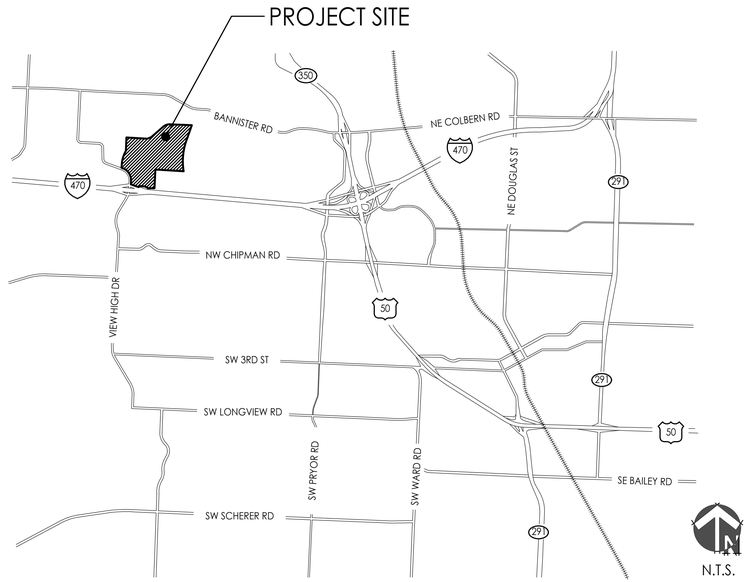
PARAGON STAR VILLAGE

3200 NW Paragon Parkway, Lee's Summit, MO

January 28, 2022

North Village Package - Final Development Plans

SHEET INDEX



PLANS PREPARED BY

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PROJECT:

Paragon Star North Village
3200 NW Paragon Parkway, Lee's Summit, MO 64081
Final Development Plan

ISSUE:

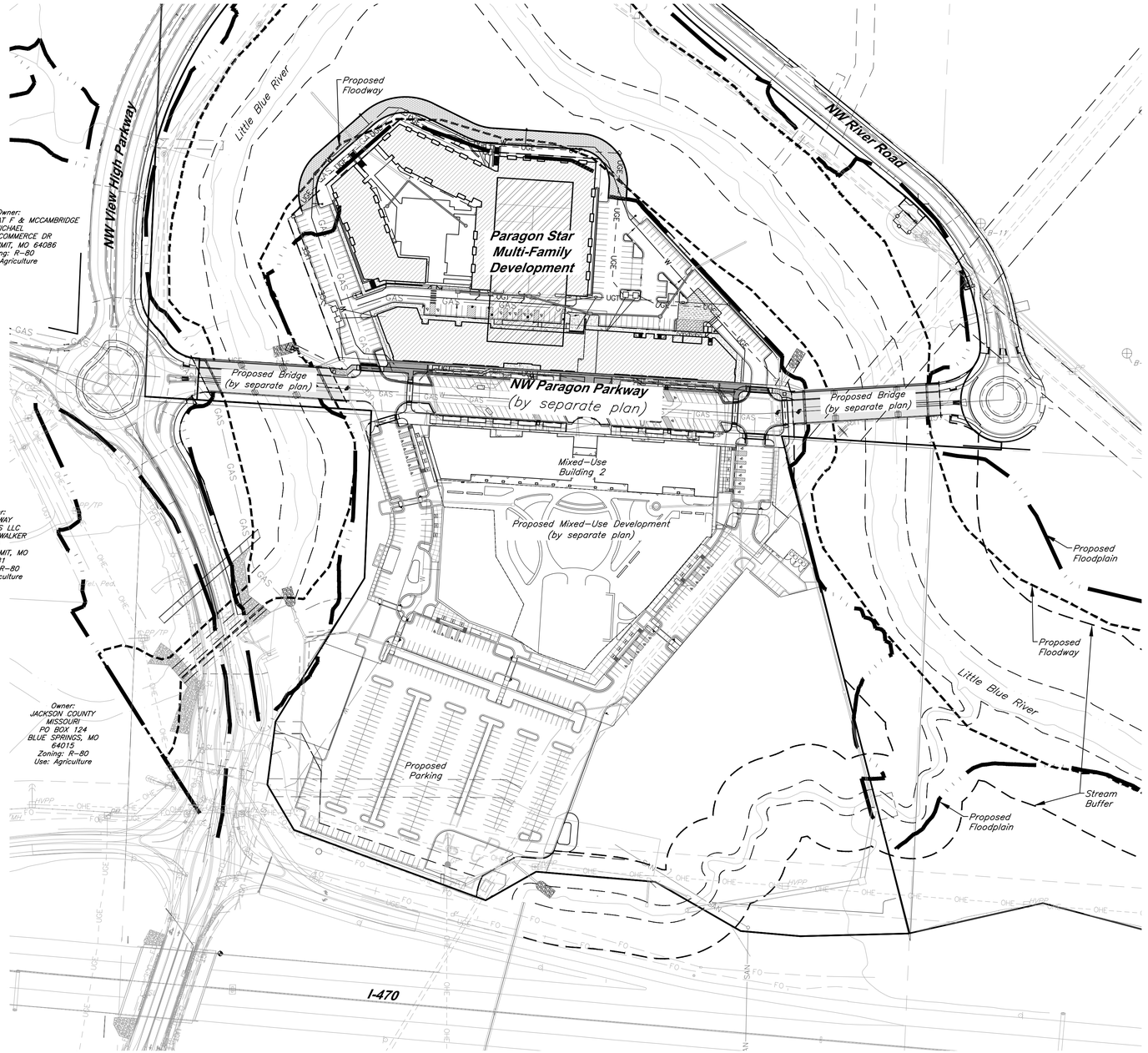
PROFESSIONAL SEAL:

DRAWING TITLE:

FDP
COVERSHEET

JOB NO: 1249 SCALE:
DATE: 01.28.2022 DRAWN BY: MRK

SHEET NO:



PROJECT BENCHMARK

BM #11 – Chiseled "L" on top Northeast corner of concrete guardrail at the Northeast corner of 1470 bridge spanning View High Drive. Coordinates: N=1008590.33', E=2803864.07', EL=833.80

BM #13 – Chiseled "L" on NE corner of Interstate 470 and Cedar Creek Bridge Coordinates:N=1008342.79', E=2806758.22', EL=852.04'

Prepared and Submitted By:

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Phone: 913-492-0400 Fax: 913-577-8312
Contact: Jay Healy, P.E.
Email: jhealy@gbateam.com

Floodplain:

According to FEMA Flood Insurance Rate Map (FIRM) Community Panel No. 29095C0404G, effective Date 1/20/17, the tract lies partially within an area designated as Special Flood Hazard Areas. Special Flood Hazard Areas defined on portions of the site include regulatory floodway, Zone AE (with depths identified on site from 810 to 811), and 0.2% Annual Chance Flood Hazard Areas.

A CLOMR has been issued for this project, case number 20-07-0520R, dated 2/14/20. Proposed Floodplain/ Floodway refers to boundary set by this CLOMR.

Zoning:

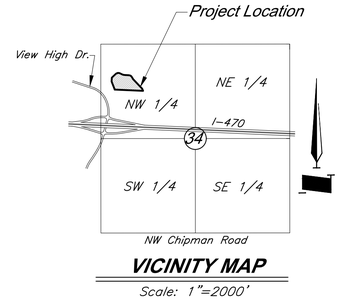
PMIX – Planned Mixed Use

Parking:

Total Parking Spaces =661
Regular Spaces = 648
ADA Spaces = 13

Notes:

1. No oil or gas wells are located on site per Missouri Department of Natural Resources.

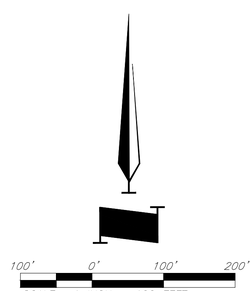


VICINITY MAP

Scale: 1"=2000'

Legend

- Power Pole
- Guy Anchor
- Electric Meter
- Electrical Transformer
- Electric Pedestal
- Power Pole/Telephone Pole
- Power Pole/Light Pole
- Gas Meter
- Gas Valve
- Curb Inlet
- Junction Box
- Sanitary Sewer Manhole
- Light Pole
- Boring Hole
- Sign
- Property Corner
- Telephone Manhole
- Telephone Pedestal
- Telephone Pole
- Proposed Building
- Barbed Wire Fence
- Centerline
- Fiber Optic Line
- Gas Line
- Guard Rail
- Over Head Electric
- Over Head Telephone
- Property Line
- Right-of-Way Line
- Sanitary Sewer Line
- Stream
- Underground Electric
- Underground Telephone
- Underground Cable TV
- Water Line
- Proposed Grades
- Proposed Storm Sewers
- Existing Grades
- Existing Storm Sewers
- Tree Deciduous
- Fire Hydrant
- Water Meter
- Proposed Floodway
- Proposed Floodplain
- Stream Corridor



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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

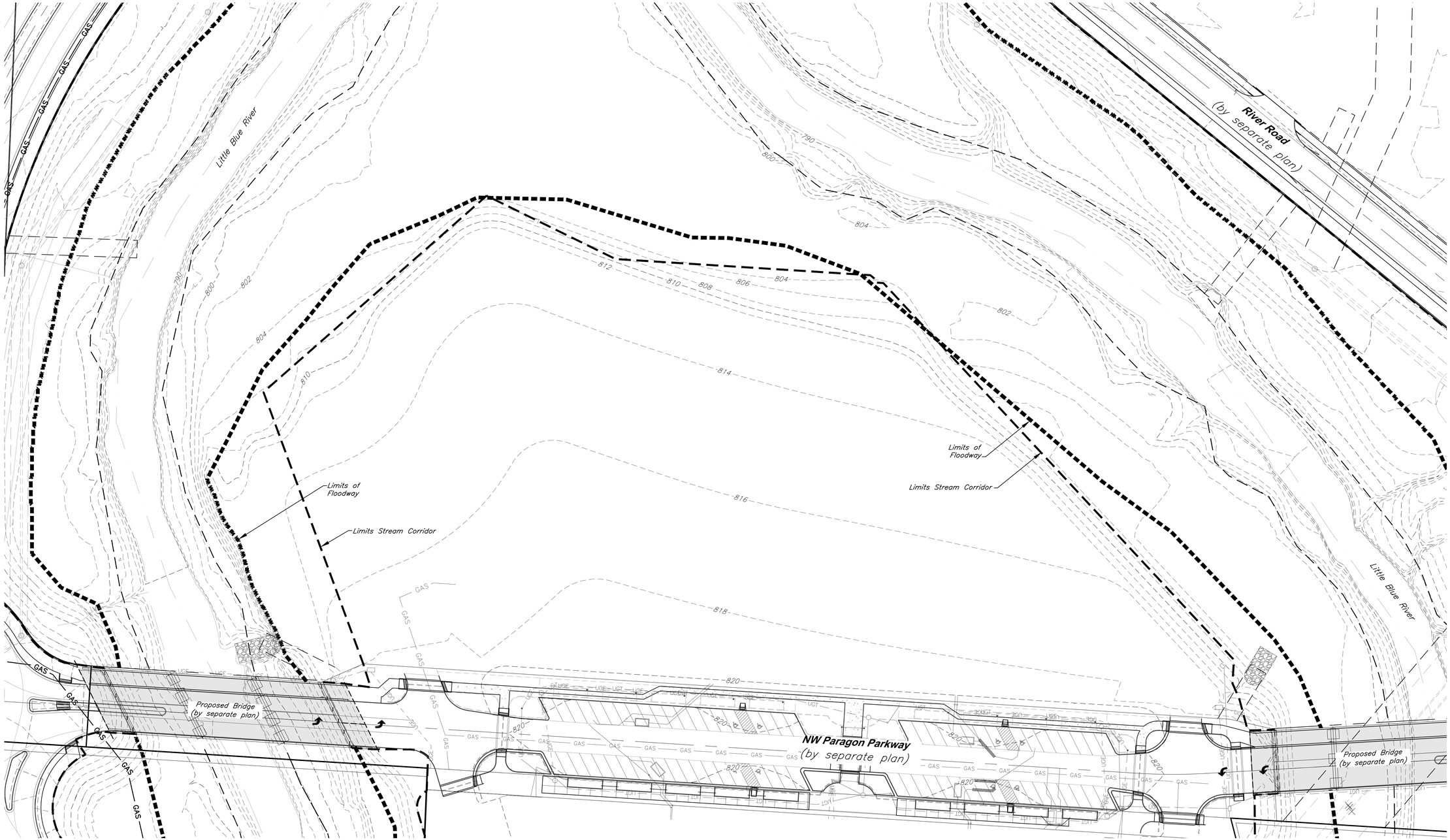
General Site Plan

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C001



CAUTION!

Numerous Utilities on site. Contractor to verify location and elevation of all utilities prior to commencing construction.

LEGEND

- 900 — Existing Contour
- Existing Flood Zone AE
- Existing Flood Zone X
- Stream Corridor
- Proposed Floodplain
- Proposed Floodway

40' 0' 40' 80'

SCALE : 1 INCH = 40 FEET

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

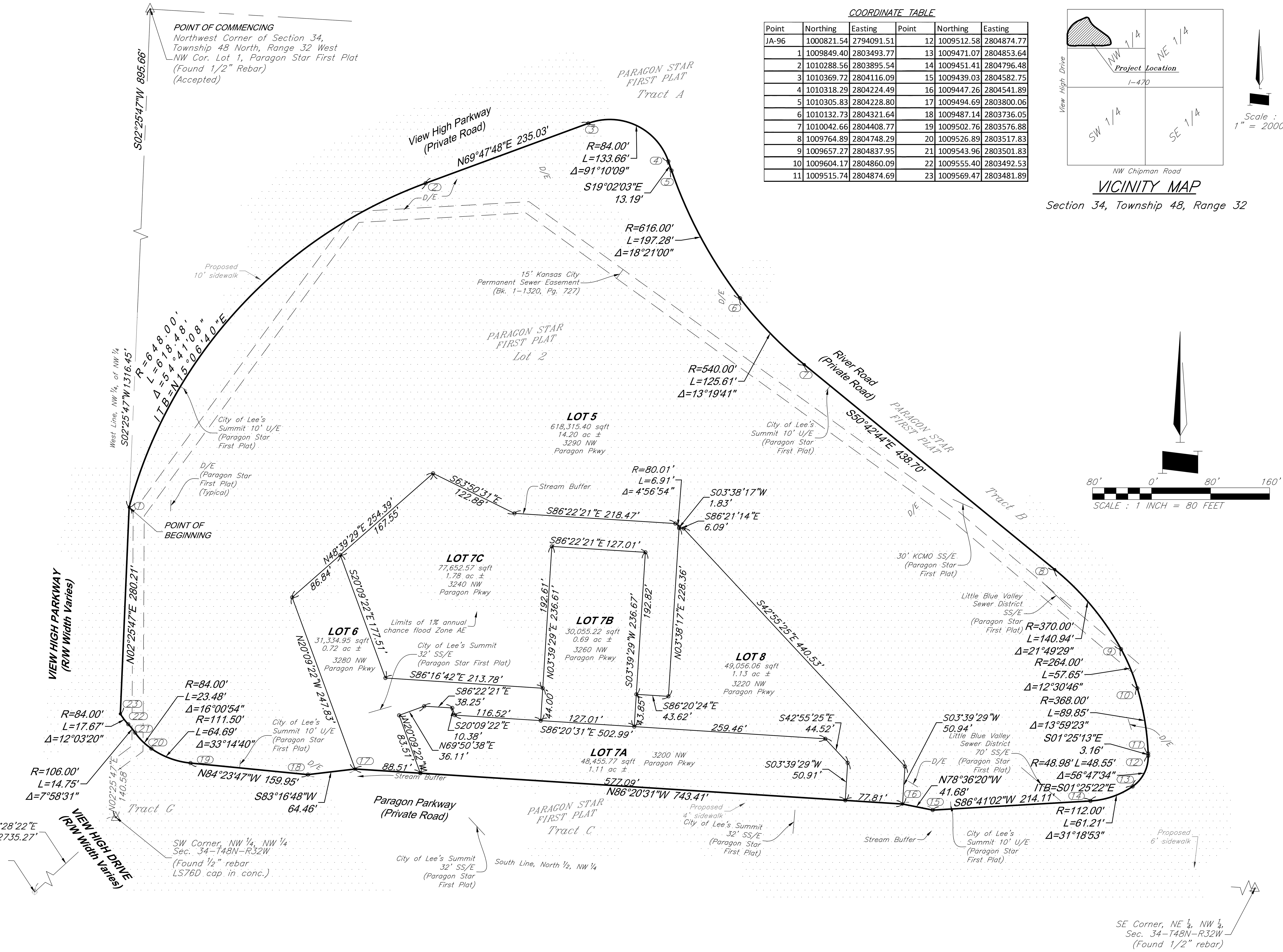
Existing Conditions

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C002



COORDINATE TABLE

Point	Northing	Easting	Point	Northing	Easting
JA-96	1000821.54	2794091.51	12	1009512.58	2804874.77
1	1009849.40	2803493.77	13	1009471.07	2804853.64
2	1010288.56	2803895.54	14	1009451.41	2804796.48
3	1010369.72	2804116.09	15	1009439.03	2804582.75
4	1010318.29	2804224.49	16	1009447.26	2804541.89
5	1010305.83	2804228.80	17	1009494.69	2803800.06
6	1010132.73	2804321.64	18	1009487.14	2803736.05
7	1010042.66	2804408.77	19	1009502.76	2803576.88
8	1009764.89	2804748.29	20	1009526.89	2803517.83
9	1009657.27	2804837.95	21	1009543.96	2803501.83
10	1009604.17	2804860.09	22	1009555.40	2803492.53
11	1009515.74	2804874.69	23	1009569.47	2803481.89

FDP BOUNDARY DESCRIPTION

A tract of land being all of Lot 2, Paragon Star First Plat, a subdivision in the North Half of Northwest Quarter of Section 34, Township 48 North, Range 32 West of the Fifth Principal Meridian, in the City of Lee's Summit, Jackson County, Missouri, more particularly described as follows:

Commencing at the Northwest Corner of the Northwest Quarter of said Section 34; thence South 02°25'47" West, along the West line of said Section, a distance of 895.66 feet, to a point on a non-tangent curve, said point also being the Point of Beginning; thence Northeasterly, departing said West line, along a curve to the right, having a radius of 648.00 feet, a central angle of 54°41'08", and an initial tangent bearing of North 15°06'40" East, a distance of 618.48 feet, to a point of tangency; thence North 69°47'48" East, a distance of 235.03 feet, to a point of curvature; thence Northeasterly and Southeasterly, along a curve to the right, having a radius of 84.00 feet, and a central angle of 91°10'09", a distance of 133.66 feet, to a point of tangency; thence South 19°02'03" East, a distance of 13.19 feet, to a point of curvature; thence Southeasterly, along a curve to the left, having a radius of 616.00 feet, a central angle of 18°21'00", a distance of 197.28 feet, to a point of compound curvature; thence Southeasterly, along a curve to the left, having a radius of 540.00 feet, a central angle of 13°19'41", a distance of 125.61 feet, to a point of tangency; thence South 50°42'44" East, a distance of 438.70 feet, to a point of curvature; thence Southeasterly, along a curve to the right, having a radius of 370.00 feet, and a central angle of 21°49'29", a distance of 140.94 feet, to a point of compound curvature; thence Southeasterly and Southerly, along a curve to the right, having a radius of 264.00 feet, and a central angle of 12°30'46", a distance of 57.65 feet, to a point of compound curvature; thence Southerly, along a curve to the right, having a radius of 368.00 feet, and a central angle of 13°59'23", a distance of 89.85 feet; thence South 01°25'13" East, a distance of 3.16 feet, to a point on a non-tangent curve; thence Southerly and Southwesterly, along a curve to the right, having a radius of 48.98 feet, a central angle of 56°47'34", and whose initial tangent bearing is South 01°25'22" East, a distance of 48.55 feet, to a point of compound curvature; thence Southwesterly and Westerly, along a curve to the right, having a radius of 112.00 feet, and a central angle of 31°18'53", a distance of 61.21 feet, to a point of tangency; thence South 86°41'02" West, a distance of 214.11 feet; thence North 78°36'20" West, a distance of 41.68 feet; thence North 86°20'31" West, a distance of 743.41 feet; thence South 83°16'48" West, a distance of 64.46 feet; thence North 84°23'47" West, a distance of 159.95 feet, to a point of curvature; thence Westerly and Northwesterly, along a curve to the right, having a radius of 111.50 feet, and a central angle of 33°14'40", a distance of 64.69 feet, to a point of compound curvature; thence Northeasterly, along a curve to the right, having a radius of 84.00 feet, a central angle of 16°00'54", a distance of 23.48 feet, to a point of reverse curvature; thence Northwesterly, along a curve to the left, having a radius of 106.00 feet, a central angle of 07°58'31", a distance of 14.75 feet, to a point of reverse curvature; thence Northwesterly, along a curve to the right, having a radius of 84.00 feet, a central angle of 12°03'20", a distance of 17.67 feet, to a point on said West line; thence North 02°25'47" East, along said West line, a distance of 280.21 feet, to the Point of Beginning, containing 854,869.97 square feet or 19.63 acres, more or less.

Coordinates Shown Hereon:

MODNR JA-96

Modified State Plane (Project Ground Coordinates), NAD83
2403 – Missouri West, U.S. Feet
Vertical – NAVD88, U.S. Feet

CAF=0.99990648
Coordinates x CAF = State Plane

CP #100 – ½" rebar with GBA cap on South side of View High Drive, 18' West of asphalt field entrance, approximately 975' North along the centerline of View High Drive from the ramp to West bound I-470.
Coordinates:
N: 1009568.88'
E: 2803498.54'
EL: 819.37'
Ties:
1) North 4.15' to the South edge of asphalt of View High Drive
2) East 18.00' to West edge of asphalt field entrance
3) South 27.50' to west end of 18" cmp culvert for field entrance

CP #102 – ½" rebar with GBA cap along South side of East bound I-470, East of Bridge spanning View High Drive.
Coordinates:
N: 1008463.46'
E: 2803878.88'
EL: 829.94'
Ties:
1) ENE 38.90' to centerline of steel highway reflector post, 1st post E. of bridge
2) North 9.50' to South edge of asphalt shoulder of East bound I-470
3) WNW 53.65' to top SE corner of concrete guardrail for I-470 bridge spanning View High Drive

CP #104 – ½" rebar with GBA cap along South edge of off ramp from East bound I-470 to View High Drive.
Coordinates:
N: 1008447.60'
E: 2803180.41'
EL: 822.96'
Ties:
1) North 3.10' to South edge of asphalt of off ramp
2) WNW 3.00' to SE corner of concrete pad around state lighting control box
3) North 47.20' to SE corner of concrete pad around state lighting control box, North side of off ramp
4) East 530'± to centerline of View High Drive

CP #105 – ½" rebar with GBA cap in grass between South edge of asphalt of East bound I-470 and the North edge of asphalt of East bound on ramp from View High Drive, at East end of grass area.
Coordinates:
N: 1008400.01'
E: 2804608.18'
EL: 833.34'
Ties:
1) SW 8.64' to centerline of reflector post, North side of on ramp
2) East 52.40' to centerline of reflector post, South side of I-470, East end of grass area

CP #106 – Set ½" rebar with GBA cap, West of View High Drive, South of entrance to substation at 10528 View High Drive
Coordinates:
N: 1006295.09'
E: 2803203.41'
EL: 944.66'
Ties:
1) NE 62.75' to front face of curb inlet
2) N 28'± to center of gravel substation entrance
3) E 20'± to West edge of sidewalk

CP #120 – ½" rebar with GBA cap at NW corner of View High Drive and access road "Future View High Drive Pkwy"
Coordinates:
N: 1009573.66'
E: 2803729.57'
EL: 811.46'
Ties:
1) NW 3.60' to East edge of asphalt
2) West 51.44' to back of curb at nose of island
3) NE 56.30' to center of MH lid

CP #121 – ½" rebar with GBA cap approximately 1430'± ENE of access road "Future View High Drive Pkwy" from View High Drive, near MH #1055
Coordinates:
N: 1009788.28'
E: 2805047.90'
EL: 806.65'
Ties:
1) SW 3.65' to center of MH lid
2) WNW 14'± to power pole
3) NW 35.65' to NE corner of chain link fence area

CP #122 – ½" rebar with GBA cap approximately 1380'± NE of access road "Future View High Drive Pkwy" from View High Drive
Coordinates:
N: 1010126.48'
E: 2804884.88'
EL: 813.20'
Ties:
1) West 298'± to center of MH lid
2) South 199'± to center of MH lid

CP #302 – ⅝" rebar on North end of gravel construction parking area, at NE quadrant of intersection of Interstate 470 and View High Drive
Coordinates:
N: 1008855.67'
E: 2804291.58'
EL: 813.83'
Ties:
1) SE 156'± to high voltage power pole

CP #303 – ½" rebar at E. end of gravel construction parking area
Coordinates:
N: 1008733.32'
E: 2804645.61'
EL: 811.78'
Ties:
1) South 5.00' to North edge of high voltage OHP
2) West 34.00' to East edge of gravel parking lot
3) SW 57.85' to steel R/W post at fence line

CP #304 – ½" rebar West of future View High Pkwy at top of hill near tree line, approximately 732'± North of access road "Future View High Drive Pkwy" from View High Drive
Coordinates:
N: 1010251.92'
E: 2803699.53'
EL: 839.39'
Ties:
1) NNE 23.10' to South face of twin 10" oak tree
2) SW 5.30' to East face of 10" oak tree
3) NW 14.60' to East face of 9" oak tree

CP #305 – ½" rebar South of dead end of gravel driveway, which connects to Easterly end of E. 97th Street, on top of hill.
Coordinates:
N: 1010784.43'
E: 2804698.47'
EL: 888.55'
Ties:
1) SE 4.00' to great break at ridge line

CP #306 – ½" rebar on South side of gravel drive leading to lift station, near bend in road.
Coordinates:
N: 1009431.99'
E: 2806165.47'
EL: 810.46'
Ties:
1) North 4.00' to South edge of gravel drive
2) SE 18.80' to North face of power pole

BM #10 – Chiseled "L" on top SW corner of concrete curb inlet at NE Quadrant of intersection of View High Drive and Chipman Road, 1st inlet East of View High Drive.
Coordinates:
N: 1005584.32'
E: 2803334.61'
EL: 951.45'

BM #11 – Chiseled "L" cut on NE corner of concrete guard rail at NE corner of Interstate 470 and View High Drive
Coordinates:
N: 1008590.33'
E: 2803864.07'
EL: 833.80'

BM #13 – Chiseled "L" on NE corner of Interstate 470 and Cedar Creek Bridge
Coordinates:
N: 1008342.79'
E: 2806758.22'
EL: 852.04'

BM #16 – Chiseled "U" on top centerline of West side of curb inlet, at North end of island for View High Drive, 1st inlet South of Meers Road.
Coordinates:
N: 1007918.62'
E: 2803553.77'
EL: 830.12'

AREA TABLE

ADDRESS	LOT	AREA	BUILDING SETBACK TO PERIMETER PROPERTY	PARKING SETBACK	FLOOR-AREA RATIO
3290 NW Paragon Pkwy	LOT 5	618,315.40 sqft or 14.20 acres	N/A	N/A	N/A
3280 NW Paragon Pkwy	LOT 6	31,334.95 sqft or 0.72 acres	0 FT	0 FT	N/A
3200 NW Paragon Pkwy	LOT 7A	48,455.77 sqft or 1.11 acres	0 FT	0 FT	0.86
3260 NW Paragon Pkwy	LOT 7B	30,055.22 sqft or 0.69 acres	0 FT	0 FT	1.00
3240 NW Paragon Pkwy	LOT 7C	77,652.57 sqft or 1.78 acres	0 FT	0 FT	0.54
3220 NW Paragon Pkwy	LOT 8	49,056.06 sqft or 1.13 acres	0 FT	0 FT	N/A
	Total	854,869.97 sqft or 19.63 acres			

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

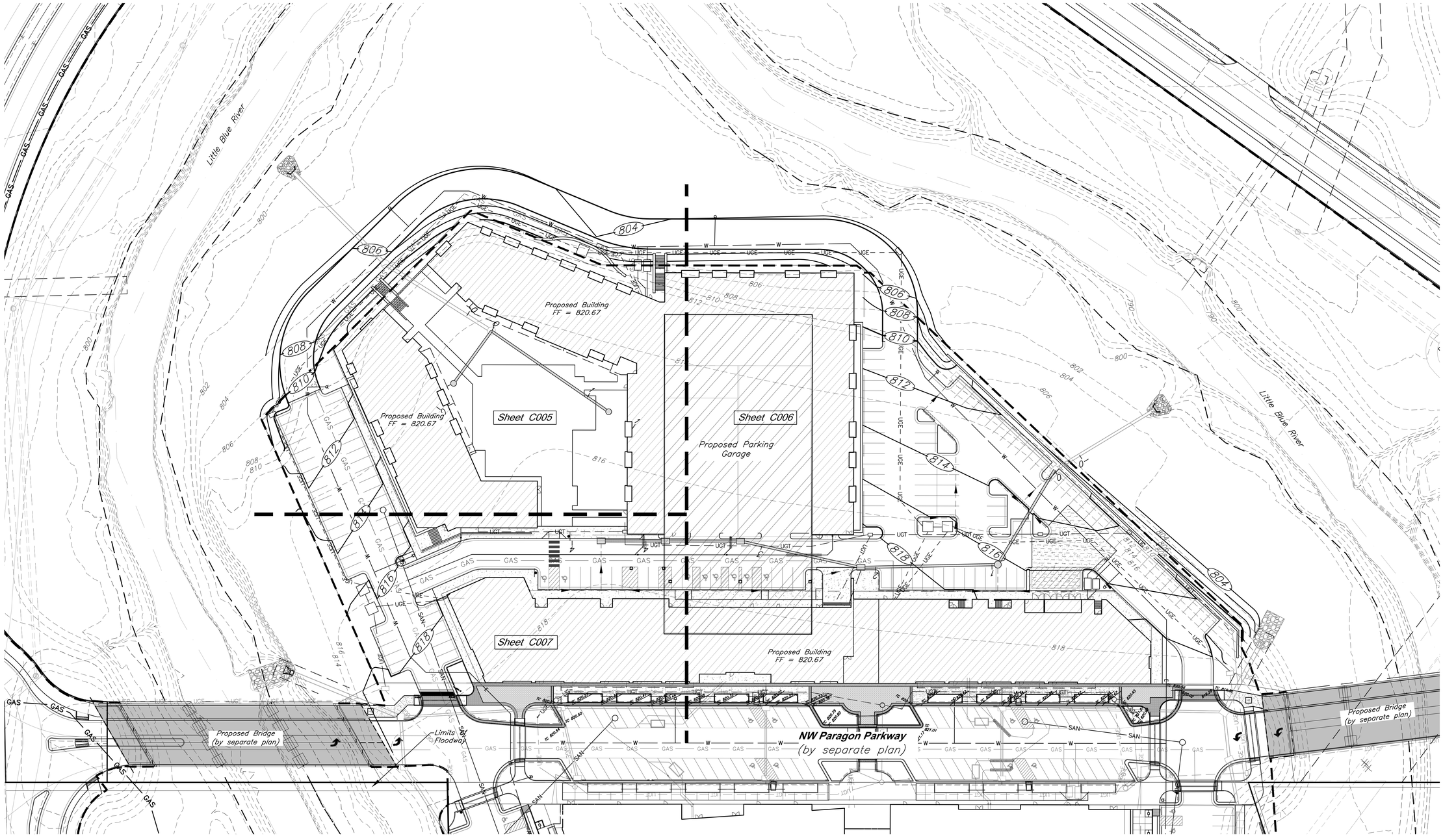
DRAWING TITLE:

FDP Lot Plan

JOB NO: 1249 SCALE:
DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C003



CAUTION!

Numerous Utilities on site. Contractor to verify location and elevation of all utilities prior to commencing construction.

LEGEND

- Existing Contour
- Proposed Contour
- Proposed Top of Curb
- Proposed Spot Grade
- Drainage Flow Arrow
- Existing Flood Zone AE
- Existing Flood Zone X
- Stream Corridor
- Proposed Floodplain
- Proposed Floodway

40' 0' 40' 80'

SCALE : 1 INCH = 40 FEET

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

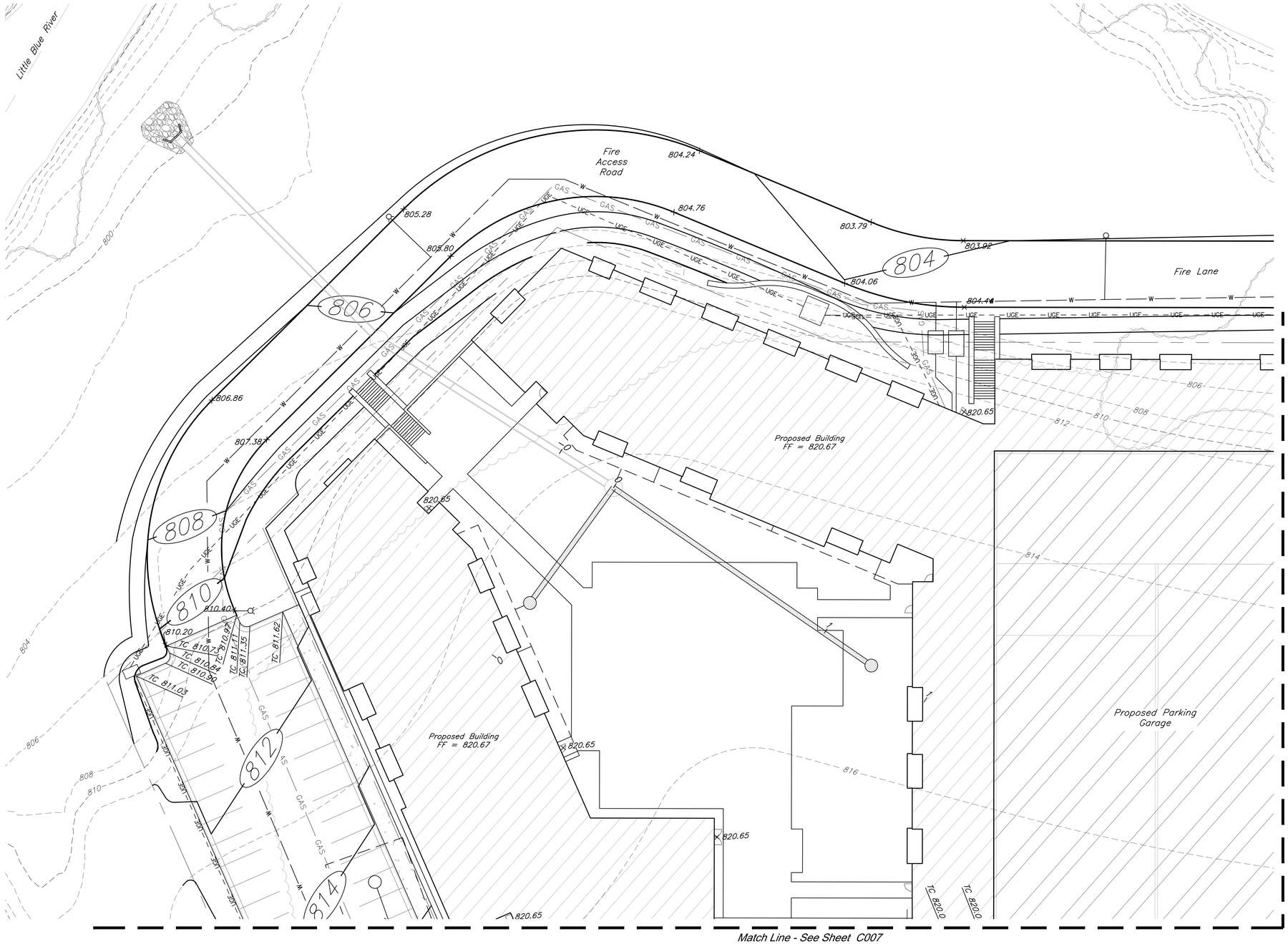
Overall Grading Plan

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C004



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LEGEND

- Existing Contour
- Proposed Contour
- TC xxx.xx — Proposed Top of Curb
- xxx.xx — Proposed Spot Grade
- Drainage Flow Arrow
- Existing Flood Zone AE
- Existing Flood Zone X
- Stream Corridor
- Proposed Floodplain
- Proposed Floodway

20' 0' 20' 40'

SCALE : 1 INCH = 20 FEET

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Missouri Certificate of Authority #F00453304

PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

Grading Plan

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C005

Match Line - See Sheet C008

Match Line - See Sheet C007

Fire Access Lane

Proposed Parking Garage

Proposed Building FF = 820.67

Proposed Building FF = 820.67

Little Blue River

Transition to flush curb

Flush curb

Trash Enclosure

2.5' Dock

(7) steps w/ 5" rise and 11" tread per building plans

(7) steps w/ 4" rise and 11" tread per building plans

NW Paragon Parkway (by separate plan)

Proposed Bridge (by separate plan)

Found ½" rebar with cap LS

MH #10057
4" Dia. Con
Concentric MH
Top = 815.46
F/L 24" (SE) =
F/L 24" (NW) =

LEGEND

XXX — Existing Contour	Existing Flood Zone AE
XXX — Proposed Contour	Existing Flood Zone X
TC xxx.xx — Proposed Top of Curb	Stream Corridor
xxx.xx — Proposed Spot Grade	Proposed Floodplain
Drainage Flow Arrow	Proposed Floodway

CAUTION!
Numerous Utilities on site. Contractor to verify location and elevation of all utilities prior to commencing construction.

20' 0' 20' 40'
SCALE : 1 INCH = 20 FEET

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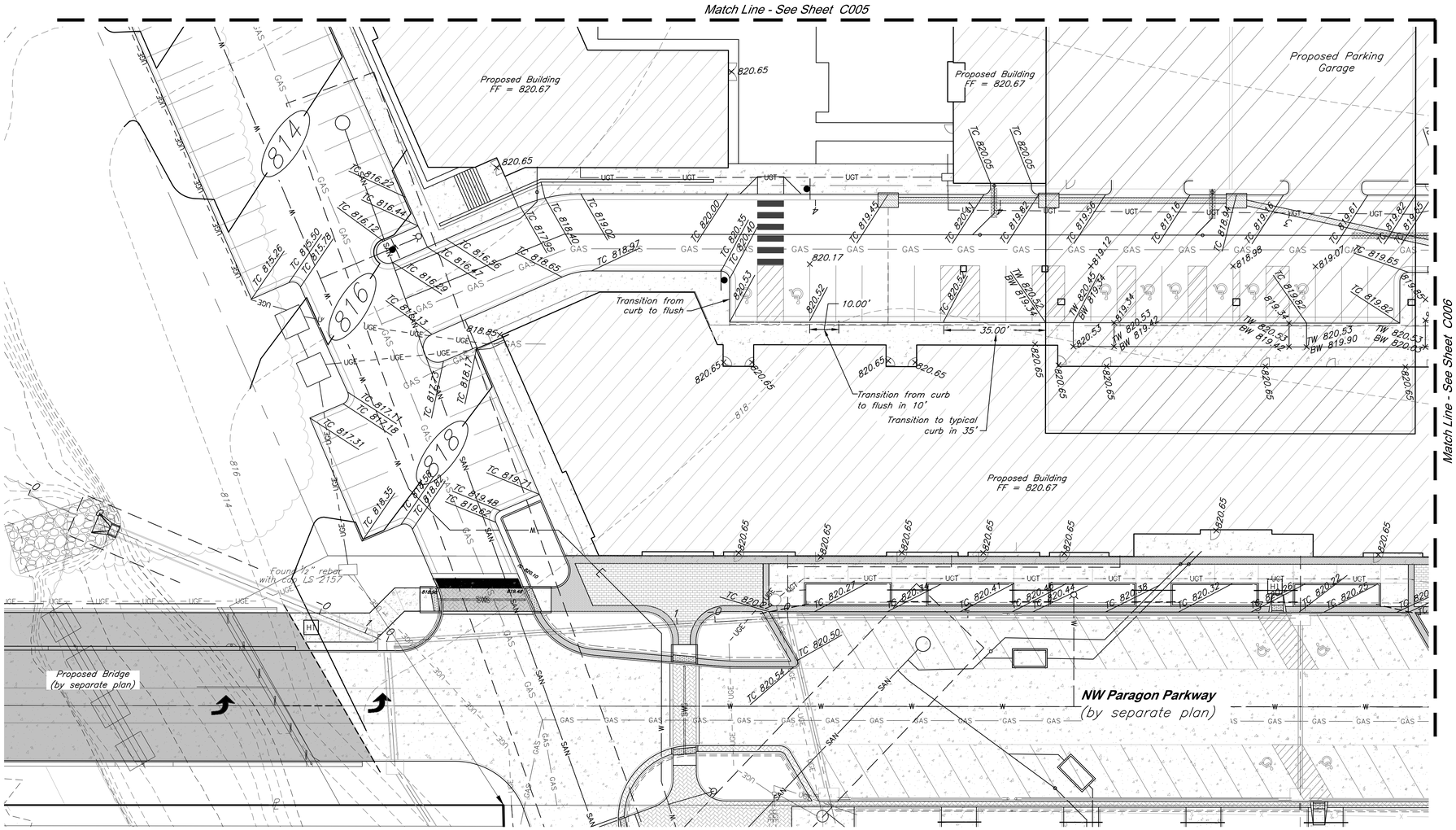
Grading Plan

JOB NO: 1249 SCALE:
DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C006



CAUTION!

