

G:\12220\Civil 3D\Production Drawings\Street & Storm Plans - Paragon Parkway\12720C0100.dwg, Layout: 1 Cover Sheet, -- Friday, December 11, 2020, 2:22pm -- Copyright 2020, George Butler Associates, Inc., Professional Engineer, 000225, Landscape Architect, 000225, Professional Land Surveyor, 000259

PUBLIC STREET, STORM SEWER AND STREET LIGHTING PLANS
FOR
PARAGON STAR DEVELOPMENT
PARAGON PARKWAY
Sections 34-Township 48-Range 32
City of Lee's Summit
Jackson County, Missouri

Summary of Quantities

Item No.	Description	Unit	Approx. Unit Quantity
1	Concrete Sidewalk	SF	9,020
2	Concrete Brick Pavers	SF	10,418
3	Concrete Curb and Gutter (Type "B")	LF	1,881
4	Concrete Curb and Gutter (Type "C")	LF	112
5	Concrete Pavement (8" Depth)	SY	4,604
6	Fly Ash Modified Subgrade (9" Depth)	SY	5,022
7	Handicap Ramps	EA	17
8	6" Underdrain	LF	1,038
9	End Section 36" RCP w/ Conc. Toewall	EA	2
10	6x4' Curb Inlet	EA	7
11	6x5' Curb Inlet	EA	1
12	5x4' Curb Inlet	EA	1
13	5x5' Curb Inlet	EA	1
14	2" PVC Irrigation Sleeve	LF	640
15	Storm Sewer (15") (RCP)	LF	611
16	Storm Sewer (18") (RCP)	LF	629
17	Storm Sewer (24") (RCP)	LF	84
18	Storm Sewer (36") (RCP)	LF	178
19	Trench Drain (8")	LF	755
20	Grease Interceptor	EA	4
21	6" SDR 26 PVC	LF	427
22	4" SDR 26 PVC	LF	256
23	Riprap MODOT Type 3 Rock ditch liner	SY	129
24	Traffic-Bearing Concrete Backflow Preventer Vault	EA	1
25	Traffic-Bearing Concrete Meter Vault	EA	1
26	6" Class 305 PVC	LF	43
27	8" Class 305 PVC	LF	49
28	12"x12" Quazite Telecom Box	SF	3
29	Utility Concrete Pad	SF	240
30	12"x16" Quazite Electrical Box	EA	3
31	Utility Pull Box (30"x48") Pre-formed Polymer Conc. Handhole	EA	1
32	5" HDPE (Telecom Conduit)	LF	118
33	3" PVC (Telecom Conduit)	LF	55
34	2" PVC (Telecom Conduit)	LF	508
35	4" Gray PVC (NEC Approved Electrical Conduit)	LF	394
36	3" HDPE (Electrical Conduit)	LF	876
37	North American Green SC150BN	SY	251
38	Silt Fence	LF	3,703
39	Curb Inlet Protection	EA	10
40	Final Seeding	ACRE	0.41
41	Street Lighting		
42	Traffic Signs		

PROJECT BENCHMARK

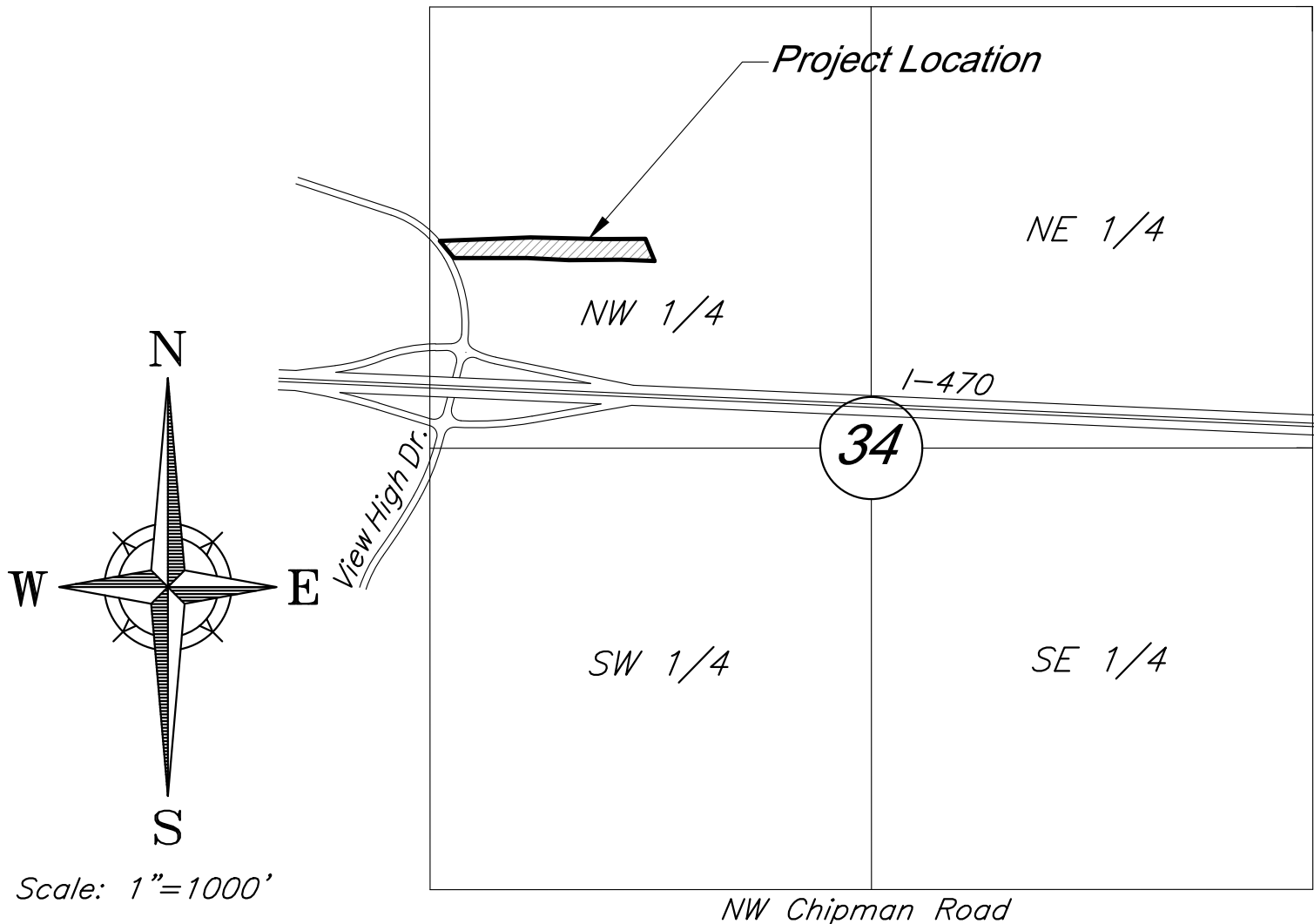
BM #11 - Chiseled "L" on top
Northeast corner of concrete guardrail
at the Northeast corner of I470 bridge
spanning View High Drive.
EL=833.80

UTILITY CONTACTS

Sanitary Sewers	Mr. Jeff Thorn, PE City of Lee's Summit Water Utilities 1200 SE Hamblen Road Lee's Summit, MO 64063 (816) 969-1922 email: jeff.thorn@cityofLS.net	Gas	Mr. Donnie Richards Missouri Gas Energy 7500 E 35th Terrace Kansas City, MO 64129 (816) 472-9464 Fax (816) 472-3488 email: donnie.richards@sug.com
	Mr. Jeff Shook Little Blue Valley Sewer District 21101 East 78 Highway Independence, MO 64057 (816) 285-1522 email: jshook@lbvwsd.net	Cable Television	Mr. Greg Thomas Time Warner Cable 8221 W. 119th Street Overland Park, KS 66213 (913) 643-1950 email: greg.thomas@twcable.com
Water	Mr. Jeff Thorn, PE City of Lee's Summit Water Utilities 1200 SE Hamblen Road Lee's Summit, MO 64063 (816) 969-1922 email: jeff.thorn@cityofLS.net	Telephone	Ms. Glenda Charles AT&T 1425 Oak Street Kansas City, MO 64106 (816) 365-1669 Fax (816) 275-1109 email: gc6954@att.com
Electric Service	Mr. Nathan Michael Kansas City Power & Light P.O. Box 418679 Kansas City, MO 64141 (816) 220-5210 Fax (816) 245-3623 email: Nathan.Michael@kcpl.com		

Missouri One Call System 1-800-344-7483 (DIG-RITE)

Design Speed = 30 mph



VICINITY MAP

Section 34-T48N-R32W

DEVELOPED AND OWNED BY:
PARAGON STAR LLC
801 NORTHWEST COMMERCE CENTER
LEE'S SUMMIT, MISSOURI 64086
PHONE: (816) 802-6801
CONTACT: Mr. Flip Short
EMAIL: fshort@legacytouch.com

PREPARED & SUBMITTED BY:
GEORGE BUTLER ASSOCIATES, INC.
9801 RENNER BOULEVARD
LENEXA, KANSAS 66219
PHONE: 913-492-0400
FAX: 913-577-8312
CONTACT: BRAD BURTON P.E.
EMAIL: BBURTON@GBATEAM.COM



CLINT LOUMASTER
PROJECT ENGINEER:

INDEX OF SHEETS

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L701-L702	Irrigation Plan
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12/11/20
DATE:

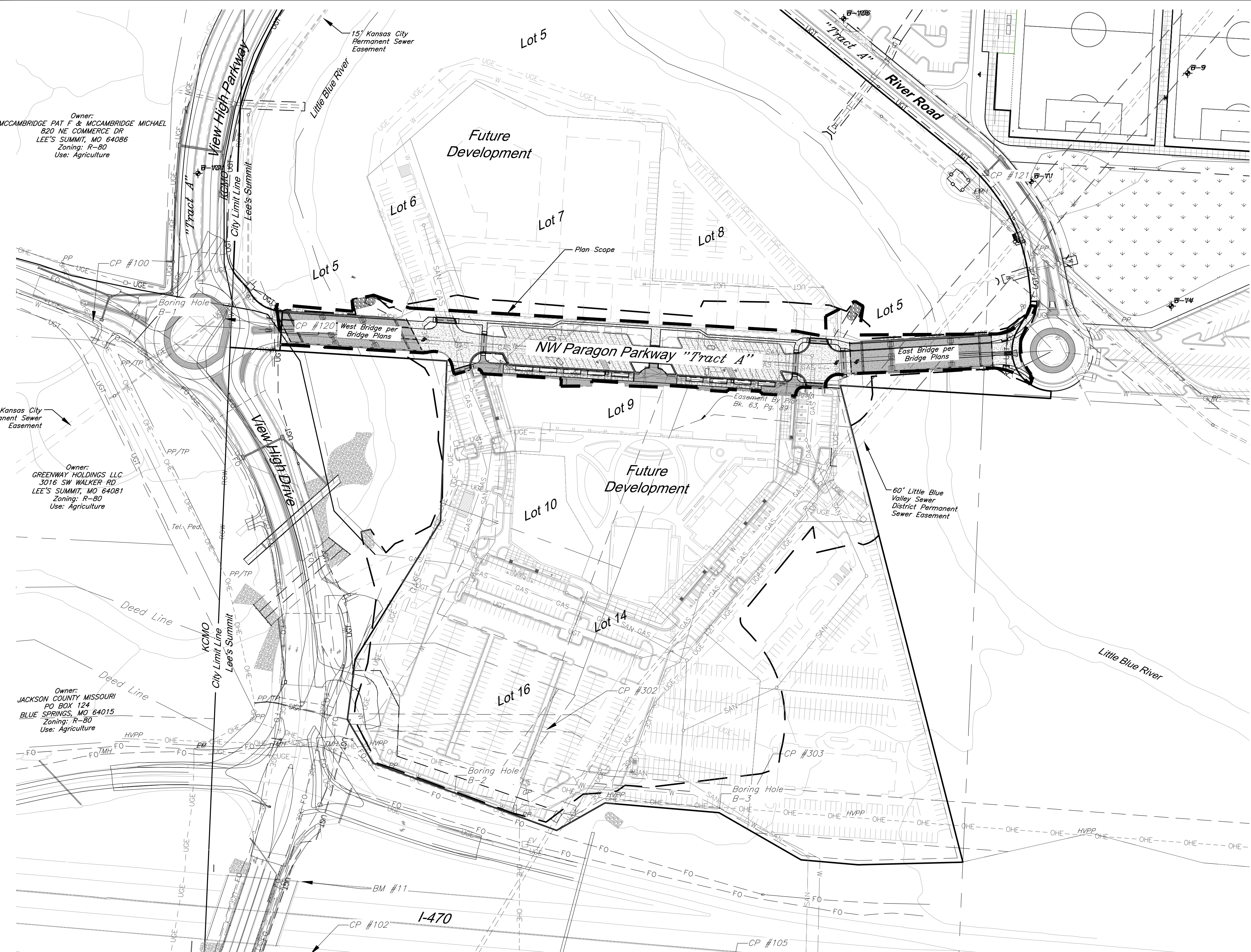
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1 of 68

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PROJECT CONTROL

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

0.99990648
To get to State Plane:
Coordinates x CAF = State Plane

CP #100 - 1/2" 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
South 27.50' to west end of 18" cmp culvert for field entrance

CP #120 - 1/2" 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
NE 56.30' to center of MH lid

CP #121 - 1/2" 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

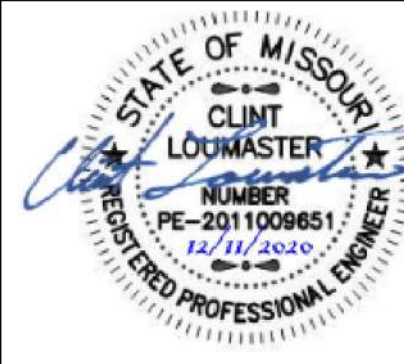
CP #122 - 1/2" rebar with GBA cap approximately 1380'± NE of access road "Future View High Drive Pkwy" from View High Drive
Coordinates:
N: 1010126.48'
E: 2804884.88'
EL: 813.20'
Ties:
1) West 298'± to center of MH lid
2) South 199'± to center of MH lid

CP #304 - 1/2" 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 - 1/2" 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:
SE 4.00' to great break at ridge line

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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architects
engineers
9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

DATE: 12-11-2020
DESIGN BY: CEL
DRAWN BY: DRV
PROJECT NO.: 12720
SHEET NO. 2
TOTAL SHEETS 68

Clint Loumaster
Professional Engineer
License No. PE2011-009651

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO.	DATE	REVISIONS	BY	APPROVED
10/16/20		Issued for Pricing 10/16/2020		
12/11/20		12/2 City Comments		

Legend

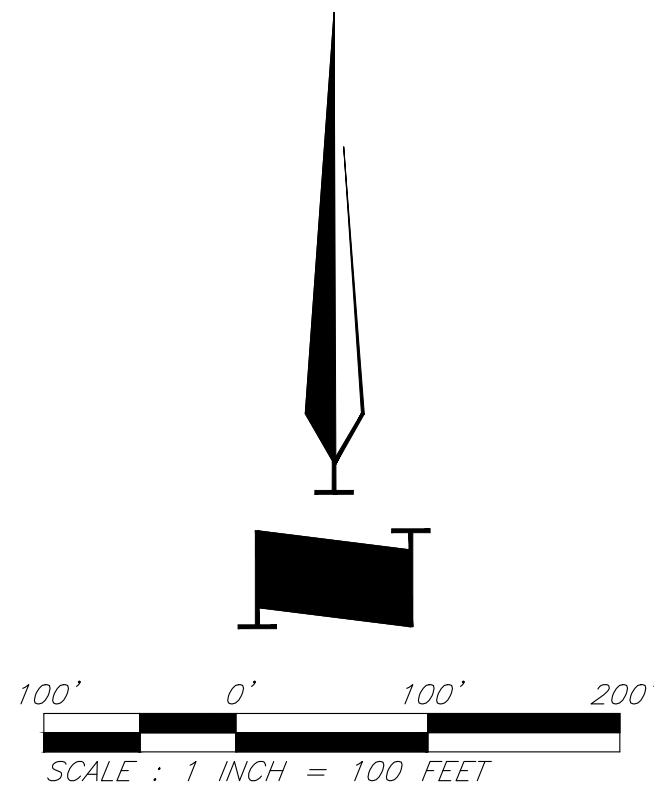
P.P.	Power Pole	Barbed Wire Fence
E.M.	Guy Anchor	Centerline
	Electric Meter	Fiber Optic Line
	Electrical Transformer	Gas Line
	Electric Pedestal	Guard Rail
Elec. Ped.	Over Head Electric	Over Head Electric
P.P./T.P.	Over Head Telephone	Over Head Telephone
P.P./L.P.	Power Pole/Telephone Pole	Property Line
G.M.	Gas Meter	Right-of-Way Line
G.V.	Gas Valve	Sanitary Sewer Line
	Curb Inlet	Stream
	Junction Box	Tree Line
	Sanitary Sewer Manhole	Underground Electric
L.P.	Light Pole	Underground Telephone
B-1	Boring Hole	Underground Cable TV
	Sign	Water Line
TMH	Property Corner	Proposed Grades
Tel. Ped.	Telephone Manhole	Proposed Storm Sewers
T.P.	Telephone Pedestal	Existing Grades
	Telephone Pole	Existing Storm Sewers
		Tree Deciduous
		Fire Hydrant
		Water Meter

FLOODPLAIN NOTE:

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 provided for this project, case number 20-07-0520R, received 2/14/20.

Total Disturbed Area = 2.76 Acres



General Layout



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DATE: 12-11-2020	
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DRAWN BY: DRV	
PROJECT NO.: 12720	
SHEET NO.	TOTAL SHEETS
3	68

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Professional Engineer
License No. PE2011-009651

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO.	DATE	REVISIONS	BY	APPROVED
	10/16/20	Issued for Pricing		
	12/11/20	12/2 City Comments		

General Notes:

- All Construction shall conform to the current City Standards and Specifications of Lee's Summit, MO in effect at the time of the City's approval date shown on the approved plans and incorporated herein by reference.
- All traffic control shall be the responsibility of the Contractor and shall be in conformance with the Manual of Uniform Traffic Control Devices (MUTCD).
- Property Corners and/or Section corners disturbed or damaged by construction activities shall be reset by a Registered Land Surveyor licensed in the state of Missouri, at the Contractor's expense.
- The Contractor shall be responsible for the restoration of the Right-of-Way and for damaged improvements such as curbs, driveways, sidewalks, street light and traffic signal junction boxes, traffic signal equipment, irrigation systems, etc. Damaged improvements shall be repaired in conformance with the latest Lee's Summit, MO standards and to the City's satisfaction.
- All work shall be confined within easements and/or construction limits as shown on the plans.
- The Contractor shall, prior to the commencement of work, investigate surface and subsurface conditions to be encountered across the site and notify the Engineer if any discrepancies or changed conditions are noted.
- This project will include numerous activities occurring on site including storm sewer, sanitary sewer, grading, utility etc. Contractor shall coordinate his work with other contractors on site.
- All trash and debris identified on site shall be properly handled and disposed of in accordance with state of Missouri regulations.
- All measurements on these plans are horizontal distances, not slope distances.
- Items not listed separately in the Summary of Quantities are subsidiary to other items.
- All site concrete shall be KCMMB – 4,000 PSI unless otherwise noted.
- All paving shall adhere to Lee's Summit Standards, Section 2200.

Permitting:

- Excavation for Utility work within the Right of Way requires a Right of Way work permit from the Public Works Department, in addition to all other permits.
- Contractor is responsible for obtaining all required permits, paying all fees, and for otherwise complying with all applicable regulations governing the work.
- No work shall be completed within the existing floodway until the CLOMR has been issued.
- No work shall be completed within the delineated wetland or regulatory stream channels until the U.S. Corps of Engineers Section 404 permit is issued. All work shall adhere to the terms and conditions of this permit.

Erosion Control:

- The Contractor is responsible for providing erosion and sediment control BMP's to prevent sediment from reaching paved areas, storm sewer systems, drainage courses, and adjacent properties. In the event the prevention measures are not effective, the contractor shall remove any debris, silt, or mud and restore the Right-Of-Way, or adjacent properties to original or better condition.
- Contractor shall ensure that all construction shall conform to the requirements of the Stormwater Pollution Prevention Plan (SWPPP) a copy of which shall be maintained and updated on site by the Contractor.
- The Contractor shall seed all disturbed areas within the Public Street Right-of-Way unless otherwise noted in the plans.
- No trees shall be damaged or removed without prior authorization from owner unless otherwise shown on this plan.
- Inspection and maintenance of the sediment and erosion control BMPs shall be per the project SWPPP, but at a minimum shall be once every 7 days or within 24 hours of a precipitation event of 0.5 inches or greater. Records of inspections shall be kept with the project SWPPP.
- Trees, where indicated to be removed, shall be completely removed, including root balls.
- At the contractors option, removed trees may be mulched on site and used as mulch berms in lieu of sediment fence or straw wattles.

Earthwork:

- The Contractor shall be responsible for removing and disposing of grass and vegetation that is found on site. Contractor shall strip site of organic material to a depth acceptable to the Geotechnical Engineer and prior to the placement of fill. Disposal of all debris shall be performed by the contractor in strict accordance with all applicable codes and ordinances. All clearing and grubbing, stripping, and grading operations shall be performed in accordance with the recommendations as found in the Geotechnical Report, and erosion control and grading plans for this site.

- Slopes shall be constructed to a maximum slope of 3:1 (Horiz:Vert).
- Refer to "Geotechnical Engineering Report: Paragon Star – Soccer Fields" by Terracon Consultants, Inc., dated 6/27/2016 (Terracon Project #02165149) for grading and pavement recommendations and boring logs. All earthwork shall conform to the recommendations of the Report. A copy of the final site soils report and all boring logs will be available for review prior to the commencement of construction. The soils information shown in this set of plans has been provided by Terracon. George Butler Associates, Inc. is not responsible for the adequacy or accuracy of the soils information shown or provided.
- Unless otherwise noted, all spot elevations and contours are shown to "finish" grade surface. Contractor shall adjust for any overcut required in paving, parking, landscape, or building pad areas as defined in the Geotechnical Report, these plans, or the project specifications.
- All temporary slopes and excavations should conform to Occupational Safety and Health Administration (OSHA) standards for the Construction Industry (29 CFR part 1026, subpart P).
- Cut/Fill – All fills are to be made with suitable structural fill material in accordance with the project's geotechnical report recommendations.

Utility:

- All Manholes, Catch Basins, Utility Valves, Meter Pits, and other utility equipment shall be adjusted or rebuilt to grade as required.
- Prior to beginning work, the Contractor shall notify all utility companies who have facilities in the vicinity of the project area of the work to be performed.
- All Utility extensions and construction shall conform to the Standards and Specifications of the applicable Utility Companies.

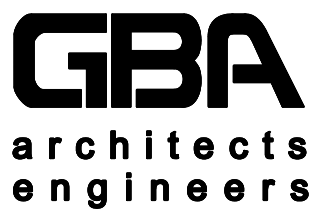
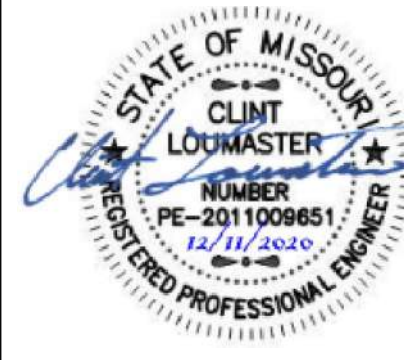
Storm Sewer:

- All RCP shall be Class III.
- All HDPE Pipe shall be ADS N-12. Pipe shall meet AASHTO M294.
- Pipe Lengths are called out from center of structure to center of structure.
- Drainage across the project site during construction shall be the Contractor's responsibility. Surface drainage shall be controlled to reduce or prevent the flow of surface water onto adjacent grounds. Contractor shall control downstream erosion and silting during construction. Flexibility is given to the Contractor to make minor grading revisions along roads or between building pads to improve drainage during construction, with prior approval of the engineer.
- Prior to ordering precast storm sewer structures, Contractor shall provide shop drawings to the Engineer for review and approval.

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NOTES:

1. All paving shall adhere to Lee's Summit Standards, Section 2200.
2. Install 1" Dia. HDPE electrical conduit as shown on Sheet 16. Minimum 24" Depth from final grade to top of conduit with buried electrical line plastic caution tape at a depth of 12" per utility standards.
3. Install 2" Dia. PVC telecom conduit as shown on Sheet 16. Minimum 24" depth from final grade to top of conduit.
4. Install 8" Duraslot Trench Drain as shown on Sheets 7-8 and 26.



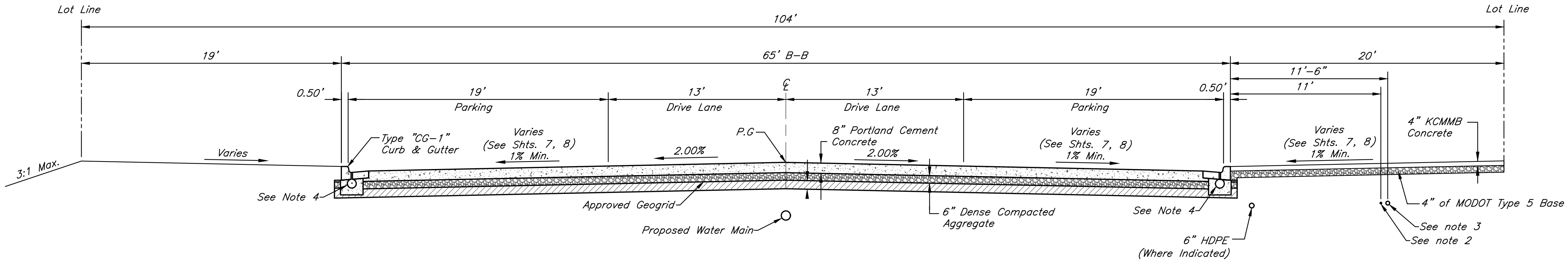
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DATE:	12-11-2020
DESIGN BY:	CEL
DRAWN BY:	DRV/DGL
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
4	68

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License No. PE2011-009651

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

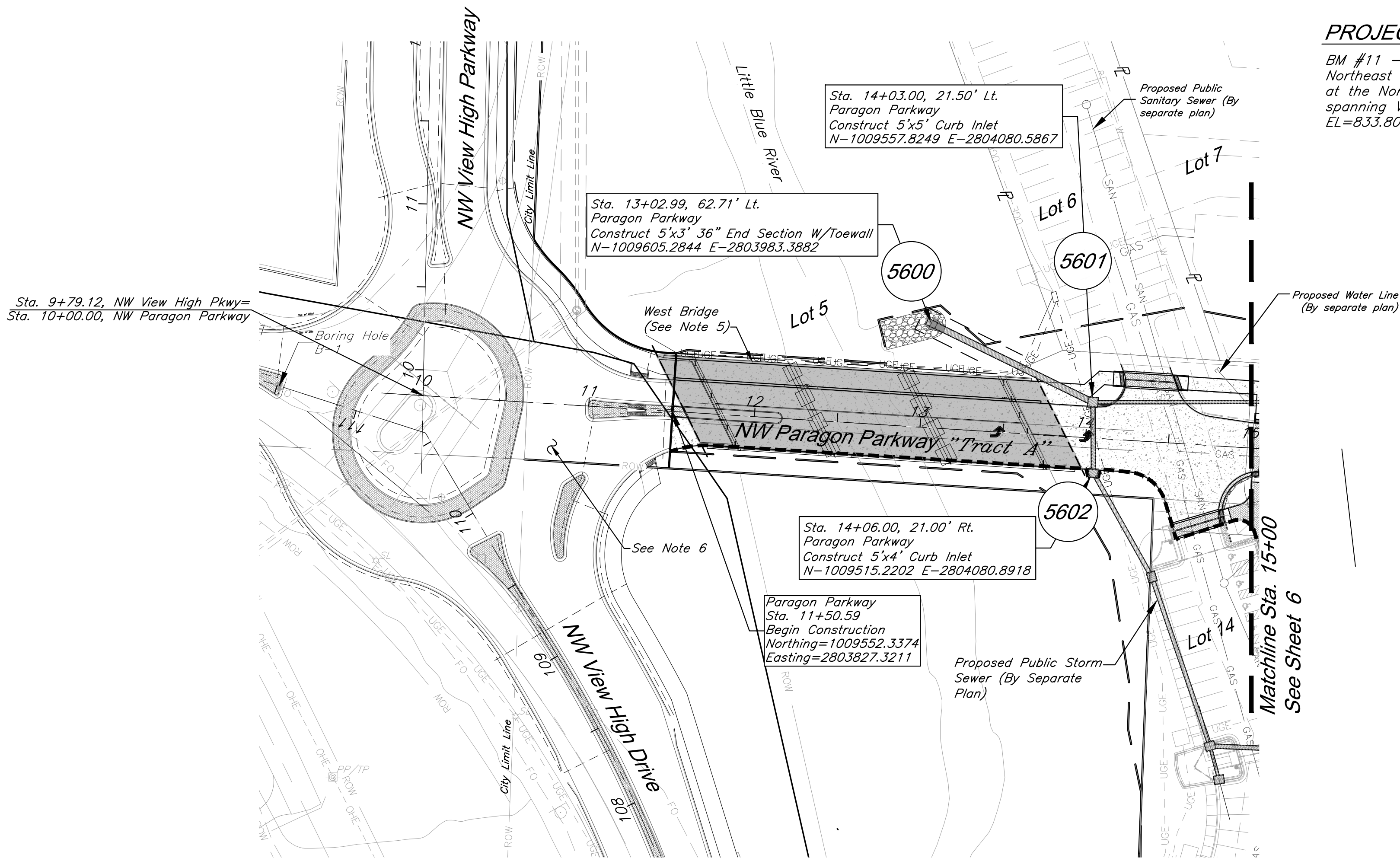
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10/16/20		Issued for Pricing 10/16/2020		
12/11/20		12/2 City Comments		



TYPICAL SECTION PARAGON PARKWAY

Scale: 1" = 5'

Typical Section



PROJECT BENCHMARK

BM #11 - Chiseled "L" on top Northeast corner of concrete guardrail at the Northeast corner of 1470 bridge spanning View High Drive. EL=833.80



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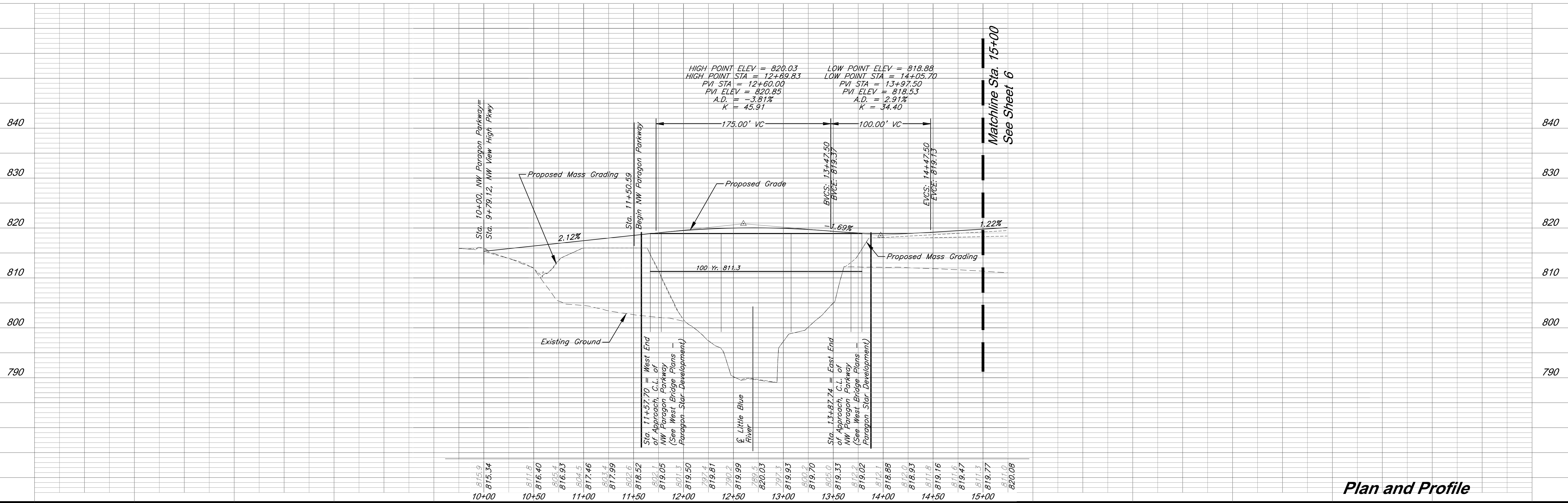
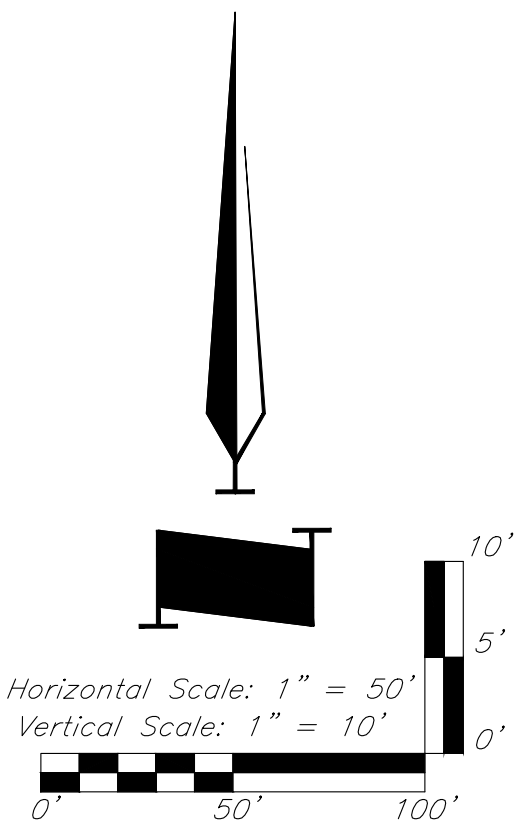
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Street and Storm Sewer Plans Paragon Parkway Lee's Summit, Missouri

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Notes:

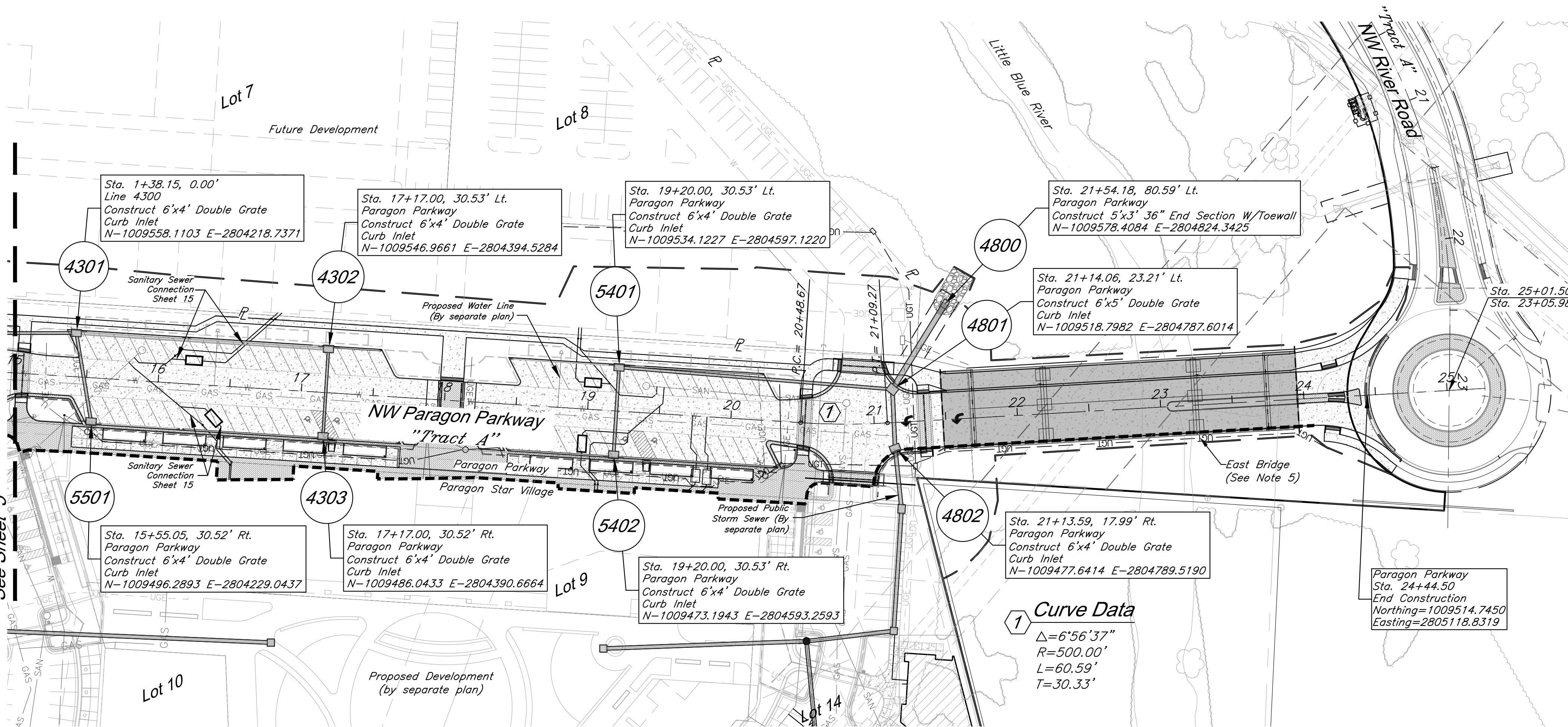
- Pipe length called out is from center of structure to center of structure.
- Storm Sewer Structure Station offset and coordinates based on center of structure. Top elevations are top center of lid.
- Tops on all in grade inlets shall maintain street slope, low point inlets to be set level.
- Boring information based on original undisturbed earth - see Geotechnical report.
- Sta. 11+57.78 - Sta. 13+87.74 See West Bridge Plans, Paragon Star Development.
- NW View High Parkway - See Street and Storm Sewer Plans, Paragon Star Development.



Plan and Profile

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Matchline Sta. 15+00
See Sheet 5



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SHEET NO.	TOTAL SHEETS
6	68

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License No. PE2011-009651

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO.	DATE
10/16/20	
12/11/20	

REVISIONS	BY	APPROVED
Issued for Pricing 10/16/2020		
12/2 City Comments		

PROJECT BENCHMARK

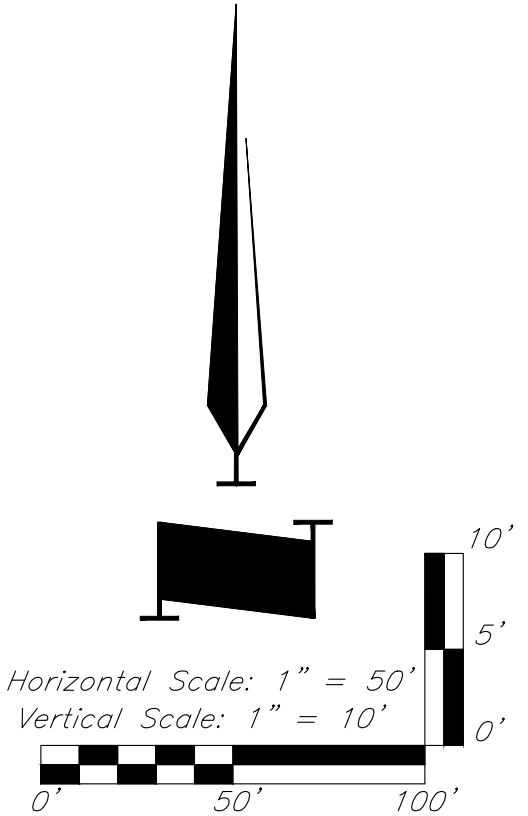
BM #11 - Chiseled "L" on top
Northeast corner of concrete guardrail
at the Northeast corner of 1470 bridge
spanning View High Drive.
EL=833.80

Notes:

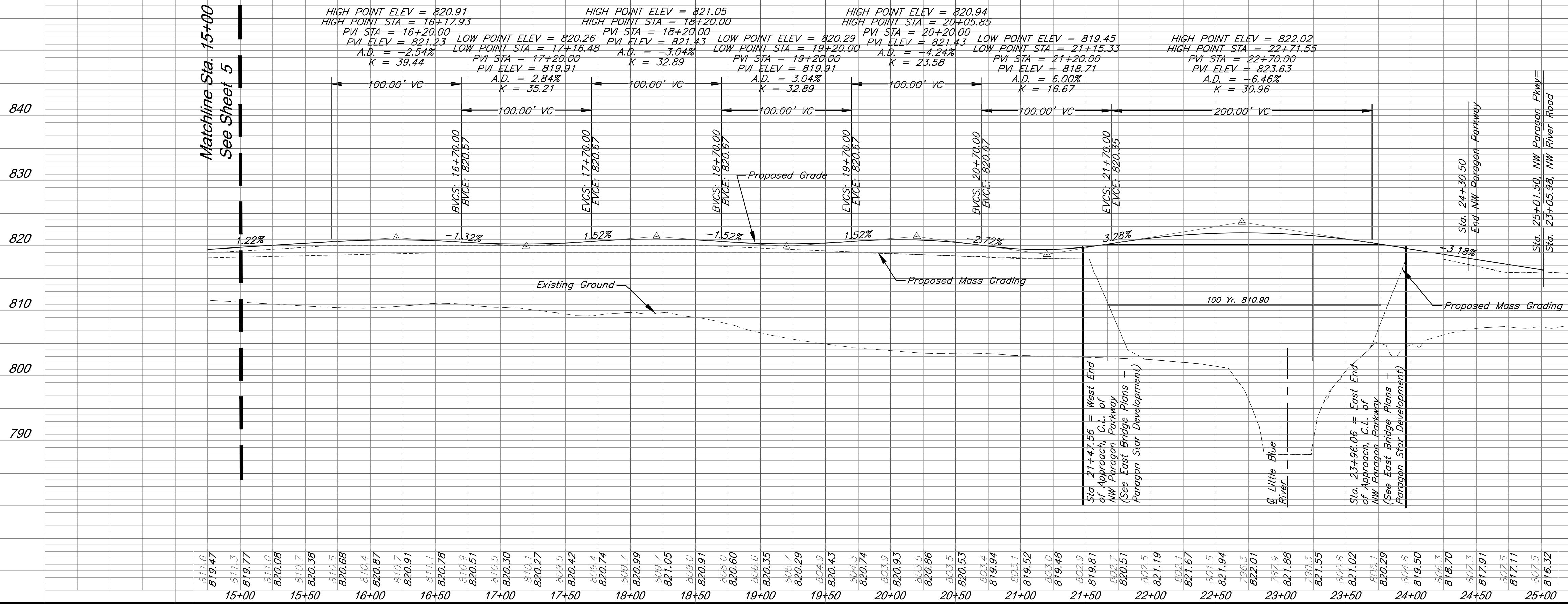
1. Pipe length called out is from center of structure to center of structure.
2. Storm Sewer Structure Station offset and coordinates based on center of structure. Top elevations are top center of lid.
3. Tops on all in grade inlets shall maintain street slope, low point inlets to be set level.
4. Boring information based on original undisturbed earth - see Geotechnical report.
5. Sta. 21+47.56 - Sta. 23+96.06 See East Bridge Plans, Paragon Star Development

Legend

- Paragon Parkway
Paragon Star Village
Construction Line for Paragon Parkway and Paragon Star Village

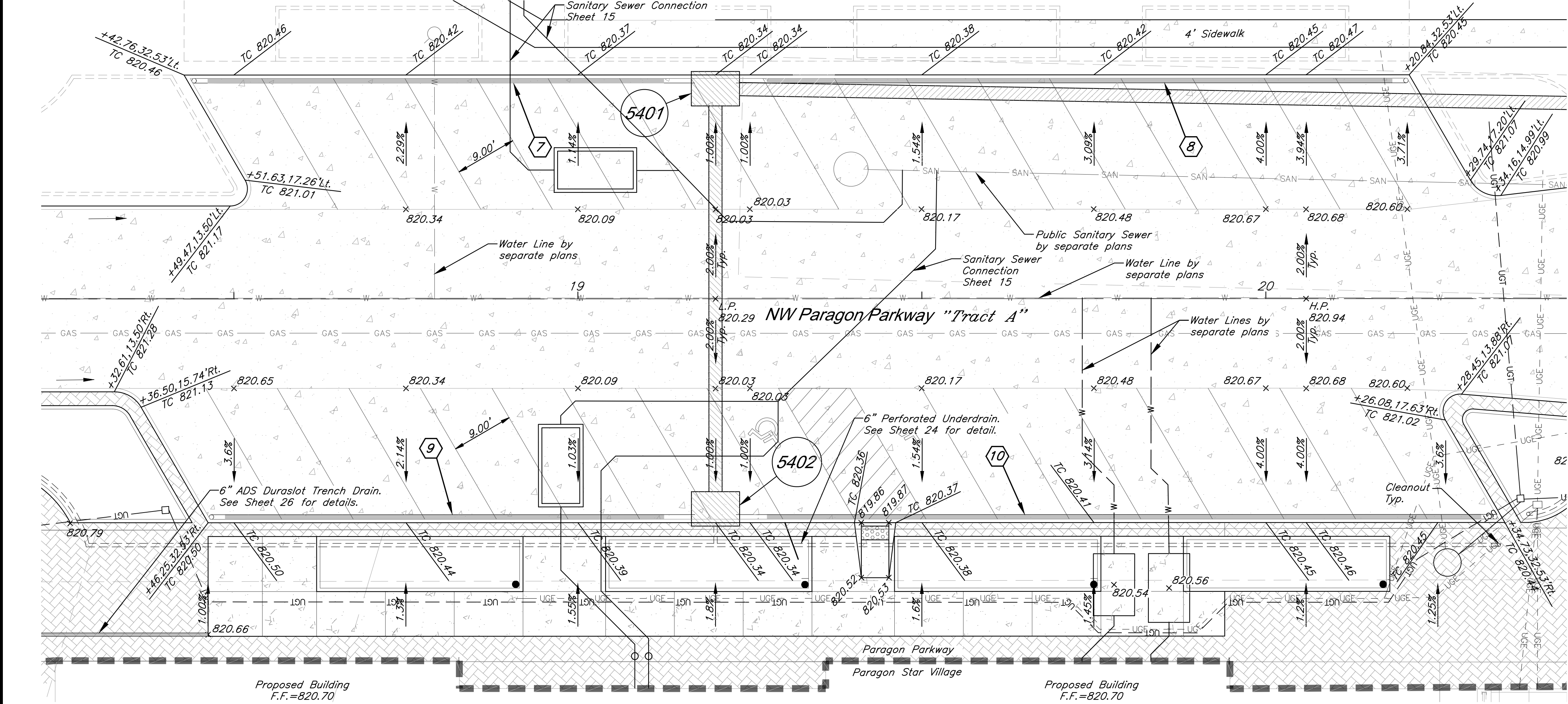


Matchline Sta. 15+00
See Sheet 5



Plan and Profile

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REGISTERED PROFESSIONAL ENGINEER
12/11/2020
PE-2011009651

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engineers

9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

DATE: 12-11-2020
DESIGN BY: CEL
DRAWN BY: DRV/DGL
PROJECT NO.: 12720
SHEET NO.: 8
TOTAL SHEETS: 68

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Professional Engineer
License No. PE2011-009651

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Lee's Summit, Missouri

NO.	DATE	REVISIONS	BY	APPROVED
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12/11/20		12/2 City Comments		

Legend:

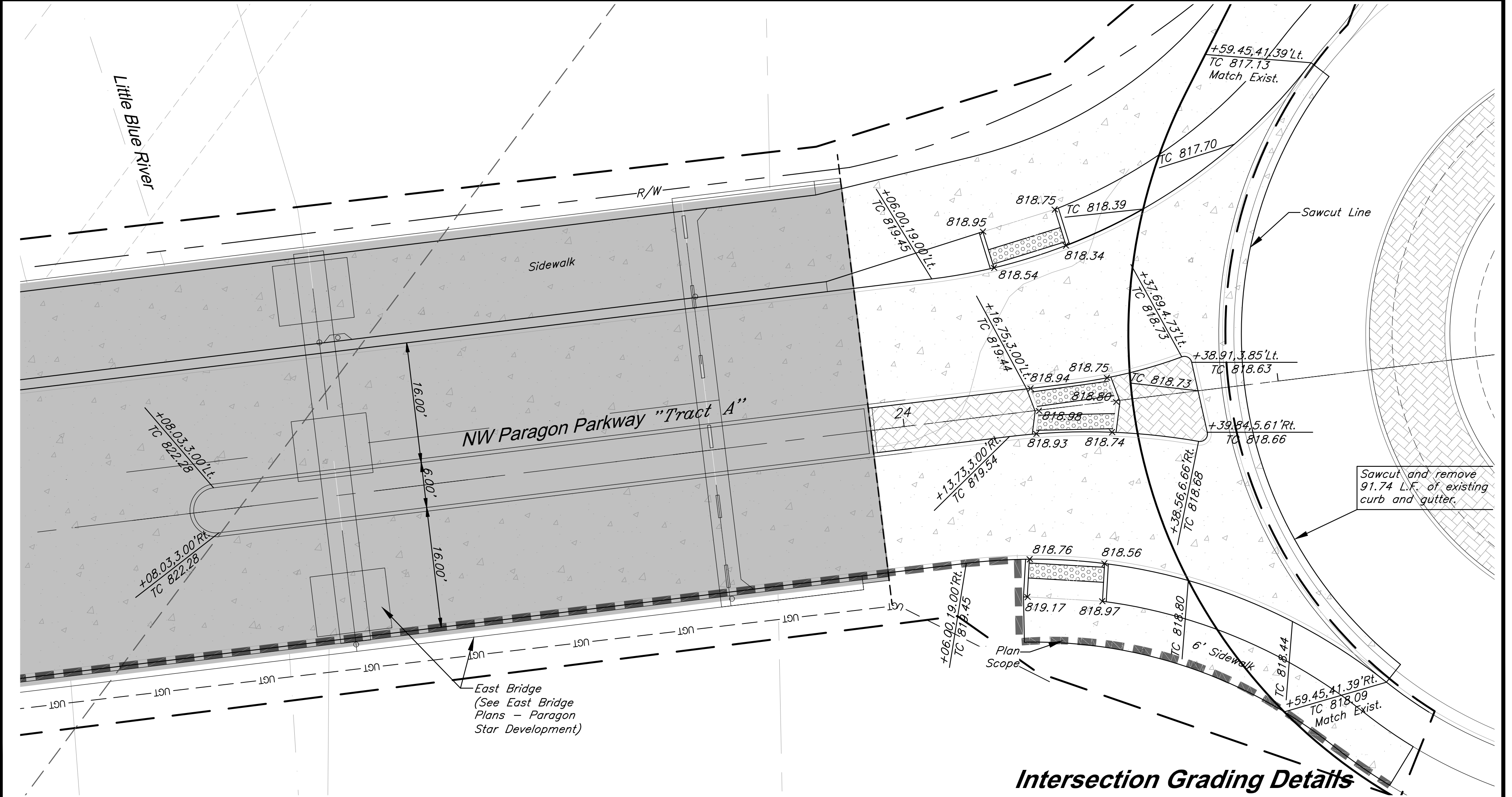
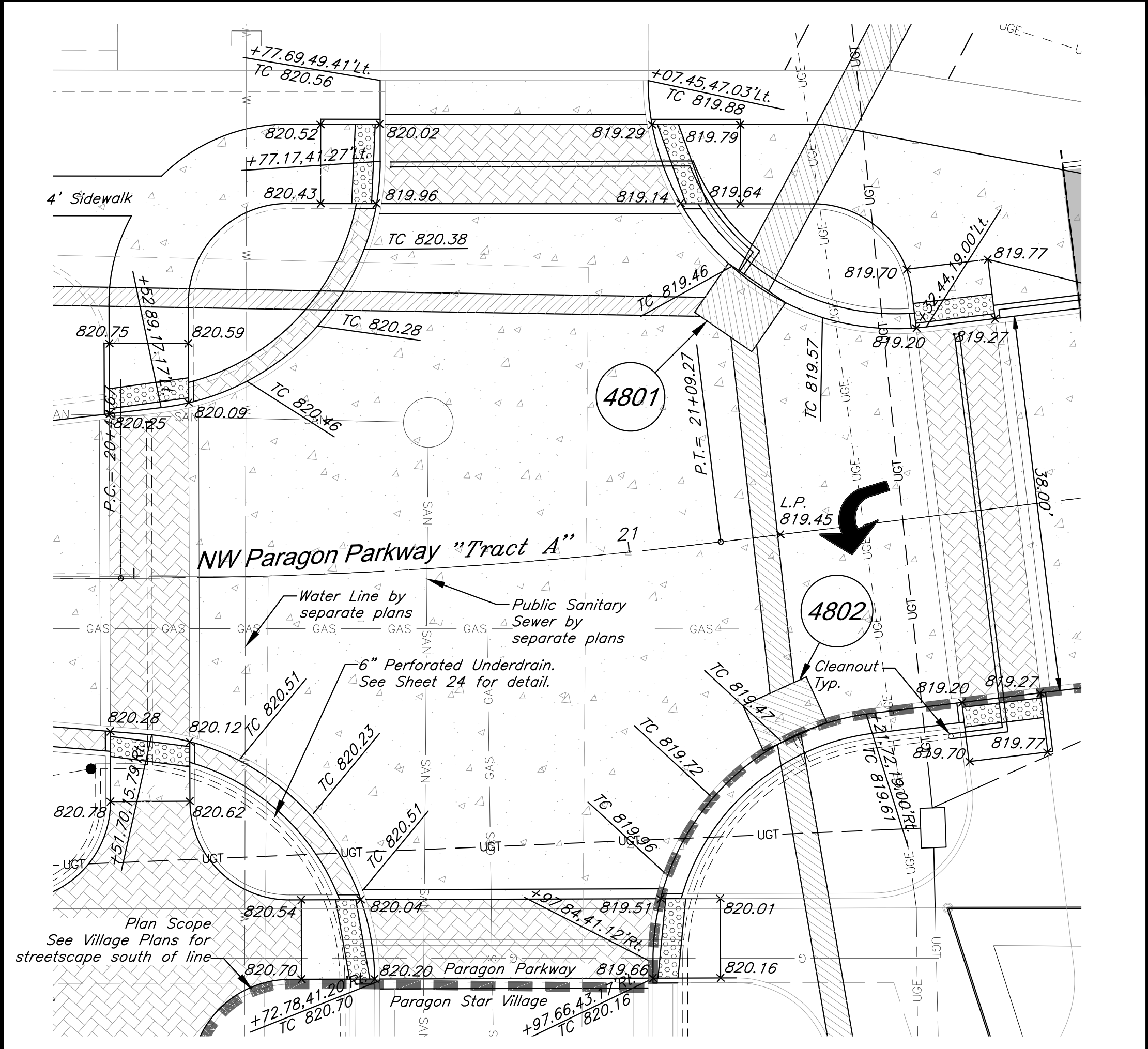
- Proposed Storm Sewer
- 6" HDPE Underdrain
Underground Electrical
Duct Bank
- Water Line
(By Separate Plan)
- SAN
Sanitary Sewer
(By Separate Plan)
- Flow Arrow
- 8" ADS Duraslot
Trench Drain
- Paragon Parkway
Construction Line for Paragon
Parkway and
Paragon Star Village

Trench Drain Construction Notes:

- 7 Install 72.79 L.F. of 8" ADS Duraslot Trench Drain, connect to structure 5401. See Sht. 26 for Details.
- 8 Install 97.36 L.F. of 8" ADS Duraslot Trench Drain, connect to structure 5401. See Sht. 26 for Details.
- 9 Install 70.27 L.F. of 8" ADS Duraslot Trench Drain, connect to structure 5402. See Sht. 26 for Details.
- 10 Install 110.28 L.F. of 8" ADS Duraslot Trench Drain, connect to structure 5402. See Sht. 26 for Details.

NOTE:
1. See Sheets 9 and 10 for ADA Ramp Enlargements

SCALE: 1 INCH = 10 FEET



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SHEET NO.: 9
TOTAL SHEETS: 68

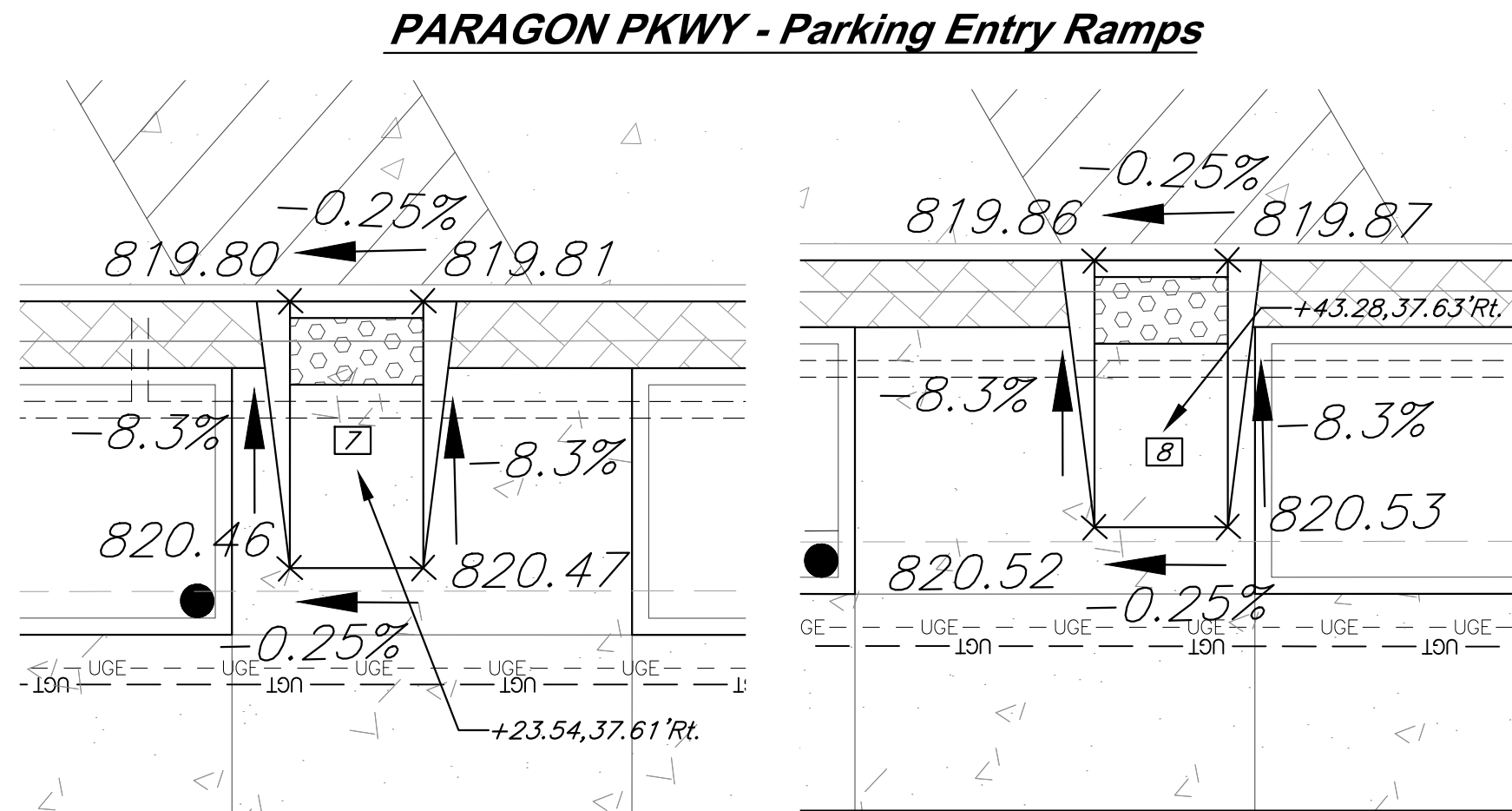
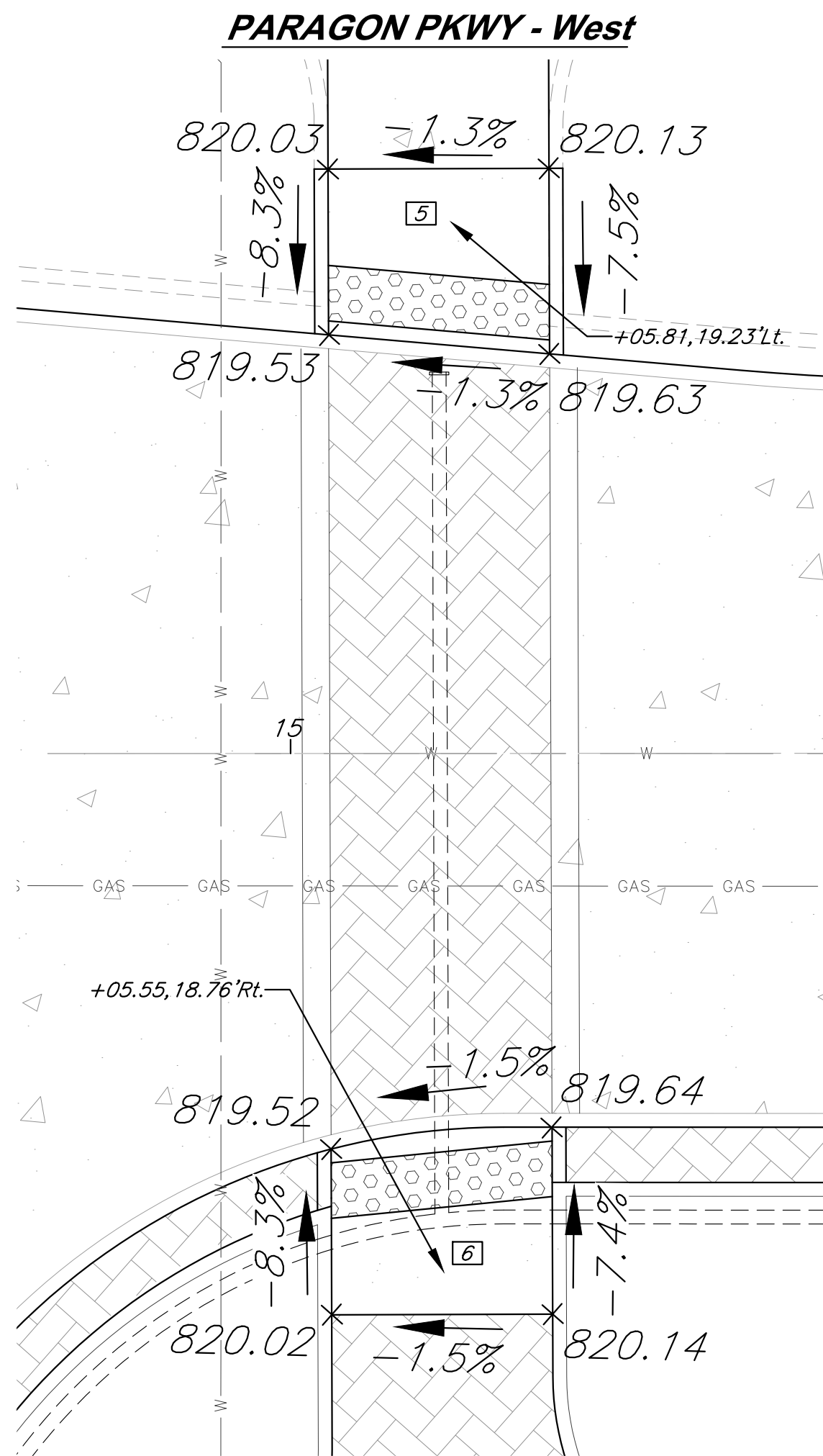
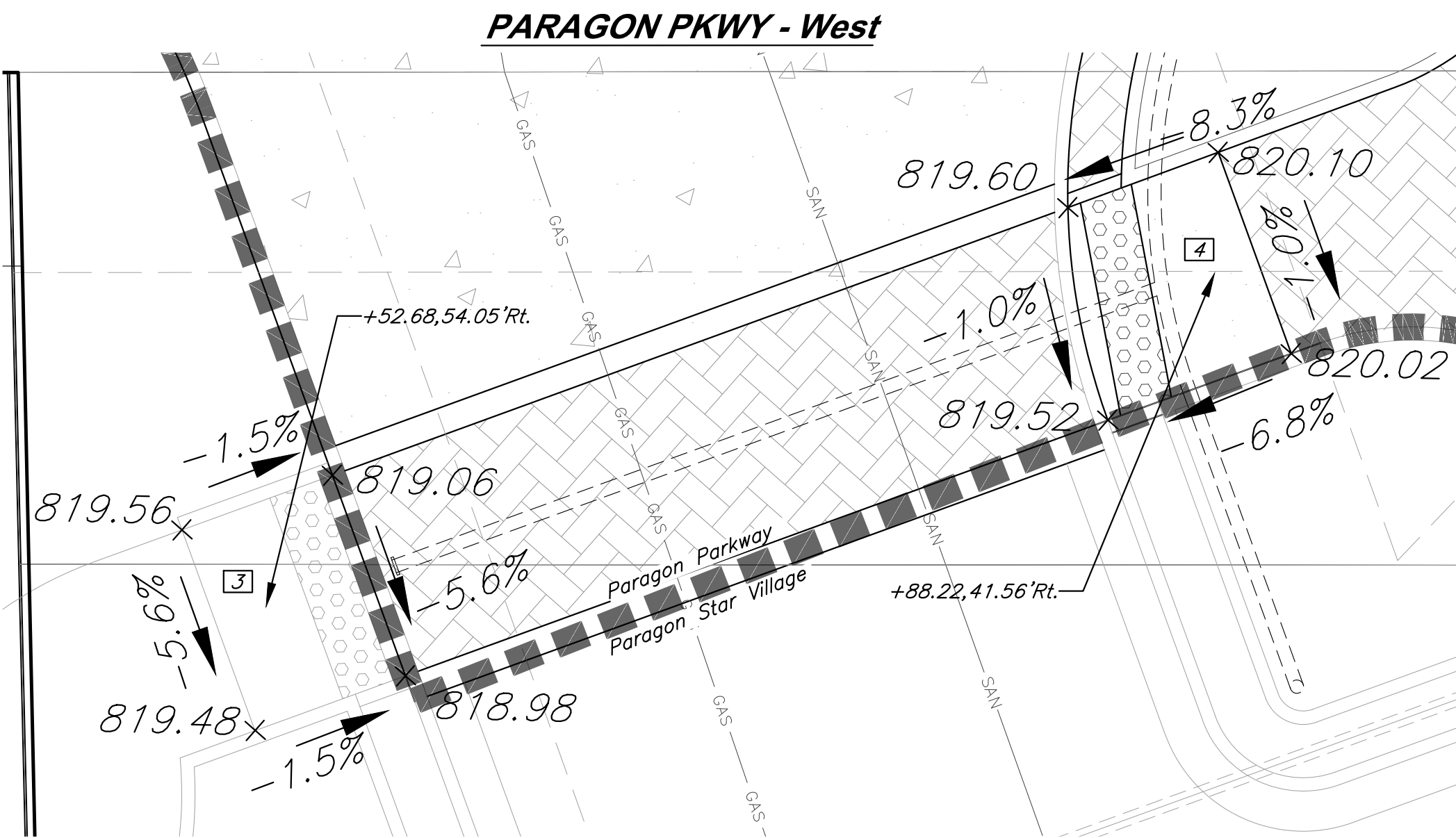
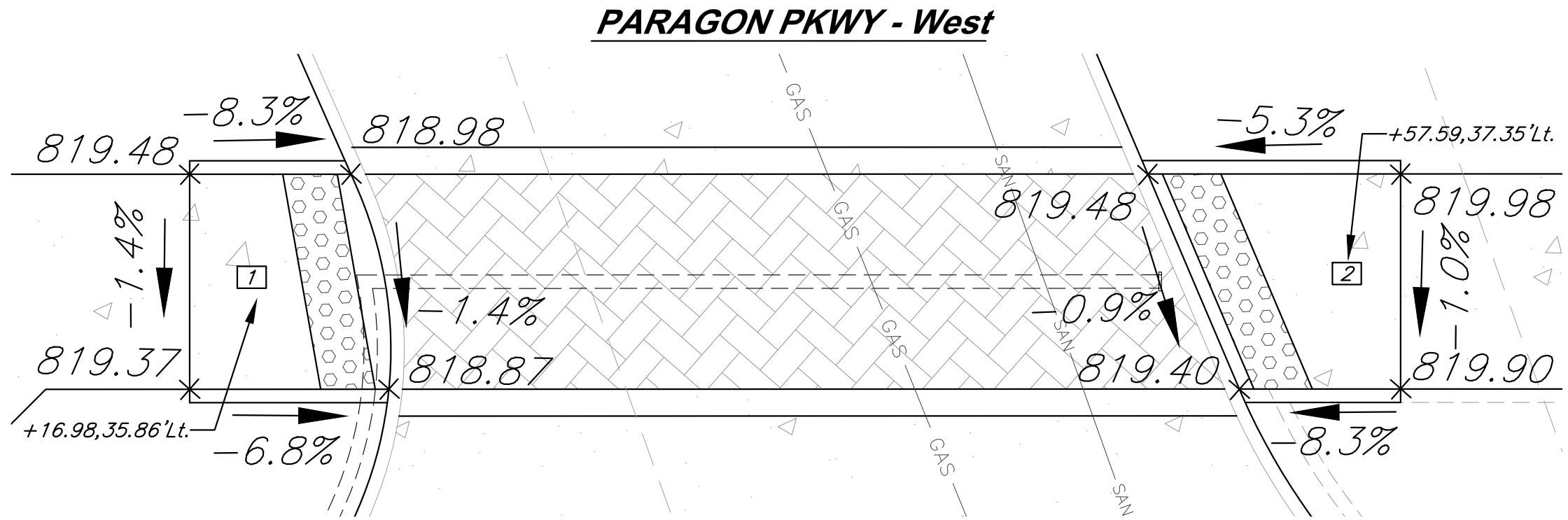
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Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO. DATE
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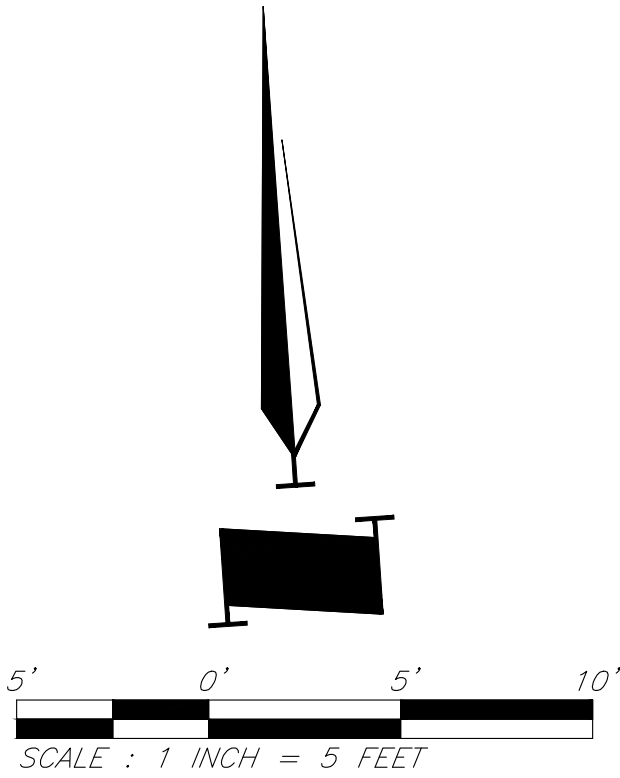
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LEGEND

- R/W Right of Way
TC Top of Curb
Ramp ID
See sheet 19 for details

- NOTE:**
- All Elevations are to Top of Curb unless otherwise noted.
 - See Sheet 20 for Curb & Gutter Detail.
 - See Sheet 21 for Sidewalk Ramp Details.
 - Install Type "A" S/W Ramp unless otherwise noted.

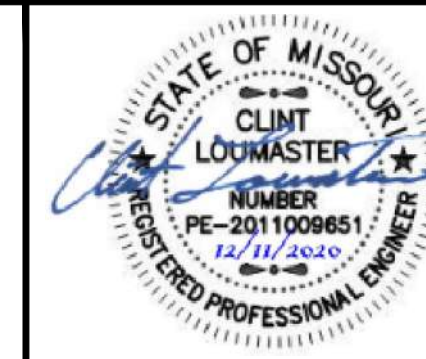


- Legend**
- Paragon Parkway
 - Construction Line for Paragon Parkway and Paragon Star Village

Intersection Enlargements

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Legend
Paragon Parkway Construction Line for Paragon Parkway and Paragon Star Village
Paragon Star Village



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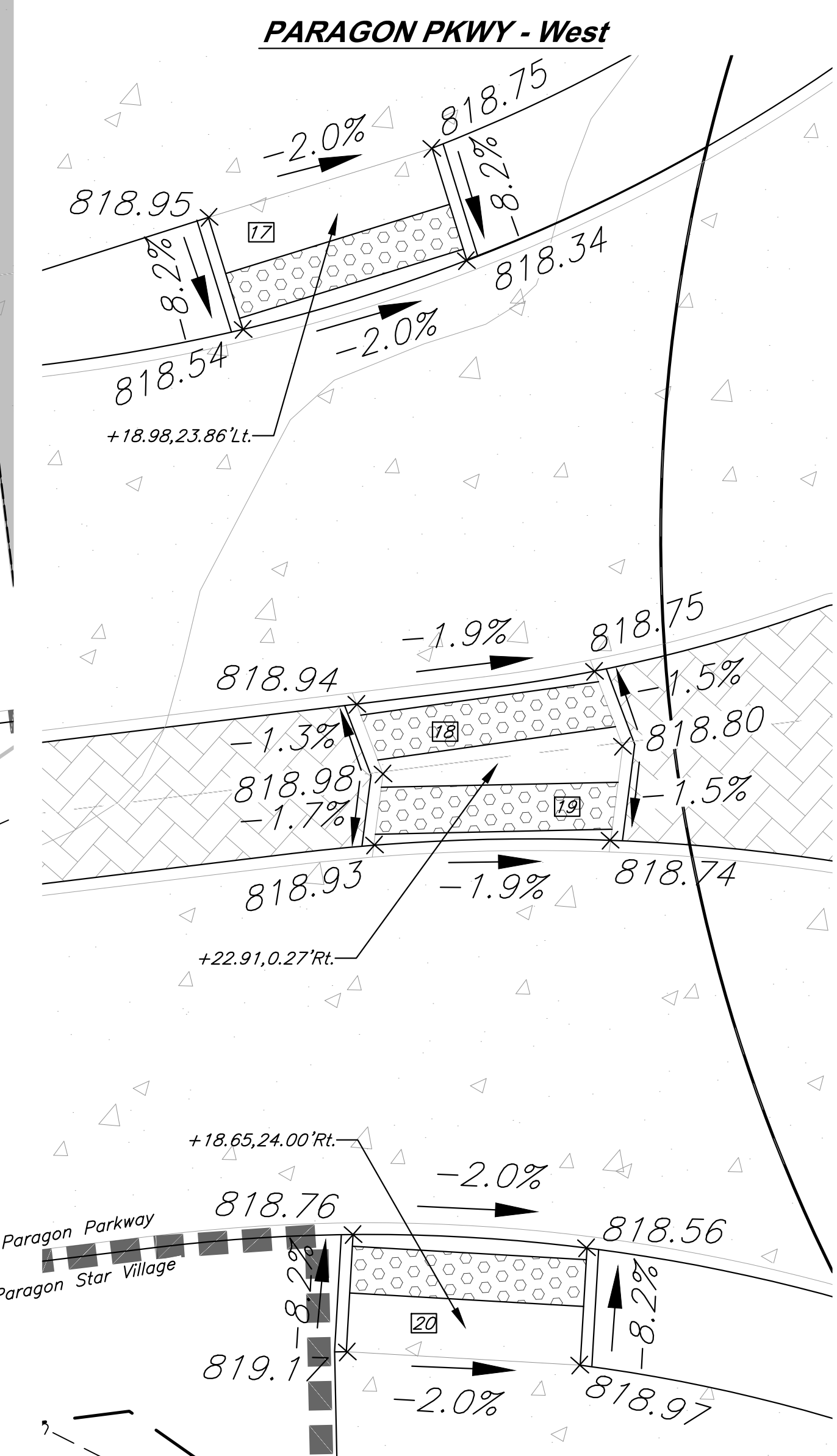
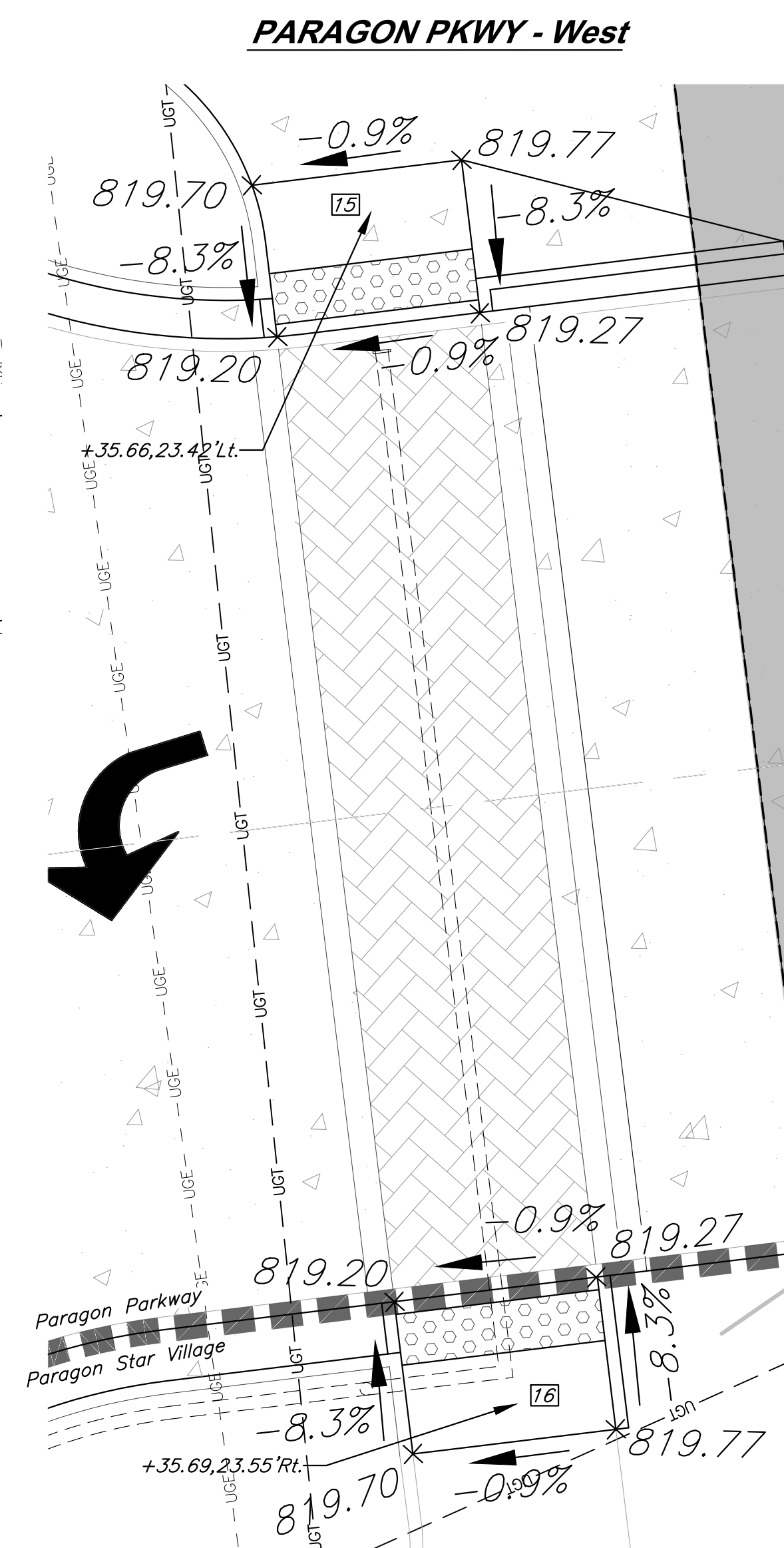
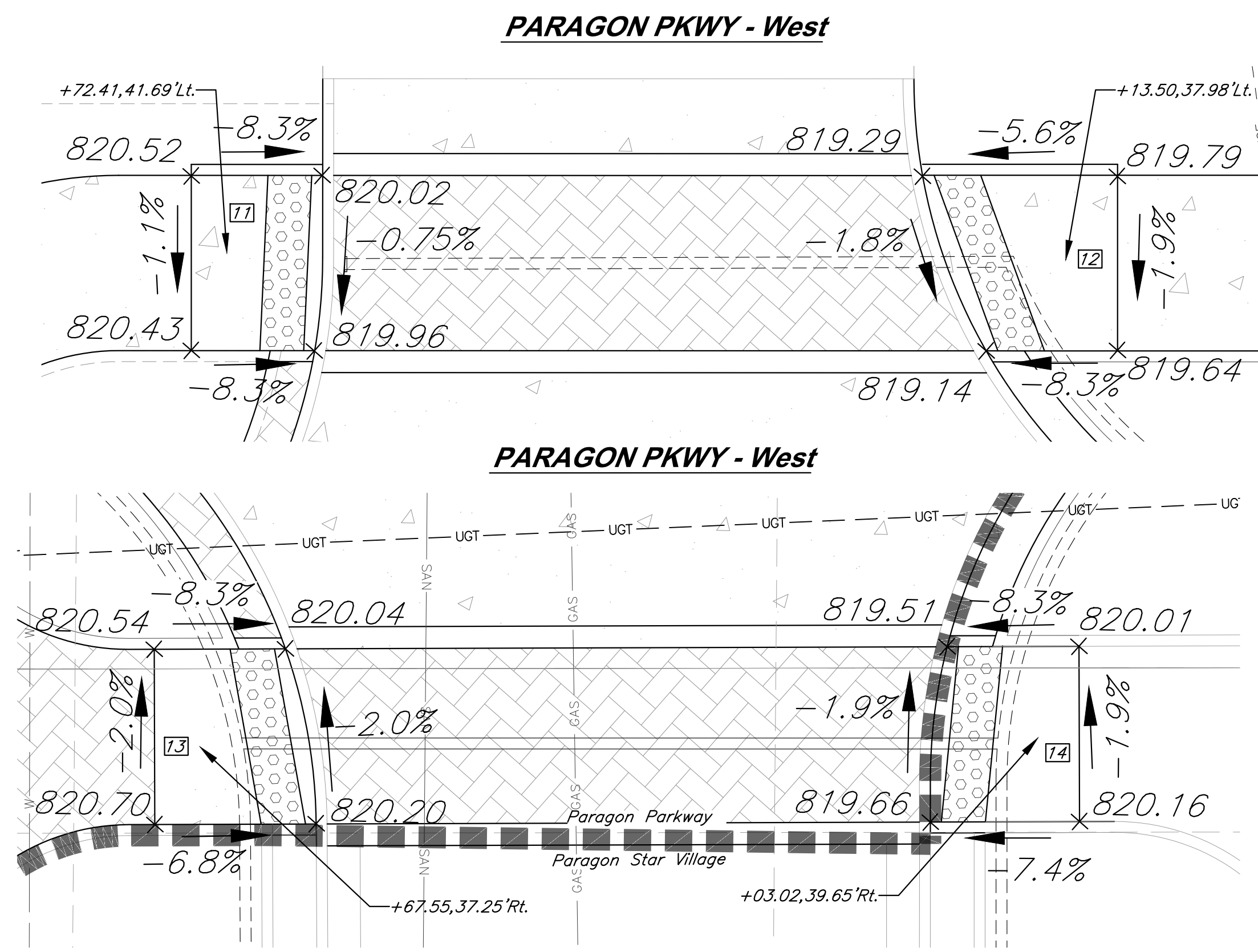
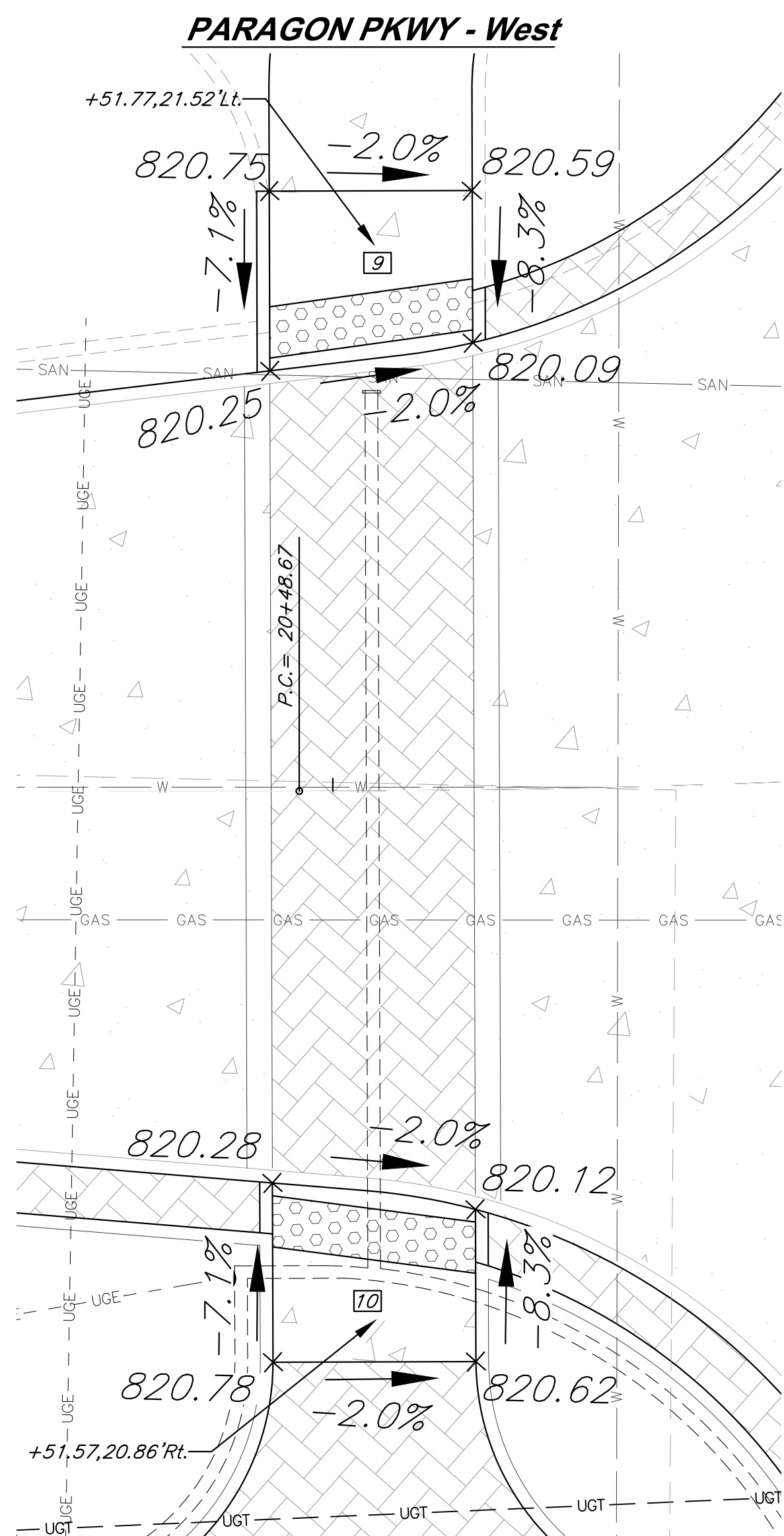
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PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
10	68

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Street and Storm Sewer Plans
Paragon Parkway
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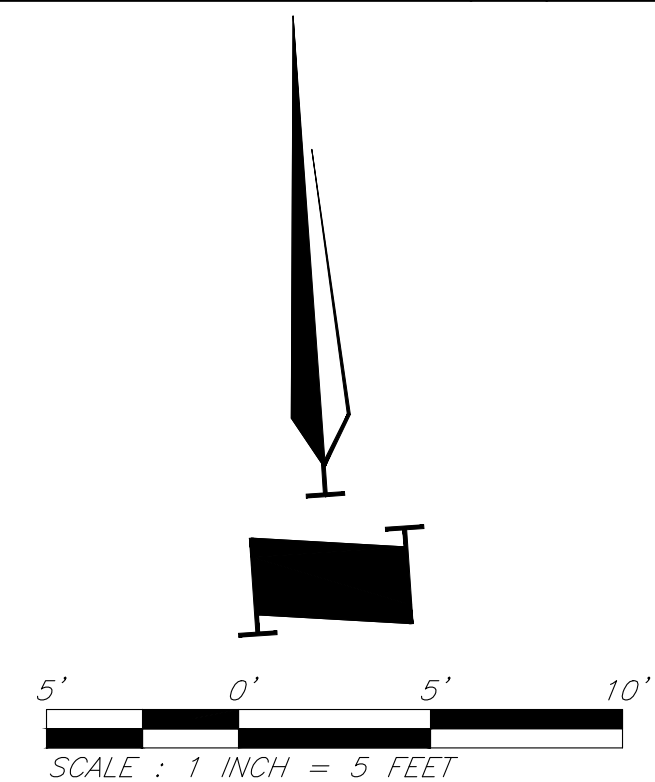


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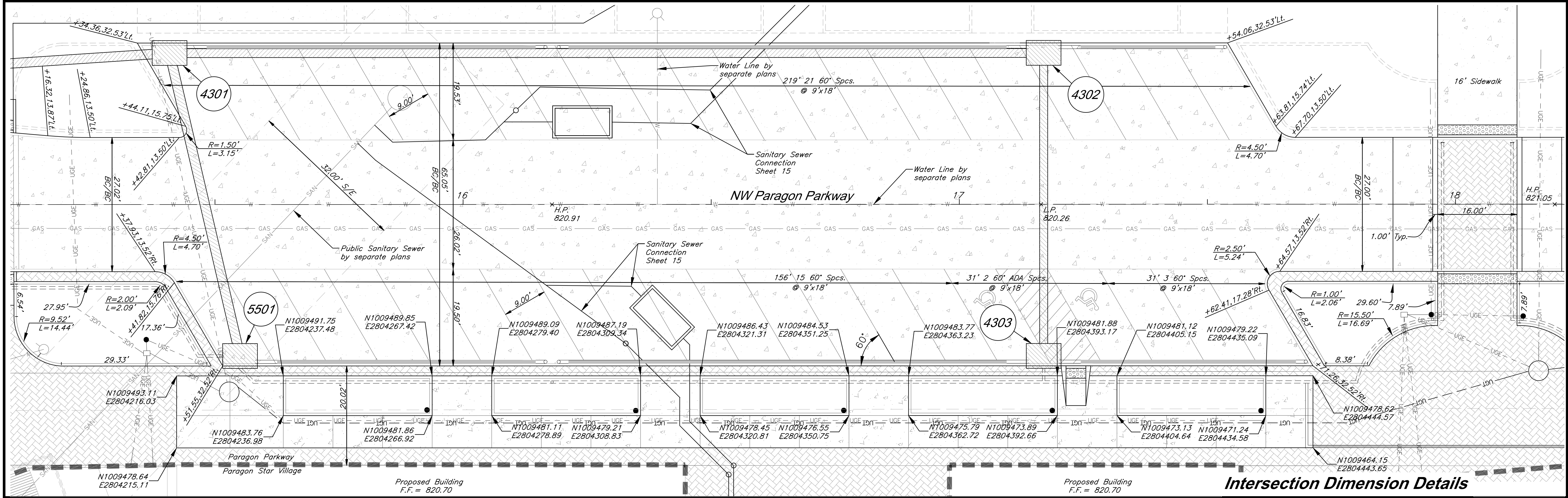
- R/W Right of Way
- TC Top of Curb
- Ramp ID
- See sheet 19 for details

NOTE:

- All Elevations are to Top of Curb unless otherwise noted.
- See Sheet 20 for Curb & Gutter Detail.
- See Sheet 21 for Sidewalk Ramp Details.
- Install Type "A" S/W Ramp unless otherwise noted.



Intersection Enlargements



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LEGEND

ADA Accessible Path

Paragon Parkway

Paragon Star Village

Construction Line for Paragon Parkway and Paragon Star Village

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

STATE OF MISSOURI
CLINT LOUMASTER
NUMBER
PE-2011009651
12/11/2020
REGISTERED PROFESSIONAL ENGINEER

GBA

architects

engineers

9801 Renner Boulevard
Lenexa, Kansas 66219
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PROJECT NO.: 12720

SHEET NO. 13

TOTAL SHEETS 68

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Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

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The main site plan illustrates the proposed ADA accessible paths (thick dashed lines) connecting various areas. Key features include:

- Streets:** NW Paragon Parkway, Paragon Parkway, and Paragon Star Village.
- Lot Layout:** Lot 9, Lot 10 (labeled 'Future Office Building'), Lot 13, Lot 14, and Lot 16.
- Utilities:** Extensive underground utility lines labeled GAS, SAN, UGE, UCE, UGT, and FOS.
- Other Features:** A 'Proposed Bridge' crossing the Little Blue River (referenced to West and East Bridge Plans), and 'ADA Accessible Path (Typ)' callouts.

40'

0'

40'

80'

SCALE : 1" INCH = 40 FEET

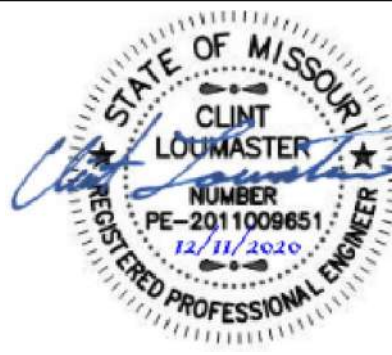
ADA Accessible Plan

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FLOODPLAIN NOTE:

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 provided for this project, case number 20-07-0520R, received 2/14/20.



