



# CITY PLAN COMMISSION STAFF REPORT

City of Kansas City, Missouri  
City Planning & Development Department  
[www.kcmo.gov/cpc](http://www.kcmo.gov/cpc)

January 4, 2022

## Project Name

**47 Madison**

## Docket 2

## Request

CD-CPC-2021-00203  
Development Plan - Major Amendment

## Applicant

Ryan McNellis  
Polsinelli  
900 W 48<sup>th</sup> St  
Kansas City, MO 64112

## Owner

KDM 4600 Spe LLC  
4622 Pennsylvania Ave  
Kansas City, MO 64112

Location	4651 Roanoke Pkwy
Area	About 1.467 acres
Zoning	B4-5
Council District	6th
County	Jackson County
School District	KCMO 110

## Surrounding Land Uses

**North:** Commercial uses, zoned B4-5  
**South:** Residential uses, zoned R-0.5  
**East:** Commercial uses, zoned B4-5-5  
**West:** Commercial uses, zoned B1-1

## Major Street Plan

Roanoke Pkwy (from W 43<sup>rd</sup> St to W 47<sup>th</sup> St) is identified as an established boulevard on the City's Major Street Plan. Madison Ave (from Westport Rd and W 47<sup>th</sup> St) is identified as a Thoroughfare on the City's Major Street Plan.

## Land Use Plan

The Midtown/Plaza Area Plan recommends Office/Residential for this location.

## APPROVAL PROCESS



## PROJECT TIMELINE

The application for the subject request was filed on 10/29/2021. No scheduling deviations from 2022 Cycle A have occurred.

## NEIGHBORHOOD AND CIVIC ORGANIZATIONS NOTIFIED

The West Plaza Neighborhood Association is tied to the subject site.

## REQUIRED PUBLIC ENGAGEMENT

Public engagement as required by 88-505-12 does apply to this request. Applicant hosted a meeting on December 15<sup>th</sup>, 2021. Summary of the meeting is attached to the staff report, see Exhibit A.

## EXISTING CONDITIONS

The subject site is vacant, northwest of the Country Club Plaza.

## SUMMARY OF REQUEST

The applicant is seeking approval of a major amendment to an approved Development Plan to allow for the development of a 16-story residential building.

## CONTROLLING + RELATED CASES

Ordinance No. 170405  
Approving a major amendment to a development plan to add two stories to a multi-unit residential development in District B4-5 on about 1.5 acres generally located at 4600 Madison Ave.

## PROFESSIONAL STAFF RECOMMENDATION

Docket 2 Recommendation  
Approval Subject to Corrections and Conditions

## PLAN REVIEW

Major amendments to approved development plans must be reviewed and approved in accordance with the development plan review procedures within the Zoning and Development Code. Major amendments to development plans include one or more changes listed in 88-516-06-A. The subject major amendment is triggered by an increase in total floor area by more than 10% or 5,000 sq ft, whichever is less.

47 Madison consists of 238 units with onsite amenities, including a dog park, putting green, and rooftop lounge areas. Parking is being provided by a garage sited within the structure. The Midtown/Plaza Area Plan recommends building heights of 45' to 90'. The proposed development does not meet the recommendations outlined in the Midtown/Plaza Area Plan, however, meets height requirements identified in the Zoning and Development Code. "The Bowl Concept describes the conscious transition of building heights from the low-rise buildings of the Country Club Plaza to buildings of increasing height as they are placed on the surrounding hills. Over recent decades, this transition in building heights has been reinforced by commercial, office, hotel, and high-rise residential development." As seen in plan sheets A5-12 and A5-13, the proposed project respects the height transition intent of the Area Plan. A 15-story building was also previously approved.

## PLAN ANALYSIS

*Use- Specific (88-300) and Development Standards (88-400)*

*\*indicates adjustment/variance*

Standards	Applicability	Meets	More Information
Boulevard and Parkway Standards (88-323)	Yes	Yes	See Site Plan.
Parkland Dedication (88-408)	Yes	-	See CCR Report.
Parking and Loading Standards (88-420)	Yes	Yes	See Site Plan.
Landscape and Screening Standards (88-425)	Yes	Yes	See Site Plan.
Outdoor Lighting Standards (88-430)*	Yes	Variance Required	
Sign Standards (88-445)	Yes	-	See CCR Report.
Pedestrian (88-450)	Yes	Yes	See Site Plan.

## PROFESSIONAL STAFF RECOMMENDATION

City staff recommends **Approval Subject to Corrections and Conditions** as stated in the corrections, conditions, and recommendations report.

Corrections must be resolved prior to City Council ordinance request.

Respectfully Submitted,

Ahnna Nanoski, AICP  
Lead Planner



## Plan Conditions, Corrections, & Recommendations Report

Recommended to City Plan Commission

Recommended by Staff

Report Date: December 28, 2021

Case Number: CD-CPC-2021-00203

Project: 47 Madison

### Plan Corrections

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*Correction(s) by Development Management of the City Planning and Development Department. Contact Ahnna Nanoski at / Ahnna.Nanoski@kcmo.org with questions.*

1. According to 88-430-05-C of the Zoning and Development Code, spillover light may not exceed 0.186 foot-candle onto R-zoned property or 1.0 foot-candle onto public rights-of-way measured at grade along the property line.

The photometric plan should also show spillover light effects on the adjacent properties and public rights-of-way.

(12/20/2021) If the above can't be met then a variance from the Board of Zoning Adjustment must be granted. Board of Zoning Adjustment review must occur prior to City Council ordinance request. Variance Request (12/20/2021)

*Correction(s) by Parks Department of the Parks & Recreation. Contact Justin Peterson at 816-513-7599 / Justin.Peterson@kcmo.org with questions.*

2. Please provide details on how parkland dedication standards of 88-408 are to be satisfied. If private open space is proposed, please note they will need to be platted into a private open space tract as part of the final plat.

12/23/21; Interior amenities shall not be credited towards parkland dedication. "East Landscaping" shall not be credited towards parkland dedication. (12/20/2021)

*Correction(s) by Public Works - Plan Review of the Public Works Department. Contact Jeffrey Bryan at 816-513-9865 / Jeffrey.Bryan@kcmo.org with questions.*

3. The synchro files show the driveways as being two different roadways. Revise this to show the interaction of the two with the parking system (similar to the photo I had sent). (12/22/2021)

*Correction(s) by Public Works - Transportation of the Public Works Department. Contact Jeffrey Bryan at 816-513-9865 / Jeffrey.Bryan@kcmo.org with questions.*

4. The synchro files show the driveways as being two different roadways. Revise this to show the interaction of the two with the parking system (similar to the photo I had sent). (12/22/2021)

*Correction(s) by Water Services - Stormwater of the Water Services Department. Contact Amy Bunnell at / amy.bunnell@kcmo.org with questions.*

5. Relocate sewers from under proposed building(s). City GIS data suggests sanitary sewer extends to northwest and through Lot 1 from the manhole labeled Top Sewer MH = 874.54 to adjacent property to the north. Design engineer needs to determine whether the line is serving north property and make accommodations to maintain service as necessary. (12/20/2021)

6. Show location of stormwater management facilities. Storm letter is not approved through this process; however, please note that post-development peak discharge cannot increase above pre-development peak. (12/20/2021)

## Plan Conditions

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*Condition(s) by City Planning and Development Department. Contact Ahnna Nanoski at / Ahnna.Nanoski@kcmo.org with questions.*

7. A signage plan has not been provided. All proposed signage shall comply with 88-445 and are subject to sign permits. Electronic, digital, or motorized signate shall not be permitted. (12/01/2021)
8. The developer shall submit an affidavit, completed by a landscape architect licensed in the State of Missouri, verifying that all landscaping required of the approved plan has been installed in accordance with the plan and is healthy prior to Certificate of Occupancy. (12/01/2021)
9. Conditions identified in Ordinance No. 170405 remain applicable to the subject site/project. (12/03/2021)

*Condition(s) by City Planning and Development Department. Contact Kambiz Zoraghchi at (816) 513-1582 / Kambiz.Zoraghchi@kcmo.org with questions.*

10. The Buildings shall comply with all requirements of wall rating and opening protection per 602 and 705.8 of International Building Code 2018 edition with respect to property lines and lot lines. (12/08/2021)

*Condition(s) by City Planning and Development Department. Contact Stacey Lowe at 816-513-2552 / stacey.lowe@kcmo.org with questions.*

11. The developer shall submit verification of vertical and horizontal sight distance for the drive connection to public right-of-way to the Land Development Division and make improvements to ensure local jurisdiction and/or minimum AASHTO adequate sight distance standards are met, prior to issuance of any certificate of occupancy. (12/03/2021)
12. After the City Plan Commission enters its disposition for the development plan, the developer shall not enter into any agreement that would encumber or otherwise have any impact on the proposed right-of-way dedications for the planned project without the prior written consent of the Land Development Division. (12/03/2021)
13. The developer shall cause the area to be platted and processed in accordance with Chapter 88, Code of Ordinances of the City of Kansas City, Missouri, as amended, commonly known as the Development Regulations. (12/03/2021)
14. The developer provide acceptable easement and secure permits to relocated sanitary sewers out from under proposed buildings and structures, etc., while continuing to ensure individual service is provided to all proposed lots as required by Land Development Division prior to recording the plat or issuance of a building permit, whichever occurs first. (12/03/2021)
15. The owner/developer must submit plans for grading, siltation, and erosion control to Land Development Division for review and acceptance, and secure a Site Disturbance permit for any proposed disturbance area equal to one acre or more prior to beginning any construction activities. (12/03/2021)
16. The developer shall submit a letter to the Land Development Division from a Licensed Civil Engineer, Licensed Architect, or Licensed Landscape Architect, who is registered in the State of Missouri, that identifies sidewalks, curbs, and gutters in disrepair as defined by Public Works Department's "OUT OF REPAIR CRITERIA FOR SIDEWALK, DRIVEWAY AND CURB revised 11/5/2013" and based on compliance with Chapters 56 and 64 of the Code of Ordinances for the sidewalks, curbs, and gutters where said letter shall identify the quantity and location of sidewalks, curbs, gutters that need to be constructed, repaired, or reconstructed to remedy deficiencies and/or to remove existing approaches no longer needed by this project. The developer shall secure permits to repair or reconstruct the identified sidewalks, curbs, and gutters as necessary along all development street frontages as required by the Land Development Division and prior to issuance of any certificate of occupancy permits including temporary certificate occupancy permits. (12/03/2021)
17. The developer must grant a BMP and/or Surface Drainage Easement to the City as required by the Land Development Division, prior to recording the plat or issuance of any building permits. (12/03/2021)
18. The developer must pay impact fees as required by Chapter 39 of the City's Code of ordinances as required by the Land Development Division. (12/03/2021)
19. The developer shall submit an analysis to verify adequate capacity of the existing sewer system as required by the Land Development Division prior to issuance of a building permit to connect private system to the public sewer main and depending on adequacy of the receiving system, make other improvements may be required. (12/03/2021)
20. The developer must submit covenants, conditions and restrictions to the Land Development Division for review by the Law Department for approval for the maintenance of private open space and enter into a covenant agreement for the maintenance of any stormwater detention area tracts, prior to recording the plat. (12/03/2021)

*Condition(s) by City Planning and Development Department. Contact Stacey Lowe at 816-513-2552 / stacey.lowe@kcmo.org with questions.*

21. The developer must subordinate to the City all private interest in the area of any right-of-way dedication, in accordance with Chapter 88 and as required by the Land Development Division, prior to issuance of any construction permits within said right-of-way, and that the owner/developer shall be responsible for all costs associated with subordination activities now and in the future. (12/03/2021)
22. The developer must dedicate additional right of way for Madison Avenue as required by the adopted Major Street Plan so as to provide a minimum of 30 feet of right of way as measured from the centerline, along those areas being platted, or seek approval recommendations from the Transportation and Development Committee for any variances requested to the Major Street Plan prior to City Plan Commission approval. (12/03/2021)
23. The developer must integrate into the existing street light system any relocated existing street lights within the street right-of-way impacted by the new drive or approach entrances as required by the Land Development Division, and the relocated lights must comply with all adopted lighting standards. (12/03/2021)
24. The developer shall submit a Storm Drainage analysis from a Missouri-licensed civil engineer to the Land Development Division evaluating proposed improvements and impact to drainage conditions. Since this project is within a "Combined Sewer Overflow" (CSO) district, the project shall be designed to retain rainfall of 1.5 inch depth over the entire site to simulate natural runoff conditions and reduce small storm discharge to the combined sewer system. Manage the 10-year storm and 100-year storm per currently adopted APWA standards. The analysis shall be submitted, and the developer shall secure permits to construct any improvements required by the Land Development Division prior to recording the plat. (12/03/2021)
25. The developer must obtain the executed and recorded city approved grading, temporary construction, drainage/sewer, or any other necessary easements from the abutting property owner(s) that may be required prior to submitting any public improvements crossing properties not controlled by the developer and include said document(s) within the public improvement applications submitted for permitting (12/03/2021)

*Condition(s) by Fire Department. Contact Michael Schroeder at 816-513-4611 / michael.schroeder@kcmo.org with questions.*

26. Hydrant Fire hydrant distribution shall follow IFC-2018 Table C102.1  
Fire hydrants shall be installed and operable prior to the arrival of any combustible building materials onto the site. (IFC-2018 § 501.4 and 3312.1; NFPA -2013 § 8.7.2) (12/01/2021)
27. Water Flow The expectation is the project will meet the fire flow requirements as set forth in Appendix B of the International Fire Code 2018. (IFC-2018 § 507.1) (12/01/2021)
28. Fire Department Connection Buildings equipped with a fire standpipe system shall have an operable fire hydrant within 100 feet of the Fire Department Connection (FDC). (IFC2018 § 507.5.1.1) (12/01/2021)
29. Fire Department Connection The building's FDC shall be immediately recognizable from the street or nearest point of Fire Department access ( IFC-2018 § 912.2.1). (12/01/2021)

*Condition(s) by Parks & Recreation. Contact Justin Peterson at 816-513-7599 / Justin.Peterson@kcmo.org with questions.*

30. The developer shall submit a letter to the Parks and Recreation Department from a Licensed Civil Engineer, Licensed Architect, or Licensed Landscape Architect, who is registered in the State of Missouri, stating the condition of the sidewalks, curbs, and gutters along boulevard/parkway, which is a parks and recreation jurisdictional street. The letter shall identify state of repair as defined in Chapters 56 and 64 of the Code of Ordinances for the sidewalks, curbs, and gutters. It shall identify the quantity and location of sidewalks, curbs, gutters that need to be constructed, repaired, or reconstructed. The developer shall secure permits to repair or reconstruct the identified sidewalks, curbs, and gutters as necessary along all development street frontages, as required by the Parks and Recreation Department, prior to recording the plat/issuance of any certificate of occupancy permits including temporary certificate occupancy permits (12/01/2021)
31. The developer shall submit a streetscape plan with street tree planting plan per 88-425-03 for approval and permitting by the Parks & Recreation Department's Forestry Division prior to beginning work in the public right-of-way (12/01/2021)
32. The developer shall submit plans to Parks & Recreation Department and obtain permits prior to beginning construction of streetscape improvements (including but not limited to sidewalks, curbs, gutters, streetscape elements, pedestrian and street lighting) on the Parks jurisdictional streets and construct improvements, ADA compliant ramps at all required locations where new private drives are being added, or where existing sidewalks are modified or repaired. Such improvements shall be installed per Parks & Recreation Department Standards (12/01/2021)

*Condition(s) by Parks & Recreation. Contact Justin Peterson at 816-513-7599 / Justin.Peterson@kcmo.org with questions.*

33. The developer shall submit a streetscape plan with street tree planting plan per 88-425-03 for approval and permitting by the Parks & Recreation Department's Forestry Division prior to beginning work in the public right-of-way (12/01/2021)
34. The developer is responsible for dedication of parkland, private open space in lieu of parkland, or payment of cash-in-lieu of either form of dedication, or any combination thereof in accordance with 88-408. Should the developer choose to pay cash-in-lieu of dedicating all or a portion of the required area, the amount due shall be based upon the (2021) acquisition rate of (\$48,801.37) per acre. This requirement shall be satisfied prior to certificate of occupancy. (12/01/2021)
35. The developer shall comply with the Parkway & Boulevard Standards as outlined in 88-323 of the Zoning and Development Code. (12/23/2021)
36. The developer shall revise fencing as proposed along Roanoke Parkway or seek approval of a variance from the Board of Zoning Adjustment.

Per 88-323-02-D; Any fencing that is visible from the boulevard or parkway shall be 80% transparent and constructed of high quality, permanent materials. Maximum height shall be 6 feet in the rear and 4 feet in the side. No fencing shall extend beyond the front building line. Fencing must be of steel, iron, concrete, stucco, stone brick or other acceptable material. Wood picket or stockade fencing is not permitted. Chain link fencing is not permitted, except for the enclosure of a public playfield or a school playfield. (12/23/2021)

*Condition(s) by Water Services Department. Contact Heather Massey at / heather.massey@kcmo.org with questions.*

37. The developer shall ensure that water and fire service lines should meet current Water Services Department Rules and Regulations.  
<https://www.kcwater.us/wp-content/uploads/2019/04/2018-Rules-and-Regulations-for-Water-Service-Lines.pdf> These regulations are established to provide for an orderly growth of the City's water system and to assure equitable treatment to all citizens. All those who have transactions with KC Water are urged to observe these regulations and to cooperate in their enforcement. Section 78.35 of the Code of General Ordinances, Kansas City, Missouri, grants the Director the authority to make and enforce these regulations.

Water service lines shall only be installed in accordance with these regulations, and only by methods, and at times and under the circumstances described in these Regulations. Installations or arrangements other than those described in these regulations are not allowed. (12/01/2021)

*Condition(s) by Water Services Department. Contact Jerald Windsor at 816-513-2904 / Jerald.Windsor@kcmo.org with questions.*

38. The Madison Avenue Water Main is slated for replacement from 46th to 48th Streets by KC Water. This provides an opportunity for the developer to cost-share in the upsizing of this main to support the Water supply required for this project. (11/30/2021)
39. An engineer will need to perform a water flow and pressure analysis in the area of the development. This analysis will need to confirm the adequacy of the water distribution system for the new fire and domestic demands. If the existing system is inadequate the developer will be required to make all improvement necessary to deliver adequate flows and pressures. (11/30/2021)
40. Please provide a utility plan showing the size of the existing & proposed easements, water mains, domestic and fire service lines, kills and meter locations. (12/22/2021)

## Plan Recommendations

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*Recommendation(s) by City Planning and Development Department. Contact Joseph Rexwinkle at 816-513-8824 / Joseph.Rexwinkle@kcmo.org with questions.*

41. This project will follow the 2022 CPC Schedule available at  
<https://www.kcmo.gov/home/showpublisheddocument/7257/637707505073630000> (11/02/2021)



No.	Description	Date
	CITY PLANNING SUBMITTAL	11.09.2016
	CITY PLANNING RESUBMITTAL	12.15.2016
	RESPONSE TO DISPOSITION	12.29.2016
	CITY PLANNING RESUBMITTAL	04.21.2016
	CITY PLANNING RESUBMITTAL	12.01.2021
	CITY PLANNING RESUBMITTAL	12.17.2021

Issued For: CITY PLANNING RESUBMITTAL  
Issue Date: October 1, 2021  
Project No: 17-70020.00

Sheet Title

COVER SHEET

# THE MADISON

A MULTI-FAMILY DEVELOPMENT LOCATED AT THE WEST  
PLAZA AREA OF KANSAS CITY, MO

AMENDED CITY PLANNING COMMISSION SUBMITTAL, OCTOBER 29, 2021



CHARACTER RENDERING

SHEET LIST	
SHEET NUMBER	DRAWING DESCRIPTION
A-CS	COVER SHEET
A-00	APP CHECKLIST
A-00.1	PRELIMINARY PLAT
A1-01	OVERALL DEVELOPMENT & SITE PLAN
A1-02	ZONING & SITE CONDITIONS
A1-03	LANDSCAPE PLAN
A4-12	LEVEL 01 /P1 PARKING
A4-12A	LEVEL 01 /P1 PARKING
A4-13	LEVEL 02 / P3 PARKING
A4-14	LEVEL 03 / P4 PARKING
A4-15	LEVEL 04 / P5 PARKING
A4-16	LEVEL 05
A4-16A	POOL COURTYARD
A4-17	LEVEL 06
A4-18	LEVEL 07
A4-19	LEVEL 08-09
A4-20	LEVEL 10-12A
A4-21	LEVEL 13-15
A4-22	ROOF LEVEL
A5-10	NORTH ELEVATION
A5-11	EAST ELEVATION
A5-12	SOUTH ELEVATION
A5-13	WEST ELEVATION
L01.01	PHOTOMETRIC PLAN



VACINITY MAP - N.T.S.



## PROJECT TEAM

### OWNER:



4600 PLAZA, LLC  
C/O BLOCK REAL ESTATE SERVICES  
700 WEST 47TH STREET, SUITE 200  
KANSAS CITY, MISSOURI 64112

#### PROJECT CONTACTS:

KENNETH G. BLOCK, SIOR, CCIM  
P. (816) 932-5551

BRAD S. SIMMA, CCIM  
P. (816) 932-5551

### LEGAL:



POL SINELLI  
900 W. 48TH PLACE, SUITE 900  
KANSAS CITY, MO 64112  
P. (816) 753-1000

#### PROJECT CONTACT:

ROXSEN KOCH  
E. RKOCH@POL SINELLI.COM

### CIVIL:



McCLURE  
11031 STRANG LINE RD  
LENEXA, KS 66215  
P. (913) 888-7800

#### PROJECT CONTACTS:

TOM SMITH  
E. TOMSMITH@MCCLUREVISION.COM  
GREG WATSON  
E. GWATSON@MCCLUREVISION.COM

### ARCHITECT OF RECORD:



HOK  
300 WEST 22ND STREET  
KANSAS CITY, MO 64108  
P. (816) 472-2030

#### PROJECT CONTACT:

TOM SMITH  
E. TOMSMITH@SKW-INC.COM  
GREG WATSON  
E. GREG.WATSON@SKW-INC.CO

### ASSOCIATE ARCHITECT:



NEARING, STAATS, PRELOGAR, & JONES  
AIA CHARTERED ARCHITECTS  
3515 W. 75TH ST., SUITE 201  
PRAIRIE VILLAGE, KS 66208  
P. (913) 831-1415  
F. (913) 831-1563

#### PROJECT CONTACT:

TIM HOMBURG  
P. (913) 831-1415  
E. THOMBURG@NSPJARCH.COM

### LANDSCAPE:



NEARING, STAATS, PRELOGAR, & JONES  
AIA CHARTERED ARCHITECTS  
3515 W. 75TH ST., SUITE 201  
PRAIRIE VILLAGE, KS 66208  
P. (913) 831-1415  
F. (913) 831-1563

#### PROJECT CONTACT:

KATIE MARTINOVIC  
P. (913) 831-1415  
E. KMARTINOVIC@NSPJARCH.COM

### STRUCTURAL:



BOB D. CAMPBELL AND COMPANY  
433 BELLEVIEW AVE.  
KANSAS CITY, MO 64111  
P. (816) 531-4144

#### PROJECT CONTACT:

BRANDON FORD  
P. (816) 778-7155  
E. BFORD@BDC-ENGRS.COM

### MEP:



LANKFORD FENDLER + ASSOCIATES  
1730 WALNUT  
KANSAS CITY, MO 64108  
P. (816) 221-1411

#### PROJECT CONTACT:

JON SCANTLIN  
P. (913) 568-4222  
E. JON@LANKFORDFENDLER.COM

### INTERIORS:



GENSLER AND ASSOCIATES  
1200 6TH AVE.  
SEATTLE, WA 98101  
P. (206) 654-2100

#### PROJECT CONTACT:

REBECCA LUONG  
P. (206) 654-2041  
E. REBECCA\_LUONG@GENSLER.COM

### CODES:



FSC INC.  
9225 INDIAN CREEK PKWY, SUITE 300  
OVERLAND PARK, KS 66210  
P. (816) 531-4144

#### PROJECT CONTACT:

KATIE MARTINOVIC  
P. (913) 722-3473  
E. KMARTINOVIC@NSPJARCH.COM

### GOVERNMENT:



CITY PLANNING AND DEVELOPMENT  
414 E. 12TH ST., 15TH FLOOR, CITY  
HALL  
PHONE: (816) 513-1510

#### PROJECT CONTACT:

PLANNING@KCMO.ORG  
KANSAS CITY, MO 64106



No.	Description	Date
	CITY PLANNING SUBMITTAL	11.09.2016
	CITY PLANNING RESUBMITTAL	12.15.2016
	RESPONSE TO DISPOSITION	12.29.2016
	CITY PLANNING RESUBMITTAL	04.21.2016
	CITY PLANNING RESUBMITTAL	12.01.2021
	CITY PLANNING RESUBMITTAL	12.17.2021

ZONING CHECKLIST			
FROM THE CITY OF KANSAS CITY, MO. ZONING AND DEVELOPMENT CODE			
PROJECT SHALL COMPLY WITH SECTION 88-110-03-G. SPECIAL STANDARDS ADJACENT TO AND WITHIN 150 FEET OF PARKS, BOULEVARDS, AND PARKWAYS. ADDITIONAL REGULATIONS AND RESTRICTIONS ON USES ADJACENT TO PARKS, BOULEVARDS AND PARKWAYS ARE IMPOSED IN TABLE 110-1.			

CURRENT ZONING: B4-5 [B4-5 Heavy Business /Commercial (dash 5)]				
http://online.encodeplus.com/regs/kansascity-mo/doc-viewer.aspx#secid-2563				
88-120 OFFICE, BUSINESS, AND COMMERCIAL DISTRICTS				
88-120-04-B. BASIC STANDARDS				
All residential and nonresidential development in O and B districts must comply with the lot and building standards of Table 120-2, except as otherwise expressly provided. General exceptions to lot and building standards and rules for measuring compliance can be found in 88-820.				
REQUIREMENTS FROM TABLE 120-2 (Lot and Building Standards (O and B Districts))				
	-5	PROVIDED	NOTES/ COMMENTS	PAGE
Lot Size				
» Min. lot area (sq. ft.)	None	N/A	N/A	N/A
» Min. lot area per unit (sq. ft.)				
» In single purpose residential building	200	YES	64,393 SF / 238 UNITS 270.6 SF PER UNIT	A1-02
» Min. lot width (ft.)	None	N/A	N/A	N/A
Floor Area Ratio				
» Maximum	6.0	YES	5.5	A1-02
Min. Front Setback <sup>1a</sup>				
» Abutting residential district	1	N/A	Not abutting R district	N/A
» Not abutting R district	None	N/A		
Min. Rear Setback <sup>4</sup>				
» Abutting residential district				
» % of lot depth	25%			
» Maximum required (ft.)	30	N/A	Not abutting R district	N/A
» Not abutting R district	None			
Side Setback				
» Abutting residential district	2	N/A	Not abutting R district	N/A
» Not abutting R district	None			
Maximum Height <sup>5</sup> - Measured from top of grade to top of roof:				
» Northeast Corner	None	YES	195.5' / 15 STORIES	A5-10 / A5-11
» Northwest Corner	None	YES	96' / 5-7 STORIES	A5-10 / A5-13
» Southeast Corner	None	YES	223' / 16 STORIES	A5-11 / A5-12
» Southwest Corner	None	YES	220' / 16 STORIES	A5-12 / A5-13

88-517-06 Application Filing Checklist			
FROM THE CITY OF KANSAS CITY, MO. ZONING AND DEVELOPMENT CODE			
http://online.encodeplus.com/regs/kansascity-mo/doc-viewer.aspx#secid-3441			
>500 Series Review and Approval Procedures > 88-517 Development Plan Review and Approval > 88-517-06 Application Filing			
REQUIREMENT	PROVIDED	NOTES/ COMMENTS	PAGE
1 Name of the development.	Yes	See Titleblock	N/A
2 Name, address, and phone number of person or firm that prepared the plan.	Yes	See Titleblock	N/A
3 Date plan prepared and any revision dates.	Yes	See Titleblock	N/A
4 Graphic and written scale of one inch equals 10-80 or 100 feet. A scale of one inch equals 200 feet may be used for applications consisting of over 200 acres.	Yes	Where Applicable	N/A
5 A legal description of the property.	Yes	Preliminary Plat	A-00.1
6 North arrow.	Yes	Where Applicable	N/A
7 A location map identifying boundaries of property in relation to major streets.	Yes	Preliminary Plat	A-00.1
8 Existing property lines identifying point of beginning and distances and bearings of property lines, consistent with the legal description.	Yes	Preliminary Plat	A-00.1
9 Identification and written dimensions of the width from centerline and total width of existing perimeter and interior streets, other rights-of-way, and all existing easements.	Yes	Preliminary Plat	A-00.1
10 Identification and written dimensions of the total width of pavement of existing streets.	Yes	Preliminary Plat	A-00.1
11 Existing medians within the public right-of-way shall be shown including turn lanes and all other pertinent information within the right-of-way to provide a complete understanding of existing conditions.	Yes		A1-01
12 Identification and written dimensions of additional street right-of-way to be dedicated and width of any proposed interior streets and easements (reference Major Street Plan).	N/A	Proposed interior drives are private	N/A
13 Location and written dimensions of the widths of existing or proposed private vehicular access into the property from perimeter streets and location of existing or approved accesses on properties adjacent or opposite the property, with off-set dimension from the centerlines of such streets and private access.	Yes		A4-12
14 Show existing conditions of surrounding property within 300 feet.	Yes		A1-02
15 Name of adjacent platted subdivision and identification of lot number and tracts.	Yes	Preliminary Plat	
16 Location, identification, and dimension of proposed lots and tracts.	Yes	Preliminary Plat	
17 Location of proposed buildings and structures and existing buildings and structures to remain, with written dimensions of setback from proposed street right-of-way and adjacent property lines, dimensions of building width and length, number of floors, gross floor area per floor, and total building area. Residential buildings shall identify, in addition, the number of dwelling units per floor and the total number of dwelling units.	Yes	See plans for proposed buildings and structures. See tabulations for number of floors, gross floor area per floor, total building area, dwelling units per floor and total number of dwelling units	A1-01 including A4-12 to A4-21
18 Identification of proposed or existing use or uses within each building, building entrances and exits, docks or other service entrances, outdoor storage and sales areas, and other paved areas.	Yes		A1-03, A4-12 & A4-12a
19 Location of proposed or existing parking spaces, aisles, and drives with written setback dimensions from proposed street rights-of-way and adjacent property lines; typical width and length of parking spaces; number of parking spaces per row; and width of parking aisles. (Parking & Loading - 88-420)	Yes		A4-12 to A4-15
20 Location and identification of boundaries and phase numbers of the development if proposed to be platted or developed in phases, showing the buildings, structures, access, and parking areas in each phase.	N/A	The proposed project is a single phase project	N/A
21 Existing and proposed topography, with contours at an interval of not less than 5 feet and with approximate first floor elevations of buildings and top of wall and bottom of wall for all retaining walls proposed.	Yes	See Preliminary Plat for existing topography and see proposed topography and spot elevations on A1-01	A-00.1 A1-01
22 Location and identification of any proposed and any existing site features to be retained, including detention areas, retaining walls, and other pertinent site features. Retaining walls should include materials and top and bottom of wall heights.	Yes		A4-12
23 A plan for landscaping & screening (88-425); outdoor lighting including fixture design. (88-430)	Yes		A1-03 and L01.01
24 Identification of all public and private existing and proposed sidewalks, trails and/or bicycle facilities. (see Trails KC and Bike KC plans)	N/A		N/A
25 Building elevations, in color, with materials and architectural detailing.	Yes		A5-10 to A5-13
26 Signage plan. (88-445)	DEFERRED	RE: NOTES ON A5-12 & RE: A1-03	
27 a. Existing zoning of property and any proposed zoning, including type of any planned district requested.	Yes		A1-01
b. Total land area in square feet or acre.	Yes		A1-02
c. Land area or acres for existing and proposed street right of way.	Yes		A1-02
d. Net land area or acres.	Yes		A1-02
e. Proposed use or uses of each building and structure.	Yes		A1-02
f. Height above grade of buildings and structures and number of floors of each building.	Yes		A1-02
g. Gross floor area per floor and total for each building. Residential buildings shall also include type of dwelling units, number of dwelling units per floor, and total number of dwelling units.	Yes		A1-02
h. Building coverage and floor area ratio.	Yes		A1-02
i. Residential development shall, in addition, identify gross and net density.	Yes		A1-02
j. Ratio of required number of parking spaces for each use and amount of required, proposed parking spaces. Land area or acres for existing and proposed street right of way.	Yes		A1-02
k. Ratio of required number of short term and long term bicycle parking spaces for each use and amount of required, proposed short term and long term bicycle parking spaces.	Yes		A1-02
l. Applications for amendments to development plans shall include a written description of the changes to the approved development plan, including any changes in use, phases, parking, signage, or site arrangement.	Yes		A1-02
m. Applications for amendments to development plans shall include a written description of the changes to the approved development plan, including any changes in use, phases, parking, signage, or site arrangement.	Yes		A1-02
28 Any other information necessary for a determination as to the suitability of the plan for the site, as requested by the Director of City Planning and Development.			

