

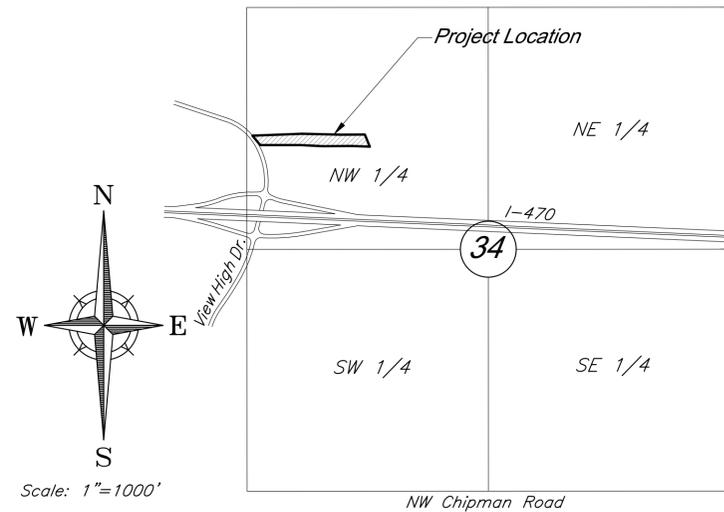
# PRIVATE STREET, STORM SEWER AND STREET LIGHTING PLANS FOR PARAGON STAR DEVELOPMENT PARAGON PARKWAY

Sections 34-Township 48-Range 32  
City of Lee's Summit  
Jackson County, Missouri

Design Speed = 30 mph

### 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	Aggregate Base (6")	SY	5,022
7	Geogrid	SY	5,022
8	Handicap Ramps	EA	17
9	6" Underdrain	LF	1,038
10	End Section 36" RCP w/ Conc. Toewall	EA	2
11	6x4' Curb Inlet	EA	7
12	6x5' Curb Inlet	EA	1
13	5x4' Curb Inlet	EA	1
14	5x5' Curb Inlet	EA	1
15	Storm Sewer (15") (RCP)	LF	61
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	6" SDR 26 PVC	LF	427
21	4" SDR 26 PVC	LF	256
22	Riprap MODOT Type 3 Rock ditch liner	SY	129
23	Traffic-Bearing Concrete Backflow Preventer Vault	EA	1
24	Traffic-Bearing Concrete Meter Vault	EA	1
25	4" Class 305 PVC	LF	43
26	8" Class 305 PVC	LF	49
27	North American Green SC150BN	SY	251
28	Silt Fence	LF	3,703
29	Curb Inlet Protection	EA	10
30	Final Seeding	ACRE	0.41



### VICINITY MAP

Section 34-T48N-R32W

### INDEX OF SHEETS

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34	Floodway & Floodplain Plan
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42-46	Street Lighting Details
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L101-L102	Surface Finishes & Materials Plan
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L401-L402	Soils & Subdrainage Plan
L420	Soils & Subdrainage Details
L501-L502	Planting Plan
L520	Planting Details
L701-L702	Irrigation Plan
L720-L721	Irrigation Details
L801-L802	Site Furnishings Plan

### PROJECT BENCHMARK

BM #11 - Chiseled "L" on top  
Northeast corner of concrete guardrail  
at the Northeast corner of I-470 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) 969-1900 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@lbvbsd.net		Cable Television
Water	Mr. Jeff Thorn, PE City of Lee's Summit Water Utilities 1200 SE Hamblen Road Lee's Summit, MO 64063 (816) 969-1900 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		

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



CLINT LOUMASTER  
PROJECT ENGINEER:

PREPARED & SUBMITTED BY:  
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PHONE: 913-492-0400  
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CONTACT: BRAD BURTON P.E.  
EMAIL: BBURTON@GBATEAM.COM

12/18/20  
DATE:

