



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

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

Project Manual

FOR

**PROJECT/CONTRACT NO. 80002377/9718
 CITY WIDE AUTOMATED METERING
 INFRASTRUCTURE 2**

BIDDER/ADDRESS

Company _____
Contact _____
Address _____

Phone _____
Fax _____
Email _____

Project Manager: Terry Thomas
 Telephone: 816-513-0262
 Email: Terry.D.Thomas@kcmo.org



ADDENDUM NUMBER 1

Project/Contract Number 80002377 / 9718

Project Title City-Wide Automated Metering Infrastructure 2

ISSUE DATE: 02-24-2022

Bidders are hereby notified that the Bidding and Contract Documents for the above project, for which Bids are to be received on 03-1-2022, are amended as follows:

Bidding Requirements

1. Delete and replace the following sections:

- a. Delete document 00412 Unit Prices Form and replace with 00412 Unit Prices Form – Addendum 1.

Note¹: On item 6, “City furnished” has been removed

Information to Bidders The following is provided to Bidders for information only:

1.

Q1.	For any meter tile/lid replacements, are they City furnished?
A1.	No

2. Please use the following link to the recording of the Pre-bid meeting: https://kcmo-my.sharepoint.com/:v/g/personal/terry_d_thomas_kcmo_org/ETtdyqAhdFJBjOe6GrM-9C0BqEnx4IrYdgzAkR-be0m0ng

NOTE: Bidders must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.



UNIT PRICES

Project Number 80002377/9718

Project Title Citywide Automated Metering Infrastructure 2

NOTE: IN THE EVENT OF DISCREPANCY, UNIT PRICE SHALL GOVERN.

Item No.	Unit	Quantity	Item Description:	Unit Price	Extension
1	Each	1000	Site Visit (No work is done, leaving a notice only)		
2	Each	800	Install AMR (City Furnished) [Exchange Meter Set, Replace MTU and Wire the System]		
3	Each	50	Repair wires only [No meter/MTU exchange. Connecting/Reconnecting wires]		
4	Each	500	Exchange meter/Program MTU (City Furnished) [Exchange Meter Set, Program MTU, no wiring]		
5	Each	750	Exchange out MTU/program [Includes low battery replacements]		
6	Each	50	Replace Meter Ring & Lid Meter Tile Lid [Replacement Labor Only]		
7	Each	950	Replace Meter Pit for 1" meter and smaller		
8	Each	300	Meter Brass Repair		
9	Each	50	Square meter pit replacement (for AMI) Core drill		
10	LF	500	Repair / replace meter brass/msc repair with PEX due to leak inside		
11	Each	25	Replace Curb Stop, Curb Box, Ring, & Lid		
12	LF	500	Curb Stop Top-End Replace/Rebuild		
13	Each	1	Clean out curb box		
14	Each	50	Service Shut [Turn Off Service at the Curb Box]		
15	Each	35	Temporary Kill [Dig up and Offset Curb Box]		
16	Hour	35	Renew Service [Dig up and properly set/turn on Curb Box]		
17	Each	10	Work Repair/Leaking Curb Stop in Parkway		
18	Each	TBD	Other services not within scope of items 1 through 19 as assigned by the CITY. Contractor to provide documentation of invoiced quantities (Time and Material).	Alternate Unit Prices for Other Services	
			Total Unit Prices: (LAST PAGE ONLY)		TOTAL \$

Note 1: May be printed, for manual fill-in, or filled in on electronic excel spreadsheet version.

Note 2: If unspecified above or in Section 01000 'Project Requirements', materials shall be furnished by the Contractor.

Note 3: Item 23 added as part of Change Order No. 1, executed under contract 9339



ADDENDUM NUMBER 2

Project/Contract Number 80002377 / 9718

Project Title City-Wide Automated Metering Infrastructure 2

ISSUE DATE: **02-24-2022**

Bidders are hereby notified that the Bidding and Contract Documents for the above project, for which Bids are to be received on **Tuesday March 1, 2022**, are amended as follows:

Due to the current “KC Re-Opening Plan” which includes limiting the number of individuals in City Hall, we would like to communicate the plans for handling the Public Bid Opening for **March 1, 2022**

1. We will allow Bidders to submit their bids at City Hall, however the Bid Box will be placed in the vestibule area on the outside of the security checkpoint on the North Entrance.
2. The Bid Box will be removed at 2:00 PM per the Bidding Instructions.
3. 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
4. The Bid Results will be posted to the KCMO Planroom like our normal process.

Microsoft Teams meeting

Join on your computer or mobile app

[Click here to join the meeting](#)

Or call in (audio only)

[+1 872-212-5076,,877395196#](#) United States, Chicago

Phone Conference ID: 877 395 196#

[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.



ADDENDUM NUMBER 3

Project/Contract Number 80002377 / 9718

Project Title City-Wide Automated Metering Infrastructure 2

ISSUE DATE: 03-01-2022

Bidders are hereby notified that the Bidding and Contract Documents for the above project, for which Bids are to be received on 03-1-2022, are amended as follows:

The Bid date for this Project stated in Document 00130 - Invitation to Bid shall be changed to: 2:00 PM, on **March 8, 2022**.

Bidding Requirements

1. Delete and replace the following sections:

- a. Delete document 00130 Invitation to Bid and replace with 00130 Invitation to Bid – Addendum 2.
- b. Delete document 00210 Instruction to Bidders and replace with 00210 Instruction to Bidders – Addendum 2.
- c. Delete document 00412 Unit Prices Form – Addendum 1 and replace with 00412 Unit Prices Form – Addendum 2.
- d. Delete document 01015 Specific Project Requirements and replace with 01015 Specific Project Requirements – Addendum 2.
- e. Delete document 01260 Measurement and Payment and replace with 01260 Measurement and Payment - Addendum 2.

Information to Bidders The following is provided to Bidders for information only:

NOTE: Bidders must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.



INVITATION TO BID

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

The Water Services Department of Kansas City, Missouri will receive sealed Bids until 2:00 PM, on **Tuesday, March 8, 2022** at **414 East 12th Street, First Floor Room 102W, Kansas City, Missouri 64106, Project/Contract No.80002377/9718 – City Wide Automated Metering Infrastructure 2**. Bids will be opened after that time at the same location.

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 (12%) MBE participation and (12%) 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 requested to attend the **Non-Mandatory** Pre-Bid Conference at **2:00 PM, on Thursday, February 17, 2022** via Microsoft Teams with the Project Manager. Please use the following link in order to access the meeting.

https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZDIxMDVhMjQtY2E0MS00NTg2LWI4OTgtOWI5Yjg1YWY0NDMz%40thread.v2/0?context=%7b%22Tid%22%3a%22ec240911-5979-4419-a8ec-c808b076019b%22%2c%22Oid%22%3a%22dcddf058-da61-4581-a63b-f21686fcaebf%22%7d

Project Manager: Terry D. Thomas, Sr.

Phone Number: 816-513-0262

Fax Number: 816-513-0288

E-mail: terry.d.thomas@kcmo.org

Procurement Officer: Darrell Everette

Phone Number: (816) 513-0798

E-mail: Darrell.everette@kcmo.org

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



INSTRUCTIONS TO BIDDERS

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

1. Sealed Bids for **City Wide Automated Metering Infrastructure 2 - Contract/Project No. 80002377/9718**, will be received by the General Services Department at City Hall 414 E. 12th Street 1st Floor, Room102W, Kansas City, Missouri, 64106 on, **Tuesday, March 8, 2022** until 2:00 P.M., 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 hundred twenty (120) days after the Bid is opened. Bid security shall likewise continue for the same hundred twenty (120) 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 and best 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 and best Bid. In determining lowest and best 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 reference information. Completed Form 00410.02 Experience Reference Summary for similar projects *currently* being performed. Completed Form 00410.03 List of Equipment and Staffing available for the success and completion of this 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) QC/QA Manager
 - (4) 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. Illustrate clearly and concisely Bidder's understanding of the technical elements that must be addressed for successful completion of the Project.
- g. 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)
- h. 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.
- i. 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.
- j. Summary of Bidder's Quality Assurance/Quality Control Plan for this project
- k. 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.
- l. 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.
- m. Statement that Bidder is current on payment of Federal and State income tax withholdings and unemployment insurance payments
- n. Statement of Bidder's litigation and/or arbitration history over the past five (5) years including final ruling.

- o. Statement of Bidder's bond history over the past five (5) years including any incidences of failure to perform.
- p. MBE / WBE past project performance and compliance with participation goals in comparable size commercial projects.

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 and best 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

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 (12%) MBE participation and (12%) 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 and best 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 a 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 and best 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 and best 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 and best bidder in any subsequent City contracts.

24. Pre-Bid Conference The Kansas City Water Services Department will hold a pre-Bid conference on **Thursday, February 17, 2022**, at **2:00** PM via Microsoft Teams. Please use the following link to access the meeting:

https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZDIxMDVhMjQtY2E0MS00NTg2LWI4OTgtOWI5Yjg1YWY0NDMz%40thread.v2/0?context=%7b%22id%22%3a%22ec240911-5979-4419-a8ec-c808b076019b%22%2c%22oid%22%3a%22dcddf058-da61-4581-a63b-f21686fcaebf%22%7d

Attendance at the pre-Bid conference is encouraged for all Bidders on this Project.

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.

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 **five (5)** 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.

Terry Thomas, Project Manager
Water Services Department
4800 E. 63rd. Street
Kansas City, MO 64130
(816) 513-0262

(816) 513-0266

E-mail: terry.d.thomas@kcmo.org

Darrell Everette, Procurement Manager

General Services Department

City Hall

414 E. 12th Street

1st Floor-Room 102W

Kansas City, Missouri 64106

(816) 513-0798

(816) 513-2812 Fax

E-mail: Darrell.everette@kcmo.org



For persons with disabilities needing reasonable accommodations please contact Jean Lawson at 816-513-6566. If you need to use the Relay Service, please dial 711.



UNIT PRICES

Project Number 80002377/9718 _____

Project Title Citywide Automated Metering Infrastructure 2 _____

NOTE: IN THE EVENT OF DISCREPANCY, UNIT PRICE SHALL GOVERN.

Item No.	Unit	Quantity	Item Description:	Unit Price	Extension
1	Each	1000	Site Visit (No work is done, leaving a notice only)		
2	Each	150	Install AMR (City Furnished) [Exchange Meter Set, Replace MTU and Wire the System]		
3	Each	50	Repair wires only [No meter/MTU exchange. Connecting/Reconnecting wires]		
4	Each	1200	Exchange meter/Program MTU (City Furnished) [Exchange Meter Set, Program MTU, no wiring]		
5	Each	750	Exchange out MTU/program [Includes low battery replacements]		
6	Each	50	Replace Meter Ring & Meter Tile Lid		
7	Each	15	Replace Meter Pit for 1" meter and smaller		
8	Each	5	Square meter pit replacement (for AMI) Core drill		
9	LF	100	Repair or Replace Meter Brass		
10	LF	50	Miscellaneous repair with PEX due to leak inside		
11	Each	25	Replace Curb Stop, Curb Box, Ring, & Lid (Includes Dig Up)		
12	Each	750	Curb Stop Top-End Replacement with existing materials		
13	Each	250	Clean out curb box		
14	Each	50	Service Shut [Turn Off Service at the Curb Box]		
15	Each	35	Temporary Kill [Dig up and Offset Curb Box]		
16	Each	35	Renew Service [Dig up and properly set/turn on Curb Box]		
17	Each	30	Work Repair/Leaking Curb Stop in Parkway		
18	Hour	TBD	Other services not within scope of items 1 through 19 as assigned by the CITY. Contractor to provide documentation of invoiced quantities (Time and Material).	Alternate Unit Prices for Other Services	
			Total Unit Prices: (LAST PAGE ONLY)		TOTAL \$

Note 1: May be printed, for manual fill-in, or filled in on electronic excel spreadsheet version.

Note 2: If unspecified above or in Section 01000 'Project Requirements', materials shall be furnished by the Contractor.

Note 3: Item 23 added as part of Change Order No. 1, executed under contract 9339

SECTION 01015

SPECIFIC PROJECT REQUIREMENTS

PART 1 GENERAL

1.1 Section Description

- A. This section provides for certain administrative and construction requirements relating to this project. The purpose of this project is to provide for the repair or replacement of inoperable curb boxes on existing water service lines; to upgrade existing meter sets for Automatic Meter Reading (AMR); and to replace other items such as galvanized pipes as needed.
- B. The work to be performed under this Contract consists of furnishing all labor, materials (except those materials specifically listed under Materials Furnished By Owner), equipment, tools, superintendence, and all services necessary to perform the following work complete with all appurtenances:

Item No.1

Site Visit (No work is done, leaving a notice only)

- Visit site of service request.
- Leave a no work card/notice
- Site visits are NOT to be additionally charged on any other item listed herein, as site visits are strictly for when no work is being performed.

Item No.2

Install AMR (Exchange Meter Set, Replace MTU, and Wire the System)

- Replace lid with approved composite material, if required.
- Install MTU on underside of lid.
- Remove existing meter.
- Replace with new AMR meter.
- Install wiring from MTU to meter.
- Program MTU.

Item No.3

Repair Wires Only (No Meter/MTU Exchange. Connect/Reconnect wires)

- Install wiring from MTU to meter.

Item No.4

Exchange Meter/Program MTU (Exchange meter set, Program MTU. No wiring)

- Replace lid with approved composite material, if required.
- Remove existing meter.
- Replace with new AMR meter.
- Program MTU.

Item No.5

Exchange MTU/Program MTU (Includes Low Battery Replacements)

- Remove existing MTU.
- Replace with new MTU.
- Install wiring from MTU to meter.
- Program MTU.

Item No.6

Replace Meter Ring & Meter Tile Lid

- Replace meter ring.
- Replace lid with approved composite material.

Item No.7

Replace Meter Pit for 1" meter or smaller

- Locate existing meter
- Excavate and expose existing water service line and meter
- Replace lid with approved composite material.
- Install MTU on underside of lid.
- Remove existing meter pit
- Replace with new meter pit.
- Install wiring from MTU to meter, if necessary.
- Program MTU.

Item No. 8

Square Meter Pit Replacement (for AMI) Core Drill

- Pull up existing meter lid.
- Drill a 1.5-inch diameter hole into the meter lid.
- Install MTU on underside of lid.
- Install wiring from MTU to meter.
- Program MTU.

Item No. 9

Repair or Replace Meter Brass

- Replace existing galvanized water services with K-copper tubing.
- Connect the new K-copper water service to existing corporation stop at main.
- Restore disturbed areas excluding pavement

Item No. 10

Miscellaneous Repair With PEX due to Leak:

- Remove existing meter set.
- Replace entire meter assembly, including yoke, valve, unmeasured flow reducer, fittings, and appurtenances using PEX pipe.

Item No.11

Replace Curb Stop, Curb Box, Ring & Lid (Includes Dig Up)

- Excavate and remove existing curb stop, curb box, ring and lid.
- Install new curb stop, curb box, ring and lid, and operate new curb stop.

- Restore disturbed areas excluding pavement.

Item No. 12

Curb Stop Top-End Replace with existing materials

- Excavate and remove existing curb box.
- Reinstall existing curb box & adjust so the curb stop is operable.
- Reinstall the existing ring & lid.

Item No. 13

Clean Out Curb Box

- Remove any debris from the curb box.

- C. All materials furnished and all work done shall be in complete conformance with the current KCMO Standards and Specifications.
- D. The Owner shall provide a list containing the addresses of the curb boxes to be repaired with priority indicated.

The Contractor shall perform curb box shuts after a property owner has received two (2) required notices, but does not schedule an appointment for the installation of the AMR Meter set and MTU. These curb box shuts are to be performed with the addition of installing “concrete bullets”, furnished by the Owner. Shuts may only be performed during the days and times established by the Owner.

1.2 Materials Furnished by the Owner

- A. Owner will furnish, upon written request from the Contractor and without charge to the Contractor, the materials tabulated below through the Water Services Department Stores or a third-party supplier if specified below. All other materials required to complete the work in accordance with the Contract Documents shall be furnished and installed by and at the expense of the Contractor.

	Quantity	Units	Item
	As Required to Complete the Work	Each	MTU (Meter Transmitting Unit)
B.	As Required to Complete the Work	Each	AMR for Meters
	As Required to Complete the Work	Each	Meters
	Three	Each	Tablets (MTU Programmer) [If lost, Contractor fully responsible for replacement cost of \$3,500.00]

Contractor shall pick up owner-furnished materials, to be supplied directly from the Meter Field Services at 1720 Wabash Ave, Kansas City, MO or other locations as

required.

- C. All materials furnished by the Owner which are damaged, lost or stolen after its acceptance by the Contractor shall be replaced at the expense of the Contractor. The Contractor, or his authorized representative, shall sign a bill of receipt for all materials withdrawn from Meter Field Services or furnished by the Owner through a supplier. All owner-furnished materials that are not incorporated in the work shall be returned to the Water Services Department Stores. All such material not returned shall be charged to the Contractor and deduction therefore shall be made from the final payment.

1.3 Prevailing Wage Rate

- A. The prevailing wage rate provisions have been reviewed with respect to this work and it has been determined that the following classifications apply.

Wage Rates: **County – Cass, Clay, Jackson, and Platte**

State - Heavy

- B. The Contractor is required to pay the higher hourly rate for each occupational title.

1.4 Contract Specifications

- A. The work shall conform to these Project Specifications, contained within the Project Manual, and to the latest revision of the KCMO Standards and Specifications for Water Main Extensions and Relocations and the Rules and Regulations for Water Service Lines, which are made a part hereof by reference. These Standards and Specifications in pdf format are available for viewing and printing from the City website at <http://www.kcmo.gov>.
- B. The term “Engineer” as used in the aforesaid Standards and Specifications shall mean the Engineering Services Division of the Water Services Department of the City, or any engineer or agent designated by the Director in responsible charge of the work.
- C. In cases where the KCMO Standards and Specifications for Water Main Extensions and Relocations and Rules and Regulations for Water Service Lines, as referenced, conflict with these Project Specifications or the Project Drawings, the Project Specifications or the Project Drawings shall govern.

1.5 Water Service Permits and Fees

- A. The Contractor shall obtain water service permits from the Water Services Department as required in the KCMO Rules & Regulations for Water Service Lines. However, the Contractor will not be required to pay permit fees for water service permits or water taps.
- B. The Contractor will be required to pay all permit fees of other City Departments.

1.6 Rights-Of-Way

- A. The Owner will provide right-of-way necessary for the Work where it is in public thoroughfares, city streets, Park Board property, county roads, state highways, or where it crosses private property. The Contractor shall confine his construction operations to the immediate vicinity of the location shown on the Plans, and shall use due care in placing construction tools, equipment, excavated materials, and pipeline materials and supplies so as to cause the least possible damage to property and interference with public traffic.
- B. Should it become necessary that the Contractor use or occupy the land outside the Owner's right-of-way, the Contractor shall obtain written consent from or execute a written agreement with the owner and tenant of such permitting such operation. The Contractor shall neither enter for pipe delivery nor occupy for any other purpose with men, tools, equipment, construction materials, or excavated materials any private property outside the right-of-way boundaries without such written permission from the owner and tenant of the entered or occupied property. Each owner and tenant of land or other property so occupied shall be notified by the Contractor not less than five (5) days prior to such occupation.

1.7 Traffic Control

- A. Contractor shall be responsible to provide all necessary traffic control devices to safely construct this project. The contractor shall furnish and erect all traffic control signs, barricades, markings, and other traffic control devices that are required to control vehicular and pedestrian traffic. The size, shape, color and placement of all signs, barricades, markings, and other traffic control devices signs shall comply with the latest revision of the Manual of Uniform Traffic Control Devices and specific requirements of the KCMO Street and Traffic Division of Public Works Department.
- B. Contractor shall prepare and submit for approval a specific traffic control plan related to his proposed approach to constructing the work. The Contractor shall secure approval of the traffic control plan from the KCMO Public Works Department, Water Services Department, and all other governing authorities.

1.8 Facilities

- A. Water: The Owner will furnish to the Contractor without charge all necessary water for filling, flushing, and testing the completed line and other construction requirements. The Contractor shall make arrangements with the Owner for all water used. Use of City's water facilities shall be at the direction of the Water Services Department so that water service to customers served by the facilities is not impaired or water wasted. Any water furnished by the Owner must be obtained from the Owner's existing main. All material, labor and equipment needed to obtain water for construction purposes and to comply with Water Services Department's requirements shall be provided by the Contractor at his sole cost and expense.
- B. Operation of Existing Valves:

Distribution Mains

The Contractor will perform test shuts and main shuts on the Water Services Department's distribution mains (any main 12" or smaller) without direct supervision at no extra cost to the Water Services Department. All test shuts and main shuts require the Water Services Department's approval. The request form for test shuts and main shuts shall be sent to the Project Manager and Area Supervisor at least one week prior to needing the shut. The Contractor will be responsible for notifying all residents who will be affected which includes, but is not limited to, filling out and distributing shut notices. The Contractor must still coordinate with both the resident inspector and the project manager. The Contractor must follow the City's standard procedures when filling and flushing distribution mains including but not limited to, notifying City's Dispatch Office.

- C. Power: All power for lighting, operation of the Contractor's plant or equipment, or for any other use which may be required for the proper completion of the Work shall be provided by the Contractor at his sole cost and expense.

1.9 Cutting Existing Pavement

- A. When pavement cuts are required for the Work, the Contractor shall make the cuts and repair the same, furnishing all necessary labor and materials.
- B. Care and caution shall be taken and observed when cutting the existing pavement for the Work. The openings shall be made with tools designed for cutting the pavement with the minimum of damage to the surrounding area.
- C. Pavement areas cut or damaged shall be restored and repaired to a condition equal to the original quality and finish in strict conformance with the KCMO Public Works Department "Street Cut Restoration Standard, SR-1".
- D. Installation of water lines beneath concrete driveways shall be done by directional drilling or approved trenchless methods unless rock or other site conditions require open cut excavation.
- E. Any curbs removed or damaged shall be replaced by the Contractor at no extra cost to the Owner.

1.10 Guidelines for Open Excavations

- A. Required excavations shall be restored to the level of the adjacent surfaces as soon as practicable. Unsupervised open excavations on public properties are discouraged at all times. Every person who for any purpose makes or causes to be made an excavation in, upon, under, through or adjoining any street, sidewalk, alley, park, boulevard, parkway, or any other public properties, and shall leave any part or portion thereof open, shall provide effective protection to the public.

- B. All excavations in roadways shall be protected and secured in compliance with existing federal, state, and local codes and standards, including, but not limited to, the most current editions of the Manual of Uniform Traffic Control Devices.
- C. All street plates shall be placed in a secure manner and to minimize noise generated by traffic traveling over them and to minimize the effect on traffic. Street Plates, used by the Contractor over roadway excavations, shall comply with regulations of the KCMO Public Works Department and its standard Street Plate Details.
- D. All unsupervised excavations not within roadways shall be protected and secured. A protective cover over an excavation shall be installed so that it can sustain the weight of any persons and/or objects placed upon it. The cover shall be fixed to the ground so it cannot be moved. Protective covers shall have no opening(s) or protuberance(s) of sufficient size to cause a fall and/or injury. Advance warning devices shall be installed as necessary.
- E. Any excavation that is not covered shall be fenced in such a way that it surrounds the entire area under excavation so as to prevent entry by any persons. The fencing shall be a minimum of 42" in height. The fence shall be constructed in such a manner that it is adequately secured and will remain upright at all times under normal site conditions.
- F. All protective coverings and/or fences on excavations shall be inspected at least daily to assure integrity. Protective coverings and/or fences in heavily trafficked areas shall be inspected more often as necessary.
- G. All necessary and applicable permits shall be secured for any work contemplated on public properties before commencing any activity. In all instances the applicant agrees to perform all work in accordance with the permit and to indemnify and hold harmless the City from all liability, judgments, costs, expenses, and claims growing out of damages or alleged damages, of any nature to any person or property arising out of performance or non-performance of said work or the existence of facilities and/or appurtenances thereof.

1.11 Backfill

- A. All backfill in sidewalk and street areas shall be thoroughly compacted in strict conformance with Section 02200, Earthwork, of the Project Specifications and KCMO Public Works Department "Street Cut Restoration Standard", SR-1, and is hereby incorporated by reference.

1.12 Connections to Existing Mains

- A. The Contractor shall furnish and install all fittings necessary for connections to the existing water mains at the locations shown on the Plans. No connections to existing mains shall be started without prior approval of the Director. Scheduling

of water main shuts and connections to existing water main shall be discretion of Water Services.

- B. It shall also be the responsibility of the Contractor to make any and all excavations and backfill as required, and furnish all labor, equipment, and material necessary to complete the connections as detailed on the Plans. The Contractor shall maintain, barricade, repair, restore, and protect all excavations and disturbed areas.
- C. All water mains must be maintained in service except for shuts of limited duration in accordance with the OWNER's Water Services Water Main Shut Procedures. When mains are taken out of service, CONTRACTOR shall work continuously to bring the existing or new replacement mains back into service as quickly as possible.
- D. All existing water transmission mains, 16-inch in diameter or larger, cannot be taken out of service at any time during the peak water demand season of May 15th to September 15th.
- E. Temporary Service
 - a. The Contractor shall notify all Water Services Department customers affected by the Work of making the connections as to the time of day and the span of time required to make said connections. When the closing of a valve to make the connections will terminate water service to a customer(s), the Contractor shall arrange to supply temporary service and schedule the time which is most convenient to the customer(s) for making the connection. No extra compensation will be allowed for providing temporary service or making the connection at a time other than normal working hours.
 - b. When temporary water supply is not possible, valve shut duration shall be less than 4 hours.
- F. Contractor must be prepared for and be able to handle moderate leakage when making connections to the existing water distribution system. Contractor must make provisions for dewatering existing trenches and piping to enable construction work to proceed. Should temporary taps or drain valves be required on existing piping, Contractor shall provide and install as required subject to the approval of the Engineer. Moderate leakage, for the purposes of this paragraph, shall be defined as a valve or valves that leaks no more than what can be handled by a single 3-inch trash or dewatering pump. Should more than one connection be made to the existing system at the same time and in different excavations, the Contractor shall price and include in his bid the cost of providing a dewatering pump at each excavation location, including all fuel and consumables required to run said pump for the duration of the connection work. Owner shall not be liable for delay damages or claims as a result of leaking or inoperable valves.

1.13 Offsite Storage

- A. Offsite storage arrangements shall be approved by the Owner for all materials and equipment not incorporated into the Work but included in Applications for Payment. Approval of offsite storage arrangements and payment for stored materials is solely at the discretion of the Owner. If approved for payment, stored materials shall only be paid for as included on the itemized supplier's invoice.
- B. Such offsite storage arrangements shall be presented in writing and shall afford adequate and satisfactory security and protection as provided in Subsection 14.02A of Section 00700, Construction General Conditions. Offsite storage facilities shall be accessible to Owner.

1.14 Preconstruction Conference

- A. Prior to the commencement of Work at the site, a preconstruction conference will be held at a mutually agreed upon time and place. The conference shall be attended by:
 - 1. Contractor and his superintendent(s)
 - 2. Owner's Representative
 - 3. Principal Subcontractors
 - 4. Representative of principal Suppliers and manufacturers as appropriate
 - 5. Design Professional or his representative
 - 6. Governmental, City or County representatives as appropriate
 - 7. Others as requested by Contractor, Owner, or Design Professional.
- B. The purpose of the conference is to designate responsible personnel and establish a working relationship, review project requirements, and clarify responsibilities and operating procedures. Matters requiring coordination will be discussed and procedures for handling such matters established. The agenda will include (but not be limited to):
 - 1. Contractor's preliminary schedules
 - 2. Transmittal, review and distribution of Contractor's submittals.
 - 3. Processing Applications for Payment
 - 4. Maintaining record documents
 - 5. Critical Work sequencing
 - 6. Field decisions and Change Orders
 - 7. Contractor's assignments for safety and first aid.

1.15 Route Photographs

- A. The Contractor shall have suitable color photographs taken along the entire construction area showing the condition of the terrain previous to any alteration by the Contractor and before construction is started. Photographic images shall be captured in digital format, with a minimum of 10-megapixel resolution, using minimal LPG compression. The photographs shall be taken at intervals necessary to record possible field conflicts. Each photo should be time stamped with the date and time the picture was taken.

- B. The principal reason for obtaining good photographs is so existing items such as cracked curbs, shrubs and sodded areas, broken pavement areas, or plugged culverts in driveways, etc., lying along the construction route may be more clearly shown and recorded. This will to some degree prevent the possibility of post construction litigation with property owners adjacent to the Work.
- C. One USB-Storage device or other approved electronic storage device shall be submitted to the Owner without charge as soon as is practicable after the photographs are taken. The Contractor should keep a copy of the pictures. Each photograph shall show title of the project, name of the Contractor, date of photograph, location of the view, etc. Polaroid photographs will not be acceptable.

1.16 Cleanup

- A. The Contractor shall replace all surface material and shall restore paving, curbing, sidewalks, gutters, shrubbery, fences, sod, and other surfaces disturbed to a condition equal to that before the work began, furnishing all material and labor incidental thereto.
- B. All excavated material in excess of that necessary to fill the trench shall be removed and disposed of by the Contractor so that the ground will be left as nearly as possible its original state. Any deficiency in the quantity of material for backfilling the trenches or for filling depressions caused by settlement shall be supplied by the Contractor.
- B. Surplus pipeline materials, tools, and temporary structures shall be removed by the Contractor; all rubbish shall be hauled away by the Contractor and the construction site shall be left clean to the satisfaction of the Owner.

1.18 Database Record Documents

- A. The Contractor shall record completion of work items for each assigned water service in the Hansen Mobile App and other pertinent information, using a temporary user ID and password provided by the Owner. The Contractor shall update the database regularly and provide to the Owner electronic copies of the revised database.
- B. For each submitted pay application, the Contractor shall submit to Owner an electronic copy of the ACCESS database with current information for each completed work item in the pay application.

1.19 Customer Appointment Making

- A. The Contractor shall have and maintain a phone line for customers to call and set appointments with the Contractor for AMR installation on their properties when required. This line should operate during the normal business hours of the Contractor

END OF SECTION 01015

SECTION 01260

MEASUREMENT AND PAYMENT

- A. General:** Payment for Work performed by the CONTRACTOR under these Contract Documents will be made in accordance with the General Conditions at the approved contract unit prices. Such payment shall compensate the Contractor for all labor, equipment, materials, tools, incidental expense, and all Work and risk necessary to complete the project as indicated by the Work Orders, Specifications, Standards, and Contract Documents.
- B. Measurement:** For each repair location, the CONTRACTOR will receive from the Water Services Department a file noting the service request information and the estimated unit item quantities. No work shall be given to the CONTRACTOR verbally.
- C. Payment:**
- 1. Site Visit:** Payment for this item shall be made at the contract bid unit price for each Site Visit made in order to leave a no work card/notice.
 - 2. Install AMR (Exchange Meter Set, Replace MTU, and Wire the System):** Payment for this item will be made at the contract bid unit price for each new meter tile and AMR meter set and corresponding MTU installed in accordance with WSD's Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
 - 3. Repair Wires Only:** Payment for this item shall be at the contract bid unit price for *only* installing wires from the MTU to the meter installed in accordance with WSD's Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
 - 4. Exchange Meter Set and Program MTU:** Payment for this item shall be at the contract bid unit price for each AMR meter installed and corresponding MTU programmed. When entering premises, slip shoe coverings on to avoid tracking dirt into customer's homes, and ensure someone at least 18-years of age is home. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
 - 5. Exchange MTU/Program MTU:** Payment for this item shall be at the contract bid unit price for each MTU replaced. These repairs do not require home access. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.

6. **Replace Meter Ring & Meter Tile Lid:** Payment for this item shall be made at the contract bid unit price for *only* replacing the ring and lid. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
7. **Replace Meter Pit for 1” or smaller:** Payment for this item shall be at the contract bid unit price for each meter pit and lid. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
8. **Square Meter Pit Replacement (for AMI) Core Drill:** Payment for this item will be made at the contract bid unit price for each meter tile drilled and corresponding MTU installed in accordance with WSD’s Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
9. **Repair or Replace Meter Brass:** Payment will be made at the contract bid unit price for a Meter Brass repair made to a domestic service in accordance with WSD’s Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
10. **Miscellaneous Repair with PEX:** Payment for this item shall be at the contract bid unit price for each Meter Set replaced in accordance with WSD’s Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
11. **Replace Curb Stop, Curb Box, Ring and Lid (Includes Dig Up):** Payment for this item shall be at the contract bid unit price for each Curb Stop and Curb Box assembly installed simultaneously in accordance with WSD’s Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
12. **Curb Stop Top-End Replace with Existing Materials:** Payment for this item shall be made at the contract bid unit price for *only* replacing the ring and lid. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.

13. **Clean Out Curb Box:** Payment will be made at the contract bid unit price for only cleaning debris from a curb box. Such payment shall constitute full compensation for all labor, materials, and equipment for cleaning, removal and disposal of unsuitable materials, traffic control, and for all Work necessary to complete this item.
14. **Service Shut:** Payment will be made at the contract bid unit price for a Service Shut. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
15. **Temporary Kill (Offset Curb Box):** Payment will be made at the contract bid unit price for a Temporary Kill made to a domestic service in accordance with WSD's Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
16. **Renew Service (Properly Set Curb Box):** Payment will be made at the contract bid unit price for undoing a temporary service kill made to a domestic service in accordance with WSD's Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
17. **Work Repair/Leaking Curb Stop:** Payment will be made at the contract bid unit price for a repairing a leaking curb stop. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.

END OF SECTION 01260



ADDENDUM NUMBER 4

Project/Contract Number 80002377 / 9718

Project Title City-Wide Automated Metering Infrastructure 2

ISSUE DATE: 03-3-2022

Bidders are hereby notified that the Bidding and Contract Documents for the above project, for which Bids are to be received on **Tuesday March 8, 2022**, are amended as follows:

Due to the current “KC Re-Opening Plan” which includes limiting the number of individuals in City Hall, we would like to communicate the plans for handling the Public Bid Opening for **March 8, 2022**

1. We will allow Bidders to submit their bids at City Hall, however the Bid Box will be placed in the vestibule area on the outside of the security checkpoint on the North Entrance.
2. The Bid Box will be removed at 2:00 PM per the Bidding Instructions.
3. 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
4. The Bid Results will be posted to the KCMO Planroom like our normal process.

Microsoft Teams meeting

Join on your computer or mobile app

[Click here to join the meeting](#)

Or call in (audio only)

[+1 872-212-5076,,929723923#](#) United States, Chicago

Phone Conference ID: 929 723 923#

[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.



CERTIFICATION PAGE

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

I am responsible for the following specifications and drawings:

Drawings:
None

Specifications:
Divisions 1, 2, and 3



(SEAL)

I am responsible for the following specifications and drawings:

Drawings:

Specifications:

(SEAL)

I am responsible for the following specifications and drawings:

Drawings:

Specifications:

(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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00485.04	HRD Employee Identification Report Form
00485.05	Affidavit for Training
00490	Pre-Contract Bidder's Certification Form

CONTRACTING REQUIREMENTS

00515	Construction Contract Required Submissions
00515.01	Employee Eligibility Verification Affidavit
00560	Missouri Project Exemption Certificate
00560.01	Kansas City Missouri Tax Exempt Certificate
00610	Performance and Maintenance Bond Form
00615	Payment Bond Form
00620	Insurance Certificate Forms
00630	Revenue Clearance Release Authorization
00630.01	Revenue Clearance Sample Letter
00700	General Conditions
00800	Supplementary Conditions

00830	Wage Rate Requirements – <i>Cass, Clay Jackson, Ray, Platte</i>
00910	Construction Addenda
00930	Request for Interpretation Form
00930.01	Request for Interpretation Form Log
00931	Supplemental Design Instructions
00932	Request for Proposal
00933	Request for Proposal Log
00940	Change Order Form
00945	Work Change Directive

DIVISION 1 - GENERAL REQUIREMENTS

01000	Project Requirements
01015	Specific Project Requirements
01260	Measurement and Payment
01290.01	Application for Payment
01290.02	Schedule of Values
01290.09	Subcontractors and Major Material Suppliers List
01290.11	Daily Labor Force Report
01290.12	Certificate of Substantial Completion
01290.13	Punch List
01290.14	Contractor Affidavit for Final Payment
01290.15	Subcontractor Affidavit for Final Payment
01320.01	Daily Field Observation Report
01320.02	Periodic Field Observation Report
01320.03	Working Day Report
01330.01	Letter of Transmittal
01335	Document Management
01566	Cleanup Operations
01630	Substitution Request
01700	Traffic Control
01900	Contract Closeout
CHEO 14	Affirmative Action Program Affidavit

DIVISION 2 – SITEWORK

02200	Excavation and Backfill
02575	Surface Restoration
02618	Ductile Iron Pipe for Water Mains
02930	Seeding
02931	Sodding

DIVISION 3 - CONCRETE

03000	Miscellaneous Concrete
03001	Concrete
03100	Concrete Formwork
03200	Concrete Reinforcement
03608	Concrete Vaults

DIVISION 4 – 16 NOT USED



INVITATION TO BID

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

The General Services Department of Kansas City, Missouri will receive sealed Bids until 2:00 PM, on **Tuesday, March 1, 2022** at **414 East 12th Street, First Floor Room 102W, Kansas City, Missouri 64106, Project/Contract No.80002377/9718 – City Wide Automated Metering Infrastructure 2**. Bids will be opened after that time at the same location.

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 **(12%)** MBE participation and **(12%)** 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 requested to attend the **Non-Mandatory** Pre-Bid Conference at **2:00 PM, on Thursday, February 17, 2022** via Microsoft Teams with the Project Manager. Please use the following link in order to access the meeting.

https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZDIxMDVhMjQtY2E0MS00NTg2LWI4OTgtOWI5Yjg1YWY0NDMz%40thread.v2/0?context=%7b%22Tid%22%3a%22ec240911-5979-4419-a8ec-c808b076019b%22%2c%22Oid%22%3a%22dcddf058-da61-4581-a63b-f21686fcaebf%22%7d

Project Manager: Terry D. Thomas, Sr.
Phone Number: 816-513-0262
Fax Number: 816-513-0288
E-mail: terry.d.thomas@kcmo.org

Procurement Officer: Darrell Everette
Phone Number: (816) 513-0798
E-mail: Darrell.everette@kcmo.org

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



INSTRUCTIONS TO BIDDERS

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

1. Sealed Bids for **Project No. 80002377/9718 - City Wide Automated Metering Infrastructure 2**, will be received by the General Services Department at City Hall 414 E. 12th Street 1st Floor, Room 102W, Kansas City, Missouri, 64106 on, **Tuesday, March 1, 2022** until 2:00 P.M., 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 hundred twenty (120) days after the Bid is opened. Bid security shall likewise continue for the same hundred twenty (120) 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 Services, 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 and best 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 and best Bid. In determining lowest and best 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 reference information. Completed Form 00410.02 Experience Reference Summary for similar projects *currently* being performed. Completed Form 00410.03 List of Equipment and Staffing available for the success and completion of this 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) QC/QA Manager
 - (4) 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. Illustrate clearly and concisely Bidder's understanding of the technical elements that must be addressed for successful completion of the Project.
- g. 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)
- h. 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.
- i. 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.
- j. Summary of Bidder's Quality Assurance/Quality Control Plan for this project
- k. 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.
- l. 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.
- m. Statement that Bidder is current on payment of Federal and State income tax withholdings and unemployment insurance payments

- n. Statement of Bidder's litigation and/or arbitration history over the past five (5) years including final ruling.
- o. Statement of Bidder's bond history over the past five (5) years including any incidences of failure to perform.
- p. MBE / WBE past project performance and compliance with participation goals in comparable size commercial projects.

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 and best 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

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 (12%) MBE participation and (12%) 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 and best 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 a 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 and best 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 and best 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 and best bidder in any subsequent City contracts.

24. Pre-Bid Conference The Kansas City Water Services Department will hold a pre-Bid conference on **Thursday, February 17, 2022**, at **2:00** PM via Microsoft Teams. Please use the following link to access the meeting:

https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZDIxMDVhMjQtY2E0MS00NTg2LWI4OTgtOWI5Yjg1YjY0NDMz%40thread.v2/0?context=%7b%22Tid%22%3a%22ec240911-5979-4419-a8ec-c808b076019b%22%2c%22Oid%22%3a%22dcddf058-da61-4581-a63b-f21686fcaebf%22%7d

Attendance at the pre-Bid conference is encouraged for all Bidders on this Project.

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.

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 **five (5)** 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.

Terry Thomas, Project Manager
Water Services Department
4800 E. 63rd. Street
Kansas City, MO 64130
(816) 513-0262
(816) 513-0266
E-mail: terry.d.thomas@kcmo.org

Darrell Everette, Procurement Manager
General Services Department
City Hall
414 E. 12th Street
1st Floor-Room 102W
Kansas City, Missouri 64106
(816) 513-0798
(816) 513-2812 Fax
E-mail: Darrell.everette@kcmo.org



For persons with disabilities needing reasonable accommodations please contact Jean Lawson at 816-513-6566. If you need to use the Relay Service, please dial 711.

Bidder: _____

CITY OF FOUNTAINS
HEART OF THE NATION



KANSAS CITY
MISSOURI

BID FORM/CONTRACT

Project/Contract Number: 80002377/9718

Project Title: City Wide Automated Metering Infrastructure 2

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 maximum obligation of the CITY for the Work is **\$3,000,000.00**, includes Unit Prices. The sum of the extensions of the Unit Prices form is \$ _____ and shall be considered in determining the lowest and best bid. The actual number of units worked and paid for under this Contract may be more or less than the estimated quantity given or may be none.
5. The Bidder agrees to enter into two (2) successive renewals to this Contract if so requested by the CITY. The determination to renew the Contract will be at the sole discretion of the CITY where such renewal would be in the best interest of the CITY and subject to the availability and appropriation of funds.
6. 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.
7. The undersigned Bidder agrees that this Bid shall remain subject to selection by CITY, and may not be withdrawn for hundred twenty (120) days after the day Bids are opened.
8. The undersigned Bidder certifies that this Bid contains no modifications, deviations, riders or qualifications.

Bidder: _____

- a. 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 (s) 00412 Unit Prices contain prices included in the Base Bid, and are incorporated into this Bid. Form(s) must be completed and returned with this Bid.

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

Addendum Number	Dated	Addendum Number	Dated
(_____)	(_____)	(_____)	(_____)
(_____)	(_____)	(_____)	(_____)
(_____)	(_____)	(_____)	(_____)
(_____)	(_____)	(_____)	(_____)
(_____)	(_____)	(_____)	(_____)
(_____)	(_____)	(_____)	(_____)
(_____)	(_____)	(_____)	(_____)

10. 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 **HRD 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.

11. 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.

12. 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.

Bidder: _____

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)

16. 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 HRD 08 Contractor Utilization Plan/Request for Waiver**.
17. 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: _____

Business Entity Type:

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

BIDDER

Legal name & address of Bidder, person firm, partnership, corporation, or association submitting Bid:

Phone No: _____

Cell No: _____

Facsimile No: _____

Bidder's E-Mail: _____

Federal ID. No. _____

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)

(Print Name)

Title: _____

Date: _____

(Attach corporate seal if applicable)

NOTARY

Subscribed and sworn to before me this _____ day of _____, 20__.

My Commission Expires: _____

Bidder: _____

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 _____ Dollars, (\$ _____). The Contract Price includes:

00412 Unit Prices, 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

City of Kansas City, Missouri (OWNER or City)

Approved as to form:

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.