# PRELIMINARY PLAT 4600 PLAZA A REPLAT OF LOTS 2 & 3, PLAZA WEST AND A PORTION OF ROANOKE PARKWAY KANSAS CITY, JACKSON COUNTY, MISSOURI

## Description (Proposed Lot 1):

All of Lots 2 and 3, PLAZA WEST, a subdivision in Kansas City, Jackson County Missouri and that part of vacated Roanoke Parkway, Section 30, Township 49 North, range 33 West, all in Kansas City, Jackson County, Missouri, more particularly described as follows:  
Commencing at the Northeast corner of Lot 2, said PLAZA WEST; thence S 2° 24' 33" W, along the East line of said Lot 2, a distance of 139.06 feet; thence S 87° 35' 28" E, along said East line, a distance of 12.00 feet; thence S 2° 24' 33" W, along the East line of said Lots 2 and 3, a distance of 255.69 feet, to the Southeast corner of said Lot 3; thence N 87° 24' 31" W, along the South line of said Lot 3, a distance of 30.73 feet, to the Southwest corner of said Lot 3; thence N 33° 40' 34" W, along the West line of said Lots 2 and 3, a distance of 402.36 feet, to the Westerly corner of said Lot 2; thence N 2° 23' 40" E, along the West line of said Lot 2, a distance of 3.28 feet, to the Northwest corner of said Lot 2; thence N 56° 19' 27" E, along the North line of said Lot 2, a distance of 134.48 feet; thence S 87° 35' 28" E, along said North line, a distance of 134.04 feet; thence S 42° 35' 28" E, along said North line, a distance of 18.39 feet, to the point of beginning.

## General Notes:

- As of September 22, 2015 we have made no investigation for, or locations of, possible usable subsurface areas of private land or public ways, including, but not limited to, utility vaults of any nature, utility or pedestrian tunnels, under walk area ways, under alley area ways, fuel storage bins or tanks, elevator pits, and all or any combination of the above, except as shown, noted and described herein.
- Information as shown for underground utilities has been compiled from the records of various utility companies concerned, and as marked in the field by the Missouri One Call System, 1 (800) 344-7483. When precise locations of underground utilities are needed prior to excavation or connections, the various utility companies concerned are to furnish a crew to point out the locations at the job site.
- Information shown on this survey was taken from Assured Quality Title Insurance Company as agent for First American Title Insurance Company, Commitment No. M105314, effective date, June 25, 2015.
- This tract contains 64,393 square feet or 1.478 acres, more or less.
- No observable evidence of earth moving work, building construction or building additions within recent months or at the time of this survey.
- The Surveyor is not aware of proposed changes of right-of-way over the surveyed premises. It is customary for the City to not reveal plans for future acquisitions of right-of-way until such time as the property is being redeveloped. The surveyor observed no evidence of recent street or sidewalk construction or repairs.
- No observable evidence of site used as a solid waste dump, sump or sanitary landfill, as observed from a layman point of view.
- At the time of this survey there were NO building structures or party walls and NO painted striped areas on the surveyed premises.
- The Kansas City Missouri online mapping (parcel viewer) indicates the address of Lot 2 as 4615 Roanoke Parkway and Lot 3 as 4651 Roanoke Parkway.
- Contours shown hereon are at 1 foot intervals and based on U.S.G.S NAVD 88 Datum.
- The KCMO Water Atlas indicates a 6" Water Main exists in Madison and Bellevue Avenues. Also an 8" water main exists in 47th Street. The Missouri One Call did not mark their locations.
- The KCMO Sewer Atlas indicates a 15" Combination sewer exists in Madison Avenue near the West eight-foot-of-way line thereof. A 54" Combination sewer exists in Roanoke Parkway and through the easement identified hereon as Exception No. 9. And a 16" Storm Sewer exists in Bellevue Avenue widening to a 26" Storm sewer in Roanoke Parkway. The Missouri One Call did not mark their locations.
- The encroachments onto the surveyed premises are noted and shown hereon.
  - A wall encroaches across the Northwesterly property line by 0.06' as shown.
  - A wall encroaches onto the surveyed property at the PI in the North property line by 0.19' Southeasterly as shown.

## Flood Zone:

This property lies within Flood Zone C, defined as areas of minimal flooding as shown on the Flood Insurance Rate Map, prepared by the Federal Emergency Agency's National Flood Insurance Program for Kansas City, Jackson County, Missouri, Map Number 2901730100C and dated September 14, 1990.

## Zoning:

According to the information provided by the Kansas City Missouri Planning Commission. The subject property is zoned as district B4-5, Heavy Business/Commercial. Intended to accommodate "heavier" commercial activities and a limited range of industrial uses with operating characteristics that make them generally incompatible with mixed-use or neighborhood-oriented environments.

Lot Size - None, Unless single purpose residential building, then 200'.

## Setback

- Front
    - Abutting Residential - Front setback required only when O- or B-zoned lot abuts R-zoned lot with frontage on the same street. In such cases, the O- or B-zoned lot must match the platted front setback of the abutting R-zoned lot. If there is no platted setback, the O- or B-zoned lot must provide at least 50% of the front setback that applies to the abutting R-zoned lot.
    - Not abutting R district - None
  - Rear
    - Abutting Residential
      - % of lot depth - 25
      - Maximum required (ft.) - 30
    - Not abutting R district - None
  - Side
    - Abutting Residential - Side setback required only when the side yard of an O- or B-zoned lot abuts R-zoned lots. In such cases, the O- or B-zoned lot must provide the same side setback as required for the abutting R-zoned lot.
    - Not abutting R district - None
- Floor Area Limits - The gross floor area of allowed industrial establishments in the B4 district may not exceed 25,000 square feet.

## SCHEDULE B 2 - EXCEPTIONS: Numbered as they appear in the current title commitment, see General Note 3. [Surveyor's Notes are in Brackets.]

- Terms and provisions of the Contract by and between Forty-Sixth and Madison Redevelopment Corporation, and Kansas City, filed as Document No. K-629421 in Book K-1350 at Page 881. [Affects the premises of this survey, nothing further to plot.]
- First Supplemental Amendment to Contract by the instrument filed March 23, 1989 as Document No. K-871409 in Book K-1899 at Page 56. [Affects the premises of this survey, Not a survey related item.]
- Second Supplemental Amendment to Contract by the instrument filed March 27, 1990 as Document No. K-918410 in Book K-2007 at Page 266. [Affects the premises of this survey, nothing further to plot.]
- Third Supplemental Amendment to Contract by the instrument filed March 23, 1992 as Document No. K-1015531 in Book K-2224 at Page 250. [Affects the premises of this survey, nothing further to plot.]
- Sewer easement granted to City of Kansas City by the instrument filed as Document No. 1003570 in Book B-1587 at Page 365, over a portion of the premises in question, as more fully described therein. [As Shown and Noted Hereon]
- Encroachment of one story stone building over the above easement as shown on the Certificate of Survey by Anderson Survey Company dated February 28, 1998 as Job No. 98-2-38432-1. [No building is now apparent]
- Terms and provisions of the Cooperative Agreement for Public Improvement to Plaza Environs by and between the City of Kansas City, and Forty-Sixth and Madison Redevelopment Corporation, filed as Document No. K-720873 as authorized by Ordinance No. 59591 approved March 18, 1986 and filed as Document No. K-720874. [Affects the premises of this survey, nothing further to plot.]
- 11 and 12 are not survey related items. (Lease Agreements)
- Abandoned Sewer line as shown on the Certificate of Survey by Anderson Survey Company dated February 28, 1998 as Job No. 98-2-38432-1.
- 14 through 18 inclusive are not survey related items. (Lease and sundry items)

To: BK Properties, LLC, 4600 Madison Associates Limited Partnership, a Missouri limited partnership and Assured Quality Title Company as agent for First American Title Insurance Company.  
This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2011 Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b), 7(c), 8, 9, 10(a), 11(a), 11(b), 14, 16, 18 and 20 of Table A thereof. The field work was completed on September 22, 2015.

LAND AREA: 64,393± SQ. FT. (1.478± AC.)

PROPOSED LAND USE: MULTI-FAMILY RESIDENTIAL

McCLURE ENGINEERING CO.



CLIENT  
BLOCK REAL ESTATE SERVICES, LLC  
4622 PENNSYLVANIA AVE., SUITE 700  
KANSAS CITY, MISSOURI 64112  
PHONE NO. (816) 960-6247  
FAX NO. (816) 960-6260

DATE: DECEMBER 17, 2015  
REVISED: DECEMBER 29, 2015  
REVISED: NOVEMBER 7, 2016  
REVISED: OCTOBER 27, 2021  
REVISED: DECEMBER 17, 2021

11031 Strang Line Road  
Lenexa, KS 66215

913.888.7800 FAX: 913.888.7868

SURVEYING | ENGINEERING | CONSTRUCTION



VICINITY MAP  
SEC. 30-49N.-33W.

## LEGEND

- EXISTING WATER
- EXISTING GAS
- EXISTING SEWER
- FIRE HYDRANT
- GAS MARKER
- HORIZONTAL & VERTICAL CONTROL POINT
- LIGHT POLE
- METAL SIGN
- SIGNAL PULL BOX MANHOLE
- STREET LIGHT CONTROL BOX
- TRAFFIC SIGNAL POST
- CABLE TV MH
- WATER VALVE
- BM = BENCHMARK
- 0" TREE = CONIFEROUS TREE
- 0" TREE = DECIDUOUS TREE
- IB\_E = EXIST IRON BAR
- IBPC\_E = EXIST IRON BAR WITH PLASTIC CAP
- PLUSMK\_E = EXIST. PLUS CUT

NOTE: UTILITIES SHOWN HEREON ARE APPROXIMATE AND TAKEN FROM FIELD SURVEY AND AVAILABLE MAP INFORMATION.



SCALE: 1"=30'

BEFORE YOU DIG - DRILL - BLAST

1-800-344-7483 (MISSOURI)  
1-800-344-7233 (KANSAS)



**NOT FOR CONSTRUCTION**

No.	Description	Date
1	QTY REVIEW COMMENTS	12-12-21

**Description:**

Lots 2 and 3, PLAZA WEST, a subdivision in Kansas City, Jackson County, Missouri, according to the recorded plat thereof.

**General Notes:**

- As of September 22, 2015 we have made no investigation for, or locations of, possible usable subsurface areas of private land or public ways, including, but not limited to, utility vaults of any nature, utility or pedestrian tunnels, under walk area ways, under alley area ways, fuel storage bins or tanks, elevator pits, and all or any combination of the above, except as shown, noted and described herein.
- Information as shown for underground utilities has been compiled from the records of various utility companies concerned, and as marked in the field by the Missouri One Call System, 1 (800) 344-7433 when precise locations of underground utilities are needed prior to excavation or connections, the various utility companies concerned are to furnish a crew to point out the locations at the job site.
- Information shown on this survey was taken from Assured Quality Title Insurance Company as agent for First American Title Insurance Company, Commitment No. MUJ05314, effective date, June 25, 2015.
- This tract contains 63,059 square feet or 1.448 acres, more or less.
- No observable evidence of earth moving work, building construction or building additions within recent months or at the time of this survey.
- The Surveyor is not aware of proposed changes of right-of-way over the surveyed premises. It is customary for the City to not reveal plans for future acquisitions of right-of-way until such time as the property is being redeveloped. The Surveyor observed no evidence of recent street or sidewalk construction or repairs.
- No observable evidence of site used as a solid waste dump, sump or sanitary landfill, as observed from a layman point of view.
- At the time of this survey there were NO building structures or party walls and NO painted striped areas on the surveyed premises.
- The Kansas City Missouri online mapping (aerial views) indicates the address of Lot 2 as 4615 Roanoke Parkway and Lot 3 as 4651 Roanoke Parkway.
- Contours shown herein are at 1 foot intervals and based on U.S.G.S. NAD 88 datum.
- The KCMO Water Atlas indicates a 6" Water Main exists in Madison and Bellevue Avenues. Also an 8" water main exists in 47th Street. The Missouri One Call did not mark their locations.
- The KCMO Sewer Atlas indicates a 15" Combination sewer exists in Madison Avenue near the West eight-of-way line thereof. A 54" Combination sewer exists in Roanoke Parkway and through the easement identified herein as Easement No. 2. And a 16" Storm Sewer exists in Bellevue Avenue widening to a 26" Storm sewer in Roanoke Parkway. The Missouri One Call did not mark their locations.
- The encroachments onto the surveyed premises are noted and shown herein.
  - A wall encroaches across the Northwestern property line by 0.06' as shown.
  - A wall encroaches onto the surveyed property at the PI in the North property line by 0.19' Southeastly as shown.

**Flood Zone:**

This property lies within Flood Zone C, defined as areas of minimal flooding as shown on the Flood Insurance Rate Map, prepared by the Federal Emergency Agency's National Flood Insurance Program for Kansas City, Jackson County, Missouri, Map Number 2901730100C and dated September 14, 1990.

**Zoning:**

According to the information provided by the Kansas City, Missouri Planning Commission, the subject property is zoned as district B4-5, Heavy Business/Commercial/Industrial to accommodate "heavy" commercial activities and a limited range of industrial uses with operating characteristics that make them generally incompatible with mixed-use or neighborhood-oriented environments.

**Setback:**

- Front
  - Abutting Residential - Front setback required only when C- or B-zoned lot abuts R-zoned lot with frontage on the same street. In such cases, the C- or B-zoned lot must provide the same setback as required for the abutting R-zoned lot.
  - Maximum required (R) - 30
  - Not abutting R district - None
- Rear
  - Abutting Residential
    - % of lot depth - 25
    - Maximum required (R) - 30
    - Not abutting R district - None
- Side
  - Abutting Residential - Side setback required only when the side yard of an C- or B-zoned lot abuts R-zoned lots. In such cases, the C- or B-zoned lot must provide the same side setback as required for the abutting R-zoned lot.
  - Not abutting R district - None

**LEGEND**

- FH = FIRE HYDRANT
- P = PROPERTY LINE
- W = WATER LINE
- SAN = SANITARY LINE (PROP)
- SAN = SANITARY SEWER (EXIST)
- STR = STORM LINE
- UP = UNDERGROUND ELEC.
- G = GAS
- FO = FIBER OPTIC SERVICE LINE
- T = UNDERGROUND TELEPHONE
- DW = DOMESTIC WATERLINE
- FPL = FIRE PROTECTION WATERLINE
- RON = STORM SEWER ROOF DRAIN LINE
- — — = DENOTES EXISTING CONTOUR
- — — = DENOTES PROPOSED CONTOUR
- — — = INDICATES EXISTING CONCRETE CURB & GUTTER
- — — = INDICATES PROPOSED CONCRETE CURB & GUTTER

**LEGEND**

- ⊕ BM = BENCHMARK
- 0" TREE = CONIFEROUS TREE
- 0" TREE = DECIDUOUS TREE
- IB\_E = EXIST IRON BAR
- IBPC\_E = EXIST IRON BAR WITH PLASTIC CAP
- PLUSMK\_E = EXIST PLUS CUT
- ⊕ FH = FIRE HYDRANT
- ⊕ G = GAS MARKER
- ⊕ H&V = HORIZONTAL & VERTICAL CONTROL I
- ⊕ LP = LIGHT POLE
- ⊕ MS = METAL SIGN
- ⊕ SPBMH = SIGNAL PULL BOX MANHOLE
- ⊕ LCTCB = STREET LIGHT CONTROL BOX
- ⊕ TS = TRAFFIC SIGNAL POST
- ⊕ CATV MH = CABLE TV MH
- ⊕ WV = WATER VALVE

**SCHEMATIC DESIGN NARRATIVE FOR UTILITIES AND STORM**

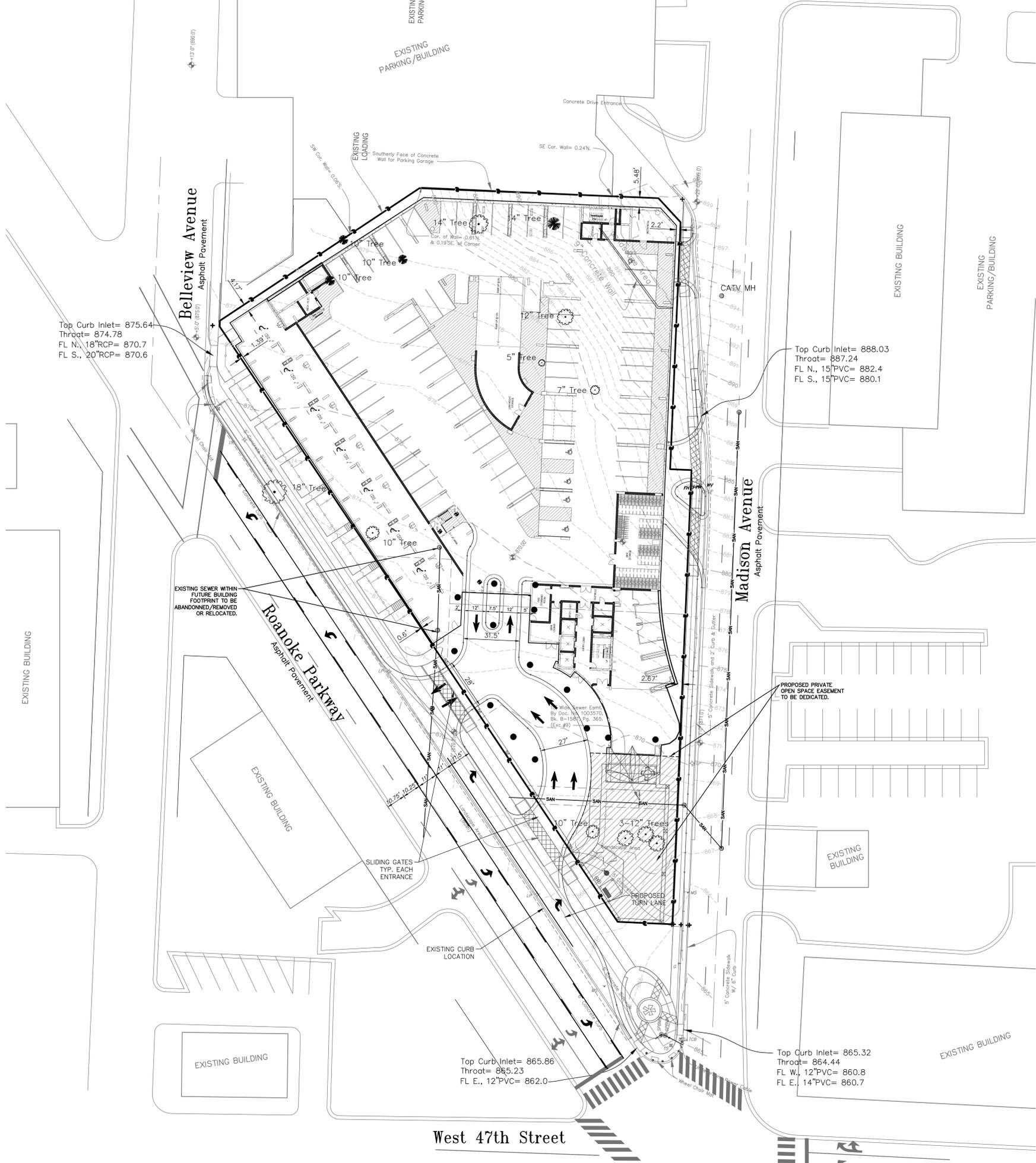
- Stormwater Detention - Detention will need to be provided for the 10 year and 100 year storms. Extended detention will also need to be provided for a 1.5" rainfall. We anticipate that approximately 19,000 cubic feet of detention storage will be required. The bottom of the detention basin should ideally be at approximately 865 to be above the receiving system that is likely undersized. The bottom of the basin could be below that if absolutely necessary. The extended detention volume (8,200 CF) could be below elevation 865, but the 10/100 year detention volume (11,000 CF+) would need to be above that elevation. Be aware that if the bottom of the basin is below 865, there would be a possibility that combined sewer overflow could back up into the basin. Detention options include:
  - A concrete box that could be constructed as a part of the building structure. The box needs to be 70x70x4'. A different layout could be used that meets the volume requirements and is coordinated with the structural dimensions of the building.
  - An ADS Stormtech system consisting of approximately 175 MC-3500 chambers
  - 1,500 L.F. of buried 48" HDPE pipe.
- Public Utilities
  - Sanitary Sewer - the development is located within a Combined Sewer Overflow. An existing 10" diameter sanitary sewer on the west side of the property is available to serve the development. However, a portion of this sewer will require modification to accommodate construction of the proposed building. Approximately 90 lineal feet of existing 10" sewer along with two (2) manholes will require removal. The existing 10" sanitary sewer discharges directly to an existing 54" diameter combined sewer that is routed from west to east at the south end of the property.
  - Water - an existing 6" diameter water main located under Madison Avenue is available to serve the development. Future testing for this main is recommended to confirm that adequate pressure is available to adequately serve the proposed building. Design (by a licensed Plumbing Engineer) and installation of a booster pump may be necessary to meet these demands.
  - Storm Sewer - A pair of curb inlets at the corner of Roanoke Parkway, Madison Avenue, and W. 47th Street currently collect stormwater runoff generated by the site. As previously noted, the property is located within a Combined Sewer Overflow. The existing 54" diameter combined sewer accepts stormwater conveyed to the previously described curb inlets. The 54" combined sewer that crosses through the property would require relocation if the detention volume is provided under the courtyard, instead of within the building footprint. Approximately 160 lineal feet of the combined sewer would need to be removed. Approximately 250 lineal feet of new 54" sewer would be needed to complete the relocation.
  - An existing gas main is located on the west side of Madison Avenue.
  - Information from KCPL is pending but the site survey does show an underground power cable located at the south end of the site at the intersection of Madison Avenue and Roanoke Parkway.
- Private sanitary sewer and storm sewer connection - The sanitary sewer service line can be connected to the public 10" sewer main via a tee or wye connection. The private storm sewer can connect to the existing public curb inlet located at the northwest corner of 47th and Madison.

**PROJECT SITE**



**VICINITY MAP**

SEC. 30-49N.-33W.



Top Curb Inlet= 875.64  
Throat= 874.78  
FL N., 18" PVC= 870.7  
FL S., 20" PVC= 870.6

Top Curb Inlet= 888.03  
Throat= 887.24  
FL N., 15" PVC= 882.4  
FL S., 15" PVC= 880.1

Top Curb Inlet= 865.86  
Throat= 865.23  
FL E., 12" PVC= 862.0

Top Curb Inlet= 865.32  
Throat= 864.44  
FL W., 12" PVC= 860.8  
FL E., 14" PVC= 860.7

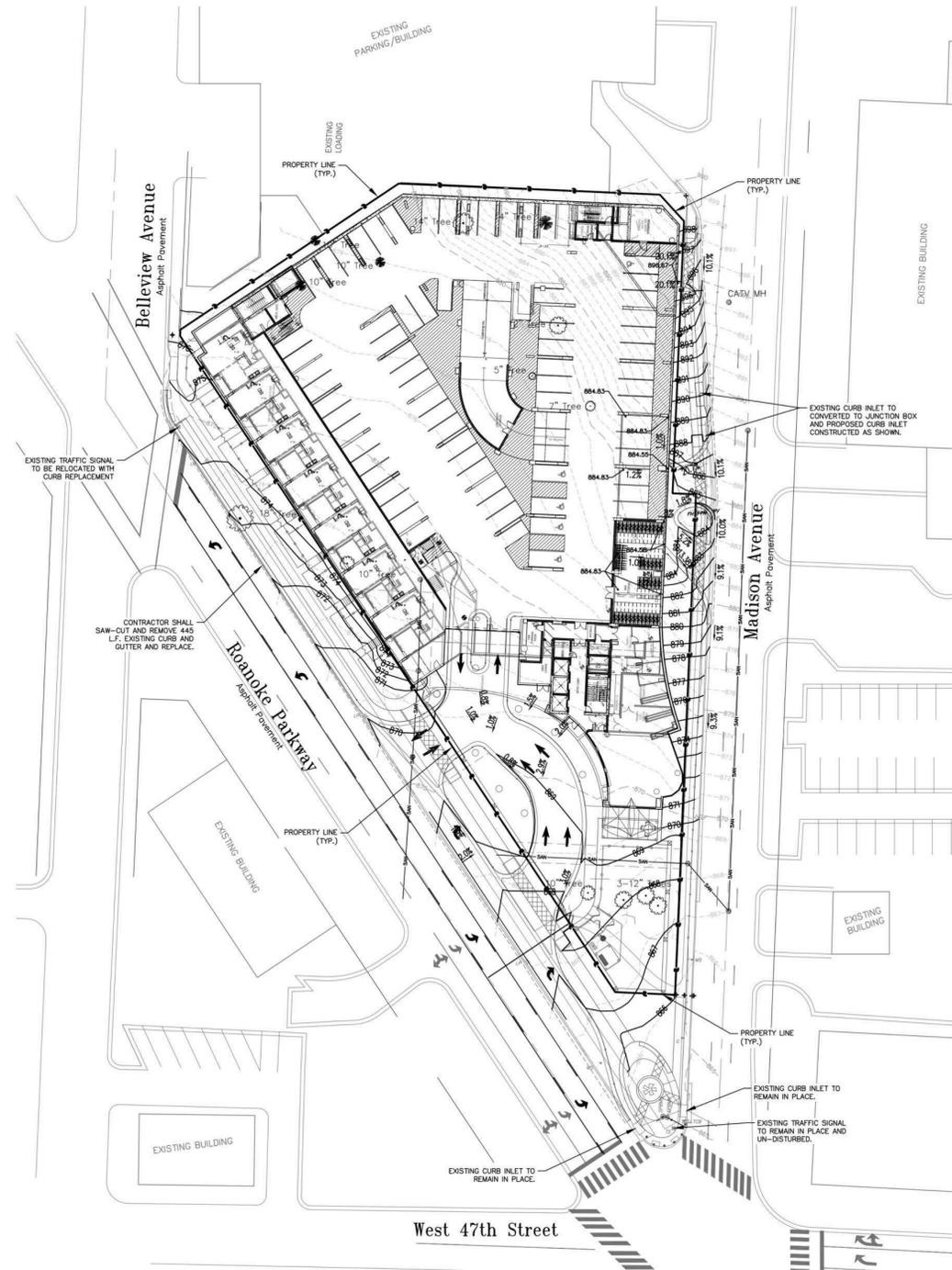
West 47th Street



No.	Description	Date
	CITY PLANNING SUBMITTAL	11.09.2016
	CITY PLANNING RESUBMITTAL	12.15.2016
	RESPONSE TO DISPOSITION	12.29.2016
	CITY PLANNING RESUBMITTAL	04.21.2016
	CITY PLANNING RESUBMITTAL	12.01.2021
	CITY PLANNING RESUBMITTAL	12.17.2021

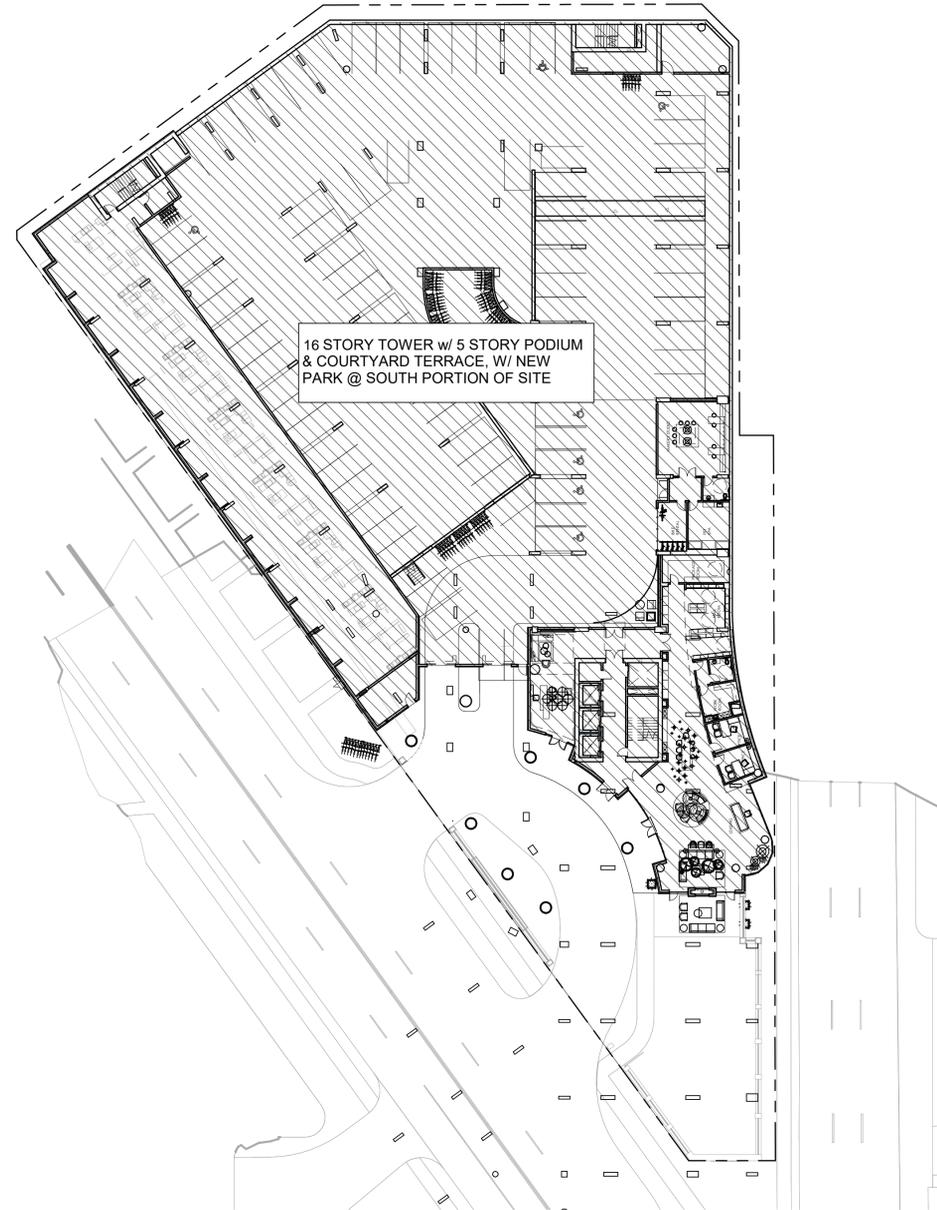
Legal Description:

All of Lots 2 and 3, PLAZA WEST, a subdivision in Kansas City, Jackson County Missouri and that part of vacated Roanoke Parkway, Section 30, Township 49 North, range 33 West, all in Kansas City, Jackson County, Missouri, more particularly described as follows:  
Commencing at the Northeast corner of Lot 2, said PLAZA WEST; thence S 2° 24' 33" W, along the East line of said Lot 2, a distance of 139.06 feet; thence S 87° 35' 28" E, along said East line, a distance of 12.00 feet; thence S 2° 24' 33" W, along the East line of said Lots 2 and 3, a distance of 255.69 feet, to the Southeast corner of said Lot 3; thence N 87° 24' 31" W, along the South line of said Lot 3, a distance of 30.73 feet, to the Southwest corner of said Lot 3; thence N 33° 40' 34" W, along the west line of said Lots 2 and 3, a distance of 402.36 feet, to the Westerly corner of said Lot 2; thence N 23° 40' E, along the West line of said Lot 2, a distance of 3.28 feet, to the Northwest corner of said Lot 2; thence N 56° 19' 27" E, along the North line of said Lot 2, a distance of 134.48 feet; thence S 87° 35' 28" E, along said North line, a distance of 134.04 feet; thence S 42° 35' 28" E, along said North line, a distance of 18.38 feet, to the point of beginning



**SITE PLAN - TOPOGRAPHY AND SPOT ELEVATIONS**

N.T.S.