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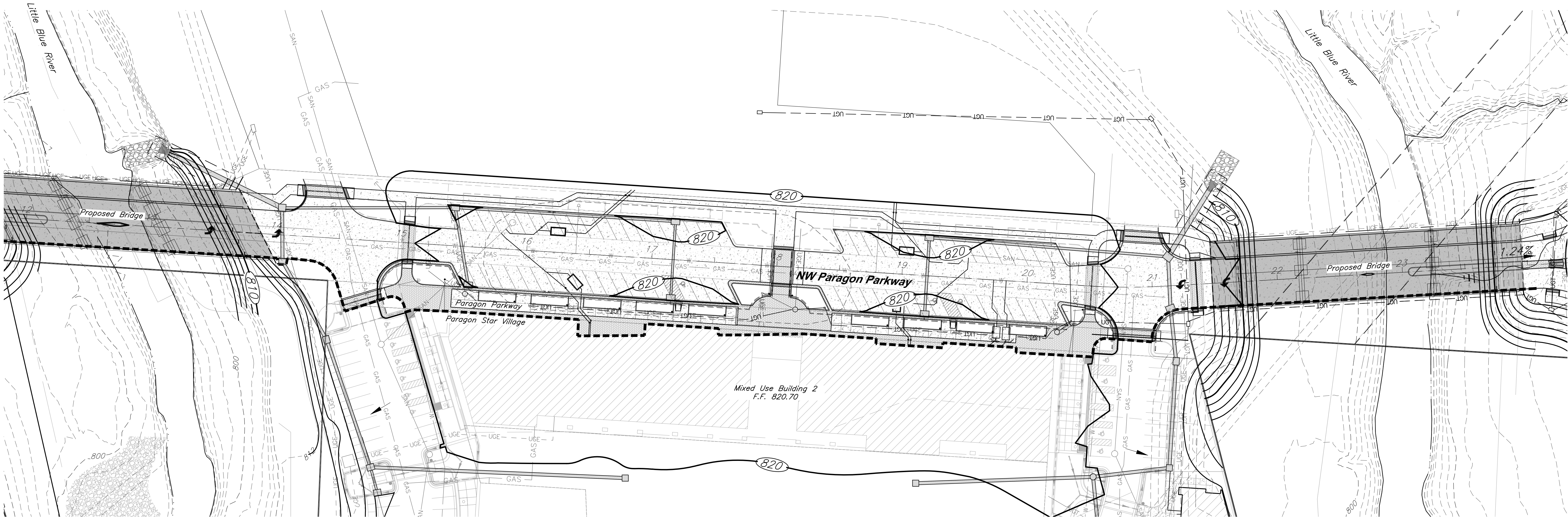
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Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

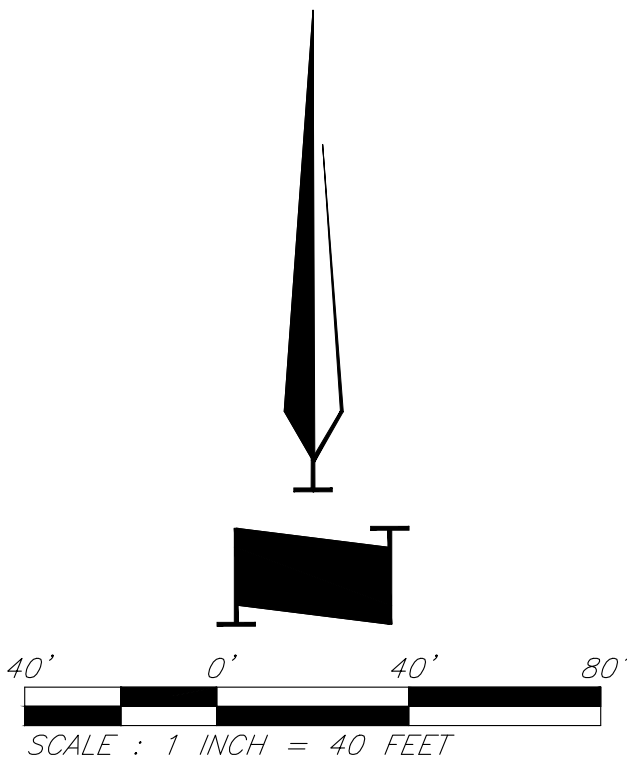
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CAUTION!
Numerous Utilities on site. Contractor to verify location and elevation of all utilities prior to commencing construction.

Note: Minimum finish floor of all buildings on lots within the proposed floodplain is 813.00.

- LEGEND**
- Existing Contour
 - Proposed Contour
 - Drainage Flow Arrow
 - Construction Line for Paragon Parkway and Paragon Star Village



Grading Plan

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Sanitary Sewer Construction Notes

- S1

Connect 6" Service Line to Sanitary Sewer Line E with cut-in wye, Sta=1+30.5 \bar{E} =808.68. Install 48 LF 6" Dia. SRD26 PVC pipe @ 5.75% to S2.
- S2

Install wye connection, \bar{E} =811.44. Install 66 LF 6" Dia. SDR26 PVC pipe @ 4.64% to S3. Install 20 LF 4" Dia. SDR26 PVC pipe @ 5.15% to S4.
- S3

Connect to 6" building stub, \bar{E} =814.50. See MEP plan for continuation.
- S4

Connect 4" to grease interceptor, \bar{E} =812.47.
- S5

Install 2000 gallon grease interceptor. See Utility Details Sheet 23.
- S6

Connect 4" to grease interceptor, \bar{E} =812.47. Install 42 LF 4" Dia. SDR26 PVC pipe @ 4.83% to S7.
- S7

Connect to 4" building stub, \bar{E} =814.50. See MEP plan for continuation.
- S8

45" Bend
- S9

Deleted
- S10

Connect to Sanitary Sewer Line D with cut-in wye, Sta=9+65.50, \bar{E} =811.08. Install 43 LF 6" Dia. SRD26 PVC pipe @ 1.00% to S11.
- S11

Install wye connection, \bar{E} =811.51. Install 68 LF 6" Dia. SDR26 PVC pipe @ 1.28% to S12. Install 34 LF 4" Dia. SDR26 PVC pipe @ 1.03% to S13.
- S12

Connect to 6" building stub, \bar{E} =812.38. See MEP plan for continuation.
- S13

Connect 4" to grease interceptor, \bar{E} =811.86.
- S14

Install 2000 gallon grease interceptor. See Utility Details Sheet 23.
- S15

Connect 4" to grease interceptor, \bar{E} =811.86. Install 31 LF 4" Dia. SDR26 PVC pipe @ 1.68% to S16.
- S16

Connect to 4" building stub, \bar{E} =812.38. See MEP plan for continuation.
- S17

Install Cleanout W/Casting
- S18

Connect 6" Service Line to Sanitary Sewer Line D with cut-in wye, Sta=9+70.50, \bar{E} =811.12. Install 42 LF 6" Dia. SRD26 PVC pipe @ 1.0% to S19.
- S19

Install wye connection, \bar{E} =811.54. Install 47 LF 6" Dia. SDR26 PVC pipe @ 3.53% to S20. Install 6 LF 4" Dia. SDR26 PVC pipe @ 2.67% to S21.
- S20

End of 6" Service Line. Cap end of pipe \bar{E} =813.20.
- S21

Connect 4" to grease interceptor, \bar{E} =811.70.
- S22

Install 2000 gallon grease interceptor. See Utility Details Sheet 23.
- S23

Connect 4" to grease interceptor, \bar{E} =811.70. Install 42.5 LF 4" Dia. SDR26 PVC pipe @ 3.53% to S24.
- S24

Cap End of 4" Service Line. Future building stub connection, \bar{E} =813.20.
- S25

Connect 6" Service Line to Sanitary Sewer Line E with cut-in wye, Sta. 1+35.50, \bar{E} =808.74. Install 29 LF 6" Dia. SRD26 PVC pipe @ 3.3% to S26.
- S26

Install wye connection, \bar{E} =809.70. Install 87 LF 6" Dia. SDR26 PVC pipe @ 1.3% to S27. Install 10 LF 4" Dia. SDR26 PVC pipe @ 1.9% to S28.
- S27

Cap End of Service Line. Future building stub connection, \bar{E} =810.83.
- S28

Connect 4" to grease interceptor, \bar{E} =809.89.
- S29

Install 2000 gallon grease interceptor. See Utility Details Sheet 23.
- S30

Connect 4" to grease interceptor, \bar{E} =809.89. Install 69 LF 4" Dia. SDR26 PVC pipe @ 1.36% to S31.
- S31

End of Service Line Cap and Plug for future connect to 4" building stub, \bar{E} =810.83.

General Utility Notes

- See Sheets 4 and 24 for Typical Street Section and Streetscape Details.
- See Sheets 42-46 for Street Lighting and location of equipment.
- See Sheet 23 for Utility Details.
- Contractor to deflect conduits as necessary to avoid conflicts with other utilities.
- Contractor shall coordinate with the Surveyor to leave trenches open for collecting survey data for record drawings.
- See Intersection Grading Details and Storm Sewer Details for Trench Drain.
- Gas line to be constructed by Spire.

- Street (Asphalt)
- Street (Concrete)
- Brick Pavers
- Proposed Storm Sewer
- Storm Sewer (By Separate Plan)

Legend:

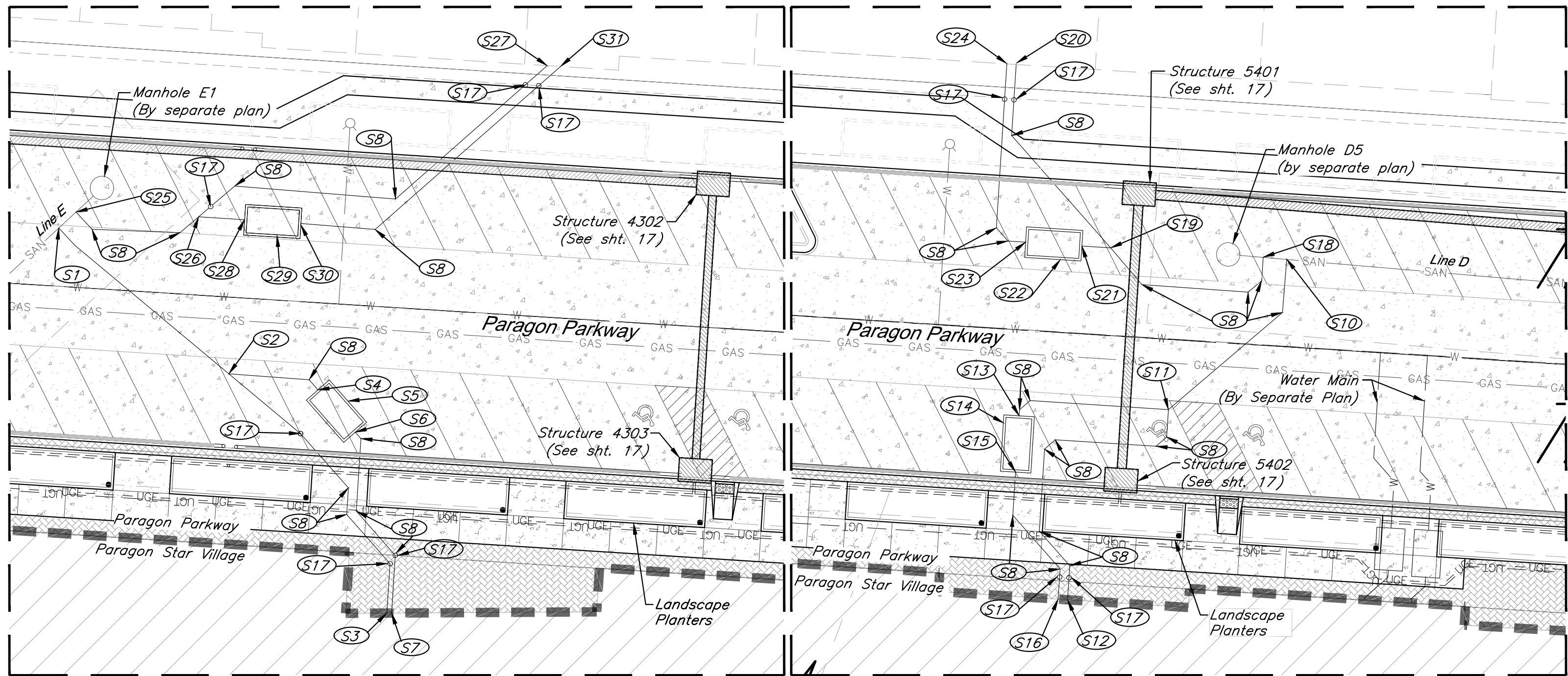
- 6" HDPE Underdrain
- Underground Electric
- Underground Telecom
- Proposed 8" PVC Water Main (By Separate Plan)
- Proposed 2" or 4" HDPE Gas Main (By Spire)
- Sanitary Sewer (By Separate Plan)
- Construction Line for Paragon Parkway and Paragon Star Village

PROJECT BENCHMARKS

BM #11 - Chiseled "L" on top Northeast corner of concrete guardrail at the Northeast corner of 1470 bridge spanning View High Drive. \bar{E} L=833.80

CAUTION!

Existing Utilities shown per the best information available to the Engineer. Contractor to locate existing utilities and irrigation system prior to construction

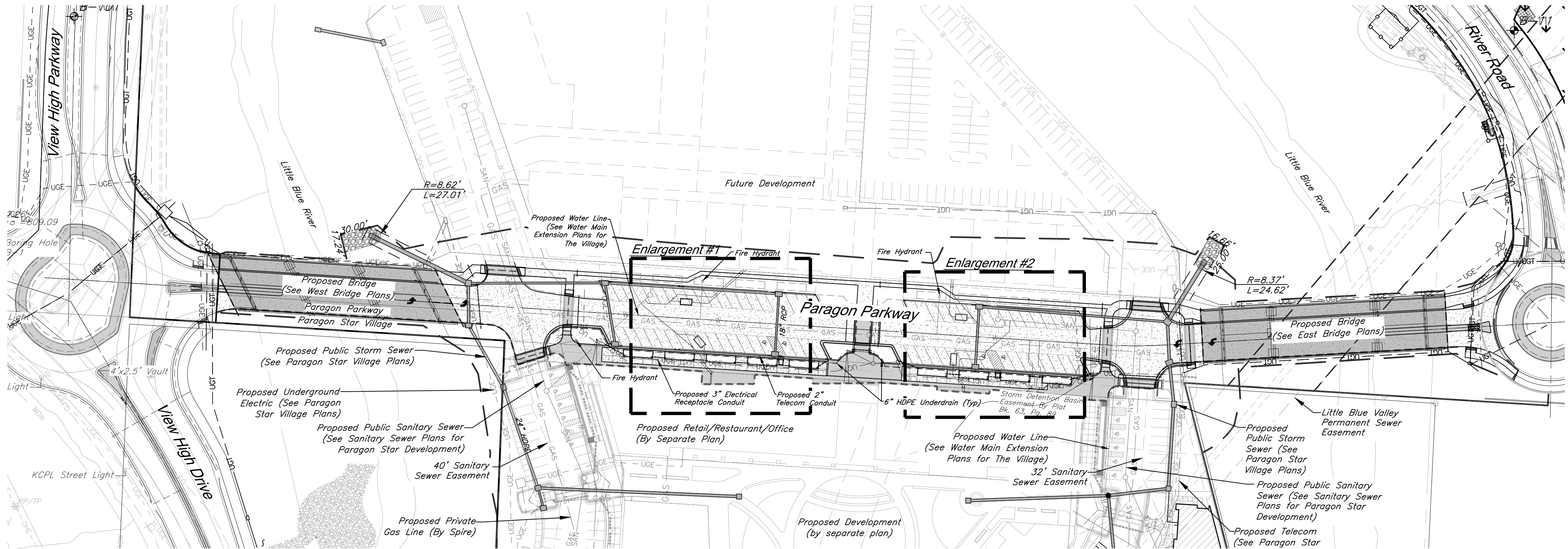


Enlargement #1

Scale: 1"=10'

Enlargement #2

Scale: 1"=10'



60' 0' 60' 120'
SCALE: 1" = 60 FEET

Utility Plan



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Professional Engineer
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Lenexa, Kansas 66219
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DRAWN BY: DRW/DGL
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SHEET NO. 15
TOTAL SHEETS 68

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

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Notes:

- 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.
- Storm Sewer Structure Station offset and coordinates based on center of structure. Top elevations are top center of lid.
- Tops on all in grade inlets shall maintain street slope, low point inlets to be set level.
- Boring information based on original undisturbed earth - see Geotechnical report.

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Electrical Service Construction Notes

- (E1) Install 12"x16" In-grade Quazite Electrical Box
(E2) Install 13 LF 1" HDPE Conduit to Digital Display
(E3) Install 44 LF 1" HDPE Conduit to Receptacle
(E4) Install 154 LF 1" HDPE Conduit to Receptacles
(E5) Install 27 LF 1" HDPE Conduit to Digital Display
(E6) Install 16 LF 1" HDPE Conduit to Digital Display
(E7) Install 232 LF 1" HDPE Conduit to Receptacles
(E8) Install 24 LF 1" HDPE Conduit to Receptacles
(E9) Install 60 LF 1" HDPE Conduit across road. Cap End of Conduit.
(E10) Install 73 LF 1" HDPE Conduit across road. Cap End of Conduit.
(E11) Install 46 LF 1" HDPE Conduit across road. Cap End of Conduit.
(E12) Install 63 LF 1" HDPE Conduit across road. Cap End of Conduit.
(E13) Install 74 LF 1" HDPE Conduit across road. Cap End of Conduit.
(E14) Install 50 LF 1" HDPE Conduit across road. Cap End of Conduit.
(E15) Proposed High Voltage 200 Amp Fuse/Switch (3'x6') Above Grade - Construct Pad per Every Standards.
(E16) Install 122 LF 4" PVC Conduit south to E20.
(E17) Install 93 LF 4" PVC Conduit south to E20.
(E18) Continue 4" PVC Conduit south per Paragon Star Village Plans.
(E19) Install 49 LF 3" PVC Conduit south. Continue Conduit per Bridge Plans.
(E20) Install 49 LF 4" PVC Conduit south. Continue Conduit per Bridge Plans
(E21) Install 48 LF 4" PVC Conduit south. Continue Conduit per Bridge Plans
(E22) Install (2) 1" HDPE Conduit from Electrical Quazite Box to Building 2 West Electrical Room
(E23) Install (2) 1" HDPE Conduit from Electrical Quazite Box to Building 2 East Electrical Room

Electrical Service General Notes

- All electrical work shall conform to Every Standards
- Electrical routing reflects the latest, although preliminary designs from Every. Final routing of conduit shall match Final design from Every.
- Electrical conduit shall be NEC approved schedule 40 gray PVC.
- All electrical weather proof/resistant receptacles shall have maximum 6" liquid tight flexible conduit connection from weather proof above grade junction box with HDPE conduit 3" AFG, switched hot routed through lighting management system (relay panel)

Telecom Construction Notes

- (T1) Install Telecom Utility Pull Box. 30"x48" Pre-Formed Polymer Concrete Handhole
(T2) Install 3 LF (3) 5" HDPE Conduits to R/W. Two conduits shall have (4) 2" fabric innerducts. Continue south per Paragon Star Village Plans
(T3) Install 310 LF (3) 5" HDPE Conduits. Two conduits shall have (4) 2" fabric innerducts.
(T4) Install Digital Display with Power/Data Connections, Unswitched Hot Power.
(T5) Install Telecom Utility 12"x12" Quazite Box
(T6) Install 89 LF 3" PVC Conduit
(T7) Install 12 LF 2" PVC Conduit
(T8) Install 211 LF 2" PVC Conduit
(T9) Install 21 LF 2" PVC Conduit
(T10) Install 264 LF 2" PVC Conduit
(T11) Install 55 LF 3" PVC Conduit across road. Cap End of Conduit.
(T12) Install 23 LF (3) 5" HDPE Conduits east. Two conduits shall have (4) 2" fabric innerducts. Continue Conduit per Bridge Plans
(T13) Install 167 LF (3) 5" HDPE Conduits. Two conduits shall have (4) 2" fabric innerducts.

Telecom General Notes

- Telecom pull boxes shall have open bottom with pea gravel and ANSI tier rating for traffic requirements at location. Provide Quazite PG3048-Series or equal.

Underdrain Construction Notes

- (UD1) Install 30 LF 6" Dia. Perforated HDPE. Install 27 LF 6" Dia. PVC, connect to Storm Structure 5601.
(UD2) Install 31 LF 6" Dia. Perforated HDPE with Tee.
(UD3) Install 101 LF 6" Dia. Perforated HDPE with 90' Elbow. Install 5 LF 6" Dia. PVC, connect to Storm Structure 5501.
(UD4) Install 286 LF 6" Dia. Perforated HDPE with Tee. Connect to Storm Structure 5501.
(UD5) Install 3 LF 6" PVC. Connect to Storm Structure 4303.
(UD6) Install 265 LF 6" Dia. Perforated HDPE with Tee. Install 3 LF 6" PVC. Connect to Storm Structure 5402.
(UD7) Install 62 LF 6" Dia. Perforated HDPE.
(UD8) Install 35 LF 6" Dia. Perforated HDPE with Tee.
(UD9) Install 35 LF 6" Dia. Perforated HDPE with (2) Tees.
(UD10) Install 55 LF 6" Dia. Perforated HDPE. Install 4 LF 6" PVC. Connect to Storm Structure 4802.
(UD11) Install 41 LF 6" Dia. Perforated HDPE with Elbow.
(UD12) Install 42 LF 6" Dia. Perforated HDPE. Install 3 LF 6" PVC. Connect to Storm Structure 4801.

Irrigation Sleeve Lengths

Sleeve #	Length (FT)
11	13.5
12	47.5
13	17
14	11.5
15	6
16	33.5
17	23
18	18
19	20.5
110	6
111	33
112	25
113	22.5
114	14
115	36.5
116	13
117	11.5
118	43
119	47
120	13.5

PROJECT BENCHMARKS

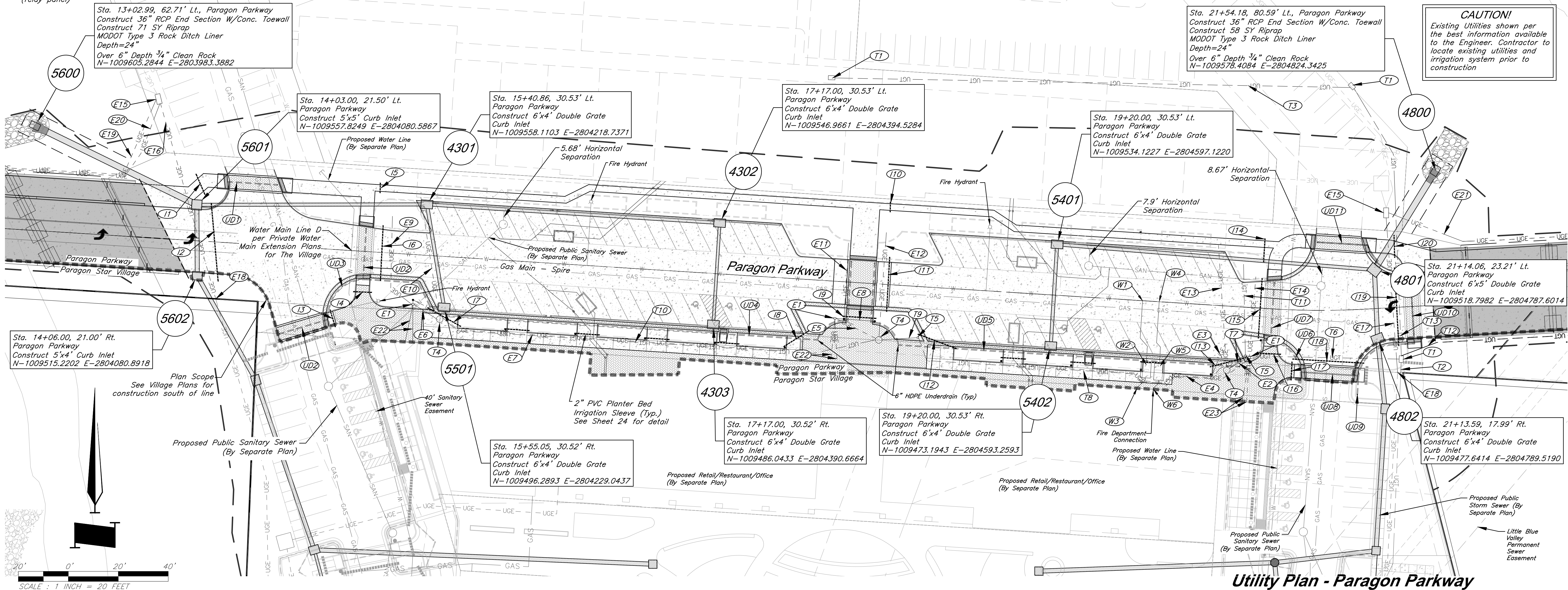
BM #11 - Chiseled "L" on top Northeast corner of concrete guardrail at the Northeast corner of 1470 bridge spanning View High Drive.
EL=633.80

Legend:

	Street (Asphalt)	=====	6" HDPE Underdrain
	Street (Concrete)	- UGE - - - UGE - - - UGE - - -	Underground Electric
	Brick Pavers	--- UGT ---	Underground Telecom
	Proposed Storm Sewer	--- W ---	Proposed 8" PVC Water Main (By Separate Plan)
	Storm Sewer (By Separate Plan)	--- GAS ---	Proposed 2" or 4" HDPE Gas Main (By Spire)
	Sanitary Sewer (By Separate Plan)	--- SAN ---	Sanitary Sewer (By Separate Plan)
	Paragon Parkway	-----	Construction Line for Paragon Parkway and Paragon Star Village
	Paragon Star Village	-----	

Water Line Construction Notes

- (W1) Connect to water main. Install 40 LF Class 305 C900 PVC to W2. PVC to be sized by MEP.
(W2) Water Meter in Concrete Vault. Meter to be sized by MEP by separate plan. Install 9 LF Class 305 C900 PVC to W3. PVC to be sized by MEP.
(W3) Domestic Water Line Building Connection. See MEP plan for continuation.
(W4) Connect to water main. Install 39 LF Class 305 C900 PVC to W5. PVC to be sized by MEP.
(W5) Backflow Preventer in Concrete Vault. Backflow preventer to be sized by MEP by separate plan. Install 7 LF Class 305 C900 PVC to W6. PVC to be sized by MEP.
(W6) Fire Protection Line Building Connection. See MEP plan for continuation.



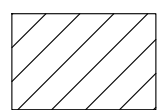


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DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
17	68

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NO.	DATE
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Street and Storm Sewer Plans Paragon Parkway Lee's Summit, Missouri	
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12/2 City Comments	
BY	APPROVED

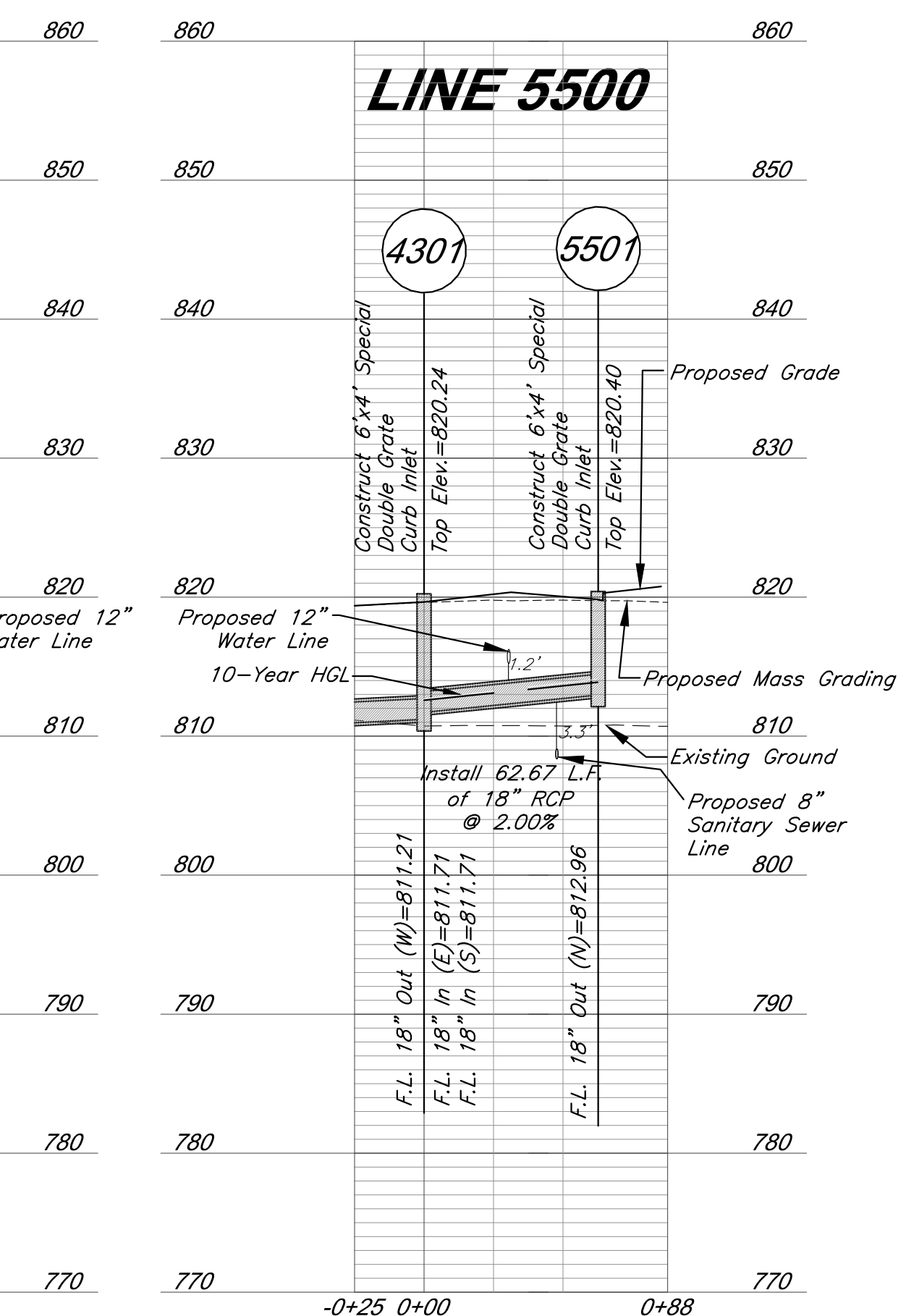
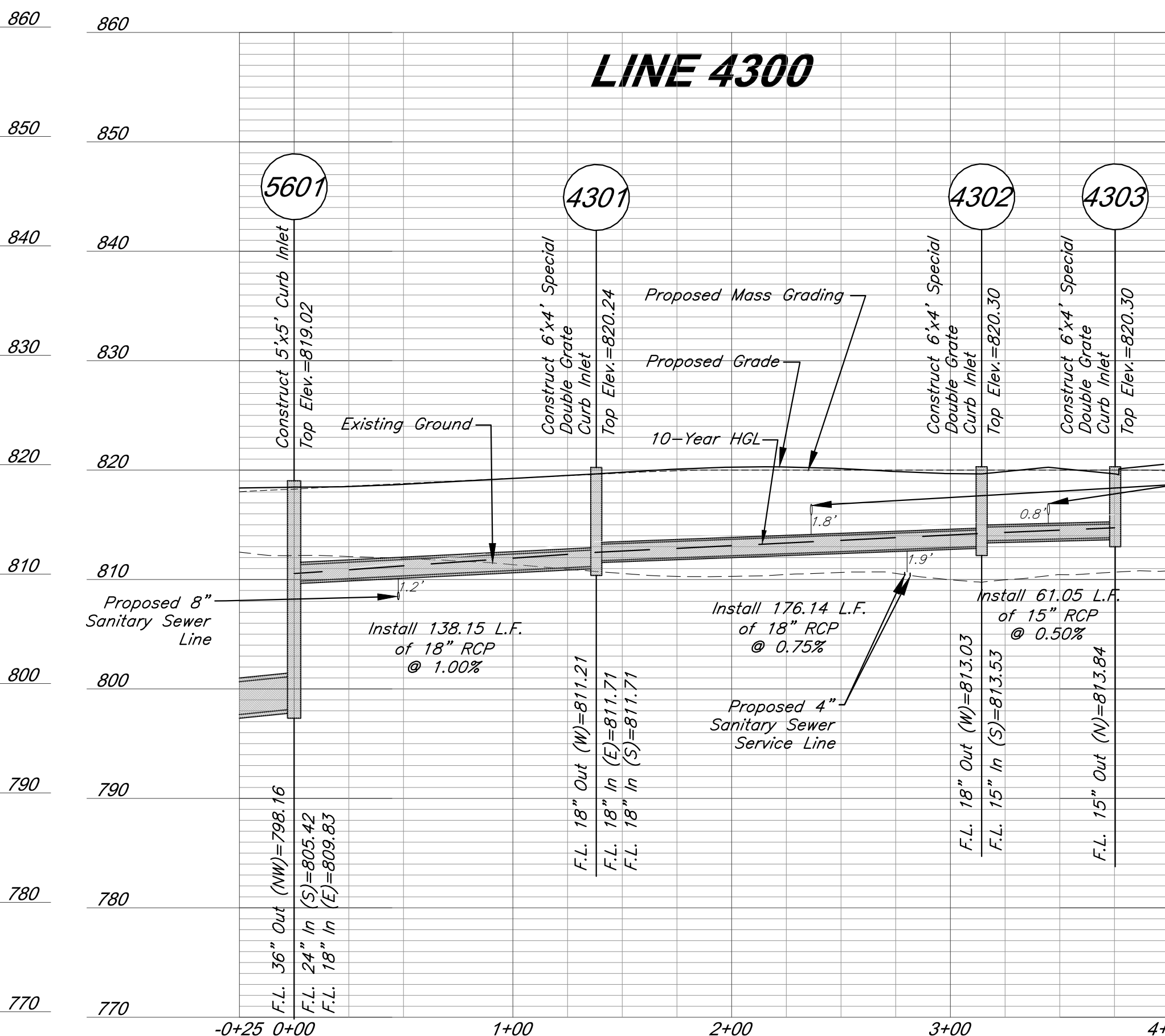
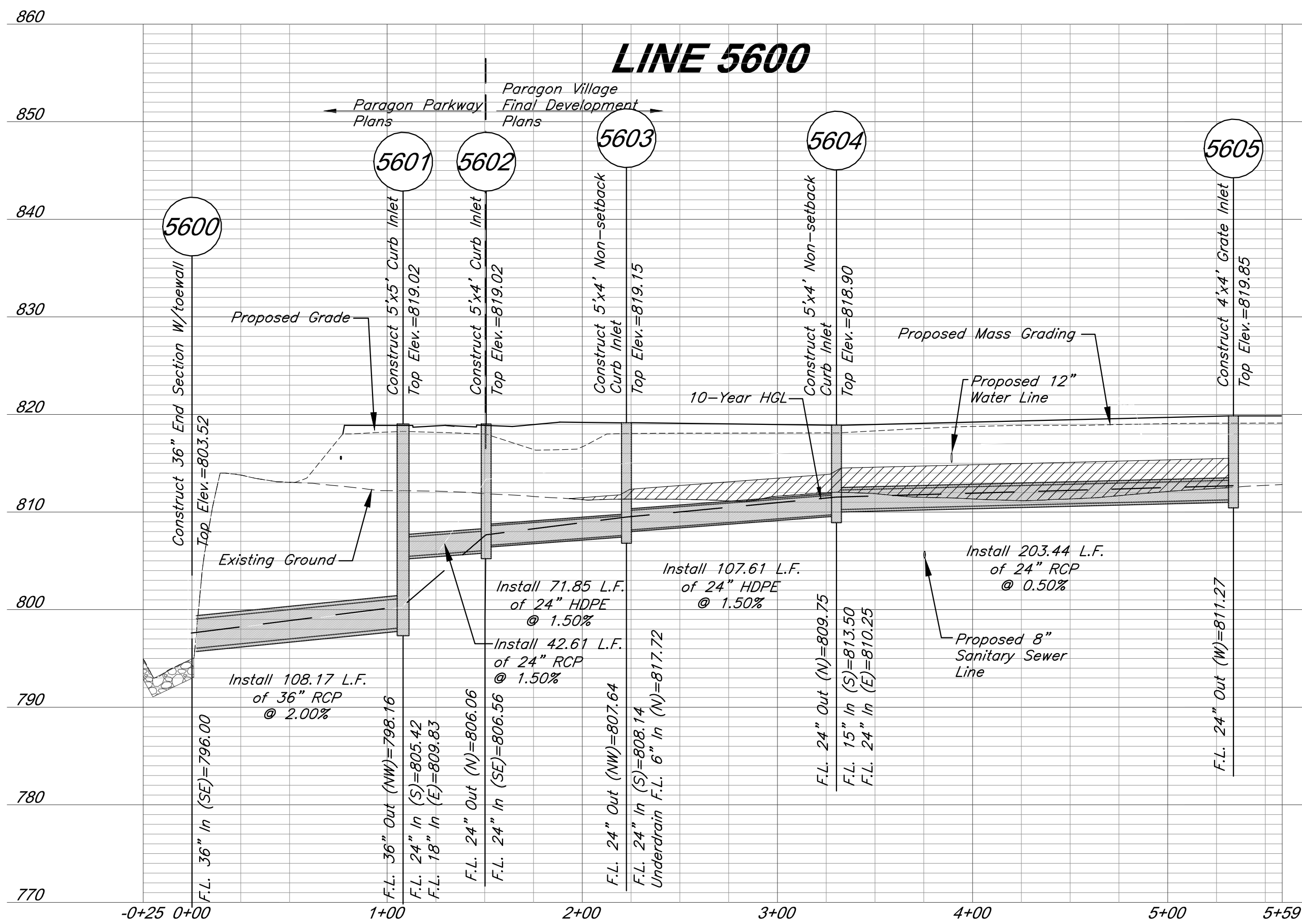
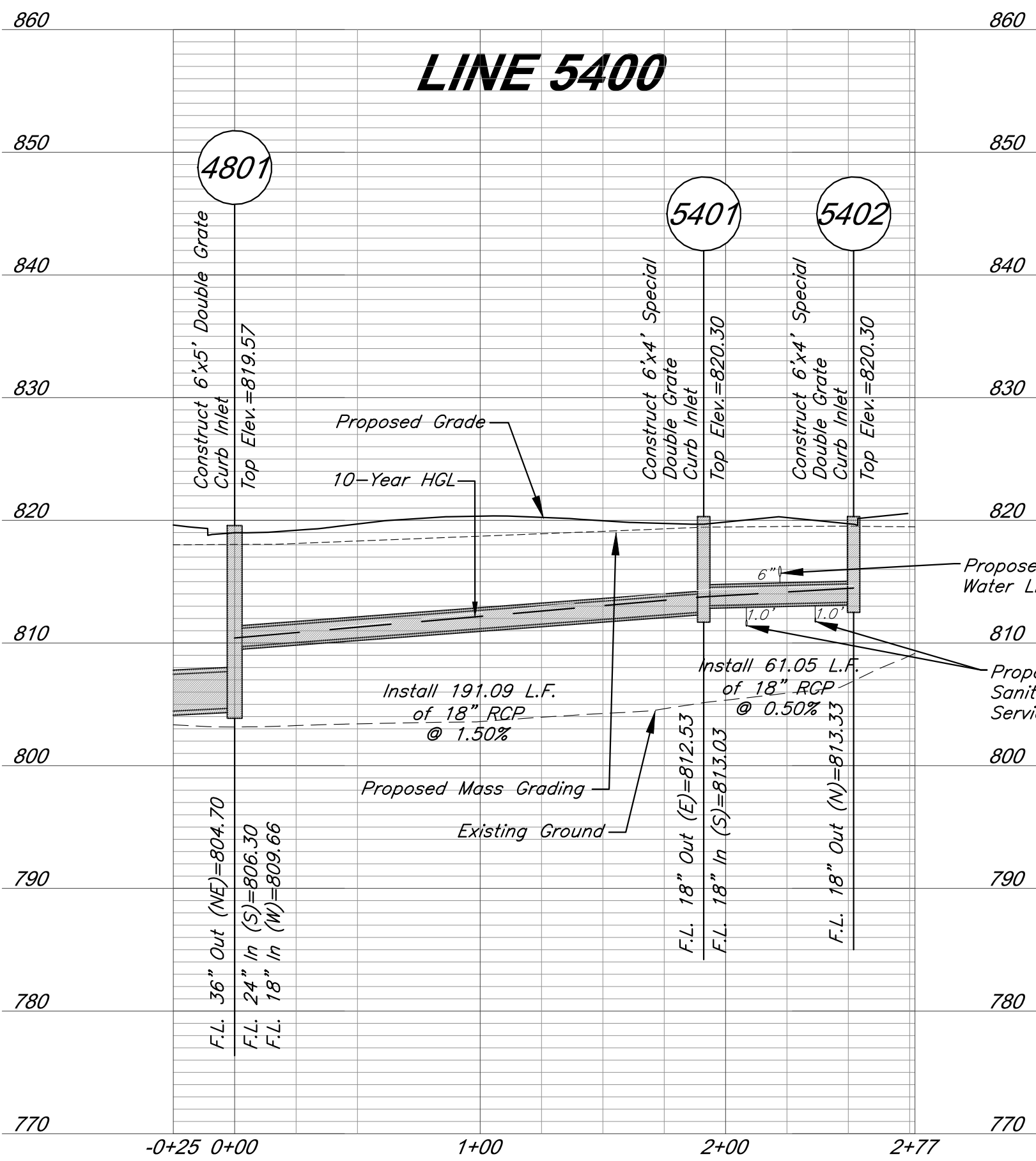
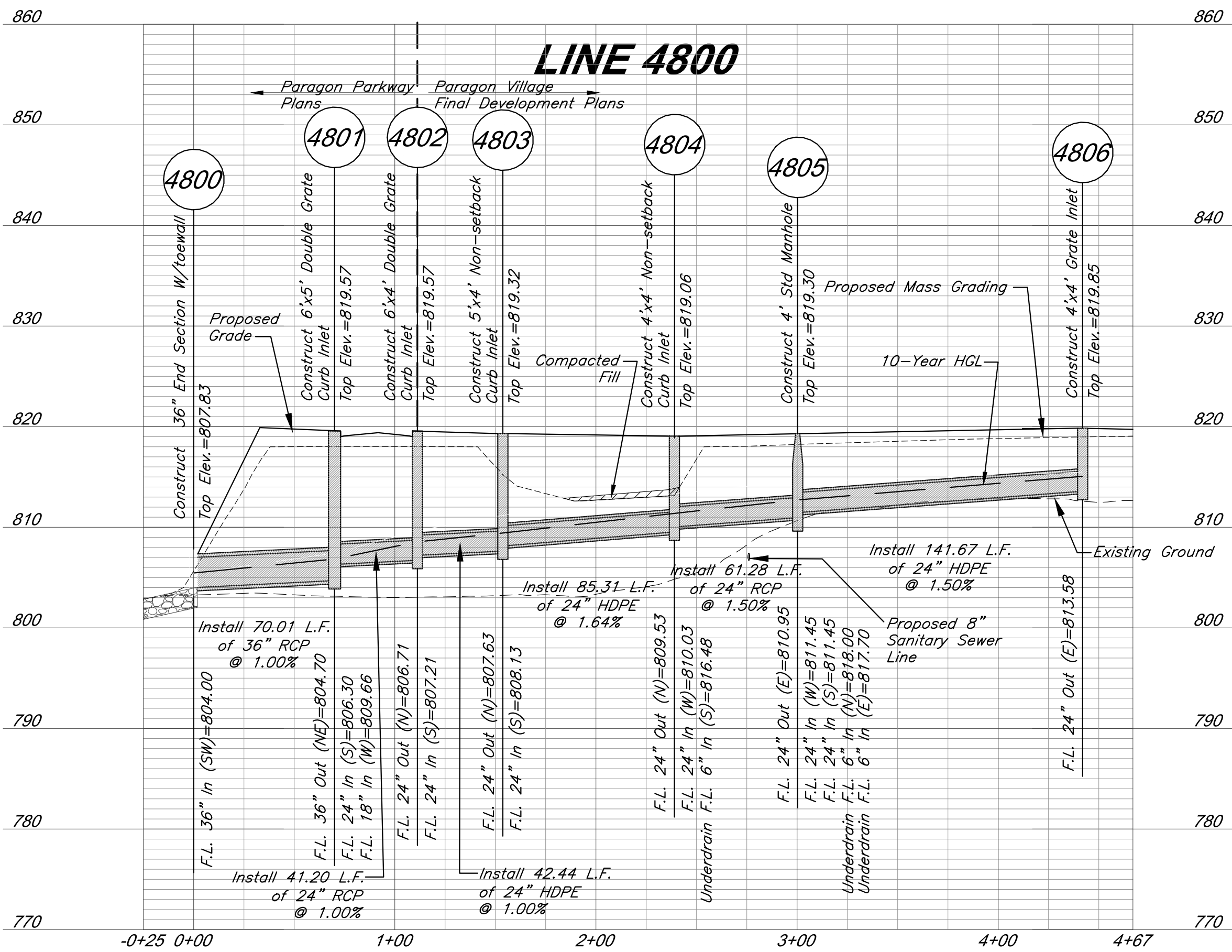
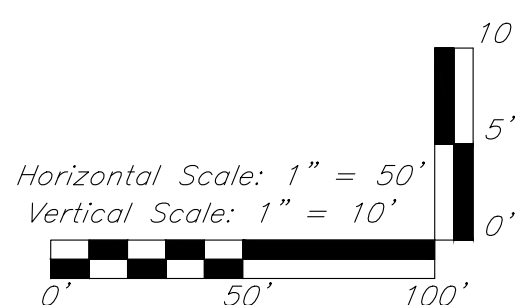
LEGEND



Compacted Fill shall be placed to a minimum of 18 inches above the top of pipe prior to installation.

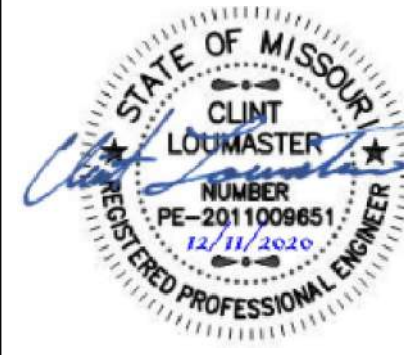
Connections:

- Line 4300 Sta 0+00.00 = Line 4100 Sta 1+08.17
- Line 5500 Sta 0+00.00 = Line 4300 Sta 1+38.15
- Line 5400 Sta 0+00.00 = Line 4800 Sta 0+70.05



Storm Sewer Profiles

G:\12720\Civil 3D\Production Drawings\Street & Storm Plans - Paragon Parkway\12720C2000.dwg, Layout: 18 Storm Drainage Map -- Friday December 11, 2020, 3:01pm -- Copyright 2020, Garageitall, Inc. All Rights Reserved. Professional Engineer, 000225, Landscape Architect, 000225, Professional Land Surveyor, 000259



GBA
architects
engineers
9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

DATE:	12-11-2020
DESIGN BY:	DM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
18	68

Clint Loumaster
Professional Engineer
License No. PE2011-009651

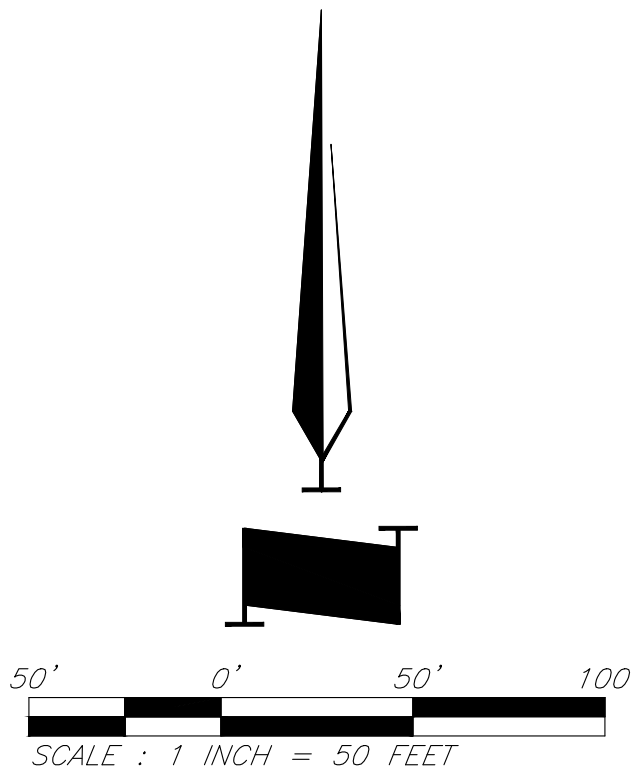
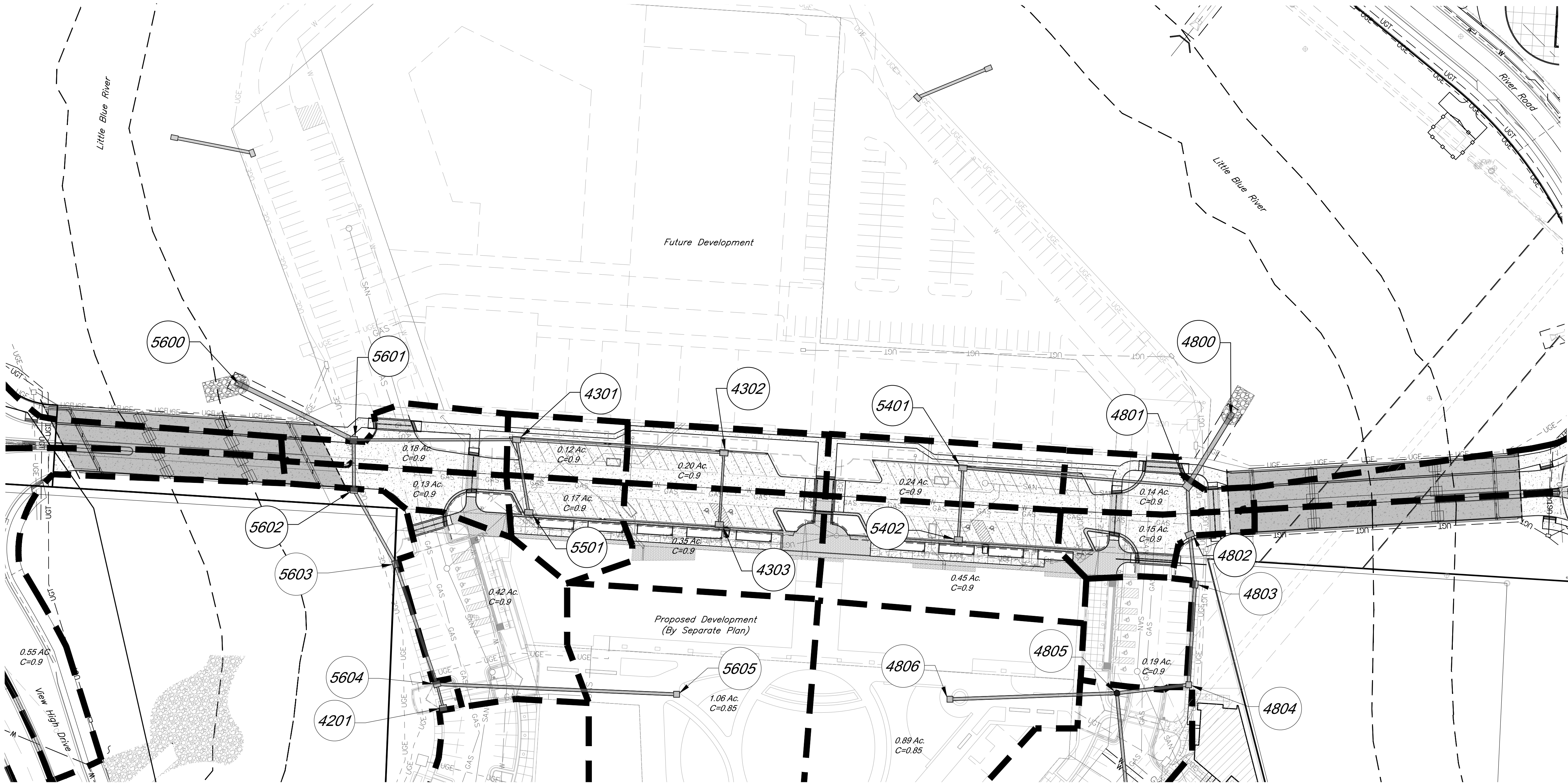
Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO.	DATE
10/16/20	
12/11/20	

REVISIONS	BY	APPROVED
Issued for Pricing 10/16/2020		
12/2 City Comments		

Legend

- 800 Proposed Contours
- 800 Existing Contours
- Drainage Area Boundary



Storm Drainage Map



GBA
architects
engineers

9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbteam.com

DESIGN BY: DJM

DESIGN BY: DJM

DRAWN BY: CMN

PROJECT NO.: 12720

SHEET
NO.

TOTAL
SWEETS

19

68

Clint Loumaster
Professional Engineer
License No. PE2011-009651

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO.	DATE
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10/16/20

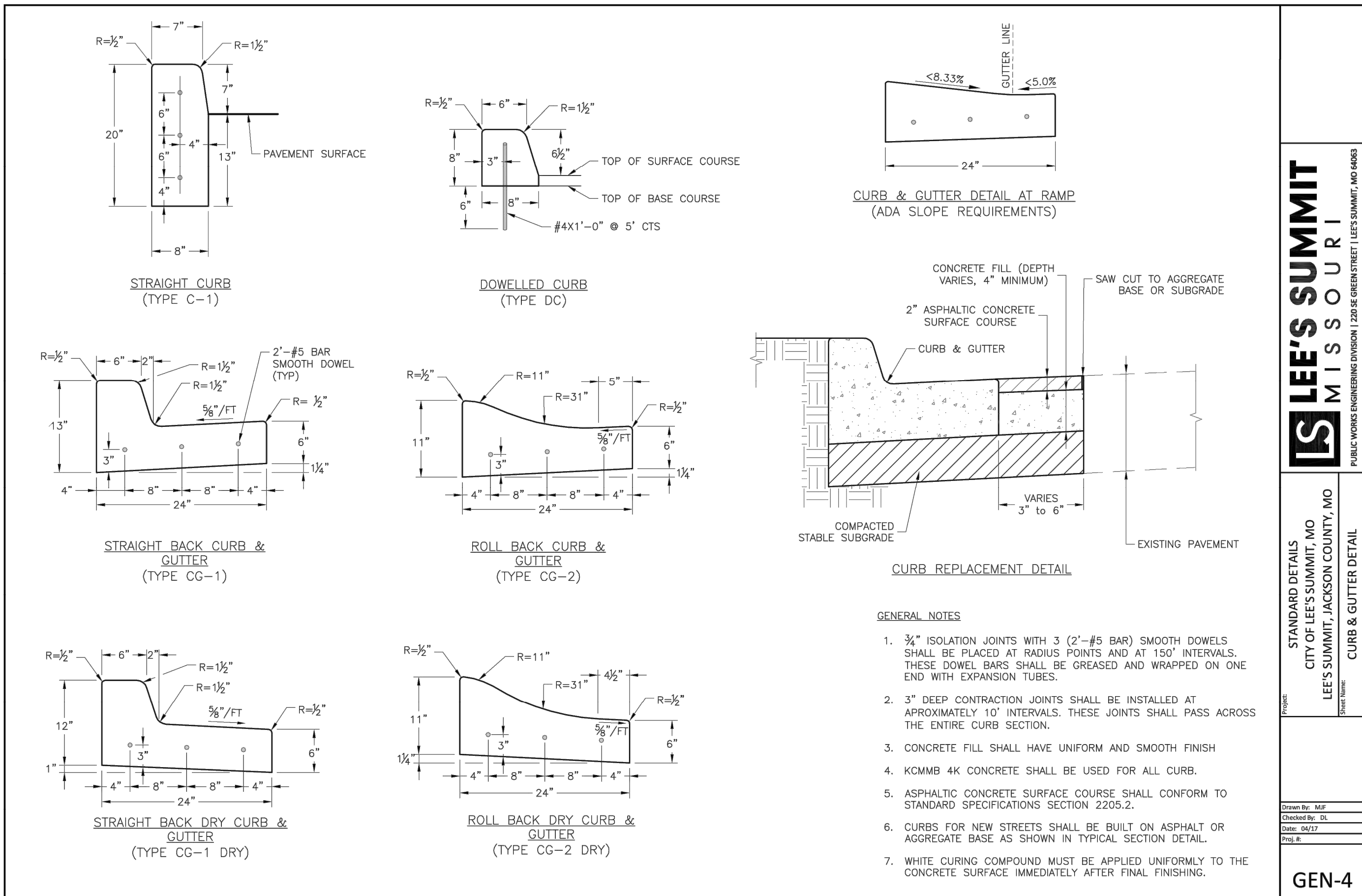
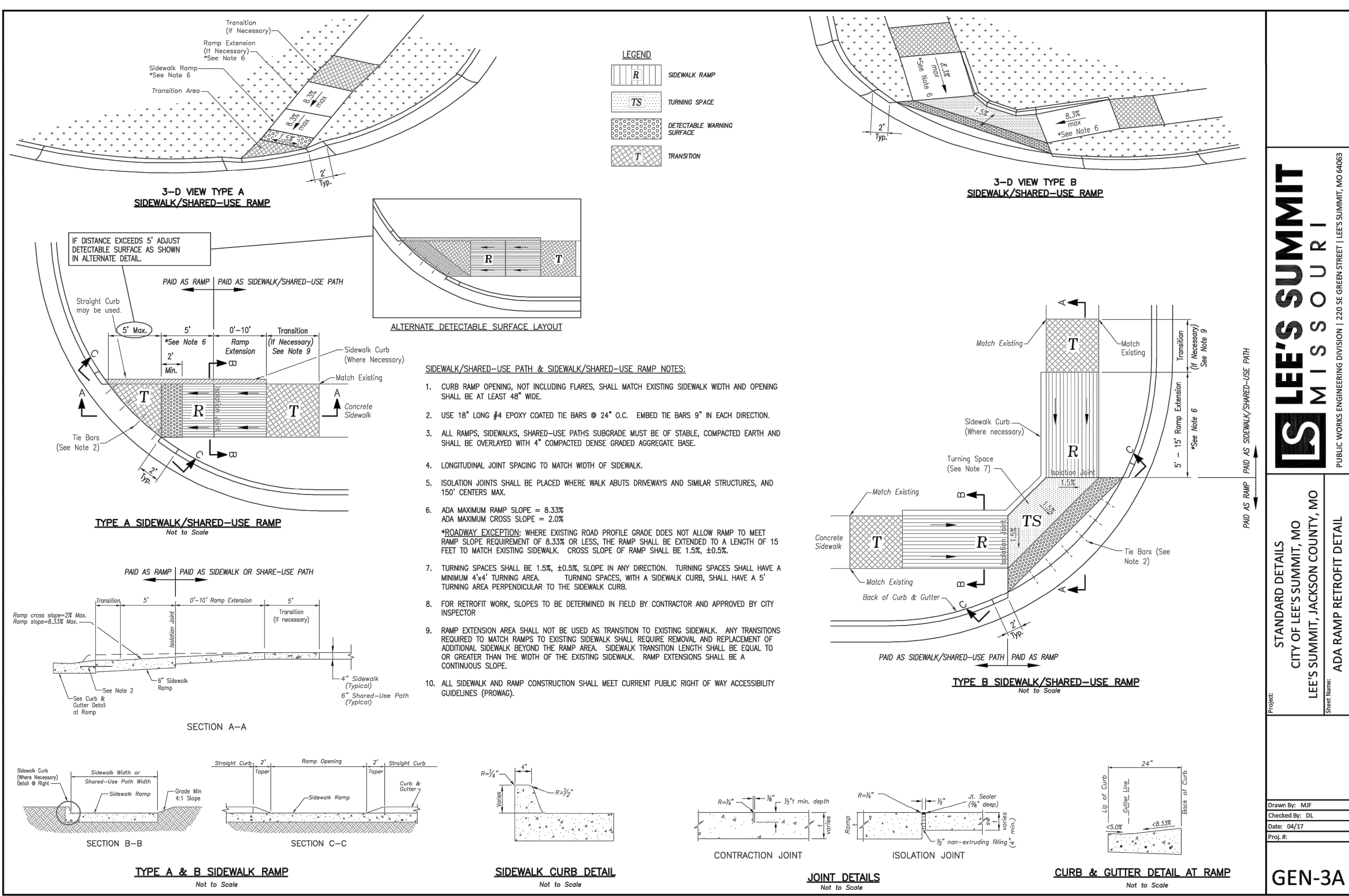
REVISIONS	BY APPROVED
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Issued for Pricing 10/16/2020

12/2 City Comments:

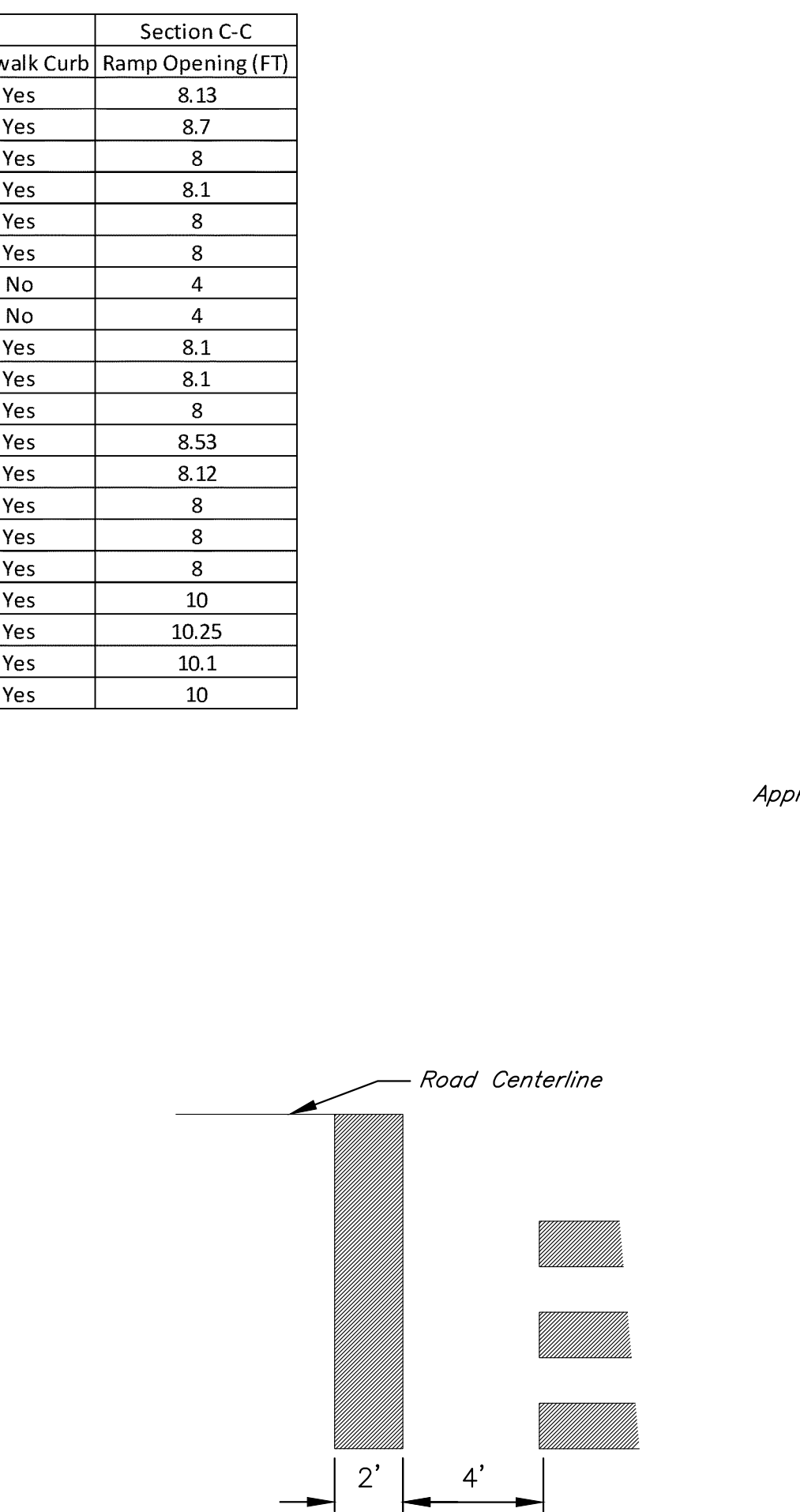
Structures		10 Year Storm										Culverts have been designed to the 100 year Storm										Design Checks										Comments
		Runoff Calculations										Pipe Design																				
From	To	Direct Area (acre)	Line In (acre)	Total Area (acre)	C	K	Tc (min)	Flow Time (min)	Intensity (in/hr)	Design Q (cfs)	Description	Pipe length (lin ft)	Pipe Slope Slope, %	Pipe dia (in)	Manning's n Value	Q full (cfs)	Pipe Area, sf	V full fps	Design V fps	Hw/D	outlet head, H	HW, Inlet Control, (ft)	HW, Outlet Control, (ft)	Inlet Top Elevation	upstream flowline	downstream flowline	Invert Drop (ft)	Downstream water elevation	Hydraulic Grade Elev. (Calculated)	Hydraulic Grade (allowable)		
Line 4300	4303	4302	0.35		0.90	1.00	5.00		7.35	2.3	Curb Inlet													820.30					814.82	818.97		
	4302		0.20		0.90	1.00	5.00	0.32	7.35	2.3	RCP	61.05	0.50	15	0.013	4.58	1.23	3.73	3.18	0.8	0.24	814.82	814.44		813.84	813.53		814.20	814.20	818.97		
	4301			0.55	0.90	1.00	5.32	0.72	7.28	3.6	RCP	176.14	0.75	18	0.013	9.12	1.77	5.16	4.08	0.8	0.53	814.20	813.11		813.03	811.71	0.5	812.58		818.97		
	4301	4101	0.12	0.17	0.90	1.00	5.00		7.35	0.8	Curb Inlet													820.24			0.5	812.58	812.58	818.91		
				0.84	0.90	1.00	6.04	0.45	7.05	5.3	RCP	138.15	1.00	18	0.013	10.53	1.77	5.96	5.07	0.9	0.95	812.58	811.53		811.21	809.83		810.58				
Line 4800	4806	4805	0.89		0.89	0.85	1.00	5.00		7.35	5.6	Grate Inlet												819.85					815.04	818.52		
		4805		0.67	0.85	1.00	5.00	0.33	7.35	5.6	HDPE	141.67	1.50	24	0.01	36.12	3.14	11.50	7.15	0.7	0.25	815.04	812.93		813.58	811.45		812.69				
	4805	4804	0.00		0.90	1.00	5.00		7.35	0.0	Curb Inlet													819.30			0.5	812.69	812.69	817.97		
		4804			0.87	1.00	5.33	0.15	7.25	9.9	RCP	61.28	1.50	24	0.013	27.78	3.14	8.84	6.78	0.9	0.44	812.69	811.81		810.95	810.04		811.37				
	4804	4803	0.19		0.90	1.00	5.00		7.35	1.3	Curb Inlet													819.06			0.5	811.37	811.37	817.73		
		4803			0.87	1.00	5.48	0.16	7.21	11.0	HDPE	85.31	1.64	24	0.01	37.76	3.14	12.02	8.77	0.9	0.68	811.37	810.14		809.54	808.14		809.46				
	4803	4802	0.00		0.90	1.00	5.00		7.35	0.0	Curb Inlet													819.32			0.5	809.46	809.46	817.99		
		4802			0.87	1.00	5.64	0.10	7.16	11.0	HDPE	42.44	1.00	24	0.01	29.49	3.14	9.39	7.29	0.9	0.45	809.46	809.07		807.64	807.21		808.62				
	4802	0.15		0.90	1.00	5.00		7.35	1.0	Curb Inlet														819.57			0.5	808.62	808.62	818.24		
	4801	0.14	0.69	1.90	0.88	1.00	5.74	0.11	7.13	11.9	RCP	41.20	1.00	24	0.013	22.68	3.14	7.22	6.21	1.0	0.52	808.62	807.46		806.71	806.30		806.94				
	4801	0.14	0.69	0.90	1.00	5.00		7.35	0.9	Curb Inlet														819.57			1.6	806.94	806.94	818.24		
	4800			2.73	0.88	1.00	5.85	0.17	7.10	17.1	RCP	70.01	1.00	36	0.013	66.88	7.07	9.46	6.69	0.7	0.21	806.94	805.71		804.70	804.00		805.50				
Line 5400	5402	5401	0.45		0.90	1.00	5.00		7.35	3.0	Curb Inlet													820.30					814.45	818.97		
		5401		0.45	0.90	1.00	5.00	0.30	7.35	3.0	RCP	61.05	0.50	18	0.013	7.45	1.77	4.21	3.35	0.7	0.16	814.45	813.95		813.33	813.03		813.79	813.79	818.97		
	5401	4801	0.24		0.90	1.00	5.00		7.35	1.6	Curb Inlet													820.30			0.5	813.79	813.79	818.97		
				0.69	0.90	1.00	5.30	0.57	7.26	4.5	RCP	191.09	1.50	18	0.013	12.90	1.77	7.30	5.57	0.8	0.90	813.79	811.31		812.53	809.66		810.41				
Line 5500	5501	4301	0.17		0.90	1.00	5.00		7.35	1.1	Curb Inlet													820.40					813.98	819.07		
				0.17	0.90	1.00	5.00	0.25	7.35	1.1	RCP	62.67	2.00	18	0.013	14.90	1.77	8.43	4.13	0.7	0.02	813.98	812.48		812.96	811.71		812.46				
Line 5600	5605	5604	1.06		1.06	0.85	1.00	5.00		7.35	6.6	Grate Inlet												819.85					812.79	818.52		
		5604	0.23	0.19	0.85	1.00	5.00	0.83	7.35	6.6	RCP	203.44	0.50	24	0.013	16.04	3.14	5.11	4.09	0.8	0.47	812.79	811.90		811.27	810.25		811.43	812.79	818.52		
		5603			0.90	1.00	5.00		7.35	1.5	Curb Inlet													818.90			0.5	811.43	817.57			
	5603		0.18		1.48	0.86	1.00	5.83	0.22	7.11	9.1	HDPE	107.61	1.50	24	0.01	36.12	3.14	11.50	8.08	0.8	0.54	811.43	809.94		809.75	808.14		809.40	811.43	817.57	
		5602			0.90	1.00	5.00		7.35	1.2	Curb Inlet													819.15			0.5	809.40	817.82			
	5602		0.13		1.66	0.87	1.00	6.05	0.14	7.04	10.1	HDPE	71.85	1.50	24	0.01	36.12	3.14	11.50	8.31	0.9	0.51	809.40	808.40		807.64	806.56		807.88	809.40	817.82	
		5601			0.90	1.00	5.00		7.35	0.9	Curb Inlet													819.02			0.5	807.88	817.69			
	5601	0.18	0.84	1.79	0.87	1.00	6.19	0.10	7.00	10.9	RCP	42.61	1.50	24	0.013	27.78	3.14	8.84	6.98	0.9	0.44	807.88	800.85		806.06	805.42		800.41	807.88	817.69		
	5600			0.90	1.00	5.00		7.35	1.2	Curb Inlet														819.02			7.26	800.41	817.69			
				2.81	0.88	1.00	6.30	0.21	6.97	17.3	RCP	108.17	2.00	36	0.013	94.58	7.07	13.38	8.64	0.7	0.27	800.41	797.77		798.16	796.00		797.50				

C:\12720\Civil 3D\Production Drawings\Street & Storm Plans - Paragon Parkway\12720C27100.dwg, Layout: 20 Construction Details -- Friday, December 11, 2020, 3:02pm -- Copyright 2020, George Loumaster, Professional Engineer 000025, Landscape Architect 000025, Professional Land Surveyor 000029



Ramp ID	Section A-A		Section B-B		Section C-C
	Ramp Extension (FT)	Ramp Width (FT)	Sidewalk Curb	Sidewalk Curb	Ramp Opening (FT)
1	0	8	Yes	Yes	8.13
2	0	8	Yes	Yes	8.7
3	0	8	Yes	Yes	8
4	0	8	Yes	Yes	8.1
5	0	8	Yes	Yes	8
6	0	8	Yes	Yes	8
7	0	4	No	No	4
8	0	4	No	No	4
9	0	8	Yes	Yes	8.1
10	0	8	Yes	Yes	8.1
11	0	8	Yes	Yes	8
12	0	8	Yes	Yes	8.53
13	0	8	Yes	Yes	8.12
14	0	8	Yes	Yes	8
15	0	8	Yes	Yes	8
16	0	8	Yes	Yes	8
17	0	10	Yes	Yes	10
18	N/A	10.25	Yes	Yes	10.25
19	N/A	10.1	Yes	Yes	10.1
20	0	10	Yes	Yes	10

Note: Ramp ID Shown on Sheets 9 and 10.



STATE OF MISSOURI
CLINT LOUMASTER
REGISTERED PROFESSIONAL ENGINEER
NUMBER PE-2011008651
12/11/2020

GBA

architects
engineers

9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

DATE: 12-11-2020
DESIGN BY: DJM
DRAWN BY: CMN
PROJECT NO.: 12720
SHEET NO. 20
TOTAL SHEETS 68

Clint Loumaster
Professional Engineer
License No. PE2011-009651

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO. DATE
10/16/20
12/11/20

REVISIONS
Issued for Pricing 10/16/2020
12/2 City Comments

BY APPROVED

CONCRETE PAVEMENT SECTION

Not To Scale

KCMMB 4,000 PSI Conc.

Aggregate Base

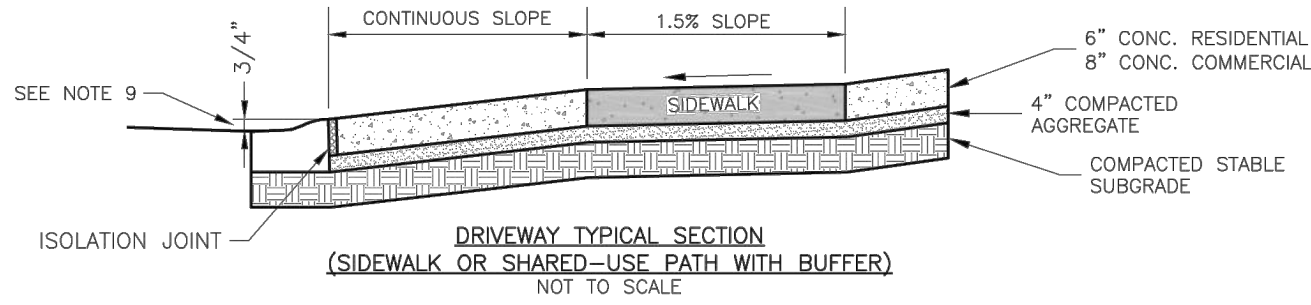
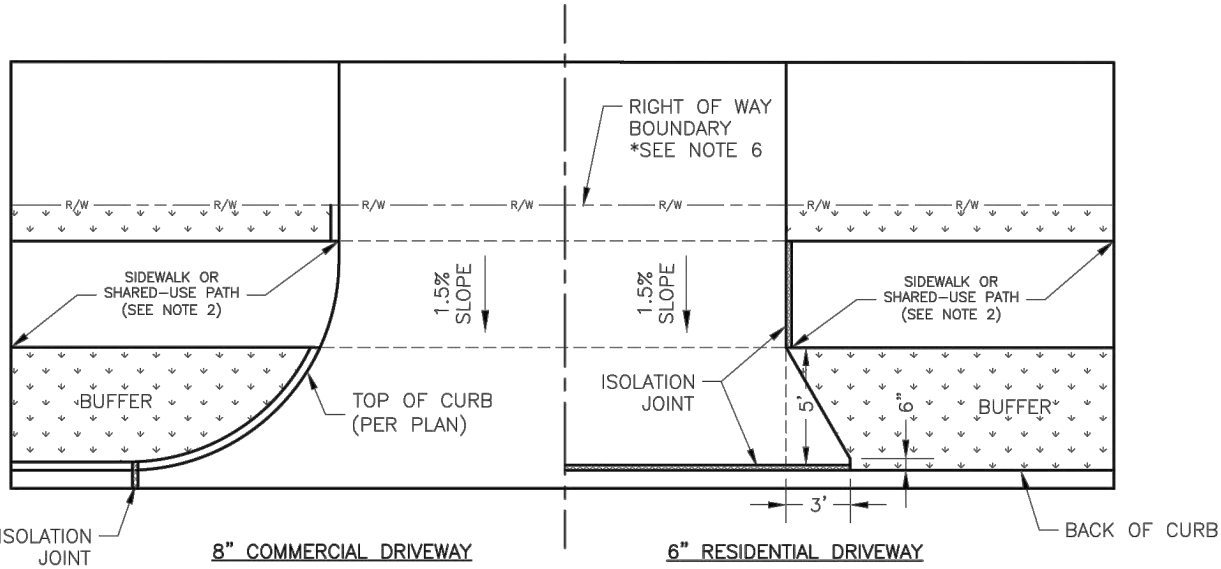
Approved Geogrid

Pavement Notes:

- Pavement sections from geotechnical report title "Geotechnical Engineering Report - Soccer Fields", dated July 27, 2016, prepared by Terracon Consultants, Inc.
- All pavement shall meet City of Lee's Summit UDO Section 8.620 requirements.
- Subgrade stabilization shall be per Lee's Summit Standard Specifications - APWA Section 2200.

Construction Details

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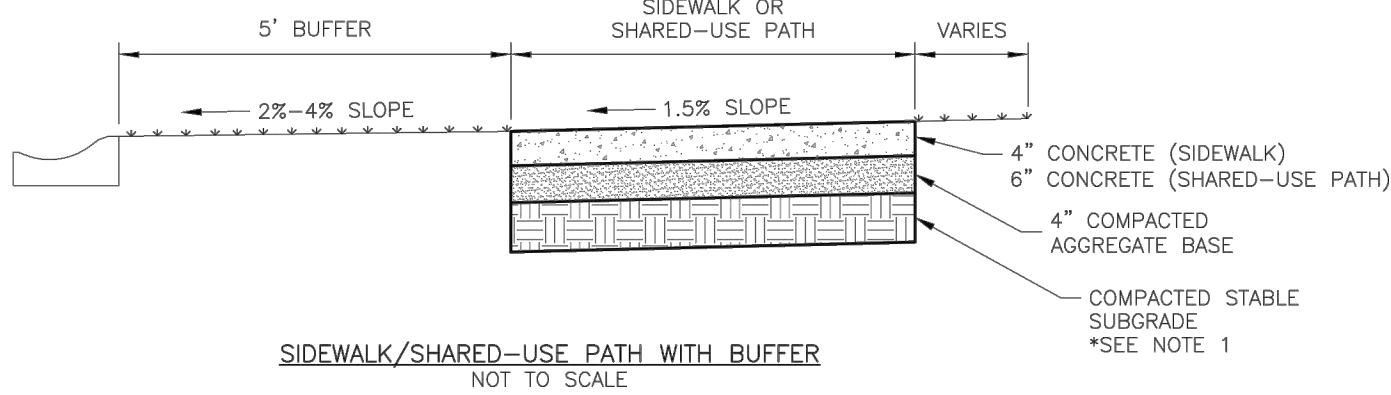
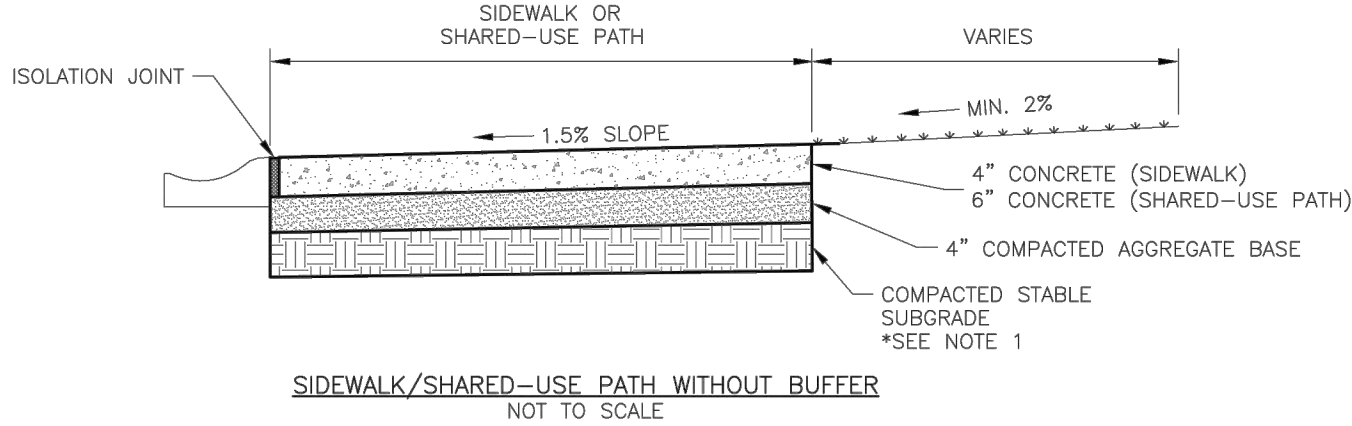


- GENERAL NOTES**
- SUBGRADE SHALL BE STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
 - ALL DRIVE APPROACHES SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG) FOR SLOPE REQUIREMENTS WHEN SIDEWALK IS REQUIRED (SEE ADA RAMP RETROFIT DETAIL GEN-3B, SIDEWALK/SHARED USE PATH RAMP AT DRIVEWAY DETAIL).
 - JOINT AT BACK OF CURB LINE SHALL BE AN ISOLATION JOINT FOR RESIDENTIAL DRIVEWAYS.
 - KOMMB 4K CONCRETE MIX IS REQUIRED FOR ALL CURBS.
 - COMMERCIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, SHALL BE KOMMB 4K CONCRETE MIX.
 - RESIDENTIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, KOMMB 4K CONCRETE MIX IS RECOMMENDED. OTHER CONCRETE MIXES NEEDS TO BE APPROVED BY CITY INSPECTOR.
 - A JOINT MUST BE INSTALLED AT THE RIGHT OF WAY BOUNDARY FOR PROPERTY DELINEATION.
 - WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.
 - 3/4" FROM TOP OF CURB TO FLOWLINE AT DRIVEWAY (TYPE CQ-1 CURB ONLY). MUST MAINTAIN ORIGINAL FLOWLINE OF CURB.
 - SIDEWALK ADJOINING CURB SHALL BE 6" THICK, EXTENDING 3' FROM THE DRIVEWAY.
 - THE MAXIMUM WIDTH OF A RESIDENTIAL DRIVEWAY IS 36 FEET WITHIN THE RIGHT OF WAY.

LEE'S SUMMIT
MISSOURI

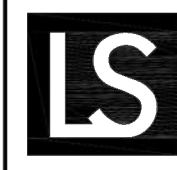
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

GEN-1



GENERAL NOTES:

- SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
- 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
- KOMMB 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS/SHARED-USE PATHS OR AS APPROVED BY THE CITY INSPECTOR.
- ALL SIDEWALK/SHARED-USE PATHS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
- AN ISOLATION JOINT SHALL BE PLACED AT A MAXIMUM OF 150 FT. CONSTRUCTION JOINTS SHALL BE PLACED THE SAME WIDTH OF SIDEWALK/SHARED-USE PATHS, BUT NO GREATER THAN 10 FT.
- AN ISOLATION JOINT SHALL BE PLACED WHERE THE SIDEWALK/SHARED-USE PATHS MEETS A RESIDENTIAL DRIVEWAY.
- SHARED-USE PATHS WIDTH SHALL BE 10 FT. WIDE.
- SIDEWALK/SHARED-USE PATHS FINISHING SHALL BE FULL BROOM FINISH OR AS DIRECTED BY CITY INSPECTOR.
- WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

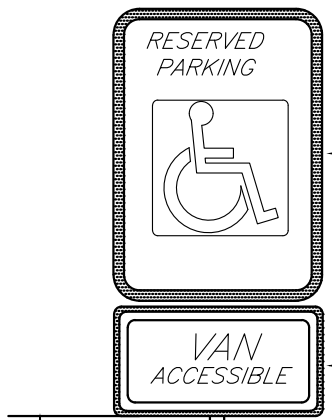


LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

SIDEWALK/SHARED-USE PATH DETAIL

Date: 04/17
Drawn By: MJF
Checked By: DL

GEN-2



Sign R7-8

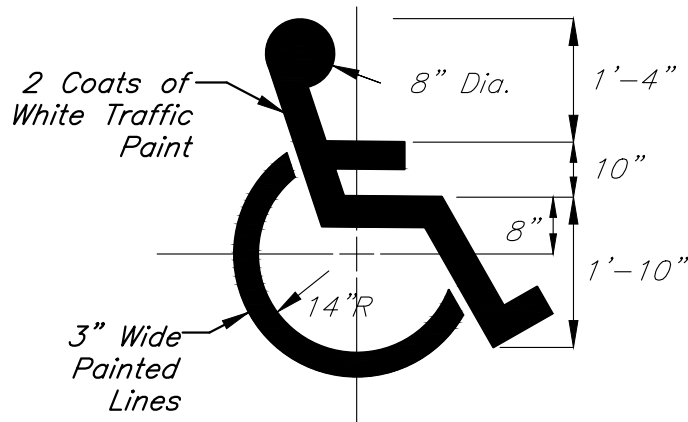
Sign R7-8a

ADA Sign Notes:

- 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.
- Supplemental Accessible Sign (R7-8a) shall be used on all required Van Accessible Spaces.
- Signs shall be blue with white lettering.

TYPICAL ACCESSIBLE SIGNAGE

Not to Scale



ACCESSIBLE PARKING
SYMBOL DETAIL

Not to Scale

Pavement Installation Sequence

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

Ground Installation Sequence

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

Note:

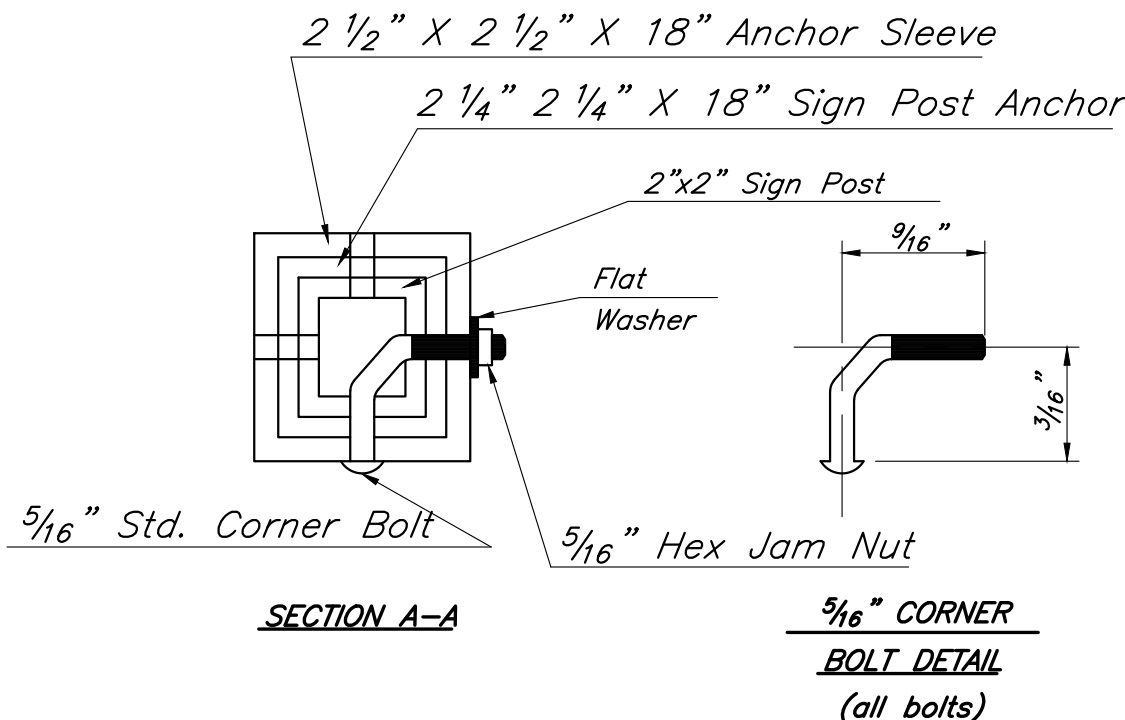
In all installations the first hole above the finished grade level in all three units must be in line for insertion of the corner bolt.

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:

- All letter, number & symbol sizes, spacing & colors, and the sign colors shall conform to the current "Manual On Uniform Traffic Control Devices."
- 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
- All sign mounting hardware shall be galvanized.
- 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



GBA
architects
engineers

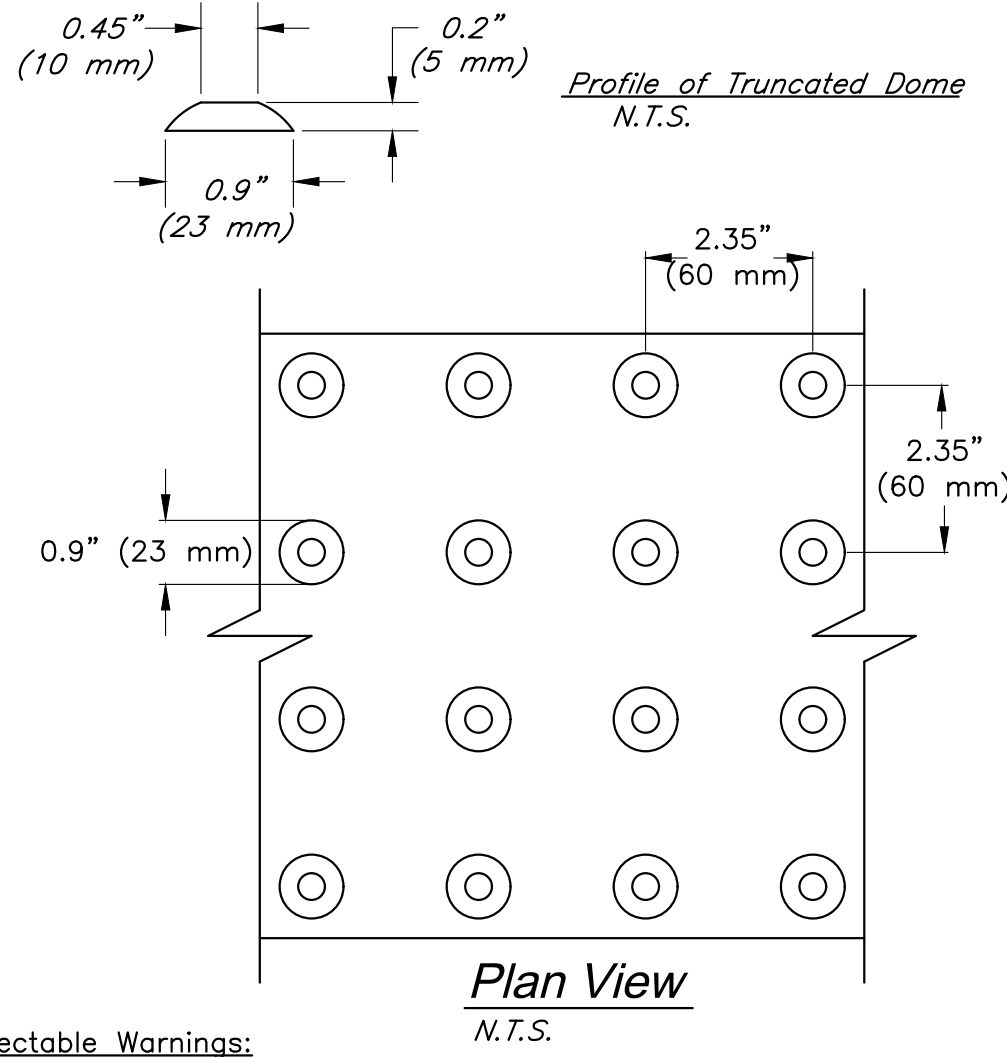
9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

DATE: 12-11-2020
DESIGN BY: DJM
DRAWN BY: CMN
PROJECT NO.: 12720
SHEET NO.: 21
TOTAL SHEETS: 68

Clint Loumaster
Professional Engineer
License No. PE2011-009651

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO.	DATE	REVISIONS	BY	APPROVED
10/16/20		Issued for Pricing 10/16/2020		
12/11/20		12/2 City Comments		



Detectable Warnings:

- Curb ramps shall have detectable warnings extending the full length and width of the curb ramp.
- Detectable warnings shall consist of raised truncated domes with a diameter of nominal 0.9 in (23 mm), a height of nominal 0.2 in (5 mm) and a center-to-center spacing of nominal 2.35 in (60 mm) and shall contrast visually with adjoining surfaces, either light-on-dark, or dark-on-light.

The material used to provide contrast shall be an integral part of the walking surface and should contrast by at least 70%. Contrast in percent is determined by:

$$\text{Contrast} = [(B1 - B2)/B1] \times 100$$

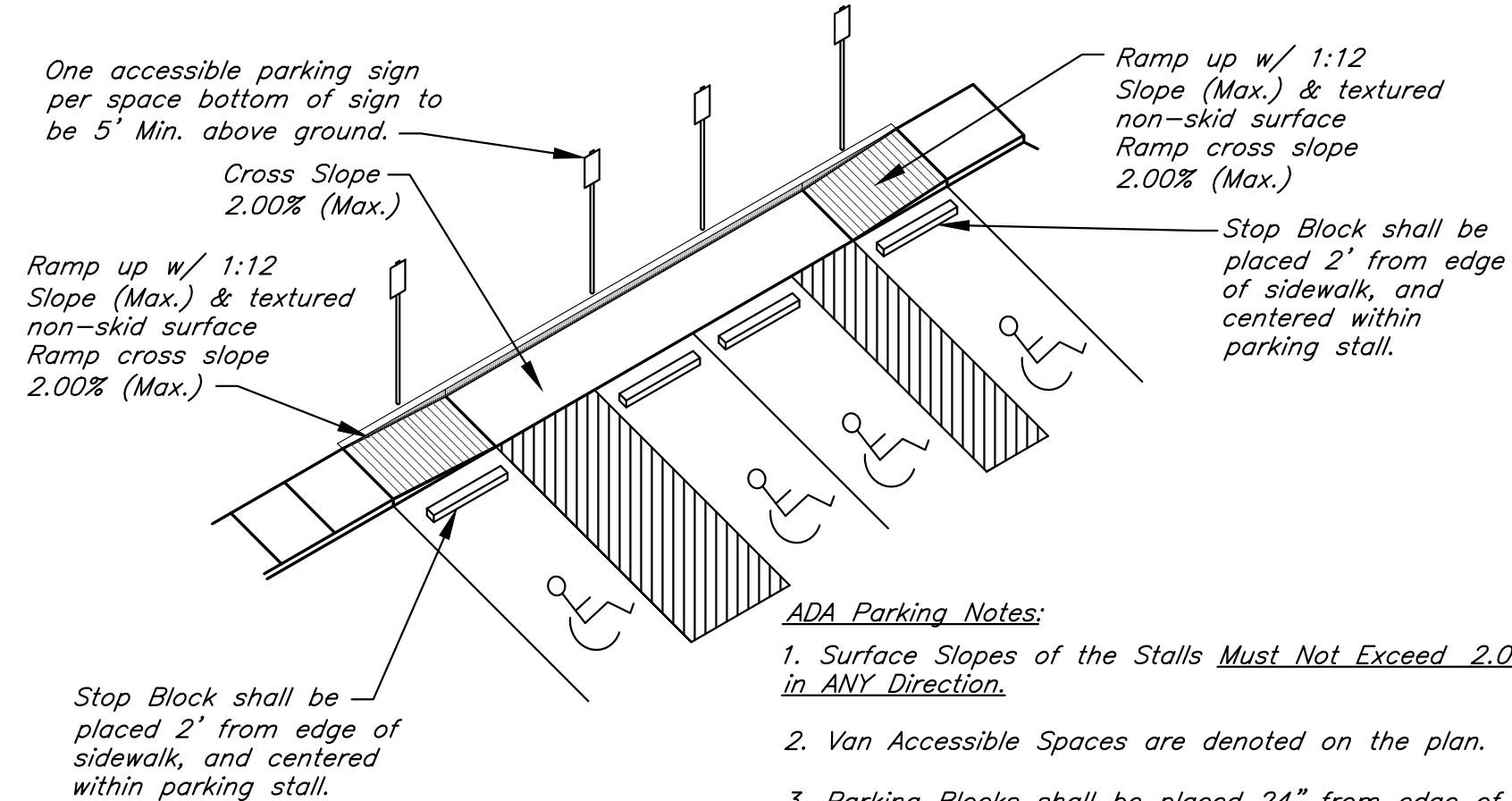
where B1 = light reflectance value (LRV) of the lighter area and B2 = light reflectance value (LRV) of the darker area.

Note that in any application both white and black are never absolute; thus, B1 never equals 100 and B2 is always greater than 0.

- If a walk crosses or adjoins a vehicular way, and the walking surfaces are not separated by curbs, railings, or other elements between the pedestrian areas and vehicular areas, the boundary between the areas shall be defined by a continuous detectable warning which is 36 in (915 mm) wide.
- Contractor shall install Detectable Warnings in compliance with current ADA standards.

DETECTABLE WARNINGS

N.T.S.