Director of Finance

(Date)



EXPERIENCE AND REFERENCE SUMMARY – COMPLETED PROJECTS

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

Firm's Legal Name	
Mailing Address	
Contact – Name & Email	
Contact – Phone & Fax	

NO.	PROJECT & LOCATION	OWNER NAME & ADDRESS CONTACT & PHONE NUMBER	PROJECT DURATION & DATE COMPLETED	\$ VALUE
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

9.				
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EXPERIENCE AND REFERENCE SUMMARY – CURRENT PROJECTS

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

Page ____ of ____

Firm's Legal Name	
Mailing Address	
Contact – Name & E-Mail	
Contact – Phone & Fax	

NO.	PROJECT & LOCATION	CONTRACT AMOUNT/ % COMPLETE	OWNER NAME & ADDRESS CONTACT & PHONE NUMBER	LENGTH, DIAMETER & MATERIAL OF CONSTRUCTION OR DESCRIPTION OF REPAIRS	START DATE
1.					
2.					
3.					
4.					
5.					
6.					
7.					

8.					
----	--	--	--	--	--



LIST OF EQUIPMENT AND STAFFING AVAILABLE FOR PROJECT

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure_2

Page ____ of ____

	EQUIPMENT AVAILABLE FOR CONSTRUCTION (OR ATTACH LIST)		STAFFING BREAKDOWN	NUMBER OF EACH CATEGORY
1.		1.	OFFICE STAFF	
2.		2.	SUPERVISORS	
3.		3.	FIELD STAFF – CREW FOREMEN	
4.		4.	FIELD STAFF – OPERATORS (NOT FOREMEN)	
5.		5.	FIELD STAFF – LABORERS (NOT FOREMEN)	
6.		6.		



UNIT PRICES

Project /Contract Number : 80002377/9718

Project Title: City Wide Automated Metering Infrastructure 2

NOTE: IN THE EVENT OF DISCREPANCY, UNIT PRICE SHALL GOVERN.

Item No.	Unit	Quantity	Item Description:	Unit	Extension
1	Each	1000	Site Visit [No work is done, leaving a notice only]		
2	Each	800	Install AMR (City Furnished) [Exchange Meter Set, Replace MTU and Wire the System]		
3	Each	30	Repair wires only [No meter/MTU exchange. Connecting/Reconnecting wires]		
4	Each	450	Exchange meter/Program MTU (City Furnished) [Exchange Meter Set, Program MTU, no wiring]		
5	Each	800	Exchange out MTU/program [Includes low battery replacements]		
6	Each	20	Replace Meter Ring & Meter Tile Lid (City Furnished) [Replacement Labor Only]		
7	Each	20	Replace Meter Pit for 1" meter and smaller		
8	Each	50	Meter Brass Repair		
9	Each	5	Square meter pit replacement (for AMI) Core drill		
10	Each	50	PEX Meter setter replacement		
11	Each	750	Replace Curb Stop, Curb Box, Ring, & Lid [Includes dig up]		
12	Each	40	Curb Stop Top-End Replace/Rebuild		
13	Each	40	Clean out curb box		
14	Each	500	Service Shut [Turn Off Service at the Curb Box]		
15	Each	35	Temporary Kill [Dig up and Offset Curb Box]		
16	Each	35	Renew Service [Dig up and properly set/turn on Curb Box]		
17	Each	50	Work Repair/Leaking Curb Stop in Parkway		
18	Hour	TBD	Other services not within scope of items 1 through 19 as assigned by the CITY. Contractor to provide documentation of invoiced quantities (Time and Material).	Alternate Unit Prices for Other Services	
			Total Unit Prices: (LAST PAGE ONLY)		TOTAL \$

Note: May be printed, for manual fill-in, or filled in on electronic excel spreadsheet version.

Note 2: If unspecified above or in Section 01000 'Project Requirements', materials shall be furnished by the Contractor.



BID BOND

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

Bond Number _____

KNOW ALL MEN BY THESE PRESENTS: That _____ of _____, as Principal, and _____ 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 _____ Dollars (\$ _____), 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 _____ day of _____.

BIDDER AND PRINCIPAL

Name, address and facsimile number of Bidder and Principal

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

By: _____

Title: _____

(Attach corporate seal if applicable)

SURETY

Name, address and facsimile number of Surety:

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: _____

Title: _____

Date: _____

(Attach seal and Power of Attorney)

**HRD INSTRUCTIONS
FOR CONSTRUCTION CONTRACTS**

PART A. MINORITY/WOMEN BUSINESS ENTERPRISE REQUIREMENTS

I. City's MBE/WBE Program.

- A. The City has adopted a 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 Human Relations Department ("HRD") 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 HRD Forms are attached and must be used for MBE/WBE submittals:
1. Contractor Utilization Plan/Request for Waiver (HRD Form 8); and
 2. Letter of Intent to Subcontract (HRD Form 00450.01); and
 3. Timetable for MBE/WBE Utilization (HRD Form 10); and
 4. Request for Modification or Substitution (HRD 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 Human Relations 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 HRD 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 (HRD 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, HRD will examine the Bidder's documentation of good faith efforts and make a recommendation to grant or deny the waiver. HRD 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 (HRD 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 (HRD Form 10).**
 2. **Documentation of good faith efforts.**

IV. Required Monthly Submissions during term of Contract.

- A. Bidder must submit the following document 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 preferred method of submission of this report is through the B2GNow Diversity Management System (B2GNow) HRD Form 00485.01 may be submitted in lieu of the B2GNow system under certain conditions, with the consent of HRD.

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.**
- 4.

VI. Additional Submittals.

- A. Contractor may be required to make additional submittals during the term of the Contract, including **Request for Modification or Substitution (HRD 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 HRD 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 HRD 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 HRD 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 HRD 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 (HRD 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 (HRD 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 HRD 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 HRD 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 (HRD Form 00450.01).

XIII. Liquidated Damages – 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 Human Relations Department ("HRD") 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 HRD, a Bidder not doing so is required to objectively demonstrate to HRD that good faith efforts have been made.

- F. The following HRD Forms are to be used for Construction Employment Program submittals:
1. Project Workforce Monthly Report (HRD Form 00485.02)
 2. Company-Wide Workforce Monthly Report (HRD Form 00485.03)

II. Required Submissions.

- A. Within forty-eight (48) hours after bid opening, the construction contractor shall submit the **Construction Employee Identification Report** (HRD Form 00485.03) 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** (HRD Form 00485.03).
 - 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** (HRD Form 00485.03) for the subcontractor.
- B. The HRD 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 HRD Director will allow paper submission of the following HRD Forms in lieu of on-line submission if the on-line submission process presents a hardship to the contractor:
1. **Project-Specific Workforce Monthly Report (HRD Form 00485.02)**
 2. **Company-Wide Workforce Monthly Report (HRD Form 00485.03)**
- C. Bidder must submit the following documents through B2GNow or in paper format on a monthly basis if awarded the contract:
1. **Project Workforce Monthly Report (HRD Form 00485.02).** 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 (HRD Form 00485.03).** 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 HRD. 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 its 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 HRD 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 HRD 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 HRD 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 HRD 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.

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

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

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

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

- f. 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
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

TOTAL MBE \$ / TOTAL MBE %: \$ _____ %

WBE FIRMS:

Name of WBE Firm	Supplier/Broker/Contractor	Subcontract Amount*	Weighted Value**	% of Total Contract

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 HRD Forms and Instructions for allowable credit and special instructions for suppliers.

- 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 by the 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: _____

Address: _____

Phone Number: _____

Facsimile number: _____

E-mail Address: _____

By: _____

Title: _____

Date: _____

(Attach corporate seal if applicable)

Subscribed and sworn to before me this _____ day of _____, 20__.

My Commission Expires: _____

Notary Public



LETTER OF INTENT TO SUBCONTRACT

Select one:

Original LOI:

Updated LOI:

Project Name/Title _____

Project Location/Number _____

PART I: Prime Contractor _____ agrees to enter into a contractual agreement with M/W/DBE/Section 3 Subcontractor _____ 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.]

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

M/WBE Vendor type: **Subcontractor/manufacture**r (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/Section 3 Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Human Relations 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: Please complete fields below, print, sign/notarize and submit.

**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: _____

Signature: Prime Contractor

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:

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:



REQUEST FOR MODIFICATION OR SUBSTITUTION

*(This Form **must** be submitted to HRD 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: _____

ADDRESS: _____

PROJECT NUMBER OR TITLE: _____

AMENDMENT/CHANGE ORDER NO: (if applicable) _____

Project Goals:	_____ % MBE	_____ % WBE
Contractor Utilization Plan:	_____ % MBE	_____ % 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 HRD 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
 _____ % MBE _____ % WBE *(Fill in % of MBE/WBE Participation currently listed on Contractor Utilization Plan)*

TO

_____ % MBE _____ % 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:

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

Dated: _____

(Bidder/Proposer/Contractor)

By: _____
(Authorized Representative)

HRD 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 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 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 City, which will allow Contractors and Subcontractors to enter data and report on Workforce compliance.

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 <input type="checkbox"/>	Subcontractor Report <input type="checkbox"/>
E-mail Address:		Final Cumulative Report:	<input type="checkbox"/> Yes <input type="checkbox"/> 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 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														
Monthly Total Hours														-
Total % of Monthly Hrs.														

Contractor shall submit report by the 15th of each month.		Report Submitted By:
Phillip Yelder, Director Human Relations Department		
414 E. 12th Street, 4th Floor	Kansas City, MO 64106	
Phone: 816-513-1836	Email: HRDcontractcompliance@kcmo.org	Date:

Workforce Monthly Report Forms only apply to Construction Contracts greater than \$324,000.01 with greater than 800 projected labor hours.

Workforce Monthly Report Instructions

(Instructions for Forms: 00485.02 Project Workforce Monthly Report 020408 and 00485.03 Company Wide Workforce Monthly Report 020408)

1. Report Date: Insert the date the report was completed.
2. Reporting Period: Insert the reporting month for hours performed.
3. Project Description: Insert the description/type of the project.
4. Project Name: Insert the name of the project for which the report is submitted.
5. Contractor: Insert the name of the Contractor.
6. Contract Award Date: Insert the date the Contract was awarded.
7. City Project Number: Insert the Project number assigned by the City.
8. Contractor Address: Insert the Contractor's address.
9. City Contract Number: Insert the City contract number.
10. City Vendor ID: Insert the General Contractor's City Vendor ID number.
11. Project Address: Insert the project street address or location.
12. Contact Person/Phone: Insert the name and phone number of the Contractor's contact person for the project.
13. Contractor Report / Subcontractor Report: Please check the box to indicate whether this is the contractor's report or subcontractors' summary report.
14. Email Address: Insert the contact person's email address.
15. Final Cumulative Report/Request for Retainage: Click box to mark whether report is final.
16. Job Categories: Select the appropriate Job Category for the worker.
17. Overall Total:* Insert the total number of labor hours per trade (do not include resident hours in this total).
18. Monthly Total Hours:* Insert the sum of all columns, A through G, male, female and residents for the month.
19. Total Percentages of Monthly Hours:* Insert the total percentages of hours by race, gender and Kansas City, Mo resident for the month.
20. Cumulative Total Hours: Insert the total number of hours in each category plus the previous months' cumulative total hours through the duration of the project.
21. Total Percent of Cumulative Hours:* Insert the total percent of hours worked for the project as a whole in each category.

Notes

Note #1: Complete two Monthly Project Reports per project. Do not list more than one project on one report.

- a) One Workforce Monthly Project Report should list all data for the Contractor.
- b) A separate Monthly Project Report should list all data consolidated for the subcontractors on the project.

Note #2: Contractors are required to submit four workforce forms required per month - (see instructions for Company-Wide Report for additional 2 forms:

- a.) Contractors Monthly *Project* Report (Form No.: 00485.02);
- b.) Subcontractors' Monthly *Project* Report (Form No.: 00485.02);
- c.) Contractor's Monthly *Company Wide* Workforce Report (Form No.: 00485.03); and
- d.) Subcontractors' Monthly *Company Wide* Workforce Report (Form No.: 00485.03).

Note #3: The last Workforce Monthly Project Reports and Workforce Monthly Company-Wide Reports will also serve as the final report. The "Yes" box should be checked in the Final Cumulative Report cell.

* Self Calculating Cell

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 <input type="checkbox"/>	Subcontractor Report <input type="checkbox"/>
E-mail Address:	Have you hired any new construction workers this month?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Final Cumulative Report: <input type="checkbox"/> Yes <input type="checkbox"/> 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 Total #
		M	F	M	F	M	F	M	F	M	F	M	F	
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: 816-513-1836 Email: HRDcontractcompliance@kcmo.org	Report Submitted By: _____ Date: _____
--	---

Company Name: 0

KCMO Project Name: 0

KCMO Project Number: 0

	Name		Job Title <i>(use drop down menu)</i>	Address	City	State	Zip Code	KCMO Resident	Gender	Ethnicity
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Company Name: 0

KCMO Project Name: 0

KCMO Project Number: 0

	Name		Job Title <i>(use drop down menu)</i>	Address	City	State	Zip Code	KCMO Resident	Gender	Ethnicity
	Last	First								
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AFFIDAVIT OF TRAINING PROGRAM

This form must be submitted with 48 hours of Bid Opening

Bidder _____

Project Title and Number _____

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 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:

(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:

_____ of _____
(Title) (Name of Bidder)

Dated: _____ By: _____
(Affiant)

Subscribed and sworn to before me this _____ day of _____, 20____.

My Commission Expires: _____
Notary Public



CONTRACT REQUIRED SUBMISSIONS

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering
Infrastructure 2

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 [Required if the contract exceeds \$5,000.00]

- 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 (If applicable)

- 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 (If applicable)

- 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
 - [Name of applicable City Department]**
 - [Name of Contract Administrator, Buyer, or Project Manager]**
 - [Department Address]**
 - Kansas City, Missouri **[Zip Code]**
- 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 _____)
) ss
COUNTY OF _____)

On this _____ day of _____, 20____, before me appeared _____, 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 _____ (title) of _____ (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.

Affiant's signature

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Public

My Commission expires:



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) ____/____/____	

Form 5060 (Revised 08-2015)

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.



PERFORMANCE AND MAINTENANCE BOND

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

KNOW ALL MEN BY THESE PRESENTS: That _____, as PRINCIPAL (CONTRACTOR), and _____, (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 _____ Dollars (\$ _____) 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 City Wide Automated Metering Infrastructure 2 - Contract/Project No. 9718/8002377 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 ____ day of _____, 20__.

CONTRACTOR

Name, address and facsimile number of Contractor

I hereby certify that I have authority to execute this document on behalf of Contractor.

By: _____
Title: _____

(Attach corporate seal if applicable)

SURETY

Name, address and facsimile number of Surety:

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: _____
Title: _____
Date: _____

(Attach seal and Power of Attorney)



PAYMENT BOND

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

KNOW ALL MEN BY THESE PRESENTS: That _____, as PRINCIPAL (CONTRACTOR), and _____, (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 _____ Dollars (\$_____) 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 City Wide Automated Metering Infrastructure 2 – Contract/Project No. 9718/80002377, 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 _____ day of _____, 20_____.

CONTRACTOR

Name, address and facsimile number of Contractor

I hereby certify that I have authority to execute this document on behalf of Contractor.

By: _____
Title: _____

(Attach corporate seal if applicable)

SURETY

Name, address and facsimile number of Surety:

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: _____
Title: _____
Date: _____

(Attach seal and Power of Attorney)



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

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 AGENT NAME AND ADDRESS	CONTACT NAME:	
	PHONE (A/C, No, Ext):	FAX (A/C, No):
INSURED CONTRACTOR NAME AND ADDRESS	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	
	INSURER A : ABC INSURANCE COMPANY	
	INSURER B :	
	INSURER C :	
	INSURER D :	
INSURER E :		
INSURER F :		
		NAIC #

COVERAGES**CERTIFICATE NUMBER:****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 INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC	Y	Y	POLICY NUMBER	1/1/2011	Current	EACH OCCURRENCE	\$ 1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 50,000
							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	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO ALL OWNED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS	Y	Y	POLICY NUMBER	1/1/2011	Current	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000
							BODILY INJURY (Per person)	\$
							BODILY INJURY (Per accident)	\$
							PROPERTY DAMAGE (Per accident)	\$
								\$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> EXCESS LIAB <input checked="" type="checkbox"/> RETENTION \$ 10,000	Y	Y	POLICY NUMBER	1/1/2011	Current	EACH OCCURRENCE	\$ 2,000,000
							AGGREGATE	\$ 2,000,000
								\$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	Y	POLICY NUMBER	1/1/2011	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER	
							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/Equip. Owned Equipment Builders Risk/Installation Floater	N/A	Y	POLICY NUMBER	1/1/2011	Current	Limit; Deductible	
							Limit; Deductible	
							Limit; Deductible	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Project No. _____ [Title]. Certholder (City) and _____ (Design Professional) and any other entities named in 00800 SCs are named as primary, noncontributing Additional Insureds including products and completed operations, excluding workers compensation, employers liability and professional liability. Waiver of subrogation applies as allowed by law. [The policies required above shall contain no exclusions for work expressly within the subcontractors scope of work.]

CERTIFICATE HOLDER**CANCELLATION**

City of Kansas City, Missouri _____ [Department] _____ [Address] Kansas City, MO _____ [Zip]	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
---	---

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AUTHORIZATION TO RELEASE A REVENUE CLEARANCE LETTER

Revenue Division
414 East 12th Street, 2nd floor, Room 202 W
Kansas City, MO 64106 Phone (816) 513-1135 Fax (816) 513-1077 email: revenue@kcmo.org

I authorize the City of Kansas City, Missouri, Finance Department, Revenue Division, to release a Revenue Clearance Letter for:

Name of Taxpayer: _____ Tax I.D.# _____
(PRINT)

Address: _____

Check this box and the City will send the Clearance Letter to you or the contractor designated.

I authorize the City to provide a copy of the Taxpayer's Revenue Clearance Letter to the following:

NAME <i>(PRINT)</i>	BUSINESS NAME	TITLE
ADDRESS	CITY, STATE, ZIP CODE	
PHONE NUMBER	FAX NUMBER	E-MAIL ADDRESS

I authorize the City to provide the Taxpayer's Revenue Clearance Letter to all City Departments and to publish on the City's internet/intranet website that the Taxpayer is in compliance with the tax ordinances administered by the City's Commissioner of Revenue.

Please send my 1st Revenue Clearance Letter to: _____
(Print Name of City Department/Contact Person/E-mail/Fax Number)

This authorization shall expire one (1) year from the date of the signature.

The City, Commissioner of Revenue and the Revenue Division personnel (hereinafter "the City"), are hereby held harmless from any and all liability relating to unauthorized disclosure of confidential tax information resulting from release of information under all applicable confidentiality laws including federal, state, or local including any damages sustained by wrongful transmission of confidential tax information to any other person.

UNDER PENALTIES OF PERJURY, I DECLARE THAT I HAVE EXAMINED THIS AUTHORIZATION, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT IS TRUE, CORRECT AND COMPLETE.

I hereby certify that I am the Taxpayer named herein or that I have the authority to execute this authorization and hold harmless agreement on behalf of the Taxpayer.

NAME <i>(PRINT)</i>	TITLE <i>(IF APPLICABLE)</i>	
SIGNATURE	PHONE NUMBER	DATE

A FACSIMILE OF THIS DOCUMENT SHALL CONSTITUTE AN ORIGINAL

Date

Telephone
Fax

Company Name ; With D.B.A. Name
Address
City, State, Zip

Tax payer ID: Nine digit ID Number

Attn: _____

As of this date, this notice is to inform you that TEST TAXPAYER 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.

Commissioner of Revenue

By: _____
Signature

Representatives Name and Title

IMPORTANT INFORMATION:

Due to the confidential nature of tax information, this notice is provided directly to the taxpayer.

If you are working on or have a contract with the City of Kansas City, Missouri, a copy of this clearance letter will need to be provided to the contracting department, In accordance with Manual of Instruction 4-1, Article VII, Section B, for City contractors and subcontractors, the clearance letter must be dated not more than sixty (60) days: (1) before a bidder is provided written notice of intent to contract by the City, (2) before a subcontractor begins work, (3) before the filing of an application for final payment to a contractor, and (4) before the date of a contractor's final payment to a subcontractor.



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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 governing 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. 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 any supplements.

9. Bonds- Payment Bond and Performance and Maintenance Bond and other instruments of security.

10. Calendar Day- Any day shown 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 Times, issued on or after the Effective Date of the Contract.

12. CITY/OWNER- Kansas City, Missouri, a constitutionally chartered municipal corporation, with which CONTRACTOR has entered into the Contract and for whom the Work is to be provided.

13. CITY's Representative- Person or agency designated to act for the Director as provided in these Contract Documents.

14. Consultant- Person, firm or corporation having a contract with CITY or DESIGN 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 Conditions.

The Consultant(s) is identified and their seals affixed 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 integrated written agreement between CITY and CONTRACTOR concerning the Work that incorporates all Contract Documents. The Bid Form/Contract submitted by Bidder is 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 establish 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 HRD 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 and Consultant(s), together with approved project baseline schedule and amendments 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, graphics, and the like that may be furnished by CITY to CONTRACTOR are not Contract Documents, except project schedules submitted by CONTRACTOR and approved 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 Consultants, members, partners, employees or agents have prepared and sealed the Drawings and Specifications.

The DESIGN PROFESSIONAL(s) is identified and their seals affixed 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 may be 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 improvements to land owned by City. A Director is authorized to delegate this authority to a City employee so designated in writing.

24. Drawings- The drawings which graphically show the scope, 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. Shop Drawings are not Drawings as so defined.

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, Lead-Based Paint, PCBs, Petroleum, Hazardous Waste, or Radioactive Material 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 has 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 by that apparent successful Bidder with the conditions in the Bid Documents enumerated, within the time specified, and upon enactment of an appropriate ordinance or resolution, CITY will sign and deliver the Contract.

34. Notice to Proceed- A written notice given by CITY to CONTRACTOR fixing the date on which the Contract Times 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, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.

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 prepared 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 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- All 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- Those portions 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- Any individual, firm, partnership, company, corporation or association licensed or otherwise authorized by law 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- When 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, 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 material and equipment into the construction, and furnishing documents, all as 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 conditions under which the Work is to be performed, or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times, but is evidence that the parties expect that the change directed or

documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

53. Work Day - Any day during which the CONTRACTOR is able 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 by reason of strikes, boycotts, labor disputes, embargoes, unusual delays in transportation or shortage of material, 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 as Work Days.

54. Written Amendment- A written statement modifying the Contract Documents, 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 Documents.

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 DESIGN PROFESSIONAL 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 shall not be effective to assign to DESIGN PROFESSIONAL any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.08 or any other provision of the Contract Documents.

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 Paragraph 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 services, materials, 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 services, materials, 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 services, materials, or equipment complete and ready for intended use.

4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of CONTRACTOR, “provide” is implied.

D. Unless stated otherwise in the Contract Documents, words and phrases which have a well-known technical or construction industry or trade meanings are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 PRELIMINARY MATTERS

2.01 Delivery of Bonds

A. CONTRACTOR shall deliver to CITY such Bonds as CONTRACTOR may be required to furnish.

2.02 Evidence of Insurance

A. CONTRACTOR shall 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 applicable provision in the Contract Documents.

2.03 Copies of Documents

A. CITY shall 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 shall start to perform the Work on the date when the Contract Times commence to run, but no Work shall 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's Review of Contract Documents: Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to DESIGN PROFESSIONAL any conflict, error, ambiguity or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from DESIGN PROFESSIONAL before proceeding with any Work affected thereby. CONTRACTOR shall not be liable to CITY or DESIGN PROFESSIONAL for failure to report any conflict, error, ambiguity or discrepancy in the Contract Documents, unless CONTRACTOR knew or reasonably should have known thereof.

B. Preliminary Schedules: Within ten (10) days after the Effective Date of the Contract, or on such later date as CITY's Representative shall provide in writing, CONTRACTOR shall submit to CITY's Representative for review:

1. Preliminary Project Schedule: CONTRACTOR shall 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 diagram network that (a) shows all major procurement and construction elements and phases of the Project; (b) breaks down each element or phase by trade; (c) shows early and late starts so that all float time will be accurately identified; (d) all 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

Completion and Milestone dates are acceptable. After final acceptance of the preliminary project schedule by the CITY, it shall be considered the project baseline schedule pursuant to Paragraph 2.07(B).

2. Preliminary schedule of Shop Drawings and Sample submittals which will list each required submittal and the times for submitting, reviewing and processing such submittal; and

3. Preliminary 01290.02 Schedule of Values for all of the Work which will include quantities and prices of items which when added together equals the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

C. Preconstruction Conference: Before any Work at the Site may be started, a conference attended by CONTRACTOR, DESIGN PROFESSIONAL and others, as appropriate, will be scheduled by CITY's Representative to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.06 B, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, maintaining required records, Claims process, dispute resolution or any other applicable provisions of the Contract Documents.

2.07 Acceptable Schedules

A. Acceptable schedule: The Contractor shall update and submit to the CITY for review the preliminary schedule within seven (7) Calendar Days after the Notice to Proceed.

1. The CITY shall review and make any necessary comments and/or adjustments to the updated preliminary schedule. The Contractor shall incorporate the CITY's comments and resubmit the updated preliminary schedule within seven (7) Calendar Days from receipt of the CITY's comments.

B. Project Baseline Schedule: The accepted updated preliminary schedule shall be considered the project baseline schedule and shall be used by the CONTRACTOR for planning, scheduling, managing, and executing the Work. The project baseline schedule shall not be changed without the written consent of CITY. The project baseline schedule may be further modified by the Supplemental Conditions.

C. CONTRACTOR's schedule of values will be acceptable to CITY's Representative as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 CONTRACT DOCUMENTS : INTENT, AMENDING, REUSE

3.01 Intent

A. The Contract Documents comprise the entire Contract between CITY and CONTRACTOR concerning the Work.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be furnished and performed whether or not specifically called for at no additional cost to CITY. Clarifications and interpretations of the Contract Documents shall be issued by DESIGN PROFESSIONAL as provided in Paragraph 9.03.

C. Correlation and intent of documents: The Drawings and Specifications are intended to supplement each other. Any Work shown on the Drawings and not mentioned in the Specifications (or vice versa) shall be as binding and shall be completed the same as if mentioned or shown on both. In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities:

1. Change Orders and Written Amendments
2. Project Baseline Schedule Requirements
3. Approved Shop Drawings
4. Addenda, with those of later date having precedence over those of earlier date
5. The Supplementary Conditions
6. The General Conditions
7. Drawings and Specifications

D. In the case of an inconsistency between Drawings and Specifications, the requirements of the Specifications shall govern. If Drawings are in conflict, larger scale details shall govern over smaller or no-scale Drawings. If Specification sections are in conflict with each other, the conflict shall be resolved by DESIGN PROFESSIONAL in accordance with reasonable interpretation of such documents.

E. The general character of the detailed Work is shown on the Drawings, but minor modifications may be made in the full size or scale details. Where the word "similar" occurs on the Drawings, it shall be used in its general sense and not as meaning identical, and all details shall be worked out in relation to their location and their connection to the other parts of the Work. Where on any Drawings a portion of the Work is drawn out and the remainder is indicated in outline, the parts drawn out shall apply also to all other like portions of the Work. Where ornaments or other details are indicated by starting only, such details shall be continued throughout the courses or parts in which they occur and shall also apply to all other similar parts in the Work, unless otherwise indicated.

3.02 Reference to Standards and Specifications of Technical Societies

A. Reference to standards, specifications, manuals or codes of any technical society, organization or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code or Laws or Regulations in effect at the time of opening of Bids (or on the date of CONTRACTOR's proposal if there are no Bids), except as may be otherwise specifically stated in the Contract Documents.

1. No provision of any such standard, specification, manual, code or instruction of Supplier shall be effective to change the duties or responsibilities of CITY, CONTRACTOR or DESIGN PROFESSIONAL, or any of their Subcontractors, Consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to CITY or DESIGN PROFESSIONAL or any of their Consultants, agents or employees 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 the Contract Documents.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies: If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Laws or Regulations applicable to the performance of the Work or of any standard, specification, manual, code or any instruction of any Supplier referred to in Paragraph 6.07, CONTRACTOR shall report it immediately to DESIGN PROFESSIONAL in writing. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as authorized by Paragraph 6.17) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04; provided, however, that CONTRACTOR shall not be liable to CITY or DESIGN PROFESSIONAL for failure to report any such conflict, error, ambiguity or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

B. Resolving Discrepancies. The provisions of the Contract Documents shall take 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 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 Paragraph 6.18), or
2. DESIGN PROFESSIONAL's written interpretation or clarification (pursuant to Paragraph 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 have 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 bearing the seal 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, as applicable, and specific written verification or adaptation by DESIGN PROFESSIONAL or Consultant.

This prohibition 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 related 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 adjustments 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 all 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 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 contiguous 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 aspects 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 Paragraphs 4.02 A 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 Paragraph 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 as required by Paragraph 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 as a result of a condition that meets one or more of the categories in Paragraph 4.03 A, a Work Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document the consequences of such change.

D. Possible Price or Times Adjustments: An equitable adjustment in the Contract Price or in the Contract Times, or both, will be allowed to the extent that the existence of a subsurface or physical condition causes an increase or decrease in CONTRACTOR's cost of, or time required for, performance of the Work; subject, however, to the following:

1. the condition must meet any one or more of the categories described in Paragraphs 4.03 A.1 through 4.03 A.4, inclusive;
2. a change in the Contract Documents pursuant to Paragraph 4.03 C will not be an automatic authorization of, nor a condition precedent to, entitlement to any such adjustments;
3. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.06 and 11.04; and
4. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if;
 - a. CONTRACTOR knew, or by the exercise of ordinary care could have known, of such conditions at the time CONTRACTOR made a final commitment to CITY with respect to Contract Price and Contract Times by the submission of a Bid; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final commitment; or
 - c. CONTRACTOR failed to give the written notice as required by Paragraph 4.03 A.

E. If CITY and CONTRACTOR are unable to agree on entitlement to, or magnitude of, an equitable adjustment in the Contract Price pursuant to Article 11 and/or Contract Times pursuant to Article 12, a Claim may be made therefore as provided in Article 16. However, CITY, DESIGN PROFESSIONAL and Consultants shall not be liable to CONTRACTOR for any costs, losses or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04. Physical Conditions – Underground Facilities

A. Shown or Indicated: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to CITY or DESIGN PROFESSIONAL by the owners of such Underground Facilities or by others.

1. CITY and DESIGN PROFESSIONAL shall not be responsible for the accuracy or completeness of any such information or data; and
2. The cost of all of the following will be included in the Contract Price and CONTRACTOR shall have full responsibility for:
 - a. reviewing and checking all such information and data,
 - b. locating all Underground Facilities shown or indicated in the Contract Documents,
 - c. coordination of the Work with the owners of such Underground Facilities during construction, and
 - d. the safety and protection of all such Underground Facilities as provided in Paragraph 6.14 and repairing any damage thereto resulting from the Work.

B. Not Shown or Indicated: If an Underground Facility is uncovered or revealed at or contiguous to the Site, and was not shown or indicated in the Contract Documents, or was

shown or indicated incorrectly in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.17), identify the owner of such Underground Facility and give written notice to that owner and to CITY and DESIGN PROFESSIONAL.

C. DESIGN PROFESSIONAL's Review: After receipt of notice as required by Paragraph 4.04 B, DESIGN PROFESSIONAL will promptly review the consequences of the existence of the Underground Facility and notify CITY in writing (with a copy to CONTRACTOR) of DESIGN PROFESSIONAL's findings and conclusions.

D. Possible Contract Documents Change: If CITY concludes that a change in the Contract Documents is required as a result of the existence of an Underground Facility that either was not shown, or was shown incorrectly, in the Contract Documents, a Work Change Directive or Change Order will be issued as provided in Article 10 to reflect and document the consequences of such change.

E. Possible Price or Times Adjustments: An equitable adjustment in the Contract Price or in the Contract Times, or both, will be allowed to the extent that the existence of the Underground Facility causes an increase or decrease in CONTRACTOR's cost of, or time required for, performance of the Work; subject, however, to the following:

1. a change in the Contract documents pursuant to Paragraph 4.04 D will not be an automatic authorization of, nor a condition precedent to, entitlement to any such adjustments;
2. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.06 and 11.04; and
3. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if;
 - a. CONTRACTOR knew, or by the exercise of ordinary care could have known, of the existence of the Underground Facility at the time CONTRACTOR made a final commitment to CITY with respect to Contract Price and Contract Times by the submission of a Bid; or
 - b. the existence of the Underground Facility could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final commitment; or
 - c. CONTRACTOR failed to give the written notice as required by Paragraph 4.04 B.

F. If CITY and CONTRACTOR are unable to agree on entitlement to, or magnitude of, an equitable adjustment in the Contract Price pursuant to Article 11 and/or Contract Times pursuant Article 12, a Claim may be made therefore as provided in Article 16. However, CITY, DESIGN PROFESSIONAL and Consultants shall not be liable to CONTRACTOR for any costs, losses or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.05 Reference Points

A. CITY shall provide engineering surveys to establish reference points for construction that in DESIGN PROFESSIONAL's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of CITY. CONTRACTOR shall report to DESIGN PROFESSIONAL whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be

responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 Asbestos, Lead-Based Paint, PCBs, Petroleum, Hazardous Waste or Radioactive Material

A. Reports and Drawings: Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the DESIGN PROFESSIONAL in the preparation of 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 relating to a Hazardous Environmental Condition at the Site, but such reports and drawings are not Contract Documents. Such technical data is identified in the Supplementary Conditions. Except for such 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 aspects 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.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. CONTRACTOR shall be responsible for all Hazardous Environmental Conditions created with any materials brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible. CONTRACTOR shall not be entitled to an extension of the Contract Times or an increase in the Contract Price if CONTRACTOR, Subcontractor, Supplier or anyone for whom CONTRACTOR is responsible created any Hazardous Environmental Condition at the Site or in connection with the Work.

D. If CONTRACTOR encounters a Hazardous Environmental Condition at the Site or if CONTRACTOR or anyone for whom CONTRACTOR is responsible creates a Hazardous Environmental Condition at the Site, CONTRACTOR shall immediately:

1. secure or otherwise isolate such condition;
2. stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6. 15); and
3. notify CITY and DESIGN PROFESSIONAL (and promptly thereafter confirm such notice in writing). CITY shall promptly consult with DESIGN PROFESSIONAL concerning the necessity for CITY to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. CONTRACTOR shall neither resume Work nor be required to resume Work in connection with such condition or in any affected area until after CITY has obtained any required permits related thereto and delivered to CONTRACTOR written notice:

1. specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or
2. specifying any special conditions under which such Work may be resumed safely. If CITY and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price pursuant to Article 11 and/or Contract Times to

pursuant to Article 12 as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by CONTRACTOR, a Claim may be made therefore as provided in Article 16.

F. If after receipt of written notice as required in Paragraph 4.06 E, CONTRACTOR does not agree to resume Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under special conditions specified in the notice, then CITY may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If CITY and CONTRACTOR cannot agree as to entitlement to or magnitude of an equitable adjustment in Contract Price pursuant to Article 11 and/or Contract Times pursuant to Article 12 as a result of deleting such portion of the Work, then a Claim may be made therefore as provided in Article 16. CITY may have such deleted portion of the Work performed by CITY's own forces or others in accordance with Article 7.

G. The provisions of Paragraphs 4.02, 4.03, and 4.04 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

H. All materials used, whether new or salvaged, shall be asbestos-free materials. CONTRACTOR shall immediately call to the attention of the CITY's Representative any specified material or product which the CONTRACTOR knows or suspects to contain asbestos, whether new or salvaged.

ARTICLE 5 BONDS AND INSURANCE

5.01 Performance, Payment and Other Bonds

A. CONTRACTOR shall furnish Performance and Maintenance and Payment Bonds, each in an amount at least equal to the Contract Price, as set out in the Contract Documents, as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one (1) year after the date when final payment of the Contract becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary Conditions.

B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations. A certified copy of the agent's authority to act must accompany all Bonds signed by an agent.

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirement of Paragraph 5.01 B, CONTRACTOR shall within twenty (20) days thereafter substitute another Bond and surety, both of which must be acceptable to CITY.

5.02 Licensed Sureties and Insurers

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by CITY or CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed in the State of Missouri and in the jurisdiction in which the Project is located, if not in Missouri, to issue Bonds or insurance policies for the limits and coverages so required. All surety and insurance companies shall hold an A.M. Best rating of A-, V, or better.

5.03 Certificates of Insurance

A. CONTRACTOR shall deliver to CITY and DESIGN PROFESSIONAL, 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. The receipt or acceptance of a certificate of insurance that does not incorporate the required terms and coverage shall not constitute a waiver by the City of the insurance requirements contained in the Contract Documents.

B. All policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained by CONTRACTOR in accordance with Paragraphs 5.04 and 5.06 will contain waiver provisions in accordance with Paragraph 5.07 A. The certificates of insurance will contain a provision stating that should any of the policies described in the certificate be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

C. If the coverage afforded is cancelled or changed or its renewal is refused, CONTRACTOR shall give at least thirty (30) days prior written notice to CITY and to each other additional insured to whom a certificate of insurance has been issued.

5.04 CONTRACTOR's Liability Insurance

A. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and furnished, and will provide protection from claims 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, whether it is to be performed or furnished by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits and other similar employee benefit acts;
2. claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;
3. claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;
4. claims for damages insured by customary personal injury liability coverage;
5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefore; and
6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance so required by Paragraph 5.04 A, to be purchased and maintained shall:

1. with respect to insurance required by Paragraphs 5.04 A.3 through 5.04 A.5 inclusive, include as additional insureds (subject to any customary exclusion for professional liability) CITY, DESIGN PROFESSIONAL, Consultants and any other individuals or entities identified in the Supplementary Conditions to be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
2. include at least the specific coverages and be written for not less than the limits of liability provided in Paragraph 5.04 C or required by Laws or Regulations, whichever is greater;
3. include completed operations insurance;
4. include contractual liability insurance covering CONTRACTOR's indemnity obligations;
5. remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective Work in accordance with Paragraphs 13.06 and 13.07;

6. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two (2) years after final payment (and CONTRACTOR shall furnish CITY and each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued evidence satisfactory to CITY and any such additional insured of continuation of such insurance);

7. contain a cross-liability or severability of interest clause or endorsement. Insurance covering the specified additional insureds shall be primary insurance, and all other insurance carried by the additional insureds shall be excess insurance;

8. with respect to commercial automobile liability, commercial general liability, and umbrella liability insurance, CONTRACTOR shall require its insurance carrier(s) to waive all rights of subrogation against CITY, and CITY's officers, directors, partners, employees and agents; and

9. contain a provision or endorsement that the costs of providing the insureds a defense and appeal, including attorneys' fees, as insureds, shall be supplementary and shall not be included as part of the policy limits but shall remain the insurer's responsibility.

C. Specific policies of insurance required by this Paragraph 5.04 shall include:

1. Workers' Compensation and Employers' Liability Insurance. This insurance shall protect CONTRACTOR against all claims under applicable state workers' compensation laws, including coverage as necessary for the benefits provided under the United States Longshoremen's and Harbor Workers' Act and the Jones Act. CONTRACTOR shall also be protected against claims for injury, disease, or death of employees which, for any reason, may 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. Commercial Automobile Liability Insurance. This insurance shall be occurrence type written in comprehensive form and shall protect CONTRACTOR, and CITY, DESIGN PROFESSIONAL and Consultants against all claims for injuries to members of the public and damage to property of others arising from the use of motor vehicles, either on or off the Project Site, whether they are owned, non-owned, or hired.

The liability limits shall be not less than: \$2,000,000

3. Commercial General Liability Insurance. This insurance shall be occurrence type written in comprehensive form acceptable to CITY. This insurance shall protect CONTRACTOR, and CITY, DESIGN PROFESSIONAL and Consultants as additional insureds, against claims arising from injuries, sickness, disease, or death of any person or damage to property arising out of performance of the Work. The policy shall also include coverage for personal injury liability; contractual liability; completed operations and products liability; and for blasting, explosion, and collapse of buildings; and damage to underground property. The liability limits for bodily injury and property damage shall be not less than:

\$2,000,000 combined single limit for each occurrence

\$2,000,000 general aggregate.

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 addition to the insurance required to be provided by CONTRACTOR under Paragraph 5.04, CITY, at CITY's option, may purchase and maintain at CITY's expense liability insurance

that will protect CITY against claims which may arise from operations under the Contract Documents.

5.06 Property Insurance

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall purchase and maintain property insurance on the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws or Regulations). This insurance shall:

1. include the interests of CITY, CONTRACTOR, Subcontractors, and any other persons or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;
2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, tornado, collapse, debris removal, demolition occasioned by enforcement of Laws or Regulations, water damage, damage caused by frost and freezing, and acts of God;
3. be maintained in effect until final payment is made unless otherwise agreed to in writing by CITY with thirty (30) days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. CITY shall not be responsible for purchasing and maintaining any property insurance to protect the interests of CONTRACTOR, Subcontractors or others involved in the Work to the extent of any deductible amounts. The risk of loss within the deductible amounts will be borne by CONTRACTOR, Subcontractor or others suffering any such loss and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

5.07 Waiver of Rights

A. CITY and CONTRACTOR intend that all policies purchased in accordance with Paragraphs 5.04 and 5.06 will protect CITY, CONTRACTOR, DESIGN PROFESSIONAL Consultants, Subcontractors, and all other persons or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds in such policies and will provide primary coverage for all losses and damages caused by the perils covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. CITY and CONTRACTOR waive all rights against each other and their respective officers, directors, partners, employees and agents for all losses and damages caused by, arising out of or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work, but only to the extent of insurance coverage; and, in addition, waive all such rights against DESIGN PROFESSIONAL, Consultants, Subcontractors, and all other persons or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of any and each of them) under such policies for losses and damages so caused and covered by insurance. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by CITY as trustee or otherwise payable under any policy so issued. None of the above waivers shall apply if specifically in conflict with Laws and Regulations.

5.08 Receipt and Application of Insurance Proceeds

A. Any insured loss under the property insurance will be adjusted with CITY and made payable to CITY as fiduciary for the insureds, as their interests may appear, subject to the requirements of any indentures of indebtedness entered into by CITY.

B. CITY as fiduciary shall have 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 shall 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 shall 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 accomplished in accordance with Paragraph 14.05; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall 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 Paragraph 6.01 only, the following terms shall have the meanings listed:

1. Claims means all claims, damages, liability, 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 Advisor and any of their agents, officials, officers, employees and program managers or construction advisors.

B. CONTRACTOR's obligations under this Paragraph with respect to indemnification for acts or omissions, including negligence, of CITY, shall be 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 all Claims arising out of or resulting from all 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, DESIGN PROFESSIONAL, CONSULTANT, or any of their respective agents, officers, directors or employees by 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 them to perform or furnish any of the Work, or anyone for whose acts any of them 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 liability 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 Documents. CONTRACTOR shall be solely 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 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 manager, resident superintendent or any other employee of the CONTRACTOR, Subcontractors, Suppliers or other persons or organizations 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 specifically called for by the Specifications shall expressly 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 any manufactured goods or commodities used or supplied in the performance of this Contract and any subcontract hereto shall be manufactured or produced in the United States whenever possible.

6.04 Progress Schedule

A. CONTRACTOR shall adhere to the progress schedule established in accordance with Article 2 as it may be adjusted from time to time as provided below:

1. CONTRACTOR shall provide, at least once every thirty (30) calendar days, updated information on the project schedule, including thirty (30) day look ahead schedules, projected variances per event category and per Subcontractor, identification of all variances and calculation of the number of Days difference between the as-built critical path and the project schedule critical path

2. CONTRACTOR shall, with each application for payment, provide completed monthly updated status report for the previous month on the project schedule and updated information indicating as-built and as-planned conditions. The updated information on the project schedule shall not modify any Milestone dates in the project schedule that CITY has previously approved. The updated information required is a condition precedent to payment pursuant to paragraph 14.02 and shall include at a minimum:

- a. a concise statement of the outlook for meeting project schedule dates and the reasons for any change in outlook from the previous report;
- b. a review of any significant technical problems encountered during the month;
- c. an explanation of any corrective action taken or proposed; and
- d. a summary of any Claims anticipated by CONTRACTOR with respect to the Work, including the anticipated costs and schedule impacts of any such Claims.