**PROPOSED DEVELOPMENT PLAN**

N.T.S.





PRELIMINARY PLANT LIST

Common Name	Botanical Name	Size	Notes
<b>Columnar Trees</b>			
ARM	Armstrong Maple	Acer rubrum 'Armstrong'	2" Cal. B&B
CHB	Columnar Hornbeam	Carpinus betulus 'Fastigiata'	2" Cal. B&B
COM	Columnar Sugar Maple	Acer saccharum 'Endowment'	2" Cal. B&B
HOK	Heritage Oak	Quercus macdanielii 'Clemons'	2" Cal. B&B
RPO	Columnar Regal Prince Oak	Quercus robur x bicolor 'Long'	2" Cal. B&B
<b>Shade Trees</b>			
ABM	Autumn Blaze Maple	Acer x fermonii 'Autumn Blaze'	2" Cal. B&B
AFM	Autumn Fantasy Maple	Acer x fermonii 'Autumn Fantasy'	2" Cal. B&B
APA	Autumn Purple Ash	Fraxinus americana 'Autumn Purple'	2" Cal. B&B
BCY	Common Baldcypress	Taxodium distichum	2" Cal. B&B
BWM	Brandywine Red Maple	Acer rubrum 'Brandywine'	2" Cal. B&B
COM	Crimson Queen Red Maple	Acer platanoides 'Crimson Queen'	2" Cal. B&B
FEM	Frontier Elm	Ulmus carpinifolia x parvifolia 'Frontier'	2" Cal. B&B
FFM	Fall Fiesta Sugar Maple	Acer saccharum 'Fall Fiesta'	2" Cal. B&B
GNK	Autumn Gold Ginkgo	Ginkgo biloba 'Autumn Gold'	2" Cal. B&B
HOK	Heritage Oak	Quercus macdanielii 'Clemons'	2" Cal. B&B
LLL	Greenspire Littleleaf Linden	Tilia cordata 'Greenspire'	2" Cal. B&B
LPT	London Plane Tree	P. x acerifolia 'Bloodgood'	2" Cal. B&B
LSM	Legacy Sugar Maple	Acer saccharum 'Legacy'	2" Cal. B&B
NSM	Norwegian Sunset Maple	Acer truncatum x A. platanoides 'Ketthform'	2" Cal. B&B
OGM	October Glory Red Maple	Acer rubrum 'October Glory'	2" Cal. B&B
PSM	Pacific Sunset Maple	Acer truncatum x A. platanoides 'Warrenred'	2" Cal. B&B
ROK	Red Oak	Quercus rubra	2" Cal. B&B
SGM	Sienna Glen Maple	Acer x fermonii 'Sienna'	2" Cal. B&B
SKH	Skyline Honeylocust	Gleditsia triacanthos 'Skyline'	2" Cal. B&B
SOK	Shumard Oak	Quercus shumardii	2" Cal. B&B
SVM	Sun Valley Maple	Acer rubrum 'Sun Valley'	2" Cal. B&B
SWO	Swamp White Oak	Quercus bicolor	2" Cal. B&B
ZEL	Zelkova	Zelkova serrata 'Green Vase'	2" Cal. B&B
ZEL	Columnar Zelkova	Zelkova serrata 'Musashino'	2" Cal. B&B
<b>Evergreen Trees</b>			
ARB	Thuja orientalis	Oriental Arborvitae	5' Ht. B&B
BSP	Bakeri Blue Spruce	Picea pungens 'Bakeri'	5' Ht. B&B
CBS	Columnar Blue Spruce	Picea pungens 'Blue Totem'	5' Ht. B&B
CNS	Columnar Norway Spruce	Picea abies 'Cupressina'	5' Ht. B&B
ERC	Red Cedar	Juniperus virginiana	5' Ht. B&B
KTJ	Keteleeri Juniper	Juniperus chinensis 'Keteleeri'	5' Ht. B&B
NWS	Norway Spruce	Picea abies	5' Ht. B&B
SBS	Serbian Spruce	Picea omorika	5' Ht. B&B
TYJ	Taylor Juniper	Taylor Upright Juniper	5' Ht. B&B
RSS	Riverside Upright Spruce	Picea omorika 'Riverside'	5' Ht. B&B
WSS	Wellspruce Spruce	Picea mariana 'Wellspruce'	5' Ht. B&B
<b>Ornamental Trees</b>			
CBC	Coralburst Crabapple	Malus 'Coralburst'	1" cal B&B
CPP	Crimson Pointe Plum	Prunus x cerasifera 'Crimson Pointe'	1" cal B&B
ERB	Eastern Redbud	Cercis canadensis	1" cal B&B
FLD	Flowering Dogwood	Cornus florida	1" cal B&B
HGC	Harvest Gold Crabapple	Malus 'Harvest Gold'	1" cal B&B
MAG	Evergreen Magnolia	Magnolia grandiflora 'DD Blanchard'	1" cal B&B
PFC	Prairiefire Crabapple	Malus x 'Prairiefire'	1" cal B&B
RRC	Royal Red Crabapple	Malus 'Royal Red'	1" cal B&B
RVB	River Birch	Betula nigra	1" cal B&B
SBM	Sweetbay Magnolia	Magnolia virginiana v. australis	1" cal B&B
SSC	Spring Snow Crabapple	Malus 'Spring Snow'	1" cal B&B
SVB	Autumn Brilliance Serviceberry	Amelanchier x grandiflora 'Autumn Brilliance'	1" cal B&B
WBD	Whitebud	Cercis canadensis 'White Bud'	1" cal B&B

GENERAL NOTES

- EACH BIDDER SHALL VISIT THE SITE OF THE PROPOSED WORK AND EXAMINE THE SITE CONDITIONS. HE SHALL ALSO CAREFULLY EXAMINE THE DRAWINGS FOR THE PROPOSED WORK AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS, WHICH MAY AFFECT THE PROPOSED WORK.
- THE PLANTING PLAN GRAPHICALLY ILLUSTRATES OVERALL PLANT MASSINGS. EACH PLANT SPECIES MASSING SHALL BE PLACED IN THE FIELD TO UTILIZE GREATEST COVERAGE OF GROUND PLANE. THE FOLLOWING APPLIES FOR INDIVIDUAL PLANTINGS:
  - CREeping GROUNDcover SHALL BE A MINIMUM OF 6" FROM PAVING EDGE.
  - ALL TREES SHALL BE A MINIMUM OF 3' FROM PAVING EDGE.
  - ALL PLANTS OF THE SAME SPECIES SHALL BE EQUALLY SPACED APART AND PLACED FOR BEST AESTHETIC VIEWING.
  - ALL SHRUBS SHALL BE A MINIMUM OF 2' FROM PAVED EDGE.
- NOTIFY LANDSCAPE ARCHITECT 1 WEEK PRIOR TO ANTICIPATED START OF PLANT MATERIAL INSTALLATION. LANDSCAPE CONTRACTOR SHALL STAKE ALL PROPOSED PLANTING BED EDGES, SET OUT SHRUBS IN INTENDED LOCATIONS, AND STAKE TREE LOCATIONS FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- ALL NEW PLANT BED AREAS TO BE IRRIGATED. REFER TO SPECIFICATIONS FOR IRRIGATION SYSTEM DESCRIPTION.
- STRIP TOP SOIL & SAVE FOR PLANTING AREAS. EXCAVATE TO A DEPTH OF 18" FOR ALL PLANTING BEDS AND REPLACE WITH PLANTING SOIL MIX. REFER TO L3.00 FOR PLANTING SOIL MIX.

LANDSCAPE REQUIREMENTS

STREET TREES (88-425-03)

1. 1 TREE PER 30 LF OF STREET FRONTAGE.

	REQUIRED:	PROVIDED:
ROANOKE PARWAY = +/405 LF/ 30 LF =	14 TREES	14 TREES
MADISON AVENUE = +/413 LF/ 30 LF =	14 TREES	14 TREES

GENERAL LANDSCAPING REQUIREMENTS (88-425-04)

C. TREES: 1 PER 5,000SF OF BUILDING FOOTPRINT

	REQUIRED:	PROVIDED:
BUILDING FOOTPRINT = 49,689 SF/5,000 LF =	10 TREES	10 TREES

NOTE: SIGN SHALL COMPLY WITH 88-445 AND SHALL BE REVIEWED FOR CONFORMANCE AT TIME OF SIGN PERMIT. ALSO NOTE THAT ELECTRONIC, DIGITAL OR MOTORIZED SIGNAGE SHALL NOT BE PERMITTED.

PARKLAND DEDICATION:  
238 DU x 2 PEOPLE = 476 x 0.006 = 2.86 ACRES (124,581 SF)

EXTERIOR AMENITIES:

DOG PARK & PUTTING GREEN	4,652 SF
AMENITY DECK	20,029 SF
EAST LANDSCAPING	1,053 SF
EXTERIOR ROOF TERRACE	4,389 SF
TOTAL	29,378 SF

INTERIOR AMENITIES:

ENTRY LOUNGE	5,953 SF
CLUBHOUSE	6,924 SF
FITNESS	3,750 SF
PENTHOUSE	5,014 SF
TOTAL	21,641 SF

TOTAL AMENITY SPACE  
DELTA FROM PARKLAND DEDICATION  
PAYMENT OF CASH-IN-LIEU

	51,764 SF
	72,817 SF
	\$81,555.04



Project

Prepared For

4600 Plaza, LLC  
4622 Pennsylvania Ave Suite 700,  
Kansas City, MO 64112



Hellmuth, Obata & Kassabaum, Inc.  
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No.	Description	Date
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	CITY PLANNING RESUBMITTAL	12.15.2016
	RESPONSE TO DISPOSITION	12.29.2016
	CITY PLANNING RESUBMITTAL	04.21.2018
	CITY PLANNING RESUBMITTAL	12.01.2021
	DRC COMMENT RESPONSE	12.13.2021
	CITY PLANNING RESUBMITTAL	12.17.2021

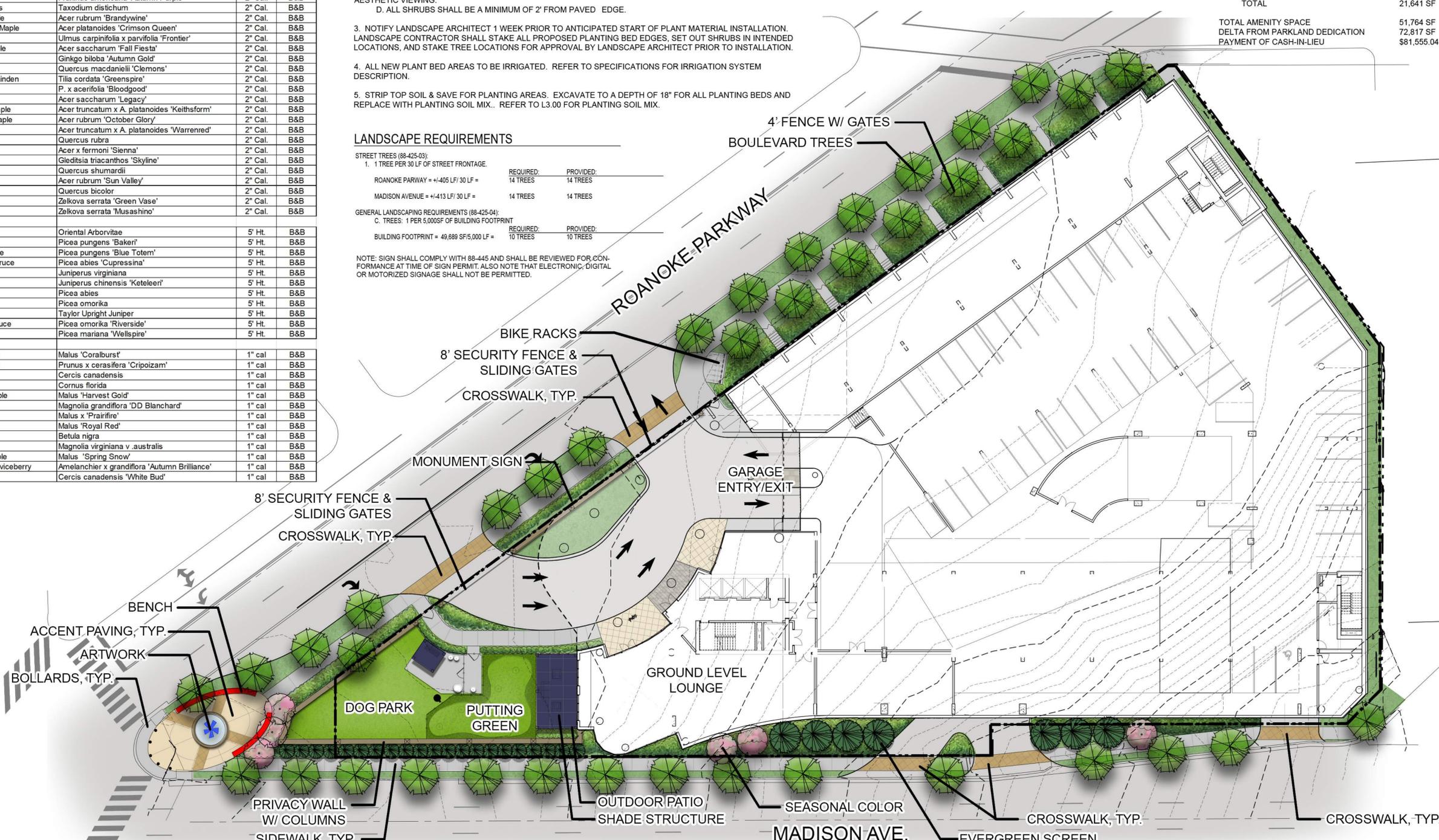
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Project No:

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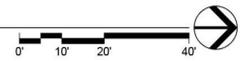
LANDSCAPE PLAN

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Sheet Number

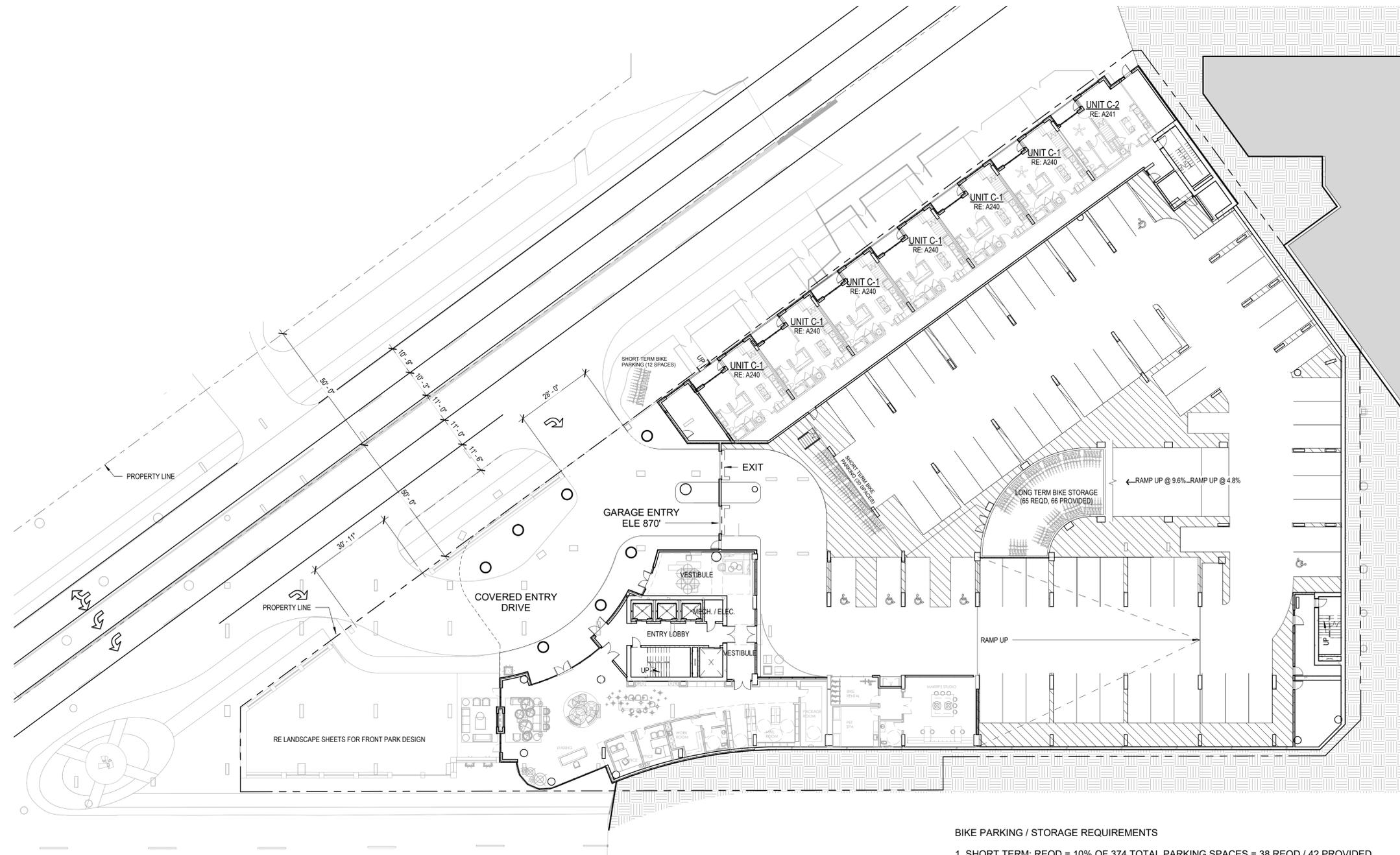
A1-03



TREE PLANTING PLAN  
1"=20'-0"



3515 W. 75TH STREET, SUITE 201, PRAIRIE VILLAGE, KS 66208  
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**LEVEL 01/P1 PARKING**  
1" = 20'-0"

**BIKE PARKING / STORAGE REQUIREMENTS**

1. SHORT TERM: REQD = 10% OF 374 TOTAL PARKING SPACES = 38 REQD / 42 PROVIDED
2. LONG TERM:
  - REQD = 1 PER 3 UNITS (UP TO 50) / 1 PER 6 UNITS (ABOVE 50)
  - REQD = (150 UNITS / 3) + ((238 UNITS - 150 UNITS) / 6) = 65 REQD / 66 PROVIDED

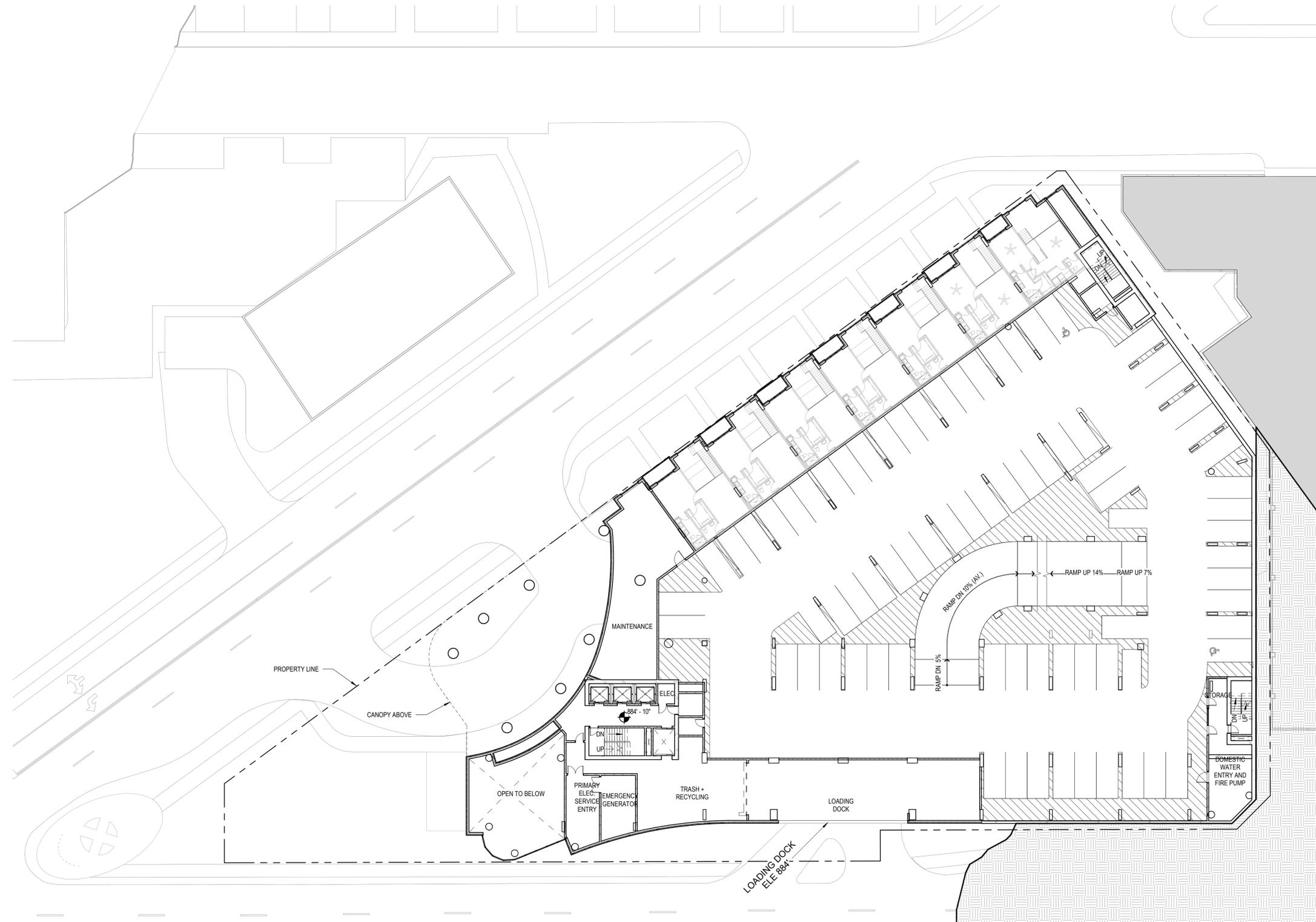
AREA - LEVEL 01 / P1	
Name	Area
Amenities	5,953
Apartment	5,086
Circulation	3,947
Leasable Storage	223
Operations	417
Parking Area	33,682
<b>Grand total</b>	<b>49,309</b>

PARKING - LEVEL 01/P1	
Type	Count
8'-6"x18"	21
9'-0"x18'-0" Handicap	5
<b>Total</b>	<b>26</b>

No.	Description	Date
	CITY PLANNING SUBMITTAL	11.09.2016
	CITY PLANNING RESUBMITTAL	12.15.2016
	RESPONSE TO DISPOSITION	12.29.2016
	CITY PLANNING RESUBMITTAL	04.21.2016
	CITY PLANNING RESUBMITTAL	12.01.2021
	CITY PLANNING RESUBMITTAL	12.17.2021

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Project No: 17-70020.00

Sheet Title  
**LEVEL 01 / P1  
PARKING**



**LEVEL 01/P2**  
1" = 20'-0"

AREA LEVEL 01/P2	
Name	Area
Apartment	4,909
Circulation	2,185
Leasable Storage	198
Operations	4,255
Parking Area	35,776
<b>Grand total</b>	<b>47,323</b>

PARKING - LEVEL 01/P2	
Type	Count
7'-6"x15'-0"	3
8'-6"x18'	57
9'-0"x18'	14
9'-0"x18'-0" Handicap	2
<b>Total</b>	<b>76</b>

No.	Description	Date
	CITY PLANNING SUBMITTAL	11.09.2016
	CITY PLANNING RESUBMITTAL	12.15.2016
	RESPONSE TO DISPOSITION	12.29.2016
	CITY PLANNING RESUBMITTAL	04.21.2016
	CITY PLANNING RESUBMITTAL	12.01.2021
	CITY PLANNING RESUBMITTAL	12.17.2021

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Sheet Title  
**LEVEL 01 / P2  
PARKING**



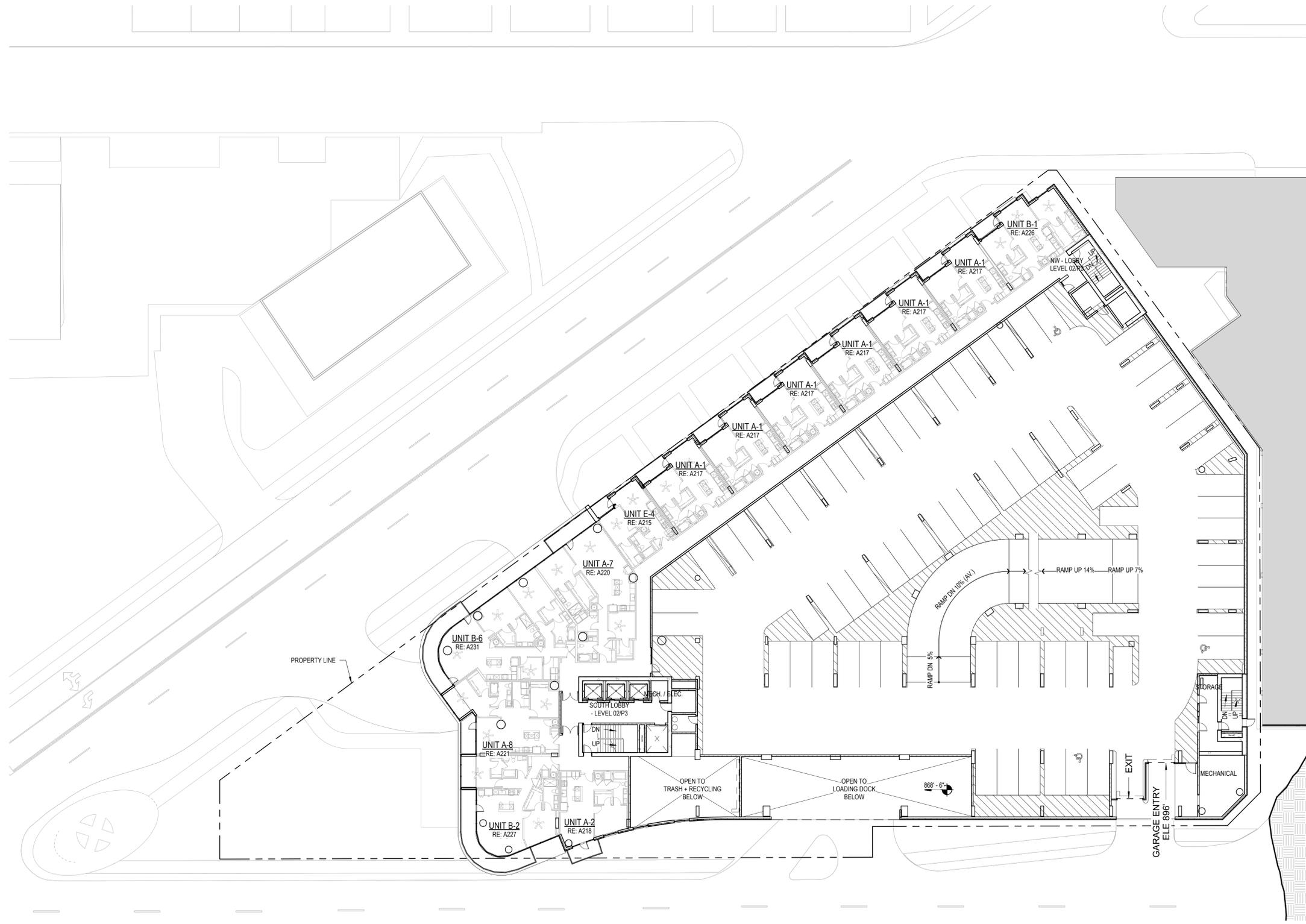
AREA - LEVEL 02 / P3	
Name	Area
Apartment	12,019
Circulation	4,205
Leasable Storage	222
Operations	308
Parking Area	33,453
<b>Grand total</b>	<b>50,207</b>

PARKING - LEVEL 02/P3	
Type	Count
7'-6"x15'-0"	3
8'-6"x18"	54
9'-0"x18"	14
9'-0"x18'-0" Handicap	2
<b>Total</b>	<b>73</b>