ADA Parking Notes:

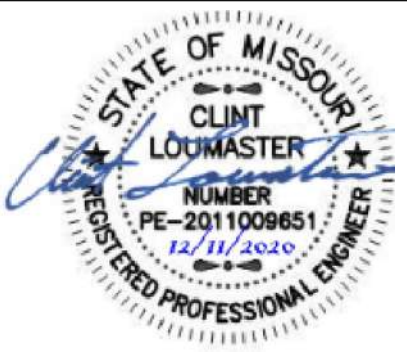
- Surface Slopes of the Stalls Must Not Exceed 2.00% in ANY Direction.
- Van Accessible Spaces are denoted on the plan.
- Parking Blocks shall be placed 24" from edge of sidewalk to center line of parking block.

ADA PARKING DETAIL

Not to Scale

Construction Details

G:\12720\Civil 3D\Production Drawings\Street & Storm Plans - Paragon Parkway\12720C2100.dwg, Layout: 22 Construction Details -- Friday, December 11, 2020, 3:02pm -- Copyright 2020, George H. Gable, Professional Engineer, 000133, Landscape Architect, 000025, Professional Land Surveyor, 000039



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www.gbateam.com

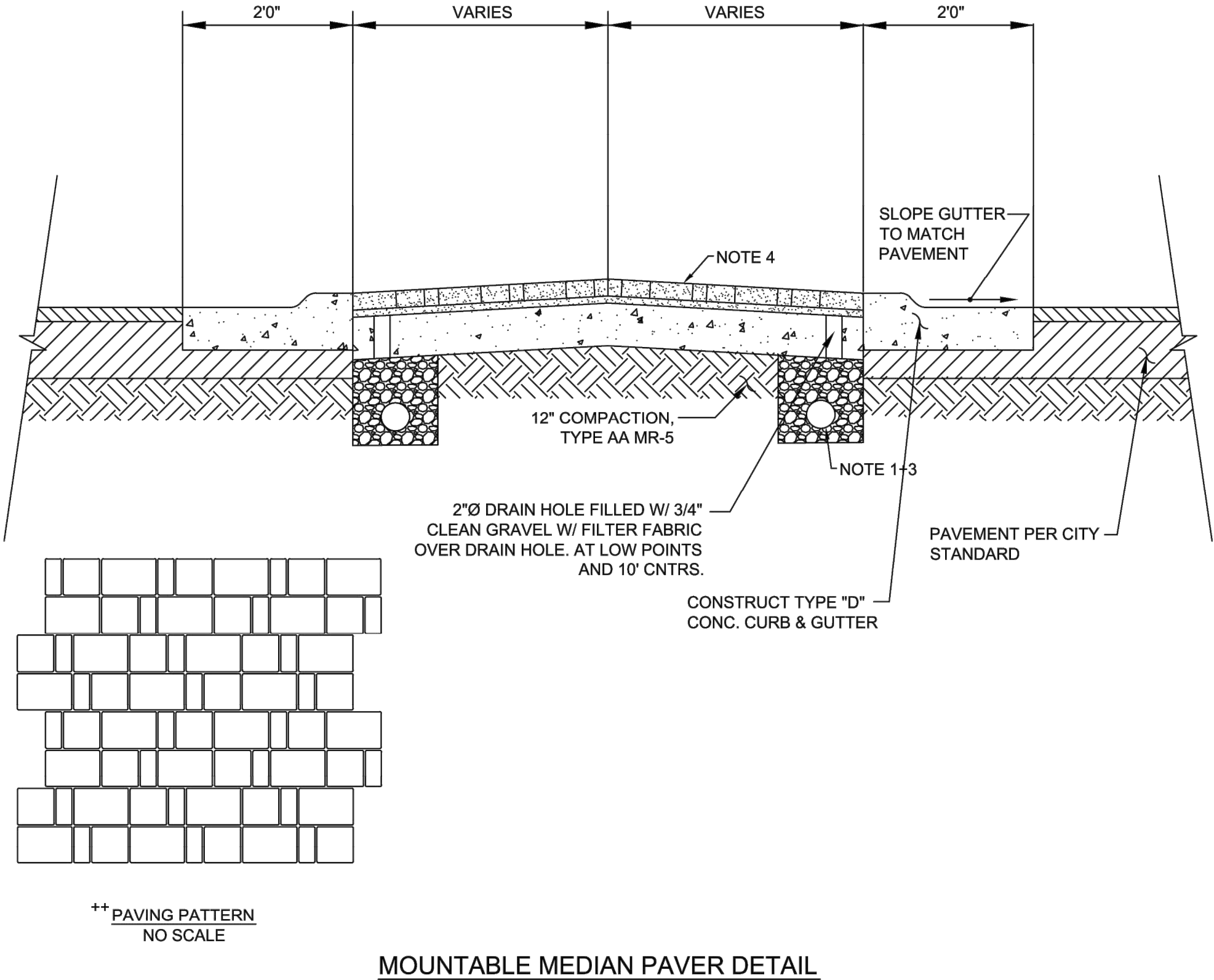
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DESIGN BY: DJM
DRAWN BY: CMN
PROJECT NO.: 12720

SHEET NO. 22
TOTAL SHEETS 68

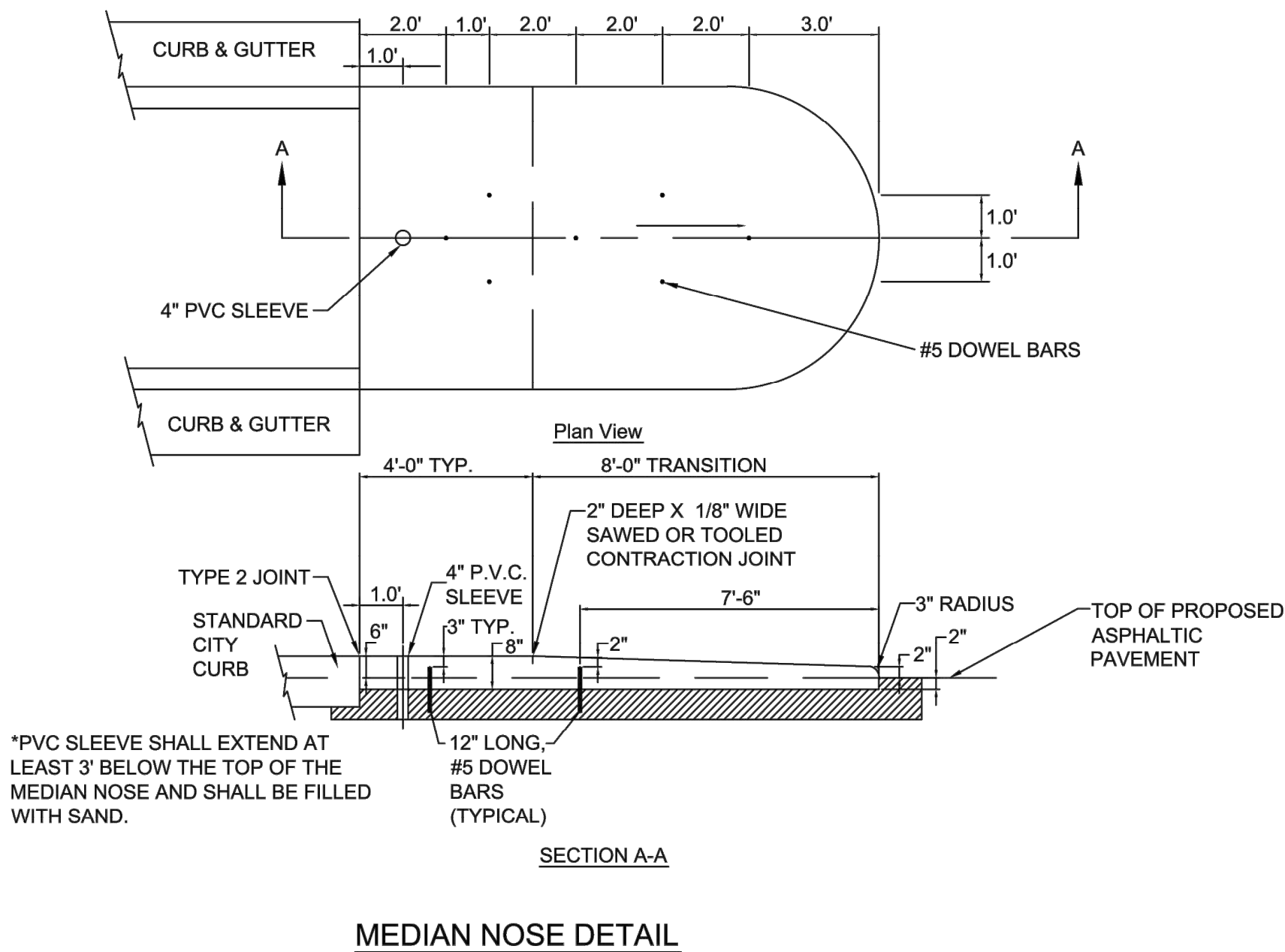
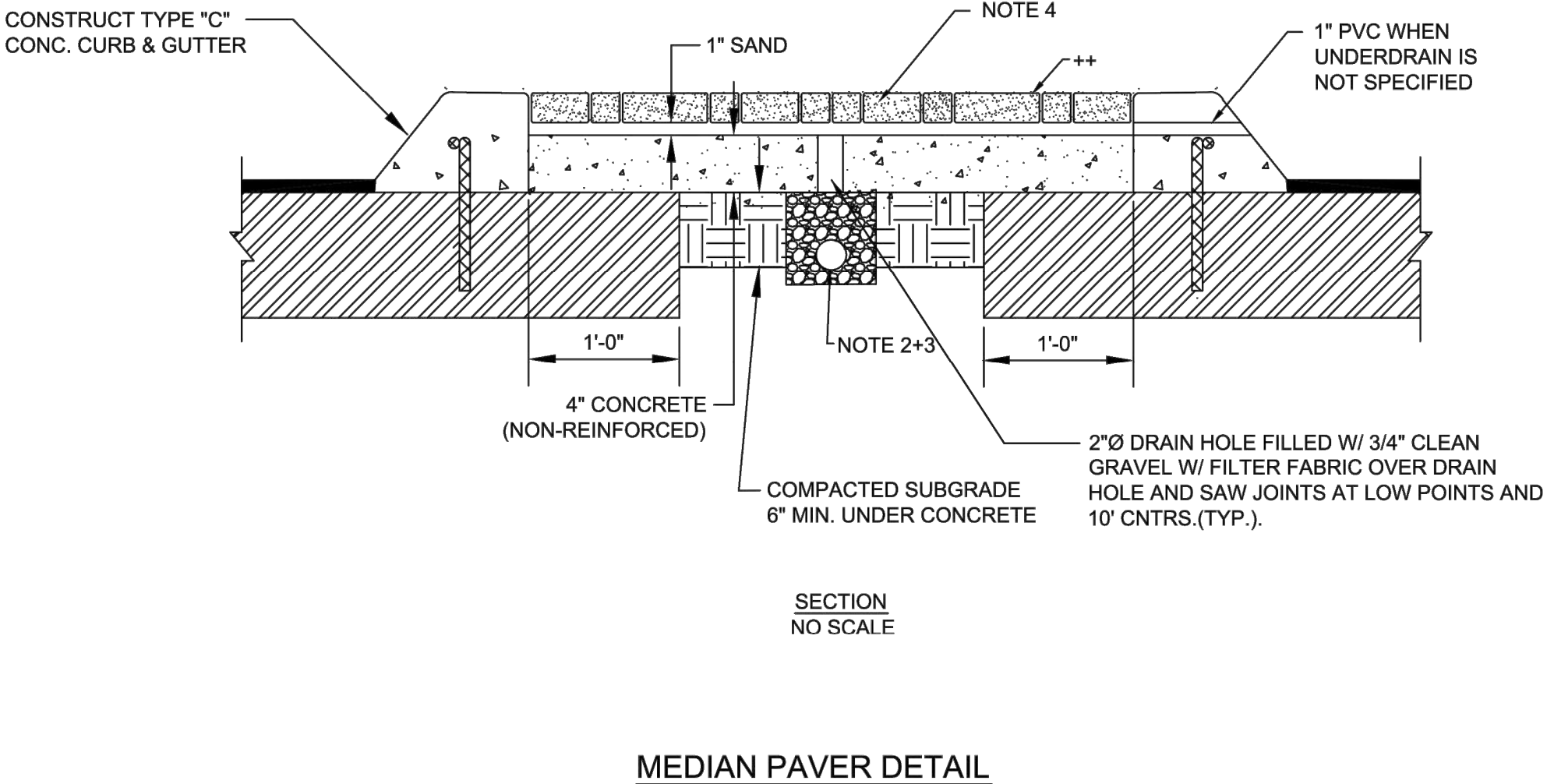
Clint Loumaster
Professional Engineer
License No. PE2011-009651

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

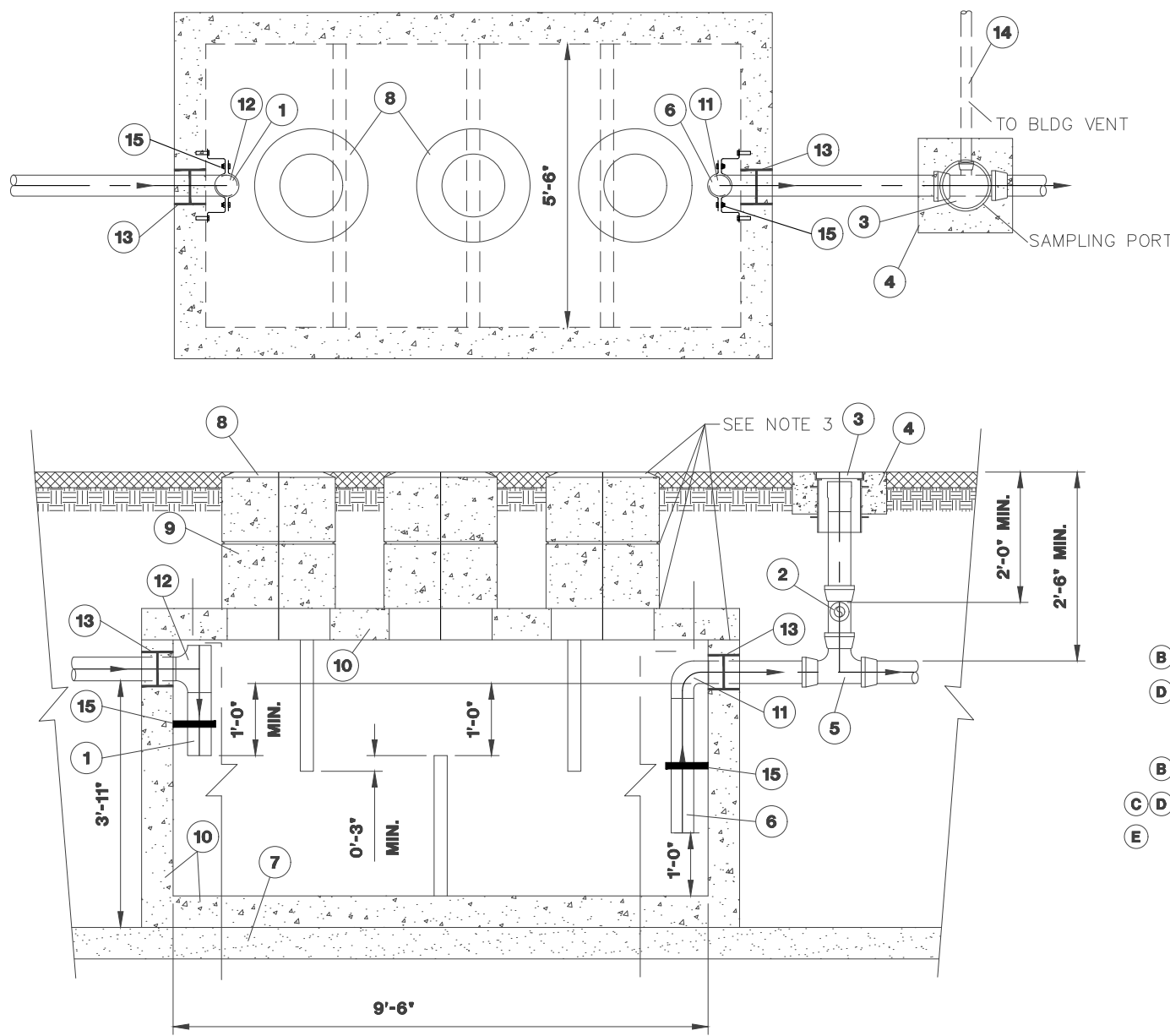
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10/16/20		Issued for Pricing		
12/11/20		12/2 City Comments		



- NOTES:**
- UNDERDRAIN SHALL BE INSTALLED AROUND THE PERIMETER OF THE MEDIAN AND CONNECTED TO THE STORM DRAIN SYSTEM.
 - UNDERDRAIN SHALL BE INSTALLED TO THE CENTER OF THE MEDIAN AND CONNECTED TO THE STORM DRAIN SYSTEM.
 - CONCRETE PAVERS, PAVESTONE "COBBLE STONE" OR EQUAL
4-9/16"x2-1/4"x2-3/8"
4-9/16"x4-9/16"x2-3/8"
4-9/16"x6-13/16"x2-3/8"
- PAVER COLOR
VARIABLE. CONTACT ENGINEERING

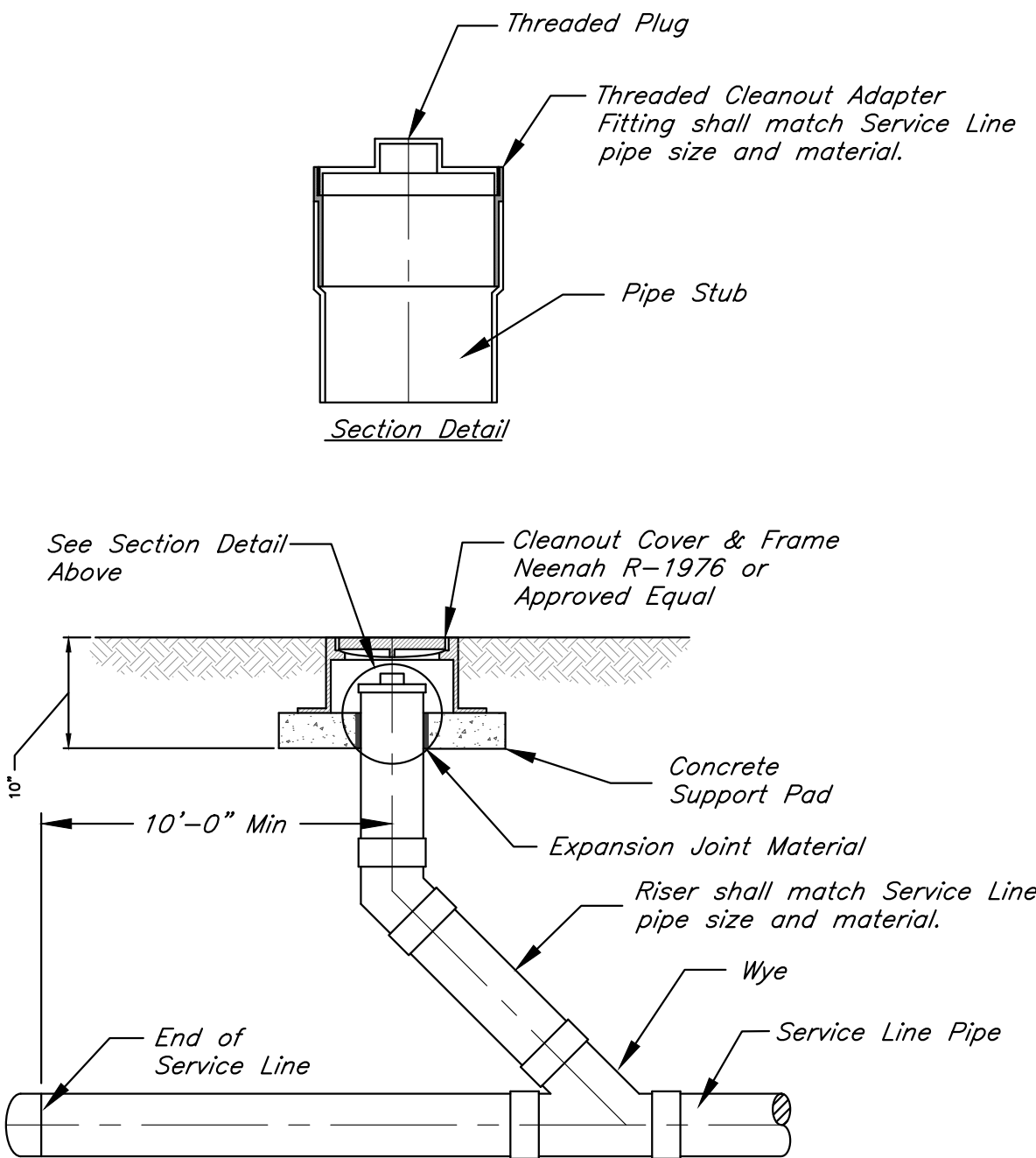


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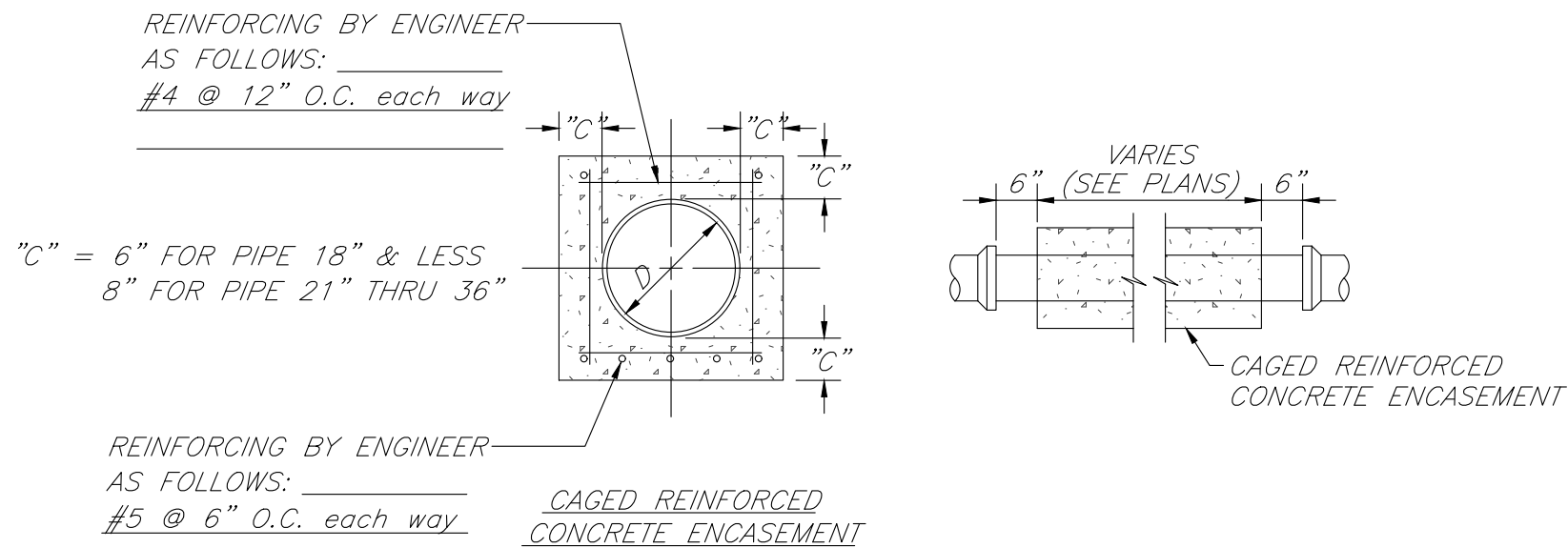
GREASE INTERCEPTOR DETAILS

Not to Scale



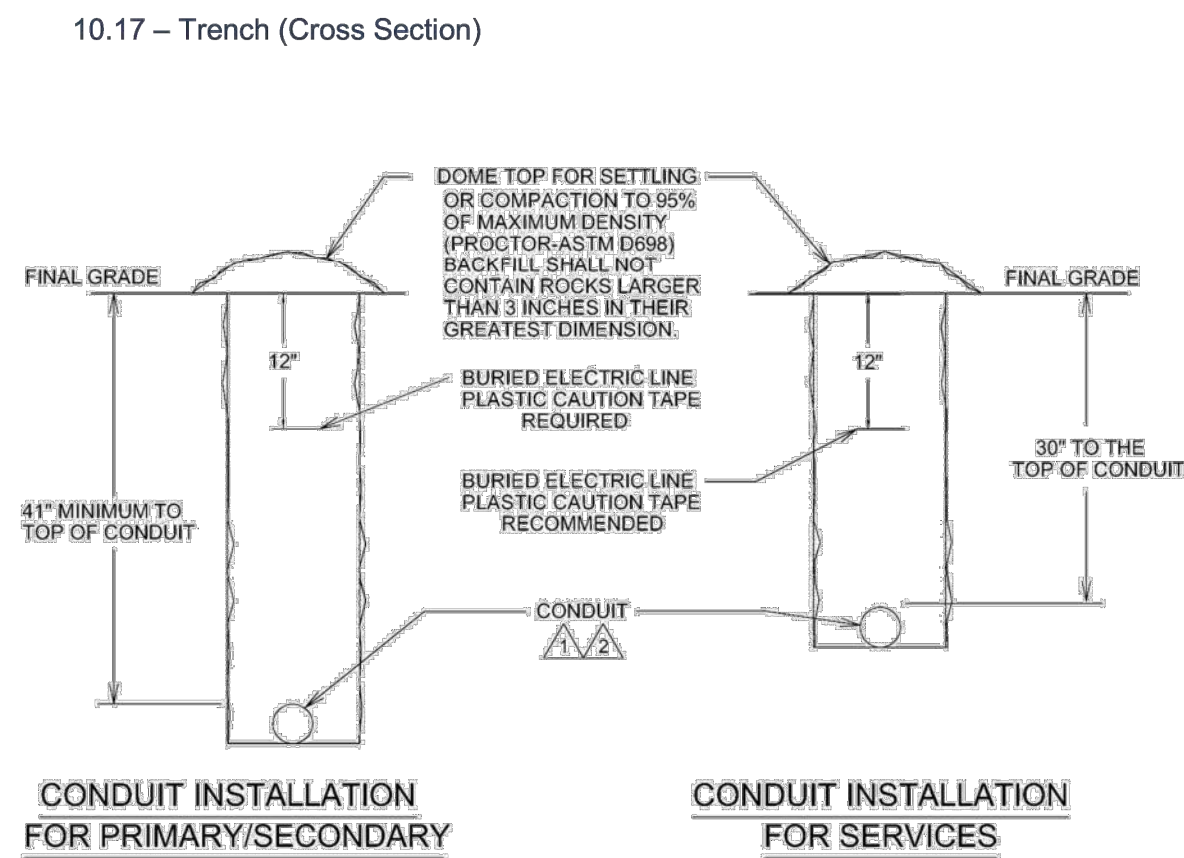
CLEANOUT DETAIL

No Scale



CAGED REINFORCED CONCRETE ENCASEMENT

Not to Scale

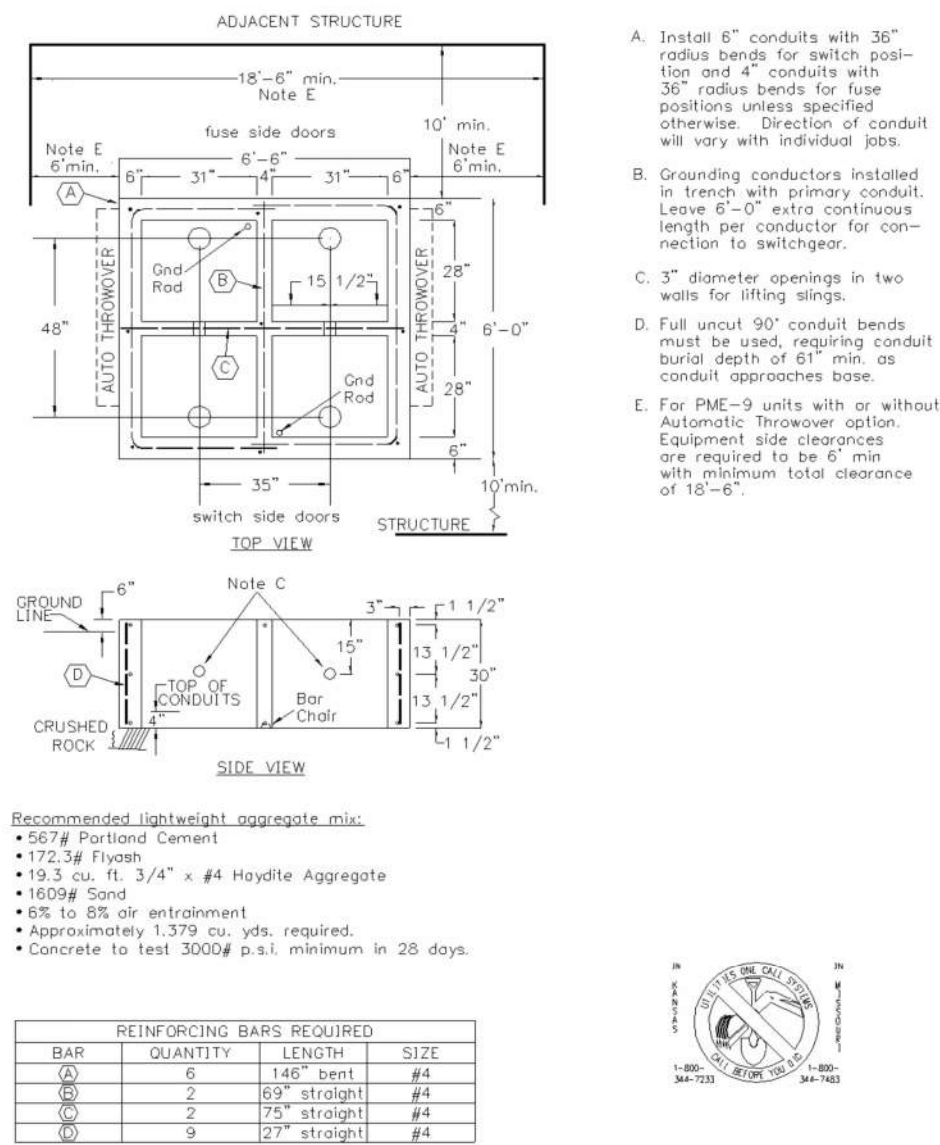


- 10.17 - Trench (Cross Section)
- CONDUIT INSTALLATION FOR PRIMARY/SECONDARY
- CONDUIT INSTALLATION FOR SERVICES
- CONDUIT shall be NEC approved rigid conduit, such as or U.L. listed non-metallic gray PVC schedule 40. The conduits shall be free of burrs and have clean bores. Where customer/developers installed conduit interconnects with the Company's conduit, customer/developer shall not use half sizes. (EG. 2 1/2", 3 1/2", 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.

EVERGY STANDARD TRENCH DETAIL

Not to Scale

Base for PME-9 or PME-11 Padmount Switchgear With or Without Auto Throwover Option



Recommended lightweight aggregate mix:

- 567# Portland Cement
- 175.3# Flyash
- 19.3 cu. ft. 3/4" x #4 Haydite Aggregate
- 160# Sand
- 8% to 8 1/2% air entrainment
- Approximately 1,370 cu. yds. required
- Concrete to test 3000# p.s.i. minimum in 28 days.

BAR	QUANTITY	LENGTH	SIZE
(A)	6	148" bent	#4
(B)	2	89" straight	#4
(C)	2	75" straight	#4
(D)	9	12" straight	#4



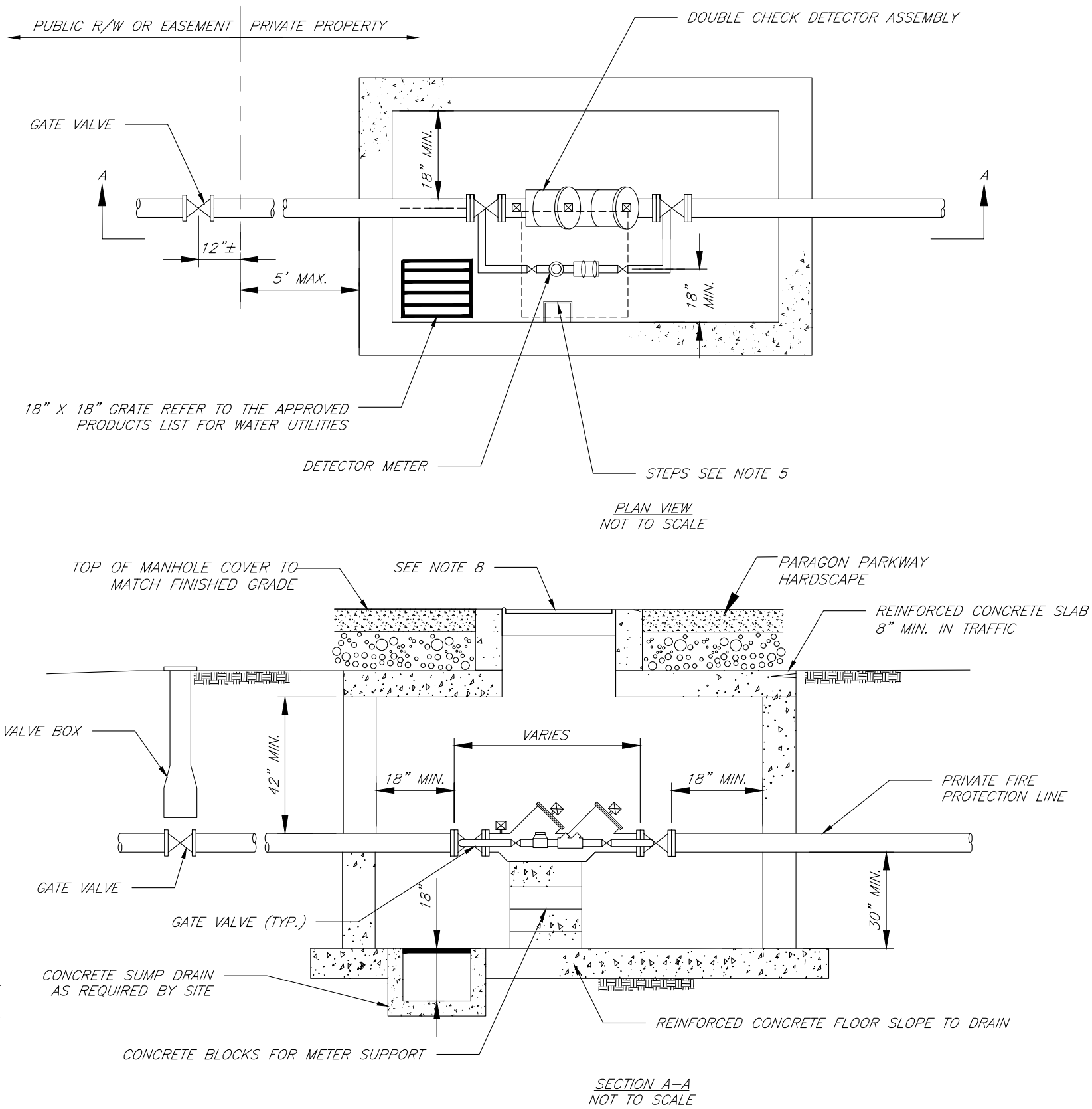
BASE FOR 15KV
PME-9 OR PME-11
PADMOUNT SWITCHGEAR
WITH OR WITHOUT
AUTO THROWOVER OPTION
DWG REV: 08/02/11 DWG: 700-109

SWITCHGEAR DETAIL

Not to Scale

GENERAL NOTES:

- METER VAULT WALLS TO BE POURED OR PRECAST CONCRETE. METER VAULT ROOF TO BE REINFORCED CONCRETE WITH OPENING CENTERED OVER DETECTOR METER. REINFORCED WALLS AND SLABS ARE TO BE DESIGNED BY THE OWNER'S ENGINEER OR PRECAST ENGINEER.
- METER VAULT TO BE LOCATED, WHEN POSSIBLE, OUTSIDE TRAFFIC AREA AND WHERE SURFACE WATER WILL NOT DRAIN INTO IT. PROVIDE CONCRETE SUMP TO DRAIN TO AN ABOVE GROUND DISCHARGE POINT.
- ALL PIPE AND FITTINGS FROM THE CITY WATER MAIN THROUGH THE VAULT SHALL BE PROVIDED WITH RESTRAINED JOINT FITTINGS.
- ALL FITTINGS FOR THE DETECTOR METER TO BE BRASS.
- STEPS SHALL BE IN ACCORDANCE WITH THE APPROVED PRODUCTS LIST FOR WATER UTILITIES AND SHALL BE ON 16" CENTERS.
- A DEPARTMENT OF NATURAL RESOURCES APPROVED DOUBLE CHECK DETECTOR ASSEMBLY BACKFLOW PREVENTER MUST BE USED. FOR A COPY OF THE MISSOURI DEPARTMENT OF NATURAL RESOURCES APPROVED BACKFLOW PREVENTION ASSEMBLIES, CONTACT WATER UTILITIES AT 816-989-1900.
- ALL VALVES SHALL HAVE RISING STEMS.
- MANHOLE COVER SHALL BE A BILCO K-1 MODEL UNLESS IN A VEHICLE TRAFFIC AREA. SEE THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR TRAFFIC CONDITIONS. THE COVER SHALL HAVE A 1-3/4" HOLE DRILLED FOR A TOUCH/READ DEVICE.
- A MINIMUM OF 18" CLEARANCE SHALL BE PROVIDED AROUND ALL PIPING, VALVES, APPURTENANCES, ETC.
- CONTACT PUBLIC WORKS ENGINEERING FOR VAULTS THAT INCLUDE A FIRE DEPARTMENT CONNECTION OR A 3" OR LARGER METER.

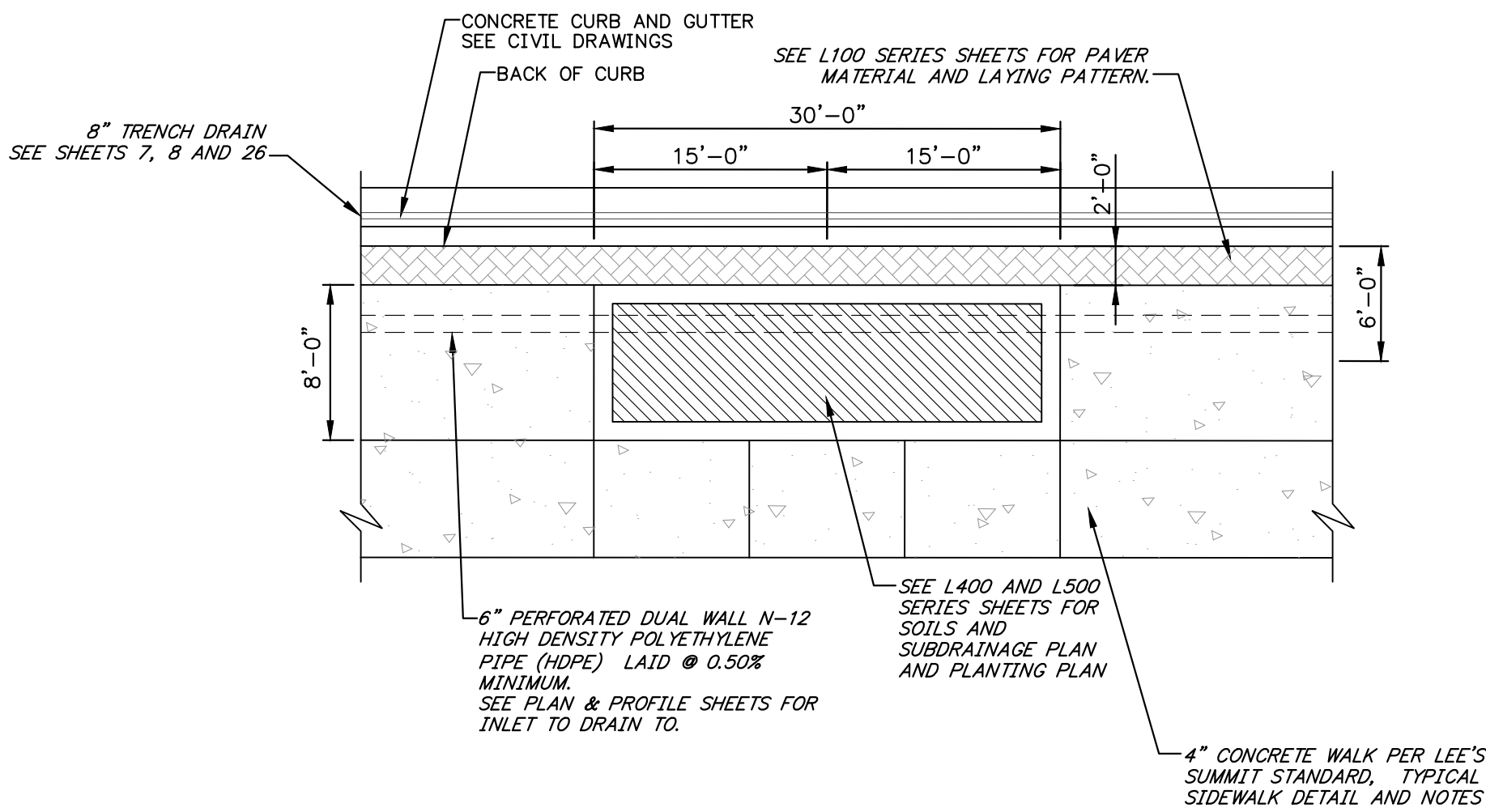


WATER METER VAULT DETAIL

Not to Scale

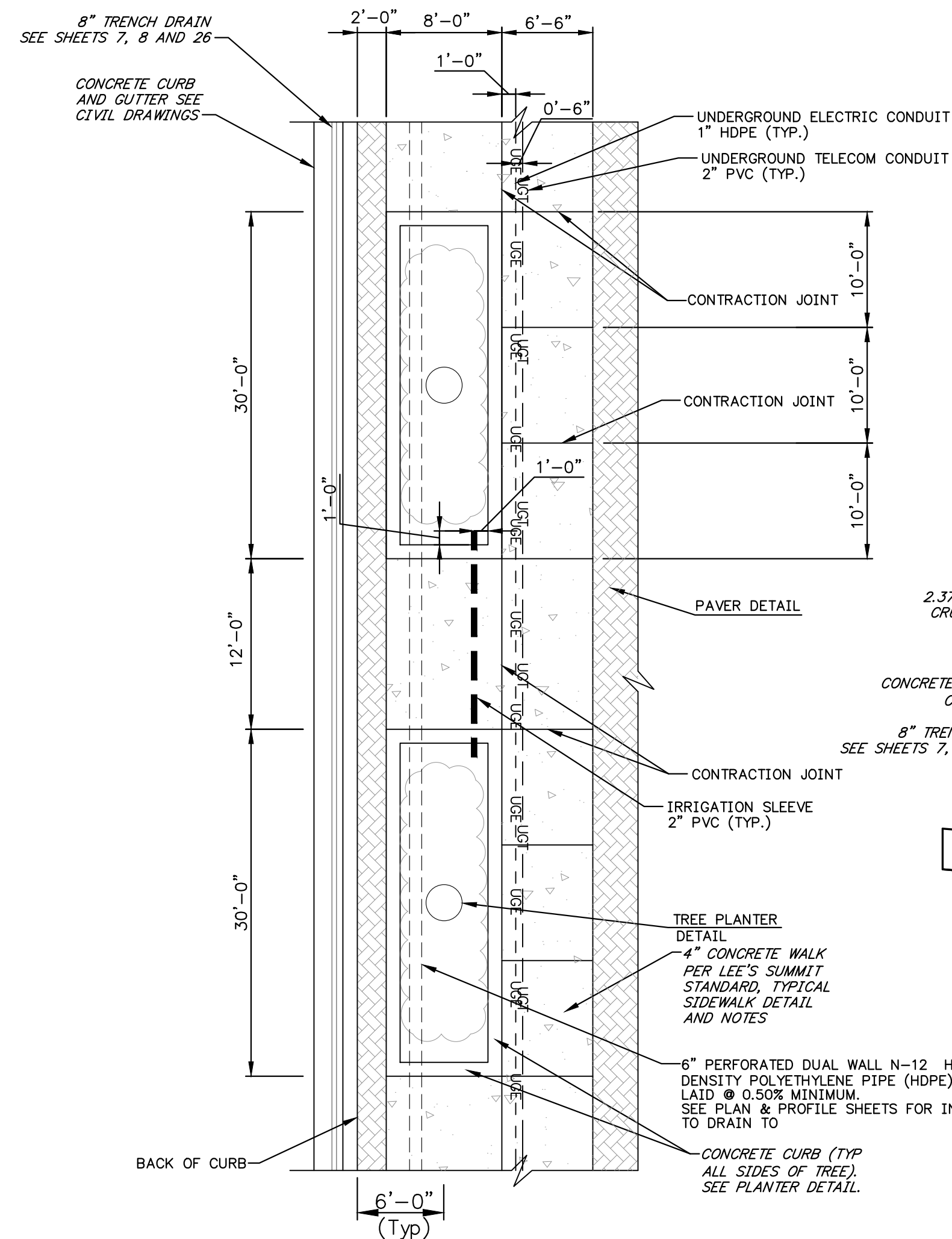
Construction Details

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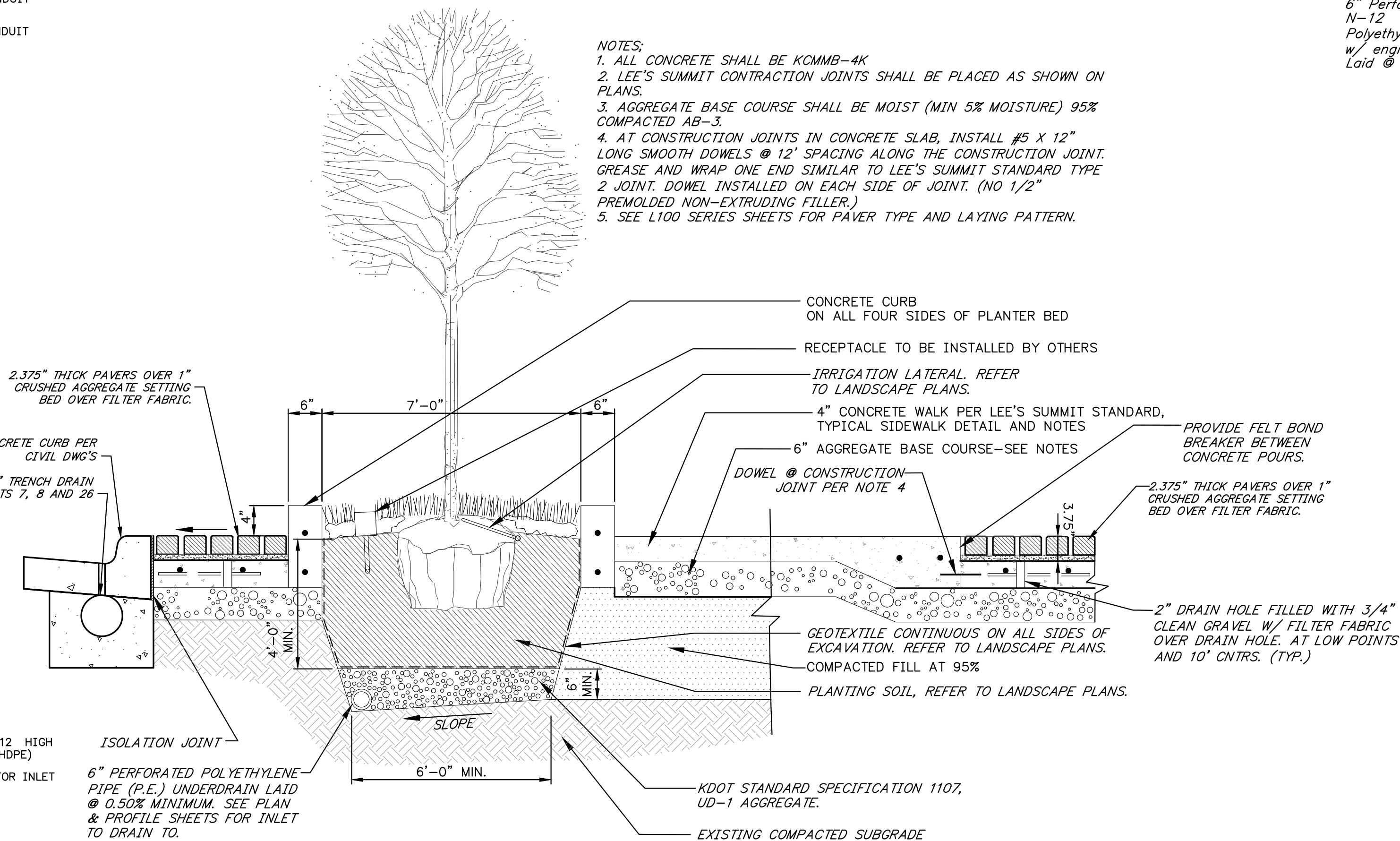
TREE PLANTER TOPSOIL PLAN

Not to Scale



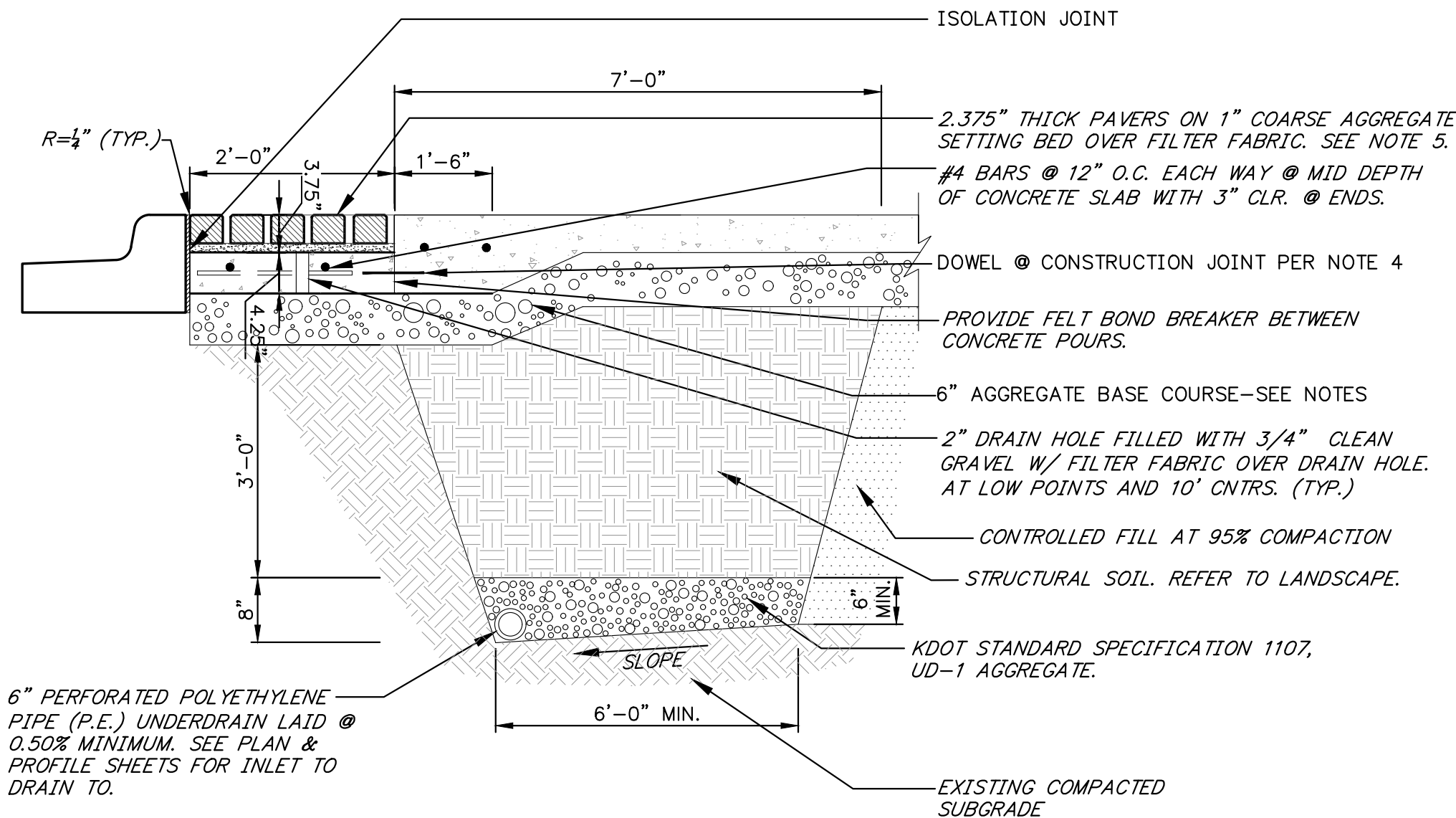
TYPICAL SIDEWALK LAYOUT

Not to Scale



TREE PLANTER DETAIL

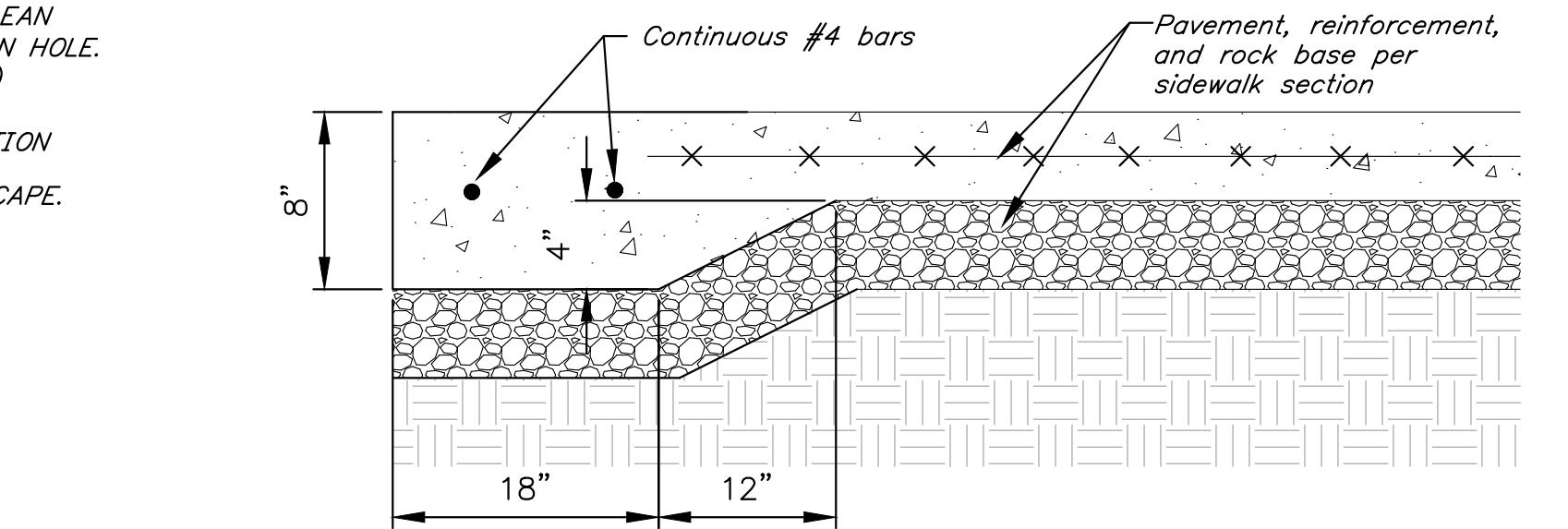
Not to Scale



- 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

Not to Scale

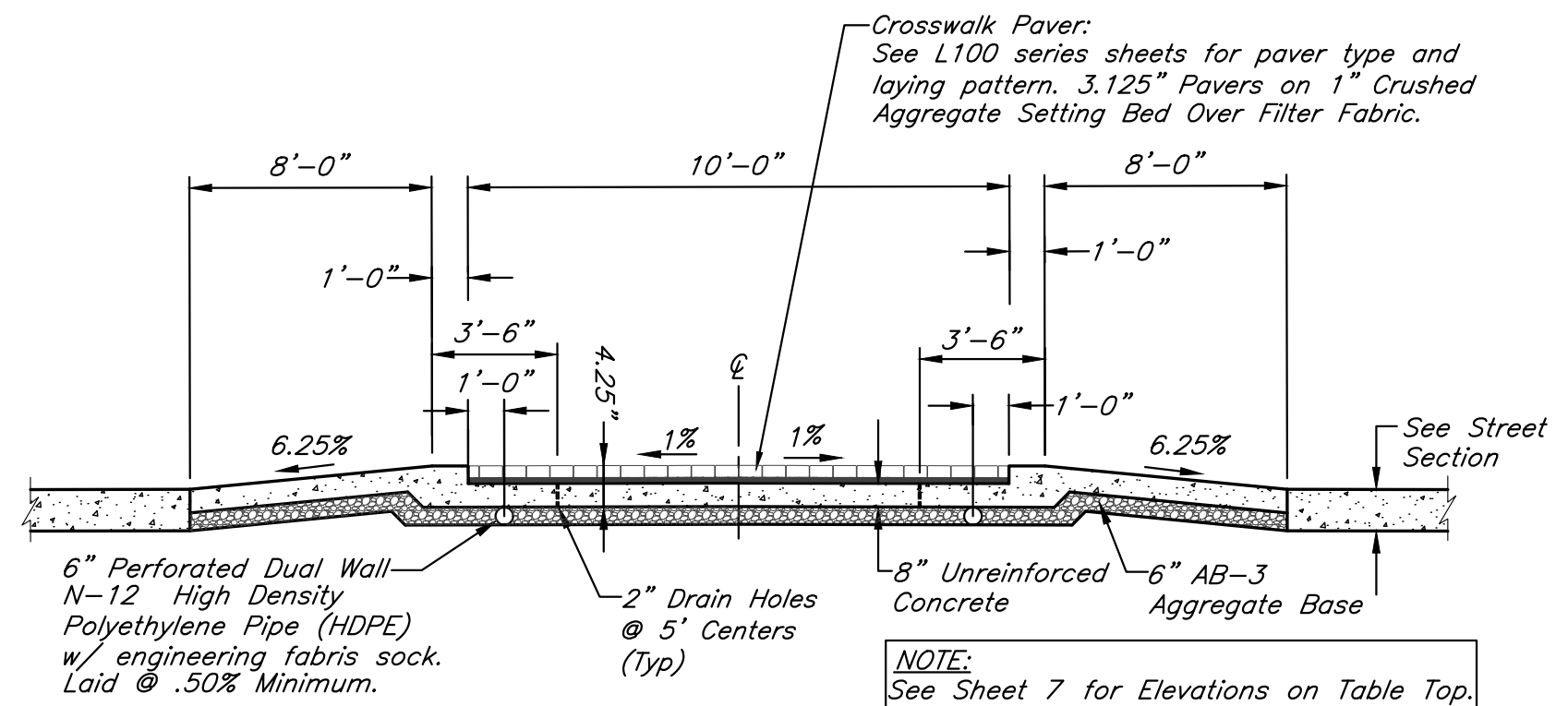
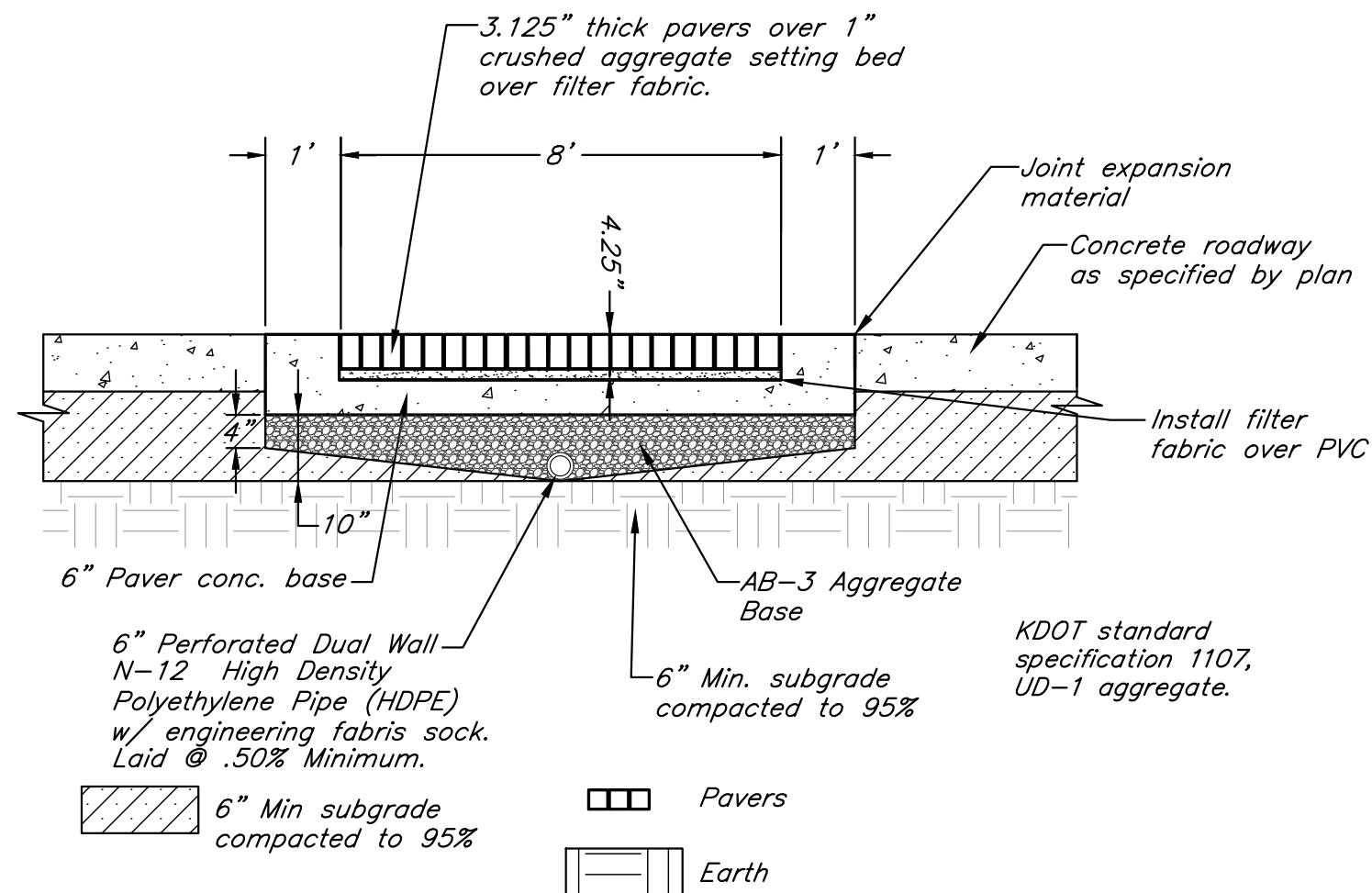


TABLE TOP CROSSWALK DETAIL

Not To Scale



GENERAL NOTES

1. Paver will be rated for roadway traffic.
2. Pavers shall be selected by Landscape Architect.
3. Paver base and edge restraint shall be KCMMB 4K concrete. Base slab and paver restraint shall be poured monolithic.
4. Pavers, setting bed, and concrete base depth, typical all pavement areas.
5. Expansion joint material will be placed at all joints between new concrete and existing concrete.
6. Install underdrain on each end of paver sidewalk close to curbs and connect to underdrain system.
7. See L100 series sheets for paver material type and laying pattern.

CROSSWALK PAVER DETAIL

Not To Scale

Streetscape Details



GBA
architects
engineers

9801 Renner Boulevard
Lenexa, Kansas 66219
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www.gbateam.com

DATE:	12-11-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
24	68

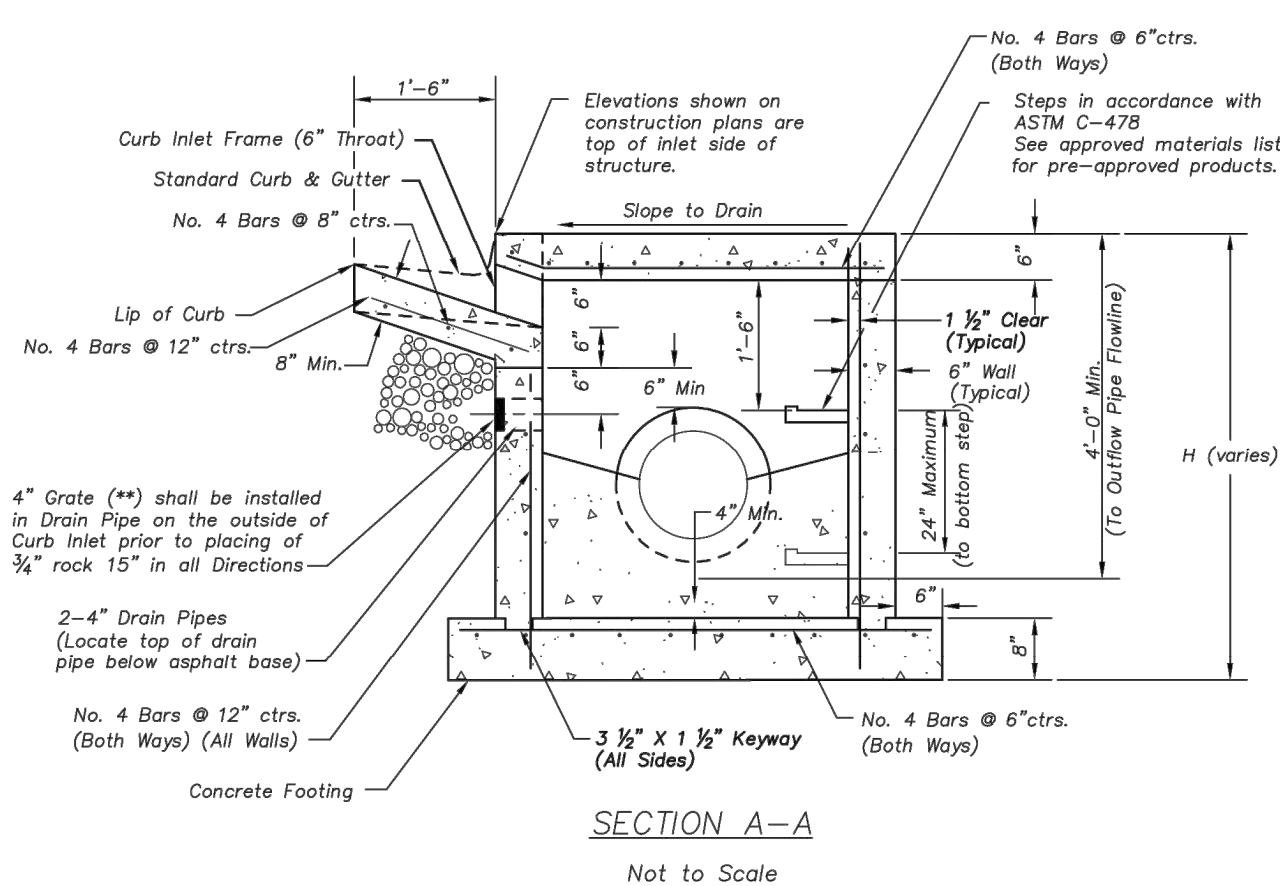
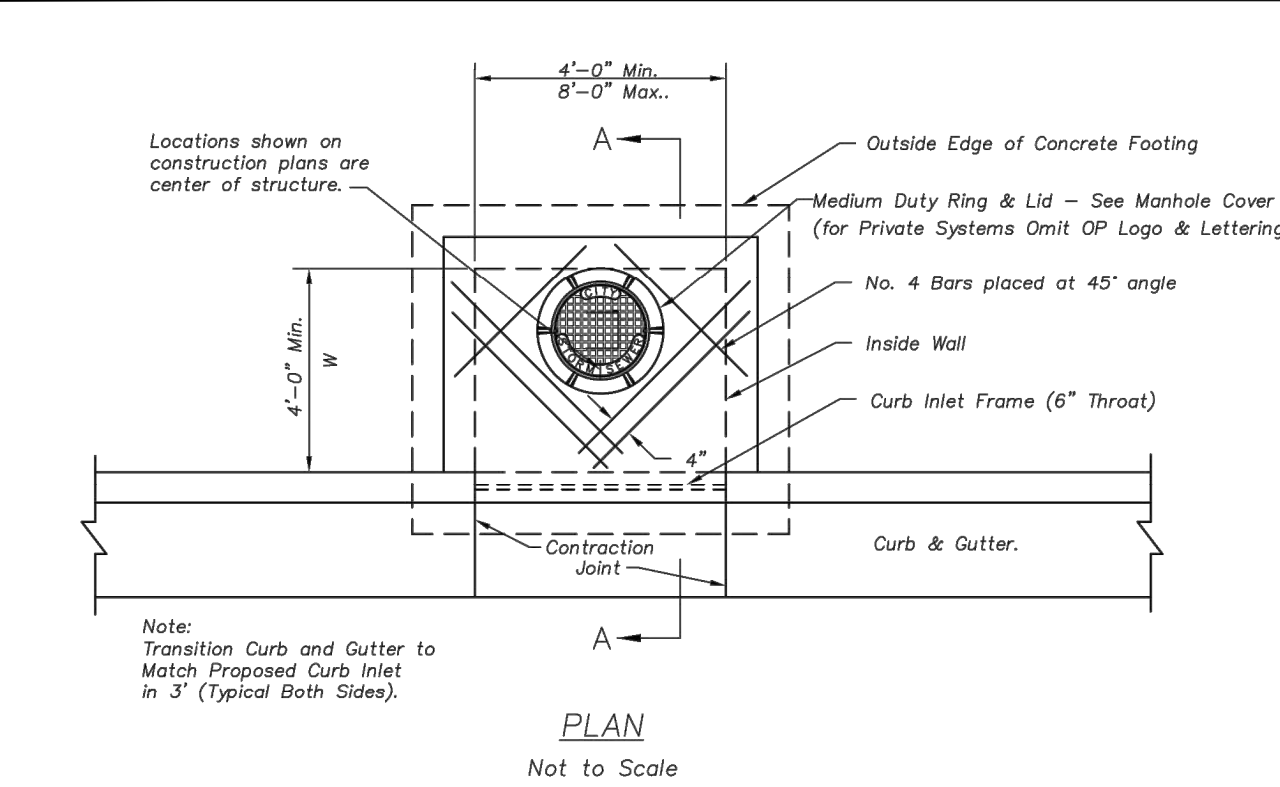
Clint Loumaster
Professional Engineer
License No. PE2011-009651

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

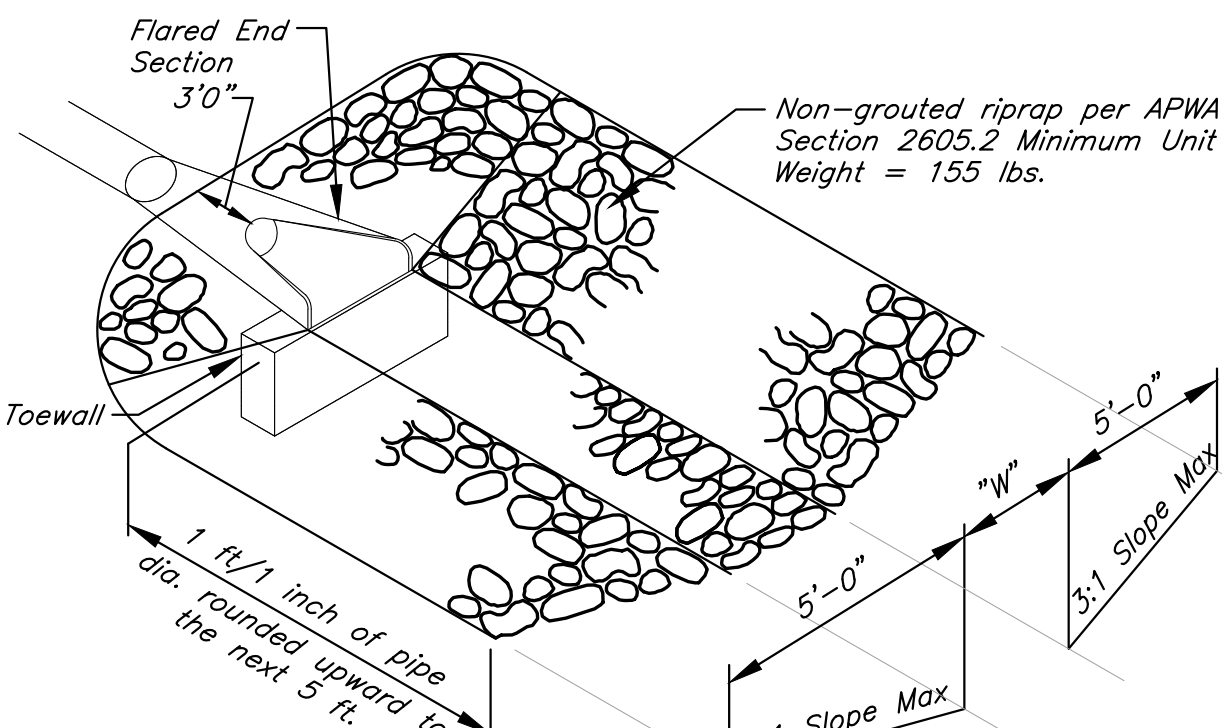
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12/11/20	

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12/2 City Comments		

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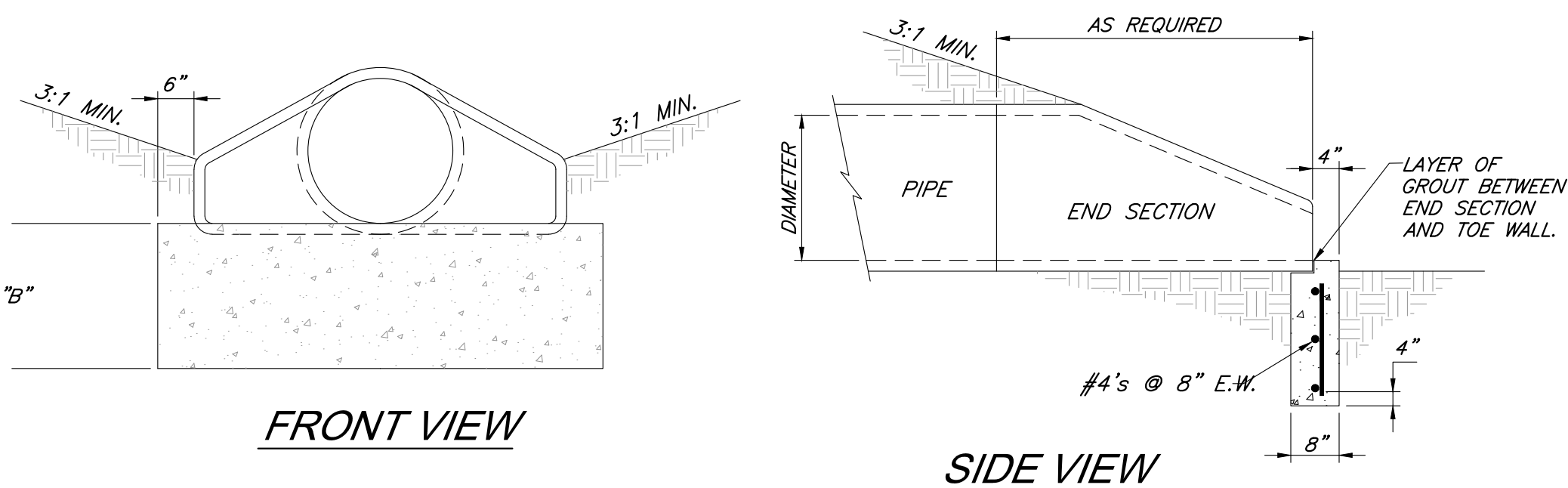


NON-SETBACK CURB INLET (6" THROAT)



OUTLET EROSION PROTECTION - RIPRAP

Not to Scale



FRONT VIEW

SIDE VIEW

TABLE	
TOE WALL DEPTH	
PIPE DIAMETER	"B"
12" - 21"	18"
24" - 48"	24"
54" - 66"	36"

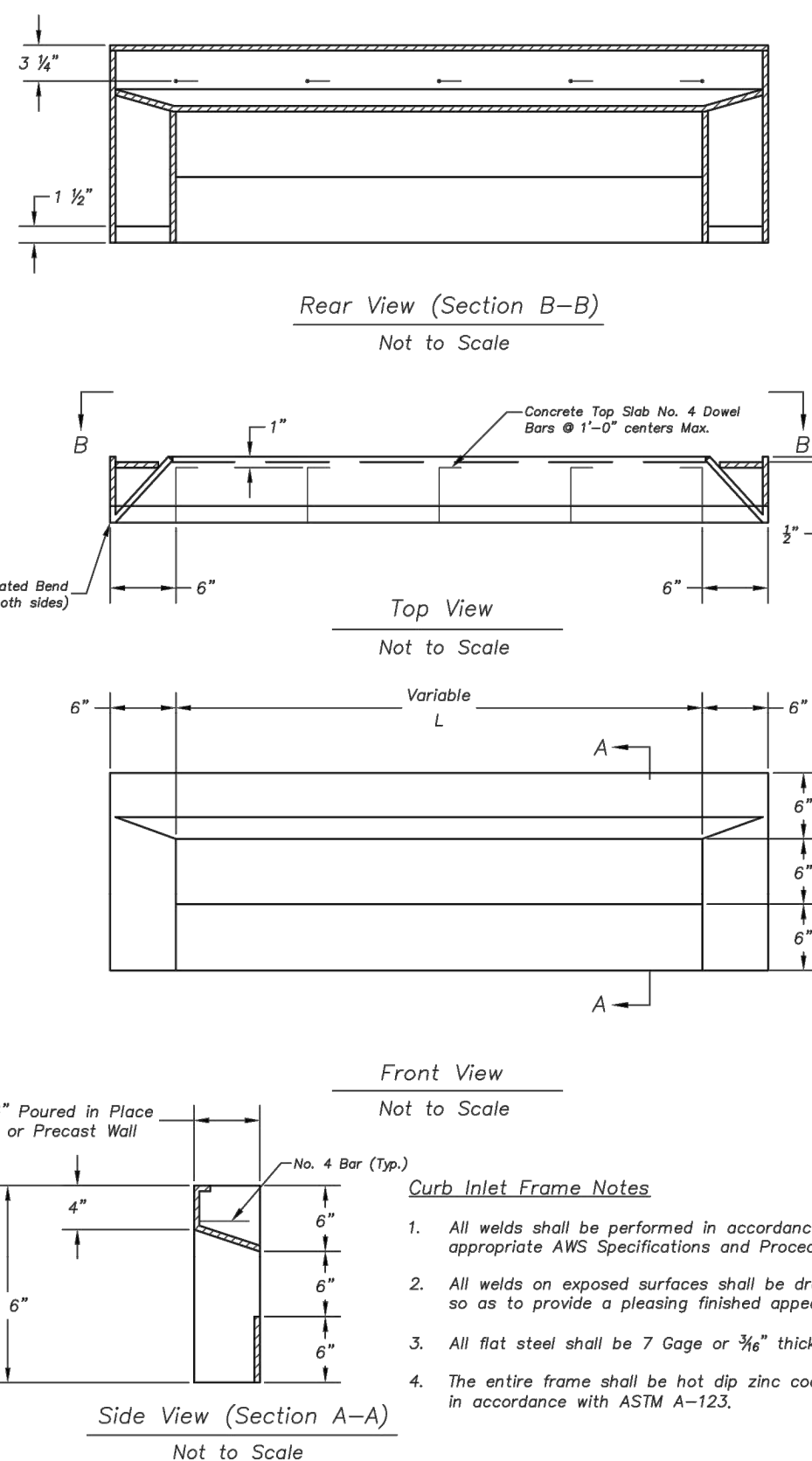
END SECTION DETAIL

NOT TO SCALE

Non-Setback Curb Inlet Notes

General

- City of Lee's Summit Municipal Code, Design Standards, and Specifications are incorporated except as otherwise noted.
- All storm sewer structures shall be pre-cast or poured in place. If pre-cast structures are used for publicly financed, maintained or administered construction, the tops shall be poured in place and the wall steel shall be left exposed to a height 2" below the finish top elevation, or as directed by the City Engineer.
- Pre-cast shop drawings are to be approved by the City Engineer for publicly financed or administered projects. Pre-cast shop drawings for privately financed projects are to be submitted to the Engineering Services Division of the Planning and Development Services Department upon request.
- Do not scale these drawings for dimensions or clearances. Any questions regarding dimensions shall be brought to the attention of the City Engineer prior to construction.
- On-grade inlets shall conform to the street grade. Sump inlets shall be level.
- The first dimension listed in the construction notes is the "L" dimension. The second dimension is the "W" dimension. The concrete thickness and reinforcement shown is for boxes with ("L" + "H") and ("W" + "H") less than or equal to 20. For boxes with either of these calculations greater than 20, a special design is required.
- Concrete
 - Concrete used in this work shall be KCMMB4K, as approved by the Kansas City Metropolitan Materials Board, and shall meet the requirements of the Overland Park Municipal Code.
 - Inlet floors shall be sloped with non-reinforced concrete inverts to provide smooth flow.
 - Bevel all exposed edges with 3/4" triangular molding.
- Reinforcing Steel
 - Reinforcing steel shall be new billet, minimum Grade 60 as per ASTM A615, and shall be bent cold.
 - All dimensions relative to reinforcing steel are to centerline of bars. 2" clearance shall be provided throughout unless noted otherwise. Tolerance of +/- 1/8" shall be permitted.
 - All lap splices not shown shall be a minimum of 40 bar diameters in length.
 - All reinforcing steel shall be supported on fabricated steel bar supports @ 3'-0" maximum spacing.
- The bottom slab shall be at least 24 hours old before placing sidewalk concrete. All sidewalk forms shall remain in place a minimum of 24 hours after sidewalks are poured before removal, and after removal shall be immediately treated with membrane curing compound.
- All curb inlet tops are to be constructed after final curb string line has been approved by the engineer and prior to curb construction or as directed by the city engineer.
- Pipe connections to pre-cast structures shall have a minimum of 6" of concrete around the entire pipe within 2' of the structure.
- Material selection and compaction requirements for backfill around structures shall be as specified in the Manual of Infrastructure Standards for Right of Way Restoration, as promulgated by the City Engineer.

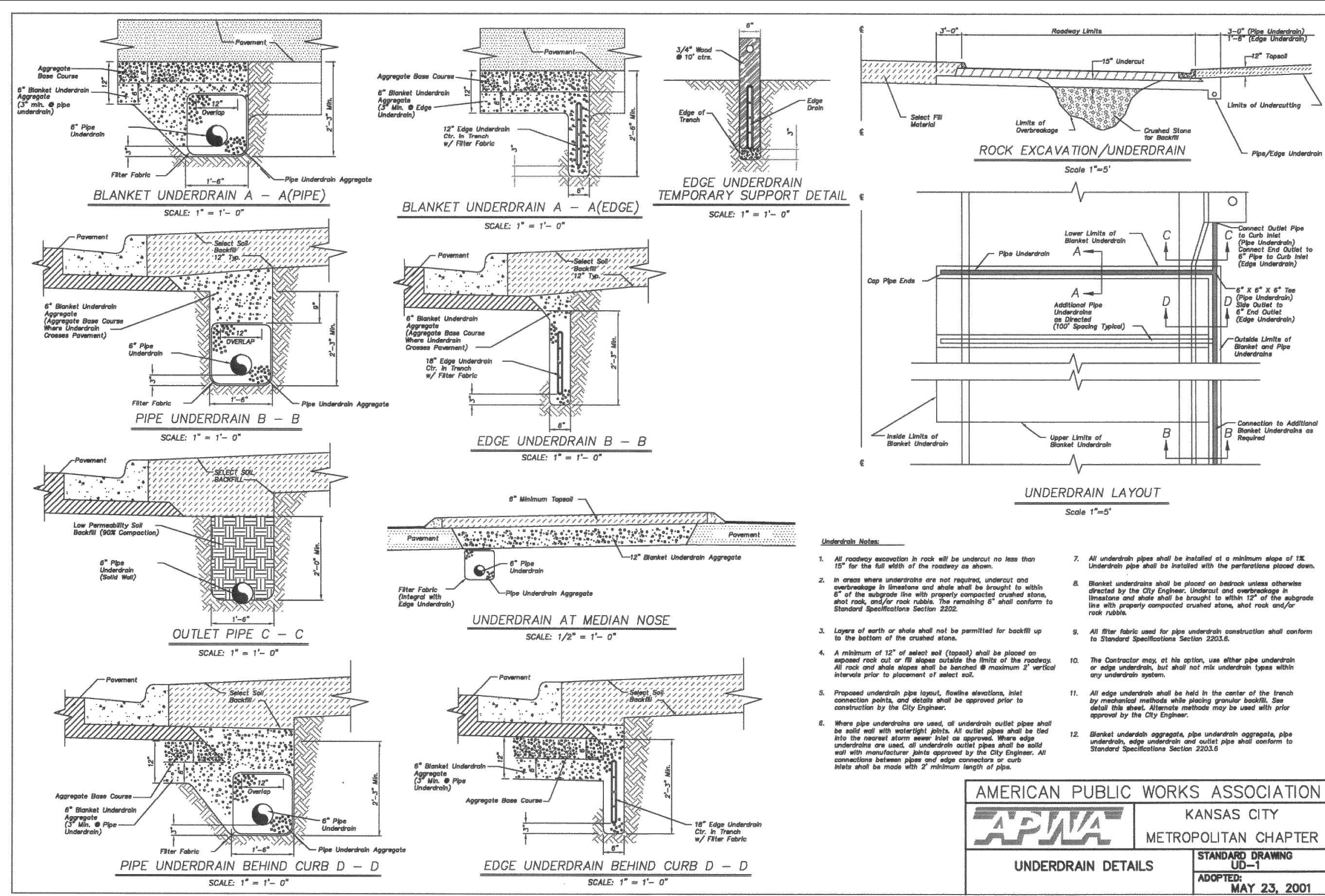


NON-SETBACK CURB INLET DETAIL

Not to Scale

Curb Inlet Frame Notes

- All welds shall be performed in accordance with appropriate AWS Specifications and Procedures.
- All welds on exposed surfaces shall be dressed so as to provide a pleasing finished appearance.
- All flat steel shall be 7 Gauge or 3/16" thick.
- The entire frame shall be hot dip zinc coated in accordance with ASTM A-123.



AMERICAN PUBLIC WORKS ASSOCIATION	
APWA	KANSAS CITY METROPOLITAN CHAPTER
UNDERDRAIN DETAILS	
STANDARD DRAWING ID-1	
ADOPTED: MAY 23, 2001	



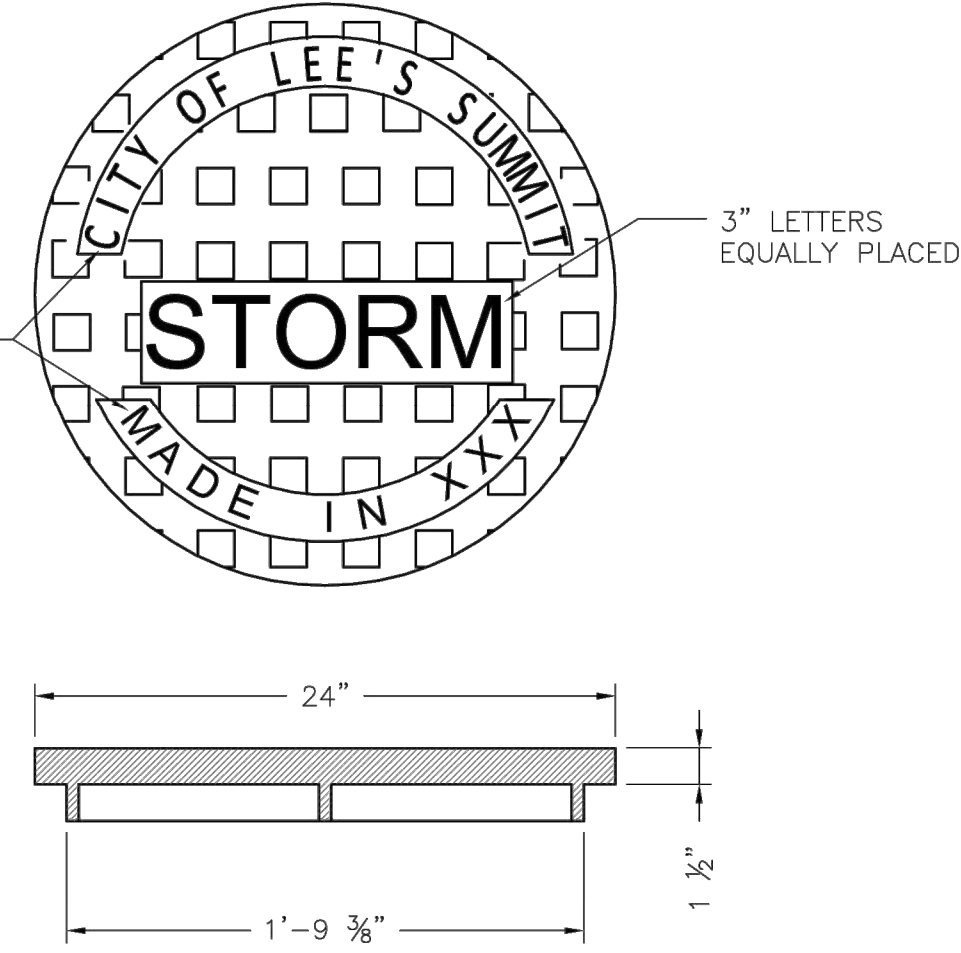
DATE:	12-11-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
25	68

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License No. PE2011-009651

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO.	DATE
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12/11/20	

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12/2 City Comments		



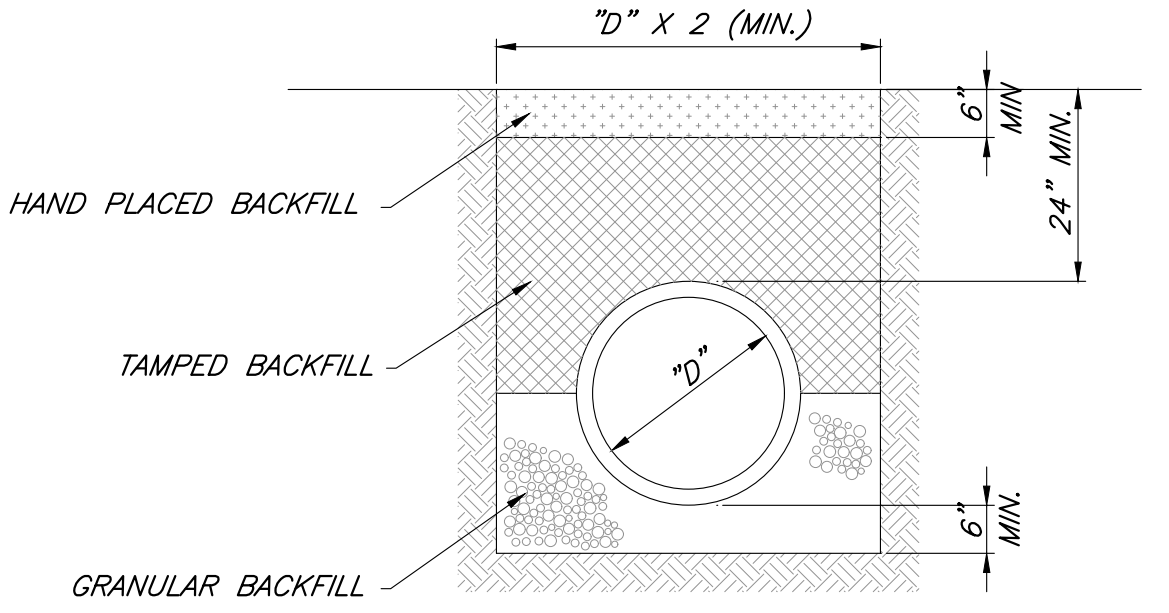
STANDARD 24" MANHOLE COVER
MINIMUM WEIGHT = 160 LB
NOTE: PICK HOLES NOT SHOWN

*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.