6.05 Recovery Schedules

A. If the CONTRACTOR should:

1. fail, refuse or neglect to supply a sufficient number of workers or to deliver the materials or equipment with such promptness as to prevent the delay in the progress of the Work;

2. fail in any respect to commence and diligently prosecute the Work in accordance with the approved baseline project schedule in order to achieve substantial completion;

3. fail to commence, prosecute, finish, deliver or install the different portions of the Work on time as specified in the approved baseline project schedule; or

4. fail in the performance of any of the material covenants of the Contract Documents;

CITY shall have the right to direct the CONTRACTOR, upon seven (7) calendar days notice, to prepare a written recovery plan, for CITY's approval, to accelerate the Work in order to conform to the approved baseline project schedule, including, without limitation, providing additional labor or expediting delivery of materials, performing overtime or re-sequencing the Work without adjustments to the Contract value. Upon CITY's approval of the recovery plan, CONTRACTOR shall accelerate the Work in accordance with the plan.

B. Proposed recovery schedules shall be submitted to the CITY as a separate project plan for review and approval by CITY prior to incorporation into the approved baseline schedule. The recovery schedule shall be submitted in a format compatible with the baseline schedule format. Each proposed revision shall be submitted as a separate schedule, with the following minimum requirements:

1. A critical path method diagram showing revised and affected activities or Milestones.
2. An activity report for all revised and affected activities or Milestones.

C. Upon acceptance of the recovery schedule by CITY, data shall be added or revised for all new or revised activities and incorporated into the approved baseline project schedule.

6.06 Substitutes and “Or-Equal” Items

A. Materials or equipment: Whenever an item of material or equipment is specified or described in the Contract Documents by 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 material or equipment or material 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 as functionally equal to that named and sufficiently similar so 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 purposes of this Paragraph, a proposed item of material or equipment will be considered functionally equal 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 equally well the function imposed 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 material or equipment as a substitute item, then CONTRACTOR shall submit sufficient information as provided below 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 material or equipment will not be accepted by CITY’s Representative from anyone other than CONTRACTOR.

b. If CONTRACTOR wishes to furnish or use a substitute item of material 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 as that specified. The application will 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 variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by CITY's Representative in evaluating the proposed substitute. CITY's Representative may require CONTRACTOR to furnish additional data about the proposed substitute.

If the CITY's Representative approves the proposed item, CITY may accept it.

B. Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence or procedure of construction acceptable to DESIGN PROFESSIONAL. CONTRACTOR shall notify CITY and submit sufficient information to allow DESIGN PROFESSIONAL, in DESIGN PROFESSIONAL's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents.

C. Expenses: Bidder shall provide all data in support of any "or equal" at Bidder's expense, and CONTRACTOR shall provide all data in support of any proposed substitute at CONTRACTOR's expense.

D. Evaluation: DESIGN PROFESSIONAL and CITY's Representative will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant 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 be evidenced by either a Change Order or an approved Shop Drawing. CITY may require 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 required by DESIGN PROFESSIONAL and Consultants in evaluating substitutes proposed or submitted by CONTRACTOR pursuant to Paragraphs 6.06 A and 6.06 B and in making changes in the Contract Documents (or in the provisions of any other direct contract with CITY for work on the Project) occasioned thereby. Whether or not CITY accepts a substitute so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse CITY for the reasonable charges of DESIGN PROFESSIONAL and Consultants for evaluating each such proposed substitute.

6.07 Concerning Subcontractors, Suppliers and Others

A. CONTRACTOR shall not employ or retain any Subcontractor, Supplier or other person or organization (including those acceptable to CITY as indicated in Paragraph 6.07 B), whether initially or as a substitute, against whom CITY has a reasonable objection, including but not limited to debarment by City or another governmental entity or decertification of the 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 the provisions of Chapter 3 of the City's Code as determined by the Director of the Human Relations Department. Contractor shall insert this provision in any subcontractor agreement associated with this Contract. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection. CONTRACTOR shall submit required information for all Subcontractors on Form 01290.09 - Subcontractor and Major Material Suppliers List, provided in these Contract Documents, prior to Subcontractor beginning Work at the Site.

B. The Supplementary Conditions require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials or equipment) to be submitted to CITY on or before the date specified in the Supplementary Conditions, for acceptance by CITY. If CONTRACTOR has submitted a list

thereof in accordance with the Supplementary Conditions, CITY may accept (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Contract Documents) any such Subcontractor, Supplier or other person or organization so identified, or may 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 by 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 DESIGN PROFESSIONAL to reject defective Work.

C. CONTRACTOR shall be fully responsible to CITY for all 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 DESIGN PROFESSIONAL and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of CITY or DESIGN PROFESSIONAL to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws or Regulations.

D. CONTRACTOR shall be solely 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 contractually require all Subcontractors, Suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with CITY and DESIGN PROFESSIONAL through CONTRACTOR.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier shall be 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. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in Paragraph 5.06, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against CITY, CONTRACTOR, DESIGN PROFESSIONAL, Consultants and all other additional insureds for all losses and damages caused by, arising out of or resulting from any perils, to the extent covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

H. Except as otherwise provided in this subsection H 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 all 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. CONTRACTOR shall not insert any provision in any subcontractor agreement associated with this Contract that explicitly states or implies that the subcontractor shall only be paid for work performed if or when the general CONTRACTOR is paid by the CITY . Contractor's compliance with this provision is a material term of this Contract.

J. CONTRACTORS shall not deny any Subcontractor subcontracting opportunities solely because the Subcontractor is not a signatory to collective bargaining agreements with organized labor.

6.08 Patent Fees and Royalties

A. CONTRACTOR shall pay all license fees and royalties and assume all costs 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 calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by CITY in the Contract Documents. To the fullest extent permitted by Laws or 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 them 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 accompanying regulation(s) contained in the Missouri Code of State Regulations (CSR Title 10), as well as any implementing permits, together with any CITY Provisions during the life of this Contract including but not limited to:

1. Approvals and permits as 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 all construction or land disturbance activity.
3. Development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).
 - (a) Contractor shall not commence land disturbance activity until the initial SWPPP has been finalized.
 - (b) Preparation and submittal of all applications, documentation and exhibits required to obtain MDNR approvals for uninterrupted Work at the Site.
 - (c) Amending/Updating SWPPP.
 - (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 also 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 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% mark-up 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 stream damage has been mitigated. In such an event, any delay to the project schedule will result in liquidated damages assessed against the CONTRACTOR.

6.10 Compliance with Laws and Regulations

A. CONTRACTOR shall give all notices and comply with all Laws or Regulations applicable to furnishing and performing the Work. Except where otherwise expressly required by applicable Laws or Regulations, neither CITY nor DESIGN PROFESSIONAL shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations. The Laws or Regulations included in this Paragraph 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 Laws or Regulations, CONTRACTOR shall bear 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) caused by, arising out of or resulting therefrom; however, it shall not be CONTRACTOR's primary responsibility to make 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 Sections 3-307, and 3-309, imposing sanctions for violations, shall apply to this Contract. CONTRACTOR certifies that no officer or employee of City has, or will have, a direct or indirect financial or personal interest in this Contract, and 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 have an arrangement 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 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 Subcontractors required for the Work 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 CITY's written request.

E. Americans with Disabilities Act. CONTRACTOR agrees to comply, during the course of this Contract, with all 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 a 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 two 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 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 two calendar years.

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 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 all 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 MBE and WBE goals set forth in its Contractor Utilization Plan/Request for Waiver. If workforce utilization goals are applicable 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 3-525 and as hereinafter amended. CONTRACTOR shall meet or exceed the construction employment goals unless the same shall have been waived 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 Human Relations, the City Manager, the City department administering this Contract and their delegates and agents.

(b) "Record" shall mean any document, book, paper, photograph, map, sound recordings or other material, regardless of physical form or characteristics, made or received in connection with this Contract and all Contract amendments and renewals.

2. Contractor shall maintain and retain all Records for a term of five (5) years that shall begin after the expiration or termination of this Contract and all Contract amendments. City shall have a right to examine or audit all Records and Contractor shall provide access to City of all records upon ten (10) days written notice from the City.

I. Prevailing Wage.

1. CONTRACTOR shall comply and require its Subcontractors to comply with;

a. sections 290.210 to 290.340, RSMO the State of Missouri Prevailing Wage Law (the "Law"); and

b. 8 CSR 30-3.010 to 8 CSR 30-3.060, the Prevailing Wage Law Rules (the "Rules"); and

c. the Annual Wage Order (Wage Order) issued by the State of Missouri's Department of Labor and Industrial Relations; and

d. any applicable Annual Incremental Wage Increase (Wage Increase) to the Annual Wage Order.

2. The Law, Rules, Annual Wage Order and any Wage Increase are incorporated into and made part hereof this Contract and shall be collectively referred to in this Section as the "Prevailing Wage Requirements."

3. CONTRACTOR shall pay and require its Subcontractors to pay to all workers performing work under this Contract not less than the prevailing hourly rate of wages for the class or type of work performed by the worker in accordance with the Law, Rules, Wage Order and any applicable Wage Increase. CONTRACTOR shall take whatever steps are necessary to insure that the prevailing hourly wage rates are paid and that all workers for CONTRACTOR and each of its Subcontractors are paid for the class or type of work performed by the worker in accordance with the Prevailing Wage Requirements. If CONTRACTOR shall fail to start to perform CONTRACTOR's obligations under the Contract Documents within sixty (60) days from the Effective Date of the Contract, CONTRACTOR and each of its subcontractors shall be obligated to pay all workers in accordance with any new Wage Order, as subsequently amended by any applicable Wage Increase, issued by the Department of Labor and Industrial Relations within the aforementioned sixty (60) day period. The new Wage Order and any applicable Wage Increase shall govern notwithstanding the fact that the Wage Order being replaced might be physically attached or incorporated in the Contract Documents.

4. Prior to each of its Subcontractors beginning Work on the Site, CONTRACTOR shall require each Subcontractor to complete CITY's Form 00490 entitled "Pre-contract Certification" that sets forth the Subcontractor's prevailing wage and tax compliance history for the two (2) years prior to the bid. CONTRACTOR shall retain one (1) year and make the Pre-contract Certifications available to CITY within five (5) days after written request.

5. CONTRACTOR shall:

a. Keep and require each of its Subcontractors engaged in the construction 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 classification group & skill and the workers' hours. City shall furnish blank copies of the Daily Labor Force Report Form to Contractor for its use and for distribution to Subcontractors. Contractor shall submit its and its Subcontractors Daily Labor Force Reports to City each day; and

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 every 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 as 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 Daily Labor Force 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 Daily Labor Force Reports to CITY each day. CONTRACTOR shall make all of CONTRACTOR's and Subcontractors' Records open to inspection by any authorized representatives of OWNER and the Missouri Department of Labor and Industrial Relations at any reasonable time and as often as they 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 have 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, all 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 post and keep posted a clearly legible statement of all prevailing hourly wage rates to be paid to all workers 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 by all workers.

8. If the Contract Price exceeds \$250,000.00, CONTRACTOR shall and shall require each Subcontractor engaged in any construction of public works to have its name, acceptable abbreviation or recognizable logo and the name of the city and state of the mailing address 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 may place a temporary stationary sign, 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 sign 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 agency 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 any Wage Increase within fourteen (14) calendar days after notice from CITY.

10. CONTRACTOR shall and shall require its Subcontractors to cooperate with the CITY and the Department of Labor and Industrial Relations in the enforcement of this Section, the Law, Rules, Annual Wage Order and any Wage Increase. Contractor shall and 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 file with CITY, upon completion of the Project and prior to final payment therefore, affidavits 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 affidavits, in proper form and order, from CONTRACTOR and each of its Subcontractors, are filed by CONTRACTOR.

12. CONTRACTOR shall forfeit as a statutory penalty 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 rates for any work done under this Contract, by CONTRACTOR or by any of CONTRACTOR's Subcontractors. If CONTRACTOR or any of its Subcontractors have violated any section(s) of 290.210 to 290.340, RSMo, in the course of the execution of the Contract, CITY shall when making payments to the CONTRACTOR becoming due under this Contract, withhold and retain therefrom all 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, commonly result in additional costs to CITY. CONTRACTOR agrees that additional costs to CITY for any particular violation are difficult to establish and include but are not limited to: costs of construction delays, additional work for CITY, additional interest expenses, investigations, and the cost of establishing and maintaining a special division working under the City Manager to monitor prevailing wage compliance.

1. In the event of the failure by CONTRACTOR or any of its Subcontractors to pay wages as provided in the Missouri Prevailing Wage Act, CITY shall be entitled to deduct from the Contract Price, and shall retain as liquidated damages, one hundred dollars (\$100.00) per day, per worker who is paid less than the prevailing hourly rate of wages, to approximate the additional costs. The sum shall be deducted, paid or owed whether or not the Contract Times have expired.

2. CITY shall give written notice to CONTRACTOR setting forth the workers, who have been underpaid, the amount of the statutory penalty and the amount of the liquidated damages as 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 completing 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 they begin work on the Site. CONTRACTOR shall retain such documents in its files 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 hardwoods, shall apply to this Contract.

M. Preference for Missouri Products. Pursuant to Section 71.140 RSMo., preference shall be given to materials, products, supplies and all 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. Unsupervised open excavations on public properties are discouraged at all times. If CONTRACTOR, in performance of the Work, makes or causes to be made any excavation in, upon, under, through or adjoining any street, sidewalk, alley, park, boulevard, parkway or any other public properties, and shall leave 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 compliance with existing federal, state 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 unsupervised excavations not within roadways, either by covering or fencing.

a. Covering. A protective cover that can sustain the weight of persons or of objects that are placed upon it may be installed over an unsupervised excavation. The cover shall be secured to the ground to prevent movement. Protective covers shall have no opening(s) or protuberance(s) of sufficient size to cause a fall and/or injury. Advance warning devices shall be installed as necessary.

b. Fencing. Fencing to prevent entry may be installed surrounding an unsupervised 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 upright at all times under normal Site conditions. All protective coverings and fences over and around excavations shall be inspected at least daily to assure integrity. Protective coverings and/or fences in heavily trafficked areas shall be inspected more often as necessary.

O. Notification of Utilities. CONTRACTOR shall adhere to the provisions of Sections 319.010 et seq., RSMo., which requires that a person or firm making 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 do so only after giving notice to, and obtaining 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 Sections 285.525 et seq., RSMo., which requires that for any contract exceeding five thousand dollars (\$5,000.00), CONTRACTOR shall execute and submit an affidavit, in a form prescribed by CITY, affirming that CONTRACTOR 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). 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 enroll at <https://e-verify.uscis.gov/enroll/StartPage.aspx?JS=YES>. For those Contractors enrolled in E-Verify, the first and last pages of the E-Verify Memorandum of Understanding that CONTRACTOR will obtain upon successfully enrolling in the program shall constitute sufficient documentation for purposes of complying with this Section. CONTRACTOR shall submit the affidavit and attachments 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 every employee on the Site to complete a ten-hour construction safety program which meets the requirements of Section 292.675, RSMo, except for those employees who shall have previously completed the required program and hold documentation to that effect. CONTRACTOR shall remove or require the removal of any

person from the Site who is subject to this requirement and who does not complete or is unable to produce documentation of their successful completion of the required program within the time limitations prescribed by Section 292.675, RSMo. CONTRACTOR shall forfeit the sum of two thousand five hundred dollars (\$2,500.00), in addition to one hundred dollars (\$100.00) per employee each calendar day, or portion thereof, the employee(s) shall continue to be employed without having completed the required program within the time limitations prescribed by Section 292.675, RSMo. CITY shall be entitled to withhold and retain any amounts due and owing hereunder when making payment to CONTRACTOR.

R. Clean Air Act and Clean Water Act. CONTRACTOR shall comply with requirements of the Clean Air Act (42 U.S.C. 7401 *et seq.*); Clean Water Act (33 U.S.C. 1251 *et seq.*), Missouri Clean Water Law (Chapter 644 RSMo), Code of Federal regulations (Title 40: Protection of Environment, Title 33: Navigation and Navigable Waters) and the rules of the Missouri Code of State Regulations (CSR Title 10).

S. Contract information Management System. If applicable, 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 and shall require subcontractors/subconsultants to maintain same.

T. 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.

6.11 Taxes

A. CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws or Regulations of the place of the Project which are applicable during the performance of the Work.

B. Tax Compliance.

1. As a condition precedent to CITY making its first payment to CONTRACTOR under this Contract, CONTRACTOR shall furnish to CITY sufficient proof from City's Commissioner of Revenue, dated not more than one (1) year prior to the date provided to CITY, verifying that CONTRACTOR is in compliance with the license and tax ordinances administered by City's Revenue Division of the Finance Department.

2. As a condition precedent to Subcontractors performing any Work under this Contract, CONTRACTOR shall obtain from Subcontractor sufficient proof from City's Commissioner of Revenue, dated not more than one (1) year before the date Subcontractor begins Work, verifying that the Subcontractor 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 available to CITY within ten (10) days after a written request.

3. As a condition precedent to CITY making final payment under this Contract, if this Contract is longer than one (1) year and exceeds the dollar threshold established by ordinance and included in the Supplementary Conditions, CONTRACTOR shall furnish to CITY sufficient proof from City's Commissioner of Revenue, dated not more than one (1) year before the filing of a final Application for Payment, verifying that CONTRACTOR is in

compliance with the license and tax ordinances administered by City's Revenue Division of the Finance Department.

4. If this Contract is 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 was 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 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 all its Subcontractors are in compliance with the license and tax ordinances administered by City's Revenue Division of the Finance Department, CITY may approve 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 tangible personal property to be incorporated or consumed in the construction of this Project may be purchased without sales tax. CITY shall furnish CONTRACTOR a Missouri Project Exemption Certificate for Sales Tax 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 a 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 will be deducted from any moneys 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, DESIGN PROFESSIONAL, Consultants and the officers, directors, employees, agents and other consultants of each and any of them 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, DESIGN PROFESSIONAL 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

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 all 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 all Drawings, Specifications, Addenda, the Contract, Written Amendments, Change Orders, Work Change Directives, and written interpretations and clarifications in good order and annotated to show all changes made during construction. These record documents, together with all approved Samples and a counterpart of all approved Shop Drawings, will be available to CITY and DESIGN PROFESSIONAL for reference. Upon completion of the Work, these record documents, Samples and Shop Drawings will be delivered to DESIGN PROFESSIONAL for CITY.

6.14 Safety and Protection

A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall comply with all applicable Laws or Regulations relating to the safety of persons or property to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for safety and protection. CONTRACTOR shall deliver to CITY a copy of CONTRACTOR'S Health and Safety Plan as provided in the Notice of Intent to Contract.

B. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to in Paragraph 6.14 B.2 or 6.14 B.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of CITY, DESIGN PROFESSIONAL, Consultant, or anyone employed by any of them or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR, Subcontractor, Supplier or other person or organization directly or indirectly employed by any of them). CONTRACTOR's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and DESIGN PROFESSIONAL has issued a notice to CONTRACTOR in accordance with Paragraph 14.07 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion). CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;
2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of the Work.

6.15 Safety Representative

A. In accordance with OSHA standards, CONTRACTOR shall designate a qualified and experienced safety representative whose duties and responsibilities shall be the prevention of

accidents and the maintaining and supervising of safety precautions and programs. CONTRACTOR's safety representative shall remain at the Site whenever there is Work in progress and shall immediately notify CITY of any emergencies or accidents occurring at the Site

6.16 Hazard Communication Programs

A. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.17 Emergencies

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, CONTRACTOR, without special instruction or authorization from CITY or DESIGN PROFESSIONAL, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give CITY and DESIGN PROFESSIONAL prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If CITY determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to an emergency, a Work Change Directive or Change Order will be issued.

B. A change in the Contract Documents pursuant to Paragraph 6.15 A will not be an automatic authorization of, nor a condition precedent to, entitlement to adjustment in the Contract Price or Contract Times. If CITY and CONTRACTOR are unable to agree on entitlement to, or magnitude of, an equitable adjustment in the Contract Price or Contract Times, a Claim may be made therefore as provided in Article 16. However, OWNER, DESIGN PROFESSIONAL and Consultants shall not be liable to CONTRACTOR for any costs, losses or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

6.18 Shop Drawings and Samples

A. CONTRACTOR shall submit Shop Drawings to DESIGN PROFESSIONAL for review and approval in accordance with the accepted schedule of Shop Drawings and Sample submittals (see Paragraph 2.07). All submittals shall be identified as DESIGN PROFESSIONAL may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to show DESIGN PROFESSIONAL the services, materials and equipment CONTRACTOR proposes to provide and to enable DESIGN PROFESSIONAL to review the information for the limited purposes required by Paragraph 6.18 D.

B. CONTRACTOR shall also submit Samples to DESIGN PROFESSIONAL for review and approval in accordance with said accepted schedule of Shop Drawings and Sample submittals. Each Sample shall be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended and otherwise as DESIGN PROFESSIONAL may require to enable DESIGN PROFESSIONAL to review the submittal for the limited purposes required by Paragraph 6.18 D. The numbers of each Sample to be submitted will be as specified in the Specifications.

C. Submittal Procedures:

1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

- a. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto;

- b. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work;
- c. all information relative to means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto; and
- d. CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp 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 variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, the notice to be in a written communication separate from the submittal, and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to DESIGN PROFESSIONAL for review and approval of each such variation.

D. DESIGN PROFESSIONAL's Review:

1. DESIGN PROFESSIONAL will review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals accepted by 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 submittals 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 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 Paragraph 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 Shop Drawing or Sample approval; nor will any approval by DESIGN PROFESSIONAL relieve CONTRACTOR from responsibility for complying with the requirements of Paragraph 6.18 C.1.

E. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submissions accepted 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 corrections required by DESIGN PROFESSIONAL and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples 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. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with CITY. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as CITY and CONTRACTOR may otherwise agree in writing.

6.20 CONTRACTOR's General Warranty and Guarantee

A. CONTRACTOR warrants and guarantees to CITY, DESIGN PROFESSIONAL and Consultants that all Work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, Suppliers or any other individual or entity for whom CONTRACTOR is responsible; or
2. normal wear and tear under normal usage.

B. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents:

1. observations by DESIGN PROFESSIONAL;
2. recommendation of any progress or final payment by DESIGN PROFESSIONAL;
3. the issuance of a certificate of Substantial Completion or any payment related thereto by CITY to CONTRACTOR;
4. use or occupancy of the Work or any part thereof by OWNER;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by DESIGN PROFESSIONAL;
6. any inspection, test or approval by others; or
7. any correction of defective Work by CITY.

C. Nonconforming Work is rejected unless expressly accepted in writing by the CITY's Representative.

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 let other direct contracts therefore, or have other work performed by utility owners. If such other work is to be performed and such fact was not noted in the Contract Documents, then:

1. Written notice thereof will be given to CONTRACTOR prior to starting any such other work, and
2. CONTRACTOR may make a Claim therefore as provided in Article 16 if CONTRACTOR believes that such performance involves additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the amount or extent thereof.

B. CONTRACTOR shall afford each other contractor who is a party to such a direct contract, and each utility owner (and CITY, if CITY is performing the additional work with CITY's employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly connect and coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting and patching of the Work that may be

required to properly connect or otherwise make its several parts come together and properly integrate 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 Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable 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 unavailable 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 integration 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 Conditions:

1. the person, firm or corporation who will have authority and responsibility for coordination of the activities among the various prime 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 shall have sole 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 whose status under the Contract Documents shall be that of the former DESIGN PROFESSIONAL.

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 Paragraph 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 or 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 as 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 prepared by the DESIGN PROFESSIONAL as 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 justifies an adjustment in the Contract Price pursuant to Article 11 and/ or the Contract Times pursuant to Article 12 and the parties are unable to agree to the amount or extent thereof, if any, a Claim may be made therefore as provided in Article 16.

9.04 Rejecting Defective Work

A. DESIGN PROFESSIONAL will 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 by the Contract Documents. DESIGN PROFESSIONAL will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04 B, 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 (by recommendation of an Application for Payment or otherwise to the CITY). CITY reserves the right to make a final determination of the actual quantities and classifications of Unit Price Work in reviewing an Application for Payment. Within ten (10) days after the date of receipt of any such decision, CONTRACTOR may deliver 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 prepared 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. DESIGN PROFESSIONAL will not supervise, direct, control or have authority over or 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 or Regulations applicable to the furnishing or performance of the Work. DESIGN PROFESSIONAL will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

C. DESIGN PROFESSIONAL will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

D. DESIGN PROFESSIONAL's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, Bonds and certificates of inspection, tests and approvals and other documentation required to be delivered by Paragraph 14.07 will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests and approvals, that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.08 shall also apply to DESIGN PROFESSIONAL's Consultants, resident Project representative and assistants as identified in the Supplementary Conditions.

ARTICLE 10 CHANGES IN THE WORK

10.01 Authorized Changes in the Work

A. Without invalidating the Contract and without notice to any surety, CITY may, at any time or from time to time, order additions, deletions or revisions in the Work. Such additions, deletions or revisions will be authorized by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved that will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If CITY and CONTRACTOR are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price pursuant to Article 11 or an adjustment of the Contract Times pursuant to Article 12 or both that should be allowed as a result of a Work Change Directive, a Claim may be made therefore as provided in Article 16.

10.02 Unauthorized Changes in the Work

A. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.17 or in the case of uncovering Work as provided in Paragraph 13.04.

10.03 Signing of Change Orders

A. CITY and CONTRACTOR, and DESIGN PROFESSIONAL shall sign appropriate Change Orders covering:

1. changes in the Work which are:

- a. ordered by CITY pursuant to Paragraph 10.01 A; or
- b. required because of acceptance of defective Work under Paragraph 13.08 or correcting defective Work under Paragraph 13.09; or
- c. agreed to by the parties;

2. changes in the Contract Price or Contract Times or both which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times or both which embody the substance of any written decision recommended by DESIGN PROFESSIONAL and approved by CITY pursuant to Paragraph 9.06, provided that, in lieu of signing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws or Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in Paragraph 6.19.

10.04 Notification to Surety

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times or both) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility, and the amount of each applicable Bond will be adjusted accordingly.

ARTICLE 11 CHANGE OF CONTRACT PRICE

11.01 Change of Contract Price

A. The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at CONTRACTOR's expense without change in the Contract Price.

B. The Contract Price may only be changed by a Change Order. Any request for an adjustment in the Contract Price shall be based 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 conditions giving rise to the request. Prior notice is not required for requests or claims relating to an emergency endangering life or property as described in Paragraph 6.16. Thereafter, the CONTRACTOR shall submit written documentation of its request, including appropriate supporting documentation, within ten (10) calendar days after giving notice, unless the CITY grants an extension based on good cause shown by the CONTRACTOR that such additional time is warranted.

C. The value of any Work covered by a Change Order or of any request for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by Unit Prices contained in the Contract Documents, by application of such Unit Prices to the quantities of the items involved (subject to the provisions of Paragraph 11.04); or

2. where the Work involved is not covered by Unit Prices contained in the Contract Documents, by a mutually agreed lump sum; or

3. where the Work involved is not covered by Unit Prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 11.01 C.2, on the basis of the Cost of the Work (determined as provided in Paragraphs 11.02 A and B) 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. a mutually acceptable 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 Paragraphs 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, will be paid a 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 each be paid a 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 additions and credits 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 A and B, CONTRACTOR shall establish and maintain records thereof in accordance with generally accepted accounting practices and submit in 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 be only those 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 Orders or requests shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall 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, using occupational titles and job classifications agreed upon by CITY and CONTRACTOR. Such employees shall include, without limitation, job Site superintendents, foremen and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall 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

performing the Work after regular working hours, on Saturdays, Sundays or legal holidays, shall be included in the above to the extent authorized by OWNER.

2. Cost of all materials and equipment furnished and incorporated into the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless CITY deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to CITY. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to CITY, and CONTRACTOR shall make provisions so that they may be obtained.

3. Payments made by CONTRACTOR to Subcontractors for Work performed or furnished by Subcontractors. If required by CITY, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to CITY who will then determine, with the advice of DESIGN PROFESSIONAL, which bids, if any, will be accepted. If any subcontract provides that the Subcontractor is to be paid on the basis of the Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in Paragraphs 11.01 D and E and 11.02 A and B. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work when such services are approved in advance by CITY in writing.

5. Other costs including the following:

a. The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the Site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value of such items used but not consumed which remain the property of CONTRACTOR.

c. Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by CITY with the advice of DESIGN PROFESSIONAL, and the costs of transportation, loading, unloading, installation, assembly, dismantling and removal thereof, all in accordance with the terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

d. Applicable sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws or Regulations.

e. Deposits lost for causes other than 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, and royalty payments and fees for permits and licenses required to perform the Work.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance and furnishing of the Work (except losses and damages within the deductible amounts of property insurance established by CITY in accordance with Article 5), provided they have resulted from causes other than 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. Such losses shall include settlements made with the written consent and approval of CITY. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining

CONTRACTOR's fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid for those services a fee proportionate to that stated in Paragraph 11.01 D.2.

g. The cost of utilities, fuel and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expressage and similar petty cash items in connection with the Work.

i. Cost of premiums for additional or increased Bonds, or for insurance required because of approved changes in the Work.

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 partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, 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 occupational titles and job classifications referred to in Paragraph 11.02 A.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 making good 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 A.

11.03 Cash Allowances

A. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be furnished and performed for such sums 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 by CITY to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall 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 magnitude 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.B., 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 may be made pursuant to Article 16.

ARTICLE 12 CONTRACT TIMES

12.01 Time of the Essence

A. All times stated in the Contract Documents are of the essence of the Contract.

12.02 Change of Contract Times

A. The Contract Times (or Milestones) may only be changed by a Change Order. Any request for an adjustment in the Contract Times shall be based 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 conditions giving rise to the request. Thereafter, the CONTRACTOR shall submit written documentation of its requests, including appropriate supporting documentation, within ten (10) days after giving notice, unless the CITY grants an extension based on good cause shown by the CONTRACTOR that such additional time is warranted.

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 Times pursuant to this Article, CONTRACTOR must demonstrate to the reasonable satisfaction of the CITY that the critical path of the approved baseline project schedule was delayed. CONTRACTOR shall be entitled to an increase in contract time for the number of days that the critical path was delayed solely as a result of the compensable or excusable event. A compensable or excusable event 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 shop drawings and submittals;
4. CITY's unreasonable delay in issuing a Change Order;

5. an order by the CITY to stop the Work where the CONTRACTOR was not at fault; and

6. other reasonable grounds as determined by the City in its sole discretion.

B. CONTRACTOR shall compare the critical path of the approved baseline project schedule to the actual critical path of the Work, identifying the specific impact of the compensable or excusable event.

C. CONTRACTOR shall submit to the CITY a written time impact analysis illustrating the influence of each compensable or excusable event on the date of Substantial Completion. The time impact analysis shall demonstrate the time impact based on the date of the delay in time and the event time computations or all 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 Times 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 strikes away from the project site.

E. Extensions of contract time pursuant to the this section will be granted only to the extent that the time adjustments exceed the total float time available when the event causing the delay occurred.

12.04 Delays Within CONTRACTOR's Control

A. The Contract Times (or Milestones) 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 completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both CITY and CONTRACTOR, an extension of the Contract Times (or Milestones) 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 surety for or employee or agent of any of them, 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 fires, floods, epidemics, abnormal weather conditions, acts of God or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

B. Nothing in this Paragraph 12.06 bars a change in Contract Price pursuant to this Article 12 to compensate CONTRACTOR due to delay, interference, or disruption directly attributable to actions or inaction of CITY, DESIGN PROFESSIONAL, Consultant or anyone for whom CITY, DESIGN PROFESSIONAL or Consultant is responsible.

12.07 Dispute Resolution

A. If CITY and CONTRACTOR are unable to agree on entitlement to, or 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 may 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 will have access to the Site and Work at reasonable times for their observation, inspecting 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 inspection and testing personnel to facilitate required inspections or tests.

B. If any Work (or the work of others at the Site) that is to be inspected, tested or approved is covered by CONTRACTOR without written approval required by Paragraphs 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 materials, mix designs, 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 employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests or approvals covered by Paragraph 13.02 D and E;
2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04 B shall be paid as provided in said Paragraph 13.04 B; 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 will 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 others at 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 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, material and equipment. If it is found that such Work is 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, 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 Times (or Milestones), 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 employee or agent of any of them.

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 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 or Regulations, 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 damages 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 damages 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 damage to other Work or to the work of others or damage to other lands or areas resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in the event of an emergency where delay by CONTRACTOR 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 all costs of repair or replacement of work of others) will be paid by CONTRACTOR.

B. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by 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 with respect to such Work will be extended for an additional period of one (1) year, or such longer period of time as may be prescribed within Paragraph 13.07 A, after such correction or removal and replacement has been satisfactorily completed.

D. CONTRACTOR's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for or waiver of the provisions of any applicable statute of limitation or repose.

13.08 Acceptance of Defective Work

A. If, instead of requiring correction or removal and replacement of defective Work, CITY prefers to accept it, CITY may do so. 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) attributable to CITY's evaluation of and determination to accept such defective Work and shall pay OWNER for the diminished value of the Work. If any such acceptance occurs prior to DESIGN PROFESSIONAL's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions into the Contract Documents with respect to the Work and, due to the diminished value of the Work, 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 the acceptance of defective Work occurs after such recommendation, an appropriate amount shall be paid by CONTRACTOR to CITY.

13.09 CITY May Correct Defective Work

A. If CONTRACTOR fails within a reasonable time after written notice from DESIGN PROFESSIONAL or CITY's Representative to correct defective Work or to remove and replace rejected Work as required by CITY in accordance with Paragraph 13.06, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, CITY may, after seven (7) days written notice to CONTRACTOR, correct and remedy any such deficiency.

B. CITY shall proceed expeditiously when exercising the rights and remedies under this Paragraph 13.09. In connection with such corrective and remedial action, CITY may exclude CONTRACTOR from all or part of the Site; take possession of all or part of the Work and suspend CONTRACTOR's services related thereto; take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the Site; and incorporate into the Work all materials and equipment stored at the Site or for which CITY has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow CITY, CITY's Representative, agents and employees, CITY's other contractors, DESIGN PROFESSIONAL and Consultants access to the Site to enable CITY to exercise the rights and remedies under this Paragraph 13.09.

C. 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) incurred or sustained by CITY in exercising such rights and remedies will be charged against CONTRACTOR and a Change Order will be issued incorporating the necessary revisions into the Contract Documents with respect to the Work; and CITY shall be entitled to an appropriate decrease in the Contract Price. If CITY and CONTRACTOR are unable to agree as to the amount thereof, CITY may make a Claim therefore as provided in Article 16. Such Claims for costs, losses and damages will include but not be limited to all costs

of repair or replacement of work of others destroyed or damaged by correction, removal and replacement of CONTRACTOR's defective or rejected Work.

D. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by CITY of CITY's rights and remedies under Paragraphs 13.06 and 13.09.

ARTICLE 14 PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

A. 01290.02 Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into form 01290.01 Application for Payment acceptable to DESIGN PROFESSIONAL and CITY. Progress payments for Unit Price Work will be based on the number of units completed.

14.02 Application for Progress Payments

A. Application for Payment

1. At least twenty (20) days before the date stipulated in the Supplementary Conditions for each progress payment (but not more often than once a month), CONTRACTOR shall submit to DESIGN PROFESSIONAL for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated into the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, paid invoice or other documentation warranting that CITY has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are 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. Beginning with the second Application for Payment, each Application shall include:

a. an affidavit of CONTRACTOR stating that all previous progress payments received for the Work have been applied to discharge CONTRACTOR's legitimate obligations associated with prior Applications for Payment, and

b. a copy of the most recent 00485.01 M/WBE Monthly Utilization Report CONTRACTOR has submitted to the CITY's Human Relations Department.

c. a copy of the most recent 00485.02 Project Workforce Monthly Report and 00485.03 Company-Wide Workforce Monthly Report CONTRACTOR has submitted to the OWNER's Human Relations Department.

d. an update to the approved schedule pursuant to paragraphs 6.04 and 6.05.

3. The amount of retainage with respect to progress payments will be stated in the Supplementary Conditions.

B. Review of Applications

1. DESIGN PROFESSIONAL will, within ten (10) days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to CITY, or return the Application to CONTRACTOR indicating in writing DESIGN PROFESSIONAL's reasons for refusing to recommend payment. In the latter case, CONTRACTOR shall make the necessary corrections and resubmit the Application.

a. After presentation of the Application for Payment to CITY, and if CITY's Representative agrees with DESIGN PROFESSIONAL's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02 B.4) become due and will be paid by CITY to CONTRACTOR, subject to the provisions of Laws or Regulations.

b. No payment shall be approved until the CONTRACTOR has submitted with the Application accompanying documentation as required by the Contract Documents, including, but not limited to, the documentation required by paragraphs 6.04 and 6.05.

2. DESIGN PROFESSIONAL's recommendation of any payment requested in an Application for Payment will constitute a representation by DESIGN PROFESSIONAL to CITY, based on DESIGN PROFESSIONAL's observations of the executed Work as 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 a functioning whole 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 Paragraph 9.06, and to any other qualifications 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, shall not mean 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 Laws or Regulations applicable to the furnishing or performance of Work.

4. DESIGN PROFESSIONAL may refuse to recommend the whole or any part of any payment if, in DESIGN PROFESSIONAL's opinion, it would be incorrect to make the representations to CITY referred to in Paragraph 14.02 B.2. DESIGN PROFESSIONAL may also refuse to recommend any such 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 Orders;

c. CITY has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

d. DESIGN PROFESSIONAL has actual knowledge of the occurrence of any of the events enumerated in Paragraph 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 against CITY on account of CONTRACTOR's performance or furnishing of the Work; or

b. Claims have been made by CITY against CONTRACTOR 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 has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02 B.4.a through c or 15.02 A.1 through 4; but CITY must give CONTRACTOR written notice (with a copy to DESIGN PROFESSIONAL) stating the reasons for such action and promptly pay CONTRACTOR the amount so withheld, 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 has made a different determination of the actual quantities and classifications of Unit Price Work.

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 DESIGN PROFESSIONAL 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 DESIGN PROFESSIONAL, shall make an inspection of the Work to determine the status of completion. If DESIGN PROFESSIONAL does not consider the Work substantially complete, DESIGN PROFESSIONAL will notify CONTRACTOR and CITY in writing giving the reasons therefore. If DESIGN PROFESSIONAL considers the Work substantially complete, DESIGN PROFESSIONAL will 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 DESIGN PROFESSIONAL as to any provisions of the certificate or attached list. At the time of delivery of the recommended certificate of Substantial Completion, DESIGN PROFESSIONAL will 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 shall 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 specifically been identified in the Contract Documents, or which CITY, DESIGN PROFESSIONAL and CONTRACTOR agree constitutes a separately functioning and usable 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 may 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 DESIGN PROFESSIONAL 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 may notify CITY and DESIGN PROFESSIONAL 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 DESIGN PROFESSIONAL,

shall make an inspection of that part of the Work to determine its status of completion. If DESIGN PROFESSIONAL does not consider that part of the Work to be substantially complete, DESIGN PROFESSIONAL will notify CITY and CONTRACTOR in writing, giving the reasons therefore. If DESIGN PROFESSIONAL considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

2. No occupancy or separate operation of part of the Work will be accomplished prior to compliance with the requirements of Paragraph 5.09 with respect to property insurance.

14.06 Final Inspection

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, DESIGN PROFESSIONAL will make a final inspection with CITY and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 Final Payment

A. Application for Payment

1. After CONTRACTOR has completed all corrections required by Paragraph 14.06 to the satisfaction of DESIGN PROFESSIONAL and CITY's Representative and delivered in accordance with the Contract Documents all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance required by Paragraph 5.04, certificates of inspection, marked-up record documents (as provided in Paragraph 6.13) and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

a. all documentation required by the Contract Documents, including but not limited to the evidence of insurance required by Subparagraph 5.04 B.7; and

b. 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 observation of the Work during construction and final inspection, and DESIGN PROFESSIONAL's and CITY's Representative's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, DESIGN PROFESSIONAL and CITY's Representative are satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, DESIGN PROFESSIONAL will, within ten (10) days after receipt of the final Application for Payment, indicate in writing DESIGN PROFESSIONAL's and CITY's Representative's recommendation of payment and present the Application to CITY for payment. At the same time DESIGN PROFESSIONAL will also give written notice to CITY and CONTRACTOR that the Work is acceptable subject to the provisions of Paragraph 14.09.

2. Otherwise, DESIGN PROFESSIONAL will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application to DESIGN PROFESSIONAL. After the presentation to CITY of the Application and accompanying documentation, in appropriate form and substance, including applicable federal and state prevailing wage provisions, and with DESIGN PROFESSIONAL's

recommendation and notice of acceptability, the amount recommended by DESIGN PROFESSIONAL will become due and will be paid by CITY to CONTRACTOR in accordance with Laws and Regulations.

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 will constitute:

1. a waiver of all claims by CITY against CONTRACTOR, except claims previously made in writing and still unsettled, or claims arising 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 all 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 must complete the Work, all costs and charges incurred by CITY, together with the cost of completing the Work under the Contract, will be deducted from any monies 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 its sole and absolute discretion, CITY, may suspend the Work or any portion of the Work by written notice to CONTRACTOR, which will initially fix the date on which Work will 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 may be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any 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 adequately addressed by CONTRACTOR; 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 employee or agent of any of them.

15.02 CITY May Terminate for Default

A. CONTRACTOR may be deemed in default and CITY may terminate the services of CONTRACTOR upon the occurrence of any one or more of the following events:

1. CONTRACTOR fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under Paragraph 2.06 and 2.07 as adjusted from time to time pursuant to Paragraphs 6.04, 6.05, 12.02 and 12.03);
2. CONTRACTOR abandons the Work or declares its intention to abandon the Work;
3. CONTRACTOR assigns or attempts to assign its rights or obligations under this Contract or any part thereof to any third party without the prior written consent of CITY;
4. CONTRACTOR fails to make prompt payment duly owing to any subcontractor for Work completed in accordance to the Contract Documents or material supplier for materials delivered for incorporation into the Work within thirty (30) calendar days after payment was due;
5. CONTRACTOR fails to achieve the required dates of substantial and final completion;
6. CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;
7. CONTRACTOR disregards the authority of DESIGN PROFESSIONAL or OWNER;
or
8. CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents.

B. CITY may, after giving CONTRACTOR (and the surety) seven (7) days written notice and to the extent permitted by Laws or Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the Site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the Site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate into the Work all materials and equipment stored at the Site or for which CITY has paid CONTRACTOR but which are stored elsewhere, and finish the Work as CITY may deem expedient. In such case, CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds 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) sustained by CITY arising out of or resulting from completing the Work, such excess may be paid to CONTRACTOR. If such costs, losses and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to CITY within fourteen (14) calendar days of CITY'S demand for payment. When exercising any rights or remedies under this Paragraph CITY shall not be required to competitively bid this work unless required by law.

C. Where CONTRACTOR's services have been so terminated by CITY, the termination will not affect any rights or remedies of CITY against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by CITY will not release CONTRACTOR from liability.

D. If, after a default termination, it is determined that the CONTRACTOR was not in default, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the CITY. The CITY shall then be liable to CONTRACTOR for only those costs enumerated in paragraph 15.03.

15.03 CITY May Terminate for Convenience

A. Notwithstanding any other provision of this Contract, upon seven (7) calendar days written notice to CONTRACTOR, CITY may, at its sole and absolute discretion, without cause

and without prejudice to any other right or remedy of CITY, elect to terminate the Contract. In such case, CONTRACTOR shall, with thirty (30) calendar days of receiving notice of termination under this paragraph, submit to CITY its statement of costs and expenses and shall be paid:

1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. for all costs, losses and damages incurred in settlement of terminated contracts with Subcontractors, Suppliers and others; and

4. for reasonable expenses directly attributable to termination if approved in advance by CITY.

B. CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

C. CONTRACTOR waives any costs not submitted to CITY pursuant to paragraph 15.03.A.

D. CITY shall, within thirty (30) calendar days after receipt of CONTRACTOR's statement, pay CONTRACTOR all amounts it determines are properly determined.

ARTICLE 16 CLAIMS AND DISPUTES

16.01 Definition

A. A Claim is a demand or assertion by the CONTRACTOR seeking, as a matter of right, the adjustment of Contract price and/or times with respect to the terms of the Contract.

16.02 Written Notice and Burden of Proof

A. Claims must be made by written notice pursuant to Paragraph 17.01. The written notice shall clearly indicate that the CONTRACTOR is making a claim. The responsibility to substantiate Claims shall rest with the CONTRACTOR. No Claim may be made under this Contract except as provided in this Article.

B. Certification of Claim: The written notice of Claim shall include the following statement signed by the CONTRACTOR's representative: "The CONTRACTOR certifies that all statements made and the facts set out in this claim are true and correct and that no false 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. The CONTRACTOR must give notice to the CITY within fourteen (14) calendar days after the denial of a request for or failure to reach an agreement on a change in Contract Price and/or change in Contract Time pursuant to Article 11 and Article 12 respectively. After the fourteen (14) day period for making Claims has expired, the Claim shall be considered waived.

B. The CONTRACTOR shall submit the Claim to the CITY's Representative.

16.04 Continuing Contract Performance

A. Pending final resolution of a Claim, unless otherwise agreed in writing, the CONTRACTOR shall proceed diligently with performance of the Work and the CITY shall continue to make payments in accordance with the Contract Documents. The CITY may, but is not obligated to, notify the Surety of the nature and amount of the Claim.

16.05 Injury or Damage to Person or Property

A. If either party to the Contract suffers injury or damage to person or property because of

an act or omission of the other party, of any of the other party's employees or agents, or of others for whose acts that party is legally liable, written notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding thirty (30) days after first observance. The notice shall provide sufficient detail to enable the other party to investigate the matter.

16.06 Initial Resolution of Claims and Disputes

A. After the CONTRACTOR has 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 as to the matters 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 shall have the right to proceed with the pursuit of Claims pursuant to paragraph 16.07.

C. If a Claim has been resolved, the OWNER will prepare or obtain appropriate documentation.

16.07 Final Resolution of Claims and Disputes

A. All 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 statements of position to the Director, who shall review the Claim and make a 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 shall give written notice to the CITY stating its intent to submit its Claim to a court of law pursuant to paragraph 17.05.A. within thirty (30) calendar days after notice of Director's decision.

D. The time frames 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 shall be mutually acceptable to the parties. Costs of the mediator shall be shared equally among the parties participating in the mediation. In no event shall any time frame be tolled 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 file no suit based on facts or evidentiary materials 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 procedures.

ARTICLE 17 MISCELLANEOUS

17.01 Giving Notice

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be given by personal delivery, by registered or certified mail, postage prepaid, 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 personal delivery, deposit of registered or certified mail, postage prepaid, 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 will 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 legal holiday by the law of the applicable jurisdiction, such day will 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 warranties, guarantees and obligations imposed upon CONTRACTOR and all of the rights and remedies available 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 available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this Paragraph will be as 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 shall 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) shall submit exclusively to the jurisdiction of the state and federal courts located in Jackson County, Missouri and no other; (2) shall waive any and all objections to jurisdiction and venue; and (3) shall not raise forum non conveniens as an objection to the location of any litigation.



SUPPLEMENTARY CONDITIONS

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering
Infrastructure 2

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 zero (0) copies of the Drawings and one (1) copy of the 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 have been prepared.

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 are available.

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 have been prepared.

SC- 5.01 A. Article 5, Paragraph 5.01, Performance, Payment and Other Bonds, Subparagraph A, second sentence, is revised as follows:

These Bonds shall remain in effect at least until three (3) years after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents.

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-5.06 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 10 days prior to Bid date at the following address:

Water Services Department
4800 E 63rd Street
Kansas City, Missouri 64130
Attn: Terry D. Thomas, Sr., 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 10 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 – Cass, Clay, Jackson, and Platte

Work Type: State – Heavy

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.

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-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 Water Services For each assigned Service Request, the CONTRACTOR shall have a crew with appropriate equipment on site by 8:00 AM on the first regular business day following the assignment. Once the Work begins, the CONTRACTOR shall continuously pursue completion of the assigned Service Request.

C. Liquidated Damages

1. For each assigned Service Request, if the CONTRACTOR fails to mobilize a crew with the appropriate equipment to the work site by 8 A.M. on the first regular business day following the completion of utility locates, the CONTRACTOR shall pay liquidated damages to OWNER in the amount of ONE HUNDRED DOLLARS & 00/100 (\$100.00) per Service Request for each Calendar Day until a crew is mobilized to the work site with the appropriate equipment.
2. If the CONTRACTOR removes a crew from a work site prior to completing an assigned Work Order without written permission from the OWNER, the CONTRACTOR will pay liquidated damages to OWNER in the amount of FIVE HUNDRED DOLLARS & 00/100 (\$500.00) per assignment.
3. The amount of liquidated damages shall be deducted from any payments due or to become due to CONTRACTOR.

SC-13.07 Article 13, Paragraph 13.07, Correction Period, Subparagraph A is amended as follows:

The correction period set forth in Paragraph 13.07 A shall be three (3) years instead of one (1) year, which longer period of time shall also be applicable to the correction period set forth in Paragraph 13.07 C. All other provisions of Paragraph 13.07 remain unchanged except as necessary to accommodate the revised length of the correction period.

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. In the event multiple Work Orders have been satisfactorily completed since the previous billing, the individual payments for each Work Order may be combined on one

payment application. Individual work covered by a payment becomes OWNER'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:

To be considered substantially complete, the following items of the Work must be operational and ready for CITY's continuous use as intended:

All assigned Work Orders completed in accordance with DIV01 - 01000 Project Requirements and DIV01 – 01015 Specific Project Requirements.

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.

SC-17.06 Article 17, Miscellaneous, is amended by adding the following Paragraph(s) immediately following Paragraph 17.05:

17.06 The CONTRACTOR agrees to enter into up to two (2) successive renewal to this Contract if so requested by the CITY. The determination to renew the Contract will be at the sole discretion of the CITY where such renewal would be in the best interest of the CITY. Upon renewal of the contract, an increase in a Unit Price, if any, will be determined solely by the CITY, and if needed, will not exceed the change in the Consumer Price Index for the period since the Contract was signed. The US All City Average Consumer Price Index – All Urban Consumers (CPI-U) (seasonally adjusted, all items, and current base) will be used. The values used to calculate the maximum potential percent increase will be the value from the month the Contract is executed to the most current monthly value available at the time the Contract is renewed. Values will be from the web site for the Bureau of Labor Statistics, Consumer Price Index.

SECTION 00830

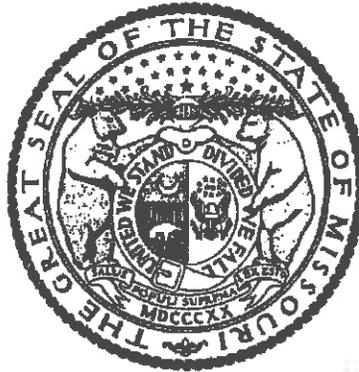
PREVAILING WAGE

1. Annual Wage Order No. 28
2. **0830.03 Division of Labor Standards Rules & Regulations** are incorporated into and made part of this Contract and are available at <http://s1.sos.mo.gov/cmsimages/adrules/csr/current/8csr/8c30-3.pdf>.

Missouri

Division of Labor Standards

WAGE AND HOUR SECTION



MICHAEL L. PARSON, Governor

Annual Wage Order No. 28

Section 019
CASS 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

Taylor Burks, Director
Division of Labor Standards

Filed With Secretary of State: _____ **March 10, 2021**

Last Date Objections May Be Filed: **April 8, 2021**

Prepared by Missouri Department of Labor and Industrial Relations

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Asbestos Worker	\$68.10
Boilermaker	*\$23.36
Bricklayer	\$57.42
Carpenter	\$59.29
Lather	
Linoleum Layer	
Millwright	
Pile Driver	
Cement Mason	\$54.30
Plasterer	
Communications Technician	\$43.30
Electrician (Inside Wireman)	\$65.10
Electrician Outside Lineman	*\$23.36
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Elevator Constructor	*\$23.36
Glazier	*\$23.36
Ironworker	\$65.27
Laborer	\$49.06
General Laborer	
First Semi-Skilled	
Second Semi-Skilled	
Mason	*\$23.36
Marble Mason	
Marble Finisher	
Terrazzo Worker	
Terrazzo Finisher	
Tile Setter	
Tile Finisher	
Operating Engineer	\$58.49
Group I	
Group II	
Group III	
Group III-A	
Group IV	
Group V	
Painter	\$49.10
Plumber	\$70.90
Pipe Fitter	
Roofer	\$57.65
Sheet Metal Worker	\$69.32
Sprinkler Fitter	*\$23.36
Truck Driver	*\$23.36
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

*The Division of Labor Standards received less than 1,000 reportable hours for this occupational title. 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.

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Carpenter	*\$23.36
Millwright	
Pile Driver	
Electrician (Outside Lineman)	*\$23.36
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Laborer	\$48.49
General Laborer	
Skilled Laborer	
Operating Engineer	\$56.36
Group I	
Group II	
Group III	
Group IV	
Truck Driver	\$49.41
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 less than 1,000 reportable hours for this occupational title. 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.

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

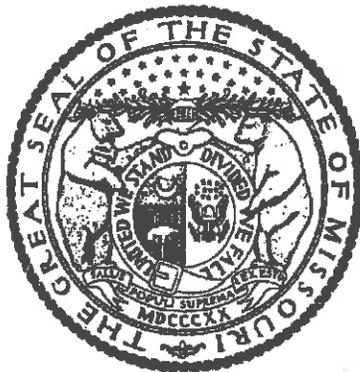
January first;
The last Monday in May;
July fourth;
The first Monday in September;
November eleventh;
The fourth Thursday in November; and
December twenty-fifth;

If any holiday falls on a Sunday, the following Monday shall be considered a holiday.

Missouri

Division of Labor Standards

WAGE AND HOUR SECTION



MICHAEL L. PARSON, Governor

Annual Wage Order No. 28

Section 024
CLAY 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

Taylor Burks, Director
Division of Labor Standards

Filed With Secretary of State: _____ **March 10, 2021**

Last Date Objections May Be Filed: **April 8, 2021**

Prepared by Missouri Department of Labor and Industrial Relations

Building Construction Rates for
CLAY County

Section 024

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Asbestos Worker	\$66.47
Boilermaker	*\$31.11
Bricklayer	\$57.60
Carpenter	\$58.61
Lather	
Linoleum Layer	
Millwright	
Pile Driver	
Cement Mason	\$54.61
Plasterer	
Communications Technician	\$57.45
Electrician (Inside Wireman)	\$64.35
Electrician Outside Lineman	*\$31.11
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Elevator Constructor	*\$31.11
Glazier	*\$31.11
Ironworker	\$64.99
Laborer	\$47.78
General Laborer	
First Semi-Skilled	
Second Semi-Skilled	
Mason	\$53.02
Marble Mason	
Marble Finisher	
Terrazzo Worker	
Terrazzo Finisher	
Tile Setter	
Tile Finisher	
Operating Engineer	\$56.59
Group I	
Group II	
Group III	
Group III-A	
Group IV	
Group V	
Painter	\$49.49
Plumber	\$71.48
Pipe Fitter	
Roofer	\$56.47
Sheet Metal Worker	\$69.52
Sprinkler Fitter	*\$31.11
Truck Driver	*\$31.11
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

*The Division of Labor Standards received less than 1,000 reportable hours for this occupational title. 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.

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Carpenter	\$59.65
Millwright	
Pile Driver	
Electrician (Outside Lineman)	*\$31.11
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Laborer	\$48.30
General Laborer	
Skilled Laborer	
Operating Engineer	\$56.36
Group I	
Group II	
Group III	
Group IV	
Truck Driver	\$48.94
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 less than 1,000 reportable hours for this occupational title. 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.

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

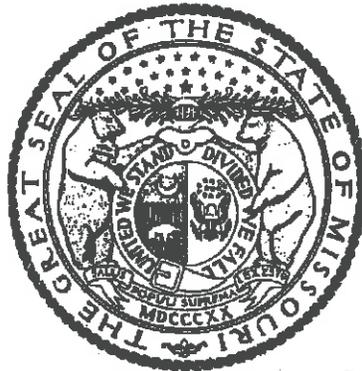
January first;
The last Monday in May;
July fourth;
The first Monday in September;
November eleventh;
The fourth Thursday in November; and
December twenty-fifth;

If any holiday falls on a Sunday, the following Monday shall be considered a holiday.

Missouri

Division of Labor Standards

WAGE AND HOUR SECTION



MICHAEL L. PARSON, Governor

Annual Wage Order No. 28

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

Taylor Burks, Director
Division of Labor Standards

Filed With Secretary of State: _____ **March 10, 2021**

Last Date Objections May Be Filed: **April 8, 2021**

Prepared by Missouri Department of Labor and Industrial Relations

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Asbestos Worker	\$64.10
Boilermaker	*\$35.84
Bricklayer	\$57.79
Carpenter	\$58.91
Lather	
Linoleum Layer	
Millwright	
Pile Driver	
Cement Mason	\$53.63
Plasterer	
Communications Technician	\$54.21
Electrician (Inside Wireman)	\$64.85
Electrician Outside Lineman	\$69.42
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Elevator Constructor	*\$35.84
Glazier	\$55.96
Ironworker	\$65.06
Laborer	\$47.93
General Laborer	
First Semi-Skilled	
Second Semi-Skilled	
Mason	\$52.40
Marble Mason	
Marble Finisher	
Terrazzo Worker	
Terrazzo Finisher	
Tile Setter	
Tile Finisher	
Operating Engineer	\$59.15
Group I	
Group II	
Group III	
Group III-A	
Group IV	
Group V	
Painter	\$49.71
Plumber	\$72.02
Pipe Fitter	
Roofer	\$56.28
Sheet Metal Worker	\$69.56
Sprinkler Fitter	\$61.52
Truck Driver	*\$35.84
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

*The Division of Labor Standards received less than 1,000 reportable hours for this occupational title. 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.

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Carpenter	\$58.86
Millwright	
Pile Driver	
Electrician (Outside Lineman)	*\$35.84
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Laborer	\$48.78
General Laborer	
Skilled Laborer	
Operating Engineer	\$57.36
Group I	
Group II	
Group III	
Group IV	
Truck Driver	\$48.89
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 less than 1,000 reportable hours for this occupational title. 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.

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

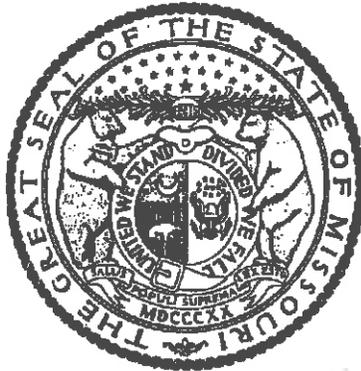
January first;
The last Monday in May;
July fourth;
The first Monday in September;
November eleventh;
The fourth Thursday in November; and
December twenty-fifth;

If any holiday falls on a Sunday, the following Monday shall be considered a holiday.

Missouri

Division of Labor Standards

WAGE AND HOUR SECTION



MICHAEL L. PARSON, Governor

Annual Wage Order No. 28

Section 083
PLATTE 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 _____

Taylor Burks, Director
Division of Labor Standards

Filed With Secretary of State: _____ **March 10, 2021**

Last Date Objections May Be Filed: **April 8, 2021**

Prepared by Missouri Department of Labor and Industrial Relations

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Asbestos Worker	\$67.59
Boilermaker	*\$30.80
Bricklayer	\$57.96
Carpenter	\$58.23
Lather	
Linoleum Layer	
Millwright	
Pile Driver	
Cement Mason	*\$30.80
Plasterer	
Communications Technician	\$60.15
Electrician (Inside Wireman)	\$64.42
Electrician Outside Lineman	\$70.22
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Elevator Constructor	*\$30.80
Glazier	*\$30.80
Ironworker	\$65.30
Laborer	\$46.07
General Laborer	
First Semi-Skilled	
Second Semi-Skilled	
Mason	*\$30.80
Marble Mason	
Marble Finisher	
Terrazzo Worker	
Terrazzo Finisher	
Tile Setter	
Tile Finisher	
Operating Engineer	\$58.47
Group I	
Group II	
Group III	
Group III-A	
Group IV	
Group V	
Painter	\$48.96
Plumber	\$71.21
Pipe Fitter	
Roofer	\$56.35
Sheet Metal Worker	\$69.50
Sprinkler Fitter	*\$30.80
Truck Driver	*\$30.80
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

*The Division of Labor Standards received less than 1,000 reportable hours for this occupational title. 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.

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Carpenter	\$59.33
Millwright	
Pile Driver	
Electrician (Outside Lineman)	*\$30.80
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Laborer	\$48.43
General Laborer	
Skilled Laborer	
Operating Engineer	\$56.35
Group I	
Group II	
Group III	
Group IV	
Truck Driver	\$48.91
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 less than 1,000 reportable hours for this occupational title. 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.

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

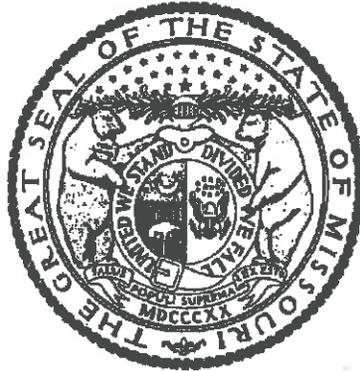
January first;
The last Monday in May;
July fourth;
The first Monday in September;
November eleventh;
The fourth Thursday in November; and
December twenty-fifth;

If any holiday falls on a Sunday, the following Monday shall be considered a holiday.

Missouri

Division of Labor Standards

WAGE AND HOUR SECTION



MICHAEL L. PARSON, Governor

Annual Wage Order No. 28

Section 089
RAY 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

Taylor Burks, Director
Division of Labor Standards

Filed With Secretary of State: _____ **March 10, 2021**

Last Date Objections May Be Filed: **April 8, 2021**

Prepared by Missouri Department of Labor and Industrial Relations

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Asbestos Worker	*\$22.13
Boilermaker	*\$22.13
Bricklayer	*\$22.13
Carpenter	\$60.57
Lather	
Linoleum Layer	
Millwright	
Pile Driver	
Cement Mason	*\$22.13
Plasterer	
Communications Technician	*\$22.13
Electrician (Inside Wireman)	\$64.14
Electrician Outside Lineman	*\$22.13
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Elevator Constructor	*\$22.13
Glazier	*\$22.13
Ironworker	*\$22.13
Laborer	*\$22.13
General Laborer	
First Semi-Skilled	
Second Semi-Skilled	
Mason	*\$22.13
Marble Mason	
Marble Finisher	
Terrazzo Worker	
Terrazzo Finisher	
Tile Setter	
Tile Finisher	
Operating Engineer	*\$22.13
Group I	
Group II	
Group III	
Group III-A	
Group IV	
Group V	
Painter	*\$22.13
Plumber	*\$22.13
Pipe Fitter	
Roofer	*\$22.13
Sheet Metal Worker	*\$22.13
Sprinkler Fitter	*\$22.13
Truck Driver	*\$22.13
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

*The Division of Labor Standards received less than 1,000 reportable hours for this occupational title. 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.

Heavy Construction Rates for
RAY County

Section 089

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Carpenter	*\$22.13
Millwright	
Pile Driver	
Electrician (Outside Lineman)	*\$22.13
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Laborer	\$47.65
General Laborer	
Skilled Laborer	
Operating Engineer	*\$22.13
Group I	
Group II	
Group III	
Group IV	
Truck Driver	*\$22.13
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 less than 1,000 reportable hours for this occupational title. 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.

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.



ADDENDUM NUMBER _____

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

[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.



REQUEST FOR INTERPRETATION

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering
Infrastructure 2

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: _____

Design Professional

Signed: _____

Owner's Representative

- Distribution:
- Owner
 - Contractor
 - Construction Manager
 - Design Professional
 - Consultant _____
 - Other _____



SUPPLEMENTAL DESIGN INSTRUCTION

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering
Infrastructure 2

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 _____



REQUEST FOR PROPOSAL

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

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 _____



CHANGE ORDER

Project /Contract No. 80002377/9718

Project Title: City Wide Automated Metering Infrastructure 2

Change Order No: _____ Date of Issuance: _____

Ordinance No: _____ Ordinance Effective Date: _____
Contract Notice To Proceed Date: _____

To CONTRACTOR:

The Contract is changed as follows:

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.

[Note: Identify the specific attachments; example:"Attachment A, Additional Scope of Services." Delete all notes before printing final]

See Attached Document(s).

[Note: If the CO does not change the Contract Price, use "Director" instead of "Director of Finance"]

Not valid until signed by the Director of Finance.

The original Contract Price was	_____	\$0.00
Net change by previously authorized Change Orders	_____	\$0.00
The Contract Price prior to this Change Order was	_____	\$0.00
The Contract Price will be (<input type="checkbox"/> increased by) (<input type="checkbox"/> decreased by) (<input type="checkbox"/> unchanged)	_____	\$0.00
The new Contract Price including this Change Order will be	_____	\$0.00

[Note: If revised, establish and enter new dates. If unchanged, enter current contract dates.

If you are only changing the Final Completion date, add the following reference:

"The Contract Time for Final Completion will be . . ."]

The Contract Time will be (<input type="checkbox"/> increased by) (<input type="checkbox"/> decreased by) (<input type="checkbox"/> unchanged)	_____	() calendar days
The date of Substantial Completion as of the date of this Change Order therefore is	_____	Enter Date
The date of Final Completion as of the date of this Change Order therefore is	_____	Enter Date

Project No. & Title
 Change Order No.

[Note: Include any required additional signatures.]

DESIGN PROFESSIONAL:	By:	Date:
	Title:	
CONTRACTOR:	By:	Date:
	Title:	
CITY:	By:	Date:
	Title:	

Approved as to form: _____
 Assistant City Attorney

[Note: If this CO does not change the Contract Price, delete the cert. of funds by Finance Director but send signed copy to Finance.]

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.



WORK CHANGE DIRECTIVE

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering
Infrastructure 2

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
- Lump Sum
- As Stipulated in General Conditions
- Other _____

- CONTRACTOR's Records
- DESIGN PROFESSIONAL's Records
- City's Records
- 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.

1.02 RELATED SECTIONS

- A. Section 00700 – General Conditions.
- B. Section 00800 – Supplementary Conditions.
- C. Section 01015 – Specific Project Requirements.
- D. Section 01020 – Record Documents.
- E. Section 01300 – Submittals.
- F. Section 01566 – Cleanup Operations.
- G. Section 01570 – Temporary Erosion Control.
- H. Section 01580 – Project Signs.
- I. Section 01581 – Public Communications.
- J. Section 02180 – Clearing and Grubbing.
- K. Section 02190 – Demolition and Disposal of Debris.
- L. Section 02200 – Earthwork.
- M. Section 02949 – Tree Protection, Removal and Replacement.

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 is responsible for the quality assurance and quality control of the Work.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Storage of materials and equipment shall conform to manufacturer's recommendations.
- B. Storage of equipment and material shall not interfere with public access and/or safety.
- C. All material shall be protected from weather. Gaskets shall be protected from exposure to sunlight.
- D. Offsite Storage:
 - 1. Offsite storage arrangements shall be approved by the City for all materials and equipment.

2. It is the Contractor's sole responsibility to provide adequate and satisfactory security and protection.
 3. Offsite storage facilities shall be bonded and accessible to City.
- E. Preparation for Shipment:
1. All materials and equipment incorporated into the project shall be suitably packaged to facilitate handling and protect against damage during transit and storage.
 2. Painted surfaces shall be protected against impact, abrasion, discoloration, and other damage. All painted surfaces, which are damaged prior to acceptance of materials and equipment, shall be repainted to the satisfaction of the City.
 3. Pipe and fitting linings shall be protected against damage.
 4. Each item, package, bundle of material, or piece of equipment shall be tagged or marked as identified in the delivery schedule or on the Shop Drawings. Complete packing lists and bills of material shall be included with each shipment.

1.07 MATERIALS SELECTION AND ACQUISITION

- A. The Contractor 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, etc.

1.08 CONSTRUCTION SITE PLAN

- A. Unless otherwise specified in Section 01015 – Specific Project Requirements, prior to the start of work, 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-site and off-site).
 2. Access and haul routes.
 3. Avenues of ingress/egress in fenced areas.
 4. Details of the fence installation.
 5. Any areas which may have to be protected to prevent the tracking of mud.
 6. Indicate if a supplemental or other staging area is being utilized.
 7. Show locations of safety and construction fencing, job site trailer, construction entrances, trash dumpsters, temporary sanitary facilities and parking areas for project personnel.
 8. Indicate locations of concrete washout facilities.

1.09 EASEMENTS AND RIGHTS-OF-WAY

- A. The City will furnish the Site in accordance with Section 00700 - General Conditions. The Contractor 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 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 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 shall remove all construction stakes.
 - 2. The Contractor shall not enter any private property outside the designated construction easement boundaries without written permission from the owner of the property.
 - 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 shall obtain a written agreement with each affected property owner and tenant. Each agreement shall clearly outline the terms for which the Contractor may utilize the property and shall be fully executed by the Contractor, the property owner and the tenant (when applicable).
 - 4. Whenever the easement is occupied by crops which will be damaged by construction operations, the Contractor shall notify the property owner sufficiently in advance so that the crops may be removed before the Work is started. The Contractor is responsible for all damage to crops outside the easement and shall make satisfactory settlement for the damage directly with the property owner.
 - 5. Where the Work impacts fields that are leveled for irrigation or terraced, the Contractor shall relevel irrigated fields and replace all terraces to their original or better condition and to the satisfaction of the property owner.
- C. Crossing State Highways:
 - 1. The City has obtained permission from the Missouri Department of Transportation (MoDOT) for the construction of the Work. The Contractor shall secure all necessary MoDOT permits and post bond as required for construction within the limits of the MoDOT right-of-way. All work within MoDOT right-of-way shall be in conformance with MoDOT regulations. The permit must be secured before any construction is started within MoDOT right-of-way.

1.10 MAIL BOXES

- A. The U.S. Post Office Department’s regulations prohibit the delivery of mail to addresses where there are no mailboxes or where the mailboxes are not readily accessible because of construction excavation.
- B. The Contractor’s execution of the Work shall not impede delivery of the mail. The Contractor shall ensure that all mail delivery to all mail boxes is uninterrupted. All excavated material, equipment, supplies shall be kept clear of mail boxes to allow normal access for mail delivery personnel and vehicles.
- C. When removal of a mail box is necessary to facilitate the Work, it shall be removed, stored and re-set to its original position and elevation. From the time a mail box is removed, it shall be re-set and the surrounding area stabilized and restored within 24 hours.

1.11 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 as a part of the Work.
- C. The Contractor shall provide an experienced instrument person, competent assistants and all instruments, tools, stakes and other materials required to complete the survey, layout and measurement work.
- D. The Contractor 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.These efforts shall be included in the Contractor's bid price and performed at no additional cost to the City.
- E. The Contractor 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.

1.12 CONNECTIONS TO EXISTING FACILITIES

- A. Unless otherwise specified or indicated, the Contractor 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 shall receive permission from the City or the owning utility prior to undertaking a connection. The Contractor shall protect facilities against deleterious substances and damage.
- B. Connections to existing facilities that are in service shall be thoroughly planned in advance. All required equipment, material and labor shall be on hand at the time of undertaking the connections. Work shall proceed continuously (around the clock) to complete connections in the minimum time possible. Operation of valves or other appurtenances on existing utilities, when required, shall be by or under the direct supervision of the owning utility.

1.13 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 to perform the Work in a manner acceptable to the City.

- 1.14 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 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 shall provide all shoring, bracing, supports and protective devices necessary to safeguard all Work and existing facilities during cutting and patching operations. The Contractor 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 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, at no extra cost to the City, shall replace all surface features damaged, removed or so designated to be replaced.

1.15 ENVIRONMENTAL PROTECTION

- A. Laws and Regulations:
 - 1. The Contractor shall conform to all laws and regulations as required by Section 00700 – General Conditions, Article 6 – Contractor's Responsibilities.
- B. Storm Water Runoff:
 - 1. Storm Water Pollution Prevention Plan (SWPPP): As required by Section 00700 – General Conditions, Article 6 – Contractor's Responsibilities.
 - 2. Erosion Sediment Control: See Paragraph 1.25.
 - 3. The Contractor 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 02190 – Demolition.
 - 2. Disposal of Debris: Section 02180 – Clearing and Grubbing and Section 02200 – Earthwork.

3. Protection of Wetlands: As shown on the Drawings or as specified in Section 01015 – Specific Project Requirements.
4. Floodplains: As shown on the Drawings or as specified in Section 01015 – Specific Project Requirements.
5. Cleanup and Site Maintenance: As required by Section 01566 – Cleanup and Site Maintenance.

1.16 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.

1.17 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. See Section 01015 – Specific Project Requirements for additional information.

1.18 REFERENCE STANDARDS

- A. See Section 00700 – General Conditions, paragraph 3.02 for references to standards and specifications of technical societies.

1.19 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 and the project superintendent.
 2. Design Professional.
 3. Resident Project Representative.
 4. Representatives of City.
- B. Other participants as requested by the Contractor, City, or Design Professional; such as the following:
 1. Principal Subcontractors.
 2. Representative of principal suppliers and manufacturers as appropriate.
 3. Utility Company representatives.
 4. Governmental representatives as appropriate.
 5. The Contractor 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) and other pertinent information.
- 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's Preliminary Schedules.
 2. Document Management.
 3. Processing Applications for Payment.
 4. Maintaining record documents and electronic data requirements.
 5. Critical Work sequencing.
 6. Field decisions and Change Orders.

7. Use of premises, field office, material storage areas, security, housekeeping, and City's needs.
 8. Major equipment deliveries and priorities.
 9. Contractor's assignment for Safety Representative.
 10. Expectations and the Contractor's plan for Environmental Protection.
- D. City or Design Professional will preside at the conference, will arrange for keeping the minutes and will distribute the minutes to all persons in attendance.

1.20 PROGRESS MEETINGS

- A. The Contractor shall schedule and hold progress meetings at least monthly, at other times as requested by the City or as needed by the progress of the Work. The Contractor, City, Design Professional, and all Subcontractors active on the Site shall be represented at each meeting. The Contractor may, at their discretion, request attendance of their suppliers, manufacturers or other utilities.
- B. The Contractor shall preside at the meeting. Meeting minutes shall be prepared and distributed by the Contractor 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.

1.21 SAFETY REPRESENTATIVE

- A. In accordance with Section 00700 – General Conditions, Article 6 – Contractor's Responsibilities, the Contractor 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 shall designate a new person to fulfill the role and submit their name and complete contact information.

1.22 SITE ADMINISTRATION

- A. The Contractor 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 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.

1.23 CLEAN-UP

- A. The Contractor shall conduct cleanup operations in accordance with Section 01566 – Project Cleanup.

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
- A. Relocation or restoration of streetlights due to construction interference shall be included in the Contractor’s Bid Price. No separate measurement and payment will be made. The Contractor 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 shall replace all surface material and shall restore all paving, curbs, gutters, sidewalks, driveways, shrubbery, fences, sod 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 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 shall use a Reduced Pressure Zone (R.P.Z.) Backflow Preventer and meter when connected to the City’s water system. The Contractor 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 shall present the permit to the Consumer Services desk located at Water Services Department headquarters, 4800 E. 63rd Street, KCMO. The Contractor shall apply for and pay Consumer Services the refundable security deposit. If approved, the Contractor 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 shall provide the location of the hydrant where the R.P.Z./Meter is to be installed. The Contractor 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 the times. The Jetter/Vac Contractor shall contact the Water Services Backflow Department for issuance of the meter and pay the associated refundable security deposit. In all cases, the Contractor 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.

- E. 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.

1.30 OPERATION OF EXISTING VALVES

- A. The Contractor shall not operate any valves on the City's system without direct supervision from a Water Services Department representative.
- B. If the Contractor needs valves operated, the request shall be made at least forty-eight (48) hours in advance to Water Services for such operation, also giving notice to any affected customers/properties in accordance with the notification requirements outlined in Section 01581 – Public Communications.
- C. The hydrant branch valves may be operated in the presence of a Water Services Department representative with no official advance notification.
- D. All fire hydrants and water valves shall be kept free from obstruction and available for use at all times.

1.31 BARRICADES AND LIGHTS

- A. All streets, roads, highways 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.
- B. All trenches and other excavations shall be covered and shall have suitable barricades, signs and lights to provide adequate protection to the public. Obstructions such as material piles and equipment shall be provided with similar warning signs and lights.
- C. All barricades and obstructions shall be illuminated with warning lights from sunset to sunrise. 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.
- D. 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 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 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, adequate gates shall be installed. Gates shall be kept closed and locked at all times when not in use.
- C. On completion of the Work across any tract of land, the Contractor shall restore all fences to their original location and to their original or better condition.

1.33 SAFETY FENCING

- A. Provide fencing along the construction site at all open excavations and tunnels to control access by unauthorized people.

- B. The 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 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.
- C. Work associated with tree protection, removal and replacement shall be done in accordance with Section 02949 – Tree Protection, Removal and Replacement.

1.35 DAMAGE TO EXISTING PROPERTY

- A. The Contractor 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 shall protect all existing structures and property from damage and shall provide bracing, shoring, or other work necessary for such protection.
- C. The Contractor 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 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 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 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 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. 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 shall control dust in accordance with Section 01566 – Cleanup Operations, paragraph DUST CONTROL. 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 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 shall prevent the pollution of drains 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 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 shall make good on all damage and theft of property resulting from the Contractor's failure to provide adequate security measures.

1.40 PARKING

- A. The Contractor 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.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 01015

SPECIFIC PROJECT REQUIREMENTS

PART 1 GENERAL

1.1 Section Description

- A. This section provides for certain administrative and construction requirements relating to this project. The purpose of this project is to provide for the repair or replacement of inoperable curb boxes on existing water service lines; to upgrade existing meter sets for Automatic Meter Reading (AMR); and to replace other items such as galvanized pipes as needed.
- B. Contractor's responsibility:
1. The Contractor will provide one crew, the primary crew, on a daily basis (Monday through Friday) to complete assigned WOs. The makeup of the crew shall be tailored as needed to complete the assigned WO.
 2. The Contractor will provide a second crew, the secondary crew, when a second WO is given to the Contractor. The makeup of the crew shall be tailored as needed to complete the assigned WO.
 3. In cases of special need and when mutually agreed, the Contractor will provide more than two crews.
- B. The work to be performed under this Contract consists of furnishing all labor, materials (except those materials specifically listed under Materials Furnished By Owner), equipment, tools, superintendence, and all services necessary to perform the following work complete with all appurtenances:

Item No.1

Site Visit (No work is done, leaving a notice only)

- Visit site of service request.
- Leave a no work card/notice
- Site visits are NOT to be additionally charged on any other item listed herein, as site visits are strictly for when no work is being performed.

Item No.2

Install AMR (Exchange Meter Set, Replace MTU, and Wire the System)

- Replace lid with approved composite material, if required.
- Install MTU on underside of lid.
- Remove existing meter.
- Replace with new AMR meter.
- Install wiring from MTU to meter.
- Program MTU.

Item No.3

Repair Wires Only (No Meter/MTU Exchange. Connect/Reconnect wires)

- Install wiring from MTU to meter.

Item No.4

Exchange Meter/Program MTU (Exchange meter set, Program MTU. No wiring)

- Replace lid with approved composite material, if required.
- Remove existing meter.
- Replace with new AMR meter.
- Program MTU.

Item No.5

Exchange MTU/Program MTU (Includes Low Battery Replacements)

- Remove existing MTU.
- Replace with new MTU.
- Install wiring from MTU to meter, if necessary.
- Program MTU.

Item No.6

Replace Meter Ring & Meter Tile Lid (Replacement Labor Only)

- Replace meter ring.
- Replace lid with approved composite material.

Item No.7

Replace Meter Pit for 1" meter or smaller

- Locate existing meter
- Excavate and expose existing water service line and meter
- Replace lid with approved composite material.
- Install MTU on underside of lid.
- Remove existing meter pit
- Replace with new meter pit.
- Install wiring from MTU to meter, if necessary.
- Program MTU.

Item No.8

Meter Brass Repair

- Replace existing galvanized water services with K-copper tubing.
- Use method of boring to install K-copper water service.
- Connect the new K-copper water service to existing corporation stop at main.
- Restore disturbed areas excluding pavement

Item No. 9

Square Meter Pit Replacement (for AMI) Core Drill

- Pull up existing meter lid.
- Drill a 1.5-inch diameter hole into the meter lid.
- Install MTU on underside of lid.
- Install wiring from MTU to meter.
- Program MTU.

Item No.10

PEX Meter Setter Replacement

- Remove existing meter set.
- Replace entire meter assembly, including yoke, valve, unmeasured flow reducer, fittings, and appurtenances using PEX pipe.

Item No.11

Replace Curb Stop, Curb Box, Ring & Lid (Includes Dig Up)

- Excavate and remove existing curb stop, curb box, ring and lid.
- Install new curb stop, curb box, ring and lid, and operate new curb stop.
- Restore disturbed areas excluding pavement.

Item No. 12

Curb Stop Top-End Replace/Rebuild

- Excavate and remove existing curb box.
- Reinstall existing curb box & adjust so the curb stop is operable.
- Reinstall the existing ring & lid.

Item No. 13

Clean Out Curb Box

- Remove any debris from the curb box.

- C. All materials furnished and all work done shall be in complete conformance with the current KCMO Standards and Specifications.
- D. The Owner shall provide a list containing the addresses of the curb boxes to be repaired with priority indicated.

The Contractor shall perform curb box shuts after a property owner has received two (2) required notices, but does not schedule an appointment for the installation of the AMR Meter set and MTU. These curb box shuts are to be performed with the addition of installing "concrete bullets", furnished by the Owner. Shuts may only be performed during the days and times established by the Owner.

1.2 Materials Furnished by the Owner

- A. Owner will furnish, upon written request from the Contractor and without charge to the Contractor, the materials tabulated below through the Water Services Department Stores or a third-party supplier if specified below. All other materials required to complete the work in accordance with the Contract Documents shall be furnished and installed by and at the expense of the Contractor.

City, or any engineer or agent designated by the Director in responsible charge of the work.

- C. In cases where the KCMO Standards and Specifications for Water Main Extensions and Relocations and Rules and Regulations for Water Service Lines, as referenced, conflict with these Project Specifications or the Project Drawings, the Project Specifications or the Project Drawings shall govern.

1.5 Database Record Documents

- A. The Contractor shall record completion of work items for each assigned water service in the Hansen Mobile App and other pertinent information, using a temporary user ID and password provided by the Owner. The Contractor shall update the database regularly and provide to the Owner electronic copies of the revised database.
- B. For each submitted pay application, the Contractor shall submit to Owner an electronic copy of the ACCESS database with current information for each completed work item in the pay application.

1.6 Customer Appointment Making

- A. The Contractor shall have and maintain a phone line for customers to call and set appointments with the Contractor for AMR installation on their properties when required. This line should operate during the normal business hours of the Contractor

END OF SECTION 01015

SECTION 01260

MEASUREMENT AND PAYMENT

- A. General:** Payment for Work performed by the CONTRACTOR under these Contract Documents will be made in accordance with the General Conditions at the approved contract unit prices. Such payment shall compensate the Contractor for all labor, equipment, materials, tools, incidental expense, and all Work and risk necessary to complete the project as indicated by the Work Orders, Specifications, Standards, and Contract Documents.
- B. Measurement:** For each repair location, the CONTRACTOR will receive from the Water Services Department a file noting the service request information and the estimated unit item quantities. No work shall be given to the CONTRACTOR verbally.
- C. Payment:**
1. **Site Visit:** Payment for this item shall be made at the contract bid unit price for each Site Visit made in order to leave a no work card/notice.
 2. **Install AMR (Exchange Meter Set, Replace MTU, and Wire the System):** Payment for this item will be made at the contract bid unit price for each new meter tile and AMR meter set and corresponding MTU installed in accordance with WSD's Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
 3. **Repair Wires Only:** Payment for this item shall be at the contract bid unit price for *only* installing wires from the MTU to the meter installed in accordance with WSD's Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
 4. **Exchange Meter Set and Replace MTU:** Payment for this item shall be at the contract bid unit price for each AMR meter and corresponding MTU installed. When entering premises, slip shoe coverings on to avoid tracking dirt into customer's homes, and ensure someone at least 18-years of age is home. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
 5. **Exchange MTU/Program MTU:** Payment for this item shall be at the contract bid unit price for each MTU replaced. These repairs do not require home access. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.

6. **Replace Meter Ring & Meter Tile Lid:** Payment for this item shall be made at the contract bid unit price for *only* replacing the ring and lid. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
7. **Replace Meter Pit for 1” or smaller:** Payment for this item shall be at the contract bid unit price for each meter pit and lid. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
8. **Meter Brass Repair:** Payment will be made at the contract bid unit price for a Meter Brass repair made to a domestic service in accordance with WSD’s Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
9. **Square Meter Pit Replacement (for AMI) Core Drill:** Payment for this item will be made at the contract bid unit price for each meter tile drilled and corresponding MTU installed in accordance with WSD’s Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
10. **PEX Meter Setter Replacement:** Payment for this item shall be at the contract bid unit price for each Meter Set replaced in accordance with WSD’s Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
11. **Replace Curb Stop, Curb Box, Ring and Lid (Includes Dig Up):** Payment for this item shall be at the contract bid unit price for each Curb Stop and Curb Box assembly installed simultaneously in accordance with WSD’s Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
12. **Curb Stop Top-End Replace/Rebuild:** Payment for this item shall be made at the contract bid unit price for *only* replacing the ring and lid. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
13. **Clean Out Curb Box:** Payment will be made at the contract bid unit price for only cleaning debris from a curb box. Such payment shall constitute full compensation for

all labor, materials, and equipment for cleaning, removal and disposal of unsuitable materials, traffic control, and for all Work necessary to complete this item.

14. **Service Shut:** Payment will be made at the contract bid unit price for a Service Shut. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
15. **Temporary Kill (Offset Curb Box):** Payment will be made at the contract bid unit price for a Temporary Kill made to a domestic service in accordance with WSD's Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
16. **Renew Service (Properly Set Curb Box):** Payment will be made at the contract bid unit price for undoing a temporary service kill made to a domestic service in accordance with WSD's Rules and Regulations for Water Service Lines. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.
17. **Work Repair/Leaking Curb Stop:** Payment will be made at the contract bid unit price for a repairing a leaking curb stop. Such payment shall constitute full compensation for all material, labor, equipment, disposal, and hauling of excess materials, permits, backfill, grading, and seeding of greenways, and traffic control for all Work necessary to complete the item, excepting pavement restoration.

END OF SECTION 01260



APPLICATION FOR PAYMENT
Project/Contract No. 80002377/9718
Project Title: City Wide Automated Metering Infrastructure 2

Final Payment⁵

CONTRACTOR _____

Address _____

Application Number²: _____
 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

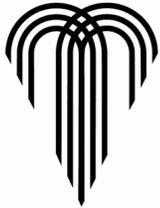
Date _____

State of _____)
 County of _____)SS

Subscribed and Sworn to before me this _____ day of _____.