**GBA**  
architects  
engineers

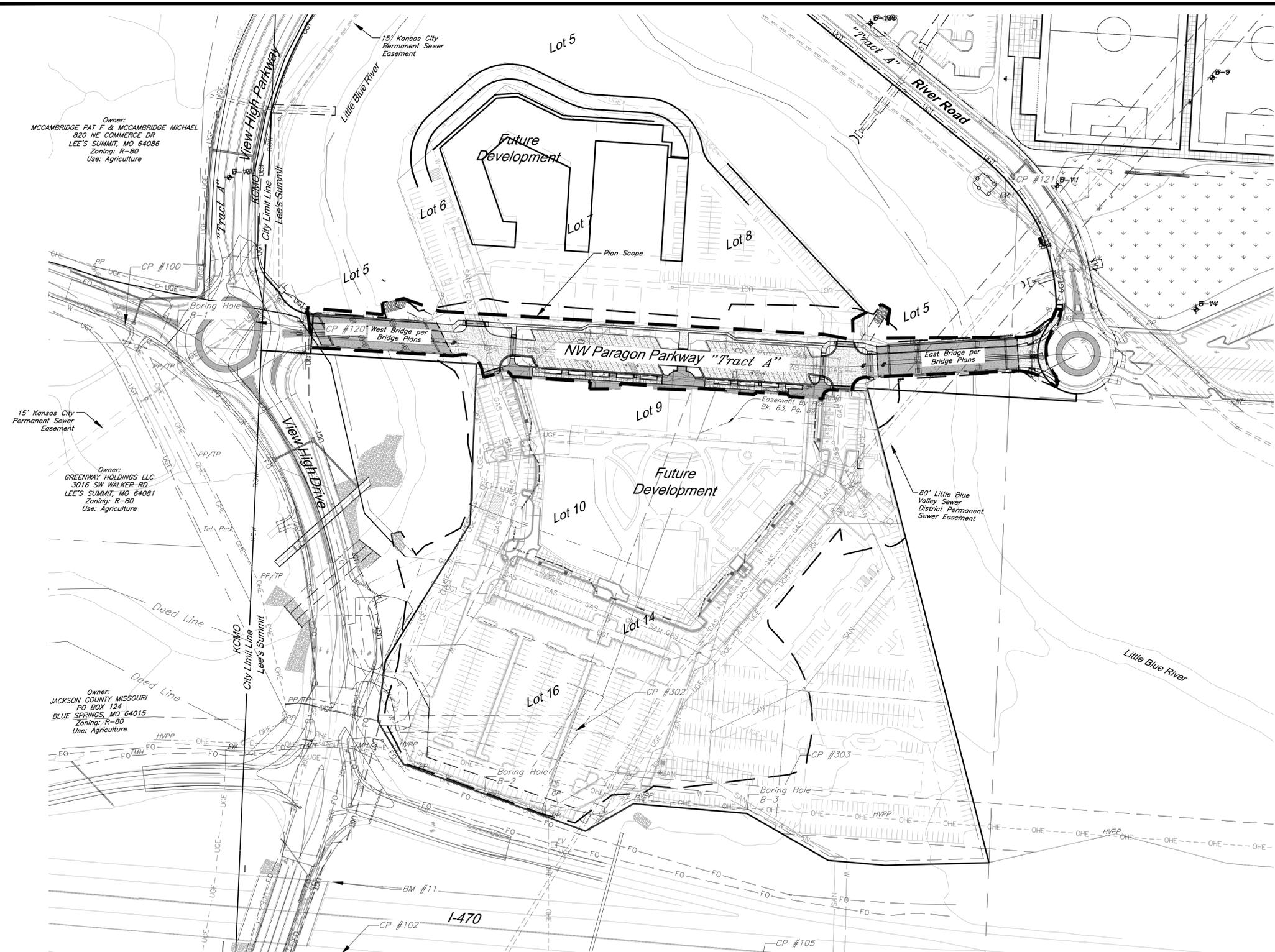
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	DESIGN BY: CEL
	DRAWN BY: DRV
	PROJECT NO.: 12720
	SHEET NO. 2
	TOTAL SHEETS 68

Clint Loumaster Professional Engineer License No. PE2011-009651		Street and Storm Sewer Plans <b>Paragon Parkway</b> Lee's Summit, Missouri	
NO.	DATE	REVISIONS	BY APPROVED
	11/4/20	FDP Submittal	
	12/18/20	Issued for Bid	
	1/12/21	City Comments	



**Legend**

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

**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

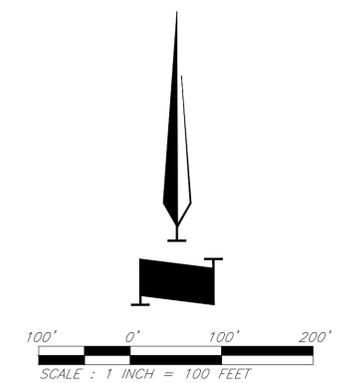
CP #122 - 1/2" rebar with GBA cap approximately 1380± NE of access road "Future View High Drive Pkwy" from View High Drive  
Coordinates:  
N: 1010126.48'  
E: 2804884.88'  
EL: 813.20'  
Ties:  
1) West 298± to center of MH lid  
2) South 199± to center of MH lid

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: 2804898.47'  
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



**General Layout**

		DATE: 12-18-2020 DESIGN BY: CEL DRAWN BY: DRV PROJECT NO.: 12720				
	9801 Renner Boulevard Lenexa, Kansas 66219 913-492-0400 www.gbateam.com	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">SHEET NO.</td> <td style="width: 50%; text-align: center;">TOTAL SHEETS</td> </tr> <tr> <td style="text-align: center; font-size: large;">3</td> <td style="text-align: center; font-size: large;">68</td> </tr> </table>	SHEET NO.	TOTAL SHEETS	3	68
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Street and Storm Sewer Plans <h3 style="margin: 0;">Paragon Parkway</h3> Lee's Summit, Missouri						
Clint Loumaster Professional Engineer License No. PE2011-009651		REVISIONS BY APPROVED				
NO.	DATE	REVISIONS				
	11/4/20	FDP Submittal				
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	1/12/21	City Comments				

**General Notes:**

1. 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.
2. All traffic control shall be the responsibility of the Contractor and shall be in conformance with the Manual of Uniform Traffic Control Devices (MUTCD).
3. 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.
4. 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.
5. All work shall be confined within easements and/or construction limits as shown on the plans.
6. 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.
7. 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.
8. All trash and debris identified on site shall be properly handled and disposed of in accordance with state of Missouri regulations.
9. All measurements on these plans are horizontal distances, not slope distances.
10. Items not listed separately in the Summary of Quantities are subsidiary to other items.
11. All site concrete shall be KCMMB - 4,000 PSI unless otherwise noted.
12. All paving shall adhere to Lee's Summit Standards, Section 2200.

