enacted state laws restricting Missouri laborers from working on public works projects. A list of Nonrestrictive States can be found on the Division web site at http://www.dolir.mo.gov/ls/index.htm.

3. A period of Excessive Unemployment is declared when the Missouri Department of Labor and Industrial Relations Division of Labor Standards provides notice of such declaration. When in effect, notice will be provided on the Division web site at http://www.dolir.mo.gov/ls/index.htm. It is CONTRACTOR's obligation to determine whether a period of Excessive Unemployment is in effect when this Contract is let.

4. CONTRACTOR agrees to follow the provisions of Section 290.560 - 290.575 RSMo and agrees that if a period of Excessive Unemployment has been declared at any point during the term of this Contract, it will employ and require all Subcontractors of whatever tier to employ only Resident Laborers for the Work to be performed under this CONTRACT. Provided, however, CONTRACTOR may use laborers who are not Resident Laborers when Resident Laborers are not available or are incapable of performing the particular type of work involved if CONTRACTOR so certifies in writing to CITY and CITY issues a written approval. This provision does not apply to regularly employed nonresident executive, supervisory or technical employees.

Article 6, Paragraph 6.10, Compliance with Laws and Regulations, is amended by adding the following new Subparagraph 6.10 T:

Contract Information Management System. CONTRACTOR shall comply with CITY's Contract Information Management System requirements. CONTRACTOR shall use CITY's Internet web based Contract Information Management System/Project Management Communications Tool provided by CITY and protocols included in that software during the term of this Contract. CONTRACTOR shall maintain user applications to CITY's provided system for all personnel, subcontractors or suppliers as applicable.

SC-6.11. Article 6, Paragraph 6.11, Taxes, is amended by adding the following sentence to Subparagraph 6.11 B:

B. Tax Compliance. The following subparagraphs apply if the Contract is over $160,000.00.

SC-7.02 A. Article 7, Paragraph 7.02, Coordination, Subparagraph A is supplemented as follows:

1. It is anticipated that work under separate contracts will be performed at the Site, concurrent with the Work to be performed pursuant to these Contract Documents. The following person, firm or corporation ("the Coordinating Contractor") will have authority and responsibility for coordination of the activities among the various contractors performing work at the Site: Lippert Mechanical, Mark-One Electric, Tru-Cut Lawn & Landscape, snow removal contractor, and any other City EV contractor working on the site..

SC-9.02 A. Article 9, Paragraph 9.02, Resident Project Representative, Subparagraph A is supplemented as follows:

The responsibilities, authority and limitations of authority of DESIGN PROFESSIONAL's resident Project representative as stated in Paragraph 9.08 are modified as follows:

DESIGN PROFESSIONAL will provide an Architect Resident Project Representative (RPR) on site up to 4 hours per day for the duration of the construction period through substantial completion.

SC-9.08 E. Article 9, Paragraph 9.08, Limitations on DESIGN PROFESSIONAL's Authority and Responsibilities, Subparagraph E is supplemented as follows:

DESIGN PROFESSIONAL's Consultant(s), resident Project representative and assistant(s) to the resident Project representative are the following:

Consultant(s): Henderson Engineers (MEP / IT / AV Engineering;

SK Design Group (Civil Engineering)

Leigh & O'Kane (Structural Engineering)

KC Testing (Special Inspections and Materials Testing)

Resident Project representative: Wellner Architects, Inc.

Assistant(s) to the resident Project representative: _N.A._

SC-12.01 Article 12, Paragraph 12.01, Time of the Essence is amended by adding the following new Subparagraphs immediately following Subparagraph 12.01 A:

B. Starting and Completion

1. The Work to be performed under this Contract shall begin on the date specified in the written Notice to Proceed issued by the Director of KC Water, Wes Minder, _____, and the Work shall be substantially complete, in accordance with Paragraph 14.04, within 420 Calendar Days thereafter including Alternate 1, or 330 Calendar Days without Alternate 1. Contractor should take note that acceptance of Alternate 2 does not affect the schedule. Once the Work starts, CONTRACTOR shall continuously pursue completion of the Work.
2. The Work shall be completed and ready for final payment in accordance with Paragraph 14.07 within 30 Calendar Days after the date of Substantial Completion of the Work.

C. Liquidated Damages

1. If the Work is not substantially completed within the period stated in Paragraph 12.01 B.1, CONTRACTOR shall pay to CITY the amount of **Fifteen Hundred Dollars per day** ($1,500.00/day) as liquidated damages and not as a penalty for each Calendar Day until the Work is substantially complete. The amount of liquidated damages shall be deducted from any payments due or to become due CONTRACTOR.
2. If the Work is not completed and ready for final payment in accordance with Paragraph 14.07, within the period stated in Paragraph 12.01 B.2, CONTRACTOR shall pay to CITY the amount of **Five Hundred Dollars per day** (**$ 500.00/day**) as liquidated damages and not as a penalty for each Calendar Day until the Work is

completed and ready for final payment. The amount of liquidated damages shall be deducted from any payments due or to become due CONTRACTOR.

SC-14.02 A. Article 14, Paragraph 14.02, Application for Progress Payments, Subparagraph A is amended by deleting Item 3 and adding the following:

3. CITY shall make payments to CONTRACTOR monthly on or about the 15th day of each month. Payments to CONTRACTOR will be made on the basis of ninety-five percent (95%) of the value of the Work satisfactorily completed plus ninety-five percent (95%) of the value of properly stored and insured, unused materials on hand on the Site of the Work. CITY shall retain five percent (5%) of each partial payment until completion and acceptance of the Work covered by the Contract and final payment is due. All Work covered by a payment becomes CITY's property, provided that the Work paid for remains the sole responsibility of CONTRACTOR until all terms and conditions of the Contract have been met.

SC-14.04. Article 14, Paragraph 14.04, Substantial Completion, Subparagraph A is supplemented as follows:

A. To be considered substantially complete, the following items of the Work must be operational and ready for CITY's continuous use as intended:

1) Sitework
2) Paving
3) Concrete
4) Exterior Enclosure
5) Walls
6) Ceilings
7) Power, Data, Access Control
8) Security Monitors
9) Mechanical
10) Plumbing
11) Fixtures
12) Casework
13) Stairs
14) Railings
15) ADA Compliance
16) AV equipment and schedule monitors
17) Finishes

SC-14.05 Article 14, Paragraph 14.05, Partial Utilization is amended by adding the following new Subparagraph A.3. immediately following Subparagraph 14.05 A.2:

3. CITY at any time may make a written request to CONTRACTOR to permit CITY to take over operation of any part of the Work although it is not substantially complete. A copy of the request will be sent to DESIGN PROFESSIONAL, and within a reasonable time thereafter CITY, CONTRACTOR and DESIGN PROFESSIONAL shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected thereon before final payment. If CONTRACTOR does not make written objection to CITY and DESIGN PROFESSIONAL that such part of the Work is not ready for

separate operation by CITY, DESIGN PROFESSIONAL will finalize the list of items to be completed or corrected and will deliver such lists to CITY and CONTRACTOR. DESIGN PROFESSIONAL will also make a written recommendation as to the division of responsibilities pending final payment between CITY and CONTRACTOR with respect to security, operation, safety, maintenance, utilities, insurance, warranties and guarantees for that part of the Work, which recommendation will become binding upon CITY and CONTRACTOR at the time when CITY takes over such operation (unless they shall have otherwise agreed in writing and so informed DESIGN PROFESSIONAL). During such operation and prior to Substantial Completion of such part of the Work, CITY shall allow CONTRACTOR reasonable access to complete or correct items on said list and to complete other related Work.

Missouri
Division of Labor Standards
WAGE AND HOUR SECTION

MICHAEL L. PARSON, Governor

Annual Wage Order No. 29

Section 048
JACKSON COUNTY

In accordance with Section 290.262 RSMo 2000, within thirty (30) days after a certified copy of this Annual Wage Order has been filed with the Secretary of State as indicated below, any person who may be affected by this Annual Wage Order may object by filing an objection in triplicate with the Labor and Industrial Relations Commission, P.O. Box 599, Jefferson City, MO 65102-0599. Such objections must set forth in writing the specific grounds of objection. Each objection shall certify that a copy has been furnished to the Division of Labor Standards, P.O. Box 449, Jefferson City, MO 65102-0449 pursuant to 8 CSR 20-5.010(1). A certified copy of the Annual Wage Order has been filed with the Secretary of State of Missouri.

Original Signed by
Todd Smith, Director
Division of Labor Standards

Filed With Secretary of State: **March 10, 2022**

Last Date Objections May Be Filed: **April 11, 2022**

Prepared by Missouri Department of Labor and Industrial Relations

Building Construction Rates for
JACKSON County

Section 048

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Asbestos Worker	$67.05
Boilermaker	$37.33*
Bricklayer	$59.20
Carpenter	$60.21
Lather	
Linoleum Layer	
Millwright	
Pile Driver	
Cement Mason	$54.35
Plasterer	
Communications Technician	$58.66
Electrician (Inside Wireman)	$66.21
Electrician Outside Lineman	$64.01
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Elevator Constructor	$37.33*
Glazier	$56.84
Ironworker	$66.35
Laborer	$49.04
General Laborer	
First Semi-Skilled	
Second Semi-Skilled	
Mason	$54.39
Marble Mason	
Marble Finisher	
Terrazzo Worker	
Terrazzo Finisher	
Tile Setter	
Tile Finisher	
Operating Engineer	$60.71
Group I	
Group II	
Group III	
Group III-A	
Group IV	
Group V	
Painter	$50.15
Plumber	$74.12
Pipe Fitter	
Roofer	$57.93
Sheet Metal Worker	$71.70
Sprinkler Fitter	$61.32
Truck Driver	$47.50
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. The public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.
**The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title as defined in Section 290.210 RSMo.

Heavy Construction Rates for
JACKSON County

Section 048

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Carpenter	$60.95
Millwright	
Pile Driver	
Electrician (Outside Lineman)	$84.43
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Laborer	$49.28
General Laborer	
Skilled Laborer	
Operating Engineer	$58.78
Group I	
Group II	
Group III	
Group IV	
Truck Driver	$50.64
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

Use Heavy Construction Rates on Highway and Heavy construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(3).

Use Building Construction Rates on Building construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(2).

If a worker is performing work on a heavy construction project within an occupational title that is not listed on the Heavy Construction Rate Sheet, use the rate for that occupational title as shown on the Building Construction Rate Sheet.

*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. The public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.

**The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title as defined in Section 290.210 RSMo.

OVERTIME
and
HOLIDAYS

OVERTIME

For all work performed on a Sunday or a holiday, not less than twice (2x) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work.

For all overtime work performed, not less than one and one-half (1½) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work or contractual obligation. For purposes of this subdivision, **"overtime work"** shall include work that exceeds ten hours in one day and work in excess of forty hours in one calendar week; and

A thirty-minute lunch period on each calendar day shall be allowed for each worker on a public works project, provided that such time shall not be considered as time worked.

HOLIDAYS

January first;
The last Monday in May;
July fourth;
The first Monday in September;
November eleventh;
The fourth Thursday in November; and
December twenty-fifth;

If any holiday falls on a Sunday, the following Monday shall be considered a holiday.

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

ADDENDUM NUMBER 5

Project Number 81000817
Project Title WSD Administration Building IT Improvements ADA Compliance

ISSUE DATE: **April 3, 2023**

Bidders are hereby notified that the Bidding and Contract Documents for the above project, for which Bids are to be received on **April 4, 2023**, are amended as follows:

Information to Bidders The following is provided to Bidders for information only:

Due to the desire to limit the number of individuals in City Hall, we would like to communicate the option to attend the Public Bid Opening virtually for **April 4, 2023**.

1. We will allow Bidders to submit their bids at City Hall-1st Floor Rm. 102W by the 2:00 PM deadline mentioned in the Invitation for Bid.

2. We are offering a virtual meeting via the link and information for Microsoft Teams. The Bid Reading will be "Live" through any computer, tablet or mobile device using the provided link. You can also choose to call-in using the number provided as well.

3. The Bid Results will be posted to the KCMO Planroom like our normal process.

Microsoft Teams meeting

Join on your computer, mobile app or room device
Click here to join the meeting
Meeting ID: 286 191 482 067
Passcode: xp5ATe
Download Teams | Join on the web
Or call in (audio only)
+1 872-212-5076,,494028752# United States, Chicago
Phone Conference ID: 494 028 752#
Find a local number | Reset PIN
Learn More | Meeting options

NOTE: Bidders must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

ADDENDUM NUMBER 4

Project Number: 81000817

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

ISSUE DATE: April 3, 2023

Bidders are hereby notified that the Bidding and Contract Documents for the above project, for which Bids are to be received on Tues., April 4, 2023 at 2:00 p.m., are amended as follows:

Q1.	Do you have a specific company that supplies/maintains the fire suppression system?
A1.	**National Fire Suppression.** **Contact: Scott, phone number: 913-321 -9208**

NOTE: Bidders must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.

CITY OF FOUNTAINS
HEART OF THE NATION
KANSAS CITY
MISSOURI

ADDENDUM NUMBER 3

Project Number: 81000817

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

ISSUE DATE: March 22, 2023

Bidders are hereby notified that the Bidding and Contract Documents for the above project, for which Bids are to be received on Tues., April 4, 2023 at 2:00 p.m., are amended as follows:

Information to Bidders The following is provided to Bidders for information only:

1. Pre-Bid Meeting Attendance List. See attached.

2. Pre-Bid Conference PowerPoint. See attached.

3. Reminder: As per the General Conditions, All Requests for Substitutions must be submitted by the General Contractor. Submissions from any other party will not be considered.

Q1.	When is the last date that questions may be submitted in writing?
A1.	**All questions must be submitted to Debra Smith, Project PM and Derrick Smith, project Contract Administrator by the close of business Mon., March 27, 2023.** **Debra.Smith@kcmo.org** **Derrick.Smith@kcmo.org**
Q2.	Please advise if a budget has been established for this project.
A2.	**Yes. Refer to the following link for the KC Water CIP Roll out** **http://www.kcwater.us/wp-content/uploads/2022/04/FY-23-CIP-Project-List.pdf**

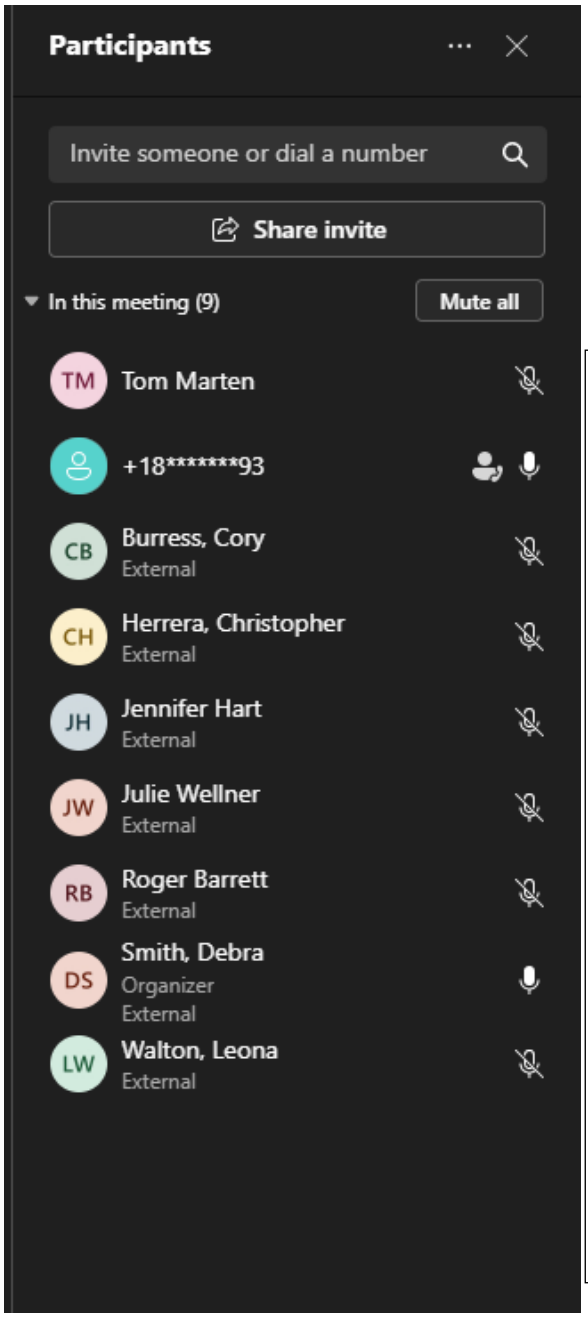
Drawings:
Sheet 6 of 126: Refer to the pink phase in "Phasing Schedule with Alt 1 & 2": Delete "with hatched area at end of new security area is operating", and replace with "Owner will relocate existing security equipment and monitors prior to demolition, contractor will install existing monitors in completed area at the time the owner takes occupancy of new security area."

NOTE: Bidders must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.

Contract #1682, Addendum #3, Attachment 1

KC Water Administration Building, Building & IT Improvements and ADA Compliance

Attendance Roster from Mandatory Pre-Bid Conference, March 9 at 1:00



TM Gunter Construction

Phone John Plackemeier, Henderson Engineers, subconsultant to DP

CB KCMO, General Services Dept., Procurement Manager

CH KC Water, Facilities Engineering

JH Hartline Construction

JW Wellner Architects, Inc., Prime Project Design Profess'l

RB SK Design Group, Subconsultant to DP

DS KC Water, Facilities Engineering Div., Project Manager

LW KC Water, Contracts Administration Division

Mandatory Pre-Bid Conference

KC Water Administration Building,
Building & IT Improvements and ADA Compliance

Contract #1682 Project #81000817

March 9, 2023 1:00 pm

MS Teams

Agenda

1. Introductions of City Staff and Design Team Members present
2. Bid Submittal and MBE WBE info. Participation is 11% each
3. Explanation of Purpose for the Project/ Summary of Scope
4. Bid Package includes 2 Add Alternates and 1 Allowance
5. Review of Plans
6. Construction Phasing Plan
7. **Bids due by 2:00 p.m. at City Hall, 414 E. 12th St. Room 102W**
8. Building Tours, Optional, will be offered:

   Mon., March 13 at 11:00, meet at KC Water Admin. Bldg, North Lobby

   Tues., March 14 at 11:30, meet at KC Water Admin. Bldg, North Lobby

NOTE: All Questions must be submitted in writing to PM no less than 7 days before the Bid Due Date and will be responded to via Addendum.

Mandatory Pre-Bid Conference

"Sign-In Sheet"

To verify participation, all attendees must send an email within 24 hours to both of the following:

Debra.Smith@kcmo.org Project Manager, KC Water, Facilities Engin.

(technical and design/scope related questions)

Derrick.Smith@kcmo.org City of KCMO, General Services, Procurement

(contracting questions)

Back up contact: Cory.Burress@kcmo.org City of KCMO, Procurement

Bid Submissions must contain:

Reference Instructions to Bidders, pp. 1- 3

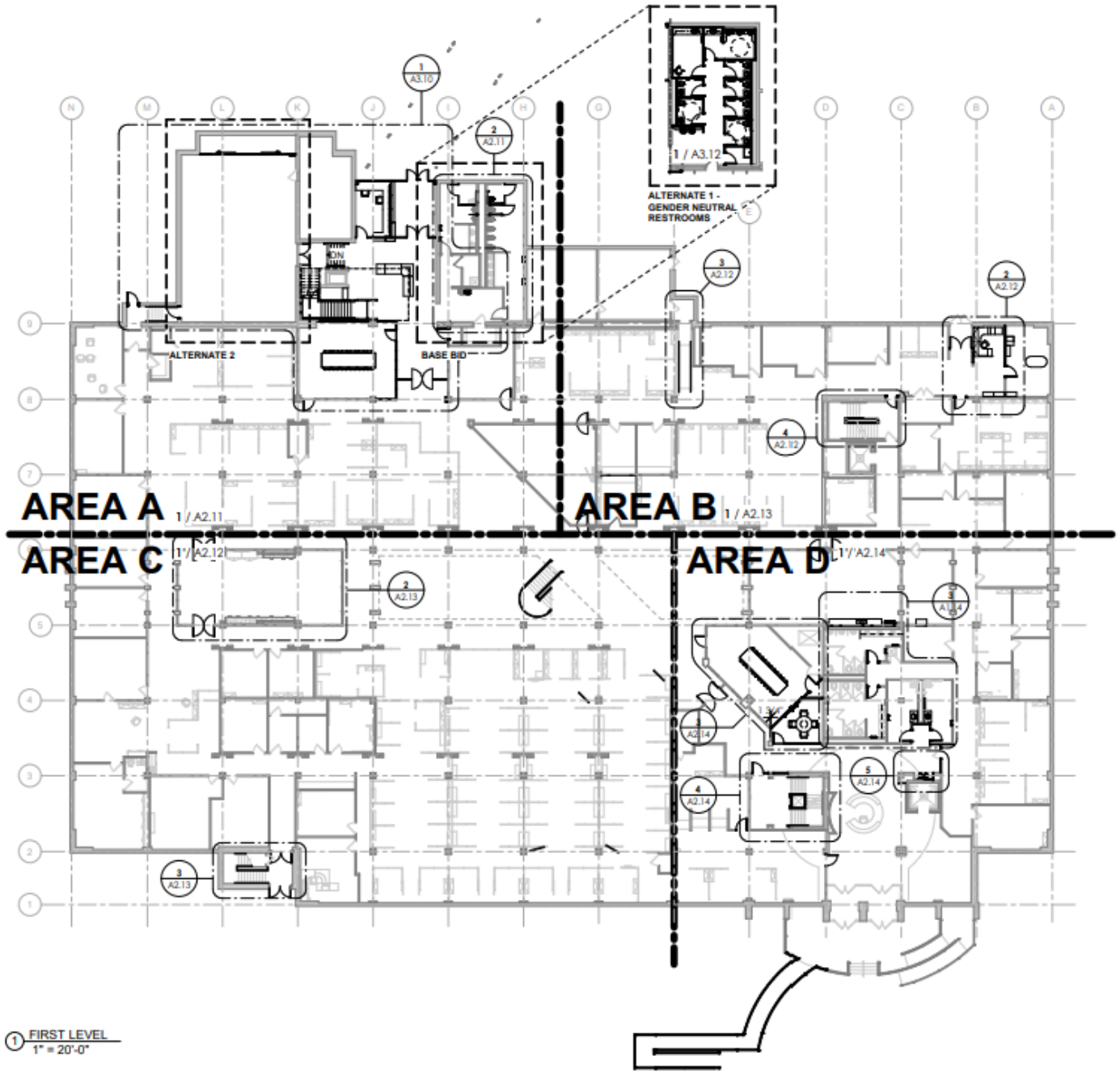
- 00410 Bid Form/Contract
- 00420 Alternate Form
  - Alternate 1: Gender Neutral Restrooms, 1st and 2nd Floor
  - Alternate 2: Auditorium upgrades
- Evidence of Competency Forms – Section 3a-3v
- 5% Bid Security – 00430 Bid Bond or other methods are listed in Section 7

48-Hour MBE/WBE form requirements

Due by 2:00 pm Thurs., April 6

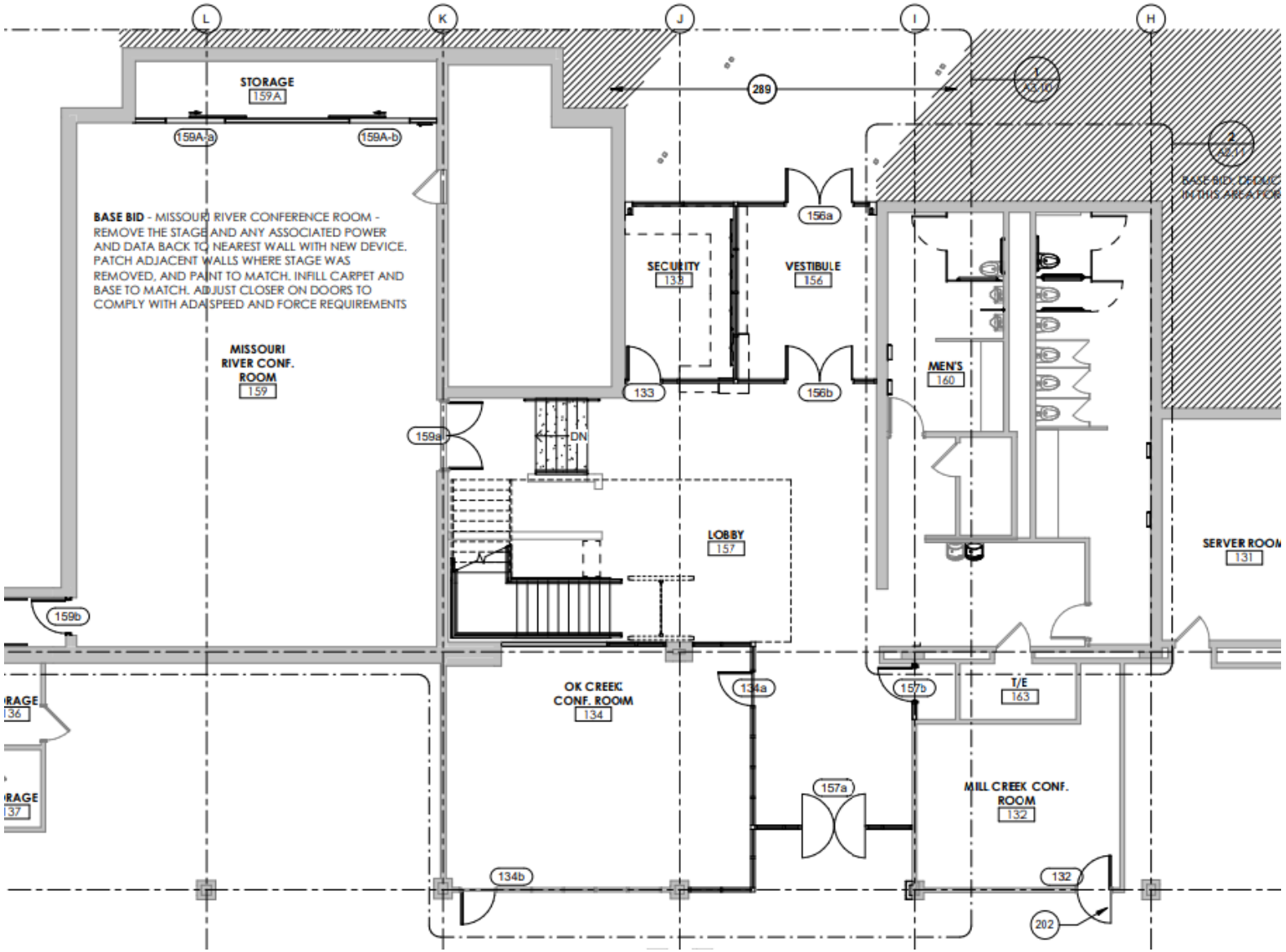
- MBE goal 11% WBE goals 11%
  - 00450 – CREO KC 08 Contractor Utilization Plan (CUP) & Request for Waiver
  - 00450.01 – CREO KC Letter of Intent to Subcontract
  - 00460 – CREO KC Timetable for MBE/WBE Utilization
  - 00485.04 – CREO KC Employee Identification Report – this is labeled as HRD Employee Identification Report* on the Table of Contents
  - 00485.05 – CREO KC Affidavit of Training Program
  - 00485.06 / CREO 14 – CREO KC Affirmative Action Program Affidavit

Review of Plans and Areas of Work

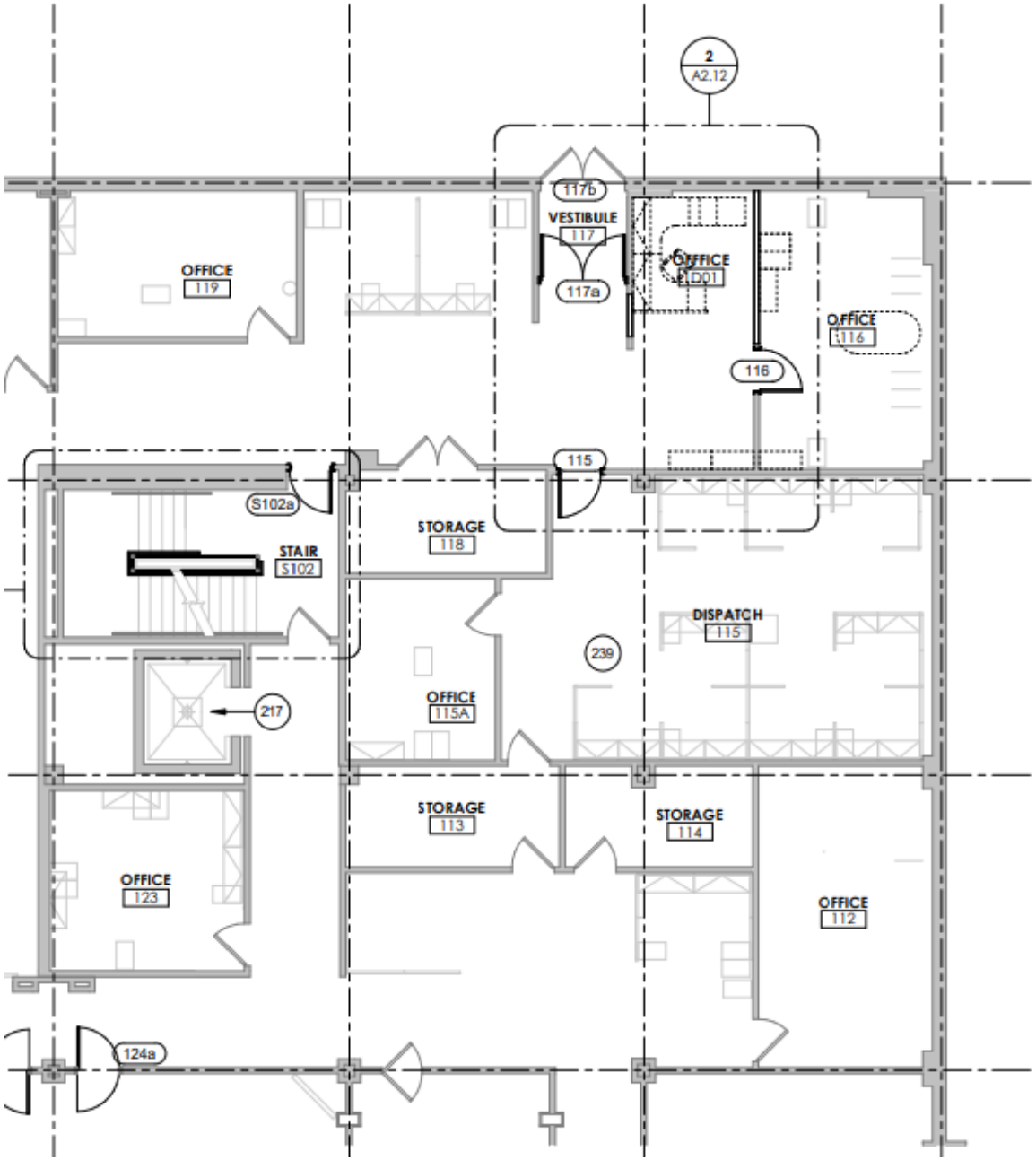


Construction Key

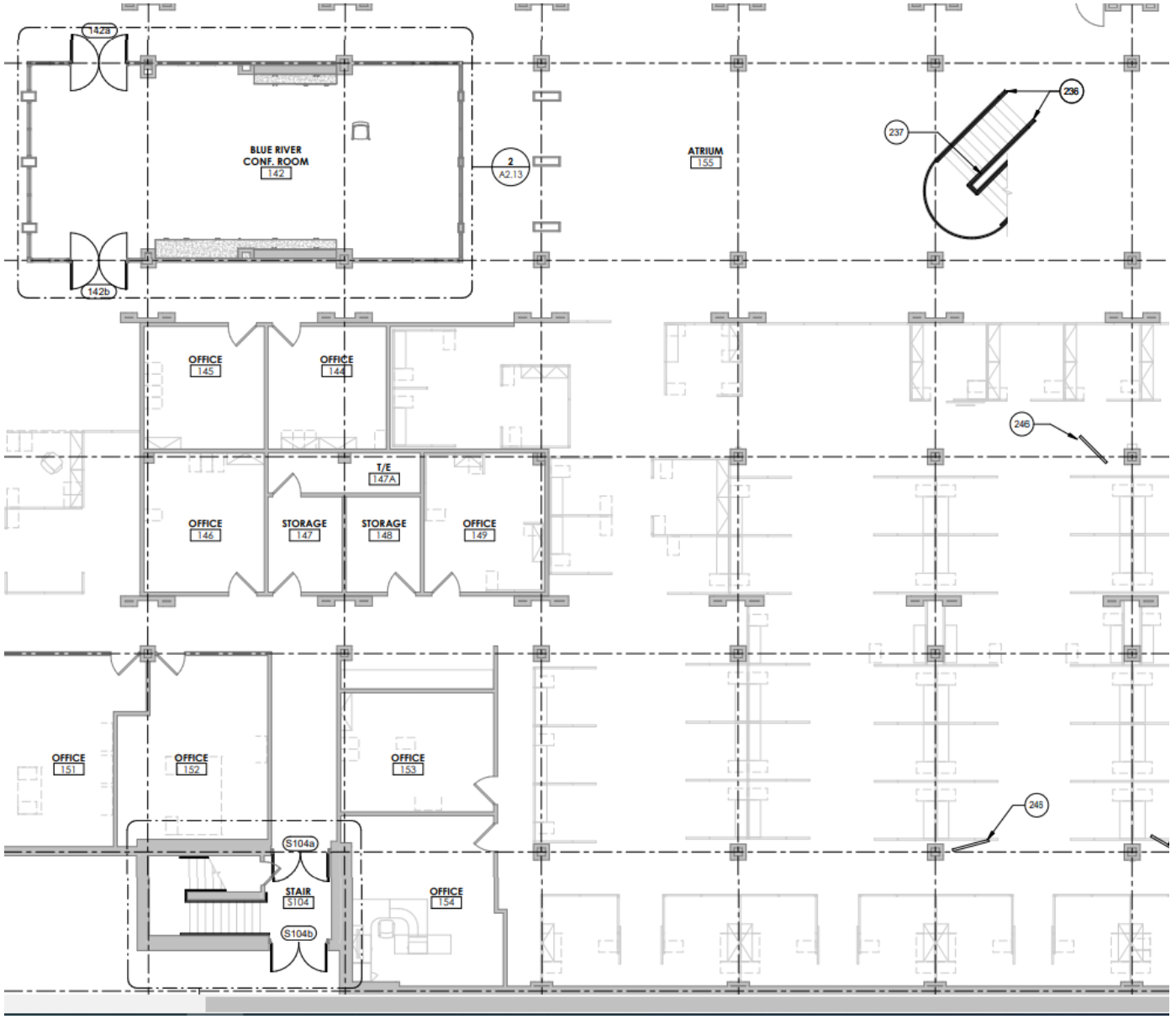
1st Level



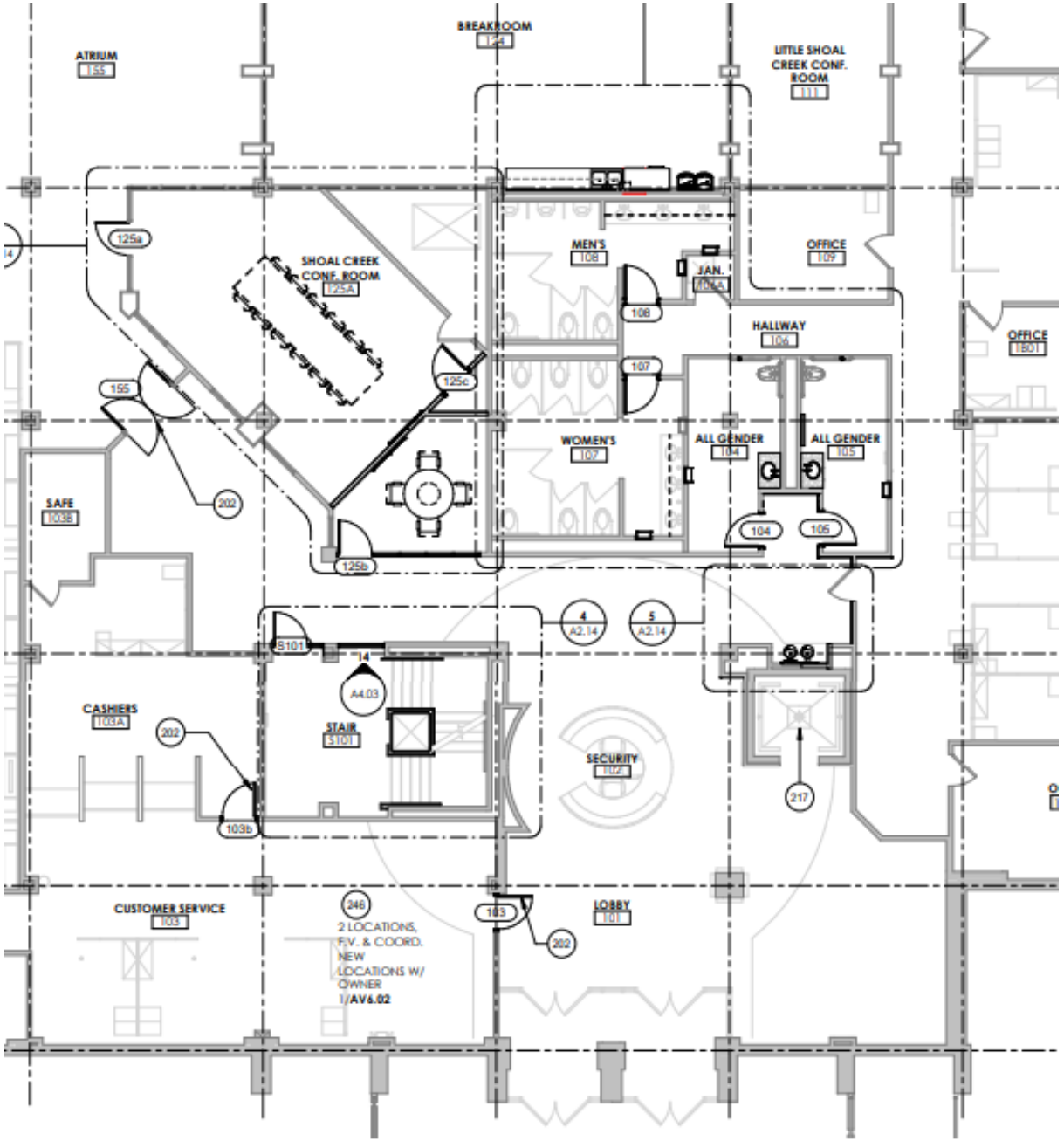
Enlarged Plan 1st Floor Area A New Work



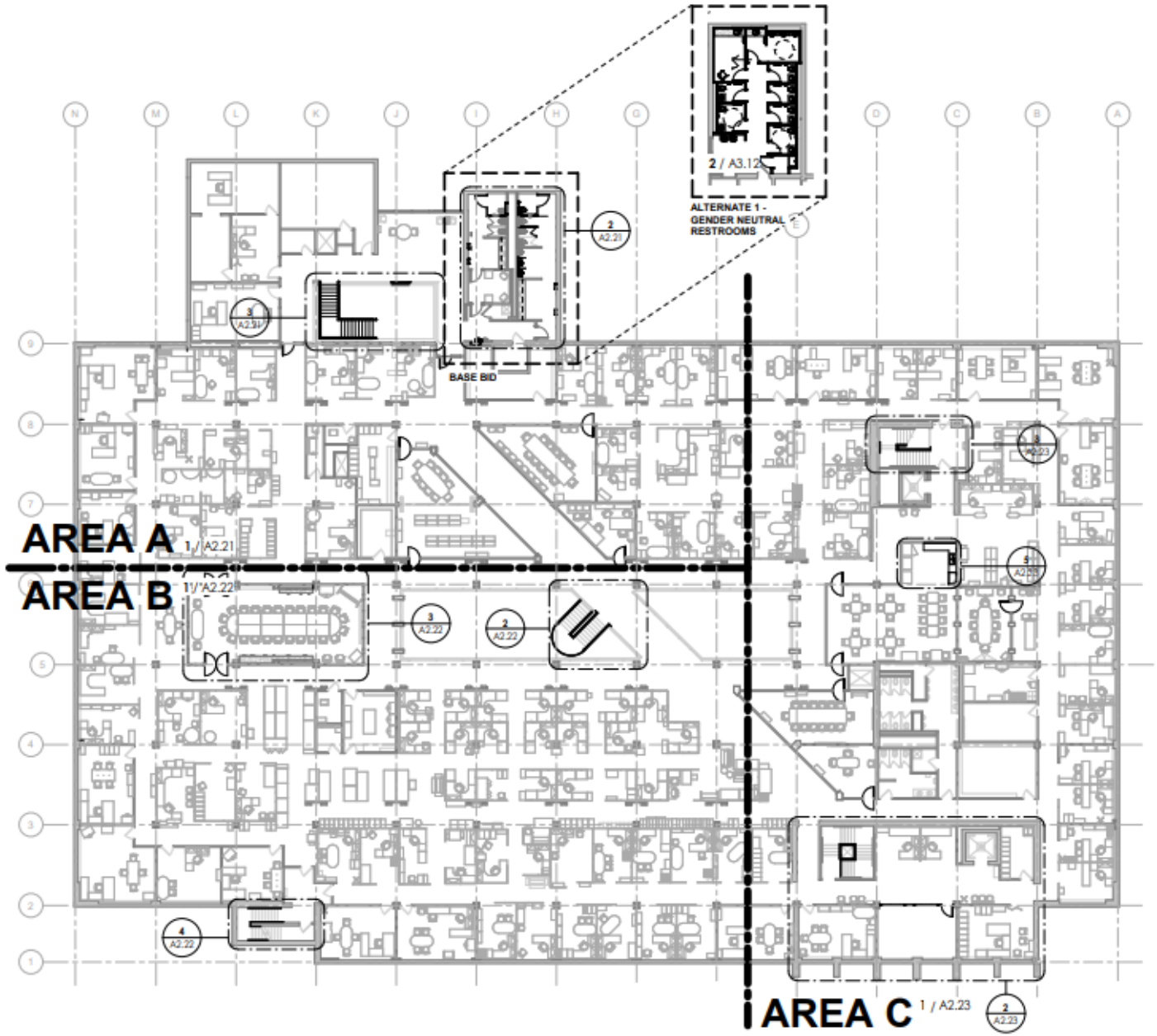
Enlarged Plan 1st Floor Area B New Work



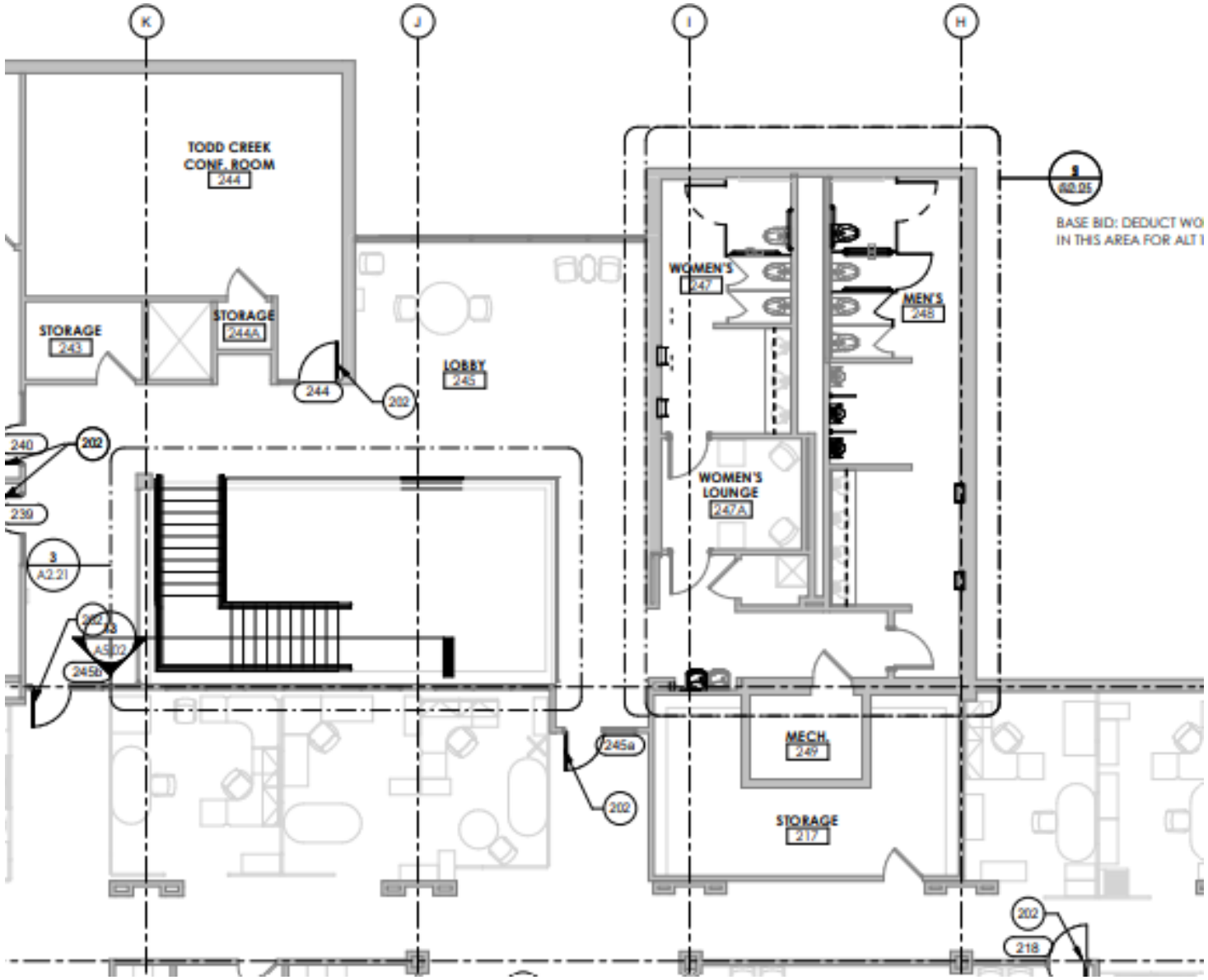
Enlarged Plan
1st Floor
Area C
New Work



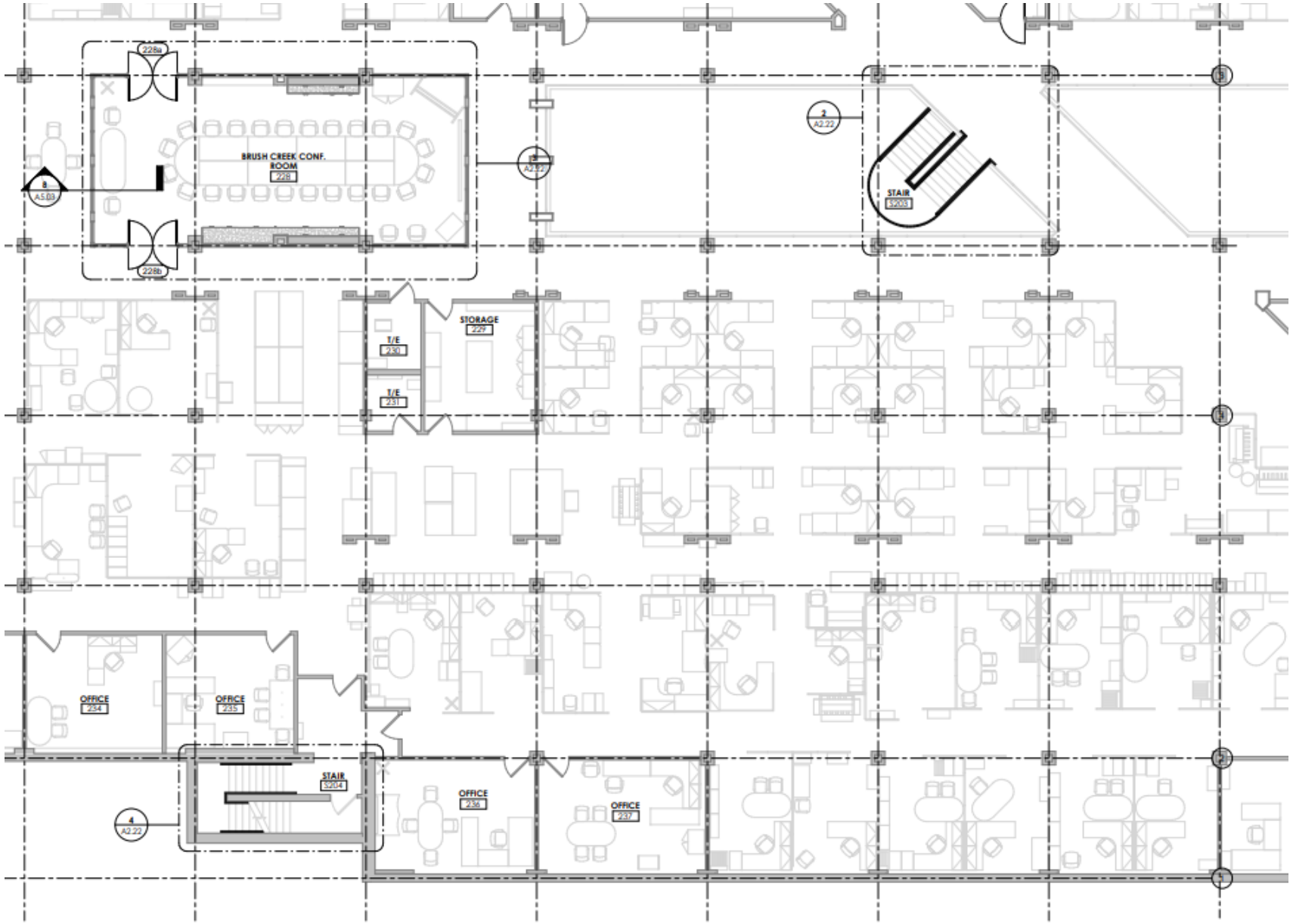
Enlarged Plan
1st Floor
Area D
New Work



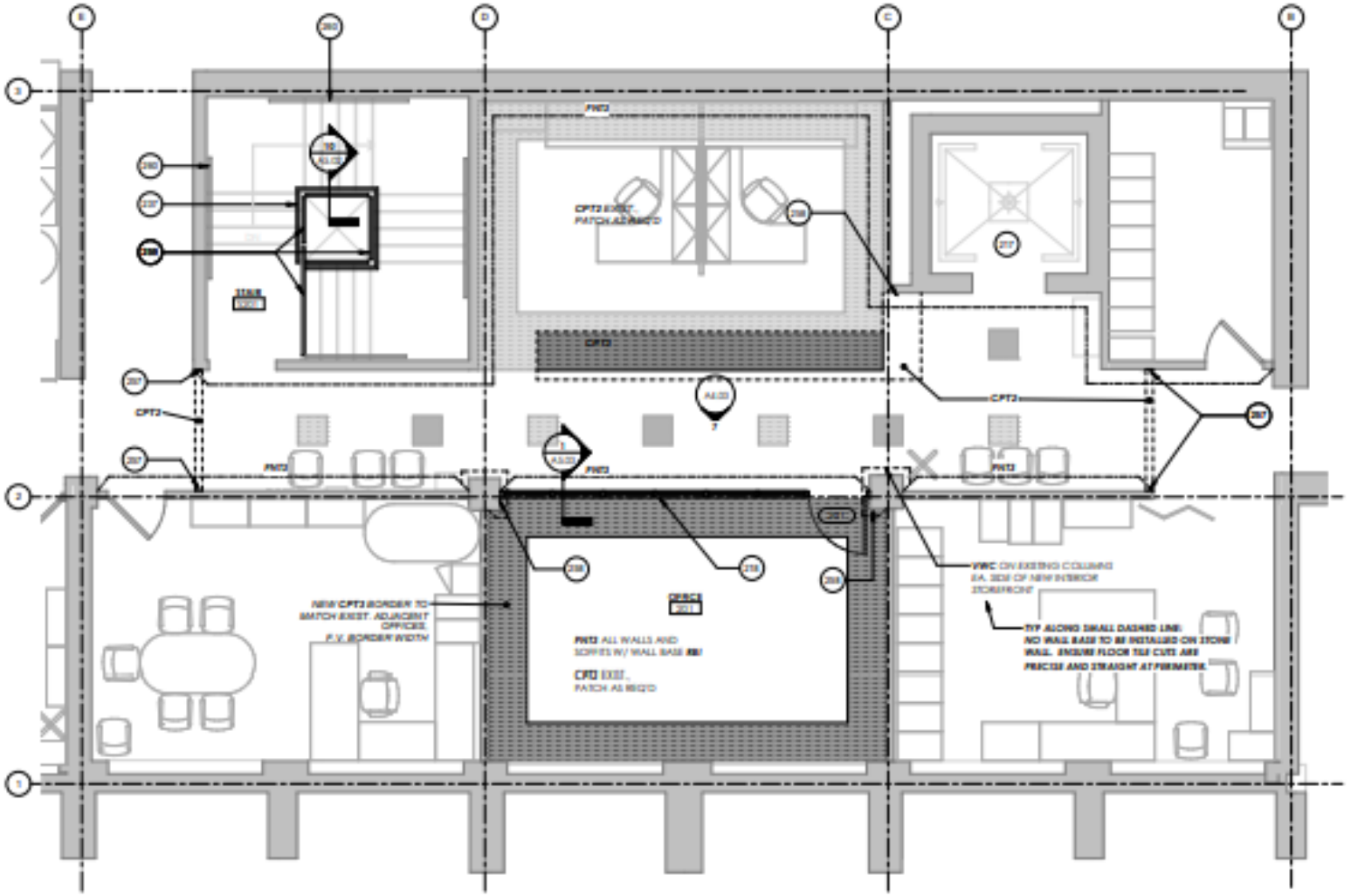
Construction Key
2nd Level



Enlarged Plan, 2nd Floor, Area A New Work

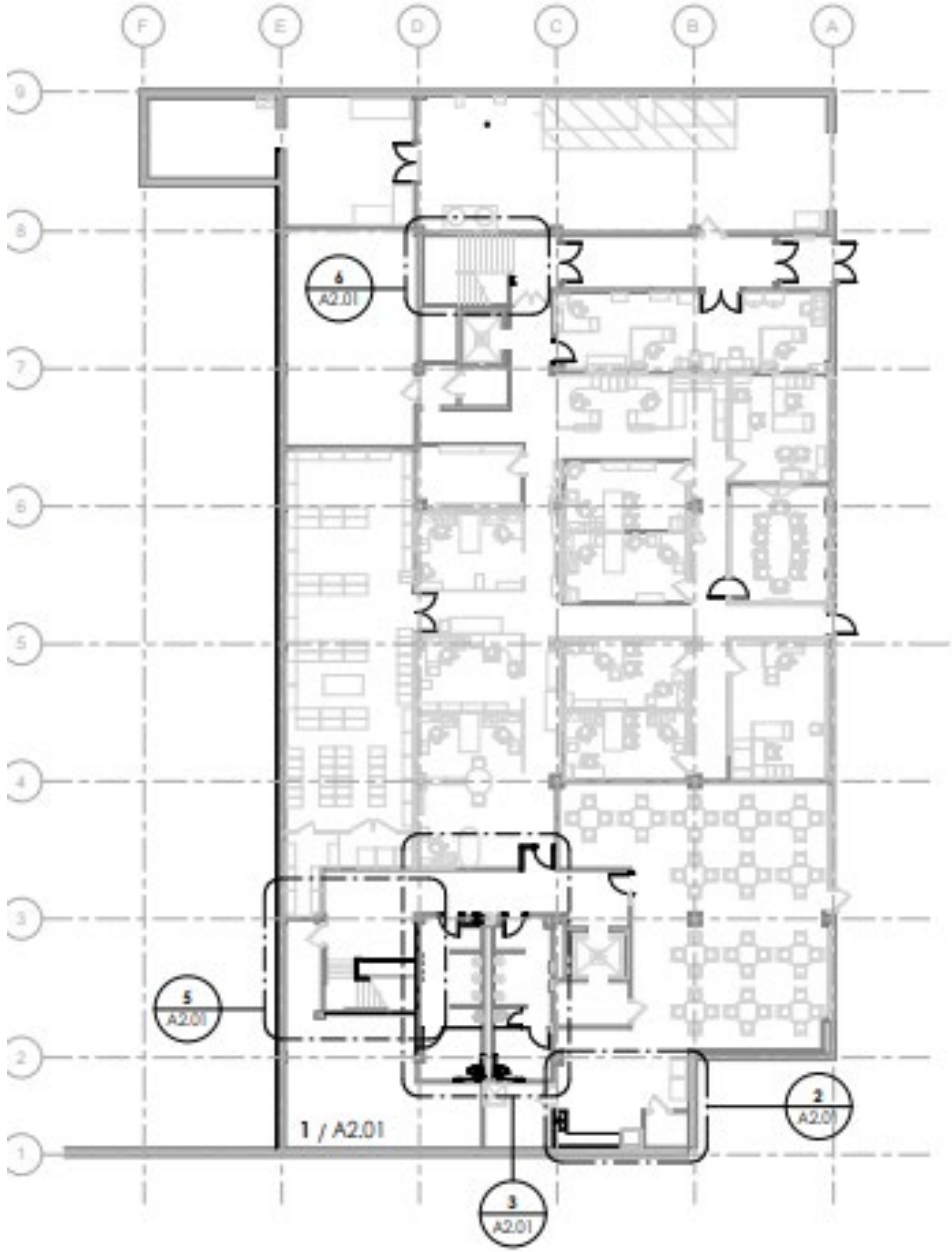


Enlarged Plan, 2nd Floor, Area B New Work

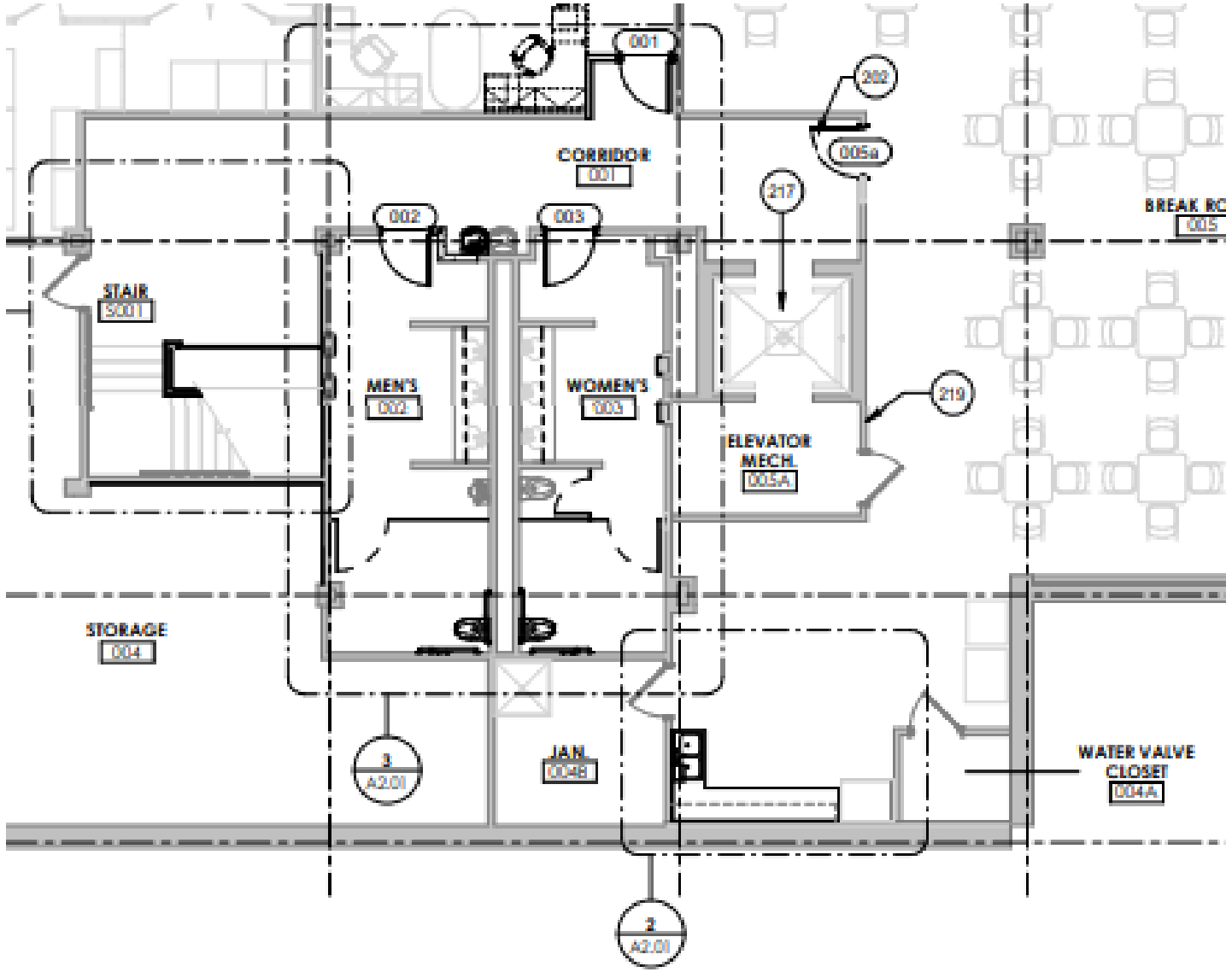


2 ENLARGED PROJECT MANAGEMENT SECTION
1/4" = 1'-0"

Enlarged Plan
2nd Floor
Area C
New Work



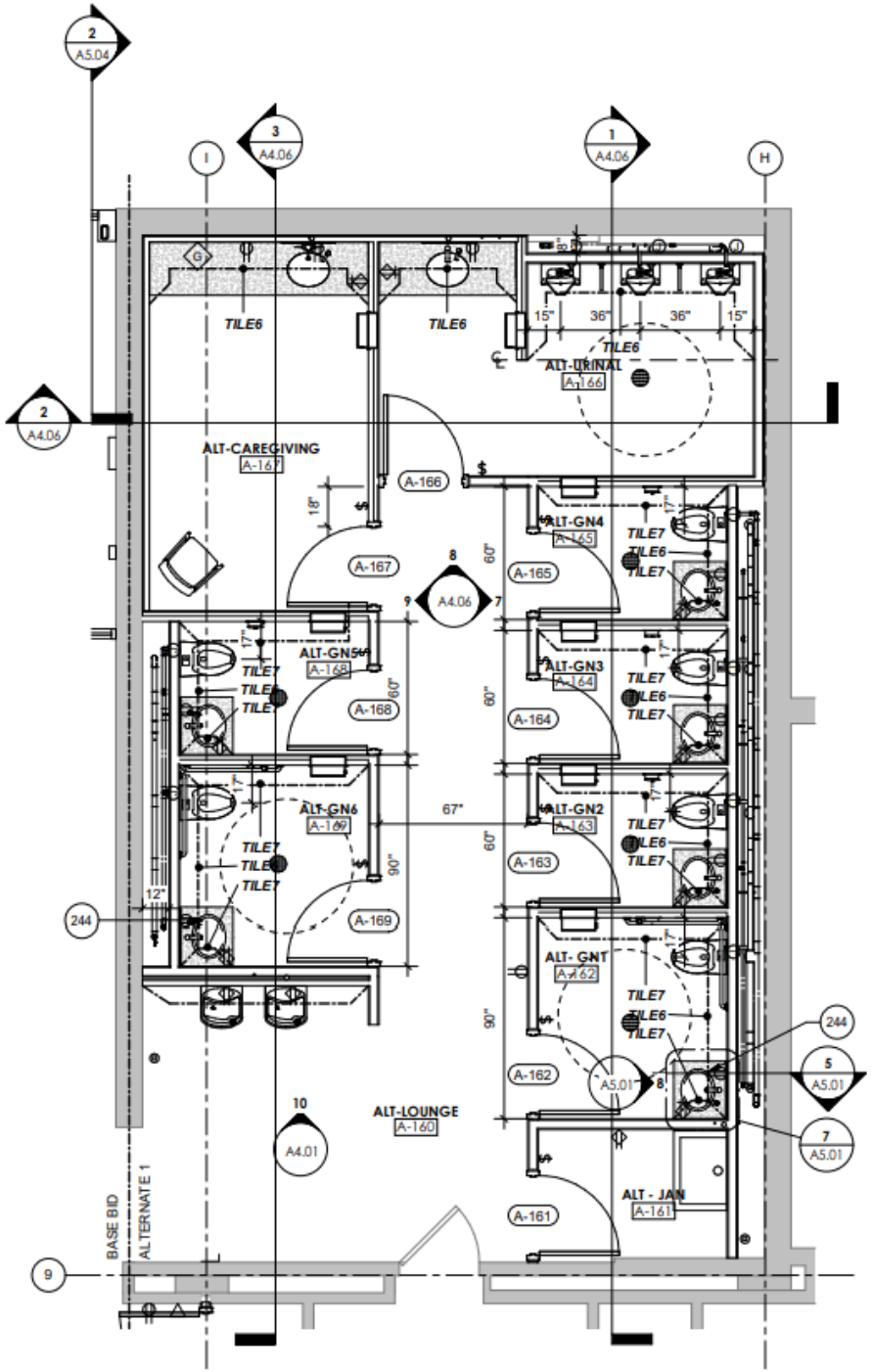
Construction Key, Terrace Level



Enlarged Plan Terrace Level New Work

Alternate 1: Gender Neutral Restrooms
1st and 2nd Floor, North Lobby

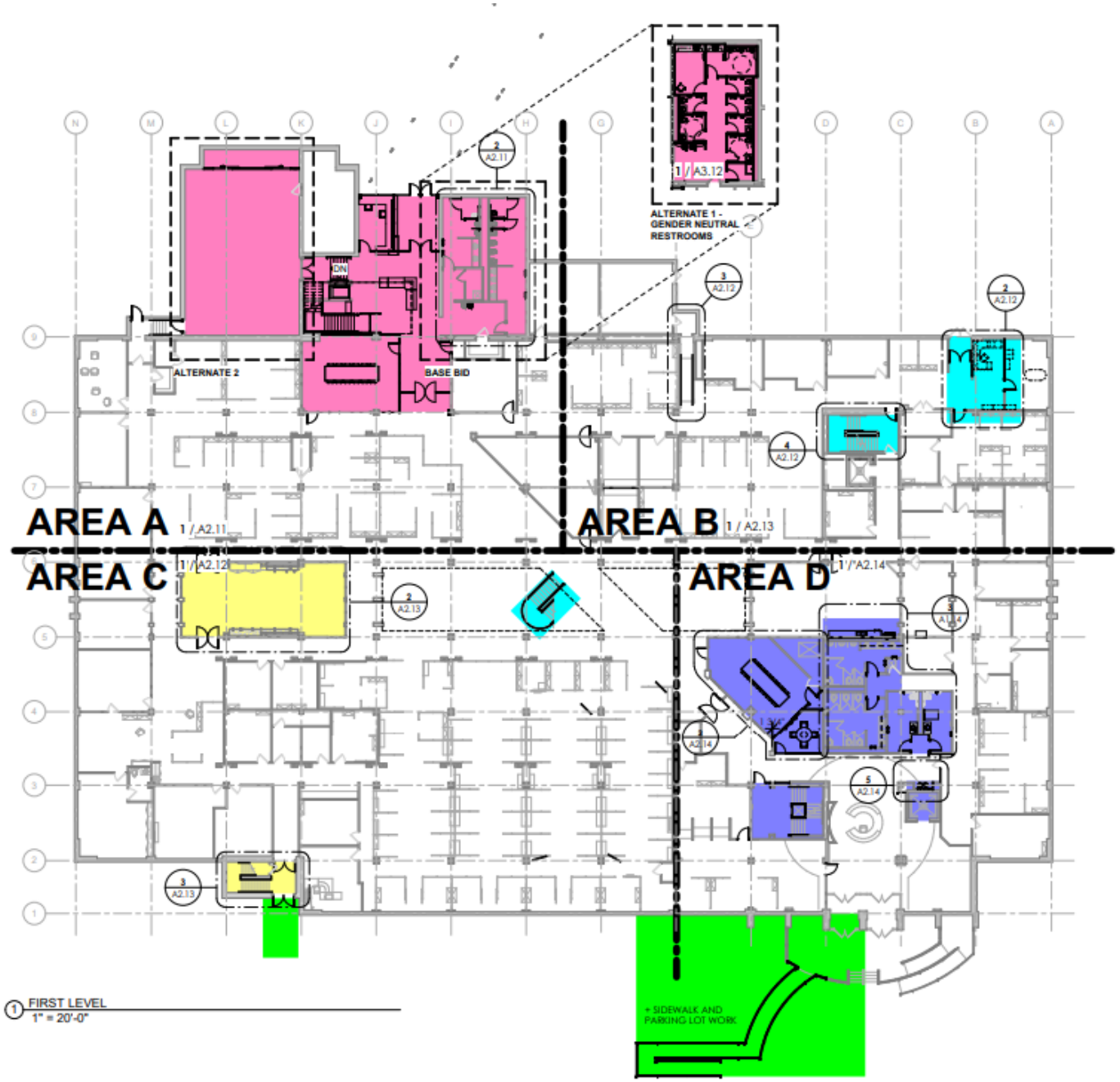
KANSAS CITY



Alternate 1: Gender Neutral Restrooms 1st and 2nd Floor North Lobby

Review Construction Phasing Plan

Construction Phasing Plan 1st Floor



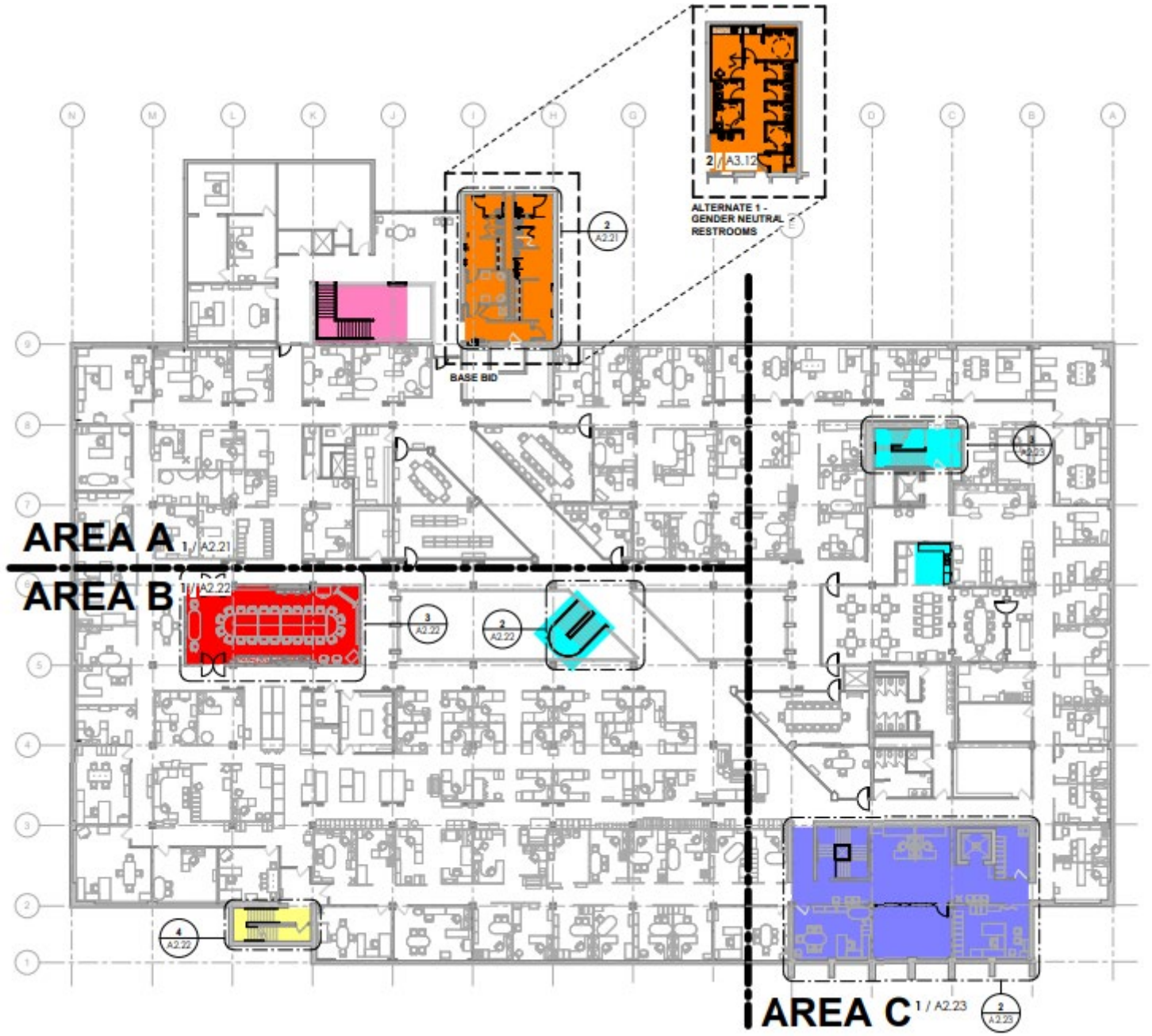
GENERAL PHASING NOTES

1. ALL PHASES OF WORK WILL REQUIRE AN OAC KICK-OFF MEETING.
2. ALL PHASES OF WORK REQUIRE TEMPORARY ENCLOSURES FOR SAFETY, AND TO PREVENT CONSTRUCTION DUST FROM SPREADING OUTSIDE OF THE CONSTRUCTION PHASE.
3. ALL PHASES WILL REQUIRE CONSIDERATION OF CONSTRUCTION STAFF AND MATERIAL ACCESS. ALL STORAGE OF MATERIAL MUST BE WITHIN THE CONSTRUCTION PHASE PERIMETER, OR OFF SITE, UNLESS EXPLICITLY REVIEWED AND APPROVED BY THE OWNER.
4. ALL PHASES REQUIRE SUBSTANTIAL AND FINAL COMPLETION, INCLUDING INSPECTIONS AND TEMPORARY CERTIFICATION OF OCCUPANCY BY THE CITY.
5. WARRANTY PERIODS WILL BE TRIGGERED FOR EACH PHASE.
6. FINAL O&M DOCUMENTS CAN BE PROVIDED AT PROJECT CLOSE-OUT, HOWEVER TRAINING AND PRODUCT DATA MAY BE REQUIRED FOR INDIVIDUAL PHASES.
7. PHASING SCHEDULE WILL VARY IF ALTERNATES ARE NOT ACCEPTED AT TIME OF BID.

PHASING SCHEDULE WITH ALT 1 & 2

- DAY 30-75
- DAY 75-255 WITH HATCHED AREA AT END OF NEW SECURITY AREA IS OPERATING
- DAY 75-135
- DAY 136-195
- DAY 255-330 KEEP ONE OF THE TWO SINGLE USE TOILETS OPEN AT ALL TIMES
- DAY 331-420
- 90 DAY PHASE, AFTER PINK IS COMPLETE & DURING APPROPRIATE WEATHER EAST ENTRANCE OF SOUTH ENTRY MUST REMAIN OPERATIONAL AT ALL TIMES
- ANY AREAS OF WORK NOT NOTED MAY BE DONE ANYTIME WITH PREAPPROVAL BY ARCHITECT - EXITING ISSUES PRE-REVIEWED WITH ARCHITECT

Construction Phasing Plan 2nd Floor



② SECOND LEVEL
1" = 20'-0"

GENERAL PHASING NOTES

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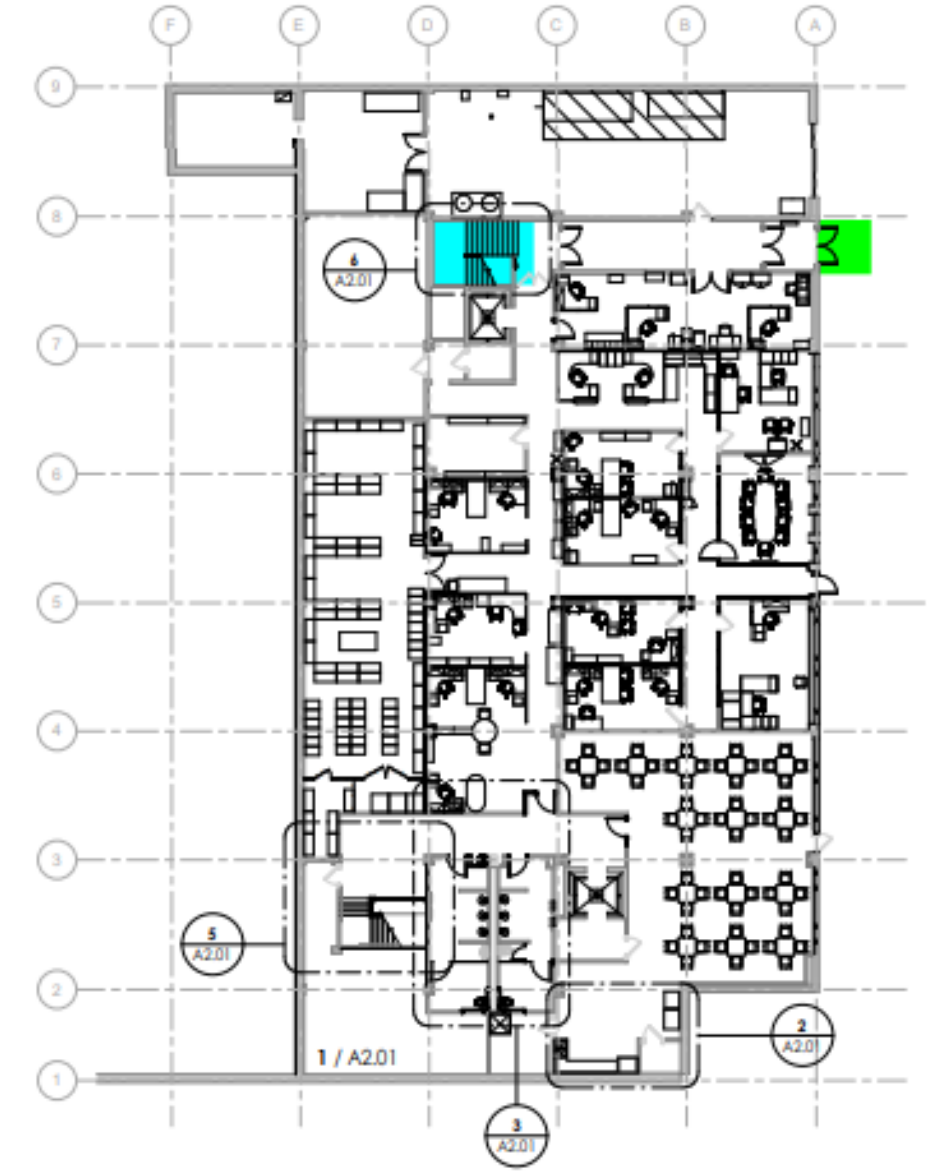
Construction Phasing Plan, Terrace Level



3 TERRACE LEVEL
1" = 20'-0"

GENERAL PHASING NOTES

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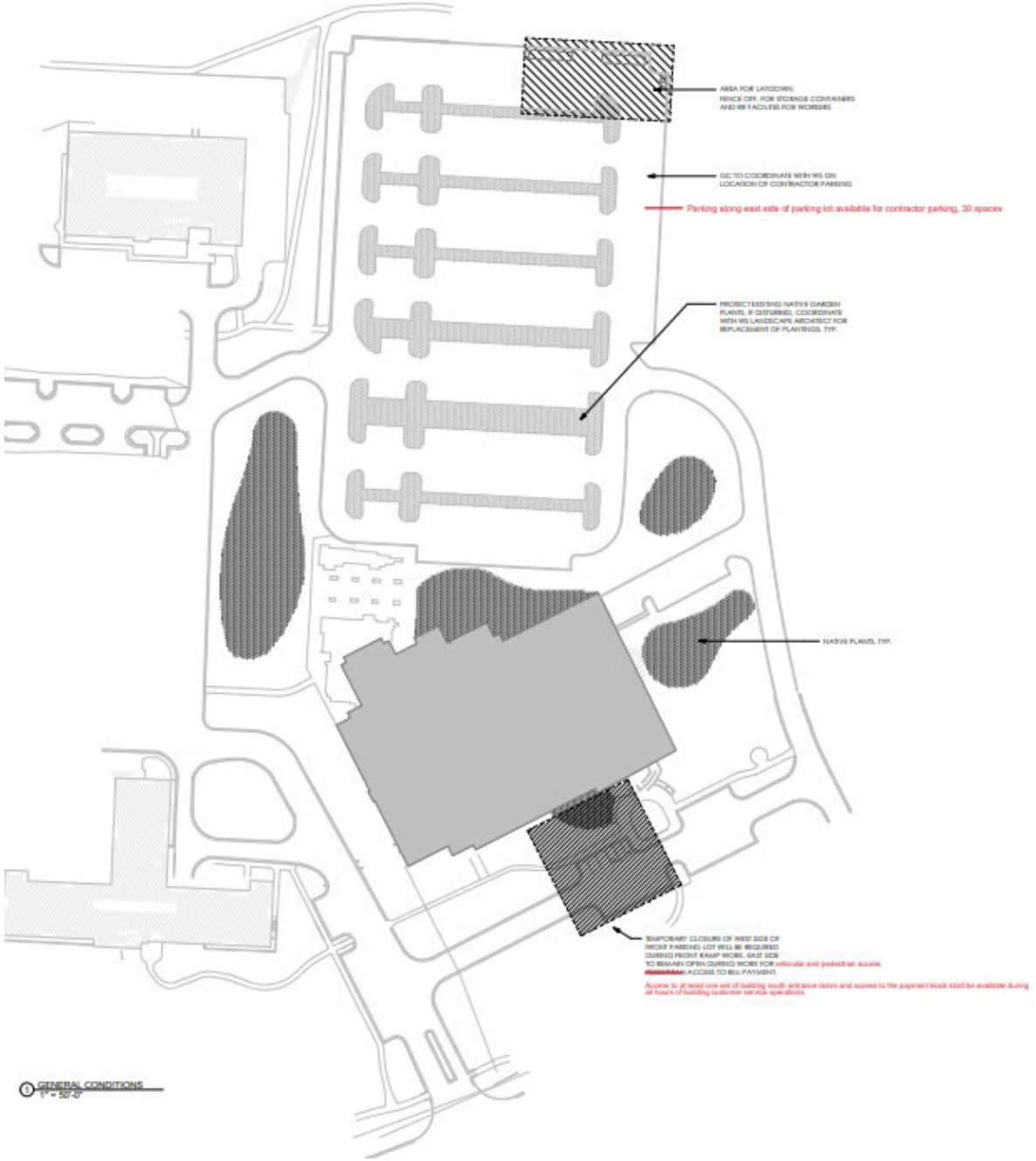
Review Construction Staging Area and Contractor Parking Area



Construction Staging Area and Contractor Parking

Northeast corner: Area for laydown, storage containers and restroom facilities for workers; Contractor to fence off area.

Construction Worker Parking: along east side of parking lot, approx. 30 spaces

South Entrance: building access to be maintained throughout work; west side of parking can be closed off.

Landscaping: to be protected; any damaged areas to be replaced to match existing conditions

Reminders:

- Due Date, time and location

  Tuesday, April 4, 2023 by 2:00 p.m.

  City Hall, 414 E. 12th St., Room 102W

- All questions in writing to:

  Debra.Smith@kcmo.org

  and

  Derrick.Smith@kcmo.org

  Back-up contact: Cory.Burress@kcmo.org

- Acknowledge all Addenda on Bid Form

KANSAS CITY

Thank-you

ADDENDUM NUMBER 2

Project Number 81000817
Project Title 1682 WSD Administration Building IT Improvements ADA Compliance

ISSUE DATE: **March 7, 2023**

Bidders are hereby notified that the Bidding and Contract Documents for the above project, for which Bids are to be received on **April 4, 2023**, are amended as follows:

Information to Bidders The following is provided to Bidders for information only:

1. The Pre-Bid Meeting will be held on Microsoft Teams ONLY per the link provided below:

Topic: 81000817 1682 WSD Administration Building IT Improvements ADA Compliance
Time: Thursday March 8, 2023, 1:00 PM. Central Time (US and Canada).

Microsoft Teams meeting

Join on your computer, mobile app or room device
Click here to join the meeting
Meeting ID: 288 727 413 181
Passcode: jBvfQx
Download Teams | Join on the web
Or call in (audio only)
+1 872-212-5076,,504120852# United States, Chicago
Phone Conference ID: 504 120 852#
Find a local number | Reset PIN
Learn More | Meeting options

NOTE: Bidders must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

ADDENDUM NUMBER 1

Project Number 81000817
Project Title 1682 WSD Administration Building IT Improvements ADA Compliance

ISSUE DATE: **March 7, 2023**

Bidders are hereby notified that the Bidding and Contract Documents for the above project, for which Bids are to be received on **March 21, 2023**, are amended as follows:

Information to Bidders The following is provided to Bidders for information only:

1. Information to Bidders. The Bid date for this Project stated in Document 00130 – Invitation to Bid shall be changed to**: 2:00PM, on April 4, 2023**.

NOTE: Bidders must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

ADDENDUM NUMBER ___

Project/Contract Numbers: 81000817 / 1682

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

[NOTE: Add Month/Date/Year for which this Addendum is officially posted by City. Be certain to remove this note before final document is printed.]

ISSUE DATE: _____

[NOTE: Addenda are used to clarify, revise, add to, or delete information in the original bidding documents or in previous addenda prior to opening of bids. Items should be organized in the same order as the original bidding documents Table of Contents. Cite the specific bidding document and the specific location within it where each change is to be made followed by the detailed change. If entire pages or documents are replaced or added as accompanying attachments, state the title of the document and the specific page number(s) removed and/or added. (e.g., Delete Section 01011 - Summary pages 1-6 and add the attached Section 01011 - Summary pages 1-10.). Be certain to remove this note before final document is printed.]

[NOTE: Add Month/Date/Year. Be certain to remove this note before final document is printed.]

Bidders are hereby notified that the Bidding and Contract Documents for the above project, for which Bids are to be received on _____, are amended as follows:

[NOTE: If the bid date is being changed add Month/Day/Year; if not, delete this sentence. Be certain to remove this note before final document is printed.]

The Bid date for this Project stated in Document 00130 - Invitation to Bid shall be changed to: 2:00 PM, on _____**.**

Information to Bidders The following is provided to Bidders for information only:

[NOTE: Include items under this heading such as Pre-bid meeting attendance list, soils report, etc.; items that should not be contractual, but are useful information to Bidders. Delete this heading and introduction if not applicable for this Addendum. Be certain to remove this note before final document is printed.]

1.

2.

[NOTE: Include Bidder/Proposer questions and answers to those questions. If questions are resolved by a contractual change, reference the contract section and make the appropriate change in one of the sections below. Delete this heading and table if not applicable for this Addendum. Be certain to remove this note before final document is printed.]

Q1.	
A1.	
Q2.	
A2.	

Q3.	
A3.	

[NOTE: Under the following sections, include changes to those documents under the heading with this same title found in Document 00010 - Table of Contents, (including changes to previous addenda). Format for revisions provided below. Delete sections if not applicable to this addendum. Be certain to remove this note before final document is printed.]

Bidding Requirements

1. Add the following section(s):
    a. Document, Sec. __, Subparagraph __, Page ___
    b. Document, Sec. __, Subparagraph __, Page ___

[OR]

2. Delete the following section(s):
    a. Document, Sec. __, Subparagraph __, Page ___
    b. Document, Sec. __, Subparagraph __, Page ___

[OR]

3. Delete and replace the following section(s):
    a. Delete Document, Sec. __, Subparagraph __, Page ___ and replace with the following Document, Sec. __, Subparagraph __, Page ___:
    b. Delete Document, Sec. __, Subparagraph __, Page ___ and replace with the following Document, Sec. __, Subparagraph __, Page ___:

Contracting Requirements

1.

2.

Specifications

1.

2.

Drawings:

1.

2.

NOTE: Bidders must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

REQUEST FOR INTERPRETATION

Project/Contract Numbers: 81000817 / 1682

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

Contractor _____

RFI Number _____ Date _____

From: _____

_____

To: _____

_____

Re: _____

_____

Spec. Sec. Ref: Paragraph: Drawing Ref: Detail:

Signed:

Response:

_____

_____

_____

_____

_____

_____

❑ Attachments

Response From: To: Date Transmitted:_____ Date Rec'd:_____

Signed:_____ Signed:_____

Design Professional Owner's Representative

Distribution:
- ❑ Owner
- ❑ Contractor
- ❑ Construction Manager
- ❑ Design Professional
- ❑ Consultant _____
- ❑ Other _____

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

REQUEST FOR INTERPRETATION LOG

Project/Contract Numbers: 81000817/1682

Project Title: WSD Administration Building & IT Improvements & ADA Compliance

CONTRACTOR: _____

OWNER: _____

RFI No.	Issue Date	Brief Description of issue and response	Respond Date

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

SUPPLEMENTAL DESIGN INSTRUCTION

Project/Contract Numbers: 81000817 / 1682

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

To Contractor _____

From: _____ SDI No _____ Issue Date: _____

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Price or Contract Times. Proceeding with the Work in accordance with these instructions indicates your acknowledgement that there will be no change in the Contract Price or Contract Times.

Description:

❑ Attachments *(List)*

(Signature) Design Professional Date

Distribution:
- ❑ Owner
- ❑ Contractor
- ❑ Construction Manager
- ❑ Design Professional
- ❑ Consultant _____
- ❑ Other _____

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

REQUEST FOR PROPOSAL

Project/Contract Numbers: 81000817 / 1682

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

To Contractor _____

From: _____ RFP No _____ Issue Date: _____

Please submit an itemized proposal for changes in the Contract Price and Contract Times for proposed modifications to the Contract Documents described herein. Submit proposal within _____ days, or notify the Owner in writing of the date on which you anticipate submitting your proposal.

This is NOT a Change Order, a Work Change Directive or a direction to proceed with the work described in the proposed modifications.

Description:

❑ Attachments

Prepared by Design Professional

Prepared by Construction Manager

REQUESTED by OWNER'S Representative

Distribution:
- ❑ Owner
- ❑ Contractor
- ❑ Construction Manager
- ❑ Design Professional
- ❑ Consultant _____
- ❑ Other _____

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

REQUEST FOR PROPOSAL LOG

Project/Contract Numbers: 81000817 / 1682

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

CONTRACTOR _____

OWNER _____

RFP No.	Issue Date	Brief Description of Request	Respond Date	Amount	CO No.

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

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Change Ord

Ordinance N

To CONTRACTOR:

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[**Note**: Identify the specific attachments; example:"Atta

□ See Attached Document(s).

[**Note:** If the CO does not change the Contract Price,

Not valid until signed by the Director o

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Net change by previously authorized Change
The Contract Price prior to this Change Order
The Contract Price will be (□ increased by) (□
The new Contract Price including this Change
[Note: If revised, establish and enter new dates. If unc
If you are only changing the Final Completion date, ad
"The Contract Time for Final Completion will be . . ."]
The Contract Time will be (□ increased by) (□
The date of Substantial Completion as of the
The date of Final Completion as of the date o

Project No. & Title: 81000817/WSD Adm
Change Order No.

[**Note:** Include any required additional signatures.]

DESIGN PROFESSIONAL:
CONTRACTOR:
CITY:

Approved as to form: _____

[**Note**: If this CO does not change the Contract Price,

I certify there is a balance otherwise uner
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Director of Finance

Distribution:

- ❑ CITY
- ❑ CONTRACTOR
- ❑ DESIGN PROFESSIC

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GE ORDER

Contract Numbers

WSD Administration B

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Date of Issu

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Contract Notice To

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By:

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By:

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Assistant City Attorney

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By: _____

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his Change Order, or if
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CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

WORK CHANGE DIRECTIVE

Project/Contract Numbers: 81000817 / 1682

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

No.: _____ Date of Issuance: _____

TO:
(CONTRACTOR)

You are directed to proceed promptly with the following work:

Description:

Purpose of Work Change Directive:

Attachments: *(List documents supporting change)*

If the above work results on a change in the Contract Price or Contract Times, any request for a Change Order based thereon will involve one or more of the following methods of determining the effect of the change(s).

Method of determining change in Contract Price:	Method of determining change in Contract Times:
❑ Unit Prices	❑ CONTRACTOR's Records
❑ Lump Sum	❑ DESIGN PROFESSIONAL's Records
❑ As Stipulated in General Conditions	❑ City's Records
❑ Other _____	❑ Other _____
Estimated increase (decrease) in Contract Price:	Estimated increase (decrease) in Contract Times:
$ _____	Substantial Completion: _____ days;
If the change involves an increase, the estimated Amount is not to be exceeded without further authorization.	Final Completion: _____ days. If the change involves an increase, the estimated times are not to be exceeded without further authorization.

Recommended:	Recommended:	Recommended:
DESIGN PROFESSIONAL	Construction Manager	City
By (Authorized Signature)	By (Authorized Signature)	By (Authorized Signature)

Distribution:
❑ City
❑ Contractor
❑ Construction Manager
❑ Design Professional
❑ Consultant
❑ Other

WORK CHANGE DIRECTIVE ("WCD") INSTRUCTIONS

[Note: Do not attach these instructions to the WCD Form]

A. GENERAL INFORMATION

This document was developed for use in situations involving changes in the Work which, if not processed expeditiously, might delay the Project. These changes are often initiated in the field and may affect the Contract Price or the Contract Times. This is not a Change Order, but only a directive to proceed with Work that may be included in a subsequent Change Order. If the WCD may result in an increase in the Contract Price, a contract impact cost analysis must be performed prior to issuing the WCD. Availability of funds and authorization to expend funds must be part of the analysis.

For supplemental instructions and minor changes not involving a possible change in the Contract Price or the Contract Times a Supplemental Design Instruction may be used.

B. COMPLETING THE WORK CHANGE DIRECTIVE FORM

Based on conversations between Design Professional, City's Representative and CONTRACTOR, Design Professional must complete the following:

DESCRIPTION: shall include a summary of the Work included in the WCD. Additional information may be attached to the WCD to further define the scope.

PURPOSE OF WORK CHANGE DIRECTIVE: will identify clearly if the Work included in the WCD is an addition, deletion, revision, or some combination.

ATTACHMENTS: shall identify all attachments included in and made a part of the WCD. Be certain that attachments are clearly labeled.

METHOD OF DETERMINING CHANGE, IF ANY, IN CONTRACT PRICE: Mark the method to be used in determining the final cost of Work involved and the estimated net effect on the Contract Price. If the change involves an increase in the Contract Price and the estimated amount is approached before the additional or changed Work is completed, another WCD must be issued to change the estimated price. Do not leave blank spaces or write "To be determined" (or "TBD"). An estimated dollar figure must be assigned to the Work. If the WCD is not likely to change the Contract Price, the space for estimated increase (decrease) should be marked "No Change in Price".

METHOD OF DETERMINING CHANGE, IF ANY, IN CONTRACT TIMES: Mark the method to be used in determining the change in Contract Times and the estimated increase or decrease in Contract Times. If the change involves an increase in the Contract Times and the estimated times are approached before the additional or changed Work is completed, another WCD must be issued to change the times or CONTRACTOR may stop the changed Work when the estimated times are reached. Do not leave blank spaces or write "To be determined" (or "TBD"). If the WCD is not likely to change the Contract Times, the space for estimated increase (decrease) should be marked "No Change in Times".

Once Design Professional has completed and signed the form, all copies should be sent to CITY for authorization because Design Professional does not have authority to authorize changes in Price or Times. Once authorized by CITY, a copy must be sent by Design Professional to CONTRACTOR. Price and Times may only be changed by Change Order signed by CITY, Design Professional, and CONTRACTOR. If the value of the work included in the WCD exceeds the contingency or budget available for the contract, staff must obtain written approval from the Director or his or her designee before the WCD is issued. A Director or his or her designee may not approve a WCD that will exceed City Council authorization. If the work included in the WCD is needed as a result of an emergency, staff may proceed with the issuance of the WCD without

prior written approval even if the value of the work added is expected to exceed the contract contingency balance.

Once the Work covered by this directive is completed or final cost and times are determined. CONTRACTOR must submit proper documentation for inclusion in a Change Order.

IF THIS IS A DIRECTIVE TO PROCEED WITH A CHANGE THAT MAY AFFECT THE CONTRACT PRICE OR THE CONTRACT TIMES A CHANGE ORDER, IF ANY, MUST BE PROCESSED PROMPTLY.

SECTION 01000 – GENERAL PROJECT REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. This section covers the general project requirements for all projects.

B. The work to be performed under these Contract Documents shall be consistent with Section 0700-General Conditions in the construction, installation, and completion of all work required in connection with the KC Water Administration Building, Building & IT Improvements and ADA Compliance, in Kansas City, Jackson County, Missouri.

1.02 RELATED SECTIONS

A. Section 00700 – General Conditions.
B. Section 00800 – Supplementary Conditions.
C. Section 01020 – Record Documents.
D. Section 01300 – Submittals.
E. Section 01329 Safety Plan
F. 01352 – Selective Alterations and Demolition
G. Section 01566 – Cleanup Operations.
H. Section 01570 – Temporary Erosion Control.
I. Section 01580 – Project Signs.
J. Section 02180 – Clearing and Grubbing.
K. Section 02300 – Earthwork.

1.03 CODES AND STANDARDS

A. By reference, as applicable for the Work being performed.

1.04 SUBMITTALS

A. Submit as specified in Section 01300 – Submittals.
B. Project Communications:
   1. Progress Meeting Minutes.
C. Other:
   1. Description and location of offsite storage arrangements.
   2. Construction Site Plan.
   3. Safety Representative.

1.05 QUALITY ASSURANCE

A. The Contractor or Design-Builder is responsible for the quality assurance and quality control of the Work.

1.06 MATERIALS SELECTION AND ACQUISITION

A. The Contractor or Design-Builder shall not use materials or equipment removed from existing premises, except as specifically permitted by the Contract Documents. All products shall be new, never used before, unless otherwise specified.
B. Provide interchangeable components of the same manufacturer, for similar removable components, such as: T-bolts, glands, gaskets, manhole rings and covers, nuts, wiring, slip rings, conduit, bolts, seals, etc.

1.07 CONSTRUCTION SITE PLAN

A. The Contractor shall submit a site plan showing the locations and dimensions of temporary facilities which include, but are not limited to, the following layouts and details:
   1. Equipment and material storage area on City property and bonded warehouses.
   2. Access and traffic routes.
   3. Indicate if a supplemental or off-site staging area is being utilized.
   4. Show locations of safety and construction fencing, job site trailer, construction entrances, trash dumpsters, temporary sanitary facilities and parking areas for project personnel.
   5. Indicate locations of concrete washout facilities.

1.08 EASEMENTS AND RIGHTS-OF-WAY

A. The City will furnish the Site in accordance with Section 00700 - General Conditions. The Contractor or Design-Builder shall confine construction operations to the immediate vicinity of the Site shown in the Contract Documents and shall use due care in placing construction tools, equipment, excavated materials, construction materials and supplies to cause the least possible damage to public and private property and least possible interference with public traffic.

B. On Private Property:
   1. The permanent easements are as noted in the Contract Documents. No additional temporary construction easements have been obtained, unless otherwise indicated in the Contract Documents. The Contractor or Design-Builder shall set stakes to mark the boundaries of construction easements across each private property. The stakes shall be protected and maintained until completion of the Work. After cleanup has been completed in accordance with Section 01566 – Cleanup Operations, the Contractor or Design-Builder shall remove all construction stakes.
   2. The Contractor or Design-Builder shall not enter any private property outside the designated construction easement boundaries without written permission from the owner of the property and notification to the RPR
   3. Should it become necessary to use or occupy the land beyond the limits of the Site (as defined by Section 00700 – General Conditions), the Contractor or Design-Builder shall obtain a written agreement with each affected property owner and tenant. Each agreement shall clearly outline the terms for which the Contractor or Design-Builder may utilize the property and shall be fully executed by the Contractor or Design-Builder, the property owner and the tenant (when applicable).

1.09 LINES AND GRADES

A. All Work shall be done to the lines, grades and elevations indicated in the Contract Documents.
B. Basic horizontal and vertical control points are provided in the Contract Documents. All additional survey, layout and measurement work shall be performed by the Contractor or Design-Builder as a part of the Work.

C. The Contractor or Design-Builder shall provide an experienced surveyor, competent assistants and all instruments, tools, stakes and other materials required to complete the survey, layout and measurement work.
D. The Contractor or Design-Builder shall provide qualified personnel, materials and equipment (tools, stakes and other materials) as may be required for the following tasks needed in the Work:
   1. Establish or designate control points.
   2. Establish construction easement boundaries.
   3. Verify survey.
   4. Verify layout shown on the Contract Documents.
   5. Verify and document work performed by the Contractor or Design-Builder.

   These efforts shall be included in the Contractor or Design-Builder's bid price and performed at no additional cost to the City.
E. The Contractor or Design-Builder shall remove and reconstruct, at no additional cost to the City, any Work that was improperly installed or improperly located.
F. See Section 01020 – Record Documents, paragraph SURVEY REQUIREMENTS for additional requirements.

1.10 CONNECTIONS TO EXISTING FACILITIES

A. Unless otherwise specified or indicated in the drawings, the Contractor or Design-Builder shall make all necessary connections to existing facilities. This includes, but is not limited to, structures, drain lines, water utilities, sewer utilities, gas utilities, communications utilities and electric utilities. In each case, the Contractor or Design-Builder shall receive permission from the City or the owning utility prior to undertaking a connection or disconnection. The Contractor or Design-Builder shall protect facilities against deleterious substances and damage.
B. Connections to existing facilities that are in service shall be thoroughly planned in advance. See 01140. All required equipment, material and labor shall be on hand at the time of undertaking the connections.

1.11 UNFAVORABLE CONSTRUCTION CONDITIONS.

A. During unfavorable weather, wet ground, or other unsuitable construction conditions, the Contractor shall confine operations to Work that will not be adversely affected by such conditions.
B. No portion of the Work shall be constructed under conditions that would adversely affect the quality or efficiency thereof, unless special means or precautions are taken by the Contractor or Design-Builder to perform the Work in a manner acceptable to the City.

1.12 UNDERGROUND FACILITIES AND ASSOCIATED RESTORATION

A. As provided in Section 00700, paragraph 4.04 of the General Conditions, the Contractor shall perform all cutting and patching required for the Work and as may be necessary in connection with locating all underground facilities, installation of Work, uncovering Work for inspection or for the correction of defective Work.
B. The Contractor or Design-Builder shall perform all cutting and patching required for and in connection with the Work, including but not limited to the following:
   1. Removal of improperly timed Work.
   2. Removal of samples of installed materials for testing.

3. Alteration of existing facilities.
4. Installation of new Work.

C. The Contractor or Design-Builder shall provide all shoring, bracing, supports and protective devices necessary to safeguard all Work and existing facilities during cutting and patching operations. The Contractor or Design-Builder shall not undertake any cutting or demolition that may affect the structural stability of the Work or existing facilities without City's approval.

D. Materials shall be cut and removed as required to complete the Work. Materials shall be removed in a careful manner, with no damage to adjacent facilities or materials. The Contractor or Design-Builder shall remove all excavated materials from the site that cannot be incorporated in the Work.

E. All Work and existing facilities affected by cutting operations shall be restored with new materials, or with salvaged materials acceptable to City, to obtain a finished installation with strength, appearance and functional capacity required to match the existing area. If necessary, entire surfaces shall be patched and refinished.

F. The Contractor or Design-Builder, at no extra cost to the City, shall replace all surface features damaged, removed or so designated to be replaced.

G. Contractor or Design-Builder shall at no cost provide photographic documentation of all exposed work after excavation prior to additional underground work and prior to backfill. Photos shall be taken from as many angles as possible.

1.13 ENVIRONMENTAL PROTECTION

A. Laws and Regulations:
1. The Contractor or Design-Builder shall conform to all laws and regulations as required by Section 00700 – General Conditions, Article 6 – Contractor or Design-Builder's Responsibilities.

B. Storm Water Runoff:
1. Storm Water Pollution Prevention Plan (SWPPP): As required by Section 00700 – General Conditions, Article 6 – Contractor or Design-Builder's Responsibilities.
2. Erosion Sediment Control: See Paragraph 1.25.
3. The Contractor or Design-Builder shall prevent the pollution of drains and watercourses by sanitary wastes, sediment, debris and other substances resulting from construction activities. See paragraph 1.38.
4. Dewatering: As required by Section 02200 – Earthwork.
5. Concrete Washout Facilities: As required by Section 01566 – Cleanup Operations.

C. Air Pollution:
1. Burning: No open burning will be permitted.
2. Dust Control: See paragraph 1.37.

D. Other Construction Activities:
1. Disposal of Demolition Material: As required by Section 01352 – Selective Alterations and Demolition.
2. Disposal of Debris: Section 02180 – Clearing and Grubbing and Section 02300 – Earthwork.
3. Protection of Wetlands: As shown on the Drawings or Section 01140 Work Restrictions
4. Floodplains: As shown on the Drawings or Section 01140 Work Restrictions

5. Cleanup and Site Maintenance: As required by Section 01566 – Cleanup Operations.

1.14 LICENSES, PERMITS, AND CERTIFICATES

A. Requirements for licenses, permits and certificates are provided in Section 00700 – General Conditions, paragraph 6.09.

B. Permitting exceptions (if any) are noted in Section 00800 – Supplementary Conditions.

1.15 APPLICABLE CODES

A. Standard specifications of the Kansas City, Missouri Department of Public Works are, by reference, hereby made a part of this contract specifications

1.16 REFERENCE STANDARDS

A. See Section 00700 – General Conditions, paragraph 3.02 for references to standards and specifications of technical societies.

1.17 PRECONSTRUCTION CONFERENCE

A. A Preconstruction Conference will be held in accordance with Article 2 of the General Conditions. The conference will be held at a mutually agreed time and location. The conference shall be attended by:
   1. Contractor or Design-Builder and the project superintendent(s).
   2. Design Professional(s) (Engineer of Record) and Owner's Advisor if applicable
   3. Resident Project Representative(s).
   4. City's Representative
   5. Other City Staff (Engineering, Operations, etc…)

B. Other participants as requested by the Contractor, Design-Builder, or City; such as the following:
   1. Principal Subcontractors such as Systems Integrator, Electrical, shoring, Mechanical, concrete etc..
   2. Representative of principal suppliers and manufacturers as appropriate.
   3. Utility Company representatives.
   4. Affected Property Owners and other stakeholders
   5. Governmental representatives as appropriate.
   6. The Contractor or Design-Builder shall bring to the conference the Preliminary Schedules described in Article 2 of the General Conditions (Preliminary Project Schedule, Preliminary Schedule of Values, Preliminary Schedule of Shop Drawings and Samples), major outages, OCCPs, suggested communication routes, a draft risk register, and list of project goals.

C. The purpose of the conference is to designate responsible personnel and to establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The agenda shall include, but not limited to, the following:
   1. Contractor or Design-Builder's Preliminary Schedules.
   2. Document Management
   3. Timing the Monthly Schedule Update
   4. Processing Applications for Payment.
   5. Commissioning Plan including the Commissioning Manager
   6. Maintaining record documents

7. electronic data requirements including Electronic O&M manuals and BIM (if applicable)
8. Critical Work sequences
9. Field decisions and Change Orders.
10. Use of premises, field office, material storage areas, security, housekeeping, and City's needs.
11. Major equipment deliveries and priorities.
12. Contractor or Design-Builder's assignment for Safety Representative.
13. Discussion of the Safety Plan (See Section 01329 –Safety Plan)
14. Expectations and the Contractor or Design-Builder's plan for Environmental Protection.

D. Contractor or Design-Builder will preside at the conference, will arrange for keeping the minutes and will distribute draft minutes to all persons in attendance within one business day.

1.18 PROGRESS MEETINGS

A. The Contractor or Design-Builder shall schedule and hold progress meetings weekly unless mutual agreed upon, and, at other times as requested by the City or as needed by the progress of the Work. The duration of the weekly meetings will mutually agree upon by the City and Contractor or Design-Builder The Contractor or Design-Builder, City, Design Professional, and all Subcontractors active on the Site shall be represented at each meeting. The Contractor or Design-Builder may, at their discretion, request attendance of their suppliers, manufacturers or other utilities.
B. The Contractor or Design-Builder shall preside at the meeting. Meeting minutes shall be prepared and distributed by the Contractor or Design-Builder after review by the City or Design Professional. The purpose of the meetings will be to review the progress of the Work, maintain coordination of efforts, discuss changes in scheduling and resolve problems which may have developed on the project.
C. Draft meeting minutes will be distributed within one business day.

1.19 SAFETY REPRESENTIVE

A. In accordance with Section 00700 – General Conditions, Article 6 – Contractor or Design-Builder's Responsibilities, the Contractor or Design-Builder shall submit the name and complete contact information for the person designated as the Safety Representative for the Project.
B. In accordance with Section 01300 – Submittals, This information shall be submitted prior to the Preconstruction Conference.
C. If the Safety Representative changes during the Project, the Contractor or Design-Builder shall designate a new person to fulfill the role and submit their name and complete contact information.

1.20 SAEFTY PLAN

A. See Section 01329 – Safety Plan.

1.21 SITE ADMINISTRATION

A. The Contractor or Design-Builder is responsible for all areas of the site used by their personnel and all Subcontractors in the performance of the Work. The Contractor will exert full control over the actions of all employees and other persons with respect to the use and preservation of property and existing facilities, except such controls as may be specifically reserved to Owner or others. The Contractor or

Design-Builder has the right to exclude from the site all persons who have no purpose related to the Work or its inspection and may require all persons on the site to observe the same regulations as their personnel.

1.22 CLEAN-UP

A. The Contractor or Design-Builder shall conduct cleanup operations in accordance with Section 01566 – Project Cleanup.

1.23 SUBSTANTIAL COMPLETION WALKTHROUGH

A. See Section -00700 – General Condition Article 14.04.
B. Walkthrough will also include City Employees from the operating division as designed by their Division Manager.

1.24 FINAL ACCEPTANCE

A. Final Acceptance of the Work shall be in accordance with Section 00700 – General Conditions, Article 14.

1.25 EROSION AND SEDIMENT CONTROL

A. Work associated with erosion and sedimentation control shall be done in accordance with Section 01570 – Temporary Erosion and Sediment Control.

1.26 STREET LIGHTS AND SITE LIGHTING

A. Relocation or restoration of streetlights and Site lighting due to construction interference shall be included in the Contractor or Design-Builder's Bid Price. No separate measurement and payment will be made. The Contractor or Design-Builder shall notify and coordinate street light relocations with the Public Works Department:

Street Lights Division
Phone: (816) 513-9500.

1.27 PROJECT SIGNS

A. Work associated with Project signs shall be done in accordance with Section 01580 – Project Signs.

1.28 RESTORATION

A. The Contractor or Design-Builder shall replace all surface material and shall restore all paving, curbs, gutters, sidewalks, driveways, shrubbery, fences, sod, walls, floors, roofs, piping, conduit, cable trays, HVAC equipment, architecture features, drains, gravel, coating systems, fences, furniture, tiling, fixtures, masonry, structural supports, doors, windows, skylights and all other features disturbed to a condition of equal to or better than before the work began, furnishing all material, labor and equipment incidental thereto.

1.29 WATER

A. The City will furnish, without charge, all water necessary for the Work (i.e., filling, flushing, testing and disinfecting completed water lines). The Contractor or Design-Builder shall make arrangements with the City for all water used.
B. Use of the City's water facilities shall be at the direction of the Water Services Department so that water is not wasted and service to customers is not impaired.
C. Any water furnished by the City must be obtained from an existing City main.

D. The Contractor or Design-Builder shall use a Reduced Pressure Zone (R.P.Z.) Backflow Preventer and meter when connected to the City's water system.

E. When utilizing public hydrants, The Contractor or Design-Builder shall contact the Kansas City Fire Department (KCFD) at (816) 513-4645 to purchase a hydrant meter permit. After securing a hydrant meter permit from KCFD, the Contractor or Design-Builder shall present the permit to the Consumer Services desk located at Water Services Department headquarters, 4800 E. 63rd Street, KCMO. The Contractor or Design-Builder shall apply for and pay Consumer Services the refundable security deposit. If approved, the Contractor or Design-Builder shall contact the Water Services Backflow Department at (816) 513-4797 to schedule the installation of the R.P.Z./Meter (hydrant meter). The Contractor or Design-Builder shall provide the location of the hydrant where the R.P.Z./Meter is to be installed. The Contractor or Design-Builder shall contact the Backflow Department to have the R.P.Z./Meter moved or returned to Water Services. Jetting and Vacuum trucks with approved backflow prevention devices or air gap separation are not required to utilize a R.P.Z. backflow preventer; however, a meter to track water usage shall be used at all times. The Jetter/Vac Contractor or Design-Builder shall contact the Water Services Backflow Department for issuance of the meter and pay the associated refundable security deposit. In all cases, the Contractor or Design-Builder is solely responsible for any and all damage to the equipment issued by the Water Services Backflow Department. The cost to repair the damage or the cost of complete replacement of the unit shall be deducted from the security deposit.

F. When utilizing hydrants on City projects after the facility's water meter, Contractor or Design-Builder shall utilize an RPZ/Meter that is pre-approved by the City. The location and duration for the connection must be submitted 15 days prior to the proposed connection. Any unapproved connections will be grounds for removal from the Site(s) by the connecting Contractor or Subcontractor.

1.30 ALL COSTS FOR LABOR, MATERIAL, EQUIPMENT AND SERVICES NEEDED TO OBTAIN WATER FOR CONSTRUCTION PURPOSES SHALL BE INCLUDED IN THE BID. NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE TO MAKE CONNECTIONS.

1.31 BARRICADES AND LIGHTS

A. All streets, roads, highways, facility roads, and other public thoroughfares which are closed to traffic shall be protected by effective barricades and acceptable warning signs. Barricades shall be located per the approved traffic control plan and associated permit. RPR will approve the barricades for facility roads.

B. All trenches and other excavations shall be covered and shall have suitable barricades, signs and lights to provide adequate protection to the public and City Staff. Obstructions such as material piles and equipment shall be provided with similar warning signs and lights in roads.
All barricades and obstructions shall be illuminated with warning lights from sunset to sunrise in the public right of way. Material storage and execution of the Work on or alongside public streets and highways shall cause the minimum obstruction and inconvenience to the traveling public.

C. All barricades, signs, lights and other protective devices shall be installed and maintained in conformity with applicable statutory requirements and as required by

the authority having jurisdiction; such as, Work within railroad right-of-way, highway right-of-way, etc.

1.32 EXISTING FENCING

A. All existing fences affected by the Work shall be maintained by the Contractor or Design-Builder until completion of the Work. Fences which interfere with construction operations shall not be relocated or dismantled until written permission is obtained from the owner of the fence including the City and the period the fence may be left relocated or dismantled has been agreed upon.
B. Where fences must be maintained across the construction easement or plant site, adequate gates or City approved access shall be installed. Facility Gates and Gates outside facilities shall be kept closed and locked at all times when not in use. Within Facilities, operations staff will determine what gates will need to be close and locked.

1.33 SAFETY FENCING

A. Provide fencing along the construction site at all open excavations and tunnels to control access if the excavation or tunnel can otherwise be accessed by the public.
B. Temporary safety fencing must be a high visibility orange colored, high density polyethylene grid or approved equal, a minimum of 48 inches high and maximum mesh size of 2 inches, supported and tightly secured to steel posts located on maximum 10-foot centers, constructed at the approved location.
C. Remove the fence from the work site upon completion of the Work.

1.34 PROTECTION OF PUBLIC AND PRIVATE PROPERTY

A. The Contractor or Design-Builder shall protect, shore, brace, support, and maintain all underground pipes, conduits, drains and other underground construction uncovered or otherwise affected by the construction operations.
B. All pavement, surfacing, driveways, curbs, gutters, sidewalks, buildings, utility poles, guy wires, fences, and all other features and structures affected by construction operations, together with all sod and shrubs in yards, parkways, medians and green spaces, shall be restored to their original condition, whether within or outside the right-of-way or easement. All replacements shall be made with new materials.

1.35 DAMAGE TO EXISTING PROPERTY

A. The Contractor or Design-Builder is solely responsible for any damage to existing features, structures, Work, materials, or equipment because of their operations and shall repair or replace any damaged features, structures, Work, materials, or equipment to the satisfaction of the City and at no additional cost to the City.
B. The Contractor or Design-Builder shall protect all existing structures and property from damage and shall provide bracing, shoring, or other work necessary for such protection.
C. The Contractor or Design-Builder is responsible for all damage to streets, roads, curbs, sidewalks, highways, shoulders, ditches, embankments, culverts, bridges, or other public or private property, which may be caused by transporting equipment, materials, or personnel to or from the Work. The Contractor or Design-Builder shall make satisfactory and acceptable arrangements with the agency having jurisdiction over the damaged property concerning its repair or replacement.

1.36 NOISE CONTROL

A. The Contractor or Design-Builder shall conduct construction operations as described herein and in compliance with the City of Kansas City, Missouri Code of Ordinances, Chapter 46 – NOISE CONTROL.
B. The Contractor or Design-Builder shall take all reasonable measures to avoid unnecessary noise. Such measures shall be appropriate for the normal ambient sound levels in the area during working hours. All construction machinery and vehicles shall be equipped with practical sound-muffling devices and operated in a manner to cause the least noise, consistent with the efficient performance of the Work.
C. During construction activities on or adjacent to occupied buildings and when appropriate, the Contractor or Design-Builder shall erect screens or barriers effective in reducing noise in the building and shall conduct their operations to avoid unnecessary noise which might interfere with the activities of the building occupants.
D. Contractor or Design-Builder shall insure no facilities will have noise levels that prevent a full shift at the facility per OSHA safety standards.
E. All work including, but not limited to, excavation, demolition, alteration, or repair being performed in or adjacent to a residential area other than between the hours of 7:00 a.m. and 6:00 p.m. on weekdays, except in the case of urgent necessity in the interest of public safety, shall require a letter of permission from the Water Services Department of the City of Kansas City, Missouri.

1.37 DUST CONTROL

A. The Contractor or Design-Builder shall control dust in accordance with Section 01566 – Cleanup Operations, paragraph DUST CONTROL. The Contractor or Design-Builder shall take all reasonable measures to prevent unnecessary dust. Earth surfaces subject to dusting shall be kept moist with water or by the approved application of an approved chemical suppressant. When practicable, dusty materials in piles or in transit shall be covered to prevent blowing.
B. Buildings or operating facilities which may be affected adversely by dust shall be adequately protected from dust. Existing or new machinery, motors, instrument panels, or similar equipment shall be protected by suitable dust screens. Proper ventilation shall be included with dust screens.

1.38 POLLUTION CONTROL

A. The Contractor or Design-Builder shall prevent the pollution of drains (Combined Sewer, plant piping, Storm Sewer), and watercourses by sanitary wastes, sediment, debris or other substances resulting from the construction activities. No sanitary wastes will be permitted to enter any drain or watercourse other than sanitary sewers. No sediment, debris, or other substance will be permitted to enter sanitary sewers and all reasonable measures will be taken to prevent such materials from entering any drain or watercourse.

1.39 SECURITY

A. The Contractor or Design-Builder is solely responsible for security and protection of the site. This includes protecting all Work, materials, equipment, existing facilities and all temporary facilities against theft, vandals and access by unauthorized persons.
B. No claim shall be made against the City by reason of an act of an employee or trespasser. The Contractor or Design-Builder shall make good on all damage and theft of property resulting from the Contractor or Design-Builder's failure to provide

adequate security measures including City Property. After trespass or theft, the City may direct the Contractor or Design-Builder to provide additional site security at no cost including but not limited to security cameras, on site security, and night security.

1.40 PARKING

A. The Contractor or Design-Builder shall provide and maintain suitable parking areas for the use of all City personnel, construction workers and others performing work or furnishing services in connection with the Project. Suitable parking is required to avoid the need for parking personal vehicles where they may interfere with traffic, City's operations, or construction activities. Location of the parking within Facilities should be mutually agreed up by the operating division manager and the Contactor or Design-Builder. Operating Division Manager may change parking areas as need to maintain operations

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 01019 – CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
    1. Inspection procedures
    2. Project Record Documents.
    3. OEM O&M Manuals and Electronic O&M Manual
    4. Warranties and Bonds
    5. Instruction of Owner's personnel.
    6. Final cleaning.

B. Related Sections include the following:
    1. Payment Procedures in Section 01290 for requirements for Applications for Payment for Substantial and Final Completion.
    2. Section 00700 – General Conditions.
    3. Section 01015 – Specific Project Requirements.
    4. Section 01300 – Submittals.
    5. Section 01335 – Document Management.
    6. Section 01020 – Record Documents
    7. Section 01021 – Operation and Maintenance Data
    8. Section 01300 – Submittals
    9. Section 01140 – Work Restrictions
    10. Section 01140.01 - Process and System Shutdown Constraints Schedule
    11. Section 01140.02 - Operation Change Control Plan Documents
    12. Section 01020 – Record Documents
    13. Section 01320 – Construction Progress Documentation
    14. Section 01322 – Photographic Documentation
    15. Section 01019 – Closeout Procedures
    16. Section 01664 – Training
    17. Section 01757 – Commissioning
    18. Section 01335 – Document Management.

1.03 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, the Contractor or Design-Builder shall comply with all conditions in Supplementary Conditions and complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
3. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
4. Prepare and submit Project Record Documents, final operation and maintenance manuals, Record Documents, damage or settlement surveys, property surveys, and similar final record information.
5. Deliver tools, spare parts, extra material, salvaged material and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
6. Submit specific warranties, workmanship bonds, maintenance service agreements, and similar documents in accordance with this Section.3. Submit all manufacturers' certificates in accordance with this Section.
7. Submit Final Original Equipment Manufacturer (OEM) O&M Manuals for all equipment and materials furnished as part of the Work of the Project.
8. Prepare and submit draft Facility O&M Data and the draft Electronic O&M Manual in accordance with the requirements of this Section.
9. Submit draft as-built BIM developed in accordance with Section01340 Building Information Modeling Requirements and updated to include as-built conditions.
10. Deliver salvaged material and similar items in accordance with Section 01352 Selective Alterations and Demolition to location designated by Owner. Label with manufacturer's name and model number where applicable.
11. Complete Installation and Functional Testing of all equipment, systems and subsystems in accordance with Section 01757 Commissioning.
12. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems in accordance with Section 01757 Commissioning and submit training materials and recordings of training sessions as described in the Section.
13. Submit approved Acceptance Test Plan developed in accordance with Section 01757 Commissioning and with this Section.
14. Submit the short-circuit device coordination and arc flash study computer model developed in accordance with Section OR-01700 Execution Requirements to the Owner in its native file format. Deliver tools, spare parts, extra material and maintenance products in accordance with Section OR-01600 Product Requirements.
15. Clean the project area of construction debris and other construction effects
16. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
17. Submit changeover information related to Owner's use, operation, and maintenance.
18. Complete final cleaning requirements, including touchup painting.
19. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
20. Prepare and submit draft Project Record Documents prepared in accordance with Section 01700 Execution Requirements and submitted in accordance with the requirements of this Section.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, the Architect RPR will either proceed with inspection or notify Contractor or Design-Builder of

unfulfilled requirements. The Architect RPR will prepare the Certificate of Substantial Completion after inspection or will notify Contractor or Design-Builder of items, either on Contractor or Design-Builder's list or additional items identified by Architect RPR, that must be completed or corrected before certificate will be issued.

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Substantial Completion.
3. The Contractor or Design-Builder shall pay for any re-inspection other than the first re-inspection. The costs of all extra re-inspections, including the cost of the Owner's Representative and the Engineer will be deducted from the Contractor or Design-Builder's payments.
4. Following completion of all items above and all requirements for Substantial Completion included in the Supplemental Conditions 008000, the Owner will complete Form 01290.2 Certificate of Substantial Completion and distribute to the Contractor or Design-Builder

1.04 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
    1. Submit certified copy of the City's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by the City. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
    2. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
    3. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Final operations and maintenance manuals must be provided for the training sessions.
    4. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects. Surfaces which cannot be touched-up or repaired satisfactorily, shall be refinished or replaced.
    5. Submit changeover information related to Owner's use, operation, and maintenance.
    6. Submit final O&M Data, including the final electronic O&M in accordance with the requirements of this Section.
    7. Submit Final Building Information Model incorporating all as-built information in accordance with Section 01340 Building Information Modeling Requirements.
B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Engineer will either proceed with inspection or notify Contractor or Design-Builder of unfulfilled requirements. Engineer will prepare a final Certificate for Payment after inspection or will notify Contractor or Design-Builder of construction that must be completed or corrected before certificate will be issued.
    1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected. The Contractor or Design-Builder shall pay for any re-inspection other than the first re-inspection. The costs of all extra re-inspections, including the cost of the Owner's Representative and the Design Professional deducted from the Contractor or Design-Builder's payments.

2. Submit a final Application for Payment according to Division1 Section "Payment Procedures."

1.05 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor or Design-Builder that are outside the limits of construction. The Contractor or Design-Builder shall use the standard Water Services form for all items.
    1. Organize list of spaces in sequential order,
    2. Organize items applying to each space by major element, including category equipment, and building systems.
    3. Include the following information at the top of each page:
        a. Project Number
        b. Project name.
        c. Date.
        d. Name of Contractor or Design-Builder.
        e. Page number.

1.06 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect RPR for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
B. Partial Use: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and used by Owner during construction period by separate agreement with Contractor or Design-Builder.
C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
    1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
    2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
    3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor or Design-Builder.
D. Provide additional copies of each warranty to include in operation and maintenance manuals.
E. Provide additional copies of each warranty as a separate pdf file.
F. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION

2.01 FINAL CLEANING

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
C. Complete the following cleaning operations before requesting inspection for certification of Final Completion for entire Project or for a portion of Project:
    1. Clean Project site and grounds, in areas disturbed by construction activities, of rubbish, waste material, litter, and other foreign substances.
    2. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    3. Remove tools, construction equipment, machinery, and surplus material from Project site.
    4. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, and similar spaces.
    5. Sweep concrete floors broom clean in unoccupied spaces.
    6. Remove labels that are not permanent.
    7. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already shows evidence of repair or restoration.
D. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
    1. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
    2. Clean ducts and blowers if units were operated without filters during construction.
    3. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
    4. Leave Project clean and ready for use.
E. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

End of Section

SECTION 01020 – RECORD DOCUMENTS

PART I - GENERAL

A. 1.01 SUMMARY

A. Contractor shall maintain, in a safe place at the Site, one updated record copy of all Drawings, Standards and Specifications, Addenda, Shop Drawings, Requests for Interpretation (RFIs), Requests for Proposal (RFPs), Work Change Directives (WCDs), Change Orders, other written interpretations or clarifications of the contract documents, survey information (including approved cut sheets) and all other documents relevant to the Work.

B. All such documents shall be kept in order, good condition and shall be continuously updated to indicate all work installed and all changes made during construction.

C. No work shall be allowed in the absence of these record documents.

D. This document also outlines electronic data requirements and defines the survey requirements for the development of Field-Marked Drawings, As-Built Drawings and Conforming to Construction Drawings.

B. 1.02 RELATED SECTIONS

A. Section 00700 – General Conditions.
B. Section 01015 – Specific Project Requirements.
A. Section 01300 – Submittals.
B. Section 01335 – Document Management.
C. Section 01019 – Closeout Procedures
D. Section 01021 – Operation and Maintenance Data
E. Section 01300 –Submittals
F. Section 01140 – Work Restrictions
G. Section 01020 – Record Documents
H. Section 01320 – Construction Progress Documentation
I. Section 01322 – Photographic Documentation
J. Section 01019 – Closeout Procedures
K. Section 01335 – Document Management.

1.03 CODES AND STANDARDS

A. CAD Standards – KC Water CAD Standards.

1.04 DEFINITIONS

A. Drawings – As defined by Section 00700 – General Conditions.

B. Approved for Construction Drawings – Any drawing or sketch that has been issued to the Contractor or Design-Builder by the City for the purposes of constructing the Work. These include, but are not limited to, the following: Drawings, revisions to the Drawings, information issued as part of change orders and information issued as part of work change directives.

C. Field-Marked Drawings (Red Line Markups) – A copy of the Approved for Construction Drawings that is maintained and updated daily by the Contractor or Design-Builder during construction detailing all work completed and depicting all changes made to the Work during construction.

D. As-Built Drawings – The completed Field-Marked Drawings that include the signed certification language from both the Contractor or Design-Builder and Surveyor.
E. Conforming to Construction Drawings – The Approved for Construction Drawings that have been revised to reflect the changes noted on the As-Built Drawings. For these drawings, the CAD files are updated and a new set of drawings is created.
F. Record Model – The building information model (BIM) that documents the work completed.
G. Record Drawings – All drawings used or developed as part of the Work. Record Drawings include, but are not limited to, the following: Approved for Construction Drawings, Field-Marked Drawings, As-Built Drawings and Conforming to Construction Drawings.
H. Record GIS – GIS files containing the site piping work completed in this project that has been created per KC Water Standards.
I. Record Documents – As defined by this Section, Section 01015 and Section 00700 – General Conditions, Article 6 Contractor or Design-Builder's Responsibilities including but not limited to updated BIM, Electronic O&M Manual, OEM O&M, Record Photos, Final Submittals, SOPs, SIs, etc.

1.05 INFORMATION PROVIDED BY THE CITY

The City will provide the Contractor or Design-Builder a suitable copy of the Approved for Construction Drawings in an electronic/CAD format.

1.06 SUBMITTALS

A. Submit as specified in Section 01300 – Submittals.
B. Warranties and Bonds
    1) For each item of material or equipment furnished under the Contract:
    2) Warranties and Bond are Record Documents
    3) Owner has the right to reject warranties
    4) Owner Reserves the right to refuse to accept Work for the Project if the required warranties have not been provided.
    5) Submit form of manufacturer's warranty prior to fabrication and shipment of the item from the manufacturer's facility.
    6) Submit form of manufacturer's special warranty when specified.
    7) Provide consolidated warranties and bonds within 15 calendar days of Substantial Completion.

    Contents:
    a) Organize warranty and bond documents:
    b) Include Table of Contents organized by specification section number and the name of the product or work item.
    c) Include each required warranty and bond in proper form, with full information, are certified manufacturer as required, and are properly executed by Contractor, or subcontractor, supplier, or manufacturer.
    d) Provide name, address, phone number, and point of contact of manufacturer, supplier, and installer, as applicable.
    e) Hardcopy format:
    f) Submit 2 copies.
    g) Assemble in 3 D-side ring binders with durable cover.

h) Identify each binder on the front and spine with typed or printed title "Warranties and Bonds"; Project Name or Title, and the Name Address and Telephone Number of the Contractor.
i) Electronic copy in PDF format: Submit 1 copy.

C. Submittals include, but are not limited to, the following:
All Record Documents – As required by this Section, and Section 00700 – General Conditions, Article 6, Contractor or Design-Builder's Responsibilities, paragraph Record Documents, Section 01021 – Operation and Maintenance Data, Section 01300 –Submittals, Section 01320 – Construction Progress Documentation, Section 01322 – Photographic Documentation, Section 01664 – Training, Section 01757 – Commissioning
1) Field-Marked Drawings.
2) As-Built Drawings.
3) Conforming to Construction Drawings.
4) Other Record Documents as requested by the City.
5) Warranties and Bonds

1.07 QUALITY ASSURANCE

The Contractor or Design-Builder is responsible for the quality assurance and quality control of the Work.

PART II - PRODUCTS

Not used.

PART III - EXECUTION

3.01 SURVEY REQUIREMENTS

A. All field books, notes, videotapes and other data developed by the Contractor or Design-Builder in performing surveys required as part of the Work shall be available to the City for examination throughout the construction period. All such data shall be submitted to the City with the other documentation required for final acceptance of the Work.

B. General Requirements:
1) The Contractor or Design-Builder shall provide survey grade information for the locations and elevations of the Work as described herein. Surveys shall be conducted by a Professional Land Surveyor, licensed in the State of Missouri (Surveyor).
2) Vertical Datum – All elevations shall be indicated in North American Vertical Datum of 1988 (NAVD 88) in feet and decimals of a foot.
3) Horizontal Control – Coordinates shall be referenced to the North American Datum of 1983 (NAD 83), State Plane Missouri West Zone FIPS 2403 US Feet coordinate system, Kansas City Metro Control. Statewide Missouri Geographical Reference System monuments, Project monuments and Certified Land corners shall be used as references to determine State Plane coordinates. All control monuments used in the survey work shall be listed with reference ties and shown on the Record Drawings.

C. Facility Site Assets
    1) Site Assets shall be documented to the same level of detail as other assets (water, wastewater etc..).
    2) Assets include all buried infrastructure in the project including but not limited to ductbanks, conduit, chemical piping, casings, gravity sewers, process piping, etc..

3.02 FIELD-MARKED DRAWINGS

A. The Contractor or Design-Builder shall continuously maintain a set of Field-Marked Drawings which details all work completed and shows all changes or deviations made by the Contractor or Design-Builder from the Approved for Construction Drawings. Where the Approved for Construction Drawings are not detailed and allow for flexibility during construction, the Contractor or Design-Builder shall include the detailed information on how the Work was constructed. These adjustments shall include, but are not limited to, field adjustments and change orders.
B. Field-Marked Drawings shall be prepared using survey grade information to show the horizontal and vertical location of the Work after completion of construction. Connection details may be sketched using field run measurements.
C. Mark new information that is important to the City that is not shown on Drawings or Shop Drawings.
D. Note related Change Order numbers where applicable.
E. Include the following:
    1) Field changes of dimension and detail.
    2) Changes made by Change Order or other modifications.
    3) Details not on original Drawings.
    4) Horizontal and vertical location of all underground utilities and all other concealed elements that would complicate and make difficult/expensive to maintain the installed asset at a later date.
F. Precision of Measurement:
    1) Where survey measurements are not required (sketching connection details) – elevations, stationing, distances and measurements shall be expressed to the nearest 0.10 foot.
    2) All other Work requires survey information – elevations, station, distances and measurements shall be expressed to the nearest 0.01 foot.
G. Field changes or additions shall be designated in RED. Hard copy and electronic (PDF) deliverables shall be provided in color.
H. Information shall be clearly distinguishable on hard copy mark-ups and in the electronic files.
I. If the Contractor or Design-Builder observes inaccurate information pertaining to existing conditions, the correct information shall be noted in the Field-Marked Drawings.
J. The Contractor or Design-Builder shall submit 30%, 60% and 90% check prints with the corresponding percent complete of work. The check prints shall be submitted with the Application for Payment. Failure to provide the check prints shall cause the Application for Payment to be returned to the Contractor or Design-Builder.

3.03 AS-BUILT DRAWINGS

A. Upon completion of the Work and before the Application for Final Payment, the Contractor or Design-Builder shall prepare the As-Built Drawings by completing annotations to the Field-Marked Drawings and adding the required certification statements.

B. Surveyor's Certification:
   1) Each drawing shall be modified to include a certification statement and signature block as described below.
   2) Every sheet of the Field-Marked Drawings must be reviewed, signed and sealed by a Professional Land Surveyor, licensed in the State of Missouri and must include the following statement on the title block inside the box marked "for WSD use" and near the Surveyor's professional license seal.

C. Contractor's Certification:
   1) Each drawing shall be modified to include a certification statement and signature block as described below.
   2) The Contractor or Design-Builder shall provide certification that the Field-Marked Drawings reflect the conditions that were constructed.
   3) The Contractor or Design-Builder shall review the Field-Marked Drawings and verify all information is accurate. The Contractor or Design-Builder shall verify that all changes to the Work have been documented.

D. Submittals – Submit As-Built Drawings in accordance with paragraph SUBMITTALS. As-Built and Conforming to Construction Drawings must be approved by the City before the Contractor or Design-Builder submits the Application for Final Payment.

E. Mark each document "AS-BUILT DRAWINGS" in neat, large print letters.

F. The cover sheet of the project shall be included. The cover sheet shall include all required As-Built certifications and shall clearly show that the drawings are AS-BUILT.

3.04 CONFORMING TO CONSTRUCTION DRAWINGS AND MODEL

A. Conforming to Construction Drawings shall be submitted and accepted by the City before the Contractor or Design-Builder may submit the Application for Final Payment.

B. The Contractor or Design-Builder shall edit the CAD drawings to reflect the changes shown on the As-Built Drawings. All line work and text shall be revised and edited to accurately reflect the information provided in the As-Built Drawings. Line work shall be drawn to scale in the coordinate system and datum specified herein.

C. Version – CAD drawings shall be developed and submitted in the latest version of AutoCAD® .dwg format or AutoCAD® Civil 3D.

D. CAD Standards – Comply with KC Water CAD Standards.

E. GIS Standards – Comply with KC Water GIS Standards.

F. The cover sheet of the project shall be included. The cover sheet shall include all required as-built certifications and shall clearly show that the drawings are as-built.

G. Conforming to Construction Drawings shall have a "CONFORMED TO CONSTRUCTION" label clearly and prominently shown on each sheet, preferably in the lower right-hand corner of the drawing.

H. Conforming to Construction Drawings shall be labeled with the following information:
   1) Project Name.
   2) WSD Project Number.
   3) WSD Work Order Number.
   4) WSD Drawing Number.
   5) CMMS Assets
   6) Date of publication.

I. Submittals – Submit Conforming to Construction Drawings in accordance with paragraph SUBMITTALS.

3.06 OTHER RECORD DOCUMENTS

A. As defined by Section 00700 – General Conditions, Article 6 – Contractor or Design-Builder's Responsibilities. Section 01021 – Operation and Maintenance Data, Section 01300 –Submittals, Section 01320 – Construction Progress Documentation, Section 01322 – Photographic Documentation, Section 01664 – Training, Section 01757 – Commissioning, etc.

B. GIS Data of Site Piping

C. Coordinates Table – Provide a Microsoft Excel spreadsheet that contains the coordinates of every asset installed or adjusted as part of the Work.

D. Survey Cut Sheets.

E. Television Inspection data files as specified in Section 02686 – CCTV Inspection.

3.07 DELIVERABLES AND SUBMITTALS

A. Electronic Submittals:
   1) All electronic deliverables (drawings, coordinates table, etc.) shall be made through the approved document management system. See Section 01335 – Document Management.

B. As-Built Drawings:
   1) One (1) hard copy on paper for review and approval.
   2) One (1) electronic copy in PDF format.
   3) One (1) electronic copy in the latest version of AutoCAD® .dwg format.

Conforming to Construction Drawings:

One (1) signed, sealed and certified hard copy on Mylar or Vellum.
One (1) signed, sealed and certified hard copy on paper.
One (1) signed, sealed and certified electronic copy in PDF format.
One (1) signed, sealed and certified electronic copy in the latest version of AutoCAD® .dwg format.

Record Documents:

Submit Record documents in accordance with Section 00700 – General Conditions, Article 14 – Payments to the Contractor or Design-Builder and Completion.
Submit other documents as required by paragraph 3.06 OTHER RECORD DOCUMENTS of this section.
One (1) hard copy on paper.

One (1) electronic copy in PDF format.
As specified in other sections.

Electronic (PDF) Documents:
Documents shall be full scale.
Markups shall be noted in RED.
Minimum resolution shall be 600 dpi.

C. CORRECTIONS DURING THE WARRANTY PERIOD

The Record Documents shall be an integral part of the work guaranteed by the Contractor or Design-Builder's Performance and Maintenance Bond. If during the one-year maintenance period the City determines that further revisions or corrections are necessary to make the Record Documents accurate, the Contractor or Design-Builder shall make or cause the revisions or corrections to be made at no additional cost to the City.

END OF SECTION

SECTION 01021

OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for the preparation, submission, and City's Representative's review of Operation and Maintenance (O&M) Data.

1. The Contractor or Design-Builder shall furnish all labor, materials, equipment, and incidentals as necessary to comply with these requirements.

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract; including General and Supplementary Conditions, all applicable Division 1 Sections, and all applicable Division Sections; apply to this Section.

B. Related Sections include the following:

1. Section 01019 – Closeout Procedures
2. Section 01020 – Record Documents
3. Section 01300 –Submittals
4. Section 01140 – Work Restrictions
5. Section 01140.01 - Process and System Shutdown Constraints Schedule
6. Section 01140.02 - Operation Change Control Plan Documents
7. Section 01020 – Record Documents
8. Section 01320 – Construction Progress Documentation
9. Section 01322 – Photogram Documentation
10. Section 01664 – Training
11. Section 01757 – Commissioning
12. Section 01335 – Document Management.

1.03 REQUIREMENTS

A. Contractor shall prepare and provide data and materials, and provide instruction and services, as specified in this Section.

B. Compile product data and related information appropriate for Owner's maintenance and operation of products and systems furnished under this Contract. Include Information on all motors supplied with equipment.

C. Prepare O&M Data as specified in this Section and as referenced in other pertinent sections of the Specifications.

D. Instruct Owner's personnel in maintenance of products and in operation of equipment and systems, including electrical and instrumentation.

1.04 DEFINITIONS

A. O&M Data is including but not limited to
1. Original Equipment Manufacturer Operation and Maintenance manuals,
2. Electronic O&M Manual for the entire project,
3. PLC, VFD, and SCADA Server Programs

B. Preliminary Data: Initial and subsequent submissions for the City's Representative's review.
C. Final Data: City's Representative accepted data, submitted as specified herein.
D. Maintenance Operation: As used on Asset Maintenance Summary Form is defined to mean any routine operation required to ensure satisfactory performance and longevity of equipment. Examples of typical maintenance operations are lubrication, belt tensioning, adjustment of pump packing glands, and routine adjustments.

1.05 SUBMITTALS

A. Informational:

1. Data Outline: Submit two copies of a detailed outline of proposed organization and contents of Final Data prior to the preparation of the Preliminary Data.
2. Preliminary Data:

Submit three copies for City's Representative's review including Relevant Standard Operation Procedures and Standard Instructions.
If Data meets the condition of the Contract:

(1) One copy will be returned to Contractor or Design-Builder
(2) One copy will be forwarded to Resident Project Representative.
(3) One copy will be retained in City's Representative's file.

c. If Data does not meet conditions of the Contract:

(1) All copies will be returned to Contractor or Design-Builder with City's Representative's comments (on separate document) for revision.
(2) City's Representatives comments will be retained in City's Representative's file.
(3) Resubmit two copies revised in accordance with City's Representative's comments.

3. Final Data: Submit two copies in format specified herein with an electronic copy of the standard operating procedures (SOPs) for each unit process.

1.06 SEQUENCING AND SCHEDULING

A. Equipment and System Data:

1. Preliminary Data:

   Do not submit until Shop Drawings for equipment or system has been reviewed and approved by City's Representative.
   Submit prior to shipment.

2. Final Data: Submit instructional Manual Formatted data not less than 30 days prior to equipment or system field functional testing Submit Compilation Formatted and Electronic Media Formatted data prior to Substantial Completion of Project.

B. Materials and Finish Data:

1. Preliminary Data: Submit at least 15 days prior to request for final inspection.
2. Final Data: Submit within 10 calendar days after final inspection.

PART 2 - PRODUCTS

2.01 DATA FORMAT for (Original Equipment Manufacture Operations and Maintenance Manuals OEM O&Ms)

A. Prepare preliminary and final data in the form of an instructional manual. Prepare final data on electronic media and printed.
B. Instructional Manual Format:

1. Binder: Commercial quality, permanent, three ring or three post binder with durable plastic cover.
2. Size: 8 ½ inches by 11 inches minimum
3. Cover: Identify manual with typed or printed title, "(relevant area) OPERATION AND MAINTENANCE MANUAL " and list.

   Project title
   Designate applicable system, equipment, material, or finish.
   Identity the assets covered in this O&M Manual
   Identify separate structure as applicable.
   Identify volume number if more than one volume
   Identity of general subject matter covered in manual. Identity of equipment number and Specification section.

4. Spine:

   Project title

   Identify volume number if more than one volume.

5. Title page

Contractor name, address, and telephone number.
Subcontractor, supplier, installer, or maintenance Contractor or Design-Builder's name, address, and telephone number, as appropriate.

(1) Identify area of responsibility of each
(2) Provide name and telephone number of local source of supply of parts and replacement.

6. Table of Contents:

Neatly typewritten and arranged in systematic order with consecutive page numbers.
Identify each product by product name and other identifying numbers or symbols as set forth in Contract Documents.

7. Paper: 20 pound minimum, white for typed pages
8. Text: Manufacturer's printed data, or neatly typewritten.
9. Three hole punch data for binding and composition; arrange printing so that punched hole do not obliterate data.
10. Material shall be suitable for reproduction, with quality equal to original. Photocopying of material will be acceptable, except for material containing photographs.

C. Data Compilation Format:

1. Compile all City's Representative's accepted preliminary O&M data into a hard copy, hard bound set.
2. Each set shall consist of the following:

Binder: Commercial quality, permanent, three ring or three post binders with durable plastic covers.
Cover: Identify each volume with typed and printed title "OPERATION AND MAINTENANCE DATA, VOLUME NO. _____ OF _____", and list:

(1) Project title
(2) Contractor's name, address, and telephone number.
(3) If entire volume covers equipment or system provided by one supplier include the following:

(a) Identity of general subject matter covered in manual
(b) Identity of equipment number and Specification section.

Provide each volume with title page and typed table of contents with consecutive page numbers. Place contents of entire set, identified by volume number, in each binder.
Table of contents neatly typewritten, arranged in a systematic order:

(1) Include list of each product, indexed to content of each volume.
(2) Designate system or equipment for which it is intended.
(3) Identify each product by product name and other identifying numbers or symbols as set forth in Contract Documents.

Section Dividers:

(1) Heavy, 80 pound cover weight, tabbed with numbered plastic index tabs.
(2) Fly leaf:

(a) For each separate product, or each piece of operating equipment, with typed description of product and major component parts of equipment.
(b) List with each product:

(i) Name, address, and telephone number of Sub-contractor, Supplier, Installer, and Maintenance Contractor or Design-Builder, as appropriate.
(ii) Identify area of responsibility of each.
(iii) Provide local source of supply for parts and replacement.

Assemble and bind material, as much as possible, in same order as specified in the Contract Documents.

D. Electronic Media Data:

1. Portable Document Format (PDF):

After all preliminary data has been found to be acceptable to City's Representative, submit Operation and Maintenance data in PDF format on CD.
Files to be exact duplicates of City's Representative's accepted preliminary data. Arrange by specification number, asset, and name.
Files to be fully functional and viewable in most recent version of Adobe Acrobat.
Pdfs shall be bookmarked as appropriate with appropriate hyperlinks.
All files shall be tagged per the City's Record File tagging system.

E. DATA FOR EQUIPMENT SYSTEMS (Original Equipment Manufacture Operations and Maintenance Manuals OEM O&Ms)

1. Content for each Unit (or Common Units) and System:

Product Data:

a. Include only those sheets that are pertinent to specific product.
b. Clearly annotate each sheet to:

(1) Identify specific product or part installed.
(2) Identify data applicable to installation
(3) Delete references to inapplicable information.

c. Function, normal operating characteristics, and limiting conditions.
d. Performance curves, engineering data, nameplate data, and tests.
e. Complete nomenclature and commercial number of replaceable parts.
f. Original manufacturer's parts list, illustrations, detailed assembly drawings showing each part with part numbers and sequentially numbered parts list, and diagrams required for maintenance.
g. Spare parts ordering instructions
h. Where applicable, identify installed spares and other provisions for future work (e.g., reserved panel space, unused components, wiring, terminals).

2. As installed, color coded piping diagrams.
3. Charts of valve tag numbers, with the location and function of each valve.
4. Drawings: Supplement product data with drawings as necessary to clearly illustrate:

    a. Format:

        (1) Provide reinforced, punched, binder tab; bind in with text.
        (2) Reduced to 8 ½ inches by 11 inches, or 11 inches by 17 inches folded to 8 ½ inches by 11 inches.
        (3) Where reduction is impractical, fold and place in 8 ½ inch by 11 inch envelopes bound in text.
        (4) Identify Specification section and product on drawings and envelopes.

    b. Relations of component parts of equipment and systems.
    c. Control and flow diagrams.
    d. Coordinate drawings with Project record documents to assure correct illustration of completed installation.

2. Instructions and procedures: Within text, as required to supplement product data.

    a. Format:

        (1) Organize in consistent format under separate heading for each different procedure.
        (2) Provide logical sequence of instructions for each procedure.
        (3) Provide information sheet for Owner's personnel, including:

            (a) Proper procedures in event of failure
            (b) Instances that might affect validity of guarantee or Bond.

    b. Installation Instructions: Including alignment, adjusting, calibrating, and checking.
    c. Operating Procedures:

        (1) Startup, break-in, routine, and normal operating instructions.
        (2) Test procedures and results of factory tests where required.
        (3) Regulation, control, stopping, and emergency instructions.
        (4) Description of operation sequence by control manufacturer.
        (5) Shutdown instructions for both short and extended duration.
        (6) Summer and winter operating instructions, as applicable.
        (7) Safety precautions.
        (8) Special operating instructions.

    d. Maintenance and Overhaul Procedure:

        (1) Routine maintenance.
        (2) Guide to troubleshooting
        (3) Disassembly, removal, repair, reinstallation, and re-assembly.
        (4) Recommended work orders for preventative maintenance

6. Guarantee, Bond, and Service Agreement: In accordance with section 01770, "Closeout Procedures".
7. Standard Operating Procedures and Standard Instructions for each unit process in KCMO Water Services Format approved by the KCMO City's Representative and Utility and created by the engineer of record or an alternative acceptable to the KCMO City's Representative.
8. Assets covered in this document

B. Content for each Electric or Electronic Item or System:

1. Description of Unit and Component Parts:

    a. Function, normal operating characteristics, and limiting conditions.
    b. Performance curves, engineering data, nameplate data, and tests.
    c. Complete nomenclature and commercial number of replaceable parts.
    d. Interconnection wiring diagrams, including control and lighting systems.
    e. Piping and Instrument Diagram of the unit.

2. Circuit Directories of Panelboards
3. Electrical service
4. Control requirements and interface
5. Communication requirements and interfaces
6. List of electrical relay settings, and control and alarm contact settings.
7. Electrical interconnection wiring diagram, including as applicable, single line, three line, schematic and internal wiring, tags per KCMO tagging standard and external interconnection wiring.
8. As installed control diagrams by control manufacturer.
9. Operating Procedures:

    a. Routine and normal operating instructions.
    b. Startup and shutdown sequences, normal, and emergency
    c. Safety precautions
    d. Special operating instructions.

10. Maintenance Procedures

    a. Routine maintenance
    b. Guide to troubleshooting
    c. Adjustment and checking
    d. List of relay settings, control, and alarm contact settings
    e. Preventative Maintenance

11. Manufacturer's printed operating and maintenance instructions.
12. List or original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.

C. Maintenance Summary:

1. Complete individual Maintenance Summary for each applicable equipment item, respective unit or system, and for components or sub-units.
   The Maintenance Summary form shall be updated to incorporate the final recommendations established through the Maintenance Workshops described in Section 01320 Construction Progress Documentation
2. Format:

   a. Use Maintenance Summary Form bound with this section or electronic facsimile of such.
   b. Each Maintenance Summary may take as many pages as required.
   c. use only 8 ½ inch by 11 inch size paper.
   d. Complete using typewritten or electronic printing.

3. Include detailed lubrication instructions and diagrams showing points to be greased or oiled; recommended type, grade, and temperature range of lubricants and frequency of lubrication.
4. Recommended Spare Parts

   a. Data to be consistent with manufacturer's Bill of Materials/Parts List furnished in O&M manuals.
   b. "Unit" is the unit of measure for ordering the part.
   c. "Quantity" is the number of units recommended.
   d. "Unit Cost" is the current purchase price.
   e. The type and quantity of spare parts provided shall be consistent with Criticality Workshops and failure mode and effects analysis (FMEA) process FMEA process as described in Section 01320 Construction Progress Documentation.

D. DATA FOR MATERIALS AND FINISHES

E. Content for Architectural Products, Applied Materials, and Finishes

1. Manufacturer's data, giving full information on products:

   a. Catalog number, size, and composition.
   b. Color and texture designations.
   c. Information required for reordering special manufactured products.

2. Instructions for Care and Maintenance:

   a. Manufacturer's recommendation for types of cleaning agents and methods.
   b. Cautions against cleaning agents and methods that are detrimental to product.
   c. Recommended schedule for cleaning and maintenance.

B. Content for Moisture and Weather Exposed Products:

1. Manufacturer's data, giving full information on products:

   a. Applicable standards

b. Chemical composition
c. Details of installation

2. Instructions for inspection, maintenance, and repair.

2.02 Electronic O&M Manual (E-O&M)

A. Contractor or Design-Builder shall provide a project specific Electronic O&M manual (e-O&M), which shall supplement the OEM O&M described. E-O&M shall contain the following information and functionalities.

1. Images (Photographic or digitally rendered) of the facility shall be provided in a "main screen" location, with specific facilities and systems labeled with all relevant names including but not limited to common names, CMMS tag and P&ID tags.
2. Overall and Major system descriptions as provided in the O&M manual
3. Control Narratives for the overall project and individual systems/subsystems.
4. SOPs and SIs created by the engineer of record
5. Record Photographs providing a document of the construction progress, as well as buried/hidden piping, conduits, foundations, and other infrastructure not readily located after construction work at the facilities is complete
6. Manufacturer's shop drawings and O&M documents
7. BIM of the assets
8. Arc Flash Study
9. Load Study
10. Testing Results as identified in other Sections
11. GIS records for the project
12. As-Constructed/Record drawings and BIM of the completed facility
13. Final Submittals for all project components.
14. Video recorded training organized by asset
15. All system-specific information shall be organized into accessible files tied to each system. Access shall be through a written and/or graphic interface at the main screen.

B. All files submitted as part of the E-O&M shall be tagged per the Record File Standard.

C. Pdf shall be bookmarked and hyperlinked

D. E-O&M will operate through adobe acrobat software unless Contractor or Design-Builder provides an alternative application that is accepted in writing by the City of Kansas City, MO

E. A draft version of the e-O&M will be provided to the city for review and comment at approximately 70% completion of the facility.

F. E-O&M will be installed at/on the project facility server or workstation(s) as appropriate, and a copy will be provided to the CITY.

G. Contractor will provide training on the use and update of the e-O&M to CITY. One training session lasting no longer than two (2) hours will be provided at the project location, Water Services offices, or Contractor or Design-Builders officers, as agreed-upon by the CITY.

H. All source files to the electronic O&M manual will be linked to the as-built BIM model by relevant asset, Items relevant to multiple assets will have multiple links.

2.03 SUPPLEMENTS

A. The supplements listed below, following "End of Section", are part of this Specification.

1. Forms: Asset Maintenance Summary Form

PART 3 - EXECUTION (Not Used)

END OF SECTION

ASSET MAINTENANCE SUMMARY FORM

PROJECT _____ CONTRACT NO _____

KCMO CMMS TAG _____

EQUIPMENT ITEM _____

MANUFACTURER _____

PID/TAG NUMBERS _____

WEIGHT OF INDIVIDUAL COMPONENTS (OVER 100 POUNDS) _____

NAMEPLATE DATA (hp, voltage, speed, etc.) _____

MANUFACTURER'S LOCAL REPRESENTATIVE _____

Name _____ Telephone Number _____

Address _____

7. MAINTENANCE REQUIREMENTS

Maintenance Operation Comments	Frequency	Lubricant (If Applicable)
List briefly each maintenance operation required and refer to specific information in manufacturer's standard maintenance manual, if applicable (Reference to manufacturer's catalog or sales literature is not acceptable)	List required frequency of each maintenance operation	Refer by symbol to lubricant required

8. LUBRICANTS

Reference Symbol	Shell	Exxon Mobil	Chevron Texaco	BP Amoco	or Equal

9. RECOMMENDED SPARE PARTS FOR OWNER'S INVENTORY

Part Number	Description	Unit	Quantity	Unit Cost
Note: Identify parts provided by this contract with two asterisks				

SECTION 01100 - SUMMARY OF WORK

PART 1 – GENERAL

1.01 CONTRACT DESCRIPTION

A. The work under this contract includes, but is not limited to, the furnishing of all labor materials, tools, equipment, transportation, permits, certificates, and temporary protection necessary for, or incidental to, the execution of the following which is phased per the phasing drawings:
   1. Address ADA Compliance as noted on all three (3) levels of the building and the South Entrance, and other building exits;
   2. Renovate and expand North Entrance, including the Security Guard Station, Lobby, relocation of the stairs and reconfiguration of the adjacent OK Creek Conference Room;
   3. Upgrade the IT and AV and casework in the Blue River and Brush Creek Conference Rooms;
   4. Convert the Line Creek Conference Room into two (2) conference rooms separated by a hard wall and upgrade IT and AV;
   5. Convert the two (2) public restrooms off the South Lobby to two (2) gender neutral / family restrooms;
   6. Convert the 2nd Floor South Lobby into a private office and two (2) work stations;
   7. Convert the elevator in the South Lobby to require a badge to access the 2nd Floor.
   8. Site restoration and other miscellaneous work.
   9. All other work shown on the Drawings and called for in the Specifications.

B. The Contractor shall be responsible for scheduling and coordinating the work for all trades (other contractors and sub-contractors) under this contract per phase as indicated on the phasing drawings.

C. It is the intent of this Project that the Owner be provided complete systems, functioning as required and meeting the requisites of all Federal, State, or local codes and regulations. The Contractor shall be responsible for compliance with the intent of the contract drawings and specifications.

1.02 QUALITY CONTROL

A. Secure and pay for, as necessary, for proper execution of work, and as applicable at the time of the receipt of bids.
   1. Permits
   2. Government Fees
   3. License

B. Comply with codes, and ordinances, rules regulations, orders and other legal requirements of public authorities, which bear on the performance of the Work.

C. Give required notices as defined by the Contract Documents. Exceptions to this are not allowed.

D. Promptly submit written notice to KC Water Project Manager and Architect Resident Project Representative (RPR) of observed variance of Contract Documents from legal requirements. Assume responsibility for work known to be contrary to such requirements, without notice.

E. Enforce strict discipline and good conduct and order among employees. Do not employ on the work:
   1. Unfit persons
   2. Persons not skilled in assigned tasks.

1.03 CONTRACTOR'S USE OF SITE

A. Confine operations at site to areas permitted by:
   1. Law and ordinance;
   2. Permits and Easements;
   3. Contract Documents

B. Do not unreasonably encumber the site with materials and equipment. Move any stored products and materials, which interfere with the operations of the OWNER, or other contractors.
   1. Assume full responsibility for protection and safety of and on premises.
   2. Assume full responsibility for sanitary facilities for employees.

C. Limit use of site to allow:
   1. Work of other Contractors as designated on Drawings.

D. Utility outages and shutdown:
   1. Coordinate and schedule electrical and other utility outages with Owner/ KC Water Project Manager and Architect RPR.

E. Construction plan: Before start of construction, submit three copies of construction plan regarding access to Work, use of Site, and utility outages for acceptance by Owner/ KC Water Project Manager and Architect RPR. After acceptance of plan, construction operations shall comply with accepted plan unless deviations are accepted by Owner/ KC Water Project Manager and Architect RPR in writing. Updates of these submittals may be required at each phase.

1.04 WORK SEQUENCE

A. Due to requirements of the City of Kansas City, Water Services Department the Administration Building must remain occupiable at all times with construction limited to areas as per the Construction Phasing Plan. Project shall be constructed in phases to accommodate Owner's use during construction.

B. Construct Work in phases in order to accommodate Owner's occupancy requirements during construction period. Coordinate construction schedule and operations with Architect RPR, and Owner.

C. Breakdown of tasks as per Construction Phase, re: Construction Phasing Plan
   1) Phase I, day 30 – day 75: NE Entrance and stair modifications to Atrium stair and NE stair to meet ADA Guidelines; and 2nd Floor Breakroom modifications to meet ADA Guidelines.
   2) Phase II, day 75 – day 255: North Lobby renovation, North Lobby stairs removed and relocated, Auditorium modifications to meet ADA Guidelines, OK Creek Conference Room reconfigured, and 1st Floor Restrooms off North Lobby converted to Gender Neutral facilities if Add Alternate is accepted.
   3) Phase III, day 75 – day 135: Blue River Conference Room, 1st Floor, is modified to meet ADA Guidelines, AV and IT systems are upgraded for this Conference Room; and SW stairwell is modified to meet ADA Guidelines.
   4) Phase IV, day 136 – day 195: Brush Creek Conference Room, 2nd Floor, is modified to meet ADA Guidelines, AV and IT systems are upgraded.
   5) Phase V, day 255 – day 330: South Lobby Restrooms converted to Gender Neutral facilities; Line Creek Conference Room converted to two separate conference rooms; Staff restrooms adjacent to South Lobby modified to meet ADA Guidelines; stairs off of South Lobby modified to meet ADA Guidelines and to create secure access to the 2nd Floor; elevator modified to provide badge access to create secure access to the 2nd Floor; 2nd Floor South Lobby converted to one (1) private office and two (2) open work stations; 1st Floor Breakroom modified to meet ADA Guidelines; Terrace Level restrooms, Breakroom, stairs

and access from corridor into secure area modified to meet ADA Guidelines.

6) Phase VI, day 331 – day 420: North Lobby 2nd Floor restrooms converted to Gender Neutral facilities if the Add Alternate is accepted.
7) Phase VII, 90-day phase to be done during appropriate weather after Phase II is complete.
8) All other work shown on the drawings, but not indicated within a particular phase, may be completed when the work area is practical to access and as agreed to the Owner and RPR.

C. Sequences listed are not intended to provide detailed procedures.
D. Contractor to provide Owner/ KC Water Project Manager and Architect RPR with construction sequence (schedule) prior to construction.
E. Contractor is responsible for the details of the sequences and for insuring continuity of Work.

1.05 OWNER OCCUPANCY

A. Cooperate with Owner to minimize conflict.
B. Schedule the Work to accommodate Owner occupancy, which may require work after WSD's business hours for noisy or otherwise disruptive activities.

1.06 INTERPRETATION

A. Report errors or ambiguities in Specifications to Architect RPR as soon as detected. Architect RPR will answer questions regarding and interpret intended meaning of Specifications.

1.07 MATERIALS TESTS

A. All materials shall be subject to sampling, testing, inspection and rejection at site by Architect RPR.
B. Refer to Section 01400 Quality Requirements.
C. Contractor shall arrange and pay for all required testing services which are not required by KCMO permitting.
D. Incorporate no materials in Work until laboratory tests have been furnished which show materials comply with these Specifications.

1.08 UTILITIES – CHARTED AND UNCHARTED

A. Drawings and Specifications show condition of the site based on field surveys and available utility records.
B. Prior to beginning construction, Contractor shall contact utility companies (electric, telephone, sewer, water, cable TV, natural gas and fiberoptics) to determine the existence of utilities. Final location of the proposed improvements will be made after location of existing utilities. This may involve excavation by the Contractor to determine elevation of existing utilities.
C. Utility companies shall have access to the project during construction to make repairs or extensions of service. No claims for additional compensation will be allowed for delays caused by such work.
D. All Work to maintain utilities shown in the Drawings shall be considered incidental to construction regardless of the work required to maintain them.
E. In the event uncharted utilities exist, Contractor will be compensated on a per conflict basis. An uncharted utility crossing is defined as an uncharted utility intersecting the proposed improvement at right angles or within 30 degrees of a right angle. A parallel utility conflict is defined as a utility existing parallel to the proposed improvement or crossing the proposed

improvement at more than 30 degrees to a right angle.

F. To qualify for extra compensation, the construction must require the use of shoring or other means to protect the existing uncharted utility. Contractor shall be compensated for uncharted utilities encountered, based on the number of uncharted utilities crossed or the linear feet of parallel conflicting utility. Any uncharted utility 3-inches in diameter or smaller shall be considered incidental and no compensation will be awarded (i.e., water service lines, gas services, etc.).

1.09 SPECIFICATION CONVENTIONS

A. These Specifications are written in imperative mood and streamlined form. This imperative language is directed to Contractor unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

B. Detailed Specifications are in outline form and include incomplete sentences. Omission of words or phrases is intentional. Supply omitted words or phrases by inference.

1.10 STANDARDS AND CODES

A. Do Work in accordance with best present-day installation and construction practices.

B. Conform to and test materials in accordance with applicable sections of latest revisions or tentative revisions of following codes and standards unless specifically noted to contrary:

1. Air Moving and Conditioning Association (AMCA).
2. American Concrete Institute (ACI).
3. American Gas Association (AGA).
4. American Institute of Steel Construction (AISC).
5. American National Standards Institute (ANSI).
6. American Plywood Association (APA).
7. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE).
8. American Society for Testing and Materials (ASTM).
9. American Standards Association (ASA).
10. American Welding Society (AWS).
11. Institute of Electrical and Electronic Engineers (IEEE).
12. Insulated Power Cable Engineers Association (IPCEA).
13. Missouri Occupational Safety and Health Act of 1972 (Chapter 83).
14. Manual of Accident Prevention in Construction by Associated General Contractors of America, Inc. (AGC).
15. National Association of Architectural Metal Manufacturers (NAAMM).
16. National Electrical Manufacturers Association (NEMA).
17. National Electrical Safety Code (NESC).
18. National Fire Protection Association, Inc. (NFPA).
19. National Fire Protection Associations National Electrical Code (NEC).
20. National Institute for Occupational Safety and Health (NIOSH).
21. National Lumber Manufacturer's Association (NLMA).
22. National Safety Council (NSC).
23. Occupational Safety and Health Act of 1970 (Public Law 91-596) (OSHA).
24. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA).
25. Underwriters' Laboratories, Inc. (UL).
26. West Coast Lumber Inspection Bureau (WCLB).
27. Standards and Codes of the State of Missouri and applicable local standards and codes of the Owner.
28. Other standards and codes which may be applicable to acceptable standards of the

industry for equipment, materials and installation under the Contract.

1.11 INSPECTION BY STATE AND FEDERAL PERSONNEL

A. Personnel of the Missouri DNR shall have the right to examine all construction aspects of the project, including materials and equipment delivered and stored on site for use on the project

1.12 HISTORICAL / ARCHAEOLOGICAL FINDS

A. If, during course of construction, evidence of deposits of historical or archaeological interest is found, Contractor shall cease operations affecting find and notify Owner, who shall notify Missouri DNR.

B. No further disturbance of deposits shall ensue until notification by Owner that Work may proceed. Owner will issue Notice to Proceed only after State official has surveyed find and made determination to Department of Natural Resources and Owner. Compensation to Contractor, if any, for lost time or changes in construction to avoid find, determined in accordance with changed conditions or change order provisions of Specifications.

1.13 SPECIAL CONSTRUCTION

A. DESCRIPTION

1. Procedures outlined below are not intended to fully cover all special procedures or emergencies, which may arise during construction but are offered as an aid to Contractor in planning work. Contractor will cooperate with the Owner/ KC Water Project Manager and RPR to minimize inconvenience, construction delays and minimize traffic interruptions.
2. Determine location of underground utilities and piping before starting work. Locations of underground appurtenances shown are approximate and not guaranteed by Owner or Design Professional.
    a. Contractor is responsible for contacting all utility companies to determine the location of existing utilities and for protection of existing utilities.
    b. Utility companies will have access to the project to make repairs and extensions to existing utilities.
3. Remove and replace all signs which interfere with construction operations. Replace damaged signs at no cost to Owner.
4. Arrange with operating utilities for relocation or temporary removal of utilities in conflict with construction and for services needed during construction.
5. Notify KC Water Project Manager and RPR immediately if uncharted utilities are encountered during excavation. Reroute, block or replace as directed by Project Engineer. Authorized rerouting, blocking or replacement will be paid for as Extra Work.
6. Submit complete schedule after Award of Contract for planning, controlling and completing construction of project. Include list of promised delivery dates for major equipment items. Schedule project on basis of promised delivery dates for major equipment items:
    a. Contractor will be expected to provide adequate personnel and equipment to perform Work within specified time of construction.
    b. If delays in delivery of major equipment become apparent, notify Owner/ KC Water Project Manager and RPR promptly; take action to accomplish one of the following:
        i. Substitute alternate equipment with approval of Owner/ KC Water Project Manager and RPR.

ii. Expedite delivery of equipment.

c. Extensions of contract period will be given consideration upon written request of Contractor. Request must include valid supporting data and bonafide reasons for requesting extension. Inclement weather is not justification for extending contract period. Owner expects work to be complete and ready for final acceptance within completion time specified.

1.14 COOPERATION WITH OTHERS

A. Cooperate with State and Federal regulatory agencies in matters under their jurisdiction over construction operations.

B. Cooperate with the City of Kansas City, MO and other local governmental agencies. Secure necessary building permits and arrange for inspections at proper times.

C. Cooperate with Owner's staff.

D. Advise all utilities prior to excavating:

1. Telephone company will move or protect underground cables. Give notification 3-days before digging.
2. Advise Owner/ KC Water Project Manager and RPR of proposed construction schedule as it relates to electrical power, existing water, and sanitary sewer system.
3. Advise gas supplier when working near or adjacent to the gas distribution system. If conflict occurs, notify Engineer immediately.

1.15 EASEMENTS AND CONSTRUCTION PERMITS

A. Do all work within easements, rights-of-way, and property furnished by the Owner.

C. Stormwater permit is required for this project. Said permit shall be obtained by the Contractor with the Contractor listed as the responsible party.

D. Building permit must be obtained from City of Kansas City. Permit fees are to be included in the Contractor's bid price.

END OF SECTION

SECTION 01140 – WORK RESTRICTIONS

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes: Requirements for sequencing and scheduling the Work affected by existing site and facility; work restrictions; and coordination between construction operations and plant operations.

1.02 SUBMITTALS

A. Baseline Schedule.
B. Progress Schedule

1.03 GENERAL CONSTRAINTS ON SEQUENCE AND SCHEDULING OF WORK

A. KC Water Administration Building project:
    1. Conduct Work in a manner that will cause minimal disruption to not the staff and operational functions of the KC Administration Building.
B. Work sequence and constraints:
    1. Utilize description of critical events in work sequence in this Section as a guideline for scheduling and undertaking the Work.
    2. Work sequence and constraints presented do not include all items affecting completion of the Work, but are intended to describe critical events necessary to minimize disruption of the existing facilities.

1.04 SHUTDOWN AND CONSTRUCTION CONSTRAINTS

A. Normal working hours:
    1. Construction will take place during normal working hours as defined:
        a. 7AM to 5PM Monday through Friday except where noise or shutdowns will interfere with the building occupants performing their work, in which case work will be required to be done in hours outside of 7am to 5pm M-F..
        b. Refer to 0700 General Conditions Section 6.03 for further restrictions.
B. General shutdown constraints:
    1. Execute the Work outside of normal business hours to minimize disruption.
    2. Some activities may be accomplished without a shutdown.
    3. Apply to activities of construction regardless of process or work area.
    4. Activities that disrupt staff or building operations must comply with these shutdown constraints.
    5. Organize work to be completed in a minimum number of shutdowns.
    6. In order to minimize the number and duration of shutdown(s), provide thorough advanced planning, including having required equipment, materials, and labor on hand at time of shutdown.
    7. Final determination of the permitting of shutdown(s) will be the sole judgment of the Owner.
    8. Owner maintains the ability to abort on the day of the scheduled shutdown.

C. Shutdown activities:
    1. Unplanned shutdowns due to emergencies are not defined in this Section.

1.05 OPERATIONAL CHANGE CONTROL PLAN (OCCP)

This section is Not Applicable for this Project

1.06 COMPLIANCE WITH NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT

This section is Not Applicable for this Project

1.07 REQUIREMENTS FOR MAINTAINING CONTINIOUS OPERATION OF EXISTING FACILITY

A. Facilities or conditions required to keep the existing Administration Building operational include, but are not limited to, the following:
    1. Electrical power including transformers, distribution wiring.
    2. Offices, open work areas, toilets, and washrooms.
    3. Fencing and gates.
    4. Lighting.
    5. Heating, ventilation, and air conditioning.
    6. Instrumentation, meters, controls, and telemetry equipment.
    7. Safety equipment and features.
    8. Parking for City employees and vehicles required for operation and maintenance of the treatment facilities.
    9. Telephone system.
    10. Storm drainage.
    11. Natural gas service.
B. If required, conduct the Work and provide temporary facilities required to keep the existing Administration Building continuously operational.
C. Contractor shall take all reasonable precautions to protect finish floor surfaces.

1.08 OPERATION AND MAINTENANCE ACCESS

A. Provide safe, continuous access to Administration Building in areas not affected by construction.

1.09 COORDINATION OF THE WORK

A. Maintain overall coordination of the Work.
B. Obtain construction schedules from subcontractors and suppliers and assume responsibility for correctness.
C. Incorporate schedules from subcontractors and suppliers into Progress Schedule to plan for and comply with sequencing constraints.

1.10 WORK BY OTHERS

A. Where proper execution of the Work depends upon work by others, inspect and promptly report discrepancies and defects.

1.11 UTILITIES

A. Provide advance notice to request and utilize services of the Missouri One Call System (www.mo1call.com or 1-800-344-7483 (DIG-RITE)) for location and marking of underground utilities operated by utility agencies other than the Owner.
B. Maintain electrical, telephone, water, gas, sanitary facilities, and other utilities within existing facilities in service. Provide temporary utilities when necessary.
C. New yard utilities were designed using existing facility drawings.
    1. Field verification of utilities locations was not performed during design.

1.12 WORK SEQUENCE AND CONSTRAINTS

A. For each phase indicated on the Phasing Plan, and all work not specifically called out as part of a particular phase:

1) Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicular circulation, and parking areas for construction personnel.
2) Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, type styles, graphic elements and message content.
3) Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program. Coordinate with KC Water for temporary exiting requirements and associated temporary signage to be provided by the Contractor.
4) Plan for salvaged materials and equipment involved in the performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.
5) Plan for Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes and odors from entering occupied areas.
6) Schedule work so as to not disrupt the daily operations of the users. For instance, the security monitors must not be moved until the Security Office is complete and occupiable.
7) Submit for approval all submittals prior to ordering material and equipment.
8) Install all walls, ceilings, lights, plumbing and HVAC components prior to installing finishes.
9) Upon completion of each phase, provide the DP with a written list of final completion items, obtain TCO of each phase, clean the area and update the As-Built drawings.

PART 2 - PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

End of Section

SECTION 01210 – ALLOWANCES

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:
   1. Listing of allowance items:
      a. Related responsibilities of Contractor and procedures.

1.02 ALLOWANCE AMOUNTS

A. Include following amounts in Contract Price:
   1. Gypsum Board repairs throughout building: $150,000.00

1.03 COSTS INCLUDED AND EXCLUDED IN ALLOWANCES

A. Costs included in allowances for furnishing products only:
   1. Net cost of product.
   2. Delivery and unloading at site.
   3. Applicable taxes and fees.

B. Costs included in Contract Price, but not included in allowances for furnishing products only:
   1. Handling at site, including uncrating and storage.
   2. Protection from elements, theft, and damage.
   3. Labor, installation, testing, and finishing.
   4. Other expenses required to complete installation.
   5. Overhead and profit.

C. Costs included in allowances for furnishing and installing products:
   1. Net cost of product.
   2. Delivery and unloading at site.
   3. Applicable taxes.
   4. Handling at site, including uncrating and storage.
   5. Protection from elements and from damage.
   6. Labor, installation, testing, and finishing.
   7. Other expenses required to complete installation.

1.04 DUTIES OF CONTRACTOR IN PROVIDING PRODUCTS BY ALLOWANCE

A. Advise WSD Project Manager and Architect RPR at least 60 days in advance of purchase date necessary to avoid impacts to Progress Schedule.

B. Obtain proposals from suppliers, including:
   1. Quantity.
   2. Complete description of product and services provided under allowance.
   3. Unit cost.
   4. Total amount of purchase.
   5. Taxes and delivery charges.

C. On notification of selection, enter into purchase agreement with designated supplier.

D. Arrange for delivery and unloading.

E. Install products in accordance with Contract Documents.

1.05 ADJUSTMENT OF COSTS

A. When actual cost is more or less than amount of allowance, Contract Price will be adjusted by Change Order.

1.06 ALLOWANCES

A. Gypsum Board Repairs
   1. Gypsum board shall be 5/8" Type X gypsum board unless otherwise specified in writing.
   2. Shall be installed, taped and sanded to ensure smooth transition from existing to new gypsum board.
   3. Shall be primed and painted with three (3) coats of finish paint.
   4. All areas that are patched shall be painted from corner to corner.
   5. Reference finish schedule for paint color.
   1.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

ALLOWANCE AUTHORIZATION

To: _____ Authorization Number: _____
_____ From: _____
Re: _____ Date: _____
_____ Contract For: _____

You are authorized to perform the following item(s) of work and to adjust the Allowance Sum accordingly:

This is NOT a CHANGE ORDER and does NOT INCREASE OR DECREASE the CONTRACT AMOUNT.

Original Allowance	$_____
Allowance Expenditures prior to this Authorization	$_____
Allowance Balance prior to this Authorization	$_____
Allowance will be [❑ increased] [❑ decreased] by this Authorization	$_____
New Allowance Balance	$_____

APPROVAL RECOMMENDED

_____
Design Professional Date

_____
Construction Manager Date

CITY APPROVAL

_____
City's Representative Date

CONTRACTOR ACCEPTANCE

_____
Contractor Date

❑ Attachments:

Distribution:
- ❑ City
- ❑ Contractor
- ❑ Construction Manager
- ❑ Design Professional
- ❑ Consultant
- ❑ Other

SECTION 01230 - ALTERNATES

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Identification and description of Alternates.

1.02 PROCEDURES

A. Alternates will be exercised at Owner's option.

B. Coordinate related work and modify surrounding work as required to complete the Work, including changes under Alternates accepted by Owner in Notice of Award.

1.03 ALTERNATES

A. Bid Alternate No. 1: Gender Neutral Restrooms for 1st and 2nd Floor off the North Lobby

B. Bid Alternate No. 2: Note that improvements drawn for the MO River Conference Room, Alt. 2, and NOT Base Bid. The Base Bid is "Remove the stage and any associated power and data back to the nearest wall with new device. Patch adjacent walls where the stage was removed and paint to match. Infill carpet and base to match. Adjust closer on doors to comply with ADA speed and force requirements. Alternate 2 are all other improvements shown.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

APPLICATION FOR PAYMENT

Project/ Contract Number 81000817 / 1682

Project Title KC Water Admin Bldg & IT Improves and ADA Compliance

Final Payment[5] ☐

CONTRACTOR

Address

Application Number[2]:
Date:
Ordinance/Resolution Number:
Effective:
PO Number
Vendor Number

Application for Work Accomplished from _____ to _____

Original Contract Price		[1]		$	-
Net by Change Orders___through___			[2]	$	-
Current Contract Price (1+2)			[3]	$	-
Completed Work		[4]			
Disputed Amounts[3]	[-]	[4a]	$ -		
Stored Material[4]		[5]	$ -		
Disputed Amounts[3]	[-]	[5a]	$ -		
Total Completed and Stored to Date (4+5)			[6]	$	-
Previous Payments		[7]			
Previous Retainage		[8]			
Total Previous Applications (7+8)			[9]	$	-
Amount This Application (6-9)			[10]	$	-
Less Retainage This Application (5%)			[-] [11]	$	-
Release of Retainage			[12]	$	-
Total Due This Application (10-11+12)			[13]	$	-
Liquidated Damages					
Completion of Work		[14]	$ -	[-] $	-
Prevailing Wage[7]		[15]	$ -	[-] $	-
MBE/WBE Program[7]		[16]	$ -	[-] $	-
Workforce Program[7]		[17]	$ -	[-] $	-
Total Amount Due Contractor (13 - 14 through 17)			[18]	$	-

Accompanying Documentation: [1, 2, 3, 4, 5, & 6] and any other information as necessary.

NOTE: Initial all figures on this Application and on the Schedule of Values that are changed to correct errors or conform to the amount recommended. Attach explanation of changes that have been made.

CONTRACTOR's Certification:

The undersigned CONTRACTOR certifies that (a) all previous progress payments received from OWNER on account of Work done under this Contract have been applied on account to discharge CONTRACTOR's legitimate obligations incurred in connection with Work covered by all prior Applications for Payment; (b) at time of payment, title of all Work, materials and equipment incorporated into said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to OWNER indemnifying OWNER against any such Lien, security interest or encumbrance); and (c) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective; and (d) all manufactured goods or commodities used or supplied for this Project are in compliance with Kansas City's Buy America ordinance.

_____ By _____ _____

Contractor | Authorized Representative (Print) | Signature

Date_____

State of)
)SS
County of)

Subscribed and Sworn to before me this _____ day of _____, _____ .

My commission expires:

_____ Notary Public: _____

DESIGN PROFESSIONAL's Recommendation of Payment:

In accordance with the Contract Documents, based on on-Site observations and the data comprising this application, the DESIGN PROFESSIONAL recommends to the OWNER that to the best of the DESIGN PROFESSIONAL's

knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the CONTRACTOR is entitled to payment of the Amount above listed in this application.

Name of firm (Print)	DESIGN PROFESSIONAL (Print)	(Signature)

Date: _____

Construction/Program Manager's Recommendation of Payment: (if applicable)

In accordance with the Contract Documents, based on on-Site observations and the data comprising this application, the Construction/Program Manager recommends to the OWNER that to the best of the Construction/Program Manager's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the CONTRACTOR is entitled to payment of the Amount above listed in this application.

Construction/Program Manager firm (Print)	Authorized Representative (Print)	(Signature)

Date: _____

City's Representative's Agreement with Recommendation of Payment

City's Representative(print)	(Signature)	(Date)

City's Approval

The amount previously recommended is approved for payment.

Director or Designee (Print)	(Signature)	(Date)

[1]See General Conditions Article 14.02 A and B

[2]Proof of tax compliance if 1st payment and if Contract amount exceeds $150,000.00

[3]Schedule of Values–Denote any amounts currently disputed in this application. Attach additional dispute documentation if required.

[4]If requesting payment for stored materials, see General Conditions Article 14.02 A.1

[5]If final payment, current proof of tax compliance if Contract is longer than 1 year and amount exceeds $150,000.00.

[6] Per General Conditions Sec. 14.02 attach a copy of the most recent 00485.01 M/WBE Monthly Utilization Report, 00485.02 Project Workforce Monthly Report and 00485.03 Company-Wide Workforce Monthly Report CONTRACTOR has submitted to the City's Human Relations Department

[7]Applicable only if final payment

REMINDER: CONTRACTOR is responsible for meeting or exceeding the the D/M/WBE participation amounts in its Contractor Utilization Plan (CUP) as amended by any previously approved Request for Modification/Substitution. Any Change Orders or amendements modifying the amount CONTRACTOR is to be compensated will have correspondingly impacted the amount of compensation due D/M/WBEs for purposes of meeting or exceeding the Bidder/Proposer participation. CONTRACTOR is again reminded to consider the effect of any Change Order or amendment, and to submit a Request for Modification/Substitution if appropriate.

Distribution: Owner, Contractor, Construction Manager, Project Manager, Design Professional

CITY OF FOUNTAINS
HEART OF THE NATION
KANSAS CITY
MISSOURI

SCHEDULE OF VALUES

Project Number _____

Project Title _____

HRD APPROVED CUP		
MBE	**WBE**	**DBE**
$0.00	$0.00	$0.00
%	**%**	**%**

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
SPEC SECTION	UNIT PRICE CONTRACTS			DESCRIPTION OF WORK UNIT ITEM DESCRIPTION	$ UNIT PRICE	NO. OF UNITS	$ TOTAL OR LUMP SUM	UNITS COMPLETE	$ COMPLETED WORK	$ STORED MATERIAL	$ TOTAL COMPLETED AND STORED TO DATE		TOTALS TO DATE			% AT BOTTOM	$ TOTAL PREVIOUS APPLICATIONS	$ AMOUNT THIS APPLICATION L-R
	UNIT ITEM NO.	UNIT	ESTIMATED QUANTITY								$ J+K	% J/H	$ MBE	$ WBE	$ DBE			
																P/L		
																O/L		
																N/L		

City Of Kansas City, Missouri

Certified Payroll Report Instructions

GENERAL INSTRUCTIONS:

Each space on the attached Certified Payroll Report requiring information is numbered. The numbers below correspond to those spaces. When completing the Certified Payroll Report, insert the required information in each space. The Certified Payroll Report **must be complete, clear and legible** and be accompanied by a completed Payroll Certification including **original signature**. All payrolls are to be submitted within two (2) weeks after the ending date of the payroll week.

The payroll form is available on line.

INSTRUCTION FOR PAYROLL SHEETS

1. **PAYROLL NUMBER**: Insert the number of the payroll. Payrolls start with number 1 (one) for the first week of work by each contractor or subcontractor. The numbers are then continuous until the last payroll. During weeks when no work takes place a payroll for that week showing no work is to be turned in. Revised payrolls must be designated with a letter "R" following the number. Check (✓) the box by the word "FINAL" after the number to indicate that no further work will be done by the contractor or subcontractor.

2. **WEEK ENDING**: On each sheet, insert the date of the last day of this payroll.

3. **SHEET OF**: On each sheet, insert the number of each sheet and the total number of sheets submitted.

4. **GRANT AGENCY PROJECT NO:** Insert the Grant Agency Project Grant Number if this is a grant funded project.

5. **CONTRACTOR**: Insert the contractor's company name and address.

6. **SUBCONTRACTOR**: If this is a payroll for a subcontractor, insert subcontractor's name and address. For the remainder of these instructions, the word "contractor" shall apply to both contractor and subcontractor.

7. **DEPARTMENT PROJECT or CONTRACT NO**: Insert Department's Project or Contract Number.

8. **LOCATION**: Insert location of work, including address, and county.

9. **DESCRIPTION**: Insert name of the project or contract from the Agreement.

10. **FEDERAL I.D. NUMBER**: Insert the contractor (10a) and subcontractor's (10b) Federal I.D. Number.

11. **EMPLOYEE NAME**: Insert employee's full legal name and complete home address. Make sure to include Apartment #'s and zip code.

12. **SOCIAL SECURITY NO**.: Insert employee's social security number (xxx-xx-xxxx).

13. **DATE**: Insert date for each day of the payroll week for each employee (mm/dd/yyyy).

14. **REGULAR HOURS***: Insert the regular hours worked each day.

15. **OVERTIME HOURS***: Insert the overtime hours worked each day.

16. **DOUBLE OVERTIME HOURS*:** Insert the double overtime hours worked each day.

    ***Note:** Numbers 14, 15, and 16: Make sure these **hours are equal to or greater than the hours turned in on the "Daily Labor Force Report" form.** Refer to the wage order for applicable overtime schedule.

    If allowed by occupational title's applicable overtime rate, Contractor may make a permanent schedule transfer to an eight (8) or ten (10) hour day work week. **Advance written notification to and approval** from the Owner's Representative **is required**.

    If allowed by the occupational title's applicable overtime rate, any change in the work week schedule due to inclement weather **must** be documented on the certified payroll.

17. **TOTAL HOURS**: Insert total of *regular hours* worked for the week on this project. (The total hours will calculate automatically if you are using the electronic form.)

18. **TOTAL HOURS**: Insert total of *overtime hours* worked for the week on this project. (The total hours will calculate automatically if you are using the electronic form.)

19. **TOTAL HOURS:** Insert total of *double overtime* hours worked for the week on this project. (The total hours will calculate automatically if you are using the electronic form.)

20. **TOTAL FRINGE HOURS**: Insert total Fringe Hours (by adding the amounts in 17, 18, and 19). (The total hours will calculate automatically if you are using the electronic form.)

21. **BASE RATE***: Insert basic hourly rate of pay. Check the contract's "Annual Wage Order" or the "Federal General Wage Decision" section for basic hourly rate.

22. **OVERTIME RATE***: Insert overtime rate of pay. Check the contract's "Annual Wage Order" or the "Federal General Wage Decision" section for the overtime rate.

23. **DOUBLE OVERTIME RATE***: Insert double overtime rate of pay. Check the contract's "Annual Wage Order" or the "Federal General Wage Decision" section for the double overtime rate.

24. **FRINGE RATE***: Insert fringe benefit rate for this project. Check the contract's "Annual Wage Order" or the "Federal General Wage Decision" section for the fringe benefit rate.

    ***Note**: *The total of the basic hourly rate plus the fringe benefit rate must be equal to or greater than the total of the basic hourly rate plus the fringe benefit rate found in the contract's "Annual Wage Order" or the "Federal General Wage Decision" section. If the contract contains both of the above, the higher rate will prevail.*

25. **TOTAL**: Multiply the amounts in 17 by 21 and insert here. (The total hours will calculate automatically if you are using the electronic form.)

26. **TOTAL**: Multiply the amounts in 18 by 22 and insert here. (The total hours will calculate automatically if you are using the electronic form.)

27. **TOTAL**: Multiple the amounts in 19 by 23 and insert here. (The total hours will calculate automatically if you are using the electronic form.)

28. **TOTAL**: Multiply the amounts in 20 by 24 and insert here. (The total hours will calculate automatically if you are using the electronic form.)

29. Check (✓) the box (☐) for the "*APPROVED PLAN*", "*EMPLOYEE",* or both indicating the Plan or manner in which the fringe benefit is paid. If fringe benefit is paid to both a Plan and the employee, then insert each amount that is paid to the Plan and/or the employee. If paid to a Plan, list the name(s) of Plan Programs on Payroll Certification page.

    ***Note:** 29a plus 29b **must equal** 28**.**

30. **OCCUPATIONAL TITLE/CLASSIFICATION**: Insert occupational title/classification of worker for each employee. Examples: Carpenter, laborer, electrician.

31. **GROUP**: Insert the group if, applicable for the occupational title/classification. Example: Operating Engineers Group I, II, III, IV or V.

32. **SKILL GROUP**: Insert skill group, if applicable. Example: general laborer, skilled laborer, first semi-skilled, second semi-skilled etc. or any of the listings under the federal classification such as painters.

33. **HOURS**: Insert total hours worked for all jobs for each employee during each payroll period.

34. **GROSS EARNINGS**: Insert employee's gross earnings for each payroll period.

35. **FEDERAL**: Insert the amount of the deduction from each employee's check stub.

36. **FICA**: Insert the amount of the deduction from each employee's check stub.

37. **STATE**: Insert the amount of the deduction from each employee's check stub.

38. **LOCAL E-TAX**: Insert the amount of the deduction from each employee's check stub.

39. **MISCELLANEOUS**: Insert the amount of the deduction from each employee's check stub.

40. **NET PAY**: Insert the employee's net pay for each week.

41. **EARNINGS FOR THIS JOB**: Add the amounts in 25, 26, 27, and 29b and insert here.

    ***Note**: If fringe benefit is paid to Approved Plan, do not add the amount in 29a to this total.

42. **KANSAS CITY EARNINGS TAX THIS JOB**: Insert Kansas City Earnings tax deducted from employee's check for this job.

Steps 11 through 42 are to be repeated for each employee working on the project site, or for the same employee working any additional Occupational Title/Classification.

CITY OF FOUNTAINS
HEART OF THE NATION
KANSAS CITY
MISSOURI

CERTIFIED PAYROLL REPORT

Project Number:

Project Title:

Payroll Number: (1) ☐ **Final**

WEEK ENDING: (2)		SHEET (3)	of	GRANT AGENCY PROJECT NO.: (4)	
CONTRACTOR: (5)		SUBCONTRACTOR: (6)		DEPT PROJECT OR CONTRACT NO.: (7)	
ADDRESS:		ADDRESS:		LOCATION: (8)	
CITY, STATE ZIP:		CITY, STATE ZIP:		DESCRIPTION: (9)	
FEDERAL I.D. NUMBER: (10a)		FEDERAL I.D. NUMBER: (10b)			

First Name / Last Name	DATE: (13)	MON	TUES	WED	THUR	FRI	SAT	SUN	TOTAL HRS.	BASE RATE	O.T. RATE	FRINGE RATE	TOTAL
EMPLOYEE NAME: (11)													
ADDRESS:	REG. HRS. (14)								(17) 0.00	$ (21) -			$ (25) -
CITY, STATE ZIP:	O.T. HRS. (15)								(18) 0.00		$ (22) -		$ (26) -
SOCIAL SECURITY NO.: (12)	D.O.T. HRS. (16)								(19) 0.00		$ (23) -		$ (27) -
OCCUPATIONAL TITLE / CLASSIFICATION:						TOTAL FRINGE HOURS (20)			0.00			$ (24) -	$ (28) -
(30)											FRINGE PAID TO:	☐ APPROVED PLAN (29a)	
	GROUP: (31)		SKILL GROUP: (32)								(29)	☐ EMPLOYEE	$ (29b) -

WEEK ALL JOBS:	HOURS:	GROSS EARNINGS:	FEDERAL:	FICA:	STATE:	LOCAL E-TAX:	MISC:	NET PAY:	EARNINGS FOR THIS JOB:	$ (41) -
	(33)	$ (34) -	$ (35) -	$ (36) -	$ (37) -	$ (38) -	$ (39) -	$ (40) -	KANSAS CITY EARNINGS TAX THIS JOB	$ (42) -

First Name / Last Name	DATE:	MON	TUES	WED	THUR	FRI	SAT	SUN	TOTAL HRS.	BASE RATE	O.T. RATE	FRINGE RATE	TOTAL
EMPLOYEE NAME:													
ADDRESS:	REG. HRS.								0.00	$ -			$ -
CITY, STATE ZIP:	O.T. HRS.								0.00		$ -		$ -
SOCIAL SECURITY NO.:	D.O.T. HRS.								0.00		$ -		$ -
OCCUPATIONAL TITLE / CLASSIFICATION:						TOTAL FRINGE HOURS			0.00			$ -	$ -
											FRINGE PAID TO:	☐ APPROVED PLAN	$ -
	GROUP:		SKILL GROUP:									☐ EMPLOYEE	$ -

WEEK ALL JOBS:	HOURS:	GROSS EARNINGS:	FEDERAL:	FICA:	STATE:	LOCAL E-TAX:	MISC:	NET PAY:	EARNINGS FOR THIS JOB:	$ -
		$ -	$ -	$ -	$ -	$ -	$ -	$ -	KANSAS CITY EARNINGS TAX THIS JOB	$ -

First Name / Last Name	DATE:	MON	TUES	WED	THUR	FRI	SAT	SUN	TOTAL HRS.	BASE RATE	O.T. RATE	FRINGE RATE	TOTAL
EMPLOYEE NAME:													
ADDRESS:	REG. HRS.								0.00	$ -			$ -
CITY, STATE ZIP:	O.T. HRS.								0.00		$ -		$ -
SOCIAL SECURITY NO.:	D.O.T. HRS.								0.00		$ -		$ -
OCCUPATIONAL TITLE / CLASSIFICATION:						TOTAL FRINGE HOURS			0.00			$ -	$ -
											FRINGE PAID TO:	☐ APPROVED PLAN	$ -
	GROUP:		SKILL GROUP:									☐ EMPLOYEE	$ -

WEEK ALL JOBS:	HOURS:	GROSS EARNINGS:	FEDERAL:	FICA:	STATE:	LOCAL E-TAX:	MISC:	NET PAY:	EARNINGS FOR THIS JOB:	$ -
		$ -	$ -	$ -	$ -	$ -	$ -	$ -	KANSAS CITY EARNINGS TAX THIS JOB	$ -

First Name / Last Name	DATE:	MON	TUES	WED	THUR	FRI	SAT	SUN	TOTAL HRS.	BASE RATE	O.T. RATE	FRINGE RATE	TOTAL
EMPLOYEE NAME:													
ADDRESS:	REG. HRS.								0.00	$ -			$ -
CITY, STATE ZIP:	O.T. HRS.								0.00		$ -		$ -
SOCIAL SECURITY NO.:	D.O.T. HRS.								0.00		$ -		$ -
OCCUPATIONAL TITLE / CLASSIFICATION:						TOTAL FRINGE HOURS			0.00			$ -	$ -
											FRINGE PAID TO:	☐ APPROVED PLAN	$ -
	GROUP:		SKILL GROUP:									☐ EMPLOYEE	$ -

WEEK ALL JOBS:	HOURS:	GROSS EARNINGS:	FEDERAL:	FICA:	STATE:	LOCAL E-TAX:	MISC:	NET PAY:	EARNINGS FOR THIS JOB:	$ -
		$ -	$ -	$ -	$ -	$ -	$ -	$ -	KANSAS CITY EARNINGS TAX THIS JOB	$ -

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

CERTIFIED PAYROLL REPORT

Project Number: _____

Project Title: _____

Payroll Number: _____ ☐ **Final**

| | | |

Date _____

I, _____, _____
(Name of Signatory Party) (Title)
do hereby state:

(1) That I pay or supervise the payment of the persons employed by (Contractor or subcontractor)_____ on the (Building or work)_____: that during the payroll period commencing on the _____ day of _____, 20___, and ending the _____ day of _____, 20___, all said persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said (Contractor or subcontractor) _____from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948.63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. 276c), and described below:

_____
_____
_____
_____

(2) That any payrolls otherwise required under this contract to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained herein are not less than the applicable wage rates contained in any wage determination incorporated into this contract; that the classifications set forth herein for each laborer or mechanic conform to the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

❑ In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, consisting of _____ pages, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, exceptions noted in 4 (c) below.

(b) WHERE BENEFITS ARE PAID IN CASH

❑ Each laborer or mechanic listed in the above referenced payroll, consisting of _____ pages, has been paid, as indicated on the payroll, in an amount not less than the sum of the basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in Section 4 (c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION
REMARKS	

NAME AND TITLE	SIGNATURE
The willful falsification of any of the above statements may subject the contractor or subcontractor to civil or criminal prosecution. See Section 1001 of Title 18 Section 231 of Title 31 of the United States Code.	

CITY OF FOUNTA
HEART OF THE NAT

SUBCONTRACTORS AND MAJOR MATERIAL SUPPLIERS LIST

Project Number/Title: 80002281/9612 / WSD Administration Building & IT Improvements & ADA Compliance

From Contractor: Hartline Construction To: Water Service Department Date 5/26/2023

Spec. No.	Section Title	Firm, Address (Check box if Supplier)	✓	Phone, FAX and e-mail	Contact
03	Concrete	City Cement 1138 West Campbridge Circle Drive Kansas City, KS 6603		(913) 831-7474-6509 info@citycement.net	Dino G.
23	HVAC/Plumbing	EMCOR Services Fagan 3125 Brinkerhoff Road Kansas City, KS 66115		(913) 621-8358 (913) 621-1735 [fax] jhart@faganco.com	John Hart
09	Finishes	FDC Contract | a John A. Marshall Co. 1433 Murray North Kansas City, MO 64116		(816) 389-4963 sfox@fdccontract.com	Shelly Fox
26	Electrical	Mark One Electric Company, Inc. 1414 Genessee Kansas City, MO 64102		(816) 303-4142 jim.jester@markone.com	Jimmie Jester
09	Finishes	Metro Tile Contractors 10577 Widmer Lenexa, KS 66215		(913) 381-7770 (913) 381-7778 [fax] kylec@metrotilekc.com	Kyle Coffman
09	Finishes	Dayco Painting 500 Zumwalt Ave Grandview, MO 64030		816-761-3353 816-763-2703 (fax) rickn@daycopainting.com	Rick Nichols

❑ Attachments:

Signed by: _____ Date 5/24/2023

CITY OF FOUNTA
HEART OF THE NAT

SUBCONTRACTORS AND MAJOR MATERIAL SUPPLIERS LIST

Project Number/Title: 80002281/9612 / WSD Administration Building & IT Improvements & ADA Compliance

From Contractor: Hartline Construction To: Water Service Department Date 5/26/2023

Spec. No.	Section Title	Firm, Address (Check box if Supplier)	✓	Phone, FAX and e-mail	Contact
27	Communications	Best AV Solutions 4621 South Shrank Drive Independence, MO 64055		(816) 642-2593 director@bestavsolution.com	Ca'Tia Temple-Holiday

❑ Attachments:

Signed by: _____ Date 5/24/2023

Distribution: ❑ Owner ☒ Contractor ❑ Construction Manager ❑ Design Professional ❑ Consultant ❑ Other

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

DAILY LABOR FORCE REPORT

Project Number 81000817 Day _____ Date _____
Project Title KC Water Admin. Bldg & IT Improves and ADA Compl
Contractor _____
Subcontractor _____

Weather: (Indicate if weather prevented work and why) _____
_____
_____

Shift: (circle) 5–8 hr Days 4–10 hr Days Other _____

* This report *MUST be completed and turned in* for EACH DAY until FINAL COMPLETION.

Worker's Full Legal Name	**Occupational Title or Classification Group & Skill**	**Hours Worked & Time (i.e. 10AM – 4PM)**	**Race & Gender**

I CERTIFY THAT ALL OF THE INFORMATION PROVIDED ABOVE IS TRUE AND COMPLETE.
Contractor/Subcontractor Representative:

Complete Name: (print) _____ Title: (print) _____

Signature: _____ Page ____ of ____

Distribution: ❑ City Department ❑ Contractor ❑ Subcontractor ❑ Other

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

CERTIFICATE OF SUBSTANTIAL COMPLETION

Project/Contract Number 81000817 / 1682

Project Title KC Water Administration Building, Building & IT Improvements and ADA Compliance

CONTRACT FOR: _____

CONTRACTOR: _____

DATE OF ISSUANCE: _____

PROJECT OR DESIGNATED PORTION SHALL INCLUDE:

The Work performed under this Contract has been reviewed and found, to the Design Professional's and/or Construction Manager's best knowledge, information and belief, to be substantially complete. Substantial Completion is the state in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of Project or portion thereof designated above is hereby established as _____ which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

A list of items to be completed or corrected is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

CONSTRUCTION MANAGER	BY	DATE
DESIGN PROFESSIONAL	BY	DATE

The Contractor will complete or correct the Work on the list of items attached hereto within _____ days from the above date of Substantial Completion.

CONSTRUCTION MANAGER	BY	DATE
DESIGN PROFESSIONAL	BY	DATE

The Owner accepts the Work or designated portion thereof as substantially complete and will assume full possession thereof at _____ (time) on _____(date).

OWNER'S REPRESENTATIVE	BY	DATE

Distribution:
- ❑ Owner
- ❑ Contractor
- ❑ Construction Manager
- ❑ Design Professional
- ❑ Consultant _____
- ❑ Other _____

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

PUNCH LIST

Project/Contract Number 81000817 / 1682

Project Title KC Water Administration Building, Building & IT Improvements and ADA Compliance

CONTRACTOR _____

From _____ Site Visit Date _____

The following items require the attention of the CONTRACTOR for completion or correction. This list may not be all-inclusive, and the failure to include any items on this list does not alter the responsibility of the CONTRACTOR to complete all Work in accordance with the Contract Documents.

Item No.	Location (Area)	Description	Correction/ Completion Date	Verification Check

❑ Attachments

Signed by: _____ Date: _____

DESIGN PROFESSIONAL (Firm/In House)

Distribution:
- ❑ OWNER
- ❑ CONTRACTOR
- ❑ DESIGN PROFESSIONAL
- ❑ Consultant _____
- ❑ Other _____

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

CONTRACTOR AFFIDAVIT FOR FINAL PAYMENT

Project Number _____

Project Title _____

STATE OF _____)
)SS
COUNTY OF _____)

The Undersigned, _____ of lawful
(Name)
age, being first duly sworn, states under oath as follows:

1. I am the _____ of _____who is the general
(Title) (CONTRACTOR)
CONTRACTOR for the CITY on Project No. _____ and Project Title _____.

2. All payrolls, material bills, use of equipment and other indebtedness connected with the Work for this Project have been paid and all Claims of whatever nature have been satisfied, as required by the Contract.

3 (✓) ☐ Prevailing wage does not apply; or

(✓) ☐ All provisions and requirements set forth in Chapter 290, Section 290.210 through and including 290.340, Missouri Revised Statutes, pertaining to the payment of wages to workmen employed on public works projects have been fully satisfied and there has been no exception to the full and complete compliance with these provisions and requirements and the Annual Wage Order contained in the Contract in carrying out the Contract and Work. CONTRACTOR has fully complied with the requirements of the prevailing wage law as required in the Contract and has attached affidavits from all Subcontractors on this Project, regardless of tier, affirming compliance with the prevailing wage law as stipulated in the Contract.

4. I hereby certify that (a) at project completion and pursuant to contractor's final request for payment, contractor achieved (_____%) Minority Business Enterprise (MBE) participation and (_____%) Women Business Enterprise (WBE) participation on this contract, and (b) listed herein are the names of all certified M/WBE subcontractors, regardless of tier, with whom I, or my subcontractors contracted.

1. Name of MBE/WBE Firm _____
Address _____
_____
Telephone Number (_____) _____
IRS Number _____
Area/Scope*of Work _____
Subcontract Final Amount _____

2. Name of MBE/WBE Firm _____
Address _____
_____
Telephone Number (_____) _____
IRS Number _____
Area/Scope*of Work_____
Subcontract Final Amount _____

DocuSign Envelope ID: CF07562F-6A3B-4EF2-A92A-60C48F7AB190

List additional subcontractors, if any, on a similar form and attach to the bid.

Supplier** Final Amount: _____

*Reference to specification sections or bid item number.

(✓) ☐ Met or exceeded the Contract utilization goals; or
(✓) ☐ Failed to meet the Contract utilization goals (attach waiver, substitution or modification); or
(✓) ☐ No goals applied to this Project.

5. CONTRACTOR certifies that each Subcontractor has received full payment for its respective work in connection with the Contract.

6. If applicable, I hereby certify that (1) at project completion and pursuant to contractor's final request for payment, contractor achieved, company-wide, at least ten percent (10%) minority workforce participation and two percent (2%) women workforce participation and (2) a true and accurate copy of my final project workforce monthly report is attached. **NOTE: This paragraph is only applicable if you completed a construction contract that was estimated by the City, prior to solicitation, as requiring more than 800 construction labor hours and costing in excess of $300,000.00. If applicable you MUST attach copies of your final monthly workforce reports.**

7. This affidavit is made in behalf of the CONTRACTOR for the purpose of securing from Kansas City, Missouri, the certification of completion of the Project and receiving payment therefore.

8. If the Contract amount exceeded $150,000, CONTRACTOR has submitted proof of compliance with the City tax ordinances administered by the City's Commissioner of Revenue and has on file proof of tax compliance from all Subcontractors. If the Contract term exceeded one (1) year, CONTRACTOR has provided proof of compliance with the City tax ordinances administered by the City's Commissioner of Revenue prior to receiving final payment and has on file proof of tax compliance from all Subcontractors prior to the Subcontractor receiving final payment from CONTRACTOR.

CONTRACTOR_____

By _____
(Authorized Signature)

Title _____

On this _____ day of _____, _____, before me

appeared _____, to me personally known to be the

_____of the_____,

and who executed the foregoing instrument and acknowledged that (s)he executed the same on behalf of

_____ as its free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal on the day and year first above written.

My commission expires:

_____ _____
Notary Public

CITY OF FOUNTAINS
HEART OF THE NATION
KANSAS CITY
MISSOURI

SUBCONTRACTOR AFFIDAVIT FOR FINAL PAYMENT

Project/Contract Numbers: 81000817/1682_____

Project Title: WSD Administration Building & IT Improvements & ADA Compliance_____

STATE OF MISSOURI)

) ss:

COUNTY OF _____)

After being duly sworn the person whose name and signature appears below hereby states under penalty of perjury that:

1. I am the duly authorized officer of the business indicated below (hereinafter Subcontractor) and I make this affidavit on behalf of Subcontractor in accordance with the requirements set forth in Section 290.290, RSMo. Subcontractor has completed all of the Work required under the terms and conditions of a subcontract as follows:

Subcontract with: _____, Contractor

Work Performed: _____

Total Dollar Amount of Subcontract and all Change Orders: $_____

City Certified ☐MBE ☐ WBE ☐ DBE ☐ NA
List certifications: _____

2. Subcontractor fully complied with the provisions and requirements of the Missouri Prevailing Wage Law set forth in Sections 290.210, RSMo through 290.340, RSMo.

Business Entity Type:
(___) Missouri Corporation
(___) Foreign Corporation
(___) Fictitious Name Corporation
(___) Sole Proprietor
(___) Limited Liability Company
(___) Partnership
(___) Joint Venture
(___) Other (Specify)

Subcontractor's Legal Name and Address

_____

_____
Phone No. _____
Fax: _____
E:mail:_____
Federal ID No._____

I hereby certify that I have the authority to execute this affidavit on behalf of Subcontractor.

By: _____ _____
(Signature) (Print Name)

_____ _____
(Title) (Date)

NOTARY

Subscribed and sworn to before me this _____ day of _____, 20_____.

My Commission Expires:_____ By_____

_____ _____
Print Name Title

SECTION 01300 – SUBMITTALS

PART 1 - GENERAL

1.01 SUMMARY

A. This section provides for the submittals required by the City prior to the start of work and, as required, for the duration of the Work.

B. All submittals shall be clearly identified by reference to a specification section and/or detail drawing. Submittals shall be clear and legible and shall include sufficient presentation of the data.

C. No portion of the work requiring a shop drawing, product data or sample shall be started nor shall any materials be fabricated or installed prior to the completion of the submittal process described herein. Fabrication performed, materials purchased or on-site construction accomplished prior to completing the submittal process as defined herein shall be at the Contractor or Design-Builder's sole risk. The City shall not be liable for any expense or delay to complete the submittal process.

1.02 RELATED SECTIONS

A. Section 00700 – General Requirements:
   1. Article 2, paragraph 2.07.B.1 – Preliminary Project Schedule.
   2. Article 2, paragraph 2.07.B.2 – Preliminary Schedule of Shop Drawings.
   3. Article 2, paragraph 2.07.B.3 – Preliminary Schedule of Values.
   4. Article 6, paragraph 6.04 – Progress Schedule.
   5. Article 6, paragraph 6.05 – Recovery Schedule.
   6. Article 6, paragraph 6.06 – Substitute and "Or-Equal" Items.
   7. Article 6, paragraph 6.15 – Safety Representative.
   8. Article 6, paragraph 6.18 – Shop Drawings and Samples.

B. Section 01019 – Closeout Procedures

C. Section 01020 – Record Documents

D. Section 01021 – Operation and Maintenance Data

E. Section 01140 – Work Restrictions

F. Section 01140.01 - Process and System Shutdown Constraints Schedule

G. Section 01140.02 - Operation Change Control Plan Documents

H. Section 01020 – Record Documents

I. Section 01320 – Construction Progress Documentation

J. Section 01322 – Photogram Documentation

K. Section 01019 – Closeout Procedures

L. Section 01664 - Training

M. Section 01757 – Commissioning

N. Section 01335 – Document Management.

1.03 GENERAL INFORMATION

A. Definitions:
   1. Shop Drawings, product data and Samples are technical Submittals prepared by the Contractor or Design-Builder, Subcontractor, manufacturer or Supplier and submitted by Contractor or Design-Builder to the City for review and comment as a basis of the use of

Equipment and Materials proposed for incorporation in the Work or needed to describe installation, operation, maintenance or technical properties, as specified in each Division of the Specifications:

(a) Shop Drawings include custom-prepared data of all types including drawings, diagrams, performance curves, material schedules, templates, instructions and similar information.

(b) Product data includes standard printed information on materials, products and systems; not custom-prepared for this Project, other than the designation of selections from available choices.

(c) Samples include both fabricated and physical examples of materials, products and Work; both as complete units and as smaller portions of units of Work; either for limited visual inspection or (where indicated) for more detailed testing and analysis. Mock-ups are a special form of Samples which are too large to be handled in the specified manner for transmittal of Sample Submittals.

(d) Spare parts: Describe spare parts necessary for the Owner's use in facility operation and maintenance; identify the type and quantity here, but include the actual characteristics of the spare parts in Product as part of the specification of the product.

(e) Tools: Tools are generally defined as items such as special wrenches, gauges, circuit setters, and other similar devices required for the proper operation or maintenance of a system that would not normally be in the Owner's tool kit.

2. Informational Submittals are those technical reports, administrative Submittals, certificates and guarantees not defined as Shop Drawings, product data or Samples:
   (a) Technical reports include laboratory reports, tests, technical procedures, technical records and Contractor or Design-Builder's design analysis.
   (b) Administrative Submittals are those nontechnical Submittals required by the Contract Documents or deemed necessary for administrative records. These Submittals include maintenance agreements, bonds, project photographs, physical work records, statements of applicability, copies of industry standards, project record data, schedules, security/protection/safety data and similar type Submittals.
   (c) Certificates and guarantees are those Submittals on Equipment and Materials where a written certificate or guarantee from the manufacturer or Supplier is required in the Contract Documents.
   (d) Manufacturer's Instructions: Instructions, stipulations, directions, and recommendations issued in printed form by the manufacturer of a product addressing handling, installation, erection, and application of the product; manufacturers' instructions are not prepared especially for the Work.

B. Quality Requirements:
   1. The Contractor or Design-Builder shall submit Shop Drawings and Samples in accordance with Section 00700, paragraph 6.18.C Submittal Procedures.
   2. Submittals such as Shop Drawings and product data shall be of suitable quality for legibility and reproduction purposes. Every line, character and letter shall be clearly legible. Drawings shall be useable for further reproduction to yield legible hard copies.
   3. All submittals by subcontractors shall be sent directly to the Contractor or Design-Builder for checking. The Contractor or Design-Builder shall be responsible for their submission at the proper time to prevent delays.
   4. The Contractor or Design-Builder shall check all subcontractors' submittals regarding measurements, sizes, materials and details to determine and verify that they meet the

requirements of the Contract Documents. Submittals found to be inaccurate or otherwise in error shall be returned to the subcontractors for correction before submission to the City.

5. Certificates of Compliance – Where indicated in these specifications, each submittal shall include a certificate of compliance prepared by the manufacturer or Supplier of the submitted data, certifying that the item covered complies with Contract Documents. The certificate of compliance shall be a separate document and shall include identification of all deviations, if any, from the Contract Documents.

C. Submittal Completeness:
   1. The Contractor or Design-Builder shall accept full responsibility for the completeness of each submission. When an item consists of components from several sources, the Contractor or Design-Builder's initial submittal on the item shall include all components.
   2. Submittals shall be complete with respect to dimensions, design criteria, materials of construction and other information specified to enable the City or Designee to review the information effectively.
   3. Where standard drawings are furnished which cover several variations of the general class of Equipment, each drawing shall be annotated to indicate exactly which parts of the drawing apply to the Equipment being furnished. Use hatch marks to indicate variations that do not apply to the Submittal. The use of "highlighting markers" will not be an acceptable means of annotating Submittals. Annotation shall also include proper identification of the Submittal permanently attached to the drawing.
   4. Reproductions or copies of Contract Drawings or portions thereof will not be accepted as complete fabrication or erection drawings. The Contractor or Design-Builder may use a reproduction of Contract Drawings for erection drawings to indicate information on erection or to identify detail drawing references. Whenever the Drawings are revised to show this additional Contractor or Design-Builder information, the Design Professional's title block shall be replaced with Contractor or Design-Builder's title block and the Design Professional's professional seal shall be removed from the drawing. The Contractor or Design-Builder shall revise these erection drawings, as needed, for subsequent Design Professional revisions to the Contract Drawings.

D. Form of Submittals:
   1. Submittals and other Project documents shall be transmitted in electronic format and non-electronic format as specified.
   2. Contractor or Design-Builder shall provide a submittal registry prior to the pre-con meeting that is suitable for upload to the City's Document Management program.
   3. Electronic Format:
      (a) Transmit Submittals and Project documents utilizing:
         (i) Adobe ".pdf" files created directly from native electronic format or City-approved equal file type and format.
         (ii) Electronic submittal ".pdf" files are not to be combined files or collections of files/drawings. Each drawing document must stand alone.
         (iii) Each file will be right reading and oriented the same for all consecutive resubmissions.
         (iv) For any given Submittal, the filename and format shall be consistent for initial submission and subsequent revisions of the same. Use consistent naming convention throughout. Reference to revision or dates shall not be included in a filename.

(v) Files greater than 5 pages shall have table of contents with bookmarks for each section. The Sections shall have easily understood names.
(vi) Submittals not meeting the above criteria are subject to rejection.

(b) Provide Project Record Documents, equipment instruction books and operating and maintenance manuals and any other documents, as required, in a file type and format approved by City.

4. Non-electronic Format:
   (a) Selected Submittals may be provided in paper (hard copy), as well, only with advance approval of the City and using procedures specified herein.
   (b) Equipment instruction books and operating manuals shall be provided in hardcopies in addition to the specified electronic format.

E. Transmittal of Submittals:
1. Submittal register shall be uploaded prior the transmission of the first submittal.
2. All submittals, regardless of origin, shall be stamped with the approval of the Contractor or Design-Builder and identified with the name and number of this Contract, Contractor's or Design-Builder's name, references to applicable specification paragraphs and Contract Drawings and version of the submittal. Submittals can be named for their specification if the submittals covers the full scope of work in said specification.
3. Each submittal shall indicate the intended use of the item in the Work. When catalog pages are submitted, applicable items shall be clearly identified and inapplicable data crossed out. The current revision, issue number and date shall be indicated on all drawings and other descriptive data. The Contractor or Design-Builder's stamp of approval is a representation to the City and Design Professional that the Contractor or Design-Builder accepts full responsibility for determining and verifying all quantities, dimensions, field construction criteria, materials, catalog numbers and similar data, and the Contractor or Design-Builder has reviewed and coordinated each submittal with the requirements of the Work and the Contract Documents.
4. Electronic Submittals – The Contractor or Design-Builder shall utilize the City's document management system as specified in Section 01335- Document Management for managing, tracking and storing documents associated with the Project. If an internet-based document management system is to be used, additional requirements are provided in Section 01335- Document Management. The Contractor or Design-Builder shall comply with the file protocols and procedures for the document management system.
5. Approved submittals shall be tagged per City's metadata tagging standard and provided to the City as part of the Electronic O&M Manual.

F. Submittals Required for the Preconstruction Conference:
1. Following are the minimum required submittals to be provided by the Contractor or Design-Builder at the pre-construction conference:
   (a) General Requirements:
      (i) Preliminary Project Schedule including Submittals
      (ii) Preliminary Schedule of Values.
      (iii) Preliminary Submittal Registry,
      (iv) Listing of Subcontractors.
      (v) Project Sign Request.
      (vi) List of Major Equipment utilized
      (vii) Safety Representative.
   (b) Document Management can be found in Section 01335 – Document Management.

G. In order to allow expedited review submittals on the sections or topics below are required to have a pre-submittal meeting.
   1. Commissioning Schedule
   2. Sanitary Screens
   3. First Factory Acceptance Test Plan
   4. Switchgear and Transforming
   5. PLC Programming

1.04 SHOP DRAWINGS AND SAMPLES

A. Shop Drawings:
   1. Shop Drawings and engineering data covering all equipment and fabricated and building materials which will become a permanent part of the Work under this Contract shall be submitted to the City or Designee for review as specified herein. The data shall include drawings, descriptive information, sufficient detail to show the kind, size, arrangement and operation of component materials and devices; the external connections, anchorages and supports required; performance characteristics; and dimensions needed for installation and correlation with other materials and equipment.
   2. All deviations from the Contract Documents shall be identified on each submittal and shall be tabulated in the Contractor or Design-Builder's letter of transmittal. Such submittals shall, as pertinent to the deviation, indicate essential details of all changes proposed by the Contractor or Design-Builder (including modifications to other facilities that may be a result of the deviation) and all required piping and wiring diagrams.

B. Product Data:
   1. Product data as specified in individual Sections, include, but are not necessarily limited to, standard prepared data for manufactured products (sometimes referred to as catalog data), such as the manufacturer's product specification and installation instructions, availability of colors and patterns, manufacturer's printed statements of compliances and applicability, roughing-in diagrams and templates, catalog cuts, product photographs, standard wiring diagrams, printed performance curves and operational-range diagrams, production or quality control inspection and test reports and certifications, mill reports, product operating and maintenance instructions and recommended spare-parts listing and printed product warranties, as applicable to the Work.
   2. If applicable, submittals for equipment shall include a listing of all installations where identical or similar equipment has been installed and been in operations for a period of at least one year.
   3. Certificates are statements printed on the manufacturer's or supplier's letterhead and signed by responsible officials of manufacturer of product, system or material. Certifications shall provide a clear statement that the product, system or material meets the specified requirements of Contract Documents. All certificates shall be dated after the Effective Date of the contract and shall clearly indicate the project name and project number.

C. Samples:
   1. Samples specified in individual Sections, include, but are not necessarily limited to, physical examples of the work such as sections of manufactured or fabricated work, small cuts or containers of materials, complete units of repetitively-used products, color/texture/pattern swatches and range sets, specimens for coordination of visual effect,

graphic symbols and units of work to be used by the City or Designee for independent inspection and testing, as applicable to the Work.

D. Instruction Books and Operating and Manuals:
   1. Per Section 01021 – Operation Maintenance Data

E. Record Documents
   1. Per Section 011019 Closeout Procedures, 01021 Operation Maintenance Data, 01020 Record Documents, 01322 Photographic Documentation

F. Survey Data
   1. All field books, notes, videotapes, and other data developed by Contractor in performing surveys required as part of the Work shall be available to City for examination throughout the construction period.
   2. All such data shall be submitted to City with the other documentation required for final acceptance of the Work.

1.05 SCHEDULES

A. 01320 - Construction Progress Documentation

1.06 COMMISSIONING SUBMITTALS

A. Section 01757 Commissioning

1.07 CONSTRUCTION PROGRESS PHOTOGRAPHS AND VIDEOS

A. Section 01320 Construction Progress Documentation
B. Photos and Videos documenting assets that will be not be visible during the substantial completion walkthrough shall have their record photos taken prior to be obscured by backfill, equipment installation, gypsum board installation, etc… Record photos shall have metadata tags per KC Water standards.

1.08 WARRANTY and BONDS and CLOSEOUT SUBMITTALS

A. Section 011019 Closeout Procedures, Section 00800 Supplementary Conditions, and 00700 General Conditions

1.09 SCHEDULE OF VALUES

A. The CONTRACTOR shall prepare and submit to the DESIGN PROFESSIONAL for approval by the preconstruction conference, a Schedule of Values for and covering the Lump Sum Price Bid as shown in the Proposal. The Schedule of Values shall show the estimated total number of construction units for each kind of work and the value of each unit.

B. Each price listed shall include all overhead, other costs, CONTRACTOR's profit and the total estimated value of the items of work listed in the Schedule of Values shall equal the Contract Lump Sum Price covered by the estimate. Overhead and profit are not to be listed as separate items.

C. An unbalanced schedule of values providing for overpayment of CONTRACTOR on items of Work which would be performed first will not be approved. The Schedule of Values shall be revised and resubmitted until acceptable to the DESIGN PROFESSIONAL & OWNER. Final acceptance by DESIGN PROFESSIONAL shall indicate only consent to the Schedule

of Values as a basis for preparation of applications for progress payments, and shall not constitute an agreement as to the value of each indicated item.

1.10 CITY OR DESIGNEE'S REVIEW OF DRAWINGS AND DATA

A. The City or Designee's review of drawings and data submitted by Contractor or Design-Builder will cover only general compliance with the Construction Contract Documents. The City or Designee's review does not indicate a thorough review of all dimensions, quantities and details of the material, equipment, device or item shown. The City or Designee's review shall not relieve Contractor or Design-Builder of Contractor or Design-Builder's responsibility for errors, omissions or deviations in the drawings and data, nor of sole responsibility for compliance with the Construction Contract Documents.

B. The City or Designee's submittal review period shall be 21 consecutive calendar days in length and shall commence on the first calendar day immediately following the date of arrival of the submittal or resubmittal in the City or Designee's office. The time required to mail the submittal or resubmittal back to Contractor or Design-Builder shall not be considered a part of the submittal review period.

C. Contractor or Design-Builder may request an expedited review of a limited number of submittals. The City may elect to require a workshop to facilitate this expedited review. A maximum of one workshop per week will be allowed.

D. Submittals shall be returned to the Contractor or Design-Builder under one of the following assignments:
   1. "Approved" is assigned when there are no notations or comments on the submittal. When returned, the Contractor or Design-Builder may release the equipment and/or material for manufacture.
   2. "Approved as Noted" is assigned when a confirmation of the notations and comments is not required by the Contractor or Design-Builder. The Contractor or Design-Builder may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product.
   3. "Revise and Resubmit" is assigned when the submittal does not meet the intent of the Construction Contract Documents. The Contractor or Design-Builder must resubmit the document revised to bring the submittal into compliance with Contract Documents. "Revise and Resubmit" is also assigned when notations and comments are extensive enough to require a resubmittal of the package.
   4. "Rejected" is assigned when the submittal does not meet the intent of the Construction Contract Documents. The Contractor or Design-Builder must resubmit the entire package revised to bring the submittal into compliance with Contract Documents. It may be necessary to resubmit using a different manufacturer/vendor to meet the Construction Contract Documents. "Rejected" is also assigned when the notations and comments are extensive enough to require a resubmittal of the package.
   5. "For Record Only" is assigned when the submittal is provided as a courtesy to the City or as a contractual requirement by the Design-Builder or Contractor. Design-Builder or Contractor has no further action required. Submittal is for supplementary information only; pamphlets, general information sheets, catalog cuts, standard sheets, test reports, manufacturer's or supplier's letters included with submittal data, unmarked catalog data, bulletins and similar data, all of which are useful to Owner in design, operation, or maintenance, but which by their nature does not constitute a basis for determining that

items represented thereby conform with the design concept or comply with the intent of the Contract Documents. It is not subject to Owner's review and acceptance, and is being filed for Record Copy purposes only. This is generally used in acknowledging receipt of means and methods of construction work plans, filed conformance test reports, health and safety plans, or structural design by the Design-Builder's or Contractor Engineer of Record, etc.

E. If the Contractor or Design-Builder considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, the Contractor or Design-Builder shall give written notice thereof to the City or Designee at least seven working days prior to release for manufacture.

F. Resubmittal of Drawings and Data:
   1. The Contractor or Design-Builder shall accept full responsibility for the completeness of each resubmittal. The Contractor or Design-Builder shall verify that all corrected data and additional information previously requested by the City or Designee are provided on the resubmittal. When corrected copies are resubmitted, the Contractor or Design-Builder shall in writing direct specific attention to all revisions and shall list separately any revisions made other than those called for by the City or Designee on previous submissions.
   2. Requirements specified for initial submittals shall also apply to resubmittals. Resubmittals shall bear the number of the first submittal followed by a letter (A, B, etc.) to indicate the sequence of the resubmittal.
   3. Resubmittals shall be made within thirty (30) days of the date of the letter returning the submittal to be modified or corrected; unless, within 14 days, the Contractor or Design-Builder submits an acceptable request for an extension of the stipulated period, listing the reasons the resubmittal cannot be completed within the specified time.
   4. Any need for more than one resubmission or any other delay in obtaining the City or Designee's review of submittals, will not entitle the Contractor or Design-Builder to an extension of the Contract Times, unless: the delay of the Work is directly caused by a change in the Work authorized by a Change Order or by failure of the City or Designee to review the submittals within the submittal review period specified herein.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used

END OF SECTION

SECTION 01320 – PROJECT MANAGEMENT AND CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the construction process beginning with the Notice of Intent to Contract and continuing through completion of the Work performed and Construction Contract close out.

B. The Contractor or Design-Builder shall furnish all labor, materials, equipment and incidentals as necessary to comply with these requirements including but not limited to the following and as required herein:

1. Preliminary Project Schedule.
2. Project Baseline Schedule.
3. Progress Schedule.
4. Recovery Schedules.
5. Submittals Schedule.
6. Daily Labor Force reports.
7. Material location reports.
8. Field condition reports.
9. Special reports.
10. Commissioning
11. Training
12. O&M Data
13. Electronic O&M Manuals
14. Testing
15. Acceptance Testing
16. Photographic Documentation.

1.02 RELATED SECTIONS

A. Drawings and general provisions of the Contract; including General and Supplementary Conditions, all applicable Division 01 Sections, and all applicable Division Sections; apply to this Section.

B. Section 00700 – General Requirements:

1. Article 2, paragraph 2.07.B.1 – Preliminary Project Schedule.
2. Article 2, paragraph 2.07.B.2 – Preliminary Schedule of Shop Drawings.
3. Article 2, paragraph 2.08.A – Acceptable Schedule.
4. Article 2, paragraph 2.08.B – Project Baseline Schedule.
5. Article 6, paragraph 6.04 – Progress Schedule.
6. Article 6, paragraph 6.05 – Recovery Schedule.

C. Section 01000 – General Project Requirements.

D. Section 01015 – Specific Project Requirements.

E. Section 01020 – Record Documents

F. Section 01021 – Operation and Maintenance Data

G. Section 01140 – Work Restrictions

H. Section 01019 – Closeout Procedures

I. Section 01664 - Training

J. Section 01757 – Commissioning
K. Section 01322 – Photographic Documentation.

1.03 CODES AND STANDARDS

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.
B. American Association of Cost Engineers (AACE):
1. Comply with recommended practices.