Numerous Utilities on site. Contractor to verify location and elevation of all utilities prior to commencing construction.

LEGEND

XXX — Existing Contour	Existing Flood Zone AE
XXX — Proposed Contour	Existing Flood Zone X
TC xxx.xx — Proposed Top of Curb	Stream Corridor
xxx.xx — Proposed Spot Grade	Proposed Floodplain
Drainage Flow Arrow	Proposed Floodway

20' 0' 20' 40'

SCALE : 1 INCH = 20 FEET

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PROJECT:

Paragon Star North Village

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Final Development Plan

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DRAWING TITLE:

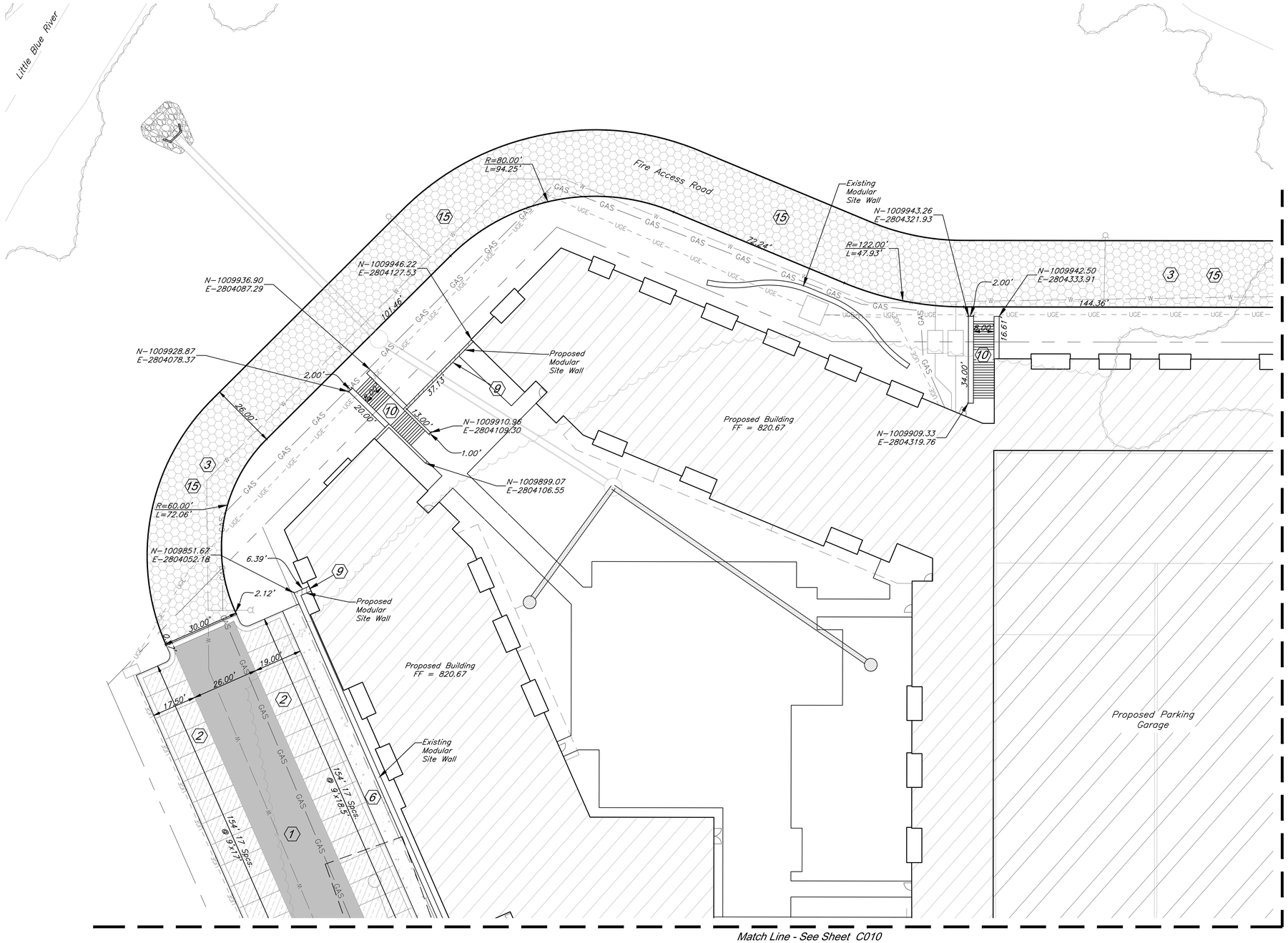
Grading Plan

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C007



CONSTRUCTION NOTES:

1. Proposed HD Asphalt Pavement
2. Proposed LD Asphalt Pavement
3. Proposed Fire Access Road
4. Type CG–1 Curb & Gutter
6. Construct Concrete Sidewalk
9. Construct Modular Site Walls per Architectural and Structural Plans
10. Construct Stairs per Architectural and Structural Plans
15. Construct Grass Paver Driveable Grass by Soil Retention See Construction Details

DIMENSION NOTES:

1. All curbs are to be Type CG–1 or Type CG–1 Dry unless shown otherwise.
2. Unless otherwise specified, all dimensions are to the back of curb and dimension ties to property line are measured at right angles to property lines.
3. See Sheets C017–C018 for construction details.

CAUTION!
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LEGEND

- Proposed HD Asphalt Surface
- Proposed LD Asphalt Surface
- Type CG–1 "Dry Curb"
- Proposed Modular Site Wall
- Proposed Concrete Walk
- Proposed Water Line
- Proposed Storm Sewer
- Existing Sanitary Sewer
- Crosswalk Sign / Stop Sign (Typ)
- Proposed Grass Paver

40' 0' 40' 80'
SCALE : 1 INCH = 40 FEET

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PROJECT:

Paragon Star North Village

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Final Development Plan

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PROFESSIONAL SEAL:

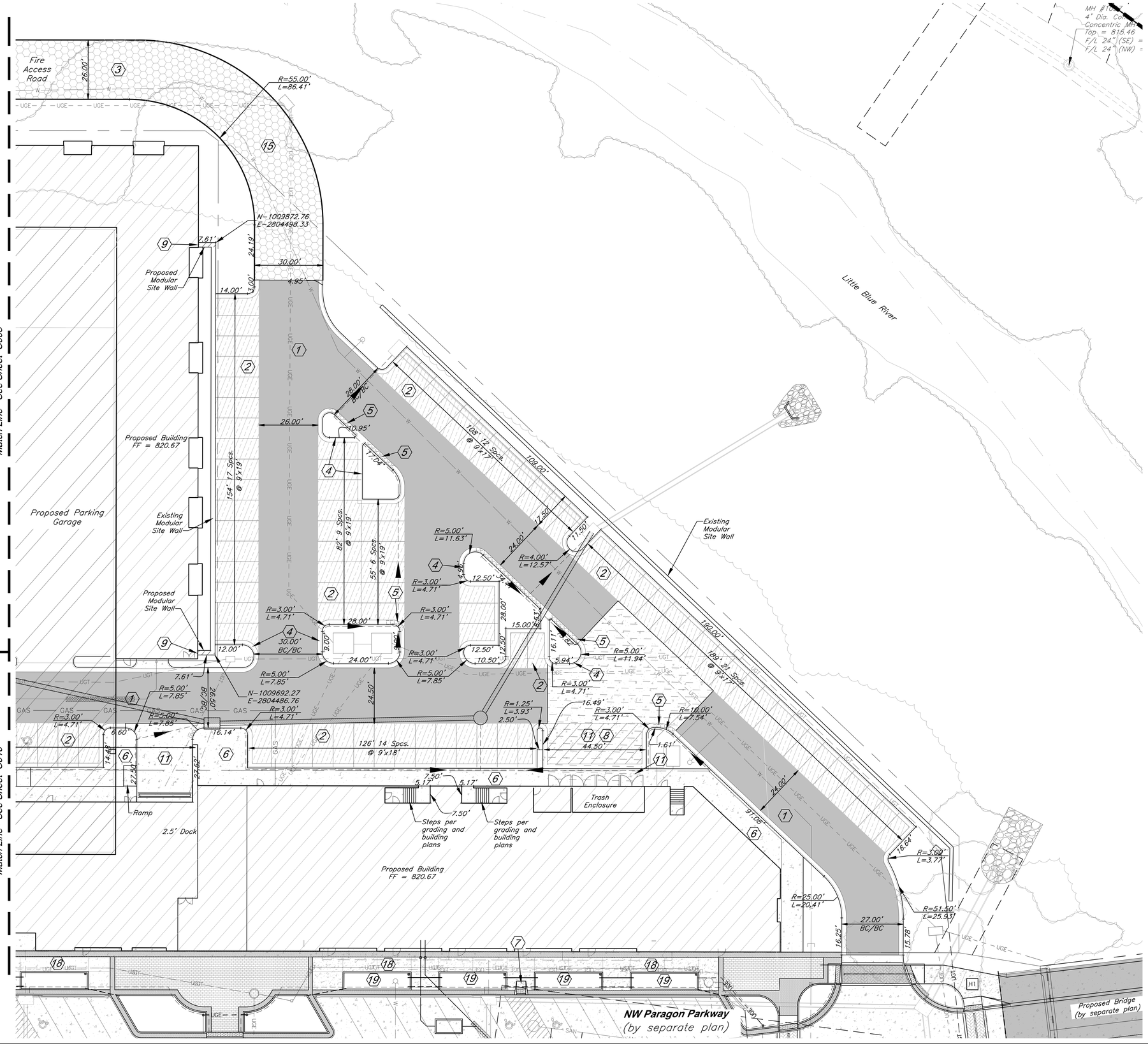
DRAWING TITLE:

Dimension Plan

JOB NO: 1249 SCALE:
DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C008



CAUTION!

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CONSTRUCTION NOTES:

1. Proposed HD Asphalt Pavement
2. Proposed LD Asphalt Pavement
3. Proposed Fire Access Road
4. Type CG-1 Curb & Gutter
5. Type CG-1 "Dry" Curb & Gutter
6. Construct Concrete Sidewalk
7. Construct ADA Ramp
8. No Parking Pavement Striping for Trash Enclosure
9. Construct Modular Site Walls per Architectural and Structural Plans
11. Proposed HD Concrete Pavement
15. Construct Grass Paver Driveable Grass by Soil Retention See Construction Details
18. Construct typical sidewalk per streetscape details
19. Construct raised planter per streetscape details

DIMENSION NOTES:

1. All curbs are to be Type CG-1 or Type CG-1 Dry unless shown otherwise.
2. Unless otherwise specified, all dimensions are to the back of curb and dimension ties to property line are measured at right angles to property lines.
3. See Sheet C017-C018 for construction details.

LEGEND

- Proposed HD Asphalt Surface
- Proposed LD Asphalt Surface
- Proposed Concrete Pavement
- Proposed HD Concrete Pavement (Trash Enclosure)
- Proposed Grass Paver
- Type CG-1 "Dry Curb"
- W — Proposed Water Line
- Proposed Storm Sewer
- SAN — Existing Sanitary Sewer

20' 0' 20' 40'
SCALE : 1 INCH = 20 FEET

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

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DRAWING TITLE:

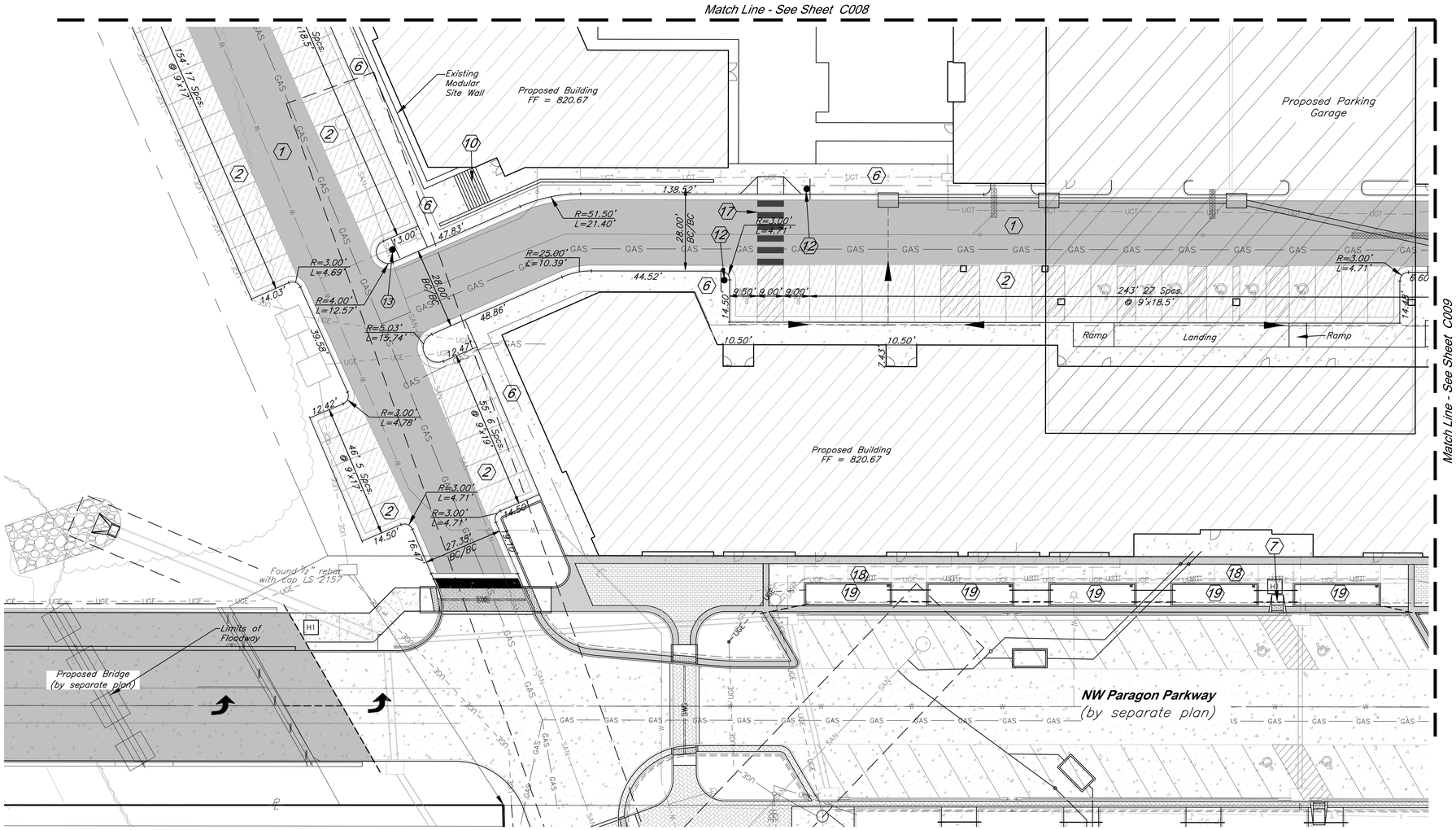
Dimension Plan

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C009



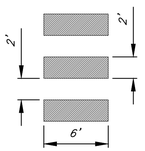
Notes:

1. All signs shall be placed 2' behind back of curb unless otherwise noted.
2. All ADA accessible parking stalls to be painted in accordance with U.S. Dept. of justice specifications.
3. All pavement markings on private property shall be waterborne paint.
4. All pavement markings in public Right of Way shall be preformed Thermoplastic conforming to AASHTO M249-79.

(12) W11-2 24"x24" w/ W16-7P 24"x12"

(13) R1-1 30"x30"

(17) Painted Crosswalk



CONSTRUCTION NOTES:

1. Proposed HD Asphalt Pavement
2. Proposed LD Asphalt Pavement
4. Type CG-1 Curb & Gutter
5. Type CG-1 "Dry" Curb & Gutter
6. Construct Concrete Sidewalk
7. Construct ADA Ramp
10. Construct Stairs per Architectural and Structural Plans
12. Crosswalk Signage (See Detail this Sheet)
13. Stop Sign Signage (See Detail this Sheet)
17. White Traffic Paint Crosswalk
18. Construct typical sidewalk per streetscape details
19. Construct raised planter per streetscape details

DIMENSION NOTES:

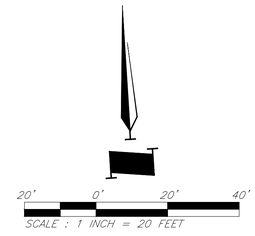
1. All curbs are to be Type CG-1 or Type CG-1 Dry unless shown otherwise.
2. Unless otherwise specified, all dimensions are to the back of curb and dimension ties to property line are measured at right angles to property lines.
3. See Sheet C017 - C018 for construction details.

CAUTION!

Numerous Utilities on site. Contractor to verify location and elevation of all utilities prior to commencing construction.

LEGEND

- Proposed HD Asphalt Surface
- Proposed LD Asphalt Surface
- Proposed Concrete Pavement
- Type CG-1 "Dry Curb"
- Proposed Water Line
- Proposed Storm Sewer
- Existing Sanitary Sewer
- Crosswalk Sign / Stop Sign (Typ)



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Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

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PROFESSIONAL SEAL:

DRAWING TITLE:

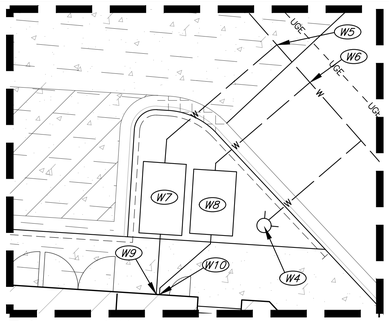
Dimension Plan

JOB NO: 1249 SCALE:

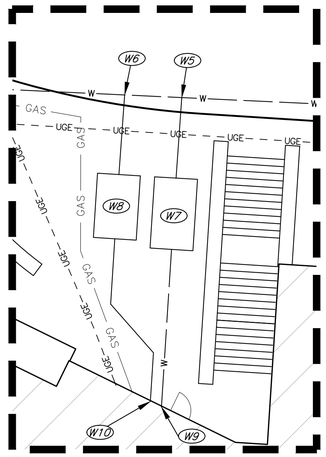
DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

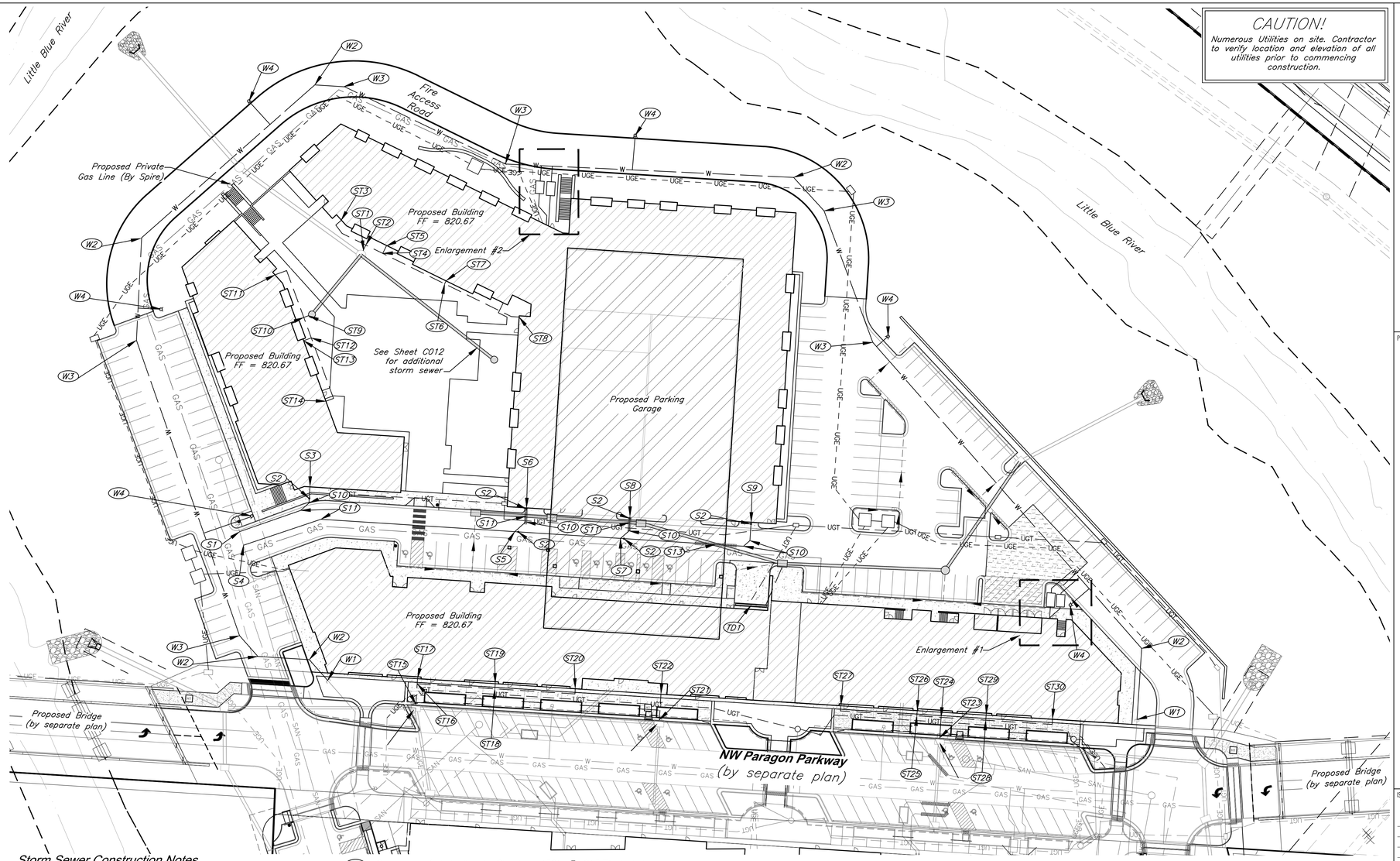
C010



Enlargement #1
1"=10'



Enlargement #2
1"=10'



Water Line Construction Notes

- (W1) Connect to 12" water main. Install 8" Dia. Class 305 C900 PVC.
- (W2) Install 45° Bend with Thrust Block
- (W3) Install 22.5° Bend with Thrust Block
- (W4) Install Fire Hydrant Assembly
- (W5) Connect to water main via 8"x8"x8" tee w/ thrust block.
- (W6) Connect to water main via 8"x6"x8" tee w/ thrust block.
- (W7) Install Double Check Detector Assembly in Concrete Vault.
- (W8) Install 6" Water Meter in Concrete Vault.
- (W9) 8" Fire Protection Line Building Connection. See MEP Plan for Continuation.
- (W10) 6"Domestic Water Line Building Connection. See MEP Plan for Continuation.

Sanitary Sewer Construction Notes

- (S1) Connect 6" Service Line to Sanitary Sewer Line A with cut-in tee, Sta=14+18.41, E=809.26. E@ End of Tee=809.93. Install 67 LF 6" Dia. SDR26 PVC Pipe @ 1% to S3.
- (S2) Install Cleanout
- (S3) Connect to 6" building stub, E=810.60. See MEP plan for continuation.
- (S4) Connect 6" Service Line to Sanitary Sewer Line A with cut-in tee, Sta=14+8.20, E=809.17. E@ End of Tee=809.84. Install 200 LF 6" Dia. SDR26 PVC Pipe @ 1% to S5.
- (S5) Install wye connection, E=811.84. Install 21 LF 6" Dia. SDR26 PVC Pipe @ 1% to S6. Install 77 LF 6" Dia. SDR26 PVC Pipe @ 1% to S7.
- (S6) Connect to 6" building stub, E=812.05. See MEP plan for continuation.
- (S7) Install wye connection, E=812.61. Install 19 LF 6" Dia. SDR26 PVC Pipe @ 1% to S8. Install 109 LF 6" Dia. SDR26 PVC Pipe @ 1% to S9.
- (S8) Connect to 6" building stub, E=812.80. See MEP plan for continuation.
- (S9) Connect to 6" building stub, E=813.70. See MEP plan for continuation.
- (S10) 45° Bend
- (S11) 22.5° Bend
- (S12) Sanitary line crosses under storm sewer. Construct 10 LF Reinforced Concrete Encasement, centered on crossing.
- (S13) Sanitary line crosses under storm sewer. Construct 30 LF Reinforced Concrete Encasement, centered on crossing.

Storm Sewer Construction Notes

- (ST1) Connect roof drain line to Structure 5002, E=813.00. Install 6 LF 10" Dia. SDR 26 PVC @ 2% to ST2.
- (ST2) Install tee connection, E=813.12. Install 32 LF 10" Dia. SDR26 PVC @ 2% to ST3. Install 14 LF 10" Dia. SDR26 PVC @ 2% to ST4.
- (ST3) Connect to building stub, E=813.76. See MEP Plan for continuation.
- (ST4) Install tee connection, E=813.40. Install 6.5 LF 10" Dia. SDR26 PVC @ 2% to ST5. Install 50 LF 10" Dia. SDR26 PVC @ 2% to ST6.
- (ST5) Connect to building stub, E=813.53. See MEP Plan for continuation.
- (ST6) Install tee connection, E=814.40. Install 2.5 LF 10" Dia. SDR26 PVC @ 2% to ST7. Install 59 LF 10" Dia. SDR26 PVC @ 2% to ST6.
- (ST7) Connect to building stub, E=814.45. See MEP Plan for continuation.
- (ST8) Connect to building stub, E=815.58. See MEP Plan for continuation.

- (ST9) Connect roof drain line to Structure 5901, E=813.00. Install 4 LF 12" Dia. SDR 26 PVC @ 2% to ST10.
- (ST10) Install tee connection, E=813.08. Install 45 LF 12" Dia. SDR26 PVC @ 2% to ST11. Install 16 LF 12" Dia. SDR26 PVC @ 2% to ST12.
- (ST11) Connect to building stub, E=813.98. See MEP Plan for continuation.
- (ST12) Install tee connection, E=813.40. Install 6 LF 12" Dia. SDR26 PVC @ 2% to ST13. Install 52.5 LF 12" Dia. SDR26 PVC @ 2% to ST14.
- (ST13) Connect to building stub, E=813.52. See MEP Plan for continuation.
- (ST14) Connect to building stub, E=814.45. See MEP Plan for continuation.
- (ST15) Connect roof drain line to Structure 4301, E=813.71. Install 18 LF 8" Dia. SDR 26 PVC @ 2% to ST16.
- (ST16) Install tee connection, E=814.07. Install 4 LF 8" Dia. SDR26 PVC @ 2% to ST17. Install 57 LF 8" Dia. SDR26 PVC @ 2% to ST18.
- (ST17) Connect to building stub, E=814.15. See MEP Plan for continuation.
- (ST18) Install tee connection, E=815.21. Install 4 LF 8" Dia. SDR26 PVC @ 2% to ST19. Install 62 LF 8" Dia. SDR26 PVC @ 2% to ST20.
- (ST19) Connect to building stub, E=815.29. See MEP Plan for continuation.
- (ST20) Connect to building stub, E=816.45. See MEP Plan for continuation.

- (ST21) Connect roof drain line to Structure 4302, E=815.53. Install 22 LF 8" Dia. SDR 26 PVC @ 2% to ST22.
- (ST22) Connect to building stub, E=815.97. See MEP Plan for continuation.

- (ST23) Connect roof drain line to Structure 5401, E=815.03. Install 18 LF 8" Dia. SDR 26 PVC @ 2% to ST24.
- (ST24) Install tee connection, E=815.39. Install 18 LF 8" Dia. SDR26 PVC @ 2% to ST25. Install 33 LF 8" Dia. SDR26 PVC @ 2% to ST28.
- (ST25) Install tee connection, E=815.75. Install 4 LF 8" Dia. SDR26 PVC @ 2% to ST26. Install 60 LF 8" Dia. SDR26 PVC @ 2% to ST27.
- (ST26) Connect to building stub, E=815.83. See MEP Plan for continuation.
- (ST27) Connect to building stub, E=816.95. See MEP Plan for continuation.
- (ST28) Install tee connection, E=816.05. Install 4 LF 8" Dia. SDR26 PVC @ 2% to ST29. Install 52 LF 8" Dia. SDR26 PVC @ 2% to ST30.
- (ST29) Connect to building stub, E=816.13. See MEP Plan for continuation.
- (ST30) Connect to building stub, E=817.09. See MEP Plan for continuation.

General Utility Notes

1. See Sheet C017 for Construction Details.
2. Contractor to deflect conduits as necessary to avoid conflicts with other utilities.
3. Contractor shall coordinate with the Surveyor to leave trenches open for collecting survey data for record drawings.
4. Water line minimum burial depth shall be 42 inches.

Notes:

1. Pipe length called out is from center of structure to center of structure. Payment for pipe length is from inside face to inside face of structure.
2. Storm Sewer Structure Station offset and coordinates based on center of structure. Top elevations are top center of lid.
3. Tops on all in grade inlets shall maintain street slope, low point inlets to be set level.
4. Fire department connection locations are preliminary and subject to change upon final design. IFC distance requirements for FDCs shall be met with final design.

Trench Drain Construction Notes

- (TD1) Install 22.5 LF 10" Trench Drain per Sheet C016. Install 30 LF 6" PVC Pipe @ 2% to Storm Structure 5702, E=815.90.

Legend

- W — Proposed Water Line
- Proposed Storm Sewer
- SAN — Proposed Sanitary Sewer
- GAS — GAS — Proposed Gas Line
- UGE — UGE — Proposed Underground Electric
- UGT — Proposed Telecom

40' 0' 40' 80'
SCALE : 1 INCH = 40 FEET

CAUTION!
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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

Utility Plan

JOB NO: 1249 SCALE:
DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C011

Electrical Service Construction Notes

- (E1) Install 9'x9' Building Transformer Pad per Evergy Standards
- (E2) Install 200 Amp Sectionalizer Furnished by Evergy per Detail 760.1–3
- (E3) Connect to existing 200 Amp Sectionalizer constructed per Paragon Parkway Plans
- (E4) Install 64 LF 4" Dia. Sch. 40 PVC Conduit.
- (E5) Install 65 LF (8) 3" Dia. Sch. 40 PVC Conduit to building electrical room. Continue per MEP Plans.
- (E6) Install 9 LF 4" Dia. Sch. 40 PVC Conduit.
- (E7) Install 84 LF (8) 3" Dia. Sch. 40 PVC Conduit to building electrical room. Continue per MEP Plans.
- (E8) Install 168 LF 4" Dia. Sch. 40 PVC Conduit.
- (E9) Install 356 LF 4" Dia. Sch. 40 PVC Conduit.
- (E10) Install 62 LF (8) 3" Dia. Sch. 40 PVC Conduit to building electrical room. Continue per MEP Plans.
- (E11) Install 266 LF 4" Dia. Sch. 40 PVC Conduit.
- (E12) Install 242 LF 4" Dia. Sch. 40 PVC Conduit.
- (E13) Install 8 LF 4" Dia. Sch. 40 PVC Conduit.
- (E14) Install 92 LF 4" Dia. Sch. 40 PVC Conduit.
- (E15) Install 72 LF 4" Dia. Sch. 40 PVC Conduit.
- (E16) Install 287 LF 4" Dia. Sch. 40 PVC Conduit.
- (E17) Connect to existing 4" Dia. PVC Conduit installed per the Multifamily Mass Grading Plans.
- (E18) Connect to existing 3" Dia. PVC Conduit installed per the Multifamily Mass Grading Plans.

Amenity Zone Electrical Construction Notes

- (AE1) Install 35 LF 1" HDPE Conduit from existing connection to Planter Box
- (AE2) Install 39 LF 1" HDPE Conduit from existing connection to Planter Box

Telecom Construction Notes

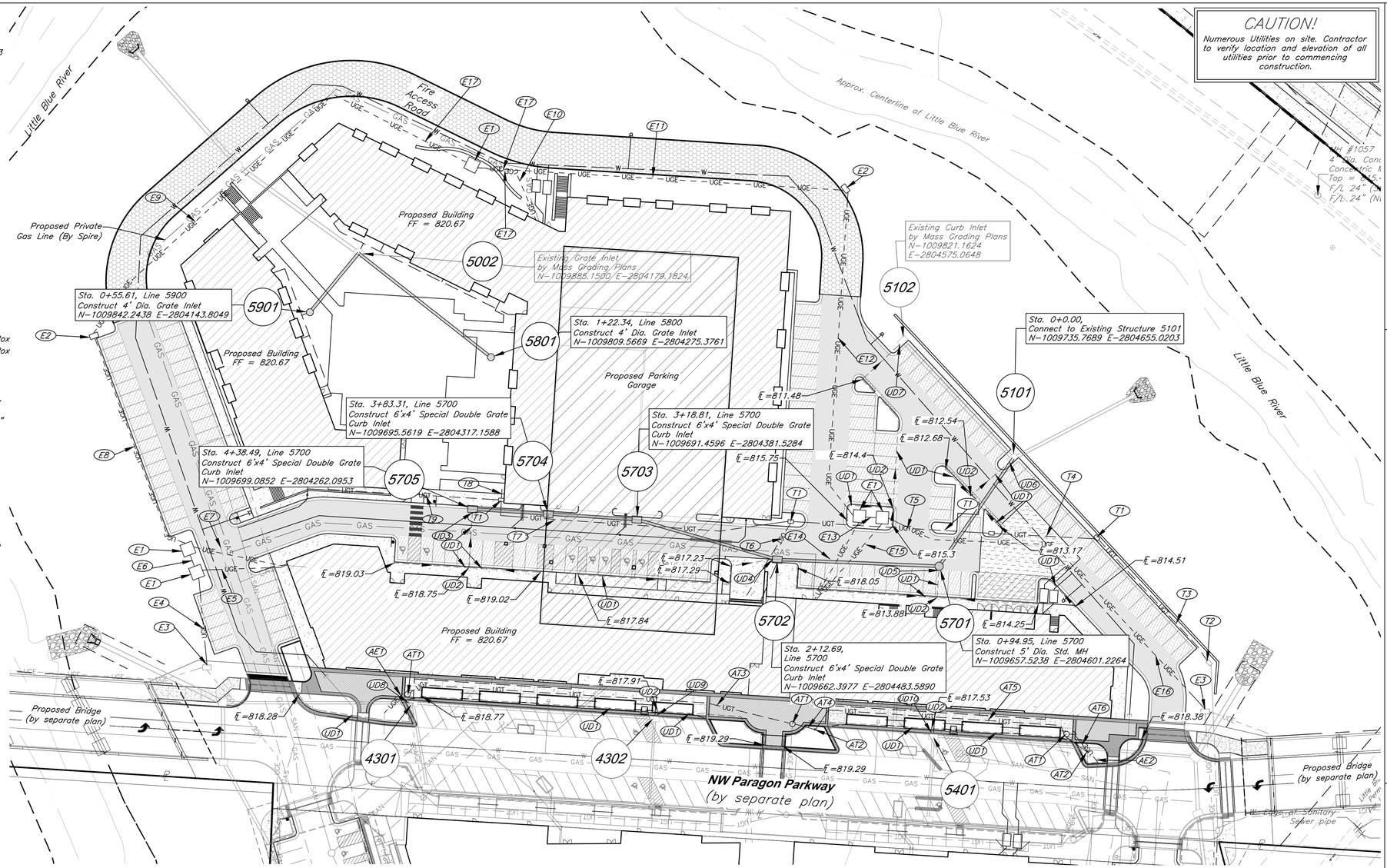
- (T1) Install Telecom Utility Pull Box.
- (T2) Connect to existing Telecom Pull Box installed per Paragon Parkway Plans
- (T3) Install 119 LF (3) 5" HDPE Conduit. Two conduits shall have (4) 2" fabric innerducts.
- (T4) Install 108 LF (3) 5" HDPE Conduit. Two conduits shall have (4) 2" fabric innerducts.
- (T5) Install 109 LF (3) 5" HDPE Conduit. Two conduits shall have (4) 2" fabric innerducts.
- (T6) Install 62 LF (2) 5" HDPE Conduit to building electrical room. Two conduits shall have (4) 2" fabric innerducts.
- (T7) Install 211 LF (3) 5" HDPE Conduit. Two conduits shall have (4) 2" fabric innerducts.
- (T8) Install 7 LF 3(2) 5" HDPE Conduit to building electrical room. Two conduits shall have (4) 2" fabric innerducts.
- (T9) Install 128 LF (2) 5" HDPE Conduit to building electrical room. Two conduits shall have (4) 2" fabric innerducts.

Amenity Zone Telecom Construction Notes

- (AT1) Install Digital Display with Power/Data Connections, Unswitched Hot Power
- (AT2) Install Telecom Utility 12"x12" Quazite Box
- (AT3) Install 281 LF 2" PVC Conduit
- (AT4) Install 15 LF 2" PVC Conduit
- (AT5) Install 215 LF 2" PVC Conduit
- (AT6) Install 19 LF 2" PVC Conduit

Underdrain Construction Notes

- (UD1) Install 4" Dia. Perforated HDPE @ 0.5% minimum slope.
- (UD2) Install 4" Dia. HDPE Tee
- (UD3) Connect to Storm Structure 5705, ℄=817.50.
- (UD4) Connect to Storm Structure 5702, ℄=816.60.
- (UD5) Connect to Storm Structure 5701, ℄=813.28.
- (UD6) Connect to Storm Structure 5101, ℄=809.75.
- (UD7) Connect to Storm Structure 5102, ℄=808.75.
- (UD8) Connect to Storm Structure 4301, ℄=817.70.
- (UD9) Connect to Storm Structure 4302, ℄=817.80.
- (UD10) Connect to Storm Structure 5401, ℄=817.50.



Legend

- Proposed Water Line
- Proposed Storm Sewer
- Proposed Sanitary Sewer
- Proposed Gas Line
- Proposed Underground Electric
- Proposed Telecom
- Flow Path
- Proposed Building
- Proposed HD Asphalt Surface
- Proposed LD Asphalt Surface
- Proposed Concrete

General Utility Notes

1. See Sheet C017 for Construction Details.
2. Contractor to deflect conduits as necessary to avoid conflicts with other utilities.
3. Contractor shall coordinate with the Surveyor to leave trenches open for collecting survey data for record drawings.
4. Water line minimum burial depth shall be 42 inches.

Electrical Service General Notes

1. Electrical routing reflects the latest, although preliminary designs from Evergy. Final routing of conduit shall match final design from Evergy.
2. Electrical conduit shall be NEC approved schedule 40 gray PVC.
3. Electrical trench, conduit, and backfill per Evergy Standards (Typ. All).

Notes:

1. Pipe length called out is from center of structure to center of structure. Payment for pipe length is from inside face to inside face of structure.
2. Storm Sewer Structure Station offset and coordinates based on center of structure. Top elevations are top center of lid.
3. Tops on all in grade inlets shall maintain street slope, low point inlets to be set level.
4. Fire department connection locations are preliminary and subject to change upon final design. IFC distance requirements for FDCs shall be met with final design.

40' 0' 40' 80'

SCALE : 1 INCH = 40 FEET

CAUTION!

Numerous Utilities on site. Contractor to verify location and elevation of all utilities prior to commencing construction.