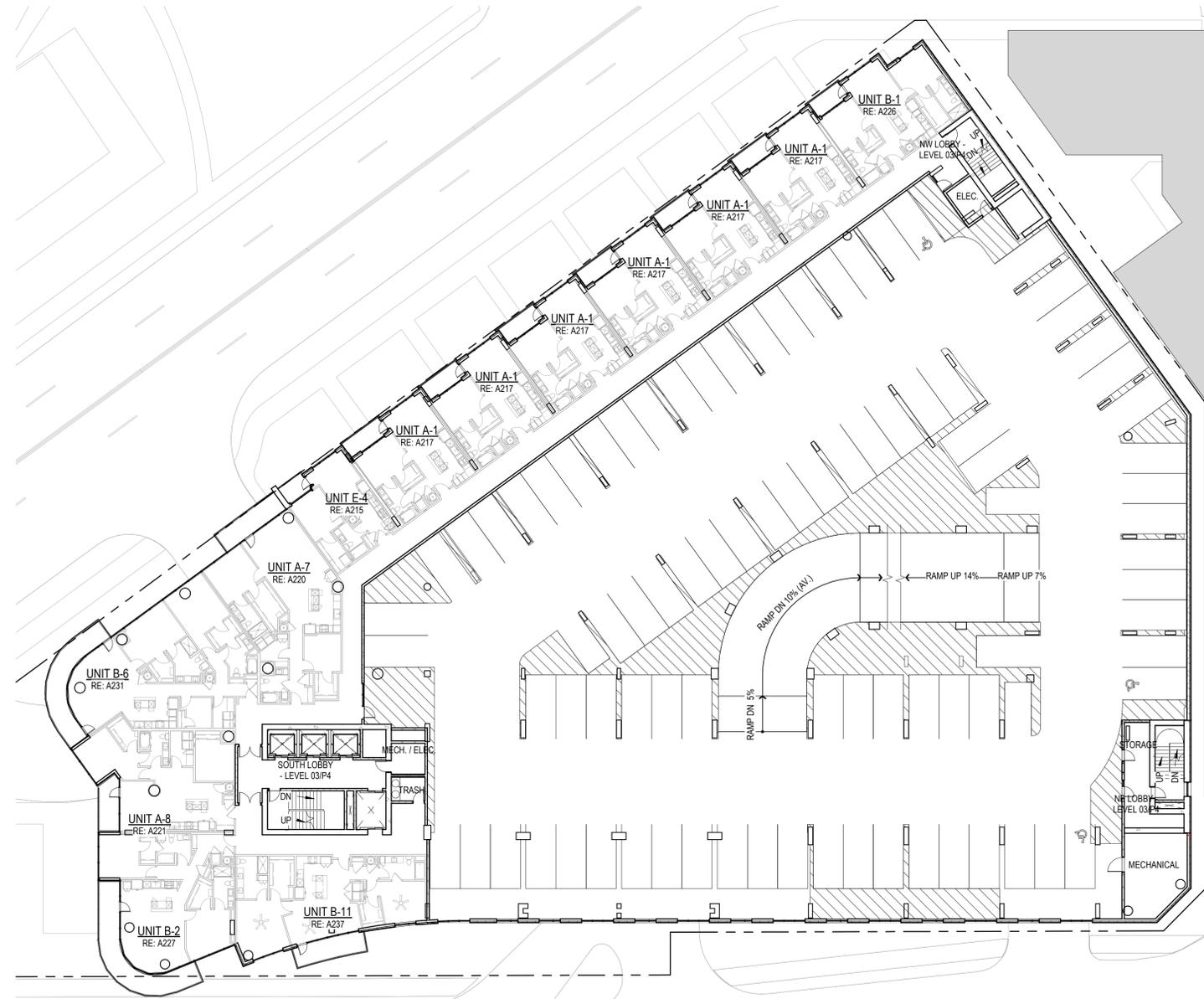
No.	Description	Date
1	CITY PLANNING SUBMITTAL	11.09.2016
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Sheet Title  
**LEVEL 02 / P3  
PARKING**



**LEVEL 02 / P3**  
1" = 20'-0"



**LEVEL 03/P4**  
1" = 20'-0"

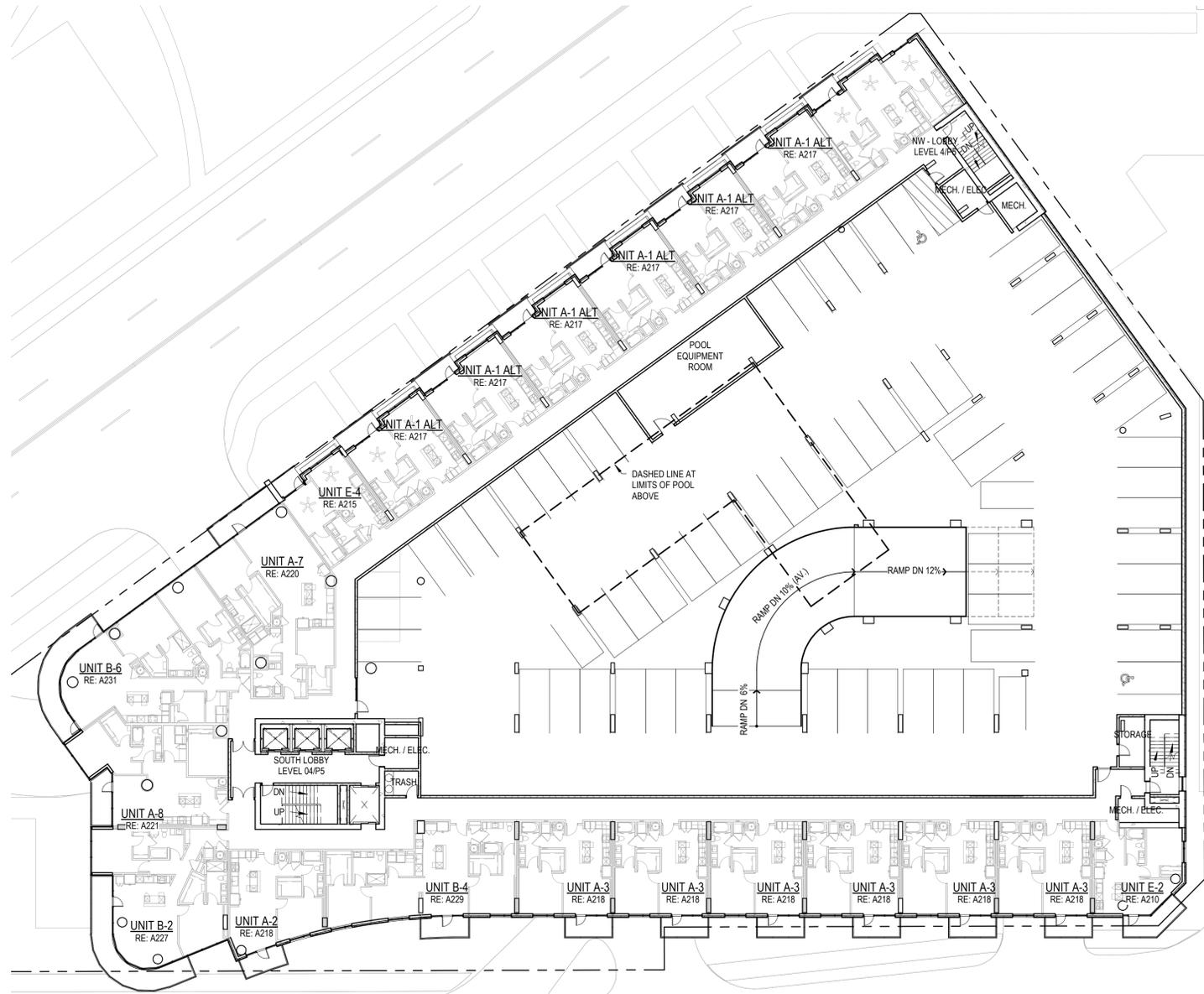
AREA - LEVEL 03 / P4	
Name	Area
Apartment	12,584
Circulation	4,444
Leasable Storage	216
Operations	308
Parking Area	36,170
<b>Grand total</b>	<b>53,722</b>

PARKING - LEVEL 03/P4	
Type	Count
7'-6"x15'-0"	3
8'-6"x18'	69
9'-0"x18'	14
9'-0"x18'-0" Handicap	2
<b>Total</b>	<b>88</b>

No.	Description	Date
1	CITY PLANNING SUBMITTAL	11.09.2016
2	CITY PLANNING RESUBMITTAL	12.15.2016
3	RESPONSE TO DISPOSITION	12.29.2016
4	CITY PLANNING RESUBMITTAL	04.21.2016
5	CITY PLANNING RESUBMITTAL	12.01.2021
6	CITY PLANNING RESUBMITTAL	12.17.2021

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Sheet Title  
**LEVEL 03 / P4**  
**PARKING**



**LEVEL 04/P5**  
1" = 20'-0"

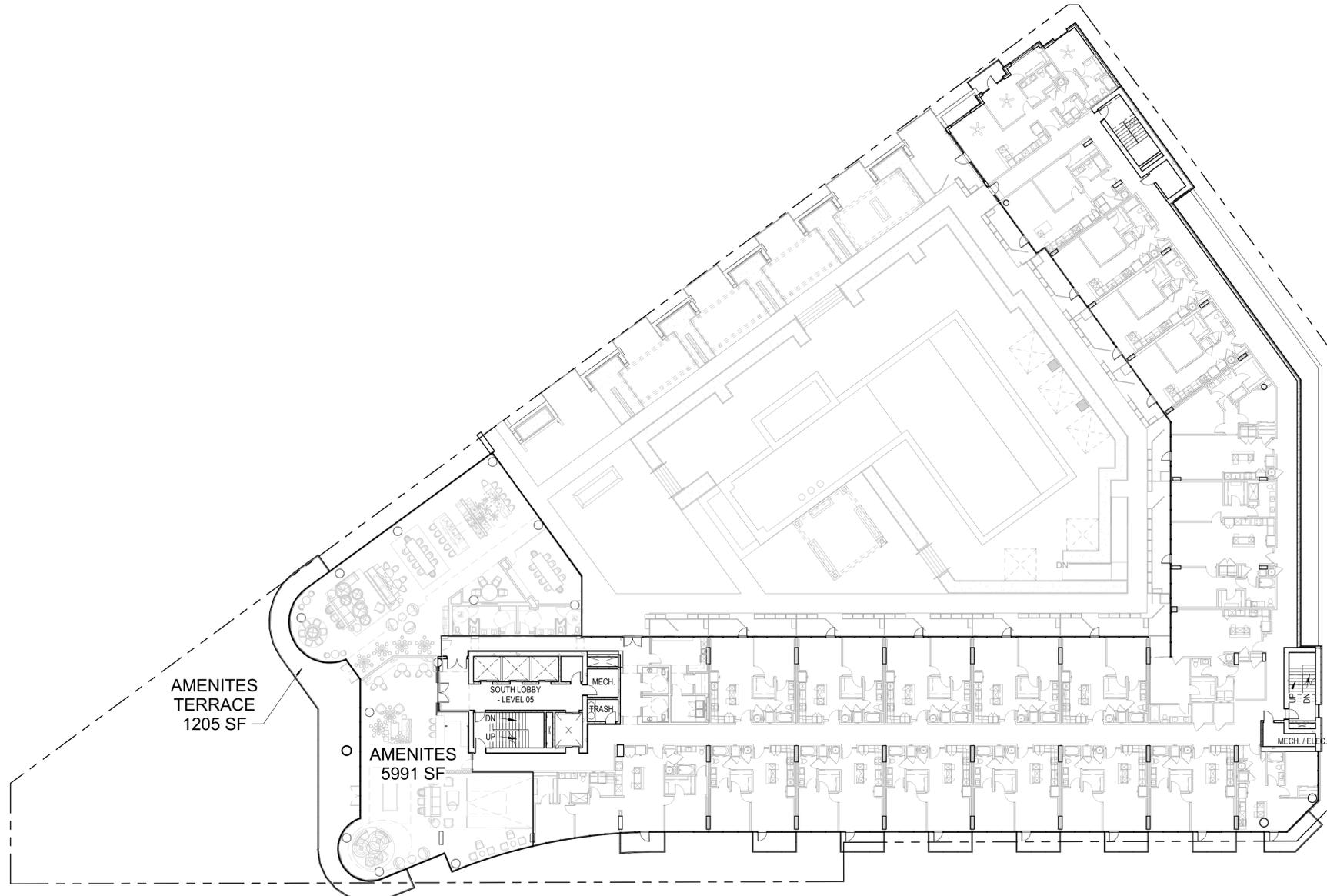
AREA - LEVEL 04 / P5	
Name	Area
Apartment	18,082
Circulation	5,720
Leasable Storage	221
Operations	440
Parking Area	28,992
<b>Grand total</b>	<b>53,455</b>

PARKING - LEVEL 04/P5	
Type	Count
7'-6"x15'-0"	3
8'-6"x18'	46
9'-0"x18'	14
9'-0"x18'-0" Handicap	2
<b>Total</b>	<b>65</b>

No.	Description	Date
1	CITY PLANNING SUBMITTAL	11.09.2016
2	CITY PLANNING RESUBMITTAL	12.15.2016
3	RESPONSE TO DISPOSITION	12.29.2016
4	CITY PLANNING RESUBMITTAL	04.21.2016
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Sheet Title  
**LEVEL 04 / P5  
PARKING**



AMENITES  
TERRACE  
1205 SF

AMENITES  
5991 SF

**LEVEL 05**  
1" = 20'-0"

AREA - LEVEL 05	
Name	Area
Amenities	6,924
Apartment	17,155
Circulation	5,196
Exterior Amenity	22,852
Leasable Storage	86
Operations	550
<b>Grand total</b>	<b>52,764</b>

No.	Description	Date
	CITY PLANNING SUBMITTAL	11.09.2016
	CITY PLANNING RESUBMITTAL	12.15.2016
	RESPONSE TO DISPOSITION	12.29.2016
	CITY PLANNING RESUBMITTAL	04.21.2016
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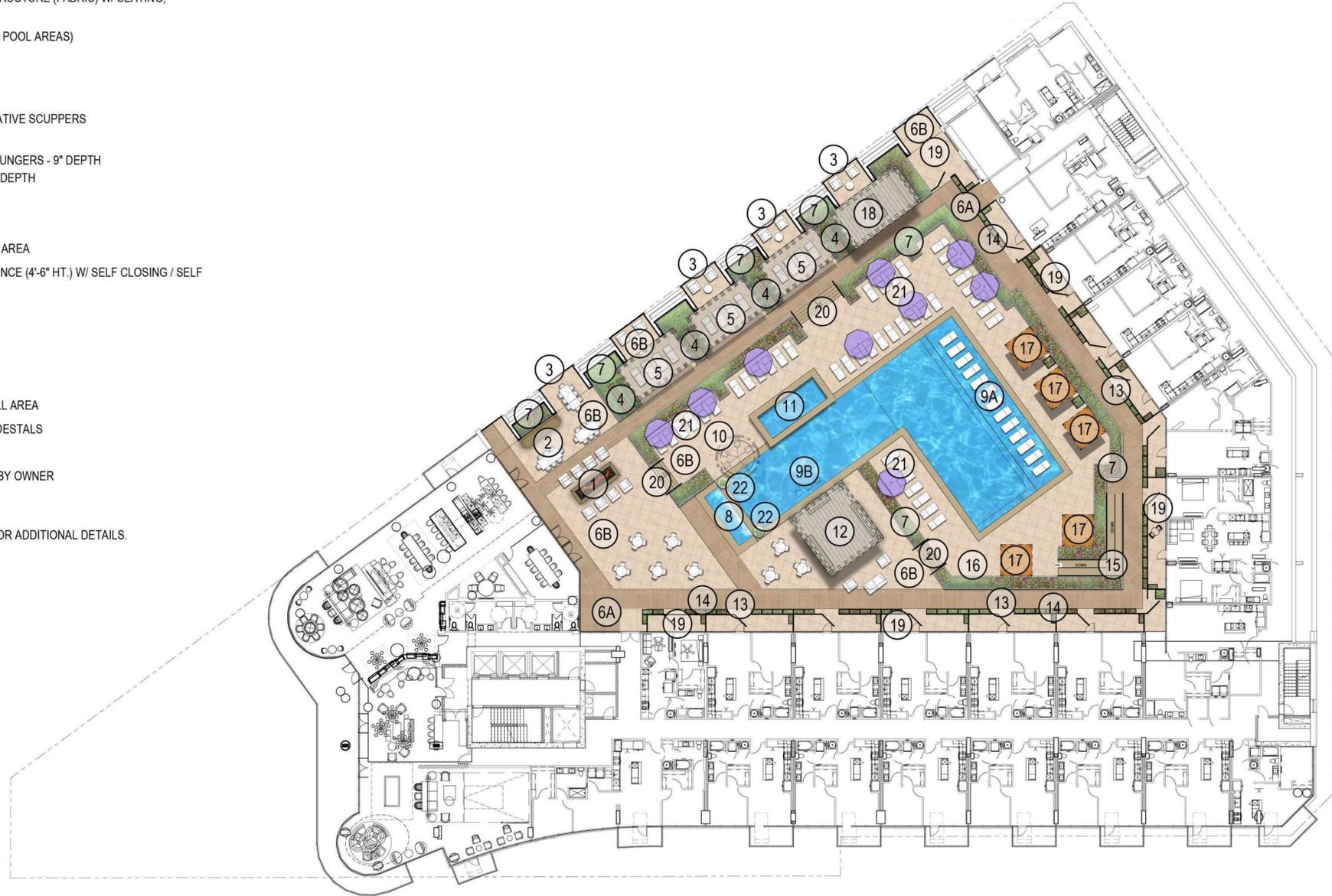
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Sheet Title  
**LEVEL 05**

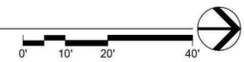
**SITE AMENITIES:**

1. FIRE PIT
2. OUTDOOR DINING AREA BAR
3. GLASS RAILING (4'-6" HT.) PATIO & OVERLOOK
4. TV / SCREEN WALL
5. TREX PERGOLA BALANCE STRUCTURE (FABRIC) W/ SEATING, LIGHTING, TV, & HEATERS
6. PAVERS ON PEDESTALS (ALL POOL AREAS)
  - 6A. PAVER TYPE A
  - 6B. PAVER TYPE B
7. METAL PLANTERS
8. WATER FEATURE W/ DECORATIVE SCUPPERS
9. POOL - 2,889 SF
  - 9A. SHALLOW LEDGE W/ LOUNGERS - 9" DEPTH
  - 9B. SWIM-UP SEATING - 30" DEPTH
10. ADA LIFT
11. SPA - 180 SF
12. LOUVERED STRUCTURE BAR AREA
13. POOL ENCLOSURE GLASS FENCE (4'-6" HT.) W/ SELF CLOSING / SELF LATCHING GATES
14. MODULAR PLANTERS
15. ADA RAMP
16. OUTDOOR SHOWER
17. DAYBEDS (5 TOTAL)
18. LOUVERED STRUCTURE GRILL AREA
19. UNIT PATIO - PAVERS ON PEDESTALS
20. STAIRS
21. CHAIRS & UMBRELLAS - FFE BY OWNER
22. POOL PLANTERS

\*SEE SITE AMENITY SPEC BOOK FOR ADDITIONAL DETAILS.



**SITE PLAN**  
1"=20'-0"



3515 W. 75<sup>TH</sup> STREET, SUITE 201, PRAIRIE VILLAGE, KS 66208  
P. 913.831.1415 | F. 913.831.1563 | [NSPJARCH.COM](http://NSPJARCH.COM)



REAL ESTATE SERVICES, LLC

Project  
**THE MADISON**

Prepared For

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Kansas City, MO 64112



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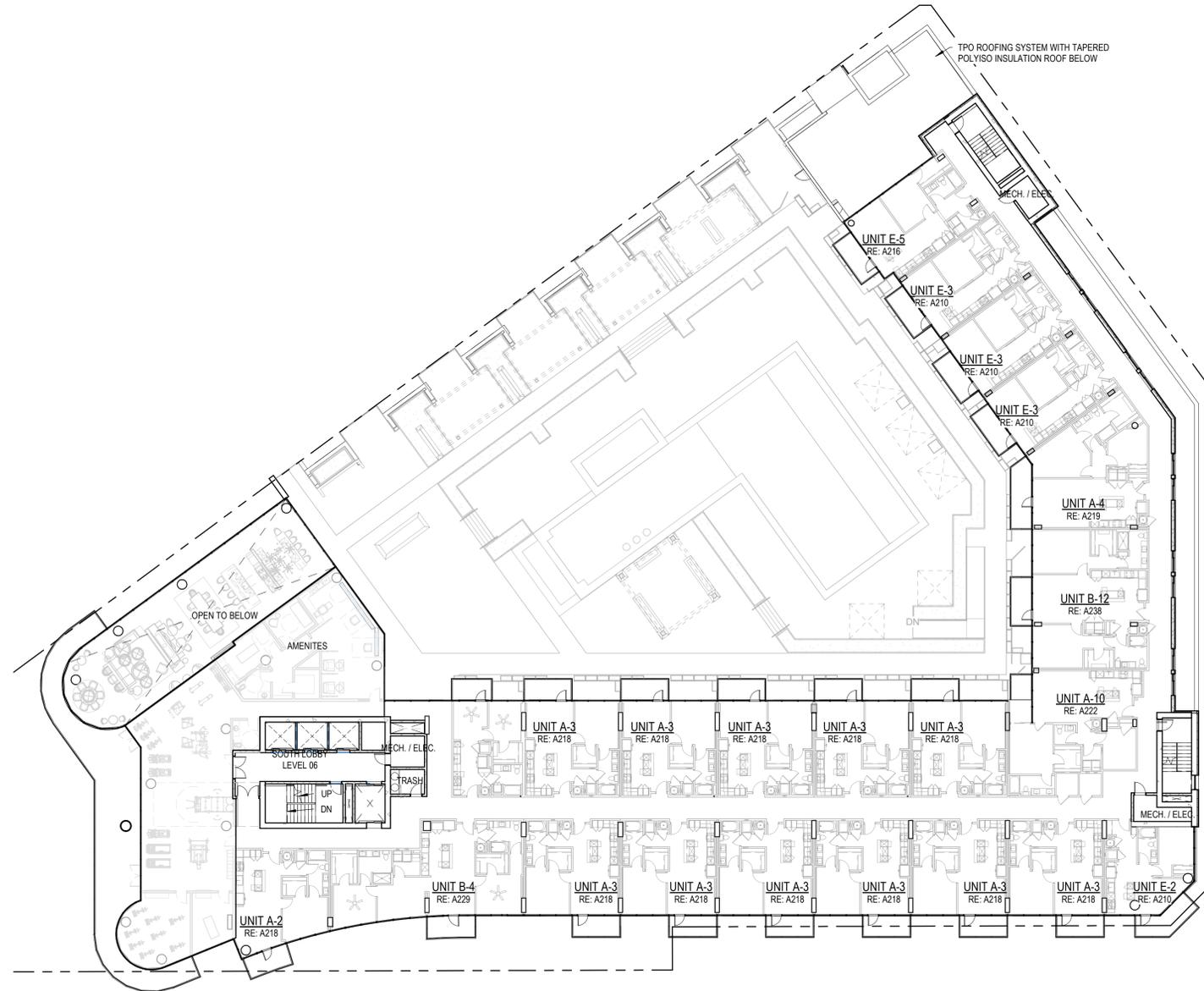
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	CITY PLANNING RESUBMITTAL	12.17.2021

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Sheet Title  
**POOL COURTYARD**

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Sheet Number

**A4-16A**



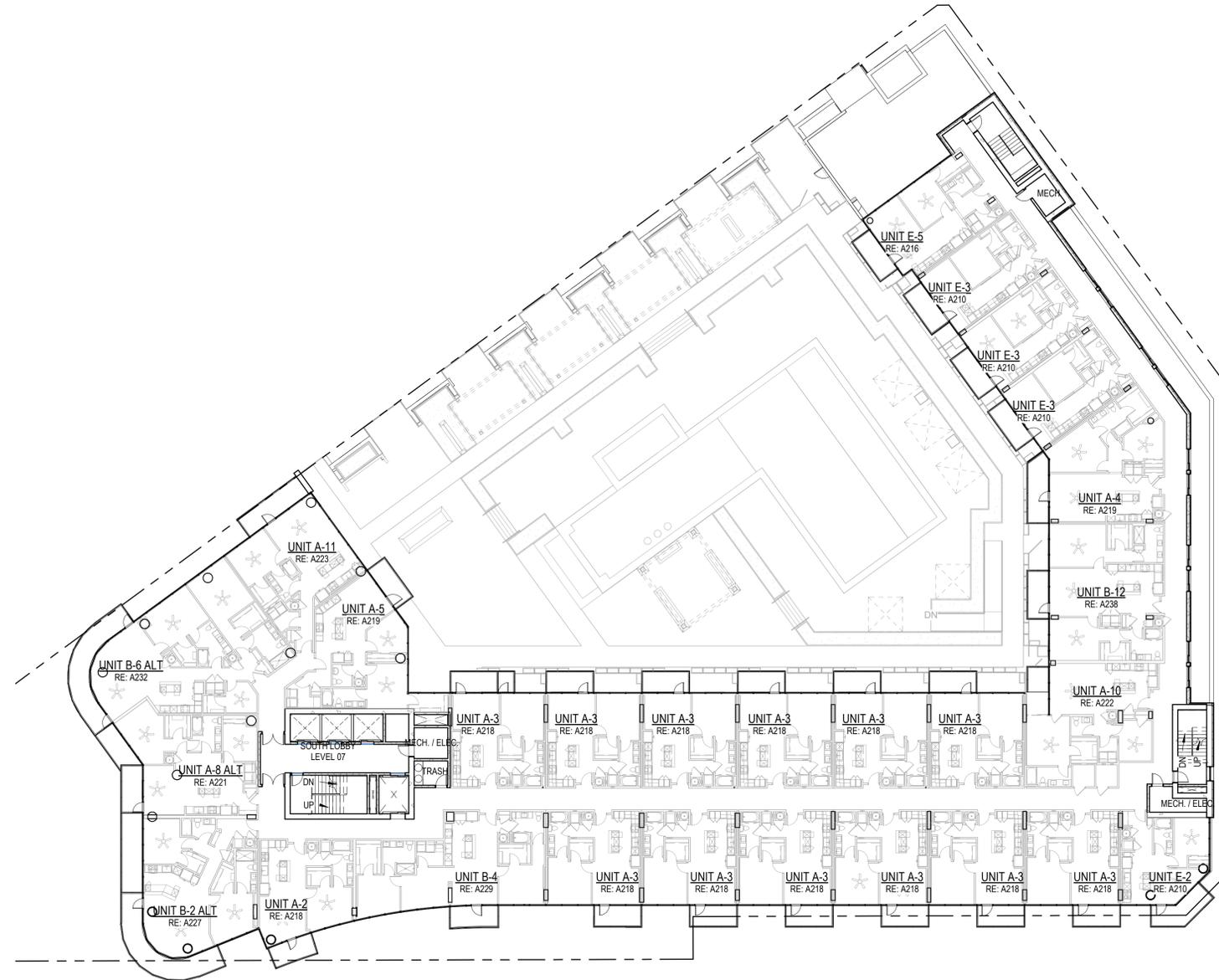
**LEVEL 06**  
1" = 20'-0"

AREA - LEVEL 06	
Name	Area
Apartment	23,063
Circulation	5,136
Leasable Storage	86
Operations	571
<b>Grand total</b>	<b>28,856</b>

No.	Description	Date
1	CITY PLANNING SUBMITTAL	11.09.2016
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3	RESPONSE TO DISPOSITION	12.29.2016
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Sheet Title  
**LEVEL 06**



**LEVEL 07**  
1" = 20'-0"

AREA - LEVEL 07	
Name	Area
Apartment	23,063
Circulation	5,136
Leasable Storage	86
Operations	571
<b>Grand total</b>	<b>28,856</b>

No.	Description	Date
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2	CITY PLANNING RESUBMITTAL	12.15.2016
3	RESPONSE TO DISPOSITION	12.29.2016
4	CITY PLANNING RESUBMITTAL	04.21.2016
5	CITY PLANNING RESUBMITTAL	12.01.2021
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Project No: 17-70020.00

Sheet Title  
**LEVEL 07**



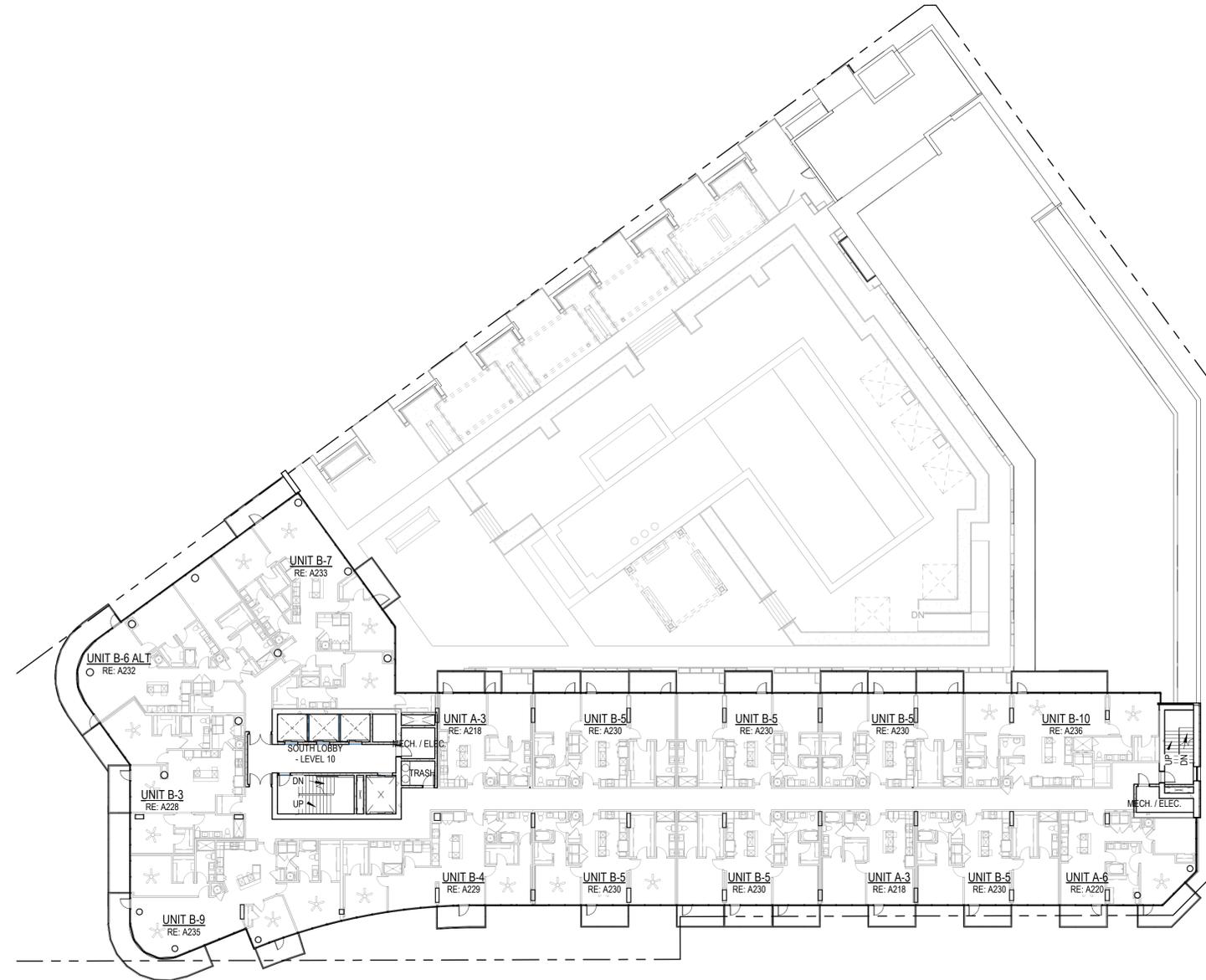
AREA - LEVEL 08-9 (TYP)	
Name	Area
Apartment	18,035
Circulation	3,373
Operations	441
<b>Grand total</b>	<b>21,849</b>