1.04 SUBMITTALS

A. Scheduler Qualifications – For firms and persons preparing schedules, submit qualifications as required by Table 1 to demonstrate their capabilities and experience. Include lists of completed projects with the following information:
1. Project name.
2. Project location.
3. Name and address of engineer, architect or Contractor or Design-Builder for which schedules were prepared.
4. Name and address of client.
5. Project Duration at Bid & Project Duration.
6. Other information and pertinent.
B. Preliminary Schedule of Shop Drawings (Submittals) – Arrange the following information in a tabular format or a format that is compatible with entry into the City's document management system:
1. Scheduled date for each first submittal.
2. Specification Section number and title.
3. Submittal category (action or informational).
4. Name of subcontractor.
5. Description of the Work covered.
6. If a Pre-Submittal Workshop is required
7. If the Contractor or Design-Builder will request expedited review.
8. Scheduled date for City's final approval.
C. Standard Schedule Format – Layout for all schedules and reports shall follow the standard format in the following order, activity ID, activity name, original duration, remaining duration, percent complete, start, finish, late start, late finish, total float, baseline variance, predecessor, successor, and resource ID.
D. Baseline Project Schedule – Submit in native electronic format and *PDF format. PDF sheet size shall sufficiently large enough to legibly show entire schedule for entire construction period.
1. Include:
(a) CPM Report
(b) Resource Loaded
(c) Native File
E. Progress Schedules – Submit in native electronic format and *PDF format. PDF sheet size shall sufficiently large enough to legibly show entire schedule for entire construction period.
1. Include:
(a) CPM Report
(b) Activity report

(1) A list of all activities sorted by activity number and early start date, or actual start date, if known.

(c) Logic Report

(1) A list of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.

(d) Total Float Report

(1) A list of all activities sorted in ascending order of total float.

(e) Daily Labor Force Report

(f) Material Location Report

(g) Field Condition Report

(h) City may request a cost and resource loaded schedule if the project has insufficient float or multiple overlapping critical paths.

F. Commissioning Schedule Section 01757 - Commissioning

G. Special Reports – Submit special reports within one day of an occurrence.

H. Daily Construction Reports – Submit at weekly intervals.

I. Four Week look ahead – Schedules provided at each progress meeting that indicate with work activities will be occurring over the next 4 weeks and what was accomplished the previous week.

1. The activity designations used in the four week look ahead must be consistent with those used in the baseline schedule and the monthly schedule updates.

1.05 DEFINITIONS

A. Activity:

1. A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

2. Critical activities are activities on the critical path. They must start and finish on the planned start and finish times.

3. Predecessor activity is an activity that must start or complete before a given activity can be started. No negative lag is allowed.

4. Successor activity is an activity that can not start until the predecessor activity allows it. No negative lag is allowed.

B. Cost Loading: All WBS summary activities are cost loaded. The sum total of all cost loaded activities shall equal the total Contract Price of the Contract, including Owner-approved change orders. This shall be equivalent to the total of the Schedule of Values for the Project.

C. CPM (Critical Path Method) – A schedule network analysis technique used to determine the amount of scheduling flexibility (the amount of float) on various logical network paths in the project schedule network, and to determine the minimum total project duration. Start and finish dates are calculated by means of a forward pass, using a specified start date. Late start and finish dates are calculated by means of a backward pass, starting from a specified completion date, which sometimes is the project early finish date determined during the forward pass.

D. Critical Path – Generally, but not always, the sequence of schedule activities determining the duration of the project. Generally, it is the longest path through the project. However, a critical path can end, as an example, on a schedule milestone that is in the middle of the schedule model and that has a finish-on-or-before imposed date schedule constraint.

E. Event – The starting or ending point of an activity.

F. Float – The measure of leeway in starting and completing an activity. Float time is not for the exclusive use or benefit of either City or Contractor or Design-Builder, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

G. Fragnet – A partial or fragmentary network that breaks down activities into smaller activities for greater detail.

H. Gantt Chart – A graphic display of schedule-related information. In the typical Gantt chart, schedule activities or work breakdown structure components are listed down the left side of the chart, dates are shown across the top and activity durations are shown as date-placed horizontal bars. Also known as a Bar chart.

I. Lag – An offset or delay from an activity to its successor. It is based on the calendar of the successor activity.

J. Major Area – A significant construction element.

K. Major Procurement – As discussed in Section 00700, paragraph 2.07.B.1, Major Procurement shall further defined as any materials that fall within the critical path and/or have a lead time of 30 days or greater.

L. Milestone – A key or critical point in time for reference or measurement.

M. Network Diagram – A graphic diagram of a network schedule, showing activities and activity relationships.

N. Schedule Level –

Detailed Schedule by Task – This level of detail will support the short-term planning for the field, normally for those activities of less than 1-week duration. It is used for workforce supervisors to plan and coordinate work at the detail level. City must approve of any activities greater than 1 week duration.

O. WBS (Work Breakdown Structure) – A deliverable-oriented hierarchical decomposition of the work to be executed by the project team to accomplish the project objectives and create the required deliverables. It organizes and defines the total scope of the project. Each descending level represents an increasingly detailed definition of the project work. The WBS is decomposed into work packages. The deliverable orientation of the hierarchy includes both internal and external deliverables. See also Schedule Levels.

P. Work Package – A deliverable or project work component at the lowest level of each branch of the WBS. The work package includes the schedule activities and schedule milestones required to complete the work package deliverable or project work component.

Q. Resource Loading: WBS activities has the allocated resources necessary to complete the WBS.

R. Schedule of Monthly Payments – Estimated monthly progress payments based on Baseline Schedule and Schedule of Values for each Month for the duration of the project.

S. City Activity: an activity required by the project that will be performed by the City or their designee outside the contract.

1.06 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities including the scheduling and reporting of separate Contractor or Design-Builders performing construction activities related to project.

B. Coordinate Progress Schedules with the Schedule of Values, to estimate a Schedule of Monthly Payments, list of subcontractors, Preliminary Schedule of Shop Drawings and Samples, progress reports, Application for Payment, and other required schedules and reports.

C. Secure time commitments for performing critical elements of the Work from parties involved. Time commitments should be captured within the schedule.

1.07 TRAINING SCHEDULE: (as required)

A. Contractor shall provide a draft list of training sessions arranged in chronological order along with the submittal Schedule

B. Contractor shall provide a draft list of training sessions arranged in chronological order along with the submittal schedule.

1.08 SCHEDULING SOFTWARE

A. Prepare schedules using the latest version of Primavera version P6 or higher or Microsoft Project.

1.09 PRELIMINARY SCHEDULE OF SHOP DRAWINGS AND SAMPLES

A. Preparation – Provide a schedule of submittals arranged in chronological order by date required by the construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery as set forth in the Contract Documents, when establishing dates.

B. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, the estimated Schedule of Monthly Payments, and Progress Schedules.

C. Include Shop Drawing and Sample Submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.

D. At Contractor or Design-Builder's option, show submittals on the Preliminary Progress Schedule, instead of tabulating them separately.

1.10 SCHEDULE REQUIREMENTS

A. Requirements According to Schedule Level – Contractor or Design-Builder shall provide the following information.

Item	Requirement
Procedures	Comply with procedures contained the American Association of Cost Engineers (AACE) recommended practices.
Time Frame	Extend project schedule from date established for the Notice to Proceed to the date of Final Completion.
Contract Times	Contract Times shall not be changed unless specifically authorized by Change Order.
Activities	Treat separate major areas as a separate numbered activity for each principal element of the Work. (WBS)
Activity Duration	Define activities so none is longer than 7 days, unless specifically allowed by City
Milestones	Include milestones indicated in the Contract Documents in schedule, including, but not limited to, all zero duration events, the Notice to

Item	Requirement
	Proceed, Substantial Completion, and Final Completion.
Computer Software	Prepare schedules using the latest version of Primavera version P6 or higher or Microsoft Project.
Scheduler's Qualifications	Submit scheduler's qualifications for review and approval
Submittal Review Time	Include review and re-submittal times for review of Shop Drawings and Samples. Each item listed in the Preliminary Schedule of Shop Drawings and Samples shall be included in the schedule.
Procurement Activities	Include separate activities for the procurement process of long-lead and major items that require a cycle of more than 30 days or fall within the critical path. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
Startup and Testing Time	See Sections -01757 Commissioning, 01664 Training. Incorporate all these requirements with appropriate lead times into the project schedule.
Phasing	Arrange list of activities on schedule by phase.
Submittal Review Time	Include review and re-submittal times for review of Shop Drawings and Samples. Each item listed in the Preliminary Schedule of Shop Drawings and Samples shall be included in the schedule.
City Activities	Include a separate activity for each area of the Work performed by City and a separate activity for notifying the City if contractually required or requested.
Products Ordered in Advance	Include a separate activity for each product. Delivery dates indicated stipulate the earliest possible delivery date.
City-Furnished Products	Include a separate activity for each product. Delivery dates indicated stipulate the earliest possible delivery date.
Work Restrictions	Show the effect of the following items on the schedule: • Coordination with existing construction. • Limitations of continued occupancies. • Uninterruptible services. • Partial utilization before Substantial Completion. • Use of premises restrictions. • Provisions for future construction. • Seasonal variations. • Environmental control.
Work Stages	Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following: • Subcontract awards. • Submittals. • Purchases. • Fabrication. • Sample testing. • Deliveries. • Installation. • Tests and inspections. • Adjusting.

Item	Requirement
	• Curing. • Startup and placement into final use.
Area Separations	Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities: • Contractor Mobilization* • Procurement – Divided by Long Lead and Short Lead • Completion of civil work • Completion of structural work • Completion of HVAC work • Completion of architectural work • Completion of mechanical installation • Completion of electrical installation • Completion of I&C installation • Completion of I&C programing • • Partial Utilization • Substantial Completion* • Start of Acceptance Testing • End of Acceptance Testing • Achievement of Full Operations* • Punch List and Final Corrections* • Final Completion*
Contract Modifications	For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragments to demonstrate the effect of the proposed change on the overall project schedule.
Work under More than One Contract or Subcontract.	Include a separate activity for each contract or subcontract.
Detailed by Work Package	Include detailed information by each work package and display all activities to be accomplished by the workforce with durations of 7 or more calendar days
Detail by Task	Include detail by task to support the short-term planning for the field, normally for those activities of less than 1-week duration.

B. Cost Correlation:

1. At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.

1.11 PRELIMINARY AND BASELINE PROJECT SCHEDULES

A. Indicate each significant construction activity separately. Identify each Monday of each week with a continuous vertical line. Outline significant construction activities for the first 60 days of construction. Include skeleton diagram for the remainder of the Work.

B. Preliminary Network Diagram – Outline significant construction activities for the project. To be submitted with the Preliminary Progress Schedule.

C. Cost Loaded

D. Baseline Schedule shall be resource loaded.

1.12 PROGRESS REPORTS AND SCHEDULES

A. General – Prepare Progress Schedules using a CPM network analysis diagram and be cost loaded.

B. CPM Schedule Preparation – Prepare a list of all activities required to complete the Work. Using the preliminary network diagram, prepare a skeleton network to identify probable critical paths:

1. Activities – Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
   (a) Preparation and processing of submittals.
   (b) Purchase of materials.
   (c) Delivery of materials and equipment.
   (d) Fabrication.
   (e) Installation.
2. Processing – Process data to produce output data or a computer-drawn, time scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
3. Format – Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges:
   (a) Sub-networks on separate sheets are permissible for activities clearly off the critical path. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 30 days after date established for the Notice to Proceed.
   (b) Establish procedures for monitoring and updating CPM schedule and for reporting progress monthly. Coordinate procedures with progress meeting and payment request dates.
   (c) Use "one calendar day" as the unit of time.
4. Initial Issue of Schedule – Prepare initial network diagram from a list of straight "early start-total float" sort. Identify critical activities. Prepare tabulated reports showing the following:
   (a) Contractor or subcontractor and the Work or activity.
   (b) Description of activity.
   (c) Principle events of activity.
   (d) Immediate preceding and succeeding activities.
   (e) Early and late start dates.
   (f) Early and late 'finish dates.
   (g) Activity duration in days.
   (h) Total float or slack time.
   (i) Average size of workforce.
5. Schedule Updating – Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
   (a) Identification of activities that have changed added or deleted.
   (b) Changes in logic ties.
   (c) Changes in early and late start dates.
   (d) Changes in early and late finish dates.
   (e) Changes in activity durations in days.
   (f) Changes in the critical path.

(g) Changes in total float or slack time.
(h) Changes in the Contract Time.

6. Value Summaries – Prepare two cumulative value lists, sorted by finish dates:
(a) In first list, tabulate activity number, early finish date, dollar value, and cumulative dollar value.
(b) In second list, tabulate activity number, late finish date, dollar value, and cumulative dollar value.
(c) In subsequent issues of both lists, substitute actual finish dates for activities completed as of last date.
(d) Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.
(e) In both value summary lists, tabulate "actual percent complete" and "cumulative value completed" with total at bottom.
(f) Submit value summary printouts one week before each regularly scheduled progress meeting.

C. Reports:
1. Daily Labor Force Reports – Prepare a daily labor force report recording the following information concerning events at Project site:
(a) List of subcontractors at Project site.
(b) List of separate Contractor or Design-Builders at Project site.
(c) List of all the Contractor or Design-Builder's and subcontractor's personnel showing hours worked in labor class at Project site.
2. Material Location Reports – At monthly intervals, prepare a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.
3. Field Condition Reports – Immediately on discovery of a difference between field conditions and the Contract Documents, prepare a detailed report. Submit electronically and directly to City with a request for information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

D. Special Reports:
1. General – Submit special reports within one day of an occurrence.
2. Reporting Unusual Events – When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events; persons participating; response by Contractor or Design-Builder’s personnel; evaluation of results or effects; and similar pertinent information. Advise City in advance when these events are known or predictable.

1.13 SCHEDULE OF VALUES

A. Requirements for Schedule of Values are specified in Article 2.1.3 of the General Conditions.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.01 PROGRESS SCHEDULES

A. Updates – At monthly intervals, update schedule to reflect actual construction progress and activities. Progress Schedule should be provided for review and approval prior to monthly pay request at a mutually agreed upon date each month to enable the City's review to be complete by the agreed upon monthly pay application date. Progress Schedules will be reviewed and discussed at regularly schedule progress meetings. Contractor or Design-Builder shall bring printed copies of CPM Schedule:

1. Revise schedule immediately after an activity revision has been recognized or made at the direction by the City. Issue updated schedule concurrently with the report of each such progress meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate actual completion percentage for each activity.
4. Post copies in Project meeting rooms and temporary field offices.

3.02 MEETINGS

A. Pre-Commencement Meeting for Design-Build Projects:

1. In accordance with Article 2.1.1 of the General Conditions, Contractor or Design-Builder shall schedule and conduct a Pre-Commencement Meeting with Owner. This meeting is separate from the Preconstruction Conference and is intended to discuss issues affecting the administration of the Work and to implement the necessary procedures, including those relating to schedules, communication protocols, precise roles and responsibilities of individuals, HRD submittals, and payment, to facilitate the ability of the parties to perform their obligations under the Contract Documents.
2. Review Payment Procedures as discussed in Contract Documents.
3. Review scheduling requirements. These include but are not limited to schedule preparation, reporting requirements, manpower and equipment loading, updates, revisions, and schedule delay analysis. Contractor or Design-Builder shall present their schedule methodology, planned sequence of operations, resource loading methodology, and proposed activity coding structure.
4. Mobilization and Engineering Schedule, Proposed Baseline Schedule, and Proposed Schedule of Values will also be reviewed, if desired by Contractor or Design-Builder.
5. Minutes: Contractor or Design-Builder shall distribute meeting minutes within one (1) business day after the meeting.

B. Preconstruction Conference:

1. Contractor or Design-Builder will schedule the Preconstruction Conference to occur before the start of general construction at a time convenient to Owner. Hold the conference at Project site or another convenient location. If Baseline Schedule is not ready for discussion at Preconstruction Conference, Owner and Contractor or Design- Builder may modify, for the purpose of discussion at the Conference, the Mobilization and Engineering Schedule for early construction activities with defined scope and budget.
   (a) Attendees: Authorized representatives of Owner, Owner's Advisor, Design Professional, Contractor or Design-Builder Key Personnel, major Subcontractors and

others as appropriate shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.

(b) Agenda: Discuss items of significance that could affect progress, including the following:

(1) Owner, Owner's Advisor, Design Professional, and Contractor or Design-Build team member contacts, roles, responsibilities, communication requirements.
(2) Distribution of Contract Documents.
(3) Submission of Owner-approved updated Subcontractors and Major Material Suppliers List, Schedule of Values, and Baseline Schedule if changed from Pre-Commencement Meeting
(4) Schedules and Milestones.
(5) Contractor or Design-Builder work zone and office trailer locations.
(6) Procedures: Includes change management, document controls, schedule management, submittals management, and RFIs.
(7) Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and contract closeout procedures.
(8) Project Record Document Requirements.
(9) Review of startup requirements and procedures.
(10) Lockout/tagout procedures and requirements.
(11) Use of the premises.
(12) Contractor or Design-Builder and Owner will discuss additional areas for Contractor or Design- Builder access.
(13) Responsibility for temporary facilities and controls including designation of person responsible for traffic control in accordance with Section 01500 - Temporary Facilities, and 01700 Traffic Control
(14) Standard vehicle traffic onsite.
(15) Parking availability.
(16) Equipment deliveries and priorities.
(17) OCCPs.
(18) Project site safety requirements (safety vests, OSHA), and first aid.
(19) Plant/site Security/Access Procedures.
(20) Progress cleaning.
(21) Meetings.
(22) Working hours.

(c) Minutes: Contractor or Design-Builder shall record minutes and distribute electronic copies within 1 business days after meeting to participants, with copies to Contractor or Design-Builder, Owner, and those affected by decisions made.

2. Prior to Preconstruction Conference, Contractor or Design-Builder shall have submitted the following deliverables for discussion at meeting:

(a) Proposed Baseline Schedule.
(b) Mobilization and Engineering Schedule (modified as discussed above).
(c) Photo and Video Documentation Plan.
(d) Construction Safety Plan.
(e) List of Operational Change Control Plans lasting longer than one week.
(f) Quality Management Plan.
(g) Qualifications of Scheduler, Photographer, and any others as required by Specifications.

(h) And any other deliverables required by Specifications.

C. Monthly Progress Meetings:

1. Contractor or Design-Builder will schedule and administer formal progress meetings throughout progress of the Work at maximum monthly intervals with the first meeting scheduled approximately 30 calendar days after the Preconstruction Conference.
2. Contractor or Design-Builder will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
3. Contractor or Design-Builder shall provide printed copies of latest submitted progress schedules and Schedule Update.
4. Attendance Required: Owner, Owner's Advisor, Design Professional, Contractor or Design-Builder's Project Manager, Contractor or Design-Builder's Construction Manager (if different than the Project Manager), as appropriate to agenda topics for each meeting.
5. Agenda shall be reoccurring and approved by Owner. Topics shall include:
   (a) Review minutes of previous meetings.
   (b) Review of Work progress and future Work.
   (c) Review of safety record/events.
   (d) Risk register/log.
   (e) Change orders.
   (f) Quality control.
   (g) Pay application.
   (h) Schedule reports.
   (i) Discuss Stored Material for which the Contractor or Design-Builder will be requesting payment.
   (j) Commissioning.
6. Minutes: Contractor or Design-Builder will record changes for update and distribute electronic copies within 7 calendar days after meeting to participants and file on Owner's document management system.

D. Weekly Coordination Meetings:

1. Upon start of construction, Contractor or Design-Builder will schedule and administer meetings throughout progress of the Work at maximum weekly intervals.
2. Contractor or Design-Builder will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
3. Attendance Required: Owner, Owner's Advisor, Design Professional, Contractor or Design-Builder's Project Manager, Contractor or Design-Builder's Construction Manager (if different than the Project Manager), Commissioning Manager, superintendents, major subcontractors and suppliers as appropriate to agenda topics for each meeting.
4. Agenda:
   (a) Review of Work progress.
   (b) Field observations, problems, and decisions.
   (c) Identification of problems delaying planned progress, hazards and risks.
   (d) Review of critical submittals.
   (e) Deviations in the previous week's 4-Week Schedule.
   (f) Review of critical RFIs, change documents, issues and action items.
   (g) Review of upcoming OCCPs within 3-week window.
   (h) Review of offsite fabrication and delivery schedules.
   (i) Maintenance of Baseline Schedule.
   (j) Corrective measures to regain projected schedules.

(k) Review 5-Week Schedule and planned progress during succeeding work period.
(l) Schedule Update, if required in accordance with Paragraph 3.02.
(m) Coordination of projected progress.
(n) Maintenance of quality and work standards.
(o) Effect of proposed changes on Baseline Schedule and coordination.
(p) Any requests for stored materials payment
(q) Other business relating to Work.

5. Contractor or Design-Builder will record minutes and distribute electronic copies within 1 calendar day after meeting to participants and those affected by decisions made.

E. Daily Coordination Meeting: Upon start of construction, Contractor or Design-Builder shall hold daily informal meetings with the Owner to discuss planned daily activities by the Contractor or Design-Build team and Owner staff. Owner may elect to merge this meeting with the Division's regular morning meetings.

F. OCCP Coordination Meetings:

1. Contractor or Design-Builder shall schedule and coordinate with Owner one-week prior to implementation of approved OCCP.
2. Agenda:
   (a) Review Approved OCCP.
   (b) Review safety requirements and preparations.
   (c) Review contingency plans.
   (d) Confirm resource availability for execution of OCCP.
3. Contractor or Design-Builder may request and coordinate additional meetings with Owner as necessary to facilitate completion and approval of draft OCCPs. Owner will make reasonable effort to accommodate Contractor or Design-Builder but prefers minimum one week notice.

G. Pre-Installation Conferences:

1. Conduct a Pre-Installation Conference at Project site before each construction activity that requires coordination with other construction or moving heavy equipment within reach of the railroad. Work around railroads shall be coordinated in accordance with Section OR-01500 - Temporary Facilities.
2. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Owner of scheduled meeting dates.
3. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
   (a) Contract Documents.
   (b) Options.
   (c) Related Change Orders.
   (d) Purchases.
   (e) Deliveries.
   (f) Submittals.
   (g) Possible conflicts.
   (h) Compatibility problems.
   (i) Time schedules.
   (j) Weather limitations.
   (k) Manufacturer's written recommendations.
   (l) Warranty requirements.
   (m) Compatibility of materials.

(n) Acceptability of substrates.
(o) Temporary facilities and controls.
(p) OCCPs.
(q) Space and access limitations.
(r) Regulations of authorities having jurisdiction.
(s) Testing and inspecting requirements.
(t) Required performance results.
(u) Protection of construction and personnel.

4. Record significant conference discussions, agreements, and disagreements.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

H. Expedited Submittal Review Meetings: To expedite the submittal process and accelerate the delivery schedule for equipment with long delivery lead times, expedited submittal review meetings may will need to be held for equipment identified by the Contractor or Design-Builder. Contractor or Design-Builder shall identify such meetings on Baseline Construction Schedule and coordinate the meetings as needed.

I. Other Meetings as Required:

1. Maintenance Workshop(s):
   (a) Purpose: Develop the work orders for new and modified assets with the Owner. Contractor or Design-Builder shall review Original Equipment Manufacturer (OEM) O&M manual maintenance recommendations with Owner. Maintenance activities (Preventive & Predictive) will be divided between operations and maintenance. The updated round sheets for the site(s) will be reviewed for deficiencies. Contractor or Design-Builder shall facilitate a discussion of which OEM recommended maintenance activities have value after the warranty period. If necessary, the Contractor or Design-Builder and Owner will develop additional maintenance activities not recommended by the OEM with a particular focus on predictive maintenance activities such as vibration testing, lubricant testing, and IR testing to support the Owner's reliability centered maintenance program. Maintenance activity frequency will also be discussed. Lubrication for assets will be discussed with a focus on minimizing new lubricants that will need to be stocked.
   (b) Scheduling: Meetings shall occur after OEM manuals have submitted and approved.
2. Sequence of Operations Meeting(s):
   (a) Schedule: During design, after draft sequence of operations are completed.
   (b) Purpose: Walk Owner's operations staff and engineering staff through the proposed sequences of operation to control equipment and processes and solicit comments and refinements.
3. Facility Data Workshop: This Section Does Not Apply
   (a) Purpose: Any points communicated to a PLC and not SCADA will be discussed. Alarm set point and priority will be reviewed and developed. Historian settings for each point will also be developed or reviewed.
   (b) Scheduling: After draft sequence of operations is completed and finalized PIDs.
4. O&M Data Meeting
   (a) 90 days prior to Substantial Completion, a meeting will be held to discuss the steps to prepare the O&M Data for transmittal to the City.
5. Spare Parts Coordination Meeting

6. Commissioning meetings as required in Section 01757 - Commissioning.

END OF SECTION

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

DAILY FIELD OBSERVATION REPORT

Project/Contract Numbers: 81000817 / 1682

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

Contractor _____

Report Number _____ Date _____ Time _____

Weather			Site Conditions		Day	
❑ Clear	❑ Snow	❑ Warm	❑ Clear	❑ Dusty	❑ Monday	❑ Thursday
❑ Overcast	❑ Foggy	❑ Hot	❑ Muddy	❑ _____	❑ Tuesday	❑ Friday
❑ Rain	❑ Cold	❑ Temperature Range _____			❑ Wednesday	❑ _____

Persons Contacted:

Work Observed:

Items Discussed:

Materials Delivered:

Requested Revisions or Interpretations:

Nonconforming Work Reported This Date To Contractor:

Remarks:

❑ Attachments

Signed by: Date:

Distribution:
- ❑ Owner
- ❑ Contractor
- ❑ Construction Manager
- ❑ Design Professional
- ❑ Consultant _____
- ❑ Other _____

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

PERIODIC FIELD OBSERVATION REPORT

Project/Contract Numbers: 81000817 / 1682

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

Contractor _____

Report Number _____ Date _____ Time _____

Weather			Site Conditions		Day	
❑ Clear	❑ Snow	❑ Warm	❑ Clear	❑ Dusty	❑ Monday	❑ Thursday
❑ Overcast	❑ Foggy	❑ Hot	❑ Muddy	❑ _____	❑ Tuesday	❑ Friday
❑ Rain	❑ Cold	❑ Temperature Range _____			❑ Wednesday	❑ _____

Persons Contacted:

Work Observed:

Items Discussed:

Remarks:

❑ Attachments

Signed by: Date:

Distribution:
- ❑ Owner
- ❑ Contractor
- ❑ Construction Manager
- ❑ Design Professional
- ❑ Consultant _____
- ❑ Other _____

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

WEEKLY REPORT OF WORKING DAYS

Project/Contract Numbers: 81000817 / 1682

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

Contractor _____

Report Number _____ Week Ending: _____

DATE:	WORKING DAY	REMARKS

TOTAL THIS WEEK	PREVIOUSLY	TOTAL TO DATE	WORKING DAYS IN CONTRACT	REMAINING OR OVERTIME

Signed by OWNER'S REPRESENTATIVE Date:

Signed by CONTRACTOR Date:

Distribution: ❑ OWNER ❑ CONTRACTOR ❑ Construction Manager ❑ Design Professional ❑ Consultant ❑ Other

SECTION 01322 – PHOTOGRAPHIC AND VIDEO DOCUMENTATION

PART 1 - GENERAL

1.01 SUMMARY

A. This Section outlines the requirements for photographic and video documentation. The Contractor/Design-Builder is solely responsible for the development of an overall plan to fully document Site conditions and the progress of the Work.

B. The Contractor/Design-Builder shall hire a professional photographer to provide the services and deliverables described herein.

C. This section does not include work associated with internal closed-circuit television (CCTV) inspections of sewer gravity pipes. See Section 02686 – CCTV Inspection of Sewer Mains.

1.02 RELATED SECTIONS

A. Section 00700 – General Conditions.

B. Section 01015 – Specific Project Requirements.

C. Section 01300 – Submittals.

D. Section 01019 – Closeout Procedures

E. Section 01021 - Operation and Maintenance Data

F. Section 01664 – Training

G. Section 01757 - Commissioning

H. Section 01320 – Construction Progress Documentation.

I. Section 01335 – Document Management.

1.03 DEFINITIONS

A. Pre-Construction Video: A video taken to document Site(s) conditions prior to the start of construction.

B. Pre-Construction Photographs: 360 Degree photographs taken to document Site conditions prior to the start of construction. All Pre-Construction Photographs shall be digital, indexed on an interactive map and shown on a View Location Map.

C. Construction Progress Photographs: 360 Degree digital photographs taken to document the progress of construction.

D. Construction Activity Photographs: Digital photographs taken to document specific construction activities.

E. Post-Construction Photographs: Digital photographs taken after final restoration to document the finished condition of the Site.

F. Record Photographs: Digital Photographs of all assets effected by the project. Photos taken after Substantial Completion are preferred expect for assets that are visible then obscured by the project. Assets obscured during the project will have their record photos taken as needed throughout the project.

G. Affidavit of Authenticity: The photographer's signed and notarized affidavit, attesting to the production of the original photographs, videos and their authenticity.

1.04 SUBMITTALS

A. Submit as specified in Section 01300 – Submittals.

B. Other required Submittals:

1. Photographer's Qualifications: Submit for review and approval the qualification information demonstrating the photographer meets the requirements of paragraph 1.06 of this Section.
2. Phasing Plan: If applicable, submit for review and approval a phasing plan for Pre-Construction Photographs and Videos.
3. Pre-Construction Photographs: Submit for review and approval digital pre-construction photographs with an interactive index map, Photograph Navigation System (see paragraph 2.05 of this Section) and affidavit of authenticity.
4. Pre-Construction Video: Submit for review and approval a pre-construction video with a Video Navigation System (see paragraph 2.05 of this Section) and affidavit of authenticity (see paragraph 1.04 of this Section).
5. Construction Progress Photographs: On a monthly basis, submit digital construction photographs, interactive index map and affidavit of authenticity.
6. Construction Activity Photographs: On a monthly basis, submit digital activity photographs (if different than progress photographs), interactive index map and affidavit of authenticity.
7. Record Photographs: Maintain an active directory of tagged Record Photographs by asset.
8. Post-Construction Photographs/Video: Submit for review and approval digital post-construction photographs or video, interactive index map and affidavit of authenticity.

1.05 QUALITY ASSURANCE

A. The Contractor/Design-Builder is responsible for the quality assurance and quality control of the Work.

B. General Quality: Photographs and video shall be clear and of sufficient quality to show relevant detail. They shall not be blurred, taken in shadow or too far away to provide conclusive information. The City may require that the photographs or video be retaken should the quality be insufficient. Costs for such re-takes are the Contractor/Design-Builder's sole responsibility and shall be done at no extra cost to the City.

C. Qualifications of Photographer: The Contractor/Design-Builder shall engage the services of a professional photographer with a minimum of 3 years of experience in construction photography to document the conditions of the project site. Upon request, samples of the photographer's prior work and/or references shall be submitted.

D. Affidavit of Authenticity: The Contractor/Design-Builder shall provide the photographer's signed and notarized affidavit, attesting to the production of the original photographs, videos and their authenticity. An affidavit of authenticity shall be provided with each submittal/deliverable.

1.06 MINIMUM REQUIREMENTS

A. The section specifies several different sets of photographic and video documentation requirements. The extent of documentation will depend upon the size and type of the project. The following table summarizes the basic documentation requirements.

Set of Documentation	Mandatory
Pre-Construction Video	✓
Pre-Construction Photographs	✓
Interactive Index Map	✓
Construction Progress/Activity Photographs	✓

Set of Documentation	Mandatory
Record Photos	✓
Post-Construction Photographs/Video	✓

1.07 OWNERSHIP

A. The photographs and videos shall become the sole property of the City.

1.08 SCHEDULES

A. Schedule of Values: Photographic/Video documentation shall be listed as one line item in the Schedule of Values.
B. Construction Progress Documentation: Each set of photographs or videos shall be listed in the Preliminary Project Schedule as a discrete activity. See Section 01320 – Construction Progress Documentation.

1.09 PHASING

A. Based on the nature and scope of the Work, the Contractor/Design-Builder may phase the Pre-Construction Photographs and Video if pre-approved by the City's Representative. If phasing is to be implemented, the following shall apply:
   1. The Contractor/Design-Builder shall submit a Phasing Plan that identifies each area of the Work.
   2. For each phase, Pre-Construction Photographs and Videos shall be taken within 21 days of the start of construction activities unless otherwise approved in writing by the City's Representative.
B. Under no circumstances shall construction begin in any area until the Pre-Construction Photographs and/or Video have been submitted and approved by the City or Designee.

PART 2 - PRODUCTS

2.01 PHOTOGRAPH QUALITY

A. Photographic images shall be captured in digital format, with a minimum of 10-megapixel resolution and taken without JPG compression.
B. Each photograph shall include a date/time stamp in the image, showing when the image was taken.

2.02 VIDEO QUALITY

A. All video recordings shall be captured in full 1080-dpi Hi-Definition digital format, without compression or file-reduction whether applied in-camera or after capture during editing.
B. The original video segments shall be retained in the format captured in camera (such as MP4) without compression or modification that would reduce resolution or quality. The video shall include a date/time stamp in the image, showing when the image was taken. Video shall include verbal description and narrative of what is being captured.

2.03 METADATA

A. Digital files for photographs (Non-Record Photos) and videos shall, at a minimum, contain the following metadata:
   1. Project Name.
   2. Project Area
   3. Date and Time Taken.

4. All other metadata inherently provided by the camera/video equipment.

B. Record Photos shall be metadata tagged per the City's Record File Tagging.

2.04 MEDIA LOG

A. The Contractor/Design-Builder shall maintain a media log (photographs and videos) for the project. The log shall include, but is not limited to, the following information for each photograph and/or video:
   1. Project Name.
   2. Project Number.
   3. Contract Number.
   4. Name of City and Department.
   5. Name of Contractor/Design-Builder.
   6. Name of Design Professional.
   7. Photograph file name (the specific format should be tied to the project name). Photograph file name shall be unique to each digital file and shall be embedded in the digital image in a manner that is permanent and clearly legible when the file is opened.
   8. Include a date designator in file names.
   9. Date the photograph was taken.
   10. The name of the photographer who took the photograph.

2.05 PHOTOGRAPH AND VIDEO NAVIGATION SYSTEM

A. The Contractor/Design-Builder shall provide an electronic photographic and video navigation system (navigation system) for searching and viewing recorded imagery.

B. Interactive Index Map: The navigation system shall indicate the general location of each area photographed or video recorded using icons and other suitable mark-ups on the actual construction drawings in PDF-format. The map shall be filterable by project area, system, and sub-system.

C. The navigation system shall utilize standard PDF-reader software (such as Adobe Reader, Acrobat, or Bluebeam Vu) or other software that shall be included with the deliverables. Icons shall be individually hyperlinked to the respective photograph, video, affidavit of authenticity and media log file for immediate playback in Windows Media Player, VLC or other players.

D. The navigation system shall include the following:
   1. Project Name.
   2. Project Number.
   3. Contract Number.
   4. Name of City.
   5. Name of Contractor/Design-Builder.
   6. Name of Design Professional.
   7. Ranges of dates for which the photographs or videos were taken.
   8. Facility
   9. System
   10. Sub-System
   11. Asset if intelligible
   12. The name of the photographer.
   13. Affidavit of Authenticity.
   14. Media Log.
   15. Photographs.
   16. Videos.

E. A navigation system shall be provided for each set of photographs and videos taken.

PART 3 - EXECUTION

3.01 PRIOR TO PHOTOGRAPHIC AND VIDEO DOCUMENTATION

A. Construction Limits: Prior to the Pre-Construction Photographs and Video, the Contractor/Design-Builder shall flag or mark the construction limits and excavation.
B. Mark Utilities: Prior to the Pre-Construction Photographs or Video, the Contractor/Design-Builder shall notify utilities and have them marked so that utility locations are documented.
C. Coordinate with City to be present during the Pre-Construction Photos; the Contractor/Design-Builder shall provide the City a minimum of 2 days' notice.

3.02 PRE-CONSTRUCTION VIDEO

A. Scope: Prior to the start of construction, the Contractor/Design-Builder shall prepare a color video recording with audio of all the areas to be affected by construction. All pre-construction video recordings shall have sufficient detail to reveal the condition (including defects and damage) of all existing features, such as pavement, driveways, culverts, inlets, sidewalks, landscaping, vegetation, creek banks, trees, structures, foundations and other such items along the construction route and in the immediate adjacent areas, which might be affected by the construction operations. In addition, the videographer shall move beyond the construction zone as needed to ensure documentation of features and areas that may not be adequately recorded from the centerline rotations. Videos shall be taken on both sides of the street when construction is in or along a roadway (use this approach along drainage channels and in other similar situations).
B. Schedule: Taken after utilities and other underground structures/assets have been marked and prior to the placement of materials or equipment on the Site. Videos shall be submitted to the City for review and approval. Under no circumstances shall construction begin until the pre-construction video has been submitted and approved.
C. The pre-construction video recording shall be done in the presence of a representative of the City.
D. The Contractor/Design-Builder shall document all pre-existing site conditions/elements of the Site, the same as listed for the Pre-construction Photographs.
E. The video documentation shall provide a clear and continuous view of the project showing all visible utilities and features within the limits of construction.
F. To preclude the possibility of tampering or editing in any manner, all video recordings shall, by electronic means, generate and display continuously and simultaneously on the screen or in the video file metadata properties digital information to include the date and time of recording. The time information shall consist of hours, minutes and seconds, separated by colons (i.e., 10:35:18).
G. The audio/video recording shall consist of one video and one audio track which shall be recorded simultaneously. All tracks shall consist of the original live recordings and thus shall not be copies of other audio or video recordings.
H. The audio track shall contain the narrative commentary. Ample descriptive narrative shall be recorded simultaneously during all recordings. Narration shall include clearly audible comments that will deliver station number and/or street address, locations, direction of view and rotation.
I. Typical video segments should not exceed 10 minutes in length.
J. Rotations of 360-degrees shall be at all locations being photographed and necessary to see all site conditions.
K. Panning rate, zoom-in rate and zoom-out rate shall be controlled sufficiently such that playback will provide clarity of the object viewed.

L. All recording shall be done during times of good visibility. No recording shall be done during periods of precipitation unless authorized by the City.

3.03 PRE-CONSTRUCTION PHOTOGRAPHS

A. Scope: The purpose for pre-construction photo documentation is to record existing conditions, damage and features on or adjacent to the project site. The principal reason for obtaining photographs is so that existing conditions located in the Project Site may be clearly shown and documented in the event of a dispute. Contractor is required to notify the City within 2 weeks if the Pre-Construction Video or Photographs differ from the bid documents.

B. Schedule: Take photographs after underground assets and utilities have been marked, prior to placement of materials or equipment on the Site and prior to the start of construction activities in an area. Photographs shall be submitted to the City for review and approval. Construction shall not begin until the pre-construction photographs have been submitted and approved.

C. Pre-construction photographs shall be taken at sufficient intervals to be able to carefully document the pre-construction conditions of the Site before commencement of the Work. Photos shall be 360 views.

D. In addition, select photographs shall be taken as needed along the construction limits.

E. Overlapping composition techniques shall be employed to ensure maximum photographic coverage.

F. Pre-construction photographs shall be taken after underground utilities and assets have been marked.

G. Pre-construction photographs shall be taken with a representative of the City present unless otherwise authorized by the City.

H. All Pre-Construction Photographs shall have sufficient detail to reveal the condition (including defects and damage) of all existing features.

I. Pre-Construction Photos shall have an overlapping 360 view of the project area inside and outside structures/buildings.
   1. Views of structures, both inside and adjacent to the ROW/easement in areas where the Contractor/Design-Builder will be working within five (5) feet of said structure.
   2. Other views as requested by the City.

3.04 CONSTRUCTION PROGRESS PHOTOGRAPHS

A. Scope: The Contractor/Design-Builder shall provide construction progress photographs to depict the progress of the work. The Contractor/Design-Builder shall be responsible for photographs of the Site to show the existing and general progress of the Work. The City will advise as to which views are of interest.

B. Schedule: Photographs shall be taken at the time of the Pre-construction Photographs, a minimum of once per month throughout the duration of the Project, and at the time of the Post Construction Photographs. Construction Progress Photographs are to be submitted each month with the Contractor/Design-Builder's Application for Payment.

C. This set of photographs will be taken as close as possible to the same locations and views of the pre-construction photography.

3.05 CONSTRUCTION ACTIVITY PHOTOGRAPHS

A. Scope: The Contractor/Design-Builder shall provide photographs taken to document Site conditions and specific construction activities throughout the duration of the Project.

B. Schedule: Photographs shall be taken two times per month (every two weeks) for the duration of the Project.

C. Construction Activity Photographs are to be submitted each month with the Contractor/Design-Builder's Application for Payment.
D. Photographs shall be taken to depict the work accomplished during the month. These photographs are to include, but are not limited to, the following:
   1. Work not yet obscured.
   2. All assets that will be obscured by future work shall be photographed after work on the asset is completed and prior to the asset being obscured.
   3. When mechanical, electrical, plumbing or building inspections are scheduled.
   4. The beginning of installation of major items of equipment.
   5. After installation of major items of equipment.
   6. Other significant construction activities.
   7. As directed by the City.

3.06 POST-CONSTRUCTION PHOTOGRAPHS

A. Scope: The Contractor/Design-Builder shall provide Post-Construction Photographs of the project area that documents the final restoration and construction improvements. Post-Construction photographs shall show the general condition of the construction zone (recording finished landscape and other restoration, plus construction improvements), and other areas that may have been affected by construction activities.
B. Schedule
   1. Photographs shall be taken after completion of the Substantial Completion punch list when the project is complete, the Site is restored to the satisfaction of the City, and before submission of the Application for Final Payment.
   2. Post-construction photographs shall be taken after all items have been address from the Substantial Completion inspection, after cleanup and site restoration, and before application for final payment.
C. Post-Construction Photographs are to be submitted with the Contractor/Design-Builder's Application for Final Payment.
D. The Contractor/Design-Builder shall coordinate the schedule of the post-construction photographs with the City's Project Manager and shall provide at least 5 days written notice to allow the City's Representative to be present when the photographs are taken.

3.07 POST-CONSTRUCTION VIDEO

A. Scope: The Contractor/Design-Builder shall prepare a color video recording with audio of all the areas affected by construction. All Post-Construction video recordings shall have sufficient detail to reveal the final, restored condition of all existing assets and in the immediate adjacent areas, which might have been affected by the construction operations. In addition, videographer shall move beyond the construction zone as needed to insure documentation of features and areas that may not be adequately recorded
B. Schedule: The post-construction video shall be taken in conjunction with the post-construction photographs.
C. Post-construction videos are to be submitted with the Contractor/Design-Builder's Application for Final Payment.
D. Unless otherwise authorized by the City, the post-construction video recording shall be done with a representative of the City present.
E. The Contractor/Design-Builder shall document all post-construction site conditions/elements of the Site as listed for the post-construction Photographs.
F. The video documentation shall provide a clear and continuous view of the project alignment showing all visible utilities and features within the limits of construction.

G. To preclude the possibility of tampering or editing in any manner, all video recordings shall, by electronic means, generate and display continuously and simultaneously on the screen digital information to include the date and time of recording. The time information shall consist of hours, minutes and seconds, separated by colons (i.e., 10:35:18).
H. The audio video recording shall consist of one video and one audio track which shall be recorded simultaneously. All tracks shall consist of original live recordings and thus shall not be copies of other audio and video recordings.
I. The audio track shall contain the narrative commentary. Ample descriptive narrative shall be recorded simultaneously during all recordings. Narration shall include clearly audible comments that will deliver station number and/or street address locations, direction of view and rotation.
J. Typical video segments should not exceed 10 minutes in length.

3.08 RECORD PHOTGRAPHS

A. Scope: Record photographs are a subset of post-construction and construction progress photos that give a view of an effected, modified, updated, or new asset in a project.
B. The photos are to be post-construction photos wherever practical. Construction Progress Photos shall be utilized when an asset will be obstructed by later portions of the project.
C. Record Photos shall be taken of the asset from every feasible angle.
D. All Record Photos shall be tagged per City Record File Tagging Standards.

3.09 DELIVERABLES

A. Delivery of the documentation record shall be made as soon as is practical after the images are recorded. Deliverables include original photographs in JPG format, photographs converted to pdf format, interactive map index and navigation system.
B. Electronic Storage Devices: Submit the navigation system on a non-returnable USB compatible flash drive. Submittals shall conform to the following:
   1. Submit with the monthly invoice two sets of digital photographs and/or videos. Each set shall be contained on a separate electronic storage device.
   2. Each set shall be cumulative of all photographs and/or videos taken to date.
   3. Affidavit(s) of Authenticity shall be included in a digital format.
C. Document Management System: Unless otherwise noted in Section 01015 – Specific Project Requirements, all deliverables shall be provided in an electronic format using the specified document management system and in accordance with paragraph 1.05 of this Section.

END OF SECTION

SECTION 01329 – SAFETY PLAN

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes: Development and maintenance of a Construction Safety Plan.

1.02 REFERENCES

A. National Fire Protection Association (NFPA):
    1. 70E - Standard for Electrical Safety in the Workplace.
B. Occupational Safety and Health Administration (OSHA).
C. Section 01300 Submittal Procedures.

1.03 CONSTRUCTION SAFETY PLAN

A. Detail the Methods and Procedures to comply with NFPA 70E, Federal, and Local Health and Safety Laws, Rules and Requirements for the duration of the Contract Times. Include reference to and comply with latest Owner safety policies. Include the following:
    1. Identification of the Certified or Licensed Safety Consultant (Safety Officer) who will prepare, initiate, maintain and supervise safety programs, and procedures.
    2. Procedures for providing workers with an awareness of safety and health hazards expected to be encountered in the course of construction.
    3. Safety equipment appropriate to the safety and health hazards expected to be encountered during construction including hydrogen sulfide (H2S), asbestos, and lead. Include warning devices, barricades, safety equipment in public right-of-way and protected areas, safety equipment used in multi-level structures, and personal protective equipment (PPE) as required by NFPA 70E.
    4. Methods for minimizing employees' exposure to safety and health hazards expected during construction including entrance to tanks, such as digesters, and confined spaces used in the operation of the treatment plant and demolition.
    5. Procedures for reporting safety or health hazards.
    6. Procedures to follow to correct a recognized safety and health hazard.
    7. Procedures for investigation of accidents, injuries, illnesses, and unusual events that have occurred at the construction site.
    8. Periodic and scheduled inspections of general work areas and specific workstations.
    9. Training for employees and workers at the jobsite.
    10. Methods of communication of safe working conditions, work practices and required personal protection equipment.
    11. Provision of a site specific emergency action and evacuation plan during normal operations as well as when site access is blocked by trains.
B. Submit draft Safety Plan to Owner in accordance to Section 01300 Submittal Procedures for review prior to the Pre-Construction Meeting. The Safety Plan shall be a discussion topic on the agenda for the Pre-Construction Meeting. Following the Pre-Construction Meeting, Design-Builder shall submit final Safety Plan for Owner review within two weeks.

C. Design-Builder Assume assumes sole responsibility for every aspect of Health and Safety on the jobsite, including the health and safety of Subcontractors, suppliers, and other persons on the jobsite:
    1. Forward available information and reports to the Safety Consultant Officer who shall make the necessary recommendations concerning worker health and safety at the jobsite.
    2. Employ additional health and safety measures specified by the Safety Consultant Officer, as necessary, for workers in accordance with OSHA guidelines.
D. Timely Transmit to Owner and Engineer copies of reports and other documents related to accidents or injuries encountered during construction in accordance to Section 01300 Submittal Procedures.
E. Smoking will be allowed in designated areas as approved by the Owner. However, there is no smoking allowed in buildings or within 50 feet of Digesters and NFPA classified areas and envelopes. Design-Builder shall provide signage identifying designated smoking areas, and when any changes to the designated areas are made. No smoking will be allowed in facilities once they are closed in, and no smoking will be permitted anywhere on the site following delivery of chemicals. Design-Builder will be responsible for cleaning up cigarette butts.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

End of Section

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

TRANSMITTAL LETTER

Project/Contract Numbers: 81000817 / 1682

Project Title: KC Water Administration Building, Building & IT Improvements and ADA Compliance

TO: _____ Date _____

Re: _____

ATTN: _____

We are sending you ❑ Attached ❑ Under separate cover via _____ the following items:

❑ Shop Drawings ❑ Prints ❑ Drawings ❑ Samples ❑ Specifications

❑ Copy of Letter ❑ Change Order ❑ _____

Copies	Date	No.	Description

These are transmitted as checked below:

❑ For Approval ❑ Approved as Submitted ❑ Resubmit _____ Copies for Approval

❑ For Your Use ❑ Approved as Noted ❑ Submit _____ Copies for Distribution

❑ As Requested ❑ Returned for Corrections ❑ Return _____ Corrected Prints

❑ For Review and Comment ❑ _____

Remarks: _____

By: _____

Distribution:

❑ Owner
❑ Contractor
❑ Construction Manager
❑ Design Professional
❑ Consultant
❑ Other

SECTION 01335 –DOCUMENT MANAGEMENT

PART 1 - GENERAL

1.01 SUMMARY

A. An internet-based coordination and document management systems (DMS), e-builder & B2G, will be used for the Project. This system will be used to manage project documentation among the City (and/or Designee) , Contractor (or Design-Builder) and Engineer of Record. The Contractor or Design-Builder shall utilize the document management system for all project related correspondence and documentation.

B. The DMS will be utilized to create, track and organize project documentation (City's Representative will provide the exceptions), including, but not limited to, the following:
   1. Schedules.
   2. Applications for Payment.
   3. Meeting minutes with action items.
   4. Project correspondence.
   5. Shop Drawing and Sample(s) Submittals.
   6. Transmittals.
   7. Change Management:
      (a) General Contractor Requests for Interpretation.
      (b) Proposal Requests.
      (c) Work Change Directives. (Storage only)
      (d) Change Orders.
   8. Reporting:
      (a) Certified Payroll Report. (B2G)
      (b) Subcontractors and Major Material Suppliers List. (B2G)
      (c) Daily Labor Force Reports. (B2G)
      (d) Daily Inspection Reports.
      (e) Photographs and Video.
      (f) Certificate of Achievement of Full Operation.
      (g) Contractor Affidavit for Final Payment.
      (h) Subcontractor Affidavit for Final Payment.
      (i) Punch Lists.
   9. Notifications:
      (a) Correction of Defective Work.
      (b) Notification of Non-Compliant Work.

1.02 RELATED SECTIONS

A. Section 00700 – General Conditions.
B. Section 01015 – Specific Project Requirements.
C. Section 01300 – Submittals.

1.03 COORDINATION MEETING

A. Prior to the pre-construction conference, the City will facilitate a meeting with the Contractor or Design-Builder to review requirements for project coordination, document control and use of the DMS. The meeting should be scheduled to allow

the Contractor or Design-Builder time to submit the initial project correspondence, other requirements and preliminary schedules in accordance with Section 00700-General Conditions.

B. At this meeting, the City will present the procedures to be used for document management for the Project.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 01352 – SELECTIVE ALTERATIONS AND DEMOLITION

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes:
   1. Cutting or modifying of existing and new work.
   2. Partial demolition of structures.

1.02 REFERENCES

A. American National Standards Institute (ANSI):
   1. A10.6 - Safety and Health Program Requirements for Demolition Operations.
B. International Concrete Repair Institute (ICRI):
   1. Guideline No. 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair.
   2. Guideline No. 310.3R - Guide for the Preparation of Concrete Surfaces for Repair Using Hydro demolition Methods.

1.03 DEFINITIONS

A. Chipping hammer: A hand-operated electrical or pneumatic demolition device for removal of hardened concrete or masonry materials having a weight of less than 15 pounds and an impact frequency of greater than 2,000 blows/minute.
B. Concrete breaker: A hand-operated electrical or pneumatic demolition device for removal of hardened concrete or masonry materials having a weight greater or impact frequency less than the limits defined for a chipping hammer.
C. Coring equipment: Non-impact rotary drill with diamond cutting edges.
D. Heavy abrasive blast: Cleaning procedure by which various abrasives materials, or steel shot, are forcibly propelled by high pressure against a surface to remove loose material and produce a concrete surface roughened to ICRI Surface Profile CSP-7, or higher, as specified in ICRI 301.3R.

1.04 DESCRIPTION OF WORK

A. The work includes partial demolition, cutting, and modifying of existing facilities, utilities, and/or structures.
B. These facilities may be occupied and/or operational. Satisfactory completion of the work will require that the Contractor plan activities carefully to work around unavoidable obstacles and to maintain overall stability of structures and structural elements. It will further require restoration of existing facilities, utilities, and structures that are to remain in place and that are damaged by demolition or removal operations.

1.05 SUBMITTALS

A. General:
   1. Submit as specified in Section 01300 - Submittals.
B. Shop drawings: Include:

1. Demolition Plan outlining the proposed sequence of events and procedures to be utilized for any demolition activities required as part of the Work. This plan shall include a plan for proper notification of Owner and other affected parties relative to the respective Work.
2. The location of all embedded items shall be documented using diagrams and/or other media that clearly show dimensions and locations of existing structural elements, existing embedded items, and any new embedded items and their relationship to each other.

C. Submittals for information only:
1. Permits and notices authorizing demolition.
2. Certificates of severance of utility services. (if applicable)
3. Permit for transport and disposal of debris.

D. Quality assurance submittals:
1. Qualifications of non-destructive testing agency/agencies.

E. Project record documents.

F. Drawings and/or other media documenting locations of service lines and capped utilities.

1.06 QUALITY ASSURANCE

A. Qualifications:
1. Assign relocation, removal, cutting, coring, and patching to trades and workers qualified to perform the Work in a manner that causes the least damage and that provides means of returning surfaces to an appearance at least equal to that of the surrounding areas unaffected by the Work.
2. Non-destructive testing agencies: Minimum of 5 years' experience performing non-destructive testing for location of steel reinforcement in existing concrete under conditions similar to that required for this Work.

1.07 SEQUENCING

A. Perform Work in sequences and within times specified in Section 01140 - Work Restrictions.

B. If the facility or utility to be modified cannot be removed from service, perform the Work while the facility is in operation using procedures and equipment that do not jeopardize operation or materially reduce the efficiency of that facility.

C. Coordinate the Work with operation of the facility:
1. Do not begin alterations of designated portions of the Work until specific permission for activities in each area has been granted by Owner in writing.
2. Engineer will coordinate the planned procedure with facility manager.
3. Complete Work as quickly and with as little delay as possible.

D. Operational functions of the facility that are required to be performed to facilitate the Work will be performed by facility personnel only.

E. Owner will cooperate in every way practicable to assist in expediting the Work.

F. When necessary for the proper operation or maintenance of portions of the facility, reschedule operations so the Work will not conflict with required operations or maintenance.

1.08 REGULATORY REQUIREMENTS

A. Dispose of debris in accordance with governing regulatory agencies.

B. Comply with applicable air pollution control regulations.
C. Obtain permits for building demolition, transportation of debris to disposal site and dust control.

1.09 PREPARATION

A. Non-destructive evaluation of existing concrete and masonry:
    1. Prior to cutting, drilling, coring, and/or any other procedure that penetrates existing concrete[or masonry], retain and pay for the services of a qualified non-destructive testing agency to perform investigations to determine the location of existing steel reinforcement, plumbing, conduit, and/or other embedment's in the concrete.
    2. Submit documentation of the investigations to the Engineer for review and approval as specified in Section 01300 - Submittal Procedures before any work involving penetration of existing concrete is initiated.

1.10 PROJECT CONDITIONS

A. Do not interfere with use of adjacent structures and elements of the facility not subject to the Work described in this Section. Maintain free and safe passage to and from such facilities.
B. Provide, erect, and maintain barricades, lighting, guardrails, and protective devices as required to protect building occupants, general public, workers, and adjoining property:
    1. Do not close or obstruct roadways without permits.
    2. Conduct operations with minimum interference to public or private roadways.
C. Prevent movement, settlement, or collapse of structures adjacent services, sidewalks, driveways and trees:
    1. Provide and place bracing or shoring.
    2. Cease operations and notify Engineer immediately when safety of structures appears to be endangered. Take precautions to properly support structure. Do not resume operations until safety is restored.
    3. Assume liability for movement, settlement, or collapse. Promptly repair damage.
D. Arrange and pay for capping and plugging utility services. Disconnect and stub off.
    1. Notify affected utility company in advance and obtain approval before starting demolition.
    2. Place markers to indicate location of disconnected services.
E. Unknown conditions:
    1. The drawings may not represent all conditions at the site and adjoining areas. Compare actual conditions with drawings before commencement of Work.
    2. Existing utilities and drainage systems below grade are located on the Drawings based on information from existing documents and from surface facilities such as manholes, valve boxes, area drains, and other surface fixtures.
    3. If existing active services encountered are not indicated or otherwise made known to the Contractor and interfere with the permanent facilities under construction, notify the Engineer in writing, requesting instructions on their disposition. Take immediate steps to ensure that the service provided is not interrupted, and do not proceed with the Work until written instructions are received from the Engineer.

PART 2 - PRODUCTS

2.01 SALVAGE MATERIALS

A. Salvage materials: Materials removed from existing facility.
B. Materials designated for salvage:
    1. Coordinate with KC Water Facilities Maintenance Supervisor

PART 3 - EXECUTION

3.01 EXAMINATIONS

A. Prior to beginning selective demolition operations, perform a thorough inspection of the facility and site, and report to the Architect RPR defects and structural damage to, or deterioration of existing construction to remain.
B. Examine areas affected by the Work and verify the following conditions prior to commencing demolition:
    1. Disconnection of utilities as required.
    2. That utilities serving occupied or active portions of surrounding facilities will not be disturbed, except as otherwise indicated.
C. If unsatisfactory conditions exist, notify the Engineer, and do not begin demolition operations until such conditions have been corrected.

3.02 PREPARATION

A. General:
    1. Review Section 01354 - Hazardous Material Procedures, before beginning selective alterations and demolition work.
B. Protection:
    1. Erect weatherproof closures to protect the interior of facilities and elements or equipment that are not designed for exposure to the weather. Provide temporary heat, cooling, and humidity control as necessary to prevent damage to existing and new construction. Maintain existing exiting paths and/or provide new paths in compliance with Building Code requirements.
    2. Erect and maintain dustproof partitions as required to prevent spread of dust, to other parts of building. Maintain negative pressure in the area where the Work is being performed to prevent the accidental spread of dust and to minimize the spread of fumes related to the Work.
    3. Upon completion of Work, remove weatherproof closures and dustproof partitions, and repair damaged surfaces to match adjacent surfaces.
    4. Provide and maintain protective devices to prevent injury from falling objects.
    5. Locate guardrails in stairwells and around open shafts to protect workers. Post clearly visible warning signs.
    6. Cause as little inconvenience to adjacent building areas as possible.
    7. Protect landscaping, benchmarks, and existing construction to remain from damage or displacement.
    8. Carefully remove designated materials and equipment to be salvaged by Owner or reinstalled.
    9. Store and protect materials and equipment to be reinstalled.
C. Layout:
    1. The limits of selective demolition are indicated on the Drawings. Confine demolition operations within the limits indicated on the Drawings.

2. Lay out demolition and removal work at the site and coordinate with related Work for which demolition and removal is required. Clearly mark the extent of structural elements to be removed on the actual surfaces that will be removed.
3. Arrange for Engineer's inspection of the lay out extents.
4. Do not begin demolition/removal operations until the lay out markings have been reviewed by the Engineer.

3.03 DEMOLITION

A. General:
    1. Perform demolition work in accordance with ANSI A10.6.
    2. Demolish designated portions of structures and appurtenances in orderly and careful manner in accordance with the Selective Demolition Plan.
    3. Conduct demolition and removal work in a manner that will minimize dust and flying particles.
        a. Use water or dust palliative when necessary to prevent airborne dust.
        b. Provide and maintain hoses and connections to water main or hydrant.
    4. Demolish concrete and masonry in small sections. Perform demolition with small tools as much as possible. Blasting with explosive charges is not permitted.
    5. Sawcut concrete to establish the edges of demolition, wherever possible.
        a. Do not use a concrete breaker within 6 inches of reinforcing or structural metals that are designated to remain.
        b. At edges that are not sawcut, remove the final 6 inches of material with a chipping hammer as defined herein. At surfaces where material is removed with a chipping hammer, follow with a heavy abrasive blast to remove all loose material and micro-cracking.
        c. Alternate techniques to remove concrete may be used if acceptable to the Architect RPR; however, techniques other than those deemed by ICRI Guideline No. 310.2R to provide a low risk of introducing micro-cracking will require a subsequent procedure to remove loose material.
        d. Provide final surface preparation for repairs as specified in Division 3 specifications.
    6. At locations indicated on the Drawings that the existing reinforcing is to be preserved, remove concrete using methods that do not damage the reinforcing. Use one of the following techniques:
        a. Hydro demolition techniques as outlined in ICRI Guideline No. 310.3R.
        b. Chipping hammer, as defined herein, followed by heavy abrasive blast to remove all loose material and micro-cracking at remaining surfaces impacted by the chipping hammer.
        c. Alternate methods may be used, only if acceptable to the Architect RPR.
        d. For all methods, provide a small, completed area for Architect RPR's review and acceptance. If the proposed method, in the opinion of the Architect RPR, damages the reinforcing, revise the removal method to remove the concrete with a less aggressive technique to protect the reinforcing.
    7. Remove materials carefully, to the extent indicated and as required.
        a. Provide neat and orderly junctions between existing and new materials.
        b. Use methods that terminate surfaces in straight lines at natural points of division.

8. Do not remove anything beyond the limits of Work indicated without prior written authorization of the Architect RPR. If in doubt about whether to remove an item, obtain written authorization of the Architect RPR prior to proceeding.
9. Perform work so as to provide the least interference and most protection to existing facilities to remain.
10. Assume possession of demolished materials, unless otherwise indicated on the Drawings or specified.
    a. Remove demolished materials from site at least weekly and dispose of in accordance with Laws and Regulations.
11. Do not burn materials on site.

B. Sizing of openings in existing concrete or masonry:
    1. Make openings large enough to permit final alignment of pipe and fittings without deflections, but without oversizing.
    2. Allow adequate space for packing around pipes and conduit to ensure water tightness.
    3. If the Architect RPR deems the opening to be insufficient in size to accomplish this criteria, remove additional material using the procedures outlined in this Section.

C. Cutting openings in existing concrete or masonry:
    1. Do not allow saw cuts to extend beyond limits of openings.
    2. Create openings by the following method or other means acceptable to the Architect RPR that prevents over-cutting of member at corners:
        a. Core-drill through slab or wall at corners, being careful not to damage materials beyond the area to be removed.
        b. Saw cut completely through the member, between the core holes at the corners.
        c. As an alternate to sawcutting through the member, score the edges of the opening with a saw to a 1-inch depth on both surfaces (when accessible).
            (1) Remove concrete or masonry to within 6 inches of material to remain with a concrete breaker.
            (2) Remove the remaining material with a chipping hammer.
        d. Remove the remaining material at the corners left by the core-drilling with a chipping hammer.
    3. Prevent debris from falling into adjacent tanks or channels in service or from damaging existing equipment and other facilities.

D. Pump out buried tanks. Remove tanks and service piping from site.

E. Immediately upon discovery, remove and dispose of contaminated, vermin-infested, or dangerous materials using safe means that will not endanger health of workers and public.

F. Remove trees and shrubs within marked areas; clear undergrowth and dead plant material as specified in Section 02300 - Earthwork.

G. Backfill open pits and holes caused by demolition as specified in Section 02300 - Earthwork.

H. Rough grade areas affected by demolition.

I. Remove demolished materials, tools, and equipment upon completion of demolition.

3.04 RESTORATION

A. General:
    1. Repair damage caused by demolition to conditions equal to those that existed prior to beginning of demolition.

a. Patch and replace portions of existing finished surfaces that are damaged, lifted, and discolored with matching material. Refinish patched portion surfaces in a manner which produces uniform color and texture to entire surface.
b. When existing finish cannot be matched, refinish entire surface to nearest change of plane where angle of change exceeds 45 degrees.

2. The cost of repairs shall be at the Contractor's expense, and no increase in the Contract Price.
3. When new construction abuts or finishes flush with existing construction, make smooth transitions. Match finish of existing construction.
4. Where partitions are removed, patch floors, walls, and ceilings with finish materials that match existing materials.
5. Where removal of partitions results in adjacent spaces becoming one, rework floors, walls, and ceilings to provide smooth planes without breaks, steps, or bulkheads.
6. Where changes of plane exceed 2 inches, request instructions for making transition.
7. Trim and refinish existing doors as necessary to clear new floors.
8. Match patched construction with adjacent construction in texture and appearance so that patch or transition is invisible at 5-foot distance.
9. When finished surfaces are cut so that smooth transition is impossible, terminate existing surface in neat manner along straight line at natural line of division and provide appropriate trim.

B. Restore existing concrete reinforcement as follows:
1. Where existing reinforcement is to be incorporated into the new Work, protect, clean, and extend into new concrete.
2. Where existing reinforcement is not to be retained, cut off as follows:
a. Where new concrete joins existing concrete at the removal line, cut reinforcement flush with concrete surface at the removal line.
b. Where concrete surface at the removal line will become the finished surface, cut reinforcement 2 inches below the surface, paint ends with epoxy, and patch holes with dry pack mortar.

C. Restore areas affected by removal of existing equipment, equipment pads and bases, piping, supports, electrical panels, electric devices, and conduits such that little or no evidence of the previous installation remains:
1. Fill areas in existing floors, walls, and ceilings from removed piping, conduit, and fasteners with non-shrink grout and finish smooth.
2. Remove concrete bases for equipment and supports by:
a. Saw cutting clean, straight lines with a depth equal to the concrete cover over reinforcement minus 1/2 inch below finished surface.
(1) Do not cut existing reinforcement on floors.
b. Chip concrete within scored lines and cut exposed reinforcing steel and anchor bolts.
c. Patch with non-shrink grout to match adjacent grade and finish.
3. Terminate abandoned piping and conduits with blind flanges, caps, or plugs.

3.05 FIELD QUALITY CONTROL

A. Do not proceed with demolition without Engineer's inspection of lay out.
B. Do not deviate from the submitted demolition plan without notifying the Architect RPR prior to Work.

End of Section

SECTION 01354 – HAZARDOUS MATERIAL PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes: Procedures required when encountering hazardous materials, including asbestos and lead-based paint (LBP), at the Work site.
B. Contractor shall identify all materials which may be considered hazardous as per the definitions provided below.
C. The City shall be responsible for all testing and abatement required.

1.02 REFERENCES

A. Occupational Safety and Health Administration (OSHA) United States Code of Federal Regulations (CFR) including, but not limited to:
    1. Title 29 - Labor:
        a. 1910 – Occupational Safety and Health Standards
            (1) 1910.1025 – Lead
            (2) 1910.1001 – Asbestos
            (3) 1910.1200 – Hazard Communication
        b. 1926 – Safety and Health Regulations for Construction
            (1) 1926.62 – Lead
            (2) 1926.1101 – Asbestos
            (3) 1926.65 – Hazardous waste operations and emergency response (HAZWOPER)
            (4) 1926.59 – Hazard Communication
B. United States Environmental Protection Agency (USEPA) including, but not limited to:
    1. Title 40 - Protection of Environment:
        a. Part 61, Subpart M – National Emission Standard for Asbestos
        b. Part 261 - Identification and Listing of Hazardous Waste
        c. Part 763 – Asbestos
C. Missouri Department of Natural Resources (MDNR):
    1. Revised Statutes of Missouri Title XL Additional Executive Departments
        a. Chapter 643 – Air Conservation
            (1) 225 – 265 – Asbestos Abatement and Asbestos Removal
D. Society for Protective Coatings (SSPC):
    1. SSPC Guide 6 (SSPC-6) – Guide for Containing Surface Preparation Debris Generated During Paint Removal Operations
    2. SSPC Guide 7 (SSPC-7) – Guide to Disposal of Lead-Contaminated Surface Preparation Debris
E. Existing KCMO WSD Reports (available upon request from WSD Project Manager):
    1. Asbestos Assessment, Birmingham Wastewater Treatment Plant, 10801 NE 28th Street, Kansas City, MO 64161, April 2002
    2. Asbestos Assessment, Birmingham Wastewater Treatment Plant, 10801 NE 28th Street, Kansas City, MO 64161, December 2006

1.03 SUBMITTALS - Not Applicable for this Project

A.

1.04 DEFINITIONS

A. Asbestos-Containing Material (ACM): Mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart. This term includes filters from control devices, friable asbestos waste material, and bags or other similar packaging contaminated with commercial asbestos. As applied to demolition and renovation operations, this term also includes regulated asbestos-containing material waste and materials contaminated with asbestos including disposable equipment and clothing.
B. Adequately Wet: Sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material (ACM), then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wetted.
C. Competent Person: A trained worker who is capable of identifying existing and predictable asbestos hazards, perform exposure assessment and monitoring, is qualified to train other workers, and has the authority to take immediate corrective action to eliminate a hazardous exposure.
D. Friable ACM (FACM): Any material containing more than 1 percent asbestos, that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.
E. Lead: As defined by 29 CFR 1926.62, lead means metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds.
F. Non-friable ACM (NACM): Any material containing more than 1 percent asbestos, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
    1. Category I NACM: Asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos.
    2. Category II NACM: Any material, excluding Category I NACM, containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
G. Regulated ACM (RACM): Any material that contains (a) FACM, (b) Category I non-NACM that has become friable, (c) Category I NACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II NACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations. Category II NACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder in the course of work.

1.05 HAZARDOUS MATERIALS PROCEDURES

A.
B. CONTRACTOR will assume responsibility for worker health and safety, including health and safety of subcontractors and their workers.
    1. Provide training to workers on recognition, reporting, and safety and health procedures required when hazardous materials are encountered, as relevant to the Work.
C. File requests for adjustments to Contract Times and Contract Price due to the finding of previously unidentified hazardous materials at the Work site in accordance with Contract Documents.

1. CONTRACTOR and subcontractors will minimize delays by continuing performance of the Work in areas not affected by hazardous materials operations.

1.06 LEAD-BASED PAINT REMOVAL AND DISPOSAL – Section Not Applicable to this Project

A.

1.07 ASBESTOS MATERIALS

A. It is the specific intent of these Contract Documents to exclude from the Work any and all new products or materials containing asbestos. No products containing asbestos shall be incorporated in the Work.
B. The Owner is not aware of any reports regarding potential ACM.

PART 2 - PRODUCTS

PART 3 – EXECUTION

3.01 ASBESTOS MATERIALS – Not Applicable to this Project

1.

End of Section

SECTION 01400 - QUALITY CONTROL

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Quality assurance - control of installation.

B. Reference and standards.

1.2 RELATED SECTIONS

A. Section 01300 - Submittals: Submission of manufactures' instructions and certificates.

1.3 QUALITY ASSURANCE - CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform Work by persons qualified to produce required and specified quality.

1.4 REFERENCES AND STANDARDS

A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by date of issue current on date for receiving bids, except where a specific date is established by code.

C. Obtain copies of standards where required by product specification sections.

D. Neither the contractual relationships, duties, nor responsibilities of the parties in Contract nor those of the Engineer shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that existing site conditions are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

B. Examine and verify specific conditions described in individual specification sections.

3.2 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

End of Section.

SECTION 01410 - REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Regulatory authorities and codes. Any costs associated with code compliance with the Kansas City, Missouri Codes Department are the responsibility of the CONTRACTOR.

1.02 AUTHORITIES HAVING JURISDICTION

A. City Planning and Development Department: City of Kansas City, Missouri.

1.03 APPLICABLE CODES

A. International Code Council (ICC).
   1. Building code:
      a. International Building Code (IBC) 2018.
         1) With City of Kansas City, Missouri amendments.
      b. International Existing Building Code (IEBC) 2018.
   2. With City of Kansas City, Missouri amendments Electrical code:
      a. National Fire Protection Association (NFPA), NFPA 70: National Electrical Code (NEC) 2017.
         1) With City of Kansas City, Missouri amendments.
   3. Energy code:
      a. International Energy Conservation Code (IECC) 2012.
         1) With City of Kansas City, Missouri amendments.
   4. Fire code:
      a. International Fire Code (IFC) 2018.
         1) With City of Kansas City, Missouri amendments.
   5. Fuel gas code:
      a. International Fuel Gas Code (IFGC) 2018.
         1) With City of Kansas City, Missouri amendments.
   6. Mechanical code:
      a. International Mechanical Code (IMC) 2018.
         1) With City of Kansas City, Missouri amendments.
   7. Plumbing code:
      a. Uniform Plumbing Code (UPC2018)
         1) With City of Kansas City, Missouri amendments.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

SECTION 01433 - MANUFACTURERS' FIELD SERVICES

PART 1 – GENERAL

1.01 SUMMARY

A. This Section includes procedural requirements for the field services for testing, startup, and training for the City of Kansas City Missouri.
B. The Contractor or Design-Builder shall furnish all labor, materials, equipment, and incidentals as necessary to comply with these requirements.

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract; including General and Supplementary Conditions, all applicable Division 1 Sections, and all applicable Division Sections; apply to this Section.
B. Related Sections include the following:
    1. Divisions 2 through 16 Sections for specific requirements for any field services and startup instructions of applicable products in those Sections.
    2. Section 01664 Training

1.03 DEFINITIONS

A. Person-day: One person for 8 hours within the City and the Contractor or Design-Builder's working hours. The eight (8) hours may be divided between phases of construction.

1.04 SUBMITTALS

A. Informational submittals:
    1. Training Schedule: Submit in accordance with requirements of this Specification not less than 30 days prior to start of equipment installation and revise as necessary for acceptance.

1.05 QUALIFICATIONS OF MANUFACTURER'S REPRESENTATIVE

A. Authorized representative of the manufacturer, factory trained, and experienced in the technical applications, installation, operation, and maintenance of respective equipment, subsystems, or system, with full authority by the equipment manufacturer to issue the certifications required of the manufacturer. Additional qualifications may be specified in the individual specification section.
B. Representative subject to acceptance by the City's Representative. No substitute representatives will be allowed unless prior written approval by such has been given. Owner has final approval.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 FULFILLMENT OF SPECIFIED MINIMUM SERVICES

A. Furnish manufacturers' services, when required by individual specification section, to meet requirements of this section.
B. Comply with the requirements in Division 1 Section 01757 "Commissioning".
C. Where time is necessary in excess of that stated in the Specifications for manufacturers' services, or when a minimum time is not specified, time required to perform specified services shall be considered incidental.
D. Contractor or Design-Builder shall schedule manufacturers' services to avoid conflict with other onsite testing in this project and other training of division personnel or manufacturers' onsite services.
E. Determine, before scheduling services, that conditions necessary to allow successful testing have been met.
F. Only those days of service approved by the City's Representative will be credited to fulfill specified minimum services.
G. Contractor or Design-Builder shall coordinate manufacturer field services with the systems integrator, so both are on-site during field services if desired by the City.
H. When specified in individual specification sections, manufacturer's onsite services shall include:

    1. Assistance during product (system, subsystem, or component) installation to include observation, guidance, instruction of Contractor or Design-Builder's assembly, erection, installation or application procedures.
    2. Inspection, checking, and adjustment as required for product (system, subsystem, or component) to function as warranted by manufacturer and necessary to furnish manufacturer's certificate of Proper Installation.
    3. Providing, on a daily basis, copies of manufacturers' representative's field notes and data to Owner.
    4. Revisiting the Site as required to correct problems and until installation and operation are acceptable to the Engineer of Record or City's Representative.
    5. Resolution of assembly or installation problems attributable to or associated with respective manufacturer's products and system.
    6. Assistance during functional and performance testing, commissioning, and system startup and evaluation.
    7. Training of Owner's personnel in the operation and maintenance of respective product as required.

3.02 MANUFACTURER'S CERTIFICATE OF COMPLIANCE

A. When so specified, a Manufacturer's Certificate of Compliance form, a copy of which is attached to this section, shall be completed in full, signed by an entity supplying the product, material, or service, and submitted prior to shipment of product or material or execution of the services.
B. City's Representative may permit use of certain materials or assemblies prior to sampling and testing if accompanied by accepted certification of compliance.
C. Such form shall certify proposed product, material, or service complies with that specified. Attach supporting reference data, affidavits, and certifications as appropriate.
D. May reflect recent or previous test results on material or product, if acceptable to the City's Representative.

3.03 MANUFACTURER'S CERTIFICATE OF PROPER INSTALLATION

A. When so specified, a Manufacturer's Certificate of Proper Installation form, a copy of which is attached to this section, shall be completed and signed by equipment manufacturer's representative.
B. Such form shall certify signing party is a duly authorized representative of manufacturer, is empowered by manufacturer to inspect, approve, and operate their equipment and is authorized to make recommendations required to ensure equipment is complete and operations.

3.04 TRAINING

A. Refer to Section 01664 Training for Training Requirements

3.05 SUPPLEMENTS

A. Supplements listed below, following "End of Section", are part of this Specification.
    1. Manufacturer's Certificate of Compliance Form
    2. Manufacturer's Certificate of Proper Installation Form

End of Section

MANUFACTURER'S CERTIFICATE OF COMPLIANCE FORM

OWNER: _____ PROJECT, MATERIAL OR SERVICE SUBMITTED:

_____

PROJECT NAME: _____ PROJECT NO. _____

COMMENTS:

_____

_____

_____

_____

I hereby certify that the above referenced product, material, or service called for by the Contract for the named Project will be furnished in accordance with the applicable requirements. I further certify that the product, material, or service are of the quality specified and conform in all respects with the Contract requirements and are in the quantity shown.

Date of Execution _____ ,20 ____

Manufacturer: _____

Manufacturer's Authorized Representative (print) _____

Manufacturer's Authorized Representative (Signature) _____

MANUFACTURER'S CERTIFICATE OF PROPER INSTALLATION FORM

OWNER			EQPT SERIAL NO.	
EQPT TAG NO.			EQPT/SYSTEM	
PROJECT NO.			SPEC. SECTION	

I hereby certify that the above referenced equipment/system has been:

(Check Applicable)

☐ Installed in accordance with Manufacturer's recommendations.

☐ Inspected, checked, and adjusted.

☐ Serviced with proper initial lubricants.

☐ Electrical and mechanical connections meet quality and safety standards.

☐ All applicable safety equipment has been properly installed.

☐ Functional tests.

☐ System has been performance tested, and meets or exceeds specified performance requirements.

(When complete system of one manufacturer)

COMMENTS:

I, the undersigned Manufacturer's Representative, hereby certify that I am (i) a duly authorized representative of the manufacturer, (ii) empowered by the manufacturer to inspect, approve, and operate their equipment, and (iii) authorized to make recommendations required to ensure equipment furnished by the manufacturer is complete and operational, except as may be otherwise indicated herein. I further certify that all information contained herein is true and accurate.

Date of Execution _____ ,20 ____

Manufacturer: _____

Manufacturer's Authorized Representative (print) _____

Manufacturer's Authorized Representative (Signature) _____

SECTION 01500 – TEMPORARY FACILITIES

PART 1 - GENERAL

1.01 SUMMARY

A. This specification covers the requirements for temporary construction facilities required on all projects.

1.02 SPECIFICATION MODIFICATIONS

A. It is understood that throughout this section these Specifications may be modified by appropriate items in Section 01015 – Specific Project Requirements or as otherwise indicated on the Contract Drawings.

1.03 RELATED SECTIONS

A. Section 01000 – General Project Requirements.
B. Section 01015 – Specific Project Requirements.
C. Section 01300 – Submittals.

1.04 CODES AND STANDARDS

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.
B. National Fire Protection Association:
   1. NFPA 10 - Standard for Portable Fire Extinguishers.
   2. NFPA 70 - National Electric Code.
   3. NFPA 241 - Standard for Safeguarding Construction, Alternation and Demolition Operations.

1.05 INFORMATION PROVIDED BY THE CITY

A. As provided in the Contract Documents.

1.06 SUBMITTALS

A. Submit as specified in Section 01300 – Submittals.

1.07 QUALITY ASSURANCE

A. The Contractor is responsible for the quality assurance and quality control of the Work.
B. Regulations – Comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including but not limited to:
   1. Building Code requirements.
   2. Health and safety regulations.
   3. Utility company regulations.
   4. Police, Fire Department and rescue squad rules.
C. Standards:
   1. Comply with NFPA 10 and 241 and ANSI A10 Series standards "Temporary Electrical Facilities."
   2. Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70.

D. Inspections – Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.01 OFFICE

A. Stationary Office – If required in Section 01015 - Specific Project Requirements, Contractor shall maintain a suitable stationary office at or near the Site during the performance of the Work.

B. Assigned Vehicle – For projects of a certain scale and duration, the City will allow the Contractor to use an assigned vehicle to serve as a mobile office at the site of the Work. See Section 01015 – Specific Project Requirements regarding the use of a vehicle in lieu of a stationary office.

C. The office shall serve as the headquarters of the Contractor's representative authorized to receive Contract Documents, instructions, other communication or articles associated with the Work.

D. Any communication given to the Contractor's representative or delivered to Contractor's office at the site of the Work shall be deemed to have been delivered to Contractor.

E. Copies of the Contract Documents shall be kept at the office and shall be available for use at all times.

3.02 FIELD OFFICE FOR RESIDENT PROJECT REPRESENTATIVE

A. See Section 01015 – Specific Project Requirements regarding the requirement of the Contractor to provide a field office for the Resident Project Representative.

3.03 TEMPORARY UTILITIES

A. Provide temporary utilities required for construction. Materials may be new or used, must be adequate for the required usage, not create unsafe conditions and not violate applicable codes and standards.

B. Power:
   1. All power for lighting, operations of the Contractor's plant/equipment or for any other use which may be required for proper completion of the Work shall be provided by the Contractor.
   2. Temporary heat and lighting shall be maintained until the Work is accepted.

C. Telephone/internet service:
   1. Contractor shall make all necessary arrangements and pay all installation and monthly charges for telephone/internet service for the temporary office at the site and shall provide all required devices for such service.

D. Sanitary Facilities:
   1. Contractor shall furnish temporary sanitary facilities at the site, as provided herein, for the needs of all construction workers and others performing work or furnishing services on the Project.
   2. Sanitary facilities shall be of reasonable capacity, properly maintained throughout the construction period and obscured from public view to the greatest

practical extent. If toilets of the chemically treated type are used, at least one toilet will be furnished for each 20 persons. Contractor shall enforce the use of such sanitary facilities by all personnel at the site.

3. Ventilate the units to control odors and fumes and empty and clean them at least once a week or more often if required by the City. The doors shall be self-closing. Locate the facility behind the construction fence or out of the public view.

3.04 SECURITY

A. See Section 01000 – General Project Requirements – SECURITY regarding the requirements for security.

3.05 PARKING

A. See Section 01000 – General Project Requirements – PARKING regarding the requirements for parking. Refer to General Conditions drawing.

END OF SECTION

SECTION 01566 – CLEANUP OPERATIONS

PART 1 - GENERAL

1.01 SUMMARY

A. The Contractor shall provide all material, labor and equipment necessary for cleanup operations. The Contractor shall maintain a neat and clean job site at all times.

1.02 SPECIFICATION MODIFICATIONS

A. It is understood that throughout this section these Specifications may be modified by appropriate items in Section 01015 – Specific Project Requirements or as otherwise indicated on the Contract Drawings.

1.03 RELATED SECTIONS

A. Section 00700 – General Conditions.
B. Section 01000 – General Project Requirements.
C. Section 01015 – Specific Project Requirements.
D. Section 02931 – Sodding.
E. Section 03000 – Miscellaneous Concrete.

1.04 CODES AND STANDARDS

A. Not used.

1.05 DEFINITIONS

A. Not used.

1.06 INFORMATION PROVIDED BY THE CITY

A. As provided in the Contract Documents.

1.07 SUBMITTALS

A. The Contractor shall submit as specified in Section 01300 – Submittals.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 SITE MAINTENANCE

A. Cleanup operations shall be conducted in accordance with Section 00700 General Conditions, Article 6 – Contractor's Responsibilities.

B. Adequate cleanup shall be a condition for the processing of the Contractor's monthly progress payment applications.

C. The Contractor shall, at all times, keep the premises from accumulations of excavated materials, waste materials and other debris resulting from the Work. Site maintenance shall include, but is not limited to, the following:
   1. The Contractor shall sweep streets daily to maintain the Site in a neat and clean condition.

2. Provide adequate trash receptacles on the Site and promptly empty when filled.
3. Conduct periodic cleanup of the Site to avoid hazards, interference with traffic or operations at the Site.
4. Keep construction materials such as pipe, forms and scaffolding neatly stacked.
5. Conduct immediate cleanup to protect the Work by removing splattered concrete, asphalt, oil, paint, corrosive liquids and cleaning solutions from all surfaces (linear construction) including walls, floors and metal surfaces (vertical construction) before the surfaces are marred.
6. Volatile wastes shall be properly stored in covered metal containers and removed from the Site daily.
7. Wastes shall not be buried on the site or disposed of into storm drains, sanitary sewers, streams or waterways. All wastes shall be removed from the site and disposed of in a manner complying with all local permits, ordinances and anti-pollution laws.
8. Overloading of trucks is prohibited to prevent spillages on all access and haul routes. The Contractor shall provide periodic inspection of traffic areas to enforce the requirements of this Section.
9. The Contractor shall prevent all excess material from washing into stream beds, storm water facilities, streets, culverts, etc.

D. All excavated material not incorporated into the Work shall be removed and disposed of by the Contractor so that the site will be left in equal or better condition than its original state.

E. Any deficiency in the quantity of material for filling depressions caused by settlement shall be supplied by the Contractor.

F. The Contractor shall remove all mobilized equipment, surplus materials, debris and temporary facilities from the site. The construction site shall be left in its original condition or better condition than before the Work commenced.

G. In addition, as directed by the City, the Contractor may be required to obtain a City approved release form, signed by the property owners affected by the Work.

3.02 DUST CONTROL

A. The Contractor shall take all reasonable measures to prevent unnecessary dust. Earth surfaces subject to dusting shall be kept moist with water or by the approved application of an approved chemical suppressant. When practical, dusty materials in piles or in transit shall be covered to prevent blowing.

B. The Contractor shall make provisions so that buildings or operating facilities that may be adversely affected by dust shall be adequately protected from dust. Existing or new machinery, motors, instrument panels or similar equipment shall be protected by suitable dust screens. Proper ventilation shall be included with dust screens.

C. Contractor shall maintain and keep all streets clean throughout the Work period. The Contractor shall perform street sweeping on a daily basis to remove dust and debris from paved areas within the Work site as well as on all access and haul routes.

3.03 CONCRETE WORK

A. See Section 03000 – Miscellaneous Concrete for additional requirements.

B. Three (3) working days after all subsurface work has been completed, the contractor shall initiate the following restoration work: seed and/or sod (depending on contract requirements and/or written agreements with property owners), replacing concrete sidewalks, curbs, gutters, driveways and other surfaces impacted by the Work.

C. Three (3) working days after the placement of concrete, the Contractor shall conduct cleanup operations related to the completed concrete work as follows:
   1. Removal of forms, backfilling of the form excavation and debris removal from streets, sidewalks and parkway areas shall be accomplished within three (3) working days after the concrete placement. The backfilled areas within one foot of new concrete shall not be compacted until the concrete has cured a minimum of five (5) days.
   2. Five (5) working days after the concrete is placed, the Contractor shall complete all joint caulking, pavement restoration, seeding and sodding. If construction is being performed during periods other than designated seeding and sodding seasons, all locations without turf cover shall be completed within ten (10) working days after the beginning of the next seeding and sodding season. Refer to Section 02930 – Seeding and Section 02931 - Sodding for additional requirements.
   3. If cleanup, backfilling, sodding, joint caulking or pavement restoration is not accomplished within the above limits, all tear-out and installation operations shall cease until these items are finished. Proceeding without these items being completed is at the sole discretion of the City.
   4. All excavated material shall be removed and disposed of by the Contractor so that the grounds will be left in equal or better condition than its original state. Any deficiency in the quantity of material for filling depressions caused by settlement shall be supplied by the Contractor.
   5. Surplus materials, equipment, tools, temporary facilities and structures shall be removed by the Contractor; all debris shall be hauled away by the Contractor and the construction site shall be left in equal or better condition than its original state. Payment of completed items on the Schedule of Values shall be subject to the completion of the cleanup operations.
   6. Tear-out and installation shall not begin if unfavorable conditions for concrete placement are forecast for the next day.
   7. All cleanup operations, as stated above, shall be completed five (5) working days after concrete placement.

D. Concrete Washout Facilities:
   1. The Contractor shall provide facilities for concrete washout to collect and retain all the concrete washout water and solids in leak proof containers.
   2. Lined wash pits or washout boxes are acceptable.
   3. Alternate methods for washout facilities may be considered by the City. The Contractor shall submit for review and approval, per Section 01300 – Submittals, the alternate methods and facilities to be used.
   4. The location of washout facilities shall be indicated on the Construction Site Plan (See Section 01000 – General Project Requirements, paragraph CONSTRUCTION SITE PLAN).

5. Concrete washout facilities shall be inspected daily and after heavy rains to check for leaks, identify any plastic linings or sidewalls that have been damaged by construction activities and determine whether they have been filled to over 75 percent capacity.
6. When the washout container is filled to over 75 percent of its capacity, the wash-water shall be vacuumed out or allowed to evaporate to avoid overflows. When the remaining cementitious solids have hardened, they shall be removed from the Site.
7. Damages to the washout container shall be repaired promptly.
8. Before heavy rains, the washout container's liquid level shall be lowered or the container shall be covered to avoid an overflow during the rain storm.
9. Washout facilities shall be removed from the Site upon completion of the Work and the area restored as specified herein.

END OF SECTION

SECTION 01570 - TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 – GENERAL

1.01 SUMMARY

A. The Contractor shall provide erosion and sediment control measures for all areas within and adjacent to the Project site. The Contractor shall assume that the work is to be done under the City's General Operating Permit (Permit No: MOR100006). The Contractor does not need to make separate application to the Missouri Department of Natural Resources (MDNR).

B. Specific erosion and sediment control measures are specified in APWA 5100 and Standard Erosion and Sediment Control (ESC) Drawings. These measures shall be implemented in order to control erosion and water pollution.

C. No separate payment shall be made for Erosion and Sediment Control. The Contractor shall include in the lump sum total bid price: all labor, material and equipment necessary to comply with this Section and all other Work indicated in the Contract Documents.

1.02 DESCRIPTION

A. The Contractor shall install and maintain temporary erosion and sediment control devices prior to commencing construction operations and continue through the construction period until such time as seeding and sodding has been completed and turf is established on all graded areas.

B. The Contractor shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) utilizing the latest version of the City's SWPPP template to develop the plan. The plan must include a narrative of the types and appropriate uses of Best Management Practices (BMPs) for erosion and sediment control and stormwater management. The requirements of the SWPPP must be as stringent as those described in the City's General Operating Permit (No: MOR100006) and 10 CSR 20-6.200. Additionally, the SWPPP must comply with the City of Kansas City's MS4 permit.

C. Failure to control erosion and water pollution will result in the Contractor being noncompliant. Any noncompliance constitutes grounds for the following enforcement actions. The Contractor shall have 24 hours after receiving a notice of noncompliance from the City's representative (i.e. Project Manager, Design Professional, Inspector/ Representative of the City) to correct the problem. If weather conditions prevent the correction of BMPs within 7 calendar days, the reasons for the delay must be documented (including pictures) and there must be a narrative explaining why the work cannot be accomplished within the 7 day time period. The documentation must be filed with the regular inspection reports. The Contractor shall correct the problem as soon as weather conditions allow. If the Contractor fails to correct the problem after the time prescribed, the City will hire a remediation expert to fix the problem. In such an event, the Contractor shall be liable to the City for the remediation costs plus a 10 percent mark-up of the total contract price. If the Contractor continues to be noncompliant, the Director (or an authorized agent thereof) may issue a stop work order and delay any payment until control measures are properly functioning and any damage has been mitigated. In such an event, any delay to the Project schedule will result in liquidated damages assessed against the Contractor.

1.03 SPECIFICATION MODIFICATIONS

A. It is understood that throughout this section, these Specifications may be modified by appropriate items in Section 01015 – Specific Project Requirements or as otherwise indicated on the Contract Drawings.

1.04 RELATED SECTIONS

A. Section 01000 – General Project Requirements.
B. Section 01015 – Specific Project Requirements.
C. Section 01300 – Submittals.
D. Section 02200 – Earthwork.
E. Section 02575 – Surface Restoration.
F. Section 02930 – Seeding.
G. Section 02931 – Sodding.

1.05 QUALITY ASSURANCE

A. The Contractor is responsible for the quality assurance and quality control of the Work. The Work shall be performed by a contractor with a proven record of performance for similar erosion and sedimentation control work.

1.06 INFORMATION PROVIDED BY THE CITY

A. As provided in the Contract Documents.

1.07 CONTRACTOR SUBMITTALS

A. The Contractor shall submit to the City/Design Professional for review and approval, in accordance with Section 01300 – Submittals, all specifications and data covering the proposed materials to be used for erosion and sedimentation control work.
B. The Contractor shall submit the following to the City/Design Professional for review and approval prior to the preconstruction conference:
    1. The Contractor shall prepare a Stormwater Pollution Prevention Plan (SWPPP) for Projects that disturb one or more acres of land or disturb less than one acre when part of a larger Project which will disturb one or more acres over the life of the Project.
    2. The SWPPP shall meet the requirements of this Section, applicable references on the plans, the City's adopted Erosion and Sediment Control Specifications (ESCS), and all sections of the APWA-KCMO specifications that reference erosion control requirements. The Contractor shall develop, implement, and adhere to the erosion control and stormwater pollution prevention plan based upon the City's guidelines and requirements.
    3. No work can begin until the SWPPP is approved by the City/Design Professional.
    4. The Contractor shall update and maintain the SWPPP as necessary to develop ongoing site-specific control measures until final acceptance of the Project.

PART 2 – PRODUCTS

B. Unless otherwise specified in Section 01015 – Specific Project Requirements, acceptable products for Inlet Protection include the following:
    1. Gutter Buddy, Dandy Curb® or approved equal.

PART 3 – EXECUTION

3.01 SAFETY

A. Perform all work in accordance with applicable Occupational Safety and Health Administration (OSHA) standards.

3.02 PERFORMANCE

A. City Projects are covered by a general NPDES permit maintained by the Water Services Department's Storm Water Division. The Permit imposes a number of obligations including, but not limited to, the following:

1. New Projects must be reported to the MDNR 90 days before the Project starts.
2. Each site must have and follow a written Storm Water Pollution Prevention Plan (SWPPP). Each site must be inspected weekly and following each rain event, for compliance with the SWPPP. Written inspection reports must be kept.
3. All personnel on site must be briefed on the requirements of the SWPPP.
4. A copy of the SWPPP must be on site at all times.
5. All deficient items shall be promptly corrected. In no case shall the correction period exceed two calendar days.
6. Quarterly reports must be filed by the City with MDNR identifying and giving the status and percent complete of each Project.
7. MDNR must be notified if hazardous substances or contaminated soil are discovered on site.

B. The Contractor shall follow the approved SWPPP, as well as all erosion control measures included in the Contract Documents and implement other BMP measures as directed by the City/Design Professional.

C. The Contractor shall prevent erosion during his operations until vegetation is re-established. The Contractor shall prepare erosion control plans and submit in writing to the City/Design Professional any proposed modifications to the plans. The proposed modifications shall describe materials that will be used and the tasks that will be performed to control runoff on the site.

D. Erosion control devices shall be in place before land is disturbed.

E. All earthen structures shall be seeded or sodded. See Section 02930 – Seeding or Section 02931 – Sodding for additional requirements.

F. Vegetation shall be established to provide adequate protection or develop other suitable means.

G. Sediment trapping devices shall been installed in the proper location prior to grading.

H. The Contractor shall establish perimeter sediment trapping measures that function properly.

I. The Contractor shall prevent sediment from leaving the site and/or from damaging adjacent property.

J. The Contractor shall prevent and or remove mud on public roads or at intersections with public roads that is related to the Project work being completed.

K. The Contractor shall provide a temporary construction entrance to reduce/eliminate the transport of mud from the construction site onto public right of ways.

L. The Contractor shall provide dust control measures for any graveled areas or exposed soil areas. See Section 01000 – General Project Requirements, paragraph DUST CONTROL for additional requirements.

M. The Contractor shall temporarily or permanently stabilize all areas with exposed soil. See Section 02930 – Seeding or Section 02931 – Sodding for additional requirements.

N. The Contractor shall adequately stabilize all finished cut and fill slopes.

O. All on-site drainage channels and outlets shall be adequately stabilized.

P. Route stream around work areas.

Q. Repair stream channel damages per the Contract Documents.

R. Provide stabilization or a temporary stream channel crossing where needed.

3.03 INSTALLATION

A. Methods, materials and maintenance shall be the sole responsibility of the Contractor. The Contractor and the City/Design Professional shall conduct weekly onsite inspections using the "Erosion and Sediment Control Checklist" provided by the Water Services Department. Remove any onsite pollutant sources (debris piles with petroleum cans, chemical containers, fueling trucks/tanks or other possible sources of pollution). Upon notification of a weather forecast with a reasonable likelihood of rain, or at the direction of the City/Design Professional, the Contractor shall construct temporary berms and install erosion control fencing as necessary to control the potential eroded sediment and prevent it from leaving the construction area. If the Contractor's construction operations are complete to the point where seeding or sodding is the major item at hand before final acceptance can be made, and seeding or sodding is out-of-season or disallowed by the City/Design Professional, the Contractor shall construct one of the following erosion control measures:

1. Incorporate the use of erosion control fencing immediately downstream of vulnerable areas that are susceptible to the formation of small streams. Maintain the erosion control devices until seeding or sodding season returns. Upon return of the sodding season, the area shall be re-graded to the lines and grades established in the Contract Drawings and sodded at the direction of the City/Design Professional. See Section 02930 – Seeding and Section 02931 – Sodding for additional requirements.
2. Terrace the ground with graded berms and incorporate the use of both temporary slope drains (See ESCS Section 10.03.4.3 and Section 02200 – Earthwork for additional requirements) and erosion control fencing (as specified in this Section). Maintain the erosion control devices until seeding or sodding season returns. Upon return of the seeding or sodding season, the area shall be re-graded to the lines and grades established in the Contract Drawings and seeded/sodded at the direction of the City/Design Professional. See Section 02930 – Seeding and Section 02931 – Sodding for additional requirements.
3. Fertilize, place seed or sod, and irrigate as directed by APWA-KCMO 2400. Maintain the erosion control devices until seeding or sodding season returns. Upon return of the seeding or sodding season the Contractor shall re-establish the grade and replace all dead seed or sod at the direction of the City/Design Professional. See Section 02930 – Seeding and Section 02931 – Sodding for additional requirements.

B. Silt fence shall be installed, inspected and maintained in accordance with APWA ESC–10.

C. Berms shall be constructed in accordance to APWA ESC–29:

1. Berms are required if the silt fence is not installed or properly maintained.
2. Inspection shall be frequent and repair or replacement shall be made promptly as needed.
3. Remove sediment deposits as necessary to provide adequate storage volume for the next rain.
4. The Contractor shall remove berms when they have served their usefulness.
5. Sediment trapped by this practice shall be uniformly distributed on the source area prior to seeding or sodding.

D. The Rock Check Dam shall be constructed, inspected and maintained in accordance to APWA ESC–15.

E. Inlet Protection. Work covered under this item consists of installing a Gutter Buddy, Dandy Curb® or equal inlet protection system for inlets and median barrier inlets without grates. The purpose is to keep silt, sediment and construction debris out of the storm system:

1. The inlet protection system shall be a sewn fabric unit enclosing a porous structure in the form of a cylindrical tube placed in front of and extending beyond the inlet opening on both sides.
2. Place inlet protection unit on the street with aggregate pouch near the inlet it will be installed to protect.
3. For oil and sediment, place absorbent in the sock tube.
4. Center the unit against curb or median inlet opening so that the curb side of the unit creates a seal with the curb or median barrier and inlet structure. There will be approximately twelve (12) inches of the inlet protection unit overhanging on each side of the opening. If the unit is not installed in this manner, it will not function properly.
5. The Contractor shall remove all accumulated sediment and debris from in front of the unit and from the street surface in the vicinity of every installed unit after each rain event or as directed by the City/Design Professional. Dispose of the unit at an appropriate recycling or solid waste facility when the unit is no longer being used.
6. Oil and sediment. Remove and replace absorbent when near saturation.

3.04 MAINTENANCE AND REPAIR

A. The Contractor is responsible for maintaining all erosion and sediment control measures until acceptance of the Project by the City.

B. Erosion control measures showing evidence of overtopping, breaks or erosion shall be repaired or replaced with suitable materials.

C. All storm sewer inlets shall be regularly maintained so that sediment will not enter the system.

D. Repair and clean-out all control measures that are not functioning properly.

E. Remove temporary measures that are no longer needed.

F. Seeded or sodded areas requiring maintenance (fertilizer, re-sodding, re-seeding or additional mulch and watering) shall be promptly addressed. See Section 02930 – Seeding and Section 02931 – Sodding for additional requirements.

3.05 WARRANTY

A. Seeding and sodding work shall have taken root and established satisfactory coverage before acceptance by the City. The Contractor shall maintain as described in paragraph 3.04 above and shall guarantee seeding and sodding for one (1) year after acceptance. The Contractor shall scarify, re-seed or re-sod, fertilize and mulch (seeded areas) any barren area greater than 1 square foot. See Section 02575 – Surface Restoration for requirements on early acceptance.

END OF SECTION

SECTION 01580 – PROJECT SIGNS

PART 1 - GENERAL

1.01 SUMMARY

A. Contractor shall provide all material, labor and equipment necessary for the fabrication, printing and installation of Project signs.

B. This section covers project sign requirements for all Kansas City, Missouri - Water Services Department projects. Project sign requirements include the following:
   1. Project identification sign description.
   2. Project sign installation.
   3. Maintenance and removal of Project sign.
   4. Printing of signs.
   5. Installation of signs.

1.02 SPECIFICATION MODIFICATIONS

A. It is understood that throughout this section these Specifications may be modified by appropriate items in Section 01015 – Specific Project Requirements or as otherwise indicated on the Drawings.

1.03 RELATED SECTIONS

A. Section 01015 – Specific Project Requirements.

B. Section 01300 – Submittals.

C. Section 01581 – Public Communications.

1.04 INFORMATION PROVIDED BY THE CITY

A. City shall provide the graphic design templates of the Project sign in an electronic format to be used in the printing process.

1.05 SUBMITTALS

A. Submit as specified in Section 01300 – Submittals.

B. Shop Drawings (not used).

C. Product Data (not used).

D. Samples.

E. Other:
   1. Project Sign Locations – submit for review and approval a map of the Project area of marked up Drawings showing the location and orientation of each project sign.
   2. Submit for review and approval notifications to homeowners and business adjacent to the location of the Project signs.
   3. Re-use of Placards – if the Contractor has salvaged placards from previous projects, they may be re-used if approved by the City. Submit color photographs that accurately show the condition of each placard to be re-used for review and approval.
   4. Notice of Removal – submit written notification to City that all Project signs have been removed.

PART 2 - PRODUCTS

2.01 PRINTERS

A. A list of printing companies that have previous experience with printing signs for the City are included in Section 01015 – Specific Project Requirements.

2.02 FRAME

A. Metal frame and hardware shall be in conformance with Water Services standard detail D-20142 – Installation Detail for Project Signs (see Figure 3).

2.03 PLACARDS

A. Upper Placard Size – 6 feet wide by 4 feet tall.
B. Lower Placard Size – 6 feet wide by 1 foot tall.
C. Material – Coroplast® corrugated plastic sheeting or approved equal.
D. Sheeting Thickness – ½ inch.
E. Sheeting Color – white.
F. Print Method – direct to Coroplast® with outdoor UV laminate coating.

2.04 PLACARD CONTENT

A. Construction Phase Upper Placard – for each Project sign the Contractor shall provide an upper placard which will be displayed through construction. An example of the Construction Phase Upper Placard is shown in Figure 1.
B. Post-Construction Phase Upper Placard – for each Project sign the Contractor shall provide an upper placard which will be displayed post construction. An example of the Construction Phase Upper Placard is shown in Figure 2.
C. Lower Placard – for each Project sign, the Contractor shall provide a lower placard. Examples of the Lower Placard are shown in Figures 1 and 2.
D. The City will provide digital files for all placards and graphic images.

2.05 NUMBER OF SIGNS TO BE PROVIDED

A. The number of project signs to be provided is defined in Section 01015 – Specific Project Requirements. Each Project sign includes the following:
   1. One (1) Construction Phase Upper Placard to be displayed during construction.
   2. One (1) Post-Construction Phase Upper Placard to be displayed after completion of the Work.
   3. One (1) Lower Placard to be displayed during construction and post-construction.
   4. Printing of placards.
B. Frame as shown in Water Services standard detail D-20142 – Installation Detail for Project Signs (see Figure 3).

PART 3 - EXECUTION

3.01 INSTALATION AND PLACEMENT OF SIGNS

A. Installation – Project signs shall be fabricated and installed in accordance with Water Services standard detail D-20142 – Installation Detail for Project Signs (see Figure 3).

B. Location – Project signs shall be located within the Site as defined by Section 00700 General Conditions. Project signs shall be erected in a conspicuous place but shall not interfere with the vision of pedestrian or vehicular traffic such as to create a hazard. Signs shall be located in the public right of way or in an easement acquired for the Project. Locations of the signs shall be coordinated with the City prior to installation and submitted accordance with paragraph 1.05 SUBMITTALS.
C. Notifications – the Contractor shall notify any homeowners or businesses adjacent to the location of the signs at least three (3) days prior to erecting signs.
D. Project sign(s) shall be erected not less than two (2) days before the start of construction activities. No construction activities are allowed until the Project signs are erected.
E. Project signs shall remain in place for the duration of the Project and shall be maintained in a true, plumb and neat condition.

3.02 REPLACEMENT OF UPPER PLACARDS

A. Upon completion of the Work and at the direction by the City, the Contactor shall remove the Construction Phase Upper Placard (Figure 1) on all Project signs and replace them with the Post-Construction Upper Placard (Figure 2).
B. The Lower Placards are to remain in place.

3.03 REMOVAL OF PROJECT SIGNS

A. All Project signs shall be maintained for thirty (30) calendar days after completion of the Work or as otherwise directed by the City.
B. Contractor shall remove all Project signs and restore the area disturbed by construction activities.
C. Project signs shall be removed from the Project areas and will become property of the Contractor.
D. The Contractor may dispose of Project signs or salvage and reuse them on future City projects. The City will assess the condition of the signs and determine the appropriateness of reuse.
E. Within three (3) days of the removal of signs, Contractor shall provide the City written notice that all Project signs have been removed from the Site.

Figure 1 – Example Construction Phase Upper Placard and Lower Placard

EXAMPLE
Obtain Graphic from City

Figure 2 – Example Post-Construction Phase Upper Placard and Lower Placard

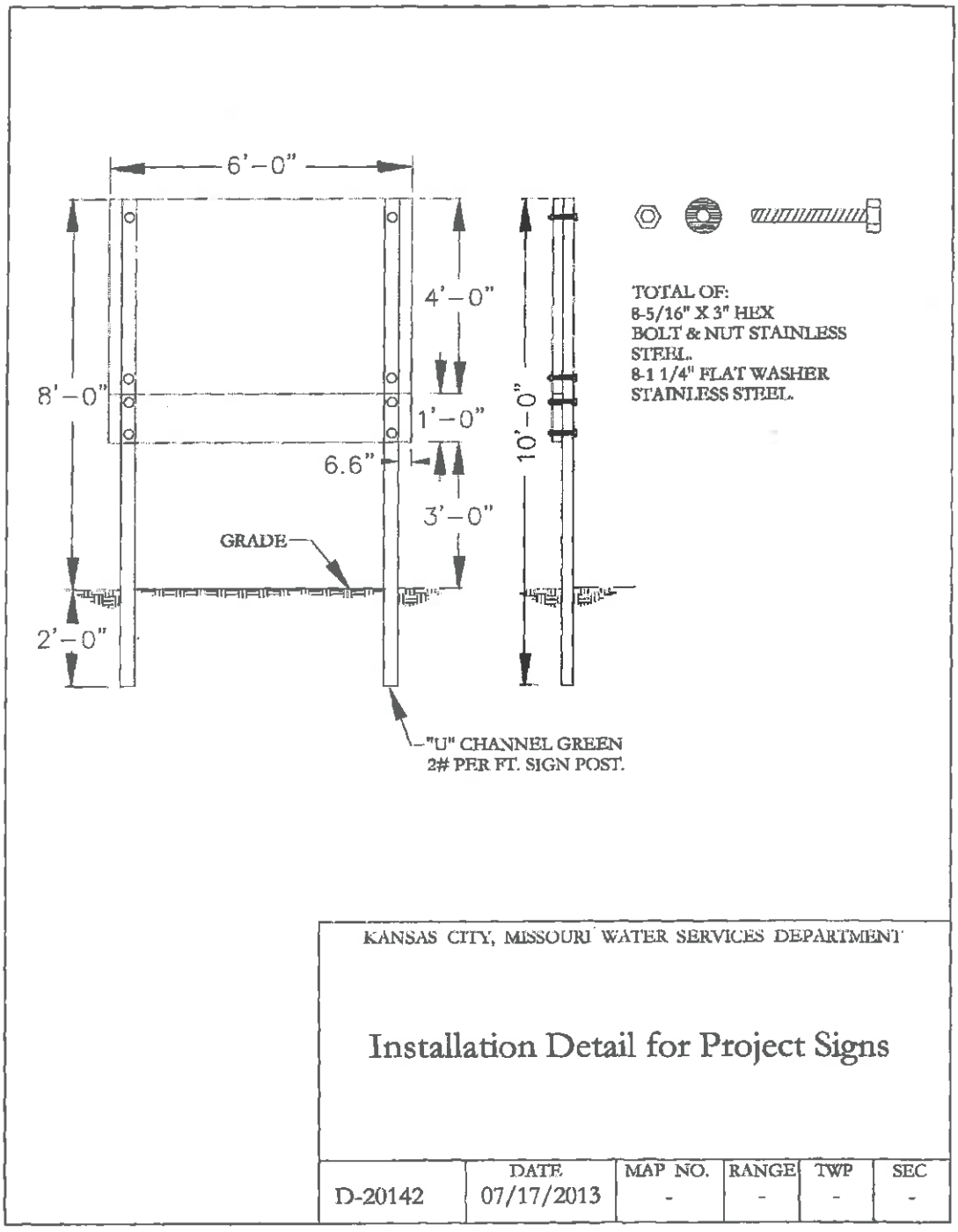

Figure 3 – Installation Detail for Project Signs

END OF SECTION

SECTION 01600 – PRODUCT DELIVERY STORAGE AND HANDLING

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes: Product requirements; product selection; product options and substitutions; quality assurance; shipping, delivery, handling, and storage; and instructions for spare parts, maintenance products, and special tools.

1.02 REFERENCES

A. American National Standards Institute (ANSI).
B. NSF International (NSF):
    1. 61 - Drinking Water System Components - Health Effects.
    2. 372 - Drinking Water System Components – Lead Content.

1.03 DEFINITIONS

A. Products: Inclusive of raw materials, finished goods, equipment, systems, and shop fabrications.
B. Special tools: Tools that have been specifically made for use on a product for assembly, disassembly, repair, or maintenance.

1.04 SUBMITTALS

A. As specified in Section 01330 - Submittal Procedures.
B. Calculations/certifications in accordance with NSF 61 and 372 for materials in contact with drinking water.

1.05 GENERAL REQUIREMENTS

A. Comply with Specifications and referenced standards as minimum requirements.
B. Provide products by same manufacturer when products are of similar nature, unless otherwise specified.
C. Provide like parts of duplicate units that are interchangeable.
D. Provide equipment that has not been in service prior to delivery, except as required by tests.
E. When necessary, modify manufacturer's standard product to conform to specified requirements or requirements indicated on the Drawings.

1.06 SUBSTITUTIONS

A. Formal substitution request procedure:
    1. Submit a written formal substitution request to Engineer for each proposed substitution within 30 days of effective date of Contract.
    2. Engineer will return initial opinion and request for additional information within 30 days.
    3. Engineer will notify Contractor in writing of decision to accept or reject the substitution request within 30 days of receiving required information.
B. Formal substitution request contents:
    1. Provide Substitution Request Form as specified in Section 01630 - Substitution Request Form.
    2. Manufacturer’s literature including:
        a. Manufacturer’s name and address.

b. Product name.
c. Product description.
d. Reference standards.
e. Certified performance and test data.
f. Operation and maintenance data.

3. Samples, if applicable.
4. Shop drawings, if applicable.
5. Reference projects where the product has been successfully used:
    a. Name and address of project.
    b. Year of installation.
    c. Year placed in operation.
    d. Name of product installed.
    e. Point of contact: Name and phone number.
6. Itemized comparison of the proposed substitution with product specified including a list of significant variations:
    a. Design features.
    b. Design dimensions.
    c. Installation requirements.
    d. Operations and maintenance requirements.
7. Define impacts:
    a. Impacts to construction schedule.
    b. Impacts to other contracts.
    c. Impacts to other work or products.
    d. Impact to Contract Sum:
        (1) Do not include costs under separate contracts.
        (2) Do not include Engineer's costs for redesign or revision of Contract Documents.
        (3) Required license fees or royalties.
    e. Availability of maintenance services and sources of replacement materials.
8. Contractor represents the following:
    a. Contractor shall pay associated costs for the Engineer to evaluate the substitution.
    b. Contractor bears the burden of proof of the equivalency of the proposed substitution.
    c. Proposed substitution does not change the design intent and will have equal performance to the specified product.
    d. Proposed substitution is equal or superior to the specified product.
    e. Contractor will provide the warranties or bonds that would be provided on the specified product on the proposed substitution, unless Owner requires a Special Warranty.
    f. Contractor will coordinate installation of accepted substitution into the Work and will be responsible for the costs to make changes as required to the Work.
    g. Contractor waives rights to claim additional costs caused by proposed substitution which may subsequently become apparent.

C. Substitutions will not be considered for acceptance under the following conditions:
    1. No formal substitution request is made.
    2. The substitution is simply implied or indicated on shop drawings or product data submittals.
    3. The formal substitution request is submitted by a subcontractor or supplier.

D. Substitution requests submitted after the deadline will not be considered unless the following evidence is submitted to the Engineer:
    1. Proof that the specified product is unavailable for reasons beyond the control of the Contractor.
        a. Reasons may include manufacturing discontinued, bankruptcy, labor strikes, or acts of God.
        b. Contractor placed or attempted to place orders for the specified products within 10 days after the effective date of the Agreement.
        c. The formal substitution request is submitted to Engineer within 10 days of the Contractor discovering the specified product cannot be obtained.
E. Engineer's decision on a substitution requests will be final and binding.
    1. Approved substitutions will be incorporated into the Contract Documents with a Change Order.
    2. Requests for time extensions and additional costs based on submission of, approval of, or rejection of substitutions will not be allowed.

PART 2 – PRODUCTS

2.01 GENERAL

A. Material requirements:
    1. Materials: Provide corrosion resistance suitable for project conditions as specified in Section 01810 - Project Design Criteria.
    2. Dissimilar metals: Separate contacting surfaces with dielectric material.
B. Edge grinding:
    1. Sharp projections of cut or sheared edges of ferrous metals which are not to be welded shall be ground to a radius required to ensure satisfactory paint adherence.

2.02 PRODUCTS IN CONTACT WITH DRINKING WATER

A. Materials in contact with drinking waters: In accordance with NSF 61 and NSF 372.
    1. Certification by an independent ANSI accredited third party, including, but not limited to, NSF International, as being lead free.

2.03 PRODUCT SELECTION

A. When products are specified by standard or specification designations of technical societies, organizations, or associations only, provide products that meet or exceed reference standard and Specifications.
B. When products are specified with names of manufacturers but no model numbers or catalog designations, provide:
    1. Products by one of named manufacturers that meet or exceed Specifications.
    2. Engineer deemed "or equal" evidenced by an approved shop drawing or other written communication.
C. When products are specified with names of manufacturers and model numbers or catalog designations, provide:
    1. Products with model numbers or catalog designations by one of named manufacturers.

2. Engineer deemed "or equal" evidenced by an approved shop drawing or other written communication.

D. When products are specified with names of manufacturers, but with brand or trade names, model numbers, or catalog designations by one manufacturer only, provide:
    1. Products specified by brand or trade name, model number, or catalog designation.
    2. Products by one of named manufacturers proven, in accordance with requirements for an "or equal", to meet or exceed quality, appearance and performance of specified brand or trade name, model number, or catalog designation.
    3. Engineer deemed "or equal" evidenced by an approved shop drawing or other written communication.
E. When Products are specified with only one manufacturer followed by "or Equal," provide:
    1. Products meeting or exceeding Specifications by specified manufacturer.
    2. Engineer deemed "or equal" evidenced by an approved shop drawing or other written communication.

2.04 SHIPMENT

A. Mandatory requirements prior to shipment of equipment:
    1. Engineer approved shop drawings.
    2. Engineer approved Manufacturer’s Certificate of Source Testing as specified in Section 01757 - Commissioning, when required by specifications.
    3. Draft operations and maintenance manuals, as specified in Section 01783 - O&M Manuals, when required by specifications.
B. Prepare products for shipment by:
    1. Tagging or marking products to agree with delivery schedule or shop drawings.
    2. Including complete packing lists and bills of material with each shipment.
    3. Packaging products to facilitate handling and protection against damage during transit, handling, and storage.
    4. Securely attach special instructions for proper field handling, storage, and installation to each piece of equipment before packaging and shipment.
C. Transport products by methods that avoid product damage.
D. Deliver products in undamaged condition in manufacturer's unopened containers or packaging.

2.05 SPARE PARTS, MAINTENANCE PRODUCTS, AND SPECIAL TOOLS

A. Provide spare parts and maintenance products as required by Specifications.
B. Provide one set of special tools required to install or service the equipment.
C. Box, tag, and clearly mark items.
D. Contractor is responsible for spare parts, maintenance products, and special tools until acceptance by Owner.
E. Store spare parts, maintenance products, and special tools in enclosed, weatherproof, and lighted facility during the construction period.
    1. Protect parts subject to deterioration, such as ferrous metal items and electrical components with appropriate lubricants, desiccants, or hermetic sealing.
F. Provide spare parts and special tools inventory list, see Appendix A:
    1. Equipment tag number.
    2. Equipment manufacturer.
    3. Subassembly component, if appropriate.

4. Quantity.
5. Storage location.

G. Store large items individually:
    1. Weight: Greater than 50 pounds.
    2. Size: Greater than 24 inches wide by 18 inches high by 36 inches long.
    3. Clearly labeled:
        a. Equipment tag number.
        b. Equipment manufacturer.
        c. Subassembly component, if appropriate.

H. Store in spare parts box smaller items:
    1. Weight: Less than 50 pounds.
    2. Size: Less than 24 inches wide by 18 inches high by 36 inches long.
    3. Clearly labeled:
        a. Equipment tag number.
        b. Equipment manufacturer.
        c. Subassembly component, if appropriate.

I. Spare parts and special tools box:
    1. Wooden box:
        a. Size: 24 inches wide by 18 inches high by 36 inches long.
    2. Hinged wooden cover:
        a. Strap type hinges.
        b. Locking hasp.
        c. Spare parts inventory list taped to underside of cover.
    3. Coating: As specified in Section 09960 - High-Performance Coatings.
    4. Clearly labeled:
        a. The words “Spare Parts and/or Special Tools”.
        b. Equipment tag number.
        c. Equipment manufacturer.

PART 3 – EXECUTION

3.01 DELIVERY AND HANDLING

A. Handle equipment in accordance with manufacturer's instructions.
B. Provide equipment and personnel to handle products by methods to prevent soiling or damage.
C. Upon delivery, promptly inspect shipments:
    1. Verify compliance with Contract Documents, correct quantities, and undamaged condition of products.
    2. Acceptance of shipment does not constitute final acceptance of equipment.

3.02 STORAGE AND PROTECTION

A. Immediately store and protect products and materials until installed in Work.
B. Store products with seals and legible labels intact.
C. Maintain products within temperature and humidity ranges required or recommended by manufacturer.
D. Protect painted surfaces against impact, abrasion, discoloration, and other damage.
    1. Repaint damaged painted surfaces.
E. Exterior storage of fabricated products:

1. Place on aboveground supports that allow for drainage.
2. Cover products subject to deterioration with impervious sheet covering.
3. Provide ventilation to prevent condensation under covering.

F. Store moisture sensitive products in watertight enclosures.

G. Furnish covered, weather-protected storage structures providing a clean, dry, noncorrosive environment for mechanical equipment, valves, architectural items, electrical and instrumentation equipment and special equipment to be incorporated into this project.
1. Storage of equipment shall be in strict accordance with the “instructions for storage” of each equipment supplier and manufacturer including connection of heaters, placing of storage lubricants in equipment, etc.
2. The Contractor shall furnish a copy of the manufacturer’s instructions for storage to the Engineer prior to storage of all equipment and materials.
3. Pumps, motors, electrical equipment, and all equipment with antifriction or sleeve bearings shall be stored in weathertight structures maintained at a temperature above 60°F. Electrical equipment, controls, and insulation shall be protected against moisture and water damage. All space heaters furnished in equipment shall be connected and operated continuously.

H. Unless otherwise instructed by or required by the equipment manufacturer:
1. Equipment having moving parts, such as gears, bearings, and seals, shall be stored fully lubricated with oil, grease, etc.
2. Equipment having moving parts shall be rotated a minimum of twice a month to ensure proper lubrication and to avoid metal to metal "welding".

I. Store loose granular materials on solid surfaces in well-drained area.
1. Prevent materials mixing with foreign matter.
2. Provide access for inspection.

J. Payment will not be made for equipment and materials improperly stored or stored without providing Engineer with the manufacturer's instructions for storage.

K. Provide an Equipment Log including, as a minimum, the equipment identification, date stored, date of inspection/maintenance, date removed from storage, copy of manufacturer’s recommended storage guidelines, description of inspection/maintenance activities performed, and signature of party performing inspection/maintenance.

3.03 PROTECTION AFTER INSTALLATION

A. Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations.
1. Remove covering when no longer needed.
2. Replace corroded, damaged, or deteriorated equipment and parts before acceptance of the project.

B. Update Equipment Log on a monthly basis with description of maintenance activities performed in accordance with the manufacturer’s recommendation and industry standards and signature of party performing maintenance.

C. Upon installation of the equipment, Contractor shall, at the discretion of Engineer, start the equipment at one-half load for an adequate period of time to ensure that the equipment does not deteriorate from lack of use.

D. Unless otherwise instructed by or required by the equipment manufacturer, lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. New lubricants shall be put into the equipment by Contractor at the time of acceptance.

3.04 QUALITY ASSURANCE

A. Employ entities that meet or exceed specified qualifications to execute the Work.
B. Verify project conditions are satisfactory before executing subsequent portions of the Work.

3.05 COMMISSIONING

A. As specified in Section 01757 - Commissioning.

3.06 CLOSEOUT ACTIVITIES

A. Owner may request advanced delivery of spare parts, maintenance products, and special tools.
    1. Deduct the delivered items from the inventory list and provide transmittal documentation.
B. Immediately prior to the date of Substantial Completion, arrange to deliver spare parts, maintenance products, and special tools to Owner at a location on site chosen by the Owner.
    1. Provide itemized list of spare parts and special tools that matches the identification tag attached to each item.
    2. Owner and Engineer will review the inventory and the itemized list to confirm it is complete and in good condition prior to signing for acceptance.

3.07 ATTACHMENTS

A. Appendix A - Spare Parts, Maintenance Products, and Special Tools Inventory List.

END OF SECTION

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

SUBSTITUTION REQUEST

To: _____ Authorization Number: _____
_____ From: _____
Re: _____ Date: _____
_____ Contract For: _____

Specification Title: _____
Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____
Manufacturer: _____ Address: _____ Phone No. _____
Trade Name: _____ Model No. _____
Installer: _____ Address: _____ Phone No. _____
History: ❑ New Product ❑ 2-5 years old ❑ 5-10 years old ❑ More than 10 years old
Differences between proposed substitution and specified product: _____
_____
_____
❑ Point-by-point comparative data attached – REQUIRED

Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance, service, and availability of replacement parts, as applicable, are available.
- Proposed substitution will not affect or delay Progress Schedule, except as stated below.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances, except as stated below.
- Payment will be made for changes to building design, including architectural or engineering design, detailing, licenses, royalties, and construction costs caused by the requested substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be completed in all respects.

Reason for not providing specified item: _____
_____
_____
_____

Similar Installation:
Project: _____ Design Professional: _____
Address: _____ Owner: _____
_____ Date Installed: _____
Proposed substitution affects other parts of Work: ❑ No ❑ Yes; explain _____
_____
_____
Savings to Owner for accepting substitution: _____
Proposed substitution changes Contract Time: ❑ No ❑ Yes; add/deduct _____ days.

Supporting Data Attached:
❑ Product Data ❑ Drawings ❑ Tests ❑ Reports ❑ Samples ❑ _____
Attachments: _____

Submitted by: _____
Signature: _____
Firm: _____
Address: _____

Telephone: _____ Fax: _____ E-Mail: _____

Additional Comments: ❑ Contractor ❑ Subcontractor ❑ Supplier ❑ Manufacturer ❑ DP ❑ _____

DESIGN PROFESSIONAL'S REVIEW AND ACTION

- ❑ Substitution approved – Make submittals in accordance with Specification Section 01300.
- ❑ Substitution approved as noted – Make submittals in accordance with Specification Section 01300.
- ❑ Substitution rejected – Use specified materials.
- ❑ Substitution Request received too late – Use specified materials.

Signed by: _____ Date: _____

Distribution:
- ❑ Owner
- ❑ Design Professional
- ❑ Contractor
- ❑ Consultant
- ❑ Construction Manager
- ❑ Other

SECTION 01810 – PROJECT DESIGN CRITERIA

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes and pertains if included in scope of work:
    1. Criteria for use in selection of equipment and appurtenances specified in subsequent Sections of these Specifications, or on the Drawings.
    2. Criteria for design of tanks and other equipment fabricated off site and shipped to the Work site for installation.
    3. Criteria for use in design of anchors for connecting process, mechanical and electrical equipment, and appurtenances to supporting structures.
B. The criteria included in this Section are general criteria that apply throughout the Work unless more restrictive or more stringent criteria are indicated on the Drawings or in technical Specifications. See Drawings and Specifications for additional criteria relevant to specific locations, materials and equipment.

1.02 REFERENCES

A. All City required codes and ordinances
B. American Society of Civil Engineers (ASCE):
    1. 1. 7-10 - Minimum Design Loads for Buildings and Other Structures (ASCE 7).
C. ASHRAE, Incorporated (ASHRAE).
D. International Code Council (ICC):
    1. International Plumbing Code (IPC).
E. Sheet Metal and Air Conditioning Contractor's National Association (SMACNA):
    1. Seismic Restraint Manual: Guidelines for Mechanical Systems, 3rd edition - 2008.

1.03 SUBMITTALS

A. Design of supports and anchorage for structures:
    1. Shop drawings and calculations:
        a. Complete shop drawings and calculations.
        b. Calculations shall be signed and sealed by an engineer licensed in the State of Missouri.
    2. Seismic design calculations:
B. Where seismic design calculations are specified in this Specification, such requirements will be waived for structures or equipment determined to be in Seismic Design Categories A or B.
C. 3. Wind design calculations:
        a. Where wind design calculations are specified in this Specification, such requirements will be waived for structures or equipment located inside other structures.

1.04 PROJECT DESIGN CRITERIA – SITE INFORMATION

A. Location:
    1. Address: 4800 East 63rd St. Kansas City, MO. 64130

1.05 PROJECT DESIGN CRITERIA – REGULATORY REQUIREMENTS

A. Code requirements of authorities having jurisdiction over the project are included in Section 01410 - Regulatory Requirements.

1.06 PROJECT DESIGN CRITERIA – OPERATING ENVIRONMENT

A. Where applicable, equipment and materials for the Work shall be suitable for performance in ~~a~~ the building where the project is located.
    1. See technical specifications for each type of equipment for additional requirements.
B. Climate data for site:
    1. Energy Code Climate Zone: 4A (IECC 2012).
    2. Local data:
        a. Location: Kansas City, Missouri, Kansas City International Airport.
            (1) Data coordinates: Latitude 39.30 N; Longitude 94.71 W.
        b. Prevailing winds: 12 miles per hour.
        c. Temperatures - Outdoor: As specified in Table 1:

Table 1: Design Temperatures - Outdoor	
Condition	**Criteria**
Winter	2.4 degrees Fahrenheit dry-bulb at ASHRAE 99.6 percent.
Summer	110.5 degrees Fahrenheit dry-bulb / 76.5 degrees Fahrenheit mean coincident wet-bulb at ASHRAE 99.6 percent.
	Daily mean range: 20.4 degrees Fahrenheit.
Mean of annual extremes	Maximum: 100 degrees Fahrenheit dry-bulb.
	Minimum: minus 3.9 degrees Fahrenheit dry-bulb.

        d. Temperatures - Indoor: As specified in Table 2

Table 2: Design Temperatures - Indoor		
	Summer (degrees Fahrenheit)	**Winter (degrees Fahrenheit)**
Process and process equipment areas:		
• Unless otherwise noted.	10 degrees above ambient	55
• Corridors.	10 degrees above ambient	55

• Electrical, Control, and Mechanical (HVAC equipment) rooms.	85	55
Non-process areas:		
• Offices, conference rooms, vestibules, kitchen, restrooms. • Control room, wet analysis room. • PLC, instrument shop, instrument storage, electrical/com room.	75	70
• Mechanical (HVAC equipment) rooms.	75	70
• Conditioned Parts Storage Room.	75	70
• Maintenance bays, oil and tool storage, laundry, janitors closets.	10 degrees above ambient	55

3. Outdoor conditions - other:
    a. Humidity: 43.4 to 83.5 percent (NOAA 2002).
    b. Freeze-thaw conditions: 90-100 frost days per year.
4. Indoor conditions - other:
    a. Moisture conditions: As defined in individual equipment sections.

C. Rainfall design criteria:
1. Reference: 2015 IPC.
    a. 3.6 inches per hour (100-year, 1-hour storm).

1.07 PROJECT DESIGN CRITERIA – STRUCTURAL

A. General Design Criteria:

American Society of Civil Engineers (ASCE) 7-16, Minimum Design Loads for Buildings and Other Structures.
IBC.
OSHA and all applicable state and local codes.
Concrete:
ACI 301-16, Specifications for Structural Concrete.
ACI 318-14, Building Code Requirements and Commentary for Reinforced Concrete.
ACI 350-06, Environmental Engineering Concrete Structures.
ACI 350.5-12, Specifications for Environmental Concrete Structures.
ACI 350.3-06, Seismic Design of Liquid-Containing Concrete Structures.
Masonry:
ACI 530-13, Building Code Requirements and Commentary for Masonry Structures.
ACI 530.1-13, Specifications for Masonry Structures.
Steel:
American Institute of Steel Construction (AISC) 360-16, Specifications for Structural Steel Buildings.
AISC 341-16, Seismic Provisions for Structural Steel Buildings.
American Welding Society (AWS) D1.1-15, Structural Welding Code – Steel.
Aluminum:
Aluminum Association Design Manual 2015.
AWS D1.2-14, Structural Welding Code – Aluminum.

American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section VIII, Pressure Vessels

B. The following references and professional organizations/institutions have published industry design guidelines that are to be used in the design as applicable.

ASTM.
American National Standards Institute (ANSI).
ACI: ACI 543R-12, Guide to Design, Manufacture, and Installation of Concrete Piles.
Concrete Reinforcing Steel Institute (CRSI) Handbook.

AISC, 15th Edition.
AWS:
- ANSI/AWS D1.1, Structural Welding Code, (AWS).

PART 2 - PRODUCTS

2.01 GENERAL

A. Equipment and materials for the project shall be suitable for the following conditions:
    1. Specific conditions listed in the relevant sections of the Contract Documents for the equipment and products under consideration.
B. Anchoring and fastening: See the following Sections for materials and installation requirements:
    1. Adhesive bonded all thread rods in concrete: Section 03055 - Adhesive Bonded Reinforcing Bars and All-Thread Rods in Concrete.
    2. Adhesive bonded all thread rods in masonry: Section 04055 - Adhesive Bonded Reinforcing Bars and All-Thread Rods in Masonry.
    3. Anchor bolts and post-installed anchors for fastening to concrete and masonry: Section 05190 - Mechanical Anchoring and Fastening to Concrete and Masonry

PART 3 – EXECUTION

3.01 GENERAL

A. Design in accordance with the requirements of the building code as specified in Section 01410 - Regulatory Requirements and the references and project-specific design criteria listed in this Section.
B. In the event of conflicts between design criteria, the more restrictive or severe shall govern.

3.02 DESIGN OF SUPPORTS AND ANCHORAGE FOR EQUIPMENT AND TANKS – NOT USED

End of Section

SECTION 051200 - STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Structural steel.
2. Prefabricated building columns.
3. Field-installed shear connectors.
4. Grout.

B. Related Requirements:

1. Section 051213 "Architecturally Exposed Structural Steel Framing" for additional requirements for architecturally exposed structural steel.
2. Section 053100 "Steel Decking" for field installation of shear connectors through deck.
3. Section 055000 "Metal Fabrications" for steel lintels and shelf angles not attached to structural-steel frame miscellaneous steel fabrications and other steel items not defined as structural steel.
4. Section 099113 "Exterior Painting" and Section 099123 "Interior Painting" and Section 099600 "High-Performance Coatings" for surface-preparation and priming requirements.

1.3 DEFINITIONS

A. Structural Steel: Elements of the structural frame indicated on Drawings and as described in AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

B. Seismic-Load-Resisting System: Elements of structural-steel frame designated as "SLRS" or along grid lines designated as "SLRS" on Drawings, including columns, beams, and braces and their connections.

C. Heavy Sections: Rolled and built-up sections as follows:

1. Shapes included in ASTM A 6/A 6M with flanges thicker than 1-1/2 inches (38 mm).
2. Welded built-up members with plates thicker than 2 inches (50 mm).
3. Column base plates thicker than 2 inches (50 mm).

D. Protected Zone: Structural members or portions of structural members indicated as "Protected Zone" on Drawings. Connections of structural and nonstructural elements to protected zones are limited.

1.4 COORDINATION

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Show fabrication of structural-steel components.

1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
2. Include embedment Drawings.
3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical, high-strength bolted connections.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer, fabricator, shop-painting applicators, professional engineer, and testing agency.

B. Welding certificates.

C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

D. Mill test reports for structural steel, including chemical and physical properties.

E. Product Test Reports: For the following:

1. Bolts, nuts, and washers including mechanical properties and chemical analysis.
2. Direct-tension indicators.
3. Tension-control, high-strength, bolt-nut-washer assemblies.
4. Shear stud connectors.
5. Shop primers.
6. Nonshrink grout.

F. Survey of existing conditions.

G. Source quality-control reports.

H. Field quality-control and special inspection reports.

1.8 QUALITY ASSURANCE

A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD.

B. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category ACSE.

C. Shop-Painting Applicators: Qualified according to AISC's Sophisticated Paint Endorsement P3 or to SSPC-QP 3, "Standard Procedure for Evaluating Qualifications of Shop Painting Applicators."

D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1. Welders and welding operators performing work on bottom-flange, demand-critical welds shall pass the supplemental welder qualification testing, as required by AWS D1.8/D1.8M. FCAW-S and FCAW-G shall be considered separate processes for welding personnel qualification.

E. Comply with applicable provisions of the following specifications and documents:

1. AISC 303.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.

1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.

1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
2. Clean and relubricate bolts and nuts that become dry or rusty before use.
3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 1852 fasteners and for retesting fasteners after lubrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Connections: Provide details of simple shear connections required by the Contract Documents to be selected or completed by structural-steel fabricator, including comprehensive engineering

analysis by a qualified professional engineer, to withstand loads indicated and comply with other information and restrictions indicated.

1. Select and complete connections using schematic details indicated and AISC 360.
2. Use Allowable Stress Design; data are given at service-load level.

2.2 STRUCTURAL-STEEL MATERIALS

A. W-Shapes: ASTM A 992/A 992M

B. Channels, Angles, M, S-Shapes: ASTM A 36/A 36M.

C. Plate and Bar: ASTM A 36/A 36M.

D. Cold-Formed Hollow Structural Sections: ASTM A 500/A 500M, Grade B structural tubing.

E. Steel Pipe: ASTM A 53/A 53M, Type E or Type S, Grade B.

F. Steel Castings: ASTM A 216/A 216M, Grade WCB with supplementary requirement S11.

G. Steel Forgings: ASTM A 668/A 668M.

H. Welding Electrodes: Comply with AWS requirements.

2.3 BOLTS, CONNECTORS, AND ANCHORS

A. High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C, (ASTM A 563M, Class 8S) heavy-hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel washers; all with plain finish.

1. Direct-Tension Indicators: ASTM F 959, Type 325 (ASTM F 959M, Type 8.8), compressible-washer type with plain finish.

B. High-Strength Bolts, Nuts, and Washers: ASTM A 490 (ASTM A 490M), Type 1, heavy-hex steel structural bolts or tension-control, bolt-nut-washer assemblies with splined ends; ASTM A 563, Grade DH, (ASTM A 563M, Class 10S) heavy-hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel washers with plain finish.

1. Direct-Tension Indicators: ASTM F 959, Type 490 (ASTM F 959M, Type 10.9), compressible-washer type with plain finish.

C. Zinc-Coated High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade DH (ASTM A 563M, Class 10S) heavy-hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel washers.

1. Finish: Hot-dip zinc coating.
2. Direct-Tension Indicators: ASTM F 959, Type 325 (ASTM F 959M, Type 8.8), compressible-washer type with mechanically deposited zinc coating finish.

D. Tension-Control, High-Strength Bolt-Nut-Washer Assemblies: ASTM F 1852, Type 1, heavy-hex or round head assemblies consisting of steel structural bolts with splined ends, heavy-hex carbon-steel nuts, and hardened carbon-steel washers.

1. Finish: Plain or Mechanically deposited zinc coating.

E. Shear Connectors: ASTM A 108, Grades 1015 through 1020, headed-stud type, cold-finished carbon steel; AWS D1.1/D1.1M, Type B.

F. Unheaded Anchor Rods: ASTM F 1554, Grade 36 or ASTM F 1554, Grade 55, weldable.

1. Configuration: Straight.
2. Nuts: ASTM A 563 (ASTM A 563M) heavy-hex carbon steel.
3. Plate Washers: ASTM A 36/A 36M carbon steel.
4. Washers: ASTM F 436 (ASTM F 436M), Type 1, hardened carbon steel.
5. Finish: Plain or Hot-dip zinc coating, ASTM A 153/A 153M, Class C to match steel being connected.

G. Headed Anchor Rods: ASTM F 1554, Grade 36 or ASTM F 1554, Grade 55, weldable, straight.

1. Nuts: ASTM A 563 (ASTM A 563M) heavy-hex carbon steel.
2. Plate Washers: ASTM A 36/A 36M carbon steel.
3. Washers: ASTM F 436 (ASTM F 436M), Type 1, hardened carbon steel.
4. Finish: Plain or Hot-dip zinc coating, ASTM A 153/A 153M, Class C to match steel being connected.

H. Threaded Rods: ASTM A 36/A 36M.

1. Nuts: ASTM A 563 (ASTM A 563M) heavy-hex carbon steel.
2. Washers: ASTM F 436 (ASTM F 436M), Type 1, hardened carbon steel.
3. Finish: Plain or Hot-dip zinc coating, ASTM A 153/A 153M, Class C to match steel being connected.

I. Clevises and Turnbuckles: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1035.

J. Eye Bolts and Nuts: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1030.

2.4 GROUT

A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107/C 1107M, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

2.5 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC 303, "Code of Standard Practice for Steel Buildings and Bridges," and to AISC 360.

1. Camber structural-steel members where indicated.
2. Fabricate beams with rolling camber up.

3. Identify high-strength structural steel according to ASTM A 6/A 6M and maintain markings until structural steel has been erected.
4. Mark and match-mark materials for field assembly.
5. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.

B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.

1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.

C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.

D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.

E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 3, "Power Tool Cleaning."

F. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer's written instructions.

G. Steel Wall-Opening Framing: Select true and straight members for fabricating steel wall-opening framing to be attached to structural-steel frame. Straighten as required to provide uniform, square, and true members in completed wall framing. Build up welded framing, weld exposed joints continuously, and grind smooth.

H. Welded Door Frames: Build up welded door frames attached to structural-steel frame. Weld exposed joints continuously and grind smooth. Plug-weld fixed steel bar stops to frames. Secure removable stops to frames with countersunk machine screws, uniformly spaced not more than 10 inches (250 mm) o.c. unless otherwise indicated.

I. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel members.

1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
2. Baseplate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.6 SHOP CONNECTIONS

A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

1. Joint Type: Snug tightened unless otherwise noted.

B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

1. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.

2.7 SHOP PRIMING

A. Shop prime steel surfaces except the following:

1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches (50 mm).
2. Surfaces to be field welded.
3. Surfaces of high-strength bolted, slip-critical connections.
4. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).
5. Galvanized surfaces.
6. Surfaces enclosed in interior construction.

B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:
1. SSPC-SP 3, "Power Tool Cleaning."

C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils (0.038 mm). Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.

1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
2. Apply two coats of shop paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.

D. Painting: Prepare steel and apply a one-coat, nonasphaltic primer complying with SSPC-PS Guide 7.00, "Painting System Guide 7.00: Guide for Selecting One-Coat Shop Painting Systems," to provide a dry film thickness of not less than 1.5 mils (0.038 mm).

2.8 GALVANIZING

A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/A 123M.

1. Fill vent and drain holes that are exposed in the finished Work unless they function as weep holes, by plugging with zinc solder and filing off smooth.
2. Galvanize lintels, shelf angles, and welded door frames attached to structural-steel frame and located in exterior walls.

2.9 SOURCE QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform shop tests and inspections.

1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.

B. Bolted Connections: Inspect shop-bolted connections according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

C. Welded Connections: Visually inspect shop-welded connections according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:

1. Liquid Penetrant Inspection: ASTM E 165.
2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
3. Ultrasonic Inspection: ASTM E 164.
4. Radiographic Inspection: ASTM E 94.

D. In addition to visual inspection, test and inspect shop-welded shear connectors according to requirements in AWS D1.1/D1.1M for stud welding and as follows:

1. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
2. Conduct tests according to requirements in AWS D1.1/D1.1M on additional shear connectors if weld fracture occurs on shear connectors already tested.

E. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify, with certified steel erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.

1. Prepare a certified survey of existing conditions. Include bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.

1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

3.3 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.

B. Baseplates, Bearing Plates, and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.

1. Set plates for structural members on wedges, shims, or setting nuts as required.
2. Weld plate washers to top of baseplate.

3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

C. Maintain erection tolerances of structural steel within AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that are in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Level and plumb individual members of structure.
2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.

E. Splice members only where indicated.

F. Do not use thermal cutting during erection.

G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

H. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer's written instructions.

3.4 FIELD CONNECTIONS

A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

1. Joint Type: Snug tightened unless otherwise noted.

B. Weld Connections: Comply with AWS D1.1/D1.1M and AWS D1.8/D1.8M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
2. Remove backing bars or runoff tabs where indicated, back gouge, and grind steel smooth.
3. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in AISC 303, "Code of Standard Practice for Steel Buildings and Bridges," for mill material.

3.5 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:

1. Verify structural-steel materials and inspect steel frame joint details.
2. Verify weld materials and inspect welds.
3. Verify connection materials and inspect high-strength bolted connections.

B. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

C. Bolted Connections: Inspect and test bolted connections according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

D. Welded Connections: Visually inspect field welds according to AWS D1.1/D1.1M.

1. In addition to visual inspection, test and inspect field welds according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:

a. Liquid Penetrant Inspection: ASTM E 165.
b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
c. Ultrasonic Inspection: ASTM E 164.
d. Radiographic Inspection: ASTM E 94.

E. In addition to visual inspection, test and inspect field-welded shear connectors according to requirements in AWS D1.1/D1.1M for stud welding and as follows:

1. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.

3.6 REPAIRS AND PROTECTION

A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780/A 780M.

B. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.

C. Touchup Painting: Cleaning and touchup painting are specified in Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."

D. Touchup Priming: Cleaning and touchup priming are specified in Section 099600 "High-Performance Coatings."

END OF SECTION 051200

SECTION 054000 - COLD-FORMED METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Load-bearing wall framing.
2. Exterior non-load-bearing wall framing.
3. Interior non-load-bearing wall framing exceeding height limitations of standard, nonstructural metal framing.
4. Floor joist framing.
5. Roof rafter framing.
6. Ceiling joist framing.
7. Soffit framing.

B. Related Requirements:

1. Section 055000 "Metal Fabrications" for miscellaneous steel shapes, masonry shelf angles, and connections used with cold-formed metal framing.
2. Section 092116.23 "Gypsum Board Shaft Wall Assemblies" for interior non-load-bearing, metal-stud-framed, shaft-wall assemblies, with height limitations.
3. Section 092216 "Non-Structural Metal Framing" for standard, interior non-load-bearing, metal-stud framing, with height limitations and ceiling-suspension assemblies.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:

1. Include layout, spacings, sizes, thicknesses, and types of cold-formed steel framing; fabrication; and fastening and anchorage details, including mechanical fasteners.
2. Indicate reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.

C. Delegated-Design Submittal: For cold-formed steel framing.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For testing agency.

B. Welding certificates.

C. Product Certificates: For each type of code-compliance certification for studs and tracks.

D. Product Test Reports: For each listed product, for tests performed by a qualified testing agency.

1. Steel sheet.
2. Expansion anchors.
3. Power-actuated anchors.
4. Mechanical fasteners.
5. Vertical deflection clips.
6. Horizontal drift deflection clips
7. Miscellaneous structural clips and accessories.

E. Evaluation Reports: For nonstandard cold-formed steel framing post-installed anchors and power-actuated fasteners, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.

B. Product Tests: Mill certificates or data from a qualified independent testing agency**,** or in-house testing with calibrated test equipment, indicating steel sheet complies with requirements, including base-metal thickness, yield strength, tensile strength, total elongation, chemical requirements, and metallic-coating thickness.

C. Code-Compliance Certification of Studs and Tracks: Provide documentation that framing members are certified according to the product-certification program of the Certified Steel Stud Association, the Steel Framing Industry Association, or the Steel Stud Manufacturers Association.

D. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
2. AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel."

E. Comply with AISI S230 "Standard for Cold-Formed Steel Framing - Prescriptive Method for One and Two Family Dwellings."

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. ClarkDietrich.

2. Steel Structural Systems.
3. The Steel Network, Inc.

2.2 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design cold-formed steel framing.

B. Structural Performance: Provide cold-formed steel framing capable of withstanding design loads within limits and under conditions indicated.

1. Design Loads: As indicated on Drawings.
2. Deflection Limits: Design framing systems to withstand design loads without deflections greater than the following:

    a. Exterior Load-Bearing Wall Framing: Horizontal deflection of 1/360 of the wall height.
    b. Interior Load-Bearing Wall Framing: Horizontal deflection of 1/360 of the wall height under a horizontal load of 5 lbf/sq. ft. (239 Pa).
    c. Exterior Non-Load-Bearing Framing: Horizontal deflection of 1/360 of the wall height.
    d. Interior Non-Load-Bearing Framing: Horizontal deflection of 1/360 of the wall height under a horizontal load of 5 lbf/sq. ft. (239 Pa).
    e. Roof Rafter Framing: Vertical deflection of 1/360 of the horizontally projected span for live loads.
    f. Ceiling Joist Framing: Vertical deflection of 1/360 of the span for live loads and 1/240 for total loads of the span.

3. Design framing systems to provide for movement of framing members located outside the insulated building envelope without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subject to a maximum ambient temperature change of 120 deg F (67 deg C).
4. Design framing system to maintain clearances at openings, to allow for construction tolerances, and to accommodate live load deflection of primary building structure as follows:

    a. Upward and downward movement of **1/2 inch (13 mm).**

5. Design exterior non-load-bearing wall framing to accommodate horizontal deflection without regard for contribution of sheathing materials.

C. Cold-Formed Steel Framing Standards: Unless more stringent requirements are indicated, framing shall comply with AISI S100, AISI S200, and the following:

1. Floor and Roof Systems: AISI S210.
2. Wall Studs: AISI S211.
3. Headers: AISI S212.
4. Lateral Design: AISI S213.

D. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency acceptable to authorities having jurisdiction.

2.3 COLD-FORMED STEEL FRAMING MATERIALS

A. Steel Sheet: ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of grade and coating designation as follows:

1. Grade: As required by structural performance.
2. Coating: **G60 (Z180)**, **A60 (ZF180)**, **AZ50 (AZM150)**, **or GF30 (ZGF90)**.

B. Steel Sheet for Vertical Deflection Clips: ASTM A 653/A 653M, structural steel, zinc coated, of grade and coating as follows:

1. Grade: As required by structural performance.
2. Coating: **G60 (Z180)**.

2.4 LOAD-BEARING WALL FRAMING

A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: **0.0538 inch (1.37 mm).**
2. Flange Width: **2 inches (51 mm)**.

B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with straight flanges, and as follows:

1. Minimum Base-Metal Thickness: Matching steel studs.
2. Flange Width: **1-1/4 inches (32 mm)**

C. Steel Box or Back-to-Back Headers: Manufacturer's standard C-shapes used to form header beams, of web depths indicated, unpunched, with stiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: 0.1017 inch.
2. Flange Width: **2 inches (51 mm)**.

2.5 EXTERIOR NON-LOAD-BEARING WALL FRAMING

A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: **0.0428 inch (1.09 mm)**.
2. Flange Width: **1-3/8 inches (35 mm)**.

B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: **0.0428 inch (1.09 mm)**.
2. Flange Width: **1-1/4 inches (32 mm).**

C. Vertical Deflection Clips: Manufacturer's standard [**bypass**] [**head**] clips, capable of accommodating upward and downward vertical displacement of primary structure through positive mechanical attachment to stud web.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. ClarkDietrich.
    b. Simpson Strong-Tie Co., Inc.
    c. Steel Construction Systems.

D. Single Deflection Track: Manufacturer's single, deep-leg, U-shaped steel track; unpunched, with unstiffened flanges, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal loads and transfer them to the primary structure, and as follows:

1. Minimum Base-Metal Thickness: **0.0538 inch (1.37 mm)**.
2. Flange Width: **1 inch (25 mm) plus the design gap for one-story structures**.

E. Drift Clips: Manufacturer's standard bypass or head clips, capable of isolating wall stud from upward and downward vertical displacement and lateral drift of primary structure through positive mechanical attachment to stud web and structure.

2.6 INTERIOR NON-LOAD-BEARING WALL FRAMING

A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: **0.0538 inch (1.37 mm)**.
2. Flange Width: **1-3/8 inches (35 mm)**.

B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: **0.0428 inch (1.09 mm).**
2. Flange Width: **1-1/4 inches (32 mm**.

C. Vertical Deflection Clips: Manufacturer's standard bypass or head clips, capable of accommodating upward and downward vertical displacement of primary structure through positive mechanical attachment to stud web.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. ClarkDietrich.
    b. SCAFCO Steel Stud Company.
    c. Simpson Strong-Tie Co., Inc.

D. Single Deflection Track: Manufacturer's single, deep-leg, U-shaped steel track; unpunched, with unstiffened flanges, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal loads and transfer them to the primary structure, and as follows:

1. Minimum Base-Metal Thickness: **0.0428 inch (1.09 mm)**.
2. Flange Width: **1 inch (25 mm)** plus the design gap for one-story structures.

E. Drift Clips: Manufacturer's standard bypass or head clips, capable of isolating wall stud from upward and downward vertical displacement and lateral drift of primary structure through positive mechanical attachment to stud web and structure.

2.7 FRAMING ACCESSORIES

A. Fabricate steel-framing accessories from ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated steel sheet, of same grade and coating designation used for framing members.

B. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated, as follows:

1. Supplementary framing.
2. Bracing, bridging, and solid blocking.
3. Web stiffeners.
4. Anchor clips.
5. End clips.
6. Foundation clips.
7. Gusset plates.
8. Stud kickers and knee braces.
9. Joist hangers and end closures.
10. Hole-reinforcing plates.
11. Backer plates.

2.8 ANCHORS, CLIPS, AND FASTENERS

A. Steel Shapes and Clips: ASTM A 36/A 36M, zinc coated by hot-dip process according to ASTM A 123/A 123M.

B. Anchor Bolts: ASTM F 1554, Grade 36, threaded carbon-steel**,** carbon-steel nuts, and flat, hardened-steel washers; zinc coated by hot-dip process according to ASTM A 153/A 153M, Class C.

C. Post-Installed Anchors: Fastener systems with bolts of same basic metal as fastened metal, if visible, unless otherwise indicated; with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01 as appropriate for the substrate.

1. Uses: Securing cold-formed steel framing to structure.
2. Type: Torque-controlled expansion anchor, Torque-controlled adhesive anchor, or adhesive anchor.
3. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, unless otherwise indicated.
4. Material for Exterior or Interior Locations and Where Stainless Steel Is Indicated: Alloy Group **1 (A1)** stainless-steel bolts, ASTM F 593 (ASTM F 738M), and nuts, ASTM F 594 (ASTM F 836M).

D. Power-Actuated Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

E. Mechanical Fasteners: ASTM C 1513, corrosion-resistant-coated, self-drilling, self-tapping, steel drill screws.

1. Head Type: Low-profile head beneath sheathing; manufacturer's standard elsewhere.

F. Welding Electrodes: Comply with AWS standards.

2.9 MISCELLANEOUS MATERIALS

A. Galvanizing Repair Paint: ASTM A 780/A 780M.

B. Cement Grout: Portland cement, ASTM C 150/C 150M, Type I; and clean, natural sand, ASTM C 404. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.

C. Nonmetallic, Nonshrink Grout: Factory-packaged, nonmetallic, noncorrosive, nonstaining grout, complying with ASTM C 1107/C 1107M, and with a fluid consistency and 30-minute working time.

D. Shims: Load-bearing, high-density, multimonomer, nonleaching plastic; or cold-formed steel of same grade and metallic coating as framing members supported by shims.

E. Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch (6 mm) thick, selected from manufacturer's standard widths to match width of bottom track or rim track members as required.

2.10 FABRICATION

A. Fabricate cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened, according to referenced AISI's specifications and standards, manufacturer's written instructions, and requirements in this Section.

1. Fabricate framing assemblies using jigs or templates.
2. Cut framing members by sawing or shearing; do not torch cut.
3. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, pneumatic pin fastening, or riveting as standard with fabricator. Wire tying of framing members is not permitted.

    a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
    b. Locate mechanical fasteners and install according to Shop Drawings, with screws penetrating joined members by no fewer than three exposed screw threads.

4. Fasten other materials to cold-formed steel framing by welding, bolting, pneumatic pin fastening, or screw fastening, according to Shop Drawings.

B. Reinforce, stiffen, and brace framing assemblies to withstand handling, delivery, and erection stresses. Lift fabricated assemblies by means that prevent damage or permanent distortion.

C. Tolerances: Fabricate assemblies level, plumb, and true to line to a maximum allowable variation of 1/8 inch in 10 feet (1:960) and as follows:

1. Spacing: Space individual framing members no more than plus or minus 1/8 inch (3 mm) from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.
2. Squareness: Fabricate each cold-formed steel framing assembly to a maximum out-of-square tolerance of 1/8 inch (3 mm).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, conditions, and abutting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Before sprayed fire-resistive materials are applied, attach continuous angles, supplementary framing, or tracks to structural members indicated to receive sprayed fire-resistive materials.

B. After applying sprayed fire-resistive materials, remove only as much of these materials as needed to complete installation of cold-formed framing without reducing thickness of fire-resistive materials below that required to obtain fire-resistance ratings indicated. Protect remaining fire-resistive materials from damage.

C. Install load-bearing shims or grout between the underside of load-bearing wall bottom track and the top of foundation wall or slab at locations with a gap larger than 1/4 inch (6 mm) to ensure a uniform bearing surface on supporting concrete or masonry construction.

D. Install sealer gaskets at the underside of wall bottom track or rim track and at the top of foundation wall or slab at stud or joist locations.

3.3 INSTALLATION, GENERAL

A. Cold-formed steel framing may be shop or field fabricated for installation, or it may be field assembled.

B. Install cold-formed steel framing according to AISI S200, AISI S202, and manufacturer's written instructions unless more stringent requirements are indicated.

C. Install shop- or field-fabricated, cold-formed framing and securely anchor to supporting structure.

1. Screw, bolt, or weld wall panels at horizontal and vertical junctures to produce flush, even, true-to-line joints with maximum variation in plane and true position between fabricated panels not exceeding 1/16 inch (1.6 mm).

D. Install cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened.

1. Cut framing members by sawing or shearing; do not torch cut.

2. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, or riveting. Wire tying of framing members is not permitted.

    a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
    b. Locate mechanical fasteners, install according to Shop Drawings, and comply with requirements for spacing, edge distances, and screw penetration.

E. Install framing members in one-piece lengths unless splice connections are indicated for track or tension members.

F. Install temporary bracing and supports to secure framing and support loads equal to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.

G. Do not bridge building expansion joints with cold-formed steel framing. Independently frame both sides of joints.

H. Install insulation, specified in Section 072100 "Thermal Insulation," in framing-assembly members, such as headers, sills, boxed joists, and multiple studs at openings, that are inaccessible on completion of framing work.

I. Fasten hole-reinforcing plate over web penetrations that exceed size of manufacturer's approved or standard punched openings.

3.4 LOAD-BEARING WALL INSTALLATION

A. Install continuous top and bottom tracks sized to match studs. Align tracks accurately and securely anchor at corners and ends, and at spacings as follows:

    1. Anchor Spacing: **As shown on Shop Drawings**.

B. Squarely seat studs against top and bottom tracks, with gap not exceeding 1/8 inch (3 mm) between the end of wall-framing member and the web of track. Fasten both flanges of studs to top and bottom tracks. Space studs as follows:

    1. Stud Spacing: **16 inches (406 mm)**.

C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar configurations.

D. Align studs vertically where floor framing interrupts wall-framing continuity. Where studs cannot be aligned, continuously reinforce track to transfer loads.

E. Align floor and roof framing over studs according to AISI S200, Section C1. Where framing cannot be aligned, continuously reinforce track to transfer loads.

F. Anchor studs abutting structural columns or walls, including masonry walls, to supporting structure.

G. Install headers over wall openings wider than stud spacing. Locate headers above openings. Fabricate headers of compound shapes indicated or required to transfer load to supporting studs, complete with clip-angle connectors, web stiffeners, or gusset plates.

1. Frame wall openings with not less than a double stud at each jamb of frame. Fasten jamb members together to uniformly distribute loads.
2. Install tracks and jack studs above and below wall openings. Anchor tracks to jamb studs with clip angles or by welding, and space jack studs same as full-height wall studs.

H. Install supplementary framing, blocking, and bracing in stud framing indicated to support fixtures, equipment, services, casework, heavy trim, furnishings, and similar work requiring attachment to framing.

1. If type of supplementary support is not indicated, comply with stud manufacturer's written recommendations and industry standards in each case, considering weight or load resulting from item supported.

I. Install horizontal bridging in stud system, spaced vertically as indicated on Shop Drawings. Fasten at each stud intersection.

1. Channel Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs with a minimum of two screws into each flange of the clip angle for framing members up to 6 inches (150 mm) deep.
2. Strap Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges, and secure solid blocking to stud webs or flanges.
3. Bar Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.

J. Install steel sheet diagonal bracing straps to both stud flanges; terminate at and fasten to reinforced top and bottom tracks. Fasten clip-angle connectors to multiple studs at ends of bracing and anchor to structure.

K. Install miscellaneous framing and connections, including supplementary framing, web stiffeners, clip angles, continuous angles, anchors, and fasteners, to provide a complete and stable wall-framing system.

3.5 EXTERIOR NON-LOAD-BEARING WALL INSTALLATION

A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure.

B. Fasten both flanges of studs to top and bottom track unless otherwise indicated. Space studs as follows:

1. Stud Spacing: **16 inches (406 mm)**.

C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.

D. Isolate non-load-bearing steel framing from building structure to prevent transfer of vertical loads while providing lateral support.

1. Install single deep-leg deflection tracks and anchor to building structure.
2. Install double deep-leg deflection tracks and anchor outer track to building structure.
3. Connect vertical deflection clips to bypassing studs and anchor to building structure.
4. Connect drift clips to cold-formed steel framing and anchor to building structure.

E. Install horizontal bridging in wall studs, spaced vertically in rows indicated on Shop Drawings but not more than 48 inches (1220 mm) apart. Fasten at each stud intersection.

1. Channel Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs.
2. Strap Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
3. Bar Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.

F. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, and fasteners, to provide a complete and stable wall-framing system.

3.6 INTERIOR NON-LOAD-BEARING WALL INSTALLATION

A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure.

B. Fasten both flanges of studs to top and bottom track unless otherwise indicated. Space studs as follows:

1. Stud Spacing: **16 inches (406 mm)**.

C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.

D. Isolate non-load-bearing steel framing from building structure to prevent transfer of vertical loads while providing lateral support.

1. Install single deep-leg deflection tracks and anchor to building structure.
2. Install double deep-leg deflection tracks and anchor outer track to building structure.
3. Connect vertical deflection clips to studs and anchor to building structure.
4. Connect drift clips to cold-formed steel metal framing and anchor to building structure.

E. Install horizontal bridging in wall studs, spaced vertically in rows indicated on Shop Drawings but not more than 48 inches (1220 mm) apart. Fasten at each stud intersection.

1. Channel Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs.
2. Strap Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
3. Bar Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.

F. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, and fasteners, to provide a complete and stable wall-framing system.

3.7 ERECTION TOLERANCES

A. Install cold-formed steel framing level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet (1:960) and as follows:

1. Space individual framing members no more than plus or minus 1/8 inch (3 mm) from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

3.8 FIELD QUALITY CONTROL

A. Testing: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.

B. Field and shop welds will be subject to testing and inspecting.

C. Testing agency will report test results promptly and in writing to Contractor and Architect.

D. Cold-formed steel framing will be considered defective if it does not pass tests and inspections.

E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.9 REPAIRS AND PROTECTION

A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed steel framing with galvanized repair paint according to ASTM A 780/A 780M and manufacturer's written instructions.

B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that cold-formed steel framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION 054000

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2.2 □ERFORM□□CE RE□ □IREME□T□

□. De□e□□ted De□i□n□ En□□□e □ □u□ified □rofe□□ion□□en□ineer, □□ defined in □ection 014000 "□u□it□ Re□uire□ent□," to de□i□n □t□ir□, inc□udin□ □tt□c□□ent to □ui□din□ con□truction.

□. □tructur□□□erfor□ □nce of □t□ir□□Met□□□t□ir□ □□□□□it□□t□nd t□e effect□ of □r□□it□ □o□d□ □nd t□e fo□o□in□ □o□d□ □nd □tre□□e□ □it□in i□ it□ □nd under condition□ indic□ted□

1. □nifor□ □o□d□100 □f/□□. ft..
2. Concentr□ted □o□d□300 □f □□□ied on □n □re□ of 4 □□. in..
3. □nifor□ □nd concentr□ted □o□d□need not □e □□u□ed to □ct concurrent□.
4. □t□ir Fr□□in□□C□□□□e of □it□□t□ndin□ □tre□□e□ re□u□tin□ fro□ r□i□in□ □nd □u□rd □o□d□in □ddition to □o□d□ □□ecified □□o□e.

5. □i□it def□ection of tre□d□, □□□tfor□□, □nd fr□□in□ □e□□er□ to □/360 or 1/4 inc□, □□ic□e□er i□ □e□□.

2.3 MET□□□

□. Met□□□urf□ce□□ □ro□ide □ □teri□□□ □it□ □□ oot□, f□□t □urf□ce□ un□e□□ ot□er□i□e indic□ted. For co□ □onent□ e□□o□ed to □ie□ in t□e co□ □□eted □ or□, □ro□ide □ □teri□□□ □it□out □e□□ □ □r□□, ro□□er □ □r□□, ro□□ed tr□de n□□ e□, or □e□ i□□e□.

□. □tee□□ □□te□, □□□□□e□, □nd □□r□□□□TM □36/□36M.

C. □nco□ted, Co□d-Ro□□ed □tee□□□eet□ □□TM □1008/□1008M, □tructur□□□tee□, □r□de 25, un□e□□ □not□er □r□de i□re□uired □□de□i□n □o□d□□e□□o□ed.

D. □nco□ted, □ot-Ro□□ed □tee□□□eet□ □□TM □1011/□1011M, □tructur□□□tee□, □r□de 30, un□e□□ □not□er □r□de i□re□uired □□de□i□n □o□d□.

2.4 F□□TE□ER□

□. □ener□□□ □ro□ide □inc-□□□ted f□□tener□ □it□ co□tin□ co□ □□□in□ □it□ □□TM □633 or □□TM F1941/F1941M, C□□□□ Fe/□n 12 for e□terior u□e, □nd C□□□□ Fe/□n 5 □□ere □uir□ into e□terior □ □□□□.

1. □e□ect f□□tener□ for t□□e, □r□de, □nd c□□□□ re□uired.

□. □o□t□ □nd □ut□□Re□u□□r □e□□□on-□e□d □o□t□, □□TM □307, □r□de □□□it□ □e□nut□, □□TM □563□ □nd, □□ere indic□ted, f□□t □□□□er□.

C. □nc□or □o□t□□ □□TM F1554, □r□de 36, of di□en□ion□ indic□ted□□it□ nut□, □□TM □563□□nd, □□ere indic□ted, f□□t □□□□er□.

D. □o□t-In□t□□ed □nc□or□□ Tor□ue-contro□ed e□□□n□ion □nc□or□ or c□e□ic□□□nc□or□ c□□□□e of □u□t□inin□, □it□out f□i□ure, □ □o□d e□u□□to □i□ ti□e□ t□e □o□d i□ □o□ed □□en in□t□□ed in unit □ □□onr□ □nd four ti□e□ t□e □o□d i□ □o□ed □□en in□t□□ed in concrete, □□ deter□ined □□ te□tin□ □ccordin□ to □□TM E488/E488M, conducted □□ □ □u□ified inde□endent te□tin□ □□enc□.

2.5 MI□CE□□□□EO□□ M□TERI□□□

□. □ e□din□ E□ectrode□□Co□ □□□ □it□ □□ □ re□uire□ent□.

□. □□o□ □ri□er□□□ro□ide □ri□er□t□□t co□ □□□ □it□ □ection 099123 "Interior □□intin□."

C. □on□et□□ic, □□rin□□□e-Re□i□t□nt □rout□□□TM C1107/C1107M, f□ctor□-□□c□□□ed, non□et□□ic □□□re□□te □rout□reco□ □ended □□ □ □nuf□cturer for interior u□e□noncorro□i□e □nd non□t□inin□□ □i□ed □it□ □□ter to con□i□tenc□ □uit□□e for □□□ic□tion □nd □30-□inute □or□in□ ti□e.

D. Concrete M□teri□□□ □nd □ro□ertie□□Co□ □□□ □it□ re□uire□ent□in □ection 033000 "C□□t-in-□□ce Concrete" for nor□ □-□ei□□t, □ir-entr□ined, re□d□-□i□ concrete □it□ □ini□u□ 28-d□□ co□ □re□□i□e □tren□t□ of 3000 □□i □nd □ □□i□u□ □□□re□□te □i□e of 1/2 inc□ un□e□□ ot□er□i□e indic□ted.

E. □□in □tee□□ e□ded-□ ire Reinforce□ ent□□□TM □1064/□10645M, □tee□, 6 □□ 6 inc□e□, □ 1.4 □□ □ 1.4, un□e□□ ot□er□i□e indic□ted on Dr□□in□□.

F. Reinforce□ ent □u□□ort□□□o□□ter□, c□□ir□, □□□cer□, □nd ot□er de□ice□ for □□□cin□, □u□□ortin□, □nd f□□tenin□ □e□ded-□ire reinforce□ ent in □□□ce.

□. M□nuf□cture □□r □u□□ort□ fro□ □tee□□ire, □□□□tic, or □rec□□t concrete □ccordin□ to CR□I□□ "M□nu□□ of □t□nd□rd □r□ctice," of □re□ter co□ □re□i□e □tren□t□ t□□n concrete.

2.6 F□□RIC□TIO□, □E□ER□□

□. □ro□ide co□ □□ete □t□ir □□□e□ □ie□, inc□udin□ □et□□fr□□in□, □□n□er□, □trut□, ci□□, □r□c□et□, □e□rin□ □□□te□, □nd ot□er co□ □onent□ nece□□□r□ to □u□□ort □nd □nc□or □t□ir□ □nd □□□tfor□ □on □u□□ortin□ □tructure. □oin co□ □onent□ □□ □e□din□ un□e□□ ot□er□i□e indic□ted. □□e connection□ t□□t □ □int□in □tructur□□□□□ue of □oined □iece□.

□. □□□e□ □□e □t□ir□ in □□o□ to □re□te□t e□tent □o□□i□e. Di□□□□e□ □□e unit□ on□□ □□ nece□□□r□ for □□i□□in□ □nd □□nd□in□ i□it□tion□. C□e□r□□ □ □r□ unit□ for re□□□e□ □□□□ □nd coordin□ted in□t□□□□tion.

C. Cut, dri□□, □nd □unc□ □et□□□ c□e□n□□ □nd □ccur□te□□. Re□o□e □urr□ □nd e□□e ed□e□ to □ r□diu□ of □□□ro□i□ □te□□ 1/32 inc□ un□e□□ ot□er□i□e indic□ted. Re□o□e □□□r□ or rou□□ □re□□ on e□□o□ed □urf□ce□.

D. For□ □ent-□et□□ corner□ to □□ □□e□t r□diu□ □o□□i□e □it□out c□u□in□ □r□in □e□□r□tion or ot□er□i□e i□ □□irin□ □or□.

E. For□ e□□o□ed □or□ □it□ □ccur□te □n□e□ □nd □urf□ce□ □nd □tr□i□□t ed□e□.

F. □ e□d connection□ to co□ □□□ □it□ t□e fo□o□in□□

1. □□e □ □teri□□□ □nd □et□od□ t□□t □ini□i□e di□tortion □nd de□e□o□ □tren□t□ □nd corro□ion re□i□t□nce of □□□e □et□□□.
2. O□t□in fu□ion □it□out undercut or o□er□□□.
3. Re□o□e □e□din□ fu□i□ □edi□te□□.
4. □t e□□o□ed connection□, fini□□ e□□o□ed □e□d□ to co□ □□□ □it□ □OMM□□□ "Vo□unt□r□ □oint Fini□□ □t□nd□rd□" for Fini□□ □1 - □o e□idence of □e□ded □oint.

□. For□ e□□o□ed connection□ □it□ □□ir□ine □oint□, fu□□ □nd □□oot□, u□in□ conce□□ed f□□tener□ □□ere □o□i□e.

1. □ □ere e□□o□ed f□□tener□ □re re□uired, u□e □□i□□□ f□□t-□e□d (counter□un□) □cre□□ or □o□t□ un□e□□ ot□er□i□e indic□ted.
2. □oc□te □oint□ □□ere □e□□t con□□icuou□.

2.7 F□□RIC□TIO□ OF □TEE□-FR□MED □T□IR□

□. □□□MM □t□ir □t□nd□rd□Co□ □□□ □it□ □□□MM □M□ 510, "Met□□□t□ir□M□nu□□," for □rc□itectur□□ C□□□□, un□e□□ □ore □trin□ent re□uire□ ent□ □re indic□ted.

□. □t□ir Fr□□in□□

1. F□□ric□te □trin□er□ □tee□c□□nne□□ or □tee□rect□n□u□□r tu□e□.

   □. □trin□er □i□e□ □□re□uired to co□ □□□ □it□ "□erfor□ □nce Re□uire□ent□" □rtic□e.
   □. □ro□ide c□o□ure□ for e□□o□ed end□ of c□□nne□□nd rect□n□u□□r tu□e □trin□er□.
   c. Fini□□□ □□o□ □ri□ed.

2. Con□truct □□□tfor□ □ of □tee□ □□□te or c□□nne□ or rect□n□u□□r tu□e □e□der□ □nd □i□ce□□neou□ fr□□ in□ □e□ □er□ □□ re□uired to co□ □□□ □it□ "□erfor□ □nce Re□uire□ent□" □rtic□e indic□ted on Dr□□in□□.

   □. □ro□ide c□o□ure□ for e□□o□ed end□ of c□□nne□□nd rect□n□u□□r tu□e fr□□ in□.
   □. Fini□□□ □□o□ □ri□ed.

3. □ e□d □trin□er□ to □e□der□□□e□d fr□□ in□ □e□ □er□ to □trin□er□ □nd □e□der□.
4. □ □ere □t□ir□ re enc□o□ed □□ □□□□u□ □o□rd □□□e□ □ie□, □ro□ide □□n□er rod□ or □trut□ to □u□□ort □ndin□□ fro□ f□oor con□truction □□o□e or □e□o□.

   □. □oc□te □□n□er rod□ □nd □trut□ □□ere t□e□ do not encro□c□ on re□uired □t□ir □idt□ □nd □re □it□in t□e fire-re□i□t□nce-r□ted □t□ir enc□o□ure.

5. □ □ere □ □□onr□ □ □□□□ □u□□ort □et□□□t□ir□, □ro□ide te□ □or□r□ □u□□ortin□ □trut□ de□i□ned for erectin□ □tee□□t□ir co□ □onent□ □efore in□t□□in□ □ □□onr□.

C. Met□□□□n □t□ir□□For□ ri□er□, □u□tre□d □□n□, □nd □u□□□□tfor□ □ to confi□ur□tion□ □□o□n fro□ □tee□□□eet of t□ic□ne□□ needed to co□ □□□ □it□ □erfor□ □nce re□uire□ent□, □ut not □e□□ t□□n 0.067 inc□.
   1. □tee□□□eet□□nco□ted, co□d-ro□ed □tee□□□eet.
   2. □tee□□□eet□□ □□□□ni□ed-□tee□□□eet.
   3. Direct□□ □e□d □et□□□□□n□ to □trin□er□□□oc□te □e□d□on to□ of □u□tre□d□ □□ere t□e□ □i□□□e conce□□ed □□concrete fi□□ Do not □e□d ri□er□ to □trin□er□.
   4. □tt□c□ ri□er□ □nd □u□tre□d□ to □trin□er□ □it□ □r□c□et□ □ □de of □tee□□n□□e□ or □□r□. □ e□d □r□c□et□ to □trin□er□ □nd □tt□c□ □et□□□□n□ to □r□c□et□ □□ □e□din□, ri□etin□, or □o□tin□.
   5. □□□□e □et□□□□n□ to inc□ude no□in□ inte□r□□□it□ ri□er.
   6. □tt□c□ □□r□□i□e no□in□□ to ri□er□.
   7. □t Contr□ctor□□ o□tion, □ro□ide □t□ir □□□e□ □ie□ □it□ □et□□ □□n □u□tre□d□ fi□ed □it□ reinforced concrete durin□ f□□ric□tion.
   8. □ro□ide e□o□□-re□in-fi□ed tre□d□, reinforced □it□ □□□□□ fi□er□, □it□ non-□i□-concrete □□□re□□te fini□□ to tre□d □urf□ce.
   9. □ro□ide □u□□□□tfor□ □ of confi□ur□tion indic□ted or, if not indic□ted, t□e □□□e □□ □u□tre□d□. □ e□d □u□□□□tfor□ □ to □□□tfor□ fr□□ in□.

      □. □□oot□ □offit Con□truction□Con□truct □u□□□□tfor□ □ □it□ f□□t □et□□under □urf□ce□ to □roduce □□oot□ □offit□.

D. □□r□□i□e-Co□tin□-Fini□□ed, For□ed-Met□□ □t□ir□□ For□ ri□er□, tre□d□, □nd □□□tfor□ □ to confi□ur□tion□ □□o□n fro□ □tee□ □□eet of t□ic□ne□□ needed to co□ □□□ □it□ □erfor□ □nce re□uire□ent□, □ut not □e□□t□□n 0.097 inc□.

   1. □tee□□□eet□□nco□ted, □ot-ro□ed □tee□□□eet un□e□□ ot□er□i□e indic□ted.
   2. Direct□□ □e□d ri□er□ □nd tre□d□ to □trin□er□□□oc□te □e□d□on under□ide of □t□ir□.
   3. □ro□ide □□□tfor□ □ of confi□ur□tion indic□ted or, if not indic□ted, t□e □□□e □□tre□d□. □ e□d □□□tfor□ □ to □□□tfor□ fr□□ in□.
   4. Fini□□ tre□d □nd □□□tfor□ □urf□ce□ □it□ □ □nuf□cturer□□ □t□nd□rd e□o□□-□onded □□r□□i□e fini□□.

2.8 F□□RIC□TIO□ OF □T□IR RAILINGS AN D GUA RDS

A. Co□ply □it□ □□□ic□□e re□uire□ent□ in □ection 057300 "Decor□ti□e Met□□R□i□in□□."

2.9 FI□I□□E□

A. Fini□□ m□etal □t□ir□ □fter ass□□mbl□.

B. □re□□r□tion for □hop □ri□in□□□re□□re unco□□ted, ferrou□-□et□□□urf□ce□ to co□ply □it□ SSP C-SP 3, "□o□er Too□C□e□nin□."

C. Apply □□o□ □ri□er to unco□□ted □urf□ce□ of □metal □t□ir co□□onent□, e□ce□t t□o□e □it□ galva□niz□d fini□□e□ □nd t□o□e to □e e□□edded in concrete or □□□onr□ un□e□□ ot□er□i□e indic□ted. Co□ply □it□ SSP C-PA 1, "□□int □□□□ic□tion □□ecific□tion □o. 1: Shop , Fie□d, □nd M□inten□nce □□intin□ of □tee□," for sh□p □□intin□.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. Verif□ e□e□□tion□ of f□oor□, □e□rin□ □urf□ce□ □nd □oc□tion□ of □e□rin□ □□□te□, □nd ot□er e□□□ed□ent□ for co□□i□nce □it□ re□uire□ent□.

1. For □□□+□ounted r□i□in□□, □erif□ □oc□tion□ of conce□□ed reinforce□ent □it□in gyp□um □o□rd □nd □□□□ter ass□□mbl□ies.

B. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□f□ctor□ condition□ □□□e □een corrected.

3.2 I□□T□□□□TIO□ OF MET□□ PAN □T□IR□

A. F□□tenin□ to In-□□□ce Con□truction: □ro□ide □nc□or□□e de□ice□ □nd f□□tener□ □□ere nece□□□r□ for □ecurin□ m□etal □t□ir□ to in-□□□ce con□truction.

1. Inc□ude t□re□ded f□□tener□ for concrete □nd □ □□onr□ in□ert□, t□rou□□-□olt□, lag □olt□, □nd ot□er connector□.

B. Cuttin□, Fittin□, □nd □□□ce□ent: □erfor□ cuttin□, dri□in□, □nd fittin□ re□uired for in□t□□in□ m□etal □t□ir□. □et unit□ □ccur□te□□ in □oc□tion, □li□n□ent, □nd e□e□□tion, □e□□ured fro□ e□t□□i□□ed □ine□ □nd □e□e□□ □nd free of r□c□.

C. In□t□□□ m□etal □t□ir□ by □e□din□ □t□ir fr□□ in□ to □tee□□tructure or to □e□d pla□es c□□t into concrete un□e□□ ot□er□i□e indic□ted.

1. □routed □□□e□□□te□: C□e□n concrete- □nd □ □□onr□-□e□rin□ □urf□ce□ of □ond-reducin□ □ □teri□□□ □nd rou□□en □urf□ce□ □rior to □ettin□ □□□te□.

a. C□e□n □otto□ □urf□ce of pla□es.
b. □et □□□te□ for □tructur□□□ e□ □er□on □ed□e□, sh□im□, or □ettin□ nut□.
c. Ti□□ten □nc□or □olt□ □fter □u□□orted □e□ □er□ hav□ □een □o□itioned □nd □u□ □ed.
d. Do not re□o□e □ed□e□ or sh□ims □ut, if □rotrudin□, cut off fu□□ □it□ ed□e of pla□te □efore □□c□in□ □it□ □rout.

e. □ro□ □t□□ □□c□ □rout □oid□□ □et□een □e□rin□ □urf□ce□ □nd □□□te□ □o no □oid□ re□ □in.

1) □e□t□□ fini□□ e□□o□ed □urf□ce□□□rotect □rout □nd □□o□ to cure.
2) Co□ □□□ □it□ □ □nuf□cturer□□ □ritten in□t□□□tion in□truction□ for □□rin□□□e-re□i□t□nt □rout□.

D. □ro□ide te□ □or□r□ □r□cin□ or □nc□or□ in for□ □or□ for ite□ □ t□□t □re to □e □uit□ into concrete, □ □□onr□, or □i□ i□□r con□truction.

E. Fit e□□o□ed connection□ □ccur□te□□ to□et□er to for□ □□ir□ine □oint□.

1. □ e□d connection□ t□□t □re not to □e □eft □□ e□□o□ed □oint□ □ut c□nnot □e □□o□ □e□ded □ec□u□e of □□i□□in□ □i□e i□ it□tion□.
2. Co□ □□□ □it□ re□uire□ent□ for □e□din□ in "F□□ric□tion, □ener□□ □rtic□e.

F. □□ce □nd fini□□ concrete fi□□for tre□d□ □nd □□□tfor□ □ to co□ □□□ □it□ □ection 033000 "C□□t-in-□□ce Concrete."

□. In□t□□□□rec□□t concrete tre□d□ □it□ □d□e□i□e □u□□ie□ □□ □ □nuf□cturer.

□. In□t□□□□rec□□t terr□□o tre□d□ □ccordin□ to □ □nuf□cturer□□ □ritten in□truction□.

3.3 RE□□IR

□. Touc□u□ □□intin□□ I□ □edi□te□□ □fter erection, c□e□n fie□d □e□d□, □o□ted connection□, □nd □□r□ded □re□□ of □□o□ □□int, □nd □□int e□□o□ed □re□□ □it□ □□□□e □ □teri□□□□ u□ed for □□o□ □□intin□ to co□ □□□ □it□ □□□C-□□ 1 for touc□in□ u□ □□o□-□□inted □urf□ce□.

1. □□□□□ □□ □ru□□ or □□r□□ to □ro□ide □ □ini□u□ 2.0-□i□dr□fi□□ t□ic□ne□□.

□. Touc□u□ □□intin□□ C□e□nin□ □nd touc□u□ □□intin□ of fie□d □e□d□, □o□ted connection□, □nd □□r□ded □re□□ of □□o□ □□int □re □□ecified in □ection 099123 "Interior □□intin□."

E□D OF □ECTIO□ 055113

□ECTIO□ 055213 - □I□E □□D T□□E R□I□I□□□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection Inc□ude□□

1. □tee□r□i□in□□.
2. □t□in□e□□ □tee□r□i□in□□.

□. Re□□ted Re□uire□ent□□

1. □ection 055113 "Met□□□□n □t□ir□" for □tee□tu□e r□i□in□□ □□□oci□ted □it□ □et□□□□n □t□ir□.

1.2 COORDI□□TIO□

□. Coordin□te □e□ection of □□o□ □ri□er□ □it□ to□co□t□to □e □□□ied o□er t□e□. Co□ □□□ □it□ □□int □nd co□tin□ □ □nuf□cturer□□□ritten reco□□end□tion□to en□ure t□□t □□o□ □ri□er□ □nd to□co□t□ □re co□ □□ti□e □it□one □not□er.

□. Coordin□te in□t□□□tion of □nc□or□□e□ for r□i□in□□. Furni□□ □ettin□ dr□□in□□, te□ □□□te□, □nd direction□for in□t□□in□ □nc□or□□e□, inc□udin□ □ee□e□, concrete in□ert□, □nc□or □o□t□, □nd ite□ □ □it□ inte□r□□□nc□or□, t□□t □re to □e e□ □edded in concrete or □ □□onr□. De□i□er □uc□ ite□ □to □ro□ect □ite in ti□e for in□t□□□tion.

1.3 □CTIO□ □□□MITT□□□

□. □roduct D□t□□

1. M□nuf□cturer□□ □roduct □ine□of □ec□□nic□□□ connected r□i□in□□.
2. F□□tener□.
3. □o□t-in□t□□ed □nc□or□.
4. □□ndr□i□□r□c□et□.
5. □□o□ □ri□er.
6. Inter□edi□te co□t□ □nd to□co□t□.
7. □itu□inou□ □□int.
8. □on□□rin□, non□et□□ic □rout.
9. □nc□orin□ce□ent.
10. Met□□fini□□e□.
11. □□int □roduct□.

□. □□o□ Dr□□in□□□Inc□ude □□□n□, e□e□□tion□, □ection□, det□i□, □nd □tt□c□□ent□to ot□er □or□.

C. □□□ □□e□ for Initi□□ □e□ection□ For □roduct□ in□o□□in□ □e□ection of co□or, te□ture, or de□i□n, inc□udin□ □ec□□nic□□fini□□e□.

D. □□□ □□e□for Verific□tion□For e□c□t□□e of e□□o□ed fini□□ re□uired.

1. □ection□ of e□c□ di□tinct□ different □ine□ r□i□in□ □e□□er, inc□udin□ □□ndr□i□, to□ rails, po□s:s, □nd □□u□ter□, inc□udin□ fini□□.
2. Fittin□□ □nd □r□c□et□.
3. □□□e□ □□ed Samp□e of r□i□in□ sys□em, □□de fro□ fu□-□i□e co□□onent□, inc□udin□ to□ r□i□, □o□t, □□ndr□i□, □nd infi□□ Samp□e need not □e fu□□□ei□□t.

   a. □□o□ □et□od of connectin□ □nd fini□□in□ □e□□er□□t inter□ection□.

E. De□e□□ted-De□i□n □u□□itt□: For r□i□in□□, inc□udin□ analys□s d□t□ □i□ned □nd □e□□ed by t□e □u□ified □rofe□□ion□□en□ineer re□□on□i□□e for t□eir □re□□r□tion.

1.4 I□FORM□TIO□□□ SUB MITTALS

A. □u□ific□tion D□t□: For de□e□□ted-de□i□n □rofe□□ion□□en□ineer.

B. □ e□din□ certific□te□.

C. Mi□□Certific□te□: □i□ned by □ □nuf□cturer□ of □t□in□□-□tee□□roduct□, certif□in□ t□□t □roduct□ furni□□ed co□ □□□ □it□ re□uire□ent□.

D. □□int Co□ □□ti□i□t□ Certific□te□: Fro□ □ □nuf□cturer□ of to□co□t□ □□□□ied o□er sh□p □ri□er□, certif□in□ t□□t □□o□ □ri□er□ □re co□ □□ti□e □it□ to□co□t□.

E. □roduct Te□t Re□ort□: For te□t□ on r□i□in□□ □erfor□ed by a □u□ified te□tin□ □□enc□, in □ccord□nce □it□ □□TM E894 □nd □□TM E935.

F. Re□e□rc□ Re□ort□: For □o□t-in□t□□ed □nc□or□, fro□ ICC-E□ or ot□er □u□ified te□tin□ □□enc□ □cce□t□□e to □ut□oritie□ hav□ng □uri□diction.

1.5 QUAL□TY ASSU□ RAN□CE

A. □ e□din□ □u□ific□tion□: □u□if□ □rocedure□ □nd □er□onne□in □ccord□nce □it□ t□e fo□o□in□:

1. AWS D1.1/D1.1M, "□tructur□□□ e□din□ Code - □tee□."
2. AWS D1.2/D1.2M, "□tructur□□□ e□din□ Code - □□u□inu□."
3. AWS D1.6/D1.6M, "□tructur□□□ e□din□ Code - □t□in□e□□ □tee□."

1.6 DE□IVER□, □TOR□□E, AN□ HAN□DLING

A. □rotect □ec□□nic□□ fini□□e□ on e□□o□ed □urf□ce□ of r□i□in□□ fro□ damag□e by apply□ng a □tri□□□□e, te□ □or□r□ □rotecti□e co□erin□ □efore shipping.

1.7 FIE□D CO□DITIO□□

A. Fie□d Me□□ure□ent□: Verif□ □ctu□□ oc□tion□ of wa□ls □nd ot□er con□truction conti□uou□ □it□ r□i□in□□ □□fie□d □e□□ure□ent□ □efore f□□ric□tion.

□□RT 2 - □ROD□CT□

2.1 □ERFORM□□CE RE□□IREME□T□

A. De□e□□ted De□i□n: En□□□e a □u□ified □rofe□□ion□□en□ineer, as defined in □ection 014000 "□u□it□Re□uire□ent□," to de□i□n r□i□in□□, inc□udin□ □tt□c□□ent to □ui□din□ con□truction.

B. □tructur□□□erfor□ □nce: R□i□in□□, inc□udin□ □tt□c□□ent to □ui□din□ con□truction, □h□ll □it□□t□nd t□e effect□ of □r□□it□ □o□d□ □nd t□e fo□o□in□ □o□d□ □nd □tre□□e□ □it□in □i□it□ □nd under condition□indic□ted:

1. □□ndr□i□□ □nd To□R□ils of □u□rd□:

a. □nifor□ □o□d of 50 lbf/ ft. □□□□ied in any direction.
b. Concentr□ted □o□d of 200 lbf □□□□ied in any direction.
c. □nifor□ □nd concentr□ted □o□d□need not □e □□□u□□ed to □ct concurrent□□.

2. Infi□□of □u□rd□:

a. Concentr□ted □o□d of 50 lbf □□□□ied □ori□ont□□□□on □n □re□ of 1 sq. ft..
b. Infi□□o□d □nd ot□er □o□d□need not □e □□□u□□ed to □ct concurrent□□.

C. T□er□ □□Mo□e□ent□: □□□o□ for t□er□ □□□□o□e□ent□ fro□ □□ □ient □nd □urf□ce te□ □er□ture c□□n□e□.

1. Te□ □er□ture C□□n□e: 120 de□F, □□ □ient; 180 de□F, □ □teri□□□urf□ce□.

2.2 MET□□□, □E□ER□□

A. Met□□□urf□ce□, □ener□: □ro□ide □ □teri□□□ □it□ □□oot□ □urf□ce□, □it□out s□am ma□rks, ro□er ma□rks, ro□□ed tr□de nam□s, □t□in□, di□co□or□tion□, or □e□i□□e□.

B. □r□c□et□, F□□n□e□, □nd □nc□or□: C□□t or for□ed metal of sam□ t□□e of □ □teri□□□nd fini□□ as □u□□orted ra□ls un□e□□ ot□er□i□e indic□ted.

1. □ro□ide t□□e of □r□c□et □it□ □redri□□ed □o□e for e□□o□ed □ot□ □nc□or□□e □nd t□□t □ro□ide□ 1-1/2-inc□ c□e□r□nce fro□ in□ide f□ce of □□ndr□i□to fini□□ed wal□ □urf□ce.

2.3 □TEE□ RAILINGS

A. M□nuf□cturer□: □u□□ect to co□ □i□nce □it□ re□uire□ent□, ava□lab□e □ □nuf□cturer□ offerin□ □roduct□ t□□t may □e incor□or□ted into t□e □or□inc□ude, □ut □re not i□ited to t□e fo□o□in□:

1. □ee □□fet□, Inc.
2. Tre□ Co□ □erci□□□roduct□, Inc.
3. True□ort□ □tee□.

B. □ource □i□it□tion□□O□t□in e□c□t□□e of r□i□in□ fro□ □in□e □ource fro□ □in□e □ □nuf□cturer.

C. Tu□in□: □□TM A500/A500M (co□d for□ed) or □□TM A513/A513M, T□□e 5.

D. □i□e □□□TM □53/□53M, T□□e F or T□□e □, □r□de □, □t□nd□rd □ ei□□t (□c□edu□ 40), un□e□□ □not□er □r□de □nd □ei□□t □re re□uired □□ □tructur□□o□d□.

1. □ro□ide □□□□ni□ed fini□□ for e□terior in□t□□□tion□ □nd □□ere indic□ted.

E. □□□te□, □□□□e□, □nd □□r□□□□TM □36/□36M.

F. C□□t Iron Fittin□□□ Eit□er □r□□ iron, □□TM □48/□48M, or □ □□e□□e iron, □□TM □47/□47M, un□e□□ ot□er□i□e indic□ted.

2.4 □T□I□□E□□ □TEE□ R□I□I□□□

□. M□nuf□cturer□□ □u□ect to co□ □i□nce □it□ re□uire□ent□, □□□i□□□e □ □nuf□cturer□ offerin□ □roduct□ t□□t □ □□□e incor□or□ted into t□e □ or□inc□ude, □ut □re not i□ited to t□e fo□o□in□□

1. □u□, □u□u□ □ Co., Inc.
2. □t□in□e□□ F□□ric□tor□, Inc.
3. Tre□ Co□ □erci□□□roduct□, Inc.

□. □ource □i□ it□tion□□O□t□in e□c□t□□e of r□i□in□ fro□ □in□e □ource fro□ □in□e □ □nuf□cturer.

C. Tu□in□□□□TM □554, □r□de MT 304.

D. □i□e□□□TM □312/□312M, □r□de T□ 304.

E. C□□tin□□□□TM □743/□743M, □r□de CF 8 or CF 20.

F. □□te □nd □□eet□□□TM □240/□240M or □□TM □666, T□□e 304.

2.5 F□□TE□ER□

□. F□□tener M□teri□□□

1. □n□□□□ni□ed-□tee□ R□i□in□ Co□ □onent□□ □□□ted □tee□ f□□tener□ co□ □□□in□ □it□ □□TM F1941, C□□□□ Fe/□n 5 for □inc co□tin□.
2. □ot-Di□ □ □□□□ni□ed R□i□in□ Co□ □onent□□T□□e 304 □t□in□e□□ □tee□or □ot-di□ □inc-co□ted □tee□f□□tener□ co□ □□□in□ □it□ □□TM □153/□153M or □□TM F2329/F2329M for □inc co□tin□.
3. □t□in□e□□ □tee□R□i□in□ Co□ □onent□□ T□□e 304 □t□in□e□□ □tee□f□□tener□.
4. Fini□□ e□□o□ed f□□tener□ to □ □tc□ □□□e□r□nce, inc□udin□ co□or □nd te□ture, of r□i□in□□.

□. F□□tener□ for □nc□orin□ R□i□in□□ to Ot□er Con□truction□□e□ect f□□tener□ of t□□e, □r□de, □nd c□□□□ re□uired to □roduce connection□ □uit□□□e for □nc□orin□ r□i□in□□ to ot□er t□□e□ of con□truction □nd c□□□□□e of □it□□t□ndin□ de□i□n □o□d□.

C. F□□tener□ for Interconnectin□ R□i□in□ Co□ □onent□□

1. □ro□ide conce□□ed f□□tener□ for interconnectin□ r□i□in□ co□ □onent□ □nd for □tt□c□in□ t□e□ to ot□er □or□, un□e□□ ot□er□i□e indic□ted.
2. □ro□ide □□u□re or □e□ □oc□et f□□t-□e□d □ □c□ine □cre□□ for e□□o□ed f□□tener□ un□e□□ ot□er□i□e indic□ted.

D. □o□t-In□t□□ed □nc□or□: F□□tener □□□te□ □ □it□ □or□in□ c□□□cit□ □re□ter t□□n or e□u□□to t□e de□i□n □o□d, □ccordin□ to □n e□□□u□tion re□ort □cce□t□□e to □ut□oritie□ hav□ng □uri□diction, bas□d on ICC-E□ □C193 or ICC-E□ □C308.

1. M□teri□□ for Interior □oc□tion□: C□r□on-□tee□ co□ □onent□ □inc-□□□ted to co□ply □it□ □□TM B633 or □□TM F1941/F1941M, Cl□ss Fe/□n 5, un□e□□ ot□er□i□e indic□ted.

2.6 MI□CE□□□□EO□□ M□TERI□□□

A. □□ndr□i□□r□c□et□□ C□□t iron or C□□t □t□in□e□□ □tee□, center of □□ndr□i□2-1/2 inc□e□fro□ f□ce of r□i□in□ or wall

B. □ e□din□ Rod□ □nd □□re E□ectrode□: □e□ect in □ccord□nce □it□ AWS □□ecific□tion□ for m□tal □□o□□e□ded.

1. For □t□in□e□□ □tee□r□i□in□□, □ro□ide t□□e □nd al□y as reco□□ended by □roducer of m□tal to □e □e□ded □nd as re□uired for co□or □□tc□, □tren□t□, □nd co□□□ti□i□t in f□□ric□ted ite□□.

C. Etc□in□ C□e□ner for Galva□niz□d Met□: Co□ □□□in□ □it□ M□l#25.

D. □□□□□ni□in□ Re□□ir □□int: □i□□-□inc-du□t-content □□int, co□ □□□in□ □it□ □□□C-□□int 20 □nd co□ □□ti□e □it□ □□int□ □□ecified to □e u□ed o□er it.

E. □ni□er□□□□□o□ □ri□er: F□□t-curin□, □e□d- □nd c□ro□ □te-free, uni□er□□□□ odified-□□□d □ri□er co□ □□□in□ □it□ M□l#79 □nd co□ □□ti□e □it□ to□co□t.

1. Us□ □ri□er cont□inin□ □i□□ent□t□□t mak□ it e□□i□□di□tin□ui□□□□e fro□ □inc-ric□ □ri□er.

F. Epoxy □inc-Ric□ □ri□er: Co□ □□□in□ □it□ M□l#20 □nd co□ □□ti□e □it□ to□co□t.

G. Inter□edi□te Co□t□ □nd To□co□t□: □ro□ide □roduct□ t□□t comply □it□ □ection 099123 "Interior □□intin□."

H. □itu□inou□ □□int□Co□d-□□□□ied aspha□t□e□u□□ion, co□ □□□in□ □it□ □□TM D1187/D1187M.

2.7 F□□RIC□TIO□

A. □ener□: F□□ric□te r□i□in□□ to comply □it□ re□uire□ent□ indic□ted for de□i□n, di□en□ion□, □e□□er s□z□s □nd □□□cin□, det□i□, fini□, □nd □nc□or□□e, □ut not □e□□ t□□n t□□t re□uired to □u□□ort □tructur□□o□d□.

B. Sh□p ass□mb□e r□i□in□□ to □re□te□t e□tent □o□i□□e to □ini□i□e fie□d □□ici□n□ □nd ass□mbly. Di□□□□e□ □□e unit□ on□□ as nece□□□r□ for sh□pp□ng □nd □□nd□in□ i□ it□tion□.

1. C□e□r□□ ma□k unit□ for re□ass□mbly □nd coordin□ted in□t□□□tion.
2. □□e connection□ t□□t □ □int□in □tructur□□□□ue of □oined □iece□.

C. Cut, dri□, □nd □unc□ □et□□□c□e□n□□ □nd □ccur□te□.

1. Re□o□e □urr□ □nd e□□e ed□e□ to a r□diu□ of app□ox□ma□ely 1/32 inc□ un□e□□ ot□er□i□e indic□ted.
2. Re□o□e sha□p or rou□□ a□eas on e□□o□ed □urf□ce□.

D. For□ □or□true to □ine □nd □e□e□□it□ □ccur□te □n□e□ □nd □urf□ce□.

E. F□□ric□te connection□t□□t □re e□□o□ed to □e□t□er in a □ □nner t□□t e□c□ude□ □□ter.

1. □ro□ide □ee□ □o□e□ □□ere □□ter may □ccu□u□□te.
2. □oc□te □ee□ □o□e□in incon□□icuou□ □oc□tion□.

F. Cut, reinforce, dri□, □nd tap as indic□ted to recei□e fini□□ □□rd□□re, □cre□□, □nd □i□i□r ite□ □.

G. Connection□: F□□ric□te r□i□in□□ □it□ □e□ded connection□un□e□□ ot□er□i□e indic□ted.

H. □e□ded Connection□: Co□e co□□onent□ □t connection□ to □ro□ide c□o□e fit, or u□e fittin□□ de□i□ned for t□i□ ur□o□e. □e□d all □round □t connection□, inc□udin□ □t fittin□□.

1. Us□ □□teri□□□ □nd □et□od□ t□□t □ini□i□e di□tortion □nd de□e□o□ □tren□t□ □nd corro□ion re□i□t□nce of bas□ m□etals.
2. O□t□in fu□ion □it□out undercut or o□er□□□.
3. Re□o□e fu□i□ □edi□te□.
4. □t e□□o□ed connection□, fini□□ e□□o□ed □e□d□to co□ □□□ it□ □OMM□']"Vo□unt□r□ □oint Fini□□ □t□nd□rd□" for Fini□□ #1 □e□d□; orn□□ent□□□u□it□ □it□ no e□idence of a □e□ded □oint

I. □on□e□ded Connection□: Connect □e□ □er□ □it□ conce□□ed □ec□□nic□□f□□tener□ □nd fittin□□. F□□ric□te □e□ □er□ □nd fittin□□ to □roduce fu□□, □□oot□, ri□id, □□ir□ine □oint□.

1. F□□ric□te □□ice □oint□ for fie□d connection, u□in□ □n epoxy □tructur□□□d□e□i□e, if t□i□ i□ □□nuf□cturer']t□nd□rd □□icin□ □et□od.

□. For□ c□□n□e□in direction as fo□o□□:

1. As det□i□ed.
2. By fu□□ □end□or by in□ertin□ □ref□□ric□ted fu□□-e□o□ fittin□□.

K. □end □e□ □er□ in i□□ to □roduce unifor□ cur□□ture for e□c□ confi□ur□tion re□uired. M□int□in cro□□ □ection of □e□ □er t□rou□□out entire □end □it□out □uc□in□, t□i□tin□, cr□c□in□, or ot□er□i□e defor□in□e□□o□ed □urf□ce□of co□ □onent□.

L. C□o□e e□□o□ed end□of □o□o□ r□i□in□ □e□ □er□ □it□ □ref□□ric□ted cap □nd end fittin□□ of sam□e m□etal □nd fini□□ as r□i□in□□.

M. □ro□ide wall return□ □t end□of □□□-□ounted □□ndr□i□□ un□e□□ ot□er□i□e indic□ted. C□o□e end□ of return□un□e□□c□e□r□nce □et□een end of r□i□□nd □□□i□1/4 inc□or □e□□.

□. □r□c□et□, F□□n□e□, Fittin□□, □nd □nc□or□□□ro□ide wa□l □r□c□et□, f□□n□e□, □i□ce□□□neou□ fittin□□, □nd □nc□or□to interconnect r□i□in□□e□ □er□to ot□er □or□un□e□□ot□er□i□e indic□ted.

1. □t □r□c□et□ □nd fittin□□ f□□tened to □□□□ter or gyps□m □o□rd □□rtition□, □ro□ide cru□□-re□i□t□nt fi□er□ or ot□er m□ans to tr□n□fer □o□d□t□rou□□ wall fini□□e□ to □tructur□□ □u□□ort□ □nd □re□ent □r□c□et or fittin□rot□tion □nd cru□□in□of □u□□tr□te.

O. □ro□ide in□ert□ □nd ot□er □nc□or□□e de□ice□ for connectin□ r□i□in□□ to concrete or □ □□onr□ □or□.

1. F□□ric□te □nc□or□□e de□ice□c□□□□e of □it□□t□ndin□ □o□d□i□ □o□ed by r□i□in□□.
2. Coordin□te □nc□or□□e de□ice□ □it□ □u□□ortin□ □tructure.

P. Toe □o□rd□: □ □ere indic□ted, □ro□ide toe □o□rd□ □t r□i□in□□ □round o□enin□□ □nd □t ed□e of o□en-□ided f□oor□ □nd □□tfor□ □. F□□ric□te to di□ en□ion□ □nd det□i□ indic□ted.

2.8 □TEE□ AN D IRO□ FI□I□□E□

A. For non□□□□ni□ed-□tee□ r□i□in□□, □ro□ide non□□□□ni□ed ferrou□-□et□□ fittin□□, □r□c□et□, f□□tener□, □nd □ee□e□; □o□e□er, □ot-di□ □□□□ni□e □nc□or□ to □e e□□edded in e□terior concrete or □ □□onr□.

B. □re□□r□tion for Sh op □ri□in□: □re□□re unco□ted ferrou□-□et□□□urf□ce□ to co□ □□□ □it□ SS □C-SP 6/□□CE □o. 3.

C. □ri□er □□□ic□tion: Apply shop □ri□er to □re□□red □urf□ce□ of r□i□in□□ un□e□□ ot□er□i□e indic□ted. Co mply □it□ re□uire□ent□ in SSP C-PA 1 for sh op □□intin□. □ri□er need not □e □□□ied to □urf□ce□ to □e e□ □edded in concrete or □ □□onr□.

1. Sh op □ri□e unco□ted r□i□in□□ □it□ uni□er□□□ sh op □ri□er un□e□□ indic□ted.

D. □i□□-□erfor□ □nce Co□tin□: App □y epoxy inter□edi□te □nd □o□uret□□ne to□co□t□ to □ri□e-co□ted □urf□ce□. Co mply □it□ co□tin□ □ □nuf□cturer'□ ritten in□truction□ □nd □it□ re□uire□ent□ in SSP C-PA 1 for □□o□ □□intin□. App □□ □t □□re□din□ r□te□ reco□ □ended by co□tin□ □ □nuf□cturer.

1. Co□or: As □e□ected by □rc□itect fro□ □ □nuf□cturer'□ fu□□r□n□e.

2.9 STAINL ESS □TEE□ FI□I□□E□

A. □urf□ce □re□□r□tion: Re□o□e too□□nd die ma rks □nd □tretc□ □ine□, or □end into fini□□.

B. □oi□□ed Fini□□e□: □rind □nd □oi□□ □urf□ce□ to □roduce unifor□ fini□□, free of cro□□ □cr□tc□e□.

1. Run □r□in □it□ □on□di□en□ion of e□c□ □iece.
2. □ □en □oi□□in□ i□co□ □eted, pass □va te □nd rin□e □urf□ce□.
3. Re□o□e e□ □edded forei□n □ □tter □nd □e□□e □urf□ce□c□e□ic□□□c□e□n.

C. □t□in□e□□ □tee□□i□e □nd Tu□in□ Fini□□e□:
1. □oi□□ed □nd □uffed Fini□□: 320-□rit fini□□ fo□o□ed by □uffin□ to □□tc□ □rc□itect'□ samp □e.

D. □t□in□e□□ □tee□□□eet □nd Pla te Fini□□e□:

1. Direction□□□□tin Fini□□: □□TM A480/A480, □o. 4.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

A. E□□□ine □□□ter □nd gyp □um □o□rd □□□e□ □ie□, □□ere reinforced to recei□e □nc□or□, to □erif□ t□□t □oc□tion□ of conce□□ed reinforce□ent□ □re c□e□r□ □ □r□ed for In t□□er. □oc□te reinforce□ent□ □nd ma rk □oc□tion□ if not □re□d□done.

3.2 I□□T□□□□TIO□, □E□ER□□

□. □erfor□ cuttin□, dri□in□, □nd fittin□ re□uired for in□t□□in□ r□i□in□□.

1. Fit e□□o□ed connection□ to□et□er to for□ ti□□t, □□ri□ine □oint□.
2. In□t□□□r□i□in□□ □e□e, □u□ □, □□u□re, true to □ine□□it□out di□tortion, □□r□, or r□c□.
3. □et r□i□in□□ □ccur□te□□ in □oc□tion, □i□n□ent, □nd e□e□□tion□□ e□□ured fro□ e□t□□i□□ed □ine□ □nd □e□e□□.
4. Do not □e□d, cut, or □□r□de □urf□ce□ of r□i□in□ co□ □onent□ t□□t □re co□ted or fini□□ed □fter f□□ric□tion □nd t□□t □re intended for fie□d connection □□ □ec□□nic□□or ot□er □e□n□ □it□out furt□er cuttin□ or fittin□.
5. □et □o□t□ □u□ □ □it□in □to□er□nce of 1/16 inc□ in 3 feet.
6. □i□n r□i□□ □o □□ri□tion□ fro□ □e□e□for □ori□ont□□□ e□ □er□ □nd □□ri□tion□ fro□ □□r□□e□ □it□ r□□e of □te□□ □nd r□□ □□for □o□in□ □e□ □er□ do not e□ceed 1/4 inc□ in 12 feet.

□. Contro□ of Corro□ion □□re□ent □□□□□nic □ction □nd ot□er for□ □ of corro□ion □□ in□u□□tin□ □et□□□ □nd ot□er □ □teri□□□ fro□ direct cont□ct □it□ inco□ □□ti□□e □ □teri□□□.

C. □du□t r□i□in□□ □efore □nc□orin□ to en□ure □ □tc□in□ □i□n□ent □t □□uttin□ □oint□.

D. F□□tenin□ to In-□□□ce Con□truction□□□e □nc□or□□e de□ice□ □nd f□□tener□ □□ere nece□□□r□ for □ecurin□ r□i□in□□ □nd for □ro□er□□□tr□n□ferrin□ □o□d□ to in-□□□ce con□truction.

3.3 R□I□I□□ CO□□ECTIO□□

□. □on□e□ded Connection□□□□e □ec□□nic□□or □d□e□i□e □oint□ for □er□ □nent□□ connectin□ r□i□in□ co□ □onent□. □□e □ood □oc□□ □nd □□ddin□ to □re□ent d□□ □□e to r□i□in□ □e□ □er□ □nd fittin□□. □e□□rece□□ed □o□e□ of e□□o□ed □oc□in□ □cre□□, u□in□ □□□□tic ce□ent fi□er co□ored to □ □tc□ fini□□ of r□i□in□□.

□. □ e□ded Connection□□ □□e fu□□ □e□ded □oint□ for □er□ □nent□□ connectin□ r□i□in□ co□ □onent□. Co□ □□□ □it□ re□uire□ent□ for □e□ded connection□ in "F□□ric□tion" □rtic□e, □□et□er □e□din□ i□ □erfor□ed in t□e □□o□ or in t□e fie□d.

C. E□□□n□ion □oint□□ In□t□□□e□□□n□ion □oint□ □t □oc□tion□ indic□ted □ut not f□rt□er □□□rt t□□n re□uired to □cco□ □od□te t□er□ □□□ o□e□ent. □ro□ide □i□-□oint intern□□□ee□e, e□tendin□ 2 inc□e□ □e□ond □oint on eit□er □ide f□□ten intern□□□ee□e □ecure□ to one □ide□□nd □oc□te □oint □it□in 6 inc□e□ of □o□t.

3.4 □□C□ORI□□ □O□T□

□. □nc□or □o□t□ to □et□□□urf□ce□ □it□ f□□n□e□, □n□ê t□□e, or f□oor t□□e, □□re□uired □□ condition□, connected to □o□t□ □nd to □et□□□u□□ortin□ □e□ □er□ □□ fo□o□□□

1. For □tee□ri□in□□, □e□d f□□n□e□ to □o□t □nd □o□t to □et□□□u□□ortin□ □urf□ce□.
2. For □t□in□e□□ □tee□ri□in□□, □e□d f□□n□e□ to □o□t □nd □o□t to □u□□ortin□ □urf□ce□.

3.5 □TT□C□I□□ R□I□I□□□

□. □tt□c□ □□ndri□□ to □□□□□ □it□ □□□□ r□c□et□, e□ce□t □□ere end f□□n□e□ □re u□ed. □ro□ide r□c□et□ □it□ 1-1/2-inc□ c□e□r□nce fro□ in□ide f□ce of □□ndri□□nd fini□□ed □□□□urf□ce.

1. □□e t□□e of □r□c□et □it□ f□□n□e t□□□□ed for conce□□ed □nc□or□□e to t□re□ded □□n□er □o□t.
2. □oc□te □r□c□et□ □□ indic□ted or, if not indic□ted, □t □□□cin□ re□uired to □u□□ort □tructur□□ □o□d□.

□. □ecure □ □□□□r□c□et□ to □ui□din□ con□truction □□fo□o□□□

1. For concrete □nd □oid □ □□onr□ □nc□or□□e, u□e dri□□ed-in e□□□n□ion □□ie□d□ □nd □□n□er or □□□ □o□t□.
2. For □o□o□ □ □□onr□ □nc□or□□e, u□e to□□e □o□t□.
3. For □ood □tud □□rtition□, u□e □□n□er or □□□ □o□t□ □et into □tud□ or □ood □□c□in□ □et□een □tud□. Coordin□te □it□ c□r□entr□□or□ to □oc□te □□c□in□ □e□ □er□.
4. For □tee□-fr□□ed □□rtition□, f□□ten □r□c□et□ direct□□ to □tee□fr□□in□ or conce□□ed □tee□ reinforce□ent□, u□in□ □ef-t□□□in□ □cre□□ of □i□e □nd t□□e re□uired to □u□□ort □tructur□□ □o□d□.

3.6 RE□□IR

□. Touc□u□ □□intin□□

1. I□ □edi□te□□ □fter erection, c□e□n fie□d □e□d□, □o□ted connection□, □nd □□r□ded □re□□ of □□o□ □□int, □nd □□int e□□o□ed □re□□ □it□ t□e □□□e □ □teri□□u□ed for □□o□ □□intin□ to co□ □□□ □it□ □□□C-□□ 1 for touc□in□ u□ □□o□-□□inted □urf□ce□.

□. □□□□□ □□□ □ru□□ or □□r□□ to □ro□ide □ □ini□u□ 2.0-□i□dr□fi□ t□ic□ne□□.

□. Touc□u□ □□intin□□ C□e□nin□ □nd touc□u□ □□intin□ of fie□d □e□d□, □o□ted connection□, □nd □□r□ded □re□□ of □□o□ □□int □re □□ecified in □ection 099123 "Interior □□intin□."

3.7 C□E□□I□□

□. C□e□n □t□in□□□ □tee□□□ □ □□□in□ t□orou□□□□ □it□ c□e□n □□ter □nd □o□□ □nd rin□in□ □it□ c□e□n □□ter.

□. □ □□□□ni□ed □urf□ce□□ C□e□n fie□d □e□d□, □o□ted connection□, □nd □□r□ded □re□□, □nd re□□ir □□□□□ni□in□ to co□ □□□ □it□ □□TM □780/□780M.

3.8 □ROTECTIO□

□. □rotect fini□□e□ of r□i□in□□ fro□ d□□ □□e durin□ con□truction □eriod □it□ te□ □or□r□ □rotecti□e co□erin□□ □□□ro□ed □□ r□i□in□ □ □nuf□cturer. Re□o□e □rotecti□e co□erin□□ □t ti□e of □u□□t□nti□□ Co□ □□etion.

□. Re□tore fini□□e□ d□□ □□ed durin□ in□t□□□tion □nd con□truction □eriod, □o no e□idence re□ □in□ of correction □or□. Return ite□ □t□□t c□nnot □e refini□□ed in t□e fie□d to t□e □□o□□□ □□e re□uired □□ter□tion□ □nd refini□□ entire unit or □ro□ide ne□ unit□.

E□D OF □ECTIO□ 055213

□ECTIO□ 057300 - DECOR□TIVE MET□□ R□I□I□□□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

A. □ection Inc□ude□:

1. □t□in□e□□ □tee□decor□ti□e r□i□in□□.

B. Re□□ted Re□uire□ent□:

1. □ection 055213 "□i□e □nd Tu□e R□i□in□□" for nonorn□□ent□□r□i□in□□ f□□ric□ted fro□ pipes □nd tu□e□.

1.2 COORDI□□TIO□ AN D SCHEDUL ING

A. Coordin□te □e□ection of sh□p □ri□er□ □it□ to□co□t□ to □e □□□□ied o□er t□e□. Co□ply □it□ □□int □nd co□tin□ □ □nuf□cturer□' □ritten in□truction□ to en□ure t□□t sh□p □ri□er□ □nd to□co□t□ □re co□ □□ti□e.

□. Coordin□te in□t□□□tion of □nc□or□□e□ for r□i□in□□. Furni□□ □ettin□ dr□□in□□, te□ □□□te□, □nd direction□ for in□t□□□in□ □nc□or□□e□, inc□udin□ □ee□e□, concrete in□ert□, □nc□or bo□ts, □nd ite□ □ □it□ inte□r□□□nc□or□, t□□t □re to □e e□ □edded in concrete or □ □□onr□. De□i□er ite□ □□to □ro□ect □ite in ti□e for in□t□□□tion.

1.3 □CTIO□ SUB MITT ALS

A. □roduct D□t□:

1. M□nuf□cturer'□ □roduct □ine□ of decor□ti□e metal r□i□in□□ □□□e□ □□ed fro□ □t□nd□rd co□ □onent□.
2. □t□in□e□□ □tee□c□□□e □nd c□□□e fittin□□.
3. F□□tener□.
4. □o□t-in□t□□□ed □nc□or□.
5. □□ndr□i□□r□c□et□.
6. Sh□p □ri□er.
7. Inter□edi□te co□t□ □nd to□co□t□.
8. □itu□inou□ □□int.
9. □on□□rin□, non□et□□ic □rout.
10. □nc□orin□ ce□ent.
11. Met□□fini□□e□.

B. □□o□ Dr□□in□□: Inc□ude pla n□, e□e□□tion□, □ection□, □nd □tt□c□□ent det□i□□.

C. Samp □es for Initi□□ □e□ection: For □roduct□ in□o□□in□ □e□ection of co□or, te□ture, or de□i□n, inc□udin□ □ ec□□nic□□fini□□e□.

D. Samp □es for Verific□tion: For e□c□ t□□e of e□□o□ed fini□□ re□uired.

1. □ection□ of e□c□ di□tinct□□ different □ine□r r□i□in□ □e□□er, inc□udin□ □□ndr□i□□, to□ r□i□□, □o□t□, □nd □□□u□ter□
2. Fittin□□, end c□□□, □nd □r□c□et□.
3. □ e□ded connection□.
4. □r□□ed connection□.
5. C□□□e □nd c□□□e □□rd□□re □nd connection□.
6. □□□e□ □□ed □□□ □□e of r□i□in□ □□□te□, □ □de fro□ fu□-□i□e co□ □onent□, inc□udin□ to□ r□i□, □o□t, □□ndr□i□, □nd □u□rd infi□□ □□□ □□e need not □e fu□□□ei□□t.

□. □□o□ □et□od of connectin□ □nd fini□□in□ □e□□er□□t inter□ection□.

E. De□e□□ted-De□i□n □u□□itt□□□ For r□i□in□□, inc□udin□ □n□□□□i□ d□t□ □i□ned □nd □e□□ed □□ t□e □u□ified □rofe□□ion□□en□ineer re□□on□i□□e for t□eir □re□□r□tion.

1.4 I□FORM□TIO□ □□□ □□□MITT□□□

□. □u□ific□tion D□t□□For de□e□□ted-de□i□n □rofe□□ion□□en□ineer.

□. Mi□□Certific□te□□ □i□ned □□ □ □nuf□cturer□ of □t□in□e□□-□tee□□roduct□, certif□in□ t□□t □roduct□ furni□□ed co□ □□□ □it□ re□uire□ent□.

C. □ e□din□ certific□te□.

D. □roduct Te□t Re□ort□□ For te□t□ on r□i□in□□ □erfor□ed □□ □ □u□ified te□tin□ □□enc□, in □ccord□nce □it□ □□TM E894 □nd □□TM E935.

E. Re□e□rc□ Re□ort□□For □o□t-in□t□□ed □nc□or□, fro□ ICC-E□ or ot□er □u□ified te□tin□ □□enc□ □cce□t□□e to □ut□oritie□ □□□in□ □uri□diction.

F. □recon□truction te□t re□ort□.

1.5 □ □□□IT□ □□□□R□□CE

□. □ e□din□ □u□ific□tion□□□ u□if□ □rocedure□ □nd □er□onne□in □ccord□nce □it□ t□e fo□o□in□□
1. □□ □ D1.6/D1.6M, "□tructur□□□ e□din□ Code - □t□in□e□□ □tee□."

□. Moc□u□□□ □uid □oc□u□□ to □erif□ □e□ection□ □ □de under □□□ □□e □u□□itt□□, to de□on□tr□te □e□□etic effect□, □nd to □et □u□it□ □t□nd□rd□ for f□□ric□tion □nd in□t□□tion.

1. □uid □oc□u□□ □□ □□o□n on Dr□□in□□.
2. □uid □oc□u□□ for e□c□ for□ □nd fini□□ of r□i□in□, con□i□tin□ of t□o □o□t□, to□ r□i□, infi□□ □re□, □nd □nc□or□□e □□□te□ co□ □onent□ t□□t □re fu□□□ei□□t □nd □re not □e□□ t□□n 24 inc□e□ in □en□t□.
3. □u□□ect to co□ □i□nce □it□ re□uire□ent□, □□□ro□ed □oc□u□□ □ □□ □eco□e □□rt of t□e co□ □□eted □ or□ if undi□tur□ed □t ti□e of □u□□t□nti□□Co□ □□etion.

1.6 DE□IVER□, □TOR□□E, □□D □□□D□I□□

□. □rotect □ec□□nic□□ fini□□e□ on e□□o□ed □urf□ce□ of r□i□in□□ fro□ d□□ □□e □□ □□□□□in□ □ □tri□□□□□e, te□ □or□r□ □rotecti□e co□erin□ □efore □□i□□in□.

1.7 FIE□D CO□DITIO□□

□. Fie□d Me□□ure□ent□□Verif□ □ctu□□ □oc□tion□ of □□□□□ □nd ot□er con□truction conti□uou□ □it□ r□i□in□□ □□fie□d □e□□ure□ent□ □efore f□□ric□tion.

□□RT 2 - □ROD□CT□

2.1 □ERFORM□□CE RE□□IREME□T□

□. De□ē□□ted De□i□n□En□□□e □ □u□ified □rofe□□ion□□en□ineer, □□ defined in □ection 014000 "□u□it□Re□uire□ent□," to de□i□n r□i□in□□, inc□udin□ □tt□c□□ent to □ui□din□ con□truction.

□. □tructur□□□erfor□ □nce□R□i□in□□, inc□udin□ □tt□c□□ent to □ui□din□ con□truction, □□□□□□it□□t□nd t□e effect□ of □r□□it□ □o□d□ □nd t□e fo□ō□in□ □o□d□ □nd □tre□□e□ □it□in □□it□ □nd under condition□indic□ted□

1. □□ndr□i□□ □nd To□R□i□□ of □u□rd□□

□. □nifor□ □o□d of 50 □□f/ft. □□□□ied in □n□direction.
□. Concentr□ted □o□d of 200 □□f □□□□ied in □n□direction.
c. □nifor□ □nd concentr□ted □o□d□need not □e □□□u□ed to □ct concurrent□□.

2. Infi□□of □u□rd□□

□. Concentr□ted □o□d of 50 □□f □□□□ied □ori□ont□□□□on □n □re□ of 1 □□. ft..
□. Infi□□o□d □nd ot□er □o□d□need not □e □□□u□ed to □ct concurrent□□.

C. T□er□ □□Mo□e□ent□□ □□□o□ for t□er□ □□□ o□e□ent□ fro□ □□ □ient □nd □urf□ce te□ □er□ture c□□n□e□ □ctin□ on e□terior r□i□in□□ □□ □re□entin□ □uc□in□, o□enin□ of □oint□, o□er□tre□□in□ of co□ □onent□, f□i□ure of connection□, □nd ot□er detri□ent□□effect□.

1. Te□ □er□ture C□□n□e□120 de□F, □□ □ient□180 de□F, □ □teri□□□urf□ce□.

2.2 MET□□□, □E□ER□□

□. Met□□□urf□ce□, □ener□□□ro□ide □ □teri□□□ □it□ □□ oot□ □urf□ce□, □it□out □e□□ □ □r□□, ro□er □ □r□□, ro□ē□ tr□de n□□ e□, □t□in□, di□co□or□tion□, or □ē□i□□e□.

□. □r□c□et□, F□□n□e□, □nd □nc□or□□ □□□□e □et□□□nd fini□□ □□ □u□□orted r□i□□ un□ē□□ ot□er□i□e indic□ted.

2.3 □T□I□□E□□ □TEE□DECOR□TIVE R□I□I□□□

□. M□nuf□cturer□□ □u□ē□ct to co□ □i□□nce □it□ re□uire□ent□, □□□i□□□□ē □ □nuf□cturer□ offerin□ □roduct□ t□□t □ □□□ □e incor□or□ted into t□e □or□inc□ude, □ut □re not i□□ited to t□e fo□ō□in□□

1. □u□, □u□u□ Co., Inc.
2. C.R. □□urence Co., Inc.
3. □i□er□ □ron□e Co.

□. □ource □i□it□tion□□ O□t□in □t□in□□ □tee□decor□ti□e r□i□in□ co□ □onent□ fro□ □in□□e □ource fro□ □in□□e □ □nuf□cturer.

C. Tu□in□□□□TM □554, □r□de MT 304 (interior on□) or □r□de MT 316□

D. □i□e□□□TM □312/□312M, □r□de T□ 304 (interior on□) or □r□de T□ 316□ (e□terior).

E. C□□tin□□□□□TM □743/□743M, □r□de CF 8 or CF 20 (interior on□) □nd □r□de CF 8M or CF 3M (e□terior).

F. □□te, □□eet, □nd □tri□□ □□TM □240/□240M or □□TM □666, T□□e 304 (interior on□) or T□□e 316□ (e□terior).

□. F□t □□r□□□TM □666, T□□e 304 (interior on□) or T□□e 316□ (e□terior).

□. □□r□ □nd □□□□e□□□□TM □276/□276M, T□□e 304 (interior on□) or T□□e 316□ (e□terior).

I. □t□in□□□ □tee□C□□□e □nd C□□□e Fittin□□□

1. M□nuf□cturer□□ □u□□ect to co□ □i□nce □it□ re□uire□ent□, □□□i□□□e □ □nuf□cturer□ offerin□ □roduct□ t□□t □ □□ □e incor□or□ted into t□e □ or□ inc□ude, □ut □re not i□□ited to t□e fo□o□in□□

□. □□ □ □t□in□e□□ Inc.
□. Feene□ Inc.
c. □eco □out□, Inc.
d. T□e C□□□e Connection.
e. VIV□ R□i□in□□, □□C.

2. C□□□e□ □ □tc□ e□i□tin□ □ire c□□□e □ □de fro□ □ire co□ □□□in□ □it□ □□TM □492, T□□e 316,.
3. C□□□e Di□□ eter□M□tc□ e□i□tin□.
4. C□□□e Fittin□□□Connector□ of t□□e□ indic□ted, f□□ric□ted fro□ □t□in□e□□ □tee□, □nd □it□ c□□□□□i□it□ to □u□t□in, □it□out f□i□ure, □ □o□d e□u□□to □ini□u□ □re□□in□ □tren□t□ of c□□□e □it□ □□ic□t□e□ □re u□ed.
5. Inter□edi□te C□□□e □u□□ort□□□t□in□e□□ □tee□f□t □□r, 1/4-□□-1-inc□, □redri□ed.

2.4 F□□TE□ER□

□. F□□tener M□teri□□□□
1. □t□in□e□□ □tee□R□i□in□ Co□ □onent□□ T□□e 316 □t□in□e□□ □tee□f□□tener□.
2. Di□□i□i□r Met□□R□i□in□ Co□ □onent□□ T□□e 316 □t□in□e□□ □tee□f□□tener□.
3. Fini□□ e□□o□ed f□□tener□ to □ □tc□ □□□e□r□nce, inc□din□ co□or □nd te□ture, of r□i□in□□.

□. F□□tener□ for □nc□orin□ to Ot□er Con□truction□ □e□ect f□□tener□ of t□□e, □r□de, □nd c□□□□ re□uired to □roduce connection□ □uit□□e for □nc□orin□ r□i□in□□ to ot□er t□□e□ of con□truction □nd c□□□□□e of □it□□t□ndin□ de□i□n lo□d□.

C. □ro□ide conce□□ed f□□tener□ for interconnectin□ r□i□in□ co□ □onent□ □nd for □tt□c□in□ r□i□in□□ to ot□er □or□un□□e□□o□ed f□□tener□ □re un□□oid□□e.

1. □ro□ide □□u□re or □e□ □oc□et f□□-□e□d □ □c□ine □cre□□ for e□□o□ed f□□tener□ un□□□ ot□er□i□e indic□ted.

D. □o□t-In□t□□ed □nc□or□□F□□tener □□□te□ □ □it□ □or□in□ c□□□cit□ □re□ter t□□n or e□u□□to t□e de□i□n □□d, in □ccord□nce □it□ □n e□□□u□tion re□ort □cce□t□□e to □ut□oritie□ □□□in□ □uri□diction, □□□ed on ICC-E□ □C193.