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

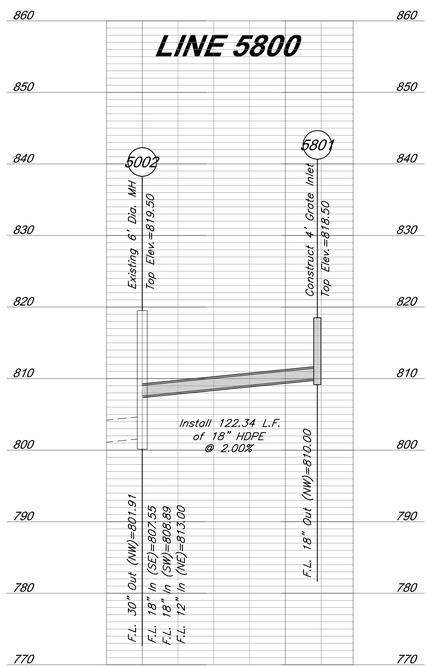
Utility Plan

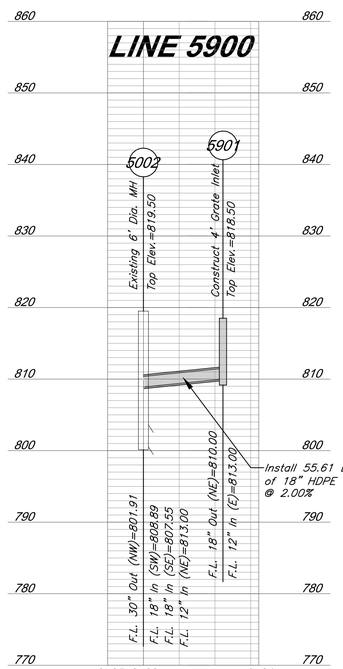
JOB NO: 1249 SCALE:

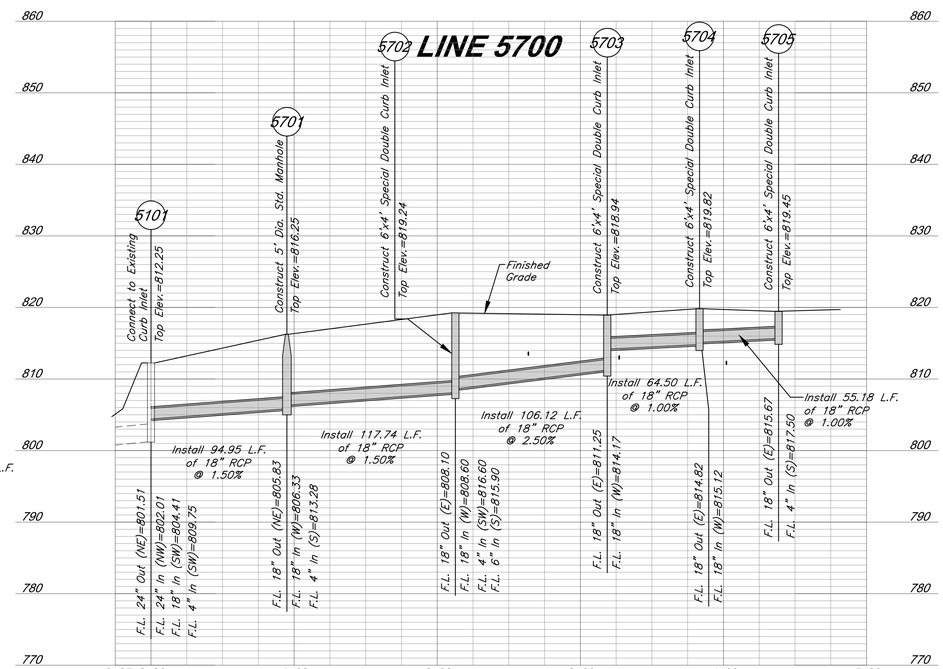
DATE: 01.28.2022 DRAWN BY: JRH

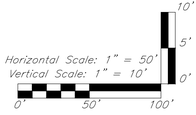
SHEET NO:

C012









10 Year Storm

Structures		Runoff Calculations									Pipe Design								Design Checks										
		Direct	Line	Total																						Downstream	Hydraulic	Hydraulic	
From	To	Area	In	Area	C	K	Tc	Flow Time	Intensity	Design Q	Description	Pipe length	Pipe Slope	Pipe dia (in)	Manning's	Q full	Pipe	V full	Design V	HwD	outlet	HW, Inlet	HW, Outlet	Inlet Top	Upstream	Downstream	Inlet	Water	Grade Elev.	Grade	Comments
		(acre)	(acre)	(acre)			(min)	(min)	(in/hr)	(cfs)		(lin ft)	Slope, %		n Value	(cfs)	Area, sf	fps	fps		head, H	Control, (ft)	Control, (ft)	Elevation	flowline	flowline	Drop (ft)	Elevation	(Calculated)	(Allowable)	
	5705	0.13			0.90	1.00	5.00		7.35	0.9	Curb Inlet													819.45					816.68	818.95	
	5704		0.13		0.90	1.00	5.00	0.25	7.35	0.9	RCP	55.18	1.00	18	0.013	10.53	1.77	5.96	3.63	0.7	0.01	816.68	815.85		815.67	815.12		815.84			
	5704	0.05			0.90	1.00	5.00		7.35	0.3	Curb Inlet													819.82			0.3		815.84	819.32	
	5703			0.18	0.90	1.00	5.00	0.27	7.35	1.2	RCP	64.50	1.00	18	0.013	10.53	1.77	5.96	3.95	0.7	0.03	815.84	812.35		814.82	814.17		812.32			
	5703	0.16			0.90	1.00	5.00		7.35	1.1	Curb Inlet													818.94			2.92		812.32	818.44	
Line 5700	5702			0.34	0.90	1.00	5.00	0.27	7.35	2.3	RCP	106.12	2.50	18	0.013	16.65	1.77	9.42	6.61	0.7	0.14	812.32	809.35		811.25	808.60		809.21			
	5702	0.09			0.90	1.00	5.00		7.35	0.6	Junction Box													819.24			0.5		809.21	818.74	
	5701			0.43	0.90	1.00	5.00	0.34	7.35	2.8	RCP	117.74	1.50	18	0.013	12.90	1.77	7.30	5.82	0.7	0.24	809.21	807.18		808.10	806.33		806.94			
	5701	0.00			0.90	1.00	5.00		7.35	0.0	Junction Box													816.25			0.5		806.94	815.75	
	5101			0.43	0.90	1.00	5.34	0.27	7.25	2.8	RCP	94.95	1.50	18	0.013	12.90	1.77	7.30	5.82	0.7	0.20	806.94	805.36		805.83	804.41		805.16			
																													805.16		
	5801	0.25			0.90	1.00	5.00		7.35	1.7	Curb Inlet													818.50					811.04	818.00	
Line 5800	5002			0.25	0.90	1.00	5.00	0.36	7.35	1.7	RCP	122.34	2.00	18	0.013	14.90	1.77	8.43	5.59	0.7	0.08	811.04	808.38		810.00	807.55		808.30			
																													808.30		
	5901	0.14	0.32		0.90	1.00	5.00		7.35	0.9	Curb Inlet													818.50					811.13	818.00	
Line 5900	5002			0.46	0.90	1.00	5.00	0.14	7.35	3.0	RCP	55.61	2.00	18	0.013	14.90	1.77	8.43	6.58	0.7	0.16	811.13	809.80		810.00	808.89		809.64			
																													809.64		

100 Year Storm

Structures		Runoff Calculations									Pipe Design								Design Checks										
		Direct	Line	Total																						Downstream	Hydraulic	Hydraulic	
From	To	Area	In	Area	C	K	Tc	Flow Time	Intensity	Design Q	Description	Pipe length	Pipe Slope	Pipe dia (in)	Manning's	Q full	Pipe	V full	Design V	HwD	outlet	HW, Inlet	HW, Outlet	Inlet Top	Upstream	Downstream	Inlet	Water	Grade Elev.	Grade	Comments
		(acre)	(acre)	(acre)			(min)	(min)	(in/hr)	(cfs)		(lin ft)	Slope, %		n Value	(cfs)	Area, sf	fps	fps		head, H	Control, (ft)	Control, (ft)	Elevation	flowline	flowline	Drop (ft)	Elevation	(Calculated)	(Allowable)	
	5705	0.13			0.90	1.25	5.00		10.32	1.5	Curb Inlet													819.45					816.70	818.95	
	5704		0.13		0.90	1.25	5.00	0.25	10.32	1.5	RCP	55.18	1.00	18	0.013	10.53	1.77	5.96	3.63	0.7	0.04	816.70	815.92		815.67	815.12		815.88			
	5704	0.05			0.90	1.25	5.00		10.32	0.6	Curb Inlet													819.82			0.3		815.88	819.32	
	5703			0.18	0.90	1.25	5.00	0.27	10.32	2.1	RCP	64.50	1.00	18	0.013	10.53	1.77	5.96	3.95	0.7	0.08	815.88	812.54		814.82	814.17		812.46			
	5703	0.16			0.90	1.25	5.00		10.32	1.9	Curb Inlet													818.94			2.92		812.46	818.44	
Line 5700	5702			0.34	0.90	1.25	5.00	0.27	10.32	3.9	RCP	106.12	2.50	18	0.013	16.65	1.77	9.42	6.61	0.8	0.42	812.46	809.85		811.25	808.60		809.42			
	5702	0.09			0.90	1.25	5.00		10.32	1.0	Junction Box													819.24			0.5		809.42	818.74	
	5701			0.43	0.90	1.25	5.00	0.34	10.32	5.0	RCP	117.74	1.50	18	0.013	12.90	1.77	7.30	5.82	0.9	0.74	809.42	807.89		808.10	806.33		807.15			
	5701	0.00			0.90	1.25	5.00		10.32	0.0	Junction Box													816.25			0.5		807.15	815.75	
	5101			0.43	0.90	1.25	5.34	0.27	10.18	4.9	RCP	94.95	1.50	18	0.013	12.90	1.77	7.30	5.82	0.9	0.61	807.15	805.77		805.83	804.41		805.16			
																													805.16		
	5801	0.25			0.90	1.25	5.00		10.32	2.9	Curb Inlet													818.50					811.11	818.00	
Line 5800	5002			0.25	0.90	1.25	5.00	0.36	10.32	2.9	RCP	122.34	2.00	18	0.013	14.90	1.77	8.43	5.59	0.7	0.26	811.11	808.56		810.00	807.55		808.30			
																													808.30		
	5901	0.14	0.32		0.90	1.25	5.00		10.32	1.6	Curb Inlet													818.50					811.37	818.00	
Line 5900	5002			0.46	0.90	1.25	5.00	0.14	10.32	5.3	RCP	55.61	2.00	18	0.013	14.90	1.77	8.43	6.58	0.9	0.49	811.37	810.13		810.00	808.89		809.64			
																													809.64		

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

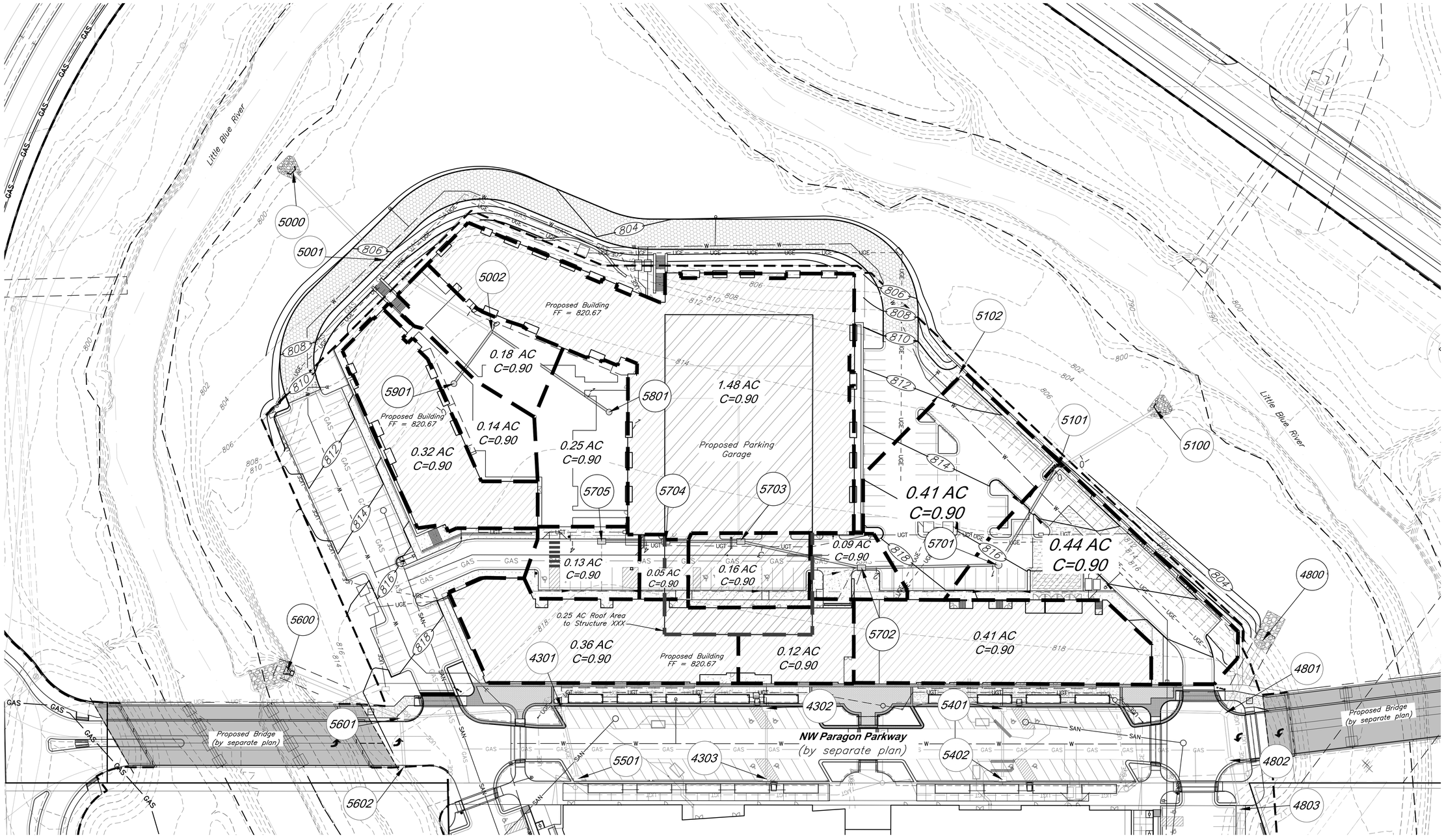
Storm Sewer Profiles

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C013



CAUTION!
Numerous Utilities on site. Contractor to verify location and elevation of all utilities prior to commencing construction.

LEGEND

- XXX — Existing Contour
- XXX — Proposed Contour
- Proposed Drainage Area
- 0.28 Acres — Drainage Area
- Proposed Storm Sewer
- Future Storm Sewer

40' 0' 40' 80'
SCALE : 1 INCH = 40 FEET

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

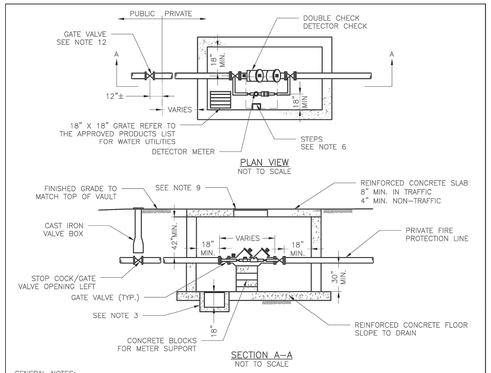
Drainage Map

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C014



GENERAL NOTES:

1. METER VAULT WALLS TO BE POURED OR PRECAST CONCRETE.
2. METER VAULT ROOF TO BE REINFORCED CONCRETE OPENING CENTERED OVER DETECTOR METER.
3. METER VAULT TO BE LOCATED, WHEN POSSIBLE, OUTSIDE TRAFFIC AREA WHERE SURFACE WATER WILL NOT DRAIN INTO IT. VAULT MUST BE KEPT FREE OF WATER. PROVIDE CONCRETE SUMP AS A MINIMUM. WHERE PRACTICAL, PROVIDE A 2" PIPE DRAIN WITH AN ABOVE-GROUND DISCHARGE POINT. PROJECT OWNER MAY DESIRE A PERMANENTLY INSTALLED SUMP PUMP.
4. ALL PIPE SHALL BE DUCTILE IRON CLASS 50. ALL PIPE FITTINGS FROM THE CITY WATER MAIN THROUGH THE VAULT SHALL BE PROVIDED WITH RESTRAINED JOINT FITTINGS.
5. ALL FITTINGS TO BE BRASS.
6. STEPS SHALL BE IN ACCORDANCE WITH THE APPROVED PRODUCTS LIST FOR WATER UTILITIES AND SHALL BE ON 16" CENTERS.
7. A DEPARTMENT OF NATURAL RESOURCES APPROVED DOUBLE CHECK DETECTOR CHECK BACKFLOW PREVENTER MUST BE USED. FOR A COPY OF THE MISSOURI DEPARTMENT OF NATURAL RESOURCES APPROVED BACKFLOW PREVENTION ASSEMBLIES, CONTACT THE WATER UTILITIES OPERATIONS DIVISION AT 816-969-1940. AS OF JANUARY 1, 1987, THE DNR REQUIRES FIRE SPRINKLER SYSTEMS USING CHEMICALS TO HAVE A DNR APPROVED PRESSURE BACKFLOW PREVENTER INSTALLED, PRIOR TO THE MIXING POINT.
8. ALL VALVES SHALL HAVE RISING STEMS.
9. FOR MANHOLE COVERS, SELECT A MANHOLE FOUND ON THE APPROVED PRODUCTS LIST FOR WATER UTILITIES SUITABLE FOR EITHER TRAFFIC OR NON-TRAFFIC CONDITIONS.
10. A MINIMUM OF 18" CLEARANCE SHALL BE PROVIDED AROUND ALL PIPING, VALVES, APPURTENANCES, ETC.
11. METER SHALL BE OWNED AND MAINTAINED BY THE WATER UTILITIES DEPARTMENT.
12. IF PUBLIC WATER IS LOCATED ON THE OPPOSITE SIDE OF THE STREET, THEN THE PUBLIC WATER MAIN RESPONSIBILITY OF THE WATER UTILITIES DEPARTMENT ENDS AT THE GATE VALVE NEAREST THE VAULT.

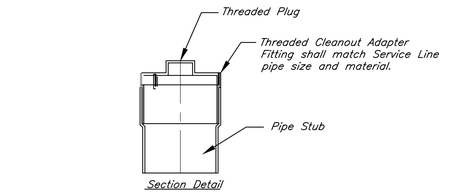
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

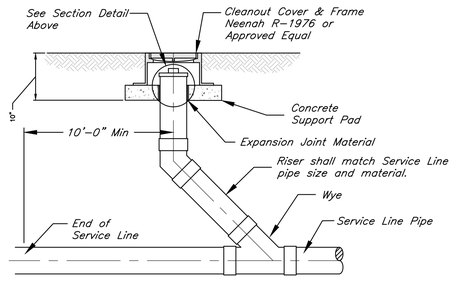
VAULT FOR DOUBLE CHECK DETECTOR CHECK

Date: 02/2016 | Drawn By: JN | Checked By: DL | WAT-12

WATER METER VAULT DETAIL

Not to Scale



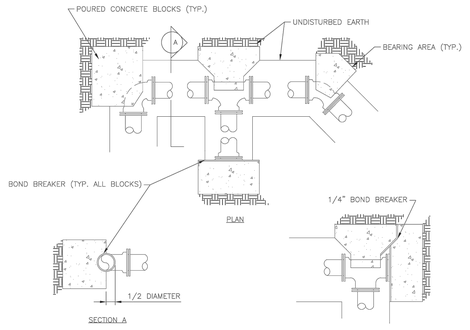


CLEANOUT DETAIL

No Scale

REQUIRED CONCRETE BEARING AREA (SQUARE FEET – SF)

NOM. DIA. (INCHES)	180 TEE, PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND
6	4.7	6.7	4.0	4.0	4.0
8	8.4	11.8	6.4	4.0	4.0
10	13.1	18.5	10.0	5.1	4.0
12	18.8	26.7	14.4	7.4	4.0
14	25.7	36.3	19.6	10.0	5.0
16	33.5	47.4	25.6	13.1	6.6
18	42.4	REST. JT.	32.5	16.5	8.3
20	REST. JT.	REST. JT.	40.1	20.4	10.3
24	REST. JT.	REST. JT.	REST. JT.	29.4	14.8



NOTES:

1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
3. BEARING AREA MUST BE AGAINST UNDISTURBED SOIL.
4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.

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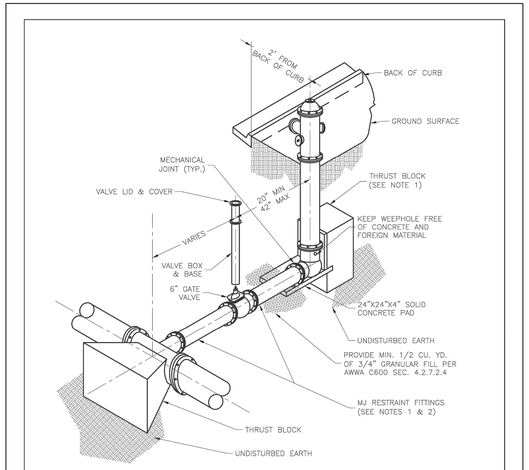
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

HORIZONTAL THRUST BLOCK

Date: 01/2016 | Drawn By: JN | Checked By: DL | WAT-1

THRUST BLOCK DETAIL

Not to Scale



NOTES:

1. WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
2. GATE VALVE MAY BE BOLTED DIRECTLY TO MJ RESTRAINT TEE.
3. SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
4. BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
5. FOR STREETS WITHOUT CURBS FIRE HYDRANTS SHALL BE PLACED WITHIN 1 FOOT OF THE R/W LINE, BUT NOT MORE THAN 10' FROM EDGE OF PAVEMENT. FIRE HYDRANT SHALL NOT BE PLACED IN BOTTOM OF DITCH.
6. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

HYDRANT - STRAIGHT SET

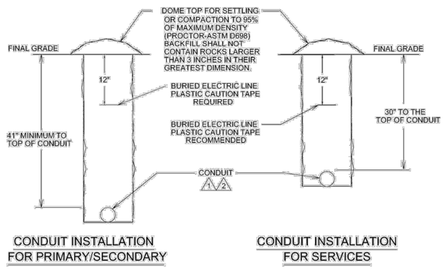
Date: 01/2016 | Drawn By: JN | Checked By: DL | WAT-7

FIRE HYDRANT DETAIL

Not to Scale

evergy

10.17 – Trench (Cross Section)



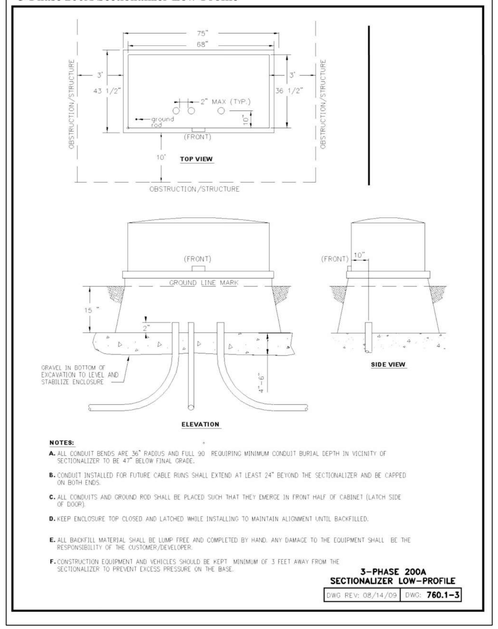
1. Conduit shall be NEC approved rigid conduit, such as or U.L. listed non-metallic gray PVC schedule 40. The conduits shall be free of burrs and have clean bores. Where customer/developers installed conduit interconnects with the Company's conduit, customer/developer shall not use half sizes. (EG. 2 ½", 3 ½", etc.)
2. Conduit Sizing: See Section 6 - Underground Construction (Pg. 33).
3. Installation shall conform to NESC, NEC, local codes, and this standard. Multiple conduit installations shall have the conduits separated by a maximum of 4 inches between conduits.

Revision: 11/15/19

EVERGY STANDARD TRENCH DETAIL

Not to Scale

3-Phase 200A Sectionalizer Low-Profile



NOTES:

A. ALL CONDUIT BENDS ARE 36" RADIUS AND FULL 90 REQUIRING MINIMUM CONDUIT BURIAL DEPTH IN VICINITY OF SECTIONALIZER TO BE 47" BELOW FINAL GRADE.

B. CONDUIT INSTALLED FOR FUTURE CABLE RUNS SHALL EXTEND AT LEAST 24" BEYOND THE SECTIONALIZER AND BE CAPPED ON BOTH ENDS.

C. ALL CONDUITS AND GROUND ROD SHALL BE PLACED SUCH THAT THEY EMERGE IN FRONT HALF OF CABINET (LATCH SIDE OF DOOR)

D. KEEP ENCLOSURE TOP CLOSED AND LATCHED WHILE INSTALLING TO MAINTAIN ALIGNMENT UNTIL BACKFILLED.

E. ALL BACKFILL MATERIAL SHALL BE LUMP FREE AND COMPLETED BY HAND. ANY DAMAGE TO THE EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE CUSTOMER/DEVELOPER.

F. CONSTRUCTION EQUIPMENT AND VEHICLES SHOULD BE KEPT MINIMUM OF 3 FEET AWAY FROM THE SECTIONALIZER TO PREVENT EXCESS PRESSURE ON THE BASE.

3-PHASE 200A SECTIONALIZER LOW-PROFILE

DWG. REV: 08/14/09 | DWG: 760.1-3

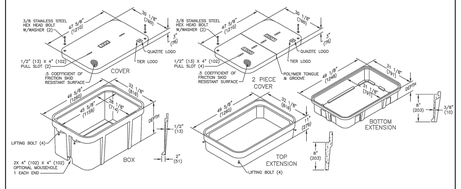
SECTIONALIZER DETAIL

Not to Scale

Quazite

Dimensions / Data 30"x 48"PG Style Polymer Concrete (Stackable) Assembly

Hex Head Bolts are Standard



Covers

	DESCRIPTION	TIER	DESIGN / TEST LOAD #	WEIGHT #	PALLET QTY	PART NO.
UL	W/ 2 Bolts	8	8,000 / 12,000	159	10	PG3048CA00**
	2 piece w/2 Bolts	8	8,000 / 12,000	181	10	PG3048C500**
UL	W/ 2 Bolts	15	15,000 / 22,500	206	10	PG3048HA00**
UL	2 piece w/2 Bolts	15	15,000 / 22,500	206	10	PG3048H500**
UL	W/ 2 Bolts	22	22,500 / 33,750	220	10	PG3048HH00**
	2 piece w/2 Bolts	22	22,500 / 33,750	202	10	PG3048H510**
UL	No Bolts	8	8,000 / 12,000	159	10	PG3048WA00**

To order gasketed covers, replace the letter "A" with the letter "G".
Replace ** with a logo code found on page 62. See page 68 for meter and touch/radio read cover options.
NOTE: Gasketed covers and bolt grommets must be used with a gasketed box. Gaskets reduce the inflow of fluids but do not make the enclosure water tight.
Available with EZ Locate. See page 67 for more information.

Dimensions / Data 30"x 48"PG Style Polymer Concrete (Stackable) Assembly (Continued)

Hex Head Bolts are Standard

Boxes (Box depths 24" thru 48" must be used as bottom of any stack)

	DESCRIPTION	DEPTH	TIER	DESIGN / TEST LOAD #	WEIGHT #	PALLET QTY	PART NO.
UL	Standard Open Bottom	18"	22	22,500 / 33,750	185	4	PG3048BA18
UL		24"		22,500 / 33,750	236	3	PG3048BA24
UL		36"		22,500 / 33,750	343	2	PG3048BA36
		48"		22,500 / 33,750	450	1	PG3048BA48
UL	Solid Bottom	18 1/2"	22	22,500 / 33,750	220	4	PG3048DA18
UL		24 1/2"		22,500 / 33,750	287	3	PG3048DA24
UL		36 1/2"		22,500 / 33,750	394	2	PG3048DA36
		48"		22,500 / 33,750	501	1	PG3048DA48

To order boxes with 2 standard mousetholes, replace the letter "A" with the letter "B".
To order gasketed boxes, replace the letter "A" with the letter "G".
NOTE: Gasketed covers and bolt grommets must be used with a gasketed box. Gaskets reduce the inflow of fluids but do not make the enclosure water tight.

Top Extension

DESCRIPTION	DEPTH	TIER	DESIGN / TEST LOAD #	WEIGHT #	PALLET QTY	PART NO.
Open bottom	11"	22	22,500 / 33,750	100	8	PG3048EA11

Bottom Extensions (for use under 18" box only, one per box)

DESCRIPTION	DEPTH	TIER	DESIGN / TEST LOAD #	WEIGHT #	PALLET QTY	PART NO.
Open bottom	8 3/4"	22	22,500 / 33,750	102	8	PG3048EA08
Solid bottom	9 1/4"	22	22,500 / 33,750	151	8	PG3048RA08

TELECOM PULL BOX

Not to Scale

GBA
9801 Renner Boulevard
Lenexa, KS 66219
913.492.0400
www.gbateam.com
MO Certificate of Authority # 000133

LAND3 Studio, LLC
317 SE Main
Lee's Summit, MO 64063
www.land3studio.com
MO Certificate of Authority # 2008001860

Hoerr Schaudt Landscape Architects
2100 Central Street, Suite 01C
Kansas City, MO 64108
816.510.0438
www.hoerrschaudt.com
MO Certificate of Authority #2019004088

HENDERSON ENGINEERS, Inc.
8345 Lenexa Drive
Lenexa, KS 66214
913.742.5000
www.hei-eng.com
Missouri Certificate of Authority # 000556

FINKLE + WILLIAMS Architecture
8787 Renner Boulevard, Suite 100
Lenexa, KS 66219
913.498.1550
www.finklewilliams.com
Missouri Certificate of Authority #F00453304

PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

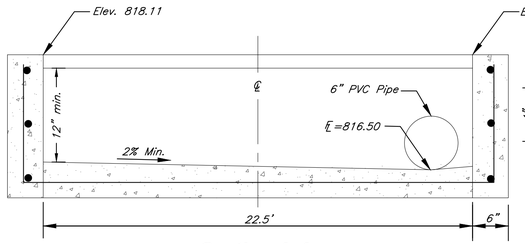
Utility Details

JOB NO: 1249 SCALE:

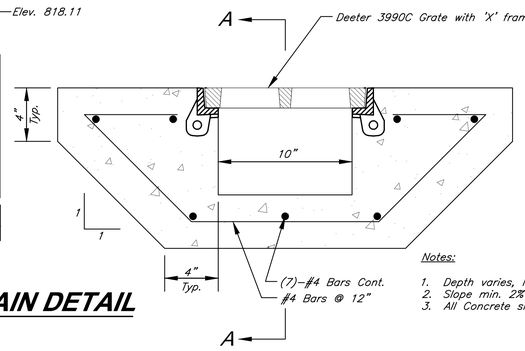
DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C015



Section A-A

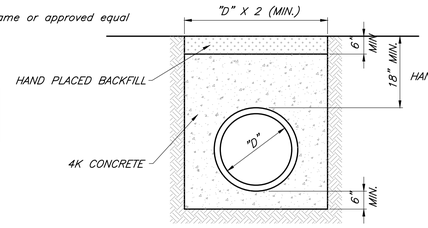


TRENCH DRAIN DETAIL

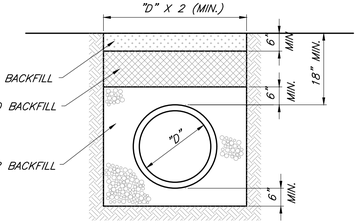
N.T.S.

Notes:

1. Depth varies, Min. 12" Deep.
2. Slope min. 2% to midpoint.
3. All Concrete shall be KCMMB-4K.



CONCRETE ENCASEMENT CLASS A



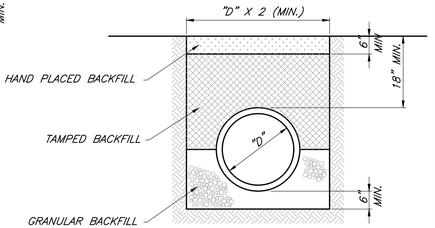
HDPE/PVC PIPE BEDDING CLASS C

PIPE BEDDING NOTES:

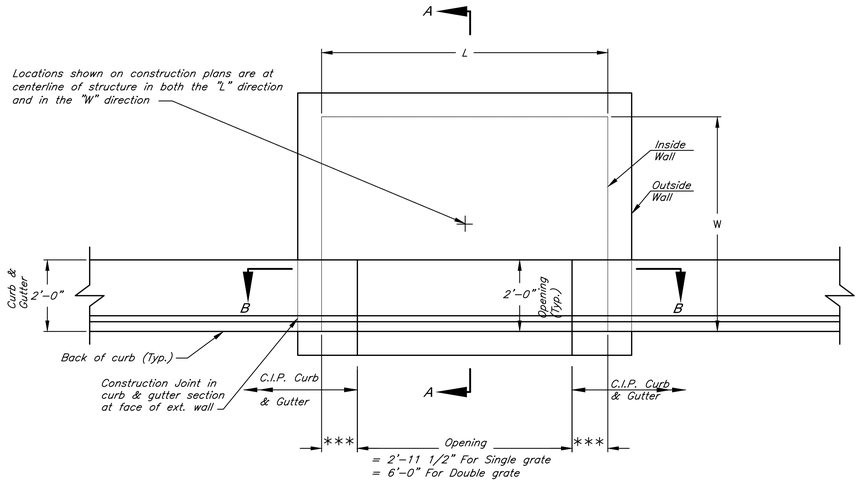
1. GRANULAR FILL SHALL BE 1/2" CLEAN ROCK, PLACED IN 6" LIFTS AND COMPACTED BY SLICING WITH A SHOVEL.
2. TAMPED FILL SHALL BE FINELY DIVIDED, JOB EXCAVATED MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL, AND STONES, COMPACTED TO TYPE AA MR-5 COMPACTION.
3. HAND PLACED FILL SHALL BE FINELY DIVIDED MATERIAL, FREE OF DEBRIS AND STONES, COMPACTED TO TYPE 95%.

PIP BEDDING DETAILS

Not to Scale

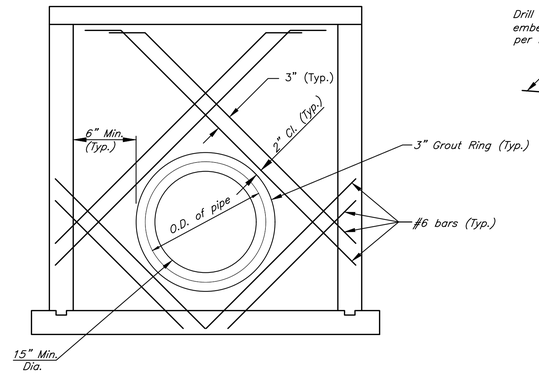


FIRST CLASS BEDDING (RCP) CLASS B

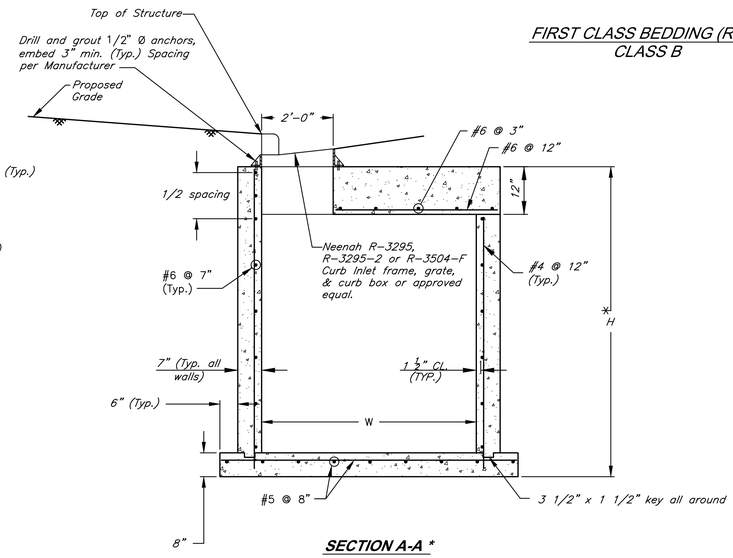


PLAN

*** Center opening in "L" direction
Steel grate not shown for clarity

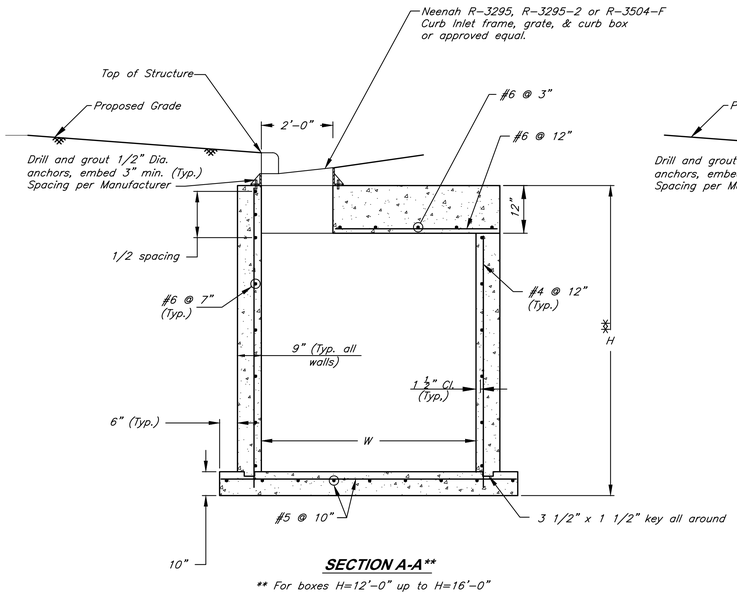


TYPICAL PIPE PENETRATION



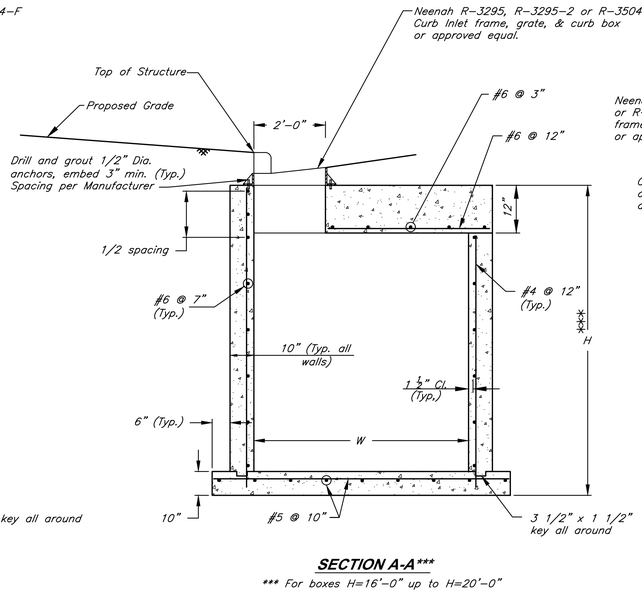
SECTION A-A *

* For boxes up to H=12'-0"



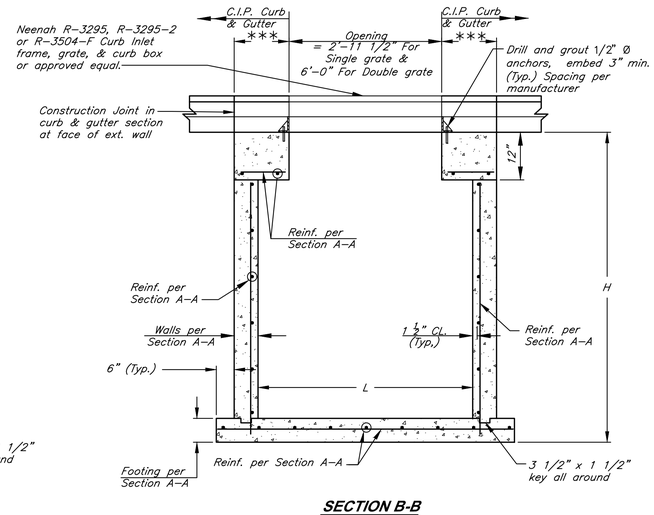
SECTION A-A**

** For boxes H=12'-0" up to H=16'-0"



SECTION A-A***

*** For boxes H=16'-0" up to H=20'-0"



SECTION B-B

*** Center opening in "L" direction

Special Curb Inlet Notes:

1. All concrete shall be KCMMB 4K.
2. Floor of inlet shall have a shaped concrete invert to provide for smooth flow.
3. The minimum dimension between the top of pipe and the top of box shall be 2'-6" (Typical all walls).
4. Steps shall be C&B 2102, MA Industries PS2-PF or approved equal. (In the event "H" is equal to or greater than 12 feet MA Industries PS2-PF will not be allowed).
5. Steps shall be spaced 1'-4" O.C. vertically and placed on a wall where there is no pipe penetrating the wall.
6. Inlet construction notes shall list the "L" dimension first, the "W" dimension second, and the "H" dimension third. The maximum "L" and "W" dimensions are 8 ft and 6 ft., respectively. Any inlet exceeding either dimension shall be considered non-standard, and a detail shall be shown. Any such detail shall be sealed by a licensed Professional Engineer.
7. All clear distances to reinforcing steel shall be 1-1/2" unless otherwise shown.
8. Use HILTI HIT HY150 Injection Adhesive Anchor or approved equal for all anchor bolt grouting.
9. All ingrade inlets shall conform to street grade. All inlets in sump shall be level. Bevel all exposed edges with 3/4" triangular molding.