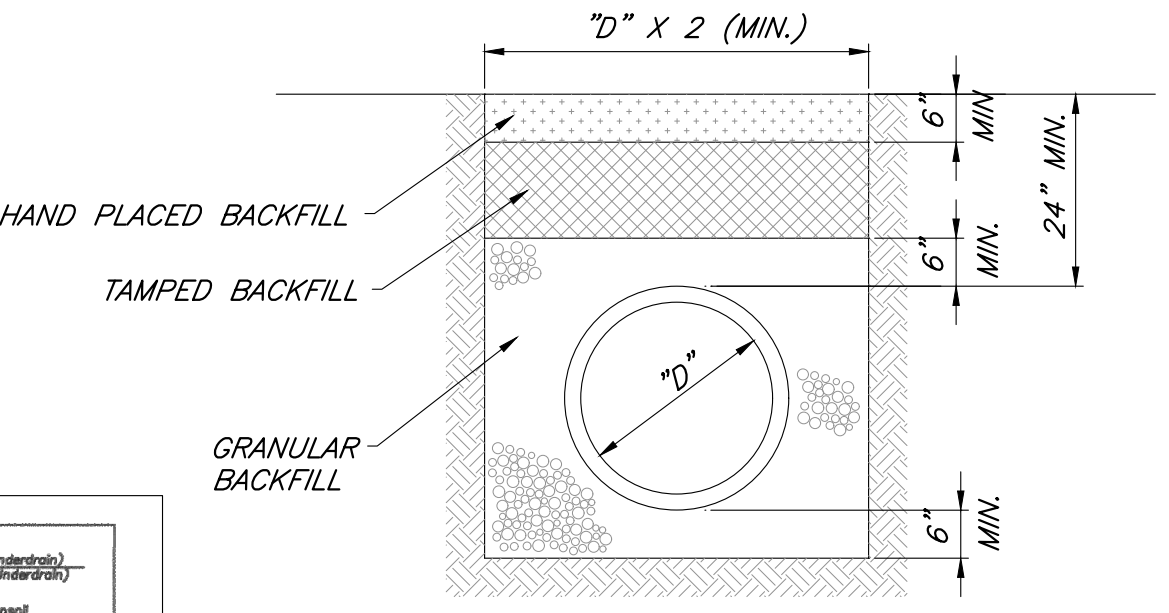


LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64083

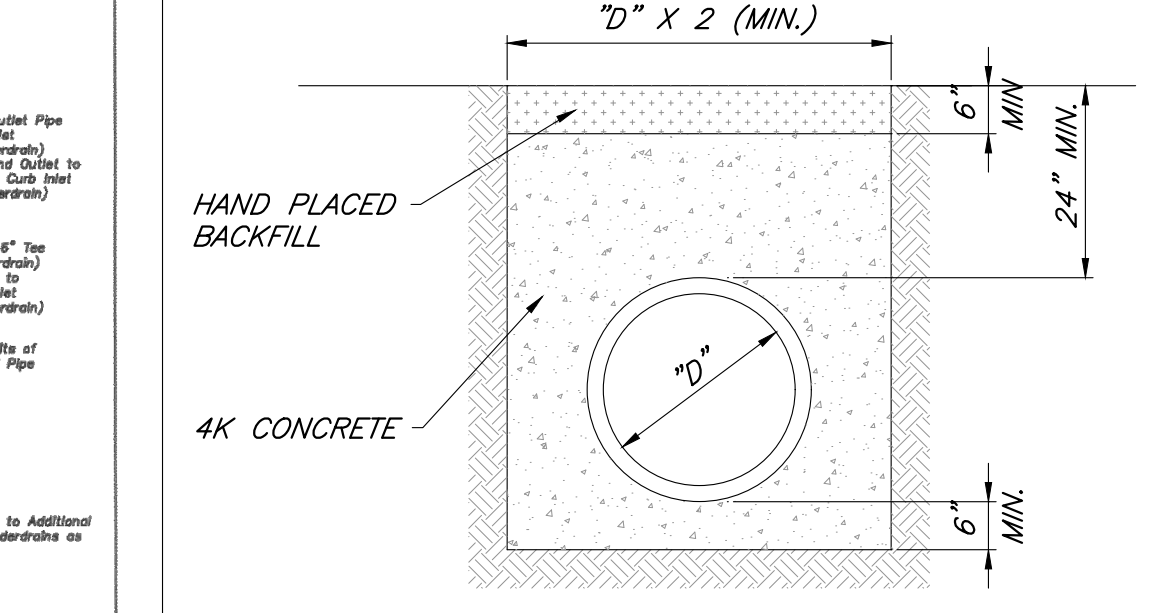
Date: 04/17
Drawn By: MIF
Checked By: DL
STM-6



FIRST CLASS BEDDING (RCP) CLASS B



HDPE/PVC PIPE BEDDING CLASS C



CONCRETE ENCASEMENT CLASS A

NOTES:

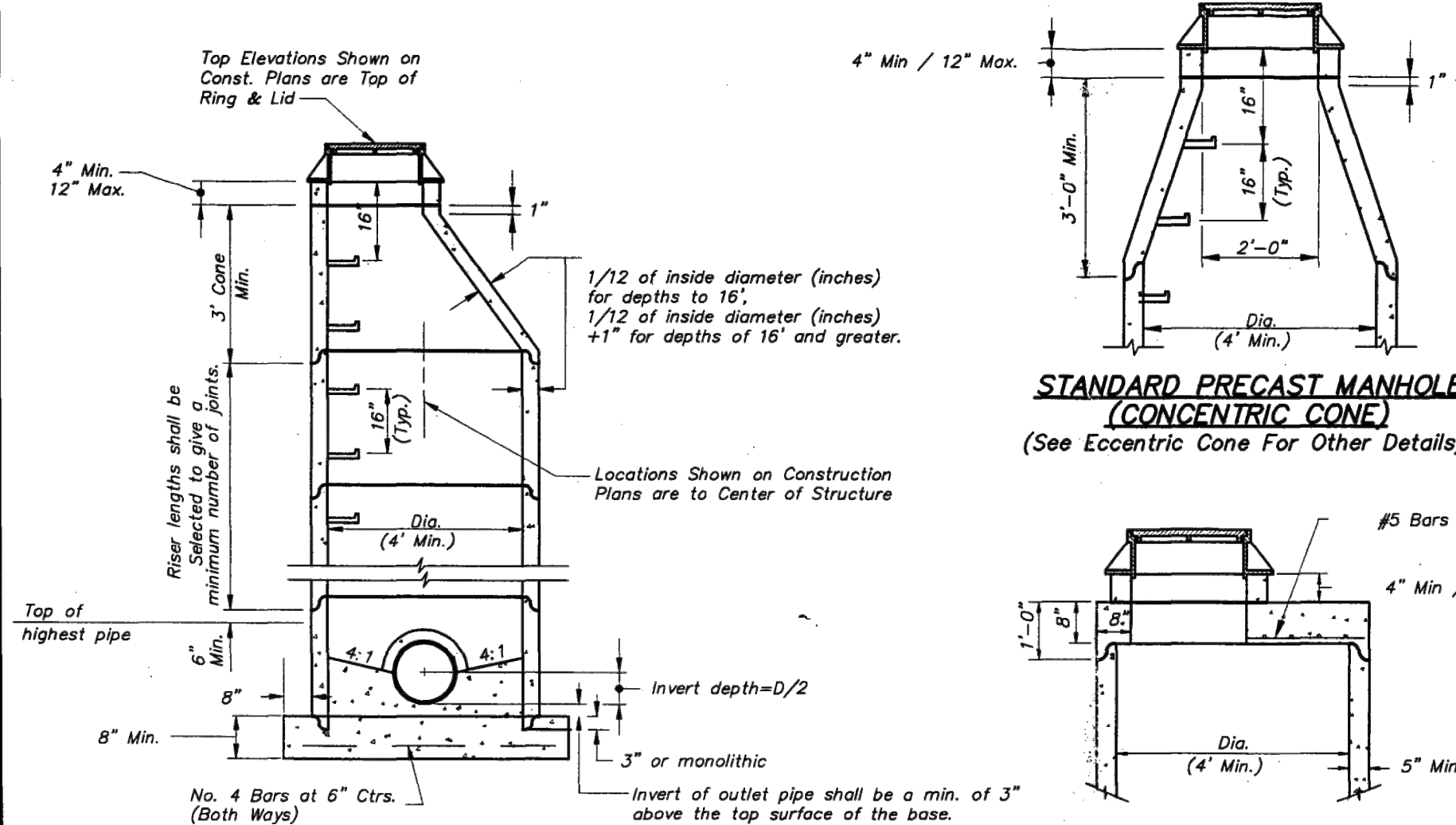
- GRANULAR FILL SHALL BE 1/2" CLEAN ROCK, PLACED IN 6" LIFTS AND COMPACTED BY SLICING WITH A SHOVEL.
- TAMPED FILL SHALL BE FINELY DIVIDED, JOB EXCAVATED MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL, AND STONES, COMPACTED TO TYPE AA MR-5 COMPACTION.
- HAND PLACED FILL SHALL BE FINELY DIVIDED MATERIAL, FREE OF DEBRIS AND STONES, COMPACTED TO TYPE AA MR-5 COMPACTION.
- ALL PIPE SHALL BE INSPECTED PRIOR TO BACKFILL. ALL PIPE COVERED PRIOR TO INSPECTION SHALL BE UNCOVERED AT THE CONTRACTOR'S EXPENSE.

PIPE BEDDING DETAILS

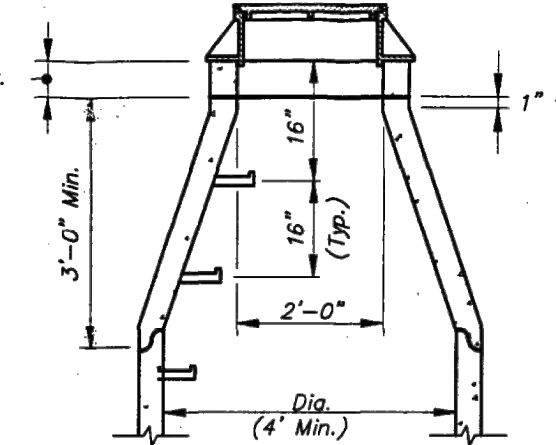
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Storm Sewer Details

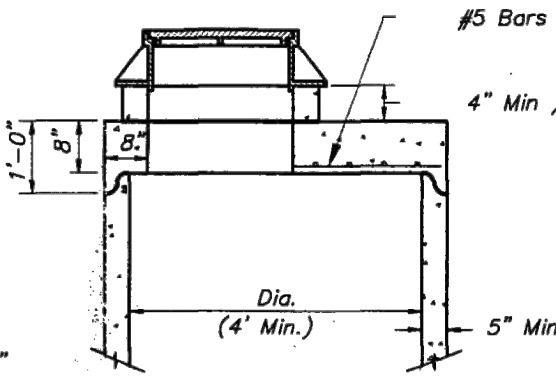
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STANDARD PRECAST MANHOLE (ECCENTRIC CONE)



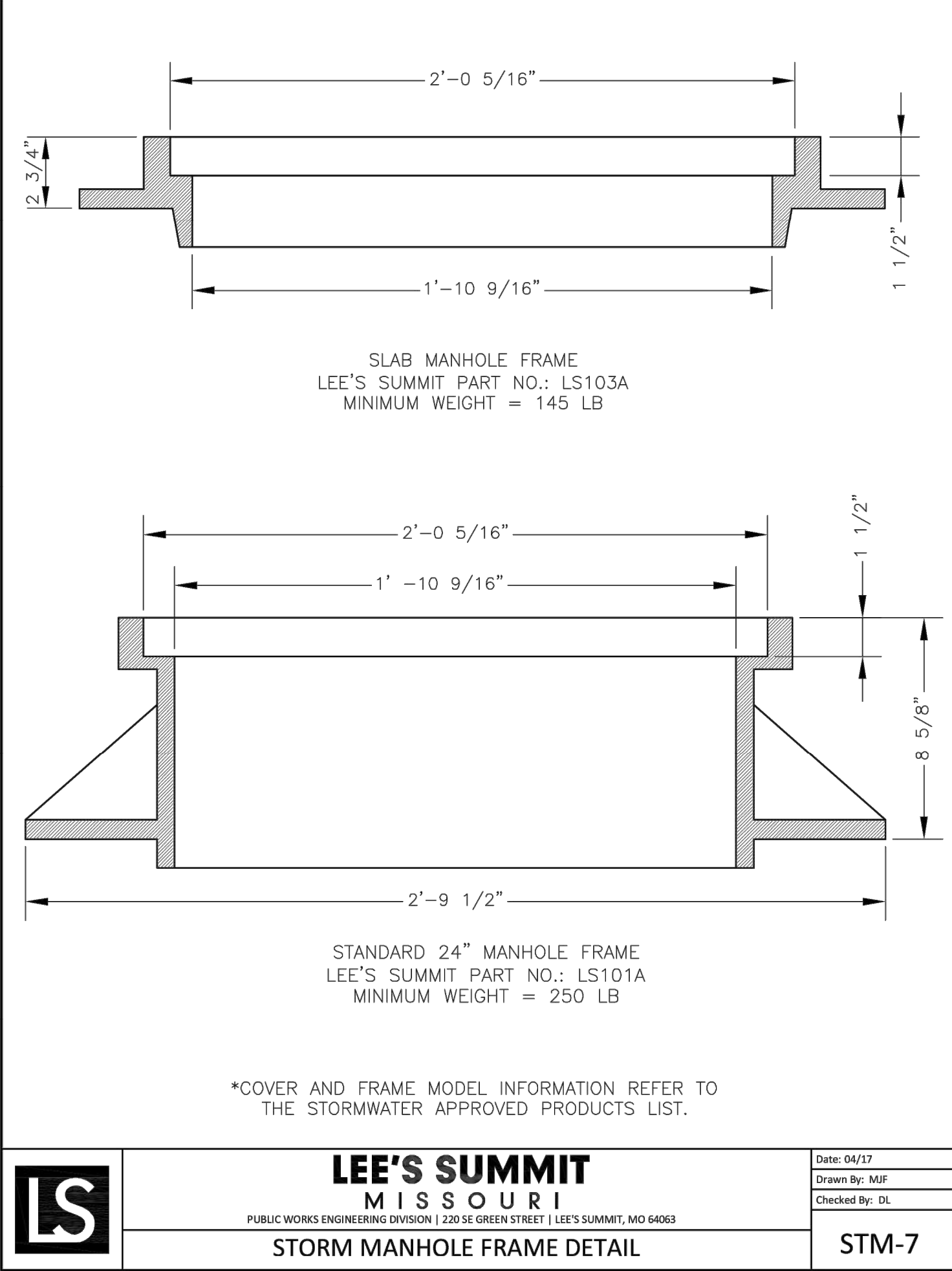
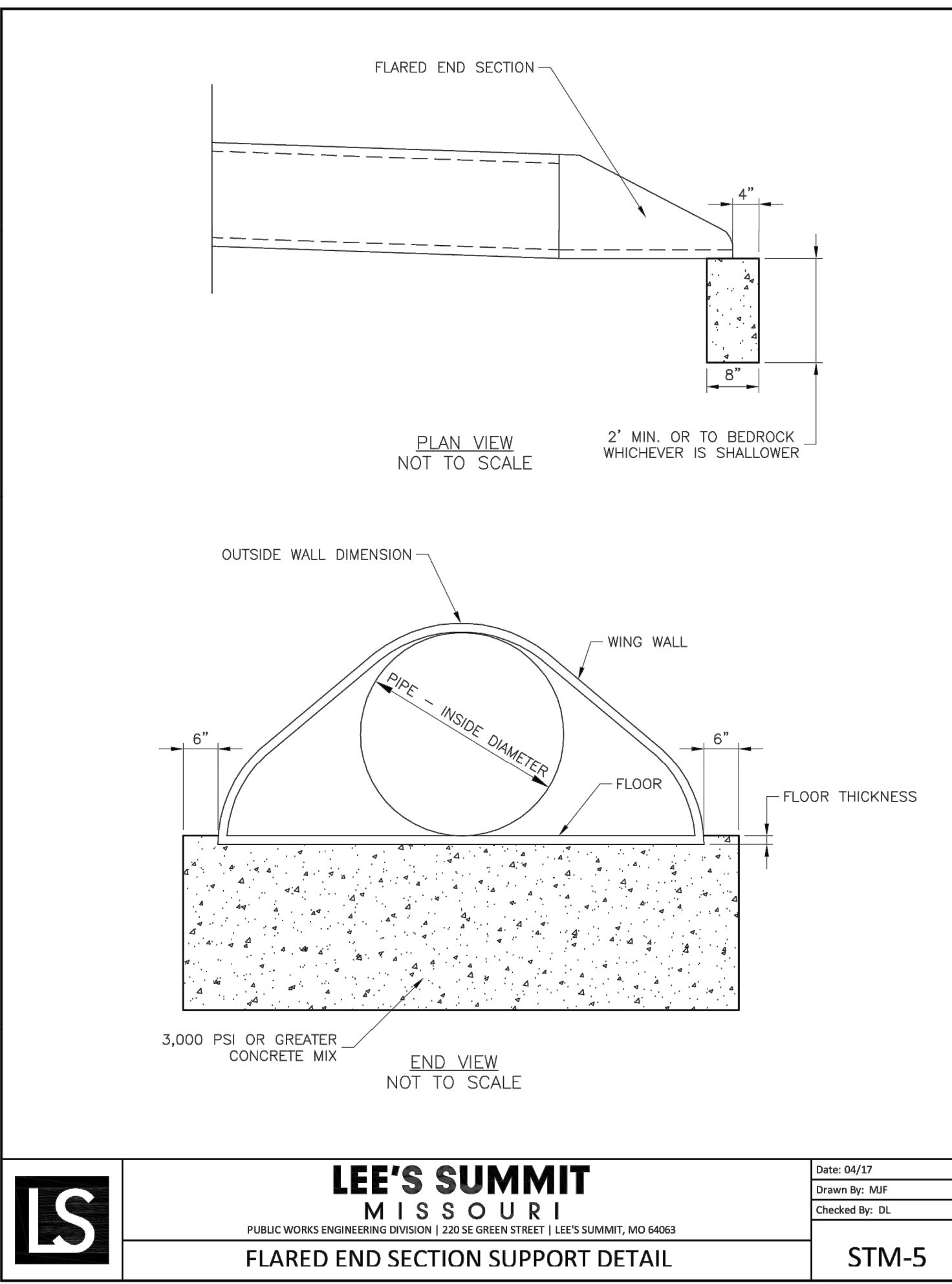
STANDARD PRECAST MANHOLE (CONCENTRIC CONE) (See Eccentric Cone For Other Details)



STANDARD PRECAST MANHOLE (SHALLOW TYPE) (See Eccentric Cone For Other Details)

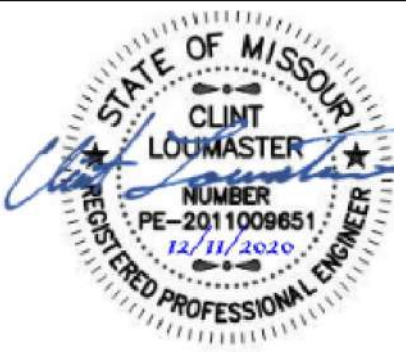
- GENERAL NOTES:
- All manholes are to be precast concrete and of Eccentric Cone type unless otherwise specified.
 - Manhole top adjustments shall be accomplished by the use of concrete adjustment rings.
 - Top of manhole casting shall be set flush and on same slope as finished surface or as directed by the Engineer.
 - Reinforcement in all sections shall equal or exceed A.S.T.M. C-478 specifications.
 - The engineer shall designate modifications for manholes with special designs.
 - The inside diameter of the manhole shall be 4'-0" for pipe diameters from 12" thru 24", 5'-0" for pipe diameters from 27" thru 36", and 6'-0" for pipe diameters 42" thru 48".
 - Clearance Tolerance of Pipe Openings: The Maximum Allowable Pipe Opening on a Horizontal Axis Shall be the Outside Diameter of the Pipe Plus 1/2". The Maximum Allowable Pipe Opening on Vertical Axis Shall be the Outside Diameter Plus 8". The Minimum Clearance Between the Outside Surface of an Installed pipe and the Concrete of the Manhole Shall be 2".
 - Installation of Pipe Openings: All required pipe openings shall be plant cast in manhole units. Field alterations of openings will be permitted provided walls are scored with a masonry saw to a depth sufficient to sever reinforcing steel. A chipping hammer may then be used to remove the concrete. Minimum distance between any two adjacent pipes shall be 4".
 - No direct payment for shaping floor or connecting pipes as shown on plans.
 - Ring & Cover to be Neenah R-1736, Clay & Bailey #2008, Deeter #1316, or approved equal. (Casting may vary by municipality, refer to plans & contract documents.)
 - Sanitary Sewers shall be coated and conform to Section 2602.

AMERICAN PUBLIC WORKS ASSOCIATION	
	KANSAS CITY METROPOLITAN CHAPTER
MANHOLE DETAILS	STANDARD DRAWING NUMBER: MH - 1 ADOPTED: APRIL 17, 1996



	DATE:	12-11-2020
	DESIGN BY:	DJM
	DRAWN BY:	CMN
	PROJECT NO.:	12720
	SHEET NO.	27
	TOTAL SHEETS	68
9801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com		
Clint Loumaster Professional Engineer License No. PE2011-009651		
Street and Storm Sewer Plans Paragon Parkway Lee's Summit, Missouri		
NO.	DATE	REVISIONS
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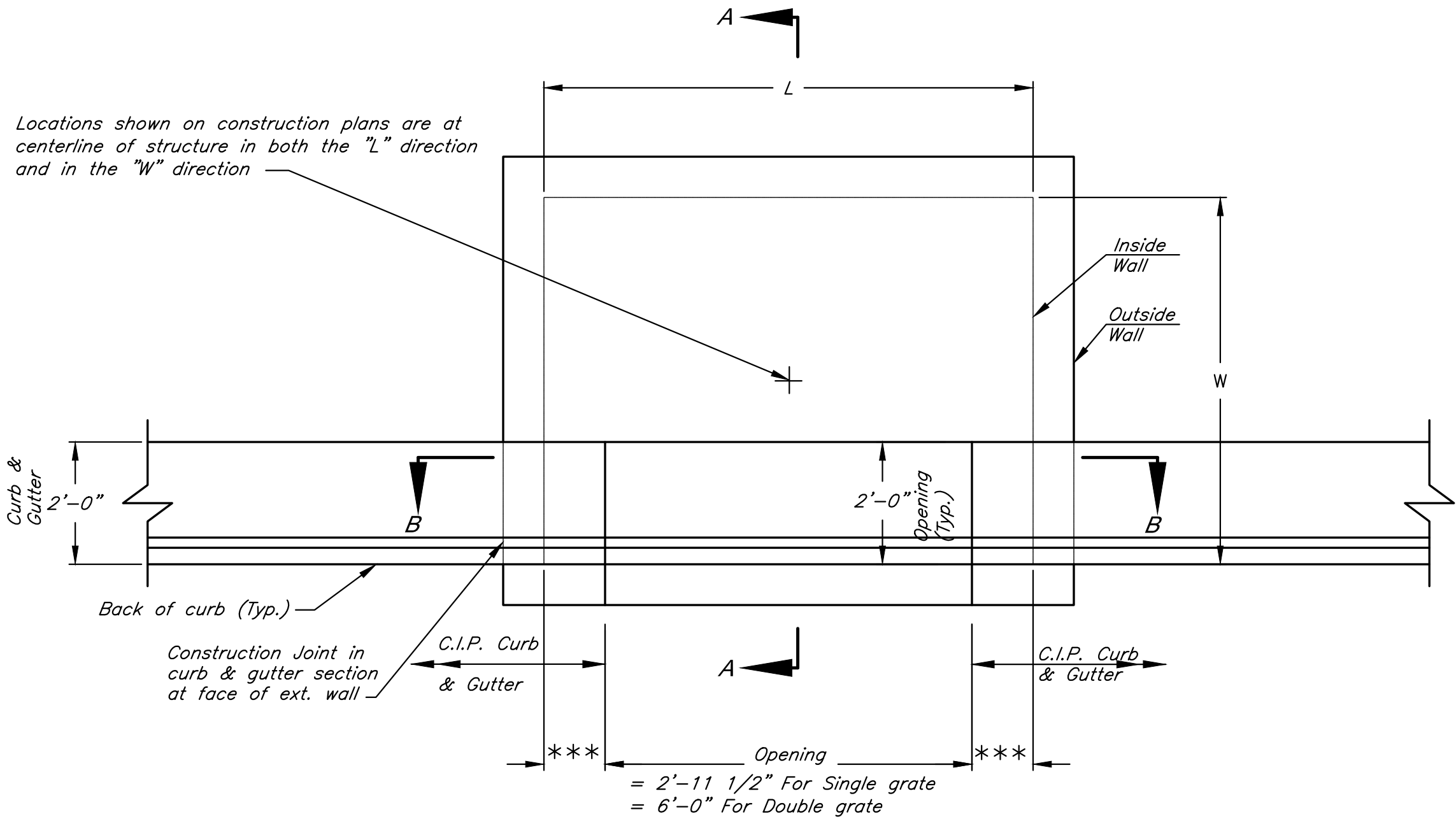
DATE: 12-11-2020
DESIGN BY: DJM
DRAWN BY: CMN
PROJECT NO.: 12720

SHEET NO. 28
TOTAL SHEETS 68

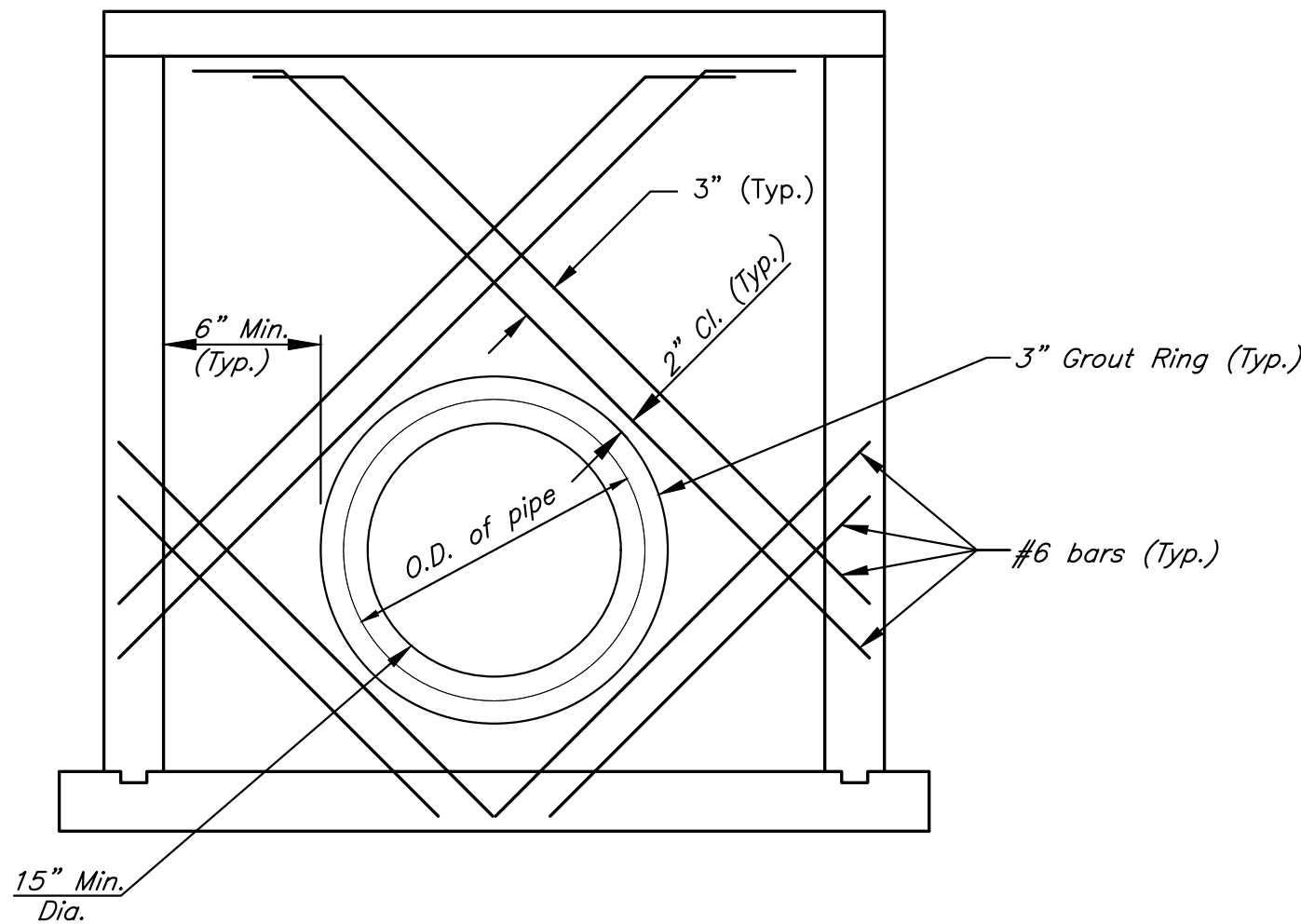
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Professional Engineer
License No. PE2011-009651

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

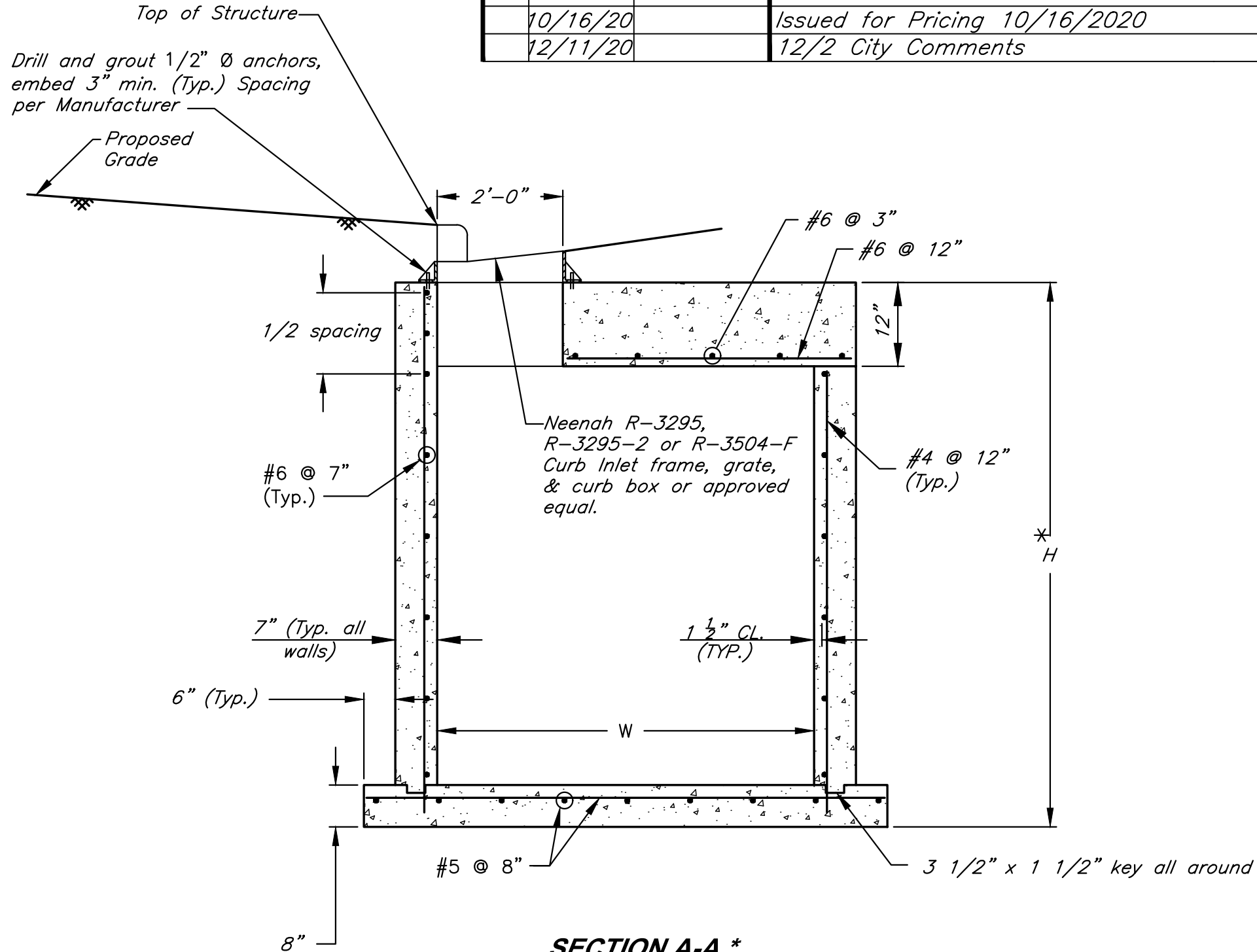
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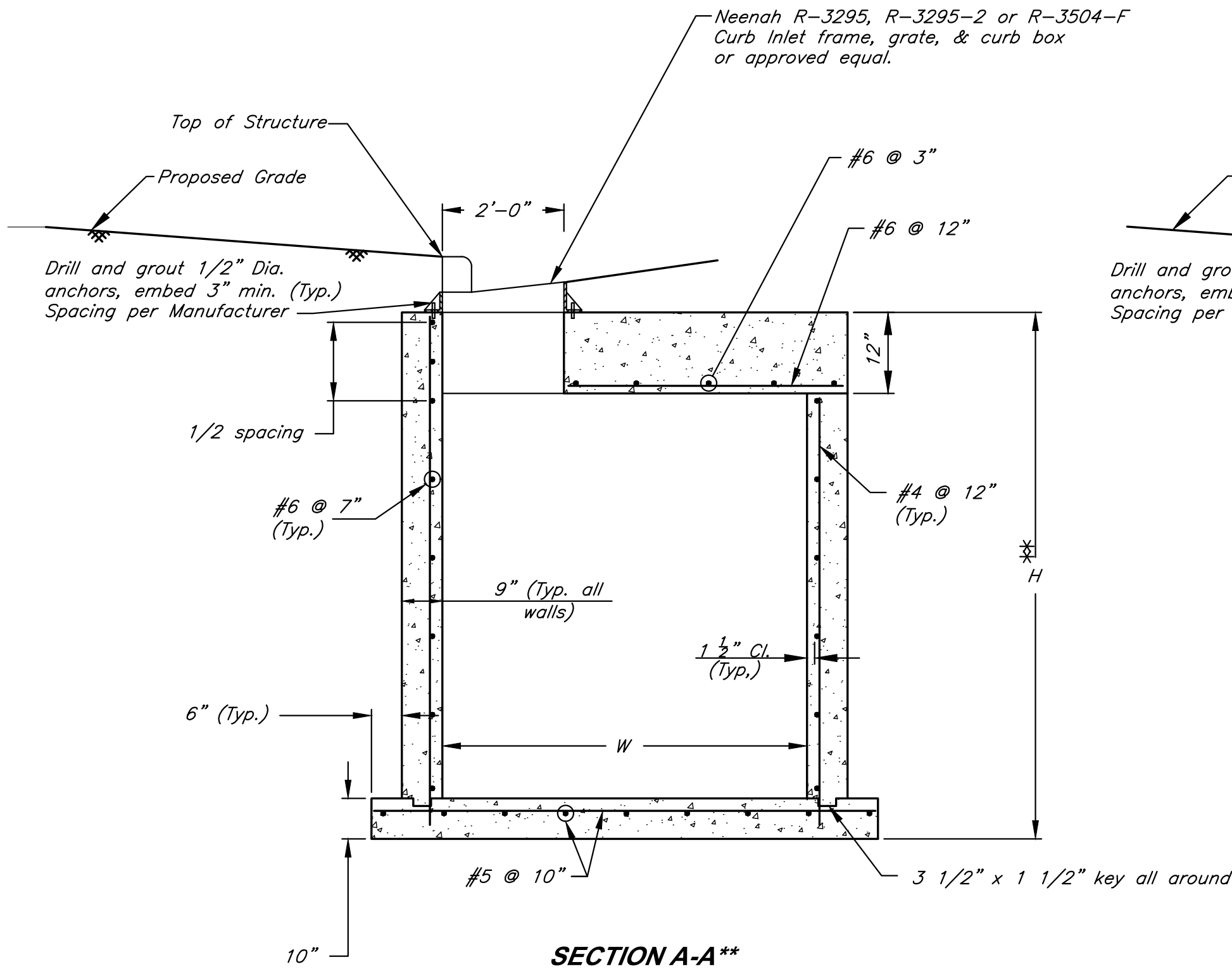
PLAN
*** Center opening in "L" direction
Steel grate not shown for clarity



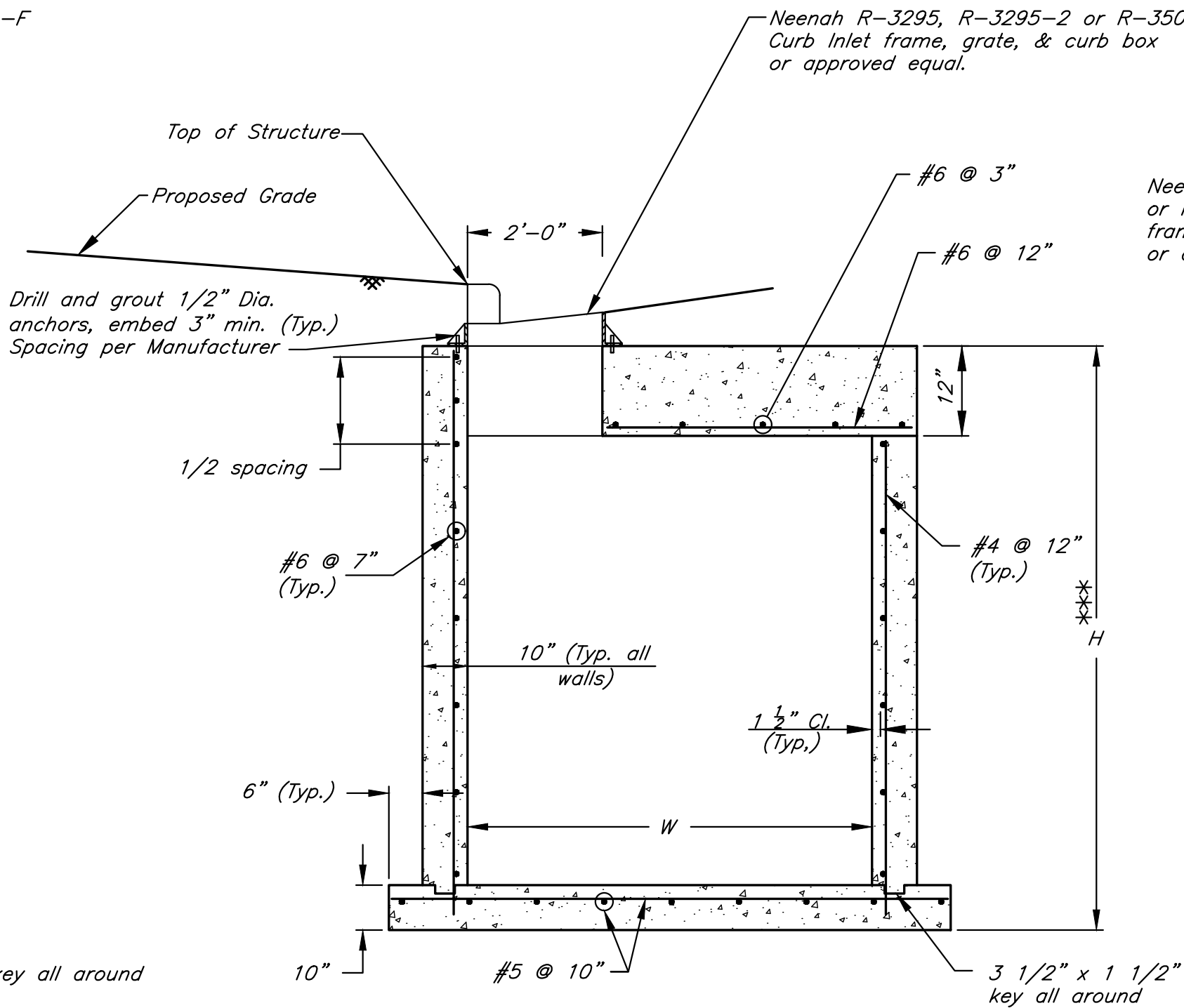
TYPICAL PIPE PENETRATION



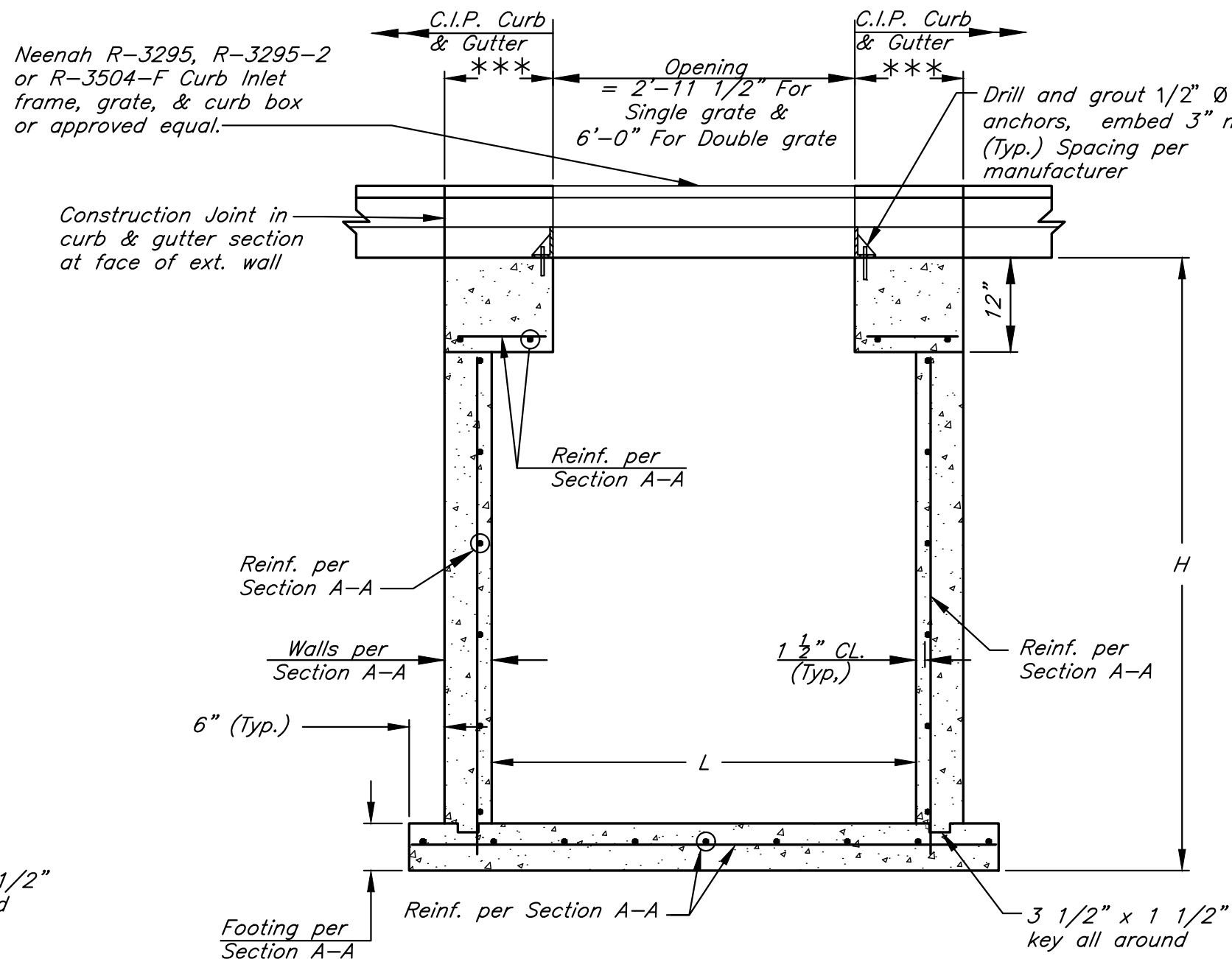
SECTION A-A *
* For boxes up to H=12'-0"



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

Notes:

All concrete shall be KCMMB 4K.

Floor of inlet shall have a shaped concrete invert to provide for smooth flow.

The minimum dimension between the top of pipe and the top of box shall be 2'-6" (Typical all walls).

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).

Steps shall be spaced 1'-4" O.C. vertically and placed on a wall where there is no pipe penetrating the wall.

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.

All clear distances to reinforcing steel shall be 1-1/2" unless otherwise shown.

Use HILTI HIT HY150 Injection Adhesive Anchor or approved equal for all anchor bolt grouting.

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

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www.gbateam.com

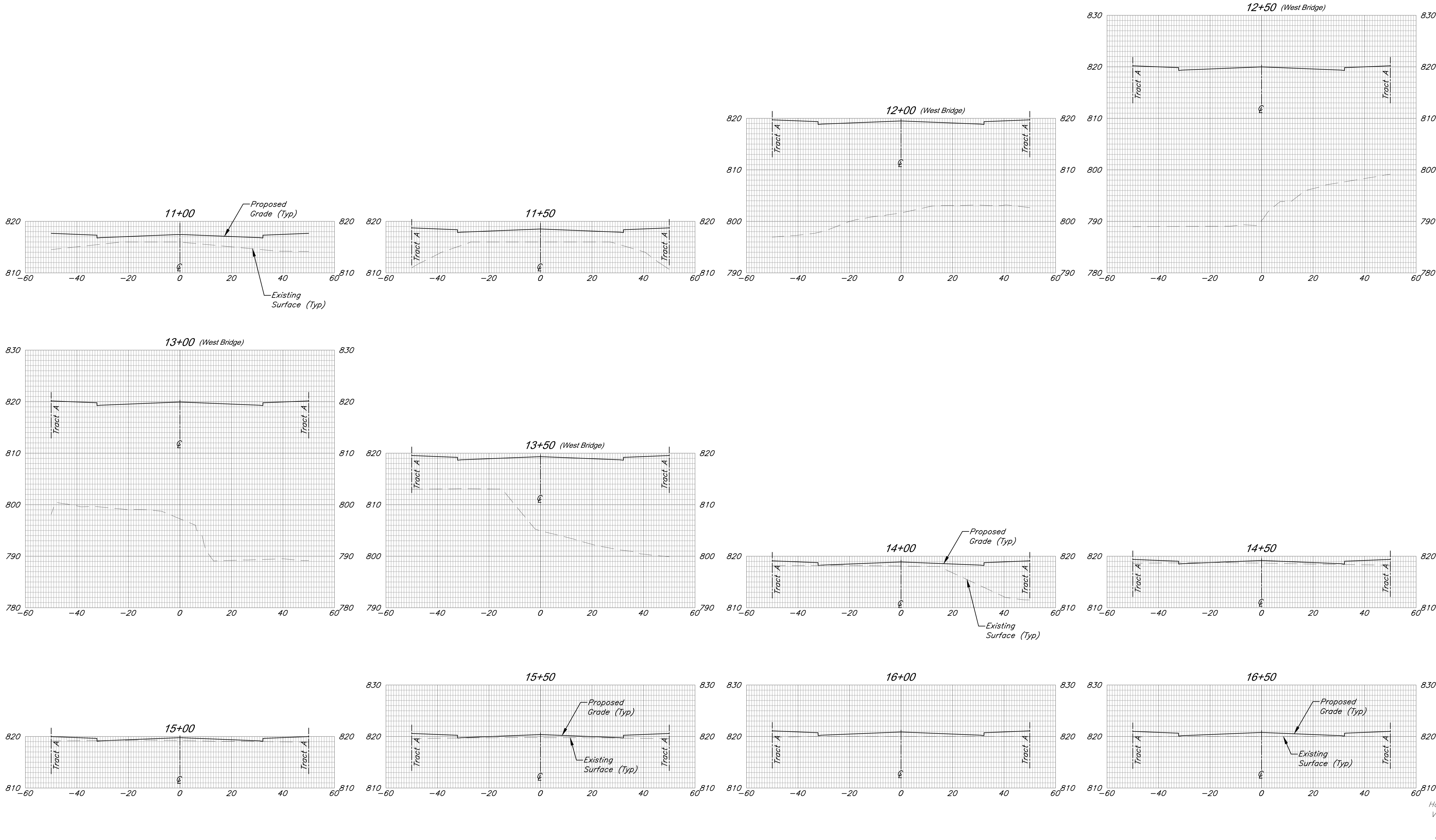
DATE: 12-11-2020
DESIGN BY: CEL
DRAWN BY: DRV
PROJECT NO.: 12720

SHEET NO. 29
TOTAL SHEETS 68

Clint Loumaster
Professional Engineer
License No. PE2011-009651

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

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Paragon Pkwy Cross Sections

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STATE OF MISSOURI

CLINT LOUMASTER

NUMBER 12/11/2020

PE-2011009651

REGISTERED PROFESSIONAL ENGINEER

DATE: 12-11-2020

DESIGN BY: CEL

DRAWN BY: DRV

PROJECT NO.: 12720

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9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

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Professional Engineer
License No. PE2011-009651

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Lee's Summit, Missouri

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Paragon Pkwy Cross Sections

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EROSION & SEDIMENT CONTROL STAGING CHART

Project Stage	BMP Plan Ref. No.	BMP Description	May Remove after Stage	Notes
A. Prior to Mass Grading	1	Const. Entrance & Staging Area	C	
	2	Maintain Existing Orange Construction Fence	C	
	3	Maintain Existing Perimeter Silt Fence	C	
B. Street Construction	4	Inlet Protection	C	
C. Permanent Stabilization*	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.

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

Erosion Control Legend

- Silt Fence
- Gravel Filter Bags
Inlet Sediment Trap
- 800

Proposed Contours
- 800

Existing Contours
- Limits of Disturbance
- Paragon Parkway

Paragon Star Village

Construction Line for Paragon Parkway and Paragon Star Village

STATE OF MISSOURI

CLINT LOUMASTER

REGISTERED PROFESSIONAL ENGINEER

NUMBER PE-2011009651

12/11/2020

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engineers

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913.492.0400
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DRAWN BY: CMN

PROJECT NO.: 12720

SHEET NO. 32

TOTAL SHEETS 68

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License No. PE2011-009651

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Paragon Parkway
Lee's Summit, Missouri

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The plan shows Paragon Parkway running horizontally across the center. To the west (left) is View High Drive, and to the east (right) is River Road. The Little Blue River flows along the southern (bottom) edge of the site. The plan includes various erosion control features: silt fences (indicated by dashed lines with circles), gravel filter bags (indicated by wavy lines), and proposed contours (solid lines with elevations like 800, 810, 820). Limits of disturbance are shown as dashed lines. Specific notes include 'Maintain Silt Fence', 'Limits of Disturbance Typ.', 'Maintain Existing Silt Fence (Typ.)', and 'Existing Triple Cell 20'X15' RCB'. Stationing markers like '20+48.67' and '21+09.27' are present along the road. The plan also shows existing infrastructure like 'Lot 3' and 'Paragon Star Village'.

A north arrow pointing upwards and a graphic scale bar showing 50, 0, 50, and 100 feet. Below the scale bar, the text reads 'SCALE: 1 INCH = 50 FEET'.

Erosion & Sediment Control Plan-Phase 2

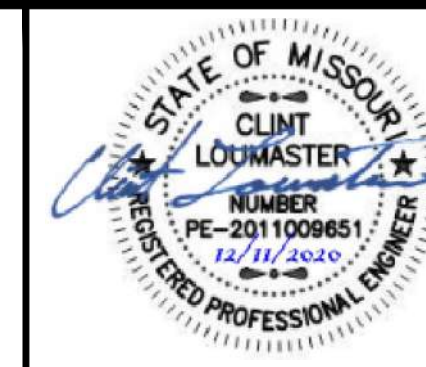
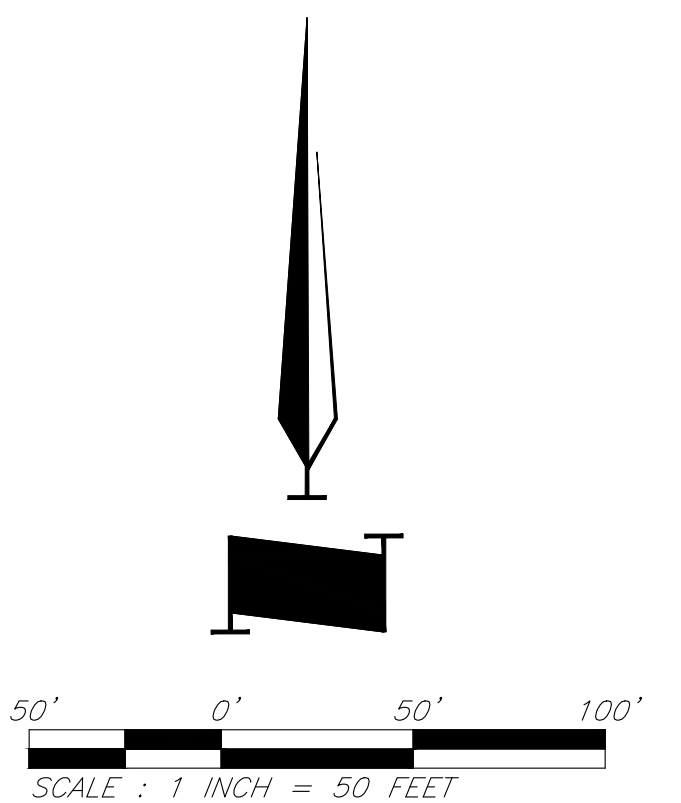
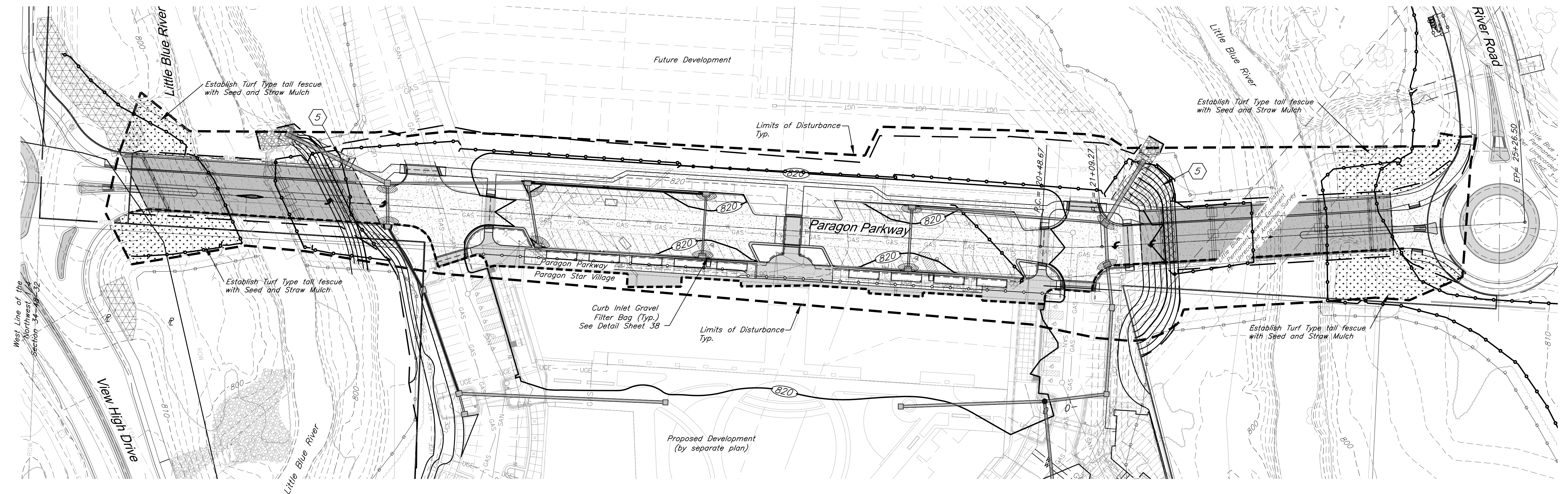
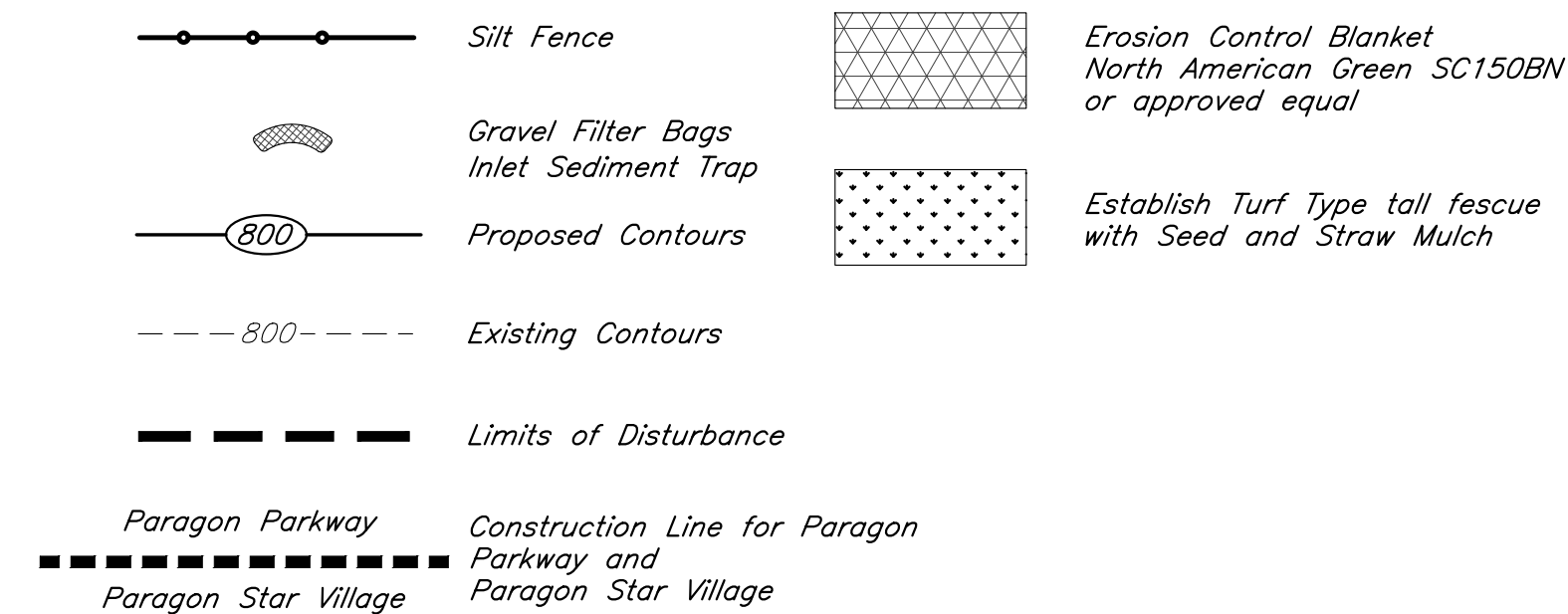
EROSION & SEDIMENT CONTROL STAGING CHART

Project Stage	BMP Plan Ref. No.	BMP Description	May Remove after Stage	Notes
A. Prior to Mass Grading	1	Const. Entrance & Staging Area	C	
	2	Maintain Existing Orange Construction Fence	C	
	3	Maintain Existing Perimeter Silt Fence	C	
B. Street Construction	4	Inlet Protection	C	Remove Gravel Filter Bags after Project Stage C. Stabilize all disturbed area in accordance with erosion control notes.
C. Permanent Stabilization*	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.

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

Note:
Remove Gravel Filter Bags after
Project Stage C. Stabilize all
disturbed area in accordance with
erosion control notes.

Erosion Control Legend



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9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbteam.com

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DESIGN BY: DJM

DRAWN BY: CMN

PROJECT NO.: 12720

SHEET NO.	TOTAL SHEETS
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NO.	SHEETS

33 | 68

Clint Loumaster
Professional Engineer
License No. PE2011-009651

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

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9801 Renner Boulevard
Lenexa, Kansas 66219
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DATE: 12-11-2020
DESIGN BY: CEL
DRAWN BY: DRV
PROJECT NO.: 12720
SHEET NO. 34
TOTAL SHEETS 68

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

Clint Loumaster
Professional Engineer
License No. PE2011-009651

NO. DATE
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12/11/20

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Legend

- Stream Buffer
- Existing Floodway
- Proposed Floodway
- Ordinary High Water Mark



Floodway & Floodplain Plan

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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 type or other grains about 1 inch deep and plant grasses no more than 1/4 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.

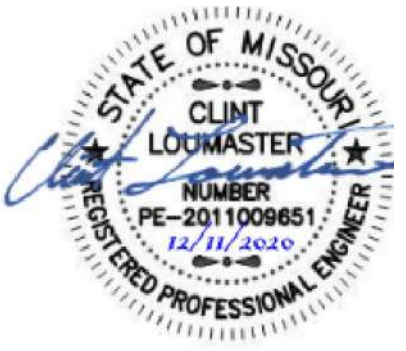
Trench – Bottom 1 foot of fence must be buried minimum of 4 inches deep.

- 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.



GBA
architects
engineers
9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

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DRAWN BY: CMN
PROJECT NO.: 12720
SHEET NO.:
TOTAL SHEETS:
35
68

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Professional Engineer
License No. PE2011-009651

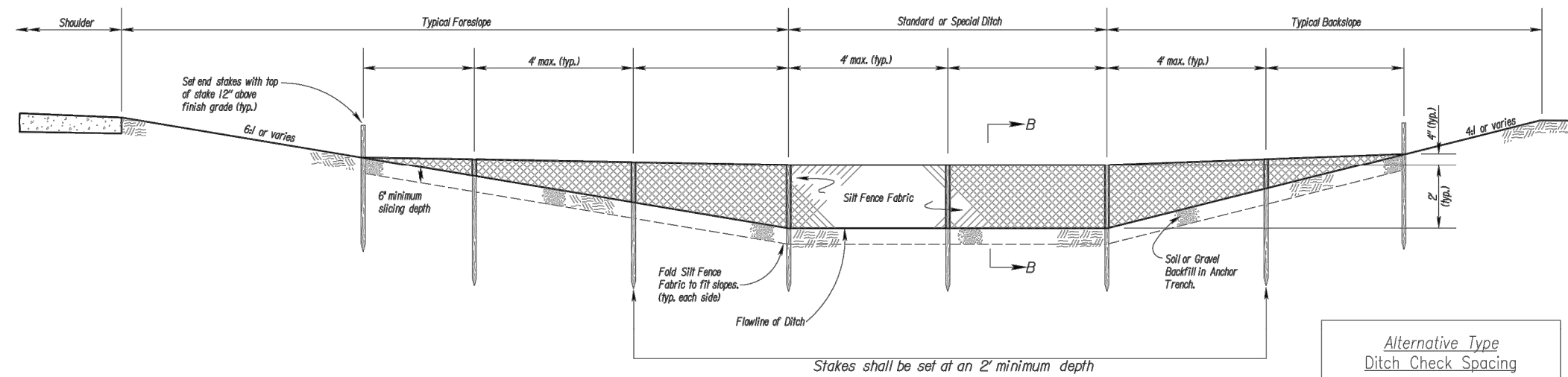
Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

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Notes for Silt Fence Ditch Check:

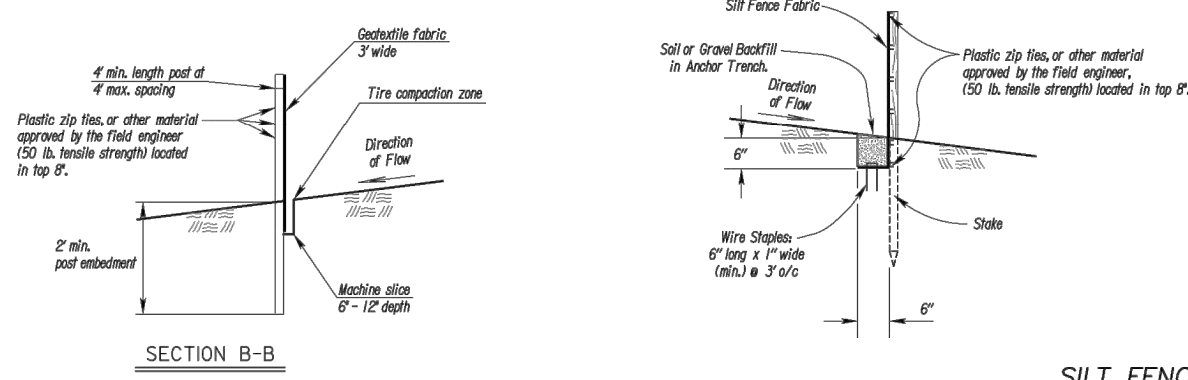
- Stakes shall be 4" (min.) long and one of the following materials:
 - Hardwood - 1 3/4" x 1 3/4";
 - Southern Pine (No. 2) - 2 3/4" x 2 3/4";
 - Steel U, I, L, or C Section - .35 lbs. per 1'-0";
 - Synthetic - same strength as wood stakes.
- Cross pieces shall be of same material as stakes.
- Attach fence fabric securely on 6" centers (max.).
- Use of high flow material is acceptable.
- Refer to plan sheets to estimate the length of silt fence required.
- Use support fencing when tributary area is greater than 2.4 acres or when ditch gradient is greater than 2 percent.
- Silt fence sited in to a 6" minimum depth.
- Elevation of tie in points shall be a minimum of 4" higher than the center.



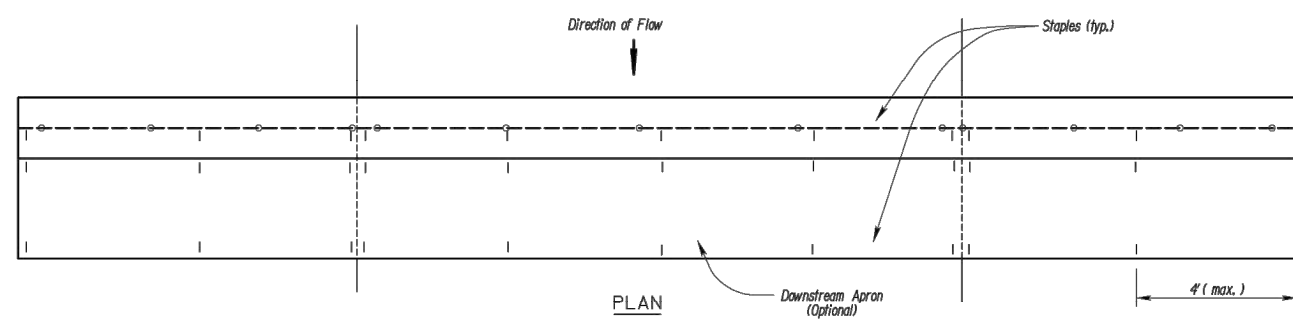
Alternative Type Ditch Check Spacing

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.

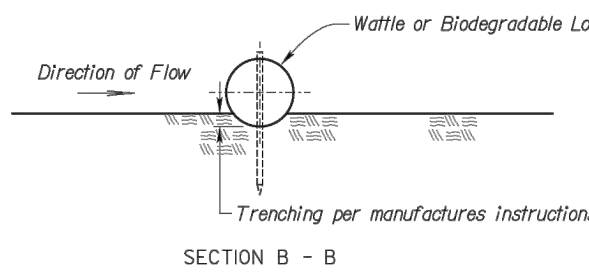


SILT FENCE DITCH CHECK
NO SCALE



Notes for Wattle and Biodegradable Log Ditch Check:

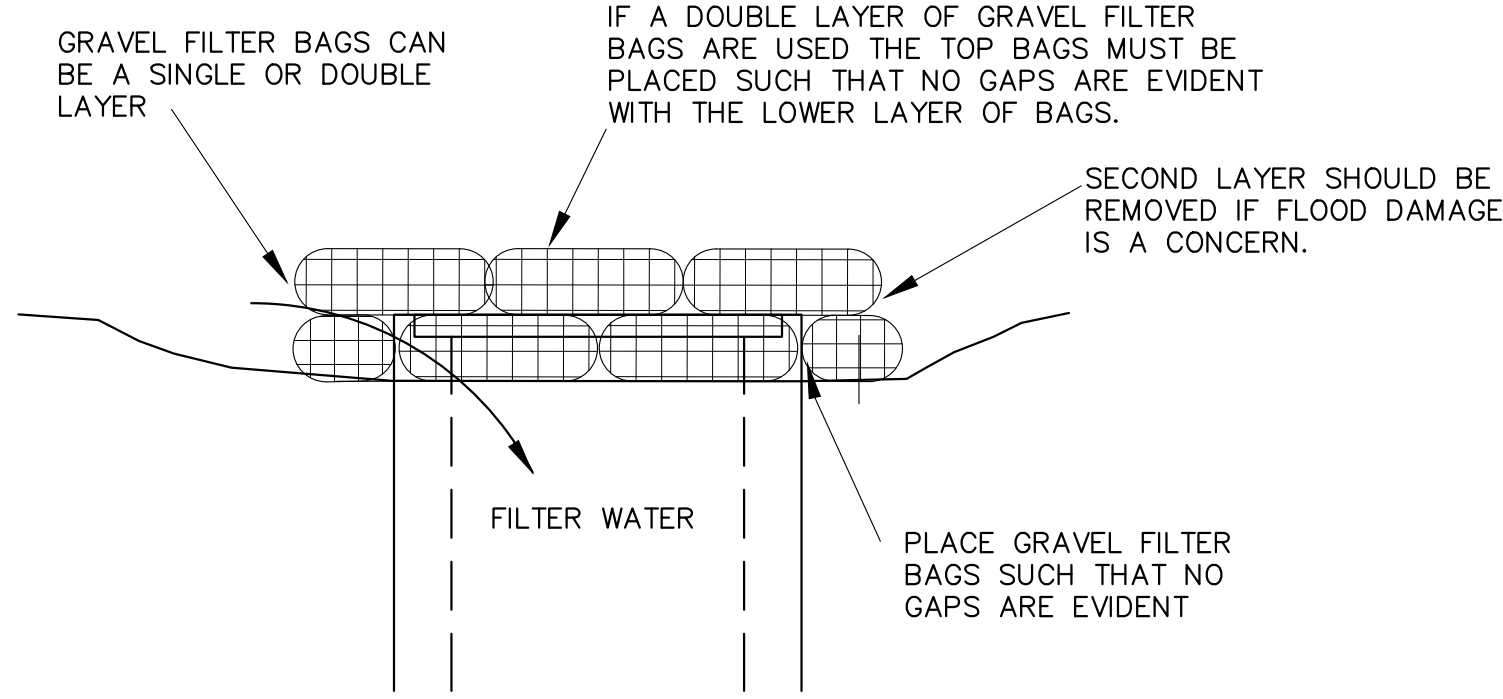
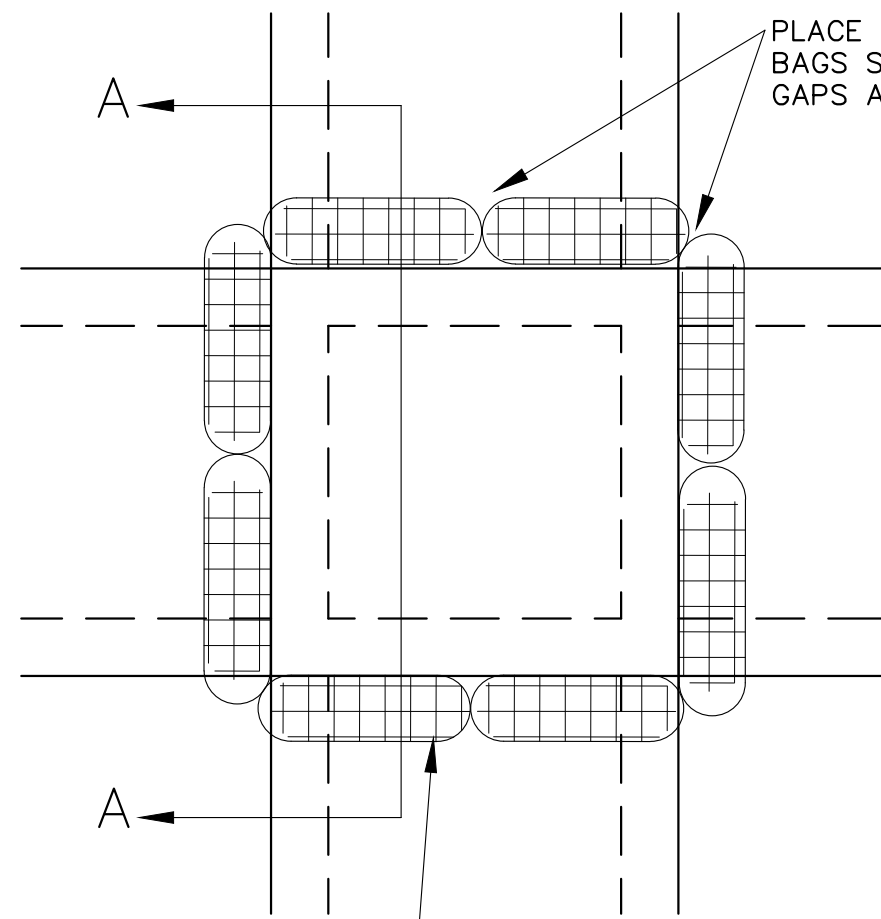
- Use as many biodegradable log sections as necessary to ensure water does not flow around end of ditch check.
- Overlap sections a minimum of 18".
- Stakes shall be per manufacturer's instructions. Length of stakes shall be a minimum of 2 times the diameter of the log or 24" minimum.
- Use Erosion Control (Class 1) (Type C) as the downstream apron when checked by the Engineer.
- 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.



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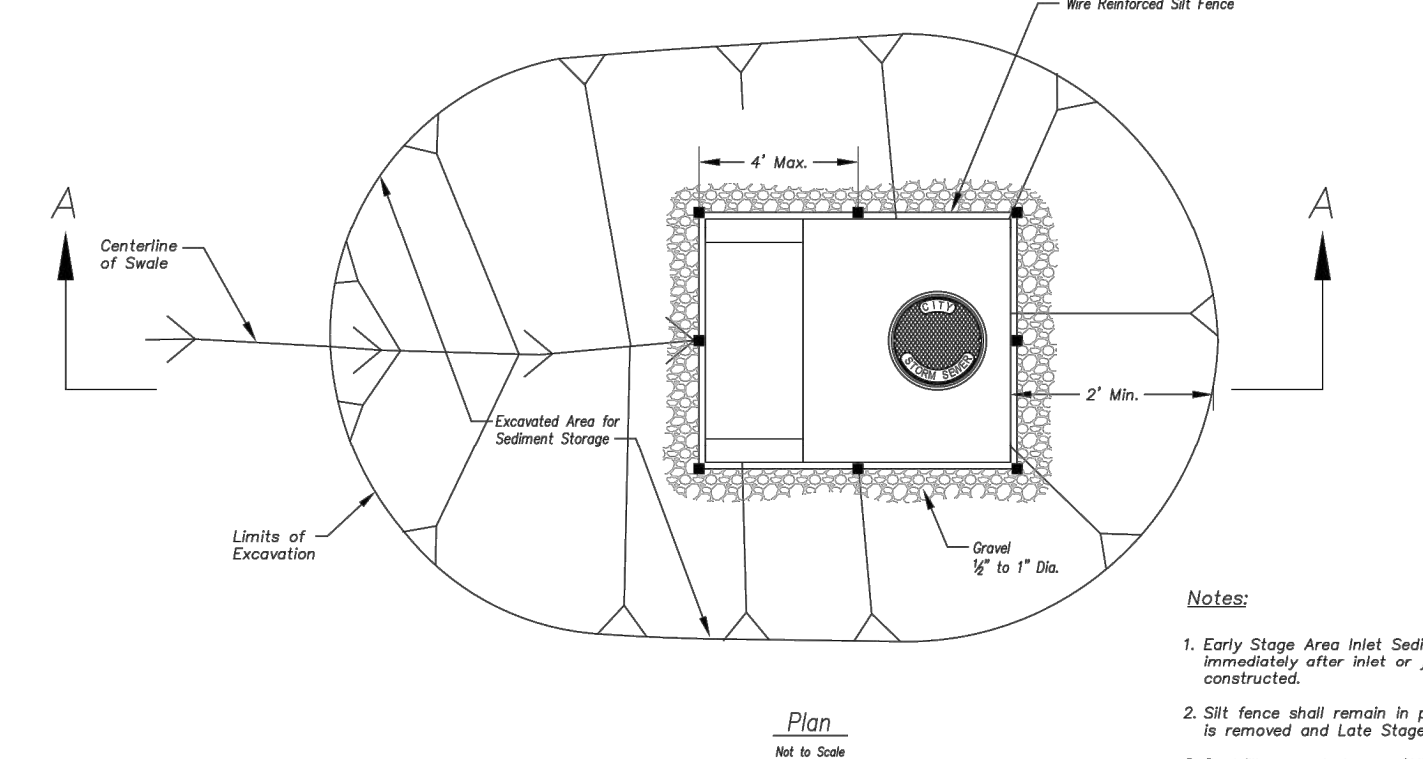
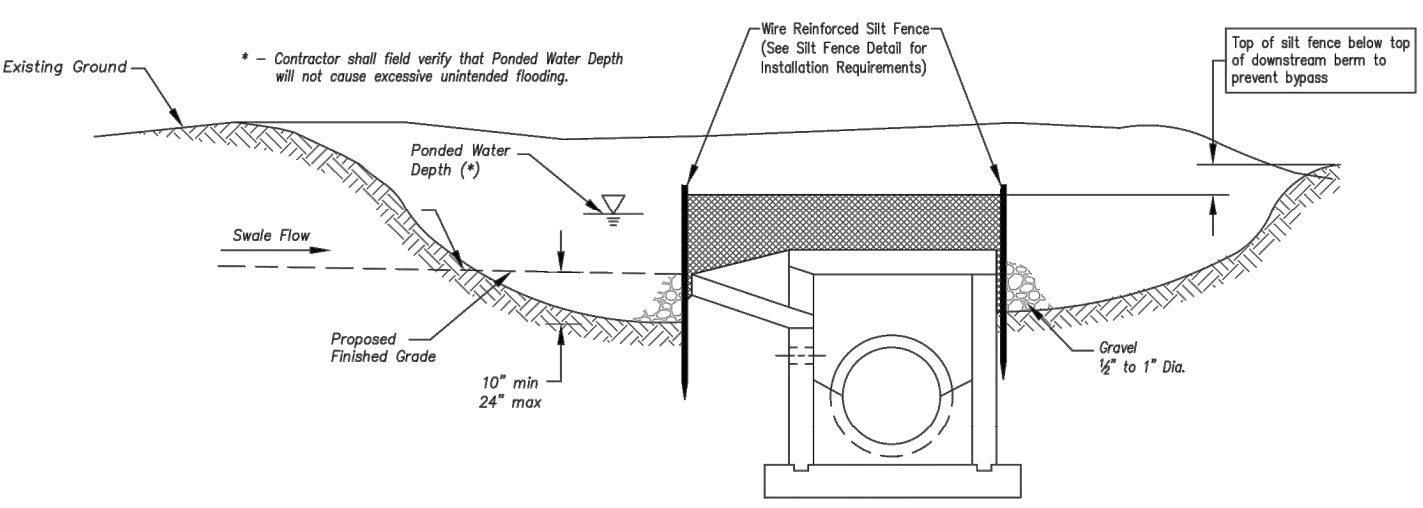
SILT FENCE AND WATTLE/
BIODEGRADABLE LOG
DITCH CHECKS

STANDARD DRAWING
NUMBER ESC-09
ADOPTED:
10/24/2016



CROSS-SECTION AA

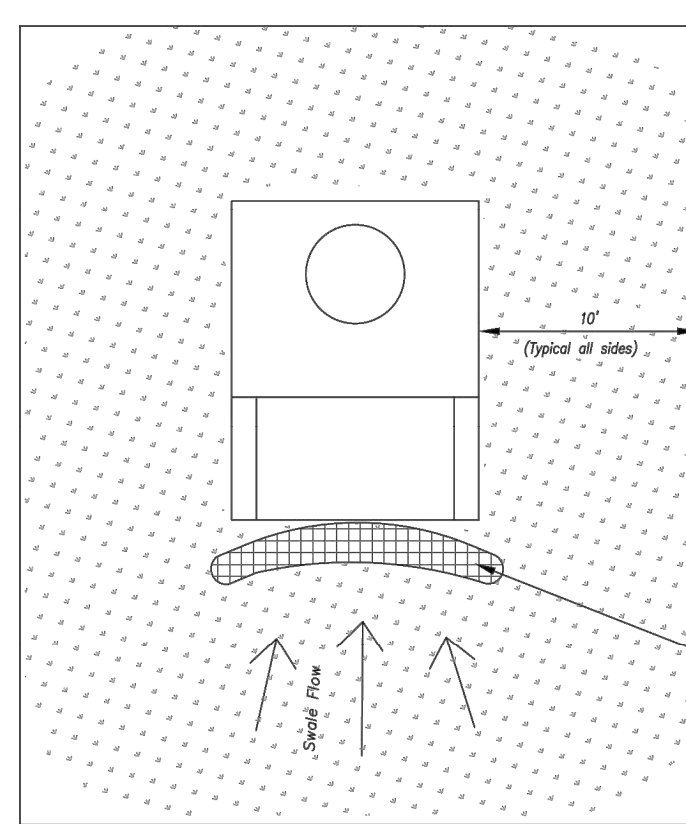
GRAVEL INLET PROTECTION DETAIL



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

Notes:

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



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

Maintenance:

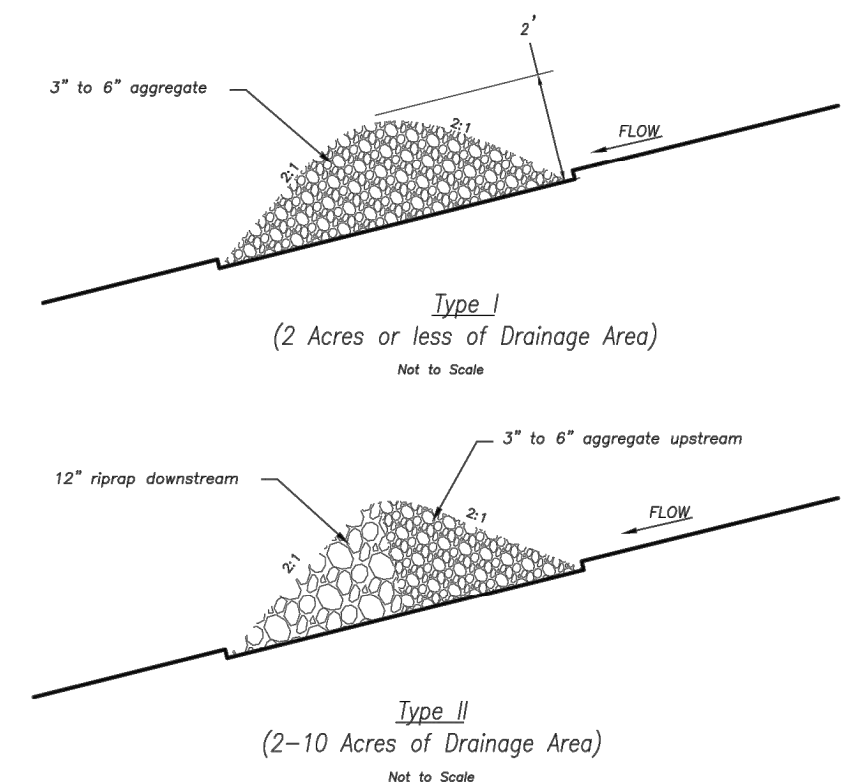
- Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
- Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
- Repair or replace as necessary to maintain function and integrity of installation.

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AREA INLET AND
JUNCTION BOX PROTECTION

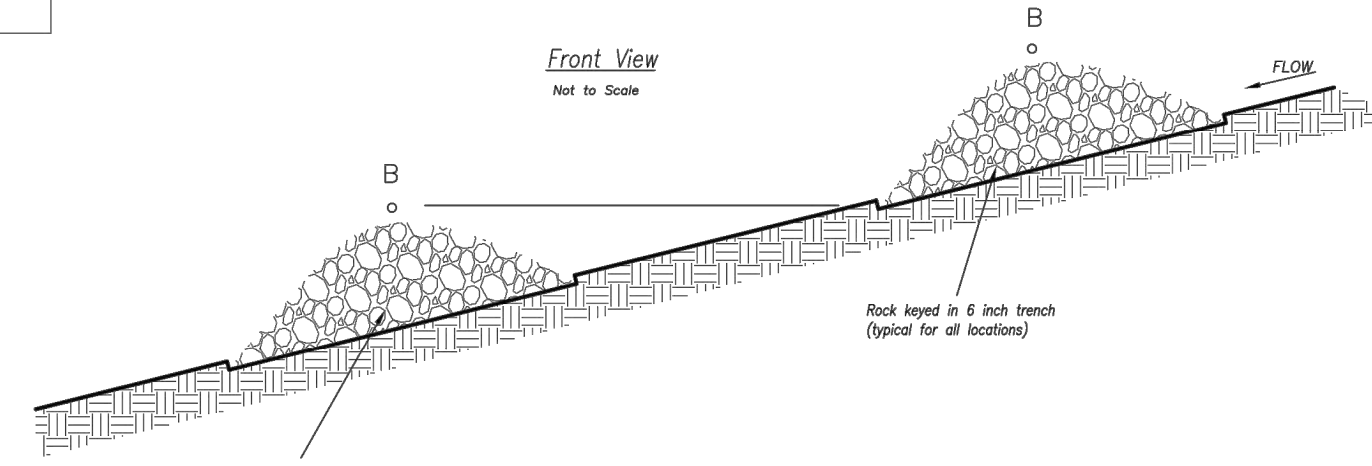
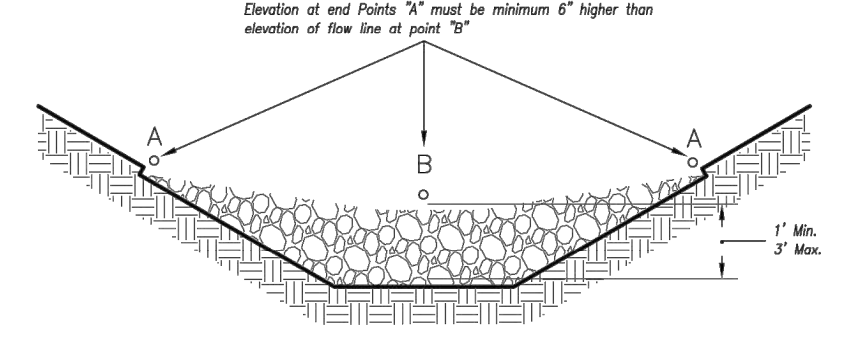
STANDARD DRAWING
NUMBER ESC-07
ADOPTED:
10/24/2016

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



Ditch Centerline Slope (%)	Spacing Interval (Feet)
5.0	60
6.0	50
7.0	43
8.0	36
9.0	33
10.0	29

Note: Use this spacing only for Rock Ditch Checks.



Spacing Between Check Dams (all types)
Not to Scale

Notes:

- Rock check dams shall be used only for drainage areas less than 10 acres unless approved by the City Engineer.
- Use rock checks only in situations where the ditch slope exceeds 6%.

Maintenance:

- Remove and dispose of sediment deposits when the deposit approaches 1/2 the height of the ditch check.
- Replace and reshape as necessary to maintain function and integrity of installation.

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

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KANSAS CITY
METRO CHAPTER

ROCK DITCH CHECKS

STANDARD DRAWING
NUMBER ESC-10
ADOPTED:
10/24/2016

Erosion Control Details

STATE OF MISSOURI

CLINT LOUMASTER

REGISTERED PROFESSIONAL ENGINEER

NUMBER PE-2011008651

12/11/2020

GBA

architects
engineers

9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

DATE: 12-11-2020

DESIGN BY: DJM

DRAWN BY: CMN

PROJECT NO.: 12720

SHEET NO. 37

TOTAL SHEETS 68

Clint Loumaster
Professional Engineer
License No. PE2011-009651

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO. DATE

10/16/20

12/11/20

REVISIONS

Issued for Pricing 10/16/2020

12/2 City Comments

BY APPROVED

Existing Ground

50' Min.

10' Min.

20' Min.

2-3" Coarse Aggregate

Positive drainage to Sediment Trapping Device

Washrack / Rumble Strip (Optional)

Existing Pavement

10' Min.

10' Min.

Plan View
Not to Scale

Existing Ground

50' Min.

3'

5:1

Existing Pavement

6" Min.

Non-Woven Geotextile

Mountable Berm (Optional)

Side Elevation
Not to Scale

20' Min.

3" Min.

3" Min.

Non-Woven Geotextile

Section A-A
Not to Scale

Notes for Construction Entrance:

1. Avoid locating on steep slopes, at curves on public roads, or down-drift of disturbed area.

2. Remove all vegetation and other unsuitable material from the foundation area, grade, and cover for positive drainage.

3. If slope towards the public road exceeds 2%, construct a 6- to 8-inch high ridge with 3:1-V 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 slopes 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.

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 valve 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 trucks and pump rigs.

5. A one-way 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 washed concrete.

3. Concrete washout water, washed 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 topped, any disturbed areas associated with the installation, maintenance, and/or removal of the concrete washout areas shall be stabilized.

Enclosed material shall be used for perimeter berm. Soil for berm shall be compacted in the same manner as trench backfill.

Existing Grade

Construction Fence (optional)

Slope

Vehicle Tracking Control

CONCRETE WASHOUT

AMERICAN PUBLIC WORKS ASSOCIATION

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KANSAS CITY METRO CHAPTER

CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT

STANDARD DRAWING NUMBER ESC-01

ADOPTED: 10/24/2016

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.

DRIFLINE

4'-0"

EXISTING GRADE

ORANGE CONSTRUCTION FENCE

FIRMLY DRIVEN METAL "T" BAR POSTS 1/2"x1/2"x10" OR EQUAL 6'-0" O.C. -EXTEND STAKES TO DRIFLINE.

1/2 BURIAL OF OVERALL POST 3' MIN.

SECTION

PLAN

TREE TRUNK

T-BAR STAKES

ORANGE CONSTRUCTION FENCE

TREE PRESERVATION

Longitudinal Seam

6" Min.

Anchor Slot

6" Min.

15' Min.

Installation on Slopes

Longitudinal Seam

6" Min.

Anchor Fold

6" Min.

Edge Anchor

6" Min.

Splice Seam

12" Min.

Installation in Channels

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 manufacturer's 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.

4. 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.

5. 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.

6. EDGE ANCHORS: Lay outside edge of mat into trench at top of the slope and anchor.

7. TERMINUS: The bottom edge of the mat shall be anchored.

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 on Slopes:

1. Erosion Control Blankets and TRMs shall be laid in the direction of the slope in order for blanket to lie 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 sealed.

3. SPLICE SEAM: When splices are necessary, overlap and 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 6 inches apart.

Partial Box Culvert Plan

Not to Scale

Installation Around Culvert Slope

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KANSAS CITY METRO CHAPTER

EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS

STANDARD DRAWING NUMBER ESC-02

ADOPTED: 10/24/2016

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

Direction of Flow

Wattle or Biodegradable Log

Tranching per manufacturer's instructions.

Section A-A

4' (max.)

Stakes (typ.)

Typical Elevation

Notes for Wattles and Biodegradable Log Slope Protection:

1. The Slope barriers shall be placed along contour lines, with a short section turned up-drift at each end of the barrier. The maximum length of the slope barrier shall not exceed 150 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".

Notes for Mulch and Compost Filter Berm:

1. The sediment control berm shall be placed uncompact in a window of 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 on 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, log grinder or other approved method. Mulch sizing varies with a minimum width of 2" and a maximum length of 10".

Figure 1 (Perimeter Control)

Figure 2 (Steep Slopes)

MULCH OR COMPOST FILTER BERMS

Notes for Mulch and Compost Filter Berm:

1. Berm shall be reshaped and material added as necessary to maintain function and dimensions.

2. Breaches in the berm shall be repaired promptly.

AMERICAN PUBLIC WORKS ASSOCIATION

APWA

KANSAS CITY METRO CHAPTER

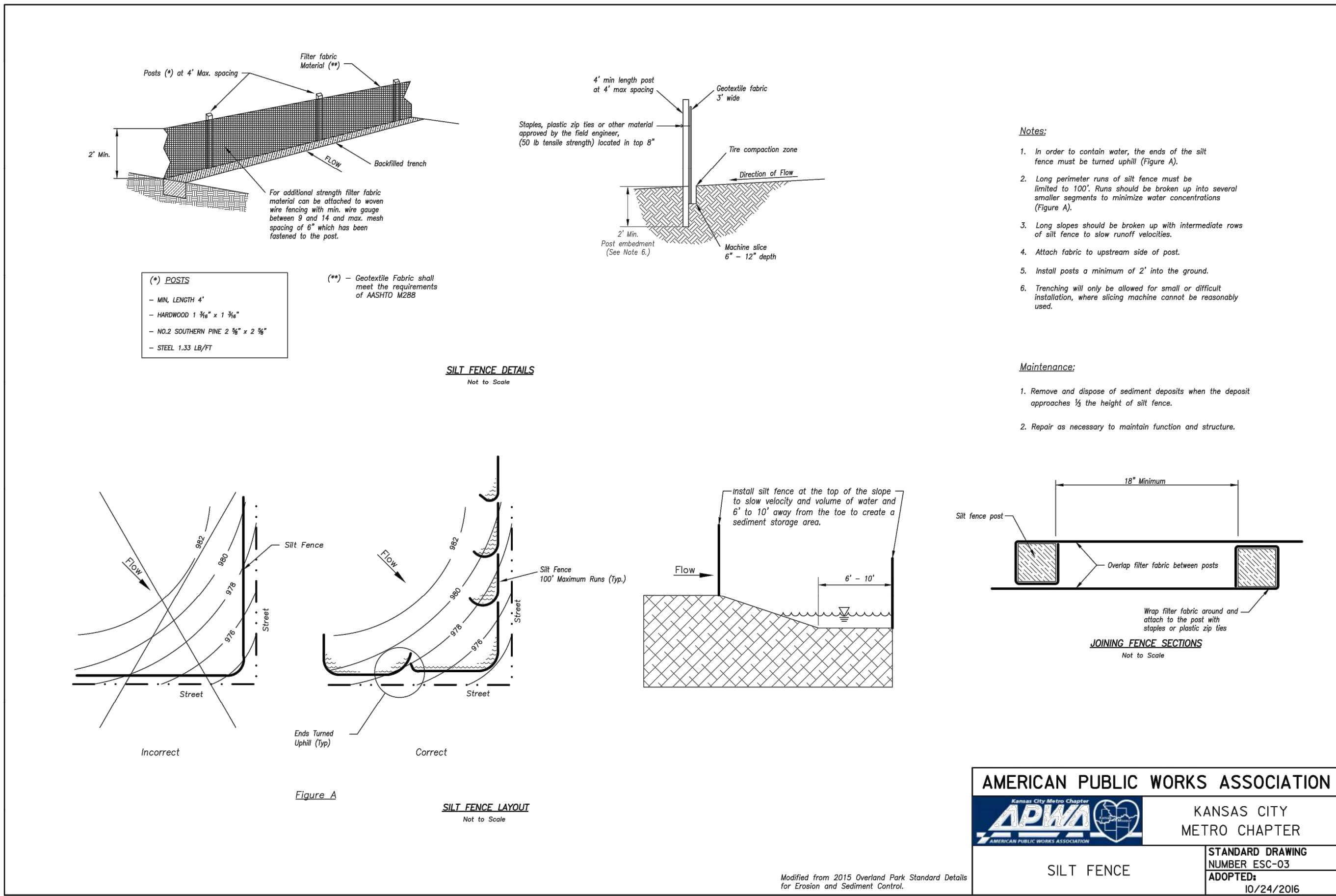
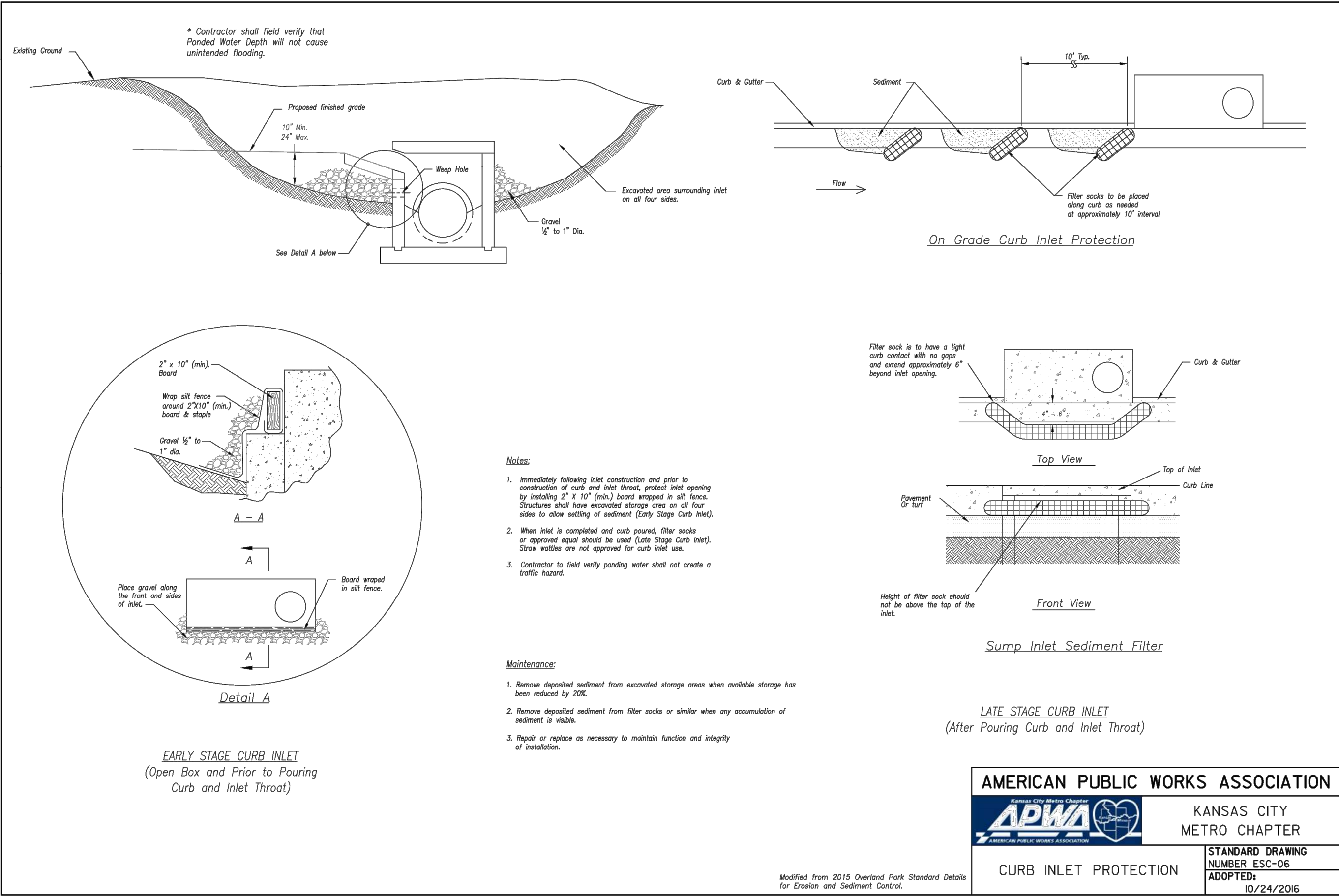
WATTLES/BIODEGRADABLE LOG AND MULCH/COMPOST FILTER BERM

STANDARD DRAWING NUMBER ESC-04

ADOPTED: 10/24/2016

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

Erosion Control Details



	DATE:	12-11-2020
	DESIGN BY:	DJM
	DRAWN BY:	CMN
	PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS	
	38	68
Clint Loumaster Professional Engineer License No. PE2011-009651		Street and Storm Sewer Plans Paragon Parkway Lee's Summit, Missouri
NO.	DATE	REVISIONS
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12/11/20		12/2 City Comments

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architects
engineers
9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

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DRAWN BY: CMN
PROJECT NO.: 12720

SHEET NO. 39
TOTAL SHEETS 68

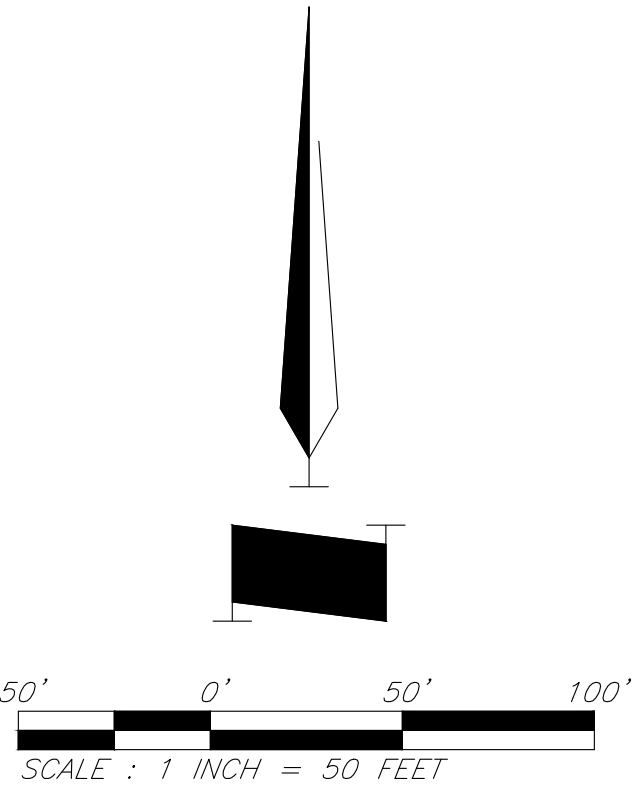
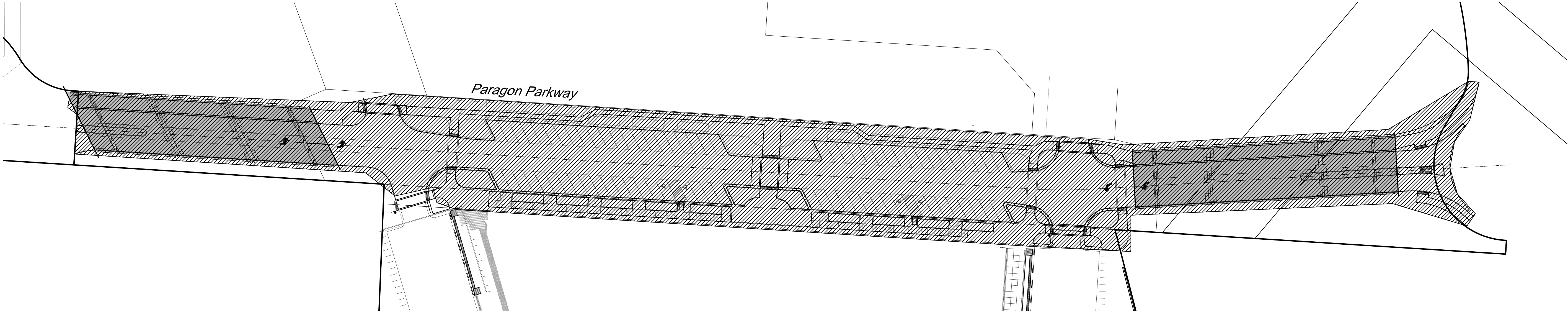
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Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

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 Phase 1 Work Area

TRAFFIC CONTROL NOTE:
See View High Drive and
Roads 1, 3, and 4 Project
Plans for traffic control plans.