1. M□teri□□for E□terior □oc□tion□ □nd □ □ere □t□in□e□□ □tee□l□ Indic□ted□□□o□ □rou□2 □t□in□e□□ □tee□□o□t□, □□TM F593 □nd nut□, □□TM F594.

2.5 MI□CE□□□□EO□□ M□TERI□□□

□. □□ndr□i□□r□c□et□□ C□□t □t□in□e□□ □tee□, center of □□ndr□i□2-1/2 inc□e□fro□ f□ce of r□i□in□.

1. □ro□ide eit□er for□ed- or c□□t-□et□□ □r□c□et□ □it□ □redri□□ed □o□e for e□□o□ed □o□t □nc□or□□e.

□. □ e□din□ Rod□ □nd □□re E□ectrode□□ □e□ect □ccordin□ to □□ □ □□ecific□tion□ for □et□□ □□o□ □e□ded.

1. For □t□in□e□□ □tee□r□i□in□□, □ro□ide t□□e □nd □□o□ □□ reco□ □ended □□ □roducer of □et□□ to □e □e□ded □nd □□ re□uired for co□or □ □tc□, □tren□t□, □nd co□ □□□ti□it□ in f□□ric□ted ite□ □.

C. □itu□inou□ □□int□Co□d-□□□□ied □□□□□□t□e□u□tion co□ □□□in□ □it□ □□TM D1187/D1187M.

D. □on□□rin□, □on□et□□ic □rout□F□ctor□-□□c□□□ed, non□t□inin□, noncorro□i□e, non□□□eou□ □rout co□ □□□in□ □it□ □□TM C1107/C1107M. □ro□ide □rout □□ecific□□□ reco□ □ended □□ □ □nuf□cturer for interior □nd e□terior □□□□ic□tion□.

E. □nc□orin□ Ce□ent□F□ctor□-□□c□□□ed, non□□rin□, non□t□inin□, □□dr□u□ic-contro□ed e□□□n□ion ce□ent for□u□□tion for □i□in□ □it□ □□ter □t □ro□ect □ite to cre□te □our□□e□ □nc□orin□, □□tc□in□, □nd □routin□ co□ □ound.

1. □ □ter-Re□i□t□nt □roduct□ □t e□terior □oc□tion□ □nd □□ere indic□ted on Dr□□in□□, □ro□ide for□u□□tion t□□t i□re□i□t□nt to ero□ion fro□ □□ter e□□o□ure □it□out needin□ □rotection □□ □ e□□er or □□ter□roof co□tin□ □nd t□□t i□ reco□ □ended □□ □ □nuf□cturer for e□terior u□e.

2.6 F□□RIC□TIO□

□. F□□ric□te r□i□in□□ to co□ □□□ □it□ re□uire□ent□ indic□ted for de□i□n, di□en□ion□, □e□ □er □i□e□ □nd □□□cin□, det□i□, fini□□, □nd □nc□or□□e, □ut not □e□□ t□□n t□□t re□uired to □u□□ort □tructur□□ □o□d□.

□. □□o□ □□□e□ □□e r□i□in□□ to □re□te□t e□tent □o□i□e to □ini□i□e fie□d □□ic□in□ □nd □□□e□ □□□. Di□□□□e□ □□e unit□on□ □□nece□□□r□ for □□i□□in□ □nd □□nd□in□ i□it□tion□.

1. C□e□r□ □ r□unit□ for re□□□e□ □□□ □nd coordin□ted in□t□□□tion.
2. □□e connection□t□□t □ □int□in □tructur□□□□□ue of □oined □iece□.

C. Cut, dri□, □nd □unc□ □et□□ c□e□n□ □nd □ccur□te□.

1. Re□o□e □urr□ □nd e□□e ed□e□ to □ r□diu□ of □□□ro□i□ □te□ 1/32 inc□ un□□□ ot□er□i□e indic□ted.
2. Re□o□e □□□r□ or rou□□ □re□□on e□□o□ed □urf□ce□.

D. For□ □or□true to □ine □nd □e□e□□it□ □ccur□te □n□□e□ □nd □urf□ce□.

E. F□□ric□te connection□ t□□t will □e e□□o□ed to □e□t□er in a □ □nner to e□c□ude □□ter.

1. □ro□ide □ee□ □o□e□ □□ere □□ter may □ccu□u□te.
2. □oc□te □ee□ □o□e□ in incon□□icuou□ □oc□tion□.

F. Cut, reinforce, dri□, □nd tap as indic□ted to recei□e fini□□ □□rd□□re, □cre□□, □nd i□i□r ite□ □.

G. Connection□: F□□ric□te r□i□in□□ □it□ □e□ded connection□ un□e□□ ot□er□i□e indic□ted.

H. □e□ded Connection□: Co□e co□ □onent□ □t connection□ to □ro□ide c□o□e fit, or u□e fittin□□ de□i□ned for t□i□ □ur□o□e. □e□d all □round □t connection□, inc□udin□ □t fittin□□.

1. Us□ □ □teri□□□ □nd □et□od□ t□□t □ini□i□e di□tortion □nd de□e□o□ □tren□t□ □nd corro□ion re□i□t□nce of bas□ □et□□□.
2. O□t□in fu□ion □it□out undercut or o□er□□□.
3. Re□o□e fu□i□ □edi□te□□.
4. □t e□□o□ed connection□, fini□□ e□□o□ed □e□d□ to co□ □□□ □it□ □OMM□'] "Vo□unt□r□ □oint Fini□□ □t□nd□rd□" for Fini□□ #1 □e□d□; orn□□ent□□□u□it□ □it□ no e□idence of a □e□ded □oint.

I. □e□ded Connection□ for □u□inu□ □i□e: F□□ric□te r□i□in□□ to interconnect □e□□er□ □it□ conce□□ed intern□□□e□d□t□□t e□i□in□te □urf□ce □rindin□, u□in□ □□nuf□cturer'] t□nd□rd sys□em of □ee□e □nd □oc□et fittin□□.

□. □r□□ed Connection□: Connect co□□er □nd co□□er-□□o□r□i□in□□ by □r□□in□. Co□e co□ □onent□ □t connection□ to □ro□ide c□o□e fit, or u□e fittin□□ de□i□ned for t□i□ □ur□o□e. Braz□ corner□ □nd s□ams continuou□□□.

1. □□e □□teri□□□ □nd □et□od□ t□□t □□tc□ co□or of □□□e □et□, □ini□i□e di□tortion, □nd de□e□o□ max□mum □tren□t□ □nd corro□ion re□i□t□nce.
2. Re□o□e fu□i□ □edi□te□□.
3. □t e□□o□ed connection□, fini□□ e□□o□ed □urf□ce□ □□oot□ □nd □ended, □o no rou□□ne□□ sh□ws □fter fini□□in□ □nd □r□□ed □urf□ce □ □tc□e□ contour□ of □d□inin□ □urf□ce□.

K. Mec□□nic□□Connection□: Connect □e□□er□ □it□ conce□□ed □ec□□nic□□f□□tener□ □nd fittin□□.

1. F□□ric□te □e□□er□ □nd fittin□□ to □roduce fu□□, □□oot□, ri□id, □□ir□ine □oint□.
2. F□□ric□te □□ice □oint□ for fie□d connection u□in□ □n ep□xy □tructur□□□d□e□i□e if t□i□ i□ □□nuf□cturer□□ t□nd□rd □□icin□ □et□od.

L. For□ c□□n□e□in direction as fo□□□:

1. As det□i□ed.
2. By □endin□ to smal□s: r□diu□ t□□t will not re□u□t in di□tortion of r□i□in□□e□□er.

M. □end □e□□er□ in i□□ to □roduce unifor□ cur□□ture for e□c□ confi□ur□tion re□uired. M□int□in cro□□ □ection of □e□□er t□rou□□out entire □end □it□out □uc□in□, t□i□tin□, cr□c□in□, or ot□er□i□e defor□in□e□□o□ed □urf□ce□ of co□ □onent□.

□. C□o□e e□□o□ed end□ of □o□o□ r□i□in□ □e□□er□ □it□ □ref□□ric□ted cap □nd end fittin□□ of sam□ metal □nd fini□□ as r□i□in□□.

O. □ro□ide wall return□ □t end□ of □□□-□ounted □□ndr□i□ un□e□□ ot□er□i□e indic□ted. C□o□e end□ of return□, un□e□□ c□e□r□nce □et□een end of r□i□□nd wall ˙□1/4 inc□ or □e□□.

P. □r□c□et□, F□n□e□, Fittin□□, □nd □nc□or□□ □ro□ide wall □r□c□et□, f□n□e□, □□ndr□i□□r□c□et□, □i□ce□□neou□ fittin□□, □nd □nc□or□ to interconnect r□i□in□ □e□□er□ to ot□er □or□ un□□□ ot□er□i□e indic□ted.

1. □t □r□c□et□ □nd fittin□□ f□□tened to □□□□ter or gyps□m □o□rd □□rtition□, □ro□ide cru□□-re□i□t□nt fi□er□ or ot□er means to tr□n□fer lo□d□ t□rou□□ □□□□ fini□□e□ to □tructur□□ □u□□ort□ □nd to □re□ent □r□c□et or fittin□ rot□tion □nd cru□□in□ of □u□□tr□te.

Q. □ro□ide in□ert□ □nd ot□er □nc□or□□e de□ice□ for connectin□ r□i□in□□ to concrete or □□□onr□ □or□.

1. F□□ric□te □nc□or□□e de□ice□ c□□□□□e of □it□□t□ndin□ lo□d□i□ □o□ed by r□i□in□□.
2. Coordin□te □nc□or□□e de□ice□ □it□ □u□□ortin□ □tructure.

R. For r□i□in□ pos:s□et in concrete, □ro□ide □t□in□□ □tee□□ee□e□ not □e□□t□□n 6 inc□e□ on□ □it□ in□ide di□en□ion□ not □e□□ t□□n 1/2 inc□ □re□ter t□□n out□ide di□en□ion□ of □o□t, □it□ metal □□□te for□in□ □otto□ c□o□ure.

S. □t□in□□□ □tee□C□□□e □u□rd Infi□: F□□ric□te c□□□e □u□rd infi□□ass□mb□ie□ in t□e shop to fie□d-□e□□ured di□en□ion□ □it□ fittin□□□ □c□ine □□□□ed.

1. Mini□i□e □□ount of turn□uc□e t□□e-u□ u□ed for di□en□ion□□□du□t□ent, □o max□mum □□ount i□ ava□lab□e for ten□ionin□ c□□□e.
2. Tag c□□□e ass□mb□ie□ □nd fittin□□ to identif□ in□t□□□tion □oc□tion□ □nd orient□tion□ for coordin□ted in□t□□□tion.

T. Toe □o□rd□: □ □ere indic□ted on Dr□□in□□, □ro□ide toe □o□rd□ □t r□i□in□□ □round o□enin□□ □nd □t ed□e of o□en-□ided f□oor□ □nd □□tfor□ □. F□□ric□te to di□en□ion□ □nd det□i□□ indic□ted.

2.7 □E□ER□□ FI□I□□ RE□□IREME□T□

A. Co□ □□□ □it□ □□□MM□ "Met□□ Fini□□e□ M□nu□□ for □rc□itectur□□ □nd Met□□ □roduct□" reco□□end□tion□ for apply□ng □nd de□i□n□tin□ fini□□e□.

B. □rotect □ec□□nic□□ fini□□e□ on e□□o□ed □urf□ce□ fro□ damage by apply□ng a □tri□□□□e, te□ □or□ □rotecti□e co□erin□ □efore □□i□□ent.

C. □□□e□r□nce of Fini□□ed □or□: □otice□□□e □□ri□tion□ in sam□e □iece □re un□cce□t□□e. V□ri□tion□ in □□□e□r□nce of □□uttin□ or □d□□cent □iece□ □re □cce□t□□e if t□e□ □re □it□in one-□□f of t□e r□n□e of □□□ro□ed □□□ □□e□. V□ri□tion□ in □□□e□r□nce of ot□er co□ □onent□ □re □cce□t□□e if t□e□ □re □it□in t□e r□n□e of □□□ro□ed Samp□es □nd □re □□□e□ □ed or in□t□□ed to □ini□i□e contr□□t.

D. □ro□ide e□□o□ed f□□tener□ □it□ fini□□ □ □tc□in□ □□□e□r□nce, inc□udin□ co□or □nd te□ture, of r□i□in□□.

2.8 STAINLESS □TEE□ FI□I□□E□

A. □urf□ce □re□□r□tion: Re□o□e too□□nd die ma□ks □nd □tretc□ □ine□, or □end into fini□□.

□. □oli□□ed Fini□□e□: □rind □nd □oli□□ □urf□ce□ to □roduce unifor□ fini□□, free of cro□□ □cr□tc□e□.

1. Run □r□in of direction□□fini□□e□ □it□ □on□ di□en□ion of e□c□ □iece.

2. □ □en □oi□□in□ i□co□ □eted, □□□□i□□te □nd rin□e □urf□ce□.
3. Re□o□e e□ □edded forei□n □ □tter □nd □e□□e □urf□ce□ c□e□ic□□□□c□e□n.

C. □t□in□e□□ □tee□Tu□in□ Fini□□e□□

1. 320-□rit □oi□□□ed Fini□□□Oi-□round, unifor□, fine, direction□□□□te□tured fini□□.

D. □t□in□e□□ □tee□□□eet □nd □□□te Fini□□e□□

1. Direction□□□□□tin Fini□□□□□TM □480/□480M, □o. 4.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□□ine □□□□ter □nd □□□□□u□ □o□rd □□□e□ □□ie□, □□ere reinforced to recei□e □nc□or□, to □erif□ t□□t □oc□tion□ of conce□□ed reinforce□ent□ □□□e □een c□e□r□□ □□r□ed for In□t□□er. □oc□te reinforce□ent□ □nd □□r□oc□tion□ if not □re□d□done.

3.2 I□□T□□□□TIO□, □E□ER□□

□. □erfor□ cuttin□, dri□□in□, □nd fittin□ re□uired for in□t□□□in□ r□i□in□□.

1. Fit e□□o□ed connection□ to□et□er to for□ ti□□t, □□ri□ne □oint□.
2. In□t□□□r□i□in□□ □e□e□, □u□□, □□u□e, true to □ine□□it□out di□tortion, □□r□, or r□c□.
3. □et r□i□in□□ □ccur□te□□ in □oc□tion, □i□n□ent, □nd e□e□□tion□□ e□□ured fro□ e□t□□i□□ed □ine□ □nd □e□e□□.
4. Do not □e□d, cut, or □□r□de □urf□ce□ of r□i□in□ co□ □onent□ t□□t □□□e □een co□ted or fini□□ed □fter f□□ric□tion □nd t□□t □re intended for fie□d connection □□ □ec□□nic□□or ot□er □e□n□ □it□out furt□er cuttin□ or fittin□.
5. □et □o□t□ □u□ □ □it□in □ to□er□nce of 1/16 inc□ in 3 feet.
6. □i□n r□i□□ □o □□ri□tion□ fro□ □e□e□for □ori□ont□□□e□□er□ □nd □□ri□tion□ fro□ □□r□□e□ □it□ r□□e of □te□□ □nd r□□ □□for □□o□in□ □e□ □er□do not e□ceed 1/4 inc□ in 12 feet.

□. Contro□of Corro□ion□□re□ent □□□□□nic □ction □nd ot□er for□ □of corro□ion □□ in□u□□tin□ □et□□□ □nd ot□er □ □teri□□□ fro□ direct cont□ct □it□ inco□ □□ti□□ □ □teri□□□.

C. □d□u□t r□i□in□□ □efore □nc□orin□ to en□ure □ □tc□in□ □i□n□ent □t □□uttin□ □oint□.

D. F□□tenin□ to In-□□□ce Con□truction□□□e □nc□or□□e de□ice□ □nd f□□tener□ □□ere nece□□□r□ for □ecurin□ r□i□in□□ □nd for □ro□er□□tr□n□ferrin□ □o□d□to in-□□□ce con□truction.

3.3 R□I□I□□ CO□□ECTIO□□

□. □on□e□ded Connection□□□□e □ec□□nic□□or □d□e□i□e □oint□ for □er□ □nent□□ connectin□ r□i□in□ co□ □onent□. □□e □ood □□oc□□ □nd □□ddin□ to □re□ent d□□ □□e to r□i□in□ □e□ □er□ □nd fittin□□. □e□□rece□□ed □o□e□ of e□□o□ed □oc□in□ □cre□□, u□in□ □□□□tic ce□ent fi□er co□ored to □ □tc□ fini□□ of r□i□in□□.

B. □eⅆⅆed Connection□: □□e fu lly □eⅆⅆed ⅆoint□ for □er□ □nentⅆ connectin□ r□ⅈⅈin□ co□ □onent□. Co mply □it□ re□uire□ent□ for □eⅆⅆed connection□ in "F□□ric□tion" □rtic□e, □□et□er □eⅆin□ i□ □erfor□ed in t□e sh□p or in t□e fieⅆ.

C. E□□□n□ion ⅆoint□: In t□□□e□□□n□ion ⅆoint□ □t □oc□tion□ indic□ted □ut not f□rt□er □□□rt t□□n re□uired to □cco□□od□te t□er□ □□□□o□e□ent. □ro□ide □ii-ⅆoint intern□□□ee□e, e□tendin□ 2 inc□e□ □e□ond ⅆoint on eit□er □ide; f□□ten intern□□□ee□e □ecureⅆ to one □ide; □nd □oc□te ⅆoint □it□in 6 inc□e□ of □o□t.

3.4 □□C□ORI□□ POSTS

A. For□ or core-driⅆ ho□es not □e□□ t□□n 5 inc□e□ dee□ □nd 3/4 inc□ □r□er t□□n OD of □o□t for in□t□□in□ po□s in concrete. C□e□n □o□e□ of □oo□e □ □teri□, in□ert po□s, □nd fi□□nnu□r spa□e □et□een □o□t □nd concrete □it□ non□□rin□, non□et□□ic □rout, □i□ed □nd □□ced to co mply □it□ □nc□orin□ □ □teri□□□ □nuf□cturer'□ □ritten in□truction□.

□. Le□av□ □nc□or□□e ⅆoint e□□o□ed □it□ 1/8-inc□ □uiⅆu□, □o□ed □way fro□ □o□t.

C. □nc□or po□s to □etal □urf□ce□ □it□ f□□n□e□, □n□e t□□e, or f□□or t□□e as re□uired by condition□, connected to □o□t □nd to □etal □u□□ortin□ □e□ □er□ as fo□o□□:
1. For □t□in□e□ □tee□ r□ⅈⅈin□□, □eⅆ f□□n□e□ to po□s □nd □o□t to □et□-□u□□ortin□ □urf□ce□.

D. In□t□□re□o□□□□e r□ⅈⅈin□ □ection□, □□ere indic□ted, in □ii-fit □etal □oc□et□c□□t in concrete.

3.5 □TT□C□I□□ RAILINGS

□. □nc□or r□ⅈⅈin□ end□ to concrete □nd □ □□onr□ □it□ □r□c□et□ on under□ide of rails connected to r□ⅈⅈin□ end□ □nd □nc□ored to wall □on□truction □it□ □nc□or□ □nd □o□t□.

B. □nc□or r□ⅈⅈin□ end□ to □etal □urf□ce□ □it□ f□□n□e□ □o□ted to □etal □urf□ce□ □nd □eⅆⅆed to r□ⅈⅈin□ end□or connected to r□ⅈⅈin□ end□, u□in□ non□eⅆⅆed connection□.

C. □tt□c□ □□ndr□ⅈ□ to □□□□ □it□ □□□□r□c□et□. □ro□ide r□c□et□ □it□ 1-1/2-inc□ c□e□r□nce fro□ in□ide f□ce of □□ndr□□ □nd fini□□ed wall □urf□ce.

1. Us□ t□□e of r□c□et □it□ f□□n□e t□□□ed for conce□ed □nc□or□□e to t□re□ded □□n□er □o□t.
2. □oc□te r□c□et□ as indic□ted or, if not indic□ted, □t □□□cin□ re□uired to □u□□ort □tructur□□ o□d□.

D. □ecure wall r□c□et□ □nd r□ⅈⅈin□ end f□□n□e□ to □uiⅆin□ con□truction as fo□o□□:

1. For concrete □nd □o□id □ □□onr□ □nc□or□□e, u□e dri□ed-in e□□□n□ion □ie□d□ □nd □□n□er or lag □o□t□.
2. For □o□o□ □ □□onr□ □nc□or□□e, u□e to□□e □o□t□.
3. For □ood □tud □□rtition□, u□e □□n□er or l g □o□t□ □et into □tud□ or □ood □□c□in□ □et□een □tud□. Coordin□te □it□ c□r□entr□ □or□ to □oc□te □□c□in□ □e□ □er□.
4. For □tee□-fr□□ed □□rtition□, f□□ten r□c□et□ □it□ to□□e □o□t□ in□t□□ed t□rou□□ f□□n□e□ of □tee□fr□□ in□ or t□rou□□ conce□ed □tee□reinforce□ent□.

3.6 C□E□□I□□

□. C□e□n □t□in□e□□ □tee□□□ □ □□□in□ t□orou□□□□ □it□ c□e□n □□ter □nd □o□□, rin□in□ □it□ c□e□n □□ter, □nd □i□in□ dr□.

3.7 □ROTECTIO□

□. □rotect fini□□e□ of r□i□in□□ fro□ d□□ □□e durin□ con□truction □eriod □it□ te□ □or□r□ □rotecti□e co□erin□□ □□□ro□ed □□ r□i□in□ □ □nuf□cturer. Re□o□e □rotecti□e co□erin□□ □t ti□e of □u□□t□nti□□ Co□ □□etion.

□. Re□tore fini□□e□ d□□ □□ed durin□ in□t□□□tion □nd con□truction □eriod, □o no e□idence re□ □in□ of correction □or□. Return ite□ □t□□t c□nnot □e refini□□ed in t□e fie□d to t□e □□o□□□ □□e re□uired □□ter□tion□ □nd refini□□ entire unit or □ro□ide ne□ unit□.

E□D OF □ECTIO□ 057300

□ECTIO□ 061053 - MI□CE□□□□EO□□ RO□□□ C□R□E□TR□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection Inc□ude□□

1. □ ood □oc□in□ □nd n□i□er□
2. □ ood furrin□.

1.2 DEFI□ITIO□□

□. □o□rd□or □tri□□□□u□ □er of □e□□t□□n 2 inc□e□ no□ in□□□i□e in □e□□t di□ en□ion.

□. Di□ en□ion □u□ □er□□u□ □er of 2 inc□e□ no□ in□□or □re□ter □i□e □ut □e□□ t□□n 5 inc□e□ no□ in□□ □i□e in □e□□t di□ en□ion.

1.3 □CTIO□ □□□MITT□□□

□. □roduct D□t□□For e□c□ t□□e of □roce□□ □nd f□ctor□-f□□ric□ted □roduct. Indic□te co□ □onent □ □teri□□□ □nd di□ en□ion□ □nd inc□ude con□truction □nd □□□ic□tion det□i□□.

1. Inc□ude d□t□ for □ood-□re□er□□ti□e tre□t□ ent fro□ c□e□ic□□tre□t□ ent □ □nuf□cturer □nd certific□tion □□ tre□tin□ □□□nt t□□t tre□ted □ □teri□□□ co□ □□□ □it□ re□uire□ent□. Indic□te t□□e of □re□er□□ti□e u□ed □nd net □□ ount of □re□er□□ti□e ret□ined.
2. Inc□ude d□t□ for fire-ret□rd□nt tre□t□ ent fro□ c□e□ic□□ tre□t□ ent □ □nuf□cturer □nd certific□tion □□ tre□tin□ □□□nt t□□t tre□ted □ □teri□□□ co□ □□□ □it□ re□uire□ent□. Inc□ude □□□□ic□□ ro□ertie□ of tre□ted □ □teri□□□ □□□ed on te□tin□ □□ □ □u□ified inde□endent te□tin□ □□enc□.
3. For fire-ret□rd□nt tre□t□ ent□, inc□ude □□□□ic□□□ro□ertie□ of tre□ted □u□ □er □ot□ □efore □nd □fter e□□o□ure to e□e□□ted te□ □er□ture□, □□□ed on te□tin□ □□ □ □u□ified inde□endent te□tin□ □□enc□ □ccordin□ to □□TM D5664.
4. For □roduct□ recei□in□ □ □ □□ter□orne tre□t□ ent, inc□ude □t□te□ ent t□□t □oi□ture content of tre□ted □ □teri□□□ □□□ reduced to □e□e□□ □ecified □efore □□i□□ ent to □ro□ect □ite.

1.4 I□FORM□TIO□□□ □□□MITT□□□

□. E□□u□tion Re□ort□□For t□e fo□o□in□, fro□ ICC-E□□

1. □re□er□□ti□e-tre□ted □ood.
2. Fire-ret□rd□nt-tre□ted □ood.
3. □o□er-dri□en f□□tener□.
4. □o□t-in□t□□ed □nc□or□.
5. Met□□fr□□in□ □nc□or□.

1.5 □□□□IT□ □□□□R□□CE

□. Te□tin□ □□enc□ □u□ific□tion□□ For te□tin□ □□enc□ □ro□idin□ c□□□ific□tion □ □r□in□ for fire-ret□rd□nt-tre□ted □ □teri□□, □n in□□ection □□enc□ □cce□t□□e to □ut□oritie□ □□□in□ □uri□diction t□□t □eriodic□□□□ □erfor□ □ in□□ection□ to □erif□ t□□t t□e □ □teri□□ □e□rin□ t□e c□□□ific□tion □ □r□in□ i□re□re□ent□ti□e of t□e □ □teri□□te□ted.

1.6 DE□IVER□, □TOR□□E, □□D □□□D□I□□

□. □t□c□ □u□ □er f□□t □it□ □□□cer□ □ene□t□ □nd □et□een e□c□ □und□e to □ro□ide □ir circu□□tion. □rotect □u□ □er fro□ □e□t□er □□ co□erin□ □it□ □□ter□roof □□eetin□, □ecure□□ □nc□ored. □ro□ide for □ir circu□□tion □round □t□c□□ □nd under co□erin□□.

□□RT 2 - □ROD□CT□

2.1 □ OOD □ROD□CT□, □E□ER□□

□. □u□ □er□DOC □□ 20 □nd □□□ic□□e ru□e□ of □r□din□ □□encie□ indic□ted. If no □r□din□ □□enc□ i□ indic□ted, □ro□ide □u□ □er t□□t co□ □ie□ □it□ t□e □□□ic□□e ru□e□ of □n ru□e-□ritin□ □□enc□ certified □□ t□e □□□C □o□rd of Re□ie□. □ro□ide □u□ □er □r□ded □□ □n □□enc□ certified □□ t□e □□□C □o□rd of Re□ie□ to in□□ect □nd □r□de □u□ □er under t□e ru□e□ indic□ted.

1. F□ctor□ □ □r□e□c□ □iece of □u□ □er □it□ □r□de □t□□ □ of □r□din□ □□enc□.
2. For e□□o□ed □u□ □er indic□ted to rece□e □ □t□ined or n□tur□□fini□□, o□it □r□de □t□□ □ □nd □ro□ide certific□te□ of □r□de co□ □□i□nce i□□ued □□ □r□din□ □□enc□.
3. Dre□□ □u□ □er, □4□, un□e□□ ot□er□i□e indic□ted.

□. M□□i□u□ Moi□ture Content of □u□ □er□ 15 □ercent un□e□□ ot□er□i□e indic□ted.

2.2 □ OOD-□RE□ERV□TIVE-TRE□TED M□TERI□□□

□. □re□er□□ti□e Tre□t□ent □□ □re□□ure □roce□□□ □□ □□ □1□ □□e C□te□or□ □C2 for interior con□truction not in cont□ct □it□ □round, □□e C□te□or□ □C3□ for e□terior con□truction not in cont□ct □it□ □round, □nd □□e C□te□or□ □C4□ for ite□ □in cont□ct □it□ □round.

1. □re□er□□ti□e C□e□ic□□□ □cce□t□□□e to □ut□oritie□ □□□in□ □uri□diction □nd cont□inin□ no □r□enic or c□ro□iu□.
2. For e□□o□ed ite□ □ indic□ted to rece□e □ □t□ined or n□tur□□fini□□, c□e□ic□□for□u□□tion□ □□□□□not re□uire inci□in□, cont□in co□or□nt□, □eed t□rou□□, or ot□er□i□e □d□er□e□□ □ffect fini□□e□.

□. □in□-dr□ □u□ □er □fter tre□t□ent to □ □ □□i□u□ □oi□ture content of 19 □ercent. Do not u□e □ □teri□□t□□t i□ □ □r□ed or doe□ not co□ □□□ □it□ re□uire□ent□ for untre□ted □ □teri□□.

C. M□r□ □u□ □er □it□ tre□t□ent □u□it□ □ □r□ of □n in□□ection □□enc□ □□□ro□ed □□ t□e □□□C □o□rd of Re□ie□.

1. For e□□o□ed □u□ □er indic□ted to rece□e □ □t□ined or n□tur□□fini□□, o□it □ □r□in□ □nd □ro□ide certific□te□ of tre□t□ent co□ □i□nce i□□ued □□ in□□ection □□enc□.

D. □□□ic□tion□Tre□t □□□□ i□ce□□neou□ c□r□entr□un□e□□ ot□er□i□e indic□ted.

1. Wood cant, nailer, curb, equipment support base, flashing, and miscellaneous fiber for roofing in connection with roofing, flashing, vapor barrier, and waterproofing.
2. Wood grounds, screeds, flashing, furring, and miscellaneous concealed fibers in contact with masonry or concrete.
3. Wood framing and furring attached directly to the interior of exterior masonry or concrete walls.
4. Wood framing members that are less than 18 inches above the ground in crawl spaces or unexcavated areas.
5. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 FIRE-RETARDANT-TREATED MATERIALS

A. General: Where fire-retardant-treated materials are indicated, materials shall comply with requirements in this Article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.

B. Fire-Retardant-Treated Lumber and Plywood: Pressure process products with flame-spread index of 25 or less when tested according to ASTM E84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.

1. Treatment shall not promote corrosion of metal fasteners.
2. Exterior Type: Treated materials shall comply with requirements specified for fire-retardant-treated lumber and plywood after being subjected to accelerated weathering according to ASTM D2898. Use for exterior locations and where indicated.
3. Interior Type: Treated materials shall have moisture content of 28 percent or less when tested according to ASTM D3201 at 92 percent relative humidity. Use where exterior type is not indicated.
4. Design Value Adjustment Factors: Treated lumber shall be tested according to ASTM D5664, and design value adjustment factors shall be calculated according to ASTM D6841.

C. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Kiln-dry plywood after treatment to a maximum moisture content of 15 percent.

D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.

1. For exposed lumber indicated to receive a stained or natural finish, provide certificate of treatment compliance issued by inspection agency.

E. For exposed items indicated to receive a stained or natural finish, select lumber for uniformity of appearance that will not need touchup, contain colorant, or otherwise adversely affect finishes.

F. Identification: Treated lumber shall bear identification mark evidencing compliance with other requirements indicated.

2.4 DIMENSION LUMBER FRAMING

A. Non-load-bearing Interior Partitions: Construction or No. 2 grade of any species.
1. Mixed Southern Pine or Southern Pine No. 1.

2. □e□-fir; W CLIB or WWPA .
3. □ort□ern □□ecie□; NLGA .
4. E□□tern □oft□ood□; NeLMA.
5. □ e□tern □ood□; W CLIB or WWPA .

B. Ot□er Fr□□in□: □o. 2 □r□de of any of t□e fo□o□in□ □□ecie□:

1. □e□-fir (nort□); NLGA .
2. □out□ern □ine; SP IB.
3. Dou□□□□fir-□□rc□; W CLIB or WWPA .
4. □out□ern □ine or □i□ed □out□ern □ine; SP IB.
5. □□ruce-□ine-fir; NLGA .
6. Dou□□□□fir-□out□; WWPA .
7. □e□-fir; W CLIB or WWPA .
8. Dou□□□□fir-□□rc□ (nort□); NLGA .
9. □□ruce-□ine-fir (□out□); NeLMA, W CLIB, or WWPA .

2.5 MI□CE□□□□EO□□ □□M□ER

A. □ener□: □ro□ide □i□ce□□neou□ □u□□er indic□ted □nd □u□□er for □u□□ort or □tt□c□□ent of ot□er con□truction, inc□udin□ t□e fo□o□in□:

1. □oc□in□.
2. □□i□er.
3. Furrin□.

B. Di□en□ion □u□□er Ite□□: Con□truction or □o. 2 □r□de □u□□er of any □□ecie□. t□e fo□o□in□ □□ecie□:
1. Mi□ed □out□ern □ine or □out□ern □ine; SP IB.
2. □ e□tern □ood□; W CLIB or WWPA .
3. □ort□ern □□ecie□; NLGA .
4. E□□tern □oft□ood□; NeLMA.

5. E□□tern □□ite □ine, Id□□o □□ite, □od□e□o□e, □ondero□□, or s□ugar □ine; □re□iu□ or □o. 2 Co□□on (□ter□in□) □r□de; NeLMA, NLGA , W CLIB, or WWPA .
6. Mi□ed □out□ern □ine or □out□ern □ine □o. 1 □r□de; SP IB.
7. □e□-fir or □e□-fir (nort□), □e□ect Merc□□nt□□□e or □o. 1 Co□□on □r□de; NLGA , W CLIB, or WWPA .
8. □□ruce-□ine-fir (□out□) or □□ruce-□ine-fir, □e□ect Merc□□nt□□□e or □o. 1 Co□□on □r□de; NeLMA, NLGA , W CLIB, or WWPA .

C. Conce□ed □o□rd□: 15 □ercent maximum □oi□ture content of any of t□e fo□o□in□ □□ecie□ □nd □r□de□:

1. Mi□ed □out□ern □ine or □out□ern □ine, □o. 2 □r□de; SP IB.
2. E□□tern □oft□ood□, □o. 2 Co□□on □r□de; NELMA.
3. □ort□ern □□ecie□, □o. 2 Co□□on □r□de; NLGA .
4. □ e□tern □ood□, Con□truction or □o. 2 Co□□on □r□de; W CLIB or WWPA .

D. For □oc□in□ not u□ed for □tt□c□□ent of ot□er con□truction, □ti□it□, □tud, or □o. 3 □r□de u□□er of any □□ecie□ may □e u□ed □ro□ided t□□t it i□ cut □nd □e□ected to e□i□in□te defect□ t□□t will interfere □it□ it□ □tt□c□□ent □nd □ur□o□e.

E. For □oc□in□ □nd n□i□er□ u□ed for □tt□c□□ent of ot□er con□truction, □e□ect □nd cut u□ □er to e□□ in□te □not□ □nd ot□er defect□ t□□t □i□□interfere □it□ □tt□c□□ent of ot□er □or□.

F. For furrin□ □tri□□ for in□t□□□in□ □□□□ood or □□rd□o□rd □□ne□in□, □e□ect □o□rd□ □it□ no □not□ c□□□□□e of □roducin□ □ent-o□er n□□□ □nd d□□ □□e to □□ne□in□.

2.6 □□□□ OOD □□C□l□□ □□□E□□

□. E□ui□□ent □□c□in□ □□ne□□□□□□□ood, DOC □□ 1, E□terior, □-C, in t□ic□ne□□ indic□ted or, if not indic□ted, not □e□□t□□n 1/2-inc□ no□ in□□t□ic□ne□□.

2.7 F□□TE□ER□

□. □ener□□□ro□ide f□□tener□ of □□e □nd t□□e indic□ted t□□t co□ □□□ □it□ re□uire□ent□ □□ecified in t□i□ □rtic□e for □ □teri□□□nd □ □nuf□cture.

1. □ □ere c□r□entr□i□e□□o□ed to □e□t□er, in □round cont□ct, □re□□ure-□re□er□□ti□e tre□ted, or in □re□ of □i□□ re□□ti□e □u□idit□, □ro□ide f□□tener□ □it□ □ot-di□ □inc co□tin□ co□ □□□in□ □it□ □□TM □153/□153M.

□. □□i□□, □r□d□, □nd □t□□□e□□□□TM F1667.

C. □cre□□ for F□□tenin□ to Met□□Fr□□in□□ □□TM C1002, □en□t□ □□ reco□ □ended □□ □cre□ □ □nuf□cturer for □ □teri□□□ein□ f□□tened.

D. □o□er-Dri□en F□□tener□□F□□tener □□□te□ □ □it□ □n e□□u□tion re□ort □cce□t□□□e to □ut□oritie□ □□□in□ □uri□diction, □□□ed on ICC-E□ □C70.

E. □o□t-In□t□□ed □nc□or□□F□□tener □□□te□ □ □it□ □n e□□u□tion re□ort □cce□t□□□e to □ut□oritie□ □□□in□ □uri□diction, □□□ed on ICC-E□ □C01 □□ □□□□ro□ri□te for t□e □u□□tr□te.

1. M□teri□□□ C□r□on-□tee□ co□ □onent□, □inc □□□ted to co□ □□□ □it□ □□TM □633, C□□□□ Fe/□n 5.
2. M□teri□□□□t□in□□□ □tee□□it□ □o□t□ □nd nut□ co□ □□□in□ □it□ □□TM F593 □nd □□TM F594, □□ō□ □rou□ 1 or 2.

2.8 MET□□ FR□MI□□ □□C□OR□

□. □ □□□□ni□ed-□tee□□□eet□□ot-di□, □inc-co□ted □tee□□□eet co□ □□□in□ □it□ □□TM □653/□653M, □60 co□tin□ de□i□n□tion.

1. □□e for interior □oc□tion□ un□e□□ ot□er□i□e indic□ted.

□. □ot-Di□, □e□□□-□ □□□□ni□ed □tee□ □□eet□ □□TM □653/□653M□ □tructur□□ □tee□ (□□), □i□□-□tren□t□ □o□-□□o□ □tee□ T□□e □ (□□□□□ T□□e □), or □i□□-□tren□t□ □o□-□□o□ □tee□ T□□e □ (□□□□□ T□□e □)□□ 185 co□tin□ de□i□n□tion□□nd not □e□□t□□n 0.036 inc□ t□ic□.

1. □□e for □ood-□re□er□□ti□e-tre□ted □u□ □er □nd □□ere indic□ted.

C. □t□in□e□□ □tee□□□eet□□□TM □240/□240M or □□TM □666, T□□e 304.

1. □□e for e□terior □oc□tion□ □nd □□ere indic□ted.

2.9 MI□CE□□□□EO□□ M□TERI□□□

□. □d□e□i□e□ for □uin□ Furrin□ to Concrete or M□□onr□□For□u□tion co□ □□in□ □it□ □□TM D3498 t□□t i□ □□□ro□ed for u□e indic□ted □□ □d□e□i□e □ □nuf□cturer.

□. F□e□i□e F□□□in□□ Co□ □o□ite, □ef-□d□e□i□e, f□□□in□ □roduct con□i□tin□ of □ □i□□□e, □ut□□ ru□□er or ru□□eri□ed-□□□□□□t co□ □ound, □onded to □ i□□-den□it□ □o□et□□ene fi□□, □u□inu□ foi□, or □□un□onded □o□o□efin to □roduce □n o□er□□t□ic□ne□□ of not □e□□ t□□n 0.025 inc□.

□□RT 3 - E□EC□TIO□

3.1 I□□T□□□□TIO□, □E□ER□□

□. Fr□□in□ □t□nd□rd□ Co□ □□□ □it□ □F□□□□□ □ CD 1, "Det□i□ for Con□ention□□ □ood Fr□□e Con□truction," un□e□□ ot□er□i□e indic□ted.

□. □et c□r□entr□ to re□uired □e□e□ □nd □ine□, □it□ □e□ □er□ □u□ □, true to □ine, cut, □nd fitted. Fit c□r□entr□ □ccur□te□ to ot□er con□truction. □oc□te furrin□, n□i□er□, □oc□in□, □nd □i□i□r □u□□ort□ to co□ □□□ □it□ re□uire□ent□ for □tt□c□in□ ot□er con□truction.

C. In□t□□□□□□ood □□c□in□ □□ne□□ □□ f□□tenin□ to □tud□□ coordin□te □oc□tion□ □it□ uti□itie□ re□uirin□ □□c□in□ □□ne□□. In□t□□□ fire-ret□rd□nt-tre□ted □□□□ood □□c□in□ □□ne□□ □it□ c□□□□ific□tion □ □r□in□ of te□tin□ □□enc□e□□o□ed to □ie□.

D. In□t□□□□ et□□fr□□in□ □nc□or□ to co□ □□□ □it□ □ □nuf□cturer□□ □ritten in□truction□. In□t□□□f□□tener□ t□rou□□ e□c□f□□tener □o□e.

E. Do not □□i□ce □tructur□□□ e□ □er□ □et□een □u□□ort□ un□e□□ ot□er□i□e indic□ted.

F. □ro□ide □o□c□in□ □nd fr□□in□ □□ indic□ted □nd □□ re□uired to □u□□ort f□cin□ □ □teri□□□, fi□ture□, □□eci□t□ite□ □, □nd tri□.

1. □ro□ide □et□□c□i□□ for f□□tenin□ □□□□u□ □o□rd or □□t □t corner□ □nd inter□ection□ □□ere fr□□in□ or □o□c□in□ doe□ not □ro□ide □ □urf□ce for f□□tenin□ ed□e□ of □□ne□□. □□□ce c□i□□ not □ore t□□n 16 inc□e□ o.c.

□. □ro□ide fire □o□c□in□ in furred □□□ce□, □tud □□□ce□, □nd ot□er conce□□ed c□□itie□ □□ indic□ted □nd □□ fo□o□□□

1. Fire □o□c furred □□□ce□ of □□□□, □t e□c□ f□o□r □e□e□, □t cei□in□, □nd □t not □ore t□□n 96 inc□e□ o.c. □it□ □oid □ood □o□c□in□ or nonco□ □u□ti□e □ □teri□□□ □ccur□te□□ fitted to c□o□e furred □□□ce□.
2. Fire □o□c conce□□ed □□□ce□ of □ood-fr□□ed □□□□ □nd □□rtition□ □t e□c□ f□o□r □e□e□, □t cei□in□ □ine of to□ □tor□, □nd □t not □ore t□□n 96 inc□e□ o.c. □ □ere fire □o□c□in□ i□ not in□erent in fr□□in□ □□□te□ u□ed, □ro□ide c□o□e□□ fitted □oid □ood □o□c□□ of □□□e □idt□ □□fr□□in□ □e□ □er□ □nd 2-inc□ no□in□□t□ic□ne□□.
3. Fire □o□c conce□□ed □□□ce□ □et□een f□oor □□e□er□ □it□ □□□e □ □teri□□□□ □□e□er□ to □i□ it conce□□ed □□□ce□ to not □ore t□□n 100 □□. ft. □nd to □oid□□ fi□□ □□□ce □e□o□ □□rtition□.
4. Fire □o□c conce□□ed □□□ce□ □e□ind co□ □u□ti□e cornice□ □nd e□terior tri□ □t not □ore t□□n 20 feet o.c.

□. □ort □nd □e□ect □u□ □er □o t□□t n□tur□□c□□r□cteri□tic□ do not interfere □it□ in□t□□□tion or □it□ f□□tenin□ ot□er □ □teri□□□ to □u□ □er. Do not u□e □ □teri□□□ □it□ defect□ t□□t interfere □it□ function of □e□ □er or □iece□ t□□t □re too □□ □□□to u□e □it□ □ini□u□ nu□ □er of □oint□ or o□ti□u□ □oint □rr□n□e□ent.

I. Co□ □□□ □it□ □□ □□ M4 for □□□□□in□ fie□d tre□t□ent to cut □urf□ce□ of □re□er□□ti□e-tre□ted □u□ □er.

1. □□e inor□□nic □oron for ite□ □ t□□t □re continuou□□□ □rotected fro□ i□uid □ □ter.
2. □□e co□□er n□□□t□en□te for ite□ □ not continuou□□□ □rotected fro□ i□uid □ □ter.

□. □ □ere □ood-□re□er□□ti□e-tre□ted □u□ □er i□ in□t□□ed □d□□cent to □et□□ dec□in□, in□t□□□ continuou□ f□e□i□e f□□□in□ □e□□r□tor □et□een □ood □nd □et□□dec□in□.

□. □ecure□ □tt□c□ c□r□entr□ □or□ to □u□□tr□te □□ □nc□orin□ □nd f□□tenin□ □□ indic□ted, co□ □□□in□ □it□ t□e fo□o□in□□

1. T□□□e 2304.9.1, "F□□tenin□ □c□edu□e," in ICC□ Intern□tion□□□ui□din□ Code.
2. ICC-E□ e□□u□tion re□ort for f□□tener.

□. □□e □tee□co□ □on n□i□ un□e□ ot□er□i□e indic□ted. □e□ect f□□tener□ of □i□e t□□t □i□ not fu□□ □enetr□te □e□ □er □ □ere o□□o□ite □ide □i□□□e e□□o□ed to □ie□ or □i□ recei□e fini□□ □ □teri□□□. M□□e ti□□t connection□ □et□een □e□ □er□. In□t□□□ f□□tener□ □it□out □□□ittin□ □ood. Dri□e n□i□□ □nu□ □ut do not counter□in□ n□i□□e□d un□e□ ot□er□i□e indic□ted.

3.2 I□□T□□□□TIO□ OF □ OOD □□OC□I□□ □□D □□I□ER

□. In□t□□□□ere indic□ted □nd □□ere re□uired for □tt□c□in□ ot□er □or□. For□ to □□□□e□ indic□ted □nd cut □□ re□uired for true □ine □nd □e□e of □tt□c□ed □or□. Coordin□te □oc□tion□ □it□ ot□er □or□ in□o□□ed.

□. □tt□c□ite□ □ to □u□□tr□te□ to □u□□ort □□□□ied □o□din□. Rece□□ □o□t□ □nd nut□ f□u□□ □it□ □urf□ce□ un□e□□ ot□er□i□e indic□ted.

C. □ro□ide □er□ □nent □round□ of dre□□ed, □re□□ure-□re□er□□ti□e-tre□ted, □e□-□e□e□ed □u□ □er not □e□□ t□□n 1-1/2 inc□e□ □ide □nd of t□ic□ne□□ re□uired to □rin□ f□ce of □round to e□□ct t□ic□ne□□ of fini□□ □ □teri□□ Re□o□e te□ □or□r□ □round□ □□en no □on□er re□uired.

3.3 I□□T□□□□TIO□ OF □ OOD F□RRI□□

□. In□t□□□□e□e□□nd □□u□ □ □it□ c□o□ure □tri□□ t ed□e□ □nd o□enin□□. □□i□ □it□ □ood □□ re□uired for to□er□nce of fini□□ □or□.

□. Furrin□ to Recei□e □□□□ood or □□rd□o□rd □□ne□in□□ In□t□□□ 1-□□-3-inc□ no□in□-□i□e furrin□ □ori□ont□□□ □t 24 inc□e□ o.c.

C. Furrin□ to Recei□e □ □□□u□ □o□rd□In□t□□□ 1-□□-2-inc□ no□in□-□i□e furrin□ □ertic□□□ □t 16 inc□e□ o.c.

3.4 □ROTECTIO□

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B. □rotect □i□ce□□neou□ rou□□ c□r□entr□ fro□ □e□t□er. If, de□□ite □rotection, □i□ce□□neou□ rou□□ c□r□entr□ □eco□e□ □et, apply E□□-re□i□tered □or□te tre□t□ent. Apply □or□te □o□ution by sp ray ing to co□ □□□ □it□ E□□-re□i□tered □□□e.

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□. □ection Inc□ude□□

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2. C□□inet □□rd□□re □nd □cce□□orie□.
3. □ood furrin□, □□oc□in□, □□i□□, □nd □□n□in□ □tri□□ for in□t□□□in□ □□□□tic-□□□□ in□te-c□□d □rc□itectur□□c□□inet□t□□t □re not conce□□ed □it□in ot□er con□truction.

□. Re□□ted Re□uire□ent□□

1. □ection 061000 "Rou□□ C□r□entr□" for □ood furrin□, □□oc□in□, □□i□□, □nd □□n□in□ □tri□□ re□uired for in□t□□□in□ c□□inet□t□□t □re conce□□ed □it□in ot□er con□truction □efore c□□inet in□t□□□□tion.
2. □ection 123623.13 "□□□□tic-□□□□ in□te-C□□d Counterto□□."

1.2 COORDI□□TIO□

□. Coordin□te □i□e□ □nd □oc□tion□ of fr□□in□, □□oc□in□, furrin□, reinforce□ent□, □nd ot□er re□□ted unit□ of □ or□ □□ecified in ot□er □ection□ to □u□□ort □□d□i□□o□ed □□in□t□□□ed □nd fu□□□□o□ded c□□inet□.

□. □□rd□□re Coordin□tion□ Di□tri□ute co□ie□ of □□□ro□ed □□rd□□re □c□edu□e □□ecified in □ection 087100 "Door □□rd□□re" to □ □nuf□cturer of □rc□itectur□□c□□inet□□coordin□te □□o□ Dr□□in□□ □nd f□□ric□tion □it□ □□rd□□re re□uire□ent□.

1.3 □REI□□T□□□□TIO□ MEETI□□□

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4. □□o□ □oc□tion□ □nd □i□e□ of cutout□ □nd □o□e□ for ite□ □ in□t□□□ed in □□□□tic-□□□□ in□te □rc□itectur□□c□□inet□.

5. [illegible] Quality Certification Program [illegible] to [illegible].

C. [illegible] For each [illegible] and for each color and texture specified, in manufacturer's or manufacturer's standard size.

D. [illegible] for Initial [illegible] Selection: For each type of [illegible] finish.

E. [illegible] for Verification: For the following:

1. [illegible] inches [illegible] 8 [illegible] 10 inches, for each type, color, pattern, and surface finish required.

a. Provide one [illegible] applied to core material with specified edge material applied to one edge.

2. Thermally Fused [illegible] inches (TFL) [illegible] 8 [illegible] 10 inches, for each color, pattern, and surface finish.

a. Provide edge banding on one edge.

3. Corner piece [illegible]

a. Cabinet-front frame joints between stiles and rails and at exposed end pieces, 18 inches high [illegible] 18 inches wide [illegible] 6 inches deep.
b. Miter joints for standing trim.

4. Exposed Cabinet hardware and accessories: One full-size unit for each type and finish.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer and Installer.

B. Product Certificates: For the following:

1. Composite wood products.
2. Thermally fused [illegible] inches [illegible].
3. High-pressure decorative [illegible] inches.
4. [illegible].
5. Adhesives.

C. Evaluation Reports: For fire-retardant-treated material, from ICC-ES.

D. Field quality-control reports.

1.6 CLOSEOUT SUBMITTALS

A. Quality Standard Compliance Certificate: For Quality Certification Program certificate.

1.7 □□□□IT□ □□□□R□□CE

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1.9 FIE□D CO□DITIO□□

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D. Door □nd Dr□□er-Front □t□e□ Re□e□□o□er□□□.

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2.3 FIRE-RET□RD□□T-TRE□TED M□TERI□□□

□. Fire-Ret□rd□nt-Tre□ted M□teri□□□, □ener□□□ □ere fire-ret□rd□nt-tre□ted □ □teri□□□ □re indic□ted, u□e □ □teri□□□ t□□t □re □cce□t□□e to □ut□oritie□ □□□in□ □uri□diction □nd □it□ fire-te□t-re□□on□e c□□r□cteri□tic□ □□ecified □□ deter□ined □□ te□tin□ identic□□ □roduct□ in □ccord□nce □it□ te□t □et□od indic□ted □□ □ u□ified te□tin□ □□enc□.

1. □□e tre□ted □ □teri□□□ t□□t co□ □□□□ □it□ re□uire□ent□ of referenced □u□it□ □t□nd□rd. Do not u□e □ □teri□□□ t□□t □re □r□ed, di□co□ored, or ot□er□i□e defecti□e.
2. □□e fire-ret□rd□nt-tre□t□ent for□u□tion□ t□□t do not □eed t□rou□□ or ot□er□i□e □d□er□e□□ □ffect fini□□e□. Do not u□e co□or□nt□ to di□tin□ui□□ tre□ted □ □teri□□□ fro□ untre□ted □ □teri□□□.
3. Identif□ fire-ret□rd□nt-tre□ted □ □teri□□□ □it□ □□□ro□ri□te c□□□□ific□tion □ □r□in□ of □u□ified te□tin□ □□enc□ in t□e for□ of re□o□□□e □□□er □□e□or i□ □rint on □urf□ce□ t□□t □i□□e conce□□ed fro□ □ie□ □fter in□t□□□tion.

□. Fire-Ret□rd□nt-Tre□ted □u□ □er □nd □□□ood□□roduct□ □it□ □f□□□e-□□re□d inde□ of 25 or □e□□ □□en te□ted □ccordin□ to □□TM E84, □it□ no e□idence of □i□nific□nt □ro□re□□i□e co□ □u□tion □□en t□e te□t i□ e□tended □n □ddition□□20 □inute□, □nd □it□ t□e f□□□e front not e□tendin□ □ore t□□n 10.5 feet □e□ond t□e center□ine of t□e □urner□ □t □n□ti□e durin□ t□e te□t.

1. □in-dr□ u□ □er □nd □□□ood □fter tre□t□ent to □ □ □i□ u□ □oi□ture content of 19 □nd 15 □ercent, re□□ecti□e□.
2. For ite□ □ indic□ted to recei□e □ t□ined or n□tur□□fini□□, u□e or□□nic re□in c□e□ic□□ for□ u□□tion.
3. Mi□□u□ □er □fter tre□t□ent □it□in i□ it□ □et for □ood re□ o□□□t□□t do not □ffect i□□ted fire-te□t-re□□on□e c□□r□cteri□tic□, u□in□ □ □ood□or□in□ □□o□ certified □□ te□tin□ □nd in□□ectin□ □□enc□.
4. Mi□□ u□ □er □efore tre□t□ent □nd i□ □□e□ent □rocedure□ durin□ tre□t□ent □nd dr□in□ □roce□□e□ t□□t □re□ent u□ □er fro□ □□r□in□ □nd de□e□o□in□ di□co□or□tion□ fro□ dr□in□ □tic□□ or ot□er c□u□e□, □ □rrin□, □nd ot□er defect□ □ffectin□ □□□e□r□nce of □rc□itectur□□ c□□inet□.

C. Fire-Ret□rd□nt □□rtic□e□o□rd□M□de fro□ □oft□ood □□rtic□e□ □nd fire-ret□rd□nt c□e□ic□□□ □i□ed to□et□er □t ti□e of □□ne□□ □nuf□cture to □c□ie□e f□□□e-□□re□d inde□ of 25 or □e□□ □nd □□ o□e-de□e□o□ed inde□ of 25 or □e□□ in □ccord□nce □it□ □□TM E84.

1. For □□ne□□ 3/4 inc□ t□ic□ □nd □e□□, co□ □□□ □it□ □□□ l □208.1 for □r□de M-2 e□ce□t for t□e fo□□o□in□ □ini□u□ □ro□ertie□□ □odu□u□ of ru□ture, 1600 □□i□ □odu□u□ of e□□□ticit□, 300,000 □□i intern□□□ond, 80 □□i□□nd □cre□-□o□din□ c□□□cit□on f□ce □nd ed□e, 250 □nd 225 □□f, re□□ecti□e□.
2. For □□ne□□ 13/16 to 1-1/4 inc□e□ t□ic□, co□ □□□ □it□ □□□ l □208.1 for □r□de M-1 e□ce□t for t□e fo□□o□in□ □ini□u□ □ro□ertie□□□ odu□u□ of ru□ture, 1300 □□i□□ odu□u□ of e□□□ticit□, 250,000 □□i□ine□ e□□□n□ion, 0.50 □ercent□ □nd □cre□-□o□din□ c□□□cit□on f□ce □nd ed□e, 250 □nd 175 □□f, re□□ecti□e□.

3. M□nuf□cturer□□ □u□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ □□ one of t□e fo□□o□in□□

   □. □r□uco □ort□ □□eric□.
   □. Ti□ □er □roduct□ Co□ □□n□.

D. Fire-Ret□rd□nt Fi□er□o□rd□MDF □□ne□□ co□ □□□in□ □it□ □□□l □208.2, □□de fro□ □oft□ood fi□er□, □□nt□etic re□in□, □nd fire-ret□rd□nt c□e□ic□□□ □i□ed to□et□er □t ti□e of □□ne□ □ □nuf□cture to □c□ie□e f□□□e-□□re□d inde□ of 25 or □e□□ □nd □□ o□e-de□e□o□ed inde□ of 200 or □e□□ in □ccord□nce □it□ □□TM E84.

1. M□nuf□cturer□□ □u□ect to co□ □i□nce □it□ re□uire□ent□, □□□i□□□e □ □nuf□cturer□ offerin□ □roduct□ t□□t □ □□ □e incor□or□ted into t□e □or□ inc□ude, □ut □re not i□□ited to t□e fo□□o□in□□

   □. Ro□e□ur□.

2.4 C□□I□ET □□RD□ □RE □□D □CCE□□ORIE□

□. □ener□□□ □ro□ide c□□inet □□rd□□re □nd □cce□□or□ □ □teri□□□ □□□oci□ted □it□ □rc□itectur□□ c□□inet□e□ce□t for ite□ □ □□ecified in □ection 087100 "Door □□rd□□re."

1. M□nuf□cturer□□ □u□ect to co□ □i□nce □it□ re□uire□ent□, □□□i□□□e □ □nuf□cturer□ offerin□ □roduct□ t□□t □ □□ □e incor□or□ted into t□e □or□ inc□ude, □ut □re not i□□ited to t□e fo□□o□in□□

   □. □□□, □u□□□ Co., Inc.
   □. Co□ □□ Inter□tion□□, Inc.
   c. □n□□e □ Vo□t M□nuf□cturin□ Co□ □□n□.

□. □utt □in□e□□2-3/4-inc□, fi□e-□nuc□e □tee□□in□e□ □□de fro□ 0.095-inc□-t□ic□ □et□, □nd □□ fo□ō□□□

1. □e□iconce□□ed □in□e□for F□u□□ Door□□□□□□l/□□M□ □156.9, □01361.
2. □e□iconce□□ed □in□e□for O□er□□□ Door□□□□□□l/□□M□ □156.9, □01521.

C. Fr□□e□ē□□ Conce□□ed □in□e□(Euro□e□n T□□e)□□□□□l/□□M□ □156.9, □01602, 100 de□ree□ of o□enin□.

D. □□c□-Mounted □u□□□□□□□l/□□M□ □156.9, □02011.

E. □ire □u□□□□□c□□ounted, □oi□d, 4 inc□e□ □on□, 5/16 inc□in di□□eter.

F. □d□u□t□□e □□ef□ □t□nd□rd□ □nd □u□□ort□□ □□□l/□□M□ □156.9, □04071□ □it□ □□ef□ re□t□, □04081.

□. □□ef□Re□t□□□□□□l/□□M□ □156.9, □04013□□et□.

□. Dr□□er □ōide□□□□□□l/□□M□ □156.9.

1. □t□nd□rd Dut□(□r□de 1 □nd □r□de 2)□ □ide □ount.
2. □e□□-Dut□(□r□de 1□D-100 □nd □r□de 1□D-200)□ □ide □ount.

□. T□□e□Fu□□e□ten□ion.
□. M□teri□□□ □inc-□□□ted □□□□□e□rin□ □ōide□.
c. Motion Fe□ture□ □oft c□ō□e d□□ □ener.

3. □enci□dr□□er□not □ore t□□n 3 inc□e□ □i□□ □nd not □ore t□□n 24 inc□e□ □ide, □ro□ide 50 □□ □ō□d c□□□cit□.
4. □ener□□-□ur□o□e dr□□er□ □ore t□□n 3 inc□e□ □i□□, □ut not □ore t□□n 6 inc□e□ □i□□ □nd not □ore t□□n 24 inc□e□ □ide, □ro□ide 75 □□ □ō□d c□□□cit□.
5. Fi□ē dr□□er□ □ore t□□n 6 inc□e□ □i□□ or □ore t□□n 24 inc□e□ □ide, □ro□ide 100 □□ □ō□d c□□□cit□.
6. □□ter□□fi□e dr□□er□ □ore t□□n 6 inc□e□ □i□□ □nd □ore t□□n 24 inc□e□ □ut not □ore t□□n 30 inc□e□ □ide, □ro□ide 150 □□ □ō□d c□□□cit□.
7. □□ter□□fi□e dr□□er□ □ore t□□n 6 inc□e□ □i□□ □nd □ore t□□n 30 inc□e□ □ide, □ro□ide 200 □□ □ō□d c□□□cit□.
8. Co□ □uter □e□□o□rd tr□□, □ro□ide 75 □□ □ō□d c□□□cit□.

I. □ōide□for □ōidin□ □ □□□□Door□□□□□□l/□□M□ □156.9, □07063□□u□inu□.

□. Door □oc□□□□□□□l/□□M□ □156.11, E07121.

□. Dr□□er □oc□□□□□□□l/□□M□ □156.11, E07041.

□. Door □nd Dr□□er □i□encer□□□□□□l/□□M□ □156.16, □03011.

M. F□o□t □ □□□□ for C□□inet Door□□□□TM C1036, T□□e I, C□□□□1 (c□□r), □u□□it□-□3.

1. T□ic□ne□□□3.0 □ □.

□. Te□ □ered F□o□t □ □□□□ for C□□inet Door□□□□TM C1048, □ind FT, Condition □, T□□e I, C□□□□1 (c□□r), □u□□it□-□3, 6 □ □ t□ic□un□□□ot□er□i□e indic□ted.

1. □nfr□□ed □ □□□□ Door□□□e□□ e□□o□ed ed□e□ □e□□ed □efore te□ □erin□.

O. □ro□ □et□ for C□□□e □□□□□□e□ 2-inc□ OD, □o□ded-□□□□tic □ro□ □et□ □nd □ □tc□in□ □□□□tic c□□□ □it□ □ot for □ire □□□□□□e.

1. Co□or□□ □ite

□. E□□o□ed □□rd□□re Fini□□e□□ For e□□o□ed □□rd□□re, □ro□ide fini□□ t□□t co□ □□ie□ □it□ □□□l/□□M□ □156.18 for □□□l/□□M□ fini□□ nu□ □er indic□ted.

1. D□r□, O□idi□ed, □□tin □ron□e, Oi□ Ru□□ed□ □□□l/□□M□ 613 for □ron□e □□□e□ □□□l/□□M□ 640 for □tee□□□□e□□ □tc□ □rc□itect□□ □□□□ □□e.
2. □ri□□t □r□□□, C□e□r Co□ted□□□□l/□□M□ 605 for □r□□□ □□□e□□□□l/□□M□ 632 for □tee□ □□□e.
3. □ri□□t □r□□□, V□cuu□ Co□ted□ □□□l/□□M□ 723 for □r□□□ □□□e□ □□□l/□□M□ 729 for □inc-co□ted-□tee□□□□e.
4. □□tin □r□□□, □□□c□ened, □ri□□t Re□ie□ed, C□e□r Co□ted□□□□l/□□M□ 610 for □r□□□ □□□e□ □□□l/□□M□ 636 for □tee□□□□e.
5. □□tin C□ro□iu□ □□□ted□□□□l/□□M□ 626 for □r□□□ or □ron□e □□□e□□□□l/□□M□ 652 for □tee□□□□e.
6. □ri□□t C□ro□iu□ □□□ted□□□□l/□□M□ 625 for □r□□□ or □ron□e □□□e□□□□l/□□M□ 651 for □tee□□□□e.
7. □□tin □t□in□e□□ □tee□□□□□l/□□M□ 630.

□. For conce□□ed □□rd□□re, □ro□ide □ □nuf□cturer□□ □t□nd□rd fini□□ t□□t co□ □□ie□ □it□ □roduct c□□□□ re□uire□ent□in □□□l/□□M□ □156.9.

2.5 MI□CE□□□□EO□□ M□TERI□□□

□. Furrin□, □□oc□in□, □□i□ □, □nd □□n□in□ □tri□□□ Fire-ret□rd□nt-tre□ted □oft□ood □u□ □er, □in-dried to □e□□t□□n 15 □ercent □oi□ture content.

□. □nc□or□□ □e□ect □ □teri□□, t□□e, □i□e, □nd fini□□ re□uired for e□c□ □u□□tr□te for □ecure □nc□or□□e. □ro□ide □et□□e□□□n□ion □□ee□e□or e□□□n□ion □o□t□ for □o□t-in□t□□ed □nc□or□. □□e nonferrou□-□et□□or □ot-di□ □□□□□ni□ed □nc□or□ □nd in□ert□ □t in□ide f□ce of e□terior □□□□ □nd □t f□oor□.

C. □d□e□i□e for □ondin□ □□□□tic □□□ in□te□ Cont□ct ce□ent.

1. □d□e□i□e for □ondin□ Ed□e□□□ot-□e□t □d□e□i□e or □d□e□i□e □□ecified □□o□e for f□ce□.

2.6 F□□RIC□TIO□

□. F□□ric□te □rc□itectur□□c□□inet□ to di□en□ion□, □rofi□□, □nd det□i□ indic□ted.

□. Co□ □□ete f□□ric□tion, inc□udin□ □□□e□ □□□ □nd □□rd□□re □□□□ic□tion, to □□□i□u□ e□tent □o□□i□□e □efore □□i□□ent to □ro□ect □ite. Di□□□□e□ □□e co□ □onent□ on□ □□ nece□□□r□ for □□i□□ent □nd in□t□□□tion. □ □ere nece□□□r□ for fittin□ □t □ite, □ro□ide □□ □□e □□o□□nce for □cri□in□, tri□ □in□, □nd fittin□.

1. □otif□ □rc□itect □e□en d□□□ in □d□□nce of t□e d□te□ □nd ti□e□ □rc□itectur□□c□□inet f□□ric□tion □i□□e co□ □□ete.
2. Tri□□fit □□□e□ □ie□ □t □ □nuf□cturer□□ □o□ t□□t c□nnot □e □□i□□ed co□ □□ete□□ □□□e□ □□ed. In□t□□□ do□e□□, □cre□□, □o□ted connector□, □nd ot□er f□□tenin□ de□ice□ t□□t c□n □e re□o□ed □fter tri□□ fittin□. Verif□ t□□t □□riou□ □□rt□ fit □□ intended □nd c□ec□

□e□□ure□ent□ of □□□e□ □ie□ □□□in□t fie□d □e□□ure□ent□ □efore di□□□□e□ □in□ for □□i□□ent.

C. □□o□-cut o□enin□□ to □ □□i□u□ e□tent □o□i□e to recei□e □□rd□□re, □□□i□nce□, e□ectric□□ □or□, □nd □i□i□r ite□ □. □oc□te o□enin□□ □ccur□te□□ □nd u□e te□ □□□te□or rou□□in□-in di□□r□□ □ to □roduce □ccur□te□□ □i□ed □nd □□□□ed o□enin□□. □□nd ed□e□ of cutout□ to re□o□e □□inter□ □nd □urr□.

D. In□t□□□□□□□□□ to co□ □□□ □it□ □□□□ic□□e re□uire□ent□ in □ection 088000 "□□□□in□" □nd in □□□□□□ "□□□□in□ M□nu□□"

1. For □□□□□ in fr□□ e□, □ecure □□□□□ □it□ re□o□□□e □to□□.
2. For e□□o□ed □□□□□ed□e□, □oi□□ □nd □rind □□ oot□.

□□RT 3 - E□EC□TIO□

3.1 □RE□□R□TIO□

□. □efore in□t□□□tion, condition c□□inet□ to □u□idit□ condition□ in in□t□□□tion □re□□ for not □e□□ t□□n 72 □our□.

3.2 I□□T□□□□TIO□

□. □rc□itectur□□□ ood□or□ □t□nd□rd□ □r□de□In□t□□c□□inet□ to co□ □□□ □it□ □u□it□ □t□nd□rd □r□de of ite□ to □e in□t□□ed.

□. □□□e□ □□e c□□inet□ □nd co□ □□ete f□□ric□tion □t □ro□ect □ite to e□tent t□□t it □□□ not co□ □□eted in t□e □□o□.

C. □nc□or c□□inet□ to □nc□or□ or □□oc□in□ □uit□ in or direct□ □tt□c□ed to □u□□tr□te□. □ecure □it□ □□fer-□e□d c□□inet in□t□□□tion □cre□□.

D. In□t□□c□□inet□ □e□e□, □u□□, □nd true in □ine to □ to□er□nce of 1/8 inc□ in 96 inc□e□ u□in□ conce□□ed □□i□ □.

1. □cri□e □nd cut c□□inet□ to fit □d□oinin□ □or□, refini□□ cut □urf□ce□, □nd re□□ir d□□ □□ed fini□□ □t cut□.
2. In□t□□c□□inet□ □it□out di□tortion □o door□ □nd dr□□er□ fit o□enin□□ □nd □re □ccur□te□□ □i□ned. □d□u□t □□rd□□re to center door□ □nd dr□□er□ in o□enin□□ □nd to □ro□ide unencu□□ered o□er□tion. Co□ □□ete in□t□□□tion of □□rd□□re □nd □cce□□or□ ite□ □ □□ indic□ted.
3. F□□ten □□□□c□□inet□ t□rou□□ □□c□, ne□r to□ □nd □otto□, □nd □t end□ not □ore t□□n 16 inc□e□ o.c. □it□ □o. 10 □□fer-□e□d □□eet □et□□□cre□□ t□rou□□ □et□□□□c□in□ or □et□□ fr□□ in□ □e□ind □□□□fini□□.

3.3 FIE□D □□□□IT□ CO□TRO□

□. In□□ection□□ □ro□ide in□□ection of in□t□□ed □ or□ t□rou□□ □□ l□□ □u□it□ Certific□tion □ro□r□□ certif□in□ t□□t □ood□or□, inc□udin□ in□t□□□tion, co□ □ie□ □it□ re□uire□ent□ of t□e □rc□itectur□□ □ ood□or□ □t□nd□rd□for t□e □□ecified □r□de.

1. In□□ection entit□ shall □re□□re □nd □u□□ it re□ort of in□□ection.

3.4 AD JUS TI NG AN D CL EAN I NG

A. Re□□ir d□□ □□ed □nd defecti□e c□□inet□, □□ere □o□□i□□e, to e□i□ in□te function□□ □nd v˙s˩al defect□. □ □ere not □o□□i□□e to re□□ir, re□□ce □rc□itectur□□c□□inet□. □d□u□t □oiner□ for unifor□ □□□e□r□nce.

B. C□e□n, □u□ric□te, □nd □d□u□t □□rd□□re.

C. C□e□n c□□inet□on e□□o□ed □nd □e□ ie□□o□ed □urf□ce□.

E□D OF □ECTIO□ 064116

□ECTIO□ 081213 - HOLLOw METꞱ FR□ME□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

A. □ection Inc□ude□:

1. Interior □t□nd□rd □tee□fr□□e□.
2. E□terior □t□nd□rd □tee□fr□□e□.
3. □orro□ed □ite□.

B. Re□□ted Re□uire□ent□:

1. □ection 087100 "Door □□rd□□re" for door □□rd□□re for □o□o□-□et□□door□.

1.2 DEFI□ITIO□□

A. Mini□u□ T□ic□ne□□: Mini□u□ t□ic□ne□□ of bas e metal □it□out co□tin□□ □ccordin□ to □□□MM-□MM□ 803 or □DI A250.8.

1.3 COORDI□□TIO□

A. Coordin□te □nc□or□□e in□t□□□tion for □o□o□-□et□□fr□□e□. Furni□□ □ettin□ dr□□in□□, te□ □□□te□, □nd direction□ for in□t□□in□ □nc□or□□e□, inc□udin□ □ee□e□, concrete in□ert□, □nc□or □o□t□, □nd ite□ □□□it□ inte□r□□□nc□or□. De□i□er □uc□ ite□ □□to □ro□ect □ite in ti□e for in□t□□□tion.

B. Coordin□te re□uire□ent□ for in□t□□□tion of door □□rd□□re, e□ectrified door □□rd□□re, □nd □cce□□ contro□□nd □ecurit□ sys :e ms .

1.4 □CTIO□ SUB MITTALS

A. □roduct D□t□: For e□c□t□□e of □roduct.

1. Inc□ude con□truction det□i□□, □ □teri□□de□cri□tion□, □nd fini□□e□.

B. Sh op Dr□□in□□: Inc□ude t□e fo□o□in□:

1. E□e□□tion□ of e□c□ fr□□e t□□e.
2. Fr□□e det□i□□ for e□c□ fr□□e t□□e, inc□udin□ di□ en□ioned □rofi□e□ □nd metal :ic□ne□□e□.
3. □oc□tion□ of reinforce□ent □nd □re□□r□tion□ for □□rd□□re.
4. Det□i□□ of e□c□ different wall o□enin□ condition.
5. Det□i□□ of e□ectric□□r□ce□□□ □nd □re□□r□tion for e□ectrified □□rd□□re, □cce□□ contro□ □□□te□□, □nd □ecurit□ sys :e ms .
6. Det□i□□ of □nc□or□□e□, □oint□, fie□d □□ice□, □nd connection□.
7. Det□i□□ of □cce□□orie□.
8. Det□i□□ of □o□din□□, re□o□□□e□ to□□, □nd □□□□in□.

9. Finish: For exposed surfaces of exposed finish required, prepared on sides of not less than 3/5 inch.

C. Product Procedures: For hollow-metal frames, prepared for or under the supervision of supplier, using the reference numbers for details and openings scheduled on Drawings. Coordinate with finish door hardware procedures.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow-metal frames individually packaged, protected, or crated to provide protection during transit and project-site storage. Do not use nonventilated plastic.

1. Provide additional protection to prevent damage to factory-finished units.

B. Deliver welded frames with not more than required number of crossbars to maintain rigidity of frames, temporarily attached to jambs and mullions.

C. Store hollow-metal frames vertically under cover at project site with blocking to prevent twisting, bending, or damage. Space to allow 4-inch air circulation. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Ceco Door, Inc.
2. Curries, Inc.
3. Steelcraft Corporation.

2.2 STANDARD STEEL FRAMES

A. Construct hollow-metal frames to comply with indicated for materials, fabrication, hardware reinforcement, tolerances, and clearances, and as specified.

B. Interior Frames: ANSI/SDI A250.8.

1. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch.
2. Construction: Mitered-and-welded corners. Face welded.
3. Exposed Finish: Prime.

2.3 FRAME ANCHORS

A. Jamb Anchors:

1. Type and number of minimum size and type required for door and frame strength, and suitable for indicated.

2. □u□ntit□: Mini□u□ of t□ree □nc□or□ □er jamb, □it□ one □ddition□□□nc□or for fr□□e□ □it□ no f□or □nc□or. □ro□ide one □ddition□□□nc□or for e□c□ 24 inc□e□ of fr□□e □ei□□t abo□e 7 feet.
3. □o□tin□t□□ed E□□□n□ion □nc□or: Mini□u□ 3/8-inc□-di□□eter □o□t□ □it□ e□□□n□ion □□ie□d□ or in□ert□, □it□ □□nuf□cturer'□ t□nd□rd □i□e □□□cer.

B. F□or □nc□or□: □ro□ide f□or □nc□or□ for e□c□ jamb □nd □u□ion t□□t e□tend□ to f□or.

C. F□or □nc□or□ for Concrete Slabs □it□ □nder□□□□ent: □du□t□□□e-t□□e □nc□or□ □it□ e□ten□ion ci□□, □□o□in□ not □e□□ t□□n 2-inc□ □ei□□t □du□t□ent. Ter□in□te □otto□ of fr□□e□ □t to□ of under□□□□ent.

D. M□teri□: □□TM A879/A879M, Co□□erci□□ □tee□ (C□), 04Z co□tin□ de□i□n□tion; m ill phospha tize d.

1. For □nc□or□ □uilt into e□terior walls, □tee□□eet co□ □□in□ □it□ □□TM A1008/A1008M or □□TM A1011/A1011M; □ot-di□ galva nize d □ccordin□ to □□TM □153/□153M, Class B.

2.4 M□TERI□□□

A. Co□d-Ro□ed □tee□□□eet: □□TM A1008/A1008M, Co□□erci□□□tee□(C□), T□□e B; □uit□□e for e□□o□ed □□□ic□tion□.

B. □ot-Ro□ed □tee□□□eet: □□TM A1011/A1011M, Co□□erci□□□tee□(C□), T□□e B; free of □c□e, □ittin□, or □urf□ce defect□; □ic□ed □nd oi□ed.

C. Met□□ic-Co□ted □tee□□□eet: □□TM A653/A653M, Co□□erci□□□tee□(C□), T□□e B.

D. In□ert□, □o□t□, □nd F□□tener□: □ot-di□ galva nize d □ccordin□ to □□TM A153/A153M.

E. □o□er-□ctu□ted F□□tener□ in Concrete: F□□tener sys tem of t□□e □uit□□e for □□□ic□tion indic□ted, f□□ric□ted fro□ corro□ion-re□i□t□nt □ teri□□, □it□ c□□□ or ot□er □cce□□or□ de□ice□ for □tt□c□in□ □o□o□-□et□□fr□□e□ of t□□e indic□ted.

F. Glaz ing: Co mply □it□ re□uire□ent□ in □ection 088000 "□□□□in□."

2.5 F□□RIC□TIO□

A. □o□o□-Met□□Fr□□e□: F□□ric□te in one □iece e□ce□t □□ere □□nd□in□ □nd shipping □i□it□tion□ re□uire □u□ti□e □ection□. □ □ere fr□□e□ □re f□□ric□ted in □ection□, □ro□ide □i□n□ent plates or □n□e□□t e□c□ □oint, f□□ric□ted of metal of sam e or □re□ter t□ic□ne□□ as fr□□e□.

1. □ro□ide counter□un□, f□□t- or o□□-□e□d e□□o□ed □cre□□ □nd □o□t□ for e□□o□ed f□□tener□ un□e□□ ot□er□i□e indic□ted.
2. Door □i□encer□: E□ce□t on □e□t□er-□tri□□ed fr□□e□, dri□□□to□□ to recei□e door □i□encer□ as fo□o□□. □ee□ ho□es c□e□r durin□ con□truction.

   a. □in□e-Door Fr□□e□: Dri□□□to□in □tri□e jamb to recei□e t□ree door □i□encer□.
   b. Dou□e-Door Fr□□e□: Dri□□□to□in □e□d j mb to recei□e t□o door □i□encer□.

B. □□rd□□re □re□□r□tion: F□ctor□ □re□□re □o□o□-□et□□fr□□e□ to recei□e te□ □□□ted □orti□ed □□rd□□re, □nd e□ectric□□□irin□; inc□ude cutout□, reinforce□ent, □orti□in□, dri□□in□, □nd t□□□in□ □ccordin□ to □DI A250.6, t□e Door □□rd□□re □c□edu□e, □nd te□ □□□te□.

1. Reinforce fr□□e□ to receiv□e nonte□ □□□ted, □orti□ed, □nd □urf□ce-□ounted door □□rd□□re.
2. Co□ □□□ □it□ □□M□ □156.115 for □re□□rin□ □o□o□-□et□□fr□□e□for □□rd□□re.

2.6 □TEE□ FI□I□□E□

□. □ri□e Fini□□□C□e□n, □retre□t, □nd □□□□□□ □ □nuf□cturer□□ □t□nd□rd □ri□er.

1. □□o□ □ri□er□ M□nuf□cturer□□ □t□nd□rd, f□□t-curin□, □e□d- □nd c□ro□ □te-free □ri□er co□ □□□in□ □it□ □DI □250.10□ reco□ □ended □□ □ri□er □ □nuf□cturer for □u□□tr□te□ co□ □□ti□□ □it□ □u□□tr□te □nd fie□d-□□□□ied co□tin□□de□□ite □ro□on□ed e□□o□ure.

□□RT 3 - E□EC□TIO□

3.1 □RE□□R□TIO□

□. Re□o□e □e□ded-in □□i□□in□ □□re□der□ in□t□□□ed □t f□ctor□. Re□tore e□□o□ed fini□□ □□ □rindin□, fi□□in□, □nd dre□□in□, □□ re□uired to □ □□e re□□ired □re□ □□ oot□, f□u□□, □nd in□i□i□e on e□□o□ed f□ce□. Touc□ u□ f□ctor□-□□□□ied fini□□e□ □□ere □□re□der□ □re re□o□ed.

□. Dri□□□nd t□□ fr□□ e□ to receiv□e nonte□ □□□ted, □orti□ed, □nd □urf□ce-□ounted door □□rd□□re.

3.2 I□□T□□□□TIO□

□. □ener□□□ In□t□□□ □o□o□-□et□□fr□□e□ □u□□□, ri□id, □ro□er□□ □i□□ned, □nd □ecure□□ f□□tened in □□□ce. Co□ □□□ □it□ □□□ro□ed □□o□ Dr□□in□□ □nd □it□ □ □nuf□cturer□□ □ritten in□truction□. Co□ □□□ □it□ □DI □250.11.

□. □et fr□□e□ □ccur□te□□ in □o□ition□ □u□□□ed, □i□□ned, □nd □r□ced □ecure□□ unti□ □er□ □nent □nc□or□ □re □et. □fter □□□□con□truction i□ co□ □□ete, re□o□e te□ □or□r □r□ce□ □it□out d□□ □□e to co□ □□ēted □ or□.

1. □ □ere fr□□e□ □re f□□ric□ted in □ection□, fie□d □□i□ce □t □□□ro□ed □oc□tion□ □□□ □e□din□ f□ce □oint continuou□□□□□rind, fi□□, dre□□, □nd □ □□e □□i□ce □□ oot□, f□u□□, □nd in□i□i□e on e□□o□ed f□ce□. Touc□-u□ fini□□e□.
2. In□t□□□fr□□e□ □it□ re□o□□□□ē □to□□ □oc□ted on □ecure □ide of o□enin□.

C. F□oor □nc□or□□□ecure □it□ □o□tin□t□□ēd e□□□n□ion □nc□or□.

D. □oid□□ □□c□ □iner□-fi□er in□u□□tion in□ide fr□□e□.

E. M□□onr□ □ □□□□□ Coordin□te in□t□□□tion of fr□□e□ to □□o□ for □oid□□ fi□□in□ □□□ce □et□een fr□□e□ □nd □ □□onr□ □it□ □rout or □ort□r.

F. In-□□ce Concrete or M□□onr□ Con□truction□ □ecure fr□□e□ in □□□ce □it□ □o□tin□t□□ēd e□□□n□ion □nc□or□. Counter□in□ □nc□or□, □nd fi□□ □nd □ □□e □□ oot□, f□u□□, □nd in□i□i□e on e□□o□ed f□ce□.

□. In□t□□□tion To□er□nce□□□d□u□t □o□o□-□et□□fr□□e□ to t□e fo□o□in□ to□er□nce□□

1. □□u□rene□□: □□u□or □inu□ 1/16 inc□, □e□□ured □t door r□□□et on a □ine 90 de□ree□fro□ j□mb □er□endicu□□r to fr□□e □e□d.
2. □i□n□ent: □□u□or □inu□ 1/16 inc□, □e□□ured □t jambs on a □ori□ont□□ine □□r□□e□to pla□ne of wall
3. T□i□t: □□u□or □inu□ 1/16 inc□, □e□□ured □t o□□o□ite f□ce corner□of jamb □on □□r□□e□ □ine□, □nd □er□endicu□□r to pla□ne of wall
4. □□u□□ne□□: □□u□or □inu□ 1/16 inc□, □e□□ured □t jambs □t f□oor.

3.3 CLEANING AND TOUCHUP

A. □ri□e-Co□t Touc□u□: I□□edi□te□□ □fter erection, □□nd □□oot□ ru□ted or d□□□□ed areas of □ri□e co□t □nd apply touc□u□ of co□ □□ti□e □ir-dr□in□, ru□t-in□i□iti□e □ri□er.

B. Met□□ic-Co□ted □urf□ce Touc□u□: C□e□n □□r□ded areas □nd re□□ir □it□ galva□niz□ng re□□ir □□int □ccordin□ to □□nuf□cturer'□ □ritten in□truction□.

E□D OF □ECTIO□ 081213

□ECTIO□ 081416 - F□□ □□ □ OOD DOOR□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection Inc□ude□□

1. Fi□e-□□□ f□ □□ □ood □eneer-f□ced door□ for tr□n□□□rent fini□□.
2. □o□id-core f□ □□ □ood door□ □it□ □□□□tic-□□□ in□te-f□ce□.
3. Fire-r□ted □ood door fr□□ e□.

□. Re□□ted Re□uire□ent□□

1. □ection 088000 "□ □□□in□" for □□□□□ □ie□ □□ne□□ in f□ □□ □ood door□.
2. □ection 099123 "Interior □□intin□" □nd □ection 099300 "□t□inin□ □nd Tr□n□□□rent Fini□□in□" for fie□d fini□□in□ door□.

1.2 □CTIO□ □□□MITT□□□

□. □roduct D□t□□For e□c□ t□□e of □roduct, inc□ udin□ t□e fo□ o□in□□

1. Door core □ □teri□□□ □nd con□truction.
2. Door ed□e con□truction
3. Door f□ce t□□e □nd c□□r□cteri□tic□.
4. Door tri□ for o□enin□□.

□. □□o□ Dr□□in□□□Indic□te □oc□tion, □i□e, □nd □□nd of e□c□ door□e□e□□tion of e□c□ t□□e of door□ con□truction det□i□□ not co□ered in □roduct D□t□□□nd t□e fo□ o□in□□

1. Door □c□edu□e indic□tin□ door □oc□tion, t□□e, □i□e, fire □rotection r□tin□, □nd □□in□.
2. Door e□e□□tion□, di□en□ion □nd □oc□tion□ of □□rd□□re, □ite □nd □ou□er cutout□, □nd □□□□in□t□ic□ne□□e□.
3. Det□i□□ of fr□□ e for e□c□ fr□□ e t□□e, inc□udin□ di□en□ion□ □nd □rofi□e.
4. Det□i□□ of e□ectric□□r□ce□ □□ □nd □re□□r□tion for e□ectrified □□rd□□re, □cce□□ contro□ □□□te□ □, □nd □ecurit□ □□□te□ □.
5. Di□en□ion□ □nd □oc□tion□ of □□oc□in□ for □□rd□□re □tt□c□□ ent.
6. Di□en□ion□ □nd □oc□tion□ of □ orti□e□ □nd □o□e□ for □□rd□□re.
7. C□e□r□nce□ □nd undercut□.
8. Re□uire□ent□ for □eneer □ □tc□in□.
9. □□□□□ □□ I □u□it□ Certific□tion □ro□r□□ □□□e□to □□o□ Dr□□in□□.

C. □□□ □□e□ for Initi□□□e□ection□For □□□□tic-□□□ in□te door f□ce□.

D. □□□ □□e□ for Verific□tion□

1. □□□□tic □□□ in□te, 6 inc□e□ □□u□re, for e□c□ co□or, te□ture, □nd □□ttern □e□ected.

1.3 I□FORM□TIO□ □□□ □□□MITT□□□

□. □u□ific□tion D□t□□For door in□□ector.

1. Fire-R□ted Door In□□ector: □u□□it docu□ent□tion of co□ □i□nce □it□ □F□□ 80, □ection 5.2.3.1.
2. E□re□□ Door In□□ector: □u□□it docu□ent□tion of co□ □i□nce □it□ NFPA 101, □ection 7.2.1.15.4.
3. □u□□it co□□of D□I'□Fire □nd E□re□□Door □ss□mbly In□□ector (FD□I) certific□te.

B. Fie□d □u□it□-contro□re□ort□.

C. □□□ □□e □ □rr□nt□: For □□eci□□□ □rr□nt□.

1.4 C□O□EO□T SUB MITTALS

A. □□eci□□□ □rr□ntie□.

B. □u□it□ □t□nd□rd Co□ □i□nce Certific□te□: AW I □u□it□Certific□tion □ro□r□□ certific□te□.

C. Record Docu□ent□: For fire-r□ted door□, i□t of door nu□ □er□ □nd □□□ic□□e roo□ n□□e □nd nu□ □er to which door □cce□□e□.

1.5 QUAL ITY ASSU RAN CE

A. M□nuf□cturer'□Certific□tion: □icen□ed □□rtici□□nt in AW I's □u□it□Certific□tion □ro□r□□.

B. Fire-R□ted Door In□□ector □u□ific□tion□: In□□ector for fie□d □u□it□-contro□in□□ection□ of fire-r□ted door □□□e□ □ie□ shal□ co□ □□□ it□ □u□ific□tion□ □et fort□ in NFPA 80, □ection 5.2.3.1 □nd t□e fo□o□in□:

1. D□I'□Fire □nd E□re□□Door Ass□mb□y In□□ector (FD□I) certific□tion.

C. E□re□□ Door In□□ector □u□ific□tion□: In□□ector for fie□d □u□it□-contro□in□□ection□ of e□re□□ door ass□mb□ies shall co□ply □it□ □u□ific□tion□ □et fort□ in NFPA 101, □ection 7.2.1.15.4 □nd t□e fo□o□in□:

1. D□I'□Fire □nd E□re□□Door Ass□mb□y In□□ector (FD□I) certific□tion.

1.6 DE□IVER□, □TOR□□E, AN D HAN DL□NG

A. Co□ply □it□ re□uire□ent□ of referenced □t□nd□rd □nd □ □nuf□cturer□□ □ritten in□truction□.

B. Pa□kag□ door□ indi□idu□□□□ in □□□□tic bags or c□rd□o□rd c□rton□.

C. M□r□e□c□ door on □otto□ ri□□it□ o□enin□ nu□ □er u□ed on Shop Dr□□in□□.

1.7 FIE□D CO□DITIO□□

A. En□iron□ent□□ □i□it□tion□: Do not de□i□er or in□t□□□ door□ unti□ spa□e□ □re enc□o□ed □nd □e□t□erti□□t, □et-□or□ in spa□e□ i□ co□ □ete □nd dr□, □nd □V□C sys□e□ i□ o□er□tin□ □nd □ □int□inin□ te□ □er□ture □nd re□□ti□e □u□idit□ □t □e□e□□ de□i□ned for □ui□din□ occu□□nt□ for t□e re□ □inder of con□truction □eriod.

B. En□iron□ent□□ □i□it□tion□: Do not de□i□er or in□t□□□ door□ unti□ □ui□din□ i□ enc□o□ed □nd □e□t□erti□□t, □et □or□i□co□ □ete, □nd □V□C sys□:e□ i□o□er□tin□ □nd □ □int□inin□te□ □er□ture □et□een 60 □nd 90 de□F □nd re□□ti□e □u□idit□ □et□een 25 □nd 55 □ercent durin□ re□ □inder of con□truction □eriod.

1.8 WA RRAN TY

A. □□eci□□ □ □rr□nt□: M□nuf□cturer □□ree□ to re□□ir or re□□□ce door□ t□□t f□i□in □ □teri□□□ or workma nship □it□in □□ecified □□rr□nt□ □eriod.

1. F□i□ure□ inc□ude, □ut □re not i□ited to, t□e fo□o□in□:

a. De□□□in□tion of □eneer.
b. □ □r□in□ (bo w, cu□, or t□i□t) □ore t□□n 1/4 inc□ in a 42-□□-84-inc□ □ection.
c. Te□e□r□□□in□ of core con□truction in f□ce □eneer□ e□ceedin□ 0.01 inc□ in a 3-inc□ spa n.

2. □ □rr□nt□ shall als o inc□ude in□t□□□tion □nd fini□□in□ t□□t may □e re□uired due to re□□ir or re□□□ce□ent of defecti□e door□.
3. □ □rr□nt□ □eriod for □o□id-Core Interior Door□: □ife of in□t□□□tion.

□□RT 2 - □ROD□CT□

2.1 M□□□F□CT□RER□

A. M□nuf□cturer□: □u□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ by one of t□e fo□o□in□:

1. Alg oma □□rd□ood□, Inc.
2. E□□er□ Indu□trie□.
3. VT Indu□trie□, Inc.

B. □ource □i□it□tion□□ O□t□in f□u□□ □ood door□ fro□ □in□e □ □nuf□cturer.

2.2 □ERFORM□□CE RE□□IREME□T□

A. Fire-R□ted □ ood Door Ass emb□ie□: Ass emb□ie□ co□ □□□in□ □it□ NFPA 80 t□□t □re i□ted □nd □□□e□ed by a □u□ified te□tin□ □□enc□ □cce□t□□□e to □ut□oritie□ hav ing □uri□diction, for fire-□rotection r□tin□□ indic□ted on Dr□□in□□, bas ed on te□tin□ □t □o□iti□e □re□□ure in □ccord□nce □it□ □□10C or NFPA 252.

B. Sm oke- □nd Dr□ft-Contro□ Door Ass emb□ie□: □i□ted □nd □□□e□ed for sm oke □nd dr□ft contro□ by a □u□ified te□tin□ □□enc□ □cce□t□□□e to □ut□oritie□ hav ing □uri□diction, bas ed on te□tin□ in □ccord□nce □it□ UL 1784 □nd in□t□□□ed in co□ □i□nce □it□ NFPA 105.

2.3 FLUSH □ OOD DOOR□, □E□ER□□

A. □u□it□ □t□nd□rd: In □ddition to re□uire□ent□ □□ecified, comply □it□ AW I/AW MAC/W I's "□rc□itectur□□□ ood□or□ □t□nd□rd□."

1. □ro□ide □□□e□□ □nd certific□te□ fro□ □□ l certific□tion □ro□r□□ indic□tin□ t□□t door□ co□ □□□□ □it□ re□uire□ent□ of □r□de□ □□ecified.

2. T□e Contr□ct Docu□ent□ cont□in re□uire□ent□ t□□t □re □ore □trin□ent t□□n t□e referenced □u□it□ □t□nd□rd. Co□ □□□□ □it□ t□e Contr□ct Docu□ent□ in □ddition to t□o□e of t□e referenced □u□it□ □t□nd□rd.

□. □o□-E□ittin□ M□teri□□□□F□□ric□te door□ □it□ □d□e□i□e□ □nd co□ □o□ite □ood □roduct□ t□□t do not cont□in ure□ for□ □□de□□de.

C. □□rtic□e□o□rd-Core Door□□

1. □□rtic□e□o□rd□□□□ l □208.1, □r□de □D-1.
2. □□oc□in□□ □ro□ide □ood □□oc□in□ in □□rtic□e□o□rd-core door□ □□ needed to e□□ in□te t□rou□□-□o□tin□ □□□rd□ □re.
3. □ro□ide door□ □it□ □ue□-□ood-□t□□e core□ in□te□d of □□rtic□e□o□rd core□ for door□ indic□ted to rece□□e e□it de□ice□.

2.4 □O□ID-CORE FIVE-□□□ F□□□□ □ OOD VE□EER-F□CED DOOR□ FOR TR□□□□□RE□T FI□l□□

□. Interior Door□□
1. □erfor□ □nce □r□de□□□□ l/□ DM□ l.□. 1□ □e□□□ Dut□.

2. □rc□itectur□□□ ood□or□ □t□nd□rd□ □r□de□ □re□iu□.
3. F□ce□□□in□e-□□□ □ood □eneer not □e□□t□□n 1/50 inc□ t□ic□.

□. □□ecie□□ □e□ect □□ite □ □□□e.
□. Cut□ □□□in □i□ced (f□□t □i□ced).
c. M□tc□ □et□een Veneer □e□□e□□ □oo□ □ □tc□.
d. □□□e□ □□□ of Veneer □e□□e□on Door F□ce□□ Center-□□□□nce □ □tc□.
e. □□ir □nd □et M□tc□□□ro□ide for door□ □un□in □□□e o□enin□.
f. Roo□ M□tc□□M□tc□ door f□ce□ □it□in e□c□ □e□□r□te roo□ or □re□ of □ui□din□. Corridor-door f□ce□ do not need to □ □tc□ □□ere t□e□ □re □e□□r□ted □□ 20 feet or □ ore.
□. Roo□ M□tc□□ □ro□ide door f□ce□ of co□ □□ti□e co□or □nd □r□in □it□in e□c□ □e□□r□te roo□ or □re□ of □ui□din□.

4. E□□o□ed Vertic□□Ed□e□□ □□□e □□ecie□ □□f□ce□ or □co□ □□ti□e □□ecie□ - □rc□itectur□□ □ ood□or□ □t□nd□rd□ed□e T□□e □.

5. Core for □on-Fire-R□ted Door□□

□. □□□l □208.1, □r□de □D-1 □□rtic□e□o□rd.

□. □ue□ □ood □t□□e.
c. □ DM□ l.□. 10 □tructur□□co□ □o□ite □u□ □er.

1) □cre□ □ it□dr□□ □□, Door F□ce□ 550 □□f.
2) □cre□ □ it□dr□□ □□, Vertic□□Door Ed□e□ 550 □□f.

d. Eit□er □ue□ □ood □t□□e or □ DM□ l.□. 10 □tructur□□co□ □o□ite □u□ □er.

6. Con□truction□Fi□e □ie□, □ot-□re□□ed □onded (□ertic□□□nd □ori□ont□□ed□in□ i□ □onded to core), □it□ entire unit □□r□□i□e □□□ned □efore □eneerin□.

2.5 □O□ID-CORE F□□ □□ □ OOD DOOR□ □ IT□ □□□□TIC-□□MI□□TE F□CE□

1. □erfor□ □nce □r□de□□□□ □l/□ DM□ I.□. 1□ □e□□□ Dut□.

2. □rc□itectur□□□ ood□or□ □t□nd□rd□ □r□de□ □re□iu□.
3. □□□□tic-□□□ in□te F□ce□□□i□□-□re□□ure decor□ti□e □□□ in□te□ co□ □□□in□ □it□ □EM□ □D 3, □r□de □□ □.
4. Co□or□, □□ttern□, □nd Fini□e□□ □□ indic□ted.
5. E□□o□ed Vertic□□Ed□e□□ □□□□tic □□□ in□te t□□t □ □tc□e□f□ce□, □□□□ied □efore f□ce□.

   □. Fire-R□ted □in□e Door□□ □ro□ide ed□e con□truction □it□ intu□e□cent □e□□□ conce□□ed □□ outer □ti□e. Co□ □□□ □it□ □□ecified re□uire□ent□ for e□□o□ed □ertic□□ ed□e□.
   □. Fire-R□ted □□ir□ of Door□□ □ro□ide fire-ret□rd□nt □ti□e□ t□□t □re i□□ted □nd □□□e□ed for □□□□ic□tion□ indic□ted □it□out for□ed-□tee□ed□e□ □nd □□tr□□□□□. □ro□ide □ti□e□ □it□ conce□□ed intu□e□cent □e□□□. Co□ □□□ □it□ □□ecified re□uire□ent□ for e□□o□ed ed□e□.
   c. Fire-R□ted □□ir□ of Door□□ □ro□ide for□ed-□tee□ ed□e□ □nd □□tr□□□□□ □it□ intu□e□cent □e□□□.

      1) Fini□□ □tee□ed□e□ □nd □□tr□□□□□ □it□ □□□ed en□□e□.
      2) Fini□□ □tee□ed□e□ □nd □□tr□□□□□ to □ □tc□ door □□rd□□re (□oc□□et□ or e□it de□ice□).

   d. Miner□□-Core Door□□ □t □in□e □ti□e□, □ro□ide □□□ in□ted-ed□e con□truction □it□ i□ □ro□ed □cre□-□o□din□ c□□□□i□it□ □nd □□it re□i□t□nce. Co□ □□□ □it□ □□ecified re□uire□ent□ for e□□o□ed ed□e□.

      1) □cre□-□o□din□ C□□□□i□it□□ 550 □f in □ccord□nce □it□ □ DM□ T.M. 10.

6. Core for □on-Fire-R□ted Door□□

   □. □□□I □208.1, □r□de □D-1 □□rtic□e□o□rd.

      1) □ro□ide door□ □it□ □□ued-□ood-□t□□e or □ DM□ I.□. 10 □tructur□□-co□ □o□ite-□□ □er core□ in□te□d of □□rtic□e□o□rd core□ for door□ □c□edu□ed to recei□e e□it de□ice□ in □ection 087100 "Door □□rd□□re."

   □. □□ued □ood □t□□e.
   c. □ DM□ I.□. 10 □tructur□□co□ □o□ite □□ □er.

      1) □cre□ □ it□dr□□ □□, Door F□ce□ 550 □□f.
      2) □cre□ □ it□dr□□ □□, Vertic□□Door Ed□e□ 550 □□f.

   d. Eit□er □□ued □ood □t□□e or □ DM□ I.□. 10 □tructur□□co□ □o□ite □□ □er.

7. Core for Fire-R□ted Door□□ □□ re□uired to □c□ie□e fire-□rotection r□tin□ indic□ted on Dr□□in□□.

   □. □□oc□in□ for Miner□□-Core Door□□□ro□ide co□ □o□ite □□oc□in□ □it□ i□ □ro□ed □cre□-□o□din□ c□□□□i□it□ □□□ro□ed for u□e in door□ of fire-□rotection r□tin□□ indic□ted on Dr□□in□□ □□ fo□o□□□

1) 5-inc□ to□-r□i□□oc□in□.
2) 5-inc□ □otto□-r□i□□oc□in□, in door□indic□ted to □□□e □rotection □□□te□.
3) 5-inc□ □idr□i□□oc□in□, in door□indic□ted to □□□e □r□or □□□te□.
4) 4-1/2-□□-10-inc□ □oc□ □oc□□, in door□indic□ted to □□□e e□it de□ice□.

8. Con□truction□Fi□e □ie□, □ot-□re□□ed or co□d-□re□□ed □onded (□ertic□□ □nd □ori□ont□□ ed□in□ i□ □onded to core), □it□ entire unit □□r□□i□e □□□ned □efore f□ce□ □nd cro□□□□nd□ □re □□□□ied.

2.6 □I□□T FR□ME□ □□D □O□VER□

□. □ood □e□d□for □i□□t O□enin□□ in □ood Door□□□ro□ide □ □nuf□cturer□□ □t□nd□rd □ood □e□d□ un□e□□ ot□er□i□e indic□ted.

1. □ood □□ecie□□ □□□□e □□ecie□ □□ door f□ce□.
2. □rofi□e□F□u□□ rect□n□u□□r □e□d□.
3. □t □ood-core door□ □it□ 20-□inute fire-□rotection r□tin□□, □ro□ide □ood □e□d□ □nd □et□□ □□□□in□ ci□□ □□□ro□ed for □uc□u□e.

□. □ood-Veneered □e□d□for □i□□t O□enin□□ in Fire-R□ted Door□□M□nuf□cturer□□ □t□nd□rd □ood-□eneered nonco□ □u□ti□□ □e□d□ □ □tc□in□ □eneer □□ecie□ of door f□ce□ □nd □□□ro□ed for u□e in door□ of fire-□rotection r□tin□ indic□ted on Dr□□in□□. Inc□ude conce□□ed □et□□□□□□in□ ci□□ □□ere re□uired for o□enin□ i□e □nd fire-□rotection r□tin□ indic□ted.

C. Met□□Fr□□ e□for □i□□t O□enin□□ in Fire-R□ted Door□□M□nuf□cturer□□ □t□nd□rd fr□□ e for□ed of 0.048-inc□-t□ic□, co□d-ro□□ed □tee□□□eet□f□ctor□ □ri□ed for □□int fini□□□□nd □□□ro□ed for u□e in door□of fire-□rotection r□tin□ indic□ted on Dr□□in□□.

2.7 F□□RIC□TIO□

□. F□ctor□fit door□to □uit fr□□ e-o□enin□ □i□e□indic□ted.

1. Co□ □□□ □it□ c□e□r□nce re□uire□ent□ of referenced □u□it□ □t□nd□rd for fittin□ un□e□□ ot□er□i□e indic□ted.
2. Co□ □□□ □it□ □F□□ 80 re□uire□ent□for fire-r□ted door□.

□. F□ctor□ □ □c□ine door□for □□rd□□re t□□t i□not □urf□ce □□□ied.

1. □oc□te □□rd□□re to co□ □□□ □it□ D□l-□ D□□-3.
2. Co□ □□□ □it□ fin□□□□rd□□re □c□edu□e□, door fr□□e □□o□ Dr□□in□□, □□□l/□□M□-156.115-□ , □nd □□rd□□re te□ □□□te□.
3. Coordin□te □it□ □□rd□□re □orti□e□ in □et□□fr□□e□, to □erif□ di□en□ion□ □nd □i□n□ent □efore f□ctor□ □ □c□inin□.
4. For door□ □c□edu□ed to recei□e e□ectrified □oc□□et□, □ro□ide f□ctor□-in□t□□ed r□ce□□□ □nd □irin□to □cco□ □od□te □□ecified □□rd□□re.
5. Met□□ □□tr□□□□□□ F□ctor□ □ □c□ine □□tr□□□□□ □nd for□ed-□tee□ed□e□ for □□rd□□re for □□ir□of fire-r□ted door□.

C. Tr□n□o□ □nd □ide □□ne□□

1. F□□ric□te □ □tc□in□ □□ne□□ □it□ □□□e con□truction, e□□o□ed □urf□ce□, □nd fini□□ □□ □□ecified for □□□oci□ted door□.
2. Fini□□ □otto□ ed□e□of tr□n□o□ □ □nd to□ed□e□of r□□□eted door□ □□□e □□door □ti□e□.
3. F□□ric□te door □nd tr□n□o□ □□ne□□ □it□ fu□-□idt□, □oid-u□ □er □eetin□ r□i□.

4. □ro□ide f□ctor□-in□t□□ed □□rin□ □o□t□ for conce□□ed □tt□c□□ent into □□□ □□ of □et□□door fr□□e□.

D. O□enin□□□F□ctor□ cut □nd tri□ o□enin□□t□rou□□ door□.

1. □i□□t O□enin□□□Tri□ o□enin□□ □it□ □ o□din□□ of □ □teri□□□nd □rofi□e indic□ted.
2. □□□in□□F□ctor□ in□t□□□□□□in□ in door□ indic□ted to □e f□ctor□ fini□□ed. Co□ □□□ □it□ □□□□ic□□e re□uire□ent□ in □ection 088000 "□□□in□."

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□ine door□ □nd in□t□□ed door fr□□e□, □it□ In□t□□□er □re□ent, □efore □□n□in□ door□.

1. Verif□ t□□t in□t□□ed fr□□e□ co□ □□□ □it□ indic□ted re□uire□ent□ for t□□e, □i□e, □oc□tion, □nd □□in□c□□r□cteri□tic□ □nd □□□e □een in□t□□ed □it□ □e□e□□e□d□ □nd □u□ □ □□□□ □□.
2. Re□ect door□ □it□ defect□.

□. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□f□ctor□ condition□ □□□e □een corrected.

3.2 I□□T□□□□TIO□

□. □□rd□□re□For in□t□□□tion, □ee □ection 087100 "Door □□rd□□re."

□. In□t□□door□ to co□ □□□ □it□ □ □nuf□cturer□□ □ritten in□truction□ □nd referenced □u□it□ □t□nd□rd, □nd □□indic□ted.

C. In□t□□fr□□e□ □e□e□, □□u□ □, true, □nd □tri□□t.

1. □□i□ □□re□uired □it□ conce□□ed □□i□ □. In□t□□□e□e□□nd □u□ □ to □to□r□nce of 1/8 inc□ in 96 inc□e□.
2. □nc□or fr□□e□ to □nc□or□or □□oc□in□ □uit□in or direct□□ tt□c□ed to □u□□tr□te□.

□. □ecure □it□ counter□un□, conce□□ed f□□tener□ □nd □ind n□i□□.
□. □□e fine fini□□in□ n□i□□ or fini□□in□ □cre□□ for e□□o□ed f□□tenin□, counter□un□ □nd fi□ed f□u□□ □it□ □ood□or□.

1) For f□ctor□-fini□□ed ite□ □, u□e fi□er □ □tc□in□ fini□□ of ite□ □ □ein□in□t□□ed.

3. In□t□□fire-r□ted door□ □nd fr□□e□ in □ccord□nce □it□ □F□□ 80.
4. In□t□□□□□o□e- □nd dr□ft-contro□door□ in □ccord□nce □it□ □F□□ 105.

D. □o□-Fitted Door□□

1. □i□n □nd fit door□ in fr□□e□ □it□ unifor□ c□e□r□nce□ □nd □e□e□□ □□ indic□ted □e□o□.

□. Do not tri□ □ti□e□ □nd r□□□ in e□ce□□ of i□ it□ □et □□ □ □nuf□cturer or □er□itted for fire-r□ted door□.

2. M□c□ine door□ for □□rd□□re.
3. □e□□ed□e□ of door□, ed□e□ of cutout□, □nd □orti□e□ □fter fittin□ □nd □ □c□inin□.

4. C□e□r□nce□□

□. □ro□ide 1/8 inc□ □t □e□d□, □□□ □□, □nd □et□een □□ir□ of door□.
□. □ro□ide 1/8 inc□ fro□ □otto□ of door to to□ of decor□ti□e f□oor fini□□ or co□erin□ un□e□□ ot□er□i□e indic□ted on Dr□□in□□.
c. □ □ere t□re□□o□d i□ □□o□n or □c□edu□ed, □ro□ide1/4 inc□ fro□ □otto□ of door to to□ of t□re□□o□d un□e□□ ot□er□i□e indic□ted.
d. Co□ □□□ □it□ □F□□ 80 for fire-r□ted door□.

5. □e□e□non-fire-r□ted door□ 1/8 inc□ in 2 inc□e□ □t □oc□ □nd □in□e ed□e□.
6. □e□e□fire-r□ted door□ 1/8 inc□ in 2 inc□e□ □t □oc□ed□e□tri□ □ti□e□ □nd r□i□□on□□ to e□tent □er□itted □□ □□□e□in□ □□enc□.

E. F□ctor□-Fitted Door□□□i□n in fr□□e□for unifor□ c□e□r□nce □t e□c□ed□e.

F. F□ctor□-Fini□□ed Door□□Re□tore fini□□ □efore in□t□□□tion if fittin□ or □ □c□inin□ i□ re□uired □t □ro□ect □ite.

3.3 □D□□□TI□□

□. O□er□tion□Re□□n□ or re□□□ce door□ t□□t do not □□in□ or o□er□te free□□.

□. Fini□□ed Door□□Re□□□ce door□ t□□t □re d□□ □□ed or t□□t do not co□ □□□ □it□ re□uire□ent□. Door□ □ □□ □e re□□ired or refini□□ed if □ or□co□ □□ie□ □it□ re□uire□ent□ □nd □□o□□no e□idence of re□□ir or refini□□in□.

E□D OF □ECTIO□ 081416

□ECTIO□ 081473.20 - □ OOD □□IDI□□ DOOR □□□EM□□IE□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection Inc□ude□□

1. Interior □u□inu□-Fr□□ed, To□-□un□ □i□din□ □ ood Door □□□e□ □ie□ □nd Re□□ted □□rd□□re.

□. Re□□ted □ection□□

1. Di□i□ion 01 □ection "□ener□□Condition□".
2. Division 08 Section “Door Sc□edu□e".
3. Di□i□ion 08 □ection "Door □□rd□□re □c□edu□e".
4. Di□i□ion 08 □ection "F□u□□ □ ood Door□".

C. Code□ □nd Reference□□ Co□ □□□ □it□ t□e □er□ion □e□r □do□ted □□ t□e □ut□orit□ □□□in□ □uri□diction.

1. ICC/□□□I □117.1 - □cce□i□□e □nd □□□□□e □ui□din□□ □nd F□ci□itie□.
2. ICC/I□C - Intern□tion□□□ui□din□ Code.
3. □F□□ 80 - Fire Door□ □nd □indo□□.
4. □F□□ 101 - □ife □□fet□ Code.
5. □F□□ 105 - In□t□□□tion of □□o□e Door □□□e□ □ie□.
6. □indo□ □nd Door M□nuf□cturer□ □□□oci□tion - □ DM□ I.□.1-□ □rc□itectur□□□ ood F□u□□ Door□.
7. □t□te □ui□din□ Code□, □oc□□□□ end□ent□.

D. □t□nd□rd□□ Co□ □□□ □it□ t□e fo□o□in□ indu□tr□ □t□nd□rd□□

1. □□ 1784 □t□nd□rd for □ir □e□□□□e Te□t□ of Door □□□e□ □ie□ □nd Ot□er O□enin□ □rotecti□e□.

1.2 □RE-I□□T□□□□TIO□ MEETI□□ □

□. □re-in□t□□□tion Conference□Refer to Di□i□ion 01 □ection "□ro□ect Re□uire□ent□".

1.3 □□□MITT□□□

□. Co□ □□□ □it□ Di□i□ion 01 □ection "□u□□itt□□□rocedure□".

□. □roduct D□t□□ M□nuf□cturer□ □roduct d□t□ □□eet□ inc□udin□ in□t□□□tion det□i□, □ □teri□□ de□cri□tion□, di□ en□ion□ of indi□idu□□co□ □onent□ □nd □rofi□e□, door □□rd□□re □nd □cce□□orie□, □nd fini□□e□.

C. □□o□ Dr□□in□□□□□o□ det□i□ of f□□ric□tion □nd in□t□□□tion, inc□udin□ t□e fo□o□in□□

1. □□□e□ □□□ e□e□□tion□ □nd □ection□ indic□tin□ di□en□ion□, to□er□nce□, □ □teri□□□, co□ □onent□, □□rd□□re, fini□□e□, o□tion□, □nd □cce□□orie□.
2. Door □□rd□□re □oc□tion□, □ountin□ □ei□□t□, □u□ntitie□, □nd in□t□□□tion re□uire□ent□.
3. Fr□□e □nc□or□□e□ □nd □□□reinforce□ent re□uire□ent□.

D. □□□ □□e□ for Verific□tion□For e□c□ t□□e of e□□o□ed fini□□ indic□ted, □ro□ide □□□ □□e□ □e□o□ □□ re□ue□ted □□ □rc□itect.

1. Fr□□e fini□□ □□□ □□e.
2. Door □eneer □□□ □□e.

E. M□inten□nce D□t□□For to□-□un□, □idin□ door □□□e□ □ie□ inc□ude in □ □inten□nce □ □nu□□.

1.4 DE□IVER□, □TOR□□E, □□D □□□D□I□□

□. De□i□er □aterials to site in manufacturer's original, unopened containers and packaging, □it□ □□e□ c□e□r□ identif□in□ □roduct n□□e □nd □ □nuf□cturer.

□. □otif□ □ □nuf□cturer i□ □edi□te□ of □n□ □□i□□in□ d□□ □□e.

C. □tor□□e □nd □□ndl□in□ Re□uire□ent□□

1. □tore □nd □□ndle □ □terials in accordance with manufacturer's instructions.
2. □ee□ □ □teri□□□ in □ □nuf□cturer's original, unopened containers and packaging until in□t□□□tion.
3. □tore □ □teri□□□ in c□e□n, dr□ □re□ indoor□.
4. □rotect □ □teri□□□ □nd fini□□ durin□ □tor□□e, □□ndl□in□, □nd in□t□□□tion to □re□ent d□□ □□e.

1.5 □ □RR□□T□

□. □ener□□□ □rr□nt□□T□e □□eci□□□ □rr□nt□ □□ecified in t□i□ □rtic□e □□□□□not de□ri□e t□e O□ner of ot□er ri□□t□ t□e O□ner □ □□ □□□e under ot□er □ro□i□ion□ of t□e Contr□ct Docu□ent□ □nd □□□□□ □e in □ddition to, □nd run concurrent □it□, ot□er □□rr□ntie□ □ □de □□ t□e Contr□ctor under re□uire□ent□ of t□e Contr□ct Docu□ent□.

□. □□eci□□□ □rr□nt□□M□nuf□cturer□ □ritten □□rr□nt□ □□reein□ to re□□ir or re□□□ce co□ □onent□ of t□e to□-□un□, □idin□ door □□□e□ □ie□ t□□t f□i□in □ □teri□□□ or □or□□ □n□□i□ □it□in t□e □□ecified □□rr□nt□ □eriod. F□i□ure□ inc□ude, □ut □re not l□□ited to, t□e fo□o□in□□

1. □tructur□□f□i□ure□.
2. Deterior□tion of □et□□□, □et□□fini□□e□, □nd ot□er □ □teri□□□ □e□ond nor□ □□□e□t□erin□.
3. □ □r□in□ (□o□, cu□, or t□i□t) □ore t□□n 1/4 inc□ in □ 42-□□-84-inc□ □ection.
4. Te□e□r□□□in□ of core con□truction in □ood f□ce □eneer□e□ceedin□ 0.01 inc□ in □ 3-inc□ □□□n.
5. F□i□ure of o□er□tin□ co□ □onent□ to function nor□ □□□□.

C. □ □rr□nt□ inc□ude□ in□t□□□tion □nd fini□□in□ t□□t □ □□ □e re□uired due to re□□ir or re□□□ce□ent of defecti□e door□.

D. □ener□□□ □rr□nt□ □eriod□One □e□r fro□ d□te of □u□□t□nti□□Co□ □□etion.

□□RT 2 - □ROD□CT□

2.1 □ERFORM□□CE RE□□IREME□T□

□. □ü□inu□ Fr□□e□□□ü□inu□ c□□ed o□enin□ □eri□eter fr□□e□ □□nuf□ctured □it□ inte□r□□C-c□□nne□door c□□it□ □nd □cou□tic □e□□.

□. C□o□in□ Mec□□ni□□ □□oft □ef-c□o□in□ □ec□□ni□□ inte□r□ted □it□ to□ tr□c□.

C. Door □uide□Conce□□ed t□□e door □uide.

D. □cce□□i□i□it□ □t□nd□rd□□ Co□ □□□ □it□ □□□□ic□□e □ro□i□ion□ in □cce□□i□i□it□ □uide□ine□ for □ui□din□□ □nd F□ci□tie□ ICC (□□□I) □117.1 □nd re□uire□ent□ of □ut□oritie□ □□□in□ □uri□diction.

2.2 M□□□F□CT□RER□

□. □u□□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide t□e n□□ed □roduct, or t□e co□ □□r□□e □roduct □□ one of t□e □tern□te □□ecified □ □nuf□cturer□. Co□ □□r□□e □roduct□ □re □u□□ect to re□ie□ □nd □□□ro□□□t□rou□□ t□e □u□□ itt□□□roce□□ □□ecified.

□. M□nuf□cturer□□ □u□□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ □□ one of t□e fo□o□in□□

1. □□□□ □□□O□
2. □o □u□□titution.

2.3 I□TERIOR TO□-□□□□, □□IDI□□ DOOR □□□EM□□IE□

□. □□i□-of-De□i□n M□nuf□cturer□

1. □□□□ □□□O□ RITE □□IDE □i□din□ Door □□□te□ (R□).

□. Fr□□e □nd Door □□□e□ □□□ Co□ □onent□□

1. □in□□e □iece □o□ To□ Tr□c□□E□truded □□ü□inu□ tr□c□ □□□te□ □it□ □ountin□ □r□c□et□.
2. F□□ci□□E□truded □□ü□inu□ □it□ □ □tc□in□ inte□r□□end c□□□.
3. Inte□r□□□oft-C□o□er□□oft □nd □ef-c□o□in□ d□□ □er □ec□□ni□□.
4. Conce□□ed Door □otto□ F□oor □uide.
5. □e□□□et□□Inte□r□□to fr□□e.
6. O□er□tin□ □□rd□□re.

C. □□ecified □ □□□T□ic□ne□□□

1. □□indic□ted on □rc□itectur□□Dr□□in□□.

D. Fr□□e □rofi□e□□E□truded □□ü□inu□ c□□ed fr□□e □nd tri□ □it□ inte□r□□□ertic□□□□□ □ recei□er c□□nne□.

1. 1-1/2" F□ce□.

E. F□□ci□ □rofi□e□

1. □t□nd□rd□□□u□re.

F. Fr□□e Fini□□:

1. □t□nd□rd: C□e□r □nodi□ed.

G. Fr□□ in□ □nc□or□ □nd F□□tenin□□: M□nuf□cturer'] t□nd□rd conce□ed □nc□or□ □nd f□□tenin□□.

H. F□u□□ □ood Door Con□truction:

1. □t□nd□rd: □ DM□ I.S.1-A □erfor□ □nce □r□de: E□tr□ Heavy Dut□□ □e□t□etic □r□de: □ □re□iu□.
2. Mini□u□ T□ic□ne□□: 1-3/4".
3. Core Con□truction" □□rtic□e□o□rd Core Door (□C). □ ood fi□er bas ed □ □teri□□□ co□ □□□in□ □it□ ANS I A208.1 □□rtic□e□o□rd □t□nd□rd. □r□de □D-1.
4. F□ce Veneer: As □e□ected by □rc□itect.
5. Fini□□: Co mply □it□ referenced □t□nd□rd for f□ctor□ fini□□in□.
6. □EED □t□nd□rd: Mini□u□ re□uire□ent□ of □EED MR4 □nd IE□4.4.
7. Door Glaz ing: As indic□ted on □rc□itectur□□ E□e□□tion□ □nd Dr□□in□□.
   a. Mini□u□ 6" □ertic□□□ti□e□ □nd 10" □otto□ r□i□re□uired.

I. Door □re□□r□tion. Door□ □e□f□ to □e f□ctor□ □ □c□ined for □□rd□□re inc□udin□ □i□ot □nd function □o□e□.

□. Door □□rd□□re Co□ □onent□:

1. □ener□□: □e□□□-dut□, o□er□tin□ door □□rd□□re unit□ in □i□e□, □u□ntitie□, □nd typ es reco□ □ended □□ □ □nuf□cturer for □idin□ door ass emb ies indic□ted.
2. C□inder□ □nd □e□in□: Refer to Di□i□ion 08 □ection "Door □□rd□□re".

2.4 F□□RIC□TIO□

A. □ener□□: F□□ric□te to□-□un□, □idin□ door ass emb ies in □i□e□, □rofi□e□, □nd confi□ur□tion□ indi-c□ted on □rc□itectur□□□c□edu□e□ □nd Dr□□in□□.

B. F□ctor□ □re□□re door ass emb ies for fie□d in□t□□□tion of door □□rd□□re □nd □cce□□orie□ to □re□te□t e□tent □o□□i□e.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

A. Verif□ di□en□ion□ of wall o□enin□□.

B. E□□□ine wall o□enin□□ □nd condition□, □it□ In□t□□er □re□ent, for p□umb, □e□e□□nd □□u□re, □nd co□ □i□nce □it□ re□uire□ent□ for in□t□□□tion to□er□nce□ □nd ot□er condition□ □ffectin□ □erfor□ □nce of t□e □or□. □idin□ door o□er□tion will □e □d□er□e□□ □ffected by out-of-to□er□nce fr□□in□.

C. E□□□ine □urf□ce□ to recei□e door □otto□ □uide. F□or shall hav e no □ei□□t □□ri□nce t□rou□□out t□e co□ □□ete □idin□ o□er□tion.

D. □otif□ □rc□itect of condition□ t□□t □ou□d □d□er□e□□ □ffect in□t□□□tion or □u□□e□uent u□e of □idin□ door□. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□f□ctor□ condition□ hav e □een corrected.

3.2 DOOR, FR□ME □□D □□RD□ □RE □□□EM□□□ I□□T□□□□TIO□

□. □ener□□□ Co□ □□□ □it□ □ □nuf□cturer□□ □ritten in□t□□□tion in□truction□ □nd □□□ro□ed □□o□ dr□□in□□.

□. In□t□□fr□□e co□ □onent□ □nd □idin□ door□ □u□ □, □e□e□, □□u□re, □nd in □ro□er □i□n□ent.

C. □nc□or □idin□ door □□□e□ □ie□ □ecure□□ in □□ce to □u□□ort□ □ccordin□ to □ □nuf□cturer□□ □ritten in□t□□□tion in□truction□.

3.3 □D□□□TI□□ □□D C□E□□I□□

□. □d□u□t □idin□ door□ □nd □□rd□□re for □□ oot□ o□er□tion in □ccord□nce □it□ □ □nuf□cturer□□ □ritten in□truction□ □it□out □indin□ □nd □it□ ti□□t fit □t cont□ct □oint□ □nd □e□□. □idin□ door□ to c□o□e □□□in□t □ □□□□ □it□out □□□□.

□. Re□□ir □inor d□□ □□e□ to fini□□ in □ccordance with manufacturer's □ritten in□truction□ □nd □□ □□□ro□ed □□ □rc□itect.

3.4 □ROTECTIO□

□. □ro□ide fin□□□rotection □nd □ □int□in condition□, in □ □ □nner □cce□t□□e to □ □nuf□cturer □nd In□t□□er t□□t en□ure □idin□ door □□□e□ □ie□ □re □it□out d□□ □□e or deterior□tion □t t□e ti□ e of □u□□t□nti□□Co□ □□etion.

3.5 FIE□D □ □□□IT□ CO□TRO□

□. Field Inspection (Punch Report): Reference Division 01 Sections "Closeout Procedures". □roduce □ro□ect □unc□ re□ort for e□c□ in□t□□ed door o□enin□ indic□tin□ co□ □i□□nce □it□ □□□ro□ed □u□□itt□□□ □nd □erific□tion □□rd□□re i□ □ro□er□□ in□t□□ed, o□er□tin□ □nd □d□u□ted. Inc□ude □i□t of ite□ □ to □e co□ □□eted □nd corrected, indic□tin□ t□e re□□on□ or deficiencie□ c□u□in□ t□e □ or□to □e inco□ □□ete or re□ected.

1. Or□□ni□□tion of □i□t□Inc□ude □e□□r□te Door O□enin□ □nd Deficiencie□ □nd Correcti□e □ction □i□t□or□□ni□ed □□ M□r□, O□enin□ Re□ □r□□ □nd Co□ □ent□, □nd re□□ted O□enin□ I□ □□e□ □nd Video Recordin□□.
2. □u□□it docu□ent□tion of inco□ □□ete ite□ □in t□e fo□o□in□ for□ □t□□

□. □DF e□ectronic fi□e.
□. E□ectronic for□ □tted fi□e inte□r□ted □it□ t□e O□enin□□ □tudio™ door o□enin□ □ □n□□e□ent □oft□□re □□tfor□.

3.6 DOOR □□RD□ □RE □ET□

□. T□e □□rd□□re □et□ re□re□ent t□e de□i□n intent □nd direction of t□e o□ner □nd □rc□itect. T□e□ □re □ □uide□ine on□□ □nd □□ou□d not □e con□idered □ det□i□ed □□rd□□re □c□edu□e. Di□cre□□ncie□, confi□tin□ □□rd□□re □nd □i□□in□ite□ □ □□ou□d □e □rou□□t to t□e □ttention of t□e □rc□itect □it□ correction□ □ □de □rior to t□e □iddin□ □roce□□. O□itted ite□ □ not inc□uded in □ □□rd□□re □et □□ou□d □e □c□edu□ed □it□ t□e □□□ro□ri□te □ddition□□□□□rd□□re re□uired for □ro□er □□□□i□□tion □nd function□i□.

1. Refer to □ection 080671, Door □□rd□□re □et□, for □□rd□□re □et□.

E□D OF □ECTIO□ 081473.20

□ECTIO□ 084113 - □□□MI□□M-FR□MED E□TR□□CE□ □□D □TOREFRO□T□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection Inc□ude□□

1. □□□inu□-fr□□ed □torefront □□□te□ □.
2. □□□inu□-fr□□ed entr□nce door □□□te□ □.

1.2 □REI□□T□□□□TIO□ MEETI□□□

□. □rein□t□□□□tion Conference□Conduct conference □t □ro□ect □ite.

1. .

1.3 □CTIO□ □□□MITT□□□

□. □roduct D□t□□□For e□c□t□□e of □roduct.

1. Inc□ude con□truction det□i□□, □ □teri□□de□cri□tion□, di□en□ion□ of indi□idu□□co□ □onent□ □nd □rofi□e□, □nd fini□□e□.

□. □u□t□in□□□e De□i□n □u□□itt□□□□

C. □□o□ Dr□□in□□□□For □□□inu□-fr□□ed entr□nce□ □nd □torefront□. Inc□ude □□□n□, e□e□□tion□, □ection□, fu□□□i□e det□i□□, □nd □tt□c□□ent□ to ot□er □or□.

1. Inc□ude det□i□□ of □ro□i□ion□ for □□□e□ □□□□ e□□□n□ion □nd contr□ction □nd for dr□inin□ □oi□ture occurrin□ □it□in t□e □□□e□ □□□□ to t□e e□terior.
2. Inc□ude fu□□□i□e i□o□etric det□i□□ of e□c□t□□e of □ertic□□-to-□ori□ont□□ inter□ection of □□□inu□-fr□□ed entr□nce□ □nd □torefront□, □□o□in□ t□e fo□ō□in□□

□. □oiner□, inc□udin□ conce□□ed □e□d□.
□. □nc□or□□e.
c. E□□□n□ion □ro□i□ion□.
d. □□□□in□.
e. F□□□□in□ □nd dr□in□□e.

3. □□o□ connection to □nd continuit□ □it□ □d□□cent t□er□ □□, □e□t□er, □ir, □nd □□□or □□rrier□.
4. Inc□ude □oint-to-□oint □irin□ di□□r□□ □ □□o□in□ t□e fo□ō□in□□

□. □o□er re□uire□ent□ for e□c□e□ectric□□□ o□er□ted door □□rd□□re.
□. □oc□tion □nd t□□e□ of □□itc□e□, □i□n□□de□ice, conduit □i□e□, □nd nu□□er □nd □i□e of □ire□.

D. □□□ □□e□ for Initi□□□e□ection□For unit□ □it□ f□ctor□-□□□□ied co□or fini□□e□.

E. □□□ □e□ for Verific□tion□For e□c□ t□□e of e□□o□ed fini□□ re□uired, in □ □nuf□cturer□□ □t□nd□rd □i□e□.

F. F□□ric□tion □□□ □e□Of e□c□ □ertic□-to-□ori□ont□□inter□ection of □□□e□ □ie□, □□de fro□ 12-inc□ □en□t□□ of fu□-□i□e co□ □onent□ □nd □□o□in□ det□i□□ of t□e fo□o□in□□

1. □oiner□, inc□udin□ conce□□ed □e□d□.
2. □nc□or□□e.
3. E□□□n□ion □ro□i□ion□.
4. □□□□in□.
5. F□□□□in□ □nd dr□in□□e.

□. Entr□nce Door □□rd□□re □c□edu□□ □re□□red □□ or under □u□er□□ion of □u□□ier, det□i□in□ f□□ric□tion □nd □□□e□ □□□□ of entr□nce door □□rd□□re, □□ □e□□□□ □rocedure□ □nd di□□r□□ □. Coordin□te fin□□entr□nce door □□rd□□re □c□edu□ □it□ door□, fr□□e□, □nd re□□ted □or□ to en□ure □ro□er □i□e, t□ic□ne□□, □□nd, function, □nd fini□□ of entr□nce door □□rd□□re.

□. De□e□□ted De□i□n □u□□itt□□□For □u□inu□-fr□□ed entr□nce□ □nd □torefront□ inc□udin□ □n□□□□i□ d□t□ □i□ned □nd □e□□d □□t□e □u□ified □rofe□□ion□□en□ineer re□□on□i□□ for t□eir □re□□r□tion.

1.4 I□FORM□TIO□ □□□ □□□MITT□□□

□. □u□ific□tion D□t□□

1. For In□t□□□er.
2. For □rofe□□ion□□ en□ineer□□ e□□erience □it□ □ro□idin□ de□e□□ted de□i□n en□ineerin□ □er□ice□ of t□e □ind indic□ted, inc□udin□ docu□ent□tion t□□t en□ineer i□ □ic□n□ed in t□e □t□te in □□ic□ □ro□ect i□ □oc□ted.

□. Ener□□ □erfor□ □nce Certific□te□□For □□u□inu□-fr□□ed entr□nce□ □nd □torefront□, □cce□□orie□, □nd co□ □onent□, fro□ □ □nuf□cturer.

1. □□□i□ for Certific□tion□□FRC-certified ener□□ □erfor□ □nce □□ue□ for e□c□ □□u□inu□-fr□□ed entr□nce □nd □torefront.

C. □roduct Te□t Re□ort□□For □□u□inu□-fr□□ed entr□nce□ □nd □torefront□, for te□t□ □erfor□ed □□ □ □nuf□cturer □nd □itne□□ed □□□ □ □u□ified te□tin□ □□enc□.

D. Fie□d □u□it□-contro□re□ort□.

E. □□□ □e □ □rr□ntie□□For □□eci□□□ □rr□ntie□.

1.5 C□O□EO□T □□□MITT□□□

□. M□inten□nce D□t□□For □□u□inu□-fr□□ed entr□nce□ □nd □torefront□ to inc□ude in □ □inten□nce □ □nu□□.

1.6 □□□□IT□ □□□□R□□CE

□. In□t□□er □u□ific□tion□□□n entit□ t□□t e□ □□o□□ in□t□□er□ □nd □u□er□i□or□ □□o □re tr□ined □nd □□□ro□ed □□ □ □nuf□cturer □nd t□□t e□ □□o□□ □ □u□ified □□□in□ contr□ctor for t□i□ □ro□ect □□o i□ certified under t□e □ort□ □□eric□n Contr□ctor Certific□tion □ro□r□□ (□□CC) for □rc□itectur□□

□□□□□ □ Met□□(□□ □M) contr□ctor□ □nd t□□t e□ □o□□ □□□□in□ tec□nici□n□ certified under t□e □rc□itectur□□□ □□□□ □nd Met□□Tec□nici□n (□□MT) certific□tion □ro□r□□.

□. □roduct O□tion□□Infor□ □tion on Dr□□in□□ □nd in □□ecific□tion□ e□t□□i□□e□ re□uire□ent□ for □e□t□etic effect□ □nd □erfor□ □nce c□□r□cteri□tic□ of □□□e□ □ie□. □e□t□etic effect□ □re indic□ted □□ di□en□ion□, □rr□n□e□ent□, □i□n□ent, □nd □rofi□e□ of co□ □onent□ □nd □□□e□ □ie□ □□ t□e□ re□□te to □i□□t□ine□, to one □not□er, □nd to □d□oinin□ con□truction.

1. Do not c□□n□e intended □e□t□etic effect□, □□ □ud□ed □o□e□□ □□ □rc□itect, e□ce□t □it□ □rc□itect□□ □□□□ro□□□. If c□□n□e□ □re □ro□o□ed, □u□□it co□ □re□en□i□e e□□□□n□tor□ d□t□ to □rc□itect for re□ie□.

1.7 □RECO□□TR□CTIO□ TE□TI□□

1.8 □ □RR□□T□

□. □□eci□□□ □rr□nt□□ M□nuf□cturer □□ree□ to re□□ir or re□□□ce co□ □onent□ of □□u□inu□-fr□□ed entr□nce□ □nd □torefront□ t□□t do not co□ □□□ □it□ re□uire□ent□ or t□□t f□i□in □ □teri□□□ or □or□□ □n□□i□ □it□in □□ecified □□rr□nt□ □eriod.

1. F□i□re□inc□ude, □ut □re not i□ited to, t□e fo□o□in□□

□. □tructur□□f□i□re□, inc□din□, □ut not i□ited to, e□ce□□i□e def□ection.
□. □oi□e or □i□r□tion cre□ted □□ □ind □nd t□er□ □□□nd □tructur□□□ o□e□ent□.
c. Deterior□tion of □et□□□ □nd ot□er □ □teri□□□ e□ond nor□ □□□e□t□erin□.
d. □ □ter □enetr□tion t□rou□□ fi□ed □□□in□ □nd fr□□ in□ □re□□.
e. F□i□re of o□er□tin□ co□ □onent□.

2. □ □rr□nt□ □eriod□ 10 □e□r□fro□ d□te of □u□□t□nti□□Co□ □□etion.

□. □□eci□□Fini□□ □ □rr□nt□, F□ctor□-□□□□ied Fini□e□□□t□nd□rd for□ in □□ic□ □ □nuf□cturer □□ree□ to re□□ir fini□□e□ or re□□□ce □□u□inu□ t□□t □□o□□ e□idence of deterior□tion of f□ctor□-□□□□ied fini□□e□ □it□in □□ecified □□rr□nt□ □eriod.

1. Deterior□tion inc□ude□, □ut i□ not i□ited to, t□e fo□o□in□□

□. Co□or f□din□ □ore t□□n 5 De□t□ E unit□ □□en te□ted in □ccord□nce □it□ □□TM D2244.
□. C□□□□in□ in e□ce□□ of □ □o. 8 r□tin□ □□en te□ted in □ccord□nce □it□ □□TM D4214.
c. Cr□c□in□, c□ec□in□, □ee□in□, or f□i□re of □□int to □d□ere to □□re □et□□

2. □ □rr□nt□ □eriod□10 □e□r□fro□ d□te of □u□□t□nti□□Co□ □□etion.

C. □□eci□□Fini□□ □ □rr□nt□, □nodi□ed Fini□e□□ □t□nd□rd for□ in □□ic□ □ □nuf□cturer □□ree□ to re□□ir fini□□e□ or re□□□ce □□u□inu□ t□□t □□o□□ e□idence of deterior□tion of □nodi□ed fini□□e□ □it□in □□ecified □□rr□nt□ □eriod.

1. Deterior□tion inc□ude□, □ut i□ not i□ited to, t□e fo□o□in□□

□. Co□or f□din□ □ore t□□n 5 De□t□ E unit□ □□en te□ted in □ccord□nce □it□ □□TM D 2244.
□. C□□□□in□ in e□ce□□ of □ □o. 8 r□tin□ □□en te□ted in □ccord□nce □it□ □□TM D 4214.

c. Cr□c□in□, □ee□in□, or c□i□□in□.

2. □ □rr□nt□ □eriod: 10 y□ars fro□ d□te of □u□□t□nti□□Co□ □etion.

□□RT 2 - □ROD□CT□

2.1 M□□□F□CT□RER□

A. □ource □i□it□tion□: O□t□in all □co□ □onent□ of □u□inu□-fr□□ed entr□nce □nd □torefront sys□em, inc□udin□ fr□□in□ □□□ndre□pa□nels □nd □cce□□orie□, fro□ □in□e □ □nuf□cturer.

2.2 □ERFORM□□CE RE□ □IREME□T□

A. De□e□□ted De□i□n: En□□□e a □u□ified □rofe□□ion□□en□ineer, as defined in □ection 014000 "□u□it□Re□uire□ent□," to de□i□n □u□inu□-fr□□ed entr□nce□ □nd □torefront□.

B. □ener□□ □erfor□ □nce: Co□ □□□ □it□ □erfor□ □nce re□uire□ent□ □□ecified, as deter□ined by te□tin□ of □u□inu□-fr□□ed entr□nce□ □nd □torefront□ re□re□entin□ t□o□e indic□ted for t□i□ □ro□ect □it□out f□i□ure due to defecti□e □ □nuf□cture, f□□ric□tion, in□t□□□tion, or ot□er defect□ in con□truction.

1. □u□inu□-fr□□ed entr□nce□ □nd □torefront□ shall □it□□t□nd □o□e□ent□ of □u□□ortin□ □tructure, inc□udin□, □ut not i□ited to, t□i□t, co□u□n □□ortenin□, □on□-ter□ cree□, □nd def□ection fro□ unifor□ □□ di□tri□uted □nd concentr□ted i□e □o□d□.
2. F□i□ure als□ inc□ude□t□e fo□o□in□:

a. T□er□ □□□tre□□e□tr□n□ferrin□ to □ui□din□ □tructure.
b. G□ass b□reakag□e.
c. □oi□e or □i□r□tion cre□ted by □ind □nd t□er□ □□□nd □tructur□□□ o□e□ent□.
d. □oo□enin□ or □e□□enin□ of f□□tener□, □tt□c□□ent□, □nd ot□er co□□onent□.
e. F□i□ure of o□er□tin□ unit□.

C. □tructur□□□o□d□:

1. □ ind L□ads: As indic□ted on Dr□□in□□.
2. Ot□er De□i□n L□ads: As indic□ted on Dr□□in□□.

D. Def□ection of Fr□□in□ Me□ □er□ □u□□ortin□ Glass: □t de□i□n □ind □o□d, as fo□o□□:

1. Def□ection Normal □o Wall Pla□ne: □i□ited to 1/175 of c□e□r spa□n for spa□ns of u□ to 13 feet 6 inc□e□ □nd to 1/240 of c□e□r spa□n □u□ 1/4 inc□ for spa□ns □re□ter t□□n 13 feet 6 inc□e□.
2. Def□ection Pa□ra□□l□o Glaz□ng Pla□ne: □i□ited to □□ount not e□ceedin□ t□□t which reduce□ □□□□in□ □ite to □e□□t□□n 75 □ercent of de□i□n di□en□ion □nd t□□t which reduce□ ed□e c□e□r□nce □et□een fr□□in□ □e□ □er□ □nd □□□□in□ or ot□er fi□ed co□□onent□ to □e□□t□□n 1/8 inc□.

a. O□er□□e □nit□: □ro□ide a □ini□u□ 1/16-inc□ c□e□r□nce □et□een fr□□in□ □e□ □er□ □nd o□er□□e unit□.

E. □tructur□: Te□t in □ccord□nce □it□ □□TM E330/E330M as fo□o□□:

1. □ □en te□ted □t □o□iti□e □nd ne□□ti□e □ind-□o□d de□i□n □re□□ure□, □torefront □□□e□ □ie□, inc□udin□ entr□nce door□, do not e□idence def□ection e□ceedin□ □□ecified i□ it□.
2. □ □en te□ted □t 150 □ercent of □o□iti□e □nd ne□□ti□e □ind-□o□d de□i□n □re□□ure□, □torefront □□□e□ □ie□, inc□udin□ entr□nce door□ □nd □nc□or□□e, do not e□idence □ □teri□□ f□i□ure□, □tructur□□ di□tre□□, or □er□ □nent defor□ □tion of □ □in fr□□in□ □e□ □er□ e□ceedin□ 0.2 □ercent of □□□n.
3. Te□t Dur□tion□□□□ re□uired □□ de□i□n □ind □e□ocit□, □ut not □e□□t□□n 10 □econd□.

F. □ □ter □enetr□tion under □t□tic □re□□ure□Te□t in □ccord□nce □it□ □□TM E331 □□ fo□o□ □□

1. □o e□idence of □□ter □enetr□tion t□rou□□ fi□ed □□□□in□ □nd fr□□in□ □re□□, inc□udin□ entr□nce door□, □□en te□ted in □ccord□nce □it□ □ □ini□u□ □t□tic-□ir-□re□□ure differenti□□ of 20 □ercent of □o□iti□e □ind-□o□d de□i□n □re□□ure, □ut not □e□□t□□n 6.24 □f/□□. ft..

□. □ □ter □enetr□tion under D□n□□ic □re□□ure□Te□t in □ccord□nce □it□ □□M□ 501.1 □□ fo□o□ □□

1. □o e□idence of □□ter □enetr□tion t□rou□□ fi□ed □□□□in□ □nd fr□□in□ □re□□ □□en te□ted □t d□n□□ic □re□□ure e□u□□to 20 □ercent of □o□iti□e □ind-□o□d de□i□n □re□□ure, □ut not □e□□ t□□n 6.24 □f/□□. ft.
2. M□□i□u□ □ □ter □e□□□□e□ In □ccord□nce □it□ □□M□ 501.1. □ □ter □e□□□□e doe□ not inc□ude □□ter contro□□ed □□f□□□□in□ □nd □utter□, or □□ter t□□t i□dr□ined to e□terior.

□. Ener□□ □erfor□ □nce□Certified □nd □□e□ed □□ □ □nuf□cturer for ener□□ □erfor□ □nce □□ fo□o□ □□

1. T□er□ □□Tr□n□□ itt□nce (□-f□ctor)□

□. Fi□ed □ □□□in□ □nd Fr□□in□ □re□□□□-f□ctor for t□e □□□te□ of not □ore t□□n 0.45 □tu/□□. ft. □ □ □de□F □□deter□ined in □ccord□nce □it□ □FRC 100.
□. Entr□nce Door□□ □-f□ctor of not □ore t□□n 0.77 □tu/□□. ft. □□ □ de□F □□ deter□ined in □ccord□nce □it□ □FRC 100.

2. □o□r □e□t-□ □in Coefficient (□□□C)□

□. Fi□ed □ □□□in□ □nd Fr□□in□ □re□□□□□□C for t□e □□□te□ of not □ore t□□n 0.35 □□ deter□ined in □ccord□nce □it□ □FRC 200.
□. Entr□nce Door□□□□□C of not □ore t□□n 0.25 □□ deter□ined in □ccord□nce □it□ □FRC 200.

3. □ir □e□□□□e□

□. Fi□ed □ □□□in□ □nd Fr□□in□ □re□□□ □ir □e□□□□e for t□e □□□te□ of not □ore t□□n 0.06 cf□/□□. ft. □t □ □t□tic-□ir-□re□□ure differenti□□of 1.57 □f/□□. ft. □□en te□ted in □ccord□nce □it□ □□TM E283.
□. Entr□nce Door□□□ir □e□□□□e of not □ore t□□n 1.0 cf□/□□. ft. □t □ □t□tic-□ir-□re□□ure differenti□□of 1.57 □f/□□. ft..

4. Conden□□tion Re□i□t□nce F□ctor (CRF)□

□. Fi□ed □ □□□in□ □nd Fr□□in□ □re□□□CRF for t□e □□□te□ of not □e□□ t□□n 35 □□ deter□ined in □ccord□nce □it□ □□M□ 1503.
□. Entr□nce Door□□ CRF of not □e□□ t□□n 57 □□ deter□ined in □ccord□nce □it□ □□M□ 1503.

I. □oi□e Reduction□Te□t in □ccord□nce □it□ □□TM E90, □it□ r□tin□□ deter□ined □□ □□TM E1332, □□ fo□o□ □□.

1. Outdoor-Indoor Tr□n□□i□□ion C lass: Mini□u□ 30.

□. T□er□ □□ Mo□e□ent□: Al ow for t□er□ □□ □o□e□ent□ re□u□tin□ fro□ □□ □ient □nd □urf□ce te□ □er□ture c□□n□e□.

1. Te□ □er□ture C□□n□e: 120 de□ F, □□ □ient; 180 de□ F, □ □teri□□□urf□ce□.
2. T□er□ □□C□c□in□: □o □uc□in□; □tre□□on glass; □e□□□nt f□i□ure; e□ce□□ □tre□□on fr□□in□, □nc□or□, □nd f□□tener□; or reduction of □erfor□ □nce □□en te□ted in □ccord□nce □it□ AA MA 501.5.

a. High E□terior □□ □ient-□ir Te□ □er□ture: T□□t which □roduce□ □n e□terior □et□-□urf□ce te□ □er□ture of 180 de□ F.
b. Low E□terior □□ □ient-□ir Te□ □er□ture: 0 de□ F.
c. Interior □□ □ient-□ir Te□ □er□ture: 75 de□ F.

2.3 □TOREFRO□T □□□TEM□

□. M□nuf□cturer□: □u□□ect to co□ □□i□□nce □it□ re□uire□ent□, □ro□ide □roduct□ □□ one of t□e fo□□o□in□:

a. EFCO Cor□or□tion.
b. □□□neer □ort□ □□eric□.
c. Tu□e□ite.
d. M□n□o

□. Fr□□in□ Me□ □er□: M□nuf□cturer'□ e□truded- or for□ed-□u□inu□ fr□□in□ □e□ □er□ of t□ic□ne□□ re□uired □nd reinforced as re□uired to □u□□ort i□ □o□ed □o□d□.

1. E□terior Fr□□in□ Con□truction: T□er□ □□□□ □ro□en.
2. Interior Ve□ti□u□e Fr□□in□ Con□truction: □ont□er□ □□.
3. □□□□in□ □□□te□: Ret□ined □ec□□nic□□□□ it□ □□□□et□on four □ide□.
4. Glaz ing Pla ne: Front.
5. Fini□□: □nodic fini□□ to ma tch e□i□tin□.
6. F□□ric□tion Met□od: Fie□d-f□□ric□ted □tic□ sys tem.
7. □u□inu□: Al oy □nd te□ □er reco□ □ended by □ □nuf□cturer for t□□e of u□e □nd fini□□ indic□ted.
8. □tee□Reinforce□ent: As re□uired by □ □nuf□cturer.

C. □□c□er Pla tes: M□nuf□cturer'□ t□nd□rd, continuou□ □□c□er pla tes for fr□□in□ □e□ □er□, if not inte□r□, □□ere fr□□in□ abuts □d□□cent con□truction.

D. □r□c□et□ □nd Reinforce□ent□: M□nuf□cturer'□ t□nd□rd □i□□-□tren□t□ □u□inu□ □it□ non□t□inin□, nonferrou□ shims for □i□nin□ sys tem co□ □onent□.

E. In□u□□ted □□□ndre□Pa nels:

1. Co mply □it□ □ection 074213.19 "In□u□□ted Met□□ Wall Pa nels."
2. □□□in□ted, □et□-f□ced f□□t □□ne□□ □it□ no de□i□tion□ in pla ne e□ceedin□ 0.8 □ercent of □□ne□di□en□ion in □idt□ or □en□t□.

a. O□er□□□Pa nel T□ic□ne□□: 1 inc□.
b. E□terior □□in: □u□inu□.

1) T□ic□ne□□: M□nuf□cturer'□ t□nd□rd for fini□□ □nd te□ture indic□ted.
2) Fini□□: M□tc□ fr□□in□ sys tem.

3) Te□ture: □□oot□.
4) □□c□in□ □□eet: 1/8-inc□-t□ic□te□ □ered □□rd□o□rd.

c. Interior □□in: □u□inu□.

1) T□ic□ne□□: M□nuf□cturer'□ t□nd□rd for fini□□ □nd te□ture indic□ted.
2) Fini□□: M□tc□in□ □torefront fr□□ in□.
3) Te□ture: □□oot□.
4) □□c□in□ □□eet: 1/8-inc□-t□ic□te□ □ered □□rd□o□rd.

d. T□er□ □□ In□u□tion Core: M□nuf□cturer'□ □t□nd□rd ri□id, c□o□ed-ce□□, □o□i□oc□□nur□te □o□rd.

e. □urf□ce-□urnin□ C□□r□cteri□tic□: Co□ □□□ □it□ □□TM E84; te□tin□ by a □u□ified te□tin□ □□enc□. Identif□ □roduct□ □it□ □□□ro□ri□te ma□k□ngs of □□□ic□□e te□tin□ □□enc□.

1) F□□□e-□□re□d Inde□: 25 or □e□□.
2) □□o□e-De□e□o□ed Inde□: 50 or □e□□.

2.4 E□TR□□CE DOOR □□□TEM□

A. M□nuf□cturer□: □u□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ by one of t□e fo□o□in□:
a. EFCO Cor□or□tion.
b. □□□neer □ort□ □□eric□.
c. Tu□e□ite.
d. M□n□o

B. Entr□nce Door□: M□nuf□cturer'□ t□nd□rd glaz□d entr□nce door□ for □ □nu□-□□in□ or □uto□ tic o□er□tion.

1. Door Con□truction: 2-inc□ o□er□□□t□ic□ne□□, □it□ □ini□u□ 0.188-inc□- t□ic□, e□truded-□u□inu□ tu□u□r ri□□nd □ti□ □e□□er. Mec□□nic□□□ f□□ten corner□ □it□ reinforcin□ □r□c□et□ t□□t □re dee□□ □enetr□ted □nd fi□et □e□ded or t□□t incor□or□te conce□□ed tie rod□.

a. T□er□ □□Con□truction: □i□□-□erfor□nce □□□tic connector□ □e□□r□te □u□inu□ □e□ □er□e□□o□ed to t□e e□terior fro□ □e□ □er□e□□o□ed to t□e interior.

2. Door De□i□n: Mediu□ □ti□e; 3-1/2-inc□ no□ in□□□idt□.
3. Glaz□ng S□ops □nd Gask□ets: □□u□re, □n□□-on, e□truded-□u□inu□ s□ops □nd □refor□ed □□□□et□.

a. □ro□ide nonre□o□□□e glaz□ng s□ops on out□ide of door.

4. Fini□□: M□tc□ □d□□cent □torefront fr□□ in□ fini□□.

2.5 E□TR□□CE DOOR □□RD□ □RE

□. Entr□nce Door □□rd□□re: □□rd□□re not □□ecified in t□i□ □ection i□ □□ecified in □ection 087100 "Door □□rd□□re."

B. □ener□: □ro□ide entr□nce door □□rd□□re □nd entr□nce door □□rd□□re □et□ indic□ted in door □nd fr□□e □c□edu□e for e□c□ entr□nce door, to co mply □it□ re□uire□ent□ in t□i□ □ection.

1. Entr□nce Door □□rd□□re □et□: □ro□ide □u□ntit□, ite□, □i□e, fini□□ or co□or indic□ted, □nd n□□ed □ □nuf□cturer□' □roduct□.
2. □e□uence of O□er□tion: □ro□ide e□ectrified door □□rd□□re function, □e□uence of o□er□tion, □nd interf□ce □it□ ot□er □ui□din□ contro□sys :e ms indic□ted.
3. O□enin□-Force Re□uire□ent□:

a. E□re□□ Door□: □ot □ore t□□n 15 lbf to re□e□□e t□e latch □nd not □ore t□□n 30 lbf to □et t□e door in □otion □nd not □ore t□□n 15 lbf to o□en t□e door to it□ □ini□u□ re□uired □idt□.
b. □cce□□i□e Interior Door□: □ot □ore t□□n 5 lbf to fu□□ o□en door.

C. De□i□n□tion□: Re□uire□ent□ for de□i□n, □r□de, function, fini□□, □u□ntit□, □i□e, □nd ot□er di□tincti□e □u□itie□ of e□c□ t□□e of entr□nce door □□rd□□re □re indic□ted in "Entr□nce Door □□rd□□re □et□" □rti□□e. □roduct□ □re identified by u□in□ entr□nce door □□rd□□re de□i□n□tion□ as fo□o□□:

1. Nam ed M□nuf□cturer□' □roduct□: M□nuf□cturer □nd □roduct de□i□n□tion □re i□ted for e□c□ door □□rd□□re t□□e re□uired for t□e □ur□o□e of e□t□□i□□in□ □ini□u□ re□uire□ent□. M□nuf□cturer□' nam es □re □□□re□i□ted in "Entr□nce Door □□rd□□re □et□" □rti□□e.
2. Reference□ to BHMA □t□nd□rd□: □ro□ide □roduct□ co□ □□□in□ □it□ t□e□e □t□nd□rd□ □nd re□uire□ent□ for de□cri□tion, □u□it□, □nd function.

D. □i□ot □in□e□: BHMA A 156.4, □r□de 1.

1. Off□et-□i□ot □in□e□: □ro□ide to□, □otto□, □nd inter□edi□te off□et □i□ot□ □t e□c□ door □e□f.

E. □utt □in□e□: BHMA A 156.1, □r□de 1, r□diu□ corner.

1. □onre□o□□□e □in□: □ro□ide □et□cre□ in □in□e □□rre□t□□t, □□en ti□□tened into a □roo□e in □in□e □in, □re□ent□re□o□□□of □in □□i□e entr□nce door i□c□o□ed.
2. E□terior □in□e□: □t□in□e□□ □tee, □it□ □t□in□e□□-□tee□□in.
3. □u□ntitie□:

a. For door□u□ to 87 inc□e□ high, □ro□ide t□ree □in□e□□er □e□f.
b. For door□□ ore t□□n 87 □nd u□ to 120 inc□e□ high, □ro□ide four □in□e□□er □e□f.

F. Continuou□-□e□r □in□e□: BHMA A 156.26.

G. Morti□e □u□i□r□□oc□□: BHMA A 156.5, □r□de 1.

H. M□nu□□F□u□□ □oo□□: BHMA A 156.16, □r□de 1.

I. □uto□□tic □nd □e□f-□□tc□in□ F□u□□ □oo□□: BHMA A 156.3, □r□de 1.

□. □□nic E□it De□ice□: BHMA A 156.3, □r□de 1, i□ted □nd □□□e□ed by a te□tin□ □nd in□□ectin□ □□enc□ □cce□t□□e to □ut□oritie□ hav ing □uri□diction, for □□nic □rotection, bas ed on te□tin□ in □ccord□nce □it□ UL 305.

K. C□inder□:

1. As □□ecified in □ection 087100 "Door □□rd□□re."
2. BHMA A 156.5, □r□de 1.

□. □e□in□ to □e furni□□ed □□ O□ner.

□. □tri□e□□ □ro□ide □tri□e □it□ □□□c□-□□□□tic du□t □o□ for e□c□ □□tc□ or □oc□ □o□t□f□□ric□ted for □u□inu□ fr□□in□.

M. O□er□tin□ Tri□ □□□M□ □156.6.

□. C□o□er□□□□M□ □156.4, □r□de 1, □it□ □cce□□orie□ re□uired for □co□□ete in□t□□□tion, □i□ed □□ re□uired □□ door □i□e, e□□o□ure to □e□t□er, □nd □ntici□□ted fre□uenc□ of u□e□□d□u□t□□e to co□ □□□ □it□fie□d condition□ □nd re□uire□ent□for o□enin□force.

O. Conce□ed O□er□e□d □o□der□ □nd □to□□□□□M□ □156.8, □r□de 1.

□. Door □to□□□□□M□ □156.16, □r□de 1, f□oor or □□□□□ounted, □□ □□□ro□ri□te for door □oc□tion indic□ted, □it□ inte□r□□ru□□er □u□ □er.

□. □e□t□er □tri□□in□□M□nuf□cturer□□ □t□nd□rd re□□□ce□□□e co□ □onent□.

1. Co□ □re□□ion T□□e□M□de of □□TM D2000 □o□ded neo□rene or □□TM D2287 □o□ded □VC.
2. □i□din□ T□□e□ □□M□ 701/702, □ □de of □oo□, □o□□□ro□□ene, or n□on □o□en □i□e □it□ n□on-f□□ric or □u□inu□-□tri□ □□c□in□.

R. □e□t□er □□ee□□□ M□nuf□cturer□□ □t□nd□rd e□terior-door □otto□ □□ee□ □it□ conce□ed f□□tener□on □ountin□ □tri□.

□. T□re□□o□d□□□□M□ □156.21 r□i□ed t□re□□o□d□ □e□e□ed □it□ □ □□o□e of not □ore t□□n 1□2, □it□ □ □□i□u□ □ei□□t of 1/2 inc□.

T. Fin□er □u□rd□□M□nuf□cturer□□ □t□nd□rd co□□□□i□e neo□rene or □VC □□□□et □nc□ored to fr□□e □in□e-□□□ □ □t center-□i□oted door□.

2.6 □□□□I□□

□. □□□□in□□Co□ □□□ □it□ □ection 088000 "□□□□in□."

□. □□□□in□ □□□□et□□ M□nuf□cturer□□ □t□nd□rd □e□ed-corner □re□□ure-□□□□in□ □□□te□ of □□□c□, re□i□ient e□□□to□eric □□□□in□ □□□□et□, □ettin□ □oc□□, □nd □i□ □or □□□cer□.

C. □□□□in□ □e□□□nt□□ □□ reco□ □ended □□ □ □nuf□cturer.

D. □tructur□□ □ □□□in□ □e□□□nt□□ □□TM C1184 c□e□ic□□□ curin□ □i□icone for□u□□tion t□□t i□ co□ □□ti□e □it□ □□□te□ co□ □onent□ □it□ □□ic□it co□e□in cont□ct□□□ecific□□□ for□u□□ted □nd te□ted for u□e □□ □tructur□□□e□□□nt □nd □□□ro□ed □□ □tructur□-□e□□□nt □ □nuf□cturer for u□e in □torefront □□□te□ indic□ted.

1. Co□or□ □□□c□.

E. □e□t□er□e□□□e□□□nt□□ □□TM C920 for T□□e □□□r□de □□□C□□□□25□□□e□□T, □, □, □nd O□ c□e□ic□□□ curin□ □i□icone for□u□□tion t□□t i□co□ □□ti□e □it□ □tructur□□□e□□□nt □nd ot□er □□□te□ co□ □onent□ □it□ □□ic□it co□e□in cont□ct□reco□ □ended □□ □tructur□-□e□□□nt, □e□t□er□e□-□e□□□nt, □nd □tructur□-□e□□□nt-□□□□ed □torefront □ □nuf□cturer□for t□i□u□e.

1. Co□or□M□tc□ □tructur□□□e□□□nt.

2.7 M□TERI□□□

A. □□eet □nd Pla te: □□TM B209.

B. E□truded Ba rs, Rod□, □rofi□e□, □nd Tu□e□: □□TM B221.

C. □tructur□□□rofi□e□: □□TM B308/B308M.

D. □tee□Reinforce□ent:

1. □tructur□□Shap es, □□□te□, □nd Ba rs: □□TM A36/A36M.
2. Co□d-Ro□□ed □□eet □nd □tri□: □□TM A1008/A1008M.
3. □ot-Ro□□ed □□eet □nd □tri□: □□TM A1011/A1011M.

E. □tee□ Reinforce□ent □ri□er: M□nuf□cturer'□ □t□nd□rd □inc-ric□, corro□ion-re□i□t□nt □ri□er co□ □□□in□ □it□ SSP C-PS □uide □o. 12.00; □□□□ied i□ □edi□te□□ □fter □urf□ce □re□□r□tion □nd □retre□t□ent. □e□ect □urf□ce □re□□r□tion □et□od□ in □ccord□nce □it□ reco□ □end□tion□ in SSP C-SP COM, □nd □re□□re □urf□ce□in □ccord□nce □it□ □□□ic□□e SSP C □t□nd□rd.

2.8 □CCE□□ORIE□

A. F□□tener□ □nd □cce□□orie□: M□nuf□cturer'□ □t□nd□rd corro□ion-re□i□t□nt, non□t□inin□, non□□eedin□ f□□tener□ □nd □cce□□orie□co□ □□ti□e □it□ □d□□cent □ □teri□□□.

1. Us□ □e□f-□oc□in□ de□ice□ □□ere f□□tener□ □re □u□□ect to □oo□enin□ or turnin□ out fro□ t□er□ □□□nd □tructur□□□ o□e□ent□, □ind □o□d□, or i□r□tion.
2. Reinforce □e□ □er□as re□uired to recei□e f□□tener t□re□d□.

B. □nc□or□: T□ree-□□□ □d□u□t□□e □nc□or□ □it□ □ini□u□ □d□u□t□ent of 1 inc□ t□□t □cco□ □od□te f□□ric□tion □nd in□t□□□tion to□er□nce□in □ □teri□□□nd fini□□ co□ □□ti□e □it□ □d□oinin□ □ □teri□□□ □nd reco□ □ended by □ □nuf□cturer.

1. Concrete □nd M□□onr□ In□ert□: □ot-di□ galva niz□d c□□t-iron, □ □□□e□□e-iron, or □tee□ in□ert□co□ □□□in□ □it□ □□TM A123/A123M or □□TM A153/A153M re□uire□ent□.

C. Conce□□ed F lash ing: M□nuf□cturer'□ □t□nd□rd corro□ion-re□i□t□nt, non□t□inin□, non□□eedin□ flash ing co□ □□ti□e □it□ □d□□cent □ □teri□□□.

D. □itu□inou□ □□int: Co□d-□□□□ied □□□□□□t-□ □□tic □□int cont□inin□ no asb es□os, for□u□□ted for 30-□il □ic□ne□□ □er co□t.

E. Ri□id □VC fi□er.

2.9 F□□RIC□TIO□

□. For□ or e□trude □u□inu□ shap es □efore fini□□in□.

B. □ e□d in conce□□ed □oc□tion□ to □re□te□t e□tent □o□i□e to □ini□i□e di□tortion or di□co□or□tion of fini□□. Re□o□e □e□d □□□tter □nd □e□din□ o□ide□ fro□ e□□o□ed □urf□ce□ by de□c□in□ or □rindin□.

C. F□□ric□te co□ □onent□t□□t, □□en □□□e□ □□ed, hav □ t□e fo□o□in□ c□□r□cteri□tic□:

1. □rofi□e□t□□t □re □□□r□, □tr□i□□t, □nd free of defect□or defor□□tion□.
2. □ccur□te□□fitted □oint□□it□end□co□ed or □itered.
3. □□□□ic□□□nd t□er□□□i□o□□tion of □□□□in□fro□ fr□□in□□e□□er□.
4. □cco□□od□tion□ for t□er□□□□nd □ec□□nic□□□o□e□ent□ of □□□□in□ □nd fr□□in□ to □□int□in re□uired □□□□in□ed□e c□e□r□nce□.
5. □ro□i□ion□for fie□d re□□□ce□ent of □□□□in□fro□ e□terior.
6. F□□tener□, □nc□or□, □nd connection de□ice□ t□□t □re conce□□ed fro□ □ie□ to □re□te□t e□tent □o□□i□□e.

D. Mec□□nic□□□□□□ed Fr□□in□Me□□er□□F□□ric□te for fu□□□□□□in□□it□out □ro□ectin□□to□□.

E. □tructur□-□e□□nt-□□□□ed Fr□□in□ Me□□er□□ Inc□ude □cco□□od□tion□ for u□in□ te□□or□r□ □u□□ort de□ice to ret□in □□□□in□in □□□ce □□i□e □tructur□□□e□□□nt cure□.

F. □torefront Fr□□in□□F□□ric□te co□□onent□ for □□□e□ □□□u□in□□□e□r-□oc□□□□te□.

□. Entr□nce Door Fr□□e□□Reinforce □□re□uired to □u□□ort □o□d□i□□o□ed □□ door o□er□tion □nd for in□t□□□in□entr□nce door □□rd□□re.

1. □t interior □nd e□terior door□, □ro□ide co□□re□□ion □e□t□er □tri□□in□□t fi□ed □to□□.

□. Entr□nce Door□□Reinforce door□□□re□uired for in□t□□□in□entr□nce door □□rd□□re.

1. □t □□ir□ of e□terior door□, □ro□ide □□idin□-t□□e □e□t□er □tri□□in□ ret□ined in □d□u□t□□□e □tri□ □nd □orti□ed into door ed□e.
2. □t e□terior door□, □ro□ide □e□t□er □□ee□□ □□□□ied to door □otto□□.

I. Entr□nce Door □□rd□□re In□t□□□tion□F□ctor□ in□t□□□entr□nce door □□rd□□re to t□e □re□te□t e□tent □o□□i□□e. Cut, dri□, □nd t□□ for f□ctor□-in□t□□ed entr□nce door □□rd□□re □efore □□□□□in□ fini□□e□.

□. □fter f□□ric□tion, c□e□r□□ □□r□ co□□onent□ to identif□ t□eir □oc□tion□ in □ro□ect in □ccord□nce □it□ □□o□ Dr□□in□□.

2.10 □□□MI□□M FI□I□□E□

□. Fini□□ to □□tc□e□i□tin□

2.11 □O□RCE □□□□IT□ CO□TRO□

□. □tructur□□ □e□□□nt□ □erfor□ □u□it□-contro□ □rocedure□ co□□□in□ □it□ □□TM C1401 reco□□end□tion□, inc□udin□, □ut not i□□ited to, □□□e□ □□□ □□teri□□ □u□ific□tion □rocedure□, □e□□□nt te□tin□, □nd □□□e□ □□□f□□ric□tion re□ie□□□nd c□ec□□.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□□ine □re□□, □it□ In□t□□er □re□ent, for co□□i□□nce □it□ re□uire□ent□ for in□t□□□tion to□er□nce□□nd ot□er condition□ □ffectin□ □erfor□□nce of t□e □or□.

□. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□f□ctor□ condition□ □□□e □een corrected.

3.2 I□□T□□□□TIO□, □E□ER□□

□. Co□ □□□ □it□ □ □nuf□cturer□□ □ritten in□truction□.

□. Do not in□t□□d□□ □□ed co□ □onent□.

C. Fit □oint□ to □roduce □□ir□ine □oint□ free of □urr□ □nd di□tortion.

D. Ri□id□□ □ecure non□ o□e□ent □oint□.

E. In□t□□□ □nc□or□ □it□ □e□□r□tor□ □nd i□o□□tor□ to □re□ent □et□□ corro□ion □nd e□ectro□□tic deterior□tion □nd to □re□ent i□ □edin□ □ o□e□ent of □o□in□ □oint□.

F. □e□□□eri□eter □nd ot□er □oint□ □ □□terti□□t un□e□□ ot□er□i□e indic□ted.

□. Met□□□rotection□

1. □ □ere □u□inu□ i□ in cont□ct □it□ di□□i□i□r □et□□□, □rotect □□□in□t □□□□□nic □ction □□ □□intin□ cont□ct □urf□ce□ □it□ □ □teri□□□ reco□ □ended □□ □ □nuf□cturer for t□i□ □ur□o□e or □□ in□t□□in□ nonconducti□e □□□cer□.
2. □ □ere □u□inu□ i□ in cont□ct □it□ concrete or □ □□onr□, □rotect □□□in□t corro□ion □□ □□intin□ cont□ct □urf□ce□ □it□ □itu□inou□ □□int.

□. □et continuou□ □i□□□e□ □er□ □nd f□□□□in□ in fu□□□e□□□nt □ed, □□ □□ecified in □ection 079200 "□oint □e□□□nt□," to □roduce □e□t□erti□□t in□t□□□tion.

I. In□t□□□oint fi□er □e□ind □e□□□nt □□ reco□ □ended □□ □e□□□nt □ □nuf□cturer.

□. In□t□□□co□ □onent□ □□u□ □ □nd true in □i□n□ent □it□ e□t□□i□□ed □ine□ □nd □r□de□.

3.3 I□□T□□□□TIO□ OF O□ER□□□E □□IT□

□. In□t□□□ o□er□□□e unit□ □e□e□ □nd □□u□ □, □ecure□□ □nc□ored, □nd □it□out di□tortion. □d□u□t □e□t□er-□tri□□in□ cont□ct □nd □□rd□□re □o□e□ent to □roduce □ro□er o□er□tion.

3.4 I□□T□□□□TIO□ OF □□□□I□□

□. In□t□□□□□□□in□ □□ □□ecified in □ection 088000 "□□□□in□."

3.5 I□□T□□□□TIO□ OF □TR□CT□R□□ □ □□□I□□

□. □re□□re □urf□ce□ t□□t □i□□cont□ct □tructur□□□e□□□nt in □ccord□nce □it□ □e□□□nt □ □nuf□cturer□□ □ritten in□truction□, to en□ure co□ □□ti□i□it□ □nd □d□e□ion. □re□□r□tion inc□ude□, □ut i□ not i□ited to, c□e□nin□ □nd □ri□in□ □urf□ce□.

□. □et □□□□in□ into fr□□ in□ in □ccord□nce □it□ □e□□□nt □ □nuf□cturer □nd fr□□ in□ □ □nuf□cturer□□ □ritten in□truction□ □nd □t□nd□rd □r□ctice. □□e □ □□□cer or □□c□er □□ reco□ □ended □□ □ □nuf□cturer.

C. □et glaz'ng □it□ □ro□er orient□tion □o t□□t co□tin□□ f□ce e□terior or interior as □□ecified.

D. □old glaz'ng in pla□e u□in□ te□ □or□r□ ret□iner□ of t□□e □nd □□□cin□ reco□□ended by □□nuf□cturer, unti□tructur□□□e□□nt □oint has cured.

E. Apply □tructur□□□e□□nt to co□□□ete□ fi□□c□□it□, in □ccord□nce □it□ □e□□nt □□nuf□cturer □nd fr□□ in□□□nuf□cturer'□ □ritten in□truction□□nd in co□□i□nce □it□ □oc□□code□.

F. Apply □tructur□□□e□□nt □t te□□er□ture□ indic□ted by □e□□nt □□nuf□cturer for t□□e of □e□□nt.

G. Al□ow □tructur□□□e□□nt to cure in □ccord□nce □it□□□nuf□cturer'□ □ritten in□truction□.

H. C□e□n □nd □rotect glass as indic□ted in □ection 088000 "Glaz'ng."

3.6 I□□T□□□□TIO□ OF □E□T□ER□E□□ SEALAN T

A. □fter □tructur□□□e□□nt has co□□□ete□ cured, re□o□e te□ □or□r□ret□iner□ □nd in□ert □□c□er rod □et□een □ite□of g□ass as reco□□ended by □e□□nt □□nuf□cturer.

B. In□t□□□e□t□er□e□□□e□□nt to co□□□ete□ fi□□c□□it□, in □ccord□nce □it□ □e□□nt □□nuf□cturer'□ □ritten in□truction□, to □roduce □e□t□er□roof □oint□.

3.7 I□□T□□□□TIO□ OF □□□MI□□M-FR□MED E□TR□□CE DOOR□

A. In□t□□entr□nce door□to □roduce □□oot□o□er□tion □nd ti□□t fit □t cont□ct □oint□.

1. E□terior Door□: In□t□□to □roduce □e□t□erti□□t enc□o□ure □nd ti□□t fit □t □e□t□er □tri□□in□.
2. Fie□d-In□t□□ed Entr□nce Door □□rd□□re: In□t□□□urf□ce-□ounted entr□nce door □□rd□□re in □ccord□nce □it□ entr□nce door □□rd□□re □□nuf□cturer□' □ritten in□truction□ u□in□ conce□□ed f□□tener□to □re□te□t e□tent poss'b□e.

3.8 ERECTIO□ TO□ER□□CE□

A. In□t□□□u□inu□-fr□□ed entr□nce□ □nd □torefront□ to comply □it□ t□e fo□o□in□ max'mum to□er□nce□:

1. P□umb: 1/8 inc□in 10 feet; 1/4 inc□in 40 feet.
2. □e□e□: 1/8 inc□in 20 feet; 1/4 inc□in 40 feet.
3. □i□n□ent:
   a. □ □ere □urf□ce□ □□ut in □ine or □re □e□□r□ted by re□e□□or □rotrudin□ e□e□ent u□to 1/2 inc□ □ide, □i□ it off□et fro□ true □i□n□ent to 1/16 inc□.
   b. □ □ere □urf□ce□ □re □e□□r□ted by re□e□□or □rotrudin□ e□e□ent fro□ 1/2 to 1 inc□ □ide, □i□ it off□et fro□ true □i□n□ent to 1/8 inc□.
   c. □ □ere □urf□ce□ □re □e□□r□ted by re□e□□or □rotrudin□ e□e□ent of 1 inc□ □ide or □ore, □i□ it off□et fro□ true □i□n□ent to 1/4 inc□.
4. □oc□tion: □i□ it □□ri□tion fro□ pla□e to 1/8 inc□in 12 feet; 1/2 inc□o□er tot□□en□t□.

3.9 FIE□D QUAL ITY CO□TRO□

A. Wa ter-Sp ray Te□t: □efore in□t□□□tion of interior fini□□e□ has □e□un, areas de□i□n□ted by □rc□itect sha □□ □e te□ted in □ccord□nce □it□ AA MA 501.2 □nd shall not e□idence □□ter □enetr□tion.

a. □erfor□ a □ini□u□ of t□o te□t□ in areas as directed by □rc□itect.
b. □erfor□ te□t□ in e□c□ te□t □re□ as directed by □rc□itect. □erfor□ te□t□ □rior to 100%.

B. □tructur□□-□e□□nt □d□e□ion: Te□t □tructur□□□e□□nt in □ccord□nce □it□ reco□□end□tion□ in □□TM C1401, De□tructi□e Te□t Met□od A, "□□nd Pull Tab (De□tructi□e)," □□□endi□X2.

1. Te□t a □ini□u□ of t□o areas on e□c□ □uidin□ f□c□de.
2. Re□□ir in□t□□□tion areas d□□ □□ed by te□tin□.

C. □u□inu□-fr□□ed entr□nce□ □nd □torefront□ will □e con□idered defecti□e if t□e□ do not pass te□t□ □nd in□□ection□.

D. □re□□re te□t □nd in□□ection re□ort□.

3.10 M□I□TE□□□CE □ERVICE

A. Entr□nce Door □□rd□□re M□inten□nce:

1. M□inten□nce Too□□ □nd In□truction□: Furni□□ a co□□□ete □et of □□eci□i□ed too□□ □nd □□inten□nce in□truction□ as needed for O□ner'□ continued □d□u□t□ent, □□inten□nce, □nd re□o□□□nd re□□ce□ent of entr□nce door □□rd□□re.
2. Initi□□M□inten□nce □er□ice: □e□innin□ □t □u□□t□nti□□Co□□□etion, □ro□ide s□x □ont□□'□u□□ □□inten□nce by □□i□ed e□ □o□ee□ of entr□nce door □□rd□□re In□t□□□er. Inc□ude □u□rter□□ □re□enti□e □□inten□nce, re□□ir or re□□ce□ent of □orn or defecti□e co□□onent□, □u□ric□tion, c□e□nin□, □nd □d□u□tin□ as re□uired for □ro□er entr□nce door □□rd□□re o□er□tion □t r□ted □□eed □nd c□□□cit□. Us□ parts □nd □u□□ie□t□□t □re t□e same as t□o□e u□ed in t□e □□nuf□cture □nd in□t□□□tion of ori□in□□e□ui□□ent.

3.11 E□TR□□CE DOOR □□RD□ □RE □ET□

A. □ee □ection 087100 "Door □□rd□□re".

E□D OF □ECTIO□ 084113

□ECTIO□ 084126 - □□□-□ □□□□□ E□TR□□CE□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection Inc□ude□□

1. E□terior, □e□ti□u□e, □nd interior, □□in□in□ □nd □idin□ □□□-□□□□□ entr□nce door□.
2. □□□-□□□□□ □ide□ite□ □nd tr□n□o□ □.

□. Re□□ted □ection□□

1. Di□i□ion 01 □ection "□ener□□Condition□".
2. Di□i□ion 01 □ection "C□□□ □□□o□□nce□".
3. Di□i□ion 01 □ection "□roduct □□□o□□nce□".
4. Di□i□ion 01 □ection "C□□o□eout □rocedure□".
5. Di□i□ion 05 □ection "Met□□F□□ric□tion□" for o□er□e□d-□tee□□u□□ort for □□□-□□□□□ □□□te□ □.
6. Di□i□ion 07 □ection "□oint □e□□□nt□" □t interf□ce of □□□-□□□□□ entr□nce□ □nd ot□er □uidin□ co□ □onent□.
7. Di□i□ion 08 □ection "□u□inu□ Entr□nce□ □nd □torefront□" for □torefront □□□te□ □ □it□ □□□-□□□□□ entr□nce□.
8. Di□i□ion 08 □ection "□uto□ □tic Entr□nce Door□."
9. Di□i□ion 08 □ection "Door □□rd□□re" for □oc□c□inder□in□t□□□ed in □□□-□□□□□ entr□nce □oc□□et□.
10. Di□i□ion 08 □ection "□ □□□□ed □u□inu□ Curt□in □ □□□□" for curt□in □□□□□□□te□ □ □it□ □□□-□□□□□ entr□nce□.

C. Reference □t□nd□rd□□

1. □□eric□n □rc□itectur□□ M□nuf□cturer□ □□□oci□tion (□□M□)□ □□M□ 611 Vo□unt□r□ □□ecific□tion for □nodi□ed □rc□itectur□□□□u□inu□.
2. □□TM Intern□tion□□(□□TM)□□□TM C1048 □t□nd□rd □□ecific□tion for □e□t-□tren□t□ened □nd Fu□□□ Te□ □ered F□□t □ □□□□.
3. □ui□der□ □□rd□□re M□nuf□cturer□ □□□oci□tion (□□M□)□□□□l/□□M□ □156 □erie□.
4. Code of Feder□□Re□u□□tion□□16 CFR 1201 □□fet□ □t□nd□rd for □rc□itectur□□□ □□□in□ M□teri□□□.
5. □ □□□□ □□□oci□tion of □□eric□ (□□□□)□1999 Fu□□□ Te□ □ered □e□□□ □ □□□□ Door □nd Entr□nce □□□te□ □De□i□n □uide.

□. T□□□e 3 - Reco□ □ended M□□i□u□ Interior or E□terior □□in□in□ Door □i□e□.

6. Intern□tion□□Code Counci□(ICC)□ICC □117.1 □cce□□i□□e □nd □□□□□e □uidin□□ □nd F□ci□tie□(□□□I).

1.2 □RE-I□□T□□□□TIO□ MEETI□□□

□. □re-in□t□□□□tion Conference□Refer to Di□i□ion 01 □ection "□ro□ect Re□uire□ent□".

1.3 □□□MITT□□□

□. □roduct D□t□□For e□c□ t□□e of □□+□□□□□□ entr□nce co□ □onent □□ecified. Det□i□□ of con□truction re□□ti□e to □ □teri□□□, di□ en□ion□ of indi□idu□□co□ □onent□, □rofi□e□, □nd fini□□e□, inc□udin□□

1. □ □□□□ □□ne□□.
2. R□i□□nd □□tc□ fittin□□.
3. C□o□er □nd □i□ot□.
4. Door □□rd□□re □nd □cce□□orie□.

□. □□o□ Dr□□in□□□□□□o□ det□i□□ of f□□ric□tion □nd in□t□□□□tion, inc□udin□ t□e fo□o□in□□

1. □□□n□, e□e□□tion□, □nd □ection□.
2. Det□i□□ of fittin□□.
3. □□rd□□re □u□ntitie□, □oc□tion□, □nd in□t□□□□tion re□uire□ent□.
4. □nc□or□□e□ □nd reinforce□ent.
5. □ □□□in□ det□i□□.
6. Door □□rd□□re □oc□tion□, □ountin□ □ei□□t□, □nd in□t□□□□tion re□uire□ent□.

C. □□□ □□e□ for Verific□tion□For e□c□ t□□e of e□□o□ed fini□□ indic□ted, □re□□red on □□□ □□e□ of □i□e indic□ted □e□□ □□re□uired □□ □rc□itect.

1. Met□□Fini□□e□□6-inc□ (150-□ □) □on□ □ection□of r□i□fittin□□.
2. □ □□□□□□12-inc□(300 □ □) □□u□re, □□o□in□ e□□o□ed-ed□e fini□□ □nd tint.

D. Entr□nce Door □□rd□□re □c□edu□e□ □re□□red □□ or under □u□er□i□ion of □u□□ie□, det□i□in□ f□□ric□tion □nd □□□e□ □□□ of entr□nce door □□rd□□re, □□ □e□□ □□ □rocedure□ □nd di□□r□□ □.Coordin□te fin□□entr□nce door □□rd□□re □c□edu□e □it□ door□, □ide□ite□, tr□n□o□ □, □nd re□□ted □or□ to en□ure □ro□er □i□e, t□ic□ne□□, □□nd, function, □nd fini□□ of entr□nce door □□rd□□re.

E. M□inten□nce D□t□□For □□+□□□□□ □□□te□ □to inc□ude in □ □inten□nce □ □nu□□□.

1.4 □RO□ECT CO□DITIO□□

□. Fie□d Me□□ure□ent□□Verif□ o□enin□ di□en□ion□ of □□+□□□□□ entr□nce□ □□ fie□d □e□□ure□ent□ □efore f□□ric□tion □nd indic□te □e□□ure□ent□ on □□o□ Dr□□in□□. Coordin□te f□□ric□tion □c□edu□e □it□ con□truction □ro□re□□to □□oid de□□in□t□e □or□.

1.5 □ □RR□□T□

□. □ener□□□ □rr□nt□□T□e □□eci□□□□rr□nt□ □□ecified in t□i□ □rtic□e □□□□□not de□ri□e t□e O□ner of ot□er ri□□t□ t□e O□ner □ □□ □□□e under ot□er □ro□i□ion□ of t□e Contr□ct Docu□ent□ □nd □□□□□ □e in □ddition to, □nd run concurrent □it□, ot□er □□rr□ntie□ □ □de □□ t□e Contr□ctor under re□uire□ent□ of t□e Contr□ct Docu□ent□.

□. □□eci□□□ □rr□nt□□□u□□it □ □ritten □□rr□nt□e□ecuted □□t□e □ □nuf□cturer □□reein□ to re□□ir or re□□□ce co□ □onent□ of □□+□□□□□ entr□nce□ t□□t f□i□in □ □teri□□□ or □or□□ □n□□i□ □it□in t□e □□ecified □□rr□nt□ □eriod. F□i□ure□ inc□ude, □ut □re not i□□ited to, t□e fo□o□in□□

1. □tructur□□f□i□ure□.
2. Deterior□tion of □et□□□, □et□□fini□□e□, □nd ot□er □ □teri□□□ □e□ond nor□ □□□e□t□erin□.
3. F□i□ure of o□er□tin□ co□ □onent□ to function nor□ □□□□.

C. □ener□□□ □rr□nt□ □eriod□T□o □e□r□fro□ d□te of □u□□t□nti□□Co□ □etion.

1. Conce□□ed F□oor C□o□er□□10 □e□r□fro□ d□te of □u□□t□nti□□Co□ □etion.

□□RT 2 - □ROD□CT□

2.1 □ERFORM□□CE RE□ □IREME□T□

□. De□e□□ted De□i□n□En□□□e □ □u□ified □rofe□□ion□□en□ineer, □□ defined in □ection 014000 "□u□it□Re□uire□ent□," to de□i□n □□-□□□□□ entr□nce□ □nd □torefront□

□. □ener□□ □erfor□ □nce□ Co□ □□□ □it□ □erfor□ □nce re□uire□ent□ □□ecified, □□ deter□ined □□ te□tin□ of □□-□□□□□ entr□nce□ □nd □torefront□ re□re□entin□ t□o□e indic□ted for t□i□ □ro□ect □it□out f□i□ure due to defecti□e □□nuf□cture, f□□ric□tion, in□t□□□tion, or ot□er defect□ in con□truction.

C. □tructur□□□o□d□□

1. □ ind □o□d□□□□ indic□ted on Dr□□in□□.
2. Ot□er De□i□n □o□d□□□□ indic□ted on Dr□□in□□
3. Def□ection □i□it□□ In accordance with GANA “Fully Tempered □e□□□ □ □□□□ Door □nd Entrance Systems Design Guide.”

D. □ei□□ic □erfor□ □nce□ □□-□□□□□ entr□nce□ □nd □torefront□ □□□□□ □it□□t□nd t□e effect□ of e□rt□u□□e □otion□ deter□ined □ccordin□ to □□CE/□EI 7. Coordin□te re□uire□ent□ □it□ □tructur□□en□ineer.

E. T□er□ □□ Mo□e□ent□□ □□o□ for t□er□ □□ □o□e□ent□ re□ultin□ fro□ □□ □ient □nd □urf□ce te□ □er□ture c□□n□e□.

1. Te□ □er□ture C□□n□e□120 de□F (67 de□C), □□ □ient□180 de□F (100 de□C), □ □teri□□ □urf□ce□.

F. □cce□i□i□it□ □t□nd□rd□□ Co□ □□□ □it□ □□□□i□□□e □ro□i□ion□ in □cce□i□i□it□ □uide□ine□ for □ui□din□□ □nd F□ci□tie□ ICC (□□□I) □117.1 □nd re□uire□ent□ of □ut□oritie□ □□□in□ □uri□diction.

2.2 M□□□F□CT□RER□

□. □□i□-of-De□i□n □roduct□□ □u□□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide t□e n□□ed □roduct, or t□e co□ □r□□□e □roduct □□ one of t□e □tern□te □□ecified □ □nuf□cturer□. Co□ □□r□□□e □roduct□ □re □u□□ect to re□ie□ □nd □□□ro□□□ t□rou□□ t□e □u□□itt□□ □roce□□ □□ecified.

□. M□nuf□cturer□ (□□□□ □□□□ Door□) □□u□□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ □□ one of t□e fo□o□in□□

1. □□□□ □□□O□ □ □□□□ □o□ution□ (□□□□ □□□□ Door co□ □onent□).

2.3 E□TR□□CE DOOR M□TERI□□□

□. C□e□r □ □□□□□□□TM C 1048, □ind FT (fu□□te□ □ered), Condition □ (unco□ted □urf□ce□), T□□e I (tr□n□□□rent), C□□□□ 1 (c□e□r) re□uire□ent□. □ro□ide □roduct□ of t□ic□ne□□ indic□ted t□□t □□□e □een te□ted for □urf□ce □nd ed□e co□ □re□□ion □ccordin□ to □□TM C 1048 □nd for i□ □□ct □tren□t□ □ccordin□ to C□□C 16 CFR, □□rt 1201 for C□te□or□ II □ □teri□□□.

1. E□□o□ed Ed□e□□F□□t □oi□□ed.
2. □utt Ed□e□□F□□t □oi□□ed.
3. Corner Ed□e□□Mitered.

□. T□□e II□□□□□ in□ted □□fet□ □ □□□□□□

1. Co□or□C□e□r.
2. E□□o□ed Ed□e□□F□□t □oi□□ed.
3. □utt Ed□e□□F□□t □oi□□ed.
4. Corner Ed□e□□Mitered.

C. □□u□inu□ □□□□o□ □nd te□ □er reco□ □ended □□ □ □nuf□cturer for u□e □nd fini□□ indic□ted, □ut not □e□□t□□n t□e □tren□t□ □nd dur□□i□it□ □ro□ertie□ of □□TM □ 221 (M), □□o□6063-T5.

2.4 E□TR□□CE DOOR COM□O□E□T□

□. □□tc□ Fittin□□□ □ro□ide □ □nuf□cturer□□ □t□nd□rd □□tc□ fittin□□ for □□+□□□□□ entr□nce confi□ur□-tion□ re□uired, un□e□□ ot□er□i□e indic□ted, □nd □□ fo□o□□□

1. M□teri□□□□□ u□inu□.

□. F□o□tin□ Tr□n□o□ □□r□M□nuf□cturer□□ □t□nd□rd □u□inu□, f□o□tin□ tr□n□o□ □□r c□□d in □et□□ □ □tc□in□ fittin□□ in □i□e reco□ □ended □□ □ □nuf□cturer for □□□□ic□tion indic□ted.

1. □u□□ort Fin□□Te□ □ered □□□□□□ □ □tc□in□ t□e tr□n□o□ □□□□□.

C. □ide□ite C□□nne□□□□ro□ide □ □nuf□cturer□□ □t□nd□rd □e□d □nd □i□c□□nne□□ for □ide□ite □nd tr□n□o□-□e□d □u□□ort □ □tc□in□ fittin□-□et□□fini□□, un□e□□ ot□er□i□e indic□ted.

D. Conce□□ed □ide□ite C□□nne□□□□ro□ide □ □nuf□cturer□□ □t□nd□rd rece□□ed □e□d □nd □i□c□□nne□□ for conce□□ed □ide□ite □nd tr□n□o□-□e□d □u□□ort, un□e□□ ot□er□i□e indic□ted.

E. R□i□□□M□nuf□cturer□□ □t□nd□rd continuou□ □ori□ont□□fittin□□ □nd □□ fo□o□□□

1. R□i□□oc□tion□□□□ fo□o□□□

□. Door to□□ □nd □otto□ □.
□. Tr□n□o□ to□□. □ro□ide □it□ □ □nuf□cturer□□ □t□nd□rd fi□ed-□ ountin□ □□□te□.
c. □ide□ite to□□. □ro□ide □it□ □ □nuf□cturer□□ □t□nd□rd fi□ed-□ ountin□ □□□te□.
d. □ide□ite □otto□ □. □ro□ide □it□ □ □nuf□cturer□□ □t□nd□rd fi□ed-□ ountin□ □□□te□.

2. To□ R□i□□rofi□e□T□□ered no □e□□t□□n 60 de□ree□ fro□ □ori□ont□□.
3. □otto□ R□i□□rofi□e□T□□ered no □e□□t□□n 60 de□ree□ fro□ □ori□ont□□.
4. One piece dry glazed compression system that accommodates 3/8” to 9/16” or 5/8” to 13/16” thick glass.
5. End C□□□□□One-□iece □u□inu□, □e□e□ed.
6. M□teri□□□□□ u□inu□.

7. M□teri□: □ri□□t or □□tin □t□in□e□□-□tee□-c□□ddin□.

F. □cce□□or□ Fittin□□: M□nuf□cturer□□ t□nd□rd □cce□□or□ fittin□□ □ □tc□in□ □□tc□ fittin□ or r□i□m et-al □nd fini□□ for t□e fo□o□in□:

1. O□er□e□d door□to□.
2. Center-□ou□in□ □oc□.
3. Glass -s□pport fin□.

G. □nc□or□ □nd F□□tenin□□: M□nuf□cturer'□ t□nd□rd conce□□ed □nc□or□ □nd f□□tenin□□.

H. □e□t□er □tri□□in□; Brush t□□e; re□□□ce□□e □it□out re□o□in□ al□glass entr□nce door□fro□ □i□-ot□.

2.5 E□TR□□CE DOOR □□RD□ □RE

A. □ener□□: □e□□□-dut□ entr□nce door □□rd□□re unit□ in s□zes, □u□ntitie□, □nd type□s reco□□ended by □□nuf□cturer for al□gl□ss entr□nce sys□ems indic□ted. For e□□o□ed parts, ma□ch m etal □nd fini□□ of pa□ch fittin□□ □nd r□i□fittin□□.

B. Refer to section 080671 “Door Hardware Schedule” for specific hard□□re □et□.

C. □i□ot□: ANS□I/BH□MA A 156.4, □r□de 1.

1. Center □nd Off□et □un□ To□ □i□ot□:

a. Walk□ng be□am t□□e (o□er□e□d).
b. □urf□ce □ounted off□et t□□e (to□ra□ls).

2. □otto□ □i□ot□:

a. End □o□d t□□e (□otto□ rails).
b. □du□t□□□e □otto□ type□s co□ □□ti□e □it□ □otto□ □□tc□e□.

3. M□nuf□cturer□:

a. ASSA AB □OY G□□ss □o□ution□(GS□) - □V □nd □F □erie□.

D. C□inder□ □nd □e□in□: Refer to □ection 087100 Door □□rd□□re.

E. □in□e-Door □nd □cti□e-□e□f □oc□□et□: M□nuf□cturer'□ t□nd□rd center □oc□ □ou□in□ □it□ inte□r□ted □orti□e □oc□□et confor□in□ to ANS□I A156.13, □erie□1000, □r□de 1, UL 10C.

1. Center-□ou□in□ de□d □o□t. De□d □o□t o□er□ted by k□y out□ide or thumb turn in□ide, □it□ de□d □o□t en□□□in□ □tri□e in jamb or in□cti□e-□e□f center □ou□in□.
2. Center-□ou□in□ co□ □in□tion de□d □o□t □nd □tc□ □o□t □it□ □e□er □□nd□e□. De□d □o□t □nd la□ch □o□t o□er□ted by □e□out□ide □nd □e□er □□nd□e □nd t□u□ □turn in□ide, □it□ la□ch □o□d□□c□fe□ture, □nd en□□□in□ □tri□e in jamb or in□cti□e-□e□f center □ou□in□.
3. □e□er De□i□n: As indic□ted in □□rd□□re □et□. ANS□I A117.1 □cce□□i□i□it□ co□ □□□int.

a. M□nuf□cturer□:

1) ASSA □□□O□ Glass □o□ution□(GS□) - CLH/ML □erie□.

F. Door □u□□□, Du□ □ □ □nd M□tin□ □u□□□□Door □u□□e□ □nd □u□□ of t□□e □nd de□i□n □□ecified in t□e □□rd□□re □et□. Coordin□te □nd □ro□ide □ro□er □idt□ □nd □ei□□t □□ re□uired □□ere confi□ctin□ □□rd□□re dict□te□.

1. Mini□u□ c□e□r□nce of 2 1/2-inc□e□fro□ f□ce of door un□e□□ ot□er□i□e indic□ted.
2. F□□tener□□ □ro□ide □ □nuf□cturer□ de□i□n□ted f□□tener t□□e □□ indic□ted in □□rd□□re □et□.

3. M□nuf□cturer□□

□. □□□□ □□□O□ □ □□□□ □o□ution□(□□).
□. Roc□□ood □roduct□□□□□□ □□□O□ □rc□itectur□□Door □cce□□orie□(RO).

□. O□er□e□d Conce□□ed C□o□er□ (Mediu□ Dut□)□ Center □un□, □□M□ □156.4, □r□de 1□ unit□ inc□udin□ □r□ □, □i□ot□, co□er □□□te□, □ountin□ c□i□□, □nd □cce□□orie□ re□uired for co□ □□ete in□t□□□tion. □ro□ide □e□□r□te c□o□in□ □nd □□tc□in□ □□□□e□ for c□o□in□ □□eed, □□tc□ □□eed, □□c□c□ec□, □nd o□tion□□□o□d o□en.

1. Co□ □□ct c□□t iron c□o□er□ c□□□□□e of □ein□ fu□□ conce□□ed in t□e fr□□e □e□d for center □un□ □□□□i□ction□.
2. □i□e of □nit□□Co□ □□□ □it□ □ □nuf□cturer□ □ritten reco□ □end□tion□ for □i□in□ of door c□o□er□ de□endin□ on □i□e of door, interior or e□terior □□□□i□ction, □nd e□□o□ure to □e□t□er, □nd □ntici□□ted fre□uenc□ of u□e. □ □ere c□o□er□ □re indic□ted for door□ re□uired to □e □cce□□i□□ to t□e □□□□ic□□□ □□ndic□□□ed, □ro□ide unit□ co□ □□□in□ □it□ ICC/□□□I □117.1.
3. C□o□er □cce□□orie□□ □ro□ide door c□o□er □cce□□orie□ inc□udin□ cu□to□ □□indi□□ □nd te□ □□□te□ □□ re□uired for □ro□er in□t□□□tion.
4. Dou□□e □ctin□, non-□□nded □it□ □d□u□t□□□e □□rin□ □o□er □i□e 1 t□rou□□ 3.

5. M□nuf□cturer□□

□. □□□□ □□□O□ □ □□□□ □o□ution□(□□) - O□C 609 □erie□.

□. F□oor □to□□ □nd O□er□e□d Door □to□□ □nd □o□der□□ □□□□I/□□M□ □156.16, □r□de 1 certified. □ro□ide f□oor □to□□ □□ □□ecified un□e□□ o□er□e□d door □to□□ □nd □o□der□ □re indic□ted in t□e □□rd□□re □et□. O□er□e□d □to□□ □nd □o□der□ to □e conce□□ed t□□e. Tr□c□, □id□, □r□ □nd □e□der □r□c□et to □e con□tructed of □t□in□□□ □tee□□nd □□oc□ □□□□or□er □□rin□ of □e□□□ te□ □ered □tee□. □ro□ide non-□□nded de□i□n □it□ □ountin□ □r□c□et□ □□ re□uired for □ro□er o□er□tion □nd function.

1. M□nuf□cturer□□

□. □□□□ □□□O□ □ □□□□ □o□ution□(□□).
□. Ri□□on □roduct□(R□).
c. Roc□□ood □roduct□□□□□□ □□□O□ □rc□itectur□□Door □cce□□orie□(RO).

2.6 F□□RIC□TIO□

□. □ener□□□F□□ric□te □□-□□□□□ entr□nce co□ □onent□ in □i□e□, □rofi□e□, □nd confi□ur□tion□ indic□t-ed on Dr□□in□□.

□. □ro□ide □o□e□ □nd cutout□ in □□□□□ to rece□e □□rd□□re, fittin□□, □nd □cce□□or□ fittin□□ □efore te□ □erin□ □□□□□. Do not cut, dri□, or □ □□e ot□er □ter□tion□ to □□□□ □fter te□ □erin□.

1. Fu□□ te□ □er □□□□□□ u□in□ □ori□ont□□(ro□er-□e□rt□) □roce□□, □nd f□□ric□te □o t□□t □□en □□□□□□ i□ in□t□□□ed, ro□□□ □□e di□tortion i□ □□r□□e□□it□ □otto□ ed□e of door or □te.

C. F□ctor□ □□□e□ □□e co□ □onent□ □nd f□ctor□ in□t□□□ □□rd□□re □nd fittin□□ to □re□te□t e□tent □o□□i□□e.

2.7 FI□I□□E□

□. □ener□□□Co□ □□□□ □it□ □□□MM□□ "Met□□Fini□□e□ M□nu□□for □rc□itectur□□□nd Met□□□roduct□" for reco□ □end□tion□re□□ti□e to □□□□□□in□ □nd de□i□n□tin□ fini□□e□.

□. □rotect □ec□□nic□□fini□□e□ on e□□o□ed □urf□ce□fro□ d□□ □□e □□ □□□□□□in□ □ □tri□□□□□e, te□ □o-r□r□ □rotecti□e co□erin□ □efore □□i□□ent.

2.8 □□□MI□□M FI□I□□E□

□. Fini□□ de□i□n□tion□ □refi□ed □□ □□ confor□ to t□e □□□te□ e□t□□i□□ed □□ t□e □u□inu□ □□□oci-□tion for de□i□n□tin□ □u□inu□ fini□□e□.

□. C□e□r □nodic Fini□□□ □□-M21C22□41 (Mec□□nic□□Fini□□□ □□ oot□ □□ecu□□r, □uffed□C□e□ic□□ Fini□□□etc□ed, □ediu□ □ □tte□□nodic Co□tin□□Co□ □□□□ □it□ □□M□ 611.

2.9 □T□I□□E□□-□TEE□FI□I□□E□

□. Re□o□e or □end too□□nd die □ □r□□ □nd □tretc□ine□into fini□□.

□. □rind □nd □oli□□ □urf□ce□to □roduce unifor□, direction□□te□tured, □oli□□ed fini□□ indic□ted, free of cro□□ □cr□tc□e□. Run □r□in □it□ □on□ di□en□ion of e□c□ □iece.

C. □ri□□t, Direction□□□o□i□□□□o. 4 fini□□.

D. □ □en □oli□□in□ i□ co□ □□eted, □□□□i□□te □nd rin□e □urf□ce□. Re□o□e e□ □edded forei□n □ □tter □nd □e□□e □urf□ce□c□e□ic□□□□c□e□r.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□□ine □re□□ □nd condition□, □it□ In□t□□□er □re□ent, for co□ □□i□nce □it□ re□uire□ent□ for in□t□□□tion to□er□nce□ □nd ot□er condition□ □ffectin□ □erfor□nce of t□e □or□.

□. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□f□ctor□condition□ □□□□e □een corrected.

3.2 DOOR I□□T□□□□TIO□

□. □ener□□□Co□ □□□□ □it□ □□□□□□□□ entr□nce □ □nuf□cturer□□ □ritten in□t□□□tion in□truction□ □nd □□□ro□ed □□o□ dr□□in□□.

□. In□t□□□ □□-□□□□□□ door □□□e□ □ie□ □fter ot□er fini□□in□ o□er□tion□ □□□e □een co□□□eted. Coordin□te in□t□□□tion of rece□□e□ □ou□in□□ □it□ in□t□□□tion of □d□□cent fini□□e□.

C. □et unit□ e□e□, □u□ □, □nd true to □ine, □it□ unifor□ □oint□.

D. M□int□in unifor□ c□e□r□nce□ □et□een □d□□cent co□ □onent□.

E. □et, □e□□, □nd □rout f□oor c□o□er c□□e□ □□ re□uired to □uit □□rd□□re □nd □u□□tr□te indic□ted.

F. In□t□□□ □utt-□oint □e□□□nt□ □ccordin□ to □ □nuf□cturer□□ in□truction□ □nd □□ □□ecified in □ection 079200 "□oint □e□□□nt□" to □roduce □e□t□erti□□t in□t□□□tion.

3.3 □D□□□TI□□ □□D C□E□□I□□

□. □d□u□t □□-□□□□□□ entr□nce door□ □nd □□rd□□re to □roduce □□ oot□ o□er□tion □nd ti□□t fit □t cont□ct □oint□ □nd □e□t□er □tri□□in□.

□. Re□o□e e□ce□□ □e□□□nt □nd □□□□in□ co□ □ound□ □nd dirt fro□ □urf□ce□.

3.4 □ROTECTIO□

□. □ro□ide fin□□□rotection □nd □ □int□in condition□, in □ □ □nner □cce□t□□e to □ □nuf□cturer □nd In□t□□er t□□t en□ure □□-□□□□□□ entr□nce□ □re □it□out d□□ □□e or deterior□tion □t t□e ti□e of □u□-□t□nti□□Co□ □□etion.

□. □□rd□□re.

3.5 DOOR □□RD□ □RE □ET□

□. T□e □□rd□□re □et□ re□re□ent t□e de□i□n intent □nd direction of t□e o□ner □nd □rc□itect. T□e□ □re □ □uide□ine on□□ □nd □□ou□d not □e con□idered □ det□i□ed □□rd□□re □c□edu□e. Di□cre□□ncie□, confl□ctin□ □□rd□□re □nd □i□□in□ite□ □ □□ou□d □e □rou□□t to t□e □ttention of t□e □rc□itect □it□ correction□ □ □de □rior to t□e □iddin□ □roce□□. O□itted ite□ □ not inc□uded in □ □□rd□□re □et □□ou□d □e □c□edu□ed □it□ t□e □□□ro□ri□te □ddition□□□□□rd□□re re□uired for □ro□er □□□□ic□tion □nd function□□it□.

1. □u□ntitie□ i□□ted □re for e□c□ □□ir of door□, or for e□c□ □in□□e door.

2. T□e □u□□□ier i□re□□on□i□□e for □□ndin□ □nd □i□in□ □□□□roduct□.

3. □ □ere □ u□ti□□e o□tion□ for □ □iece of □□rd□□re □re □i□en in □ □in□□e □ine ite□, t□e □u□□□ier □□□□□□ro□ide t□e □□□ro□ri□te □□□□ic□tion for t□e o□enin□.

4. □t e□i□tin□ o□enin□□ □it□ ne□ □□rd□□re t□e □u□□□ier □□□□□fie□ in□□ect e□i□tin□ condition□ □rior to t□e □u□□itt□□□t□□e to □erif□ t□e □□ecified □□rd□□re □i□□□or□ □□re□uired. □ro□ide □tern□te □o□ution□ □nd □ro□o□□□□ □□ needed.

□. Refer to □ection 080671, Door □□rd□□re □et□, for □□rd□□re □et□.

E□D OF □ECTIO□ 084126

□ECTIO□ 087100 – DOOR □□RD□ □RE □C□ED□□E

□□RT 1 - □E□ER□□

1.1 RE□□TED DOC□ME□T□

A. Dr□□in□□ □nd □ener□□ □ro□i□ion□ of t□e Contr□ct, inc□udin□ □ener□□ □nd □u□□e□ ent□r□ Condition□ □nd Di□i□ion 1 □□ecific□tion □ection□, □□□□□ to t□i□ □ection.

1.2 □□MM□R□

A. T□i□ □ection reference□ □□ecific□tion □ection□ re□□tin□ to co□ □erci□□door □□rd□□re for t□e fo□o□in□□

1. □□in□in□ door□.
2. □□idin□ Door□.
3. Ot□er door□ to t□e e□tent indic□ted.

B. Co□ □erci□□door □□rd□□re inc□ude□, □ut i□ not nece□□□ri□□ i□ited to, t□e fo□o□in□□

1. Mec□□nic□□door □□rd□□re.
2. E□ectro□ ec□□nic□□□nd □cce□□ contro□door □□rd□□re.
3. E□ectro□ ec□□nic□□ □nd □cce□□ contro□door □□rd□□re □o□er □u□□ie□, □□c□-u□□ □nd □ur□e □rotection.
4. □uto□ □tic o□er□tor□.
5. C□inder□ □□ecified for door□ in ot□er □ection□.

C. Re□□ted □ection□□

1. Di□i□ion 08 □ection “Interior Sliding Wood Door Assemblies”.
2. Di□i□ion 08 □ection “All-Glass Entrances”.
3. Di□i□ion 08 □ection “Door □□rd□□re”.
4. Di□i□ion 08 □ection “□uto□ □tic Door O□er□tor□”.
5. Division 28 Section “Access Control Hardware Devices”.

D. Code□ □nd Reference□□ Co□ □□□ □it□ t□e □er□ion □e□ □do□ted □□ t□e □ut□orit□ □□□in□ □uri□diction.

1. □□□I □117.1 - □cce□□i□□e □nd □□□□□e □uidin□□ □nd F□ci□□tie□.
2. ICC/I□C - Intern□tion□□□uidin□ Code.
3. □F□□ 70 - □□tion□□E□ectric□□Code.
4. □F□□ 80 - Fire Door□ □nd □indo□□.
5. □F□□ 101 - □ife □□fet□ Code.
6. □F□□ 105 - In□t□□□tion of □□o□e Door □□□e□ □ie□.
7. □t□te □uidin□ Code□, □oc□□□□ end□ent□.

E. □t□nd□rd□□Reference Re□□ted □ection□ for re□uire□ent□ re□□rdin□ co□ □i□nce □it□ □□□□ic□□□e indu□tr□ □t□nd□rd□.

1.3 □□□MITT□□□

A. □roduct D□t□□ M□nuf□cturer□ □roduct d□t□ □□eet□ inc□ud□n□ in□t□□□tion det□i□, □ □teri□□ de□cri□tion□, di□en□ion□ of indi□idu□□co□ □onent□ □nd □rofi□e□, o□er□tion□□de□cri□tion□ □nd fini□□e□.

B. Door □□rd□□re □c□edu□e□□re□□red □□or under t□e □u□er□i□ion of □u□□ie□, det□i□in□ f□□ric□tion □nd □□□e□ □□□ of door □□rd□□re, □□ □e□□□□ □rocedure□ □nd di□□r□□ □. Coordin□te t□e fin□□Door □□rd□□re □c□edu□e □it□ door□, fr□□e□, □nd re□□ted □or□ to en□ure □ro□er □i□e, t□ic□ne□□, □□nd, function, □nd fini□□ of door □□rd□□re.

1. For□ □t□Co□ □□□ □it□ □c□edu□in□ □e□uence □nd □ertic□□for□ □t in D□I□ "□e□uence □nd For□ □t for t□e □□rd□□re □c□edu□e."

2. Or□□ni□□tion□Or□□ni□e t□e Door □□rd□□re □c□edu□e into door □□rd□□re □et□ indic□tin□ co□ □□ete de□i□n□tion□ of e□er□ite□ re□uired for e□c□ door or o□enin□. Or□□ni□e door □□rd□□re □et□ in □□□e order □□ in t□e Door □□rd□□re □et□ □t t□e end of □□rt 3. □u□□itt□□□ t□□t do not fo□o□ t□e □□□e for□ □t □nd order □□ t□e Door □□rd□□re □et□ □i□□ □e re□ected □nd □u□□ect to re□u□□i□□ion.

3. Content□Inc□ude t□e fo□o□in□ infor□ □tion□

□. T□□e, □t□□e, function, □i□e, □□□e□, □□nd, □nd fini□□ of e□c□ door □□rd□□re ite□.
□. M□nuf□cturer of e□c□ite□.
c. F□□tenin□□ □nd ot□er □ertinent infor□ □tion.
d. □oc□tion of door □□rd□□re □et, cro□□-referenced to Dr□□in□□, □ot□ on f□oor □□□n□ □nd in door □nd fr□□e □c□edu□e.
e. E□□□n□tion of □□□re□i□tion□, □□□ □o□□, □nd code□ cont□ined in □c□edu□e.
f. Mountin□ □oc□tion□ for door □□rd□□re.
□. Door □nd fr□□e □i□e□ □nd □ □teri□□□.

4. □u□□itt□□□e□uence□□u□□it t□e fin□□Door □□rd□□re □c□edu□e □t e□ri□e□t □o□□i□e d□te, □□rticu□□r□ □□ere □□□ro□□□of t□e Door □□rd□□re □c□edu□e □u□t □recede f□□ric□tion of ot□er □or□ t□□t i□ critic□□in t□e □ro□ect con□truction □c□edu□e. Inc□ude □roduct D□t□, □□□ □□e□, □□o□ Dr□□in□□ of ot□er □or□ □ffected □□ door □□rd□□re, □nd ot□er infor□ □tion e□□enti□□to t□e coordin□ted re□ie□ of t□e Door □□rd□□re □c□edu□e.

C. □e□in□ □c□edu□e□ □re□□red under t□e □u□er□i□ion of t□e O□ner, □e□□r□te □c□edu□e det□i□in□ fin□□□e□in□ in□truction□ for □oc□□et□ □nd c□□inder□ in □ritin□. Inc□ude □e□in□ □□□te□ e□□□n□tion, door nu□□er□, □e□ □et □□□ □o□□, □□rd□□re □et nu□□er□ □nd □□eci□□in□truction□. O□ner to □□□ro□e □u□□itted □e□in□ □c□edu□e □rior to t□e orderin□ of □er□ □nent c□□inder□.

D. □roduct Te□t Re□ort□□ Indic□tin□ co□ □i□□nce □it□ c□□e te□tin□ re□uire□ent□, □□□ed on e□□u□tion of co□ □re□en□i□e te□t□ □erfor□ed □□ □ □nuf□cturer □nd □itne□□ed □□ □ □u□ified inde□endent te□tin□ □□enc□.

E. O□er□tin□ □nd M□inten□nce M□nu□□□□ □ro□ide □ □nuf□cturer□ o□er□tin□ □nd □ □inten□nce □ □nu□□□ for e□c□ ite□ co□ □ri□in□ t□e co□ □□ete door □□rd□□re in□t□□□tion in □u□ntit□ □□ re□uired in Di□i□ion 01, C□□eout □u□□itt□□□. The manual to include the name, address, and contact information of the manufacturers providing the hardware and their nearest service representatives. The final copies delivered after completion of the installation test to include "as built" modifications made during installation, checkout, and acceptance.

F. □ □rr□ntie□ □nd M□inten□nce: □□eci□□□ □rr□ntie□ □nd □ □inten□nce □□ree□ent□ □□ecified in t□e Re□□ted □ection□.

1.4 DE□IVER□, □TOR□□E, AN D HAN DLI NG

A. In□entor□ door □□rd□□re on recei□t □nd □ro□ide □ecure □oc-u□ □nd sh e lv i n g for door □□rd□□re de□i□ered to □ro□ect □ite. Do not □tore e□ectronic □cce□□ contro□ □□rd□□re, □oft□□re or □cce□□orie□ □t □ro□ect □ite □it□out □rior □ut□ori□□tion.

B. Tag e□c□ ite□ or pa□kag e □e□□r□te□ □it□ identific□tion re□□ted to t□e fin□□Door □□rd□□re □c□edu□e, □nd inc□ude bas ic in□t□□□tion in□truction□ □it□ e□c□ite□ or pa□kag e.

C. De□i□er, as □□□ic□□e, □er□ □nent k e y s , c□inder□, core□, □cce□□ contro□credenti□□, □oft□□re □nd re□□ted □cce□□orie□ direct□□ to O□ner v i a re□i□tered ma i l or o□erni□□t □□c□□□e □er□ice. In□truction□ for de□i□er□ to t□e O□ner shall □e e□t□□i□□ed □t t□e "□e□in□ Conference".

1.5 WA RRAN TY

A. □ener□□□ □rr□nt□: Reference Di□i□ion 01, □ener□□Re□uire□ent□. □□eci□□□ □rr□ntie□ □□ecified in t□i□ □rtic□e sha□l not de□ri□e O□ner of ot□er ri□□t□ O□ner may hav e under ot□er □ro□i□ion□ of t□e Contr□ct Docu□ent□ □nd shall □e in □ddition to, □nd run concurrent □it□, ot□er □□rr□ntie□ □ □de by Contr□ctor under re□uire□ent□ of t□e Contr□ct Docu□ent□.

1.6 M□I□TE□□□CE □ERVICE

A. M□inten□nce Too□□ □nd In□truction□: Furni□□ □ co□□□ete □et of □□eci□i□ed too□□ □nd □ □inten□nce in□truction□ as needed for O□ner'] continued □d u □t□ent, □ □inten□nce, □nd re□o□□□□nd re□□ce□ent of door □□rd□□re.

□□RT 2 - □ROD□CT□

2.1 □C□ED□□ED DOOR □□RD□ □RE

A. Refer to “PART 3 – EXECUTION” for required specification sections.

□□RT 3 - E□EC□TIO□

3.1 DOOR □□RD□ □RE □ET□

A. T□e door □□rd□□re □et□ re□re□ent t□e de□i□n intent □nd direction of t□e o□ner □nd □rc□itect. T□e□ □re a □uide□ine on□□ □nd □□ou□d not □e con□idered a det□i□ed □□rd□□re □c□edu□e. Di□cre□□ncie□, conf□ictin□ □□rd□□re □nd □i□□in□ite□ □ □□ou□d □e □rou□□t to t□e □ttention of t□e □rc□itect □it□ correction□ □ □de □rior to t□e □iddin□ □roce□□. O□itted ite□ □ not inc□uded in a □□rd□□re □et □□ou□d □e □c□edu□ed □it□ t□e □□□ro□ri□te □ddition□□□□rd□□re re□uired for □ro□er □□□ic□tion □nd function□it□.

1. □u□ntitie□ □i□ted □re for e□c□ □□ir of door□, or for e□c□ □in□□e door.

2. T□e □u□□ier i□re□□on□i□e for □□ndin□ □nd □i□in□ all □roduct□.

3. □ □ere □u□ti□e o□tion□ for a □iece of □□rd□□re □re □i□en in a □in□e □ine ite□, t□e □u□□ier shall □ro□ide t□e □□□ro□ri□te □□□ic□tion for t□e o□enin□.

4. □t e□i□tin□ o□enin□□ □it□ ne□ □□rd□□re t□e □u□□ier shall fie□d in□□ect e□i□tin□ condition□ □rior to t□e □u□□itt□□□t□□e to □erif□ t□e □□ecified □□rd□□re will □or□ as re□uired. □ro□ide □tern□te □o□ution□ □nd proposals as needed.

B. □roduct□ i□□ted in t□e □□rd□□re □et□ shall □e □u□□ied by □nd in □ccord□nce □it□ t□e re□uire□ent□de□cri□ed in t□e □□ecific□tion □ection as noted for e□c□ite□.

1. □ection 08 14 73 – Interior □□idin□ □ ood Door □□□e□ □ie□.
2. □ection 08 41 26 – All Glass Entr□nce□.
3. □ection 08 71 00 – Door □□rd□□re.
4. □ection 08 71 13 – □uto□ □tic Door O□er□tor□.
5. □ection 28 15 00 – □cce□□ Contro□□ □rd□□re De□ice□.

C. M□nuf□cturer's Abbreviations:

1. GS - ASSA ABL OY Glass □o□ution□
2. OT - Ot□er
3. M□ - Mc□inne□
4. □E - Pemko
5. R□ - RITE □ide
6. YA - □□e
7. RO - Roc□□ood
8. RF - Ri□□on
9. □O - □orton

Hardware Sets

Set: 1.0

Door□: 201

De□cri□tion: E□i□tin□ □ D, New AL □torefront - Office

4	□in□e	E□i□tin□ to Re□ □in		OT	
1	Entr□ □oc□	E□i□tin□ to Re□ □in	626	YA	087100
1	C□inder (match e□i□tin□)	T□□e & □i□e (as re□uired)		OT	
1	E□i□tin□ C□o□er	ADA □d□u□t□ent		OT	
1	Door □to□	M□tc□ E□i□tin□	US 26D	RO	087100
1	E□□u□te	E□i□tin□ Condition□		OT	

□ote□: E□□u□te e□i□tin□ door □nd □□rd□□re function □ccordin□ to □ □nuf□cturer' □reco□□end□tion□.

□d□u□t c□o□er□to □eet ADA re□uire□ent□.

Set: 1.0A

Door□: 002
De□cri□tion: E□i□tin□ □ D - New Fr□□e

3	□in□e	E□i□tin□to Re□ □in		OT
1	E□i□tin□C□o□er	ADA □d□u□t□ent		OT
1	□□□nce of □□rd□□re	To Re□ □in		OT
1	E□□u□te	E□i□tin□Condition□		OT

□ote□: E□i□tin□door in ne□ fr□□e. E□□u□te e□i□tin□door □nd □□rd□□re function □ccordin□to □□nuf□cturer' □reco□ □end□tion□. Salva □e e□i□tin□ □□rd□□re to reu□e in ne□ □oc□tion. □d□u□t c□o□er□to □eet ADA re□uire□ent□.

Set: 1.0B

Door□: 001
De□cri□tion: E□i□tin□ □ D - New Fr□□e, R□ted, E□i□tin□CR

2	□in□e, Fu□Morti□e, Hvy □t	T4□3786 NRP (□i□e as re□uired)	US 26D	M□	087100
1	□in□e, Fu□Morti□e, Hvy □t	T4□3786 □C12 (□i□e as re□uired)	US 26D	M□	087100
1	R□ted Ri□ E□it, Nightlatch	6150F B P AU 427F Less Do□□in□	630	YA	087100
1	C□inder (ma□tch e□i□tin□)	T□□e & □i□e (as re□uired)		OT	
1	□urf□ce C□o□er	□R3301	689	YA	087100
1	□ic□ Pla te	K1050 10" □i□□ CSK	US 32D	RO	087100
1	□ □□□to□	409	US 26D	RO	087100
1	□□□etin□	S773BL		□E	087100
1	C□rd Re□der	E□i□tin□to Re□ □in		OT	
1	Re□ue□t to E□it	By □ecurit□		OT	
1	Door Cont□ct	By □ecurit□		OT	
1	□ irin□ Di□□r□□	E□e□□tion & □oint to □oint		OT	
1	E□ectro□□n□ □□rne□□(fr□□e)	□C-C (□en□t□ as re□uired)		M□	087100
1	E□ectro□□n□ □□rne□□(door)	□C-C (□en□t□ as re□uired)		M□	087100
1	□o□er Contro□er	782		YA	087100

□ote□: Verif□ in fie□d t□□t □roduct□ □□ecified □nd □u□□itted will □it e□i□tin□door/fr□□e □re□□, coordin□te □□rd□□re confl□ct □it□ □rc□itect. □ro□ide conduit, □unction boxes □nd □□rd□□re as re□uired to □rotect □irin□ □□rne□□e□.

Modific□tion□to fire r□ted door/fr□□e □□□e□ □ie□to □e □ □de □ccordin□to NFPA re□uire□ent□. Rein□t□□□ e□i□tin□C□rd Re□der.

O□er□tion:
1. Door normally c□o□ed, □□tc□ed □nd □oc□ed. □cce□□ by □□id credenti□□or k□y o□erride. In t□e e□ent of □o□er f□i□ure door □ec□□nic□□□ □oc□□.

2. Free e□re□□ □t all :i□e□.

Set: 1.0C

Door□: 125c
De□cri□tion: New □ D - Conf. Roo□ 125c, □ot On □c□edu□e

3	□in□e, Fu□Morti□e	T□2714 (□i□e as re□uired)	US 26D	M□ 087100
1	Passag e La tch	AU 5401 LN 497	626	YA 087100
1	□urf O□er□e□d □to□	10-X36	689	RF 087100
3	□i□encer	608/609		RO 087100

□ote□: Door□ □t t□i□ □oc□tion □re dr□□n □nd t□□□ed, □ut not on □c□edu□e.

□ro□ide ne□ □ood door to ma tch e□i□tin□ □ood door fini□□ in □M fr□□e.

Set: 1.0D

Door□: 157b
De□cri□tion: New □ D - □obby 157

3	□in□e, Fu□Morti□e	T□2714 (□i□e as re□uired)	US 26D	M□ 087100
1	□toreroo□ □oc□	AU 5405 LN 497 (□re□ as re□uired)	626	YA 087100
1	C□linder (ma tch e□i□tin□)	T□□e & □i□e (as re□uired)		OT
1	□urf□ce C□o□er	□R3301	689	YA 087100
1	Wall □to□	409	US 26D	RO 087100
3	□i□encer	608/609		RO 087100

Set: 2.0

Door□: S101
De□cri□tion: New Glass , □t□ir - CR (GL / AL)

1	□□□lied □to□, □in□e	D□-3000	US 32D	GS 084126
1	To□ □□tc□	□i□e & □re□ (to fit e□i□tin□)	US 32D	GS 084126
1	To□ Pa tch Co□er	T□□e & □i□e (as re□uired)	US 32D	GS 084126
1	□otto□ Pa tch	□i□e & □re□ (to fit e□i□tin□)	US 32D	GS 084126
1	□otto□ Pa tch Co□er	T□□e & □i□e (as re□uired)	US 32D	GS 084126
1	□otto□ □i□ot	T□□e as Re□uired	AL	GS 084126
1	E□ectronic □oc□ / E□it	By □ecurit□		OT
1	Conce□□ed C□o□er	M□tc□ E□i□tin□		GS 084126
1	Arm	T□□e as Re□uired		GS 084126
1	Mountin□ C□i□	T□□e as Re□uired		GS 084126
1	Door □to□	RM851	US 32D	RO 087100
1	C□rd Re□der	By □ecurit□		OT
1	Re□ue□t to E□it	By □ecurit□		OT

1 Door Cont□ct	By □ecurit□		OT	
1 □ irin□ Di□□r□□	E□e□□tion & □oint to □oint		OT	
1 □o□er Supply	By □ecurit□		OT	

□ote□: New Glass door in salvag ed □u□inu□ □torefront (fro□ □M spa ce u□□t□ir□), ne□ glaz ing in □ide i□□t□.

ALL □□RD□ □RE FOR GLASS /ALU M DOOR I□ COM□□ETE BY T□E DOOR M□□□F□CT□RER. COORDI□□TE □ IT□ □ □TER □ERIVCE□' □CCE□□ CO□TRO□VE□DOR TO □ROVIDE ALL □ECE□□□R□ □ IRI□□, □RO□R□MMI□□ AN D □□RD□ □RE.

Set: 2.0A

Door□: 133

De□cri□tion: New Glass - CR □oc□

1 2 □iece □e□der	□DR-1750□4000-O□C (□re□ as re□uired)	US 32D	GS	084126
1 □□□ied □to□, □in□e	D□-3000	US 32D	GS	084126
1 To□ R□i□T□□ered	□i□e & □re□ (as re□uired)	US 32D	GS	084126
1 □otto□ R□i□T□□ered	□i□e & □re□ (as re□uired)	US 32D	GS	084126
1 R□ce□□□	UW D-1000x1000	US 32D	GS	084126
1 □otto□ □i□ot	□V-E□D□O□D	AL	GS	084126
1 Entr□ □oc□	AU R3 8807F□ □C	630	YA	087100
1 E□ectric □tri□e, La tch □ee□er	CLK -E SK	US 32D	GS	084126
1 Center □oc□ □ou□in□	C□□-E□T	US 32D	GS	084126
1 C□inder (□ □tc□ e□i□tin□)	T□□e & □i□e (as re□uired)		OT	
1 Con□erter	□C-Rectifier		GS	084126
1 Contro□er	E□-□M□RT□□C□□□		GS	084126
1 Conce□□ed C□o□er	M□tc□ E□i□tin□		GS	084126
1 Arm	T□□e as Re□uired		GS	084126
1 Mountin□ C□i□	T□□e as Re□uired		GS	084126
1 Door □to□	RM851	US 32D	RO	087100
1 C□rd Re□der	By □ecurit□		OT	
1 Re□ue□t to E□it	By □ecurit□		OT	
1 Door Cont□ct	By □ecurit□		OT	
1 □ irin□ Di□□r□□	E□e□□tion & □oint to □oint		OT	
1 □o□er Supply	By □ecurit□		OT	

□ote□: □ecurit□ Door 133 – □ro□ide Glass door in □ieu of □ood □er □ecurit□ □□□e□T□□□ot. □d□u□t c□o□er□ to □eet ADA re□uire□ent□.

ALL □□RD□ □RE FOR GLASS /ALU M DOOR I□ COM□□ETE BY T□E DOOR M□□□F□CT□RER. COORDI□□TE □ IT□ □ □TER □ERIVCE□' □CCE□□ CO□TRO□VE□DOR TO □ROVIDE □LL □ECE□□□R□ □ IRI□□, □RO□R□MMI□□ AN D □□RD□ □RE.

Set: 3.0

Door□□008□, 009, 009□, 012, 036, 150, 157, 158, □104□

De□cri□tion□E□i□tin□ □ D - □D□ C□o□er □d□u□t□ ent

2	E□i□tin□C□o□er	□D□ □d□u□t□ ent	OT
1	□□□nce of □□rd□□re	To Re□ □in	OT

□ote□□REMOVE E□I□TI□□ C□O□ER□, C□T□□O□, C□E□□ □□D M□□E MI□OR RE□□IR□ □□ RE□ID. REI□□T□□□ C□O□ER. □D□□□T C□O□ER TO MEET □D□ RE□ □IREME□T□. IF C□O□ER I□ □O □O□□ER □□□E TO □E □D□□□TED TO MEET RE□ □IREME□T□ □ IT□ MI□OR RE□□IR, RE□□□CE □ IT□ □E□ TO M□TC□ E□I□TI□□. □□□□ME 5□ RE□□□CEME□T □□□O□ □□CE I□C□□DED I□ □□□E □ID. □ROVIDE DOC□ME□T□TIO□ FOR □□□O□ □□CE REIM□□R□EME□T.