SPECIAL CURB INLET

Not to Scale

GBA
9801 Renner Boulevard
Lenexa, KS 66219
913.492.0400
www.gbateam.com
MO Certificate of Authority # 000133

LAND3 Studio, LLC
317 SE Main
Lee's Summit, MO 64063
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MO Certificate of Authority # 2008001860

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FINKLE + WILLIAMS Architecture
8787 Renner Boulevard, Suite 100
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913.498.1550
www.finklewilliams.com
Missouri Certificate of Authority #F00453304

PROJECT:

Paragon Star North Village
3200 NW Paragon Parkway, Lee's Summit, MO 64081
Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

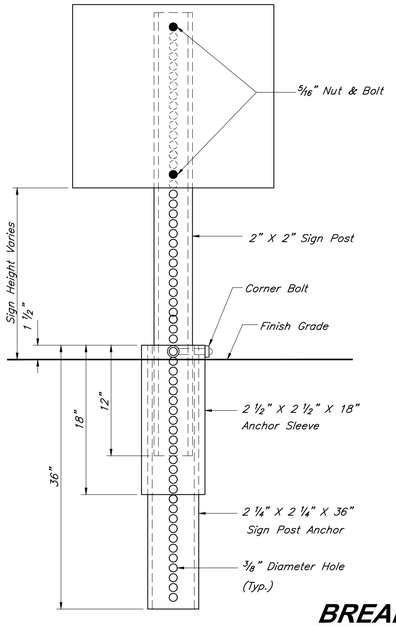
DRAWING TITLE:

Storm Sewer Details

JOB NO: 1249 SCALE:
DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C016



Pavement Installation Sequence

1. Sign post anchor driven into subgrade prior to the placement of the pavement.
2. Anchor sleeve driven into subgrade over the sign post anchor prior to the placement of the pavement.
3. Insert sign post into the sign post anchor and bolt in place.

Ground Installation Sequence

1. Sign post anchor driven into the ground.
2. Anchor sleeve driven into the ground over the sign post anchor.
3. Insert sign post into the sign post anchor and bolt in place.

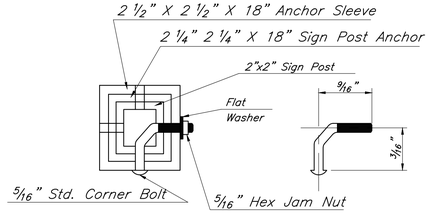
Note:
In all installations the first hole above the finished grade level in all three units must be in line for insertion of the corner bolt.

All corner bolts and nuts for fastening the signs and sign post assembly shall comply the applicable ANSI standards and ASTM testing requirements and shall be subsidiary items.

All Components shall be galvanized.

Sign Notes:

1. All letter, number & symbol sizes, spacing & colors, and the sign colors shall conform to the current "Manual On Uniform Traffic Control Devices."
2. Sign blank material shall be as follows:
   - Signs 36"X36" or greater — 0.100" thick
   - Guide Signs — 0.125" thick
   - All other signs — 0.080" thick
3. All sign mounting hardware shall be galvanized.
4. All sign faces shall be fabricated using ASTM Type III Prismatic reflective sheeting.

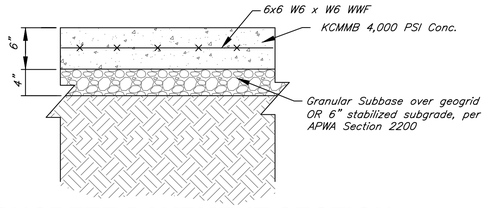


SECTION A-A

5/16" CORNER BOLT DETAIL (all bolts)

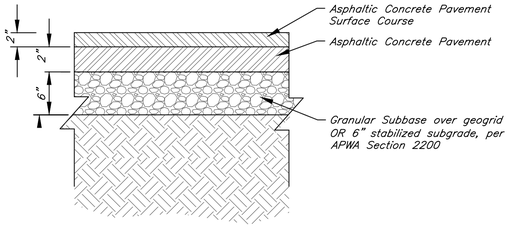
BREAK-AWAY SIGN POST DETAIL

Not to Scale



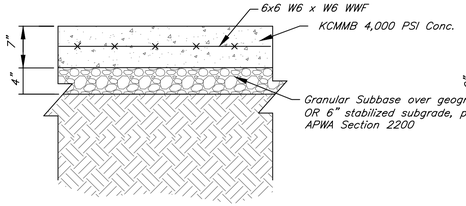
CONCRETE PAVEMENT SECTION

Not To Scale



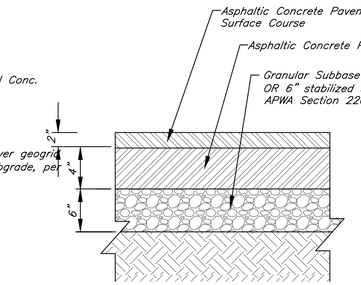
LIGHT DUTY ASPHALT PAVEMENT SECTION

Not To Scale



HEAVY DUTY CONCRETE PAVEMENT SECTION

Not To Scale

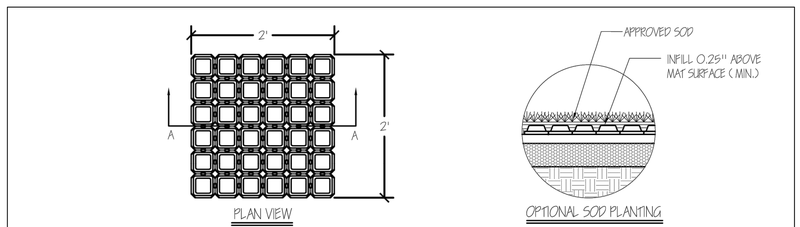


HEAVY DUTY ASPHALT PAVEMENT SECTION

Not To Scale

Pavement Notes:

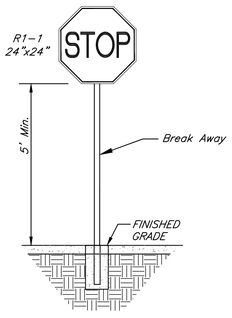
1. Pavement sections from geotechnical report title "Geotechnical Engineering Report – Paragon Multi-Family Development", dated August 11, 2021, prepared by Terracon Consultants, Inc.
2. All pavement shall meet City of Lee's Summit UDO Section 8.620 requirements.
3. Asphalt mix shall be APWA
   Base: 1-01, 2-01 or 5-01
   Surface: 2-01, 3-01 or 5-01
4. Subgrade stabilization shall be per Lee's Summit Standard Specifications – APWA Section 2200.



TYPICAL COMMERCIAL DRIVABLE GRASS® DETAIL

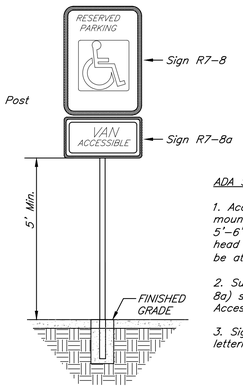
SCALE: 1"= 1'

DRIVABLE GRASS®
A Soil Retention Product
PROTECTED BY US AND INTERNATIONAL PATENTS AND TRADEMARKS
NOTE: FOR STORMWATER MANAGEMENT APPLICATIONS INCLUDING STORAGE AND INFILTRATION, A PERVIOUS INFILLS, BASE MATERIAL, AND DRAINAGE MAY BE REQUIRED



STOP SIGN DETAIL

Not to Scale

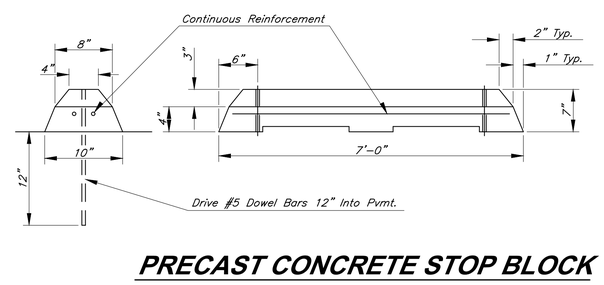


ADA Sign Notes:

1. Accessible Sign (R7-8) Shall be mounted on a pole or other structure 5'-6" above the parking surface, at the head of the parking space, and shall be at least 12"x18" in area.
2. Supplemental Accessible Sign (R7-8a) shall be used on all required Van Accessible Spaces.
3. Signs shall be blue with white lettering.

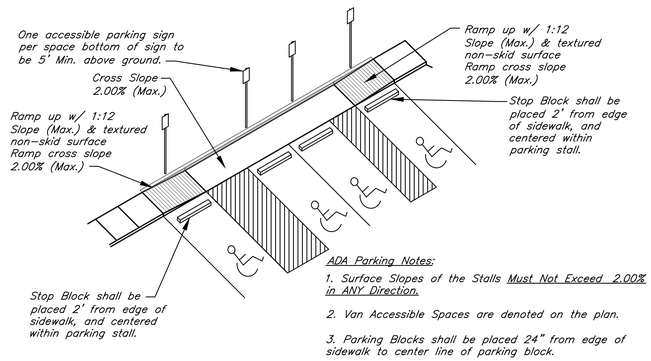
TYPICAL ACCESSIBLE SIGNAGE

Not to Scale



PRECAST CONCRETE STOP BLOCK

Not to Scale

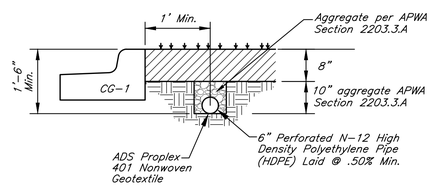


ADA Parking Notes:

1. Surface Slopes of the Stalls Must Not Exceed 2.00% in ANY Direction.
2. Van Accessible Spaces are denoted on the plan.
3. Parking Blocks shall be placed 24" from edge of sidewalk to center line of parking block.

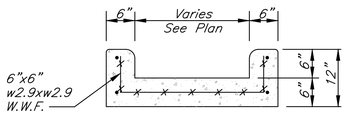
ADA PARKING DETAIL

Not to Scale



UNDERDRAIN DETAIL

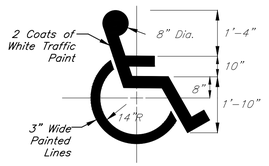
Not To Scale



Section

CONCRETE FLUME

Not To Scale



ACCESSIBLE PARKING SYMBOL DETAIL

Not to Scale

GBA
9801 Renner Boulevard
Lenexa, KS 66219
913.492.0400
www.gbateam.com
MO Certificate of Authority # 000133

LAND3 Studio, LLC
317 SE Main
Lee's Summit, MO 64063
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MO Certificate of Authority # 2008001860

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

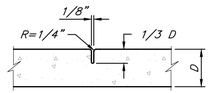
Construction Details

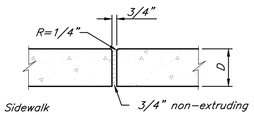
JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C017

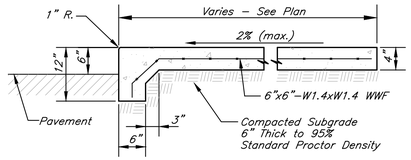




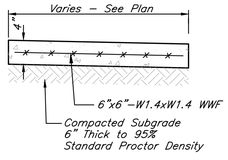
D = Depth of Sidewalk

CONTRACTION JOINT

EXPANSION JOINT



INTEGRAL CONCRETE SIDEWALK / CURB



STANDARD SIDEWALK

SIDEWALK NOTES:

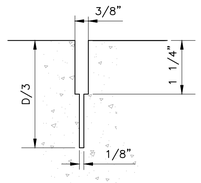
1. All vertical form expansion and construction joints must fall in groove.
2. Joint spacing 4'–0" center to center or width of sidewalk.
3. Install 3/4" expansion joint where walk abuts junction of existing walk, concrete curb, driveways, and similar structures, and 250' centers maximum.
4. All Concrete in exterior site work shall be KCMMB 4K.
5. Key all construction joints.

SIDEWALK DETAILS

Not to Scale

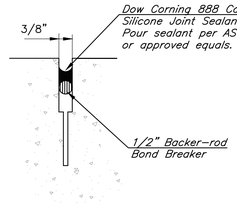
CONCRETE PAVEMENT JOINT NOTES:

1. All joints and saw cuts shall be sealed using either a hot–pour sealant or a cold applied sealant per these plans.
2. Hot–Pour Sealants shall conform to ASTM D–3405. Material shall be applied in accordance with the manufacturer's recommendations.
3. Silicone joint sealing material shall be cold–applied. Silicone component shall conform to requirement of Federal Specification TT–S1543.
4. Installation of Silicone Sealant shall be per "Installation Guide–Dow Corning Brand Silicone Pavement Sealants" or per manufactures requirements of the approved equal silicone sealant to be used.
5. All Silicone Sealant materials shall be pressure machine applied in accordance with the appropriate sealing material manufacturer's recommendations.
6. d = Depth of Slab
7. Dowel bars called out for lubrication shall be lubricated every other bar on each side of the joint.
8. Reinforcement is not continuous through joints. Woven Wire Fabric shall not be placed within 3" of joint.
9. Cold–applied Sealant shall be 3/8" below surface and minimum 1/2" Thick.



Notes:
1. The 1/8" Saw Cut (D/3 Depth) shall be done initially; the 3/8" saw cut shall be accomplished in a separate operation after the concrete has gained sufficient strength to avoid spalling.
2. D = Slab Thickness (Depth)

Typical Sawcut Joint



Typical Joint Sealant

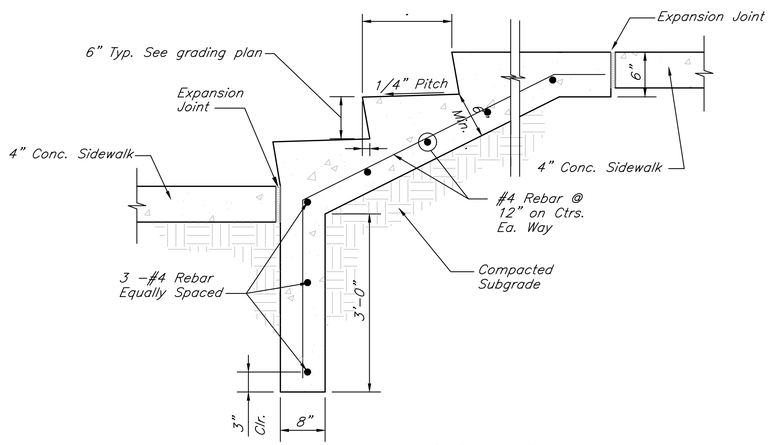
Notes: Joints to be equally spaced where not dimensioned as shown hereon. Maximum Joint Spacing shall be 12' Maximum in Either Direction

Transverse Contraction Joint

Thickened Edge Isolation Joint
At Building or Structure

CONCRETE PAVEMENT JOINT DETAILS

Not to Scale



STAIR DETAIL

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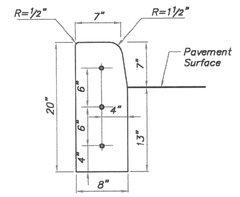
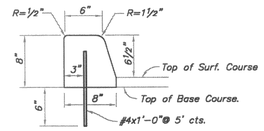


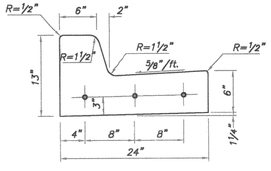
STRAIGHT CURB
(TYPE C–1)



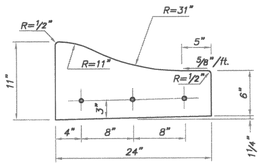
DOWELLED CURB
(TYPE DC)

GENERAL NOTES:

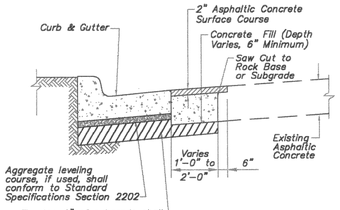
1. 3/4" Isolation Joints with 5/8" dia. x 2' smooth dowels shall be placed at radius points and at 150' intervals. These dowel bars shall be greased and wrapped on one end with expansion tubes.
2. 1" deep Contraction Joints shall be installed at approximately 10' intervals. These joints shall pass across the entire curb section.
3. Fix dowel bars with bar supports.
4. Depth of curb shall be a minimum of 8" through the handicap access ramp.
5. Concrete shall conform to Standard Specifications Section 2208.2.B.
6. Asphaltic concrete surface course shall conform to Standard Specifications Section 2205.2.



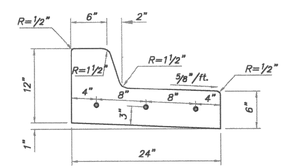
STRAIGHT BACK CURB & GUTTER
(TYPE CG–1)



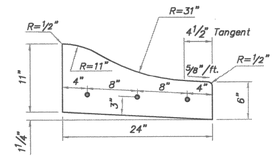
ROLL BACK CURB & GUTTER
(TYPE CG–2)



CURB REPLACEMENT DETAIL

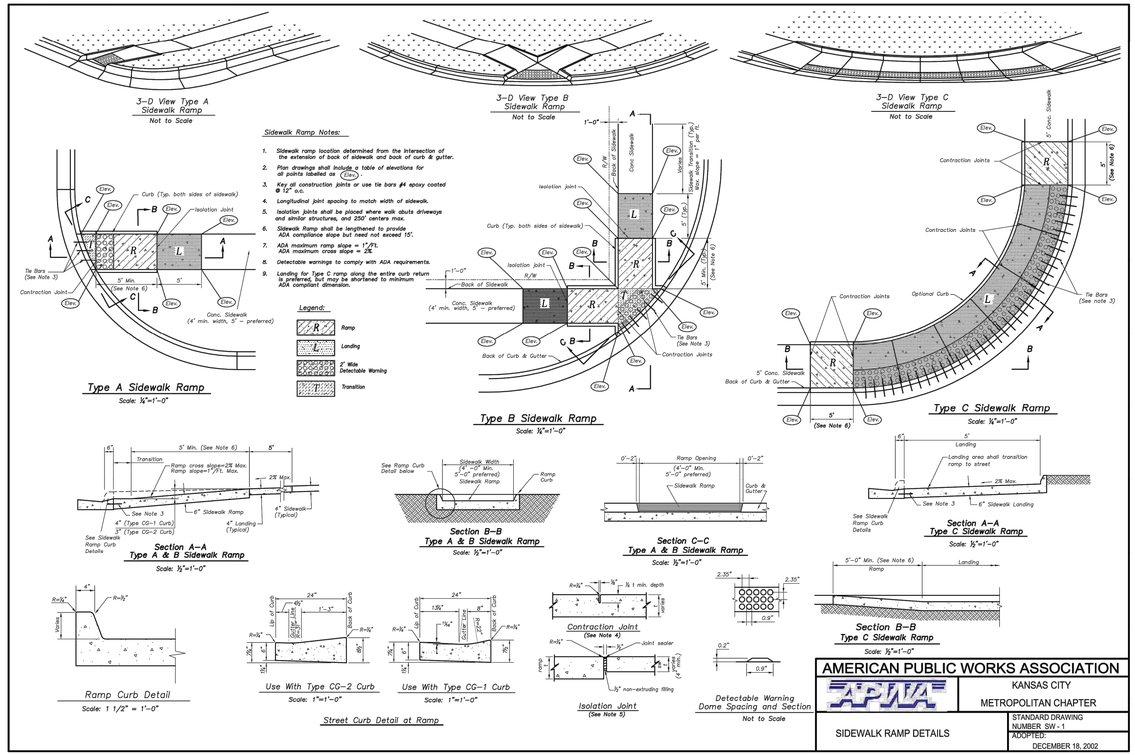


STRAIGHT BACK DRY CURB & GUTTER
(TYPE CG–1 DRY)



ROLL BACK DRY CURB & GUTTER
(TYPE CG–2 DRY)

AMERICAN PUBLIC WORKS ASSOCIATION		
APWA	KANSAS CITY METROPOLITAN CHAPTER	
CURB DETAILS	STANDARD DRAWING NUMBER C – 1	
	ADOPTED: MAY 23, 2001	



AMERICAN PUBLIC WORKS ASSOCIATION		
APWA	KANSAS CITY METROPOLITAN CHAPTER	
SIDEWALK RAMP DETAILS	STANDARD DRAWING NUMBER SW – 1	
	ADOPTED: DECEMBER 18, 2002	

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

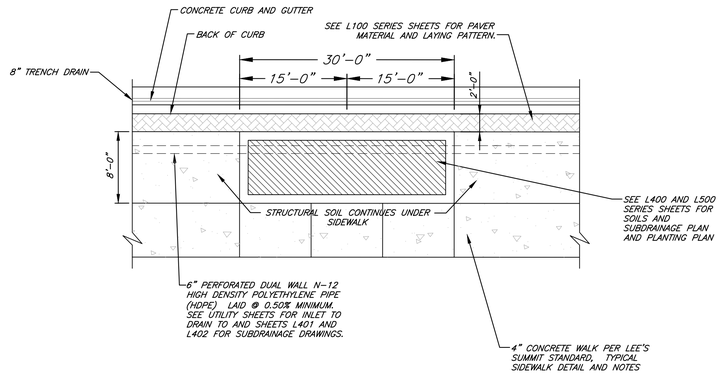
Construction Details

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: JRH

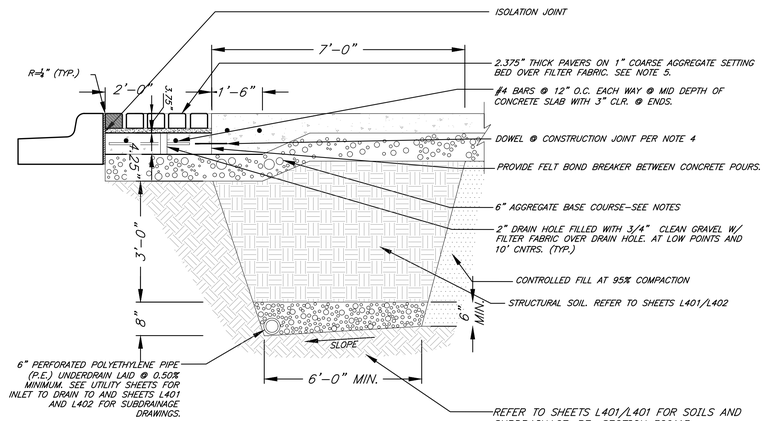
SHEET NO:

C018



RAISED PLANTER PLAN

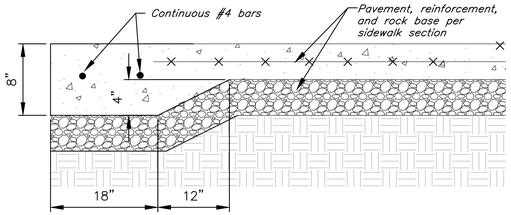
Not to Scale



NOTES:
1. ALL CONCRETE SHALL BE KCMMB-4K.
2. LEE'S SUMMIT STANDARD TYPE 1 JOINTS SHALL BE PLACED AS SHOWN ON PLANS.
3. AGGREGATE BASE COURSE SHALL BE 97% COMPACTED AB-3 OR LIMESTONE SCREENINGS WITH A WATER CONTENT BETWEEN -2 AND +1 PERCENTAGE POINTS OF THE OPTIMUM WATER CONTENT.
4. AT CONSTRUCTION JOINTS IN CONCRETE SLAB, INSTALL #5 X 12" LONG SMOOTH DOWELS @ 12" SPACING ALONG THE CONSTRUCTION JOINT. GREASE AND WRAP ONE END SIMILAR TO LEE'S SUMMIT STANDARD TYPE 2 JOINT. DOWEL INSTALLED ON EACH SIDE OF JOINT. (NO 1/2" PREMOLDED NON-EXTRUDING FILLER.)
5. PAVERS WILL BE SELECTED BY THE LANDSCAPE ARCHITECT. SEE L100 SERIES SHEETS FOR MATERIAL TYPE AND LAYING PATTERN

AMENITY ZONE PAVER DETAIL

Not to Scale



THICKENED EDGE DETAIL

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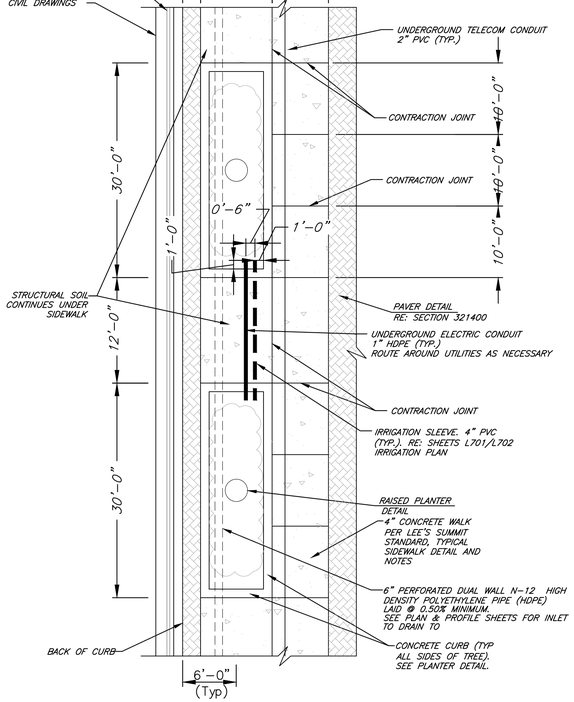
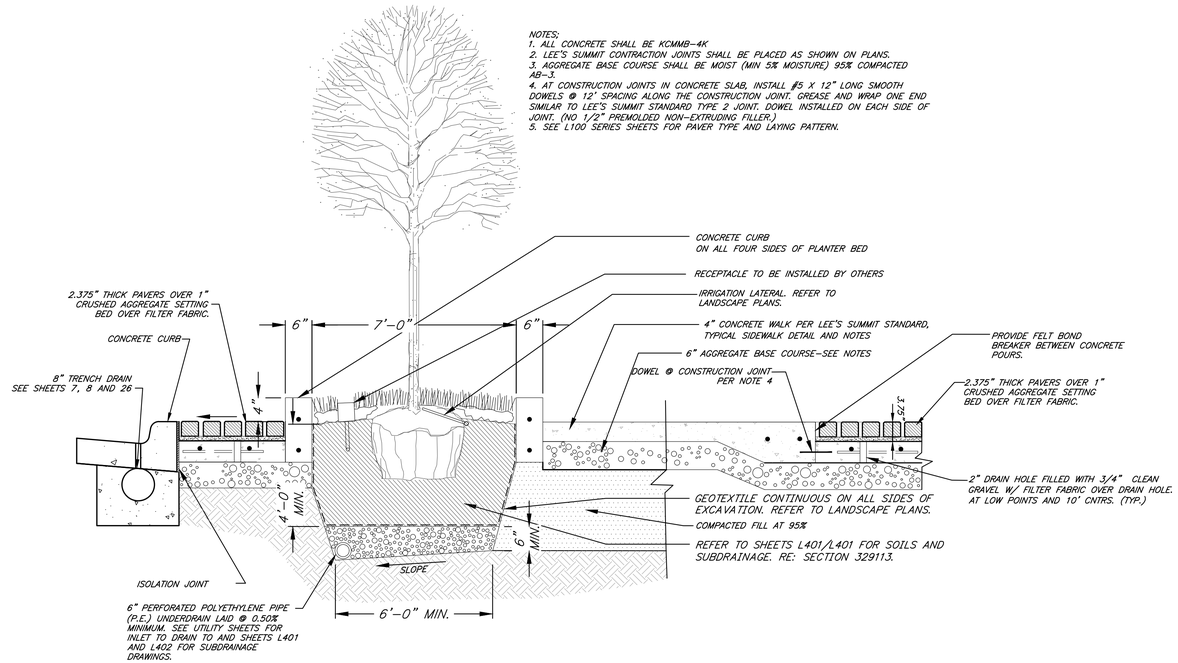


TYPICAL SIDEWALK LAYOUT

Not to Scale

NOTES:
1. ALL CONCRETE SHALL BE KCMMB-4K.
2. LEE'S SUMMIT CONTRACTION JOINTS SHALL BE PLACED AS SHOWN ON PLANS.
3. AGGREGATE BASE COURSE SHALL BE MOIST (MIN 5% MOISTURE) 95% COMPACTED AB-3.
4. AT CONSTRUCTION JOINTS IN CONCRETE SLAB, INSTALL #5 X 12" LONG SMOOTH DOWELS @ 12' SPACING ALONG THE CONSTRUCTION JOINT. GREASE AND WRAP ONE END SIMILAR TO LEE'S SUMMIT STANDARD TYPE 2 JOINT. DOWEL INSTALLED ON EACH SIDE OF JOINT. (NO 1/2" PREMOLDED NON-EXTRUDING FILLER.)
5. SEE L100 SERIES SHEETS FOR PAVER TYPE AND LAYING PATTERN.



TREE PLANTER DETAIL

Not to Scale

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

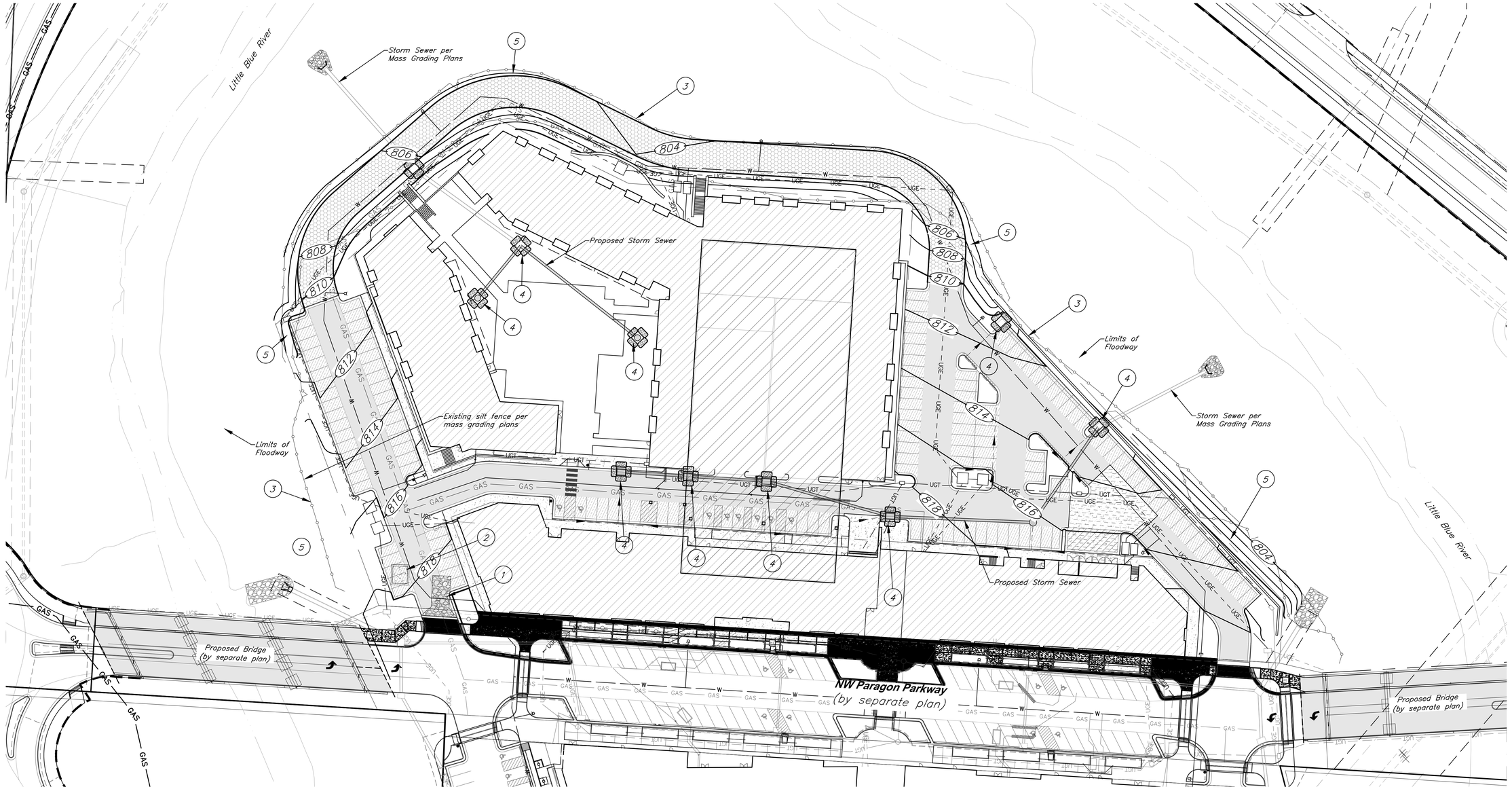
Streetscape Details

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C019



EROSION & SEDIMENT CONTROL STAGING CHART

Project Stage	Ref. No.	BMP Description	May Remove after Stage	Notes
A. Place Erosion Control Prior to Land Disturbance	1	Const. Entrance & Staging Area	C	
	2	Construct Concrete Wash-out	C	
	3	Perimeter Silt Fence	C	
B. Final Grading, Paving, and Landscaping	4	Inlet Protection	C	
	5	Seed & Mulch or Blanket or Sod		Erosion control blanket to be installed w/ seed. Check approved seeding dates and install temporary stabilization if out of seeding season. Install blanket according to manufacturer's instructions and stapling pattern.

Note: Permanent Stabilization will be considered stabilized when 100% of disturbed area is established with perennial vegetation with a density of 70%.

Legend

- 810 — Proposed Contour
- 810 — Existing Contour
- B-1 — Geotechnical Boring Location
- Straw Wattles
- Inlet Filter Sock
- Grading Limits
- Sediment Fence
- Exist. Sediment Fence (to be maintained on perimeter)

40' 0' 40' 80'
SCALE : 1 INCH = 40 FEET

PROJECT BENCHMARK:

BM #11 – Chiseled "L" on top Northeast corner of concrete guardrail at the Northeast corner of I470 bridge spanning View High Drive. EL=833.80

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

Erosion Control Plan

JOB NO: 1249 SCALE:
DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C020

EROSION AND SEDIMENT CONTROL NOTES

The layout of erosion control best management practices (BMPs) shown on the engineering plans is intended to control erosion and minimize, if not eliminate, the transport of sediment from the disturbed areas. The Contractor shall be responsible for the evaluation of existing surface drainage patterns and for making adjustments to the BMP locations to best control erosion and minimize, if not eliminate, the transport of sediment from the disturbed areas. The following are measures to achieve the control of erosion and sediment.

1. *Stabilization Practices – Stabilization practices are very effective at preventing erosion by shielding the soil surface from the impact of rain, slowing the velocity of runoff, holding soils in place, and increasing infiltration of runoff and allowing the soil to absorb more rainfall.*

   a. *Temporary Seeding Stabilization – During acceptable growing periods (see Table 1 below,); temporary seeding of annual vegetation with a straw mulch cover shall be used as a temporary cover until permanent vegetation is established. If there is a possibility that a vegetative cover will be required to control erosion for more than 1 year, then consider the addition of a perennial/permanent grass species as part of a seeding mixture.*

Table 1. Temporary Seeding Dates and Minimum Application Rates

Seeding Dates	Temporary Seed Species	Minimum Application Rates (pure live seed lbs. per acre)	Straw Mulch (tons per acre)
Jan. 1 – Jan. 31	None	Not Applicable	2.5
Feb. 1 – May 31	Annual Ryegrass	120	1.5
June 1 – Aug.4	None	Not Applicable	2.5
Aug. 15 – Nov. 15	Cereal/Winter Rye	120	1.5
Nov. 16 – Dec. 31	None	Not Applicable	2.5

Seedbed Preparation – For broadcast seeding or drilling, loosen soil to depth of 3 inches. For no till drilling, loosen soil if it is compacted. Loosen compacted, hard or crusted soil surfaces with a disk, ripper, chisel, harrow or other tillage equipment. Avoid preparing the seedbed under excessively wet conditions. For establishment and long-term growth, apply a complete fertilizer at rates recommended by soil tests or as specified in plans and specifications. If soil pH is less than 6.0, apply lime according to soil tests. Incorporate necessary lime and fertilizer to a depth of 3 to 6 inches of soil.

Installation – For the best results use certified seed. Apply seed uniformly using a cyclone seeder, drop-type spreader, drill, cultipacker seeder or hydroseeder. When using a drill seeder, plant rye or other grains about 1 inch deep and plant grasses no more than ½ inch. A vegetative straw mulch cover shall be applied over the seed mixture to help germinate and establish plant cover, control weeds, and protect seed mixture against temperature extremes. Follow straw mulch preparation and application procedures described herein.

   b. *Temporary Mulch Stabilization – During non-growing periods, a straw mulch cover shall be applied in unseeded areas to protect against erosion until temporary or permanent vegetation is established.*

Site Preparation – Divert runoff water from areas above the site that will be mulched. Remove stumps, roots and other debris from the construction area. Grade area as needed to permit the use of equipment for seeding, mulching and maintenance. Shape area so that it is relatively smooth.

Application – Spread straw mulch uniformly over the area with a power blower, hydroseeder, or by hand. No more than 25% of the ground surface should be visible after spreading. Apply straw mulch at a rate of 1.5 tons per acre as a seed cover or 2.5 tons per acre as a stand alone cover. The straw should be dry, unchopped, unweathered; free of weed seeds and rot. In areas of steep slopes or high winds, or in critical areas such as swales, mulching may need to be secured to the ground with a binder, netting, or tacking.

   c. *Permanent Seeding Stabilization – All disturbed areas shall be permanently seeded with a cool season grass mixture as specified in the Standards and Specifications of the City of Lee's Summit, Missouri..*

Seedbed Preparation – loosen soil to depth of 3 inches. For no till drilling, loosen soil if it is compacted. Loosen compacted, hard or crusted soil surfaces with a disk, ripper, chisel, harrow or other tillage equipment. Avoid preparing the seedbed under excessively wet conditions. For establishment and long-term growth, apply a complete fertilizer at rates recommended by soil tests or as specified in plans and specifications. If soil pH is less than 6.0, apply lime according to soil tests. Incorporate necessary lime and fertilizer to a depth of 3 to 6 inches of soil.

Installation – For the best results use certified seed. Apply seed uniformly using a hydroseeder. A vegetative straw mulch cover shall be applied over the seed mixture to help germinate and establish plant cover, control weeds, and protect seed mixture against temperature extremes. Follow straw mulch preparation and application procedures described in the Standards and Specifications of the City of Lee's Summit, Missouri.

2. *Structural Practices*

   a. *Silt Fence – A temporary sediment barrier consisting of a geotextile fabric shall be installed as shown on the attached engineering plans and details. Silt fencing shall be installed to maintain sediment onsite.*

      Minimum Requirements:

      Location – Fence should be built on a nearly level grade and at least 10 feet from the toe of the slope to provide a broad shallow sediment pool. Install on the contour, where fence can intercept runoff as a sheet flow; not located crossing channels, waterways or other concentrated flow paths; not attached to existing trees.