No.	Description	Date
1	CITY PLANNING SUBMITTAL	11.09.2016
2	CITY PLANNING RESUBMITTAL	12.15.2016
3	RESPONSE TO DISPOSITION	12.29.2016
4	CITY PLANNING RESUBMITTAL	04.21.2016
5	CITY PLANNING RESUBMITTAL	12.01.2021
6	CITY PLANNING RESUBMITTAL	12.17.2021

Issued For: CITY PLANNING RESUBMITTAL  
Issue Date: October 1, 2021  
Project No: 17-70020.00

Sheet Title  
**LEVEL 08-09**

**REFERENCE PLAN - LEVEL 08 - 09**  
1" = 20'-0"



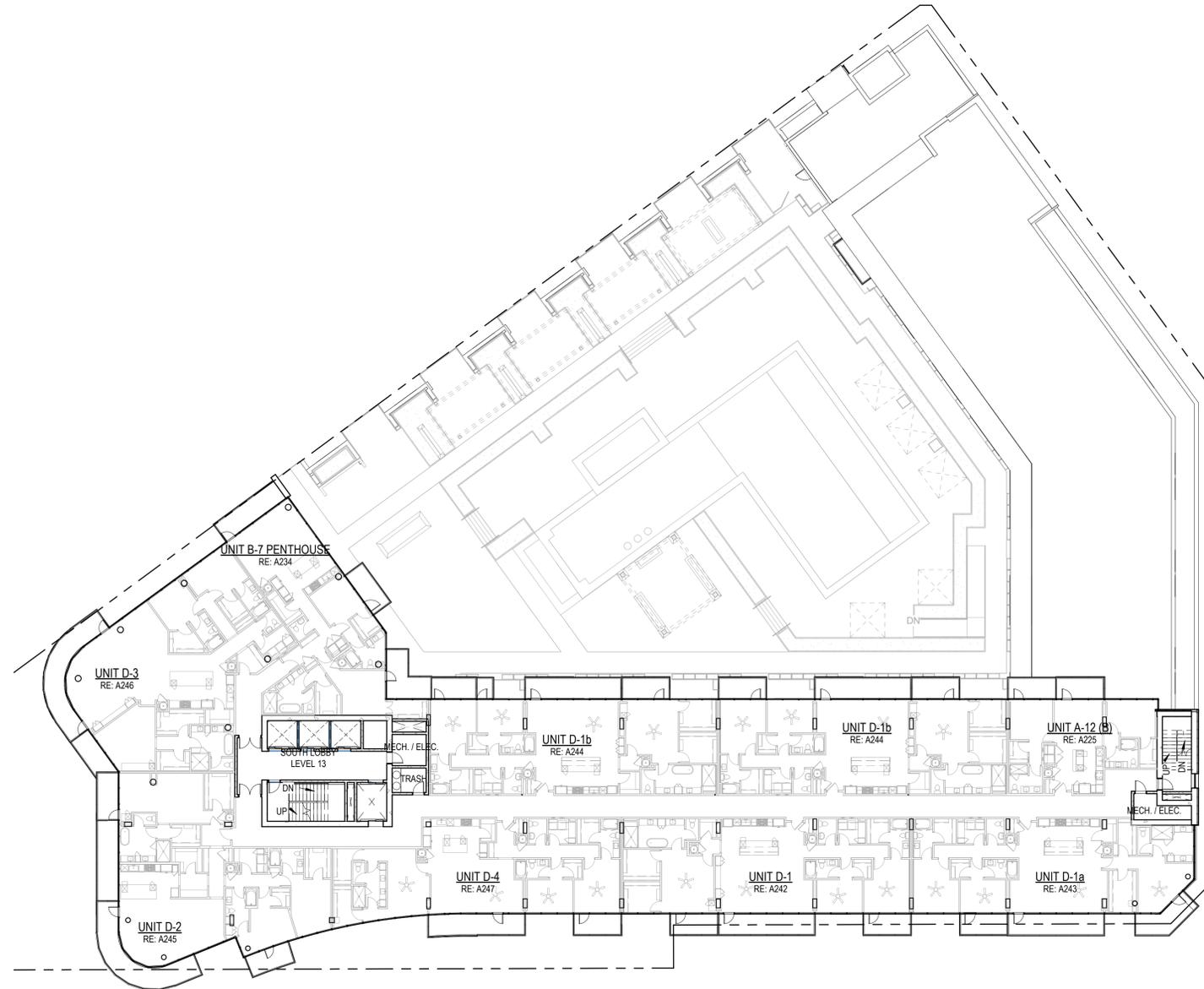
AREA - LEVEL 10 - 12 (TYP)	
Name	Area
Apartment	18,032
Circulation	3,333
Operations	484
<b>Grand total</b>	<b>21,849</b>

No.	Description	Date
1	CITY PLANNING SUBMITTAL	11.09.2016
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Sheet Title  
**LEVEL 10-12**

**LEVEL 10 - 12**  
1" = 20'-0"



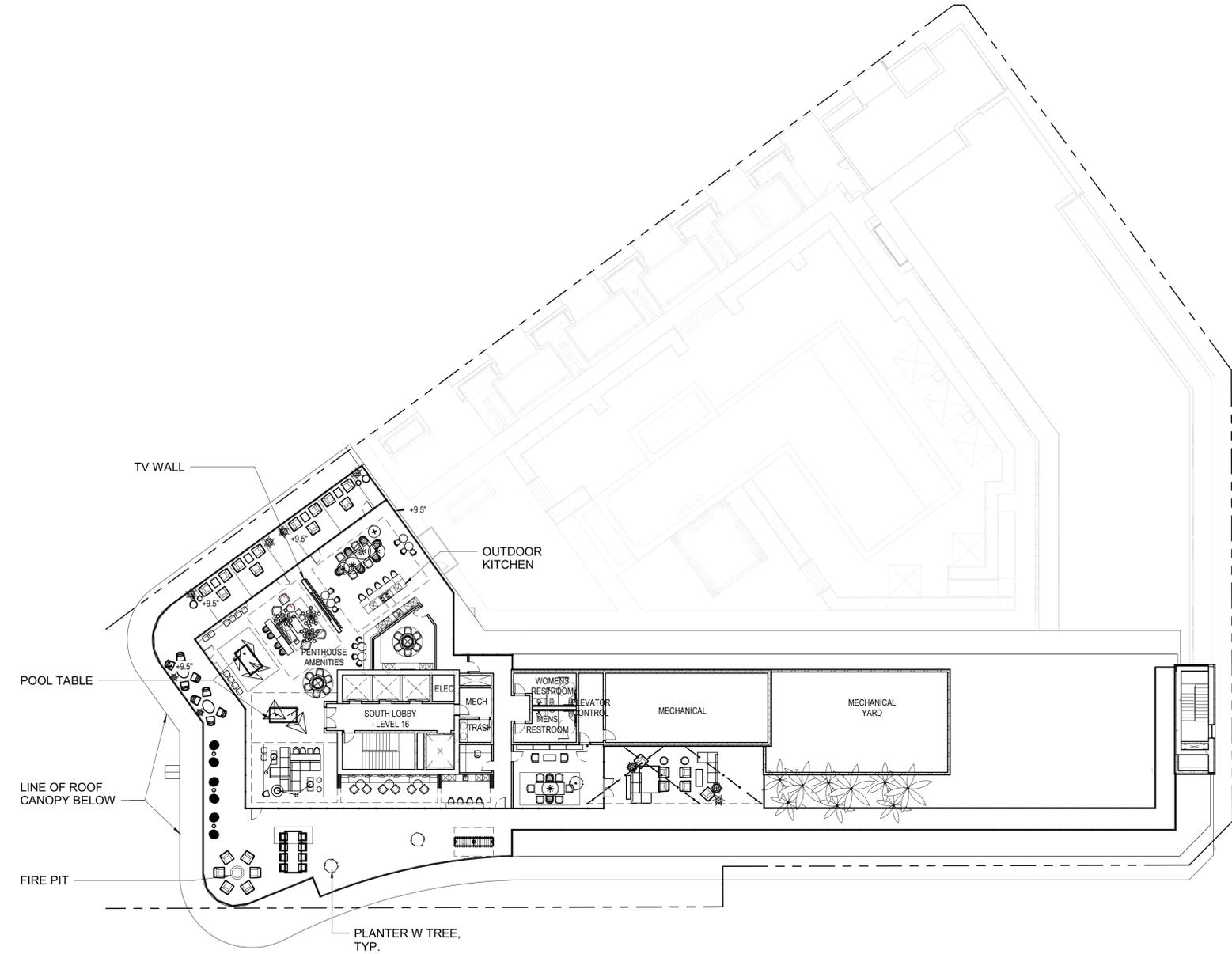
AREA - LEVEL 13 - 15 (TYP)	
Name	Area
Apartment	18,032
Circulation	3,333
Operations	484
<b>Grand total</b>	<b>21,849</b>

No.	Description	Date
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Sheet Title  
**LEVEL 13-15**

**LEVEL 13 - 15**  
1" = 20'-0"



**LEVEL 16 - ROOF PLAN**  
1" = 20'-0"

AREA - ROOF	
Name	Area
Amenities	5,014
Circulation	1,396
Exterior Amenity	4,389
Operations	2,096
<b>Grand total</b>	<b>12,895</b>

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Sheet Title  
**ROOF LEVEL**

NORTH ELEVATION - CPC

1" = 20'-0"



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**NORTH ELEVATION**

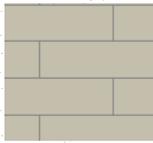
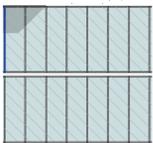
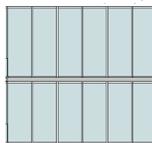
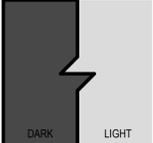
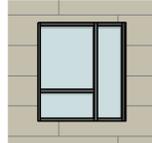
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Sheet Number



NORTH AERIAL PERSPECTIVE

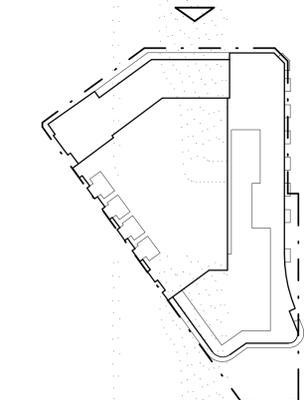


MATERIALS LEGEND

		
BEIGE STONE	CURTAIN WALL	WINDOW WALL
		
PRE-FINISHED ALUMINUM TO MATCH CURTAIN WALL FRAMING	METAL PANEL	TRANSPARENT WINDOW

ELEVATION KEY PLAN

1" = 100'-0"



EAST ELEVATION - CPC  
1" = 20'-0"

Project  
THE MADISON

Prepared For  
Block Real Estate Services, LLC  
4600 Plaza, LLC  
4622 Pennsylvania Ave Suite 700,  
Kansas City, MO 64112



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Sheet Title  
**EAST ELEVATION**

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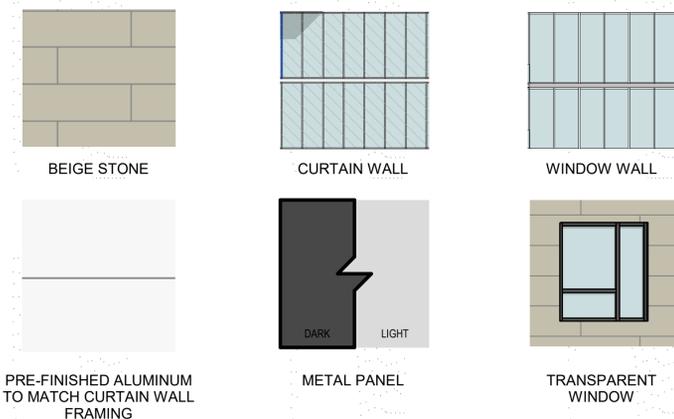
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EAST AERIAL PERSPECTIVE

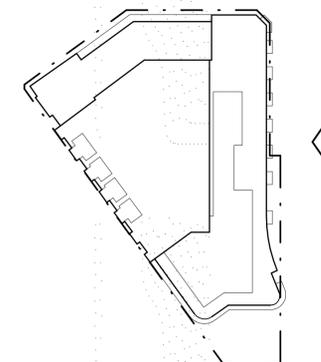


MATERIALS LEGEND



ELEVATION KEY PLAN

1" = 100'-0"







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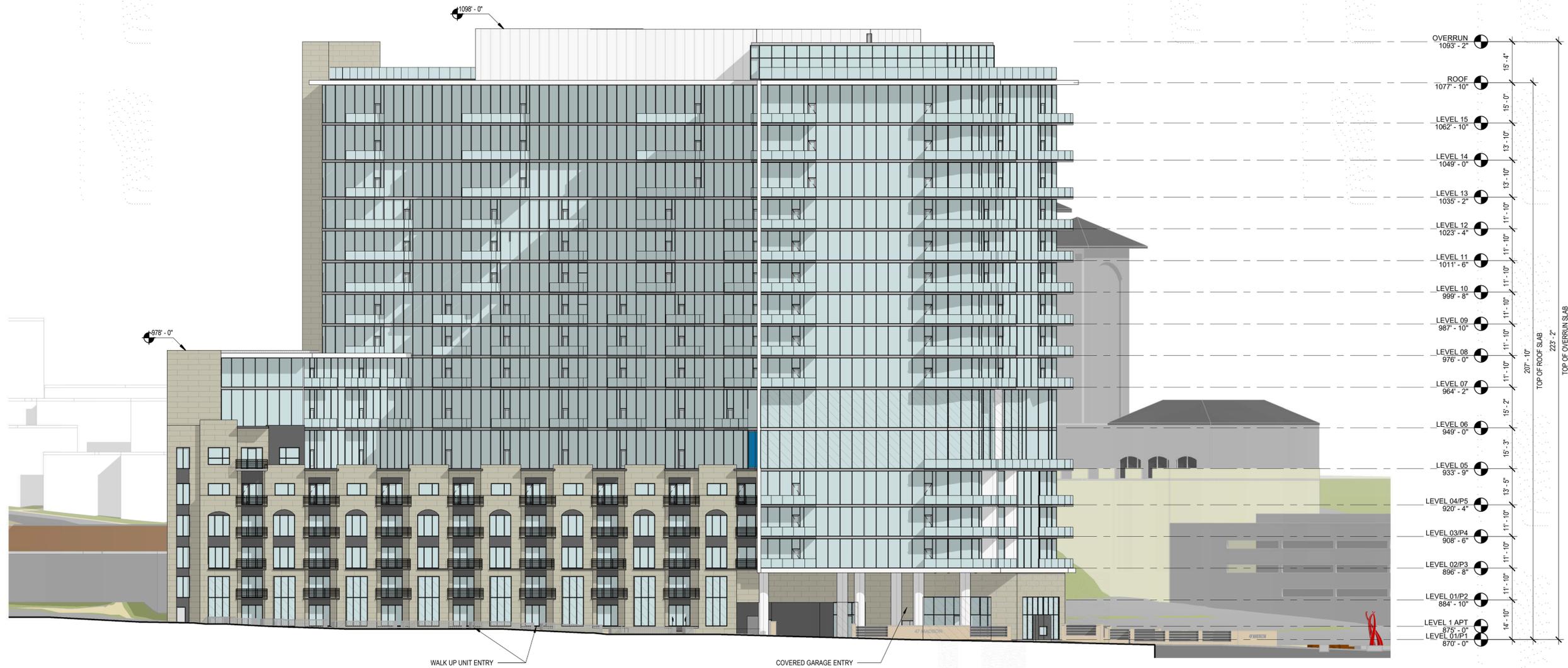
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**WEST ELEVATION**

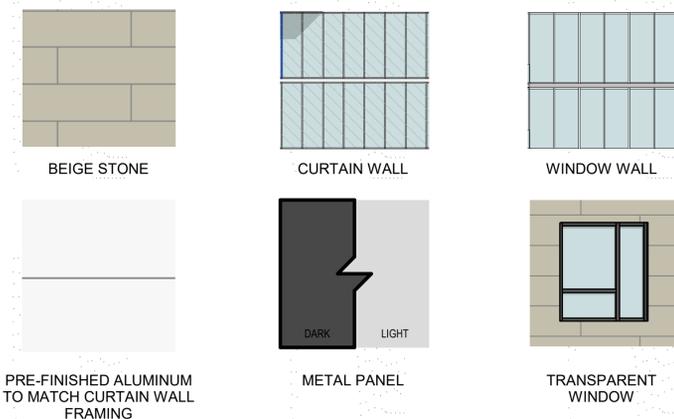
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Sheet Number



WEST AERIAL PERSPECTIVE

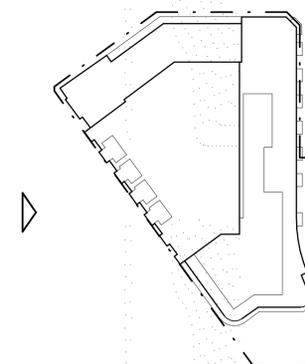


MATERIALS LEGEND



ELEVATION KEY PLAN

1" = 100'-0"

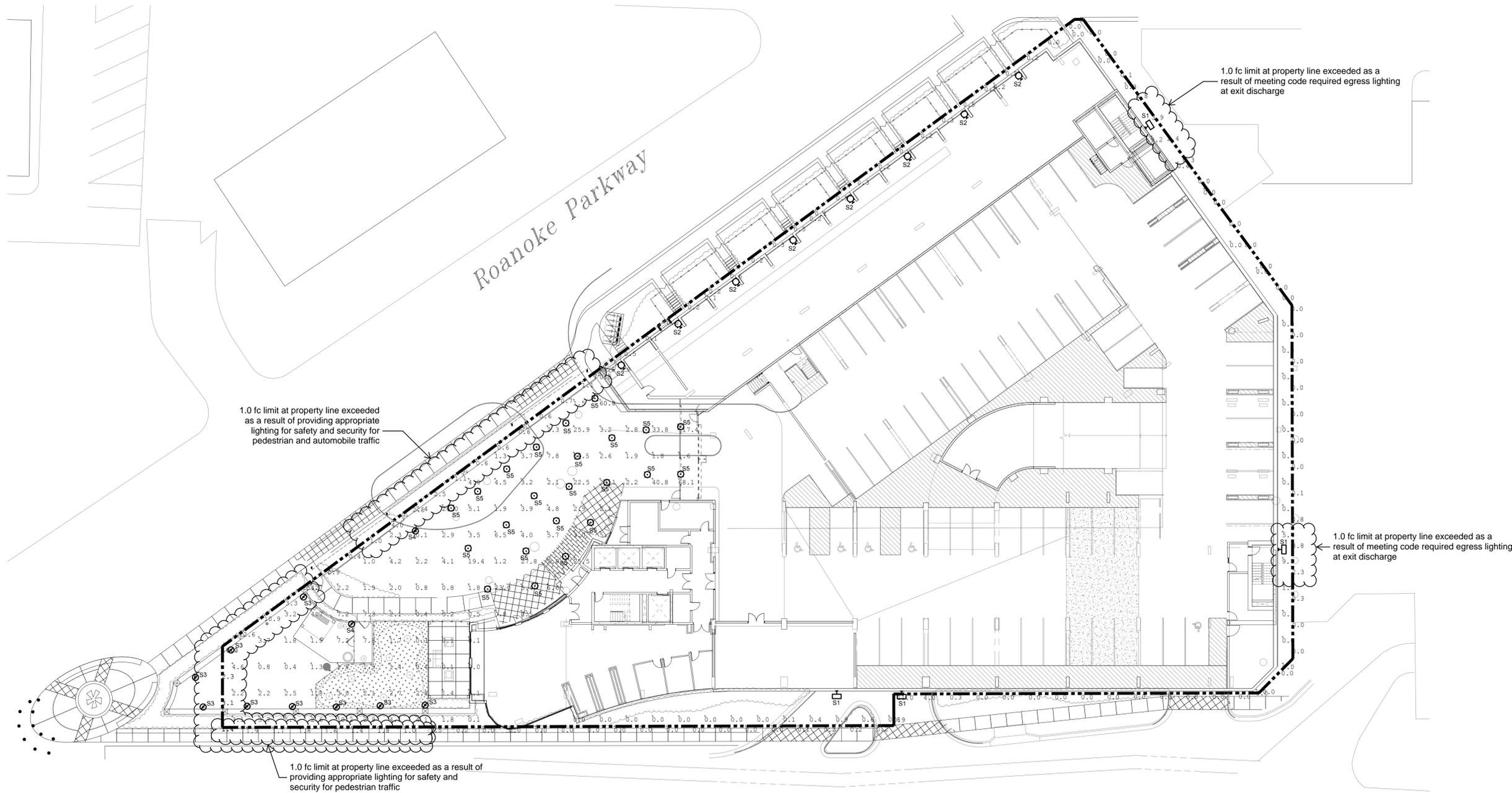




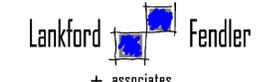
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	CITY PLANNING RESUBMITTAL	12.17.2021

Symbol	Label	Qty	Arrangement	Total Luminaire Lumens	LLF	Description
□	S1	5	SINGLE	N.A.	0.900	Full Cut-Off Wall Sconce
○	S2	9	SINGLE	N.A.	0.900	Decorative Direct / Indirect Wall Sconce
⊙	S3	10	SINGLE	N.A.	0.900	360 Degree Illuminated Bollard
⊙	S4	3	SINGLE	N.A.	0.900	12' Tall 360 Degree Illuminated Light Column
○	S5	23	SINGLE	N.A.	0.900	Recessed Downlight

Label	Calc Type	Units	Avg	Max	Min	Avg/Min	Max/Min
Property Line	Illuminance	FC	1.32 fc	31.8 fc	0.00	N.A.	N.A.
Site	Illuminance	FC	0.94 fc	34.8 fc	0.00	N.A.	N.A.



**PHOTOMETRIC PLAN**  
SCALE: 1" = 20'-0"



---

**To:** Mr. Ken Block  
Block Real Estate Services  
4622 Pennsylvania Ave, Suite 700  
Kansas City, Missouri 64112

**From:** Matthew Parker, PE, PTOE  
**Date:** December 17, 2021  
**Project No.:** PI01210384

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**Subject: The Madison Traffic Impact Study Addendum  
Kansas City, Missouri**

---

## Introduction

TranSystems has prepared the following supplemental analysis memorandum for the proposed changes to the previously approved Madison residential development, generally located in the northwest corner of Madison Avenue and Roanoke Parkway in Kansas City, Missouri. The purpose of this study is to evaluate traffic impacts due to changes in the development plan since its previous approval. This supplemental analysis has been conducted per discussions with the design team and city staff. The previously approved traffic impact study was dated March 2016 and titled 4600 Madison Traffic Impact Study.

## Development Plan

The overall development plan is similar to the previously approved plan, and a graphic representation of the two is depicted on **Figure A-1**. The proposed land use is the same, a single multi-family residential building, with generally the same building footprint. The building height has been reduced from eighteen to fifteen floors with an enclosed rooftop space. The number of living units reduced from 288 to 238. The proposed site entrance onto Roanoke Parkway has also been modified to provide a separate one-way entrance to the drop-off circle drive outside the building lobby where there was previously one combined two-way entrance for the drop-off area and parking garage entry.

The two-way entrance has remained in the same location. The new one-way entrance is approximately 100' to the southeast along Roanoke Parkway; roughly half-way to the intersection with Madison Avenue and W 47<sup>th</sup> Street. The previously approved site plan had a 75' right-turn lane along Roanoke Parkway into the site entrance. The currently proposed plan has an extended continuous right-turn lane for both entrances with approximately 50' of full width turn lane in advance of the new one-way entrance.

## Study Area

Because the overall site plan is similar to the previously approved plan and size of the proposed structure has been reduced, this analysis has been limited to the area affected by the change in site access along Roanoke Parkway. Study intersections include the following:

- ▶ Both site entrances along Roanoke Avenue
- ▶ W 47<sup>th</sup> Street and Madison Avenue/ Roanoke Parkway

## Traffic Volumes

This analysis utilized traffic volumes from the 2016 study for the existing conditions, other developments, and future baseline volumes. No additional data collection or future projections were conducted.

Trip generation estimates for the proposed development were prepared using the Institute of Transportation Engineer’s Trip Generation, 11th Edition. The previously approved development trips were computed prior to the new Edition being released; using the 9th Edition. The residential building was originally analyzed as apartments. In the 11<sup>th</sup> Edition, multi-family housing is further sub-categorized to account for use variations. The currently proposed development was evaluated with the high rise multi-family housing land use. The 2016 study included a 305 living unit count, although the development plan only included 288 at the time of approval. For the purpose of comparison to the previous study the living unit count of 305 has been utilized. The expected trips generated by the previously approved development plan and the currently proposed development plan are shown in **Table 1**.

**Table 1  
Trip Generation Comparison**

Land Use	Intensity	ITE Code	Average Weekday	A.M. Peak Hour			P.M. Peak Hour		
				Total	In	Out	Total	In	Out
<b>Previous Traffic Impact Study - 2016 (9th Edition)</b>									
Apartments	305 LU	220	1,972	153	31	123	185	121	65
<b>Proposed Development Plan (11th Edition)</b>									
Multifamily Housing (High Rise)	238 LU	222	1,272	71	24	47	85	48	37
<b>Net Change in Development Trips</b>			<b>-700</b>	<b>-82</b>	<b>-7</b>	<b>-76</b>	<b>-100</b>	<b>-73</b>	<b>-28</b>

The results in **Table 1** indicate that the proposed development plan is expected to generate 700 fewer daily trips, 82 fewer trips during the A.M. peak hour, and 100 fewer trips during the P.M. peak hour than the previously submitted traffic impact study. This equates to approximately one fewer trip every minute during the P.M. peak hour.

### Traffic Operation Assessment

The distribution of site generated trips in the 2016 study were generally utilized for this analysis. The inbound rate of trips previously assigned to the site entrance along Roanoke Parkway was modified to relocate approximately 10% of those trips to the new one-way entrance to the southeast. The resulting updated lane configurations and traffic volume projections at the study locations are depicted on **Figure A-2** for the Existing plus Approved plus Proposed Development scenario in the A.M. and P.M. peak hours. Similarly, updated lane configurations and volume projections for the Future Year 2040 are depicted on **Figure A-3**.

**Table 2** on the following page displays the Existing plus Approved Development conditions, Existing plus Approved plus Proposed Development conditions, and Future Year 2040 conditions scenario results. The results of the intersection analyses are also illustrated on **Figure A-4** and **Figure A-5**. The study intersections were evaluated with recommendations for lane reconfigurations noted in the previously approved study for scenarios with proposed development traffic.

**Table 2**  
**Intersection Operational Analysis**

Intersection	Movement	Existing + Approved Conditions				Existing + Approved + Proposed Development Conditions				Future Year 2040 Conditions			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		LOS <sup>1</sup>	Delay <sup>2</sup>	LOS <sup>1</sup>	Delay <sup>2</sup>	LOS <sup>1</sup>	Delay <sup>2</sup>	LOS <sup>1</sup>	Delay <sup>2</sup>	LOS <sup>1</sup>	Delay <sup>2</sup>	LOS <sup>1</sup>	Delay <sup>2</sup>
<b>47<sup>th</sup> St and Madison / Roanoke</b>	<i>Traffic Signal</i>	C	26.5	D	45.8	C	23.9	C	31.5	D	37.4	C	33.2
<b>Roanoke and Site Drive 1</b>	<i>Eastbound Left-Turn</i>	-	-	-	-	A	7.8	A	8.4	A	7.8	A	8.5
	<i>Southbound</i>	-	-	-	-	B	10.8	B	13.0	B	11.1	B	13.6
<b>Roanoke and Site Drive 2</b>	<i>Eastbound Left-Turn</i>	-	-	-	-	A	7.7	A	8.4	A	7.8	A	8.5

1 – Level of Service

2 – Delay in seconds per vehicle

The results shown in **Table 2** indicate that the study intersections are expected to continue operating at an acceptable level of service (LOS) during both peak hours. **Figures A-4** and **A-5** include the expected LOS and 95<sup>th</sup>-percentile queue lengths for the study intersections.

The currently proposed development plan was also evaluated for vehicle queuing and the potential for grid-lock associated with the site entrances and the intersection of W 47<sup>th</sup> Street with Madison Avenue/ Roanoke Parkway. Both left-turn movements from Roanoke Parkway into the site are expected to operate at LOS A and have a 95<sup>th</sup>-percentile queue of one vehicle for all scenarios. The site exit movement onto Roanoke Parkway is expected to operate at LOS B and have a 95<sup>th</sup>-percentile queue of one vehicle for all scenarios. The throat length provided at the site exit onto Roanoke Parkway to the drop-off circle is approximately 25 feet, or about one passenger vehicle length. Furthermore, the previous study determined that the maximum service rate for the garage exit gate is approximately 600 vehicles per hour. Therefore, it is not expected that on-site grid-lock will be commonly experienced between the two site entrances onto Roanoke Parkway.

The 95<sup>th</sup>-percentile vehicle queues for the southbound left-turn along Roanoke Parkway at W 47<sup>th</sup> Street are expected to be up to 285 feet during the A.M. peak hour and 244 feet during the P.M. peak hour for the Existing plus Approved plus Proposed Development conditions. Likewise, the 95<sup>th</sup>-percentile vehicle queues for the same movement are expected to be up to 327 feet during the A.M. peak hour for the Future Year 2040 conditions. Approximately 200 feet of vehicle storage is provided along Roanoke Parkway between the W 47<sup>th</sup> Street intersection and the two-way site entrance. Therefore, it is expected that this southeast left turn queue will occasionally extend beyond both site entrances. There may be times that a southeast bound motorist along Roanoke attempting to turn left into the site may experience additional delay waiting in the queue for W 47<sup>th</sup> Street. However, the left-turning volumes into the site are expected to be low with LOS B, so it is not expected

to significantly affect operations of the traffic signal at W 47<sup>th</sup> Street. It should also be noted that this would also be true with the previously approved development plan and is slightly improved with the reduction in site traffic volumes.