Set: 3.0A

Door□□003, 005□, 008□, 103, 103□, 107, 108, 115, 135, 159□, 160, 161, 208, 239, 240, 244, 247, 247□, 248, □102□, □106

De□cri□tion□E□i□tin□ □ D - □D□ C□o□er □d□u□t□ ent

1	E□i□tin□C□o□er	□D□ □d□u□t□ ent	OT
1	□□□nce of □□rd□□re	To Re□ □in	OT

□ote□□REMOVE E□I□TI□□ C□O□ER□, C□T□□O□, C□E□□ □□D M□□E MI□OR RE□□IR□ □□ RE□ID. REI□□T□□□ C□O□ER. □D□□□T C□O□ER TO MEET □D□ RE□ □IREME□T□. IF C□O□ER I□ □O □O□□ER □□□E TO □E □D□□□TED TO MEET RE□ □IREME□T□ □ IT□ MI□OR RE□□IR, RE□□□CE □ IT□ □E□ TO M□TC□ E□I□TI□□. □□□□ME 5□ RE□□□CEME□T □□□O□ □□CE I□C□□DED I□ □□□E □ID. □ROVIDE DOC□ME□T□TIO□ FOR □□□O□ □□CE REIM□□R□EME□T.

Set: 3.1A

Door□□142□, 142□, 155, 228□, 228□

De□cri□tion□E□i□tin□ □ □□□□ □□ir - □D□ C□o□er □d□u□t□ ent

2	E□i□tin□C□o□er, D□	□D□ □d□u□t□ ent	OT
1	□□□nce of □□rd□□re	To Re□ □in	OT

□ote□□REMOVE E□I□TI□□ C□O□ER□, C□T□□O□, C□E□□ □□D M□□E MI□OR RE□□IR□ □□ RE□ID. REI□□T□□□ C□O□ER. □D□□□T C□O□ER TO MEET □D□ RE□ □IREME□T□. IF C□O□ER I□ □O □O□□ER □□□E TO □E □D□□□TED TO MEET RE□ □IREME□T□ □ IT□ MI□OR RE□□IR, RE□□□CE □ IT□ □E□ TO M□TC□ E□I□TI□□. □□□□ME 5□ RE□□□CEME□T □□□O□ □□CE I□C□□DED I□ □□□E □ID. □ROVIDE DOC□ME□T□TIO□ FOR □□□O□ □□CE REIM□□R□EME□T.

Set: 3.2

Door□□134□

De□cri□tion□E□i□tin□ □ □□□□, Conf. Roo□ 134 - CR

1	□□□ie□ □to□, □in□□e	D□-3000	□□32D	□□	084126
1	To□ □□tc□	□i□e □ □re□ (to fit e□i□tin□)	□□32D	□□	084126

1	To□ Patch Co□er	T□□e & □i□e (as re□uired)	US 32D	GS	084126
1	□otto□ Patch	□i□e & □re□ (to fit e□i□tin□)	US 32D	GS	084126
1	□otto□ Patch Co□er	T□□e & □i□e (as re□uired)	US 32D	GS	084126
1	□otto□ □i□ot	T□□e as Re□uired	AL	GS	084126
1	E□ectronic □oc□/ E□it	By □ecurit□		OT	
1	Conce□□ed C□o□er	T□□e as Re□uired		GS	084126
1	Door □to□	RM851	US 32D	RO	087100
1	C□rd Re□der	By □ecurit□		OT	
1	Re□ue□t to E□it	By □ecurit□		OT	
1	Door Cont□ct	By □ecurit□		OT	
1	□ irin□ Di□□r□□	E□e□□tion & □oint to □oint		OT	
1	□o□er □u□□□	By □ecurit□		OT	

□ote□: Reu□e e□i□tin□ g□ass door in ne□ □torefront. □ro□ide ne□ patch panels, ne□ □i□ot□ □nd ne□ □u□inu□ □torefront □to□. □d□u□t c□o□er□ to □eet ADA re□uire□ent□.

ALL □□RD□ □RE FOR GLASS /ALU M DOOR I□ COM□□ETE BY T□E DOOR M□□□F□CT□RER. COORDINATE WITH WATER SERVICES' ACCESS CONTROL VENDOR TO PROVIDE ALL □ECE□□□R□ □ IRI□□, □RO□R□MMI□□ AN D □□RD□ □RE.

Set: 3.2A

Door□: 157a

De□cri□tion: E□i□tin□ □lass - Re□oc□te □cce□□ Contro□

1	To□ Patch	□i□e & □re□ (to fit e□i□tin□)	US 32D	GS	084126
1	To□ □□tc□ Co□er	T□□e & □i□e (as re□uired)	US 32D	GS	084126
1	□otto□ Patch	□i□e & □re□ (to fit e□i□tin□)	US 32D	GS	084126
1	□otto□ Patch Co□er	T□□e & □i□e (as re□uired)	US 32D	GS	084126
2	To□ □i□ot	T□□e as Re□uired	US 32D	GS	084126
2	□otto□ □i□ot	T□□e as Re□uired	AL	GS	084126
1	C□rd Re□der	By □ecurit□		OT	
1	Re□ue□t to E□it	By □ecurit□		OT	
1	Door Cont□ct	By □ecurit□		OT	
1	□ irin□ Di□□r□□	E□e□□tion & □oint to □oint		OT	
1	□o□er Supply	By □ecurit□		OT	
1	□□□nce of □□rd□□re	Re-□□e E□i□tin□		OT	

□ote□: Reu□e e□i□tin□ glass door□ in ne□ □torefront. Re□□□ce patch panels □nd □i□ot□ if needed. Re□oc□te □cce□□ contro□□ □ere directed.

ALL □□RD□ □RE FOR GLASS /ALU M DOOR I□ COM□□ETE BY T□E DOOR M□□□F□CT□RER. COORDINATE WITH WATER SERVICES' ACCESS CONTROL VENDOR TO PROVIDE ALL □ECE□□□R□ □ IRI□□, □RO□R□MMI□□ AN D □□RD□ □RE.

Set: 4.0

Door□: 104, 105

De□cri□tion: E□i□tin□ □ D - New C□o□er, □ri□□c□Indic□tor

1	□□t□roo□ □oc□, Indic□tor	AU R 8864F□ □C	626	YA	087100
1	C□inder (ma tch e□i□tin□)	T□□e & □i□e (as re□uired)		OT	
1	□urf□ce C□o□er	3301 D□	689	YA	087100
1	□□□□nce of □□rd□□re	To Re□ □in		OT	

□ote□: Reu□e e□i□tin□ door□ □nd apply ne□ □□□□tic □□□ in□te to door f□ce□. Reu□e e□i□tin□ □in□e□ □nd SS door □rotection. □ro□ide ne□ c□inder □oc□, occu□□nt indic□tor, □nd ne□ c□o□er □t □ot□ door□. □d□u□t c□o□er□ to □eet ADA re□uire□ent□.

Set: 5.0

Door□: 156a, 156b

De□cri□tion: New AL - Re□oc□te □O, CR

2	Continuou□ □in□e, E□ectrified	M□tc□ E□i□tin□		□E	087100
2	CVR E□it, □toreroo□	6225 B P AU 506F	630	YA	087100
2	C□inder (ma tch e□i□tin□)	T□□e & □i□e (as re□uired)		OT	
1	□uto O□er□tor	E□i□tin□ to Re□ □in		OT	087113
2	Door □to□	M□tc□ E□i□tin□	US 26D	RO	087100
1	T□re□□o□d	□er Sill Det□i□		□E	
1	R□in □u□rd	346C		□E	087100
2	Sw ee p	3151C□		□E	087100
1	C□rd Re□der	By □ecurit□		OT	
1	Re□ue□t to E□it	By □ecurit□		OT	
1	Door Cont□ct	By □ecurit□		OT	
1	□ irin□ Di□□r□□	E□e□□tion & □oint to □oint		OT	
1	E□ectro□□n□ □□rne□□(fr□□e)	□C-C (□en□t□ as re□uired)		M□	087100
1	E□ectro□□n□ □□rne□□(door)	□C-C (□en□t□ as re□uired)		M□	087100
1	□ □□e-to-O□en □□itc□	700		□O	087100
1	□□itc□ □o□t	500		□O	087100
1	□o□er Contro□er	782		YA	087100
1	E□□u□te	E□i□tin□ Condition□		OT	

□ote□: □□rd□□re by door/fr□□e □ro□ider.

Verif□t□□t □roduct□ □□ecified □nd □u□□itted ma tch f□ci□it□ □t□nd□rd□. Coordin□te conf□ict□ □it□ re□□ted □ection□ □nd □rc□itect.

Re□oc□te □cce□□ contro□□nd door o□er□tor as directed. □ro□ide ne□ interior □ □□e-to-O□en □ctu□tor □□itc□ □nd ne□ e□terior □o□t □ounted □ctu□tor □□itc□.

□ro□r□□ door c□c□e o□er□tion as directed.

Set: 6.0

Door: 116

Description: Existing to Remain - New Frame

3	Hinge	Existing to Remain		OT	
1	Entry Lock	Existing to Remain	626	YA	087100
1	Closer	Existing to Remain		OT	
1	Door Stop	Match Existing	US 26D	RO	087100
3	Silencer	608/609		RO	087100
1	All Other Hardware	To Remain		OT	

Note: Refinish door to match existing and relocate door as directed. Reuse existing door and hardware. Provide new SM frame.

Set: 7.0

Door: 117a

Description: Existing AL - Relocate

6	Hinge	Existing to Remain		OT	
2	Existing Closer	ADA Adjustment		OT	
2	Door Stop	Match Existing	US 26D	RO	087100
1	Clearance of Hardware	To Remain		OT	
1	Evaluate	Existing Condition		OT	

Note: Vestibule storefront door need to close for ADA clearance in Vestibule. Reuse door and hardware. Adjust closer to meet ADA requirement.

Set: 8.0

Door: 021, S104b

Description: Existing AL - ADA Closer Adjustment

1	Existing Closer	ADA Adjustment		OT	
1	All Other Hardware	To Remain		OT	

Note: Adjust closer to meet ADA requirement.

Set: 9.0

Door: 022, 124a, 124b, 125a, 129a, 129b, 132, 134b, 207, 215a, 215b, 216, 218, 219, 220a, 220b, 245a, 245b, 256

Description: Existing Glass - Conference Room, ADA Closer Adjustment

1	Top Patch	Size & Core (to fit existing)	US 32D	GS	084126
1	Top Patch Cover	Type & Size (as required)	US 32D	GS	084126
1	Bottom Patch	Size & Core (to fit existing)	US 32D	GS	084126

1	□otto□ □□tc□ Co□er	T□□e □ □i□e (□□re□uired)	□□32D	□□	084126
1	□otto□ □i□ot	T□□e □□Re□uired	□□	□□	084126
1	Door □u□□ □T□	M□tc□ E□i□tin□	□□32D	□□	084126
1	Conce□□ed C□o□er, D□	□D□ □d□u□t□ ent		□□	084126
1	Door □to□	M□tc□ E□i□tin□	□□26D	RO	087100
1	E□□□u□te	E□i□tin□ Condition□		OT	

□ote□□□d□u□t c□o□er□to □eet □D□ re□uire□ent□.

Set: 9.0A

Door□□125□

De□cri□tion□E□i□tin□ □ □□□□ - Re□oc□te

1	E□i□tin□ C□o□er	□D□ □d□u□t□ ent		OT
1	□□□□ □rd□□re	To Re□ □in		OT

□ote□□Re□oc□te to □e□t □ide of □□o□□Cree□conference roo□. Re-u□e e□i□tin□ □□rd□□re □nd re□o□e □□□□ied fr□□e □to□. □d□u□t c□o□er to □eet □D□ re□uire□ent□.

Set: 10.0

Door□□159□

De□cri□tion□E□i□tin□ □ D - Conference Roo□, □ound □ □□□et

1	□VR E□it, C□□□roo□	6210 □□R □□506F	630	□□	087100
1	□VR E□it, Du□ □ □Tri□	6210 □□R □□509F	630	□□	087100
1	C□inder (□ □tc□ e□i□tin□)	T□□e □ □i□e (□□re□uired)		OT	
2	□urf□ce C□o□er	□R3301	689	□□	087100
1	□ □□□etin□	□773□□		□E	087100
2	□d□u□t□□e □□tr□□□□	351CV		□E	087100
1	□□□nce of □□rd□□re	To Re□ □in		OT	

□ote□□Verif□in fie□d t□□t □roduct□ □□ecified □nd □u□□itted □i□fit e□i□tin□ door/fr□□e □re□□, coordin□te □□rd□□re conf□ict □it□ □rc□itect.

□ □ere e□i□tin□ □□rd□□re □re□□/ □o□e□ □re not co□ered □□ne□ □□rd□□re□□ro□ide co□er □□te□(fini□□ed to □ □tc□ □□ecified □□rd□□re) □□re□uired to fi□□□□□□ □nd co□er e□□o□ed □re□□in door□ □nd fr□□e□.

□d□u□t c□o□er to □eet □D□ re□uire□ent□.

Set: 11.0

Door□□159□-□, 159□-□

De□cri□tion□□e□ □i□din□ - □tor□□e 159□

1	□i□de Tr□c□ □□□e□ □□□	Rite Door □i□din□ □□□te□ (□□ □□ecified)	R□	081473

1	□oft C□o□e De□ice	□C-0418		R□	081473
1	□otto□ Door □uide	102-4800		R□	081473
1	In-Tr□c□ □to□	□□□-4800		R□	081473
1	Entr□ □oc□	□5350 □460T	630	R□	081473
2	C□□inder (□ □tc□ e□i□tin□)	T□□e □ □i□e (□□re□uired)		OT	
1	□i□e □ □□□et	□2□R		R□	081473
1	Tr□i□in□ Ed□e □ □□□et	369□□4□□		R□	081473

□ote□□Mount door □to□□ □nd □u□□□t di□ en□ion□ re□uired to □ □int□in c□e□r o□enin□ □idt□ □nd □□rrier free o□er□tion of o□er□□□e □□rd□ □re.

Set: 12.0

Door□□009□

De□cri□tion□E□i□tin□ □M □□ir - □e□ T□re□□o□d, □D□ C□o□er □d□u□t□ ent

2	E□i□tin□ C□o□er	□D□ □d□u□t□ ent	OT
1	T□re□□o□d	□er □i□□Det□i□	□E
1	□□□□nce of □□rd□ □re	To Re□ □in	OT
1	E□□u□te	E□i□tin□ Condition□	OT

□ote□□REMOVE E□I□TI□□ C□O□ER□, C□T□□O□, C□E□□ □□D M□□E MI□OR RE□□IR□ □□ RE□ □D. REI□□T□□□ C□O□ER. □D□□□T C□O□ER TO MEET □D□ RE□ □IREME□T□. IF C□O□ER I□ □O □O□□ER □□□E TO □E □D□□□TED TO MEET RE□ □IREME□T□ □ IT□ MI□OR RE□□IR, RE□□□CE □ IT□ □E□ TO M□TC□ E□I□TI□□. □□□□ME 15□ RE□□□CEME□T □□□O□ □□CE I□C□□DED I□ □□□E □ID. □ROVIDE DOC□ME□T□TIO□ FOR □□□O□ □□CE REIM□□R□EME□T.

Set: A-1.0

Door□□□-161, □-261

De□cri□tion□□e□ □ D - □□nitor (□□t)

3	□in□e, Fu□Morti□e	T□2714 (□i□e □□re□uired)	□□26D	M□	087100
1	□toreroo□ □oc□	□□ 5405□□ 497 (□re□ □□re□uired)	626	□□	087100
1	C□□inder (□ □tc□ e□i□tin□)	T□□e □ □i□e (□□re□uired)		OT	
1	□urf□ce C□o□er	□R3301	689	□□	087100
1	□ic□ □□□te	□1050 10" □i□□ C□□	□□32D	RO	087100
1	□ □□□to□	409	□□26D	RO	087100
3	□i□encer	608/609		RO	087100

Set: A-2.0

Door□□□-162, □-163, □-164, □-165, □-167, □-168, □-169, □-262, □-263, □-264, □-265, □-267, □-268, □-269

De□cri□tion□□e□ □ D - □ri□□c□Indic□tor

3	□in□e, Fu□Morti□e	T□2714 (□i□e □□re□uired)	□□26D	M□	087100

1	□□t□roo□ □oc□, Indic□tor	AU R 8864F□ □C	626	YA	087100
1	C□inder (ma tch e□i□tin□)	T□□e & □i□e (as re□uired)		OT	
1	□urf□ce C□o□er	3301 D□	689	YA	087100
1	Wall □to□	409	US 26D	RO	087100
3	□i□encer	608/609		RO	087100

Set: A-2.1

Door□: A-166, A-266

De□cri□tion: New □ D - □rin□□Roo□

3	□in□e, Fu□□Morti□e, Hvy □ t	T4□3386 (□i□e as re□uired)	US 32D	M□	087100
1	□u□□□□te	□F 111□70C	US 32D-MS	RO	087100
1	Push Pla te	70C-R□□	US 32D-MS	RO	087100
1	Foot Pull	F□1230	US 32D-MS	RO	087100
1	□urf□ce C□o□er	3301 D□	689	YA	087100
1	□ic□ Pla te	K1050 10" □i□□CSK	US 32D	RO	087100
1	Mo□ Pla te	K1050 6" high CSK	US 32D	RO	087100
1	□ □□□to□	409	US 26D	RO	087100
3	□i□encer	608/609		RO	087100

E□D OF □ECTIO□ 080671

□ECTIO□ 088000 - GLAZ ING

□□RT 1 - □E□ER□□

1.1 □□MM□R□

A. □ection Inc□ude□:

1. Glass □roduct□.
2. □□□ in□ted glass .
3. In□u□□tin□ glass .
4. Glaz ˙ng s ɜala nts.
5. □ □□□in□ t□□e□.
6. Mi□ce□□neou□ glaz ˙ng □ □teri□□.

B. Re□□ted Re□uire□ent□:
1. □ection 084126 "Al :Glass Entr□nce□ □nd □torefront□."
2. □ection 088113 "Decor□ti□e Gl ɟss Glaz ˙ng."
3. □ection 088300 "Mirror□."

1.2 DEFI□ITIO□□

A. Glass M□nuf□cturer□: Fir□ □t□□t □roduce □ri□ □r□ glass , f□□ric□ted gl ɟss, or □ot□, as defined in referenced □□□in□ □u□ic□tion□.

B. Glass T□ic□ne□□e□: Indic□ted by t□ic□ne□□ de□i□n□tion□ in □i□i□eter□ in □ccord□nce □it□ □□TM C1036.

C. I□C: Intern□tion□□□uid□in□ Code.

D. Inter□□□ce: □□□ce □et□een □ite□of □n ins ɹla ting-glass unit.

1.3 COORDI□□TIO□

A. Coordin□te □□□in□ c□□nne□di□en□ion□ to □ro□ide nece□□r□ □ite on □□□□, □ini□u□ ed□e □nd f□ce c□e□r□nce□, □nd □de□u□te □e□□nt t□ic□ne□□e□, □it□ re□□on□□e to□er□nce□ to □c□ie□e □ro□er □□fet□ □ □r□in□ for glaz ˙ng retention under e□c□ de□i□n □o□d c□□e, □o□d c□□e co□ □in□tion, □nd □er□ice condition.

1.4 □CTIO□ SUB MITTALS

A. □roduct D□t□: For e□c□t□□e of □roduct.

B. □u□t□in□□□e De□i□n Submittals:

C. Glass Samp □es □For e□c□ t□□e of g□ss □roduct ot□er t□□n c□e□r □ono□it□ic □i□ion glass; 12 inc□e□ □□u□re.

D. Glaz ˙ng □cce□□or□ Samp □es: For s ɜala nts, in 12-inc□ □en□t□□.

E. □ □□□in□ □c□edu□e□□i□t □□□□□ t□□e□ □nd t□ic□ne□□e□ for e□c□ □i□e o□enin□ □nd □oc□tion. □□e □□□e de□i□n□tion□ indic□ted on Dr□□in□□.

F. De□e□□ted De□i□n □u□□itt□□□For □□□□□□ indic□ted to co□ □□□□ □it□ □erfor□ □nce re□uire□ent□ □nd de□i□n criteri□, inc□udin□ □n□□□□i□ d□t□ □i□ned □nd □e□□ed □□ □u□ified □rofe□□ion□□en□ineer re□□on□i□□e for t□eir □re□□r□tion.

1.5 I□FORM□TIO□□□ □□□MITT□□□

□. □u□ific□tion D□t□□For □ □nuf□cturer□ of f□□ric□ted □□□□□□ unit□.

□. □roduct Certific□te□□For □□□□□□.

C. □roduct Te□t Re□ort□□ For f□□ric□ted □□□□□□ □nd □□□□in□ □e□□□nt□, for te□t□ □erfor□ed □□ □ □u□ified te□tin□ □□enc□.

1. For □□□□in□ □e□□□nt□, □ro□ide te□t re□ort□ □□□ed on te□tin□ current □e□□□nt for□ u□□tion□ □it□in □re□iou□ 36-□ont□ □eriod.

D. □recon□truction □d□e□ion □nd co□ □□ti□it□ te□t re□ort.

E. □□□ □□e □ □rr□ntie□□For □□eci□□□ □rr□ntie□.

1.6 □ □□□IT□ □□□□R□□CE

□. F□□ric□ted-□ □□□□□ M□nuf□cturer □u□ific□tion□□□ □u□ified □ □nuf□cturer of f□□ric□ted □□□□□□ unit□ □□o i□ □□□ro□ed □□ □ri□ □r□ □□□□□□ □ □nuf□cturer.

□. In□t□□er □u□ific□tion□□□ □u□ified □□□□in□ contr□ctor for t□i□ □ro□ect □□o i□ certified under t□e □ort□ □□eric□n Contr□ctor Certific□tion □ro□r□□ (□□CC) for □rc□itectur□□ □□□□□□ □ Met□□ (□□□M) contr□ctor□ □nd □□o e□ □□o□□ □□□□in□ tec□nici□n□ certified under t□e □rc□itectur□□ □□□□□□ □nd Met□□Tec□nici□n (□□MT) certific□tion □ro□r□□.

C. □□□□□ Te□tin□ □□enc□ □u□ific□tion□□ □ □u□ified inde□endent te□tin□ □□enc□ □ccredited □ccordin□ to t□e □FRC C□□ 1 Certific□tion □□enc□ □ro□r□□.

D. □e□□□nt Te□tin□ □□enc□ □u□ific□tion□□ □n inde□endent te□tin□ □□enc□ □u□ified □ccordin□ to □□TM C1021 to conduct t□e te□tin□ indic□ted.

1.7 DE□IVER□, □TOR□□E, □□D □□□D□l□□

□. □rotect □□□□in□ □ □teri□□□ in □ccord□nce □it□ □ □nuf□cturer□□ □ritten in□truction□. □re□ent d□□ □□e to □□□□□□ □nd □□□□in□ □ □teri□□□ fro□ conden□□tion, te□ □er□ture c□□n□e□, direct e□□o□ure to □un, or ot□er c□u□e□.

□. Co□ □□□ □it□ in□u□□tin□-□□□□□□ □ □nuf□cturer□□ □ritten in□truction□ for □entin□ □nd □e□in□ unit□ to □□oid □er□etic □e□□ru□ture□ due to □titude c□□n□e.

1.8 FIE□D CO□DITIO□□

A. En□iron□ent□□ □i□it□tion□: Do not □roceed □it□ glaz□ng □□en □□ □ient □nd □u□□tr□te te□ □er□ture condition□ □re out□ide i□ it□ □er□itted by □□□in□ □ □teri□□□ □nuf□cturer□ □nd □□en glaz□ng c□□nne□□u□□tr□te□ □re □et fro□ r□in, fro□t, conden□□tion, or ot□er c□u□e□.

1. Do not in□t□□□glaz□ng s□ala□nts □□en □□ □ient □nd □u□□tr□te te□ □er□ture condition□ □re out□ide i□ it□ □er□itted by □e□□□nt □ □nuf□cturer or □re □e□o□ 40 de□ F.

1.9 WA RRAN TY

A. M□nuf□cturer'□ □□eci□□□ □rr□nt□ for Co□ted-□ □□□□ □roduct□: M□nuf□cturer □□ree□ to re□□□ce co□ted-□□□□□ unit□ t□□t deterior□te □it□in □□ecified □□rr□nt□ □eriod. Deterior□tion of co□ted g□ass i□ defined as defect□ de□e□o□ed fro□ nor□ □□u□e t□□t □re not □ttri□uted to glass b reakag e or to □ □int□inin□ □nd c□e□nin□ co□ted glass contr□r□ to □ □nuf□cturer'□ □ritten in□truction□. Defect□ inc□ude □ee□in□, cr□c□in□, □nd ot□er indic□tion□ of deterior□tion in co□tin□.

1. □ □rr□nt□ □eriod: 10 y□ars fro□ d□te of □u□□t□nti□□Co□ □□etion.

B. M□nuf□cturer'□ □□eci□□ □ □rr□nt□ for □□□in□ted Glass: M□nuf□cturer □□ree□ to re□□□ce □□□in□ted-□□□□□ unit□ t□□t deterior□te □it□in □□ecified □□rr□nt□ □eriod. Deterior□tion of □□□in□ted g□ass i□ defined as defect□ de□e□o□ed fro□ nor□ □□u□e t□□t □re not □ttri□uted to glass b reakag e or to □ □int□inin□ □nd c□e□nin□ □□□in□ted gl□ss contr□r□ to □ □nuf□cturer'□ □ritten in□truction□. Defect□ inc□ude ed□e □e□□r□tion, de□□□in□tion □ □teri□□□ o□□tructin□ □i□ion t□rou□□ glass , □nd □e□ i□□e□ e□ceedin□ t□o□e □□o□ed □□referenced □□□in□ted-□□□□□ t□nd□rd.

1. □ □rr□nt□ □eriod: 10 y□ars fro□ d□te of □u□□t□nti□□Co□ □□etion.

C. M□nuf□cturer'□ □□eci□□ □ □rr□nt□ for In□u□□tin□ Glass: M□nuf□cturer □□ree□ to re□□□ce ins□lating-glass unit□ t□□t deterior□te □it□in □□ecified □□rr□nt□ □eriod. Deterior□tion of in□u□□tin□ g□□ss i□ defined as f□i□ure of □er□etic □e□□under nor□ □□u□e t□□t i□ not □ttri□uted to g□□ss b reakag e or to □ □int□inin□ □nd c□e□nin□ in□u□□tin□ glass contr□r□ to □ □nuf□cturer'□ □ritten in□truction□. E□idence of f□i□ure i□ o□□truction of □i□ion by du□t, □oi□ture, or fi□□ on interior □urf□ce□ of glass .

1. □ □rr□nt□ □eriod: 10 y□ars fro□ d□te of □u□□t□nti□□Co□ □□etion.

D. M□nuf□cturer□□ □□eci□□□ □rr□nt□ for □e□t-□o□□ed Te□ □ered Glass □M□nuf□cturer □□ree□ to re□□□ce □e□t-□o□□ed te□ □ered g□□ss unit□ t□□t □□ont□neou□□□ break due to nic□e □□ufide (NiS) inc□u□ion□ □t a r□te e□ceedin□ 0.3 □ercent (3/1000) □it□in □□ecified □□rr□nt□ □eriod. Co□er□□e for any ot□er c□u□e i□ e□c□uded.

1. □ □rr□nt□ □eriod: 10 y□ars fro□ d□te of □u□□t□nti□□Co□ □□etion.

□□RT 2 - □ROD□CT□

2.1 M□□□F□CT□RER□

A. □ource □i□it□tion□ for Glass: O□t□in glass fro□ □in□e □ource fro□ □in□e □ □nuf□cturer.

B. □ource □i□it□tion□ for □□□in□ □cce□□orie□: For e□c□ □roduct □nd in□t□□□tion □et□od, o□t□in fro□ □in□e □ource fro□ □in□e □ □nuf□cturer.

2.2 □ERFORM□□CE RE□□IREME□T□

A. □ener□: In□t□□ed glaz'ng sys□ems shall □it□□t□nd nor□ □□t□er□ □□□o□e□ent □nd □ind □nd i□ □□ct lo□d□ (□□ere □□□ic□□e) □it□out f□i□re, inc□din□ lo□□ or glass b□reakag□ □ttri□ut□□e to defecti□e □□nuf□cture, f□□ric□tion, or in□t□□□tion; f□i□re of s□alan□s or gask□ts to re□□in □□terti□□t □nd □irti□□t; deterior□tion of glaz'ng □□teri□□; or ot□er defect□in con□truction.

B. De□e□□ted De□i□n: En□□□e a □u□ified □rofe□□ion□□en□ineer, as defined in □ection 014000 "□u□it□ Re□uire□ent□," to de□i□n glaz'ng.

C. □tructur□□ □erfor□ □nce: Glaz'ng shall □it□□t□nd t□e fo□lo□in□ de□i□n lo□d□ □it□in li□it□ □nd under condition□ indic□ted deter□ined in □ccord□nce □it□ t□e I□C □nd □□TM E1300:

1. De□i□n □ind □re□□ure□: As indic□ted on Dr□□in□□.

   a. □ind De□i□n D□t□: As indic□ted on Dr□□in□□.
   b. Bas'c □ind □□eed: 90 mph.
   c. I□ □ort□nce F□ctor: 1.0.
   d. E□□o□ure C□te□or: B.

2. De□i□n □no□ lo□d□: As indic□ted on Dr□□in□□.
3. □ro□□□i□it□ of Breakag□ for □lo□ed Glaz'ng: For glass □lo□ed □ore t□□n 15 de□ree□ fro□ □ertic□, de□i□n glass for a □ro□□□i□it□ of breakag□ not □re□ter t□□n 0.001.
4. M□□i□u□ □□ter□□Defection: For glass □u□□orted on all four ed□e□, li□it center-of-□□□□□ defection □t de□i□n □ind □re□□ure to not □ore t□□n 1/50 ti□e□ t□e □□ort-□ide □en□t□ or 1 inc□, □□ic□e□er i□ □e□.
5. T□er□ □□□lo□d□: De□i□n □□□□in□ to re□i□t t□er□ □□□tre□□ □re□□□□e induced by differenti□□ te□ □er□ture condition□ □nd li□ited □ir circu□tion □it□in indi□idu□□ glass li□te□ □nd in□u□□ted glaz'ng unit□.

D. □□fet□ Glaz'ng: □ □ere □□fet□ glaz'ng i□ indic□ted, □ro□ide glaz'ng t□□t co□□ie□ □it□ 16 CFR 1201, C□te□or□ II.

E. T□er□ □□ □nd O□tic□□ □erfor□ □nce □ro□ertie□: □ro□ide glass □it□ □erfor□ □nce □ro□ertie□ □□ecified, as indic□ted in □ □nuf□cturer'□ □u□i□□ed te□t d□t□, bas□d on □rocedure□ indic□ted □e□o□:

1. For □ono□it□ic-□□□□□ li□te□, □ro□ertie□ □re □□□ed on unit□ □it□ li□te□ 6 mm t□ic□.
2. For lam□nated-glass li□te□, □ro□ertie□ □re bas□d on □roduct□ of con□truction indic□ted.
3. For ins□lating-glass unit□, □ro□ertie□ □re bas□d on unit□ of t□ic□ne□□ indic□ted for o□er□□□ unit □nd for e□c□ li□te.
4. □-F□ctor□: Center-of-□□□□in□ □□ue□, in □ccord□nce □it□ □FRC 100 □nd bas□d on □o□t current non-□et□ □er□ion of LBL's □ I□DO□ co□□uter □ro□r□□, e□□re□□ed as B tu/sq. ft. x h x de□ F.
5. SHGC □nd Vi□i□le Tr□n□□itt□nce: Center-of-□□□□in□ □□ue□, in □ccord□nce □it□ □FRC 200 □nd □□□ed on □o□t current non-□et□ □er□ion of LBL's □ I□DO□ co□□uter □ro□r□□.
6. Vi□i□le Ref□ect□nce: Center-of-□□□□in□ □□ue□, in □ccord□nce □it□ □FRC 300.

F. □cou□tic □erfor□ □nce:

1. E□terior Glaz'ng: 28 OITC.
2. Interior Glaz'ng: 35 □TC.

2.3 GLASS □ROD□CT□, □E□ER□□

A. Glaz ng □u□ic□tion□: Co□ply □it□ □u□i□□ed reco□ □end□tion□ of glass □roduct □ □nuf□cturer□ □nd or□□ni□□tion□ □e□ un□e□ □ore □trin□ent re□uire□ent□ □re indic□ted. □ee t□e□e □u□ic□tion□ for glaz ng ter□ □not ot□er□i□e defined in t□i□ □ection or in referenced □t□nd□rd□.

1. NGA □u□ic□tion□: "□□□ in□ted Glaz ng Reference M□nu□" □nd "Glaz ng M□nu□."
2. AA MA □u□ic□tion□: AA MA G DSG-1, "Glass De□i□n for □o□ed Glaz ng," □nd AA MA TIR A7, "□o□ed Glaz ng □uide□ine□."
3. I□M□ □u□ic□tion for □o□ed □□□in□: I□M□ T□-3001, "□uide□ine□ for □o□ed Glaz ng."
4. I□M□ □u□ic□tion for In□u□tin□ Glass: S IGMA TM-3000, "□ort□ □□eric□n Glaz ng □uide□ine□ for □e□ed In□u□tin□ Glass □nit□ for Co□ □erci□□□nd Re□identi□□Us e."

B. □□fet□ □□□in□ □□□e□in□: □ □ere □□fet□ glaz ng i□ indic□ted, □er□ □nent□□ ma rk □□□in□ □it□ certific□tion lab el of t□e □□CC or □not□er certific□tion □□enc□ □cce□t□□e to □ut□oritie□ hav ng □uri□diction. Lab el shall indic□te □ □nuf□cturer' n□□e, t□□e of glass , t□ic□ne□□, □nd □□fet□ glaz ng □t□nd□rd □it□ wh ich glass co□ □ie□.

C. In□u□tin□-□□□□ Certific□tion □ro□r□□: □er□ □nent□□ □ □r□ed eit□er on □□□cer□ or on □t □e□t one co□ □onent □ite of unit□ □it□ □□□ro□ri□te certific□tion lab el of t□e I□CC.

D. T□ic□ne□□: □ □ere glass t□ic□ne□□ i□ indic□ted, it i□ a □ini□u□. □ro□ide glass t□□t co□ □ie□ □it□ □erfor□ □nce re□uire□ent□ □nd i□ not □e□□t□□n t□ic□ne□□ indic□ted.

1. Mini□u□ G ass T□ic□ne□□ for E□terior □ite□: 6 mm .
2. T□ic□ne□□ of Tinted Glass: □ro□ide sam e t□ic□ne□□ for e□c□ tint co□or indic□ted t□rou□□out □ro□ect.

E. □tren□t□: □ □ere □nne□□ed fl□t glass i□ indic□ted, □ro□ide □nne□□ed fl□t glass , □e□t-□tren□t□ened fl□t □□□□, or fu□□□te□ □ered fl□t g□□ss . □ □ere □e□t-□tren□t□ened fl□t g□□ss i□ indic□ted, □ro□ide □e□t-□tren□t□ened fl□t glass or fully te□ □ered fl□t glass . □ □ere fully te□ □ered fl□t glass i□ indic□ted, □ro□ide fully te□ □ered fl□t glass .

2.4 GLASS □ROD□CT□

A. C□e□r □nne□□ed F□□t Glass: □□TM C1036, T□□e I, Class 1 (c□e□r), □u□it-□3.

1. M□nuf□cturer□: □u□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ by one of t□e fo□□o□in□:

   a. AG C Glass Co□ □□n□ □ort□ □□eric□, Inc.
   b. C□rdin□□ Glass Indu□trie□.
   c. □u□rdi□n □lass; □un□u□rd.
   d. □i□in□ton □ort□ □□eric□.
   e. Vitro □rc□itectur□□ Glas .

B. Fully Te□ □ered F□□t Glass: □□TM C1048, □ind FT (fully te□ □ered), Condition A (unco□ted) un□e□□ot□er□i□e indic□ted, T□□e I, Class 1 (c□e□r) or Class 2 (tinted) as indic□ted, □u□it-□3.

1. F□□ric□tion □roce□□: By □ori□ont□□ (ro□er-□e□rt□) □roce□□ □it□ ro□+□□□e di□tortion □r□□e□ to □otto□ ed□e of g ass as in□t□□ed un□e□□ot□er□i□e indic□ted.

C. □e□t-□tren□t□ened F□o□t □ □□□□□□ □□TM C1048, □ind □□ (□e□t □tren□t□ened), T□□e I, Condition □ (unco□ted) un□e□□ ot□er□i□e indic□ted, T□□e I, C□□□□□ 1 (c□e□r) or C□□□□□ 2 (tinted) □□ indic□ted, □u□it□-□3.

1. F□□ric□tion □roce□□□□□ □ori□ont□□(ro□□er-□e□rt□) □roce□□ □it□ ro□+□ □□e di□tortion □□r□□e□ to □otto□ ed□e of □□□□□□ □□in□t□□ed un□e□□ ot□er□i□e indic□ted.

D. Ref□ecti□e- □nd □o□-E-Co□ted Vi□ion □ □□□□□□□□TM C1376.

1. M□nuf□cturer□□□u□□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ □□ one of t□e fo□□o□in□□

□. C□rdin□□□ □□□□ Indu□trie□.
□. □u□rdi□n □ □□□□□□□un□u□rd.
c. □i□□in□ton □ort□ □□eric□.
d. Vir□con, Inc.
e. Vitro □rc□itectur□□□ □□□□.

E. Cer□□ic-Co□ted Vi□ion □ □□□□□□ □□TM C1048, Condition C, T□□e I, C□□□□□ 1 (c□e□r) or C□□□□□ 2 (tinted) □□ indic□ted, □u□it□-□3□ □nd co□ □□□in□ □it□ □□ecific□tion □o. 95-1-31 in □□ □□□□ "En□ineerin□ □t□nd□rd□ M□nu□□."

F. Cer□□ic-Co□ted □□□ndre□□ □□□□□□□□TM C1048, T□□e I, Condition □, □u□it□-□3.

□. Ref□ecti□e- □nd □o□-E-Co□ted □□□ndre□□ □□□□□□□□TM C1376, □ind C□.

2.5 □□MI□□TED □ □□□□

□. □□□□in□ted □ □□□□□□ □□TM C1172. □□e □ □teri□□□ t□□t □□□e □ □ro□en record of no tendenc□ to □u□□e, di□co□or, or □o□e □□□□ic□□□nd □ec□□nic□□□ro□ertie□ □fter f□□ric□tion □nd in□t□□□tion.

1. M□nuf□cturer□□□u□□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ □□ one of t□e fo□□o□in□□

□. E□□t□ □n C□e□ic□□Co□ □□n□.
□. □ur□r□□ □□eric□, Inc.

2. Con□truction□ □□□□in□te □□□□□□ □it□ □o□□□in□□ □ut□r□□inter□□□er to co□ □□□□ □it□ inter□□□er □ □nuf□cturer□□ □ritten in□truction□.
3. Inter□□□er T□ic□ne□□□ □ro□ide t□ic□ne□□ not □e□□ t□□n t□□t indic□ted □nd □□ needed to co□ □□□□ □it□ re□uire□ent□.
4. Inter□□□er Co□or□C□e□r un□e□□ ot□er□i□e indic□ted.

2.6 I□□□□□TI□□ □ □□□□

□. In□u□□tin□-□ □□□□ □nit□□F□ctor□-□□□e□ □ed unit□ con□i□tin□ of □e□ed □ite□ of □□□□□ □e□□r□ted □□ □de□□dr□ted inter□□□ce, □u□ified in □ccord□nce □it□ □□TM E2190.

1. □e□in□ □□□te□ □ Du□□ □e□, □it□ □ □nuf□cturer□□ □t□nd□rd □ri□□r□ □nd □econd□r□ □e□□□nt□.
2. □eri□eter □□□cer□ M□nuf□cturer□□ □t□nd□rd □□□cer □ □teri□□□nd con□truction.

3. De□icc□nt□Mo□ecu□□r □ie□e or □i□c□ □e□, or □ □□end of □ot□.

2.7 □□□□I□□ □E□□□□T□

□. □ener□□□

1. Co□ □□ti□it□□ Co□ □□ti□e □it□ one □not□er □nd □it□ ot□er □ □teri□□□ t□e□ cont□ct, inc□udin□ □□□□□□ □roduct□, □e□□□ of in□u□□tin□-□□□□□□ unit□, □nd □□□□in□ c□□nne□□u□□tr□te□, under condition□ of □er□ice □nd □□□□ic□tion, □□ de□on□tr□ted □□ □e□□□nt □ □nuf□cturer □□□ed on te□tin□ □nd fie□d e□□erience.
2. □uit□□i□it□□Co□ □□□ □it□ □e□□□nt □nd □□□□□□ □ □nuf□cturer□□□ritten in□truction□ for □e□ectin□ □□□□in□ □e□□□nt□ □uit□□□e for □□□□ic□tion□ indic□ted □nd for condition□ e□i□tin□ □t ti□e of in□t□□□tion.
3. Co□or□ of E□□o□ed □□□□in□ □e□□□nt□□ □□ □e□ected □□ □rc□itect fro□ □ □nuf□cturer□□□ fu□□ r□n□e of indu□tr□ co□or□.

□. □eutr□-Curin□ □i□icone □□□□in□ □e□□□nt, C□□□□ 100/50□Co□ □□□in□ □it□ □□TM C920, T□□e □, □r□de □□, □□e □T.

2.8 □□□□I□□ T□□E□

□. □□c□-□eddin□ M□□tic □□□□in□ T□□e□□ □refor□ed, □ut□-□□□ed, 100 □ercent □o□id□ e□□□to□eric t□□e□non□t□inin□ □nd non□i□r□tin□ in cont□ct □it□ non□orou□ □urf□ce□□□it□ or □it□out □□□cer rod □□ reco□ □ended in □ritin□ □□□t□□e □nd □□□□□□ □ □nuf□cturer□ for □□□□ic□tion indic□ted□□nd co□ □□□in□ □it□ □□TM C1281 □nd □□M□ 800 for □roduct□ indic□ted □e□o□□

1. □□M□ 804.3 t□□e, □□ere indic□ted.
2. □□M□ 806.3 t□□e, for □□□□in□ □□□□ic□tion□ in □□ic□ t□□e i□ □u□□ect to continuou□ □re□□ure.
3. □□M□ 807.3 t□□e, for □□□□in□ □□□□ic□tion□ in □□ic□ t□□e i□ not □u□□ect to continuou□ □re□□ure.

□. E□□□nded Ce□u□r □□□□in□ T□□e□□C□o□ed-ce□□ □VC fo□□ t□□e□□f□ctor□ co□ted □it□ □d□e□i□e on □ot□ □urf□ce□□□nd co□ □□□in□ □it□ □□M□ 800 for t□e fo□o□in□ t□□e□□

1. □□M□ 810.1, T□□e 1, for □□□□in□ □□□□ic□tion□ in □□ic□t□□e □ct□□□ ri□ r□ □e□□□nt.
2. □□M□ 810.1, T□□e 2, for □□□□in□ □□□□ic□tion□ in □□ic□t□□e i□u□ed in co□ □in□tion □it□ □ fu□□e□d of □□uid □e□□□nt.

2.9 MI□CE□□□□EO□□ □□□□I□□ M□TERI□□□

□. □ener□□□ □ro□ide □roduct□ of □ □teri□□, □i□e, □nd □□□□□e co□ □□□in□ □it□ referenced □□□□in□ □t□nd□rd, reco□ □ended in □ritin□ □□□ □ □nuf□cturer□ of □□□□□□ □nd ot□er □□□□in□ □ □teri□□□ for □□□□ic□tion indic□ted, □nd □it□ □ □ro□en record of co□ □□ti□it□ □it□ □urf□ce□ cont□cted in in□t□□□tion.

□. C□e□ner□, □ri□er□, □nd □e□□er□□T□□e□reco□ □ended □□ □e□□□nt or □□□□□et □ □nuf□cturer.

C. □ettin□ □□oc□□□

1. □it□ □□ore □ duro□eter □□rdne□□ of 85, □u□□or □inu□5.
2. T□□e reco□ □ended in □ritin□ □□□ □e□□□nt or □□□□□□ □ □nuf□cturer.

D. □□□cer□□

1. □eo□rene □oc□□ or continuou□ e□tru□ion□ of □□rdne□□ re□uired by glass □ □nuf□cturer to □ □int□in glass ite□ in □□ce for in□t□□□tion indic□ted.
2. T□□e reco□ □ended in □ritin□ by □e□□□nt or gl ss □ □nuf□cturer.

E. Ed□e □oc□□:

1. □ii□icone □it□ □□ore A duro□eter □□rdne□□ □er □ □nuf□cturer'] □ritten in□truction□.
2. T□□e reco□ □ended in □ritin□ by □e□□□nt or glass □ □nuf□cturer.

F. C□indric□□□ □□□□in□ □e□□□nt □□c□in□: □□TM C1330, T□□e O (o□en-ce□□ □teri□□), of □i□e □nd den□it□ to contro□ □□□□in□ □e□□□nt de□t□ □nd ot□er□i□e □roduce o□ti□u□ glaz ng □e□□□nt □erfor□ □nce.

2.10 F□□RIC□TIO□ OF GLAZ ING UN ITS

A. F□□ric□te glaz ng unit□ in □i□e□ re□uired to fit o□enin□□ indic□ted for □ro□ect, □it□ ed□e □nd f□ce c□e□r□nce□, ed□e □nd □urf□ce condition□, □nd □ite co□ □□□in□ □it□ □ritten in□truction□ of □roduct □ □nuf□cturer □nd referenced □□□□in□ □u□ic□tion□, to co mply □it□ sys :e m □erfor□ □nce re□uire□ent□.

1. □□o□ for t□er□ □□□□o□e□ent□ fro□ □□ ient □nd □urf□ce te□ □er□ture c□□n□e□ □ctin□ on glass fr□□in□ □e□ □er□ □nd □□□□in□ co□ □onent□.

a. Te□ □er□ture C□□n□e: 120 de□ F, □□ ient; 180 de□ F, □ □teri□□□urf□ce□.

B. C□e□n-cut or f□□t-□rind □ertic□□ed□e□ of □utt-□□□□ed □ono□it□ic □ite□ to □roduce □□u□re ed□e□ □it□ □i□□t c□□□fer□ □t □unction□ of ed□e□ □nd f□ce□.

C. □rind □□oot□ □nd □o□i□□ e□□o□ed glass ed□e□ □nd corner□.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

A. E□□□ine fr□□in□, □□□□in□ c□□nne□□, □nd □to□□, □it□ In□t□□er □re□ent, for co□ □i□nce □it□ t□e fo□o□in□:

1. M□nuf□cturin□ □nd in□t□□□tion to□er□nce□, inc□udin□ t□o□e for □i□e, □□u□rene□□, □nd off□et□ □t corner□.
2. □re□ence □nd functionin□ of □ee□ sys :e ms.
3. Mini□u□ re□uired f□ce □nd ed□e c□e□r□nce□.
4. Effecti□e □e□in□ □et□een □oint□ of glass -fram ing □e□ □er□.

□. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□ f□ctor□ condition□ hav e □een corrected.

3.2 □RE□□R□TIO□

A. C□e□n glaz ng c□□nne□□ □nd ot□er fr□□in□ □e□ □er□ receiv□in□ g□ass i□ □□edi□te□□ □efore glaz ng. Re□o□e co□tin□□ not fir□ □□ □onded to □u□□tr□te□.

B. E□□□ine □□□in□ unit□ to □oc□te e□terior □nd interior □urf□ce□. La□el or mark unit□ as needed □o t□□t e□terior □nd interior □urf□ce□ □re re□di□ identifi□□e. Do not u□e □ □teri□□ t□□t □e□e □i□□ marks in t□e co□ □eted □or□.

3.3 GLAZ ING, □E□ER□□

A. Co mply □it□ co□ □ined □ritten in□truction□ of □ □nuf□cturer□ of g□□ss, s□alants, □□□□et□, □nd ot□er glaz ing □ □teri□□, un□e□ □ore □trin□ent re□uire□ent□ □re indic□ted, inc□udin□ t□o□e in referenced glaz ing □u□ic□tion□.

B. □rotect glass ed□e□ fro□ damag e durin□ □□nd□in□ □nd in□t□□□tion. Re□o□e d□□ □□ed glass fro□ □ro□ect □ite □nd e□□□□ di□□o□e of off □ro□ect □ite. D□□ □□ed glass inc□ude□ glass □it□ ed□e damag e or ot□er i□ □erfection□ t□□t, □□en in□t□□ed, cou□d □e□□en glas□, i□ □□ir □erfor□ nce, or i□ □□ir □□□e□r□nce.

C. Apply □ri□er□ to □oint □urf□ce□ □□ere re□uired for □d□e□ion of □e□□□nt□, as deter□ined by □recon□truction te□tin□.

D. In□t□□□ □ettin□ □oc□□ in s□ll r□□□et□, □i□ed □nd □oc□ted to co mply □it□ referenced glaz ing □u□ic□tion□, un□e□ ot□er□i□e re□uired by g □□ss □ □nuf□cturer. □et □oc□□ in t□in cour□e of co□ □□ti□e □e□□□nt □uit□□e for □ee□□e□d.

E. Do not e□ceed ed□e □re□□ure□ □ti□u□□ted by glass □ □nuf□cturer□ for in□t□□in□ glass □ite□.

F. □ro□ide □□□cer□ for glass □ite□ □□ere □en□t□ □u□ □idt□ i□ □□r□er t□□n 50 inc□e□.

1. □oc□te □□□cer□ direct□□ o□□o□ite e□c□ ot□er on ot□ in□ide □nd out□ide f□ce□ of glas□. In□t□□correct □i□e □nd □□□cin□ to re□er□e re□uired f□ce c□e□r□nce□, un□e□ gask ets □nd glaz ing tapes □re u□ed t□□t hav e de□on□tr□ted □□i□t□ to □ □int□in re□uired f□ce c□e□r□nce□ □nd to co mply □it□ sys em □erfor□ nce re□uire□ent□.
2. □ro□ide 1/8-inc□-□ini□u□ □ite of □□□cer□ on g□□ss □nd u□e t□ic□ne□□ equal to □e□□□nt □idt□. □ it□ □□□in□ t□□e, u□e t□ic□ne□□ □i□□t□□ e□□ t□□n fin□□co□ re□□ed t□ic□ne□□ of t□□e.

G. □ro□ide ed□e □oc□in□ □□ere indic□ted or needed to re□□ent glass □ite□ fro□ □o□in□ s□deways in glaz ing c□□nne□, as reco□ □ended in □ritin□ by glass □ □nuf□cturer □nd in □ccord□nce □it□ re□uire□ent□ in referenced glaz ing □u□ic□tion□.

H. □et g□□ss □ite□ in e□c□ □erie□ □it□ unifor□ □□ttern, dr□□, □o□, □nd □i□i□r c□□r□cteri□tic□.

I. □et glass □ite□ □it□ r□o□er orient□tion □o t□□t co□tin□□ f□ce e□terior or interior as □□ecified.

□. □ □ere □ed□e-□□□□ed □□□□et□ □re dri□en into one □ide of c□□nne□ to re□□uri□e □e□□□nt or □□□□et on o□□o□ite □ide, □ro□ide □de□u□te □nc□or□□e □o gask et c□nnot walk out □□en in□t□□□tion i□ □u□ected to □o□e□ent.

K. □□u□re cut □ed□e-□□□□ed gask ets □t corner□ □nd in□t□□ gask ets in a □ □nner reco□ □ended by □□□□et □ □nuf□cturer to re□ent corner□ fro□ □u□in□ away; s eal corner □oint□ □nd □utt □oint□ □it□ □e□□□nt reco□ □ended in □ritin□ by □□□□et □ □nuf□cturer.

3.4 T□□E □□□□l□□

□. □o□ition t□□e□on fi□ed □to□□ □o t□□t, □□en co□ □re□□ed □□ □□□□□□, t□eir e□□o□ed ed□e□ □re fu□□ □it□ or □rotrude □i□□t□□ □□o□e □i□□tine of □to□□.

□. In□t□□□t□□e□ continuou□□□□, □ut not nece□□□ri□□ in one continuou□ □en□t□. Do not □tretc□ t□□e□ to □ □□e t□e□ fit o□enin□.

C. Co□er □ertic□□fr□□ in□ □oint□ □□ □□□□□□in□ t□□e□ to □e□d□ □nd □i□□ firⅆ, t□en to □□□ □□. Co□er □ori□ont□□fr□□ in□ □oint□ □□ □□□□□□in□t□□e□ to □□□ □□, t□en to □e□d□ □nd □i□□.

D. □□ce □oint□ in t□□e□ □t corner□ of o□enin□ □it□ □d□oinin□ □en□t□□ □utted to□et□er, not □□□□ed. □e□□oint□ in t□□e□ □it□ co□ □□ti□e □e□□□nt □□□ro□ed □□t□□e □ □nuf□cturer.

E. Do not re□o□e re□e□□e □□□er fro□ t□□e unti□ri□□t □efore e□c□ □□□□in□ unit i□ in□t□□□ed.

F. □□□□□ □ee□□e□d of e□□□to□eric □e□□□nt.

□. Center □□□□□□ ite□ in o□enin□□ on □ettin□ □□oc□□, □nd □re□□ fir□ □□ □□□in□t t□□e □□ in□ertin□ den□e co□ □re□□ion □□□□et□ for□ed □nd in□t□□ed to □oc□ in □□□ce □□□in□t f□ce□ of re□o□□□e □to□□. □t□rt □□□□et □□□□ic□tion□ □t corner□ □nd □or□to□ □rd center□ of o□enin□□.

□. □□□□□ c□□ □e□d of e□□□to□eric □e□□□nt o□er e□□o□ed ed□e of t□□e.

3.5 □ □□□ET □ □□□l□□ (DR□)

□. Cut co□ □re□□ion □□□□et□ to □en□t□□ reco□ □ended □□ □□□□et □ □nuf□cturer to fit o□enin□□ e□□ct□□, □it□ □□□o□ □nce for □tretc□ durin□ in□t□□□tion.

□. In□ert □oft co□ □re□□ion □□□□et □et□een □□□□□ □nd fr□□e or fi□ed □to□ □o it i□ □ecure□ in □□□ce □it□ □oint□ □ iter cut □nd □onded to□et□er □t corner□.

C. In□t□□□tion □it□ Dri□e-in □ ed□e □ □□□et□□Center □□□□□ ite□ in o□enin□□ on □ettin□ □□oc□□, □nd □re□□ fir□ □□ □□□in□t □oft co□ □re□□ion □□□□et □□ in□ertin□ den□e co□ □re□□ion □□□□et□ for□ed □nd in□t□□ed to □oc□ in □□□ce □□□in□t f□ce□ of re□o□□□e □to□□. □t□rt □□□□et □□□□ic□tion□ □t corner□ □nd □or□to□ □rd center□ of o□enin□□. Co□ □re□□ □□□□et□ to □roduce □ □e□t□erti□□t □e□□ □it□out de□e□o□in□ □endin□ □tre□□e□ in □□□□□. □e□□□□□□□et □oint□ □it□ □e□□□nt reco□ □ended in □ritin□ □□ □□□□et □ □nuf□cturer.

D. In□t□□□tion □it□ □re□□ure-□□□□in□ □to□□□Center □□□□□ ite□ in o□enin□□ on □ettin□ □□oc□□, □nd □re□□ fir□ □□ □□□in□t □oft co□ □re□□ion □□□□et. In□t□□□den□e co□ □re□□ion □□□□et□ □nd □re□□ure-□□□□in□ □to□□, □□□□□□in□ □re□□ure unifor□ □□ to co□ □re□□ion □□□□et. Co□ □re□□ □□□□et□ to □roduce □ □e□t□erti□□t □e□□□it□out de□e□o□in□ □endin□ □tre□□e□ in □□□□□. □e□□□□□□□et □oint□ □it□ □e□□□nt reco□ □ended in □ritin□ □□ □□□□et □ □nuf□cturer.

E. In□t□□□□□□□et□ □o t□e□ □rotrude □□□t f□ce of □□□□in□ □to□□.

3.6 □E□□□□T □ □□□l□□ (□ ET)

□. In□t□□□continuou□ □□□cer□, or □□□cer□ co□ □ined □it□ c□indric□□□e□□□nt □□c□in□, □et□een □□□□□ ite□ □nd □□□□in□ □to□□ to □ □int□in □□□□□ f□ce c□e□r□nce□ □nd to □re□ent □e□□□nt fro□ e□trudin□ into □□□□□ c□□nne□□nd □oc□in□ □ee□ □□□te□ □ unti□□e□□□nt□ cure. □ecure □□□cer□ or □□□cer□

□nd □□c□in□□ in □□ce □nd in □o□ition to contro□de□t□ of in□t□□ed □e□□nt re□ti□e to ed□e c□e□r□nce for o□ti□u□ □e□□nt □erfor□□nce.

□. Force □e□□nt□ into □□□□in□ c□□nne□□ to e□i□in□te □oid□ □nd to en□ure co□ □□ete □ettin□ or □ond of □e□□nt to □□□□□ □nd c□□nne□□urf□ce□.

C. Too□e□□o□ed □urf□ce□ of □e□□nt□ to □ro□ide □ □u□□t□nti□□□ □□□□ □□ □□fro□ □□□□□.

3.7 C□E□□I□□ □□D □ROTECTIO□

□. I□ □edi□te□□ □fter in□t□□□tion, re□o□e non□er□ □nent □□e□□ □nd c□e□n □urf□ce□.

□. □rotect □□□□□ fro□ cont□ct □it□ cont□□ in□tin□ □u□□t□nce□ re□u□tin□ fro□ con□truction o□er□tion□. E□□□ine □□□□□ □urf□ce□ □d□□cent to or □e□o□ e□terior concrete □nd ot□er □ □□onr□ □urf□ce□ □t fre□uent inter□□□□ durin□ con□truction, □ut not □e□□t□□n once □ □ont□, for □ui□du□ of dirt, □cu□, □□□□ine de□o□it□, or □t□in□.

1. If, de□□ite □uc□ □rotection, cont□□ in□tin□ □u□□t□nce□ do cont□ct □it□ □□□□□, re□o□e □u□□t□nce□ i□ □edi□te□□ □□ reco□ □ended in □ritin□ □□ □□□□□ □ □nuf□cturer. Re□o□e □nd re□□□ce □□□□□ t□□t c□nnot □e c□e□ned □it□out d□□ □□e to co□tin□□.

C. Re□o□e □nd re□□□ce □□□□□ t□□t i□d□□ □□ed durin□ con□truction □eriod.

D. □ □□□ □□□□□ on □ot□ e□□o□ed □urf□ce□ not □ore t□□n four d□□□ □efore d□te □c□edu□ed for in□□ection□ t□□t e□t□□i□□ d□te of □u□□t□nti□□Co□ □□etion. □ □□□ □□□□□ □□ reco□ □ended in □ritin□ □□ □□□□□ □ □nuf□cturer.

E□D OF □ECTIO□ 088000

□ECTIO□ 088300 - MIRROR□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

A. □ection Inc□ude□:

1. □i□□ered f□□t glass □irror□.

B. Re□□ted Re□uire□ent□:

1. □ection 088000 "□□□□in□" for glass □it□ ref□ecti□e co□tin□□ u□ed for □i□ion □nd □□□ndre□ ite□.
2. □ection 102800 "Toi□et, □□t□, □nd □□undr□ □cce□□orie□" for □et□-fr□□ed □irror□.

1.2 □CTIO□ SUB MITTALS

A. □roduct D□t□: For e□c□t□□e of □roduct.

1. Mirror□: Inc□ude de□cri□tion of □ □teri□□□ □nd □roce□□ u□ed to □roduce e□c□ t□□e of □i□□ered f□□t glass □irror □□ecified t□□t indic□te□ □ource□ of glass , glass co□tin□ co□ □onent□, ed□e □e□□er, □nd □u□it□-contro□□ro□i□ion□.

B. □u□t□in□□e De□i□n □u□□itt□□:

C. Sh□p Dr□□in□□: Inc□ude □irror e□e□□tion□, ed□e det□i□□, □irror □□rd□□re, □nd □tt□c□□ent det□i□□.

D. Samp□es: For e□c□t□□e of t□e fo□□o□in□:

1. Mirror□: 12 inc□e□ □□u□re, inc□udin□ ed□e tre□t□ent on t□o □d□oinin□ ed□e□.
2. Mirror Ci□□: Fu□□i□e.
3. Mirror Tri□: 12 inc□e□ □on□.

1.3 I□FORM□TIO□□□ □□□MITT□□□

A. □u□ific□tion D□t□: For In□t□□er.

□. □roduct Certific□te□: For e□c□t□□e of □irror.

C. □recon□truction Te□t Re□ort□: Fro□ □irror □ □nuf□cturer indic□tin□ t□□t □irror □ □□tic was te□ted for co□ □□ti□it□ □nd □d□e□ion □it□ □irror □□c□in□ □nd □u□□tr□te□on which □irror□ □re in□t□□ed.

D. Samp□e □ □rr□nt□: For □□eci□□□ □rr□nt□.

1.4 C□O□EO□T □□□MITT□□□

A. M□inten□nce D□t□: For □irror□ to inc□ude in □ □inten□nce manuals.

1.5 □□□□IT□ □□□□□R□□CE

□. In□t□□er □u□ific□tion□□ □u□ified In□t□□er, □□o e□ □□o□□ □□□□□ in□t□□er□ for t□i□ □ro□ect □□o □re certified under t□e □□tion□□□ □□□□ □□□ociation□□ Certified □□□□□ In□t□□er □ro□r□□.

1.6 □RECO□□TR□CTIO□ TE□TI□□

□. □recon□truction Mirror M□□tic Co□ □□ti□it□ Te□t□ □u□□it □irror □ □□tic □roduct□ to □irror □ □nuf□cturer for te□tin□ to deter□ine co□ □□ti□it□ of □ □□tic □it□ □irror □□c□in□.

1. Te□tin□ i□ not re□uired if d□t□ □re □u□□itted □□□ed on □re□iou□ te□tin□ of □irror □ □□tic □roduct□ □nd □irror □□c□in□ □ □tc□in□ t□o□e □u□□itted.

1.7 DE□IVER□, □TOR□□E, □□D □□□D□I□□

□. □rotect □irror□ in □ccord□nce □it□ □irror □ □nuf□cturer□□ □ritten in□truction□ □nd □□ needed to □re□ent d□□ □□e to □irror□ fro□ □oi□ture, conden□□tion, te□ □er□ture c□□n□e□, direct e□□o□ure to □un, or ot□er c□u□e□.

□. Co□ □□□ □it□ □irror □ □nuf□cturer□□ □ritten in□truction□ for □□i□□in□, □torin□, □nd □□ndl□n□ □irror□ □□ needed to □re□ent deterior□tion of □i□□erin□, d□□ □□e to ed□e□, □nd □□r□□ion of □□□□□ □urf□ce□ □nd □□□□ied co□tin□□. □tore indoor□.

1.8 FIE□D CO□DITIO□□

□. En□iron□ent□□ □i□it□tion□□ Do not in□t□□ □irror□ unti□ □□ □ient te□ □er□ture □nd □u□idit□ condition□ □re □ □int□ined □t □e□e□ indic□ted for fin□□occu□□nc□.

1.9 □ □RR□□T□

□. □□eci□□ □ □rr□nt□□ M□nuf□cturer □□ree□ to re□□□ce □irror□ t□□t deterior□te □it□in □□ecified □□rr□nt□ □eriod. Deterior□tion of □irror□ i□ defined □□ defect□ de□e□o□ed fro□ nor□ □□u□e t□□t □re not □ttri□uted to □irror □re□□□□e or to □ □int□inin□ □nd c□e□nin□ □irror□ contr□r□ to □ □nuf□cturer□□ □ritten in□truction□. Defect□ inc□ude di□co□or□tion, □□□c□ □□ot□, □nd c□oudin□ of t□e □i□□er fi□□.

1. □ □rr□nt□ □eriod□ Fi□e □e□r□ fro□ d□te of □u□□t□nti□□Co□ □□etion.

□□RT 2 - □ROD□CT□

2.1 M□□□F□CT□RER□

□. M□nuf□cturer□□ □u□□ect to co□ □□i□nce □it□ re□uire□ent□, □ro□ide □roduct□ □□ one of t□e fo□□o□in□□

□. □rc□ □□u□inu□ □ □ □□□□Co., Inc.
□. □□□□on □□□□□ □nd Mirror Co□ □□n□.
c. □in□□□n□er Mirror□□ di□i□ion of Vitro □□eric□, Inc.

d. D & W Incor□or□ted
e. Doni□i Mirror Co□ □□n□.
f. □□rdner Glass , Inc.
g. □i□ded Mirror□, Inc.
h. □u□rdi□n Indu□trie□.
i. □e□d □ e□t.
j Inde□endent Mirror Indu□trie□, Inc.
k. □enoir Mirror Co□ □□n□.
l M□r□n-□ ur□e□Glass & Mirror.
m. □□tion□□Glass Indu□trie□.
n. □trou□e Mirror Co., Inc.
o. □un□□ine Mirror; □ e□t□□ore Glass Cor□.
p. Vir□ini□ Mirror Co□ □□n□, Inc.
q. Walk □r Glass Co., □td.

B. □ource □i□it□tion□ for Mirror□: O□t□in □irror□ fro□ □in□e □ource fro□ □in□e □ □nuf□cturer.

C. □ource □i□it□tion□ for Mirror □cce□□orie□: O□t□in □irror-□□□in□ □cce□□orie□ fro□ □in□e □ource.

2.2 □I□VERED F□□T GLASS MIRROR□

A. Mirror□, □ener□: □□TM C1503.

B. □nne□ed Mono□it□ic Glass Mirror□: Mirror □e□ect □u□it□, □o□-iron (□o□-iron) f□o□t glass □it□ a □ini□u□ 91 □ercent □i□i□e i□□t tr□n□□i□□ion.

1. □o□in□□T□ic□ne□□: 6.0 mm.

C. Te□ □ered Glass Mirror□: Mirror Glaz ing □u□it□ for □e□i□□ re□uire□ent□ □nd co□ □□□in□ □it□ □□TM C1048 for □ind FT, Condition A, te□ □ered f□o□t glass □efore □i□er co□tin□ i□ □□□ied; c□e□r.

1. □o□in□□T□ic□ne□□: 6.0 mm.

D. □□□in□ted Mirror□: □□TM C1172, T□□e II.

1. Glass for Outer □ite: □nne□ed f□o□t glass , Mirror □e□ect □u□it□, □o□-iron (□o□-iron) f□o□t glass □it□ a □ini□u□ 91 □ercent □i□i□e i□□t tr□n□□i□□ion.

2. □o□in□□T□ic□ne□□for Outer □ite: 6.0 mm.
3. Glass for Inner □ite: □nne□ed f□o□t glass; □□TM C1036, T□□e I (tr□n□□□rent f□□t glass), □u□it□-□3; Class 1 (c□e□r).
4. □o□in□□T□ic□ne□□: 6.0 mm.
5. Inter□□□er: Mirror □ □nuf□cturer'] t□nd□rd 0.030-inc□-t□ic□, c□e□r □o□□□in□-□ut□r□□ inter□□□er □it□ a □ro□en record of □□o□in□ no tendenc□ to de□□□in□te fro□, or c□u□e damag e to, □i□□er co□tin□.

E. □□fet□ Glaz ing □roduct□: For fi□□-□□c□ed □irror□, □ro□ide □roduct□ t□□t co mply □it□ 16 CFR 1201, C□te□or□ II.

2.3 MI□CE□□□□EO□□ M□TERI□□□

□. □ettin□ □oc□□□E□□□to□eric □ □teri□□□it□ □ □□ore, T□□e □ duro□eter □□rdne□□ of 85, □u□ or □inu□5.

□. Ed□e □e□er□Co□tin□ co□ □□ti□e □it□ □□□□□ co□tin□ □nd □□□ro□ed □□ □irror □ □nuf□cturer for u□e in □rotectin□ □□□in□t □i□□er deterior□tion □t □irrored □□□□□ed□e□.

C. Mirror M□□tic□□n □d□e□i□e □ettin□ co□ □ound, □□□e□to□-free, □roduced □□ecific□□□□ for □ettin□ □irror□ □nd certified □□ □ot□ □irror □nd □ □□tic □ □nuf□cturer □□ co□ □□ti□e □it□ □□□□□ co□tin□ □nd □u□□tr□te□on □□ic□ □irror□ □i□□□e in□t□□ed.

1. Fr□n□in Intern□tion□□□Tite□ond Di□i□ion.
2. □□urence, C. R. Co., Inc.
3. M□cco □d□e□i□e□□□i□uid □ i□□ Di□i□ion.
4. O□I □e□□□nt□, Inc.
5. □□□□er □roduct□ Cor□or□tion.
6. □ecor□ Cor□or□tion.
7. Ro□□□□d□e□i□e□□ □e□□□nt□□□unt□er Mirror M□□tic□ Di□i□ion.
8. □o□ □er □ M□c□ Indu□trie□, Inc.Fi□□

D. □□c□in□ for □□fet□ Mirror□□Fi□□ □□c□in□ □nd □re□□ure-□en□iti□e □d□e□i□e□□ot□ co□ □□ti□e □it□ □irror □□c□in□ □□int □□certified □□ □irror □ □nuf□cturer.

2.4 MIRROR □□RD□ □RE

□. □u□inu□ □-C□□nne□□□□u□inu□ e□tru□ion□ □it□ □ return dee□ enou□□ to □roduce □ □□□□in□ c□□nne□to □cco□ □od□te □irror□ of t□ic□ne□□ indic□ted □nd in □en□t□□ re□uired to co□er ed□e□ of □irror□in □ □in□e □iece.

1. □u□inu□ □C□□nne□□otto□ Tri□ □□-c□□nne□□ for□ed □it□ front □e□ □nd □□c□ □e□ not □e□□ t□□n 3/8 □nd 7/8 inc□in □ei□□t, re□□ecti□e□□, □nd □t□ic□ne□□ of not □e□□t□□n 0.04 inc□.

□. □□urence, C. R. Co., Inc.□CR□ □t□nd□rd "□" C□□nne□.
□. □o□ □er □ M□c□ Indu□trie□, Inc.□ □u□inu□ □□□□o□ □o□e "□" Mou□din□ □o□er □□r.□u□inu□ □C□□nne□To□ Tri□ □□-c□□nne□□ for□ed □it□ front □e□ □nd □□c□ □e□ not □e□□t□□n 5/8 □nd 1 inc□in □ei□□t, re□□ecti□e□□, □nd □t□ic□ne□□ of not □e□□t□□n 0.04 inc□.

2. □u□inu□ □C□□nne□To□ Tri□ □□-c□□nne□□ for□ed □it□ front □e□ □nd □□c□ □e□ not □e□□ t□□n 5/8 □nd 1 inc□in □ei□□t, re□□ecti□e□□, □nd □t□ic□ne□□ of not □e□□t□□n 0.04 inc□.

□. □□urence, C. R. Co., Inc.□CR□ □t□nd□rd "□" C□□nne□.
□. □o□ □er □ M□c□ Indu□trie□, Inc.□ □u□inu□ □□□□o□ □o□e "□" Mou□din□ □o□er □□r.□u□inu□ □C□□nne□To□ Tri□ □□-c□□nne□□ for□ed □it□ front □e□ □nd □□c□ □e□ not □e□□t□□n 5/8 □nd 1 inc□in □ei□□t, re□□ecti□e□□, □nd □t□ic□ne□□ of not □e□□t□□n 0.04 inc□.

3. Fini□□□ C□e□r □ri□□t □nodi□ed.

□. □u□inu□ □-C□□nne□□ □nd C□e□t□□□u□inu□ e□tru□ion□ □it□ □ return dee□ enou□□ to □roduce □ □□□□in□ c□□nne□to □cco□ □od□te □irror□ of t□ic□ne□□ indic□ted □nd in □en□t□□ re□uired to co□er ed□e□ of □irror□in □ □in□e □iece.

C. F□□tener□□ F□□ric□ted of □□□e □□□ic □et□□ □nd □□o□ □□ f□□tened □et□□ □nd □ □tc□in□ it in fini□□ed co□or □nd te□ture □ □ere f□□tener□ □re e□□o□ed.

D. □nc□or□ □nd In□ert□□ □ro□ide de□ice□ □□ re□uired for □irror □□rd□□re in□t□□□tion. □ro□ide toot□ed or □e□d-□□ie□d, e□□□n□ion-□o□t de□ice□ for dri□□ed-in-□□□ce □nc□or□. □ro□ide □□□□□ni□ed □nc□or□ □nd in□ert□ for □□□□ic□tion□ on in□ide f□ce of e□terior □□□□□ □nd □ □ere indic□ted.

2.5 F□□RIC□TIO□

□. □□o□ f□□ric□te □irror□ to □re□te□t e□tent □o□□i□□e.

□. F□□ric□te cutout□ for notc□e□ □nd □o□e□ in □irror□ □it□out □ □rrin□ □i□i□e □urf□ce□. □oc□te □nd □i□e cutout□, □o t□e□ fit c□o□e□□ □round □enetr□tion□ in □irror□.

C. Mirror Ed□e Tre□t□ent□ F□□t □o□i□□ed.

1. □e□□ed□e□ of □irror□ □it□ ed□e □e□□er □fter ed□e tre□t□ent to □re□ent c□e□ic□□or □t□ o□□□eric □enetr□tion of □□□□□□ co□tin□.
2. Re□uire □irror □ □nuf□cturer to □erfor□ ed□e tre□t□ent □nd □e□in□ in f□ctor□ i□ □edi□te□□ □fter cuttin□ to fin□□i□e□.

D. Fi□□-□□c□ed □□fet□ Mirror□□□□□□□□ fi□□ □□c□in□ □it□ □d□e□i□e co□tin□ o□er □irror □□c□in□ □□int, □□ reco□ □ended in □ritin□ □□□ fi□□-□□c□in□ □ □nuf□cturer, to □roduce □ □urf□ce free of □u□□□e□, □i□□ter□, □nd ot□er i□ □erfection□.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□□ine □u□□tr□te□, o□er □□ic□ □irror□ □re to □e □ounted, □it□ In□t□□□er □re□ent, for co□ □i□nce □it□ in□t□□□tion to□er□nce□, □u□□tr□te □re□□r□tion, □nd ot□er condition□ □ffectin□ □erfor□ □nce of t□e □ or□.

□. Verif□ co□ □□□ti□i□it□ □it□ □nd □uit□□i□it□ of □u□□tr□te□, inc□udin□ co□ □□□ti□i□it□ of e□i□tin□ fini□□e□ or □ri□er□ □it□ □irror □ □□tic.

C. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□f□ctor□ condition□ □□□□e □een corrected □nd □urf□ce□ □re dr□.

3.2 □RE□□R□TIO□

□. Co□ □□□□ □it□ □ □□tic □ □nuf□cturer□□ □ritten in□t□□□tion in□truction□ for □re□□r□tion of □u□□tr□te□, inc□udin□ co□tin□ □u□□tr□te□ □it□ □ □□tic □ □nuf□cturer□□ □□eci□□□ond co□tin□ □□ere □□□□ic□□e.

3.3 I□□T□□□□TIO□

□. □ener□□□ In□t□□□ □irror□ to co□ □□□□ □it□ □irror □ □nuf□cturer□□ □ritten in□truction□ □nd □it□ referenced □□tion□□□ □□□□□ □□□□ociation (□□□) □u□ic□tion□. Mount □irror□ □ccur□te□□ in □□□ce in □ □ □nner t□□t □□oid□ di□tortin□ ref□ected i□ □□e□.

1. NGA □u□ic□tion□: "□□□in□ted Glaz ng Reference M□nu□," "Glaz ng M□nu□" □nd "In□t□□□tion Tec□ni□ue□ De□i□ned to □ro□on□t□e □ife of F□□t Glass Mirror□."

B. □ro□ide a □ini□u□ □ir□□□ce of 1/8 inc□ □et□een back of □irror□ □nd □ountin□ □urf□ce for □ir circu□□tion □et□een back of □irror□ □nd f□ce of □ountin□ □urf□ce.

C. In□t□□□ irror□ □it□ □ □□tic □nd □irror □□rd□□re. □tt□c□ □irror □□rd□□re □ecure□□ to □ountin□ □urf□ce□ □it□ □ec□□nic□□ f□□tener□ in□t□□ed □it□ □nc□or□ or in□ert□ as □□□ic□□e. In□t□□□ f□□tener□□o heads do not i□□o□e □oint o□d□on backs of □irror□.

1. □u□inu□ □-C□□nne□□: □ro□ide □ettin□ □oc□□ 1/8 inc□ t□ic□ by 4 inc□e□ on□ □t □u□rter □oint□. To □re□ent tr□□□in□ □□ter, □ro□ide, □et□een □ettin□ □oc□□, t□o □otted wee□s not □e□□t□□n 1/4 inc□ □ide by 3/8 inc□ on□ □t □otto□ c□□nne□.
2. □u□inu□ □-C□□nne□□ □nd C□e□t: F□□ten □-c□□nne□direct□□ to wal]nd □tt□c□ to□tri□ to continuou□c□e□t f□□tened direct□□ to wall
3. In□t□□□ □□tic as fo□o□□:

   a. Apply □□rrier co□t to □irror □□c□in□ □□ere □□□ro□ed in □ritin□ by □ □nuf□cturer□ of □irror□ □nd □□c□in□ □ □teri□□.
   b. Apply □ □□tic to comply □it□ □ □□tic □ □nuf□cturer'] ritten in□truction□ for co□er□□e □nd to □□o□ □ir circu□□tion □et□een back of □irror□ □nd f□ce of □ountin□ □urf□ce.
   c. □fter □ □□tic i□ □□□ied, □i□n □irror□ □nd press into □□ce □i□e □ □int□inin□ a □ini□u□ □ir□□□ce of 1/8 inc□ □et□een back of □irror□ □nd □ountin□ □urf□ce.

3.4 CLEANING AND □ROTECTIO□

A. □rotect □irror□ fro□ □re□□□e □nd cont□□in□tin□ □u□□t□nce□ re□u□tin□ fro□ con□truction o□er□tion□.

B. Do not □er□it ed□e□ of □irror□ to □e e□□o□ed to □t□ndin□ □□ter.

C. M□int□in en□iron□ent□□condition□ t□□t □re□ent □irror□ fro□ □ein□ e□□o□ed to □oi□ture fro□ conden□□tion or ot□er □ource□ for continuou□□eriod□ of ti□e.

D. C□e□n e□□o□ed □urf□ce of □irror□ not □ore t□□n four days □efore d□te □c□edu□ed for in□□ection□ t□□t e□t□□i□□ d□te of □u□□t□nti□□Co□□etion. C□e□n □irror□ as reco□□ended in □ritin□ by □irror □ □nuf□cturer □nd NGA □s □u□ic□tion "□ro□er □rocedure□ for C□e□nin□ F□□t G□ass Mirror□."

E□D OF □ECTIO□ 088300

□ECTIO□ 081213 - HOLLOw METꞱ FR□ME□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

A. □ection Inc□ude□:

1. Interior □t□nd□rd □tee□fr□□e□.
2. E□terior □t□nd□rd □tee□fr□□e□.
3. □orro□ed □ite□.

B. Re□□ted Re□uire□ent□:

1. □ection 087100 "Door □□rd□□re" for door □□rd□□re for □o□o□-□et□□door□.

1.2 DEFI□ITIO□□

A. Mini□u□ T□ic□ne□□: Mini□u□ t□ic□ne□□ of bas e metal □it□out co□tin□□ □ccordin□ to □□□MM-□MM□ 803 or □DI A250.8.

1.3 COORDI□□TIO□

A. Coordin□te □nc□or□□e in□t□□□tion for □o□o□-□et□□fr□□e□. Furni□□ □ettin□ dr□□in□□, te□ □□□te□, □nd direction□ for in□t□□in□ □nc□or□□e□, inc□udin□ □ee□e□, concrete in□ert□, □nc□or □o□t□, □nd ite□ □□□it□ inte□r□□□nc□or□. De□i□er □uc□ ite□ □□to □ro□ect □ite in ti□e for in□t□□□tion.

B. Coordin□te re□uire□ent□ for in□t□□□tion of door □□rd□□re, e□ectrified door □□rd□□re, □nd □cce□□ contro□□nd □ecurit□ sys :e ms .

1.4 □CTIO□ SUB MITTALS

A. □roduct D□t□: For e□c□t□□e of □roduct.

1. Inc□ude con□truction det□i□□, □ □teri□□de□cri□tion□, □nd fini□□e□.

B. Sh op Dr□□in□□: Inc□ude t□e fo□o□in□:

1. E□e□□tion□ of e□c□ fr□□e t□□e.
2. Fr□□e det□i□□ for e□c□ fr□□e t□□e, inc□udin□ di□ en□ioned □rofi□e□ □nd metal :ic□ne□□e□.
3. □oc□tion□ of reinforce□ent □nd □re□□r□tion□ for □□rd□□re.
4. Det□i□□ of e□c□ different wall o□enin□ condition.
5. Det□i□□ of e□ectric□□r□ce□□□ □nd □re□□r□tion for e□ectrified □□rd□□re, □cce□□ contro□ □□□te□□, □nd □ecurit□ sys :e ms .
6. Det□i□□ of □nc□or□□e□, □oint□, fie□d □□ice□, □nd connection□.
7. Det□i□□ of □cce□□orie□.
8. Det□i□□ of □o□din□□, re□o□□□e□ to□□, □nd □□□□in□.

9. Finish: For exposed surfaces of exposed finish required, prepared on sides of not less than 3/5 inch.

C. Product Procedures: For hollow-metal frames, prepared for or under the supervision of supplier, using the reference numbers for details and openings scheduled on Drawings. Coordinate with finish door hardware procedures.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow-metal frames individually packaged, protected, or crated to provide protection during transit and project-site storage. Do not use nonventilated plastic.

1. Provide additional protection to prevent damage to factory-finished units.

B. Deliver welded frames with not more than required number of crossbars to maintain rigidity of frames, temporarily attached to jambs and mullions.

C. Store hollow-metal frames vertically under cover at project site with blocking to prevent twisting, bending, or damage. Space to allow 4-inch air circulation. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Ceco Door, Inc.
2. Curries, Inc.
3. Steelcraft Corporation.

2.2 STANDARD STEEL FRAMES

A. Construct hollow-metal frames to comply with indicated for materials, fabrication, hardware reinforcement, tolerances, and clearances, and as specified.

B. Interior Frames: ANSI/SDI A250.8.

1. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch.
2. Construction: Mitered-and-welded corners. Face welded.
3. Exposed Finish: Prime.

2.3 FRAME ANCHORS

A. Jamb Anchors:

1. Type and number of minimum size and type required for door and frame strength, and suitable for indicated.

2. □u□ntit□: Mini□u□ of t□ree □nc□or□ □er jamb, □it□ one □ddition□□□nc□or for fr□□e□ □it□ no f□or □nc□or. □ro□ide one □ddition□□□nc□or for e□c□ 24 inc□e□ of fr□□e □ei□□t abo□e 7 feet.
3. □o□tin□t□□ed E□□□n□ion □nc□or: Mini□u□ 3/8-inc□-di□□eter □o□t□ □it□ e□□□n□ion □□ie□d□ or in□ert□, □it□ □□nuf□cturer'□ t□nd□rd □i□e □□□cer.

B. F□or □nc□or□: □ro□ide f□or □nc□or□ for e□c□ jamb □nd □u□ion t□□t e□tend□ to f□or.

C. F□or □nc□or□ for Concrete Slabs □it□ □nder□□□□ent: □du□t□□□e-t□□e □nc□or□ □it□ e□ten□ion ci□□, □□o□in□ not □e□□ t□□n 2-inc□ □ei□□t □du□t□ent. Ter□in□te □otto□ of fr□□e□ □t to□ of under□□□□ent.

D. M□teri□: □□TM A879/A879M, Co□□erci□□ □tee□ (C□), 04Z co□tin□ de□i□n□tion; m ill phospha tize d.

1. For □nc□or□ □uilt into e□terior walls, □tee□□eet co□ □□in□ □it□ □□TM A1008/A1008M or □□TM A1011/A1011M; □ot-di□ galva nize d □ccordin□ to □□TM □153/□153M, Class B.

2.4 M□TERI□□□

A. Co□d-Ro□ed □tee□□□eet: □□TM A1008/A1008M, Co□□erci□□□tee□(C□), T□□e B; □uit□□e for e□□o□ed □□□ic□tion□.

B. □ot-Ro□ed □tee□□□eet: □□TM A1011/A1011M, Co□□erci□□□tee□(C□), T□□e B; free of □c□e, □ittin□, or □urf□ce defect□; □ic□ed □nd oi□ed.

C. Met□□ic-Co□ted □tee□□□eet: □□TM A653/A653M, Co□□erci□□□tee□(C□), T□□e B.

D. In□ert□, □o□t□, □nd F□□tener□: □ot-di□ galva nize d □ccordin□ to □□TM A153/A153M.

E. □o□er-□ctu□ted F□□tener□ in Concrete: F□□tener sys tem of t□□e □uit□□e for □□□ic□tion indic□ted, f□□ric□ted fro□ corro□ion-re□i□t□nt □ teri□□, □it□ c□□□ or ot□er □cce□□or□ de□ice□ for □tt□c□in□ □o□o□-□et□□fr□□e□ of t□□e indic□ted.

F. Glaz ing: Co mply □it□ re□uire□ent□ in □ection 088000 "□□□□in□."

2.5 F□□RIC□TIO□

A. □o□o□-Met□□Fr□□e□: F□□ric□te in one □iece e□ce□t □□ere □□nd□in□ □nd shipping □i□it□tion□ re□uire □u□ti□e □ection□. □ □ere fr□□e□ □re f□□ric□ted in □ection□, □ro□ide □i□n□ent plates or □n□e□□t e□c□ □oint, f□□ric□ted of metal of sam e or □re□ter t□ic□ne□□ as fr□□e□.

1. □ro□ide counter□un□, f□□t- or o□□-□e□d e□□o□ed □cre□□ □nd □o□t□ for e□□o□ed f□□tener□ un□e□□ ot□er□i□e indic□ted.
2. Door □i□encer□: E□ce□t on □e□t□er-□tri□□ed fr□□e□, dri□□□to□□ to recei□e door □i□encer□ as fo□o□□. □ee□ ho□es c□e□r durin□ con□truction.

   a. □in□e-Door Fr□□e□: Dri□□□to□in □tri□e jamb to recei□e t□ree door □i□encer□.
   b. Dou□e-Door Fr□□e□: Dri□□□to□in □e□d j mb to recei□e t□o door □i□encer□.

B. □□rd□□re □re□□r□tion: F□ctor□ □re□□re □o□o□-□et□□fr□□e□ to recei□e te□ □□□ted □orti□ed □□rd□□re, □nd e□ectric□□□irin□; inc□ude cutout□, reinforce□ent, □orti□in□, dri□□in□, □nd t□□□in□ □ccordin□ to □DI A250.6, t□e Door □□rd□□re □c□edu□e, □nd te□ □□□te□.

1. Reinforce fr□□e□ to receiv□e nonte□ □□□ted, □orti□ed, □nd □urf□ce-□ounted door □□rd□□re.
2. Co□ □□□ □it□ □□M□ □156.115 for □re□□rin□ □o□o□-□et□□fr□□e□for □□rd□□re.

2.6 □TEE□ FI□I□□E□

□. □ri□e Fini□□□C□e□n, □retre□t, □nd □□□□□□ □ □nuf□cturer□□ □t□nd□rd □ri□er.

1. □□o□ □ri□er□ M□nuf□cturer□□ □t□nd□rd, f□□t-curin□, □e□d- □nd c□ro□ □te-free □ri□er co□ □□□in□ □it□ □DI □250.10□ reco□ □ended □□ □ri□er □ □nuf□cturer for □u□□tr□te□ co□ □□ti□□ □it□ □u□□tr□te □nd fie□d-□□□□ied co□tin□□de□□ite □ro□on□ed e□□o□ure.

□□RT 3 - E□EC□TIO□

3.1 □RE□□R□TIO□

□. Re□o□e □e□ded-in □□i□□in□ □□re□der□ in□t□□□ed □t f□ctor□. Re□tore e□□o□ed fini□□ □□ □rindin□, fi□□in□, □nd dre□□in□, □□ re□uired to □ □□e re□□ired □re□ □□ oot□, f□u□□, □nd in□i□i□e on e□□o□ed f□ce□. Touc□ u□ f□ctor□-□□□□ied fini□□e□ □□ere □□re□der□ □re re□o□ed.

□. Dri□□□nd t□□ fr□□ e□ to receiv□e nonte□ □□□ted, □orti□ed, □nd □urf□ce-□ounted door □□rd□□re.

3.2 I□□T□□□□TIO□

□. □ener□□□ In□t□□□ □o□o□-□et□□fr□□e□ □u□□□, ri□id, □ro□er□□ □i□□ned, □nd □ecure□□ f□□tened in □□□ce. Co□ □□□ □it□ □□□ro□ed □□o□ Dr□□in□□ □nd □it□ □ □nuf□cturer□□ □ritten in□truction□. Co□ □□□ □it□ □DI □250.11.

□. □et fr□□e□ □ccur□te□□ in □o□ition□ □u□□□ed, □i□□ned, □nd □r□ced □ecure□□ unti□ □er□ □nent □nc□or□ □re □et. □fter □□□□con□truction i□ co□ □□ete, re□o□e te□ □or□r □r□ce□ □it□out d□□ □□e to co□ □□ēted □ or□.

1. □ □ere fr□□e□ □re f□□ric□ted in □ection□, fie□d □□i□ce □t □□□ro□ed □oc□tion□ □□□ □e□din□ f□ce □oint continuou□□□□□rind, fi□□, dre□□, □nd □ □□e □□i□ce □□ oot□, f□u□□, □nd in□i□i□e on e□□o□ed f□ce□. Touc□-u□ fini□□e□.
2. In□t□□□fr□□e□ □it□ re□o□□□□ē □to□□ □oc□ted on □ecure □ide of o□enin□.

C. F□oor □nc□or□□□ecure □it□ □o□tin□t□□ēd e□□□n□ion □nc□or□.

D. □oid□□ □□c□ □iner□-fi□er in□u□□tion in□ide fr□□e□.

E. M□□onr□ □ □□□□□ Coordin□te in□t□□□tion of fr□□e□ to □□o□ for □oid□□ fi□□in□ □□□ce □et□een fr□□e□ □nd □ □□onr□ □it□ □rout or □ort□r.

F. In-□□ce Concrete or M□□onr□ Con□truction□ □ecure fr□□e□ in □□□ce □it□ □o□tin□t□□ēd e□□□n□ion □nc□or□. Counter□in□ □nc□or□, □nd fi□□ □nd □ □□e □□ oot□, f□u□□, □nd in□i□i□e on e□□o□ed f□ce□.

□. In□t□□□tion To□er□nce□□□d□u□t □o□o□-□et□□fr□□e□ to t□e fo□o□in□ to□er□nce□□

1. □□u□rene□□: □□u□or □inu□ 1/16 inc□, □e□□ured □t door r□□□et on a □ine 90 de□ree□fro□ j□mb □er□endicu□□r to fr□□e □e□d.
2. □i□n□ent: □□u□or □inu□ 1/16 inc□, □e□□ured □t jambs on a □ori□ont□□ine □□r□□e□to pla□ne of wall
3. T□i□t: □□u□or □inu□ 1/16 inc□, □e□□ured □t o□□o□ite f□ce corner□of jamb □on □□r□□e□ □ine□, □nd □er□endicu□□r to pla□ne of wall
4. □□u□□ne□□: □□u□or □inu□ 1/16 inc□, □e□□ured □t jambs □t f□oor.

3.3 CLEANING AND TOUCHUP

A. □ri□e-Co□t Touc□u□: I□□edi□te□□ □fter erection, □□nd □□oot□ ru□ted or d□□□□ed areas of □ri□e co□t □nd apply touc□u□ of co□ □□ti□e □ir-dr□in□, ru□t-in□i□iti□e □ri□er.

B. Met□□ic-Co□ted □urf□ce Touc□u□: C□e□n □□r□ded areas □nd re□□ir □it□ galva□niz□ng re□□ir □□int □ccordin□ to □□nuf□cturer'□ □ritten in□truction□.

E□D OF □ECTIO□ 081213

□ECTIO□ 090190.52 - M□I□TE□□□CE RE□□I□TI□□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

A. □ection inc□ude□ □ □inten□nce re□□intin□ as fo□o□□:

1. Re□o□in□e□i□tin□ □□int.
2. □□tc□in□ □u□□tr□te□.
3. Re□□intin□, inc□udin□ □t□inin□ □nd □□rni□□in□ of □ood.

1.2 DEFI□ITIO□□

A. G□oss □e□e□1: □ot □ore t□□n 5 unit□ □t 60 de□ree□ □nd 10 unit□ □t 85 de□ree□, □ccordin□ to □□TM D523.

B. G□oss □e□e□2: □ot □ore t□□n 10 unit□ □t 60 de□ree□ □nd 10 to 35 unit□ □t 85 de□ree□, □ccordin□ to □□TM D523.

C. G□oss L□vəl 3: 10 to 25 unit□ □t 60 de□ree□ □nd 10 to 35 unit□ □t 85 de□ree□, □ccordin□ to □□TM D523.

D. G□oss □e□e□4: 20 to 35 unit□ □t 60 de□ree□ □nd not □e□□t□□n 35 unit□ □t 85 de□ree□, □ccordin□ to □□TM D523.

E. G□oss □e□e□5□35 to 70 unit□ □t 60 de□ree□, □ccordin□ to □□TM D523.

F. G□oss L□vəl 6: 70 to 85 unit□ □t 60 de□ree□, □ccordin□ to □□TM D523.

G. G□oss L□vəl 7: More t□□n 85 unit□ □t 60 de□ree□, □ccordin□ to □□TM D523.

H. □o□-□re□□ure Spray: 100 to 400 psi (690 to 2750 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).

I. Mediu□-□re□□ure Spray: 400 to 800 psi (2750 to 5510 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).

1.3 □E□□E□CI□□ AN D □C□ED□□I□□

A. □erfor□ □ □inten□nce re□□intin□ in t□e fo□o□in□ □e□uence, which inc□ude□ □or□ □□ecified in t□i□ □nd ot□er □ection□:

1. Di□□ □nt□e e□i□tin□ □urf□ce-□ounted o□ect□ □nd □□rd□□re e□ce□t ite□□ indic□ted to re□ □in in pla□e. Tag ite□ □□it□ oc□tion identific□tion □nd □rotect.
2. Verif□t□□t te□ □or□r□ □rotection□ hav□ □een in□t□□ed.
3. E□□□ine condition of □urf□ce□ to □e □□inted.
4. Re□o□e e□i□tin□ □□int to t□e de□ree re□uired for e□c□ □u□□tr□te □nd □urf□ce condition of e□i□tin□ □□int.
5. Apply □□int □□□te□.
6. Rein□t□□di□□ □nt□ed □urf□ce-□ounted o□ect□ □nd □□rd□□re un□e□□ ot□er□i□e indic□ted.

1.4 □CTIO□ □□□MITT□□□

A. □roduct D□t□: For e□c□ t□□e of □roduct.

1. Inc□ude reco□ □end□tion□for □roduct □□□ic□tion □nd u□e.
2. Inc□ude te□t d□t□ □u□□t□nti□tin□ t□□t □roduct□co□ply □it□ re□uire□ent□.

B. Samp□es: For e□c□ t□□e of □□int sys□em □nd e□c□ □□ttern, co□or, □nd g□oss; in s□z□s indic□ted □e□o□.

1. Inc□ude □te□□ed Samp□es definin□ e□c□ □e□□r□te co□t, inc□udin□ fi□er□ □nd □ri□er□. Re□u□□ it unti□e□c□ re□uired □□een, co□or, □nd te□ture i□ □c□ie□ed.
2. For e□c□ □□inted co□or □ein□ □ □tc□ed to a □t□nd□rdi□ed co□or-codin□ sys□em, inc□ude t□e co□or ch□ps fro□ t□e co□or-codin□-□□□te□ co□ □□n□□it□ □□□ □□e□.
3. Inc□ude a □i□t of □ □teri□□□ for e□c□ co□t of e□c□ Samp□e.
4. La□e□ e□c□ Samp□e for □oc□tion □nd □□□ic□tion.
5. Samp□e □i□e:

a. □□inted □urf□ce□: 4-□□-8-inc□ (100-b□-200-mm) Samp□es for e□c□ co□or □nd □ □teri□□ on □□rd□o□rd.
b. □t□ined or □□tur□□□ ood: 12-□□-12-inc□ (300-b□-300-mm) Samp□es of n□tur□□- or □t□ined-□ood fini□□, on re□re□ent□ti□e □ □tc□in□ □ood □□ecie□ □urf□ce□.

C. □roduct □i□t: For e□c□ □□int □roduct indic□ted, inc□ude t□e fo□o□in□:

1. Cro□□-reference to □□int sys□em □nd □oc□tion□ of □□□ic□tion areas. Us□ sam□e de□i□n□tion□indic□ted on Dr□□in□□ □nd in □c□edu□e□.
2. □rintout of current "M□l □□□ro□ed □roduct□ □i□t" for e□c□ M□l-□roduct c□te□or□ □□ecified in □□int sys□ems, □it□ t□e □ro□o□ed □roduct □i□□i□□ted.
3. VOC content.

1.5 I□FORM□TIO□□□ SUB MITTALS

A. Co□or M□tc□in□ Certific□te: For co□ □uter-□ □tc□ed co□or□.

B. □recon□truction Te□t Re□ort□: For c□e□nin□ □ □teri□□□, □□int re□o□er□ □nd □□int co□tin□□ □nd sys□ems.

1.6 M□I□TE□□□CE M□TERI□□ SUB MITTALS

A. Furni□□ e□tr□ □□int □ □teri□□□, fro□ t□e sam□e □roduction run, t□□t □ □tc□ □roduct□ □□□ied □nd t□□t □re □□c□□□ed □it□ □rotecti□e co□erin□ for □tor□□e □nd identified □it□ lab□ls de□cri□in□ content□, inc□udin□ □ □teri□□, fini□□, □ource, □nd □oc□tion on □uidin□.

1. □u□ntit□: Furni□□ O□ner □it□ □n □ddition□□5 □ercent, □ut not □e□□ t□□n 1 gal (3.8 L) or one c□□e, as □□□ro□ri□te, of e□c□ □ □teri□□□nd co□or □□□ied.

1.7 QUAL ITY ASSU RAN CE

A. Co□or M□tc□in□: Cu□to□ co□ □uter-□ □tc□ □□int co□or□to co□or□indic□ted on Dr□□in□□.

1.8 □RECO□□TR□CTIO□ TE□TI□□

□. □recon□truction Te□tin□ □er□ice□En□□□e □ □u□ified te□tin□ □□enc□ to □erfor□ □recon□truction te□tin□ of c□e□nin□ □ □teri□□□, □□int re□o□er□ □nd co□ □□ti□i□it□ of □□int co□tin□□ □nd □□□te□ □for e□c□ indic□ted t□□e of □□inted □urf□ce.

1. □□e te□t □re□□ □□ indic□ted □nd re□re□ent□ti□e of □ro□o□ed □ □teri□□□ □nd e□i□tin□ con□truction.
2. □ro□o□e c□□n□e□to □ □teri□□□ □nd □et□od□to □uit □ro□ect.

1.9 DE□IVER□, □TOR□□E, □□D □□□D□I□□

□. □tore □ □teri□□□ not in u□e in ti□□t□□ co□ered cont□iner□ in □e□-□enti□□ted □re□□ □it□ □□ □ient te□ □er□ture□continuou□□□ □ □int□ined □t not □e□□t□□n 45 de□F (7 de□C).

1. M□int□in cont□iner□in c□e□n condition, free of forei□n □ □teri□□□ □nd re□idue.
2. Re□o□e r□□□ □nd □□□te d□i□.

1.10 FIE□D CO□DITIO□□

□. □ e□t□er □i□ it□tion□□□roceed □it□ □ □inten□nce re□□intin□ on□ □□en e□i□tin□ □nd forec□□ted □e□t□er condition□ □re □it□in t□e en□iron□ent□□ i□ it□ □et □□ e□c□ □ □nuf□cturer□ □ritten in□truction□ □nd □□ecified re□uire□ent□.

□. □□□□□ □□int□on□ □□en te□ □er□ture of □urf□ce□ to □e □□inted □nd □□ □ient □ir te□ □er□ture□ □re □et□een 50 □nd 95 de□F (10 □nd 35 de□C).

C. Do not □□□□□ □□int in □no□, r□in, fo□, or □i□t□□ □en re□□ti□e □u□idit□ e□ceed□ 85 □ercent□□t te□ □er□ture□ □e□□t□□n 5 de□F (3 de□C) □□o□e t□e de□ □oint□or to d□□ □or □et □urf□ce□.

1. □□intin□ □ □□ continue durin□ inc□e□ent □e□t□er if □urf□ce□ □nd □re□□ to □e □□inted □re enc□o□ed □nd □e□ted □it□in te□ □er□ture i□ it□ □□ecified □□ □ □nuf□cturer for □urf□ce □re□□r□tion □nd durin□ □□int □□□ic□tion □nd dr□in□ □eriod□.

□□RT 2 - □ROD□CT□

2.1 □RE□□R□TOR□ C□E□□I□□ M□TERI□□□

□. □ □ter□□ot□□□e.

□. □ot □ □ter□□ □ter □e□ted to □te□ □er□ture of 140 to 160 de□F (60 to 71 de□C).

C. Deter□ent □o□ution□□o□ution □re□□red □□ □i□in□ 2 cu□□ (0.5 □) of tetr□□odiu□ □□ro□□o□□□□te (T□□□), 1/2 cu□ (125 □ □) of □undr□ deter□ent t□□t cont□in□ no □□ □oni□, 5 □u□rt□ (5 □) of 5 □ercent □odiu□ □□□oc□orite □e□c□, □nd 15 □u□rt□ (15 □) of □□r□ □□ter for e□er□ 5 □□□ (20 □) of □o□ution re□uired.

D. Mi□de□cide□Co□ □erci□□□ro□riet□r□ □i□de□cide or □ o□-□i□ed □o□ution □re□□red □□ □i□in□ 1/3 cu□ (80 □ □) of □ou□e□old deter□ent t□□t cont□in□ no □□ □oni□, 1 □u□rt (1 □) of 5 □ercent □odiu□ □□□oc□orite □e□c□, □nd 3 □u□rt□ (3 □) of □□r□ □□ter.

E. □r□i□e□ for Ferrou□ Met□□C□e□nin□□ □u□inu□ o□ide □□□er, e□er□ □□□er, fine □tee□□oo□, □tee□□cr□□er□, □nd □tee-□ire □ru□□e□of □□riou□ i□e□.

F. Ru□t Re□o□er□ M□nuf□cturer□ □t□nd□rd □□o□□□oric □cid-□□□ed □e□for□u□tion, □□o c□□ed "n□□□□□e□□," for re□o□in□ corro□ion fro□ iron □nd □tee□.

2.2 □□I□T REMOVER□

□. □o□-Odor, □o□ent-T□□e □□□te □□int Re□o□er□ M□nuf□cturer□ □t□nd□rd □o□-odor, □□ter-rin□□□e, □o□ent-t□□e □□□te, □e□, or fo□□ed e□u□tion for□u□tion for re□o□in□ □□int fro□ □ □□onr□, □tone, □ood, □□□□ter, or □et□□□□ re□uired to □uit □ro□ect□□nd cont□inin□ no □et□□no□ or □et□□ene c□oride.

1. M□nuf□cturer□□ □u□ect to co□ □i□nce □it□ re□uire□ent□, □□□i□□□e □ □nuf□cturer□ offerin□ □roduct□ t□□t □ □□ □e incor□or□ted into t□e □or□ inc□ude, □ut □re not i□ited to t□e fo□o□in□□

   □. □□eric□n □ui□din□ Re□tor□tion □roduct□, Inc.
   □. Diedric□ Tec□no□o□ie□, Inc.□□ □o□□ □nn □ □□rn□rd co□ □□n□.
   c. □□□□ □□int□□□□□ Indu□trie□, Inc.

2.3 □□I□T, □E□ER□□

□. M□teri□□Co□ □□ti□i□it□□

1. □ro□ide □ □teri□□□ for u□e □it□in e□c□ □□int □□□te□ t□□t □re co□ □□ti□e □it□ one □not□er □nd □u□□tr□te□ indic□ted, under condition□ of □er□ice □nd □□□□ic□tion □□ de□ on□tr□ted □□ □ □nuf□cturer, □□□ed on te□tin□ □nd fie□d e□□erience.
2. For e□c□ co□t in □ □□int □□□te□, □ro□ide □roduct□ reco□ □ended in □ritin□ □□ □ □nuf□cturer□of to□co□t for u□e in □□int □□□te□ □nd on □u□□tr□te indic□ted.

2.4 □□I□T M□TERI□□□, □E□ER□□

□. M□I □t□nd□rd□□□ro□ide □roduct□t□□t co□ □□□ □it□ M□I □t□nd□rd□indic□ted □nd t□□t □re i□ted in it□"M□I □□□ro□ed □roduct□ i□t."

□. E□i□□ion□ Re□uire□ent□□ Verif□ fie□d-□□□□ied □□int□ □nd co□tin□□ t□□t □re in□ide t□e □e□t□er□roofin□ □□□te□ co□ □□□ □it□ one of t□e fo□o□in□□

1. □o□-E□ittin□ M□teri□□□□ Verif□ VOC e□i□□ion□ co□ □□□ □it□ t□e re□uire□ent□ of t□e C□ifforni□ De□□rt□ent of □u□□ic □e□t□□□ "□t□nd□rd Met□od for t□e Te□tin□ □nd E□□□u□tion of Vo□□ti□e Or□□nic C□e□ic□□ E□i□□ion□ fro□ Indoor □ource□ □□in□ En□iron□ent□□ C□□□ □er□."
2. Verif□ VOC content doe□ not e□ceed i□ it□ of □ut□oritie□ □□□in□ □uri□diction □nd t□e fo□o□in□□

   □. F□□t Co□tin□□□ 50 □/□.
   □. □onf□□t Co□tin□□□ 100 □/□.
   c. □ri□er□, □e□□er□, □nd □nderco□t□□ 100 □/□.
   d. F□oor Co□tin□□□ 100 □/□.
   e. □□e□□c□, C□e□r□730 □/□.
   f. □□e□□c□, □i□□ented□550 □/□.

g. □t□in□: 250 g/L.
h. C□e□r □ood Fini□□e□(V□rni□□e□, □□ndin□ □e□□er□, □nd □□c□uer□)□275 g/L.

C. Tr□n□ition Co□t: □□int □ □nuf□cturer'□ reco□ □ended co□tin□ for u□e □□ere a re□idu□□e i□tin□ co□tin□i□inco□ □□ti□e □it□t□e □□int sys□em.

2.5 PA□NT M□TERI□□ M□□□F□CT□RER□

A. M□nuf□cturer□: □u□ect to co□□i□nce □it□ re□uire□ent□, ava□lab□e □ □nuf□cturer□ offerin□ □roduct□t□□t may □e incor□or□ted into t□e □ or□inc□ude, □ut □re not i□ited to t□e fo□o□in□:

1. T□e Sh□rwin-W□ll□ams Co□ □□n□.
2. □en□□□□ in Moore & Co.
3. Coron□do □□int; □en□□□□ in Moore & Co.
4. In□-□ □roduct□; □en□□□□ in Moore & Co.

2.6 PA□NT M□TERI□□□

□. □ri□er□ □nd □e□□er□:

1. □ri□er □e□□er, La□tex, Interior: M□□ #50.
2. □ri□er, □□te□, for Interior □ ood: M□□ □39.
3. □ri□er □e□□er, Alk□d, Interior: M□□ #45.
4. □nderco□t, En□□e□, Interior: M□□ #46.
5. □ri□er, □t□in □□oc□in□, □ □ter □□□ed: M□□ #137.
6. Alky□d, □□ndin□ □e□□er, C□e□r: M□□ #102.
7. Sh□ll□c: M□□ #88.
8. □t□in, □e□i-Tr□n□□□rent, for Interior □ ood: M□□ #90.

B. Met□□□ri□er□□

1. □ri□er, Met□□, □urf□ce To□er□nt: M□□ □23.
2. □ri□er, Alky□d, □nti-Corro□i□e for Met□□: M□□ #79.
3. □ri□er, Ru□t-In□i□iti□e, □ □ter □□□ed: M□□ #107.
4. □ri□er, □inc Ric□, Or□□nic: M□□ #18.
5. □ri□er, □inc-Ric□, E□o□□: M□□ □20.
6. □ri□er, Epoxy, □nti-Corro□i□e, for Met□□: M□□ #101.

C. □ ood □ri□er□:

1. □ri□er, La□tex for E□terior □ ood: M□□ #□.

2. □ri□er, Alky d for E□terior □ood: M□l #5.

D. □ □ter-□□□ed □□int□:

1. La tex, E□terior F□□t (G□oss L evəl 1): M□l #10.

2. La tex, E□terior □o□ □□een (G□oss L evəls 3-4): M□l #15.

3. La tex, E□terior □e□i□o□□(G□oss L əvəl 5): M□l #11.

4. La tex, E□terior, G□oss (G□oss L əvəl 3): M□l #119.

5. La tex, Interior, F□□t, (G□oss L evəl 1): M□l #53.

6. La tex, Interior, (G□oss L evəl 2): M□l #44.

7. □□te□, Interior, (G□oss □e□e□3): M□l □52.

8. La tex, Interior, (G□oss L evəl 4): M□l #43.

9. La tex, Interior, □e□i□o□□, (G□oss □e□e□5): M□l #54.

10. La tex, Interior, G□oss, (G□oss □e□e□6, e□ce□t Mini□u□ G□oss of 65 □nit□ □t 60 De□ree□): M□l #114.

11. La tex, Interior, In□titution□□□o□ Odor/VOC, F□□t (G□oss L evəl 1): M□l #143.

12. □□te□, Interior, In□titution□□□o□ Odor/VOC (G□oss □e□e□2): M□l #144.

13. La tex, Interior, In□titution□□□o□ Odor/VOC (G□oss L əvəl 3): M□l #145.

14. □□te□, Interior, In□titution□□□ow Odor/VOC (G□oss □e□e□4): M□l #146.

15. La tex, Interior, In□titution□□Low Odor/VOC, □e□i□o□□(G□oss L əvəl 5): M□l #147.

16. La tex, Interior, In□titution□□Low Odor/VOC, G□oss (G□oss □e□e□6): M□l #148.

E. □o□ent-□□□ed □□int□:

1. Alky d, E□terior F□□t (G□oss L əvəl 1): M□l #8.

2. Alky d, E□terior, □e□i□o□□(G□oss L əvəl 5): M□l #94.

3. Alky d, E□terior G□oss (G□oss L əvəl 3): M□l #9.

4. Alky d, Interior, F□□t (G□oss L əvəl 1): M□l #49.

5. Alk □d, Interior, (G□oss □e□e□3): M□l □51.

6. Alky d, Interior, □e□i□o□□(G□oss L əvəl 5): M□l #47.

7. Alky d, Interior, G□oss (G□oss □e□e□6): M□l #48.

F. F□oor Co□tin□□:

1. F□oor □□int, □□te□, □o□ □□o□□ (M□□i□u□ □□o□□ □e□e□3) □M□I □60.

2. F□oor □□int, □□te□, □□o□□ M□I □68.

3. F□oor □□int, □□□□d, □o□ □□o□□ (□□o□□ □e□e□6) □M□I □59.

4. F□oor En□□e□, □□□□d, □□o□□ (□□o□□ □e□e□6) □M□I □27.

□. □o□□ent-□□□ed V□rni□□e□□

1. V□rni□□, □it□ □V In□i□itor, E□terior, □e□i□□o□□ (□□o□□ □e□e□5) □M□I □30.

2. V□rni□□, □it□ □V In□i□itor, E□terior, □□o□□ (□□o□□ □e□e□6) □M□I □29.

3. V□rni□□, M□rine □□□r, E□terior, □□o□□ (□□o□□ □e□e□7) □M□I □28.

4. V□rni□□, Interior, F□□t (□□o□□ □e□e□1) □M□I □73.

5. V□rni□□, Interior, □e□i□□o□□ (□□o□□ □e□e□5) □M□I □74.

6. V□rni□□, Interior, □□o□□ (□□o□□ □e□e□6) □M□I □75.

□. E□o□□ Co□tin□□□

1. E□o□□, □□o□□□ M□I □77.

2. E□o□□, □i□□-□uid, □o□ □□o□□□ M□I □108.

I. □o□□uret□□ne Co□tin□□□

1. □o□□uret□□ne, T□o-Co□ □onent, □i□□ented, □□o□□ (□□o□□ □e□e□6) □M□I □72.

□. □o□□uret□□ne V□rni□□e□□

1. V□rni□□, Interior, □o□□uret□□ne, Oi□-Modified, □□o□□ (□□o□□ □e□e□6) □M□I □56.

2. V□rni□□, □o□□uret□□ne, Moi□ture-Cured, □□o□□ (□□o□□ □e□e□6) □M□I □31.

3. V□rni□□, □i□□□□tic □o□□uret□□ne, T□o Co□ □onent (□□o□□ □e□e□6 or 7) □M□I □78.

2.7 □□TC□I□□ M□TERI□□□

□. □ood-□□tc□in□ Co□ □ound□ T□o-□□rt, e□o□□-re□in, □ood-□□tc□in□ co□ □ound□ □nife-□r□de for□u□□tion □□ reco□ □ended in □ritin□ □□ □ □nuf□cturer for t□□e of □ood re□□ir indic□ted, too□in□ ti□e re□uired for t□e det□i□of □or□, □nd □ite condition□. Co□ □ound □□□□□□e de□i□ned for fi□in□ □oid□ in d□□ □□ed □ood □□teri□□□ t□□t □□□e deterior□ted fro□ □e□t□erin□ □nd dec□□. Co□ □ound □□□□□□e c□□□□□e of fi□in□ dee□ □o□e□ □nd □□re□din□ to fe□t□er ed□e.

1. M□nuf□cturer□□ □u□□ect to co□ □i□□nce □it□ re□uire□ent□, □□□i□□□e □ □nuf□cturer□ offerin□ □roduct□ t□□t □ □□ □e incor□or□ted into t□e □or□ inc□ude, □ut □re not i□□ited to t□e fo□□o□in□□

□. □□□tron, Inc.
□. □rotecti□e Co□tin□ Co□ □□n□.

c. [illegible] T[illegible]ree Re[illegible]in[illegible], Inc.

B. Met[illegible]-[illegible]tc[illegible]in[illegible] Co[illegible]ound: T[illegible]o-[illegible]rt, [illegible]o[illegible]e[illegible]ter-re[illegible]in, [illegible]et[illegible]-[illegible]tc[illegible]in[illegible] co[illegible]ound; [illegible]nife-[illegible]r[illegible]de for[illegible]u[illegible]tion as reco[illegible]ended in [illegible]ritin[illegible] by [illegible]nuf[illegible]cturer for t[illegible]e of metal re[illegible]ir indic[illegible]ted, too[illegible]in[illegible]ti[illegible]e re[illegible]uired for t[illegible]e det[illegible]i[illegible]of [illegible]or[illegible], [illegible]nd [illegible]ite condition[illegible]. Co[illegible] [illegible]ound shall [illegible]e [illegible]roduced for fi[illegible]in[illegible] metal [illegible]:[illegible]t has deterior[illegible]ted fro[illegible] corro[illegible]ion. Fi[illegible]er shal [illegible]e c[illegible][illegible][illegible][illegible]e of fi[illegible]in[illegible] dee[illegible] [illegible]o[illegible]e[illegible] [illegible]nd [illegible][illegible]re[illegible]din[illegible] to fe[illegible]t[illegible]er ed[illegible]e.

C. Ce[illegible]entitiou[illegible] [illegible][illegible]tc[illegible]in[illegible] Co[illegible] [illegible]ound[illegible]: Ce[illegible]entitiou[illegible] [illegible][illegible]tc[illegible]in[illegible] co[illegible] [illegible]ound[illegible] [illegible]nd re[illegible][illegible]ir [illegible][illegible]teri[illegible][illegible] [illegible][illegible]ecific[illegible][illegible] [illegible][illegible]nuf[illegible]ctured for fi[illegible]in[illegible] ce[illegible]entitiou[illegible] [illegible]u[illegible][illegible]tr[illegible]te[illegible] [illegible]nd for [illegible][illegible]ndin[illegible] or too[illegible]in[illegible] [illegible]rior to re[illegible][illegible]intin[illegible]; for[illegible]u[illegible]tion as reco[illegible][illegible]ended in [illegible]ritin[illegible] by [illegible][illegible]nuf[illegible]cturer for t[illegible][illegible]e of ce[illegible]entitiou[illegible] [illegible]u[illegible][illegible]tr[illegible]te indic[illegible]ted, e[illegible][illegible]o[illegible]ure to [illegible]e[illegible]t[illegible]er [illegible]nd tr[illegible]ffic, t[illegible]e det[illegible]i[illegible]of [illegible]or[illegible], [illegible]nd [illegible]ite condition[illegible].

D. Gyps[illegible]um-Plas[illegible]:er [illegible][illegible]tc[illegible]in[illegible] Co[illegible] [illegible]ound: Fini[illegible][illegible] co[illegible]t [illegible][illegible][illegible]ter [illegible]nd [illegible]ondin[illegible] co[illegible] [illegible]ound [illegible]ccordin[illegible] to [illegible][illegible]TM C842 [illegible]nd [illegible] [illegible]nuf[illegible]cturer'[illegible]]ritten in[illegible]truction[illegible].

[illegible][illegible]RT 3 - E[illegible]EC[illegible]TIO[illegible]

3.1 [illegible]ROTECTIO[illegible]

A. Co[illegible] [illegible][illegible]it[illegible] e[illegible]c[illegible] [illegible] [illegible]nuf[illegible]cturer[illegible] [illegible]ritten in[illegible]truction[illegible] for [illegible]rotectin[illegible] [illegible]uidin[illegible] [illegible]nd ot[illegible]er [illegible]urf[illegible]ce[illegible] [illegible][illegible]in[illegible]t damag[illegible] fro[illegible] e[illegible][illegible]o[illegible]ure to it[illegible] [illegible]roduct[illegible]. [illegible]re[illegible]ent c[illegible]e[illegible]ic[illegible][illegible][illegible]olution[illegible] fro[illegible] co[illegible]in[illegible] into cont[illegible]ct [illegible]it[illegible] [illegible]eo[illegible]e, [illegible]otor [illegible]e[illegible]ic[illegible]e[illegible], [illegible]nd[illegible]c[illegible][illegible]in[illegible], [illegible]uidin[illegible][illegible], [illegible]nd ot[illegible]er [illegible]urf[illegible]ce[illegible] t[illegible][illegible]t cou[illegible]d [illegible]e [illegible][illegible]r[illegible]ed by [illegible]uc[illegible] cont[illegible]ct.

1. Co[illegible]er [illegible]d[illegible]cent [illegible]urf[illegible]ce[illegible] [illegible]it[illegible] [illegible] [illegible]teri[illegible][illegible] t[illegible][illegible]t [illegible]re [illegible]ro[illegible]en to re[illegible]i[illegible]t c[illegible]e[illegible]ic[illegible][illegible][illegible]olution[illegible] [illegible]ein[illegible] u[illegible]ed un[illegible]e[illegible] t[illegible]e [illegible]olution[illegible] will not damag[illegible] [illegible]d[illegible]cent [illegible]urf[illegible]ce[illegible]. Us[illegible] [illegible]rotecti[illegible] [illegible][illegible]teri[illegible][illegible] t[illegible][illegible]t [illegible]re [illegible]V re[illegible]i[illegible]t[illegible]nt [illegible]nd [illegible][illegible]ter[illegible]roof. Apply mask[illegible]ing [illegible][illegible]ent[illegible] to co[illegible]ply [illegible]it[illegible] [illegible] [illegible]nuf[illegible]cturer'[illegible]]ritten in[illegible]truction[illegible]. Do not apply [illegible]i[illegible]uid mask[illegible]ing [illegible][illegible]ent to [illegible][illegible]inted or [illegible]orou[illegible] [illegible]urf[illegible]ce[illegible]. [illegible] [illegible]en no [illegible]on[illegible]er needed, [illegible]ro[illegible] t[illegible][illegible]re[illegible]o[illegible]e [illegible] [illegible][illegible]in[illegible] to [illegible]re[illegible]ent [illegible]d[illegible]e[illegible]i[illegible]e [illegible]t[illegible]inin[illegible].
2. Do not apply c[illegible]e[illegible]ic[illegible][illegible] [illegible]olution[illegible] durin[illegible] [illegible]ind[illegible] of [illegible]ufficient force to [illegible][illegible]re[illegible]d t[illegible]e[illegible] to un[illegible]rotected [illegible]urf[illegible]ce[illegible].
3. [illegible]eutr[illegible]i[illegible]e [illegible]nd co[illegible]ect [illegible][illegible][illegible]ine [illegible]nd [illegible]cid was[illegible]es [illegible]efore di[illegible][illegible]o[illegible][illegible].
4. Di[illegible][illegible]o[illegible]e of runoff fro[illegible] o[illegible]er[illegible]tion[illegible] by [illegible]egal m[illegible]ans [illegible]nd in a [illegible] [illegible]nner t[illegible][illegible]t [illegible]re[illegible]ent[illegible] [illegible]oi[illegible] ero[illegible]ion, under[illegible]inin[illegible] of [illegible][illegible][illegible]in[illegible] [illegible]nd found[illegible]tion[illegible], d[illegible][illegible][illegible]e to [illegible]nd[illegible]c[illegible][illegible]in[illegible], [illegible]nd [illegible][illegible]ter [illegible]enetr[illegible]tion into [illegible]uidin[illegible] interior[illegible].

3.2 M[illegible]I[illegible]TE[illegible][illegible][illegible]CE RE[illegible][illegible]I[illegible]TI[illegible][illegible], [illegible]E[illegible]ER[illegible][illegible]

A. M[illegible]inten[illegible]nce Re[illegible][illegible]intin[illegible] [illegible][illegible][illegible]e[illegible]r[illegible]nce [illegible]t[illegible]nd[illegible]rd: Co[illegible] [illegible]eted [illegible]or[illegible] i[illegible] to hav[illegible] a unifor[illegible] [illegible][illegible][illegible]e[illegible]r[illegible]nce as [illegible]ie[illegible]ed by [illegible]rc[illegible]itect fro[illegible] [illegible]uidin[illegible] interior [illegible]t 5 feet (1.5 m) away fro[illegible] [illegible][illegible]inted [illegible]urf[illegible]ce [illegible]nd fro[illegible] [illegible]uidin[illegible] e[illegible]terior [illegible]t 20 feet (6 m) away fro[illegible] [illegible][illegible]inted [illegible]urf[illegible]ce.

B. E[illegible]ecution of t[illegible]e [illegible] or[illegible]: In re[illegible][illegible]intin[illegible] [illegible]urf[illegible]ce[illegible], di[illegible]tur[illegible] t[illegible]e[illegible] as m[illegible]ini[illegible]mally as poss[illegible]'b[illegible]e [illegible]nd as fo[illegible][illegible]o[illegible][illegible]:

1. Re[illegible]o[illegible]e f[illegible]i[illegible]ed co[illegible]tin[illegible][illegible] [illegible]nd corro[illegible]ion [illegible]nd re[illegible][illegible]int.
2. Verif[illegible]t[illegible][illegible]t [illegible]u[illegible][illegible]tr[illegible]te [illegible]urf[illegible]ce condition[illegible] [illegible]re [illegible]uit[illegible][illegible]e for re[illegible][illegible]intin[illegible].
3. Al[illegible]w ot[illegible]er tr[illegible]de[illegible] to re[illegible][illegible]ir ite[illegible] [illegible]in [illegible][illegible]ce [illegible]efore re[illegible][illegible]intin[illegible].

C. Mec□□nic□□□□r□□ion□□ □ere □ ec□□nic□□□□r□□ion i□ needed for t□e □or□, u□e □ent□ □ et□od□, □uc□ □□ □cr□□in□ □nd i□□t□□ □□nd □□ndin□, t□□t □i□not □□r□de □ofter □u□□tr□te□, reducin□ c□□rit□ of det□i□.

D. □e□t □roce□□e□□Do not u□e torc□e□, □e□t □un□, or □e□t □□□te□.

3.3 E□□MI□□TIO□

□. E□□□□ine □u□□tr□te□ □nd condition□, □it□ In□t□□□er □re□ent, for co□ □i□□nce □it□ re□uire□ent□ for □ □□i□u□ □oi□ture content □nd ot□er condition□ □ffectin□ □erfor□ □nce of □□intin□ □or□. Co□ □□□ □it□ □□int □ □nuf□cturer□□ □ritten in□truction□ for in□□ection.

□. M□□i□u□ Moi□ture Content of □u□□tr□te□□Do not □e□in □□□□ic□tion of co□tin□□ un□e□□ □oi□ture content of e□□o□ed □urf□ce i□ □e□□ t□e □ □□i□u□ □□□ue reco□ □ended in □ritin□ □□ □□int □ □nuf□cturer □nd not □re□ter t□□n t□e fo□□o□in□ □ □□i□u□ □□□ue□ □□en □e□□ured □it□ □n e□ectronic □oi□ture □eter □□□ro□ri□te to t□e □u□□tr□te □ □teri□□□

1. Concrete□ 12 □ercent.
2. □ □□□u□ □o□rd□ 12 □ercent.
3. □ □□□u□ □□□□ter□ 12 □ercent.
4. M□□onr□ (C□□□ □nd CM□)□ 12 □ercent.
5. □ort□□nd Ce□ent □□□□ter□ 12 □ercent.
6. □ ood□ 15 □ercent.

C. □□□□init□□ Do not □e□in □□□□ic□tion of co□tin□□ un□e□□ □urf□ce □□□□init□ i□ □it□in r□n□e reco□ □ended in □ritin□ □□ □□int □ □nuf□cturer. Conduct □□□□i te□tin□ □it□ it□ u□ □□□er on e□□o□ed □□□□ter, ce□ entitiou□, □nd □ □□onr□ □urf□ce.

D. Verif□ □uit□□i□it□ of □u□□tr□te□, inc□udin□ □urf□ce condition□ □nd co□ □□ti□it□ □it□ e□i□tin□ fini□□e□ □nd □ri□er.

1. If e□i□tin□ □urf□ce□ c□nnot □e □re□□red to □n □cce□t□□e condition for □ro□er fini□□in□ □□ u□in□ □□ecified □urf□ce-□re□□r□tion □et□od□, notif□ □rc□itect in □ritin□.

E. □e□in co□tin□ □□□□ic□tion on□□ □fter un□□ti□f□ctor□ condition□ □□□e □een corrected □nd □urf□ce□ □re dr□.

1. □e□innin□ co□tin□ □□□□ic□tion con□titute□ Contr□ctor□□ □cce□t□nce of □u□□tr□te□ □nd condition□.

3.4 □RE□□R□TOR□ C□E□□I□□

□. □ener□□□□e t□e □ent□□t, □□□ro□ri□te □et□od nece□□□r□ to c□□n □urf□ce□ in □re□□r□tion for □□intin□. C□□n □□□□urf□ce□, corner□, contour□, □nd inter□tice□.

□. Deter□ent C□□nin□□□ □□□□ □urf□ce□ □□ □□nd u□in□ c□□n r□□□, □□on□e□, □nd □ri□t□ □ru□□e□. □cru□ □urf□ce □it□ deter□ent □o□ution □nd □ri□t□ □ru□□ unti□□oi□i□t□orou□□□□di□□od□ed □nd c□n □e re□o□ed □□rin□in□. □□e □□ □□□□ru□□e□ to re□o□e □oi□fro□ □oint□ □nd cre□ice□. Di□ □ru□□ in □o□ution often to en□ure t□□t □de□u□te fre□□ deter□ent i□ u□ed □nd t□□t □urf□ce re□ □in□ □et. Rin□e □it□ □□ter □□□□ied □□c□□n r□□□ or □□on□e□.

C. □o□□ent C□□nin□□□□e □o□□ent c□□nin□ to re□o□e oi□, □re□□e, □□o□e, t□r, □nd □□□□□□t fro□ □□inted or un□□inted □urf□ce□ □efore ot□er □re□□r□tion □or□. □i□e □urf□ce□ □it□ □o□□ent u□in□

c□e□n r□□□ □nd □□on□e□. If nece□□□r□, □□ot-□o□□ent c□e□nin□ □ □□ □e e□ □o□□ed □u□t □rior to co□ □ence□ent of □□int □□□□ic□tion, □ro□ided enou□□ ti□e i□ □□o□ed for co□ □□ete e□□□or□tion. □□e c□e□n □o□□ent □nd c□e□n r□□□ for t□e fin□□□ □□□□ to en□ure t□□t □□forei□n □ □teri□□□ □□□e □een re□o□ed. Do not u□e □o□□ent□, inc□udin□ □ri□er t□inner □nd tur□entine, t□□t □e□□e re□idue.

D. Mi□de□□C□e□n off e□i□tin□ □i□de□, □□□□e, □o□□, □□□nt □ □teri□□, □oo□e □□int, □re□□e, dirt, □nd ot□er de□ri□ □□ □cru□□in□ □it□ □ri□t□ □ru□□ or □□on□e □nd deter□ent □o□ution. □cru□ □i□de□ed □re□□ □it□ □i□de□cide. Rin□e □it□ □□ter □□□□ied □□c□e□n r□□□ or □□on□e□.

E. C□e□ic□□Ru□t Re□o□□□

1. Re□o□e □oo□e ru□t □c□e □it□ □□ecified □□r□□i□e□ for ferrou□-□et□□c□e□nin□.
2. □□□□□ ru□t re□o□er □it□ □ru□□e□ or □□ reco□ □ended in □ritin□ □□□ □nuf□cturer.
3. □□o□ ru□t re□o□er to re□□in on □urf□ce for □eriod reco□ □ended in □ritin□ □□ □nuf□cturer or □□ deter□ined □□ □recon□truction te□tin□. Do not □□o□ e□tended d□e□□ ti□e.
4. □i□e off re□idue □it□ □iner□□ □□irit□ □nd eit□er □tee□ □oo□or □oft r□□□, or c□e□n □it□ □et□od reco□ □ended in □ritin□ □□□ □nuf□cturer to re□o□e re□idue.
5. Dr□i□ □edi□te□□ □it□ c□e□n, □oft c□ot□□. Fo□o□ direction of □r□in in □et□□.
6. □ri□e i□ □edi□te□□ to □re□ent ru□t. Do not touc□ c□e□ned □et□□□urf□ce unti□□ri□ed.

F. Mec□□nic□□Ru□t Re□o□□□

1. Re□o□e ru□t □it□ □□ecified □□r□□i□e□ for ferrou□-□et□□c□e□nin□. C□e□n to □ri□□t □et□□.
2. □i□e off re□idue □it□ □iner□□□□irit□ □nd eit□er □tee□ □oo□or □oft r□□□.
3. Dr□i□ □edi□te□□ □it□ c□e□n, □oft c□ot□□. Fo□o□ direction of □r□in in □et□□.
4. □ri□e i□ □edi□te□□ to □re□ent ru□t. Do not touc□ c□e□ned □et□□□urf□ce unti□□ri□ed.

3.5 □□I□T REMOV□□

□. □ener□□□ Re□o□e □□int □□ere indic□ted. □ □ere c□e□nin□ □et□od□ □□□e □een □tte□ □ted □nd furt□er re□o□□□of t□e □□int i□ re□uired □ec□u□e of inco□ □□ti□□ or un□□ti□f□ctor□ □urf□ce□ for re□□intin□, re□o□e □□int to e□tent re□uired □□ condition□.

1. □□□ic□tion□ □□□□□ □□int re□o□er□ □ccordin□ to □□int-re□o□er □ □nuf□cturer□□ □ritten in□truction□. Do not □□o□ □□int re□o□er□ to re□□in on □urf□ce for □eriod□ □on□er t□□n t□o□e indic□ted or reco□ □ended in □ritin□ □□□ □nuf□cturer.

   □. □□□□□ □ □teri□□ to □□□ □urf□ce□, corner□, contour□, □nd inter□tice□, to □ro□ide □ unifor□ fin□□□□□e□r□nce □it□out □tre□□□.
   □. □fter □or□ i□ co□ □□ete, re□o□e □rotection no □on□er re□uired. Re□o□e t□□e □nd □d□e□i□e □ □r□□.

2. □ru□□e□□□ □e □ru□□e□t□□t □re re□i□t□nt to c□e□ic□□□ □ein□u□ed.

   □. Met□□ □u□□tr□te□□ If u□in□ □ire □ru□□e□ on □et□□, u□e □ru□□e□ of □□□e □et□□ co□ □o□ition □□ □et□□□ein□ tre□ted.
   □. □ood □u□□tr□te□□ Do not u□e □ire □ru□□e□.

3. □□r□□ E□ui□□ent□ □□e □□r□□ e□ui□□ent t□□t □ro□ide□ contro□ed □□□□ic□tion □t □o□u□e □nd □re□□ure indic□ted, □e□□ured □t no□□□e. □d□u□t □re□□ure □nd □o□u□e to en□ure t□□t □□r□□ □et□od□ do not d□□ □□e □urf□ce□.

   □. E□ui□ unit□ □it□ □re□□ure □□□e□.

b. □nle□□ ot□er□i□e indic□ted, □old spray no□□e □t le□□t 6 inc□e□ (150 □□) fro□ □urf□ce □nd apply □□teri□□ in □ori□ont□, □□c□-□nd-fort□ □□ee□in□ □otion, o□er□□□□in□ □re□iou□ □tro□e□ to □roduce unifor□ co□er□□e.

c. For c□e□ic□□spray □□□□ic□tion, u□e □o□-□re□□ure t□n□ or c□e□ic□□pump □uit□□e for c□e□ic□□indic□ted, e□ui□□ed □it□ no□□□e hav'ng a cone-□□□□ed spray.

B. □□int Re□o□□□ □it□ □□nd Too□: Re□o□e □□int manually u□in□ □□nd-□e□d □cr□□er□, □ire □ru□□e□, □□nd□□□er, □nd □et□□ic □oo□as □□□ro□ri□te for t□e □u□□tr□te □ □teri□□.

C. □□int Re□o□□□□it□ □□□□□ine Pas□e □□int Re□o□er:

1. Re□o□e □oo□e □nd □ee□in□ □□int u□in□ □cr□□er□, □tiff □ru□□e□, or a co□ □in□tion of t□e□e. □et □urf□ce dr□t□orou□□□□.
2. Apply □□int re□o□er to dr□, □□inted □urf□ce □it□ □ru□□e□.
3. Al□w □□int re□o□er to re□ □in on □urf□ce for □eriod reco□ □ended in □ritin□ by □ □nuf□cturer or as deter□ined by □recon□truction te□tin□.
4. Us□ □ec□nic□□□ et□od□ reco□ □ended in □ritin□ by □ □nuf□cturer to re□o□e c□e□ic□□□ □nd □□int re□idue.
5. Re□e□t □roce□□ if nece□□□r□ to re□o□e all □□int.

3.6 □□□□TR□TE RE□□IR

A. □ener□: Re□□ir □u□□tr□te □urf□ce defect□ t□□t □re incon□i□tent □it□ t□e □urf□ce □□□e□r□nce of □d□□cent □ □teri□□□ □nd fini□□e□.

B. □ ood □u□□tr□te:

1. Re□□ir □ood defect□ inc□udin□ dent□ □nd □ou□e□ □ore t□□n 1/8 inc□ (3 mm) in □i□e □nd all □o□e□ □nd cr□c□□ by fi□in□ □it□ □ood-□□tc□in□ co□ □ound □nd □□ndin□ □□ oot□. Re□et or re□o□e □rotrudin□ f□□tener□.
2. □ □ere e□i□tin□ □□int i□ □□o□ed to re□ □in, □□nd irre□u□r □ui□du□ of □□int, run□, □nd sags to □c□ie□e a unifor□ □□ oot□ □urf□ce.

C. Ce□entitiou□ M□teri□□□u□□tr□te:

1. □ener□: Re□□ir defect□ inc□udin□ dent□ □nd chips □ore t□□n 1/2 inc□ (13 mm) in □i□e □nd □ll □o□e□ □nd cr□c□□ by fi□in□ □it□ ce□entitiou□ □□tc□in□ co□ □ound □nd □□ndin□ □□ oot□. Re□o□e □rotrudin□ f□□tener□.
2. New □nd □□re □□□ter: □eutr□i□e □urf□ce of □□□ter □it□ □id □cid □olution as reco□ □ended in □ritin□ by □□int □ □nuf□cturer. In □ieu of □cid neutr□i□□tion, fo□o□ □ □nuf□cturer'□ □ritten in□truction for □ri□er or tr□n□ition co□t o□er □□□□ine □□□ter □urf□ce□.
3. Concrete, Ce□ent □□□ter, □nd Ot□er Ce□entitiou□ □roduct□: Re□o□e eff□re□cence, chalk, du□t, dirt, □re□□e, oi□, □nd re□e□□e □□ent□. If □urf□ce□ □re too □□□□ine to □□int, correct t□i□ condition □efore □□intin□.

D. □ □□□u□-□□□ter □nd □ □□□u□-□o□rd □u□□tr□te□:

1. Re□□ir defect□ inc□udin□ dent□ □nd chips □ore t□□n 1/8 inc□ (3 mm) in □i□e □nd a□l □o□e□ □nd cr□c□□ by fi□in□ □it□ gyps□m-plas□er □□tc□in□ co□ □ound □nd □□ndin□ □□ oot□. Re□o□e □rotrudin□ f□□tener□.
2. Rout out □urf□ce cr□c□□ to re□o□e □oo□e, un□ound □ □teri□; fi□□□it□ □□tc□in□ co□ □ound □nd □□nd □□ oot□.

E. Met□□□u□□tr□te:

1. □re□□r□tion: Tre□t re□□ir □oc□tion□ by □ire-□ru□□in□ □nd □o□□ent c□e□nin□. □□e c□e□ic□□ or □ec□□nic□□ru□t re□o□□□□et□od to c□e□n off ru□t.
2. □ri□in□: □ri□e iron □nd □tee□□urf□ce□ i□ □edi□te□□ □fter re□□ir to □re□ent flash ru□tin□. □tri□e □□int corner□, cre□ice□, bo□ts, □e□d□, □nd sha□rp ed□e□. Apply t□o co□t to □urf□ce□ t□□t □re in□cce□□i□e □fter co□ □□etion of t□e □□or□.

3.7 PA□INT □□□□IC□TIO□, □E□ER□□

A. Co□mply □it□ □□nuf□cturer□' □ritten in□truction□ for □□□ic□tion □et□od□ un□e□□ ot□er□i□e indic□ted in t□i□ □ection.

B. □re□□re □urf□ce□ to □e □□inted □ccordin□ to t□e □urf□ce-□re□□r□tion □c□edu□e □nd □it□ □□nuf□cturer□□ □ritten in□truction□ for e□c□ □u□□tr□te condition.

C. Apply a tr□n□ition co□t o□er inco□ □□ti□e e□i□tin□ co□tin□□.

D. Met□□□u□□tr□te: □tri□e □□int corner□, cre□ice□, □o□t, □e□d□, □nd sha□rp ed□e□ □efore apply□ng fu□□co□t. Apply t□o co□t to □urf□ce□ t□□t □re in□cce□□i□e □fter co□ □□etion of t□e □□or□. Tint □tri□e co□t different t□□n t□e □□in co□tin□ □nd app□□ it□ brush.

E. □□endin□ □□inted □urf□ce□: □ □en □□intin□ ne□ □u□□tr□te□ □□tc□ed into e□i□tin□ □urf□ce□ or touc□in□ u□ □i□□in□ or d□□ □□ed fini□□e□, apply co□tin□ sys□em □□ecified for t□e □□ecific □u□□tr□te. Apply fin□□fini□□ co□t o□er entire □urf□ce fro□ ed□e to ed□e □nd corner to corner.

3.8 CLEAN□NG □□D □ROTECTIO□

A. □t end of e□c□ □or□d□□, re□o□e ru□□i□□, empty c□n□, rags, □nd ot□er di□c□rded □ □teri□□ fro□ □ro□ect □ite.

B. □fter co□ □□etin□ □□int □□□ic□tion, c□e□n □□□ttered □urf□ce□. Re□o□e □□□ttered □□int□ by wash□ng, □cr□□in□, or ot□er □et□od□. Do not □cr□tc□ or d□□ □□e □d□□cent fini□□ed □urf□ce□.

C. □rotect □or□ of ot□er tr□de□ □□□in□t damag□e fro□ □□int □□□ic□tion. Correct d□□ □□e to □or□ of ot□er tr□de□ by c□e□nin□, re□□irin□, re□□□cin□, □nd refini□□in□, as □□□ro□ed by □rc□itect, □nd □e□□e in □n und□□ □□ed condition.

D. □t co□ □□etion of con□truction □cti□itie□ of ot□er tr□de□, touc□ u□ □nd re□tore d□□ □□ed or def□ced □□inted □urf□ce□.

E□D OF □ECTIO□ 090190.52

□ECTIO□ 092216 - □O□-□TR□CT□R□□ MET□□ FR□MI□□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

A. □ection Inc□ude□:

1. □on-□o□d-□e□rin□ □tee□fr□□in□ sys□ems for interior □□rtition□.
2. □u□□en□ion sys□ems for interior cei□in□□ □nd □offit□.
3. □rid □u□□en□ion sys□ems for gyps□m □o□rd cei□in□□.

B. Re□□ted Re□uire□ent□:

1. □ection 054000 "Co□d-For□ed Met□□Fr□□in□" for e□terior □nd interior □o□d-□e□rin□ □nd e□terior non-□o□d-□e□rin□ wall □tud□; f□oor □oi□t□; □nd roof r□fter□ □nd cei□in□ □oi□t□.

1.2 □CTIO□ SUB MITTALS

A. □roduct D□t□: For e□c□t□□e of □roduct.

1.3 I□FORM□TIO□□□ SUB MITTALS

A. □roduct Certific□te□: For e□c□t□□e of code-co□ □i□nce certific□tion for □tud□ □nd tr□c□□.

B. E□□u□tion Re□ort□: For e□ □o□□ed, □i□□-□tren□t□ □tee□□tud□ □nd tr□c□□, fro□ ICC-E□ or ot□er □u□ified te□tin□ □□enc□ □cce□t□□e to □ut□oritie□ hav□ng □uri□diction.

1.4 QUAL ITY ASSU RAN CE

A. Code-Co□ □i□nce Certific□tion of □tud□ □nd Tr□c□□: □ro□ide docu□ent□tion t□□t fr□□in□ □e□ □er□ □re certified □ccordin□ to t□e □roduct-certific□tion □ro□r□□ of t□e Certified □tee□□tud □□□oci□tion.

□□RT 2 - □ROD□CT□

2.1 □ERFORM□□CE RE□□IREME□T□

A. Fire-Te□t-Re□□on□e C□□r□cteri□tic□: For fire-re□i□t□nce-r□ted ass□mbl□es t□□t incor□or□te non-□o□d-□e□rin□ □tee□fr□□in□, □ro□ide □□teri□□□ □nd con□truction identic□□ to t□o□e te□ted in as□embly indic□ted, □ccordin□ to □□TM E119 by □n inde□endent te□tin□ □□enc□.

B. □TC-R□ted Ass□mbl□es: For □TC-r□ted ass□mbl□es, □ro□ide □□teri□□□ □nd con□truction identic□□ to t□o□e te□ted in ass□mbly indic□ted on Dr□□in□□, □ccordin□ to □□TM E90 □nd c□□□ified □ccordin□ to □□TM E413 by □n inde□endent te□tin□ □□enc□.

C. □ori□ont□□Def□ection: For co□ □o□ite □nd non-co□ □o□ite wal □□□e□ □ie□, li□ited to 1/240 of t□e wall □ei□□t bas□d on □ori□ont□□□o□din□ of 5 lbf/sq. ft.. □ote t□□t □ore □trin□ent re□uire□ent□ may □e dict□ted by re□uire□ent□ of interior fini□□ □ □teri□□, □uc□ as □tucco or □tone.

2.2 FR□MI□□ □□□TEM□

A. Fr□□in□ Me□ □er, □ener□□: Co□ □□□ □it□ □□TM C754 for condition□ indic□ted.

1. □tee□ □□eet Co□ □onent□: Comply □it□ □□TM C645 re□uire□ent□ for □tee□ un□e□□ ot□er□i□e indic□ted.
2. □rotecti□e Co□tin□: □□TM A653/A653M, G40, □ot-di□ □□□□ni□ed un□e□□ ot□er□i□e indic□ted.

B. □tud□ □nd Tr□c□□: □□TM C645. Us□ eit□er con□ention□□□tee□□tud□ □nd tr□c□□ or e□ □o□□ed, □i□□-□tren□t□ □tee□□tud□ □nd tr□c□□.

1. □tee□□tud□ □nd Tr□c□□:
   a. Mini□u□ □□□e-□tee□T□ic□ne□□: □□indic□ted on Dr□□in□□.
   b. De□t□: As indic□ted on Dr□□in□□.

2. E□ □o□□ed, High □tren□t□ □tee□ □tud□ □nd Tr□c□□: Ro□-for□ed □nd e□ □o□□ed □it□ □urf□ce defor□ □tion□ to □tiffen t□e fr□□in□ □e□ □er□ □o t□□t t□e□ □re □tructur□□□□ co□ □□r□□e to con□ention□□□□TM C645 □tee□□tud□ □nd tr□c□□.

   a. Mini□u□ □□□e-□tee□T□ic□ne□□: □□indic□ted on Dr□□in□□.
   b. De□t□: As indic□ted on Dr□□in□□.

C. □i□-T□□e □e□d □oint□: □ □ere indic□ted, □ro□ide t□e fo□o□in□:

1. □in□e □on□-□e□ Tr□c□ Sys□em: □□TM C645 to□ tr□c□ □it□ 2-inc□-dee□ f□□n□e□ in t□ic□ne□□ not □e□□ t□□n indic□ted for □tud□, in□t□□ed □it□ □tud□ friction fit into to□ tr□c□ □nd □it□ continuou□ □rid□in□ □oc□ted □it□in 12 inc□e□ of t□e to□ of □tud□ to □ro□ide □ter□□ □r□cin□.
2. Dou□□e-Tr□c□ Sys□em: □□TM C645 to□ outer tr□c□□, in□ide tr□c□ □it□ 2-inc□-dee□ f□n□e□ in t□ic□ne□□ not □e□□ t□□n indic□ted for □tud□ □nd f□□tened to □tud□, □nd outer tr□c□ i□ed to friction-fit o□er inner tr□c□.
3. Def□ection Tr□c□: □tee□□□eet to□ tr□c□ □ □nuf□ctured to □re□ent cr□c□in□ of fini□□e□ □□□ied to interior □□rtition fr□□in□ re□u□tin□ fro□ def□ection of □tructure ab□ve; in t□ic□ne□□ not □e□□ t□□n indic□ted for □tud□ □nd in □idt□ to □cco□ □od□te de□t□ of □tud□.

   a. □roduct□: □u□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide one of t□e fo□o□in□:
      1) Dietric□ Met□□ Fr□□in□; □□□-TR□ □lotted Def□ection Tr□c□.
      2) M□A □ui□din□ □u□□ie□; F□□t□tee□Def□ection Tr□c□.
      3) □tee□□et□or□ Inc. (T□e)□VertiC□i□ SL D □erie□.
      4) □u□erior Met□□Tri□; □u□erior F□e□Tr□c□□□te□ (□FT).
      5) Te□in□Indu□trie□; Vertic□□□i□Tr□c□"Fire□to□Tr□c□□"

D. Fire□to□ Tr□c□□: To□ tr□c□ □ □nuf□ctured to □□o□ □□rtition heads to e□□□nd □nd contr□ct □it□ □o□e□ent of □tructure □□ie □ □int□inin□ continuit□ of fire-re□i□t□nce-r□ted ass□□bl□ indic□ted; in t□ic□ne□□ not □e□□t□□n indic□ted for □tud□ □nd in □idt□ to □cco□ □od□te de□t□ of □tud□.

E. F□□t Strap □nd □□c□in□ □□□te: □tee□□□eet for □oc□in□ □nd r□cin□ in □en□t□ □nd □idt□ indic□ted.

1. Mini□u□ □□□e-□tee□T□ic□ne□□□ □□indic□ted on Dr□□in□□.

F. Co□d-Ro□□ed C□□nne□□rid□in□□□tee□, 0.0538-inc□ □ini□u□ □□□e-□tee□t□ic□ne□□, □it□ □ini□u□ 1/2-inc□-□ide f□□n□e□.

1. De□t□□ □□indic□ted on Dr□□in□□.
2. Ci□□ □n□e□□ot □e□□t□□n 1-1/2 □□1-1/2 inc□e□, 0.068-inc□-t□ic□, □□□□□ni□ed □tee□.

□. □□t-□□□□ed, Ri□id Furrin□ C□□nne□□□□□TM C645.

1. Mini□u□ □□□e-□tee□T□ic□ne□□□ □□indic□ted on Dr□□in□□.
2. De□t□□ □□indic□ted on Dr□□in□□.

□. Re□i□ient Furrin□ C□□nne□□□ 1/2-inc□-dee□, □tee□ □□eet □e□ □er□ de□i□ned to reduce □ound tr□n□□i□□ion.

1. Confi□ur□tion□ □□□□ □etric□□or □□t □□□□ed.

I. Co□d-Ro□□ed Furrin□ C□□nne□□□ 0.053-inc□ unco□ted-□tee□t□ic□ne□□, □it□ □ini□u□ 1/2-inc□-□ide f□□n□e□.

1. De□t□□ □□indic□ted on Dr□□in□□.
2. Furrin□ □r□c□et□□□d□u□t□□e, corru□□ted-ed□e-t□□e □tee□□□eet □it□ □ini□u□ unco□ted-□tee□t□ic□ne□□ of 0.0329 inc□.
3. Tie □ire□ □□TM □641/□641M, C□□□□1 □inc co□tin□, □oft te□□er, 0.062-inc□-di□□eter □ire, or dou□e □tr□nd of 0.048-inc□-di□□eter □ire.

□. □-□□□□ed Furrin□□□ it□ □otted or non□otted □e□, f□ce f□□n□e of 1-1/4 inc□e□, □□□□tt□c□□ent f□□n□e of 7/8 inc□, □ini□u□ unco□ted-□tee□t□ic□ne□□ of 0.0179 inc□, □nd de□t□ re□uired to fit in□u□□tion t□ic□ne□□ indic□ted.

2.3 □□□□E□□IO□ □□□TEM□

□. Tie □ire□□□TM □641/□641M, C□□□□1 □inc co□tin□, □oft te□□er, 0.062-inc□-di□□eter □ire, or dou□e □tr□nd of 0.048-inc□-di□□eter □ire.

□. □□n□er □tt□c□□ent□ to Concrete□

1. □o□t-In□t□□ed □nc□or□□ F□□tener □□□te□ □ it□ □n e□□u□tion re□ort □cce□t□□e to □ut□oritie□ □□□in□ □uri□diction, □□□ed on ICC-E□ □C01 □C193 □C58 or □C308 □□ □□□ro□ri□te for t□e □u□□tr□te.

□. □□e□□□ecurin□ □□n□er□to □tructure.
□. T□□e□ Tor□ue-contro□ed, e□□□n□ion □nc□or tor□ue-contro□ed, □d□e□i□e □nc□or or □d□e□i□e □nc□or.
c. M□teri□□for Interior □oc□tion□□C□r□on-□tee□co□ □onent□ □inc-□□□ted to co□ □□□ it□ □□TM □633 or □□TM F1941, C□□□□ Fe/□n 5, un□e□□ ot□er□i□e indic□ted.
d. M□teri□□for E□terior or Interior □oc□tion□ □nd □ □ere □t□in□e□□ □tee□l□ Indic□ted□ □□o□□rou□1 □t□in□e□□-□tee□□o□t□, □□TM F593, □nd nut□, □□TM F594.

2. □o□er-□ctu□ted □nc□or□□ F□□tener □□□te□ □ it□ □n e□□u□tion re□ort □cce□t□□e to □ut□oritie□ □□□in□ □uri□diction, □□□ed on ICC-E□ □C70.

C. □ire □□n□er□□□□TM □641/□641M, C□□□□1 □inc co□tin□, □oft te□□er, 0.16 inc□ in di□□eter.

D. Flat Suspension Channel, in size indicated on Drawings.

E. Carrying Channels (Main Runners): Cold-rolled, commercial-steel sheet with a base-steel thickness of 0.0538 inch and minimum 1/2-inch-wide flanges.

1. Depth as indicated on Drawings.

F. Furring Channels (Furring Members):

1. Cold-Rolled Channels: 0.0538-inch uncoated-steel thickness, with minimum 1/2-inch-wide flanges, 3/4 inch deep.
2. Steel studs and Tracks: ASTM C645.

a. Minimum base-steel thickness: As indicated on Drawings.
b. Depth: As indicated on Drawings.

3. Evaporated, finish-strength steel studs and Tracks: ASTM C645.

a. Minimum base-steel thickness: As indicated on Drawings.
b. Depth: As indicated on Drawings.

4. Cut-sheet, Rigid Furring Channels: ASTM C645, 7/8 inch deep.

a. Minimum base-steel thickness: As indicated on Drawings.

5. Resilient Furring Channels: 1/2-inch-deep steel channel designed to reduce sound transmission.

a. Configuration: Asymmetric or hat shaped.

C. Grid Suspension System for Gypsum Board Ceilings: ASTM C645, direct-hung system composed of main beams and cross-furring members interlocking.

2.4 MISCELLANEOUS MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards.

1. Fasteners for Steel Framing: Of type, size, corrosion resistance, coating, and other properties required to fasten steel members to substrate.

B. Isolation Strip at Exterior Walls: Provide one of the following:

1. Asphalt-saturated Organic Felt: ASTM D226/D226M, Type I (No. 15 asphalt felt), nonperforated.
2. Foam gasket adhesive-backed, closed-cell polyolefin foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□ine □re□□ □nd □u□□tr□te□, □it□ In□t□□er □re□ent, □nd inc□udin□ □e□ded □o□o□-□et□□ fr□□e□, c□□t-in □nc□or□, □nd □tructur□□fr□□in□, for co□ □i□□nce □it□ re□uire□ent□ □nd ot□er condition□ □ffectin□ □erfor□ □nce of t□e □ or□.

□. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□ f□ctor□ condition□ □□□e □een corrected.

3.2 □RE□□R□TIO□

□. □u□□ended □□□e□ □ie□□ Coordin□te in□t□□□tion of □u□□en□ion □□□te□ □ it□ in□t□□□tion of o□er□e□d □tructure to en□ure t□□t in□ert□ □nd ot□er □ro□i□ion□ for □nc□or□□e□ to □ui□din□ □tructure □□□e □een in□t□□ed to recei□e □□n□er□ □t □□□cin□ re□uired to □u□□ort t□e □or□ □nd t□□t □□n□er□ □i□□de□e□ō□ t□eir fu□□□tren□t□.

1. Furni□□ concrete in□ert□ □nd ot□er de□ice□ indic□ted to ot□er tr□de□ for in□t□□□tion in □d□□nce of ti□e needed for coordin□tion □nd con□truction.

□. Coordin□tion □it□ □□r□□ed Fire-Re□i□ti□e M□teri□□□

1. □efore □□r□□ed fire-re□i□ti□e □ □teri□□□ □re □□□□ie□, □tt□c□ off□et □nc□or □□□te□ or cei□in□ tr□c□□ to □urf□ce□ indic□ted to recei□e □□r□□ed fire-re□i□ti□e □ □teri□□□. □ □ere off□et □nc□or □□□te□ □re re□uired, □ro□ide continuou□ □□□te□ f□□tened to □ui□din□ □tructure not □ore t□□n 24 inc□e□ o.c.
2. □fter □□r□□ed fire-re□i□ti□e □ □teri□□□ □re □□□□ie□, re□o□e t□e□ on□□ to e□tent nece□□□r□ for in□t□□□tion of non-□o□d-□e□rin□ □tee□fr□□in□. Do not reduce t□ic□ne□□ of fire-re□i□ti□e □ □teri□□□ □e□ō□ t□□t □re re□uired for fire-re□i□t□nce r□tin□□ indic□ted. □rotect □d□□cent fire-re□i□ti□e □ □teri□□□ fro□ d□□ □□e.

3.3 I□□T□□□□TIO□, □E□ER□□

□. In□t□□□tion □t□nd□rd□□□TM C754.

1. □ □□□u□ □□□□ter □□□e□ □ie□□□□□o co□ □□□ □it□ re□uire□ent□ in □□TM C841 t□□t □□□□□ to fr□□ in□ in□t□□□tion.
2. □ort□□nd Ce□ent □□□□ter □□□e□ □ie□□ □□□o co□ □□□ □it□ re□uire□ent□ in □□TM C1063 t□□t □□□□□ to fr□□ in□ in□t□□□tion.
3. □ □□□u□ Veneer □□□□ter □□□e□ □ie□□□□□o co□ □□□ □it□ re□uire□ent□ in □□TM C844 t□□t □□□□□ to fr□□ in□ in□t□□□tion.
4. □ □□□u□ □o□rd □□□e□ □ie□□□□□o co□ □□□ □it□ re□uire□ent□ in □□TM C840 t□□t □□□□□ to fr□□ in□ in□t□□□tion.

□. In□t□□fr□□in□ □nd □cce□□orie□ □u□□, □□u□re, □nd true to □ine, □it□ connection□ □ecure□ f□□tened.

C. In□t□□□u□□e□ent□r fr□□in□, □nd □□oc□in□ to □u□□ort fi□ture□, e□ui□□ent □er□ice□, □e□□□tri□, □r□□ □□r□, toi□et □cce□□orie□, furni□□in□□, or □i□ i□□r con□truction.

D. In□t□□□r□cin□ □t ter□in□tion□ in □□□e□ □ie□.

E. Do not □rid□e □uid□n□ contro□ □nd e□□□n□ion □oint□ □it□ non-□o□d-□e□rin□ □tee□ fr□□in□ □e□ □er□. Fr□□e both □ide□ of □oint□ inde□endent□□.

3.4 INS TALL ING FR□MED ASS EMBL IES

A. In□t□□□ fr□□in□ sys□em co□□onent□ □ccordin□ to spa□cin□s indic□ted, □ut not □re□ter t□□n spa□cin□s re□uired by referenced in□t□□□tion □t□nd□rd□ for ass□mbly typ□s.

1. □in□e-□□□er □□□ic□tion: As re□uired by □ori□ont□□def□ection □erfor□□nce re□uire□ent□ un□e□□ ot□er□i□e indic□ted.
2. Mu□ti□□□er □□□ic□tion: As re□uired by □ori□ont□□def□ection □erfor□□nce re□uire□ent□ un□e□□ ot□er□i□e indic□ted.
3. Ti□e □□c□in□ Pa□el□: As re□uired by □ori□ont□□def□ection □erfor□□nce re□uire□ent□ un□e□□ ot□er□i□e indic□ted.

B. □□ere □tud□ □re in□t□□ed direct□□ □□□in□t e□terior □ □□onr□ walls or di□□i□i□r m□et□als □t e□terior walls, in□t□□i□o□tion □tri□ □et□een □tud□ □nd e□terior wall

C. In□t□□□tud□ □o f□n□e□ □it□in fr□□in□ sys□em □oint in sam□ direction.

D. In□t□□□tr□c□□ □t floor□ □nd o□er□e□d □u□□ort□. E□tend fr□□in□ fu□□□ei□□t to □tructur□□□u□□ort□ or □u□□tr□te□ ab□v□ □u□□ended ceili□□□ e□ce□t □□ere □□rtition□ □re indic□ted to ter□in□te □t □u□□ended ceili□□□. Continue fr□□in□ □round duct□t□□t □enetr□te □□rtition□ ab□v□ ceili□□.

1. □i□-T□□e □e□d □oint□: □□ere fr□□in□ e□tend□ to o□er□e□d □tructur□□□u□□ort□, in□t□□□ to □roduce □oint□ □t to□□ of fr□□in□ sys□ems t□□t □re□ent ax□al □o□din□ of fini□□ed ass□mb□ies.
2. Door O□enin□□: □cre□ □ertic□□□tud□ □t □□mbs to □□□ □ □nc□or ci□□on door fr□□e□□in□t□□□ tr□c□ □ection (for cri□□□e □tud) □t □e□d □nd □ecure to jamb □tud□.

   a. In□t□□□t□o □tud□ □t e□c□ □□□ □un□e□□ ot□er□i□e indic□ted.
   b. In□t□□□cri□□□e □tud□ □t □e□d □d□□cent to e□c□ jamb □tud, □it□ a □ini□u□ 1/2-inc□ c□e□r□nce fro□ jamb □tud to □□o□ for in□t□□□tion of contro□ □oint in fini□□ed ass□mb□y.
   c. E□tend jamb □tud□ t□rou□□ □u□□ended ceili□□□ □nd □tt□c□ to under□ide of o□er□e□d □tructure.

3. Ot□er Fr□□ed O□enin□□: Fr□□e o□enin□□ ot□er t□□n door o□enin□□ t□e sam□ as re□uired for door o□enin□□ un□e□□ ot□er□i□e indic□ted. In□t□□□ fr□□in□ □e□o□ s□ls of o□enin□□ to □ □tc□ fr□□in□ re□uired ab□v□ door □e□d□.
4. Fire-Re□i□t□nce-R□ted □□rtition□: In□t□□□ fr□□in□ to co□□□□ □it□ fire-re□i□t□nce-r□ted ass□mbly indic□ted □nd □u□□ort c□o□ure□ □nd to mak□ □□rtition□ continuou□ fro□ floor to under□ide of □oli□ □tructure.

   a. Fire□to□ Tr□c□: □□ere indic□ted, in□t□□□ to □□int□in continuit□ of fire-re□i□t□nce-r□ted ass□mbly indic□ted.

5. □ound-R□ted □□rtition□: In□t□□□fr□□in□ to co□ply □it□ □ound-r□ted as□embly indic□ted.
6. Cur□ed □□rtition□:

   a. □end tr□c□ to unifor□ cur□e □nd □oc□te □tri□□t en□t□□ □o t□e□ □re t□n□ent to □rc□.
   b. □e□in □nd end e□c□ □rc □it□ a □tud, □nd spa□ce inter□edi□te □tud□ equally □on□ □rc□. On □tri□□t en□t□□ of no fe□er t□□n t□o □tud□ □t end□ of □rc□, pla□ce □tud□ 6 inc□e□ o.c.

E. Direct Furrin□:

1. □cre□ to □ood fr□□in□.
2. □tt□c□ to concrete or □ □□onr□ □it□ □tu□ nails, □cre□□ de□i□ned for □ □□onr□ □tt□c□□ent, or □o□der-dri□en f□□tener□ □□□ced 24 inc□e□ o.c.

F. Z-Shap ed Furrin□ Me□ □er□:

1. Erect in□u□□tion, □□ecified in □ection 072100 "T□er□ □□In□u□□tion," □ertic□□□ □nd □o□d in pla□ce □it□ Z-shap ed furrin□ □e□ □er□ □□□ced 24 inc□e□ o.c.
2. E□ce□t □t e□terior corner□, □ecure□ □tt□c□ n□rro□ f□n□e□ of furrin□ □e□ □er□ to wall □it□ concrete □tu□ nails, □cre□□ de□i□ned for □ □□onr□ □tt□c□□ent, or □o□der-dri□en f□□tener□ □□□ced 24 inc□e□ o.c.
3. □t e□terior corner□, □tt□c□ □ide f□n□e of furrin□ □e□ □er□ to wall □it□ □□ort f□n□e e□tendin□ □e□ond corner; on □d□□cent wall □urf□ce, □cre□-□tt□c□ □□ort f□n□e of furrin□ c□□nne□ to web of □tt□c□ed c□□nne□. □t interior corner□, □□□ce □econd □e□ □er no □ore t□□n 12 inc□e□ fro□ corner □nd cut in□u□□tion to fit.

G. In□t□□□tion To□er□nce: In□t□□□e□c□ fr□□in□ □e□ □er □o f□□tenin□ □urf□ce□ □□r□ not □ore t□□n 1/8 inc□ fro□ t□e pla□ne for□ed by f□ce□ of □d□□cent fr□□in□.

3.5 INS TALL ING CEI□I□□ SUSP ENS ION □□□TEM□

A. In□t□□□u□□en□ion sys□em co□ □onent□ □ccordin□ to spa□ings indic□ted, □ut not □re□ter t□□n □□□cin□□ re□uired by referenced in□t□□□tion □t□nd□rd□ for ass□mbly t□□e□.

1. □□n□er□: 48 inc□e□ o.c.
2. C□rr□in□ C□□nne□□ (M□in Runner□): 48 inc□e□ o.c.
3. Furrin□ C□□nne□□ (Furrin□ Me□ □er□): 16 inc□e□ o.c.

B. I□o□te □u□□en□ion □□□te□ fro□ □uildin□ □tructure □□ere t□e□ □□ut or □re □enetr□ted by □uildin□ □tructure to □re□ent tr□n□fer of □o□din□ i□ □o□ed by □tructur□□□ o□e□ent.

C. □u□□end □□n□er□ fro□ □uildin□ □tructure as fo□□□:

1. In□t□□□□□n□er□ p□umb □nd free fro□ cont□ct □it□ in□u□□tion or ot□er o□ect□ □it□in cei□in□ □□enu□ t□□t □re not □□rt of □u□□ortin□ □tructur□□or □u□□en□ion sys□em.

   a. Splay □□n□er□ on□ □□ere re□uired to □iss o□□truction□ □nd off□et re□u□tin□ □ori□ont□□force□ by □r□cin□, counter□□□□in□, or ot□er e□u□□□ effecti□e □e□n□.

2. □ □ere □idt□ of duct□ □nd ot□er con□truction □it□in cei□in□ □□enu□ □roduce□ □□n□er □□□cin□□ t□□t interfere □it□ □oc□tion□ of □□n□er□ re□uired to □u□□ort □t□nd□rd □u□□en□ion sys□em □e□ □er□, in□t□□□u□□e□ent□□□u□□en□ion □e□ □er□ □nd □□n□er□ in t□e for□ of tr□□e□e□ or e□ui□□ent de□ice□.

   a. □i□e □u□□e□ent□□ □u□□en□ion □e□ □er□ □nd □□n□er□ to □u□□ort cei□in□ □o□d□ □it□in □erfor□ □nce i□ it□ e□t□□i□□ed by referenced in□t□□□tion □t□nd□rd□.

3. □ire □□n□er□: □ecure by □oo□in□ □nd □ire t□in□, eit□er direct□□ to □tructure□ or to in□ert□, e□e □cre□□, or ot□er de□ice□ □nd f□□tener□ t□□t □re □ecure □nd □□□ro□ri□te for □u□□tr□te, □nd in a □□nner t□□t will not c□u□e □□n□er□ to deterior□te or ot□er□i□e f□i□.
4. F□t □□n□er□: □ecure to □tructure, inc□udin□ inter□edi□te fr□□in□ □e□ □er□, by □tt□c□in□ to in□ert□, e□e □cre□□, or ot□er de□ice□ □nd f□□tener□ t□□t □re □ecure □nd □□□ro□ri□te for

□tructure □nd □□n□er, □nd in a □□nner t□□t will not c□u□e □□n□er□ to deterior□te or ot□er□i□e f□i□.

5. Do not □tt□c□ □□n□er□ to □tee□roof dec□.
6. Do not □tt□c□ □□n□er□ to □er□□nent metal for□□. Furni□□ c□□t-in-□□□ce □□n□er in□ert□ t□□t e□tend t□rou□□ for□□.
7. Do not □tt□c□ □□n□er□ to ro□□ed-in □□n□er tabs of co□□o□ite □tee□ f□oor dec□.
8. Do not connect or □u□□end □tee□fr□□ in□fro□ duct□, □i□e□, or conduit.

D. Fire-Re□i□t□nce-R□ted Ass□mbli□s: □ire tie furrin□ c□□nne□□ to □u□□ort□.

E. □rid □u□□en□ion Sys□ems: □tt□c□ □eri□eter wall □r□c□ or □n□e □□ere □rid □u□□en□ion sys□ems □eet □ertic□□□urf□ce□. Mec□□nic□□□ □oin □□in beam □nd cro□□-furrin□ □e□ □er□ to e□c□ ot□er □nd □utt-cut to fit into wall □r□c□.

F. In□t□□□tion To□er□nce□: In□t□□□u□□en□ion sys□ems t□□t □re □e□e□to □it□in 1/8 inc□ in 12 feet □e□□ured □en□t□□i□e on e□c□ □e□ □er t□□t will recei□e fini□□e□ □nd tr□n□□er□e□□ □et□een □□r□□e□□ e□ □er□t□□t will □ecei□e fini□□e□.

E□D OF □ECTIO□ 092216

□ECTIO□ 092900 - GYPSU M □O□RD

□□RT 1 - □E□ER□□

1.1 □□MM□R□

A. □ection Inc□ude□:

1. Interior gyps ɹm □o□rd.
2. Ti□e □□c□in□ pa□e□s.

□. Re□□ted Re□uire□ent□:
1. □ection 079219 "□cou□tic□□ □oint □e□□nt□" for □cou□tic□□ □oint s□ala□t□ in□t□□ed in gyp□um □o□rd □□□e□ □ie□.
2. □ection 092216 "□on-□tructur□□ Met□□ Fr□□in□" for non-□tructur□□ □tee□ fr□□in□ □nd □u□□en□ion sys□ems t□□t □u□□ort gyps ɹm □o□rd pa□e□s.
3. □ection 093013 "Cer□□ic Ti□in□" for ce□entitiou□ □□c□er unit□ in□t□□ed as □u□□tr□te□ for cer□□ic ti□e.

1.2 □CTIO□ SUB MITTALS

A. □roduct D□t□: For t□e fo□o□in□:

1. Gyps ɹm wallb□a□d.
2. Gyps ɹm □o□rd, T□□e X.
3. Gyps ɹm cei□in□ □o□rd.
4. Mo□d-re□i□t□nt gyps ɹm □o□rd.
5. □cou□tic□□□□en□□nced gyps ɹm □o□rd.
6. Ce□entitiou□ □□c□er unit□.
7. □ □ter-re□i□t□nt gyps ɹm □□c□in□ □o□rd.
8. Interior tri□.
9. □u□inu□ tri□.
10. □oint tre□t□ent □ □teri□□□.
11. □ound-□ttenu□tion bla□k□ts.
12. □cou□tic□□□e□□□nt.

1.3 DE□IVER□, □TOR□□E AN D HAN DL□NG

A. □tore □ □teri□□□ in□ide under co□er □nd □ee□ t□e□ dr□ □nd □rotected □□□in□t □e□t□er, conden□□tion, direct □uni□□t, con□truction tr□ffic, □nd ot□er □otenti□□c□u□e□ of damag e. Stack □□ne□□ f□□t □nd □u□□orted on ri□er□on a f□□t □□□tfor□ to □re□ent sagg ing.

1.4 FIE□D CO□DITIO□□

A. En□iron□ent□□ □i□it□tion□: Co□ply □it□ □□TM C840 re□uire□ent□ or gyps ɹm □o□rd □ □nuf□cturer□□ □ritten in□truction□, □□ic□e□er □re □ore □trin□ent.

B. Do not in□t□□□□□□er-f□ced gyps ɹm pa□e□s unti□in□t□□□tion are□as □re enc□o□ed □nd conditioned.

C. Do not in□t□□□□ne□□t□□t □re □et, □oi□ture d□□ □□ed, □nd □o□d d□□ □□ed.

1. Indic□tion□ t□□t pa□nels □re □et or □oi□ture d□□ □□ed inc□ude, □ut □re not i□□ited to, di□co□or□tion, sagg□ing, or irre□u□□r shap□e.
2. Indic□tion□ t□□t pa□nels □re □o□d d□□ □□ed inc□ude, □ut □re not i□□ited to, fu□zzy or □□otc□□ □urf□ce cont□□in□tion □nd di□co□or□tion.

□□RT 2 - □ROD□CT□

2.1 □ERFORM□□CE RE□□IREME□T□

A. Fire-Re□i□t□nce-R□ted Ass□mb□ies: For fire-re□i□t□nce-r□ted ass□mb□ies, □ro□ide □□teri□□□ □nd con□truction identic□□ to t□o□e te□ted in ass□mbl□ indic□ted □ccordin□ to □□TM E119 by □n inde□endent te□tin□ □□enc□.

B. □TC-R□ted Ass□mb□ies: For □TC-r□ted ass□mb□ies, □ro□ide □□teri□□□ □nd con□truction identic□□ to t□o□e te□ted in ass□mbly indic□ted □ccordin□ to □□TM E90 □nd c□□□□ified □ccordin□ to □□TM E413 by □n inde□endent te□tin□ □□enc□.

2.2 GYPSU□ M □O□RD, □E□ER□□

A. □i□e: □ro□ide □ □□i□u□ □en□t□□ □nd □idt□□ □□□i□□□e t□□t □i□□□ ini□i□e □oint□ in e□c□ □re□ □nd t□□t corre□□ond □it□ □u□□ort sys□em indic□ted.

2.3 I□TERIOR GYPSU□ M □O□RD

A. Gyps□m □ □□□o□rd: □□TM C1396/C1396M.

1. T□ic□ne□□: 5/8 inc□.
2. □on□ Ed□e□: T□□ered.

B. Gyps□m □o□rd, T□□e X: □□TM C1396/C1396M.

1. T□ic□ne□□: 5/8 inc□.
2. □on□ Ed□e□: T□□ered.

C. Gyps□m Cei□in□ □o□rd: □□TM C1396/C1396M.

1. T□ic□ne□□: 1/2 inc□.
2. □on□ Ed□e□: T□□ered.

D. Mo□d-Re□i□t□nt Gyps□m □o□rd: □□TM C1396/C1396M. □it□ □oi□ture- □nd □o□d-re□i□t□nt core □nd □□□er □urf□ce□.

1. Core: As indic□ted.
2. □on□ Ed□e□: T□□ered.
3. Mo□d Re□i□t□nce: □□TM D3273, □core of 10 as r□ted □ccordin□ to □□TM D3274.

2.4 TI□E □□C□I□□ □□□E□□

□. Ce□entitiou□ □□c□er □nit□□ □□□I □118.9 □nd □□TM C1288 or □□TM C1325, □it□ □ □nuf□cturer□□ □t□nd□rd ed□e□.

1. T□ic□ne□□□ 1/2 inc□.
2. Mo□d Re□i□t□nce□□□TM D3273, □core of 10 □□r□ted □ccordin□ to □□TM D3274.

□. □ □ter-Re□i□t□nt □ □□□u□ □□c□in□ □o□rd□□□TM C1396/C1396M, □it□ □ □nuf□cturer□□ □t□nd□rd ed□e□.

1. Core□ □□indic□ted on Dr□□in□□.

2.5 TRIM □CCE□□ORIE□

□. Interior Tri□ □□□TM C1047.

1. M□teri□□□ □ □□□□ni□ed or □□u□inu□-co□ted □tee□□□eet, ro□□ed □inc, □□□□tic, or □□□er-f□ced □□□□□ni□ed-□tee□□□eet.
2. □□□□e□□

□. Corner□e□d.
□. □u□no□e □e□d.
c. □C-□e□d□□-□□□□ed□e□□o□ed □on□ f□□n□e recei□e□ □oint co□ □ound.
d. □-□e□d□□-□□□□ed□e□□o□ed □on□ f□□n□e recei□e□ □oint co□ □ound.
e. □-□e□d□□-□□□□ed□e□□o□ed □□ort f□□n□e doe□ not recei□e □oint co□ □ound.
f. E□□□n□ion (contro□) □oint.
□. Cur□ed-Ed□e Corner□e□d□□ it□ notc□ed or f□□i□□e f□□n□e□.

□. □u□inu□ Tri□ □E□truded □cce□□orie□ of □rofi□e□ □nd di□en□ion□ indic□ted.

1. □u□inu□ □□□o□ □nd te□ □er □it□ not □e□□ t□□n t□e □tren□t□ □nd dur□□i□it□ □ro□ertie□ of □□TM □221, □□o□6063-T5.
2. Fini□□□ Corro□ion-re□i□t□nt □ri□er co□ □□ti□□e □it□ □oint co□ □ound □nd fini□□ □ □teri□□□ □□ecified.

2.6 □OI□T TRE□TME□T M□TERI□□□

□. □ener□□□Co□ □□□ □it□ □□TM C475/C475M.

□. □oint T□□e□

1. Interior □ □□□u□ □o□rd□□□□er.
2. E□terior □ □□□u□ □offit □o□rd□□□□er.
3. □ □□□□-M□t □ □□□u□ □□e□t□in□ □o□rd□10-□□-10 □□□□□ □e□□.
4. Ti□□ □□c□in□ □□ne□□□□□ reco□ □ended □□ □□ne□□ □nuf□cturer.

C. □oint Co□ □ound for Interior □ □□□u□ □o□rd□For e□c□ co□t, u□e for□u□tion t□□t i□ co□ □□ti□□e □it□ ot□er co□ □ound□ □□□□ied on □re□iou□ or for □ucce□□i□e co□t□.

1. □refi□in□□□t o□en □oint□ □nd d□□ □□ed □urf□ce □re□□, u□e □ettin□-t□□e t□□in□ co□ □ound.
2. E□ □eddin□ □nd Fir□t Co□t□For e□ □eddin□ t□□e □nd fir□t co□t on □oint□, f□□tener□, □nd tri□ f□□n□e□, u□e □ettin□-t□□e t□□in□ co□ □ound.

□. □□e □ettin□-t□□e co□ □ound for in□t□□in□ □□□er-f□ced □et□□tri□ □cce□□orie□.

3. Fi□□Co□t□For □econd co□t, u□e □ettin□-t□□e, □□nd□□e to□□in□ co□ □ound.
4. Fini□□ Co□t□For t□ird co□t, u□e □ettin□-t□□e, □□nd□□e to□□in□ co□ □ound.
5. □i□ Co□t□For fin□□co□t of □e□e□5 fini□□, u□e □ettin□-t□□e, □□nd□□e to□□in□ co□ □ound.

D. □oint Co□ □ound for Ti□e □□c□in□ □□ne□□□

1. Ce□ entitiou□ □□c□er □nit□□□□ reco□ □ended □□ □□c□er unit □ □nuf□cturer.
2. □ □ter-Re□i□t□nt □ □□□u□ □□c□in□ □o□rd□□□e □ettin□-t□□e t□□in□ co□ □ound □nd □ettin□-t□□e, □□nd□□e to□□in□ co□ □ound.

2.7 □□□I□I□R□ M□TERI□□□

□. □ro□ide □u□i□i□r□ □ □teri□□□ t□□t co□ □□□ □it□ referenced in□t□□□tion □t□nd□rd□ □nd □ □nuf□cturer□□ □ritten in□truction□.

□. □□□□ in□tin□ □d□e□i□e□□d□e□i□e or □oint co□ □ound reco□ □ended for direct□□ □d□erin□ □□□□u□ □□ne□□ to continuou□ □u□□tr□te.

C. □tee□Dri□□□cre□ □□□□TM C1002 un□e□□ ot□er□i□e indic□ted.

1. □□e □cre□□ co□ □□□in□ □it□ □□TM C954 for f□□tenin□ □□ne□□ to □tee□□e□ □er□ fro□ 0.033 to 0.112 inc□t□ic□.
2. For f□□tenin□ ce□entitiou□ □□c□er unit□, u□e □cre□□ of t□□e □nd □i□e reco□ □ended □□ □□ne□□ □nuf□cturer.

D. □ound-□ttenu□tion □□□n□et□□□□TM C665, T□□e I (□□□n□et□ □it□out □e□ □r□ne f□cin□) □roduced □□ co□ □inin□ t□er□o□ettin□ re□in□ □it□ □iner□□fi□er□ □ □nuf□ctured fro□ □□□□□, □□□□ □oo□, or roc□ □oo□.

1. Fire-Re□i□t□nce-R□ted □□□e□ □□ie□□Co□ □□□ □it□ □iner□□-fi□er re□uire□ent□of □□□e□ □□□.

E. □cou□tic□□□e□□□nt□□□ □□ecified in □ection 079219 "□cou□tic□□□oint □e□□□nt□."

F. T□er□ □□In□u□□tion□□□ □□ecified in □ection 072100 "T□er□ □□In□u□□tion."

□. V□□or Ret□rder□□□ □□ecified in □ection 072600 "V□□or Ret□rder□."

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□ine □re□□ □nd □u□□tr□te□ inc□udin□ □e□ded □o□o□-□et□□fr□□ e□ □nd □u□□ort fr□□ in□, □it□ In□t□□□er □re□ent, for co□ □i□nce □it□ re□uire□ent□ □nd ot□er condition□ □ffectin□ □erfor□ □nce of t□e □ or□.

□. E□□□ine □□ne□□ □efore in□t□□□tion. Re□ect □□ne□□ t□□t □re □et, □oi□ture d□□ □□ed, □nd □o□d d□□ □□ed.

C. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□f□ctor□ condition□ □□□e □een corrected.

3.2 I□□T□□□□TIO□ AN D FI□I□□I□□ OF PAN ELS , □E□ER□□

A. Co mply □it□ □□TM C840.

B. In□t□□□cei□in□ pa□nels □cro□□ fr□□in□ to □ini□i□e t□e nu□□er of □□uttin□ end □oint□ □nd to □□oid □□uttin□ end □oint□ in centr□□□re□ of e□c□ cei□in□. □t□□□er □□uttin□ end □oint□ of □d□□cent pa□nels not □e□□t□□n one fr□□in□ □e□□er.

C. In□t□□□pa□nels □it□ f□ce □ide out. □utt pa□nels to□et□er for a □i□□t cont□ct □t ed□e□ □nd end□ □it□ not □ore t□□n 1/16 inc□ of o□en □□□ce □et□een pa□nels. Do not force into □□□ce.

D. □oc□te ed□e □nd end □oint□ o□er □u□□ort□, e□ce□t in cei□in□ □□□□ic□tion□ □□ere inter□edi□te □u□□ort□ or gyps □m □o□rd □□c□-□oc□in□ i□ □ro□ided □e□ind end □oint□. Do not □□□ce t□□ered ed□e□ □□□in□t cut ed□e□ or end□. □t□□□er □ertic□□□oint□ on o□□o□ite □ide□ of □□rtition□. Do not mak□ □oint□ ot□er t□□n contro□ □oint□ □t corner□ of fr□□ed o□enin□□.

E. For□ contro□□nd e□□□n□ion □oint□ □it□ spa□ce □et□een ed□e□ of □d□oinin□ gyps □m pa□nels.

F. Co□er □ot□ f□ce□ of □u□□ort fr□□in□ □it□ □□□□u□ pa□nels in conce□□ed spa□ces (ab□v□ cei□in□□, etc.), e□ce□t in c□as□s □r□ced intern□□□.

1. □n□e□□ conce□□ed □□□ic□tion i□ indic□ted or re□uired for □ound, fire, □ir, or □□o□e r□tin□□, co□er□□e may □e □cco□ □i□□ed □it□ s□raps of not □e□□t□□n 8 sq. ft. in □re□.
2. Fit gyps □m □□ne□□ round duct□, pi□es, □nd conduit□.
3. □ □ere □□rtition□ inter□ect □tructur□□□e□ □er□ □ro□ectin□ □e□o□ under□ide of f□oor/roof slabs □nd dec□□, cut gyps □m pa□nels to fit □rofi□e for□ed by □tructur□□□e□ □er□; □□o□ 1/4- to 3/8-inc□-□ide □oint□ to in□t□□□e□□nt.

G. I□o□te □eri□eter of gyp□um □o□rd □□□ied to non-□o□d-□e□rin□ □□rtition□ □t □tructur□□ □□ut□ent□. □ro□ide 1/4- to 1/2-inc□-□ide spa□ce□ □t t□e□e □oc□tion□ □nd tri□ ed□e□ □it□ ed□e tri□ □□ere ed□e□ of □□ne□□ □re e□□o□ed. Seal □oint□ □et□een ed□e□ □nd □□uttin□ □tructur□□ □urf□ce□ □it□ □cou□tic□□□e□□nt.

H. □tt□c□□ent to □tee□Fr□□in□: □tt□c□ pa□nels □o □e□din□ ed□e or end of e□c□ pa□nel □tt□c□ed to o□en (un□u□□orted) ed□e□ of □tud f□n□e□ firs□t.

I. □ood Fr□□in□: In□t□□□ gyps □m pa□nels o□er □ood fr□□in□, □it□ f□□tin□ intern□□ corner con□truction. Do not □tt□c□ gyps □m pa□nels □cro□□ t□e f□□t □r□in of □ide-di□en□ion □u□□er, inc□udin□ f□oor □oi□t□ □nd □e□der□. F□□t gyp□um □□ne□□ o□er t□e□e □e□□er□ or □ro□ide contro□ □oint□ to counter□ct □ood □□rin□□□e.

□. □TC-R□ted Ass□mb□ie□: □e□□con□truction □t □eri□eter□, □e□ind contro□ □oint□, □nd □t o□enin□□ □nd □enetr□tion□ □it□ a continuou□ □e□d of □cou□tic□□□e□□nt. In□t□□□ cou□tic□□□e□□nt □t both f□ce□ of □□rtition□ □t □eri□eter□ □nd t□rou□□ □enetr□tion□. Co mply □it□ □□TM C919 □nd □it□ □ □nuf□cturer□□ □ritten in□truction□ for □oc□tin□ ed□e tri□ □nd c□□in□ off □ound-f□n□in□ pa□hs □round or t□rou□□ ass□mb□ie□, inc□udin□ □e□in□ □□rtition□ abov□ □cou□tic□□cei□in□□.

□. In□t□□□ound □ttenu□tion bla□k□ts □efore in□t□□in□ gyps □m □□ne□□ un□e□□ bla□k□ts □re re□di□□ in□t□□ed □fter □□ne□□ □□□e □een in□t□□ed on one □ide.

3.3 I□□T□□□□TIO□ OF I□TERIOR GYPSU M □O□RD

A. In□t□□□interior gyps □m □o□rd in t□e fo□o□in□ □oc□tion□:

1. □ □□□oard T□□e□ □□indic□ted on Dr□□in□□.
2. T□□e □□ □□indic□ted on Dr□□in□□.
3. Cei□in□ T□□e□ □□indic□ted on Dr□□in□□.
4. Mo□d-Re□i□t□nt T□□e□ □□indic□ted on Dr□□in□□.

□. □in□e-□□□er □□□ic□tion□

1. On cei□in□□, □□□□□ □□□□u□ □□ne□ □efore □ □□/□□rtition □o□rd □□□ic□tion to □re□te□t e□tent □o□i□e □nd □t ri□□t □n□e□ to fr□□in□ un□e□□ ot□er□i□e indic□ted.
2. On □□rtition□/□ □□□□, □□□□□ □□□□u□ □□ne□ □ori□ont□□□ (□er□endicu□r to fr□□in□) un□e□□ ot□er□i□e indic□ted or re□uired □□ fire-re□i□t□nce-r□ted □□□e□ □□□, □nd □ini□i□e end □oint□.

   □. □t□□□er □□uttin□ end □oint□ not re□□t□□n one fr□□in□ □e□□er in □tern□te cour□e□ of □□ne□.
   □. □t □t□ir□e□ □nd ot□er □i□□ □ □□□, in□t□□ □□ne□ □ori□ont□□□ un□e□□ ot□er□i□e indic□ted or re□uired □□ fire-re□i□t□nce-r□ted □□□e□ □□□.

3. On □-□□□□ed furrin□ □e□ □er□, □□□□□ □□□□u□ □□ne□ □ertic□□□ (□□r□e□ to fr□□in□) □it□ no end □oint□. □oc□te ed□e □oint□ o□er furrin□ □e□ □er□.
4. F□□tenin□ Met□od □□□ □□□□ □□□□u□ □□ne□ to □u□□ort□ □it□ □tee□ dri□□cre□□.

C. Mu□ti□□□er □□□ic□tion□

1. On cei□in□□, □□□□□ □□□□u□ □o□rd indic□ted for □□□e □□er□ □efore □□□□in□ □□□e □□er□ on □□□□/□□rtition□□□□□□ f□ce □□er□ in □□□e □e□uence. □□□□ □□□e □□er□ □t ri□□t □n□e□ to fr□□in□ □e□ □er□ □nd off□et f□ce-□□er □oint□ one fr□□in□ □e□ □er, 16 inc□e□ □ini□u□, fro□ □□r□e□□□□e-□□er □oint□, un□e□□ ot□er□i□e indic□ted or re□uired □□ fire-re□i□t□nce-r□ted □□□e□ □□□.
2. On □□rtition□/□ □□□□, □□□□□ □□□□u□ □o□rd indic□ted for □□□e □□er□ □nd f□ce □□er□ □ertic□□□ (□□r□e□ to fr□□in□) □it□ □oint□ of □□□e □□er□ □oc□ted o□er □tud or furrin□ □e□ □er □nd f□ce-□□er □oint□ off□et □t □e□□t one □tud or furrin□ □e□ □er □it□ □□□e-□□er □oint□ un□e□□ ot□er□i□e indic□ted or re□uired □□ fire-re□i□t□nce-r□ted □□□e□ □□□. □t□□□er □oint□ on o□□o□ite □ide□ of □□rtition□.
3. On □-□□□□ed furrin□ □e□ □er□, □□□□□ □□□e □□er □ertic□□□ (□□r□e□ to fr□□in□) □nd f□ce □□er eit□er □ertic□□□ (□□r□e□ to fr□□in□) or □ori□ont□□□ (□er□endicu□r to fr□□in□) □it□ □ertic□□ □oint□ off□et □t □e□□t one furrin□ □e□ □er. □oc□te ed□e □oint□ of □□□e □□er o□er furrin□ □e□ □er□.
4. F□□tenin□ Met□od□□ F□□ten □□□e □□er□ □nd f□ce □□er□ □e□□r□te□ to □u□□ort□ □it□ □cre□□.

3.4 I□□T□□□□TIO□ OF TI□E □□C□I□ □□□E□□

□. Ce□entitiou□ □□c□er □nit□□□□□l □108.11, □t □oc□tion□ indic□ted to recei□e ti□e.

□. □ □ter-Re□i□t□nt □□c□in□ □o□rd□In□t□□□ere indic□ted □it□ 1/4-inc□ □□□ □□ere □□ne□ □□ut ot□er con□truction or □enetr□tion□.

C. □ □ere ti□ □□c□in□ □□ne□ □□ut ot□er t□□e□ of □□ne□ in □□□e □□ne, □□i□ □urf□ce□ to □roduce □ unifor□ □□ne □cro□□ □□ne□urf□ce□.

3.5 I□□T□□□□TIO□ OF TRIM □CCE□□ORIE□

□. □ener□□□ For tri□ □it□ □□c□ f□n□e□ intended for f□□tener□, □tt□c□ to fr□□in□ □it□ □□□e f□□tener□ u□ed for □□ne□□. Ot□er□i□e, □tt□c□ tri□ □ccordin□ to □□nuf□cturer□□ □ritten in□truction□.

□. Contro□□oint□□In□t□□□contro□oint□ □ccordin□ to □□TM C840 □nd in □□ecific □oc□tion□ □□□ro□ed □□ □rc□itect for □i□u□□effect.

C. Interior Tri□ □In□t□□□in t□e fo□o□in□ □oc□tion□□

1. Corner□e□d□□□e □t out□ide corner□.
2. □u□no□e □e□d□□□e □t out□ide corner□.
3. □C-□e□d□□□e □t e□□o□ed □□ne□ed□e□.
4. □-□e□d□□□e □□ere indic□ted.
5. □-□e□d□□□e □t e□□o□ed □□ne□ed□e□.
6. Cur□ed-Ed□e Corner□e□d□□□e □t cur□ed o□enin□□.

3.6 FI□I□□I□□ □□□□□M □O□RD

□. □ener□□□ Tre□t □□□□u□ □o□rd □oint□, interior □n□e□, ed□e tri□, contro□ □oint□, □enetr□tion□, f□□tener □e□d□, □urf□ce defect□, □nd e□□e□□ere □□ re□uired to □re□□re □□□□u□ □o□rd □urf□ce□ for decor□tion. □ro□ □t□□ re□o□e re□idu□□□oint co□ □ound fro□ □d□□cent □urf□ce□.

□. □refi□□o□en □oint□ □nd d□□ □□ed □urf□ce □re□□.

C. □□□□□ □oint t□□e o□er □□□□u□ □o□rd □oint□, e□ce□t for tri□ □roduct□ □□ecific□□□ indic□ted □□ not intended to recei□e t□□e.

D. □□□□u□ □o□rd Fini□□ □e□e□□□ Fini□□ □□ne□□ to □e□e□□ indic□ted □e□o□ □nd □ccordin□ to □□TM C840□

1. □e□e□1□Cei□in□ □□enu□ □re□□, conce□□ed □re□□, □nd □□ere indic□ted.
2. □e□e□2□ □□ne□□t□□t □re □u□□tr□te for ti□e.
3. □e□e□4□ □t □□ne□□urf□ce□t□□t □i□□□e e□□o□ed to □ie□ un□e□□ ot□er□i□e indic□ted.

□. □ri□er □nd it□ □□□□ic□tion to □urf□ce□ □re □□ecified in □ection 099123 "Interior □□intin□."

E. Ce□entitiou□ □□c□er □nit□□Fini□□ □ccordin□ to □□nuf□cturer□□ □ritten in□truction□.

3.7 □ROTECTIO□

□. □rotect □d□□cent □urf□ce□ fro□ dr□□ □□□co□ound □nd □ro□ □t□□ re□o□e fro□ f□oor□ □nd ot□er non-dr□□ □□□□urf□ce□. Re□□ir □urf□ce□ □t□ined, □□rred, or ot□er□i□e d□□ □□ed durin□ dr□□ □□□□ □□□□ic□tion.

□. □rotect in□t□□□ed □roduct□ fro□ d□□ □□e fro□ □e□t□er, conden□□tion, direct □uni□□t, con□truction, □nd ot□er c□u□e□durin□ re□ □inder of t□e con□truction □eriod.

C. Re□o□e □nd re□□□ce □□ne□□t□□t □re □et, □oi□ture d□□ □□ed, □nd □o□d d□□ □□ed.

1. Indic□tion□ t□□t pa ne ls □re □et or □oi□ture d□□ □□ed inc□ude, □ut □re not i□ited to, di□co□or□tion, sagg ing, or irre□u□□r shap e.
2. Indic□tion□ t□□t □□ne□ □re □o□d d□□ □□ed inc□ude, □ut □re not i□ited to, fu zzy or □□otc□□ □urf□ce cont□□ in□tion □nd di□co□or□tion.

E□D OF □ECTIO□ 092900

□ECTIO□ 093013 - CER□MIC TI□I□□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection Inc□ude□□

1. □orce□□in ti□e.
2. □□□□ed □□□□ti□e.
3. T□re□□o□d□.
4. Ti□e □□c□in□ □□ne□□.
5. □ □ter□roof □e□ □r□ne□.
6. Cr□c□i□o□□tion □e□ □r□ne□.

□. Re□□ted Re□uire□ent□□

1. □ection 079200 "□oint □e□□□nt□" for □e□in□ of e□□□n□ion, contr□ction, contro□, □nd i□o□□tion □oint□in ti□e □urf□ce□.

1.2 DEFI□ITIO□□

□. □ener□□□Definition□ in t□e □□□I □108 □erie□ of ti□e in□t□□□tion □t□nd□rd□ □nd in □□□I □137.1 □□□□□□ to □ or□ of t□i□ □ection un□e□□ ot□er□i□e □□ecified.

□. F□ce □i□e□□ctu□□ti□e □i□e, e□c□udin□ □□□cer □u□□.

C. Modu□e □i□e□□ctu□□ti□e □i□e □u□□oint □idt□ indic□ted.

1.3 □REI□□T□□□□TIO□ MEETI□□□

□. □rein□t□□□tion Conference□Conduct conference □t □ro□ect □ite.

1. Re□ie□ re□uire□ent□in □□□I □108.01 for □u□□tr□te□ □nd for □re□□r□tion □□ot□er tr□de□.

1.4 □CTIO□ □□□MITT□□□

□. □roduct D□t□□For e□c□t□□e of □roduct.

□. □□o□ Dr□□in□□□□□o□ □oc□tion□ of e□c□t□□e of ti□e □nd ti□e □□ttern. □□o□ □idt□□, det□i□□, □nd □oc□tion□ of e□□□n□ion, contr□ction, contro□, □nd i□o□□tion □oint□in ti□e □u□□tr□te□ □nd fini□□ed ti□e □urf□ce□.

C. □□□ □□e□for Initi□□□e□ection□For ti□e, □rout, □nd □cce□□orie□in□o□□in□co□or □e□ection.

D. □□□ □□e□for Verific□tion□

1. Fu□□i□e unit□of e□c□t□□e □nd co□ □o□ition of ti□e □nd for e□c□co□or □nd fini□□ re□uired.
2. Fu□□i□e unit□of e□c□t□□e of tri□ □nd □cce□□or□for e□c□co□or □nd fini□□ re□uired.

3. Met□□ed□e □tri□□in 6-inc□ (150-mm) □en□t□□.

1.5 I□FORM□TIO□ □□ SUB MITTALS

A. □u□ific□tion D□t□: For In□t□□er.

B. M□□ter □r□de Certific□te□: For e□c□ □□i□□ent, t□□e, □nd co□ □o□ition of ti□e, □i□ned by ti□e □ □nuf□cturer □nd In□t□□er.

C. □roduct Certific□te□: For e□c□t□□e of □roduct.

D. □roduct Te□t Re□ort□: For ti□e-□ettin□ □nd -□routin□ □roduct□ □nd certified □orce□in ti□e.

1.6 M□I□TE□□□CE M□TERI□□ SUB MITTALS

A. Furni□□ e□tr□ □ □teri□□□t□□t □ □tc□ □nd □re fro□ sam e □roduction run□ as □roduct□in□t□□ed □nd t□□t □re □□c□□□ed □it□ □rotecti□e co□erin□ for □tor□□e □nd identified □it□ la□els de□cri□in□ content□.

1. Ti□e □nd Tri□ □nit□: Furni□□ □u□ntit□ of fu□-i□e unit□ e□u□□to 3 □ercent of □□ount in□t□□ed for e□c□t□□e, co□ □o□ition, co□or, □□ttern, □nd i□e indic□ted.

2. □rout: Furni□□ □u□ntit□ of □rout equal to 3 □ercent of □□ount in□t□□ed for e□c□ t□□e, co□ □o□ition, □nd co□or indic□ted.

1.7 QUAL ITY ASSU RAN CE

A. In□t□□er □u□ific□tion□:

1. In□t□□er i□ a Fi□e-□t□r □e□ □er of t□e □□tion□□Ti□e Contr□ctor□ □□□oci□tion or a Tro□e□of E□ce□ence □e□ □er of t□e Ti□e Contr□ctor□' □□oci□tion of □□eric□.
2. In□t□□er'□ □u□er□i□or for □ro□ect □oid□ t□e Intern□tion□□M□□onr□ In□titute'□ Fore□□n Certific□tion.
3. In□t□□er e□ □□o□□on□□ Cer□□ic Ti□e Educ□tion Found□tion Certified In□t□□er□ or in□t□□er□ reco□ni□ed by t□e U.S. De□□rt□ent of □□□or as □ourne□□ □n Ti□e □□□er□ for □ro□ect.
4. In□t□□er e□ □o□□ □t □e□t one in□t□□er for □ro□ect t□□t has co□□□eted t□e □d□□nced Certific□tion for Ti□e In□t□□er□ (□CT) certific□tion for in□t□□□tion of □ud walls □e□ □r□ne□ □nd large for□ □t ti□e.

B. Moc□u□□: □uid □oc□u□□ to □erif□ □e□ection□ □□de under Samp □e □u□□itt□□□ □nd to de□on□tr□te □e□t□etic effect□ □nd □et □u□it□ □t□nd□rd□ for □ □teri□□□ □nd e□ecution.

1. □uid □oc□u□ of e□c□t□□e of f□oor ti□e in□t□□□tion.
2. □uid □oc□u□ of e□c□t□□e of wa□l ti□e in□t□□□tion.
3. □u□□ect to co□ □i□nce □it□ re□uire□ent□, □□□ro□ed □oc□u□□ may □eco□e □□rt of t□e co□ □□eted □ or□if undi□tur□ed □t ti□e of □u□□t□nti□□Co□ □□etion.

1.8 DE□IVER□, □TOR□□E, AN D HAN DLING

A. De□i□er □nd □tore pa□kag ed □ □teri□□□ in ori□in□□cont□iner□ □it□ se□als un□ro□en □nd lab□els int□ct unti□ti□e of u□e. Co□ply □it□ re□uire□ent□ in ANS I A137.1 for □□e in□ti□e pa□kag es.

B. □tore tile □nd ce□entitiou□ □□teri□□□on e□e□□ted □□□tfor□ □, under co□er, □nd in a dr□ oc□tion.

C. □tore aggregates □□ere □r□din□ □nd ot□er re□uired c□□r□cteri□tic□ c□n □e □□int□ined □nd cont□□in□tion c□n □e □□oided.

D. □tore li□uid □□teri□□□in uno□ened cont□iner□ □nd □rotected fro□ free□in□.

1.9 FIE□D CO□DITIO□□

A. En□iron□ent□□ □i□it□tion□: Do not in□t□□□tile unti□ con□truction in □□□ce□ i□ co□ □ete □nd □□□ient te□□er□ture □nd □u□idit□ condition□ □re □□int□ined □t t□e □e□e□□ indic□ted in referenced □t□nd□rd□ □nd □□nuf□cturer'□ □ritten in□truction□.

□□RT 2 - □ROD□CT□

2.1 M□□□F□CT□RER□

A. □ource □i□it□tion□ for Tile: O□t□in tile of e□c□ t□□e □nd co□or or fini□□ fro□ □in□e □ource or □roducer.

1. O□t□in tile of e□c□ t□□e □nd co□or or fini□□ fro□ sam e □roduction run □nd of con□i□tent □u□it□in □□□e□r□nce □nd phys□cal □ro□ertie□ for e□c□ conti□uou□ □re□.

B. □ource □i□it□tion□ for □ettin□ □nd □routin□ M□teri□□□: O□t□in in□redient□ of a unifor□ □u□it□ for e□c□ □ort□r, □d□e□ive, □nd □rout co□□onent fro□ □in□e □□nuf□cturer □nd e□c□ □□□re□□te fro□ □in□e □ource or □roducer.

1. O□t□in □ettin□ □nd □routin□ □□teri□□□, e□ce□t for un□odified □ort□nd ce□ent □nd □□□re□□te, fro□ □in□e □□nuf□cturer.
2. O□t□in □□ter□roof □e□□r□ne □nd cr□c□i□o□□tion □e□□r□ne, e□ce□t for □□eet □roduct□, fro□ □□nuf□cturer of □ettin□ □nd □routin□ □□teri□□□.

C. □ource □i□it□tion□ for Ot□er □roduct□: O□t□in e□c□ of t□e fo□o□in□ □roduct□ □□ecified in t□i□ □ection fro□ a □in□e □□nuf□cturer:

1. □tone t□re□□o□d□.
2. □ □ter□roof □e□□r□ne.
3. Cr□c□i□o□□tion □e□□r□ne.
4. Ce□entitiou□ □□c□er unit□.

2.2 □ROD□CT□, □E□ER□□

A. ANS I Cer□□ic Tile □t□nd□rd: □ro□ide tile t□□t co□□□ie□ □it□ ANS I A137.1 for type□, co□ □o□ition□, □nd ot□er c□□r□cteri□tic□ indic□ted.

1. □ro□ide tile co□ □□□in□ □it□ □t□nd□rd □r□de re□uire□ent□ un□e□□ ot□er□i□e indic□ted.

B. ANS I □t□nd□rd□ for Tile In□t□□□tion M□teri□□: □ro□ide □□teri□□□ co□ □□□in□ □it□ ANS I A108.02, ANS I □t□nd□rd□ referenced in ot□er □□rt 2 □rtic□e□, ANS I □t□nd□rd□ referenced by TC□□ in□t□□□tion □et□od□ □□ecified in tile in□t□□□tion □c□edu□e□, □nd ot□er re□uire□ent□ □□ecified.

C. F□ctor□ □endin□: For ti□e e□i□itin□ co□or □ri□tion□ □it□in r□n□e□, □end ti□e in f□ctor□ □nd pa□kag□ □o ti□e unit□ t□□en fro□ one pa□kag□ sho□ sam□ r□n□e in co□or□ as t□o□e t□□en fro□ ot□er p□ckag□s □nd match □□□ro□ed Samp□s.

D. Mountin□: For f□ctor□-□ounted ti□, □ro□ide ba□k- or ed□e-□ounted ti□ ass□mbli□s as □t□nd□rd □it□ □ □nuf□cturer un□□□ ot□er□i□e indic□ted.

1. □ □ere ti□ i□ indic□ted for in□t□□□tion in □et areas, do not u□e □□c□- or ed□e-□ounted ti□ ass□mbli□s un□□□ ti□ □ □nuf□cturer □□ecifie□ in □ritin□ t□□t ti□ t□□e of □ountin□ i□ □uit□□□e for in□t□□□tion indic□ted □nd has a record of □ucce□□fu□in-□er□ice □erfor□ □nce.

2.3 TI□E □ROD□CT□

A. □orce□□in Ti□e T□□e TI□E3

1. M□nuf□cturer□: □u□□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ by t□e fo□o□in□:

   a. Ce□□□r Cer□□ic□ USA .

2. Certific□tion: Ti□e certified by t□e □orce□□in Ti□e Certific□tion □□enc□.
3. F□ce □i□e: 12 x 24 inc□e□
4. F□ce □i□e V□ri□tion: Rectified.
5. T□ic□ne□□: 1/4 inc□ (6.4 mm).
6. F□ce: As indic□ted.
7. D□n□□ic Coefficient of Friction: □ot □e□□t□□n 0.42.
8. Ti□e Co□or, Glaz□, □nd □□ttern: M□tc□ □rc□itect'□ samp□e.
9. □rout Co□or: M□tc□ □rc□itect□ samp□e.
10. Tri□ □nit□: Coordin□ted □it□ s□z□s □nd cour□in□ of □d□oinin□ f□□t ti□e □□ere □□□ic□□e. □ro□ide sha□es as fo□o□□, □e□ected fro□ □ □nuf□cturer□□ t□nd□rd sha□es:

    a. Bas□ Cap: □urf□ce bullnos□, □odu□e □i□e 3 x 24 inc□
    b. Intern□□Corner□: Fie□d-□utted □□u□re corner□.

B. Glaz□d Wall Ti□e T□□e TI□E6, TI□E7:

1. M□nuf□cturer□: □u□□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ by t□e fo□o□in□:

   a. M□r□□□i USA .

2. Modu□e □i□e: 4-1/4 by 4-1/4 inc□e□ (108 by 108 mm).
3. F□ce □i□e V□ri□tion: Rectified.
4. T□ic□ne□□: 5/16 inc□ (8 mm).
5. F□ce: □□ttern of de□i□n indic□ted, □it□ □ □nuf□cturer'□ t□nd□rd ed□e□.
6. Fini□□: □ri□□t, c□e□r glaz□.
7. Ti□e Co□or □nd □□ttern: M□tc□ □rc□itect'□ samp□e.
8. □rout Co□or: As □e□ected by □rc□itect fro□ □ □nuf□cturer'□ fu□□r□n□e.
9. Mountin□:

    a. F□ctor□, ba□k □ounted.
    b. □re□routed □□eet□ of ti□e □re f□ctor□ □□□e□ □□ed □nd □routed □it□ □ □nuf□cturer'□ t□nd□rd □□ite □i□icone ru□□er.

10. Tri□ □nit□: □C□□□TER TRIM5 as indic□ted in □rc□itect'□ Dr□□in□□

a. Intern□□Corner□: Fie□d-□utted □□u□re corner□.

2.4 T□RE□□O□D□

A. □ener□□: F□□ric□te to s'z□s □nd □rofi□e□ indic□ted or re□uired to □ro□ide tr□n□ition □et□een □d□□cent f□or fini□□e□.

2.5 TI□E BA CKING PAN ELS

A. Ce□entitiou□ □□c□er □nit□: □□□I A118.9 or □□TM C1325, T□□e A, in max'mum □en□t□□ ava'lab□e to □ini□i□e end-to-end □utt □oint□.

1. M□nuf□cturer□: □u□ect to co□ □i□nce □it□ re□uire□ent□, □□□i□□□e □ □nuf□cturer□ offerin□ □roduct□ t□□t may □e incor□or□ted into t□e □or□ inc□ude, □ut □re not i□ited to t□e fo□o□in□:

a. □eor□i□-□□cific Gyp □um □□C.
b. USG Cor□or□tion.

2. T□ic□ne□□: 5/8 inc□ (15.9 mm).

2.6 □ □TER□ROOF MEM□R□□E□

A. □ □ter□roof Me□ □r□ne, F□□ric-Reinforced, F□uid-□□□ied: Sys :em con□i□tin□ of i□uid-□te□ ru□□er or e□□□to□eric □o□□□er □nd continuou□ f□□ric reinforce□ent.

1. M□nuf□cturer□: □u□ect to co□ □i□nce □it□ re□uire□ent□, ava'lab□e □ □nuf□cturer□ offerin□ □roduct□ t□□t may □e incor□or□ted into t□e □or□ inc□ude, □ut □re not i□ited to t□e fo□o□in□:

a. □□ticrete Intern□tion□, Inc.
b. M□□EI Cor□or□tion.
c. □□□rete□CR□ □□eric□□, O□dc□□t□e APG.

B. □ □ter□roofin□ □nd Ti□e-□ettin□ □d□e□i□e: One-□□rt, f□uid-□□□ied □roduct intended for u□e as □ot□ □□ter□roofin□ □nd ti□e-□ettin□ □d□e□i□e in a t□o-□te□ □roce□□.

1. M□nuf□cturer□: □u□ect to co□ □i□nce □it□ re□uire□ent□, ava'lab□e □ □nuf□cturer□ offerin□ □roduct□ t□□t may □e incor□or□ted into t□e □or□ inc□ude, □ut □re not i□ited to t□e fo□o□in□:

a. □oi□rdi □roduct□Cor□or□tion; a QEP co□ □□n□.
b. □o□ti□; Arkema.

2.7 CR□C□ I□O□□TIO□ MEM□R□□E□

A. □ener□□: M□nuf□cturer'□ t□nd□rd □roduct t□□t co□ □ie□ □it□ ANS I A118.12 for high □erfor□ □nce □nd i□ reco□ □ended by t□e □ □nuf□cturer for t□e □□□ic□tion indic□ted. Inc□ude reinforce□ent □nd □cce□□orie□ reco□ □ended by □ □nuf□cturer.

2.8 □ETTI□□ M□TERI□□□

A. □t□nd□rd Dr□-□et Mort□r (T□in□et): ANS I A118.1.

1. M□nuf□cturer□: □u□ect to co□ □ii□nce □it□ re□uire□ent□, ava□lab□e □ □nuf□cturer□ offerin□ □roduct□ t□□t may □e incor□or□ted into t□e □or□ inc□ude, □ut □re not i□ited to t□e fo□o□in□:

a. □oi□rdi □roduct□Cor□or□tion; a QEP co□ □□n□.
b. □o□ti□; Arkɘma.
c. □□ticrete Intern□tion□□, Inc.
d. M□□EI Cor□or□tion.

2. For wall □□□ic□tion□, □ro□ide □ort□r t□□t co□ □ie□ □it□ re□uire□ent□ for non□□□□in□ □ort□r in □ddition to t□e ot□er re□uire□ent□in □□□I A118.1.

B. Modified Dr□-□et Mort□r (T□in□et): ANS I A118.4.

1. M□nuf□cturer□: □u□ect to co□ □ii□nce □it□ re□uire□ent□, ava□lab□e □ □nuf□cturer□ offerin□ □roduct□ t□□t may □e incor□or□ted into t□e □or□ inc□ude, □ut □re not i□ited to t□e fo□o□in□:

a. □RDE□ □□eric□□.
b. □oi□rdi □roduct□Cor□or□tion; a QEP co□ □□n□.
c. □□ticrete Intern□tion□□, Inc.
d. M□□EI Cor□or□tion.

2. □ro□ide □re□□c□□□ed, dr□-□ort□r mix cont□inin□ dr□, redi□□er□i□e, vinyl □cet□te or □cr□ic □ddit□e to which on□ □□ter □u□t □e □dded □t □ro□ect □ite.
3. □ro□ide □re□□c□□□ed, dr□-□ort□r mix co□ □ined □it□ □cr□ic re□in i□uid-□te□ □ddit□e □t □ro□ect □ite.
4. For wall □□□ic□tion□, □ro□ide □ort□r t□□t co□ □ie□ □it□ re□uire□ent□ for non□□□□in□ □ort□r in □ddition to t□e ot□er re□uire□ent□in ANS I A118.4.

C. I□ □ro□ed Modified Dr□-□et Mort□r (T□in□et): ANS I A118.15.

1. M□nuf□cturer□: □u□ect to co□ □ii□nce □it□ re□uire□ent□, ava□lab□e □ □nuf□cturer□ offerin□ □roduct□ t□□t ma□ □e incor□or□ted into t□e □or□ inc□ude, □ut □re not i□ited to t□e fo□o□in□:

a. □□ticrete Intern□tion□□, Inc.
b. M□□EI Cor□or□tion.

2. □ro□ide □re□□c□□□ed, dr□-□ort□r mix cont□inin□ dr□, redi□□er□i□e, vinyl □cet□te or □cr□ic □ddit□e to which on□ □□ter □u□t □e □dded □t □ro□ect □ite.
3. □ro□ide □re□□c□□□ed, dr□-□ort□r mix co□ □ined □it□ □cr□ic re□in i□uid-□te□ □ddit□e □t □ro□ect □ite.
4. For w□ll □□□ic□tion□, □ro□ide □ort□r t□□t co□ □ie□ □it□ re□uire□ent□ for non□□□□in□ □ort□r in □ddition to t□e ot□er re□uire□ent□in ANS I A118.15.

2.9 □RO□T M□TERI□□□

A. □□nd-□ort□nd Ce□ent □rout: ANS I A108.10, con□i□tin□ of □□ite or gray ce□ent □nd □□ite or co□ored □□□re□□te as re□uired to □roduce co□or indic□ted.

□. □i□□-□erfor□ □nce Ti□e □rout□□□□□l □118.7.

1. M□nuf□cturer□□ □u□□ect to co□ □i□nce □it□ re□uire□ent□, □□□i□□□e □ □nuf□cturer□ offerin□ □roduct□ t□□t □ □□ □e incor□or□ted into t□e □or□ inc□ude, □ut □re not i□ited to t□e fo□o□in□□

□. □oi□rdi □roduct□ Cor□or□tion□□ □E□ co□ □□n□.
□. □□ticrete Intern□tion□□, Inc.
c. M□□EI Cor□or□tion.

2. □o□□□er T□□e□

□. Et□□ene □in□□□cet□te or □cr□ic □ditive, in dr□, redi□□er□i□e for□, □re□□c□□□ed □it□ ot□er dr□in□redient□.
□. □cr□ic re□in in i□uid-□□te□for□ for □ddition to □re□□c□□□ed dr□-□rout □i□.

C. □ □ter-C□e□n□□□e E□o□□ □rout□□□□□l □118.3, □it□ □ VOC content of 65 □/□ or □e□.

1. M□nuf□cturer□□ □u□□ect to co□ □i□nce □it□ re□uire□ent□, □□□i□□□e □ □nuf□cturer□ offerin□ □roduct□ t□□t □ □□ □e incor□or□ted into t□e □or□ inc□ude, □ut □re not i□ited to t□e fo□o□in□□

□. □oi□rdi □roduct□ Cor□or□tion□□ □E□ co□ □□n□.
□. □□ticrete Intern□tion□□, Inc.
c. M□□EI Cor□or□tion.

2. □ro□ide □roduct c□□□□□e of □it□□t□ndin□ continuou□ □nd inter□ittent e□□o□ure to te□ □er□ture□ of u□ to 140 □nd 212 de□ F (60 □nd 100 de□ C), re□□ecti□e□, □nd certified □□ □ □nuf□cturer for intended u□e.

D. □rout for □re□routed Ti□e □□eet□□□□□e □roduct u□ed in f□ctor□ to □re□rout ti□e □□eet□.

2.10 MI□CE□□□□EO□□ M□TERI□□□

□. Tro□e□□□e □nder□□□□ent□ □nd □□tc□in□ Co□ □ound□□ □□te□-□odified, □ort□□nd ce□ent-□□□ed for□ u□□tion □ro□ided or □□□ro□ed □□ □ □nuf□cturer of ti□e-□ettin□ □ □teri□□□ for in□t□□□tion□ indic□ted.

□. V□□or-Ret□rder Me□ □r□ne□□o□et□□□ene □□eetin□, □□TM D4397, 4.0 □i□□ (0.1 □ □) t□ic□.

C. Met□□Ed□e □tri□□□□n□□e or □-□□□□ed, □ei□□t to □ □tc□ ti□e □nd □ettin□-□ed t□ic□ne□□, □ et□□ic or co□ □in□tion of □ et□□□nd □VC or neo□rene □□□e, de□i□ned □□ecific□□□□ for fo□orin□ □□□□ic□tion□□ □t□in□□ □tee□, □□TM □276/□276M or □□TM □666, 300 □erie□ □e□□o□ed-ed□e □ □teri□.

1. M□nuf□cturer□□ □u□□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ □□ t□e fo□o□in□□

□. □c□uter □□□te□ □ □.□.

D. Ti□e C□e□ner□□ neutr□□c□e□ner c□□□□□e of re□o□in□ □oi□□nd re□idue □it□out □□r□in□ ti□e □nd □rout □urf□ce□, □□ecific□□□□ □□□ro□ed for □ □teri□□□ □nd in□t□□□tion□ indic□ted □□ ti□e □nd □rout □ □nuf□cturer□.

E. Floor Leveler Manufacturer: Standard product for leveling grout joints and that does not change color or appearance of grout.

1. Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the floor include, but are not limited to the following:

a. Acticrete International, Inc.

2.11 MISCELLANEOUS MORTAR AND GROUT

A. Mix mortar and grout to comply with referenced standard and mortar and grout manufacturer's written instructions.

B. Add materials, water, and additive in accurate proportions.

C. Obtain and use type of mixing equipment, mixer speed, mixing containers, mixing time, and other procedures to produce mortar and grout of uniform consistency within ranges for performance characteristics for installation indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions where tile work is to be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

1. Verify that substrates for setting tile are firm, dry, clean, free of coatings that are incompatible with tile-setting materials, including curing compounds and other substances that contain soap, wax, oil, or silicone and comply with flatness tolerances required by ANSI A108.01 for installation indicated.
2. Verify that concrete substrates for tile floor installations comply with deflection limits for bonded mortar bed or thin-set mortar complying with surface finish requirements in ANSI A108.01 for installation indicated.

a. Verify that surfaces that received steel trowel finishes have been mechanically abraded.
b. Verify that protrusions, curing compounds, and ridges have been removed by sanding or grinding.

3. Verify that installation of grounds, anchors, recessed electrical and mechanical units of work, and similar items located in or behind tile have been completed.
4. Verify that joints and cracks in tile substrates are coordinated with tile joint locations if not coordinated, do not joint location in consultation with Architect.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 □RE□□R□TIO□

□. Fi□□cr□c□□, □o□e□, □nd de□re□□ion□ in concrete □u□□tr□te□ for ti□e fl□oor□ in□t□□□ed □it□ □d□e□i□e□ or t□in□et □ort□r □it□ tro□e□□□e □e□ei□ □nd □□tc□in□ co□ □ound □□ecific□□□□ reco□ □ended □□ ti□e-□ettin□ □ □teri□□□ □nuf□cturer.

□. □ □ere indic□ted, □re□□re □u□□tr□te□ to recei□e □□ter□roof □e□ □r□ne □□ □□□□□in□ □ reinforced □ort□r □ed t□□t co□ □ie□ □it□ □□□l □108.1□ □nd i□ □o□ed 1/4 inc□ □er foot (1□50) to□□rd dr□in□.

C. □□endin□□ For ti□e e□□i□itin□ co□or □□ri□tion□, □erif□ t□□t ti□e □□□ □een f□ctor□ □ended □nd □□c□□□ed □o ti□e unit□ t□□en fro□ one □□c□□□e □□o□ □□□e r□n□e of co□or□ □□t□o□e t□□en fro□ ot□er □□c□□□e□ □nd □ □tc□ □□□ro□ed □□□ □□e□. If not f□ctor□ □ended, eit□er return to □ □nuf□cturer or □end ti□e□ □t □ro□ect □ite □efore in□t□□□in□.

3.3 I□□T□□□□TIO□ OF CER□MIC TI□E

□. Co□ □□□ □it□ TC□□□□ "□□nd□oo□ for Cer□□ic, □ □□□□, □nd □tone Ti□e In□t□□□tion" for TC□□ in□t□□□tion □et□od□ □□ecified in ti□e in□t□□□tion □c□edu□e□. Co□ □□□ □it□ □□rt□ of t□e □□□l □108 □erie□ "□□ecific□tion□ for In□t□□□tion of Cer□□ic Ti□e" t□□t □re referenced in TC□□ in□t□□□tion □et□od□, □□ecified in ti□e in□t□□□tion □c□edu□e□, □nd □□□□□ to t□□e□ of □ettin□ □nd □routin□ □ □teri□□□ u□ed.

1. For t□e fo□o□in□ in□t□□□tion□, fo□o□ □rocedure□ in t□e □□□l □108 □erie□ of ti□e in□t□□□tion □t□nd□rd□ for □ro□idin□ 95 □ercent □ort□r co□er□□e□

□. E□terior ti□e fl□oor□
□. Ti□e fl□oor□ in □et □re□□
c. Ti□e □□i□ □in□ □oo□dec□□
d. Ti□e fl□oor□ in □undrie□
e. Ti□e fl□oor□ con□i□tin□ of ti□e□8 □□8 inc□e□ (200 □□200 □□) or □r□er.
f. Ti□e fl□oor□ con□i□tin□ of ri□-□□c□ed ti□e□

□. E□tend ti□e □or□ into rece□□e□ □nd under or □e□ind e□ui□□ent □nd fi□ture□ to for□ co□□□ete co□erin□ □it□out interru□tion□ un□e□□ ot□er□i□e indic□ted. Ter□in□te □or□ ne□t□□□t o□□tructions, ed□e□, □nd corner□ □it□out di□ru□tin□ □□ttern or □oint □i□n□ent□.

C. □ccur□te□□ for□ inter□ection□ □nd return□. □erfor□ cuttin□ □nd dri□in□ of ti□e □it□out □□rrin□ □i□□e □urf□ce□. C□refu□□ □rind cut ed□e□ of ti□e □□uttin□ tri□, fini□□, or □uit-in ite□ □ for □tri□□t □i□□ned □oint□. Fit ti□e c□□e□□ to e□ectric□□out□et□, □i□in□, fi□ture□, □nd ot□er □enetr□tion□ □o □□□te□, co□□r□, or co□er□o□er□□□ ti□e.

D. □ro□ide □ □nuf□cturer□□ □t□nd□rd tri□ □□□□e□ □□ere nece□□□r□ to ei□□ in□te e□□o□ed ti□e ed□e□.

E. □ □ere □ccent ti□e differ□ in t□ic□ne□□ fro□ fie□d ti□e, □□r□ □ettin□-□ed t□ic□ne□□ □o t□□t ti□e□ □re fu□□.

F. □ointin□ □□ttern□□□□ ti□e in □rid □□ttern un□e□□ ot□er□i□e indic□ted. □□□ out ti□e □or□ □nd center ti□e fie□d□ in □ot□ direction□ in e□c□ □□□ce or on e□c□ □□□□re□. □□□ out ti□e □or□ to □ini□i□e t□e u□e of □iece□ t□□t □re □e□□ t□□n □□f of □ ti□e. □ro□ide unifor□ □oint □idt□□ un□e□□ ot□er□i□e indic□ted.

1. For ti□e □ounted in □□eet□, □ □□e □oint□ □et□een ti□e □□eet□ □□□e □idt□ □□ □oint□ □it□in ti□e □□eet□ □o □oint□ □et□een □□eet□ □re not □□□□rent in fini□□ed □or□.

2. □ □ere □d□inin□ ti□e□ on f□or, □□□e, □ □□□, or tri□ □re □□ecified or indic□ted to □e □□□e □i□e, □i□n □int□.
3. □ □ere ti□e□ □re □□ecified or indic□ted to □e □□o□e inte□er □u□ti□e□ of □d□inin□ ti□e□ on f□oor, □□□e, □ □□□, or tri□, □i□n □int□un□e□□ ot□er□i□e indic□ted.

□. □oint □ idt□ □□□□n□e□□ ot□er□i□e indic□ted, in□t□□□ti□e □it□ t□e fo□o□in□ □oint □idt□ □□□

1. □□□□ed □ □□□Ti□e□ 1/16 inc□ (1.6 □ □).
2. □orce□□in Ti□e□ 1/4 inc□ (6.4 □ □).

□. □□□ out ti□e □□in□cot□ to di□en□ion□ indic□ted or to ne□t fu□□ti□e □e□ond di□en□ion□ indic□ted.

I. E□□□n□ion □oint□□ □ro□ide e□□□n□ion □oint□ □nd ot□er □e□□nt-fi□ed □oint□, inc□udin□ contro□, contr□ction, □nd i□o□□tion □oint□, □□ere indic□ted. For□ □oint□ durin□ in□t□□□tion of □ettin□ □ □teri□□□, □ort□r □ed□, □nd ti□e. Do not □□□-cut □oint□ □fter in□t□□in□ ti□e□.

1. □ □ere □oint□ occur in concrete □u□□tr□te□, □oc□te □oint□ in ti□e □urf□ce□ direct□□ □□o□e t□e□.

□. Met□□Ed□e □tri□□□In□t□□□t □oc□tion□ indic□ted.

□. F□oor □e□□er□ □□□□□ f□oor □e□□er to □rout □oint□ in ti□e f□oor□ □ccordin□ to f□oor-□e□□er □ □nuf□cturer□□ □ritten in□truction□. □□ □oon □□ f□oor □e□□er □□□ □enetr□ted □rout □oint□, re□o□e e□ce□□ □e□□er □nd □e□□er fro□ ti□e f□ce□ □□ □i□in□ □it□ □oft c□ot□.

3.4 I□□T□□□□TIO□ OF TI□E □□C□I□□ □□□E□□

□. In□t□□□□ne□□ □nd tre□t □oint□ □ccordin□ to □□□I □108.11 □nd □ □nuf□cturer□□ □ritten in□truction□ for t□□e of □□□ic□tion indic□ted. □□e □odified dr□-□et □ort□r for □ondin□ □ □teri□□ un□□□ ot□er□i□e directed in □ □nuf□cturer□□ □ritten in□truction□.

3.5 I□□T□□□□TIO□ OF □ □TER□ROOF MEM□R□□E□

□. In□t□□□ □ □ter□roof □e□ □r□ne to co□ □□□ □it□ □□□I □108.13 □nd □ □nuf□cturer□□ □ritten in□truction□ to □roduce □ □ter□roof □e□ □r□ne of unifor□ t□ic□ne□□ t□□t i□ □onded □ecure□□ to □u□□tr□te.

□. □□o□ □ □ter□roof □e□ □r□ne to cure □nd □erif□ □□te□tin□ t□□t it i□ □□terti□□t □efore in□t□□in□ ti□e or □ettin□ □ □teri□□□ o□er it.

3.6 I□□T□□□□TIO□ OF CR□C□ I□O□□TIO□ MEM□R□□E□

□. In□t□□□ cr□c□ i□o□□tion □e□ □r□ne to co□ □□□ □it□ □□□I □108.17 □nd □ □nuf□cturer□□ □ritten in□truction□ to □roduce □e□ □r□ne of unifor□ t□ic□ne□□ t□□t i□ □onded □ecure□□ to □u□□tr□te.

□. □□o□ cr□c□i□o□□tion □e□ □r□ne to cure □efore in□t□□in□ ti□e or □ettin□ □ □teri□□□ o□er it.

3.7 □D□□□TI□□ □□D C□E□□I□□

□. Re□o□e □nd re□□□ce ti□e t□□t i□ d□□ □□ed or t□□t doe□ not □ □tc□ □d□inin□ ti□e. □ro□ide ne□ □ □tc□in□ unit□, in□t□□ed □□ □□ecified □nd in □ □ □nner to ei□ in□te e□idence of re□□□ce□ent.

□. C□e□nin□□On co□ □etion of □□ce□ent □nd □routin□, c□e□n □□cer□□ic ti□e □urf□ce□ □o t□e□ □re free of forei□n □ □tter.