      Spacing of Support Posts – 10 feet maximum for fence supported by wire; 6 feet maximum for high strength fabric without supportive wire backing. Support posts should be driven into the ground a minimum of 10 inches deep.

      Trench – Bottom 1 foot of fence must be buried minimum of 4 inches deep.

   b. *Inlet Protection – When installation of the storm drainage system is complete, gravel curb inlet sediment traps will be placed at the drainage system inlets. Construction shall be in accordance with attached engineering plans and details.*

   c. *Stockpiles – The toe of stockpiles shall be placed a minimum of 10 feet from erosion control measures. If stockpiles are to remain for more than 14 days, they shall be temporarily stabilized with vegetative mulch and temporary seeding.*

3. *Maintenance – The contractor shall repair all erosion control measures or re-seed areas that are disturbed or damaged as a result of weather or other situations, within 2 days after the occurrence. This will include all areas bare of vegetation.*

EROSION CONTROL GENERAL NOTES

1. *The Contractor is responsible for erosion control during construction and until the Owner and City accepts the work as complete. The erosion control measures shown on this plan are a typical minimum installation. The Contractor shall be responsible for adjusting or adding to these measures as necessary during the phasing of the construction to assure adequate control.*

2. *Clearing and grubbing within 50' of a defined drainage course should be avoided when possible. Where changes to a defined drainage course occur, work should be delayed until all materials and equipment necessary to protect and complete the drainage change are on site. Changes shall be completed as quickly as possible once the work has been initiated. The area impacted by the construction activities shall be revegetated or protected from erosion as soon as possible, areas within 50' of a defined drainage ways should be recontoured as needed or otherwise protected within five (5) working days after grading has ceased.*

3. *Where soil disturbing activities cease in an area for more than 14 days, the disturbed areas shall be protected from erosion by stabilizing the area with mulch or other similarly effective erosion control measures. If the slope of the area is greater than 3:1 or if the slope is greater than 3% and greater than 150 feet in length, then the disturbed areas shall be protected from erosion by stabilizing the area with mulch or other similarly effective erosion control measures if activities cease for more than seven (7) days.*

4. *Existing vegetation shall be preserved to the extent and where practical. In no case shall disturbed areas remain without vegetative ground cover for a period in excess of 60 days.*

5. *Additional site management practices which shall be adhered to during the construction process shall include:*

   –Solid and hazardous waste management including providing trash containers and regular site clean up for proper disposal of solid waste such as building and construction material, product/material shipping waste, food containers and cups, and providing containers for the proper disposal of waste paints solvents, and cleaning compounds.

   –Provisions of portable toilets for proper disposal of sanitary sewage.

   –Storage of construction materials away from drainage courses and low areas.

   –Installation of containment berms and use of drip pans at petroleum product and liquid storage tanks and containers.

6. *All disturbed areas shall be seeded, fertilized and mulched, or sodded, in accordance with the Standards and Specifications adopted by the City of Lee's Summit, Missouri and good engineering practices. This shall be completed within fourteen (14) days after completing the work, in any area. If this is outside of the seeding period, silt barriers or other similarly effective measures shall be provided until such time that the areas can be seeded.*

7. *All erosion control measures, temporary or permanent, require maintenance to preserve their effectiveness. All erosion control devices shall be inspected immediately after each heavy rainstorm and at least daily during prolonged rainfall. Any required repairs should be made immediately. All costs associated with the repair work including related incidentals will be the contractor's responsibility and shall be included in the Contractor's bid for the proposed work. Only after the project is complete and accepted can the erosion control be removed.*

8. *Seeding shall be done before the proposed seedbed becomes eroded, crusted over, or dried out and shall not be done when the ground is frozen, or covered with snow. The seed shall comply with requirements of the Missouri Seed Law and the Federal Seed Act. Also, it shall contain no seed of any plant on the Federal Noxious Weed List. Other weed seed shall not exceed one percent by weight of mix.*

9. *During the dates Dec. 15 through May 30 ALL lime, fertilizer, seed, and mulch shall be applied to finished slopes of disturbed areas. During the months of June, July, October, and November 1st through December 15th, lime, fertilizer, seed, and mulch shall be applied at the following rates:*

   Lime – 100% of the specified quantity
   Fertilizer – 75% of the specified quantity
   Seed – 50% of the specified quantity
   Mulch – 100% of the specified quantity

10. *Mulch shall be Vegetative type, cereal straw form stalks of oats, rye, or barley, or approved equal. The straw shall be free of prohibited weed seed and relatively free of all other noxious and undesirable seed. Apply straw mulch at a rate of 1.5 tons per acre as a seed cover or 2.5 tons per acre as a stand alone cover. Mulch shall be embedded by a mulch anchoring tool or disk type roller having flat serrated disks spaced not more than 10 inches apart and cleaning scrapers shall be provided.*

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HENDERSON ENGINEERS, Inc.
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Lenexa, KS 66214
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Lenexa, KS 66219
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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

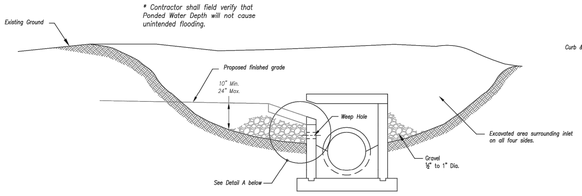
DRAWING TITLE:

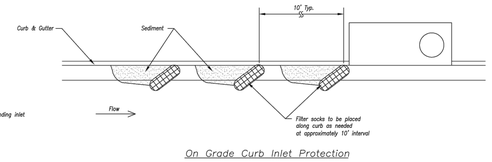
Erosion Control Notes

JOB NO: 1249 SCALE:
DATE: 01.28.2022 DRAWN BY: JRH

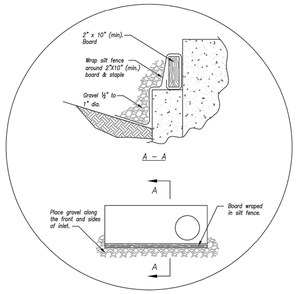
SHEET NO:

C021



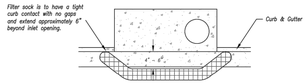


On Grade Curb Inlet Protection



Detail A

EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)



Sump Inlet Sediment Filter

Notes:

1. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2" X 10" (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Early Stage Curb Inlet).
2. When inlet is completed and curb poured, filter socks or approved equal should be used (Late Stage Curb Inlet). Straw wattles are not approved for curb inlet use.
3. Contractor to field verify ponding water shall not create a traffic hazard.

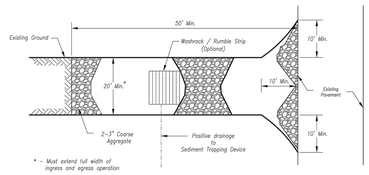
Maintenance:

1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

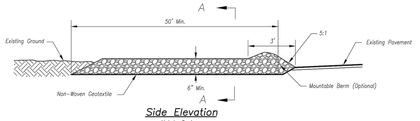
LATE STAGE CURB INLET
(After Pouring Curb and Inlet Throat)

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

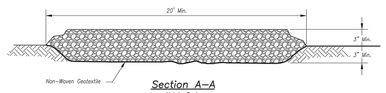
AMERICAN PUBLIC WORKS ASSOCIATION	
Kansas City Metro Chapter APWA American Public Works Association	KANSAS CITY METRO CHAPTER
CURB INLET PROTECTION	STANDARD DRAWING NUMBER ESC-06
	ADOPTED: 10/24/2016



Plan View
Not to Scale



Side Elevation
Not to Scale



Section A–A
Not to Scale

Notes for Construction Entrance:

1. Avoid locating on steep slopes, at curves on public roads, or downhill of disturbed areas.
2. Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
3. If slope towards the public road exceeds 2%, construct a 6– to 8–inch high ridge with 3H:1V side slopes across the foundation approximately 15 feet from the edge of the public road to divert runoff from it.
4. Install pipe under the entrance if needed to maintain drainage ditches along public roads.
5. Place stone to dimensions and grade as shown on plans. Leave surface sloped for drainage.
6. Divert all surface runoff and drainage from the entrance to a sediment control device.
7. If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

Maintenance for Construction Entrance:

1. Reshape entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.

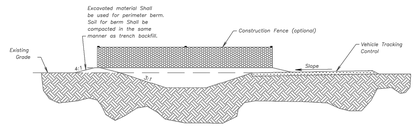
CONSTRUCTION ENTRANCE

Notes for Concrete Washout:

1. Concrete washout areas shall be installed prior to any concrete placement on site.
2. Concrete washout area shall include a flat subsurface pit sized relative to the amount of concrete to be placed on site. The slopes leading out of the subsurface pit shall be 3:1. The vehicle tracking pad shall be sloped towards the concrete washout area.
3. Vehicle tracking control is required at the access point to all concrete washout areas.
4. Signs shall be placed at the construction site entrance, washout area and elsewhere as necessary to clearly indicate the location(s) of the concrete washout area(s) to operators of concrete truck and pump rigs.
5. A one–piece impervious liner may be required along the bottom and sides of the subsurface pit in sandy or gravelly soils.

Maintenance for Concrete Washout:

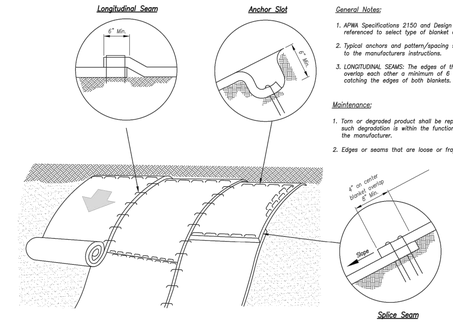
1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
2. Concrete washout areas shall be enlarged as necessary to maintain capacity for wasted concrete.
3. Concrete washout water, wasted pieces of concrete and all other debris in the subsurface pit shall be transported from the job site in a water–tight container and disposed of properly.
4. Concrete washout areas shall remain in place until all concrete for the project is placed.
5. When concrete washout areas are removed, excavations shall be filled with suitable compacted backfill and topsoil, any disturbed areas associated with the installation, maintenance, and/or removal of the concrete washout areas shall be stabilized.



CONCRETE WASHOUT

Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control; Concrete Washout modified from 2009 City of Great Bend Standard Drawings.

AMERICAN PUBLIC WORKS ASSOCIATION	
Kansas City Metro Chapter APWA American Public Works Association	KANSAS CITY METRO CHAPTER
CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT	STANDARD DRAWING NUMBER ESC-01
	ADOPTED: 10/24/2016



General Notes:

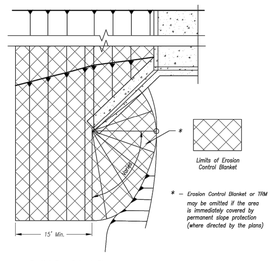
1. APWA Specifications 2150 and Design Guidance 5100 shall be referenced to select type of blanket or mat to be used.
2. Typical anchors and pattern/spacing shall be installed according to the manufacturers instructions.
3. LONGITUDINAL SEAMS: The edges of the blanket or mat should overlap each other a minimum of 6 inches, with anchors catching the edges of both blankets.

Maintenance:

1. Torn or degraded product shall be repaired or replaced, unless such degradation is within the functional longevity specified by the manufacturer.
2. Edges or seams that are loose or frayed shall be secured.

Notes for Installation in Channels:

1. Erosion Control Blankets and TRMs shall be laid in the direction of the flow, with the first course at the centerline of channel, where applicable. In order for the mat to be in contact with the soil, lay the mat loosely, avoiding stretching.
2. ANCHOR FOLD: The top of the mat should be folded under, buried and secured with wood or other approved anchors placed 6 inches apart. The top edge of the mat should be buried in a slot 6 inches wide x 6 inches deep, anchored in the bottom of the slot, backfilled, and the mat folded over the top as shown in detail.
3. SPLICE SEAM: When splices are necessary, overlap end a minimum of 12 inches in direction of water flow. Stagger splice seams.
4. CHECK SLOTS: Establish check slots transverse to slope every 30 feet. The slots should be 6 inches wide x 6 inches deep. The mat shall be cut to a length 12 inches beyond the slot. The top of the downstream mat shall be slotted in, secured and buried similar to the edge anchor fold. The upstream mat shall then cover the slot and be anchored as shown.
5. EDGE ANCHORS: Lay outside edge of mat into trench at top of the slope and anchor.
6. TERMINUS: The bottom edge of the mat shall be anchored.



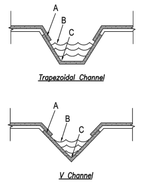
* – Erosion Control Blanket or TRM may be omitted if the area is immediately covered by permanent slope protection (where directed by the plans)

Partial Box Culvert Plan
Not to Scale

Installation Around Culvert Slope

Notes for Installation on Slopes:

1. Erosion Control Blankets and TRMs shall be laid in the direction of the slope. In order for blanket to be in contact with the soil, lay blanket loosely, avoiding stretching.
2. ANCHOR SLOTS: The top of the blanket should be "slotted in" at the top of the slope and anchored in place with anchors 6 inches apart. The slots should be 6 inches wide x 6 inches deep with the blanket anchored in the bottom of the slot, then backfilled, tamped and seeded.
3. SPLICE SEAM: When splices are necessary, overlap end a minimum of 8 inches in direction of water flow. Stagger splice seams.
4. TERMINAL FOLD: The bottom edge of the blanket shall be turned under a minimum of 4 inches, then anchored in place with anchors 9 inches apart.



Installation in Channels

Critical Points:

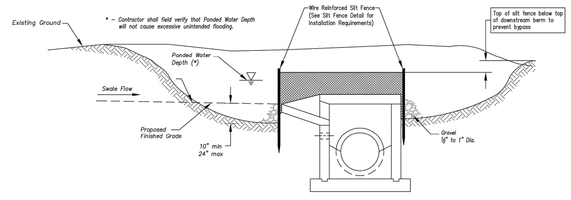
A – Overlaps and seams;

B – Projected water line;

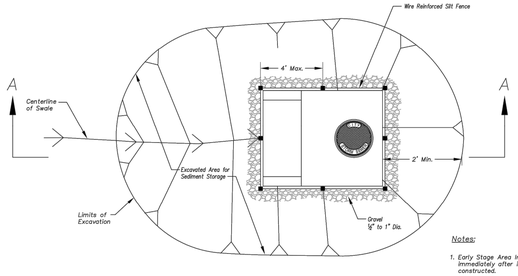
C – Channel bottom / side slope vertices;

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION	
Kansas City Metro Chapter APWA American Public Works Association	KANSAS CITY METRO CHAPTER
EROSION CONTROL BLANKETS AND TURF REINFORMENT MATS	STANDARD DRAWING NUMBER ESC-02
	ADOPTED: 10/24/2016



Section A–A
Not to Scale

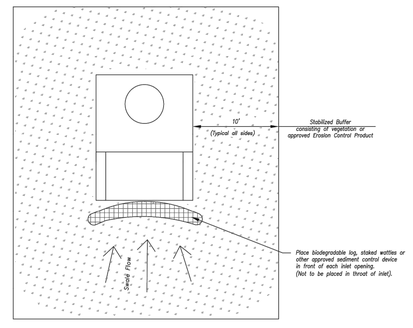


Plan
Not to Scale

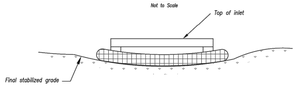
EARLY STAGE AREA INLET
(All open boxes and inlets not at final grade)

Notes:

1. Early Stage Area Inlet Sediment Barrier to be installed immediately after inlet or junction box is constructed.
2. Silt fence shall remain in place until excavated area is removed and Late Stage Area Inlet is being installed.
3. Backfill excavated area ONLY after final grading of the site. Stabilization of the site is to immediately follow.
4. Wire reinforced silt fence may be used in place of silt fence attached to wood frame.



Plan
Not to Scale



Front View

LATE STAGE AREA INLET
(Area inlets at final grade and existing inlets)

Maintenance:

1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION	
Kansas City Metro Chapter APWA American Public Works Association	KANSAS CITY METRO CHAPTER
AREA INLET AND JUNCTION BOX PROTECTION	STANDARD DRAWING NUMBER ESC-07
	ADOPTED: 10/24/2016

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

Erosion Control Details

JOB NO: 1249 SCALE:

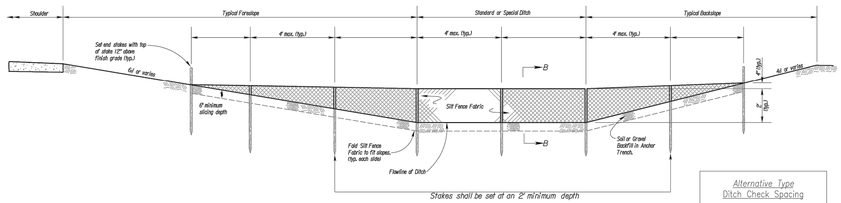
DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C022

Notes for Silt Fence Ditch Check:

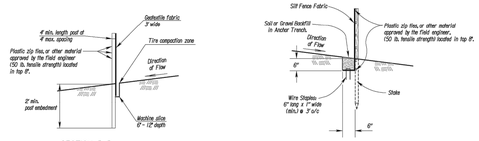
1. Stakes shall be 4' (min.) long and one of the following materials:
   a. Hardwood – 1 ½" x 1 ½";
   b. Southern Pine (No. 2) – 2 ½" x 2 ½";
   c. Steel (L, T, L, or C Section – .95 lbs. per 1'-0";
   d. Synthetic – same strength as wood stakes.
2. Cross pieces shall be of same material as stakes.
3. Attach fence fabric securely on 4" centers (max.).
4. Use of high flow material is acceptable.
5. Refer to plan sheets to estimate the length of silt fence required.
6. Use support fencing when tributary area is greater than 2.4 acres or when ditch gradient is greater than 2 percent.
7. Silt fence sliced in to a 6" minimum depth.
8. Elevation at tie in points shall be a minimum of 4" higher than the center.



TYPICAL ELEVATION

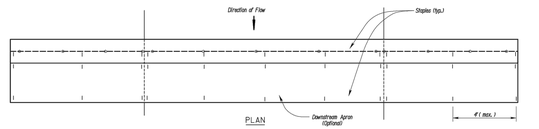
Alternative Type Ditch Check Spacing	
Ditch Centerline Slope (%)	Spacing Interval (Feet)
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	33

Note: Use this spacing for all except Rock Ditch Checks.

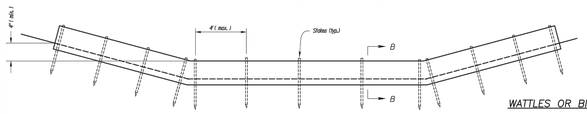


SECTION B-B

SILT FENCE DITCH CHECK
NO SCALE



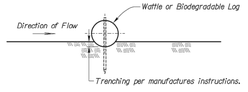
PLAN



TYPICAL ELEVATION

Notes for Wattles and Biodegradable Log Ditch Check:

1. Use as many biodegradable log sections as necessary to ensure water does not flow around end of ditch check.
2. Overlap sections a minimum of 18".
3. Stakes shall be per manufacturer's instructions. Length of stakes shall be a minimum of 2 times the diameter of the log or 24" minimum.
4. Use Erosion Control (Class 1) (Type C) as the downstream apron when directed by the Engineer.
5. Use 9" diameter logs when used with Erosion Control (Class 2) (Key Type) channel lining. Smaller diameter logs may be used with Erosion Control (Class 2) (Key Type) channel lining as directed by the Engineer.

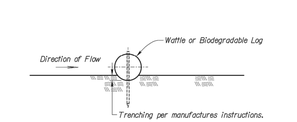


SECTION B - B

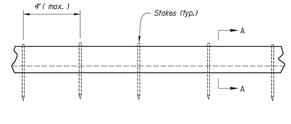
WATTLES OR BIODEGRADABLE LOG DITCH CHECKS
OR Filter Sock Ditch Check
NO SCALE

Modified from Kansas Department of Transportation Standard Details for Erosion Control and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION	KANSAS CITY METRO CHAPTER
SILT FENCE AND WATTLE/ BIODEGRADABLE LOG DITCH CHECKS	STANDARD DRAWING NUMBER ESC-09
	ADOPTED: 10/24/2016



Section A–A



Typical Elevation

WATTLES AND BIODEGRADABLE LOG

Notes for Wattles and Biodegradable Log Slope Protection:

1. The Slope barriers shall be placed along contour lines, with a short section turned upgrade at each end of the barrier. The maximum length of the slope barrier shall not exceed 250 feet, and the barrier ends need to be staggered.
2. Install wattles and biodegradable logs per manufacturer's instructions.
3. Spacing of stakes per manufacturer's instructions with 4' max. spacing. Length of stakes shall be a minimum of 2 times the diameter of the log with minimum of 24".

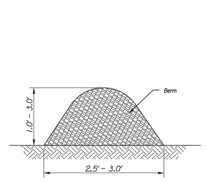


Figure 1
(Perimeter Control)

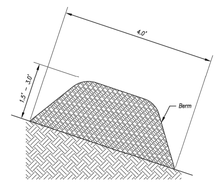


Figure 2
(Steep Slopes)

Notes for Mulch and Compost Filter Beam:

1. The sediment control berm shall be placed uncompacted in a windrow at locations shown on the plans or as directed by the engineer.
2. Parallel to the base of the slope, or around the perimeter of other affected areas, construct a 1 to 3 foot high by 2.5 to 3 foot wide berm (see Figure 1). For maximum water treatment ability or for steep slopes, construct a 1.5 to 3 foot high trapezoidal berm that is a minimum of 4 feet wide at the base (see Figure 2). In extreme conditions, or where specified by the engineer, a second berm shall be constructed at the top of the slope. Engineer will specify berm requirements.
3. If berm is to be left as permanent or part of the natural landscape, the compost berm may be seeded during application for permanent vegetation.
4. Do not use compost or wood mulch berms in any runoff channels or concentrated flow areas.
5. Wood mulch shall consist of tree and shrub debris resulting from clearing and grubbing and shall be ground by the mechanical means such as a chipper, hammermill, tub grinder or other approved method. Mulch sizing varies with a maximum width of 2" and a maximum length of 10".

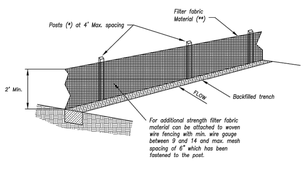
Maintenance for Mulch and Compost Filter Beam:

1. Berm shall be reshaped and material added as necessary to maintain function and dimensions.
2. Breaches in the berm shall be repaired promptly.

MULCH OR COMPOST FILTER BERMS

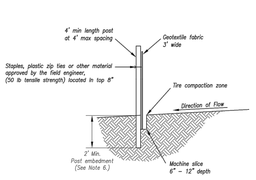
Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION	KANSAS CITY METRO CHAPTER
WATTLES/BIODEGRADABLE LOG AND MULCH/COMPOST FILTER BERM	STANDARD DRAWING NUMBER ESC-04
	ADOPTED: 10/24/2016



(*) POSTS
– MIN. LENGTH 4'
– HARDWOOD 1 ½" x 1 ½"
– NO.2 SOUTHERN PINE 2 ½" x 2 ½"
– STEEL 1.33 LB/FT

(**) – Geotextile Fabric shall meet the requirements of AASHTO M288



Notes:

1. In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
2. Long perimeter runs of silt fence must be limited to 100', Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
3. Long slopes should be broken up with intermediate rows of silt fence to slow runoff velocities.
4. Attach fabric to upstream side of post.
5. Install posts a minimum of 2' into the ground.
6. Trenching will only be allowed for small or difficult installation, where slicing machine cannot be reasonably used.

SILT FENCE DETAILS
Not to Scale

Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches ½ the height of silt fence.
2. Repair as necessary to maintain function and structure.

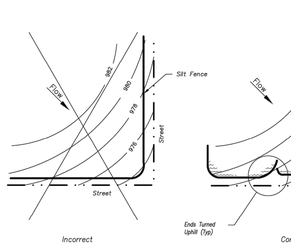
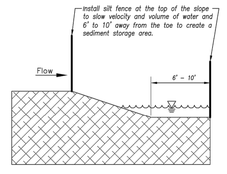
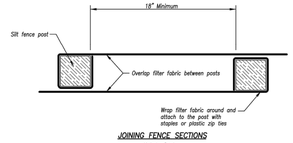


Figure A

SILT FENCE LAYOUT
Not to Scale





JOINING FENCE SECTIONS
Not to Scale

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION	KANSAS CITY METRO CHAPTER
SILT FENCE	STANDARD DRAWING NUMBER ESC-03
	ADOPTED: 10/24/2016

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

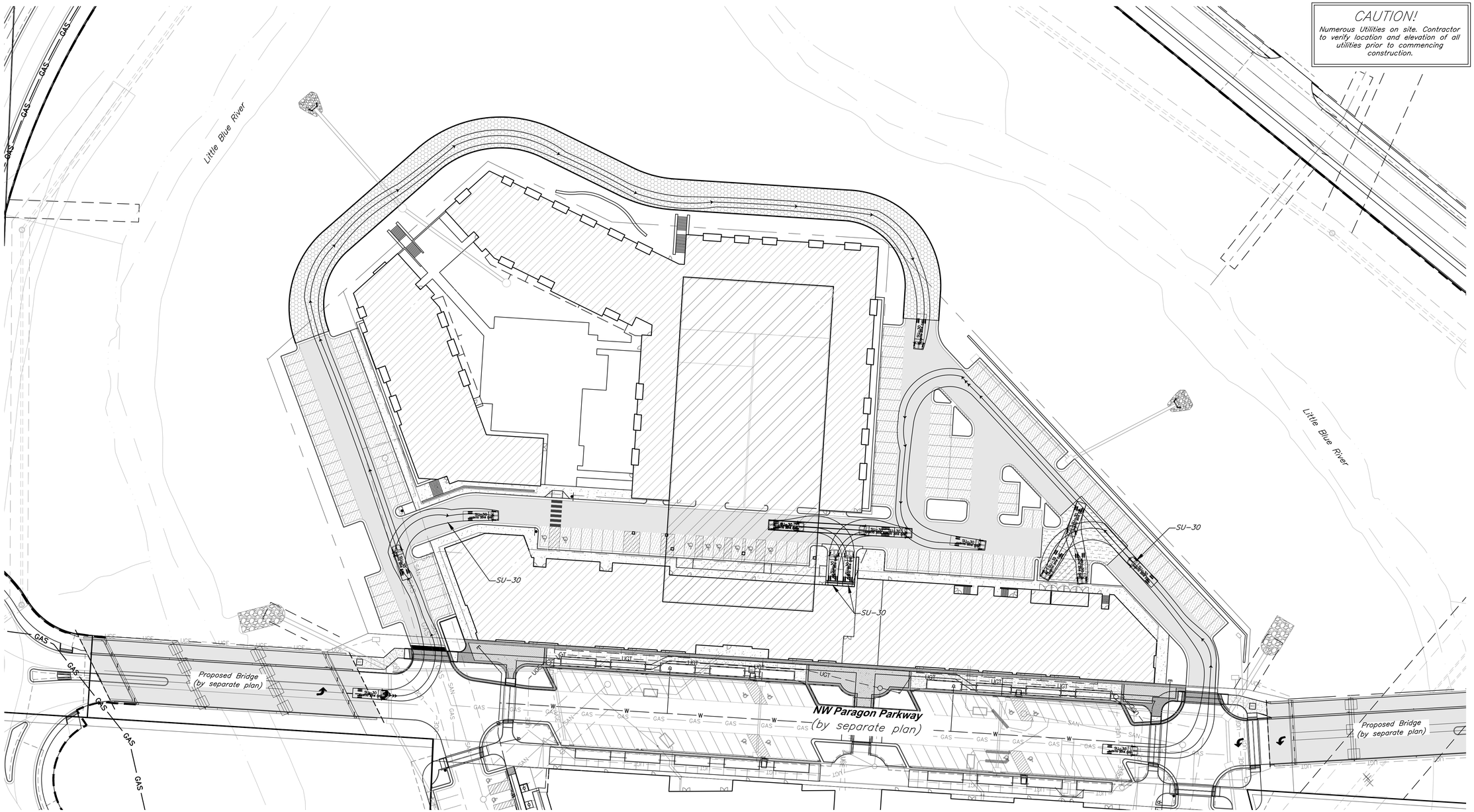
Erosion Control Details

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: JRH

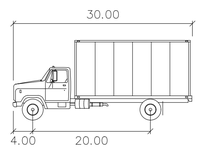
SHEET NO:

C023



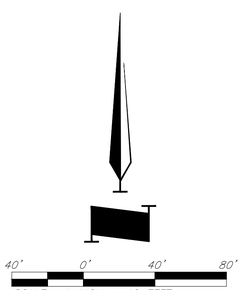
CAUTION!

Numerous Utilities on site. Contractor to verify location and elevation of all utilities prior to commencing construction.



SU-30

	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8



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Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

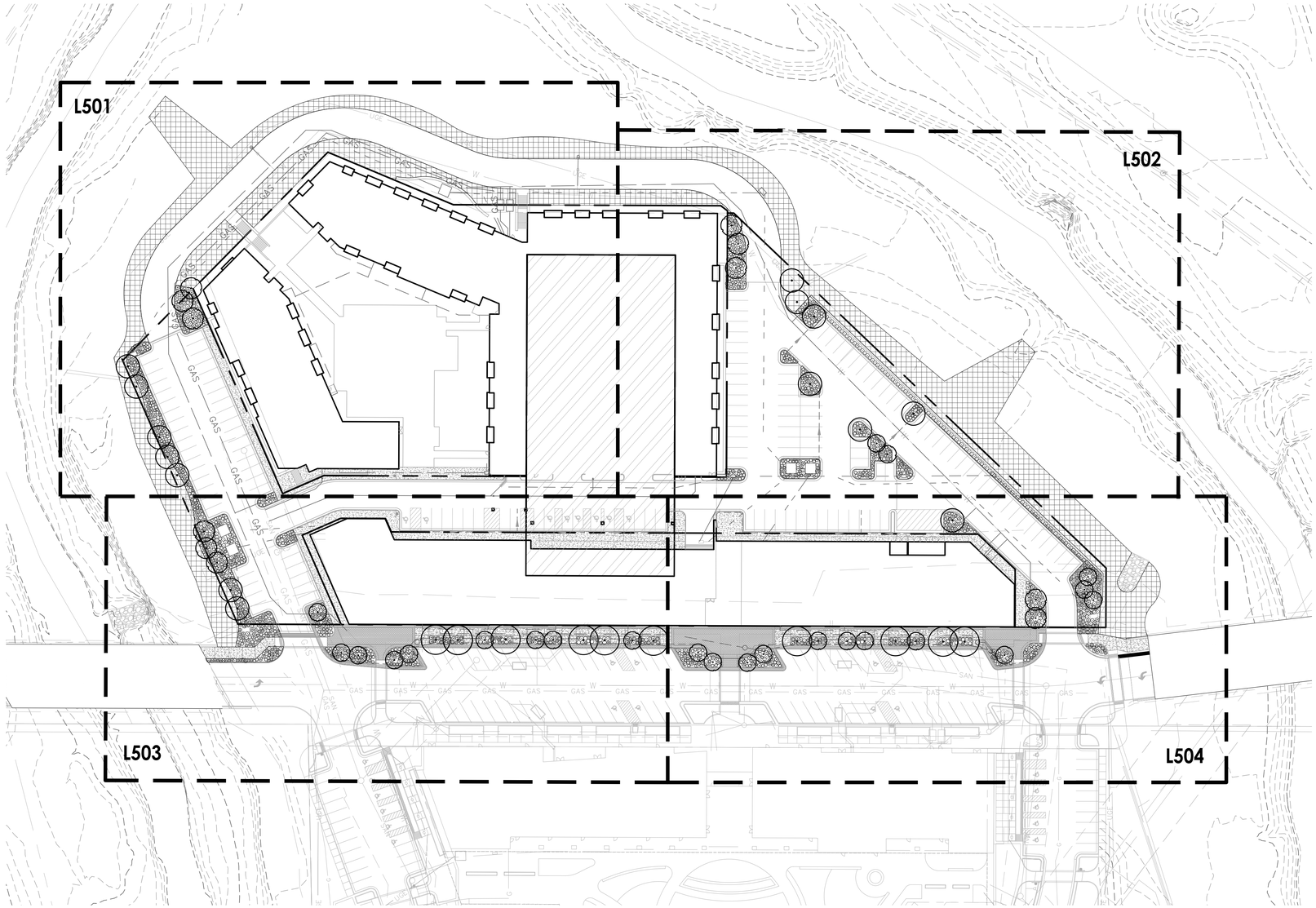
Turning Movements

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: JRH

SHEET NO:

C024



1 KEY PLAN

Scale: 1:50

50 25 0 50 150

SCALE= 1:50

LANDSCAPE REQUIREMENTS - Paragon Star North Village Final Development Plan

CITY: LEE'S SUMMIT, MISSOURI

Code	Requirement	Location	Dimension	Required	Provided	Additional Notes
8.790.A.1 Street Frontage Trees	One (1) tree shall be planted for each 30lf of street frontage	Paragon Parkway	**743 LF**	25 Trees	27	Trees part of streetscape designs
8.790.A.2 Street Frontage Green Strip	Any parking or loading visible from a street shall be separated with a 20 ft wide landscape strip	East & West Ends of Paragon Parkway		20 FT	20 FT	
8.790.A.3 Street Frontage Shrubs	One (1) shrub shall be provided for each 20ft of street frontage	Paragon Parkway	**743 LF**	25 Shrubs	25	Provided as part of streetscape design
8.790.B.1 Open Yard Areas	Provide two (2) shrubs per 5,000 square feet of total lot area excluding building footprint area.	North Village Lot	**120683 SF**	48 Shrubs	48	236,554 SF of lot area 115,871 SF building footprint
8.790.B.2 Open Yard Areas	All portions of the site not covered with paving or buildings shall be landscaped.	North Village Lot	**N/A**			Refer to site landscape beds
8.790.B.3 Open Yard Areas	In addition to trees required based upon street frontage, provide one (1) tree for every 5,000 square feet of lot area not covered by buildings/structures.	North Village Lot	**120683 SF**	24 Trees	30	236,554 SF of lot area 115,871 SF building footprint
8.810.A Parking Lot Landscaping & Trees	Landscape islands, strips or other planting areas shall constitute 5% of the entire area devoted to parking spaces, aisles and driveways.	Northeast Parking Lot	**42346 SF**	2117 SF	2538 SF	
		West Parking Lot	**22310 SF**	1116 SF	1368 SF	
8.810.B Parking Lot Landscaping & Trees	Landscape island shall be located at the end of every parking bay. The island shall be planted in trees, shrubs, grass, or ground cover.	Northeast and West Parking Lots	**N/A**			Refer to site landscape beds
8.810.C Parking Lot Landscaping & Trees	Tree planting areas shall be no less than ten feet in width. No tree shall be located less than four feet from the back of curb.	Northeast and West Parking Lots	**N/A**			Refer to site landscape beds

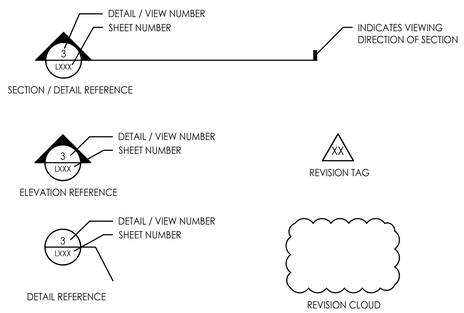
GENERAL NOTES

1. ALL SITE AND UTILITY INFORMATION SHOWN IS BASED UPON INFORMATION AVAILABLE AT THE TIME OF DESIGN. VERIFY ALL SITE CONDITIONS, ELEVATIONS, UTILITY LOCATIONS AND DIMENSIONS INCLUDING NEW IMPROVEMENTS PRIOR TO COMMENCEMENT OF WORK. NOTIFY OWNER REPRESENTATIVE OF ANY DISCREPANCIES OR IRREGULAR CONDITIONS. CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES BY CONTACTING ALL OF THE RESPECTIVE UTILITY COMPANIES AND/ OR THE LOCAL "ONE-CALL"/"CALL-BEFORE-YOU-DIG" SYSTEM AND BY EXCAVATING TEST PITS IF NECESSARY.
2. ALL DIMENSIONS SHOWN ARE REPRESENTED USING U.S. SURVEY DIMENSION STANDARDS.