My commission expires:

Notary Public: _____



SUBCONTRACTORS AND MAJOR MATERIAL SUPPLIERS LIST

Project/Contract No. 80002377/9718 Project Title city Wide Automated Metering Infrastructure 2

From Contractor _____ To _____ Date _____

Spec. No.	Section Title	4	Firm, Address (Check box if Supplier)	Phone, FAX and e-mail	Contact

Attachments:

Signed by: _____ Date _____

Distribution: Owner Contractor Construction Manager Design Professional Consultant Other



CERTIFICATE OF SUBSTANTIAL COMPLETION

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering
Infrastructure 2

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 _____



PUNCH LIST

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

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 _____



CONTRACTOR AFFIDAVIT FOR FINAL PAYMENT

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

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 _____

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 (a) 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 (HRD Form 00485.02 and final company-wide workforce monthly report (HRD Form 00485.03) are 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 \$324,000.01. 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



SUBCONTRACTOR AFFIDAVIT FOR FINAL PAYMENT

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

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



DAILY FIELD OBSERVATION REPORT

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering
Infrastructure 2

Contractor _____

Report Number _____ Date _____ Time _____

Weather

- Clear Snow
 Overcast Foggy
 Rain Cold

- Warm
 Hot
 Temperature Range _____

Site Conditions

- Clear Dusty
 Muddy _____

Day

- Monday Thursday
 Tuesday Friday
 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 _____



PERIODIC FIELD OBSERVATION REPORT

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering
Infrastructure 2

Contractor _____

Report Number _____ Date _____ Time _____

Weather

- Clear Snow
 Overcast Foggy
 Rain Cold

- Warm
 Hot
 Temperature Range _____

Site Conditions

- Clear Dusty
 Muddy _____

Day

- Monday Thursday
 Tuesday Friday
 Wednesday _____

Persons Contacted:

Work Observed:

Items Discussed:

Remarks:

Attachments

Signed by:

Date:

- Distribution: Owner
 Contractor
 Construction Manager
 Design Professional
 Consultant _____
 Other _____



WEEKLY REPORT OF WORKING DAYS

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

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



TRANSMITTAL LETTER

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

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 system (DMS) will be used for the Project. This system will be used to manage project documentation among the City, Contractor and Design Professional. The Contractor shall utilize the document management system for all project related correspondence and documentation.
- B. The DMS will be utilized to create, track and organize all project documentation, 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) Requests for Interpretation.
 - (b) Requests for Proposal.
 - (c) Work Change Directives.
 - (d) Change Orders.
 - 8. Reporting:
 - (a) Certified Payroll Report.
 - (b) Subcontractors and Major Material Suppliers List.
 - (c) Daily Labor Force Reports.
 - (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-Compliance.

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 to review requirements for project coordination, document control and use of the DMS. The meeting should be scheduled to allow the Contractor time to submit the initial project correspondence 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 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 02510 – PCC Sidewalks, Driveways, Ramps.
- E. Section 02930 – Seeding.
- F. Section 02931 – Sodding.
- G. 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, if proposing alternate methods and facilities for concrete washout facilities. See paragraph 3.03.E.3 in this Section.

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 02510 – PCC Sidewalks, Driveways and Handicap Access Ramps for additional requirements.
- B. See Section 03000 – Miscellaneous Concrete for additional requirements.

- C. 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.
- D. 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.
- E. 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



SUBSTITUTION REQUEST

Project/Contract Number 80002377/9718

Project Title City Wide Automated Metering Infrastructure 2

To: _____

Authorization Number: _____

Re: _____

From: _____

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 01700 – TRAFFIC CONTROL

PART 1 - GENERAL

1.01 SUMMARY

- A. The Contractor shall provide all materials, labor and equipment (including permits, barricades, cones, drums, construction warning signs, flagmen incidental devices) to protect, warn and guide: vehicular traffic, pedestrian traffic and to protect his personnel and equipment on the site. This specification applies to work being done in conjunction with capital projects and not emergencies or other maintenance related activities.

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.
- D. Section 01581 – Public Communications.

1.04 CODES AND STANDARDS

- A. The publications listed below form a part of this specification to the extent referenced. The publications referred to within the specification are by the basic designation only.
- B. American Traffic Safety Services Association (ATSSA).
- C. “City of Kansas City, Missouri Public Works Department Construction and Material Specifications” (<http://kcmo.gov/>) (KCMO PW 2305 - Traffic Control – Pedestrian Traffic Control and Sidewalk Closure.)
- D. Manual on Uniform Traffic Control Devices (MUTCD).
- E. MODOT traffic control and regulations and permits.

1.05 DEFINITIONS

- A. City Block – A segment of a street or roadway between two intersections.
- B. Working Hours – The Contractor must conduct construction operations in compliance with the City of Kansas City, Missouri Code of Ordinances, Chapter 46 – NOISE CONTROL which generally defines normal working hours as 7:00 am to 6:00 pm on weekdays. Working hours also include any time period approved in writing by the City (see Section 01000 – General Project Requirements, paragraph TEMPORARY ENVIRONMENTAL PROTECTION).
- C. Non-Working Hours – Any period of time not defined as Working Hours.
- D. Public Works Department – The City of Kansas City, Missouri - Public Works Department.
- E. Traffic Control Supervisor – The qualified employee of the Contractor designated to have overall responsibility of the implementation of the Traffic Control Plan, conformance to the Traffic Control Permit and maintenance of traffic control devices.

- F. Work Zone – An area of active construction activity along a single street that causes temporary disruption to pedestrian traffic, vehicular traffic, access to properties, or on-street parking.
- G. Extended Work Zone – Any work that encompasses more than one city block or street.

1.06 SUBMITTALS

- A. Submit as specified in Section 01300 – Submittals.
- B. Shop Drawings:
 - 1. Not applicable.
- C. Product Data:
 - 1. Not applicable.
- D. Samples:
 - 1. Not applicable.
- E. Other Submittals:
 - 1. Traffic Control Plan(s):
 - (a) Submit plan(s) directly to the Public Works Department for review and approval as required for permitting. Approval of the traffic control plan is required prior to submitting permit applications.
 - (b) Submit the final, approved plan(s) in accordance with Section 01300 – Submittals for informational purposes only.
 - (c) Submit changes or revisions to the plans(s) as required by the City’s Traffic Control Permit.
 - (d) Submit changes or revisions to the Traffic Control Plan necessary for construction phasing.
 - 2. Traffic Control Permit – submit a copy of the traffic control permit upon approval from the Public Works Department.
 - 3. Traffic Control Supervisor:
 - (a) Submit name, qualifications and contact information in accordance with Section 01300 – Submittals.
 - (b) Submit name, qualifications and contact information directly to the Public Works Department.
 - 4. Public Works Department standard specifications.
 - 5. Public Works Department standard details.
 - 6. Maintenance records of traffic control devices.

1.07 GENERAL

- A. When the requirements of this section conflict with the requirements of the approved Traffic Control Permit, then the requirements of the Traffic Control Permit shall govern. In all instances, the Contractor shall comply with all KCMO ordinances.
- B. The Contractor shall maintain access for pedestrians, vehicles and all properties served by the streets and sidewalks within the site.
- C. All work shall be coordinated through the City of Kansas City, Missouri - Public Works Department.
- D. Coordination of the traffic control permit shall be conducted during normal business hours (8:00 am through 5:00 pm).

1.08 SPECIFIC PROJECT REQUIREMENTS

- A. Specific traffic control requirements are provided in Section 01015 - Specific Project Requirements.

1.09 RESPONSIBILITY

- A. The Contractor shall designate a Traffic Control Supervisor having the responsibilities defined in paragraph DEFINITIONS.
- B. The Traffic Control Supervisor's name, contact information and qualifications shall be submitted to the City prior to the preconstruction conference.
- C. The Traffic Control Supervisor's name and contact information shall be submitted to the Public Works Department as required by the Traffic Control Permit. The contact information provided shall allow the City (Public Works Department) to contact the Traffic Control Supervisor during both working and non-working hours. This information shall be submitted with the application for the Traffic Control Permit and in accordance with paragraph SUBMITTALS.

1.10 SUBMITTAL OF STANDARD DETAILS AND SPECIFICATIONS

- A. The Contractor shall obtain a copy of all Public Works Department's standard specifications and details to be used as part of the project. Copies shall be submitted in accordance with paragraph SUBMITTALS.

1.11 ACCESS REQUIREMENTS

- A. Unless otherwise stated in Section 01015 – Specific Project Requirements, the Contractor shall maintain access for pedestrians and vehicles to all properties served by streets and sidewalks affected by the Work.
- B. Special Restrictions for Extended Work Zones:
 - 1. A maximum of two (2) consecutive city blocks shall be under construction at any one time.
 - 2. Where construction activities cause disruption (i.e. sidewalk closures and/or temporary restriction of on-street parking) to two (2) consecutive city blocks, the following restrictions shall apply:
 - (a) At a minimum, pedestrian access shall be maintained on one side of the street only if work can be completed in less than 15 days. Sidewalk closures shall be limited and temporary facilities shall be provided as necessary to allow pedestrian access to all occupied properties affected by construction activities.
 - (b) If more than one (1) city block is affected by construction, then construction activities shall be conducted so that on-street parking is maintained on at least one side of the street, on one of the city blocks affected. That is, if on-street parking is eliminated within a city block, the adjacent city block (along the same street) must provide at least on-street parking on one side.
 - (c) If a sidewalk will need to be closed more than 15 days, advance approval of the Bike Pedestrian Advisory Committee is required. If a sidewalk closure is planned for more than 15 days in the Greater Downtown Area Plan region, advance approval is required from the Parking and Transportation Commission.
- C. Access to adjacent properties served by the street(s) within the project shall be maintained at all times.
- D. Traffic shall move through the construction site in accordance with the Traffic Control Permit.
- E. When required, flaggers shall coordinate the movement of traffic through the construction site.

- F. Temporary Restoration of Access during Non-Working Hours:
 - 1. All roadways shall be re-opened to traffic in accordance with the Traffic Control Permit or to normal operating conditions (whichever applies) at the end of each work day.
 - 2. No construction related equipment or material shall be on the roadway outside of normal working hours unless approved by the City (see Section 01000 – General Project Requirements, paragraph CONSTRUCTION SITE PLAN).

1.12 TRAFFIC CONTROL PLAN(S)

- A. Unless otherwise indicated on the Drawings or in Section 01015 – Specific Project Conditions, the Contractor shall be responsible for the development and implementation of the Traffic Control Plan necessary to obtain a Traffic Control Permit(s).
- B. All costs associated with development, revision or finalization of Traffic Control Plan(s) shall be included in the Contractor’s Bid.
- C. General Traffic Control requirements shall include but are not limited to the following:
 - 1. MUTCD requirements shall be maintained on all traffic control plan submittals.
 - 2. Plans shall clearly identify all traffic control devices to be placed including the location, spacing and other pertinent data required for the traffic control plan reviews.
 - 3. Plan reviews and resubmittal reviews should be scheduled to be completed with at least two (2) weeks for City staff review on standard traffic control plan submittals. This time may be extended if the plan is complex or of a large volume.
 - 4. All street typologies listed on the Major Street Plan (<https://www.kcmo.gov/city-hall/departments/city-planning-development/other-city-plans>) will be required to maintain a minimum of one twelve foot (12’) lane in each direction for traffic at all times.
 - 5. Limited closures on street typologies listed on the Major Street Plan may be allowed but will likely be limited to weeknights and/or weekend work depending on the location of the proposed closure. Full closures may not be possible in some areas of the City.
 - 6. Electronic Message Boards will be required as part of the communication plan for all lane closures or restrictions on street typologies listed on the Major Street Plan. These signs will need to be in place at least one (1) week prior to the lane closure or restriction and will need to be maintained throughout the closure duration.
 - 7. Closures in and adjacent to the Streetcar Corridor will be required to have a Track Access Permit.
 - 8. Residential street traffic control plans will be developed in a way to allow safe travel and maintain access to all properties adjacent to and in the area of the traffic control area.
 - 9. The Contractor is required to maintain the road surface condition on the haul route to the condition that existed at the time of permit issuance. All damage to the pavement on the haul route caused by the contractor shall be repaired by the contractor at no additional cost to the City.

1.13 TRAFFIC CONTROL PERMIT(S)

- A. The Contractor shall not submit Traffic Control Permit applications until the traffic control plan has been approved by the Public Works Department.
- B. The Contractor shall obtain a Traffic Control Permit before any construction activity occurs on any City street. Permits shall be obtained and submitted in accordance with Section 01300 – Submittals shall be made no less than two (2) weeks in advance of the construction activity.
- C. Specific requirements and the application for Traffic Control Permit can be downloaded from the City’s web site at <http://kcmo.gov/>.
- D. The associated permit fees, which may be time and street-type-dependent, are to be obtained from the Public Works Department.
- E. All residential, arterial and collector streets require a separate permit and are subject to peak hour restrictions.
- F. All costs associated with the Traffic Control Permit(s) shall be included in the Contractor’s Bid.

1.14 NOTIFICATIONS

- A. Advance notification of affected property owners shall be done in accordance with Section 01581 – Public Communications.
- B. Electronic Message Boards are required at least one (1) week in advance of any arterial street closure(s).

PART 2 - PRODUCTS

2.01 TRAFFIC CONTROL DEVICES

- A. All traffic control devices shall conform to Part 6 of the “Manual on Uniform Traffic Control Devices” (MUTCD).
- B. No substitutions for the devices required by MUTCD or changes in the methods of traffic control as outlined herein will be allowed without written approval of the Director of Public Works or their designee.

PART 3 - EXECUTION

3.01 SAFETY PRECAUTIONS

- A. Contractor shall take any and all precautions to guard against injury to persons or damage to property until final acceptance of the work by the City or their representative.
- B. Precautions shall include, but not limited to, protection of vehicular and pedestrian traffic from injury or damage due to open excavations, operation of construction equipment, materials storage, etc. by the proper placement of appropriate safety devices.
- C. The Contractor shall maintain the safety devices and maintain their proper placement throughout the required period.
- D. Construction practices shall be followed that will eliminate all safety hazards.
- E. The roadway shall be kept clean and free of construction related debris at all time.

3.02 DEVICE INSTALLATION AND MAINTENANCE

- A. Traffic control devices shall be installed and maintained in accordance with KCMO Specification 2305 with the exception that the paragraphs for Method of Measurement and Basis for Payment do not apply.
- B. The Contractor shall maintain records of any maintenance required and the date on which it was completed. These records shall be maintained for the duration of the project and submitted in accordance with paragraph SUBMITTALS on a monthly basis.
- C. The contractor's designated Traffic Control Supervisor shall make regular workday inspections of the traffic control devices installed as part of Work.
- D. It shall be the Contractor's responsibility to maintain all traffic control devices in proper working condition and placement at all times.
- E. The Contractor shall immediately correct any deficiencies in traffic control.
- F. Any traffic control device not in use shall be covered, removed, or turned away from the view of oncoming traffic.

3.03 CHANGES TO THE TRAFFIC CONTROL PLAN

- A. Whenever the work area changes, all construction warning signs and traffic channelization devices shall be made current.
- B. The Public Works Department reserves the right to adjust or revise the traffic handling requirements as necessary after construction on the project has started. These changes will be determined based on periodic inspections throughout the duration of the project by both the Water Services and Public Works inspection staff.
- C. Notice of such change will be transmitted to the Contractor and it shall be the Contractor's responsibility to make the necessary changes as soon as practicable, but no more than one (1) calendar day, after receipt of the notification. Immediate changes to the traffic control shall be required in situations that are deemed as a public safety matter by the City representatives.
- D. If the Contractor encounters conditions that would require a change in method of traffic control, the Contractor shall immediately notify the City's representative. At least 48 hours before the start of the proposed change, the City's representative will request approval of the change in method of maintaining traffic from the Public Works Department. The Contractor shall not proceed with the change without the approval of the Public Works Department.

3.04 PEDESTRIAN TRAFFIC CONTROL

- A. Pedestrian traffic control shall conform to KCMO Specification 2305, paragraph Pedestrian Traffic Control.

3.05 VEHICLE PARKING

- A. Parking of construction vehicles, equipment, vehicles of contractor's personnel shall not interfere with public traffic, parking, access by emergency vehicles, or City operations.

3.06 HAUL ROUTES

- A. The Contractor shall consult with the City (Water Services Department and Public Works Department) to establish public thoroughfares to be used for haul routes and site access.
- B. Residential streets shall not be used as part of the proposed haul routes.

3.07 EMERGENCY CONDITIONS

- A. Damage to existing utilities during construction of the Project which requires immediate repair may be considered as an emergency and as such may not be subject to all the restrictions contained herein. These shall be reported to Water Services and Public Works immediately. All subsequent emergency traffic control measures or adjustments shall be coordinated with the City representatives.
- B. The Contractor shall immediately contact the utility company whose facilities are involved that may require immediate repair.
- C. Such repair work, once declared an emergency by the utility company, shall be pursued on a continuous (24 hours per day) basis until complete or advanced to such a point that use of the roadway can be returned to normal operation and any subsequent repairs can be completed during regular working hours.
- D. The City reserves the right to determine which utility work will be considered an emergency. Any costs incurred by the Contractor for such emergency utility repair, including the cost of any additional traffic control that may be required, shall be the Contractor's sole responsibility.

3.08 EMERGENCY NO PARKING SIGNS

- A. When it is necessary to eliminate parking on a part of a street to facilitate construction work, the Contractor shall, subject to the approval of the Public Works Department, post "Emergency No Parking" signs.
- B. Signs shall be fabricated with the following dimensions, text sizes and include the follow text:



or



Placard Height: 24 inches
Placard Width: 18 inches
Placard Color: Silver (reflective)

Lettering Height: 3 inches
Line Spacing: 1.1 inches
Lettering Color: Red

Border Thickness: 0.625 inches
Border Margin from Edge of Placard: 0.375 inches
Border Color: Red

- C. The signs shall be made of aluminum, plastic or plywood panels. Paper or cardboard signs are not allowed.
- D. The signs shall be installed on either steel drive posts or existing utility poles at a height of five (5) feet to the bottom of the sign.
- E. Signs shall be placed on the side of the street where parking is to be eliminated.

- F. The signs are to be installed at the beginning and end of each block and at a maximum of 150-foot intervals in between.
- G. These signs must be installed a minimum of 18 hours and a maximum of 48 hours in advance of the time the Contractor plans to begin work.
- H. The Contractor shall contact the City's representative as soon as the signs are installed. The City's representative will then contact the Public Works Department as soon as the signs are installed, so that a temporary regulation can be written by the Public Works Department and so that the Kansas City, Missouri, Police Department can be notified. The signs cannot be enforced without this notification from the City. The notification to the City must be made by 12 noon for enforcement to be effective the following day.
- I. If there are existing parking signs with a lesser degree of restriction, the Contractor shall install the Emergency No Parking signs as outlined above and shall cover the existing signs with the Emergency No Parking sign or some type of semi-permanent cover (paper and tape will not be accepted).
- J. The Contractor shall immediately remove the Emergency No Parking signs and all semi-permanent sign covers as soon as work on the block has been completed.
- K. If it becomes apparent for any reason that work will cease for more than 72 hours, the same signs and covers shall be removed and must be reinstalled subject to the minimum 18 hours advance-notice before work can proceed.
- L. If work does not begin within 48 hours after the signs are posted, the same procedure must be followed. Failure by the Contractor to abide by all the provisions concerning "Emergency No Parking" signs, shall result in the cancellation of the permit.
- M. The Contractor shall maintain a minimum of one (1) lane of traffic each direction at all times unless otherwise allowed by permit.
- N. The Contractor shall keep residents, schools, businesses, churches and other public entities informed of the work schedule that would interfere with access to their facility. Notification shall be distributed at least 3 weeks in advance of work occurring near a facility.
- O. The Contractor shall coordinate with KCATA, as necessary, on proposed lane closures impacting bus travel routes.

END OF SECTION

SECTION 01900 – CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout.
- B. Closeout requirements for specific construction activities are included in the appropriate Sections of the Contract Documents.

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 00800 – Supplementary Conditions.
- C. Section 01015 – Specific Project Requirements.
- D. Section 01020 – Record Documents.
- E. Section 01300 – Submittals.

1.04 DEFINITIONS

- A. Achievement of Full Operation/Substantial Completion: See Section 00700 – General Conditions, paragraph 1.01.
- B. Substantial Completion: See Section 00700 – General Conditions, paragraph 1.01.

1.05 INFORMATION PROVIDED BY THE CITY

- A. Achievement of Full Operation or Substantial Completion (Section 00700, paragraph 14.04):
 - 1. If applicable, City will provide written notification that the Work does not meet the requirements for Achievement of Full Operation or Substantial Completion
 - 2. Certification of Achievement of Full Operation (Section 01290.12) or Certificate of or Substantial Completion.
 - 3. 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. Partial Utilization (Section 00700, paragraph 14.05):
 - 1. Written request for partial utilization.
- C. Punch list (Section 01290.13).
- D. Final Inspection (Section 00700, paragraph 14.06):
 - 1. Written report of all in which the Final Inspection reveals that the Work is incomplete or defective.

1.06 SUBMITTALS

- A. Submit as specified in Section 01300 – Submittals.
- B. Other Submittals:
 - 1. Notification of Achievement of Full Operation or Substantial Complete (Section 00700, paragraph 14.04.A).
 - 2. List of Incomplete Items (Section 00700, paragraph 14.04.A).
 - 3. Notification that the Work is complete and ready for Final Inspection (Section 00700, paragraph 14.06.A).
 - 4. List of Uncompleted Work (paragraph 3.01.C).
 - 5. Certification of Partial Substantial Completion (Section 00700, paragraph 14.05.A.1) if Partial Utilization is requested by City.
 - 6. Closeout Documentation:
 - (a) The following items are required to be submitted prior to the Contractor's application for Final Payment as required by Section 00700 – General Conditions, paragraph 14.07:
 - (i) Maintenance and Operating Instructions.
 - (ii) Schedules.
 - (iii) Guarantees.
 - (iv) Bonds.
 - (v) Certificates or other evidence of insurance.
 - (vi) Certificates of inspection.
 - (vii) Record Documents (Section 01020 – Record Documents).
 - (b) The following items are required to be submitted with the Contractor's application for Final Payment as required by Section 00700 – General Conditions, paragraph 14.07:
 - (i) Contractor Affidavit for Final Payment (Section 01290.14).
 - (ii) Subcontractor Affidavit for Final Payment (Section 01290.15).
 - (c) Authorization to Release a Revenue Clearance Letter (Section 00630).
 - (d) All other documentation necessary for an Application for Progress payment (Section 00700, Article 14).
 - 7. Consent of Surety to Make Final Payment certificate.

PART 2 - PRODUCTS

- A. Not used.

PART 3 - EXECUTION

3.01 ACHEIVEMENT OF FULL OPERATION / SUBSTANTIAL COMPLETION

- A. Refer to Section 00700 – General Conditions, Article 14.
- B. Refer to Section 00800 – (Overflow Control Plan Consent Decree) Supplementary Conditions, paragraph SC-14.04 for additional information to define items of the Work to be included in the definition of Achievement of Full Operation or Substantial Completion.
- C. List of Uncompleted Items: The Contractor shall submit a list of incomplete items that are required for the Work, but not required for Achievement of Full Operations / Substantial Completion. The list shall include a description of the Work, the value of each item, reasons the work is not complete, and a schedule for completion.

- D. The inspection associated with the Achievement of Full Operation / Substantial Completion will be scheduled at a mutually agreed time between the Contractor, Design Professional and the City's Representative.
- E. City will provide a punch list (Section 01290.13) of items that require completion or correction. Items noted on the punch list may not be all-inclusive and the failure to include any items on the list does not alter the responsibility of the Contractor to complete all the Work in accordance with the Contract Documents.
- F. Items identified in the punch list shall be addressed by the Contractor prior to the Final Inspection.

3.02 PARTIAL UTILIZATION

- A. Refer to Section 00700 – General Conditions, paragraph 14.05, Partial Utilization.

3.03 FINAL INSPECTION

- A. Refer to Section 00700 – General Conditions, paragraph 14.06, Final Inspection.
- B. The Final Inspection will be scheduled at a mutually agreed time between the Contractor, Design Professional and City's Representative.
- C. The City will provide the Contractor with the results of the final inspection.
- D. If the Work is incomplete or unacceptable, the City will advise the Contractor of Work that is incomplete or other obligations that have not been fulfilled but are required for final acceptance. The Contractor shall address items that need to be corrected, and then request a re-inspection of the Work.
- E. Re-inspection of the Work:
 - 1. If necessary, the City will re-inspect the Work upon receipt of notice that the Work, including punch list items from the first inspection, has been completed, except for items whose completion is delayed under circumstances acceptable to the City.
 - 2. If necessary, re-inspections will be repeated until all deficiencies have been remedied by the Contractor.
- A. Approval of the Work by the City or Design Professional will not relieve the Contractor of their responsibility under other terms of the Contract.

3.04 FINAL PAYMENT

- A. After Contractor has completed all corrections (after the Final Inspection) to the satisfaction of City, Contractor shall submit the Final Payment request. Refer to Section 00700 – General Conditions, paragraph 14.07, Final Payment.
- B. Documents to be submitted with, or prior to, the application for final payment shall be as required by the Contract Documents. See paragraph 1.06 for a summary.
- C. Authorization to Release a Revenue Clearance Letter: If the Contract exceeds \$160,000 and if Work is performed for a term longer than one (1) year, then in addition to the requirements of Section 00700, the Application for Final Payment shall be accompanied by a clearance letter from the Finance Department, Revenue Division. The Contractor shall keep a copy of all subcontractors' clearance letters in its contract files in accordance with the contract documents. See Section 00630.
- D. For Contracts that include a Green Infrastructure Establishment Period, there will be a Final Payment for the Work associated with construction, and a separate Final Payment for the Work associated with the maintenance of green infrastructure through the establishment period. The Final Payment for Work associated with construction shall exclude the amount for maintenance of green infrastructure indicated in the Schedule of Values.

3.05 LIQUIDATED DAMAGES

- A. If required, liquidated damages shall be assessed in accordance with the Contract Documents. Refer to Section 00700 – General Conditions, paragraph 12.01 and Section 00800. See Supplementary Conditions, paragraph SC-12.01 for additional information.

END OF SECTION

SECTION 02200 – EARTHWORK

PART 1 - GENERAL

1.01 SUMMARY

- A. This section covers earthwork associated with general excavation, backfill and compaction required for the Work.
- B. This section also covers the handling, storage, transportation and disposal of all excavated material; sheeting and shoring, subgrade preparation, dewatering as necessary or required, protection of adjacent property, construction of fills and embankments, surfacing and grading; and other appurtenant work.
- C. Additional requirements for excavation, backfill and compaction for trenching can be found in Section 02250 – Trenching, Pipe Embedment and Backfill.

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 02180 – Clearing and Grubbing.
- E. Section 02190 – Demolition.
- F. Section 02250 – Trenching, Pipe Embedment and Backfill.
- G. Section 02230 – Geotextiles.
- H. Section 02930 – Seeding.
- I. Section 02931 – Sodding.

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. American Society for Testing and Materials (ASTM):
 - ASTM D698 Standard Test Methods for Laboratory Compaction Characteristics of Soils Using Standard Effort (12,400 ft-lbf/ft³).
 - ASTM D1556 Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method.
 - ASTM D2167 Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
 - ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit and Plasticity Index of Soils.
 - ASTM D4546 Standard Test Method for One-Dimensional Swell or Collapse of Soils.
 - ASTM D6938 Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

- C. City of Kansas City, Missouri Department of Public Works, Construction and Material Specifications (<http://kcmo.gov/publicworks/design-construction-standards/>) KCMO PW 2202, Subsection 2202, Untreated Compacted Aggregate.
- D. Kansas Department of Transportation, Standard Specification and Construction Manual, Division 1100, Aggregates.
- E. Missouri Department of Transportation, Missouri Standard Specifications for Highway Construction, Division 1000, Materials Details.

1.05 DEFINITIONS

- A. Paved Areas – Areas for which the final surfacing will be street pavement, shoulders, driveways, parking lots, curbs, gutters, sidewalks, gravel roads or other surface features.
- B. Unpaved Areas – Areas for which the final surfacing will be in a green space.

1.06 INFORMATION PROVIDED BY THE CITY

- A. As provided in the Contract Documents.

1.07 SUBMITTALS

- A. Submit as specified in Section 01300 – Submittals.
- B. Shop Drawings:
 - 1. Sheeting and Shoring Plan – Prior to excavation, the Contractor shall submit a shoring design that is signed and sealed by a registered professional engineer in the State of Missouri for all excavations greater than twenty (20) feet in depth (in accordance with 29 CFR Part 1926 - OSHA Subpart P - Excavations and Trenches). Submittal will be for informational purposes only.
- C. Testing Reports:
 - 1. Laboratory testing results for proposed Borrow Materials.
 - 2. Laboratory testing results and quarry control reports for Granular Material.
 - 3. Laboratory testing results for and quarry control reports Granular Bedding.
 - 4. Moisture-density (Proctor) test results.
 - 5. In-Place Density test results.
- D. Other Submittals:
 - 1. Commercial Laboratory – submit name, contact information and certification of the commercial testing laboratory required by paragraph 1.08.
 - 2. Blasting (as applicable):
 - (a) Pre-blast survey.
 - (b) Monitoring Plan.
 - (c) Permit for blasting.
 - (d) Post-blast survey.

1.08 QUALITY ASSURANCE

- A. The Contractor is responsible for the quality assurance and quality control of the Work.
- B. Sampling and Testing:
 - 1. Tests to determine conformance with all requirements of this Specification for quality and properties of all Contractor-secured materials, including borrow materials proposed for use, shall be performed by an independent, state-certified, commercial laboratory retained and compensated by the Contractor and approved by the City/Design Professional.

2. All work associated with QUALITY ASSURANCE shall be included in the Bid Price and will be incidental to the Work. No separate measurement or payment will be made.

1.09 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. The City will furnish the Site in accordance with Section 00700 – General Conditions.
- B. See Section 01000 – General Project Requirements, paragraph EASEMENTS AND RIGHT-OF-WAY for use of private property for delivery, storage and handling.
- C. Perform in a manner to prevent contamination or segregation of materials.

1.10 EXISTING UTILITIES

- A. The Contractor shall notify utilities prior to excavation in accordance with Section 00700 – General Conditions, Article 6 – Contractor’s Responsibilities, paragraph NOTIFICATION OF UTILITIES.
- B. Movement of construction machinery and equipment over pipes and utilities during construction is at the Contractor's sole risk.
- C. For work immediately adjacent to or for excavations exposing a utility or other buried obstruction, excavate by hand, start hand excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured.
- D. Support uncovered lines or other existing work affected by the excavation until approval for backfill is granted by the City.
- E. Report damage to utility lines or subsurface construction immediately to the City.

PART 2 - PRODUCTS

2.01 MATERIALS ENCOUNTERED

- A. Suitable Materials – Materials suitable for use in backfill, fill and embankment include job excavated or borrow material that is free of debris, roots, organic matter, frozen matter and shale particles/rock/stone or gravel with all dimensions less than 2 inches:
 1. Cohesion-less materials include gravels, gravel-sand mixtures, sands and gravelly sands; generally exclusive of clayey and silty material with the following properties:
 - (a) Free-draining.
 - (b) Impact compaction will not produce a well-defined moisture-density relationship curve.
 - (c) Maximum density by impact methods will generally be less than by vibratory methods.
 - (d) Generally less than 15% by dry weight of soil particles pass a No. 200 sieve.
 2. Cohesive materials include materials made up predominately of silts and clays generally exclusive of sands and gravel with the following properties:
 - (a) Impact compaction will produce a well-defined moisture-density relationship curve.
 - (b) Are not free draining.
- B. Unsuitable Materials – Materials unsuitable for use in backfill, fill and embankment include all material that contains debris, roots, organic matter, frozen matter, shale particles/rock/stone or gravel with any dimension greater than 2 inches.

Additionally, as determined by the City/Design Professional, any other materials that are too wet or otherwise unsuitable for providing a stable subgrade or stable foundation for structures or trenches.

C. Material used for embankment or fill:

1. For soils used below structural elements (such as: footings, slabs, pavements and mats), the portion of material passing the No. 40 sieve shall have a liquid limit not exceeding 40 and a plasticity index not exceeding 25 when tested in accordance with ASTM D4318.

2.02 TOPSOIL

- A. On-Site Topsoil – Surface soil stripped and stockpiled on site and modified as necessary to meet the requirements specified herein. When available, topsoil must be existing surface soil stripped and stockpiled on the Site.
- B. Off-Site Topsoil – Conform to requirements specified herein. Additional topsoil must be furnished by the Contractor.
- C. Composition – Natural, friable soil representative of productive, well-drained soils in the area, free of subsoil, stumps, rocks larger than 1- inch diameter, brush, weeds, toxic substances and other material detrimental to plant growth. Amend topsoil pH range to obtain a pH of 5.5 to 7.
- D. Topsoil shall be of a quality at least equal to the existing topsoil in adjacent areas, free from trash, stones, debris and well suited to support plant growth.

2.03 SOIL CONDITIONS

- A. All Materials encountered, regardless of type, character composition and condition shall be considered "unclassified" for the purpose of payment. Determine quantity of various materials to be excavated prior to submitting Bid. Rock encountered shall be handled at no extra cost to City.

2.04 WASTE MATERIALS

- A. Waste materials, as described for purposes of this Section, consist of unsuitable materials such as: rock, surplus excavated material, demolition debris and other materials considered unacceptable for use as fill.
- B. Waste materials shall not include environmental pollutants, hazardous substances, contaminated products, by-products, samples or waste materials of any kind that are regulated under environmental laws.
- C. Dispose of Demolition Debris in accordance with Section 02190 – Demolition. Dispose of other waste materials in accordance with Paragraph DISPOSAL OF EXCAVATED MATERIALS.

2.05 BORROW MATERIALS

- A. Suitable fill materials, granular materials and topsoil obtained from locations arranged for by Contractor (off the Site) are required to the extent sufficient suitable materials cannot be obtained from excavation and trenching.
- B. Borrow materials shall not exhibit characteristics of high shrink or swell potential as determined from Atterberg limit tests (ASTM D4318) and/or swell tests (ASTM D4546) unless otherwise specified herein.

2.06 GRANULAR FILL MATERIAL

- A. Granular fill material shall consist of crushed stone, sand and gravel or reclaimed asphalt or concrete. The aggregate shall not contain more than 15 percent deleterious

rock and shale. The fraction passing the No. 40 sieve shall have a plasticity index not to exceed six. Any sand, silt, clay and any deleterious rock and shale shall be uniformly distributed throughout the material.

- B. Reclaimed asphalt or concrete materials meeting the requirements of aggregate must be approved for use by the City.
- C. Granular fill material shall be in accordance with the following gradation requirements defined in Table 1 below:

Table 1. Gradation for Granular Fill Material

Sieve Size	Mass Percent Passing		
	MoDOT Type 5	KDOT Type AB-3	KCMO PW 2202**
2 inch		100	
1 ½ inch		95 to 100	
1 ¼ inch			100
1 inch	100		72 to 100
¾ inch		70 to 95	60 to 90
½ inch	60 to 90		
3/8 inch			43 to 74
No. 4	35 to 60	40 to 65	28 to 60
No. 8		30 to 55	
No. 10			16 to 40
No. 30	10-35		
No. 40		16 to 40	3 to 22
No. 200	0-15	8 to 20*	0 to 15**

* For Type AB-3, the fraction passing the No. 200 sieve shall not exceed ¾ of the fraction passing the No. 40 sieve.

** For KCMO PW 2200, the difference between Mass Percent Passing of successive sieve sizes shall not exceed 25%. That fraction of material passing the No. 40 sieve shall have a plasticity index not to exceed 8.

- 1. MoDOT Type 5 material shall conform to Missouri Department of Transportation, Standard Specifications for Highway Construction, Section 1007, Type 5 Aggregate.
- 2. KDOT Type AB-3 material shall conform to Kansas Department of Transportation, Standard Specification and Construction Manual, Division 1100, Aggregates.

2.07 GEOTEXTILE

- A. Geotextile shall conform to the requirements of Section 02230 – Geotextiles.

2.08 CONTROLLED LOW STRENGTH MATERIAL (CLSM)

- A. See Section 02250 – Trenching, Pipe Embedment and Backfill.

PART 3 - EXECUTION

3.01 DEMOLITION

- A. Demolition shall be conducted in accordance with Section 02190 – Demolition.

3.02 CLEARING AND GRUBBING

- A. Perform clearing and grubbing, in accordance with Section 02180 – Clearing and Grubbing, as indicated and as required to perform the Work.

3.03 STRIPPING

- A. Stripping shall consist of scraping areas clean of all brush, grass, weeds, roots and other materials.
- B. Remove topsoil from areas within limits of excavation, trenching, borrow and areas designated to receive fill.
- C. Strip to a minimum depth of 6 inches, but to a sufficient depth to remove excessive roots in heavy vegetation, unsuitable material or brush areas and as required to remove all soil containing organic material or segregate topsoil.
- D. Stockpile topsoil in areas designated or approved by the City/Design Professional where it will not interfere with construction operations or existing facilities. Stabilize and protect stockpiles from runoff per the SWPPP plan.

3.04 GENERAL REQUIREMENTS FOR OPEN EXCAVATIONS

- A. Excavations shall be restored to the level of the adjacent surfaces as soon as practicable.
- B. Unsupervised or unprotected excavations are prohibited. The Contractor shall adhere to the City's no open excavation policy.
- C. Protective Measures in Paved Areas:
 - 1. Excavations within paved areas shall be protected and secured in accordance with existing federal, state and local codes and standards. This includes, but not limited to, the most current edition of the Manual of Uniform Traffic Control Devices.
- D. Protective Measures Unpaved Areas:
 - 1. Supervision – As a temporary measure, the Contractor may provide personnel to supervise an open excavation that is not otherwise protected. Supervision shall ensure that the public is protected and shall serve the same function as a protective cover or fencing. A protective cover or fencing shall be installed for all excavations that are not supervised.
 - 2. Protective Cover – A protective cover shall be installed over the excavation so that it can sustain the weight of any persons and/or objects placed upon it. The cover shall be of sufficient weight or fixed to the ground so it cannot be moved. Protective covers shall have no opening(s) or protuberance(s) of sufficient size to cause a fall or injury. Advance warning devices shall be installed as required by the City/Design Professional.
 - 3. Fencing – Any excavation that is not covered shall be fenced in so that it surrounds the entire excavation area and prevents entry. The fencing shall be a minimum of 42 inches in height. The fence shall be secured and upright at all times.
- E. Inspection and Maintenance – Protective measures (coverings and fences) shall be inspected by the Contractor at least daily to assure integrity. Protective measures in heavy traffic areas shall be inspected more often as necessary.

F. Excavation permits shall be secured prior to starting the work.

3.05 EXCAVATION

- A. Excavations shall provide adequate working space and clearances for the work to be performed therein and for installation and removal of concrete forms.
- B. In no case shall excavation faces be undercut for extended footings.
- C. Subgrade surfaces shall be clean and free of loose material of any kind when concrete is placed thereon.
- D. Classification of Excavated Materials – No classification of excavated materials will be made. Excavation and trenching work shall include the removal and subsequent handling of all materials excavated or otherwise removed in performance of the work, regardless of the type, character, composition or condition thereof.

3.06 BLASTING

- A. Unless otherwise noted in Section 01015 – Specific Project Requirements, blasting or other use of explosives for excavation will not be permitted
- B. If allowed, blasting shall conform to all applicable ordinances, rules, regulations, permit requirements including Kansas City, Missouri Ordinance 180591 and the Missouri Blasting and Safety Act.
- C. Contractor shall provide a plan for pre-blast surveys, monitoring during blasting and post blast surveys to City prior to use of explosives.
- D. All existing safety regulations, permits, laws and ordinances regarding the storage, transportation and use of explosives shall be observed.
- E. Blasting will be permitted only when proper precautions are taken for the protection of all persons, the work, private property and public utilities from damage or injury. Any damage done by blasting will be repaired by the Contractor at no additional cost to the City.

3.07 DEWATERING

- A. Dewatering equipment shall be provided to remove and dispose of all surface water and groundwater entering excavations, trenches or other parts of the Work.
- B. To prevent damage from hydrostatic pressure, flotation or other cause, all excavations shall be protected and kept dry during subgrade preparation and continually thereafter until the structure is built or the pipe is installed and the area is backfilled.
- C. All excavations for concrete structures or trenches which extend down to or below groundwater shall be dewatered by lowering and keeping the groundwater level beneath such excavations 12 inches or more below the bottom of the excavation.
- D. Surface water shall be diverted or otherwise prevented from entering excavations or trenches to the greatest extent possible without causing damage to adjacent property.
- E. If the material within the excavation becomes unsuitable or unstable as a result of the Contractor's inability to implement adequate surface diversion or dewatering measures, then the Contractor shall remove unsuitable materials and replace with approved compacted fill material as directed by City and at no additional cost to the City.
- F. Surface water and groundwater that contains silt and soil shall not be disposed of without pre-treatment.
- G. The Contractor is responsible for the condition of any pipe, conduit or drainage way which is utilized for drainage purposes. Any such pipe, conduit or drainage way utilized shall be left clean and free of sediment.

3.08 SHEETING AND SHORING

- A. The Contractor shall provide all shoring, bracing, cribbing, trench boxes, underpinning and sheeting as necessary to support excavations.
- B. The Contractor shall provide a Sheeting and Shoring Plan that includes provisions that will accomplish the following:
 - 1. Prevent undermining of pavements, foundations and slabs.
 - 2. Prevent slippage or movement in banks or slopes adjacent to the excavation.
 - 3. Allow for the abandonment of shoring and sheeting materials in place in critical areas as the Work is completed. In these areas, backfill the excavation to within 3 feet of the finished grade and remove the remaining exposed portion of the shoring before completing the backfill.
 - 4. Except where banks are cut back on a stable slope, excavations for structures shall be supported as necessary to prevent caving or sliding.
 - 5. Excavations shall provide adequate working space and clearances for the Work to be performed.
 - 6. Undercutting of excavation faces is prohibited.

3.09 BACKFILL AND COMPACTION

- A. See Section 02250 – Trenching, Pipe Embedment and Backfill for additional requirements.
- B. Fills and embankments shall be constructed to the lines and grades indicated on the Drawings, using suitable material or as specified in Section 01015 – Specific Project Requirements.
- C. Weather Limitations – Construction of fills and embankments during freezing weather shall not be done except by permission of the City/Design Professional. No fill or embankment materials shall be installed on frozen surfaces, nor shall froze material, snow or ice be placed in the fill or embankment.
- D. To the extent possible, excess suitable material obtained from trench excavation can be used for the construction of fills and embankments. Additional material shall be provided as required.
- E. After preparation of the fill or embankment site, the subgrade shall be leveled and rolled so that surface materials of the subgrade will be compacted and well bonded with the first layer of the fill or embankment and for subsequent layers.
- F. All fill and embankment materials shall be placed in layers not to exceed 8 inches in un-compacted thickness.
- G. Material deposited in piles or rows by excavating and hauling equipment shall be spread and leveled before compacting.
- H. No shale particles, rock, gravel or stone with any dimension greater than 2 inches shall be placed in the upper 18 inches of any fill or embankment. Rocks or stones within the allowable size limit may be incorporated in the remainder of fills and embankments, provided they are distributed so that they do not interfere with proper compaction.
- I. The material in each layer shall be wetted or dried as required and thoroughly mixed to ensure uniform moisture content and adequate compaction. Each layer shall be thoroughly compacted as follows:
 - 1. Unpaved Areas:
 - (a) 90% of maximum dry density at moisture content range from 3% below optimum to 2% above optimum as determined by ASTM D698.
 - (b) If the material fails to meet the density specified, compaction methods shall be altered.