1. Re□o□e □rout re□idue fro□ ti□e □□ □oon □□ □o□i□e.
2. C□e□n □rout □□e□r□ □nd □□□e fro□ ti□e □ccordin□ to ti□e □nd □rout □ □nuf□cturer□□ □ritten in□truction□ □ut no □ooner t□□n 10 d□□□ □fter in□t□□□tion. □□e on□□ c□e□ner□ reco□ □ended □□ ti□e □nd □rout □ □nuf□cturer□ □nd on□□ □fter deter□inin□ t□□t c□e□ner□ □re □□fe to u□e □□ te□tin□ on □□□ □□e□ of ti□e □nd ot□er □urf□ce□ to □e c□e□ned. □rotect □et□□□urf□ce□ □nd □u□ □in□ fi□ture□ fro□ effect□ of c□e□nin□. F□u□□ □urf□ce□ □it□ c□e□n □□ter □efore □nd □fter c□e□nin□.

3.8 □ROTECTIO□

□. □rotect in□t□□□ed ti□e □or□ □it□ □r□ft □□□er or ot□er □e□□□ co□erin□ durin□ con□truction □eriod to □re□ent □t□inin□, d□□ □□e, □nd □e□r. If reco□ □ended □□ ti□e □ □nuf□cturer, □□□□□ co□t of neutr□□ □rotecti□e c□e□ner to co□ □□eted ti□e □□□□ □nd f□oor□.

□. □ro□i□it foot □nd □□ee□tr□ffic fro□ ti□ed f□oor□ for □t □e□□t □e□en d□□□ □fter □routin□ i□ co□ □□eted.

C. □efore fin□□in□□ection, re□o□e □rotecti□e co□erin□□ □nd rin□e neutr□□□rotecti□e c□e□ner fro□ ti□e □urf□ce□.

E□D OF □ECTIO□ 093013

□ECTIO□ 095113 - □CO□□TIC□□ □□□E□CEI□I□□□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection inc□ude□ □cou□tic□□□□ne□ □nd e□□o□ed □u□□en□ion □□□te□ □for interior cei□in□□.

□. □roduct□ furni□□ed, □ut not in□t□□ed under t□i□ □ection, inc□ude □nc□or□, ci□□, □nd ot□er cei□in□ □tt□c□□ent de□ice□ to □e c□□t in concrete.

1.2 □CTIO□ □□□MITT□□□

□. □roduct D□t□□For e□c□t□□e of □roduct.

□. □u□t□in□□e De□i□n □u□□itt□□□

C. □□□ □□e□□For e□c□e□□o□ed □roduct □nd for e□c□co□or □nd te□ture □□ecified, 6 inc□e□ in □i□e.

D. □□□ □□e□for Initi□□□e□ection□For co□ □onent□ □it□f□ctor□-□□□□ied fini□□e□.

E. □□□ □□e□ for Verific□tion□For e□c□ co□ □onent indic□ted □nd for e□c□ e□□o□ed fini□□ re□uired, □re□□red on □□□ □□e□of □i□e□indic□ted □e□o□□

1. □cou□tic□□□□ne□□□□et of 6-inc□-□□u□re □□□ □□e□of e□c□t□□e, co□or, □□ttern, □nd te□ture.
2. E□□o□ed □u□□en□ion-□□□te□ Me□ □er□, Mo□din□□, □nd Tri□ □□et of 6-inc□-□on□ □□□ □□e□ of e□c□t□□e, fini□□, □nd co□or.

F. □u□ific□tion D□t□□For te□tin□ □□enc□.

□. □roduct Te□t Re□ort□□For e□c□ □cou□tic□□□□ne□ceiling□, for te□t□ □erfor□ed □□ □ □nuf□cturer □nd □itne□□ed □□ □ □u□ified te□tin□ □□enc□.

□. E□□u□tion Re□ort□□For e□c□ □cou□tic□□□□ne□ceiling□ □u□□en□ion □□□te□, fro□ ICC-E□.

1.3 C□O□EO□T □□□MITT□□□

□. M□inten□nce D□t□□For fini□□e□ to inc□ude in □ □inten□nce □ □nu□□.

1.4 M□I□TE□□□CE M□TERI□□ □□□MITT□□□

□. Furni□□ e□tr□ □ □teri□□, fro□ t□e □□□e □roduct run, t□□t □ □tc□ □roduct□in□t□□ed □nd t□□t □re □□c□□□ed □it□ □rotecti□e co□erin□ for □tor□□e □nd identified □it□ □□e□ de□cri□in□ content□.

1. □cou□tic□□Ceiling□ □nit□□Fu□-□i□e □□ne□e□u□□ to 2 □ercent of □u□ntit□in□t□□ed.
2. □u□□en□ion-□□□te□ Co□ □onent□□ □u□ntit□ of e□c□ e□□o□ed co□ □onent e□u□□ to 2 □ercent of □u□ntit□in□t□□ed.

1.5 DE□IVER□, □TOR□□E, AN D HAN DL|NG

A. De□i□er □cou□tic□□□□ne□, □u□□en□ion-□□□te□ co□ □onent□, □nd □cce□□orie□ to □ro□ect □ite □nd □tore t□e□ in a fully enc□o□ed, conditioned spa ce □□ere t□e□ will □e □rotected □□□in□t damag e fro□ □oi□ture, □u□idit□, te□ □er□ture e□tre□e□, direct □uni□□t, □urf□ce cont□□in□tion, □nd ot□er c□u□e□.

B. □efore in□t□□in□ □cou□tic□□□□ne□, □er□it t□e□ to re□c□ roo□ te□ □er□ture □nd a □t□□i□ied □oi□ture content.

1.6 FIE□D CO□DITIO□□

A. En□iron□ent□□□i□it□tion□: Do not in□t□□□□cou□tic□□pa nel ceiin□□ unti□spa ce□ □re enc□o□ed □nd □e□t□erti□□t, □et-□or□ in spa ce□ i□ co□ □□ete □nd dr□, □or□ ab ove ceiin□□ i□ co□ □□ete, □nd □□ □ient te□ □er□ture □nd □u□idit□ condition□ □re □ □int□ined □t t□e □e□e□ indic□ted for □ro□ect □□en occu□ied for it□ intended u□e.

1. □re□□uri□ed □□enu□ □: O□er□te □enti□□tion sys :em for not □e□□ t□□n 48 □our□ □efore □e□innin□ □cou□tic□□pa nel ceiin□ in□t□□□tion.

□□RT 2 - □ROD□CT□

2.1 M□□□F□CT□RER□

A. □ource □i□it□tion□: O□t□in e□c□ t□□e of □cou□tic□□ceiin□ pa nel □nd it□ □u□□ortin□ □u□□en□ion sys :em fro□ □in□e □ource fro□ □in□e □ □nuf□cturer.

2.2 □ERFORM□□CE RE□□IREME□T□

A. De□e□□ted De□i□n: En□□□e a □u□ified □rofe□□ion□□en□ineer, as defined in □ection 014000 "□u□it□ Re□uire□ent□," to de□i□n □ei□□ic re□tr□int□ for ceiin□ sys :ems.

B. □ei□□ic □erfor□ □nce: □u□□ended ceiin□□ sha l □it□□t□nd t□e effect□ of e□rt□□u□□e □otion□ deter□ined □ccordin□ to □□CE/□EI 7.

C. □urf□ce-□urnin□ C□□r□cteri□tic□: Co mply □it□ □□TM E84; te□tin□ by a □u□ified te□tin□ □□enc□. Identif□ □roduct□ □it□ □□□ro□ri□te mar k ngs of □□□ic□□e te□tin□ □□enc□.

1. F□□□e-□□re□d Inde□: Cla□s A □ccordin□ to □□TM E1264.
2. □□o□e-De□e□o□ed Inde□: 50 or □e□□.

D. Fire-Re□i□t□nce R□tin□□: Co□ □□□ □it□ □□TM E119; te□tin□ by a □u□ified te□tin□ □□enc□. Identif□ □roduct□ □it□ □□□ro□ri□te mar k ngs of □□□ic□□e te□tin□ □□enc□.

1. Indic□te de□i□n de□i□n□tion□ fro□ UL or fro□ t□e i□tin□□ of □not□er □u□ified te□tin□ □□enc□.

2.3 □CO□□TIC□□ PAN ELS

A. M□nuf□cturer□: □u□□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ by one of t□e fo□o□in□:

1. □□eric□n Gyps □m.
2. Roc□fon (Roc□□oo□Intern□tion□□).
3. USG Cor□or□tion.
4. Armstrong World Industries, Inc.

B. □cou□tic□□Pa nel □t□nd□rd: □ro□ide □ □nuf□cturer'□ t□nd□rd pa nels □ccordin□ to □□TM E1264 □nd de□i□n□ted by t□□e, for□, □□ttern, □cou□tic□□r□tin□, □nd i□□t ref□ect□nce un□e□□ ot□er□i□e indic□ted.

C. C□□□□ific□tion: □ro□ide fire-re□i□t□nce-r□ted □□ne□□ as fo□o□□:
1. T□□e □nd For□: T□□e IV, □iner□□ bas□ □it□ □e□ □r□ne-f□ced o□er□□□; For□ 2, □□ter fe□ted□□it□ v□nyl □er□□□on f□ce □nd ba□k.
2. □□ttern: E (i□□t□□te□tured).

D. Co□or: □ □ite.

E. Li□ht Ref□ect□nce (□R): □ot □e□□t□□n 0.90.

F. Cei□in□ □ttenu□tion C□ass (C□C): □ot □e□□t□□n 35.

G. □oi□e Reduction Coefficient (□RC): □ot □e□□t□□n 0.70.

H. □rticu□□tion C□ass (□C): □ot □e□□t□□n 180.

I. Ed□e/□oint Det□i□: □□u□re.

□. T□ic□ne□□: 5/8 inc□.

K. Modu□□r □i□e: As indic□ted on Dr□□in□□.

L. □nti□icro□i□□Tre□t□ent: M□nuf□cturer'□ t□nd□rd □ro□d □□ectru□, □nti□icro□i□□for□u□□tion t□□t in□i□it□ fun□u□, □o□d, □i□de□, □nd □r□□-□o□iti□e □nd □r□□-ne□□ti□e □□cteri□ □nd □□o□in□ no □o□d, □i□de□, or □□cteri□□□ro□t□ □□en te□ted □ccordin□ to □□TM D3273, □□TM D3274, or □□TM G21 □nd e□□u□ted □ccordin□ to □□TM D3274 or □□TM G21.

2.4 MET□□ SUSP ENS ION □□□TEM

A. M□nuf□cturer□: □u□□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ by one of t□e fo□o□in□:

1. □r□ □tron□ Cei□in□ & Wall □o□ution□.
2. Cert□inteed; SA INT-GOBA IN.
3. Roc□fon (Roc□□oo□Intern□tion□□).
4. USG Cor□or□tion.

B. Met□□ □u□□en□ion-□□□te□ □t□nd□rd: □ro□ide □ □nuf□cturer'□ □t□nd□rd, direct-□un□, metal □u□□en□ion □□□te□ □nd □cce□□orie□ □ccordin□ to □□TM C635/C635M □nd de□i□n□ted by t□□e, □tructur□□c□□□ific□tion, □nd fini□□ indic□ted.

C. □ide-F□ce, C□□□ed, Dou□e-□ e□, Fire-R□ted, □tee□ □u□□en□ion □□□te□ □M□in □nd cro□□ runner□ ro□□for□ed fro□ co□d-ro□ed □tee□□□eet□□re□□inted, e□ectro□□tic□□□□ □inc co□ted, or □ot-di□ □□□□□ni□ed, □30 co□tin□ de□i□n□tion□ □it□ □refini□□ed 15/16-inc□-□ide □et□□ c□□□ on f□□n□e□.

1. □tructur□□C□□□□ific□tion□ Inter□ edi□te-dut□ □□□te□.
2. End Condition of Cro□□ Runner□□ O□erride (□te□□ed) or □utt-ed□e t□□e.
3. F□ce De□i□n□F□□t, fu□□.
4. C□□ M□teri□□□ Co□d-ro□ed □tee□.
5. C□□ Fini□□□ □□inted □□ite.

D. □□rro□-F□ce, C□□□ed, Dou□e-□ e□, □tee□□u□□en□ion □□□te□ □M□in □nd cro□□ runner□ ro□□ for□ed fro□ co□d-ro□ed □tee□ □□eet□ □re□□inted, e□ectro□□tic□□□□ □inc co□ted, or □ot-di□ □□□□□ni□ed, □30 co□tin□ de□i□n□tion□□it□ □refini□□ed 9/16-inc□-□ide □et□□c□□□ on f□□n□e□.

1. □tructur□□C□□□□ific□tion□ Inter□ edi□te-dut□ □□□te□.
2. End Condition of Cro□□ Runner□□ O□erride (□te□□ed) t□□e.
3. F□ce De□i□n□F□□t, fu□□.
4. C□□ M□teri□□□ Co□d-ro□ed □tee□.
5. C□□ Fini□□□ □□inted □□ite.

2.5 □CCE□□ORIE□

□. □tt□c□□ent De□ice□□ □i□e for fi□e ti□e□ t□e de□i□n □o□d indic□ted in □□TM C635/C635M, T□□□e 1, "Direct □un□," un□e□□ ot□er□i□e indic□ted. Co□ □□□□ □it□ □ei□□ic de□i□n re□uire□ent□.

1. □nc□or□ in Concrete□□nc□or□ of t□□e □nd □ □teri□□indic□ted □e□o□, □it□ □o□e□ or □oo□□ for □tt□c□in□ □□n□er□ of t□□e indic□ted □nd □it□ c□□□□□i□t□ to □u□t□in, □it□out f□i□ure, □ □o□d e□u□□to fi□e ti□e□ t□□t i□ □o□ed □□ cei□in□ con□truction, □□ deter□ined □□ te□tin□ □ccordin□ to □□TM E488/E488M or □□TM E1512 □□ □□□□ic□□□e, conducted □□ □ □u□ified te□tin□ □nd in□□ection□ □□enc□.

   □. T□□e□ □o□tin□t□□ed e□□□n□ion □nc□or□.
   □. Corro□ion □rotection□ C□r□on-□tee□ co□ □onent□ □inc □□□ted □ccordin□ to □□TM □633, C□□□□ □C 1 (□i□d) □er□ice condition.

2. □o□er-□ctu□ted F□□tener□ in Concrete□F□□tener □□□te□ of t□□e □uit□□e for □□□i□tion indic□ted, f□□ric□ted fro□ corro□ion-re□i□t□nt □ □teri□□□, □it□ c□i□□□ or ot□er □cce□□or□ de□ice□ for □tt□c□in□ □□n□er□ of t□□e indic□ted □nd □it□ c□□□□□i□t□ to □u□t□in, □it□out f□i□ure, □ □o□d e□u□□to 10 ti□e□ t□□t i□ □o□ed □□ cei□in□ con□truction, □□ deter□ined □□ te□tin□ □ccordin□ to □□TM E1190, conducted □□ □ □u□ified te□tin□ □nd in□□ection□ □□enc□.

□. □ire □□n□er□, □r□ce□, □nd Tie□□□ro□ide □ire□ □□fo□o□□□

1. □inc-Co□ted, C□r□on-□tee□□ ire□□□TM □641/□641M, C□□□□ 1 □inc co□tin□, □oft te□ □er.
2. □t□in□□-□tee□□ ire□□□TM □580/□580M, T□□e 304, non□ □□netic.
3. □ic□e-Co□□er-□□o□ ire□□□TM □164, nic□e-co□□er-□□o□□□□ □o. □04400.
4. □i□e□ □ire di□□eter □ufficient for it□ □tre□□ □t t□ree ti□e□ □□n□er de□i□n □o□d (□□TM C635/C635M, T□□□e 1, "Direct □un□") □i□□e □e□□t□□n □ie□d □tre□□ of □ire, □ut not □e□□t□□n 0.106-inc□- di□□eter □ire.

C. □□n□er Rod□□Mi□d □tee□, □inc co□ted or □rotected □it□ ru□t-in□i□iti□e □□int.

D. F□t □□n□er□□Mi□d □tee□ □inc co□ted or □rotected □it□ ru□t-in□i□iti□e □□int.

E. □n□e □□n□er□□ □n□e□ □it□ □e□□ not □e□□ t□□n 7/8 inc□ □ide□for□ed □it□ 0.04-inc□-t□ic□, □□□□□ni□ed-□tee□ □□eet co□ □□□in□ □it□ □□TM □653/□653M, □90 co□tin□ de□i□n□tion□ □it□ □o□ted connection□ □nd 5/16-inc□-di□□eter □o□t□.

F. □o□d-Do□n C□i□□□M□nuf□cturer□□ □t□nd□rd □o□d-do□n.

2.6 MET□□ED□E MO□DI□□□ □□D TRIM

□. M□nuf□cturer□□ □u□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ □□ one of t□e fo□o□in□□

1. □r□ □tron□ □ or□d Indu□trie□, Inc.
2. Fr□ Re□□et Cor□or□tion.
3. □ordon, Inc.
4. Roc□fon (Roc□□oo□Intern□tion□□).
5. □□□ Cor□or□tion.

□. Ro□-For□ed, □□eet-Met□□ Ed□e Mo□din□□ □nd Tri□ □ T□□e □nd □rofi□ indic□ted or, if not indic□ted, □ □nuf□cturer□□ □t□nd□rd □o□din□□ for ed□e□ □nd □enetr□tion□ t□□t co□ □□□ □it□ □ei□□ic de□i□n re□uire□ent□□for□ed fro□ □□eet □et□□of □□□e □ □teri□□, fini□□, □nd co□or □□ t□□t u□ed for e□□o□ed f□□n□e□of □u□□en□ion-□□□te□ runner□.

1. Ed□e □o□din□□ □□□□□fit □cou□tic□□□□ne□ed□e det□i□□ □nd □u□□en□ion □□□te□ □ indic□ted □nd □ □tc□ □idt□ □nd confi□ur□tion of e□□o□ed runner□ un□e□□ ot□er□i□e indic□ted.
2. For □□□-in □□ne□□ □it□ re□e□□ed□e det□i□□, □ro□ide □te□□ed ed□e □o□din□ t□□t for□ □ re□e□□of □□□e de□t□ □nd □idt□ □□ t□□t for□ed □et□een ed□e of □□ne□□nd f□□n□e □t e□□o□ed □u□□en□ion □e□ □er.
3. For circu□□r □enetr□tion□ of cei□in□, □ro□ide ed□e □o□din□□ f□□ric□ted to di□□eter re□uired to fit □enetr□tion e□□ct□□.

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9. Wire suspension system and suspension members and connectors to support ceiling loads within performance limits established by referenced standard.

C. Installation and trim of the indicated at erimeter of acoustical ceiling are necessary to conceal edge of acoustical units.
1. Do not use exposed fasteners, including screws, on ordinary trim.

D. Install suspension-system runners so they are securely interlocked with one another. Remove and replace dented, bent, or kinked members.

E. Install acoustical units snugly fit around penetrations and fit accurately into suspension-system runners and edge moldings. Scribe and cut units at borders and penetrations to provide precise fit.

1. Arrange direction of patterned acoustical units as follows:

a. As indicated on reflected ceiling plan.

2. For reduced-exposed units, install units on suspension-system runners, interlocking units so that edges are flush.
3. For recessed-edge units on suspension-system runners, install units so that bottom of reveals fit contact with bottom surface of runner flange.
4. For recessed-edge units on suspension-system members, install units so reveals surface in flush contact with suspension-system surface and units fully support bottom face of runner.
5. Paint cut edges of panels before installation if exposed after installation. Match color of exposed panel surfaces using paint recommended in writing for this purpose by acoustical panel manufacturer.
6. Protect lighting fixtures and air ducts according to requirements indicated for fire-resistance-rated assembly.

3.4 ERECTION TOLERANCES

A. Suspended Ceiling System: Install system in and cross runners level to tolerance of 1/8 inch in 12 feet, non-cumulative.

B. Molding and Trim: Install molding and trim to butt tightly against ceiling suspension system to tolerance of 1/8 inch in 12 feet, non-cumulative.

3.5 FIELD QUALITY CONTROL

A. Perform tests and inspections and prepare test reports. Tests and inspections of suspension system and connectors and fasteners in successive stages and when installation of ceiling suspension system is complete on each floor area received 20 percent completion, but not more than one week between inspections. Do not proceed with installation of acoustical panel ceiling system for the next area until test results for previous work are completed in installation of acoustical panel ceiling system conform with requirements.

1. Within each test area, testing agency will select one of every 10 power-actuated fasteners and mechanical anchors used to attach hangers to concrete and will test for 200 lbf of tension. If fastener pulls out of concrete, select one of every two mechanical anchors used to attach bracing wires to concrete and will test for 440 lbf of tension.

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□. Co□or□ □nd □□ttern□□M□tc□ □rc□itect□□ □□□□ □□e.

2.3 I□□T□□□□TIO□ M□TERI□□□

□. Tro□e□□□e □e□e□in□ □nd □□tc□in□ Co□ □ound□□ □□te□-□odified, □ort□□nd-ce□ent-□□□ed or □□ended □□dr□ui□-ce□ent-□□□ed for□u□□tion □ro□ided or □□□ro□ed □□ re□i□ient-□roduct □ □nuf□cturer for □□□□ic□tion□indic□ted.

□. □d□e□i□e□□ □ □ter-re□i□t□nt t□□e reco□ □ended □□ re□i□ient-□roduct □ □nuf□cturer for re□i□ient □roduct□ □nd □u□□tr□te condition□indic□ted.

C. □t□ir-Tre□d □o□e Fi□er□ T□o-□□rt e□o□□ co□ □ound reco□ □ended □□ re□i□ient □t□ir-tre□d □ □nuf□cturer to fi□no□in□ □u□□tr□te□ t□□t do not confor□ to tre□d contour□.

D. Met□□Ed□e □tri□□□ E□truded □u□inu□ □it□ □i□fini□□, no□ in□□2 inc□e□ □ide of □ei□□t re□uired to □rotect e□□o□ed ed□e□ of f□oorin□, □nd in □ □□i□u□ □□□i□□□e □en□t□□ to □ini□i□e runnin□ □oint□.

E. F□oor □o□i□□□ □ro□ide □rotecti□e, i□uid f□oor-□o□i□□ □roduct□ reco□ □ended □□ re□i□ient □t□ir-tre□d □ □nuf□cturer.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□ine □u□□tr□te□, □it□ In□t□□er □re□ent, for co□ □i□nce □it□ re□uire□ent□ for □ □□i□u□ □oi□ture content □nd ot□er condition□ □ffectin□ □erfor□ □nce of t□e □or□.

1. Verif□ t□□t fini□□e□ of □u□□tr□te□ co□ □□□ □it□ to□er□nce□ □nd ot□er re□uire□ent□ □□ecified in ot□er □ection□ □nd t□□t □u□□tr□te□ □re free of cr□c□□, rid□e□, de□re□□ion□, □c□□e, □nd forei□n de□o□it□ t□□t □i□□t interfere □it□ □d□e□ion of re□i□ient □roduct□.

□. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□f□ctor□ condition□ □□□e □een corrected.

1. In□t□□□tion of re□i□ient □roduct□ indic□te□ □cce□t□nce of □urf□ce□ □nd condition□.

3.2 □RE□□R□TIO□

□. □re□□re □u□□tr□te□ □ccordin□ to □ □nuf□cturer□□ □ritten in□truction□ to en□ure □d□e□ion of re□i□ient □roduct□.

□. Concrete □u□□tr□te□ for Re□i□ient □t□ir □cce□□orie□□ □re□□re □ori□ont□□□urf□ce□ □ccordin□ to □□TM F710.

1. Verif□ t□□t □u□□tr□te□ □re dr□ □nd free of curin□ co□ □ound□, □e□□er□, □nd □□rdener□.
2. Re□o□e □u□□tr□te co□tin□□ □nd ot□er □u□□t□nce□ t□□t □re inco□ □□ti□□e □it□ □d□e□i□e□ □nd t□□t cont□in □o□□, □□□, oi□, or □i□icone, u□in□ □ec□□nic□□□ et□od□ reco□ □ended □□ □ □nuf□cturer. Do not u□e □o□□ent□.
3. □□□□init□ □nd □d□e□ion Te□tin□□□erfor□ te□t□ reco□ □ended □□ □ □nuf□cturer. □roceed □it□ in□t□□□tion on□□ □fter □u□□tr□te □□□□init□ f□□□□ □it□in r□n□e on □□ □c□□e reco□ □ended □□ □ □nuf□cturer in □ritin□, □ut not □e□□t□□n 5 or □ore t□□n 9 □□.
4. Moi□ture Te□tin□□□erfor□ te□t□ □o t□□t e□c□ te□t □re□ doe□ not e□ceed 200 □□. ft. □nd □erfor□ no fe□er t□□n t□ree te□t□ in e□c□ in□t□□□tion □re□ □nd □it□ te□t □re□□ e□en□□ □□□ced in in□t□□□tion □re□□.

□. □n□□drou□ C□□ciu□ C□□oride Te□t□ □□TM F1869. □roceed □it□ in□t□□□tion on□□ □fter □u□□tr□te□ □□□e □ □□i□u□ □oi□ture-□□□or-e□i□□ion r□te of 3 □□ of □□ter/1000 □□. ft. in 24 □our□.
□. Re□□ti□e □u□idit□ Te□t□ □□in□ in-□itu □ro□e□, □□TM F2170. □roceed □it□ in□t□□□tion on□□ □fter □u□□tr□te□ □□□e □ □ □□i□u□ 75 □ercent re□□ti□e □u□idit□ □e□e□□ e□□ure□ent.

C. Fi□□ cr□c□□, □o□e□, □nd de□re□□ion□ in □u□□tr□te□ □it□ tro□e□□□e □e□e□in□ □nd □□tc□in□ co□ □ound□re□o□e □u□ □□ □nd rid□e□ to □roduce □ unifor□ □nd □□ oot□ □u□□tr□te.

D. Do not in□t□□re□i□ient □roduct□ unti□□ □teri□□ □re t□e □□□e te□ □er□ture □□ □□□ce □□ere t□e□ □re to □e in□t□□ed.

1. □t □e□□t 48 □our□ in □d□□nce of in□t□□□tion, □o□e re□i□ient □roduct□ □nd in□t□□□tion □ □teri□□ into □□□ce□ □□ere t□e□ □i□□e in□t□□ed.

E. I□ □edi□te□ □efore in□t□□□tion, □□ee□ □nd □□cuu□ c□e□n □u□□tr□te□ to □e co□ered □□ re□i□ient □roduct□.

3.3 RE□IE□T BAS E I□□T□□□□TIO□

A. Co mply □it□ □ □nuf□cturer']□ritten in□truction□ for in□t□□in□ re□ilient bas e.

B. Apply re□ilient bas e to walls , co□u□n□, □i□□ter□, c□□e□or□ □nd c□□inet□ in toe spa ces, □nd ot□er □er□ □nent fi□ture□ in roo□ □ □nd a reas □□ere bas e i□re□uired.

C. In□t□□□re□ilient bas e in □en□t□□ as □on□ as □r□ctic□□□it□out gaps □t s eam □ □nd □it□ to□□ of □d□□cent □iece□ □i□ned.

D. Ti□□t□□ □d□ere re□ilient □□□e to □u□□tr□te t□rou□□out □en□t□ of e□c□ □iece, □it□ bas e in continuou□ cont□ct □it□ □ori□ont□□□nd □ertic□□□u□□tr□te□.

E. Do not □tretc□ re□ilient □□□e durin□ in□t□□□tion.

F. On □ □□onr□ □urf□ce□ or ot□er □i□i□r irre□u□r □u□□tr□te□, fi□□oid□ □□on□ to□ ed□e of re□ilient bas e □it□ □ □nuf□cturer']reco□ □ended □d□e□i□e fi□er □ □teri□.

G. □refor□ed Corner□: In□t□□□refor□ed corner□ □efore in□t□□in□ □tri□i□t □iece□.

□. □o□-For□ed Corner□:

1. Out□ide Corner□: □□e □tri□i□t □iece□ of max□m u m □en□t□□ □o□i□e □nd for□ □it□ return□ not □e□□t□□n 3 inc□e□ in □en□t□.

a. For□ □it□out □roducin□ di□co□or□tion (□□itenin□) □t □end□.

2. In□ide Corner□: Us e □tri□i□t □iece□ of max□m u m □en□t□□ □o□i□e □nd for□ □it□ return□ not □e□□t□□n 3 inc□e□ in □en□t□.

a. Miter or co□e corner□ to □ini□i□e o□en □oint□.

3.4 RE□IE□T □CCE□□OR□ I□□T□□□□TIO□

A. Co mply □it□ □ □nuf□cturer']□ritten in□truction□ for in□t□□in□ re□ilient □cce□□orie□.

B. Re□ilient □t□ir □cce□□orie□:

1. □□e □t□ir-tre□d-no□e fi□er to fi□no□in□ □u□□tr□te□ t□□t do not confor□ to tre□d contour□.
2. Ti□□t□□ □d□ere to □u□□tr□te□ t□rou□□out □en□t□ of e□c□ □iece.
3. For tre□d□ in□t□□ed as □e□□r□te, e□u□-□en□t□ unit□, in□t□□ to □roduce a fu□□ □oint □et□een unit□.

C. Re□ilient Mo□din□ □cce□□orie□: □utt to □d□□cent □ □teri□□ □nd ti□□t□ □d□ere to □u□□tr□te□ t□rou□□out □en□t□ of e□c□ □iece. In□t□□ reducer □tri□□ □t ed□e□ of f□oor co□erin□ t□□t □oul ot□er□i□e □e e□□o□ed.

3.5 C□E AN I NG □□D □ROTECTIO□

A. Co mply □it□ □ □nuf□cturer']□ritten in□truction□ for c□e□nin□ □nd □rotectin□ re□ilient □roduct□.

B. □erfor□ t□e fo□o□in□ o□er□tion□ i□ □edi□te□ □fter co□ □etin□ re□ilient-□roduct in□t□□tion:

1. Re□o□e □d□e□i□e □nd ot□er □e□i□□e□fro□ □urf□ce□.
2. □□ee□ □nd □□cuu□ □ori□ont□□□urf□ce□t□orou□□□□.
3. D□□ □-□o□ □ori□ont□□□urf□ce□to re□o□e □ □r□□ □nd □oi□.

C. □rotect re□i□ient □roduct□ fro□ □ □r□, □ □r□□, indent□tion□, □nd ot□er d□□ □□e fro□ con□truction o□er□tion□ □nd □□□ce□ent of e□ui□□ent □nd fi□ture□durin□ re□ □inder of con□truction □eriod.

D. F□oor □o□i□□□Re□o□e □oi□, □d□e□i□e, □nd □□e□i□□e□ fro□ re□i□ient □t□ir tre□d□ □efore □□□□□in□ i□uid f□oor □o□i□□.

1. □□□□□t□o co□t(□).

E. Co□er re□i□ient □roduct□ □u□ect to □e□r □nd foot tr□ffic unti□□u□□t□nti□□Co□ □□etion.

E□D OF □ECTIO□ 096513

□ECTIO□ 096813 - TI□E C□R□ETI□□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

A. □ection Inc□ude□:

1. Modu□r c□r□et ti□e.

B. Re□□ted Re□uire□ent□:

1. □ection 024119 "□e□recti□e De□o□ition" for re□o□in□ e□i□tin□ f□oor co□erin□□.
2. □ection 096513 "Re□i□ient Bas□ □nd □cce□□orie□" for re□i□ient wall bas□ □nd □cce□□orie□ in□t□□ed □it□ c□r□et ti□e.

1.2 □REI□□T□□□□TIO□ MEETI□□□

A. □rein□t□□□tion Conference: Conduct conference □t □ro□ect □ite.

1. Re□ie□ □et□od□ □nd □rocedure□ re□□ted to c□r□et ti□e in□t□□□tion inc□udin□, □ut not □i□ited to, t□e fo□o□in□:

a. Re□ie□ de□i□er□, □tor□□e, □nd □□nd□in□ □rocedure□.
b. Re□ie□ □□ □ient condition□ □nd □enti□□tion □rocedure□.
c. Re□ie□ □u□f□oor □re□□r□tion □rocedure□.

1.3 □CTIO□ SUB MITTALS

A. □roduct D□t□: For e□c□t□□e of □roduct.

1. Inc□ude □ □nuf□cturer□□ □ritten d□t□ on phys□cal c□□r□cteri□tic□, dur□□i□it□, □nd f□de re□i□t□nce.
2. Inc□ude □ □nuf□cturer'□ □ritten in□t□□□tion reco□ □end□tion□ for e□c□t□□e of □u□□tr□te.

B. Sh□p Dr□□in□□: For c□r□et ti□e in□t□□□tion, □lans □□o□in□ t□e fo□o□in□:

1. Co□u□n□, door□ □□□□, enc□o□in□ □ □□□□ or □□rtition□, □uil□-in c□□inet□, □nd □oc□tion□ □□ere cutout□ □re re□uired in c□r□et ti□e□.
2. C□r□et ti□e t□□e, co□or, □nd d□e □ot.
3. T□□e of □u□f□oor.
4. T□□e of in□t□□□tion.
5. □□ttern of in□t□□□tion.
6. □□ttern t□□e, □oc□tion, □nd direction.
7. □i□e direction.
8. T□□e, co□or, □nd □oc□tion of in□et□ □nd □order□.
9. T□□e, co□or, □nd □oc□tion of ed□e, tr□n□ition, □nd ot□er □cce□□or□ □tri□□.
10. Tr□n□ition det□i□□ to ot□er f□oorin□ □ □teri□□.

C. Samp es: For e c of t e fo o in roduct nd for e c co or nd te ture re uired. Lab el e c Samp e it nuf cturer' n e, teri de cri tion, co or, ttern, nd de i n tion indic ted on Dr in nd in c edu e.

1. C r et Ti e: Fu i e Samp e.
2. E o ed Ed e, Tr n ition, nd Ot er cce or tri in 12-inc - (300-mm -) on Samp es.

D. roduct c edu e: For c r et ti e. Us e sam e de i n tion indic ted on Dr in.

E. u t in e roduct Certific tion: ro ide ANS I/NS F 140 certific tion for c r et roduct.

1.4 I FORM TIO SUB MITTALS

A. u ific tion D t: For In t er.

B. roduct Te t Re ort: For c r et ti e, for te t erfor ed by a u ified te tin enc.

C. Samp e rr nt: For eci rr nt.

1.5 C O EO T MITT

A. M inten nce D t: For c r et ti e to inc ude in inten nce ma nuals. Inc ude t e fo o in:

1. Met od for int inin c r et ti e, inc udin c e nin nd t in-re o roduct nd rocedure nd nuf cturer' reco ended inten nce c edu e.
2. rec ution for c e nin teri nd et od t t cou d e detri ent to c r et ti e.

1.6 M I TE CE M TERI SUB MITTALS

A. Furni e tr teri , fro t e sam e roduct run, t t tc roduct in t ed nd t t re pa kag ed it rotecti e co erin for tor e nd identified it la e ls de cri in content.

1. C r et Ti e: Fu i e unit equal to 5 ercent of ount in t ed for e c t e indic ted, ut not e t n 10 sq. d. (8.3 sq. m).

1.7 QUAL ITY ASSU RAN CE

A. In t er u ific tion: n e erienced in t er o i certified by t e Intern tion Certified F oorco erin In t er oci tion t t e M ter II certific tion e e.

B. Moc u : uid oc u to erif e ection de under Samp e s bm ittals, to de on tr te e t etic effect, nd to et u it t nd rd for f ric tion nd in t tion.

1. uid oc u t oc tion nd in s z s sh own on Dr in.
2. u ect to co i nce it re uire ent, ro ed oc u may eco e rt of t e co eted or if undi tur ed t ti e of u t nti Co etion.

1.8 DE□IVER□, □TOR□□E, □□D □□□D□l□□

□. Co□ □□□ □it□ t□e C□r□et □nd Ru□ In□titute□ CRI 104.

1.9 FIE□D CO□DITIO□□

□. Co□ □□□ □it□ t□e C□r□et □nd Ru□ In□titute□ CRI 104 for te□ □er□ture, □u□idit□, □nd □enti□□tion i□ it□tion□.

□. En□iron□ent□□□i□it□tion□□Do not de□i□er or in□t□□□c□r□et ti□e□ unti□□□□ce□ □re enc□□ed □nd □e□t□erti□□t, □et-□or□ in □□□ce□ i□ co□ □□ete □nd dr□, □nd □□ □ient te□ □er□ture □nd □u□idit□ condition□ □re □ □int□ined □t □e□e□ □□□nned for □uid□n□ occu□□nt□ durin□ t□e re□ □inder of t□e con□truction □eriod.

C. Do not in□t□□□c□r□et ti□e□ o□er concrete □□□□□ unti□□□□□□ □□□e cured □nd □re □ufficient□ dr□ to □ond □it□ □d□e□i□e □nd concrete □□□□□ □□□e □□ r□n□e reco□ □ended □□ c□r□et ti□e □ □nuf□cturer.

D. □ □ere de□ount□□□e □□rtition□ or ot□er ite□ □ □re indic□ted for in□t□□□tion on to□ of c□r□et ti□e□, in□t□□□c□r□et ti□e□ □efore in□t□□in□ t□e□e ite□ □.

1.10 □ □RR□□T□

□. □□eci□□□ □rr□nt□ for C□r□et Ti□e□□ M□nuf□cturer □□ree□ to re□□ir or re□□□ce co□ □onent□ of c□r□et ti□e in□t□□□tion t□□t f□i□in □ □teri□□□ or □or□□ □n□□i□ □it□in □□ecified □□rr□nt□ □eriod.

1. □ □rr□nt□ doe□ not inc□ude deterior□tion or f□i□ure of c□r□et ti□e due to unu□u□□tr□ffic, f□i□ure of □u□□tr□te, □□nd□i□□, or □□u□e.
2. F□i□ure□ inc□ude, □ut □re not i□ited to, t□e fo□o□in□□

□. More t□□n 10 □ercent ed□e r□□e□in□, □n□□□, □nd run□.
□. Di□ en□ion□□in□t□□i□it□.
c. E□ce□□ □t□tic di□c□□r□e.
d. □o□□ of tuft-□ind □tren□t□.
e. □o□□ of f□ce fi□er.
f. De□□□in□tion.

3. □ □rr□nt□ □eriod□ 10 □e□r□ fro□ d□te of □u□□t□nti□□Co□ □□etion.

□□RT 2 - □ROD□CT□

2.1 C□R□ET TI□E

□. M□nuf□cturer□□ □u□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ □□ one of t□e fo□o□in□□

1. □□i□de□□□i□ Co□ □erci□□□□ di□□ion of □□□□ Indu□trie□, Inc.

□. Co□or□ □er Dr□□in□□

C. □□ttern□ □er Dr□□in□□

D. □ie C□□r□cteri□tic□Mu□ti □e□e□□□ttern □oo□

E. Den□it□□7145

F. □ie T□ic□ne□□□1/12 inc□e□(0.64c□) for fini□□ed c□r□et ti□e □ccordin□ to □□TM D6859.

□. □titc□e□□9 □titc□e□/in

□. □ □□e□1/12

I. □urf□ce □i□e □ ei□□t□26 o□

□. □ri□ □r□ □□c□in□/□□c□co□tin□□ □□nt□etic

□. □econd□r□ □□c□in□□Eco□ or□□

□. □i□e□18 □□36 inc□e□(457 □□914 □□).

M. □u□t□in□□□e De□i□n Re□uire□ent□□

1. Verif□ f□oorin□ □roduct□ co□ □□□ □it□ t□e re□uire□ent□ of t□e C□ifforni□ De□□rt□ent of □u□ic □e□t□□□ "□t□nd□rd Met□od for t□e Te□tin□ □nd E□□u□tion of Vo□□ti□e Or□□nic C□e□ic□□E□i□□ion□fro□ Indoor □ource□ □□in□ En□iron□ent□□C□□□ □er□."

□. □erfor□ □nce C□□r□cteri□tic□□

1. □□□e□r□nce Retention R□tin□□Moder□te tr□ffic, 2.5 □ini□u□ □ccordin□to □□TM D7330.
2. Dr□ □re□□in□ □tren□t□□□ot □e□□t□□n 100 □□f (445 □) □ccordin□to □□TM D2646.
3. Tuft □ind□□ot □e□□t□□n 10 □□f (45 □) □ccordin□to □□TM D1335.
4. De□□□in□tion□□ot □e□□t□□n 4 □□f/in. (0.7 □/□□) □ccordin□to □□TM D3936.
5. Di□en□ion□□To□er□nce□□it□in 1/32 inc□ (0.8 □□) of □□ecified □i□e di□en□ion□, □□ deter□ined □□ □□□□ic□□□e□□ure□ent.
6. Di□en□ion□□□t□□i□t□□0.2 □ercent or □e□□ □ccordin□to I□O 2551 (□□c□en Te□t).
7. Co□orf□□tne□□to Croc□in□□□ot □e□□t□□n 4, □et □nd dr□, □ccordin□to □□TCC 165.
8. Co□orf□□tne□□ to □i□□t□□ot □e□□ t□□n 4 □fter 40 □F□ (□□TCC f□din□ unit□) □ccordin□to □□TCC 16, O□tion E.

2.2 □ □□□-OFF C□R□ET TI□E

□. M□nuf□cturer□□□u□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ □□t□e fo□o□in□□

1. □□□ In□i□ion□□□□ Indu□trie□, Inc.

□. Co□or□ □er Dr□□in□□

C. □□ttern□ Run□□□II □ □□-off Modu□r 7267

D. Fi□er Content□100 □ercent n□on.

E. Fi□er T□□e□Encore□ □D (□it□rec□c□ed content).

F. □i□e C□□r□cteri□tic□□e□e-□oo□ □i□e.

□. Den□it□□6607 o□/□3. (244.99 □□/□3)

□. □ile T□ic□ne□□□.25 inc□e□(0.64c□) for fini□□ed c□r□et ti□e □ccordin□ to □□TM D6859.

I. □titc□e□□9.00 □titc□e□/in (3.54 □titc□e□/c□)

□. □□□e□1/10 (3.94 ro□□/c□)

□. □urf□ce □i□e □ ei□□t□34 o□/□□. (1153 □r□□ □/□2)

□. □ri□ □r□ □□c□in□/□□c□co□tin□□ □e□u□□ Modu□□r.

M. □i□e□36 □□36 inc□e□(914 □□914 □□).

□. □□□ie□ed Tre□t□ent□□

O. □u□t□in□□□e De□i□n Re□uire□ent□□

1. Verif□ f□oorin□ □roduct□ co□ □□□ □it□ t□e re□uire□ent□ of t□e C□ifforni□ De□□rt□ent of □u□ic □e□t□□□ "□t□nd□rd Met□od for t□e Te□tin□ □nd E□□□u□tion of Vo□□ti□e Or□□nic C□e□ic□□E□i□□ion□fro□ Indoor □ource□ □□in□ En□iron□ent□□C□□□ □er□."

□. □erfor□ □nce C□□r□cteri□tic□□

1. □□□e□r□nce Retention R□tin□□ □e□□□ tr□ffic, 3.0 □ini□u□ □ccordin□ to □□TM D7330.
2. Tuft □ind□□ot □e□□t□□n 10 □□f (45 □) □ccordin□ to □□TM D1335.
3. De□□□ in□tion□□ot □e□□t□□n 4 □□f/in. (0.7 □/□□) □ccordin□ to □□TM D3936.
4. Di□en□ion□□To□er□nce□ □ it□in 1/32 inc□ (0.8 □□) of □□ecified □i□e di□en□ion□, □□ deter□ined □□ □□□□ic□□□ e□□ure□ent.
5. Di□en□ion□□□t□□i□t□□0.2 □ercent or □e□□ □ccordin□ to I□O 2551 (□□c□en Te□t).
6. Co□orf□□tne□□ to Croc□in□□□ot □e□□t□□n 4, □et □nd dr□, □ccordin□ to □□TCC 165.
7. Co□orf□□tne□□ to □i□□t□□ot □e□□ t□□n 4 □fter 40 □F□ (□□TCC f□din□ unit□) □ccordin□ to □□TCC 16, O□tion E.

2.3 I□□T□□□□TIO□ □CCE□□ORIE□

□. Tro□e□□□e □e□e□in□ □nd □□tc□in□ Co□ □ound□□ □□te□-□odified, □□dr□u□c-ce□ent-□□□ed for□u□□tion □ro□ided or reco□ □ended □□ c□r□et ti□e □ □nuf□cturer.

□. □d□e□i□e□□ □ □ter-re□i□t□nt, □i□de□-re□i□t□nt, non□t□inin□, □re□□ure-□en□iti□e t□□e to □uit □roduct□ □nd □u□f□□or condition□ indic□ted, t□□t co□ □□□ □it□ f□□□ □ □□i□it□ re□uire□ent□ for in□t□□ed c□r□et ti□e, □nd □re reco□ □ended □□ c□r□et ti□e □ □nuf□cturer for re□e□□□□e in□t□□□tion.

1. Verif□ □d□e□i□e□ □□□e □VOC content of 50 □/□ or □e□.

C. Met□□Ed□e/Tr□n□ition □tri□□□ E□truded □u□inu□ □it□ □nodi□ed fini□□ of □rofi□e □nd □idt□ □□o□n, of □ei□□t re□uired to □rotect e□□o□ed ed□e of c□r□et, □nd of □ □□i□u□ □en□t□□ to □ini□i□e runnin□ □oint□.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□ine □u□□tr□te□, □re□□, □nd condition□, □it□ In□t□□er □re□ent, for co□ □i□nce □it□ re□uire□ent□ for □ □□i□u□ □oi□ture content, □□□□init□r□n□e, in□t□□□tion to□er□nce□, □nd ot□er condition□ □ffectin□ c□r□et ti□e □erfor□ □nce.

□. E□□□ine c□r□et ti□e for t□□e, co□or, □□ttern, □nd □otenti□□defect□.

C. Concrete □□□□□□ Verif□ t□□t fini□□e□ co□ □□□ □it□ re□uire□ent□ □□ecified in □ection 033000 "C□□t-in-□□□ce Concrete" □nd t□□t □urf□ce□ □re free of cr□c□□, rid□e□, de□re□□ion□, □c□□e, □nd forei□n de□o□it□.

1. Moi□ture Te□tin□□□erfor□ te□t□ □o t□□t e□c□te□t □re□ doe□ not e□ceed 200 □□. ft. (18.6 □□. □), □nd □erfor□ no fe□er t□□n t□ree te□t□ in e□c□ in□t□□□tion □re□ □nd □it□ te□t □re□□ e□en□□ □□□ced in in□t□□□tion □re□□.

□. □n□□drou□ C□□ciu□ C□□oride Te□t□ □□TM F1869. □roceed □it□ in□t□□□tion on□□ □fter □u□□tr□te□ □□□e □ □□i□u□ □oi□ture-□□□or-e□i□□ion r□te of 3 □□ of □□ter/1000 □□. ft. (1.36 □□ of □□ter/92.9 □□. □) in 24 □our□.
□. Re□□ti□e □u□idit□ Te□t□ □□in□ in □itu □ro□e□, □□TM F2170. □roceed □it□ in□t□□□tion on□□ □fter □u□□tr□te□ □□□e □ □□i□u□ 75 □ercent re□□ti□e □u□idit□ e□e□□ e□□ure□ent.
c. □erfor□ □ddition□□□ oi□ture te□t□ reco□□ended in □ritin□ □□ □d□e□i□e □nd c□r□et ti□e □□nuf□cturer□. □roceed □it□ in□t□□□tion on□□ □fter □u□□tr□te□ □□□□te□tin□.

D. □□inted □u□f□oor□□□erfor□ □ond te□t reco□□ended in □ritin□ □□ □d□e□i□e □ □nuf□cturer.

1. □cce□□ F□oorin□ □□□te□ □□Verif□t□e fo□o□in□□
2. □nder□□□□ent □urf□ce i□ f□□t, □□oot□, e□en□□ □□□ned, ti□□t□□ □ointed, □nd free of irre□u□□ritie□, □□□□ □re□ter t□□n 1/8 inc□ (3 □□), □rotru□ion□ □ore t□□n 1/32 inc□ (0.8 □□), □nd □u□□t□nce□t□□t □ □□interfere □it□ □d□e□i□e □ond or □□o□ t□rou□□ □urf□ce.

E. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□f□ctor□ condition□ □□□e □een corrected.

3.2 □RE□□R□TIO□

□. □ener□□□Co□ □□□ □it□ t□e C□r□et □nd Ru□ In□titute□□ CRI 104 □nd □it□ c□r□et ti□e □ □nuf□cturer□□ □ritten in□t□□□tion in□truction□ for □re□□rin□ □u□□tr□te□ indic□ted to recei□e c□r□et ti□e.

□. □□e tro□e□□□□e □e□e□n□ □nd □□tc□in□ co□ □ound□, □ccordin□ to □ □nuf□cturer□□ □ritten in□truction□, to fi□□cr□c□□, co□e□, de□re□□ion□, □nd □rotru□ion□ in □u□□tr□te□. Fi□□or □e□e□cr□c□□, co□e□ □nd de□re□□ion□ 1/8 inc□ (3 □□) □ide or □ider, □nd □rotru□ion□ □ore t□□n 1/32 inc□ (0.8 □□) un□e□□ □ore □trin□ent re□uire□ent□ □re re□uired □□ □ □nuf□cturer□□ □ritten in□truction□.

C. Concrete □u□□tr□te□□Re□o□e co□tin□□, inc□udin□ curin□ co□ □ound□, □nd ot□er □u□□t□nce□t□□t □re inco□ □□ti□e □it□ □d□e□i□e□ □nd t□□t cont□in □o□□, □□□, oi□, or □i□cone, □it□out u□in□ □o□□ent□. □□e □ec□□nic□□ □et□od□ reco□□ended in □ritin□ □□ □d□e□i□e □nd c□r□et ti□e □ □nuf□cturer□.

D. Met□□□u□□tr□te□: C□e□n □re□□e, oi□, □oi□□nd ru□t, □nd □ri□e if reco□□ended in □ritin□ by □d□e□i□e □□nuf□cturer. Rou□□ □□nd □□inted metal □urf□ce□ □nd re□o□e □oo□e □□int. □□nd □u□inu□ □urf□ce□, to re□o□e metal □ide□, i□ □edi□te□□ □efore appl ing □d□e□i□e.

E. □roo□ □nd □□cuu□ c□e□n □u□□tr□te□ to □e co□ered i□ □edi□te□□ □efore in□t□□in□ c□r□et ti□e.

3.3 I□□T□□□□TIO□

A. □ener□□: Co mply □it□ t□e C□r□et □nd Ru□ In□titute'□ CRI 104, □ection 10, "C□r□et Ti□e," □nd □it□ c□r□et ti□e □□nuf□cturer'□ □ritten in□t□□□tion in□truction□.

B. In□t□□□tion Met□od: As reco□□ended in □ritin□ by c□r□et ti□e □□nuf□cturer.

C. M□int□in d□e-□ot inte□rit□. Do not mix d□e □ot□in sam e □re□.

D. M□int□in □i□e-direction □□ttern□ indic□ted on Dr□□in□□.

E. Cut □nd fit c□r□et ti□e to □utt ti□□t□□ to □ertic□□□urf□ce□, □er□ □nent fi□ture□, □nd □uilt-in furniture inc□udin□ c□□inet□, pipes, out□et□, ed□in□□, t□re□□o□d□, □nd no□in□□. □ind or s□al cut ed□e□ as reco□□ended □□ c□r□et ti□e □□nuf□cturer.

F. E□tend c□r□et ti□e into toe spa□es, door re□e□□, c□o□et□, o□en-□otto□ed o□□truction□, re□o□□□e f□n□e□, □co□e□, □nd □i□i□r o□enin□□.

G. M□int□in reference □□r□er□, □o□e□, □nd o□enin□□ t□□t □re in pla□e or □□r□ed for future cuttin□ by re□e□tin□ on c□r□et ti□e as □□r□ed on □u□floor. □□e non□er□□nent, non□t□inin□ □□r□in□ de□ice.

H. In□t□□□□ttern □□r□□e□ to walls □nd □order□.

I. □cce□□ F□oorin□: □t□□□er □oint□ of c□r□et ti□e□ □o c□r□et ti□e □rid i□ off□et fro□ □cce□□ f□oorin□ pa□ne□ □rid. Do not fi□□s□ams of □cce□□ f□oorin□ pa□nels □it□ c□r□et □d□e□i□e; □ee□ s□ams free of □d□e□i□e.

3.4 CLEAN ING AN D □ROTECTIO□

A. □erfor□ t□e fo□o□in□ o□er□tion□ i□ □edi□te□□ □fter in□t□□in□ c□r□et ti□e:

1. Re□o□e e□ce□□ □d□e□i□e □nd ot□er □urf□ce □□e□i□□e□ u□in□ c□e□ner reco□□ended by c□r□et ti□e □□nuf□cturer.
2. Re□o□e ya□ns t□□t □rotrude fro□ c□r□et ti□e □urf□ce.
3. V□cuu□ c□r□et ti□e u□in□ co□□erci□□□ c□ine □it□ f□ce-□e□ter e□e□ent.

B. □rotect in□t□□□ed c□r□et ti□e to co mply □it□ t□e C□r□et □nd Ru□ In□titute'□ CRI 104, □ection 13.7.

C. □rotect c□r□et ti□e □□□in□t damag e fro□ con□truction o□er□tion□ □nd □□□ce□ent of e□ui□□ent □nd fi□ture□ durin□ t□e re□ □inder of con□truction □eriod. □□e □rotection □et□od indic□ted or reco□□ended in □ritin□ by c□r□et ti□e □□nuf□cturer.

E□D OF □ECTIO□ 096813

□ECTIO□ 099123 - I□TERIOR PA INTING

□□RT 1 - □E□ER□□

1.1 □□MM□R□

A. □ection Inc□ude□:

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3. □o□□ent-□□□ed fini□□ co□tin□□.
4. F□oor □e□er□ □nd □□int□.
5. Dr□f□□co□tin□□.

B. Re□□ted Re□uire□ent□:

1. □ection 055000 "Met□□F□□ric□tion□" for shop □ri□in□ metal □□ric□tion□.
2. □ection 055113 "Met□□Pa□n □t□ir□" for shop □ri□in□ metal pa□n □t□ir□.
3. □ection 055116 "Met□□F□oor Pla te □t□ir□" for □□o□ □ri□in□ metal □oor □□□te □t□ir□.
4. □ection 055119 "Met□□□r□tin□ □t□ir□" for □□o□ □ri□in□ metal □r□tin□ □t□ir□.
5. □ection 099300 "□t□inin□ □nd Tr□n□□□rent Fini□□in□" for □urf□ce □re□□r□tion □nd t□e □□□ic□tion of □ood □t□in□ □nd tr□n□□□rent fini□□e□on interior □ood □u□□tr□te□.
6. □ection 099600 "□i□□-□erfor□ □nce Co□tin□□" for ti□e-i□e co□tin□□.

1.2 □CTIO□ SUB MITTALS

A. □roduct D□t□: For e□c□ t□□e of □roduct. Inc□ude □re□□r□tion re□uire□ent□ □nd □□□ic□tion in□truction□.

1. Inc□ude □re□□r□tion re□uire□ent□ □nd □□□ic□tion in□truction□.
2. Indic□te VOC content.

B. □u□t□in□□□e De□i□n □u□□itt□□□:

1. □roduct D□t□: For □□int□ □nd co□tin□□, indic□tin□ VOC content.
2. □□□or□tor□ Te□t Re□ort□: For □□int□ □nd co□tin□□, indic□tin□ co□ □i□nce □it□ re□uire□ent□ for □o□-e□ittin□ □ □teri□□□.
3. En□iron□ent□□□roduct Dec□□r□tion: For e□c□ □roduct.
4. □e□t□ □roduct Dec□□r□tion: For e□c□ □roduct.
5. □ourcin□ of Raw M□teri□□□: Cor□or□te □u□t□in□□i□it□re□ort for e□c□ □□nuf□cturer.
6. M□nuf□cturer In□entor□□ For e□c□ □roduct, □ro□ide □□nuf□cturer'□ □□nife□t of in□redient□.

C. Samp□es: For e□c□ t□□e of to□co□t □roduct.

D. Samp□es for Initi□□□e□ection: For e□c□ t□□e of to□co□t □roduct.

E. Samp□es for Verific□tion: For e□c□ t□□e of □□int sys□em □nd e□c□ co□or □nd g□oss of to□co□t.

1. □u□□it Samp□es on ri□id □□c□in□, 8 inc□e□ (200 mm) □□u□re.
2. Apply co□t□on Samp□es in s□eps to □□o□ e□c□ co□t re□uired for sys□em.

3. [illegible] cost of each [illegible].
4. [illegible] for location and identification area.

F. Product Schedule: Use the designations indicated on Drawings and in the Interior Painting Schedule to cross-reference paint materials specified in this Section. Include color designations.

1.3 MAINTENANCE MATERIALS SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint Products: 5 percent, but not less than 1 gal. (3.8 L) of each material and color applied.

1.4 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system.

a. Vertical and horizontal surfaces provide not less than 100 sq. ft. (9 sq. m).
b. Other Items Architect will designate are required.

2. Final approval of color selections will be based on mockups.

a. If preliminary color selections are not approved, additional mockups of additional colors selected by Architect at no added cost to Owner.

3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may be incorporated in the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated area with ambient temperatures continuously maintained not less than 45 deg F (7 deg C).

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).

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□□RT 2 - □ROD□CT□

2.1 M□□□F□CT□RER□

□. M□nuf□cturer□□ □u□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ □□ one of t□e fo□o□in□□

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2. For e□c□ co□t in □ □□int □□□te□, □roduct□ □□□□□□e reco□ □ended in □ritin□ □□ to□co□t □ □nuf□cturer□for u□e in □□int □□□te□ □nd on □u□□tr□te indic□ted.

□. VOC Content□For fie□d □□□ic□tion□ t□□t □re in□ide t□e □e□t□er□roofin□ □□□te□, □erif□ □□int□ □nd co□tin□□ co□ □□□ □it□ VOC content i□ it□ of □ut□oritie□ □□□in□ □uri□diction □nd t□e fo□o□in□ VOC content i□ it□□

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2.3 □RIMER□

□. Interior/E□terior □□te□ □oc□ Fi□er□ □ □ter-□□□ed, □i□□-□oi□, e□u□ion co□tin□ for□u□ted to □rid□e □nd fi□□orou□ □urf□ce□ of e□terior concrete □ □□onr□ unit□ in □re□□r□tion for □□ecified □u□□e□uent co□tin□□.

□. □□□i-Re□i□t□nt, □ □ter-□□□ed □ri□er□ □ □ter-□□□ed □ri□er for□u□ted for u□e on □□□□ine □urf□ce□, □uc□ □□ □□□ter, □ertic□□concrete, □nd □ □□onr□.

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F. Interior □□□d □ri□er □e□er□□o□ent-□□□ed, □□□d-t□□e, □ri□er/□e□er for ne□ interior □ood, □□□ter, □nd □orou□ □urf□ce□,

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□. Interior, □□te□, In□titution□□□o□ Odor/VOC, F□□t□□ □ite or co□ored □□te□ □□int □it□ □o□-odor c□□r□cteri□tic□ □nd □ VOC of □e□□ t□□n 10 □r□□ □ □er □iter, for u□e in □re□□, □uc□ □□ □o□□it□□□ □nd ot□er occu□ied □ui□din□□, □□ere t□e odor □nd VOC □e□e□□ of con□ention□□□□te□ □roduct□ □ou□d □rec□ude t□eir u□e.
1. □o□□ □nd □□een □e□e□□M□nuf□cturer□□ □t□nd□rd f□□t fini□□.

□. Interior, □□te□, In□titution□□□o□ Odor/VOC, □o□ □□een□□ □ite or co□ored □□te□ □□int □it□ □o□-odor c□□r□cteri□tic□ □nd □ VOC of □e□□ t□□n 10 □r□□ □ □er □iter, for u□e in □re□□, □uc□ □□ □o□□it□□□ □nd ot□er occu□ied □ui□din□□, □□ere t□e odor □nd VOC □e□e□□ of con□ention□□□□te□ □roduct□ □ou□d □rec□ude t□eir u□e.
1. □o□□ □nd □□een □e□e□□M□nuf□cturer□□ □t□nd□rd □o□-□□een fini□□.

I. Interior, □□te□, In□titution□□□o□ Odor/VOC, E□□□□e□□□ □ite or co□ored □□te□ □□int □it□ □o□-odor c□□r□cteri□tic□ □nd □ VOC of □e□□ t□□n 10 □r□□ □ □er □iter, for u□e in □re□□, □uc□ □□ □o□□it□□□ □nd ot□er occu□ied □ui□din□□, □□ere t□e odor □nd VOC □e□e□□ of con□ention□□□□te□ □roduct□ □ou□d □rec□ude t□eir u□e.
1. □o□□ □nd □□een □e□e□□M□nuf□cturer□□ □t□nd□rd e□□□□e□□fini□□.

□. Interior, □□te□, In□titution□□□o□ Odor/VOC, □□tin□□ □ite or co□ored □□te□ □□int □it□ □o□-odor c□□r□cteri□tic□ □nd □ VOC of □e□□ t□□n 10 □r□□ □ □er □iter, for u□e in □re□□, □uc□ □□ □o□□it□□□ □nd ot□er occu□ied □ui□din□□, □□ere t□e odor □nd VOC □e□e□□ of con□ention□□□□te□ □roduct□ □ou□d □rec□ude t□eir u□e.
1. □o□□ □nd □□een □e□e□□M□nuf□cturer□□ □t□nd□rd □o□-□□een fini□□.

□. Interior, □□te□, In□titution□□□o□ Odor/VOC, □e□i□ō□□□□ □ite or co□ored □te□ □□int □it□ □ō□-odor c□□r□cteri□tic□ □nd □ VOC of □e□□ t□□n 10 □r□□ □er □iter, for u□e in □re□□, □uc□ □□ □o□□it□□□ □nd ot□er occu□ied □ui□din□□, □□ere t□e odor □nd VOC □e□e□□ of con□ention□□□□te□ □roduct□ □ou□d □rec□ude t□eir u□e.
1. □o□□ □e□e□□M□nuf□cturer□□ □t□nd□rd □e□i□o□□ fini□□.

□. Interior, □□te□, In□titution□□□o□-Odor/VOC, □□o□□□□ □ite or co□ored □te□ □□int □it□ □ō□-odor c□□r□cteri□tic□ □nd □ VOC of □e□□ t□□n 10 □r□□ □er □iter, for u□e in □re□□, □uc□ □□ □o□□it□□□ □nd ot□er occu□ied □ui□din□□, □□ere t□e odor □nd VOC □e□e□□ of con□ention□□□□te□ □roduct□ □ou□d □rec□ude t□eir u□e.
1. □o□□ □e□e□□M□nuf□cturer□□ □t□nd□rd □o□□ fini□□.

M. Interior, □ □ter-□□□ed □i□□t-Indu□tri□□ Co□tin□, E□□□□e□□ □i□□ented, □□ter-□□□ed e□u□□ion co□tin□ for interior □ri□ed □ood □nd □et□□□urf□ce□ (e.□., □□□□, door□, fr□□e□, tri□, □nd □□□□), □ro□idin□ re□i□t□nce to □oder□te □□r□□ion □nd □id c□e□ic□□ e□□o□ure □nd corro□i□e condition□.
1. □o□□ □nd □□een □e□e□□M□nuf□cturer□□ □t□nd□rd e□□□□e□□fini□□.

□. Interior, □ □ter-□□□ed □i□□t-Indu□tri□□ Co□tin□, □e□i□o□□□ □i□□ented, □□ter-□□□ed e□u□□ion co□tin□ for interior □ri□ed □ood □nd □et□□□urf□ce□ (e.□., □□□□, door□, fr□□e□, tri□, □nd □□□□), □ro□idin□ re□i□t□nce to □oder□te □□r□□ion □nd □id c□e□ic□□ e□□o□ure □nd corro□i□e condition□.
1. □o□□ □e□e□□M□nuf□cturer□□ □t□nd□rd □e□i□o□□ fini□□.

O. Interior, □ □ter-□□□ed □i□□t-Indu□tri□□ Co□tin□, □ō□□□□□i□□ented, □□ter-□□□ed e□u□□ion co□tin□ for interior □ri□ed □ood □nd □et□□ □urf□ce□ (e.□., □□□□, door□, fr□□e□, tri□, □nd □□□□), □ro□idin□ re□i□t□nce to □oder□te □□r□□ion □nd □id c□e□ic□□ e□□o□ure □nd corro□i□e condition□.
1. □o□□ □e□e□□M□nuf□cturer□□ □t□nd□rd □ō□□ fini□□.

□. Interior, □□te□, □i□□-□erfor□ □nce □rc□itectur□□ Co□tin□, □o□ □□een□ □i□□-□erfor□ □nce □rc□itectur□□□te□ co□tin□ □ro□idin□ □ □i□nific□nt□□ i□□er □e□e□ of □erfor□ □nce t□□n con□ention□□ □te□ □□int□ in t□e □re□□ of □cru□ re□i□t□nce, □urni□□ re□i□t□nce, □nd e□□e of □t□in re□o□□.
1. □o□□ □nd □□een □e□e□□M□nuf□cturer□□ □t□nd□rd □ō□-□□een fini□□.

□. Interior, □□te□, □i□□-□erfor□ □nce □rc□itectur□□ Co□tin□, E□□□□e□□ □i□□-□erfor□ □nce □rc□itectur□□□te□ co□tin□ □ro□idin□ □ □i□nific□nt□□ i□□er □e□e□ of □erfor□ □nce t□□n con□ention□□ □te□ □□int□ in t□e □re□□ of □cru□ re□i□t□nce, □urni□□ re□i□t□nce, □nd e□□e of □t□in re□o□□.
1. □o□□ □nd □□een □e□e□□M□nuf□cturer□□ □t□nd□rd e□□□□e□□fini□□.

R. Interior, □□te□, □i□□-□erfor□ □nce □rc□itectur□□Co□tin□, □□tin□ □i□□-□erfor□ □nce □rc□itectur□□ □te□ co□tin□ □ro□idin□ □ □i□nific□nt□□ i□□er □e□e□ of □erfor□ □nce t□□n con□ention□□□□te□ □□int□ in t□e □re□□ of □cru□ re□i□t□nce, □urni□□ re□i□t□nce, □nd e□□e of □t□in re□o□□.
1. □o□□ □nd □□een □e□e□□M□nuf□cturer□□ □t□nd□rd □ō□-□□een fini□□.

□. Interior, □□te□, □i□□-□erfor□ □nce □rc□itectur□□ Co□tin□, □e□i□o□□□ □i□□-□erfor□ □nce □rc□itectur□□□te□ co□tin□ □ro□idin□ □ □i□nific□nt□□ i□□er □e□e□ of □erfor□ □nce t□□n con□ention□□ □te□ □□int□ in t□e □re□□ of □cru□ re□i□t□nce, □urni□□ re□i□t□nce, □nd e□□e of □t□in re□o□□.
1. □o□□ □e□e□□M□nuf□cturer□□ □t□nd□rd □e□i□ō□□ fini□□.

T. Te□tured □□te□ Co□tin□, F□□t□□i□□ented, □□ter-□□□ed co□tin□, cont□inin□ □ co□r□e or □ediu□-□i□ed □□nd or ot□er □□rd □□□re□□te, for u□e on e□terior □ □□onr□, concrete, □nd concrete □□oc□.
1. □o□□ □nd □□een □e□e□□M□nuf□cturer□□ □t□nd□rd f□□t fini□□.
2. □□□re□□te □i□e□M□nuf□cturer□□ □t□nd□rd.

U. Te□tured La□ex Co□tin□, □onf□t: □i□□ented, □□ter-□□□ed co□tin□, cont□inin□ a co□r□e or □ediu□-i□ed □□nd or ot□er □□rd □□□re□□te, for u□e on e□terior □ □□onr□, concrete, □nd concrete □oc□.
1. G□oss □nd □□een L□v□l: M□nuf□cturer'□ t□nd□rd □o□-□□een fini□□.
2. □□□re□□te □i□e: M□nuf□cturer'□ t□nd□rd.

2.5 □O□VE□T-□□□ED FI□I□□ CO□T□

A. Interior, Alk□d, F□□t: □i□□ented, □o□□ent-□□□ed a□ky□ □□int for u□e on □ri□ed/□e□□ed interior □□□□ter, gyps□m, □ood, □nd m□tal walls □ri□ □ri□□in re□identi□□□nd □oder□te tr□ffic co□□erci□□ en□iron□ent□.
1. G□oss □nd □□een L□v□l: M□nuf□cturer'□ t□nd□rd f□□t fini□□.

B. Interior, Alky□, Eggsh□ll □i□□ented, □o□□ent-□□□ed alky□ □□int for u□e on □ri□ed/□e□□ed interior □□□□ter, gyps□m, □ood, □nd m□tal walls □ri□ □ri□□in re□identi□□□nd □oder□te tr□ffic co□□erci□□ en□iron□ent□.
1. G□oss □nd □□een L□v□l: M□nuf□cturer'□ t□nd□rd □gg□□□ll fini□□.

C. Interior, □□□□d, □□i□o□□: □i□□ented, □o□□ent-□□□ed □□□□d □□int for u□e on □ri□ed/□e□□ed interior □□□□ter, gyps□m, □ood, □nd m□tal walls □ri□ □ri□□in re□identi□□□nd □oder□te tr□ffic co□□erci□□en□iron□ent□.
1. G□oss L□v□l: M□nuf□cturer'□ t□nd□rd □□i□o□□ fini□□.

D. Interior, Alky□, G□oss: □i□□ented, □o□□ent-□□□ed al□y□ □□int for u□e on □ri□ed/□e□□ed interior □□□□ter, gyps□m, □ood, □nd m□tal walls □ri□ □ri□□in re□identi□□□nd □oder□te tr□ffic co□□erci□□ en□iron□ent□.
1. G□oss □e□e□□M□nuf□cturer'□ t□nd□rd g□oss fini□□.

E. □u□inu□ □□int: □i□□□tic, □o□□ent-□□□ed co□tin□ con□i□tin□ of □□rni□□ or □□□□d □inder co□□ined □it□ □u□inu□ □i□□ent t□□t i□ for□u□□ted for u□e as a □t□in-□oc□in□ co□tin□ □nd □e□□er on □ood, m□tal, □itu□inou□-co□□ted, □nd □re□□red □ □□onr□urf□ce□ □nd to □e □□□e to □e reco□ted □it□ con□ention□□alky□ □nd □□te□ □□int□.

2.6 F□OOR □E□□ER□ AN D PA□NTS

A. Interior Concrete □t□in: □enetr□tin□ □e□itr□n□□□rent □t□in □□ecific□□□□ □□nuf□ctured for interior □nd e□terior concrete □ori□ont□□□nd □ertic□□urf□ce□.

B. La□ex F□oor □□int, L□w G□oss: □ □□ter-□□□ed, □i□□ented co□tin□ for□u□□ted to □ide □t□in□, for alka□i □nd incident□□ □□ter re□i□t□nce, □nd for u□e on concrete □nd □ri□ed-□ood □urf□ce□ □u□ect to □o□ to □ediu□ foot tr□ffic.
1. G□oss □nd □□een L□v□l: M□nuf□cturer'□ t□nd□rd □o□-□o□□ fini□□.
2. □i□-Re□i□t□nt □□□re□□te: M□nuf□cturer□□ t□nd□rd □dditi□e.

C. Alky□ F□oor En□□e□, G□oss: □o□□ent-□□□ed, alky□ en□□e□; □elf-□ri□in□ □□ere □□□□ied to □□re □ood□for□u□□ted to □ide □t□in□, for dur□□i□it□, for □icro□i□□□nd □□r□□ion re□i□t□nce, □nd for u□e on □ood-□o□rd, tr□ffic □urf□ce□.
1. G□oss □e□e□: M□nuf□cturer'□ t□nd□rd g□oss fini□□.
2. □i□-Re□i□t□nt □□□re□□te: M□nuf□cturer'□ t□nd□rd □dditi□e.

D. □ □ter-□□□ed Concrete F□oor □e□□er: C□e□r, □□ter-□□□ed, □cr□ic-co□o□□□er-e□u□ion □e□er for□u□□ted for oi□, □□□o□ine, alka□i, □nd □□ter re□i□t□nce □nd for u□e on concrete tr□ffic □urf□ce□.

E. □o□ent-□□□ed Concrete F□oor □e□er□C□e□r, □cr□ic, □o□ent-□□□ed □e□er for□u□ted for oi□ □□□o□ine, □□□□i□ □nd □□ter re□i□t□nce □nd for u□e on concrete tr□ffic □urf□ce□.

2.7 DR□ F□□□ CO□TI□□□

□. Dr□ F□□□ □□te□, F□□t□□i□□ented, □□ter-□□□ed, e□u□ion-t□□e, f□□t-dr□in□ co□tin□ for u□e on interior □□□□ter, concrete, □□□□u□ □o□rd, □ri□ed □ood, □nd □et□□ceiin□□.
1. □o□□ □nd □□een □e□e□M□nuf□cturer□□ t□nd□rd f□□t fini□□.

□. Dr□ F□□□ □□te□, E□□□□e□□□i□□ented, □□ter-□□□ed, e□u□ion-t□□e, f□□t-dr□in□ co□tin□ for u□e on interior □□□□ter, concrete, □□□□u□ □o□rd, □ri□ed □ood, □nd □et□□ceiin□□.
1. □o□□ □nd □□een □e□e□M□nuf□cturer□□ t□nd□rd e□□□□e□fini□□.

C. Dr□ F□□□ □□te□, □e□i□□o□□□□i□□ented, □□ter-□□□ed, e□u□ion-t□□e, f□□t-dr□in□ co□tin□ for u□e on interior □□□□ter, concrete, □□□□u□ □o□rd, □ri□ed □ood, □nd □et□□ceiin□□.
1. □o□□ □e□e□M□nuf□cturer□□ t□nd□rd □e□i□o□□fini□□.

D. □ □ter □□□ed, Dr□ F□□□for □ □□□□ni□ed □tee□, F□□t□□i□□ented, □□ter-□□□ed co□tin□ for direct □□□□ic□tion to c□e□ned, interior □□□□ni□ed-□et□□ceiin□ □urf□ce□ □nd □d□□cent □ri□ed □et□□□.
1. □o□□ □nd □□een □e□e□M□nuf□cturer□□ t□nd□rd f□□t fini□□.

E. □ □ter □□□ed, Dr□ F□□□for □ □□□□ni□ed □tee□, E□□□□e□□□i□□ented, □□ter-□□□ed co□tin□ for direct □□□□ic□tion to c□e□ned, interior □□□□ni□ed-□et□□ceiin□ □urf□ce□ □nd □d□□cent □ri□ed □et□□□.
1. □o□□ □nd □□een □e□e□M□nuf□cturer□□ t□nd□rd e□□□□e□fini□□.

F. □ □ter □□□ed, Dr□ F□□□for □ □□□□ni□ed □tee□, □e□i□□o□□□□i□□ented, □□ter-□□□ed co□tin□ for direct □□□□ic□tion to c□e□ned, interior □□□□ni□ed-□et□□ceiin□ □urf□ce□ □nd □d□□cent □ri□ed □et□□□.
1. □o□□ □e□e□M□nuf□cturer□□ t□nd□rd □e□i□o□□fini□□.

□. □□□□d, Dr□ F□□□ F□□t□□i□□ented, □o□□ent-□□□ed, f□□t-□ettin□, □□□□d interior □□int for u□e on ceiin□ □urf□ce□, □uc□ □□ □□□□ter, □□□□u□ □□□□o□rd, □ri□ed □ood, □nd □ri□ed □et□□□.
1. □o□□ □nd □□een □e□e□M□nuf□cturer□□ t□nd□rd f□□t fini□□.

□. □□□□d, Dr□ F□□□ E□□□□e□□□i□□ented, □o□□ent-□□□ed, f□□t-□ettin□, □□□□d interior □□int for u□e on ceiin□ □urf□ce□, □uc□ □□ □□□□ter, □□□□u□ □□□□o□rd, □ri□ed □ood, □nd □ri□ed □et□□□.
1. □o□□ □nd □□een □e□e□M□nuf□cturer□□ t□nd□rd e□□□□e□fini□□.

I. □□□□d, Dr□ F□□□ □e□i□□o□□□□i□□ented, □o□□ent-□□□ed, f□□t-□ettin□, □□□□d interior □□int for u□e on ceiin□ □urf□ce□, □uc□ □□ □□□□ter, □□□□u□ □□□□o□rd, □ri□ed □ood, □nd □ri□ed □et□□□.
1. □o□□ □e□e□M□nuf□cturer□□ t□nd□rd □e□i□o□□fini□□.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□□ine □u□□tr□te□ □nd condition□, □it□ □□□□ic□tor □re□ent, for co□□i□nce □it□ re□uire□ent□ for □ □□i□u□ □oi□ture content □nd ot□er condition□ □ffectin□ □erfor□□nce of t□e □or□.

□. M□□i□u□ Moi□ture Content of □u□□tr□te□□□ □en □e□□ured □it□ □n e□ectronic □oi□ture □eter □□fo□o□□□

1. Concrete 12 ercent.
2. Fi er-Ce ent oord 12 ercent.
3. Monr (C and CM) 12 ercent.
4. ood 15 ercent.
5. u oord 12 ercent.
6. ter 12 ercent.

C. u ute Verif t fini in co ound i nded oot.

D. ter ute Verif t ter i fu cured.

E. r-Te tured Cei in ute Verif t urf ce re dr.

F. Verif uit it of ute, inc din urf ce condition nd co ti it, it e i tin fini e nd ri er.

. roceed it co tin ic tion on fter un ti f ctor condition e een corrected.

1. ic tion of co tin indic te cce t nce of urf ce nd condition.

3.2 RE R TIO

. Co it nuf cturer ritten in truction nd reco end tion ic e to ute nd int te indic ted.

. Re o e ord re, co er, te, nd i i r ite re d in ce t t re re o e nd re not to e int. If re o i r ctic or i o i e ec u e of i e or ei t of ite, ro ide urf ce- ied rotection efore urf ce re r tion nd intin.

1. fter co etin intin o er tion, u e or er ed in t e tr de in o ed to rein t ite t t ere re o ed. Re o e urf ce- ied rotection if n.

C. C en u ute of u t nce t t cou d i ir ond of int, inc din du t, dirt, oi, re e, nd inco ti e int nd enc u nt.

1. Re o e inco ti e ri er nd re ri e u ute it co ti e ri er or tie co t re uired to roduce int te indic ted.

D. Concrete u ute Re o e re e e ent, curin co ound, effore cence, nd c . Do not int urf ce if oi ture content or init of urf ce to e int ed e ceed t t er itted in nuf cturer ritten in truction.

E. Monr u ute Re o e effore cence nd c . Do not int urf ce if oi ture content or init of urf ce or ort r oint e ceed t t er itted in nuf cturer ritten in truction.

F. tee u ute Re o e ru t, oo e i c e, nd o ri er, if n. C en u in et od reco ended in ritin int nuf cturer ut not e t n t e fo o in
1. C- 11.

. o- ri ed tee u ute C en fie d e d, o ted connection, nd re ere o int i r ded. int e o ed re it t e e teri u ed for o ri in to co it C- 1 for touc in u o- ri ed urf ce.

H. □□□□ni□ed-Met□□□u□□tr□te□: Re□o□e □re□□e □nd oi□re□idue fro□ galva niz ed □□eet m etal by □ec□□nic□□ □et□od□ to □roduce c□e□n, i□□t□□ etc□ed □urf□ce□ t□□t □ro□ote □d□e□ion of □u□□e□uent□□ □□□□ied □□int□.

I. □u□inu□ □u□□tr□te□: Re□o□e □oo□e □urf□ce o□id□tion.

□. □ood □u□□tr□te□:

1. □cr□□e □nd c□e□n □not□ □nd apply co□t of □not □e□□er □efore apply ing □ri□er.
2. □□nd □urf□ce t□□t will □e e□□o□ed to □ie□ □nd du□t off.
3. □ri□e ed□e□, end□, f□ce□, under□ide□, □nd □□c□□ide□ of □ood.
4. □fter □ri□in□, fi□□ho□es □nd i□ □erfection□ in t□e fini□□ □urf□ce□ □it□ □utt□or □□□□tic □ood fi□er. □□nd □□ oot□ □□en dried.

K. Cotton or C□n□□□ In□u□tion Co□erin□ □u□□tr□te□: Re□o□e du□t, dirt, □nd ot□er forei□n □ □teri□□ t□□t m ight i□ □□ir □ond of □□int□ to □u□□tr□te□.

3.3 I□□T□□□□TIO□

A. Apply □□int□ □ccordin□ to □ □nuf□cturer'□ □ritten in□truction□.

1. □□e □□□□ic□tor□ □nd tec□ni□ue□ □uited for □□int □nd □u□□tr□te indic□ted.
2. □□int □urf□ce□ □e□ind □o□□□□e e□ui□□ent □nd furniture sam e as □i□i□r e□□o□ed □urf□ce□. □efore fin□□in□t□□□tion, □□int □urf□ce□ □e□ind □er□ □nent□□ fi□ed e□ui□□ent or furniture □it□ □ri□e co□t on□.
3. □□int front □nd □□c□□ide□ of □cce□□ pa nels, re□o□□□e or □in□ed co□er□, □nd □i□i□r □in□ed ite□ □to ma tch e□□o□ed □urf□ce□.
4. Do not □□int o□er □□e□□ of inde□endent te□tin□ □□encie□ or e□ui□□ent n□□e, identific□tion, □erfor□ □nce r□tin□, or no□ enc□□ture □□te□.
5. □ri□er□ □□ecified in □□intin□ □c□edu□e□ may □e o□itted on ite□ □ t□□t □re f□ctor□ □ri□ed or f□ctor□ fini□□ed if □cce□t□□e to to□co□t □ □nuf□cturer□.

B. If underco□t□ or ot□er condition□ sh ow t□rou□□ to□co□t, apply □ddition□□co□t□ unti□cured fi□□ has a unifor□ □□int fini□□, co□or, □nd □□□e□r□nce.

C. Apply □□int□ to □roduce □urf□ce fi lms □it□out c□oudine□□, □□ottin□, □o□id□□□, laps , brush ma rks, ro□er tr□c□in□, run□, sa □s, ro□ine□□, or ot□er □urf□ce i□ □erfection□. Cut in sha rp □ine□ □nd co□or □re□□□.

D. □□intin□ Fire-□u□□re□□ion, □u□ □in□, □V□C, E□ectric□□, Co□ □unic□tion, □nd E□ectronic □□fet□ □nd □ecurit□ □ or□:

1. □□int t□e fo□o□in□ □or□ □□ere e□□o□ed in e□ui□□ent roo□ □:

a. E□ui□□ent, inc□udin□ □□ne□□o□rd□ □nd □□itc□ □e□r.
b. □nin□u□□ted m etal □i□in□.
c. □nin□u□□ted □□□□tic □i□in□.
d. □i□e □□n□er□ □nd □u□□ort□.
e. Met□□conduit.
f. □□□□tic conduit.
g. T anks t□□t do not hav e f□ctor□-□□□ied fin□□fini□□e□.
h. Duct, e□ui□□ent, □nd □i□e in□u□□tion □□□in□ cotton or c anvas in□u□□tion co□erin□ or ot□er □□int□□□e □□c□et □ □teri□.

2. □□int t□e fo□o□in□ □or□ □□ere e□□o□ed in occu□ied □□□ce□□

□. E□ui□□ ent, inc□udin□ □□ne□□o□rd□.
□. □nin□u□□ted □et□□□i□in□.
c. □nin□u□□ted □□□□tic □i□in□.
d. □i□e □□n□er□ □nd □u□□ort□.
e. Met□□conduit.
f. □□□□tic conduit.
□. Duct, e□ui□□ ent, □nd □i□e in□u□□tion □□□in□ cotton or c□n□□□ in□u□□tion co□erin□ or ot□er □□int□□□e □□c□et □ □teri□□.
□. Ot□er ite□ □ □□ directed □□ □rc□itect.

3. □□int □ortion□ of intern□□ □urf□ce□ of □et□□duct□, □it□out □iner, □e□ind □ir in□et□ □nd out□et□ t□□t □re □i□i□e fro□ occu□ied □□□ce□.

3.4 FIE□D □ □□□IT□ CO□TRO□

□. Dr□-Fi□□ T□ic□ne□□ Te□tin□□ O□ner □ □□ en□□□e t□e □er□ice□ of □ □u□□ified te□tin□ □nd in□□ectin□ □□enc□ to in□□ect □nd te□t □□int for dr□-fi□□ t□ic□ne□□.

1. Contr□ctor □□□□touc□ u□ □nd re□tore □□inted □urf□ce□ d□□ □□ed □□ te□tin□.
2. If te□t re□u□t□ □□o□ t□□t dr□-fi□□ t□ic□ne□□ of □□□□ied □□int doe□ not co□ □□□ □it□ □□int □ □nuf□cturer□□ □ritten reco□ □end□tion□, Contr□ctor □□□□□□ □□□□ for te□tin□ □nd □□□□□□ □ddition□□ co□t□ □□ needed to □ro□ide dr□-fi□□ t□ic□ne□□ t□□t co□ □ie□ □it□ □□int □ □nuf□cturer□□ □ritten reco□ □end□tion□.

3.5 C□E□□I□□ □□D □ROTECTIO□

□. □t end of e□c□ □or□d□□, re□o□e ru□□i□□, e□ □t□c□n□, r□□□, □nd ot□er di□c□rded □ □teri□□□ fro□ □ro□ect □ite.

1. Do not c□e□n e□ui□□ ent □it□ free-dr□inin□ □□ter □nd □re□ent □o□□ent□, t□inner□, c□e□ner□, □nd ot□er cont□□ in□nt□ fro□ enterin□ into □□ter□ □□□, □□nit□r□ □nd □tor□ dr□in □□□te□ □, □nd □round.
2. Di□□o□e of cont□□ in□nt□ in □ccord□nce □it□ re□uire□ent□ of □ut□oritie□ □□□in□ □uri□diction.
3. □□o□ e□ □t□ □□int c□n□to dr□ □efore di□□o□□.
4. Co□ect □ □□te □□int □□t□□e □nd de□□er to rec□c□in□ or co□ection f□ci□it□.

□. □fter co□ □□etin□ □□int □□□□ic□tion, c□e□n □□□ttered □urf□ce□. Re□o□e □□□ttered □□int□ □□ □ □□□in□, □cr□□in□, or ot□er □et□od□. Do not □cr□tc□ or d□□ □□e □d□□cent fini□□ed □urf□ce□.

C. □rotect □or□ of ot□er tr□de□ □□□in□t d□□ □□e fro□ □□int □□□□ic□tion. Correct d□□ □□e to □or□ of ot□er tr□de□ □□ c□e□nin□, re□□irin□, re□□□cin□, □nd refini□□in□, □□ □□□ro□ed □□ □rc□itect, □nd □e□□e in □n und□□ □□ed condition.

D. □t co□ □□etion of con□truction □cti□itie□ of ot□er tr□de□, touc□ u□ □nd re□tore d□□ □□ed or def□ced □□inted □urf□ce□.

3.6 I□TERIOR □□I□TI□□ □C□ED□□E

□. □tee□□u□□tr□te□□

1. La□ex □□□te□, Alky d □ri□er:

   a. □ri□e Co□t: Alky d □nticorro□i□e.
   b. Inter□edi□te Co□t: M□tc□in□ to□co□t.
   c. To□co□t: Interior, □□te□, □e□i□o□□.

2. La□ex o□er □□o□-□□□□ied □uic□-Dr□in□ Sh□p □ri□er Sys□:em:

   a. □ri□e Co□t: □uic□-dr□ □ri□er for sh□p □□□ic□tion.
   b. Inter□edi□te Co□t: M□tc□in□ to□co□t.
   c. To□co□t: Interior, la□ex, □e□i□o□□.

3. In□titution□□□o□-Odor/VOC La□ex Sys□:em:

   a. □ri□e Co□t: □ □ter-□□□ed ru□t-in□i□iti□e □ri□er.
   b. Inter□edi□te Co□t: M□tc□in□ to□co□t.
   c. To□co□t: Interior, la□ex, in□titution□□o□ odor/VOC, □e□i□o□□.

4. □i□□-□erfor□ □nce □rc□itectur□□□□te□ Sys□:em:

   a. □ri□e Co□t: Alky d □nticorro□i□e □ri□er.
   b. Inter□edi□te Co□t: M□tc□in□ to□co□t.
   c. To□co□t: To□co□t: Interior, la□ex, □i□□-□erfor□ □nce □rc□itectur□□ co□tin□, □e□i□o□□.

5. □ □ter-□□□ed □i□□t-Indu□tri□□Co□tin□ Sys□:em:

   a. □ri□e Co□t: □ri□er, ru□t-in□i□iti□e, □□ter bas□d.
   b. Inter□edi□te Co□t: M□tc□in□ to□co□t.
   c. To□co□t: Interior, □□ter-□□□ed, □i□□t-indu□tri□□co□tin□, □e□i□o□□.

B. Gyps□m □o□rd □u□□tr□te□:

1. In□titution□□□o□-Odor/VOC □□te□ □□□te□:

   a. □ri□e Co□t: Interior, in□titution□□o□-odor/VOC □ri□er □e□□er.
   b. Inter□edi□te Co□t: M□tc□in□ to□co□t.
   c. To□co□t: Interior, la□ex, in□titution□□o□ odor/VOC, eggsh□ll

2. □i□□-□erfor□ □nce □rc□itectur□□ La□ex Sys□:em:

   a. □ri□e Co□t: Interior □te□ □ri□er □e□□er.
   b. Inter□edi□te Co□t: M□tc□in□ to□co□t.
   c. To□co□t: Interior, la□ex, □i□□-□erfor□ □nce □rc□itectur□□co□tin□, e□□□□e□□

E□D OF □ECTIO□ 099123

□ECTIO□ 101100 - VI□□□□□ DI□□□□□□ □□IT□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection Inc□ude□□

1. R□i□□u□□ort □□□te□ □for □i□u□□di□□□□□ □o□rd □□□e□ □ie□.

1.2 □CTIO□ □□□MITT□□□

□. □roduct D□t□□For e□c□t□□e of □roduct.

1. Inc□ude con□truction det□i□□, □ □teri□□de□cri□tion□, di□ en□ion□ of indi□du□□co□ □onent□ □nd □rofi□e□, fini□□e□, □nd □cce□□orie□ for □i□u□□di□□□□□ unit□.
2. Inc□ude e□ectric□□c□□r□cteri□tic□ for □otori□ed unit□.

□. □□o□ Dr□□in□□□For □i□u□□di□□□□□ unit□.

1. Inc□ude □□□n□, e□e□□tion□, □ection□, det□i□□, □nd □tt□c□□ ent to ot□er □or□.
2. □□o□ □oc□tion□ of □□ne□oint□.
3. □□o□ □oc□tion□ □nd □□□out of □□eci□-□ur□o□e □r□□□ic□.
4. Inc□ude □ection□ of t□□ic□□tri□ □e□ □er□.
5. Inc□ude □irin□ di□□r□□ □for □o□er □nd contro□□irin□.

C. □□□ □□e□ for Verific□tion□For e□c□t□□e of □i□u□□di□□□□□ unit indic□ted.

1. Tri□ □6-inc□- (150-□ □-) □on□ □ection□ of e□c□tri□ □rofi□e.
2. Di□□□□□ R□i□□6-inc□- (150-□ □-) □on□ □ection of e□c□t□□e.
3. R□i□Modu□□r □u□□ort □□□te□ □6-inc□- (150-□ □-) □on□ □ection□.
4. □cce□□orie□□Fu□□i□e □□□ □□e of e□c□t□□e of □cce□□or□.

D. □roduct □c□edu□e□For □i□u□□di□□□□□ unit□. □□e □□□e de□i□n□tion□indic□ted on Dr□□in□□.

1.3 I□FORM□TIO□□□ □□□MITT□□□

□. □u□ific□tion D□t□□For In□t□□□er.

1.4 C□O□EO□T □□□MITT□□□

□. O□er□tion □nd M□inten□nce D□t□□For □i□u□□di□□□□□ unit□ to inc□ude in □ □inten□nce □ □nu□□□.

1.5 □ □□□IT□ □□□□R□□CE

□. In□t□□er □u□ific□tion□□□n entit□ t□□t e□ □o□□ in□t□□er□ □nd □u□er□i□or□ □□o □re tr□ined □nd □□□ro□ed □□ □ □nuf□cturer.

1.6 DE□IVER□, □TOR□□E, □□D □□□D□I□□

□. De□i□er f□ctor□-f□□ric□ted □i□u□□di□□□□□ unit□ co□ □ete□ □□□e□ □ed in one □iece. If di□ en□ion□ e□ceed □ □□i□u□ □ □nuf□ctured unit □i□e, or if unit □i□e i□ i□ □r□ctic□□□e to □□i□ in one □iece, □ro□ide t□o or □ore □iece□ □it□ □oint□in □oc□tion□ indic□ted on □□□ro□ed □□o□ Dr□□in□□.

1.7 FIE□D CO□DITIO□□

□. En□iron□ent□□□i□it□tion□□Do not de□i□er or in□t□□□i□u□□di□□□□□ unit□ unti□□□□ce□ □re enc□□ed □nd □e□t□erti□□t, □et-□or□in □□□ce□i□co□ □ete □nd dr□, □or□ □□o□e cei□in□□i□co□ □ete, □nd te□ □or□r□ □V□C □□□te□ i□ o□er□tin□ □nd □ □int□inin□ □□ □ient te□ □er□ture □nd □u□idit□ condition□ □t occu□□nc□ □e□e□□ durin□ t□e re□ □inder of t□e con□truction □eriod.

□□RT 2 - □ROD□CT□

2.1 R□I□ □□□□ORT □□□TEM FOR VI□□□□ DI□□□□□ □O□RD □□□EM□□IE□

□. M□nuf□cturer□□ □u□ect to co□ □i□nce □it□ re□uire□ent□, □□□i□□□e □ □nuf□cturer□ offerin□ □roduct□ t□□t □ □□□e incor□or□ted into t□e □ or□inc□ude, □ut □re not i□ited to t□e fo□□o□in□□

1. □□ □□n□in□ Di□□□□□ □nit□

□. □u□□ort R□i□□□ □ori□ont□□, □□□□-□ounted, e□truded-□u□inu□ r□i□□ de□i□ned to rece□e □□n□er c□i□ □nd to □u□□ort □i□u□□di□□□□□ □o□rd□.

1. Fini□□□ C□e□r □nodic.

C. □□n□er C□i□□□E□truded □u□inu□ □it□ fini□□ to □ □tc□ r□i□□□de□i□ned to □u□□ort inde□endent □i□u□□di□□□□□ □o□rd □□□e□ □ie□□□en□□□in□ □u□□ort r□i□□nd to□tri□ of □o□rd.

D. Vi□u□□Di□□□□□ □o□rd □□□e□ □ie□□F□□ric□ted fro□ not □e□□t□□n 3/8-inc□- (9.5-□ □-) t□ic□, □r□ft-□□□er □one□co□ □ core□de□i□ned to □e ri□id □nd to re□i□t □r□□□e, □nd □it□ □u□inu□ tri□ de□i□ned to en□□□e □□n□er c□i□□.

2.2 □E□ER□□ FI□I□□ RE□□IREME□T□

□. Co□ □□□ □it□ □ □□□MM/□OMM□ 500 for reco□ □end□tion□for □□□□□in□ □nd de□i□n□tin□ fini□□e□.

□. □rotect □ec□□nic□□ fini□□e□ on e□□o□ed □urf□ce□ fro□ d□□ □□e □□ □□□□□in□ □ □tri□□□□e, te□ □or□r□ □rotecti□e co□erin□ □efore □□i□□in□.

C. □□□e□r□nce of Fini□□ed □ or□□□otice□□□e □□ri□tion□in □□□e □iece □re un□cce□t□□e. V□ri□tion□ in □□□e□r□nce of □d□oinin□ co□ □onent□ □re □cce□t□□e if t□e□ □re □it□in t□e r□n□e of □□□ro□ed □□□ □□e□ □nd □re □□□e□ □ed or in□t□□ed to □ini□i□e contr□□t.

2.3 □□□MI□□M FI□I□□E□

□. C□e□r □nodic Fini□□□□□M□ 611, □□-M12C22□31, C□□□□II, 0.010 □ □ or t□ic□er.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□ine □u□□tr□te□ □nd condition□, □it□ In□t□□□er □re□ent, for co□ □i□nce □it□ re□uire□ent□ for in□t□□□tion to□er□nce□, □urf□ce condition□ of □□□□, □nd ot□er condition□ □ffectin□ □erfor□ □nce of t□e □or□.

□. E□□□ine rou□□in□-in for e□ectric□□ □o□er □□□te□ □ to □erif□ □ctu□□ □oc□tion□ of connection□ □efore in□t□□□tion of □otori□ed, □idin□ □i□u□□di□□□□□ unit□.

C. E□□□ine □□□□□ □nd □□rtition□ for □ro□er □re□□r□tion □nd □□c□in□ for □i□u□□di□□□□□ unit□.

D. E□□□ine □□□□□ □nd □□rtition□ for □uit□□□e fr□□ in□de□t□ □□ere □idin□ □i□u□□di□□□□□ unit□ □i□□□e in□t□□ed.

E. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□f□ctor□ condition□ □□□□e □een corrected.

3.2 □RE□□R□TIO□

□. Co□ □□□ □it□ □ □nuf□cturer□□ □ritten in□truction□ for □urf□ce □re□□r□tion.

□. C□e□n □u□□tr□te□ of □u□□t□nce□, □uc□ □□ dirt, □o□d, □nd □i□de□, t□□t cou□d i□ □□ir t□e □erfor□ □nce of □nd □ffect t□e □□ oot□, fini□□ed □urf□ce□ of □i□u□□di□□□□□ □o□rd□.

C. □re□□re □urf□ce□ to □c□ie□e □ □□ oot□, dr□, c□e□n □urf□ce free of f□□□in□, un□ound co□tin□□, cr□c□□, defect□, □ro□ection□, de□re□ion□, □nd □u□□t□nce□ t□□t □i□□i□ □□ir □ond □et□een □i□u□□ di□□□□□ unit□ □nd □□□□□urf□ce□.

D. □re□□re rece□□e□ for □idin□ □i□u□□di□□□□□ unit□ □□ re□uired □□t□□e □nd □i□e of unit.

3.3 I□□T□□□□TIO□

□. □ener□□□ In□t□□□ □i□u□□ di□□□□□ □urf□ce□ in □oc□tion□ □nd □t □ountin□ □ei□□t□ indic□ted on Dr□□in□□, or if not indic□ted, □t □ei□□t□ indic□ted □e□o□. □ee□ □eri□eter fine□ □tri□□t, □e□e, □nd □u□□. □ro□ide □round□, c□□□, □□c□in□ □ □teri□□, d□e□i□e□, r□c□et□, □nc□or□, tri□, □nd □cce□□orie□ nece□□□r□ for co□ □□ete in□t□□□tion.

□. Fie□d-□□□e□ □□ed Vi□u□□ Di□□□□□ □o□rd □□□e□ □ie□□ Coordin□te fie□d-□□□e□ □□ed unit□ □it□ □round□, tri□, □nd □cce□□orie□ indic□ted. □oin □□rt□ □it□ □ne□t, □reci□ion fit.

1. □ □ere □i□e of □i□u□□di□□□□□ □o□rd □□□e□ □ie□ or ot□er condition□ re□uire □u□□ort in □ddition to nor□ □□tri□, □ro□ide □tructur□□ □u□□ort□ or □odif□ tri□ □□ indic□ted or □□ □e□ected □□ □rc□itect fro□ □ □nuf□cturer□□ t□nd□rd □tructur□□□u□□ort □cce□□orie□ to □uit condition□ indic□ted.

C. R□i□□u□□ort □□□te□ □In□t□□□ori□ont□□□u□□ort r□i□□t □ountin□ □ei□□t□ indic□ted on Dr□□in□□, or if not indic□ted, □t □ei□□t indic□ted □e□o□. □tt□c□ to □□□□□it□ f□□tener□ □t 12 inc□e□ (300 □□) o.c.

1. □□n□ □i□u□□di□□□□□ unit□ on r□i□□u□□ort □□□te□.

3.4 C□E□□I□□ □□D □ROTECTIO□

□. C□ē□n □i□u□□di□□□□□ unit□ in □ccord□nce □it□ □ □nuf□cturer□□ □ritten in□truction□. □tt□c□ one re□o□□□□e c□e□nin□ in□truction□ □□□e□to □i□u□□di□□□□□ unit in e□c□ roo□.

□. Touc□ u□ f□ctor□-□□□□ied fini□□e□to re□tore d□□ □□ed or □oi□ed □re□□.

C. Co□er □nd □rotect □i□u□□di□□□□□ unit□ □fter in□t□□□□tion □nd c□e□nin□.

E□D OF □ECTIO□ 101100

□ECTIO□ 101423 - □□□E□ □I□ □□□E

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection Inc□ude□□

1. □□ne□□i□n□

1.2 DEFI□ITIO□□

□. □cce□□i□e□In □ccord□nce □it□ t□e □cce□□i□i□□ t□nd□rd.

1.3 COORDI□□TIO□

□. Furni□□ te□ □□□te□ for □□□ce□ent of □i□n-□nc□or□□e de□ice□ e□ □edded in □er□ □nent con□truction □□ ot□er in□t□□er□.

1.4 □CTIO□ □□□MITT□□□

□. □roduct D□t□□For e□c□ t□□e of □roduct.

□. □□o□ Dr□□in□□□For □□ne□□i□n□.

1. Inc□ude f□□ric□tion □nd in□t□□□tion det□i□□ □nd □tt□c□□ ent□ to ot□er □or□.
2. □□o□ □i□n □ountin□ □ei□□t□, □oc□tion□ of □u□□e□ ent□r □u□□ort□ to □e □ro□ided □□ ot□er in□t□□er□, □nd □cce□□orie□.
3. □□o□ □e□□□□e i□t, t□□e□t□e□, □r□□□ic e□e□ent□, inc□udin□ r□i□ed c□□r□cter□ □nd □r□i□e, □nd □□□out for e□c□ □i□n □t □e□□t □□f□i□e.

C. □□□ □□e□ for Initi□□ □e□ection□ For e□c□ t□□e of □i□n □□□e□ □□□, e□□o□ed co□ □onent, □nd e□□o□ed fini□□.

1. Inc□ude re□re□ent□ti□e □□□ □□e□ of □□□i□□□e t□□e□t□e□ □nd □r□□ic □□□ □o□□.

D. □□□ □□e□ for Verific□tion□For e□c□ t□□e of □i□n □□□e□ □□□ □□o□in□ □□□co□ □onent□ □nd □it□ t□e re□uired fini□□(e□), in □ □nuf□cturer□□ □t□nd□rd □i□e un□□□ ot□er□i□e indic□ted □nd □□ fo□o□ □□□

1. □□ne□□i□n□□ Fu□-□i□e □□□ □□e.
2. Fu□-□i□e □□□ □□e□, if □□□ro□ed, □i□□□e returned to Contr□ctor for u□e in □ro□ect.

E. □roduct □c□edu□e□For □□ne□□i□n□. □□e □□□□e de□i□n□tion□ indic□ted on Dr□□in□□ or □□ecified.

F. De□e□□ted-De□i□n □u□□itt□□□For □i□n□ indic□ted in "□erfor□ □nce Re□uire□ent□" □rtic□e.

1. Inc□ude □tructur□□□n□□□□i□ c□□cu□□tion□ for □i□n□ indic□ted to co□ □□□ □it□ de□i□n □o□d□□ □i□ned □nd □e□ed □□ t□e □u□ified □rofe□□ion□□ en□ineer re□□on□i□□e for t□eir □re□□r□tion.

1.5 I□FORM□TIO□ □□□ □□□MITT□□□

□. □u□ific□tion D□t□□For In□t□□□er □nd □ □nuf□cturer.

□. E□□u□tion Re□ort□□For □o□t-in□t□□ed □nc□or□ □nd □o□er-□ctu□ted f□□tener□, fro□ ICC-E□ or ot□er □u□ified te□tin□ □□enc□ □cce□t□□□e to □ut□oritie□ □□□in□ □uri□diction.

C. □□□ □□e □ □rr□nt□□For □□eci□□□ □rr□nt□.

1.6 C□O□EO□T □□□MITT□□□

□. M□inten□nce D□t□□For □i□n□ to inc□ude in □ □inten□nce □ □nu□□□.

1.7 M□I□TE□□□CE M□TERI□□ □□□MITT□□□

□. Furni□□ e□tr□ □ □teri□□□, fro□ t□e □□□e □roduct run, t□□t □ □tc□ □roduct□ in□t□□ed □nd t□□t □re □□c□□□ed □it□ □rotecti□e co□erin□ for □tor□□e □nd identified □it□ □□□e□□ de□cri□in□ content□.

1. V□ri□□e Co□ □onent M□teri□□□□ 12 re□□□ce□□e te□t in□ert□ □nd interc□□n□e□□e c□□r□cter□ (□etter□, nu□ □er□, □nd □r□□□ic e□e□ent□) of e□c□t□e.
2. Too□□□ One □et(□) of □□eci□t□ too□ for □□□e□ □in□ □i□n□ □nd re□□□cin□ □□ri□□e □i□n co□ □onent□.

1.8 □ □□□IT□ □□□□R□□CE

□. In□t□□er □u□ific□tion□□ □n entit□ t□□t e□ □□o□□ in□t□□er□ □nd □u□er□i□or□ □□o □re tr□ined □nd □□□ro□ed □□ □ □nuf□cturer.

1.9 FIE□D CO□DITIO□□

□. Fie□d Me□□ure□ent□□ Verif□ □oc□tion□ of □nc□or□□e de□ice□ e□ □edded in □er□ □nent con□truction □□ ot□er in□t□□er□ □□ fie□d □e□□ure□ent□ □efore f□□ric□tion □nd indic□te □e□□ure□ent□on □□o□ Dr□□in□□.

1.10 □ □RR□□T□

□. □□eci□□□ □rr□nt□□M□nuf□cturer □□ree□ to re□□ir or re□□□ce co□ □onent□ of □i□n□ t□□t f□i□in □ □teri□□□ or □or□□ □n□□i□ □it□in □□ecified □□rr□nt□ □eriod.

1. F□i□ure□ inc□ude, □ut □re not i□ited to, t□e fo□o□in□□

□. Deterior□tion of fini□□e□ □e□ond nor□ □□□e□t□erin□.
□. Deterior□tion of e□ □edded □r□□□ic i□ □□e.
c. □e□□r□tion or de□□□in□tion of □□eet □ □teri□□□ □nd co□ □onent□.

2. □ □rr□nt□ □eriod□ Fi□e □e□r□ fro□ d□te of □u□□t□nti□□Co□ □□etion.

□□RT 2 - □ROD□CT□

2.1 □□□E□ □I□ □□

□. □□ne□□i□n □□ indic□ted on □i□n□□e □c□edu□ē in □rc□itect□ Dr□□in□□

2.2 □CCE□□ORIE□

□. T□o-F□ce T□□e□M□nuf□cturer□□ □t□nd□rd □i□□-□ond, fo□□-core t□□e, 0.045 inc□ (1.14 □□) t□ic□, □it□ □d□e□i□e on □ot□ □ide□.

2.3 □E□ER□□ FI□I□□ RE□ □IREME□T□

□. □rotect □ec□□nic□□ fini□□e□ on e□□o□ed □urf□ce□ fro□ d□□ □□e □□ □□□□□in□ □ □tri□□□□e, te□ □or□r □rotecti□e co□erin□ □efore □□i□□in□.

□. □□□e□r□nce of Fini□□ed □or□□ □otice□□e □□ri□tion□ in □□□e □iece □re not □cce□t□□e. V□ri□tion□ in □□□e□r□nce of □d□oinin□ co□ □onent□ □re □cce□t□□e if t□e□ □re □it□in t□e r□n□e of □□□ro□ed □□□ □ē□ □nd □re □□□e□ □ēd or in□t□□ed to □ini□i□e contr□□t.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□ine □u□□tr□te□, □re□□, □nd condition□, □it□ In□t□□er □re□ent, for co□ □i□nce □it□ re□uire□ent□ for in□t□□□tion to□er□nce□ □nd ot□er condition□ □ffectin□ □erfor□ □nce of t□e □or□.

□. Verif□ t□□t □i□n-□u□□ort □urf□ce□ □re □it□in to□er□nce□ to □cco□ □od□te □i□n□ □it□out □□□□ or irre□u□□ritie□ □et□een □□c□□ of □i□n□ □nd □u□□ort □urf□ce□ un□ē□□ ot□er□i□e indic□ted.

C. Verif□ t□□t □nc□or□□e de□ice□ e□ □edded in □er□ □nent con□truction □re correct□□ □i□ed □nd □oc□ted to □cco□ □od□te □i□n□.

D. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□f□ctor□ condition□ □□□e □een corrected.

3.2 I□□T□□□□TIO□

□. □ener□□□ In□t□□□ □i□n□ u□in□ □ountin□ □et□od□ indic□ted □nd □ccordin□ to □ □nuf□cturer□□ □ritten in□truction□.

1. In□t□□□i□n□ □e□e□, □u□ □, true to □ine, □nd □t □oc□tion□ □nd □ei□□t□ indic□ted, □it□ □i□n □urf□ce□ free of di□tortion □nd ot□er defect□ in □□□e□r□nce.
2. In□t□□□i□n□ □o t□e□ do not □rotrude or o□□truct □ccordin□ to t□e □cce□□i□i□it□ □t□nd□rd.
3. □efore in□t□□□tion, □erif□ t□□t □i□n □urf□ce□ □re c□ē□n □nd free of □ □teri□□□ or de□ri□t□□t □ou□d i□ □□ir in□t□□□tion.

□. □cce□□i□ē □i□n□□e□In□t□□□in □oc□tion□ on □□□□□ □□ indic□ted on Dr□□in□□ □nd □ccordin□ to t□e □cce□□i□i□it□ □t□nd□rd.

C. Mountin□ Met□od□□

1. T□o-F□ce T□□e□ C□e□n □ond-□re□□in□ □ □teri□□□ fro□ □u□□tr□te □urf□ce □nd re□o□e □oo□e de□ri□. □□□□□ t□□e □tri□□ □□□□ □etric□□□□ to □□c□ of □i□n □nd of □uit□□□e □u□ntit□ to □u□□ort □ei□□t of □i□n □it□out □i□□□□□e. □ee□ □tri□□ □□ □□ fro□ ed□e□ to □re□ent □i□i□it□ □t □i□n ed□e□. □□□ce □i□n in □o□ition, □nd □u□□ to en□□□e t□□e □d□e□i□e.

D. □i□n□ Mounted on □ □□□□□□□ro□ide o□□□ue □□eet □ □tc□in□ □i□n □ □teri□□□□nd fini□□ onto o□□o□ite □ide of □□□□□ to conce□□□□c□ of □i□n.

3.3 □D□□□TI□□ □□D C□E□□I□□

□. Re□o□e □nd re□□□ce d□□ □□ed or defor□ed □i□n□ □nd □i□n□t□□t do not co□ □□□ □it□ □□ecified re□uire□ent□. Re□□□ce □i□n□ □it□ d□□ □□ed or deterior□ted fini□□e□ or co□ □onent□ t□□t c□nnot □e □ucce□□fu□□□ re□□ired □□ fini□□ touc□u□ or □i□i□r □inor re□□ir □rocedure□.

□. Re□o□e te□ □or□r□ □rotecti□e co□erin□□ □nd □tri□□□□□e fi□□ □ □□ □i□n□ □re in□t□□ed.

C. On co□ □□etion of in□t□□□tion, c□e□n e□□o□ed □urf□ce□ of □i□n□ □ccordin□ to □ □nuf□cturer□□ □ritten in□truction□ □nd touc□ u□ □inor nic□□ □nd □□r□□ion□ in fini□□. M□int□in □i□n□ in □ c□e□n condition durin□ con□truction □nd □rotect fro□ d□□ □□e unti□□cce□t□nce □□ O□ner.

E□D OF □ECTIO□ 101423

□ECTIO□ 102113.13 - MET□□ TOI□ET COM□□RTME□T□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection Inc□ude□□

1. □□inted □tee□toi□et co□ □□rt□ent□confi□ured □□toi□et enc□o□ure□ □nd urin□□□creen□.

□. Re□□ted Re□uire□ent□□

1. □ection 102800 "Toi□et, □□t□, □nd □□undr□ □cce□□orie□" for toi□et ti□□ue di□□en□er□, □r□□ □□r□, □ur□e □□e□□e□, □nd □i□i□r □cce□□orie□□ounted on toi□et co□ □□rt□ent□.

1.2 □CTIO□ □□□MITT□□□

□. □roduct D□t□□For e□c□t□□e of □roduct.

1. Inc□ude con□truction det□i□, □ □teri□□de□cri□tion□, di□en□ion□ of indi□idu□□co□ □onent□ □nd □rofi□e□, □nd fini□□e□for toi□et co□ □□rt□ent□.

□. □u□t□in□□□e De□i□n □u□□itt□□□

1. □roduct D□t□□For rec□c□ed content, indic□tin□ □o□tcon□u□er □nd □recon□u□er rec□c□ed content □nd co□t.

C. □□o□ Dr□□in□□□For toi□et co□ □□rt□ent□.

1. Inc□ude □□□n□, e□e□□tion□, □ection□, □nd □tt□c□□ent det□i□.
2. □□o□ □oc□tion□of cutout□for co□ □□rt□ent-□ounted toi□et □cce□□orie□.
3. □□o□ □oc□tion□ of reinforce□ent□ for co□ □□rt□ent-□ounted □r□□ □□r□ □nd □oc□tion□ of □□oc□in□ for □urf□ce-□ounted toi□et □cce□□orie□.
4. □□o□ □oc□tion□of center□ine□of toi□et fi□ture□.
5. □□o□ □oc□tion□of f□□or dr□in□.
6. □□o□ cei□in□ □rid, cei□in□-□ounted ite□□, □nd o□er□e□d □u□□ort or □r□cin□ □oc□tion□.

D. □□□ □e□ for Verific□tion□For t□e fo□o□in□ □roduct□, in □ □nuf□cturer□ □t□nd□rd □i□e□ un□e□□ ot□er□i□e indic□ted□

1. E□c□ t□□e of □ □teri□□, co□or, □nd fini□□ re□uired for toi□et co□ □□rt□ent□, □re□□red on 6-inc□- (152-□ □-) □□u□re □□□ □e□of □□□e t□ic□ne□□ □nd □ □teri□□indic□ted for □ or□.

E. □roduct □c□edu□e□For toi□et co□ □□rt□ent□, □re□□red □□ or under t□e □u□er□i□ion of □u□□ie□, det□i□in□ □oc□tion □nd □e□ected co□or□for toi□et co□ □□rt□ent □ □teri□□.

1.3 I□FORM□TIO□□□ □□□MITT□□□

□. □roduct Certific□te□□For e□c□t□□e of toi□et co□ □□rt□ent.

1.4 C□O□EO□T □□□MITT□□□

□. M□inten□nce D□t□□For toi□et co□ □□rt□ent□to inc□ude in □ □inten□nce □ □nu□□□.

1.5 M□I□TE□□□CE M□TERI□□ □□□MITT□□□

□. Furni□□ e□tr□ □ □teri□□□ t□□t □ □tc□ □roduct□ in□t□□ed □nd t□□t □re □□c□□□ed □it□ □rotecti□e co□erin□ for □tor□□e □nd identified □it□ □□e□□ de□cri□in□ content□.

1. Door □in□e□□ One □in□e(□) □it□ □□□oci□ted f□□tener□.
2. □□tc□ □nd □ee□er□ One □□tc□(e□) □nd □ee□er(□) □it□ □□□oci□ted f□□tener□.
3. Door □u□ □er□ One door □u□ □er(□) □it□ □□□oci□ted f□□tener□.
4. Door □u□□ One door □u□(□) □it□ □□□oci□ted f□□tener□.
5. F□□tener□□ 10 f□□tener□ of e□c□ □i□e □nd t□□e.

1.6 □RO□ECT CO□DITIO□□

□. Fie□d Me□□ure□ent□□Verif□ □ctu□□□oc□tion□ of toi□et fi□ture□, □□□□, co□u□n□, cei□in□□, □nd ot□er con□truction conti□uou□ □it□ toi□et co□ □□rt□ent□ □□fie□d □e□□ure□ent□ □efore f□□ric□tion.

□□RT 2 - □ROD□CT□

2.1 □ERFORM□□CE RE□□IREME□T□

□. Rec□c□ed Content of □tee□ □roduct□□ □o□tcon□u□er rec□c□ed content □u□ one-□□f□ of □recon□u□er rec□c□ed content not □e□□t□□n 25 □ercent.

□. Re□u□□tor□ Re□uire□ent□□ Co□ □□□ □it□ □□□□ic□□e □ro□i□ion□ in t□e □.□. □rc□itectur□□ □ Tr□n□□ort□tion □□rrier□ Co□ □i□nce □o□rd□□ □D□-□□□ □cce□□i□i□t□ □uide□ine□ for □ui□din□□ □nd F□ci□tie□ □nd ICC □117.1 for toi□et co□ □□rt□ent□de□i□n□ted □□ □cce□□i□e.

2.2 □□I□TED □TEE□ TOI□ET COM□□RTME□T□

□. M□nuf□cturer□□ □u□□ect to co□ □i□nce □it□ re□uire□ent□, □□□i□□□e □ □nuf□cturer□ offerin□ □roduct□ t□□t □ □□ □e incor□or□ted into t□e □or□inc□ude, □ut □re not i□□ited to t□e fo□o□in□□

1. □□I □ □o□□□□□□rtition□.
2. □□□□□eric□n Met□□Cor□.
3. □□eric□n □□nit□r□ □□rtition Cor□or□tion.
4. □r□d□e□Cor□or□tion.
5. □ener□□□□rtition□Mf□. Cor□.

□. Toi□et-Enc□o□ure □t□e□O□er□e□d □r□ced □nd Cei□in□ □un□.

C. □rin□-□creen □t□e□ □ □□□□un□, f□□t □□ne□.

D. Door, □□ne□, □nd □i□□□ter Con□truction□□e□□ □e□□, □et□□f□cin□ □□eet□ □re□□ure □□□in□ted to core □ □teri□□□it□ continuou□, inter□oc□in□ □o□din□ □tri□ or □□□□ed-□nd-for□ed ed□e c□□ure□□ corner□ □ecured □□ □e□din□ or c□i□□ □nd e□□o□ed □e□d□ □round □□oot□. E□□o□ed □urf□ce□ □□□□□

□e free of □ittin□, □e□□ □ □r□□, ro□er marks, □t□in□, di□co□or□tion□, te□e□r□□□in□ of core □ □teri□□, or ot□er i□ □erfection□.

1. Core M□teri□□: M□nuf□cturer'□ □t□nd□rd □ound-de□denin□ □one□co□□ of re□in-i□ □re□n□ted □r□ft pap□r in t□ic□ne□□ re□uired to □ro□ide fini□□ed t□ic□ne□□ of 1 inc□ (25 mm) for door□ □nd □□ne□□ □nd 1-1/4 inc□e□ (32 mm) for □i□□□ter□.
2. Grab-Ba r Reinforce□ent: □ro□ide conce□□ed intern□□ reinforce□ent for grab ba rs □ounted on unit□ of □i□e □nd □ □teri□□□de□u□te for pa ne l to □it□□t□nd □□□ied do□n□□rd □o□d on grab ba r of □t □e□□t 250 lbf (1112 N), □□en te□ted □ccordin□ to □□TM F446, □it□out defor□ □tion of pa ne l
3. T□□□in□ Reinforce□ent: □ro□ide conce□□ed reinforce□ent for t□□□in□ (t□re□din□) □t □oc□tion□ □□ere □ □c□ine □cre□□□re u□ed for □tt□c□in□ite□ □to unit□.

E. □rin□-□creen Con□truction:

1. F□□t-□□ne□□rin□□□creen: M□tc□in□ □□ne□con□truction.

F. F□cin□ □□eet□ □nd C□o□ure□: E□ectro□tic□□□□ co□ted □tee□or □ot-di□ □□□□□ni□ed-□tee□□□eet □it□ no□ in□□□□□e-□et□□(unco□ted) t□ic□ne□□e□ as fo□o□□:

1. □i□□□ter□, □r□ced □t □ot□ End□: M□nuf□cturer'□ □t□nd□rd t□ic□ne□□, □ut not □e□□ t□□n 0.036 inc□ (0.91 mm).
2. □i□□□ter□, □n□r□ced □t One End: M□nuf□cturer'□ □t□nd□rd t□ic□ne□□, □ut not □e□□ t□□n 0.048 inc□ (1.21 mm).
3. Pa ne ls: M□nuf□cturer'□ □t□nd□rd t□ic□ne□□, □ut not □e□□t□□n 0.030 inc□ (0.76 mm).
4. Door□: M□nuf□cturer□□ □t□nd□rd t□ic□ne□□, □ut not □e□□t□□n 0.030 inc□ (0.76 mm).
5. F□□t-□□ne□□rin□□□creen□: T□ic□ne□□ □ □tc□in□t□e □□ne□□.

G. □i□□□ter Sh oes □nd □□ee□e□ (Caps): □t□in□e□□ □tee□□□eet, not □e□□ t□□n 0.031-inc□ (0.79-mm) no□ in□□t□ic□ne□□ □nd 3 inc□e□ (76 mm) h igh, fini□□ed to ma tch □□rd□□re.

H. □r□c□et□ (Fittin□□):

1. □tirru□ T□□e: E□r or □-□r□c□et□; c□ro□e-□□□ted zam □c.

I. □tee□□□eet Fini□□: I□ □edi□te□□ □fter c□e□nin□ □nd □retre□tin□, apply □ □nuf□cturer'□ □t□nd□rd □□□ed-on fini□□, inc□udin□ t□er□o□ettin□, e□ectro□t□tic□□□□ □□□ied, □nd □o□der co□tin□□. Co mply □it□ co□tin□ □ □nuf□cturer□□ □ritten in□truction□ for □□□□□in□ □nd □□□in□.

1. Co□or: M□tc□e□i□tin□

2.3 □□RD□ □RE AN D □CCE□□ORIE□

A. □□rd□□re □nd □cce□□orie□: M□nuf□cturer'□ □t□nd□rd o□er□tin□ □□rd□□re □nd □cce□□orie□.

1. M□teri□□: □t□in□e□□ □tee□.
2. □in□e□: M□nuf□cturer'□ □t□nd□rd ma tch e□i□tin□, □□ö□in□ e□er□enc□ □cce□□ by □iftin□ door.
3. La tch □nd □ee□er: ma tch e□i□tin□ la tch unit de□i□ned for e□er□enc□ □cce□□ □nd □it□ co□ □in□tion ru□□er-f□ced door □tri□e □nd □ee□er. □ro□ide unit□ t□□t co mply □it□ re□u□□tor□re□uire□ent□ for □cce□□i□i□it□ □t co□ □□rt□ent□de□i□n□ted as □cce□□i□□e.
4. Co□t □oo□: M□nuf□cturer'□ □t□nd□rd co□ □in□tion □oo□ □nd ru□□er-ti□□ed □u□ □er, □i□ed to □re□ent in-□□in□in□ door fro□ □ittin□ co□ □□rt□ent-□ounted □cce□□orie□.
5. Door □u□ □er: M□nuf□cturer'□ □t□nd□rd ru□□er-ti□□ed □u□ □er □t out-□□in□in□ door□.

6. Door □u□□□ M□nuf□cturer□□ □t□nd□rd unit □t out-□□in□in□ door□ t□□t co□ □ie□ □it□ re□u□□tor□ re□uire□ent□ for □cce□□i□i□t. □ro□ide unit□ on □ot□ □ide□ of door□ □t co□ □□rt□ent□ de□i□n□ted □□ □cce□□i□e.

□. □□rd□□re □nd □cce□□orie□□M□nuf□cturer□□ □e□□□-dut□ o□er□tin□ □□rd□□re □nd □cce□□orie□.

1. □in□e□□ M□nuf□cturer□□ □ini□u□ 0.062-inc□- (1.59-□□-) t□ic□, □t□in□e□□ □tee□ □ □tc□ e□□tin□, □□o□in□ e□er□enc□ □cce□□ □□ iftin□ door. Mount □it□ t□rou□□-□o□t□.
2. □□tc□ □nd □ee□er□ M□nuf□cturer□□ □e□□□-dut□, □urf□ce-□ounted, c□□t □t□in□e□□ □tee□ □□tc□ unit de□i□ned to re□i□t d□□ □□e due to □□□□ □in□, □it□ co□ □in□tion ru□□er-f□ced door □tri□e □nd □ee□er □nd □it□ □ro□i□ion for e□er□enc□ □cce□□. □ro□ide unit□ t□□t co□ □□□ □it□ re□u□□tor□ re□uire□ent□ for □cce□□i□i□t□ □t co□ □□rt□ent□ de□i□n□ted □□ □cce□□i□e. Mount □it□ t□rou□□-□o□t□.
3. Co□t □oo□□M□nuf□cturer□□ □e□□□-dut□, co□ □in□tion c□□t □t□in□e□□ □tee□□oo□ □nd ru□□er-ti□□ed □u□ □er, □i□ed to □re□ent in-□□in□in□ door fro□ □ittin□ co□ □□rt□ent-□ounted □cce□□orie□. Mount □it□ t□rou□□-□o□t□.
4. Door □u□ □er□M□nuf□cturer□□ □e□□□-dut□, ru□□er-ti□□ed, c□□t □t□in□e□□ □tee□□u□ □er □t out-□□in□in□ door□. Mount □it□ t□rou□□-□o□t□.
5. Door □u□□□M□nuf□cturer□□ □e□□□-dut□ c□□t □t□in□e□□ □tee□□u□□□t out-□□in□in□ door□ t□□t co□ □ie□ □it□ re□u□□tor□ re□uire□ent□ for □cce□□i□i□t. □ro□ide unit□ on □ot□ □ide□ of door□ □t co□ □□rt□ent□ de□i□n□ted □□ □cce□□i□e. Mount □it□ t□rou□□-□o□t□.

C. O□er□e□d □r□cin□□ M□nuf□cturer□□ □t□nd□rd continuou□, e□truded-□u□inu□ □e□d r□i□ □it□ □nti□ri□ □rofi□e □nd in □ □nuf□cturer□□ □t□nd□rd fini□□.

D. □nc□or□□e□ □nd F□□tener□□ M□nuf□cturer□□ □t□nd□rd e□□o□ed f□□tener□ of □t□in□e□□ □tee□, fini□□ed to □ □tc□ t□e ite□ □ t□e□ □re □ecurin□, □it□ t□eft-re□i□t□nt-t□□e □e□d□. □ro□ide □e□-t□□e □o□t□ for t□rou□□-□o□t □□□□ic□tion□. For conce□□ed □nc□or□, u□e □t□in□e□□ □tee□, □ot-di□ □□□□□ni□ed □tee□, or ot□er ru□t-re□i□t□nt, □rotecti□e-co□ted □tee□ co□ □□ti□e □it□ re□□ted □ □teri□□.

2.4 M□TERI□□□

□. □u□inu□ C□□tin□□□□□TM □26/□26M.

□. □u□inu□ E□tru□ion□□□□TM □221 (□□TM □221M).

C. □r□□□ C□□tin□□□□□TM □584.

D. □r□□□ E□tru□ion□□□□TM □455.

E. □tee□□□eet□Co□ □erci□□□tee□□□eet for e□□o□ed □□□ic□tion□□□ i□□□o□□□□ti□ed □nd □e□ected for □□oot□ne□□.

1. E□ectro□□tic□□□□ □inc Co□ted□□□TM □879/□879M, 01□ (03□).
2. □ot-Di□ □ □□□□ni□ed□□□TM □653/□653M, eit□er □ot-di□ □□□□□ni□ed or □□□□nne□□ed.

F. □t□in□e□□ □tee□ □□eet□ □□TM □240/□240M or □□TM □666, T□□e 304, □tretc□er-□e□e□ed □t□nd□rd of f□□tne□□.

□. □t□in□e□□ □tee□C□□tin□□□□□TM □743/□743M.

□. □□□ □c□□□TM □86, co□ □erci□□inc-□□o□die c□□tin□□, c□ro□e □□ted.

2.5 F□□RIC□TIO□

□. F□□ric□tion, □ener□□□F□□ric□te toi□et co□ □□rt□ent co□ □onent□ to □i□e□ indic□ted. Coordin□te re□uire□ent□ □nd □ro□ide cutout□ for t□rou□□-□□rtition toi□et □cce□□orie□, □nd □oid □□oc□in□ □it□in □□ne□□ere re□uired for □tt□c□□ent of toi□et □cce□□orie□.

□. O□er□e□d-□r□ced □nit□□□ro□ide □ □nuf□cturer□□ □t□nd□rd corro□ion-re□i□t□nt □u□□ort□, □e□e□in□ □ec□□ni□□, □nd □nc□or□ □t □i□□□ter□ to □uit f□oor condition□. □ro□ide □□oe□ □t □i□□□ter□ to conce□□□u□□ort□ □nd □e□e□in□ □ec□□ni□□.

C. F□oor-□nc□ored □nit□□ □ro□ide □ □nuf□cturer□□ □t□nd□rd corro□ion-re□i□t□nt □nc□orin□ □□□e□ □□ie□ □it□ □e□e□in□ □d□u□t□ent nut□ □t □i□□□ter□ for □tructur□□connection to f□oor. □ro□ide □□oe□ □t □i□□□ter□ to conce□□□nc□or□□e.

D. Cei□in□-□un□ □nit□□□ro□ide □ □nuf□cturer□□ □t□nd□rd corro□ion-re□i□t□nt □nc□orin□ □□□e□ □□ie□ □it□ □e□e□in□ □d□u□t□ent nut□ □t □i□□□ter□ for connection to □tructur□□□u□□ort □□o□e fini□□ed cei□in□. □ro□ide □□□e□ □□ie□ t□□t □u□□ort □i□□□ter□ fro□ □tructure □it□out tr□n□□ittin□ □o□d to fini□□ed cei□in□. □ro□ide □□e□e□(c□□□) □t to□□of □i□□□ter□ to conce□□□nc□or□□e.

E. F□oor-□nd-Cei□in□-□nc□ored □nit□□ □ro□ide □ □nuf□cturer□□ □t□nd□rd corro□ion-re□i□t□nt □nc□orin□ □□□e□ □□ie□ □it□ □e□e□in□ □d□u□t□ent □t to□□ □nd □otto□ □ of □i□□□ter□. □ro□ide □□oe□ □nd □□e□e□(c□□□) □t □i□□□ter□ to conce□□□nc□or□□e.

F. Door □i□e □nd □□in□□□ □n□e□□ ot□er□i□e indic□ted, □ro□ide 24-inc□- (610-□□-) □ide, in-□□in□in□ door□ for □t□nd□rd toi□et co□ □□rt□ent□ □nd 36-inc□- (914-□□-) □ide, out-□□in□in□ door□ □it□ □ □ini□u□ 32-inc□- (813-□□-) □ide, c□e□r o□enin□ for co□ □□rt□ent□ de□i□n□ted □□ □cce□□i□□e.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□ine □u□□tr□te□, □re□□ □nd condition□, □it□ In□t□□□er □re□ent, for co□ □i□□nce □it□ re□uire□ent□ for f□□tenin□, □u□□ort, □i□n□ent, o□er□tin□ c□e□r□nce□, □nd ot□er condition□ □ffectin□ □erfor□ □nce of t□e □or□.

1. Confir□ □oc□tion □nd □de□u□c□of □□oc□in□ □nd □u□□ort□re□uired for in□t□□□tion.

□. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□f□ctor□condition□ □□□e □een corrected.

C. Coordin□te □□out □nd in□t□□□tion of □u□□ort□, in□ert□, □nd □nc□or□ □uit into ot□er unit□ of □or□ for toi□et co□ □□rt□ent □nc□or□□e.

3.2 I□□T□□□□TIO□

□. □ener□□□Co□ □□□ □it□ □ □nuf□cturer□□ □ritten in□t□□□tion in□truction□. In□t□□unit□ ri□id, □tr□□□t, □e□e□, □nd □ü□□. □ecure unit□ in □o□ition indic□ted □it□ □ □nuf□cturer□□ reco□□ended □nc□orin□ de□ice□.

1. M□□i□u□ C□e□r□nce□□

□. □i□□□ter□ □nd □□ne□□□1/2 inc□ (13 □□).

□. □□ne□ □nd □ □□□□1 inc□ (25 □□).

2. □tirru□ □r□c□et□□□ecure □□ne□ to □□□□ □nd to □i□□ter□ □it□ no fe□er t□□n t□o □r□c□et□ □tt□c□ed ne□r to□ □nd □otto□ of □□ne□.

□. □oc□te □□□□r□c□et□ □o □o□e□ for □□□□nc□or□ occur in □ □□onr□or ti□e □oint□.
□. □i□n □r□c□et□ □t □i□□ter□ □it□ □r□c□et□ □t □□□□.

3. Fu□-□ei□□t (Continuou□) □r□c□et□□□ecure □□ne□ to □□□□ □nd to □i□□ter□ □it□ fu□-□ei□□t □r□c□et□.

□. □oc□te □r□c□et f□□tener□ □o □o□e□ for □□□□nc□or□ occur in □ □□onr□or ti□e □oint□.
□. □i□n □r□c□et□ □t □i□□ter□ □it□ □r□c□et□ □t □□□□.

□. O□er□e□d-□r□ced □nit□□□ecure □i□□ter□ to f□oor □nd □e□e□ □u□□, □nd ti□□ten. □et □i□□ter□ □it□ □nc□or□ □enetr□tin□ not □e□□ t□□n 1-3/4 inc□e□ (44 □□) into □tructur□□ f□oor un□e□□ ot□er□i□e indic□ted in □ □nuf□cturer□□ □ritten in□truction□. □ecure continuou□ □e□d r□i□ to e□c□ □i□□ter □it□ no fe□er t□□n t□o f□□tener□. □□n□ door□ to □i□n to□□ of door□ □it□ to□□ of □□ne□□, □nd □du□t □o to□□ of door□ □re □□r□e□□it□ o□er□e□d r□ce □□en door□ □re in c□o□ed □o□ition.

C. Cei□in□-□un□ □nit□□□ecure □i□□ter□ to □u□□ortin□ □tructure □nd □e□e□ □u□□, □nd ti□□ten. □□n□ door□ □nd □du□t □o □otto□ □ of door□ □re □e□e□□it□ □otto□ □ of □i□□ter□ □□en door□ □re in c□o□ed □o□ition.

D. □rin□□□creen□□□tt□c□ □it□ □nc□orin□ de□ice□ to □uit □u□□ortin□ □tructure. □et unit□ □e□e□□nd □u□□, ri□id, □nd □ecured to re□i□t □ter□□i□ □□ct.

3.3 □D□□□TI□□

□. □□rd□□re □du□t□ent□ □du□t □nd □u□ric□te □□rd□□re □ccordin□ to □□rd□□re □ □nuf□cturer□□ □ritten in□truction□ for □ro□er o□er□tion. □et □in□e□ on in-□□in□in□ door□ to □o□d door□ o□en □□□ro□i□ □te□□ 30 de□ree□ fro□ c□o□ed □o□ition □□en un□□tc□ed. □et □in□e□ on out-□□in□in□ door□ to return door□ to fu□□ c□o□ed □o□ition.

E□D OF □ECTIO□ 102113.13

□ECTIO□ 102800 - TOI□ET, BA TH, AN D □□□□DR□ □CCE□□ORIE□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

A. □ection Inc□ude□:

1. □u□ic-u□e □□□□roo□ □cce□□orie□.
2. C□i□dc□re □cce□□orie□.

□. Re□□ted Re□uire□ent□:

1. □ection 088300 "Mirror□" for fr□□ e□e□□ □irror□.

1.2 COORDI□□TIO□

A. Coordin□te □cce□□or□ □oc□tion□ □it□ ot□er □or□to □re□ent interference □it□ c□e□r□nce□ re□uired for □cce□□ by □eo□e □it□ di□□□i□itie□, □nd for □ro□er in□t□□□tion, □d□u□t□ent, o□er□tion, c□e□nin□, □nd □er□icin□ of □cce□□orie□.

□. De□i□er in□ert□ □nd □nc□orin□ de□ice□ □et into concrete or □ □□onr□ as re□uired to □re□ent de□□□in□t□e □ or□.

1.3 □CTIO□ SUB MITT ALS

A. □roduct D□t□: For e□c□t□□e of □roduct.

1. Inc□ude con□truction det□i□□, □ □teri□□de□cri□tion□, di□en□ion□ of indi□idu□□co□ □onent□ □nd □rofi□e□, □nd fini□□e.
2. Inc□ude □nc□orin□ □nd □ountin□ re□uire□ent□, inc□udin□ re□uire□ent□ for cutout□ in ot□er □or□ □nd □u□□tr□te □re□□r□tion.
3. Inc□ude e□ectric□□c□□r□cteri□tic□.

B. Samp □es: For e□c□e□□o□ed □roduct □nd for e□c□ fini□□ □□ecified, fu□□□i□e.

1. □□□ro□ed fu□+i□e Samp □es □i□□□e returned □nd may □e u□ed in t□e □ or□.

C. □roduct □c□edu□e: Indic□tin□ t□□e□, □u□ntitie□, □i□e□, □nd in□t□□□tion □oc□tion□ □□ roo□ of e□c□ □cce□□or□ re□uired.

1. Identif□ □oc□tion□u□in□ roo□ de□i□n□tion□indic□ted.
2. Identif□ □cce□□orie□u□in□de□i□n□tion□indic□ted.

D. De□e□□ted De□i□n □u□□itt□□□For □r□□ bars.

1. Inc□ude □tructur□□ de□i□n c□□cu□□tion□ indic□tin□ co□ □i□nce □it□ □□ecified □tructur□-□erfor□ □nce re□uire□ent□.

1.4 I□FORM□TIO□ □□□ □□□MITT□□□

□. □□□ □e □ □rr□nt□□For □ □nuf□cturer□ □□eci□□□ □rr□ntie□.

1.5 C□O□EO□T □□□MITT□□□

□. M□inten□nce D□t□□For □cce□□orie□ to inc□ude in □ □inten□nce □ □nu□□.

1.6 □ □RR□□T□

□. M□nuf□cturer□ □□eci□□□ □rr□nt□ for Mirror□□M□nuf□cturer □□ree□ to re□□ir or re□□ce □irror□ t□□t f□i□in □ □teri□□ or □or□□ □n□□i□ □it□in □□ecified □ □rr□nt□ □eriod.

1. F□i□ure□ inc□ude, □ut □re not i□ ited to, □i□□e □i□er □□oi□□e defect□.
2. □ □rr□nt□ □eriod□ 10 □e□r□fro□ d□te of □u□□t□nti□□Co□ □ē□tion.

□□RT 2 - □ROD□CT□

2.1 O□ □ER□ □ROD□CT □□RC□□□E CO□TR□CT□

□. O□ner □□□ ne□oti□ted □roduct □urc□□□e contr□ct□ □it□ □u□□ie□ of □ □teri□□□nd e□ui□□ent to □e incor□or□ted into t□e □or□. O□ner □i□ □□□i□n t□e□e □roduct □urc□□□e contr□ct□ to Contr□ctor. Inc□ude co□t□ for □urc□□□in□, recei□in□, □□nd□in□, □tor□□e if re□uired, □nd in□t□□□tion of □ □teri□□□nd e□ui□□ent in t□e Contr□ct □u□ un□e□□ ot□er□i□e indic□ted.

1. Contr□ctor□ re□□on□i□i□itie□ □re □□□e □□ if Contr□ctor □□d ne□oti□ted □roduct □urc□□□e contr□ct□, inc□udin□ re□□on□i□i□it□ to rene□oti□te □urc□□□e □nd to e□ecute fin□□□urc□□□in□ □□ree□ent□.

□. O□ner□ □roduct □urc□□□e Contr□ct□ Infor□ □tion□

1. Ro□□□□□□□, □eff □ e□□ □eff□e□□□ ro□□□□□.co□ for □rocure□ent of toi□et □cce□□orie□.

□. □□ – □eor□i□ □□cific
□. □ – □o□ric□

2.2 □ERFORM□□CE RE□ □IREME□T□

□. E□ectric□□Co□ □onent□, De□ice□, □nd □cce□□orie□□i□ted □nd □□e□ed □□ defined in □F□□ 70, □□ □ □u□ified te□tin□ □□enc□, □nd □ □r□ed for intended □oc□tion □nd □□□□ic□tion.

□. □tructur□□ □erfor□ □nce□ De□i□n □cce□□orie□ □nd f□□tener□ to co□ □□□ □it□ t□e fo□□o□in□ re□uire□ent□□

1. □r□□ □□r□□In□t□□ed unit□ □re □□□e to re□i□t 250 □f (1112 □) concentr□ted □o□d □□□ied in □n□direction □nd □t □n□ □oint.

2.3 □□□□IC-□□E □ □□□ROOM □CCE□□ORIE□

A. □ource □i□it□tion□: O□t□in □u□ic-u□e wash roo□ □cce□□orie□ fro□ □in□e □ource fro□ □in□e □□nuf□cturer.

B. Toi□et Ti□□ue (Ro□) Di□□en□er GP 56798:

1. De□cri□tion: Ro□-in-re□er□e di□□en□er □it□ □in□ed front □ecured □it□ tu□ □er oc□□et.
2. Mountin□: Rece□□ed in gyps□m walls □nd □urf□ce □ounted in s□alls.
3. O□er□tion: □oncontro□de□i□er□ □it□ □t□nd□rd □□ind□e.
4. C□□□cit□: De□i□ned for 4-1/2- or 5-inc□- (114- or 127-mm-) di□□eter ti□□ue ro□ls.
5. M□teri□□□nd Fini□□: □t□in□□□tee□, □□TM A480/A480M □o. 4 fini□□ (□□tin).

C. □uto□□tic Pap□r To□e□ (Ro□) Di□□en□er GP 59466A:

1. De□cri□tion: □uto□□tic □otion □en□in□ □ec□□ni□□ □it□ u□er-□du□t□□e de□□□ □nd □□□er to□e□en□t□; □□tter□ □o□ered.
2. Mountin□: □e□ire□□□ed.
3. Mini□u□ C□□□cit□: 8-inc□- (203-mm-) □ide, 800-foot- (244-m-) □on□ ro□□.
4. M□teri□□□nd Fini□□: □t□in□□□tee□, □□TM A480/A480M □o. 4 fini□□ (□□tin).
5. □oc□□et: Tu□ □□er t□□e.

D. Co□□in□tion To□e□ (Ro□) Di□□en□er/□ □□te Rece□t□c□e GP 59491:

1. De□cri□tion: Co□□in□tion unit for di□□en□in□ □re□□et □en□t□ of ro□ pap□r to□e□, □it□ re□o□□□e □□□te rece□t□c□e.
2. To□e□Mec□□ni□□: □uto□□tic, □□tter□-o□er□ted □en□or.
3. Mountin□: □e□ire□□□ed.
4. Mini□u□ To□e□-Di□□en□er C□□□cit□: 8-inc□- (203-mm-) □ide, 800-foot- (244-m-) □on□ ro□□.
5. Mini□u□ Was□e Rece□t□c□e C□□□cit□: 15 ga□. (56.8 L).
6. M□teri□□□nd Fini□□: □t□in□□□tee□, □□TM A480/A480M □o. 4 fini□□ (□□tin).
7. □iner: Reu□□□e, v□nyl □□te-rece□t□c□e □iner.
8. □oc□□et: Tu□ □□er t□□e for to□e□di□□en□er co□ □□rt□ent □nd was□e rece□t□c□e.

E. □uto□□tic So□p Di□□en□er 3-3300:

1. De□cri□tion: □uto□□tic di□□en□er □it□ infr□red □en□or to detect □re□ence of □□nd□; □□tter□ □o□ered; de□i□ned for di□□en□in□ □o□□in □t□er for□.
2. Mountin□: Dec□□ounted on □□nit□.
3. M□teri□□: C□ro□e or □ic□e□□□ted
4. Refi□Indic□tor: □ED indic□tor.
5. □o□-□□tter□Indic□tor: □ED indic□tor.

F. Grab Ba□ r B-5806:

1. Mountin□□F□n□e□ □it□ conce□□ed f□□tener□.
2. M□teri□: □t□in□□□tee□, 0.05 inc□ (1.3 mm) t□ic□.

   a. Fini□□: □□oot□, □□TM A480/A480M □o. 4 fini□□ (□□tin)

3. Out□ide Di□□eter: 1-1/4 inc□e□ (32 mm).
4. Confi□ur□tion □nd □en□t□: As indic□ted on Dr□□in□□.

G. □□nit□r□-□□□□in Dispo□sal □nit B-270:

1. Mountin□□ Rece□□ed.
2. Door or Co□er□□e□-c□o□in□, di□□o□□□-o□enin□ co□er □nd □in□ed f□ce □□ne□□it□ tu□ □□er □oc□□et.
3. Rece□t□c□e□Re□ o□□□□e.
4. M□teri□□□nd Fini□□□ □t□in□e□□ □tee□, □□TM □480/□480M □o. 4 fini□□ (□□tin) .

□. Mirror □nit □-1658□

1. Fr□□ e□ □t□in□e□□ □tee□c□□nne□.

□. Corner□□ M□nuf□cturer□□ □t□nd□rd.

2. □i□e□ □□indic□ted on Dr□□in□□.
3. □□n□er□□ M□nuf□cturer□□ □t□nd□rd ri□id, t□□ □er □nd t□eft re□i□t□nt.

I. □oo□ □-212□

1. De□cri□tion□ Co□ □in□tion door □u□ □er □nd co□t □oo□.
2. Mountin□□ E□□o□ed.
3. M□teri□□□nd Fini□□□ □o□i□□ed c□ro□ e-□□□ted □inc □□o□(□□□ □c).

2.4 C□I□DC□RE □CCE□□ORIE□

□. □ource □i□ it□tion□□O□t□in c□i□dc□re □cce□□orie□fro□ □in□□e □ource fro□ □in□□e □ □nuf□cturer.

□. Di□□er-C□□n□in□ □t□tion □□110-□□RE□

1. M□nuf□cturer□□ □u□□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ □□ t□e fo□o□in□□

□. □o□□□ □□re □roduct□□□o□ric□ □ □□□roo□ E□ui□□ent, Inc.

2. De□cri□tion□ Vertic□□unit t□□t o□en□ □□ fo□din□ do□n fro□ □tored □o□ition □nd □it□ c□i□d-□rotection □tr□□.

□. En□ineered to □u□□ort □ini□u□ of 250-□□ (113-□□) □t□tic lo□d □□en o□ened.

3. Mountin□□ □urf□ce □ounted, □it□ unit □ro□ectin□ not □ore t□□n 4 inc□e□ (102 □□) fro□ □□□□□ □en c□o□ed.
4. O□er□tion□□□ □neu□ □tic □□oc□-□□□or□in□ □ec□□ni□□.
5. M□teri□□ □nd Fini□□□ □t□in□e□□ □tee□, □□TM □480/□480M □o. 4 fini□□ (□□tin), □it□ re□□□ce□□e in□u□ted □o□□t□rene tr□□ liner □nd rounded □□□tic corner□.
6. □iner Di□□en□er□□ro□ide □uit-in di□□en□er for di□□o□□□e □□nit□r□ liner□.

2.5 M□TERI□□□

□. □t□in□e□□ □tee□□□TM □240/□240M or □□TM □666, T□□e 304, 0.031-inc□- (0.8-□□-) □ini□u□ no□ in□□t□ic□ne□□ un□e□□ ot□er□i□e indic□ted.

□. □r□□□□ □□TM □19, f□□t □roduct□□ □□TM □16/□16M, rod□, □□□□e□, for□in□□, □nd f□□t □roduct□ □it□ fini□□ed ed□e□□or □□TM □30, c□□tin□□.

C. □tee□□□eet□□□TM □1008/□1008M, De□i□n□tion C□ (co□d ro□ed, co□ □erci□□□tee□), 0.036-inc□-(0.9-□ □-) □ini□u□ no□in□□t□ic□ne□□.

D. □ □□□ni□ed-□tee□□eet□□□TM □653/□653M, □it□ □60 (□180) □ot-di□ □inc co□tin□.

E. □ □□□ni□ed-□tee□Mountin□ De□ice□□□□TM □153/□153M, □ot-di□ □□□□ni□ed □fter f□□ric□tion.

F. F□□tener□□ □cre□ □, □oi□, □nd ot□er de□ice□ of □□□e □ □teri□□ □□ □cce□□or□ unit, un□e□□ ot□er□i□e reco□ □ended □□ □ □nuf□cturer or □□ecified in t□i□ □ection, □nd t□□ □er □nd t□eft re□i□t□nt □□ere e□□o□ed, □nd of □t□in□□□or □□□□ni□ed □tee□□ □ere conce□□ed.

□. C□ro□e □□□tin□□□□TM □456, □er□ice Condition □u□ □er □C 2 (□oder□te □er□ice).

□. Mirror□□□□TM C1503, Mirror □ □□□in□ □u□it□, c□e□r-□□□□□ □irror□, no□in□□6.0 □ □ t□ic□.

2.6 F□□RIC□TIO□

□. □ener□□□F□□ric□te unit□ □it□ ti□□t □e□□ □ □nd □oint□, □nd e□□o□ed ed□e□ ro□ed. □□n□ door□ □nd □cce□□ □□ne□□ □it□ fu□-□en□t□, continuou□ □in□e□. E□ui□ unit□ for conce□□ed □nc□or□□e □nd □it□ corro□ion-re□i□t□nt □□c□in□ □□□te□.

□. □e□□□□ro□ide uni□er□□□□e□□ for intern□□□cce□□ to □cce□□orie□ for □er□icin□ □nd re□u□□□□in□. □ro□ide □ini□u□ of □i□ □e□□ to O□ner□□ re□re□ent□ti□e.

□□RT 3 - E□EC□TIO□

3.1 I□□T□□□□TIO□

□. In□t□□□cce□□orie□ □ccordin□ to □ □nuf□cturer□□□ritten in□truction□, u□in□ f□□tener□ □□□ro□ri□te to □u□□tr□te indic□ted □nd reco□ □ended □□ unit □ □nuf□cturer. In□t□□□unit□ □e□e□, □□u□ □, □nd fir□ □□ □nc□ored in □oc□tion□ □nd □t □ei□□t□ indic□ted.

1. Re□o□e te□ □or□r□ □□□e□□ □nd □rotecti□e co□tin□□.

□. □r□□ □□r□□In□t□□□to co□ □□□ □it□ □□ecified □tructur□-□erfor□ □nce re□uire□ent□.

3.2 □D□□□TI□□ □□D C□E□□I□□

□. □d□u□t □cce□□orie□ for unencu□ □ered, □□ oot□ o□er□tion. Re□□□ce d□□ □□ed or defecti□e ite□ □.

□. C□e□n □nd □oi□□□ e□□o□ed □urf□ce□ □ccordin□ to □ □nuf□cturer□□ □ritten in□truction□.

E□D OF □ECTIO□ 102800

□ECTIO□ 274100 - □□DIO VIDEO □□□TEM□

□E□ER□□ RE□□IREME□T□

1.1 □□MM□R□

A. T□e□ □□ecific□tion□ □nd t□e □□□oci□ted T□ □erie□ dr□□in□□ de□cri□e t□e □udio-□ideo (□V) sys□:e□ms (hereafter referred to as the “Technical System”) re□uire□ent□ to □e furni□□ed □nd in□t□□□ed as a □ortion of t□e □ro□ect □co□e of □or□.
B. Sys□:e□ i□ intended for t□e fo□o□in□ spa□ces:

1. Mi□□ouri Ri□er Conference Roo□ (159)
2. O□ Cree□ Conference Roo□ (134)
3. S□oal □ree□ Conference Roo□ (125)
4. □ue Ri□er Conference Roo□ (142)
5. Brush Cree□ Conference Roo□ (228)

C. □ or□ inc□ude□ all □uc□ □or□ indic□ted in all □f t□e Contr□ct Docu□ent□, inc□udin□, □ut not li□ited to: In□truction□ to □idder□; P ro□osal For□; □ener□□ Condition□; □u□□e□ent□r□ □ener□□ Condition□; □rc□itectur□, □tructur□, Co□□unic□tion□, Fire □□r□ □nd E□ectronic □□fet□ □nd □ecurit□ Dr□□in□□ □nd □□ecific□tion□; □nd □ddendu□.
D. □ or□ under t□i□ □ection of t□e □□ecific□tion□ inc□ude□ □□□labor, e□ui□□ent, □nd in□t□□□tion as re□uired to □ro□ide a co□□□ete tec□nic□□sys□:e□ in co□□□i□nce □it□ t□e contr□ct docu□ent□.
E. E□□o□ t□e □er□ice□ of a □u□ified □tructur□□en□ineer to re□ie□ □□□o□er□e□d □ountin□ □nd □u□□en□ion deti□□ of t□e tec□nic□□sys□:e□ e□ui□□ent. All □ountin□ □nd □u□□en□ion □c□e□e□ indic□ted on t□e dr□□in□□ □re □□o□n for conce□t on□□. □u□□it s□op dr□□in□□ □t□□□ed by a □tructural engineer of all details and weights for review by the project’s Architect, Structural En□ineer, □nd De□i□n Con□u□t□nt.
F. T□e □or□in t□i□ □ection shal□ □e coordin□ted □it□ ot□er □or□ to deter□ine in□t□□□tion □co□e for conduit, out□et bo□e□, □unction bo□e□, pu□□ bo□e□, ter□in□□c□□inet□, 120-□o□t □C □o□er circuit□, □nd in□u□□ted □round c□□□e□ re□uired for t□e tec□nic□□sys□:e□.

1. □ro□ide re□□ted □o□-voltage “on/off" AC power control system wiring, low-□o□t□□e "on/off" contro□□□itc□e□, □nd cert□in □C □o□er/□round re□uire□ent□ intern□□ to t□e e□ui□□ent ra□ks as □□ecific□□□ noted □erein □nd/or on t□e dr□□in□□.

1.2 RE□□TED DOC□ME□T□

A. Dr□□in□□ □nd □ener□□ □ro□i□ion□ of t□e Contr□ct, inc□udin□ □ener□□ □nd □u□□e□ent□r□ Condition□ □nd Di□i□ion 1 □□ecific□tion □ection□, appl□ to t□i□ □ection, as do t□e fo□o□in□:

1. Division 27 Section “Common Work Results for Communications”
2. A□l □□te□or□ □nd fi□er o□tic c□□□in□ □nd ter□in□tion□ sh□ll □d□ere to t□e Di□i□ion 27 □ection “Telecommunications Requirements for Audio Video Systems”.

B. T□i□ □ection i□ a □□rent □ection to all □ection□ nu□□ered 274101 t□ru 274199. Re□uire□ent□ found in t□i□ □ection shall apply to al□ c□i□d □ection□ un□e□□ ot□er□i□e noted.

1. Exception: Division 27 “Television Distribution Systems” is a stand-□one □ection.

1.3 E□□MI□□TIO□ OF □ITE

A. T□i□ □ro□ect i□ a ne□ f□ci□it□.

B. □rior to □u□□ittin□ a □id □er□on□□□e□□□ine t□e □ite of t□e □ro□o□ed □or□□nd □erif□t□e condition□ which in□o□□e t□i□ □or□.

C. By t□e □ct of □u□□ittin□ a □id, t□e contr□ctor will □e dee□ed to hav□ □ □de re□□on□□□e □□o□□nce□ for □ite e□□□in□tion□, □ite condition□, □nd inc□uded all □o□t□in his proposal F□i□ure to □erif□t□e condition□ will not □e con□idered a bas□s for t□e □r□ntin□ of □ddition□□co□ □en□□tion.

1.4 M□TERI□□ AN D w ORKMANSH IP

A. All e□ui□□ent shal□ □e ne□ □nd in □ro□er o□er□tin□ condition. All w orkma nsh ip shall □e of t□e fine□t □u□lit□ by e□□erienced in□t□□□tion tec□nici□n□.

B. Cont□ct t□e □rc□itect, in □ritin□, re□□rdin□ t□e □e□ection of co□or□ for all □□o□ed e□ui□□ent.

C. In □ddition to a co□ □ete □et of t□e sys□em □ro□ect dr□□in□□ □nd □□ecific□tion□, □ □int□in □t t□e □o□ □ite a co□ □ete □et of □ □nuf□cturer'□ ori□in□□o□er□tion, in□truction, in□t□□□tion, □nd □er□ice ma nuals for e□c□e□ui□□ent ite□, for reference.

1.5 ORDI□□□CE AN D CODE□

A. Co mply □it□ all □□□ic□□e n□tion□□□nd □oc□□code□ □nd ordin□nce□ □nd o□t□in all re□uired □er□it□.

B. Contr□ctor shall □e re□□on□i□e for any □nd all □io□□tion□ □it□in t□e □co□e of t□i□ □or□.

1.6 DEFI□ITIO□□

A. □tructured C□□in□ Sys□em – t□e phys□cal infr□□tructure in□t□□□ed to □u□□ort infor□□tion tec□no□o□□/tr□n□□ort for □oice □nd d□t□ □□□ic□tion□, co□□on□□ referred to as a Te□eco□□unic□tion□ Sys□em. T□i□ inc□ude□, □ut i□ not i□ited to: C□te□or□ c□□in□, ter□in□tion/□□oc□□, □odu□e□, f□ce□□□te□, etc., □nd o□tic□fi□er c□□in□, ter□in□tion□, □odu□e□, etc

B. □u□□en□ion Sys□em – A uni□ue ass□mbly of r□ted □□rd□□re e□e□ent□ □nd □cce□□orie□ re□uired for o□er□e□d in□t□□□tion (□nd □tt□c□□ent to □uidin□ □tructure) of □oud□e□□er□ □nd ot□er tec□nic□□ sys□em co□ □onent□. E□e□ent□ of a □u□□en□ion sys□em may inc□ude: □ire ro□e, sha□k□es, e□e□o□t, c□□in, b□am clamps, □trut c□□nne□, etc.

1.7 QUAL ITY ASSU RAN CE

A. Contr□ctor □ener□□□u□ific□tion□:

1. Co□ □i□nce □it□ t□e re□uire□ent□ of Di□i□ion 1.
2. □icen□ed to □erfor□ □or□ of t□i□ t□e in t□e □ro□ect □uri□diction.
3. □t □e□t fi□e (5) y□ars of □erifi□□e direct e□□erience □it□ t□e de□ice□, e□ui□□ent □nd sys□ems of t□e t□e □nd □co□e □□ecified □erein.
4. □rior □ucce□□fu□e□□erience of □ro□ect□ of □i□i□r □i□e, □co□e □nd t□e as outlined in t□e Con□truction Docu□ent□.
5. □cti□e □e□ □er□□i□ in t□e □□tion□□□□te□ □Contr□ctor□ □□□oci□tion (NS CA).
6. □cti□e m emb□rshi p in T□e □udio□i□u□□nd Inte□r□ted E□□erience □□oci□tion (AVIXA).
7. Fu□□□t□ffed □nd e□ui□□ed □ □inten□nce □nd re□□ir f□ci□it□.
8. F□ctor□-□ut□ori□ed de□□er for t□e □ □or co□ □onent□ □□ecified.

B. Contr□ctor □er□onne□□u□ific□tion□:

1. □i□ed □or□er□ t□orou□□□□tr□ined □nd e□□erienced in t□e nece□□□r□ cr□ft□ □nd co□ □ete□□ f□□ i□□r □it□ t□e □□ecified re□uire□ent□ □nd t□e □et□od□needed for □ro□er □erfor□ □nce of t□e □or□in t□i□ □ection. T□e □or□er□ shall hav□ □t □e□t t□ree (3) □e□r□ direct e□□erience in □i□i□r □or□, e□idence of which sha□□e □erified in □ritin□ □it□ □□□ro□ri□te reference□.

2. □u□er□i□or □it□ □t □e□t fi□e (5) □e□r□direct e□□erience in □i□ i□□r □or□. T□e □u□er□i□or □□□□□□ □e □re□ent for □nd in re□□on□i□□ c□□r□e of □□□□or□in t□e f□□ric□tion □□o□ □nd on t□e □ro□ect □ite durin□ □□□□□□□□e□ of t□e in□t□□□tion □nd te□tin□ of t□e □□□te□ (□). To □□□ure continuit□, t□i□ □u□er□i□or □□□□□□□e t□e □□□□e indi□idu□□□t□rou□□out t□e e□ecution of t□e □or□ un□e□□ i□□ne□□, □o□□ of □er□onne□, or ot□er re□□on□□□□e circu□ □t□nce□ inter□ene. T□i□ □er□on □□□□□□ □ct □□ t□e Tec□nic□□ □□□te□ □ro□ect □ □n□□er □nd □□□□□□ attend □□□□c□edu□ed □ro□ect □eetin□□.

□. Mini□u□ of one fu□-ti□e □t□ff □e□□er □□o □□□□ attended tec□nic□□□□□te□ de□i□n □nd in□t□□□tion cour□e□ t□u□□t □□ □□n-□ud-Con in t□e □□□t 10 □e□r□.
□. Mini□u□ of one □VI□□ CT□-I (Certified Tec□no□o□□ □□eci□i□t - In□t□□□tion) □□□te□ □ tec□nici□n.
c. Mini□u□ of one fu□-ti□e □t□ff □e□□er □□o □□□□ □ □ini□u□ of t□ree (3) □e□r□ direct e□□erience □it□ □nd i□f□ctor□-certified on t□e □o□t recent □er□ion of t□e □e□ected Di□it□□ □i□n□□□roce□□or (D□□) □oft□□re □nd tec□no□o□□. T□i□ indi□idu□□□□□□□□□e re□□on□i□□ for t□e i□□e□ent□tion of t□e D□□ □□□te□ inc□udin□ □oft□□re. T□i□ indi□idu□□□□□□□□□e t□e □□□e t□rou□□out t□e e□ecution of t□e □or□un□e□□i□ne□□, □o□□of □er□onne□, or ot□er re□□on□□□□e circu□ □t□nce□ inter□ene.
d. Mini□u□ of one fu□-ti□e □t□ff □e□□er □□o □□□□ □ □ini□u□ of t□ree (3) □e□r□ direct e□□erience □it□ net□or□-□□□□ed □V tr□n□□ort □nd i□f□ctor□-certified on t□e □o□t recent □er□ion of t□e □e□ected □V tr□n□□ort tec□no□o□□. T□e indi□idu□□□□□□□□□o□d □ current manufacturer's certification (i.e., Crestron DMC-E). T□i□ indi□idu□□□□□□□□□e re□□on□i□□ for t□e i□□e□ent□tion □nd □rei□in□r□ te□tin□ of t□e □V tr□n□□ort □□□te□. T□i□ indi□idu□□□□□□□□□e t□e □□□e t□rou□□out t□e e□ecution of t□e □or□un□e□□i□ne□□, □o□□of □er□onne□, or ot□er re□□on□□□□e circu□ □t□nce□ inter□ene.
e. Mini□u□ of one fu□-ti□e □t□ff □e□□er □□o □□□□ □ □ini□u□ of t□ree (3) □e□r□ direct e□□erience □nd i□ □ f□ctor□ certified M□□ter □e□e□□ro□r□□ □er on t□e □o□t recent □er□ion of t□e □V contro□□□□te□ □oft□□re □nd tec□no□o□□. T□i□ indi□idu□□□□□□□□□e t□e □□□e t□rou□□out t□e e□ecution of t□e □or□ un□e□□ i□□ne□□ or □o□□ of □er□onne□ inter□ene□. □ f□ctor□ □ut□ori□ed inde□endent □ro□r□□ □er (i.e., Cre□tron M□□ter C□l□) □i□□□□o □e □cce□ted, □ro□idin□ t□e □ro□r□□ □er □eet□ t□e criteri□ identified in t□i□ □□r□□r□□□.

C. □rovide additional information as required for review by the Owner's Representative, Architect, □nd De□i□n Con□u□t□nt to □id in □ro□in□ □cce□t□□i□it□.

1.8 □□□MITT□□□

□. Refer to requirements in Division 27 Section "General Communications Requirements".
□. Inc□ude t□e fo□o□in□ ite□ □ □□ecific□□□ □□it re□□te□ to □V□

1. □u□□itt□□□1□□V □□□te□ □roduct D□t□ (□re-Con□truction)

□. E□ui□□ent □i□t (1□)
□. Manufacturers' Cut-□□eet□ (1□)
c. □roduct □u□□titution□ (1C)
d. □c□edu□e (1D)

2. □u□□itt□□□2□□V □□□te□ □□o□ Dr□□in□□ (□re-Con□truction)

□. □V □□t□□ □□□□, De□ice□, □nd C□□□in□ (2□) – Fo□o□ re□uire□ent□ of Di□i□ion 27 □ection "Common Work Results for Communications". Indicate locations of all devices and e□ui□□ent.
□. □i□n□□Fo□ □□o□ Dr□□in□□ (2□) – □n□ □eneric di□□r□□ □found □it□in t□e Con□truction Docu□ent□ □□□□□□e dr□□n to □□ecific re□uire□ent□. □te□tion□ fro□ □□□i□ of de□i□n

found □it□in t□e Con□truction Docu□ent□ shall □e ref□ected □nd identified. Inc□ude □ire nu□ □erin□ □c□e□e.

c. □V Contro□ Sys□em (2C) - □V contro□ sys□em □□ne□/□creen □□out□ □uit□□e for t□e Owner's Representative to understand the operation and flow (submitted no less than fi□e □ont□□ □rior to sys□em fir□t u□e).

d. D□P S□gnal F□o□ (2D) - D□P s□gnal fo□ confi□ur□tion (□u□□itted no □e□□ t□n t□ree □ont□□ □rior to sys□em fir□t u□e).

3. □u□□itt□□ #3: □V Sys□em F□□ric□tion Dr□□in□□ (□re-Con□truction)

a. □tructur□□ Det□i□□ (3A)

1) □o □u□□ended de□ice shall □e in□t□□ed □rior to t□e fin□□ app□oval of □tructur□□ Det□i□□u□□itt□□□ by t□e Con□u□t□nt.

2) For □u□□ended e□ui□□ent □ro□ide det□ied, di□en□ioned dr□□in□□ of e□c□ □u□□en□ion □□rd□□re ass□mbly. Als□ indic□te □oc□tion re□□ti□e to □tructure, □oc□tion re□□ti□e to ot□er co□□onent(□) (Tec□nic□□ Sys□em or ot□er□i□e), confi□ur□tion of □u□□ended co□□onent□, □tt□c□□ent to □tructure, □u□□en□ion □et□od, □nd c□cu□□tion□.

a) C□cu□□tion□ shall inc□ude □ei□□t□ of Tec□nic□□ Sys□em e□ui□□ent inc□udin□ □u□□en□ion □□rd□□re, □nd det□i□□ of all □u□□en□ion □□rd□□re inc□udin□: □□nuf□cturer(□), □□rt nu□□er(□) □nd □ertinent tec□nic□□ infor□□tion (i.e., □or□in□ □o□d □i□it) of e□c□ □□rt inc□udin□ nut□, □o□t□, □nd ot□er □cce□□orie□. □□□□ei□□t □e□rin□ □□rd□□re □u□t □e tr□ce□□e, □o□d r□ted, □nd do□e□tic□□□□ □□nuf□ctured. All □e□d□□u□t □e certified.

3) □rior to □u□□i□□ion, t□e□e dr□□in□□ □u□t □e □□□ro□ed □nd □i□ned/□e□□ed by a □tructur□□en□ineer □icen□ed for t□e □oc□tion of t□e □ro□ect. T□e fo□o□in□ □uideline□ □re □□□□ic□□e:

a) Contr□ctor□ □□rtici□□tin□ in t□e □u□□en□ion of Tec□nic□□ Sys□em co□□onent□ shall □confor□ to indu□tr□ □e□t □r□ctice □t□nd□rd□ as □et fort□ in:

i) "Basic Principles for Suspending Loudspeaker Systems" (JBL □rofe□□ion□□ Tec□nic□□□ote Vo□u□e 1, □u□□er 14); □nd

ii) ANS□ E1.6-2 -2013 (Entert□in□ent Tec□no□o□□ – De□i□n, In□□ection, □nd M□inten□nce of E□ectric C□□in □oi□t□ for t□e Entert□in□ent Indu□tr□); □nd

iii) ANS□ E1.6-3- 2012 (□e□ection □nd Us□ of S□erially M□nuf□ctured C□□in □oi□t□ in t□e Entert□in□ent Indu□tr□).

b) □□□u□□ended □oud□□e□□er□ sha □□confor□ to ANS□ E1.8-2012 (Entert□in□ent Tec□no□o□□—□oud□□e□□er Enc□o□ure□ Intended for O□er□e□ □u□□en□ion—C□□□□ific□tion, M□nuf□cture □nd □tructur□□ Te□tin□).

b. E□ui□□ent R□c□ Sh□p Dr□□in□□ (3B) - E□ui□□ent r□c□ front e□e□□tion for e□c□ r□c□ □□o□in□ e□ui□□ent, pa□el □□□out, □nd e□ectric□□ circuitin□.

c. Pa□el, Pa□ch Pa□el, □nd Pla□e Sh□p Dr□□in□□ (3C) - All pa□el, pa□ch pa□el, □nd pla□e □□□out□ indic□tin□ □oc□tion□ of connector□, en□r□in□, no□enc□□ture, pa□el □□teri□□, □nd fini□□. Inc□ude □tructured C□□in□ □ or□e□uired by t□e tec□nic□□ sys□em.

d. Mi□□or□ □□o□ Dr□□in□□ (3D) - □ound con□o□e □nd □o□ie c□rt □i□□or□ det□i□, □nd re□□ted e□ui□□ent □nd pa□el □□□out (□u□□itted no □e□□ t□n t□ree □ont□□ □rior to t□e in□t□□□tion of ot□er □illwork).

e. Video □ □□□□o□ Dr□□in□□ (3E) – Di□en□ioned e□e□□tion□ (front □nd □ide) for e□c□ □ideo □ □□□□□o□in□ □□ne□□□out, □nci□□r□e□ui□□ent □t □□□□oc□tion, □o□ □o□□e/□i□n□□ circuitin□, □nd e□ectric□□circuitin□.

4. □u□□itt□□□4□□V □□□te□ Te□t Re□u□t□ (□rior to □u□□t□nti□□Co□ □□etion)

□. □rei□ in□r□ Te□tin□ Docu□ent□tion □□c□□□e (4□) – □ro□ide □rei□ in□r□ re□u□t□ of □□□te□ te□tin□ □□de□cri□ed in □□rt 3 of t□i□ □ection for re□ie□ □rior to fin□□□cce□t□nce. Inc□ude fin□□re□u□t□ □it□ C□o□eout Docu□ent□tion.

5. □ro□ect C□o□eout

□. Refer to Division 27 Section “General Communications Requirements” and the Record Dr□□in□□ □nd O□er□tion □nd M□inten□nce D□t□ □u□-□ection□ in □□rt 3 of t□i□ □ection for re□uire□ ent□.

6. Refer to c□i□d □ection□ for □ddition□□re□uire□ ent□.

1.9 □□□□TIT□TIO□□

□. Refer to □ection 270010 □ener□□Co□ □unic□tion□Re□uire□ ent□.

1.10 E□ECTRO□IC FI□E □□□RI□□

□. Refer to Division 27 Section “General Communications Requirements” for information on o□t□inin□ e□ectronic □er□ion□ of t□e con□truction dr□□in□□.

1.11 □ROTECTIO□ OF □ OR□

□. □rotect □□□□or□, □ □teri□□□ □nd e□ui□□ ent fro□ d□□ □□e due to □n□c□u□e. □ro□ide for t□e □□fet□ and new condition of the equipment and materials until final acceptance by the Owner’s Re□re□ent□ti□e. Re□□□ce □□□d□□ □□ed or defecti□e □ □teri□□□ □nd/or e□ui□□ ent □□directed □□t□e □rc□itect or De□i□n Con□u□t□nt.
□. E□ui□□ ent r□c□□, c□□□in□r□c□□, □unction □o□e□, ter□in□tion □o□e□, □nd ot□er e□□o□ed e□ui□□ ent □□□□□□e □e□t co□ered □nd □rotected fro□ □ir□orne cont□□in□te□. C□e□n □□□de□ri□ fro□ t□e e□ui□□ ent roo□(□)/□oc□tion(□) □nd contro□□re□□, □nd c□e□n □□□e□ui□□ ent □nd t□e interior r□c□ f□oor, □rior to □□□te□ fin□□□cce□t□nce □cti□itie□.

1.12 O□ □ER F□R□I□□ED E□ □I□ME□T

□. Cert□in tec□nic□□□□□te□ e□ui□□ ent □□□□□□e O□ner furni□□ed for u□e □it□ t□e ne□ tec□nic□□ □□□te□ □□ indic□ted on t□e dr□□in□□ □nd in t□e□e □□ecific□tion□. □ro□ide □n□ e□ui□□ ent not □□ecific□□□□ noted □□ O□ner Furni□□ed E□ui□□ ent (OFE).
□. Obtain this equipment from the Owner’s Representative in a timely manner as required to coordin□te □it□ t□e □ro□ect □c□edu□e. Verif□ □□□□ode□nu□□er□, □u□ntitie□, □i□e□, □nd connector types as necessary to coordinate with system requirements. The Owner’s Representative may e□ect to □u□□titute ot□er e□ui□□ ent in □ieu of t□□t i□□ted □rior to t□e □u□□i□□ion of □□o□ dr□□in□□.

C. E□□□ine t□e e□ui□□ ent □nd □erfor□ nor□ □□o□er□tion□□c□ec□□ to □erif□ t□□t t□e e□ui□□ ent i□ in □ood condition □nd i□ o□er□tin□ nor□ □□□□. □□ou□d □n□ e□ui□□ ent defect□ □e found (□□□□ic□□, electrical, or otherwise), identify, in writing to the Owner’s Representative: a) defects found; and □) t□e e□ti□ □ted co□t of □n□ □ro□o□ed re□□ir□ □er□u□ co□t of re□□□ce□ent.
D. □ □ere re□uired for r□c□-□ountin□, furni□□ r□c□-□ountin□ □□rd□□re or □□e□f for e□ui□□ ent not □re□d□ □□□in□ r□c□-□ountin□ f□n□e□. □□□o furni□□ □ecurit□ co□er□ □□ere □uc□ co□er□ □re re□uired □er t□e □□ecific□tion□.

E. Fu[illegible] inte[illegible]r[illegible]te t[illegible]e e[illegible]ui[illegible]ent [illegible]it[illegible] t[illegible]e tec[illegible]nic[illegible] [illegible]te[illegible] [illegible]nd [illegible]ro[illegible]ide [illegible]ll nece[illegible]r[illegible] [illegible]in[illegible] connection[illegible] [illegible]nd [illegible]ro[illegible]r[illegible] [illegible]in[illegible].
F. Proper operation and maintenance of such equipment remains the responsibility of the Owner's Re[illegible]re[illegible]ent[illegible]ti[illegible]e.
[illegible]. Ot[illegible]er O[illegible]ner-furnished equipment, may be used by the Owner's Representative with the new tec[illegible]nic[illegible] [illegible]te[illegible] [illegible]. [illegible]ro[illegible]er o[illegible]er[illegible]tion [illegible]nd [illegible] [illegible]intenance of t[illegible]e e[illegible]ui[illegible]ent re[illegible] [illegible]in[illegible] t[illegible]e responsibility of the Owner's Representative.

1.13 TEM[illegible]OR[illegible]R[illegible] TEC[illegible][illegible]IC[illegible][illegible] [illegible][illegible]TEM

[illegible]. [illegible]ro[illegible]ide [illegible]nd o[illegible]er[illegible]te [illegible] te[illegible] [illegible]or[illegible]r[illegible] tec[illegible]nic[illegible] [illegible]te[illegible] of re[illegible][illegible]on[illegible][illegible] e[illegible]ui[illegible]ent function [illegible]s deter[illegible]ined [illegible]s t[illegible]e De[illegible]n Con[illegible]ult[illegible]nt if t[illegible]e [illegible]or[illegible]in t[illegible]i[illegible] [illegible]ection, [illegible]s [illegible]f[illegible]ilure of t[illegible]e contr[illegible]ctor, i[illegible] inco[illegible] [illegible]ete or found not in confor[illegible]nce [illegible]it[illegible] t[illegible]e contr[illegible]ct docu[illegible]ent. T[illegible]e te[illegible] [illegible]or[illegible]r[illegible] [illegible]te[illegible] [illegible][illegible]re[illegible] [illegible]in in u[illegible]e unti[illegible]cce[illegible]t[illegible]nce of t[illegible]e [illegible]er[illegible] [illegible]nent [illegible]te[illegible].

1.14 [illegible] [illegible]RR[illegible][illegible]T[illegible]

[illegible]. [illegible] [illegible]rr[illegible]nt [illegible]or[illegible]e[illegible]ecuted under t[illegible]i[illegible] contr[illegible]ct, inc[illegible]udin[illegible] [illegible]in-[illegible]o[illegible] [illegible]nd on[illegible]ite [illegible][illegible]teri[illegible], [illegible]rt[illegible] [illegible]nd [illegible]or, for [illegible] [illegible]eriod of t[illegible]e[illegible] [illegible]ont[illegible] [illegible]fter t[illegible]e d[illegible]te of fin[illegible]cce[illegible]t[illegible]nce.

1. E[illegible]i[illegible]tin[illegible] or [illegible]n[illegible] ot[illegible]er O[illegible]ner-furni[illegible]ed e[illegible]ui[illegible]ent [illegible][illegible] not [illegible]e inc[illegible]uded in t[illegible]i[illegible] [illegible]rr[illegible]nt[illegible].
2. For equipment that has an advertised manufacturer's warranty longer than 12 months, inc[illegible]ude end d[illegible]te of [illegible]rr[illegible]nt[illegible] [illegible]eriod.

[illegible]. [illegible]For f[illegible]ci[illegible]ities t[illegible]t o[illegible]er[illegible]te on [illegible]re[illegible]e[illegible]tin[illegible] [illegible]nnu[illegible][illegible][illegible]i[illegible], [illegible]uc[illegible] [illegible]s educ[illegible]tion[illegible][illegible]nd [illegible]ort[illegible] f[illegible]ci[illegible]ities, t[illegible]e [illegible]rr[illegible]nt[illegible] [illegible][illegible][illegible]e 15 [illegible]ont[illegible].[illegible]
C. T[illegible]e [illegible]rr[illegible]nt[illegible] [illegible]er[illegible]ice[illegible] [illegible]re [illegible]i[illegible]ited to nor[illegible] [illegible][illegible]u[illegible]ine[illegible] [illegible]our[illegible], un[illegible]e[illegible] [illegible]ddition[illegible][illegible]ree[illegible]ent[illegible] [illegible]re made between the Owner's Representative and the contractor.
D. [illegible] [illegible]rr[illegible]nt [illegible]or[illegible]re[illegible]tin[illegible] to tec[illegible]nic[illegible][illegible]co[illegible] [illegible]e[illegible]e[illegible]ui[illegible]ent [illegible]nd/or [illegible]ro[illegible]r[illegible] [illegible]in[illegible] [illegible]uc[illegible] [illegible]s for codec[illegible], di[illegible]it[illegible][illegible]i[illegible]n[illegible][illegible]roce[illegible]in[illegible], contro[illegible][illegible]te[illegible] [illegible], [illegible]nd [illegible]ideo [illegible]ro[illegible]ector[illegible] [illegible][illegible][illegible]e [illegible]erfor[illegible]ed [illegible] [illegible]f[illegible]ctor[illegible] [illegible]ut[illegible]ori[illegible]ed tec[illegible]nici[illegible]n.
E. D[illegible] [illegible]e to t[illegible]e [illegible]te[illegible] re[illegible]u[illegible]t[illegible]nt fro[illegible] i[illegible] [illegible]ro[illegible]er u[illegible]e or [illegible]d[illegible]u[illegible]t[illegible]ent [illegible]s ot[illegible]er[illegible], ne[illegible]i[illegible]ence, [illegible]ct[illegible] of n[illegible]ture, or ot[illegible]er c[illegible]u[illegible]e[illegible] [illegible]ic[illegible] are beyond the contractor's control shall be excluded from the [illegible]rr[illegible]nt[illegible].
F. Vi[illegible]it t[illegible]e [illegible]o[illegible] t[illegible]o [illegible]ee[illegible] [illegible]rior to t[illegible]e end of t[illegible]e [illegible]rr[illegible]nt[illegible] [illegible]eriod to c[illegible]ec[illegible] [illegible]ll[illegible]e[illegible]ui[illegible]ent for [illegible]ro[illegible]er [illegible]te[illegible] o[illegible]er[illegible]tion. [illegible]n[illegible] defecti[illegible]e e[illegible]ui[illegible]ent found [illegible][illegible][illegible]e re[illegible]ced or re[illegible]ired under t[illegible]e ter[illegible] of t[illegible]e [illegible]te[illegible] [illegible]rr[illegible]nt[illegible].
[illegible]. [illegible]d[illegible]te Record Dr[illegible]in[illegible] [illegible]nd O[illegible]er[illegible]tion [illegible]nd M[illegible]inten[illegible]nce D[illegible]t[illegible] to ref[illegible]ect [illegible]or[illegible] done durin[illegible] Warranty period and provide the updates to the Owner's Representative and Design Consultant.
[illegible]. Refer to [illegible]ener[illegible]Condition[illegible] for [illegible]ddition[illegible]re[illegible]uire[illegible]ent[illegible].

[illegible]ROD[illegible]CT[illegible]

2.1 [illegible]E[illegible]ER[illegible]

[illegible]. [illegible]n[illegible]e[illegible] ot[illegible]er[illegible]i[illegible]e de[illegible]i[illegible]n[illegible]ted, [illegible]ro[illegible]ide [illegible]ll of one t[illegible]e of e[illegible]ui[illegible]ent fro[illegible] one [illegible]nuf[illegible]cturer for e[illegible][illegible] [illegible]e, [illegible]icro[illegible][illegible]one[illegible] of one t[illegible]e [illegible]s one [illegible]nuf[illegible]cturer, d[illegible]t[illegible] [illegible]itc[illegible]e[illegible] of one t[illegible]e [illegible]s one [illegible]nuf[illegible]cturer, c[illegible][illegible]in[illegible] of one t[illegible]e [illegible]s one [illegible]nuf[illegible]cturer, or [illegible]oud[illegible]e[illegible]er[illegible] of one t[illegible]e [illegible]s one [illegible]nuf[illegible]cturer.
[illegible]. E[illegible]ui[illegible]ent [illegible]nd [illegible]irin[illegible] [illegible]o[illegible]n on t[illegible]e dr[illegible]in[illegible] re[illegible]re[illegible]ent[illegible] t[illegible]e [illegible][illegible]i[illegible] of de[illegible]i[illegible]n. En[illegible]ure [illegible]i[illegible] i[illegible]r or [illegible]etter [illegible]erfor[illegible]nce i[illegible] [illegible]c[illegible]ie[illegible]ed [illegible]s t[illegible]e u[illegible]e of e[illegible]ui[illegible]ent ot[illegible]er t[illegible]n t[illegible]t [illegible]o[illegible]n.
C. [illegible][illegible]or co[illegible] [illegible]onent[illegible] of tec[illegible]nic[illegible][illegible][illegible]te[illegible] e[illegible]ui[illegible]ent [illegible][illegible][illegible]e [illegible]ro[illegible]ided [illegible]nd in[illegible]t[illegible]ed [illegible]s [illegible] [illegible]u[illegible]ified contr[illegible]ctor [illegible]s outi[illegible]ned in [illegible]rt 1 of t[illegible]i[illegible] [illegible]ection.
D. [illegible]e[illegible]ui[illegible]ent [illegible][illegible][illegible]e ne[illegible] [illegible]nd of [illegible]rofe[illegible]ion[illegible][illegible]u[illegible]it[illegible].

E. □o□e ite□ □ i□□ted in t□e□e □□ecific□tion□ □re cu□to□-□ □de □roduct□. En□ure □□en □ricin□ □nd orderin□ e□ui□□ent t□□t t□e e□□ct □□rt nu□ □er c□□ed out i□ u□ed. If t□ere i□ a di□cre□□nc□, cont□ct t□e De□i□n Con□u□t□nt for c□rific□tion.

F. E□c□ oft□□re □ro□r□□ □ □□□e de□ice furni□□ed (i.e. Di□it□□ Sign□l □roce□□or, contro□ sys□:em, etc.) sha□l □nc□ude □o□t recent □oft□□re □nd □□□ro□ri□te co□ □uter interf□ce (□ired c□□□e or □ire□e□). C□□□e, □oft□□re, □ource (unco□ □i□ed) code □nd all re□□ted □□□ect□ of all □oft□□re-contro□□ed e□ui□□ent shall □eco□e t□e □ro□ert□ of t□e O□ner □nd □i□□e furni□□ed □□ □ □ortion of t□e O□er□tion & M□inten□nce (O&M) D□t□ ma□nuals (□ee O□er□tion & M□inten□nce M□nu□□ne□r t□e end of □□rt 3).

G. T□e □u□ntitie□ of e□c□ ite□ of □ort□□e or □o□ie e□ui□□ent (□nd ot□er □ort□□e or □oo□e □cce□□orie□), as w e□l □□ t□o□e ite□ □ □□□oci□ted □it□ □tern□te□, □re indic□ted in □□rent□e□. □uc□e□ui□□ent i□intended to □e □□□red □et□een roo□ □hav□ng tec□nic□□ sys□:ems, e□ce□t □□ere noted for u□e in one □□ecific roo□.

2.2 □IRE□E□□ □□□TEM I□TERF□CE

A. □ire□e□□ Contro□□□d, □ire□e□□ contro□□□d e□ui□□ed □it□ t□e nece□□□r□ □□□□ic□tion□ to □□o□ for con□i□tent o□er□tion fro□ □it□in t□e roo□ or sys□:em, 10 □our □□tter□ □ife, □□proximately 10” x 8” x .5”, with maximum storage available at time of purchase, and protective case and stylus (one re□uired):

1. App□e ne□ i□□d □i-Fi 128GB □it□ inc□uded □o□er s□pply □nd □dd-on □rotecti□e c□□e □uc□ as t□e Inc□□e □oo□ □□c□et □e□ect for App□e ne□ i□□d (Bla□k) □nd □dd-on □en/□t□u□ □uc□ as t□e □en□in□ton Virtuo□o Touc□ □t□u□ & □en.
2. Register the iPad on an Owner’s Representative-□□□ro□ed co□ □uter.
3. Loa□ □it□ all □□□ic□tion□ ava□lab□e to co□ □onent□ □it□in t□i□ sys□:em.
4. Furni□□ one Splash □op app □□en □cce□□in□ a □C as a re□ote de□□to□.

2.3 ET□ER□ET □□ ITC□E□ & □CCE□□ORIE□

A. Et□ernet □□itc□e□ shall □e as reco□ □ended by t□e □ □nuf□cturer(□) of t□e connected tec□nic□□ system equipment. These devices shall also be coordinated with the Owner’s Re□re□ent□ti□e’□ IT de□□rt□ent to □ □int□in co□ □on □roduct□ (□□ere □o□i□e). E□c□ s□al□ □e □□□e□ed as □□o□n on the technical system drawings and as required to match the Owner’s Representative’□ IT □□□e□in□ t□nd□rd.

B. Contr□ctor shall □e re□□on□i□e for t□e □e□ection of □roduct(□) t□□t □re □□□ro□ed for u□e □it□ □□□ sys□:ems connected to t□e □□itc□(e□). □roduct□ □i□ted in t□i□ □ortion of t□e □□ecific□tion□ □re re□re□ent□ti□e □t t□e ti□e of de□i□n – furni□□ t□e □o□t recent □□□ro□ed □roduct.

C. Et□ernet □□itc□e□ shall hav□ e IPv4 □nd IPv6 routin□, □u□tic□□t routin□, □d□□nced □u□it□ of □er□ice (QoS), □nd □ecurit□ fe□ture□ in □□rd□□re. Di□□□in□ of □o□er □□□in□ □nd ot□er □oc□in□ fe□ture□ sha□l □e ava□lab□e for □ro□er □i□n□tr□ffic.

D. Et□ernet □□itc□e□ shall □e □ro□ided □it□ all □icen□in□ re□uire□ent□, □roduct □cti□□tion re□uire□ent□, etc. for □ro□er o□er□tion.

E. Et□ernet □□itc□e□ shall □e confi□ured for □ro□er o□er□tion of t□e sys□:em. Confi□ur□tion shall comply with Owner’s network standards.

F. Et□ernet □□itc□ – (##)(M)(P)(G)(R)(-L3)(-AVB): Et□ernet □□itc□ □it□ SFP u□in□ c□□□□i□itie□ □nd t□e fo□o□in□ c□□r□cteri□tic□ re□uired as show□ on t□e □i□n□fo□□.

1. Key to □roduct identific□tion: Examp□e(□□)(M)(P)(G)(R)(-L)(-AVB):

a. ** = □ini□u□ □u□ntit□ of □ort□
b. (M) = □ □n□□ed (no symb□l = un□ □n□□ed)
c. (P) = □oE (P+ = □oE+) (no □ymb□l = non-□oE)
d. (*G) = 1 GB/s or 10 GB/s-capab□e □ort□ as sh□wn (no symb□l = □ini□u□ 100 MB/s-capab□e □ort□)

e. (R) = r□c□□ount (no symb ol = o□tion□□if not inc□uded)
f. (-L) = □ini□u□ lay ɜr re□uire□ent□ (lay ɜr 2 or □□er 3 enter□ri□e re□e□fe□ture □et)
g. (-AVB) = AVB certified (no sym □ol = A VB c□□□□i□it□ not re□uired)

2. Lay ɜr 2:

a. Ci□co 2960X LAN □□□e □erie□; ɔr
b. E□tre□e □et□or□□ □u□ □it □erie□; ɔr
c. HP 2530 □erie□; ɔr
d. Verified e□u□□.

3. Lay ɜr 3:

a. Ci□co 2960□R □erie□□or
b. E□tre□e □et□or□□ □u□ □it □erie□; ɔr
c. HP 5120 □erie□; ɔr
d. Verified e□u□□

4. Lay ɜr 3, AVB:

a. Ci□co 3650 or 3850 □erie□□or
b. E□tre□e □et□or□□ □u□ □it X430 or X440 □erie□ (AVB re□uire□ AVB fe□ture pa□k); ɔr
c. Verified e□u□□.

G. Et□ernet □□itc□ – 5PG: Et□ernet □□itc□, fi□e □ort, no u□in□, un□ □n□□ed, fu□□□oE on all □ort□:

1. Cre□tron CE□-□□ -□OE-5.

H. □oE In□ector, 1 □ort □o□er o□er Et□ernet in□ector:

1. Cre□tron PW E-4803RU; ɔr
2. D-□in□D□ □-□200; ɔr
3. □onic□ □□□ □oE In□ector□or
4. □□□ro□ed e□u□□.

2.4 D□T□ PA TCH PAN ELS & □CCE□□ORIE□

A. D□t□ Pa tch Pa nels □re □cce□t□□e for u□e in Et□ernet, □udio net□or□, AVLAN, □nd di□it□□ □u□ti□edi□ net□or□ □□□ic□tion□ as re□uired to □ro□ide a co□ □ete tec□nic□□sys :em.
B. All C□te□or□ □nd Fi□er O□tic c□□in□ (of t□e □cce□t□□e □□□ic□tion□ i□ted □□o□e) enterin□ a tec□nic□□□□□te□ r□c□ sha □□e ter□in□ted to a D□t□ □□tc□ □□ne. R□c□ inter- □nd intr□-connect c□□in□ uti□i□in□ f□ctor□-ter□in□ted c□□e ass ɜmb□ies □re not re□uired to pass t□ru a D□t□ Pa tch Pa nel ɹn□e□□ sh ɔwn ot□er□i□e.
C. D□t□ Pa tch □□ne□□ sha l □e □□e□ed □er □□ecific□tion □□rt 3 of t□i□ □ection.
D. C□te□or□C□□in□ Pa tch Pa nels –

1. Refer to Division 27 Section “Telecommunications Requirements for Audio Video Systems” for □roduct infor□ □tion □nd □ddition□□in□t□□□tion re□uire□ent□.

E. Fi□er O□tic □□tc□ Pa nels & Enc□o□ure□ –

1. Refer to Division 27 Section “Telecommunications Requirements for Audio Video Systems” for □roduct infor□ □tion □nd □ddition□□in□t□□□tion re□uire□ent□.

F. C□□e M□n□□e□ent – 19" wide horizontal patch cable management sys:em, 1 r□c□ unit, □it□ □□□□-t□rou□□ o□enin□ to al ɔw pa□ch c□□e□ □cce□□ to re□r of r□c□ (one re□uired □er 24 □ort pa□ch pa□nel / □□itc□):

1. C□□t□□ort□ Ve□ocit□ 13930-701
2. Coo□er □-□ine RCM+ SB 87019S1
3. □□nduit □etM□n□□er □MF1
4. Or □□□ro□ed equal

2.5 □/V CO□TRO□ □□□TEM – □E□ER□□ □RO□R□MMI□□ RE□□IREME□T□

A. Touch screen control interfaces shall follow the guidelines outlined in the "Dashboard for Controls" docu□ent□ cre□ted on □e□□f of AVIXA Intern□tion□□. Reference t□e De□i□n □uide, De□i□n Reference, □nd Inte□r□tor□ □uide for t□i□ □ro□ect. Docu□ent□ □re □□□i□□□e for do□n□o□d on t□e AVIXA w□eb □ite.

B. Contr□ctor shall □e re□□on□i□□e for co□ □□ete confi□ur□tion of t□e contro□ sys:em fe□ture□ inc□udin□ touc□ □creen □□□out□, co□or□, □□□e□r□nce, o□er□tion, □nd coordin□tion □it□ sys:ems e□tern□□ to t□e Tec□nic□□□□□te□.

C. □□rtici□□te in □□nnin□ □eetin□(□) (web/phone) with Design Consultant and Owner's Re□re□ent□ti□e to re□ie□ □ro□r□□ □in□ conce□t□ □nd re□uire□ent□ □efore co□□ence□ent of □or□.

D. Pa□nel □□out □nd n□□i□□tion□□fo□ conce□t□ shall □e de□e□o□ed durin□ □□nnin□ □eetin□(□) □it□ Design Consultant and Owner's Representative.

E. Refer to □u□□itt□□re□uire□ent□ for □ddition□□infor□ □tion.

F. T□i□ □□ecific□tion de□cri□e□ t□e initi□□touc□ □creen □ro□r□□ □in□ conce□t□ □nd re□uire□ent□. □ccount for four (4) di□tinct c□□n□e□ for revisions requested by the Owner's Representative □fter t□e sys:em i□s□bs:antially co□□ete.

G. Touc□ □creen □nd k□ypa□d o□er□□u□er interf□ce□ shall co□ □□□ □it□ t□e fo□o□in□ □ini□u□ re□uire□ent□□

1. A co□ □on t□e□e shall □e e□ □o□ed □nd u□ed □it□ con□i□tenc□ t□rou□□out t□e □□out□. T□e□e shall □e di□cu□□ed □it□ t□e Owner's Representative. T□e Owner's □t□nd□rd t□e□e te□ □□□te sha □□□e u□ed if □□□i□□□e.
2. □ □ere O□ner □o□o□ or co□or□ □re u□ed, O□ner □r□ndin□ □uide□ine□ shall □e fo□o□ed. Tr□de□ □r□□ sha□l □e u□ed □□□ro□ri□te□□. Offici□□graphical re□re□ent□tion□ (□o□o□, □ord m□rks, □o□ot□□e□, etc.) may not □e □tered. O□ner co□or□ shall □uti□□e offici□□□nd e□□ct co□or (□□ntone, CM□□, RGB, □e□, etc.) as □ro□ided by t□e O□ner, v□s□al □□tc□in□ i□not □□o□ed. Content sha□l □e o□t□ined fro□ □n offici□□□nd □ut□ori□ed □ource, e.□., t□e u□e of content fro□ □oo□e i□ □□e□i□not □□□ro□ri□te. O□ner □r□ndin□ i□encour□□ed □□ere □□□ro□ri□te; □o□e□er, □ro□er u□e □nd co□ □□i□nce re□ □in□ t□e re□□on□i□i□t□of t□e Contr□ctor.
3. T□e u□e of a passw□ord □ier□rc□□ shall □e e□ □o□ed as directed by t□e Owner's Re□re□ent□ti□e as t□e□dee□ □□□ro□ri□te.
4. □o□er O□/OFF □e□uence shall contro□all □□□ic□□□e de□ice□. □e□uence ti□e shall □e t□e re□uired ti□e for all contro□ed de□ice□ to c□□e. □ro□ector □amp wa□rm-up □nd coo□-do□n □eriod shall □e t□□en into □ccount. □□utdo□n shall □uti□□e t□o-□te □erific□tion.
5. □ni□□ted □cti□it□ indic□tor□ (□□innin□ rin□, □ro□re□□ ba□r, etc.) sha□□□e uti□□ed to □ro□ide i□u□□feed□c□ □□□ie t□e □□□te□ i□ □roce□□in□ tasks in t□e □□c□□round. T□i□ will □ro□i□it □uti□□e □utton □re□□e□ by t□e u□er □nd show feed□□c□t□□t t□e contro□ sys:em i□ □roce□□in□ t□e re□ue□t. Relevant text shall be utilized where appropriate, e.g., "Please wait while the system shuts down."
6. □ource □e□ection shall □e ava□lab□e for all □de□ice□. □ource□ shall □e □id out □nd □rou□ed in a logical manner. A 'blank source' or 'imag□e blanking' feature shall □e uti□□ed to re□u□t in no i□ □□e □ein□ di□□□□ed.
7. □utton □re□□e□ sha□l sh□ow in□t□nt v□s□al feed□□c□t□□t t□e□ hav□e □een en□□□ed □nd shall □ccur□te□□ reflect t□e re□□on□e recei□ed fro□ t□e de□ice □ein□ contro□ed.

8. Current □□□te□ □t□tu□ shall □e □i□i□e □t all ti□e□ □nd □e con□i□tent □cro□□ all □d□oined □creen□. □utton□ shall sh□w current □t□tu□ (en□□□ed or di□en□□□ed) v□a co□or, i□u□ in□tion, out□ine, □re□□c□e, etc. as re□e□□nt. □ider□ □nd □e□e indic□tor□ shall sh□w current □nd true sys□em □t□tu□ (i.e. sh□w true □e□e□□□ed on sys□em feed□□c□, not □t□tu□ bas□ed on las□ touc□ □creen in□ut) i□ co□or, □no□□oc□tion, □ercent□□e, etc. as re□e□□nt.
9. Vo□u□e contro□ of □ired □icro□□one□, □ire□□ □icro□□one□, □nd/or □V sys□em □ro□r□□ □o□u□e □e□e□ shall □e di□crete □nd shall □e □ro□er□ interf□ced □it□ t□e DSP (□□ere □□□ic□□e). T□e u□e of a □□□ter o□u□e contro□i□ □ro□i□ited.
10. □udio Conferencin□ □ode shall □e□u□□te a tr□dition□□□udio conferencin□ unit, □□o□in□ for all t□□ic□□o□er□tion□□ contro□ inc□udin□ □uto□□ted di□in□, □ri□□c□ □icro□□one □ute, □e□e□ □du□t□ent□, contro□ of indi□du□□□ icro□□one□, □tor□□e of fre□uent□ c□□ed □ite□, ma□nual di□in□, □n□□erin□, etc.
11. □ □ere □□□ic□□e, sh□w t□e current o□er□tion □ode. For e□□□ □□e, in t□e c□□e □□ere t□o rooms combine/separate, the word “Combined” or “Separated” shall □e di□□□□ed on e□c□ □□□ic□□e □creen.
12. Contro□ of ot□er □uidin□ sys□ems shall □e coordin□ted □it□ □□□ro□ri□te □□rtie□. □i□□tin□ □nd □□□din□ sys□ems shall □e contro□ed v□a □re□et rec□□. Refer to t□e T□ □erie□ dr□□in□□ □□o□in□ re□uired interf□ce□.

2.6 C□□□E - BU □K

A. T□e □roduct□ in t□i□ □ection hav□ □een □□□ro□ed for u□e in t□e □ro□ect as nece□□□r□ to f□ci□it□te a co□ □□ete □nd □or□in□ □□□te□. Inc□u□ion in t□i□ □ection doe□ not indic□te a re□uire□ent for u□e.
B. □roduct □u□t □e □rocured fro□ t□e ori□in□□c□□e □ □nuf□cturer.
C. AWG □ire s□z□s indic□ted □erein or on t□e dr□□in□□ □re t□e □ini□u□ □i□e conductor□ re□uired. □□r□er □i□e conductor□ (i.e., □□ □□□er AWG nu□□er) □re □er□itted ass□ming no i□ □□ct on t□e □ro□ect will □ccur (□uc□ as t□e re□u□tin□ need for □□r□er or □ddition□□ conduit, c□□□e trays, c□□□e□, etc.) to □cco□ □od□te □uc□ c□□□e.
D. □ □ere c□□□e i□ run e□□o□ed (□uc□ as in ceili□□ □□enu□ □, c□□□e tr□□□, c□□□e□, or □e□o□ □cce□□i□le floor□):

    1. Verif□ wh□ch □oc□tion□ do □nd do not re□uire □□enu□-r□ted c□□□e.
    2. Furni□□ t□e □□□ro□ri□te c□□□e t□□e.
    3. Obtain written authorization from the Architect (or the Architect’s designated Engineer) in t□i□ re□□rd.

E. C□te□or□ c□□in□:

    1. Refer to Division 27 Section “Telecommunications Requirements for Audio Video Systems” for □roduct infor□ □tion □nd □ddition□□in□t□□□tion re□uire□ent□.

F. Fi□er O□tic c□□in□:

    1. Refer to Division 27 Section “Telecommunications Requirements for Audio Video Systems” for □roduct infor□ □tion □nd □ddition□□in□t□□□tion re□uire□ent□.

G. T□i□ted □□ir – □□ie□ded: T□i□ted □□ir, □□ie□ded 22 AWG c□□□e; interior r□ted 2 conductor c□□□e □it□ dr□in □ire □uit□□□e for □icro□□one, □ine, or □roduction interco□ □e□e□ circuit□:

    1. Co□ □unic□tion□ □□enu□ r□ted c□□□e (CM□) i□ □uit□□□e for u□e in all □n□iron□ent□ inc□udin□ en□iron□ent□□□ir □□enu□ □ as defined □er □EC □rtic□e 800.

        a. T□e u□e of □erfor□ □nce e□ui□□□ent □u□□tituted c□□□e□ of □e□□er t□□e i□ □er□itted □t t□e Contr□ctor’s discretion where allowable by NEC Article 800, □oc□□code□, □nd t□e connected equipment manufacturer’s listed requirements.

b. □erfor□ □nce e□ui□□ence to t□e □e□o □□ecified □roduct□ shall □e deter□ined by t□e cable manufacturer's listed product equivalent□ □ro□ided in t□□e□ □nd cut-□□eet□.

2. Tinned co□□er c□□□e□ □re re□uired in □oc□tion□ □u□□ect to corro□ion, □uc□ as n□t□toriu□ □.
3. 22 AWG /CMP □22 AWG Co□ □unic□tion□ □□enu□ r□ted □□re co□□er conductor c□□□e:

a. □e□den 9451P or 6500FC; □r
b. Clark □ ire SPA 22GSP; □r
c. □e□co IP222AL or 61801HS; □r
d. □ e□t □enn 25291B.

4. 22 □□ □/CMR: 22 AWG Co□ □unic□tion□Ri□er r□ted □□re co□□er conductor c□□□e:

a. □e□den 8451 or 9451 or 5500FE; □r
b. Clark □ ire SPA 22GS; □r
c. □e□co IR222□□ or 61801 or 61801E□; □r
d. □ e□t □enn 291 or 452.

5. 22 □□ □/CM□/MC: 22 AWG Co□ □unic□tion□ □□enu□ r□ted □□re co□□er □u□ti-conductor c□□□e, indi□idu□□□□ □□ie□ded □□ir□, co□or coded (not for interconnection □it□in e□ui□□ent racks):

a. 12 □□ir:

1) Clark □ ire 22EPS 12P □or
2) □e□co 6612HS

b. 8 □□ir:

1) Clark □ ire 22EPS 8P; □r
2) □e□co 6608HS

c. 6 □□ir:

1) □e□den 6545PA; □r
2) Clark □ ire 22EPS 6P; □r
3) □e□co 6606HS.

d. 4 □□ir:

1) Clark □ ire 22EPS 4P; □r
2) □e□co 6604HS.

e. 3 □□ir:

1) □e□den 6542PA.

f. 2 □□ir:

1) □e□den 6541PA or 9451D□.

6. 22 □□ □/CMR/MC: 22 AWG Co□ □unic□tion□ Ri□er r□ted □□re co□□er □u□ti-conductor c□□□e, indi□idu□□□□ □□ie□ded □□ir□, co□or coded (not for interconnection □it□in e□ui□□ent racks):

□. 24 □□ir□

1) □e□den 1821R□or
2) C□□r□ □ ire 724□or
3) □ e□t □enn □ □45424.

□. 16 □□ir□

1) □e□den 1819R□or
2) C□□r□ □ ire 716□or
3) □e□co □ □61816□FC□or
4) □ e□t □enn □ □45416.

c. 12 □□ir□

1) □e□den 1818R or 9768, or
2) C□□r□ □ ire 712□or
3) □e□co □ □61812□FC□or
4) □ e□t □enn D434 or □ □45412.

d. 8 □□ir□

1) □e□den 1817R□or
2) C□□r□ □ ire 708□or
3) □e□co □ □61808□FC□or
4) □ e□t □enn □ □4548.

e. 6 □□ir□

1) □e□den 1816R or 8778□or
2) C□□r□ □ ire 706□or
3) □e□co □ □61804□FC□or
4) □ e□t □enn D432 or □ □4546.

f. 4 □□ir□

1) □e□den 1815R□or
2) C□□r□ □ ire 704□or
3) □e□co □ □61804□FC.

□. 3 □□ir□

1) □e□den 8777□or
2) □ e□t □enn D431.

□. 2 □□ir□

1) □e□den 9451D□or
2) C□□r□ □ ire R□22□2□or
3) □e□co D61801E□□F□or
4) □ e□t □enn 77510.

□. T□i□ted □□ir – □n□□ie□ded□T□i□ted □□ir, 2-conductor interior in□t□□□tion □oud□□e□□er c□□□e□

1. Class 3 re□ote-contro□, □i□n□in□, □nd □o□er-i□ited □enu□ r□ted c□□e (CL3P) i□ □uit□□e for u□e in all □n□iron□ent□ inc□udin□ en□iron□ent□□□ir □enu□ □ as defined □er □EC □rtic□e 725.

   a. T□e u□e of □erfor□ □nce e□ui□□ent □u□□tituted c□□e□ of □e□□er t□□e i□ □er□itted □t t□e Contractor's discretion where allowable by NEC Article 725, local codes, and the connected equipment manufacturer's listed requirements.
   b. □erfor□ □nce e□ui□□ence to t□e □e□o□ □□ecified □roduct□ shall □e deter□ined by t□e cable manufacturer's listed product equivalents provided in tables and cut-□□eet□.
   c. □ire ga□ge shall □ot □e reduced to □□in a □i□□er c□□□e r□tin□.

2. Tinned co□□er c□□□e□ □re re□uired in □oc□tion□ □u□□ect to corro□ion, □uc□ as n□t□toriu□ □.
3. *□AWG /CL3P: As i□□ted AWG Class 3 □□enu□ r□ted □□re co□□er conductor c□□□e:

   a. □e□den 1862A or 6200□E (16 AWG), 6300□E (18 AWG); □r
   b. □e□co IP122BA 19 (12 A□ G), IP142BA 19 (14 AWG), IP162BA 19 (16 AWG), I□182□□7 (18 AWG); □r
   c. □e□t □enn 25210 (10 AWG), 25227B (12 AWG), 25226B (14 AWG), 25225B (16 AWG), 25224B (18 AWG).

4. *□AWG /CL2P: As i□□ted AWG Class 2 □□enu□ r□ted □□re co□□er conductor c□□□e:

   a. □e□den 6T00UP (10 AWG), 1860A or 6000□E (12 AWG), 1861A or 6100□E (14 AWG), 1863A (18 AWG); □r
   b. Clark □ire Cw 1202P (12 AWG), Cw 1402P (14 AWG), Cw 1602P (16 AWG), Cw 1802P (18 AWG).

5. *□AWG /CL3R: As i□□ted AWG Class 3 Ri□er r□ted □□re co□□er conductor c□□□e:

   a. □e□den 5000□E (12 AWG), 5100□E (14 AWG), 5200□E (16 AWG), 5300□E (18 AWG); or
   b. Clark □ire Cw 1202HS (12 AWG), Cw 1402HS (14 AWG); □r
   c. □e□co IR122□□19 (12 AWG), IR142□□19 (14 AWG), IR162□□19 (16 AWG), IR182□□7 (18 AWG)□or
   d. □e□t □enn 227 (12 AWG), 226 (14 AW □), 225 (16 AWG), 224 (18 AWG).

6. □□□□ □/C□2R: As i□□ted AWG C□□□2 Ri□er r□ted □□re co□□er conductor c□□□e:

   a. Clark □ire C□ 1202 (12 AWG), C□ 1402 (14 AWG), C□ 1602 (16 AWG), C□ 1802 (18 AWG).

7. *□AWG /CL3: As i□□ted AWG Class 3 r□ted □□re co□□er conductor c□□□e:

   a. □e□den 1313A (10 AWG), 1311A (12 AWG), 1309A (14 AWG), 1307A (16 AWG); □r
   b. □e□co 122HBW (12 AWG), 142HBW (14 AWG).

8. ** AWG /CL2: As i□□ted AWG Class 2 r□ted □□re co□□er conductor c□□□e:

   a. □e□den 5T00UP (10 AWG)□or
   b. □e□t □enn HA210 (10 AWG).

I. T□i□ted □□ir – □n□□ie□ded – E□T: T□i□ted □□ir, un□□ie□ded e□terior u□e c□□□e; 2-conductor □oud□□e□□er, □uni□□t re□i□t□nt, direct □uri□:

1. E□terior c□□e shall □e i□ted □□ □uit□□e for u□e in Class 3 □ener□□ □ur□o□e indoor en□iron□ent□ as defined □er □EC □rtic□ 725.
2. *□AWG /EXT: As i□ted AWG indoor/outdoor r□ted □□re co□□er conductor c□□e:

   a. □e□den 8808WB (8 AWG), 1313A (10 AWG), 1311A (12 AWG), 1309A (14 AWG), 1307A (16 AWG); or
   b. Clark □ire C□ 1002D□ (10 AWG), C□ 1202D□ (12 AWG), C□ 1402D□ (14 AWG), C□ 1602D□ (16 AWG); or
   c. □e□co SSU 102P (10 AWG), SSUB 122 (12 AWG), SSUB 142 (14 AWG), SSUB 162 (16 AWG); or
   d. □e□t □enn C208 (8 AWG), C210 (10 AWG), AQ 227 (12 AWG), AQ 226 (14 AWG), AQ 225 (16 AWG).

J. □in□e conductor – □n□□ie□ded: □in□e conductor, un□□ie□ded c□□e:

1. LS C□□e, □oud□□e□□er c□□e for u□e □□en conduit □i□e i□ i□ited:

   a. THHN or THWN □in□e conductor □tr□nded co□□er. □ti□i□e t□e maximum available co□or r□n□e.

K. R□-59: □in□e 75-ohm co□□, RG-59/U □reci□ion □ideo c□□e:

1. RG-59/NP: □on-□enu□ c□□e in□t□□ed in conduit, e□ui□□ent racks, or ot□er non-□enu□ spa□es:

   a. □e□den 1505A; or
   b. Clark □ire CD7559; or
   c. □e□co V□M2000□or
   d. □e□t □enn 819.

2. RG-59/P: □enu□ r□ted c□□e:

   a. □e□den 1506A; or
   b. Clark □ire CD7559□; or
   c. □e□co V□M2000T□; or
   d. □e□t □enn 25819.

3. R□-59/F□e□: □on-□enu□ f□e□i□e c□□e, for u□e □it□ □ort□□e c□□e□, e□□o□ed, or ot□er □oc□tion□ □□ere c□□e □o□e□ent c□n or doe□occur:

   a. □e□den 1505F; or
   b. Clark □ire CD7559F; or
   c. □e□co V□D2000M.

L. R□-6: □in□e 75-ohm co□□, RG-6/U □reci□ion □ideo c□□e:

1. RG-6/NP: □on-□enu□ c□□e in□t□□ed in conduit, e□ui□□ent racks, or ot□er non-□enu□ spa□es:

   a. □e□den 1694A or □e□co V□D2001; or
   b. □e□den 1694wb (outdoor □□ter □oc□)□or
   c. Clark □ire CD7506; or
   d. Clark □ire CD7506D□ (direct □uri□, □□ter □oc□); or
   e. □e□t □enn 6350.

2. RG-6/P: □enu□ r□ted c□□e:

   a. □e□den 1695A; or
   b. Clark □ ire CD7506□; or
   c. □e□co V□D2001T□; or
   d. □ e□t □enn 256350.

M. R□-11: □in□e 75-ohm co□□, RG-11/U □reci□ion □ideo c□□e:

1. RG-11/NP: □on-□enu□ c□□e in□t□□ed in conduit, e□ui□□ent racks, or ot□er non-□enu□ spa ces:

   a. □e□den 7731A; or
   b. Clark □ ire CD7511; or
   c. □e□co V□D1100; or
   d. □ e□t □enn 1135.

2. RG-11/P: □enu□ r□ted c□□e:

   a. □e□den 7732A; or
   b. C□r□ ire CD7511□□or
   c. □e□co V□D1100T□.

N. Te□e□i□ion Di□tri□ution, co□□:

1. R□-59/TV-□□: □in□e 75-ohm co□□, RG-59/U Te□e□i□ion e□ui□□ent roo□ c□□e; □on-□enu□ c□□e in□t□□ed in conduit, e□ui□□ent r□c□□, or ot□er non-□enu□ □□□ce□:

   a. □e□den 1505A; or
   b. Clark □ ire CD7559; or
   c. □e□co V□M2000; or
   d. □ e□t □enn 819.

2. R□-59/TV-□: □in□e 75-ohm co□□, RG-59/U Te□e□i□ion e□ui□□ent roo□ c□□e; □enu□ r□ted:

   a. □e□den 1506A; or
   b. Clark □ ire CD7559□; or
   c. □e□co V□M2000T□; or
   d. □ e□t □enn 25819.

3. R□-6/TV-□□: □in□e 75-ohm co□□, RG-6/U Te□e□i□ion dro□ c□□e; □on-□enu□ c□□e in□t□□ed in conduit, e□ui□□ent racks, or ot□er non-□enu□ spa ces:

   a. □e□den 7915A; or
   b. □e□den 5399B5□or
   c. Clark □ ire CV7506-C□; or
   d. □ e□t □enn 841.

4. R□-6/TV-□: □in□e 75-ohm co□□, RG-6/U Te□e□i□ion dro□ c□□e; □enu□ r□ted:

   a. □e□den 6339Q8 (□u□d □□ie□d)□or
   b. C□ro□C3525 (□u□d □□ie□d)□or
   c. Clark □ ire CV7506□-C□ (du□□□□ie□d); or
   d. □ e□t □enn 25841 (du□□□□ie□d); or

e. C□ro□C3525 (du□□□□ie□d).

5. R□-6/TV-D□: □in□e 75-o^hm co□□, RG-6/U Te□e□i□ion dro□ c□□e; □uit□□e for direct □uri□:

a. □e□den 1190A; or
b. □ e□t □enn 6310.

6. R□-11/TV-□□: □in□e 75-o^hm co□□, RG-11/U Te□e□i□ion di□tri□ution c□□e; □on-□enu□ c□□e in□t□□ed in conduit, e□ui□□ent racks, or ot□er non-□enu□ spa ces:

a. □e□den 1523A; or
b. C□ro□495027; or
c. Clark □ ire CV7511-C□; or
d. □ e□t □enn 821.

7. R□-11/TV-□: □in□e 75-o^hm co□□, RG-11/U Te□e□i□ion di□tri□ution c□□e; □□enu□ r□ted:

a. □e□den 1153A; or
b. C□ro□395029; or
c. Clark □ ire CV7511□-C□; or
d. □ e□t □enn 25821.

8. R□-11/TV-D□: □in□e 75-o^hm co□□, RG-11/U Te□e□i□ion di□tri□ution c□□e; □uit□□e for direct □uri□:

a. □e□den 1525A; or
b. Clark □ ire CV7511D□-C□; or
c. □ e□t □enn 1110.

O. R□-58: □in□e 50-o^hm co□□, RG-58/U r□dio fre□uenc□ c□□e:

1. RG-58/NP: □on-□enu□ c□□e in□t□□ed in conduit, e□ui□□ent racks, or ot□er non-□enu□ □□□ce□:

a. □e□den 7806R□or
b. Clark □ ire CV5058; or
c. □ e□t □enn 812.

2. RG-58/P: □□enu□ r□ted c□□e:

a. □e□den 82240 or 88240; or
b. C□□r□ □ ire CV5058□□or
c. □ e□t □enn 25812.

P. R□-8: □in□e 50-o^hm co□□, RG-8X □nd RG-8/U r□dio fre□uenc□ c□□e:

1. RG-8X/NP: □on-□enu□ c□□e in□t□□ed in conduit, e□ui□□ent racks, or ot□er non-□enu□ spa ces:

a. □e□den 7808R or 9258; or
b. Clark □ ire CV5008□; or
c. □e□co V5020; or
d. □ e□t □enn 807.

2. RG-8X/P: □□enu□ r□ted c□□e:

a. □e□t □enn 25810.

3. RG-8/U/NP: □on-□enu□ c□□e in□t□□ed in conduit, e□ui□□ent racks, or ot□er non-□enu□ spa□es:

a. □e□den 9913; □r
b. Clark □ire RF50□□; □r
c. □e□t □enn 810.

4. RG-8/U/P: □enu□ r□ted c□□e:

a. □e□den 89913; □r
b. Clark □ire RF50LLP □or
c. □e□t □enn 25812.

Q. R□-213: □in□e 50-ohm co□□, RG-213/U r□dio fre□uenc□ c□□e:

1. RG-213/NP: □on-□enu□ c□□e in□t□□ed in conduit, e□ui□□ent r□c□□, or ot□er non-□enu□ spa□es:

a. □e□den 8267□or
b. C□□r□□ire CV50213.

R. Contro□c□□e, □o□er □nd contro□in one □□c□et, one un□□ie□ded 18 WG □□ir, one □□ie□ded 22 AWG □□ir:

1. Contro□c□□e - NP, not □enu□ r□ted:

a. □e□den 1502R or □e□co 18/22A□L; □r
b. Clark □ire ULK 2218; □r
c. Cre□tron CRE□□ET-□□; □r
d. □e□t □enn 77350.

2. Contro□c□□e - P, □enu□ r□ted:

a. □e□den 1502P or □e□co 18/22AXLP; □r
b. Clark □ire ULK 2218P; □r
c. Cre□tron CRE□□ET-□; □r
d. □e□t □enn D25350.

S. R□-232: Low c□□□cit□nce co□ □uter c□□e for EI□ R□-232/422, 24 AWG, 4-conductor, □□ie□ded, □ini□u□ conductor-to-conductor c□□□cit□nce□22□F/ft, □VC □□c□et:

1. RS-232/NP: □on-□enu□ c□□e in□t□□ed in conduit, e□ui□□ent r□c□□, or ot□er non-□enu□ □□□ce□:

a. □e□den 8102□or
b. Clark □ire SMP2404.

2. R□-232/□: □enu□ r□ted c□□e:

a. □e□den 88102; □r
b. Clark □ire SMP2404P.

2.7 C□□□E□ – F□CTOR□ TERMI□□TED – I□□T□□□ED

A. T□e □roduct□ in t□i□ □ection hav□ □een □□□ro□ed for u□e in t□e □ro□ect as nece□□□r□ to f□ci□it□te a co□ □□ete □nd □or□in□ sys□em. Inc□u□ion in t□i□ □u□□ection doe□ not indic□te a re□uire□ent for u□e.

B. F□ctor□ter□in□ted c□□□e ass□mb□ie□ □□ecified in t□i□ □u□□ection □re on□□ □er□itted for u□e □it□in ra□ks or □et□een de□ice□ e□tern□□ to ra□ks, □er□itted for r□c□ inter-connect □□en ra□ks □re in c□o□e □ro□i□it□ (sam□ roo□) □nd may pass t□ru conduit if nece□□□r□ in t□i□ □itu□tion. □ot □er□itted for u□e in conduit un□□ □□ecific□□□ noted as □uc□.

C. F□ctor□ ter□in□ted c□□□e ass□mb□ie□ shall □e t□e □ini□u□ □en□t□ needed to □cco□ □□i□□ t□e connection. Portable cable assemblies are specified in Division 27 Section “Audio Video Systems Equipment” and are required to be furnished in addition to those required for system installation.

D. All □□□□e ass□mb□ie□ □u□t □e f□ctor□te□ted □nd certified.

E. C□te□or□ c□□□in□:

1. Refer to Division 27 Section “Telecommunications Requirements for Audio Video Systems” for □roduct infor□ □tion □nd □ddition□□in□t□□□tion re□uire□ent□.

F. Fi□er O□tic c□□□in□:

1. Refer to Division 27 Section “Telecommunications Requirements for Audio Video Systems” for □roduct infor□ □tion □nd □ddition□□in□t□□□tion re□uire□ent□.

G. DisplayPort, version 1.1a or higher, Acceptable lengths: 1’-25’:

1. Clark Wire DP Series (3’, 6’, 10’, 15’); or
2. Comprehensive DisplayPort Standard Series (3’, 6’, 10’, 15’, 25’); or
3. E□tron Di□□□□□□ort M-M Series (3’, 6’, 12’, 25’); or
4. □□□ro□ed Equal

H. DVI, Du□□□in□ DVI-D cable, Acceptable lengths: 1’-16’:

1. Clark Wire DVID Series (3’, 6’, 10’, 16’); or
2. Co□ □re□ensive Pro AV/IT Series (3’, 6’, 10’, 15’); or
3. Extron DVID DL Pro Series (3’, 6’, 12’); or
4. □ e□t □enn C□-E08 Series (6’, 10’, 15’); or
5. □□□ro□ed E□u□.

I. DVI-F□e□, F□e□i□e □in□e □in□ DVI-D cable, Acceptable lengths: 1’-16’:

1. Co□ □re□en□i□e MicroF□e□ Low Profile Series (1.5’, 3’, 6’, 10’, 15’); or
2. Extron DVID SL Ultra Series (1.5’, 3’, 6’, 9’, 12’); or
3. □□□ro□ed Equal

J. □DMI □oc□in□ C□□e, □er□ion 1.4 or □i□□er co□ □i□nt, □oc□in□ connector□, □ □e □DMI to □ □e HDMI, Acceptable lengths: 1’-25’:

1. □e□den □D-800 □erie□ (2’, 4’, 8’, 25’); or
2. Clark □ ire □DMI-L Series (3’, 6’, 10’, 16’); or
3. Perfect Path 700 Series (2’, 4’, 8’, 16’, 25’); or
4. □□□ro□ed Equal

K. □DMI Fi□er O□tic C□□e, □er□ion 1.4 or □i□□er co□ □i□nt, □ □e □DMI to □ □e □DMI, □cce□t□□e lengths: 25’-328’:

1. Celerity DFO Series (35’, 40’, 50’, 60’, 80’, 100’, 160’, 200’, 300’); or
2. □i□ert□D□-□DM-M-□□M □erie□(8□, 10□, 15□, 23□, 30□, 50□, 60□, 100□)□or
3. Cables To Go RapidRun Optical Series (25’, 35’, 50’, 65’, 80’, 100’, 125’, 150’, 175’, 200’); or
4. □□□ro□ed E□u□.

□. □□□, T□□e □ □ □□e (de□ice □ □□u□re) to T□□e □ □ □□e (co□ □uter □f□□t) or T□□e □ □ □□e to T□□e □ male USB 2.0 compliant, Acceptable lengths: 1’-25’:

1. Co□ □re□en□i□e□or
2. E□tron□or
3. □□□ro□ed E□u□.

M. Video C□□□e □□C, R□-59 □□C to □□C, 75 o□□, □cce□t□□□e □en□t□s: 1’-25’:

1. Canare VAC Series (3’, 5’, 25’); or
2. Comprehensive Pro AV/IT Series (3’, 6’, 10’, 25’); or
3. □o□□ □□C-59-1 Series (3’, 5’, 25’); or
4. Whirlwind VID BNC3 Series (5’, 25’); or
5. □□□ro□ed E□u□.

2.8 CO□□ECTOR□

□. T□e □roduct□ in t□i□ □ection □□□e □een □□□ro□ed for u□e in t□e □ro□ect □□nece□□□r□ to f□ci□it□te □co□ □□ete □nd □or□in□ □□□te□. Inc□u□ion in t□i□ □ection doe□ not indic□te □re□uire□ent for u□e.

□. □□□□R rece□t□c□□ □oc□ted outdoor□, in □o□e□ t□□t □re □oc□ted outdoor□, in n□t□toriu□ □, or in □re□□ □ere □oi□ture or ot□er corro□i□e □ □teri□□ □re □re□ent □□□□□□□□e □o□d □□ted cont□ct □in□.

C. □□R C□□□e Connector, c□□□e □ounted connector for □ine-□e□e, □icro□□one □e□e, □nd interco□ circuit□□

1. □□ □□eno□□C □erie□□or
2. □eutri□ □-□erie□□or
3. □□itc□cr□ft E □erie□ □-□.

D. □□R □□ne□Connector, □□ne□□ounted □udio connector for □ine-□e□e, □icro□□one □e□e, □nd interco□ circuit□, co□or □□□□□□ □tc□ □□□te co□or □□ere □o□□i□□e□

1. Amphenol AC “DZ” series; or
2. □eutri□D-□erie□□or
3. □□itc□cr□ft □t□nd□rd □□□ □erie□ □-□ □it□ □et□□□□nd□e.

E. □□R Co□ □o Connector, fe□ □□e □□R □nd 1/4" TR□ rece□t□c□e in one c□□□□i□-□ount connector□

1. □eutri□ □C□6FI-□.

F. 1/4" TR□ C□□□e Connector, t□ree-conductor (Ti□ Rin□ □□ee□e) connector □it□ □ □ et□□□□rre□□nd □o□der □u□□□

1. □□ □□eno□T□3□□□or
2. C□n□re F-16□or
3. □eutri□ □ □3C□or
4. □□itc□cr□ft 267.

□. 1/4" T□ C□□□e Connector, t□o-conductor (Ti□ □□ee□e) connector □it□ □ □ et□□□□rre□□nd □o□der □u□□□

1. □□ □□eno□TM2□□□or
2. C□n□re F-15 □ū□□or
3. □eutri□ □□2C □ū□□□or
4. □□itc□cr□ft 250.

□. 1/4" TR□ □□ne□Connector, t□ree-conductor (Ti□ Rin□ □□ēe□e) connector □it□ t□e □ēe□e cont□ct i□o□□ted fro□ t□e □□ne□or □□□te to □□ic□it i□ □ounted□

1. □eutri□ □□3F□6C□or
2. □□itc□cr□ft E112□□.

I. 1/8" TRS Cable Connector, 1/8" (3.5mm) three-conductor □ini-□ū□□ □□ic□ □□□e □ □et□□□□rre□ □nd □o□der ū□□□

1. □□ □□eno□□□3□□or
2. C□n□re F-12□or
3. □eutri□ □T□3RC□or
4. □□itc□cr□ft 35□D□□ □ū□.

□. □oc□in□ □□ C□□ē Connector, t□i□t-□oc□ c□□ē □ount □ □□e □oud□□e□□er connector, □ini□u□ 2-t□o conductor□. Coordin□te connector □it□ □□□oci□ted intended □□ne□ □ount connector, inc□ūdin□t□o□e on □oud□□e□□er□□

1. □□ □□eno□□□-2-F□ (t□o conductor)□or
2. □eutri□ □□e□□O□ □□2FC (t□o conductor)□or
3. □□ □□eno□□□-4-F□ (four conductor)□or
4. □eutri□ □□e□□O□ □□4FC (four conductor)□or
5. □eutri□ □□e□□O□ □□8FC (ei□□t conductor).