COMMON ABBREVIATIONS

APPROX	APPROXIMATE	MH	MANHOLE
ARCH	ARCHITECT	MIN	MINIMUM
AVG	AVERAGE	MISC	MISCELLANEOUS
B&B	BALLED AND BURLAPPED	N	NORTH
BC	BOTTOM OF CURB	NIC	NOT IN CONTRACT
BLDG	BUILDING	NO	NUMBER
BM	BENCHMARK	NOM	NOMINAL
BOC	BACK OF CURB	NTS	NOT TO SCALE
BW	BOTTOM OF WALL	OC	ON CENTER
CAL	CALIPER	OD	OUTSIDE DIAMETER
CB	CATCH BASIN	PC	POINT OF CURVATURE
CF	CUBIC FEET	PE	POLYURETHANE
CIP	CAST IN PLACE	PERF	PERFORATED
CL	CENTERLINE	PI	POINT OF INTERSECTION
CLR	CLEAR, CLEARANCE	PL	PROPERTY LINE
CJ	CONTROL JOINT	PT	POINT, POINT OF TANGENCY
CM	CENTIMETER	PVC	POLYVINYL CHLORIDE
CO	CLEAN OUT	QTY	QUANTITY
CONT	CONTINUOUS	R	RADIUS
CY	CUBIC YARD	RE	REFERENCE, REFER TO
DEG	DEGREE	REINF	REINFORCED
DEMO	DEMOLISH, DEMOLITION	REQ'D	REQUIRED
DIA	DIAMETER	REV	REVISION, REVISED
DIM	DIMENSION	ROW	RIGHT OF WAY
DTL	DETAIL	S	SOUTH
DWG	DRAWING	SAN	SANITARY
E	EAST	SEC	SECTION
EA	EACH	SF	SQUARE FOOT (FEET)
EJ	EXPANSION JOINT	SHT	SHEET
EL	ELEVATION	SIM	SIMILAR
ENG	ENGINEER	SPECS	SPECIFICATIONS
EQ	EQUAL	STM	STORM SEWER
EST	ESTIMATE	SY	SQUARE YARD
E.W.	EACH WAY	STA	STATION
EXIST	EXISTING	STD	STANDARD
EXP	EXPANSION, EXPOSED	SYM	SYMMETRICAL
FFE	FINISHED FLOOR ELEVATION	T&B	TOP AND BOTTOM
FG	FINISHED GRADE	TBC	TOP OF BACK CURB
FL	FLOW LINE	TC	TOP OF CURB
FT	FOOT (FEET)	TF	TOP OF FOOTING
FTG	FOOTING	TH	THICK
GA	GAUGE	TOPO	TOPOGRAPHY
GEN	GENERAL	TW	TOP OF WALL
GR	GRADE ELEVATION	TYP	TYPICAL
HDPE	HIGH-DENSITY POLYURETHANE	VAR	VARIES
HORIZ	HORIZONTAL	VOL	VOLUME
HP	HIGH POINT	W/	WITH
HT	HEIGHT	W/O	WITHOUT
ID	INSIDE DIAMETER	WT	WEIGHT
INV	INVERT ELEVATION	WL	WATER LEVEL
IN	INCH(ES)	WWF	WELDED WIRE FABRIC
INCL	INCLUDE(D)	YD	YARD
JT	JOINT	@	AT
LF	LINEAR FEET		
LP	LOW POINT		
MAX	MAXIMUM		

SYMBOLS LEGEND



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Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

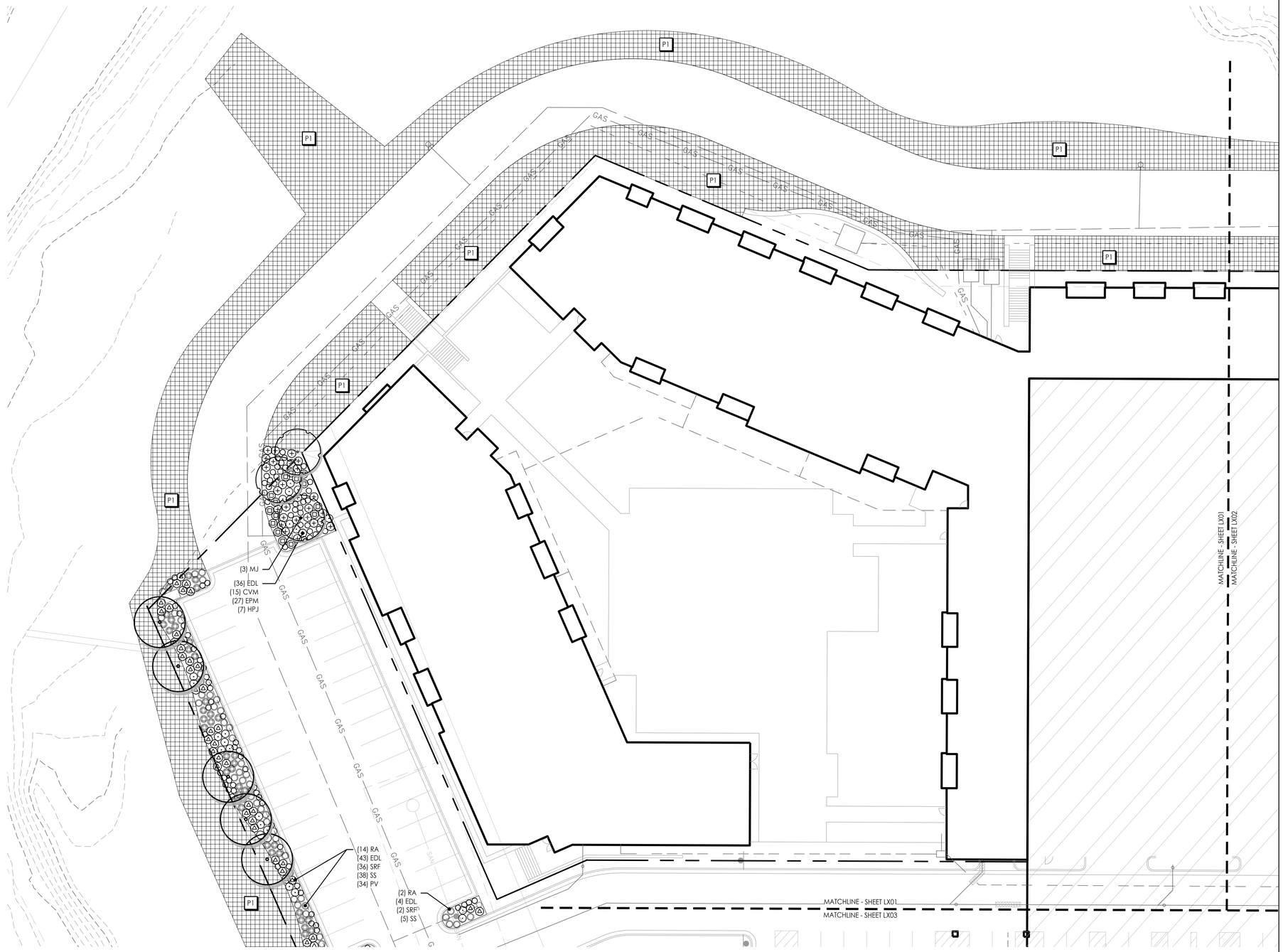
KEY PLAN & GENERAL INFORMATION

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: MRK

SHEET NO:

L000



1 PLANTING PLAN
Scale: 1:20

PLANTING SCHEDULE

SYM.	KEY	COMMON NAME *BOTANICAL NAME*	SIZE & REMARKS
		SHADE/STREET TREES	
	AF	Autumn Blaze Maple *Acer freemanii 'Autumn Blaze'*	3" cal.
	QR	Northern Red Oak *Quercus rubra*	2.5" cal.
	GT	Sunburst Honeylocust *Gleditsia triacanthos inermis 'Sunburst'*	3" cal.
	QB	Swamp White Oak *Quercus bicolor*	2.5" cal.
	GB	Maidenhair Tree *Ginkgo biloba 'Fastigiata'*	2.5" cal.
		ORNAMENTAL TREE	
	CC	Eastern Redbud *Cercis canadensis*	3" cal.
	MJ	Magnolia *Magnolia x 'Jane'*	3" cal.
	MA	Royal Raindrops® Crabapple *Malus 'JFS-KW5'*	3" cal.
	AG	Autumn Brillance Serviceberry *Amelanchier x grandiflora 'Autumn Brilliance'*	3" cal.
		DECIDUOUS SHRUB	
	RA	Grow-low Sumac *Rhus aromatica 'Gro-low'*	3 gal.
	HPJ	Little Lime® Hydrangea *Hydrangea paniculata 'Jane'*	5 gal.
		ORNAMENTAL GRASS	
	BC	Side Oats Grama Grass *Bouteloua curtipendula*	3 gal.
	PV	Shennadoah Switchgrass *Panicum virgatum 'Shennadoah'*	1 gal.
	PAH	Dwarf Fountain Grass *Pennisetum alopecuroides 'Hameln'*	1 gal.
	SSC	Standing Ovation Little Bluestem *Schizachyrium scoparium 'Standing Ovation'*	1 gal.
	SS	Little Bluestem *Schizachyrium scoparium*	1 gal.
	SH	Prairie Dropseed *Sporobolus heterolepis*	1 gal.
		PERENNIAL/GROUNDCOVER	
	SRF	Rough Goldenrod *Solidago rugosa 'Fireworks'*	1 gal.
	CVM	Moonbeam Coreopisi *Coreopsis verticillata 'Moonbeam*	1 gal.
	EPM	Purple Coneflower *Echinacea purpurea 'Magnus'*	1 gal.
	PA	Russian Sage *Perovskia atriplicifolia*	3 gal.
	EDL	Joe-pye Weed *Eupatorium dubium 'Little-Joe'*	1 gal.
		TURF/SEED MIXES	
P1		Native Prairie Seed Mix Butterfly Milkweed- Asclepias tuberosa (5%) Blue Wild Indigo- Baptisia australis (5%) New Jersey Tea- Ceanothus americanus (5%) Amethyst Vernal Witchhazel (10%) Switchgrass- Panicum virgatum (13%) Little Bluestem- Schizachyrium scoparium (30%) Indiangrass- Sorghastrum nutans (20%) Fall Aster - Symphotrichum oblongifolium (10%)	

PLANTING NOTES

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4. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO SEED ALL DISTURBED AREAS BACK TO ORIGINAL FINISHED GRADE ELEVATIONS, INCLUDING, EQUIPMENT MATERIAL STORAGE AREA AND STAGING AREAS ADJACENT TO SITE.
5. PLANTING LAYOUT IS NOT INTENDED TO BE EXACT, BUT TO ILLUSTRATE THE DESIGN INTENT AS FOLLOWS:
   - 5.1. CLUSTER THE SAME TYPE OF PLANT IN GROUPS OF 2-5, ADJUSTING BASED ON OVERALL PLANT COUNTS IN THE PLANTING BED (FEWER TOTAL PLANTS WILL HAVE SMALLER GROUPINGS, MORE TOTAL PLANTS WILL HAVE LARGER GROUPINGS)
   - 5.2. PLACE SHORTER (AT MATURITY) PLANTS AT THE EDGES OF PLANTERS OR WHERE CAR DOORS OR BUMPERS MAY OVERHANG.
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DRAWING TITLE:

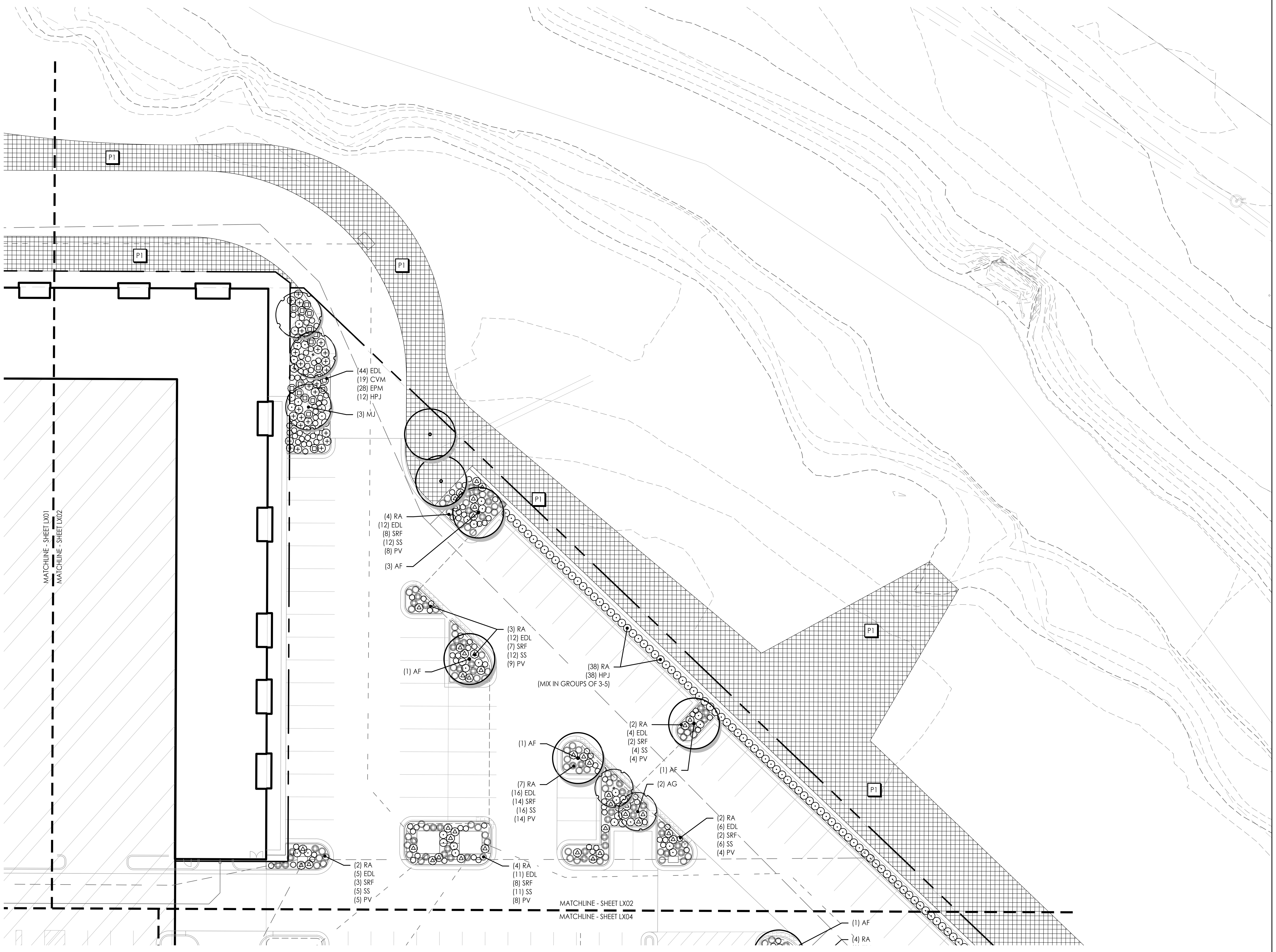
PLANTING PLAN

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: MRK

SHEET NO:

L501



1 **PLANTING PLAN**
Scale: 1:20

PLANTING SCHEDULE

SYM.	KEY	COMMON NAME / *BOTANICAL NAME*	SIZE & REMARKS
	SHADE/STREET TREES		
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	GB	Maidenhair Tree *Ginkgo biloba 'Fastigiata'*	2.5" cal.
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	CC	Eastern Redbud *Cercis canadensis*	3" cal.
	MJ	Magnolia *Magnolia x 'Jane'*	3" cal.
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	DECIDUOUS SHRUB		
	RA	Grow-low Sumac *Rhus aromatica 'Gro-low'*	3 gal.
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	EDL	Joe-pye Weed *Eupatorium dubium 'Little-Joe'*	1 gal.
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P1		Native Prairie Seed Mix Butterfly Milkweed- Asclepias tuberosa (5%) Blue Wild Indigo- Baptisia australis (5%) New Jersey Tea- Ceanothus americanus (5%) Amethyst Vernal Witchhazel (10%) Switchgrass- Panicum virgatum (13%) Little Bluestem- Schizachyrium scoparium (30%) Indiangrass- Sorghastrum nutans (20%) Fall Aster - Symphotrichum oblongifolium (10%)	

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STATE OF MISSOURI
DOUG. BUSHHEAD
NUMBER
2002003007
LANDSCAPE ARCHITECT

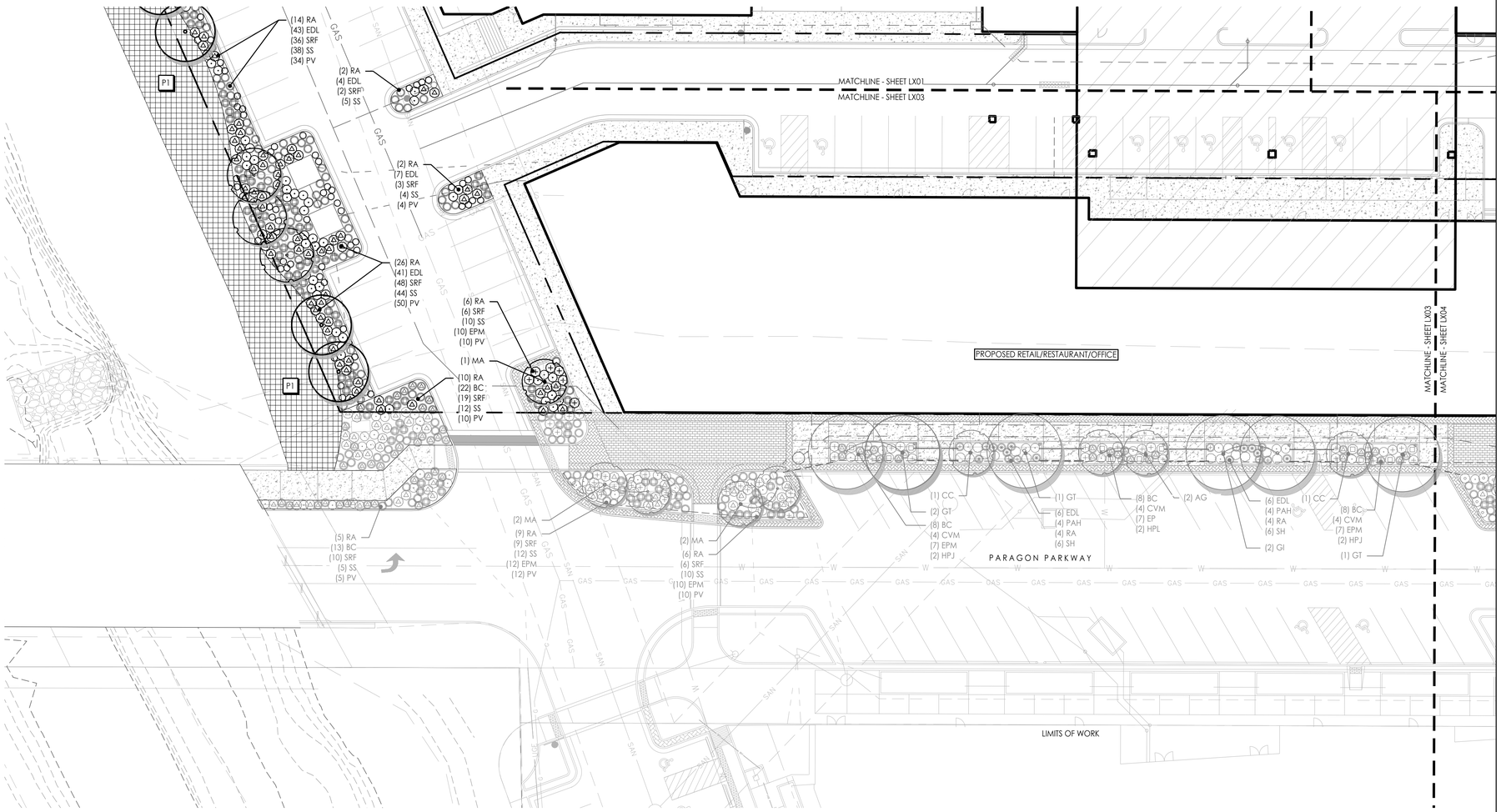
DRAWING TITLE:

PLANTING PLAN

JOB NO: 1249
SCALE:
DATE: 01.28.2022
DRAWN BY: MRK

SHEET NO:

L502



1 **PLANTING PLAN**
Scale: 1:20

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	MJ	Magnolia *Magnolia x 'Jane'*	3" cal.
	MA	Royal Raindrops® Crabapple *Malus 'JFS-KW5'*	3" cal.
	AG	Autumn Brillance Serviceberry *Amelanchier x grandiflora 'Autumn Brilliance'*	3" cal.
		DECIDUOUS SHRUB	
	RA	Grow-low Sumac *Rhus aromatica 'Gro-low'*	3 gal.
	HPJ	Little Lime® Hydrangea *Hydrangea paniculata 'Jane'*	5 gal.
		ORNAMENTAL GRASS	
	BC	Side Oats Grama Grass *Bouteloua curtipendula*	3 gal.
	PV	Shennadoah Switchgrass *Panicum virgatum 'Shennadoah'*	1 gal.
	PAH	Dwarf Fountain Grass *Pennisetum alopecuroides 'Hameln'*	1 gal.
	SSC	Standing Ovation Little Bluestem *Schizachyrium scoparium 'Standing Ovation'*	1 gal.
	SS	Little Bluestem *Schizachyrium scoparium*	1 gal.
	SH	Prairie Dropseed *Sporobolus heterolepis*	1 gal.
		PERENNIAL/GROUNDCOVER	
	SRF	Rough Goldenrod *Solidago rugosa 'Fireworks'*	1 gal.
	CVM	Moonbeam Coreopisi *Coreopsis verticillata 'Moonbeam*	1 gal.
	EPM	Purple Coneflower *Echinacea purpurea 'Magnus'*	1 gal.
	PA	Russian Sage *Perovskia atriplicifolia*	3 gal.
	EDL	Joe-pye Weed *Eupatorium dubium 'Little-Joe'*	1 gal.
		TURF/SEED MIXES	
P1		Native Prairie Seed Mix Butterfly Milkweed- Asclepias tuberosa (5%) Blue Wild Indigo- Baptisia australis (5%) New Jersey Tea- Ceanothus americanus (5%) Amethyst Vernal Witchhazel (10%) Switchgrass- Panicum virgatum (13%) Little Bluestem- Schizachyrium scoparium (30%) Indiangrass- Sorghastrum nutans (20%) Fall Aster - Symphotrichum oblongifolium (10%)	

PLANTING NOTES

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4. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO SEED ALL DISTURBED AREAS BACK TO ORIGINAL FINISHED GRADE ELEVATIONS, INCLUDING, EQUIPMENT MATERIAL STORAGE AREA AND STAGING AREAS ADJACENT TO SITE.
5. PLANTING LAYOUT IS NOT INTENDED TO BE EXACT, BUT TO ILLUSTRATE THE DESIGN INTENT AS FOLLOWS:
   - 5.1. CLUSTER THE SAME TYPE OF PLANT IN GROUPS OF 2-5, ADJUSTING BASED ON OVERALL PLANT COUNTS IN THE PLANTING BED (FEWER TOTAL PLANTS WILL HAVE SMALLER GROUPINGS, MORE TOTAL PLANTS WILL HAVE LARGER GROUPINGS)
   - 5.2. PLACE SHORTER (AT MATURITY) PLANTS AT THE EDGES OF PLANTERS OR WHERE CAR DOORS OR BUMPERS MAY OVERHANG.
   - 5.3. PLACE TALLER (AT MATURITY) PLANTS IN THE CENTER OF PLANTERS OR THE TRANSITION EDGE TO NATIVE SEEDED AREAS.

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

DRAWING TITLE:

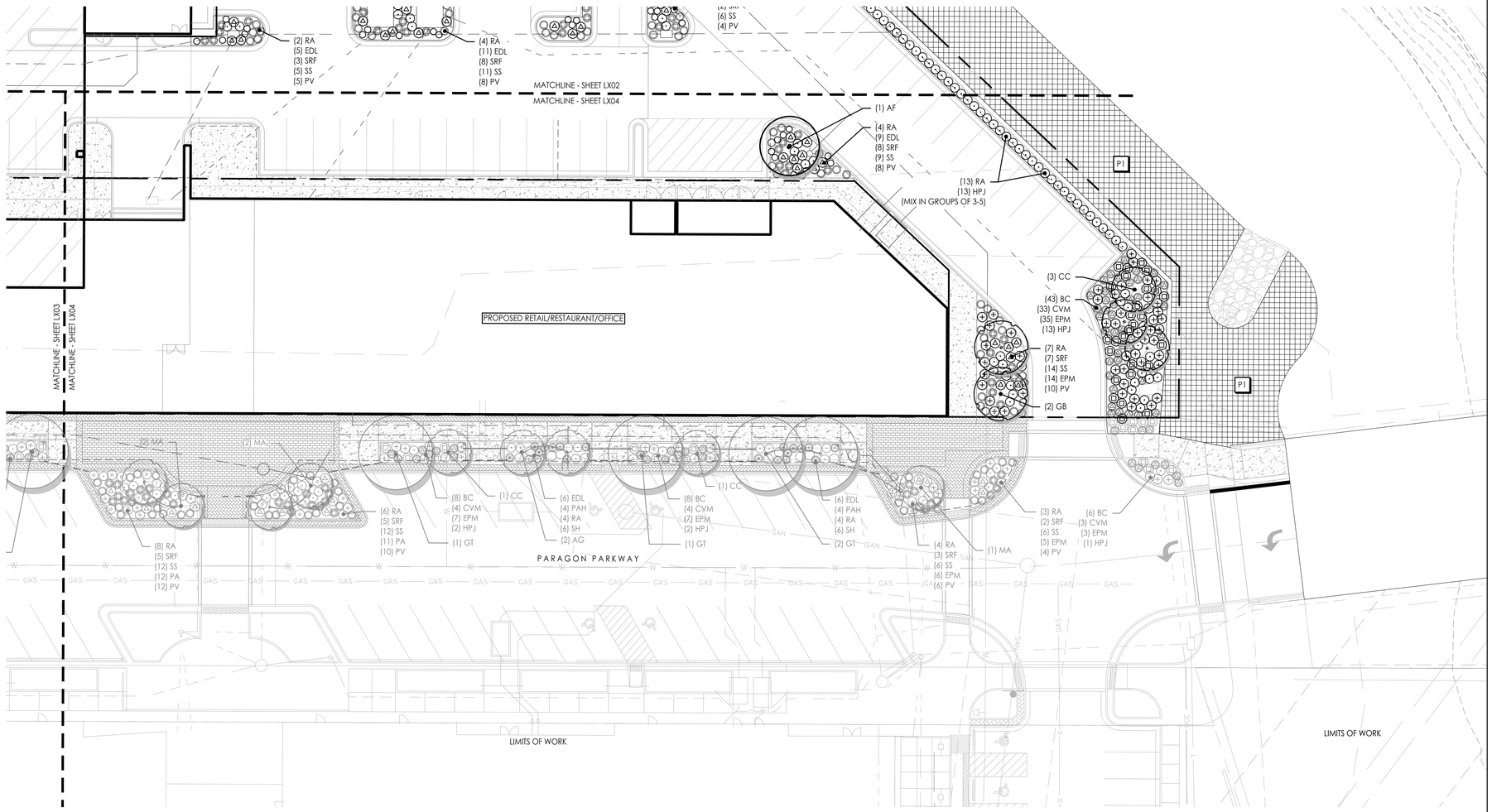
PLANTING PLAN

JOB NO: 1249 SCALE:

DATE: 01.28.2022 DRAWN BY: MRK

SHEET NO:

L503



1 PLANTING PLAN

Scale: 1:20

SCALE= 1:20

PLANTING SCHEDULE

SYM.	KEY	COMMON NAME *BOTANICAL NAME*	SIZE & REMARKS
		SHADE/STREET TREES	
	AF	Autumn Blaze Maple *Acer freemanii 'Autumn Blaze'*	3" cal.
	QR	Northern Red Oak *Quercus rubra*	2.5" cal.
	GT	Sunburst Honeylocust *Gleditsia triacanthos inermis 'Sunburst'*	3" cal.
	QB	Swamp White Oak *Quercus bicolor*	2.5" cal.
	GB	Maidenhair Tree *Ginkgo biloba 'Fastigiata'*	2.5" cal.
		ORNAMENTAL TREE	
	CC	Eastern Redbud *Cercis canadensis*	3" cal.
	MJ	Magnolia *Magnolia x 'Jane'*	3" cal.
	MA	Royal Raindrops® Crabapple *Malus 'JFS-KW5'*	3" cal.
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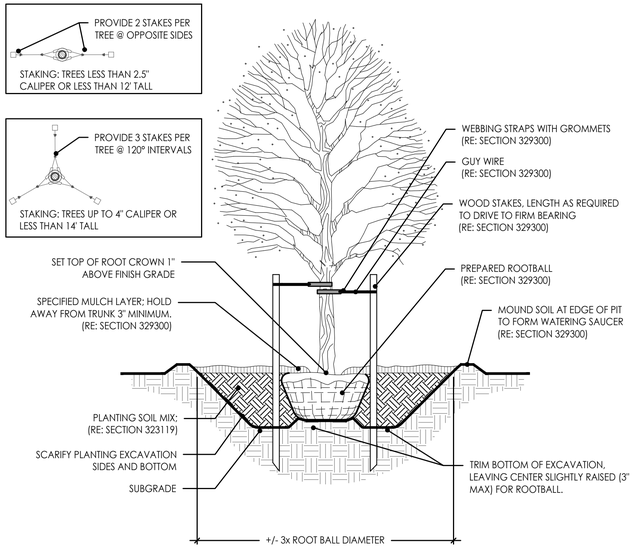

1 DECIDUOUS TREE PLANTING
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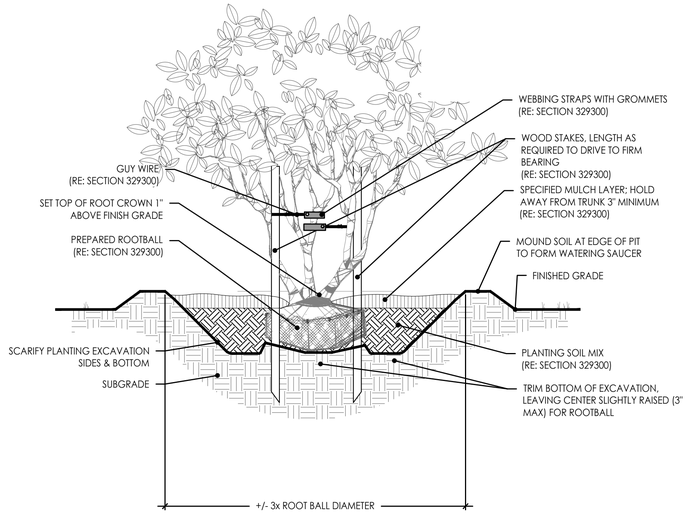
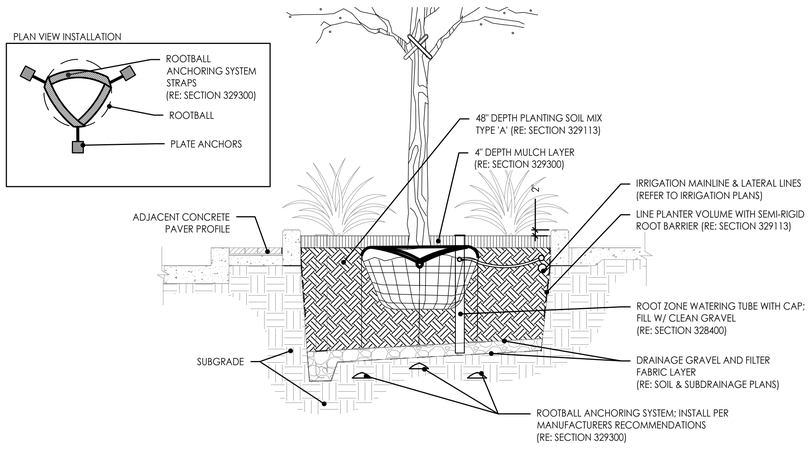
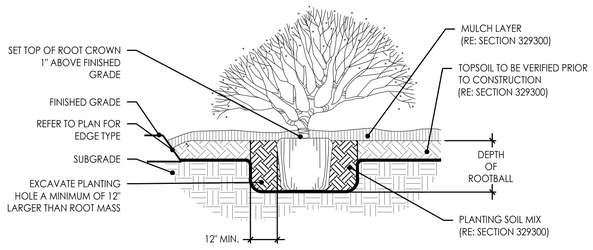


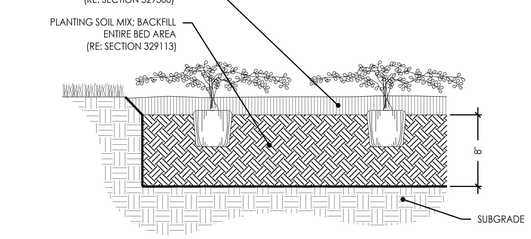
2 MULTI-STEM TREE PLANTING
Scale:N.T.S.



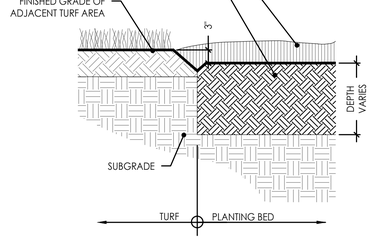
3 TREE IN RAISED CURB PLANTER
Scale:N.T.S.



4 SHRUB PLANTING
Scale:N.T.S.



5 GROUNDCOVER PLANTING
Scale:N.T.S.



6 CULTIVATED EDGE
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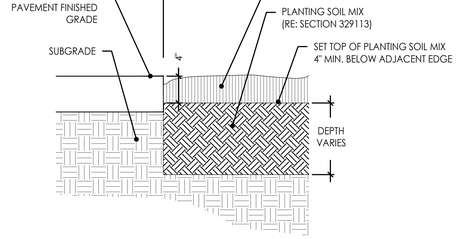
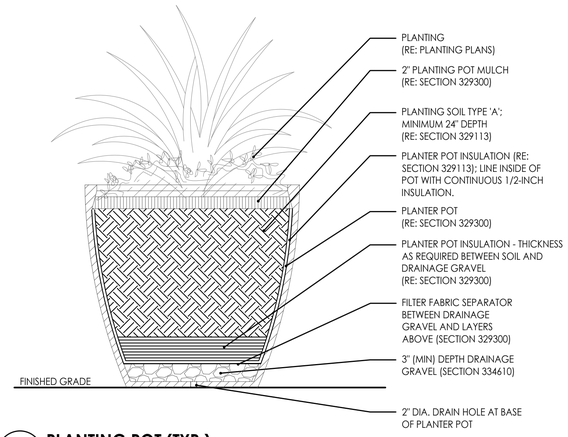


7 PLANTING EDGE @ CONCRETE
Scale:N.T.S.



8 PLANTING POT (TYP.)
Scale:N.T.S.

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PLANTING DETAILS

JOB NO: 1249 SCALE:
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L520

ELECTRICAL SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED. V2.01

STANDARD MOUNTING HEIGHTS

AUDIBLE APPLIANCES (CENTERLINE)	84"
ALARMS	48"
ANNUNCIATOR PANELS (DISPLAY)	60"
CONTROLS (TOP OF DEVICE)	48"
EXIT SIGNS (WALL MOUNTED)	80"
FIRE ALARM ANNUNCIATOR PANEL (DISPLAY)	60"
FIRE ALARM BELL (EXTERIOR) (CENTERLINE)	120"
FIRE ALARM CONTROL PANEL/UNIT (DISPLAY)	60"
INTERCOM (AREA ONLY)	36"
INTERCOMS (TOP OF DEVICE)	48"
PULL STATIONS (TOP OF DEVICE)	48"
PHOTOCELLS	144"
RECEPTACLES	16"
RECEPTACLES (EXTERIOR)	24"
RECEPTACLES (GARAGES)	24"
RECEPTACLES (POOLS)	27"
RECEPTACLES (ABOVE COUNTER)	+6" ABOVE BACKSPLASH/COUNTER, 40" MAX
RECEPTACLES IN EQUIPMENT ROOMS	44"
REMOTE INDICATING LIGHT (EQUIPMENT ROOMS)	48"
REMOTE INDICATING LIGHT (FINISHED AREAS)	CEILING
SAFETY SWITCHES (TOP OF DEVICE)	48"
STARTERS (TOP OF DEVICE)	48"
SWITCHES (TOP OF DEVICE)	44"
TELEPHONE, DATA OUTLETS	SAME AS ADJACENT DEVICE, UNO
TELEPHONE TERMINAL BOARD (BOTTOM)	6"
TELEVISION OUTLETS	REFER TO ARCH DRAWINGS
VISIBLE APPLIANCES (CENTERLINE)	84"

USE THE DEFAULT MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ARE ABOVE FINISHED FLOOR (AFF) OR ABOVE FINISHED GRADE (AFG) TO BOTTOM OF OUTLET BOX. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.

ABBREVIATIONS

AF	AMPERE FRAME SIZE
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AS	AMPERE SWITCH
AT	AMPERE TRIP SETTING
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO VISUAL
BAS	BUILDING AUTOMATION SYSTEM
BKR	BREAKER
C	CONDUIT
CAT	CATEGORY
CATV	CABLE TELEVISION SYSTEM
CCTV	CLOSED CIRCUIT TELEVISION
CD	CANDELA
CKT	CIRCUIT
CODE	APPLICABLE CODE ADOPTED BY JURISDICTION
CT	CURRENT TRANSFORMER
CTR	CENTER
CVD	CUMULATIVE VOLTAGE DROP
DEMO	DEMOLITION
DPDT	DOUBLE-POLE, DOUBLE-THROW
DPST	DOUBLE-POLE, SINGLE-THROW
(E)	EXISTING
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EM	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FCA	FAULT CURRENT AMPS AVAILABLE
FCU	FAN COIL UNIT
FF	FINISHED FLOOR
FLA	FULL LOAD AMPS
FLR	FLOOR
GC	GENERAL CONTRACTOR
GEC	GROUNDING ELECTRODE CONDUCTOR
GES	GROUNDING ELECTRODE SYSTEM
GFR	GROUND FAULT RELAY
G	GROUND
IG	ISOLATED GROUND
ISC	SHORT CIRCUIT CURRENT
JB/J-BOX	JUNCTION BOX
LF	LINEAR FEET
LRA	LOCKED ROTOR AMPS
LTGLTS	LIGHTING/LIGHTS
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MTD	MOUNTED
N/A	NOT APPLICABLE
NF	NON-FUSED
NL	NIGHT LIGHT (24HR ON)
NRTL	NATIONALLY RECOGNIZED TESTING LABORATORY (CSA,ETL,NSF,UL)
OS	OCCUPANCY SENSOR
P	POLE
PART	PARTIAL CIRCUIT
PHØ	PHASE
PNL	PANEL
PNLBD	PANELBOARD
PROVIDE	FURNISH AND INSTALL
PT	POTENTIAL TRANSFORMER
QTY	QUANTITY
RCPT	RECEPTACLE
RELO	RELOCATE
RLA	RUNNING LOAD AMPS
RTU	ROOFTOP UNIT
SCCR	SHORT-CIRCUIT CURRENT RATING
SD	SMOKE DUCT DETECTOR
SF	SQUARE FEET
SPDT	SINGLE-POLE, DOUBLE-THROW
SPST	SINGLE-POLE, SINGLE-THROW
ST	SHUNT TRIP
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TBD	TO BE DETERMINED
TGB	TELECOMMUNICATIONS GROUND BUS BAR
TL	TWISTLOCK
TMGB	TELECOMMUNICATIONS MAIN GROUND BUS BAR
TX	TRANSFORMER
TYP	TYPICAL
U/F	UNDERFLOOR
U/G	UNDERGROUND
U/S	UNDERSLAB
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
VD	VOLTAGE DROP
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE
W/	WITH
WP	WEATHER PROOF
WR	WEATHER RESISTANT
WT	WATERTIGHT
XP	EXPLOSION-PROOF

ANNOTATION

- MECHANICAL OR FIRE PROTECTION PLAN NOTE CALLOUT
- PLUMBING PLAN NOTE CALLOUT
- ELECTRICAL OR FIRE ALARM PLAN NOTE CALLOUT
- TECHNOLOGY PLAN CALLOUT
- PLUMBING EQUIPMENT DESIGNATION. (CONTRACTOR FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE OR EQUIPMENT SCHEDULES
- EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED)
- CU 1 — MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
- CONNECTION POINT OF NEW WORK TO EXISTING
- 1 / E1 — DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- 1 / E1 — SECTION CUT DESIGNATION

CIRCUITING & WIRING

- P1-3,5,7 OR 7 5 3 P1 — HOMERUN TO PANELBOARD. INFORMATION AT ARROWS ARE CIRCUIT NUMBERS AND PANELBOARD FOR TERMINATION. REFER TO PANELBOARD SCHEDULES FOR BRANCH CIRCUIT CONDUCTOR SIZES.
- CIRCUIT CONTINUATION OR PARTIAL CIRCUIT
- CONDUIT CONCEALED
- CONDUIT IN/UNDER FLOOR/GROUND CONSTRUCTION
- EXPOSED CONDUIT
- FLEXIBLE CONDUIT
- LOW VOLTAGE CABLE (NOT ROUTED IN CONDUIT)
- CONDUIT TURNING DOWN
- CONDUIT TURNING UP
- CONNECTION POINT OR EQUIPMENT TERMINATION
- EQUIPMENT TERMINATION

CONDUCTOR TICK MARK LEGEND

WHERE TICK MARKS ARE SHOWN, THE FOLLOWING SHALL GOVERN:

- SWITCHED HOT (PHASE) CONDUCTORS (SHOWN TRAILING NEUTRAL)
- NEUTRAL (GROUNDED) CONDUCTOR
- UNSWITCHED HOT (PHASE) CONDUCTORS (SHOWN LEADING NEUTRAL)
- NOTE: HASH MARKS INDICATE QUANTITY OF CONDUCTORS
- EQUIPMENT GROUNDING CONDUCTOR IN CONDUIT (GREEN INSULATION OR BARE)
- ISOLATED GROUNDING CONDUCTOR IN CONDUIT (GREEN INSULATION WITH YELLOW TRACER)

BRANCH CIRCUIT CONDUCTOR TABLE

WHERE TICK MARKS ARE NOT SHOWN, THE FOLLOWING SHALL GOVERN:

# OF POLES	HOT (PHASE)*	NEUTRAL (GROUNDED)**	GROUNDING***
1P	(1)	(1) UNO	(1)
2P	(2)	(1) UNO	(1)
3P	(3)	(1) UNO	(1)

* PROVIDE ADDITIONAL CONDUCTORS THROUGH ENTIRE CIRCUIT (SWITCHED, UNSWITCHED/EM, ETC.) AS INDICATED THROUGHOUT CONSTRUCTION DOCUMENTS AND AS REQUIRED FOR A COMPLETE AND WORKING SYSTEM.

** REFER TO SPECIFICATIONS FOR LIMITATIONS ON SHARING NEUTRAL (GROUNDED) CONDUCTORS. DO NOT CIRCUIT AS A MULTI-WIRE BRANCH CIRCUIT, UNO.

*** PROVIDE ADDITIONAL ISOLATED GROUNDING CONDUCTORS WHERE INDICATED.

REFER TO SPECIFICATIONS, PLANS, NOTES, WIRING AND CONTROL DIAGRAMS FOR ADDITIONAL CIRCUITING REQUIREMENTS.