2. Paved Areas:
 - (a) All subgrades below paved area and within 1 foot of a paved areas shall be compacted to 95% of maximum dry density at moisture content range from 3% below optimum to 2% above optimum as determined by ASTM D698 for the subgrade 1 foot outside of paved areas.
 - (b) If the material fails to meet the density specified, compaction methods shall be altered.
3. Project specific requirements for backfill and compaction may be modified in Section 01015 – Specific Project Requirements.
- J. Trenches in Embankments – Wherever a trench is to pass through a fill or embankment, the fill or embankment material shall be placed and compacted to an elevation not less than 36 inches above the top of pipe elevation before the trench is re-excavated.
- K. Unless otherwise specified in Section 01015 – Specific Project Requirements, trenches and pipes that pass through a water-containing embankment shall eliminate the granular embedment material and the trench bottom shall be graded to provide uniform and continuous support for the pipe. The pipe shall be embedded in embankment material containing no rocks, stones or other pervious material. The embedment material shall be compacted as specified for the embankment.

3.10 GRANULAR FILLS

- A. See Section 02250 – Trenching, Pipe Embedment and Backfill for additional requirements.
- B. Granular fill material shall be provided where indicated on the drawings.
- C. Granular fill material shall be placed on suitably prepared subgrades and compacted by vibration.
- D. Backfill and Compaction – The material in each layer shall be wetted or dried as required and thoroughly mixed to ensure uniform moisture content and adequate compaction. Each layer shall be thoroughly compacted with a vibratory compactor to 95% of maximum dry density at moisture content range from 3% below optimum to 2% above optimum as determined by ASTM D698.
- E. If the material fails to meet the density specified, compaction methods shall be altered.
- F. Where granular fills are to be covered with concrete, the top surface shall be graded to the required subgrade.

3.11 FIELD QUALITY CONTROL

- A. See Section 02250 – Trenching, Pipe Embedment and Backfill for additional requirements.
- B. Compaction Tests:
 1. Two initial gradation tests shall be made for each type of embedment, fill and backfill material used and one additional gradation test shall be made for each additional 500 tons of each material. At the sole expense of the Contractor, moisture-density (Proctor) tests, relative density tests on the materials and all in-place field density tests shall be performed by the Contractor. All tests performed shall be done in accordance with ASTM D698.
 2. The method of in-place compaction testing including density and moisture content shall be as follows:

- (a) Density - Cohesive materials: ASTM D2167, ASTM D1556 or ASTM D6938.
- (b) Density - Cohesion-less materials: ASTM D6938.
- (c) Moisture Content: ASTM D6938.
- 3. The minimum frequency of in-place compaction testing including density and moisture content will be as follows:
 - (a) At least one test for every 2,000 cubic yards of material placed in a mass fill.
 - (b) At least one test when the City suspects the quality of moisture control or effectiveness of compaction.
- 4. Any material/fill failing to meet required densities shall be removed, replaced and compacted as necessary to achieve specified results.
- 5. Removal of in-place material and replacement with approved new material will be required if scarifying and re-compaction do not produce the required densities.

3.12 EQUIPMENT

- A. The Contractor shall utilize appropriate equipment to obtain the compaction requirements specified. Acceptable equipment includes, but is not limited to, the following:
 - 1. Tamping Rollers.
 - 2. Pneumatic Rollers.
 - 3. Vibratory Rollers.
 - 4. Other methods that have been tested and have been shown to meet the specified compaction rates.
- B. Power tampers or rammers shall be used for the compaction of material in areas where it is impractical or unsafe to use heavy equipment or as recommended by the City.
- C. Vibratory plate compactors, manual or attached to excavation equipment, may be used for consolidation of embedment and compaction of granular fill in areas where it is impractical or unsafe to use heavy equipment or as recommended by the City.
- D. All compaction equipment is subject to the approval of the City/Design Professional.

3.13 FINAL GRADING AND PLACEMENT OF TOPSOIL

- A. After all trenching, backfilling, compaction and embankments to be constructed have been rough graded, all areas shall be final graded to the indicated elevations, slopes and contours.
- B. All cuts, fills, embankments and other areas which have been disturbed or damaged by construction operations shall be surfaced with at least 6 inches of topsoil to meet final grade.
- C. Use of graders or other power equipment will be permitted for final grading and dressing slopes, provided the result is uniform and equivalent to manual methods.
- D. All surfaces shall be graded to provide effective drainage. Unless otherwise indicated, a slope of at least 1 percent shall be provided.
- E. Final grade shall be smooth, even and free from clods, rocks, stones, weeds, brush and other debris.

3.14 DISPOSAL OF EXCESS EXCAVATED MATERIALS

- A. Except as otherwise permitted, all excess excavated materials shall be disposed of off-site.
- B. Demolition Debris, see Section 02190 – Demolition.

- C. Rock – Excavated rock in excess of the amount permitted to be installed in trench backfill (see Section 02250 – Trenching, Pipe Embedment and Backfill) shall be disposed of off-site.
- D. Other Debris – Waste material and other debris encountered in during excavation shall be disposed of off-site.
- E. The disposal of waste and surplus excavated materials, including hauling, handling and grading is incidental to Earthwork. No separate measurement or payment shall be made.

3.15 SEEDING AND SODDING

- A. All areas disturbed by the Contractor’s operations shall be seeded or sodded according to the requirements of Section 02930 – Seeding or Section 02931- Sodding.

3.16 SETTLEMENT

- A. The Contractor is solely responsible for all settlement which may occur within the correction period (as stipulated in the General Conditions and Supplementary Conditions). Within 30 days after notice from the City, the Contractor shall make all settlement repairs and the associated restoration caused by correcting the settlement.

END OF SECTION

SECTION 02575 – SURFACE RESTORATION

PART 1 - GENERAL

1.01 SUMMARY

- A. This section covers Work associated with surface restoration within the City’s right-of-way, provided easements and other areas disturbed during construction.
- B. The Contractor shall replace all surface material and shall restore paving, curbing, sidewalks, gutters, shrubbery, fences, sod and all other surfaces disturbed or damaged by construction activities to a condition of equal or better than before the start of the Work.
- C. The Contractor shall restore the Site to conditions not less than that which existed prior to starting construction unless otherwise required by: the contract documents, permits and/or licenses.
- D. Coordinate surface restoration work with the affected property owners and the City/Design Professional. Special requests for restoration should be documented in writing and provided to the City/Design Professional.
- E. Private property on which the City has prior rights (i.e. easements, general utility easement, etc.) and/or has obtained easements, rights-of-way, licenses and/or agreements from the property owner shall be restored in conformance with these Contract Documents. Restore public property in accordance with the requirements of the department or public body having jurisdiction. Such entities include, but are not limited to, the following:
 - 1. The City of Kansas City, MO Public Works Department.
 - 2. The City of Kansas City, MO Parks and Recreation Department.
 - 3. Missouri Department of Transportation.

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 in the contract documents.

1.03 RELATED SECTIONS

- A. Section 00700 – General Conditions.
- B. Section 00800 – Supplementary Conditions.
- C. Section 01000 – General Project Requirements.
- D. Section 01015 – Specific Project Requirements.
- E. Section 01320 – Construction Progress Documentation
- F. Section 01322 – Photographic and Video Documentation.
- G. Section 01566 – Cleanup Operations.
- H. Section 02200 – Earthwork.
- I. Section 02250 – Trenching, Pipe Embedment and Backfill.
- J. Section 02930 – Seeding.
- K. Section 02931 – Sodding.
- L. Section 02949 – Tree Protection, Removal and Replacement.

1.04 CODES AND STANDARDS

- A. The publications listed below form a part of this specification to the extent referenced. The most recent version of the publications are referred to within the text by the basic designation only.

- B. The City of Kansas City, Missouri Department of Public Works Construction and Material Specifications (<http://kcmo.gov/publicworks/design-construction-standards/>):
- | | |
|---------------|---|
| KCMO PW 2200* | Section 2200, Paving. |
| KCMO PW 2202 | Subsection 2202, Untreated Compacted Aggregate. |
| KCMO PW 2204 | Subsection 2204, Prime and Tack Coat. |
| KCMO PW 2209 | Subsection 2209, Curbing. |
| KCMO PW 2211 | Subsection 2211, Smoothness. |
| KCMO PW 2301 | Subsection Section 2301, Incidental Construction, Standard Sidewalks, Sidewalk Ramps, Driveways and Bicycle/Pedestrian Paths. |
| KCMO PW 2302 | Subsection 2302 Asphalt Sidewalks, Driveways and Bicycle/Pedestrian Paths. |
| KCMO PW 2306 | Subsection 2306 Pavement Markings. |
- C. The City of Kansas City, Missouri Department of Public Works Standard Drawings (<http://kcmo.gov/publicworks/standard-drawings/>):
- | | |
|--------------|--|
| KCMO PW C* | Standard Drawing Number C, Curbs. |
| KCMO PW D-1 | Standard Drawing Number D-1, Driveway Entrances. |
| KCMO PW D-2 | Standard Drawing Number D-2, Reconstructed Driveways. |
| KCMO PW D-US | Standard Drawing Number D-US, Driveway Unimproved Streets. |
| KCMO PW SR-1 | Standard Drawing Number SR-1, Street Cut Restoration. |
- D. The City of Kansas City, Missouri Parks and Recreation Department (<https://kcparks.org/services/parks-planning-and-design-services/>):
- | | |
|-------------|--|
| KCMO PR CR* | Standard Detail Number CR, Rollback Curb and Gutter. |
| KCMO PR DC | Standard Detail Number DC, Commercial Driveway. |
| KCMO PR DR | Standard Detail Number DR, Residential Driveway. |
| KCMO PR SC | Standard Detail Number SC, Commercial Sidewalk. |
| KCMO PR SR | Standard Detail Number SR, Residential Sidewalk. |
| KCMO PR ARA | Standard Detail Number ARA, ADA Curb Ramp-Type A. |
| KCMO PR ARB | Standard Detail Number ARB, ADA Curb Ramp-Type B. |
| KCMO PR C | Standard Detail Number C, Curb. |
| KCMO PR CG | Standard Detail Number CG, Curb and Gutter. |
| KCMO PR CJ | Standard Detail Number CJ, Concrete Joint. |

*Abbreviation used within this specification section to distinguish between the standards of the Public Works Department (PW) and the Parks and Recreation Department (PR).

- E. American Society for Testing and Materials (ASTM):
- | | |
|-------------|---|
| ASTM D 422 | Standard Test Method for Particle-Size Analysis of Soils, grain-size, hydrometer analysis, hygroscopic moisture, particle-size, sieve analysis. |
| ASTM C 309 | Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete. |
| ASTM A 615 | Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement. |
| ASTM D 977 | Standard Specification for Emulsified Asphalt. |
| ASTM D 2397 | Standard Specification for Cationic Emulsified Asphalt. |

- | | |
|-------------|--|
| ASTM D 2027 | Standard Specification for Cutback Asphalt (Medium-Curing Type). |
| ASTM D 2028 | Standard Specification for Cutback Asphalt (Rapid Curing Type). |
| ASTM E11 | Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves. |
| ASTM D448 | Standard Classification for Sizes of Aggregate for Road and Bridge Construction. |
| ASTM C131 | Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine. |
- F. Missouri Department of Transportation:
MoDOT Missouri Standard Specifications for Highway Construction (<https://www.modot.org/missouri-standard-specifications-highway-construction>).

1.05 DEFINITIONS

- A. Established Lawn: An Unpaved Area of soil-covered land planted with grasses which are maintained at a height of 5 inches or less. Established lawns include, but are not limited to, grassed areas associated with residential lots, businesses, parks, cemeteries, etc.
- B. Improved Street: A paved, public street, or portion thereof, that incorporates a curb and a gutter.
- C. Paved Areas: Areas for which the final surfacing will be street pavement, shoulders, driveways, parking lots, curbs, gutters, sidewalks, gravel roads, or other surface construction or structures.
- D. Site: Lands or areas indicated in the Contract Documents as being furnished by the City upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by the City which are designated for the use of the Contractor, or as defined in Section 00700 – General Conditions.
- E. Unpaved Areas: Areas for which the final surfacing will not be a Paved Area.
- F. Unimproved Street: A public street, or portion thereof, that does not incorporate a curb and gutter.

1.06 INFORMATION PROVIDED BY THE CITY

- A. As provided in the Contract Documents.

1.07 SUBMITTALS

- A. Submit as specified in Section 01300 – Submittals.
- B. Shop Drawings:
 - 1. Submit as required by the contract documents.
- C. Product Data:
 - 1. Submit as required by the contract documents.
- D. Samples:
 - 1. Submit as required by the contract documents.
- E. Other Submittals:
 - 1. The Contractor’s Restoration Plan and Schedule adhering to all requirements of the contract documents.
 - 2. All applicable Department of Public Works standard specifications used to complete the Work.

3. All applicable Department of Public Works standard details used to complete the Work.
4. All applicable Parks and Recreation Department standard details used to complete the Work.

1.08 QUALITY ASSURANCE

- A. The Contractor is responsible for the quality assurance and quality control of the Work.
- B. All areas disturbed by the Contractor's operations shall be restored in accordance with the contract documents, applicable permits and as directed by the City/Design Professional.
- C. All Work shall be performed by a Contractor, with a proven record of performance for the required restoration work. The Contractor shall submit the following:
 1. The materials to be used to restore the surface.

1.09 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery of materials shall be in manufacturer's original unopened and undamaged packages. They shall be clearly marked to identify brand name, contents and order number on each package. Packages showing indication of damage that may affect condition of contents are not acceptable.
- B. Storage of material shall provide protective cover from damage and stored at temperatures in accordance with manufacturer's recommendation. Materials shall be staked or stored in accordance with manufacturer's recommendations.

1.10 RESTORATION SCHEDULE

- A. Project milestones and restoration schedule criteria shall be as specified in the following sections:
 1. Section 00800 – Supplemental Conditions.
 2. Section 01015 – Specific Project Requirements.
- B. The specified milestone and/or restoration schedule criteria shall be incorporated in the project schedule as required by Section 01320 – Construction Progress Documentation.

1.11 PROPERTY-SPECIFIC RESTORATION

- A. Easements provided by the City for the construction of the Work may include property-specific restoration requirements. These requirements are noted on the Contract Drawings or included in Section 01015 – Specific Project Requirements.

PART 2 - PRODUCTS

2.01 INCIDENTAL CONCRETE CONSTRUCTION

- A. Incidental concrete construction includes curbs, gutters, sidewalks, sidewalk ramps, ADA ramps, driveways, bicycle/pedestrian paths and other Work indicated in the Contract Documents.
- B. Parks and Recreation Department Standards: Incidental concrete surface restoration for Work having jurisdiction of the City of Kansas City, Missouri Parks and Recreation Department shall comply with the standards listed in paragraph CODES AND STANDARDS. All materials and construction standards are noted on the standard details.
- C. Public Works Department Standards: All materials and construction for incidental concrete surface restoration for Work having jurisdiction of the City of Kansas City, Missouri Public shall comply with the standards listed in paragraph CODES AND STANDARDS:
 1. Sidewalks: KCMO PW 2301.
 2. Sidewalk ramps: KCMO PW 2301.

3. Driveways: KCMO PW 2301.
4. Bicycle/pedestrian paths: KCMO PW 2301.
5. Curbs: KCMO PW 2209.
6. Curb and gutters: KCMO PW 2209.

2.02 GRANULAR SUBBASE MATERIAL

- A. Granular subbase material for incidental concrete construction shall conform to the requirements of Section 02200-Earthwork.

2.03 INCIDENTAL ASPHALT CONSTRUCTION

- A. Incidental asphalt work includes, but is not limited to, the construction of asphaltic concrete sidewalks, driveways, bicycle/pedestrian ramps and other Work indicated in the Contract Documents.
- B. Materials and construction for incidental asphalt surface restoration shall comply with the standards listed in paragraph CODES AND STANDARDS, KCMO PW 2302.

2.04 PAVEMENT

- A. Restoration of pavements shall include, but is not limited to, streets, parking lots, alleys, and other areas subject to traffic and other Work indicated in the Contract Documents.
- B. All materials and construction shall comply with the standards listed in paragraph CODES AND STANDARDS, KCMO PW 2200 and KCMO PW SR-1.
- C. Pavement shall be restored with the type of material existing prior to the Work unless otherwise noted in the Contract Documents.

2.05 PAVEMENT MARKINGS

- A. Materials and construction for incidental asphalt surface restoration shall comply with the standards listed in paragraph CODES AND STANDARDS, KCMO PW 2306.
- B. Paragraph Method of Measurement shall not apply.
- C. Paragraph Basis of Payment shall not apply.

2.06 AGGREGATE FOR SURFACING

- A. Aggregate for surfacing shall meet the requirements of Section 02200-Earthwork, paragraph GRANULAR FILL MATERIAL.

2.07 SEEDING SODDING

- A. Seeding shall conform to Section 02930 – Seeding.

2.08 SODDING

- A. Sodding shall conform to Section 02931 – Sodding.

PART 3 - EXECUTION

3.01 GENERAL

- A. The Contractor shall restore all permanent type pavements, sidewalks, driveways, curbs, gutters, and surface structures, lawns, landscaped areas, and other land covers that are removed or disturbed as a result of construction operations (unless otherwise requested in writing by the property owner).

3.02 FINAL GRADING

- A. Final grading shall conform to Section 02200 – Earthwork, paragraph FINAL GRADING AND PLACEMENT OF TOPSOIL.
- B. Finish grade the area to lines and grades which existed prior to the area being disturbed, with special attention directed to proper surface drainage, and the refilling of settled excavations with earth or fill compacted to the appropriate densities required.
- C. Eroded areas and areas having inadequate drainage, as indicated by ponding of water, shall be filled.
- D. Ruts, deep tracks, dead furrows, and ridges shall be eliminated.
- E. The area shall be smoothed by raking and/or dragging.
- F. Before placing topsoil, remove and dispose of excess gravel to the satisfaction of the City. Leave no stones larger than 1 inch on the surface.
- G. Flower and vegetable gardens in existence prior to this project shall have the separately stored topsoil restored unless otherwise requested in writing by the property owner.
- H. Cultivated areas shall be left in tillable condition; compacted areas shall be plowed or cultivated to loosen and aerate the soil.

3.03 AGGREGATE SURFACING

- A. Unless otherwise indicated on the Drawings, gravel surfaces shall be restored with a minimum 6 inches of compacted aggregate,

3.04 ESTABLISHMENT OF TURF

- A. Sodding
 - 1. Sodding shall be conducted in accordance with Section 02931 – Sodding.
 - 2. Unless otherwise specified in Section 01015 – Specific Project Requirements or on the Drawings, all unpaved areas that are established lawns prior to construction that are disturbed by construction shall be sodded (temporary seeding as approved by the City/Design Professional).
 - 3. If the Contract Documents do not identify the type of sod to be placed, then the sod type shall be the same as the type removed or damaged as part of the Work, or as directed by the City’s representative (unless otherwise requested in writing by the property owner).
 - 4. Section 02931 – Sodding provides specification for the following sod types
 - (a) Fescue Turf:
 - (i) Type 1 Sod – Turf Type Tall Fescue.
 - (ii) Type 2 Sod – Kentucky Blue Grass and Turf Type Tall Fescue.
 - (b) Bermuda Turf: Type 3 Sod – Bermuda Grass.
 - (c) Zoysia Turf: Type 4 – Zoysia Grass.
- B. Seeding:
 - 1. Seeding shall be conducted in accordance with Section 02930 – Seeding.
- C. Maintenance:
 - 1. The Contractor shall be responsible for maintaining all turfed areas disturbed by construction activities.
 - 2. Maintenance Period: The Contractor shall maintain turfed areas until all of the following conditions have been met:
 - (a) The turf, including repairs, has been established as defined herein.
 - (b) The turf meets the requirements of paragraph ACCEPTABLE CONDITIONS to the satisfaction of the City.
 - (c) The minimum establishment period for all new turf, including repairs has passed.
 - (d) The Contractor shall be responsible for maintenance of turfed areas until establishment.

- (e) If specified in Section 01015 – Specific Project Requirements, the Contractor has provided notification in accordance with paragraph NOTIFICATION OF PROPERTY OWNERS.
- (f) As approved by the City in accordance with paragraph EARLY RELINQUISHMENT OF MAINTENANCE RESPONSIBILITIES.
- 3. All turfed areas shall be kept in a healthy growing condition by watering, weeding, mowing, trimming, edging, repairs, etc.
- 4. Watering and Water Usage:
 - (a) Promptly after seeding or sodding, wet the area thoroughly. Watering shall continue so as to keep all areas moist as needed to promote healthy growth.
 - (b) Water used in this work shall be furnished by the Contractor and shall be suitable for irrigation and free from ingredients harmful to plant life.
 - (c) All watering equipment required for the work shall be furnished by the Contractor.
 - (d) Water may be taken from adjacent fire hydrants or public water lines only through metered and backflow protected hydrant connections permitted and issued by the City.
- 5. Mowing:
 - (a) All turfed areas within the limits of the Site shall be mowed with approved mowing equipment to a height of 3 inches whenever the average height of vegetation becomes 5 inches.
 - (b) Grass clippings shall be bagged with the mowing processes and clippings shall be disposed of off-site.
- D. Establishment Period:
 - 1. The establishment period for turfed areas shall be no less than 30 calendar days from the time of planting or last time of repair.
 - 2. The Contractor may not request the Final Inspection (as specified in Section 00700 – General Conditions, Article 14) until all turfed areas have completed the minimum establishment period.
- E. Acceptable Conditions:
 - 1. Turfed areas will be acceptable when grasses are growing, are in good condition, and no area more than 20 percent of the total areas is bare; of which no single area shall be more than 1-foot square in area. Any bare area larger than this will not be acceptable and shall be re-seeded or re-sodded (as applicable) at no additional cost to the City.
 - 2. For sodded areas, the grass shall be sufficiently rooted so that that sod pads cannot be lifted from the sod bed.
- F. Early Relinquishment of Maintenance Responsibilities:
 - 1. The Contractor may request in writing the early acceptance of turfed areas and a return of maintenance responsibilities to the property owner prior to the end of the maintenance period.
 - 2. Limitations on Acceptance of Turf:
 - (a) Acceptance of this request is at the sole discretion of the City.
 - (b) Acceptance of the turf for the purposes of transferring maintenance responsibilities does not constitute acceptance of the Work as a whole, Substantial Completion, Partial Utilization, or a Final Inspection as define in Section 00700 – General Conditions and modified in Section 00800 – Supplementary Conditions.
 - 3. Before the request is made, the following conditions must be met:
 - (a) The turf, including repairs, has been established.
 - (b) The minimum establishment period has passed for the turf, including repairs.
 - (c) Work has substantially been completed within the area, and no other construction activities are anticipated that will disturb or damage the turf.

- (d) The Contractor has demobilized all labor and equipment from the area.
- (e) All construction materials have been removed from the area.
- 4. The Contractor shall submit a written request to the City indicating the area of the Site for which turf maintenance responsibilities are to be transferred to the property owners.
- 5. The Contractor shall schedule and inspection with the City and /or their representative to determine if the turfed areas are acceptable as specified above.
- 6. If the all turf within the defined area is acceptable, then the City will provide written notification to the Contractor documenting acceptance.
- 7. After acceptance of the request for relinquishment of maintenance, the Contractor shall perform the following:
 - (a) Within 5 working days of acceptance, document the condition of the turfed areas in accordance with Section 01322 – Photographic and Video Documentation. Photographic documentation of conditions shall be conducted at no additional cost to the City.
 - (b) Notify all affected property owners in accordance with paragraph NOTIFICATION OF PROPERTY OWNERS.
 - (c) Provide written notification to the City that all affected property owners have been notified of the relinquishment of maintenance responsibilities.
- 8. After all the requirements listed above have been meet, then the City will consider maintenance responsibility of the identified turfed areas to be transferred to the respective property owners.
- G. Notification of Property Owners: In accordance with Section 01581 – Public Communications, the Contractor shall notify all affected property owners that the Work on their property has been completed, that turf has been established and that maintenance of the turfed area is now the property owner’s responsibility.

3.05 TREES, BUSHES AND PLANTS: PROTECTION AND REPLACEMENT

- A. Protection:
 - 1. The protection of trees, bushes and plants shall be done in accordance with Section 02949 – Tree Protection, Removal and Replacement.
- B. Transplanting shall be done in accordance with Section 02949:
 - 1. Existing trees, bushes, and hedges which cannot be tied back or trimmed to prevent damage and require removal because of the proposed construction shall be transplanted with a tree spade or replaced.
 - 2. Tree removal shall include the removal of stump and roots as specified in Section 02949.
 - 3. Transplanting shall be at the location directed by the City/Design Professional or as applicable by the Parks and recreation Department.
 - 4. After digging the plants, properly store them until they can be transplanted.
- C. Pruning or Replacement:
 - 1. Pruning or replacement of trees shall be done in accordance with Section 02949 – Tree Protection, Removal and Replacement.
 - 2. Replacement plants shall not be delivered until they can be planted.
- D. Plant during the proper seasons. Do not plant in frozen soil or during unfavorable weather conditions. Dig tree pits of such size as to provide ample space for the entire root system, as the tree comes from the nursery, without crowding or bending the roots. The pits shall be 12 inches wider than the ball diameter, have vertical sides, and be six inches deeper than the thickness of the ball. Thoroughly loosen the soil in the bottom of the pit by spading to a depth of six inches. Dig holes immediately before planting. Dispose of soil earth dug from the tree pits off the project site.

3.06 STREET CUT RESTORATION

- A. All pavement restoration work in streets shall conform to KCMO PW SR-1 with the following exceptions:
 - 1. Pipe bedding material and installation shall conform to Section 02250 – Trenching, Pipe Embedment and Backfill.
 - 2. Backfill material and installation shall conform to Section 02250 – Trenching, Pipe Embedment and Backfill.
 - 3. With respect to DETAIL 1 – ASPHALT PAVEMENT SURFACE (SR-1, page 1 of 3), the Contractor may pour the Portland cement concrete cap to finish grade. If poured to finish grade, the Contractor shall mill the top of the Portland cement concrete cap a uniform 2 inches ensuring a 2” vertical profile at edge prior to installing the 2” Patch (Type-5-01).
- B. Smoothness:
 - 1. The finish of the pavement surface shall be substantially free from waves or irregularities and shall be true to the established crown and grade.
 - 2. The final surface of pavement will comply with KCMO PW 2211.
 - 3. Testing for smoothness shall be conducted as directed by the City/Design Professional.
 - 4. Measurements for smoothness shall be pass or fail at the sole discretion of the City or their representative. No pay adjustments will be considered.
- C. Provide a straight joint between the existing and new surface per KCMO PW SR-1. All joints shall be at right angles. Diagonal cutting of pavement is prohibited.
- D. Unless the top 2” will be milled, cure and protect all exposed concrete installed under this contract in accordance with the referenced standard.
- E. Unless additives are used to accelerate curing, concrete shall achieve 70% of maximum strength before allowing traffic or construction equipment on the concrete (as proven by cylinder breaks).

3.07 CONCRETE SIDEWALKS, TRAILS, DRIVEWAY APPROACHES, AND RAMPS

- A. Remove concrete to the nearest joint. Removal of partial squares shall not be allowed.
- B. Saw-cut existing sidewalks at construction joints. Patching existing sidewalk squares damaged during construction activities shall not be allowed.
- C. Construct in accordance with all applicable KCMO Public Works and Parks and Recreation Standards.
- D. Minimum concrete thickness for residential sidewalks, trails, driveway approaches, ADA ramps, etc. shall be in accordance with the applicable KCMO Public Works or Parks and Recreation Standard.
- E. All concrete shall be constructed on a minimum of 4 inches of compacted granular sub-base material.
- F. Where sidewalks are constructed across aggregate driveways, increase the thickness to a minimum of six inches across the width of the driveway.
- G. At locations where sidewalks intersect with streets and sidewalk restoration is required, the Contractor shall construct sidewalk ramps in accordance with KCMO PW 2301.

3.08 CONCRETE CURB AND GUTTER

- A. Curb and Gutter dimensions and cross sections shall conform to existing installations. Construct new curbs and gutter in accordance with KCMO PW C.
- B. Expansion joints with dowels shall be placed where the new curb abuts existing curb and as required by KCMO PW C.

3.09 DRIVEWAY ENTRANCE/APPROACH RESTORATION

- A. Driveways shall be restored to a width matching preconstruction conditions, as indicated on the Drawings, or as indicated Section 01015 – Specific Project Requirements.
- B. Subgrades for driveway entrance restoration shall be in accordance with Section 02200 – Earthwork, paragraph BACKFILL AND COMPACTION.
- C. The Contractor shall provide full driveway flare/approach replacement if any of the following conditions are met:
 - 1. The Work requires removal of a portion of the driveway which includes the driveway flare/approach.
 - 2. The Contractor damages the driveway flare/approach.
 - 3. As indicated on the Drawings.
 - 4. As specified in Section 01015 – Specific Project Requirements.
- D. The Contractor may remove the drive approach and driveway pavement within the right-of-way and/or easements necessary to facilitate the Work.
- E. The limits of restorations beyond disturbed areas shall be as follows:
 - 1. To the Nearest Joint: The Contractor shall restore paved driveway surfaces from the street pavement to the nearest existing driveway joint.
 - (a) The Contractor shall saw cut the full depth of pavement to be removed.
 - (b) In no case shall the joint created by saw cutting be less than 3 feet from an existing joint. Adjust the location of the saw cut accordingly.
- F. Driveway Entrance Replacement Standards: Driveways entrances that abut improved streets shall be reconstructed in accordance with the following standards:
 - 1. Public Works Department Standards:
 - (a) KCMO PW D-1.
 - (b) KCMO PW D-2.
 - (c) Construction shall be in accordance with KCMO PW 2301.
 - 2. Parks and Recreation Department Standards:
 - (a) KCMO PR DC.
 - (b) KCMO PR DR.
 - (c) Construction shall be in accordance with KCMO PW 2301.
 - 3. Asphalt Driveway Entrances Abutting Unimproved Streets: Asphalt driveway entrances that abut unimproved streets shall be reconstructed in accordance with the following standards:
 - (a) KCMO PW D-US.
 - (b) Construction shall be in accordance with KCMO PW 2302.
 - 4. Concrete Driveways abutting Unimproved Street: Concrete driveway entrances that abut unimproved streets shall be reconstructed in accordance with the following standards:
 - (a) KCMO PW D-US, except that the material for construction shall be concrete.
 - (b) Construction shall be in accordance with KCMO PW 2301.
 - (c) The concrete thickness shall be a minimum of 6 inches.
 - (d) Expansion and contraction joints shall conform to the details shown on KCMO PW D-1.
 - (e) New joints shall match existing joint patterns (finished the same as existing), but shall be spaced at a maximum distance of 10 feet in both directions (\leq 100 square feet).

3.10 DRIVEWAY PATCHING

- A. Driveway patching will be allowed if any of the following conditions are met:
 - 1. The Work does not require the removal of the driveway flare.
 - 2. The Contractor does not damage the driveway flare/approach.

3. As indicated on the Drawings.
 4. As specified in Section 01015 – Specific Project Requirements.
 5. As requested in writing from the City.
- B. The Contractor may remove and replace a portion of the driveway necessary to facilitate the Work and the existing driveway flare may remain. Pavement shall be removed and replaced in accordance with the following:
1. To the Nearest Joint:
 - (a) The Contractor shall remove and replace damaged driveway surfaces from the joint of the driveway flare/approach to the nearest joint of the driveway.
 - i. If the nearest joint is beyond the right-of-way or easement, the Contractor may saw cut the driveway if permitted by the City/Design Professional. In no case shall the joint created by saw cutting be less than 3 feet from an existing joint.
 2. The Contractor shall saw cut the full depth of pavement to be removed.
- C. Subgrades for driveway patching shall be in accordance with Section 02200 – Earthwork, paragraph BACKFILL AND COMPACTION.
- D. The Contractor shall replace all paved surfaces damaged or removed for the Work.
- E. Concrete Driveways:
1. Construction shall be in accordance with KCMO PW 2301.
 2. The thickness of the concrete shall be the same as the pavement removed or 6 inches; whichever is greater.
- F. Asphalt Driveways:
1. Construction shall be in accordance with KCMO PW 2302.
 2. The thickness of the concrete shall be the same as the pavement removed or 6 inches; whichever is greater.

3.11 ASPHALTIC CONCRETE PAVEMENT

- A. Construction of asphaltic concrete pavement shall conform to KCMO PW 2200.
- B. The limits of asphaltic concrete replacement shall be noted on the Drawings.
- C. Applicable details for asphaltic concrete pavement reconstruction shall be as indicated on the Drawings or Section 01015 – Specific Project Requirements.

3.12 PORTLAND CEMENT CONCRETE PAVEMENT

- A. Construction of Portland Cement Concrete pavement shall be in accordance with KCMO PW 2200. The limits of asphalt concrete replacement shall be noted on the Drawings.
- B. The limits of Portland Cement Concrete pavement replacement shall be as indicated on the Drawings.
- C. Applicable details for Portland Cement Concrete pavement reconstruction shall be as indicated on the Drawings or Section 01015 – Specific Project Requirements.

3.13 SUBSTANTIAL COMPLETION/ACHIEVEMENT OF FULL OPERATION

- A. When the Contractor considers the Work ready for its intended use, the Contractor shall notify the City in accordance with Section 00700 – General Conditions, Article 14 – Payments to the Contractor and Completion.

3.14 CLEANUP

- A. Cleanup operations shall be conducted in accordance with Section 01566 – Cleanup Operations.

3.15 SAFETY SIGNS, BARRICADES, LIGHTS AND PROJECT SIGNS

- A. Maintain adequate safety signs, barricades and lights until final restoration is completed.
- B. The Contractor shall install and maintain all project signs for the duration of the Work.

3.16 MAIL BOXES

- A. Mail boxes shall be maintained through the duration of the project in accordance with Section 01000 – General Project Requirements, paragraph MAIL BOXES.

END OF SECTION

SECTION 02618 – DUCTILE IRON PIPE FOR WATER MAINS

PART 1 - GENERAL

1.01 SUMMARY

- A. This section covers materials and installation of pipe, fittings and relevant appurtenances associated with the installation of ductile iron pipe water mains. This section applies to all water mains 54 inches in diameter and smaller. This section also applies when diameters larger than 54 inches is specified for the project.
- B. This section also includes Shop Coatings, Linings, Bolts, Nuts, Polyethylene Encasement and other Protective Coatings.

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.
- D. Section 02200 – Earthwork.
- E. Section 02250 – Trenching, Pipe Embedment and Backfill.
- F. Section 02669 – Thrust Restraints.

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. American Society for Testing and Materials (ASTM):
 - ASTM A276 Standard Specification for Stainless Steel Bars and Shapes
 - ASTM A307 Standard Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile
 - ASTM D4976 Standard Specification for Polyethylene Tubing.
- C. American National Standards Institute (ANSI):
 - ANSI/NSF61 Drinking Water Treatment Chemicals
 - ANSI B18.2.2 Nuts for General Applications: Machine Screw Nuts, Hex, Square, Hex Flange, and Coupling Nuts (Inch Series).
- D. American Water Works Associations (AWWA):
 - AWWA C104/ANSI A21.4 Cement-Mortar Lining for Cast-Iron Pipe and Fittings
 - AWWA C105/ANSI A21.5 Polyethylene Encasement for Ductile Iron Piping
 - AWWA C110/ANSI A21.10 Gray-Iron and Ductile Iron Fittings
 - AWWA C111/ANSI A21.11 Rubber-Gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings
 - AWWA C115/ANSI A21.15 Flanged Ductile-Iron Pipe with Ductile Iron or Gray Iron Thread
 - AWWA C150/ANSI A21.50 Standard for the Thickness Design of Ductile Iron Pipe
 - AWWA C151/ANSI A21.51 Ductile Iron Pipe Centrifugally Cast for Water
 - AWWA C153/ANSI A21.53 Ductile-Iron Compact Fittings, 3 in. through 24 in.

- | | |
|-----------|---|
| AWWA C203 | Standards for Steel Pipe |
| AWWA C550 | Protective Epoxy Interior Coatings for Valves and Hydrants |
| AWWA C600 | Installation of Ductile Iron Water Mains and their Appurtenances. |
- E. International Organization for Standardization (ISO):
- | | |
|------------|--|
| ISO 8179-1 | Ductile Iron Pipes, Fitting, Accessories and their Joints – Zinc-Bases Coating – Part 1: Metallic Zinc with Finishing Layer. |
|------------|--|

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.
- B. Shop Drawings:
1. Submit shop drawings and project data (laying schedule) for piping work showing pipe and fitting sizes, valve locations, joint details; and hydrant locations.
- C. Product Data:
1. Pipe Data. In accordance with paragraph QUALITY ASSURANCE.
 2. Test Data. In accordance with paragraph QUALITY ASSURANCE.
 3. Polyethylene Encasement.
 4. Push On Joints.
 5. Mechanical Joints.
 6. Flanged Joints.
 7. Appurtenances:
 - (a) Tie rods.
 - (b) Couplings.
 8. Interior Coatings.
 9. Exterior Coatings.
 10. Bolts and Nuts.
 11. Polyethylene Encasement.
- D. Other Submittals:
1. Manufacturer’s Experience. In accordance with paragraph QUALITY ASSURANCE.

1.07 QUALITY ASSURANCE

- A. Follow provisions of AWWA C600.
- B. Manufacturer’s Experience. The manufacturer shall be a company specializing in manufacturing the Products specified in this section with minimum three years documented experience. Submit manufacturer’s experience in accordance with paragraph SUBMITTALS.
- C. Mark rejected or defective materials and remove them from the work site.
- D. The Contractor shall submit to the City written evidence of the following:
1. Pipe Product Data. That the pipe furnished under this specification is in conformance with the material and mechanical requirements specified herein.
 2. Test Data. Certified copies of independent laboratory test results or mill test results from the pipe supplier may be considered evidence of compliance provided such tests are performed in accordance with the appropriate ASTM or AWWA testing standards by experienced, competent personnel. Pipe manufacturer’s test results shall be stamped by a licensed Professional Engineer (PE) employed by the pipe manufacturer. In case of doubt

as to the accuracy or adequacy of mill tests, the City may require that the Contractor furnish test reports from an independent testing laboratory on samples of pipe materials.

- E. The City will inspect all pipe, fittings, and accessories delivered to the site for damage, cleanliness, and conformance to the specifications. No damaged, broken, cracked, deformed, mishandled, imperfectly coated, defective pipe or fittings shall be used. At the sole discretion of the City and at no additional cost to the City, items that are not acceptable shall either be repaired or completely removed from the site.

1.08 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Follow the provisions for the delivery, storage, protection and handling products to and at site provided in Section 01000 – General Project Requirements, paragraph PRODUCT DELIVERY, STORAGE AND HANDLING.
- B. Pipe, fittings, and accessories shall be handled in a manner that will ensure installation in a sound, undamaged condition. Equipment, tools, and methods used in unloading, reloading, hauling, and laying pipe and fittings shall be such that the pipe, pipe coating, and fittings are not damaged. Hooks shall not be used.
- C. Under no circumstances shall pipe or accessories be dropped or dumped.
- D. Pipe and fittings shall not be moved by inserting anything into pipe ends.
- E. Pipe and fittings on which the cement lining has been broken or loosened shall be replaced at no additional cost to the City.
- F. Where the damaged areas are small and readily accessible, the lining may be permitted to be repaired in accordance with AWWA C104 at no additional cost to the City.

1.09 ADDITIONAL COMPLIANCE SUBMITTALS

- A. Additional requirements for compliance submittals will be found in Section 01015 – Specific Project Requirements.

PART 2 - PRODUCTS

2.01 DUCTILE IRON PIPE

- A. Ductile iron pipe shall be designed and manufactured in accordance with AWWA C151/A21.51.
- B. All pipe shall be manufactured from at least 90% recycled ferrous scrap material.
- C. Pipe Thickness:
 - 1. Pipe thickness shall be in accordance with AWWA C150/ANSI A21.50. The following minimum thickness shall apply:
 - (a) Pipe 4 inches through 12 inches in diameter: Class 52.
 - (b) Pipe 16 inches through 54 inches diameter: Class 54.
 - 2. Pipe thickness classifications shall be as noted on the Drawings.
- D. Exterior Coating:
 - 1. The exterior of ductile iron pipe (not including fittings) shall be coated with a layer of arc-sprayed zinc conforming to ISO 8179-1.
 - 2. The mass of the zinc applied shall be 200 g/m² of pipe surface area.
 - 3. A finishing layer topcoat shall be applied to the zinc.
 - 4. The mean dry film thickness of the finishing layer shall not be less than 3 mils with a local minimum not less than 2 mils.
 - 5. The manufacturer shall clearly mark the outside of each pipe indicating the pipe has been coated in accordance with these specifications.

- E. Interior Coating/Lining:
 - 1. All pipe shall be cement mortar lined in accordance with AWWA C104/ANSI A21.4.
 - 2. Pipe cement-mortar lining shall be without an asphaltic interior seal coating.

2.02 PUSH ON JOINTS

- A. Pipe joints shall be of the push-on type unless otherwise specified or as shown on the Drawings.
- B. Joints shall conform to ANSI/AWWA C111/A21.11.
- C. Gaskets shall be neoprene or synthetic rubber. Gaskets shall be certified as suitable for chlorinated potable water in accordance with ANSI/NSF61. Natural rubber will not be acceptable.
- D. Restrained Joints. See Section 02669 – Thrust Restraints.

2.03 TESTING

- A. All pipe shall be tested and documented per AWWA C151 and paragraph 1.07 D.2 defined herein.
- B. All pipe 30” and larger shall also be hydrostatically tested to 75% of the yield strength of the metal based on the nominal thickness of the pipe.

2.04 FITTINGS

- A. All fittings shall be made of Ductile Iron and manufactured according to AWWA C110/ANSI A21.10 or AWWA C153/ANSI A21.53.
- B. Fitting joints shall be Mechanical Joint (MJ), Flange Joint (FLG), or Push-On Joint, per AWWA C111/ANSI A21.11. All MJ glands shall be ductile iron. Fittings shall have distinctly cast upon them, the pressure rating and the letters “DI” or “Ductile”. FLG Fittings shall be used only for aboveground installations.
- C. Welded-on outlets may not be used in lieu of tees.
- D. Flanged Joints: Shall be provided with full-face gaskets and shall meet the requirements of AWWA C115/ANSI A21.15.
- E. The exterior of fittings shall be coated with a layer of arc-sprayed zinc conforming to ISO 8179-1 or a zinc-rich primer conforming to ISO 8179-2. A finishing layer topcoat shall be applied to the zinc.
- F. Interior coating/lining shall be cement in accordance with ANSI/AWWA C104/A21.4, with double cement lining.
- G. As an alternative for interior/exterior coatings on fittings, the manufacturer may use a fusion bonded epoxy that is NSF 61 approved for potable water use and compiles with AWWA C550.

2.05 GLANDS AND OTHER APPURTENANCES

- A. All glands shall have a polyester triglycidyl isocyanurate (TGIC) powder coating or an approved equal applied for corrosion protection. See also Section 02669 – Thrust Restraints.
- B. Tie Rods shall be ASTM A276, Type 304 or Type 316 Stainless Steel.
- C. Couplings (when approved for use by the Water Services Department) shall be:
 - 1. Dresser “Style 38”.
 - 2. Smith-Blair “441 or 411 Flexible Coupling”; without pipe stop.
 - 3. Bolted compression type couplings shall be manufactured of epoxy coated steel or ductile iron specifically for use with ductile iron pipe.

2.06 TEE-BOLTS AND NUTS

- A. Tee-Bolts shall be manufactured with high-strength, low-alloy steel in accordance with AWWA C111 and ASTM A307, with chamfered or rounded ends projecting 1/4 to 1/2 inch from surface.
- B. Nuts shall be hexagonal manufactured in accordance with ASTM A307 and ANSI B18.2.2.
- C. Provide ceramic-filled, baked-on, fluorocarbon resin coating for tee-bolts and nuts.
- D. Include factory-applied lubricant that produces a low coefficient of friction for the ease of installation.

2.07 MARKINGS

- A. Markings shall be legibly cast in the pipe or painted thereon with waterproof paint.