**Permitting:**

13. 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.
14. Contractor is responsible for obtaining all required permits, paying all fees, and for otherwise complying with all applicable regulations governing the work.
15. No work shall be completed within the existing floodway until the CLOMR has been issued.
16. 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:**

17. 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.
18. 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.
19. The Contractor shall seed all disturbed areas within the Public Street Right-of-Way unless otherwise noted in the plans.
20. No trees shall be damaged or removed without prior authorization from owner unless otherwise shown on this plan.
21. 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.
22. Trees, where indicated to be removed, shall be completely removed, including root balls.
23. 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:**

24. 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.

25. Slopes shall be constructed to a maximum slope of 3:1 (Horiz:Vert).
26. 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.
27. 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.
28. 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).
29. Cut/Fill - All fills are to be made with suitable structural fill material in accordance with the project's geotechnical report recommendations.

**Utility:**

30. All Manholes, Catch Basins, Utility Valves, Meter Pits, and other utility equipment shall be adjusted or rebuilt to grade as required.
31. 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.
32. All Utility extensions and construction shall conform to the Standards and Specifications of the applicable Utility Companies.

**Storm Sewer:**

33. All RCP shall be Class III.
34. All HDPE Pipe shall be ADS N-12. Pipe shall meet AASHTO M294.
35. Pipe Lengths are called out from center of structure to center of structure.
36. 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.
37. 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 2" Dia. PVC telecom conduit as shown on Sheet 16. Minimum 24" depth from final grade to top of conduit.
3. Install 8" Duraslot Trench Drain as shown on Sheets 7-8 and 26.



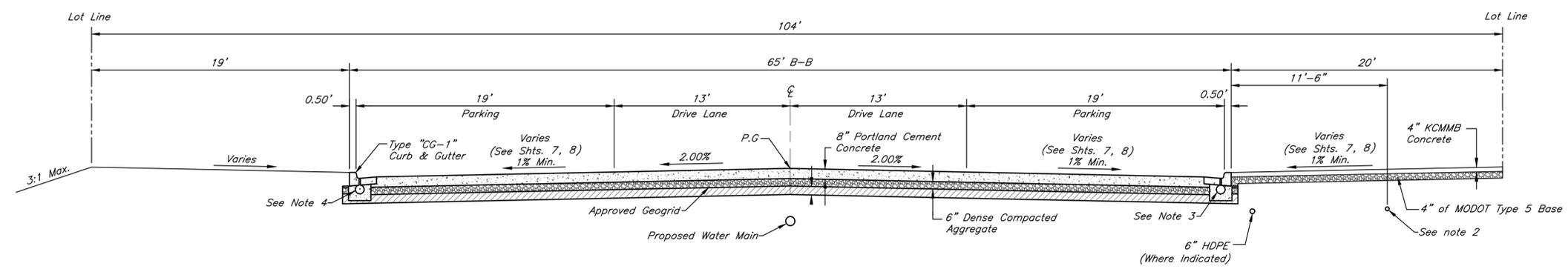
**GBA**  
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engineers  
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DATE:	12-18-2020
DESIGN BY:	CEL
DRAWN BY:	DRW/DGL
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
<b>4</b>	<b>68</b>

Clint Loumaster  
Professional Engineer  
License No. PE2011-009651

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

NO.	DATE	REVISIONS	BY	APPROVED
	11/4/20	FDP Submittal		
	12/18/20	Issued for Bid		
	1/12/21	City Comments		