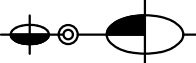
Construction Sequencing Plan

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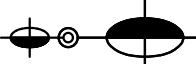
STREET LIGHTING NOTES

1. All lights not mounted to bridges shall use concrete foundations. Screw-in anchor base foundations shall not be used within the hardscaped areas along Paragon Parkway.

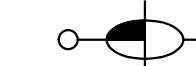
LEGEND



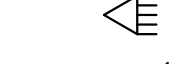
Pole Mount Luminaire (25' Mt. Ht., 4' Arm Length, GLNA-AF-03-LED-E1-SL3-HSS; Ped 9'8" Mt. Ht., GLNA-AF-01-LED-E1-SL2; Idyline Curve Pole c5-03)




Pole Mount Luminaire (25' Mt. Ht., 4' Arm Length, GLNA-AF-03-LED-E1-SL4-HSS; Ped 9'8" Mt. Ht., GLNA-AF-01-LED-E1-SL2; Idyline Curve Pole c5-03)



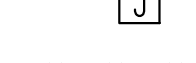
Pole Mount Luminaire (23'6" Mt. Ht., 3'2" Arm Length, GLNA-AF-03-LED-E1-SL3-HSS; Idyline Curve Pole c5-02)




Bridge Mounted Luminaire (Insight Prospot PS9-MO-40K-20-TR-UNV-DIM-TN-VS-TA2-ACJM-10)




Secondary Service Point




Street Light Control Center




Junction Box




HDPE Conduit




Bridge Attached Conduit (See Bridge Plans for Details)




Ex. Secondary Service Point



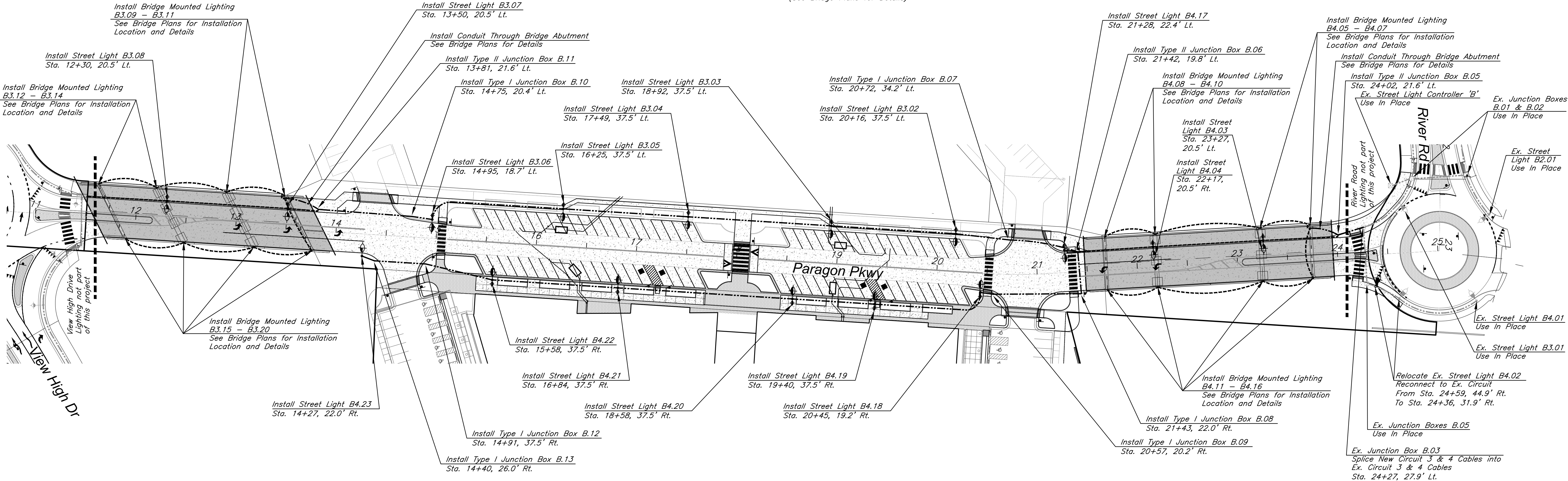
Ex. Street Light Control Center



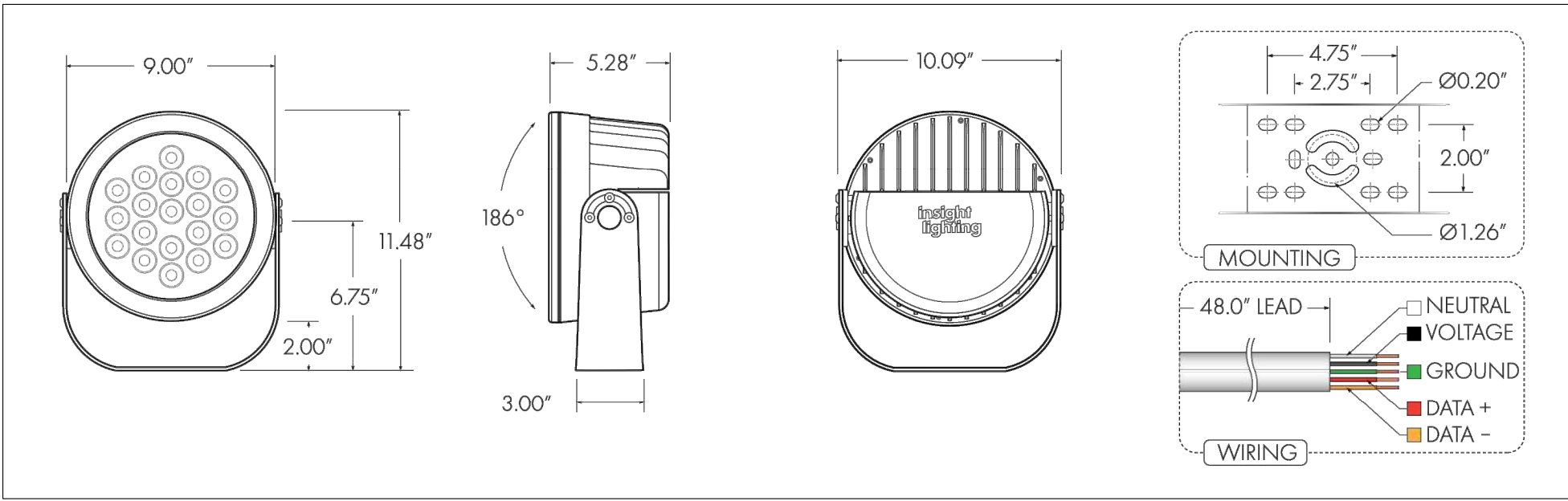
Ex. Junction Box



Ex. HDPE Conduit



Insight Prospot 9



Idyline Curve Base Plate

ANCHORAGE DATA

NUMBER OF SECTIONS	POLE BASE OD (IN)	BOLT CIRCLE				ANCHOR BASE		ANCHOR BOLTS	
		DIA (IN)	± (IN)	SQUARE (IN)	THK (IN)	DIA X LENGTH X HOOK (IN)	PROJECTION (IN)	± (IN)	
3	7.00	10.50	N/A	10.00	1.000	1.00 x 36.00 x 4.00	4.25	N/A	

Anchor Base Detail

180° - Luminaire Arm

90°

0° - Handhole

270°

Bolt Slots/Holes

Bolt Circle



Street Lighting Plan

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Lenexa, Kansas 66219
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PROJECT NO.: 12720


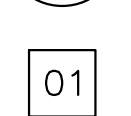
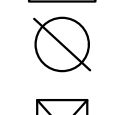
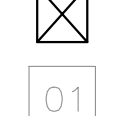
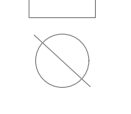
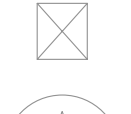



SHEET NO. 41
TOTAL SHEETS 68

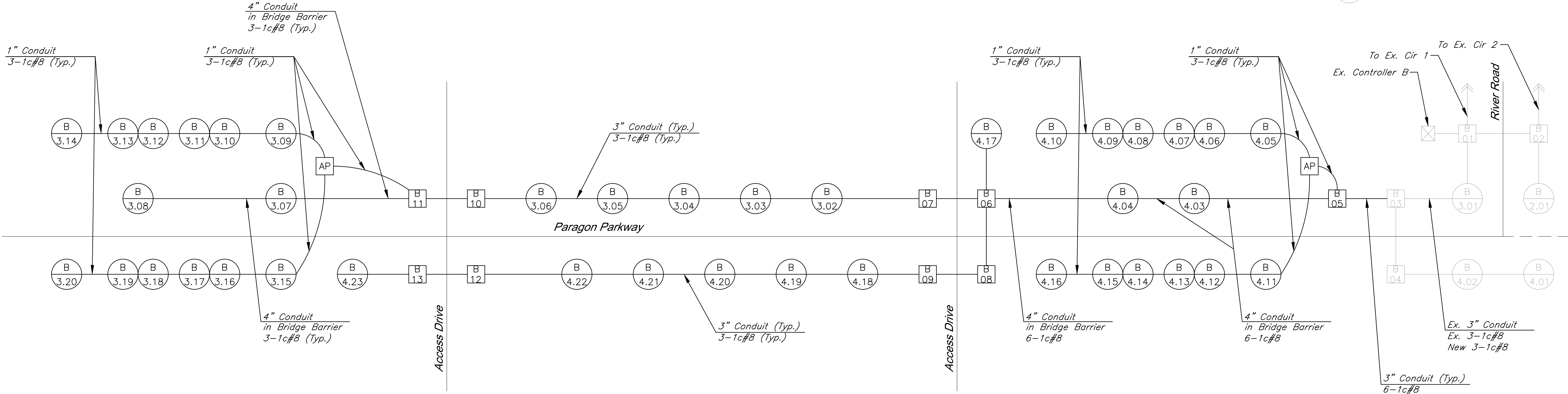
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Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

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LEGEND

-  Controller
-  Circuit/Luminaire Number
-  Junction Box
-  Secondary Service Point
-  Control Center
-  Existing Junction Box
-  Existing Secondary Service Point
-  Existing Control Center
-  Existing Luminaire



Street Lighting Wiring Diagram

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PROJECT NO.:	12720
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43	68

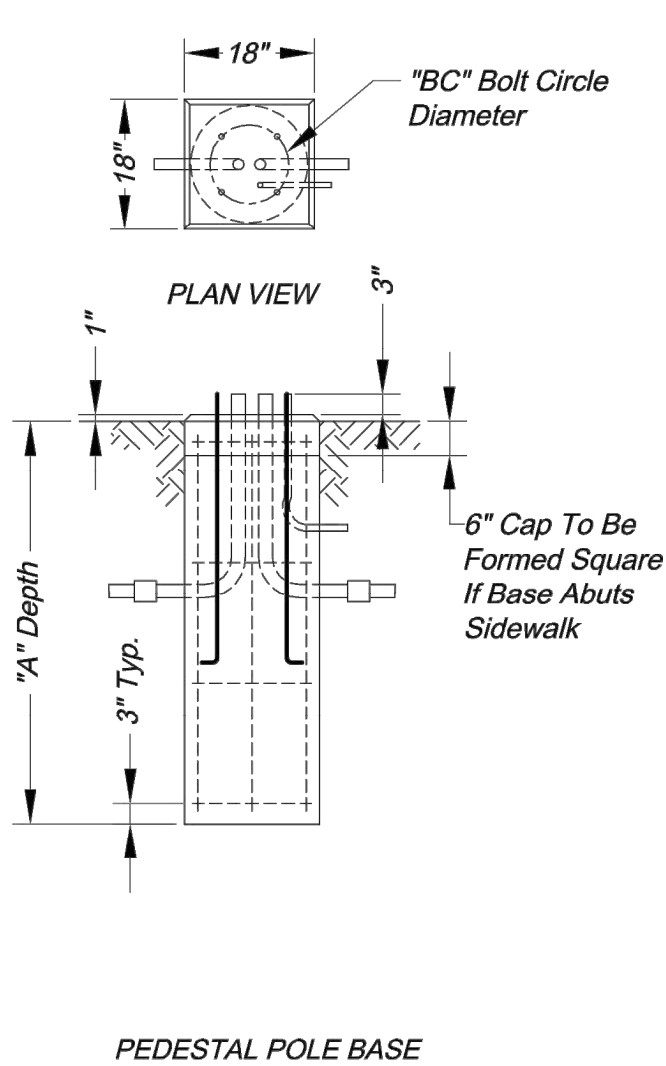
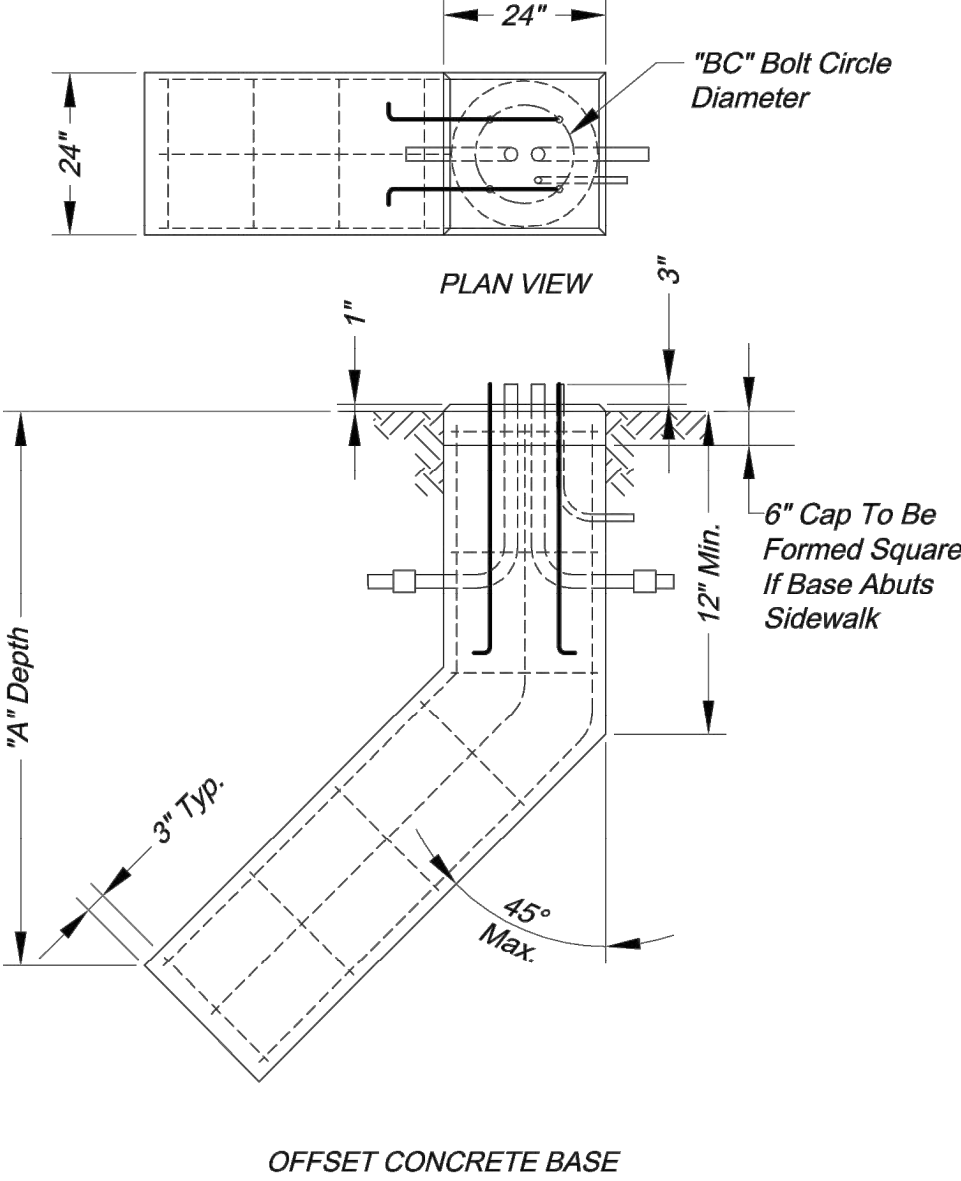
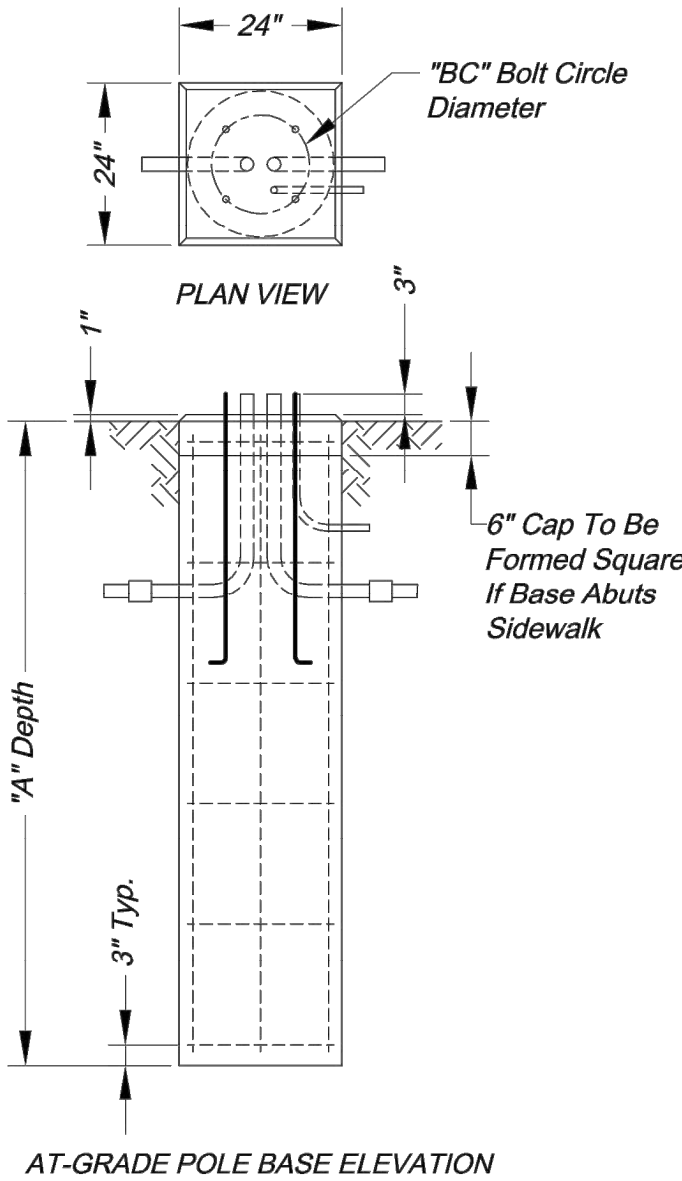
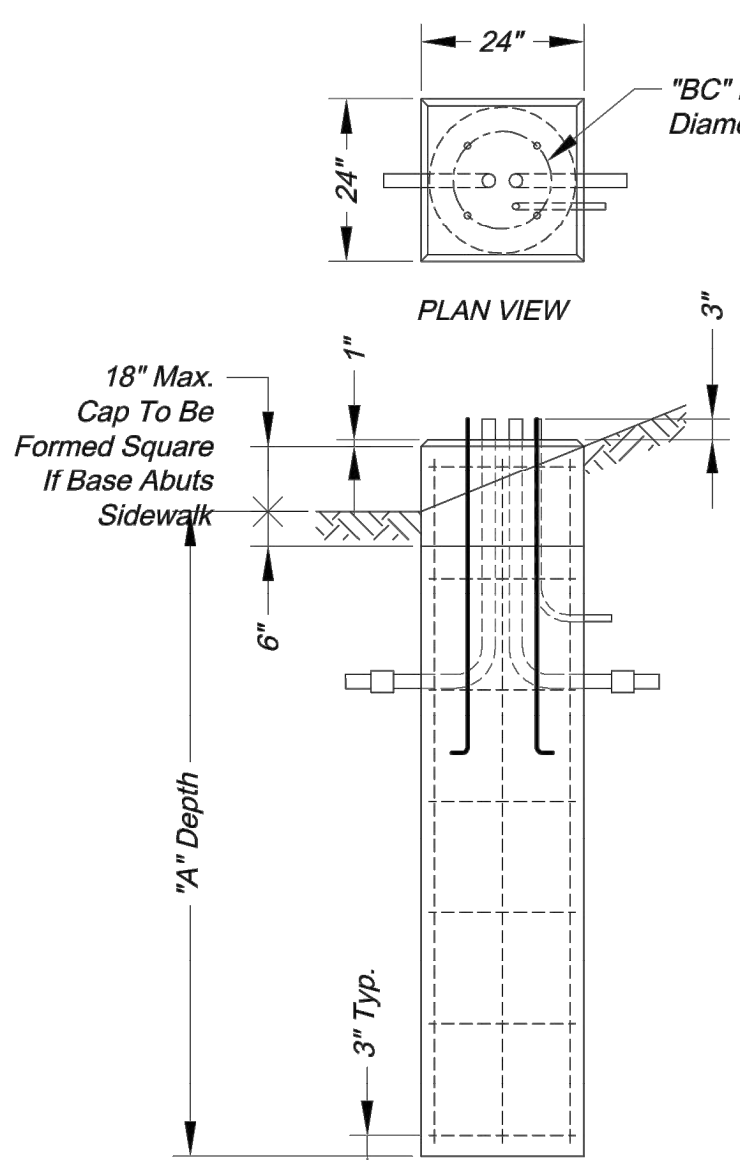
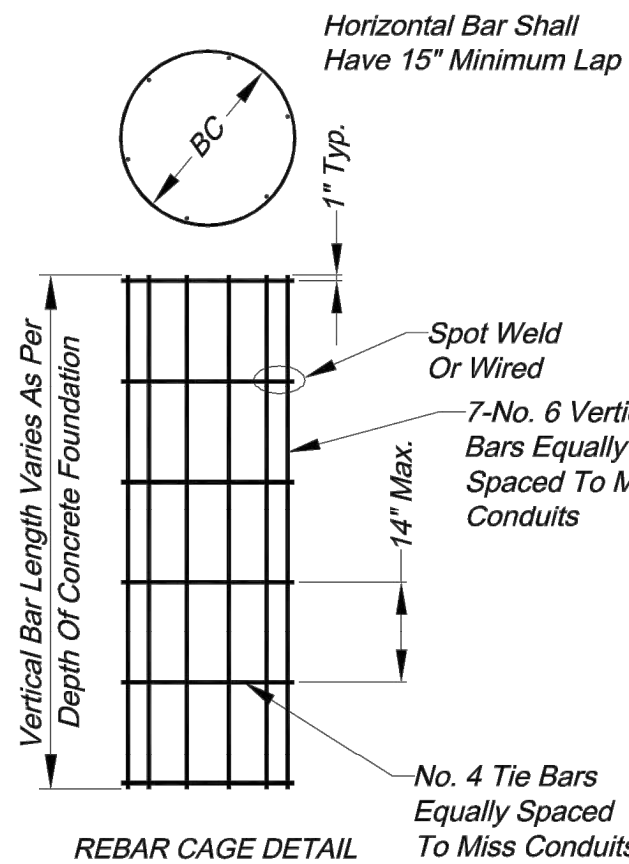
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Paragon Parkway
Lee's Summit, Missouri

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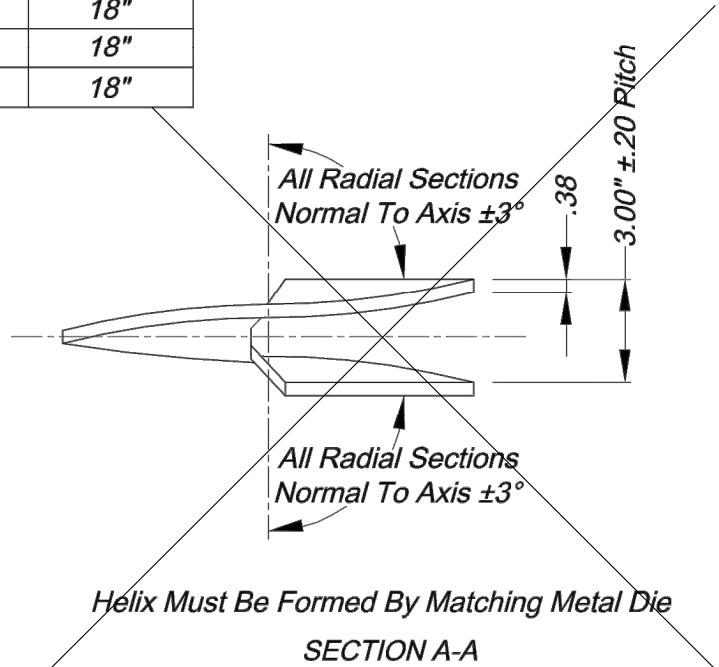
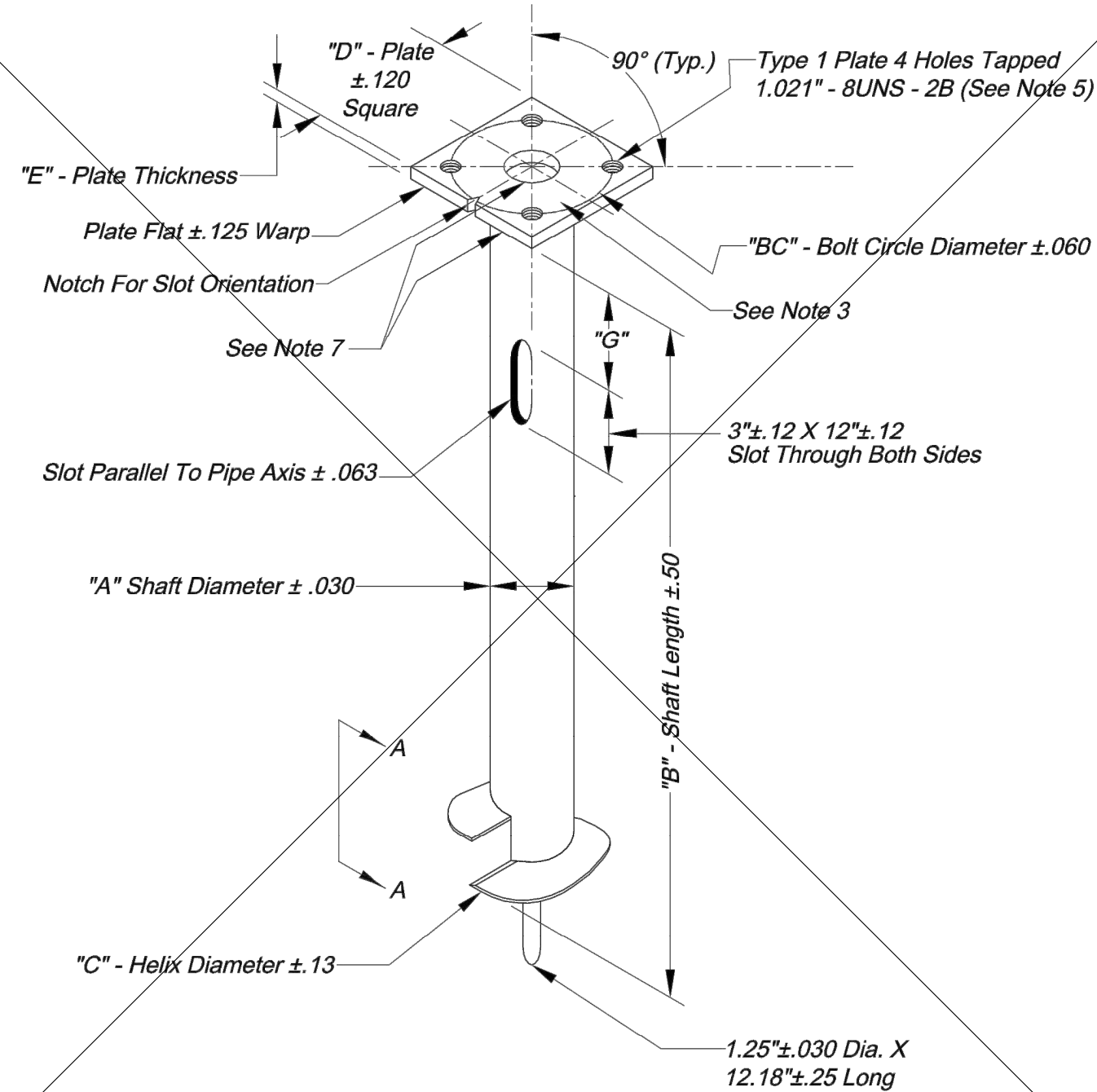
REVISIONS	BY	APPROVED
Issued for Pricing 10/16/2020		
12/2 City Comments		

POLE TYPE	BRACKET ARM	DEPTH (A)	BOLT CIRCLE (BC)
P14	—	48"	9.5"
P30S or P30D	Single or Dual	72"	11.0"
P40S	Single	94"	11.5"
P40D	Dual	94"	14.5"

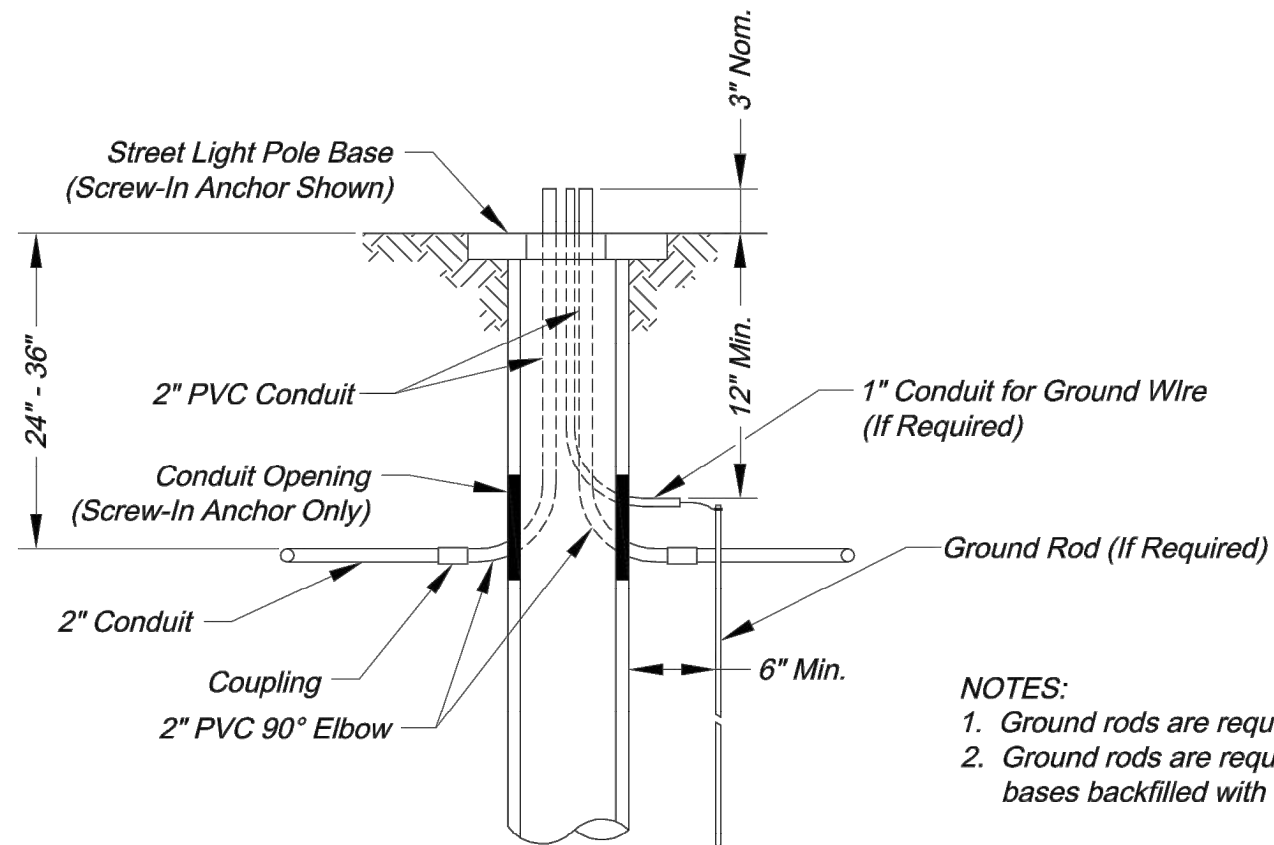


CONCRETE BASE DETAILS

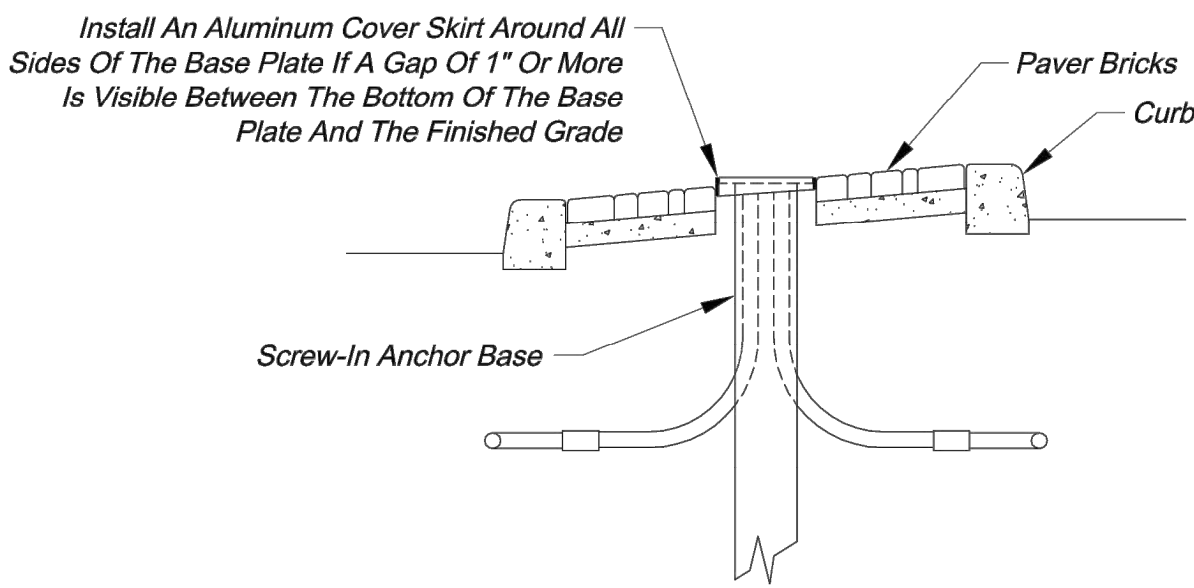
BASE TYPE	POLE TYPE	MINIMUM TORQUE RATING (lbs. ft.)	MAXIMUM TORQUE RATING (lbs. ft.)	SHAFT DIA. (A)	SHAFT LENGTH (B)	HELIX DIA. (C)	PLATE SIZE (D)	PLATE THICKNESS (E)	BOLT CIRCLE (BC)	SLOT LOCATION (G)
B14	P14	2,000	15,000	6"	48"	12"	10"	0.75"	9.5"	12"
B30	P30S & P30D	2,000	15,000	6"	60"	12"	12"	1.0"	11.0"	18"
B40S	P40S	2,000	20,000	8"	60"	14"	12"	1.0"	11.5"	18"
B40D	P40D	2,000	20,000	8"	60"	14"	15"	1.25"	14.5"	18"



- NOTES:
1. Finish: Hot dip galvanize per ASTM-A153 (latest revision).
 2. Baseplate to be perpendicular to shaft axis ($\pm 1^\circ$) and hole and concentric ($\pm .188$ I.D. Fin) to shaft axis.
 3. All bases shall be identified by the manufacturer's initials and the anchor type (1 or 2) permanently stamped into the top plate with 1/2" letters., the Julian date of manufacture shall be permanently stamped in 1/4" numerals.
 4. Pilot point and shaft axes to be concentric ($\pm .125$ Fin) and in line ($\pm 2^\circ$).
 5. Tap 1" holes on the specified bolt circle perpendicular to the baseplate. Clean and chase the threads after hot-dip galvanizing so that a bolt may be installed.
 6. Preheat (room temperature 70°F), tumbleblast, handgrind, and clean baseplate, helix, and core on all weld areas.
 7. Flame cut irregularities permissible:
(1) Valleys not to exceed 3/32 in. below nominal surface level.
(2) Peaks or positive irregularities not to exceed 1/32 in. above nominal surface level or intersections of nominal surfaces.
 8. Manufacturer to have in effect industry recognized written quality control for all materials and manufacturing processes.
 9. All material is to be new, unused and mill traceable meeting the following specifications:
Baseplate: ASTM A36-(latest revision) hot rolled steel plate (conform to AASHTO technical bul. #270).
Steel pipe piles, seamless or straight welded, grade 2 per ASTM A252. Alternate material: pipe type E or S, grade B per ASTM A53.
Helix: ASTM A635-(latest revision) hot rolled steel plate
Pilot Point: ASTM A575-(latest revision) hot rolled steel
Bolt: ASTM A325 or Grade 5 SAE J429 - 1" diameter hot dip galvanized hex head bolt. Bolt shall include one each lock and flat washer.
 10. The design and performance integrity of the foundation shall be verified by full-scale tests by qualified engineers independent of the manufacturer. Certified test reports shall be provided upon request.
 11. Flame cut notch or projection will be on the base plate to indicate slot orientation.

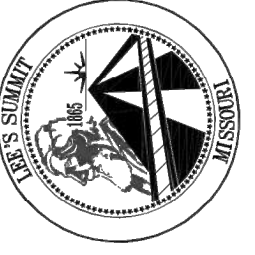


CONDUIT ENTRANCE AND GROUNDING



COVERSKIRT REQUIREMENTS

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809



POLE BASE DETAILS
STANDARD DRAWING SL-2

Project:

Sheet Name:

Drawn By: JH
Checked By: JW
Date: 08/21/2009

2 OF 5

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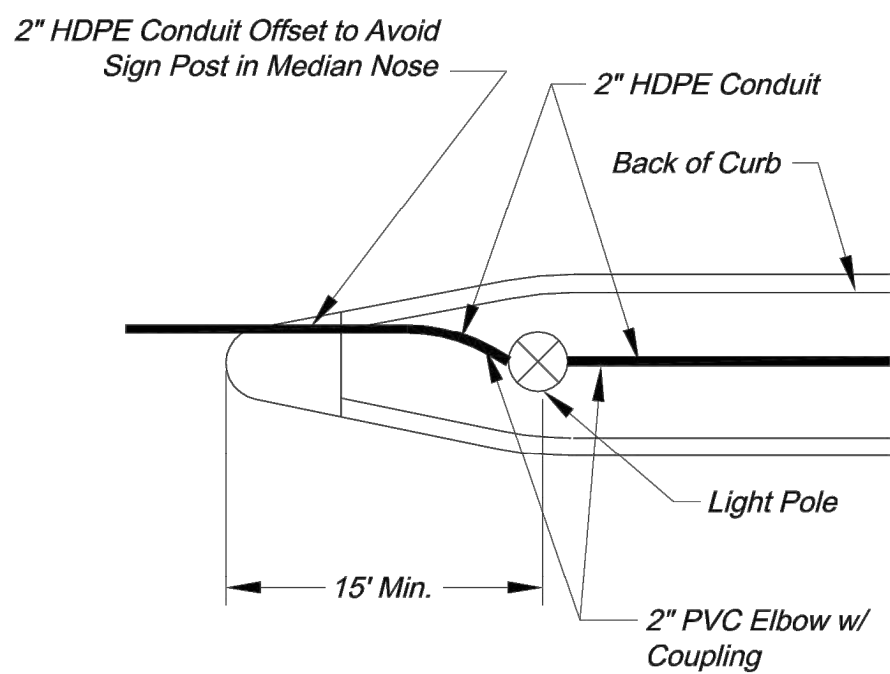
DATE:	12-11-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
44	68

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Professional Engineer
License No. PE2011-009651

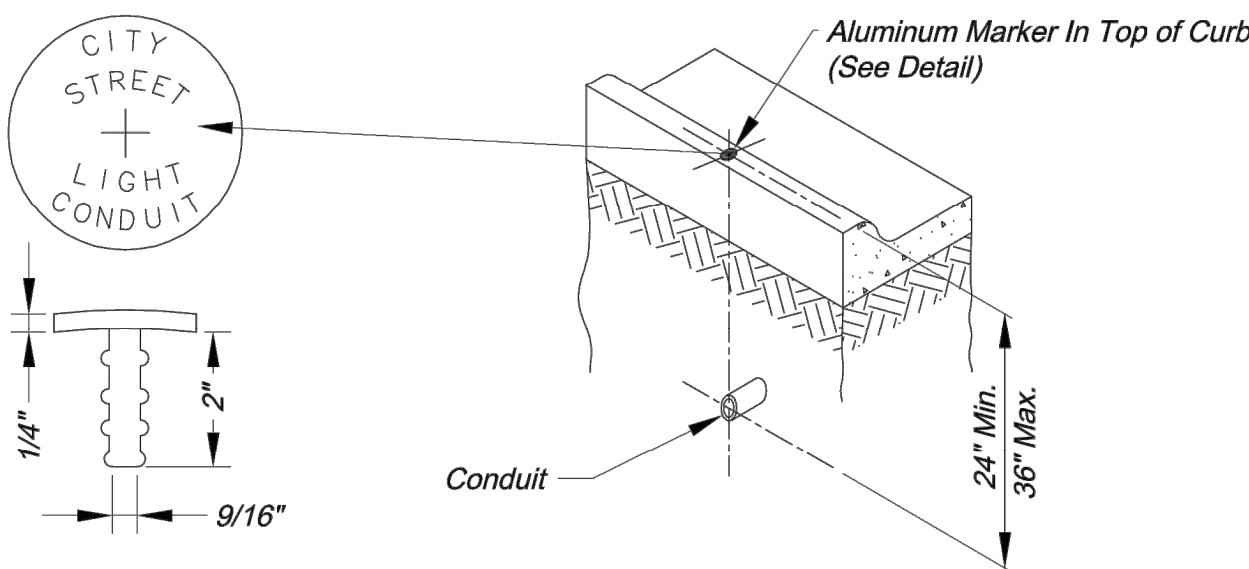
Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO.	DATE
10/16/20	
12/11/20	

REVISIONS	BY	APPROVED
Issued for Pricing 10/16/2020		
12/2 City Comments		

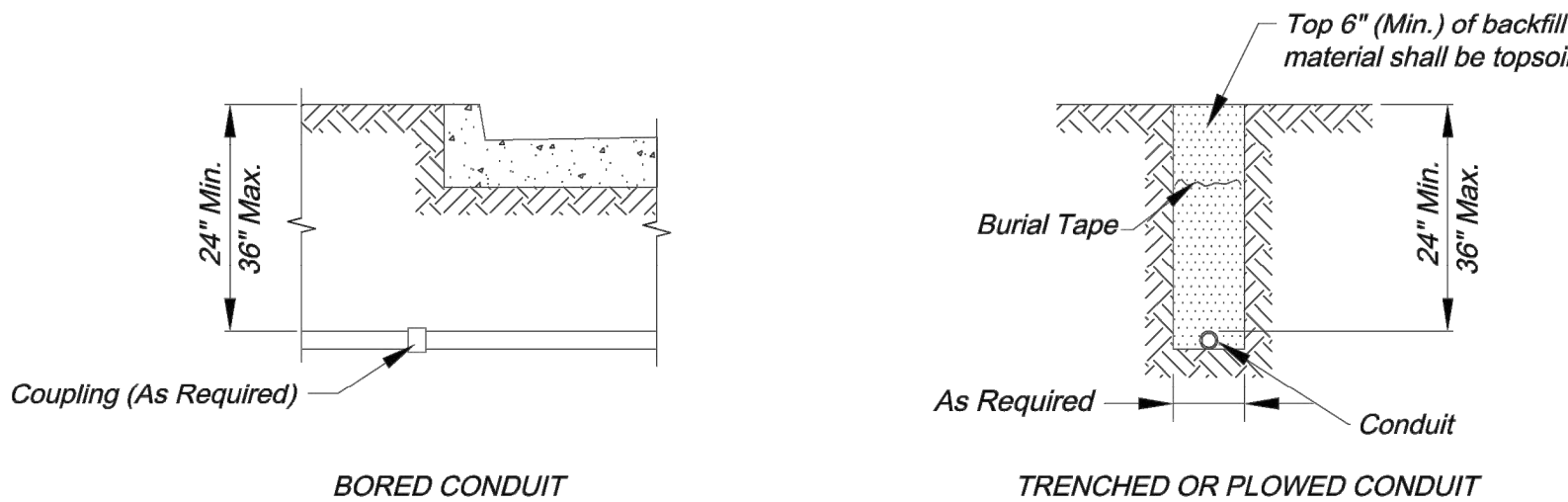


STREET LIGHT POLE
IN MEDIAN



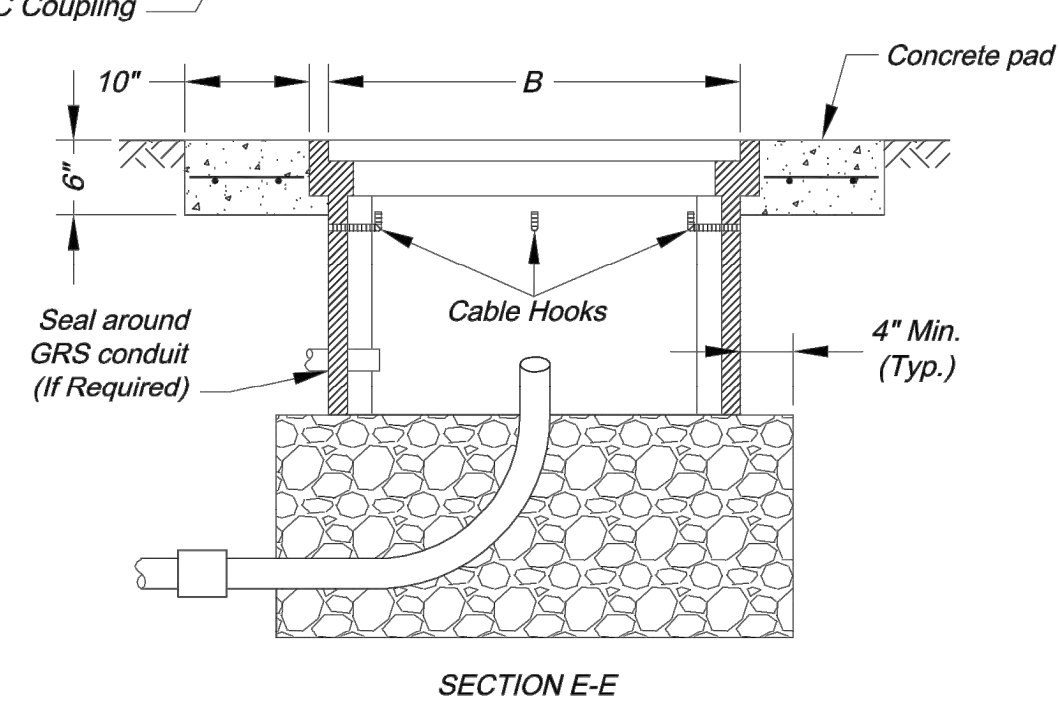
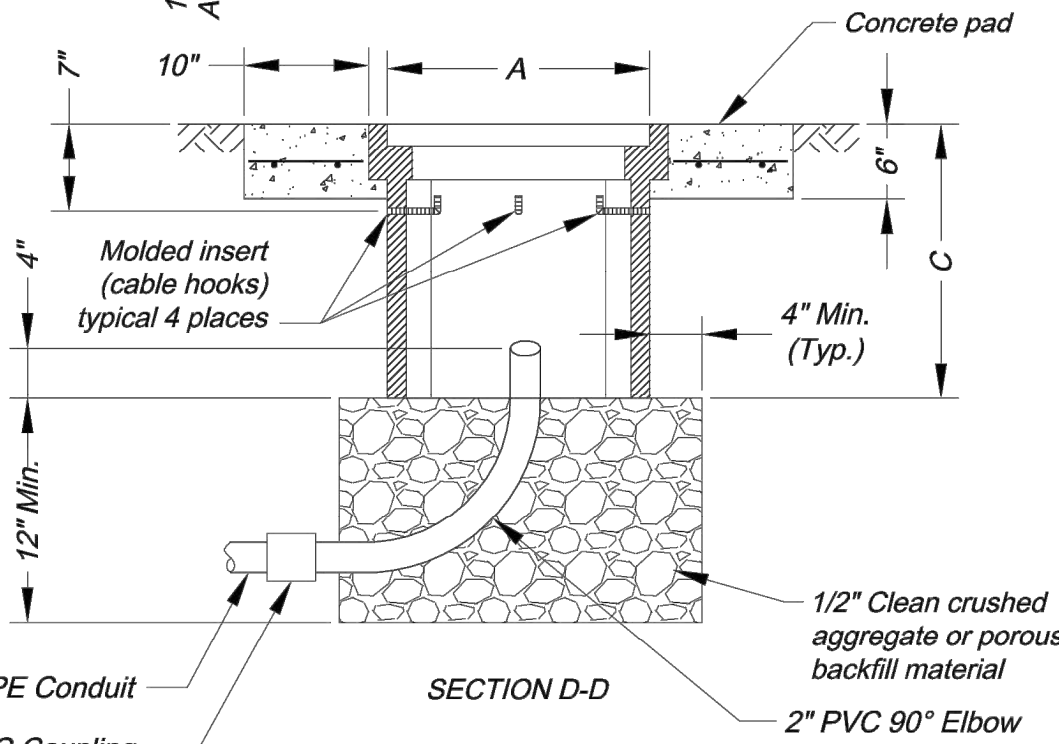
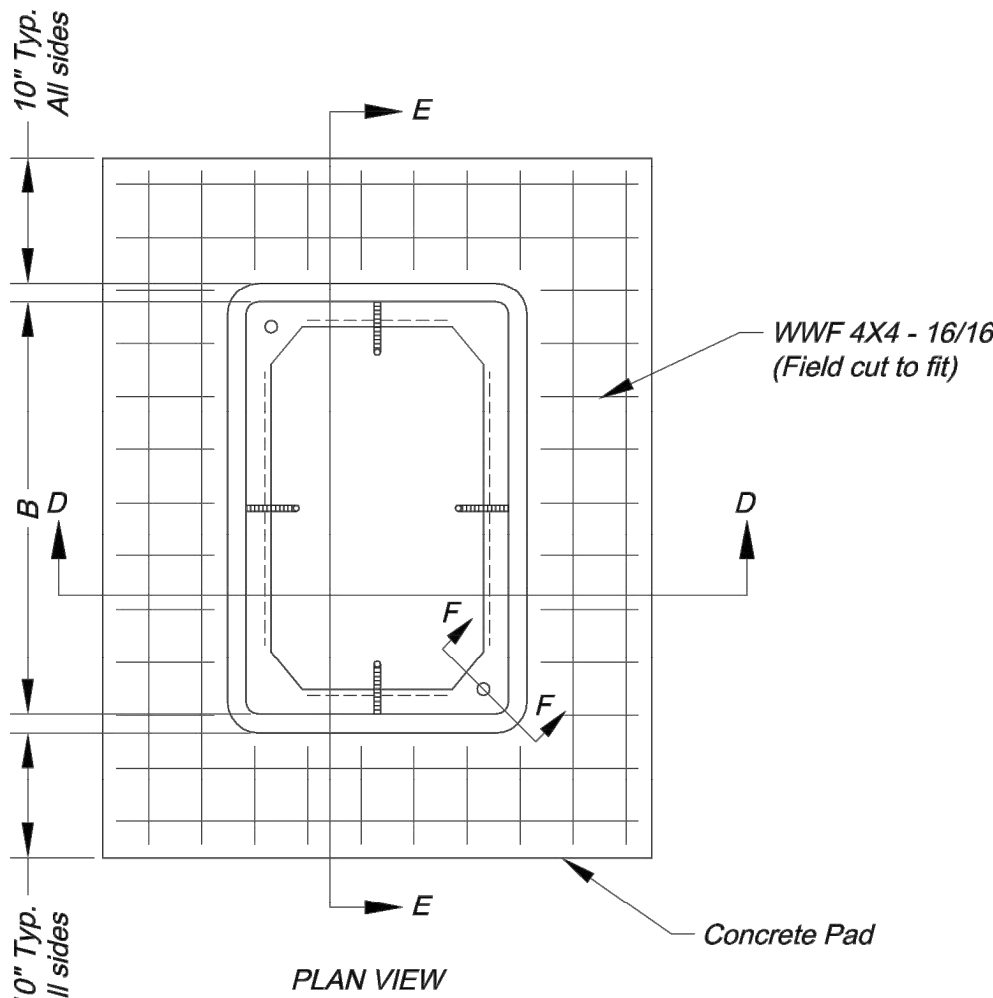
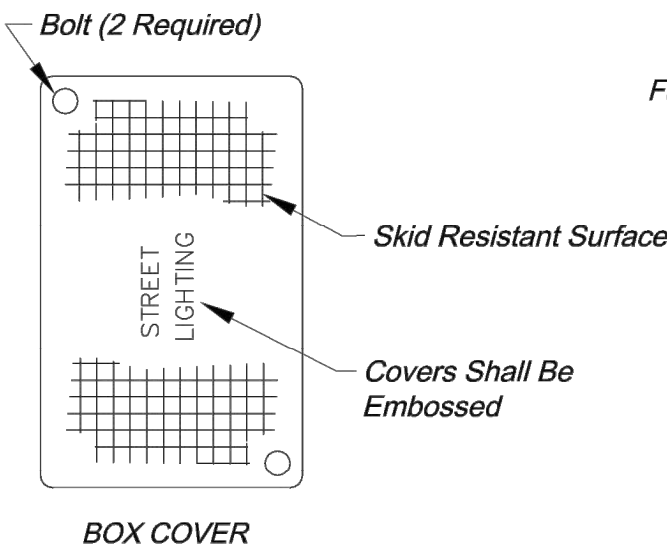
CONDUIT MARKING DETAIL

- NOTES:
1. An aluminum marker shall be placed in the top of the curb directly over the conduit.
 2. Markers shall be installed by drilling the curb and epoxying the marker in place. If installed in a sidewalk or curb ramp, the top of the marker shall be flush with the concrete surface.
 3. No direct payment shall be made for conduit markers; they are subsidiary to the installation of conduit.

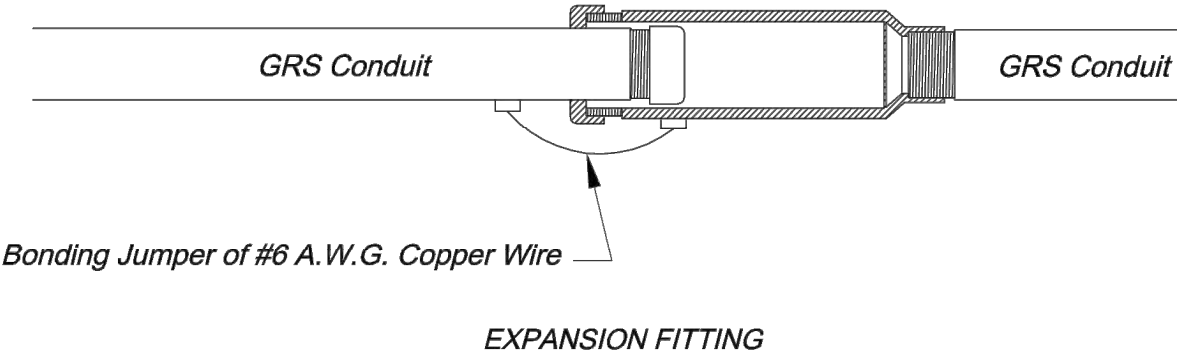
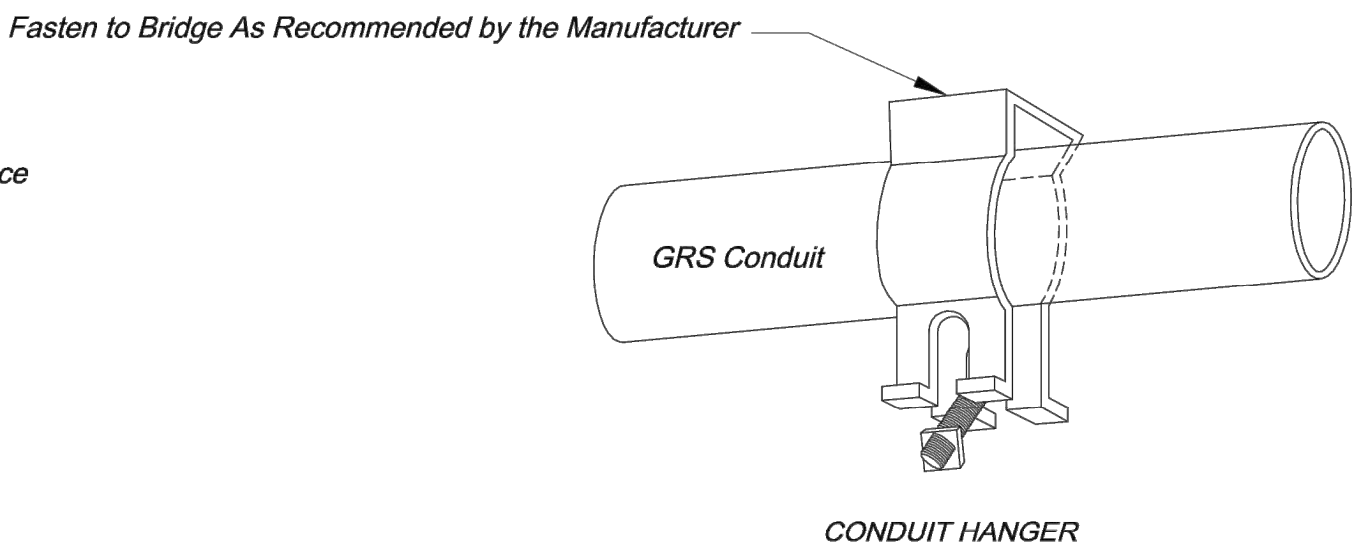


CONDUIT LOCATIONS

- NOTES:
1. Backfill under paved surfaces shall be flowable fill.
 2. The conduit shall not be covered unless inspected and approved by the City Engineer, so as to ensure proper depth, correct conduit material, and proper conduit end treatment.



PULL OR JUNCTION BOX DETAILS

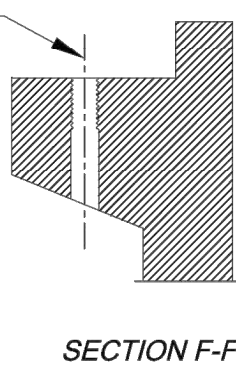


GRS CONDUIT DETAILS

- NOTES:
1. All conduits installed above ground shall be GRS.
 2. Conduit attached to bridges shall have expansion fittings installed at each end of the bridge and at each expansion joint on the bridge.
 3. All GRS conduits shall be electrically bonded by a grounding bushing and ground wire as detailed.
 4. Install the conduit and connector assembly to permit a 1/2 inch minimum longitudinal travel in either direction.

Number of Entering/Exiting Conduits	Box Type	Minimum Box Dimensions		
		A	B	C
1 - 2	Type 1 Junction Box	12"	12"	12"
3 - 4	Type 2 Junction Box	12"	18"	12"
> 4	Class 1 Pull Box	17"	30"	22"

All dimensions shown are nominal



- NOTES:
1. Lift opening required on all covers.
 2. Preformed box walls may be either flared or vertical. The bottom of boxes shall be open to below.
 3. If an extension is used with a preformed box, the lip of the extension may be interior or exterior. The extension shall be compatible and from the same manufacturer.
 4. Cable hooks are to be included with Class 1 Pull Boxes only.
 5. A Class 1 Pull Box shall be installed adjacent to each 4-Circuit Power Supply.

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BOX AND CONDUIT DETAILS

STANDARD DRAWING SL-3

Project:

Sheet Name:

Drawn By: JH
Checked By: JW
Date: 08/21/2009

3 OF 5

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Street and Lighting Details 4 of 5



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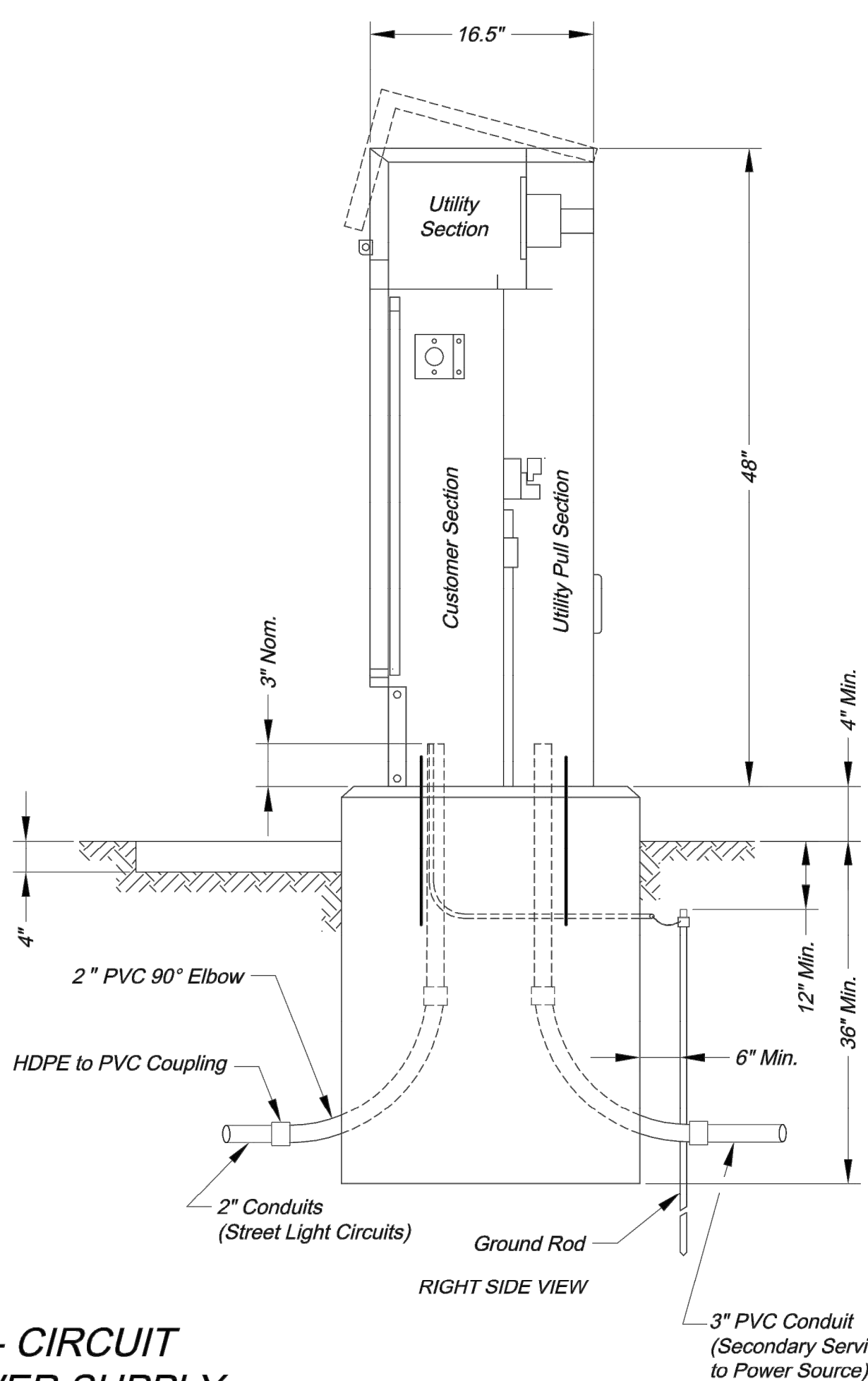
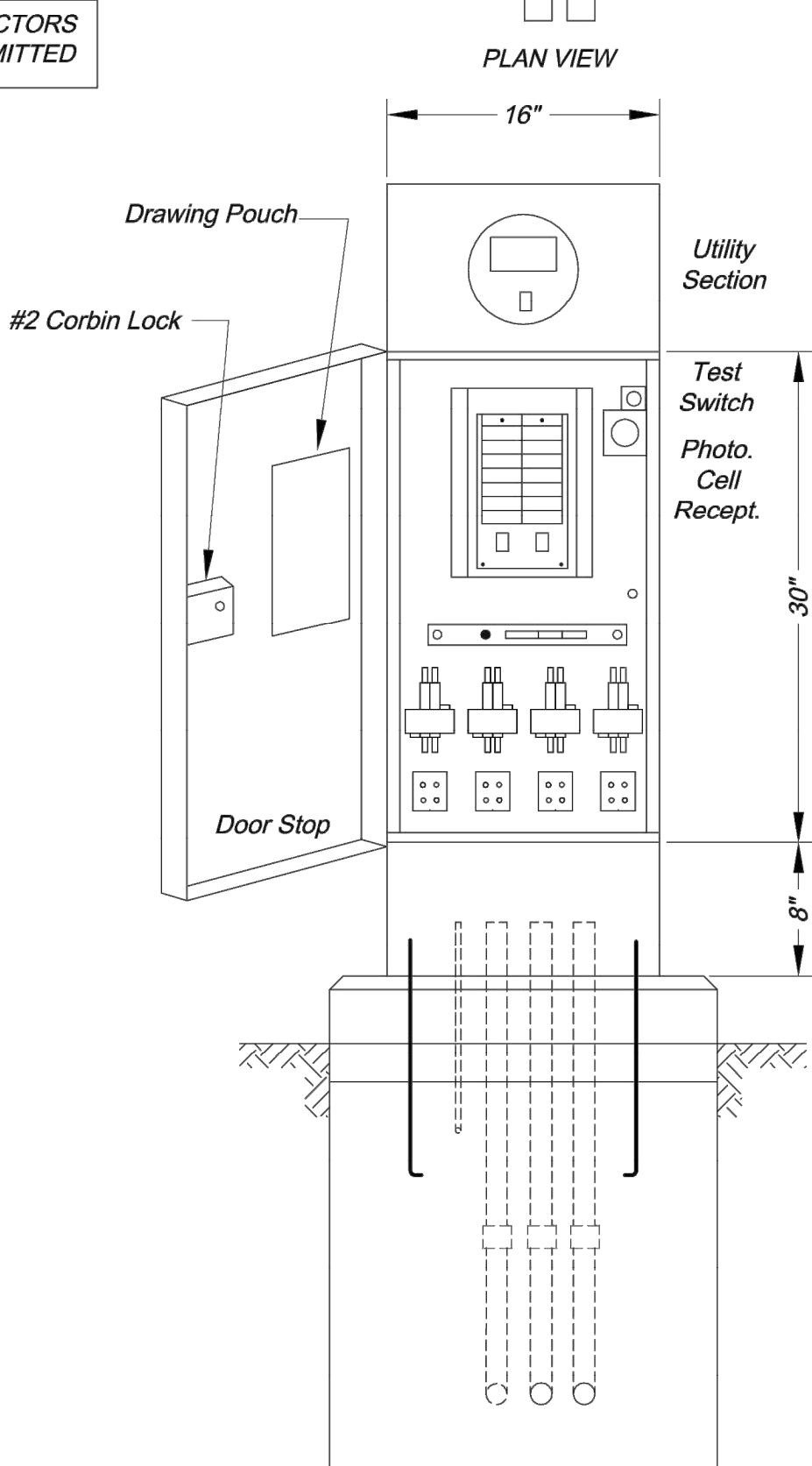
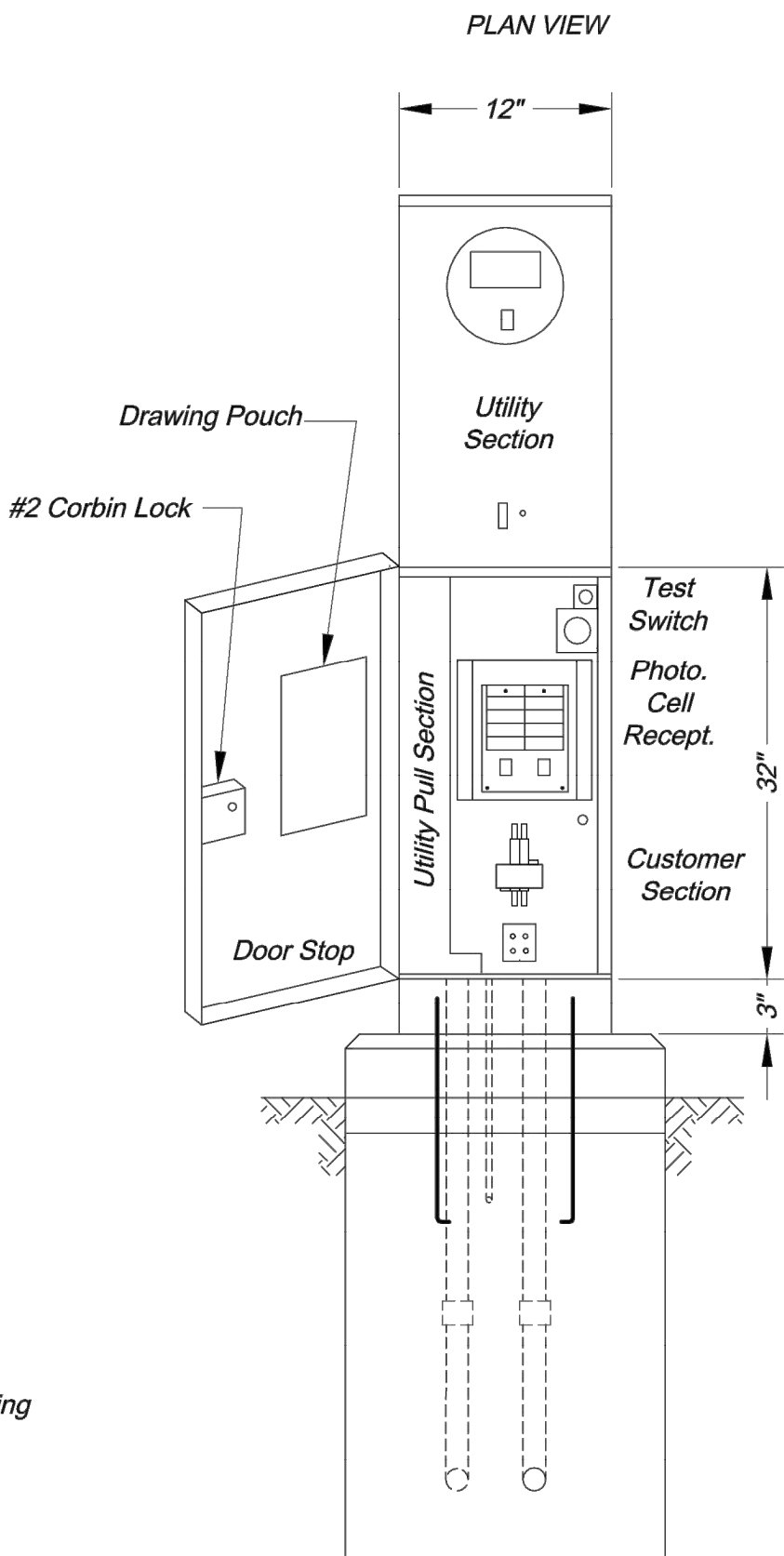
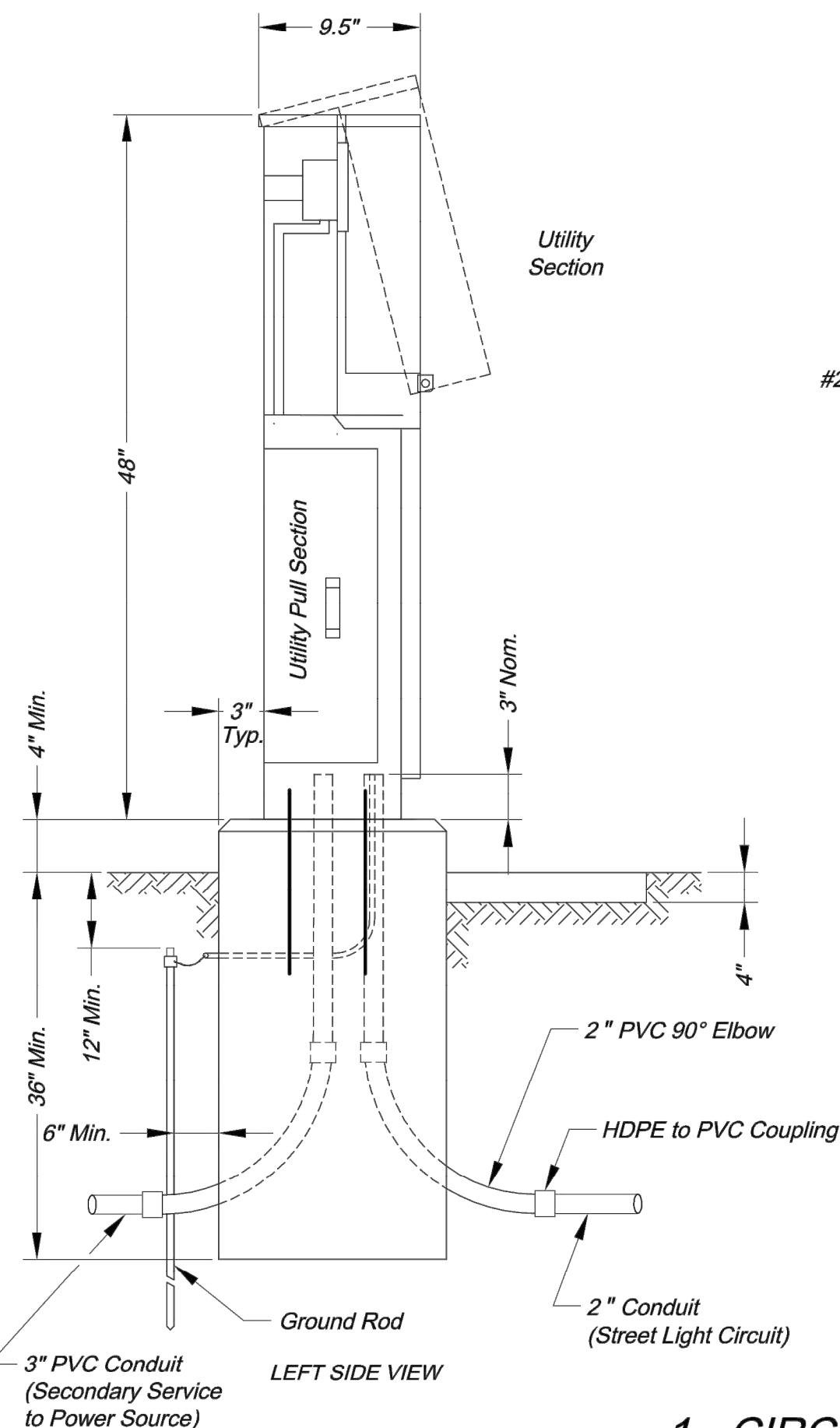
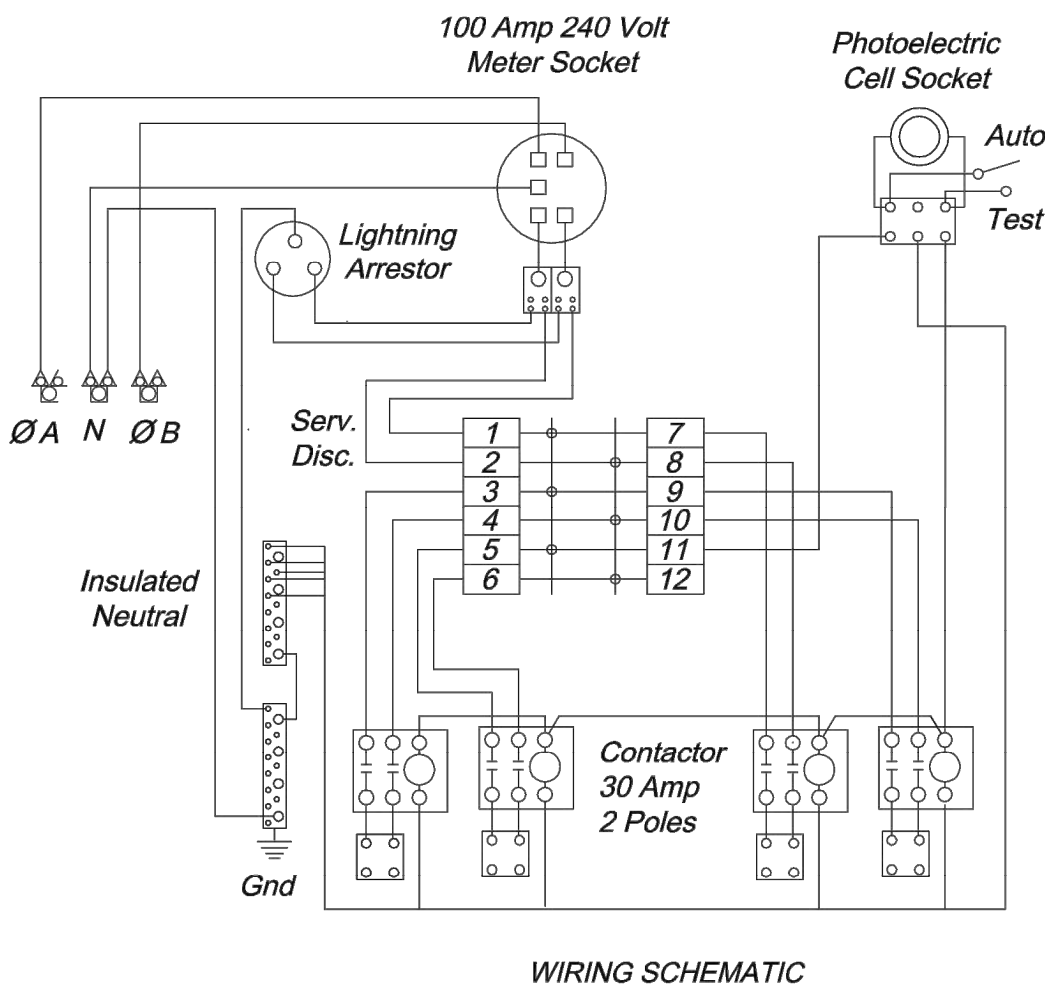
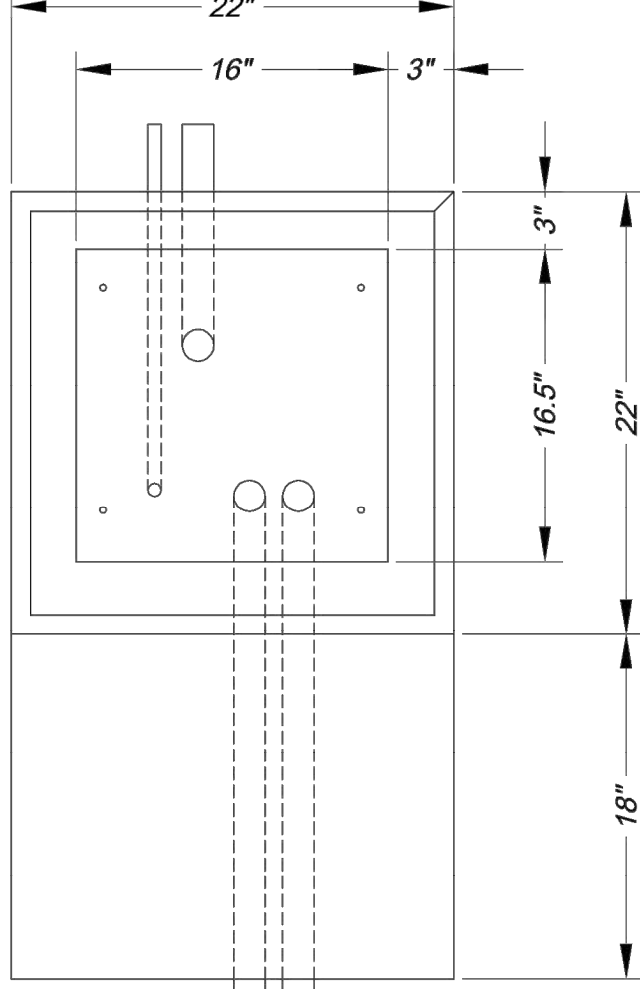
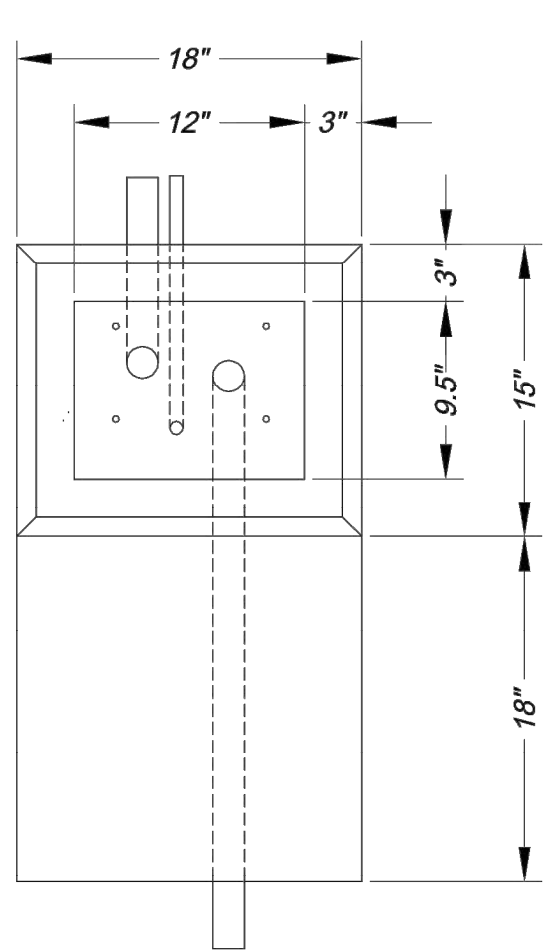
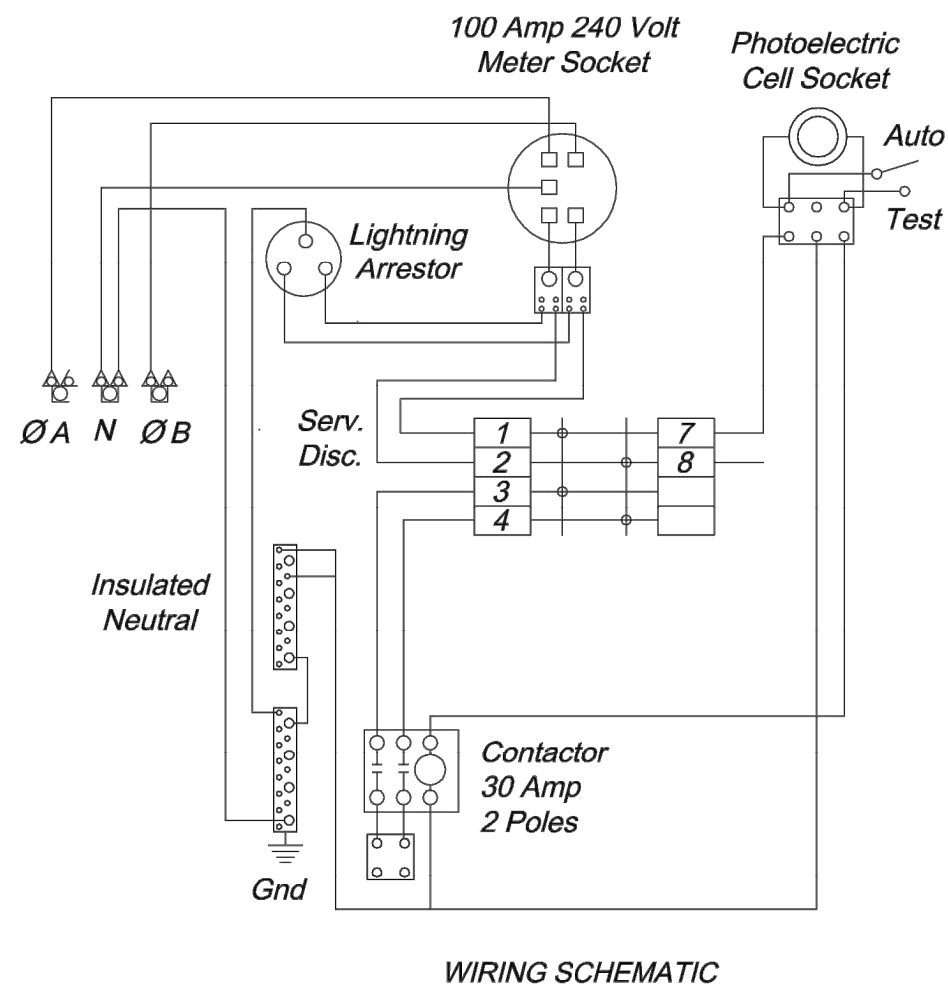
DATE:	12-11-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
45	68

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Professional Engineer
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Street and Storm Sewer Plans
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- NOTES:
1. Photoelectric cell should be oriented to the north or east.
 2. Seal around joint between cabinet and base with lifetime silicone caulk.
 3. All exposed edges of the base should have a 1" chamfer
 4. If base is adjacent to a traffic signal controller, raised portion of base (above finished grade) should be constructed to the same height as the signal controller base.
 5. The street address with the power supply number below it should be labeled on the upper portion of the cabinet facing the street. The City will supply stickers for the Contractor to install.

1 - CIRCUIT
POWER SUPPLY

4 - CIRCUIT
POWER SUPPLY

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POWER SUPPLY DETAILS
STANDARD DRAWING SL-4

Project:	
Sheet Name:	
Drawn By:	JH
Checked By:	JW
Date:	08/21/2009

4 OF 5

4

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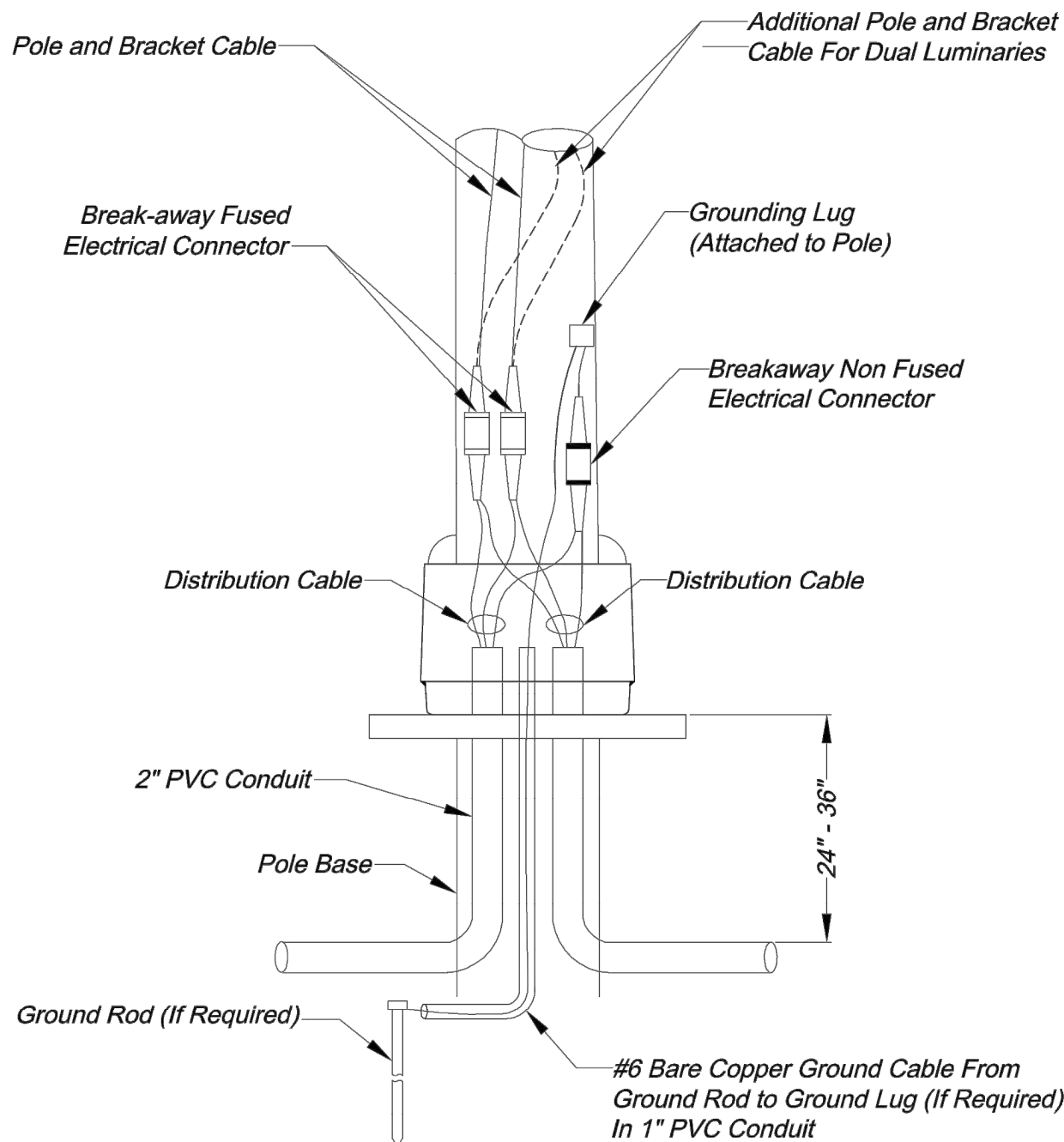
DATE: 12-11-2020
DESIGN BY: DJM
DRAWN BY: CMN
PROJECT NO.: 12720

SHEET NO. 46
TOTAL SHEETS 68

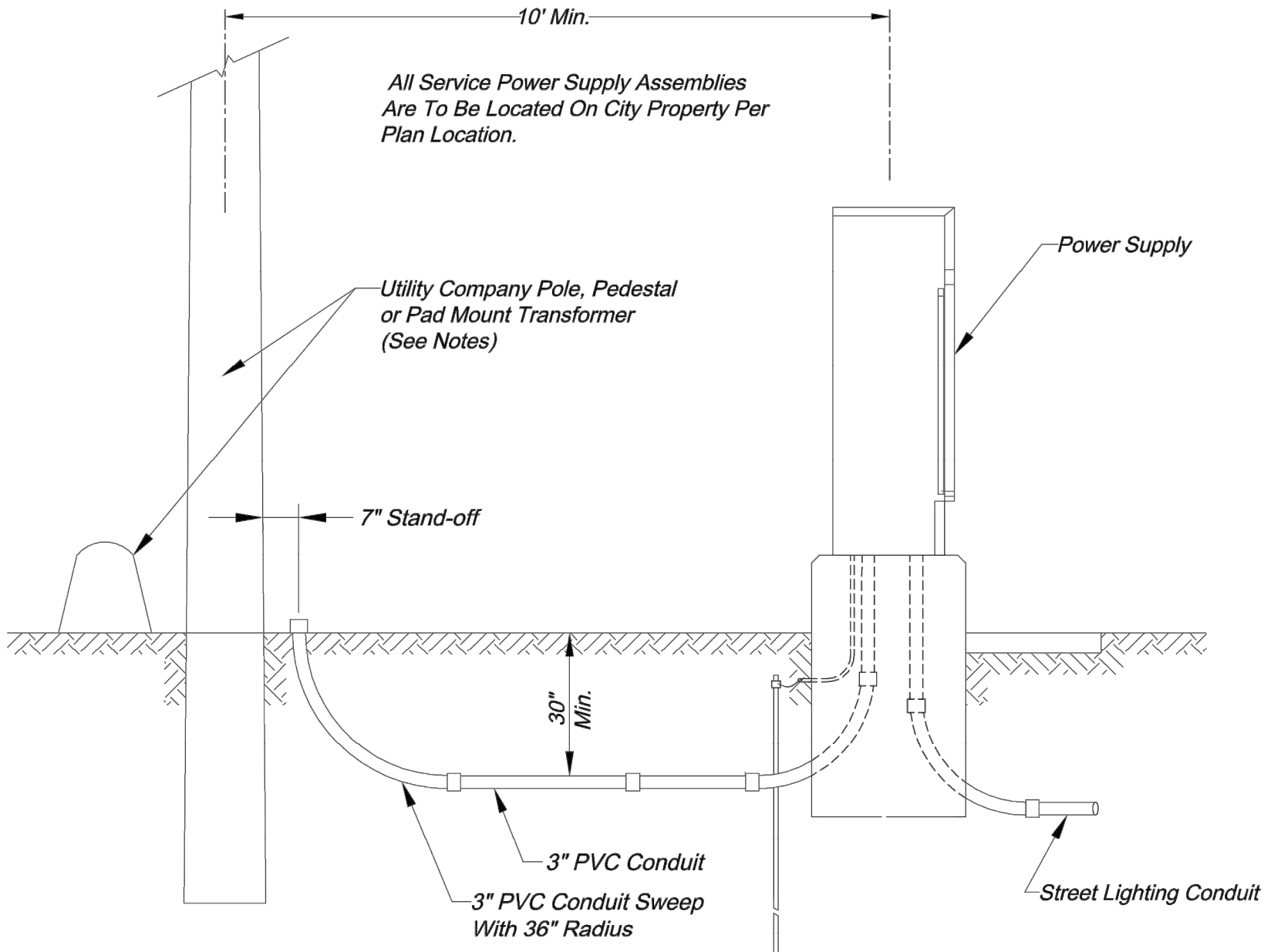
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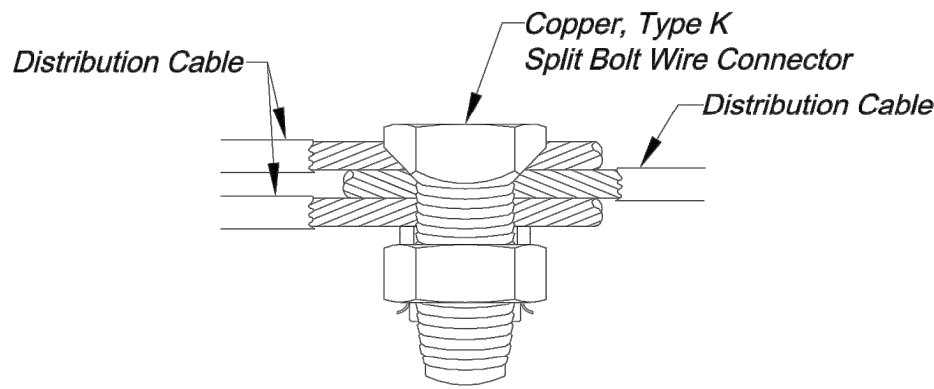


POLE WIRING DETAILS



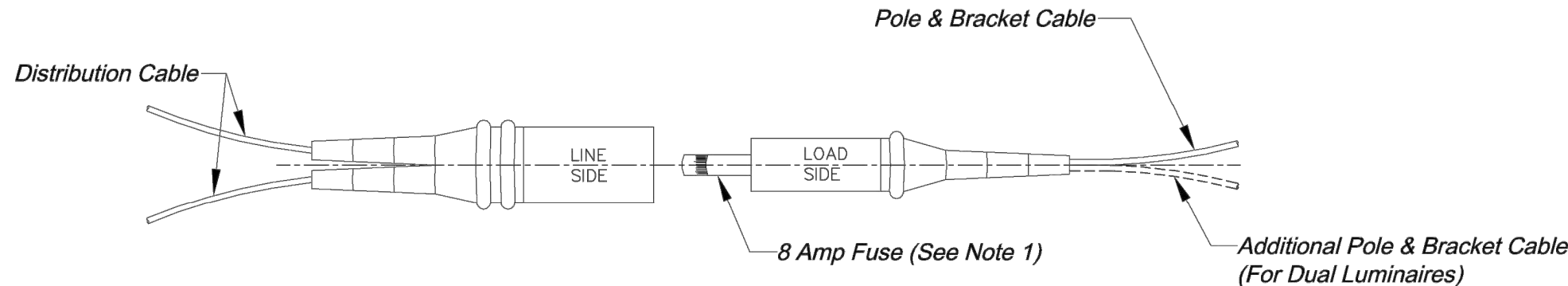
SECONDARY SERVICE CONNECTION DETAILS

- NOTES:
- Contractor shall install a conduit stub 24" to 6" above ground at utility poles. Conduit shall be stubbed to the side of the pole that will allow a direct run up the pole to the transformer without crossing other utility lines or cables. The end of the conduit shall be capped.
 - Contractor shall install conduit in a trench to within 24" of pedestals or pad mount transformers and leave a 36" x 36" x 36" access hole in the ground. Contractor shall keep open trench covered and promptly backfill access hole when service is completed.