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING — NEW — DEMOLISH — FUTURE

LIGHTING (REFER TO LIGHT FIXTURE SCHEDULE FOR MORE INFO)

- LIGHT FIXTURE
  - a = SWITCHED BY SWITCH "a"
  - A = LIGHT FIXTURE TYPE "A"
  - = WALL MOUNT
  - = ARROW INDICATES AIMING DIRECTION
- LIGHT FIXTURE CIRCUITED AS A NIGHT LIGHT (NL)
- EMERGENCY LIGHT FIXTURE WITH EMERGENCY LIGHTING BATTERY PACK OR CONNECTED TO EMERGENCY SOURCE
- NIGHT LIGHT/EMERGENCY LIGHT FIXTURE WITH EMERGENCY BATTERY PACK OR CONNECTED TO EMERGENCY SOURCE
- LIGHT FIXTURE WITH DUAL BALLASTS CIRCUITED SEPARATELY (SHADING IMPLIES EMERGENCY LIGHT FIXTURE)
- LIGHTING TRACK WITH LIGHT FIXTURE TYPES AS INDICATED
- MIRROR LIGHTS
- EXTERIOR SITE PARKING LOT LIGHT FIXTURE
- EXTERIOR PEDESTRIAN POST TOP LIGHT FIXTURE
- EXTERIOR LIT BOLLARD LIGHT FIXTURE
- EXIT SIGN - CEILING / WALL MOUNTED, ARROWS AS INDICATED, FACE HATCHED
- EMERGENCY LIGHTING UNIT EQUIPMENT WITH BATTERY PACK - CEILING/WALL MOUNTED
- AFEA (AREA FOR EVACUATION ASSISTANCE) SIGN - CEILING/WALL MOUNTED, ARROWS AS INDICATED

POWER EQUIPMENT & DEVICES

- ELECTRICAL PANELBOARD (SURFACE OR FLUSH MOUNT)
- TERMINAL CABINET (SURFACE OR FLUSH MOUNT), TYPE AS NOTED
- PLYWOOD TERMINAL BOARD FOR TELEPHONE SYSTEM, UNO. SIZE AS NOTED
- SWITCHBOARD OR MOTOR CONTROL CENTER ON HOUSEKEEPING PAD
- ELECTRICAL DISTRIBUTION PANELBOARD
- TRANSFORMER
- MOTOR
- 200/3/150/3R — DISCONNECT SWITCH - "200/3/150/3R" DENOTES AMPERES/POLE/FUSE/NEMA ENCLOSURE RATING, NF= NON-FUSED, CB= CIRCUIT BREAKER (200/3/CB), NO VALUE (200/3/150) FOR NEMA ENCLOSURE MEANS STANDARD NEMA 1 RATING
- 30/3/15/1/3R — COMBINATION DISCONNECT (SAFETY) SWITCH AND MOTOR STARTER "30/3/15/1/3R" DENOTES AMPERES/POLE/FUSE/NEMA STARTER SIZE/NEMA ENCLOSURE RATING. NF= NON-FUSED, CB= CIRCUIT BREAKER (30/3/CB/1), NO VALUE (200/3/150/1) FOR NEMA ENCLOSURE MEANS STANDARD NEMA 1 ENCLOSURE RATING
- MAGNETIC MOTOR STARTER, NEMA SIZE AS NOTED. 3-POLE, UNO
- MANUAL MOTOR STARTER DISCONNECT
- FRACTIONAL HORSEPOWER MANUAL CONTROLLER
- INTEGRAL HORSEPOWER MANUAL CONTROLLER
- VFD — VARIABLE FREQUENCY DRIVE
- R — RELAY OR CONTACTOR (IN SCHEMATICS)
- C — CONTACTOR (SIZE, COIL VOLTAGE AND NUMBER OF POLES AS INDICATED)
- TS — TIME SWITCH
- PC — PHOTOCELL
- INDICATING LIGHT
- EMERGENCY POWER OFF BUTTON
- STOP-START PUSH BUTTON CONTROL STATION
- HAND-OFF-AUTO PUSH BUTTON CONTROL STATION
- MUSHROOM-TYPE PUSH BUTTON
- OVERHEAD PADDLE FAN

LIGHTING CONTROL DEVICES, WIRING DEVICES & BOXES

- SINGLE POLE SWITCH (NO LETTER DESIGNATION)
- SWITCH LETTER DESIGNATIONS AS FOLLOWS:
  - 2 = TWO POLE
  - 3 = THREE-WAY
  - 4 = FOUR-WAY
  - D = DIMMER
  - F = FAN SPEED CONTROL
  - K = KEYED
  - LV = LOW VOLTAGE
  - OS = OCCUPANCY SENSOR
  - P = SPST PILOT LIGHT
  - VS = VACANCY SENSOR
  - WP = WEATHER PROOF
- ALC — AUTOMATIC LOAD CONTROL RELAY
- BTS — BRANCH CIRCUIT TRANSFER SWITCH
- SIMPLEX RECEPTACLE - NEMA 5-20R, UNO
- DUPLEX RECEPTACLE - NEMA 5-20R, UNO
- DOUBLE DUPLEX RECEPTACLE - NEMA 5-20R, UNO
- SPECIAL RECEPTACLE - NEMA TYPE AS NOTED
- TWIST-LOCK TYPE RECEPTACLE
- GFCI OR — GFCI TYPE RECEPTACLE*
- ISOLATED GROUND TYPE RECEPTACLE*
- EM OR — EMERGENCY RECEPTACLE*
- RECEPTACLE INSTALLED ABOVE COUNTER OR BACKSPLASH*
- RECEPTACLE INSTALLED IN CEILING*
- RECEPTACLE INSTALLED IN FLOOR*
- RECEPTACLE INSTALLED VIA DROP CORD*
- WR/WP — RECEPTACLE LETTER DESIGNATIONS AS FOLLOWS:
  - C = AUTOMATICALLY CONTROLLED
  - CH = CLOCK HANGER TYPE
  - D = DEMOLISHED
  - E/ETR/EX = EXISTING
  - EM = EMERGENCY POWER
  - GFCI = GROUND-FAULT CIRCUIT INTERRUPTER
  - H = HORIZONTALLY MOUNTED
  - IG = ISOLATED GROUND
  - R = RELOCATED
  - S = MANUALLY SWITCHED
  - TR = TAMPER RESISTANT
  - TV = TELEVISION
  - USB = USB/DUPLEX
  - WP = WEATHER PROOF COVER
  - WR = WEATHER RESISTANT
- MULTI-OUTLET ASSEMBLY
- TELEPHONE OUTLET
- DATA OUTLET
- MULTI-SERVICE OUTLET; TELEPHONE AND DATA
  - ABOVE COUNTER, TYP
  - WALL, TYP
  - FLOOR, TYP
- A — MULTI-SERVICE POWER POLE WITH TELEPHONE, DATA AND POWER OUTLETS A = TYPE, REFER TO PLANS, SCHEDULES AND SPECIFICATIONS
- A — MULTI-SERVICE FLOOR BOX WITH TELEPHONE, DATA AND POWER OUTLETS A = TYPE, REFER TO PLANS, SCHEDULES AND SPECIFICATIONS
- A — POKE THROUGH, A = TYPE, REFER TO PLANS, SCHEDULES AND SPECIFICATIONS
- THERMOSTAT
- J — JUNCTION BOX/OUTLET BOX
- BLANK FACE GFCI FEED THROUGH DEVICE

REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR ADDITIONAL DEVICE SYMBOLS AND DEFINITIONS SPECIFIC TO THIS PROJECT.

*SYMBOL DEMONSTRATED WITH DUPLEX RECEPTACLE, WHEN USED IN COMBINATION WITH OTHER DEVICES MEANING IS SIMILAR FOR THOSE DEVICE TYPES.

SIGNALING

- B — SIGNALING BELL
- B — SIGNALING BUZZER
- T — LV TRANSFORMER

ELECTRICAL ONE-LINE & RISER DIAGRAM

- SWITCH (RATING AS INDICATED)
- DRAWOUT CIRCUIT BREAKER (RATINGS AS INDICATED)
- FUSED SWITCH (RATING, POLES AND FUSE TYPE AS INDICATED)
- COMBINATION FUSED SWITCH/STARTER AND STARTER SIZE
- CIRCUIT BREAKER (RATINGS AS INDICATED)
- COMBINATION CIRCUIT BREAKER/STARTER AND STARTER SIZE
- PANELBOARD, SINGLE OR MULTI-SECTION (REFER TO SCHEDULES)
- ISOLATED POWER PANELBOARD W/ INTEGRAL TRANSFORMER (REFER TO SCHEDULES)
- TRANSFORMER (TYPE AND RATINGS AS INDICATED)
- SHIELDED TRANSFORMER (TYPE AND RATINGS AS INDICATED)
- AUTOMATIC TRANSFER SWITCH (RATINGS AS INDICATED)
- AUTOMATIC TRANSFER SWITCH WITH BYPASS (RATINGS AS INDICATED)
- GENERATOR (RATINGS AS INDICATED)
  - NON-SEPARATELY DERIVED SOURCE OR SEPARATELY DERIVED SOURCE
- MDP — SWITCHGEAR, SWITCHBOARD AND/OR DISTRIBUTION PANELBOARD (TYPE, RATING, DEVICES AND ACCESSORIES AS INDICATED)
- COMBINATION DIGITAL VOLT METER/AMMETER
- ### — CIRCUIT IDENTIFICATION (REFER TO CIRCUIT SCHEDULE)
- GFR — GROUND FAULT RELAY
- PFR — PHASE FAILURE RELAY
- KK# — KIRK-KEY INTERLOCK (# INDICATES KEY PAIR)
- ST — SHUNT TRIP
- AM — AMMETER (RANGE AS SPECIFIED OR REQUIRED)
- VM — VOLTMETER (RANGE AS SPECIFIED OR REQUIRED)
- UTILITY METER — UTILITY METER (AS REQUIRED BY UTILITY)
- AS — AMMETER SWITCH
- VS — VOLTMETER SWITCH
- WH D 15 — WATT-HOUR METER, "D" DENOTES DEMAND REGISTER, "15" DENOTES MINUTES OF DEMAND INTERVAL
- CURRENT TRANSFORMER RATING AS SPECIFIED OR REQUIRED
- POTENTIAL TRANSFORMER RATING AS SPECIFIED OR REQUIRED
- SPD — SURGE-PROTECTIVE DEVICE
- GROUND CONNECTION
- GROUND CONNECTION WITH TEST WELL
- GROUND ROD
- LIGHTNING ARRESTER
- CAPACITOR
- CONTACT (OPEN OR CLOSED)
- HEATER
- MOTOR
- ## — BLOCK LOAD KW OR KVA
- × F# × FP# — FAULT POINT REFERENCED IN SHORT CIRCUIT CURRENT AND VOLTAGE DROP SPREADSHEET

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12/31/22

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8787 Renner Boulevard, Suite 100
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Missouri Certificate of Authority #F00453304

PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF PRELIMINARY SUBMITTAL
ANDREA C. MULVANY
LICENSE # PE-2013039892

IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

DRAWING TITLE:

LIGHTING SYMBOLS AND LEGENDS

JOB NO: 1249 SCALE:
DATE: 01.21.2022 DRAWN BY: MAP

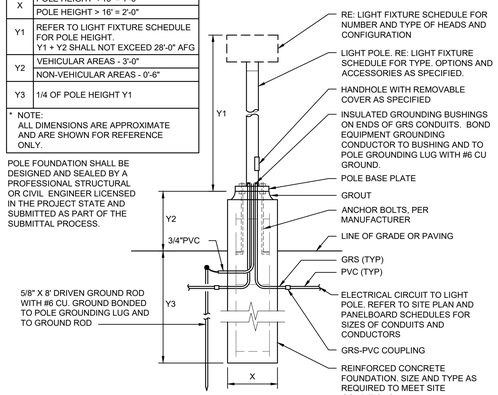
SHEET NO:

E000

TABLE OF DIMENSIONS*	
X	POLE HEIGHT < 16' = 1'-6"
	POLE HEIGHT > 16' = 2'-0"
Y1	REFER TO LIGHT FIXTURE SCHEDULE FOR POLE HEIGHT. Y1 + Y2 SHALL NOT EXCEED 28'-0" AFG
Y2	VEHICULAR AREAS - 3'-0"
	NON-VEHICULAR AREAS - 0'-6"
Y3	1/4 OF POLE HEIGHT Y1

* NOTE:
ALL DIMENSIONS ARE APPROXIMATE AND ARE SHOWN FOR REFERENCE ONLY.

POLE FOUNDATION SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL STRUCTURAL OR CIVIL ENGINEER LICENSED IN THE PROJECT STATE AND SUBMITTED AS PART OF THE SUBMITTAL PROCESS.



2 POLE BASE DETAIL
NO SCALE

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER/MODEL #	LAMPS NO.	LAMPS TYPE	LAMPS VOLT	INPUT WATTS	INPUT VA	DESCRIPTION
S1	MCGRAW-EDISON GLNA-AF-03-LED-T4W-BK W/ KW INDUSTRIES RAP-25-6.0-X-BLK-DM10	-	LED BY MANUFACTURER 4000K, 70 CRI 17,984 LUMENS 400,000 HRS B2-U0-G2	480	166	166	LED PARKING LOT FIXTURE. PROVIDE WITH 25' ROUND ALUMINUM POLE ON 3' BASE.
S1A	MCGRAW-EDISON GLNA-AF-03-LED-T4FT-BK GLNA-AF-01-LED-T2-BK W/ VALMONT IDYLINE CURVES c5-03-DCG-DCG-DCG-DCG	-	LED BY MANUFACTURER 4000K, 70 CRI 18,220 400,000 HRS B2-U0-G2 4,015 LUMENS B1-U0-G1	480 480	166 34	166 34	LED PARKING LOT FIXTURE. PROVIDE WITH 25' ROUND TAPERED CURVED ALUMINUM POLE ON 3' BASE. LOWER LUMEN OUTPUT LIGHT FIXTURE MOUNTED ON OPPOSITE SIDE AT +10' FROM BASE OF POLE. HIGHER LUMEN OUTPUT LIGHT FIXTURE MOUNTED AT TOP OF POLE.
S2	MCGRAW-EDISON (2) GLNA-AF-03-LED-480-T4W-BK W/ KW INDUSTRIES RAP-25-6.0-X-BLK-DM2180	-	LED BY MANUFACTURER 4000K, 70 CRI 35,968 LUMENS 40,000 HRS B2-U0-G2	480	332	332	LED PARKING LOT FIXTURE. PROVIDE (2) HEADS PER POLE AT 180 DEGREES. PROVIDE WITH 25' ROUND ALUMINUM POLE ON 3' BASE.

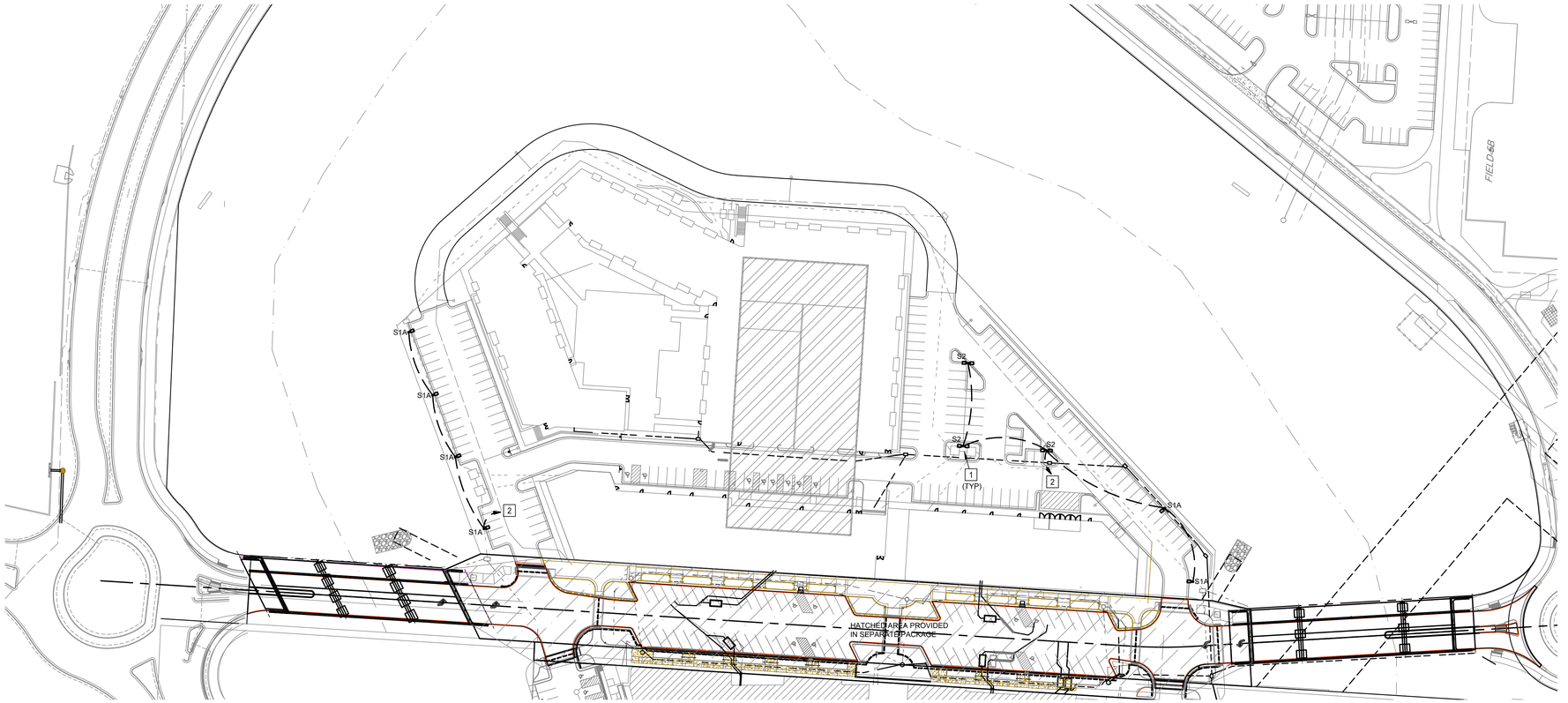
GENERAL NOTES:

1. REFER TO SHEET E000 FOR GENERAL NOTES.

KEYNOTES:

1 REFER TO DETAIL 2, SHEET E100 FOR POLE BASE DETAIL.

2 PARKING LOT LIGHTING CIRCUIT. ROUTE CONDUIT AND CIRCUIT TO BUILDING #1 ELECTRICAL ROOM. CIRCUIT SHALL BE CONTROLLED VIA LIGHTING CONTROL PANEL WITH PHOTOCELL ON/OFF CONTROL IN SEPARATE BUILDING PACKAGE. PROVIDE (2) #10 AWG WITH (1) #10 GROUND IN 1" CONDUIT FOR WIRING FROM POLE TO POLE AND POLE. WIRE SIZE FOR HOME RUN TO FUTURE PANELBOARD WILL BE DETERMINED TO ACCOUNT FOR VOLTAGE DROP.



1 NORTH VILLAGE SITE LIGHTING PLAN
SCALE: 1" = 64'

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

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DRAWING TITLE:

NORTH VILLAGE SITE LIGHTING PLAN

JOB NO: 1249 SCALE:
DATE: 01.21.2022 DRAWN BY: MAP

SHEET NO:

E100

Division 26: GENERAL ELECTRICAL REQUIREMENTS

1. GENERAL INSTRUCTIONS

A. GENERAL REQUIREMENTS

All requirements under Division 01 and the general and supplementary conditions of these specifications apply to this section and division. Where the requirements of this section and division exceed those of Division 01, this section and division take precedence. Become thoroughly familiar with all its contents as to requirements that affect this division, section, or both. Work required under this division includes all material, equipment, appliances, transportation, services, and labor required to complete the entire system as required by the drawings and specifications, or reasonably inferred to be necessary to facilitate the function of each system as implied by the design and the equipment specified.

The specifications and drawings for the project are complementary, and any portion of work described in one shall be provided as if described in both. In the event of discrepancies, notify the Engineer and request clarification prior to proceeding with the Work involved.

Drawings are graphic representations of the work upon which the contract is based. They show the materials and their relationship to one another, including sizes, shapes, locations, and connections. They convey the scope of work, indicating the intended general arrangement of the systems without showing all of the exact details as to elevations, offsets, control lines, and other installation requirements. Use the drawings as a guide when laying out the work and to verify that materials and equipment will fit into the designated spaces, and which when installed per manufacturers' requirements, will ensure a complete, coordinated, satisfactory, and properly operating system.

B. DEFINITIONS

Division: References contained in this specification follow the numbering system defined in the Construction Specifications Institute (CSI) MasterFormat 2004 Edition. Specification Divisions 01 through 13 provided with this project may reference the CSI MasterFormat 1995 Edition. The corresponding division references between the 2004 Edition and 1995 Edition are as follows:

	2004 Edition	1995 Edition
1.	Division 21 - Fire Suppression	Division 15
2.	Division 22 - Plumbing	Division 15
3.	Division 23 - HVAC	Division 15
4.	Division 26 - Electrical	Division 16
5.	Division 27 - Communications	Division 16
6.	Division 28 - Electronic Safety and Security	Division 16

Furnish: “to supply and deliver to the project site, ready for unloading, unpacking, assembling, installing, and similar operations.”

Install: “to perform all operations at the project site including, but not limited to, the actual unloading, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, testing, commissioning, starting up and similar operations, complete, and ready for the intended use.”

Provide: “to furnish and install.”

Furnished by Owner (or Owner-Furnished) or Furnished by Others: “an item furnished by the Owner or under other divisions or contracts, and installed under the requirements of this division, complete, and ready for the intended use, including all items and services incidental to the work necessary for proper installation and operation. Include the installation under the warranty required by this division.

Engineer: Where referenced in this Division, “Engineer” is the Engineer of Record and the Design Professional for the work under this division, and is a consultant to, and an authorized representative of the Architect, as defined in the General and/or Supplementary Conditions. When used in this division, Engineer means increased involvement by and obligations to the Engineer, in addition to involvement by and obligations to the Architect.

AHJ: The local code and/or inspection agency (Authority) Having Jurisdiction over the Work.

NRTL: Nationally Recognized Testing Laboratory, as defined and listed by OSHA in 29 CFR 1910.7 (e.g., UL, ETL, CSA), and acceptable to the AHJ over this project. Nationally recognized testing laboratories and standards listed are used only to represent the characteristics required and are not intended to restrict the use of other NRTLs that are acceptable to the AHJ and standards that meet the specified criteria.

Homerun: That portion of an electrical circuit originating at a junction box, termination box, receptacle, or switch with termination at an electrical panelboard. Note: Where MC cable is utilized for receptacle and/or lighting branch circuiting loads, the originating point of the homerun shall be at the first load in the circuit or at a junction box located in an accessible ceiling space as close as possible to the first load.

Substitution: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor. Substitutions include Value Engineering proposals.
1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

The terms "approved equal", “equivalent”, or "equal" are used synonymously and shall mean “accepted by or acceptable to the Engineer as equivalent to the item or manufacturer specified”. The term "approved" shall mean labeled, listed, certified, or all three, by an NRTL, and acceptable to the AHJ over this project.

C. PRE-BID SITE VISIT

Prior to submitting bid, visit the site of the proposed work and become fully informed as to the conditions under which the work is to be done. Failure to comply with this requirement shall not be considered sufficient justification to request or obtain extra compensation over and above the contract price.

D. MATERIAL AND WORKMANSHIP

Provide new material, equipment, and apparatus under this contract unless otherwise stated herein, of best quality normally used for the purpose in good commercial practice, and free from defects. Model numbers listed in the specifications or shown on the drawings are not necessarily intended to designate the required trim, written descriptions of the trim govern model numbers.

Provide markings or a nameplate for all material and equipment identifying the manufacturer and providing sufficient reference to establish quality, size, and capacity. All workmanship shall be of the finest possible by experienced mechanics of the proper trade. In general, provide the following quality grade(s) for all materials and equipment.

Commercial specification grade:

Provide all hoists, scaffolds, staging, runways, tools, machinery, and equipment required for the performance of the electrical work. Store and maintain material and equipment in clean condition, and protected from weather, moisture, and physical damage.

Furnish only material and equipment that are listed, labeled, certified, or all three, by an NRTL whenever any listing or labeling exists for the types of material and equipment specified.

At a minimum, general work practices for electrical construction shall be in accordance with NECA 1 (latest edition), “Standard Practices for Good Workmanship in Electrical Construction”.

E. MANUFACTURERS

In other articles where lists of manufacturers are introduced, subject to compliance with requirements, provide products by one of the manufacturers specified.

Where a list is provided, manufacturers are listed alphabetically and not in accordance with any ranking or preference.

Where manufacturers are not listed, provide products subject to compliance with requirements from manufacturers that have been actively involved in manufacturing the specified product for no less than 5 years.

F. COORDINATION

Coordinate all work with other divisions and trades so that various components of the systems are installed at the proper time, fit the available space, and allow proper service access to those items requiring maintenance. Components which are installed without regard to the above shall be relocated at no additional cost to the Owner.

Unless otherwise indicated, the General Contractor shall provide chases and openings in building construction required for installation of the systems specified herein. Contractor shall furnish the General Contractor with information where chases and openings are required. Contractor shall keep informed as to the work of other trades engaged in the construction of the project and shall execute work in a manner as to not interfere with or delay the work of other trades.

Figured dimensions shall be taken in preference to scale dimensions. Contractor shall take his own measurements at the building, as variations may occur. Contractor shall be held responsible for errors that could have been avoided by proper checking and inspection.

Provide materials with trim that will properly fit the types of ceiling, wall, or floor finishes actually installed. Model numbers listed in the specifications or shown on the drawings are not intended to designate the required trim.

Make all offsets required to clear equipment, beams, and other structural members, and to facilitate concealing raceways in the manner anticipated in the design. Provide materials with trim that will fit properly the types of ceiling, wall, or floor finishes actually installed.

G. ORDINANCES AND CODES

Work performed under this contract shall, at a minimum, be in conformance with applicable national, state and local codes having jurisdiction. Equipment furnished and associated installation work performed under this contract shall be in strict compliance with current applicable codes adopted by the local AHJ, including any amendments and standards as set forth by the following:
1. National Fire Protection Association (NFPA)
2. Underwriters Laboratories (UL)
3. Occupational Safety and Health Administration (OSHA)
4. American National Standards Institute (ANSI)
5. American Society of Testing Materials (ASTM)
6. Rules and regulations of public utilities and municipal departments affected by connection of services.
7. Other national standards and codes where applicable.

Where the contract documents exceed the requirements of the referenced codes, standards, etc., the contract documents shall take precedence. Where conflicts between various codes, ordinances, rules, and regulations exist, comply with the most stringent.

Promptly bring all conflicts observed between codes, ordinances, rules, regulations, referenced standards, and these documents to the attention of the Architect and Engineer for final resolution. Contractor will be held responsible for any violation of the law.

Procure and pay for permits and licenses required for the accomplishment of the work herein described. Where required, obtain, pay for, and furnish certificates of inspection to Owner. Provide all safety lights, guards, and warning signs required for the performance of the work and for the safety of the public.

H. PROTECTION OF EQUIPMENT AND MATERIALS

Store and protect from damage equipment and materials delivered to job site. For materials and equipment susceptible to changing weather conditions, dampness, or temperature variations, store inside in conditioned spaces. For materials and equipment not susceptible to these conditions, cover with waterproof, tear-resistant, heavy tarp or polyethylene plastic as required to protect from plaster, dirt, paint, water, or physical damage. Equipment and material damaged by construction activities shall be rejected, and Contractor shall furnish new equipment and material of a like kind at his own expense.

Keep premises broom clean of foreign material created during work performed under this contract. Conduit, equipment, etc. shall have a neat and clean appearance at the termination of the work.

Plug or cap open ends of conduits while stored and installed during construction when not in use to prevent the entrance of debris into the systems.

I. SUBSTITUTIONS

Materials, products, equipment, and systems described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by the proposed substitution. The base bid shall include only the products from manufacturers specifically named in the drawings and specifications. To request a substitution, request the Substitution Request Form from the Architect or Engineer. Complete and send the Substitution Request From for each material, product, equipment, or system that is proposed to be substituted. The burden of proof of the merit of the proposed substitution is upon the proposer.

Unless stated otherwise in writing to the Engineer by the Contractor, Contractor warrants to the Engineer, Architect, and Owner the following:
1. Proposed substitution has been fully investigated and determined to meet or exceed the specified Work in all respects unless stated otherwise in the substitution request.
2. Proposed substitution is consistent with the Contract Documents and will produce indicated results, including functional clearances, maintenance service, and sourcing of replacement parts.
3. Proposed substitution has received necessary approvals of authorities having jurisdiction.
4. Same warranty will be furnished for proposed substitution as for specified Work.
5. If accepted substitution fails to perform as required, Contractor shall replace substitute material or system with that originally specified and bear costs incurred thereby.
6. Coordination, installation and changes in the Work as necessary for accepted substitution will be complete in all respects.

No substitutions will be considered unless the Substitution Request Form is completed and attached with the appropriate substitution documentation. No substitution will be considered prior to receipt of bids unless written request for approval to bid has been received by the Engineer at least ten (10) calendar days prior to the date for receipt of bids.

If the proposed substitution is approved prior to receipt of bids, such approval will be stated in an addendum. Bidders shall not rely upon approvals made in any other way. Verbal approval will not be given. No substitutions will be considered after the contract is awarded unless specifically provided in the contract documents.

Provide factory generated point-by-point calculations for all exterior light fixtures (photometric files supplied so the engineer can generate a point-by-point do not suffice for the point-by-point calculations). Provide interior point-by-point calculations at the discretion of the engineer.

J. SUBMITTALS

Assemble and submit for review shop drawings, material lists, manufacturer product literature for equipment to be furnished, and items requiring coordination between contractors under this contract. Provide submittals in sufficient detail so as to demonstrate compliance with these Contract Documents and the design concept. Prior to transmitting submittals, verify that the equipment submitted is mutually compatible with and suitable for the intended use, will fit the available space, and maintain manufacturer recommended service clearances. If the size of equipment furnished makes necessary any change in location or configuration, submit a shop drawing showing the proposed layout.

Transmit submittals as early as required to support the project schedule. Allow two weeks for Engineer review time, plus to/from mailing time via the Architect, plus a duplication of this time for resubmittals, if required. Only resubmit those sections requested for resubmittal.

Submittals shall contain the project name, applicable specification section, submittal data, equipment identifications acronym as used on the drawings, and the Contractor's stamp. The stamp shall certify that the submittal has been checked by the Contractor, complies with the drawings and specifications, and is coordinated with other trades. Manufacturer product literature shall include shop drawings, product data, performance sheets, samples, and other submittals required by this division. Highlight, mark, list, or indicate the materials, performance criteria, and accessories that are being proposed. General product catalog data not specifically noted to be part of the specified product will be rejected and returned without review.

Submittals and shop drawings shall not contain firm name, logo, the seal, or signature of the Engineer. They shall not be copies of the work product of the Engineer. If the Contractor desires to use elements of such product, refer to paragraph “Electronic Drawing Files” for procedures to be used.

Separate submittals according to individual specification sections. Illegible submittals will be rejected and returned without review. Catalog data shall be properly bound, identified, indexed and tabbed in a 3-ring binder. Each item or model number shall be clearly marked and accessories indicated. Label the catalog data with the equipment identification acronym or number as used on the drawings and include performance curves, capacities, sizes, weights, materials, finishes, wiring diagrams, electrical requirements and deviations from specified equipment or materials. Mark out inapplicable items. Shop drawings will be returned without review if the above mentioned requirements are not met.
Provide the quantity of submittals required by Division 01. If not indicated and hard-copy sets are provided, submit a minimum of six (6) copies. Refer to Division 01 for acceptance of electronic submittals for this project. For electronic submittals, Contractor shall submit the documents in accordance with the procedures specified in Division 01. Contractor shall notify the Architect and Engineer that the submittals have been posted. If electronic submittal procedures are not defined in Division 01, Contractor shall include the website, user name, and password information needed to access the submittals. For submittals sent by e-mail, Contractor shall copy the designated representatives of the Architect and Engineer. Contractor shall allow for the Engineer review time as specified above in the construction schedule. Contractor shall submit only the documents required to purchase the materials and/or equipment in the submittal.

The checking and subsequent acceptance of submittals by the Engineer and/or Architect shall not relieve the Contractor from responsibility for deviations from the drawings and specifications, errors in dimensions, details, sizes of equipment, or quantities, omissions of components or fittings, coordination of electrical requirements, and not coordinating items with actual building conditions and adjacent work. Contractor shall request and secure written acceptance from the Engineer and Architect prior to implementing any deviation.

K. ELECTRONIC DRAWING FILES

In preparation of shop drawings or record drawings, Contractor may, at his option, obtain electronic drawing files in AutoCAD or DXF format on CD-ROM disk, DVD disk, flash drive, or direct download, as desired, from the Engineer for a shipping and handling fee of $200 for a drawing set up to 12 sheets and $15 per sheet for each additional sheet. Contact the Architect for written authorization and Engineer for the necessary agreement form and to specify shipping method and drawing format. In addition to payment, the written authorization from the Architect and release agreement form from the Engineer must be received before electronic drawing files will be sent.

L. RECORD DRAWINGS (AS-BUILT DRAWINGS)

During progress of the work in this division, Contractor shall maintain an accurate record of all changes made during the installation of the system. Upon completion of the work, accurately transfer all record information to three identical sets of the approved shop drawings. Insert one set into each copy of the manual described below.

See Division 01 and General Conditions for additional information.

M. OPERATION AND MAINTENANCE INSTRUCTIONS

During the course of construction, collect and compile a complete brochure of equipment furnished and installed on this project. Include operational and maintenance instructions, manufacturer's catalog sheets, wiring diagrams, parts lists, approved submittals and shop drawings, warranties, and descriptive literature as furnished by the equipment manufacturer. Include an inside cover sheet that lists the project name, date, Owner, Architect, Engineer, General Contractor, Sub-Contractor, and an index of contents.

Submit three copies of literature bound in approved binders with index and tabs separating equipment types to the Architect, for Engineer's review, at the termination of the work. Paper clips, staples, rubber bands, loose-leaf binding, and mailing envelopes are not considered approved binders. Final approval of systems installed under this contract shall be withheld until this equipment brochure is received and deemed complete by the Architect and Engineer. Instruct workmen to save required literature shipped with the equipment itself for inclusion in this brochure.

Include Record Drawings as described above.

Refer to Division 01 for acceptance of electronic manuals for this project. For electronic manuals, refer to paragraph “Submittals” for requirements.

N. WARRANTIES

Warrant each system and each element thereof against all defects due to faulty workmanship, design, or material for a period of 12 months from date of Substantial Completion, unless specific items are noted to carry a longer warranty in these construction documents or manufacturer's standard warranty exceeds 12 months. Remedy all defects occurring within the warranty period(s) as stated in the General Conditions and Division 01.

Warranties shall include labor and material, including travel expenses. Make repairs or replacements without any additional costs to the Owner, and to the satisfaction of the Owner, Architect, and Engineer.

Perform the remedial work promptly, upon written notice from the Engineer or Owner.

Also warrant the following additional items:
1. All raceways are free from obstructions, holes, crushing, or breaks of any nature.
2. All raceway seals are effective.
3. The entire electrical system is free from all short circuits and unwanted open circuits and grounds.

At the time of Substantial Completion, deliver to the Owner all warranties, in writing and properly executed, including term limits for warranties extending beyond the one year period and any actions the Owner must take in order to maintain warranty status. Each warranty instrument shall be addressed to the Owner and state the commencement date and term.

2. GENERAL MATERIALS AND INSTALLATION

A. EXCAVATION AND BACKFILLING

Perform excavation and backfill required for installation of underground work under this contract. Trenches shall be of sufficient width. Crib or brace trenches to prevent cave-in or settlement. Do not excavate trenches close to columns and walls of new building without prior consultation with the Architect. Use pumping equipment if required to keep trenches free of water. Backfill trenches in maximum 6-inch layers of well tamped dry earth in a manner to prevent future settlement.

Excavation as specified herein shall be classified as common excavation. Common excavation shall comprise the satisfactory removal and disposition of material of whatever substances and of every description encountered, including rock, if any, within the limits of the work as specified and shown on the drawings. Excavation shall be performed to the lines and grades indicated on the drawings. Dispose of excavated materials that are considered unsuitable for backfill, and surplus of excavated material, which is not required for backfill, all to the satisfaction of the Engineer.

B. COINCIDENTAL DAMAGE

Repair streets, sidewalks, drives, paving, walls, finishes, and other facilities damaged in the course of this Work. Repair materials shall match existing construction. [Repair materials shall generally match existing construction.] Repair work shall meet all requirements of the Owner, local authorities having jurisdiction, and meet the satisfaction of the Architect. Repair work shall be thoroughly first class. [Conform to requirements of Division 02 of this specifications.]

C. CUTTING AND PATCHING

Conform to the requirements in Division 01. Cut walls, floors, ceilings, and other portions of the facility as required to install work under this division. Obtain permission of the Architect prior to cutting. Do not cut or disturb structural members without prior approval from the Architect. Cut holes as small as possible. Patch walls, floors, and other portions of the facility as required by work under this division. Patching shall match the original material and construction including fire ratings, if applicable. Repair and refinish areas disturbed by work to the condition of adjoining surfaces in a manner satisfactory to the Architect.

D. ROUGH-IN

Coordinate without delay all roughing-in with other divisions. Conceal all conduit and raceways except in unfinished areas and where otherwise indicated on the drawings.

E. CONCRETE BASES

Provide concrete bases (e.g., housekeeping pads) for equipment where indicated on the drawings and as specified herein. Concrete bases shall have chamfered edges. Size of base shall be a minimum of 4 inches greater than the footprint of the equipment that it is supporting and shall have a minimum height of 3-1/2 inches.

Construct equipment bases of a minimum 28-day, 4000-psi concrete conforming to American Concrete Institute Standard Building Code for Reinforced Concrete (ACI 318) and the latest applicable recommendations of the ACI standard practice manual. Concrete shall be composed of cement conforming to ASTM C 150 Type I, aggregate conforming to ASTM C33, and potable water. Exposed exterior concrete shall contain 5 to 7 percent air entrainment.

Unless otherwise specified or shown on the structural drawings, reinforce equipment bases with No. 4 reinforcing bars conforming to ASTM A615 or 6x6 - W2.9 x W2.9 welded wire mesh conforming to ASTM A185. Place reinforcing bars 24 inches on center with a minimum of two bars each direction.

Provide galvanized anchor bolts for equipment placed on concrete bases or on concrete slabs. Anchor bolts size, number, and placement shall be as recommended by the manufacturer of the equipment.

F. SUPPORT SYSTEMS

Steel Slotted Support Systems (Slotted Channel): Comply with MFMA-3, factory-fabricated components for field assembly; 12-gauge, 1-5/8-inch by 1-5/8-inch.

Finishes:
1. Stainless Steel: Type 304, per ASTM A240.

Aluminum Slotted Support Systems (Slotted Channel): Comply with MFMA-3, Type 6063-T6, per ASTM B221; factory-fabricated components for field assembly; 12-gauge, 1-5/8-inch by 1-5/8-inch.

Manufacturers: Cooper B-Line, ERICO International, Hilti, Power-Strut, Thomas and Betts, or Unistrut.

Field Fabrication:

Where field cutting of standard lengths of channel are required, make cuts straight and perpendicular to manufactured surfaces.

For field-cut or damaged surfaces of coated channels, dress cut ends, damaged surfaces, or both, with an abrasive material (e.g., file, grinding stone, or similar) and cleanser to remove oils, rust, sharp edges, and shards.

For channel with a factory-applied coating, re-finish cut edges with a coating compatible with the factory finish and as recommended by the manufacturer (e.g., manufacturer's touch-up paint or zinc-rich cold-galvanizing compound, as applicable).

G. EQUIPMENT FURNISHED BY OTHERS

Provide necessary equipment and accessories that are not provided by the equipment supplier or Owner to complete installation of equipment furnished by others in locations as indicated on the drawings, specified herein, or both. Equipment and accessories not provided by the equipment supplier may include, but not be limited to, flexible cords and plugs as required for proper operation of the complete system, in accordance with the manufacturers' instructions.

Contractor shall be responsible for correct rough-in dimensions, and verify them with Architect and/or equipment supplier prior to rough-in and service installations.

H. SYSTEM TESTING AND ADJUSTING

Adjust, align, and test all electrical equipment on this project provided under this division and all electrical equipment furnished by others for installation or wiring under this division for proper operation.

Test all systems and equipment according to the requirements in NETA ATS (latest edition) and all additional requirements specified in following sections.

Maintain the following on the project premises at all times: a true RMS reading voltmeter, a true RMS reading ammeter, and a megohmmeter insulation resistance tester. Provide test data readings as requested or as required by the Engineer.