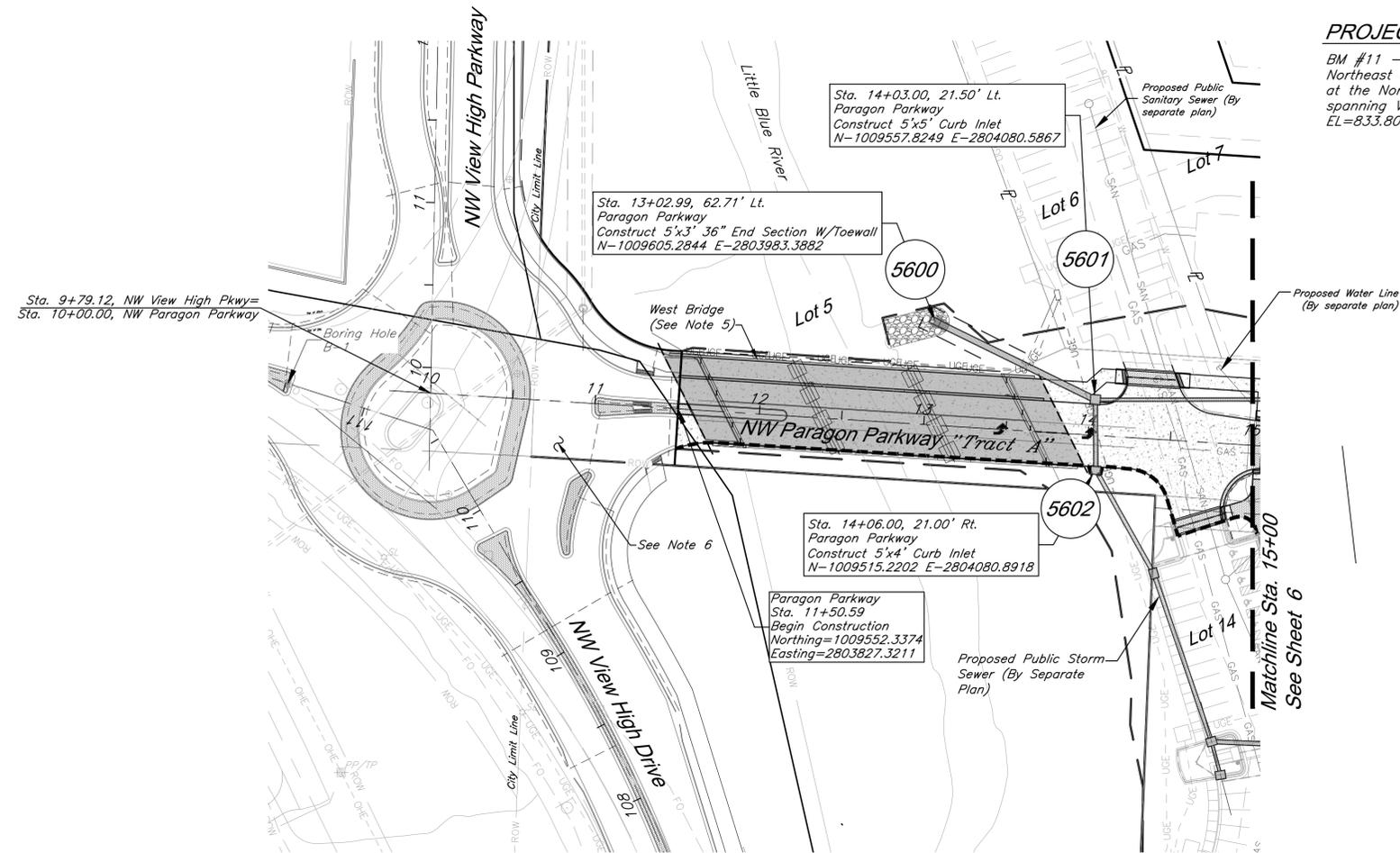


**TYPICAL SECTION PARAGON PARKWAY**

Scale: 1" = 5'

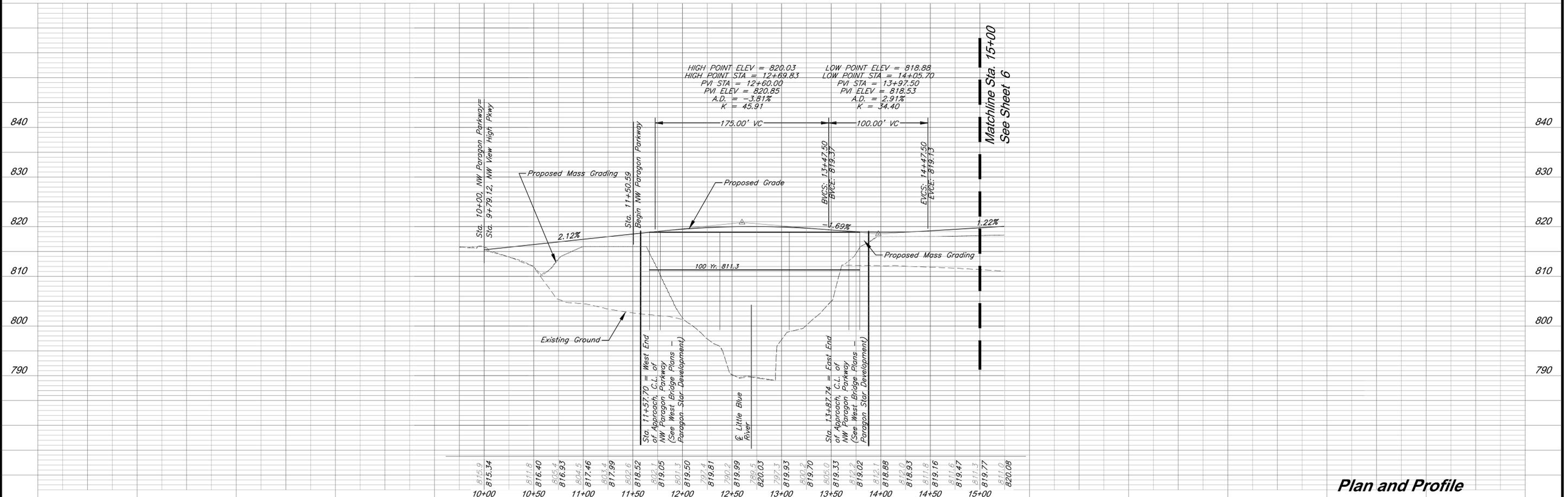
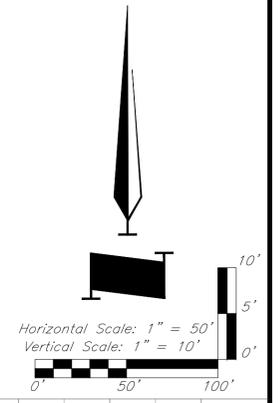
**Typical Section**