## Summary

The revised development plan is expected to reduce, compared to the previously approved plan, site generated traffic by 700 daily trips, 82 trips during the A.M. peak hour, and 100 trips during the P.M. peak hour. The study intersections are still expected to operate at acceptable levels of service. Although some additional delay may occasionally be experienced for southeast bound vehicles along Roanoke Parkway turning left into the site due to queueing at W 47<sup>th</sup> Street, it is not expected to adversely affect that movement or result in gridlock. Likewise, the on-site exiting traffic is not expected to experience queueing that would result in gridlock with the circle drive.



## Appendix A - Figures

- Figure A-1 Site Plan
- Figure A-2 Existing plus Approved plus Development Lane Configurations and Peak Hour Traffic Volumes
- Figure A-3 Future Year 2040 Lane Configurations and Peak Hour Traffic Volumes
- Figure A-4 A.M. Peak Hour Operational Analysis Results
- Figure A-5 P.M. Peak Hour Operational Analysis Results



December 2021

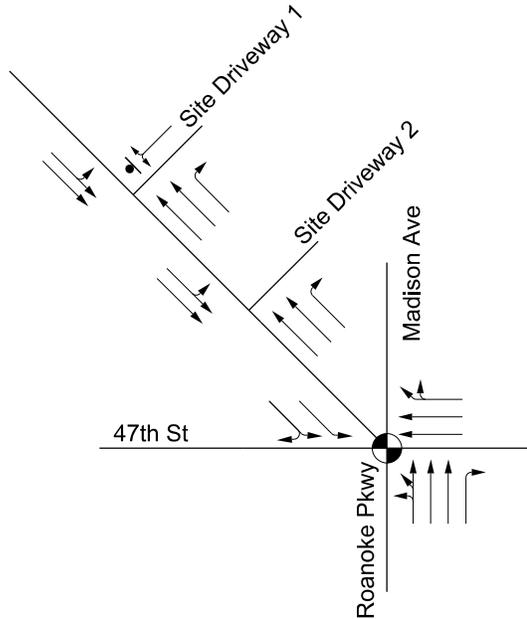
No Scale

The Madison  
Traffic Impact Study  
Kansas City, Missouri

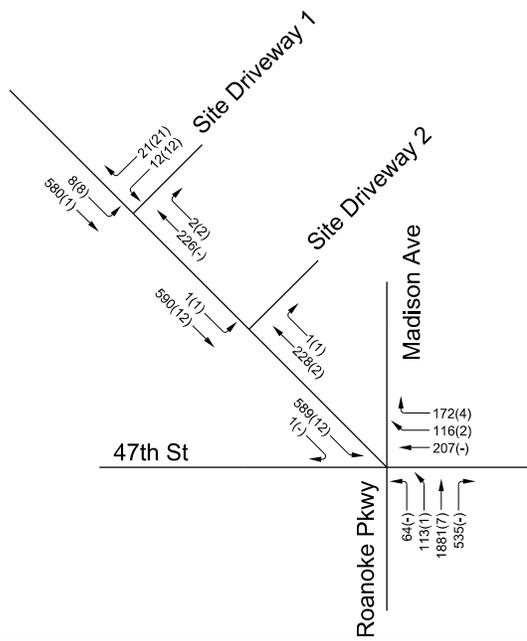
SITE PLAN



Figure A-1



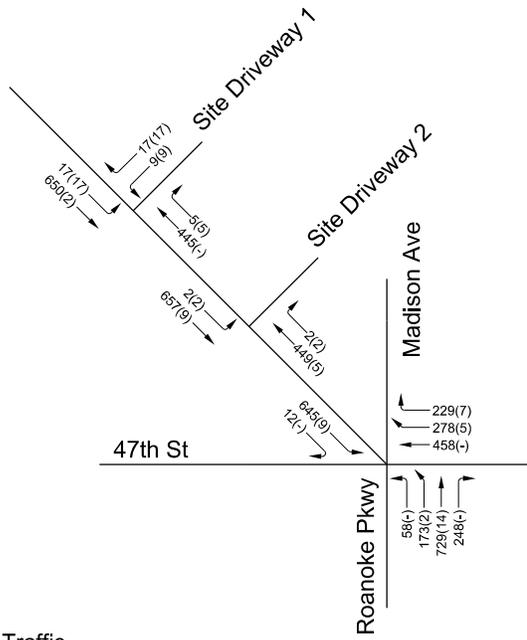
Lane Configuration



A.M. Peak Hour Traffic Volumes

### Legend

- Traffic Signal
- Stop Sign
- Lane Configuration
- Total Hourly Volume
- Proposed Development Traffic



P.M. Peak Hour Traffic Volumes

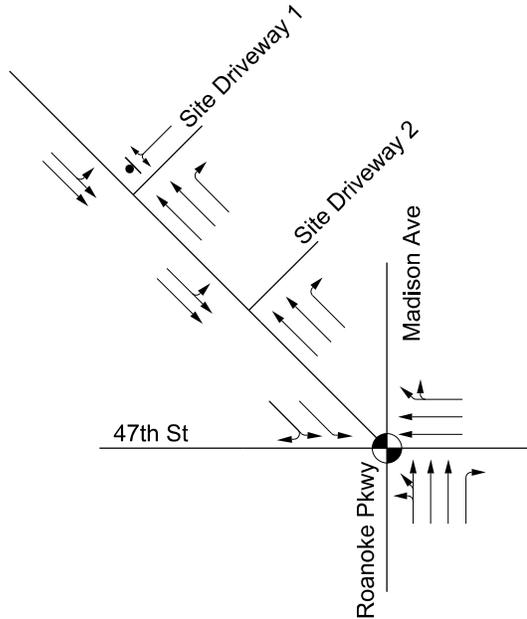
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December 2021  
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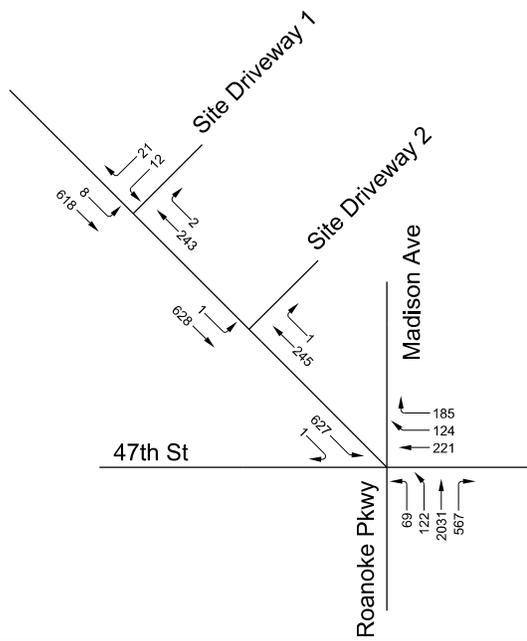
The Madison  
Traffic Impact Study  
Kansas City, Missouri

EXISTING + APPROVED + DEVELOPMENT  
LANE CONFIGURATIONS AND PEAK HOUR VOLUMES

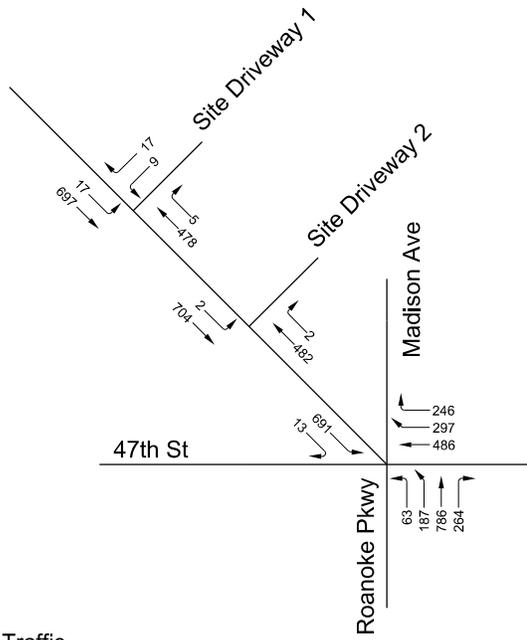




Lane Configuration



A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes

**Legend**

-  - Traffic Signal
-  - Stop Sign
-  - Lane Configuration
-  - Total Hourly Volume
-  - Proposed Development Traffic

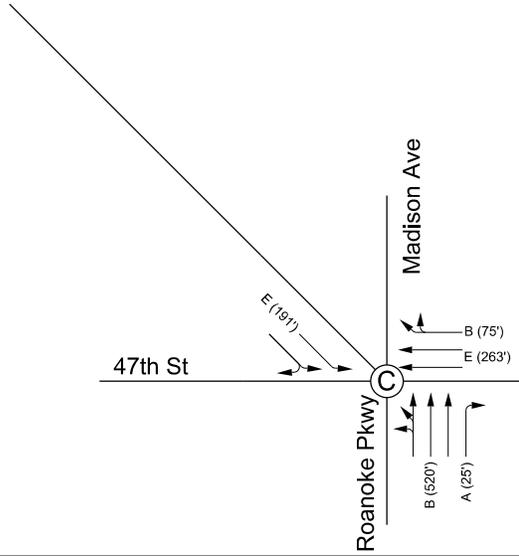
December 2021

No Scale

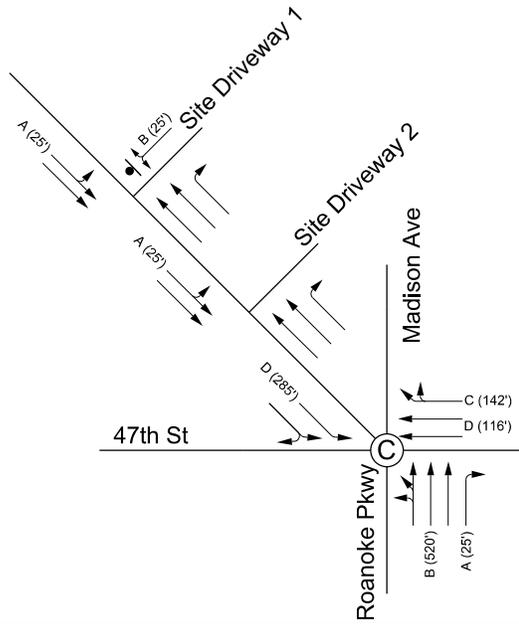
The Madison  
Traffic Impact Study  
Kansas City, Missouri

**FUTURE YEAR 2040  
LANE CONFIGURATIONS AND PEAK HOUR VOLUMES**





Existing plus Approved



Existing plus Approved  
plus Development

### Legend

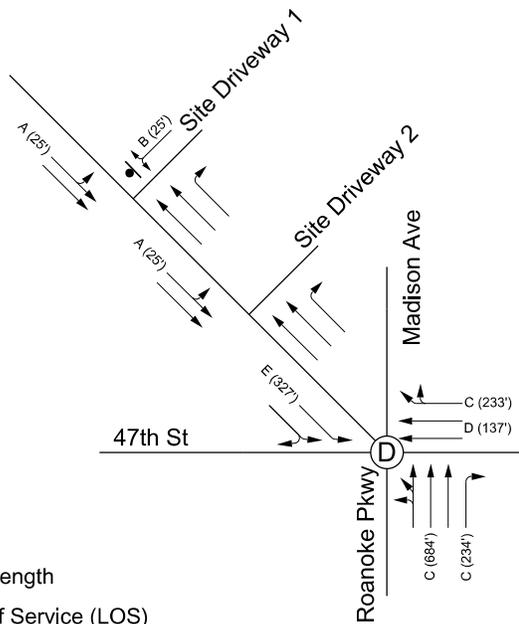
● - Stop Sign

— Level of Service (LOS)  
by Lane Group

B (120')

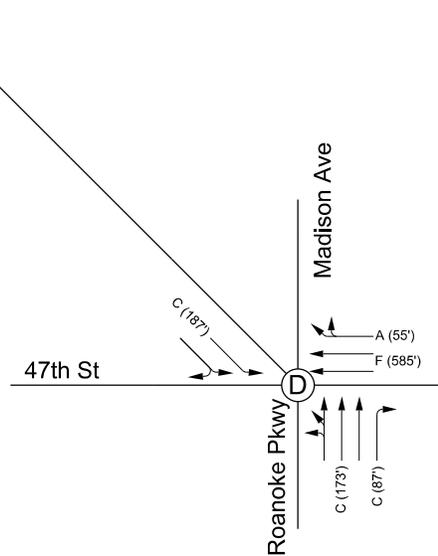
↑ 95th Percentile Queue Length

Ⓟ - Signalized Intersection Level of Service (LOS)

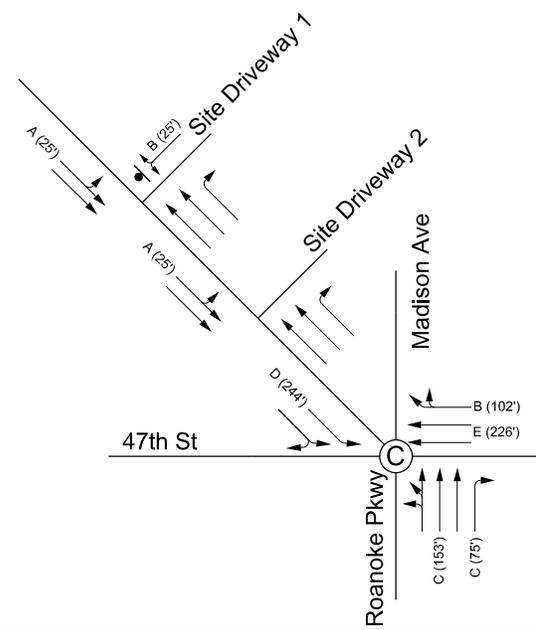


Future Year 2040

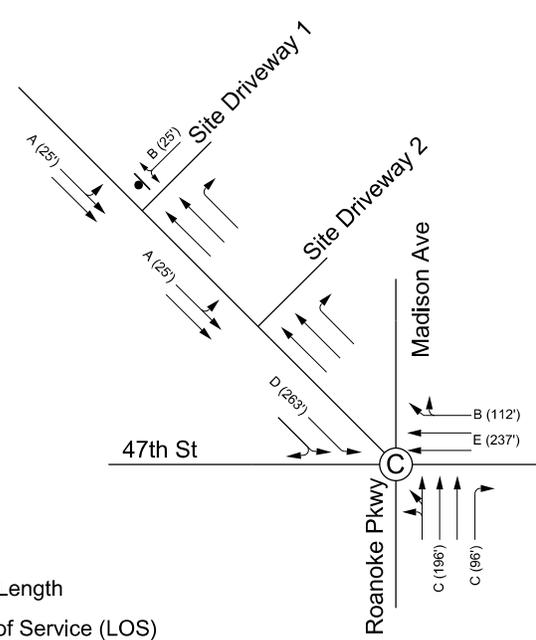




Existing plus Approved



Existing plus Approved plus Development



Future Year 2040

### Legend

- - Stop Sign
- Level of Service (LOS) by Lane Group
- B (120') — 95th Percentile Queue Length
- ⓐ - Signalized Intersection Level of Service (LOS)

SFLEL\$

December 2021  
No Scale

The Madison  
Traffic Impact Study  
Kansas City, Missouri

P.M PEAK HOUR  
OPERATIONAL ANALYSIS RESULTS



## **Appendix B - Trip Generation and Distribution**

See attached worksheets.

**The Madison TIS**  
**Kansas City, Missouri**  
**Trip Generation**

Land Use	Intensity	ITE Code	Daily	A.M. Peak Hour				P.M. Peak Hour					
				Total	% In	% Out	In	Out	Total	% In	% Out	In	Out
<b><i>Proposed Development</i></b>													
Multi-Family Housing (High Rise)	238 du	222	1,272	71	34%	66%	24	47	85	56%	44%	48	37
<b><i>Total Development Trips</i></b>			<b>1,272</b>	<b>71</b>			<b>24</b>	<b>47</b>	<b>85</b>			<b>48</b>	<b>37</b>

**Notes -**

- Trip generation estimates were developed using ITE's Trip Generation, 11th Edition.

## Multifamily Housing (High-Rise) Not Close to Rail Transit (222)

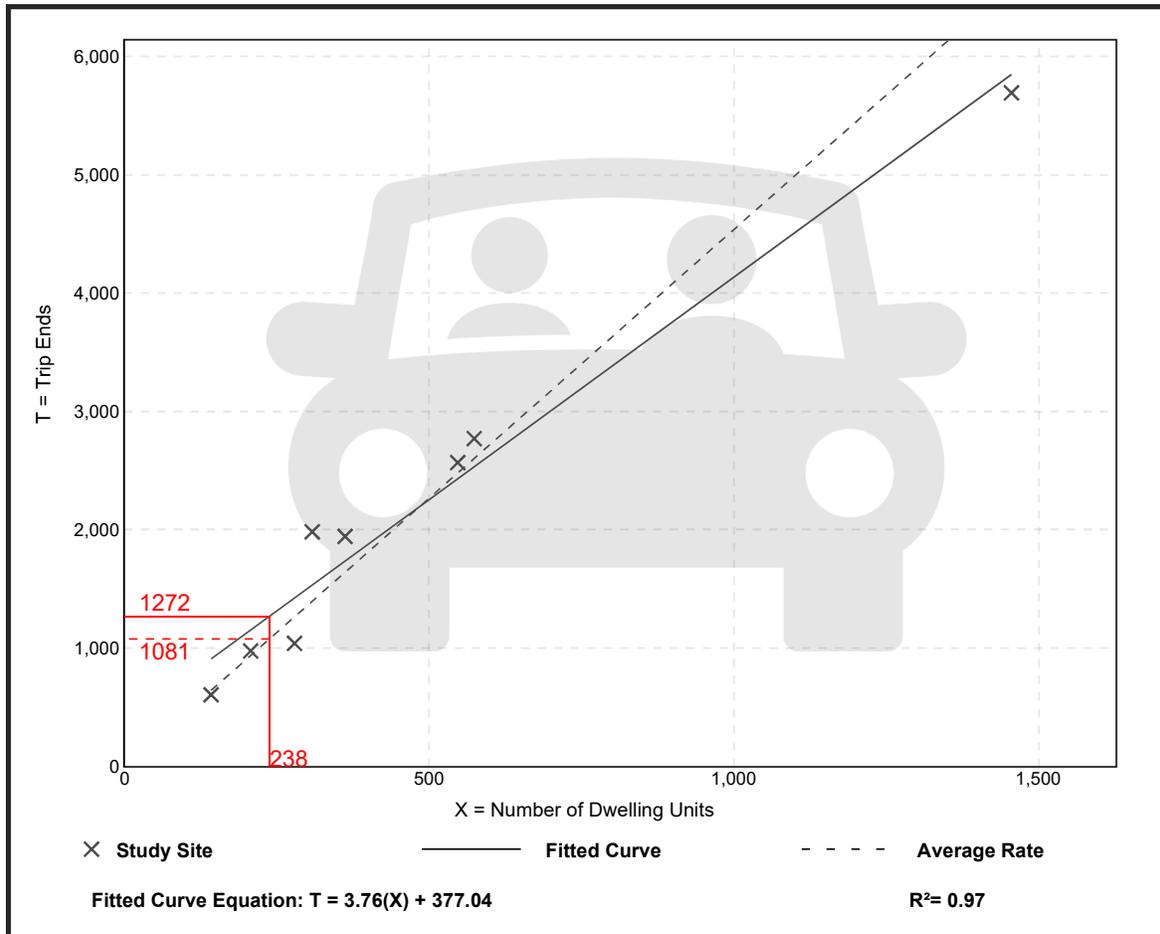
**Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday**

**Setting/Location: General Urban/Suburban**  
Number of Studies: 8  
Avg. Num. of Dwelling Units: 484  
Directional Distribution: 50% entering, 50% exiting

### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.54	3.74 - 6.45	0.81

### Data Plot and Equation



Trip Gen Manual, 11th Edition

● Institute of Transportation Engineers

## Multifamily Housing (High-Rise) Not Close to Rail Transit (222)

**Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**

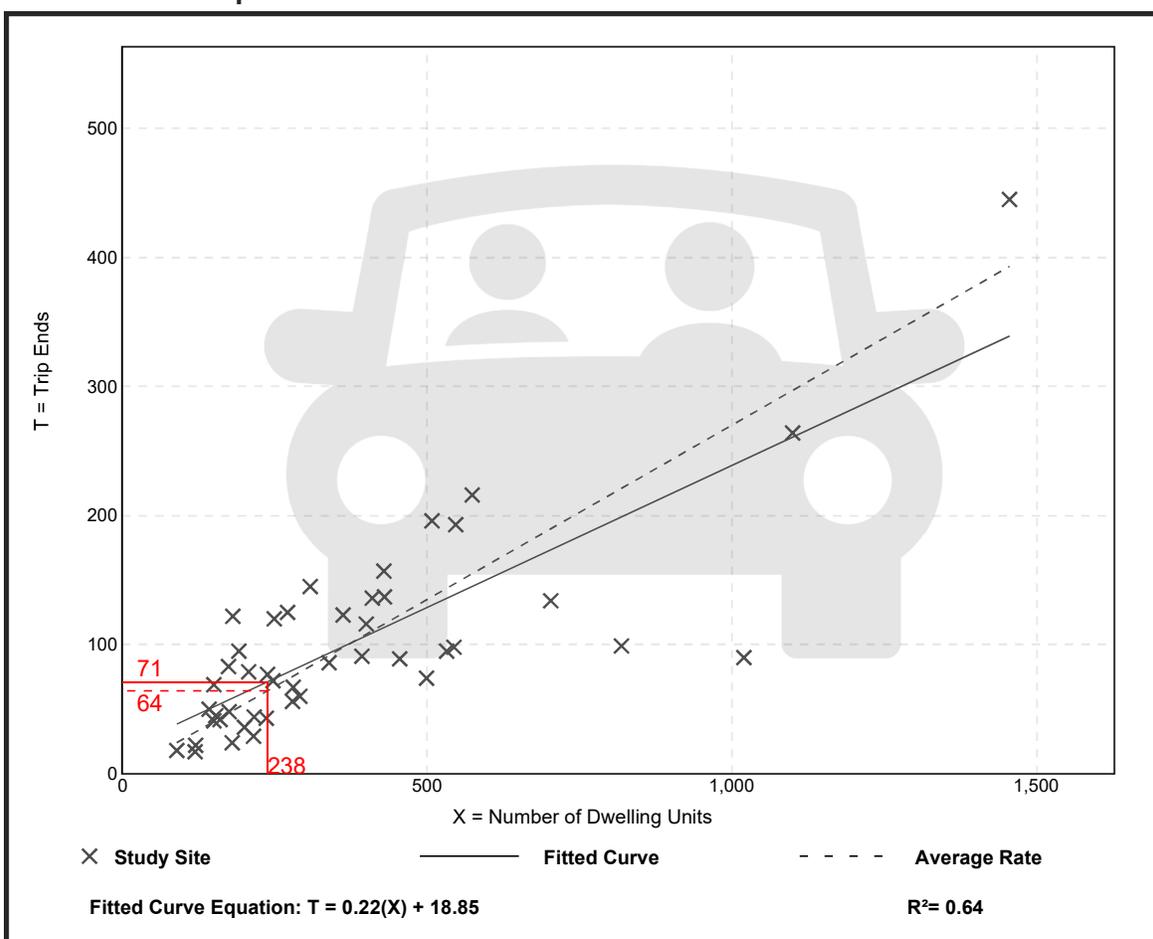
**Setting/Location: General Urban/Suburban**

Number of Studies: 45  
 Avg. Num. of Dwelling Units: 372  
 Directional Distribution: 34% entering, 66% exiting

### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.27	0.09 - 0.67	0.11

### Data Plot and Equation



## Multifamily Housing (High-Rise) Not Close to Rail Transit (222)

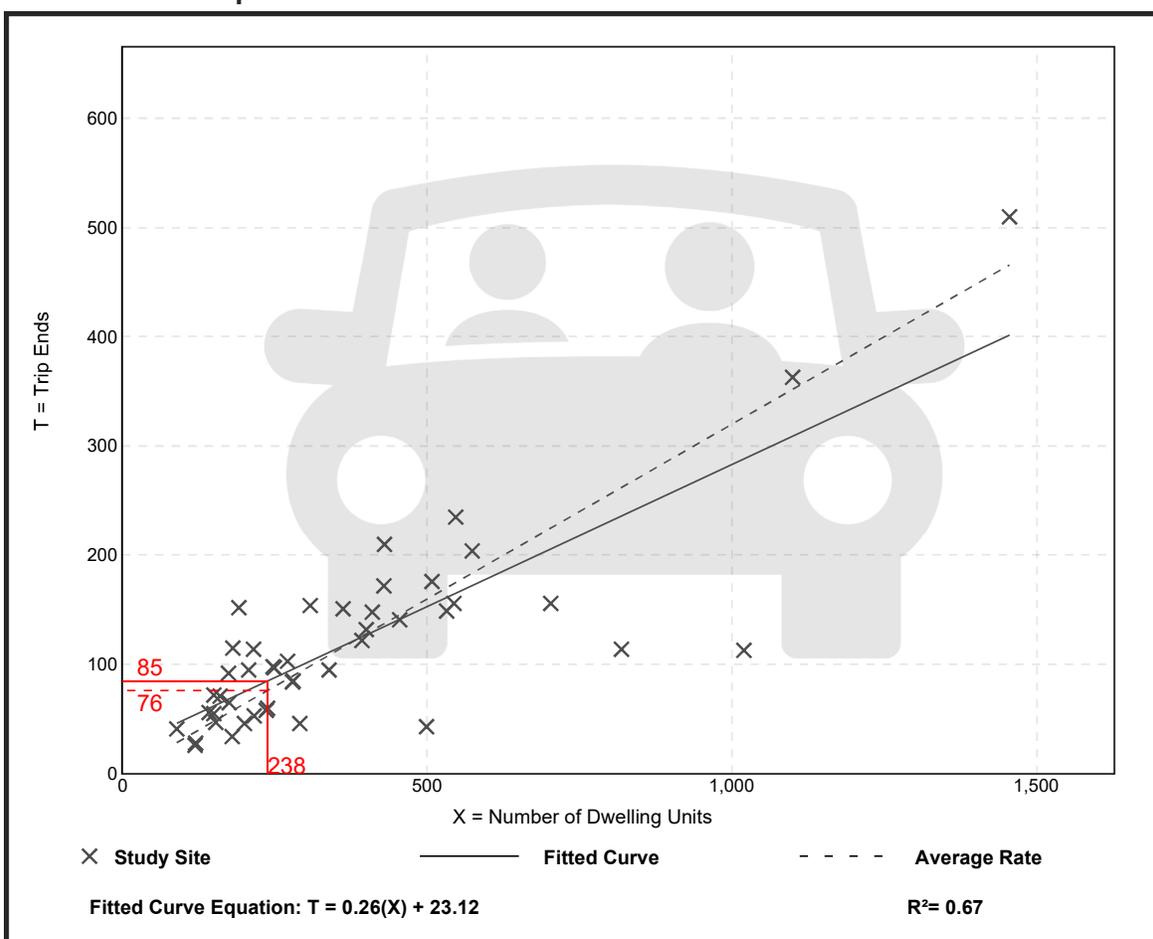
**Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**  
**Setting/Location: General Urban/Suburban**

Number of Studies: 45  
 Avg. Num. of Dwelling Units: 372  
 Directional Distribution: 56% entering, 44% exiting

### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.32	0.09 - 0.80	0.13

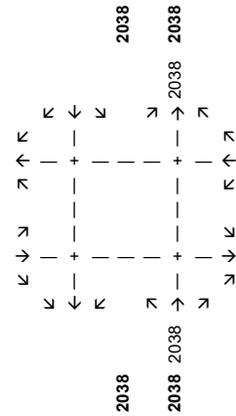
### Data Plot and Equation



# The Madison TIS Kansas City, Missouri

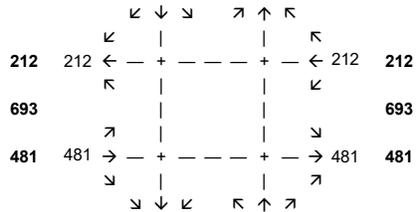
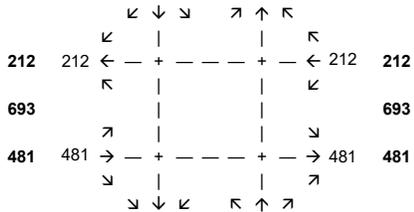
## Existing Conditions A.M. Peak Hour

Madison Avenue and Site Driveway

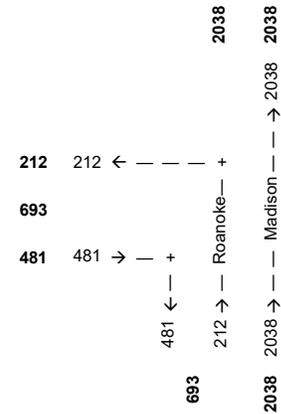


Roanoke Parkway and Site Driveway 1

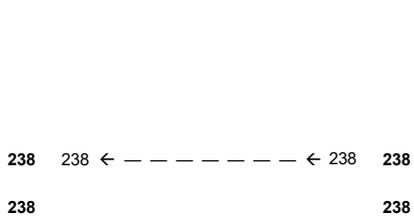
Roanoke Parkway and Site Driveway 2



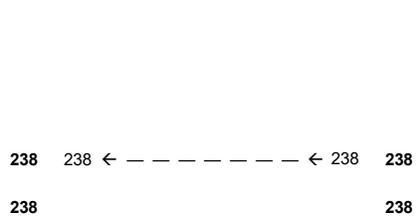
Madison Avenue



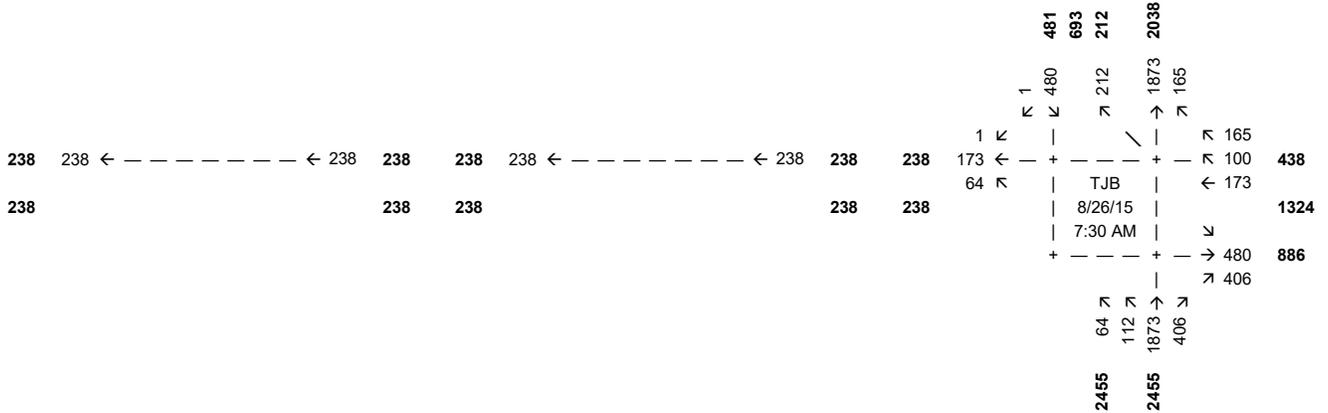
47th Street



47th Street



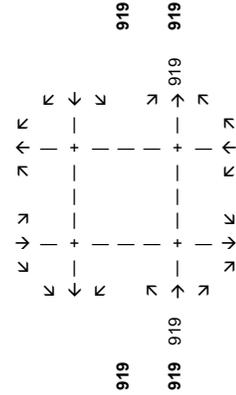
47th St and Roanoke Pkwy/ Madison Ave



# The Madison TIS Kansas City, Missouri

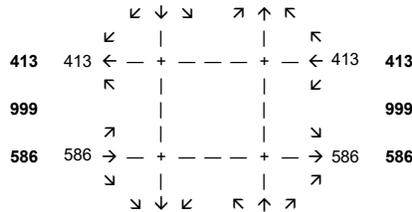
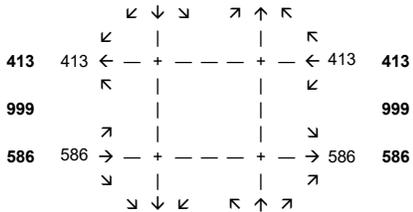
## Existing Conditions P.M. Peak Hour