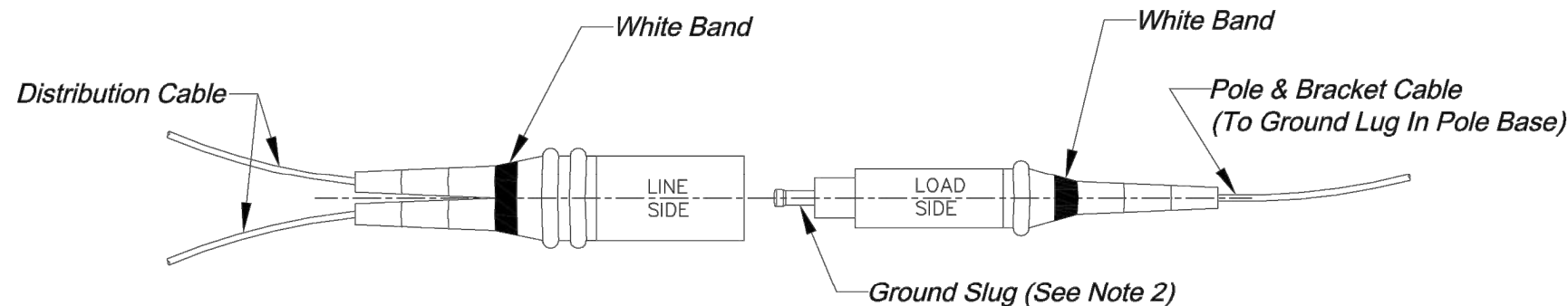


SPLICE KIT DETAILS

- NOTES:
- To be used only in junction or pull boxes where circuits branch or "tee".
 - All splices shall be protected with a resin splice kit (not shown) installed in accordance with the manufacturer's recommendations.

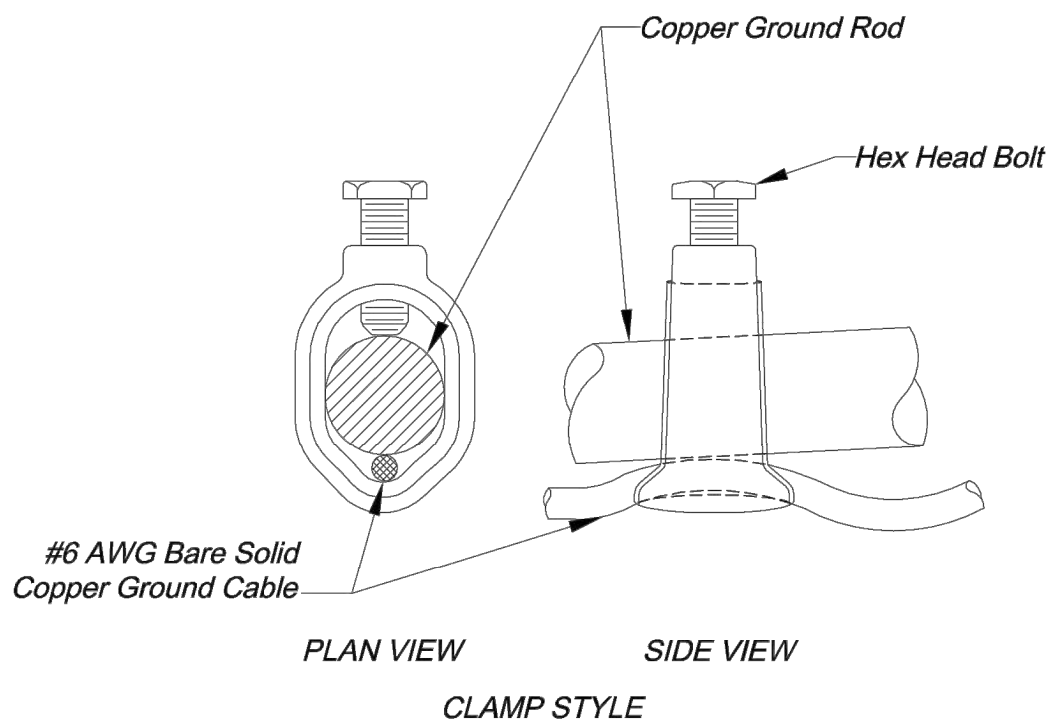


BREAK-AWAY FUSED ELECTRICAL CONNECTORS

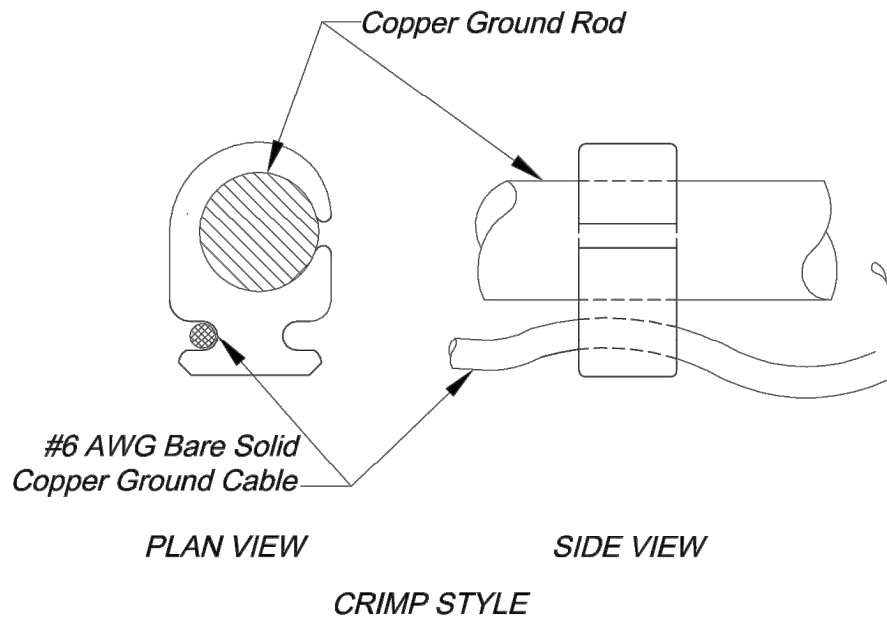


BREAK-AWAY NON FUSED ELECTRICAL CONNECTOR

- NOTES:
- Fuse remains in "Load Side" after break-away.
 - Ground "Slug" remains in "Load Side" after break-way.
 - Connectors shall have set screw type terminals to attach cables.



GROUND ROD CONNECTION DETAILS



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ELECTRICAL DETAILS
STANDARD DRAWING SL-5

Project:

Sheet Name:

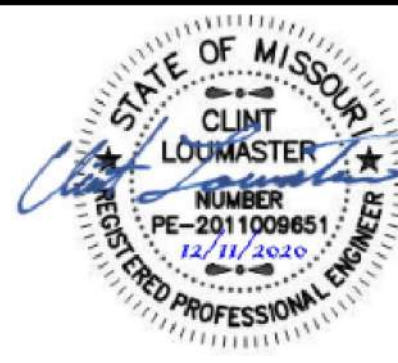
Drawn By: JH
Checked By: JW
Date: 08/21/2009

5 OF 5

C:\12720\Civil 3D\Production Drawings\Street & Storm Plans - Paragon Parkway\1272015200.dwg, Layout: 47 Pavement Marking and Signing Plan -- Friday, December 11, 2020, 3:20pm -- Copyright © 2020 by GBA Architects Engineers, Inc. 0000133, Landscape Architect 000025, Professional Land Surveyor 000039

GENERAL NOTES:

All pavement marking within or under the jurisdiction of the City of Lee's Summit shall be performed thermoplastic for pavement marking symbols, including stop lines, yield lines, diagonal lines, lane use arrows, and crosswalk lines, or high-build paint for longitudinal lines.



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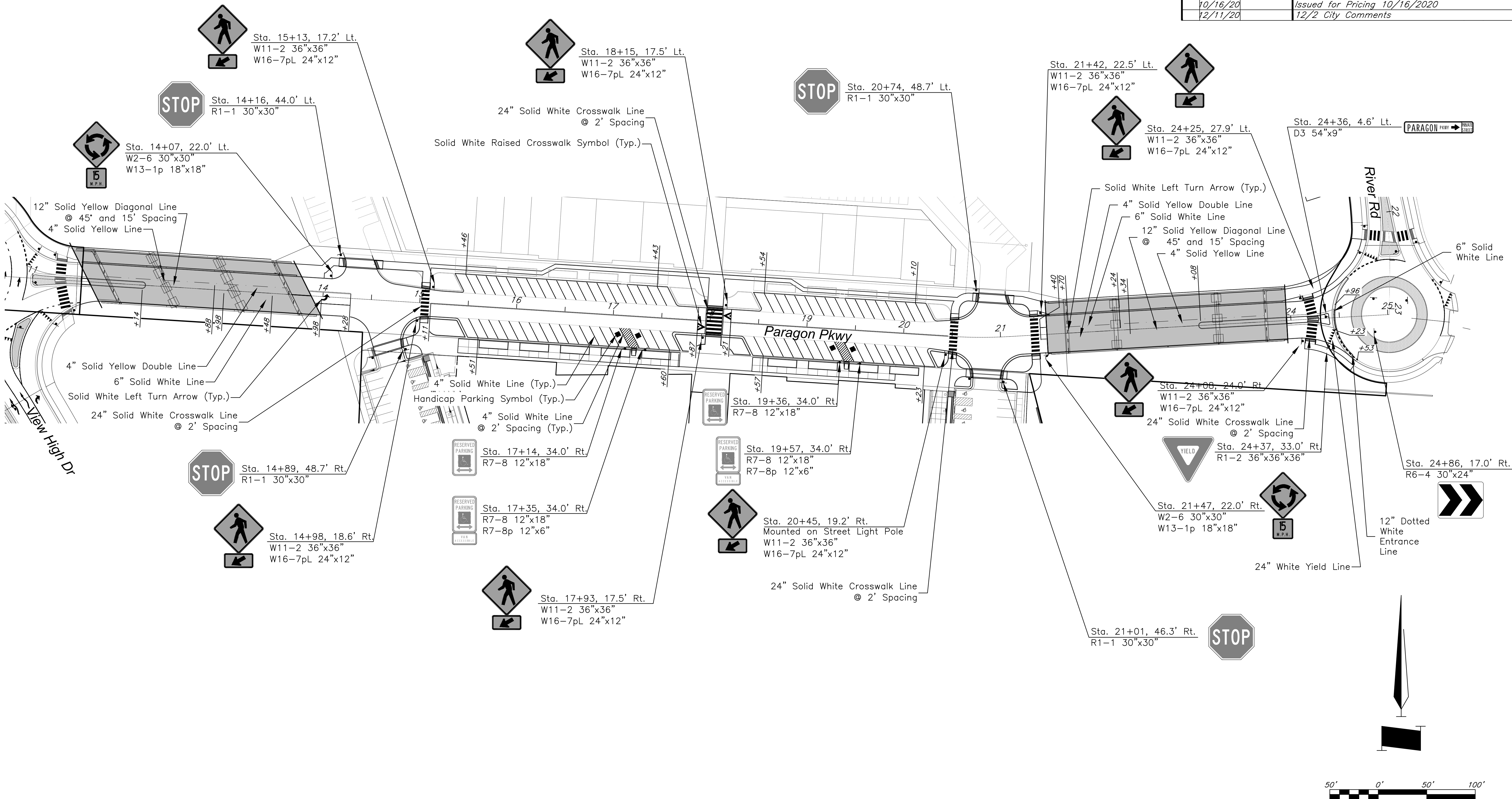
DATE: 12-11-2020
DESIGN BY: CEL
DRAWN BY: DRW/DGL
PROJECT NO.: 12720

SHEET NO. 47
TOTAL SHEETS 68

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Pavement Marking and Signing Plan

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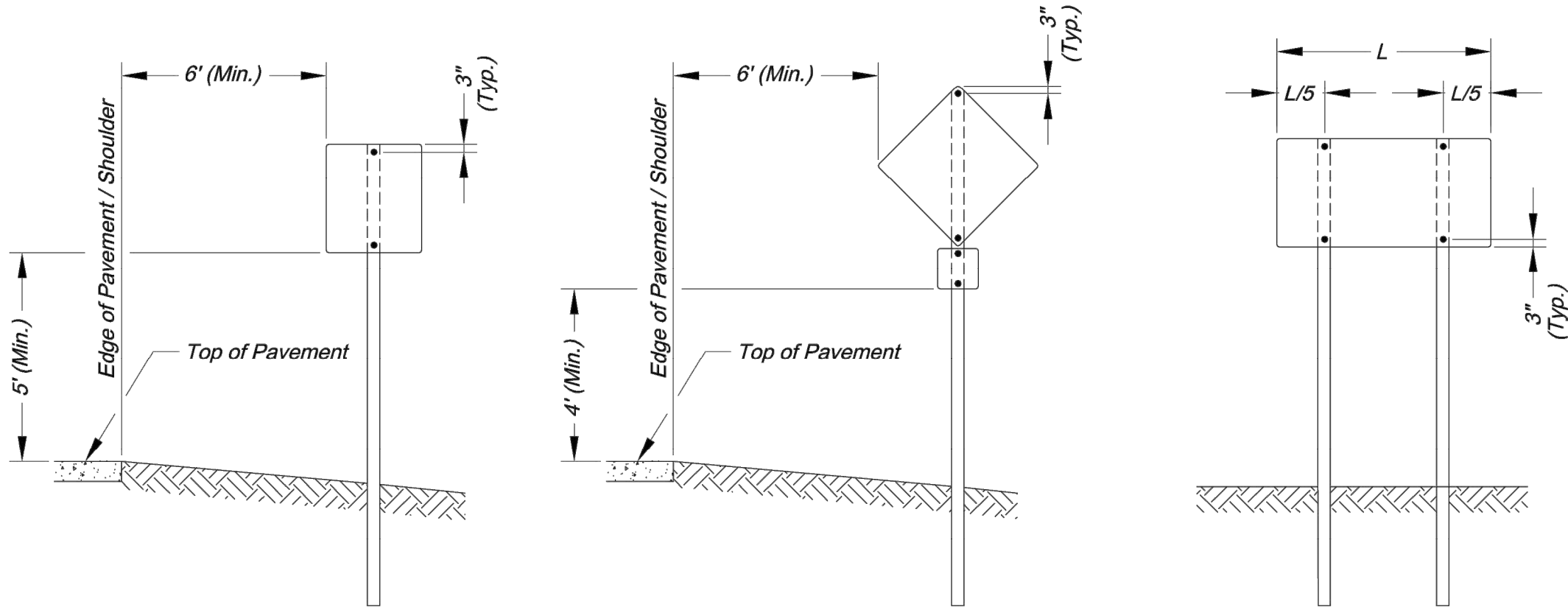
DATE: 12-11-2020
DESIGN BY: DJM
DRAWN BY: CMN
PROJECT NO.: 12720

SHEET NO. 48
TOTAL SHEETS 68

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Professional Engineer
License No. 2018024421

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

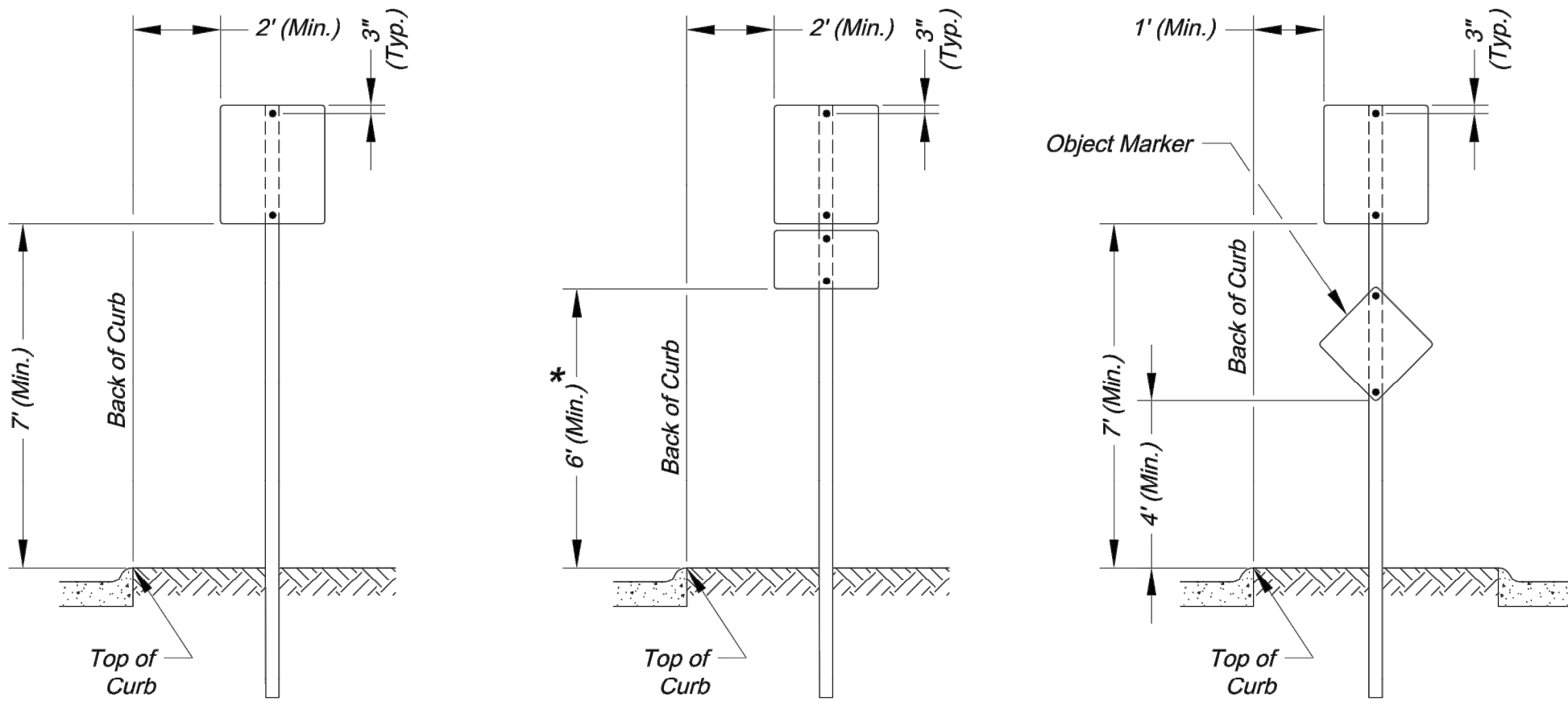
NO.	DATE	REVISIONS	BY	APPROVED
	10/16/20	Issued for Pricing		
	12/11/20	12/2 City Comments		



SIGN INSTALLATION FOR NON-CURBED STREET

SIGN INSTALLATION WITH AUXILARY SIGN FOR NON-CURBED STREET

SIGN INSTALLATION WITH TWO SIGN POSTS



SIGN INSTALLATION FOR CURBED STREET

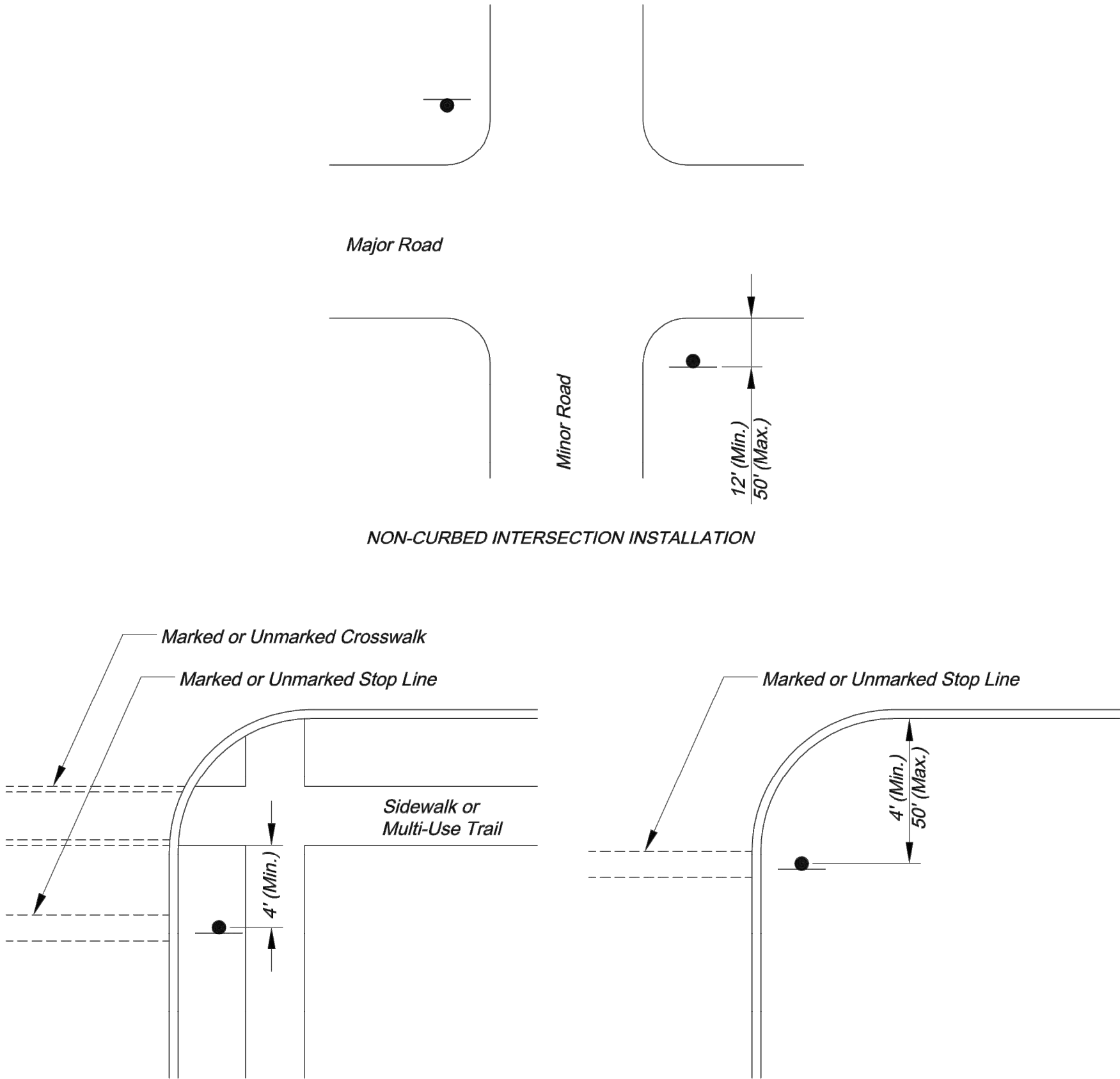
SIGN INSTALLATION WITH AUXILARY SIGN FOR CURBED STREET

SIGN INSTALLATION FOR RAISED MEDIANS

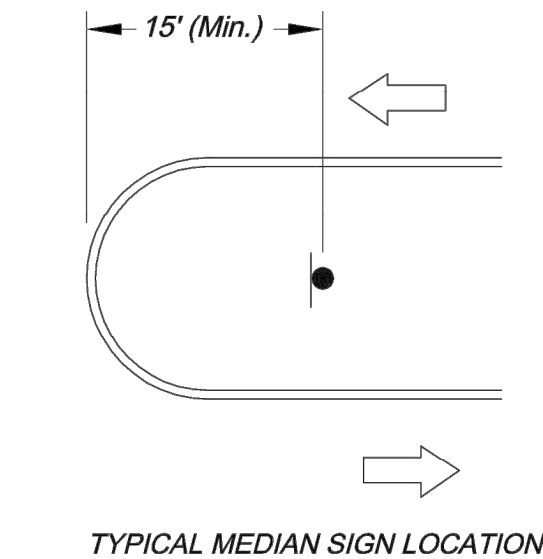
SIGN MOUNTING DETAILS

* The height to the bottom of a sign when it is located in a pedestrian walkway or extends into a walkway shall be a minimum of 80 inches above the walkway.

NOTE:
1. Generally, the sign mounting height should not be more than 1' greater than the minimum mounting height.



CONTROL SIGN LOCATION



MEDIAN SIGN LOCATION

NOTES:
1. A 4" P.V.C. sleeve shall be installed in new concrete medians at each location where a sign is to be installed.
2. For existing concrete medians, a 4" hole shall be cored into the concrete.

Project:

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Sheet Name:

SIGN MOUNTING DETAILS
STANDARD DRAWING SN-1

Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#

1 OF 3
1

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DESIGN BY: DJM
DRAWN BY: CMN
PROJECT NO.: 12720

SHEET NO. 49TOTAL SHEETS 68

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

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U-STEEL POST DETAILS

U-STEEL POST NOTES:

1. Splice shall be positioned entirely between finished grade line and 18" above finished grade line. Only one splice will be allowed per post.
2. U-Steel post shall be 3 lb./ft., galvanized according to ASTM A123.
3. U-Steel post can be used for installation of signs with an area of less than 2.5 square feet.
4. All posts shall be embedded a minimum of 3 feet.

STRAP TYPE SIGN SUPPORT DETAILS

METAL POLE SIGN MOUNTING NOTES:

1. Signs on metal poles shall be attached with two brackets and stainless steel bands.
2. Holes in sign for attachment to the mounting brackets shall be offset a minimum of 2 inches from the edge of the sign.
3. Holes in sign shall be located such that the sign is level.
4. All strap, bracket, and seal materials should be Type 201 stainless steel.

PERMANENT SIGNING GENERAL NOTES:

1. All signing shall be in accordance with the latest edition of the *Manual on Uniform Traffic Control Devices (MUTCD)*.
2. The Contractor is responsible for avoiding any and all utilities when installing sign posts, whether the utility is indicated on the plans or not.
3. All workmanship and materials shall be subject to the inspection and approval of the Public Works Department of the City of Lee's Summit.
4. The Contractor shall stake the location of all sign posts to be installed. The City Inspector shall inspect the staking prior to installation. Minor relocation to avoid conflicts may be allowed with the approval of the City Traffic Engineer or designee.
5. Signs shown to be installed on the side of metal poles shall be mounted with stainless steel straps or wing brackets as detailed. No signs are to be installed on wood poles. See *Traffic Signal Standard Drawings* for the installation of signs on mast arms.
6. All post mounted signs shall be installed with breakaway anchors according to the Standard Drawings.
7. All existing signs will be used in place during construction and protected from damage unless otherwise indicated in the plans. If the Contractor damages any existing sign or posts during construction, the Contractor will be required to replace the damaged materials with new signs or posts of the same type and size at the Contractor's expense. The Contractor shall be responsible for removing and storing any signs that are to be reinstalled on the project. All equipment shall be reinstalled in good condition.
8. Existing permanent signs and posts removed by the Contractor for construction purposes which are not to be reinstalled shall be delivered to the City's Public Works Maintenance Facility (1971 SE Hamblen Road). The Contractor shall be responsible for removing and storing equipment in good condition and is fully responsible for the equipment until it is delivered.
9. All Stop, Yield, or street name signs shall be maintained in a conspicuous location for the driving public. All Stop and Yield signs removed for construction purposes can be temporarily erected in reflectorized drums (no less than 7 feet above the pavement surface) until they can be reinstalled. Any temporary Stop or Yield sign installation to be left in place overnight will require prior approval from the City Inspector.

SQUARE STEEL POST INSTALLATION SEQUENCE:

1. Sign post anchor driven partially into the ground using a drive cap with a sledge or power equipment.
2. Anchor sleeve slipped over anchor and drive into the ground together with the sign post anchor.
3. Insert sign post into the post anchor and bolt in place.

SQUARE STEEL POST DETAILS

SQUARE STEEL POST NOTES:

1. Square steel sign posts and break-away anchor shall consist of the following materials:
 - Sign Post - 14 Ga. 2" x 2" Square Steel Post
 - Post Anchor - 12 Ga. 2 1/4" x 2 1/4" x 36" Square Steel Post
 - Anchor Sleeve - 12 Ga. 2 1/2" x 2 1/2" x 18" Square Steel Post
2. 14 Gauge posts must meet a certified minimum yield strength of 60,000 psi.
3. In all installations the first hole above the finished grade line on the sign post, anchor, and anchor sleeve must be in line for the insertion of the corner bolt.
4. The maximum area for one sign post is 9.0 square feet. A sign or combination of signs with an area greater than 9.0 square feet will require two posts. Also, signs with a width greater than 36" (not including 36" x 36" diamond shaped signs) will require two posts.

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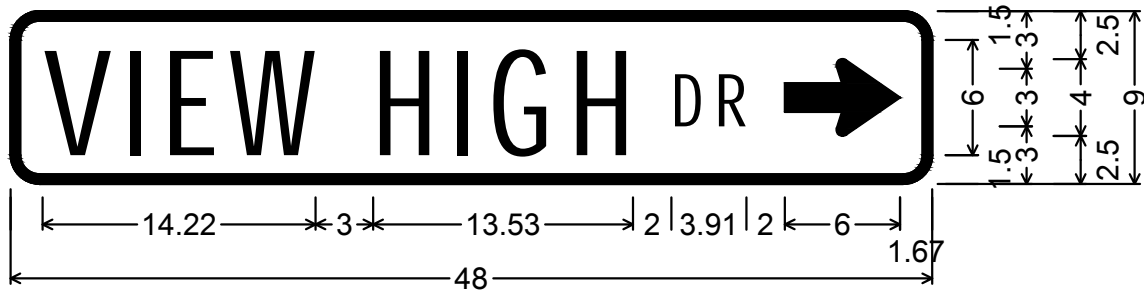


Project: SIGN POST DETAILS
Sheet Name: STANDARD DRAWING SN-2

Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#

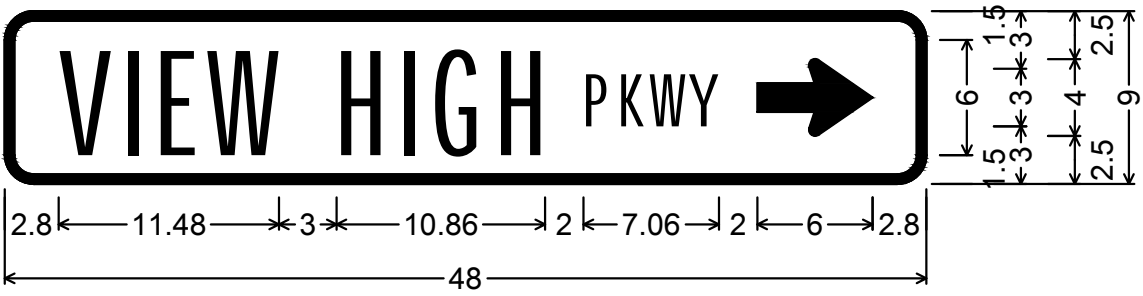
2 OF 3
2

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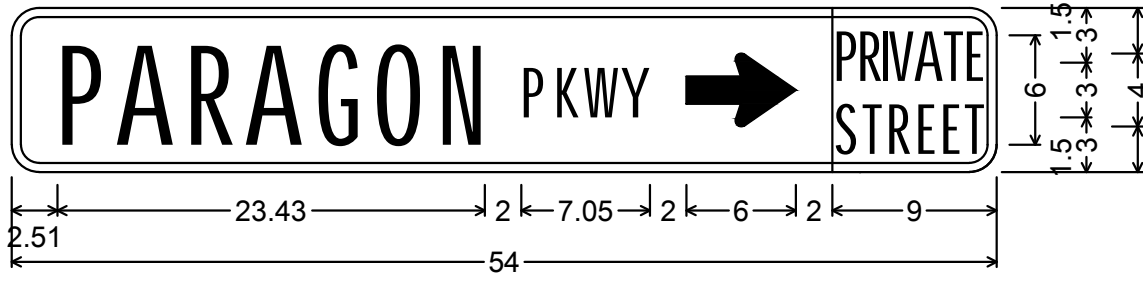
D3-1;
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"VIEW HIGH", C 75% spacing; "DR", C;
Standard Arrow Custom 6.00" X 4.00" 0°;
Table of distances between letter and object lefts

1.67	V	4.42	I	1.79	E	3.51	W	7.50	H	4.23	I	1.79	G	4.23	5.28	D	2.27	R	3.64	6.00	1.67
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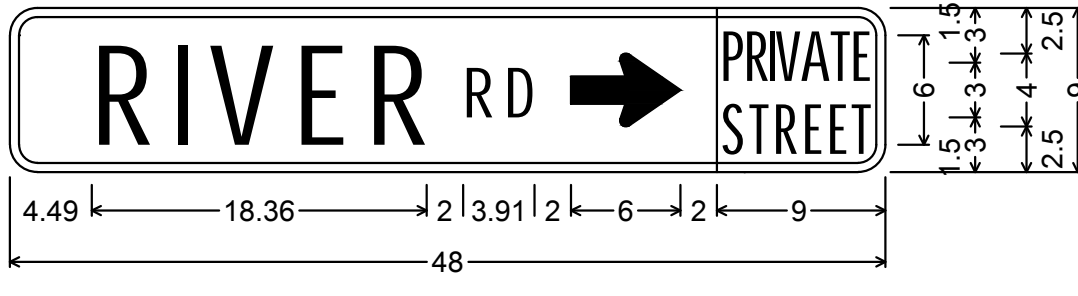
D3-1;
1.50" Radius, 0.50" Border, White on, Green;
"VIEW HIGH", B 75% spacing; "PKWY", B;
Standard Arrow Custom 6.00" X 4.00" 0°;
Table of distances between letter and object lefts

2.80	V	3.44	I	1.59	E	2.70	W	6.75	H	3.37	I	1.59	G	3.37	4.53	P	1.83	K	1.61	2.02	3.60	2.80
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D3-1;
1.50" Radius, 0.50" Border, White on, Green;
"PARAGON", B 75% spacing; "PKWY", B;
Standard Arrow Custom 6.00" X 4.00" 0°;
Rounded Rectangle 1.50" Radius Yellow;
Table of distances between letter and object lefts

2.51	P	3.20	A	3.86	R	3.21	3.86	G	3.21	3.56	O	4.53	N	1.82	K	1.62	2.02	3.59	8.00	9.00	0.00
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D3-1;
1.50" Radius, 0.50" Border, White on, Green;
"RIVER", C; "RD", C;
Standard Arrow Custom 6.00" X 4.00" 0°;
Rounded Rectangle 1.50" Radius Yellow;
Table of distances between letter and object lefts

4.49	R	4.54	I	1.86	V	4.67	E	4.01	5.28	R	2.27	D	3.64	8.00	9.00	0.00
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Christopher Novosel
Professional Engineer
License No. 2018024421

GBA
architects
engineers

9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

DATE: 12-11-2020
DESIGN BY: DJM
DRAWN BY: CMN
PROJECT NO.: 12720
SHEET NO. 50
TOTAL SHEETS 68

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

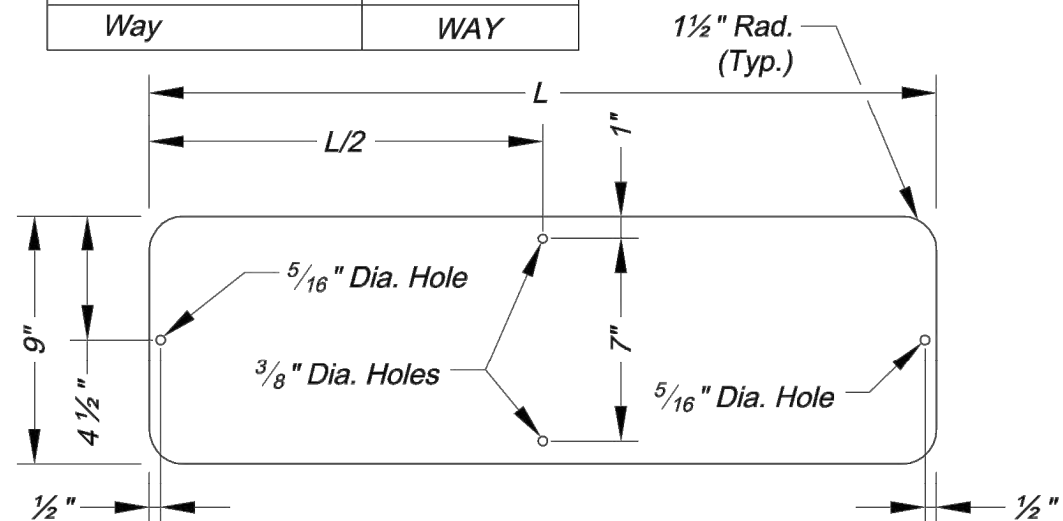
REVISIONS
Issued for Pricing 10/16/2020
12/2 City Comments

Signing Details 3 of 3

STANDARD ABBREVIATION LISTS

Named Streets	
Avenue	AVE
Boulevard	BLVD
Circle	CIR
Creek	CR
Court	CT
Crossing	XING
Drive	DR
Highway	HWY
Lane	LN
Parkway	PKWY
Place	PL
Road	RD
Street	ST
Terrace	TER
Trail	TRL
Way	WAY

Numbered Streets	
First	ST
Second	ND
Third	RD
Fourth to Tenth	TH

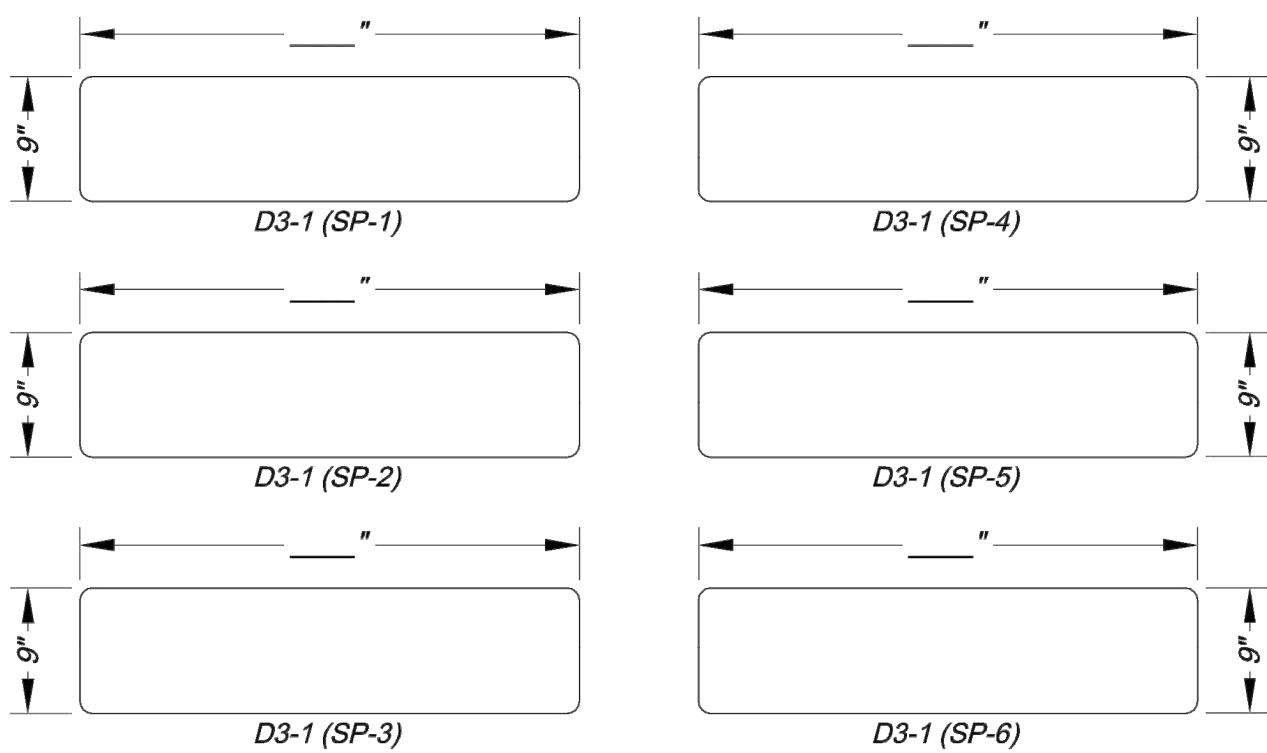


STREET NAME SIGN BLANK DETAILS

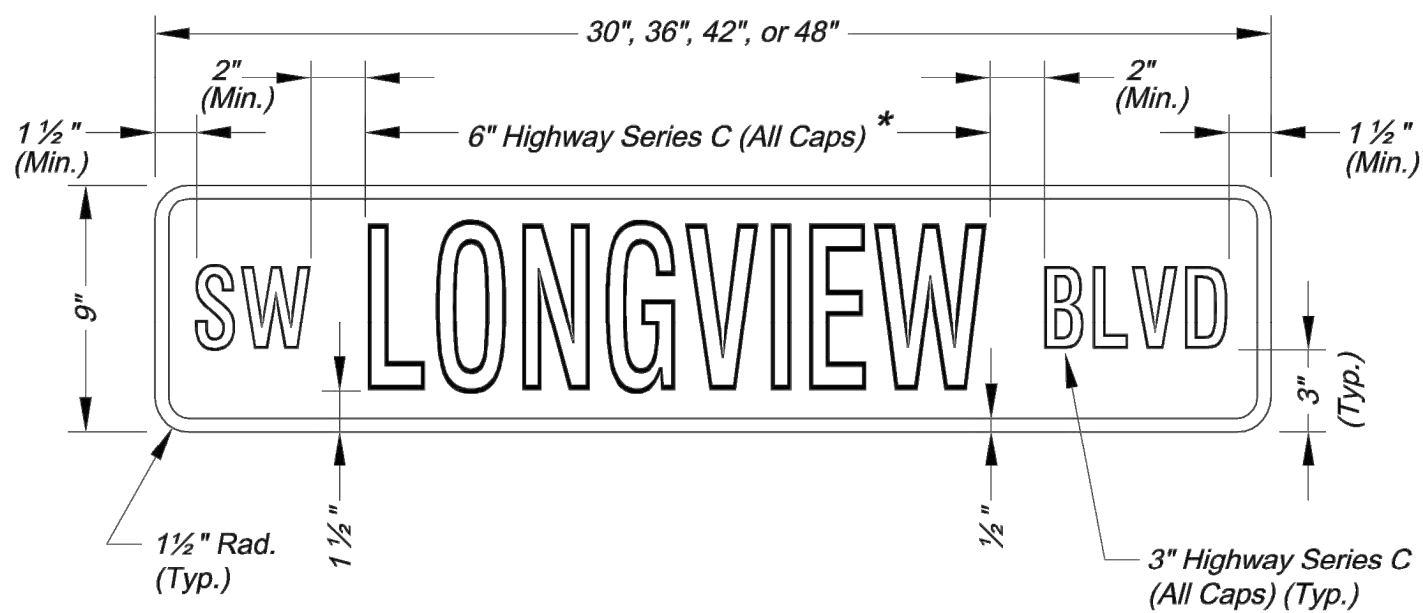
For Mounting on Square Steel Posts

STREET NAME SIGN QUANTITIES

Sign Designation	Sign Size	Sign Area (Sq. Ft.)	Number	Quantity (Sq. Ft.)
D3-1 (SP-1) View High Dr	48" x 9"	3.0	1	1
D3-1 (SP-2) View High Pkwy	48" x 9"	3.0	1	3.38
D3-1 (SP-3) Paragon Pkwy	54" x 9"	3.38	1	3.38
D3-1 (SP-4) River Rd	48" x 9"	3.0	1	3.0
D3-1 (SP-5)	9" x			
D3-1 (SP-6)	9" x			

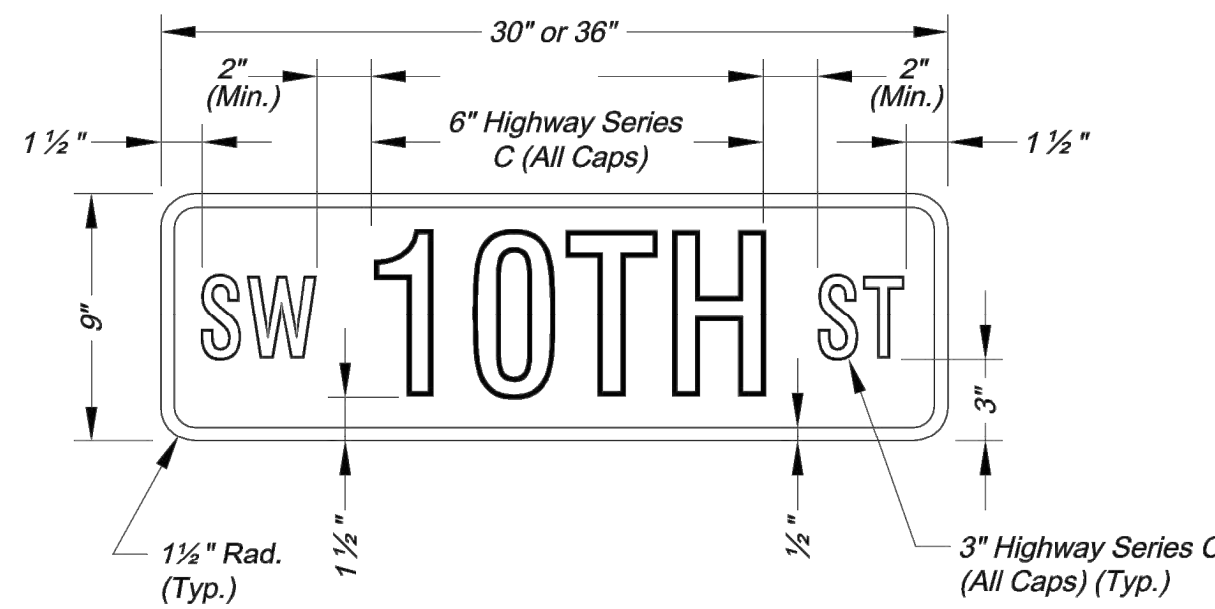


PROJECT SIGN DETAILS SEE ABOVE



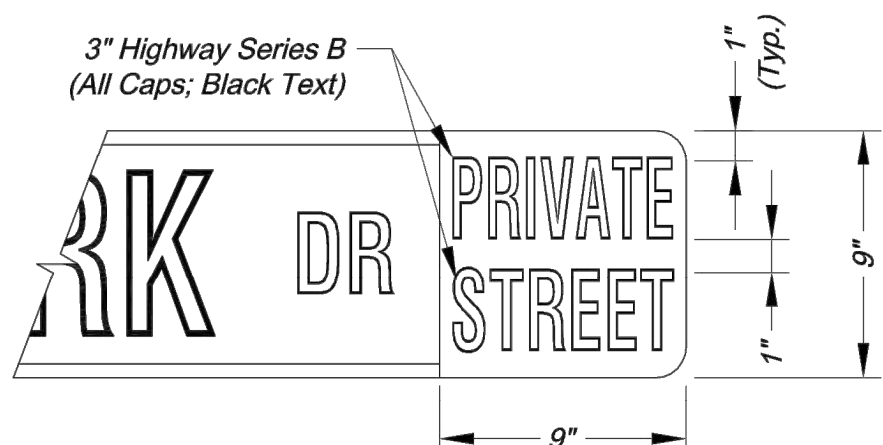
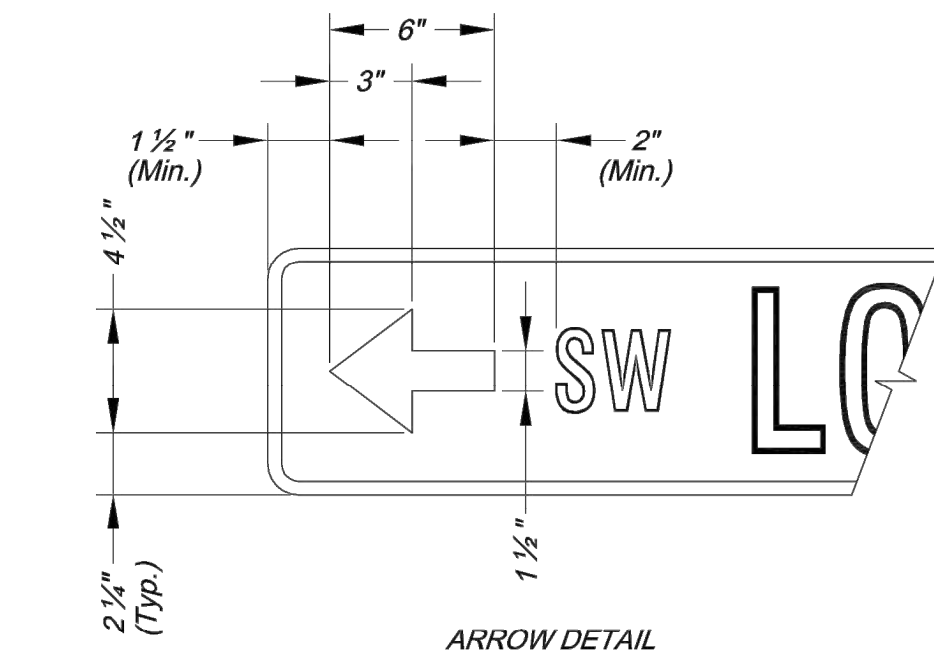
NAMED STREET NAME SIGN DETAIL

* Use Highway Series B (All Caps) in lieu of series C if necessary to fit text on a 36" sign blank.



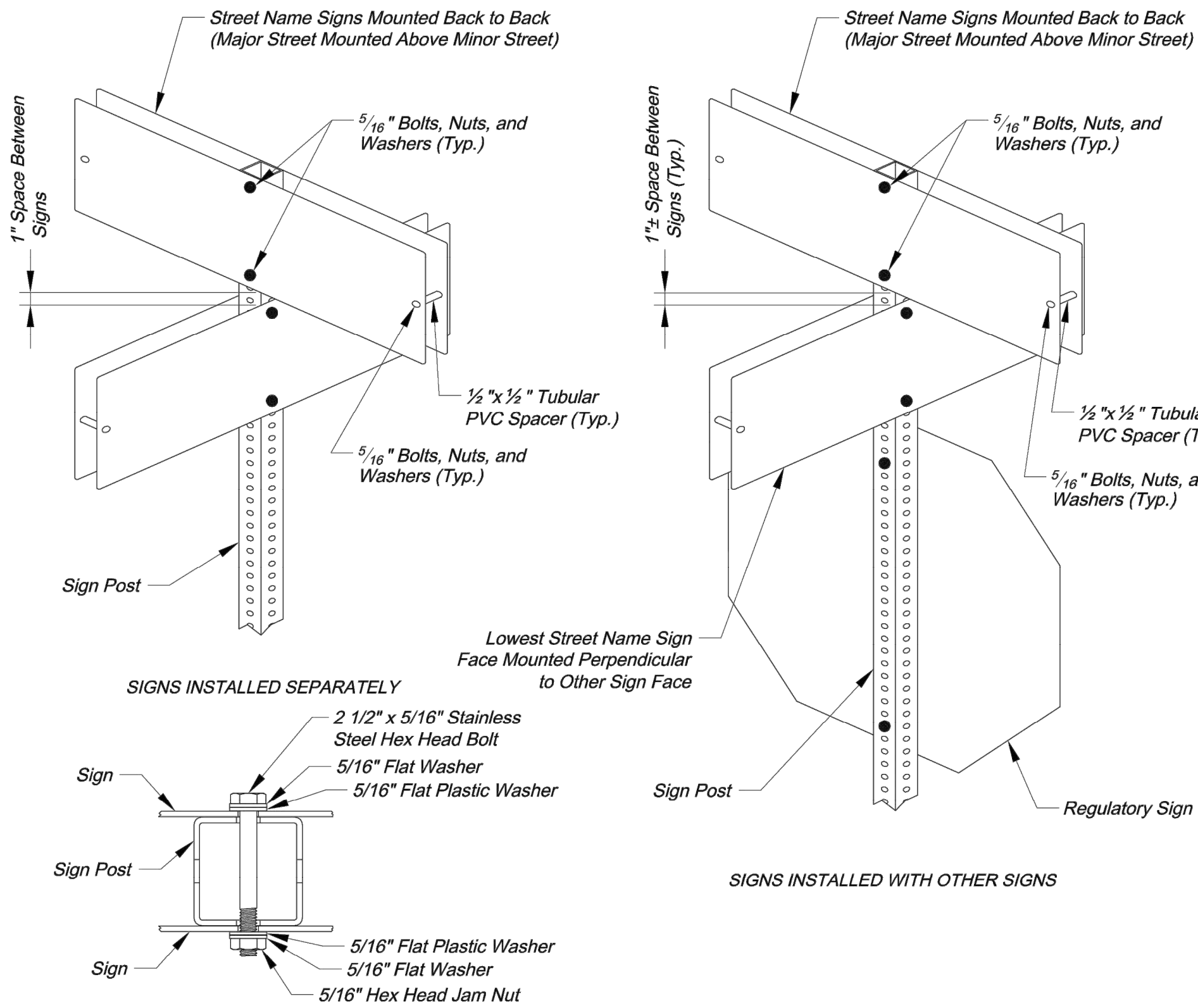
NUMBERED STREET NAME SIGN DETAIL

STREET NAME SIGN FACE DETAILS

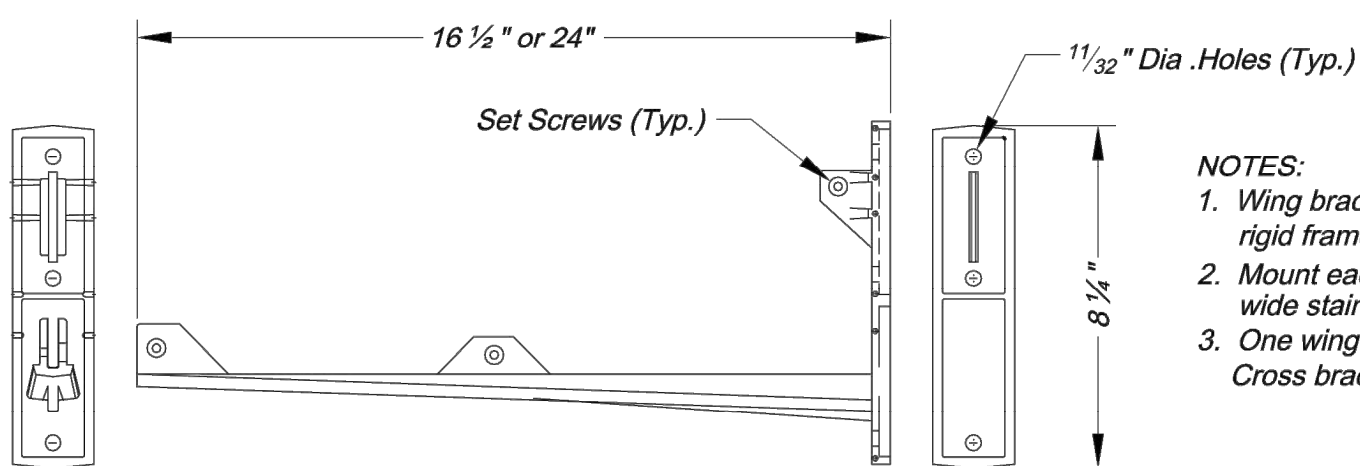


NOTES:

- For all street name signs, the legend shall be white and the background shall be green.
- Arrows shall be added to street name signs where the name of a street changes at an intersection. Street name signs with arrows are to be installed on each side of the intersection to indicate the change in names. Arrows shall be white.
- The "PRIVATE STREET" tag should be added to the end of street name signs to indicate where a street that is outside the right-of-way intersects a public street. The background for the "PRIVATE STREET" tag shall be yellow.

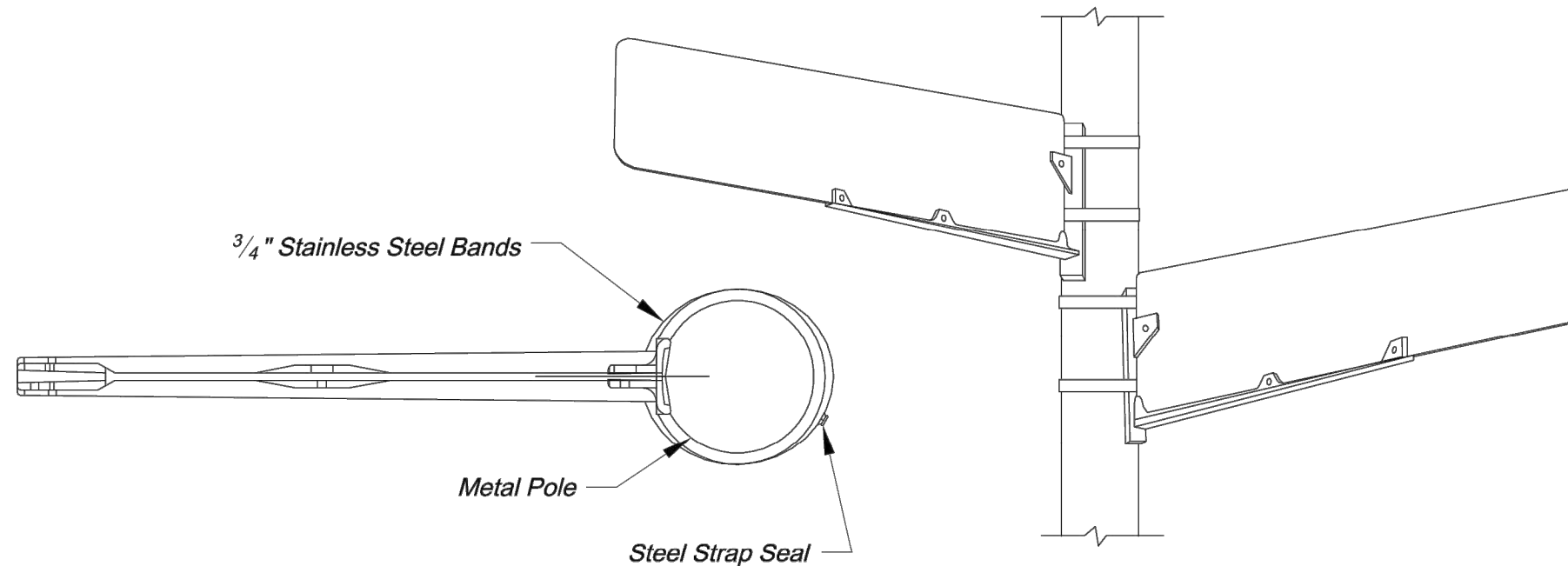


SQUARE STEEL POST MOUNTING DETAILS



NOTES:

- Wing bracket shall be an L-shaped cantilever of T-beam rigid frame 380-3 aluminum alloy construction.
- Mount each wing bracket to metal pole using two 3/4" wide stainless steel straps.
- One wing bracket shall be installed per each sign. Cross brackets are not allowed.



WING BRACKET MOUNTING DETAILS

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809



Project: STREET NAME SIGN DETAILS
Sheet Name: STANDARD DRAWING SN-3

Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#

3 OF 3

G:\12720\Civil 3D\Production Drawings\Street & Storm Plans - Paragon Parkway\1272015700.dwg, Layout: 51 Pavement Marking Details 1 of 2 --- Friday, December 11, 2020, 3:21pm --- Copyright 2020, George Buller Associates, Inc.

Pavement Marking Details 1 of 2



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Lenexa, Kansas 66219
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DATE: 12-11-2020
DESIGN BY: DJM
DRAWN BY: CMN
PROJECT NO.: 12720
SHEET NO. 51
TOTAL SHEETS 68

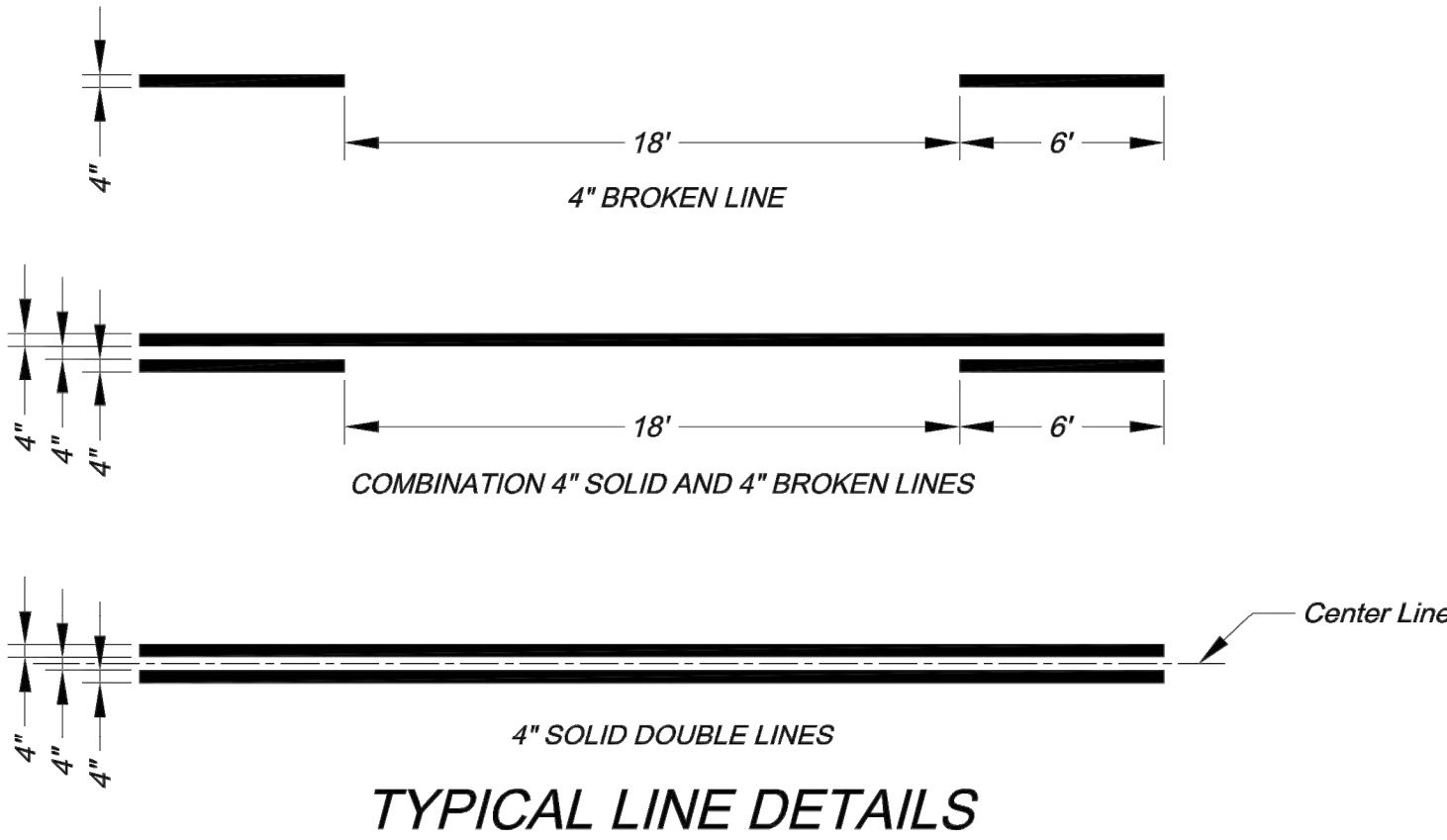
Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

Christopher Novosel
Professional Engineer
License No. 2018024421

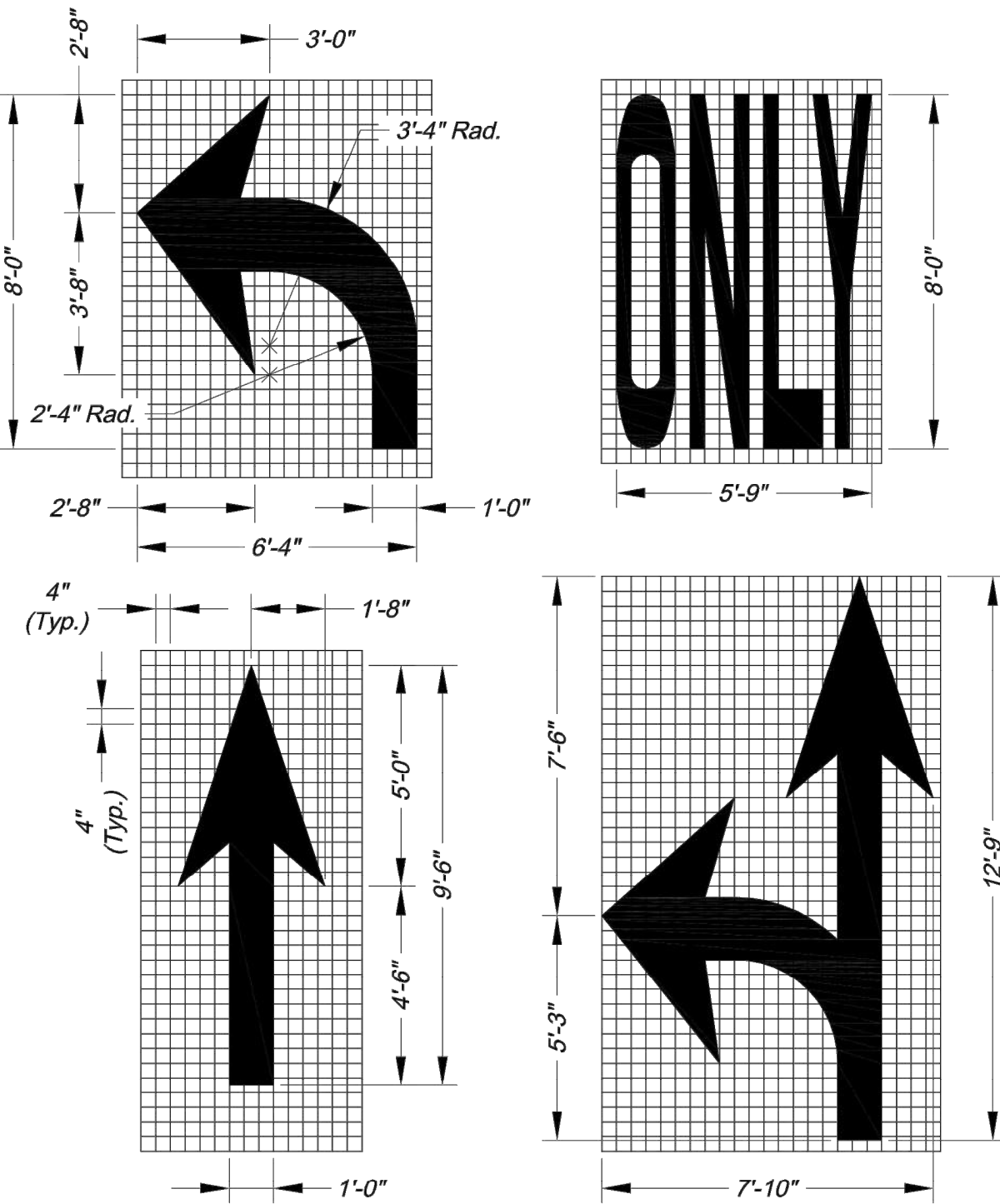
NO. DATE
10/16/20
12/11/20

REVISIONS
Issued for Pricing 10/16/2020
12/2 City Comments

BY APPROVED

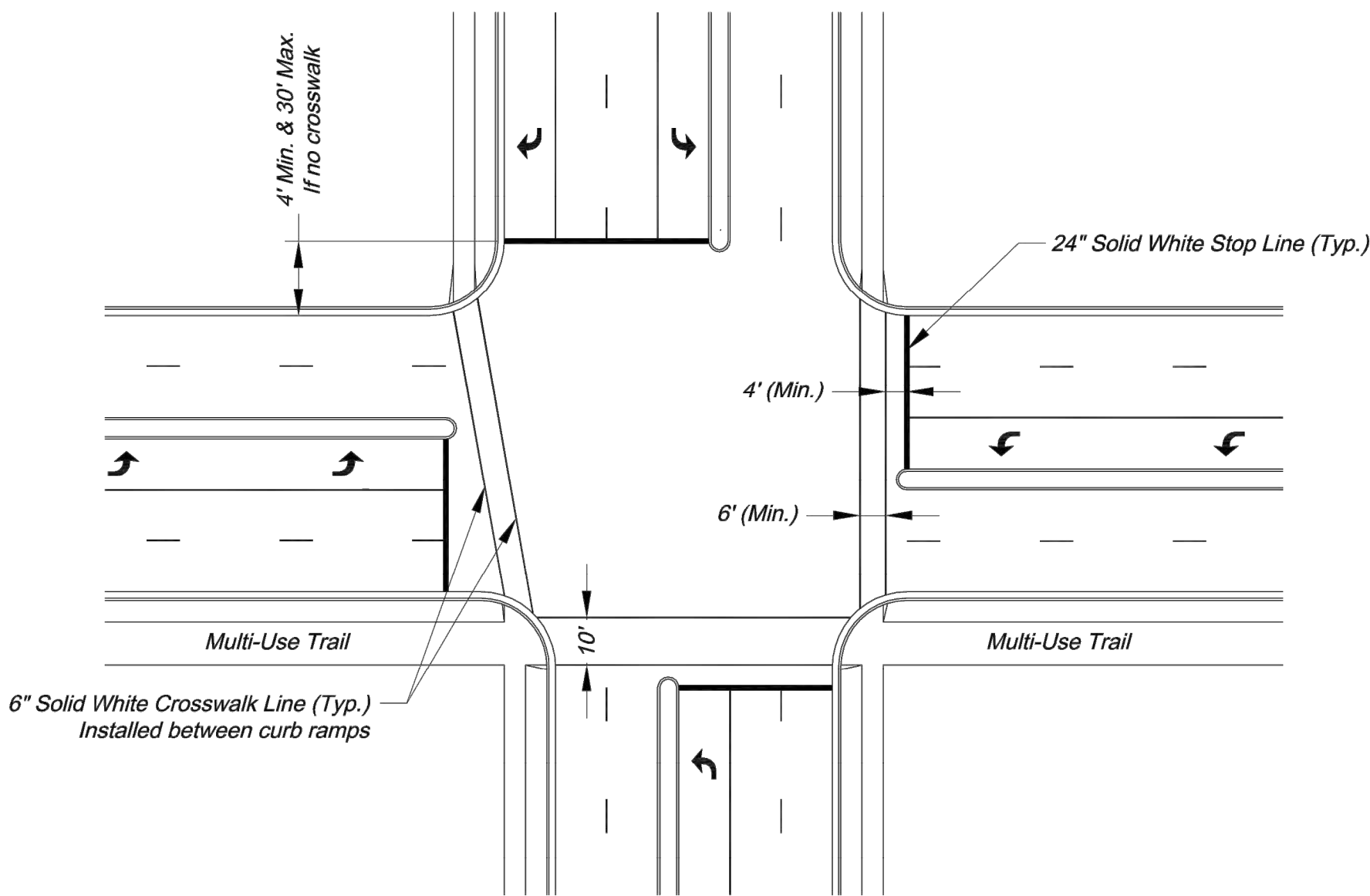


- NOTES:
- All edge line, center line, and lane line pavement markings shall be 4" wide unless otherwise noted.
 - Edge lines shall be continuous solid white or yellow lines. Right side edge lines shall be solid white. Median or left side edge lines on divided roadways are to be solid yellow. Edge lines and center lines shall be continuous across driveways.



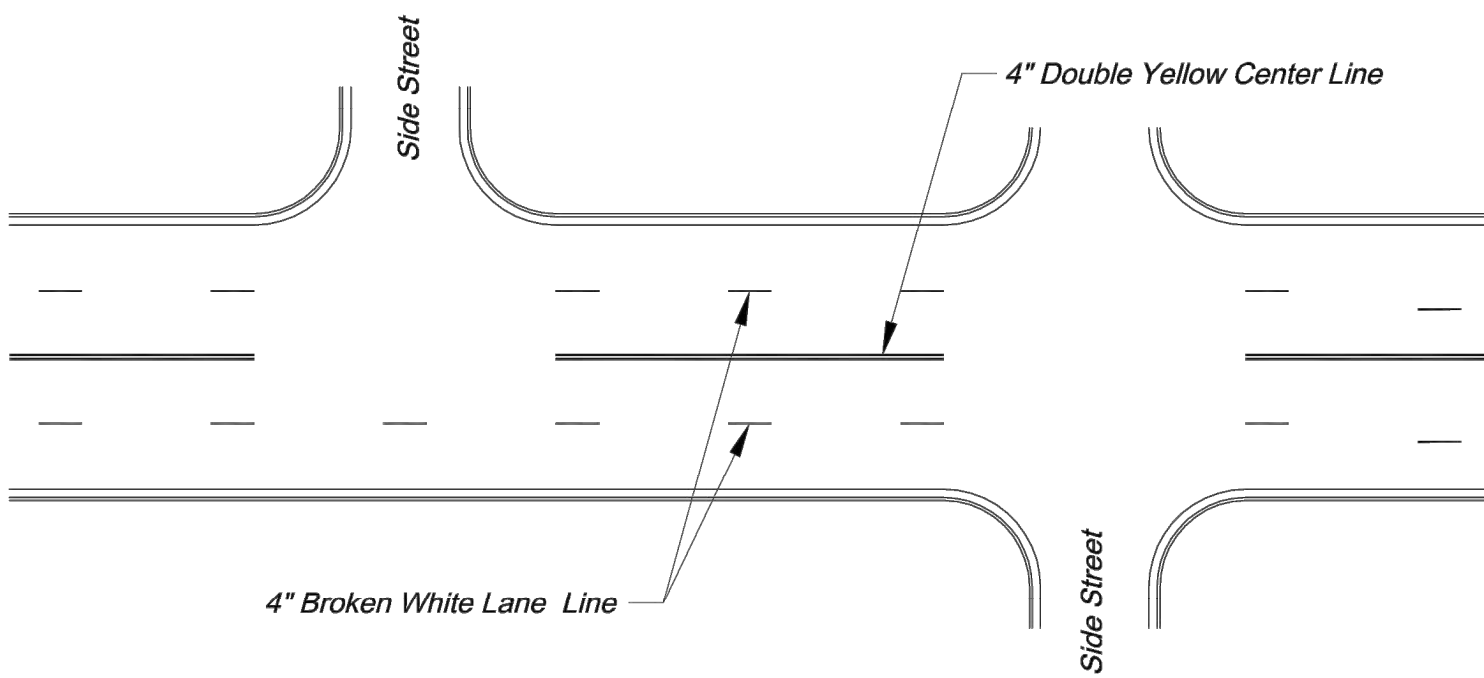
ARROW AND SYMBOL DETAILS

- NOTES:
- All arrow and symbol markings shall be white, and shall be centered in their respective traffic lanes.
 - Right-turn and combination right-turn/straight arrows are reverse of arrows shown.

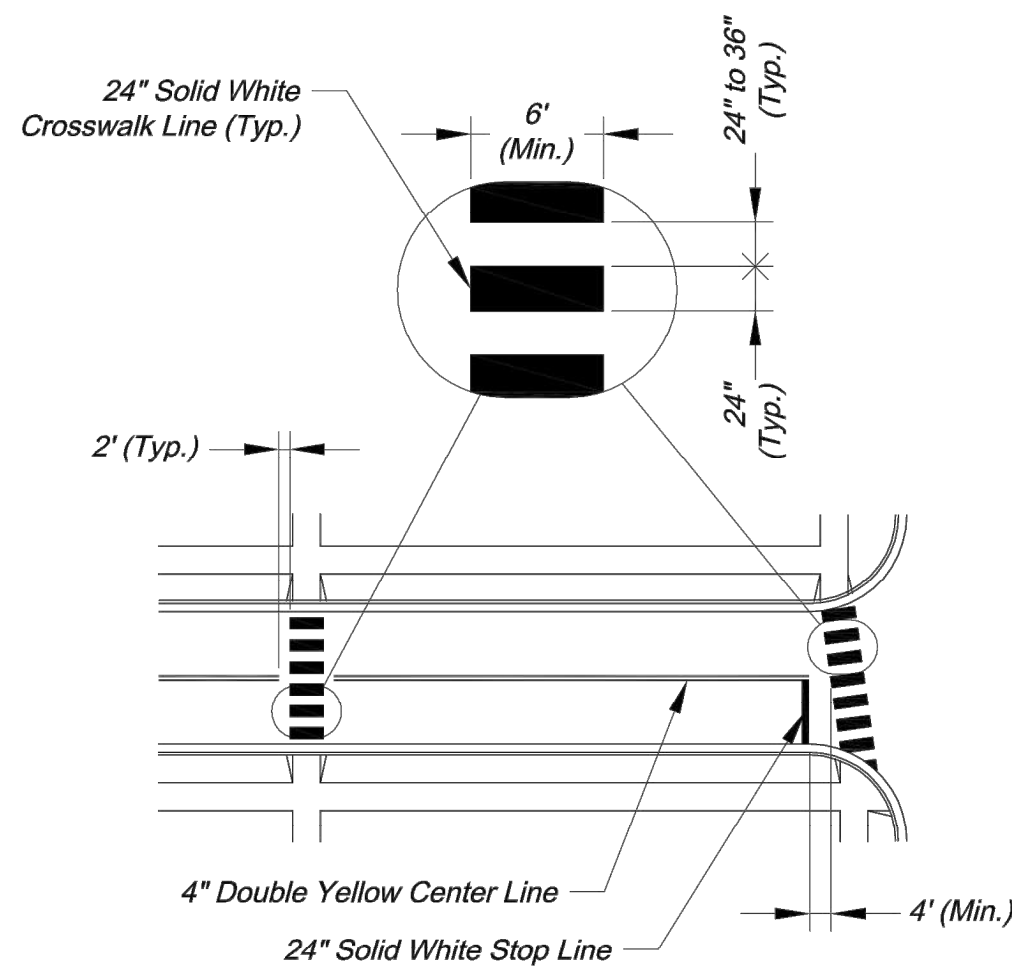


TYPICAL INTERSECTION MARKINGS

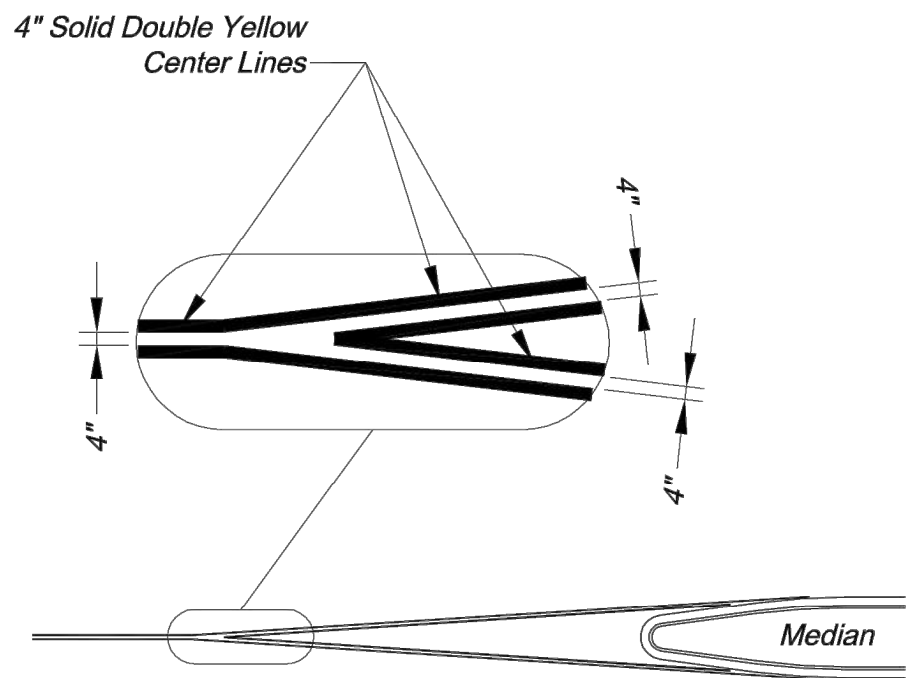
- NOTES:
- Transverse crosswalk lines shall be installed such that the distance between lines is at least 6 or 10 feet.
 - Stop lines are required at signalized intersections, on multi-lane stop controlled approaches, or in front of crosswalks at controlled intersections.



TYPICAL MARKINGS FOR FOUR-LANE UNDIVIDED ROADWAY




TYPICAL MIDBLOCK OR SCHOOL CROSS WALK



TYPICAL MEDIAN NOSE CENTER LINE DETAIL

- PAVEMENT MARKING GENERAL NOTES:
- All pavement markings shall be in accordance with the latest edition of the *Manual on Uniform Traffic Control Devices (MUTCD)*.
 - All words and symbols shall conform to the latest edition of *Standard Alphabets for Highway Signs and Pavement Markings* printed by the U.S. Department of Transportation, Federal Highway Administration.
 - Pavement markings, either temporary or permanent are required at all times if the roadway is open to traffic.
 - All pavement markings that conflict with the desired markings shall be completely removed. Removals shall not leave the road surface scarred with an image that misleads traffic. Any excess damage or scarring of pavement shall be repaired at the Contractor's expense.
 - The proposed permanent markings shall be laid out by the Contractor in advance of the marking installation. Markings shall not be applied until the layout has been approved by the City Traffic Engineer.
 - Center lines shall be marked on all undivided arterial streets, and any other undivided street with more than two lanes and/or a speed limit of 30 mph or more.
 - Edge lines shall be marked on all non-curbed streets.

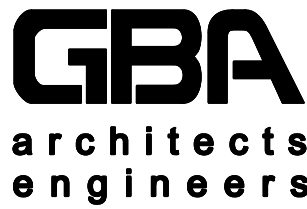
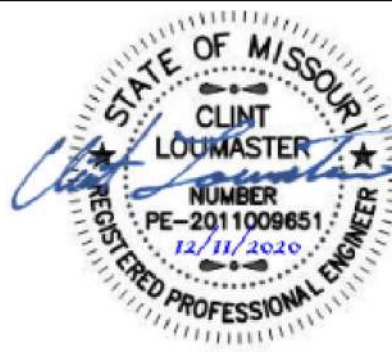
CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809



Project: ROADWAY MARKING DETAILS
Sheet Name: STANDARD DRAWING PM-1

Drawn By: AS
Checked By: JW
Date: 09/09/2009
Project#

1 OF 2
1



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Lenexa, Kansas 66219
913.492.0400
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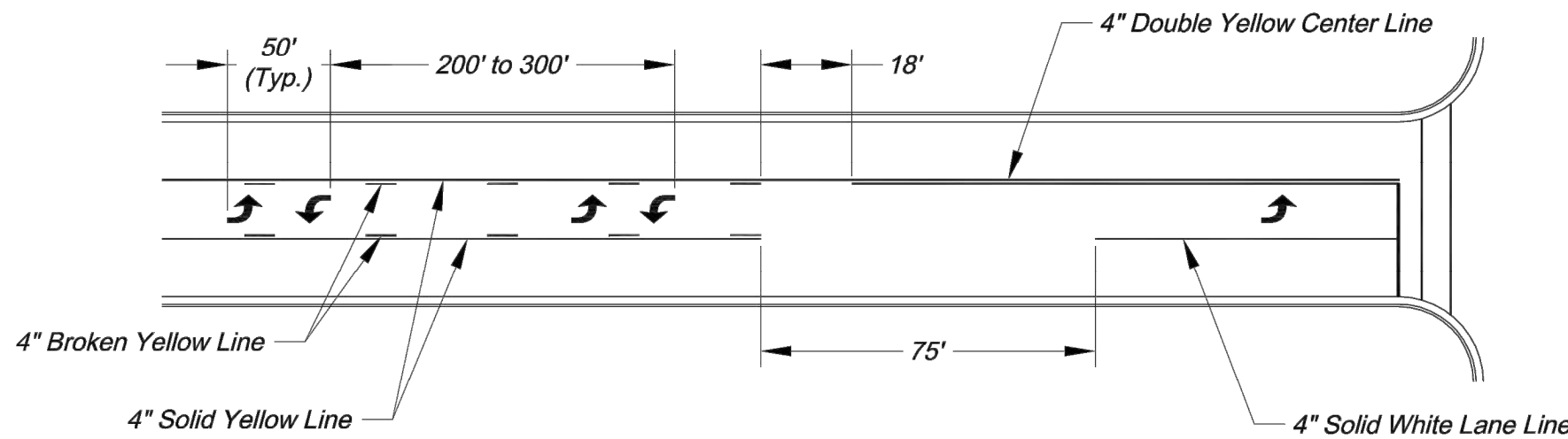
DATE:	12-11-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
52	68

Christopher Novosel
Professional Engineer
License No. 2018024421

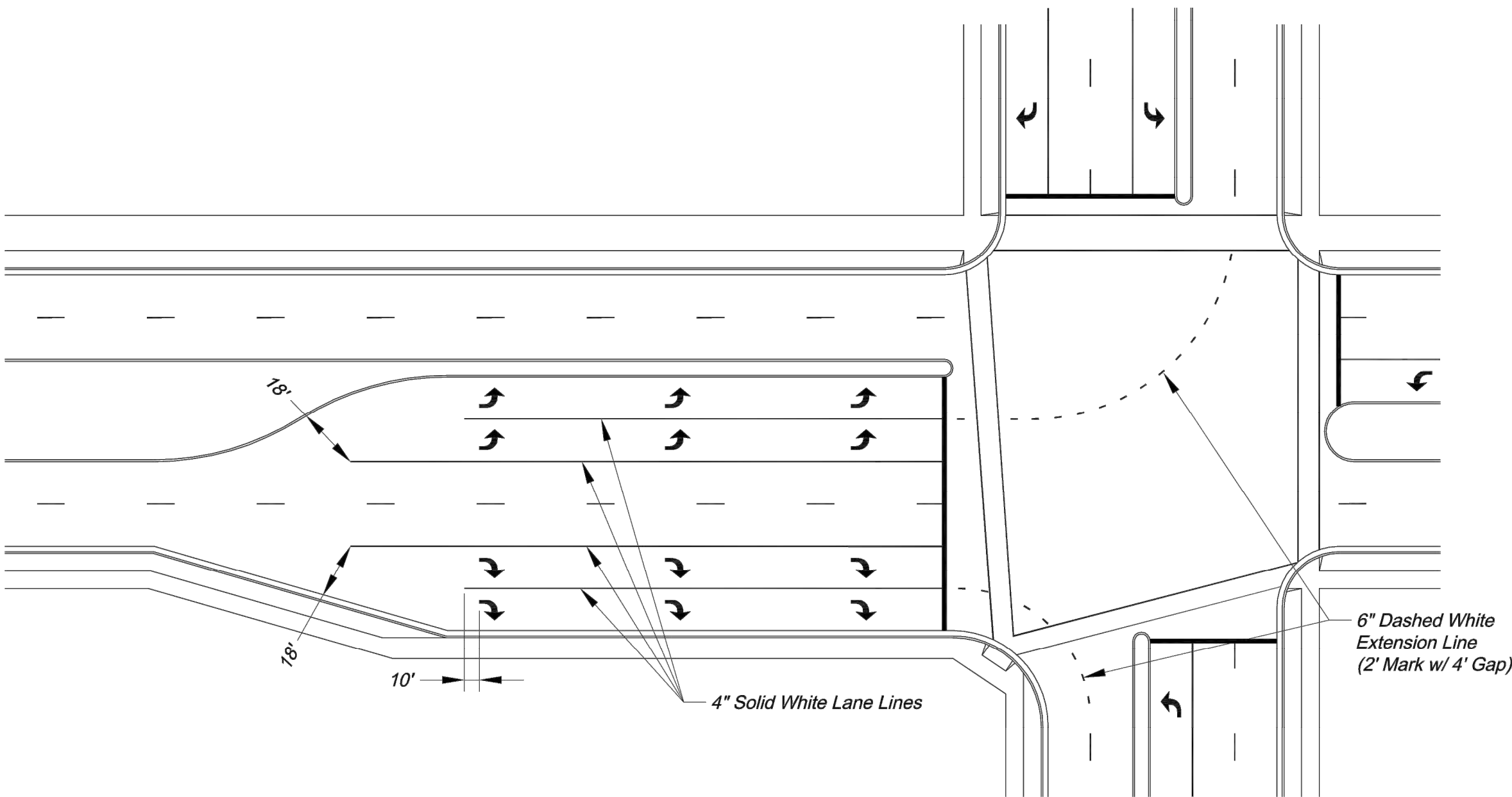
Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO.	DATE
10/16/20	
12/11/20	

REVISIONS	BY	APPROVED
Issued for Pricing 10/16/2020		
12/2 City Comments		

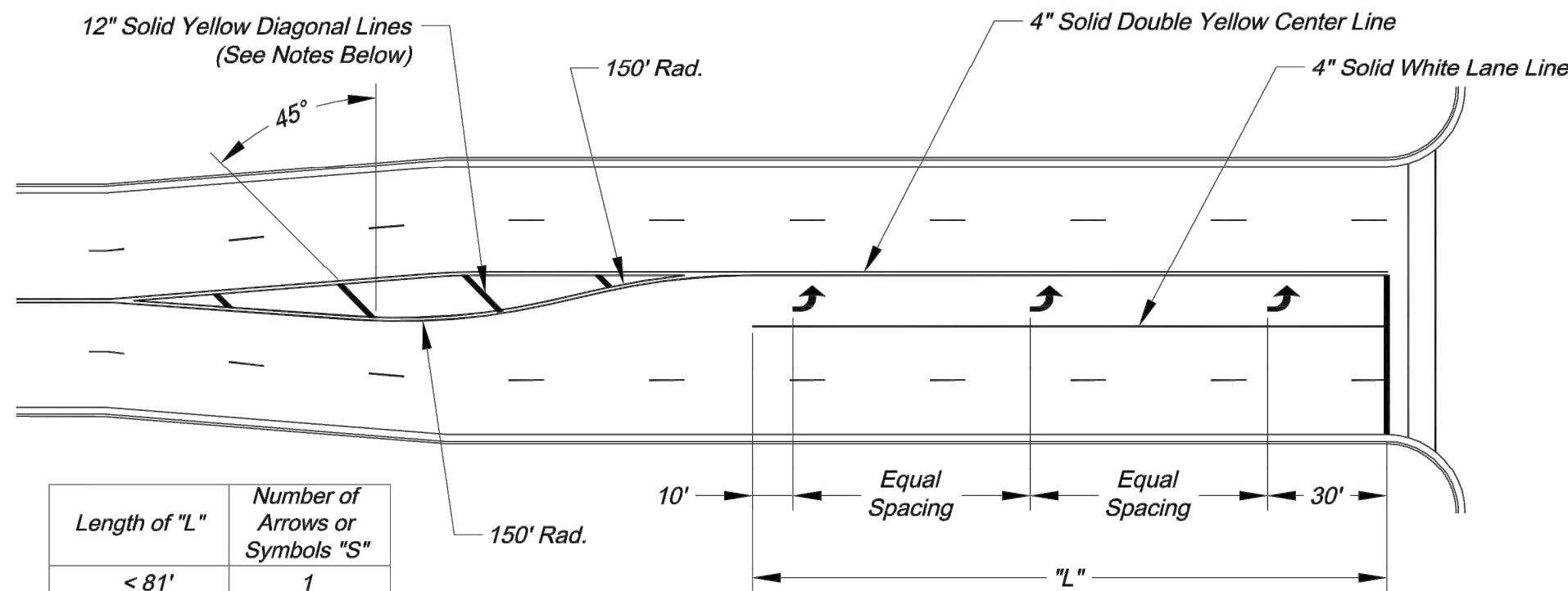


TYPICAL MARKINGS FOR TWO-WAY LEFT-TURN LANE



TYPICAL DUAL TURN LANE MARKINGS

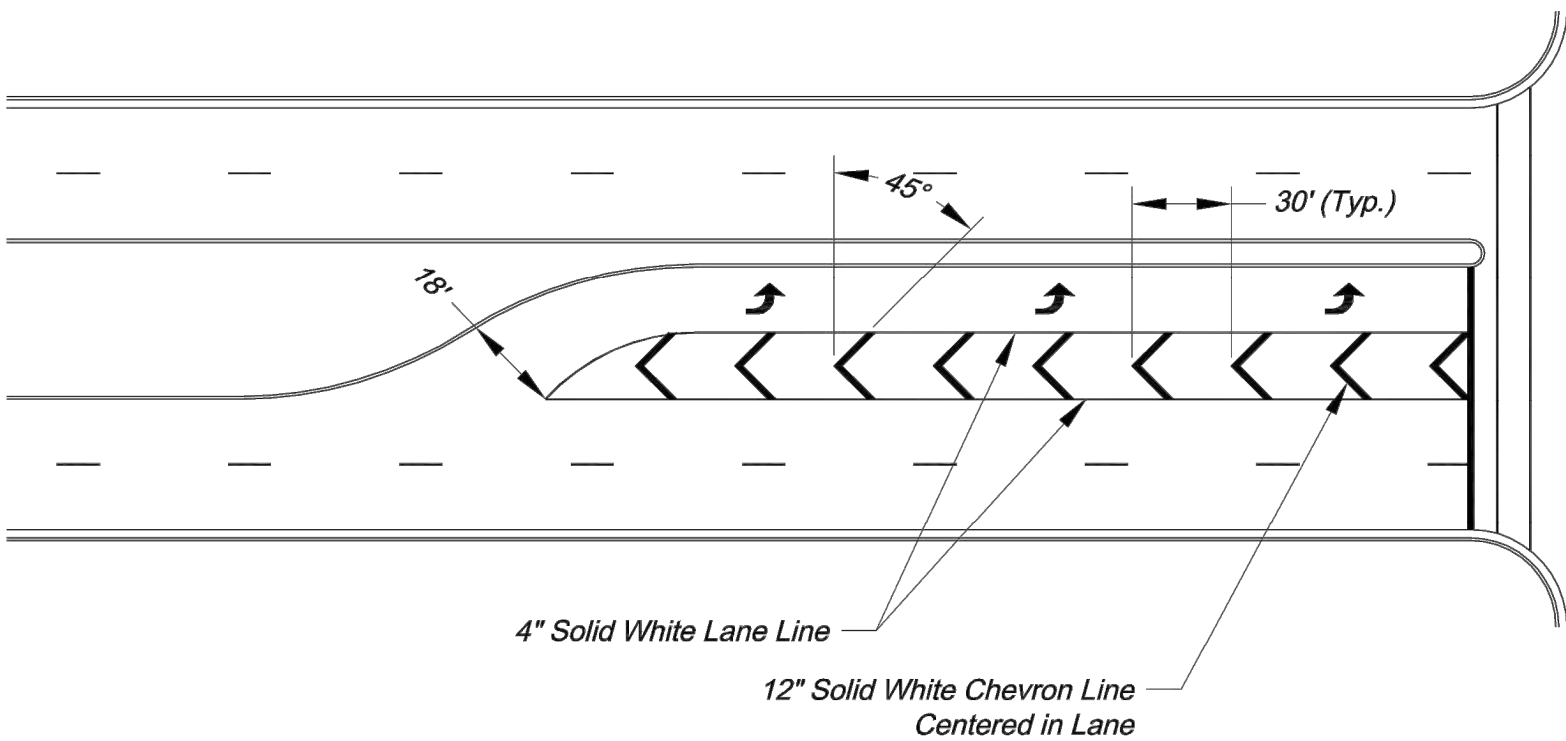
NOTE:
1. Dashed extension lines shall not extend through crosswalks.