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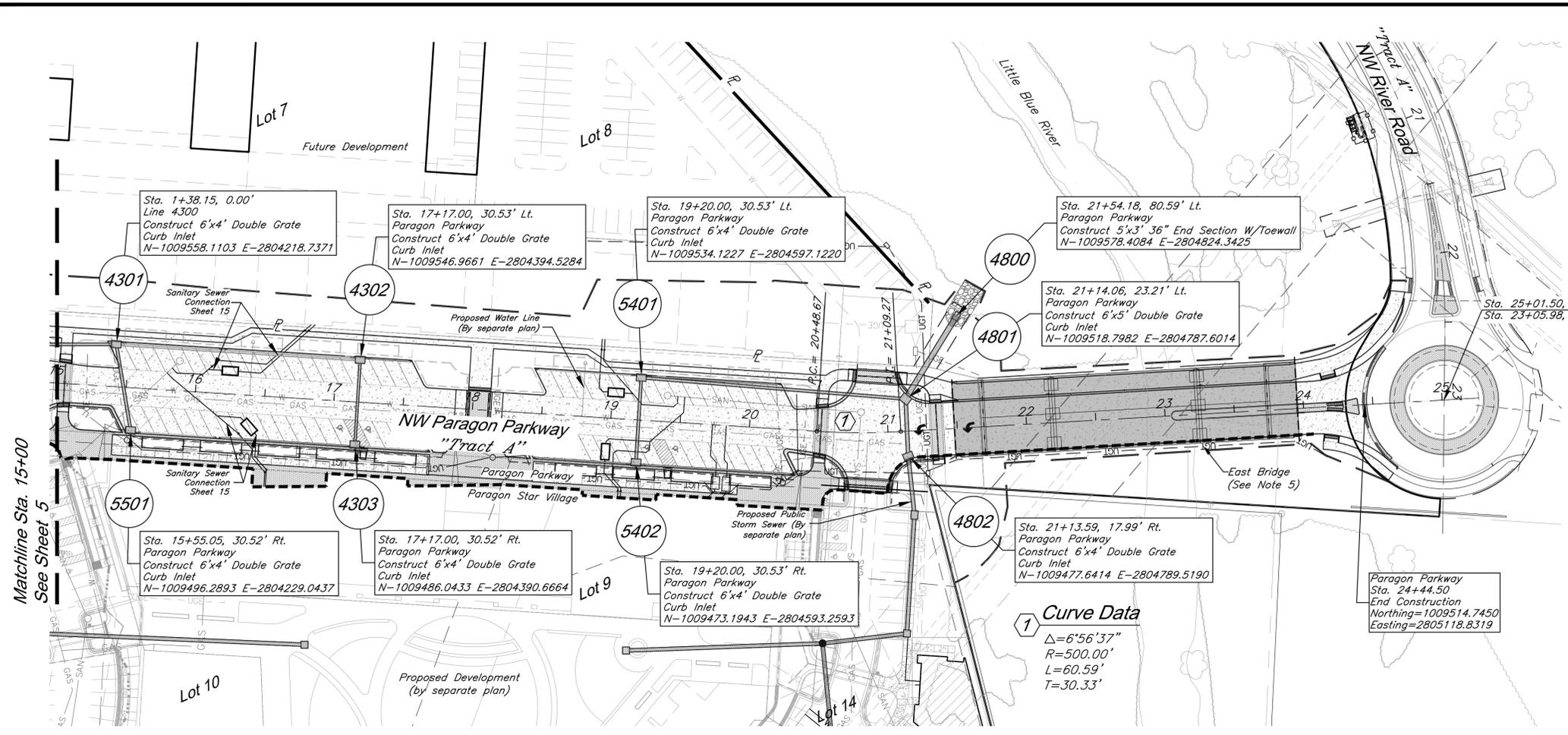
- Notes:**
1. Pipe length called out is from center of structure to center of structure.
  2. Storm Sewer Structure Station offset and coordinates based on center of structure. Top elevations are top center of lid.
  3. Tops on all in grade inlets shall maintain street slope, low point inlets to be set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