□. □oc□in□ □□ □□ne□Rece□t□c□ē, t□i□t-□oc□c□□□□i□ □ount fe□ □□e □oud□□e□□er connector, □ini□u□ t□o conductor□. Coordin□te rece□t□c□ē □it□ □□□oci□ted intended c□□□e connector□

1. □□ □□eno□□□-2-MD (t□o conductor)□or
2. □eutri□ □□e□□O□ □□2M□ (t□o conductor)□or
3. □□ □□eno□□□-4-MD (four conductor)□or
4. □eutri□ □□e□□O□ □□4M□. M□□e connector (four conductor)□or
5. □eutri□ □□e□□O□ □□8M□R-□□□ (ei□□t conductor)

□. R□45 □□ne□(F□ce□□□te) Connector-6, d□t□ connector r□ted for □□ie□ded C□te□or□ 6 c□□□e□

1. □eutri□et□erCO□ □E8FD□-C6□□it□ □CD□ co□er
1. *Division 27 "Telecommunications Requirements for Audio Video Systems" Contractor shall ter□in□te c□□□e onto et□erCO□ connector in□t□□□ed in cu□to□ f□ce□□□te.

M. □□C C□□□e Connector, 75-o□□ □□C, co□ □re□□ion fittin□ for co□□i□□c□□□e furni□□ed□

1. □i□ert□CM-R□-□□C □erie□□or
2. □ e□t □enn C□-C□-□□C □nd C□-F□-□□C □erie□.

□. □□C □□ne□Connector, 75-o□□ □□C, □□□□-t□rou□□, D-□t□e □ountin□□

1. □eutri□ □ □□□75DFI□or
2. □□□ro□ed E□u□□

O. Ter□in□tor, RF or □DI ter□in□tor □ū□□

1. E□tron T-□□C □erie□; or
2. □o□ono□3840 □erie□; or
3. Tro□ □eter TNA □erie□.

P. C□□ti□e □cre□ Ter□in□□□oc□, □odu□r ter□in□□□oc□□ for □ountin□ on DI□ rails:

1. Entre□ec □cre□ C□amp □erie□; or
2. □□□ro□ed Equal

2.9 E□□I□ME□T RACKS

A. Furni□□ co□ □ete e□ui□□ent r□c□□ inc□udin□ all □o□, □otto□, □nd □ide□ as nece□□□r□.
B. Furni□□ all □ece□□□r□ □cce□□orie□ inc□udin□ □□n□in□ □□rd□□re, b□ank pla□es (to fi□ all □nоccu□ied spa□ce), □ent pa□els (as □□□ic□□e), sh□lv□s, □ecurit□ co□er, □ountin□ □cre□□, tri□ □it, □□cin□ □□r, c□□□e □□n□□e□ent, □e□ein□ feet, c□□ter□, etc. to □ro□ide a co□ □□ete □o□ution which complies with “best practice” guidelines.

1. Fu□-□o□ution □cce□□orie□ □re not det□i□ed in t□i□ □□ecific□tion. T□e□ shall □e □ro□ided as needed □nd shall □e □□□ro□ed by t□e □□nuf□cturer for u□e □it□ t□e intended r□c□□erie□(i.e. Midd□e □t□□ntic c□□ter□□ u□t □e u□ed □it□ a Midd□e □t□□ntic r□c□).

C. Furni□□ □□□re□uired co□ □onent□ for a co□ □ete t□er□□□□ □n□□e□ent □o□ution □it□in e□c□ □oc□tion to en□ure enc□o□ure interior temperature does not exceed manufacturer’s recommended o□er□tin□te□ □er□ture□.

1. R□c□f□n□ shall □e □uiet, □uc□ as t□e Midd□e □t□□ntic □F□□.
2. T□er□o□t□tic f□n contro□ shall □e uti□i□ed □□ere ava□lab□e.

D. Furni□□ □□□re□uired co□ □onent□ for a co□ □ete r□c□ □round i□o□□tion □o□ution.

1. Racks shall □e i□o□□ted fro□ t□e f□oor by t□e u□e of i□o□□ted □e□ein□ feet (□uc□ as Midd□e □t□□ntic □F-I□O) or □n i□o□□tion □□d/□□□te□ (□uc□ as Midd□e □t□□ntic I□O-1).

E. E□ui□□ent racks □nd all □□□oci□te□ blank pa□els □oc□te□ in e□ui□□ent roo□ □ sha□l □e f□ctor□ fini□□ed □e□i-□o□□ blac□. E□ui□□ent racks □nd □□□oci□te□ blank pa□els □oc□te□ in contro□ □oot□□ or ot□er i□i□e □oc□tion□ shall □e f□ctor□-fini□□ed co□or as □e□ected by t□e □rc□itect.
F. Furni□□ □oc□in□ □tor□□e dr□□er□, in□ed □ecurit□ co□er□, □nd racks □it□ □oc□in□ door□ all □e□ed □i□e. Furni□□ four k□ys tot□□.
G. E□ui□□ent r□c□□□ecific□tion indic□te□ t□e □□□te□ ba□is of de□i□n. Verif□ e□ui□□ent □□□out, r□c□ i□e, □nd nu□□er of e□ui□□ent racks re□uired for e□ui□□ent furni□□ed. “**” in part number denote□ r□c□□ei□□t.
H. F□oor R□c□:

1. O□en □ide□, o□en-r□c□ □t□e □it□ o□en □ide□, re□r □oc□in□ door, □ini□u□ 44R□ □ei□□t, minimum 27” depth. Furnish one side panel at each end of each row of equipment racks:

a. Low□ll LG R-4427; or
b. Midd□e □t□□ntic □roduct□ □□R-4527; or
c. Midd□e □t□□ntic □roduct□ w RK-44-27□or
d. C□ief NG 1F4428.

2. O□en □ide□ – □D, o□en-r□c□□t□e □it□ o□en □ide□, re□r □oc□in□ door, □ini□u□ 44R□ □ei□□t, minimum 32” extra deep. Furnish one side panel at each end of each row of equipment racks:

□. □o□e □□□□ R-4432 □or
□. Midd□e □t□□ntic □roduct□ □□ R-4532 □or
c. Midd□e □t□□ntic □roduct□ □ R□-44-32 □or
d. C□ief □□ 1F4433.

3. SA, stand alone floor rack, rear locking door, minimum 44RU height, minimum 27” depth:

□. □o□e □□□ ER-4427 □or
□. Midd□e □t□□ntic □roduct□ □□ R-45□□-27 □or
c. Midd□e □t□□ntic □roduct□ □ R□-44□□-27 □or
d. C□ief □E1F4428.

4. □□ – XD, stand alone floor rack, rear locking door, minimum 44RU height, minimum 32” e□tr□ dee□□

□. □o□e □□□ ER-4432 □or
□. Midd□e □t□□ntic □roduct□ □□ R-45□□-32 □or

5. □ □□□R□c□□
6. □ection□□- □□, □□□+□ ount r□c□ □it□ □e□□r□te □□c□ □□□ne □nd r□c□ □ection□, □ei□□t □□ required , extra shallow minimum 17” depth:

□. □o□e □□□□ R-□□19 □erie□□or
□. Midd□e □t□□ntic □roduct□ D□ R-□□+17 □erie□□or
c. C□ief □□ R-□□+17 □erie□.

7. □ection□□– □, □□□+□ ount r□c□ □it□ □e□□r□te □□c□ □□□ne □nd r□c□ □ection□, □ei□□t □□ required, shallow minimum 22” de□t□□

□. □t□□□ □ound □ M□□□-23 □erie□□or
□. □o□e □□□□ R-□□23 □erie□□or
c. Midd□e □t□□ntic □roduct□ D□ R-□□+22 □erie□.

8. □ection□□, □□□+□ ount r□c□ □it□ □e□□r□te □□c□ □□□ne □nd r□c□ □ection□, □ei□□t □□ re□uired, minimum 26” depth:

□. □o□e □□□□ R-□□28 □erie□□or
□. Midd□e □t□□ntic □roduct□ D□ R-□□+26 □erie□.

9. □ection□□– □D, □□□+□ ount r□c□ □it□ □e□□r□te □□c□ □□□ne □nd r□c□ □ection□, □ei□□t □□ required , minimum 32” extra deep:

□. □o□e □□□□ R-□□32 □erie□□or
□. Midd□e □t□□ntic □roduct□ D□ R-□□+32 □erie□.

10. F□oor □□□e, □i□otin□ □ □□□□ ounted r□c□ □it□ c□□ti□e □□□e, r□c□ □ection □in□e□out for □cce□□ to rear of equipment, height as required , minimum 27” depth:

□. □o□e □□□□ □R-□□28 □erie□□or
□. Midd□e □t□□ntic □roduct□ □R-□□+28 □erie□.

11. F□oor □□□e – □D, □i□otin□ □ □□□□ ounted r□c□ □it□ c□□ti□e □□□e, r□c□ □ection □in□e□out for access to rear of equipment, height as required , minimum 32” depth:

□. □o□e □□□□ □R-□□32 □erie□□or

□. Middle Atlantic Product □ R-□□-32 Series.

I. Rotating Racks

1. Minimum, single bay rack with integral vertical rack rails and pull-out internal electronics tray extending beyond the front of the rack and then can rotate up to 90 degrees in either direction for installation/servicing, height as shown on drawings , minimum 19" depth. Cable management tools required.

□. Coleman TR4-□□19 Series □or
□. Middle Atlantic Product □ RR-4-□□ Series □or
c. Chief ROTR-□□ or Series.

2. Minimum – □D, single bay rack with integral vertical rack rails and pull-out internal electronics tray extending beyond the front of the rack and then can rotate up to 90 degrees in either direction for installation/servicing, height as shown on drawings , minimum 23" depth. Cable management tools required.

□. Coleman TR4-□□23 Series □or
□. Middle Atlantic Product □ RR-□-□□ Series □or
c. Chief ROTR-□□-□□ or ROTR-□D-□□ Series.

3. □□, Stand-alone rack with integrated rack sides and back, and tilt, pull out internal electronics tray extending beyond the front of the rack and can then rotate up to 90 degrees in either direction for installation/servicing, height as shown on drawings, minimum 32". Use good cable management techniques to control the □n□ conductors attached to the equipment.

□. Coleman TR4-□□32 Series □or
□. Middle Atlantic Product □ R-□□-32 Series.

□. Desk to Rack – □□, Stand-alone rack for location on top of or beneath desk or counter, with integral surface, minimum depth 18":

1. Middle Atlantic Product □ R□□ Series □or
2. Chief ER-□□-18 Series.

□. Roll in Rack – D, Stand-alone rack with castors, integrated rack sides and back, seismic location on drawings, minimum depth 24":

1. Stationary Sound R□□-25□or
2. Coleman TR4-□□27□or
3. Middle Atlantic □□R-□□□□27MD□ Series.

□. Roll in Rack – □D, Stand-alone rack with castors, integrated rack sides and back, seismic location on drawings, minimum depth 30":

1. Stationary Sound R□□-30□FD□or
2. Middle Atlantic □□R-□□□□32MD□ Series.

M. Credenza Rack, full height with integral vertical rack rails

1. Middle Atlantic C5 Series □or
2. Chief □R□ Series.

□. Above Ceiling Rack, 4RU, 25lb capacity, for 2’ x 2’ suspended ceilings, with smart AC and fan:

1. F□R C□-224□.

2.10 E□□I□ME□T R□C□ □CCE□□ORIE□

□. T□e fo□o□in□ e□ui□□ent r□c□ □cce□□orie□ □□□□□□e □ro□ided □□ indic□ted on t□e r□c□ e□e□□tion□ or □it□in t□i□ □ection.
□. E□ui□□ent r□c□ □cce□□orie□ □oc□ted in e□ui□□ent roo□ □ □□□□□□e f□ctor□ fini□□ed □e□i-□o□□ □□□c□. E□ui□□ent r□c□ □cce□□orie□ □oc□ted in contro□□oot□□ or ot□er □i□i□e □oc□tion□ □□□□□□e f□ctor□-fini□□ed co□or □□ □e□ected □□ t□e □rc□itect.
C. □o□o r□c□ □□ne□, □in□e □ertic□□r□c□ □□□ce, □□e□ed □it□ cont□ct infor□ □tion for t□e contr□ctor □nd De□i□n Con□u□t□nt. □□ne□□□ecified i□cu□to□ □nd □re□d□□□□t□e infor□ □tion for t□e De□i□n Con□u□t□nt t□e contr□ctor □□□□coordin□te t□eir □o□o/infor□ □tion □it□ t□e □□ne□□ □nuf□cturer (□□o□dr□□in□re□uired). One re□uired to □e in□t□□ed □t t□e to□of e□c□ □□n□of e□ui□□ent r□c□□□

1. □i□ert□ □ ire □nd C□□□e □ode□□EI-R□IM-TEM□□□TE.

D. □tor□□e drawer, specification indicates the system basis of design. “**” in part number denotes (R□) □ei□□t □□indic□ted in r□c□e□e□□tion□

1. □oc□in□ r□c□dr□□er □e□ed to □ □tc□ r□c□re□r door, □□□ro□i□ □te□□16" dee□, co□or to □ □tc□ □d□□cent r□c□-□ountin□ □□ne□□□

□. □t□□□ □ound □D□□-14 □it□ o□tion□□□D-□OC□ in□t□□□ed□or
□. Midd□e □t□□ntic D□□-□□□or
c. C□ief □DR-□□-□.

2. R□c□dr□□er, □□□ro□i□ □te□□16" dee□, co□or to □ □tc□ □d□□cent r□c□-□ountin□ □□ne□□□

□. □t□□□ □ound □D□□-14□or
□. Midd□e □t□□ntic D□□□or
c. C□ief □DR-□□.

E. R□c□ □□e□f□

1. 2, utility rack shelf, 3.5” high, approximately 16” deep, color to match adjacent rack-□ountin□ □□ne□□□

□. □t□□□ □ound □□2-15□or
□. Midd□e □t□□ntic □2□or
c. C□ief □T□-2.

2. □u□-out shelf, requires rear rack rails, approximately 1.75” high (1RU), color to match e□ui□□ent r□c□□

□. □t□□□ □ound VTD1-16□or
□. Midd□e □t□□ntic □□□or
c. C□ief □□□-1.

F. Di□□□□r□c□□ ount, VE□□ □ount for r□c□□ountin□ □di□□□□, 3R□ □ount, □ro□ide one □er di□□□□ indic□ted in □n e□ui□□ent r□c□□

1. Midd□e □t□□ntic RM-□CD-□□□□.

□. □oo□enec□ □□□ □ – □ED – R□c□, r□c□-mount, 1RU, dual LED, 12” gooseneck:

1. □itt□ite R□□ite R□-10-D-□ED □it□ inc□uded □o□er □u□□□□or
2. □□□ro□ed e□u□.

2.11 □TOR□□E

□. C□□e □tor□□e □r□c□et, one 2□4 □ooden □o□rd ei□□t feet □on□ □it□ ei□□t 1-inc□ di□□eter □ooden do□e□□e□c□ 12-inc□e□ □on□in□t□□ed on one-foot center□. □□int co□or to □□tc□e□ui□□ent r□c□□ if □oc□ted in t□e □□□e roo□, ot□er□i□e, co□or □□ □e□ected □□ t□e □rc□itect. Mount □r□c□et(□) □t wall location if shown on drawings, otherwise, mount as later directed by the Owner’s Re□re□ent□ti□e (t□o re□uired)□

1. Cu□to□ □□contr□ctor.

□. □oc□□□e □tee□□tor□□e C□□inet, 36"□ □ 18"D □ 72"T co□ □in□tion c□□inet □it□ 4 □□f-□idt□ □du□t□□e □□e□e□, fu□□en□t□ to□ □□ef, □nd □□f-□idt□ □ertic□□c□□it□ (for □icro□□one □t□nd□). □ue □nd □cre□ □ ru□□er □□t to t□e □otto□ of t□e c□□it□ for □icro□□one □t□nd□ to □re□ent □i□□□□e. Co□or to □□tc□e□ui□□ent r□c□□ if □oc□ted in t□e □□□e roo□, ot□er□i□e co□or □□ □e□ected □□ t□e □rc□itect. Mount c□□inet if □□o□n on dr□□in□□, ot□er□i□e □ount □□ □□ter directed □□ Owner’s Representative. (one cabinet required, four keys required):

1. □o□□indu□tri□□.co□ □ □894113 □erie□□or
2. □oc□er□.co□ □ode□9274 Co□ □in□tion □tor□□e C□□inet□or
3. □□□ro□ed E□u□.

2.12 □C □O□ ER

□. □ener□□

1. □ co□ □ete □C □o□er connection □o□ution for e□c□ e□ui□□ent r□c□ □nd c□□inet i□re□uired.
2. □ro□ide □□□re □EM□ 5-15R or 5-20R out□et□ (□in□e du□e□ rece□t□c□e) for te□ □or□r□ e□ui□□ent (□e□ond t□□t re□uired for connected e□ui□□ent, r□c□ f□n, etc.). T□e□e out□et□ □□□□□□e fed fro□ □n un-switched “Normal” power circuit.

□. For r□c□□ 16 R□ or □e□□□t□o □□□re out□et□ (□ini□u□)
□. For r□c□□ □re□ter t□□n 16 R□□four □□□re out□et□ (□ini□u□)

3. □□□o□er □tri□□ □□□□□□□ □int□in inte□rit□ of □□□te□ □roundin□ re□uire□ent□.
4. □□e□ui□□ent □□□□□□e connected □uc□ t□□t □ □□i□u□ r□ted □erfor□ nce c□n □e o□t□ined □it□out e□ceedin□ t□e □C circuit □o□d c□□□cit□.
5. Coordin□te □it□ E□ectric□□ dr□□in□□ □nd Di□i□on 26 □□ecific□tion□. □ □ere out□et□ □re □ro□ided under t□i□ □ection □□□ □ortion of □o□er □tri□□or □o□er di□tri□ution unit□, rece□t□c□e t□□e□ □nd co□or□ □□□□□□□ □tc□ t□e □u□□ied □C □o□er circuit.
6. Co□ □□□ □it□ □□□□EC re□uire□ent□, inc□udin□ □e□□r□tion of □o□d c□□□□ified □□ □ife □□fet□ fro□ □or□ □□□o□d□ i□ □n inde□endent Vertic□□/ □ori□ont□□□o□er □tri□, □D□, □nd/or □□□.

□. □ninterru□t□□e □o□er □u□□□□ Re□uire□ent□

1. □□□ □□□□□□e □ro□ided in □u□ntitie□ □□ indic□ted on □i□n□f□□ □nd/or r□c□e□e□□tion□, □nd □□de□cri□ed for co□ □onent□□nd e□ui□□ent □it□in t□i□ □ection □nd □□□oci□ted □u□□ection□.
2. □ □□□ connected to □ □or□ □□□o□er □□d □□□□□□e □ro□ided □it□ enou□□ □□tter□c□□□cit□ to □rid□e □□ort dur□tion o□□of □o□er □nd □ro□nout e□ent□. T□e intent i□ to □rotect □nd □ro□on□ t□e □ife of □en□iti□e □roce□□or □□□ed e□ui□□ent, reduce □o□er c□c□e ti□e u□on re□tor□tion of □or□ □□□o□er, □nd/or □□o□ t□e □□er ti□e to □□fe□ □□ut do□n co□ □onent□.

3. □ □□□ connected to E□er□enc□ (□EC □rtic□ 700), □e□□□□ Re□uired □t□nd□□ (□EC □rtic□ 701), or O□tion□□□t□nd□□ (□EC □rtic□ 702) □C □o□er circuit□ □□□□□□e □ro□ided □it□ enou□□ □□tter□ c□□□cit□ to □rid□e t□e □ □□i□u□ o□er□tion □o□d of t□e connected e□ui□□ent durin□ t□e ti□e fro□ □o□□ of □or□ □□□o□er to □o□d □□ndo□er to t□e e□ectric□□□t□nd□□ □o□er □□□te□ (t□□ic□□□□ □ener□tor □t□rtu□ti□e).

C. □□/V□Vertic□□□o□er □tri□, □in□e 120V 20□ circuit, □EM□ 5-20□ □□u□ in□ut, □ini□u□ fourteen □EM□ 5-15R out□et□, □ount to re□r of r□c□ interior (furni□□ □□ere □ro□ided e□ectric□□rece□t□c□e □u□ntitie□ do not □eet □□□te□ re□uire□ent□)□

1. □□C □□7530 □it□ 40170-6I□C□ □5-20□ □d□□tor□or
2. E□ton E□□□97□or
3. Midd□e □t□□ntic □D-2420□C-□□□or
4. Tri□□ □ite □D□V20 □it□ inc□uded □5-20□ □d□□tor□or
5. □□□ro□ed e□u□.

D. □□/□□□ori□ont□□□o□er □tri□, □in□e 120V 20□ circuit, □EM□ 5-20□ □□u□ in□ut, □ini□u□ ei□□t re□r-f□cin□ □EM□ 5-15R out□et□, □in□e r□c□ □□□ce (furni□□ □□ere □ro□ided e□ectric□□rece□t□c□e □u□ntitie□ do not □eet □□□te□ re□uire□ent□)□

1. □□C □□9563□or
2. E□ton E□□□85□or
3. Midd□e □t□□ntic □D-920R-□□□or
4. Tri□□ □ite □D□ 1220□or
5. □□□ro□ed e□u□.

E. □D□/V□Vertic□□□o□er Di□tri□ution □nit, c□□□□□e of □u□ti□e circuit□ □nd out□et□, confi□ured for circuit □u□ntit□, □o□t□□e, □nd □□ □er□□e □ro□ided to r□c□□□ ount to re□r of r□c□ interior (furni□□ in coordin□tion □it□ □ro□ided e□ectric□□□o□er)□

1. □uice □oo□e □D □erie□□or
2. Midd□e □t□□ntic M□R □erie□□or
3. Midd□e □t□□ntic □D□ □erie□□or
4. □□□ro□ed e□u□.

F. □□□□

1. 1R□□ □ninterru□t□□□e □o□er □u□□□□, □in□e r□c□ □□□ce c□□□□í□, □ine inter□cti□e, □ur□e □u□□re□□ion, 120V 20□ circuit, □ini□u□ 750V□ □o□d, □u□ in□ut, □ini□u□ four re□r-f□cin□ □EM□ 5-15R out□et□□

   □. □□C □□ □rt-□□□ □□□750RM1□□or
   □. E□ton 5□750R□or
   c. Midd□e □t□□ntic □□□-□1000R□or
   d. Tri□□ □ite □□ □rt□ro □M□RT750RM1□□or
   e. □□□ro□ed e□u□.

2. 2R□□ □ninterru□t□□□e □o□er □u□□□□, t□o r□c□ □□□ce c□□□□í□, □ine inter□cti□e, □ur□e □u□□re□□ion, 120V 20□ circuit, □ini□u□ 1950V□ □o□d, □u□ in□ut, □ini□u□ ei□□t re□r-f□cin□ □EM□ 5-15R out□et□□

   □. □□C □□ □rt-□□□ □MT2200RM□□□or
   □. E□ton 5□2200RT□or
   c. Midd□e □t□□ntic □□□-2200R-8I□□or
   d. Tri□□ □ite □□ □rt□ro □M2200RM□□2□□□or

e. □□□ro□ed e□u□.

3. 3R□□ □ninterru□t□□□ē □o□er □u□□□, t□ree r□c□ □□□ce c□□□□i□, □ine inter□cti□e, □ur□e □u□□re□□ion, 120/208V 3□□ 5□ 30□ circuit, □ini□u□ 6000V□ □o□d, □oc□in□ □u□ in□ut, □ini□u□ four re□r-f□cin□ □EM□ 5-20R out□ē□□

□. □□C □□ □rt-□□□ RT 6000 V□ RM 208V to 208/120V□or
□. □□□ro□ed e□u□□.

4. □□ – 2R□ □uninterru□t□□□ē □o□er □u□□□, □ur□e □u□□re□□ion, t□o r□c□ □□□ce, 1000 V□ □o□er r□tin□, 15□ in□ut. □□□ □ro□ide□ □o□er conditionin□ □nd non-MOV □□□ed □ur□e □u□□re□□ion. T□o rece□t□c□ē□ □it□ □□tter□ □□c□-u□ □nd □ur□e □u□□re□□ion, four rece□t□c□e□ □it□ □ur□e □u□□re□□ion□

□. □ur□e□ □□-1000□i.

□. □o□er Di□tri□ution □nit (□D□)□

1. □□ – 1R□□ □o□er di□tri□ution unit, □ur□e □u□□re□□ion, □in□ē r□c□ □□□ce, 20□ □o□er di□tri□ution □it□ non-MOV □□□ed □ur□e □u□□re□□ion, □ini□u□ of ei□□t rece□t□c□ē□□

□. Fur□ □n □-8 □RO □ERIE□ II□or
□. □ur□e□ □□-1120-RT.

2. □□/I□ – 1R□ □□o□er di□tri□ution unit, □ur□e □u□□re□□ion, I□ contro□□□□ē, □in□ē r□c□ □□□ce, 20□ □o□er di□tri□ution □it□ non-MOV □□□ed □ur□e □u□□re□□ion, □ini□u□ of ei□□t rece□t□c□ē□□

□. □ur□e□ □□-□□20.

3. □□ – Vertic□□□o□er di□tri□ution unit, □ur□e □u□□re□□ion, 20□ □o□er di□tri□ution □it□ non-MOV □□□ed □ur□e □u□□re□□ion, □ini□u□ of ei□□t rece□t□c□ē□□
□. Or □□□ro□ed e□ui□□ē□t fro□ Fur□ □n
□. Or □□□ro□ed e□ui□□ē□t fro□ □ur□e□

□. □o□er/□i□□t□ – 1R□ □□o□er di□tri□ution unit, front i□□t, □in□ē r□c□ □□□ce, 15 □□ □, □ED □u□-out di□ □ □□□ē r□c□ i□□tin□, re□r □ounted □C □o□er out□ē□, □ur□e □u□□re□□ion□

1. Fur□ □n □□-8 C□or
2. Midd□ē □t□□ntic □roduct□ □D□T-815RV-R□ □or
3. □ur□e□ □□-1115RT □on□ □it□ t□o □itt□ite 12□R-LED (12”) or 18XR-LED (18”) gooseneck □□□ □ □□□e□ □ie□ (□urc□□□ed □e□□r□te□).

I. □o□er □e□uencer – 1R□ □□C □o□er □e□uencer, □in□ē r□c□ □□□ce, 15 □□ □ □u□□□□

1. Fur□ □n □□-8R II□or
2. Midd□ē □t□□ntic □roduct□R□□□-□□ □erie□□or
3. □uice □oo□e C□R-1500□or
4. □ur□e□ □E□-1□.

E□EC□TIO□

3.1 I□□T□□□□TIO□, □E□ER□□

A. Install in accordance with manufacturer's instructions.

3.2 □RE□□R□TIO□

A. Coordin□te □oc□tion□ □nd s'z□s of □unction □o□e□, out□et□, □nd conduit □it□ t□e □or□ of ot□er tr□de□. Fie□d □erif□ co□ □i□nce □it□ t□e con□truction docu□ent□.
B. C□refu□□□in□□ect a□eas □□ere e□ui□□ent will □e in□t□□ed. □otif□ t□e □rc□itect of any condition□ t□□t □ou□d □d□er□e□□ffect t□e in□t□□□tion □nd □u□□e□uent o□er□tion of t□e sys□:e□.

1. Re□e□t in□□ection on a re□u□□r bas□'s to en□ure on□oin□ □or□ by ot□er tr□de□ doe□ not □o□e a conflict to Contractor's pending work.

3.3 I□□T□□□□TIO□

A. □ener□□

1. Contr□ctor shall de□on□tr□te a re□□on□□e □t□nd□rd of c□re. In□t□□□tion shall □e rendered in a □or□□ □ni□e □ □nner o□□er□in□ direction □et fort□ □erein as well as indu□tr□ □t□nd□rd □e□t □r□ctice□.
2. In □ddition to any spa□re c□□in□ shown on dr□□in□□, uti□i□e indu□tr□ □e□t □r□ctice to pull □ddition□□spa□re c□□in□ in conduit □□ere o□ic□□. Neatly □und□e a u□□□e□en□t of c□□□e □t e□c□ end of e□c□ spa□re circuit. All spa□re circuit□ shall □e □□e□ed □nd noted on t□e fie□d dr□□in□□ for inc□u□ion into t□e record dr□□in□□.
3. In□t□□□any f□oor-□ounted rece□t□c□e□□o t□□t re□e□□e □utton□(for □ot□rece□t□c□e□□nd c□□□e connector□) □re e□as□ly □cce□□i□□e □□en c□□□e connector□ □re in□t□□ed.
4. B□ank □□ne□□ □nd/or □ent panels shall □e in□t□□ed in unu□ed r□c□ □□□ce□. En□ure t□□t □ir fo□ □it□in t□e r□c□i□□ □int□ined (i.e. coo□□ir c□n enter t□e r□c□ □nd □ot □ir c□n e□it t□e r□c□).
5. E□ui□□ent racks □nd ot□er e□□o□ed e□ui□□ent shall □e □e□t co□ered □nd □rotected fro□ □ir□orne cont□□in□te□. C□e□n al e□ui□□ent r□c□□ □nd t□e interior r□c□f□oor, □rior to sys□:e□ fin□□□cce□t□nce □cti□itie□.
6. For r□c□□in□t□□ed in creden□□□, f□□ten c□r□et ti□e□or o□ friction □ider□to t□e □otto□ of t□e r□c□to □rotect t□e fini□□ of t□e furniture.
7. □ □ere t□e de□i□n □oc□tion re□uire□ □roduct□, □□teri□□□, or e□ui□□ent to □e □i□i□e to t□e □u□ic, □ □nuf□cturer□ □o□o shall □e re□o□ed if □o□i□e. □n□e□□ot□er□i□e directed, ne□t□□ re□o□e or □ogos.
8. □C □o□er □□itc□e□ □oc□ted on t□e front panel of e□ui□□ent □ounted in racks shall □e co□ered by a □ecurit□ co□er or uti□i□e front panel □oc□out fe□ture□. E□c□u□ion□fro□ t□i□ i□t □re ite□ □re□uirin□u□er interf□ce □uc□ as tuner□□nd □ire□e□□ □icro□□one rece□i□er□.
9. Furni□□ □□e□ui□□ent □it□ f□ctor□fini□□ □□ere □o□i□e u□in□t□e □t□nd□rd □□i□□□□e f□ctor□ co□or(□) as □e□ected by t□e □rc□itect. □otif□ t□e □rc□itect re□□rdin□ co□or o□tion□ of re□e□□nt e□ui□□ent □rior to orderin□ e□ui□□ent fro□ e□c□ □□nuf□cturer.

B. □u□□ended Sys□:e□s

1. □ener□□

a. Contr□ctor shall □ro□ide □u□□en□ion sys□:e□, inc□udin□ connection to □tructure, for all □u□□ended co□ □onent□inc□udin□ □ut not li□ited to: □oud□e□□er□, □ideo □ro□ector□, f□t □□ne□di□□□□□, te□e□i□ion□, □ro□ection □creen□, etc.

b. □u□□en□ion sys:em de□i□n s□al]□e cre□ted by t□e Contr□ctor □nd inc□ude fu lly di□en□ioned det□i□docu□ent□tion □t□□ □ed by a □tructur□□en□ineer □icen□ed in t□e □oc□tion of t□e □ro□ect □er □u□□itt□□re□uire□ent□ in □□rt 1 of t□i□ docu□ent.
c. Contr□ctor shall ˙nc□ude a □□fet□ c□□e or ot□er ba□ck□p □u□□ort □ec□ni□□.
d. □u□□en□ion sys:ems □nd in□t□□□tion shall □confor□ to indu□tr□ □e□t □r□ctice □t□nd□rd□ as □et fort□ in:

1) “Basic Principles for Suspending Loudspeaker Systems” (JBL □rofe□□ion□□ Tec□nic□□□ote Vo□u□e 1, □u□ □er 14)

e. Coordin□te □it□ □ener□□Contr□ctor any □u□□e□ ent□□□uidin□ □tructure nece□□□r□ to f□ci□it□te t□e □□□ro□ed □u□□en□ion de□i□n.
f. Fie□d □erif□ condition□ for co□ □i□nce □it□ t□e □□□ro□ed □u□□en□ion □□□n □rior to in□t□□□tion, □□□ce□ent of e□ui□□ent order□, or □ □teri□□f□ric□tion. Coordin□te □it□ ot□er tr□de□ as nece□□□r□.

2. □oud□□e□□er□

a. Install loudspeakers so there are no obstructions to loudspeakers’ coverage pattern.
b. □oud□□e□□er□ shall □e in□t□□ed □uc□ t□□t t□e□ do not □roduce or c□u□e □ec□□nic□□ r□tt□e□in t□e □urroundin□ □tructure. T□ere shall □e no □udi□e □i□r□tion or noi□e c□u□ed by i□ □ro□er □ec□□nic□□in□t□□□tion or defecti□e co□ □onent□.
c. □□int □oud□□e□□er □nd/or □ri□e ass□mbly (□t di□cretion of □rc□itect or De□i□n Con□u□t□nt) co□or as □e□ected by t□e □rc□itect. Use primer per manufacturer’s reco□ □end□tion□. Do not □□int □oud□□e□□er cone□ or □i□□ fre□uenc□ diaph□ragm□. M□teri□□□ □nd □□□or □ro□ided by Contr□ctor.
d. □ro□ide □cce□□ to □oud□□e□□er□ durin□ in□t□□□tion, te□tin□, □nd fin□□ □cce□t□nce □cti□itie□ to □□o□ for □odific□tion□ to □oc□tion or in□t□□□tion. □cce□□ inc□ude□ all nece□□□r□ re□ource□ re□uired to o□t□in direct phys˙cal cont□ct to □oud□□e□□er□ (front □nd re□r), inc□udin□: □□ffo□din□, □otori□ed ift, etc.
e. □ro□ide □□i□it□ to reorient □oud□□e□□er□ in all □□e□ (yaw, □itc□, □nd/or ro□) if □o re□ue□ted by De□i□n Con□u□t□nt durin□ sys:em fin□□□cce□t□nce □cti□itie□.

1) Do not □erfor□ fin□□□u□□en□ion connection□ □rior to fin□□□cce□t□nce by t□e De□i□n Con□u□t□nt inc□udin□: □er□ □nent c□□e swa□e, e□i□in□tion of □ire ro□e □er□ice □oo□, etc.

C. Video

1. Coordin□te □tructur□□□□c□in□ re□uired for wall □ounted f□t □□ne□di□□□□□/te□e□i□ion□ □rior to t□e in□t□□□tion of drywall □r ot□er wall □ □teri□□□..

D. □roundin□

1. Co□ply □it□ □EC □nd □IC□I □roundin□ re□uire□ent□.
2. E□c□ e□ui□□ent r□c□ □it□in a ro□ of r□c□□ □nd e□c□ ro□ of r□c□□ □it□in a roo□ shall □e e□ectric□□□□ □onded to e□c□ ot□er. □ondin□ shall □e v˙a co□□er □round □u□. Any □o□t□ shal] f□□ten to un□□inted □□eet m□etal

E. E□ui□□ent □o□er Contro□

1. □o□-□o□t□□e "O□/OFF" contro□ of sys:em e□ui□□ent shall □e □ro□ided □i□t□e contro□ sys:em.
2. O□er□tion of t□e fo□o□in□ co□ □onent□ i□ re□uired, □t □ □ini□u□:

a. □o□er □□ □ifier□ as indic□ted in □□rt 2 re□uire□ent□

b. UPS connected de□ice□ □□ere co□ □onent□ do not re□uire □o□er under sys□em □□utdo□n
c. Co□ □onent□e□ui□□ed □it□ pow er □t□te contro□

3. M□□e all □o□-□o t□□e connection□ as re□uired to □ro□ide a co□ □ete □nd □or□in□ contro□ sys□em.
4. Refer to dr□□in□□ for □ddition□□□o□-□o t□□e □e□uencin□ sys□em re□uire□ent□.
5. Refer to e□ectric□□dr□□in□□ for □C □o□er infor□ □tion.
6. Coordin□te □it□ E□ectric□□Contr□ctor as nece□□□r□ to □erif□ □ro□er circuit □□i□n□ent □nd □e□uencin□ order.

3.4 CABL E M□□□□EME□T AN D TERMI□□TIO□

A. E□ □o□ c□□e □ n□□e□ent □nd in□t□□□tion tec□ni□ue□ to fu□fi□ □□□I/□VI□□ 10□2013, 9.4 (ANS 2013-12-20) “Cable Management, Termination, and Labelling Reference Verification Items” as a □ini□u□ □t□nd□rd □it□ t□e □ddition□□re□uire□ent□ as de□cri□ed in t□i□ paragraph.

B. □ener□□

1. Do not □io□□te t□e □ini□u□ c□□□e □end r□diu□ as □□ecified by t□e c□□□e □ □nuf□cturer.
2. Dre□□ c□□□e□ □o ter□in□tion□ □re free fro□ □tre□□due to □r□it□ □ctin□ on t□e c□□in□. Us□ c□□□e □u□□ort□ as re□uired de□endin□ on t□e i□e □nd □tiffne□□ of t□e c□□□e.
3. Ter□in□te c□□□e□ □it□ □ufficient □er□ice □oo□ to □□o□ □t □e□t one re-ter□in□tion □it□out □□□in□ to o□en a c□□□e □unde□ or □□t□□□.
4. All circuit□, inc□udin□ □□riou□ □udio s□gnal □e□□, shall □e □e□□r□ted □ccordin□ to function. □ □ere □udio □nd □ideo circuit□ □re in□t□□□ed in conduit or ot□er r□ce□□□, □e□□r□te conduit□ □re re□uired for t□e □□riou□ circuit function□.
5. □ □ere circuit□ □re e□□o□ed in t□e e□ui□□ent racks or large □unction or pull box□s, circuit□ shall be bundled according to function. Refer to “Conduit/Circuit Group Divisions” and “Conduit Routing and Separation” schedules for additional information.
6. A□l □o□der connection□ sha□l □e □□de □it□ □o□derin□ iron □nd ro□in core □o□der. All □o□der connection□ shall □e c□ec□ed for "co□d" □o□der □oint□.
7. If e□ui□□ent i□re□o□ed or re□□□ced for □er□ice, en□ure t□e □ro□er c□□□e ter□in□tion □oint□ □re □□□□rent □□en t□e e□ui□□ent i□re-in□t□□□ed.

C. E□ui□□ent R□c□□

1. Us□ Ve□cro tie wraps for dre□□in□ c□□□e□ □it□in t□e r□c□(□), □□nd ti□□tened □nd □□□ced □t □□riou□ incon□i□tent di□t□nce inter□□□□.
2. Do not u□e z□p tie□ for UTP c□□□e□ or any in-r□c□c□□□e□.
3. □ □en dre□□in□ c□□□e□ □it□in t□e r□c□, do not ti□□ten tie wraps □o t□e c□□□e i□defor□ed.
4. In□t□□r□c□-□ounted e□ui□□ent □ □nuf□ctured □it□out IEC re□o□□□e □o□er cord□ □o t□e □o□er cord□ □re dre□□ed u□in□ re□o□□□e f□□tener□ □uc□ as Ve□cro □nd t□ere □re no o□□truction□ to t□e ite□ □ein□ □u□□ed out fro□ t□e front of t□e r□c□. □□oid coi□ed or □und□ed c□□□e □oo□□.
5. For r□c□-□ounted e□ui□□ent □ □nuf□ctured □it□ IEC re□o□□□e □o□er cord□, □ro□ide □o□er cord ass□mbie□ of t□e □ini□u□ □en□t□ needed to □cco□□i□□ connection to t□e PDU. □□oid e□ce□□ □o□er c□□in□ inc□udin□ coi□ed or □und□ed c□□□e.
6. F□ctor□ ter□in□ted c□□□e □□□e□ □ie□ □re on□ □er□itted for u□e □it□in racks, □et□een de□ice□ e□tern□□ to r□c□□, as □ort□□□e e□ui□□ent, or for u□e in conduit as □□ecific□□□□ noted as fo□□□: □er□itted for r□c□ inter-connect □□en r□c□□ □re in c□□e ro□i□it□ (sam e roo□) □nd may pass t□ru conduit if nece□□□r□ in t□i□ □itu□tion. C□□□e ass□mbie□ shall □e t□e □ini□u□ □en□t□ needed to □cco□□i□□ t□e connection.
7. In□t□□r□c□ e□ui□□ent to en□□□e re□□ir or re□□□ce□ent □it□out □indr□nce. If t□ere □re o□□truction□ □ro□i□itin□ t□e di□connection of ter□in□tion□ on t□e back □ide of t□e tec□nic□□

e□ui□□ent, t□ere □u□t □e □ufficient c□□in□ to □er□it t□e e□ui□□ent to □e □u□□ed fro□ t□e front □□o□in□ for easy di□connection □nd reconnection.

D. □□r□□e□in□ □nd E□ten□ion Connection□

1. Circuit□ shall □ot □e □oined by □utt-□□ice, □older-□□ice, □ire nut, or □i□i□r.
2. Circuit□ re□uirin□ □□r□□e□connection as indic□ted on s□gnal f□□□ shall □e e□tended v□a □□□ro□ed ter□in□tion in □n □□□ro□ri□te□□ □i□ed □unction box □nd shall confor□ to t□e fo□□o□in□ □uide□ine□:

a. □□□ro□ed connection□inc□ude DI□ □ounted ter□in□□□oc□□ as □□ecified in □□rt 2.
b. Fie□d □□icin□ tec□ni□ues such as wire nuts, “twist and solder”, etc. are not allowed.
c. Any circuit re□uirin□ pa□a□□l connection shall □e □er□□nent□□ □□□e□ed on e□er□ c□□□e as defined □erein.
d. C□re □u□t □e t□en to □□int□in □□□ro□ri□te □rotection □nd □□ie□din□ of circuit□in order to □□int□in a fu□□□function□□sys□em.

3. Circuit□ re□uirin□ e□ten□ion (non-d□t□) due to fie□d condition□ □uc□ as e□ce□□i□e conduit □end□, etc., sha□□□e e□tended □i□ □□□ro□ed ter□in□tion in □n □□□ro□ri□te□□ □i□ed □unction box □nd shall □confor□ to t□e fo□□o□in□ □uide□ine□:

a. E□ten□ion of circuit□i□to □e □□oided if □t all □o□□i□e.
b. Cont□ct t□e De□i□n Con□u□t□nt v□a docu□ented □ro□ect co□□unic□tion. Infor□ t□e De□i□n Con□u□t□nt of t□e circu□ □t□nce□re□□rdin□ t□e de□ired e□ten□ion. Contr□ctor □nd De□i□n Con□u□t□nt will coordin□te to deter□ine t□e □o□t □□□ro□ri□te cour□e of □ction.
c. □□□ro□ed connection□inc□ude DI□ □ounted ter□in□□□oc□□ as □□ecified in □□rt 2.
d. Any circuit re□uirin□ e□ten□ion shall □e □er□□nent□□ □□□e□ed on e□er□ c□□□e as defined □erein.
e. C□re □u□t □e t□□en to □□int□in □□□ro□ri□te □rotection □nd □□ie□din□ of circuit□in order to □□int□in a fu□□□function□□sys□em.

4. Docu□ent e□c□ pa□a□□l connection □nd e□ten□ion on t□e fie□d dr□□in□□ □nd tr□n□fer sam e to t□e fin□□record dr□□in□□.

E. Te□eco□□unic□tion□C□□in□

1. Refer to Division 27 Section “Telecommunications Requirements for Audio Video Systems” for all □or□ □□□oci□ted □it□ d□t□-re□□ted c□□in□ inc□udin□ C□te□or□ □nd Fi□er O□tic c□□in□.
2. A□l d□t□-re□□ted c□□in□ enterin□ a r□c□ shall □e ter□in□ted to a D□t□ Pa□ch □□ne□. R□c□ inter- □nd intr□-connect c□□in□ uti□i□in□ f□ctor□-ter□in□ted c□□□e ass□mb□ie□ □re not re□uired to pass t□ru a D□t□ Pa□ch Pa□el
3. □□Fi□er O□tic c□□in□ enterin□ a r□c□ sha□□□e ter□in□ted to a Fi□er □□tc□ □□ne□. R□c□ inter- □nd intr□-connect c□□in□ uti□i□in□ f□ctor□-ter□in□ted c□□□e ass□mb□ie□ □re not re□uired to pass t□ru a Fi□er □□tc□ □□ne□.

F. Micro□□one/□ine L□v□l □udio

1. Audio circuit termination shall observe the methods set forth in “Sound System Interconnection” Ran□ote 110, © 2011 by R□ne Cor□or□tion. T□i□ reference docu□ent may □e o□t□ined □t: □tt□//□□□.r□ne.co□/□df/r□notes/□ound_□□□te□_Interconnection.□df
2. Key □et□od□inc□ude, □ut □re not li□ited to t□e fo□□o□in□:

a. □□□udio circuit□ sha□□□e □□□nced t□o-□ire circuit□, □it□ a □e□□r□te □roundin□ □□ie□ conductor, un□e□□noted ot□er□i□e. All □ircuit□ sha□l hav□ eit□er t□e red or □□ite □ire□

as the "high" or “+” side of the line and connect to pin 2 of microphone-t□□e XL R □udio connector□ □nd t□e ti□ of 3-conductor □□one connector□. T□e bla□k □ire of t□e t□o-wire circuit shall be the "low" or “-“ side of the line and connect to pin 3 of microphone connector□ □nd t□e rin□ of 3-conductor □□one connector□. T□e □□ie□ conductor shall connect to □in 1 of □icro□□one connector□or to t□e □ee□e of □□one connector□.

b. □□ie□ conductor□ shall □e connected □t e□c□end of e□c□□ire to t□e □in 1 of e□c□XL R, □□ie□ connection for e□c□ e□ectronic de□ice, etc. □o □□ie□ □ire□ s□□ll □e □eft unconnected e□ce□t □□ere noted on t□e dr□□in□□, nor shall a ny □□ie□ co□e in cont□ct □it□ conduit, pull boxes, or ot□er □uidin□ □tee□. □udio □ine-□e□e circuit □□ie□ □ire□ shall □e □rounded to r□c□ □□eet □et□□on□□ v□a r□c□-□ounted e□ui□□ent. □□ie□ shall □e e□ectric□□□ i□o□ted in □u□ti-conductor c□□e□. □□ie□ for □udio □ine-□e□e circuit□ connected to □udio tr□n□for□er□ shall □e connected to tr□n□for□er e□ectro-□t□tic □□ie□ □nd c□□e □round.

c. In t□e c□□e of □n un□□□□nced □ource feedin□ into a □□□□nced in□ut □nd t□e c□□□e run i□ □□ort (i.e. □e□□ t□□n fifteen feet), connect t□e s□gnal connection of t□e un□□□□nced connector to the “high” side of the balanced input. Connect the “ground” connection of the unbalanced line to the “low” side of the balanced connector. Connect the cable □□ie□ to t□e □□ie□ connection of t□e □□□□nced in□ut □ut do not connect it to t□e un□□□□nced connector. If t□e c□□□e run i□ □on□er t□□n fifteen feet, □□□□nce t□e □ine □t t□e un□□□□nced □ource u□in□ □□ecified □□□□ncin□ de□ice□.

d. In t□e c□□e of a □□□□nced □ource feedin□ into □n un□□□□nced in□ut □nd t□e c□□□e run i□ short (i.e. less than fifteen feet), connect the “high” side of the balanced output to the signal input of the unbalanced connection. Connect the “shield” of the balanced connection to the “ground” of the unbalanced connection. Leave the “low” side of the □□□□nced out□ut fo□tin□.

G. □oud□□e□□er L□v□l □udio

1. □oud□□e□□er□ in t□e sam e □cou□tic □□□ce sha□□□□□e □ired to □roduce con□i□tent □o□□rit□ □it□ □□ono in□ut s□gnal T□e□ sha□l □□o □e □o□ri□ed □uc□t□□t a □o□iti□e □cou□tic re□□ure on a □icro□□one re□u□t□ in a □o□iti□e □cou□tic re□□ure □t □□□oud□□e□□er□.
2. Video
3. Co□ re□□ion fittin□□ shal □e u□ed for all BN C □nd F connector ter□in□tion□.
4. Ter□in□te all □nu□ed RF □nd □DI out□ut□ □it□ i□ □ed□nce □□tc□in□ter□in□tor□.
5. Neatly dre□□al c□□e□□e□ind a f□□t pa□el di□□□□/te□e□i□ion. C□□e□ □nd connection□ □□ould not □e □i□i□e fro□ t□e □ie□in□ oc□tion□. □o□er c□□e□ for displays shall not □e □und□d □it□ □i□n□c□□e□ nor □i□i□e.
6. For fi□ed □ro□ector or □o□e □ounted f□□t pa□el di□□□□□ in□t□□□tion□, s□gnal c□□e□ shall □e routed □it□in t□e □ounted □i□e. Signal c□□e□ shall not □e tied to t□e out□ide of t□e □i□e. □ro□ide c□□in□ of □□□ro□ri□te di□t□nce to □ini□i□e e□ce□□ c□□e□ □t de□ice. □und□ e□ce□□ c□□e□ □□o□e t□e ceili□□, not □t t□e de□ice.

3.5 LAB EL|NG

A. □d□ere to AVIXA F501.01:2015 “Cable Labeling for Audiovisual Systems” as a minimum standard □it□ □ddition□□re□uire□ent□ as de□cri□ed in t□i□ p□ragraph.

B. Refer to Division 27 Section “Telecommunications Requirements for Audio Video Systems” for all □□□e□in□ re□uire□ent□ □□□oci□ted □it□ d□t□-re□□ted c□□in□ inc□udin□ C□te□or□ □nd Fi□er O□tic c□□in□.

C. De□e□o□ □nd uti□i□e a con□i□tent nu□□erin□ □c□e□e □cro□□ t□e entire □ro□ect. □ti□i□e sys□em nam es □nd □uidin□ reference□ □□ere □□□□ic□□□e, □uc□ as t□e r□c□ nu□□er or r□c□ roo□ in a di□tri□uted sys□em. Al□ labe□s for in□ut/out□ut □□□te□ □nd contro□ pa□els shall □e con□i□tent □it□ t□e fin□□roo□ nu□□erin□ for t□e f□ci□it□.

D. □d□ere to t□e □□□e□in□ □t□nd□rd □cro□□ all □□□tfor□□, inc□udin□ □it□in t□e DSP □ro□r□□ □in□.

E. Refer to □ener□□note□, t□e s□gnal □o□□, □nd pa□nel □nd pla□te det□i□□ for e□□ected □□e□in□ □c□e□e of sys□em e□ui□□ent □nd co□□onent□. Co□ply □it□ a□y □□ecific co□or codin□ as de□cri□ed.

F. All e□ui□□ent in e□ui□□ent ra□ks shal□ □e □□e□ed front □nd re□r for e□□e of identific□tion. Lab□s shall □e of a contr□□tin□ co□or □it□ t□□t of e□ui□□ent co□or to □ro□ote □i□i□it□.

G. In□t□□□er□ □nent □□e□in□ on t□e front of e□c□ e□ui□□ent r□c□in a ro□ of ra□ks identif□in□ t□e r□c□de□i□n□tion (nu□□er).

H. □it□in e□c□ r□c□ □nd □t ot□er re□ote □oc□tion□ for tec□nic□□ sys□em e□ui□□ent, l□bel all □□□oci□ted □C □o□er rece□t□c□e□ ref□ectin□ t□e □□□ro□ri□te circuit □re□□er□ □re □□e□ed as to t□e r□c□or re□ote e□ui□□ent □oc□tion.

I. Docu□ent t□e □□e□in□ □t□nd□rd for inc□u□ion in t□e O□er□tion □nd M□inten□nce D□t□.

J. Docu□ent all lab□ls for t□e Record Dr□□in□□.

K. □re-□□□ro□ed lab□ll□g sys□ems inc□ude:

1. □rot□er □-touc□ED□E □it□ HG□S2**□PK lab□l□; or
2. Brady E□ui□□ent Identific□tion Lab□ls.

3.6 □□□TEM CO□FI□□R□TIO□

A. Coordin□tion

1. Coordin□te □nd t□□e re□□on□i□i□it□ for t□e app□oval of all sys□em confi□ur□tion co□□onent□ as de□cri□ed in t□i□ pa□ag□aph.
2. Coordin□te all □□□ect□ of t□e tec□nic□□ □□□te□ net□or□, inc□udin□ confi□ur□tion □nd connection with to the Owner's LAN. Utilize Owner's designated configuration style, □t□nd□rd□, □nd □ecurit□re□uire□ent□.

B. □oft□□re

1. Furni□□, in□t□□, □nd confi□ure t□e □o□t recent □□□ro□ed, non-□et□, □oft□□re for e□c□de□ice or sys□em.
2. □ro□ide □oft□□re as identified in ot□er are□s of t□e□e □□ecific□tion□or on t□e dr□□in□□.
3. □ro□ide □oft□□re not □□ecific□□□ identified □ut re□uired to □□o□ for sys□em o□er□tion □nd/or to □□o□ for □ore efficient sys□em confi□ur□tion, □etu□, □nd o□er□tion.

C. Fir□ □□re

1. En□ure t□e fir□ □□re for e□c□de□ice i□ t□e □o□t recent □ □nuf□cturer □□□ro□ed □er□ion □nd i□in□t□□ed □nd o□er□tion□□.

D. O□er□tin□ Sys□ems

1. Gain approval of the operating system version and type from the Owner's IT representative □nd □□□oci□ted e□ui□□ent □ □nuf□cturer(□).
2. En□ure t□e o□er□tin□ sys□em for e□c□ de□ice i□ t□e □o□t recent, in□t□□ed, □nd fu□ly o□er□tion□□.
3. En□ure t□e □te□t □ecurit□ □□tc□e□ □re in□t□□ed.

E. □et□or□ Confi□ur□tion

1. A□l tec□nic□□sys□em de□ice□ □it□ □n Et□ernet □ort shall □e connected to t□e □□□oci□ted net□or□.
2. □ecure t□e entire network, documenting all passwords. Comply with the Owner's IT representative's requirements with respect to password selection and network security i□ □e□ent□tion.

F. □et□or□ Docu□ent□tion

1. Docu□ent t□e I□ □nd M□C □ddre□□e□ of all I□ c□□□□e e□ui□□ent for inc□u□ion □it□ t□e O□er□tion & M□inten□nce M□nu□□.

3.7 CO□TR□CTOR'□ TE□TI□□, □D□□TME□T, AN D □□□MITT□□ RE□□IREME□T□

A. □t t□e co□ □etion of t□e in□t□□□tion, □erfor□ t□e fo□o□in□ te□t on t□e □□□te□ to en□ure □ro□er in□t□□□tion □nd o□er□tion. T□e tec□nic□□ sys□em shall □e fu□ly te□ted □it□ all e□ui□□ent on □ite, in□t□□ed, connected, □nd fu□ly o□er□tion□.

B. T□e Contr□ctor shall □u□□it t□e re□u□t□ of all te□t□ □rior to on-□ite sys□em re□ie□ by t□e De□i□n Con□u□t□nt. □ □ere ava□lab□e, □ro□ide docu□ent□tion o□t□ined direct□□ fro□ t□e te□t e□ui□□ent. Ot□er □cce□t□□e docu□ent□tion inc□ude□ □creen c□□ture□, □□oto□, □nd □□re□d□□eet□.

C. □ener□□

1. □ti□i□e t□e tec□nic□□□u□□ort □er□ice□ offered by t□e □□nuf□cturer□ of t□e □□riou□ tec□nic□□ sys□em co□□□onent□ to en□ure o□ti□u□ □erfor□□nce.
2. All te□t e□ui□□ent u□ed for t□e□e te□t□ shall □e on □ite durin□ t□e sys□em fin□□□cce□t□nce □cti□itie□ □□ould □erific□tion of □u□□itted □e□□ure□ent□ □e re□uired.
3. En□ure t□□t al□ e□ui□□ent i□ on t□e □o□-□ite □nd fu□ly o□er□tion□. T□i□ inc□ude□ □ort□□e (not in□t□□ed) ite□ □□nd ot□er □oo□e e□ui□□ent. Re□o□e all de□ice□ fro□ □□i□□in□ or □□c□□□in□ cont□iner□, re□d□ for u□e, □nd pla□e in e□ui□□ent □tor□□e c□□inet.
4. T□e function□□te□t□ shall □nc□ude o□er□tion□□te□t□ of all □ro□r□□ □ource e□ui□□ent (record □nd playba□k), □ire□e□□ □icro□□one sys□em, □i□in□ con□o□e, sys□em in□ut□ □nd out□ut□, all □□tc□ panel rece□t□□e□, interco□ □□□te□, □ideo routin□, □ideo di□tri□ution, o□er□tion□□ contro□□, □C □o□er □e□uencin□, o□er□tion of □oft□□re, □nd all sys□em e□ectronic□. Function□□te□t□ inc□ude e□□□in□tion for hum, buzz, hiss, gho□ts, hum ba□s, o□ci□□tion, thumps, unintended rece□tion of ot□er s□gnals □uc□ as □M or FM r□dio, TV, C□, ham r□dio, ce□□□one□, or any ot□er un□□nted □i□n□□□t□rou□□ t□e □□□te□.
5. En□ure a□l in□ut□ □nd out□ut□ □re □ired to t□e □□□ro□ri□te de□ice□ □er con□truction docu□ent□.
6. Verif□ sys□em □t□rtu□ □nd □□utdo□n o□er□te□ in t□e □ro□er □e□uence.

a. □□□te□ □e□d end co□□onent□ sha□□□e ener□i□ed □t t□e □e□innin□ of t□e □t□rtu□ □e□uence in □n □□□ro□ri□te order to □u□r□ntee □ro□er co□□unic□tion wi□l □□□oci□ted de□ice□.

b. □oud□□e□□er □o□er □□ □ifier□ shall □e ener□i□ed □t t□e end of t□e □e□uence in order to e□i□in□te un□□nted tr□n□ient□ □ein□ re□roduced t□rou□□ sys□em □oud□□e□□er□.

c. Sys□em □□utdo□n □e□uence shall □e in re□er□e order.

7. □ □ere a □□□te□ co□□uter i□ furni□□ed, □o□d □nd confi□ure □□□nece□□□r□ contro□□oft□□re. Examp□es inc□ude □ut □re not i□ited to t□e fo□o□in□ as □□□ic□□e: □ire□e□□ □icro□□one □□n□□e□ent, □□ □ific□tion □□n□□e□ent, □ro□ector/di□□□□ □□n□□e□ent, □udio con□o□e confi□ur□tion/contro□, DSP confi□ur□tion/□□n□□e□ent, □nd □cti□e □oud□□e□□er □□n□□e□ent.

8. □ □ere □udio or □ideo di□it□□s□gnal □r□n□□ort i□re□uired, en□ure all □et□or□□etu□i□co□□□ete inc□udin□ t□e in□t□□□tion □nd □icen□in□ of net□or□□□n□□e□ent □□□ic□tion □oft□□re.

D. Re□uired te□tin□ e□ui□□ent

1. Cert□in □□te□□/□u□□□te□□ re□uire te□tin□ □nd docu□ent□tion □i□ □□□ro□ed te□t e□ui□□ent.

a. Sys□ems re□uirin□ te□tin□ v□a □□□ro□ed de□ice□ wi□l □e identified □e□o□.

b. Re□uired te□t de□ice□ □i□□e i□ted in re□□ted □ection□.

c. Provide unified testing results of similar equipment. Describe testing procedure including equipment used.
d. Provide original results from testing equipment (no photocopies).

2. Failure to submit testing documentation conducted in approved device will result in delayed finalization by the Design Consultant.
3. Contractor's unable to provide required test equipment, at their own expense, of certified subcontractor to assist in testing and documentation.

E. Audio System

1. Electronic

a. Test equipment audio electronic components for uniform frequency response from input to power amplifier outputs

1) Using pink noise to drive equipment input signal at point of electronic. For example, connect pink noise to CD player receptacle on the rear for performing part of circuit.
2) Visit commissioning processing equipment (equalizer, crossover, dynamic, etc.), independent route the signal through audio console, DSP, and other equipment to power amplifier outputs.
3) Visit each speaker disconnected, measure the signal response of the selected amplifier output (to obtain similar measurement, ensure output be set to match the input of the measurement device to discuss accurate information. This can be accomplished using attenuator insertion of speaker be to line be attenuator).
4) Verify the measured response is uniform and match the reference input signal within 1dB from 30 Hz to 18 kHz.
5) Required test equipment - signal generation

a) Terrasonde/Sencore Audio-Toolbox
b) Clean Audio Society CD-1 test compact disc
c) STI Minirator MR-PRO

6) Required test equipment – Measurement Device

a) Rion sound acoustic SM RT equate 7 or greater
b) STI Audio 2 analyzer
c) Studio Si Digit Audio Tool RT or FFT Module, with

i) Studio Si Digit Si AudioInterface 2

b. Repeat measurement for each amplifier output connect

2. Loudspeaker Impedance

a. Measure and record the impedance of commissioning circuits at the output of each amplifier. During this process, also check each loudspeaker circuit for short to ground.
b. Required test equipment

a) Dayton Audio DATS or
b) STI Minirator MR-PRO or
c) Fennelier 2-3 or
d) Terrasonde/Sencore Audio Tool

2) □n□cce□t□□e □e□□ure□ent de□ice□ for □oud□□e□□er i□ □ed□nce inc□ude t□e fo□o□in□:

a) Di□it□□Mu□ti□eter (DMM); □r
b) TO□ □M-104; □r
c) TO□ ZM-104A

3. □oud□□e□□er □□nd □□□□/□□ □ifier □□i□n□ent Confir□ □tion

a. For fu□□r□n□e □oud□□e□□er□, apply fu□□□□ectru□ □in□noi□e □t □ufficient □e□e□in order to:

1) Verif□ □u□ectiv□□ t□□t e□c□ □oud□□e□□er i□ e□ittin□ fu□□□□ectru□ s□gnal (□ot□ □oofer □nd t□eeter/□orn □re o□er□tin□)
2) Confir□ e□c□ □oud□□e□□er i□ connected to t□e □ro□er □□ □ifier chass□s □nd out□ut c□□nne□.
3) Verif□ □ro□er phas□ of e□c□ □oud□□e□□er.
4) Re□uired te□t e□ui□□ent

a) Galaxy □udio C□T□ Cric□et □o□□rit□ Te□ter; □r
b) □TI □udio MR-□RO □ener□tor □it□ □□2 □n□□□er□or
c) □tudio Six Di□it□□□udio Too□□ □□e□□er □o□□rit□Modu□e; □it□

i) □tudio Six Di□it□□i□udioInterf□ce 2 □nd T□□e 1 or 2 Te□t □icro□□one; □r
ii) □tudio Six Di□it□□i□reci□ionMic; □r
iii) □tudio Six Di□it□□iTe□tMic; □r

d) □tudio Six Di□it□□□□e□□er Pop; □it□

i) □tudio Six Di□it□□i□udioInterf□ce 2 □nd T□□e 1 or 2 Te□t □icro□□one□or
ii) □tudio Six Di□it□□i□reci□ionMic; □r
iii) □tudio Six Di□it□□iTe□tMic

b. For □oud□□e□□er□ □it□ □u□ti□e □□nd pass □ection□ (bi-amp, tri-□□, etc.), apply □□□ro□ri□te□□ □□nd-i□ited □in□noi□e □t □ufficient □e□e□to e□c□de□ice or □□nd pass (i.e. high fre□uenc□ □ection, □id fre□uenc□ □ection, □o□ fre□uenc□ □ection):

1) Verif□ □u□ectiv□□ t□□t e□c□ □oud□□e□□er i□ e□ittin□ □□□ro□ri□te□□ ba□nd-pass□d □□ectru□ s□gnal
2) Confir□ e□c□ □□nd pass i□ connected to t□e □ro□er □□ □ifier c□□□□i□ □nd out□ut c□□nne□.
3) Verif□ phas□ of e□c□ □□nd pass
4) Re□uired te□t e□ui□□ent

a) Galaxy □udio C□T□ Cric□et □o□□rit□ Te□ter; □r
b) □TI □udio MR-□RO □ener□tor □it□ □□2 Analyz□r; □r
c) □tudio Six Di□it□□□udio Too□□ □□e□□er □o□□rit□Modu□e; □it□

i) □tudio Six Di□it□□i□udioInterf□ce 2 □nd T□□e 1 or 2 Te□t □icro□□one; □r
ii) □tudio Six Di□it□□i□reci□ionMic□or
iii) □tudio Six Di□it□□iTe□tMic; □r

d) □tudio Six Di□it□□□□e□□er Pop; □it□

i) □tudio Six Di□it□□i□udioInterf□ce 2 □nd T□□e 1 or 2 Te□t □icro□□one; □r
ii) □tudio Six Di□it□□i□reci□ionMic; □r
iii) □tudio Six Di□it□□iTe□tMic

4. □oud□□e□□er R□tte

   a. Verif□ e□c□ □oud□□e□□er i□ connected to t□e re□□ecti□e □o□er □□ □ifier □nd te□t e□c□ □oud□□e□□er t□rou□□out it□ u□□□e fre□uenc□ r□n□e u□in□ 1/3-oct□□e bands of □in□ noi□e to en□ure □oud□□e□□er □nd re□□ted □ui□din□ sys□ems do not r□tte.
   b. Re□uired 1/3-oct□□e □□nd □in□noi□e □ource□ □nd te□t e□ui□□ent inc□ude□

      1) Terr□□onde/□encore □udio-Too□□o□; □r
      2) Japa n □udio □ociet□ CD-1 te□t co□ □□ct di□c
      3) □TI Minir□tor MR-□RO

5. □oud□□e□□er□ □nifor□ it□ of Co□er□□e

   a. □erfor□ □udio sys□em □erific□tion □er ANSI/AVIXA 1M-2009 for all □oud□□e□□er□. Docu□ent □er □uide□ine□ □et fort□ in t□e □t□nd□rd.

6. □oud□□e□□er□ E□u□i□□tion

   a. □erfor□ □ound sys□em e□u□i□□tion to o□ti□i□e sys□em □erfor□ □nce for t□e intended u□e□.
   b. E□er□ □oud□□e□□er sha□□□e e□u□i□ed.
   c. Re□uired te□t e□ui□□ent:

      1) C□i□r□ted T□□e 1 or T□□e 2 □icro□□one□ shal□ □e u□ed
      2) □tudio Six Di□it□□□udio Too□□ for t□e class□ooms, □eetin□ roo□□, conference roo□ □□□□ n□□iu□, o□□□; □it□

         a) □tudio Six Di□it□□i□reci□ionMic; □r
         b) □tudio Six Di□it□□iTe□tMic□or

      3) Smaa rtLive (□o□t current non-□et□ □er□ion) □it□ Smaa rtLive □□□ro□ed:

         a) □□□ro□ri□te □□□to□
         b) Micro□□one interf□ce

      4) EAS RA (□o□t current non-□et□ □er□ion) □it□ EAS RA □□□ro□ed:

         a) □□□ro□ri□te lap□op
         b) Micro□□one interf□ce

7. Micro□□one/□ine □e□e□

   a. Verif□ t□□t □□□□icro□□one □nd □ine □e□e□c□□in□ □nd connector□ □re in□t□□ed □it□ □in□ 1, 2, □nd 3 □ired □ro□er□□ □nd t□ere □re no □□ort□ to □round. En□ure □ro□er □o□rit□.
   b. Verif□ t□□t all □icro□□one connector□, e□ten□ion c□□□e□, □nd □icro□□one□ □re □ired □ro□er□□ □nd in □o□rit□.
   c. Re□uired te□t e□ui□□ent:

      1) Alphaton ACT-100 Re□ote Te□ter; □r
      2) □TI Minir□tor MR-□RO □it□ C□□□e Te□t □d□□ter
      3) A □icro□□one i□ □OT □n □cce□t□□□e □e□□ure□ent de□ice for c□□□e te□t□.

8. □ire□e□□ Micro□□one□

   a. □etu□ □nd confi□ure e□c□ □ire□e□□ □icro□□one sys□em u□in□ t□e □oft□□re □ro□ided by t□e □□nuf□cturer of t□e □ire□e□□ □icro□□one sys□em. T□e fo□o□in□ tasks □re re□uired:

      1) □ti□i□e □ire□e□□ □icro□□one □□n□□e□ent sys□em if □□□ic□□□e, e.□., □□ure □ire□e□□ □or□□enc□, to □erfor□ □n RF □□ectru□ sweep.

2) □erfor□ fre□uenc□ coordin□tion □it□ O□ner. T□□e into □ccount e□i□tin□ □ire□□□ □icro□□one sys□em(s).
3) C□□cu□□te spa□e RF c□□nne□□ (bas□d on 5% of t□e tot□□ ire□e□□ sys□em c□□nne□□).
4) □erfor□ fre□uenc□ □□□i□n□ent of all tr□n□□itter□/rece□□er□ □er t□e re□u□t□ of t□e fre□uenc□ coordin□tion □nd RF □□ectru□ sweep.
5) Verif□ all □ece□□er□ □re□et to max□mum □ine □e□e□□udio out□ut.
6) □et all □□nd□e□d □ire□e□□ tr□n□□itter □icro□□one □en□iti□it□ □ettin□□ to al□ow high □e□e□□oice out□ut □it□out □F o□er □odu□□tion. All tr□n□□itter□ □□ou□d □e □et t□e sam□e.
7) □et all □od□pack □ire□e□□ tr□n□□itter □icro□□one □en□iti□it□ □ettin□□ to □□o□ high □e□e□□oice out□ut □it□out □F o□er □odu□□tion. All tr□n□□itter□ □□ou□d □e □et t□e sam□e.
8) Us□ng □u□ective i□tenin□, □du□t t□e □od□ □□c□ □ettin□□ to ma□ch t□e □udio □e□e□ of t□e □□nd□e□d tr□n□□itter□.
9) Walk t□e entire □erfor□nce co□er□□e □re□u□in□ □□eec□ as t□e □ro□r□□ □□teri□□ to □erif□ s□gnal □erfor□nce. □ti□□e □ire□e□□ □icro□□one □□n□□e□ent sys□em if □□□□ic□□e, e.□., □□ure □ire□e□□ □ or□□enc□, to □erfor□ a QOS te□t.
10) Docu□ent □ire□e□□ □icro□□one fre□uenc□ □□□i□n□ent□ inc□din□ coordin□ted spa□e c□□nne□□.

9. □roduction Interco□ Sys□em

a. Verif□t□□t □□interco□ □e□e□c□□in□i□in□t□□ed □it□ □in□1, 2, □nd 3 □ired □ro□er□□ □nd t□ere □re no □□ort□ to □round. En□ure interco□ sys□em □o□er s□pply i□ di□connected for t□e□e te□t□.
b. Re□uired te□t e□ui□□ent:

1) Alphaton ACT-100 Re□ote Te□ter; or
2) □TI Minir□tor MR-□RO □it□ C□□e Te□t □d□□ter

10. □□i□ti□e □i□tenin□ Sys□em

a. □etu□ □nd confi□ure t□e □□i□ti□e i□tenin□ sys□em. Verif□ ro□er in□ut s□gnal □e□e□.
b. □ □□□t□e entire co□er□□e □re□ u□in□ □□eec□ as t□e □ro□r□□ □□teri□□ to □erif□ i□n□□ □erfor□nce.
c. □et all □ece□□er□ to ma□ch t□e □e□ected tr□n□□it c□□nne□(□).

F. Video Sys□em

1. Verif□t□□t all co□□ □ideo c□□□e□ pass a DC continuit□ c□□e te□t □nd cont□in no e□ectric□□ □□ort□. Re□uired te□t e□ui□□ent inc□ude□:

a. F□u□e Micro□c□nner2□or
b. Te□t-□□ C□200; or
c. Tri□ett 8-Way □ireM□□ter Co□□

2. Verif□t□□t all co□□ □ideo c□□□e□ pass a fre□uenc□ sweep te□t for t□e □□nd□idt□ of intended u□e. Re□uired te□t e□ui□□ent inc□ude□:

a. Te□troni□ RSA 5000; or
b. R□ode & Schwa□z F□C1500; or
c. Keys□ght Tec□no□o□□ N9340B

3. Verif□t□□t all □ideo c□□in□ intended for u□e in □DI □i□n□□ □re te□ted to □□o□ □□□te□ confor□nce □it□ □M□TE 424M. Re□uired te□t e□ui□□ent inc□ude□:

□. □□□□ri□ □□E□or
□. □□rri□VideoTe□ □D-□t□r□or
□. □u□ntu□ D□t□ □D780C

4. Verif□t□□t □□□ideo □□□te□ □uti□i□in□DVI c□□in□ □re te□ted to confir□ t□e □i□n□□□□t□ □□□□e□ fu□□□□□te□ □□nd□idt□, fu□□□□te□ re□o□ution, □DC□ □□ □□□□ic□□e, correct co□or □□□ce □nd □it de□t□, □nd correct fr□□e r□te. Re□uired te□t e□ui□□ent inc□ude□□

   □. Murideo Fo□ □ □ound □/V Te□tin□ □nd Trou□e□□ootin□ □it□or
   □. Murideo Fre□co Fie□d Te□t □uite□or
   c. □roton-□VD□ Video □ener□tor □n□□□□er□or
   d. □ure□in□ □D□ 2.0

5. Verif□t□□t □□□ideo □□□te□ □uti□i□in□ □DMI or Di□□□□□□ort c□□in□ □re te□ted to confir□ t□e □i□n□□□□t□ □□□□e□fu□□□□□te□ □□nd□idt□, fu□□□□□te□ re□o□ution, □DC□, correct co□or □□□ce □nd □it de□t□, correct fr□□e r□te, □DR □i□n□□□nd □et□d□t□ □□ □□□□ic□□e, □nd □udio □□ □□□□ic□□e. Re□uired te□t e□ui□□ent inc□ude□□

   □. □□□□Re□e□rc□ □□□ □-V□D□or
   □. Murideo Fo□ □ □ound □/V Te□tin□ □nd Trou□e□□ootin□ □it□or
   c. Murideo Fre□co Fie□d Te□t □uite□or
   e. □u□ntu□ D□t□ □D780C□or
   f. □ure□in□ □D□ 2.0□or

6. □etu□ □nd c□i□r□te e□c□ □i□u□□di□□□□□ u□in□ current edition of □□e□r□ □ Mun□i□□i□□ Definition □enc□□ r□ Di□c. □erfor□ c□i□r□tion □it□ en□iron□ent□□ i□□□tin□ □et to □e□e□ re□re□ent□ti□e of t□e □□□te□ □□i□e in u□e. Verif□t□e e□c□ □ource □nd □□riet□of re□o□ution□. For □ro□ector/□creen co□ □in□tion□, t□e □creen dro□ □□□□□□e □et to □ □□i□i□e o□□er□□tion fro□ □□□□e□t□ □nd t□e i□ □□e □□□□□fi□□t□e □□□i□□□e □□□ce on t□e □creen.
7. C□i□r□te e□c□ □ideo i□ □□e u□in□ □re□e□t□□□e, c□i□r□ted □□□te□. □ro□ide docu□ent□tion for e□c□ c□i□r□ted i□ □□e. Re□u□t□ □□□□□□□□□o □eco□e □ □□rt of t□e O□er□tion/□ □inten□nce □ □nu□□□. Re□uired te□t e□ui□□ent□

   □. D□t□co□or □□□der5E□ITE Di□□□□□ C□i□r□tion□or
   □. □□ectr□C□□C□M□□ □ti□ □te □oft□□re (□o□t recent □er□ion)runnin□ on Contr□ctor-□ro□ided □□□to□ □□ic□e□ceed□t□e □ini□u□ re□uire□ent□ □ti□u□□ted □□ □□ectr□C□□.

      1) □u□□orted Meter□□ □□reco□ □ended □□ □□ectr□C□□
      2) □u□□orted □□ttern □ource□□ □□reco□ □ended □□ □□ectr□C□□□or

   c. □-Rite Co□orMun□i Di□□□□□

□. Contro□□□□te□

   1. Verif□ □erfor□ □nce of t□e Contro□□□□te□ inc□udin□ t□e o□er□tion of □□□contro□fe□ture□.

C. □d□u□t□ent

   1. Re□□ir or re□□□ce □n□ defect□ or □ □function□ found □rior to t□e co□ □ence□ent of fin□□ □cce□t□nce □cti□itie□ □□t□e De□i□n Con□u□t□nt.

D. Te□tin□ Docu□ent□tion □u□□itt□□

   1. Docu□ent t□e re□u□t□ of □□□te□t□ □nd co□ □i□e into □ co□ □□ete Te□tin□ Docu□ent□tion □u□□itt□□□it□t□e fo□□o□in□ite□ □□

a. Re□u□t□ of t□e te□t□ det□i□ed □erein; □nd
b. Docu□ent□tion of c□□n□e□ to t□e sys□ems as a re□u□t of □n□ ro□ect C□□n□e Order, AS I, fie□d directi□e, O□ner Re□re□ent□ti□e direction or t□e Te□tin□ □nd □du□t□ent □roce□□.
c. Di□it□□□□oto□r□□□□ of □ri□ r□ sys□ems, s□b-sys□ems □nd co□ □onent□; □nd
d. □ritten notice to t□e De□i□n Con□u□t□nt t□□t t□e sys□em(s) □re re□d□ for fin□□ □cce□t□nce.

2. Inc□ude t□e □□□ro□ed Te□tin□ Docu□ent□tion pa□kag□ in t□e O□er□tion □nd M□inten□nce D□t□ pa□kag□.
3. Modif□t□e Record Dr□□in□□ to inc□ude any c□□n□e□ as a re□u□t of t□e □du□t□ent □roce□□.

E. Cont□ct t□e De□i□n Con□u□t□nt □□ould □ro□e□ □or concern□ □ri□e durin□ t□e te□tin□ □cti□itie□.
F. Tr□n□□it t□e Te□tin□ Docu□ent□tion □u□□itt□□ to t□e De□i□n Con□u□t□nt in a ti□e□□ f□□□ion to □□o□ t□e Con□u□t□nt □□□ro□ri□te ti□e for re□ie□ □nd co□□□ent □rior to □c□edu□in□ of fin□□ □cce□t□nce. T□e Con□u□t□nt c□nnot □i□it t□e □ite or □e□in t□e □cce□t□nce phas□ unti□ t□e □u□□itt□□ has □een □□□ro□ed.
G. □□ould t□e De□i□n Con□u□t□nt □e re□uired to in□e□t ti□e □erfor□in□ □o□e or □□□of t□e te□t□, t□e Contr□ctor will □o□ □en□□te t□e De□i□n Con□u□t□nt for all □□□oci□ted co□t□.

1.2 FINAL □CCE□T□□CE

A. □fter co□ □□etion of t□e sys□em in□t□□□tion □nd □fter t□e □rei□in□r□te□t□ □nd □du□t□ent□ □re co□ □□ete, t□e contr□ctor in con□unction □it□ t□e De□i□n Con□u□t□nt sha □□ □erfor□ on-□ite □cce□t□nce of t□e tec□nic□□ sys□em. T□i□ □roce□□ □i□ inc□ude, □ut not □e □i□ited to t□e fo□o□in□, as □□□ic□□e:

1. R□ndo□ □erific□tion of contr□ctor te□t□;
2. Sys□em c□ec□-out;
3. T□i□orin□ of t□e tec□nic□□ sys□em's fre□uenc□re□□on□e to t□e f□ci□it□' □cou□tic□□en□iron□ent (□□ere re□uired);
4. O□□er□□tion of □ideo sys□em to □erif□ □ro□er imag□ display;
5. Function □nd o□er□□i□it□ of t□e contro□ sys□em.

B. □ro□ide t□e □er□ice□ of t□e de□i□n□ted □u□er□i□or □nd any ot□er tec□nici□n□ who □re f□□ i□i□r □it□ t□e □□te□, for □□□ro□i□ te□□ one ei□□t-□our d□□. □ddition□□ ti□e may □e re□uired due to Alternates accepted by the Owner's Representative, or due to Addenda or Change Orders (if any) which □odif□t□e □co□e of □or□. T□e □u□er□i□or shal □ro□ide □er□on□□□□□i□t□nce durin□ t□e□e □cti□itie□. T□i□ ti□e □eriod doe□ not inc□ude ti□e for correctin□ □irin□ error□, e□ui□□ent □□function□, or ro□e□ □re□□ted to t□e in□t□□□tion of t□e tec□nic□□ sys□em. T□i□ □or□ could occur □t any ti□e day, ni□□t, □ee□end□, or □oid□□□ □it□out □ddition□□ cla□ms for e□□en□e.
C. □t t□e di□cretion of t□e De□i□n Con□u□t□nt, t□e Contr□ctor sha □□□□rtici□□te in t□e contro□□nd □du□t□ent of co□ □uter contro□ed sys□ems inc□udin□ □ut not □i□ited to t□e fo□o□in□ sys□ems: M□in contro□ (Cre□tron/□M□), D SP, □ire□□□ □icro□□one, □□ □ifier, □cti□e □oud□e□□er, etc.
D. □t t□e co□ □□etion of t□e fin□□ □cce□t□nce □eriod, t□e Contr□ctor shall co□ □ie all sys□em confi□ur□tion □ettin□□ (fie□) □it□ co□ie□ as re□uired for inc□u□ion in t□e O&M M□nu□□□ de□cri□ed □□ter in t□e□e □□ecific□tion□.
E. In □ddition, □ro□ide t□e fo□o□in□: □□nd □nd o□er too□□ □□□ro□ri□te for t□e t□□e of in□t□□□tion, □dder□, □ift□, □nd/or □□ffo□din□ as re□uired to re□c□ all □i□□-□ounted de□ice□, spa□e □ire □nd c□□□e of t□e t□□e□ u□ed in t□e in□t□□□tion, □e□ection of □irin□ f□□tener□ u□ed in t□e in□t□□□tion, complete set of the most recent reviewed shop drawings, complete set of all manufacturers' ori□in□□in□t□□□tion/o□er□tion/□ □inten□nce ma□uals, □nd □□ecific te□t e□ui□□ent u□ed durin□ t□e □rei□in□r□te□tin□ □cti□itie□.
F. □fter t□e tec□nic□□ sys□em i□ o□er□tion□□, t□e Contr□ctor shall □ro□ide v□rbal in□truction to designated Owner's Representative as to proper methods of system operation. Video record the

in□truction c□□□□ □nd □ro□ide t□e recording in a usable digital format to the Owner's Re□re□ent□ti□e.

□. Provide operational assistance for the first major use of the completed system as directed by the Owner's Representative, including being present for: one prior rehearsal associated with the event (if applicable); a technical-check immediately prior to the event; and the event itself.

1.3 O□ER□TIO□ □□D M□I□TE□□□CE D□T□

□. □t t□e co□ □□etion of t□e □ro□ect, co□ □i□e t□orou□□ co□ie□ of t□e O□er□tion □nd M□inten□nce (O□M) Data per Division 27 Section "General Communications Requirements".

□. O□M d□t□ □□□□□□e □□□e□ □□ed □ccordin□ to roo□ □or □re□□ □□it re□□te□ to t□e □ro□ect □ite. T□e intent is to allow the Owner's Representative to easily locate information relating to a specific □□□te□/roo□ □it□out □□□in□to □□end □n inordin□te □□ount of ti□e □e□rc□in□. Inc□ude co□ □□ete infor□ □tion for e□c□ □□□te□/roo□ – t□i□ □ □□in□o□□e du□ic□tion of infor□ □tion.

C. Inc□ude □□□I E1.47-2017 (Entert□in□ent Tec□no□o□□ – Reco□ □ended □uide□ine□ for Entert□in□ent Ri□□in□ □□□te□ In□□ection□) □it□in t□e O□M d□t□.

D. □□ □□□□ic□□□e, □□□e fu□□di□it□□□er□ion to t□e □□□te□ co□ □uter.

E□D OF □ECTIO□ 274100

□ECTIO□ 274110 - TE□ECOMM□□IC□TIO□□ RE□□IREME□T□ FOR □□DIO VIDEO □□□TEM□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ro□ide □Te□eco□□unic□tion□□tructured C□□□in□ □□□te□ to □u□□ort □co□□ete □nd functionin□ □udio Video □□□te□. E□e□ent□ of t□e □or□ inc□ude, □ut □re not i□□ited to, □ □teri□□□, □□□or, □u□er□i□ion, □u□□ie□, too□□, e□ui□□ent, □nd tr□n□□ort to □ro□ide t□e fo□o□in□□

1. □□ie□ded C□te□or□6 □ori□ont□□C□□□in□
2. C□te□or□6 F□ce□□□te□ □ □□ie□ded Connector□
3. Modu□□r C□te□or□6 □□tc□ □□ne□□
4. □□ie□ded C□te□or□6 □□tc□ C□□□e□
5. C□te□or□6 □ori□ont□□C□□□in□
6. C□te□or□6 F□ce□□□te□ □ Connector□
7. C□te□or□6 □□tc□ C□□□e□

□. □□□C□te□or□6 co□ □onent□ □ro□ided under t□i□ □ection □□□□□co□ □□□ □it□ □ □rr□nt□re□uire□ent□ □□ defined □it□in t□i□ □ection □nd □□□□□□e in□t□□ed □nd te□ted □□ □ certified contr□ctor of t□e □□rr□nt□ □ro□ider. Refer to t□e □u□it□ □□□ur□nce □nd □ □rr□nt□ □□r□r□□□□ of t□i□ □□ecific□tion for □ore infor□ □tion on t□i□re□uire□ent.

1.2 RE□□TED □ECTIO□□ I□C□□DE T□E FO□□O□ I□□

□. E□ce□t □□ □odified □□ □o□ernin□ code□ □nd □□ t□e Contr□ct Docu□ent□, co□ □□□ □it□ t□e □□□□ic□□e □ro□i□ion□, re□uire□ent□, □nd reco□ □end□tion□ in Di□i□ion 27 Section “General Co□ □unic□tion□ Requirements”

□. □or□ under t□i□ □ection □□□□□ fo□o□ Di□i□ion 27 □ection “Common Work Results for Co□ □unic□tion□” for □ener□□ □□t□□□, fire□to□□in□, □cce□□ □□ne□, identific□tion, □nd ot□er re□uire□ent□.

C. Refer to Division 27 “Audio Video Systems” and related sections and drawings for additional re□uire□ent□ □nd coordin□tion ite□ □. Coordinate all work with Division 27 “Audio Video Systems” Contr□ctor.

1.3 CODE□, □T□□D□RD□, □□D □□IDE□I□E□

□. In □ddition to □□□□□□□ic□□e code□, □t□nd□rd□, □nd □uide□ine□ i□□ted in Di□i□ion 27 □ection□ “General Co□ □unic□tion□ Requirements” and “□udio Video □□□te□ □”, follow the most recent edition□ of t□e fo□o□in□□

1. □F□□ 70 – □□tion□□E□ectric□□Code (□EC)
2. IEEE □□tion□□E□ectric□□□□□fet□Code (□E□C)
3. □□□I/EI□/TI□ 455 50□, □i□□t □□unc□ Condition□ For □on□-□en□t□ □r□ded-Inde□ O□tic□□ Fi□er □□ectr□□□ttenu□tion Me□□ure□ent□
4. □□□I/TI□/EI□-455-59□, Me□□ure□ent of Fi□er □oint Di□continuitie□ □□in□ □n OTDR.
5. □□□I/TI□/EI□ 455 60□, Me□□ure□ent of Fi□er or C□□□e □en□t□ □□in□ □n OTDR.
6. □□□I/TI□/EI□ 455 61□, Me□□ure□ent of Fi□er or C□□□e □ttenu□tion □□in□ □n OTDR.
7. □□□I/TI□/EI□ 526 7, O□tic□□□o□er □o□□Me□□ure□ent□of In□t□□ed □in□e□ode Fi□er C□□□e □□□nt.

8. □□□I/TI□ 526 14 B, O□tic□□□o□er □o□□Me□□ure□ent□of In□t□□ed Mu□ti□ode Fi□er C□□□e Pla nt; IEC 61280-4-1 edition 2, Fi□re-O□tic Co□□unic□tion□ Subsys□em Te□t □rocedure- □□rt 4-1: In□t□□ed c□□□e plant- Mu□ti□ode □ttenu□tion □e□□ure□ent.
9. TI□-T□□-140 – □ddition□□□uide□ine□ for Fie□d-Te□tin□ □en□t□, □o□□ □nd □o□rit□ of O□tic□□ Fi□er C□□in□ Sys□ems
10. □□□I/TI□-568-C.O - □eneric Te□eco□□unic□tion□C□□in□ for Cu□to□er □re□i□e□
11. □□□I/TI□-568-C.1 - Co□□erci□□□uidin□ Te□eco□□unic□tion□ C□□in□ □t□nd□rd □□rt 1: □ener□□Re□uire□ent□
12. □□□I/TI□-568-C.2 - □□□nced T□i□ted-□□ir Te□eco□□unic□tion□C□□in□□nd Co□□onent□ □t□nd□rd□
13. □□□I/TI□-568-C.3 - O□tic□□Fi□er C□□in□ Co□□onent□□t□nd□rd□
14. ANS I TI□-569-C – Co□□erci□□□uidin□ □t□nd□rd for Te□eco□□unic□tion□ Pa□hways □nd Spa□es
15. ANS I TI□-606-□ – □d□ini□tr□tion □t□nd□rd for Co□□erci□□ Te□eco□□unic□tion□ Infr□□tructure
16. ANS I Z136.2, ANS For □□fe Us□ Of O□tic□□Fi□er Co□□unic□tion Sys□ems □ti□i□in□ Las□r Diode □nd □ED □ource□
17. □IC□I - Te□eco□□unic□tion□Di□tri□ution Met□od□M□nu□□
18. □IC□I – Infor□□tion Tec□no□o□□□□te□□In□t□□□tion Met□od□M□nu□□

1.4 DEFI□ITIO□□

A. C□□e M□nuf□cturer – M□nuf□cturer t□□t furni□□e□ t□e □ori□ont□□□nd □□c□□one c□□e□ of t□e □tructured c□□e sys□em.

B. Connecti□it□ M□nuf□cturer – M□nuf□cturer t□□t furni□□e□ t□e connecti□it□ co□□onent□ of t□e □tructured c□□e sys□em inc□udin□ □ut not i□ited to: pa□ch pa□els, □or□□re□out□et□, □nd □□tc□ c□□e□)

C. Contr□ctor – in re□□rd□ to t□i□ □ection on□, t□e contr□ctor re□□on□i□e for □ro□idin□ a co□□□ete Te□eco□□unic□tion□□tructured C□□in□ Sys□em for □udio Video Sys□ems.

D. Direct □tt□c□ Met□od – as defined in □□□I/□IC□I 005-2013, t□e □ori□ont□□c□□in□on t□e re□ote de□ice end direct□□tt□c□in□(or connectin□) to t□e de□ice t□rou□□ a connectori□ed c□□e or □□rd- □ired ter□in□tion, ei□in□tin□ t□e □or□□t□tion out□et, jack □nd e□ui□□ent cord.

E. □ori□ont□□C□□in□

1. □ori□ont□□c□□e □nd it□ connectin□ □□rd□□re □ro□ide t□e means of tr□n□□ortin□ s□gnals □et□een t□e te□eco□□unic□tion□out□et/connector □nd t□e □ori□ont□□cro□□-connect □oc□ted □t t□e e□ui□□ent r□c□. T□i□c□□in□□nd it□connectin□□□rd□□re □re c□□ed "□er□□nent in□," a ter□ t□□t i□u□ed in t□e te□tin□ □rotoco□.

   a. □ori□ont□□c□□in□ shall □ont□in no □ore t□□n one tr□n□ition □oint or con□o□id□tion □oint □et□een t□e □ori□ont□□cro□□-connect □nd t□e te□eco□□unic□tion□out□et/connector
   b. □rid□ed taps □nd □□ice□ shall □ot □e in□t□□ed in t□e □ori□ont□□c□□in□
   c. □□itter□ shal □not □e in□t□□ed as □□rt of t□e o□tic□□fi□er c□□in□

2. T□e max□mum □□o□□□e □ori□ont□□c□□e □en□t□ for C□te□or□co□□er c□□e i□ 295 feet (90 □eter□), □hich inc□ude□ tot□□c□□e □en□t□ (inc□udin□ □ertic□□routin□ □nd sla□k).

F. □tructured C□□in□/ Te□eco□□unic□tion□□□□te□ – a fu□□-function□□pass□ve te□eco□□unic□tion□ □□□te□ (infr□□tructure), t□□t inc□ude□ □er□ □nent□□ in□t□□ed c□te□or□ co□□er c□□e ter□in□ted onto a pa□ch pa□el, direct □tt□c□connector, or out□et.

G. Tec□nic□□Sys :em □round – t□e i□o□ted □round sys :em □ro□ided □□ecific□□□ for t□e Tec□nic□□ (AV) System, as specified in Division 27 section “Audio Video Systems”.

H. □ et □oc□tion - as defined in t□e □EC, in□t□□□tion□under□round or in concrete sl]bs or □ □□onr□ in direct cont□ct □it□ t□e e□rt□; in □oc□tion□ □u□ect to □□tur□tion □it□ □□ter or ot□er i□uid□, □uc□ as □e□ic□e wash ing a reas; □nd in un□rotected □oc□tion□e□□o□ed to □e□t□er.

1.5 QUAL ITY ASSU RAN CE

A. Contr□ctor □u□ific□tion□

1. Refer to □ □rr□nt□ □nd Coordin□tion □ection□for re□uire□ent□.

B. □er□onne□□u□ific□tion□

1. T□e □er□on(□) conductin□ t□e te□tin□ for all Te□eco□ □unic□tion□c□□in□ shal]□e a current □IC□I Certified L□v□l]I Co□ □erci□□In□t□□□er or □i□□er

a. □u□□it certific□te□ □it□ □re-con□truction s□bm itt als.

2. Any □ddition□□□er□onne□t□□t will □e phys cally in□t□□in□ any □□rt of t□e Te□eco□ □unic□tion□ Infr□□tructure co□ered by t□i□ □ection shall , □t a □ini□u□, □e a □IC□I Certified L□v□l 1 Co□ □erci□□In□t□□□er in □ood □t□ndin□or □□□e e□ui□□ent □ □nuf□cturer tr□inin□.
3. T□e□e re□uire□ent□ □re □ro□ided as a □ini□u□ □e□e of □u□ific□tion. Any □ddition□□or □ore □trin□ent re□uire□ent□ by t□e □□ecific □ □nuf□cturer c□o□en to □ro□ide t□e □ro□er □e□e□or ter□ of □□rr□nt□ as □□ecified in t□i□ di□i□ion shall □e □et.
4. □tern□te □u□ific□tion□ may □e con□idered if re□ue□ted □tern□te□ □re □ro□ided in □ccord□nce □it□ t□e □u□□titution in□truction□ in Di□i□ion 27 Section “General Co□ □unic□tion□Requirements”.

1.6 SUB MITT ALS

A. Follow the requirements for submittals in Division 27 Sections “General Communications Requirements” and “Audio Video Systems”.

B. □re-con□truction - Follow exact Division 27 Section “Audio Video System” submittal requirements, □it□ □ddition□□re□uire□ent□ as noted:

1. Manufacturers’ Cut-□□eet□ – □ddition□□re□uire□ent□ as fo□o□□:

a. □roduct d□t□ on c□□in□ shall □cont□in t□e fo□o□in□:

1) M□nuf□cturer□n□□e □nd □o□o
2) C□□□e out□ide di□□eter
3) □u□ □er of conductor□/□tr□nd□in e□c□ c□□□e
4) Ga uge or □tr□nd t□ic□ne□□
5) Mini□u□ tr□n□□i□□ion □erfor□ □nce r□tin□
6) C□□□e □□c□et □ □teri□□□nd r□tin□
7) M□□i□u□ □u□in□ten□ion
8) □□c□et/□□e□t□co□or
9) Mini□u□ □end r□diu□

a) Durin□ in□t□□□tion □nd □o□t in□t□□□tion, if different

□. □roduct d□t□ on f□ce□□□te□, □odu□e□, connector□, □□tc□ □□ne□□, □nd enc□□ure□ □□□□□ cont□in t□e fo□□o□in□□

1) M□nuf□cturer□n□□e □nd □o□o
2) M□teri□□t□□e
3) □erfor□ □nce r□tin□
4) □□□□ic□□Di□en□ion□
5) Co□or

2. □□o□ Dr□□in□□

□. □c□□ed □□□out dr□□in□□ □□o□in□ t□e routin□ (□nd □u□□ort □et□od) of □□□c□□in□, □nd t□e □oc□tion□ □□ere □□tc□ □□ne□□, Te□eco□ □unic□tion□ out□et□, c□□□e t□□e□, c□□□e □c□et i□tin□ infor□ □tion, fire□to□ □oc□tion□ (□it□ □u□ntit□ □nd □RT□ □□□te□ nu□ □er identified), □nd fi□er o□tic ter□in□tion □□ne□□ re to □e in□t□□□ed.

1) E□c□ indi□idu□□out□et on t□e dr□□in□□ □□□□□□□□e □ro□o□ed out□et identific□tion indic□ted.

□. □c□□ed en□□r□ed □□□n □nd r□c□e□e□□tion dr□□in□□ □□o□in□t□e □oc□tion□of □□tc□ □□ne□□ □nd R□c□-Mount Enc□□ure□.
c. □n□e□□ ot□er□i□e re□uired □□t□e□e □□ecific□tion□, it i□ □er□i□□i□□□ to □□o□ □ or□in t□i□ section on Division 27 “Audio Video Systems” shop drawings.

3. □ □rr□nt□ Infor□ □tion

□. □u□ect to □ □rr□nt□ □□r□□r□□□, □ro□ide □□□ □□ □□rr□nt□ certific□te for t□e □ □rr□nt□, indic□tin□ □ □nuf□cturer □nd t□eir ter□ □/condition□
□. □roof t□□t Contr□ctor i□certified □it□ t□e □ □nuf□cturer

C. □ro□ect Co□ □□etion - Follow exact Division 27 Section “Audio Video System□” submittal re□uire□ent□, □it□ □ddition□□re□uire□ent□ □□noted□

1. □□ □□rt of Di□i□ion 27 □udio Video □□□te□ □– O□er□tion □ M□inten□nce D□t□ □u□□itt□, □□□o inc□ude t□e fo□□o□in□ docu□ent□tion□

□. □ □rr□nt□Certific□te□(if □□□□ic□□□e)
□. C□□□e routin□ □nd Out□et □oc□tion□ identified on □udio Video □□□te□ □ Fin□□Record Dr□□in□□, in □e□rc□□□□e □cro□□t □DF for□ □t (□o t□□t □ or□ □re□ Out□et identifier□c□n □e □e□rc□ed for)
c. Te□t Re□u□t□, in □DF, □□re□d□□eet □nd ori□in□□te□t e□ui□□ent for□ □t
d. De□i□er□confir□ □tion of □□□re □□tc□ C□□□e□de□i□ered to O□ner

1) Refer to Division 27 “Audio Video Systems” and herein for quantities

1.7 COORDI□□TIO□

□. Re□ie□ □□t□□ □□□□ □nd ot□er □ or□, □□ in□t□□□ed □er Di□i□ion 27 section “Common Work Results for Co□ □unic□tion□”, prior to performin□ □n□ □ or□ under t□i□ □ection for confor□ □nce to □□□ referenced code□, □t□nd□rd□, □nd □uide□ine□.

1. □ □i□e Di□i□ion 27 section “Common Work Results for Co□ □unic□tion□” is being installed, t□e □ro□ect M□n□□er of t□i□ □ection □nd t□e □ro□ect M□n□□er of Division 27 “Audio Video Systems” contractor □□□□□□ □□e □ee□□□ in□□ection□ □nd re□ort □n□ i□□ue□ to t□e □ri□e Contr□ctor for correction □rior to in□t□□□tion of □n□c□□i□□.

a. E□□□ □e – Conduit for C□te□or□ 6 d□t□ out□et□ shall not cont□in □ore t□□n t□o 90 de□ree □end□ □et□een pull □oint□.

B. For □ro□ect□ □it□ ot□er Di□i□ion 27 te□eco□□unic□tion□ □or□, coordin□te □it□ Di□i□ion 27 Te□eco□□unic□tion□ Contr□ctor(□) □rior to □id – □i□i□r □roduct□ shall □e by t□e sam e □□nuf□cturer.

1. T□i□ inc□ude□:

a. □ori□ont□□□nd □□c□□one c□□in□
b. Co□□er connecti□it□

C. Coordin□te □it□ Division 27 “Audio Video Systems” contractor for all □ or□in □V e□ui□□ent racks.

1.8 WA RRAN TY

A. T□e Te□eco□□unic□tion□ □tructured C□□in□ Sys□em (as □□ecified in t□i□ □ection) re□uire□ □n □d□□nced Sys□em □ □rr□nt□ as defined □erein. Contr□ctor shall □omply □it□ □u□it□ □□□ur□nce re□uire□ent□ □it□ re□□ect to □d□□nced Sys□em □ □rr□nt□ certific□tion□ □nd sh□ll □e in □ood □t□ndin□ □it□ t□e □□nuf□cturer.

1. □□co□ □onent□, inc□udin□ □ut not i□ited to, connector□, □□tc□ □□ne□□, c□□in□ □nd □□ot□er co□ □onent□ con□idered to □e a □□rt of wha t i□ co□ □on□□ referred to as □n end-to-end □o□ution for all □□c□□one □nd □ori□ont□□c□□in□ □□□te□□, shall □e □□rr□nted for a □ini□u□ □eriod of 20 □ears fro□ t□e d□te of in□t□□□tion □□□in□t defect□in □ □teri□□, e□ui□□ent □nd □or□□ □n□□i□. T□i□ □□rr□nt□ sh□ll als□ inc□ude t□e □erfor□nce of t□e□e sys□ems. T□i□ □□rr□nt□ shall inc□ude tr□n□□i□□ion re□uire□ent□ as □□ecified in □□□ic□□e □□□I/TI□/EI□/IEC/I□O t□nd□rd□ for e□c□ c□□e □□□te□ □□ecified. T□i□ □□rr□nt□ sha □□ inc□ude all current □nd future □□□ic□tion□ □nd tr□n□□i□□ion re□uire□ent□ for t□e in□t□□ed c□□e t□□e/□□□te□.
2. □ □rr□nt□ shall □e □u□r□nteed by a □in□e re□ut□□□e □ □nuf□cturer □uc□ as:

a. □e□den
b. Hubbell
c. □e□iton
d. Mohawk C□□in□
e. Ortronic□
f. □□nduit
g. □u□erior Ess□x
h. Sys□imax
i. Or Approved Substitution (submitted and accepted in the “pre-bid” phase)

3. T□i□ □□rr□nt□ shall e□tend to C□te□or□ □eutri□ connectors specified in Division 27 “Audio Video Systems”. Coordinate with proposed manufacturer of Advanced System Warranty □rior to □id to en□ure t□e□ will □e□tend co□er□□e to t□i□ □roduct for t□i□ □ro□ect.

a. Inc□ude □etter in □re-Con□truction □roduct Submittals fro□ □ □nuf□cturer certif□in□ t□i□ re□uire□ent will □e □et.

4. □ □ere □□rr□nt□ i□ by connecti□it□ □ □nuf□cturer, all connecti□it□ shall □e by □□id □ □nuf□cturer □nd c□□in□ □ □nuf□cturer shall □e co□□□ti□le for u□e □it□ t□e □e□ected connecti□it□.
5. □ □ere □not□er Di□i□ion 27 □□ecifie□ a □i□i□r □□rr□nt□ □nd □ □nuf□cturer for a te□eco□□unic□tion□ □tructured c□□in□ □□□te□, □ro□ide □roduct□ □nd a □□rr□nt□ fro□ t□e sam e □ □nuf□cturer.

6. □d□□nced Sys :em □ □rr□nt□ shall 'nc□ude lab or □nd □ □teri□□.M□□e re□□ir□or re□□□ce□ent□ □it□out any □ddition□□co□t□to t□e O□ner.
7. □erfor□ t□e re□edi□□□or□ promptly, u□on □ritten notice fro□ t□e O□ner.
8. □t t□e ti□e of □u□□t□nti□□Co□ □□etion, de□i□er to t□e O□ner all □□rr□ntie□, in □ritin□ □nd □ro□er□□e□ecuted, inc□udin□ter□ i□ it□for □□rr□ntie□e□tendin□ □e□ond t□e one □e□r □eriod, e□c□ □□rr□nt□in□tru□ent □ein□ □ddre□□ed to t□e O□ner □nd □t□tin□t□e co□ □ence□ent d□te □nd ter□.

B. T□e Te□eco□ □unic□tion□ □tructured C□□□in□ Sys :em (as □□ecified in t□i□ □ection) re□uire□ a □t□nd□rd one-□e□r □ □rr□nt□. □n □d□□nced Sys :em □ □rr□nt□(as often □□ecified as a □ortion of a c□□□in□ sys :em □nd typ ically 20-□e□r in □en□t□) i□not re□uired. Contr□ctor shall □u□□it □roduct cut-□□eet□ indic□tin□ □roduct □eet□ one-□e□r □ini□u□ □□rr□nt□ □eriod. □ □rr□nt□ certific□te□ □re not re□uired. Co mply □it□ □u□it□ □□□ur□nce □nd al te□tin□re□uire□ent□.

□□RT 2 - □ROD□CT□ AN D M□TERI□□□

2.1 □E□ER□□RE□□IREME□T□

A. All c□□□in□ shall □e fro□ a □in□e c□□□e □ □nuf□cturer.

B. All connecti□it□ shall □e fro□ a □in□e connecti□it□ □ □nuf□cturer. T□i□ □ □nuf□cturer shall □e □n □□□ro□ed □□rtner of t□e c□□□e □ □nuf□cturer i□ted in 2.1.A.

1. E□ce□tion: Cert□in □ro□dc□□t □nd f□ce□□□te connection□/co□ □onent□ as □□ecified.

C. All c□□□in□ □nd connecti□it□ □□ecified in t□i□ □ection shall □e co□ered by a □in□e □d□□nced Sys :em □ □rr□nt□.

D. T□e fo□o□in□ □ □nuf□cturer□ □re condition□□□□ □□□ro□ed to □ro□ide t□e □d□□nced Sys :em □ □rr□nt□(□u□□ect to Coordin□tion re□uire□ent□in □□rt 1 of t□i□ □ection):

1. □e□den
2. Hu bbell □re□i□e □ irin□
3. □e□iton
4. Ortronic□ □et□or□ Infr□□tructure
5. □□nduit □et□or□ □o□ution□
6. □u□erior Ess ex

2.2 □□IE□DED C□TE□OR□ 6 □ORI□O□T□□ CABL ING

A. □ori□ont□□c□□□e□for dr□en□iron□ent□

1. Re□uire□ent□

a. Mini□u□ □erfor□nce □□ecific□tion□: C□□□e shall □eet re□uire□ent□for C□te□or□6 of TI□-568-C.
b. □□u□inu□ Foi□T□□e □□ie□d (F/□T□)
c. Four pa irs of 23 AWG co□□er conductor□ □it□ dr□in □ire
d. C□□□e □c□et co□or(□) shall □e

1) T□D

e. C□□□e □c□et □ □r□in□: Sh □ll □e □e□i□e □nd shall □cont□in t□e fo□o□in□ infor□ □tion:

1) Manufacturer's name
2) Co□□er Conductor □ □u□e
3) □□ir Count
4) □□ □nd C□□ ïi□tin□
5) Manufacturer's trade mark
6) C□te□or□r□tin□
7) □e□uenti□□di□t□nce □ □r□in□□, in one foot incre□ent□

f. Indi□idu□□□□in□u□□ted conductor□ under □co□ □on □□e□t□
□. □ □ere □□□c□□□ē□ □re to □e in□t□□□ed in conduit fro□ out□ē□ □o□ to □V E□ui□□ent R□c□, c□□□ē □□□□□□□e ri□er (CMR or M□R) r□ted. □ □ere □n□ □ortion of □n□ c□□□ē i□ routed in □n □ir □ē□enu□ □□□ce, c□□□ē □□□□□□□e □ē□enu□ (CM□) r□ted.

2. M□nuf□cturer □□□□□□e□

□. Fro□ t□e fo□o□in□ ïi□t, □u□ect to Coordin□tion □nd □ □rr□nt□re□uire□ent□□

1) □u□erior E□□e□ C□T 6□ □cT□
2) □e□den D□t□T□i□t 2400
3) □er□-Te□ □□□M□R□-6 FT□
4) □it□c□i □□ie□ded C□te□or□6 C□□□e
5) □u□□e□□□□eedc□□nne□FT□ C□□□e, C□te□or□6
6) Mo□□□□C□te□or□6 F/□T□
7) □□nduit T□6000 □□ie□ded Co□□er C□□□e

□. □ori□ont□□c□□□ē□for □et en□iron□ent□in duct□/conduit□

1. Re□uire□ent□

□. To □e u□ed for □□t□□ □□□□ in or □e□o□ □□□□-on-□r□de, or □□ere □n□ □□rt of □□t□□ □□ i□ e□tern□□to t□e □ui□din□ or in □ □ et or D□□ □ □oc□tion (□□defined □□t□e □EC).

1) □□t□□ □□ □□□□□□enter t□e □ui□din□ (□□ere it □tu□□ u□ out of t□e □□□□) in t□e □V Equipment Room, or within 50' of AV Equipment Room. Coordinate this requirement with Division 27 section "Common Work Results for Communications".

□. □uit□□□ē to □e in cont□ct □it□ □t□ndin□ □□ter.
c. Cable construction shall be consistent with manufacturer's □□ecific□tion□to co□ □□□□it□ □ □rr□nt□re□uire□ent□.
d. Mini□u□ □erfor□ □nce □□ecific□tion□□C□□□ē □□□□□□□eet re□uire□ent□for C□te□or□6 of TI□-568-C.
e. Four □□ir□of 23 □□ □ □oïd co□□er conductor□
f. □□u□inu□ T□□e □□ie□d (F/□T□)
□. C□□□ē □□□□□□□e □et-r□ted / O□□-r□ted.

1) □nd □□□□□tr□n□ition to □ ïi□ted c□□□ē (□ē□enu□ or ri□er r□ted □□ □□□ro□ri□te) □□ere it enter□t□e □ui□din□.
2) T□i□ tr□n□ition i□ not needed if t□e conduit □tu□□ u□ direct□□ into t□e Co□ □unic□tion□Roo□.

□. C□□□ē □□c□et □ □r□in□□ □□□□□□□e □e□i□ē □nd □□□□□cont□in t□e fo□o□in□ infor□ □tion□

1) Manufacturer's name
2) Co□□er Conductor □ □u□e

3) □□ir Count
4) UL □nd CSA □i□tin□
5) Manufacturer's trade mark
6) C□te□or□r□tin□
7) □e□uenti□□di□t□nce □ □r□in□□, in one foot incre□ent□

2. M□nuf□cturer shall □e:

a. Fro□ t□e fo□o□in□ i□t, □u□ect to Coordin□tion □nd □ □rr□nt□re□uire□ent□:

1) □u□erior Ess□x OSP □ro□d□□nd C□te□or□6
2) Or □□□ro□ed E□ui□□ent

2.3 C□TE□OR□ 6 □ORI□O□T□□ CABL ING

A. □ori□ont□□c□□□e□for dr□en□iron□ent□

1. Re□uire□ent□

a. Mini□u□ □erfor□ □nce □□ecific□tion□: C□□□e shall □eet re□uire□ent□for C□te□or□6 of TI□-568-C.
b. Four pairs of 23 AWG co□□er conductor□
c. C□□□e □c□et co□or(□) shall □e

1) T□D

d. C□□□e □c□et □ □r□in□: Shall □e □e□i□e □nd shal cont□in t□e fo□o□in□ infor□ □tion:

1) Manufacturer's name
2) Co□□er Conductor □ □u□e
3) □□ir Count
4) UL □nd C□□ □i□tin□
5) Manufacturer's trade mark
6) C□te□or□r□tin□
7) □e□uenti□□di□t□nce □ □r□in□□, in one foot incre□ent□

e. Indi□idu□□□in□u□ted conductor□under a co□ □on sheath
f. □ □ere all c□□□e□ □re to □e in□t□□ed in conduit fro□ out□et box to □V E□ui□□ent R□c□, c□□□e shall □e ri□er (CMR or M□R) r□ted. □ □ere any □ortion of any c□□□e i□routed in □n □ir □enu□ □□□ce, c□□□e sha□□□e □enu□ (CM□) r□ted.

2. M□nuf□cturer sha□l □e:

a. Fro□ t□e fo□o□in□ i□t, □u□ect to Coordin□tion □nd □ □rr□nt□re□uire□ent□:

1) □u□erior Ess□x C□T 6+
2) □e□den D□t□T□i□t 2400
3) □er□-Te□ □□□M□R□-6
4) □it□c□i C□te□or□6 C□□□e
5) □u□□e□□□eedc□□nne□C□□□e, C□te□or□6
6) Mohawk C□te□or□6
7) □□nduit T□6000 Co□□er C□□□e

B. □ori□ont□□c□□□e□for □et en□iron□ent□in duct□/conduit□

1. Re□uire□ent□

□. To □e u□ed for □□t□□ □□□□ in or □e□o□ □□□□-on-□r□de, or □□ere □n□ □□rt of □□t□□ □□i□ e□tern□□to t□e □uid□n□ or in □ □ et or D□□ □ □oc□tion (□□defined □□t□e □EC).

1) □□t□□ □□ □□□□□enter t□e □uid□n□ (□□ere it □tu□□ u□ out of t□e □□□□) in t□e □V Equipment Room, or within 50' of AV Equipment Room. Coordinate this re□uire□ent □it□ Di□i□ion 27 section "Common Work Results for Communications".

□. □uit□□□e to □e in cont□ct □it□ □t□ndin□ □□□ter.
c. Cable construction shall be consistent with manufacturer's specifications to comply with □ □rr□nt□re□uire□ent□.
d. Mini□u□ □erfor□ □nce □□ecific□tion□□C□□□e □□□□□□eet re□uire□ent□for C□te□or□6 of TI□-568-C.
e. Four □□ir□of 23 □□ □ □oid co□□er conductor□
f. C□□□e □□□□□□e □et-r□ted / O□□-r□ted.

1) □nd □□□□□tr□n□ition to □ i□□ted c□□□e (□enu□ or ri□er r□ted □□ □□□ro□ri□te) □□ere it enter□t□e □uid□n□.
2) T□i□ tr□n□ition i□ not needed if t□e conduit □tu□□ u□ direct□□ into t□e Co□ □unic□tion□Roo□.

□. C□□□e □□c□et □ □r□in□□ □□□□□□e □e□i□e □nd □□□□□cont□in t□e fo□o□in□ infor□ □tion□

1) Manufacturer's name
2) Co□□er Conductor □ □u□e
3) □□ir Count
4) □□ □nd C□□ i□□tin□
5) Manufacturer's tr□de □ □r□
6) C□te□or□r□tin□
7) □e□uenti□□di□t□nce □ □r□in□□, in one foot incre□ent□

2. M□nuf□cturer □□□□□□e□

□. Fro□ t□e fo□o□in□ i□t, □u□□ect to Coordin□tion □nd □ □rr□nt□re□uire□ent□□

1) □u□erior E□□e□O□□ □ro□d□□nd C□te□or□6
2) Or □□□ro□ed E□ui□□ent

2.4 □□IE□DED C□TE□OR□ 6 CO□□ECTIVIT□

□. Connector□/ □□c□□

1. □ener□□Re□uire□ent□

□. Out□et□ □□□□□□eet re□uire□ent□for C□te□or□6 of TI□-568-C.
□. □□□8-□o□ition □odu□□r □□c□□ □re to □e □ired □ccordin□ to t□e TI□ T568□ □in/□□ir □□□i□n□ent□.
c. Out□et □□rd□□re □□□□□□e □□ i□□ted.

2. Fe□ □□e R□-45 □□ie□ded C□te□or□6 □□c□

□. For in□t□□□tion □it□ □□ie□ded C□te□or□6 c□□□e into□

1) Dedic□ted □V LAN f□ce□□□te□ (□□ere no ot□er t□□e of □V connector□ □re needed)
2) R□c□-□ounted □□tc□ Pa nels

b. M□nuf□cturer shall □e fro□ t□e fo□o□in□ li□t, □u□ect to Coordin□tion □nd □ □rr□nt□ re□uire□ent□:

1) Ortronic□ Tr□c□□c□
2) □e□den Key Connect
3) □u□□e□□UDX
4) □e□iton □uic□□ort
5) □□nduit Mini-Co□

3. M□e R□-45 □□ie□ded C□te□or□6 connector

a. For in□t□□□tion onto f□r end of □□ie□ded C□te□or□6 c□□□e □t t□e fo□o□in□ □oc□tion□on□□:

1) In-wall Touc□ Pa nels
2) Cre□tron DM Tr□n□□itter□ & Recei□er□
3) Ot□er □oc□tion□ □□ere it i□not □r□ctic□□to ter□in□te c□□□in□onto a f□ce□□□te or into a sma □□urf□ce Mount (□i□cuit) □o□.

b. M□nuf□cturer shall □e fro□ t□e fo□o□in□ li□t, □u□ect to Coordin□tion □nd □ □rr□nt□ re□uire□ent□:

1) Ortronic□ Tr□c□□c□
2) □e□den Key Connect
3) Hubbell UDX
4) □e□iton □uic□□ort
5) □□nduit Mini-Co□

4. Et□erCO□ Fe□ □□e R□-45 □□ie□ded C□te□or□6 connector

a. For in□t□□□tion in cu□to□ □V f□ce□□□te□ □□ere ot□er t□□e□of □V connector□ □re needed
b. M□nuf□cturer shall □e:

1) Refer to Division 27 Section “Audio Video Systems”

B. F□ce□□□te□ – □□ere on□□ □V LAN connector□ □re needed, □uc□ as □e□ind a TV

1. Re□uire□ent□

a. High i□ □□ct n□□on □it□ nu□ □er of □ort□ to □□o□ □□□□odu□□r □c□□ to □e in□t□□ed as re□uired, □nd as indic□ted on t□e dr□□in□□.
b. Co□or shall □e □ □tc□ed to e□ectric□□
c. □in□e ga□g or dou□e ga□g, as noted on t□e dr□□in□□or re□uired to □ro□ide a co□ □ete □nd functionin□ sys□em

2. □roduct shall □e as fo□o□□, □u□ect to Coordin□tion □nd □ □rr□nt□re□uire□ent□:

a. Fro□ t□e fo□o□in□ li□t:

1) □e□den Key Connect
2) □u□□e□□UDX
3) □e□iton □uic□□ort
4) Ortronic□ Tr□c□□c□

5) □□nduit Mini-Co□
6) Or □□□ro□ed E□ui□□ent

□. Decor□-t□e in□ert□

1) □ro□ide □□nece□□□r□ □er dr□□in□□/det□i□
2) Co□or □□□□□□ □tc□ f□ce□□□te or e□ectric□□, or □□directed □□t□e □rtc□itect

c. □□□n□in□ert□

1) □ro□ide □□□n□ □odu□e□ to fi□□□n□unu□ed o□enin□□ in f□ce□□□te□
2) Co□or □□□□□□ □tc□ ot□er □□c□co□or□

C. Surface mount ("Biscuit") box – for in□t□□□tion □□ needed in □unction/□□c□ □o□, □ro□ector □ift, etc. □□ere in□t□□□tion of □f□ce□□□te i□ not □r□ctic□.

1. Re□uire□ent□

□. T□er□ o□□□□tic □urf□ce-□ount □t□e □o□ □it□ nu□ □er of □ort□ to □□o□ □□□□□c□□ to □e in□t□□ed □□re□uired, □nd □□indic□ted on t□e dr□□in□□.

2. □roduct □□□□□□e □□fo□o□□, □u□ect to Coordin□tion □nd □ □rr□nt□re□uire□ent□□

□. Fro□ t□e fo□o□in□ □i□t□

1) □e□den □e□Connect □ide-Entr□ □o□
2) □u□□e□i□t□tion □urf□ce Mount □o□
3) □e□iton □uic□□ort □urf□ce-Mount □o□
4) Ortronic□ Tr□c□□c□ □urf□ce Mount □o□
5) □□nduit Mini-Co□ □urf□ce Mount □o□

D. Modu□r C□te□or□ 6 □□tc□ □□ne□

1. Re□uire□ent□

□. □e of □ □odu□r □et□□de□i□n □it□ □n□□ in fr□□e□for indi□idu□□□□c□□/connector□.
□. □ort□ □nd □□ne□ □□□□□□e e□□□ to identif□ □it□ □□e□□o□der□ for □ □c□ine-□rinted □nd co□or-coded □□e□. R□c□ □ount□□e □□tc□ □□ne□ □□□□□□ount to □t□nd□rd 19" □ide r□c□.
c. Co□ □□ □it□ referenced □t□nd□rd□. C□□e□ □□□□□e ter□in□ted □it□ connectin□ □□rd □re of □□□e c□te□or□or □i□□er.
d. □□tc□ □□ne□ □□□□□□e □ro□ided co□ □ete □it□ □□□□ountin□ □□rd□□re, □odu□r □c□□, ret□iner□, □ire □uide□, de□i□n□tion □tri□□, etc.
e. □ro□ide enou□□ □□tc□ □□ne□ for t□e nu□ □er of c□□e□ter□in□ted on t□e □□tc□ □□ne, □u□10 □ercent □□re. □ro□ide □odu□r □c□□ to fi□e□c□ □□ne□co□ □ete□. Do not e□□e □n□ □□□n□o□enin□□.

2. □roduct □□□□□□e □□fo□o□□, □u□ect to Coordin□tion □nd □ □rr□nt□re□uire□ent□□

□. Fro□ t□e fo□o□in□ □i□t□

1) □e□den □e□Connect Modu□r □□tc□ □□ne□
2) □u□□e□□D□ □□ne□
3) □e□iton □uic□□ort □□tc□ □□ne□
4) Ortronic□ OR-□□D□□□24

5) □□nduit Mini-Co□ Modu□□r Pa tch Pa nels

2.5 C□TE□OR□ 6 CO□□ECTIVIT□

A. Connector□/ Ja cks

1. □ener□□Re□uire□ent□

a. Out□et□ shall □eet re□uire□ent□for C□te□or□6 of TI□-568-C.
b. All 8-□o□ition □odu□□r jacks □re to □e □ired □ccordin□ to t□e TI□ T568□ □in/□□ir □□□i□n□ent□.
c. Out□et □□rd□□re shall □e UL li□□ted.

2. Fe□ □□e R□-45 C□te□or□6 Ja ck

a. For in□t□□□tion □it□ C□te□or□6 c□□□e into:

1) Dedic□ted □V LAN f□ce□□□te□(□□ere no ot□er t□□e of □V connector□ □re needed)
2) R□c□-□ounted □□tc□ Pa nels

b. M□nuf□cturer □hall □e fro□ t□e fo□o□in□ li□t, □u□ect to Coordin□tion □nd □ □rr□nt□ re□uire□ent□:

1) Ortronic□ Tr□c□□c□
2) □e□den Key Connect
3) □u□□e□□UDX
4) □e□iton □uic□□ort
5) □□nduit Mini-Co□

3. M□□e R□-45 C□te□or□6 connector

a. For in□t□□□tion onto f□r end of C□te□or□6 c□□□e □t t□e fo□o□in□ □oc□tion□on□□:

1) In-□□□□Touc□ Pa nels
2) Cre□tron DM Tr□n□□itter□ & Recei□er□
3) Ot□er □oc□tion□□□ere it i□not □r□ctic□□to ter□in□te c□□□in□onto a f□ce□□□te or into a small □urf□ce Mount (□i□cuit) Box.

b. M□nuf□cturer shall □e fro□ t□e fo□o□in□ li□t, □u□ect to Coordin□tion □nd □ □rr□nt□ re□uire□ent□:

1) Ortronic□ Tr□c□□c□
2) □e□den Key Connect
3) □u□□e□□UDX
4) □e□iton □uic□□ort
5) □□nduit Mini-Co□

4. Et□erCO□ Fe□ □□e R□-45 C□te□or□6 connector

a. For in□t□□□tion in cu□to□ □V f□ce□□□te□□□ere ot□er type□s of □V connector□ □re needed
b. M□nuf□cturer shall □e:

1) Refer to Division 27 Section “Audio Video Systems”

B. F□ce□□□te□– □□ere on□□ □V LAN connector□ □re needed, □uc□ as □e□ind a TV

1. Re□uire□ent□

   a. High i□ □□ct n□on □it□ nu□ □er of ports to al□w all □odu□r □acks to □e in□t□□ed as re□uired, □nd as indic□ted on t□e dr□□in□□.
   b. Co□or shall □e □ □tc□ed to e□ectric□□
   c. □in□e ga□g or dou□e ga□g, as noted on t□e dr□□in□□or re□uired to □ro□ide a co□ □□ete □nd functionin□ sys :em

2. □roduct shall □e as fo□o□□, □u□ect to Coordin□tion □nd □ □rr□nt□re□uire□ent□:

   a. Fro□ t□e fo□o□in□ i□t:

      1) □e□den Key Connect
      2) Hubbell UDX
      3) □e□iton □uic□□ort
      4) Ortronic□ Tr□c□□c□
      5) □□nduit Mini-Co□
      6) Or □□□ro□ed E□ui□□ent

   b. Decor□-□t□e in□ert□

      1) □ro□ide as nece□□□r□ □er dr□□in□□/det□i□□
      2) Co□or shall □ □tc□ f□ce□□□te or e□ectric□□, or as directed by t□e □rc□itect

   c. Bla nk in□ert□

      1) □ro□ide blank □odu□e□ to fi□□any unu□ed o□enin□□in f□ce□□□te□
      2) Co□or shall □ □tc□ ot□er ja□k co□or□

C. Surface mount (“Biscuit”) box – for in□t□□□tion as needed in □unction/□□c□ box, □ro□ector □ift, etc. □□ere in□t□□□tion of a f□ce□□□te i□ not □r□ctic□.

   1. Re□uire□ent□

      a. T□er□ o□□□□tic □urf□ce-□ount □t□e bo□x □it□ nu□ □er of □ort□ to al□w all ja□ks to □e in□t□□ed as re□uired, □nd as indic□ted on t□e dr□□in□□.

   2. □roduct shall □e as fo□o□□, □u□ect to Coordin□tion □nd □ □rr□nt□re□uire□ent□:

      a. Fro□ t□e fo□o□in□ i□t:

         1) □e□den □e□Connect □ide-Entr□ Box
         2) □u□□e□i□t□tion □urf□ce Mount Box
         3) □e□iton □uic□□ort □urf□ce-Mount Box
         4) Ortronic□ Tr□c□□c□ □urf□ce Mount Box
         5) □□nduit Mini-Co□ □urf□ce Mount Box

D. Modu□□r C□te□or□6 Pa tch Pa nels

   1. Re□uire□ent□

      a. □e of a □odu□□r m etal de□i□n □it□ s□ap in fr□□e□for indi□idu□□□c□□/connector□.
      b. □ort□ □nd pa nels shall □e easy to identif□ □it□ lab el □older□ for □ □c□ine-□rinted □nd co□or-coded □□e□□. R□c□ □ount□□e □□tc□ □□ne□□ sha □□□ount to □t□nd□rd 19" □ide racks.

c. Co□ □□□ □it□ referenced □t□nd□rd□. C□□□e□ shall □e ter□in□ted □it□ connectin□ □□rd□□re of sam e c□te□or□or i□□er.
d. Pa tch □□ne□□ shall □e □ro□ided co□ □□ete □it□ all □ountin□ □□rd□□re, □odu□□r jacks, ret□iner□, □ire □uide□, de□i□n□tion □tri□□, etc.
e. □ro□ide enou□□ □□tc□ pa□nels for t□e nu□ □er of c□□□e□ter□in□ted on t□e pa tch pa nel, □u□ 10 □ercent spa re. □ro□ide □odu□□r jacks to fi□□e□c□ pa nel co□ □□ete□□. Do not □e□□e any bla nk o□enin□□.

2. □roduct shall □e as fo□o□□, □u□□ect to Coordin□tion □nd □ □rr□nt□re□uire□ent□:

a. Fro□ t□e fo□o□in□ i□□t:

1) □e□den □e□Connect Modu□□r Pa tch Pa nels
2) □u□□e□□UDX Pa nels
3) □e□iton □uic□□ort Pa tch Pa nels
4) Ortronic□OR-□□D□□□24
5) □□nduit Mini-Co□ Modu□□r Pa tch Pa nels
6)

2.6 □□IE□DED C□TE□OR□ 6 PA TCH C□□□E□/CORD□

A. Re□uire□ent□

1. F□ctor□-ter□in□ted □nd te□ted
2. Shall □eet re□uire□ent□ for C□te□or□ 6 of TI□-568-C
3. □□ie□ded
4. □ro□ide □u□ntitie□ □nd □en□t□□ as nece□□□r□ for a co□ □□ete □udio Video □□□te□ □coordin□te requirements with Division 27 “Audio Video Systems” contractor.
5. In t□e □V E□ui□□ent Roo□/R□c□, Co□or shall □orre□□ond to t□e fo□o□in□ VLANs:

a. Cre□tron/□M□/E□tron □V di□tri□ution/contro□ – bla□k
b. I□ / Contro□connection□ – □ur□e
c. □udio □et□or□□ – □ue
d. □D□□□eT di□tri□ution – □re□

6. For □□tc□ c□□□e□/cord□ □t t□e □or□ □re□ out□et, co□or shall □e bla□k.
7. □ro□ide t□e fo□o□in□ □□□re□, de□i□ered to t□e O□ner □t ti□e of O□ner □V Tr□inin□

a. (10) □□ite 3 foot pa tch cord□
b. (10) □□ite 7 foot pa tch cord□

B. □roduct shall □e fro□ t□e sam e □ □nuf□cturer as t□e pa tch pa nel □ □nuf□cturer:

1. Fro□ t□e fo□o□in□ i□□t:

a. □e□den
b. Hubbell
c. □e□iton
d. Ortronic□
e. □□nduit

2.7 C□TE□OR□ 6 PA TCH C□□□E□/CORD□

A. Re□uire□ent□

1. F□ctor□-ter□in□ted □nd te□ted
2. Shall □eet re□uire□ent□for C□te□or□6 of TI□-568-C
3. □ro□ide □u□ntitie□ □nd □en□t□□ as nece□□□r□for a co□ □ete □udio Video Sys :em; :coordin□te re□uire□ent□ □it□ Di□i□ion 27 “Audio Video Systems” contractor.
4. In t□e □V E□ui□□ent Roo□/R□c□, Co□or shall :orre□□ond to t□e fo□o□in□ VLANs:

   a. Cre□tron/□M□/E□tron □V di□tri□ution/contro□– bla□k
   b. I□ / Contro□connection□– □ur□e
   c. □udio □et□or□□– □ue
   d. □D□□□eT di□tri□ution – □re□

5. For all :□r-end connection□, co□or shall □e bla□k.
6. □ro□ide t□e fo□o□in□ spa re□, de□i□ered to t□e O□ner □t ti□e of O□ner □V Tr□inin□

   a. (10) □□ite 3 foot pa□tch cord□
   b. (10) □□ite 7 foot pa□tch cord□

B. □roduct shall □e fro□ t□e sam e □ □nuf□cturer as t□e pa□tch pa□nel □ □nuf□cturer:

1. Fro□ t□e fo□o□in□ li□t:

   a. □e□den
   b. Hubbell
   c. □e□iton
   d. Ortronic□
   e. □□nduit

2.8 CO□□ER E□TR□□CE □ROTECTIO□

A. □ener□□

1. Fu□□ □rotect e□c□ end of □□□inco□in□ conductor□ which □re con□idered to □□□e i□□□tnin□ e□□o□ure in □ccord□nce □it□ □EC c□□□ter 8.

B. C□te□or□6 □ur□e □rotection

1. □ener□□

   a. Shall □eet UL 497
   b. Shall e□ceed TI□/EI□ 568 C□te□or□6 □erfor□□nce □t□nd□rd□
   c. Sha □□□e c□□□□□e of □ein□u□ed □it□ □OE+ □□□ic□tion□

2. □ □□+□ount □rotector□ – for □in□e c□□e□, □□ere □u□ntit□ of c□□e□ in E□ui□□ent Roo□ needin□ □rotection i□6 or □e□□

   a. M□nuf□cturer shall □e:

      1) E□er□on Edco C□T6-□OE
      2) IT□ □in□ □ur□e□□te □erie□ C□T6-75

3. R□c□+□ount □rotector□ – □□ere □ore t□□n 6 c□□e□ in □n E□ui□□ent Roo□ re□uire □ur□e □rotection

   a. Sha □□□e r□c□+mountable in 19” wide equipment rack
   b. □ro□ide □u□ntit□ of C□te□or□6 □rotector□/□odu□e□ re□uired for in□t□□, □u□ 25% spa re

c. M□nuf□cturer □□□□□□e□

1) □□C □rotect□et C□□□□i□(□RM24) □it□ C□t 6 □ur□e Modu□e□(□□ETR6)
2) E□er□on Edco RM-C□T6-□□□OE

4. F□r-end □rotection – e□terior C□te□or□ 6 out□et□ □□ou□d □□□e inte□r□□□rotection □□□in□t □o□er □ur□e□ □nd tr□n□ient□. □ □ere □V e□ui□□ent doe□ not □□□e inte□r□□ □rotection, □ro□ide t□e fo□o□in□ □t t□e f□r-end of e□c□ e□terior C□te□or□6 out□et□

□. □□c□□o□ C□T6 In-□ine □ur□e □rotector
□. E□er□on C□T6-5□OE-FF

2.9 CO□□ER TE□TI□□ E□□I□ME□T

□. T□e fo□o□in□ Te□t E□ui□□ent i□ Condition□□□□ □□□ro□ed for Contr□ctor u□e.

□. C□te□or□6 C□□e Te□ter

2. □□□i□□□e M□nuf□cturer□. Contr□ctor □ □□ □u□□it ot□er c□□e te□ter□ t□□t □eet □□ecific□tion re□uire□ent□.

□. C□te□or□6 C□□e Te□ter

1) F□u□e □□□.f□u□enet□or□□co□
2) □reen□ee □□□.□reen□ee.co□
3) Ide□□ □□□.ide□indu□trie□.co□
4) □D□□ □□□.d□u.co□

3. Re□uire□ent□

□. T□e fie□d te□ter □□□□□□e □ e□e□III or □re□ter.
□. T□e fie□d te□ter □□□□□□eet t□e re□uire□ent□ of TI□-568.

□. C□te□or□3 C□□e Te□ter

1. □□□i□□□e M□nuf□cturer□. Contr□ctor □ □□ □u□□it ot□er c□□e te□ter□ t□□t □eet □□ecific□tion re□uire□ent□.

□. C□te□or□3 C□□e Te□ter

1) F□u□e □□□.f□u□enet□or□□co□
2) □reen□ee □□□.□reen□ee.co□
3) Ide□□ □□□.ide□indu□trie□.co□
4) □D□□ □□□.d□u.co□

2. Re□uire□ent□

□. T□e fie□d te□ter □□□□□□eet t□e re□uire□ent□ of TI□-568.

□□RT 3 - E□EC□TIO□

3.1 C□□□E I□□T□□□□TIO□

□. □ener□□

1. In□t□□e□c□c□□ē □□ □n uninterru□ted conductor □ection □et□een t□e de□i□n□ted ter□in□tion □oint□, un□e□□ ot□er□i□e directed □□ t□e c□□ē in□t□□□tion □□ecific□tion□.

   □. T□ere □□□□□□e no □□i□e□ or □ec□□nic□□cou□er□ in□t□□ed □et□een t□e c□□ē □oint□ of ori□in □nd ter□in□tion e□ce□t □□ □□o□n on t□e Dr□□in□□ □nd/or □□ecified □erein.
   □. □o □ori□ont□□C□te□or□ 6 c□□ē□ □□□□□e□ceed t□e □□o□ed □ □□i□u□ di□t□nce of 295 feet (90 □eter□) □□ TI□-568-C.

2. □n□e□□ ot□er□i□e noted, □□□ c□□ē□ □□□□□□ □e routed t□rou□□ t□e □uid□n□ c□□□ tr□□/conduit/□urf□ce-□ounted r□ce□ □□ □□□te□. Refer to t□e E□ectric□□dr□□in□□ for □□□out of c□□ē tr□□.

   □. □□□□ori□ont□□c□□□ē□ □□□□□□□e □uit□□□ē for in□t□□□tion in t□eir en□iron□ent, eit□er □enu□ (CM□, M□□, OF□□, or OFC□) or ri□er (CMR, M□R, OF□R, or OFCR) r□ted, un□e□□ ot□er□i□e noted.
   □. □ori□ont□□ c□□□ē□ in□t□□ed in □ et □oc□tion□ □□ defined □□ t□e □EC or in t□e□e con□truction docu□ent□ (□uc□ □□ conduit□ e□ □edded or routed □e□□ □ □round f□□r □□□□) □□□□□□□e □uit□□□ē for in□t□□□tion in □uc□ en□iron□ent□ □nd fo□□ t□e in□t□□□tion re□uire□ent□ for out□ide □□□nt c□□□ē□ □□ □□ecified □erein.

3. C□□ē□ □□□□□re□ □in un□tt□c□ed to □□t□□ □□□□ or ot□er c□□ē□ □nd □□□□□□i□ □□□ □□□ □t re□t on t□e □u□□ort□ □ro□ided □□ it□ □□t□□ □□ (inc□udin□ c□□ē tr□□□, □ire □□□□et, □-□oo□□, conduit, etc.). □ ire tie□, □e□cro □tr□□□, e□ectric□□t□□e or □n ot□er □et□od □□□□□not □e u□ed to □tt□c□ c□□ē□ to c□□ē □u□□ort□ or to cre□te c□□ē □und□□.

   □. E□ce□t □□en □u□□orted □□ □□dder r□c□n□ □it□in e□c□□V E□ui□□ent Roo□/R□c□, □O□.

4. □t t□e □□□e ti□e □ori□ont□□c□□□ē□ □re □u□ed into □conduit □□□o in□t□□□ □u□□cord to f□ci□it□te future c□□ē □u□□ □□n□ t□o□e. □□e □o□□ro□□ene or □onofi□□ent □□□□tic □ine □it□ not □e□□ t□□n 200 □□ (90.72 □□) ten□i□ □tren□t□. □e□□e □t □e□t 12 inc□e□ (304.8 □ □) of □□c□ t e□c□ end of □u□□cord.
5. Do not in□t□□□in□ed, □cored, defor□ed, or □□r□ded c□□ē. Re□o□e □nd di□c□rd c□□ē if d□□ □□ed durin□ in□t□□□tion □nd re□□ce it □it□ne□ c□□ē
6. Co□ □□□ □it□ □□□referenced □t□nd□rd□ □nd □uide□ine□.
7. C□□ē□ □□□□□□e □ □□□ed, co□ered, or ot□er□i□e □rotected fro□ □ein□ □□inted or co□in□ in cont□ct □it□ □n□ ot□er □u□□t□nce t□□t □ □□ de□r□de t□e □erfor□□nce or □□□□ic□□ c□□r□cteri□tic□ of t□e c□□ē □□c□et or in□u□□tion o□er ti□e.
8. □ □ere di□t□nce □□o□ □ □□□ □ori□ont□□c□□□ē□ □□□□□□e □ro□ided □it□ □□□c□/□er□ice □oo□□ □t e□c□ end of t□e c□□ē, one □t t□e de□ice (if not in conduit) □nd one □t t□e e□ui□□ent roo□/enc□o□ure. E□c□ □□□c□/□er□ice □oo□ □□□□□□e□

   □. □ □ini□u□ of 8 feet (2.44 □eter) in □en□t□, □□O
   □. Confi□ured in □ □oo□e□□for□ed fi□ure ei□□t confi□ur□tion (ie. not coi□ed)

9. □□e of □n□c□□□e □u□in□ □u□ric□nt□i□ □ro□i□ited.

   □. □ □ere □u□ric□nt i□ dee□ed nece□□□r□ □□t□e contr□ctor to f□ci□it□te in□t□□□tion of c□□ē in conduit, □u□□it RFI □it□ e□□□□n□tion, effected conduit run, □ro□o□ed □u□ric□nt t□□e, □etter fro□ c□□ē □ □nuf□cturer indic□tin□ □ro□o□ed □u□ric□nt □i□□not d□□ □□e or de□r□de c□□ē, □nd □ □etter fro□ t□e □ □nuf□cturer □ro□idin□ t□e □d□□nced □□□te□ □ □rr□nt□ (if □□□□ic□□ē) t□□t t□e u□e of t□i□ □u□ric□nt □i□□not e□c□ude t□□t c□□ē run fro□ t□e re□uired □□rr□nt□.

□. Out□ide □□□nt c□□ē in□t□□□tion□for c□□ē□ □□□ced in □ et or D□□ □ □oc□tion□ (□□ defined □□ t□e □EC) or □□ re□uired □□ t□e□e con□truction docu□ent□. (I.e. □□□c□□ē□ □□ic□ e□tend □e□ond t□e

footprint/enclosure of the building or structure leading to floor-mounted or embedded in ground floor slab)

1. Coordinate installation of conduit penetrations and protections to conduit stubbed up directly into Equipment Room, if practical.
2. If conduit penetrations cannot be installed to conduit stubbed up directly into Equipment Room, utilize IMC or RMC conduit to within 50 feet (15.24 meter) of the cable termination point.
3. No portion of outdoor only (unlisted) cable may be installed with the cable jacket exposed in any plenum or other air handling space nor shall it be allowed to transition between different levels of the building.
4. Where specifically noted or allowed by the construction documents, cable jacketed for dual use as CMP, such as indoor/outdoor rated cable may be used.

    a. These cables may be installed in protection with the building in which the cable jacket is appropriately rated to meet applicable building code.

5. All cables shall extend beyond the enclosure/footprint of the building or penetrate outside/device on external wall or roof shall be installed with entrance protectors in accordance with local section.

3.2 CONNECTOR INSTALLATION

A. Furnish and install connectors on the ends of the Drawings.

B. Provide number of connectors as required by the Drawings and as required by these documents, where the number of connectors required does not fill the entire faceplate provide blank inserts to cover no opening in left.

C. The provision and termination of connectors from each cable shall be done as follows:

1. Where connector types are identified on the specification sheet drawings or in the specifications, furnish and install the specified connectors on the specified cable. Installation of the connectors shall be in accordance with the manufacturer's printed instructions.
2. Uninstalled connectors, regardless of type, method of procurement or per agency, shall be adequately protected during and after installation.

D. Copper Connector Installation

1. Terminate all four pairs of each cable on one outlet jack. Ensure tied/foiled and drain wire are properly installed according to manufacturer's instructions.
2. Furnish and install connectors on the ends of the Drawings or as indicated therein, unless otherwise noted.
3. The provision and termination of connectors for each cable shall be done as follows:

    a. Where connector types are identified on the specification sheet drawings or in the specifications, Furnish and install the specified connectors on the specified cable. Installation of the connectors shall be in accordance with the manufacturer's printed instructions.
    b. Uninstalled connectors, regardless of type, method of procurement or per agency, shall be adequately protected during and after installation.

3.3 FACEPLATE INSTALLATION

A. Furnish and install faceplate in location on the Drawings.

1. □ □ere co-located on AV faceplates, coordinate installation with Division 27 “Audio Video Systems” contractor.

3.4 C□□□E IDE□TIFIC□TIO□

□. □□□e □□□□c□□in□ □it□ □ □c□ine-□rinted □□□e□ □ccordin□ to t□e □□□e□in□ □c□e□ e identified on t□e dr□□in□□. If t□e dr□□in□□ do not □ddre□□ □□□e□in□ □c□e□ e, □u□□it RFI t□rou□□ □□□ro□ri□te c□□nne□□re□ue□tin□ □□□e□in□ □c□e□ e.

1. □□o□ dr□□in□□ □□□□□inc□ude f□oor □□□n t□□t indic□te□ □ro□o□ed c□□□e/out□et identific□tion for e□c□ out□et.

□. Cables shall be labeled within 6” at each end.

C. □□c□□□e □□□e□ □□□□□□□e t□er□ □□-tr□n□fer t□□e □nd uti□i□e □ef□-d□e□i□e □□e□. T□e fo□o□in□ □re □□□ro□ed □ □nuf□cturer□□

1. □r□d□, ID□□ERT
2. □e□er□ □nn T□ton, □□irit 2100
3. □□nduit □□9
4. Or □□□ro□ed E□ui□□ent

3.5 E□TR□□CE □ROTECTIO□ I□□T□□□□TIO□

□. In□t□□□roundin□ □ire □□ □tr□□□t □□ □o□□i□e fro□ □rotector to t□e Tec□nic□□□□□te□ □round.

□. □roundin□ □nd □ondin□

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3.6 □E□ER□□ C□□□E TE□TI□□

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1. Vi□u□□□in□□ect □□c□□□e□, c□□□e ree□/□o□e□, □nd □□i□□in□ c□rton□ to detect c□□□e d□□ □□e incurred durin□ □□i□□in□ □nd tr□n□□ort. Return □i□□□d□□ □□ed ite□ □ to t□e □ □nuf□cturer.
2. M□r□ree□ or □o□e□ □□te□ted/in□□ected.
3. Do not install any cable with less than the manufacturer’s guaranteed number of serviceable conductor□.
4. T□e fie□d-te□t in□tru□ent□ □□□□□□e □it□in t□e c□i□r□tion □eriod reco□ □ended □□ t□e □ □nuf□cturer □nd □□□□□cont□in t□e □o□t recent □oft□□re □nd fir□ □□re □ro□ided □□ t□e □ □nuf□cturer □rior to te□tin□.

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6. □□c□□□e□t□□t f□i□te□tin□ □re to □e corrected □rior to □u□□t□nti□□co□ □□etion □nd □cce□t□nce □□ o□ner. Re□□□ce entire c□□□e if □□d □□ir or conductor i□ found. Do not □□□ndon c□□□e□ in □□□ce.

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      4) D□te of te□t
      5) Contractor's Name
      6) Medi□ T□□e
      7) M□□e, Mode□□nd □eri□□□u□ □er of te□t e□ui□□ent u□ed
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D. Fin□□cce□t□nce Re□ie□

1. Fin□□ □cce□t□nce Re□ie□ □i□ t□e □□ce in con□unction □it□ t□e De□i□n Con□u□t□nt Commissioning as specified in Division 27 Section "Audio Video Systems". Fin□□cce□t□nce Re□ie□ c□nnot t□e □□ce unti□De□i□n Con□u□t□nt recei□e□ Te□t Re□u□t□ □nd Record Dr□□in□□.
2. □ro□ide □ □ini□u□ of t□o □uit□□□ □u□ified c□□in□/te□tin□tec□nici□n□to □e □re□ent on-□ite for □ □eriod of t□o □our□ durin□ t□e □c□edu□ed Fin□□cce□t□nce Re□ie□. □e □re□□red to conduct on-t□e-□□ot c□□e□ te□t□.
3. Durin□ t□e Fin□□cce□t□nce Re□ie□, t□e O□ner or t□e De□i□n Con□u□t□nt □ □□ □e□ect □ r□ndo□ □□□ □e of u□to 10□ of t□e in□t□□ed i□ □□for t□e Contr□ctor to rete□t. T□e □e□□ured re□u□t□o□tained fro□ t□e r□ndo□ □□□ □e □□□□□e co□ □□red to t□e Te□t Re□u□t□ □ro□ided □□ t□e Contr□ctor.
4. If 10□ or □ore of t□e r□ndo□ □□te□ted c□□e□ differ in ter□ □of t□e □□□□/f□i□deter□in□tion or in c□□e □en□t□, t□e O□ner □nd De□i□n Con□u□t□nt re□er□e t□e ri□□t to re□uire □re-te□tin□of 100□ of t□e c□□e □□□nt □□t□e Contr□ctor at the Contractor's expense.
5. □ucce□□fu□e□ui□□ent □erfor□ □nce te□t□ do no re□ie□e t□e Contr□ctor fro□ t□e □□ecified te□tin□, re□□ir, □nd docu□ent□tion re□uire□ent□.

3.7 CO□□ER C□□□E TE□TI□□

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D. All in□t□□ed c□□in□ □er□ □nent Links shall □e fie□d-te□ted □nd pass t□e te□t re□uire□ent□ □nd anal ys ab ov e. Any □er□ □nent □in□or Modified □er□ □nent □in□t□□t fa ils t□e□e re□uire□ent□ shall □e di□□no□ed □nd corrected. Any correcti□e □ction t□□t □u□t t□□e pla□ce shall □e docu□ented □nd fo□o□ed □it□ a ne□ te□t to □ro□e t□□t t□e corrected □er□ □nent □in□ □eet□ □erfor□ □nce re□uire□ent□. T□e fin□□□nd pass ng re□u□t of t□e te□t□ for all □er□ □nent Links shall □e □ro□ided in t□e te□t re□u□t□ docu□ent□tion.

3.8 □CCE□T□□CE

A. All □ or□in t□i□□ection i□ □u□□ect to t□e □ro□ect Co□ □□etion □nd □c□edu□e re□uire□ent□of Di□i□ion 27 section "□udio Video □□□te□ □".

B. □fter Fin□□□cce□t□nce Re□ie□:

1. Co□ □□ete a□l □unc□ i□t ite□ □.
2. Rete□t effected c□□□e□.
3. Am ong ot□er re□uire□ent□, □u□□ it u□d□ted □nd co□ □□ete Record Dr□□in□□/Te□t Re□u□t□ as □□rt of Di□i□ion 27 □udio Video Sys ems – O□er□tion □nd M□inten□nce D□t□ □u□□itt□□.

E□D OF □ECTIO□ 274110

□ECTIO□ 274116 - □□DIO VIDEO □□□TEM□ E□□I□ME□T

□□RT 1 - □E□ER□□

1.1 □□MM□R□

A. T□e□e □□ecific□tion□ □nd t□e □□□oci□ted T□-□erie□ dr□□in□□ de□cri□e t□e re□uire□ent□ for t□e □ound □nd □udio-□ideo (□V) □□□te□ (□ere□fter referred to □s the "Technical System").
B. Refer to Division 27 Section "Audio Video Systems" for □ddition□□infor□ □tion.

1.2 RE□□TED DOC□ME□T□

A. Dr□□in□□ □nd □ener□□ □ro□i□ion□ of t□e Contr□ct, inc□udin□ □ener□□ □nd □u□□e□ent□r□ Condition□ □nd Di□i□ion 1 □□ecific□tion □ection□, ap□ly to t□i□ □ection, as do t□e fo□o□in□:

1. Division 27 Section "General Co□ □unic□tion□Re□uire□ent□ - □V.
2. Division 27 Section "Common Work Results for Communications - □V.
3. Division 27 "Audio Video Systems".

B. All C□te□or□ 5e/6 □nd fi□er o□tic c□□in□ □nd ter□in□tion□ sha□l □d□ere to t□e Di□i□ion 27 Section "Telecommunications Requirements for Audio Video Systems".

1.3 □□□□IT□ ASSU RAN CE

A. Refer to Division 27 "Audio Video Systems" for quality assurance requirements □it□ t□e fo□o□in□ □odific□tion□:

1. Contr□ctor □ener□□□u□ific□tion□:

a. □cti□e membership in t□e □□tion□□Sys□ems Contr□ctor□ □□□oci□tion (NSCA).
b. □cti□e membership in InfoCo□□t□ □udio□i□u□□□nd Inte□r□ted E□□erience □□□oci□tion (AVIXA).
d. □ut□ori□ed de□□er for □□□or co□ □onent□ of Tec□nic□□Sys□em. M□□or co□ □onent□ inc□ude: □oud□□e□□er□, □ideo □ro□ector□, contro□sys□ems, □o□er □□ □ifier□, □nd Di□it□□ Signal □roce□□or□.

2. Contr□ctor □er□onne□□u□ific□tion□:

a. Mini□u□ of one fu□-ti□e □t□ff □e□□er who has □ttended tec□nic□□ sys□em en□ineerin□ cour□e□t□u□□t □□□□n-□ud-Con in t□e □□□t 10 years.
b. Mini□u□ of one InfoCo□□ AVIXA CT□-I (Certified Tec□no□o□□ □□eci□i□t - In□t□□□tion) sys□ems tec□nici□n.
c. Mini□u□ of one fu□-ti□e □t□ff □e□□er who has a □ini□u□ of t□ree (3) years direct e□□erience □it□ □nd i□ f□ctor□-certified on t□e □o□t recent □er□ion of t□e □e□ected Di□it□□Signal □roce□□or (DSP) □oft□□re □nd tec□no□o□□. T□i□ indi□idu□□ shal□]□e re□□on□i□e for t□e i□□e□ent□tion of t□e DSP sys□em inc□udin□ □oft□□re. T□i□ indi□idu□□sha□□□e t□e sam e t□rou□□out t□e e□ecution of t□e □or□un□e□□ in□e□, o□□ of □er□onne□, or ot□er re□□on□□□e circu□□t□nce□inter□ene.
d. Mini□u□ of one fu□-ti□e □t□ff □e□□er who has a □ini□u□ of t□ree (3) years direct e□□erience □it□ net□or□ □□□ed-□V tr□n□□ort □nd i□ f□ctor□-certified on t□e □o□t recent □er□ion of t□e □e□ected □V tr□n□□ort tec□no□o□□. T□e indi□idu□□shall □o□d a

current manufacturer's certification (i.e., Crestron DMC-E). This individual shall be responsible for the installation and verification of the AV transmitter. This individual shall be present throughout the execution of the work until final inspection, approval of Engineer, or other responsible party.

e. Minimum of one full-time staff member or two (2) minimum of three (3) year direct experience and is a factory certified Master Engineer or higher on the most recent version of the AV control software and technology. This individual shall be present throughout the execution of the work until final inspection, approval of Engineer. A factory authorized independent programmer (i.e., Crestron Master CAIT) is permitted to be accepted, providing the programmer meet the criteria identified in this programming section.

1.4 SUBMITTALS

A. Refer to requirements in Division 27 Section "General Communications Requirements".
B. Refer to Division 27 Section "Audio Video Systems" for submittal requirements with the following interpretations and additions:

1. Pre-Construction

A. Procedure specific item include:

1) Off-site touch screen layout, DSP configuration
2) On-site under floor conduit installation, projector installation, projection screen installation, flat panel display/television installation, loudspeaker installation
3) On-site other responsible coordination and security clearance/control tools

B. Structure Detail specific to loudspeaker, video projector, flat screen monitor/television

c. Wiring Diagrams – One-line diagram indicating fully intended installed configuration. Any generic diagram found within the Construction Documents shall be drawn to specific requirements. Interpretation from design found within the Construction Documents shall be reflected and identified.
d. DSP Wiring - DSP Wiring for configuration (submitted within at least three months prior to installation).
e. Mirror Loop Drawing - Sound console and voice cart mirror detail, and related equipment and cabling out.
f. AV Control Station - AV control system panel/screen layouts suitable for the Owner's Representative to understand the operation and for (submitted within at least five months prior to installation).

2. Project Completion

A. Refer to Division 27 Section "General Communications Requirements" and the Operation and Maintenance Data section in Part 3 of this section for additional requirements.

PART 2 - PRODUCTS

2.1 GENERAL

A. Refer to Division 27 Section "Audio Video Systems" for general product requirements.
B. Minor components of technical installation equipment shall be provided and installed by a qualified contractor as outlined in Part 1 of this section.

C. □□e electronic □udio de□ice□ □□□□□□e e□ectronic or tr□n□for□er □□□nced in□ut□ □nd out□ut□ e□ce□t for □□ecific □ro□r□□ □ource e□ui□□ent □nd □□ecific □i□in□ con□o□e in□ut□ □nd/or out□ut□. If □n e□ectronic de□ice □□ecified or furni□□ed □□□ □n un□□□nced in□ut □nd/or out□ut, □ □□e □ro□i□ion□ to □□□nce □□id in□ut/out□ut (i.e., □cti□e di□n□□□□□ncin□ de□ice □□ □□□ro□ed) un□e□□ ot□er □rr□n□e□ent□ □□□e □een □□reed u□on □it□ t□e De□i□n Con□u□t□nt.

2.2 COMMO□ E□ □I□ME□T

□. Refer to Division 27 Section “Audio Video Systems” for co□ □on e□ui□□ent □nd co□ □onent□.

2.3 MICRO□□O□E□ - I□□T□□□ED

□. Micro□□one – In□t□□□u□□ended□□er□ □nent□□ in□t□□□ed, di□it□□□□ □teer□□□e □o□. □u□□end t□e □icro□□one□ □t t□e □ei□□t indic□ted on t□e dr□□in□□. □tore e□ce□□ c□□□e in□ide t□e cei□in□ □o□ to □er□it future □ei□□t □d□u□t□ent, if re□uired□
1. □□ure M□□910, or
2. □□□ro□ed e□u□.

2.4 MICRO□□O□E□ – □ORT□□□E

□. Micro□□one – □ired D□n□□ic□□□nd□e□d □icro□□one, d□n□□ic, □u□erc□rdioid. Furni□□ □ired □icro□□one□fro□ t□e □□□e □ □nuf□cturer □□ □ire□e□□ □icro□□one□(t□o re□uired)□

1. □□ure □ET□ 58□ □it□ □58□ □ □ind□creen□or
2. □enn□ei□er e945 □it□ M□□ 1 □ind□creen□or
3. □□□ro□ed e□u□.

2.5 MICRO□□O□E □CCE□□ORIE□ – □ORT□□□E

□. Micro□□one □t□nd – □□□□ icro□□one f□oor □t□nd □it□ □oi□d □□□e, □□□c□(t□o re□uired)□

1. □t□□□ M□-20E (e□on□)□or
2. □□M 260 (□□□c□)□or
3. □ui□□o□ □-399 (□□□c□) □it□ fu□□ fi□ed □□□e□or
4. □ti□ □te □ro-□□ (□t□c□□□e)□or
5. □□□ro□ed e□u□.

2.6 □IRE□E□□ MICRO□□O□E □□□TEM□

□. Furni□□ co□ □□ete □□F di□er□it□ □ire□e□□ □icro□□one □□□te□(□) inc□din□ t□e fo□o□in□ co□ □onent□(□e□ect co□ □onent□fro□ one □ □nuf□cturer i□□ted □e□o□)□
□. □ire□e□□ Micro□□one Rece□i□er□furni□□ □in□□e, du□□, or □u□d c□□nne□□ode□□ □it□ r□c□ □ount □it□ □□re□uired to □c□ie□e t□e nu□ □er of rece□i□er c□□nne□□ □□ □□o□n on t□e dr□□in□□□

1. □enn□ei□er EM 500 □3 □in□e c□□nne□rece□i□er □it□ inc□uded □□3 r□c□□d□□ter□or
2. □□ure □□□D4 (□in□e c□□nne□), or □□□D4D (du□□c□□nne□), or □□□D4□ (four c□□nne□) di□it□□ □ire□e□□ rece□i□er □it□ encr□□tion c□□□□i□it□ (encr□□tion □u□t □e off □□en one rece□i□er □□□re□ □ore t□□n one tr□n□□itter) □it□ inc□uded r□c□ □ount □it□or
3. □□□ro□ed e□u□.

C. □ire□e□□ □e□t□□c□ Tr□n□□itter□ furni□□ □e□t□□c□ tr□n□□itter □it□ □□□e□ □icro□□one (t□o re□uired)□

1. □enn□ei□er □□ 500 □3 □e□t□□c□tr□n□□itter □it□ □□□e□□ icro□□one □□ □□ecified e□□e□□ere□ or
2. □□ure □□□D1 □it□ □□□e□□ icro□□one □□ □□ecified e□□e□□ere□or

3. □□□ro□ed e□u□.

D. □ire□e□ □□nd□e□d Tr□n□□itter – D□n□□ic (t□o re□uired)□

1. □enn□ei□er □□M 500-935 □3 □□nd□e□d □icro□□one tr□n□□itter □it□ inc□uded M□□ 1 ci□ □nd M□□ 1 □ind□creen□or
2. □□ure □□□D2 □it□ R□□ 118 (□et□ 58□) □e□d, 95T9279 □icro□□one ci□ (inc□uded), □nd □58□ □ □ind□creen□or
3. □□□ro□ed e□u□.

E. □ire□e□ rec□□r□e□□e □□tter□ □□□te□ – □ □in □o□ition□inc□udin□ □□tterie□, c□□r□er□, □nd □o□er □u□□ie□ to c□□r□e □□□tr□n□□itter□ □i□u t□neou□□□. □□□e□e□c□ □□tter□ u□in□ □ □o□ic□□□c□e□e □o □□tterie□ c□n □e tr□c□ed □□ t□e□ □re □□uffe□ □□ on□ tr□n□□itter□. Docu□ent □□e□□ into □ □□re□d□□eet □ic□ □i□□□eco□e □ □ortion of t□e O□er□tion □ M□inten□nce □ □nu□□□ de□cri□ed in Part 3 of these specifications. Secure chargers to base of drawer using Velcro™ (one rec□□r□e□□e □□tter□ □nd □□□oci□ted c□□r□in□ □□t re□uired for e□c□ tr□n□□itter furni□□ed)□

1. □enn□ei□er □□2015□2 □□tter□, □□215 du□□c□□r□er □t□tion □it□ □T3-120 □o□er □u□□□□, □□2 □□nd□e□d □icro□□one c□□r□in□ □d□□ter□or
2. □□ure □□900□ □□tter□, □□C200-□□ du□□c□□r□er □it□ □o□er □u□□□□, □□C200 du□□c□□r□er e□□□n□ion, □□C800-□□ Ei□□t □□tter□ C□□r□in□ □t□tion□or
3. □□□ro□ed e□u□.

F. □ire□e□ rec□□r□e□□e □□tter□ □□□te□ – □t□□e □o□ition□c□□r□er□, □nd □o□er □u□□ie□ on□□. Secure chargers to base of drawer or other mounting surface using Velcro™. Coordin□te e□□ct mounting location with Owner's Representative (two charging slots required):

1. □enn□ei□er □□215 du□□ c□□r□er □t□tion □it□ □T3-120 □o□er □u□□□□, □□2 □□nd□e□d □icro□□one c□□r□in□ □d□□ter□or
2. □□ure □□C200-□□ du□□c□□r□er □it□ □o□er □u□□□□, or
3. □□□ro□ed e□u□.

□. E□c□ rece□□er □□□□□□e connected □i□ Et□ernet to t□e co□ □uter. Furni□□ t□e □o□t recent confi□ur□tion □oft□□re, in□t□□□on t□e co□ □uter, □nd confi□ure e□c□ rece□□er □nd tr□n□□itter for o□ti□u□ o□er□tion. Te□t e□c□ □nd □□□rece□□er/tr□n□□itter□ to en□ure no □ro□e□ □□ri□e.
□. □ □ere re□ote 1/4 □□□e□en□t□ □ntenn□□ □re u□ed, □nd □ountin□ condition□ □□□o□, □ount e□c□ □ntenn□ on □ t□nd□rd □et□□□ □□□□□te to □er□e □□ □round □□□ne.
I. □ro□ide □□□connection□ □nd co□ □onent□nece□□□r□ for □ro□er o□er□tion of t□e □ire□e□ □□□te□ □ de□cri□ed □□o□e.
□. Coordin□te t□e □e□ection of tr□n□□itter/rece□□er fre□uencie□ to □e free of interference fro□ out□ide □ource□ or interference □et□een □ire□e□ □□□te□ □. □e□ect t□e fre□uenc□ fro□ □n unu□ed c□□nne□□et□een (470 - 698 M□□) □er FCC re□u□□tion□ □□rt 74, □u□□□rt □.
□. □□□e□e□c□ rece□□er/tr□n□□itter co□ □in□tion □□ noted on t□e dr□□in□□. □ee □□□e□in□ □nd □□□c□rd□ □ection in t□i□ □□ecific□tion for □ddition□□□□□e in□re□uire□ent□.

2.7 □RO□R□M □O□RCE E□□I□ME□T

□. □o□e of t□e □ro□r□□ □ource e□ui□□ent □□ecified i□ con□u□er-□r□de e□ui□□ent. □□on □□□rd of □ contr□ct, ende□□or to □rocure t□e□e ite□ □ □□ □oon □□ □o□i□□ to □□oid de□□□□ c□u□ed □□ □e□rc□in□ for di□continued □roduct(□).
□. R□c□-□ount □it for e□ui□□ent t□□t re□uire□ r□c□ □ountin□ □ut i□ not □ro□ided □it□ r□c□ □ount e□r□or o□tion□□r□c□ □ount □it□

1. □o□e□RM□ □erie□□or
2. Midd□e □t□ntic □roduct□R□□ □erie□□or

3. □□□ro□ed e□u□.

C. For e□c□ □ort□□e ite□ of □ro□r□□ □ource e□ui□□ent, furni□□ one □et of in□ut/out□ut c□□e□ (6-foot □ini□u□ □en□t□) □nd □d□□ter□ (as re□uired) to □□o□ connection to tec□nic□□ sys□em in□ut/out□ut□.

D. □n□o□ – D□nte □udio Interf□ce 3x2: 2-gang Decor□ □t□e wall □late □it□ (4) □□R-F in□ut□, (2) □□eni□ line □e□e out□ut□, D□nte □udio □et□or□:

1. □ttero Tec□ unD□4I-□ (co□or □□□ro□□□re□uired) □it□ o□tion□□□ □tc□in□ co□er □□□te□or
2. □□□ro□ed equal

E. □et□or□ □udio – 4x2 □u□ti I/O □it□ □T-2G WP: 2-gang Decora style wallplate with 1/8" and dual RCA inputs, ½" line level outputs, bluetooth, Dante Audio Network:

1. unD6IO-□T (co□or ap□roval re□uired) □it□ o□tion□□□ □tc□in□ co□er □□□te□; or

F. PTZ C□□er□ Wall Ass□embly – □D: □t□nd□rd definition, □in□e c□i□ c□□er□ wal□ □ountin□ sys□em □it□ □ideo tr□n□□ort □nd R□-232 contro□ v□a □t□nd□rd UTP c□□e□:

1. QSC PTZ; or
2. Approved equal.

G. USB Webcam: USB 2.0 webcam □it□ 2 □e□□i□e□□en□or □ini□u□:

1. Cre□tron CC□-C□M-□□□
2. □□□ro□ed e□u□.

2.8 DI□IT□□ SIGNA □ □ROCE□□I□□ (D□□)

A. T□e □C □o□er cord of t□e DSP shall □e connected to a r□c□-□ount uninterru□ti□le □o□er su□□ly (UPS). Refer to t□e □C □o□er □ection for □□ecific □ode□. T□e UPS shall □e connected to □n un□□itc□ed (un□e□uenced) □C □o□er circuit.

B. T□e De□i□n Con□ul□nt has □□□e□ □ed □rei□ in□r□ c□e□ □tic□ for t□e DSP to deter□ine t□e needed e□ui□□ent □nd □roce□□in□ □o□er re□uired for t□e ro□ect. □fter awa□rd of t□e contr□ct, cont□ct t□e De□i□n Con□ul□nt for a co□□ of t□e fi□e□. Emb□ll□sh t□e □oft□□re to re□re□ent t□e fin□□□roduct for t□e cl□ent □nd □u□□it as a sh□p dr□□in□.

C. Cre□te all □c□e□ □tic□ for t□e DSP □nd □u□□it as a □□o□ dr□□in□.

D. □ro□ide one co□□uter □it□ □ou□e □nd □□□te□ fe□ture□ as reco□□ended □nd □□□ro□ed by t□e □□nuf□cturer of t□e DSP □□□te□ for u□e durin□ co□□i□□ionin□.

1. If a co□□uter i□ □ro□ided under t□i□ □□ecific□tion □ection for u□e as a sys□em o□er□tion □nd confi□ur□tion de□ice, DSP □oft□□re □□ould □e lo□ded □nd co□□uter □□ould □e o□er□tion□□ durin□ sys□em co□□i□□ionin□.
2. Furni□□ a □ire□e□□ 802.11n router □nd □□□to□ co□□uter confi□ured to □□o□ for □ire□e□□ contro□ of t□e DSP durin□ sys□em te□tin□ □nd co□□i□□ionin□ if □□□ic□□e to t□e f□ci□it□. Ret□in o□ner□□i□ of t□e router □nd lap□op co□□uter.

E. Passw□ord □rotection shall □e inc□uded. One □□□□□ord shall □e □ro□ided to □□o□ o□er□tor □cce□□ to □e□ect function□. □not□er passw□ord shall □e □ro□ided for tec□nic□□□t□ff to □cce□□ all □□□ect□ of t□e □oft□□re.

F. □DSP □ro□r□□ □in□ of Fire Ala□m connection

1. □ener□□

a. □ound sys:em o□er□tion in re□□tion to fire □□r□ sys:em i□ □u□ect to NFPA, □oc□□ □ui□din□ code□, □nd t□e □oc□□□ut□orit□ Hav'ng □uri□diction.
b. □ound sys:em □ute for fire ala□m □udi□e notific□tion shall □e □ro□ided for all ass□mbly a□eas, □oc□tion□ □it□ sys:ems c□□□□e of □ro□on□ed o□er□tion in e□ce□□ of 100dBA, □nd all □ci□t□ □□c□round □u□ic sys:ems.
c. Coordin□tion i□re□uired □it□ t□e fire ala□m contr□ctor □nd □oc□□AH □.

2. □ound sys:em □□unt initi□tion s'gnal

a. Fire ala□m sys:em connection shall □e v'a DSP cont□ct c□o□ure in □oc□tion as indic□ted on s'gnal □o□□.
b. □□on fire ala□m □cti□□tion, □nd □u□□e□uent rece□tion of □□unt s'gnal fro□ t□e fire ala□m sys:em v'a normally o□en cont□ct c□o□ure to t□e DSP, all □ound sys:em □udio shall □ute.
c. DSP sha□l □e □ro□r□□□ed to □ute □udio □ource□ unti□t□e ala□m i□ c□e□red, u□on wh'ch nor□ □□o□er□tion shall re□u□e. □cti□□tion of □□unt s'gnal may inc□ude □ener□□ □□r□, □e'n□ of t□e fire □□r□ □icro□□one, or initi□tion of □re□ro□r□□□ed □e□ere □e□t□er (or t□e i□e) □nnounce□ent.
d. DSP □ro□r□□□in□ shal' inc□ude c□e□r □i□e □t□tu□ of a□a□m □t□te for trou□e□□ootin□ □ur□o□e□.

3. □u□□e□ent□□□oice v'a fire □la□m sys:em

a. Fire ala□m □u□□e□ent□□□oice connection shall □e i□ DSP □ic or 'ne □e□e'n□ut in □oc□tion as indic□ted on □i□n□□fo□□.
b. □ound sys:em □ute v'a cont□ct c□o□ure shall o□er□te inde□endent of □u□□e□ent□□ □oice o□er□tion. □ □en in fire ala□m □□unt □ode, t□e □u□□e□ent□□□oice in□ut shall □e t□e on□□□cti□e □udio □ource.
c. □ound sys:em shall □nter □u□□e□ent□□□oice DSP □t□te u□on recei□t of sys:em □□unt s'gnal □r v'a □e'n□ of t□e fire a□a□m □icro□□one.

4. □u□□e□ent□□□oice v'a □udio sys:em

a. Fire ala□m □u□□e□ent□□□oice connection shall □e v'a DSP pag'ng □t□tion in □oc□tion as indic□ted on □i□n□□fo□□.
b. A cont□ct c□o□ure shall □e uti'i□ed for □ound sys:em □ute inde□endent of □u□□e□ent□□□oice o□er□tion. □u□□e□ent□□□oice DSP □t□te shall □cti□□te u□on recei□t of sys:em □ute.
c. □ □en in fire ala□m □□unt □ode, t□e pag'ng in□ut shall □e t□e on□□□cti□e □udio □ource.

G. Furni□□ all □o□ □onent□ for a fully functionin□ di□it□□s'gnal □roce□□in□ sys:em.
H. DSP □□□te□ ba□is of de'□n i□ □□o□n on t□e □i□n□□fo□□. □nter□in□ted IO c□rd□ □□ould □e □ro□ided as indic□ted on t□e s'gnal □o□□ for future u□e or □ddition□□re□uire□ent□.
I. □u□□titute□ to t□e bas's of de'□n will □e con□idered if □□□fe□ture□ □nd function□it□ of t□e sys:em re□uire□ent□ □re □et. IO re□uire□ent□ □□ould □eet or e□ceed t□e □u□ntit□ of t□e bas's of de'□n. □roce□□in□ re□uire□ent□ □□ould □eet or e□ceed t□e bas's of de'□n to en□ure □ro□er o□er□tion of t□e sys:em. T□e fo□o'n□ □ □nuf□cturer□ □re re-□□□ro□ed □u□□titute□ to t□e bas's of de'□n found on t□e s'gnal □o□□:

1. QSC Q-Sys □it□:

a. T□e □o□t recent Q-Sys De'□ner □oft□□re□or

2. Biamp Te□ir□ □it□:

a. T□e □o□t recent Te□ir□ □oft□□re; or

3. BSS □ound□e□ □ondon □it□:

a. T□e □o□t recent □ondon □rc□itect □oft□□re; or

4. □□□etri□ Ed□e □it□:

a. T□e □o□t recent SymN et Co□ □o□er □oft□□re.

2.9 □O□ ER □M□□IFIER□

A. □o□er □□ □ifier□ in t□i□ □ection shall □e □□ one □ □nuf□cturer □nd o□er□ted in □u□ti-c□□nne□ □ode to □ro□ide a □ini□u□ of t□o □□ □ifier c□□nne□□ □it□in one chass□s un□e□□ noted ot□er□i□e.

B. All □o□er □□ □ifier□ shall hav□e eit□er e□ectronic or tr□n□for□er □□□nced in□ut□, □nd shall hav□e eit□er □te□□ed in□ut □e□e□□ttenu□tor□ or contro□ v□a □oft□□re.

□ro□ide □erfor□ted m□etal □ecurit□ co□er (t□□e as □□ecified □erein) for e□c□ □□ □ifier, to co□er □□□ front pa□nel □contro□□ □nd □C □o□er □□itc□e□. □ecurit□ co□er shall not □oc□ □ir-f□o□ for □□ □ifier intern□□coo□in□ sys□:em.

C. □□□o□er □□ □ifier□ sha□□□□□e □t□nd□□/□ee□ □ode function□it□. T□i□ function□it□ □□ou□d □e i□ □e□ented on a sys□:em □ide c□□e to □ro□ide a fu□□□ contro□ed □o□er □e□uencin□ sys□:em. □referred □o□ution i□ net□or□ed bas□ed; if □□ □ifier doe□ not hav□e nece□□□r□ fe□ture□ v□a net□or□ contro□, cont□ct c□o□ure □o□ution □□ou□d □e uti□i□ed. Cont□ct c□o□ure □o□ution shall uti□i□e a contro□ sys□:em for tri□□erin□ □o□er t□te.

1. □□on sys□:em □□utdo□n, □o□er □□ □ifier□ shall enter □t□nd□□/□ee□ □ode □er manufacturer's functionality.

D. □o□er □□ □ifier□ □re i□ted by □erie□, □it□ t□e bas□s of de□i□n □ode□□□o□n on t□e s□gnal f□o□□. De□i□tion fro□ t□e ba□is of de□i□n to □n □□□ro□ed □u□□titute □i□□e □□o□ed as fo□o□□:

1. □o□er r□tin□ for high i□ □ed□nce (70V) o□er□tion shall □eet or e□ceed t□e bas□s of de□i□n □o□d re□uire□ent on t□e c□□nne□. Loa d shall □e c□cu□□ted bas□ed on tot□□□o□er (□ddition of all □oud□□e□□er t□p □□ue□) as indic□ted on t□e s□gnal f□o□□.
2. □o□er r□tin□ for □o□ i□ □ed□nce o□er□tion shall □eet or e□ceed t□e bas□s of de□i□n □o□d re□uire□ent on t□e c□□nne□. □o□d shall □e as indic□ted on t□e s□gnal f□o□□.
3. C□□nne□count □er c□□□□i□ □□ou□d □roduce □o□t efficient □o□ution of □ □□i□u□ c□□nne□□ vs □□□ro□ri□te □o□er r□tin□.

a. □ro□o□ed □u□□titute □□ou□d t□□e into □ccount □ter□tion□ of □udio net□or□ re□uire□ent□, as □□□ic□□□e. □ter□tion□ may inc□ude t□e need for □ddition□□net□or□ infr□□tructure, inc□udin□ net□or□ □□itc□e□.

b. □ro□o□ed □u□□titute □□ou□d t□□e into □ccount □ter□tion□ of □udio sys□:em re□uire□ent□, as □□□ic□□□e. □ter□tion□ may inc□ude t□e need for □ddition□□di□it□□ s□gnal □roce□□in□ infr□□tructure.

c. □ro□o□ed □u□□titute □□ou□d t□□e into □ccount □t□nd□□/□ee□ □ode function□it□. □ter□tion□ may inc□ude t□e need for □ddition□□ net□or□ infr□□tructure or contro□ sys□:em infr□□tructure.

d. □ro□o□ed □u□□titute □□ou□d t□□e into □ccount all ot□er □□r□□eter□, inc□udin□ □ut not i□□ited to r□c□ re□uire□ent□ □nd en□iron□ent□□con□ider□tion□ (□C □o□er, t□er□ □□ di□□i□□tion, etc.).

4. □o□er □□ □ifier – T□□e (□□□□)□/(□)□(□)(C)(D)(E)(□)□□o□er □□ □ifier, □i□□ (70V) or □o□ i□ □ed□nce o□er□tion □□itc□□□□e □er out□ut, net□or□ contro□, □oud□□e□□er □roce□□in□, □udio net□or□ c□□□□i□itie□, □it□ t□e fo□□o□in□ c□□r□cteri□tic□ re□uired □□ □□o□n on □i□n□□ f□o□ □□

5. □o□er □□ □ifier – T□□e (□□□□)/□□ □i□□ □o□er r□tin□ □o□er □□ □ifier, □o□ i□ □ed□nce o□er□tion, 1 or 2 r□c□unit□, □it□ t□e fo□□o□in□ c□□r□cteri□tic□ □□ □□o□n on □i□n□□f□o□ □□

   □. □o□er□oft □ □erie□

      1) □□□□□, □ini□u□ □o□er r□tin□ li□□ted □t 8-o□□ □o□d
      2) /□, nu□ □er of c□□nne□□ □er c□□□□i□

   □. □□□□ru□□en F□□ □erie□

      1) □□□□□, □ini□u□ □o□er r□tin□ li□□ted □t 8-o□□ □o□d
      2) /□, nu□ □er of c□□nne□□ □er c□□□□i□

   c. □o□er □□ □ifier – T□□e (□□□(□))(□)r/(□)□□o□er □□ □ifier, □i□□ (70V) or □o□ i□ □ed□nce o□er□tion, 1 r□c□unit, □it□ t□e fo□□o□in□ c□□r□cteri□tic□ □□ □□o□n on □i□n□□f□o□ □□
   d. Cro□n Co□ Tec□ Dri□eCore □erie□
   e. □□□, □ini□u□ □o□er r□tin□ li□□ted □t 8-o□□ □o□d
   f. r, 1 r□c□unit
   □. /□, nu□ □er of c□□nne□□ □er c□□□□i□

6. E□tron □□□ □erie□

   □. □□□, □ini□u□ □o□er r□tin□ li□□ted □t 8-o□□ □o□d
   □. □□□□, □ini□u□ □o□er r□tin□ li□□ted □t 70V □o□d
   c. r, 1 r□c□unit
   d. /□, nu□ □er of c□□nne□□ □er c□□□□i□

7. □□□□ru□□en E □erie□

   □. □□□□, □ini□u□ □o□er r□tin□ li□□ted □t 8-o□□ □o□d, □□o c□□□□□e of □ro□idin□ □i□□ i□ □ed□nce (70V) o□er□tion
   □. r, 1 r□c□unit
   c. /□, nu□ □er of c□□nne□□ □er c□□□□i□
   d. □o□er □□ □ifier – T□□e (□□□□(□))/□□ □o□er □□ □ifier, □e□□c□ o□er□tion, no □t□nd□□/□ee□ function□it□, no □d□□nced fe□ture□, □it□ t□e fo□□o□in□ c□□r□cteri□tic□ □□ □□o□n on □i□n□□f□o□ □□
   e. □□C C□ □erie□
   f. □□□, □ini□u□ □o□er r□tin□ li□□ted □t 8-o□□ □o□d
   □. □□□□, □ini□u□ □o□er r□tin□ li□□ted □t 70V □o□d
   □. /□, nu□ □er of c□□nne□□ □er c□□□□i□
   i. □o□er □□ □ifier – T□□e (□□□)(□)□/□(□)(D)□□ ini□ture for□ f□ctor □o□er □□ □ifier, □i□□ (70V) or □o□ i□ □ed□nce o□er□tion, net□or□ contro□, □udio net□or□ c□□□□i□itie□, □it□ t□e fo□□o□in□ c□□r□cteri□tic□ re□uired □□ □□o□n on □i□n□□f□o□ □□
   □. E□tron M□□ □erie□
   □. □□□, □ini□u□ □o□er r□tin□ li□□ted □t 8-o□□ □o□d
   □. □, □ini□u□ □o□er r□tin□ li□□ted □t 70V □o□d
   □. □, □ini□ture for□ f□ctor
   n. /□, nu□ □er of c□□nne□□ □er c□□□□i□

8. R□dio De□i□n □□□□ □T □erie□

   □. □□□, □ini□u□ □o□er r□tin□ li□□ted □t 8-o□□ □o□d

b. [illegible], [illegible]ini[illegible]ture for[illegible] f[illegible]ctor
c. /#, nu[illegible][illegible]er of c[illegible][illegible]nne[illegible][illegible]er chass[illegible]s

9. [illegible]te[illegible][illegible]rt [illegible]udio [illegible]V [illegible]erie[illegible]

a. ###, [illegible]ini[illegible]u[illegible] [illegible]o[illegible]er r[illegible]tin[illegible] i[illegible][illegible]ted [illegible]t 8-ohm [illegible]o[illegible]d
b. v, [illegible]ini[illegible]u[illegible] [illegible]o[illegible]er r[illegible]tin[illegible] i[illegible][illegible]ted [illegible]t 70V [illegible]o[illegible]d
c. [illegible], [illegible]ini[illegible]ture for[illegible] f[illegible]ctor
d. /#, nu[illegible][illegible]er of c[illegible][illegible]nne[illegible][illegible]er chass[illegible]s
e. N, net[illegible]or[illegible]contro[illegible]
f. D, D[illegible]nte

2.10 [illegible]O[illegible]D[illegible][illegible]E[illegible][illegible]ER[illegible] – I[illegible][illegible]T[illegible][illegible][illegible]ED

A. [illegible]ener[illegible][illegible]oud[illegible][illegible]e[illegible][illegible]er re[illegible]uire[illegible]ent[illegible]:

1. [illegible] [illegible]ere [illegible]i[illegible]i[illegible]e, [illegible][illegible]int out or re[illegible]o[illegible]e t[illegible]e [illegible][illegible]nuf[illegible]cturer'[illegible]o[illegible]o on e[illegible]c[illegible] [illegible]oud[illegible][illegible]e[illegible][illegible]er.
2. [illegible]oud[illegible][illegible]e[illegible][illegible]er, [illegible]nd re[illegible][illegible]ted [illegible]ountin[illegible] [illegible]r[illegible]c[illegible]et([illegible]) [illegible][illegible]ere [illegible][illegible][illegible]ro[illegible]ri[illegible]te, co[illegible]or sha[illegible]l [illegible]e as [illegible]e[illegible]ected by t[illegible]e [illegible]rc[illegible]itect fro[illegible] t[illegible]e ava[illegible]lab[illegible]e co[illegible]or [illegible]e[illegible]ection offered fro[illegible] e[illegible]c[illegible] [illegible]oud[illegible][illegible]e[illegible][illegible]er [illegible][illegible]nuf[illegible]cturer.
3. For [illegible]oud[illegible][illegible]e[illegible][illegible]er[illegible]oc[illegible]ted outdoor[illegible]or in a [illegible]u[illegible]id en[illegible]iron[illegible]ent ([illegible]uc[illegible] as n[illegible]t[illegible]tori[illegible]):

a. Enc[illegible][illegible][illegible]u[illegible][illegible]te all e[illegible][illegible]o[illegible]ed [illegible]oud[illegible][illegible]e[illegible][illegible]er [illegible]irin[illegible]ter[illegible]in[illegible]tion[illegible]in c[illegible]e[illegible]r [illegible]i[illegible]icon t[illegible][illegible]e [illegible]e[illegible][illegible]nt or [illegible]t[illegible]r [illegible]rite [illegible]i[illegible]uid E[illegible]ectric[illegible][illegible]T[illegible][illegible]e (800) 327-8583.

4. [illegible]ti[illegible]i[illegible]e t[illegible]e [illegible]o[illegible]t recent [illegible] [illegible]nuf[illegible]cturer-reco[illegible][illegible]ended DSP [illegible]ettin[illegible][illegible] if ava[illegible]lab[illegible]e.

B. [illegible]oud[illegible][illegible]e[illegible][illegible]er C70-6", ceiling, six-inc[illegible] [illegible]oud[illegible][illegible]e[illegible][illegible]er, co[illegible][illegible]ete [illegible]it[illegible] enc[illegible]o[illegible]ure, [illegible]nd inte[illegible]r[illegible]ted 70 [illegible]o[illegible]t tr[illegible]n[illegible]for[illegible]er, [illegible][illegible]itc[illegible][illegible][illegible]e to 8 ohm:

1. Co[illegible][illegible]unit[illegible]D6; or
2. M[illegible]rtin [illegible]udio C6.8T[illegible]or
3. T[illegible]nno[illegible]CM[illegible] 601 DC; or
4. [illegible][illegible][illegible]ro[illegible]ed e[illegible]u[illegible].

2.11 [illegible][illegible][illegible]I[illegible]TIVE [illegible]I[illegible]TE[illegible]I[illegible][illegible] [illegible][illegible][illegible]TEM - IR

A. T[illegible]e e[illegible]itter pa[illegible]ne[illegible]s shall [illegible]e [illegible]oc[illegible]ted as sh[illegible]own on t[illegible]e pla[illegible]ns.
B. The infrared system shall not use sha[illegible]l [illegible]nc[illegible]ude all [illegible][illegible]rd[illegible][illegible]re as re[illegible]uired to [illegible]ro[illegible]ide a fu[illegible][illegible]-function[illegible][illegible][illegible][illegible]te[illegible].
C. Sys[illegible]em furni[illegible][illegible]ed shall [illegible]e fro[illegible] one [illegible][illegible]nuf[illegible]cturer on[illegible][illegible].
D. ALS Tr[illegible]n[illegible][illegible]itter IR: [illegible][illegible][illegible]i[illegible]ti[illegible]e i[illegible][illegible]tenin[illegible] sys[illegible]em tr[illegible]n[illegible][illegible]itter, infr[illegible]red:

1. [illegible]i[illegible]ten Tec[illegible]no[illegible]o[illegible]ie[illegible][illegible]T-82-01 [illegible]it[illegible] LA-326 r[illegible]c[illegible][illegible]ount [illegible]it[illegible]or
2. w[illegible]ll[illegible]ams [illegible]ound [illegible] IR T[illegible]90.

E. ALS IR R[illegible]di[illegible]tor: [illegible][illegible][illegible]i[illegible]ti[illegible]e i[illegible][illegible]tenin[illegible] sys[illegible]em infr[illegible]red e[illegible]itter:

1. [illegible]i[illegible]ten Tec[illegible]no[illegible]o[illegible]ie[illegible] LA-140[illegible]or
2. w[illegible]ll[illegible]ams [illegible]ound [illegible] IR T[illegible]9.

F. ALS Recei[illegible]er [illegible][illegible]n[illegible][illegible]rd: [illegible][illegible][illegible]i[illegible]ti[illegible]e i[illegible][illegible]tenin[illegible] [illegible][illegible][illegible]te[illegible] recei[illegible]er, [illegible]n[illegible][illegible]rd [illegible]t[illegible]e (four re[illegible]uired):

1. [illegible]i[illegible]ten Tec[illegible]no[illegible]o[illegible]ie[illegible][illegible]R-44 [illegible]it[illegible] LA-364 [illegible]iM[illegible] [illegible][illegible]tterie[illegible]; or
2. w[illegible]ll[illegible]ams [illegible]ound [illegible] IR R[illegible]22-4.

□. □□□ Receiver □tet□o□co□e □□□□i□ti□e i□tenin□ □□□te□ receiver, □tet□o□co□e □t□e (one re□uired for e□c□ receiver furni□□ed)□

1. □i□ten Tec□no□o□ie□ □R-42 □it□ □□-364 □iM□ □□tterie□□or
2. □ i□i□□□ □□ound □ IR R□18.

□. □□□ E□r □□e□□er□□□□i□ti□e i□tenin□ □□□te□ □in□e e□r □□e□□er (t□o re□uired)□

1. □i□ten Tec□no□o□ie□ □□-164□or
2. □ i□i□□□ □□ound E□R 022.

I. □□□ □e□d□□one□□□□i□ti□e i□tenin□ □□□te□ i□□t-□ei□□t □e□d□□one□(t□o re□uired)□

1. □i□ten Tec□no□o□ie□ □□-165□or
2. □ i□i□□□ □□ound □ED 021.

□. □□□ □ec□oo□□□□□i□ti□e i□tenin□ □□□te□ nec□ □oo□ for u□e □it□ T-coi□e□ui□□ed □e□rin□ □id□ (one re□uired)□

1. □i□ten Tec□no□o□ie□ □□-166□or
2. □ i□i□□□ □□ound □□□001.

□. □□□ C□□r□er IR□□□□i□ti□e i□tenin□ □□□te□ c□□r□er. Ei□□t-unit c□□r□in□ □t□tion (one re□uired)□

1. □i□ten Tec□no□o□ie□ □□-350 8-□□t C□□r□er□or
2. □ i□i□□□ □□ound C□□ 3512 □ounted in CC□ 029 c□□e, to c□□r□e u□ to t□e□e receiver.

□. □□□ □i□n□□e□□□□i□ti□e i□tenin□ □□□te□ □i□n□□e notif□in□ occu□□nt□t□□t t□e □□□i□ti□e i□tenin□ □□□te□ i□ □□□i□□□□e. Mount □ignage as directed by the Owner's Representative (one required):

1. □i□ten Tec□no□o□ie□ □□-304□or
2. Williams Sound IDP 008.

2.12 VIDEO I□TERF□CE E□□I□ME□T

□. T□□□e □o□ – C□□ti□e C□□□e, □□o□□ □udio, □ideo, □nd net□or□/contro□c□□□e□ to □e □tored □e□o□ t□e t□□□e □urf□ce or in t□e □or□ □urf□ce of □ectern□□

1. Cre□tron FT-700□or
2. E□tron C□□□e Cu□□□70□or
3. □□□ro□ed e□u□.

1.1 □ET□ OR□ □V TR□□□□ORT

□. □et□or□ □□□ed □udio □nd □ideo (□nd □□□ □ control) tr□n□□ort □roduct□ □□□□□□□□□e □u□□ied fro□ t□e □□□e □ □nuf□cturer t□rou□□out □□□□□te□ □ to en□ure cro□□-□□□te□ co□ □□ti□i□it□ □nd □□□o□ for fu□f□e□i□it□ of t□e □□□tfor□.

□. □et□or□ confi□ur□tion re□uire□ent□ □et fort□ □□ t□e □ □nuf□cturer □u□t □e u□ed for □n□ net□or□ □□itc□e□ □□ic□ □i□□□u□□ort t□e□e de□ice□.

C. Encoder □DMI/CT□/□□□□/1□ □□in□e □DMI in□ut – □in□e □DMI out□ut □ net□or□ □tre□□ out□ut, c□□□□i□ r□c□ □ount□□□e □it□ □□ef, □end□ □DMI, et□ernet, contro, □nd □□□ o□er net□or□. Tr□n□□it□ 4□, 60□□, □it□ 4□4□4 c□ro□ □ □u□□□□ □in□ □ideo, □E□67 □udio, □nd 480 M□□□ of □□□ (1.0, 2.0, or 3.0) d□t□ □□ □o□t or de□ice □it□in t□e di□t□nce i□ it□tion□ of t□e net□or□ it i□ connected to.

1. Cre□tron DM-□V□-E30
2. E□tron □□V E 501
3. □□□ro□ed e□u□□

D. Decoder □DMI/CT□/□□□/1□ □□in□e net□or□ □tre□□ in□ut – □in□e □c□ed □DMI out□ut, c□□□□i□ r□c□ □ount□□e □it□ □□eff, receive□ □DMI, et□ernet, contro□, □nd □□□ o□er net□or□. Receive□ 4□, 60□□, □it□ 4□4□4 c□ro□ □ □u□□□□ □in□ □ideo, □E□67 □udio, □nd 480 M□□□ of □□□ (1.0, 2.0, or 3.0) d□t□ □□ □o□t or de□ice □it□in t□e di□t□nce i□ it□tion□ of t□e net□or□ it i□ connected to.

1. Cre□tron DM-□V□-D30
2. E□tron □□V □D 501
3. □□□ro□ed e□u□□

E. Encoder □D□T/1□ □□in□e □D□□□eT in□ut – □in□e □D□□□eT in□ut □ net□or□ □tre□□ in□ut, c□□□□i□ r□c□ □ount□□e □it□ □□eff, □end□ □DMI, et□ernet, contro□, □nd □□□ o□er net□or□. Tr□n□□it□ 4□, 60□□, □it□ 4□4□4 c□ro□ □ □u□□□□ □in□ □ideo, □E□67 □udio, □nd 480 M□□□ of □□□ (1.0, 2.0, or 3.0) d□t□ □□ □o□t or de□ice □it□in t□e di□t□nce i□ it□tion□ of t□e net□or□ it i□ connected to

1. Cre□tron DM-□V□-E760C
2. E□tron □□V E 201 D
3. □□□ro□ed e□u□□

F. □et□or□ □V M□n□□er□ M□n□□e□ u□ to 240 co□ □□ti□□e end□oint□, □oE □o□ered, r□c□ □ount□□e, □ct□ □□ centr□□□oint for □ □n□□e□ent, confi□ur□tion, contro□, □nd u□d□te□ of □□□ net□or□ □V end□oint□. □ e□-□□□ed □I, □cti□e director□ □u□□ort, 802.1□ □u□□ort.

1. Cre□tron DM □V□ Director
2. E□tron □□Vi□□tor □it□ □icen□e tier re□uired to □u□□ort □□end□oint□
3. □□□ro□ed e□u□□

2.13 CO□FERE□CE □□□TEM

□. T□e conference □□□te□ □udio □nd □ideo □roduct□ □□□□□ □□□ □e □u□□ied fro□ t□e □□□e □ □nuf□cturer t□rou□□ t□e □i□n□□c□□in (i.e. tr□n□□itter – □□itc□ – recei□er).
□. □DMI o□er □T□ T□/R□/60□□in□e in□ut - □in□e out□ut, □end□ □DMI □nd contro□o□er □□ie□ded t□i□ted □□ir c□□e. Tr□n□□it□ 1080□/60 or 1900 □1200 □t □e□t 60□, □t□nd □one, □□ecified □□ □ □□ir (tr□n□□itter)□

1. Cre□tron □C □re□ent□tion Tr□n□□itter, or
2. □□□ro□ed e□u□□

C. □C En□ine□ Mini □C confi□ured for □ideo conferencin□, □ro□ide □oo□ or Micro□oft Te□□ □□ecific □ideo conferencin□ unit.

1. Cre□tron □C En□ine, or
2. □□□ro□ed e□u□□

D. C□T5 to □□□ 3.0□Con□ert□C□T5 □i□n□□to □□□ 3.0

1. Cre□tron □D-CO□V-□□□-260, or
2. □□□ro□ed e□u□□

2.14 DI□□□□□□ – □ROFE□□IO□□□ □CD F□□T □□□E□

□. □CD f□□t □□ne□□in t□i□ □ection □□□□□□□e □□one □ □nuf□cturer, un□e□□noted ot□er□i□e.
□. □□□□CD f□□t □□ne□di□□□□□□ □□ecified in t□i□ □ection □□□□□□□□□e t□e fo□o□in□ fe□ture□ or o□tion□ inc□uded, un□e□□noted ot□er□i□e□

1. Di□□□□□re□□on□e ti□e of 10□ □or □e□□
2. □ED □□c□i□□tin□
3. VE□□ □ountin□ co□ □□ti□e
4. Vie□in□ □n□□ of 175□□ori□ont□□□175□□ertic□□(or □re□ter)

C. □CD f□□t □□ne□□ □re i□□ted □□ □erie□, □it□ t□e □□□i□ of de□i□n □ode□□□o□n on t□e □i□n□□fo□ □□.
T□e □ini□u□ re□uire□ent□ for in□ut□, out□ut□, contro□ connection□ □nd o□tion□□ interf□ce□/□cce□□orie□ □□□□□□□e □□indic□ted on □i□n□□fo□ di□□r□□ □.
D. De□i□tion fro□ t□e □□□i□ of de□i□n to □n □□□ro□ed □u□□titute □i□□□e □□o□ed □□fo□o□□□

1. □□□□udio, □ideo, □nd contro□connection□ □□o□n on □i□n□□fo□ (connector□ □□o□n on e□ui□□ent □oc□ □ut unconnected □re not re□uired for □u□□titution) □□□□□□eet or e□ceed t□e □□□i□ of de□i□n □it□ re□□ect to □u□ntit□, t□□e, □er□ion, □nd □u□□orted □rotoco□□. T□i□ □□□□□□ inc□ude t□e □t□nd□rd fe□ture□ of t□e di□□□□□ □□ □e□□ □□ □n□ o□tion□□ interf□ce□/□cce□□orie□.

□. E□□□ □e connection□ inc□ude □ut □re not i□□ited to TV tuner (□T□C, □T□C, □nd C□e□r □□M co□ □□ti□e), □DMI (□DC□ co□ □□ti□e), DVI-D (□DC□ co□ □□ti□e), □DI (□D, □D, 3□, Du□□□in□, 6□), Di□□□□□□ort (□DC□ Co□ □□ti□e), □D15 R□□ □it□ 3.5□ □ □udio, co□ □onent □it□ □tereo □udio, co□ □o□ite □it□ □tereo □udio, □uti-c□□nne□ □udio, R□45 □□□, R□45 □D□□□eT, D□9 for R□232 contro□, □nd □□□.

2. □ro□o□ed □u□□titute □□□□□□□□□e □n e□ui□□ent □□□ect r□tio.
3. □ro□o□ed □u□□titute □□□□□□ eet t□e c□□□□i□itie□ of □n □uilt-in □□e□□er□.
4. □ro□o□ed □u□□titute □□□□□□□□□e □n e□ui□□ent □ri□□tne□□ r□tin□ □nd □□c□i□□tin□ tec□no□o□□ (ed□e i□□t, direct □□c□ i□□t, etc.)
5. □ro□o□ed □u□□titute □ei□□t □□□□□□e con□idered □it□ re□□ect to t□e di□□□□□ □ount. It □□□□□□ □e t□e re□□on□i□i□it□ of t□e contr□ctor to confir□ t□e □ount i□ co□ □□ti□e □it□ t□e □u□□titute di□□□□□.
6. □ro□o□ed □u□□titute □ountin□ orient□tion c□□□□i□itie□ (□ori□ont□□, □ertic□□/□ortr□it, etc.) □□□□□□ □eet or e□ceed □□□i□ of de□i□n.
7. □ro□o□ed □u□□titute □ □nufacturer’s warranty shall meet or exceed the basis of design.
8. □ro□o□ed □u□□titute □□□□□□t□□e into □ccount function□it□ fe□ture□ □uc□ □□ □t□nd□□/□ee□ □ode, □icture-in-□icture, □ideo □nd □udio □roce□□in□ c□□□□i□itie□, etc.

E. E□ui□□ent n□□in□ con□ention

1. “Product Type” – “Vertical Resolution” / “Nominal Diagonal Size (inches)”
2. E□□□ □e□ □CD □ro Di□□□□□ – 1080/52

□. □roduct T□□e□□CD □ro Di□□□□□
□. Vertic□□Re□olution□1,080 □i□e□□
c. Nominal Diagonal Screen Size: 52”

F. □cce□t□□□e □ □nuf□cturer□ □nd □ode□□erie□ inc□ude□
1. □CD □ro Di□□□□□ – 2160/□□□

□. □□□ □un□ □M□ □erie□
□. □□ □□□ □□□□□erie□

c. [illegible] [illegible] [illegible]
d. [illegible] [illegible] [illegible]

2.15 [illegible] [illegible] [illegible]

[illegible]. [illegible] noted otherwise, provide the [illegible] mount for each [illegible] furnished. Mount color [illegible] selected [illegible] architect. Match [illegible] mount to the [illegible] and the [illegible].

[illegible]. Furnish [illegible] (projector, mount, and [illegible] associated connection/equipment) [illegible] [illegible] supported with the [illegible] fastener to building structure. [illegible] structural support [illegible] provided. Do not [illegible] ceiling tiles. Refer to [illegible] requirements.

C. Furnish [illegible] components to provide a complete installation, including fastening [illegible] suitable for the [illegible].

D. [illegible] received or built-in projector require [illegible] coordination with the surrounding architecture to ensure proper fit and identification requirements.

E. Projector [illegible] Mount [illegible] projector [illegible], furnish [illegible] as listed for projector [illegible] required.

1. Chief [illegible] M1 [illegible] Ratio [illegible]
2. [illegible] Peerless [illegible] [illegible] T[illegible]-600 [illegible]
3. [illegible] [illegible] equal.

F. Projector [illegible] Mount [illegible] video projector [illegible], furnish [illegible] as listed for projector [illegible] required.

1. Chief [illegible] Ratio [illegible]
2. Chief VCM [illegible] (Peerless [illegible] Dust [illegible] [illegible]), or
3. Peerless [illegible] R [illegible] [illegible]
4. [illegible] Premier Mount [illegible] D[illegible]-[illegible]-[illegible] [illegible]
5. [illegible] [illegible] equal.

[illegible]. [illegible] Extended Ceiling [illegible] Mount [illegible] video projector [illegible] [illegible] [illegible]

1. M□tte □ □ite □creen □urf□ce, 1.0 □□in
2. Bla ck □□c□in□on □creen □urf□ce
3. E□tr□dro□ to □□o□ for □otto□ of screen image to reach 48” AFF

   a. □creen f□□ric shall □e fu lly de□o□ed □□en □t t□e □□ecified □ei□□t

4. 16□9 □□□ect r□tio
5. Motori□ed □creen □nd conce□□□ent door, if □□□ic□□e
6. E□tern□□□ □ounted e□ectric□□unction □o□/ □o□ □ot□□e contro□interf□ce
7. Low □ot□□e wall □□itc□, □oc□tion as sh□wn on p□ans

B. □ro□ection □creen□ □re □□ecified by □erie□. Refer to dr□□in□□ for e□□ct □creen □i□e re□uired □er □creen. □i□e i□ted as: (□ei□□t in inc□e□)-(□idt□ in inc□e□). De□i□nce fro□ bas□s of de□i□n □i□e □□o□ed +/-2”.
C. Coordin□te fin□□□ ountin□ □o□ition □it□ □□□ro□ri□te □□rtie□. En□ure □creen i□ □ounted □uc□ t□□t □creen dro□ i□ not i□ □eded by wall □ounted de□ice□, inc□udin□ any e□ectric□□de□ice□ or □ □r□er boa rds □nd tr□□□. □creen dro□ shall □ot i□ □□ct wall durin□ de□o□□ent.
D. Ceili□ □ounted □creen□ s□ow□ direct□□ □r□□e□to a □□□□urf□ce □it□out a □i□en di□en□ion □re intended to be mounted such that the deployed screen surface is no more than 12” off the wall □urf□ce. If □ountin□ condition□ nece□□it□te □io□tion of t□i□ di□en□ion, app ro val i□ re□uired on □n indi□idu□□bas□s.
E. □ro□ection □creen - ###-###-□/T: □otori□ed t□□-ten□ioned ceili□ □ounted □ro□ection □creen. Imag e □ie□in□ □rea as listed on drawings (H” x W”):

   1. D□-□ite Ten□ioned □d□□nt□□e De□u□e E□ectro□or Ten□ioned □□r□e □d□□nt□□e De□u□e E□ectro□(larg e for□ □t) □erie□□or
   2. Dr□□er □ti□ □te □cce□□/□erie□V or □ti□ □te □cce□□ □□/□erie□V (larg e for□ □t) □erie□; or
   3. □te□□rt Fi□□ □creen Ci□ □ Ab ov e Cei□in□ □erie□; or
   4. □te□□rt Fi□□ □creen Vi□ion□r□or Vi□ion□r□□r□nde (larg e for□ □t) □erie□; or
   5. □□□ro□ed e□u□.

F. □ro□ection □creen - ###-###-□/T: □otori□ed t□□-ten□ioned ceili□ □ounted □ro□ection □creen. Imag e □ie□in□ □re□ as listed on drawings (H” x W”):

   1. D□-□ite Ten□ioned □rofe□□ion□□E□ectro□□erie□□or
   2. Dr□□er □□r□□on/□erie□V □erie□; or
   3. □te□□rt Fi□□ □creen Mode□C□ E□ectri□creen □erie□; or
   4. □□□ro□ed e□u□.

2.18 □/V CO□TRO□ □□□TEM – E□□I□ME□T

A. T□e □C □o□er cord of t□e Contro□ Sys□em □roce□□or shall □e connected to a r□c□-□ount uninterru□ti□e □o□er □u□□□ (UPS). Refer to t□e □C □o□er □ection for □□ecific □ode□. T□e UPS shall □e connected to □n un□□itc□ed (un□e□uenced) □C □o□er circuit.
B. Contro□□□te□ e□ui□□ent shall □e furni□□ed fro□ one □ □nuf□cturer on□. □ro□r□□ t□e □□te□ to □ro□ide □cce□t□□e o□er□tion by t□e De□i□n Con□u□t□nt and/or Owner’s Representative.
C. □e□ect e□ui□□ent t□□t c□n □e fu□□ contro□ed by t□e contro□sys□em furni□□ed.
D. T□e dr□□in□□ ref□ect a □□ecific sys□em □ □nuf□cturer. If a different sys□em □ □nuf□cturer i□ furni□□ed, sh□p dr□□in□□ □re re□uired indic□tin□ □ro□o□ed □irin□ confi□ur□tion, contro□pa ne l □□□out, □nd e□ui□□ent u□ed. A□l□of t□e fe□ture□sh□wn for t□e sys□em on t□e dr□□in□□ sh□ll □e □□int□ined □it□ t□e □u□□titute □□□te□ inc□udin□ coordin□tion □nd co□t re□□ted to □□c□ □o□e□, e□ectric□□, □nd ot□er □□□oci□ted ite□□.
E. All sys□ems shall □e accessible remotely via the Owner’s LAN as directed by the Owner’s Re□re□ent□ti□e.
F. All □contro□e□ui□□ent nece□□□r□ shall □e furni□□ed to □ro□ide a co□ □□ete o□er□tin□ sys□em.

1. Touc□ □creen – W7”

   a. Cre□tron T SW -760
   b. Or AMX e□ui□□ent

2. Touc□ □creen - W10”

   a. Cre□tron T SW -1060
   b. Or AMX e□ui□□ent

3. Touc□ □creen – TT10”

   a. Cre□tron T SW -1060 □it□ T□□ -1060-TT□ t□□e to□ □it
   b. Or AMX e□ui□□ent

4. Contro□ Sys :em - □roce□□or: □uit-in router □it□ contro□□u□net

   a. Cre□tron C P3N
   b. Or AMX e□ui□□ent

2.19 □/V CO□TRO□ □□□TEM – □E□ER□□ □RO□R□MMI□□ RE□ □IREME□T□

A. Refer to Division 27 Section “Audio Video Systems” for general programming requirements with t□e fo□o□in□ re□i□ion□ □nd □ddition□:

   1. □o □ddition□□re□uire□ ent□.

2.20 CABL ES – F□CTOR□ TERMI□□TED – □ORT□□□E

A. F□ctor□ter□in□ted c□□e ass ɜmb□ies in t□i□ □ection □re □□□ro□ed for □ort□□e u□e on□.
B. □ort□□e c□□e ass ɜmb□y □u□ntitie□ □re identified in □□rent□e□i□ □nd □re re□uired to □e furni□□ed in □ddition to t□o□e re□uired for sys :em in□t□□□tion. □ort□□e c□□e □en□t□□ □re a □ini□u□ not to e□ceed t□e max ˙m u m □cce□t□□e □en□t identified in t□e c□□e de□cri□tion□ □e□o□. □ □ere □□ecific □en□t□□ □re cited □d□□cent to □u□ntitie□, t□e□e □en□t□□ □re to □e t□□en as ide□□□en□t□□. If a □re-□□□ro□ed □ode□□erie□ i□ not offered in t□e □□ecific □en□t□ cited, t□en t□e c□□e □en□t□ co□□e□t to t□e cited □en□t□ shall □e □ro□ided un□e□□ t□e difference i□ □re□ter t□□n t□ent□ □ercent. In t□i□ c□□e, cont□ct t□e Con□u□t□nt for direction.
C. All c□□e □□□e□ □ie□□u□t □e f□ctor□te□ted □nd certified.
D. Micro□□one C□□e – Micro□□one c□□e□ shall □e bla□k □it□ co□ored □oot or rin□ on t□e □□e connector as a co□or code to identif□ □en□t□ (co□or□ as identified for e□c□ □en□t□ □e□o□). Cu□to□ print “PROJECT NAME” and cover with clear heat shrink tubing approximately 6-inc□e□ fro□ t□e □□e connector or u□e cu□to□ en□r□□in□ on t□e □□e connector. Micro□□one c□□e □□rt nu□ □er□ □re cu□to□ □roduct□.
E. Micro□□one C□□e – 15’, fifteen foot microphone extension cable (yellow) (t□o re□uired):

   1. □roCo □□-15M4F0□□M; □r
   2. □ □ir□ind MKQ 15-WS R-Y EL.

F. □DMI C□□e, □er□ion 1.4 or □i□□er co□ □i□nt, □ □e □DMI to □ □e □DMI, □cce□t□□e □en□t□□: 1’-16’ (10 15’ portable required):

   1. Co□ □re□en□i□e □ro □V/IT □erie□□or
   2. E□tron □DMI □□tr□ □erie□; □r
   3. □□□ro□ed Equal

G. USB , T□□e B □ □e (de□ice = □□u□re) to T□□e A □ □e (co□ □uter = f□□t) or T□□e A □ □e to T□□e A male USB 2.0 compliant, Acceptable lengths: 1’-25’ (10 15’ portable required):

1. Co□ □re□en□i□e; or
2. E□tron; or
3. □□□ro□ed equal

□□RT 3 - E□EC□TIO□

3.1 COMMO□ RE□ □IREME□T□

A. Refer to Division 27 Section “Audio Video Systems” for co□ □on re□uire□ ent□.

3.2 LAB EL]NG

A. Refer to Division 27 Section “Audio Video Systems” for labeling requirements.

E□D OF □ECTIO□ 274116

□ECTIO□ 311000 – □ITE C□E□RI□□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

A. □ection Inc□ude□:
1. □rotectin□ e□i□tin□ □e□et□tion to re□ □in.
2. Re□o□in□ e□i□tin□ □e□et□tion.
3. C□e□rin□ □nd □ru□□in□.
4. □tri□□in□ □nd □toc□□i□in□ to□□oi□.
5. Re□o□in□ □□o□e- □nd □e□o□-□r□de □ite i□ □ro□e□ent□.
6. Di□connectin□, c□□□in□ or □e□in□ □ite uti□itie□.
7. Te□ □or□r□ero□ion- □nd □edi□ent□tion-contro□□ e□□ure□.

1.2 M□TERI□□ O□ □ER□□I□

□. E□ce□t for □tri□□ed to□□oi□□nd ot□er □ □teri□□□ indic□ted to □e □toc□□i□ed or ot□er□i□e re□ □in O□ner'] □ro□ert□, c□e□red □ □teri□□□ shall □eco□e Contr□ctor'] □ro□ert□ □nd shall □e re□o□ed fro□ □ro□ect □ite.

1.3 □RO□ECT CO□DITIO□□

A. Tr□ffic: Mini□i□e interference □it□ □d□oinin□ ro□d□, □treet□, wa□k□, □nd ot□er □d□□cent occu□ied or u□ed f□ci□itie□ durin□ □ite-c□e□rin□ o□er□tion□.

B. Do not c□o□e or o□□truct □treet□, walks, or ot□er □d□□cent occu□ied or u□ed f□ci□itie□ □it□out □er□i□□ion fro□ O□ner □nd □ut□oritie□ hav'ng □uri□diction.
1. □ro□ide □tern□te route□ □round c□o□ed or o□□tructed tr□ffic ways if re□uired by O□ner or □ut□oritie□ hav'ng □uri□diction.

C. □□□□□□e I□ □ro□e□ent□: C□refu□□□ re□o□e ite□ □indic□ted to □e □□□□□□ed □nd □tore on O□ner□□ □re□i□e□ □□ere indic□ted.

D. □ti□it□ □oc□tor □er□ice: □otif□ uti□it□ □oc□tor □er□ice for □re□ □□ere □ro□ect i□ □oc□ted □efore □ite c□e□rin□.

E. Do not co□□□ence □ite c□e□rin□ o□er□tion□ unti□te□ □or□r□ero□ion- □nd □edi□ent□tion-contro□ □nd □□□nt-□rotection □e□□ure□□re in □□ce.

F. T□e fo□o□in□ □r□ctice□ □re □ro□i□ited □it□in □rotection □one□:
1. □tor□□e of con□truction □ □teri□□□, de□ri□, or e□c□□□ted □ □teri□.
2. □□r□in□ □e□ic□e□ or e□ui□□ent.
3. Foot tr□ffic.
4. Erection of sheds or □tructure□.
5. I□ □ound□ent of □□ter.
6. E□c□□□tion or ot□er di□□in□ un□e□□ ot□er□i□e indic□ted.
7. □tt□c□□ent of signs to or wrapping □ □teri□□□ □round tree□ or □□□nt□ un□e□□ ot□er□i□e indic□ted.

□□RT 2 - □ROD□CT□

2.1 M□TERI□□□

A. □□ti□f□ctor□ □oi□ M□teri□: Re□uire□ent□ for □□ti□f□ctor□ □oi□ □□teri□□ □re □□ecified in □ection 312000 "E□rt□ Mo□in□."
1. O□t□in □□□ro□ed □orro□ □oi□ □□teri□□ off-□ite □□en □□ti□f□ctor□ □oi□ □□teri□□ i□ not ava□lab□e on-□ite.

□□RT 3 - E□EC□TIO□

3.1 □RE□□R□TIO□

A. □rotect □nd □□int□in □enc□□ r□□ □nd □ur□e□ contro□ □oint□ fro□ di□tur□□nce durin□ con□truction.

B. □oc□te □nd c□e□r□ identif□ tree□, sh□rubs, □nd ot□er □e□et□tion to re□□in or to □e re□oc□ted.

C. □rotect e□i□tin□ □ite i□ □ro□e□ent□ to re□□in fro□ damag□e durin□ con□truction.
1. Re□tore d□□ □□ed i□ □ro□e□ent□ to t□eir ori□in□□ condition, as □cce□t□□e to O□ner.

3.2 TEM□OR□R□ ERO□IO□ AN D □EDIME□T□TIO□ CO□TRO□

A. □ro□ide te□ □or□r□ ero□ion- □nd □edi□ent□tion-contro□□ e□□ure□ to □re□ent □oi□ero□ion □nd di□c□□r□e of □oi-□e□rin□ □□ter runoff or □ir□orne du□t to □d□□cent □ro□ertie□ □nd walkways, □ccordin□ to ero□ion- □nd □edi□ent□tion-contro□ dr□□in□□ □nd re□uire□ent□ of □ut□oritie□ hav□ng □uri□diction.

B. Verif□ t□□t fl□□ of □□ter redirected fro□ con□truction areas or □ener□ted by con□truction □cti□it□ do not enter or cro□□ □rotection □one□.

C. In□□ect, □ □int□in, □nd re□□ir ero□ion- □nd □edi□ent□tion-contro□□ e□□ure□ durin□ con□truction unti□□er□ □nent □e□et□tion has □een e□t□□i□□ed.

D. Re□o□e ero□ion □nd □edi□ent□tion contro□□ □nd re□tore □nd □t□□i□e areas di□tur□ed durin□ re□o□□.

3.3 TREE AN D PLAN T □ROTECTIO□

A. □ener□: □rotect tree□ □nd □□nt□ re□ □inin□ on-□ite.

B. Re□□ir or re□□□ce tree□, sh□rubs, □nd ot□er □e□et□tion indic□ted to re□□in or □e re□oc□ted t□□t □re d□□ □□ed by con□truction o□er□tion□, in a □ □nner □□□ro□ed by De□i□n □rofe□□ion□□.

3.4 E□I□TI□□ □TI□ITIE□

□. □oc□te, identif□, di□connect, □nd □e□□or c□□ uti□itie□ indic□ted to □e re□o□ed or □□□ndoned in □□□ce.

1. □rr□n□e □it□ uti□it□ co□ □□nie□ to □□ut off indic□ted uti□itie□.

□. Interru□tin□ E□i□tin□ □ti□itie□□ Do not interru□t uti□itie□ □er□in□ f□ci□itie□ occu□ied □□ O□ner or ot□er□ un□e□□ □er□itted under t□e fo□□o□in□ condition□ □nd t□en on□□ □fter □rr□n□in□ to □ro□ide te□ □or□r uti□it□ □er□ice□ □ccordin□ to re□uire□ent□ indic□ted□

1. □otif□ De□i□n □rofe□□ion□□ not □e□□ t□□n t□o d□□□ in □d□□nce of □ro□o□ed uti□it□ interru□tion□.
2. Do not □roceed □it□ uti□it□ interru□tion□ □it□out Design Professional's □ritten □er□i□□ion.

3.5 C□E□RI□□ □□D □R□□□I□□

□. Re□o□e o□□truction□, tree□, □□ru□□, □nd ot□er □e□et□tion to □er□it in□t□□□tion of ne□ con□truction.

1. □rind do□n □tu□ □□ □nd re□o□e root□, o□□truction□, □nd de□ri□ to □ de□t□ of 18 inc□e□ (450 □□) □e□o□ e□□o□ed □u□□r□de.
2. □□e on□□ □□nd □et□od□ for □ru□□in□ □it□in □rotection □one□.

□. Fi□□de□re□□ion□ c□u□ed □□ c□e□rin□ □nd □ru□□in□ o□er□tion□ □it□ □□ti□f□ctor□ □oi□□ □teri□□ un□e□□ furt□er e□c□□□tion or e□rt□□or□i□ indic□ted.

1. □□□ce fi□□□ □teri□□ in □ori□ont□□□□□er□ not e□ceedin□ □ □oo□e de□t□ of 8 inc□e□ (200 □□), □nd co□ □□ct e□c□ □□□er to □den□it□e□u□□to □d□□cent ori□in□□□round.

3.6 TO□□OI□ □TRI□□I□□

□. Re□o□e □od □nd □r□□□ □efore □tri□□in□ to□□oi□.

□. □tri□ to□□oi□ to de□t□ of 6 inc□e□ (150 □□) in □ □ □nner to □re□ent inter□in□in□ □it□ under□in□ □u□□oi□or ot□er □□□te □ □teri□□□.

C. □toc□□i□e to□□oi□□□ □□ fro□ ed□e of e□c□□□tion□ □it□out inter□i□in□ □it□ □u□□oi□. □r□de □nd □□□□e □toc□□i□e□ to dr□in □urf□ce □□ter. Co□er to □re□ent □ind□o□n du□t □nd ero□ion □□ □□ter.

3.7 □ITE IM□ROVEME□T□

□. Re□o□e e□i□tin□ □□o□e- □nd □e□o□-□r□de i□ □ro□e□ent□ □□ indic□ted □nd nece□□□r□ to f□ci□it□te ne□ con□truction.

3.8 DI□□O□□□□ OF □□R□□□□ □□D □ □□TE M□TERI□□□

□. Re□o□e □ur□u□ □oi□□ □teri□, un□uit□□e to□□oi, o□□truction□, de□o□i□□ed □ □teri□□□, □nd □□□te □ □teri□□□ inc□udin□ tr□□□ □nd de□ri□, □nd □e□□□□ di□□o□e of t□e□ off O□ner□□ □ro□ert□.

□. □e□□r□te rec□c□□□e □ □teri□□□ □roduced durin□ □ite c□e□rin□ fro□ ot□er non-rec□c□□□e □ □teri□□□. □tore or □toc□□i□e □it□out inter□i□in□ □it□ ot□er □ □teri□□□ □nd tr□n□□ort t□e□ to rec□c□in□ f□ci□itie□. Do not interfere □it□ ot□er □ro□ect □or□.

E□D OF □ECTIO□

□ECTIO□ 312000 – E□RT□ MOVI□□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

A. □ection Inc□ude□:
1. E□c□□□tion for pav ng □nd □r□din□.
2. E□c□□□tion for □ite □tructure□.
3. □ite fi□in□ □nd □□c fi□in□.
4. Con□o id□tion □nd co□ □□ction.
5. Con□o id□tion □nd co□ □□ction of □eddin□ under uti itie□.
6. Rou□□ □r□din□.

B. Re□□ted □ection□:
1. □ection 015713 – Te□ □or□r□ Ero□ion □nd □edi□ent Contro□.
2. □ection 311000 – □ite C□e□rin□.

1.2 DEFI□ITIO□□

A. □u□□r□de: □□□er□o□t □urf□ce of □n e□c□□□tion or t□e to□ □urf□ce of a fi□□or □□c fi□□i□ □edi□te□□ □e□o□ s ubbas e, dr□in□□e fi□, dr□in□□e cour□e, or to□□oi□□ □teri□□, □nd □otto□ of o□er e□c□□□tion areas if re□uired by t□e contr□ct docu□ent.

B. □u□□□□e Cour□e: □□□re□□te lay□r □□□ced □et□een t□e □u□□r□de □nd □ot-□i□aspha t □□□e□ent, or □□□re□□te □□□er □□□ced □et□een t□e □u□□r□de □nd a ce□ent concrete □□□e□ent or a ce□ent concrete or □ot-□i□aspha t wa k.

C. □eddin□ Cour□e: □□□re□□te lay□r □□□ced o□er t□e e□c□□□ted □u□□r□de in a trenc□ □efore lay□ng □i□e.

D. Dr□in□□e Cour□e: □□□re□□te □□□er □u□□ortin□ t□e □□□□-on-□r□de t□□t □□□o □ini□i□e□ u□□□rd c□□i□□□r□fi□□ of □ore □□ter.

E. □orro□ □oi□: □□ti f□ctor□ □oi□i□ □orted fro□ off-□ite for u□e as fi□□or □□c fi□, □□en □ufficient □□□ro□ed □oi□□ □teri□□i□ not □□i□□□e fro□ e□c□□□tion.

F. E□c□□□tion: Re□o□□□ of □ □teri□□ encountered ab ve □u□□r□de e□e□□tion□ □nd to □ine□ □nd di□en□ion□ indic□ted, re□□rd□e□□ of t□e c□□r□cter □nd den□it□ of □ □teri□□, inc□udin□ reu□e or di□□o□□□of □ □teri□□□re□o□ed.
1. □ut□ori□ed □ddition□□E□c□□□tion: E□c□□□tion □e□o□ □u□□r□de e□e□□tion□ or □e□ond indic□ted □ine□ □nd di□en□ion□ as directed by De□i□n □rofe□□ion□□. □ut□ori□ed □ddition□□ e□c□□□tion □nd re□□□ce□ent □ □teri□□ will □e □□id for □ccordin□ to Contr□ct □ro□i□ion□ for c□□n□e□in t□e □or□.
2. □n□ut□ori□ed E□c□□□tion: E□c□□□tion □e□o□ □u□□r□de e□e□□tion□ or □e□ond indic□ted □ine□ □nd di□en□ion□ □it□out direction by De□i□n □rofe□□ion□□. □n□ut□ori□ed e□c□□□tion, as □e□□ as re□edi□□□or□ directed by De□i□n □rofe□□ion□□, sh □ll □e □it□out □ddition□□ co□ □en□□tion.

G. Fi□: □uit□□e □ □teri□□□u□ed to r□i□e e□i□tin□ □r□de□.

□. Fini□□ □r□de□ T□e to□ □urf□ce of □od, to□ □urf□ce of to□□oi□□ □ere □od i□ not indic□ted or e□□o□ed roc□ □urf□ce □□ere indic□ted on t□e dr□□in□.

I. Trenc□ □□c□fi□□ □oi□□ □teri□□or contro□ed □□-□tren□t□ □ □teri□□u□ed to fi□□□n e□c□□□tion.
    1. Initi□□□□c□fi□□ □□c□fi□□□□ced □e□ide □nd o□er □i□e in □ trenc□, inc□din□ □□unc□e□ to □u□□ort □ide□of □i□e.
    2. Fin□□□□c□fi□□ □□c□fi□□□□ced o□er initi□□□□c□fi□□to fi□□□ trenc□.

□. □tructure□□ □uidin□□, footin□□, found□tion□, ret□inin□ □□□□, □□□□□, t□n□□, cur□□, □ec□□nic□□□nd e□ectric□□□□□urten□nce□, or ot□er □ □n-□ □de □t□tion□r□ fe□ture□ con□tructed □□o□e or □e□□ t□e □round □urf□ce.

□. □ti□itie□□ On-□ite under□round □i□e□, conduit□, duct□, □nd c□□□e□, □□ □e□□□□ under□round □er□ice□ □it□in □uidin□□.

□. Roc□□Roc□ □ □teri□□in □ed□, □ed□e□, un□tr□tified □ □□□e□, con□□□er□te de□o□it□, □nd □ou□der□ of roc□ □ □teri□□t□□t e□ceed **1 cu. yd. (0.76 cu. m)** for □u□□e□c□□□tion or **3/4 cu. yd. (0.57 cu. m)** for footin□ □nd trenc□ e□c□□□tion t□□t c□nnot □e re□o□ed □□ roc□-e□c□□□tin□ e□ui□□ent e□ui□□ent to t□e fo□□□in□ in □i□e □nd □erfor□□nce r□tin□□, □it□out □□□te□ □tic dri□in□, r□□ □□□□ □erin□, ri□□in□, or □□□□tin□, □□en □er□itted□
    1. E□ui□□ent for Footin□ □nd Trenc□□ □□te-□ode□, tr□c□-□ounted □□dr□u□ic e□c□□□tor□ e□ui□□ed □it□ □ 42-inc□- (1065-□ □-) □ □□i□u□-□idt□, □□ort-ti□-r□diu□ roc□ □uc□et□r□ted □t not □e□□t□□n 138-□□ (103-□□) f□□□ □ee□□o□er □it□ □uc□et-cur□in□ force of not □e□□t□□n 28,700 □□f (128 □□) □nd □tic□-cro□d force of not □e□□t□□n 18,400 □□f (82 □□) □it□ e□tr□-□on□re□c□ □oo□.
    2. E□ui□□ent for □u□□ E□c□□□tion□□□te-□ode□, tr□c□-□ounted □o□der□r□ted □t not □e□□t□□n 230-□□ (172-□□) f□□□ □ee□□o□er □nd de□e□o□in□ □ □ini□u□ of 47,992-□□f (213.3-□□) □re□□out force □it□ □ □ener□□-□ur□o□e □□re □uc□et.

1.3 □□□MITT□□□

□. □u□□it in □ccord□nce □it□ Di□i□ion 1 un□e□□ ot□er□i□e indic□ted.

□. □roduct D□t□□For e□c□t□□e of □ □teri□□indic□ted in □□rt 2 of t□i□ □ection.

C. Contr□ct C□o□eout □u□□itt□□□□ □u□□it in □ccord□nce □it□ Di□i□ion 1.
    1. □ro□ect Record Docu□ent□.
        □. □ccur□te□□ record □oc□tion of under□round uti□itie□ re□ □inin□, rerouted uti□itie□, □nd ne□ uti□itie□ □□ □ori□ont□□ di□en□ion□ fro□ □□o□e □r□de □er□□nent fi□ture□, e□e□□tion□or in□ert□, □nd □o□e □r□dient□.

1.4 □□□□IT□ □□□□□R□□CE

□. Installer's Qualifications: Firm experienced in installation of systems similar in complexity to those re□uired for t□i□ □ro□ect, □u□t□e fo□□o□in□□
    1. □ot □e□□t□□n 3 □e□r□e□□erience □it□ □□□te□ □.
    2. □ucce□□fu□□□ co□ □□eted not □e□□t□□n 5 co□ □□r□□□e □c□e □ro□ect□u□in□ t□i□ □□□te□.

□. Te□tin□ □□enc□□ □ □u□ified inde□endent □eotec□nic□□en□ineerin□ te□tin□ □□enc□ □□□□□c□□□if□ □ro□o□ed on-□ite □nd □orro□ □oi□□ to □erif□ t□□t □oi□□ co□ □□□ □it□ □□ecified re□uire□ent□ □nd to □erfor□ □□ecified fie□d □nd □□or□tor□te□tin□.