Length of "L"	Number of Arrows or Symbols "S"
< 81'	1
81' - 120'	2
121' - 200'	3
201' - 280'	4
281' - 360'	5
361' - 440'	6

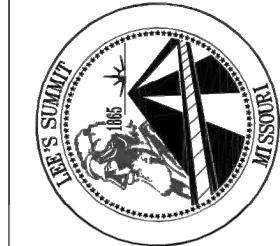
TYPICAL TURN LANE MARKINGS

NOTES:
1. Diagonal lines are required between centerlines if the width of the area between the center lines is greater than 12' and/or the length of the area between center lines is greater than 250'.
2. Diagonal lines should be spaced at 5' increments, equal to the posted speed limit.
3. Equal Spacing is calculated as $(L - 40) / (S - 1)$.
4. When a through lane of traffic terminates as a mandatory turn lane, Arrow and "ONLY" symbols should be marked in the turn lane, in alternating order. The first and last symbols should be Arrows.



TYPICAL STRIPED OUT TURN LANE MARKINGS

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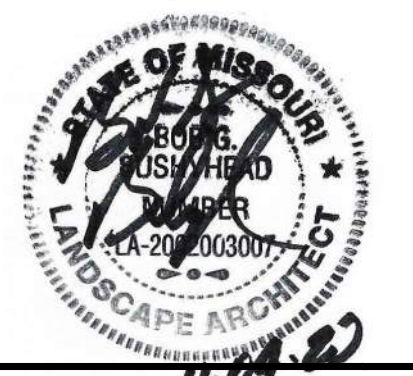


INTERSECTION MARKING DETAILS
STANDARD DRAWING PM-2

Drawn By: AS
Checked By: JW
Date: 09/09/2009
Project#

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.



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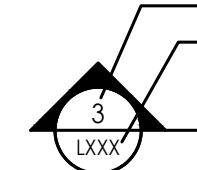
DATE: 11-4-2020	
DESIGN BY: RWB/EDD	
DRAWN BY: RWB/EDD	
PROJECT NO.: 12720	
SHEET NO. 53	TOTAL SHEETS 68

LAND3 Studio - Landscape Architect
MO LA Corp# 2008001860


Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO.	DATE	REVISIONS	BY	APPROVED
	10/16/20	Issued for Pricing		

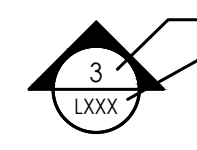
SYMBOLS LEGEND




DETAIL / VIEW NUMBER
SHEET NUMBER



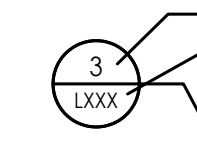
INDICATES VIEWING
DIRECTION OF SECTION



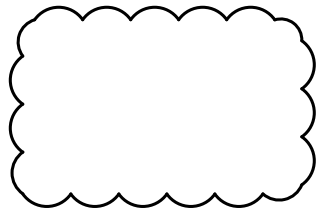
ELEVATION REFERENCE



REVISION TAG



DETAIL REFERENCE



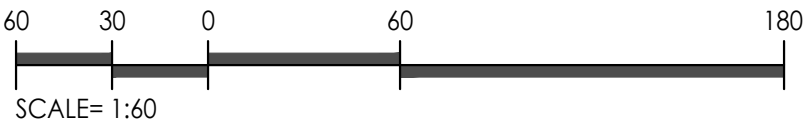
REVISION CLOUD

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	SH	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		

1

KEY PLAN
Scale: 1" = 60'-0"



L000
STREETSCAPE KEYPLAN &
GENERAL INFORMATION

0.31:1

ERIC DAVIS

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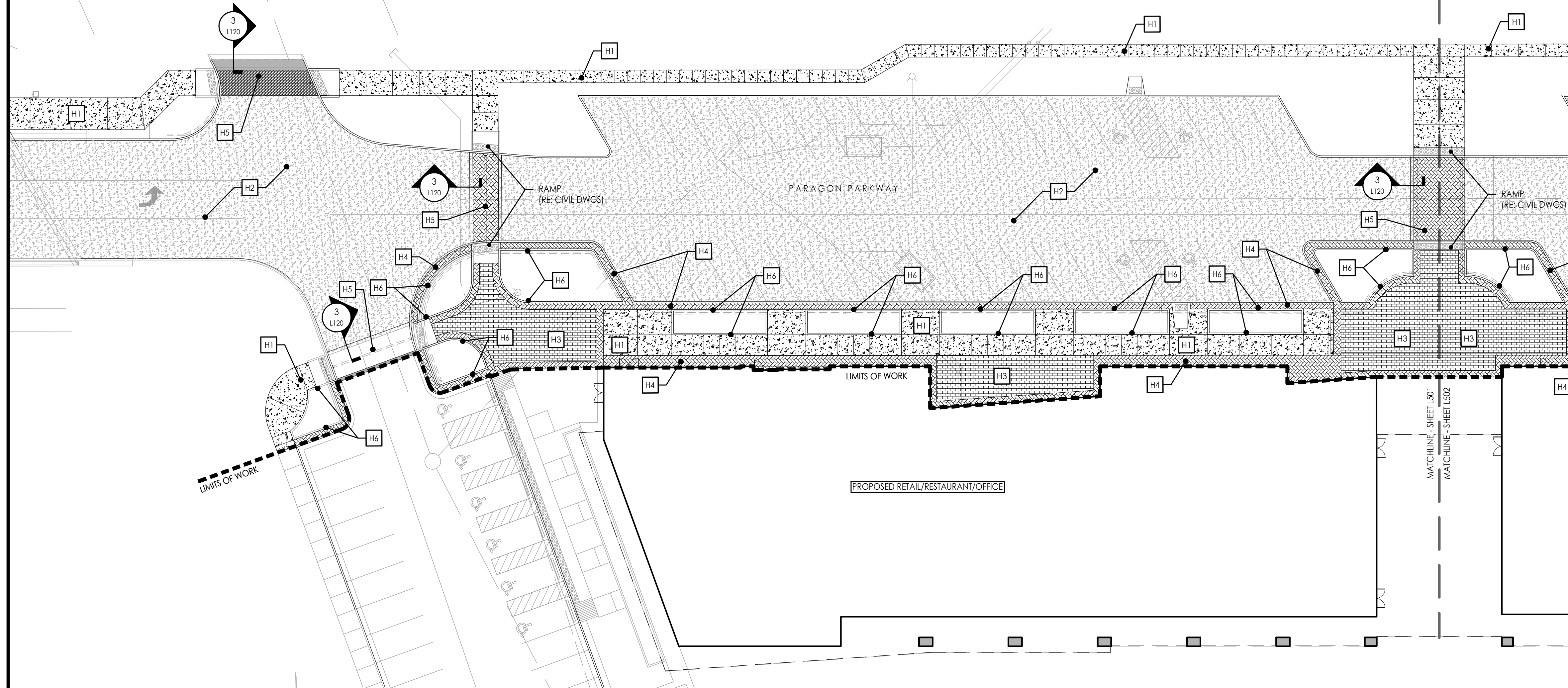


DATE: 11-4-2020	
DESIGN BY:	
DRAWN BY: RWB/EDD	
PROJECT NO.: 12720	
SHEET NO.	TOTAL SHEETS
54	68

LAND3 Studio - Landscape Architect
MO LA Corp# 2008001860

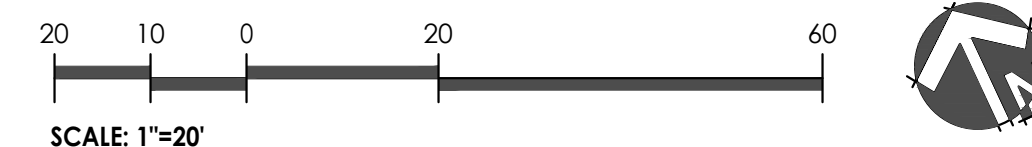
Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO.	DATE	REVISIONS	BY	APPROVED
	10/16/20	Issued for Pricing		

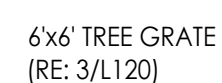
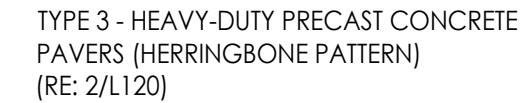
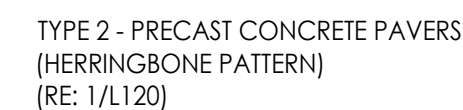
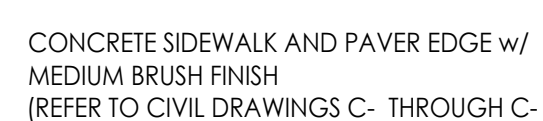


1 SURFACE FINISHES AND MATERIALS - PARAGON PARKWAY

Scale: 1"= 20'-0"

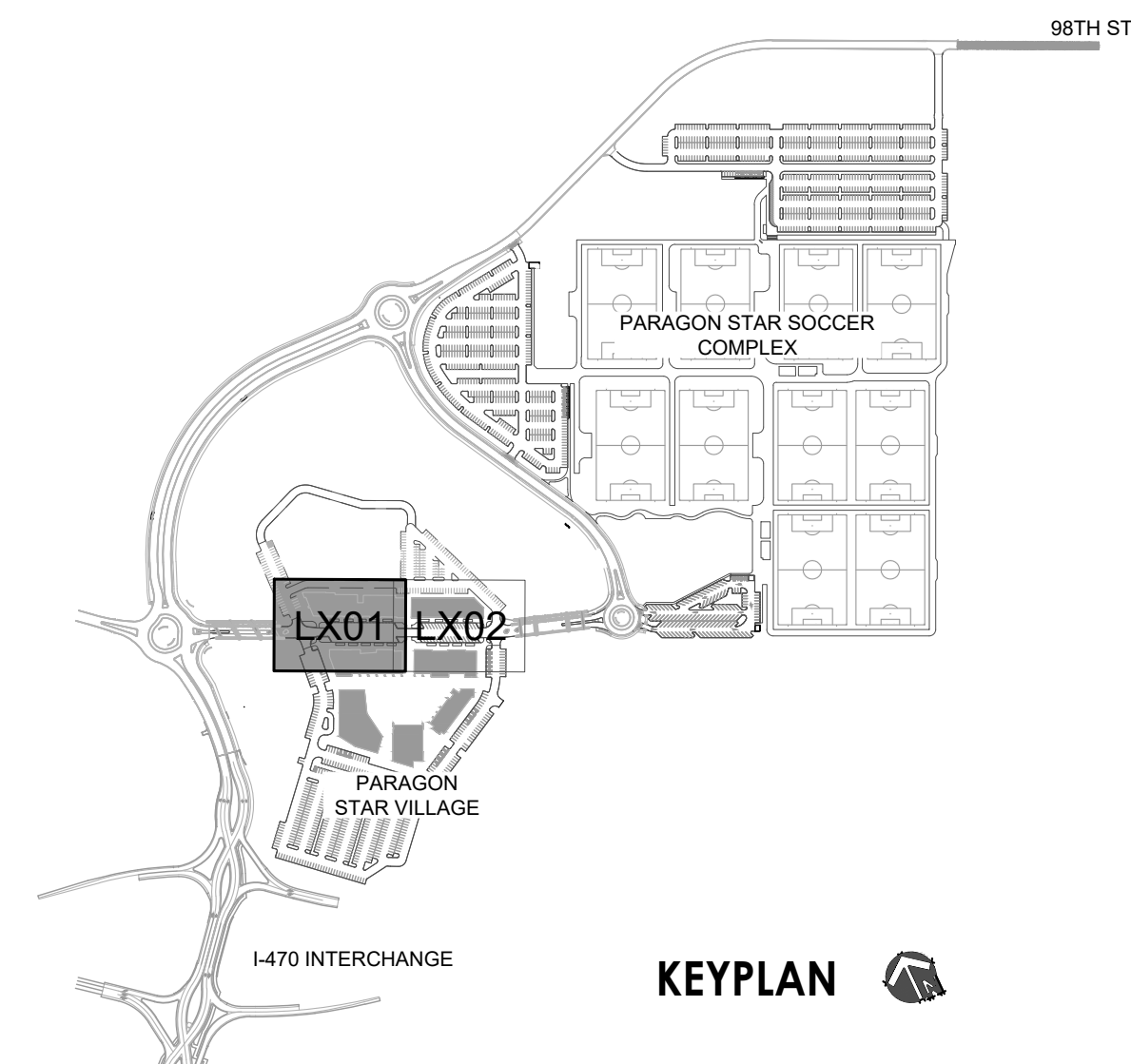


SURFACE FINISHES AND MATERIALS LEGEND



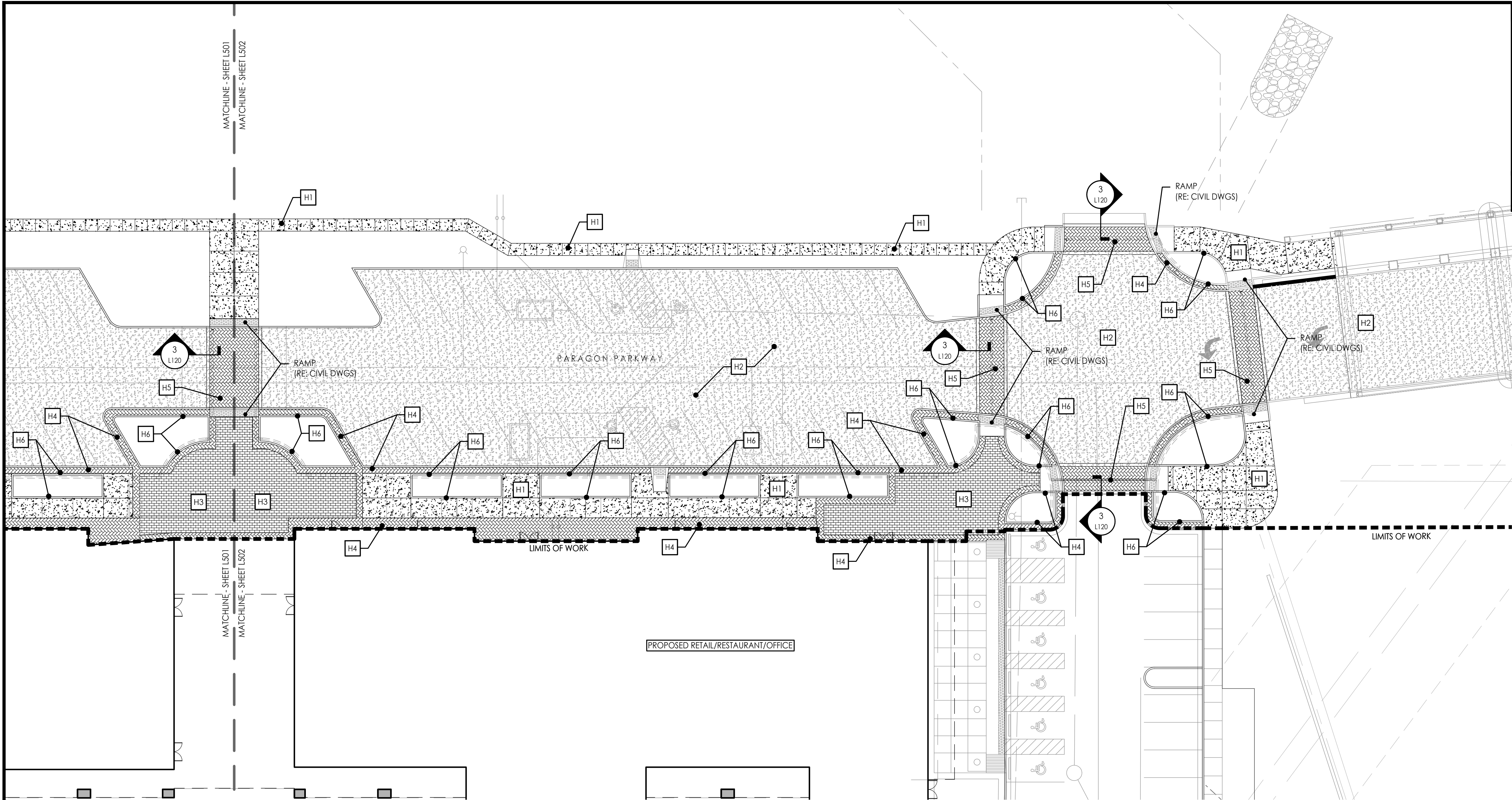
SURFACE FINISHES AND MATERIALS NOTES

1. THIS PLAN PROVIDES GENERAL LAYOUT AND TYPES OF HORIZONTAL SURFACE MATERIALS AND FINISHES TO BE PROVIDED BY THE CONTRACTOR. REFER TO THE FOLLOWING SPECIFICATION SECTIONS FOR COMPLETE SCOPE OF WORK, RESPONSIBILITIES, PRODUCTS AND EXECUTION OF WORK:
 - SECTION 321316 - DECORATIVE FINISHES CONCRETE PAVING
 - SECTION 321400 - URBAN PAVING
2. REFER TO CIVIL DRAWINGS C-1 THROUGH C-7 FOR DIMENSIONS AND LAYOUT OF PAVING SURFACE LIMITS. DIMENSIONS ON THIS DRAWING ARE PROVIDED FOR GENERAL ARRANGEMENT AND EXTENTS OF THE FINISHES TO BE PROVIDED.



L101
SURFACE FINISHES &
MATERIALS PLAN

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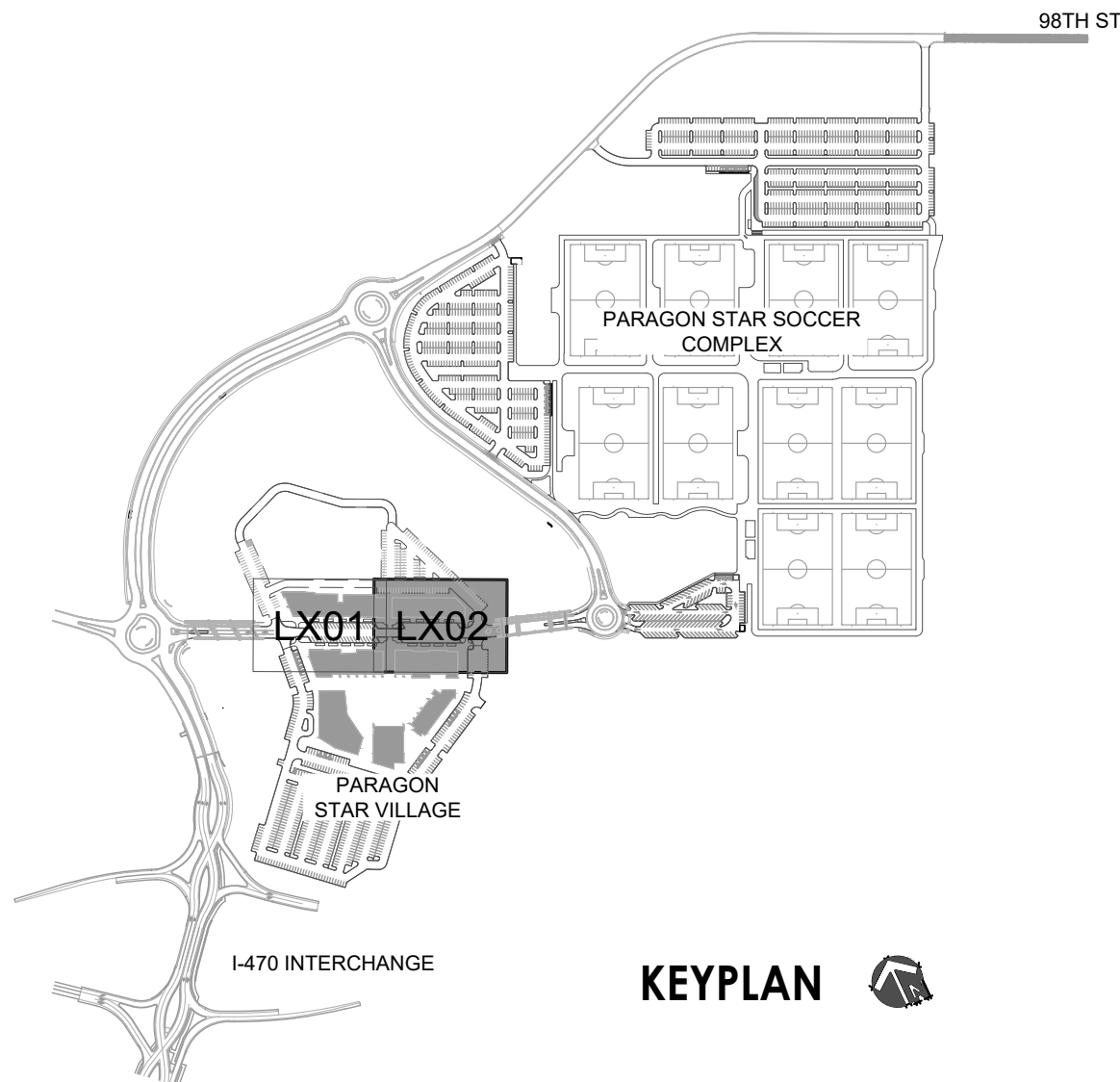
1 SURFACE FINISHES AND MATERIALS - PARAGON PARKWAY
Scale: 1"= 20'-0"

SURFACE FINISHES AND MATERIALS LEGEND

- H1 CONCRETE SIDEWALK AND PAVER EDGE w/ MEDIUM BRUSH FINISH (REFER TO CIVIL DRAWINGS C- THROUGH C-)
- H2 CONCRETE ROAD PAVING (REFER TO CIVIL DWGS)
- H3 TYPE 1 - PRECAST CONCRETE PAVERS (RUNNING BOND PATTERN) (RE: 1/L120)
- H4 TYPE 2 - PRECAST CONCRETE PAVERS (HERRINGBONE PATTERN) (RE: 1/L120)
- H5 TYPE 3 - HEAVY-DUTY PRECAST CONCRETE PAVERS (HERRINGBONE PATTERN) (RE: 2/L120)
- H6 CONCRETE PLANTER CURB (RE: CIVIL DWGS)
- H7 6x6 TREE GRATE (RE: 3/L120)

SURFACE FINISHES AND MATERIALS NOTES

- THIS PLAN PROVIDES GENERAL LAYOUT AND TYPES OF HORIZONTAL SURFACE MATERIALS AND FINISHES TO BE PROVIDED BY THE CONTRACTOR. REFER TO THE FOLLOWING SPECIFICATION SECTIONS FOR COMPLETE SCOPE OF WORK, RESPONSIBILITIES, PRODUCTS AND EXECUTION OF WORK:
 - SECTION 321316 - DECORATIVE FINISHES CONCRETE PAVING
 - SECTION 321400 - UNIT PAVING
- REFER TO CIVIL DRAWINGS C- THROUGH C- FOR DIMENSIONS AND LAYOUT OF PAVING SURFACE LIMITS. DIMENSIONS ON THIS DRAWING ARE PROVIDED FOR GENERAL ARRANGEMENT AND EXTENTS OF THE FINISHES TO BE PROVIDED.



KEYPLAN

L102
SURFACE FINISHES & MATERIALS PLAN



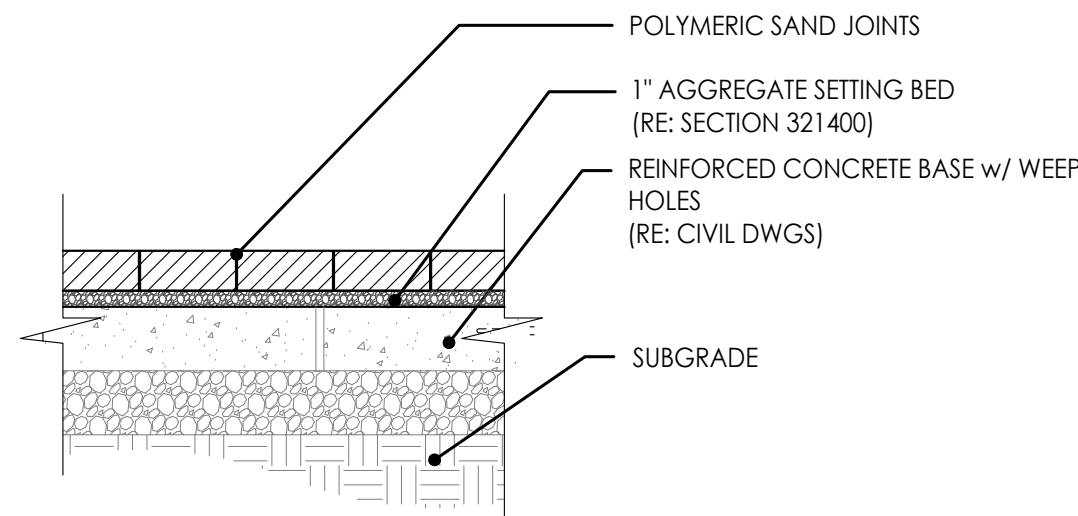
GBA
architects
engineers
9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

DATE:	11-4-2020
DESIGN BY:	
DRAWN BY:	RWB/EDD
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
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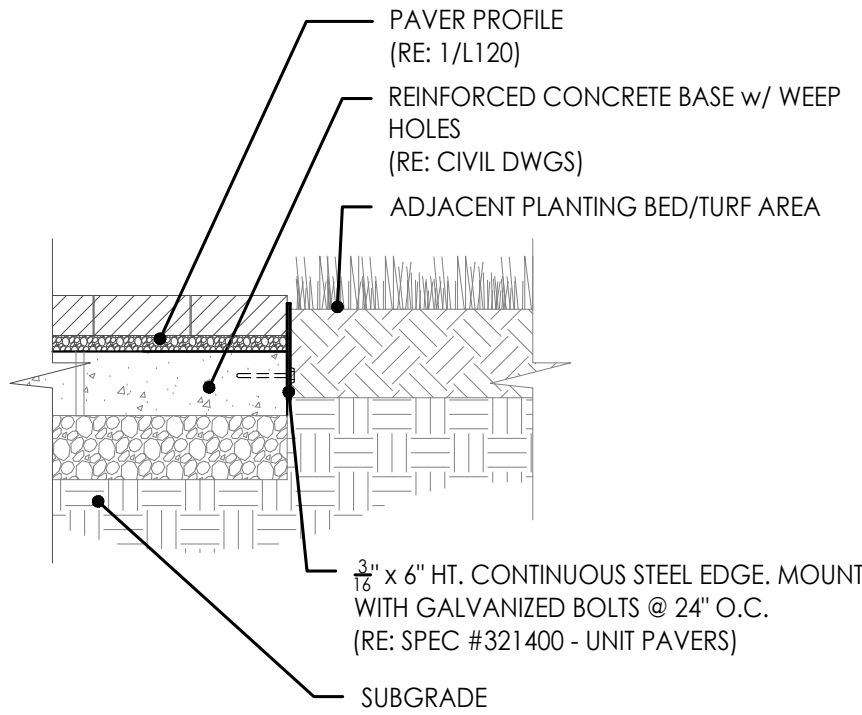
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Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

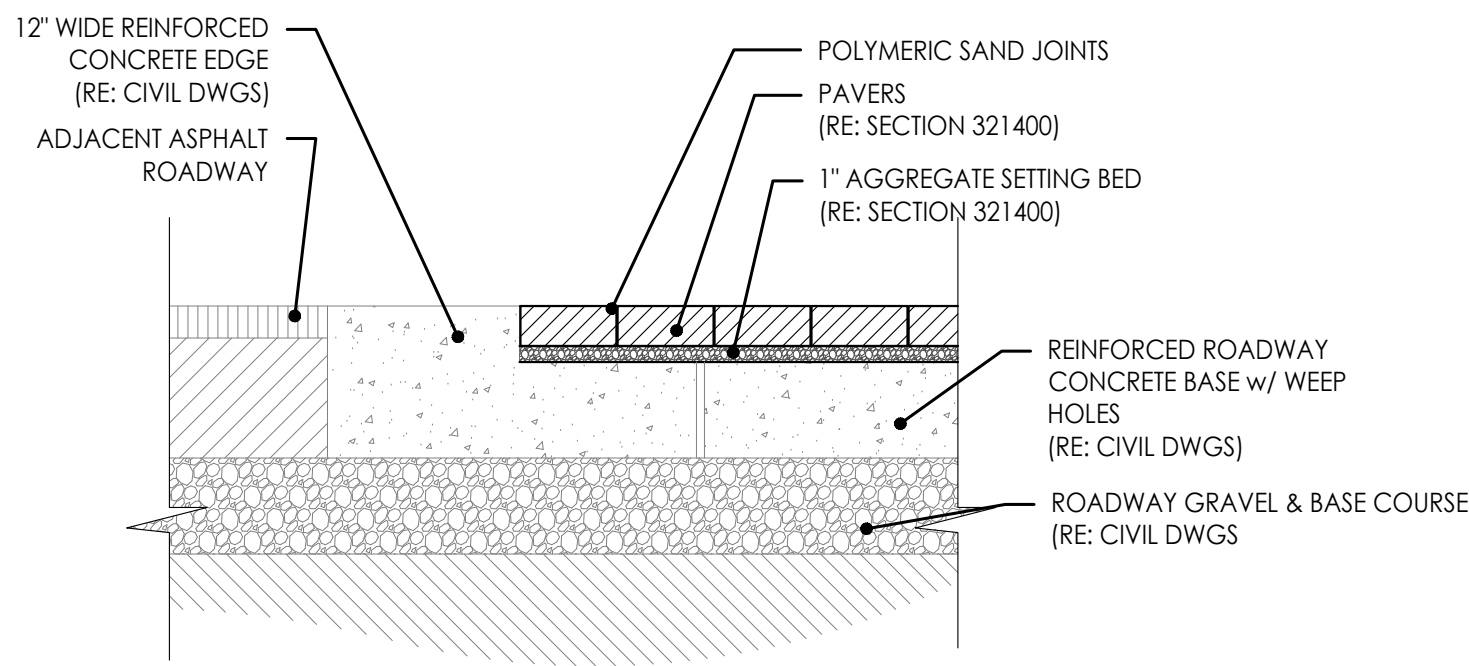
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1 CONCRETE PAVER PROFILE TYP.
Scale: N.T.S.



2 PAVERS @ PLANTING EDGE
Scale: N.T.S.



3 CONCRETE PAVER ROADWAY PROFILE
Scale: N.T.S.



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9801 Renner Boulevard
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913.492.0400
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TOTAL SHEETS 68

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Street and Storm Sewer Plans

Paragon Parkway

Lee's Summit, Missouri

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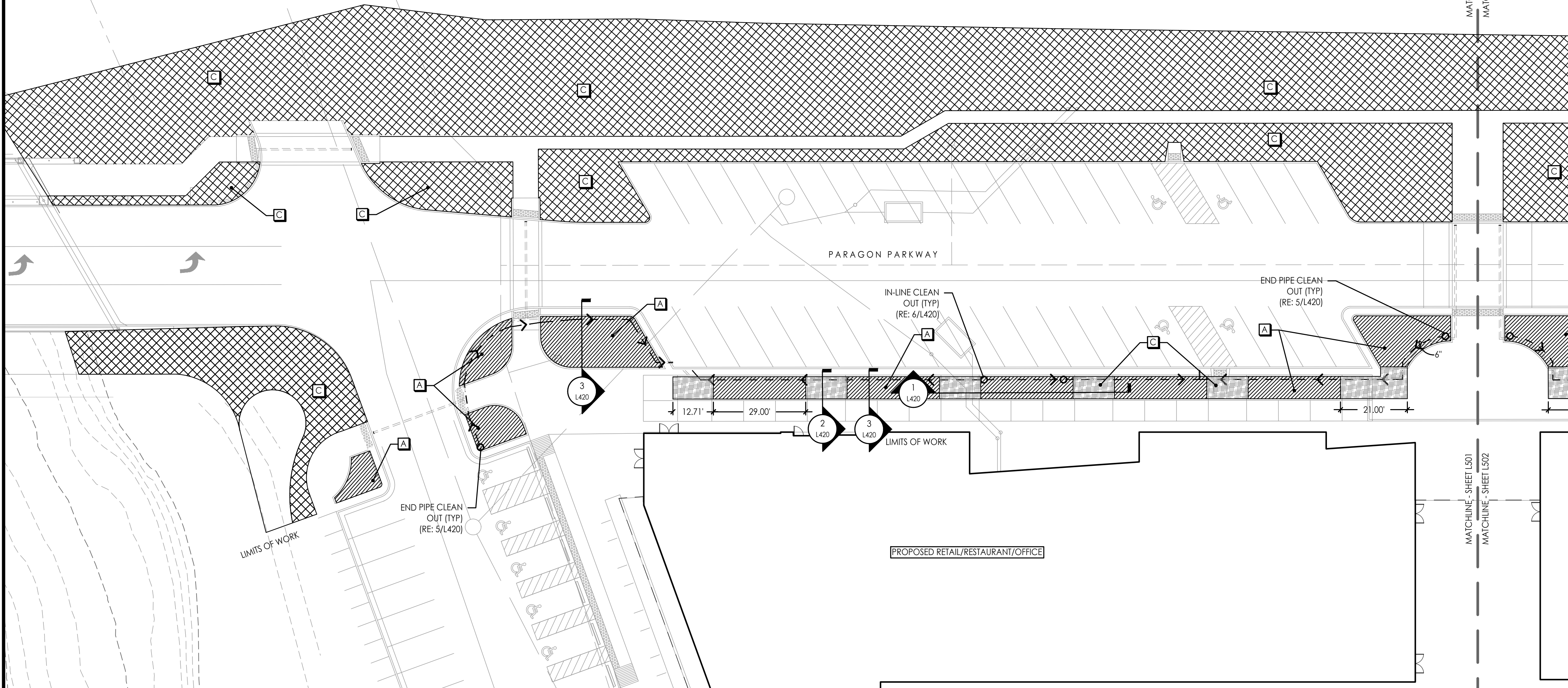
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913.492.0400
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PROJECT NO.:	12720
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57	68

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Street and Storm Sewer Plans
Paragon Parkway
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1 SOILS & SUBDRAINAGE PLAN - VILLAGE PARKWAY WEST

Scale: 1"= 20'-0"

SOILS LEGEND

SYMBOL	DESCRIPTION	NOTES
	SOIL TYPE A	PLANTING SOIL MIX (48" MIN. DEPTH) OVER DRAINAGE GRAVEL (6"-12" DEPTH) AND SUBDRAINAGE LINES CONNECTED TO STORM DRAIN SYSTEM. (RE: SECTION 329113)
	SOIL TYPE B	STRUCTURAL SOIL (48" MIN DEPTH) OVER DRAINAGE GRAVEL (6" MIN DEPTH) AND SUBDRAINAGE LINES CONNECTED TO STORM DRAIN SYSTEM. (RE: SECTION 329113)
	SOIL TYPE C	NATIVE TOPSOIL STRIPPED FROM SITE (12" MINIMUM)

SUBDRAINAGE LEGEND

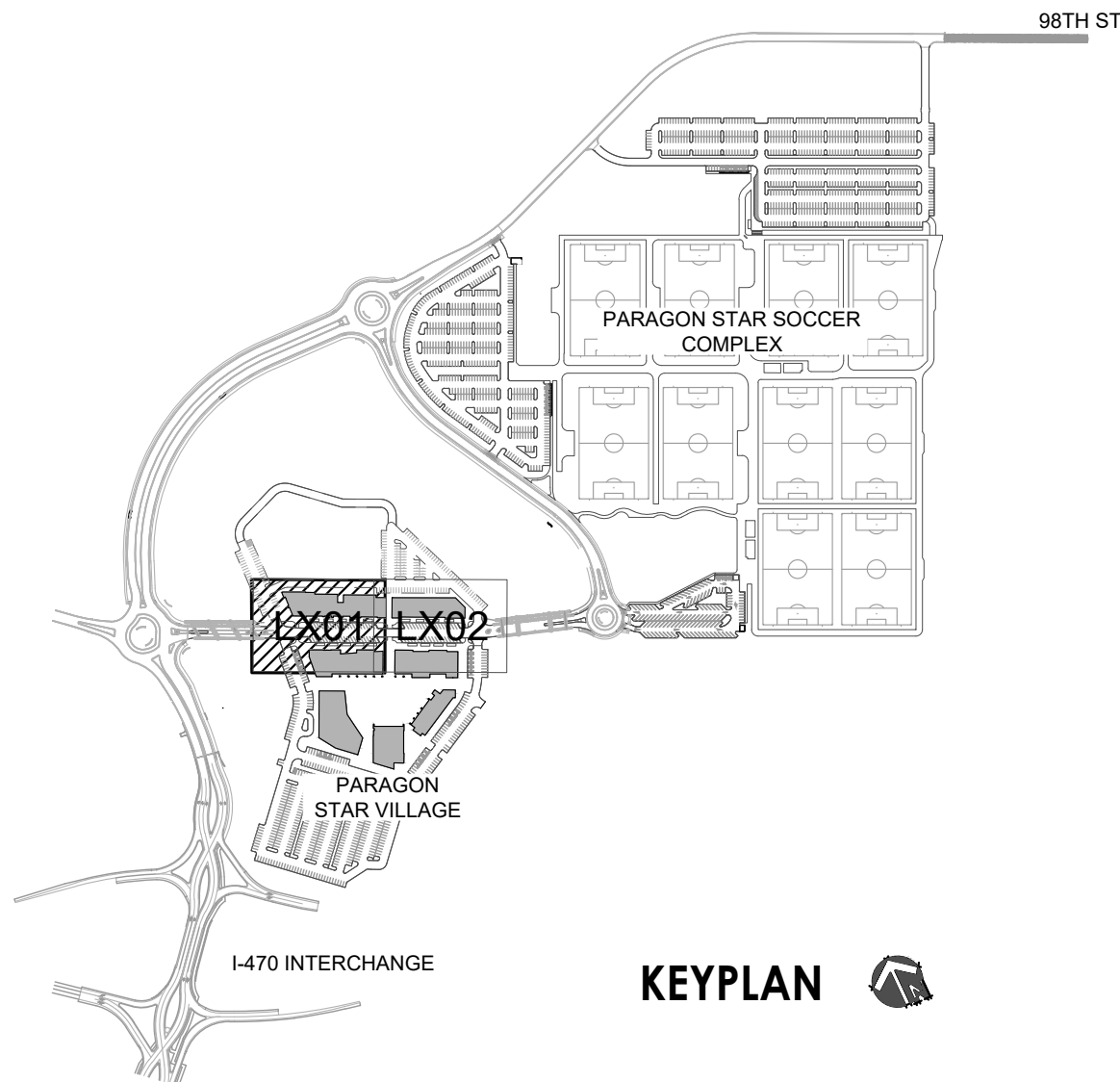
	6" PLANTING BED PERFORATED HDPE PIPE (RE: 7 / L420)
	6" PLANTING BED SOLID HDPE PIPE (RE: 7 / L420)
	SUBGRADE SLOPE TO DRAIN LINES
	CLEANOUT (RE: 5 & 6 / L420)
	SUBDRAINAGE PIPE ENDCAP (RE: 4 / L420)

SOILS NOTES

- THIS PLAN PROVIDES DEPTHS AND LOCATIONS OF ALL LANDSCAPE SOILS AND SOIL MIXES TO BE PROVIDED BY THE LANDSCAPE CONTRACTOR. REFER TO **SECTION 329113 - SOIL PREPARATION** FOR COMPLETE SCOPE OF WORK, RESPONSIBILITIES, PRODUCTS AND EXECUTION OF WORK.

SUBDRAINAGE NOTES


- THIS PLAN PROVIDES LAYOUT AND TYPES OF ALL LANDSCAPE SUBDRAINAGE TO BE PROVIDED & INSTALLED BY THE LANDSCAPE CONTRACTOR. REFER TO **SECTION 334610 - LANDSCAPE SUBDRAINAGE** FOR COMPLETE SCOPE OF WORK, RESPONSIBILITIES, PRODUCTS AND EXECUTION OF WORK.
- ALL SUBDRAINAGE COLLECTOR PIPE SHALL BE INSTALLED AT A MINIMUM 0.5% SLOPE UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL RESTORE SUBGRADE TO MEET GRADING AND COMPACTION REQUIREMENTS PER DRAWINGS AND SPECIFICATIONS.
- CONTRACTOR TO PROTECT DRAIN LINES DURING CONSTRUCTION FROM DEBRIS (INCLUDING SOIL OR GRAVEL MATERIAL OR OTHER TRASH) FROM ENTERING OR BLOCKING LINES.
- CONTRACTOR TO AVOID TRAFFIC OVER INSTALLED DRAINAGE TRENCHES TO PREVENT CRUSHING OF PIPE.
- CLEANOUTS AT ENDS OF SUBDRAINAGE COLLECTORS ARE TYPICAL.
- COORDINATE DRAINAGE CONNECTION AND INVERTS WITH AS-BUILT CONDITIONS.
- SUBDRAINAGE LOCATION, LAYOUT, AND SITE CONDITIONS TO BE VERIFIED PRIOR TO CONSTRUCTION BY THE CONTRACTOR. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES OR IRREGULAR CONDITIONS ENCOUNTERED DURING CONSTRUCTION.
- CONTRACTOR TO COORDINATE DRAINAGE LINES WITH ALL UNDERGROUND UTILITIES.



KEYPLAN

L401
SOILS & SUBDRAINAGE PLAN

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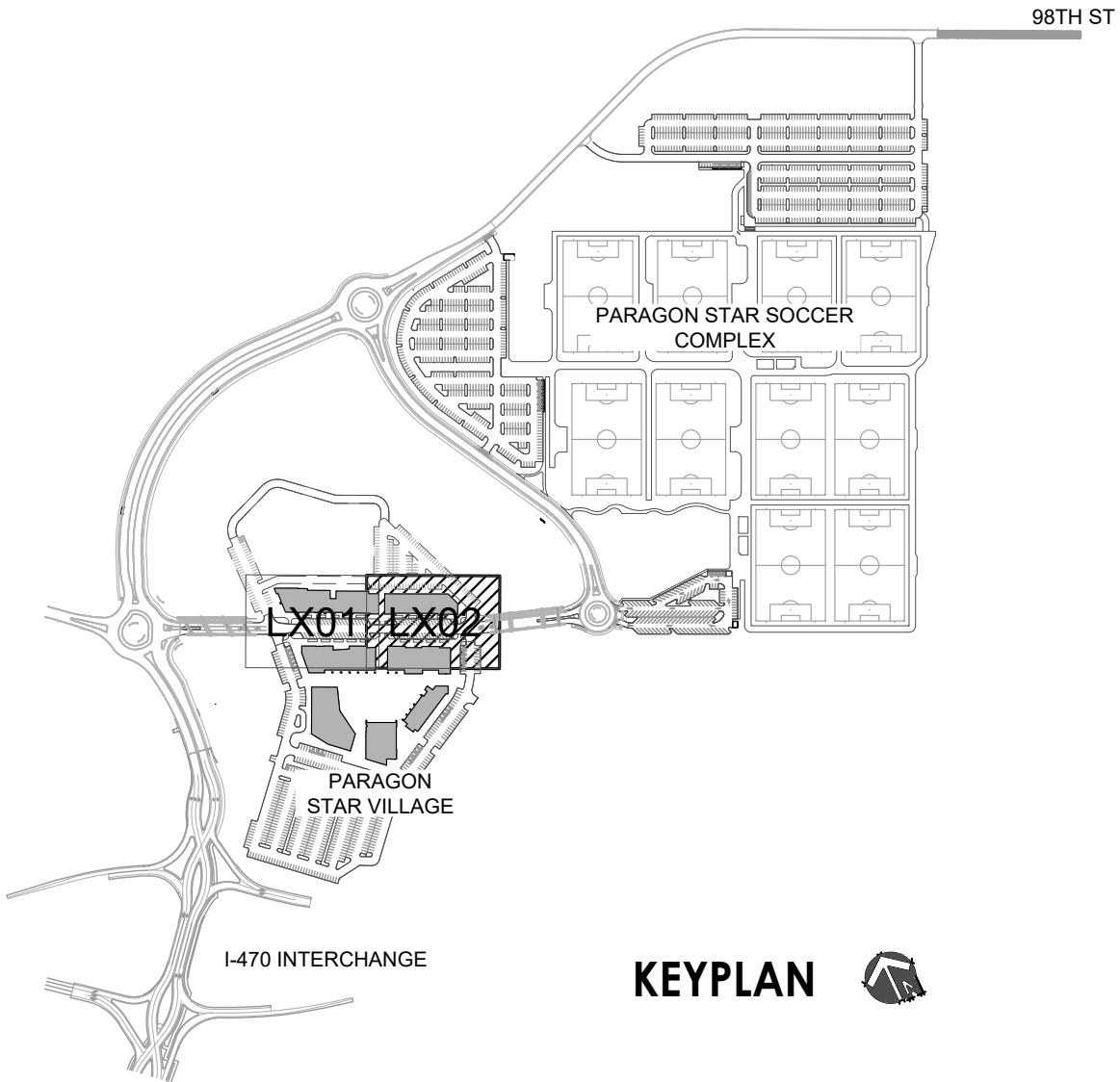
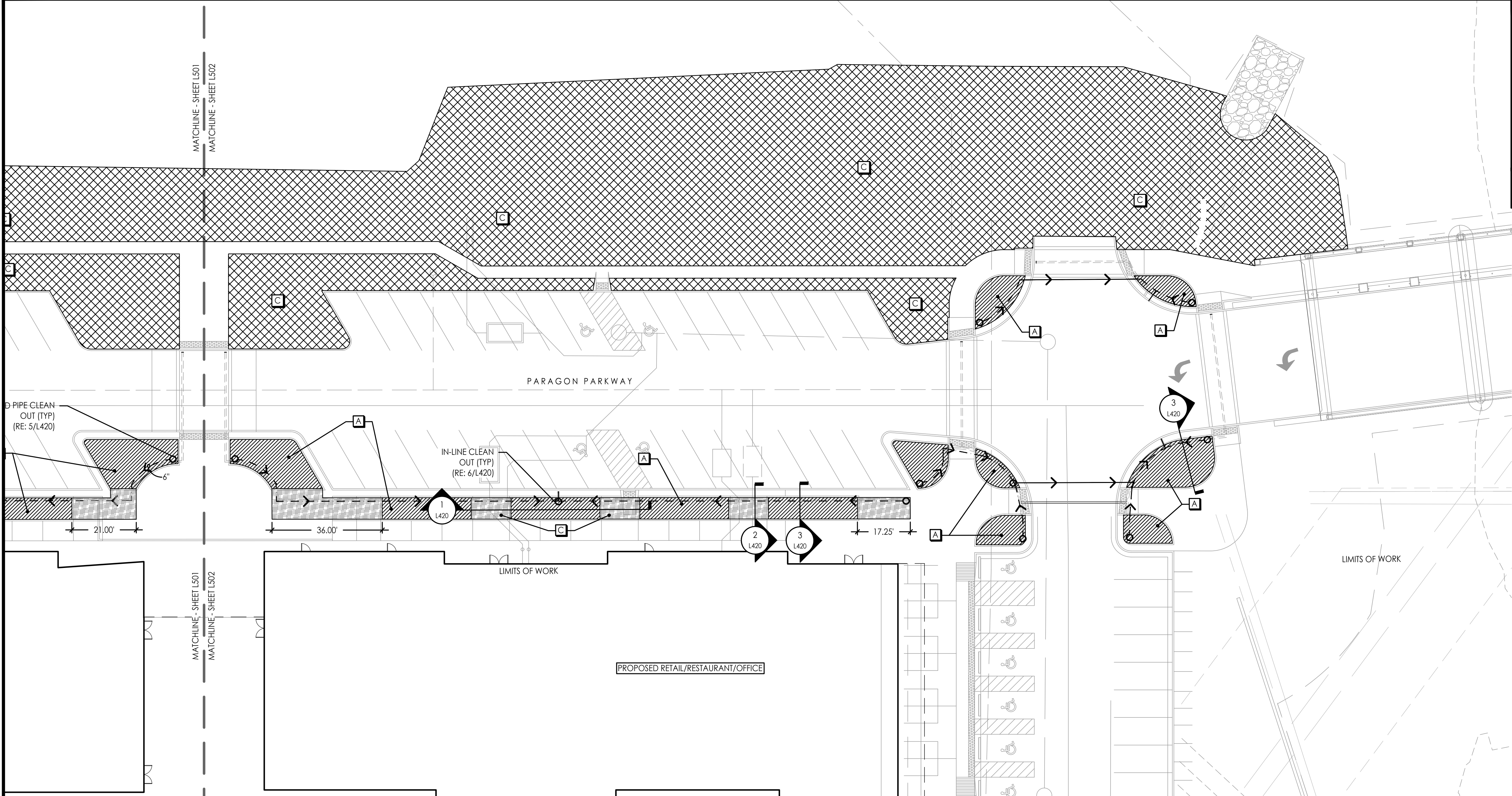
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engineers
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Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

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DRAWN BY: RWB/EDD
PROJECT NO.: 12720
SHEET NO.: 58
TOTAL SHEETS: 68

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Paragon Parkway
Lee's Summit, Missouri

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1

SOILS & SUBDRAINAGE PLAN - VILLAGE PARKWAY EAST

Scale: 1"= 20'-0"

SOILS LEGEND

SYMBOL	DESCRIPTION	NOTES
	SOIL TYPE A	PLANTING SOIL MIX (48" MIN. DEPTH) OVER DRAINAGE GRAVEL (6"-12" DEPTH) AND SUBDRAINAGE LINES CONNECTED TO STORM DRAIN SYSTEM. (RE: SECTION 329113)
	SOIL TYPE B	STRUCTURAL SOIL (48" MIN DEPTH) OVER DRAINAGE GRAVEL (6" MIN DEPTH) AND SUBDRAINAGE LINES CONNECTED TO STORM DRAIN SYSTEM. (RE: SECTION 329113)
	SOIL TYPE C	NATIVE TOPSOIL STRIPPED FROM SITE (12' MINIMUM)

SUBDRAINAGE LEGEND

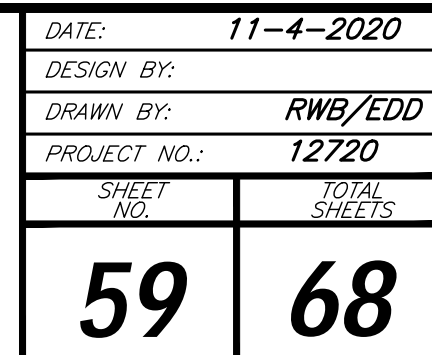
	6" PLANTING BED PERFORATED HDPE PIPE (RE: 7 / L420)
	6" PLANTING BED SOLID HDPE PIPE (RE: 7 / L420)
	SUBGRADE SLOPE TO DRAIN LINES
	CLEANOUT (RE: 5 & 6 / L420)
	SUBDRAINAGE PIPE ENDCAP (RE: 4 / L420)

SOILS NOTES

1.
- THIS PLAN PROVIDES DEPTHS AND LOCATIONS OF ALL LANDSCAPE SOILS AND SOIL MIXES TO BE PROVIDED BY THE LANDSCAPE CONTRACTOR. REFER TO **SECTION 329113 - SOIL PREPARATION** FOR COMPLETE SCOPE OF WORK, RESPONSIBILITIES, PRODUCTS AND EXECUTION OF WORK.

SUBDRAINAGE NOTES

1.
- THIS PLAN PROVIDES LAYOUT AND TYPES OF ALL LANDSCAPE SUBDRAINAGE TO BE PROVIDED & INSTALLED BY THE LANDSCAPE CONTRACTOR. REFER TO **SECTION 334610 - LANDSCAPE SUBDRAINAGE** FOR COMPLETE SCOPE OF WORK, RESPONSIBILITIES, PRODUCTS AND EXECUTION OF WORK.
2.
- ALL SUBDRAINAGE COLLECTOR PIPE SHALL BE INSTALLED AT A MINIMUM 0.5% SLOPE UNLESS OTHERWISE NOTED.
3.
- CONTRACTOR SHALL RESTORE SUBGRADE TO MEET GRADING AND COMPACTION REQUIREMENTS PER DRAWINGS AND SPECIFICATIONS.
4.
- CONTRACTOR TO PROTECT DRAIN LINES DURING CONSTRUCTION FROM DEBRIS (INCLUDING SOIL OR GRAVEL MATERIAL OR OTHER TRASH) FROM ENTERING OR BLOCKING LINES.
5.
- CONTRACTOR TO AVOID TRAFFIC OVER INSTALLED DRAINAGE TRENCHES TO PREVENT CRUSHING OF PIPE.
6.
- CLEANOUTS AT ENDS OF SUBDRAINAGE COLLECTORS ARE TYPICAL.
7.
- COORDINATE DRAINAGE CONNECTION AND INVERTS WITH AS-BUILT CONDITIONS.
8.
- SUBDRAINAGE LOCATION, LAYOUT, AND SITE CONDITIONS TO BE VERIFIED PRIOR TO CONSTRUCTION BY THE CONTRACTOR. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES OR IRREGULAR CONDITIONS ENCOUNTERED DURING CONSTRUCTION.
9.
- CONTRACTOR TO COORDINATE DRAINAGE LINES WITH ALL UNDERGROUND UTILITIES.



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L420
SOILS & SUBDRAINAGE DETAILS



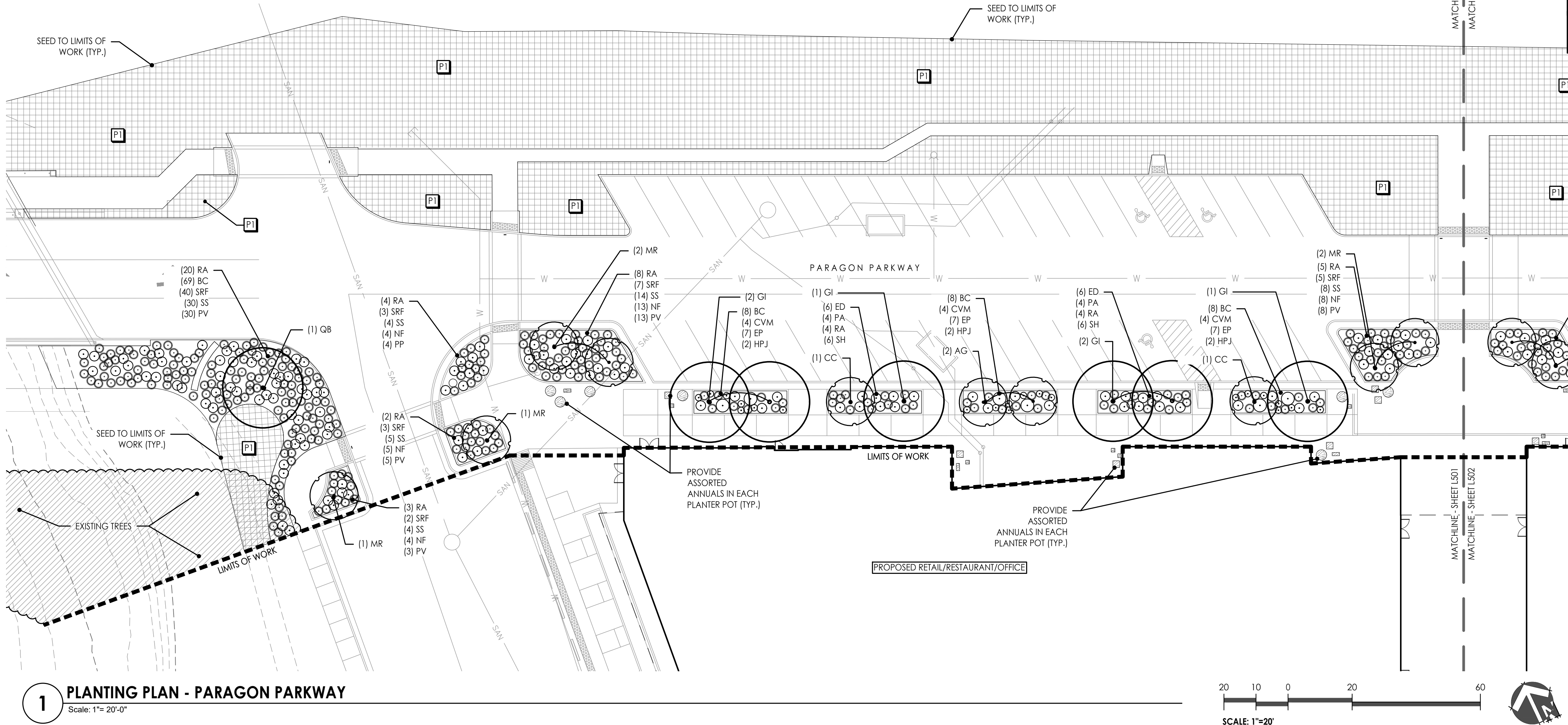
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60	68

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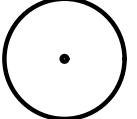




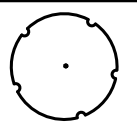

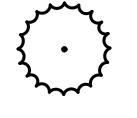

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Lee's Summit, Missouri

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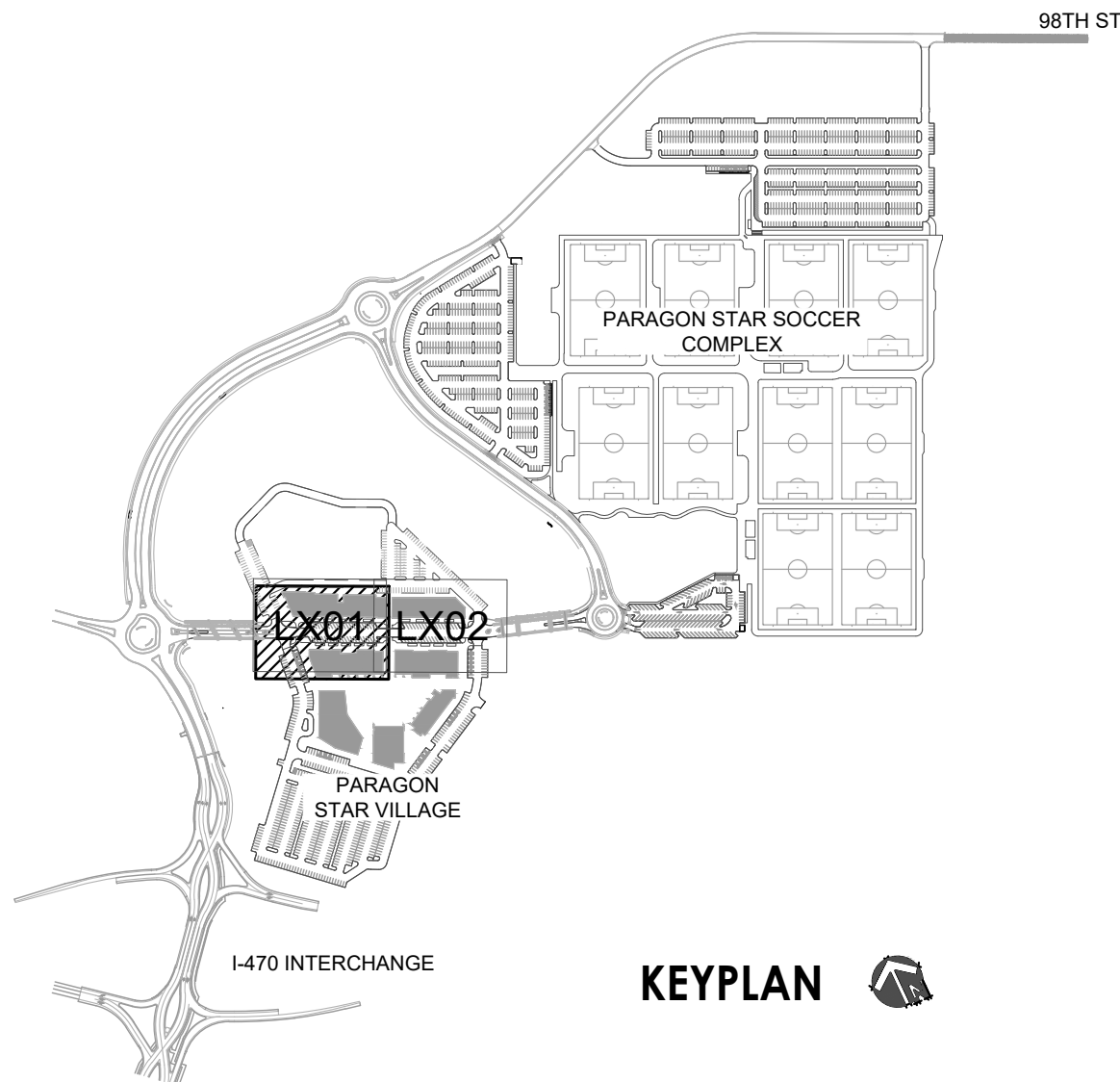
1 PLANTING PLAN - PARAGON PARKWAY
Scale: 1"= 20'-0"

PLANTING SCHEDULE

SYM.	KEY	COMMON NAME BOTANICAL NAME	SIZE & REMARKS	SYM.	KEY	COMMON NAME BOTANICAL NAME	SIZE & REMARKS	SYM.	KEY	COMMON NAME BOTANICAL NAME	SIZE & REMARKS							
	SHADE/STREET TREES				DECIDUOUS SHRUB				TURF/SEED MIXES									
	AF	Autumn Blaze Maple <i>Acer freemanii</i> 'Autumn Blaze'	3" cal.		RA	Grow-low Sumac <i>Rhus aromatica</i> 'Gro-low'	5 gal.			Native Prairie Seed Mix Butterfly Milkweed- <i>Asclepias tuberosa</i> (5%) Blue Wild Indigo- <i>Baptisia australis</i> (5%) New Jersey Tea- <i>Ceanothus americanus</i> (5%) Amethyst Vernal Witchhazel (10%) Switchgrass- <i>Panicum virgatum</i> (13%) Little Bluestem- <i>Schizachyrium scoparium</i> (30%) Indiangrass- <i>Sorghastrum nutans</i> (20%) Fall Aster - <i>Symphoricarum oblongifolium</i> (10%)								
	CO	Hackberry <i>Celtis occidentalis</i>	3" cal.		HPJ	Little Lime® Hydrangea <i>Hydrangea paniculata</i> 'Jane'	5 gal.											
	GT	Sunburst Honeylocust <i>Gleditsia triacanthos inermis</i> 'Sunburst'	3" cal.		ORNAMENTAL GRASS													
	QB	Swamp White Oak <i>Quercus bicolor</i>	3" cal.		BC	Side Oats Grama Grass <i>Bouteloua curtipendula</i>	3 gal.											
	ORNAMENTAL TREE				PV	Shennadoah Switchgrass <i>Panicum virgatum</i> 'Shennadoah'	3 gal.											
	CC	Eastern Redbud <i>Cercis canadensis</i>	3" cal.		SS	Little Bluestem <i>Schizachyrium scoparium</i>	1 gal.											
	MJ	Magnolia <i>Magnolia</i> x 'Jane'	3" cal.	SH	Prairie Dropseed <i>Sporobolus heterolepis</i>	1 gal.												
	MA	Royal Raindrops® Crabapple <i>Malus</i> 'JFS-KWS'	3" cal.	PERENNIAL/GROUND COVER														
	AG	Japanese Tree Lilac <i>Amelanchier</i> x <i>grandiflora</i> 'Autumn Brilliance'	3" cal.	SRF	Rough Goldenrod <i>Solidago rugosa</i> 'Fireworks'	1 gal.												
	EVERGREEN TREE			CVM	Moonbeam Coreopsis <i>Coreopsis verticillata</i> 'Moonbeam'	1 gal.												
	JC	Perfecta Juniper <i>Juniperus chinensis</i> 'Perfecta'	8' ht. min.	EP	Purple Coneflower <i>Echinacea purpurea</i> 'Magnus'	1 gal.												
	PA	Norway Spruce <i>Picea abies</i>	8' ht. min.	PA	Russian Sage <i>Perovskia atriplicifolia</i>	3 gal.												
	PS	Eastern White Pine <i>Pinus strobus</i>	8' ht. min.	BC	Joe-pye Weed <i>Eupatorium dubium</i> 'Little-Joe'	1 gal.												

PLANTING NOTES

- THIS PLAN PROVIDES LAYOUT, QUANTITY & SIZES OF ALL PLANT MATERIAL TO BE INSTALLED BY THE LANDSCAPE CONTRACTOR. REFER TO **SECTION 329300 - PLANTS** AND **SECTION 329200 - TURF AND GRASSES** FOR COMPLETE SCOPE OF WORK, RESPONSIBILITIES, PRODUCTS & EXECUTION OF WORK.
- 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.
- LOCATIONS OF ALL PLANT MATERIALS SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING.
- 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.



L501
PLANTING PLAN

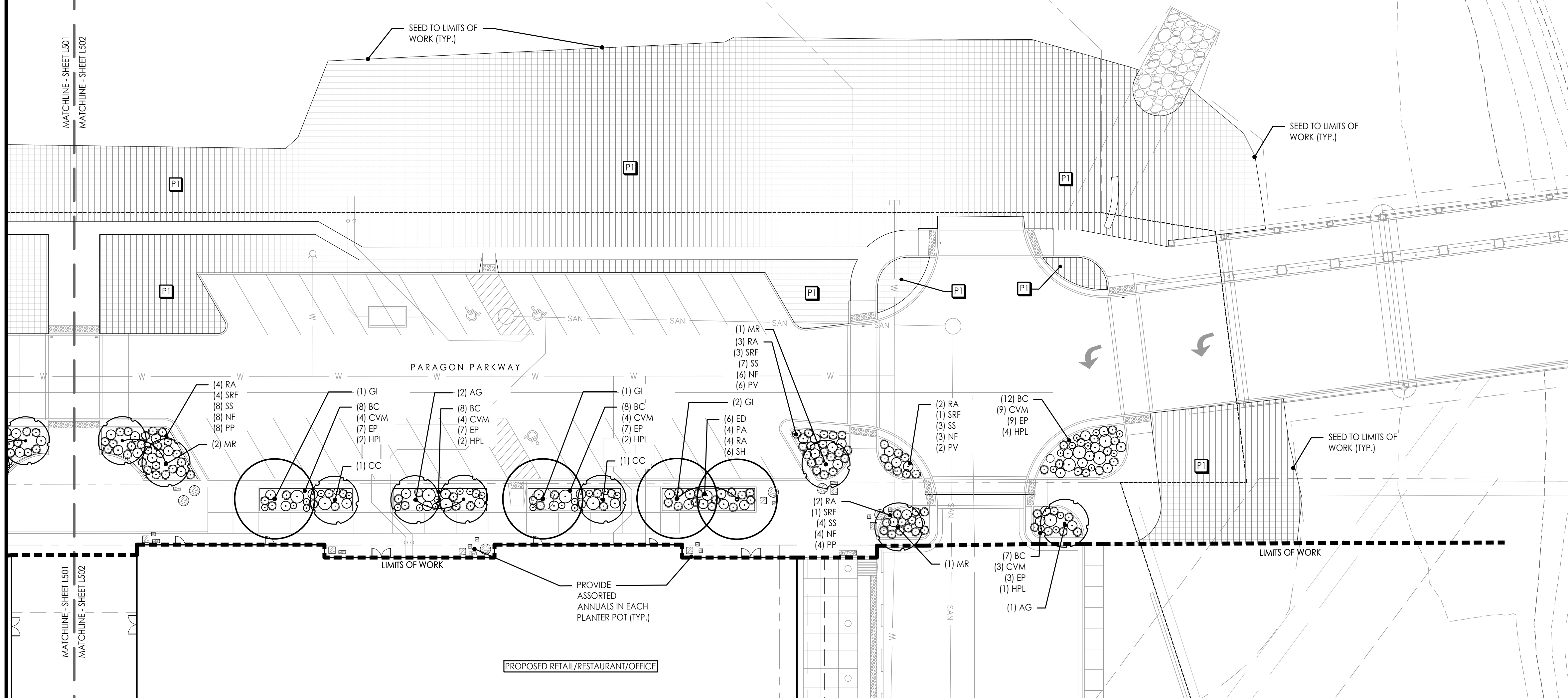


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PROJECT NO.: 12720	
SHEET NO.	TOTAL SHEETS
61	68

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Paragon Parkway
Lee's Summit, Missouri

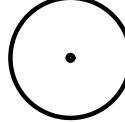

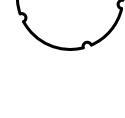
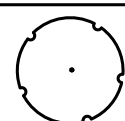
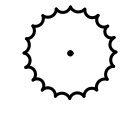
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1 PLANTING PLAN - PARAGON PARKWAY

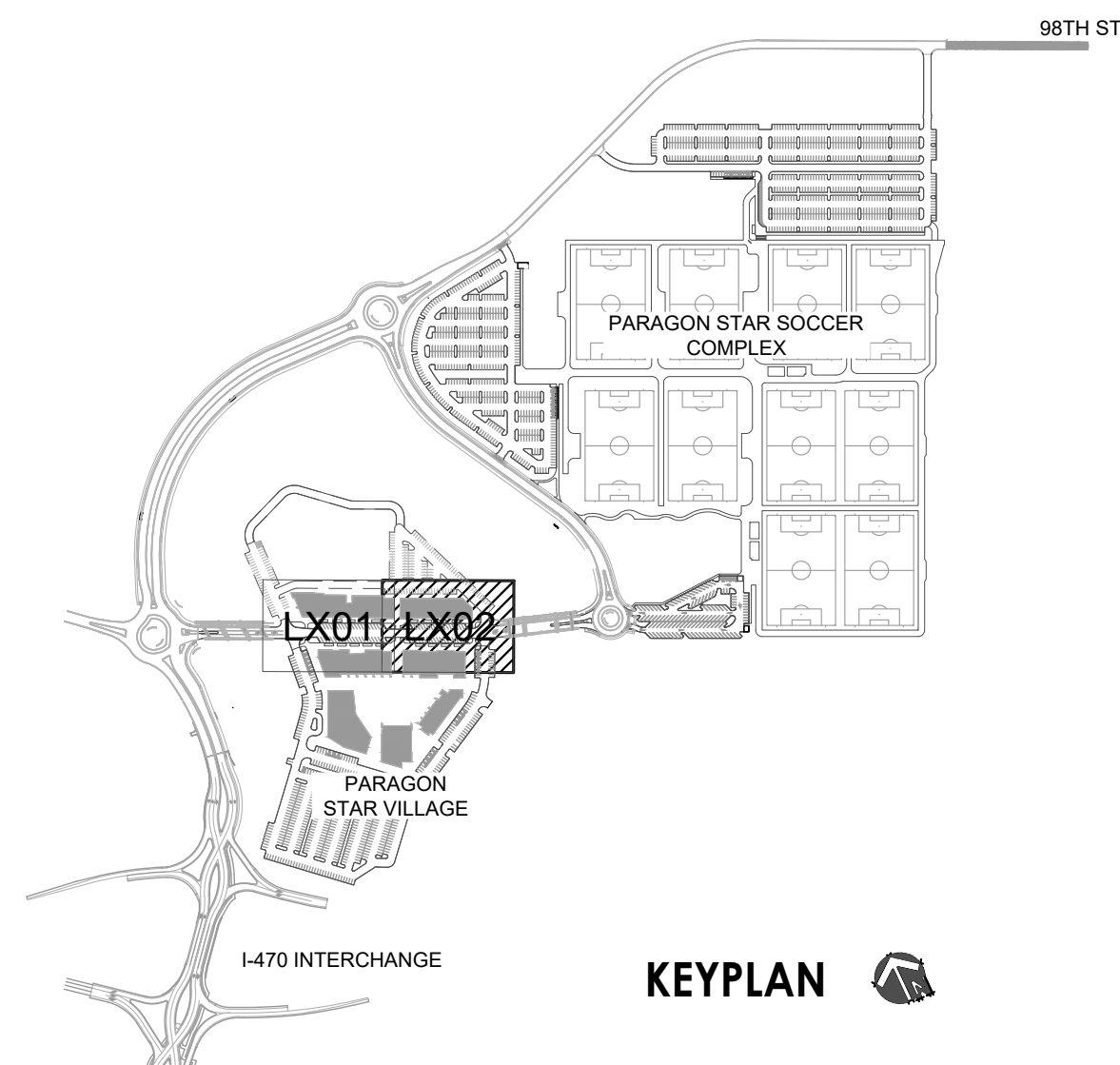


PLANTING SCHEDULE

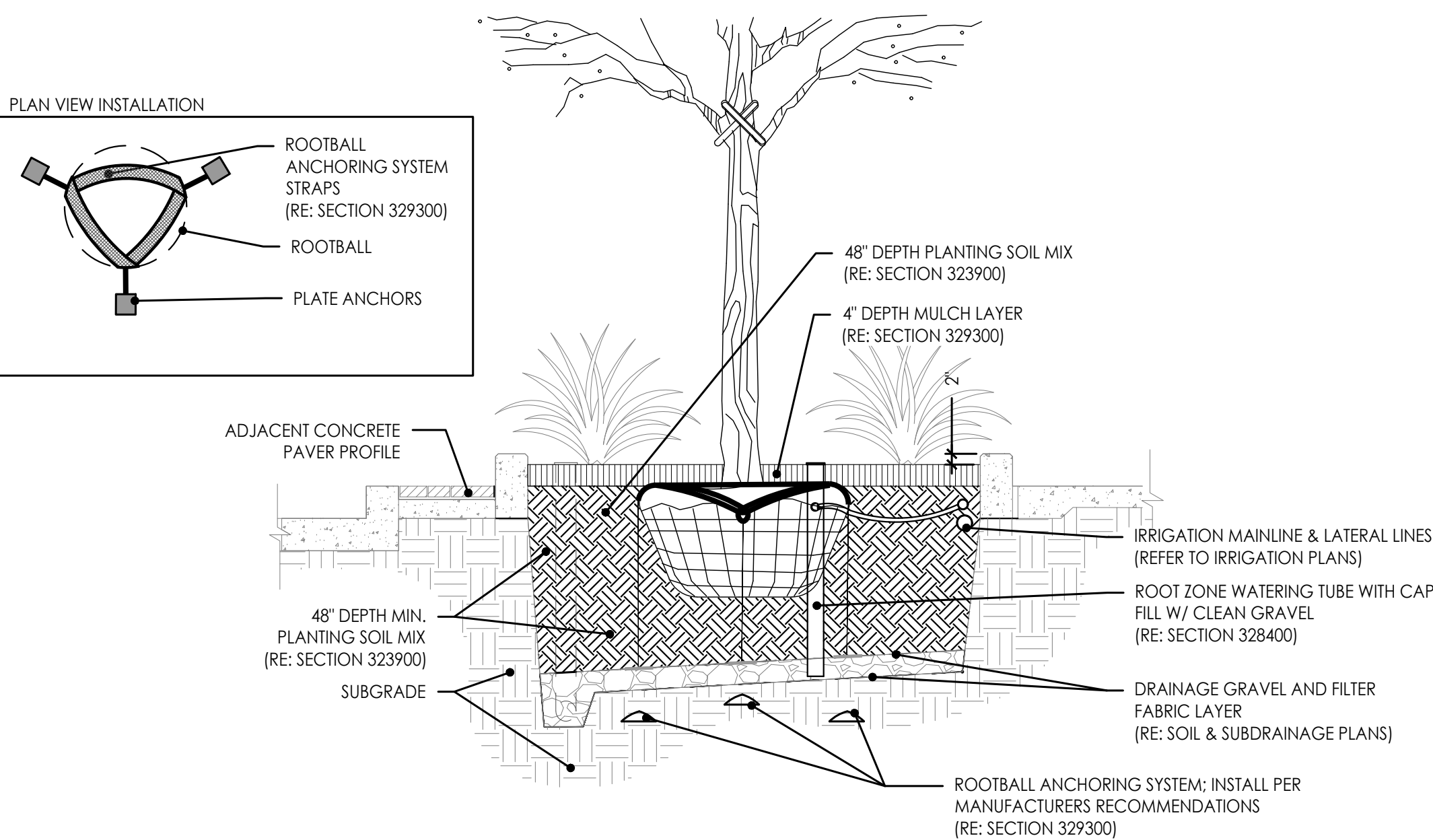
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	SHADE/STREET TREES				DECIDUOUS SHRUB				TURF/SEED MIXES		
	AF	Autumn Blaze Maple <i>Acer freemanii</i> 'Autumn Blaze'	3" cal.		RA	Grow-low Sumac <i>Rhus aromatica</i> 'Gro-low'	5 gal.		<p>Native Prairie Seed Mix Butterfly Milkweed- <i>Asclepias tuberosa</i> (5%) Blue Wild Indigo- <i>Baptisia australis</i> (5%) New Jersey Tea- <i>Ceanothus americanus</i> (5%) Amethyst Vernal Witchhazel (10%) Switchgrass- <i>Panicum virgatum</i> (13%) Little Bluestem- <i>Schizachyrium scoparium</i> (30%) Indiangrass- <i>Sorghastrum nutans</i> (20%) Fall Aster - <i>Symphotrichum oblongifolium</i> (10%)</p>		
	CO	Hackberry <i>Celtis occidentalis</i>	3" cal.		HPJ	Little Lime® Hydrangea <i>Hydrangea paniculata</i> 'Jane'	5 gal.				
	GT	Sunburst Honeylocust <i>Gleditsia triacanthos inermis</i> 'Sunburst'	3" cal.		ORNAMENTAL GRASS						
	QB	Swamp White Oak <i>Quercus bicolor</i>	3" cal.		BC	Side Oats Grama Grass <i>Bouteloua curtipendula</i>	3 gal.				
	ORNAMENTAL TREE				PV	Shennadoah Switchgrass <i>Panicum virgatum</i> 'Shennadoah'	3 gal.				
	CC	Eastern Redbud <i>Cercis canadensis</i>	3" cal.		SS	Little Bluestem <i>Schizachyrium scoparium</i>	1 gal.				
	MJ	Magnolia <i>Magnolia</i> x 'Jane'	3" cal.		SH	Prairie Dropseed <i>Sporobolus heterolepis</i>	1 gal.				
	MA	Royal Raindrops® Crabapple <i>Malus</i> 'JFS-KWS'	3" cal.		PERENNIAL/GROUND COVER						
	AG	Japanese Tree Lilac <i>Amelanchier</i> x <i>grandiflora</i> 'Autumn Brilliance'	3" cal.		SRF	Rough Goldenrod <i>Solidago rugosa</i> 'Fireworks'	1 gal.				
	EVERGREEN TREE				CVM	Moonbeam Coreopsis <i>Coreopsis verticillata</i> 'Moonbeam'	1 gal.				
	JC	Perfecta Juniper <i>Juniperus chinensis</i> 'Perfecta'	8' ht. min.		EP	Purple Coneflower <i>Echinacea purpurea</i> 'Magnus'	1 gal.				
	PA	Norway Spruce <i>Picea abies</i>	8' ht. min.		PA	Russian Sage <i>Perovskia atriplicifolia</i>	3 gal.				
	PS	Eastern White Pine <i>Pinus strobus</i>	8' ht. min.		BC	Joe-pye Weed <i>Eupatorium dubium</i> 'Little-Joe'	1 gal.				

PLANTING NOTES

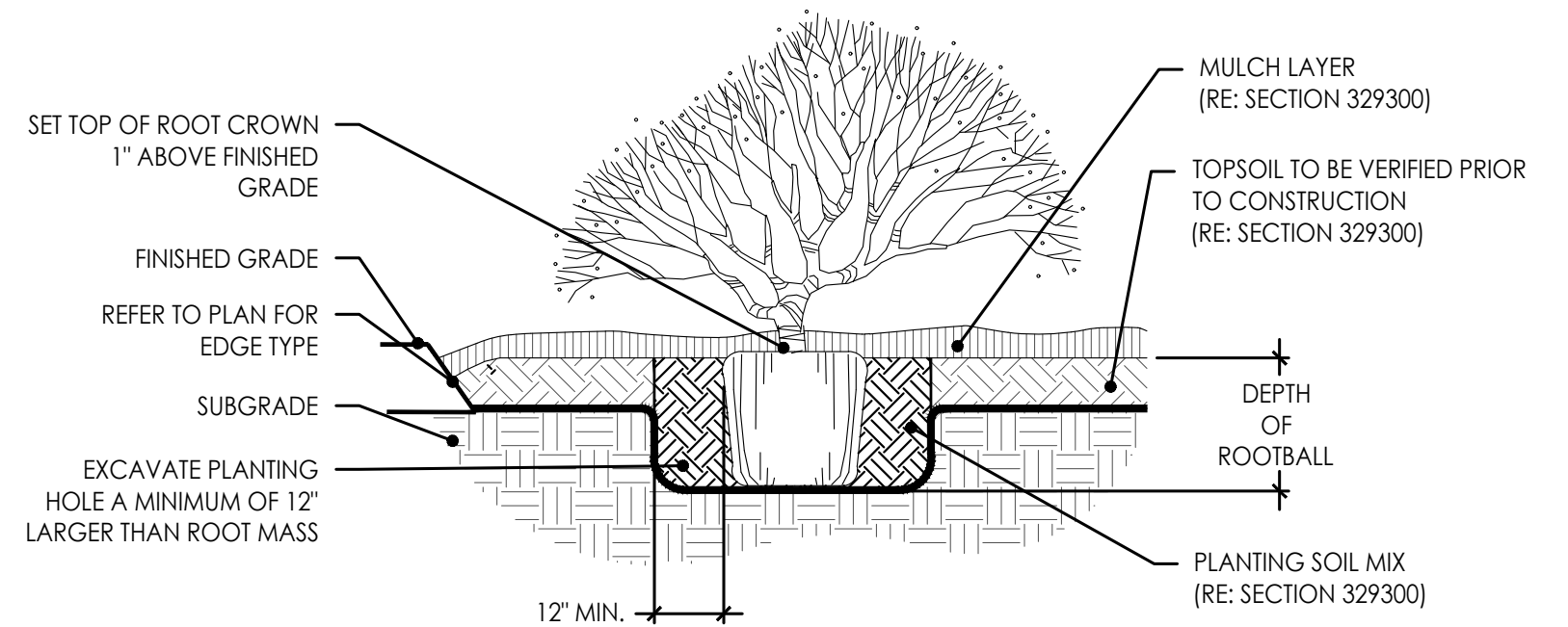
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2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES BY CONTACTING ALL OF THE RESPECTIVE UTILITY COMPANIES AND/ OR THE LOCAL "ONE-CALL"/"CALL-BEFORE-YOU-DIG" SYSTEM AND BY EXCAVATING TEST PITS IF NECESSARY.
3. LOCATIONS OF ALL PLANT MATERIALS SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING.
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.



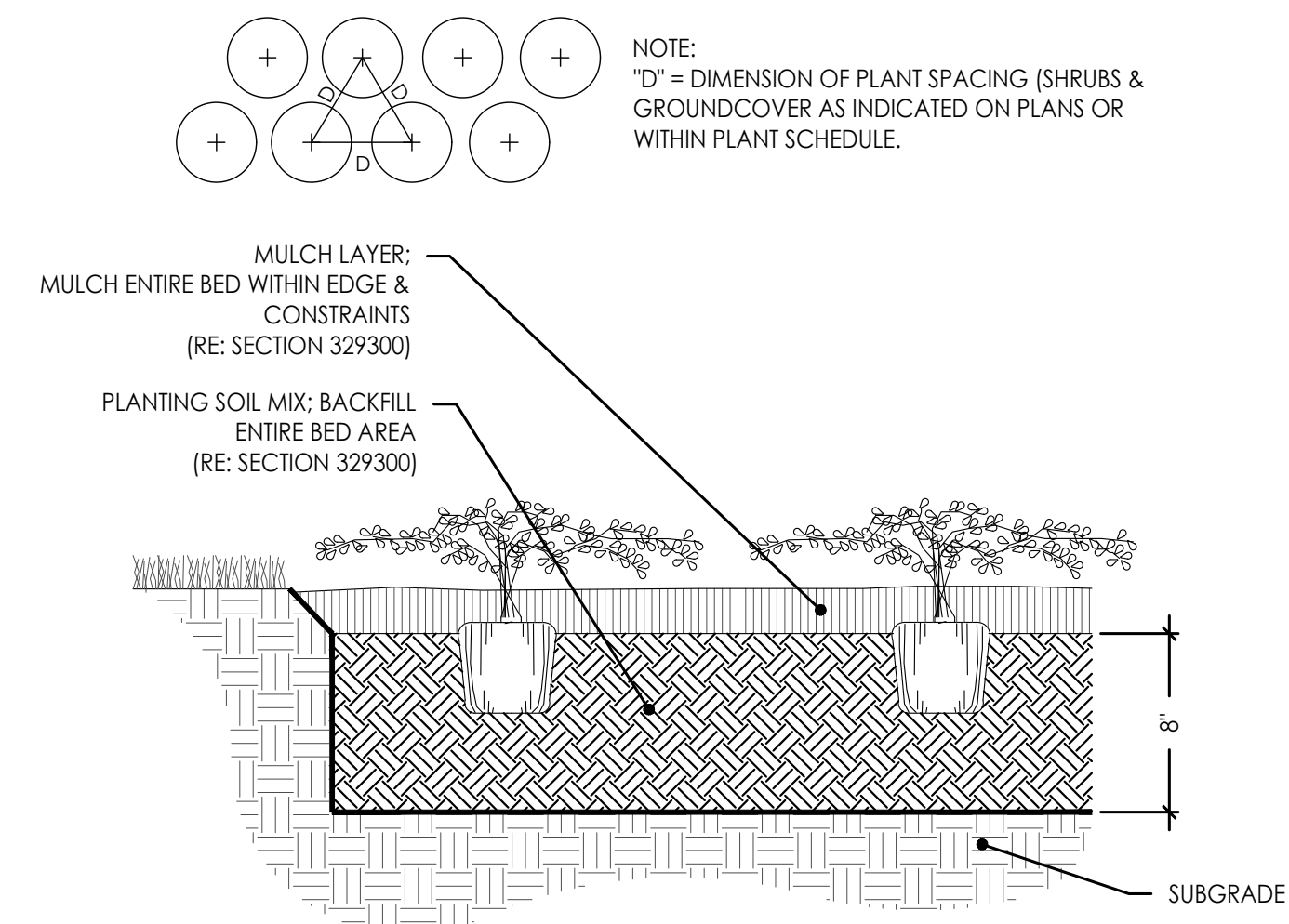
L502
PLANTING PLAN



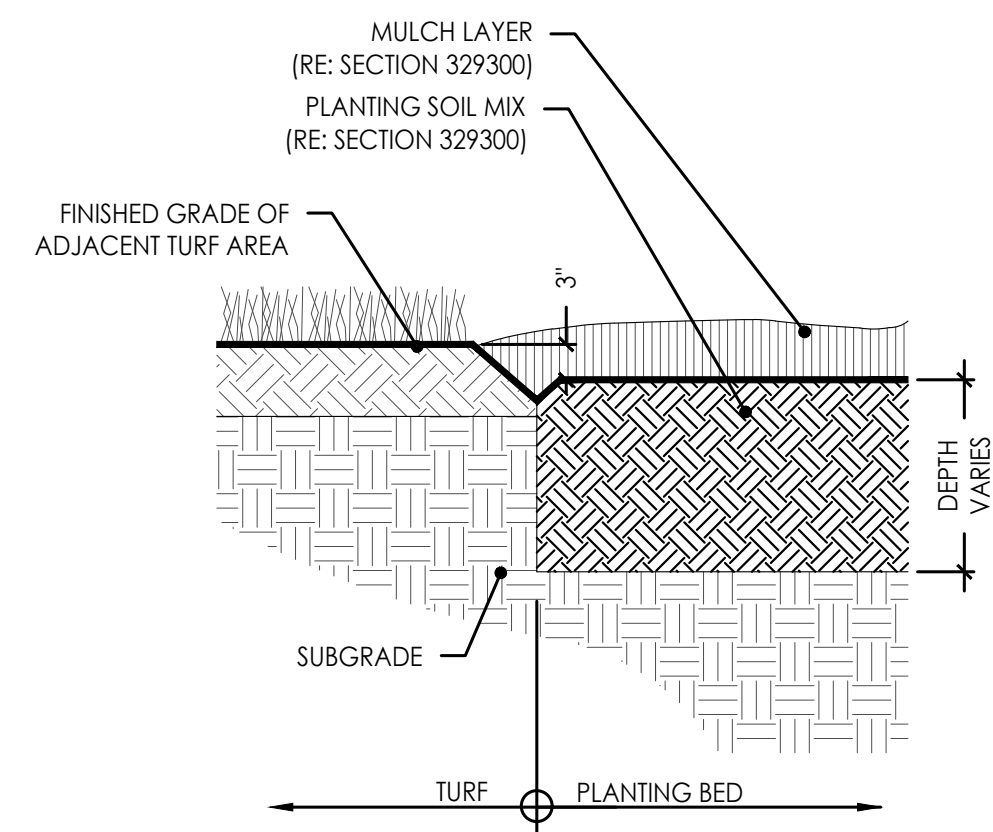
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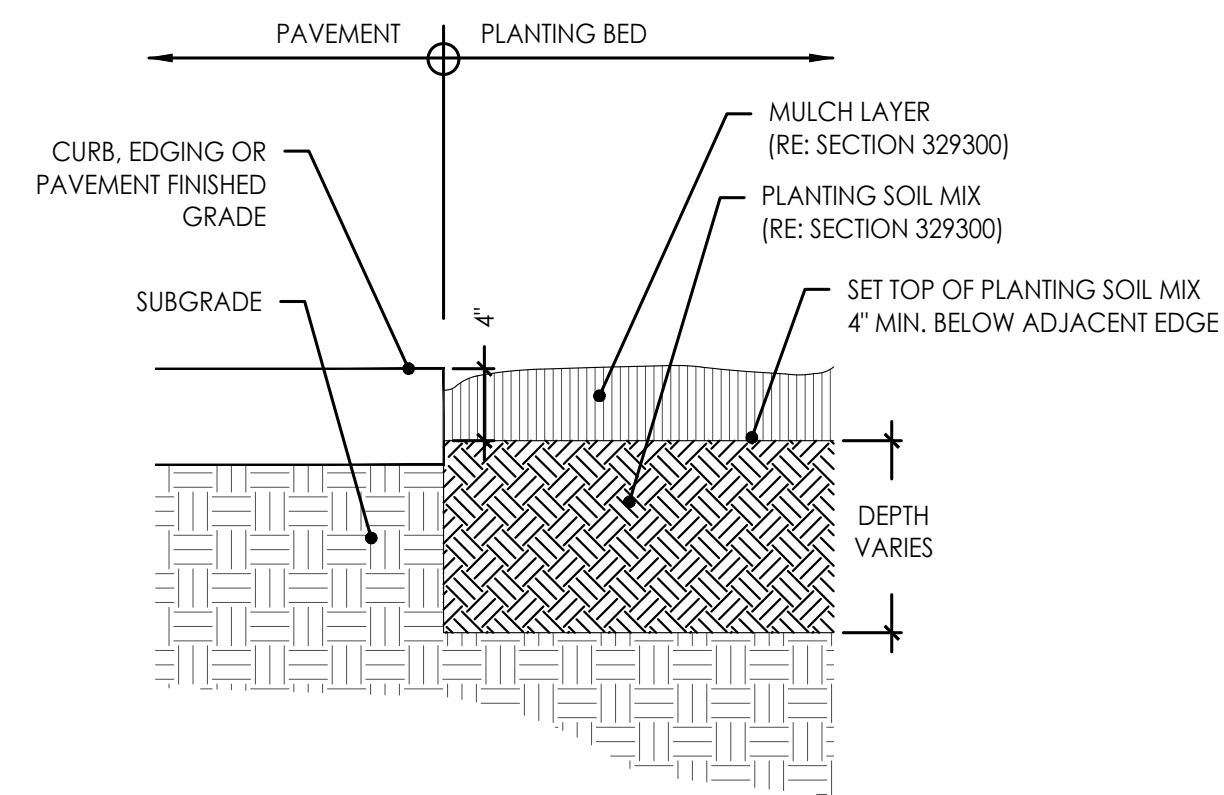
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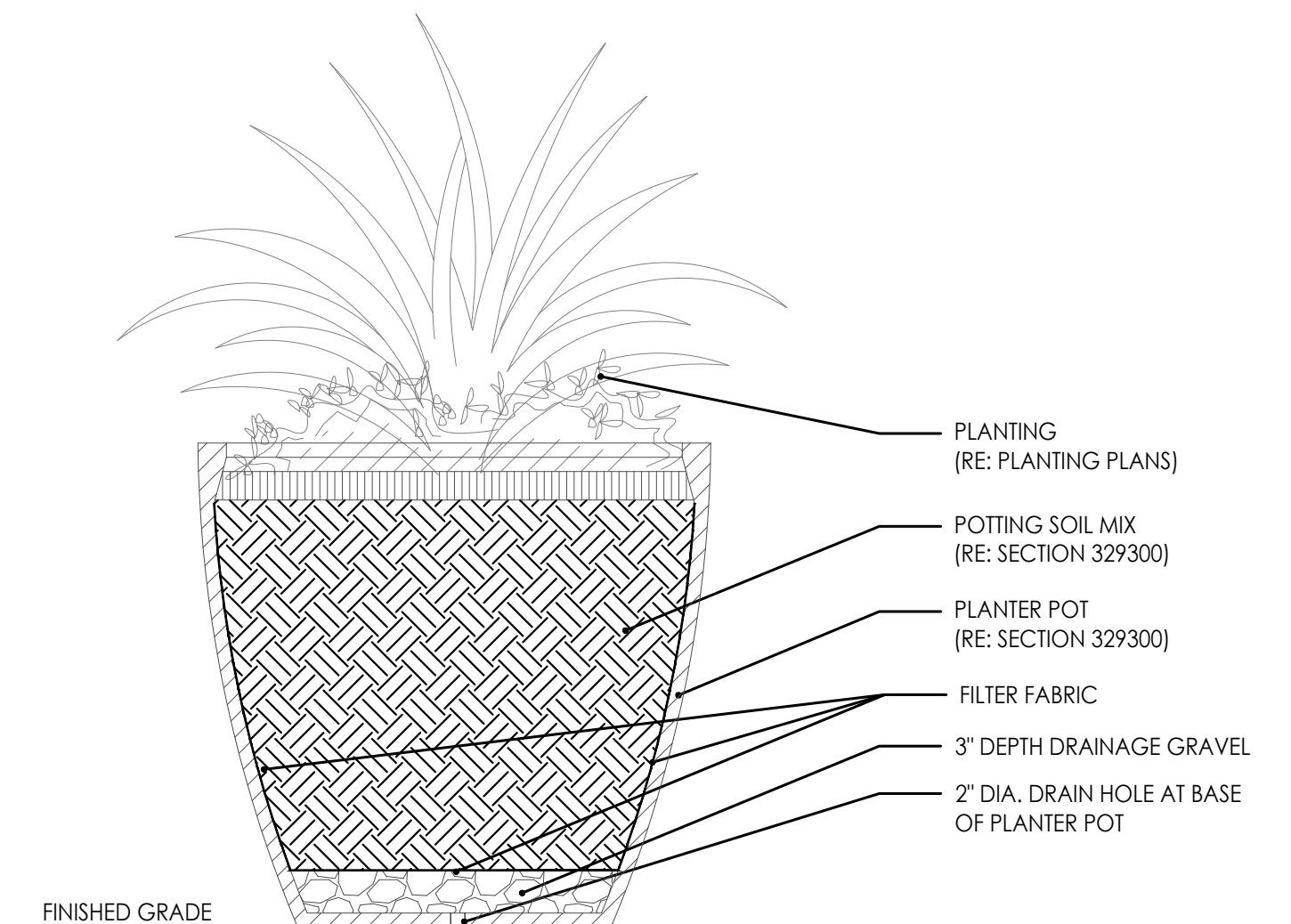
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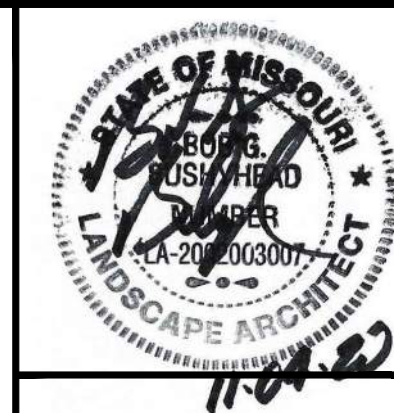
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5 PLANTING EDGE @ CONCRETE
Scale: N.T.S.