**Plan and Profile**

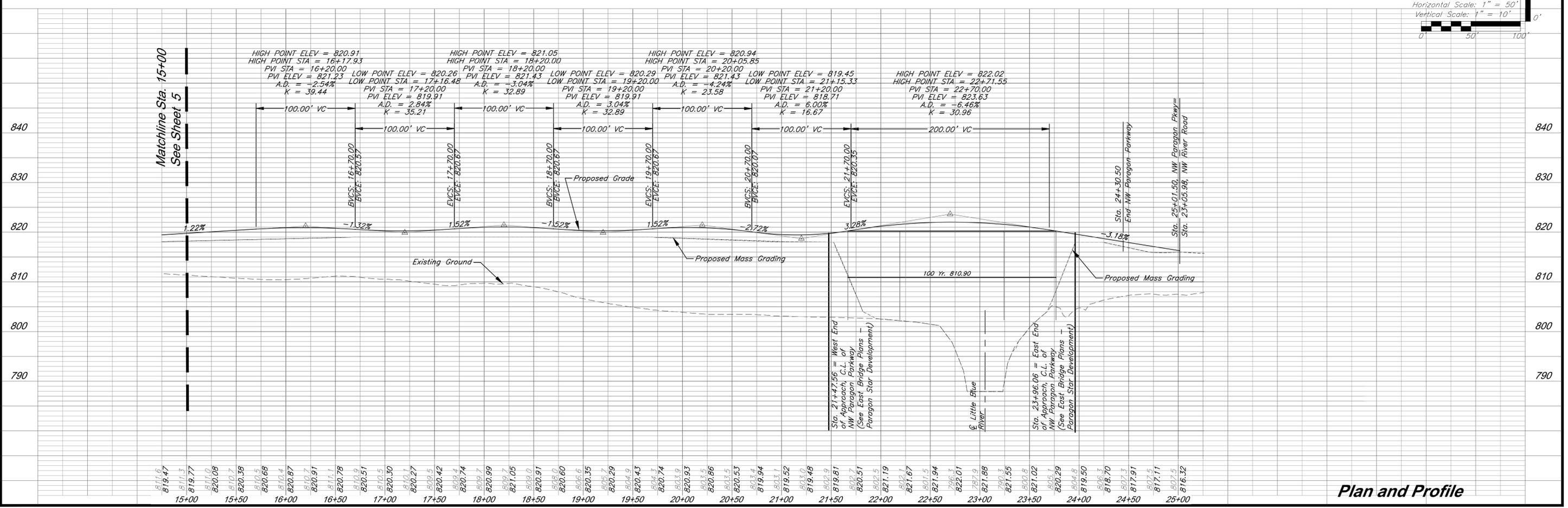
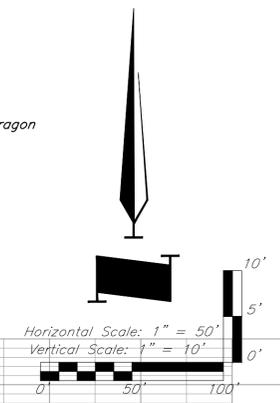
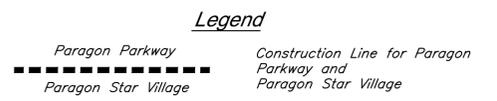
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 <b>CLINT LOUMASTER</b> REGISTERED PROFESSIONAL ENGINEER NUMBER PE-2011009651 12/11/2020	<b>GBA</b> architects engineers 9801 Renner Boulevard Lenexa, Kansas 66219 913-492-0400 www.gbateam.com	DATE: 12-18-2020 DESIGN BY: CEL DRAWN BY: DRW/DGL PROJECT NO.: 12720 SHEET NO.: 6 TOTAL SHEETS: 68																
	Street and Storm Sewer Plans <b>Paragon Parkway</b> Lee's Summit, Missouri																	
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NO.	DATE	BY	APPROVED															
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**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

- 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. 21+47.56 - Sta. 23+96.06 See East Bridge Plans, Paragon Star Development