I. EQUIPMENT IDENTIFICATION

Provide equipment identification nameplates on all electrical equipment enclosures, transformers, disconnect switches.

Nameplates:
1. Engraved, contrasting color, three-layer, laminated plastic, indicating the name of the equipment, load, or circuit as designated on the drawings and in the specifications:

Attachment method shall be acceptable to the manufacturers of the equipment to which the nameplates are being applied.

Nameplate Color:
1. Black background with white letters for Normal Power;
Letter height: 3/8-inch minimum .

J. SYSTEM START UP

Perform the following prior to starting up the electrical systems:
1. Check all components and devices and lubricate items accordingly.
2. Tighten screws and bolts for connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
3. Adjust taps on each transformer for rated secondary voltage when the transformer is at minimum load.
4. Check and record building's service entrance voltage, grounding conditions, grounding resistance, and proper phasing.
5. Replace all burned-out lamps and lamps used for temporary construction lighting in permanent light fixtures.
6. After all systems have been inspected and adjusted, confirm all operating features required by the drawings and specifications and make final adjustments as necessary.

END OF SECTION 26

Division 26: BASIC ELECTRICAL MATERIALS AND METHODS

1. RACEWAYS

A. NON-METALLIC CONDUIT AND TUBING

Rigid Nonmetallic Conduit (RNC): Schedule 40 PVC, 90 deg C rated, NEMA TC-2, UL 651

Fittings: NEMA TC 3, TC 6; UL 651, compatible with conduit/tubing type and material, NRTL listed.

Manufacturers: AFC Cable, American International, Anamet Electrical, Amco, Cantex, Certainteed, Condux International, Elecsys, Electri-Flex, Lamson and Sessions, Manhattan/CDT/Cole-Flex, Prime Conduit, Raco, Spiralduct, Superflex Ltd, or Thomas and Betts.

2. RACEWAY INSTALLATION

A. GENERAL RACEWAY INSTALLATION REQUIREMENTS

Install raceways parallel and perpendicular to building lines.

Install raceways to requirements of structure, to requirements of all other work on the project, and to clear all openings, depressions, pipes, ducts, reinforcing steel, and other immovable obstacles.

Install raceways set in forms for concrete structure in such a manner that installation will not affect the strength of the structure.

Except where approved in writing by the Engineer, install no raceway in a slab-on-grade. Locate raceway below granular fill below slabs-on-grade.

Install raceways continuous between connections to outlets, boxes, and cabinets with a minimum possible number of bends and not more than the equivalent of four 90-degree bends between connections. Use manufactured elbows for all 45- and 90-degree bends, unless approved by the Engineer in advance. Make other bends smooth and even and without flattening raceway or flaking galvanizing or enamel. Radii of bends shall be as long as possible and never shorter than the corresponding trade elbow.

Use long radius elbows for all underground installations, where necessary, or where otherwise indicated.

Securely fasten raceways in place with approved straps, hangers, and steel supports as required. Attach raceway supports to the building structure. Hang single raceways for feeders with malleable split ring hangers with rod and turnbuckle suspension from inserts spaced not over 10 feet apart in construction above. Clamp groups of horizontal feeder raceways to steel channels that are suspended from inserts spaced not over 10 feet apart in construction above. Securely clamp vertical feeder raceways to structural steel members attached to structure. Install cable clamps for support of vertical feeders where required. Add raceway supports within 12 inches of all bends, on both sides of the bends. Do not support raceways from suspended ceiling components.

Ream raceway ends, thoroughly clean raceways before installation, and keep clean after installation. Plug or cover openings and boxes as required to keep raceways clean during construction and fish all raceways clear of obstructions before pulling conductor wires. Provide raceways of ample size for pulling of wire, not smaller than code requirements and not less than 1/2-inch in size, unless indicated otherwise on Drawings. Homeruns containing more than one branch circuit shall not be less than 3/4-inch in size.

Protect all raceway installations against damage during construction. Repair all raceways damaged or moved out of line after roughing-in to meet Engineer's approval without additional cost to the Owner.

Align and install true and plumb all raceway terminations at panelboards, switchboards, motor control equipment, and junction boxes.

Install approved expansion/deflection fittings where raceways pass through (if embedded) or across (if exposed) expansion joints, and when using RNC or RAC in exposed environments in accordance with NFPA 70 and expansion/contraction properties of RNC or RAC.

Install a pull wire in each empty raceway that is left for installation of conductors or cables under other divisions or contracts. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 24 inches of slack at each end of pull wire.

Make all joints and connections in a manner that will ensure mechanical strength and electrical continuity.

B. ABOVE GROUND RACEWAY USE:

Install all circular raceways concealed above suspended ceilings or concealed in walls or floors wherever possible except where otherwise indicated. Provide GRS for all conduits exposed to weather or other hazardous conditions.

Unless noted otherwise, all other raceway may be EMT where approved by local code. Use compression type fittings for EMT, with all fittings NRTL listed for the environment in which they are used. Unless noted otherwise, set-screw type fittings are not allowed.

C. UNDERGROUND RACEWAY USE:

Provide GRS installed below grade with a corrosion-resistant bonded-plastic or approved mastic coating. This shall include the 90-degree elbow below grade and the entire vertical transition to above grade.

RNC conduit may be used underground where permitted by local code and where not specifically restricted by these documents. When used, provide plastic-coated GRS, as specified above, for all bends greater than 30 degrees, including the 90-degree elbows below grade and the entire vertical risers for transitions from below to above grade or above slab.

D. EQUIPMENT CONNECTIONS

Use FMC for final connection to each motor, transformer, and any device that would otherwise transmit motion, vibration, or noise. Use LFMC where exposed to liquids, vapors, or sunlightProvide all FMC and LFMC with an insulated bonding conductor.

3. BUSHINGS AND LOCKNUTS

Rigidly terminate conduits entering sheet metal enclosures to the enclosure with a bushing and locknut on the inside and a locknut or an approved hub on the outside. Conduit shall enter the enclosure squarely.

Provide bushings and locknuts made of galvanized malleable iron with sharp, clean-cut threads.

Where EMT enters a box, provide approved EMT compression connectors.

Use insulated, grounding, or combination bushings wherever connection is subject to vibration or moisture, when required by NFPA 70 .

4. CONDUCTORS AND CABLES

Annealed (soft) copper complying with ICEA S-95-658/NEMA WC70 and UL standards 44 or 83 as applicable.

Conductor Insulation Types: 90-degree C-rated, Type THHN/THWN-2 or XHHW-2 complying with ICEA S-95-658/NEMA WC70.

Sizes of conductors and cables indicated or specified are in American Wire Gage (AWG - Brown and Sharpe).

All feeder and branch circuit conductors No. 8 AWG and larger: Stranded.

All conductors, No. 10 AWG and smaller: Solid copper.

All Branch Circuit Wiring: Not smaller than No. 12 AWG. If no conductor size is indicated on the Drawings for a branch circuit, provide conductors and conduit sized per NFPA 70 and based on the indicated branch circuit overcurrent protective device (OCPD) rating and number of poles. Where no circuit size (i.e., conductors and OCPD) is indicated on the drawings for a branch circuit, provide three No. 12 AWG conductors, in 3/4-inch raceway, and a 20A circuit breaker.

Control Wiring: Stranded copper conductors, 600V insulation, of the proper type, size, and number as required to accomplish specified function. Minimum size: No. 14 AWG, unless noted otherwise.

Flexible Cords and Cables: Stranded copper conductors for all, unless noted otherwise.

Special Purpose Conductors And Cables, Such As Low Voltage Control And Shielded Instrument Wiring: As recommended by the system equipment manufacturer unless indicated otherwise.

Copper Conductor Manufacturers: Advance Wire and Cable, AFC Cable, Alan Wire, Alflex, American Insulated Wire, Encore Wire, Northern Cables, Okonite, or Southwire.

Connections: Apply a zinc based anti_oxidizing compound to connections. Do not use terminals on wiring devices to feed through to the next device.

5. CONDUCTORS AND CABLES INSTALLATION

Install all wiring in approved raceway and enclosures, except where specified or indicated for low-voltage wiring, where specified or indicated for direct-buried cables, or where type MC cable is indicated or specified as acceptable.

Install all conductors and cables in raceways continuous without taps or splices. Splice or tap only in approved boxes and enclosures with approved solderless connectors, or crimp connectors and terminal blocks for control wiring, and keep to the minimum required. Insulate all splices, taps, and joints as required by codes.

All materials used to terminate, splice, or tap conductors: designed for, properly sized for, and NRTL listed for the specific application and conductors involved, and installed in strict accordance with the manufacturer's recommendations, using the manufacturer's recommended tools.

Where wiring is indicated as installed, but the connection is indicated "FUTURE" or "BY OTHER DIVISION, TRADES, OR CONTRACTS", leave a minimum 3-foot "Pigtail" at the box, tape the ends of the conductors, and cover the box.

In general, the direction of branch circuit "home run" routing is indicated on the drawings, complete with circuit numbers and panelboard designation. Continue all such "home run" wiring to the designated panelboard, as though "circuit runs" were indicated in their entirety.

Common or shared neutrals are not allowed unless shown on the drawings to be used or specifically noted to be allowed.

Where multi-wire branch circuits (i.e., shared neutral) are allowed, they shall be provided with a means that will simultaneously disconnect all ungrounded conductors at the point the branch circuit originates. Multi-pole breakers or 3 single-pole breakers with a handle tie are two examples.

When multiple home runs are combined into a single raceway such that the number of conductors exceeds four (conductor count is made up of any combination of phase and neutral conductors), the following restrictions apply, which are in addition to those in NFPA:

Normal or Non-Essential circuits:

1. Maximum of 16 conductors in a single raceway. For up to eight conductors in a raceway, minimum raceway size: 3/4-inch. For greater than eight conductors, minimum raceway size: 1-inch. Do not install any other type of circuit in this raceway.

2. Minimum wire size for all conductors in this raceway: No. 10 AWG.

3. Only 15A and 20A branch circuit homeruns may be combined into one raceway.

Properly identify all terminal blocks and wire terminals for control wiring with vinyl stick-on markers or equivalent. Provide Engineer with a list of proposed identifying numbers for review prior to installing markers.

Provide an equipment-grounding conductor or bonding jumper, as applicable, in all feeders and branch circuits, sized in accordance with NFPA 70 Tables 250.66 or 250.122 , as applicable, unless indicated as larger on the drawings.

Voltage drop in branch circuits shall not exceed 3 percent.

Wiring shall have insulation of the proper color to match color code system in the table below unless there is a color system currently in use by the facility, in which case the colors are to match the existing system. In larger sizes where properly colored insulation is not available, use vinyl plastic electrical tape of the appropriate color around each conductor at all termination points, junctions, and pull boxes.

System Voltage:

480V and 480Y/277V

1. Phase A: Brown
2. Phase B: Orange
3. Phase C: Yellow
4. Neutral: Gray
5. Equipment ground: green.

6. JUNCTION BOXES, PULL BOXES, CABINETS, AND WIREWAYS

Provide junction boxes, pull boxes, cabinets, and wireways wherever necessary for proper installation of various electrical systems according to NFPA 70 and where indicated on the drawings. Size as required for the specific function or as required by NFPA 70, whichever is larger. Construction shall be of a NEMA design suitable for the environment installed.

7. GROUNDING

A. GROUNDING

Permanently and effectively ground and bond the electrical installation in a thorough and efficient manner, and in conformance, at a minimum, with NFPA 70, or these documents, where they exceed code requirements. Use bare or insulated conductors as specified herein, and other materials indicated on the Drawings.

8. LIGHT FIXTURES, LAMPS AND BALLASTS

A. LIGHT FIXTURE LOCATIONS

Light fixtures shown on the drawings represent general arrangements only. Coordinate location with all other trades before installation to avoid conflicts.

B. LIGHT FIXTURES

Provide light fixtures as scheduled on drawings, including all necessary accessories, material and labor to make light fixtures completely ready for use. Light fixture model numbers scheduled on the drawings show only the manufacturer, grade, and style of light fixtures required. Provide all hangers, supports, and miscellaneous hardware required to install light fixtures, proper trim to fit each ceiling condition actually encountered, and additional tie wires connected to structure to conform to seismic requirements where required by the applicable building code.

Packaging of light fixtures will be allowed. Only those luminaires listed in the Light Fixture Schedule or approved in accordance with substitutions of these specifications will be accepted. Where the Light Fixture Schedule indicates an allowance for a specific light fixture, the price is a Contractor price. Include all additional costs for freight, lamps, and installation of light fixture and lamps.

C. LAMPS

Refer to lighting consultant specifications and light fixture schedule for all lamp requirements.

Provide lamps and color temperatures as indicated on the drawings for all light fixtures.. Lamps shall be by the same manufacturer for color consistency. Lamps shall be compatible with the specified light fixture. LED Lamps and Luminaires: Comply with ANSI C78.377 for white light LED color range; minimum CRI of 80 unless noted otherwise; LED binning specification tolerance to be within 3 macadam ellipses of rated values; all LEDs used for same fixture type throughout the project must originate from the same production bin; minimum average rated life of 20,000 hours for LED lamps and 50,000 hours for LED luminaires; Rohs compliant. LED lamp manufacturers: Bridgelux, Cree, Nichia, Osram, or Xicato.

D. EXTERIOR AREA LIGHTING

Provide all components of the outdoor lighting system, including pole assemblies as detailed on the drawings and described below. All material furnished shall be of the best quality and workmanship, and the manufacturer may be required to furnish satisfactory evidence of the ability to supply the material in accordance with the drawings and specifications.

Poles and light fixtures shall be as noted on the drawings. If Contractor desires to substitute other than the specified manufacturer(s), refer to Article “Substitutions” in this division, for requirements. No alternate manufacturers will be considered for approval without this prior submittal.

Furnish all poles with hand holes and no less than four high-strength steel anchor bolts for pole mounting. Each anchor bolt shall be threaded at the top, fitted with hexagon nuts, and shall have an "L" bend on the bottom of the bolt. All anchor bolts and nuts shall be hot-dip galvanized. All other small hardware required (bolts, nuts, washers, shims, etc.) shall be galvanized. Provide pole finishes as noted on the drawings.

E. PHOTO CONTROL

The photo control shall:

Provide automatic switching (or dimming, as specified) for lighting loads using a thermal design with built_in delay to ensure that the controlled lighting does not switch off due to ambient light or lightning striking the photocell.

Have a rating based on NRTL testing at 50 percent power factor for ballast loads, be NRTL listed, and meet all applicable agency requirements.

Be stem-mounting type with all necessary mounting hardware and instructions; have a housing constructed of high impact poly-carbonate; photo control components consisting of a metal film resistor, dual temperature compensating bi_metal blades, snap action contact blades, chemically treated/polymer encapsulated cadmium sulfide photocell, and silver alloy contacts to ensure reliable 5 year manufacturer warranted operation. Photo control shall be 100 percent factory tested for function within manufacturer's specified light levels.

Be from the same manufacturer of and totally compatible with the time switches specified above.

END OF SECTION 26

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Missouri Certificate of Authority #F00453304

PROJECT:

Paragon Star North Village
3200 NW Paragon Parkway, Lee's Summit, MO 64081
Final Development Plan

ISSUE:

PROFESSIONAL SEAL:

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF PRELIMINARY SUBMITTAL
ANDREA C. MULVANY
LICENSE # PE-2013039892

IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

DRAWING TITLE:

ELECTRICAL SPECIFICATIONS

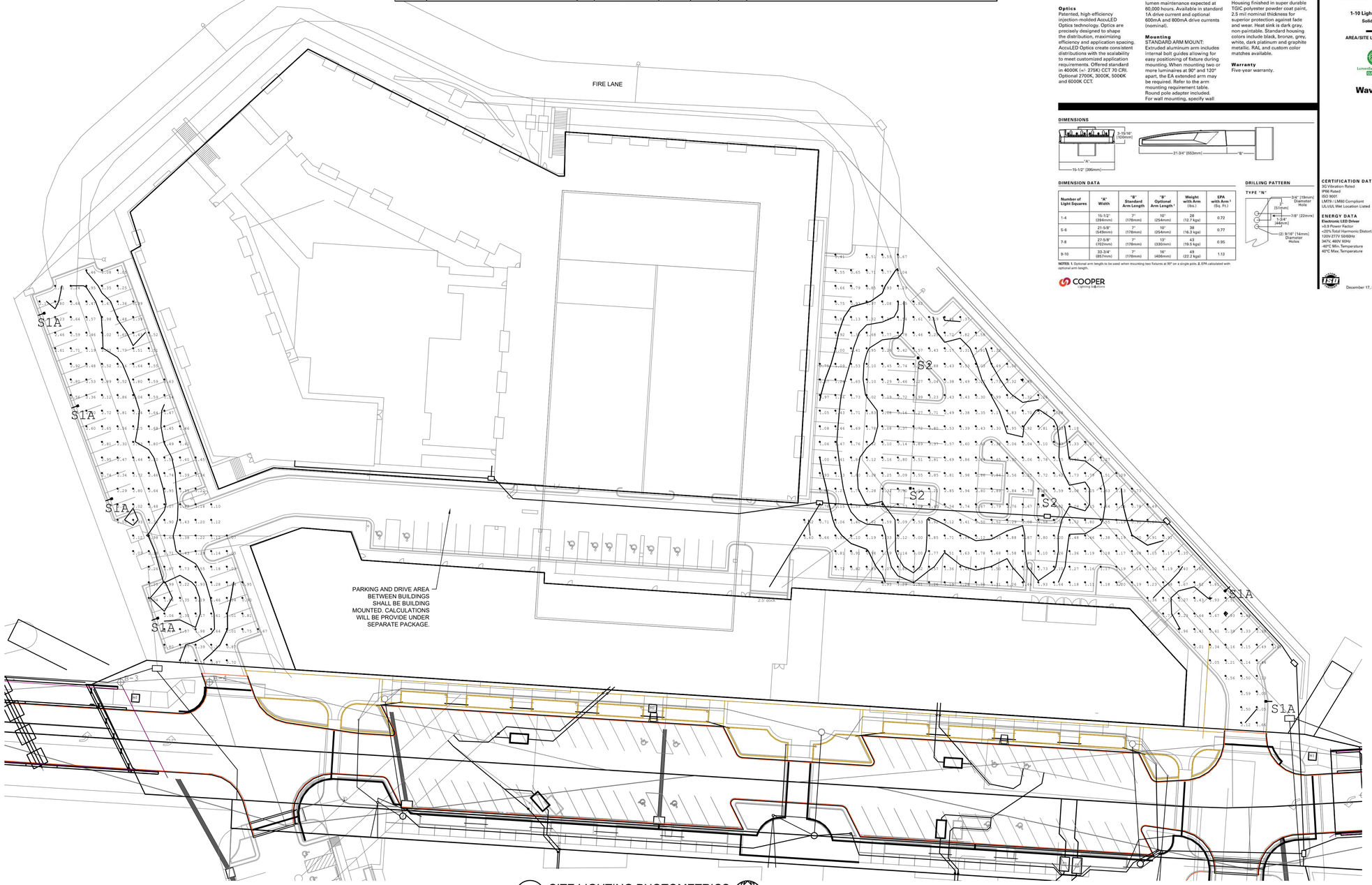
JOB NO: 1249 SCALE: N/A
DATE: 01.21.2022 DRAWN BY: MAP

SHEET NO:

E200

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER/MODEL #	LAMPS NO.	LAMPS TYPE	LAMPS VOLT	INPUT WATTS	INPUT VA	DESCRIPTION
S1	MCGRAW-EDISON GLNA-AF-03-LED-T4W-BK W/ KW INDUSTRIES RAP-25-6.0-X-BLK-DM10	-	LED BY MANUFACTURER 4000K, 70 CRI 17,984 LUMENS 400,000 HRS B2-UO-G2	480	166	166	LED PARKING LOT FIXTURE; PROVIDE WITH 25" ROUND ALUMINUM POLE ON 3' BASE.
S1A	MCGRAW-EDISON GLNA-AF-03-LED-T4FT-BK	-	LED BY MANUFACTURER 4000K, 70 CRI 18,220 400,000 HRS B2-UO-G2	480	166	166	LED PARKING LOT FIXTURE; PROVIDE WITH 25" ROUND TAPERED CURVED ALUMINUM POLE ON 3' BASE. LOWER LUMEN OUTPUT LIGHT FIXTURE MOUNTED ON OPPOSITE SIDE AT +10' FROM BASE OF POLE. HIGHER LUMEN OUTPUT LIGHT FIXTURE MOUNTED AT TOP OF POLE.
	GLNA-AF-01-LED-T2-BK W/ VALMONT IDYLINE CURVES c5-03-DCG-DCG-DCG-DCG		4,015 LUMENS B1-U0-G1	480	34	34	
S2	MCGRAW-EDISON (2) GLNA-AF-03-LED-480-T4W-BK W/ KW INDUSTRIES RAP-25-6.0-X-BLK-DM2180	-	LED BY MANUFACTURER 4000K, 70 CRI 35,968 LUMENS 40,000 HRS B2-UO-G2	480	332	332	LED PARKING LOT FIXTURE. PROVIDE (2) HEADS PER POLE AT 180 DEGREES. PROVIDE WITH 25' ROUND ALUMINUM POLE ON 3' BASE.



1 SITE LIGHTING PHOTOMETRICS
SCALE: 1" = 32'

McGraw-Edison

DESCRIPTION

The Galleonaire LED luminaire features advanced thermally conductive polymer heatsinks and open frame endcaps for a sleek aesthetic with significant weight reduction. Patented, high-efficiency AccuLED Optics™ system provides uniform and energy conscious illumination to walkways, parking lots, roadways, building areas and security lighting applications. IP66 rated and UL/cUL Listed for wet locations.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Construction
Extruded aluminum driver enclosure thermally isolated from Light Squares for optimal thermal performance. Open frame die-cast aluminum end caps provide structural support for the housing and heatsinks. Thermally conductive polymer heatsinks offer significant weight reduction while fully maintaining thermal management of the Light Squares. 3G vibration tested and rated. Optional tool-less hardware available for ease of entry into electrical chamber. Housing is IP66 rated.

Optics
Patented, high-efficiency injection-molded AccuLED Optics technology. Optics are precisely designed to shape the distribution, maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (+/- 275K) CCT 70 CRI. Optional 2700K, 3000K, 5000K and 6000K CCT.

Electrical
LED drivers are mounted to removable tray assembly for ease of maintenance. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480Y/Wye systems only. Standard with 0-10V dimming. Shipped standard with Cooper Lighting Solutions proprietary circuit module designed to withstand 10kV of transient line surge.The Galleonaire LED luminaire is suitable for operation in -40°C to 40°C ambient environments. Light Squares are IP66 rated. Greater than 90% lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 600mA and 800mA drive currents (nominal).

Mounting
STANDARD ARM MOUNT: Extruded aluminum arm includes internal bolt guides allowing for easy positioning of fixture during mounting. When mounting two or more luminaires at 90° and 120° apart, the EA extended arm may be required. Refer to the arm mounting requirement table. Round pole adapter included. For wall mounting, specify wall mount bracket option. QUICK MOUNT ARM: Adapter is bolted directly to the pole. Quick mount arm slide into place on the adapter and is secured via two screws, facilitating quick and easy installation.The versatile, patent pending, quick mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8". Removal of the door on the quick mount arm enables wiring of the fixture without having to access the driver compartment. A knock-out enables round pole mounting.

Finish
Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Heat sink is dark gray, non-paintable. Standard housing colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available.

Warranty
Five-year warranty.

GLNA
GALLEONAIRE

1-10 Light Squares
Solid State LED

AREA/SITE LUMINAIRE

LumenEyes Technology CLICK HERE

WaveLinx

DIMENSIONS

DIMENSION DATA

Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Optional Arm Length [1]	Weight with Arm (lbs.)	EPA with Arm [2] (Sq. Ft.)
1-4	15-1/2" (394mm)	7" (178mm)	10" (254mm)	28 (12.7 kgs)	0.72
5-6	21-5/8" (549mm)	7" (178mm)	10" (254mm)	36 (16.3 kgs)	0.77
7-8	27-5/8" (702mm)	7" (178mm)	13" (330mm)	43 (19.5 kgs)	0.95
9-10	33-3/4" (857mm)	7" (178mm)	16" (406mm)	49 (22.2 kgs)	1.12

NOTES. 1. Optional arm length to be used when mounting two fixtures at 90° on a single pole. **2.** EPA calculated with optional arm length.

DRILLING PATTERN

TYPE "N"

CERTIFICATION DATA
5G Vibration Rated
IP66 Rated
ISO 9001
LM79 / LM80 Compliant
UL/cUL Wet Location Listed

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120V-277V 50/60Hz
347V, 480V 60Hz
-40°C Min. Temperature
40°C Max. Temperature

TD500064EN
December 17, 2019 8:41 AM

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PROJECT:

Paragon Star North Village

3200 NW Paragon Parkway, Lee's Summit, MO 64081

Final Development Plan

ISSUE:

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DRAWING TITLE:

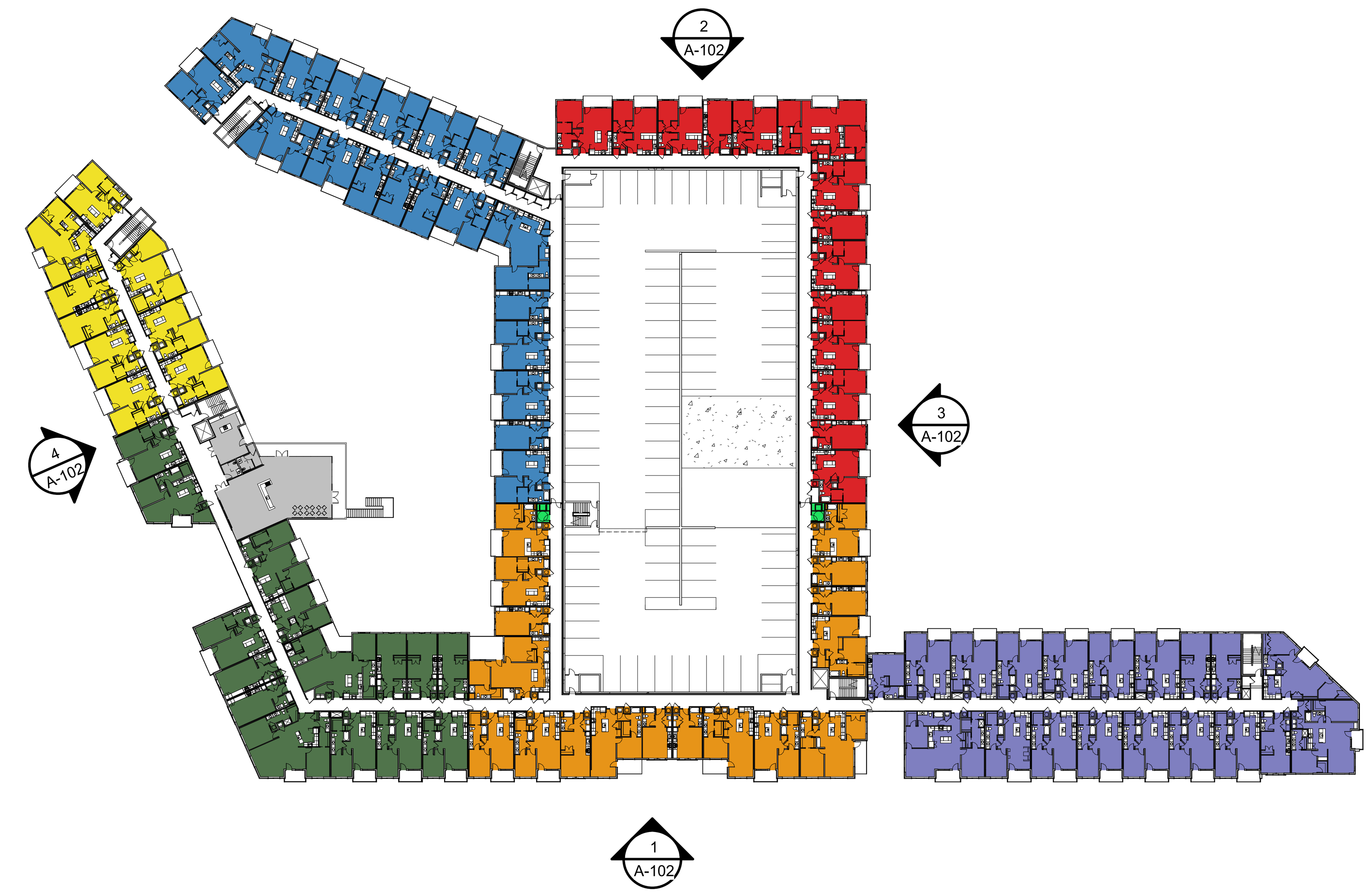
SITE LIGHTING PHOTOMETRICS

JOB NO: 1249 SCALE:
DATE: 01.21.2022 DRAWN BY: MAP

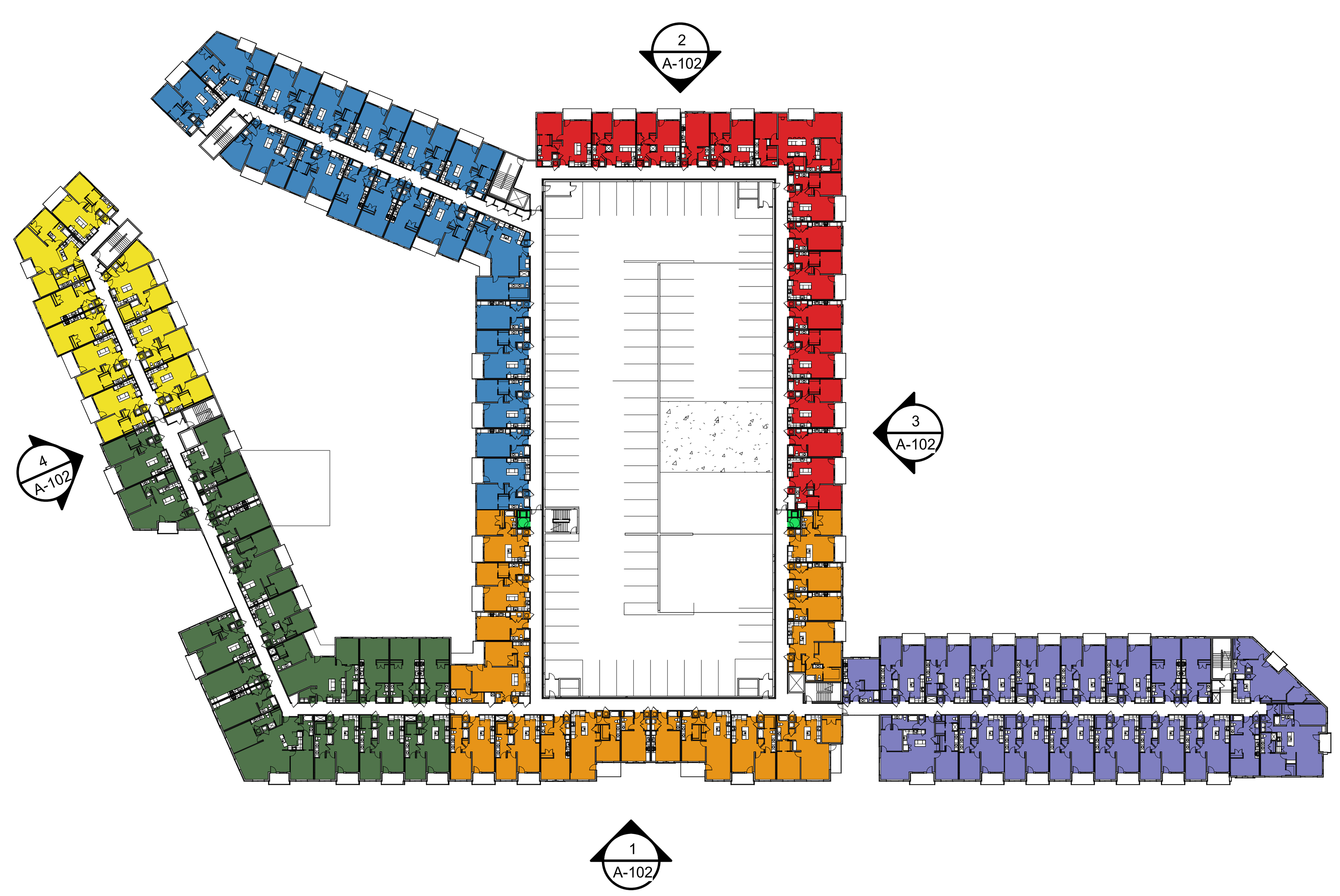
SHEET NO:

E300

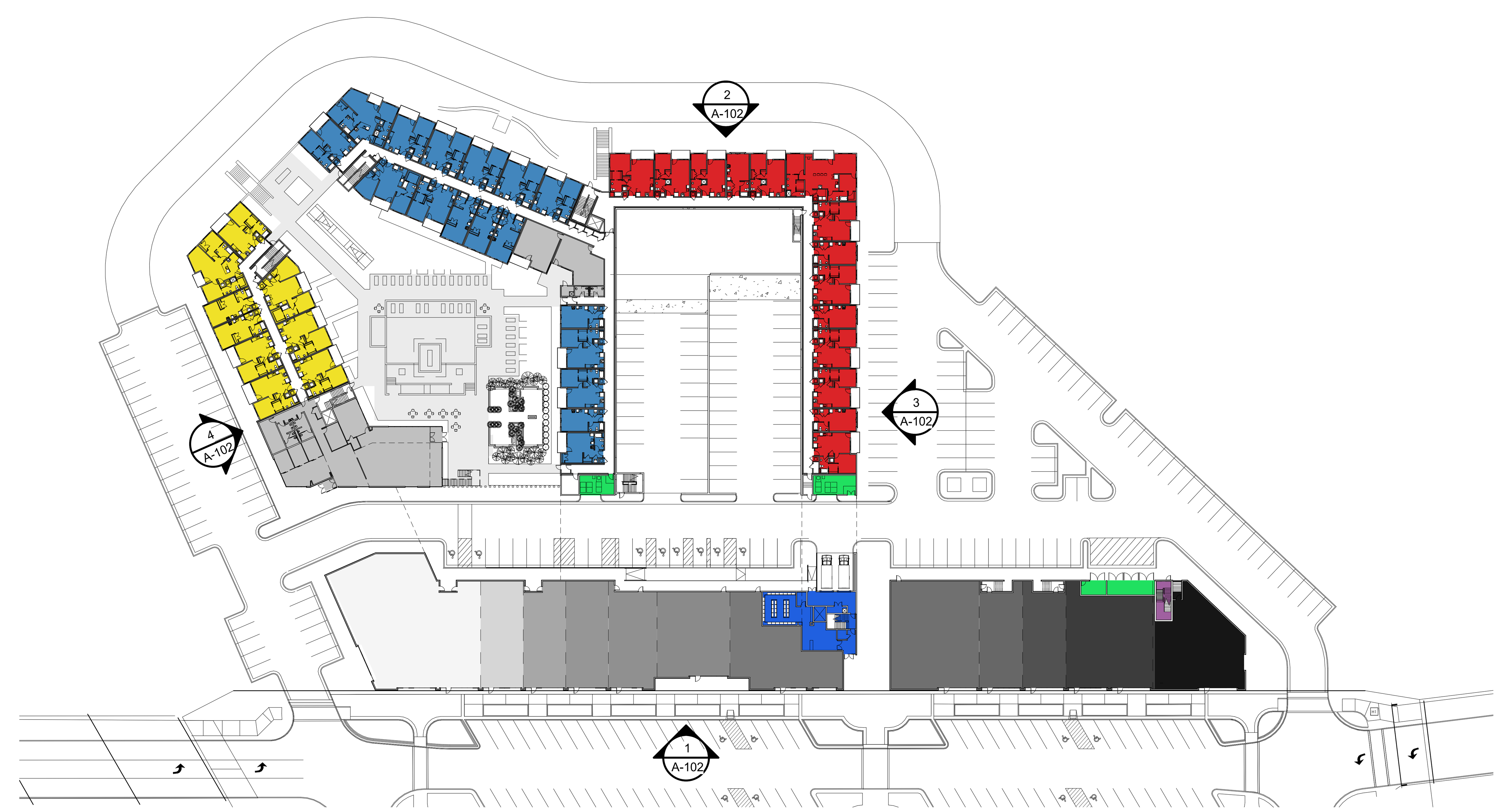
5 A-101 FLOOR PLAN - 5TH FLOOR
SCALE : 1" = 60'-0"



2 A-101 FLOOR PLAN - 2ND FLOOR
SCALE : 1" = 60'-0"



3 A-101 FLOOR PLAN - 3RD & 4TH FLOORS
SCALE : 1" = 60'-0"



1 A-101 FLOOR PLAN - 1ST FLOOR
SCALE : 1" = 60'-0"

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Final Development Plan

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DRAWING TITLE:

FLOOR PLANS

JOB NO: 1249
SCALE:
DATE: 01/24/22
DRAWN BY:

SHEET NO:

A-101

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Final Development Plan

EXT. FINISH LEGEND

<u>CS-1</u>: CEMENTITIOUS SIDING
COLOR: COLOR 1, TBD

<u>CS-2</u>: CEMENTITIOUS SIDING
COLOR: COLOR 2, TBD

<u>ST-1</u>: BORAL HEWN STONE CULTURED STONE VENEER
COLOR: ARCTIC

<u>STU-1</u>: STUCCO
COLOR: COLOR-1, TBD

<u>WD-1</u>: WOOD/CEMENTITIOUS SIDING
STAIN: COLOR 1, TBD

ARCHITECTURAL ELEMENTS:

CANOPY-1: METAL BOX FRAME CANOPY, PAINT FINISH

CANOPY-2: WOOD OR WOOD-LOOK OPEN STRUCTURE CANOPY

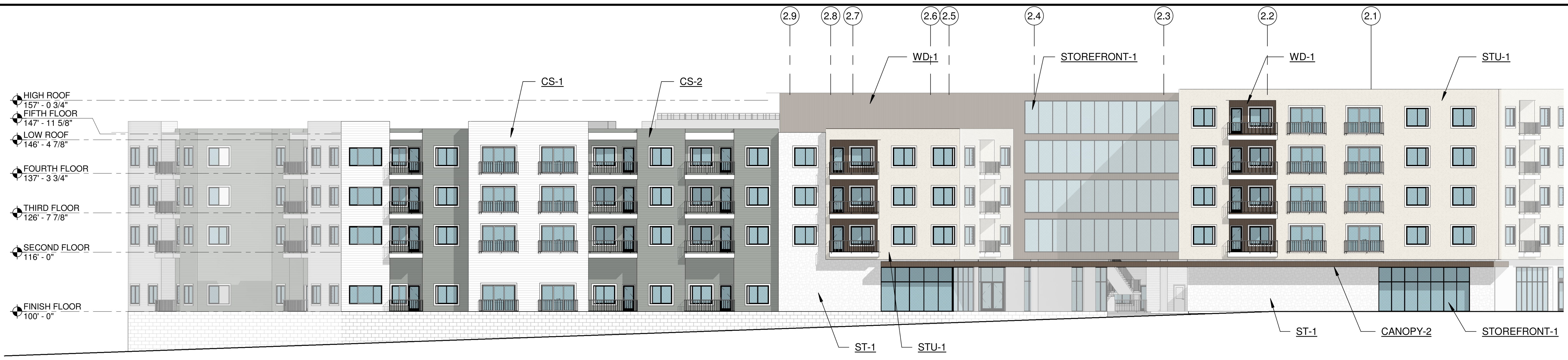
STOREFRONT/WINDOWS:

STOREFRONT-1: ALUMINUM STOREFRONT, ANODIZED BLACK; LOW-E GLAZING

WINDOW-1: VINYL WINDOWS, BLACK FINISH, LOW-E GLAZING

RAILINGS

RAILING-1: METAL RAILING



4 WEST ELEVATION
A-102 SCALE : 1" = 20'-0"

3 EAST ELEVATION
A-102 SCALE : 1" = 20'-0"

2 NORTH ELEVATION
A-102 SCALE : 1" = 20'-0"

1 SOUTH ELEVATION - PARAGON PARKWAY
A-102 SCALE : 1" = 20'-0"

ISSUE:

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BUILDING ELEVATIONS

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