C. □re-e□c□□□tion Conference□

1. Con□ene □re-e□c□□□tion conference under □ro□i□ion of Di□i□ion 1, one □ee□ □rior to co□ □encin□ □ or□ of t□i□ □ection.
2. Contr□ctor □□□□□□e □re□idin□ officer □t conference.
3. Conference □□□□□□e □ttended □□ Contractor, Owner's Representative, testing agency, □nd e□rt□□or□ □u□contr□ctor.
4. □ur□o□e of conference □i□□□e to re□ie□ contr□ct re□uire□ent□ □nd di□cu□□ □c□edu□e□, □or□ □rocedure□, □cce□t□□□e □ □teri□□□ □□ecified under t□i□ □ection, □oc□tion□ □□ere □□ecified □ □teri□□□ □ □□□ □e incor□or□ted, □nd □u□it□ contro□.

1.5 □RO□ECT CO□DITIO□□

□. E□i□tin□ Condition□□
1. □oc□te e□i□tin□ under□round uti□itie□ in □re□□ of e□c□□□tion □or□.
□. Do not interru□t e□i□tin□ uti□itie□ □er□in□ f□ci□itie□ occu□ied □□ t□e O□ner or ot□er□ e□ce□t when permitted in writing by Owner's Representative and then only after □cce□t□□□e te□ □or□r uti□it□ □er□ice□ □□□e □een □ro□ided.
□. □ro□ide not □e□□ t□□n 72 □our□ notice to De□i□n □rofe□□ion□□ and Owner's Re□re□ent□ti□e □nd rece□e □ritten □ut□ori□□tion to □roceed □efore interru□tin□ □n□ uti□it□.

1.6 M□I□TE□□□CE

□. □ □ere □ett□n□ i□ □e□□ur□□□e or o□□er□□□□e □t e□c□□□ted □re□□ durin□ correction □eriod re□uired □□ □ener□□Condition□, re□o□e □urf□ce (□□□e□ent, □□□n, or ot□er fini□□), □dd □□c fi□□□ □teri□□, co□ □□ct □□ □□ecified in t□i□ □ection for □oc□tion of □ □teri□□, □nd re□□□ce □urf□ce tre□t□ent.
1. Re□tore □□□e□r□nce, □u□it□, □nd condition of □urf□ce or fini□□ to □ □t□□ □d□□cent □ □teri□□□.
2. E□i□□in□te e□idence of re□tor□tion.

□□RT 2 - □ROD□CT□

2.1 M□TERI□□□

□. □ener□□□
1. □ro□ide □□□ro□ed □orro□ □oi□ □ □teri□□□ fro□ off-□ite □□en □ufficient □□□ro□ed □oi□ □ □teri□□□ □re not □□□i□□□e fro□ e□c□□□tion□, □t no incre□□e in Contr□ct □u□ or e□ten□ion of Contr□ct Ti□e.
2. Di□□o□e of □n□ e□ce□□ □ □teri□□□ □e□□□□□ off □ite □t no incre□□e in contr□ct □u□ or e□ten□ion of contr□ct ti□e. On □ite di□□o□□□of □uit□□□e □ □teri□□□ □ □□□ on□□ □e □er□itted □□ere □□o□n on t□e dr□□in□□.
3. Fi□□ □nd □□c fi□□□ □teri□□□ □□□□□□e □u□□ect to t□e □□□ro□□□of te□tin□ □□enc□ □nd t□e Owner's Representative.
4. For □□□ro□□□ of fi□□ □nd backfill materials, notify testing agency and Owner's Re□re□ent□ti□e □t □e□□t 5 □or□in□ d□□□ in □d□□nce of intention to i□ □ort □ □teri□□.
□. De□i□n□te □ro□o□ed □orro□ □re□ □nd e□c□□□te te□t □it□ to □er□it te□tin□ □□enc□ to □□□ □□e □□nece□□□r□ fro□ □orro□ □re□ for t□e □ur□o□e of □ □□in□ □cce□t□nce te□t□ to confir□ □u□it□ of □ro□o□ed □ □teri□□.

□. □ener□□ Fi□□ M□teri□□□
1. Definition□ T□□t □ □teri□□u□ed to o□t□in fini□□ □u□□r□de □e□e□□ □t □oc□tion□ □□ecified under t□i□ □ection.

2. Accepta□le □ateri□□: E□c□□□ted on-□ite □ateri□□or off-□ite □orro□ □ateri□□□ □ic□ i□ free fro□ de□ri□, or□□nic□, deco□ □o□□□□e, □nd corrodi□□ □ateri□□, □nd cont□inin□ t□e □ro□er □oi□ture content, i□□uid i□ it, □nd □□□□ticit□ inde□ to o□t□in □□ecified co□ □□ction re□uire□ent□.
   □. E□i□tin□ on-□ite □ateri□□ro□o□ed for reu□e, □nd off-□ite □orro□ □ateri□□□□□□□□e □□□ro□ed □□te□tin□ □□enc□.

C. □o□ Vo□u□e C□□n□e M□teri□□□
1. Definition□T□□t □ateri□□u□ed to o□t□in t□e u□□er 12 inc□e□ of fini□□ □u□□r□de □ene□t□ □u□□□□e in □□□e□ent □re□□, □nd □ateri□□u□ed □□ trenc□ □□c□fi□□□ateri□□in □□□e□ent □re□□.
2. Accepta□le □ateri□□□□
   □. MoDOT T□□e 5 □□□re□□te.

D. □r□nu□□r Fi□□□
1. Definition□ Free-dr□inin□ □r□nu□□r □□□e u□ed □ene□t□ □uidin□ □□□□□□-on-□r□de □nd u□ed □□ □□c□fi□□□e□ind found□tion □nd ret□inin□ □□□□□.
2. Accepta□le □ateri□□□□ C□e□n cru□□ed □tone or □r□□e□, free of □□□□e, c□□□, fri□□□e □ateri□□, □nd de□ri□, co□ □□□in□ □it□ □□TM C33 □i□e □o. 57.

E. □□□e□ent □u□□□□□e Cour□e□
1. Definition□ □□□re□□te □□□er u□ed □ene□t□ concrete □□□e□ent □nd ot□er □□□e□ent□ indic□ted on Dr□□in□□.
2. Accepta□le □ateri□□□□ MoDOT T□□e 5 □□□re□□te

F. □eddin□ M□teri□□□□ T□□e 1 □□□re□□te □er MoDOT □t□nd□rd □□ecific□tion for □i□□□□□ Con□truction, □ection 1007.

□. Trenc□ □□c□fi□□M□teri□□□□
1. □□□□on □r□de□□ □o□ □o□u□e c□□n□e □ateri□□□ □er t□i□ □ection.
2. □□□e□ent □re□□□ MoDOT T□□e 5 □□□re□□te.
3. Ot□er □re□□□ □ener□□Fi□□M□teri□□or ot□er □ateri□□□ □□ecified under t□i□ □ection □t □oc□tion□ □□ecified or indic□ted on Dr□□in□□.

□. M□nu□□□□c□fi□□M□teri□□
1. Definition□ M□teri□□ re□uirin□ □□□ce□ent □nd co□ □□ction □it□ □ □nu□□ □rocedure□ □ec□u□e of re□tricted □□□ce□ or ne□ con□truction.
2. Accepta□le □ateri□□□□ Eit□er □ener□□ Fi□□ M□teri□□, □r□nu□□r Fi□□ M□teri□□, or ot□er □ateri□□□ □□ecified under t□i□ □ection □t □oc□tion□ □□ecified or indic□ted on Dr□□in□□.

I. □n□uit□□□e □ateri□□
1. Definition□ T□□t e□c□□□ted □ateri□□□ □ic□ doe□ not □eet t□e con□i□tenc□ re□uire□ent□ of □n□ ot□er defined □ateri□□□ in t□i□ □ection, inc□udin□ □uc□, fro□en □ateri□□, or□□nic □ateri□□, to□ □oi□, ru□□i□□, □nd roc□ □it□in t□e i□ it□ defined for □ener□□Fi□□M□teri□□
2. Di□□o□e of un□uit□□□e □ateri□□off-□ite, □t no incre□□e in Contr□ct □u□ or e□ten□ion of Contr□ct Ti□e.
   □. □u□□it □n □cce□t□□□e □□ree□ent □it□ t□e □ro□ert□ o□ner on □□o□e □ro□ert□ t□e un□uit□□□e □ateri□□i□ □□□ced.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. Verific□tion of Condition□□ E□□□□ine □re□□ □nd condition□ under □□ic□ □ or□i□to □e □erfor□ed □nd identif□ condition□ detri□ ent□□ to □ro□er □nd ti□e□□ co□ □□etion.
   1. Verif□ □oc□tion □nd e□e□□tion□ of e□i□tin□ □uid□n□ found□tion□.
   2. Verif□ □oc□tion □nd e□e□□tion□ of e□i□tin□ under□round uti□□tie□.
   3. Verif□ ero□ion contro□□□□te□ □ □re in □□□ce.
   4. Do not □roceed unti□ un□□ti□f□ctor□ condition□ □□□□e □een corrected.

3.2 □RE□□R□TIO□

□. □rotection□
   1. □rotect tree□, □□ru□□, □□□n□, ot□er □□□nt □ro□t□, □nd ot□er fe□ture□ indic□ted on Dr□□in□□ to re□ □in.
   2. □rotect □enc□ □ □r□□, □onu□ent□, e□i□tin□ □tructure□, e□i□tin□ fence□, e□i□tin□ ro□d□, e□i□tin□ □ide□□□□□, e□i□tin□ □□□in□, □nd e□i□tin□ cur□□ fro□ d□□ □□e c□u□ed □□ □ett□e□ent, □□ter□□□ o□e□ent, under□inin□, □□□□out, □nd ot□er □□□□rd□ c□u□ed □□ □ or□ of t□i□ □ection.
      □. If damaged or displaced, notify Owner's Representative and correct defects as directed by Owner's Represent□ti□e.
   3. □rotect □□o□e □nd □e□o□ □r□de uti□□tie□ □ □ic□ □re to re□ □in.
   4. □rotect □d□□cent □nd do□n□tre□□ □ro□ertie□ fro□ □o□□ution, □edi□ent□tion, or ero□ion c□u□ed □□ t□e □or□ of t□i□ Contr□ct.

□. □rec□ution□□
   1. □□e □□□□e□n□ nece□□□r□ to contro□du□t on □nd ne□r t□e □ or□, □nd on □nd ne□r off-□ite □orro□ □tor□□e, □nd □□oi□□re□□, if □uc□ du□t i□ c□u□ed □□ □erfor□ □nce of t□e □ or□ of t□i□ □ection, or if re□u□tin□ fro□ t□e condition in □□ic□ □ro□ect □ite i□ □eft □□ Contr□ctor.
   2. Moi□ten □urf□ce□ □□ re□uired to □re□ent du□t fro□ □ein□ □ nui□□nce to t□e □u□ic, nei□□□or□, □nd concurrent □erfor□ □nce of ot□er □ or□on □ro□ect □ite.
   3. Identif□ re□uired □ine□, □e□e□□, contour□, □nd d□tu□.
   4. Identif□ □□o□e □nd □e□o□ □r□de uti□□tie□.
   5. □ro□ide □nd □ □int□in □o□iti□e □urf□ce dr□in□□e.

3.3 □ □TER CO□TRO□

□. □ro□ide □er□ □or c□□nne□□□ to □re□ent f□oodin□ of □u□□r□de□.

□. □re□ent infi□tr□tion of □□ter into e□c□□□tion□ fro□ □□□te□er □ource□ □□□ □ □□e□i□t.

C. □re□ent □ondin□ of □□ter on fini□□ □u□□r□de□.

D. □rotect □u□□r□de□ □nd found□tion □oi□□ fro□ □oftenin□ □nd d□□ □□e □□r□in or □□ter □ccu□u□□tion.

E. □re□ent f□oodin□ of □ro□ect □ite □nd □urroundin□ □re□□.

F. □ro□ □t□□re□ o□e □□ter co□ection in de□re□□ion□.
   1. □ro□ide □nd □ □int□in □□ □□e □e□n□ □nd de□ice□ □it□ □□ic□ to re□o□e □nd di□□o□e of □□ter enterin□ e□c□□□tion□.

2. En□ure dr□ e□c□□□tion□ □nd □re□er□□tion of fin□□ line□ □nd □r□de□ of □otto□ □ of e□c□□□tion.

3.4 E□C□V□TIO□, □E□ER□□

A. Us□ of e□□lo□i□e□ i□ not □er□itted.

B. E□c□□□tion abov□ □u□□r□de as defined in par□graph 1.2 of t□i□ □ection i□ unc□□□ified □nd inc□ude□ e□c□□□tion of any □ □teri□□ encountered re□□rd□e□□ of it□ c□□r□cter inc□udin□ roc□, □oi□□ □teri□□, de□ri□, □nd ot□er o□□truction□ □nd shall □e inc□uded in t□e □□□e □id.

C. □erfor□ e□c□□□tion to t□e line□ □nd □r□de□ indic□ted on Dr□□in□□ □it□in a to□er□nce of 0.10 foot.
1. E□tend e□c□□□tion□ a □ufficient di□t□nce fro□ □tructure□ for □□□cin□ □nd re□o□in□ concrete for□ □or□, in□t□□in□ □er□ice□ □nd ot□er con□truction, □nd for in□□ection□.

D. □erfor□ E□c□□□tion □or□ in co□□i□□nce □it□ □□□ic□□e re□uire□ent□ of □ut□oritie□ hav□ng □uri□diction, inc□udin□ □nited □t□te□ De□□rt□ent of □□□or, Occu□□tion□□ □□fet□ □nd □e□t□ Administration (OSHA) “Construction Standards for Excavations, 29 CFR Part 1926”.

E. □erfor□ □ or□in a □□nner □nd □e□uence t□□t will □ro□ide dr□in□□e □t all ti□e□ □nd t□□t will □re□ent □urf□ce □□ter fro□ dr□inin□ into e□c□□□tion□.

F. □rotect □u□□r□de□ □nd found□tion so□ls □□□in□t free□in□ te□ □er□ture□ □nd fro□t.
1. □ro□ide □rotecti□e in□u□□tion □ □teri□□ as nece□□□r□.

G. □ □en e□c□□□tin□ t□rou□□ root□, □erfor□ □ or□ by □□nd cuttin□ root□ □it□ sha□p □□e.

H. E□c□□□tion cut shall □ot interfere □it□ nor□ □□45 de□ree □e□rin□ splay of found□tion□.

I. M□c□ine □o□e ba□ks to co□ply □it□ □oc□□code□, ordin□nce□, □nd re□uire□ent□ of □□encie□ hav□ng □uri□diction.
1. □ro□ide □ □teri□□ for □□orin□ □nd □r□cin□.
a. M□int□in □□orin□ □nd □r□cin□ in e□c□□□tion□ re□□rd□e□□ of ti□e □eriod e□c□□□tion□ will □e o□en.
b. E□tend □□orin□ □nd □r□cin□ as e□c□□□tion □ro□re□□e□
2. Contro□ □urf□ce dr□in□□e do□n □o□e□.
3. Co□er □o□e□ to □re□ent lo□□ of □oi□ture content of □oi□ □nd to □re□ent r□□e in□.

J. □ □en □ □teri□□ encountered □t □u□□r□de □re deter□ined to □e un□cce□t□□e for u□e by te□tin□ □□enc□, re□o□e □uc□ □ □teri□□ to de□t□□ □nd i□ it□ deter□ined by te□tin□ □□enc□.
1. Ba□kfill □it□ □ □teri□□ cce□t□□e to te□tin□ □□enc□ □nd co□ □□ct to den□it□ equal to t□e □□ecified re□uire□ent□ for □u□□e□uent fi□□ □teri□.

K. □ □ere de□re□□ion□ re□ult fro□, or hav□ re□ulted fro□ t□e re□o□□□ of □urf□ce or □u□□urf□ce o□□truction□, o□en de□re□□ion□ to e□ui□□ent □or□in□ □idt□, □nd re□o□e de□ri□ □nd □oft □ □teri□□ as directed by te□tin□ □□enc□, □t no incre□□e in Contr□ct Sum or e□ten□ion of Contr□ct ti□e.
1. Ba□kfill □it□ □ □teri□□ cce□t□□e to te□tin□ □□enc□ □nd co□ □□ct to den□it□ equal to t□e □□ecified re□uire□ent□ for □u□□e□uent fi□□ □teri□, □t no incre□□e in Contr□ct Sum or e□ten□ion of Contr□ct Ti□e.

L. □□c□fi□□nd co□ □□ct un□ut□ori□ed o□er-e□c□□□tion□ as □□ecified for t□e □re□ □t which it occur□, □t no incre□□e in Contr□ct Sum or e□ten□ion of Contr□ct Ti□e.

1. □□c□fi□□□it□ □ □teri□□□cce□t□□□e to te□tin□ □□enc□ □nd co□ □□ct to den□it□ e□u□□to t□e □□ecified re□uire□ent□ for □u□□e□uent fi□□□ □teri□□, □t no incre□□e in Contr□ct □u□ or e□ten□ion of Contr□ct Ti□e.

M. □toc□□i□e e□c□□□tion □ □teri□□□ □ic□te□tin□ □□enc□ □□□□ □□□ro□ed for reu□e.
1. □toc□□i□e □oi□□ □teri□□□ □it□out inter□i□in□ □oi□□ □teri□□□ □it□ different con□i□tencie□ □nd □r□d□tion.
2. □□□ce, □r□de, □nd □□□□e □toc□□i□e□ to dr□in □urf□ce □□ter.
3. Do not □toc□□i□e □it□in dri□ □ine of tree□ □□ic□ □re to re□ □in.
4. Co□er □toc□□i□e□ to □re□ent □ind-□□o□n du□t.

□. Re□o□e un□cce□t□□e e□c□□□tion □ □teri□□fro□ □ite, □t no incre□□e in Contr□ct □u□ or e□ten□ion of Contr□ct Ti□e.

O. □□nd tri□ e□c□□□tion□.
1. Re□o□e □oo□e □ □tter.

□. E□c□□□tion for Footin□□ □nd Found□tion□□
1. Do not di□tur□ □otto□ of e□c□□□tion.
□. E□c□□□te □□ □□nd to fin□□ □r□de i□ □edi□te□□ □rior to □□□ce□ent of concrete reinforce□ent.
□. Tri□ □otto□ of e□c□□□tion□ to re□uired □ine□ □nd □r□de□ to □e□□e □oi□d □□□e to recei□e ot□er □or□.
2. Dri□□□ro□e □o□e□ □t e□□o□ed □otto□ of e□c□□□tion□ □□directed □□te□tin□ □□enc□.

3.5 TRE□C□ E□C□V□TIO□□

□. □□e of e□□□o□i□e□ i□ not □er□itted.

□. Trenc□ e□c□□□tion i□ unc□□□ified □nd inc□ude□ e□c□□□tion to re□uired e□□o□ed □u□□r□de e□e□□tion□ re□□rd□e□□ of t□e c□□r□cter of □urf□ce □nd □u□□urf□ce condition□ encountered, inc□udin□ roc□, □oi□□ □teri□□, de□ri□, □nd ot□er o□□truction□.

C. E□c□□□te trenc□e□ to □r□dient□, □ine□, de□t□□, □nd e□e□□tion□ indic□ted on Dr□□in□□, □it□in □ to□er□nce of 0.10 foot.

D. □erfor□ e□c□□□tion □ or□ in co□ □i□nce □it□ □□□ic□□e re□uire□ent□ of □ut□oritie□ □□□in□ □uri□diction, inc□udin□ □nited □t□te□ De□□rt□ent of □□□or, Occu□□tion□□ □□fet□ □nd □e□t□ Administration (OSHA) "Construction Standards for Excavations, 29 CFR Part 1926".

E. Do not □erfor□ trenc□ e□c□□□tion in □re□□ to recei□e fi□□unti□fi□□o□er□tion□ □re co□□ete to □n e□e□□tion of not □e□□ t□□n 24 inc□e□ □□o□e t□e to□ of t□e □ro□o□ed □i□e or conduit for □□ic□ t□e trenc□ i□ to recei□e.

F. □erfor□ □ or□in □ □ □nner □nd □e□uence t□□t □i□□□ro□ide dr□in□□e □t □□□ti□e□ □nd t□□t □i□□□re□ent □urf□ce □□ter fro□ dr□inin□ into trenc□e□.

□. □rotect □u□□r□de□ □□□in□t free□in□ te□ □er□ture□ □nd fro□t.

□. □ro□ide □rotecti□e in□u□□tion □ □teri□□□ □□nece□□□r□.

I. □ □en e□c□□□tin□ t□rou□□ root□, □erfor□ □ or□ □□ □□nd cuttin□ root□ □it□ □ □□□r□ □□e.

□. E□c□□□tion cut □□□□□not interfere □it□ nor□ □□45 de□ree □e□rin□ □□□□□ of found□tion□.

□. E□c□□□te trenc□e□ to unifor□ □idt□, □ufficient□□ □ide to en□□□e in□t□□□tion of uti□itie□ □nd to □□o□ □□fe in□□ection of in□t□□□ed uti□itie□.

□. E□c□□□te trenc□e□ 6 inc□e□ dee□er t□□n □otto□ of □i□e e□e□□tion to □□o□ for □eddin□ cour□e.
1. □□nd e□c□□□te for □e□□of □i□e.
2. E□c□□□te trenc□e□ 6 inc□e□ dee□er t□□n e□e□□tion re□uired in roc□ or ot□er un□ie□din□ □e□rin□ □ □teri□□to □□o□ for □eddin□ cour□e.
3. Co□ □□□ □it□ □oc□□code□, ordin□nce□, □nd re□uire□ent□ of □□encie□ □□□in□ □uri□diction.
4. □ro□ide □ □teri□□□ for □□orin□ □nd □r□cin□.
□. M□int□in □□orin□ □nd □r□cin□ in trenc□e□ re□□rd□e□□ of ti□e □eriod trenc□e□ □i□□e o□en.
□. E□tend □□orin□ □nd □r□cin□ □□e□c□□□tion □ro□re□□e□.
5. Contro□□urf□ce dr□in□□e do□n □o□e□.
6. Co□er □o□e□ to □re□ent □o□□ of □oi□ture content of □oi□□nd to □re□ent r□□e□in□.
7. □□nd tri□ trenc□e□.
□. Re□o□e □oo□e □ □tter.

M. □ □en □u□□r□de □ □teri□□□ □re encountered □□ic□te□tin□ □□enc□ deter□ine□ to □e un□cce□t□□□e for u□e, re□o□e □uc□ □ □teri□□to de□t□□ □nd i□ it□ deter□ined □□te□tin□ □□enc□□

1. □□c□fi□□□it□ □ □teri□□□cce□t□□□e to te□tin□ □□enc□ □nd co□ □□ct to den□it□ e□u□□to t□e □□ecified re□uire□ent□ for □u□□e□uent fi□□□ □teri□□.
2. Re□o□□□□nd re□□□ce□ent of un□cce□t□□□e □ □teri□□□i□□□e □□id on □□□i□ of □nit □rice□ inc□uded in t□e Contr□ct Docu□ent□.

□. □ □ere de□re□□ion□ re□u□t fro□, or □□□e re□u□ted fro□ t□e re□o□□□ of □urf□ce or □u□□urf□ce o□□truction□, o□en de□re□□ion□ to e□ui□□ent □or□in□ □idt□, □nd re□o□e de□ri□ □nd □oft □ □teri□□ □□directed □□te□tin□ □□enc□ □t no incre□□e in Contr□ct □u□ or e□ten□ion of Contr□ct Ti□e.
1. □□c□fi□□□it□ □ □teri□□□cce□t□□□e to te□tin□ □□enc□ □nd co□ □□ct to den□it□ e□u□□to t□e □□ecified re□uire□ent□ for □u□□e□uent fi□□□ □teri□□, □t no incre□□e in Contr□ct □u□ or e□ten□ion of Contr□ct Ti□e.

O. □toc□□i□e e□c□□□tion □ □teri□□□ □ic□te□tin□ □□enc□ □□□□ □□□ro□ed for reu□e.
1. □toc□□i□e □oi□□ □teri□□□ □it□out inter□i□in□ □oi□□ □teri□□□ □it□ different con□i□tencie□ □nd □r□d□tion□.
2. □□□ce, □r□de, □nd □□□□e □toc□□i□e□ to dr□in □urf□ce □□ter.
3. Do not □toc□□i□e □it□in dri□ □ine of tree□ □□ic□ □re to re□ □in.
4. Co□er □toc□□i□e□ to □re□ent □ind-□o□n du□t.

□. Re□o□e un□cce□t□□□e e□c□□□tion □ □teri□□fro□ □ite, □t no incre□□e in Contr□ct □u□ or e□ten□ion of Contr□ct Ti□e.
1. □u□□it □n □cce□t□□□e □□ree□ent □it□ t□e □ro□ert□ o□ner on □□o□e □ro□ert□ t□e un□uit□□□e □ □teri□□i□ □□□ced.

3.6 □□□□R□DE □RE□□R□TIO□ □T □□VEME□T□

□. □ener□□□
1. E□c□□□tion for □u□□r□de □re□□r□tion i□ unc□□□ified □nd inc□ude□ e□c□□□tion to re□uired □u□□r□de e□e□□tion□ re□□rd□e□□ of t□e c□□r□cter of □urf□ce □nd □u□□urf□ce condition□ encountered, inc□udin□ roc□, □oi□□ □teri□□□, de□ri□, □nd ot□er o□□truction□.
2. Te□tin□ □□enc□ □□□□□□e □re□ent to o□□er□e □roof-ro□in□ of □u□□r□de□ in □□□e□ent □nd □ide□ □□□ re□□ □rior to □□□ce□ent of fi□□ □nd □□□□□□e □re□ent durin□ □□□ce□ent □nd co□ □□ction of fi□□ □teri□□□ in □□□e□ent □nd □ide□ □□□ re□□. Te□tin□ □□enc□ □□□□□□□o □e □re□ent to o□□er□e □roof-ro□in□ of fini□□ed □u□□r□de□ □rior to in□t□□□tion of □□□e□ent □nd □ide□ □□□ □ection□.

3. Fi□□ □teri□□□□□□□□not □e □□□ced, □□re□d, or ro□ed □ i□ē t□e □ □teri□□i□ fro□en or t□□□in□, or durin□ unf□□or□□□ē □e□t□er condition□.
4. Moi□ture condition or dr□ fi□□ □teri□□□□ re□uired to o□t□in □□ecified □oi□ture content i□ it□.
   □. M□teri□□□□ic□ i□ too □et to □□o□ □ro□er co□ □□ction, □□ deter□ined □□ te□tin□ □□enc□, □ □□ □e □□re□d □nd □er□itted to dr□ □□□i□ted □□ di□□in□, □□rro□in□, or □u□□eri□in□.
5. □□□ce fi□□ □ □teri□□u□in□ □□re□din□ e□ui□□ent c□□□□□ē of o□t□inin□ unifor□ □oo□e □ift t□ic□ne□□.
6. Co□ □□ct fi□□ □teri□□u□in□ e□ui□□ent □□□ro□ri□te to t□e □ □teri□□□ein□ co□ □□cted, □□ deter□ined □□ te□tin□ □□enc□.
7. □ □en □ or□i□ interru□ted □□r□in, do not re□u□e □ or□ unti□te□tin□ □□enc□ indic□te□ t□□t □oi□ture content □nd den□it□ of re□iou□□□ □□ced fi□□re□i□ □□ □□ecified.
8. □ □ere □oi□□□□ □een □oftened or eroded □□ fo□odin□ or □□ce□ent durin□ unf□□or□□□ē □e□t□er condition□, re□o□e d□□ □□ed re□□ □nd reco□ □□ct to re□uired den□it□.
9. In e□c□□□tion□ □ □ere te□tin□ □□enc□ deter□ine□ t□□t □u□□r□de □ □teri□□i□ un□cce□t□□□e, re□o□e un□cce□t□□□ē □ □teri□□□nd □□c fi□□in □ccord□nce □it□ □rocedure□ deter□ined □□ te□tin□ □□enc□.
10. Mini□i□e con□truction tr□ffic, inc□udin□ foot tr□ffic, fro□ □□□e□ent fini□□ed □u□□r□de□ in order to □re□ent unnece□□□r□di□tur□□nce□ of □u□□r□de □ □teri□□□.
   □. If te□tin□ □□enc□ deter□ine□ t□□t fini□□ed □u□□r□de□ □□□e □een di□tur□ed, re□o□e di□tur□ed □re□□ □nd re□□□ce □nd reco□ □□ct to re□uired den□it□ □□ directed □□ te□tin□ □□enc□.
   □. If te□tin□ □□enc□ deter□ine□ t□□t ruttin□ □□□ occurred, e□c□□□te 6 inc□e□, or ot□er de□t□ □□ directed □□ te□tin□ □□enc□, of □u□□r□de □ □teri□□ □nd reco□ □□ct □□ □□ecified for □ffected □re□.
   c. Te□tin□ □□enc□ □□□□□□□e □re□ent durin□ co□ □□ction of □ □teri□□.

□. In cut □re□□ □e□□ □□□e□ent re□uirin□ □e□□ t□□n 12 inc□e□ of fi□□ to o□t□in fini□□ □u□□r□de e□e□□tion□, □nd □ □□ter□□di□t□nce of 5 feet out□ide □□□e□ent □re□□, e□c□□□te e□i□tin□ □ □teri□□ to □ de□t□ of not □e□□t□□n 6 inc□e□ □e□□ □otto□ of □□□e□ent □u□□□□e cour□e.
1. □roof-ro□□u□□r□de □nd re□□ir □□ re□uired in □□r□□r□□□ 3.6.E □e□□, t□en □c□rif□ to □ de□t□ of 6 inc□e□ to re□u□t in □ □urf□ce free fro□ rut□, □u□ □oc□□, □nd ot□er une□en fe□ture□ □□ic□, in t□e o□inion of t□e te□tin□ □□enc□, □ould □re□ent unifor□ co□ □□ction □□ t□e e□ui□□ent □ro□o□ed for u□e.
   □. Moi□ture condition □u□□r□de to □c□ie□e □oi□ture content □□ecified in t□i□ □ection.
   □. Compact to a minimum of 95 percent of the material's maximum Standard Proctor dr□ den□it□ □it□ □ □oi□ture content □et□een 0 □nd □4 □ercent □□o□e o□ti□u□ □oi□ture content in □ccord□nce □it□ □□TM D698.
      1) Fie□d den□it□ te□t□ □□□□□□□e t□□en □fter t□e co□ □□ction of e□c□ □□□er of fi□□□□ te□tin□ □□enc□.
      2) □ □en te□t□ indic□te t□□t □n□ □□□er of fi□□or □ortion t□ereof doe□ not □eet t□e re□uired co□ □□ction den□it□ or □oi□ture content, re□or□ non-co□ □□□in□ □re□ □□ re□uired to □c□ie□e □□ecified re□uire□ent□.
2. □fter □c□rif□in□, □oi□ture conditionin□, □nd reco□ □□ctin□, □□c fi□□re□□ u□in□ □□□ro□ed □ □teri□□□ □□□ced in □oo□e □ift□ not e□ceedin□ 8 inc□e□.
   □. compact each lift to a minimum of 95 percent of the material's maximum Standard □roctor dr□ den□it□ □it□ □ □oi□ture content □et□een -2 □nd □2 □ercent □□o□e o□ti□u□ □oi□ture content in □ccord□nce □it□ □□TM D698.
      1) Fie□d den□it□ te□t□ □□□□□□□e t□□en □fter t□e co□ □□ction of e□c□ □□□er of fi□□□□ te□tin□ □□enc□.
      2) □ □en te□t□ indic□te t□□t □n□ □□□er of fi□□or □ortion t□ereof doe□ not □eet t□e re□uired co□ □□ction den□it□ or □oi□ture content, re□or□ non-co□ □□□in□ □re□ □□ re□uired to □c□ie□e □□ecified re□uire□ent□.
3. □rotect e□c□□□tion□ fro□ e□ce□□i□e □ettin□ □nd dr□in□ durin□ con□truction.
   □. Re□o□e □□ter enterin□ e□c□□□tion, □nd re□o□e di□tur□ed or □oftened □oi□.

4. M□int□in □u□□r□de □oi□ture content □it□in □□ecified r□n□e unti□□□□e□ent□ □re in□t□□ed.
   □. Re□or□ non-co□ □□in□ □re□ □□ re□uired to □c□ie□e □□ecified re□uire□ent□ □□ directed □□ te□tin□ □□enc□.
   □. Reco□ □□ct □nd rete□t unti□re□uired den□it□ □nd □oi□ture content i□ o□t□ined.
5. T□e u□□er 12 inc□e□ of □ □teri□□in cut □re□ □□□□□□e □o□ □ou□e c□□n□e □ □teri□□.

C. In □re□□ □e□o□ □□□e□ent□ re□uirin□ 12 inc□e□ or □ore of fi□□to o□t□in fini□□ □u□□r□de e□e□□tion□, □nd □ □ter□□di□t□nce of 5 feet out□ide □□□e□ent □re□□, □roofro□□e□i□tin□ □u□□r□de in □re□ence of te□tin□ □□enc□ u□in□ □ fu□□ □o□ded t□nde□ □□□e du□ □ truc□ or □i□i□r t□□e of □neu□□tic tired e□ui□□ent □it□ □ □ini□u□ □ro□□ □ei□□t of 20 ton□.
   1. Re□o□e □oft □re□□ □□ directed □□ te□tin□ □□enc□ □nd reco□ □□ct in □oo□e 9 inc□ □ift□ to □ minimum of 95 percent of the material's maximum Standard Proctor dry density with a □oi□ture content □et□een 0 □nd □4 □ercent □□o□e o□ti□u□ □oi□ture content in □ccord□nce □it□ □□TM D698.
      □. Fie□d den□it□ te□t□ □□□□□□e t□□en □fter t□e co□ □□ction of e□c□ □□□er of fi□□□□ te□tin□ □□enc□.
      □. □ □en te□t□ indic□te t□□t □n□ □□□er of fi□□or □ortion t□ereof doe□ not □eet t□e re□uired co□ □□ction den□it□ or □oi□ture content, re□or□ non-co□ □□in□ □re□ □□ re□uired to □c□ie□e □□ecified re□uire□ent□.
   2. □fter □roofro□in□ o□er□tion□ □re □erfor□ed □nd o□□er□d □oft □re□□ re□□ired, □□□ce □□□ro□ed □ □teri□□in □oo□e □ift□ not e□ceedin□ 8 inc□e□.
      □. Compact each lift to a minimum of 95 percent of the material's maximum St□nd□rd □roctor dr□ den□it□ □it□ □ □oi□ture content □et□een -2 □nd □2 □ercent □□o□e o□ti□u□ □oi□ture content in □ccord□nce □it□ □□TM D698.
         1) Fie□d den□it□ te□t□ □□□□□□e t□□en □fter t□e co□ □□ction of e□c□ □□□er of fi□□□□ te□tin□ □□enc□.
         2) □ □en te□t□ indic□te t□□t □n□ □□□er of fi□□or □ortion t□ereof doe□ not □eet t□e re□uired co□ □□ction den□it□ or □oi□ture content, re□or□ non-co□ □□in□ □re□ □□ re□uired to □c□ie□e □□ecified re□uire□ent□.
   3. Fi□□o□er□tion□ □□□□□continue in co□ □□cted □□□er□ unti□fini□□ □u□□r□de e□e□□tion□ □□□e □een o□t□ined.
      □. Compact each lift to a minimum of 95 percent of the material's maximum Standard □roctor dr□ den□it□ □it□ □ □oi□ture content □et□een -2 □nd □2 □ercent □□o□e o□ti□u□ □oi□ture content in □ccord□nce □it□ □□TM D698.
         1) Fie□d den□it□ te□t□ □□□□□□e t□□en □fter t□e co□ □□ction of e□c□ □□□er of fi□□□□ te□tin□ □□enc□.
         2) □ □en te□t□ indic□te t□□t □n□ □□□er of fi□□or □ortion t□ereof doe□ not □eet t□e re□uired co□ □□ction den□it□ or □oi□ture content, re□or□ non-co□ □□in□ □re□ □□ re□uired to □c□ie□e □□ecified re□uire□ent□.
   4. □rotect e□c□□□tion□ fro□ e□ce□□i□e □ettin□ □nd dr□in□ durin□ con□truction.
      □. Re□o□e □□ter enterin□ e□c□□□tion, □nd re□o□e di□tur□ed or □oftened □oi□.
   5. M□int□in □u□□r□de □oi□ture content □it□in □□ecified r□n□e unti□□□□e□ent□ □re in□t□□ed.
      □. Re□or□ non-co□ □□in□ □re□ □□ re□uired to □c□ie□e □□ecified re□uire□ent□ □□ directed □□ te□tin□ □□enc□.
      □. Reco□ □□ct □nd rete□t unti□re□uired den□it□ □nd □oi□ture content i□ o□t□ined.
   6. T□e u□□er 12 inc□e□ of fi□□□ □teri□□□□□□□e □o□ □ou□e c□□n□e □ □teri□□.

D. To□er□nce□
   1. To□ □urf□ce of fini□□ □u□□r□de under □□□ed □re□□□ □□u□ or □inu□ □ inc□ fro□ re□uired e□e□□tion□.

E. I□ □edi□te□□ □rior to □□□ce□ent of □□□e□ent □u□□□□e cour□e □nd □□□e□ent□, □roofro□□u□□r□de in □re□ence of te□tin□ □□enc□ u□in□ □ fu□□ □o□ded t□nde□ □□□e du□ □ truc□ or □i□i□r t□□e of □neu□□tic tired e□ui□□ent □it□ □ □ini□u□ □ro□□ □ei□□t of 20 ton□.
   1. Re□o□e □oft □re□□ □□ directed □□ te□tin□ □□enc□ □nd reco□ □□ct in □oo□e 9 inc□ □ift□ to □ minimum of 95 percent of the material's maximu□ □t□nd□rd □roctor dr□ den□it□ □it□ □

□oi□ture content □et□een -2 □nd □2 □ercent □□o□e o□ti□u□ □oi□ture content in □ccord□nce □it□ □□TM D698.

□. Fie□d den□it□ te□t□ □□□□□□e t□□en □fter t□e co□ □□ction of e□c□ □□□er of fi□□□□ te□tin□ □□enc□.

□. □ □en te□t□ indic□te t□□t □n□ □□□er of fi□□or □ortion t□ereof doe□ not □eet t□e re□uired co□ □□ction den□it□ or □oi□ture content, re□or□ non-co□ □□□in□ □re□ □□ re□uired to □c□ie□e □□ecified re□uire□ent□.

3.7 □E□ER□□ □ITE FI□□

□. □ener□□□

1. Te□tin□ □□enc□ □□□□□□e □re□ent durin□ □□□ce□ent □nd co□ □□ction of fi□□□ □teri□□.
2. Fi□□□ □teri□□□□□□□ not □e □□□ced, □□re□d, or ro□ed □□i□e t□e □ □teri□□i□ fro□en of t□□□in□, or durin□ unf□□or□□□e □e□t□er condition□.
3. Moi□ture condition or dr□ fi□□□ □teri□□□□ re□uired to o□t□in □□ecified □oi□ture i□□ it□.
4. M□teri□□□ ic□ i□ too □et to □□o□ □ro□er co□ □□ction, □□ deter□ined □□ te□tin□ □□enc□, □ □□ □e □□re□d □nd □er□itted to dr□ □□□i□ted □□ di□□in□, □□rro□in□, or □u□□eri□in□.
5. □□□ce fi□□□ □teri□□u□in□ □□re□din□ e□ui□□ent c□□□□□e of o□t□inin□ unifor□ □oo□e □ift t□ic□ne□□.
6. Co□ □□ct fi□□□ □teri□□u□in□ e□ui□□ent □□□ro□ri□te to t□e □ □teri□□□ein□ co□ □□cted, □□ deter□ined □□ te□tin□ □□enc□.
7. □ □en □ or□i□ interru□ted □□ r□in, do not re□u□e □ or□ unti□te□tin□ □□enc□ indic□te□ t□□t □oi□ture content □nd den□it□ of □re□iou□□ □□□ced fi□□□ re□i□ □□ □□ecified.
8. □ □ere □oi□□□□ □een □oftened or eroded □□ f□odin□ or □□□ce□ent durin□ unf□□or□□□e □e□t□er condition□, re□o□e d□□ □□ed □re□□ □nd reco□ □□ct to re□uired den□it□.

□. □erfor□ □r□din□ to t□e contour□ □nd e□e□□tion□ indic□ted on Dr□□in□□□

1. □nifor□ □□ r□de □re□□ to □ □□ oot□ □urf□ce, free fro□ irre□u□□r □urf□ce c□□n□e□.
2. □ro□ide □ □□ oot□ tr□n□ition □et□een e□i□tin□ □d□□cent □r□de□ □nd ne□ □r□de□.

C. □□□ce □ener□□fi□□□ □teri□□in □□□te□ □tic □nd unifor□ □ori□ont□□ □ift□ not e□ceedin□ t□e fo□o□in□ □oo□e-de□t-□ e□□ure□ent□□

1. For fi□□□ □teri□□ to □e co□ □□cted □it□ □e□□□ co□ □□ction e□ui□□ent□ 9 inc□e□.
2. For fi□□□ □teri□□ to □e co□ □□cted □it□ □□nd o□er□ted t□□ □er□□ 4 inc□e□.

D. □nder □ide□ □□□□ □nd r□□ □□ co□ □□ct e□c□ □ift of □ □teri□□ to □ □ini□u□ of 95 □ercent of t□e material's maximum Standard Proctor dry density with a moisture content between 0 and +4 □ercent □□o□e o□ti□u□ □oi□ture content in □ccord□nce □it□ □□TM D698

1. In ot□er □re□□, co□ □□ct e□c□ □ift of □ □teri□□ to □ □ini□u□ of 90 percent of the material's □ □□i□u□ □t□nd□rd □roctor dr□ den□it□ □it□ □ □oi□ture content □et□een 0 □nd □4 □ercent □□o□e o□ti□u□ □oi□ture content in □ccord□nce □it□ □□TM D698
   □. Fie□d den□it□ te□t□ □□□□□□e t□□en □fter t□e co□ □□ction of e□c□ □□□er of fi□□□□ te□tin□ □□enc□.
   □. □ □en te□t□ indic□te t□□t □n□ □□□er of fi□□or □ortion t□ereof doe□ not □eet t□e re□uired co□ □□ction den□it□ or □oi□ture content, re□or□ on-co□ □□□in□ □re□ □□ re□uired to □c□ie□e □□ecified re□uire□ent□.

E. □enc□ e□i□tin□ □□o□e□ □ori□ont□□□ection□ e□u□□in □idt□ to e□ui□□ent u□ed.

F. □ □ere e□ □□n□□ent□, re□□rd□e□□ of □ei□□t, □re □□□ced □□□in□t □i□□ide□ or e□i□tin□ e□ □□n□□ent□ □□□in□ □ □o□e of □tee□er t□□n 1 □ertic□□ to 5 □ori□ont□□, □enc□ or □te□ e□i□tin□ □o□e in □□□ro□i□ □te□□ 24 inc□ri□e□□

1. □□□ce fi□□in □ift□ not e□ceedin□ 9 inc□e□ in □oo□e-de□t-□ e□□ure□ent
2. Co□ □□ct □ □teri□□ □□□ded out, □otto□ □re□ □□ic□ □□□ cut to for□ □enc□e□, □nd fi□□ material being placed, to a minimum of 95 percent of the material's maximum Standard

□roctor dr□ den□it□ □it□ □ □oi□ture content □et□een 0 □nd □4 □ercent □□o□e o□ti□u□ □oi□ture content in □ccord□nce □it□ □□TM D698.

□. Fie□d den□it□ te□t□ □□□□□□e t□□en □fter t□e co□ □□ction of e□c□ □□□er of fi□□□□ te□tin□ □□enc□.

□. □ □en te□t□ indic□te t□□t □n□ □□□er of fi□□or □ortion t□ereof doe□ not □eet t□e re□uired co□ □□ction den□it□ or □oi□ture content, re□or□ non-co□ □□□in□ □re□ □□ re□uired to □c□ie□e □□ecified re□uire□ent□.

□. Re□o□e □ur□u□ □ □teri□□□ fro□ □ite, □t no incre□□e in Contr□ct □u□ or e□ten□ion of Contr□ct Ti□e.

1. □u□□it □n □cce□t□□□e □□ree□ent □it□ t□e □ro□ert□o□ner on □□o□e □ro□ert□t□e □ □teri□□ i□ □□□ced.

□. To□er□nce□□

1. To□ □urf□ce of fini□□ □u□□r□de under □□□ed □re□□□ □□u□ or □inu□ □ inc□ fro□ re□uired e□e□□tion□.
2. To□ □urf□ce of fini□□ □u□□r□de under un□□□ed □urf□ce□□ □□u□ or □inu□ □ inc□ fro□ re□uired e□e□□tion□.

3.8 I□□T□□□□TIO□ OF □R□□□□□R FI□□

□. I□ □edi□te□□ □rior to □□□ce□ent f□oor □□□□ □r□nu□□r □□□e, te□tin□ □□enc□ □i□e□□u□te □u□□r□de to deter□ine □□et□er □oi□ture content i□ □it□in □□ecified r□n□e, □nd □□et□er □u□□r□de □□□ □een di□tur□ed.

1. In □re□□ □□ere te□tin□ □□enc□ deter□ine□ □u□□r□de i□ not □it□in □□ecified □oi□ture content r□n□e, re□o□e non-co□ □□□in□ □re□□ □nd re□□□ce □nd reco□ □□ct to re□uired den□it□, □it□in □□ecified □oi□ture content r□n□e, □□directed □□ te□tin□ □□enc□.
   □. Fie□d den□it□ te□t□ □□□□□□e t□□en □fter t□e co□ □□ction of e□c□ □□□er of fi□□□□ te□tin□ □□enc□.
   □. □ □en te□t indic□te t□□t □n□ □□□er of fi□□or □ortion t□ereof doe□ not □eet t□e re□uired co□ □□ction den□it□ or □oi□ture content, re□or□ non-co□ □□□in□ □re□ □□ re□uired to □c□ie□e □□ecified re□uire□ent□.
2. If te□tin□ □□enc□ deter□ine□ t□□t ruttin□ □□□ occurred or ot□er detri□ent□□condition□ e□i□t, e□c□□□te 6 inc□e□, or ot□er de□t□ □□ directed □□ te□tin□ □□enc□, of □u□□r□de □ □teri□□□nd reco□ □□ct □□ □□ecified for □ffected □re□.
   □. Fie□d den□it□ te□t□ □□□□□□e t□□en □fter t□e co□ □□ction of e□c□ □□□er of fi□□□□ te□tin□ □□enc□.
   □. □ □en te□t□ indic□te t□□t □n□ □□□er of fi□□or □ortion t□ereof doe□ not □eet t□e re□uired co□ □□ction den□it□ or □oi□ture content, re□or□ non-co□ □□□in□ □re□ □□ re□uired to □c□ie□e □□ecified re□uire□ent□.

□. □□□ce □r□nu□□r fi□□in e□u□□continuou□ □□□er□not e□ceedin□ 6 inc□e□.

1. Co□ □□ct □r□nu□□r fi□□u□in□ □e□□□ □i□r□tin□ e□ui□□ent, in 3 □□□□e□, to □c□ie□e □ tot□□ co□ □□cted t□ic□ne□□ of 4 inc□e□ in presence of Owner's representative or testing □□enc□.
2. Co□ □□ct □r□nu□□r fi□□in confined □re□□ u□in□ □ co□ □in□tion of □ □nu□□□ o□er□ted vibratory plates and "wacker" compaction equipment.

C. To□er□nce□□

1. To□ □urf□ce of fini□□ □u□□r□de under □□□□□-on-□r□de□ □□u□or □inu□□ inc□ fro□ re□uired e□e□□tion□.

3.9 I□□T□□□□TIO□ OF □□VEME□T □□□□□□E CO□R□E

□. □□□ce □□□e□ent □u□□□□e cour□e in e□u□□continuou□ □□□er□not e□ceedin□ 6 inc□e□.

1. Co□ □□ct □r□nu□□r fi□□for □□□e□ent □nd □ide□□□ □u□□□□e cour□e to □ □ini□u□ of 95 □ercent of the material's maximum standard proctor dry density in accordance with ASTM D698.
2. Co□ □□ct □r□nu□□r fi□□in confined □re□□ u□in□ □ co□ □in□tion of □ □nu□□□ o□er□ted vibratory plates and "wacker" compaction equipment.
3. □u□it□ti□e te□t□ □□□□□□e t□□en □fter t□e co□ □□ction of e□c□ □□□er of fi□□□□ te□tin□ □□enc□.

□. To□er□nce□□

1. To□ □urf□ce of fini□□ □u□□r□de under □□□ed □re□□□ □□u□ or □inu□ □ inc□ fro□ re□uired e□e□□tion□.

3.10 □EDDI□□

□. □□□ce □nd co□ □□ct □eddin□ cour□e on trenc□ □otto□ □ □nd □□ere indic□ted on Dr□□in□□.

1. In□t□□□□ □teri□□□ in continuou□ □□□er□not e□ceedin□ 6 inc□e□ co□ □□cted de□t□.

□. □□□□e □eddin□ cour□e to □ro□ide continuou□ □u□□ort for □e□□□, □oint□, □nd □□rre□□ of □i□e□ □nd for □oint□, fittin□□, □nd □odie□ of conduit□.

C. In□t□□□□eddin□ to □ de□t□ of 6 inc□e□ □e□o□ □otto□ of □i□e □e□□or conduit, to □n e□e□□tion of 6 inc□e□ □□o□e □i□e or conduit.

D. Co□ □□ct □eddin□ □ □teri□□□ □□ □□icin□ □it□ □ □□o□e□ □nd co□ □□ctin□ □it□ □i□r□tor□ □□□te □nd "wacker" compaction equipment.

E. □u□□ort □i□e □nd conduit durin□ □□□ce□ent □nd co□ □□ction of □eddin□ fi□□.

3.11 I□□T□□□□TIO□ OF □□C□FI□□

□. □□c□fi□□e□c□□□tion□ □ro□ □t□□, □ut not □efore co□ □□etion of t□e fo□o□in□□

1. □ur□e□in□ □oc□tion of under□round uti□itie□ for Record Docu□ent□
2. Te□tin□, in□□ectin□, □nd □□□ro□□□of under□round uti□itie□
3. Re□o□□□of concrete for□ □
4. Re□o□□□of u□□er, roc□, □□□er, □nd ot□er de□ri□fro□ □re□□ to □e □□c□fi□ed
5. Re□o□□□of te□ □or□r□ □□orin□, □r□cin□, □nd □□eetin□

□. □□c□fi□□re□□ to contour□ □nd e□e□□tion□ indic□ted on Dr□□in□□, u□in□ unfro□en □□c□fi□□ □teri□□

1. Do not □□c□fi□o□er □orou□, □et, fro□en, t□□□in□, or □□on□□ □urf□ce□
2. Do not □□c□fi□durin□ unf□□or□□□e □e□t□er condition□
3. Moi□ture condition or dr□ □□c□fi□□ □teri□□□□ re□uired to o□t□in □□ecified □oi□ture content i□ it□
   □. M□teri□□□□ic□ i□ too □et to □□o□ □ro□er co□ □□ction, □□ deter□ined □□ te□tin□ □□enc□
4. □□ce □□c□fi□□ □teri□□u□in□ e□ui□□ent c□□□□□e of o□t□inin□ unifor□ □oo□e □ift t□ic□ne□□
5. Co□ □□ct □□c□fi□□ □teri□□u□in□ e□ui□□ent □□□ro□ri□te to t□e □ □teri□□□ein□ co□ □□cted, □□deter□ined □□te□tin□ □□enc□
6. □ □en □ or□i□interru□ted □□r□in, do not re□u□e □ or□unti□te□tin□ □□enc□indic□te□t□□t □oi□ture content □nd den□it□of □re□iou□□□ced □□c□fi□□re□□i□ □□ □□ecified
7. □ □ere □oi□□□□ □een □oftened or eroded □□ f□odin□ or □□ce□ent durin□ unf□□or□□□e □e□t□er condition□, re□o□e d□□ □□ed □re□□ □nd reco□ □□ct to re□uired den□it□

C. □□c fi□in□ of cur□□, □□□□□-on-r□de, □nd ot□er tructure□ wh□s□ found□tion i□ un□rotected fro□ □□ter shall □e □cco□ □i□□ed as □oon as for□ □□re re□o□ed, to e□i□in□te □o□i□it□ of □oftenin□ of □u□□□□e □e□o□ tructure

D. □□c fi□ found□tion walls □it□ r□nu□□r □ □teri□, not e□□t□□n 24 inc□e□ in □idt□, to □n e□e□□tion of 2 feet □e□o□ fini□□ r□de.
1. Ba□kfill i□ u□t□neou□□□on e□c□ □ide of un□u□□orted found□tion walls.
2. Ba□kfill u□□er 2 feet u□in□ □ener□□ Fi□□ M□teri□.

E. □□c fi□ trenc□e□ to contour□ □nd e□e□□tion□ indic□ted on Dr□□in□□, u□in□ unfro□en ba□kfill □ □teri□.
1. Do not □□c fi□ o□er □orou□, □et, fro□en, or sp□ngy □urf□ce□.
2. Do not □□c fi□ durin□ unf□□or□□□e □e□t□er condition□.
3. Moi□ture condition or dr□ ba□kfill □ □teri□□ as re□uired to o□t□in □□ecified □oi□ture content i□ it□.
   a. M□teri□□ which i□ too □et to □□o□ pro□er co□ □□ction, as deter□ined by te□tin□ □□enc□, may □e □□re□d □nd □er□itted to dr□ □□□i□ted by di□□in□, □□rro□in□, or □u□□eri□in□.
4. Pla□e □□c fi□□ □teri□ u□in□ e□ui□□ent c□□□□□e of o□t□inin□ unifor□ □oo□e ift t□ic□ne□.
   a. E□ □o□ a □□□ce□ent □et□od of ba□kfill o□er□tion□ which doe□ not di□tur□ or damag□ e uti□itie□ in trenc□e□.

F. Co□ □□ction of □ener□□□ c□fi□
1. M□int□in o□ti□u□ □oi□ture content of ba□kfill □ □teri□□ to □tt□in re□uired co□ □□ction den□it□.
2. □ener□□ Fi□ M□teri□□ u□ed for □□c fi□ shall □e □□ced in ift□ not e□ceedin□ 9 inc□e□ in □oo□e-de□t□-□e□□ure □nd co□ □□cted as □□ecified for □ener□□ite Fi□.
3. □r□nu□□r Fi□ M□teri□□ u□ed for ba□kfill shall □e □□ced in ift□ not e□ceedin□ 6 inc□e□ in □oo□e-de□t□-□e□□ure □nd co□ □□cted as □□ecified for □r□nu□□r Fi□.
4. Fie□d den□it□ te□t□ s□al □e t□□en □fter t□e co□ □□ction of e□c□ lay□r of □□c fi□ by te□tin□ □□enc□.
   a. □ □en te□t□ indic□te t□□t any □□□er of □□c fi□ or □ortion t□ereof doe□ not □eet t□e re□uired co□ □□ction den□it□ or □oi□ture content, re□or□ non-co□ □□□in□ re□ as re□uired to □c□ie□e □□ecified re□uire□ent□.

G. Co□ □□ction of Trenc□ □□c fi□
1. Co□ □□ct □□c fi□ □teri□ u□in□ e□ui□□ent □□□ro□ri□te to t□e □ teri□□□ein□ co□ □□cted, as deter□ined by te□tin□ □□enc□.
2. M□int□in o□ti□u□ □oi□ture content of □□c fi□ □teri□ to □tt□in re□uired co□ □□ction den□it□.
3. □ □en □or□i□ interru□ted by r□in, do not re□u□e □or□ unti□ te□tin□ □□enc□ indic□te t□□t □oi□ture content □nd den□it□ of re□iou□ □□ced □□c fi□ re□i□ as □□ecified.
4. □ □ere □oi□ has □een □oftened or eroded by f□oodin□ or □□ce□ent durin□ unf□□or□□□e □e□t□er condition□, re□o□e d□□ □□ed are□s □nd reco□ □□ct to re□uired den□it□.
5. □ener□□ Fi□ M□teri□□ u□ed for □□c fi□ shall □e □□ced in ift□ not e□ceedin□ 4 inc□e□ in □oo□e-de□t□-□e□□ure □it□ e□c□ ift co□ □□cted as □□ecified in t□i□ □ection.
6. MoDOT □t□nd□rd □□ecific□tion for Hig□way Con□truction T□□e 5 □□□re□te u□ed for □□c fi□ shall □e □□ced in ift□ not e□ceedin□ 6 inc□e□ in □oo□e-de□t□-□e□□ure □nd compacted to a minimum of 97 percent of the material's maximum Standard Proctor dry den□it□ □it□ a □oi□ture content ne□r o□ti□u□ in □ccord□nce □it□ □□TM D698.
7. Fie□d den□it□ te□t□ shall □e t□□en □fter t□e co□ □□etion of e□c□ lay□r of ba□kfill by te□tin□ □□enc□.
   a. □ □en te□t□ indic□te t□□t any lay□r of □□c fi□ or □ortion t□ereof doe□ not □eet t□e re□uired co□ □□ction den□it□ or □oi□ture content, re□or□ non-co□ □□□in□ re□ as re□uired to □c□ie□e □□ecified re□uire□ent□.

□. □o□e □r□de □□□□ fro□ □uidin□ not □e□□ t□□n 12 inc□e□ in 10 foot for □ di□t□nce of not □e□□ t□□n 6 feet out□ide of □uidin□ □ine□.

1. M□□e □r□de c□□n□e□ □r□du□□.
2. □end □o□e□ into □e□e□re□□.
3. Re□o□e □ur□u□ □ □teri□□□ fro□ □ite, □t no incre□□e in Contr□ct □u□ or e□ten□ion of Contr□ct Ti□e
4. □u□□it □n □cce□t□□□e □□ree□ent □it□ t□e □ro□ert□o□ner on □□o□e □ro□ert□t□e □ □teri□□ i□ □□□ced

I. To□er□nce□□

1. To□ □urf□ce of fini□□ □u□□r□de under □□□ed □re□□□ □□u□ or □inu□ □ inc□ fro□ re□uired e□e□□tion□
2. To□ □urf□ce of fini□□ □u□□r□de under un□□□ed □re□□. □□u□ or □inu□ □ inc□ fro□ re□uired e□e□□tion□

3.12 FIE□D □□□□IT□ CO□TRO□

□. Te□tin□ □□enc□□ O□ner □i□□en□□□e □ □u□ified □eotec□nic□□en□ineerin□ te□tin□ □□enc□ to □erfor□ te□t□ □nd in□□ection□.

□. □□o□ te□tin□ □□enc□ to in□□ect □nd te□t □u□□r□de□ □nd e□c□ fi□□or □□c□fi□□□□er. □roceed □it□ □u□□e□uent e□rt□ □o□in□ on□□ □fter te□t re□u□t□ for □re□iou□□□ co□ □□eted □or□ co□ □□□ □it□ re□uire□ent□.

C. Footin□ □u□□r□de□ □t footin□ □u□□r□de□, □t □e□□t one te□t of e□c□ □oi□□tr□tu□ □i□□□e □erfor□ed to □erif□ de□i□n □e□rin□ c□□□citie□. □u□□e□uent □erific□tion □nd □□□ro□□□of ot□er footin□ □u□□r□de□ □ □□ □e □□□ed on □ □i□u□□co□ □□ri□on of □u□□r□de □it□ te□ted □u□□r□de □□en □□□ro□ed □□ □eotec□nic□□En□ineer.

D. Te□tin□ □□enc□ □i□□te□t co□ □□ction of □oi□□ in □□□ce □ccordin□ to □□TM D 1556, □□TM D 2167, □□TM D 6938, □nd □□TM D 2937, □□ □□□□ic□□e. Te□t□ □i□□e □erfor□ed □t t□e fo□o□in□ □oc□tion□ □nd fre□uencie□□

1. □□□ed □nd □uidin□ □□□□ □re□□□ □t □u□□r□de □nd □t e□c□ co□ □□cted fi□□ □nd □□c□fi□□ □□er, □t □e□□t one te□t for e□er□ 2000 □□. ft. or □e□□ of □□□ed □re□ or □uidin□ □□□□, □ut in no c□□e fe□er t□□n t□ree te□t□.
2. Found□tion □ □□□□ c□fi□□ □t e□c□ co□ □□cted □□c□fi□□□□er, □t □e□□t one te□t for e□er□ 100 feet or □e□□ of □□□□en□t, □ut no fe□er t□□n t□o te□t□.
3. Trenc□ □□c□fi□□ □t e□c□ co□ □□cted initi□□□□nd fin□□□□c□fi□□□□er, □t □e□□t one te□t for e□er□ 150 feet or □e□□ of trenc□ □en□t, □ut no fe□er t□□n t□o te□t□.

E. □ □en te□tin□ □□enc□ re□ort□ t□□t □u□□r□de□, fi□□, or □□c□fi□□ □□□e not □c□ie□ed de□ree of co□ □□ction □□ecified, □c□rif□ □nd □oi□ten or □er□te, or re□o□e □nd re□□ce □oi□□ □teri□□ to de□t□ re□uired□reco□ □□ct □nd rete□t unti□□□ecified co□ □□ction i□o□t□ined.

3.13 □ROTECTIO□

□. □rotect ne□□ □r□ded □re□□ fro□ free□in□ □nd ero□ion.

□. Re□□ir □nd ree□t□□i□□ □r□de□ in □ett□ed, eroded, □nd rutted □re□□ to □□ecified to□er□nce□.

C. □ □ere co□ □□eted co□ □□cted □re□□ □re di□tur□ed □□ □u□□e□uent con□truction o□er□tion□ or □d□er□e □e□t□er, □c□rif□ □urf□ce, re□□□□e, □nd co□ □□ct to re□uired den□it□ □rior to furt□er con□truction.

1. Te□tin□ □□enc□ shall □e □re□ent durin□ co□ □□ction of □ □teri□□

E□D OF □ECTIO□

□ECTIO□ 321313 - CO□CRETE □□VI□□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection Inc□ude□□
1. Dri□e□ □□□.
2. Ro□d□ □□□.
3. □□r□in□ □ot□.
4. Cur□□ □nd □utter□.
5. □ □□□□.

□. □ or□ in □u□ic ri□□t-of-□□□□ □□□ □or□ in □u□ic ri□□t-of-□□□ □□□□□□e □erfor□ed □er Cit□ □t□nd□rd□ □nd □□ecific□tion□.

1.2 □CTIO□ □□□MITT□□□

□. □roduct D□t□□ For e□c□t□□e of □roduct indic□ted.

□. □□□ □□e□□ For e□c□ e□□o□ed □roduct □nd for e□c□ co□or □nd te□ture □□ecified.

C. Ot□er □ction □u□□ itt□□□□
1. De□i□n Mi□ture□□ For e□c□ concrete □□□in□ □i□ture. Inc□ude □tern□te de□i□n □i□ture□ □□en c□□r□cteri□tic□ of □ □teri□□□, □ro□ect condition□, □e□t□er, te□t re□u□t□, or ot□er circu□ □t□nce□ □□rr□nt □d□u□t□ent□.

1.3 □ □□□IT□ □□□□R□□CE

□. Re□d□-Mi□-Concrete M□nuf□cturer □u□ific□tion□□ □ fir□ e□□erienced in □ □nuf□cturin□ re□d□-□i□ed concrete □roduct□ □nd t□□t co□ □ie□ □it□ □□TM C 94/C 94M re□uire□ent□ for □roduction f□ci□itie□ □nd e□ui□□ent.

□. □CI □u□ic□tion□□ Co□ □□□ □it□ □CI 301 (□CI 301M) un□e□□ ot□er□i□e indic□ted.

□□RT 2 - □ROD□CT□

2.1 □TEE□ REI□FORCEME□T

□. Rec□c□ed Content□ □o□tcon□u□er rec□c□ed content □u□ one-□□f of □recon□u□er rec□c□ed content not □e□□t□□n 25 □ercent.

□. E□o□□-Co□ted □ e□ded-□ ire Reinforce□ent□□□TM □ 884/□ 884M, C□□□□ □, □□□in □tee□

C. E□o□□-Co□ted Reinforcin□ □□r□□ □□TM □ 775/□ 775M or □□TM □ 934/□ 934M□ □it□ □□TM □ 615/□ 615M, □r□de 60 (□r□de 420) defor□ed □□r□.

D. E□o□□-Co□ted-□tee□□ ire□□□TM □ 884/□ 884M, C□□□□ □□co□ted, defor□ed.

E. E□o□□-Co□ted, □oint Do□e□ Ba rs: □□TM A 775/A 775M; □it□ □□TM A 615/A 615M, □r□de 60 (□r□de 420) □□in-□tee□bars.

F. Ba r □u□□ort□: □o□□ter□, c□□ir□, □□□cer□, □nd ot□er de□ice□ for □□□cin□, □u□□ortin□, □nd f□□tenin□ reinforcin□ bars, □e□ded □ire reinforce□ent, □nd do□e□□ in pla ce. M□nuf□cture bar □u□□ort□ □ccordin□ to CR□I□□ "M□nu□□of □t□nd□rd □r□ctice" fro□ □tee□□ire, □□□□tic, or □rec□□t concrete of □re□ter co□ □re□□i□e □tren□t□ t□□n concrete □□ecified.

2.2 CO□CRETE M□TERI□□□ AN D MI□T□RE□

A. For □or□ □it□in □u□ic ri□□t-of-□□□, co mply □it□ Cit□ □t□nd□rd□ □nd □□ecific□tion□.

B. For □or□on □ri□□te □ro□ert□: co mply □it□ □CMM□ as fo□o□□:

1. T□e 28-d ay co□ □re□□i□e □tren□t□ for concrete shall □e 4,000 □□i □nd de□i□n□ted as "□CMM□ 4K". Mi□e□ for High E□r□□ □tren□t□ Concrete shall □eet t□e sam e re□uire□ent□ as □t□ted □e□o□ for □t□nd□rd 4K m ixes (de□i□n□ted as "□CMM□ □E"), □nd any □ddition□□ re□uire□ent□ noted □e□o□ □□ecific to High Early □tren□t□ Concrete. Co□ □re□□i□e □tren□t□ shall □e deter□ined in □ccord□nce □it□ □CI 318. All m ix de□i□n□ shall hav e a uni□ue nu□ □er de□i□n□ted by t□e concrete □u□□ier. T□i□ uni□ue n□□e □u□t □ □tc□ t□e n□□e on t□e concrete de□i□er□tic□et or t□e concrete will □e re□ected.
2. Co□r□e □□□re□□te sha ll □e entire□□ □r□nite, c□□cite ce□ented □□nd□tone, □u□rt□ite, basa lt, di□□□□e, r□□o□ite, or tr□□ roc□. All co□r□e □□□re□□te shall co□ e fro□ a □□r□e, □cce□□i□e, unifor□ □eo□o□ic□□ for□ □tion □nd □e eas ily fie□d identifi□□□e in concrete. All co□r□e □□□re□□te te□t re□u□t□ shall not e□ceed t□e fo□o□in□ □ercent□□e□ by □ei□□t:

AASH TO T103 □oundne□□ by Free□e/T□□□ 50 c□c□e□	M□□. □□o□□□e %
3/4 - 3/8	1.0%
3/8 - □4	2.0%
□□TM C127	
□□□or□tion %	0.5%
□□TM C123 □i□□t□ei□□t □iece□	
% L ight □ ei□□t □iece□	0.5%
□□TM C142 C□□□ □umps □nd Fri□□□e	
% De□eteriou□	0.3%
Co□□□nd □i□nite	
% Co□□□nd □i□nite	0.05%
□TM C117 M□teri□□Finer t□□n #200 by wash ing	
% Pass ing	0.5%
Sum of □□de□eteriou□	
% Tot□□de□eteriou□	1.0%
□□TM C88 □uf□te □oundne□□ (M□□O4) □ ei□□ted % □o□□	
3/4 - 3/8	0.5%
3/8 - #4	4.0%
□□TM C131 LA □□r□□ion	
% L oss	28.0%

3. Co□r□e □□□re□□te□ □□□□□□eet t□e □r□d□tion re□uire□ent□ of t□e current □□TM C33. T□e □cce□t□□e □r□d□tion □i□e□ □□□□□□e nu□□er 1 t□rou□□ 7, 56, 57, 67, 357 or 467. Mi□ de□i□n□ □□□□□□ecif□ t□e □r□d□tion de□i□n□tion.
4. □i□e□tone found in concrete □i□e□, de□i□ered fro□ centr□□□ □□tc□ed concrete □□□nt□ □□□□□ not e□ceed 3□ □□ □ei□□t of t□e co□r□e □□□re□□te fr□ction. □i□e□tone found in □□□ot□er concrete □i□e□ □□□□□not e□ceed 2□ □□ □ei□□t.
5. Fine □□□re□□te □□□□□□ eet t□e re□uire□ent□ □et fort□ in t□e current □□TM C33. T□e □ercent□□e □□ □ei□□t of c□□□ □u□ □□ □nd fri□□□e □□rtic□e□ □□□□□□not e□ceed 0.25□. T□e □ercent□□e □□ □ei□□t of □□teri□□□□□□in□ t□e no. 200 □ie□e □□□□□not e□ceed 2□. T□e □ercent□□e □□ □ei□□t of co□□□nd i□nite □□□□□□not e□ceed 0.25□. □oundne□□ □□□□□□e deter□in□ u□in□ □ □□ne□iu□ □uf□□te.
6. □□□re□□te□ in □i□e□ □u□t □e □ro□ortioned to □□□e □ □ini□u□ of 55□ co□r□e □□□re□□te □□ □ei□□t.
7. Ce□entitiou□ M□teri□□□□T□e tot□□□ □□□□ of ce□entitiou□ □ □teri□□□ □□□□□□e □ □ini□u□ of 600 □ound□ □er cu□ic □□rd of concrete. Mi□ de□i□n□ □□□□□u□e □□TM C150 T□□e I, II, I/II, or III □ort□nd ce□ent. □ □en u□ed, □□TM C595 T□□e I□ ce□ent □□□□□□e □u□□tituted on □ □ound for □ound □□□i□ for □ort□nd ce□ent. For t□e □ur□o□e□ of t□i□ □□ecific□tion, T□□e I□ ce□ent i□ not con□idered □ □in□r□ ce□ent. Mi□ de□i□n□ □□□□□□ con□i□t of one of t□e fo□o□in□ o□tion□□
   □. □□TM C 150 T□□e I, II, I/II, or III □ort□nd ce□ent or □□TM C595 T□□e I□ ce□ent, co□□ined □it□ one of t□e fo□o□in□□
      1) □□TM C 989 □r□de 100 or 120 □round □r□nu□□ted □□□□t Furn□ce □□□□ (□□□F□) □t □ □ □□i□u□ of 25□ of t□e co□□ined tot□□ce□entitiou□ □ei□□t.
      2) □□TM C 618 C□□□□ F f□□ □□□□ □t □ □ □□i□u□ of 25□ of t□e co□□ined tot□□ ce□entitiou□ □ei□□t. In □ddition □o□□on I□nition i□ li□ited to □ □ □□i□u□ of 3.0□.
   □. M□nuf□ctured □□TM C 595 □□ended □□dr□u□ic Ce□ent T□□e I□ or I□ □it□ t□e fo□o□in□ li□ it□tion□□
      1) T□□e I□ – T□e □□□□ con□tituent □□□□□□not e□ceed 25□ of t□e □ □□□ of t□e co□□ined □ort□nd ce□ent □nd □□□□.
      2) T□□e I□ – T□e □o□□o□n con□tituent □□□□□□not e□ceed 25□ of t□e □ □□□ of t□e co□□ined □ort□nd ce□ent □nd □o□□o□n.
   c. T□e tot□□ □□□□□i content of t□e concrete □□□□□□e li□ited to t□e □u□ of t□e □cid □o□u□e □□□□□i content of □ort□nd ce□ent □□u□ eit□er one-□i□t□ t□e □□□□□i content of f□□ □□□□ or one-□□f of t□e □□□□□i content of □□□□, to □ □ □□i□u□ of 5 □/□d3.
      1) □ote□ Mort□r □□r E□□□n□ion te□t□ □re re□uired if t□e ce□entitiou□ co□□in□tion cont□in□ □e□□ t□□n 25□ □□□F□ or C□□□□ F f□□ □□□□. If □ □i□ de□i□n □it□ □e□□ t□□n 25□ □□□F□ of C□□□□ F f□□ □□□□ i□ □u□□itted, t□e □ort□r □□r e□□□n□ion □□□□□□e □ □ □□i□u□ of 0.10□ □t 16 d□□□ □□en te□ted □ccordin□ to □□TM C 1567. T□e C 1567 te□t □□□□□ □e □erfor□ed on ce□entitiou□ co□□in□tion□ □u□□itted □□noted □□o□e □nd inc□ude □□□re□□te co□□in□tion□fro□ one of t□e t□ree fo□o□in□ o□tion□□
         □) Te□t e□c□ co□r□e □□□re□□te □nd □ercent□□e □u□□itted □it□ Mi□□ouri Ri□er □□nd o□t□ined fro□ t□e □o□id□□ □□nd Ri□er□ide Dred□e. (For e□c□ ce□entitiou□ co□□in□tion te□ted, t□i□ o□tion on□ □□o□□ t□i□ □□ecific co□r□e □□□re□□te □ource □nd □ercent□□e to □eet t□e Mort□r □□r E□□□n□ion te□t.)
         □) Te□t u□in□ 100□ Mi□□ouri Ri□er □□nd o□t□ined fro□ t□e □o□id□□ □□nd Ri□er□ide Dred□e. (For e□c□ ce□entitiou□ co□□in□tion te□ted, t□i□ o□tion □□o□□ □n□ □□□re□□te co□□in□tion to □eet t□e Mort□r □□r E□□□n□ion te□t.)
         c) Te□t u□in□ t□e □ro□o□ed co□□in□tion of □□teri□□□ce□ent, □econd□r□ ce□entitiou□, co□r□e □□□re□□te, fine □□□re□□te, □nd □□ter.
      2) Re□□rd□e□□ of □□ic□ o□tion □□o□e i□u□ed, □□□□□□re□□te co□□in□tion□ □□u□t □eet t□e re□t of t□e □CMM□ □□ecific□tion. T□e Mort□r □□r E□□□n□ion □□□□□□ □e □ □ □□i□u□ of 0.10□ □t 16 d□□□.

8. □ □ter ce□ent r□tio shall not e□ceed 0.44. On□ □ot□□e □□ter □ha□l □e u□ed. T□e □ini□u□ □□ter ce□ent r□tio shall □e 0.25.
9. □ir Entr□in□ent □d□i□ture□ shall □eet t□e re□uire□ent□ □et fort□ in t□e current □□TM C260. T□e □ercent□□e of □ir content by □o□u□e shall □e 6.5% □u□/□inu□ 1.5%. Mi□e□ shall □e de□i□ned for 6.5% □ir content. For □rec□□t □ □nuf□cturin□ f□ci□itie□ t□□t uti□i□e dr□ c□□t concrete, □ir content□ will □e deter□ined by t□□in□ t□ree □e□□r□te core□ □t r□ndo□ inter□□□□ t□rou□□out t□e □CMM□ □e□r. If □u□□ittin□ for t□e fir□t ti□e, dr□c□□t □u□□ier□ c□n rece□i□e condition□□ ap□roval by □u□□ittin□ a mix de□i□n t□□t □eet□ all t□e □CMM□ □□ecific□tion□ e□ce□t for □ir content. T□e□ will □e condition□□□□ □□□ro□ed unti□ rece□i□in□ re□u□t□ fro□ t□e fir□t □ir content te□t. T□e core □oc□tion□ will □e □□ecified by t□e □□rtici□□tin□ □CMM□ □e□□er □fter t□e □ro□ect has □een con□tructed. T□e core□ shal □□e 4" di□□eter □□rti□□de□t□ t□rou□□ walls of fini□□ed concrete □roduct□. □ro□ide a □ine□r-Tr□□er□e Te□t (□□TM C457), □rocedure A, on e□c□ core u□in□ t□e □ro□o□ed mix de□i□n. □ro□ided, for e□c□ mix de□i□n su□□itted, t□e □□er□□e of t□e t□ree te□t□ i□ a□ov□ 5% tot□□ □ir content, □it□ no □in□e samp□e □ein□ □e□□ t□□n 4%, t□e f□ci□it□ will □e □□□ro□ed to dr□ c□□t concrete □tructure□ u□in□ t□□t mix unti□ Apri□ 1□t of t□e fo□o□in□ □e□r. Te□t re□u□t□ for e□c□ □□TM C457 te□t □□ou□d inc□ude t□e tot□□□ir content □nd t□e corre□□ondin□ □□ecific □urf□ce in □□u□re inc□e□ □er cu□ic inc□, t□e □□□cin□ f□ctor in inc□e□, □nd a rec□cu□□tion of t□e □ir content, □□ecific □urf□ce □nd □□□cin□ f□ctor u□in□ □u□□e□ □it□ a □i□e of 0.04" □nd □e□. If □u□□ittin□ t□e sam□e mix de□i□n for t□e fo□o□in□ □e□r, t□e □as□ t□ree □ir te□t c□n □e □u□□itted for condition□□□ir content □□□ro□□.
10. All concrete de□i□er□tic□et□ shall inc□ude t□e plant n□□e, de□i□n □/c r□tio, ba□ch □ei□□t□ □er cu□ic □□rd, tot□□□□tc□ed □ei□□t of □□□□ □teri□□ for □u□ntit□ de□i□ered, ti□e □□tc□ed, de□i□n s□□mp, □□ter □it□□e□d (2 ga□/yd□ max□mu□, no □□ter shall □e □it□□e□d fro□ □E concrete), □□o□ □□□e s□□mp r□n□e, □oi□ture correction for agg□ega□es, □nd do□□□e□ of all □□□ro□ed □d□i□ture□. □re-c□□t concrete □ □nuf□cture□ shall □ee□ concrete de□i□er□ tic□et□ on fi□e for one □e□r. Certific□tion□ for t□e □re -c□□t concrete sha□□□e □ro□ided □□en t□e □roduct i□ de□i□ered to t□e □o□□ite.
11. □d□i□ture□: Concrete mixe□s □□□ro□ed for u□e on □ro□ect□ shall inc□ude re□uired □d□i□ture□ in □ccord□nce □it□ t□e current□□ □□□ro□ed □CMM□ mix de□i□n. Re□ue□t□ for u□e of □d□i□ture□ i□ted as o□tion□□on □□ecific mix de□i□n□ sha□l □e □u□□itted to t□e O□ner □nd □□□ro□ed by t□e O□ner □rior to u□e on t□e □ro□ect. C□e□ic□□d□i□ture□ sha□l □eet t□e re□uire□ent□ of □□TM C494. □ddition□□□, any □□ter □it□□e□d shall □e □dded to t□e mix □rior to u□in□ a □u□er□□□tici□er.
12. For High E□r□ mix de□i□n, te□t re□u□t□ for t□e □□TM C 1074 sha□□□e □u□□itted. Co□□re□□ion te□t□ may □e □erfor□ed □t ti□e□ ot□er t□n t□o□e in □□TM C 1074 □ro□ided t□e te□t□ occur □i□in t□e ti□e i□i□it□ of □□TM C 1074 □nd □i□e t□e □□□orit□ of d□t□ □oint□ early in t□e ti□e fr□□e. Contro□ of S□□mp, ti□e of □et, □nd □or□□i□it□ shall □e contro□□ed by u□e of □d□i□ture□on□□, □O □□ter shall □e □it□□e□d fro□ a high early mix.

2.3 FI□ER REI□FORCEME□T

A. □. □□nt□etic Fi□er: □ro□ide fi□ri□□ted □o□□ro□□ene fi□er□ en□ineered □nd de□i□ned for u□e in concrete pav□ng, co□ □□□in□ □it□ □□TM C 1116/C 1116M, T□□e III, 1/2 to 1-1/2 inc□e□ □on□.

2.4 C□RI□□ M□TERI□□□

A. C□e□r, □ □ter□orne, Me□ □r□ne-For□in□ Curin□ Co□ □ound: □□TM C 309, T□□e 1, C□ass B , di□□i□□tin□.

2.5 RE□□TED M□TERI□□□

□. □oint Fi□er□□ □□TM D 1751, □□□□□□t-□□tur□ted ce□u□o□ic fi□er.

2.6 □ □EE□ □TO□□

□. □ □ee□□to□□□ □rec□□t, □ir-entr□ined concrete.
1. Do□e□□□ □ □□□□ni□ed □tee□ 3/4 inc□ (19 □□) in di□□eter, 10-inc□ (254-□□) □ini□u□ □en□t□.
2. □d□e□i□e□ □□ reco□□ended □□ □□ee□□to□ □ □nuf□cturer for □□□ic□tion to concrete □□□e□ent.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□ □□D □RE□□R□TIO□

□. □roof-ro□□□re□□red □u□□□□e □urf□ce □e□o□ concrete □□□in□ to identif□ □oft □oc□et□ □nd □re□□ of e□ce□□ □ie□din□.

□. Re□o□e □oo□e □ □teri□□fro□ co□ □□cted □u□□□□e □urf□ce i□ □edi□te□□ □efore □□□cin□ concrete.

3.2 ED□E FORM□ □□D □CREED CO□□TR□CTIO□

□. □et, □r□ce, □nd □ecure ed□e for□ □, □u□□e□d□, □nd inter□edi□te □creed □uide□ to re□uired □ine□, □r□de□, □nd e□e□□tion□. In□t□□□for□ □ to □□o□ continuou□ □ro□re□□ of □or□ □nd □o for□ □c□n re□ □in in □□□ce □t e□□t 24 □our□ □fter concrete □□□ce□ent.

□. C□e□n for□ □ □fter e□c□ u□e □nd co□t □it□ for□-re□e□□e □□ent to en□ure □e□□r□tion fro□ concrete □it□out d□□ □□e.

3.3 □TEE□ REI□FORCEME□T

□. □ener□□□ Co□ □□□ □it□ CR□I□ "M□nu□□ of □t□nd□rd □r□ctice" for f□□ric□tin□, □□□cin□, □nd □u□□ortin□ reinforce□ent.

3.4 □OI□T□

□. □ener□□□ For□ con□truction, i□o□□tion, □nd contr□ction □oint□ □nd too□ed□e□ true to □ine, □it□ f□ce□ □er□endicu□□r to □urf□ce □□□ne of concrete. Con□truct tr□n□□er□e □oint□ □t ri□□t □n□□e□ to center□ine un□e□□ ot□er□i□e indic□ted.

□. Con□truction □oint□□ □et con□truction □oint□ □t □ide □nd end ter□in□tion□ of □□□in□ □nd □t □oc□tion□ □□ere □□□in□ o□er□tion□ □re □to□□ed for □ore t□□n one-□□f □our un□e□□ □□□in□ ter□in□te□ □t i□o□□tion □oint□.

C. I□o□□tion □oint□□ For□ i□o□□tion □oint□ of □refor□ed □oint-fi□er □tri□□ □□uttin□ concrete cur□□, c□tc□ □□□in□, □ □n□o□e□, in□et□, □tructure□, ot□er fi□ed o□□ect□, □nd □□ere indic□ted.

D. Contr□ction □oint□: For□ □e□□ened-□□□ne contr□ction □oint□, □ectionin□ concrete into areas □□ indic□ted. Con□truct contr□ction □oint□ for a de□t□ equal to □t □e□□t one-fourt□ of t□e concrete t□ic□ne□□, to ma□ch □ointin□ of e□i□tin□ □d□□cent concrete pav□ng.

E. Ed□in□: □fter initi□□ fo□tin□, too□ed□e□ of pav□ng, □utter□, cur□□, □nd □oint□ in concrete □it□ □n ed□in□ too□ to a 1/4-inc□ (6-mm) r□diu□. Re□e□t too□in□ of ed□e□ □fter apply□ng □urf□ce fini□□e□. E□i□in□te ed□in□-too□ ma□ks on concrete □urf□ce□.

3.5 CO□CRETE □□□CEME□T

A. Moi□ten s□bbas□e to □ro□ide a unifor□ d□□ □ened condition □t ti□e concrete i□ □□□ced.

B. Co□ply □it□ □CI 301 (□CI 301M) re□uire□ent□ for □e□□urin□, □i□in□, tr□n□□ortin□, □□□cin□, □nd con□o□id□tin□ concrete.

C. De□o□it □nd □□re□d concrete in a continuou□ o□er□tion □et□een tr□n□□er□e □oint□. Do not push or dr□□ concrete into pla□e or u□e □i□r□tor□ to □o□e concrete into pla□e.

D. □creed pav□ng □urf□ce □it□ a □tr□i□□ted□e □nd □tri□e off.

E. Co□ □ence initi□□ fo□tin□ u□in□ bull fo□t□ or d□r□ie□ to i□ □□rt □n o□en-te□tured □nd unifor□ □urf□ce □□□ne □efore e□ce□□ □oi□ture or □eed □□ter □□□e□r□ on t□e □urf□ce. Do not furt□er di□tur□ concrete □urf□ce□ □efore □e□innin□ fini□□in□ o□er□tion□ or □□re□din□ □urf□ce tre□t□ent□.

3.6 F□O□T FI□I□□I□□

A. □ener□: Do not □dd □□ter to concrete □urf□ce□ durin□ fini□□in□ o□er□tion□.

B. F□o□t Fini□□: □e□in t□e □econd fo□tin□ o□er□tion □□en □eed-□□ter □□een has di□□□□e□red □nd concrete □urf□ce has □tiffened □ufficient□□ to □er□it o□er□tion□. F□o□t □urf□ce □it□ □o□er-dri□en fo□t□ or by □□nd fo□tin□ if □re□ i□ small or in□cce□□i□le to □o□er unit□. Fini□□ □urf□ce□ to true □□□ne□. Cut do□n high sp□ts □nd fi□□o□ □□ot□. Refo□t □urf□ce i□ □edi□te□□ to unifor□ □r□nu□□r te□ture.

1. Mediu□-to-Fine-Te□tured □roo□ Fini□□: Dr□□ a □oft-□ri□t□e □roo□ □cro□□ fo□t-fini□□ed concrete □urf□ce □er□endicu□□r to □ine of tr□ffic to □ro□ide a unifor□, fine-□ine te□ture.

3.7 CO□D □□D □OT □ E□T□ER CO□CRETE □□□CEME□T

A. Co□d □ e□t□er Concrete:

1. □n□e□ □ut□ori□ed in □ritin□ by t□e En□ineer, □i□in□ □nd concretin□ o□er□tion□ shall □e di□continued □□en t□e de□cendin□ □ir te□ □er□ture in t□e □□□de □nd away fro□ □rtifici□□ □e□t re□c□e□ t□irt□-fi□e (35□) de□ree□ F. Concrete o□er□tion□ may □e re□u□ed □□en t□e □□cendin□ □ir te□ □er□ture in t□e □□□de □nd away fro□ □rtifici□□□e□t re□c□e□ t□irt□ fi□e (35°, de□ree□ F.
2. □ □en concrete □or□i□ □ut□ori□ed durin□ co□d □e□t□er, t□e concrete may □e □e□ted in □ccord□nce □it□ □CI □□ecific□tion□. T□e te□ □er□ture of t□e concrete s□□ll □e not □e□□ t□□n □i□t□ (60°, de□ree□ F □nd not □ore t□□n ei□□t□ (80°, de□ree□ F □t t□e ti□e of □□□ce□ent in t□e for□ □.
3. □o concrete shall □e □□□ced on fro□en □u□□r□de. □udden coo□in□ of concrete shall not □e □er□itted. Concrete e□□o□ed to fro□t □ction or free□in□ □e□t□er shall □e re□o□ed □nd re□□□ced □t t□e Contr□ctor' □e□□en□e.

4. A □ufficient s□pply of □□□ro□ed □□n□etin□ □ □teri□□sha□l □e □ro□ided □nd □□□ced on all concrete □□□ced □et□een □o□e□ □er 1 □nd Ap□il 1 □nd □t ot□er ti□e □□en t□e □□ □ient □ir te□ □er□ture i□ e□□ected to dro□ □e□o□ fort□ (40□) de□ree□ F. □□n□etin□ □ □teri□□□ shall □rotect t□e concrete □nd □□int□in a □ini□u□ te□ □er□ture of fort□ (40°) de□ree□ F in t□e concrete as □e□□ured on t□e □urf□ce. Concrete sha□l □e co□ered for □t □e□□t four days.

B. □ot □ e□t□er Concrete:

1. T□e □ro□i□ion□ of t□i□ □ection shall apply to all concrete □or□, which i□ done □□en t□e □ir te□ □er□ture i□ ab□ve ei□□t□ (80°) de□ree□ F □t t□e ti□e of □□□ce□ent. T□e te□ □er□ture of t□e concrete, □□en □□□ced, shall not □e high enou□□ to c□u□e e□ce□□i□e fo□□ of s□mp, flash □et or co□d □oint□. For□□, reinforcin□ □nd □u□-□r□de □urf□ce□ □□□in□t which t□e concrete i□ to □e □□□ced shall □e □etted do□n i□ □edi□te□ □efore □□□ce□ent. In no c□□e shall □e te□ □er□ture of t□e concrete, □□en □□□ced, e□ceed ninet□ (90°) de□ree□ F.

2. □ □en t□e □ir te□ □er□ture e□ceed□ ninet□ (90°) de□ree□ F □nd as □oon as □r□ctic□□e □it□out c□u□in□ d□□ □□e to t□e □urf□ce fini□□, □□□e□□o□ed concrete sha□□ □e □e□t continuou□□□ □oi□t by m e a n s of fo□ sp□rays, □et burlap, cotton ma□ts, or ot□er □e□n□ □cce□t□□e to t□e En□ineer □t no e□□en□e to t□e O□ner. T□i□ coo□in□ □it□ □□ter shall □e in □ddition to t□e initi□□□e□in□ by □e□ □r□ne curin□ co□ □ound.

3. **No concrete shall be placed when the air temperature is above ninety-five (95°) degrees F.**

3.8 CO□CRETE □ROTECTIO□ AN D C□RI□□

A. □ener□□: □rotect fre□□□□ □□□ced concrete fro□ □re□ □ture dr□in□ □nd e□ce□□i□e co□d or □ot te□ □er□ture□.

B. Co□mply □it□ □CI 306.1 for co□d-□e□t□er □rotection.

C. E□□□or□tion Ret□rder: Appl□ e□□□or□tion ret□rder to concrete □urf□ce□ if □ot, dr□, or □ind□ condition□ c□u□e □oi□ture lo□□ □□□ro□c□in□ 0.2 l□/sq. ft. x h (1 kg/sq. m x h) □efore □nd durin□ fini□□in□ o□er□tion□. Apply □ccordin□ to □□nuf□cturer'□ □ritten in□truction□ □fter □□□cin□, □creedin□, □nd bull□□o□tin□ or d□r□□in□ concrete □ut □efore fi□□t fini□□in□.

D. □e□in curin□ □fter fini□□in□ concrete □ut not □efore free □□ter has di□□□□e□red fro□ concrete □urf□ce.

E. Curin□ Met□od□: Cure concrete by curin□ co□ □ound.

3.9 PA VI NG TO□ER□□CE□

A. Co□mply □it□ to□er□nce□ in □CI 117 □nd as fo□□□:

1. E□e□□tion: 1/8 inc□ (3 mm).
2. T□ic□ne□□: □□u□ 3/8 inc□ (10 mm), □inu□ 1/4 inc□ (6 mm).
3. □urf□ce□ Ga□ □e□o□ 10-foot- (3-m-) lon□, un□e□ee□ □tr□i□□ted□e not to e□ceed 1/4 inc□ (6 mm).
4. □oint □□□cin□: 3 inc□e□ (75 mm).
5. Contr□ction □oint De□t□: □□u□ 1/4 inc□ (6 mm), no □inu□.
6. □oint □ idt□: □□u□ 1/8 inc□ (3 □□), no □inu□.

3.10 WHEEL STOPS

A. In□t□□ wheel s:ops in □ed of □d□e i□e □□□ied as reco□□ended by □□nuf□cturer.

B. □ecure□ □tt□c□ wheel s:ops to pav'ng □it□ not e□□t□□n t□o □□□□□ni□ed-□tee□do□e□ □oc□ted □t one-□u□rter to one-t□ird □oint□. In□t□□□do□e□ in dri□ed □o□e□ in t□e pav'ng □nd □ond do□e□ to wheel □to□. Rece□□ e□d of do□e□□ene□t□ to□ of wheel □to□.

3.11 O□E□I□□ TO TR□FFIC

A. T□e concrete □□□e□ent sha□l not □e o□ened for i□□t tr□ffic unti□t□e concrete i□□t e□□t 72 □our□ old □nd has □tt□ined a □ini□u□ co□□re□i□e □tren□t□ of 3000 □ound□ □er □□u□re inc□. T□e □□□e□ent shall not □e o□ened to all types of tr□ffic unti□t□e concrete i□□t e□□t 72 □our□ old □nd has □tt□ined a □ini□u□ co□□re□i□e □tren□t□ of 3500 □ound□ □er □□u□re inc□. If high early □tren□t□ concrete i□u□ed, t□e □□□e□ent may □e o□ened to all types of tr□ffic □□en t□e concrete has □tt□ined a □ini□u□ co□□re□i□e □tren□t□ of 3500 □ound□ □er □□u□re inc□. □□□e□ent shall □e c□e□ned □rior to o□enin□ to tr□ffic

3.12 FIE□D QUAL□ITY CO□TRO□

A. Te□tin□ □□enc□: T□e O□ner □i□en□□□e a □u□ified inde□endent te□tin□ □nd in□□ection □□enc□ to samp□e □ □teri□□, □erfor□ te□t□, □nd □u□□it te□t re□ort□ durin□ concrete □□□ce□ent □ccordin□ to re□uire□ent□ □□ecified in t□i□ □rtic□e.

B. Te□tin□ □er□ice□: Te□tin□ shall □e □erfor□ed □ccordin□ to t□e fo□o□in□ re□uire□ent□:

1. Samp□ing Fre□□ Concrete: Re□re□ent□ti□e □□□ □□e of fre□□ concrete shall □e o□t□ined □ccordin□ to □□TM C 172, e□ce□t □odified for s□ump to comply □it□ □□TM C 94.
2. S□ump: □□TM C 143; one te□t □t □oint of □□□ce□ent for e□c□ co□□re□i□e-□tren□t□ te□t, □ut not □e□□t□□n one te□t for e□c□ day's □our of e□c□t□□e of concrete. □ddition□□te□t□ □i□□□e re□uired □□en concrete con□i□tenc□c□□n□e.
3. □ir Content: □□TM C 231, □re□□ure □et□od; one te□t for e□c□ co□□re□i□e-□tren□t□ te□t, □ut not □e□□t□□n one te□t for e□c□ d□□']our of e□c□t□□e of □ir-entr□ined concrete.
4. Concrete Te□□er□ture: □□TM C 1064; one te□t □our□□□□en □ir te□□er□ture i□ 40 de□ F □nd □e□o□ □nd □□en 80 de□ F □nd □□o□e, □nd one te□t for e□c□ □et of co□□re□i□e-□tren□t□ □□eci□en□.
5. Co□□re□□ion Te□t □□eci□en□: □□TM C 31/C 31M□one □et of four □t□nd□rd c□inder□ for e□c□ co□□re□i□e-□tren□t□ te□t, un□e□□ ot□er□i□e indic□ted. C□inder□ shall □e □o□ded □nd □tored for □□□or□tor□-cured te□t □□eci□en□ un□e□□ fie□d-cured te□t □□eci□en□ □re re□uired.
6. Co□□re□i□e-□tren□t□ Te□t□: □□TM C 39; one □et for e□c□ day's □our of e□c□ concrete c□ass e□ceedin□ 5 cu. □d., □ut e□□t□□n 100 cu. □d., □u□ one □et for e□c□ □ddition□□100 cu. □d. One □□eci□en sha□□□e te□ted □t 7 days □nd t□o □□eci□en□ □t 28 days; one □□eci□en shall □e ret□ined in re□er□e for □□ter te□tin□ if re□uired.
7. In-□□□ce □□□e□ent t□ic□ne□□ will □e deter□ined by te□t core □□□ □□e□. One core samp□e will □e t□□en for e□er□ 1,000 □u□re □□rd or □e□□ of in□t□□□ed □□□e□ent, □it□ no fe□er t□□n 3 core□ t□□en.
8. □□en fre□uenc□ of te□tin□ will □ro□ide fe□er t□□n fi□e co□□re□i□e-□tren□t□ te□t□ for a □i□en class of concrete, te□tin□ shall □e conducted fro□ □t e□□t fi□e r□ndo□□□ □e□ected □□tc□e□ or fro□ e□c□ batch if fe□er t□□n fi□e □re u□ed.
9. □□en □tren□t□ of fie□d-cured c□inder□ i□ e□□ t□□n 85 □ercent of co□□□nion □□□or□tor□-cured c□inder□, current o□er□tion□ shall □e e□□u□ted □nd correcti□e □rocedure□ shall □e □ro□ided for □rotectin□ □nd curin□ in-□□□ce concrete.

10. □tren□t□ □e□e□of concrete □i□□e con□idered □□ti□f□ctor□ if □□er□□e□ of □et□ of t□ree con□ecuti□e co□ □re□□i□e-□tren□t□ te□t re□u□t□ e□u□□or e□ceed □□ecified co□ □re□□i□e □tren□t□ □nd no indi□idu□□ co□ □re□□i□e-□tren□t□ te□t re□u□t f□□□ □e□o□ □□ecified co□ □re□□i□e □tren□t□ □□ □ore t□□n 500 □□i.

C. Te□t re□u□t□ □□□□□□e re□orted in □ritin□ to O□ner, De□i□n □rofe□□ion□□, □nd Contr□ctor □it□in 24 □our□ of te□tin□. Re□ort□ of co□ □re□□i□e-□tren□t□ te□t□ □□□□□□cont□in □ro□ect identific□tion n□□e □nd nu□□er, d□te of concrete □□□ce□ent, n□□e of concrete te□tin□ □□enc□, concrete t□□e □nd c□□□□, □oc□tion of concrete □□tc□ in □□□e□ent, de□i□n co□ □re□□i□e □tren□t□ □t 28 d□□□, concrete □i□ □ro□ortion□ □nd □ □teri□□□, co□ □re□□i□e □re□□in□ □tren□t□, □nd t□□e of □re□□ for □ot□ 7- □nd 28-d□□ te□t□.

D. □onde□tructi□e Te□tin□□ I□ □□ct □□□ □er, □ono□co□e, or ot□er nonde□tructi□e de□ice □ □□ □e □er□itted □□ De□i□n □rofe□□ion□□□ut □i□□not □e u□ed □□ t□e □o□ □□□i□ for □□□ro□□□or re□ection.

E. □ddition□□ Te□t□□ Te□tin□ □□enc□ □□□□□□□□ □□e □ddition□□te□t□ of t□e concrete □ □en te□t re□u□t□ indic□te □□u□ □, □ir entr□in□ent, concrete □tren□t□□, or ot□er re□uire□ent□ □□□e not □een □et, □□ directed □□ De□i□n □rofe□□ion□□. Te□tin□ □□enc□ □ □□ conduct te□t□ to deter□ine □de□u□c□ of concrete □□ cored c□inder□ co□ □□□in□ □it□ □□TM C 42, or □□ ot□er □et□od□ □□ directed.

3.13 RE□□IR□ □□D □ROTECTIO□

□. Re□o□e □nd re□□□ce concrete □□□in□ t□□t i□ □ro□en, d□□ □□ed, or defecti□e or t□□t doe□ not co□ □□□ □it□ re□uire□ent□ in t□i□ □ection. Re□o□e □or□ in co□ □ete □ection□ fro□ □oint to □oint un□e□□ ot□er□i□e □□□ro□ed □□ De□i□n □rofe□□ion□□.

□. □rotect concrete □□□in□ fro□ d□□ □□e. E□c□ude tr□ffic fro□ □□□in□ for □t □e□t 14 d□□□ □fter □□ce□ent. □ □en con□truction tr□ffic i□ □er□itted, □ □int□in □□□in□ □□ c□e□n □□ □o□i□e □□ re□o□in□ □urf□ce t□in□ □nd □i□□□e of □ □teri□□□ t□□t □e□ occur.

C. M□int□in concrete □□□in□ free of □t□in□, di□co□or□tion, dirt, □nd ot□er forei□n □ □teri□□. □□ee□ □□□in□ not □ore t□□n t□o d□□□ □efore d□te □c□edu□ed for □u□□t□nti□□Co□ □□etion in□□ection□.

E□D OF □ECTIO□ 321313

□ECTIO□ 321373 - CO□CRETE □□VI□□ □OI□T □E□□□□T

□□RT 1 - □E□ER□□

1.1 RE□□TED DOC□ME□T□

A. Dr□□in□□ □nd □ener□□□ro□i□ion□ of t□e Contr□ct, inc□udin□ □ener□□□nd □u□□□e□ ent□r□ Condition□ □nd Di□i□ion 1 □□ecific□tion □ection□, apply to t□i□ □ection.

1.2 □□MM□R□

A. □ection Inc□ude□:
1. Co□d-□□□ied □oint s□ala nts.

B. Re□□ted □ection□:
1. Di□i□ion 32 □ection "Concrete □□□in□" for con□tructin□ □oint□ in concrete □□□e□ ent.

1.3 □CTIO□ SUB MITTALS

A. □roduct D□t□: For e□c□ □oint-□e□□nt □roduct indic□ted.

B. □□□ □e□ for Verific□tion: For e□c□ □ind □nd co□or of □oint □e□□nt re□uired, □ro□ide Samp □es □it□ □oint s□ala nts in 1/2-inc□- (13-mm-) □ide □oint□ for□ed □et□een t□o 6-inc□- (150-mm-) □on□ □tri□□ of □ □teri□□□ □tc□in□ t□e □□□e□r□nce of e□□o□ed □urf□ce□ □d□□cent to □oint □e□□nt□.

C. □□□e□ ent-□oint-□e□□nt □c□edu□e□ Inc□ude t□e fo□o□in□ infor□ □tion:
1. □oint-□e□□nt □□□ic□tion, □oint □oc□tion, □nd de□i□n□tion.
2. □oint-□e□□nt □ □nuf□cturer □nd □roduct n□□e.
3. □oint-□e□□nt for□ u□□tion.
4. □oint-□e□□nt co□or.

1.4 I□FORM□TIO□ □□ SUB MITTALS

A. □roduct Certific□te□: For e□c□ t□□e of □oint □e□□nt □nd □cce□□or□, fro□ □ □nuf□cturer.

B. □roduct Te□t Re□ort□: □□□ed on e□□u□tion of co□ □re□en□i□e te□t□ □erfor□ed by a □u□ified te□tin□ □□enc□, for □oint s□ala nts.

C. □recon□truction Co□ □□ti□i□it□ □nd □d□e□ion Te□t Re□ort□: Fro□ □oint-□e□□nt □ □nuf□cturer, indic□tin□ t□e fo□o□in□:
1. M□teri□□□ for□in□ □oint □u□□tr□te□ □nd □oint-□e□□nt backings hav□ □een te□ted for co□ □□ti□i□it□ □it□ □nd □d□e□ion to □oint □e□□nt□.
2. Inter□ret□tion of te□t re□u□t□ □nd □ritten reco□ □end□tion□ for □ri□er□ □nd □u□□tr□te □re□□r□tion needed for □d□e□ion.

1.5 □□□□IT□ □□□□R□□CE

□. In□t□□er □u□ific□tion□□ M□nuf□cturer□□ □ut□ori□ed re□re□ent□ti□e □□o i□ tr□ined □nd □□□ro□ed for in□t□□□tion of unit□re□uired for t□i□ □ro□ect.

□. □ource □i□it□tion□□ O□t□in e□c□t□□e of □oint □e□□□nt fro□ □in□□e □ource fro□ □in□□e □ □nuf□cturer.

C. □roduct Te□tin□□ Te□t □oint □e□□□nt□u□in□ □ □u□ified te□tin□ □□enc□.
1. Te□tin□ □□enc□ □u□ific□tion□□ □n inde□endent te□tin□ □□enc□ □u□ified □ccordin□ to □□TM C 1021 to conduct t□e te□tin□ indic□ted.

D. □rein□t□□□tion Conference□ Conduct conference □t □ro□ect □ite.

1.6 □RO□ECT CO□DITIO□□

□. Do not □roceed □it□ in□t□□□tion of □oint □e□□□nt□ under t□e fo□o□in□ condition□□
1. □ □en □□ □ient □nd □u□□tr□te te□ □er□ture condition□ □re out□ide i□it□ □er□itted □□ □oint-□e□□□nt □ □nuf□cturer or □re □e□o□ 40 de□F (5 de□C)
2. □ □en □oint □u□□tr□te□ □re □et.
3. □ □ere □oint □idt□□ □re □e□□ t□□n t□o□e □□o□ed □□ □oint-□e□□□nt □ □nuf□cturer for □□□ic□tion□ indic□ted.
4. □ □ere cont□□in□nt□ c□□□□□□e of interferin□ □it□ □d□e□ion □□□e not □et □een re□o□ed fro□ □oint □u□□tr□te□.

□□RT 2 - □ROD□CT□

2.1 M□TERI□□□

□. Co□□□ti□it□□ □ro□ide □oint □e□□□nt□, □□c□in□ □ □teri□□□, □nd ot□er re□□ted □ □teri□□□ t□□t □re co□□□ti□le □it□ one □not□er □nd □it□ □oint □u□□tr□te□ under condition□ of □er□ice □nd □□□□ic□tion, □□de□on□tr□ted □□ □oint-□e□□□nt □ □nuf□cturer □□□ed on te□tin□ □nd fie□d e□□erience.

□. Colors of Exposed Joint Sealants: As selected by Design Professional from manufacturer's full r□n□e co□or.

2.2 CO□D-□□□□□IED □OI□T □E□□□□T□

□. Mu□tico□ □onent, □our□□□e, Tr□ffic-□r□de, □ret□□ne □oint □e□□□nt for Concrete□ □□TM C 920, T□□e M, □r□de □, C□□□□25, for □□e T.
1. □roduct□□ □u□□ect to co□ □i□□nce □it□ re□uire□ent□ □ro□ide t□e fo□o□in□□
□. □ecor□ Cor□or□tion□□re□□□n □R-200.
□. □i□□ Cor□or□tion□ □i□□fie□-2C □□ □nd □i□□fie□-2C □□ T□.
c. BASF: Sonolastic SL2.

2.3 □OI□T-□E□□□□T □□C□ER M□TERI□□□

□. □ener□□□ □ro□ide □oint-□e□□□nt □□c□er □ □teri□□□ t□□t □re non□t□inin□□ □re co□□□ti□e □it□ □oint □u□□tr□te□, □e□□□nt□, □ri□er□, □nd ot□er □oint fi□er□□□nd □re □□□ro□ed for □□□ic□tion□ indic□ted □□ □oint-□e□□□nt □ □nuf□cturer □□□ed on fie□d e□□erience □nd □□□or□tor□te□tin□.

□. Round □□c□er Rod□ for Co□d-□□□□ied □oint □e□□□nt□□ □□TM D 5249, T□□e 3, of di□□eter □nd den□it□ re□uired to contro□oint-□e□□□nt de□t□ □nd □re□ent □otto□-□ide □d□e□ion of □e□□□nt.

2.4 □RIMER□

□. □ri□er□□ □roduct reco□□ended □□ □oint-□e□□□nt □□nuf□cturer □□ere re□uired for □d□e□ion of □e□□□nt to □oint □u□□tr□te□ indic□ted, □□ deter□ined fro□ □recon□truction □oint-□e□□□nt-□u□□tr□te te□t□ □nd fie□d te□t□.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□□ine □oint□ indic□ted to recei□e □oint □e□□□nt□, □it□ In□t□□□er □re□ent, for co□ □i□□nce □it□ re□uire□ent□ for □oint confi□ur□tion, in□t□□□tion to□er□nce□, □nd ot□er condition□ □ffectin□ □oint-□e□□□nt □erfor□ □nce.

□. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□f□ctor□ condition□ □□□e □een corrected.

3.2 □RE□□R□TIO□

□. □urf□ce C□e□nin□ of □oint□□ C□e□n out □oint□ i□ □edi□te□□ □efore in□t□□in□ □oint □e□□□nt□ to co□ □□□□ □it□ □oint-□e□□□nt □□nuf□cturer□□ □ritten in□truction□.

□. □oint □ri□in□□ □ri□e □oint □u□□tr□te□ □□ere indic□ted or □□ere reco□□ended in □ritin□ □□ □oint-□e□□□nt □□nuf□cturer, □□□ed on □recon□truction □oint-□e□□□nt-□u□□tr□te te□t□ or □rior e□□erience. □□□□□□ □ri□er to co□ □□□□ □it□ □oint-□e□□□nt □□nuf□cturer□□ □ritten in□truction□. Confine □ri□er□ to □re□□ of □oint-□e□□□nt □ond□do not □□□o□ □□i□□□e or □i□r□tion onto □d□oinin□ □urf□ce□.

3.3 I□□T□□□□TIO□ OF □OI□T □E□□□□T□

□. □ener□□□ Co□ □□□□ □it□ □oint-□e□□□nt □□nuf□cturer□□ □ritten in□t□□□tion in□truction□ for □roduct□ □nd □□□□ic□tion□ indic□ted un□e□□ □ore □trin□ent re□uire□ent□ □□□□□□.

□. □oint-□e□□□nt In□t□□□tion □t□nd□rd□ Co□ □□□□ □it□ reco□□end□tion□ in □□TM C 1193 for u□e of □oint □e□□□nt□ □□ □□□□ic□□□e to □ □teri□□□, □□□□ic□tion□, □nd condition□ indic□ted.

C. In□t□□□oint-□e□□□nt □□c□in□□ of □ind indic□ted to □u□□ort □oint □e□□□nt□ durin□ □□□□ic□tion □nd □t □o□ition re□uired to □roduce cro□□-□ection□□□□□□e□ □nd de□t□□ of in□t□□ed □e□□□nt□ re□□ti□e to □oint □idt□□ t□□t □□□o□ o□ti□u□ □e□□□nt □o□e□ent c□□□□□i□t.

1. Do not □e□□e □□□□□ □et□een end□ of □oint-□e□□□nt □□c□in□□.
2. Do not □tretc□, t□i□t, □uncture, or te□r □oint-□e□□□nt □□c□in□□.
3. Re□o□e □□□or□ent □oint-□e□□□nt □□c□in□□ t□□t □□□e □eco□e □et □efore □e□□□nt □□□□ic□tion □nd re□□□ce t□e□ □it□ dr□ □ □teri□□□.

D. In□t□□□oint □e□□□nt□ u□in□ □ro□en tec□ni□ue□ t□□t co□ □□□□ □it□ t□e fo□o□in□ □nd □t t□e □□□e ti□e □□c□in□□ □re in□t□□ed□

1. □□□ce □oint □e□□□nt□ □o t□e□ direct□□ cont□ct □nd fu□□□ □et □oint □u□□tr□te□.
2. Co□ □□ete□□ fi□□rece□□e□ in e□c□ □oint confi□ur□tion.

3. Produce uniform, cross-section and dimensions and detail resulting to joint width that will not reduce movement capacity.

E. Tooling of non-sag joint sealants: Immediately after joint-sealant application and before initial curing, tool sealants according to the following requirements to form smooth, uniform beds of configuration indicated to eliminate air pockets and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess joint sealant from surfaces adjacent to joint.
2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.

F. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

3.4 CLEANING

A. Clean off excess joint sealant or sealant smears adjacent to joints as the Work progresses, by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants, during and after curing period, from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and reseal with joint sealant so no evidence of repair can be seen.

END OF SECTION

□ECTIO□ 321400 - □ERME□□□E □□IT □□VI□□

□□RT 1 - □E□ER□□

1.1 RE□□TED DOC□ME□T□

A. Dr□□in□□ □nd □ener□□□ro□i□ion□ of t□e Contr□ct, inc□udin□ □ener□□□nd □u□□e□ ent□r□ Condition□ □nd Di□i□ion 01 □□ecific□tion □ection□, apply to t□i□ □ection.

1.2 □□MM□R□

A. □ection Inc□ude□:
1. □er□ e□□e pav ers □et on □□□re□□te □ettin□ □ed□.
2. ADA □□□er□.
3. □□□tic ed□e re□tr□int□.
4. Pav er r□te.

1.3 □RECO□□TR□CTIO□ TE□TI□□

A. □recon□truction □d□e□ion □nd Co□ □□ti□it□ Te□tin□: □u□□it to □te□-□dditi□e □ □nuf□cturer, for te□tin□ as indic□ted □e□o□, samp□es of pav ng □ □teri□□t□□t will cont□ct or □ffect □ort□r □nd □rout t□□t cont□in □te□ □dditi□e□.
1. Us e □ □nuf□cturer'□ t□nd□rd te□t □et□od□ to deter□ine □□et□er □ort□r □nd □rout □ □teri□□ will o□t□in o□ti□u□ □d□e□ion □it□, □nd □i□□e non□t□inin□ to, in□t□□ed pav ers □nd ot□er □ □teri□□ con□titutin□ pav er in□t□□□tion.

1.4 □CTIO□ SUB MITTALS

A. □roduct D□t□: For □ □teri□□ ot□er t□□n □□ter □nd aggregates.

B. □roduct D□t□: For t□e fo□o□in□:
1. Pav ers.
2. Ed□e re□tr□int□.
3. Pav er r□te.

1.5 SA MPL ES FOR I□ITI□□ □E□ECTIO□: FOR T□E FO□□O□ I□□:
1. E□c□t□□e of unit pav er indic□ted.
2. Ed□e re□tr□int□.

1.6 SA MPL ES FOR VERIFIC□TIO□:

A. Fu□-□i□e unit□ of e□c□t□□e of unit pav er indic□ted.

1.7 I□FORM□TIO□□□ SUB MITTALS:

A. □ie□e □n□□□e□: For □□□re□□te □ettin□-□ed □ □teri□□, □ccordin□ to □□TM C 136.

□. Minute□ of □re-in□t□□□tion conference.

1.8 C□O□EO□T □□□MITT□□□□

□. O□er□tion□ □nd M□inten□nce D□t□□ For □ite □□□e□ent t□□e inc□ude □ □inten□nce reco□ □end□tion□in □ □inten□nce □ □nu□□□.

1.9 □ □□□IT□ □□□□R□□CE

□. □ource □i□it□tion□□O□t□in e□c□ t□□e of unit □□□er, □oint □ □teri□, □nd □ettin□ □ □teri□□fro□ □in□e □ource □it□ re□ource□ to □ro□ide □ □teri□□□ □nd □roduct□ of con□i□tent □u□it□ in □□□e□r□nce □nd □□□□ic□□□ro□ertie□.

□. In□t□□er □u□ific□tion□□
1. In□t□□er □u□ific□tion□□2 □e□r□ □ini□u□ e□□erience in□t□□□in□ tree □r□te□ □nd □u□□ort fr□□ e□.

C. □□□er □r□te M□nuf□cturer □u□ific□tion□□
1. M□nuf□cturer □u□t □□□e □icen□e to □roduce □u□□ended □□□er □□□te□ □ under □.□ □□tent □5,787,637.

D. Moc□u□□□ □uid □oc□u□□ to □erif□ □e□ection□ □ □de under □□□ □□e □u□□itt□□□ □nd to de□on□tr□te □e□t□etic effect□ □nd □et □u□it□ □t□nd□rd□ for □ □teri□□□ □nd e□ecution.
1. □□□ro□ed □oc□u□□ □ □□ □eco□e □□rt of t□e co□ □□eted □or□ if undi□tur□ed □t ti□e of □u□□t□nti□□Co□ □□etion.
2. Four infi□tr□tion te□t□ □erfor□ed □ccordin□ to □□TM C1781 for e□c□ 100 □f of e□c□ □oc□u□. □□ti□f□ctor□ □erfor□ nce of t□e te□t □□ne□ □□□□□□e deter□ined □□no □in□e te□t □□ue □ein□ e□□t□□n 25□ of t□e □□er□□e infi□tr□tion r□te.

E. □re-in□t□□□tion Conference□ Conduct conference □t □ro□ect □ite. T□e □rein□t□□□tion conference □□□□□e □c□edu□ed □t □e□□t 7 d□□□ □efore t□e fir□t □□ce□ent of □□□er□.

1.10 DE□IVER□, □TOR□□E, □□D □□□D□l□□

□. □tore □□□er□on e□e□□ted □□□tfor□ □in □dr□ □oc□tion. If unit□ □re not □tored in □n enc□o□ed □oc□tion, co□er to□□ □nd □ide□of □t□c□□ □it□ □□ter□roof □□eetin□, □ecure□□tied.

□. □tore □□□re□□te□ □□ere □r□din□ □nd ot□er re□uired c□□r□cteri□tic□ c□n □e □ □int□ined □nd cont□□in□tion □□oided.

1.11 □RO□ECT CO□DITIO□□

□. Co□d-□ e□t□er □rotection□Do not u□e fro□en □ □teri□□□ or □ □teri□□□ □i□ed or co□ted □it□ ice or fro□t. Do not □uid on fro□en □u□□r□de or □ettin□ □ed□. Re□o□e □nd re□□ce unit □□□er □or□d□□ □□ed □□ fro□t or free□in□.

2.1 □ERME□□□E □□VER□

A. □er□e□□□e Pav ər – T□□e 1 □□□i□-of-De□i□n □roduct: □u□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □□□e□tone, Eco-Veneti□n □tone. Cont□ct□C□□d □□□ffer, □□□e□tone, (816) 524-9900 or □□□ro□ed e□u□.

1. □i□e□3-1/8 inc□e□in □□u□re, □□r□e Rect□n□□e □nd □i□nt shap e□
2. Co□or: Gray as □□□ro□ed by □nd□c□□e □rc□itect.
3. □□ttern: Ashla r.

B. □er□e□□□e Pav ər – T□□e 2 □□□i□-of-De□i□n □roduct: □u□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □e□□rd, Aqua Roc, Cont□ct: C□ri□tine □rit□in, □e□co Outdoor, (816) 318-1203 or □□□ro□ed equal

1. □i□e□3-1/8 inc□e□x 3-15/16 inc□e□x 7-7/8 inc□e□.
2. Co□or: Gray as □□□ro□ed by □nd□c□□e □rc□itect.
3. □□ttern: □errin□□one.

C. □er□e□□□e Pav ər – T□□e 3 Bas ˙s of De□i□n □roduct: □u□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □te□□tone, □roduct: 4 inc□t□ic□ □□rro□ Modu□r Pav ərs or □□□ro□ed equal

1. T□ic□ne□□: 4 inc□e□t□ic□.
2. F□ce □i□e □nd Sha □e: 3 inc□ x 18 inc□ rect□n□□e.
3. □□□cer□: □□□□tic □□□cer□, 1/4 t□ic□.
4. Co□or: Frenc□ Gray as □□□ro□ed by □nd□c□□e □rc□itect.
5. □□ttern: Runnin□ □ond.
6. □re-□□□ro□ed equal □roduct:
   a. □□no□er □□rro□ Modu□r Pav ər.
   b. □ni□oc□ □□u□ine □□□er.

2.2 ADA □□VER

A. □ro□ide one of t□e fo□o□in□ □D□ □□rnin□ □urf□ce.

1. Clay K iln Fired □ric□ Pav ərs: □ro□ide □ric□ □it□out fro□□ or core□ in □urf□ce□ e□□o□ed to □ie□ in t□e co□ □□eted □ or□.
   a. □□□i□-of-De□i□n □roduct: T□e de□i□n for □ric□ □□□er□i□ bas ed on □ □it□cre-□reer □□cuu□ k iln fired □ric□ □□□er□. □u□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide t□e n□□ed □roduct or a co□ □□r□□e □roduct.
      1) T□ic□ne□□: 2.25 inc□e□.
      2) F□ce □i□e: 4 by 8 inc□e□.
      3) Co□or: Bla ck to C□□rco□□.
2. 24-inc□ □□u□re □rec□□t Concrete □roduct: □ro□ide ADA □□rnin□ □urf□ce.
   a. T□ic□ne□□: 2.25 inc□e□or t□ic□er.
   b. F□ce □i□e: 24 by 24 inc□e□.
   c. Co□or: Bla ck to C□□rco□□.

2.3 □□VER □R□TE

A. M□nuf□cturer: Tree □r□te□ shall □e as □u□□ied by IRO□□MIT□,I□C., 41-701 Cor□or□te □ ay, □nit 3, Palm De□ert, C□ 92260 – Cont□ct □□tie Do□nen (800) 338-4766 □105, □□tie@ iron□□ it□.i□.

1. Tree □r□te□ shall □e Pav ər □r□te Mode□4196 "□□□er-□r□te™ pav ər □u□□ort sys˙em tree □r□te 48" x 96" in t□o □ection□ □ □□□□ni□ed. □□tented U.S. □□tent 5,787,637" □it□ "18" inc□ tree o□enin□.

B. □□□er-□r□te□ shal]□e □ □nuf□ctured fro□ □t□nd□rd □tee□ shap□s to □□TM A36 □nd e□□□nded m□etal □r□tin□ 3# to □□TM □569/569M. If re□uired, Tu□in□ to □□TM A500. □nit□ shall □e □ □nuf□ctured true to de□i□n □nd all co□ □onent□ shall fit to□et□er in a □□ti f□ctor□ □ □nner. □r□te□ □re to □e of unifor□ □u□it□, f□t □nd free fro□ di□tortion.

C. Fini□□: □r□te□ □re to □e □u□□ied galva nized by hot spray □nd / or □ot di□ □et□od.

D. Tot□□□u□ntit□: Ei□□t (8).

2.4 CURBS □□D ED□E RE□TR□I□T□

A. □o□-□uilt□ Concrete Ed□e Re□tr□int□□Co mply □it□ re□uire□ent□ in Di□i□ion 03 □ection "C□□t-in□□ce Concrete" for nor□ □□-ei□□t, □ir-entr□ined, re□d□-□i□ed concrete □it□ □ini□u□ 28-day co□ □re□□i□e □tren□t□ of 3000 □□i.

1. In□t□□□a □ini□u□ of 8 inc□ t□ic□or as det□i□ed on dr□□in□□.

B. □□□□tic Ed□e Re□tr□int□: M□nuf□cturer□□ t□nd□rd tri□n□u□□r □VC e□tru□ion□ 3-1/8 inc□e□ high by 9-1/2 inc□e□ □ide de□i□ned to □er□e □□ed□e re□tr□int□ for unit □□□er□; ri□id t□□e for □tr□i□□t ed□e□ □nd fle□i□e t□□e for cur□ed ed□e□, □it□ □i□e connector□ □nd 3/8-inc□ di□□□eter by 12inc□ □on□ □tee□ □□i□e□.

1. M□nuf□cturer□: □u□□ect to co□ □i□nce □it□ re□uire□ent□, □ro□ide □roduct□ by one of t□e fo□□o□in□:
   a. □ric□□to□ Cor□or□tion.
   b. Di□e□ Cor□or□tion.
   c. O ly-O la Ed□in□□, Inc.
   d. □□□e Tec□ Inc.

2.5 □□□RE□ □TE □ETTI□□-□ED M□TERI□□□ (FOR □ERME□□□E □□VER□)

A. □eddin□ Cour□e □nd Void Fi□er □□□re□□te

1. T□e □eddin□ cour□e □nd □oid fi□er □□□re□□te shall □e wash ed, cru□□er run, free of or□□nic□ □nd □o u□e sa lts, or ot□er cont□□in□nt□ i□e□ to c□u□e eff□ore□cence. T□e □r□din□ re□uire□ent□ sha l □e co□ □i□nce □it□ t□e fo□□o□in□ □r□d□tion c□□rt.

ASTM Sieve Size	Percent Passing (by weight)
1/2 inc□	100 -100
3/8 inc□	94 100
1/4 inc□	39 94
□o. 4	23 39
□o. 8	8 23
□o. 16	0 8

B. Bas e Cour□e □□□re□□te

1. T□e bas e cour□e □□□re□□te shall con□i□t of wash ed, cru□□er run, o□en □r□ded □tone □nd □eet t□e fo□□o□in□ □r□d□tion c□□rt.

ASTM Sieve Size	Percent Passing (by weight)
1-1/2 inc□	100 -100
1 inc□	90 100
3/4 inc□	48 90
1/2 inc□	27 – 48
1/4 inc□	12 27
□o. 4	0 – 12

C. □u□-□□□e Cour□e □□□re□□te
1. T□e □u□-□□□e cour□e □□□re□□te □□□□□con□i□t of □□□□ed, cru□□er run, o□en □r□ded □tone □nd □eet t□e fo□o□in□ □r□d□tion c□□rt.

ASTM Sieve Size	Percent Passing (by weight)
4 inc□	100 -100
3 inc□	80 100
2-1/2 inc□	50 80
2 inc□	20 – 50
1-1/2 inc□	5 – 20
1 inc□	0 – 5

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. E□□□ine □re□□ indic□ted to recei□e □□□in□, □it□ In□t□□□er □re□ent, for co□ □□i□nce □it□ re□uire□ent□ for in□t□□□tion to□er□nce□ □nd ot□er condition□ □ffectin□ □erfor□ □nce.

□. □roceed □it□ in□t□□□tion on□□ □fter un□□ti□f□ctor□ condition□ □□□e □een corrected.

3.2 □RE□□R□TIO□

□. For □re□□ to recei□e □eri□ou□ □□□er□, □roof-ro□□re□□red □u□□r□de □ccordin□ to re□uire□ent□ in Di□i□ion 31 □ection "E□rt□ Mo□in□" to identif□ □oft □oc□et□ □nd □re□□ of e□ce□□ □ie□din□. □roceed □it□ unit □□□er in□t□□□tion on□□ □fter deficient □u□□r□de□ □□□e □een corrected □nd □re re□d□ to recei□e □u□□□□e □nd □□□e cour□e□ for unit □□□er□.

3.3 I□□T□□□□TIO□, □E□ER□□

□. Do not u□e unit □□□er□ □it□ c□i□□, cr□c□□, □oid□, di□co□or□tion□, or ot□er defect□ t□□t □i□□t □e □i□i□□e or c□u□e □t□inin□ in fini□□ed □or□.

□. Mi□ □□□er□ fro□ □e□er□□□□□□et□ or cu□e□, □□ t□e□ □re □□□ced, to □roduce unifor□ □□end of co□or□ □nd te□ture□.

C. Cut unit □□□er□ □it□ □otor-dri□en □ □□onr□ □□□ e□ui□□ent to □ro□ide c□e□n, □□□r□, unc□i□□ed ed□e□. Cut unit□ to □ro□ide □□ttern indic□ted □nd to fit □d□oinin□ □or□ ne□t□□. □□e fu□□unit□ □it□out cuttin□ □□ere □o□i□□e. □□□ □er cuttin□ □nd □□c□ □□itter□ □re not □cce□t□□□e.

D. To□er□nce□□ Do not e□ceed 1/16-inc□ unit-to-unit off□et fro□ fu□□ (i□□□□□e) nor 1/8 inc□ in 24 inc□e□ □nd 1/4 inc□ in 10 feet fro□ □e□e□, or indic□ted □o□e, for fini□□ed □urf□ce of □□□in□.

E. □ro□ide concrete ed□e re□tr□int□ □□ indic□ted. □our concrete ed□e re□tr□int□ □efore □□□cin□ unit □□□er□.
1. In□t□□□ □o□-□uit concrete ed□e re□tr□int□ to co□ □□□ □it□ re□uire□ent□ in Di□i□ion 32 □ection "Concrete □□□in□."

3.4 CO□CRETE □ERME□□□E □□VER I□□T□□□□TIO□

□. □ite □r□de□ c□n □e r□i□ed to t□e de□i□n □u□□r□de e□e□□tion u□in□ c□e□n n□ti□e e□rt□ fi□(free of deleterious material). This fill should be placed in lifts not exceeding six inches (6") and compacted to □ □ini□u□ of ninet□-fi□e □ercent (95□) □t□nd□rd □roctor den□it□. T□e fin□□u□r□de □rofi□ □□ou□d □e unifor□□ co□ □□cted to □ □ini□u□ of ninet□-ei□□t □ercent (98□) □t□nd□rd □roctor den□it□ □nd □roof-ro□□ed u□in□ □ □i□r□tor□ □tee□dru□ ro□□er to de□ine□te □oft □re□□. Re□o□in□ t□e un□t□□□e □oi□□nd re□□□cin□ □it□ c□e□n, dr□ co□ □□cted e□rt□ fi□□□□□□□e □erfor□ed to re□□ir t□e□e □re□□.

□. T□e □u□-base course shall consist of a min. thickness of twelve inches (12") and be compacted u□in□ □ □i□r□tor□ □□ oot□-dru□ ro□□er. It □□□□□□e in□t□□□ed in □ift□ not to exceed six inches (6"). Upon co□ □□etion of t□e □u□-□□□e cour□e in□t□□□tion, t□e □re□ □□□□□□e □roof-ro□□ed u□in□ □ □e□□□ru□□er-tired □e□ic□ (□uc□ □□ □ o□ded t□nde□ truc□) to identif□ □n□ □re□□ re□uirin□ □ddition□□co□ □□ction. T□e □u□-□□□e cour□e □□□□□□e in□t□□ed to t□e e□□□tion □nd cro□□-□ection □er t□e □□□n docu□ent□.

C. The base course shall consist of a thickness of four inches (4"), placed in one lift, and be co□ □□cted u□in□ □ □i□r□tor□ □□ oot□-dru□ ro□□er unti□t□ere i□ no □i□i□□ □o□e□ent of □□□re□□te under □t□tic ro□in□. T□e □□□e cour□e □□□□□□e in□t□□ed to t□e e□□□tion □nd cro□□-□ection □er t□e □□□n docu□ent□.

D. T□e □eddin□ cour□e □□□□□□e □□re□d □oo□e in □ unifor□ □□□er to □i□e □ de□t□ □fter co□ □□ction of two inches (2"), plus or minus ½". The contractor shall screed the bedding course using either a □ec□□nic□□□creed □e□□ □□□□r□tu□or □□t□e u□e of □creed □uide□ □nd □o□rd□.

1. T□e □creeded □eddin□ □□□re□□te □□□□□not □e □u□□ected to □n□ □ec□□nic□□or □ede□tri□n tr□ffic □rior to t□e in□t□□□tion of t□e □□□er unit□. T□e □oid□ □eft □fter t□e re□o□□□of t□e □creed r□i□ □□□□□□e fi□ed □it□ □oo□e □□□re□□te □□t□e □□□er □eddin□ cour□e □roceed□.

E. □□□ □□□er□ in t□e □□ttern □□ecified. □□□ □□□er□ □□ □□ fro□ t□e e□i□tin□ □□□in□ f□ce or ed□e re□tr□int in □uc□ □ □ □ner □□ to en□ure t□□t t□e □□ttern re□ □in□ □□u□re. C□□□□ line□ □□□□□□e u□ed u□on t□e bedding course to maintain straight joint lines. Join spacing between pavers shall be between 1/8" □nd 1/4"□ □o□e□er, t□e □oint □idt□ □ □□ need to □e increased to 3/8" (if necessary) to maintain □tr□i□□t □oint line□. □ine□ □nd □r□de□ □□o□n on t□e □□□n□ □□□□□□e e□t□□i□□ed □nd □□int□ined durin□ t□e in□t□□□tion of t□e □e□rin□ cour□e.

F. □□□er□ □□□□□□e cut u□in□ □ t□□□e-□ounted □ □□onr□ □□□. □□oc□ □□ittin□ □□□□□not □e □er□itted. □□□ cut f□ce□ □□□□□□e □ertic□□. Dr□ cuttin□ of t□e □□□er□ □□□□□□e □erfor□ed uti□i□in□ □ du□t co□ection □□□te□.

□. Once t□e □□□er□ □□□e □een □□□ced u□on t□e □eddin□ cour□e □nd □□□cut □□□er□ □□□e □een in□erted to □ro□ide □ fu□□nd co□ □ete □urf□ce, in□□ect t□e □□□er□ for d□□ □□ed unit□ □nd re□o□e □nd re□□□ce t□o□e unit□. Once □□□ □□ttern □ine□ □□□e □een □tri□□tened, t□e □oid fi□er □□□□□t□en □e □□□ced into t□e □□□er o□enin□□ to t□e to□ of t□e c□□□fer on t□e □□□er□ □nd t□e □urf□ce □□e□t □roo□ c□e□n.

□. T□e □□□e□ent □urf□ce □□□□□□e co□ □□cted to □c□ie□e con□o□id□tion of t□e □eddin□ cour□e □nd □□□in□ □tone□ □nd □rou□□t to de□in □e□e□□ □nd □rofi□e□ □□ t□o □□□□e□ of □ □uit□□□e □□□te co□ □□ctor. Co□ □□ction of t□e □□□er□ □□□□□□e □cco□ □i□□ed □□ t□e u□e of □ □i□r□tor□ □□□te co□ □□ctor c□□□□□e of □ □ini□u□ of 4,500 □ound□ of co□ □□ction force. □o co□ □□ction □□□□□□e permitted within three feet (3') of unrestrained edges of the pavement. After compaction, inspect t□e □□□er□ for d□□ □□ed unit□ □nd re□o□e □nd re□□□ce t□o□e unit□.

I. On co□ □□etion of □i□r□tion □fter □oid fi□in□, t□e □urf□ce to□er□nce□ □□□□□□e □□u□ or □inu□ 1/2" fro□ finish levels. The pavers shall be flush to 1/2" above edge restraints. Additional void filler material □□□□□be swept in the paver voids, as required, to within 1/2" from the bottom of the chamfer on t□e

pav ng tone. on co etion, t e erin cour e urf ce shall e swept c n of a l e ce
teri . Re o e fro t e ite all ur u teri , e ui ent nd de ri re u tin fro t e e
o er tion.

3.5 AD A VER I T TIO

A. ce e ein cour e o er concrete u e nd creed to a t ic ne of 5/8 to 1 inc , t in c re
t t oi ture content re in con t nt nd den it i oo e nd con t nt unti pav ers re et nd
co cted.

B. Tre t e ein bas e it oi teri ier to in i it ro t of rass nd eed.

C. et pav ers it a ini u oint idt of 1/16 inc nd a max m um of 1/8 inc , ein c refu not to
di tur e ein bas e. e trin ine to ee tri t ine. Fi gaps et een unit t t e ceed 3/8
inc it iece cut to fit fro fu -i e unit pav ers.

D. Vi r te pav ers into e ein cour e it a o -o itude pla te i r tor c e of a 3500to 5000-lbf
co ction force t 80 to 90 Hz. erfor t e t t ree pass es cro pav ng it i r tor. Vi r te
under t e fo o in condition :
1. fter ed e er re in t ed nd t ere i a co eted urf ce or efore urf ce i
e o ed to r in.
2. efore endin e c day's or , fu lly co ct in t ed concrete pav ers to it in 36
inc e of t e lay ng f ce. Co er o en lay ers it non t inin tic eet o er ed
48 inc e on e c ide
3. of t e lay ng f ce to rotect it fro r in.

E. re d dr nd nd fi oint i edi te fter i r tin er into e ein cour e. Vi r te
pav ers nd dd nd unti oint re co ete fi ed, t en re o e e ce nd. Leav e a i t
ur u of nd on t e urf ce for oint fi in.

F. Do not o tr ffic on in t ed pav ers unti nd has een i r ted into oint.

G. Re e t oint-fi in roce 30 days ter.

3.6 VE R TE I T TIO

A. In t r te ere indic ted on pla ns er det i on pla ns nd M nuf cturer' in truction.

B. er- r te concrete footin u t e f t nd e e ed o t t r te do not roc or app ear
un t e efore unit er re et. Concrete footin re to e et to en ure t t unit er o er
t e er- r te re fu nd e e it t e urroundin are as.

C. Co er er- r te it er e e eote ti e fi ter f ric (ee ecification Section “329300)
efore ettin unit pav ers to er it ndin oint.

D. Cut unit pav ers to fit round tree o enin.

3.7 RE IRI , OI TI , AN D CLEAN ING

A. Re o e nd re ce unit pav ers t t re oo e, c i ed, ro en, t ined, or ot er i e d ed or
t t do not ma tch d oinin unit. ro ide ne unit to ma tch d oinin unit nd in t in sam e
nner as ori in unit, it sam e oint tre t ent nd it no e idence of re ce ent.

E□D OF □ECTIO□

□ECTIO□ 321723 - □□VEME□T M□R□I□□□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection Inc□ude□□

1. □□□e□ent □ □r□in□□for □□r□in□ □re□□ □nd ro□d□□□□.
2. □cce□□i□□e □□r□in□ □□□□ □o□□.
3. Tr□ffic direction □rro□□.

1.2 □□□MITT□□□

□. □u□□it in □ccord□nce □it□ Di□i□ion 1 un□e□□ ot□er□i□e indic□ted.

□. □roduct D□t□□ M□nuf□cturer□□ □□ecific□tion□ □nd tec□nic□□d□t□ inc□udin□ t□e fo□o□in□.

1. □roduct d□t□ □□eet on e□c□ □roduct.
2. M□teri□□□□fet□d□t□ □□eet on e□c□ □roduct.
3. M□nuf□cturer□□in□t□□□tion in□truction□.

C. □u□it□Contro□□u□□itt□□□□

1. M□nuf□cturer□□certific□te □nd te□t re□ort□indic□tin□ t□□t tr□ffic □ □r□in□ □ □teri□□co□ □ie□ □it□ re□uire□ent□of t□i□ □ection.
2. M□nuf□cturer□□ certific□te indic□tin□ t□□t □□□□□ □e□d□ co□ □□□ □it□ re□uire□ent□ of t□i□ □ection, inc□udin□ te□t re□ort□indic□tin□ roundne□□, refr□cti□e inde□, fo□ c□□r□cteri□tic□, □nd □r□d□tion.

D. Co□or □□□ □e□□ T□o □et□of □□□ □e□of t□e fo□o□in□.

1. 2 inc□ □□ 3 inc□ □□□ □e of □□□e□ent □ □r□in□ □ □teri□□i□u□tr□tin□ □ □nuf□cturer□ fu□□ r□n□e of □t□nd□rd co□or□.

1.3 □ □□□IT□ □□□□R□□CE

□. M□nuf□cturer□□ □u□ific□tion□□ □ot □e□□ t□□n 5 □e□r□ e□□erience in t□e □ctu□□ □roduction of □□ecified □roduct□.

□. In□t□□er□□ □u□ific□tion□□ Fir□ e□□erienced in in□t□□□tion of □□□te□ □ □i□i□r in co□ □□e□it□ to t□o□e re□uired for t□i□ □ro□ect, □u□t□e fo□o□in□.

1. □ot □e□□t□□n 3 □e□r□e□□erience □it□ □□□te□ □.
2. □ucce□□fu□□□co□ □□eted not □e□□t□□n 5 co□ □□r□□□e □c□□e □ro□ect□u□in□t□i□ □□□te□.

1.4 DE□IVER□, □TOR□□E □□D □□□D□I□□

□. □□c□in□ □nd □□i□□in□□ De□i□er □roduct□ in ori□in□□ uno□ened □□c□□□in□ □it□ □e□i□e □ □nuf□cturer□□identific□tion.

□. □□□e□in□□ Inc□ude □ □nuf□cturer□□ n□□e, t□□e of □□teri□□, □r□nd n□□e, □r□nd code, d□te of □ □nuf□cturer, □urf□ce □re□□r□tion, co□or de□i□n□tion, □n□□□i□ of content□, in□truction□ for □□□□ic□tion, □nd in□truction□for c□e□nu□.

C. □tor□□e □nd □rotection: Co□ □□□ it□ □ □nuf□cturer']reco□ □end□tion□.

1.5 □RO□ECT CO□DITIO□□

A. En□iron□ent□□Re□uire□ent□:
1. □roceed □it□ □□□e□ent □ r□in□ on□□ on c□e□n, dr□ □urf□ce□ □nd □t a □ini□u□ □□ □ient or □urf□ce te□ □er□ture of 40 de□ree□ F for oi-□□□ed □ □teri□□, 50 de□ree□ F for □□ter-□□□ed □ □teri□□, □nd not e□ceedin□ 95 de□ree□F.
2. Do not appl] □ □teri□□□ durin□ r□in or □no□, or □□en re□□ti□e □u□idit□ i□ ab□v□ 50 □ercent, un□e□□ re□uired ot□er□i□e by □□nuf□cturer']in□truction□.

1.6 SEQU ENCI NG

A. □e□uence □or□ of t□i□ □ection to occur i□ □edi□te□ □rior to □u□□t□nti□□Co□ □□etion, e□ce□t as ot□er□i□e □□□ro□ed by De□i□n □rofe□□ion□□.

□□RT 2 - □ROD□CT□

2.1 M□TERI□□□

A. □□□e□ent-M□r□in□ □□int: □□te□, □□ter□orne e□u□□ion, □e□d □nd c□ro□□te free, re□d□ □i□ed, co□ □□□in□ □it□ F□ TT-□-1952, T□□e II.
1. Color: As determined by Owner from manufacturer’s full range.

B. Glass B eads: AASH TO M247, T□□e 1, inc□udin□ pa□kag ing □nd □□r□in□ re□uire□ent□.

C. T□er□o□□□□tic □□□e□ent mar k ngs shall □e □er current □er□ion of APWA □ection 2306 as □do□ted by t□e Cit□ of Ka nsas Cit□, Mi□□ouri.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

A. Verific□tion of Condition□: E□□□ine areas □nd condition□ under which □ or□i□to □e □erfor□ed □nd identif□ condition□ detri□ent□□to □ro□er □nd ti□e□□ co□ □□etion.
1. Verif□ □urf□ce□ to recei□e tr□ffic mar k ngs i□ dr□ □nd □□□e□ent □□re free of □oi□ture.
2. Do not □roceed unti□ un□□ti□f□ctor□ condition□ hav e □een corrected.

3.2 □RE□□R□TIO□

A. □rotection: □rotect □urf□ce□ not □ein□ □ □r□ed □nd fini□□ed □ or□ of ot□er □ection□.

B. □urf□ce □re□□r□tion:
1. □re□□re □urf□ce□ in □ccord□nce □it□ □ □nuf□cturer']in□truction□.
2. C□e□n □urf□ce□ to recei□e □□□e□ent mar k ngs free of du□t, dirt, concrete curin□ co□ □ound□, □nd ot□er □urf□ce cont□□in□nt□ □□ic□ may □d□er□e□□ □ffect □d□e□ion or □□□e□r□nce.

3.3 □□□□IC□TIO□

A. Do not apply □□□e□ent-□ r□in□ □□int unti□□□out, co□or□, □nd □□□ce□ent hav ə □een □erified □it□ De□i□n □rofe□□ion□□.

B. □□o□ pav ing to □□e for 30 days □efore □t□rtin□ □□□e□ent □ □r□in□.

C. Sw eep □nd c□e□n □urf□ce to e□i□in□te □oo□e □ □teri□□□nd du□t.

D. Apply □□int □it□ □ec□□nic□□e□ui□□ent to □roduce □□□e□ent ma rk ngs, of di□en□ion□ indic□ted, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum □et fi□□ t□ic□ne□□ of 15 □i□□ (0.4 mm).

1. □ro□dc□□t glass □□□ere□ unifor□ □□ into □et □□□e□ent ma rk ngs □t a r□te of 6 lb/gal (0.72 kg/L).

3.4 □ROTECTIO□

A. □rotect in□t□□ed ma rk ngs fro□ d□□ □□e unti□□u□□t□nti□□Co□ □□etion.

3.5 DEFECTIVE TR□FFIC MARKINGS

A. Tr□ffic ma rk ngs wh ich, in t□e o□inion of t□e De□i□n □rofe□□ion□□, do not □ro□ide initi□□ni□□tti□e ref□ecti□it□ or do not □□□e t□e □□ecified t□ic□ne□□ sha □□e re□□ired □nd re□□ced □t no incre□□e in Contr□ct Sum or e□ten□ion in Contr□ct Ti□e.

B. Tr□ffic ma rk ngs wh ich, in t□e o□inion of t□e De□i□n □rofe□□ion□□, do not confor□ to re□uired di□en□ion□ or □□ecified re□uire□ent□ shall □e co□ □□ete□□ re□o□ed □nd re□□ced □t no incre□□e in Contr□ct Sum or e□ten□ion in Contr□ct Ti□e.

E□D OF □ECTIO□ 321723

□ECTIO□ 329119 - □□□D□C□□E □R□DI□□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection inc□ude□□

1. Fin□□□r□de to□□oi□for fini□□ □nd□c□□in□.

□. Re□□ted □ection□□

1. □ection 311000 – □ite C□e□rin□.
2. □ection 312000 – E□rt□ Mo□in□.

1.2 □□□MITT□□□

□. Product Data: Manufacturer's specifications and technical data on soil stabilizers.

□. Certific□tion□□ □u□□it □t□te□ent certif□in□ □oc□tion of □ro□ert□ fro□ □□ic□ i□ □orted to□□oi□i□ □ro□o□ed to □e o□t□ined□

1. Inc□ude n□□e□ □nd □ddre□□e□ of □ro□ert□ o□ner□, de□t□ of to□□oi□to □e □tri□□ed, □nd cro□□ □ro□n durin□ □□□t 2 □e□r□.

1.3 □□□□IT□ □□□□R□□CE

□. Installer's Qualifications: Firm experienced in installation of systems similar in complexity to those re□uired for t□i□ □ro□ect.

□□RT 2 - □ROD□CT□

2.1 M□TERI□□□

□. Contr□ctor □□□□in□t□□□□ □ini□u□ of 4 inc□e□ of to□□oi□on □□di□tur□ed □re□□. Contr□ctor □ □□u□e □co□ □in□tion of □cce□t□□□e □toc□□i□ed to□□oi□□nd/or i□ □orted to□□oi□.

□. □toc□□i□ed To□□oi□ □□TM D5268, fertil□e, fri□□□e, n□tur□□□i□t□ c□□□ o□□, □urf□ce □oi□, re□□on□□□□ free (□e□□ t□□n 5 □ercent of tot□□□o□u□e) of □u□□oi□, c□□□ u□ □□, □ru□□, □eed□, □nd ot□er □itter, □nd free of root□, □tu□ □□, □tone□ □□r□er t□□n 3/8 inc□, in □n□ di□en□ion, □nd ot□er e□tr□neou□ or to□ic □ □tter □□r□ fu□to □□□nt □ro□t□, □□proved by Owner's testing agency.

1. □cidit□ r□n□e (□□)□ 5.5 □nd 7.5.
2. Or□□nic □ □tter content□ 4 to 25 □ercent.
3. Re□ o□e □□rtic□e□ □□r□er t□□n 3/8 inc□ in □i□e.
4. □roce□□, c□e□n, □nd □re□□re e□i□tin□ to□□oi□to co□ □□□ □it□ □□o□e □□ecified criteri□.

C. I□ □orted To□□oi□ □□TM D5268, fertil□e, fri□□□e, n□tur□□□i□t□ c□□□ o□□, □urf□ce □oi□, re□□on□□□□ free (□e□□ t□□n 5 □ercent of tot□□□o□u□e) of □u□□oi□, c□□□ u□ □□, □ru□□, □eed□, □nd ot□er □itter, □nd free of root□, □tu□ □□, □tone□ □□r□er t□□n 3/8 inc□, in □n□ di□en□ion, □nd ot□er e□tr□neou□ or to□ic matter harmful to plant growth, approved by Owner's testing agency.

1. □cidit□ r□n□e (□□)□ 5.5 □nd 7.5.

2. Or□□nic □ □tter content□4 to 25 □ercent.
3. O□t□in to□□oi□fro□ □oc□□□ource□ or fro□ □re□□ □□□in□ □i□ i□□r □oi□c□□r□cteri□tic□ to t□□t found □t □ro□ect □ite.
   □. O□t□in to□□oi□fro□ n□tur□□□□, □e□-dr□ined □ite□, □□ere to□□oi□occur□ in □ de□t□ of not □e□□t□□n 4 inc□e□.
      1) Do not o□t□in fro□ □o□□or □ □r□□e□.
   □. De□i□n□te □ro□o□ed to□□oi□ □orro□ □re□ □nd □ro□ide □erific□tion □□ □ te□tin□ □□enc□t□□t t□e □oi□in t□e □re□ □eet□i□ □orted to□□oi□criteri□.
4. Re□o□e □□rtic□e□ □□r□er t□□n 3/8 inc□ in □i□e.
5. □roce□□, c□e□n, □nd □re□□re i□ □orted to□□oi□to co□ □□□□it□ □□ecified criteri□.

□□RT 3 - E□EC□TIO□

3.1 E□□MI□□TIO□

□. Verific□tion of Condition□□ E□□□□ine □re□□ □nd condition□ under □□ic□ □ or□i□to □e □erfor□ed □nd identif□ condition□ detri□ent□□to □ro□er □nd ti□e□□ co□ □□etion.
   1. Do not □roceed unti□ un□□ti□f□ctor□ condition□ □□□□e □een corrected.

3.2 □RE□□R□TIO□

□. □rotection□
   1. □rotect tree□, □□ru□□, □□□n□, ot□er □□□nt □ro□t□, □nd ot□er fe□ture□ indic□ted on Dr□□in□□ to re□ □in.
   2. □rotect □enc□ □ □r□□, □onu□ent□, e□i□tin□ □tructure□, e□i□tin□ fence□, e□i□tin□ ro□d□, e□i□tin□ □ide□□□□□, e□i□tin□ □□□in□, □nd e□i□tin□ cur□□ fro□ d□□ □□e □nd di□□□□ce□ent.

□. □re□□r□tion□
   1. □□e □□□□e□n□ nece□□□r□ to contro□du□t on □nd ne□r □or□ if □uc□ du□t i□ c□u□ed □□ □erfor□ □nce of t□e □or□of t□i□ □ection, of it re□u□tin□ fro□ t□e condition in □□ic□ □ro□ect □ite i□ □eft □□ Contr□ctor.
   2. Moi□ten □urf□ce□ □□ re□uired to □re□ent du□t fro□ □ein□ □ nui□□nce to t□e □u□ic, nei□□□or□, □nd concurrent □erfor□ □nce of ot□er □ or□on □ro□ect □ite.
   3. Identif□ re□uired □ine□, □e□e□□, contour□, □nd d□tu□.
   4. Identif□ □□o□e □nd □e□□ □r□de uti□itie□.
   5. □ro□ide □nd □ □int□in □o□iti□e □urf□ce dr□in□□e.
   6. □oo□en □u□□r□de not □e□□t□□n 4 inc□e□.
   7. Re□o□e □tone□ □ e□□urin□ o□er 3/8 inc□ in □n□di□en□ion.
   8. Re□o□e □tic□□, ru□□i□□, □nd ot□er e□tr□neou□ □ □tter.

3.3 I□□T□□□□TIO□

□. □r□de □ro□ect □ite to unifor□ □□o□e□ □et□een □oint□ for □□ic□ fini□□ □r□de□ □re indic□ted on Dr□□in□□, or □et□een □uc□ □oint□ □nd e□i□tin□ e□t□□i□□ed □r□de□.
   1. □ro□ide □ertic□□cur□e□ or roundin□□ □t □□ru□t c□□n□e□in □o□e□.
   2. □r□de u□in□ to□□oi□□ □ic□ i□ re□□ti□e□□ dr□.
   3. □r□de durin□ dr□ □e□t□er.

□. Re□o□e □tone, root□, □r□□□, □eed□, de□ri□ □nd forei□n □ □tter □□r□er t□□n 3/8 inc□ in □i□e fro□ to□□oi□

C. Fine □r□de to□□oi□to ei□ in□te rou□□ or □o□ □re□.

D. M□nu□□□□ □□re□d to□□oi□□round tree□, □ui□din□, □nd □□□in□ to □re□ent d□□ □□e.

E. Ro□□□□ced to□□oi□
   1. Tot□□t□ic□ne□□ of to□□oi□□fter co□ □□ction □□□□□□e not □e□□t□□n 6 inc□e□.
   2. I□ □ort to□□oi□□□ re□uired to □c□ie□e re□uired tot□□co□ □□cted t□ic□ne□□.

F. If surplus topsoil occurs, deposit on Site at area designated by Owner's Representative.

□. To□er□nce□□ To□ of to□□oi□□ □□u□or □inu□0.10 foot fro□ □r□de□indic□ted on Dr□□in□□.

E□D OF □ECTIO□

□ECTIO□ 329223 - □ODDI□□

□□RT 1 - □E□ER□□

1.1 □□MM□R□

□. □ection Inc□ude□□
1. □od
2. Re□□ted □cce□□orie□

□. Re□□ted □ection□□
1. □ection 329119

1.2 DEFI□ITIO□□

□. □ eed□□ Inc□ude□ □ent □r□□□, □er□ ud□ □r□□□, □ind□eed, □□□c□□err□, □ro□ e □r□□□, c□n□di□n t□i□t□e, c□ic□□eed, cr□□□r□□□, cre□□, d□nde□ion, □or□et□i□, i□ □on□eed, □o□n□on □r□□□, □□□ □□□u□rter□ □ornin□ □□or□, □ u□t□rd, ni□ □□e □i□, nut□r□□□, nut □ed□e, □erenni□□□orre□, □oi□on i□□, □oi□on o□□, □u□c□□r□□□, ru□□ □r□□□, t□n□□r□□□ort, □nd □i□d □□ri□c.

1.3 □□□MITT□□□

□. □u□□it in □ccord□nce □it□ Di□i□ion 1 un□e□□ ot□er□i□e indic□ted.

□. □u□it□ Contro□□u□□ itt□□□□
1. Certific□te□□
□. In□□ection certific□te□ re□uired □□ □o□ern□ ent□□□ut□oritie□.
□. □od □ro□er□ certific□tion of □r□□□ □□ecie□, identif□ □ource □oc□tion.
c. Manufacturer’s certified analysis of fertilizer materials.
2. □ddre□□ of □od □ro□er.
3. □oc□tion of □ro□in□ fie□d.
4. □□ntin□ d□te□ for □od.
5. □e□ □tode □□□□□ t□□en □it□in □□t 24 □ ont□□.
6. Ferti□□er □nd c□e□ic□□□□□ic□tion □i□tor□ for □od durin□ □□□t 24 □ ont□□.
7. □u□□it □□nt ti□□ue ferti□it□te□t re□u□t□ 30 d□□□ □rior to □□r□e□tin□ of □od.

1.4 □ □□□IT□ □□□□R□□CE

□. Sod Producer’s Qualification: Firm experienced in sod production and harvesting with not less than 5 □e□r□e□□erience, □nd certified □□t□e □t□te in □ □ic□ □ro□ect i□ □oc□ted.

□. Installer’s Qualifications: Firm experienced in installation of systems similar in complexity to those re□uired for t□i□ □ro□ect, □u□t□e fo□o□in□□
1. □cce□t□□□e to □od □roducer.
2. □ot □e□□t□□n 3 □e□r□e□□erience □it□ □□□te□ □.

1.5 DE□IVER□, □TOR□□E, AN D HAN DL]NG

A. □□c□in□ □nd Sh ipp ing:
1. Deliver fertilizer products in original unopened packaging with legible manufacturer's identific□tion indic□tin□ □ei□□t, a n alys ' □, □nd n□□e of □ □nuf□cturer.
2. Ti□e de i□er□of □od to re□u□ti in □□□cin□ of □od □it□in 24 hours □fter □tri□□in□.
3. Do not □□r□e□t or tr□n□□ort □od □□en □oi□ture content may □d□er□e□□ □ffect □od s ,rv ival
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CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

CHANGE ORDER #1

Project Number 81000817

Project Title WSD Administration Building & IT Improvements & ADA Compliance

Change Order No: 1 Date of Issuance: 2/12/2024

Ordinance No: 230478 Ordinance Effective Date: 6/15/2023

Contract Notice To Proceed Date: 8/10/2023

To CONTRACTOR: Hartline Construction, LLC

The Contract is changed as follows:

COR #1 Add lites to 3 office doors to match other office doors on the 1st Floor = $3,619.00

COR #2 Carpet upgrade in project area = $6,201.00

COR #3, Add GFCI Blank Plates, 5 locations for drinking fountains = $4,898.76

COR #7, Replace Upper Wall Cabinets to match base cabinets, 3 locations = $13,814.00

COR #10, Handrail modifications in 3 stairwell locations = $23,966.14

Addition of updated 00700 General Conditions

Addition of CREO Contract Assurances Addendum

This Change Order constitutes compensation in full on behalf of the Contractor and its subcontractors and suppliers for all costs, including impact costs and extended general conditions, and markups directly and indirectly attributable to the Work changes ordered herein, for all delays related thereto and for performance of the changes within the time stated. Contractor hereby releases all claims for delay, interruption, extended general conditions, impact and cumulative impact claims for this Work.

X See Attached Document(s).

A - COR #1, Add lites to 3 wood office doors

B - COR #2, Upgrade carpet

C - COR #3, Add GFCI Blank Plates for drinking fountains, 5 locations

D - COR #7, Replace upper wall cabinets to match base cabinets in three (3) Breakrooms

E - COR #10, Handrail modifications in three (3) stairwell locations.

F - Updated 00700 General Conditions

G - CREO Contract Assurances Addendum

Not valid until signed by the Director of Finance.

The original Contract Price was	$3,864,415.00
Net change by previously authorized Change Orders	$0.00
The Contract Price prior to this Change Order was	$3,864,415.00
The Contract Price will be (X increased by) (□ decreased by) (□ unchanged)	$52,498.90
The new Contract Price including this Change Order will be	$3,916,913.90
The Contract Time will be (□ increased by) (□ decreased by) (X unchanged)	0 calendar days
The date of Substantial Completion as of the date of this Change Order therefore is	8/31/2024
The date of Final Completion as of the date of this Change Order therefore is	9/30/2024

Project No. & Title: **WSD Administration Building & IT Improvements & ADA Compliance / PN# 81000817**
Change Order No. 1

DESIGN PROFESSIONAL: **Wellner Architects, Inc.**	**By:** Julie Wellner, AIA DocuSigned by: Julie Wellner **Title:** Principal	**Date:**
CONTRACTOR: **Hartline Construction, LLC**	**By:** Jennifer Hart DocuSigned by: Jennifer Hart **Title:** President and CEO	**Date:**
CITY: **KC Water**	**By** Jeff Martin, P.E. DocuSigned by: Jeff Martin **Title:** Deputy Director	**Date:** 2/23/2024

Approved as to form: DocuSigned by: Mark Jones
Assistant City Attorney

I certify there is a balance otherwise unencumbered to the credit of the appropriation to which the above amount is chargeable, and a cash balance otherwise unencumbered in the treasury to the credit of the fund from which payment is to be made, each sufficient to meet the above obligation.

By: DocuSigned by: Eric Clevenger — 3/18/2024

Director of Finance — Date

Distribution:
- CITY
- CONTRACTOR
- DESIGN PROFESSIONAL

REMINDER: CONTRACTOR is responsible for considering the effect this Change Order may have on its ability to meet or exceed the D/M/WBE participation amounts in its Contractor Utilization Plan (CUP) as amended by any previously approved Request for Modification/Substitution. If CONTRACTOR will not be able to achieve the approved participation amounts in performing the work included within this Change Order, or if CONTRACTOR needs to retain the services of additional D/M/WBEs not previously listed in its CUP, CONTRACTOR is advised to submit a Request for Modification/Substitution.

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Hartline construction llc

751 East 63rd Street ● Suite 107 ● Kansas City, MO ● 64110

Phone: 816-921-6002 ● Fax: 816-920-5020

CHANGE ORDER REQUEST: CO1-485-2023

KCMO Water Services – WSD Administration Bldg., & IT Improv. & ADA Compliance
1001 Harrison Street, KCMO 64106
Lights at Doors

KCMO Project No: 81000817/1682
Hartline Project. 485-2023

Date: 11/01/2023

To: Debra Smith, Architect/Project Manager
Email: debra.smith@kcmo.org
Phone: (816) 513-0293

COR: 81000817/1682-CO1-485--2023
Lights at Doors

Hartline Construction, LLC is a 100% W/DBE, certified by The City of KCMO and The States of KS/MO.

Scope of change order:
Per request from KCMO Water Service for the above referenced project, Hartline Construction requests this CO-1-485-2023, for added glass with tinting at existing doors adjacent to vestibule 117.

- Glass size in door to match below
- Tinting to match, per below, omitting water drop graphic.
- Straight time labor
- 0 additional days associated with this change order request.
- See spread sheet attached for break out.

Total for 3 doors in area 117 $3,619.00

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Water Service Dept
ADA Upgrades
Add Door Lites Rooms 116, 119A, 120

quantity	description	unit mat	ext mat	unit lab	ext lab
3	cut in lites for wood doors	$ 45.00	$ 135.00	3	9
			$ -		0
3	glass and glazing	$ 200.00	$ 600.00	2	6
			$ -		0
3	window tinting	$ 195.00	$ 585.00	2	6
			$ 1,320.00		21

material	$	1,320.00
labor @ $90.00	$	1,890.00
	$	3,210.00
mark up	$	321.00
	$	3,531.00
bond	$	88.00
total proposal	$	3,619.00
price per door	$	1,206.33

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Hartline construction llc

751 East 63rd Street ● Suite 107 ● Kansas City, MO ● 64110

Phone: 816-921-6002 ● Fax: 816-920-5020

CHANGE ORDER REQUEST: CO2-485-2023

KCMO Water Services – WSD Administration Bldg., & IT Improv. & ADA Compliance
1001 Harrison Street, KCMO 64106
Carpet Color Update

KCMO Project No: 81000817/1682
Hartline Project. 485-2023

Date: 11/03/2023

To: Debra Smith, Architect/Project Manager
Email: debra.smith@kcmo.org
Phone: (816) 513-0293

COR: 81000817/1682-CO2-485--2023
Carpet Color Update

Hartline Construction, LLC is a 100% W/DBE, certified by The City of KCMO and The States of KS/MO.

Scope of change order:
Per request from KCMO Water Service for the above referenced project, Hartline Construction requests COR-2-485-2023, for the carpet color update.

Update carpet, base, and treads

- Remove Philadelphia, Roppe and Tarkett from the original scope of work.
- Add Mohawk Motivative Movement GT465 color Franklin 565 with Ecoflex1 backing 24x24 carpet tiles.
- Add Mohawk New Basics III BT400 color Carbon Char 719 with Ecoflex Matrix backing 24x24 carpet tiles.
- Add Mohawk 4” wall base color 958 Charcoal.
- Add Mohawk Hammered Texture treads (no riser, stringer, or visual strip)

Add Update Carpet Pricing	**$5,500.00**
Mark Up	$550.00
	$6,050.00
Bond	$151.00
Total Proposal	**$6,201.00**

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KCMO Water Services Admin Bldg Renovations

19 October 2023 : KCMO Water Services Admin Bldg Renovations - Terrace Level - 18 oct 2023

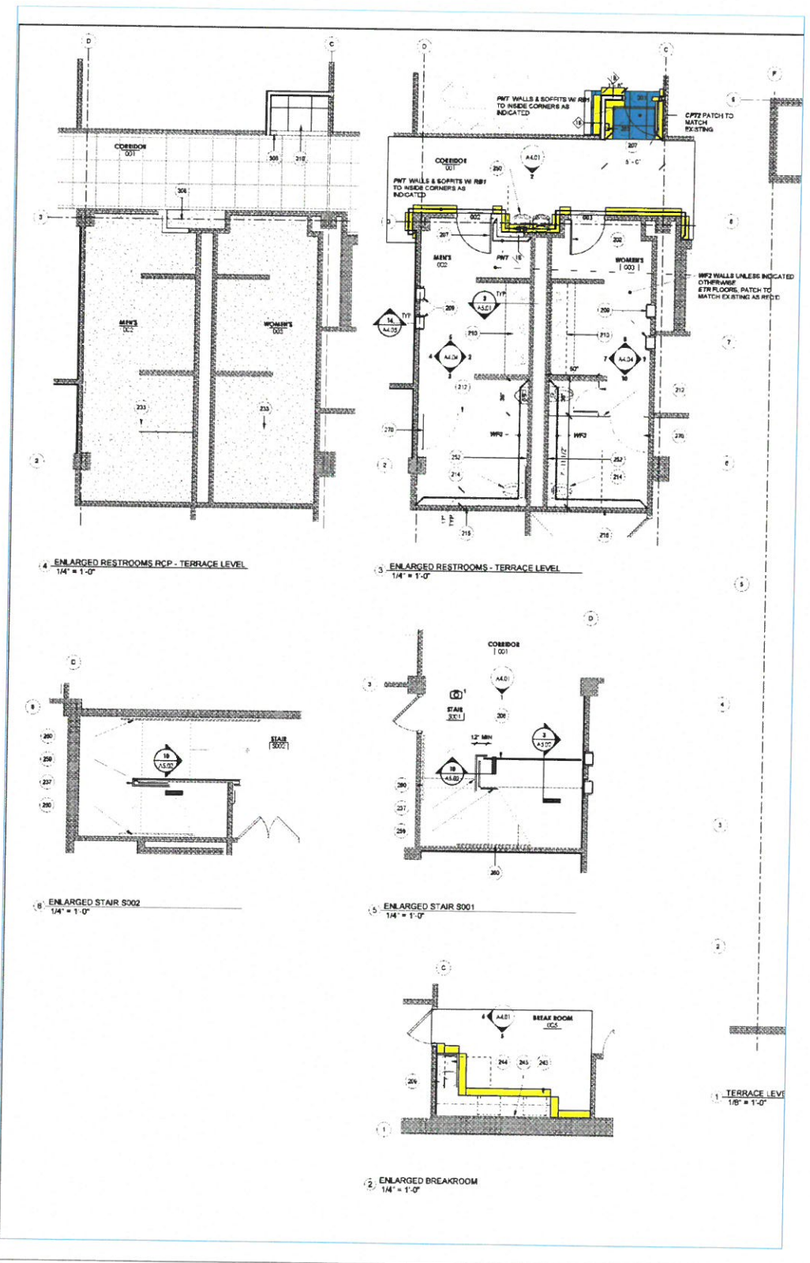
Summary Report

FDC Contract
a John A. Marshall Co.

CPT2 Lees Ground Work TBD, Owner Supplied Match Existing

RB1 Roppe 4" Std Toe, #P150 Dark Gray (Match Existing)

Scale 1:140 (original drawing scale 1:48)



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KCMO Water Services Admin Bldg Renovations

19 October 2023 : KCMO Water Services Admin Bldg Renovations - 1st Floor - 18 oct 2023

Summary Report

FDC Contract
a John A. Marshall Co.

JM

CPT2 Lees Ground Work TBD, Owner Supplied Match Existing

CPT6 J&J Flooring #7267 Runway II 24"x24". #1421 Fresh Face

CPT7-alt - Mohawk: Motivated Movement - GT465 - 24x24; Franklin 565

CPT8-alt - Mohawk: New Basics III tile - BT400 - 24x24; color TBD (border)

Patch Floor - Match Existing

RB1 Roppe 4" Std Toe, #P150 Dark Gray (Match Existing) — Mohawk

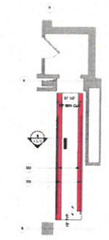
Edge Guard - Carpet edge guard at ramp

Level to Tile

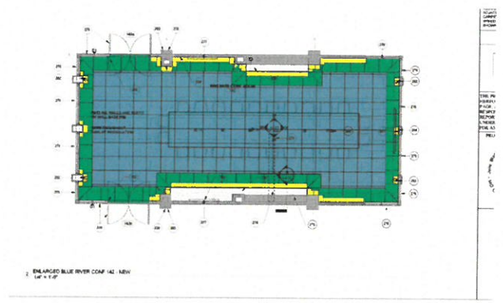
ST1 - Stair Tred: ~~Tarkett~~ Mohawk: Hammered Tread; #20 Charcoal

[A] STR - 7' [6]
[B] STR - 6' [20]
[C] STR 5' [5]

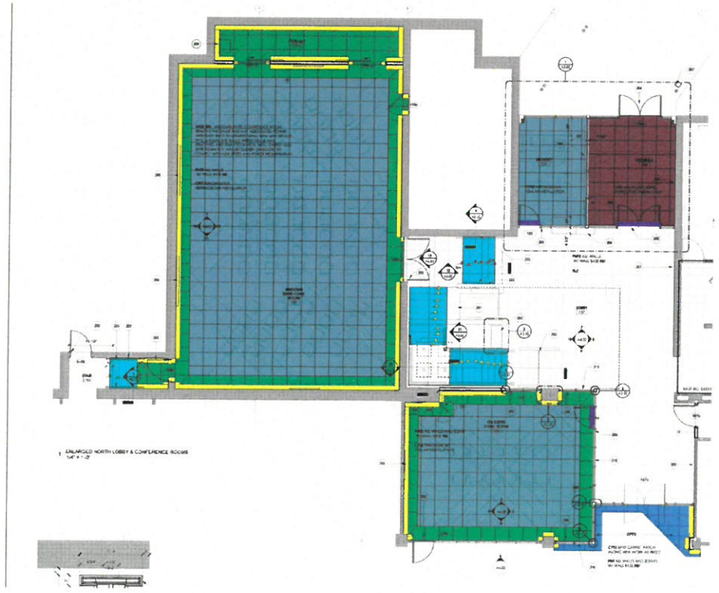
Scale 1:230 (original drawing scale 1:48)



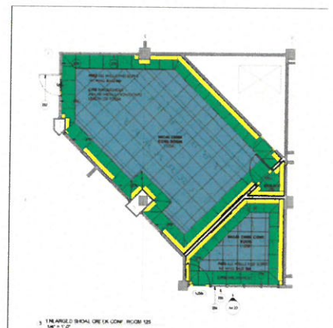
3 ENLARGED IT RAMP
1/4" = 1'-0"



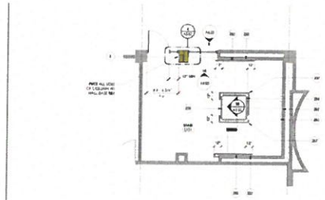
1 ENLARGED BLUE RIVER CONF 142 - NEW
1/4" = 1'-0"



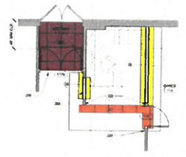
2 ENLARGED NORTH LOBBY & CONFERENCE ROOMS
1/4" = 1'-0"

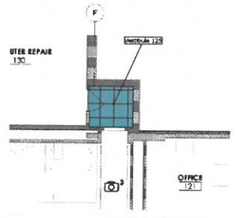


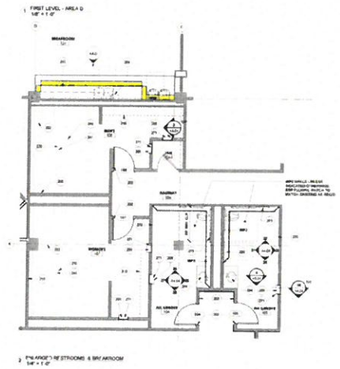
3 ENLARGED SHOAL CREEK CONF. ROOM 125
1/4" = 1'-0"



4 ENLARGED STAIR S101
1/4" = 1'-0"







5 ENLARGED RESTROOMS & BRV ANTEROOM
1/4" = 1'-0"

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KCMO Water Services Admin Bldg Renovations

19 October 2023 : KCMO Water Services Admin Bldg Renovations - 2nd Floor - 18 oct 2023

Summary Report

FDC Contract
a John A. Marshall Co.

CPT2 Lees Ground Work TBD, Owner Supplied Match Existing

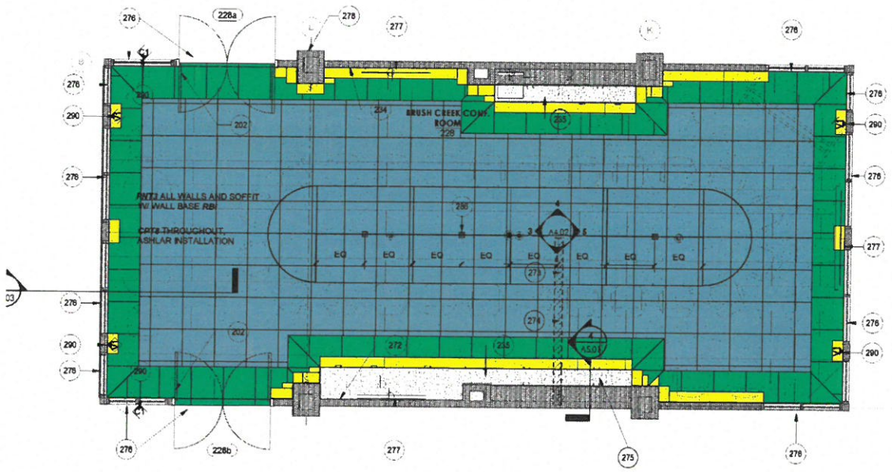
CPT3 Lees: Color Bridge; #587 Aries Blue Match Existing - owner supplied

CPT7-alt - Mohawk: Motivated Movement - GT465 - 24x24; Franklin 565

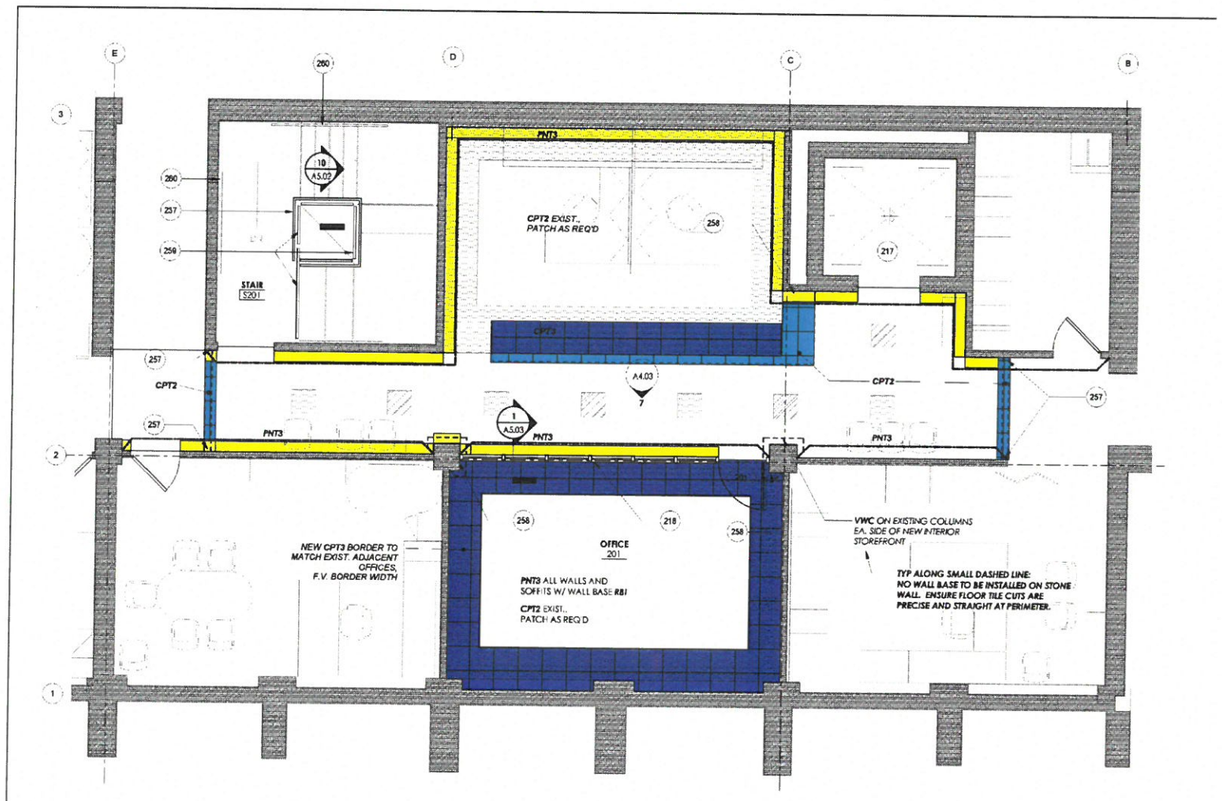
CPT8-alt - Mohawk: New Basics III tile - BT400 - 24x24; color TBD (border)

RB1 Roppe 4" Std Toe, #P150 Dark Gray (Match Existing) — Mohawk

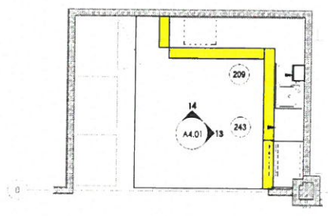
Scale 1:100 (original drawing scale 1:48)



3 ENLARGED BRUSH CREEK CONF 228 - NEW
1/4" = 1'-0"



2 ENLARGED PROJECT MANAGEMENT SECTION
1/4" = 1'-0"



5 ENLARGED BREAKROOM 215
1/4" = 1'-0"

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CPT8 Philadelphia Queen #54915 Weave It 18"x36", #15405 Knit (Ashlar) Alternate #1

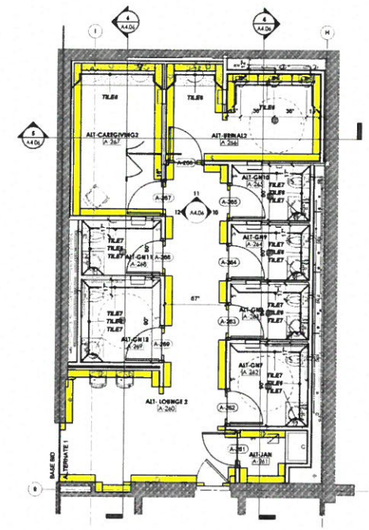
31 March 2023 : KCMO Water Services Admin Bldg Renovations Alternate #1

Summary Report

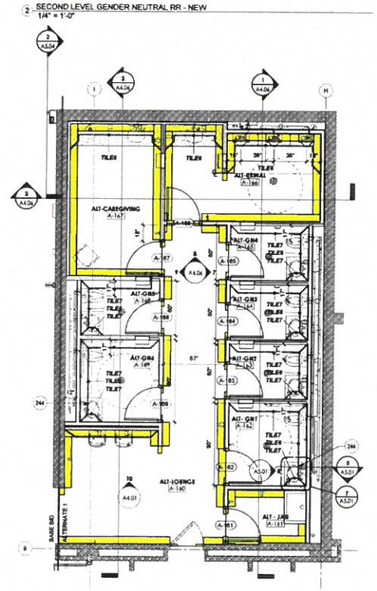
FDC Contract
a John A. Marshall Co.

RB1 Roppe 4" Std Toe, #P150 Dark Gray (Match Existing)

Scale 1:160 (original drawing scale 1:48)



2 SECOND LEVEL GENDER NEUTRAL RR - NEW
1/4" = 1'-0"



1 FIRST LEVEL GENDER NEUTRAL RR - NEW
1/4" = 1'-0"

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Hartline construction llc

751 East 63rd Street ● Suite 107 ● Kansas City, MO ● 64110

Phone: 816-921-6002 ● Fax: 816-920-5020

CHANGE ORDER REQUEST: CO3-485-2023 REV.03 - 11/28/2023

KCMO Water Services – WSD Administration Bldg., & IT Improv. & ADA Compliance
4800 E. 63rd Street
GFCI Receptacle at Drinking Fountain – Level 01, Level 02 & Terrace Level

KCMO Project No: 81000817/1682
Hartline Project. 485-2023

Date: 11/28/2023

To: Debra Smith, Architect/Project Manager
Email: debra.smith@kcmo.org
Phone: (816) 513-0293

COR: 81000817/1682-CO3-485—2023_**REV. 03**
Blank Face GFCI Receptacles at Drinking Fountain Circuits

Hartline Construction, LLC is a 100% W/DBE, certified by The City of KCMO and The States of KS/MO.

Scope of change order:
Per request from KCMO Water Service in response to GCRFI-3 for the above referenced project, Hartline Construction requests COR-3-485-2023, to furnish and install new Blank Face GFCI Receptacles to feed drinking fountains in six locations, per the project plans.

Summary of scope:
To install the GFCI face plates the Electricians rerouted the circuit feeding the water fountain across the ceiling and down the wall to the GFCI faceplate location,
installed a box in the wall to hold the face plate and installed power to the line side of the faceplate GFCI.
The Electricians routed the circuit from the load side of the GFCI back up the wall and across the ceiling to the existing circuit going down to the outlet at the water fountain location(s).
This is for 5 circuits at 5 different locations.

New GFCI Blank Face Outlets

- Furnish and install new blank face GFCI receptacles at ALL Drinking Fountains in the Project Drawings.

Cost Breakdown:

Material Cost	$2,710.10
Labor Cost	$2,503.65
Deduct for Count Correction	($868.95)
Subcontractor Direct Cost:	$4,344.80
Hartline Fee (10%)	$434.48
Bond Fee (2.5%)	$119.48

Total Proposal: $4,898.76

Attachments:(2)

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Kristen Sparks

From: Tim Smith <tim.smith@markone.com>
Sent: Thursday, November 9, 2023 1:59 PM
To: Kristen Sparks
Subject: GFCI Outlets CO breakout.

Kristen,
See below. Let me know if this is what you want.

Material cost= $2,710.10
Labor cost= $2,503.65
To install the GFCI face plates we rerouted the circuit feeding the water fountain across the ceiling and down the wall to the GFCI faceplate location.
We then installed a box in the wall to hold the face plate and installed power to the line side of the faceplate GFCI.
Then we routed the circuit from the load side of the GFCI back up the wall and across the ceiling to the existing circuit going down to the outlet at the water fountain location.
This is for 6 circuits at 6 different locations.

Tim Smith | Service Project Manager
Mark One Electric Co., Inc.

Headquarters | 1414 Genessee | Kansas City, MO 64102
Logistics Center | 1414 Genessee | Kansas City, KS 66103

Main: 816-842-7023 ext. 1183 | Direct: 816-303-4183 | Cell: 816-918-1409
www.markone.com

DocuSign Envelope ID: 3748CB6B-D43B-45C1-8DDF-F8F1EE0FF6B0

Mark One Electric Company, Inc.
The Mark of Electrical Excellence™

1414 GENESSEE / KANSAS CITY, MO 64102
(816) 842-7023 / (816) 842-8955

LETTER OF TRANSMITTAL

NO: 18

TO:	JOB NUMBER:	DATE:
HARTLINE CONSTRUCTION, LLC 751 E 63RD ST, SUITE 107 KANSAS CITY, MO 64110 Ph: (816)921-6002 Fax: (816)920-0502	22-23-225	10/23/2023

JOB NAME & ADDRESS:

WSD ADMIN BLDG IT IMPROVE (22-23-225)
4800 E 63RD ST
KANSAS CITY, MO 64130

RE: AWA - 001.00: Water Fountain GFCI

WE ARE SENDING YOU ☑ ATTACHED ☐ UNDER SEPARATE COVER VIA THE FOLLOWING ITEMS:

☐ SHOP DRAWINGS ☐ PRINTS ☐ PLANS ☐ SPECIFICATIONS ☐ SAMPLES

☐ COPY OF LETTER ☐ CHANGE ORDER ☑ AWA

COPIES	DATE	DESCRIPTION
1	10/23/23	Water Fountain GFCI

THESE ARE TRANSMITTED AS CHECKED:

☑ FOR APPROVAL ☐ APPROVED AS SUBMITTED ☐ RESUBMIT ___ COPIES FOR APPROVAL

☐ FOR YOUR USE ☐ APPROVED AS NOTED ☐ SUBMIT ___ COPIES FOR DISTRIBUTION

☐ AS REQUESTED ☐ RETURNED FOR CORRECTIONS ☐ RETURN ___ CORRECTED PRINTS

☐ FOR REVIEW AND COMMENT ☐ OTHER:

☐ FOR BIDS DUE/DATE: ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS:

Please review the attached AWA 001.00 for approval.

SIGNED: _____
TIM SMITH

SIGNED: _____ DATE OF ACCEPTANCE: _____

IF ENCLOSURES ARE NOT AS NOTED, PLEASE NOTIFY

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Mark One Electric Company, Inc.
The Mark of Electrical Excellence™

1414 GENESSEE / KANSAS CITY, MO 64102
(816) 842-7023 / (816) 842-8955

AWA

Additional Work Authorization

AWA No: 001.00

TO:	JOB NUMBER:	DATE:
HARTLINE CONSTRUCTION, LLC 751 E 63RD ST, SUITE 107 KANSAS CITY, MO 64110 Ph: (816)921-6002 Fax: (816)920-0502	22-23-225	10/19/23
	JOB NAME & ADDRESS:	
	WSD ADMIN BLDG IT IMPROVE 4800 E 63RD ST KANSAS CITY, MO 64130	
ATTENTION: CC:		

RE: Water Fountain GFCI

Install new GFCI Blank face outlets to feed water fountains.

Additional cost associated with this AWA 001.00.....$5,213.75
Additional days associated with this AWA 001.00.....0 days **

**We ask that the same amount of additional construction days be added to our contract as requested by HARTLINE, and/or their subcontractors which are driving the schedule, due to these changes. Additional time extensions to be negotiated with HARTLINE.

Please note the following: By acceptance of this proposal request Mark One Electric Co., Inc. does not waive its rights to time and costs claimed for changes represented by this change order. Mark One Electric reserves the right for additional compensation for any schedule and/or inefficiency impacts, delays or disruptions caused by others, or cumulative effect of scope changes that cannot be quantified at this time.

Additional Work Authorization No.: AWA 001.00 Job 22-23-225

ACCEPTANCE OF ADDITIONAL WORK AUTHORIZATION - The above prices, specifications, and conditions are satisfactory and hereby accepted. You are authorized to do the work as specified. Payment will be made in accordance with the existing contract between contractor and Mark One Electric Co., Inc.

SIGNED: _____

SIGNED: _____

DATE OF ACCEPTANCE: _____

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Hartline construction llc

751 East 63rd Street ● Suite 107 ● Kansas City, MO ● 64110

Phone: 816-921-6002 ● Fax: 816-920-5020

CHANGE ORDER REQUEST: CO7-485-2023

KCMO Water Services – WSD Administration Bldg., & IT Improv. & ADA Compliance
1001 Harrison Street, KCMO 64106
PLAM Upper Casework Break 005, Break 124, Break 215

KCMO Project No: 81000817/1682
Hartline Project. 485-2023

Date: 11/28/2023

To: Debra Smith, Architect/Project Manager
Email: debra.smith@kcmo.org
Phone: (816) 513-0293

COR: 81000817/1682-CO7-485--2023
PLAM Upper Casework

Hartline Construction, LLC is a 100% W/DBE, certified by The City of KCMO and The States of KS/MO.

Scope of change order:
Per request from KCMO Water Service for the above referenced project, Hartline Construction requests this CO-6-485-2023, new PLAM upper casework in Break 105, Break 124, Break 215

- Field measure for new upper casework.
- Furnish PLAM upper casework.
- Field installation of PLAM upper casework.
- Straight time labor for all other work.

Work Breakdown:

Break Room 105

• PLAM Upper Casework Measure and Material	$1,996.00
• Field Installation 24 MHs at $90.00	$2,160.00
▪	$4,156.00
• 10% Mark Up	$416.00
• Bond	$114.00
Break Room Sub Total 105	**$4,686.00**

Break Room 124

• PLAM Upper Cabinet Measure and Material	$1,924.00
• Field Installation 24 MHs at $90.00	$2,160.00
▪	$4,084.00
• 10% Mark Up	$408.00
• Bond	$112.00
Break Room Sub Total 124	**$4,604.00**

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Hartline construction llc

751 East 63rd Street ● Suite 107 ● Kansas City, MO ● 64110

Phone: 816-921-6002 ● Fax: 816-920-5020

Break Room 215

- PLAM Upper Casework Measure and Material $1,853.00
- Field Installation 24 MHs at $90.00 $2,160.00
  - $4,013.00
- 10% Mark Up $401.00
- Bond $110.00

Break Room Sub Total 215 $4,524.00

Total Proposal CO 7 for additional Breakroom Upper Casework $13,814.00

Change Order 9 Approved as submitted

Debra L. Smith 12-13-23

KC Water, Project Manager

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Hartline construction llc

751 East 63rd Street ● Suite 107 ● Kansas City, MO ● 64110

Phone: 816-921-6002 ● Fax: 816-920-5020

CHANGE ORDER REQUEST: CO10-485-2023

KCMO Water Services – WSD Administration Bldg., & IT Improv. & ADA Compliance
4800 E. 63rd Street, KCMO 64130
Outside Wall Mount Handrail

KCMO Project No: 81000817/1682
Hartline Project. 485-2023

Date: 12/06/2023

To: Debra Smith, Architect/Project Manager
Email: debra.smith@kcmo.org
Phone: (816) 513-0293

COR: 81000817/1682-CO10-485--2023
Outside Wall Mount Handrail

Hartline Construction, LLC is a 100% W/DBE, certified by The City of KCMO and The States of KS/MO.

Scope of change order:
Per request from KCMO Water Service for the above referenced project, Hartline Construction requests this CO10--485-2023, to fabricate and install new stainless-steel Handrails with returns where existing wall mount rails are located in stairwells.

- Demolition of existing wall mount rails
- Furnish and install new stainless-steel handrails with returns.
- Straight time labor for all other work

Work Breakdown:

Demolition	$ 1,400.00
Fabrication and Install	$ 19,856.00
Hartline Fee (10%)	$ 2,125.60
Bond Fee (2.5%)	$ 584.54
Total Proposal CO 10	**$ 23,966.14**

Change Order approved as submitted

Debra L. Smith 12-13-23

KC Water Project Manager

DocuSign Envelope ID: 3748CB6B-D43B-45C1-8DDF-F8F1EE0FF6B0

1060 SE Broadway Dr.
Lee's Summit, MO 64081
Office: 816-525-2996
www.metal1kc.com

matt.nichols@metal1kc.com

TO: **Jennifer Hart**
CO: Hartline Construction

PHONE: 816-921-6002
E-MAIL: jhart@hartlinecon.com
DATE: December 1, 2023

PROJECT NAME: **4800 E 63rd – Water Services:**

DESCRIPTION: **Fabricate and Install – Wall Mount Handrails:**

- Shop fabricate new stainless steel handrails with returns – where existing wall mount rails are located in stairwells
- All handrails to be 1 ½" od x 14ga brushed stainless steel.
- Includes stainless steel wall mount brackets
- Includes all fasteners
- End cap all rails
- Includes all field measuring.

TOTAL PRICE: **$ 19,856.00 plus tax if required.**

NOTES: Price is to fabricate and install as noted above.

EXCLUDES: **Demo of existing rails, Overtime, off hour work or anything not called out above.**

LEAD TIME: **Installation Start: 1-2 weeks from approved shop drawings.**

Thank You
matt Nichols

Price is valid for 15 days due to the volatile material market

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GENERAL CONDITIONS

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10.01 □ut□ori□ed C□□n□e□in t□e □ or□
10.02 □n□ut□ori□ed C□□n□e□in t□e □ or□
10.03 E□ecution of C□□n□e Order□
10.04 □otific□tion to □uret□

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ARTICLE 11 CHANGE OF CONTRACT PRICE

11.01 C□□n□e of Contr□ct □rice
11.02 Co□t of t□e □ or□
11.03 C□□□ □□o□□nce□
11.04 □nit □rice □ or□
11.05 Di□□ute Re□o□ution

ARTICLE 12 CONTRACT TIMES

12.01 Ti□ e of t□e E□□ence
12.02 C□□n□e of Contr□ct Ti□ e□
12.03 □roof Re□uired To □u□tif□ □n E□ten□ion of Ti□ e For E□cu□□□e □nd Co□ □en□□□e De□□□
12.04 Delays Within CONTRACTOR's Control
12.05 Delays Beyond the CITY's and CONTRACTOR's Control
12.06 De□□ D□□ □□e□
12.07 Di□□ute Re□o□ution

ARTICLE 13 TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 □cce□□ to □ or□
13.02 Te□t□ □nd In□□ection□
13.03 □otice of Defect□
13.04 □nco□erin□ □ or□
13.05 CIT□ M□□ □to□ t□e □ or□
13.06 Correction or Re□ o□□□of Defecti□e □ or□
13.07 Correction □eriod
13.08 □cce□t□nce of Defecti□e □ or□
13.09 CIT□ M□□Correct Defecti□e □ or□

ARTICLE 14 PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 □c□edu□e of V□ue□
14.02 □□□ic□tion for □ro□re□□ □□□□ent□
14.03 Contractor's Warranty of Title
14.04 □u□□t□nti□□Co□ □□etion
14.05 □□rti□□□ti□□□tion
14.06 Fin□□In□□ection
14.07 Fin□□□ □□□ ent
14.08 Fin□□Co□ □□etion De□□□ed
14.09 □ □i□er of C□□i□ □
14.10 Co□ □□etion of □ or□ □□Cit□

ARTICLE 15 SUSPENSION OF WORK AND TERMINATION

15.01 CIT□ M□□ □u□□end □ or□
15.02 CIT□ M□□Ter□in□te for Def□u□t
15.03 CIT□ M□□Ter□in□te for Con□enience

ARTICLE 16 CLAIMS AND DISPUTES

16.01 Definition
16.02 □ ritten □otice □nd □urden of □roof
16.03 Ti□ e □i□it□on C□□i□ □
16.04 Continuin□ Contr□ct □erfor□ □nce
16.05 In□ur□or D□□ □□e to □er□on or □ro□ert□
16.06 Initi□□Re□o□ution of C□□i□ □ □nd Di□□ute□

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16.07 Fin Re o ution of C la ms nd Di ute

ARTICLE 17 MISCELLANEOUS

17.01 i in otice
17.02 Co ut tion of Ti e
17.03 Cu u ti e Re edie
17.04 S urv val of O i tion
17.05 Contro in Law

ARTICLE 1 DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. □ □ere□er u□ed in t□e□e □ener□□Condition□ or in t□e ot□er Contr□ct Docu□ent□, t□e fo□o□in□ ter□ □hav□ t□e □e□nin□□ indic□ted which □re □□□ic□□e to □ot t□e □in□u□□r □nd □ur□□ t□ereof:

1. Addenda - □ritten or □r□□□ic in□tru□ent□ i□□ued □rior to t□e o□enin□ of □id□ t□□t c□□rif□, correct or c□□n□e t□e □iddin□ Re□uire□ent□ or t□e Contr□ct Docu□ent□.

2. Agreement—T□e □ritten Contr□ct □et□een CIT□ □nd CO□TR□CTOR □o□ernin□ t□e □or□ to □e □erfor□ed; ot□er Contr□ct Docu□ent□ □re □tt□c□ed to t□e □□ree□ent □nd □□de a □□rt t□ereof as □ro□ided t□erein.

3. Application for Payment—The form accepted by CITY's Representative which is to □e u□ed by CO□TR□CTOR in re□ue□tin□ □ro□re□□ or fin□□ paym ents □nd which i□ to □e □cco□ □□nied by □uc□ □u□□ortin□ docu□ent□tion as i□re□uired by t□e Contr□ct Docu□ent□.

4. Asbestos - Any □ □teri□□t□□t cont□in□ □ore t□□n one □ercent (1%) Asb□es□os □nd i□ fri□□□e or i□re□e□□in□ Asb□es□os fi□er□ into t□e □ir ab□ve current □ction □e□e□□e t□□□i□□ed by t□e □nited □t□te□ Occu□□tion□□□□fet□ □nd □e□t□ □d□ini□tr□tion.

5. Bid- T□e offer or proposal of t□e □idder □u□□itted on t□e □id For□/Contr□ct □ettin□ forth the prices for the Work to be performed. A Bidder's Bid becomes a Contract with CITY if t□e CIT□ e□ecute□ t□e □id For□/Contr□ct □u□□itted by □idder. If t□e CIT□ e□ecute□ t□e Bid Form/Contract submitted by Bidder, the term "Bidder" shall mean CONTRACTOR.

6. Bidder- One who □u□□it□ a □id direct□□ to CIT□, as di□tinct fro□ a □u□-□idder who □u□□it□ a □id to a □idder. If t□e CIT□ e□ecute□ t□e □id For□/Contr□ct □u□□itted by □idder, the term "Bidder" shall mean CONTRACTOR in both the Bidding Documents and Contract Docu□ent□ un□e□□ t□e conte□t c□e□r□□ indic□te□ ot□er□i□e.

7. Bidding Documents- T□e □d□erti□e□ent or In□it□tion to □id, In□truction□ to □idder□, t□e □id For□/Contr□ct, □nd t□e □ro□o□ed Contr□ct Docu□ent□ (inc□udin□ all □ddend□ i□□ued □rior to rece□i□t of □id□).

8. Bidding Requirements- T□e □d□erti□e□ent or in□it□tion to □id, In□truction□ to □idder□, □id □ecurit□, □nd t□e □id For□/Contr□ct □it□ any □u□□e□ent□.

9. Bonds- □□□□ent □ond □nd □erfor□□nce □nd M□inten□nce □ond □nd ot□er in□tru□ent□ of □ecurit□.

10. Calendar Day- Any day sh own on t□e c□end□r, inc□udin□ □□turd□□□, □und□□□, □nd □oid□□□.

11. Change Order- A □ritten docu□ent i□□ued by CIT□ t□□t □ut□ori□e□ □n □ddition, de□etion or re□i□ion in t□e □or□, or □n □d□u□t□ent in t□e Contr□ct □rice or t□e Contr□ct Ti□e□, i□□ued on or □fter t□e Effecti□e D□te of t□e Contr□ct.

12. CITY/OWNER- Ka□sas Cit□, Mi□□ouri, a con□titution□□□ c□□rtered □unici□□□ cor□or□tion, □it□ which CO□TR□CTOR has entered into t□e Contr□ct □nd for whom t□e □or□i□ to □e □ro□ided**.**

13. CITY's Representative- □er□on or □□enc□ de□i□n□ted to □ct for t□e Director as □ro□ided in t□e□e Contr□ct Docu□ent□.

14. Consultant- □er□on, fir□ or cor□or□tion hav□ng a contr□ct □it□ CIT□ or DE□I□□ □ROFE□□IO□□□ to furni□□ □er□ice□ as □n inde□endent □rofe□□ion□□ □□□oci□te or Consultant with respect to the Project and who's identified as such in the Supplement□r□ Condition□.

The Consultant(s) is identified and their services offered on the Certification Page(s). The certifications describe the respective responsibilities for the Drawings and Specifications prepared by the Consultant(s) and are incorporated into this Contract.

15. Contract- The entire and interpreted written agreement between CITY and CONTRACTOR concerning the Work constitute Contract Documents. The Bid Form/Contract submitted by Bidder in the Contract between CITY and CONTRACTOR upon execution by CITY. The Contract supersedes prior negotiations, representations, or agreement, whether written or oral.

16. Contract Documents- The Contract Documents enumerated in the rights and obligations of the parties and include the Contract, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid Form/Contract (including documentation accompanying the Bid and bid bond) bid documentation submitted prior to the Notice of Intent to Contract), the Construction Project Instructions, the Contractor's Utilization Plan/Request for Waiver, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Project Manual and the certification Page(s) of the DESIGN PROFESSIONAL Agreement), together with the approved Project Guideline and Addendum thereto and all written Amendments, Change Orders, Work Change Directives, and DESIGN PROFESSIONAL's written interpretations and clarifications issued on or after the Effective Date of the Contract, and approved Shop Drawings. Reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in electronic media format of text, data, graphic, and the like that may be furnished by CITY to CONTRACTOR are not Contract Documents, except Project Guideline submitted by CONTRACTOR and approved by CITY.

17. Contract Price- The money to be paid by CITY to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement.

18. Contract Times- The number of days or the dates stated in the Supplementary Conditions (a) to achieve Substantial Completion, and (b) to complete the Work so that it is ready for final payment as evidenced by CITY's Representative's written recommendation of final payment.

19. CONTRACTOR- The person, firm, partnership, company, corporation or association licensed or otherwise authorized to do business in Missouri, with whom CITY has entered into the Agreement.

20. Day– shall constitute a Calendar Day.

21. DESIGN PROFESSIONAL- Architect, Engineer or other licensed professional who is either employed by or contracted with CITY to serve in a design capacity and who is Consultant, partner, employee or agent that has prepared and sealed the Drawings and Specifications.

The DESIGN PROFESSIONAL is identified and their services offered on the Certification Page(s). The certifications describe the respective responsibilities for the Drawings and Specifications prepared by the DESIGN PROFESSIONAL and are incorporated into this Contract.

22. DESIGN PROFESSIONAL's Project Representative- The authorized representative of DESIGN PROFESSIONAL who is assigned to the site or any part thereof.

23. Director- The term Director means when used in the duly appointed executive officer of a department of City who is empowered by the City Charter or by the City Council to enter into a contract on behalf of City, or to grant a permit for it provided and owned by City. A Director is authorized to delegate this authority to City employee so designated in writing.

24. Drawings- T□e dr□□in□□ □ic□ □r□□□ic□□□ □□o□ t□e □co□e, e□tent □nd c□□r□cter of t□e □ or□ to □e furni□□ed □nd □erfor□ed □□ CO□TR□CTOR □nd □□ic□ □□□e □een □re□□red □□ DE□I□ □ROFE□□IO□□□ □nd □re inc□uded in t□e Contr□ct Docu□ent□. □□o□ Dr□□in□□ □re not Dr□□in□□ □□□o defined.

25. Effective Date of the Contract- T□e d□te indic□ted in t□e Contr□ct on □□ic□ it □eco□e□ effecti□e, □ut if no □uc□ d□te i□ indic□ted it □e□n□ t□e d□te on □□ic□ t□e Contr□ct i□ fu□□e□ecuted □□ CIT□.

26. General Requirements- □ection□ of Di□i□ion 1 of t□e □□ecific□tion□. T□e □ener□□ Re□uire□ent□ □ert□in to □□□ection□ of t□e □□ecific□tion□.

27. Hazardous Environmental Condition- T□e □re□ence □t t□e □ite of □□□e□to□, □e□d-□□□ed □□int, □C□□, □etro□eu□, □□□□rdou□□ □□te, or R□dio□cti□e M□teri□□in □uc□ □u□ntitie□ or circu□ □t□nce□ t□□t □ □□ □re□ent □ □u□□t□nti□□d□n□er to □er□on□ or □ro□ert□ e□□o□ed t□ereto in connection □it□ t□e □ or□.

28. Hazardous Waste- T□e ter□ □□□□rdou□□ □□te □□□□□□□□e t□e □e□nin□ □ro□ided in □ection 1004 of t□e □oid □ □□te Di□□o□□□□ct (42 □□C □ection 6903) □□ □□ended fro□ ti□e to ti□e.

29. Laws or Regulations- □n□ □nd □□□□□□ic□□e □□□□, ru□e□, re□u□□tion□, ordin□nce□, code□ □nd order□ of □n□ □nd □□□o□ern□ent□□ □odie□, □□encie□, □ut□oritie□ □nd court□ □□□in□ □uri□diction.

30. Lead-Based Paint- □n□ □□int, □□rni□□, □t□in, or ot□er □□□□ied co□tin□ t□□t □□□ one (1) □ □ or □ore of □e□d □er □□u□re centi□eter. The terms “leaded paint” and “lead-cont□inin□ paint” are synonymous with Lead-□□□ed □□int.

31. Liens- □ien□, c□□r□e□, □ecurit□ intere□t□ or encu□ □r□nce□ u□on re□□ro□ert□ or □er□on□□□ro□ert□.

32. Milestone- □ □rinci□□□e□ent □□ecified in t□e Contr□ct Docu□ent□ re□□tin□ to □n inter□edi□te co□ □□□etion d□te or ti□e □rior to □u□□t□nti□□Co□ □□□etion of □□□t□e □ or□.

33. Notice of Intent to Contract- T□e □ritten notice □□ CIT□ to t□e □□□□rent □ucce□□fu□ □idder □t□tin□ t□□t u□on co□ □i□nce □□ t□□t □□□□rent □ucce□□fu□□idder □it□ t□e condition□ in t□e □id Docu□ent□ enu□er□ted, □it□in t□e ti□e □□ecified, □nd u□on en□ct□ent of □n □□□ro□ri□te ordin□nce or re□o□ution, CIT□ □i□□□i□n □nd de□□er t□e Contr□ct.

34. Notice to Proceed- □ □ritten notice □i□en □□ CIT□ to CO□TR□CTOR fi□in□ t□e d□te on □□ic□ t□e Contr□ct Ti□e □ i□□co□ □ence to run □nd on □□ic□ CO□TR□CTOR □□□□□t□rt to perform CONTRACTOR’s obligations under the Contract Documents.

35. Partial Utilization- □□e □□ CIT□ of □ □u□□t□nti□□□ co□ □□eted □□rt of t□e □ or□ for t□e □ur□o□e for □□ic□ it i□ intended (or □re□□ted □ur□o□e) □rior to □u□□t□nti□□Co□ □□□etion of □□□ t□e □ or□.

36. PCBs- □o□□c□□orin□ted □i□□en□□.

37. Petroleum- □etro□eu□, inc□udin□ crude oi□ or □n□ fr□ction t□ereof □□ic□ i□ □□uid □t □t□nd□rd condition□ of te□ □er□ture □nd re□□ure (60 de□ree□ F□□ren□eit □nd 14.7 □ound□ □er □□u□re inc□ □□□o□ute), □uc□ □□ oi□, □etro□eu□, fue□oi□, oi□□ud□e, oi□refu□e, □□□oi□ne, □ero□ene, □nd oi□□ i□ed □it□ ot□er non-□□□□rdou□□ □□te□ □nd crude oi□□.

38. Project- T□e tot□□con□truction of □□ic□ t□e □ or□ to □e □ro□ided under t□e Contr□ct Docu□ent□ □ □□ □e t□e □□o□e, or □ □□rt □□indic□ted e□□e□□ere in t□e Contr□ct Docu□ent□.

39. Project Manual- T□e docu□ent□r□infor□□tion □re□□red for □iddin□ □nd con□tructin□ t□e □ or□. □ i□□tin□ of t□e content□ of t□e □ro□ect M□nu□□□ □□ □e i□□ued in one or □ore □o□u□e□ □nd i□cont□ined in t□e t□□□e(□) of content□.

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40. Radioactive Material- Source, Especial Nuclear, or Byproduct Material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

41. Samples- Physical examples of Materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

42. Shop Drawings- Drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

43. Site- Lands or areas indicated in the Contract Documents as being furnished by CITY upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by CITY which are designated for the use of CONTRACTOR.

44. Specifications- That portion of the Contract Documents consisting of written technical descriptions of Materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

45. Subcontractor- An individual, firm, partnership, corporation or association licensed or otherwise authorized to do business in Missouri, to whom CONTRACTOR, with written notification to CITY, has entered into an agreement to perform a part of the Work.

46. Substantial Completion- The Work (or a specified part thereof) has progressed to the point where, in the opinion of DESIGN PROFESSIONAL as evidenced by DESIGN PROFESSIONAL's definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

47. Supplementary Conditions- The part of the Contract Documents which amends and/or supplements the General Conditions.

48. Supplier- A manufacturer, fabricator, supplier, distributor, Materialman or vendor having a direct contract with CONTRACTOR or with any subcontractor to furnish Materials or equipment to be incorporated into the Work by CONTRACTOR or any subcontractor.

49. Underground Facilities- Pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or Materials: electricity, gas, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

50. Unit Price Work- Work to be paid for on the basis of unit prices.

51. Work- The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor, and furnishing and incorporating Materials and equipment into the construction, and furnishing documents, all required by the Contract Documents.

52. Work Change Directive- A written directive to CONTRACTOR, issued on or after the Effective Date of the Contract, signed by CITY and recommended by DESIGN PROFESSIONAL, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen subsurface or physical condition under which the Work is to be performed, or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Time, but is evidence that the parties expect that the change directed or

documented [illegible] or Change Directive issue incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Time.

53. Work Day - Any day during which the CONTRACTOR is scheduled to work a period of six (6) hours or more. Days that are not Work Days are days during which the CONTRACTOR is unable to work for a period of six (6) hours or less because of strikes, lockouts, labor disputes, severe weather, unusual delays in transportation or shortage of materials, acts of God, acts of the public enemy, acts of superior governmental authority, weather conditions, riots, rebellion, sabotage, or any other circumstances for which CONTRACTOR is not responsible or which is not within its control. Saturdays, Sundays, and holidays on which the CONTRACTOR's forces engage in work requiring the presence of an inspector, will be considered Work Days.

54. Written Amendment- A written statement modifying the Contract Document, signed by CITY and CONTRACTOR on or after the Effective Date of the Contract and normally dealing with the non-engineering or non-technical rather than strictly construction-related aspects of the Contract Document.

1.02 Terminology

A. Intent of Certain Terms or Adjectives

1. Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper" or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of DESIGNATED REPRESENTATIVE as to the work, it is intended that such requirement, direction, review or judgment will be solely to evaluate, in general, the completed work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective cannot be effective to assign to DESIGNATED REPRESENTATIVE any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibility inconsistent with the provisions of Article 9.08 or any other provision of the Contract Document.

B. Defective

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty or deficient, in that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to CITY 's Representative's recommendation of final payment (unless responsibility for the protection thereof has been assumed by CITY at Substantial Completion in accordance with Article 14.04 or 14.05).

C. Furnish, Install, Perform, Provide

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said service, material, or equipment to the site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said service, material, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said service, material, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with [illegible], [illegible], or [illegible] in [illegible] context [illegible] requiring [illegible] obligation of CONTRACTOR, "provide" is implied.

D. [illegible] stated otherwise in the Contract Documents, words and [illegible] have well-known technical or construction industry or trade meanings when used in the Contract Documents in accordance with such recognized meanings.

ARTICLE 2 PRELIMINARY MATTERS

2.01 Delivery of Bonds

A. CONTRACTOR [illegible] deliver to CITY such bonds as CONTRACTOR may be required to furnish.

2.02 Evidence of Insurance

A. CONTRACTOR [illegible] deliver to CITY certificates of insurance or other evidence of insurance that CITY may request, which CONTRACTOR is required to purchase and maintain in accordance with Article 5 or any other provision in the Contract Documents.

2.03 Copies of Documents

A. CITY [illegible] furnish to CONTRACTOR one (1) copy of the Drawings and Specifications, including Addenda.

2.04 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence to run on the date indicated in the Notice to Proceed.

2.05 Starting the Work

A. CONTRACTOR [illegible] start to perform the Work on the date when the Contract Times commence to run, but no Work [illegible] be done at the site prior to the date on which the Contract Times commence to run, unless otherwise indicated in the Notice to Proceed.

2.06 Before Starting Construction

A. CONTRACTOR may Review of Contract Documents before undertaking each part of the Work, CONTRACTOR [illegible] carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and [illegible] the field measurements. CONTRACTOR [illegible] promptly report in writing to DESIGNATED [illegible] any conflict, error, ambiguity or discrepancy which CONTRACTOR does discover and [illegible] obtain a written interpretation or clarification from DESIGNATED [illegible] before proceeding with any Work affected thereby. CONTRACTOR [illegible] not be liable to CITY or DESIGNATED [illegible] for failure to report any conflict, error, ambiguity or discrepancy in the Contract Documents, unless CONTRACTOR knew or reasonably should have known thereof.

B. Within ten (10) days after the Effective Date of the Contract, or on such later date as CITY may Representative provide in writing, CONTRACTOR [illegible] submit to CITY Representative for review:

1. Within ten project days CONTRACTOR [illegible] submit a proposed project schedule for CITY's acceptance. The proposed project schedule shall include a detailed and comprehensive construction schedule utilizing a critical path method network (a) showing the sequencing for procurement and construction elements and duration of the project, (b) identifying the critical path, (c) showing the start to finish time for each activity, (d) other activities necessary for the timely completion of the project in accordance with the scheduled dates for Substantial and Final Completion and (e) highlights the project's critical path. CITY's acceptance is expressly limited to CITY's acknowledgement that, based upon CITY's limited review, the dates of Substantial

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C. □recon□truction Conference□□efore □n□ □ or□ □t t□e □ite □ □□ □e □t□rted, □ conference □ttended □□ CO□TR□CTOR, DE□I□ □ROFE□□IO□□□ □nd ot□er□, □□ □□□ro□ri□te, □i□□e □c□edu□ed □□ CIT□□□ Re□re□ent□ti□e to e□t□□i□□ □ □or□in□ under□t□ndin□ □□ on□ t□e □□rtie□ □□ to t□e □ or□ □nd to di□cu□□ t□e □c□edu□ referred to in □□r□□r□□□ 2.06 □, □rocedure□ for □□nd□in□ □□o□ Dr□□in□□ □nd ot□er □u□□itt□□□, □roce□□in□ □□□ic□tion□ for □□□□ent, □ □int□inin□ re□uired record□, C□□i□ □ □roce□□, di□□ute re□o□ution or □n□ ot□er □□□ic□□□e □ro□i□ion□ of t□e Contr□ct Docu□ent□.

2.07 Acceptable Schedules

A. □cce□t□□e □c□edu□e□T□e Contr□ctor □□□□u□d□te □nd □u□□it to t□e CIT□ for re□ie□ t□e □rei□ in□r□ □c□edu□ □it□in □e□en (7) C□end□r D□□□ □fter t□e □otice to □roceed.

1. T□e CIT□ □□□□re□ie□ □nd □ □□e □n□nece□□□r□co□ □ent□ □nd/or □d□u□t□ent□ to t□e u□d□ted □rei□ in□r□ □c□edu□. The Contractor shall incorporate the CITY's comments and re□u□□it t□e u□d□ted □rei□ in□r□ □c□edu□ □it□in □e□en (7) C□end□r D□□□ fro□ recei□t of the CITY's comments.

B. □ro□ect □□□e□ine □c□edu□□ T□e □cce□ted u□d□ted □rei□ in□r□ □c□edu□ □□□□□ □e con□idered t□e □ro□ect □□□e□ine □c□edu□ □nd □□□□□e u□ed □□ t□e CO□TR□CTOR for □□nnin□, □c□edu□in□, □ □n□□in□, □nd e□ecutin□ t□e □ or□. T□e □ro□ect □□□e□ine □c□edu□ □□□□□not □e c□□n□ed □it□out t□e □ritten con□ent of CIT□. T□e □ro□ect □□□e□ine □c□edu□ □ □□ □e furt□er □odified □□ t□e □u□□□e□ent□□Condition□.

C. CONTRACTOR's schedule of values will be acceptable to CITY's Representative a□ to for□ □nd □u□□t□nce if it □ro□ide□ □ re□□on□□□e □□oc□tion of t□e Contr□ct □rice to co□ □onent □□rt□ of t□e □ or□.

ARTICLE 3 CONTRACT DOCUMENTS : INTENT, AMENDING, REUSE

3.01 Intent

A. T□e Contr□ct Docu□ent□ co□ □ri□e t□e entire Contr□ct □et□een CIT□ □nd CO□TR□CTOR concernin□ t□e □ or□.

B. It i□ t□e intent of t□e Contr□ct Docu□ent□ to de□cri□e □ function□□□ co□ □□ete □ro□ect (or □□rt t□ereof) to □e con□tructed in □ccord□nce □it□ t□e Contr□ct Docu□ent□. □n□ □ or□, □ □teri□□□ or e□ui□□ent t□□t □ □□ re□□on□□□□ □e inferred fro□ t□e Contr□ct Docu□ent□ or fro□ □re□□i□in cu□to□ or tr□de u□□□e □□ □ein□ re□uired to □roduce t□e intended re□u□t i□□□e furni□□ed □nd □erfor□ed □□et□er or not □□ecific□□□ c□□ed for □t no □ddition□□co□t to CIT□. C□rific□tion□ □nd inter□ret□tion□ of t□e Contr□ct Docu□ent□ □□□□□e i□□ued □□ DE□I□ □ROFE□□IO□□□ □□ □ro□ided in □□r□□r□□□ 9.03.

C. Corre□□tion □nd intent of docu□ent□□T□e Dr□□in□□ □nd □□ecific□tion□ □re intended to □u□□e□ent e□c□ ot□er. □n□ □ or□ □□o□n on t□e Dr□□in□□ □nd not □entioned in t□e □□ecific□tion□ (or □ice □er□□) □□□□□e □□ □indin□ □nd □□□□□e co□□eted t□e □□□e □□ if □entioned or □□o□n on □ot□. In t□e e□ent of confi□ct□ or di□cre□□ncie□ □□ on□ t□e Contr□ct Docu□ent□, inter□ret□tion□ □i□□e □□□ed on t□e fo□o□in□ □rioritie□□

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D. In t□e c□□e of □n incon□i□tenc□ □et□een Dr□□in□□ □nd □□ecific□tion□, t□e re□uire□ent□ of t□e □□ecific□tion□ shall □o□ern. If Dr□□in□□ □re in conflict, □r□er c□□e det□i□□ shall □o□ern o□er □□ □□er or no-□c□e Dr□□in□□. If □□ecific□tion □ection□ □re in conflict □it□ e□c□ ot□er, t□e conflict shall □e re□o□□ed by DE□I□□ □ROFE□□IO□□□ in □ccord□nce □it□ re□□on□□e inter□ret□tion of □uc□ docu□ent□.

E. T□e □ener□□c□□r□cter of t□e det□i□ed □or□ i□ sh□own on t□e Dr□□in□□, □ut □inor modifications may be made in the full size or scale details. Where the word “similar” occurs on t□e Dr□□in□□, it shall □e u□ed in it□ □ener□□□en□e □nd not as □e□nin□ identic□, □nd all det□i□□ shall □e □or□ed out in re□□tion to t□eir □oc□tion □nd t□eir connection to t□e ot□er parts of t□e □ or□. □ □ere on any Dr□□in□□ a □ortion of t□e □ or□ i□ dr□□n out □nd t□e re□ □inder i□ indic□ted in outline, t□e parts dr□□n out shall apply als□ to all ot□er i□e □ortion□ of t□e □ or□. □ □ere orn□□ent□ or ot□er det□i□□ □re indic□ted by □t□rtin□ on□□, □uc□ det□i□□ shall □e continued t□rou□□out t□e cour□e□or parts in which t□e□occur □nd shall als□ apply to all ot□er i□i□□r parts in t□e □ or□, un□e□□ ot□er□i□e indic□ted.

3.02 Reference to Standards and Specifications of Technical Societies

A. Reference to □t□nd□rd□, □□ecific□tion□, manuals or code□ of any tec□nic□□ □ociet□, or□□ni□□tion or □□oci□tion, or to Laws or Re□u□□tion□, □□et□er □uc□ reference □e □□ecific or by i□ □ic□tion, shall □e□n t□e □□te□t □t□nd□rd, □□ecific□tion, manual, code or Laws or Re□u□□tion□ in effect at the time of opening of Bids (or on the date of CONTRACTOR’s proposal if there are no □id□), e□ce□t as may □e ot□er□i□e □□ecific□□□ t□ted in t□e Contr□ct Docu□ent□.

1. □o □ro□i□ion of any □uc□ □t□nd□rd, □□ecific□tion, manual, code or in□truction of □u□□ier shall □e effecti□e to c□□n□e t□e dutie□ or re□□on□i□ilitie□ of CIT□, CO□TR□CTOR or DE□I□□ □ROFE□□IO□□□, or any of t□eir □u□contr□ctor□, Con□ult□nt□, □□ent□, or e□ □o□ee□fro□ t□o□e □et fort□ in t□e Contr□ct Docu□ent□, nor shall □t □e effecti□e to ass□gn to CIT□ or DE□I□□ □ROFE□□IO□□□ or any of t□eir Con□ult□nt□, □□ent□ or e□ □o□ee□ any dut□ or □ut□orit□ to □u□er□i□e or direct t□e furni□□in□ or □erfor□nce of t□e □ or□ or any dut□ or □ut□orit□ to undert□e re□□on□i□ilit□ incon□i□tent □it□ t□e □ro□i□ion□ of t□e Contr□ct Docu□ent□.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies: If, durin□ t□e □erfor□nce of t□e □ or□, CO□TR□CTOR di□co□er□ any conflict, error, □□ □i□uit□ or di□cre□□nc□ □it□in t□e Contr□ct Docu□ent□ or □et□een t□e Contr□ct Docu□ent□ □nd any □ro□i□ion of any Laws or Re□u□□tion□ □□□ic□□e to t□e □erfor□nce of t□e □ or□ or of any □t□nd□rd, □□ecific□tion, manual, code or any in□truction of any □u□□ier referred to in Paragraph 6.07, CO□TR□CTOR shall re□ort it i□ □edi□te□□ to DE□I□□ □ROFE□□IO□□□ in □riti□. CO□TR□CTOR shall not □roceed □it□ t□e □ or□ □ffected t□ere□□ (e□ce□t in □n e□er□enc□ as □ut□ori□ed by Paragraph 6.17) unti□□n □□end□ent or □u□□e□ent to t□e Contr□ct Docu□ent□ has □een i□□ued by one of t□e □et□od□ indic□ted in Paragraph 3.04; □ro□ided, □o□e□er, t□□t CO□TR□CTOR shall not □e li□□e to CIT□ or DE□I□□ □ROFE□□IO□□□ for f□ilure to re□ort any □uc□ conflict, error, □□ □i□uit□ or di□cre□□nc□ un□e□□ CO□TR□CTOR □ne□ or reasonably □□ould hav□ □no□n t□ereof.

B. Resolving Discrepancies. The provisions of the Contract Documents shall govern in the order of precedence in resolving any conflict, error, omission or discrepancy between the provisions of the Contract Documents and

1. the provisions of any standard, specification, manual, code or instruction (whether or not specifically incorporated by reference in the Contract Documents) or

2. the provisions of any Laws or Regulations applicable to the performance of the Work.

3.04 Amending and Supplementing Contract Documents

A. The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

1. A written Amendment or

2. A Change Order (pursuant to Article 10), whether pursuant to a Work Change Directive or otherwise.

B. The requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

1. DESIGN PROFESSIONAL's approval of a Shop Drawing or Sample (pursuant to Article 6.18), or

2. DESIGN PROFESSIONAL's written interpretation or clarification (pursuant to Article 9.03).

3.05 Reuse of Documents

A. CONTRACTOR and any Subcontractor or Supplier or other Person or organization performing or furnishing any of the Work under a direct Contract with CITY

1. shall not claim or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or for the use of DESIGN PROFESSIONAL or DESIGN PROFESSIONAL's Consultant, and

2. shall not reuse any of such Drawings, Specifications, other documents or copies thereof on extensions of the Project or any other Project without written consent of CITY, and of DESIGN PROFESSIONAL or DESIGN PROFESSIONAL's Consultant, and specific written verification or adaptation by DESIGN PROFESSIONAL or DESIGN PROFESSIONAL's Consultant.

This provision will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.01 Availability of Lands

A. CITY shall furnish the Site. CITY shall identify any encumbrances or restrictions not of general application but specifically limited to use of lands so furnished with which CONTRACTOR will have to comply in performing the Work. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by CITY, unless otherwise provided in the Contract Documents. If CONTRACTOR and CITY are unable to agree on entitlement to or the amount or extent of any adjustment in the Contract Price or the Contract Times or both as a result of any delay in CITY's furnishing these lands, rights-of-way or easements, CONTRACTOR may make a Claim as provided in Article 16. CONTRACTOR shall provide for additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 Subsurface and Physical Conditions

A. Reports and Drawings Reference is made to the Supplementary Conditions for identification of

1. Subsurface Conditions: Those reports of explorations and tests of subsurface conditions at or contiguous to the site that were utilized by DESIGN PROFESSIONAL in preparing the Contract Documents and

2. Physical Conditions: Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) that were utilized by DESIGN PROFESSIONAL in preparing the Contract Documents.

B. Limited Reliance by CONTRACTOR on Technical Data Authorized CONTRACTOR may rely upon the general accuracy of the technical data contained in reports and drawings of subsurface or physical conditions, but such reports and drawings are not Contract Documents. The technical data is identified in the Supplementary Conditions. Except for reliance on such technical data, CONTRACTOR may not rely upon or make any claim against CITY, DESIGN PROFESSIONAL or any Consultant with respect to

1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings, or

3. any CONTRACTOR interpretation of or conclusion drawn from any technical data or any such other data, interpretations, opinions or information.

4.03 Differing Subsurface or Physical Conditions

A. Notice of Differing Subsurface or Physical Conditions. If CONTRACTOR believes that any subsurface or physical condition at or contiguous to the site that is uncovered or revealed either

1. is of such a nature as to establish that any technical data on which CONTRACTOR is entitled to rely as provided in Article 4.02 B and 4.02 B is materially inaccurate or

2. is of such a nature as to require a change in the Contract Documents or

3. differs materially from that shown or indicated in the Contract Documents or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any work in connection therewith (except in an emergency as required by Article 6.17), notify CITY and DESIGN PROFESSIONAL in writing about such condition(s). CONTRACTOR shall not further disturb such conditions or perform any work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. DESIGN PROFESSIONAL's Review After receipt of notice required by Article 4.03 A, DESIGN PROFESSIONAL will promptly review the pertinent conditions, determine the necessity for CITY to obtain additional exploration or tests with respect thereto and notify CITY in writing (with a copy to CONTRACTOR) of DESIGN PROFESSIONAL's findings and conclusions.

C. Possible Contract Documents Change If CITY concludes that a change in the Contract Documents is required by a result of a condition that meets one or more of the categories in Article 4.03 A, a Work Order or Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document the consequences of such a change.

D. Possible Price or Times Adjustments □n e□uit□□e □du□t□ent in t□e Contr□ct □rice or in t□e Contr□ct Ti□e□, or □ot□, □i□□e □□o□ed to t□e e□tent t□□t t□e e□i□tence of □ u□□urf□ce or physical condition causes an increase or decrease in CONTRACTOR's cost of, or time re□uired for, □erfor□ □nce of t□e □ or□□u□ect, □o□e□er, to t□e fo□o□in□□

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3. □it□ re□□ect to □ or□t□□t i□ □□id for on □ unit □rice □□□i□, □n□ □du□t□ent in Contr□ct □rice □i□□e □u□ect to t□e □ro□i□ion□ of □□r□□r□□□□ 9.06 □nd 11.04□□nd

4. CO□TR□CTOR □□□□□not □e entitled to □n□ □du□t□ent in t□e Contr□ct □rice or Contr□ct Ti□e□if□

□. CO□TR□CTOR □ne□, or □□ t□e e□erci□e of ordin□r□ c□re could □□□e □no□n, of □uc□ condition□ □t t□e ti□e CO□TR□CTOR □ □de □ fin□□co□ □it□ent to CIT□ □it□ re□□ect to Contr□ct □rice □nd Contr□ct Ti□e□ □□t□e □u□□i□□ion of □ □id□or

□. t□e e□i□tence of □uc□ condition coud re□□on□□□□ □□□e □een di□co□ered or re□e□ed □□ □ re□ut of □n□ e□□□in□tion, in□e□ti□□tion, e□□□or□tion, te□t or □tud□ of t□e □ite □nd conti□uou□ □re□□re□uired □□t□e □iddin□ Re□uire□ent□or Contr□ct Docu□ent□ to be conducted by or for CONTRACTOR prior to CONTRACTOR's makin□ □uc□ fin□□ co□ □it□ent□or

c. CO□TR□CTOR f□i□ed to □i□e t□e □ritten notice □□re□uired □□ □□r□□r□□□□ 4.03 □.

E. If CIT□ □nd CO□TR□CTOR □re un□□□e to □□ree on entitle□ent to, or □ □□nitude of, □n e□uit□□e □du□t□ent in t□e Contr□ct □rice □ur□u□nt to □rtic□e 11 □nd/or Contr□ct Ti□e□ □ur□u□nt to □rtic□e 12, □ C□□i□ □ □□ □e □ □de t□erefore □□ □ro□ided in □rtic□e 16. □o□e□er, CIT□, DE□I□□ □ROFE□□IO□□□□ □nd Con□u□t□nt□ □□□□□not □e i□□□e to CO□TR□CTOR for □n□ co□t□, □o□e□ or d□□ □□e□ (inc□udin□ □ut not i□ited to □□□fee□ □nd c□□r□e□ of en□ineer□, □rc□itect□, □ttorne□□, □nd ot□er □rofe□□ion□□□ □nd □□□ot□er di□□ute re□o□ution co□t□) □u□t□ined □□CO□TR□CTOR on or in connection □it□ □n□ot□er □ro□ect or □ntici□□ted □ro□ect.

4.04. Physical Conditions – Underground Facilities

A. Shown or Indicated□ T□e infor□ □tion □nd d□t□ □□o□n or indic□ted in t□e Contr□ct Docu□ent□ □it□ re□□ect to e□i□tin□ □nder□round F□ci□itie□ □t or conti□uou□ to t□e □ite i□ □□□ed on infor□ □tion □nd d□t□ furni□□ed to CIT□ or DE□I□□ □ROFE□□IO□□□ □□t□e o□ner□ of □uc□ □nder□round F□ci□itie□or □□ot□er□.