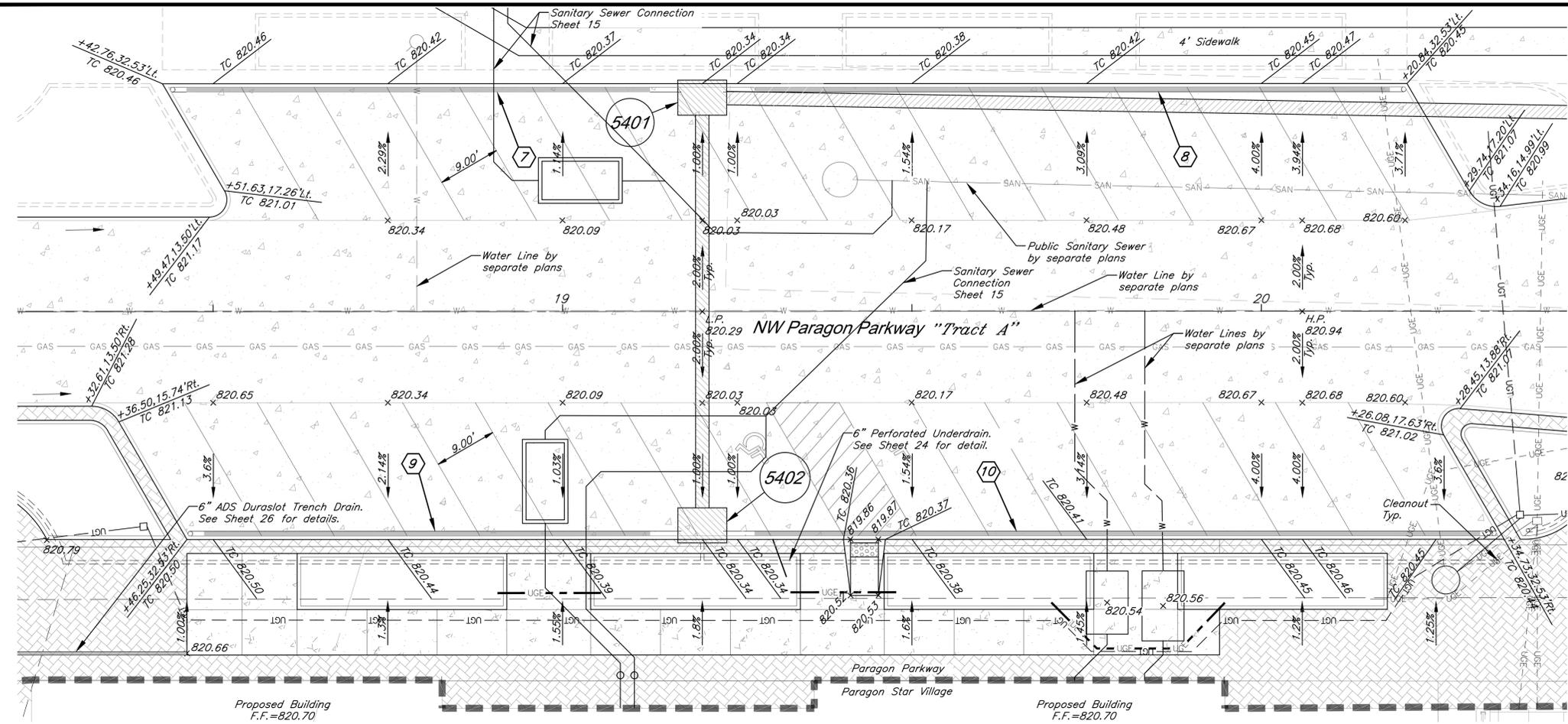
**Plan and Profile**



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	PROJECT NO.: 12720
	SHEET NO.: 8
	TOTAL SHEETS: 68

Clint Loumaster Professional Engineer License No. PE2011-009651		Street and Storm Sewer Plans <b>Paragon Parkway</b> Lee's Summit, Missouri	
NO.	DATE	REVISIONS	BY APPROVED
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12/18/20		Issued for Bid	
1/12/21		City Comments	