Madison Avenue and Site Driveway

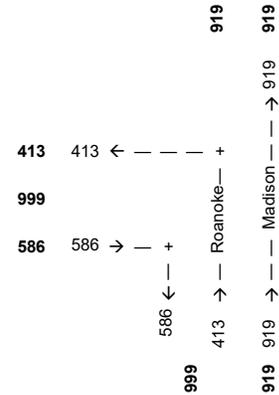


Roanoke Parkway and Site Driveway 1

Roanoke Parkway and Site Driveway 2

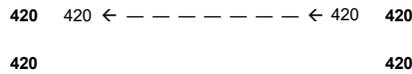
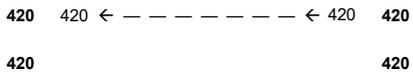


Madison Avenue

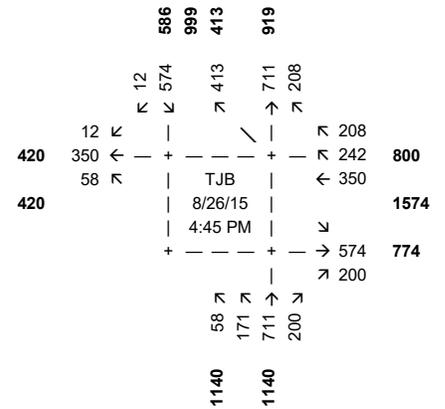


47th Street

47th Street



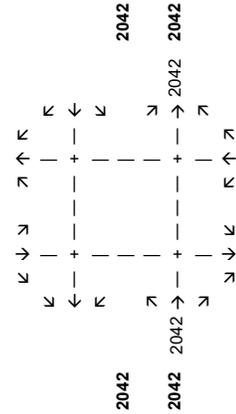
47th St and Roanoke Pkwy/ Madison Ave



# The Madison TIS Kansas City, Missouri

## Existing plus Approved Development Traffic Volumes A.M. Peak Hour

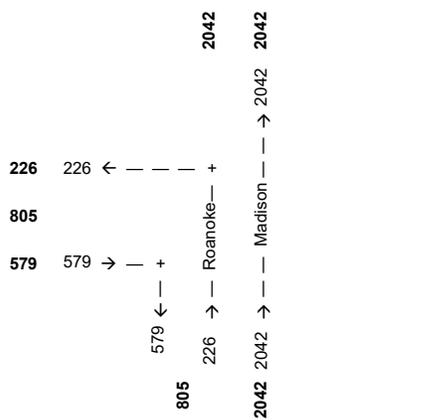
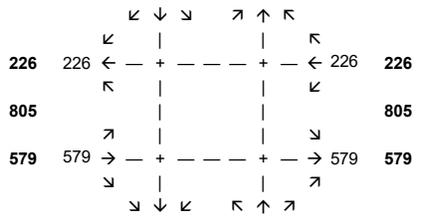
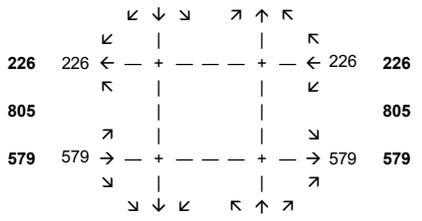
Madison Avenue and Site Driveway



Roanoke Parkway and Site Driveway 1

Roanoke Parkway and Site Driveway 2

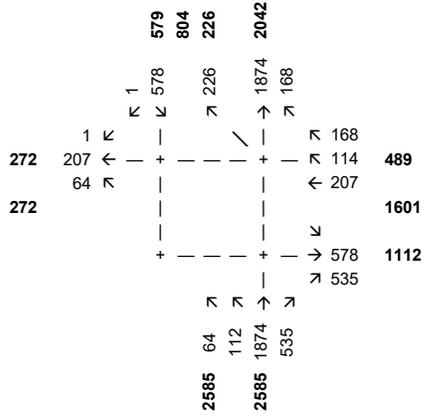
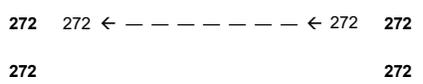
Madison Avenue



47th Street

47th Street

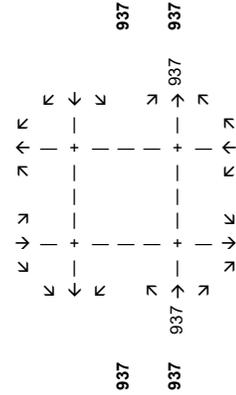
47th St and Roanoke Pkwy/ Madison Ave



# The Madison TIS Kansas City, Missouri

## Existing plus Approved Development Traffic Volumes P.M. Peak Hour

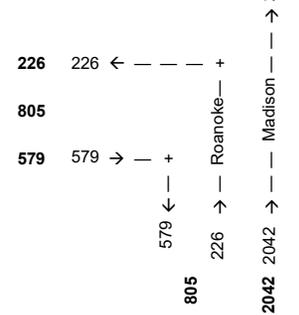
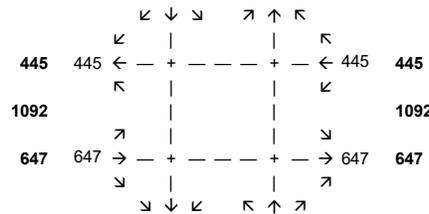
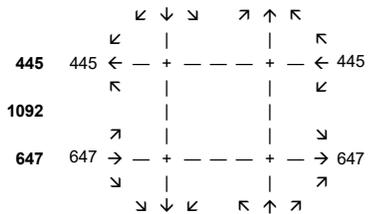
**Madison Avenue and Site Driveway**



**Roanoke Parkway and Site Driveway 1**

**Roanoke Parkway and Site Driveway 2**

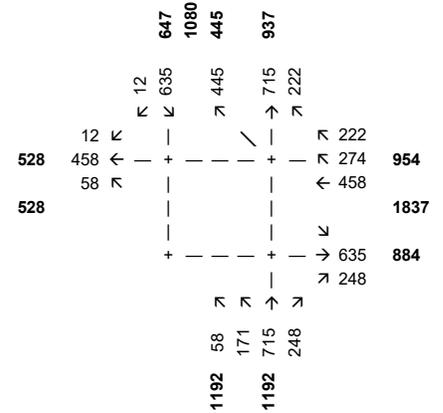
**Madison Avenue**



**47th Street**

**47th Street**

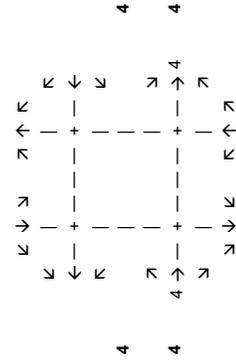
**47th St and Roakoke Pkwy/ Madison Ave**



# The Madison TIS Kansas City, Missouri

## Approved Development Traffic A.M. Peak Hour

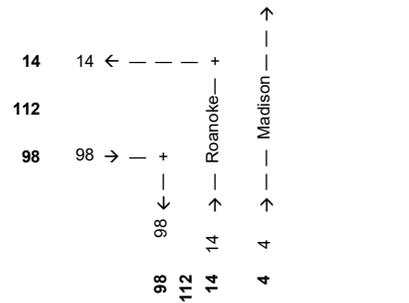
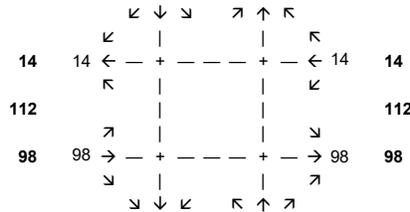
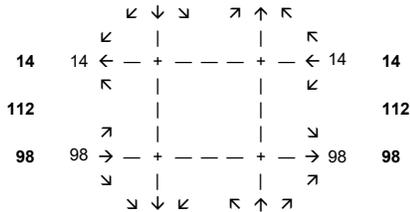
Madison Avenue and Site Driveway



Roanoke Parkway and Site Driveway 1

Roanoke Parkway and Site Driveway 2

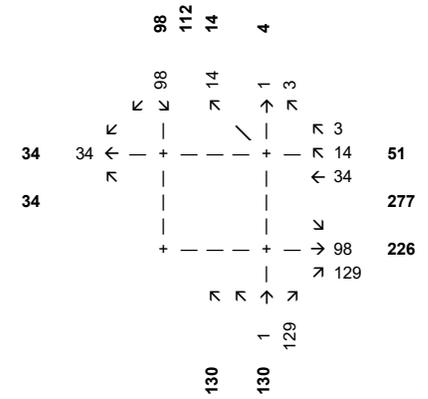
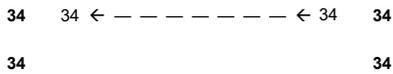
Madison Avenue



47th Street

47th Street

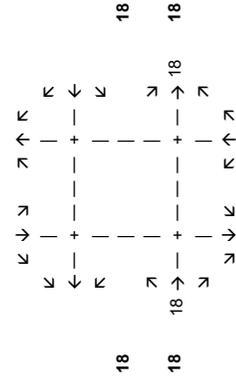
47th St and Roakoke Pkwy/ Madison Ave



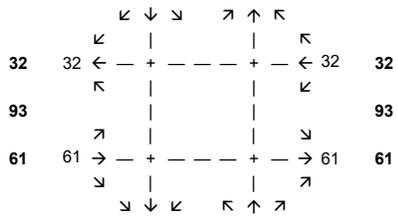
# The Madison TIS Kansas City, Missouri

## Approved Development Traffic P.M. Peak Hour

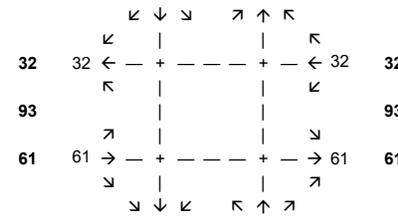
Madison Avenue and Site Driveway



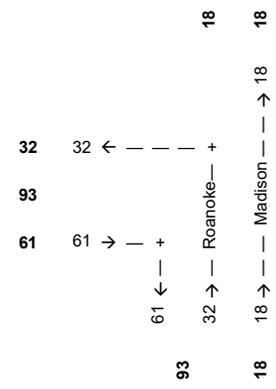
Roanoke Parkway and Site Driveway 1



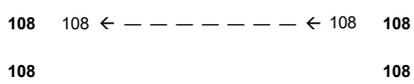
Roanoke Parkway and Site Driveway 2



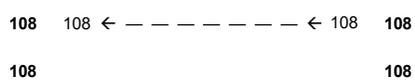
Madison Avenue



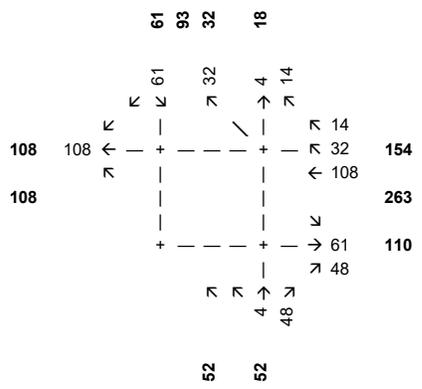
47th Street



47th Street



47th St and Roanoke Pkwy/ Madison Ave



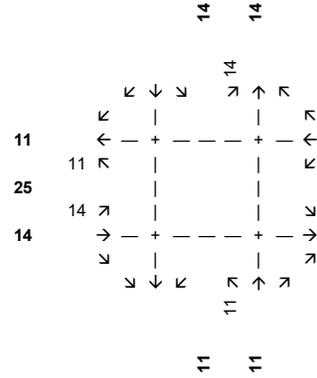




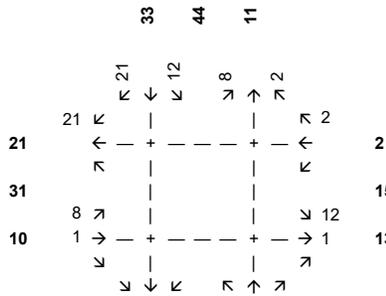
# The Madison TIS Kansas City, Missouri

## Proposed Development Traffic A.M. Peak Hour

Madison Avenue and Site Driveway



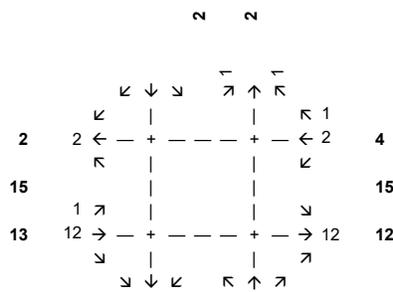
Roanoke Parkway and Site Driveway 1



47th Street



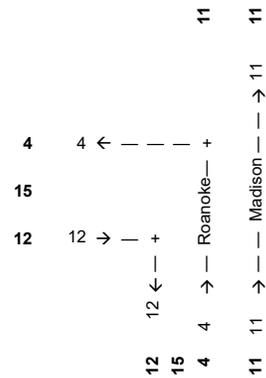
Roanoke Parkway and Site Driveway 2



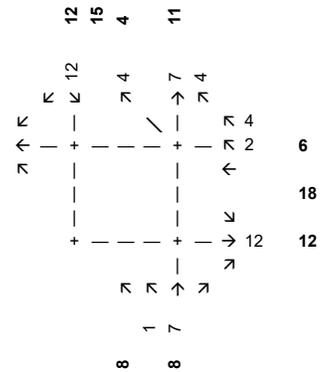
47th Street



Madison Avenue



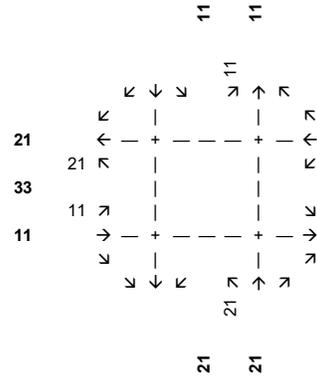
47th St and Roanoke Pkwy/ Madison Ave



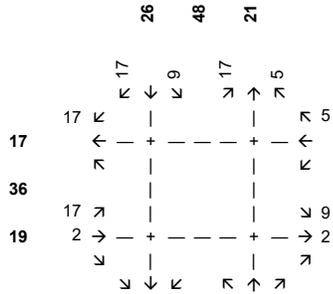
# The Madison TIS Kansas City, Missouri

## Proposed Development Traffic P.M. Peak Hour

Madison Avenue and Site Driveway



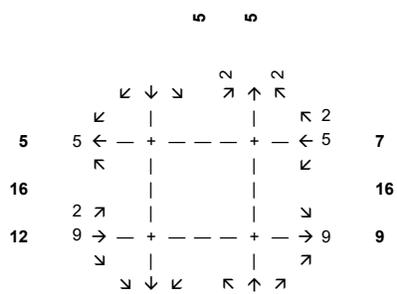
Roanoke Parkway and Site Driveway 1



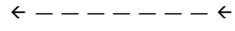
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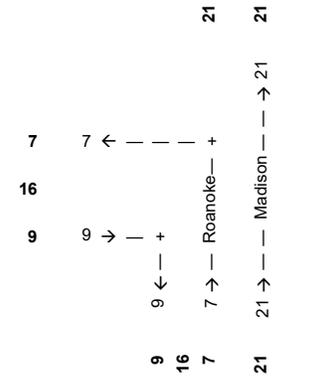
Roanoke Parkway and Site Driveway 2



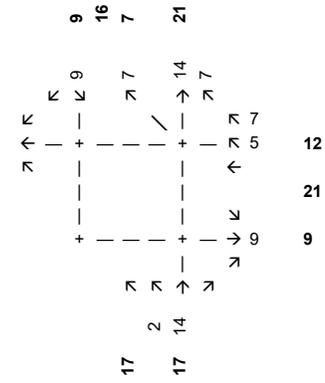
47th Street



Madison Avenue



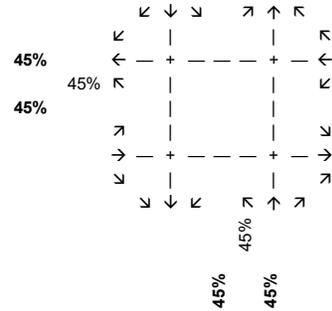
47th St and Roanoke Pkwy/ Madison Ave



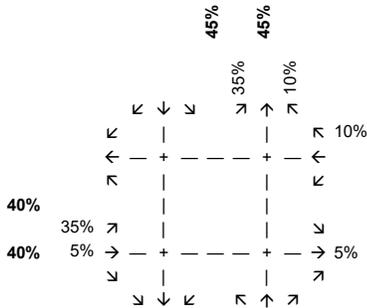
# The Madison TIS Kansas City, Missouri

## Trip Distribution INBOUND

Madison Avenue and Site Driveway



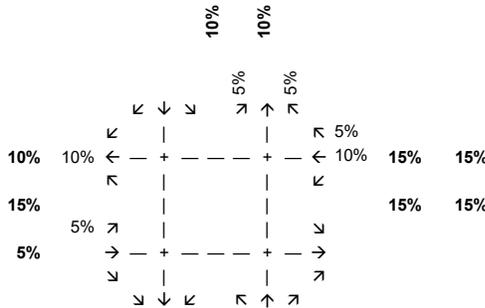
Roanoke Parkway and Site Driveway 1



47th Street



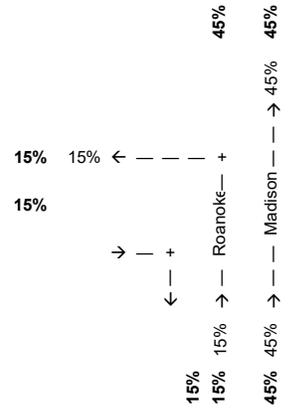
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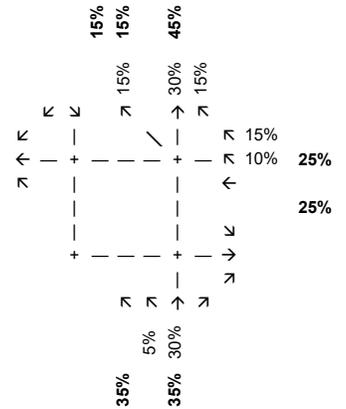
47th Street



Madison Avenue



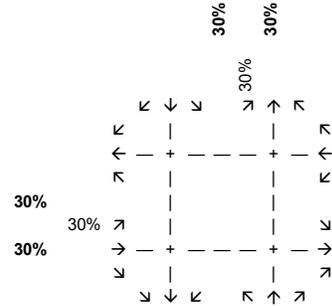
47th St and Roakoke Pkwy / Madison Ave



# The Madison TIS Kansas City, Missouri

## Trip Distribution OUTBOUND

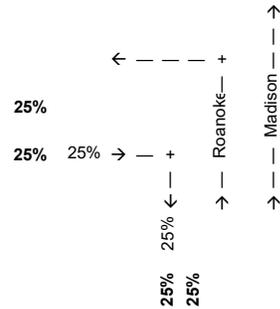
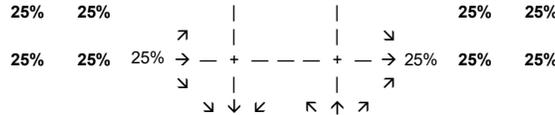
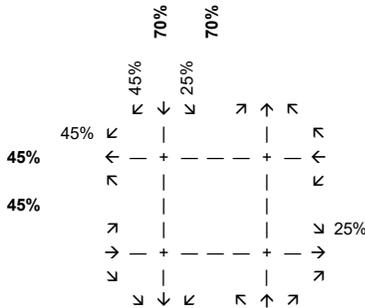
Madison Avenue and Site Driveway



Roanoke Parkway and Site Driveway 1

Roanoke Parkway and Site Driveway 2

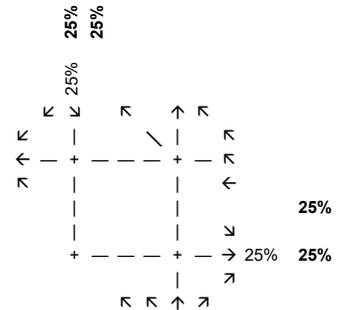
Madison Avenue



47th Street

47th Street

47th St and Roakoke Pkwy / Madison Ave



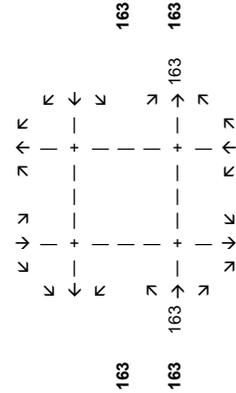




# The Madison TIS Kansas City, Missouri

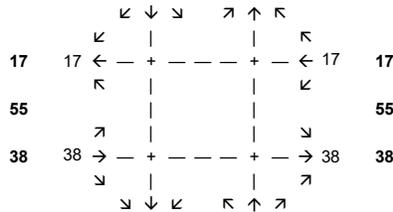
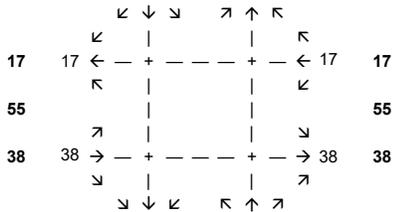
## Background Growth A.M. Peak Hour

Madison Avenue and Site Driveway

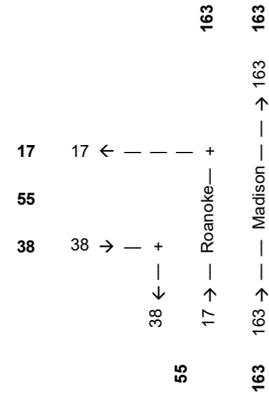


Roanoke Parkway and Site Driveway 1

Roanoke Parkway and Site Driveway 2

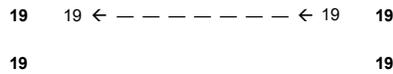


Madison Avenue

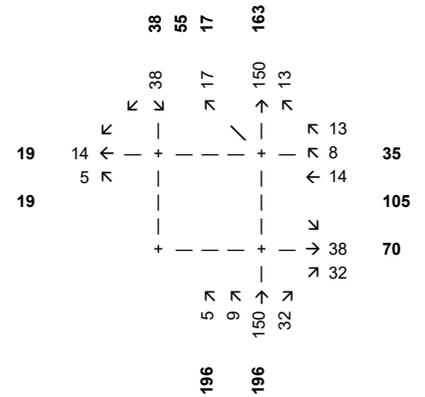


47th Street

47th Street



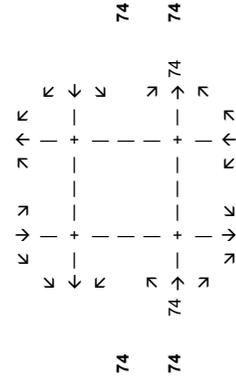
47th St and Roanoke Pkwy/ Madison Ave



# The Madison TIS Kansas City, Missouri

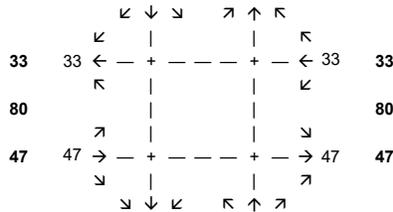
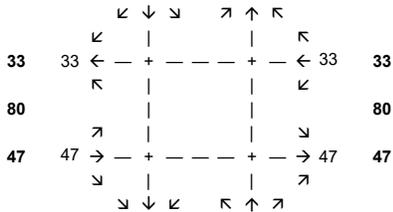
## Background Growth P.M. Peak Hour

Madison Avenue and Site Driveway

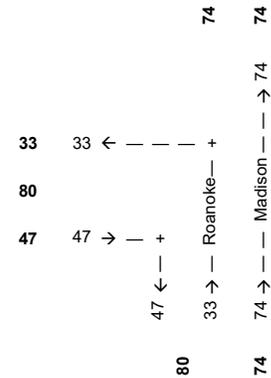


Roanoke Parkway and Site Driveway 1

Roanoke Parkway and Site Driveway 2

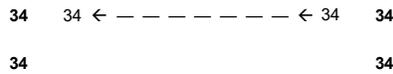
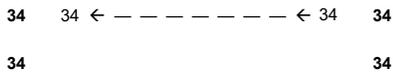


Madison Avenue

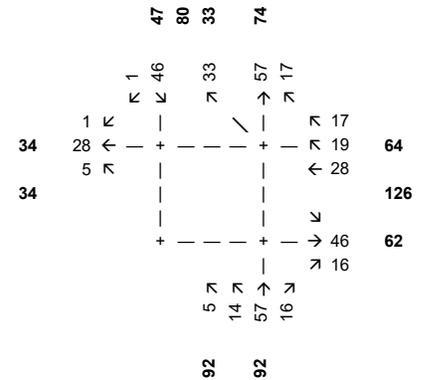


47th Street

47th Street



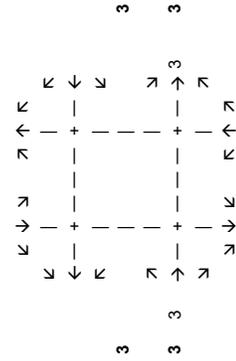
47th St and Roakoke Pkwy/ Madison Ave



# The Madison TIS Kansas City, Missouri

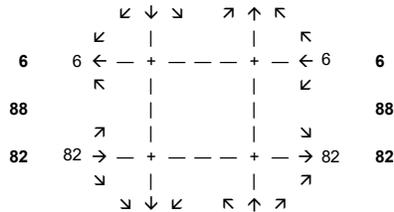
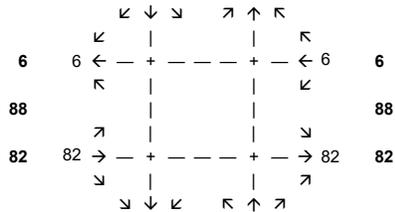
## Approved Development Trips - Victory Court Development A.M. Peak Hour

Madison Avenue and Site Driveway

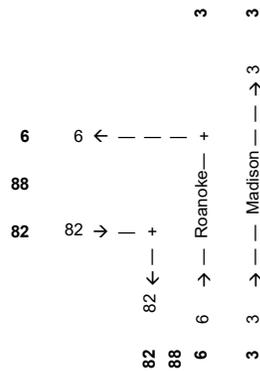


Roanoke Parkway and Site Driveway 1

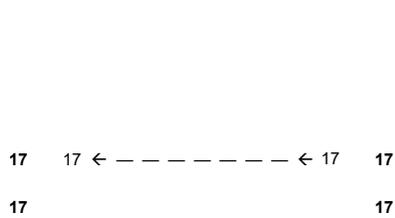
Roanoke Parkway and Site Driveway 2



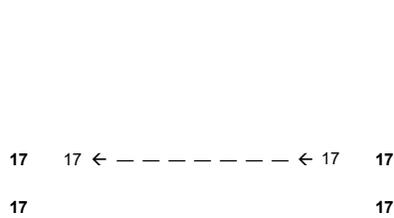
Madison Avenue



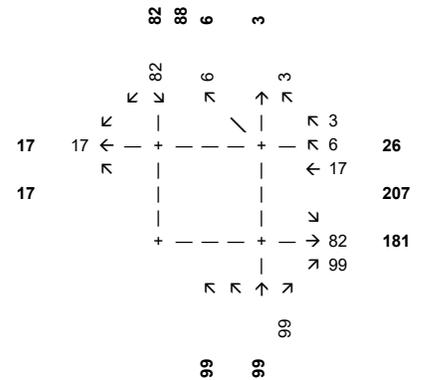
47th Street



47th Street



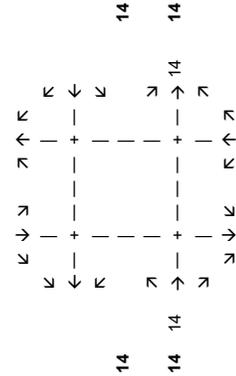
47th St and Roanoke Pkwy/ Madison Ave



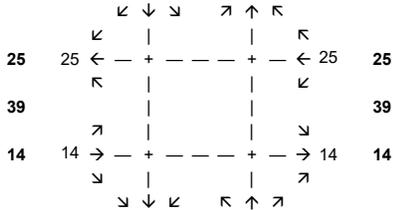
# The Madison TIS Kansas City, Missouri

## Approved Development Trips - Victory Court Development P.M. Peak Hour

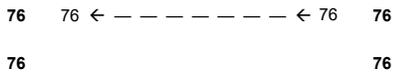
**Madison Avenue and Site Driveway**



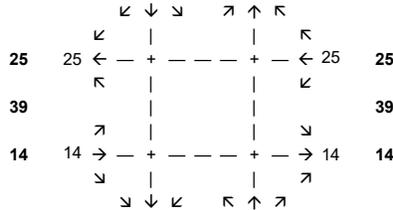
**Roanoke Parkway and Site Driveway 1**



**47th Street**



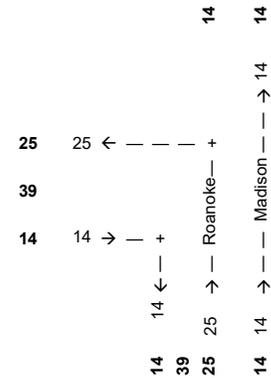
**Roanoke Parkway and Site Driveway 2**



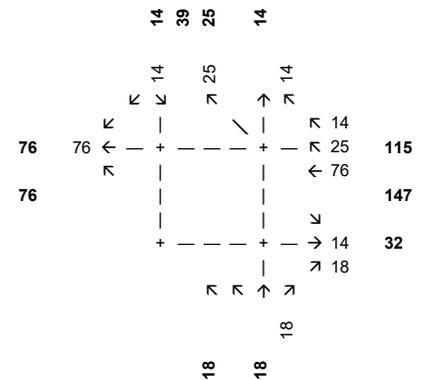
**47th Street**



**Madison Avenue**



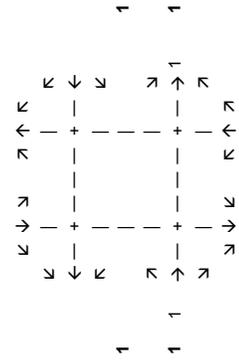
**47th St and Roanoke Pkwy/ Madison Ave**



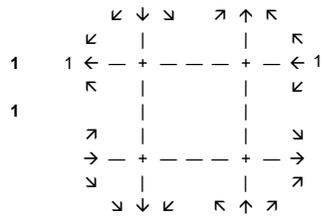
**The Madison TIS  
Kansas City, Missouri**