2.08 POLYETHYLENE ENCASEMENT

- A. Polyethylene encasement materials shall be in accordance with ASTM D4976 and AWWA C105/ANSI A21.5.
- B. The Contractor may use either Linear Low Density (LLD), High Density Cross Laminated (HDCL) or V-Bio[®] Enhanced Polyethylene film with the minimum properties indicated in Table 1 below:

Table 1. Minimum Requirements for Polyethylene Encasement			
Item	LLD	HDCL	V-Bio[®]
Thickness, mil	12	4	8
Tensile Strength, psi	4,400	6,300	3,600
Elongation, percent	1,000	100	700
Dielectric Strength, v/mil	1,900	800	800
Tear Resistance, gf	4,400	250	2,550
Impact Resistance, g	1,100	800	600

- C. Polyethylene encasement shall be provided in tubes. Sheeting is not allowed. The minimum tube size for each pipe diameter shall be in accordance with Table 2.

Table 2. Polyethylene Flat Tube Width (inches)

Nominal Pipe Diameter (inches)	Push-on Bell & Spigot Joints	Mechanical Joints
4	14	16
6	17	20
8	21	24
10	25	27
12	29	30
14	33	34

Table 2. Polyethylene Flat Tube Width (inches)

Nominal Pipe Diameter (inches)	Push-on Bell & Spigot Joints	Mechanical Joints
16	37	37
18	41	41
20	45	45
24	53	53
30	67	67
36	81	81
42	81	81
48	95	95
54	108	108

- D. Color: The color of polyethylene encasement shall be blue.
- E. Adhesive Tape: Adhesive tape shall be a general purpose adhesive tape 1-inch wide and approximately 8 mils thick, such as Scotch Tape No. 50, Polyken No. 900, Tape coat CT or approved equal (duct tape is not allowed).
- F. Sheeting is permitted for use on point repairs under 12 foot in length. All point repairs 12 foot and longer shall use tubing.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Pipe and fittings shall be carefully examined for cracks and other defects immediately before installation.
- B. Spigot ends shall be examined with particular care since they are vulnerable to damage from handling.
- C. All defective, damaged, or unsound pipe or fittings shall be rejected and marked as such and removed from the Site.

3.02 PREPARATION

- A. Cutting Pipe:
 1. Cutting shall be done in a neat manner without damage to the pipe or the cement lining. Cuts shall be smooth, straight, and at right angles to the pipe axis.
 2. After cutting, the end of the pipe shall be dressed with a file to remove all roughness and sharp corners.
 3. Cutting of pipe with a torch will not be permitted.
- B. Cleaning:
 1. The interior of all pipe and fittings shall be thoroughly cleaned of foreign matter before being installed and shall be kept clean until the work has been accepted.
 2. Surfaces shall be wire brushed, if necessary, wiped clean, and kept clean until jointing is completed.

3.03 LAYING PIPE

- A. Runs intended to be straight shall be laid straight.

- B. Deflections from a straight line or grade shall not exceed the maximum joint deflections for full length pipe as stipulated in AWWA C600. Shorter pipe sections or special bends shall be installed where the alignment or grade requires them.
- C. Pipe shall be protected from lateral displacement by pipe embedment material installed as specified in Section 02250 – Trenching, Pipe Embedment and Backfill.
- D. Under no circumstances shall the pipe be laid in water; and no pipe shall be laid in unsuitable trench conditions.
- E. Pipe shall be laid with the bell ends facing the direction of laying except when reverse laying is specifically authorized by the City.
- F. Whenever pipe laying is stopped, the open end of the line shall be sealed with a watertight plug that will prevent water and other debris from entering the pipe.
- G. No pipe length less than 18 inches in length shall be used.

3.04 MECHANICAL JOINTS

- A. After proper joint cleaning, the gasket and gland shall be in position on the spigot before shoving the pipe to its final position. Center the entering spigot so that the gland or follower ring is parallel to the face of the connecting bell.
- B. Joint shall be shoved "home" and the gland properly positioned with respect to the connecting bell with the connecting pipes in as nearly perfect alignment as practicable.
- C. The bolts shall be slightly and uniformly tightened.
- D. Deflection may be made after the bolts are tightened.
- E. Coat the gasket with a lubricant (suitable for potable water) supplied by the pipe manufacturer and all surfaces of the bell, spigot, and gland that will come in contact with the gasket at any time during assembly.
- F. Gasket shall be carefully pushed into position and evenly seated in the bell. The gland shall be shoved into place against the gasket, the bolts inserted, and the nuts tightened with the fingers until snug. Final tightening of the bolts shall be done with a ratchet torque wrench.
- G. Partially tighten the bottom bolt, then the top bolts, alternately either side, and finally the remaining bolts, alternately tightening bolts 180 degrees apart. This cycle is then to be repeated until all bolts are tightened to the torque specified by the manufacturer:

5/8" bolts --- 40 to 60-foot pounds

3/4" bolts --- 60 to 90-foot pounds

- H. If sealing is not maintained at the torque specified, the joint shall be disassembled, thoroughly cleaned, and reassembled. Overstressing of bolts to compensate for poor installation practice will not be permitted.

3.05 PUSH-ON JOINTS

- A. Wipe the gasket seat clean with a cloth and position in place. Coat the gasket with a lubricant supplied by the pipe manufacturer. Apply to all of the inner surface of the gasket that will come into contact with the entering pipe.
- B. Clean the plain end of the pipe and apply a thin film of lubricant (suitable for potable water) to the outside of the plain end of the pipe and its beveled edge. Align the plain end of the pipe with the bell of the pipe to which it is to be joined. The joint deflection angle should not exceed the recommended maximum of the manufacturer.
- C. Bring the plain end of the pipe in contact with the gasket and exert sufficient force on the entering pipe so that its plain end compresses the gasket and makes contact with the base of the socket of the bell. This force can be applied by means of a jack type tool, backhoe, or other methods approved by KC Water.

3.06 FLANGED JOINTS

- A. When bolting, care shall be taken to provide uniform gasket compression and prevent unnecessary stress on the flanges. Flange shall be free to move in any direction while the flange bolts are being tightened. Bolts shall be tightened gradually and at a uniform rate to provide uniform gasket compression.
- B. Use full-face gaskets only.

3.07 RESTRAINED JOINTS

- A. Restrained joints shall be installed in accordance with the pipe manufacturer's recommendations.
- B. All joints within utility casings shall be restrained joints.

3.08 POLYETHYLENE ENCASEMENT

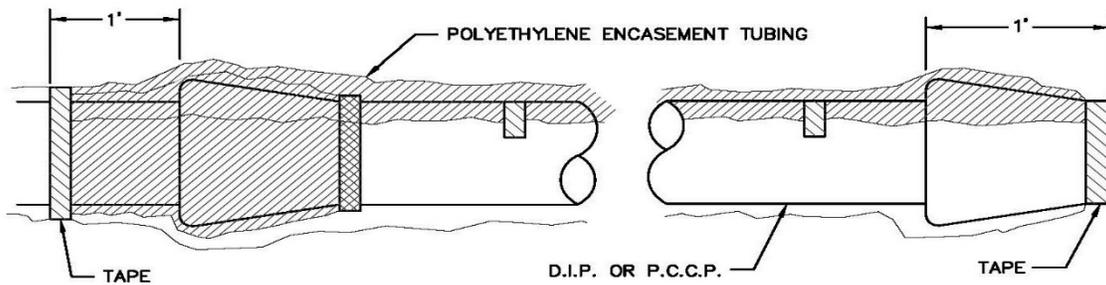
- A. Polyethylene encasement shall be installed on all ductile iron pipe, fittings and appurtenances. The polyethylene shall be installed in a manner to prevent contact between the pipe, fittings, and the surrounding embedment.
- B. The polyethylene encasement shall be installed as shown on the Construction Detail No. 02618-1 and as follows:
 - 1. Polyethylene encasement tubing shall be approximately two (2) feet longer than the length of the pipe section to provide a one (1) foot of overlap on each adjacent pipe section.
 - 2. Repair rips, punctures, or other damages to the polyethylene encasement with adhesive tape or with a short length of polyethylene tube cut open, wrapped around the pipe, and secured with adhesive tape as directed by the City.
- C. Bolted Connections: All bolted connection shall be protected by 2 layers of polyethylene encasement. A minimum of 6 inches of overlap is required on each side of the connection.
- D. Pipe-Shaped Appurtenances: Bends, reducers, offsets, and other pipe-shaped appurtenances shall be covered with polyethylene in the same manner as the pipe.
- E. Odd-Shaped Appurtenances:
 - 1. Valves, tees, crosses, and other odd-shaped pieces that cannot practically be wrapped in a tube shall be wrapped with a flat sheet or split length of polyethylene encasement tube.
 - 2. The sheet shall be passed under the appurtenance and brought up around the body.
 - 3. Seams shall be made by bringing the edges together, folding over twice, and taping down.
 - 4. Tape polyethylene encasement securely in place at overlaps, valve tops and all other penetrations.
- F. Lifting devices shall not be placed over polyethylene.
- G. Polyethylene shall be protected from exposure to weather or damage at all times.
- H. Openings in Encasement:
 - 1. Openings for branches, blow-offs, air valves, and similar appurtenances shall be made by making an x-shaped cut in the polyethylene and temporarily folding the film back.
 - 2. After the appurtenance is installed, tape the slack securely to the appurtenance and repair the cut as well as any other damaged areas in the polyethylene with tape.
 - 3. The new appurtenance shall be wrapped.
- I. Junctions between Wrapped and Unwrapped Pipe:
 - 1. Where polyethylene wrapped pipe joins an existing pipe which is not wrapped, extend the polyethylene tube to cover the unwrapped pipe a distance of at least three feet.
 - 2. Secure the end with three circumferential turns of tape.

J. Service Taps:

1. Wrap 3 layers of adhesive tape over the polyethylene encasement, covering the area where the tapping machine will be mounted.
2. Mount the machine over the tape.
3. Make the tap and install the corporation stop through the tape and polyethylene encasement.
4. After making the service connection, inspect the polyethylene and repair damaged areas with tape.

DETAIL 02618-1 ON NEXT PAGE

DETAIL 02618-1



NOTES:

1. TAPE IN ACCORDANCE WITH AWWA C105

**POLYETHYLENE ENCASEMENT
FOR BURIED PIPE**

WATER SERVICES
CITY OF KANSAS CITY, MISSOURI
DRAWING NO.

02618-1

DEVELOPED BY: _____
TECHNICAL ADVISORY COMMITTEE

APPROVED BY: _____

DATE: 12/02/2020

1 OF 1

END OF SECTION

SECTION 02930 - SEEDING

PART 1 - GENERAL

1.01 SUMMARY

- A. This section covers the operations necessary to produce grass covered areas for restoration and erosion control. The Contractor shall provide all materials, labor and equipment to complete the seeding work in accordance with this section. All costs pertaining to supply, delivery, storage, site preparation, seeding, fertilization, mulching, watering, protection, seeding repair and maintenance during the establishment period shall be included in the lump sum bid.
- B. The Contractor shall sod all yards and green spaces unless the owner of the property gives written permission to seed instead of sod. Written permissions shall be made part of the project documentation included at the end of the project.

1.02 DESCRIPTION

- A. All areas disturbed by construction operations shall be seeded unless otherwise specified in the contract documents to be sodded. For areas requiring sod, see Section 02931 – Sodding. Seeded areas include, but is not limited to, areas of cut and fill, trenching, temporary roads, staging areas, storage areas and site specific green spaces. The sequence of work for seeding shall be cleaning the area, adding topsoil, application of fertilizer, tilling and removing rocks, seeding, covering, firming and the application of mulch. All seeded areas shall be mulched with straw or wood cellulose fiber and watered until grass has been established.

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 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 restoration and erosion 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 seeding operations.
- B. Prior to commencing seeding operations, the Contractor shall submit the following to the City/Design Professional for review and approval:
 - 1. Invoices and Analysis Labels. A copy of the supplier's invoices for all seed, mulch and fertilizer which shows the quantity by weight purchased for the project. The label bearing the manufacturer's guaranteed statement of analysis to ensure compliance with the specified requirements for quality and application rates.
 - 2. Turf grass seed certification:
 - a. Certify that each lot of seed has been tested by a testing laboratory certified in seed testing, within 6 months of the date of delivery. Include with the certification:
 - 1. Name and address of laboratory.
 - 2. Date of test.
 - 3. Lot number for each seed specified.
 - 4. Test Results:
 - a. Name.
 - b. Percentages of purity and of germination.
 - c. Weed content and identity for each kind of seed furnished.
 - 3. Mixtures: include proportions of each kind of seed.
 - 4. Certification of sprig type and name.
 - 5. Description of required maintenance activities and activity frequency.

1.08 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery of materials shall be in manufacturer's original unopened and undamaged packages. They shall be clearly marked to identify brand name, contents and order number on each package. Packages showing indication of damage that may affect the condition of contents are not acceptable.
- B. Materials shall be stored in accordance with manufacturer's recommendations. Storage shall provide protective cover from moisture and damage. Materials shall be maintained at the temperature in accordance with manufacturer's recommendation.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Top soil: The top soil shall be of a quality at least equal to that which exists in areas adjacent to the area to be repaired. Top soil shall be free from weed seeds, tree roots, clumps of clay, stones and other objectionable materials that hinder grading, planting and maintenance operations. See Section 02200 – Earthwork for additional requirements on topsoil.

- B. Mulch: Mulch for application to seed bed areas shall be cereal grain straw or wood cellulose fiber.
1. Straw mulch shall be baled, dry and show no signs of discoloration and mold damage.
 - a. A minimum of 50 percent of weight of the herbage making up the material shall be 10 inches in length or longer.
 - b. Mulch material containing weed seeds and crop seeds is not acceptable.
 2. Wood cellulose fiber shall be prepared from virgin wood fibers containing no substance or factor which might inhibit germination or growth of grass seed.
 - a. The fiber shall be dyed an appropriate color to allow visual metering of its application and shall contain a tacking agent either combined with the product or added in the tank when making the slurry.
 - b. Fibers shall have the property of becoming evenly dispersed and suspended when agitated in water.
 - c. When sprayed uniformly on the surface of the soil, the fibers shall form a blotter-like groundcover which readily absorbs water and allows infiltration to the underlying soil.
 - d. Weight specifications from suppliers for all applications, shall refer only to air dry weight of the fiber, at a standard equivalent of 10 percent nominal moisture content.
 - e. The mulch material shall be supplied in packages having a gross weight not in excess of 100 pounds and shall be marked by the manufacturer to show the air dry weight content.
 - f. Suppliers shall certify that laboratory and field testing of their product has been accomplished and that it meets all of the foregoing requirements pertaining to wood cellulose fiber mulch.
 3. Exception: Vegetative Type mulch will be the only acceptable type mulch used in areas where Type "C" seed is required, Type "C" seed is specified in paragraph 2.1.E.3 in this Section.
- C. Starter Fertilizer: Fertilizer shall be pelleted or granulated and shall be an approved brand composed of a "Slow Release Nitrogen" fertilizer in the 1-2-1 range, such as 13-25-12 grade, uniform in composition free flowing and suitable for application with approved equipment, delivered to the site in convenient containers, each fully labeled, conforming to the applicable state fertilizer laws, bearing the name, trade mark, or trade name and a warranty of the producer.
- D. Seed: Seed shall be labeled in accordance with U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act and Stated seed laws. Seed shall be furnished in sealed standard containers of the vendor. Each seed container shall bear the name, trade name, or trade mark, warranty of the producer and a certificate of the percentage of the purity and germination of each kind of seed specified. Seed which has become wet, moldy or otherwise damaged in transit or in storage will not be acceptable.
1. Seed shall have a guaranteed germination rate of 95% or greater.

2. Pure Live Seed (PLS) formula: The following formula shall be used to determine PLS for each kind of seed:

$$\text{PLS (\%)} = [\text{Purity (percent)} \times \text{Germination (percent)}] / 100$$

- E. The areas and types of seeding to be used shall be specified on the plans. The types of acceptable seed, depending upon the area, is as follows:

1. Type “A” Seed: This seeding mixture will normally be used when seeding is required in areas of established yards, shoulders, slopes in street right-of-way and any other area where a high-type seeding is deemed necessary. The seed shall be sowed at a rate of 10 lbs. PLS per 1000 square feet (436 lbs. PLS per acre). The seed mixture will be 100 percent Turf-Type Tall Fescue composed of an equal mix of three of four compatible species. The mixture shall not include any varieties of the slower growing Turf-Type Tall Fescue “Dwarf”. The species shall be one of the following or as approved by the City/Design Professional:

Apache	Arid	Austin
Bonanza	Carefree	Chieftan
Cimmaron	Cochise	Falcon
Guardian	Houndog	Jaguar II
Maverick II	Mustang	Olympic
Phoenix	Rebel II	Rebel 3D
Safari	Shenandoah	Thoroughbred
Titan	Tribute	Vegas

- a. The seed mixture shall also include 100 percent Annual Rye grass to provide a temporary grass stand. The seed shall be sowed at a rate of 10 lbs. PLS per 1000 square feet (436 lbs. per acre) of the Turf-Type Tall Fescue and 2 lbs. PLS per 1000 square feet (87 lbs. per acre) of the Annual Rye.

2. Type “B” Seed: This seeding mixture will be used to seed areas outside of street right-of-ways that are not maintained.

Type “B” Seed	Minimum Pure Live Seed (PLS%)	Rate of Pure Live Seed (lbs. per acre)
Alta Fescue or Kentucky 31 Fescue (Festuca Elatior Var. Arundinices)	75	90
Rye grass (Lolium Perenne or L. Multiflorum)	80	50
TOTAL		140

3. Type “C” Seed: This seeding mixture will normally be used in public parks, wild life refuges and other areas where this seeding mixture is deemed necessary. The types of seeding mixtures for different habitats will be as follows:

Planting Habitat	Scientific Name	Common Name	Initial or Permanent Cover	Coverage
Wet Woodland	Elymus virginicus L.	Virginia Wild Rye	P	3 lbs./ac PLS
	Cinna arundinacea L.	Woodreed	P	100 lbs./ac PLS
	Sporobolus heterolepis A. Gray	Prairie Dropseed	I,P	3 lbs./ac PLS
	Elymus canadensis L.	Canada Wild Rye	P	3 lbs./ac PLS
	Festuca octoflora	Six-weeks Fescue	I	0.5 lbs./ac PLS
	Triticum aestivum L.	Winter Wheat	I	60 lbs./ac PLS
Planting Habitat	Scientific Name	Common Name	Initial or Permanent Cover	Coverage
Dry Woodland	Elymus canadensis L.	Canada Wild Rye	P	3 lbs./ac PLS
	Elymus virginicus L.	Virginia Wild Rye	P	3 lbs./ac PLS
	Sporobolus heterolepis A. Gray	Prairie Dropseed	I,P	3 lbs./ac PLS
	Triticum aestivum L.	Winter Wheat	I	60 lbs./ac PLS
Planting Habitat	Scientific Name	Common Name	Initial or Permanent Cover	Coverage
Wet Open	Elymus canadensis L.	Canada Wild Rye	P	3 lbs./ac PLS
	Echinochloa muricata Fern.	Rough Barnyard grass	I,P	2 lbs./ac PLS
	Spartina pectinata	Prairie Cordgrass	P	200 rhiz./ac
	Leersia oryzoides	Rice Cutgrass	P	200 rhiz./ac
	Triticum aestivum L.	Winter Wheat	I	60 lbs./ac PLS

- F. Herbicide: Pre-emergent herbicide shall be siduron (Tupersan).
- G. Water: Water used for this work shall be furnished by the Contractor.

PART 3 - EXECUTION

3.1 SAFETY

- A. Perform all work in accordance with applicable Occupational Safety and Health Administration (OSHA) standards.

3.2 INSTALLATION

- A. Time and Conditions: The seeding work shall not be started until all earthwork has been completed in accordance with Section 02200 – Earthwork. Backfills and fills shall be allowed to settle and the topsoil spread and finish-grading completed before seeding work is started.
- B. Personnel and equipment: All seeding work shall be performed by a contractor having demonstrated experience in seeding on projects of similar size. The work shall be performed by experienced personnel who are familiar with project requirements and are under the supervision of a qualified foreman at all times when the work is in progress.
- C. Equipment: The Contractor shall have access to equipment such as a fertilizer spreader, farm tractor with tilling equipment, grass seed drill or cultipacker type seeder, mulch blower, hydro-mulcher and straight serrated disk for crimping mulch into the soil.
- D. Clearing: Prior to grading and tilling, vegetation that may interfere with operations shall be mowed, grubbed and raked. The collected material shall be removed from the site. The surface shall be cleared of stumps, stones larger than 1 inch, roots, cable, wire, trash and other materials that might hinder the work or subsequent maintenance.
- E. Grading. Established grades, as indicated on the Drawings, shall be maintained in a true and even condition. Eroded areas and areas having inadequate drainage, as indicated by ponding of water, shall be filled. Ruts, deep tracks, dead furrows and ridges shall be eliminated.
- F. Application of Fertilizer: Fertilizer as specified shall be applied within 24 hours prior to the tilling operation. The fertilizer shall be distributed over the entire area to be seeded at the rate of 200 pounds per acre and incorporated into the soil to a depth of at least 4 inches by disking or harrowing methods. Fertilizing rate is equivalent to 2.3 pounds per 500 square feet.
- G. Preparation of Seed Bed: After fertilizer has been applied, the areas to be seeded shall be tilled to a depth of at least 4 inches by disking, plowing, harrowing, or other accepted methods until the soil is well pulverized and smoothed with a weighted spike-tooth harrow, railroad chains, or bridge timber float drag. When a chisel plow is used, the chisels shall be set not more than 10 inches apart and the areas shall be cross or double-tilled. All areas shall be left smooth for ease of mowing. All operations shall be done in a direction parallel to the contour lines on the slope and not uphill or downhill. Areas tilled shall be maintained until seeding and mulching is complete to insure a smooth area with no gullies or depressions.
- H. Application of Seed: Seeding equipment calibration tests shall be made in the presence of the City/Design Professional to determine the equipment setting required to apply the seed at the specified rates. Markers shall be used to ensure that no skips occur between successive passes of the seeder. If unplanted skips and areas are noted after germination and the growth of the grass, the unplanted areas shall be seeded at no additional cost to the Owner. The seed

box shall be kept at least half full during seeding operations to ensure even distribution of seed over all the areas seeded.

- I. Hydro-seeding:
 - 1. Seed and fertilizer, mixed in proportions as herein specified, can be broadcast in a hydro-mulch with water which forms an emulsion covering the prepared designated areas in a uniform manner.
 - 2. Areas to be hydro-seeded shall be fertilized at rates specified earlier. The seed-bed shall be free of any irregularities in the surface resulting from being fertilized, or other operations, and shall be corrected to prevent formation of water pockets.
 - 3. Hydro-mulch used shall be a wood fiber mulch with a tackifier, such as Conwit 2000, or approved equivalent. Hydro-mulch shall be applied at a rate of 1500 lbs. per acre.
 - 4. Hydro-seeder filling tank should be ½ full of water before adding seed, fertilizer and hydro-mulch components. Begin agitation while adding remaining water so that a uniform mixture is obtained. Seed, fertilizer and hydro-mulch components shall not be added to water more than four (4) hours prior to application.
 - 5. Discharge hydro-mulch slurry mix on prepared soil for uniform distribution.
- J. All seeding work shall be done between the dates of February 1 and April 15 for spring planting or August 15 and October 15 for fall planting.
- I. Sowing shall be accomplished by use of an approved mechanical seeder or drill (hand spreader can be used in small areas), making sure that successive seed strips overlap to provide uniform coverage.
- J. The mixtures shall be applied in a crossing pattern of two passes, each applying half of the seed required.
- K. Seed should be drilled to a depth of 1/2 inch.
- L. Sprigs (rhizomes) shall be broadcast evenly and uniformly on the soil surface.
- M. Compaction: Immediately following the completion of seeding operations, the entire area shall be compacted by means of a roller weighing at least 60 but not more than 90 pounds per linear foot of roller or any other method approved by the City/Design Professional.
- N. Application of Herbicide: Following completion of seeding operations, pre-emergent herbicide as specified shall be applied to all seeded areas at the rate of 6 pounds active ingredient per acre.
- O. Mulching: Mulching shall be done within 24 hours following the seeding operation except in the case of wood cellulose type mulch.
- P. Vegetative Type Mulch:
 - 1. Straw mulch shall be spread uniformly in a continuous blanket at a depth of not less than 1-1/2 inches and not more than 2 inches loose measurement (approximately 1-1/2 to 2 tons per acre).
 - 2. Mulch shall be spread by hand or by a blower type mulch spreader.
 - 3. Blower type mulch spreaders shall be adjusted and operated in such a manner as to prevent excessive breakage of the mulch material. If this cannot be accomplished, the mulch shall be spread by hand.
 - 4. Care shall be exercised to ensure that all wire from baled hay is collected as it is removed from the bale.

5. Mulching shall be started at the windward side of relatively flat areas, or at the upper part of a steep slope and continued uniformly until the area is covered.
 6. The mulch shall not be bunched.
 7. No mulch shall be spread unless it can be anchored on the same day.
- Q. Anchoring Straw Mulch:
1. The straw mulch shall be anchored in the soil to a depth of 2 to 3 inches by a notched disk set straight or a mulch crimping machine.
 2. The machine shall be weighted and operated in such a manner to secure the mulch firmly in the ground to form a soil binding mulch and prevent loss or bunching of the hay by wind.
 3. Two or more passes may be required to anchor the mulch to the satisfaction of the City/Design Professional.
- R. Application of Wood Cellulose Fiber:
1. Wood cellulose fiber mulch shall be applied with a hydro-mulcher at not less than 1000 pounds per acre.
 2. Precautionary measures shall be taken in preventing overspray on structures, paving and plantings.
- S. Watering: Promptly after seeding and mulching, wet the seed bed thoroughly. Watering shall continue so as to keep all areas moist throughout the germination period.
- T. Cleanup operations within forty-eight (48) hours after completion of the construction operations:
1. The entire area shall be cleared of excess soil and waste material, including, but not limited to, stones, stumps, roots, brush, wire, grade stakes, trash and all objects that might be a hindrance to maintenance operations or affect the visual appearance of the site.
 2. All roads, over which hauling operations have been conducted, regardless of the type of surfacing, shall be clean and all debris left on the surface shall be removed.
 3. The wheels of vehicles shall be cleaned to avoid leaving soil upon roads, walks and other surfaced areas.
- U. Water Usage:
1. All watering equipment required for the work shall be furnished by the Contractor.
 2. All water obtained from fire hydrants shall be metered. See Section 01000 – General Project Requirements.

3.3 MAINTENANCE, PROTECTION AND REPAIR

- A. Maintenance of Area: The Contractor is responsible for maintaining all seeded areas until acceptance by the City/Design Professional. Maintenance of the seeded areas shall include the following:
1. Established yards, shoulders, slopes in street right-of-way and all other areas where a high-type seeding is deemed necessary. All newly seeded grassed areas shall be kept in a healthy growing condition by watering, weeding, mowing, trimming, edging, etc., until completion and acceptance by the City/Design Professional. The seeded areas shall be mowed with approved mowing equipment to a height of 3 inches whenever the average height of vegetation becomes 6 inches.

2. Turf grass of one-square foot or more that does not show definite growth and establishment shall be re-seeded by the Contractor at no additional cost to the Owner. The Contractor shall continue the care and maintenance of all seeded areas as specified above until all work of this project has been satisfactorily completed and all deficiencies have been corrected at which time final inspection shall be made.
 3. Areas off of street right-of-way: All seeded areas shall be maintained until acceptance by the City/Design Professional. Maintenance shall include repair of erosion damage, re-seeding, mulching and watering.
- B. Protection and Repair:
1. The seeded area shall be kept free of traffic until accepted.
 2. If at any time before acceptance of the completed contract, any portion of the seeded surface becomes gullied, damaged - intentionally or otherwise, or the seeding has been damaged or destroyed, the affected portion shall be repaired to re-establish the specified condition prior to the acceptance of the work.

3.4 WARRANTY

- A. Seeding shall have germinated, taken root and have established satisfactory coverage before acceptance by the City/Design Professional. The Contractor shall maintain as described in paragraph 3.3 and shall guarantee seeding for one (1) year after acceptance. The Contractor shall scarify, reseed, fertilize and mulch any barren area greater than 1 square foot. See Section 02575 – Surface Restoration for requirements on early acceptance.

END OF SECTION

SECTION 02931 - SODDING

PART 1 - GENERAL

1.01 SUMMARY

- A.** This section covers the operations necessary to produce grass covered areas for restoration and erosion control. The Contractor shall provide all materials, labor and equipment to complete the sodding work in accordance with this section. All costs pertaining to supply, delivery, storage, site preparation, sodding, fertilization, watering, protection, sodding repair and maintenance during the establishment period shall be included in the lump sum bid.
- B.** The Contractor shall sod all yards and green spaces unless the owner of the property gives written permission to seed instead of sod. Written permissions shall be made part of the project documentation included at the end of the project.

1.02 DESCRIPTION

- A.** All areas disturbed by construction operations shall be sodded unless otherwise specified in the contract documents to be seeded. For areas requiring seed, see Section 02930 – Seeding. Sodded areas include, but are not limited to, areas of cut and fill, trenching, temporary roads, staging areas, storage areas and site specific green spaces. The sequence of work for sodding shall be cleaning the area, adding topsoil, application of fertilizer, tilling and removing rocks, sodding, covering, firming, watering and maintenance.

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.

1.05 QUALITY ASSURANCE

- A.** The Contractor is responsible for the quality assurance and quality control of the Work. The sodding work shall be performed by a qualified contractor with a proven record of performance for similar restoration and erosion 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 sodding operations.
- B. Prior to commencing sodding operations, the Contractor shall submit the following to the City/Design Professional for review and approval:
 1. Invoices and Analysis Labels: A copy of the supplier's invoices for all sod and fertilizer which shows the quantity by weight purchased for the project and a representative label bearing the manufacturer's or vendor's guaranteed statement of analysis to assure compliance with specified requirements for quality and application rates.
 2. Sod: Certification of seed analysis, germination rate and inoculation:
 - a. Certify that each lot of seed used for sod has been tested by a testing laboratory certified in sod testing, within 6 months of date of delivery.
Include with the certification:
 1. Name and address of laboratory.
 2. Date of test.
 3. Lot number for each seed specified.
 4. Test Results:
 - a. Name.
 - b. Percentages of purity and of germination.
 - c. Weed content for each kind of sod furnished.
 - b. Certification of sod: include source, harvest date of sod and type of sod.
 - c. Certification of sprig type and name.
 - d. Description of required maintenance activities and activity frequency.

1.08 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery of materials shall be in manufacturer's original unopened and undamaged packages. Packaged items shall be clearly marked to identify brand name, contents and order number on each package. Packages showing indication of damage that may affect condition of contents are not acceptable. Sod shall be supplied in rolls of uniform thickness and kept covered and moist.
- B. Storage of material shall provide protective cover from damage and stored at temperatures and moisture conditions in accordance with manufacturer's and supplier recommendations. Materials shall be stacked or stored in accordance with manufacturer's and supplier recommendations.
- C. Harvesting Sod:
 1. Do not harvest if sod is excessively dry or wet.
 2. Harvest and deliver sod only after laying bed is prepared for sodding.
 3. Roll or stack to prevent yellowing.
 4. Deliver and lay all sod within 24 hours of harvesting.
 5. Keep moist and covered from time of harvesting until laid.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Top soil: The top soil shall be of a quality at least equal to that which exists in areas adjacent to the area to be repaired. Top soil shall be free from weed seeds, tree roots, clumps of clay, stones and other objectionable materials that hinder grading, planting and maintenance operations. See Section 02200 – Earthwork for additional requirements on topsoil.

B. Sod:

1. The sod to be used as source material shall be a thick stand of Kentucky Blue grass, Turf Type Tall Fescue, Bermuda grass, Zoysia grass or other grasses as shown on the plans. For established yards, the sod shall match the species removed.
2. The sod shall contain a growth of not more than 1 percent of other grasses and clovers shall be free from all prohibited and noxious weeds.
3. The Turf Type Tall Fescue sod shall be composed of an equal mix of three or four compatible species of 100 percent Turf Type Tall Fescue. The mixture shall not include any varieties of the slower growing Turf Type Tall Fescue “Dwarf”. The species shall be one of the following:

Apache	Arid	Austin
Bonanza	Carefree	Chieftan
Cimmaron	Cochise	Falcon
Guardian	Houndog	Jaguar II
Maverick II	Mustang	Olympic
Phoenix	Rebel II	Rebel 3D
Safari	Shenandoah	Thoroughbred
Titan	Tribute	Vegas

4. Kentucky Blue grass and Turf Type Tall Fescue sod shall be cut in strips of uniform thickness, the range of acceptable thickness shall be 1 1/2 to 2 inches; each strip containing at least one square yard. Sod shall be cut in strips not less than 12 inches wide.
5. Bermuda grass or Zoysia grass sods shall be cut into strips of uniform thickness, the range of acceptable thickness shall be 1 1/2 to 2 inches; each strip shall not be less than 12 inches wide and 24 inches long. Strips that crumble will not be acceptable.
6. Broken pads and torn or uneven ends will not be acceptable. Standard size sections shall be strong enough to support their own weight and should retain their size and shape when suspended vertically from a firm grasp on the upper 10 percent of the section. Sod shall not be harvested or transplanted with moisture content (excessively dry or wet) that will adversely affect its survival.
7. Sod shall be relatively free of thatch, up to 1/2 inch allowable (uncompressed). Sod shall be reasonably free of diseases, nematodes and soil-borne insects. State nursery and/or plant materials laws require that all sod entering inter-state commerce be inspected and approved for sale. The same applies to sod being shipped intra-state. The inspections and approval must be made by the state agricultural department, office of the state entomologist.

- C. Fertilizer shall be inorganic 12.12.12 or 13.13.13 grade, uniform in composition, free flowing and suitable for application with approved equipment, delivered to the site in convenient containers, each fully labeled, conforming to applicable state fertilizer laws, bearing the name, trade name, or trade mark and warranty of the producer.

PART 3 - EXECUTION

3.1 SAFETY

- A. Perform all work in accordance with applicable Occupational Safety and Health Administration (OSHA) standards.

3.2 PREPARATION

- A. All sodding work shall be performed by a contractor having demonstrated experience in sodding on projects of similar size. The work shall be prepared by experienced personnel who are familiar with the required work and who are under the supervision of a qualified foreman at all times when the work is in progress.
- B. Preparation of areas to be sodded shall include filling, reshaping or eroded areas, cleaning ditches and refinishing slopes to the established grade section. The area shall be cleared of stumps, stones larger than 1 inch, roots, cable, wire, trash and other materials that might hinder the work or subsequent maintenance.
- C. Application of Fertilizer: Before tilling operations, fertilizer shall be spread uniformly at the rate of 300 pounds per acre. Fertilizing rate is equivalent to 3.5 pounds per 500 square feet.
- D. Preparation of Sod Bed:
 - 1. After fertilizer has been applied, the areas to be sodded shall be tilled to a depth of at least 2 inches by disking, plowing, harrowing, or other accepted methods until the soil is well pulverized and smoothed with a weighted spiketooth harrow, railroad chains, or bridge timber float drag. When a chisel plow is used, the chisels shall be set not more than 10 inches apart and the areas shall be cross or double-tilled. All areas shall be left smooth for ease of mowing. All operations shall be done in a direction parallel to the contour lines on the slope and not uphill or downhill.
 - 2. Grade areas to smooth, even surface with loose, uniformly fine texture.
 - a. Roll and rake, remove ridges, fill depressions to meet finish grades.
 - b. Limit such Work to areas to be planted within immediate future.
 - c. Remove debris, stones larger than 1 inch diameter and other objects that may interfere with planting and maintenance operations.

3.3 INSTALLATION

- A. Time and Conditions. The sodding work shall not be started until all earthwork has been substantially completed. Backfills and fills shall be allowed to settle and the topsoil spread and finish-grading completed before the work is started. Failure to account for settlement prior to placement of topsoil and sod may result in rework of the area.
- B. Application of Sod: Kentucky Blue grass and Turf Type Fescue sod shall not be placed during a drought or during the period from June 1 to September 1, unless authorized by the

City/Design Professional and shall not be placed on frozen ground. Bermuda and Zoysia sods shall only be placed during the period from May 1 to October 15. The City/Design Professional reserves the right to delay the sodding of all types of sod or to vary the permissible sodding seasons, due to weather, soil conditions, or for other causes.

- C. Sod Placement: Sod shall be moist when it is placed. Sod strips shall be laid along contour lines, commencing at the lowest point of the area and working upward. The transverse joints of sod strips shall be staggered and the sod carefully placed to produce tight joints. If necessary to walk excessively on newly laid sod, walking boards should be laid for this purpose. The sod shall be firm and watered immediately after it is placed. The "firming" shall be accomplished by application of a roller weighing not less than 60 nor more than 90 pounds per linear foot of roller or other approved method.
- D. Anchoring Sod: On slopes 2:1 or steeper, the sod shall be anchored using garden staples.
- E. Watering: Promptly after sodding, wet the sod thoroughly. Watering shall continue so as to keep all areas moist until acceptance by the City/Design Professional.
- F. Water Usage:
 - 1. All watering equipment required for the work shall be furnished by the Contractor.
 - 2. All water obtained from fire hydrants shall be metered. See Section 01000 – General Project Requirements.
- G. Cleanup Operations within forty-eight (48) hours after completion of the construction operations:
 - 1. The entire area shall be cleared of excess soil and waste material, including, but not limited to, stones, stumps, roots, brush, wire, grade stakes, trash and all objects that might be a hindrance to maintenance operations or affect the visual appearance of the site.
 - 2. All roads, over which hauling operations have been conducted, regardless of the type of surfacing, shall be clean and all debris left on the surface shall be removed.
 - 3. The wheels of vehicles shall be cleaned to avoid leaving soil upon roads, walks and other surfaced areas.

3.4 MAINTENANCE, PROTECTION AND REPAIR

- A. Maintenance of Area. The Contractor shall be responsible for maintaining all sodded areas until acceptance by the City/Design Professional. Maintenance of the sodded areas shall include the following:
 - 1. All newly sodded grassed areas shall be kept in a healthy growing condition by watering, weeding, mowing, trimming, edging, etc., until completion and acceptance by the City/Design Professional. The sodded areas shall be mowed with approved mowing equipment to a height of 3 inches whenever the average height of vegetation becomes 6 inches.
 - 2. Turf grass of one-square foot or more that does not show definite growth and establishment shall be re-sodded by the Contractor at no additional cost to the Owner. The Contractor shall continue the care and maintenance of all sodded areas as specified above until all work of this project has been satisfactorily completed and all deficiencies have been corrected at which time final inspection shall be made.
- B. Protection and Repair:
 - 1. The sodded area shall be kept free of traffic until accepted.

2. If at any time before acceptance of the completed contract, any portion of the seeded surface becomes gullied, damaged - intentionally or otherwise, or the seeding has been damaged or destroyed, the affected portion shall be repaired to re-establish the specified condition prior to the acceptance of the work.

3.5 WARRANTY

- A. Sodding shall have taken root and have established satisfactory coverage before acceptance by the City/Design Professional. The Contractor shall maintain as described in paragraph 3.4 and shall guarantee sodding for one (1) year after acceptance. The Contractor shall scarify, re-sod, fertilize and water any dead or barren area greater than 1 square foot. See Section 02575 – Surface Restoration for requirements on early acceptance.

END OF SECTION

SECTION 03000 - MISCELLANEOUS CONCRETE

PART 1 - GENERAL

1.1 SCOPE

- A. The Contractor shall perform all concrete work as required to complete the work specified in the contract documents.
- B. This section covers miscellaneous concrete work associated with the construction of water, wastewater and stormwater infrastructure. This section does not apply to concrete work associated with surface restoration. See Section 02575 – Surface Restoration for concrete requirements associated with curb, gutter, sidewalk and street work.

1.2 RELATED SECTIONS

- A. Section 03370 – Sanitary Sewer Manhole Construction.
- B. Section 03608 – Concrete Vaults.

1.3 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 Society for Testing and Materials (ASTM):
 - ASTM A615 Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
 - ASTM C31 Test Methods of Making and Curing Concrete Test Specimens in the Field.
 - ASTM C33 Concrete Aggregates.
 - ASTM C39 Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - ASTM C94 Ready-Mixed Concrete.
 - ASTM C143 Standard Test Method for Slump of Hydraulic-Cement Concrete.
 - ASTM C150 Portland Cement.
- C. American Concrete Institute (ACI):
 - ACI 304 Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
 - ACI 305 Committee Report on Hot-Weather Concreting.
 - ACI 306 Committee Report on Cold-Weather Concreting.
 - ACI 309 Recommended Practice for Consolidation of Concrete.
 - ACI 318 Building Code Requirements for Reinforced Concrete.
 - ACI 347 Recommended Practice for Concrete Formwork.

1.4 SUBMITTALS

- A. Contractor shall submit product data for review on the following items required by this Division:
 - 1. Laboratory name.
 - 2. Aggregate testing and gradation.
 - 3. Design mix.
- B. Product data shall be submitted in accordance with Section 01300 – Submittals.

PART 2 - PRODUCTS

2.1 CEMENT

A. Cement shall conform to ASTM C150, Type I, unless high early strength is required in which instance Type III shall be used. Cement may be bagged or bulk.

2.2 FINE AGGREGATE

A. Fine aggregate, clean natural sand, shall conform to ASTM C33 and have the following gradation:

<u>Sieve</u>	<u>% Passing</u>	<u>% Retained</u>
3/8"	100	0
#4	95-100	0-5
#8	80-100	0-20
#16	50-85	15-50
#30	25-60	40-75
#50	10-30	70-90
#100	2-10	90-98

2.3 COARSE AGGREGATE

A. Clean crushed rock, washed gravel, or other inert granular material, except that clay and shale particles shall not exceed one percent. Coarse aggregate shall conform to ASTM C33 and have the following gradation:

<u>Sq. Sieve</u>	<u>% Passing</u>	<u>% Retained</u>
3/4"	90-100	0-10
3/8"	20-55	45-80
#4	0-10	90-100
#8	0-5	95-100

2.4 WATER

A. Potable water from a municipal or other public water supply district shall be used for mixing and curing.

2.5 REINFORCING STEEL

A. Reinforcing Steel:

1. Reinforcing steel bars shall conform to the requirements of the following Standards and Grades:
 - (a) ASTM A615: Grade 40 or 60.
 - (b) ASTM A616: Grade 50 or 60.

B. Bending details shall conform to ACI 318.

2.6 FORMS AND FORMWORK ACCESSORIES

A. Forms:

1. Suitable and substantial forms shall be provided. All forms shall be constructed and maintained plumb and true to line, securely braced, tied, clamped and shored in order to prevent leakage of concrete and prevent deflection or displacement of forms during

placement of concrete. All exposed corners and edges shall have 1" fillets. All joints shall be mortar tight; open joints shall be sealed as required.

2. Where applicable, undisturbed earth may be used in lieu of forms.
 3. The deflection of the forms due to the weight and rate of placing concrete, placing equipment, and workmen shall be accurately figured and taken into account in the design of the forms so that finished concrete members will have surfaces, lines, planes, and elevations required within tolerances in accordance with ACI 117.
 4. All forms shall be removed prior to backfill unless the following conditions are met:
 - (a) As directed by the City.
 - (b) When constructed of unbraced plywood having a thickness of ½-inch or less, removal shall be optional unless otherwise directed by the City.
 5. Forms shall be constructed so that they can be removed without damage to the concrete.
- B. Formwork accessories:
1. Forms shall be securely braced and tied with approved form ties that do not leave any parts within ¾ inch of the surface of the concrete. Wire ties and wood spreaders will not be permitted.