6 PLANTING POT-TYP.
Scale: N.T.S.



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engineers
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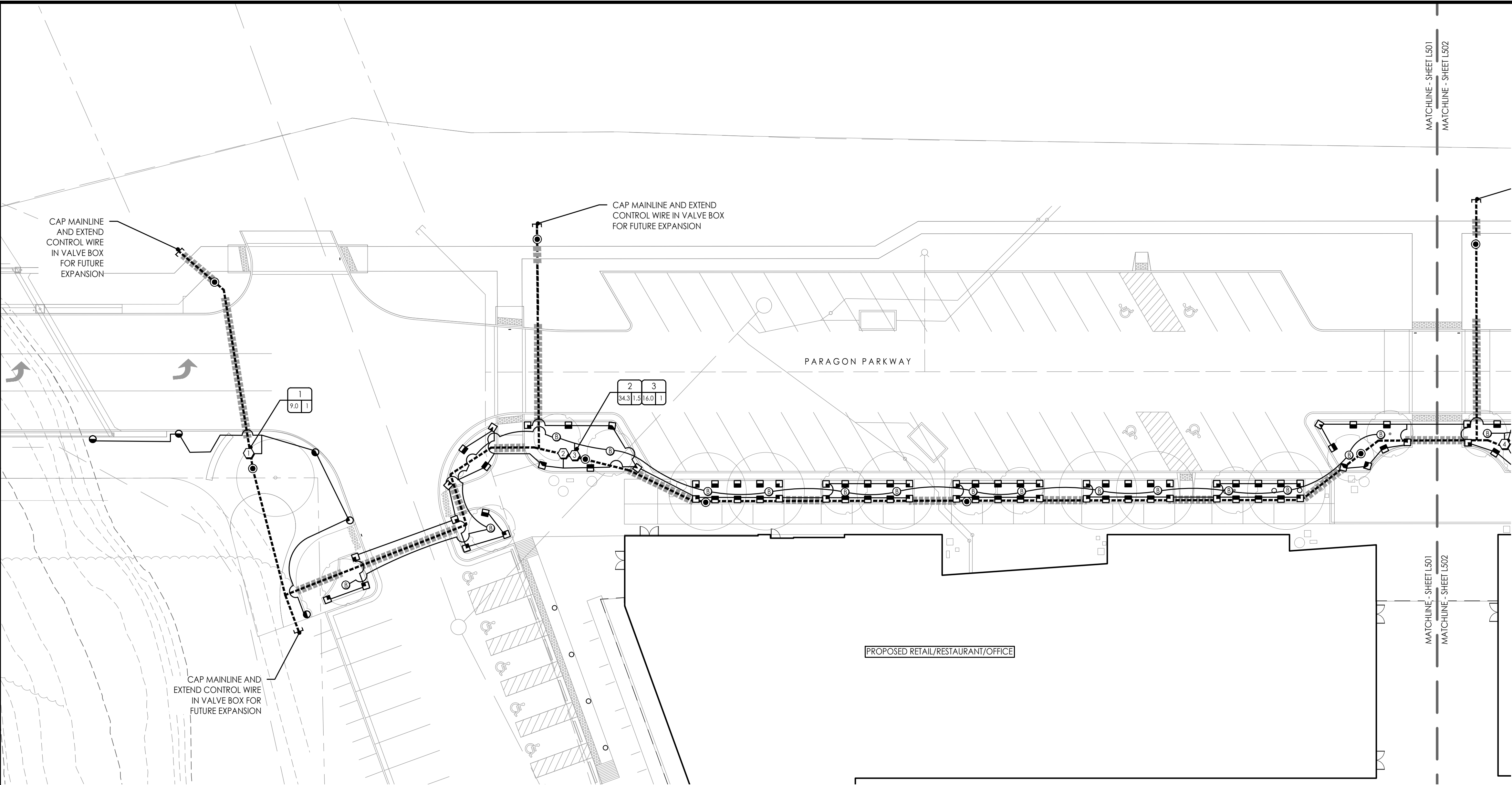
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G:\Archive\2019\1249 - PARAGON VILLAGE\DRAWINGS\CAD SHEETS\STREETSCAPE\1700 IRRIGATION - STREETSCAPE.dwg 11/6/2020 1:34:01 PM ERIC DAVIS 1:1



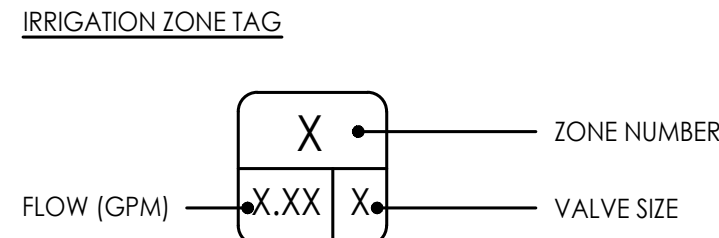
1 IRRIGATION PLAN - VILLAGE PARKWAY WEST

Scale: 1"= 20'-0"

IRRIGATION LEGEND

SYMBOL	DESCRIPTION	DETAIL
	2" PVC MAINLINE (SEE PLAN FOR SIZE)	RE: SECTION 328400 / RE: DETAIL 1/L720
	LATERAL LINE (1" UNLESS OTHERWISE NOTED)	RE: SECTION 328400 / RE: DETAIL 1/L720
	PVC PIPE SLEEVE (6" UNLESS OTHERWISE NOTED)	RE: DETAIL 2/L720
	CONTROLLER	RE: DETAIL 3/L721
	RAIN/FREEZE SENSOR	RE: DETAIL 4/L721
	MASTER VALVE	RE: DETAIL 6/L720
	BACKFLOW PREVENTER (N.I.C.)	RE: CIVIL DWGS
	WATER METER (N.I.C.)	RE: CIVIL DWGS
	REMOTE CONTROL VALVE	RE: DETAIL 5/L720
	ROOT WATERING SYSTEM	RE: DETAIL 10/L720
	ISOLATION VALVE	RE: DETAIL 3/L720
	QUICK COUPLER	RE: DETAIL 4/L720
	FULL ARC	WATER DELIEVERY EQUIPMENT. REFER TO ZONE CHART SHEET XXX FOR MODEL NUMBERS, BODY TYPE, AND NOZZLE.
	180 ARC	
	90 ARC	
	270 ARC	WATER DELIVERY EQUIPMENT. REFER TO ZONE CHART SHEET XXX FOR MODEL NUMBERS, BODY TYPE, AND NOZZLE.
	FULL STRIP	
	HALF STRIP	

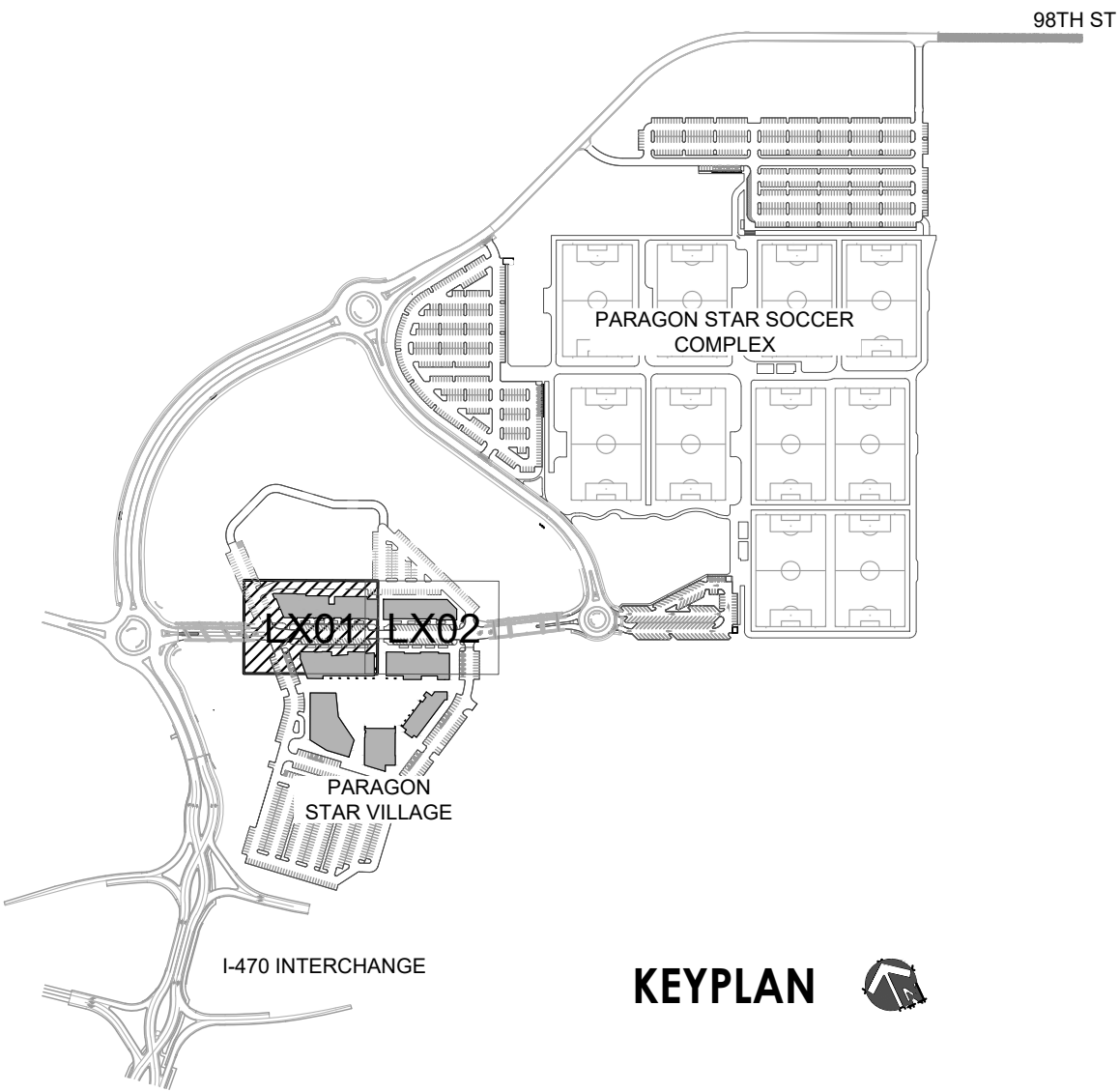
REFER TO SHEET L721 FOR COMPLETE IRRIGATION ZONE SCHEDULE



IRRIGATION NOTES

1. THIS PLAN ILLUSTRATES THE SCHEMATIC SCOPE OF WORK FOR THE IRRIGATION SYSTEM FOR THE VILLAGE AT PARAGON STAR AND IS INTENDED TO BE USED FOR PRELIMINARY PRICING. REFER TO **SECTION 328400 - IRRIGATION SYSTEM** FOR THE DETAILED SCOPE OF WORK, RESPONSIBILITIES, PRODUCTS AND EXECUTION OF WORK.
2. 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.
3. VERIFY ALL SITE CONDITIONS AND DIMENSIONS SHOWN ON THE PLAN PRIOR TO COMMENCEMENT OF WORK. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES OR IRREGULAR CONDITIONS ENCOUNTERED DURING CONSTRUCTION.
4. SYSTEM IS DESIGNED ASSUMING 110 GPM AT 70 PSI TO BE PROVIDED VIA FUTURE BUILDING. CONTRACTOR WILL PROVIDE A TEMPORARY POINT OF CONNECTION INCLUDING BACKFLOW AND SUB-METER TO SUPPLY THIS PHASE OF WORK. SECURE PERMIT AS REQUIRED FOR TEMPORARY POINT OF CONNECTION (P.O.C.) TO DOMESTIC WATER.
5. IRRIGATION DESIGNS ARE DIAGRAMMATIC; ALL PIPING, VALVES, EQUIPMENT, ETC. SHOWN IS FOR DESIGN INTENT OR GUIDELINE ONLY AND SHALL BE INSTALLED IN THE FIELD AREAS IN A MANNER TO CONFORM TO THE VARIOUS DETAILS AND APPROVED SHOP DRAWINGS AS DIRECTED.
6. RAIN SENSOR TO BE INCLUDED IN FUTURE PHASE.
7. 120-VOLT ELECTRICAL POWER SERVICE PROVIDED BY OTHERS; REFER TO ELECTRICAL.
8. INSTALL TRACER WIRE (#14 WITH PVC JACKET) ALONG ALL MAINLINE WHERE CONTROL WIRES OR TWO-WIRE PATH IS NOT PRESENT.

IMPORTANT:
WINTERIZATION WATER BLOW-OUT PROCESS WARNING – THE IRRIGATION SYSTEM IS DESIGNED TO BE COMPLETELY DRAINED BY THE USE OF AN AIR COMPRESSOR TO PROTECT PIPES FROM BURSTING PRIOR TO FREEZING TEMPERATURES.



L701

IRRIGATION PLAN

GBA
architects
engineers
9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

DATE: 11-4-2020

DESIGN BY: RWB/EDD

DRAWN BY: RWB/EDD

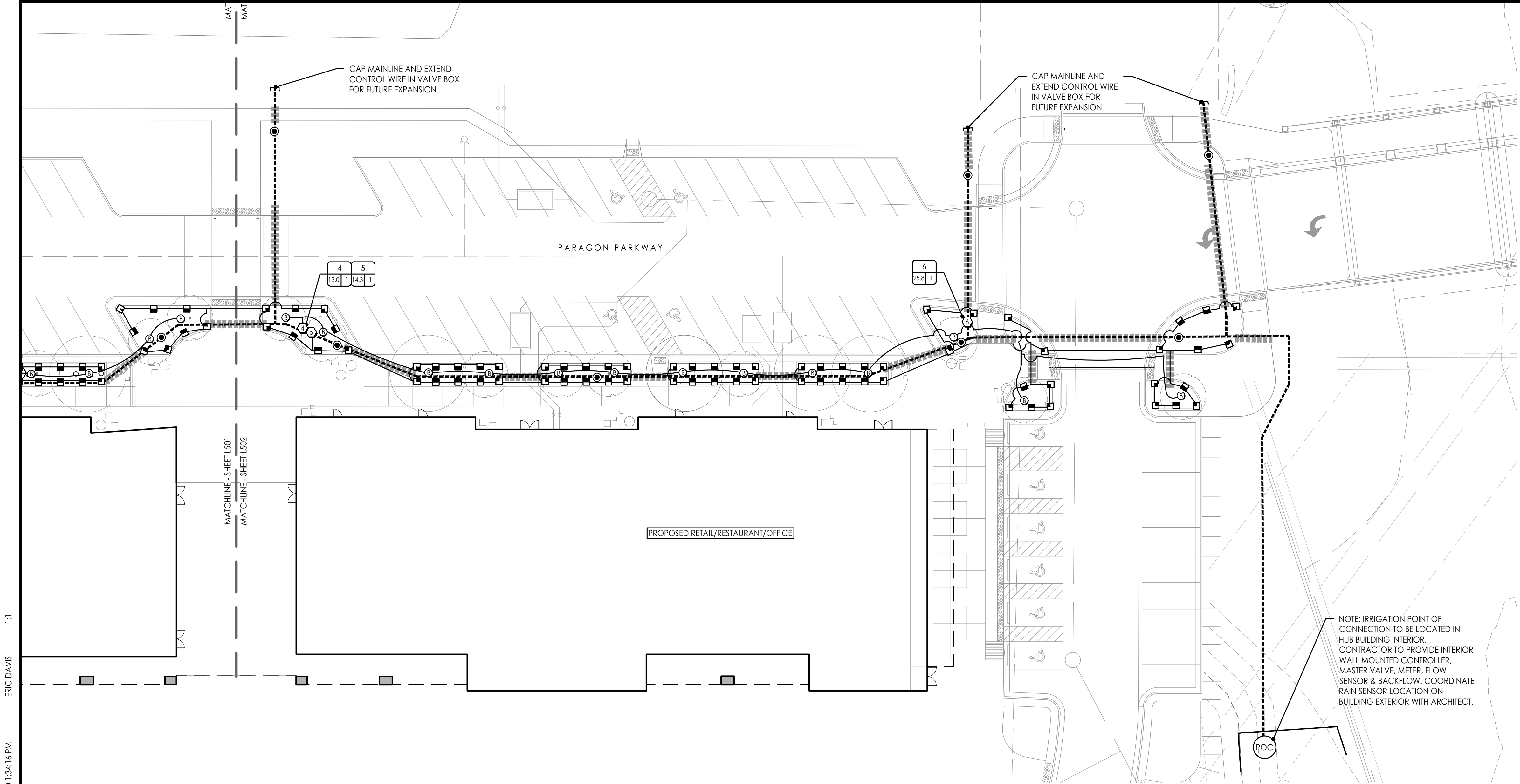
PROJECT NO.: 12720


SHEET NO.	TOTAL SHEETS
63	68

LAND3 Studio - Landscape Architect
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Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

NO.	DATE	REVISIONS	BY	APPROVED
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DESIGN BY:
DRAWN BY: RWB/EDD
PROJECT NO.: 12720
SHEET NO. 64
TOTAL SHEETS 68

Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

LAND3 Studio - Landscape Architect
MO LA Corp# 2008001860

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	10/16/20	Issued for Pricing		

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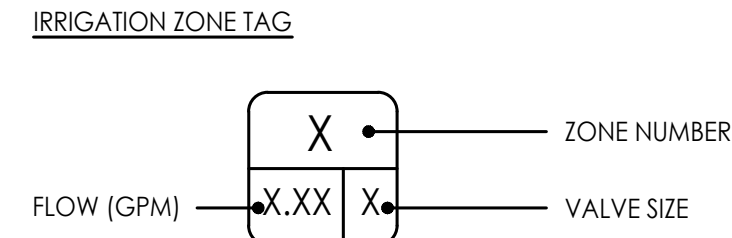
IRRIGATION PLAN - VILLAGE PARKWAY EAST

Scale: 1"= 20'-0"

IRRIGATION LEGEND

SYMBOL	DESCRIPTION	DETAIL
	2" PVC MAINLINE (SEE PLAN FOR SIZE)	RE: SECTION 328400 / RE: DETAIL 1/L720
	LATERAL LINE (1" UNLESS OTHERWISE NOTED)	RE: SECTION 328400 / RE: DETAIL 1/L720
	PVC PIPE SLEEVE (6" UNLESS OTHERWISE NOTED)	RE: DETAIL 2/L720
	CONTROLLER	RE: DETAIL 3/L721
	RAIN/FREEZE SENSOR	RE: DETAIL 4/L721
	MASTER VALVE	RE: DETAIL 6/L720
	BACKFLOW PREVENTER (N.I.C.)	RE: CIVIL DWGS
	WATER METER (N.I.C.)	RE: CIVIL DWGS
	REMOTE CONTROL VALVE	RE: DETAIL 5/L720
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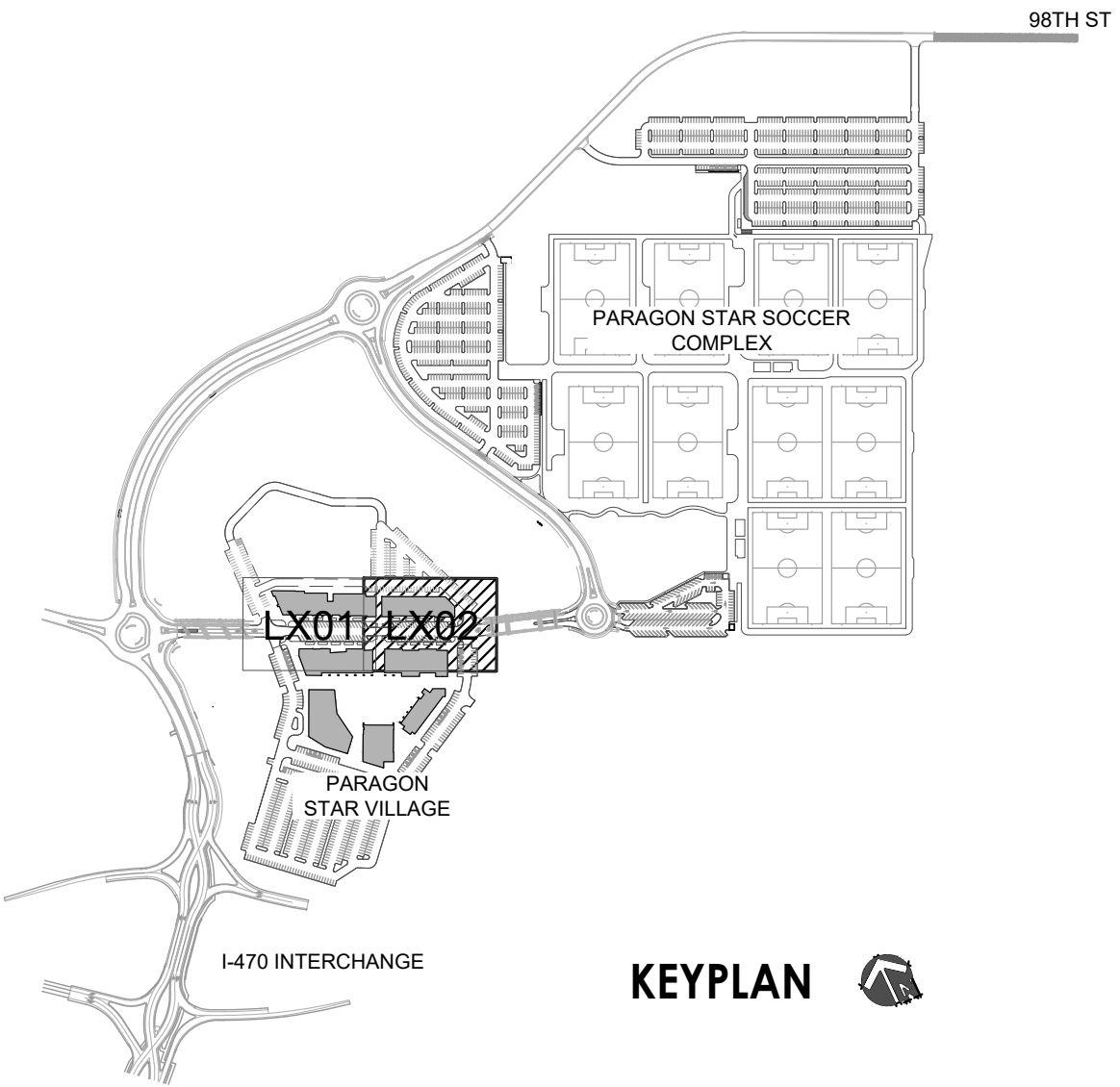
REFER TO SHEET L721 FOR COMPLETE IRRIGATION ZONE SCHEDULE



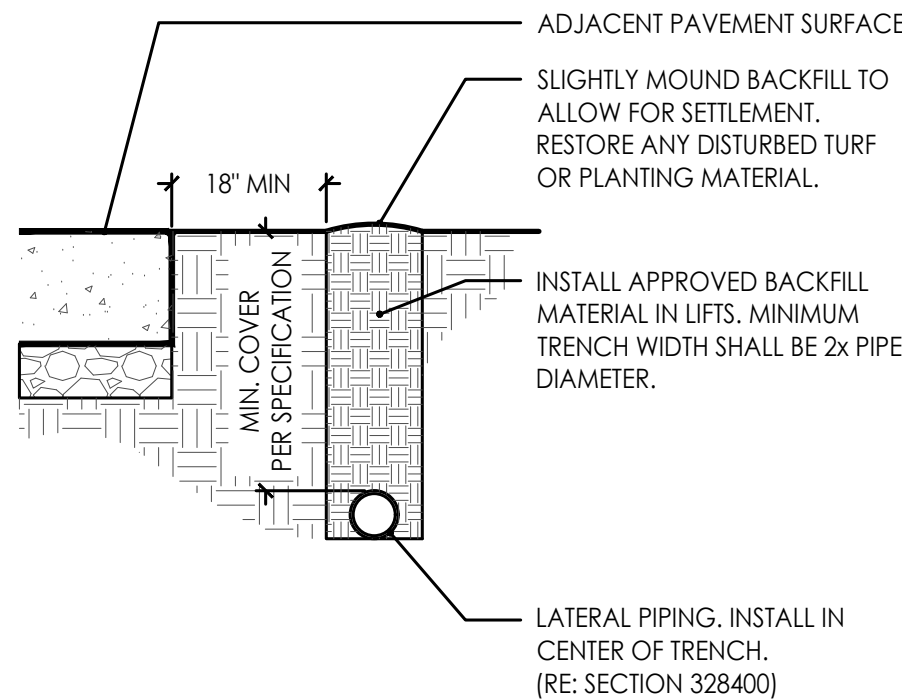
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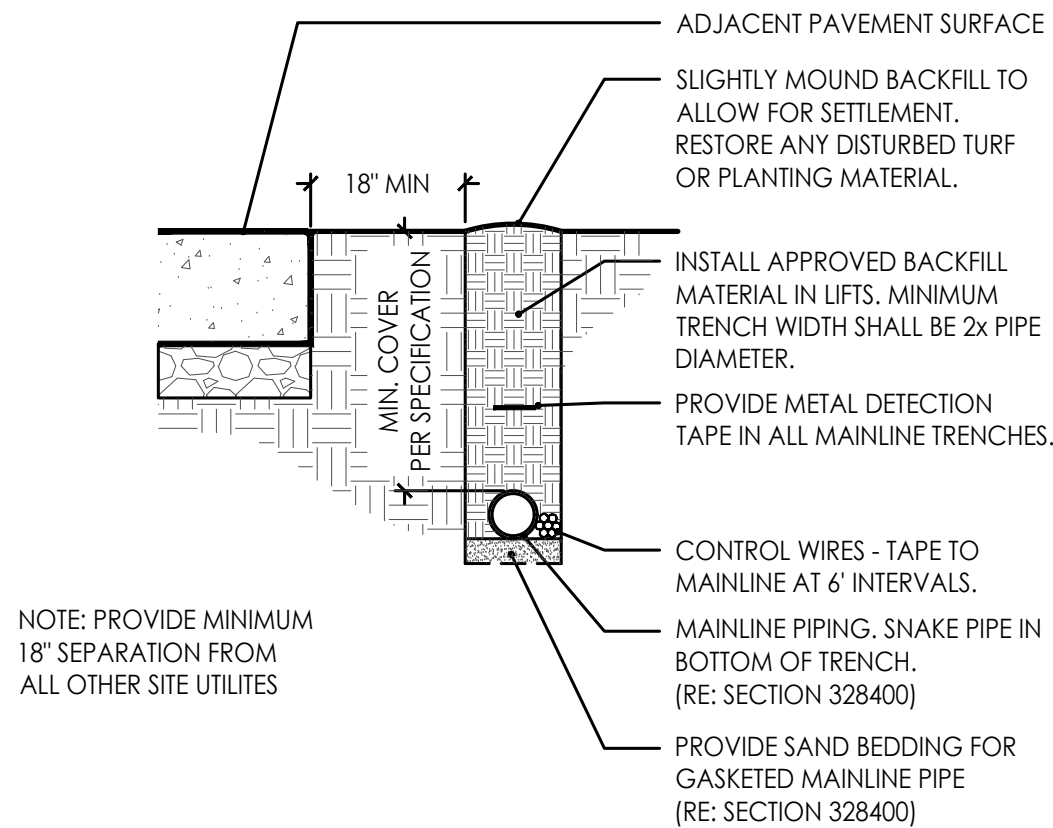
IMPORTANT:
WINTERIZATION WATER BLOW-OUT PROCESS WARNING – THE IRRIGATION SYSTEM IS DESIGNED TO BE COMPLETELY DRAINED BY THE USE OF AN AIR COMPRESSOR TO PROTECT PIPES FROM BURSTING PRIOR TO FREEZING TEMPERATURES.



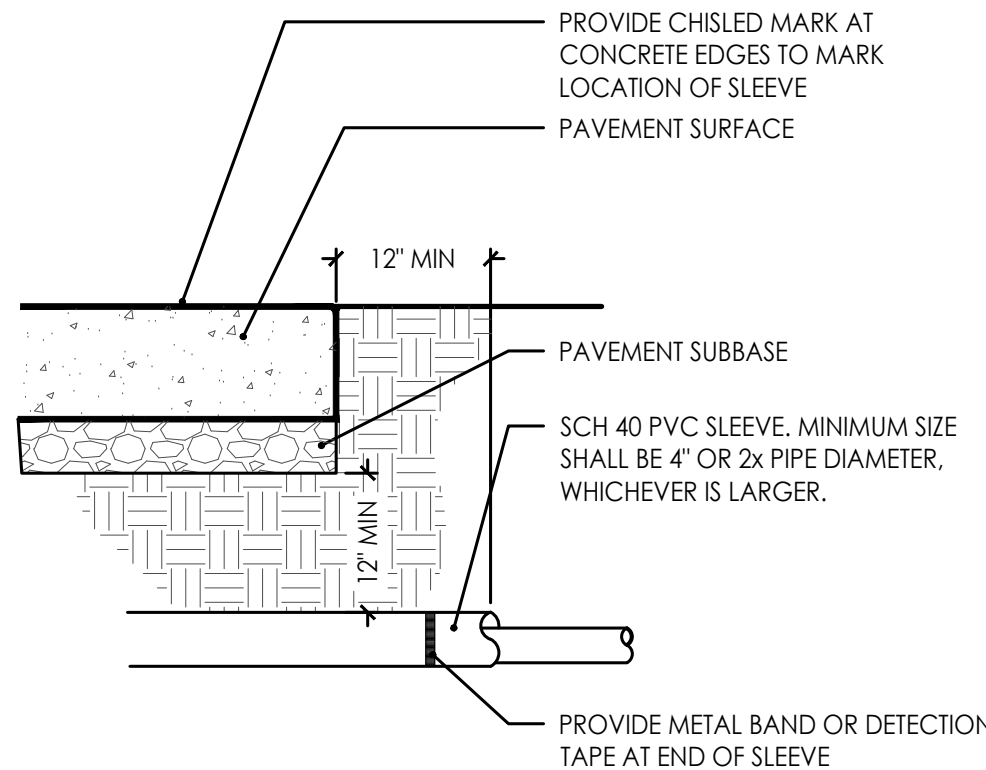
L702
IRRIGATION PLAN



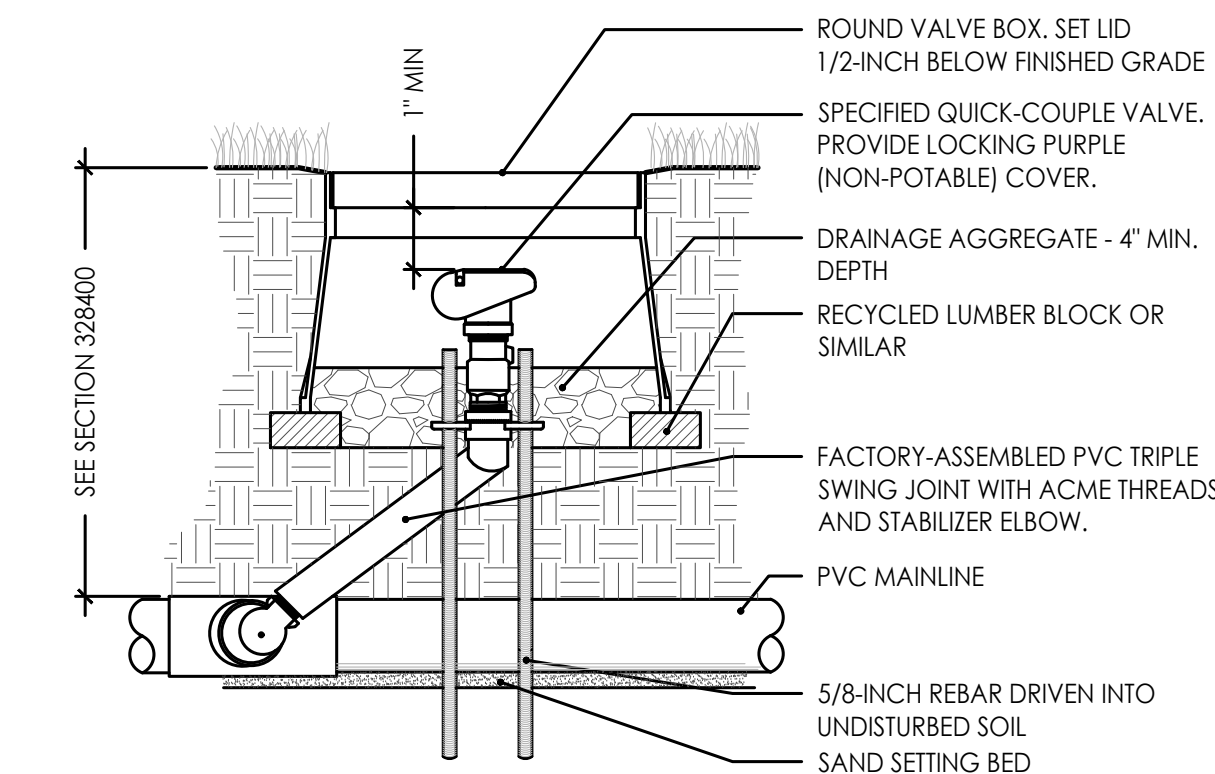
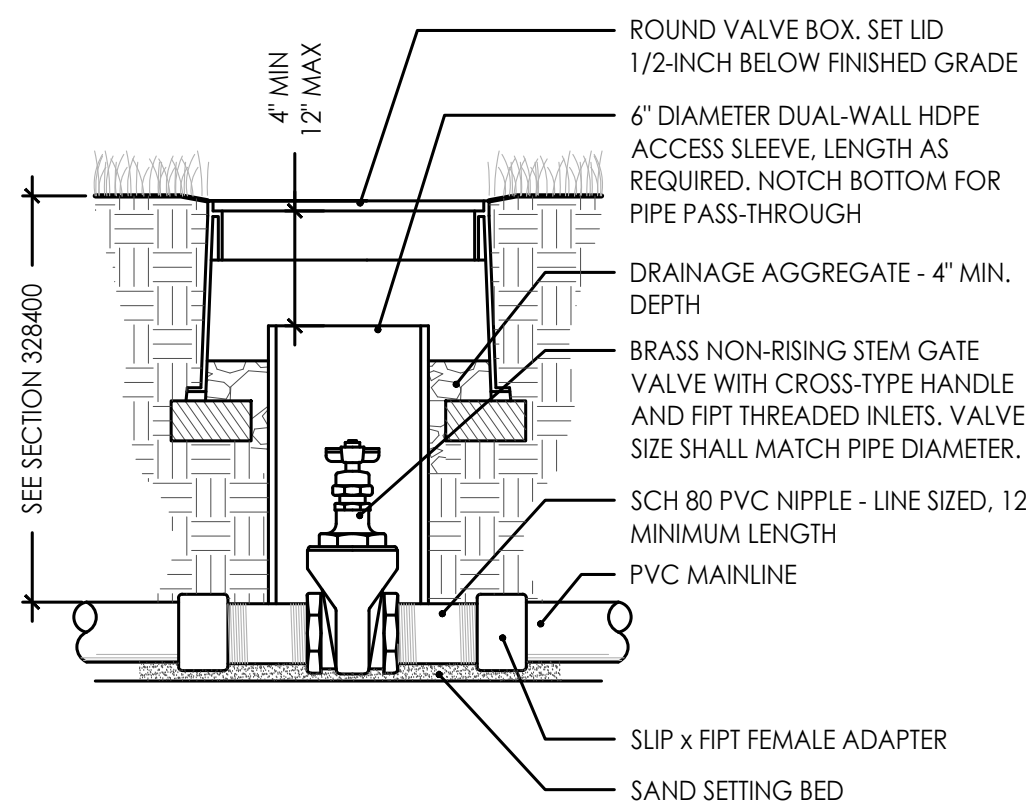
1 PIPE TRENCHING
Scale: N.T.S.



2 PIPE SLEEVE
Scale: N.T.S.

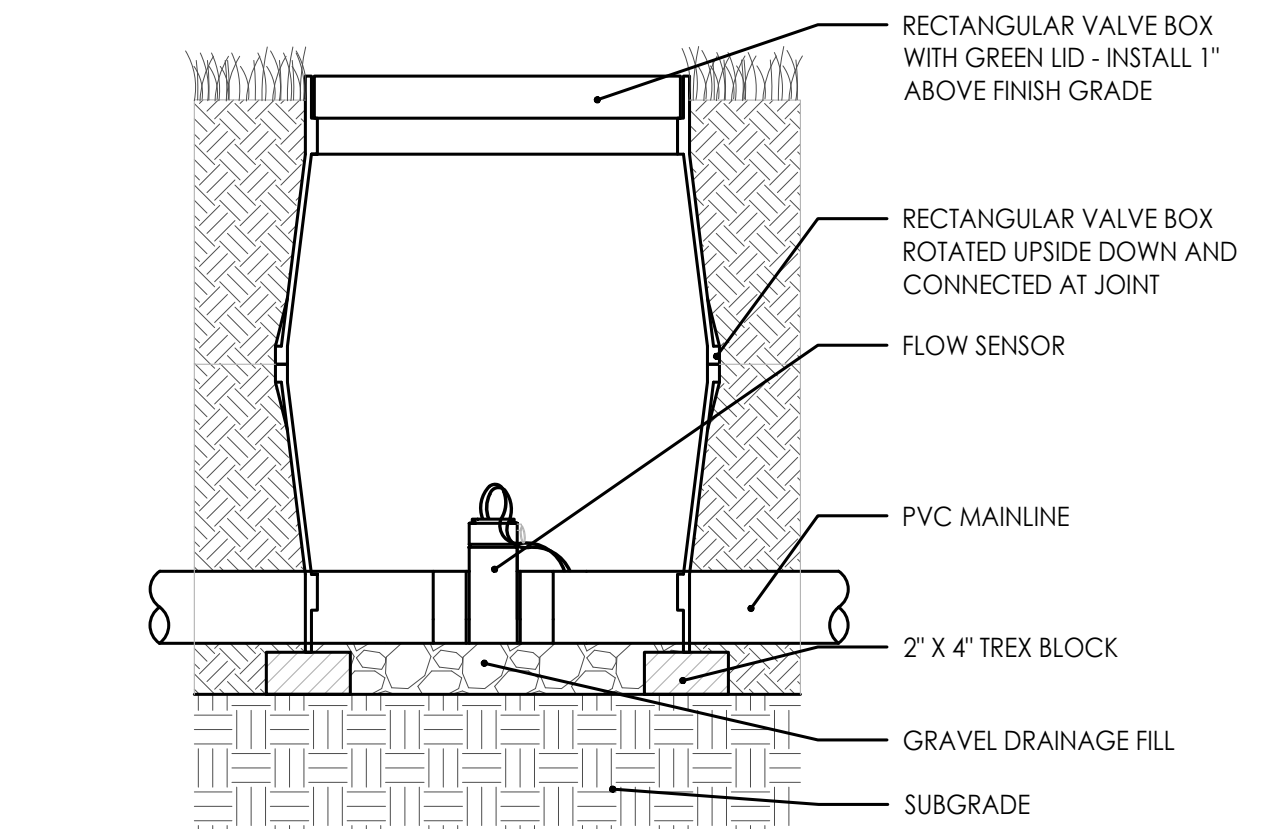
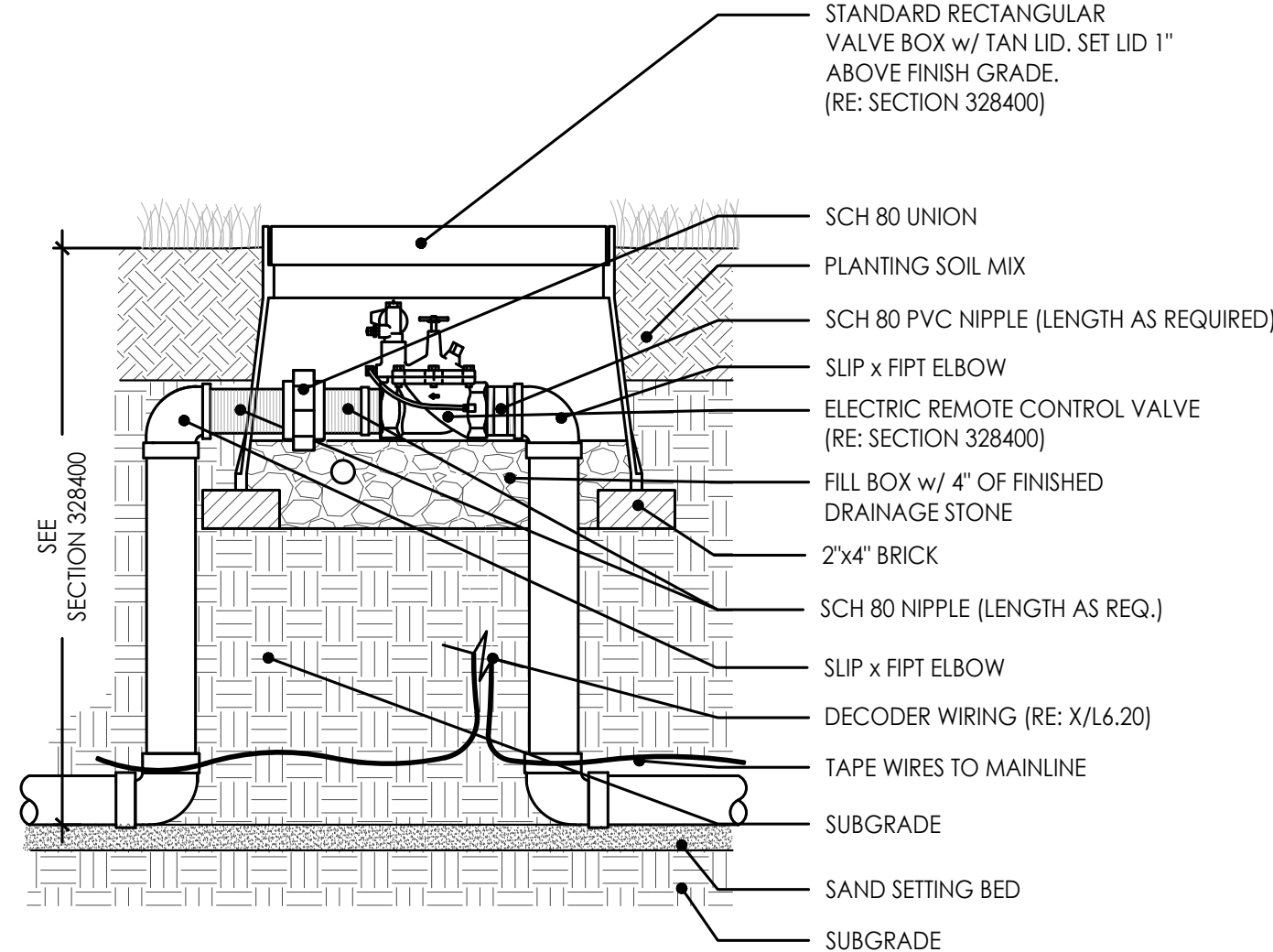
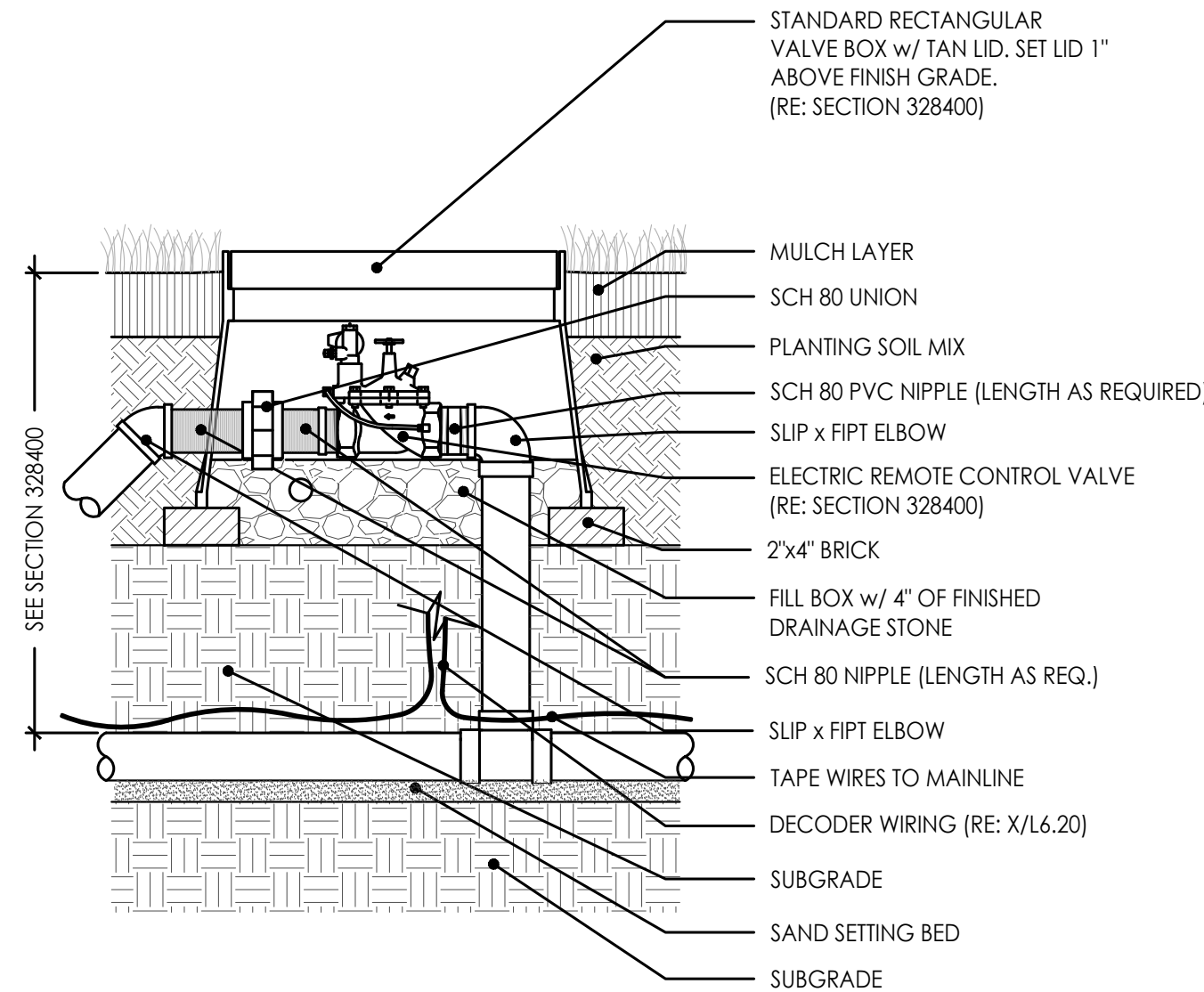


3 ISOLATION VALVE
Scale: N.T.S.

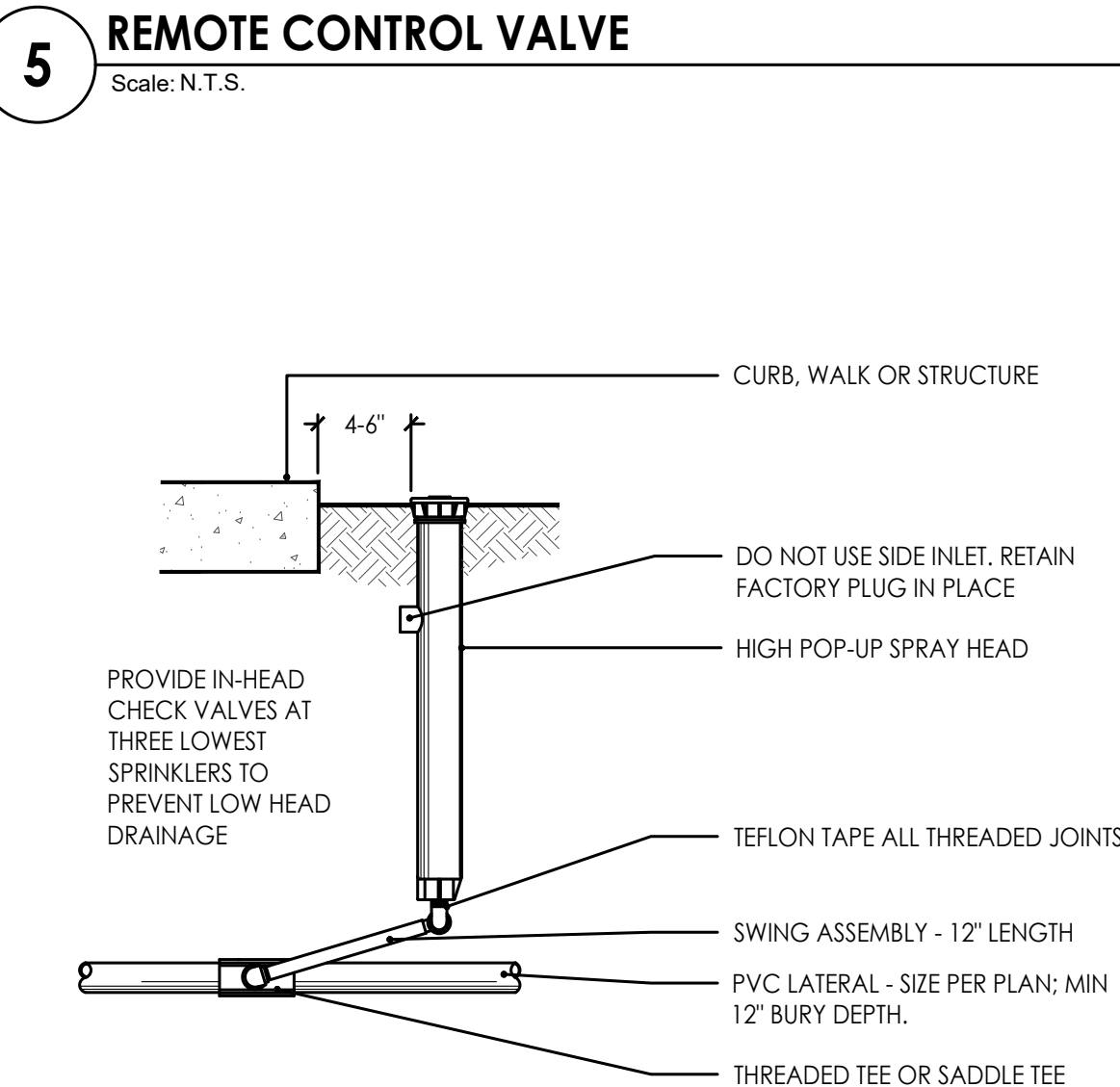


- NOTES
1. ACME O-RING SEALED THREADS ARE TO BE FINGER TIGHTENED AND BACKED OFF ONE FULL ROTATION BEFORE INSTALLATION.
 2. THE SWING JOINT ARM IS TO BE INSTALLED AT AN ANGLE BETWEEN 30° AND 45° TO THE MAINLINE
 3. TEFLON TAPE ALL METAL THREADS.

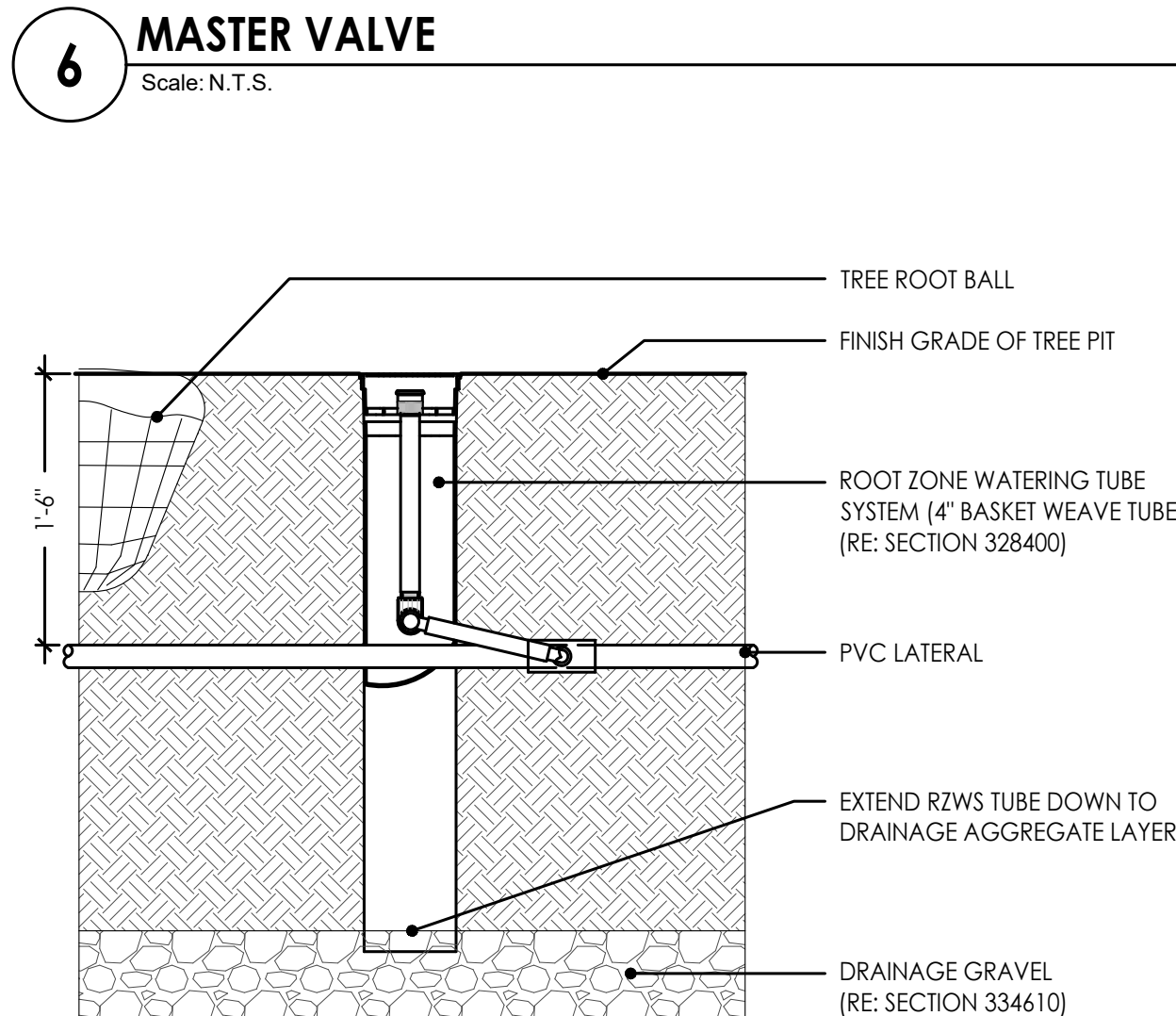
4 QUICK COUPLE VALVE
Scale: N.T.S.



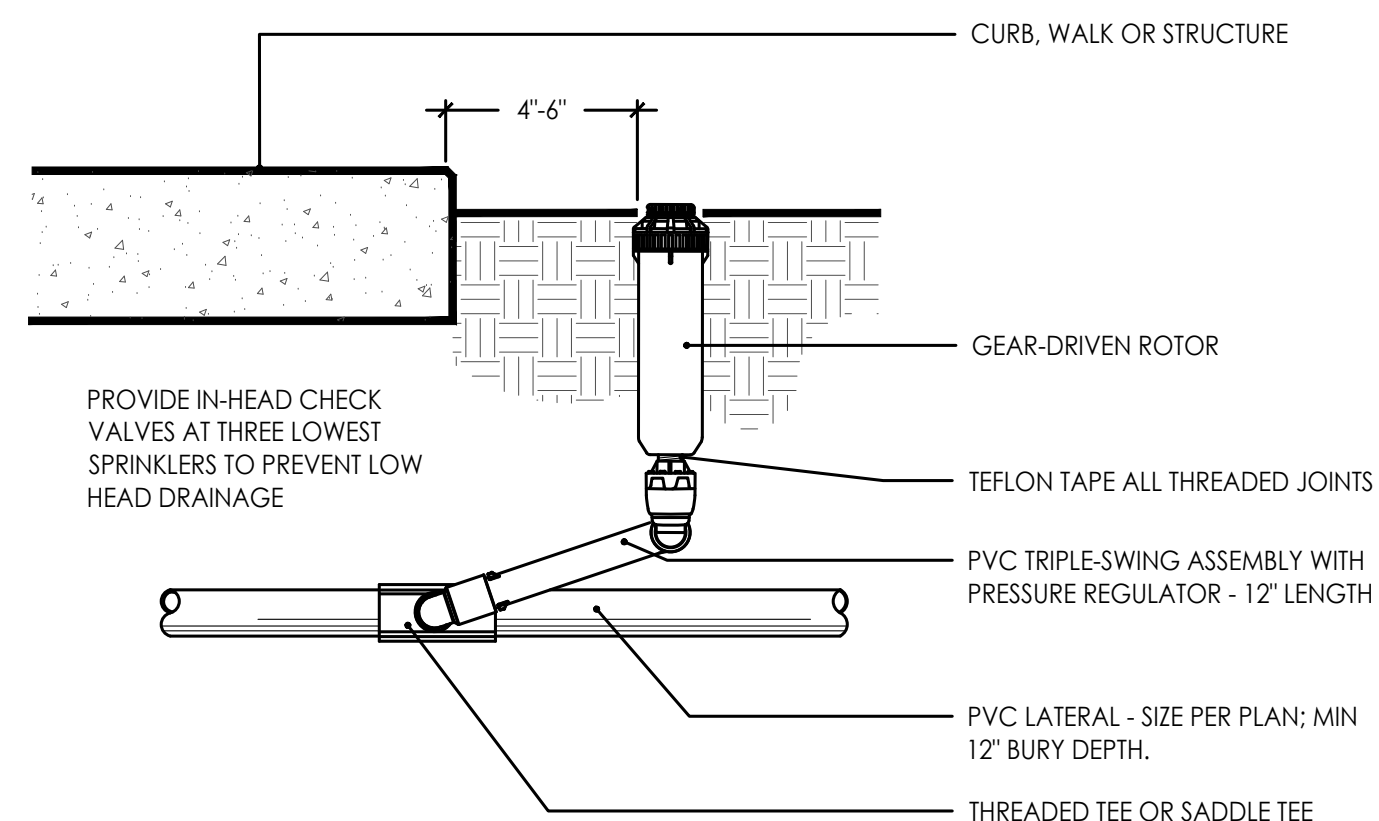
8 POP-UP SPRAY HEAD
Scale: N.T.S.



9 HIGH POP-UP SPRAY
Scale: N.T.S.



10 ROOT WATERING SYSTEM
Scale: N.T.S.



11 ROTOR HEAD
Scale: N.T.S.



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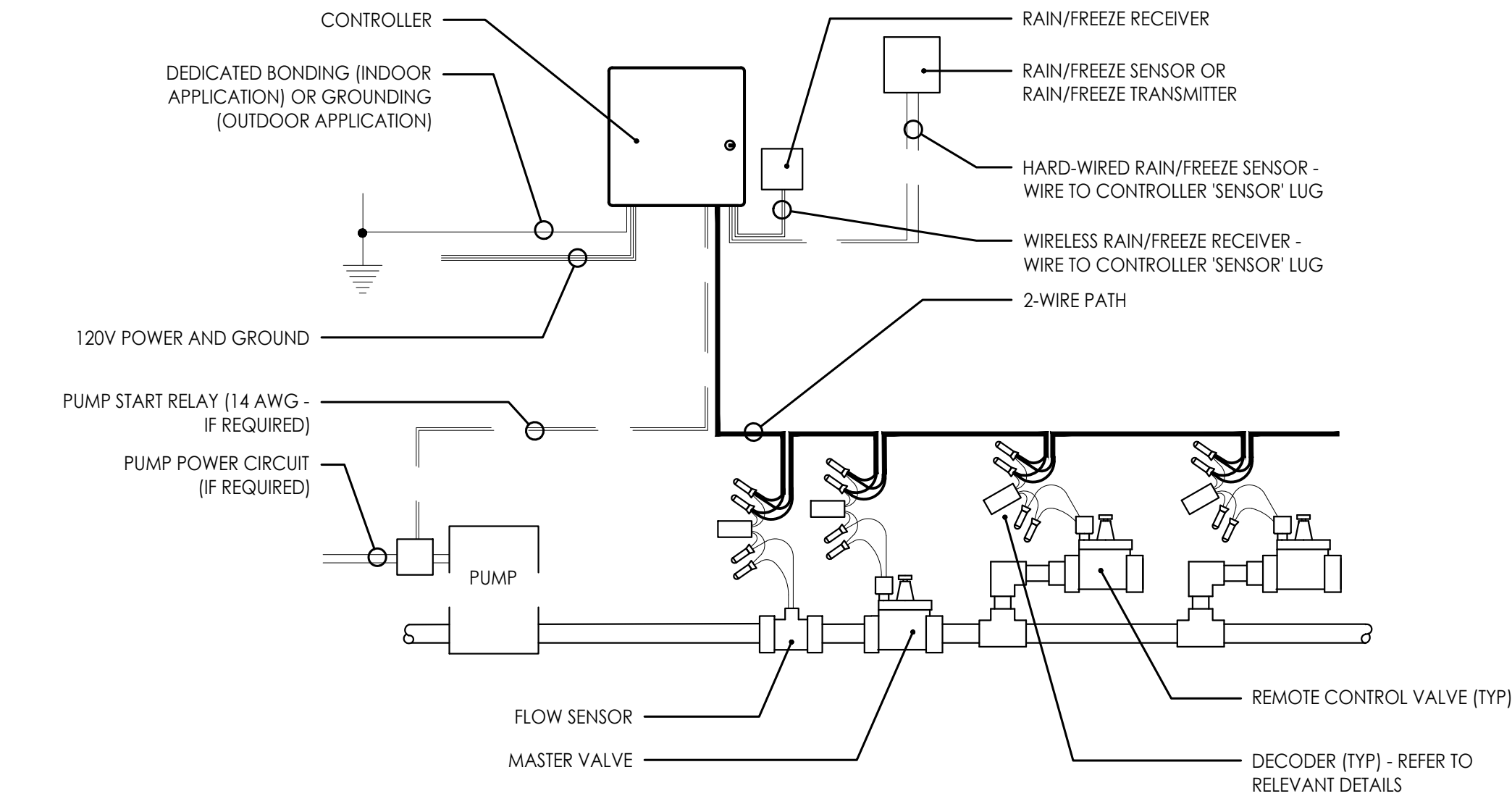
DATE:	11-4-2020
DESIGN BY:	
DRAWN BY:	RWB/EDD
PROJECT NO.:	12720
SHEET NO.:	65
TOTAL SHEETS:	68

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Street and Storm Sewer Plans
Paragon Parkway
Lee's Summit, Missouri

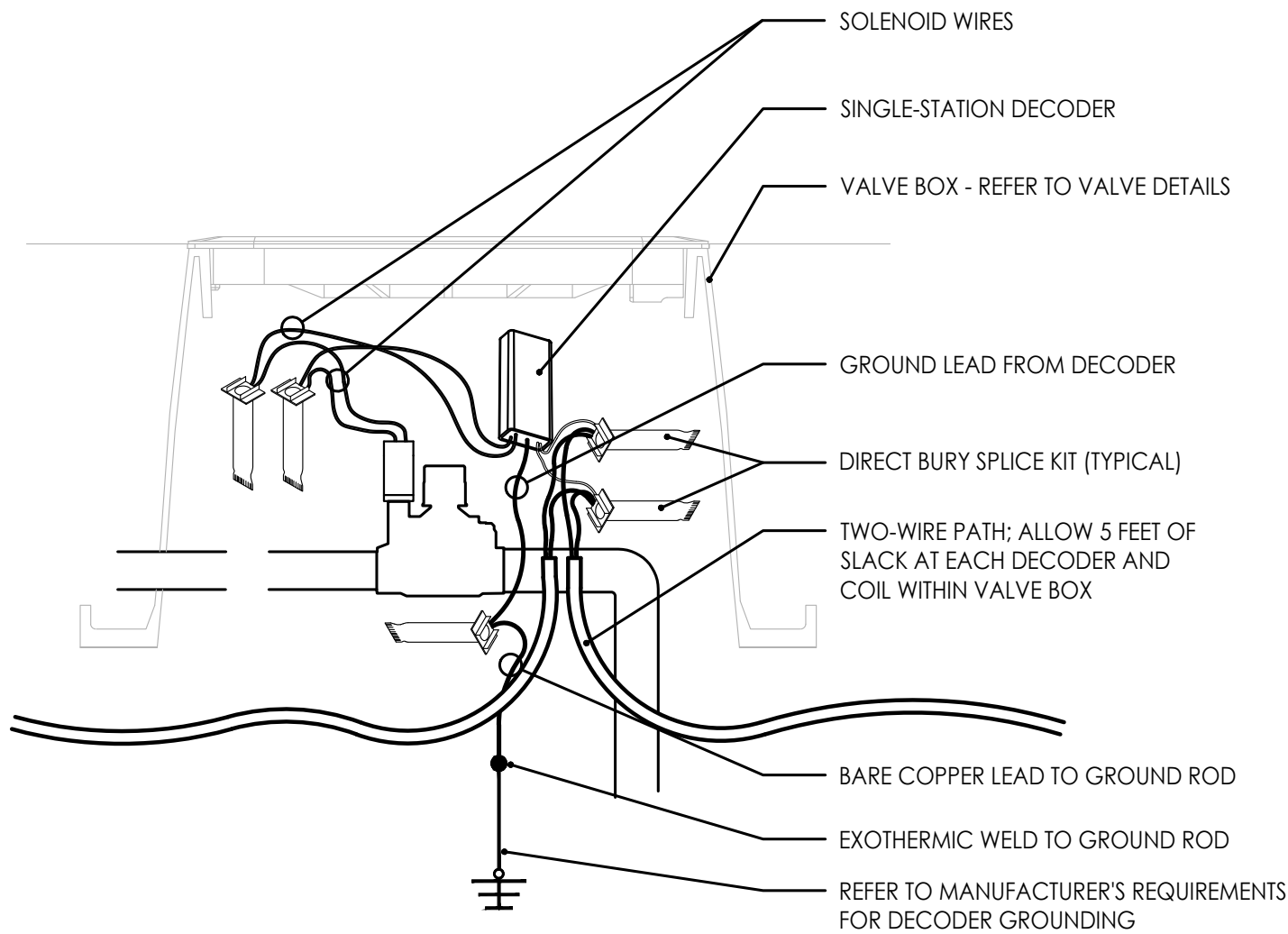
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	10/16/20	Issued for Pricing		

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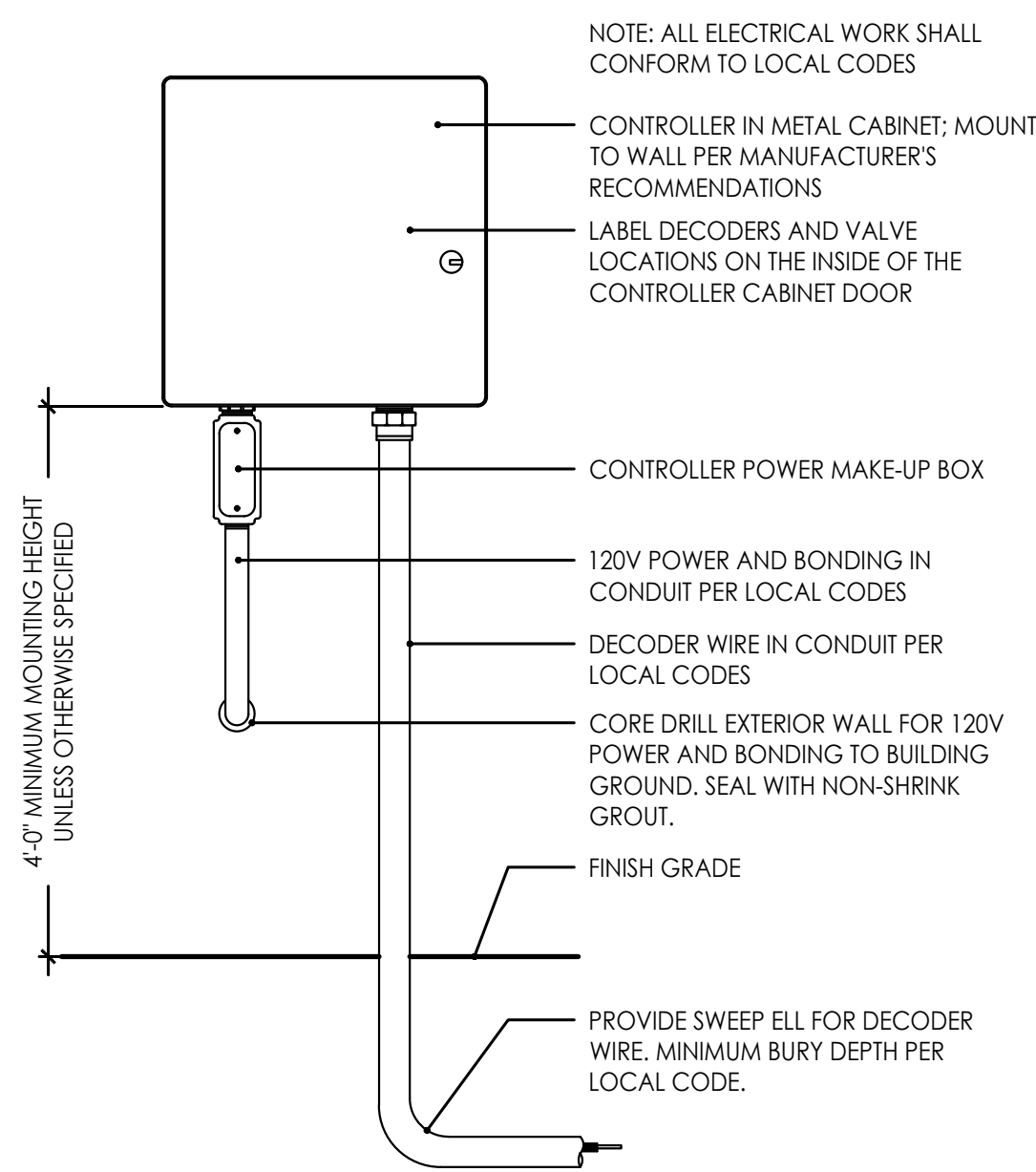
1 WIRING SCHEMATIC

Scale: N.T.S.



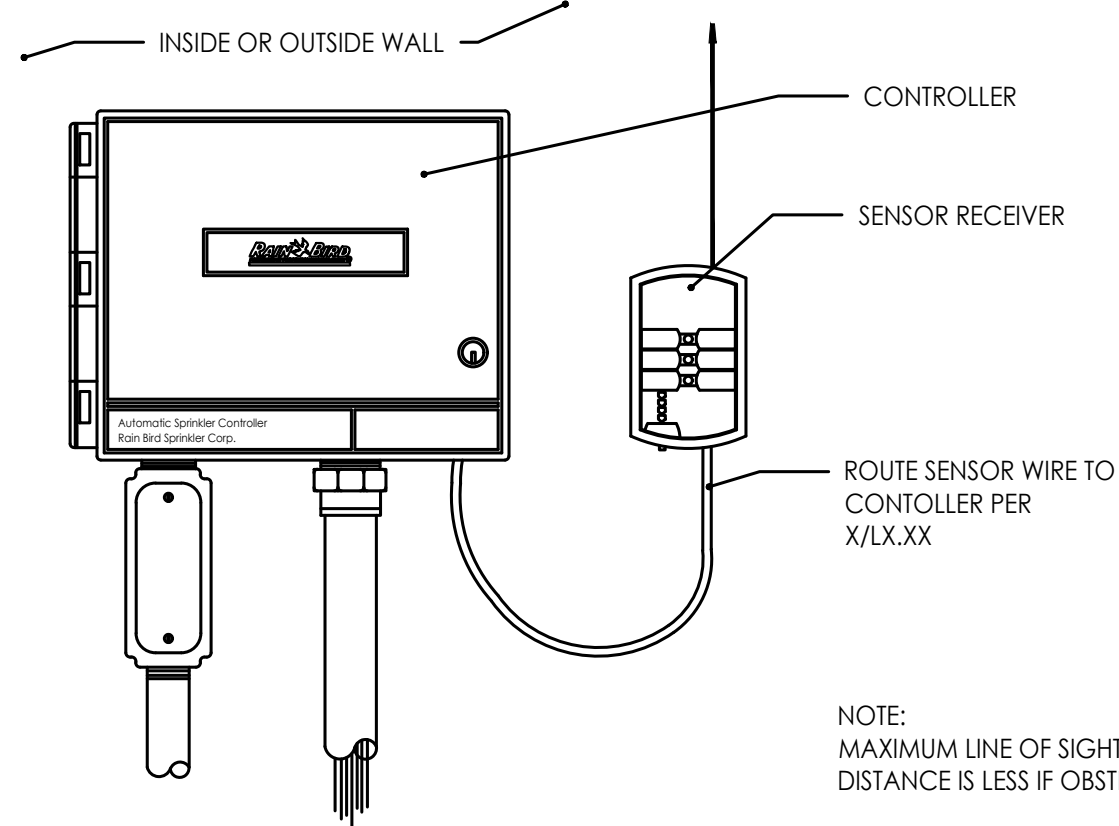
2 DECODER

Scale: N.T.S.



3 CONTROLLER

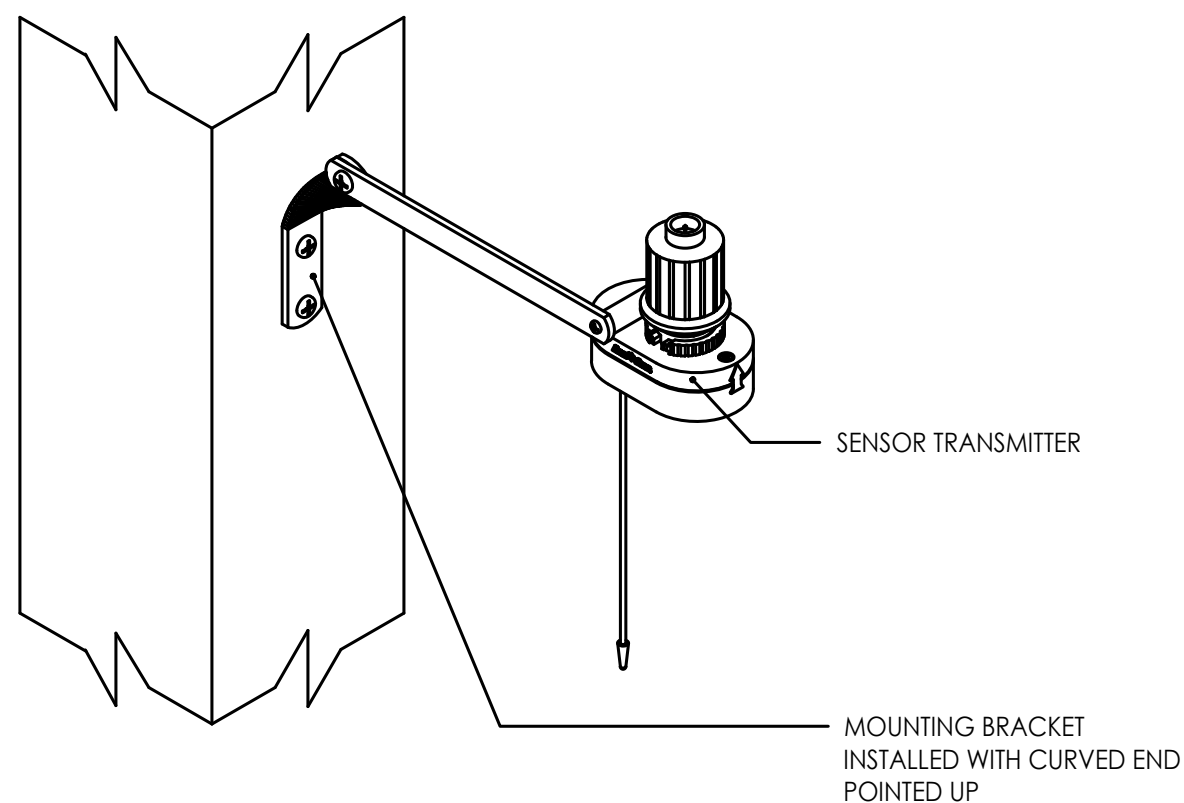
Scale: N.T.S.



NOTE:
MAXIMUM LINE OF SIGHT FROM RAIN SENSOR TO RECEIVER IS 500 FT.;
DISTANCE IS LESS IF OBSTRUCTIONS EXIST.

4 RAIN SENSOR

Scale: N.T.S.



IRRIGATION SCHEDULE

ZONE	ZONE TYPE	HEAD / LINE INFORMATION							FLOW (GPM)	OPERATING PRESSURE (PSI)	VALVE SIZE
		360°	270°	180°	90°	SST	RCS/LCS	CST			
1	TURF ROTOR	HEAD: RAINBIRD 5012/ NOZZLE: RAINBIRD RAIN CURTAIN							9.0	35	1"
		0	0	4	1	0	0	0			
2	BED SPRAY	HEAD: RAINBIRD 1812/ NOZZLE: RAINBIRD MPR							34.0	30	1"
		0	0	24	23	0	0	0			
3	TREE DRIP	TREE DRIP: (16) RWS-B-1404; ROOT ZONE WATERING @ 1.0 gpm							16.0	30	1"
4	TREE DRIP	TREE DRIP: (13) RWS-B-1404; ROOT ZONE WATERING @ 1.0 gpm							13.0	30	1"
5	BED SPRAY	HEAD: RAINBIRD 1812/ NOZZLE: RAINBIRD MPR							14.3	30	1"
		0	0	20	15	0	0	0			
6	BED SPRAY	HEAD: RAINBIRD 1812/ NOZZLE: RAINBIRD MPR							25.8	30	1"
		0	0	20	21	0	0	0			



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PROJECT NO.: 12720

SHEET NO. TOTAL SHEETS

66 68

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Street and Storm Sewer Plans

Paragon Parkway

Lee's Summit, Missouri

NO. DATE

10/16/20


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L721
IRRIGATION DETAILS

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engineers
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TOTAL SHEETS 68

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Street and Storm Sewer Plans

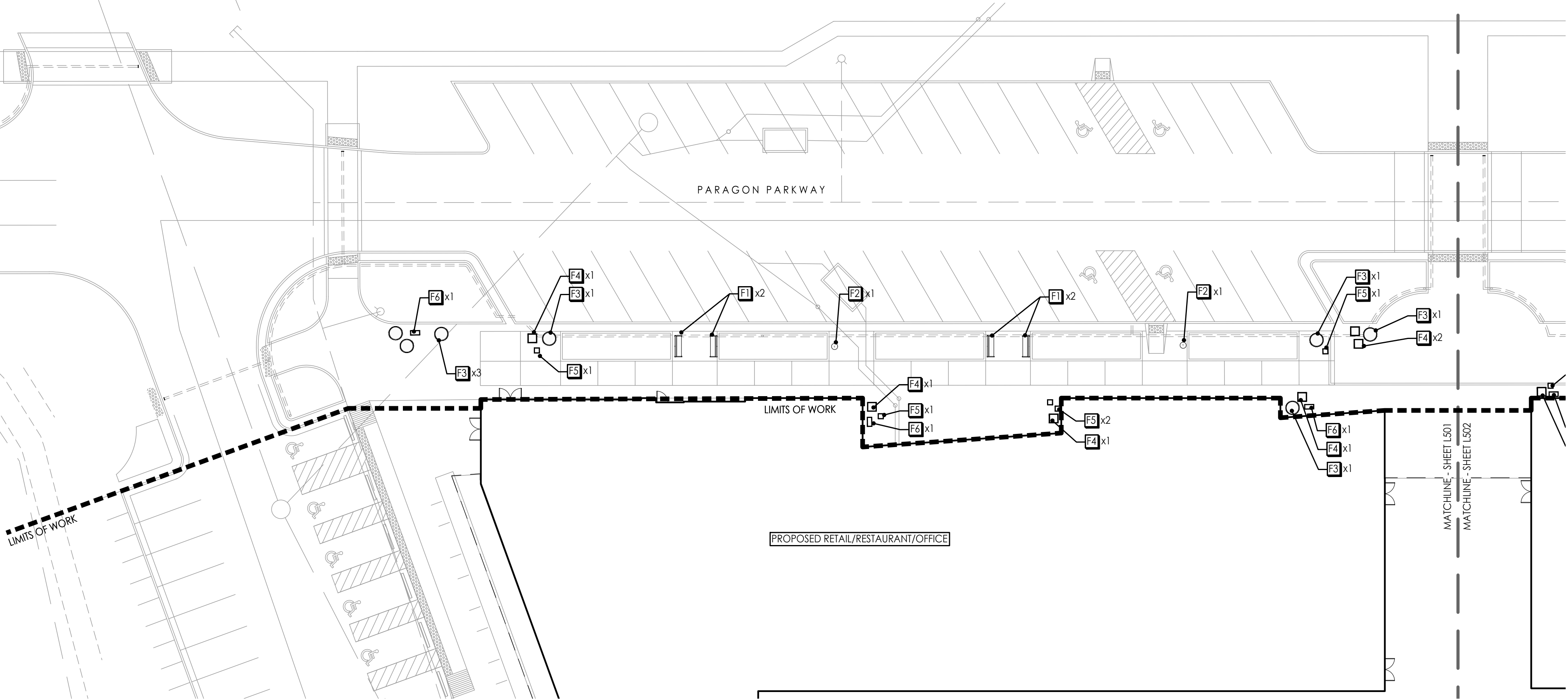
Paragon Parkway

Lee's Summit, Missouri

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1

SITE FURNISHINGS PLAN - VILLAGE PARKWAY WEST
Scale: 1"= 20'-0"

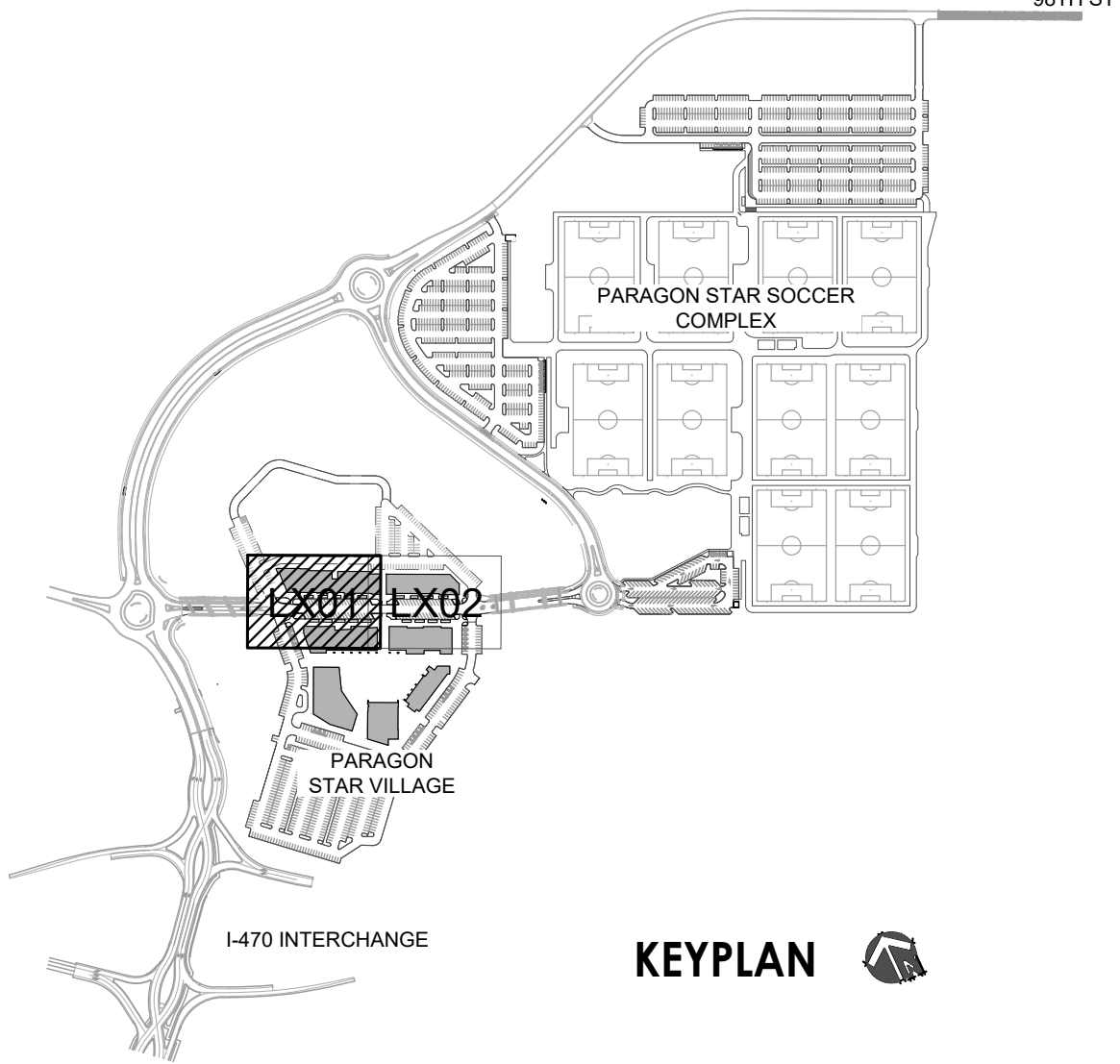


SITE FURNISHINGS NOTES

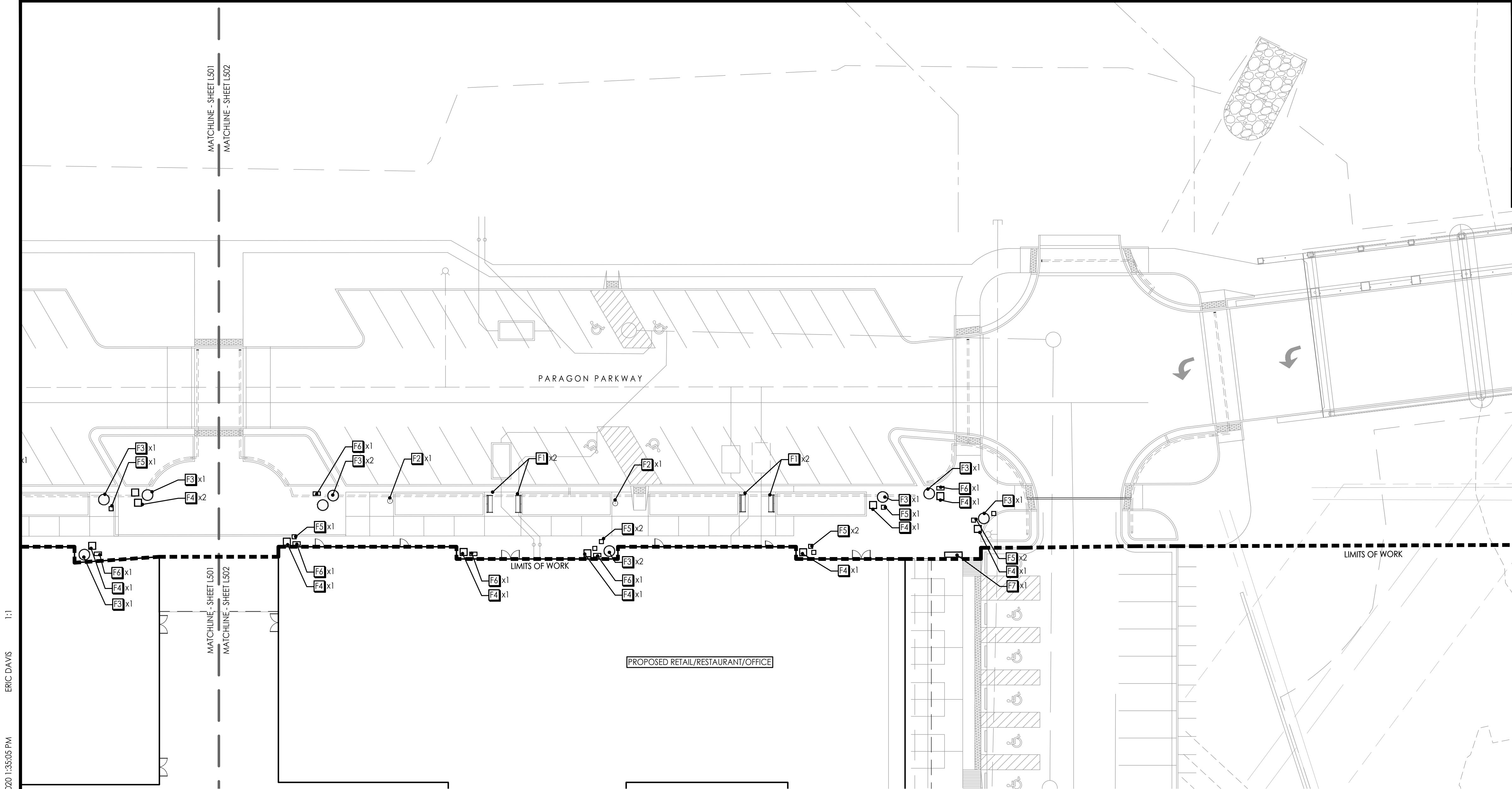
- THIS PLAN PROVIDES LAYOUT & QUANTITY OF ALL SITE FURNISHINGS TO BE PROVIDED BY THE LANDSCAPE CONTRACTOR. REFER TO **SECTION 323300 - SITE FURNISHINGS** FOR COMPLETE SCOPE OF WORK, RESPONSIBILITIES, PRODUCTS AND EXECUTION OF WORK.
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- LANDSCAPE ARCHITECT TO SELECT FINAL LOCATIONS OF ALL SITE FURNISHINGS. CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT AND OWNERS REP PRIOR TO FINAL PLACEMENT OF ALL FURNISHINGS.

SITE FURNISHINGS SCHEDULE

SYM.	DESCRIPTION	DETAIL	SPECIFICATION
F1	BENCH		SECTION 323300
F2	WASTE RECEPTACLE		SECTION 323300
F3	42" DIA. ROUND PLANTER POT		SECTION 323300
F4	30" DIA. SQUARE PLANTER POT		SECTION 323300
F5	24" DIA. SQUARE PLANTER POT		SECTION 323300
F6	36" x 24" RECTANGLE PLANTER POT		SECTION 323300
F7	60" x 24" RECTANGLE PLANTER POT		SECTION 323300



KEYPLAN



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DATE: 11-4-2020

DESIGN BY: RWB/EDD

PROJECT NO.: 12720

SHEET NO. 68

TOTAL SHEETS 68

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Street and Storm Sewer Plans

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SITE FURNISHINGS PLAN - VILLAGE PARKWAY EAST
Scale: 1"= 20'-0"

SITE FURNISHINGS NOTES

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SYM.	DESCRIPTION	DETAIL	SPECIFICATION
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