1**.** CIT□ □nd DE□I□□ □ROFE□□IO□□□ □□□□□not □e re□□on□i□□e for t□e □ccur□c□ or co□ □□etene□□ of □n□ □uc□ infor□ □tion or d□t□□□nd

2. T□e co□t of □□□ of t□e fo□o□in□ □i□□ □e inc□uded in t□e Contr□ct □rice □nd CO□TR□CTOR □□□□□□□□□e fu□re□□on□i□i□it□ for□

□. re□ie□in□ □nd c□ec□in□ □□□□uc□ infor□ □tion □nd d□t□,

□. □oc□tin□ □□□ □nder□round F□ci□itie□ □□o□n or indic□ted in t□e Contr□ct Docu□ent□,

c. coordin□tion of t□e □or□ □it□ t□e o□ner□ of □uc□ □nder□round F□ci□itie□ durin□ con□truction, □nd

d. t□e □□fet□ □nd □rotection of □□□ □uc□ □nder□round F□ci□itie□ □□ □ro□ided in □□r□□r□□□ 6.14 □nd re□□ire□in□ □n□d□□ □□e t□ereto re□u□tin□ fro□ t□e □or□.

B. Not Shown or Indicated□ If □n □nder□round F□ci□it□ i□ unco□ered or re□e□ed □t or conti□uou□ to t□e □ite, □nd □□□ not □□o□n or indic□ted in t□e Contr□ct Docu□ent□, or □□□

□o□n or indic□ted incorrect□ in t□e Contr□ct Docu□ent□, CO□TR□CTOR □□□□, □ro□ t□□ □fter □eco□in□ □□re t□ereof □nd □efore furt□er di□tur□in□ condition□ □ffected t□ere□□ or □erfor□in□ □n□ □ or□ in connection t□ere□it□ (e□ce□t in □n e□er□enc□ □□ re□uired □□ □□r□□r□□□ 6.17), identif□ t□e o□ner of □uc□ □nder□round F□ci□it□ □nd □i□e □ritten notice to t□□t o□ner □nd to CIT□ □nd DE□I□ □ROFE□□IO□□□.

C. DESIGN PROFESSIONAL's Review□ □fter rece□i□t of notice □□ re□uired □□ □□r□□r□□□ 4.04 □, DE□I□ □ROFE□□IO□□□ □i□□ro□ t□□ re□ie□ t□e con□e□uence□ of t□e e□i□tence of t□e □nder□round F□ci□it□ □nd notif□ CIT□ in □ritin□ (□it□ □ co□□ to CO□TR□CTOR) of DE□I□ PROFESSIONAL's findings and conclusions.

D. Possible Contract Documents Change□ If CIT□ conc□ude□ t□□t □ c□□n□e in t□e Contr□ct Docu□ent□ i□ re□uired □□ □ re□u□t of t□e e□i□tence of □n □nder□round F□ci□it□ t□□t eit□er □□□ not □□o□n, or □□□ □□o□n incorrect□, in t□e Contr□ct Docu□ent□, □ □ or□ C□□n□e Direct□□e or C□□n□e Order □i□□e i□□ued □□ □ro□ided in □rtic□e 10 to ref□ect □nd docu□ent t□e con□e□uence□ of □uc□ c□□n□e.

E. Possible Price or Times Adjustments□□n e□uit□□e □d□u□t□ent in t□e Contr□ct □rice or in t□e Contr□ct Ti□e□, or □ot□, □i□□e □□o□ed to t□e e□tent t□□t t□e e□i□tence of t□e Underground Facility causes an increase or decrease in CONTRACTOR's cost of, or time re□uired for, □erfor□□nce of t□e □ or□□□u□ect, □o□e□er, to t□e fo□o□in□□

1. □ c□□n□e in t□e Contr□ct docu□ent□ □ur□u□nt to □□r□□r□□□ 4.04 D □i□□not □e □n □uto□□tic □ut□ori□□tion of, nor □ condition □recedent to, entit□e□ent to □n□ □uc□ □d□u□t□ent□□

2. □it□ re□□ect to □ or□t□□t i□ □□id for on □ unit □rice □□□i□, □n□ □d□u□t□ent in Contr□ct □rice □i□□e □u□ect to t□e □ro□i□ion□ of □□r□□r□□□□ 9.06 □nd 11.04□□nd

3. CO□TR□CTOR □□□□□not □e entit□ed to □n□ □d□u□t□ent in t□e Contr□ct □rice or Contr□ct Ti□e□if□

□. CO□TR□CTOR □ne□, or □□ t□e e□erci□e of ordin□r□ c□re cou□d □□□e □no□n, of t□e e□i□tence of t□e □nder□round F□ci□it□ □t t□e ti□e CO□TR□CTOR □□de □ fin□□ co□□it□ent to CIT□ □it□ re□□ect to Contr□ct □rice □nd Contr□ct Ti□e□ □□ t□e □u□□i□□ion of □ □id□or

□. t□e e□i□tence of t□e □nder□round F□ci□it□ cou□d re□□on□□□□ □□□e □een di□co□ered or re□e□□ed □□ □ re□u□t of □n□e□□□ in□tion, in□e□ti□□tion, e□□□or□tion, te□t or □tud□ of t□e □ite □nd conti□uou□ □re□□ re□uired □□ t□e □iddin□ Re□uire□ent□ or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's □□in□ □uc□ fin□□co□□it□ent□or

c. CO□TR□CTOR f□i□ed to □i□e t□e □ritten notice □□ re□uired □□ □□r□□r□□□ 4.04 □.

F. If CIT□ □nd CO□TR□CTOR □re un□□□e to □□ree on entit□e□ent to, or □ □□nitude of, □n e□uit□□e □d□u□t□ent in t□e Contr□ct □rice □ur□u□nt to □rtic□e 11 □nd/or Contr□ct Ti□e□ □ur□u□nt □rtic□e 12, □ C□□i□ □ □□□ □e □ □de t□erefore □□ □ro□ided in □rtic□e 16. □o□e□er, CIT□, DE□I□ □ROFE□□IO□□□ □nd Con□u□t□nt□ □□□□□not □e i□□□e to CO□TR□CTOR for □n□ co□t□, □o□□e□ or d□□ □□e□ (inc□ud□n□ □ut not i□□ited to □□□fee□ □nd c□□r□e□ of en□ineer□, □rc□itect□, □ttorne□□, □nd ot□er □rofe□□ion□□□ □nd □□□ ot□er di□□ute re□o□ution co□t□) □u□t□ined □□ CO□TR□CTOR on or in connection □it□ □n□ot□er □ro□ect or □ntici□□ted □ro□ect.

4.05 Reference Points

A. CIT□ □□□□□□ro□ide en□ineerin□ □ur□e□□ to e□t□□i□□ reference □oint□ for con□truction t□□t in DESIGN PROFESSIONAL's judgment are necessary to enable CONTRACTOR to proceed □it□ t□e □ or□. CO□TR□CTOR □□□□□□e re□□on□i□□e for □□in□ out t□e □ or□, □□□□□□ro□ect □nd □re□er□e t□e e□t□□i□□ed reference □oint□ □nd □ro□ert□ □onu□ent□, □nd □□□□□□ no c□□n□e□ or re□oc□tion□ □it□out t□e □rior □ritten □□□ro□□□of CIT□. CO□TR□CTOR □□□□□re□ort to DE□I□ □ROFE□□IO□□□ □□ene□er □n□ reference □oint or □ro□ert□ □onu□ent i□ □o□t or de□tro□ed or re□uire□ re□oc□tion □ec□u□e of nece□□□r□ c□□n□e□ in □r□de□ or □oc□tion□, □nd □□□□□□ □e

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re□on□i□e for t□e □ccur□te re□□ce□ent or re□oc□tion of □uc□ reference □oint□ or □ro□ert□ □onu□ent□ by □rofe□□ion□□□ □u□ified □er□onne□.

4.06 Asbestos, Lead-Based Paint, PCBs, Petroleum, Hazardous Waste or Radioactive Material

A. Reports and Drawings: Reference i□ □□de to t□e □u□□e□ent□r□ Condition□ for t□e identific□tion of t□o□e re□ort□ □nd dr□□in□□ re□□tin□ to a □□□□rdou□ En□iron□ent□□Condition identified □t t□e □ite, if any, t□□t hav□ □een uti□i□ed by t□e DE□I□□ □ROFE□□IO□□□ in t□e □re□□r□tion of t□e Contr□ct Docu□ent□.

B. Limited Reliance by CONTRACTOR on Technical Data Authorized: CO□TR□CTOR may re□□u□on t□e □ener□□□ccur□c□ of t□e tec□nic□□d□t□ cont□ined in re□ort□ □nd dr□□in□□ re□□tin□ to a □□□□rdou□ En□iron□ent□□Condition □t t□e □ite, □ut □uc□ re□ort□ □nd dr□□in□□ □re not Contr□ct Docu□ent□. □uc□ tec□nic□□d□t□ i□ identified in t□e □u□□e□ent□r□ Condition□. E□ce□t for □uc□ re□i□nce on □uc□ tec□nic□□d□t□, CO□TR□CTOR may not re□□u□on or mak□ any Cla□m □□□in□t CIT□, DE□I□□ □ROFE□□IO□□□ or any Con□u□t□nt □it□ re□□ect to:

1. the completeness of such reports and drawings for CONTRACTOR's purposes, inc□udin□, □ut not i□ited to, any □□□ect□ of t□e means, □et□od□, tec□ni□ue□, □e□uence□ □nd □rocedure□ of con□truction to □e e□□o□ed by CO□TR□CTOR □nd □□fet□ □rec□ution□ □nd programs incident t□ereto; or

2. ot□er d□t□, inter□ret□tion□, o□inion□ □nd infor□□tion cont□ined in □uc□ re□ort□ or sh□wn or indic□ted in □uc□ dr□□in□□; or

3. any CO□TR□CTOR inter□ret□tion of or conc□u□ion dr□□n fro□ any tec□nic□□d□t□ or any □uc□ ot□er d□t□, inter□ret□tion□, o□inion□ or infor□□tion.

C. CO□TR□CTOR shall not □e re□□on□i□e for any □□□□rdou□ En□iron□ent□□Condition unco□ered or re□e□ed □t t□e □ite which was not sh□wn or indic□ted in Dr□□in□□ or □□ecific□tion□ or identified in t□e Contr□ct Docu□ent□ to □e □it□in t□e □o□e of t□e □ork. CO□TR□CTOR shall □e re□□on□i□e for all □□□□rdou□ En□iron□ent□□Condition□ cre□ted □it□ any □□teri□□ rou□□t to t□e □ite by CO□TR□CTOR, □u□contr□ctor□, □u□□ier□, or □n□one e□e for wh□m CO□TR□CTOR i□ re□□on□i□e. CO□TR□CTOR shall not □e entit□ed to □n e□ten□ion of t□e Contr□ct Ti□e□ or □n incre□e in t□e Contr□ct □rice if CO□TR□CTOR, □u□contr□ctor, □u□□ier or □n□one for wh□m CO□TR□CTOR i□ re□□on□i□e cre□ted any □□□□rdou□ En□iron□ent□□Condition □t t□e □ite or in connection □it□ t□e □ork.

D. If CO□TR□CTOR encounter□ a □□□□rdou□ En□iron□ent□□Condition □t t□e □ite or if CO□TR□CTOR or □n□one for wh□m CO□TR□CTOR i□ re□□on□i□e cre□te□ a □□□□rdou□ En□iron□ent□□Condition □t t□e □ite, CO□TR□CTOR shall ·□□edi□te□□:

1. □ecure or ot□er□i□e i□o□te □uc□ condition;

2. □to□ all □ ork□ in connection □it□ □uc□ condition □nd in any □re□ □ffected t□ere□□ (e□ce□t in □n e□er□enc□ as re□uired by Pa ragraph 6. 15); □nd

3. notif□ CIT□ □nd DE□I□□ □ROFE□□IO□□□ (□nd promptly t□ere□fter confir□ □uc□ notice in □ritin□). CIT□ shall p romptly con□u□t □it□ DE□I□□ □ROFE□□IO□□□ concernin□ t□e nece□□it□ for CIT□ to ret□in a □u□ified e□□ert to e□□u□te □uc□ condition or t□e correcti□e □ction, if any

E. CO□TR□CTOR shall neit□er re□u□e □ork□ nor □e re□uired to re□u□e □ork□ in connection □it□ □uc□ condition or in any □ffected □re□ unti□□fter CIT□ has o□t□ined any re□uired □er□it□ re□□tted t□ereto □nd de□i□ered to CO□TR□CTOR □ritten notice:

1. □□ecif□in□ t□□t □uc□ condition □nd any □ffected □re□ i□ or has □een rendered □□fe for t□e re□u□□tion of □ork□; or

2. □□ecif□in□ any □□eci□□condition□ under wh□ch □uc□ □ork□ may □e re□u□ed safely. If CIT□ □nd CO□TR□CTOR c□nnot □□ree as to entit□e□ent to or on t□e □□ount or e□tent, if any, of any □d□u□t□ent in Contr□ct □rice □ur□u□nt to □rti□e 11□nd/or Contr□ct Ti□e□ to

□ur□u□nt to □rtic□e 12 as a re□ult of □uc□ □ or□ s:oppag e or □uc□ □□eci□□condition□ under which □ or□i□ □□reed to □e re□u□ed by CO□TR□CTOR, a Claim may □e □□de t□erefore as □ro□ided in □rtic□e 16.

F. If □fter recei□t of □ritten notice as re□uired in Pa ragraph 4.06 E, CO□TR□CTOR doe□ not □□ree to re□u□e □ or□ bas ed on a re□on□□e □eief it i□ un□fe, or doe□ not □□ree to re□u□e □uc□ □ or□ under □□eci□□condition□ □□ecified in t□e notice, t□en CIT□ may order t□e □ortion of t□e □ or□ t□□t i□ in t□e □re□ □ffected by □uc□ condition to □e de□eted fro□ t□e □ or□. If CIT□ □nd CO□TR□CTOR c□nnot □□ree as to entit□e□ent to or □□nitude of □n e□uit□□e □du□t□ent in Contr□ct □rice □ur□u□nt to □rtic□e 11 □nd/or Contr□ct Ti□e □ur□u□nt to □rtic□e 12 as a re□ult of de□etin□ □uc□ □ortion of t□e □ or□, t□en a Claim may □e □□de t□erefore as □ro□ided in □rtic□e 16. CIT□ may □ave such deleted portion of the Work performed by CITY's o□n force□ or ot□er□in □ccord□nce □it□ □rtic□e 7.

G. T□e □ro□i□ion□ of Pa ragraphs 4.02, 4.03, □nd 4.04 □re not intended to apply to a □□□□rdou□ En□iron□ent□□Condition unco□ered or re□e□□ed □t t□e □ite.

H. All □□teri□□□ u□ed, □□et□er ne□ or salvag ed, shall □e □□□e to-free □□teri□□□. CONTRACTOR shall immediately call to the attention of the CITY's Representative any □□ecified □□teri□□or □roduct which t□e CO□TR□CTOR k□ows or □u□□ect□ to cont□in asb e s:os, □□et□er ne□ or salvag ed.

ARTICLE 5 BONDS AND INSURANCE

5.01 Performance, Payment and Other Bonds

A. CO□TR□CTOR shall furni□□ □erfor□ □nce □nd M□inten□nce □nd □□□□ent □ond□, e□c□ in □n □□ount □t □e□t equal to t□e Contr□ct □rice, as □et out in t□e Contr□ct Docu□ent□, as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contr□ct Docu□ent□. T□e□e □ond□ shall □e□ □in in effect □t □e□t unti□ one (1) □e□r □fter t□e d□te □□en fin□□□□□ent of t□e Contr□ct □eco□e□ due, e□ce□t as □ro□ided ot□er□i□e by Laws or Re□u□tion□ or by t□e Contr□ct Docu□ent□. CO□TR□CTOR shall als o furni□□ □uc□ ot□er □ond□ as □re re□uired by t□e □u□□e□ent□r□Condition□.

B. All □ond□ shall □e in t□e for□ □re□cri□ed by t□e Contr□ct Docu□ent□ e□ce□t as □ro□ided otherwise by Laws or Regulations. A certified copy of the agent's authority to act must □cco□□□n□ all □ond□ □i□ned by □n □□ent.

C. If t□e □uret□ on any □ond furni□□ed by CO□TR□CTOR i□ dec□□red □□n□ru□t or □eco□e□ in□o□□ent, or it□ ri□□t to do □u□ine□□ i□ □ter□in□ted in any □t□te □□ere any □□rt of t□e □ro□ect i□ □oc□ted or it ce□□e□ to □eet t□e re□uire□ent of Pa ragraph 5.01 B, CO□TR□CTOR shall □it□in t□ent□ (20) days t□ere□fter □u□□titute □not□er □ond □nd □uret□, □ot□ of which □u□t □e □cce□t□□e to CIT□.

5.02 Licensed Sureties and Insurers

A. All □ond□ □nd in□ur□nce re□uired by t□e Contr□ct Docu□ent□ to □e □urc□□□ed □nd □□int□ined by CIT□ or CO□TR□CTOR shall □e o□t□ined fro□ □uret□ or in□ur□nce co□ □□nie□ t□□t □re du□□ ic□en□ed in t□e □t□te of Mi□□ouri □nd in t□e □uri□diction in which t□e □ro□ect i□ □oc□ted, if not in Mi□□ouri, to i□□ue □ond□ or in□ur□nce □oicie□ for t□e i□it □nd co□er□□e□ □o re□uired. All □uret□ □nd in□ur□nce co□ □□nie□ shall □old □n □.M. □e□t r□tin□ of A-, V, or □etter.

5.03 Certificates of Insurance

A. CO□TR□CTOR shall □eli□er to CIT□ □nd DE□I□□ □ROFE□□IO□□□, □rior to t□e □t□rt of any □ or□□t t□e □ro□ect □ite, □ro□er□□ co□ □□eted certific□te□ of in□ur□nce or ot□er e□idence t□□t t□e re□uired in□ur□nce i□ in fu□□force □nd effect, in a for□ □cce□t□□e to CIT□. T□e recei□t or □cce□t□nce of a certific□te of in□ur□nce t□□t doe□ not incor□ora te t□e re□uired ter□□ □nd co□er□□e shall not con□titute a □□i□er by t□e Cit□ of t□e in□ur□nce re□uire□ent□ cont□ined in t□e Contr□ct Docu□ent□.

B. □□□oicie□ of in□ur□nce (□nd t□e certific□te□ or ot□er e□idence t□ereof) re□uired to □e □urc□□□ed □nd □ □int□ined □□ CO□TR□CTOR in □ccord□nce □it□ □□r□□r□□□□ 5.04 □nd 5.06 □i□□ cont□in □□i□er □ro□i□ion□ in □ccord□nce □it□ □□r□□r□□□ 5.07 □. T□e certific□te□ of in□ur□nce □i□□cont□in □ □ro□i□ion □t□tin□ t□□t □□ou□d □n□ of t□e □oicie□ de□cri□ed in t□e certific□te □e c□nce□□ed □efore t□e e□□ir□tion d□te t□ereof, notice □i□□e de□□ered in □ccord□nce □it□ t□e □oic□ □ro□i□ion□.

C. If t□e co□er□□e □fforded i□ c□nce□□ed or c□□n□ed or it□ rene□□□ i□ refu□ed, CO□TR□CTOR □□□□□i□e □t □e□□t t□irt□(30) d□□□ □rior □ritten notice to CIT□ □nd to e□c□ ot□er □ddition□□in□ured to □□o□ □certific□te of in□ur□nce □□□ □een i□□ued.

5.04 CONTRACTOR's Liability Insurance

A. CO□TR□CTOR □□□□□ur□□□e □nd □ □int□in □uc□ i□□i□it□ □nd ot□er in□ur□nce □□ i□ □□□ro□ri□te for t□e □ or□ □ein□ □erfor□ed □nd furni□□ed, □nd □i□□ro□ide □rotection fro□ c□□i□ □ set forth below which may arise out of or result from CONTRACTOR's performance □nd furnishing of the Work and CONTRACTOR's other obligations under the Contract Documents, □□et□er it i□ to □e □erfor□ed or furni□□ed □□ CO□TR□CTOR, □n□ □u□contr□ctor or □u□□ie□, or □□ □n□one direct□□ or indirect□□e□ □□o□ed □□ □n□ of t□e□ to □erfor□ or furni□□ □n□ of t□e □ or□, or □□ □n□one for □□o□e □ct□ □n□ of t□e□ □ □□□e i□□e□

1. claims under workers' compensation, disability benefits and other similar employee □enefit □ct□□

2. c□□i□ □ for d□□ □□e□ □ec□u□e of □odi□□ in□ur□, occu□□tion□□□ic□ne□□ or di□e□□e, or death of CONTRACTOR's employees;

3. c□□i□ □ for d□□ □□e□ □ec□u□e of □odi□□ in□ur□, □ic□ne□□ or di□e□□e, or de□t□ of □n□ person other than CONTRACTOR's employees;

4. c□□i□ □for d□□ □□e□in□ured □□cu□to□ r□ □er□on□□in□ur□ i□□i□it□co□er□□e□

5. c□□i□ □for d□□ □□e□, ot□er t□□n to t□e □ or□it□ef, □ec□u□e of in□ur□ to or de□truction of t□n□i□e □ro□ert□ □□ere□er □oc□ted, inc□udin□ □o□□ of u□e re□u□tin□ t□erefore□□nd

6. c□□i□ □ for d□□ □□e□ □ec□u□e of □odi□□ in□ur□ or de□t□ of □n□ □er□on or □ro□ert□ d□□ □□e □ri□in□ out of t□e o□ner□□i□, □ □inten□nce or u□e of □n□ □otor □e□ic□.

B. T□e □oicie□ of in□ur□nce □o re□uired □□ □□r□□r□□□ 5.04 □, to □e □urc□□□ed □nd □ □int□ined □□□□□□

1. □it□ re□□ect to in□ur□nce re□uired □□ □□r□□r□□□□ 5.04 □.3 t□rou□□ 5.04 □.5 inc□u□i□e, inc□ude □□ □ddition□□in□ured□(□u□ect to □n□cu□to□ r□e□cu□ion for □rofe□□ion□□ i□□i□it□) CIT□, DE□I□□ □ROFE□□IO□□□, Con□u□t□nt□ □nd □n□ ot□er indi□du□□□ or entitie□ identified in t□e □u□□e□ent□r□ Condition□ to □e i□□ted □□ □ddition□□in□ured□, □nd inc□ude co□er□□e for t□e re□□ectiæ officer□, director□, □□rtner□, e□ □o□ee□, □□ent□, □nd ot□er con□u□t□nt□ □nd □u□contr□ctor□ of e□c□ □nd □n□ of □□□□uc□ □ddition□□in□ured□, □nd t□e in□ur□nce □fforded to t□e□e □ddition□□in□ured□ □□□□□□ro□ide □ri□ r□ co□er□□e for □□□c□□i□ □ co□ered t□ere□□□

2. inc□ude □t □e□□t t□e □□ecific co□er□□e□ □nd □e □ritten for not □e□□ t□□n t□e □i□it□ of i□□i□it□ □ro□ided in □□r□□r□□□ 5.04 C or re□uired □□ □□□□ or Re□u□□tion□, □□ic□e□er i□ □re□ter□

3. inc□ude co□ □eted o□er□tion□in□ur□nce□

4. include contractual liability insurance covering CONTRACTOR's indemnity o□i□□tion□□

5. re□□in in effect □t □e□□t unti□ fin□□ □□□□ent □nd □t □□□ti□e□ t□ere□fter □□en CO□TR□CTOR □ □□□e correctin□, re□o□in□ or re□□cin□ defecti□e □ or□in □ccord□nce □it□ □□r□□r□□□□ 13.06 □nd 13.07□

6. □it□ re□□ect to co□ □eted o□er□tion□ in□ur□nce, □nd □n□ in□ur□nce co□er□□e □ritten on □ c□i□ □-□ □de □□□i□, re□ □in in effect for □t □e□t t□o (2) □e□r□ □fter fin□□□□□□ent (□nd CO□TR□CTOR □□□□□ furni□□ CIT□ □nd e□c□ ot□er □ddition□□ in□ured identified in t□e □u□□e□ ent□r□ Condition□ to □□o□ □ certific□te of in□ur□nce □□□ □een i□□ued e□idence □□ti□f□ctor□ to CIT□ □nd □n□ □uc□ □ddition□□ in□ured of continu□tion of □uc□ in□ur□nce)□

7. cont□in □ cro□□-i□□i□it□ or □e□er□i□it□ of intere□t c□u□e or endor□e□ent. In□ur□nce co□erin□ t□e □□ecified □ddition□□ in□ured□ □□□□□ □e ri□□r□ in□ur□nce, □nd □□□ ot□er in□ur□nce c□rried □□t□e □ddition□□ in□ured□ □□□□□□e e□ce□□ in□ur□nce□

8. □it□ re□□ect to co□ □erci□□ □uto□o□ile □i□□i□it, co□ □erci□□ □ener□□ □i□□i□it, □nd u□ re□□□ i□□i□it in□ur□nce, CO□TR□CTOR □□□□re□uire it□ in□ur□nce c□rrier(□) to □□i□e □□□ rights of subrogation against CITY, and CITY's officers, directors, partners, employees and □□ent□□□nd

9. cont□in □ □ro□i□ion or endor□e□ent t□□t t□e co□t□ of □ro□idin□ t□e in□ured□ □ defen□e □nd □□□e□□, inc□udin□ □ttorne□□' fee□, □□ in□ured□, □□□□□□e □u□□e□ ent□r□ □nd □□□□□ not be included as part of the policy limits but shall remain the insurer's responsibility.

C. □□ecific □o□icie□ of in□ur□nce re□uired □□ t□i□ □□r□□r□□□ 5.04 □□□□□ inc□ude□

1. Workers' Compensation and Employers' Liability Insurance. This insurance shall protect CONTRACTOR against all claims under applicable state workers''' compensation □□□, inc□udin□ co□er□□e □□ nece□□□r□ for t□e □enefit□ □ro□ided under t□e □nited □t□te□ Longshoremen's and Harbor Workers' Act and the Jones Act. CONTRACTOR shall also be □rotected □□□in□t c□i□ □ for in□ur□, di□e□□e, or de□t□ of e□ □o□ee□ □□ic□, for □n□ re□□on, □ □□ not fall within the provisions of workers' compensation laws. This policy shall include an "all states" or "other states" endorsement. The liability limits shall be not less than:

Workers' Compensation: Statutory

Employers' liability: $1,000,000 each occurrence

2. Co□ □erci□□□uto□o□ile □i□□i□it□ In□ur□nce. T□i□ in□ur□nce □□□□□□e occurrence t□□e □ritten in co□ re□en□i□e for□ □nd □□□□□□rotect CO□TR□CTOR, □nd CIT□, DE□I□ □ □ROFE□□IO□□□ □nd Con□u□t□nt□ □□□in□t □□□c□i□ □ for in□urie□ to □e□ □er□ of t□e □u□ic □nd d□□ □□e to □ro□ert□ of ot□er□ □ri□in□ fro□ t□e u□e of □otor □e□ic□e□, eit□er on or off t□e □ro□ect □ite, □□et□er t□e□ re o□ned, non-o□ned, or □ired.

T□e □□i□it□ □□ it□ □□□□□□e not □e□□t□□n □$2,000,000

3. Co□ □erci□□ □ener□□ □i□□i□it□ In□ur□nce. T□i□ in□ur□nce □□□□□□e occurrence t□□e □ritten in co□ re□en□i□e for□ □cce□t□□□e to CIT□. T□i□ in□ur□nce □□□□□ □rotect CO□TR□CTOR, □nd CIT□, DE□I□ □ □ROFE□□IO□□□ □nd Con□u□t□nt□ □□ □ddition□□ in□ured□, □□□in□t c□i□ □ □ri□in□ fro□ in□urie□, □ic□ne□□, di□e□□e, or de□t□ of □n□ □er□on or d□□ □□e to □ro□ert□ □ri□in□ out of □erfor□ □nce of t□e □ or□. T□e □o□ic□ □□□□□□□o inc□ude co□er□□e for □er□on□□ in□ur□ □i□□i□it□□ contr□ctu□□□i□□i□it□□ co□ □□eted o□er□tion□ □nd □roduct□ □□□i□it□□ □nd for □□□□tin□, e□□o□ion, □nd co□□□□e of □uildin□□□ □nd d□□ □□e to under□round □ro□ert□ T□e □□i□it□ □□ it□ for □odi□□ in□ur□ □nd □ro□ert□ d□□ □□e □□□□□□e not □e□□t□□n□

$2,000,000 co□ □ined □in□e □□ it for e□c□ occurrence

$2,000,000 □ener□□□□□re□□te.

4. The insurer's costs of providing the in□ured□ □ defen□e □nd □□□e□□□□ □ddition□□ insureds, including attorney's fees, shall be supplementary and shall not be included as part of the policy limits but shall remain the insurer's separate responsibility.

5.05 CITY's Liability Insurance

A. In □ddition to t□e in□ur□nce re□uired to □e □ro□ided □□ CO□TR□CTOR under □□r□□r□□□ 5.04, CITY, at CITY's option, may purchase and maintain at CITY's expense liability insurance

t□t □i□ □rotect CIT□ □□□in□t c□i□ □ □ic□ □ □□ □ri□e fro□ o□er□tion□ under t□e Contr□ct Docu□ent□.

5.06 Property Insurance

A. □n□□ ot□er□i□e □ro□ided in t□e □u□□□e□ ent□r□ Condition□, CO□TR□CTOR □□□□ □urc□□□e □nd □ □int□in □ro□ert□ in□ur□nce on t□e □ or□ □t t□e □ite in t□e □□ ount of t□e fu□ re□□□ce□ ent co□t t□ereof (□u□□ect to □uc□ deducti□□ □□ ount□ □□ □ □□ □e □ro□ided in t□e □u□□□e□ ent□r□ Condition□ or re□uired □□ □□□□ or Re□u□□tion□). T□i□ in□ur□nce □□□□□:

1. inc□ude t□e intere□t□ of CIT□, CO□TR□CTOR, □u□contr□ctor□, □nd □n□ ot□er □er□on□ or entitie□ identified in t□e □u□□□e□ ent□r□ Condition□, e□c□ of □□o□ i□ dee□ed to □□□e □n in□ur□□□e intere□t □nd □□□□□□e i□□ted □□ □n in□ured or □ddition□□in□ured□

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy for□ t□□t □□□□□□t □e□□t inc□ude in□ur□nce for □□□□ic□□□o□□ or d□□ □□e to t□e □ or□, te□ □or□ □uidin□□, f□□e□or□ □nd □ □teri□□□ □nd e□ui□□ ent in tr□n□it, □nd □□□□□in□ure □□□in□t □t □e□□t t□e fo□o□in□ □eri□□ or c□u□e□ of □o□□□fire, i□□□tnin□, e□tended co□er□□e, t□eft, □□nd□i□□ □nd □ □i□iou□ □ i□c□ief, e□rt□□u□□e, torn□do, co□□□□□e, de□ri□re□o□□□, de□ o□i□□ occ□□ioned □□ enforce□ ent of □□□□ or Re□u□□tion□, □□ter d□□ □□e, d□□ □□e c□u□ed □□ fro□t □nd free□in□, □nd □ct□ of □od□

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5.07 Waiver of Rights

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5.08 Receipt and Application of Insurance Proceeds

A. Any insured loss under the property insurance policies required by this Contract with CITY and made payable to CITY as fiduciary for the insureds, as their interests may appear, subject to the requirements of any indenture or indebtedness entered into by CITY.

B. CITY as fiduciary has the power to adjust and settle any loss with the insurers unless one of the parties in interest shall object to CITY's exercise of this power in writing within fifteen (15) days after the occurrence of loss. If such objection is made, CITY as fiduciary has the settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement is reached, CITY as fiduciary has the right to adjust and settle the loss with the insurers.

5.09 Partial Utilization – Property Insurance

A. If CITY finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be authorized in accordance with the procedures in Section 14.05 provided that such use or occupancy does not cause cancellation of or increase the cost of insurance. The insurers providing the property insurance shall be notified by CITY in writing in advance of any such proposed use or occupancy. The property insurance shall include consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 CONTRACTOR'S RESPONSIBILITIES

6.01 Indemnification

A. For purposes of this Section 6.01 only, the following terms have the meanings listed:

1. Claims mean any claims, demands, liens, losses, costs and expenses, including court costs and reasonable attorneys'" fees, including attorney's fees incurred by the City in the enforcement of this indemnity obligation.

2. CONTRACTOR'S Agents means CONTRACTOR's officers, employees, sub-consultants, subcontractors, successors, assigns, invitees, and other agents.

3. CITY means CITY, its Program Manager/Construction Administrator and any of their agents, officials, officers, employees and Program Manager or construction Administrator.

B. CONTRACTOR's obligations under this Section with respect to indemnification for acts or omissions, including negligence, of CITY, whether alone or in part of insurance that CONTRACTOR is required to procure and maintain under this Contract. CONTRACTOR affirms that it has had the opportunity to recover the costs of the indemnity insurance required in this Contract in its contract price.

C. CONTRACTOR shall defend, indemnify and hold harmless CITY from and against any Claims arising out of or resulting from acts or omissions in connection with this Contract caused in whole or in part by CONTRACTOR or CONTRACTOR's Agents, regardless of whether or not caused in part by any act or omission, including negligence, of OTHER.

D. In any and all Claims against CITY, DELEGATE PROFESSIONAL, CONSULTANT, or any of their respective agents, officers, directors or employees and any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any subcontractor, any supplier, any person or organization directly or indirectly employed by any of these to perform or furnish any of the Work, or anyone for whose acts any of these may be liable, the indemnification obligation under Section 6.01 C shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.

E. The indemnification obligations of CONTRACTOR under Paragraph 6.01 C shall not extend to injury or loss arising out of, resulting from, or caused by the professional negligence, errors or omissions of DESIGN PROFESSIONAL, CONSULTANT, or any of their respective agents, officers, directors or employees.

6.02 Supervision and Superintendence

A. CONTRACTOR shall supervise, inspect and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Document. CONTRACTOR shall be responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or specification of a specific means, method, technique, sequence or procedure of construction which is shown or indicated in and expressly required by the Contract Document. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Document.

B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent of the Work, who shall not be replaced without written request to and approval by CITY except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

C. If it is determined to be in the best interest of the Work, CONTRACTOR shall replace the Project Engineer, resident superintendent or any other employee of the CONTRACTOR, subcontractor, supplier or other person or organization performing or furnishing any of the Work on the Project upon written request of the CITY.

6.03 Services, Working Hours, Labor, Materials and Equipment

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out and construct or perform the Work as required by the Contract Document. CONTRACTOR shall at all times maintain good discipline and order at the Site. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise indicated in the Contract Document, all Work at the Site shall be performed during regular working hours. CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without CITY's written consent given after prior written notice to DESIGN PROFESSIONAL.

B. Unless otherwise specified in Division 1, General Requirements, CONTRACTOR shall furnish and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

C. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Document. All warranties and guarantees specified in the specifications for the benefit of CITY. If required by DESIGN PROFESSIONAL, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, used, cleaned and conditioned in accordance with instructions of the applicable supplier, except as otherwise provided in the Contract Document.

D. It is the policy of the CITY that only manufactured goods or commodities used or incorporated in the performance of this Contract and any subcontract thereto shall be manufactured or produced in the United States whenever.

6.04 Progress Schedule

A. CO□TR□CTOR □□□□□d□ere to t□e □ro□re□ □c□edu□ e□t□□i□□ed in □ccord□nce □it□ □rtic□ 2 □□it □ □□ □e □d□u□ted fro□ ti□e to ti□e □□ □ro□ided □e□□

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6.05 Recovery Schedules

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CIT□ □□□□□□□□e t□e ri□□t to direct t□e CO□TR□CTOR, u□on □e□en (7) c□end□r d□□□ notice, to prepare a written recovery plan, for CITY's approval, to accelerate the Work in order to confor□ to t□e □□□ro□ed □□□e□ine □ro□ect □c□edu□, inc□udin□, □it□out □i□itation, □ro□idin□ □ddition□□□□□or or e□□editin□ de□i□er□ of □ □teri□□□, □erfor□in□ o□erti□e or re-□e□uencin□ t□e Work without adjustments to the Contract value. Upon CITY's approval of the recovery plan, CO□TR□CTOR □□□□□□cce□er□te t□e □ or□in □ccord□nce □it□ t□e □□n.

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6.06 Substitutes and "Or-Equal" Items

A. Materials or equipment to be furnished or used in the Work are specified or described in the Contract Documents using the name of a proprietary item or the name of a particular supplier, the specification or description is intended to establish the type, function, appearance and quality required. Unless the specification or description contains or is followed by, words reading that no like, equivalent or "or-equal" item or no substitution is permitted, other items of materials or equipment or materials or equipment of other suppliers may be submitted to CITY for review by CITY's Representative under the following circumstances:

1. "Or-Equal": If, prior to receipt of Bids, Bidder proposes an item of material or equipment to function adequately to the task needed and sufficiently similar to that no change in related Work will be required, CITY's Representative may request DESIGN PROFESSIONAL to consider it as an "or-equal" item. DESIGN PROFESSIONAL will review and recommend the acceptance, or rejection, of the proposed item to the CITY's Representative. For the purpose of this paragraph, a proposed item of materials or equipment will be considered functionally adequate to an item so named if:

a. in the exercise of reasonable judgment DESIGN PROFESSIONAL determines that:

(1) it is at least equal in quality, durability, appearance, strength, and design characteristics; and

(2) it will reliably perform at least the function required by the design concept of the completed Project as a functioning whole; and

b. Bidder certifies that:

(1) there is no increase in cost to the CITY; and

(2) it will conform substantially, even with deviations, to the detailed requirements of the item named in the Contract Documents.

If the CITY's Representative approves the proposed item, it may be accepted by CITY.

2. Substitute Items: If CONTRACTOR proposes an item of materials or equipment as a substitute item, then CONTRACTOR shall submit sufficient information provided herein to allow CITY's Representative to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefore. The procedure for review by the CITY's Representative will include the following as supplemented in the General Requirements and as CITY's Representative may determine is appropriate under the circumstances:

a. Requests for review of proposed substitute items of materials or equipment will not be accepted by CITY's Representative from anyone other than CONTRACTOR.

b. If CONTRACTOR desires to furnish or use a substitute item of materials or equipment, CONTRACTOR shall first make written application to CITY's Representative for acceptance thereof.

c. In the application, CONTRACTOR shall certify that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified and be suited to the same use that specified. The application shall state the extent, if any, to which the evaluation and acceptance of the proposed substitute will impact CONTRACTOR's achievement of Substantial Completion, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with CITY for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty.

d. All □ri□tion□ of t□e □ro□o□ed □u□□titute fro□ t□□t □□ecified will □e identified in t□e □□□ic□tion □nd ava□lab□e □ □inten□nce, re□□ir □nd re□□□ce□ent □er□ice will □e indic□ted. T□e □□□ic□tion will als□ cont□in □n ite□i□ed e□ti□ □te of all □o□t□ or credit□t□□t will re□u□t direct□□ or indirect□□ fro□ □cce□t□nce of □uc□ □u□□titute, inc□udin□ co□t□ of rede□i□n □nd claims of ot□er contr□ctor□ □ffected by t□e re□u□tin□ c□□n□e, all of which will □e considered by CITY's Representative in evaluating the proposed substitute. CITY's Re□re□ent□ti□e may re□uire CO□TR□CTOR to furni□□ □dditio□□ d□t□ □□out t□e □ro□o□ed □u□□titute.

If the CITY's Representative approves the proposed item, CITY may accept it.

B. □u□□titute Con□truction Met□od□ or □rocedure□: If a □□ecific means, □et□od, tec□ni□ue, □e□uence or □rocedure of con□truction i□ sh□wn or indic□ted in □nd expressly re□uired by t□e Contr□ct Docu□ent□, CO□TR□CTOR may furni□□ or uti□i□e a □u□□titute means, □et□od, tec□ni□ue, □e□uence or □rocedure of con□truction □cce□t□□e to DE□I□□ □ROFE□□IO□□□. CO□TR□CTOR shall notif□ CIT□ □nd □u□□it □ufficient infor□□tion to □□□o DE□I□□ PROFESSIONAL, in DESIGN PROFESSIONAL's sole discretion, to determine that the □u□□titute □ro□o□ed i□ e□ui□□ent to t□□t expressly c□□ed for by t□e Contr□ct Docu□ent□.

C. Expenses: Bidder shall provide all data in support of any "or equal" at Bidder's expense, □nd CO□TR□CTOR shall □ro□ide all d□t□ in □u□□ort of any □ro□o□ed □u□□titute □t CONTRACTOR's expense.

D. Evaluation: DESIGN PROFESSIONAL and CITY's Representative will be allowed a re□□on□□e ti□e □it□in which to e□□u□te e□c□ proposal or □u□□itt□□ □□de □ur□u□t to Paragraphs 6.06 A, and 6.06 B. CITY will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized without CITY's prior written acceptance which will □e e□idenced by eit□er a C□□n□e Order or □n □□□ro□ed Sh□p Dr□□in□. CIT□ may re□uire CONTRACTOR to furnish at CONTRACTOR's expense, a special performance guarantee or other surety with respect to any "or-equal' substitute. DESIGN PROFESSIONAL will record time re□uired by DE□I□□ □ROFE□□IO□□□ □nd Con□u□t□nt□ in e□□u□tin□ □u□□titute□ □ro□o□ed or □u□□itted by CO□TR□CTOR □ur□u□t to Paragraphs 6.06 A □nd 6.06 B □nd in mak□ng c□□n□e□ in t□e Contr□ct Docu□ent□ (or in t□e □ro□i□ion□ of any ot□er direct contr□ct □it□ CIT□ for □or□ on t□e □ro□ect) occ□□ioned t□ere□□. □ □et□er or not CIT□ □cce□t□ a □u□□titute □o □ro□o□ed or □u□□itted by CO□TR□CTOR, CO□TR□CTOR shall rei□□ur□e CIT□ for t□e re□□on□□e c□□r□e□ of DE□I□□ □ROFE□□IO□□□ □nd Con□u□t□nt□ for e□□u□tin□ e□c□ □uc□ □ro□o□ed □u□□titute.

6.07 Concerning Subcontractors, Suppliers and Others

A. CO□TR□CTOR shall not e□ □□o□ or ret□in any □u□contr□ctor, □u□□ier or ot□er □er□on or or□□ni□□tion (inc□udin□ t□o□e □cce□t□□e to CIT□ as indic□ted in Paragraph 6.07 B), □□et□er initi□□□ or as a □u□□titute, □□□in□t wh□m CIT□ has a re□□on□□e o□ection, inc□udin□ □ut not i□ited to de□□r□ent by Cit□ or □not□er □o□ern□ent□□ entit□ or decertific□tion of t□e Subcontractor from the City's Minority and Women's Business Enterprise Program as a result of t□e □u□contractor's failure to comply with any of the requirements of t□e □ro□i□ion of C□□□ter 3 of the City's Code as determined by the Director of the Ci□i□Ri□□t□ □nd Equal O□□ortunit□ De□□rt□ent. Contr□ctor shall in□ert t□i□ □ro□i□ion in any □u□contr□ctor □□ree□ent □□□oci□ted □it□ t□i□ Contr□ct. CO□TR□CTOR shall not □e re□uired to e□ □□o□ any □u□contr□ctor, □u□□ier or ot□er □er□on or or□□ni□□tion to furni□□ or □erfor□ any of t□e □ or□ □□□in□t wh□m CO□TR□CTOR has re□□on□□e o□ection. CO□TR□CTOR shall □u□□it re□uired infor□□tion for all □u□contr□ctor□ on For□ 01290.09 - □u□contr□ctor □nd M□or M□teri□□ □u□□ier□ □i□t, □ro□ided in t□e□e Contr□ct Docu□ent□, □rior to □u□contr□ctor □e□innin□ □ or□□t t□e □ite.

B. T□e □u□□e□ent□r□ Condition□ re□uire t□e identit□ of cert□in □u□contr□ctor□, □u□□ier□ or ot□er □er□on□ or or□□ni□□tion□ (inc□udin□ t□o□e wh□ □re to furni□□ t□e □rinci□□□ite□ □ of □□teri□□□ or e□ui□□ent) to □e □u□□itted to CIT□ on or □efore t□e d□te □□ecified in t□e □u□□e□ent□r□ Condition□, for □cce□t□nce by CIT□. If CO□TR□CTOR has □u□□itted a li□t

thereof in accordance with the subcontract Condition, CITY may accept (either in writing or confirming to the written objection thereto on the date indicated for acceptance or objection in the Contract Document) any such subcontractor, supplier or other person or organization so identified, or reject same on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable replacement for the rejected subcontractor, supplier or other person or organization. The Contract Price will be adjusted to the difference in the cost occasioned by such substitution, and an appropriate Change Order will be issued or written amendment signed. No acceptance by CITY of any such subcontractor, supplier or other person or organization shall constitute a waiver of any right of CITY or DEPARTMENT to reject defective work.

C. CONTRACTOR shall be fully responsible to CITY for acts and omissions of the subcontractor, supplier and other persons and organizations performing or furnishing any of the work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such subcontractor, supplier or other person or organization any contractual relationship between CITY or DEPARTMENT and any such subcontractor, supplier or other person or organization, nor shall it create any obligation on the part of CITY or DEPARTMENT to pay or to see to the payment of any money due any such subcontractor, supplier or other person or organization except as may otherwise be required by any public or Regulation.

D. CONTRACTOR shall be responsible for scheduling and coordinating the work of subcontractor, supplier and other persons and organizations performing or furnishing any of the work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require subcontractor, supplier and such other persons and organizations performing or furnishing any of the work to communicate with CITY and DEPARTMENT through CONTRACTOR.

F. The division and section of the specification and the identification of any Drawing shall not control CONTRACTOR in dividing the work or on subcontractor or supplier or defining the work to be performed by any specific trade.

G. Any work performed for CONTRACTOR by a subcontractor or supplier shall pursuant to an appropriate written agreement between CONTRACTOR and the subcontractor or supplier that specifically binds the subcontractor or supplier to the applicable terms and conditions of the Contract Documents for the benefit of CITY. Each agreement is shall require the subcontractor or supplier to, in addition, insured on the property insurance provided in Paragraph 5.06, the agreement between the CONTRACTOR and the subcontractor or supplier shall contain provisions wherein the subcontractor or supplier shall waive all rights against CITY, CONTRACTOR, DEPARTMENT, Consultant and any other additional insured for damages caused by and to the extent covered by, arising out of or resulting from any peril, to the extent covered by such policies and any other property insurance applicable to the work. If the insurer on any such policies require separate waiver forms to be signed by any subcontractor or supplier, CONTRACTOR shall obtain the same.

H. Except as otherwise provided in this subsection and in accordance with the provisions of subsection C hereof, the agreement between CONTRACTOR and the subcontractor or supplier referred to in subsection , shall provide that the CONTRACTOR and the Subcontractor or Supplier agree not to request CITY or CITY's Representative to intervene in or facilitate the resolution of claims or contract disputes arising out of or related to the agreement between CONTRACTOR and the subcontractor or supplier. Furthermore, the Contracts between CONTRACTOR and subcontractors or suppliers shall provide that unresolved claims and disputes between CONTRACTOR and the subcontractor or supplier that remain unresolved after thirty (30) calendar days from the notice of claim, shall be subject to mediation as a condition precedent to the institution of legal proceedings in either court. Any such mediation shall be conducted in accordance with the CITY's Code Section 3-467.

I. CONTRACTOR shall not insert any provision in any subcontract agreement associated with this Contract that would prohibit the subcontractor agreement from complying with this provision or would void the subcontractor agreement or any part thereof if or when the agency CONTRACTOR is paid by the CITY. Contractor's compliance with this provision is a material term of this Contract.

J. CONTRACTOR shall not deny any subcontractor subcontracting opportunities because the subcontractor is not willing to execute agreements with unreasonable provisions that are inconsistent with this Contract or with any applicable law.

6.08 Patent Fees and Royalties

A. CONTRACTOR shall pay all license fees and royalties and all charges incident to the use in the performance of the Work or the incorporation into the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work, and if to the actual knowledge of CITY or DESIGN PROFESSIONAL its use is subject to patent rights or copyrights claimed by others, the existence of such rights shall be disclosed in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall defend, indemnify and hold harmless CITY, DESIGN PROFESSIONAL, Consultants and the officers, directors, employees, agents and other consultants of each and any of these from and against all claims, costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation into the Work of any invention, design, process, product or device not specified in the Contract Documents.

6.09 Permits

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. CITY shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Contract. CONTRACTOR shall pay all charges of utility owners for connections to the Work.

B. CONTRACTOR, at its own expense, shall comply with all Federal, State and local laws and regulations, including, but not limited to the Missouri Clean Water Law (Chapter 644 RSMo) together with any associated rules and regulations (CSR Title 10), and shall maintain any and all permits, together with any CITY provisions during the life of this Contract including but not limited to:

1. Storm and permits required for construction or land disturbance activities.

2. Compliance with the State of Missouri – Department of Natural Resources ("MDNR") Missouri State Operating Permit ("Land Disturbance Permit"), MO-R100006 for construction or land disturbance activity.

3. Development and implementation of Storm Water Pollution Prevention Plan (SWPPP).

(a) Contractor shall not commence land disturbance activity until the initial BMPs have been finalized.

(b) Preparation and submittal of all applications, documentation and permit required to obtain MDNR approval for uninterrupted work at the site.

(c) Bending/Modification of BMPs.

(d) Site Inspections and submittal of Inspection Reports

(e) Proper Operation and Maintenance to achieve compliance with the terms of the permit.

(f) Maintenance of required records in accordance with MDNR requirements and requirements included in Article 6 of these Contract Documents.

4. In addition to requirements of Article 6, Contractor shall provide record access to Missouri Department of Natural Resources (MDNR).

5. Failure to control erosion and water pollution is a permit violation. CONTRACTOR shall have 24 hours after receiving notice of the violation to correct the problem. If the CONTRACTOR fails to correct the problem after the time prescribed, the City will issue a rejection event to fix the problem. In such an event, the CONTRACTOR shall be liable to the City for the rejection costs equal to 10% of the total contract price. If the CONTRACTOR receives three (3) notices of violation of the erosion control plan and the City's MS4 permit, the Director may issue a stop work order and delay any payment until control measures are properly functioning and there shall be no costs incurred. In such event, any delays to the project schedule shall result in liquidated damages assessed against the CONTRACTOR.

6.10 Compliance with Laws and Regulations

A. CONTRACTOR shall comply with federal, state and local laws, ordinances and regulations applicable to the work and this Contract. CONTRACTOR shall give notices and comply with Applicable or Regulations applicable to furnishing and performing the work. Except where otherwise expressly required by applicable or Regulations, neither CITY nor DESIGN PROFESSIONAL shall be responsible for monitoring CONTRACTOR's compliance with any or Regulations. The or Regulations included in this Article shall include, but not be limited to, those set forth in the Supplementary Conditions.

B. **Failure to Comply**. If CONTRACTOR performs any work in violation of applicable or Regulations, CONTRACTOR shall bear all claims, costs, losses and damages (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and court or arbitration or other dispute resolution costs) caused by, arising out of or resulting therefrom; however, it shall not be CONTRACTOR's primary responsibility to discover certain that the specifications and Drawings are in accordance with or Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under Paragraph 3.03.

C. **Conflicts of Interest**. The provisions of City's Code Sections 2-2001 and 3-301, prohibiting City officers and employees from having a financial or personal interest in any contract with City, and Code Sections 3-307, and 3-309, imposing sanctions for violations, shall apply to this Contract. CONTRACTOR certifies that no officer or employee of City, or member of such officer's or employee's immediate family, either has negotiated, or has or will receive any payment concerning employment to perform services on behalf of CONTRACTOR on this Contract.

D. **Licenses and Permits**. CONTRACTOR, at its own expense, shall secure or cause to be secured any licenses and permits from public or private sources necessary for the fulfillment of its obligations under this Contract. All references in this Contract to the "Code" shall mean City's Code of Ordinances, including any amendments thereto or re-codification thereof unless the context clearly indicates otherwise. CONTRACTOR shall obtain copies of any necessary licenses and permits from any subcontractors required for the work before any subcontractor begins work at the site. CONTRACTOR shall retain such evidence in its files and make the same available to CITY within ten (10) days after CITY's written request.

E. Americans with Disabilities Act. CONTRACTOR agrees to comply, during the course of this Contract, with provisions of Title II of the 2010 ADA Standards for Accessible Design as amended from time to time.

F. Affirmative Action. If the Contract Price exceeds $300,000.00 and CONTRACTOR employs fifty (50) or more people, CONTRACTOR shall comply with City's Affirmative Action requirements in accordance with the provisions of Chapter 3 of City's Code, the rules and regulations relating to those sections, and any additions or amendments thereto. CONTRACTOR shall not discriminate against any employee or applicant for employment because of race, color, sex, religion, national origin or ancestry, disability, sexual orientation, gender identity or age in the manner provided in Chapter 3 of City's Code.

CONTRACTOR shall:

1. Submit, in print or electronic format, a copy of CONTRACTOR'S current certificate of compliance to the City's Civil Rights and Equal Opportunity Department (CREO) prior to receiving the first payment under the contract, unless a copy has already been submitted to CREO at any point within the previous twenty-four months. If, and only if, CONTRACTOR does not possess a current certification of compliance, CONTRACTOR shall submit, in print or electronic format, a copy of its affirmative action program to CREO prior to receiving the first payment under the contract, unless a copy has already been submitted to CREO at any point within the previous twenty-four months.

2. Require any subcontractor awarded a subcontract exceeding $300,000.00 to affirm that subcontractor has an affirmative action program in place and maintain that affirmative action program in place for the duration of the subcontract.

3. Obtain from any subcontractor awarded a subcontract exceeding $300,000.00 a copy of the Subcontractor's current certificate of compliance and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed. If, and only if, subcontractor does not possess a current certificate of compliance, CONTRACTOR shall obtain a copy of the Subcontractor's affirmative action program and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed.

City has the right to take action as directed by City's Civil Rights and Equal Opportunity Department to enforce this provision. If CONTRACTOR fails, refuses or neglects to comply with the provisions of Chapter 3 of City's Code, then such failure shall be deemed a total breach of this Contract and this Contract may be terminated, canceled or suspended, in whole or in part, and CONTRACTOR may be declared ineligible for any further contracts funded by City for a period of one (1) year. This remedy is cumulative of this Contract.

G. Minority and Women Business Enterprises and Workforce. City is committed to ensuring that minorities and women participate to the maximum extent possible in the performance of City's construction contracts. If minority and women business enterprise (M/WBE) goals have been set for this Contract, CONTRACTOR agrees to comply with requirements of City's Minority and Women's Business Enterprise Program as enacted in City's Code, Sections 3-421 through 3-469 and as hereinafter amended. CONTRACTOR shall meet or exceed both the M/WBE and AE goals set forth in its Contractor Utilization Plan/Request for Waiver. If labor force utilization goals are specific to this Contract, CONTRACTOR agrees to comply with all requirements of City's Construction Employment Program as enacted in City's Code, Sections 3-501 through 3-527 and as hereinafter amended. CONTRACTOR shall meet or exceed the construction employment goals unless the failure has been excused in the manner provided by law. CONTRACTOR's compliance with this provision is a material part of this Contract.

H. Records.

1. For purposes of this Section:

(a) "City" shall mean the City Auditor, the City's Internal Auditor, the City's Director of Civil Rights and Equal Opportunity, the City Manager, the City department administering this Contract and their designees and agents.

(b) "Record" shall mean any document, book, paper, photograph, map, sound recordin□ or ot□er □ teri□, re□rd□□ of phys cal for□ or c□r cteri□tic, □de or rece□ed in connection □it□ t□i□ Contr□ct □nd all Contr□ct □□end□ent□ □nd rene□□□.

2. CO□TR□CTOR shall □ □int□in □nd ret□in all Record□ for a ter□ of fi□e (5) y□ars t□□t shall □e□in □fter t□e e□□ir tion or ter□in tion of t□i□ Contr□ct □nd all Contr□ct □□end□ent□. Cit□ shall hav □ a ri□□t to e□□□ine or □udit all Record□ □nd CO□TR□CTOR shall □ro□ide □cce□□ to Cit□ of all ecord□ u□on ten (10) days □ritten notice fro□ t□e Cit□.

I. Prevailing Wage.

1. CO□TR□CTOR shall comply □nd re□uire it□ □u□contr□ctor□ to comply □it□;

a. □ection□ 290.210 to 290.340, R□MO t□e □t□te of Mi□□ouri □re□□i□in□ Wag □ Law (the "Law"); and

b. 8 C□R 30-3.010 to 8 C□R 30-3.060, t□e □re□□i□in□ Wag □ Law Ru□□ (t□e "Rules"); and

c. the Annual Wage Order (Wage Order) issued by the State of Missouri's De□□rt□ent of Lab or □nd Indu□tri□□Re□□tion□; □nd

d. any □□□ic□□□e □nnu□□ Incre□ent□□ Wag □ Incre□□e (Wag □ Incre□□e) to t□e □nnu□□Wag □ Order.

2. T□e Law, Ru□□, □nnu□□Wag □ Order □nd any Wag □ Incre□□e □re incor□or□ted into □nd □ □de □□rt □ereof t□i□ Contr□ct □nd shall □e co□ecti□□ referred to in t□i□ □ection as t□e "Prevailing Wage Requirements."

3. CO□TR□CTOR shall pay □nd re□uire it□ □u□contr□ctor□ to pay to all □or□er□ □erfor□in□ □or□ under t□i□ Contr□ct not □e□□ t□□n t□e □re□□i□in□ □our□□ r□te of wag □s for t□e class or t□□e of □or□ □erfor□ed by t□e □or□er in □ccord□nce □it□ t□e Law, Ru□□, Wag □ Order □nd any □□□ic□□□e Wag □ Incre□□e. CO□TR□CTOR shall t□□e □□□te□er s□eps □re nece□□□r□ to in□ure t□□t t□e □re□□i□in□ □our□□ wag □ r□te□ □re □□id □nd t□□t all □or□er□ for CO□TR□CTOR □nd e□c□ of it□ □u□contr□ctor□ □re □□id for t□e class or t□□e of □or□ □erfor□ed by t□e □or□er in □ccord□nce □it□ t□e □re□□i□in□ Wag □ Re□uire□ent□. If CONTRACTOR shall fail to start to perform CONTRACTOR's obligations under t□e Contr□ct Docu□ent□ □it□in s□x□y (60) days fro□ t□e Effecti□e D□te of t□e Contr□ct, CO□TR□CTOR □nd e□c□ of it□ □u□contr□ctor□ shall □e o□li□□ted to pay all □or□er□ in □ccord□nce □it□ any ne□ Wag □ Order, as □u□□e□uent□□ □□ended by a□y □□□ic□□□e Wag □ Incre□□e, i□□ued by t□e De□□rt□ent of Lab or □nd Indu□tri□□Re□□tion□ □it□in t□e □fore□entioned s□x□y (60) day □eriod. T□e ne□ Wag □ Order □nd any □□□ic□□□e Wag □ Incre□□e shall □o□ern not□it□□t□ndin□ t□e f□ct t□□t t□e Wag □ Order □ein□ re□□□ced might □e phys□cally □tt□c□ed or incor□or□ted in t□e Contr□ct Docu□ent□.

4. □rior to e□c□ of it□ □u□contr□ctor□ □e□innin□ □ or□on t□e □ite, CO□TR□CTOR shall require each Subcontractor to complete CITY's Form 00490 entitled "Pre-contr□ct Certification" that sets forth the Subcontractor's prevailing wage and tax compliance history for t□e t□o (2) y□ars □rior to t□e □id. CO□TR□CTOR shall □et□in one (1) □e□r □nd mak □ t□e □re-contr□ct Certific□tion□ ava□lab□ to CIT□ □it□in fi□e (5) days □fter □ritten re□ue□t.

5. CO□TR□CTOR shall:

a. □ee□ □nd re□uire e□c□ of it□ □u□contr□ctor□ en□□□ed in t□e con□truction of public works in performance of the Contract to keep full and accurate records on City's "Daily Labor Force Report" Form indicating the worker's name, occupational title or c□□□ification group & skill and the workers' hours. City shall furnish blank copies of the Daily Lab or Force Re□ort For□ to Contr□ctor for it□ u□e □nd for di□tri□ution to □u□contr□ctor□. Contr□ctor shall □u□□it it□ □nd it□ □u□contr□ctor□ Daily Lab or Force Re□ort□ to Cit□ e□c□ day; □nd

b. Submit, and require each of its subcontractors engaged in the construction of public works in performance of the Contract to submit electronically, in a format prescribed by the City, Certified Payroll Report Information indicating the worker's name, address, social security number, occupation(s), craft(s) of each worker employed in connection with the public work together with the number of hours worked by each worker and the actual wages paid in connection with the project and other pertinent information requested by the City; and

c. Submit, and require each of its subcontractors engaged in the construction of public works in performance of the Contract to submit, electronically, in format prescribed by the City, a Payroll Certification. The Payroll Certification must be signed by the employee or agent who pays or supervises the payment of the workers employed under the Contract for the Contractor and each subcontractor; and

d. The Diversity Workforce Report, documents used to compile information for the Certified Payroll Report, and Payroll Certification are collectively referred to in this Section as the "Records."

6. CONTRACTOR shall submit its and its subcontractors' Diversity Workforce Report to CITY each month. CONTRACTOR shall make all of CONTRACTOR's and Subcontractors' Records open to inspection by an authorized representative of OWNER and the Missouri Department of Labor and Industrial Relations at any reasonable time and as often as may be necessary, and such Records shall not be destroyed or removed from the State of Missouri for a period of one (1) year following the completion of the public work in connection with which the Records are made. CONTRACTOR shall make its and its subcontractors' Certified Payroll Reports and Payroll Certifications available at the CONTRACTOR's office and shall provide the Records to the City electronically at City's sole discretion. In addition, Records shall be considered a public record and CONTRACTOR shall provide the Records to the CITY in the format required by the CITY within three (3) working days of any request by CITY at the CONTRACTOR's cost. CITY, in its sole discretion, may require CONTRACTOR to send any of the Records directly to the person who requested the Record at CONTRACTOR's expense.

7. CONTRACTOR shall forfeit and cause forfeited a certain amount as stipulated in Missouri statutes to be paid to the order of each worker employed by CONTRACTOR and each of its subcontractors in the performance of this Contract in a prominent and easily accessible place at the site of the work or otherwise.

8. If the Contract price exceeds $250,000.00, CONTRACTOR shall and shall require each subcontractor engaged in the construction of public works to provide its name, telephone, facsimile number and the name of the city and State of the principal office of the company, on each motor vehicle and motorized self-propelled piece of equipment which is used in connection with the project during the time the CONTRACTOR or subcontractor is engaged on the project. The sign shall be legible from a distance of twenty (20') feet, but the size of the lettering need not be larger than two (2") inches. In cases where equipment is leased or where affixing a legible sign to the equipment is impractical, the CONTRACTOR shall place a temporary registration plate, with the information required pursuant to this section, at the main entrance of the project in place of affixing the required information on the equipment so long as such action is not in violation of any state or federal statute, rule or regulation. Motor vehicles which are required to have similar information affixed thereto pursuant to requirements of a regulatory body of the state or federal government are exempt from the provisions of this subsection.

9. CONTRACTOR must correct any errors in CONTRACTOR's or any Subcontractors' Records, or CONTRACTOR's or any Subcontractors' violations of the Law, Rules, Annual Wage Order and Prevailing Wage Increase within fourteen (14) calendar days after notice from CITY.

10. CONTRACTOR shall require its subcontractors to cooperate with the CITY and the Department of Labor and Industrial Relations in the enforcement of this section, the Rules, Annual Wage Order and Prevailing Wage Determination. Contractor shall require its subcontractors to permit the CITY and the Department of Labor and Industrial Relations to interview any and all workers during working hours on the Project at CONTRACTOR's sole cost and expense.

11. CONTRACTOR shall certify with CITY, upon completion of the project and prior to final payment therefore, affidavit from CONTRACTOR and each of its subcontractors, stating that each has fully complied with the provisions and requirements of the Missouri Prevailing Wage Law. CITY shall not make final payment until the affidavit, in proper form and order, from CONTRACTOR and each of its subcontractors, are filed with CONTRACTOR.

12. CONTRACTOR shall forfeit to the CITY one hundred dollars ($100.00) for each worker employed, for each calendar day, or portion thereof, such worker is paid less than the prevailing hourly rate for any work done under this Contract, by CONTRACTOR or by any of CONTRACTOR's Subcontractors. If CONTRACTOR or any of its subcontractors violate the provisions of Section(s) of 290.210 to 290.340, RSMo, in the course of the execution of the Contract, CITY shall withhold payments to the CONTRACTOR making up the underpayment due under this Contract, withhold and retain therefrom sufficient sums and amounts due and owing as a result of any violation of Sections 290.210 to 290.340, RSMo.

J. **Prevailing Wage Damages**. CONTRACTOR acknowledges and agrees that, based on the experience of CITY, violations of the Missouri Prevailing Wage Act, whether by CONTRACTOR or its subcontractors, could result in additional costs to CITY. CONTRACTOR agrees that additional costs to CITY for any particular violation are difficult to estimate and include but are not limited to costs of construction delays, additional labor for CITY, additional interest expense, inspection, and the cost of establishing and maintaining additional dispute resolution procedures under the City Manager to monitor prevailing wage compliance.

1. In the event of the failure by CONTRACTOR or any of its subcontractors to make payments as provided in the Missouri Prevailing Wage Act, CITY shall be entitled to deduct from the Contract Price, and withhold as liquidated damages, one hundred dollars ($100.00) per day, per worker to increase from the prevailing hourly rate of wages, to approximate the additional costs. The sum shall be deducted, paid or owed whether or not the Contract Time has expired.

2. CITY shall provide written notice to CONTRACTOR setting forth the order, stating that the wages have been underpaid, the amount of the withholding and the amount of the liquidated damages provided for in this subparagraph. CONTRACTOR shall have fourteen (14) calendar days to respond, which time may be extended by CITY upon written request. If CONTRACTOR fails to respond within the specified time, the CITY's original notice shall be deemed final. If CONTRACTOR responds to CITY's notice, CITY will furnish CONTRACTOR a final decision in writing within five (5) days of considering the information.

K. **Missouri Secretary of State Business Entity Registration**. CONTRACTOR shall obtain from all subcontractors for the project, a copy of their current certificate of good standing or fictitious name registration from the Missouri Secretary of State before they begin work on the site. CONTRACTOR shall retain such documents in its file and provide to CITY within ten (10) days after written request.

L. **Tropical Hardwoods**. The provisions of Code Section 2-1872, restricting the use of tropical hardwood, are applicable to this Contract.

M. **Preference for Missouri Products**. Pursuant to Section 71.140 RSMo., preference shall be given to materials, products, supplies and other articles produced, manufactured, made or grown within the State of Missouri.

N. **Guidelines for Open Excavations**.

1. CO□TR□CTOR □□□□ re□tore re□uired e□c□□tion□ to t□e □e□e□ of t□e □d□cent □urf□ce□ □□ □oon □□ □r□ctic□□e. □n□u□er□i□ed o□en e□c□□tion□ on □u□ic □ro□ertie□ □re di□cour□□ed □t □□□ti□e. If CO□TR□CTOR, in □erfor□ nce of t□e □ or□, □ □□e□or c□u□e□ to □e □ □de □n□e□c□□□tion in, u□on, under, t□rou□□ or □d□inin□ □n□ □treet, □ide□□□, □□e□, □□r, □ou□e□□rd, □□r□□ □□ or □n□ ot□er □u□ic □ro□ertie□, □nd □□□□□e□□e □n□ □□rt or □ortion t□ereof o□en, CO□TR□CTOR □□□□□ro□ide effecti□e □rotection to t□e □u□ic.

2. CO□TR□CTOR □□□□□rotect □nd □ecure □□e□c□□tion□ in ro□d□ □□□□ in co□ □i□nce □it□ e□i□tin□ feder□, □t□te □nd □oc□□code□ □nd □t□nd□rd□, inc□udin□, □ut not □i□ited to t□e □o□t current edition of t□e M□nu□□of □nifor□ Tr□ffic Contro□De□ice□. CO□TR□CTOR □□□□□ □rotect □nd □ecure □□un□u□er□i□ed e□c□□tion□ not □it□in ro□d□ □□□□, eit□er □□ co□erin□ or fencin□.

□. Co□erin□. □ □rotecti□e co□er t□□t c□n □u□t□in t□e □ei□□t of □er□on□ or of o□ect□ t□□t □re □□ced u□on it □ □□ □e in□t□□ed o□er □n un□u□er□i□ed e□c□□tion. T□e co□er □□□□□□e □ecured to t□e □round to □re□ent □o□e□ent. □rotecti□e co□er□ □□□□□□□□e no o□enin□(□) or □rotu□er□nce(□) of □ufficient □i□e to c□u□e □ f□□□nd/or in□ur□. □d□□nce □□rnin□ de□ice□ □□□□□□e in□t□□ed □□nece□□□r□.

□. Fencin□. Fencin□ to □re□ent entr□ □ □□ □e in□t□□ed □urroundin□ □n un□u□er□i□ed e□c□□tion not □rotecti□e□□ co□ered in it□ entiret□. T□e fencin□ □□□□□□e □ □ini□u□ of 42” in height. The fencing shall be constructed in such a manner that it i□ □de□u□te□□ □ecured □nd □i□re□ in u□ri□□t □t □□□ti□e□ under nor□ □□□ite condition□. □□□□rotecti□e co□erin□□ □nd fence□ o□er □nd □round e□c□□tion□ □□□□□□e in□□ected □t □e□□t d□i□□ to □□□ure inte□rit□. □rotecti□e co□erin□□ □nd/or fence□ in □e□i□□ tr□ffic□ed □re□□ □□□□□□e in□□ected □ore often □□nece□□□r□.

O. Notification of Utilities. CO□TR□CTOR □□□□□d□ere to t□e □ro□i□ion□ of □ection□ 319.010 et □e□., R□Mo., □ic□ re□uire□ t□□t □ □er□on or fir□ □ □□in□ □n e□c□□tion in □n□ □u□ic □treet, ro□d or □□e□, ri□□t of □□□ dedic□ted to □u□ic u□e, uti□it□ e□□e□ent of record, or □it□in □n□ □ri□□te □treet or □ri□□te □ro□ert□ do □o on□□ □fter □i□in□ notice to, □nd o□t□inin□ infor□ □tion fro□, o□ner□ of □nder□round F□ci□itie□. T□e 24-□our, to□-free □ccident □re□ention □ot□ine nu□ □er in Mi□□ouri i□ 1-800-344-7483 (1-800-Di□rite).

P. Employee Eligibility Verification. CO□TR□CTOR □□□□□d□ere to t□e □ro□i□ion□ of □ection□ 285.525 et □e□., R□Mo., □ic□ re□uire□ t□□t for □n□ contr□ct e□ceedin□ fi□e t□ou□□nd do□□r□ ($5,000.00), CO□TR□CTOR □□□□□e□ecute □nd □u□□it □n □ffid□□it, in □for□ □re□cri□ed □□ CIT□, □ffir□in□ t□□t CO□TR□CTOR doe□ not □no□in□□□ e□ □o□ □n□ □er□on in connection □it□ t□e contr□cted □er□ice□ □□o doe□ not □□□e t□e □e□□ri□□t or □ut□ori□□tion under feder□□□□□ to □or□in t□e □nited □t□te□ □□ defined in 8 □.□.C.□ 1324□(□)(3). CO□TR□CTOR □□□□□□tt□c□ to the affidavit documentation sufficient to establish CONTRACTOR’S enrollment and participation in □n e□ectronic □erific□tion of □or□ □ro□r□□ o□er□ted □□ t□e □nited □t□te□ De□□rt□ent of □o□e□nd □ecurit□ (E-Verif□) or □n e□ui□□ent feder□□□or□ □ut□ori□□tion □ro□r□□ o□er□ted □□ t□e □nited □t□te□ De□□rt□ent of □o□e□nd □ecurit□ to □erif□ infor□ □tion of ne□□□ □ired e□ □o□ee□, under t□e I□ □i□r□tion Refor□ □nd Contro□□ct of 1986. CO□TR□CTOR □ □□o□t□in □ddition□□ infor□ □tion □□out E-Verif□ □nd enro□□ □t □tt□□//e-□erif□.u□ci□.□o□/enro□/□t□rt□□□e.□□□□□□□□□E□. For t□o□e Contr□ctor□ enro□ed in E-Verif□, t□e fir□t □nd □□t □□□e□ of t□e E-Verif□ Me□or□ndu□ of □nder□t□ndin□ t□□t CO□TR□CTOR □i□□ o□t□in u□on □ucce□□fu□□ enro□□in□ in t□e □ro□r□□ □□□□□con□titute □ufficient docu□ent□tion for □ur□o□e□ of co□ □□□in□ □it□ t□i□ □ection. CO□TR□CTOR □□□□□ u□□it t□e □ffid□□it □nd □tt□c□□ent□ to CIT□ □rior to e□ecution of t□e Contr□ct, or □t □n□ □oint durin□ t□e ter□ of t□e Contr□ct if re□ue□ted □□ Cit□.

Q. OSHA 10-Hour Training Requirement. CO□TR□CTOR □nd □n□ □u□contr□ctor □or□in□ under t□i□ Contr□ct □□□□□re□uire e□er□ e□ □o□ee on t□e □ite to co□□□ete □ ten-□our con□truction □□fet□ □ro□r□□ □□ic□ □eet□ t□e re□uire□ent□ of □ection 292.675, R□Mo, e□ce□t for t□o□e e□ □o□ee□ □□o □□□□□□□□e □re□iou□□□ co□□eted t□e re□uired □ro□r□□ □nd □o□d docu□ent□tion to t□□t effect. CO□TR□CTOR □□□□□re□o□e or re□uire t□e re□o□□□ of □n□

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□er□on fro□ t□e □ite who i□ □u□ect to t□i□ re□uire□ent □nd who doe□ not co□ □ete or i□ un□□e to □roduce docu□ent□tion of t□eir □ucce□□fu□ co□ □etion of t□e re□uired □ro□r□□ □it□in t□e ti□e i□ it□tion□ re□cri□ed by □ection 292.675, R□Mo. CO□TR□CTOR shall forfeit t□e s□m of t□o t□ou□□nd fi□e □undred do□□r□ ($2,500.00), in □ddition to one □undred do□□r□ ($100.00) □er e□ □o□ee e□c□ c□end□r day, or □ortion t□ereof, t□e e□ □o□ee(□) shall continue to □e e□ □o□ed □it□out hav□ng co□ □eted t□e re□uired □ro□r□□ □it□in t□e ti□e i□ it□tion□ re□cri□ed by □ection 292.675, R□Mo. CI□ shall □e entitled to □it□old □nd ret□in any □□ount□ due □nd o□in□ □ereunder □□en mak□ng □□□□ent to CO□TR□CTOR.

R. Clean Air Act and Clean Water Act. CO□TR□CTOR shall □omply □it□ re□uire□ent□ of t□e C□e□n □ir □ct (42 U.S.C. 7401 *et seq.*); C□e□n □ □ter □ct (33 U.S.C. 1251 *et seq.*), Mi□□ouri C□e□n □ □ter Law (C□□□ter 644 R□Mo), Code of Feder□□re□u□□tion□ (Titl□ 40: □rotection of En□iron□ent, Titl□ 33: □□□i□□tion □nd Nav□gab□e □ □ter□) □nd t□e ru□e□ of t□e Mi□□ouri Code of □t□te Re□u□□tion□ (C□R Titl□ 10).

S. Contract information Management System. If □□□ic□□e, CO□TR□CTOR shall comply □it□ CI□'□ Contr□ct Infor□ □tion M□n□□e□ent Sys□em re□uire□ent□. CO□TR□CTOR shall u□e CI□'□ Internet web bas□d Contr□ct Infor□ □tion M□n□□e□ent □□□te□/ro□ect M□n□□e□ent Co□ □unic□tion□ Too□□ro□ided by CI□ □nd □rotoco□ inc□uded in t□□t □oft□□re durin□ t□e ter□ of t□i□ Contr□ct. CO□TR□CTOR shall □ □int□in u□er □□□ic□tion□ to CI□'□ □ro□ided sys□em for all □er□onne□, □u□contr□ctor□ or □u□□ier□ as □□□ic□□e □nd shall re□uire □u□contr□ctor□/□u□con□ult□nt□ to □ □int□in sam□e.

T. Anti-Discrimination Against Israel. If t□i□ Contr□ct e□ceed□ $100,000.00 □nd CO□TR□CTOR e□ □o□□ □t □e□t ten e□ □o□ee□, □ur□u□nt to □ection 34.600, R□Mo., by e□ecutin□ t□i□ Contr□ct, CO□TR□CTOR certifie□ it i□ not current□□ en□□□ed in □nd shall not, for t□e dur□tion of t□i□ contr□ct, en□□□e in a □o□cott of □ood□ or □er□ice□ fro□ t□e □t□te of I□r□e□; co□ □nie□doin□ □u□ine□□ in or □it□ I□r□e□ or □ut□ori□ed by, □icen□ed by, or or□□ni□ed under t□e laws of t□e □t□te of I□r□e□; or □er□on□ or entitie□ doin□ □u□ine□□ in t□e □t□te of I□r□e□.

U. Ban the Box in Hiring and Promotion

a. □ur□u□nt to □ection 38-104, Cit□ Code Ordin□nce□, CO□TR□CTOR shall not bas□ a □irin□ or □ro□otion□□ deci□ion on □n □□□ic□nt'□ cri□in□□ i□tor□ or □entence re□□ted t□ereto, un□e□□ t□e e□ □o□er c□n de□on□tr□te t□□t t□e e□ □o□□ent-re□□ted deci□ion was bas□d on all infor□ □tion ava□lab□e inc□udin□ con□ider□tion of t□e fre□uenc□, recentne□□ □nd □e□erit□ of a cri□in□□record □nd t□□t t□e record was reas□nably re□□ted to t□e dutie□ □nd re□□on□i□ilitie□ of t□e □o□ition.

b. □ot□it□□t□ndin□ □u□□ection (a), CO□TR□CTOR may in□uire □□out □n □□□ic□nt'□ cri□in□□□i□tor□ □fter it has □een deter□ined t□□t t□e indi□idu□□i□ ot□er□i□e □u□ified for t□e □o□ition, □nd on□ □fter t□e □□□ic□nt has □een inter□ie□ed for t□e □o□ition. Any □uc□ in□uir□ may □e □□de of all □□□ic□nt□ who □re □it□in t□e fin□□□e□ection □oo□ of c□ndid□te□ fro□ which a □o□ will □e fi□□ed.

c. T□i□ □ro□i□ion shall not apply to □o□ition□ □□ere e□ □o□er□ □re re□uired to e□c□ude □□□ic□nt□ □it□ cert□in cri□in□□ con□iction□ fro□ e□ □o□□ent due to □oc□, □t□te or feder□□ law or re□u□□tion.

V. Title VI of the Civil Rights Act of 1964

a. Titl□ VI of t□e Ci□i□ Ri□□t□ □ct of 1964 re□uire□ t□□t no □er□on in t□e □nited □t□te□ shall, on t□e □round□ of r□ce, co□r, or n□tion□□or ori□in (inc□udin□ li□ited En□li□ □roficient indi□idu□□), □e e□c□uded fro□ □□rtici□□tion in, □e denied t□e □enefit□ of, or □e □u□ected to di□cri□in□tion under any □ro□r□□ or □cti□it□ recei□in□ feder□□ fin□nci□□□□i□tance. T□e Cit□ of Ka□sas Cit□, Mi□□ouri re□uire□ co□ □li□nce □it□ t□e re□uire□ent□ of Titl□ VI in all of it□ programs □nd □cti□itie□ re□□rd□□ of t□e fundin□ □ource.

□. CO□TR□CTOR □□□□not di□cri□in□te on t□e □round□ of r□ce, co□or, or n□tion□□ or ori□in (inc□udin□ i□ited En□i□□ □roficient indi□idu□□).

W. Non-discrimination in Employment

CO□TR□CTOR □□□□not di□cri□in□te □□□in□ □n□ e□ □o□ee or c□ndid□te for e□ □o□□ent on the basis of an individual's race, hair texture or hair style associated with an individual's r□ce, co□or, □e□, re□i□ion, n□tion□□ori□in, or □nce□tr□, di□□□i□it□, □e□u□□orient□tion, □ender identit□ or □□e in □ □ □nner □ro□i□ited □□ C□□□ter 38 of t□e Cit□ Code. CO□TR□CTOR □□□□ not en□□□e in □n□di□cri□in□tion □□ □ro□i□ited □□ C□□□ter 3 of t□e Cit□ Code.

X. Quality Services Assurance Act

If t□i□ Contr□ct e□ceed□ $160,000.00, CO□TR□CTOR certifie□ t□□t CO□TR□CTOR □i□□□□□ □□e□ □o□ee□ □□o □i□□or□ on t□i□ Contr□ct in t□e cit□ i□it□ of □n□□□ Cit□, Mi□□ouri □t least $15.00 per hour in compliance with the City's Quality Services Assurance Act, Section 3-66, Code of Ordin□nce□ un□e□ Cit□ □□□ □r□nted CO□TR□CTOR □n e□e□ □tion □ur□u□nt to t□e □u□it□ □er□ice□ □□□ur□nce □ct.

6.11 Taxes

A. CO□TR□CTOR □□□□□□□□ □□□□□e□, con□u□er, u□e □nd ot□er □i□i□r t□□e□ re□uired to □e □□id □□ CO□TR□CTOR in □ccord□nce □it□ t□e □□□□ or Re□u□□tion□ of t□e □□ce of t□e □ro□ect □□ic□ □re □□□ic□□□e durin□ t□e □erfor□ nce of t□e □ or□.

B. **Tax Compliance**.

1. □□ □ condition □recedent to CIT□ □ □□in□ it□ fir□t □□□□ent to CO□TR□CTOR under t□i□ Contr□ct, CO□TR□CTOR □□□□□ furni□□ to CIT□ □ufficient □roof from City's Co□ □i□□ioner of Re□enue, d□ted not □ore t□□n one (1) □e□r □rior to t□e d□te □ro□ided to CIT□, □erif□in□ t□□t CO□TR□CTOR i□ in co□ □i□nce □it□ t□e □icen□e □nd t□□ ordin□nce□ administered by City's Revenue Division of the Finance Department.

2. □□ □ condition □recedent to □u□contr□ctor□ □erfor□in□ □n□ □ or□ under t□i□ Contract, CONTRACTOR shall obtain from Subcontractor sufficient proof from City's Co□ □i□□ioner of Re□enue, d□ted not □ore t□□n one (1) □e□r □efore t□e d□te □u□contr□ctor □e□in□ □ or□, □erif□in□ t□□t t□e □u□contr□ctor i□ in co□ □i□nce □it□ t□e □icen□e □nd t□□ ordinances administered by City's Revenue Division of the Finance Department. CO□TR□CTOR □□□□□ret□in □uc□ docu□ent□tion in it□ fi□e□ □nd □ □□e □□□i□□□e to CIT□ □it□in ten (10) d□□□ □fter □ □ritten re□ue□t.

3. □□ □ condition □recedent to CIT□ □ □□in□ fin□□□□□□ent under t□i□ Contr□ct, if t□i□ Contr□ct i□ □n□er t□□n one (1) □e□r □nd e□ceed□ t□e do□□r t□re□□old e□t□□i□□ed □□ ordin□nce □nd inc□uded in t□e □u□□e□ent□r□ Condition□, CO□TR□CTOR □□□□□furni□□ to CITY sufficient proof from City's Commissioner of Revenue, dated not more than one (1) □e□r □efore t□e fi□in□ of □ fin□□□□□□ic□tion for □□□□ent, □erif□in□ t□□t CO□TR□CTOR i□ in co□ □i□nce □it□ t□e □icen□e □nd t□□ ordin□nce□ □d□ini□tered □□ City's Revenue Division of t□e Fin□nce De□□rt□ent.

4. If t□i□ Contr□ct i□ □n□er t□□n one (1) □e□r □nd e□ceed□ t□e do□□r t□re□□old e□t□□i□□ed □□ ordin□nce □nd inc□uded in t□e □u□□e□ent□r□ Condition□, CO□TR□CTOR □□□□□o□t□in fro□ □u□contr□ctors sufficient proof from City's Commissioner of Revenue, dated not more than one (1) year before the date of CONTRACTOR's final payment to the □u□contr□ctor, t□□t t□e □u□contr□ctor □□□ or i□ in co□ □i□nce □it□ t□e □icen□e □nd t□□ ordin□nce□ □d□ini□tered □□ City's Revenue Division of the Finance Department. CO□TR□CTOR □□□□□ret□in □uc□ docu□ent□tion in it□ fi□e□ □nd □ □□e □□□i□□□e to CIT□ □it□in ten (10) d□□□ □fter □ritten re□ue□t.

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5. If, at the time of final payment to CONTRACTOR, CONTRACTOR is unable to obtain from all its Subcontractors, if any, and furnish to CITY sufficient proof from City's Commissioner of Revenue that all subcontractors are in compliance with the license and tax ordinances administered by City's Revenue Division of the Finance Department, CITY may withhold final payment to CONTRACTOR if CITY determines that CONTRACTOR has made a good faith effort to furnish evidence or that there are other extenuating circumstances which make it impossible for CONTRACTOR to furnish sufficient proof.

C. Missouri Sales Tax Exemption. Pursuant to Section 144.062, RSMo, CITY is a Missouri exempt entity and therefore property to be incorporated or consumed in the construction of this Project may be purchased without sales tax. CITY will furnish CONTRACTOR a Missouri Project Exemption Certificate for use at the time of issuance of the Notice to Proceed.

6.12 Use of Site and Other Areas

A. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the site and other areas identified in and permitted by the Contract Documents and other areas permitted by Laws or Regulations. CONTRACTOR shall not unreasonably encumber the site and the other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for and shall indemnify the CITY to the site or the other areas, or to the owner or occupant thereof, or of any adjacent land or areas, resulting from the performance of the Work.

B. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other parties by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law. In case of failure on the part of the CONTRACTOR to restore such property or to make good such damage or injuries, the CITY may, upon forty-eight (48) hours written notice to the CONTRACTOR, repair, rebuild or otherwise restore such property as the CITY may deem necessary, and the cost thereof may be deducted from any one due or which may become due the CONTRACTOR under this Contract.

C. CONTRACTOR shall, to the fullest extent permitted by Laws or Regulations, defend, indemnify and hold harmless CITY, DELEGATE ORGANIZATION, Consultant and the officers, directors, employees, agents and other consultants of each and any of these from and against all claims, costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or resulting from any claim or action, legal or equitable, brought by any such owner or occupant against CITY, DELEGATE ORGANIZATION or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR's performance of the Work.

D. During the progress of the Work, CONTRACTOR shall keep the site and the other areas free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the site and other areas as well as all tools, appliances, construction equipment and machinery and surplus materials. CONTRACTOR shall leave the site clean and ready for utilization or occupancy by CITY at Substantial Completion of the Work. CONTRACTOR shall restore to original property not designated for alteration by the Contract Documents to its pre-Work condition.

E. CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.13 Record Documents

A. CONTRACTOR shall maintain in a safe place at the site one record copy of the Drawings, Specifications, Addenda, the Contract, written Amendments, Change Orders, Work

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C□n□e Directi□e□, □nd □ritten inter□ret□tion□ □nd c□rific□tion□ in □ood order □nd □nnot□ted to □□o□ □□□ c□□n□e□ □□de durin□ con□truction. T□e□e record docu□ent□, to□et□er □it□ □□□ □□□ro□ed □□□ □e□ □nd □ counter□□rt of □□□□□□ro□ed □□o□ Dr□□in□□, □i□□e □□□i□□□e to CIT□ □nd DE□I□ □ROFE□□IO□□□ for reference. □□on co□□etion of t□e □or□, t□e□e record docu□ent□, □□□ □e□ □nd □□o□ Dr□□in□□ □i□□e de□□ered to DE□I□ □ROFE□□IO□□□ for CIT□.

6.14 Safety and Protection

A. CO□TR□CTOR □□□□□e □o□e□ re□□on□i□e for initi□tin□, □ □int□inin□ □nd □u□er□i□in□ □□□ □fet□ □rec□ution□ □nd □ro□r□□ □in connection □it□ t□e □or□. CO□TR□CTOR □□□□□co□ □□□ □it□ □□□□□□ic□□e □□□□ or Re□u□tion□ re□tin□ to t□e □□fet□ of □er□on□ or □ro□ert□ to □rotect t□e□ fro□ d□□ □□e, in□ur□ or □o□□□ □nd □□□□erect □nd □ □int□in □□□nece□□□r□ □□fe□u□rd□ for □fet□ □nd □rotection. CO□TR□CTOR □hall deliver to CITY a copy of CONTRACTOR'S Health and □□fet□ □□□n □□ □ro□ided in t□e □otice of Intent to Contr□ct.

B. CO□TR□CTOR □□□□□notif□ o□ner□ of □d□□cent □ro□ert□ □nd of □nder□round F□ci□itie□ □nd ot□er uti□it□ o□ner□ □□en □ro□ecution of t□e □or□ □ □□ □ffect t□e□, □nd □□□□□coo□er□te □it□ t□e□ in t□e □rotection, re□o□□, re□oc□tion □nd re□□ce□ent of t□eir □ro□ert□. □□□d□□ □□e, in□ur□ or □o□□ to □n□ □ro□ert□ referred to in □□r□□r□□□ 6.14 □.2 or 6.14 □.3 c□u□ed, direct□□ or indirect□□, in □□o□e or in □□rt, □□ CO□TR□CTOR, □n□ □u□contr□ctor, □u□□ie□ or □n□ ot□er □er□on or or□□ni□□tion direct□□ or indirect□□e□ □□o□ed □□ □n□ of t□e□ to □erfor□ or furni□□ □n□ of t□e □or□ or □n□one for □□o□e □ct□ □n□ of t□e□ □ □□□ □e i□□□e, □□□□□□ □e re□edied □□ CO□TR□CTOR (e□ce□t d□□ □□e or □o□□ □ttri□ut□□□e to t□e f□u□t of Dr□□in□□ or □□ecific□tion□ or to t□e □ct□ or o□i□□ion□ of CIT□, DE□I□ □ROFE□□IO□□□, Con□u□t□nt, or □n□one e□ □□o□ed □□ □n□ of t□e□ or □n□one for □□o□e □ct□ □n□ of t□e□ □ □□□ □e i□□□e, □nd not □ttri□ut□□□e, direct□□ or indirect□□, in □□o□e or in □□rt, to t□e f□u□t or ne□i□ence of CO□TR□CTOR, □u□contr□ctor, □u□□ie□ or ot□er □er□on or or□□ni□□tion direct□□ or indirect□□ e□ □□o□ed □□ □n□ of t□e□). CONTRACTOR's duties and responsibilities for safety and for protection of t□e □or□ □□□□□ continue unti□□uc□ti□e □□ □□□t□e □or□i□co□□□eted □nd DE□I□ □ROFE□□IO□□□ □□□i□□ued □ notice to CO□TR□CTOR in □ccord□nce □it□ □□r□□r□□□ 14.07 t□□t t□e □or□ i□ □cce□t□□□e (e□ce□t □□ ot□er□i□e e□□re□□□□ □ro□ided in connection □it□ □u□□t□nti□□ Co□□etion). CO□TR□CTOR □□□□□t□□e □□□nece□□□r□ □rec□utions for t□e □□fet□ of, □nd □□□□□ro□ide t□e nece□□□r□ □rotection to □re□ent d□□ □□e, in□ur□ or □o□□ to□

1. □□□er□on□ on t□e □ite or □□o □ □□□e □ffected □□t□e □or□□

2. □□□t□e □or□ □nd □ teri□□□ □nd e□ui□□ent to □e incor□or□ted t□erein, □□et□er in □tor□□e on or off t□e □ite□□nd

3. ot□er □ro□ert□ □t t□e □ite or □d□□cent t□ereto, inc□din□ tree□, □□ru□□, □□□n□, □□□□□, □□□e□ent□, ro□d□□□□, □tructure□, uti□itie□ □nd □nder□round F□ci□itie□ not de□i□n□ted for re□o□□□, re□oc□tion or re□□ce□ent in t□e cour□e of t□e □or□.

6.15 Safety Representative

A. In □ccord□nce □it□ O□□□ □t□nd□rd□, CO□TR□CTOR □□□□□de□i□n□te □ □u□ified □nd e□□erienced □fet□ re□re□ent□ti□e □□o□e dutie□ □nd re□□on□i□i□tie□ □□□□□□e t□e □re□ention of □ccident□ □nd t□e □ □int□inin□ □nd □u□er□i□in□ of □fet□ □rec□ution□ □nd □ro□r□□□. CONTRACTOR's safety representative shall remain at the Site whenever there is Work in □ro□re□□ □nd □□□□□i□ □edi□te□ notif□ CIT□ of □n□ e□er□encie□ or □ccident□ occurrin□ □t t□e □ite

6.16 Hazard Communication Programs

A. CO□TR□CTOR □□□□□□e re□□on□i□e for coordin□tin□ □n□ e□c□□n□e of □ □teri□□□fet□ d□t□ □□eet□ or ot□er □□□□rd co□□unic□tion infor□□tion re□uired to □e □□de □□□i□□□e to or e□c□□n□ed □et□een or □□ on□e□ □o□er□ □t t□e □ite in □ccord□nce □it□ □□□□ or Re□u□tion□.

6.17 Emergencies

A. In e□er□encie□ □ffectin□ t□e □□fet□ or □rotection of □er□on□ or t□e □ or□ or □ro□ert□ □t t□e □ite or □d□□cent t□ereto, CO□TR□CTOR, □it□out □□eci□□in□truction or □ut□ori□□tion fro□ CIT□ or DE□I□□ □ROFE□□IO□□□, i□ o□ i□□ted to □ct to □re□ent t□re□tened d□□ □□e, in□ur□ or □o□□. CO□TR□CTOR □□□□□□i□e CIT□ □nd DE□I□□ □ROFE□□IO□□□ □ro□ □t □ritten notice if CO□TR□CTOR □e□ie□e□ t□□t □n□ □i□nific□nt c□□n□e□ in t□e □ or□ or □□ri□tion□ fro□ t□e Contr□ct Docu□ent□ □□□e □een c□u□ed t□ere□□ or □re re□uired □□ □ re□ut t□ereof. If CIT□ deter□ine□ t□□t □ c□□n□e in t□e Contr□ct Docu□ent□ i□ re□uired □ec□u□e of t□e □ction t□□en □□ CO□TR□CTOR in re□□on□e to □n e□er□enc□, □ □ or□ C□□n□e Directi□e or C□□n□e Order □i□□ □e i□□ued.

B. □ c□□n□e in t□e Contr□ct Docu□ent□ □ur□u□nt to □□r□□r□□□ 6.15 □ □i□□not □e □n □uto□□tic □ut□ori□□tion of, nor □ condition □recedent to, entitle□ent to □d□u□t□ent in t□e Contr□ct □rice or Contr□ct Ti□e□. If CIT□ □nd CO□TR□CTOR □re un□□□e to □□ree on entitle□ent to, or □ □□nitude of, □n e□uit□□□e □d□u□t□ent in t□e Contr□ct □rice or Contr□ct Ti□e□, □ C□□i□ □ □□ □e □□de t□erefore □□ □ro□ided in □rticle 16. □o□e□er, O□ □ER, DE□I□□ □ROFE□□IO□□□ □nd Con□ul□□nt□ □□□□□not □e i□□□e to CO□TR□CTOR for □n□ co□t□, □o□□e□ or d□□ □□e□ (inc□udin□ □ut not i□ited to □□fee□ □nd c□□r□e□ of en□ineer□, □rc□itect□, □ttorne□□, □nd ot□er □rofe□□ion□□□ □nd □□ot□er di□□ute re□o□ution co□t□) □u□t□ined □□ CO□TR□CTOR on or in connection □it□ □n□ot□er □ro□ect or □ntici□□ted □ro□ect.

6.18 Shop Drawings and Samples

A. CO□TR□CTOR □□□□□u□□it □□o□ Dr□□in□□ to DE□I□□ □ROFE□□IO□□□ for re□ie□ □nd □□□ro□□□ in □ccord□nce □it□ t□e □cce□ted □c□edu□e of □□o□ Dr□□in□□ □nd □□□ □□e □u□□itt□□□ (□ee □r□□r□□□ 2.07). □□□□u□□itt□□□ □□□□□□□e identified □□ DE□I□□ □ROFE□□IO□□□ □ □□ re□uire □nd in t□e nu□□er of co□ie□ □□ecified in t□e □ener□□Re□uire□ent□. T□e d□t□ □□o□n on t□e □□o□ Dr□□in□□ □□□□□□e co□ □□ete □it□ re□□ect to □u□ntitie□, di□ en□ion□, □□ecified □erfor□ □nce □nd de□i□n criteri□, □ □teri□□□ □nd □i□i□r d□t□ to □□o□ DE□I□□ □ROFE□□IO□□□ t□e □er□ice□, □ □teri□□□ □nd e□ui□□ent CO□TR□CTOR □ro□o□e□ to □ro□ide □nd to en□□□e DE□I□□ □ROFE□□IO□□□ to re□ie□ t□e infor□ □tion for t□e i□ited □ur□o□e□ re□uired □□ □□r□□r□□□ 6.18 D.

B. CO□TR□CTOR □□□□□□□□o □u□□it □□□ □□e□ to DE□I□□ □ROFE□□IO□□□ for re□ie□ □nd □□□ro□□□ in □ccord□nce □it□ □□id □cce□ted □c□edu□e of □□o□ Dr□□in□□ □nd □□□ □□e □u□□itt□□□. E□c□ □□□ □□e □□□□□□□e identified c□e□r□ □□ to □ □teri□, □u□□ier, □ertinent d□t□ □uc□ □□ c□t□o□ nu□□er□ □nd t□e u□e for □□ic□ intended □nd ot□er□i□e □□ DE□I□□ □ROFE□□IO□□□ □ □□ re□uire to en□□□e DE□I□□ □ROFE□□IO□□□ to re□ie□ t□e □u□□itt□□for t□e i□ited □ur□o□e□ re□uired □□ □□r□□r□□□ 6.18 D. T□e nu□□er□ of e□c□ □□□ □□e to □e □u□□itted □i□□□e □□ □□ecified in t□e □□ecific□tion□.

C. **Submittal Procedures□**

1. □efore □u□□ittin□ e□c□ □□o□ Dr□□in□ or □□□ □□e, CO□TR□CTOR □□□□□ □□□e deter□ined □nd □erified□

□. □□□fie□d □e□□ure□ent□, □u□ntitie□, di□en□ion□, □□ecified □erfor□ □nce criteri□, in□t□□□tion re□uire□ent□, □ □teri□□□, c□t□o□ nu□□er□ □nd □i□i□r infor□ □tion □it□ re□□ect t□ereto□

□. □□□ □ □teri□□□ □it□ re□□ect to intended u□e, f□□ric□tion, □□i□□in□, □□nd□in□, □tor□□e, □□□e□ □□□ □nd in□t□□□tion □ert□inin□ to t□e □erfor□ □nce of t□e □ or□□

c. □□□ infor□ □tion re□□ti□e to □e□n, □et□od□, tec□ni□ue□, □e□uence□ □nd □rocedure□ of con□truction □nd □□fet□ □rec□ution□ □nd □ro□r□□ □incident t□ereto□□nd

d. CO□TR□CTOR □□□□□□□□o □□□e re□ie□ed □nd coordin□ted e□c□ □□o□ Dr□□in□ or □□□ □e □it□ ot□er □□o□ Dr□□in□□ □nd □□□ □e□ □nd □it□ t□e re□uire□ent□ of t□e □ or□ □nd t□e Contr□ct Docu□ent□.

2. E□c□ □u□□itt□□□□□□□□e□ □ t□□ □ or □□ecific □ritten indic□tion t□□t CO□TR□CTOR has satisfied CONTRACTOR's obligations under the Contract Documents □it□ re□□ect to CONTRACTOR's review and approval of that submittal.

3. □t t□e ti□e of e□c□ □u□□i□□ion, CO□TR□CTOR □□□□□ □i□e DE□I□□ □ROFE□□IO□□□ □□ecific □ritten notice of □uc□ □□ri□tion□, if □n□, t□□t t□e □□o□ Dr□□in□ or □□□ □□e □u□□itted □ □□ □□□e fro□ t□e re□uire□ent□ of t□e Contr□ct Docu□ent□, t□e notice to □e in □ □ritten co□□unic□tion □e□□r□te fro□ t□e □u□□itt□□, □nd, in □ddition, □□□□□c□u□e □ □□ecific not□tion to □e □□de on e□c□ □□o□ Dr□□in□ □nd □□□ □□e □u□□itted to DE□I□□ □ROFE□□IO□□□ for re□ie□ □nd □□□ro□□□of e□c□ □uc□ □□ri□tion.

D. **DESIGN PROFESSIONAL's Review□**

1. DE□I□□ □ROFE□□IO□□□ □i□re□ie□ □nd □□□ro□e □□o□ Dr□□in□□ □nd □□□ □□e□ in □ccord□nce □it□ t□e □c□edu□e of □□o□ Dr□□in□□ □nd □□□ □□e □u□□itt□□ □cce□ted □□ DE□I□□ □ROFE□□IO□□□ □□ re□uired by Paragraph 2.06. DESIGN PROFESSIONAL's re□ie□ □nd □□□ro□□□i□□e on□ to deter□ine if t□e ite□ □co□ered □□ t□e □u□□itt□□ i□, □fter in□t□□□tion or incor□or□tion into t□e □or□, confor□ to t□e infor□□tion □i□en in t□e Contr□ct Docu□ent□ □nd □e co□□□ti□e □it□ t□e de□ign conce□t of t□e co□□□eted □ro□ect □□ □ functionin□ □□o□e □□ indic□ted □□ t□e Contr□ct Docu□ent□.

2. DESIGN PROFESSIONAL's review and approval will not extend to means, methods, tec□ni□ue□, □e□uence□ or □rocedure□ of con□truction (e□ce□t □□ere □ □□rticu□□r □e□n□, □et□od, tec□ni□ue, □e□uence or □rocedure of con□truction i□ □□ecific□□□ □nd e□□re□□□ c□□ed for □□ t□e Contr□ct Docu□ent□) or to □□fet□ □rec□ution□ or □ro□r□□ □incident t□ereto. T□e re□ie□ □nd □□□ro□□□of □ □e□□r□te ite□ □□ □uc□ □i□ not indic□te □□□ro□□□of t□e □□□e□ □□□in □ic□ t□e ite□ function□.

3. DESIGN PROFESSIONAL's review and approval of Shop Drawings or Samples □□□□not re□ie□e CO□TR□CTOR fro□ re□□on□i□i□it□ for □n□ □□ri□tion fro□ t□e re□uire□ent□ of t□e Contr□ct Docu□ent□ un□e□□ CO□TR□CTOR □□□ in □ritin□ c□□ed DE□I□□ PROFESSIONAL's attention to each such variation at the time of submission as required by □□r□□r□□□ 6.18 C.3, □nd DE□I□□ □ROFE□□IO□□□ □□□ □i□en □ritten □□□ro□□□of e□c□ □uc□ □□ri□tion □□ □□ecific □ritten not□tion t□ereof incor□or□ted into or □cco□□□n□in□ t□e □□o□ Dr□□in□ or □□□ □□e □□□ro□□□□nor □i□□n□ □□□ro□□□□□ DE□I□□ □ROFE□□IO□□□ re□ie□e CO□TR□CTOR fro□ re□□on□i□i□it□ for co□ □□□in□ □it□ t□e re□uire□ent□ of □□r□□r□□□ 6.18 C.1.

E. □ □ere □ □□o□ Dr□□in□ or □□□ □□e i□re□uired □□ t□e Contr□ct Docu□ent□ or t□e □c□edu□e of □□o□ Dr□□in□□ □nd □□□ □□e □u□□i□ion □cce□ted □□ DE□I□□ □ROFE□□IO□□□ □□ re□uired by Paragraph 2.06, any related Work performed prior to DESIGN PROFESSIONAL's review □nd □□□ro□□□of t□e □ertinent □u□□itt□□ □i□□e □t t□e □o□e e□□en□e □nd re□□on□i□i□it□ of CO□TR□CTOR.

F. CO□TR□CTOR □□□□□□ □□e correction□ re□uired □□ DE□I□□ □ROFE□□IO□□□ □nd □□□□□ return t□e re□uired nu□ □er of corrected co□ie□ of □□o□ Dr□□in□□ □nd □u□□it □□ re□uired ne□ □□□ □□e□ for re□ie□ □nd □□□ro□□□. CO□TR□CTOR □□□□□direct □□ecific □ttention in □ritin□ to re□i□ion□ ot□er t□□n t□e correction□ c□□ed for □□ DE□I□□ □ROFE□□IO□□□ on □re□iou□ □u□□itt□□□.

6.19 Continuing the Work

A. CO□TR□CTOR □□□□c□rr□ on t□e □or□ □nd □d□ere to t□e □ro□re□□ □c□edu□e durin□ □□□ di□□ute□ or di□□□ree□ent□ □it□ CIT□ □o □ or□ □□□□□ □e de□□ed or □o□t□oned □endin□ re□o□ution of □n□ di□□ute□ or di□□□ree□ent□, e□ce□t □□ □er□itted □□ □□r□□r□□□ 15.04 or □□ CIT□ □nd CO□TR□CTOR □ □□ot□er□i□e □□ree in □ritin□.

6.20 CONTRACTOR's General Warranty and Guarantee

A. CO□TR□CTOR □□rr□nt□ □nd □u□r□ntee□ to CIT□, DE□I□□ □ROFE□□IO□□□ □nd Con□ul□nt□ t□□t □□□□ or□ □i□□e in □ccord□nce □it□ t□e Contr□ct Docu□ent□ □nd □i□□not □e

DocuSign Envelope ID: 3748CB6B-D43B-45C1-8DDF-F8F1EE0FF6B0

defective. CONTRACTOR's warranty and guarantee □ereunder e□c□ude□ defect□ or d□□ □□e c□u□ed □□□

1. □□u□e, □odific□tion or i□ □ro□er □ □inten□nce or o□er□tion □□ □er□on□ ot□er t□□n CO□TR□CTOR, □u□contr□ctor□, □u□□ier□ or □n□ ot□er indi□idu□□ or entit□ for □□o□ CO□TR□CTOR i□re□□on□i□□e□or

2. nor□ □□□e□r □nd te□r under nor□ □□u□□□e.

B. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contr□ct Docu□ent□ □□□□□□e □□□o□ute. □one of t□e fo□o□in□ □i□□con□titute □n □cce□t□nce of □ or□ t□□t i□ not in □ccord□nce □it□ t□e Contr□ct Documents or a release of CONTRACTOR's o□i□□tion to □erfor□ t□e □ or□in □ccord□nce □it□ t□e Contr□ct Docu□ent□□

1. o□□er□□tion□ □□DE□I□□ □ROFE□□IO□□□□

2. reco□ □end□tion of □n□ □ro□re□□or fin□□□□□□ent □□DE□I□□ □ROFE□□IO□□□□

3. t□e i□□u□nce of □ certific□te of □u□□t□nti□□Co□ □□etion or □n□ □□□□ent re□□ted t□ereto □□CIT□ to CO□TR□CTOR□

4. u□e or occu□□nc□of t□e □ or□or □n□ □□rt t□ereof □□O□ □ER□

5. □n□re□ie□ □nd □□□ro□□□of □ □□o□ Dr□□in□ or □□□ □□e □u□□itt□□or t□e i□□u□nce of □notice of □cce□t□□i□it□ □□DE□I□□ □ROFE□□IO□□□□

6. □n□in□□ection, te□t or □□□ro□□□□□ ot□er□□or

7. □n□correction of defecti□e □ or□ □□CIT□.

C. Nonconforming Work is rejected unless expressly accepted in writing by the CITY's Re□re□ent□ti□e.

ARTICLE 7 OTHER WORK

7.01 Related Work at Site

A. CITY may perform other work related to the Project at the Site by CITY's own forces, or □et ot□er direct contr□ct□t□erefore, or □□□e ot□er □or□ □erfor□ed □□ uti□it□ o□ner□. If □uc□ ot□er □or□i□to □e □erfor□ed □nd □uc□ f□ct □□□ not noted in t□e Contr□ct Docu□ent□, t□en□

1. □ ritten notice t□ereof □i□□e □i□en to CO□TR□CTOR □rior to □t□rtin□ □n□ □uc□ ot□er □or□, □nd

2. CO□TR□CTOR □ □□ □ □□e □ C□□i□ t□erefore □□ □ro□ided in □rti□e 16 if CO□TR□CTOR □e□i□e□ t□□t □uc□ □erfor□nce in□o□e□ □ddition□□ e□□en□e to CO□TR□CTOR or re□uire□ □ddition□□ti□e □nd t□e □□rtie□ □re un□□□e to □□ree □□ to t□e □□ount or e□tent t□ereof.

B. CO□TR□CTOR □□□□□□fford e□c□ ot□er contr□ctor □□o i□ □ □□rt□ to □uc□ □ direct contr□ct, □nd e□c□ uti□it□ o□ner (□nd CITY, if CITY is performing the additional work with CITY's e□ □o□ee□) □ro□er □nd □□fe □cce□□to t□e □ite □nd □re□□on□□□e o□□ortunit□ for t□e introduction □nd □tor□□e of □ □teri□□□ □nd e□ui□□ent □nd t□e e□ecution of □uc□ ot□er □or□ □nd □□□□□□ro□er□□ connect □nd coordin□te t□e □ or□ □it□ t□eir□. □n□e□□ ot□er□i□e □ro□ided in t□e Contr□ct Docu□ent□, CO□TR□CTOR □□□□□do □□□cuttin□, fittin□ □nd □□tc□in□ of t□e □ or□ t□□t □ □□ □e re□uired to □ro□er□□ connect or ot□er□i□e □ □□e it□ □e□er□□□□rt□ co□e to□et□er □nd □ro□er□□ inte□r□te □it□ □uc□ ot□er □or□. CO□TR□CTOR □□□□□□not end□n□er □n□ □or□ of ot□er□ □□ cuttin□, e□c□□□tin□ or ot□er□i□e □ffterin□ t□eir □or□ □nd □i□□on□□cut or □ffter t□eir □or□ □it□ t□e □ritten con□ent of CIT□ □nd t□e ot□er□ □□o□e □or□ □i□□e □ffected. T□e dutie□ □nd re□□on□i□i□tie□ of CO□TR□CTOR under t□i□ □□r□□r□□□ □re for t□e □enefit of □uc□ uti□it□ o□ner□ □nd ot□er contr□ctor□ to t□e e□tent t□□t t□ere □re co□ □□r□□□e □ro□i□ion□ for t□e □enefit of CO□TR□CTOR in □□id direct contr□ct□ □et□een CIT□ □nd □uc□ uti□it□ o□ner□ □nd ot□er contr□ctor□.

C. If the proper execution or results of any part of CONTRACTOR's Work depends upon □or□ □erfor□ed □□ ot□er□ under t□i□ □rtic□e 7, CO□TR□CTOR □□□□□in□□ect □uc□ ot□er □or□ □nd □ro□ t□□ re□ort to CIT□ □nd DE□I□□ □ROFE□□IO□□□ in □ritin□ □n□ de□□□□, defect□ or deficiencie□ in □uc□ ot□er □or□ t□□t render it un□□□i□□□e or un□uit□□e for t□e □ro□er e□ecution or results of CONTRACTOR's Work. CONTRACTOR's failure to report same will constitute an □cce□t□nce of □uc□ other work as fit and proper for integration with CONTRACTOR's Work, e□ce□t for □□tent or non-□□□□rent defect□ □nd deficiencie□ in □uc□ ot□er □or□.

7.02 Coordination

A. If CIT□ contr□ct□ □it□ ot□er□ for t□e □erfor□ nce of ot□er □or□ on t□e □ro□ect □t t□e □ite, t□e fo□□o□in□ □i□□□e □et fort□ in □u□□□e□ ent□r□ Condition□□

1. t□e □er□on, fir□ or cor□or□tion □□o □i□□ □□□e □ut□orit□ □nd re□□on□i□i□it□ for coordin□tion of t□e □cti□itie□ □□ on□ t□e □□riou□ □ri□e contr□ctor□ □i□□□e identified□
2. t□e □□ecific □ □tter□ to □e co□ered □□ □uc□ □ut□orit□ □nd re□□on□i□i□it□ □i□□□e ite□i□ed□ □nd
3. t□e e□tent of □uc□ □ut□orit□ □nd re□□on□i□i□itie□ □i□□□e □ro□ided.

B. □n□□ ot□er□i□e □ro□ided in t□e □u□□□e□ent□r□ Condition□, CIT□ □□□□□ □□□e □o□e □ut□orit□ □nd re□□on□i□i□it□ in re□□ect of □uc□ coordin□tion.

ARTICLE 8 CITY'S RESPONSIBILITIES

8.01 Communications to CONTRACTOR

A. E□ce□t □□ ot□er□i□e □ro□ided in t□e□e □ener□□ Condition□, CIT□ □□□□□ i□□ue □□□ co□ □unic□tion□ to CO□TR□CTOR.

8.02 Replacement of DESIGN PROFESSIONAL

A. In c□□e of ter□in□tion of t□e e□ □o□□ent of DE□I□□ □ROFE□□IO□□□, CIT□ □□□□□ □□□oint □ DE□I□□ □ROFE□□IO□□□ □□o□e □t□tu□ under t□e Contr□ct Docu□ent□ □□□□□□e t□□t of t□e for□er DE□I□□ □ROFE□□IO□□□.

8.03 Furnish Data and Prompt Payment

A. CIT□ □□□□□ro□ □t□ furni□□ t□e d□t□ re□uired of O□ □ER under t□e Contr□ct Docu□ent□ □nd □□□□□□ □□e □□□□ent□ to CO□TR□CTOR □□en t□e□ □re due.

8.04 Lands and Easements; Reports and Tests

A. CITY's duties in respect of providing lands and easements and providing engineering □ur□e□□ to e□t□□i□□ reference □oint□ □re □et fort□ in □□r□□r□□□□ 4.01 □nd 4.05. □□r□□r□□□ 4.02 refers to CITY's duty to identify and make available to CONTRACTOR copies of reports of e□□□or□tion□ □nd te□t□ of □u□□urf□ce condition□ □t t□e □ite □nd dr□□in□□ of □□□□ic□□condition□ in e□i□tin□ □tructure□ □t or conti□uou□ to t□e □ite t□□t □□□e □een uti□i□ed □□ DE□I□□ □ROFE□□IO□□□ in □re□□rin□ t□e Contr□ct Docu□ent□.

8.05 Insurance

A. CITY's responsibilities, if any, for purchasing and maintaining liability and □ro□ert□ in□ur□nce □re □et fort□ in □rtic□e 5 □nd t□e □u□□□e□ent□r□ Condition□.

8.06 Change Orders

A. CIT□ i□ o□i□□ted to e□ecute C□□n□e Order□ □□ indic□ted in □□r□□r□□□ 10.03.

8.07 Inspections, Tests and Approvals

A. CITY's responsibility for certain in□□ection□, te□t□ □nd □□□ro□□□□ i□ □et fort□ in □□r□□r□□□ 13.02 F.

8.08 Limitations on CITY's Responsibilities

A. The CITY does not supervise, direct or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with laws and regulations applicable to the furnishing or performance of the Work. CITY will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

8.09 Undisclosed Hazardous Environmental Condition

A. CITY's responsibility for an undisclosed Hazardous Environmental Condition uncovered or revealed at the site is set forth in Paragraph 4.06.

8.10 Evidence of Financial Arrangements

A. CITY will furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract.

8.11 CITY's Representative

A. CITY will provide a representative during the construction period. The duties, responsibilities and the limitations of authority of the CITY "'s Representative during construction are set forth in the Contract Documents.

8.12 Visits to Site

A. CITY's Representative will make visits to the site at intervals appropriate to the various stages of construction as CITY's Representative deems necessary in order to observe the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, CITY's Representative will endeavor to determine, in general, if the Work is proceeding in accordance with the Contract Documents. CITY's Representative will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work.

ARTICLE 9 DESIGN PROFESSIONAL's STATUS DURING CONSTRUCTION

9.01 General Scope of DESIGN PROFESSIONAL's Duties

A. DESIGN PROFESSIONAL's efforts will be directed toward providing for CITY a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of visits to the site and on-site observations, DESIGN PROFESSIONAL will keep CITY informed of the progress of the Work and will endeavor to guard CITY against defective Work. DESIGN PROFESSIONAL's visits to the Site and on-site observations are subject to all the limitations on DESIGN PROFESSIONAL's authority and responsibility set forth in Paragraph 9.08.

9.02 Resident Project Representative

A. If CITY and DESIGN PROFESSIONAL agree, DESIGN PROFESSIONAL will furnish a resident project representative to assist DESIGN PROFESSIONAL in providing more extensive observation of the Work. The responsibilities, authority and limitations thereon of any such resident project representative and assistants will be provided in Paragraph 9.08 and in the Supplementary Conditions.

9.03 Clarifications and Interpretations

A. DESIGN PROFESSIONAL will issue with reasonable promptness written clarifications or interpretations (which may be in the form of Drawings) of the requirements of the Drawings and Specifications requested by the DESIGN PROFESSIONAL or DESIGN PROFESSIONAL may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on CITY and CONTRACTOR. If CITY or CONTRACTOR believes that a written clarification or

interpretation qualified in document in the Contract Price pursuant to Article 11 and/ or the Contract Time(s) pursuant to Article 12 and the parties are unable to agree to the amount or extent thereof, if any, CITY shall make a decision therefore as provided in Article 16.

9.04 Rejecting Defective Work

A. DESIGN PROFESSIONAL shall have authority to disapprove or reject Work which DESIGN PROFESSIONAL believes to be defective, that DESIGN PROFESSIONAL believes will not produce a completed project that conforms to the Contract Documents, or that will prejudice the integrity of the design concept of the completed project as a functioning whole as indicated in the Contract Documents. DESIGN PROFESSIONAL shall have authority to require special inspection or testing of the Work as provided in Paragraph 13.04 A, whether or not the Work is fabricated, installed or completed.

9.05 Shop Drawings, Change Orders and Payments

A. In connection with DESIGN PROFESSIONAL's authority as to Shop Drawings and Samples, see Paragraph 6.18.

B. In connection with DESIGN PROFESSIONAL's authority as to Change Orders, see Article 10.

C. In connection with DESIGN PROFESSIONAL's authority as to Applications for Payment, see Article 14.

9.06 Determinations for Unit Prices

A. DESIGN PROFESSIONAL will initially determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. DESIGN PROFESSIONAL will review with CONTRACTOR the DESIGN PROFESSIONAL's preliminary determinations on such matters before rendering a written opinion thereon (including recommendation of an adjustment for payment or otherwise to the CITY). CITY reserves the right to make final determination of the actual quantities and classifications of Unit Price Work in relation to an adjustment in payment. Within ten (10) days after the date of receipt of any such decision, CONTRACTOR may submit a letter to CITY and to DESIGN PROFESSIONAL written notice of intention to appeal CITY's decision pursuant to Article 16.

9.07 Decisions on Requirements of Contract Documents and Acceptability of Work

A. DESIGN PROFESSIONAL will be the initial interpreter of the requirements of the Drawings and Specifications required by DESIGN PROFESSIONAL and judge of the acceptability of the Work thereunder.

B. When functioning as interpreter and judge under this Paragraph 9.07, DESIGN PROFESSIONAL will not show partiality to OWNER or CONTRACTOR.

C. Claims, disputes and other matters relating to the acceptability of the Work, quantities and classifications of Unit Price Work, or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work will be referred initially to CITY's Representative in writing with a request for a formal decision in accordance with Article 16.

9.08 Limitations on DESIGN PROFESSIONAL's Authority and Responsibilities

A. Neither DESIGN PROFESSIONAL's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by DESIGN PROFESSIONAL in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise or performance of any authority or responsibility by DESIGN PROFESSIONAL shall create, impose or give rise to any duty owed by DESIGN PROFESSIONAL to CONTRACTOR, any subcontractor, any supplier, any other person or organization, or to any surety for or employee or agent of any of them.

B. DE□I□ □ROFE□□IO□□□ □i□not □u□er□i□e, direct, contro□or □□□e □ut□orit□o□er or □e responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of con□truction, or t□e □□fet□ □rec□ution□ □nd □ro□r□□ □ incident t□ereto, or for □n□ f□i□ure of CO□TR□CTOR to co□ □□□ □it□ □□□□ or Re□u□tion□ □□□□ic□□e to t□e furni□□in□ or □erfor□ □nce of the Work. DESIGN PROFESSIONAL will not be responsible for CONTRACTOR's failure to □erfor□ or furni□□ t□e □ or□in □ccord□nce □it□ t□e Contr□ct Docu□ent□.

C. DE□I□ □ROFE□□IO□□□ □i□□ not □e re□□on□i□□e for t□e □ct□ or o□i□□ion□ of CO□TR□CTOR or of □n□ □u□contr□ctor, □n□ □u□□ie□, or of □n□ ot□er □er□on or or□□ni□□tion □erfor□in□ or furni□□in□ □n□of t□e □ or□.

D. DESIGN PROFESSIONAL's review of the final Application for Payment and □cco□ □□n□in□ docu□ent□tion, □nd □□□ □ □inten□nce □nd o□er□tin□ in□truction□, □c□edu□e□, □u□r□ntee□, □ond□ □nd certific□te□ of in□□ection, te□t□ □nd □□□ro□□□□ □nd ot□er docu□ent□tion re□uired to □e de□i□ered □□ □□r□r□□□ 14.07 □i□□on□□ □e to deter□ine □ener□□□□ t□□t t□eir content co□ □□ie□ □it□ t□e re□uire□ent□ of, □nd in t□e c□□e of certific□te□ of in□□ection□, te□t□ □nd □□□ro□□□□, t□□t t□e re□u□t□ certified indic□te co□ □□i□nce □it□, t□e Contr□ct Docu□ent□.

E. T□e i□□it□tion□ u□on □ut□orit□ □nd re□□on□i□i□it□ □et fort□ in t□i□ □□r□□r□□□ 9.08 □□□□□□ also apply to DESIGN PROFESSIONAL's Consultants, resident Project representative and □□□i□t□nt□ □□identified in t□e □u□□□e□ent□r□Condition□.

ARTICLE 10 CHANGES IN THE WORK

10.01 Authorized Changes in the Work

A. □ it□out in□□id□tin□ t□e Contr□ct □nd □it□out notice to □n□ □uret□, CIT□ □ □□, □t □n□ti□e or fro□ ti□e to ti□e, order □ddition□, de□ë□tion□ or re□i□ion□ in t□e □ or□. □uc□ □ddition□, de□ë□tion□ or re□i□ion□ □i□□□e □ut□ori□ed □□ □ □ ritten □□end□ent, □ C□□n□e Order, or □ □ or□ C□□n□e Directi□e. □□on recei□t of □n□ □uc□ docu□ent, CO□TR□CTOR □□□□□□ro□ □t□□ □roceed □it□ t□e □ or□in□o□ed t□□t □i□□□e □erfor□ed under t□e □□□□ic□□□e condition□ of t□e Contr□ct Docu□ent□(e□ce□t □□ot□er□i□e □□ecific□□□ □ro□ided).

B. If CIT□ □nd CO□TR□CTOR □re un□□□e to □□ree on entitë□ent to, or on t□e □□ount or e□tent, if □n□, of □n □d□u□t□ent in t□e Contr□ct □rice □ur□u□nt to □rtic□e 11 or □n □d□u□t□ent of t□e Contr□ct Ti□e□ □ur□u□nt to □rtic□e 12 or □ot□ t□□t □□ould □e □□o□ed □□ □ re□u□t of □ □ or□ C□□n□e Directi□e, □C□i□ □ □□□e □ □de t□erefore □□ □ro□ided in □rtic□e 16.

10.02 Unauthorized Changes in the Work

A. CO□TR□CTOR □□□□□not □e entitë□ to □n incre□□e in t□e Contr□ct □rice or □n e□ten□ion of t□e Contr□ct Ti□e□ □it□ re□□ect to □n□ □or□ □erfor□ed t□□t i□ not re□uired □□ t□e Contr□ct Docu□ent□ □□ □□ended, □odified or □u□□e□ented □□ □ro□ided in □□r□□r□□□ 3.04, e□ce□t in t□e c□□e of □n e□er□enc□ □□ □ro□ided in □□r□□r□□□ 6.17 or in t□e c□□e of unco□erin□ □ or□ □□ □ro□ided in □□r□□r□□□ 13.04.

10.03 Signing of Change Orders

A. CIT□ □nd CO□TR□CTOR, □nd DE□I□□ □ROFE□□IO□□□ □□□□□□ □i□n □□□ro□ri□te C□□n□e Order□co□erin□□

1. c□□n□e□in t□e □ or□ □□ic□ re□

□. ordered □□CIT□ □ur□u□nt to □□r□□r□□□ 10.01 □□or

□. re□uired □ec□u□e of □cce□t□nce of defecti□e □ or□ under □□r□□r□□□ 13.08 or correctin□defecti□e □ or□under □□r□□r□□□ 13.09□or

c. □□reed to □□t□e □□rtie□□

2. c□□n□e□in t□e Contr□ct □rice or Contr□ct Ti□e□or □ot□ □□ic□ re □□reed to □□t□e □□rtie□, inc□udin□ □n□ undi□□uted □u□ or □□ount of ti□e for □ or□ □ctu□□□ □erfor□ed in □ccord□nce □it□ □ □ or□C□□n□e Directi□e□□nd

3. c□n□e□ in t□e Contr□ct □rice or Contr□ct Ti□e□ or □ot□ □ic□ e□ □od□ t□e □u□□t□nce of □n□ □ritten deci□ion reco□□ended □□ DE□I□□ □ROFE□□IO□□□ □nd □□□ro□ed □□ CIT□ □ur□u□nt to □□r□□r□□□ 9.06, □ro□ided t□□t, in □ieu of □i□nin□ □n□ □uc□ C□□n□e Order, □n □□□e□□□ □□ □e t□□en fro□ □n□ □uc□ deci□ion in □ccord□nce □it□ t□e □ro□i□ion□ of t□e Contr□ct Docu□ent□ □nd □□□ic□□e □□□□ or Re□u□tion□, □ut durin□ □n□ □uc□ □□□e□, CO□TR□CTOR □□□□c□rr□ on t□e □ or□ □nd □d□ere to t□e □ro□re□□ □c□edu□e □□ □ro□ided in □□r□□r□□□ 6.19.

10.04 Notification to Surety

A. If notice of □n□ c□□n□e □ffectin□ t□e □ener□□□co□e of t□e □ or□ or t□e □ro□i□ion□ of t□e Contr□ct Docu□ent□ (inc□udin□, □ut not □i□ited to, Contr□ct □rice or Contr□ct Ti□e□ or □ot□) i□ re□uired □□ t□e □ro□i□ion□ of □n□ □ond to □e □i□en to □ □uret□, t□e □i□in□ of □n□ □uc□ notice □i□□ be CONTRACTOR's responsibility, and the amount of each applicable Bond will be adjusted □ccordin□□.

ARTICLE 11 CHANGE OF CONTRACT PRICE

11.01 Change of Contract Price

A. T□e Contr□ct □rice con□titute□ t□e tot□□ co□□en□□tion (□u□ect to □ut□ori□ed □d□u□t□ent□) □□□□□□e to CO□TR□CTOR for □erfor□in□ t□e □ or□. □□□dutie□, re□□on□i□i□ie□ □nd obligations assigned to or undertaken by CONTRACTOR shall be at CONTRACTOR's expense □it□out c□□n□e in t□e Contr□ct □rice.

B. T□e Contr□ct □rice □ □□ on□□ □e c□□n□ed □□ □ C□□n□e Order. □n□ re□ue□t for □n □d□u□t□ent in t□e Contr□ct □rice □□□□□□e □□□ed on □ritten notice de□i□ered □it□in fourteen (14) c□□end□r d□□□ □fter occurrence of t□e e□ent □i□in□ ri□e to t□e re□ue□t or □it□in fourteen (14) c□□end□r d□□□ □fter fir□t reco□nition of t□e condition□ □i□in□ ri□e to t□e re□ue□t. □rior notice i□ not re□uired for re□ue□t□ or c□□i□□ re□□tin□ to □n e□er□enc□ end□n□erin□ □ife or □ro□ert□ □□ de□cri□ed in □□r□□r□□□ 6.16. T□ere□fter, t□e CO□TR□CTOR □□□□□ □u□□it □ritten docu□ent□tion of it□ re□ue□t, inc□udin□ □□□ro□ri□te □u□□ortin□ docu□ent□tion, □it□in ten (10) c□□end□r d□□□ □fter □i□in□ notice, un□□□ t□e CIT□ □r□nt□ □n e□ten□ion □□□ed on □ood c□u□e □□o□n □□t□e CO□TR□CTOR t□□t □uc□ □ddition□□ti□e i□ □□rr□nted.

C. T□e □□ue of □n□ □ or□ co□ered □□ □ C□□n□e Order or of □n□ re□ue□t for □n □d□u□t□ent in t□e Contr□ct □rice □i□□□e deter□ined □□ fo□o□□□

1. □□ere t□e □ or□ in□o□□ed i□ co□ered □□ □nit □rice□ cont□ined in t□e Contr□ct Docu□ent□, □□ □□□□ic□tion of □uc□ □nit □rice□ to t□e □u□ntitie□ of t□e ite□ □in□o□□ed (□u□ect to t□e □ro□i□ion□ of □□r□□r□□□ 11.04) □or

2. □□ere t□e □ or□ in□o□□ed i□ not co□ered □□ □nit □rice□ cont□ined in t□e Contr□ct Docu□ent□, □□ □ □utu□□□ □□reed u□ □ □u□ □or

3. □□ere t□e □ or□ in□o□□ed i□ not co□ered □□ □nit □rice□ cont□ined in t□e Contr□ct Docu□ent□ □nd □□ree□ent to □ □u□ □ □u□ i□ not re□c□ed under □□r□□r□□□ 11.01 C.2, on t□e □□□i□ of t□e Co□t of t□e □ or□ (deter□ined □□ □ro□ided in □□r□□r□□□□ 11.02 □ □nd □) plus a CONTRACTOR's fee for overhead and □rofit (deter□ined □□ □ro□ided in □□r□□r□□□ 11.01 D).

D. The CONTRACTOR's fee allowed to CONTRACTOR for overhead and profit shall be deter□ined □□ fo□o□□□

1. □ □utu□□□ □cce□t□□e fi□ed fee □or

2. if □ fi□ed fee i□ not □□reed u□on, t□en □ fee □□□ed on t□e fo□o□in□ □ercent□□e□ of t□e □□riou□ □ortion□ of t□e Co□t of t□e □ or□□

□. for co□t□ incurred under □□r□□r□□□□ 11.02 □.1 □nd 11.02 □.2, t□e CONTRACTOR's fee shall be ten percent (10%);

□. for costs incurred under Paragraph 11.02 A.3, the CONTRACTOR's fee □□□□□e fi□e □ercent (5□)□

c. □□ere one or □ore tier□ of □u□contr□ct□ □re on t□e □□□i□ of t□e Co□t of t□e □ or□ □u□ □fee □nd no fi□ed fee i□ □□reed u□on, t□e intent of □□r□□r□□□□ 11.01 D.2 □nd 11.02 □.1 t□rou□□ □.3 i□ t□□t t□e □u□contr□ctor □□o □ctu□□□ □erfor□ □or furni□□e□ t□e □ or□, □t □□□te□er tier, □i□□e □ □□id □ fee of ten □ercent (10□) of t□e co□t□ incurred □□ □uc□ □u□contr□ctor under □□r□□r□□□□ 11.02 □.1 □nd 11.02 □.2 □nd t□□t □n□ □i□□er tier □u□contr□ctor □nd CO□TR□CTOR □i□□e□c□ □e □□id □ fee of fi□e □ercent (5□) of t□e □□ ount □□id to t□e ne□t □□er tier □u□contr□ctor□

d. no fee □□□□□e □□□□□e on t□e □□□i□ of co□t□ ite□i□ed under □□r□□r□□□□ 11.02 □.4, 11.02 □.5 □nd 11.02 □□

e. t□e □□ ount of credit to □e □□o□ed □□ CO□TR□CTOR to CIT□ for □n□ c□□n□e □□ic□ re□u□t□ in □ net decre□□e in co□t □i□□e t□e □□ ount of t□e □ctu□□net decre□□e in costs plus a deduction in CONTRACTOR's fee by an amount equal to five percent (5%) of □uc□ net decre□□e□□nd

f. □□en □ot□ □ddition□ □nd credit□ □re in□o□□ed in □n□ one c□□n□e, t□e □du□t□ent in CONTRACTOR's fee shall be computed on the basis of the net change in accordance □it□ □□r□□r□□□□ 11.01 D.2.□ t□rou□□ 11.01 D.2.e, inc□u□i□e.

E. □ □ene□er t□e Co□t of t□e □ or□i□to □e deter□ined □ur□u□nt to □□r□□r□□□□ 11.02 □ □nd □, CO□TR□CTOR □□□□□e□t□□i□□ □nd □ □int□in record□ t□ereof in □ccord□nce □it□ □ener□□□□ □cce□ted □ccountin□ □r□ctice□ □nd □u□□it in for□ □cce□t□□e to CIT□ □n ite□i□ed co□t □re□□do□n to□et□er □it□ □u□□ortin□ d□t□.

11.02 Cost of the Work

A. T□e term "Cost of the Work" means the sum of all costs necessarily incurred and paid by CO□TR□CTOR in t□e □ro□er □erfor□ □nce of t□e □ or□. □ □en t□e □□ue of □n□ □ or□co□ered □□ □ C□□n□e Order or □□en □ re□ue□t for □n □d□u□t□ent in Contr□ct □rice i□ deter□ined on t□e □□□i□ of Co□t of t□e □ or□, t□e co□t□ to □e rei□ □ur□ed to CO□TR□CTOR □i□□e on□ t□o□e □ddition□□or incre□ent□□co□t□ re□uired □ec□u□e of t□e c□□n□e in t□e □ or□ or □ec□u□e of t□e e□ent □i□in□ ri□e to t□e re□ue□t. E□ce□t □□ ot□er□i□e □□reed to in □ritin□ □□CIT□, co□t□ co□ered □□ C□□n□e Order□ or re□ue□t□ □□□□□□e in □□ ount□ no □i□□er t□□n t□o□e □re□□i□□ in t□e □oc□it□ of t□e □ro□ect, □□□□ include on□ t□e fo□o□in□ ite□ □ □nd □□□□□ not inc□ude □n□ co□t□ ite□i□ed in 11.02 □□

1. □□□ro□ co□t□ for e□ □o□ee□ in t□e direct e□ □o□ of CO□TR□CTOR in t□e □erfor□ □nce of t□e □ or□, u□in□ occu□□tion□□titie□ □nd □o□ c□□□ific□tion□ □□reed u□on □□ CIT□ □nd CO□TR□CTOR. □uc□ e□ □o□ee□ □□□□ include, □it□out li□itation, □o□ □ite □u□erintendent□, fore□en □nd ot□er □er□onne□e□ □o□ed fu□□ti□e □t t□e □ite. □□□ro□co□t□ for e□ □o□ee□ not e□ □o□ed fu□□ti□e on t□e □ or□ □□□□□□e □□□portioned on t□e □□□i□ of t□eir ti□e □□ent on t□e □ or□. □□□ro□co□t□ □□□□include, □ut not □e li□ited to, □□□rie□ □nd □□□e□ □u□ t□e co□t of frin□e □enefit□ □ic□ □□□□ include □oci□□ □ecurit□ contri□ution□, unemployment, excise and payroll taxes, workers'" compensation, health and retirement □enefit□, □onu□e□, □ic□□e□e, □□c□tion □nd □oli□□ □□□ □□□□ic□□e t□ereto. T□e e□□en□e□ of □erfor□in□ t□e □ or□ □fter re□u□□r □or□in□ □our□, on □□turd□□□, □und□□□ or □e□□□□oli□□□, □□□□□□e included in t□e □□o□e to t□e e□tent □ut□ori□ed □□O□ □ER.

2. Co□t of □□□ □ □teri□□□ □nd e□ui□□ent furni□□ed □nd incor□or□ted into t□e □ or□, inc□udin□ co□t□ of tr□n□□ort□tion □nd □tor□e t□ereof, □nd □u□□ie□' field services required in connection t□ere□it□. □□□c□□□ di□count□ □□□□□ □ccrue to CO□TR□CTOR un□e□□ CIT□ de□o□it□ fund□ □it□ CO□TR□CTOR □it□ □□ic□ to □ □□e □□□□ent□, in □□ic□ c□□e t□e c□□□ di□count□ □□□□□ □ccrue to CIT□. □□□tr□de di□count□, re□□te□ □nd refund□ □nd return□ fro□ □□e of □ur□u□ □ □teri□□□ □nd e□ui□□ent □□□□□ □ccrue to CIT□, □nd CO□TR□CTOR □□□□□ □ □□e □ro□i□ion□ □o t□□t t□e□ □ □□□e o□t□ined.

3. □□□□ent□ □□de □□ CO□TR□CTOR to □u□contr□ctor□ for □or□ □erfor□ed or furni□□ed □□ □u□contr□ctor□. If re□uired □□ CIT□, CO□TR□CTOR □□□□o□t□in co□ □etiti□e □id□fro□ □u□contr□ctor□ □cce□t□□e to O□ □ER □nd CO□TR□CTOR □nd □□□□de□i□er □uc□ □id□ to CIT□ □□o □i□□t□en deter□ine, □it□ t□e □d□ice of DE□I□ □ROFE□□IO□□□, □□ic□ □id□, if □n□, □i□□e □cce□ted. If □n□ □u□contr□ct □ro□ide□ t□□t t□e □u□contr□ctor i□ to □e □□id on the basis of the Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee □□□□□e deter□ined in t□e □□□e □ □nner □□ CO□TR□CTOR's Cost of the Work and fee □□ □ro□ided in □□r□□r□□□□ 11.01 D □nd E □nd 11.02 □ □nd □. □□□u□contr□ct□ □□□□□e □u□ect to t□e ot□er □ro□i□ion□ of t□e Contr□ct Docu□ent□ in□ofr □□ □□□□ic□□e.

4. Co□t□ of □□eci□□con□u□t□nt□ (inc□udin□ □ut not i□□ited to en□ineer□, □rc□itect□, te□tin□ □□□or□torie□, □ur□e□or□, □ttorne□□ □nd □ccount□nt□) e□ □o□ed for □er□ice□ □□ecific□□□□ re□□ted to t□e □ or□ □□en □uc□ □er□ice□ □re □□□ro□ed in □d□□nce □□ CIT□ in □ritin□.

5. Ot□er co□t□ inc□udin□ t□e fo□o□in□□

□. T□e □ro□ortion of nece□□□r□ tr□n□□ort□tion, tr□□e□□nd □u□□i□tence e□□en□e□ of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

□. Co□t, inc□udin□ tr□n□□ort□tion □nd □□inten□nce, of □□□ □ □teri□□□, □u□□ie□, e□ui□□ent, □ □c□iner□, □□□□i□nce□, office □nd te□ □or□r□ f□ci□ities □t t□e □ite □nd □□nd too□□ not o□ned □□ t□e □or□er□, □□ic□ □re con□u□ed in t□e □erfor□ nce of t□e □ or□, □nd co□t, □e□□ □ r□□et □□ue of □uc□ ite□ □ u□ed □ut not con□u□ed □□ic□ re□ □in t□e □ro□ert□ of CO□TR□CTOR.

c. Rent□□□ of □□□ con□truction e□ui□□ent □nd □ □c□iner□ □nd t□e □□rt□ t□ereof □□et□er rented fro□ CO□TR□CTOR or ot□er□ in □ccord□nce □it□ rent□□ □□ree□ent□ □□□ro□ed □□ CIT□ □it□ t□e □d□ice of DE□I□□ □ROFE□□IO□□□, □nd t□e co□t□ of tr□n□□ort□tion, □o□din□, un□o□din□, in□t□□□tion, □□□e□ □□□, di□□ □ntin□ □nd re□o□□□ t□ereof, □□□in □ccord□nce □it□ t□e ter□ □ of □□id rent□□□□ree□ent□. T□e rent□□of □n□ □uc□ e□ui□□ent, □ □c□iner□ or □□rt□ □□□□□ce□□e □□en t□e u□e t□ereof i□ no □on□er nece□□□r□ for t□e □ or□.

d. □□□ic□□e □□e□, con□u□er, u□e or □i□i□r t□□e□ re□□ted to t□e □ or□, □nd for □□ic□ CO□TR□CTOR i□ i□□□e, i□ □o□ed □□ □□□□ or Re□u□□tion□.

e. De□o□it□ □□t for c□u□e□ ot□er t□□n ne□i□ence of CO□TR□CTOR, □n□ □u□contr□ctor or □n□one direct□□ or indirect□□ e□ □o□ed □□ □n□ of t□e□ or for □□o□e □ct□ □n□ of t□e□ □ □□□ e i□□e, □nd ro□□t□ □□□□ent□ □nd fee□ for □er□it□ □nd □icen□e□ re□uired to □erfor□ t□e □ or□.

f. □o□e□ □nd d□□ □□e□ (□nd re□□ted e□□en□e□) c□u□ed □□ d□□ □□e to t□e □ or□, not co□ □en□□ted □□ in□ur□nce or ot□er□i□e, □u□t□ined □□ CO□TR□CTOR in connection □it□ t□e □erfor□ nce □nd furni□□in□ of t□e □ or□ (e□ce□t □o□□e□ □nd d□□ □□e□ □it□in t□e deducti□e □□ ount□ of □ro□ert□ in□ur□nce e□t□□i□□ed □□ CIT□ in □ccord□nce □it□ □rtic□ 5), □ro□ided t□e□ □□□e re□u□ted fro□ c□u□e□ ot□er t□□n t□e ne□i□ence of CO□TR□CTOR, □n□ □u□contr□ctor, or □n□one direct□□ or indirect□□ e□ □o□ed □□ □n□ of t□e□ or for □□o□e □ct□ □n□ of t□e□ □ □□□ e i□□e. □uc□ □o□e□ □□□□□ inc□ude □ett□e□ent□ □□de □it□ t□e □ritten con□ent □nd □□□ro□□□ of CIT□. □o □uc□ □o□e□, d□□ □□e□ □nd e□□en□e□ □□□□□e inc□uded in t□e Co□t of t□e □ or□ for t□e □ur□o□e of deter□inin□ CONTRACTOR's fee. If, however, any such loss or damage requires reconstruction and CO□TR□CTOR i□ □□ced in c□□r□e t□ereof, CO□TR□CTOR □□□□□e □id for t□o□e □er□ice□ □ fee □ro□ortion□te to t□□t □t□ted in □□r□□r□□□ 11.01 D.2.

□. T□e co□t of uti□ities, fue□ □nit□r f□ci□ities □t t□e □ite.

□. Minor e□□en□e□ □uc□ □□ te□e□r□□ □, □on□ di□t□nce te□e□□one c□□□, te□e□□one □er□ice □t t□e □ite, e□□re□□□□e □nd i□□i□r □ett□c□□□ite□ □in connection □it□ t□e □ or□.

i. Co□t of □re□iu□ □ for □ddition□□ or incre□□ed □ond□, or for in□ur□nce re□uired □ec□u□e of □□□ro□ed c□□n□e□ in t□e □ or□.

B. Costs excluded: The term "Cost of the Work" shall not include any of the following:

1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnerships and joint ventures), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the Site or in CONTRACTOR's principal or a branch office for general administration of the Work (if not specifically included in the agreed upon occupations, titles and classifications referred to in Paragraph 11.02 B.1 or specifically covered by Paragraph 11.02 A.4), all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the Site.

3. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

4. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials, or equipment wrongly supplied, and any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 11.02 B.

11.03 Cash Allowances

A. It is understood that CONTRACTOR has included in the Contract Price allowances so named in the Contract Documents and shall cause the Work so covered to be furnished and performed for such sums and by such persons as may be acceptable to CITY. CONTRACTOR agrees that:

1. the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. CONTRACTOR's costs for unloading and handling on the Site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

B. Prior to final payment, an appropriate Change Order will be issued as CITY may deem advisable, adjusting the total payments due CONTRACTOR on account of Work covered by allowances, and the Contract Price will be correspondingly adjusted.

11.04 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be unit price Work, initially the Contract Price will be deemed to include for all unit price Work an amount equal to the sum of the established unit price for each separately identified item of unit price Work times the estimated quantity of each item as indicated in the Contract. The estimated quantities of items of unit price Work are not guaranteed and are solely for the purpose of comparison of bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of unit price Work performed by CONTRACTOR will be made in accordance with Paragraph 9.06.

B. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

C. CITY or CONTRACTOR may negotiate an adjustment of the price per unit of unit price Work stated in the Contract if:

1. the quantity of any item of Unit Price Work performed by CONTRACTOR differs by twenty percent (20%) or more from the estimated quantity of such item indicated in the Contract and

2. there is no corresponding adjustment with respect to any other item of Work and

3. CONTRACTOR believes that CONTRACTOR is entitled to an increase in Contract Price as a result of having incurred additional expense or CITY believes that CITY is entitled to a decrease in Contract Price.

11.05 Dispute Resolution

A. If CITY and CONTRACTOR are unable to agree on entitlement to, or the amount of, an equitable adjustment in the Contract Price in accordance with Article 11 within fourteen (14) calendar days from the receipt of supporting documentation of the request pursuant to 11.01.A., unless the CITY grants an extension agreed upon by the CONTRACTOR that such additional time is granted, then a Claim for such adjustment may be made pursuant to Article 16.

ARTICLE 12 CONTRACT TIMES

12.01 Time of the Essence

A. Time stated in the Contract Documents are of the essence of the Contract.

12.02 Change of Contract Times

A. The Contract Time (or Milestone) may only be changed by a Change Order. Any request for an adjustment in the Contract Time will be granted on written notice delivered within fourteen (14) calendar days after occurrence of the event giving rise to the request or within fourteen (14) calendar days after first recognition of the condition giving rise to the request. Thereafter, the CONTRACTOR must submit written documentation of its request, including appropriate supporting documentation, within ten (10) days after giving notice, unless the CITY grants an extension agreed upon by the CONTRACTOR that such additional time is granted.

12.03 Proof Required To Justify an Extension of Time For Excusable and Compensable Delays

A. In support of any request for an extension of the Contract Time pursuant to this Article, CONTRACTOR must demonstrate to the reasonable satisfaction of the CITY that the critical path of the Project Schedule was delayed. CONTRACTOR may be entitled to an increase in contract time for the number of days that the critical path of the Project Schedule was delayed due to a cause of delay. A cause of delay includes, but is not limited to

1. unreasonable delay of issuance of Notice to Proceed by CITY

2. CITY's unreasonable delay of delivery furnished materials, equipment, or work;

3. unreasonable delay responding to or drawing and submittal

4. CITY's unreasonable delay in issuing a Change Order;

5. an order by the CITY to stop the Work where the CONTRACTOR did not fault and

6. other reasonable ground determined by the City in its sole discretion.

B. CONTRACTOR must continue the critical path of the Project Schedule to the actual critical path of the Work, identifying the specific impact of the cause of delay or event.

C. CONTRACTOR must submit to the CITY a written time impact analysis illustrating the influence of each cause of delay or event on the date of Substantial Completion. The

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D. If the critical path of the Work is delayed by "Force Majeure", the CONTRACTOR shall □e entit□ed on□□ to □n e□ten□ion of t□e Contr□ct Ti□e□ for t□e nu□ □er of d□□□ of de□□□ to t□e critical path. For purposes of this paragraph, "Force Majeure" shall mean fire, tornado, flood, e□rt□u□□e, □□r, □ct of terori□□, ci□i□di□tur□□nce, or □□□or □tri□e□ □□ □□fro□ t□e □ro□ect □ite.

E. E□ten□ion□ of contr□ct ti□e □ur□u□nt to t□e t□i□ □ection □i□□□e □r□nted on□□ to t□e e□tent t□□t t□e ti□e □d□u□t□ent□ e□ceed t□e tot□□ fo□t ti□e □□□i□□□e □□en t□e e□ent c□u□in□ t□e de□□□ occurred.

12.04 Delays Within CONTRACTOR's Control

A. T□e Contr□ct Ti□e□ (or Mi□e□tone□) □i□□not □e e□tended due to de□□□□ □it□in t□e contro□ of CO□TR□CTOR. De□□□□ □ttri□ut□□□e to □nd □it□in t□e contro□of □ □u□contr□ctor or □u□□ie□ □□□□□□e dee□ed to □e de□□□□ □it□in t□e contro□of CO□TR□CTOR.

12.05 Delays Beyond the CITY's and CONTRACTOR's Control

A. □ □ere CO□TR□CTOR i□ □re□ented fro□ co□ □□etin□ □n□ □□rt of t□e □ or□ □it□in t□e Contr□ct Ti□e□ (or Mi□e□tone□) due to de□□□ □e□ond t□e contro□ of □ot□ CIT□ □nd CO□TR□CTOR, □n e□ten□ion of t□e Contr□ct Ti□e□ (or Mi□e□tone□) in □n □□ ount e□u□□to t□e time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay.

12.06 Delay Damages

A. In no e□ent □□□□CIT□ □e i□□□e to CO□TR□CTOR, □n□ □u□contr□ctor, □n□ □u□□ie□, □n□ ot□er □er□on or or□□ni□□tion, or to □n□ □uret□ for or e□ □□o□ee or □□ent of □n□ of t□e□, for d□□ □□e□ ri□in□ out of or re□u□tin□ fro□ □

1. de□□□□ c□u□ed □□ or □it□in t□e contro□of CO□TR□CTOR, or

2. de□□□□ □e□ond t□e contro□of CIT□ or CO□TR□CTOR inc□udin□ □ut not i□□ited to fire□, f□ood□, e□ide□ic□, □□nor□ □□□e□t□er condition□, □ct□ of □od or □ct□ or ne□□ect □□ uti□it□ o□ner□ or ot□er contr□ctor□ □erfor□in□ ot□er □or□ □□conte□ □□□ted □□ □rtic□e 7.

B. □ot□in□ in t□i□ □□r□□r□□□ 12.06 □□r□ □ c□□n□e in Contr□ct □rice □ur□u□nt to t□i□ □rtic□e 12 to co□ □en□□te CO□TR□CTOR due to de□□□, interference, or di□ru□tion direct□□ □ttri□ut□□□e to □ction□ or in□ction of CIT□, DE□I□□ □ROFE□□IO□□□, Con□u□t□nt or □n□one for □□o□ CIT□, DE□I□□ □ROFE□□IO□□□ or Con□u□t□nt i□re□□on□i□□e.

12.07 Dispute Resolution

A. If CIT□ □nd CO□TR□CTOR □re un□□□e to □□ree on entit□□ent to, or □ □□nitude of, □n e□uit□□□e □d□u□t□ent in t□e Contr□ct Ti□e in □ccord□nce □it□ □rtic□e 12 □it□in fourteen (14) c□□end□r d□□□ fro□ t□e rece□t of □u□□ortin□ docu□ent□tion of t□e re□ue□t □ur□u□nt to 12.02, un□□□ t□e CIT□ □r□nt□ □n e□ten□ion □□□ed on □ood c□u□e □□o□n □□ t□e CO□TR□CTOR t□□t □uc□ □ddition□□ti□e i□ □□rr□nted, t□en □ C□□i□ for □uc□ □d□u□t□ent □ □□□e □ □de □ur□u□nt to □rtic□e 16.

ARTICLE 13 TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Access to Work

A. CIT□, DE□I□□ □ROFE□□IO□□□, Con□u□t□nt□, ot□er re□re□ent□ti□e□ □nd □er□onne□of CIT□, inde□endent te□tin□ □□□or□torie□ □nd □o□ern□ent□□□□encie□ □it□ □uri□diction□□intere□t□ □i□□□□e □cce□□ to t□e □ite □nd □ or□ □t re□□on□□e ti□e□ for t□eir o□□er□□tion, in□□ection□ □nd te□tin□. CO□TR□CTOR □□□□□ro□ide t□e□ □ro□er □nd □□fe condition□ for □uc□ □cce□□ □nd advise them of CONTRACTOR's Site safety procedures and programs so that they may co□ □□□ t□ere□it□ □□ □□□□ic□□e.

13.02 Tests and Inspections

A. CONTRACTOR shall give DESIGN PROFESSIONAL and CITY's Representative timely notice of re□dine□□ of t□e □ or□ for □□□ re□uired in□□ection□, te□t□ or □□□ro□□□□, □nd □□□□□ coo□er□te □it□ in□□ection □nd te□tin□ □er□onne□ to f□ci□it□te re□uired in□□ection□ or te□t□.

B. If □n□ □ or□ (or t□e □or□ of ot□er□ □t t□e □ite) t□□t i□ to □e in□□ected, te□ted or □□□ro□ed i□ co□ered □□ CO□TR□CTOR □it□out □ritten □□□ro□□□ re□uired □□ □□r□□r□□□□ 13.02 D or 13.02 E, it must, if requested by CITY's Representative, be uncovered for observation.

C. Uncovering Work as provided in Paragraph 13.02 B, shall be at CONTRACTOR's expense unless CONTRACTOR has given DESIGN PROFESSIONAL and CITY's Re□re□ent□ti□e ti□e□□ notice of CO□TRACTOR's intention to cover the same and DESIGN PROFESSIONAL and CITY's Representative have not acted with reasonable promptness in re□□on□e to □uc□ notice.

D. If □□□□ or Re□u□□tion□ of □n□ □u□ic □od□ (inc□udin□ Cit□) □□□in□ □uri□diction re□uire □n□ □ or□ (or □□rt t□ereof) □□ecific□□□□ to □e in□□ected, te□ted or □□□ro□ed □□ □n e□ □□o□ee or ot□er re□re□ent□ti□e of □uc□ □u□ic □od□, CO□TR□CTOR □□□□□□□□□u□e fu□re□□on□i□i□it□ for □rr□n□in□ □nd o□t□inin□ □uc□ in□□ection□, te□t□ or □□□ro□□□□, □□□ □□□co□t□ in connection t□ere□it□, □nd furnish DESIGN PROFESSIONAL and CITY's Representative the required certificates of in□□ection or □□□ro□□□.

E. CO□TR□CTOR □□□□□□e re□□on□i□e for □rr□n□in□ □nd o□t□inin□ □nd □□□□□□□□□ □□□co□t□ in connection □it□ □n□ in□□ection□, tests or approvals required for CITY's and DESIGN PROFESSIONAL's acceptance of materials or equipment to be incorporated into the Work, or □cce□t□nce of □ □teri□□□, □i□ de□i□n□, or e□ui□□ent □u□□itted for □□□ro□□□ □rior to CONTRACTOR's purchase thereof for incor□or□tion into t□e □or□. □uc□ in□□ection□, te□t□, or □□□ro□□□□ □□□□□□ □e □erfor□ed □□ or□□ni□□tion□ □cce□t□□e to CIT□ □nd DE□I□□ □ROFE□□IO□□□.

F. CIT□ □□□□□e□ □o□ □nd □□□ for t□e □er□ice□ of □n inde□endent te□tin□ □□□or□tor□ to □erfor□ □□□in□□ection□, te□t□, or □□□ro□□□□ re□uired □□ t□e Contr□ct Docu□ent□ e□ce□t□

1. for in□□ection□, te□t□ or □□□ro□□□□ co□ered □□ □□r□□r□□□ 13.02 D □nd E□

2. t□□t co□t□ incurred in connection □it□ te□t□ or in□□ection□ conducted □ur□u□nt to □□r□□r□□□ 13.04 □ □□□□□□e □id □□ □ro□ided in □id □□r□□r□□□ 13.04 □□□nd

3. □□ot□er□i□e □□ecific□□□□ □ro□ided in t□e Contr□ct Docu□ent□.

13.03 Notice of Defects

A. □ro□ □t notice of □□□defecti□e □ or□ of □□ic□ eit□er CIT□ or DE□I□□ □ROFE□□IO□□□ □□□ □ctu□□ □no□ed□e □i□□ □e □i□en to CO□TR□CTOR. Defecti□e □ or□ □ □□□ □e re□ected, corrected or □cce□ted □□ □ro□ided in t□i□ □rtic□e 13.

13.04 Uncovering Work

A. If □n□ □ or□ (or t□e □or□ of ot□er□ □t t□e □ite) i□ co□ered contr□r□ to t□e □ritten re□ue□t of DESIGN PROFESSIONAL or CITY's Representative, it must, if requested by CITY's Representative, be uncovered for DESIGN PROFESSIONAL's or CITY's Representative's observation and replaced at CONTRACTOR's expense.

B. If CIT□ con□ider□ it nece□□□r□ or □d□i□□□e t□□t co□ered □ or□ □e o□□er□ed □□ DE□I□□ PROFESSIONAL or CITY's Representative or be inspected or tested by others, CONTRACTOR, at CITY's request, shall uncover, expose or otherwise make available for o□□er□tion, in□□ection or te□tin□ □□ □ □□□ □e re□uired, t□□t □ortion of t□e □ or□ in □ue□tion, furni□□in□ □□□nece□□□r□ □□□or, □ □teri□□□nd e□ui□□ent. If it i□ found t□□t □uc□ □ or□ i□ defecti□e, CO□TR□CTOR □□□□□□□□□ □□□co□t□, □o□□e□ □nd d□□ □□e□(inc□udin□ □ut not i□□ited to □□fee□ □nd c□□r□e□ of en□ineer□, □rc□itect□, □ttorne□□, □nd ot□er □rofe□□ion□□□ □nd □□□court or □r□itr□tion or ot□er di□□ute re□o□ution co□t□) c□u□ed □□, □ri□in□ out of or re□u□tin□ fro□ □uc□ unco□erin□, e□□o□ure, o□□er□□tion, in□□ection □nd te□tin□ □nd of □□ti□f□ctor□ re□□□ce□ent or recon□truction

(including but not limited to the cost of repair or replacement of any of other) and CITY may be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, CITY may make a Claim therefore as provided in Article 16. If, however, such work is not found to be defective, CONTRACTOR may be allowed an increase in the Contract Price or an extension of the Contract Time(s) (or Milestone), or both, directly attributable to such uncovering, exposure, operation, injection, testing, replacement and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefore as provided in Article 16.

13.05 CITY May Stop the Work

A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will not conform to the Contract Documents, CITY may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of CITY to stop the Work shall not give rise to any duty on the part of CITY to exercise this right for the benefit of CONTRACTOR, any Subcontractor, Supplier, other individual or entity or any surety or other party.

13.06 Correction or Removal of Defective Work

A. If required by CITY, CONTRACTOR shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by either DESIGN PROFESSIONAL or CITY's Representative, remove it and replace it with Work that is not defective. CONTRACTOR shall pay all costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) caused by or resulting from such correction or removal (including but not limited to the cost of repair or replacement of any other).

13.07 Correction Period

A. If within one (1) year after the date of Substantial Completion, or such longer period of time as may be prescribed by Laws and Regulations, or the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damaged land or areas made available for CONTRACTOR's use by CITY or permitted by Laws and Regulations as contemplated in Paragraph 6.10 is found to be defective, CONTRACTOR shall promptly, without cost to CITY and in accordance with CITY's written instructions:

1. correct the repair of damage caused to such land or area; or

2. correct such defective Work, or if it has been rejected by CITY, remove it from the site and replace it with Work that is not defective; and

3. satisfactorily correct or remove and replace any damage to other Work or to the Work of others or damage to other land or areas resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in the event of any emergency where delay would cause serious risk of loss or damage, CITY may have the defective Work corrected or the rejected Work removed and replaced, and all costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) caused by or resulting from such removal and replacement (including but not limited to the cost of repair or replacement of any of other) will be paid by CONTRACTOR.

B. In especially circumstances where particular item of equipment is required in continuous service before Substantial Completion of the Work, the correction period for that item may start to run from an earlier date if so provided in the specifications or any written amendment.

C. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph 13.07, the correction period hereunder

□it□ re□□ect to □uc□ □or□ □i□□e e□tended for □n □ddition□□□eriod of one (1) □e□r, or □uc□ □on□er □eriod of ti□e □□ □ □□ □e □re□cri□ed □it□in □□r□□r□□□ 13.07 □, □fter □uc□ correction or re□o□□□□nd re□□ce□ent □□□ □een □□ti□f□ctori□ co□ □eted.

D. CONTRACTOR's obligations under this Paragraph 13.07 are in addition to any other o□i□□tion or □□rr□nt□. T□e □ro□i□ion□ of t□i□ □□r□□r□□□ 13.07 □□□□not □e con□trued □□ □ □u□□titute for or □□i□er of t□e □ro□i□ion□ of □n□ □□□□ic□□e □t□tute of li□itation or re□o□e.

13.08 Acceptance of Defective Work

A. If, in□te□d of re□uirin□ correction or re□o□□□□nd re□□ce□ent of defecti□e □or□, CIT□ □refer□ to □cce□t it, CIT□ □ □□ do □o. CO□TR□CTOR □□□□□□□□ □□□co□t□, □o□□e□ □nd d□□ □□e□ (inc□udin□ □ut not li□ited to □□fee□ □nd c□□r□e□ of en□ineer□, □rc□itect□, □ttorne□□, □nd ot□er professionals and all court or arbitration or other dispute resolution costs) attributable to CITY's e□□u□tion of □nd deter□in□tion to □cce□t □uc□ defecti□e □or□ □nd □□□□□□□□ O□ □ER for t□e di□ini□□ed □□ue of t□e □or□. If □n□ □uc□ □cce□t□nce occur□ □rior to DE□l□□ PROFESSIONAL's recommendation of final payment, a Change Order will be issued incor□or□tin□ t□e nece□□□r□ re□i□ion□ into t□e Contr□ct Docu□ent□ □it□ re□□ect to t□e □or□ □nd, due to t□e di□ini□□ed □□ue of t□e □or□, CIT□ □□□□□□e entitled to □n □□□ro□ri□te decre□□e in t□e Contr□ct □rice. If t□e □□rtie□ □re un□□□e to □□ree □□ to t□e □□ount t□ereof, CIT□ □ □□ □ □□e □ C□□i□ t□erefore □□ □ro□ided in □rti□e 16. If t□e □cce□t□nce of defecti□e □or□ occur□ □fter □uc□ reco□ □end□tion, □n □□□ro□ri□te □□ount □□□□□□e □□id □□CO□TR□CTOR to CIT□.

13.09 CITY May Correct Defective Work

A. If CO□TR□CTOR f□i□ □it□in □ re□□on□□e ti□e □fter □ritten notice fro□ DE□l□□ □ROFESSIONAL or CITY's Representative to correct defective Work or to remove and replace re□ected □or□ □□ re□uired □□ CIT□ in □ccord□nce □it□ □□r□□r□□□ 13.06, or if CO□TR□CTOR f□i□ to □erfor□ t□e □or□ in □ccord□nce □it□ t□e Contr□ct Docu□ent□, or if CO□TR□CTOR f□i□ to co□ □□□ □it□ □n□ ot□er □ro□i□ion of t□e Contr□ct Docu□ent□, CIT□ □ □□, □fter □e□en (7) d□□□ □ritten notice to CO□TR□CTOR, correct □nd re□ed□ □n□ □uc□ deficienc□.

B. CIT□ □□□□roceed e□□editiou□□ □□en e□erci□in□ t□e ri□□t□ □nd re□edie□ under t□i□ □□r□□r□□□ 13.09. In connection □it□ □uc□ correcti□e □nd re□edi□□□ction, CIT□ □ □□ e□clude CO□TR□CTOR fro□ □□□or □□rt of t□e □ite□t□□e □o□□e□□ion of □□□or □□rt of t□e □or□ □nd suspend CONTRACTOR's services related thereto; take possession of CONTRACTOR's tools, □□□i□nce□, con□truction e□ui□□ent □nd □ □c□iner□ □t t□e □ite□□nd incor□or□te into t□e □or□ □□□ □ □teri□□ □nd e□ui□□ent □tored □t t□e □ite or for □□ic□ CIT□ □□□□ □□id CO□TR□CTOR □ut which are stored elsewhere. CONTRACTOR shall allow CITY, CITY'□ Re□re□ent□ti□e, □□ent□ and employees, CITY's other contractors, DESIGN PROFESSIONAL and Consultants access to t□e □ite to en□□□e CIT□ to e□erci□e t□e ri□□t□ □nd re□edie□ under t□i□ □□r□□r□□□ 13.09.

C. □□□co□t□, □o□□e□ □nd d□□ □□e□ (inc□udin□ □ut not li□ited to □□□fee□ □nd c□□r□e□ of en□ineer□, □rc□itect□, □ttorne□□, □nd ot□er □rofe□□ion□□□ □nd □□□court or □r□itr□tion or ot□er di□□ute re□o□ution co□t□) incurred or □u□t□ined □□ CIT□ in e□erci□in□ □uc□ ri□□t□ □nd re□edie□ li□□e c□□r□ed □□□in□t CO□TR□CTOR □nd □ C□□n□e Order li□□e i□□ued incor□or□tin□ t□e nece□□□r□ re□i□ion□ into t□e Contr□ct Docu□ent□ □it□ re□□ect to t□e □or□□□nd CIT□ □□□□□□e entitled to □n □□□ro□ri□te decre□□e in t□e Contr□ct □rice. If CIT□ □nd CO□TR□CTOR □re un□□□e to □□ree □□ to t□e □□ount t□ereof, CIT□ □ □□ □ □□e □ C□□i□ t□erefore □□ □ro□ided in □rti□e 16. □uc□ C□□i□ □for co□t□, □o□□e□ □nd d□□ □□e□ □i□□include □ut not □e li□ited to □□□co□t□ of re□□ir or re□□□ce□ent of □or□ of ot□er□ de□tro□ed or d□□ □□ed □□ correction, re□o□□□□nd replacement of CONTRACTOR's defective or rejected Work.

D. CO□TR□CTOR □□□□□not □e □□o□ed □n e□ten□ion of t□e Contr□ct Ti□e□ (or Mi□e□tone□) □ec□u□e of □n□ de□□□ in t□e □erfor□ □nce of t□e □or□ □ttri□ut□□□e to t□e e□erci□e □□ CIT□ of CITY's rights and remedie□ under □□r□□r□□□□ 13.06 □nd 13.09.

ARTICLE 14 PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

A. 01290.02 □c□edu□e of V□lue□ e□t□□i□□ed □□ □ro□ided in □rtic□ 2 □i□□□er□e □□ t□e □□□i□ for □ro□re□□ □□□□ent□ □nd □i□□e incor□or□ted into for□ 01290.01 □□□ic□tion for □□□□ent □cce□t□□e to DE□I□□ □ROFE□□IO□□□ □nd CIT□. □ro□re□□ □□□□ent□for □nit □rice □ or□ □i□□ □e □□□ed on t□e nu□□er of unit□ co□□□eted.

14.02 Application for Progress Payments

A. Application for Payment

1. □t □e□t t□ent□(20) d□□□ □efore t□e d□te □ti□u□□ted in t□e □u□□□e□ ent□r□Condition□ for e□c□ □ro□re□□ □□□□ent (□ut not □ore often t□□n once □ □ont□), CO□TR□CTOR □□□□□ □u□□it to DE□I□□ □ROFE□□IO□□□ for re□ie□ □n □□□ic□tion for □□□□ent fi□ed out □nd □i□ned □□ CO□TR□CTOR co□erin□ t□e □ or□ co□□□eted □□ of t□e d□te of t□e □□□ic□tion □nd □cco□□□nied □□ □uc□ □u□□ortin□ docu□ent□tion □□ i□ re□uired □□ t□e Contr□ct Docu□ent□. If □□□□ent i□ re□ue□ted on t□e □□□i□ of □□teri□□ □nd e□ui□□ent not incor□or□ted into t□e □ or□ □ut de□i□ered □nd □uit□□□ □tored □t t□e □ite or □t □not□er lo□□tion □□reed to in □ritin□, t□e □□□ic□tion for □□□□ent □□□□□□□o □e □cco□□□nied □□ □ □i□□of □□□e, □□id in□oice or ot□er docu□ent□tion □□rr□ntin□ t□□t CIT□ □□□ recei□ed t□e □□teri□□ □nd e□ui□□ent free □nd c□e□r of □□□□ien□ □nd e□idence t□□t t□e □□teri□□ □nd e□ui□□ent □re covered by appropriate property insurance and other arrangements to protect CITY"'s interest therein, all of which will be subject to CITY's approval.

2. □e□innin□ □it□ t□e □econd □□□ic□tion for □□□□ent, e□c□ □□□ic□tion □□□□ inc□ude□

□. □n □ffid□□it of CO□TR□CTOR □t□tin□ t□□t □□□ □re□iou□ □ro□re□□ □□□□ent□ received for the Work have been applied to discharge CONTRACTOR's legitimate o□li□□tion□ □□□oci□ted □it□ □rior □□□ic□tion□for □□□□ent, □nd

□. □ co□□ of t□e □o□t recent 00485.01 M/□ □E Mont□□ □ti□i□□tion Re□ort CONTRACTOR has submitted to the CITY's Ci□i□ Ri□□t□ □nd E□u□□ O□□ortunit□ De□□rt□ent.

c. □ co□□ of t□e □o□t recent 00485.02 □ro□ect □ or□force Mont□□ Re□ort □nd 00485.03 Co□ □□n□-□ ide □ or□force Mont□□ Re□ort CO□TR□CTOR □□□ □u□□itted to the OWNER's Ci□i□Ri□□t□ □nd E□u□□O□□ortunit□ De□□rt□ent.

d. □n u□d□te to t□e □□□ro□ed □c□edu□e □ur□u□nt to □□r□□r□□□□6.04 □nd 6.05.

3. T□e □□ount of ret□in□□e □it□ re□□ect to □ro□re□□ □□□□ent□ □i□□e □t□ted in t□e □u□□□e□ ent□r□Condition□.

B. Review of Applications

1. DE□I□□ □ROFE□□IO□□□ □i□, □it□in ten (10) d□□□ □fter recei□t of e□c□ □□□ic□tion for □□□□ent, eit□er indic□te in □ritin□ □ reco□□end□tion of □□□□ent □nd re□□ent t□e □□□ic□tion to CIT□, or return t□e □□□ic□tion to CO□TR□CTOR indic□tin□ in □ritin□ DESIGN PROFESSIONAL's reasons for refusing to recommend payment. In the latter case, CO□TR□CTOR □□□□□ □□e t□e nece□□□r□correction□ □nd re□u□□it t□e □□□ic□tion.

□. □fter presentation of the Application for Payment to CITY, and if CITY's Representative agrees with DESIGN PROFESSIONAL's recommendation, the amount reco□□ended □i□(□u□ect to t□e □ro□i□ion□ of □r□□r□□□ 14.02 □.4) □eco□e due □nd □i□□e □□id □□ CIT□ to CO□TR□CTOR, □u□□ect to t□e □ro□i□ion□ of □□□□ or Re□u□□tion□.

□. □o □□□□ent □□□□□□e □□□ro□ed unti□t□e CO□TR□CTOR □□□ □u□□itted □it□ t□e □□□ic□tion □cco□□□nin□ docu□ent□tion □□ re□uired □□ t□e Contr□ct Docu□ent□, inc□udin□, □ut not i□□ited to, t□e docu□ent□tion re□uired □□ □□r□□r□□□□6.04 □nd 6.05.

2. DESIGN PROFESSIONAL's recommendation of any payment requested in an □□□ic□tion for □□□□ent □i□con□titute □ re□re□ent□tion □□ DE□I□□ □ROFE□□IO□□□ to CITY, based on DESIGN PROFESSIONAL's observations of the e□ecuted □ or□ □□ □n experienced and qualified DESIGN PROFESSIONAL and on DESIGN PROFESSIONAL's

re□ie□ of t□e □□□ic□tion for □□□□ent □nd t□e □cco□ □□n□in□ d□t□ □nd □c□edu□e□, t□□t to t□e best of DESIGN PROFESSIONAL's knowledge, information and belief:

□. t□e □ or□ □□□□ □ro□re□□ed to t□e □oint indic□ted□

□. t□e □u□it□ of t□e □ or□ i□ □ener□□□□ in □ccord□nce □it□ t□e Contr□ct Docu□ent□ (□u□ect to □n e□□u□tion of t□e □ or□ □□ □ functionin□ □□o□e □rior to or u□on □u□t□nti□□ Co□ □□etion, to t□e re□u□t of □n□ □u□□e□uent te□t□ c□□□ed for in t□e Contr□ct Docu□ent□, to □ fin□□ deter□in□tion of □u□ntitie□ □nd c□□□ific□tion□ for □nit □rice □ or□ under □□r□□r□□□ 9.06, □nd to □n□ ot□er □u□ific□tion□ t□□ted in t□e reco□ □end□tion)□□nd

c. t□e condition□ □recedent to CO□TR□CTOR □ein□ entit□ed to □uc□ □□□□ent appear to have been fulfilled in so far as it is DESIGN PROFESSIONAL's responsibility to o□□er□e t□e □ or□.

3. DESIGN PROFESSIONAL's recommendation of any payment, including final □□□□ent, □□□□not □e□n t□□t DE□I□ □ □ROFESSIONAL is responsible for CONTRACTOR's □e□n□, □et□od□, tec□ni□ue□, □e□uence or □rocedure□ of con□truction, □□fet□ □rec□ution□ □nd □ro□r□□ □ incident t□ereto, or □n□ f□i□ure of CO□TR□CTOR to co□ □□□ □it□ □□□□ or Re□u□□tion□ □□□□ific□□□e to t□e furni□□in□ or □erfor□ □nce of □ or□.

4. DE□I□ □ □ROFE□□IO□□□ □ □□ refu□e to reco□ □end t□e □□o□e or □n□ □□rt of □n□ payment if, in DESIGN PROFESSIONAL's opinion, it would be incorrect to make the re□re□ent□tion□ to CIT□ referred to in □□r□□r□□□ 14.02 □.2. DE□I□ □ □ROFE□□IO□□□ □ □□ □□o refu□e to reco□ □end □n□ □uc□ □□□□ent or, □ec□u□e of □u□□e□uent□ di□co□ered e□idence or t□e re□u□t□ of □u□□e□uent in□□ection□ or te□t□, nu□if□ □n□ □uc□ □□□□ent □re□iou□□□ reco□ □ended, to □uc□ e□tent □□ □ □□ □e nece□□□r□ in DE□I□ □ PROFESSIONAL's o□inion to □rotect CIT□ fro□ □o□□ □ec□u□e□

□. t□e □ or□i□ defecti□e, or co□ □eted □ or□ □□□ □een d□□ □□ed re□uirin□ correction or re□□ce□ent□

□. t□e Contr□ct □rice □□□ □een reduced □□□ ritten □□end□ent or C□□n□e Order□□

c. CIT□ □□□ □een re□uired to correct defecti□e □ or□or co□ □ete □ or□in □ccord□nce □it□ □□r□□r□□□ 13.09□or

d. DE□I□ □ □ROFE□□IO□□□ □□□ □ctu□□□no□□ed□e of t□e occurrence of □n□ of t□e e□ent□ enu□er□ted in □□r□□r□□□ 15.02.

C. Reduction in Payment

1. CIT□ □ □□ refu□e to □ □□e □□□□ent of t□e fu□□□ount reco□ □ended □□ DE□I□ □ □ROFE□□IO□□□ □ec□u□e□

□. C□□i□ □□□e □een □ □de □□ t□ird □□rtie□ □□□in□t CIT□ on □ccount of CONTRACTOR's performance or furnishing of the Work; or

□. C□□i□ □ □□e □een □ □de □□ CIT□ □□□in□t CO□TR□CTOR in connection □it□ t□e □ or□, e□ce□t □□ere CO□TR□CTOR □□□ de□□ered □ □□ecific □ond □□ti□f□ctor□ to CIT□ to □ecure t□e □□ti□f□ction □nd di□c□□r□e of □uc□ C□□i□ □□

c. t□ere □re ot□er ite□ entit□n□ CIT□ to □ □et-off □□□in□t t□e □□ount reco□ □ended□or

d. CIT□ □□□ □ctu□□□no□□ed□e of t□e occurrence of □n□of t□e e□ent□ enu□er□ted in □□r□□r□□□□ 14.02 □.4.□ t□rou□□ c or 15.02 □.1 t□rou□□ 4□ □ut CIT□ □u□t □i□e CO□TR□CTOR □ritten notice (□it□ □ co□□ to DE□I□ □ □ROFE□□IO□□□) □t□tin□ t□e re□□on□ for □uc□ □ction □nd □ro□□t□ □□□ CO□TR□CTOR t□e □□ount □o □it□□e□d, or □n□ □di□u□t□ent t□ereto □□reed to □□ CIT□ □nd CO□TR□CTOR, □□en CO□TR□CTOR corrects to CITY's satisfaction the reasons for such action; or

e. CIT□ □□□ □ □de □ different deter□in□tion of t□e □ctu□□ □u□ntitie□ □nd c□□□ific□tion□ of □nit □rice □ or□.

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14.03 CONTRACTOR's Warranty of Title

A. CO□TR□CTOR □□rr□nt□ □nd □u□r□ntee□ t□□t titl□ to □□□□ or□, □ □teri□□□ □nd e□ui□□ent co□ered □□ □n□ □□□□ic□tion for □□□□ent, □□et□er incor□or□ted into t□e □ro□ect or not, □i□□□□□□ to CIT□ no □□ter t□□n t□e ti□e of □□□□ent, free □nd c□e□r of □□□□ien□.

14.04 Substantial Completion

A. □ □en CO□TR□CTOR con□ider□ t□e entire □or□ re□d□ for it□ intended u□e CO□TR□CTOR □□□□notif□ CIT□ □nd DE□I□□ □ROFE□□IO□□□ in □ritin□ t□□t t□e entire □or□ i□ □u□□t□nti□□□ co□ □□te (e□ce□t for ite□□ □□ecific□□□ li□ted □□ CO□TR□CTOR □□ inco□ □□te) □nd re□ue□t t□□t CIT□ i□□ue □ certific□te of □u□□t□nti□□Co□ □□etion. □ it□in □ re□□on□□e ti□e t□ere□fter, CIT□, to□et□er □it□ CO□TR□CTOR □nd DE□I□□ □ROFE□□IO□□□, □□□□□□ □□e □n in□□ection of t□e □or□ to deter□ine t□e □t□tu□ of co□ □□etion. If DE□I□□ □ROFE□□IO□□□ doe□ not con□ider t□e □or□ □u□□t□nti□□□ co□ □□te, DE□I□□ □ROFE□□IO□□□ □i□□ notif□ CO□TR□CTOR □nd CIT□ in □ritin□ □i□in□ t□e re□□on□ t□erefore. If DE□I□□ □ROFE□□IO□□□ con□ider□ t□e □or□ □u□□t□nti□□□ co□ □□te, DE□I□□ □ROFE□□IO□□□ □i□□re□□re □nd de□□er to CIT□ □ reco□ □ended certific□te of □u□□t□nti□□Co□ □□etion t□□t □□□□□e□t□□□ t□e d□te of □u□□t□nti□□Co□ □□etion. T□ere □□□□□□e □tt□c□ed to t□e certific□te □ tent□ti□e li□t of ite□□ to □e co□ □□eted or corrected □efore fin□□□□□□ent. CIT□ □□□□□□□□e □e□en (7) d□□□ □fter rece□□t of t□e reco□ □ended certific□te durin□ □□ic□ to □□□e □ritten o□□ection to DE□I□□ □ROFE□□IO□□□ □□ to □n□ □ro□i□ion□ of t□e certific□te or □tt□c□ed li□t. □t t□e ti□e of de□□er□ of t□e reco□ □ended certific□te of □u□□t□nti□□Co□ □□etion, DE□I□□ □ROFE□□IO□□□ □i□□de□□er to CIT□ □nd CO□TR□CTOR □ □ritten reco□ □end□tion □□ to di□□ion of re□□on□i□i□□tie□ □endin□ fin□□□□□□ent □et□een CIT□ □nd CO□TR□CTOR □it□ re□□ect to □ecurit□, o□er□tion, □□fet□, □rotection of t□e □or□, □ □inten□nce, □e□t, uti□itie□, in□ur□nce □nd □□rr□ntie□ □nd □u□r□ntee□.

B. CIT□ □□□□□□□e t□e ri□□t to e□c□de CO□TR□CTOR fro□ t□e □ite □fter t□e d□te of □u□□t□nti□□Co□ □□etion, □ut CIT□ □□□□□□□□□o□ CO□TR□CTOR re□□on□□e □cce□□ to co□ □□te or correct ite□ □on t□e tent□ti□e li□t.

14.05 Partial Utilization

A. Use by CITY at CITY's option of any substantially completed part of the Work which has □□ecific□□□ □een identified in t□e Contr□ct Docu□ent□, or □□ic□ CIT□, DE□I□□ □ROFE□□IO□□□ □nd CO□TR□CTOR □□ree con□titute□ □ □e□□r□te□ functionin□ □nd u□□□□e □□rt of t□e □or□ t□□t c□n □e u□ed □□ CIT□ for it□ intended □ur□o□e □it□out □i□nific□nt interference with CONTRACTOR's performance of the remainder of t□e □or□, □□□ □e □cco□ □li□□ed □rior to □u□□t□nti□□Co□ □□etion of □□□t□e □or□ u□□ect to t□e fo□o□in□

1. CIT□ □t □n□ ti□e □ □□ re□ue□t CO□TR□CTOR in □ritin□ to □er□it CIT□ to u□e □n□ □uc□ □□rt of t□e □or□ □□ic□ CIT□ □e□ie□e□ to □e re□d□ for it□ intended u□e □nd □u□□t□nti□□□ co□ □□te. If CO□TR□CTOR □□ree□ t□□t □uc□ □□rt of t□e □or□ i□ □u□□t□nti□□□ co□ □□te, CO□TR□CTOR □i□□certif□ to CIT□ □nd DE□I□□ □ROFE□□IO□□□ t□□t □uc□ □□rt of t□e □or□ i□ □u□□t□nti□□□ co□ □□te □nd re□ue□t CIT□ to i□□ue □ certific□te of □u□□t□nti□□ Co□ □□etion for t□□t □□rt of t□e □or□. CO□TR□CTOR □t □n□ ti□e □ □□ notif□ CIT□ □nd DE□I□□ □ROFE□□IO□□□ in □ritin□ t□□t CO□TR□CTOR con□ider□ □n□ □uc□ □□rt of t□e □or□ re□d□ for it□ intended u□e □nd □u□□t□nti□□□ co□ □□te □nd re□ue□t CIT□ to i□□ue □ certific□te of □u□□t□nti□□Co□ □□etion for t□□t □□rt of t□e □or□. □ it□in □ re□□on□□e ti□e □fter eit□er □uc□ re□ue□t, CIT□, to□et□er □it□ CO□TR□CTOR □nd DE□I□□ □ROFE□□IO□□□, □□□□□□ □□e □n in□□ection of t□□t □□rt of t□e □or□ to deter□ine it□ □t□tu□ of co□ □□etion. If DE□I□□ □ROFE□□IO□□□ doe□ not con□ider t□□t □□rt of t□e □or□ to □e □u□□t□nti□□□ co□ □□te, DE□I□□ □ROFE□□IO□□□ □i□notif□ CIT□ □nd CO□TR□CTOR in □ritin□, □i□in□ t□e re□□on□ t□erefore. If DE□I□□ □ROFE□□IO□□□ con□ider□ t□□t □□rt of t□e □or□ to □e □u□□t□nti□□□ co□ □□te, t□e □ro□i□ion□ of □□r□□r□□□ 14.04 □i□ □□□□□□ □it□ re□□ect to certific□tion of □u□□t□nti□□ Co□ □□etion of t□□t □□rt of t□e □or□ □nd t□e di□□ion of re□□on□i□i□it□ in re□□ect t□ereof □nd □cce□□ t□ereto.

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2. □o occu□□nc□or □e□□r□te o□er□tion of □□rt of t□e □ or□ □i□□□e □cco□ □i□□ed □rior to co□ □i□□nce □it□ t□e re□uire□ent□of □□r□□r□□□ 5.09 □it□ re□□ect to □ro□ert□in□ur□nce.

14.06 Final Inspection

A. □□on □ritten notice fro□ CO□TR□CTOR t□□t t□e entire □ or□ or □n □□reed □ortion t□ereof i□ co□ □□ete, DE□I□□ □ROFE□□IO□□□ □i□□ □□e □ fin□□in□□ection □it□ CIT□ □nd CO□TR□CTOR □nd □i□□ notif□ CO□TR□CTOR in □ritin□ of □□□ □□rticu□□r□ in □□ic□ t□i□ in□□ection re□e□□□ t□□t t□e □ or□ i□ inco□ □□ete or defecti□e. CO□TR□CTOR □□□□i□ □edi□te□□ t□□e □uc□ □e□□ure□ □□□re nece□□□r□to co□ □□ete □uc□ □ or□or re□ed□ □uc□ deficiencie□.

14.07 Final Payment

A. Application for Payment

1. □fter CO□TR□CTOR □□□ co□ □□eted □□□correction□ re□uired □□ □□r□□r□□□ 14.06 to t□e □□ti□f□ction of DE□I□□ □ROFE□□IO□□□ □nd CITY's Representative and delivered in □ccord□nce □it□ t□e Contr□ct Docu□ent□ □□□ □inten□nce □nd o□er□tin□ in□ruction□, □c□edu□e□, □u□r□ntee□, □ond□, certific□te□ or ot□er e□idence of in□ur□nce re□uired □□ □□r□□r□□□ 5.04, certific□te□ of in□□ection, □ □r□ed-u□ record docu□ent□ (□□ □ro□ided in □□r□□r□□□ 6.13) □nd ot□er docu□ent□, CO□TR□CTOR □ □□ □ □□e □□□ic□tion for fin□□ □□□□ent fo□o□in□ t□e □rocedure for □ro□re□□ □□□□ent.

2. T□e fin□□ □□□ic□tion for □□□□ent □□□□□□e □cco□ □□nied (e□ce□t □□ □re□iou□□□ de□i□ered) □□□

□. □□□docu□ent□tion re□uired □□ t□e Contr□ct Docu□ent□, inc□udin□ □ut not i□ited to t□e e□idence of in□ur□nce re□uired □□ □u□□□r□□r□□□ 5.04 □.7□□nd

□. 01290.14 "Contractor Affidavit for Final Payment" from CONTRACTOR and 01290.15 "Subcontractor Affidavit for Final Payment" from all Subcontractors, regardless of tier.

B. Review of Application and Acceptance

1. If, on the basis of DESIGN PROFESSIONAL's and CITY's Representative's o□□er□□tion of t□e □ or□ durin□ con□truction □nd fin□□ in□□ection, □nd DE□I□□ PROFESSIONAL's and CITY's Representative's review of the final Application for Payment □nd □cco□ □□n□in□ docu□ent□tion □□ re□uired □□ t□e Contr□ct Docu□ent□, DE□I□□ PROFESSIONAL and CITY's Representative are satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have □een fu□fi□ed, DE□I□□ □ROFE□□IO□□□ □i□, □it□in ten (10) d□□□ □fter recei□t of t□e fin□□ Application for Payment, indicate in writing DESIGN PROFESSIONAL's and CITY's Re□re□entative's recommendation of payment and present the Application to CITY for □□□□ent. □t t□e □□□e ti□e DE□I□□ □ROFE□□IO□□□ □i□□□□o □i□e □ritten notice to CIT□ □nd CO□TR□CTOR t□□t t□e □ or□ i□ □cce□t□□e□ □u□□ect to t□e □ro□i□ion□ of □□r□□r□□□ 14.09.

2. Ot□er□i□e, DE□I□□ □ROFE□□IO□□□ □i□□return t□e □□□ic□tion to CO□TR□CTOR, indic□tin□ in □ritin□ t□e re□□on□ for refu□in□ to reco□ □□end fin□□□□□□ent, in □□ic□ c□□e CO□TR□CTOR □□□□□ □□□e t□e nece□□□r□ correction□ □nd re□u□□it t□e □□□ic□tion to DE□I□□ □ROFE□□IO□□□. □fter t□e □re□ent□tion to CIT□ of t□e □□□ic□tion □nd □cco□ □□n□in□ docu□ent□tion, in □□□ro□ri□te for□ □nd □u□□t□nce, inc□udin□ □□□ic□□e federal and state prevailing wage provisions, and with DESIGN PROFESSIONAL's reco□ □end□tion □nd notice of □cce□t□□i□t, t□e □□ount reco□ □ended □□ DE□I□□ □ROFE□□IO□□□ □i□□ □eco□e due □nd □i□□ □e □□id □□ CIT□ to CO□TR□CTOR in □ccord□nce □it□ □□□□ □nd Re□u□□tion□.

14.08 Final Completion Delayed

A. If, t□rou□□ no f□u□t of CO□TR□CTOR, fin□□ co□ □□etion of t□e □ or□ i□ □i□nific□nt□□ de□□□ed □nd if DE□I□□ □ROFE□□IO□□□ □o reco□ □end□ □nd CIT□ concur□, CIT□ □□□□, u□on

receipt of CONTRACTOR's final Application for Payment and recommendation of DESIGN □ROFE□□IO□□□, □nd □it□out ter□in□tin□ t□e Contr□ct, □ □□e □□□□ent of t□e □□□□nce due for t□□t □ortion of t□e □ or□ fu□□ co□ □□eted □nd □cce□ted. If t□e re□ininᵹ □□□□nce to □e □e□d □□ CIT□ for □ or□ not fu□□ co□ □□eted or corrected i□ □e□□ t□□n t□e ret□in□□e □ti□u□□ted in t□e □u□□e□ ent□r□ Condition□, □nd if □ond□ □□□e □een furni□□ed □□ re□uired in □r□□r□□□ 5.01, t□e □ritten con□ent of t□e □uret□ to t□e □□□□ent of t□e □□□nce due for t□□t □ortion of t□e □ or□ fu□□ co□ □□eted □nd □cce□ted □□□□□ □e □u□□itted □□ CO□TR□CTOR to DE□I□ □ROFE□□IO□□□ □it□ t□e □□□ic□tion for □□□□ent. □□□□ent □□□□□e □ □de under t□e ter□ □nd condition□ □o□ernin□ fin□□□□□□ent, e□ce□t t□□t it □□□□not con□titute □ □□i□er of C□i□ □.

14.09 Waiver of Claims

A. T□e □ □□in□ □nd □cce□t□nce of fin□□□□□□ent □i□con□titute□

1. □ □□i□er of □□□c□i□ □ □□ CIT□ □□□in□t CO□TR□CTOR, e□ce□t c□i□ □ re□iou□□□ □ □de in □ritin□ □nd □ti□□un□ett□ed, or c□i□ □ ri□in□ fro□ defecti□e □ or□ □□□e□rin□ □fter fin□□ in□□ection □ur□u□nt to □□r□□r□□□ 14.06, fro□ f□i□re to co□ □□□ it□ t□e Contr□ct Docu□ent□ or t□e ter□ □ of □n□ □□eci□□ □u□r□ntees specified therein, or from CONTRACTOR's continuin□ o□i□□tion□ under t□e Contr□ct Docu□ent□□□nd

2. □ □□i□er of □□□C□i□ □ □□ CO□TR□CTOR □□□in□t CIT□ ot□er t□□n t□o□e □re□iou□□□ □ □de in □ritin□ □ur□u□nt to □□r□□r□□□□ 16.02 □nd 16.03 □nd □ti□□un□ett□ed.

14.10 Completion of Work by CITY

A. If CIT□ □u□t co□ □□ete t□e □ or□, □□□co□t□ □nd c□□r□e□ incurred □□ CIT□, to□et□er □it□ t□e co□t of co□ □□etin□ t□e □ or□ under t□e Contr□ct, □i□□□e deducted fro□ □n□ □onie□ due or □□ic□ □ □□ □eco□e due CO□TR□CTOR. If □uc□ e□□en□e e□ceed□ t□e □u□ □□ic□ □ould □□□e □een □□□□□e under t□e Contr□ct, t□en CO□TR□CTOR □nd t□e □uret□ □□□□□□e i□□□e □nd □□□□□ □□□ to CIT□ t□e □□ount of □uc□ e□ce□□.

ARTICLE 15 SUSPENSION OF WORK AND TERMINATION

15.01 CITY May Suspend Work

A. □ot□it□□t□ndin□ □n□ ot□er □ro□i□ion of t□i□ Contr□ct, □t □n□ ti□e □nd □it□out c□u□e, □nd □t i□ □o□e □nd □□□o□ute di□cretion, CIT□, □ □□□ □u□□end t□e □ or□ or □n□ □ortion of t□e □ or□ □□ □ritten notice to CO□TR□CTOR, □□ic□ □i□□initi□□□ fi□t□e d□te on □□ic□ □ or□ □i□□□e re□u□ed. CO□TR□CTOR □□□□□re□u□e t□e □ or□ on t□e d□te □o fi□ed in t□e notice un□e□□ t□e d□te i□ c□□n□ed □□ □ □u□□e□uent □ritten notice fro□ CIT□. CO□TR□CTOR □ □□ □e □□o□ed □n □du□t□ent in t□e Contr□ct □rice or □n e□ten□ion of t□e Contr□ct Ti□e□, or □ot□, direct□□ □ttri□ut□□□e to □n□ □u□□en□ion if CO□TR□CTOR □ □□e□ □ C□i□ t□erefore in □ccord□nce □it□ □rtic□e 16.

B. CO□TR□CTOR □i□□not □e □□o□ed □n □du□t□ent in t□e Contr□ct □rice or □n e□ten□ion of t□e Contr□ct Ti□e□ if CIT□ □u□□end□ t□e □ or□ □ecause CONTRACTOR's acts or omissions cre□te or c□u□e □n e□er□enc□ t□□t CIT□ □e□ie□e□ □ffect□ t□e □□fet□ or □rotection of □er□on□, t□e □ or□, or □ro□ert□ □t t□e □ite or □d□□cent t□ereto. CIT□ □ □□ order CO□TR□CTOR to □to□ t□e □ or□, or □n□ □ortion t□ereof, unti□ t□e c□u□e for □uc□ order □□□ □een □de□u□te□□ □ddre□□ed □□ CO□TR□CTOR□□o□e□er, t□i□ ri□□t of CIT□ to □to□ t□e □ or□ □□□□□not □i□e ri□e to □n□ dut□ on t□e □□rt of CIT□ to e□erci□e t□i□ ri□□t for t□e □enefit of CO□TR□CTOR, □n□ □u□contr□ctor, □u□□ie□, ot□er indi□idu□□or entit□ or □n□ □uret□ or e□ □o□ee or □□ent of □n□ of t□e□.

15.02 CITY May Terminate for Default

A. CO□TR□CTOR □ □□ □e dee□ed in def□u□t □nd CIT□ □ □□ ter□in□te t□e □er□ice□ of CO□TR□CTOR u□on t□e occurrence of □n□ one or □ore of t□e fo□o□in□ e□ent□□

1. CO□TR□CTOR f□i□□ to □erfor□ t□e □ or□ in □ccord□nce □it□ t□e Contr□ct Docu□ent□ (inc□udin□, □ut not □□ited to, f□i□re to □u□□□□ □ufficient □□i□ed □or□er□ or □uit□□e □ □teri□□ or e□ui□□ ent or f□i□re to □d□ere to t□e □ro□re□□ □c□edu□e e□t□□i□□ed under □□r□□r□□□ 2.06 □nd 2.07 □□ □d□□ted fro□ ti□e to ti□e □ur□u□nt to □□r□□r□□□□ 6.04, 6.05, 12.02 □nd 12.03)□

2. CO□TR□CTOR □□□ndon□t□e □ or□or dec□re□it□intention to □□□ndon t□e □ or□□

3. CO□TR□CTOR □□□i□n□or □tte□ □t□to □□□i□n it□ri□□t□or o□i□□tion□under t□i□ Contr□ct or □n□ □□rt t□ereof to □n□t□ird □□rt□ □it□out t□e □rior □ritten con□ent of CIT□□

4. CO□TR□CTOR f□i□□ to □ □□e □ro□ □t □□□□ent du□□ o□in□ to □n□ □u□contr□ctor for □ or□ co□ □□eted in □ccord□nce with t□e Contr□ct Docu□ent□or □ □teri□□□u□□ier for □ □teri□□□ de□□□ered for incor□or□tion into t□e □ or□ □it□in t□irt□(30) c□end□r d□□□ □fter □□□□ent □□□due□

5. CO□TR□CTOR f□i□□ to □c□ie□e t□e re□uired d□te□ of □u□□t□nti□□ □nd fin□□ co□ □□etion□

6. CO□TR□CTOR di□re□□rd□ □□□□ or Re□u□□tion□ of □n□ □u□ic □od□ □□□in□ □uri□diction□

7. CO□TR□CTOR di□re□□rd□t□e □ut□orit□ of DE□I□□ □ROFE□□IO□□□ or O□ □ER□ or

8. CO□TR□CTOR ot□er□i□e □io□□te□ in □n□ □u□□t□nti□□ □□□ □n□ □ro□i□ion□ of t□e Contr□ct Docu□ent□.

B. CIT□ □ □□, □fter □i□in□ CO□TR□CTOR (□nd t□e □uret□) □e□en (7) d□□□ □ritten notice □nd to t□e e□tent □er□itted □□ □□□□ or Re□u□□tion□, ter□in□te t□e □eri□e□ of CO□TR□CTOR, e□c□ude CO□TR□CTOR fro□ t□e □ite □nd t□□e □o□□e□□ion of t□e □ or□ □nd of □□□ CONTRACTOR's tools, appliances, construction e□ui□□ent □nd □ □c□iner□ □t t□e □ite □nd u□e t□e □□□e to t□e fu□□ e□tent t□e□ cou□d □e u□ed □□ CO□TR□CTOR (□it□out i□□□it□ to CO□TR□CTOR for tre□□□□□ or con□er□ion), incor□or□te into t□e □ or□ □□□ □ □teri□□□ □nd e□ui□□ent □tored □t t□e □ite or for □ic□ CIT□ □□□□ □□id CO□TR□CTOR □ut □ic□ □re □tored e□□e□□ere, □nd fini□□ t□e □ or□ □□ CIT□ □ □□□dee□ e□□edient. In □uc□ c□□e, CO□TR□CTOR □□□□□not □e entit□ed to recei□e □n□ furt□er □□□□ent unti□t□e □ or□ i□ fini□□ed. If t□e un□□id □□□□nce of t□e Contr□ct □rice e□ceed□ □□□co□t□, o□□e□ □nd d□□ □□e□(inc□udin□ □ut not i□ited to □□fee□ □nd c□□r□e□of en□ineer□, □rc□itect□, □ttorne□□, □nd ot□er □rofe□□ion□□□□ □nd □□court or □r□itr□tion or ot□er di□□ute re□o□ution co□t□) □u□t□ined □□CIT□ □ri□in□ out of or re□u□tin□ fro□ co□ □□etin□ t□e □ or□, □uc□ e□ce□□ □ □□ □e □□id to CO□TR□CTOR. If □uc□ co□t□, o□□e□ □nd d□□ □□e□e□ceed □uc□ un□□id □□□□nce, CO□TR□CTOR □□□□□□□□□t□e difference to CIT□ □it□in fourteen (14) calendar days of CITY'S demand for payment. When exercising □n□ ri□□t□ or re□edie□ under t□i□ □□r□□r□□□ CIT□ □□□□□not □e re□uired to co□ □etiti□e□□id t□i□ □or□ un□e□□ re□uired □□□□□.

C. Where CONTRACTOR's services have been so terminated by CITY, the termination will not □ffect □n□ ri□□t□ or re□edie□ of CIT□ □□□in□t CO□TR□CTOR t□en e□i□tin□ or □□ic□ □ □□ t□ere□fter □ccrue. □n□ retention or □□□□ent of □one□□ due CO□TR□CTOR □□ CIT□ □i□□not re□e□□e CO□TR□CTOR fro□ i□□□it□.

D. If, □fter □ def□u□t ter□in□tion, it i□ deter□ined t□□t t□e CO□TR□CTOR □□□ not in def□u□t, t□e ri□□t□ □nd o□i□□tion□ of t□e □□rtie□ □□□□□□e t□e □□□e □□if t□e ter□in□tion □□d □een i□□ued for t□e con□enience of t□e CIT□. T□e CIT□ □□□□□t□en □e i□□□e to CO□TR□CTOR for on□□t□o□e co□t□enu□er□ted in □□r□□r□□□ 15.03.

15.03 CITY May Terminate for Convenience

A. □ot□it□□t□ndin□ □n□ ot□er □ro□i□ion of t□i□ Contr□ct, u□on □e□en (7) c□end□r d□□□ □ritten notice to CO□TR□CTOR, CIT□ □ □□, □t it□ o□e □nd □□□o□ute di□cretion, □it□out c□u□e □nd □it□out □re□udice to □n□ ot□er ri□□t or re□ed□ of CIT□, e□ect to ter□in□te t□e Contr□ct. In □uc□ c□□e, CO□TR□CTOR □□□□, □it□ t□irt□(30) c□end□r d□□□ of recei□in□ notice of ter□in□tion under t□i□ □□r□□r□□□, □u□□ it to CIT□ it□ □t□te□ent of co□t□ □nd e□□en□e□ □nd □□□□□e □id□

1. for co□ □□eted □nd □cce□t□□e □ or□ e□ecuted in □ccord□nce □it□ t□e Contr□ct Docu□ent□ □rior to t□e effecti□e d□te of ter□in□tion, inc□udin□ f□r □nd re□□on□□e □u□ □for o□er□e□d □nd □rofit on □uc□ □ or□□

2. for e□□en□e□ □u□t□ined □rior to t□e effecti□e d□te of ter□in□tion in □erfor□in□ □er□ice□ □nd furni□□in□ □□□or, □□teri□□□ or e□ui□□ent □□ re□uired □□ t□e Contr□ct Docu□ent□ in connection □it□ unco□□□eted □ or□, □u□ f□ir □nd re□□on□□□e □u□ □ for o□er□e□d □nd □rofit on □uc□ e□□en□e□□

3. for □□□co□t□, □o□e□ □nd d□□ □□e□ incurred in □ett□□ent of ter□in□ted contr□ct□ □it□ □u□contr□ctor□, □u□□□ie□ □nd ot□er□□□nd

4. for re□□on□□□e e□□en□e□ direct□□□ □ttri□ut□□□e to ter□in□tion if □□□ro□ed in □d□□nce □□ CIT□.

B. CO□TR□CTOR □□□□□not □e □□id on □ccount of □o□□ of □ntici□□ted □rofit□ or re□enue or ot□er econo□ic lo□□ □ri□in□ out of or re□u□tin□ fro□ □uc□ ter□in□tion.

C. CO□TR□CTOR □i□e□ □n□co□t□ not □u□□itted to CIT□ □ur□u□nt to □□r□□r□□□ 15.03.□.

D. CITY shall, within thirty (30) calendar days after receipt of CONTRACTOR's statement, □□□ CO□TR□CTOR □□□□□ount□it deter□ine□ □re □ro□er□□ deter□ined.

ARTICLE 16 CLAIMS AND DISPUTES

16.01 Definition

□. □ C□□i□ i□ □ de□ □nd or □□□ertion □□ t□e CO□TR□CTOR □ee□in□, □□ □ □ □tter of ri□□t, t□e □d□u□t□ent of Contr□ct □rice □nd/or ti□e□ □it□ re□□ect to t□e ter□ □of t□e Contr□ct.

16.02 Written Notice and Burden of Proof

A. C□□i□ □ □u□t □e □ de □□ □ritten notice □ur□u□nt to □□r□□r□□□ 17.01. T□e □ritten notice □□□□□ c□e□r□ indic□te t□□t t□e CO□TR□CTOR i□ □ □□in□ □ c□□i□. T□e re□□on□i□i□t□ to □u□□t□nti□te C□□i□ □ □□□□□re□t □it□ t□e CO□TR□CTOR. □o C□□i□ □□□ □e □ de under t□i□ Contr□ct e□ce□t □□ □ro□ided in t□i□ □rtic□e.

□. Certific□tion of C□□i□ □T□e □ritten notice of C□□i□ □□□□□include t□e fo□o□in□ □t□te□ent signed by the CONTRACTOR's representative: "The CONTR□CTOR certifie□ t□□t □□□ t□te□ent□ □ de □nd t□e f□ct□ □et out in t□i□ c□□i□ □re true □nd correct □nd t□□t no f□□□e records have been submitted in support of this claim." **Strict compliance with this paragraph shall be a condition precedent to the creation, existence or validity of any Claim**.

16.03 Time Limits on Claims

A. T□e CO□TR□CTOR □u□t □i□e notice to t□e CIT□ □it□in fourteen (14) c□□endr d□□□ □fter t□e deni□□of □re□ue□t for or f□i□ure to re□c□ □n □□ree□ent on □c□□n□e in Contr□ct □rice □nd/or c□□n□e in Contr□ct Ti□e □ur□u□nt to □rtic□e 11 □nd □rtic□e 12 re□□ecti□e□. □fter t□e fourteen (14) d□□ □eriod for □ □□in□ C□□i□ □ □□□e□ired, t□e C□□i□ □□□□□□e con□idered □□i□ed.

B. The CONTRACTOR shall submit the Claim to the CITY's Representative.

16.04 Continuing Contract Performance

A. □endin□ fin□□ re□o□ution of □ C□□i□, un□e□□ ot□er□i□e □□reed in □ritin□, t□e CO□TR□CTOR □□□□□ □roceed di□□ent□□ □it□ □erfor□□nce of t□e □ or□ □nd t□e CIT□ □□□□□ continue to □ □□e □□□□ent□ in □ccord□nce □it□ t□e Contr□ct Docu□ent□. T□e CIT□ □ □□, □ut i□ not o□i□□□ted to, notif□ t□e □uret□ of t□e n□ture □nd □□ount of t□e C□□i□.

16.05 Injury or Damage to Person or Property

A. If eit□er □□rt□ to t□e Contr□ct □uffer□in□ur□ or d□□ □□e to □er□on or □ro□ert□ □ec□u□e of □n □ct or o□i□□ion of the other party, of any of the other party's employees or agents, or of ot□er□ for □□o□e □ct□ t□□t □□rt□ i□ □e□□□□ li□□e, □ritten notice of t□e in□ur□ or d□□ □□e, □□et□er or not in□ured, □□□□□□e □i□en to t□e ot□er □□rt□ □it□in □ re□□on□□□e ti□e not e□ceedin□ t□irt□ (30) d□□□ □fter fir□t o□□er□□nce. T□e notice □□□□□□ro□ide □ufficient det□i□ to en□□□e t□e ot□er □□rt□ to in□e□ti□□te t□e □ □tter.

16.06 Initial Resolution of Claims and Disputes

A. After the CONTRACTOR submitted the Claim to the CITY's Representative, the CITY'S Representative and CONTRACTOR'S Representative shall conduct a settlement conference within fourteen (14) calendar days from the date of receipt of the Claim. If the Claim is not settled within seven (7) calendar days following the date of the settlement conference, the CITY'S Representative and the CONTRACTOR's Representative shall state, in writing, following the conclusion of the seven (7) calendar day period, their respective position with respect to the matter in dispute.

B. The CITY'S and CONTRACTOR'S statement of positions shall state all known factual grounds for each party's position. If the dispute remains unresolved at the end of the seven (7) calendar days from submission of the parties' written position statements, the CONTRACTOR reserves the right to proceed with the pursuit of Claim pursuant to Section 16.07.

C. If a Claim has been rejected, the OWNER may require or obtain appropriate documentation.

16.07 Final Resolution of Claims and Disputes

A. Administrative procedures set forth in this contract must first be exhausted before suit is filed.

B. If the CITY'S Representative and the CONTRACTOR'S Representative are unable to resolve the dispute pursuant to 16.06, the parties must submit their statement of position to the Director, who will review the Claim and render decision within fourteen (14) calendar days.

C. Absent fraud, gross mistake or bad faith, the Director's decision shall be final and binding on CITY and CONTRACTOR within fourteen (14) calendar days after issuance. The CONTRACTOR must provide written notice to the CITY stating its intent to submit its Claim to a court of law pursuant to Section 17.05.B. within thirty (30) calendar days after notice of Director's decision.

D. The time frame for the Director's decision and for CONTRACTOR'S written notice of intent may be tolled by participation in Voluntary Mediation. Mediator selection and the procedures to be employed in Voluntary Mediation must be acceptable to the parties. Cost of the Mediator must be shared equally by the parties participating in the Mediation. In no event must Mediation take more than 30 days for Mediation. However, Mediation may be employed at any time at the discretion and mutual agreement of the parties.

E. If the dispute is not resolved during Voluntary Mediation, The CONTRACTOR agrees that it will identify no Claim based on facts or evidentiary matters that were not presented for consideration to the CITY during the Mediation process or of which the CONTRACTOR had knowledge and failed to present during the Administrative procedure.

ARTICLE 17 MISCELLANEOUS

17.01 Giving Notice

A. Whenever any provision of the Contract Documents requires the giving of written notice, it must be given to the person designated, by registered or certified mail, postage paid, to the last business address known to the giver of the notice or by confirmed electronic facsimile transmission. Notice is effective on the date of person designated, deposit of registered or certified mail, postage paid, or confirmed electronic facsimile transmission.

17.02 Computation of Times

A. When any period of time is referred to in the Contract Documents by days, it must be computed to exclude the first and include the last calendar day of such period. If the last day of such period falls on a Saturday or Sunday or on a day made a holiday by the law of the State of Texas, such day must be omitted from the computation.

17.03 Cumulative Remedies

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the

□□rr□ntie□, □u□r□ntee□ □nd o□i□□tion□ i□ □o□ed u□on CO□TR□CTOR □nd all of t□e ri□□t□ □nd re□edie□ ava ilab□e to CIT□ □nd DE□l□□ □ROFE□□IO□□□ □ereunder □re in □ddition to, □nd □re not to □e con□trued in any way as a □i□it□tion of, any ri□□t□ □nd re□edie□ ava ilab□e to any or all of t□e□ which □re ot□er□i□e i□ □o□ed or ava ilab□e by Laws or Re□u□tion□, by □□eci□□ □□rr□nt□ or □u□r□ntee or by ot□er □ro□i□ion□ of t□e Contr□ct Docu□ent□, □nd t□e □ro□i□ion□ of t□i□ Pa rag raph w ill □e as effecti□e as if re□e□ted □□ecific□□□□ in t□e Contr□ct Docu□ent□ in connection □it□ e□c□ □□rticu□□r dut□, o□i□□tion, ri□□t □nd re□ed□ to which t□e□ apply.

17.04 Survival of Obligations

A. All re□re□ent□tion□, inde□nific□tion□, □□rr□ntie□, □nd □u□r□ntee□ □□de in, re□uired by, or i□en in □ccord□nce □it□ t□e Contr□ct Docu□ent□, as w ell as all continuin□ o□i□□tion□ indic□ted in t□e Contr□ct Docu□ent□ will □ur□i□e fin□□□□□ent, co□ □□etion, □nd □cce□t□nce of t□e □ or□or ter□in□tion or co□ □□etion of t□e Contr□ct.

17.05 Controlling Law

A. T□i□ Contr□ct shall □e con□trued □nd □o□erned in □ccord□nce □it□ t□e laws of t□e □t□te of Mi□□ouri □it□out giving effect to Missouri's choice of law provisions. The CITY and CO□TR□CTOR: (1) shall □u□□it e□c□u□i□e□ to t□e □uri□diction of t□e □t□te □nd feder□□court□ □oc□ted in □□c□□on Count□, Mi□□ouri □nd no ot□er; (2) shall wa iv□ any □nd all o□ection□ to □uri□diction □nd □enue; □nd (3) shall not r□i□e foru□ non con□enien□ as □n o□ection to t□e □oc□tion of any □iti□□tion.

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Civil Rights and Equal Opportunity Department
Civil Rights and Wage Assurances

Non-discrimination in Employment. Contractor shall not discriminate against any employee or candidate for employment on the basis of an individual's race, hair texture or hair style associated with an individual's race, color, sex, religion, national origin, or ancestry, disability, sexual orientation, gender identity, age, or in any other manner prohibited by Chapter 38 of the City Code. Contractor shall not engage in any discrimination as prohibited by Chapter 3 of the City Code.

Ban the Box in Hiring and Promotion.

(a) Pursuant to Section 38-104, City Code Ordinances, Contractor shall not base a hiring or promotional decision on an applicant's criminal history or sentence related thereto, unless the employer can demonstrate that the employment-related decision was based on all information available including consideration of the frequency, recentness and severity of a criminal record and that the record was reasonably related to the duties and responsibilities of the position.

(b) Notwithstanding subsection (a), Contractor may inquire about an applicant's criminal history after it has been determined that the individual is otherwise qualified for the position, and only after the applicant has been interviewed for the position. Any such inquiry may be made of all applicants who are within the final selection pool of candidates from which a job will be filled.

(c) This provision shall not apply to positions where employers are required to exclude applicants with certain criminal convictions from employment due to local, state or federal law or regulation.

Title VI of the Civil Rights Act of 1964. Title VI of the Civil Rights Act of 1964 requires that no person in the United States shall, on the grounds of race, color, or national or origin (including limited English proficient individuals), be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. The City of Kansas City, Missouri requires compliance with the requirements of Title VI in all of its programs and activities regardless of the funding source.
Contractor shall not discriminate on the grounds of race, color, or national or origin (including limited English proficient individuals).

Quality Services Assurance Act. If this Contract exceeds $160,000.00, Contractor certifies Contractor will pay all employees who will work on this Contract in the city limits of Kansas City, Missouri at least $15.00 per hour in compliance with the City's Quality Services Assurance Act,

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Section 3-66, Code of Ordinances or City has granted Contractor an exemption pursuant to the Quality Services Assurance Act.

Anti-Discrimination Against Israel. If this Contract exceeds $100,000.00 and Contractor employs at least ten employees, pursuant to Section 34.600, RSMo., by executing this Contract, Contractor certifies it is not currently engaged in and shall not, for the duration of this contract, engage in a boycott of goods or services from the State of Israel; companies doing business in or with Israel or authorized by, licensed by, or organized under the laws of the State of Israel; or persons or entities doing business in the State of Israel.

Affirmative Action. If this Contract exceeds $300,000.00 and Contractor employs fifty (50) or more people, Contractor shall comply with City's Affirmative Action requirements in accordance with the provisions of Chapter 3 of City's Code, the rules and regulations relating to those sections, and any additions or amendments thereto; in executing any Contract subject to said provisions, Contractor warrants that it has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the Contract. Contractor shall not discriminate against any employee or applicant for employment because of race, color, sex, religion, national origin or ancestry, disability, sexual orientation, gender identity or age in a manner prohibited by Chapter 3 of City's Code. Contractor shall:

(a) Execute and submit the City of Kansas City, Missouri CREO Affirmative Action Program Affidavit warranting that the Contractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the Contract.

(b) Submit, in print or electronic format, a copy of Contractor's current certificate of compliance to the City's Civil Rights and Equal Opportunity Department (CREO) prior to receiving the first payment under the Contract, unless a copy has already been submitted to CREO at any point within the previous two (2) calendar years. If, and only if, Contractor does not possess a current certification of compliance, Contractor shall submit, in print or electronic format, a copy of its affirmative action program to CREO prior to receiving the first payment under the Contract, unless a copy has already been submitted to CREO at any point within the previous two (2) calendar years.

(c) Require any Subcontractor awarded a subcontract exceeding $300,000.00 to affirm that Subcontractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the subcontract.

(d) Obtain from any Subcontractor awarded a subcontract exceeding $300,000.00 a copy of the Subcontractor's current certificate of compliance and tender a copy of the same, in print or

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electronic format, to CREO within thirty (30) days from the date the subcontract is executed. If, and only if, Subcontractor does not possess a current certificate of compliance, Contractor shall obtain a copy of the Subcontractor's affirmative action program and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed.

City has the right to take action as directed by City's Civil Rights and Equal Opportunity Department to enforce this provision. If Contractor fails, refuses or neglects to comply with the provisions of Chapter 3 of City's Code, then such failure shall be deemed a total breach of this Contract and this Contract may be terminated, cancelled or suspended, in whole or in part, and Contractor may be declared ineligible for any further contracts funded by City for a period of one (1) year. This is a material term of this Contract.

Compliance with Laws. Contractor shall comply with all federal, state and local laws, ordinances and regulations applicable to the work and this Agreement. Contractor shall maintain in effect all the licenses, permissions, authorizations, consents and permits that it needs to carry out its obligations under this Agreement.

Prevailing Wage. If the Agreement exceeds $75,000.00 and any of the Services performed by Contractor includes construction, reconstruction, improvement, enlargement, alteration, painting and decorating, or major repair, that is subject to the Missouri Prevailing Wage Law (Section 290.210, RSMo – 290.340, RSMo), Contractor shall immediately notify the City prior to performing Services so the parties can execute an agreement that incorporates, the appropriate Wage Order. Contractor shall comply with all requirements of Section 290.210, RSMo – 290.340, RSMo even if Contractor fails to notify
the City.

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CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

CHANGE ORDER #2

Project Number 81000817

Project Title WSD Administration Building & IT Improvements & ADA Compliance

Change Order No: 2 Date of Issuance: 3/27/2024

Ordinance No: 230478 Ordinance Effective Date: 6/15/2023

Contract Notice To Proceed Date: 8/10/2023

To CONTRACTOR: Hartline Construction, LLC

The Contract is changed as follows:

COR #5, Add ceramic tile at corridor by 1st floor restroom and patch lobby floor slab = $7,686.00

COR #11, Add upgrades to 4 restrooms adjacent to 1st and 2nd floor north lobbies = $221,665.00

COR #12, Add modifications to north entry pier pad, unexpected footing demolition = $8,473.16

COR #13, Add update to roof flashing design = $16,101.00

COR #14, Add carpet to the 2nd floor north lobby = $7,555.00

COR #16, Add KCAV ceiling mounts for security monitors in security station, Room 133 = $3,415.74

COR #18, Add new monitor to the OK Creek Conference Room = $1,958.54

COR #19, Replace permeable pavers with concrete at select parking spaces in the south parking lot = $576.15

This Change Order constitutes compensation in full on behalf of the Contractor and its subcontractors and suppliers for all costs, including impact costs and extended general conditions, and markups directly and indirectly attributable to the Work changes ordered herein, for all delays related thereto and for performance of the changes within the time stated. Contractor hereby releases all claims for delay, interruption, extended general conditions, impact and cumulative impact claims for this Work.

X See Attached Document(s).

A - COR #5, Add ceramic tile at corridor by 1st floor restroom and patch lobby floor slab

B - COR #11, Add upgrades to 4 restrooms adjacent to 1st and 2nd floor north lobbies

C - COR #12, Add modifications to north entry pier pad, unexpected footing demolition

D - COR #13, Add update to roof flashing design

E - COR #14, Add carpet to the 2nd floor north lobby

G - COR #16, Add KCAV ceiling mounts for security monitors in security station, Room 133

H - COR #18, OK Creek Monitor

I - COR #19, Replace permeable pavers with concrete at select parking spaces in the south parking lot

Not valid until signed by the Director of Finance.

The original Contract Price was	$3,864,415.00
Net change by previously authorized Change Orders	$52,498.90
The Contract Price prior to this Change Order was	$3,916,913.90
The Contract Price will be (X increased by) (☐ decreased by) (☐ unchanged)	$267,430.59
The new Contract Price including this Change Order will be	$4,184,344.49
The Contract Time will be (X increased by) (☐ decreased by) (□ unchanged)	21 calendar days
The date of Substantial Completion as of the date of this Change Order therefore is	9/20/2024
The date of Final Completion as of the date of this Change Order therefore is	10/20/2024

Project No. & Title: **WSD Administration Building & IT Improvements & ADA Compliance / PN# 81000817**
Change Order No. 2

DESIGN PROFESSIONAL: **Wellner Architects, Inc.**	**By:** Julie Wellner, AIA DocuSigned by: Julie Wellner **Title:** Principal	**Date:** 4/2/2024
CONTRACTOR: **Hartline Construction, LLC**	**By:** Jennifer Hart DocuSigned by: Jennifer Hart **Title:** President and CEO	**Date:** 3/29/2024
CITY: **KC Water**	**By** Jeff Martin, P.E. DocuSigned by: Jeff Martin **Title:** Deputy Director	**Date:** 4/4/2024

Approved as to form: DocuSigned by: Mark Jones
Assistant City Attorney

I certify there is a balance otherwise unencumbered to the credit of the appropriation to which the above amount is chargeable, and a cash balance otherwise unencumbered in the treasury to the credit of the fund from which payment is to be made, each sufficient to meet the above obligation.

By: DocuSigned by: Eric Clevenger — 4/11/2024

Director of Finance — Date

Distribution:
- CITY
- CONTRACTOR
- DESIGN PROFESSIONAL

REMINDER: CONTRACTOR is responsible for considering the effect this Change Order may have on its ability to meet or exceed the D/M/WBE participation amounts in its Contractor Utilization Plan (CUP) as amended by any previously approved Request for Modification/Substitution. If CONTRACTOR will not be able to achieve the approved participation amounts in performing the work included within this Change Order, or if CONTRACTOR needs to retain the services of additional D/M/WBEs not previously listed in its CUP, CONTRACTOR is advised to submit a Request for Modification/Substitution.

Docusign Envelope ID: 14B981A4-1C82-4866-A7E4-98D43EC6FAEB

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

CHANGE ORDER #3

Project Number 81000817

Project Title WSD Administration Building & IT Improvements & ADA Compliance

Change Order No: 3 Date of Issuance: 10/16/2024

Ordinance No: 230478 Ordinance Effective Date: 6/15/2023

Contract Notice To Proceed Date: 8/10/2023

To CONTRACTOR: Hartline Construction, LLC

The Contract is changed as follows:

COR #21, DEDUCT, Shoal Creek Conference Room Improvements	**($39,104.15)**
COR #22, DEDUCT, 2nd Floor South Lobby Private Office	**($11,306.01)**
COR #23, Add, Sidewalk Replacement at South Entrancy	**$ 8,523.90**
COR #24, Add, South Ramp Radius Wall modification	**$12,797.13**
COR #25, Add, resolution of discovered sewer line at South Entry Ramp	**$ 1,533.40**
COR #27, Add, additional lights on light poles, South Entry	**$ 2,808.61**
COR #29, Add, North Entrance storefront modification	**$ 3,533.10**
COR #30, Add, delete walk-off carpet and replace with tile, North Entry	**$ 6,132.50**
COR #31, Add, provide curved handrail at Atrium stair	**$ 4,222.49**
COR #32, Add, provide HDMI cables at Security Desk	**$ 2,072,97**
COR #33, Add, grade change and added pavers at South Parking Lot	**$ 9,596.88**

This Change Order constitutes compensation in full on behalf of the Contractor and its subcontractors and suppliers for all costs, including impact costs and extended general conditions, and markups directly and indirectly attributable to the Work changes ordered herein, for all delays related thereto and for performance of the changes within the time stated. Contractor hereby releases all claims for delay, interruption, extended general conditions, impact and cumulative impact claims for this Work.

X See Attached Document(s).

A - COR #21, Deduct Shoal Creek Scope

B - COR #22, Office 201 Deduct

C - COR #23, Sidewalk Replacement at South Entrance

D - COR #24, Radius Wall at South Entrance Ramp

E - COR #25, Sanitary Sewer Line at South Entrance

F - COR #27, Added lights to Poles, South Entrancy

G - COR #29, North Entrance Storefront Modification

H - COR #30, Add tile in North Entrance

I - COR #31, Add handrail at Atrium Stair

I - COR #32, Add HDMI cables for Security Station

J - COR#33, Add South Parking Pavers and Grading

Not valid until signed by the Director of Finance.

The original Contract Price was	$3,864,415.00
Net change by previously authorized Change Orders	$319,929.49
The Contract Price prior to this Change Order was	$4,184,344.49
The Contract Price will be (X increased by) (☐ decreased by) (☐ unchanged)	$810.82
The new Contract Price including this Change Order will be	$4,185,155.31
The Contract Time will be (X increased by) (☐ decreased by) (☐ unchanged)	0 calendar days
The date of Substantial Completion as of the date of this Change Order therefore is	9/20/2024
The date of Final Completion as of the date of this Change Order therefore is	10/21/2024

Project No. & Title: **WSD Administration Building & IT Improvements & ADA Compliance / PN# 81000817**
Change Order No. 2

DESIGN PROFESSIONAL: **Wellner Architects, Inc.**	**By:**	Julie Wellner, AIA DocuSigned by: Julie Wellner BD14DE2E4444...	**Date:** 10/22/2024
	Title:	Principal	
CONTRACTOR: **Hartline Construction, LLC**	**By:**	Jennifer Hart Jennifer B. Hart	**Date:** 10/23/2024
	Title:	President and CEO	
CITY: **KC Water**	**By**	Jeff Martin, P.E. DocuSigned by: Jeff Martin 756D1017BA554BC...	**Date:** 10/25/2024
	Title:	Deputy Director	

Approved as to form: DocuSigned by: Mark Jones 0909E44CF75D420...
Assistant City Attorney

I certify there is a balance otherwise unencumbered to the credit of the appropriation to which the above amount is chargeable, and a cash balance otherwise unencumbered in the treasury to the credit of the fund from which payment is to be made, each sufficient to meet the above obligation.

By: DocuSigned by: Anne Kaps 996237FFA75F404... 11/4/2024

Director of Finance — Date

Distribution:
- ✠ CITY
- ✠ CONTRACTOR
- ✠ DESIGN PROFESSIONAL

REMINDER: CONTRACTOR is responsible for considering the effect this Change Order may have on its ability to meet or exceed the D/M/WBE participation amounts in its Contractor Utilization Plan (CUP) as amended by any previously approved Request for Modification/Substitution. If CONTRACTOR will not be able to achieve the approved participation amounts in performing the work included within this Change Order, or if

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CONTRACTOR needs to retain the services of additional D/M/WBEs not previously listed in its CUP, CONTRACTOR is advised to submit a Request for Modification/Substitution.

Docusign Envelope ID: 14B981A4-1C82-4866-A7E4-98D43EC6FAEB

CITY OF FOUNTAINS
HEART OF THE NATION

KANSAS CITY
MISSOURI

CHANGE ORDER #4

Project Number 81000817

Project Title WSD Administration Building & IT Improvements & ADA Compliance

Change Order No: 4 Date of Issuance: 10/24/2024

Ordinance No: 230478 Ordinance Effective Date: 6/15/2023

Contract Notice To Proceed Date: 8/10/2023

To CONTRACTOR: Hartline Construction, LLC

The Contract is changed as follows:

COR #4-01 Add, Construct Wall at Contact Center, separating area from Atrium	**$ 79,495.00**
COR #4-02, Add, Improvements to South Lobby and Customer Service Lobby	**$503,805.00**
Allowance for furniture to be purchased through Contractor	**$ 20,000.00**

This Change Order constitutes compensation in full on behalf of the Contractor and its subcontractors and suppliers for all costs, including impact costs and extended general conditions, and markups directly and indirectly attributable to the Work changes ordered herein, for all delays related thereto and for performance of the changes within the time stated. Contractor hereby releases all claims for delay, interruption, extended general conditions, impact and cumulative impact claims for this Work.

X See Attached Document(s).
A - COR #4-01, Construct Wall at Contact Center
B - COR #4-02, Improvements to South Lobby and Customer Service Lobby

Not valid until signed by the Director of Finance.

The original Contract Price was	$3,864,415.00
Net change by previously authorized Change Orders	$319,929.49
The Contract Price prior to this Change Order was	$4,185,155.31
The Contract Price will be (X increased by) (□ decreased by) (□ unchanged)	$603,300.00
The new Contract Price including this Change Order will be	$4,788,455.31
The Contract Time will be (X increased by) (□ decreased by) (□ unchanged)	180 calendar days
The date of Substantial Completion as of the date of this Change Order therefore is	9/20/2024
The date of Final Completion as of the date of this Change Order therefore is	4/21/2025

Project No. & Title: **WSD Admin. Bldg., Building & IT Improvements & ADA Compliance / PN# 81000817**
Change Order No. 4

DESIGN PROFESSIONAL: **Wellner Architects, Inc.**	**By:** Julie Wellner, AIA	**Date:**
	Title: Principal	

CONTRACTOR: **Hartline Construction, LLC**	**By:** **Title:**	Jennifer Hart President and CEO	**Date:**
CITY: **KC Water**	**By** **Title:**	Jeff Martin, P.E. Deputy Director	**Date:**

Approved as to form: _____

Assistant City Attorney

I certify there is a balance otherwise unencumbered to the credit of the appropriation to which the above amount is chargeable, and a cash balance otherwise unencumbered in the treasury to the credit of the fund from which payment is to be made, each sufficient to meet the above obligation.

By: _____

Director of Finance Date

Distribution:
- CITY
- CONTRACTOR
- DESIGN PROFESSIONAL

REMINDER: CONTRACTOR is responsible for considering the effect this Change Order may have on its ability to meet or exceed the D/M/WBE participation amounts in its Contractor Utilization Plan (CUP) as amended by any previously approved Request for Modification/Substitution. If CONTRACTOR will not be able to achieve the approved participation amounts in performing the work included within this Change Order, or if CONTRACTOR needs to retain the services of additional D/M/WBEs not previously listed in its CUP, CONTRACTOR is advised to submit a Request for Modification/Substitution.