2.7 CONCRETE MIX

A. Concrete:

1. Concrete shall conform to KCMO PW 2208 except as follows:
 - (a) Limestone may be used as coarse aggregate.
 - (b) Design strength of concrete shall be 4,500 psi or greater at 28 days.
 - (c) Maximum slump shall be 4 inches. Determination of slump shall conform to ASTM C143.
 - (d) Coarse Aggregate: 1-inch maximum.
 - (e) Air entrainment admixture is required to provide 4 to 6 percent entrained air when placed, in conformance with ASTM C185.
 - (f) Water reducing admixture is required.
2. Ready mix concrete shall be supplied by a plant approved by the KCMO Public Works Department according to the Ready Mix Concrete Quality Management Plan. Submit ready mix concrete plant information in accordance with paragraph SUBMITTALS.
3. Submit concrete mix design in accordance with KCMO PW 2208.C and in accordance with the paragraph SUBMITTALS.

B. Concrete shall be delivered to the site in conformance with ASTM C94.

PART 3 - EXECUTION

3.1 REINFORCING STEEL AND CONCRETE

A. Placing of Reinforcing Steel:

1. Before being installed in the final position, all metal reinforcements shall be free of mud, clay, ice, grease, oil, loose rust and scale, and other coatings that would reduce or destroy the bond.
2. Metal reinforcements shall be accurately formed and positioned to the required dimensions. All bars are to be accurately placed and securely tied at all intersections. All reinforcing steel shall be placed so it is covered with a minimum of 3" of concrete.
3. Steel reinforcements shall be accurately positioned as required and shall be secured against displacement by using annealed wire ties or suitable clips at all intersections.
4. The steel reinforcements shall be supported by metal supports, spacers, or hangers.
5. The legs on the metal chair supports shall be plastic coated.

B. Forms:

1. Verify lines, levels and centers before proceeding with formwork.
2. A coat of non-staining oil, lacquer, or other approved material shall be applied to protect form surface and to facilitate stripping. Coating shall be applied in strict accordance with the directions of the manufacturer.
3. Forms shall be removed in such manner as to assure the complete safety of the structure. In no case shall supporting forms or shoring be removed until the concrete has acquired sufficient strength.

C. Placing of Concrete:

1. Only those methods and arrangements of equipment shall be used which will reduce to a minimum any segregation of coarse aggregate from the concrete.
2. Every consideration shall be given to the proper placement of all concrete and the proper care of all concrete after placement.
3. Concrete shall be deposited into the forms or on the grade as nearly as practicable in its final position and in such manner that the concrete will completely fill the forms.
4. Vibration shall not be used to move concrete in a horizontal direction after initial placement.
5. Concrete that has partially hardened or has been contaminated by foreign material shall not be deposited in the Work and shall be removed from the Site at no additional cost to the City.
6. When inclined chutes beyond the mixer are permitted by the City, a baffle shall be provided at the bottom end so that concrete will drop vertically without segregation.
7. No water shall be added to the concrete for any reason at the job site that will result in exceeding the specified water-cement ratio. Any water withheld when batching the concrete shall be noted on the material delivery ticket.
8. Care shall be taken to assure proper concrete coverage of reinforcing steel as designed.
9. Placement operations shall be performed in such a manner as to prevent loose earth falling into the excavation during placement of concrete.
10. Concrete that might contact forms or reinforcing steel during placement shall be placed by the use of trunks or pipes whenever the drop exceeds six (6) feet for unexposed work, or three (3) feet for exposed work.
11. When trunks or pipe are used, they shall be located at horizontal spacing of not to exceed ten (10) feet.
12. Concrete for thrust restraints shall be placed in horizontal layers not exceeding two (2) feet in depth.
13. Placing of concrete in thrust restraints shall be done in such manner as to prevent "cold joints," both horizontally and vertically.

D. Vibrating:

1. In conformance with ACI 309, mechanical internal vibrators shall be used whenever possible in all formed concrete work.
2. Vibrators shall be inserted at uniform spacing of twelve (12) inches to twenty (20) inches to assure thorough consolidation of all concrete.
3. Vibrators shall be inserted and withdrawn vertically to a depth, which will assure penetration into the previous lift with vibration periods of from five (5) to fifteen (15) seconds.
4. Form vibration and/or hand spading will be required at points inaccessible for thorough internal vibration.
5. During placement of concrete, stand-by vibrators shall be immediately available in the event of mechanical failure in the vibrators being used.

- E. No concrete shall be deposited below water. The excavation may be damp but shall contain no water.
- F. Concrete shall be conveyed from the mixer to the place of final deposit by methods which will prevent the separation or loss of materials. Retempering of concrete is not permissible.
- G. For formed surfaces, the Contractor shall break off ties, grout voids which are deeper than ½" and chip out honeycombed areas to solid concrete and grout flush with formed surface.
- H. Curing shall be maintained continuously for seven days after placing concrete or until forms are removed and the surface finished. Concrete surface temperature is to be maintained between 50°F and 100°F for at least seven days.
- I. Concrete shall not be placed on iced or frozen subgrade or when the air temperature is below 20°F. Concreting shall not be continued when the air temperature is below 45°F unless the following conditions are attained:
 - 1. Mixing water shall be heated (to a maximum of 150°F).
 - 2. Aggregates shall be heated until free of all ice and frost.
 - 3. The concrete temperature after mixing shall be between 50°F and 70°F if the air temperature is 20°F to 45°F.
 - 4. After the concrete is placed, it shall be covered, protected, and heated so as to maintain a minimum of 70°F air temperature for the 24 hours and 50°F air temperature for the next six days. Open-flame type heaters are not permitted. Heating equipment not vented outside of the covering will not be permitted.
 - 5. Moist conditions shall be maintained during the heating period.
 - 6. All covering, heating equipment, etc., shall be on hand and approved by the Engineer before any concrete is placed.
- J. Calcium chloride, as an admixture, shall not be used.
- K. Exposed concrete is not to be placed in air temperatures above 100°F. Cover, protect and cool work as to maintain the temperature of the concrete below 100°F. The concrete temperature, after mixing, shall not be greater than 85°F. Spray and/or shade aggregate piles and cool mixing water as required.

3.2 CONCRETE TEST CYLINDERS

- A. All concrete test cylinders shall be provided by a certified testing laboratory. The testing of test cylinders, including transportation, shall be paid for by the Contractor.
- B. The laboratory shall make at least three test cylinders for each day's pour in excess of 10 cubic yards of each class of concrete, and three test cylinders for each additional 50 cubic yards or major fraction thereof, as directed by the Engineer.
- C. The laboratory shall ship the test cylinders to the laboratory on the second day, where the laboratory shall proceed to cure until tested. One cylinder shall be tested on the seventh day, and the remaining cylinders shall be tested on the 28th day. The test cylinders shall be identified at the time cast, and as to which pour is represented. Unsatisfactory tests of cylinders shall make the concrete represented subject to rejection, with consequent removal and replacement required.
- D. Concrete test cylinders shall be cast and tested in accordance with ASTM C31 and C39. The testing laboratory shall furnish four copies of test reports for test cylinders and distributed as follows:
 - 1. 2 copies – City.
 - 2. 2 copies – Contractor.

3.3 CLEANUP

- A. Cleanup operations shall be conducted in accordance with Section 01566 – Cleanup Operations

END OF SECTION

SECTION 03001

CONCRETE

PART 1 GENERAL

1.1 Section Description

- A. This section provides for the materials and procedures utilized in cast-in-place concrete for thrust restraints for water main construction. Concrete for repair of pavement base, and curb or sidewalk replacement shall be in accordance with KCMO Public Works Department requirements and Section 02575 and the Missouri Department of Transportation (MoDOT) requirements for work within MoDOT right-of-way.

1.2 Section Includes

- A. Concrete Mixture
- B. Curing
- C. Form Work
- D. Reinforcement

1.3 Related Sections

- A. Section 01300 – Submittals
- B. Section 01600 – Material and Equipment
- C. Section 02200 - Excavation and Trenching
- D. Section 02575 - Pavement Restoration
- E. Section 02608 - Concrete Vaults and Covers
- F. Section 02669 - Thrust Restraints

1.4 References

- A. ACI 301 - Specifications for Structural Concrete Buildings
- B. ASTM C33 - Standard Specification for Concrete Aggregates.
- C. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
- D. ASTM C150 - Standard Specification for Portland Cement.
- E. ASTM C171 - Standard Specification for Waterproof Paper for Curing Concrete.

- F. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
- G. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
- H. ASTM C494 - Standard Specification for Chemical Admixtures for Concrete.
- I. ASTM C881 - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.
- J. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
- K. MCIB – Specifications for Concrete Work.

1.5 Submittals for Review

- A. Follow the procedures for submittals provided in Section 01300 - Submittals
- B. Submit proposed mix design of each class of concrete to CITY for review prior to commencement of work.

1.6 Quality Assurance

- A. Perform work in accordance with ACI 301.
- B. Tests: Testing firm will take cylinders and perform slump and air entrainment tests in accordance with ACI 301 and ASTM standards.

PART 2 PRODUCTS

2.1 Concrete Mixture

- A. Concrete Mixture:
 - 1. The concrete shall be MCIB WA530-1-4 as designated by the Mid-West Concrete Industry Board, Inc., Kansas City, Missouri.
- B. Cement:
 - 1. The cement shall be Portland Cement Type I unless high early strength is required in which instance Type III shall be used.
 - 2. All cement shall conform to the "Standard Specification for Portland Cement," ASTM C150.
- C. Aggregate:

1. All aggregates shall conform to the appropriate bulletins and specifications of the Mid-West Concrete Industry Board, Inc.
- D. Admixtures:
1. Air-entraining admixtures shall comply with ASTM C260 (AASHTO M154), current edition.
 2. Chemical admixtures shall comply with ASTM C494 (AASHTO M194), current edition.
 3. All Concrete shall include a water-reducing admixture and an air-entraining admixture.
- E. Water:
1. Water for mixing and curing concrete shall be clean and free from injurious amounts of sewage, oil, acid, alkali, salt, or organic matter. (Only potable water will be acceptable without testing.)
- F. Ready-Mix Concrete:
1. Ready-mixed concrete shall be used unless otherwise permitted by the CITY.
 2. Ready-mixed concrete shall be mixed and delivered in accordance with the requirements set forth in the "Standard Specifications for Ready-Mixed Concrete," ASTM C94.

2.2 Curing

- A. Cotton Mats: American Association of State Highway Officials (AASHTO) - "Standard Specifications for Cotton Mats for Curing Concrete Pavements," Designation M-73, current edition.
- B. Burlap: AASHTO - "Standard Specifications for Burlap Cloth Made from Jute or Kenaf," M-182, Class 2, 3, or 4, current edition.
- C. Waterproof Paper: ASTM – "Standard Specification for Waterproof Paper for Curing Concrete", Designation C-171, Current Edition.
- D. Liquid Membrane: ASTM – "Standard Specifications for Liquid Membrane Forming Compounds for Curing Concrete", Designation C-309, current edition.
- E. Membrane Curing Compounds: ASTM C1315 - "Standard Specifications for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete", current edition.
- F. Concrete Bonding Agent; ASTM C881 - Standard Specifications for Epoxy-Resin-Base Bonding Systems for Concrete", Type I and V, moisture insensitive, current edition.

- G. Polyethylene Sheeting: AASHTO – “Standard Specifications for White Polyethylene Sheeting (Film) for Curing Concrete”, Designation M-171, current edition.

2.3 Form Work

- A. Refer to Section 03100 - Concrete Formwork

2.4 Reinforcement

- A. Refer to Section 03200 - Concrete Reinforcement

PART 3 EXECUTION

3.1 Surface Preparation

A. General:

1. Concrete shall not be placed on muddy or frozen ground.
2. Dry sub-grade shall be wetted in advance of concrete placement.
3. All mud, freestanding water, loose dirt, and debris shall be removed prior to placement of concrete.

B. Surface Preparation of Existing Concrete:

1. Where new concrete is placed against existing concrete, the surface of the existing concrete shall be chipped to remove the existing surface to a depth that exposes a clean concrete surface. No oil, grease, or dirt stains shall be evident when the new concrete is poured.
2. Latency or soft layers of mortar shall be removed from the top or face of previously hardened concrete prior to placing additional concrete in contact with the existing surfaces.
3. If, in the opinion of the CITY, a structural bond is required between the old and new concrete, a concrete bonding agent shall be used.

C. Under-Water Conditions:

1. Prior to placing concrete, any water flow into excavation or forms shall be controlled or stabilized.
2. Tremies shall be used in all cases unless other methods are specified.
3. Tremies shall be equipped with watertight valves or caps at the lower end that shall be kept submerged in freshly placed concrete when placing concrete.

3.2 Formwork

A. Refer to Section 03100 – Concrete Formwork

3.3 Reinforcement

A. Refer to Section 03200 – Concrete Reinforcement

3.4 Placing Concrete

A. General:

1. Only those methods and arrangements of equipment shall be used which will reduce to a minimum any segregation of coarse aggregate from the concrete.
2. Every consideration shall be given to the proper placement of all concrete and the proper care of all concrete after placement.
3. Sufficient capacity of manpower and placing equipment shall be provided so that the work may be kept free from cold joints and other defects in the finished product.
4. Concrete shall be deposited into the forms or on the grade as nearly as practicable in its final position and in such manner that the concrete will completely fill the forms.
5. Vibration shall not be used to move concrete in a horizontal direction after initial placement.
6. Placement of concrete on a slope shall begin at the lower end of the slope and progress upward.
7. Concrete that has partially hardened or has been contaminated by foreign material shall not be deposited in the work but shall be discarded.
8. When inclined chutes beyond the mixer are permitted by the CITY, a baffle shall be provided at the bottom end so that concrete will drop vertically without segregation.
9. No water shall be added to the concrete for any reason at the job site that will result in exceeding the specified water-cement ratio.
10. Care shall be taken to fill the forms and to finish the concrete so that top surface is true to line and grade.
11. Care shall be taken to assure proper concrete coverage of reinforcing steel and mesh as designed.
12. Care shall be taken to maintain the proper location of all joint material, dowels, embedded items, etc., during concrete placement.
13. No mud or other foreign materials shall be tracked into the concrete during placement operations, and all contaminated concrete shall be removed.

B. Footings:

1. Footings shall have sound and stable earth sides or assembled forms.
2. Placement operations shall be performed in such a manner as to prevent loose earth falling into footing area during placement of concrete.

C. Walls And Thrust Restraints:

1. Collection hoppers shall be used wherever depth of wall or thrust restraints exceeds four (4) feet.
2. Concrete that might contact forms or reinforcing steel during placement shall be placed by the use of trunks or pipes whenever the drop exceeds six (6) feet for unexposed work, or three (3) feet for exposed work.
3. When trunks or pipe are used, they shall be located at horizontal spacing of not to exceed ten (10) feet.
4. Concrete for walls and thrust restraints shall be placed in horizontal layers not exceeding two (2) feet in depth.
5. Where concrete is to be placed for slabs monolithically with walls, beams, or columns which have a depth of four (4) feet or more, the placing of concrete for slab shall be delayed one (1) to three (3) hours after placing of concrete in lower portions to allow for subsidence.
6. Placing of concrete in slabs and thrust restraints shall be done in such manner as to prevent "cold joints," both horizontally and vertically.

D. Slabs:

1. Strike-off screens shall be set to proper grades for all concrete slab construction, and the tolerance for screens for smooth finish slabs shall not exceed one-eighth (1/8) inch, plus or minus, in a distance of seven (7) feet.
2. Strike-off shall be accomplished by use of a straight edge of adequate weight and length.
3. Vibrating screens or other approved strike-off methods shall be used when concrete slump is less than three (3) inches and slab thickness is more than four (4) inches.
4. Jitterbugs shall not be used.

E. Vibrating:

1. Mechanical internal vibrators shall be used whenever possible in all formed concrete work.

2. Vibrators shall be inserted at uniform spacing of twelve (12) inches to twenty (20) inches to assure thorough consolidation of all concrete.
3. Vibrators shall be inserted and withdrawn vertically to a depth, which will assure penetration into the previous lift with vibration periods of from five (5) to fifteen (15) seconds.
4. Form vibration and hand spading will be required at points inaccessible for thorough internal vibration.
5. During placement of concrete, stand-by vibrators shall be immediately available in the event of mechanical failure in the vibrators being used.

3.5 Concrete Curing

A. General:

1. Curing and protection shall consist of providing adequate measures to prevent the loss of moisture so hydration of the cement can continue. Special care shall be taken to provide proper curing for all concrete, including edges.
2. All regular concrete shall be cured for a period of not less than five (5) days, and concrete made with high early strength cement shall be cured not less than three (3) days unless otherwise directed or specified by the CITY.
3. Whenever placing of concrete is interrupted, the concrete already placed shall be kept continuously moist with damp mats or burlap until placing is resumed. Concrete shall not be directly sprayed with water prior to obtaining initial set.

B. Concrete In Forms:

1. Concrete adjacent to wood forms shall be cured either by keeping the forms continuously wet, beginning not later than eighteen (18) hours after placing has been completed, or by loosening the forms as directed or approved by the Engineer and applying water to the top portion and allowing the water to run down between the forms and the concrete.
2. When metal forms are used for vertical surfaces, the forms shall either be kept in contact with the concrete for the entire curing period, or the forms may be removed completely and one of the other acceptable curing methods used.
3. Concrete slabs shall be cured by either wet covering, steel materials, or membrane curing compounds.
4. Supporting forms under flat slabs will not be required to be kept moist.

C. Curing Methods:

1. One of the following methods of curing shall be used as soon as possible after the final finishing operations and when the concrete has set sufficiently so that it will not be damaged in the process.

2. Wet covering shall consist of either burlap, cotton mats, damp earth or sand, or ponded water. Coverings shall be kept moist for the duration of the curing period. Water shall be applied in a manner, which will not damage the concrete, and shall be free from impurities, which may damage or discolor the concrete.
3. The covering shall completely cover the concrete surfaces with sufficient material remaining at the sides for proper anchorage. Adjoining sheets shall be lapped six (6) inches or be sealed. All tears and holes shall be patched promptly with adhesive tape or other approved means. The covering shall be anchored continuously around the edges and at laps, and shall be weighted on the surface as required to prevent billowing by the wind. The covering material may be reused provided all holes and tears are properly repaired.
4. During hot weather, the membrane curing compound shall be a white pigmented compound when used on concrete exposed to sunlight and on all other concrete unless the CITY specifies a clear type with fugitive dye. Membrane curing compounds shall not be used where concrete is to be bonded to concrete. Where concrete is to be painted or covered with floor covering, or where concrete is to be bonded to other construction material, membrane curing compound shall be applied by spraying in such a manner as to provide a uniform, continuous, and water-impermeable film using not less than the amount recommended by the manufacturer. Compounds shall be stirred prior to and during use. If an even covering cannot be obtained by one coat, the compound shall be applied in two (2) coats with the direction of application of the second coat at right angles to that of the first coat. The membrane shall be protected from damage during the curing period, and any damage shall be repaired promptly.
5. Vertical faces of slabs on grade shall be cured by backfilling with moist earth or by use of one of the methods described herein.
6. If approved by CITY, a combination of various curing methods may be used providing the intermediate time of exposure to drying is less than one (1) hour. For example, concrete work may be initially cured for one (1) day with a wet covering followed by four (4) days curing with a sheet material or membrane curing compound.

3.6 Concrete Protection

A. General:

1. The provisions of this Section shall apply to all concrete work, which is done when the air temperature is below forty degrees Fahrenheit (40° F) or forecast to drop below that temperature within twenty-four (24) hours of the time concrete is to be placed.
2. Concrete Production: Adequate equipment for heating the concrete materials shall be provided. No ingredient that is frozen or contains ice shall be placed in the mixer.

- a. When air temperature is below 40° F, or forecast to fall below 40° F in the next 24 hours, concrete ingredients shall be heated.
 - b. Temperature of concrete at time of delivery shall be not less than 60° F nor greater than 80° F, and 70° F is preferred.
 - c. Heating shall be accomplished by heating either the aggregates or the mixing water or both. When the water temperature is above 165° F, the aggregate shall be premixed with the water for one (1) minute before cement and admixtures are added. Cement shall not be mixed with water or aggregates having temperature above 165° F.
 - d. The addition of calcium chloride WILL NOT be permitted.
3. Placing and Finishing: Concrete shall not be placed on or come in contact with frozen subgrade or forms and equipment containing ice or snow.
- a. Concrete, when placed, shall have a slump not to exceed four (4) inches for flat work or five (5) inches for walls and columns.
 - b. During placing and finishing, concrete shall be maintained at a temperature of 50° F or above but not more than 80° F.
 - c. Heating of enclosures for flat slab finishing shall be done by vented heating methods, and open-flame heating methods will not be permitted.
 - d. Troweling shall be delayed in order to avoid bringing an excess of fines to the surface.
 - e. During placing and finishing, the slabs shall be protected from wind to prevent loss of heat and rapid drying.
4. Protection: When freezing temperatures are forecast, suitable and adequate facilities shall be provided prior to beginning concrete placement for maintaining the ambient air temperature at the surface of the concrete or forms for the times and temperatures specified herein.
- a. Type I (normal) cement concrete - not less than 50°F for five (5) days or 70°F for three (3) days.
 - b. Type II (low heat of hydration/moderate sulfate resistant) cement concrete - not less than 50°F for fourteen (14) days.
 - c. Type III (high early strength) cement concrete - not less than 50°F for three (3) days or 70°F for two (2) days.
 - d. Protective measures shall be maintained for at least four (4) days beyond the period specified above.

- e. Sudden cooling (in excess of 20°F in any 24-hour period) of ambient air temperature at the surface of the concrete or forms shall not be permitted. During this period concrete shall not be allowed to drop to a temperature below 40°F.
- f. Newly finished flat work shall be covered and protected during cold weather for at least 14 days against exposure to rain, sleet, and ice.
- g. All methods for protecting concrete shall be subject to approval of the Director.
- h. Insulated forms may be used when approved by the CITY. Care shall be taken to keep the internal concrete temperature below 130°F and avoid sudden cooling at end of protection period.
- i. During the entire protection period adequate means shall be provided to prevent loss of moisture from the concrete surface.

B. Hot Weather Protection:

1. General: The provisions of this Section shall apply to all concrete work that is done when the air temperature is above 80°F or forecast to rise above that temperature within 24 hours of the time concrete is to be placed.
2. Concrete Production: Stockpiled aggregates shall be saturated and the surface kept moist by intermittent sprinkling or continuous fog spray.
 - a. Mixing water shall be kept cool by adequate protection of storage tanks and piping. Supply lines shall be shaded, insulated, or buried.
 - b. When necessary to produce and maintain concrete at an acceptable temperature, chopped or crushed ice shall be added directly to the mixer to the limit of 50% by weight of the total water required. Ice shall be added at a rate and in a manner that it will be completely melted during the mixing period. Chilled mixed water will also be acceptable.
 - c. The cement factor required by the design mix shall be increased as necessary to maintain the specified water-cement ratio whenever additional water is added to compensate for loss of slump during transportation, handling, and placing.
3. Placing and Finishing: Temperature of concrete when placed shall not exceed 85°F.
 - a. Forms, reinforcing, and subgrade surfaces shall be wet down immediately before concrete is placed. Wetting down of areas around the work to cool the air and increase humidity is recommended.

- b. Placing and finishing shall be done as quickly as possible. Adequate manpower and equipment shall be available to handle and place the concrete immediately after its mixing and delivery to the site.
 - c. Concrete shall be placed in layers in such manner as to insure bond and union with adjacent layers, thus avoiding cold joints.
4. Protection: In extremely hot weather or in very dry and/or windy weather, sunshades, wind breakers, fog nozzles, or a combination of such items will be required during flat slab finishing operations.
- a. If in the opinion of CITY proper protection is not being provided, CITY may order concrete operations to be suspended until adequate protective measures are provided.
 - b. Concrete shall be kept cool and moist during the specified curing period.
 - c. Top surface of slabs shall be cured as specified in Paragraph 6-" Curing and Protection." Initial curing media shall be applied within 20 minutes after the final finishing has been completed in each area.
 - d. When air temperature exceeds 90°F and as soon as practicable without damage to the surface finish, all exposed concrete shall be kept continuously moist by means of fog sprays, wet burlap, cotton mats, and other effective means. This water cooling shall be in addition to the initial sealing by the membrane curing compound.

END OF SECTION

SECTION 03100
CONCRETE FORMWORK

PART 1 GENERAL

1.1 Section Description

- A. This section provides for the materials and installation for cast-in-place concrete formwork for water main construction work.

1.2 Section Includes

- A. Forms
- B. Form work accessories

1.3 Related Sections

- A. Section 01300 – Submittals
- B. Section 01600 – Material and Equipment
- C. Section 03001 - Concrete
- D. Section 03200 - Concrete Reinforcement

1.4 References

- A. ACI 347 - Recommended Practice For Concrete Formwork.

1.5 Submittals

- A. Follow the procedures for submittals provided in Section 01300 - Submittals.
- B. Shop Drawings: Indicate pertinent dimensions, materials, bracing, and arrangement of joints and ties.

1.6 Quality Assurance

- A. Perform Work in accordance with ACI 347.

1.7 Delivery, Storage, and Handling

- A. Follow the provisions for the delivery, storage, protection and handling products to and at site provided in Section 01600 - Material and Equipment.
- B. Store off ground in ventilated and protected manner to prevent deterioration from moisture.

PART 2 PRODUCTS

2.1 FORMS

- A. Suitable and substantial forms shall be provided for all structural concrete and, where required, for plain concrete. All forms shall be constructed and maintained plumb and true to line, securely braced, tied, clamped and shored, and tight enough to prevent leakage of mortar.
- B. The deflection of the forms due to the weight of plastic concrete, placing equipment, and workmen shall be accurately figured and taken into account in the design of the forms so that finished concrete members will have surfaces, lines, planes, and elevations required within tolerances in accordance with ACI 117.
- C. Forms shall be constructed so that they can be removed without damage to the concrete.
- D. Forms for walls and thrust restraints shall be designed structurally for the rate of placement of concrete.

2.2 Formwork Accessories

- A. Forms shall be securely braced and tied with approved form ties that do not leave any parts within 3/4 inch of the surface of the concrete. Wire ties and wood spreaders will not be permitted.

PART 3 EXECUTION

3.1 Preparation

- A. Verify lines, levels and centers before proceeding with formwork.
- B. A coat of non-staining oil, lacquer, or other approved material shall be applied to protect form surface and to facilitate stripping. Coating shall be applied in strict accordance with the current directions of the manufacturer.
- C. Screens shall be constructed and located so as to produce continuous plane surfaces and shall be sturdy and designed so as to leave no undesirable parts permanently embedded in the concrete.
- D. Screens shall be set sufficiently in advance of placement of concrete to avoid interruption in the placing of concrete.
- E. All exterior surfaces of the forms shall be thoroughly cleaned with water or compressed air immediately prior to placing of concrete.
- F. All surfaces of forms that are to be reused shall be thoroughly cleaned and repaired prior to reuse.

3.2 Erection - Formwork

- A. Openings and chases of proper size shall be provided in the forms for piping, ductwork, etc., at the locations indicated or as otherwise approved.
- B. All approved embedded items shall be accurately located and securely fastened in place prior to placing of concrete.
- C. Control, contraction, expansion, and construction joints shall be provided at the locations indicated or specified.

3.3 Form Removal

- A. Forms shall be removed in such manner as to assure the complete safety of the structure. In no case shall supporting forms or shoring be removed until the concrete members have acquired sufficient strength to support their weight safely.

END OF SECTION

SECTION 03200
CONCRETE REINFORCEMENT

PART 1 GENERAL

1.1 Section Description

- A. This section provides for the materials and installation for cast-in-place concrete reinforcement for water main construction work.

1.2 Section Includes

- A. Reinforcing steel bars, wire fabric and accessories for cast-in-place concrete.

1.3 Related Sections

- A. Section 01300 – Submittals
- B. Section 01600 – Material and Equipment
- C. Section 03001 – Concrete
- D. Section 03100 – Concrete Formwork

1.4 References

- A. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
- B. ASTM A616/A616M - Standard Specification for Rail Steel Deformed and Plain Bars for Concrete Reinforcement.
- C. CRSI 63 - Recommended Practice For Placing Reinforcing Bars.
- D. CRSI 65 - Recommended Practice For Placing Bar Supports, Specifications and Nomenclature.

1.5 Submittals for Review

- A. Follow the procedures for submittals provided in Section 01300 - Submittals.
- B. Shop Drawings: Indicate reinforcement bar sizes, spacing, locations, and quantities of reinforcing steel and wire fabric; bending and cutting schedules; splicing and supporting and spacing devices.

1.6 Quality Assurance

- A. Perform work in accordance with CRSI 63, CRSI 65, and CRSI Manual of Standard Practice.

PART 2 PRODUCTS

2.1 Reinforcement

- A. Reinforcing steel bars shall conform to the requirements of the following Standards and Grades:

<u>ASTM STANDARD</u>	<u>Grade</u>
A 615 - Billet Steel	40 or 60
A 616 - Rail Steel	50 or 60
A 617 - Axle Steel	40 or 60

- B. Welded steel wire fabric shall conform to the requirement of ASTM A185.

PART 3 EXECUTION

3.1 Preparation

- B. Before being installed in the final position, all metal reinforcements shall be free of mud, clay, ice, grease, oil, loose rust and scale, and other coatings that would reduce or destroy the bond.

3.2 Placement

- A. Metal reinforcements shall be accurately formed and positioned to the required dimensions.
- B. Steel reinforcements shall be accurately positioned as required and shall be secured against displacement by using annealed wire ties or suitable clips at all intersections.
- C. The steel reinforcements shall be supported by metal supports, spacers, or hangers.
- D. The legs on the metal chair supports shall be plastic coated.
- E. The minimum center to center distance between parallel bars shall be not less than two and five-tenths (2.5) times the diameter of the bars so installed; but in no case shall the clear spacing between bars be less than one and five-tenths (1.5) times the maximum size of the course aggregate.

3.3 Protection

- A. Metal reinforcements (bars or mesh) shall be protected with concrete as stipulated in the following table. The concrete cover shall be measured from the edge of the bar or mesh to the face of the concrete.

<u>Condition of Service</u>	<u>Minimum Inches of Cover</u>
Placed against undisturbed earth	3 inches
Formed face exposed to earth or liquid	2 inches
Other formed surfaces	3/4 inches

END OF SECTION

SECTION 03608 – CONCRETE VAULTS

PART 1 - GENERAL

1.01 SUMMARY

- A. This section provides for the installation of vaults to house water main appurtenances in locations shown on the drawings.
- B. This section includes Concrete Vaults, Lids and Frames, and Vault Configuration.

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.
- D. Section 02200 – Earthwork.
- E. Section 02250 – Trenching, Pipe Embedment and Backfill.
- F. Section 03000 – Miscellaneous Concrete.
- G. Section 05012 – Water Castings.

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. American Society for Testing and Materials (ASTM):
 - ASTM C109 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.
 - ASTM C150 Standard Specification for Portland Cement.
 - ASTM C191 Standard Test Methods for Time of Setting of Hydraulic Cement by Vicat Needle.
 - ASTM C207 Standard Specification for Hydrated Lime for Masonry Purposes.
 - ASTM C478 Precast Reinforced Concrete Manhole Sections.
 - ASTM C827 Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures.
 - ASTM C990 Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants.
 - ASTM C1170 Standard Test Method for Determining Consistency and Density of Roller-Compacted Concrete Using a Vibrating Table.
- C. International Masonry Industry All-Weather Council (IMIAC): Recommended Practices and Guide Specification for Cold Weather Masonry Construction.

1.05 DEFINITIONS

- A. Paved Areas: Areas for which the final surfacing will be street pavement, shoulders, driveways, parking lots, curbs, gutters, sidewalks, gravel roads, or other surface construction or structures.
- B. Unpaved Areas: Areas for which the final surfacing will be in a greenspace.

1.06 INFORMATION PROVIDED BY THE CITY

- A. As provided in the contract documents.

1.07 SUBMITTALS

- A. Submit as specified in Section 01300 – Submittals.
- B. Shop Drawings:
 - 1. Submit for approval general arrangement drawings showing vault size, height and location of access cover, steps, and all pipe penetrations.
 - 2. Submit for approval joint construction details.
 - 3. Submit for approval details on reinforcement if requested.
 - 4. Submit for approval detail on vault frame lid.
 - 5. Submit design calculations certifying load requirements specified herein.
- C. Product Data:
 - 1. Submit for review and approval manufacturer's catalogue/product data and installation instructions for the following:
 - (a) Adjustment rings.
 - (b) Joint sealant.
- D. Other Submittals:
 - 1. Precast concrete mix design.
 - 2. Compressive testing of cylinders (as specified).
 - 3. Compressive testing of cores (as specified).

1.08 QUALITY ASSURANCE

- A. The Contractor is responsible for the quality assurance and quality control of the Work.
- B. The manufacturer shall be a company specializing in manufacturing Products specified in this Section with a minimum of three years documented experience.
- C. Cold Weather Requirements: IMIAC - Recommended Practices and Guide Specifications for Cold Weather Masonry Construction.

1.09 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Follow the provisions for the delivery, storage and handling of products to and at site provided in Section 01000 – General Project Requirements.
- B. Cement, Aggregate, and Reinforcement shall be in accordance with Section 03000 – Miscellaneous Concrete.
- C. Handle materials and other accessories in such manner as to ensure delivery to the trench in sound undamaged condition.
- D. Non-shrink grout: Deliver Materials to project in Manufacturer's original, unopened packaging, with labels clearly identifying product name, Manufacturer, and expiration date. Store grout in a cool, dry place, out of the sun.
- E. Precast concrete sections shall not be delivered to the job until the concrete control cylinders have attained a strength of at least 80 percent of the specified minimum.

- F. Precast concrete sections shall be handled carefully and shall not be bumped or dropped. Hooks shall not be permitted to come in contact with joint sections.
- G. Precast concrete sections shall be inspected when delivered. All cracked, or otherwise visibly defective units will be rejected. City reserves the right to inspect the production of the units at the manufacturing plant.

1.10 VAULT CONFIGURATION

- A. Precast Concrete Vaults for potable water distribution systems shall conform to detail 03608-1 and shall meet the following requirements:
 - 1. Shaft Construction: Concentric with lipped male/female joints; sleeve to receive pipe.
 - 2. Shape: Cylindrical.
 - 3. Clear Inside Dimensions: 60-inch diameter, minimum
- B. Clear Lid Opening: 30 inches diameter, minimum.
- C. Pipe Entry: Provide openings as required.

1.11 VAULT LOADING REQUIREMENTS

- A. Precast concrete vaults shall be designed to withstand the wheel loading requirements of AASHTO HS25. The contractor may request a variance for HS20 loading if the vault is located in greenspace.

PART 2 - PRODUCTS

2.01 PRECAST CONCRETE

- A. Materials and Fabrication:
 - 1. Precast concrete shall conform to ASTM C478.
 - 2. Air entraining agents shall be added to the concrete to provide 4 to 6 percent entrained air.
 - 3. Submit for review and approval the precast concrete manufacture's mix design(s) for precast structures.
- B. Quality Control:
 - 1. If indicated in Section 01015 – Specific Project Requirements, provide compressive testing results prepared by the precast concrete manufacturer.
 - (a) Compressive Testing of Cylinders: Conduct in accordance with ASTM C478.
 - (b) Compression Testing of Cores: Conduct in accordance with ASTM C478. Mortar.
- C. Proportions by volume shall be one-part Portland cement, ASTM C150 Type I; two parts sand, ASTM C33; and 10 percent by volume of lime ASTM C207, Type S.

2.02 NON-SHRINK GROUT

- A. Non-shrink grout shall conform to ASTM C1107, Grades B and C.
- B. Non-shrink grout shall be in the plastic state and show no expansion after set as tested in accordance with ASTM C827 and shall develop compressive strength not less than three thousand (3,000) psi with a trowelable mix within twenty-four (24) hours per ASTM C109. The placement time shall be not less than forty-five (45) minutes based on initial set per ASTM C191.

2.03 FRAMES AND COVERS FOR CONCRETE VAULTS

- A. Shall conform to Section 05012 – Water Castings.

2.04 GRANULAR BEDDING MATERIAL

- A. Granular bedding material shall be as specified in Section 02250 – Trenching, Pipe Embedment and Backfill.

2.05 JOINT SEALANT

- A. Joints shall be sealed using preformed flexible joint sealants conforming to ASTM C990. The minimum bead dimension shall be an inch.
- B. Install in accordance with manufacturer’s recommendations.

2.06 STEPS

- A. Steps shall not be installed.

PART 3 - EXECUTION

3.01 EXCAVATION, BACKFILL AND COMPACTION

- A. Excavation, backfill and compaction for concrete vaults shall be in accordance with Section 02200 –Earthwork.
- B. Excavation, backfill and compaction operations shall be achieved in a suitable and orderly manner providing a minimum disturbance to the general public.
- C. Depth of excavation shall be to that required for proper installation of the concrete vault. Over-depth excavation may be required if the subgrade is unsuitable or unstable. Over-depth excavation due to unsuitable or unstable subgrades shall be backfilled as required by the City. Over-depth excavation occurring through an oversight by the Contractor shall be backfilled as required by the City’s Representative at no additional cost to the City.
- D. Side clearance outside the manhole and/or structures shall be no greater than necessary to allow for forming, installation of piping, proper application of special coatings, and access for inspection.

3.02 CONCRETE VAULT BASE

- A. The bottom precast wall section shall not be used for supporting or leveling the other wall sections prior to installing the base.
- B. The subgrade materials shall be excavated to undisturbed earth and a uniform elevation to allow for a minimum of 6 inches and a maximum of 18 inches of granular bedding material. The surface of the granular material shall be carefully graded, and the base section accurately set so that pipes will be on proper line and grade. The elevation of the granular material shall be adjusted as required until proper grade and alignment of the concrete vault base has been attained.
- C. No wedging or blocking under the precast reinforced concrete footers is permitted.

3.03 RISER SECTIONS

- A. Circular precast sections shall be provided with a double bead of preformed flexible joint sealant as specified in paragraph JOINT SEALANT between precast sections.
- B. All protruding flexible joint sealant shall be removed from inside of manhole and the joint shall be wiped with non-shrink grout.

- C. Internal or external manhole joint seals shall be installed per manufacturer's recommendation.
- D. Lifting notches in manhole walls shall be filled with non-shrink grout.

3.04 PIPE CONNECTIONS

A. Grouted Connections:

1. The space between connecting piping and the wall of the precast sections shall be completely filled with non-shrink grout.
2. The maximum allowable pipe opening on a horizontal axis shall be the outside diameter of the pipe plus twelve (12) inches.
3. The maximum allowable pipe opening on a vertical axis shall be the outside diameter plus 8 inches.
4. The minimum clearance between the outside surface of the installed pipe and the concrete of the manhole shall be two (2) inches.
5. The minimum distance between any two adjacent pipes shall be four (4) inches.
6. For field alternations approved by the City or City's Representative, walls shall be scored with a masonry saw to a depth sufficient to sever the reinforcing steel. A chipping hammer may then be used to remove the concrete.

3.05 CONCRETE VAULT TOP

A. The finished top elevation of casting shall conform to the following unless otherwise shown on the Drawings or directed by the City:

1. In paved areas, the top of the casting shall conform to the slope of the pavement and be 1/8 inch below the finished pavement elevation.
2. In non-pavement areas, the top of the casting shall be not more than one (1) inch above the surrounding ground.
3. In remote unpaved areas such as open fields or wooded areas, the top of the casting shall be no less than six (6) inches and no more than eighteen (18) inches above the surrounding soil surface. Place soil around the casting with a maximum slope of 2 feet vertical to 1 foot horizontal to protect the external manhole seal.

3.06 PREPARATION

- A. Coordinate placement of inlet and outlet pipe or sleeves required by other sections.

3.07 PLACING VAULT SECTIONS

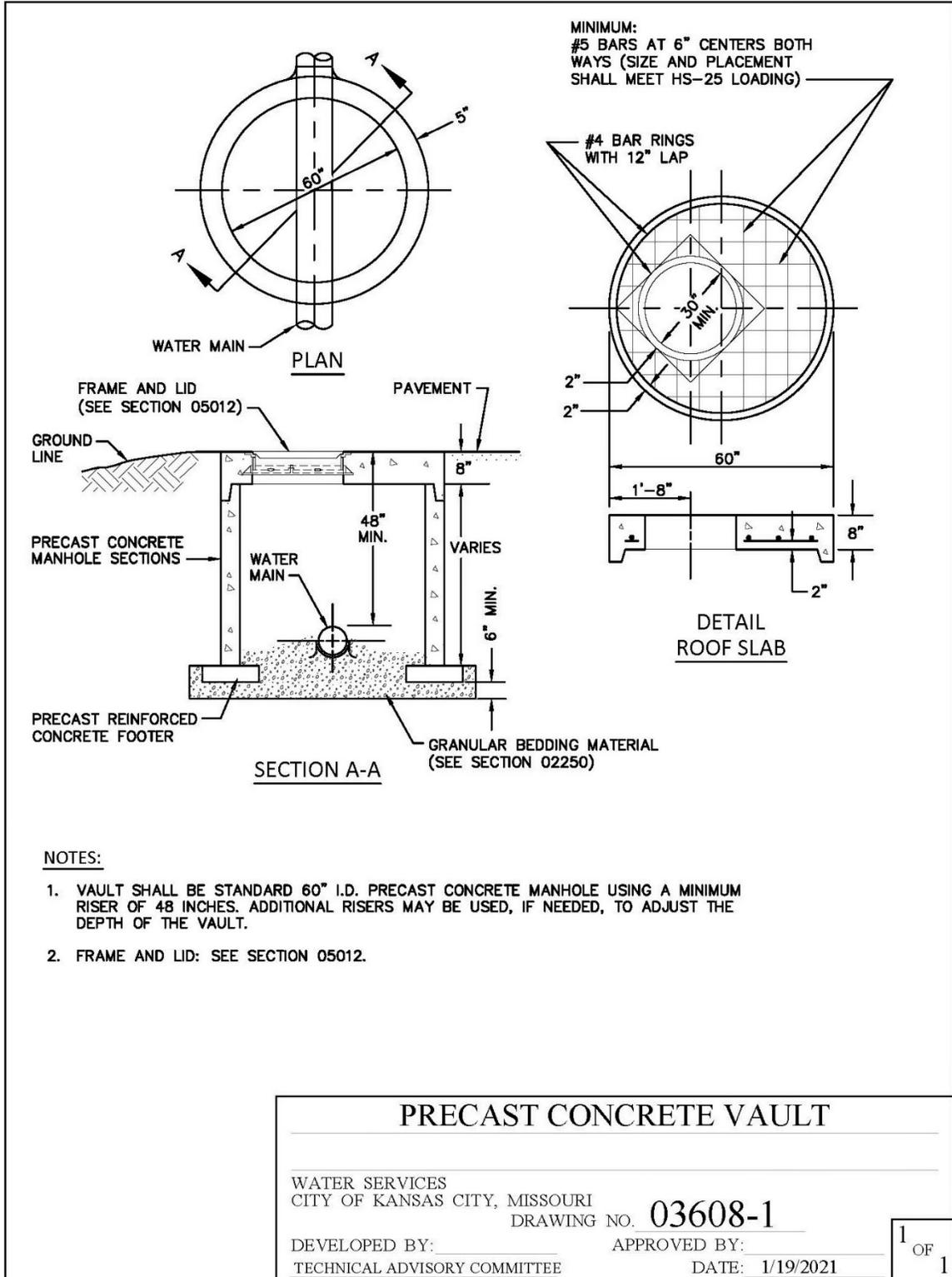
- A. Place precast reinforced concrete footers.
- B. Place vault sections plumb, level and at correct elevations.
- C. Set roof slab, adjust frame and cover level to final elevation.

3.08 CORROSION PROTECTION

- A. When specified, provide corrosion protection for the concrete and concrete reinforcement.
- B. Corrosion protection for concrete shall be required when the soil conditions indicate the need for sulfate resistant concrete and it is not available from the precast manufacturer.

DETAIL 03608-1 ON NEXT PAGE

DETAIL 03608-1



END OF SECTION