**Approved Development Trips - 46 Penn Development  
A.M. Peak Hour**

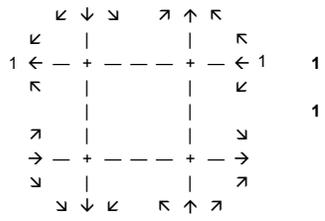
**Madison Avenue and Site Driveway**



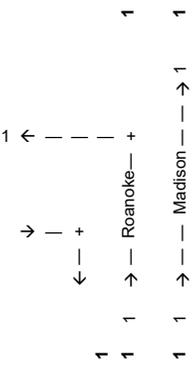
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**Roanoke Parkway and Site Driveway 2**



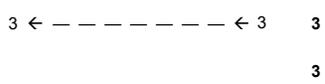
**Madison Avenue**



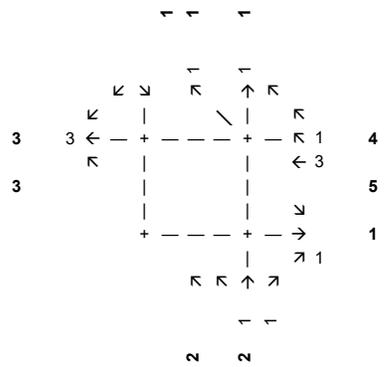
**47th Street**



**47th Street**



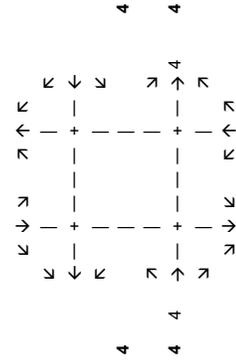
**47th St and Roakoke Pkwy/ Madison Ave**



# The Madison TIS Kansas City, Missouri

## Approved Development Trips - 46 Penn Development P.M. Peak Hour

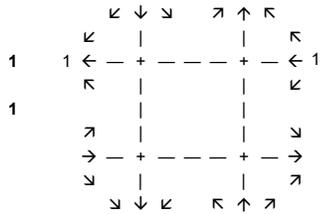
Madison Avenue and Site Driveway



Roanoke Parkway and Site Driveway 1

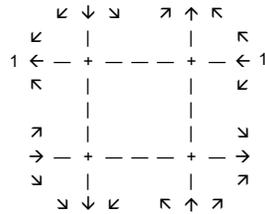
Roanoke Parkway and Site Driveway 2

Madison Avenue



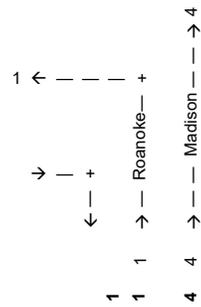
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1

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4  
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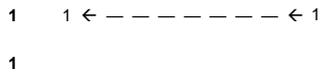
1  
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47th Street

47th Street

47th St and Roakoke Pkwy/ Madison Ave



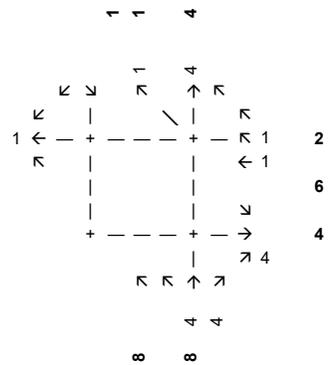
1  
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1  
1



1  
1

1  
1



1  
1

4  
4

8  
8

4  
4

2  
6

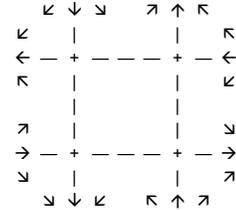
4

4

# The Madison TIS Kansas City, Missouri

## Approved Development Trips - Makenzie House A.M. Peak Hour

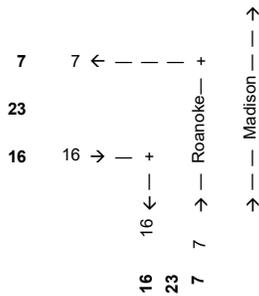
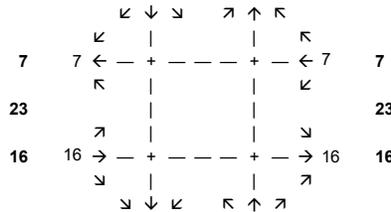
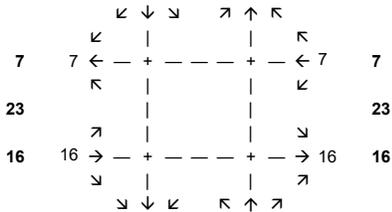
Madison Avenue and Site Driveway



Roanoke Parkway and Site Driveway 1

Roanoke Parkway and Site Driveway 2

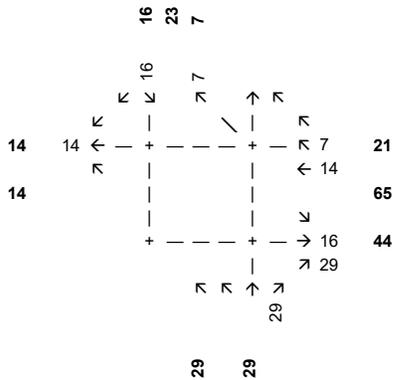
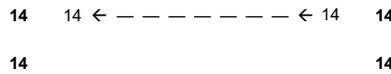
Madison Avenue



47th Street

47th Street

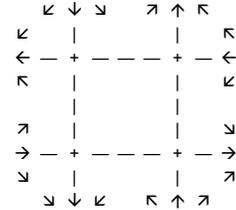
47th St and Roakoke Pkwy/ Madison Ave



# The Madison TIS Kansas City, Missouri

## Approved Development Trips - Makenzie House P.M. Peak Hour

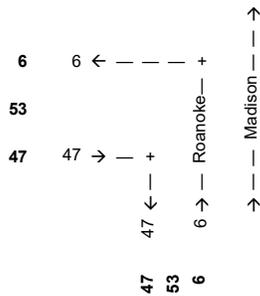
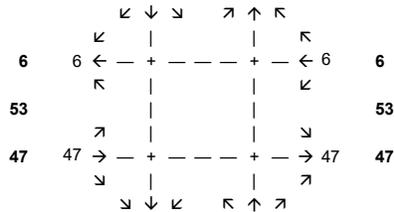
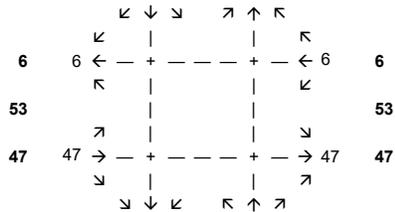
Madison Avenue and Site Driveway



Roanoke Parkway and Site Driveway 1

Roanoke Parkway and Site Driveway 2

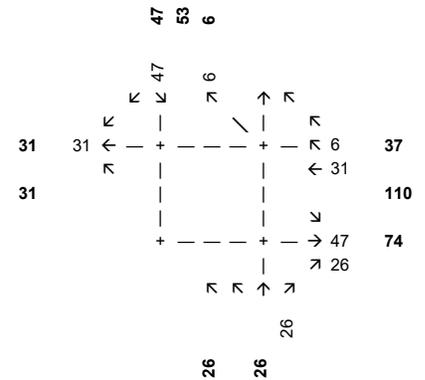
Madison Avenue



47th Street

47th Street

47th St and Roakoke Pkwy/ Madison Ave



## **Appendix C – Capacity Analysis Reports**

See attached Reports.

Queues  
6: Roanoke Parkway & 47th Street & Madison Avenue

AM Peak Hour  
Existing plus Approved plus Development



Lane Group	WBT	WBR	NBT	NBR	SEL
Lane Group Flow (vph)	252	368	2201	588	680
v/c Ratio	0.55	0.57	0.89	0.59	0.89
Control Delay	55.4	21.6	17.3	3.2	48.6
Queue Delay	0.0	0.0	0.0	0.2	0.0
Total Delay	55.4	21.6	17.3	3.4	48.6
Queue Length 50th (ft)	87	116	467	0	186
Queue Length 95th (ft)	116	142	520	0	#285
Internal Link Dist (ft)	248		571		151
Turn Bay Length (ft)				500	
Base Capacity (vph)	541	657	2470	1003	764
Starvation Cap Reductn	0	0	0	54	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	0.56	0.89	0.62	0.89

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 6: Roanoke Parkway & 47th Street & Madison Avenue

AM Peak Hour  
 Existing plus Approved plus Development



Movement	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SEL	SER2
Lane Configurations	↑↑	←				↑↑↑	←	←	
Traffic Volume (vph)	207	116	172	64	113	1881	535	589	1
Future Volume (vph)	207	116	172	64	113	1881	535	589	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7				6.0	6.0	6.8	
Lane Util. Factor	0.95	1.00				0.91	1.00	0.97	
Frbp, ped/bikes	1.00	1.00				1.00	0.98	1.00	
Flpb, ped/bikes	1.00	1.00				1.00	1.00	1.00	
Frt	1.00	0.85				1.00	0.85	1.00	
Flt Protected	1.00	1.00				1.00	1.00	0.95	
Satd. Flow (prot)	3539	1583				5055	1555	3440	
Flt Permitted	1.00	1.00				1.00	1.00	0.95	
Satd. Flow (perm)	3539	1583				5055	1555	3440	
Peak-hour factor, PHF	0.82	0.71	0.84	0.89	0.88	0.94	0.91	0.87	0.38
Adj. Flow (vph)	252	163	205	72	128	2001	588	677	3
RTOR Reduction (vph)	0	20	0	0	0	60	262	85	0
Lane Group Flow (vph)	252	348	0	0	0	2141	326	595	0
Confl. Peds. (#/hr)			15	7	6		5	5	
Turn Type	NA	custom		Perm	Perm	NA	Perm	Prot	
Protected Phases	6	1				8		5	
Permitted Phases				8	8		8		
Actuated Green, G (s)	13.0	39.6				47.7	47.7	19.8	
Effective Green, g (s)	13.0	39.6				47.7	47.7	19.8	
Actuated g/C Ratio	0.13	0.40				0.48	0.48	0.20	
Clearance Time (s)	6.7	6.7				6.0	6.0	6.8	
Vehicle Extension (s)	4.0	4.0				4.0	4.0	4.0	
Lane Grp Cap (vph)	460	626				2411	741	681	
v/s Ratio Prot	0.07	c0.22						c0.17	
v/s Ratio Perm						0.42	0.21		
v/c Ratio	0.55	0.56				0.89	0.44	0.87	
Uniform Delay, d1	40.7	23.4				23.7	17.3	38.9	
Progression Factor	1.26	0.83				0.52	0.29	1.00	
Incremental Delay, d2	1.7	1.3				4.9	1.7	12.3	
Delay (s)	52.9	20.8				17.2	6.7	51.2	
Level of Service	D	C				B	A	D	
Approach Delay (s)	33.9					15.0		51.2	
Approach LOS	C					B		D	
<b>Intersection Summary</b>									
HCM 2000 Control Delay			23.9			HCM 2000 Level of Service			C
HCM 2000 Volume to Capacity ratio			0.86						
Actuated Cycle Length (s)			100.0			Sum of lost time (s)		19.5	
Intersection Capacity Utilization			81.4%			ICU Level of Service			D
Analysis Period (min)			15						
c Critical Lane Group									

Intersection						
Int Delay, s/veh	0					
Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations	↘↗			↖↗	↖↗	↗
Traffic Vol, veh/h	0	0	1	590	228	1
Future Vol, veh/h	0	0	1	590	228	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1	641	248	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	571	124	249	0	0
Stage 1	248	-	-	-	-
Stage 2	323	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-
Pot Cap-1 Maneuver	451	904	1314	-	-
Stage 1	770	-	-	-	-
Stage 2	706	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	451	904	1314	-	-
Mov Cap-2 Maneuver	541	-	-	-	-
Stage 1	769	-	-	-	-
Stage 2	706	-	-	-	-

Approach	SB	SE	NW
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SBLn1
Capacity (veh/h)	-	-	1314	-	-
HCM Lane V/C Ratio	-	-	0.001	-	-
HCM Control Delay (s)	-	-	7.7	0	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations	↑↑	↑		↑↑	↑	
Traffic Vol, veh/h	226	2	8	580	12	21
Future Vol, veh/h	226	2	8	580	12	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	246	2	9	630	13	23

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	248	0	579 123
Stage 1	-	-	-	-	246 -
Stage 2	-	-	-	-	333 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	1315	-	446 905
Stage 1	-	-	-	-	772 -
Stage 2	-	-	-	-	698 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1315	-	441 905
Mov Cap-2 Maneuver	-	-	-	-	441 -
Stage 1	-	-	-	-	772 -
Stage 2	-	-	-	-	690 -

Approach	NB	SB	SW
HCM Control Delay, s	0	0.1	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT	SWLn1
Capacity (veh/h)	-	-	1315	-	655
HCM Lane V/C Ratio	-	-	0.007	-	0.055
HCM Control Delay (s)	-	-	7.8	0	10.8
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	0.2

Queues  
6: Roanoke Parkway & 47th Street & Madison Avenue

PM Peak Hour  
Existing plus Approved plus Development



Lane Group	WBT	WBR	NBT	NBR	SEL
Lane Group Flow (vph)	482	553	1050	288	757
v/c Ratio	0.71	0.66	0.57	0.43	0.79
Control Delay	64.2	11.4	23.3	11.9	36.0
Queue Delay	0.4	0.0	0.0	0.0	0.1
Total Delay	64.6	11.4	23.3	11.9	36.2
Queue Length 50th (ft)	162	87	124	38	199
Queue Length 95th (ft)	226	102	153	75	244
Internal Link Dist (ft)	248		571		163
Turn Bay Length (ft)				100	
Base Capacity (vph)	753	921	1849	675	1076
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	46	0	2	0	24
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.68	0.60	0.57	0.43	0.72
<b>Intersection Summary</b>					

# HCM Signalized Intersection Capacity Analysis

## 6: Roanoke Parkway & 47th Street & Madison Avenue

PM Peak Hour  
Existing plus Approved plus Development



Movement	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SEL	SER2
Lane Configurations	↑↑	←				↑↑↑	←	←	←
Traffic Volume (vph)	458	278	229	58	173	729	248	645	12
Future Volume (vph)	458	278	229	58	173	729	248	645	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7				6.0	6.0	6.8	
Lane Util. Factor	0.95	1.00				0.91	1.00	0.97	
Frbp, ped/bikes	1.00	1.00				1.00	0.98	1.00	
Flpb, ped/bikes	1.00	1.00				0.99	1.00	1.00	
Frt	1.00	0.85				1.00	0.85	1.00	
Flt Protected	1.00	1.00				0.99	1.00	0.95	
Satd. Flow (prot)	3539	1583				4988	1549	3431	
Flt Permitted	1.00	1.00				0.99	1.00	0.95	
Satd. Flow (perm)	3539	1583				4988	1549	3431	
Peak-hour factor, PHF	0.95	0.93	0.90	0.66	0.93	0.94	0.86	0.87	0.75
Adj. Flow (vph)	482	299	254	88	186	776	288	741	16
RTOR Reduction (vph)	0	16	0	0	0	74	124	79	0
Lane Group Flow (vph)	482	537	0	0	0	976	164	678	0
Confl. Peds. (#/hr)			10	20			8	8	10
Turn Type	NA	custom		Perm	Perm	NA	Perm	Prot	
Protected Phases	6	1				8		5	
Permitted Phases				8	8		8		
Actuated Green, G (s)	19.3	51.7				35.6	35.6	25.6	
Effective Green, g (s)	19.3	51.7				35.6	35.6	25.6	
Actuated g/C Ratio	0.19	0.52				0.36	0.36	0.26	
Clearance Time (s)	6.7	6.7				6.0	6.0	6.8	
Vehicle Extension (s)	4.0	4.0				4.0	4.0	4.0	
Lane Grp Cap (vph)	683	818				1775	551	878	
v/s Ratio Prot	0.14	c0.34						c0.20	
v/s Ratio Perm						0.20	0.11		
v/c Ratio	0.71	0.66				0.55	0.30	0.77	
Uniform Delay, d1	37.7	17.7				25.8	23.2	34.5	
Progression Factor	1.57	0.49				0.92	1.05	1.00	
Incremental Delay, d2	3.0	1.8				1.1	1.3	4.5	
Delay (s)	62.3	10.4				24.8	25.6	39.0	
Level of Service	E	B				C	C	D	
Approach Delay (s)	34.6					25.0		39.0	
Approach LOS	C					C		D	
<b>Intersection Summary</b>									
HCM 2000 Control Delay			31.5			HCM 2000 Level of Service			C
HCM 2000 Volume to Capacity ratio			0.68						
Actuated Cycle Length (s)			100.0			Sum of lost time (s)		19.5	
Intersection Capacity Utilization			68.7%			ICU Level of Service			C
Analysis Period (min)			15						
c Critical Lane Group									

Intersection						
Int Delay, s/veh	0					
Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations	Y			↑↑	↑↑	↑
Traffic Vol, veh/h	0	0	2	657	449	2
Future Vol, veh/h	0	0	2	657	449	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	2	730	499	2

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	868	250	501	0	-	0
Stage 1	499	-	-	-	-	-
Stage 2	369	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	292	750	1059	-	-	-
Stage 1	575	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	291	750	1059	-	-	-
Mov Cap-2 Maneuver	291	-	-	-	-	-
Stage 1	573	-	-	-	-	-
Stage 2	670	-	-	-	-	-

Approach	SB	SE	NW
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SBLn1
Capacity (veh/h)	-	-	1059	-	-
HCM Lane V/C Ratio	-	-	0.002	-	-
HCM Control Delay (s)	-	-	8.4	0	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations	Y			↑↑	↑↑	↑
Traffic Vol, veh/h	9	17	17	650	445	5
Future Vol, veh/h	9	17	17	650	445	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	18	18	707	484	5

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	874	242	489	0	-	0
Stage 1	484	-	-	-	-	-
Stage 2	390	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	289	759	1070	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	281	759	1070	-	-	-
Mov Cap-2 Maneuver	281	-	-	-	-	-
Stage 1	569	-	-	-	-	-
Stage 2	653	-	-	-	-	-

Approach	SB	SE	NW
HCM Control Delay, s	13	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SBLn1
Capacity (veh/h)	-	-	1070	-	478
HCM Lane V/C Ratio	-	-	0.017	-	0.059
HCM Control Delay (s)	-	-	8.4	0.1	13
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	0.2

Queues  
 6: Roanoke Parkway & 47th Street & Madison Avenue

AM Peak Hour  
 Future + Dev



Lane Group	WBT	WBR	NBT	NBR	SEL
Lane Group Flow (vph)	270	395	2378	623	724
v/c Ratio	0.64	0.62	0.92	0.63	0.90
Control Delay	57.8	32.0	33.6	10.2	55.0
Queue Delay	0.0	0.0	12.9	0.2	0.0
Total Delay	57.8	32.0	46.5	10.5	55.0
Queue Length 50th (ft)	105	222	600	109	250
Queue Length 95th (ft)	137	233	#684	234	#327
Internal Link Dist (ft)	248		571		151
Turn Bay Length (ft)				500	
Base Capacity (vph)	451	653	2591	984	826
Starvation Cap Reductn	0	0	255	58	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.60	1.02	0.67	0.88

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 6: Roanoke Parkway & 47th Street & Madison Avenue

AM Peak Hour  
Future + Dev



Movement	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SEL	SER2
Lane Configurations	↑↑	↔				↔↑↑	↔	↔↔	
Traffic Volume (vph)	221	124	185	69	122	2031	567	627	1
Future Volume (vph)	221	124	185	69	122	2031	567	627	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7				6.0	6.0	6.8	
Lane Util. Factor	0.95	1.00				0.91	1.00	0.97	
Frbp, ped/bikes	1.00	1.00				1.00	0.98	1.00	
Flpb, ped/bikes	1.00	1.00				1.00	1.00	1.00	
Frt	1.00	0.85				1.00	0.85	1.00	
Flt Protected	1.00	1.00				1.00	1.00	0.95	
Satd. Flow (prot)	3539	1583				5054	1553	3440	
Flt Permitted	1.00	1.00				1.00	1.00	0.95	
Satd. Flow (perm)	3539	1583				5054	1553	3440	
Peak-hour factor, PHF	0.82	0.71	0.84	0.89	0.88	0.94	0.91	0.87	0.38
Adj. Flow (vph)	270	175	220	78	139	2161	623	721	3
RTOR Reduction (vph)	0	16	0	0	0	47	202	69	0
Lane Group Flow (vph)	270	379	0	0	0	2331	421	655	0
Confl. Peds. (#/hr)			15	7	6		5	5	
Turn Type	NA	custom		Perm	Perm	NA	Perm	Prot	
Protected Phases	6	1				8		5	
Permitted Phases				8	8		8		
Actuated Green, G (s)	14.2	46.8				60.5	60.5	25.8	
Effective Green, g (s)	14.2	46.8				60.5	60.5	25.8	
Actuated g/C Ratio	0.12	0.39				0.50	0.50	0.22	
Clearance Time (s)	6.7	6.7				6.0	6.0	6.8	
Vehicle Extension (s)	4.0	4.0				4.0	4.0	4.0	
Lane Grp Cap (vph)	418	617				2548	782	739	
v/s Ratio Prot	0.08	c0.24						c0.19	
v/s Ratio Perm						0.46	0.27		
v/c Ratio	0.65	0.61				0.91	0.54	0.89	
Uniform Delay, d1	50.5	29.3				27.4	20.2	45.7	
Progression Factor	1.00	1.00				1.00	1.00	1.00	
Incremental Delay, d2	3.8	2.1				6.5	2.6	12.7	
Delay (s)	54.3	31.4				33.9	22.9	58.3	
Level of Service	D	C				C	C	E	
Approach Delay (s)	40.7					31.6		58.3	
Approach LOS	D					C		E	
<b>Intersection Summary</b>									
HCM 2000 Control Delay			37.4			HCM 2000 Level of Service			D
HCM 2000 Volume to Capacity ratio			0.89						
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			19.5
Intersection Capacity Utilization			85.9%			ICU Level of Service			E
Analysis Period (min)			15						
c Critical Lane Group									

Intersection						
Int Delay, s/veh	0					
Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations	TT			TT	TT	T
Traffic Vol, veh/h	0	0	1	628	245	1
Future Vol, veh/h	0	0	1	628	245	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1	683	266	1

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	610	133	267	0	-	0
Stage 1	266	-	-	-	-	-
Stage 2	344	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	426	892	1294	-	-	-
Stage 1	754	-	-	-	-	-
Stage 2	689	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	426	892	1294	-	-	-
Mov Cap-2 Maneuver	522	-	-	-	-	-
Stage 1	753	-	-	-	-	-
Stage 2	689	-	-	-	-	-

Approach	SB	SE	NW
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SBLn1
Capacity (veh/h)	-	-	1294	-	-
HCM Lane V/C Ratio	-	-	0.001	-	-
HCM Control Delay (s)	-	-	7.8	0	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations	↑↑	↑		↑↑	↑	
Traffic Vol, veh/h	243	2	8	618	12	21
Future Vol, veh/h	243	2	8	618	12	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	264	2	9	672	13	23

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	266	0	618 132
Stage 1	-	-	-	-	264 -
Stage 2	-	-	-	-	354 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	1295	-	421 893
Stage 1	-	-	-	-	756 -
Stage 2	-	-	-	-	681 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1295	-	416 893
Mov Cap-2 Maneuver	-	-	-	-	416 -
Stage 1	-	-	-	-	756 -
Stage 2	-	-	-	-	674 -

Approach	NB	SB	SW
HCM Control Delay, s	0	0.1	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT	SWLn1
Capacity (veh/h)	-	-	1295	-	630
HCM Lane V/C Ratio	-	-	0.007	-	0.057
HCM Control Delay (s)	-	-	7.8	0	11.1
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	0.2

Queues  
6: Roanoke Parkway & 47th Street & Madison Avenue

PM Peak Hour  
Future plus Development



Lane Group	WBT	WBR	NBT	NBR	SEL
Lane Group Flow (vph)	512	592	1132	307	811
v/c Ratio	0.72	0.68	0.65	0.48	0.80
Control Delay	64.0	11.7	27.4	15.3	35.9
Queue Delay	0.4	0.0	0.0	0.0	0.2
Total Delay	64.4	11.7	27.4	15.3	36.1
Queue Length 50th (ft)	176	92	147	48	213
Queue Length 95th (ft)	237	112	196	96	263
Internal Link Dist (ft)	248		571		163
Turn Bay Length (ft)				100	
Base Capacity (vph)	775	945	1738	640	1109
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	46	0	2	0	29
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.70	0.63	0.65	0.48	0.75

Intersection Summary

HCM Signalized Intersection Capacity Analysis  
6: Roanoke Parkway & 47th Street & Madison Avenue

PM Peak Hour  
Future plus Development



Movement	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SEL	SER2
Lane Configurations	↑↑	↔				↑↑↑	↔	↔	
Traffic Volume (vph)	486	297	246	63	187	786	264	691	13
Future Volume (vph)	486	297	246	63	187	786	264	691	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7				6.0	6.0	6.8	
Lane Util. Factor	0.95	1.00				0.91	1.00	0.97	
Frpb, ped/bikes	1.00	1.00				1.00	0.98	1.00	
Flpb, ped/bikes	1.00	1.00				0.99	1.00	1.00	
Frt	1.00	0.85				1.00	0.85	1.00	
Flt Protected	1.00	1.00				0.99	1.00	0.95	
Satd. Flow (prot)	3539	1583				4988	1549	3431	
Flt Permitted	1.00	1.00				0.99	1.00	0.95	
Satd. Flow (perm)	3539	1583				4988	1549	3431	
Peak-hour factor, PHF	0.95	0.93	0.90	0.66	0.93	0.94	0.86	0.87	0.75
Adj. Flow (vph)	512	319	273	95	201	836	307	794	17
RTOR Reduction (vph)	0	15	0	0	0	77	124	77	0
Lane Group Flow (vph)	512	577	0	0	0	1055	183	734	0
Confl. Peds. (#/hr)			10	20			8	8	10
Turn Type	NA	custom		Perm	Perm	NA	Perm	Prot	
Protected Phases	6	1				8		5	
Permitted Phases				8	8		8		
Actuated Green, G (s)	20.0	54.0				33.3	33.3	27.2	
Effective Green, g (s)	20.0	54.0				33.3	33.3	27.2	
Actuated g/C Ratio	0.20	0.54				0.33	0.33	0.27	
Clearance Time (s)	6.7	6.7				6.0	6.0	6.8	
Vehicle Extension (s)	4.0	4.0				4.0	4.0	4.0	
Lane Grp Cap (vph)	707	854				1661	515	933	
v/s Ratio Prot	0.14	c0.36						c0.21	
v/s Ratio Perm						0.21	0.12		
v/c Ratio	0.72	0.68				0.64	0.36	0.79	
Uniform Delay, d1	37.4	16.7				28.2	25.2	33.7	
Progression Factor	1.57	0.52				0.97	1.12	1.00	
Incremental Delay, d2	3.4	2.0				1.7	1.8	4.7	
Delay (s)	62.2	10.7				29.0	29.9	38.4	
Level of Service	E	B				C	C	D	
Approach Delay (s)	34.6					29.2		38.4	
Approach LOS	C					C		D	
<b>Intersection Summary</b>									
HCM 2000 Control Delay			33.2			HCM 2000 Level of Service			C
HCM 2000 Volume to Capacity ratio			0.73						
Actuated Cycle Length (s)			100.0			Sum of lost time (s)		19.5	
Intersection Capacity Utilization			72.3%			ICU Level of Service			C
Analysis Period (min)			15						
c	Critical Lane Group								

Intersection						
Int Delay, s/veh	0					
Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations						
Traffic Vol, veh/h	0	0	2	704	482	2
Future Vol, veh/h	0	0	2	704	482	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	2	782	536	2

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	931	268	538	0	-	0
Stage 1	536	-	-	-	-	-
Stage 2	395	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	266	730	1026	-	-	-
Stage 1	551	-	-	-	-	-
Stage 2	650	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	265	730	1026	-	-	-
Mov Cap-2 Maneuver	265	-	-	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	650	-	-	-	-	-

Approach	SB	SE	NW
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SBLn1
Capacity (veh/h)	-	-	1026	-	-
HCM Lane V/C Ratio	-	-	0.002	-	-
HCM Control Delay (s)	-	-	8.5	0	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations	Y			↑↑	↑↑	↑
Traffic Vol, veh/h	9	17	17	697	478	5
Future Vol, veh/h	9	17	17	697	478	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	18	18	758	520	5

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	935	260	525	0	-	0
Stage 1	520	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	264	739	1038	-	-	-
Stage 1	561	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	256	739	1038	-	-	-
Mov Cap-2 Maneuver	256	-	-	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	635	-	-	-	-	-

Approach	SB	SE	NW
HCM Control Delay, s	13.6	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SBLn1
Capacity (veh/h)	-	-	1038	-	447
HCM Lane V/C Ratio	-	-	0.018	-	0.063
HCM Control Delay (s)	-	-	8.5	0.1	13.6
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	0.2



## Meeting Sign-In Sheet

### Project Name and Address

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Name	Address	Phone	Email
Roxsen Koch	900 W. 48th Place, Suite 900 Kansas City, MO 64112	816-572-4669	rkoch@polsinelli.com
Ryan McNellis	900 W. 48th Place, Suite 900 Kansas City, MO 64112	816-360-4137	rmcnellis@polsinelli.com
Ashley McAlmond	900 W. 48th Place, Suite 900 Kansas City, MO 64112	816-360-4131	amcalmond@polsinelli.com
Justin Thompson	4622 Pennsylvania Ave, Suite 700 Kansas City, MO 64112	816-878-6318	jthompson@blockllc.com
Aaron Mesmer	4622 Pennsylvania Ave, Suite 700 Kansas City, MO 64112	816-412-5858	amesmer@blockllc.com
Julie Jennings	4520 Bell, Kansas City, MO 64111	816-215-1388	julie@jtllc.net
Joe Montanari	4010 Belleview, Kansas City, MO 64111	816-531-0750	montanarijewelers@swbell.net
Stephanie Murrell			attended via zoom
Julia Thompson			attended via zoom
Annette Card-Storts			attended via zoom
		816-521-8886	attended via zoom

MESPA

attended via zoom

iPhone user

attended via zoom



CITY OF  
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# CITY PLANNING & DEVELOPMENT

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## Public Meeting Summary Form

Project Case #

Meeting Date:

Meeting Location:

Meeting Time (include start and end time):

Additional Comments (optional):



**EXHIBIT A**

**Public Meeting Summary**

**Date:** December 15, 2021

**Start:** 6:00 PM

**End:** 6:40 PM

**Location:** Virtually, via Zoom.

**Summary of Points Raised**

- Ms. Julie Jennings, Mr. Joe Montanari, and Ms. Julia Thompson asked if Applicant was going to need a deviation from the Plaza Plan in order to receive approval for the Development Plan. Applicant responded that no deviation from the Plaza Plan would be required for the Development Plan.