**Legend:**

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

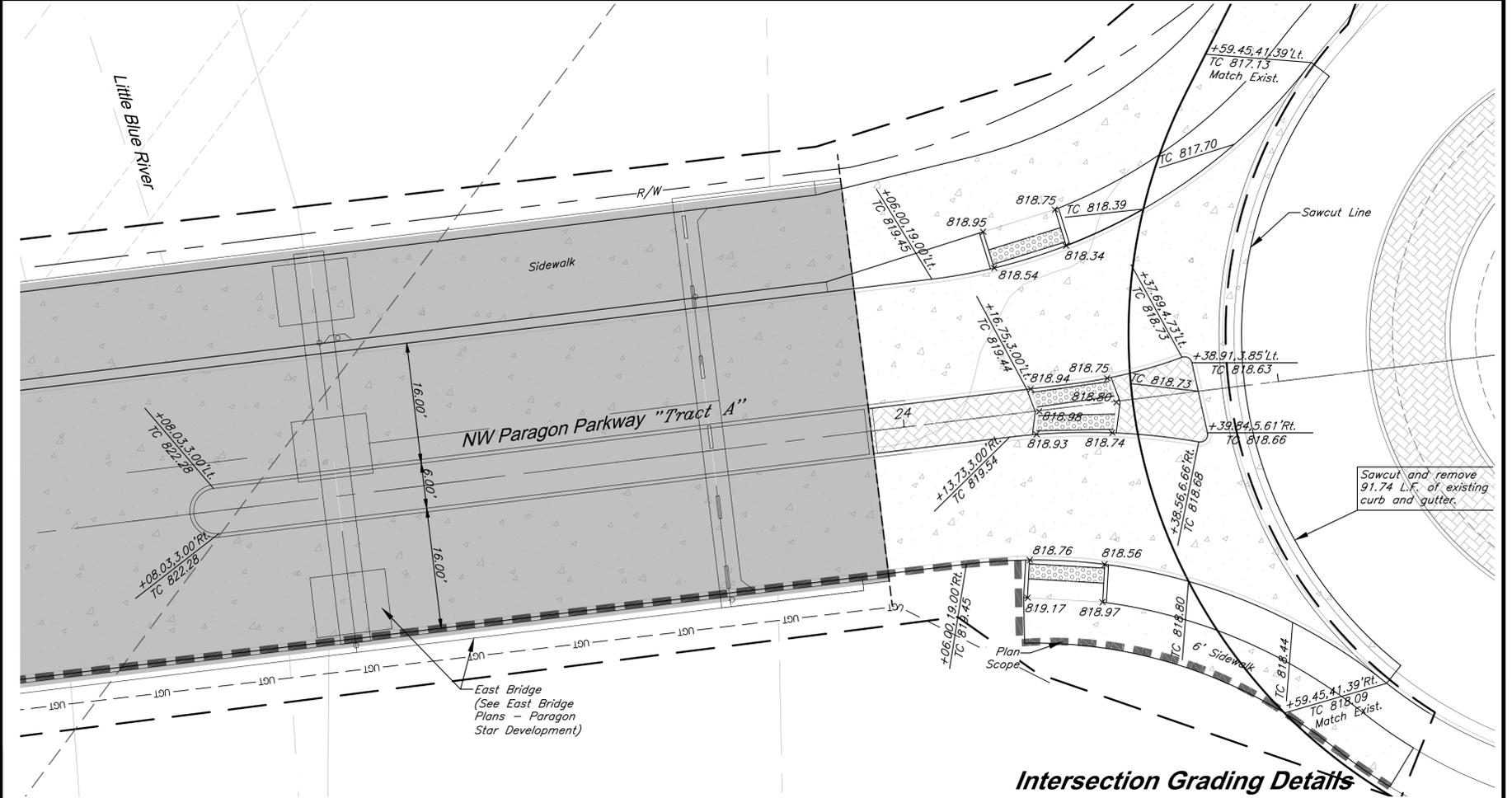
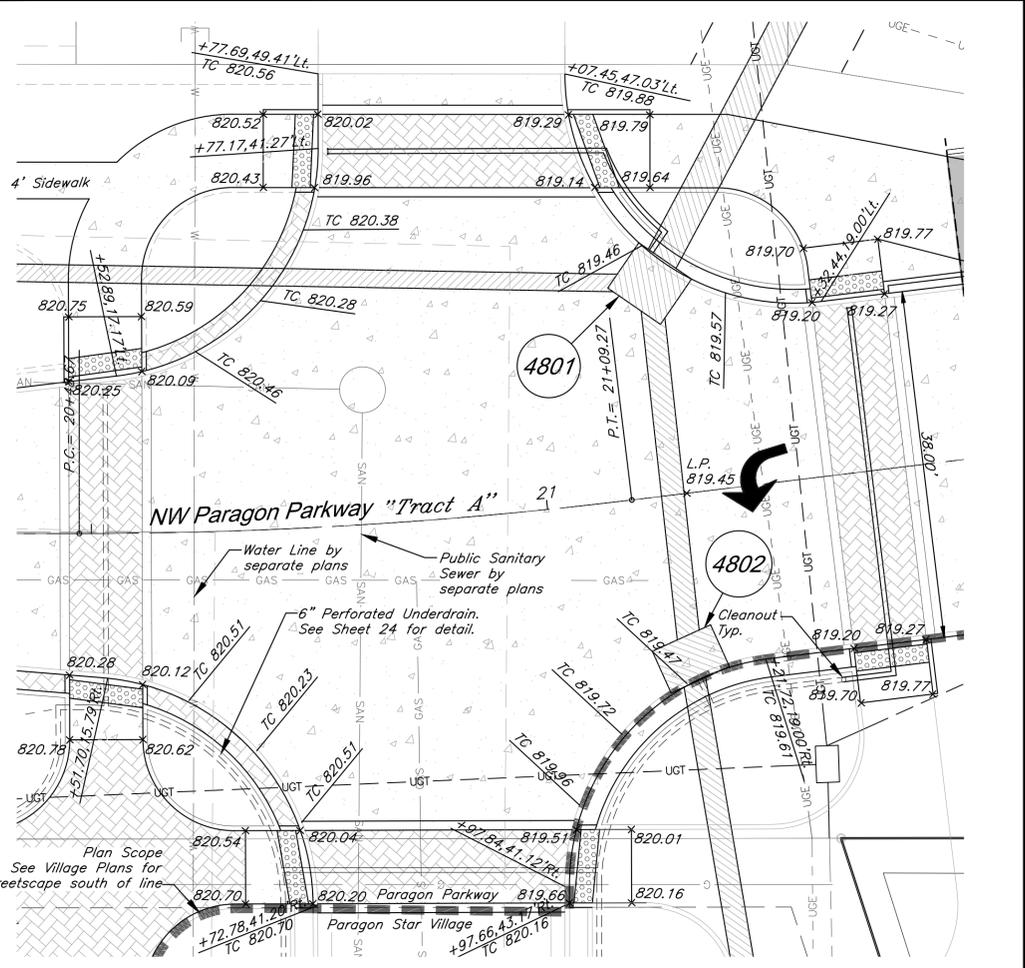
**Trench Drain Construction Notes:**

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

**NOTE:**

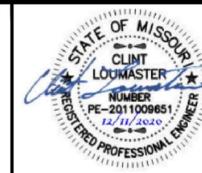
- See Sheets 9 and 10 for ADA Ramp Enlargements

SCALE: 1 INCH = 10 FEET



**Intersection Grading Details**

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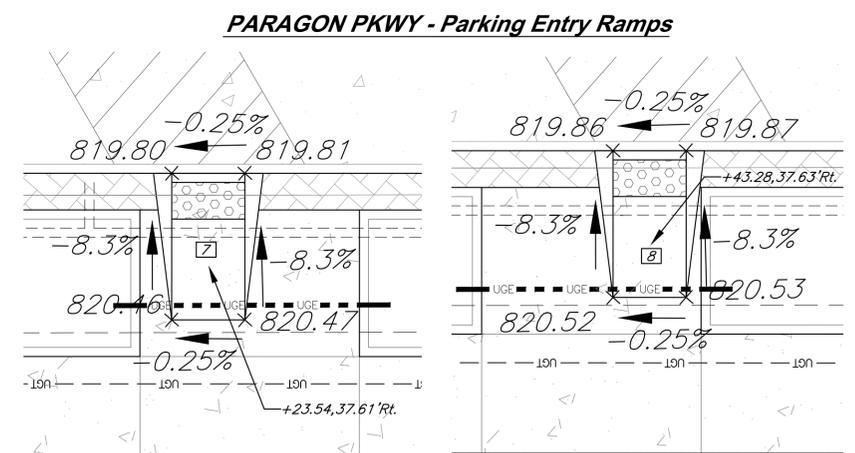
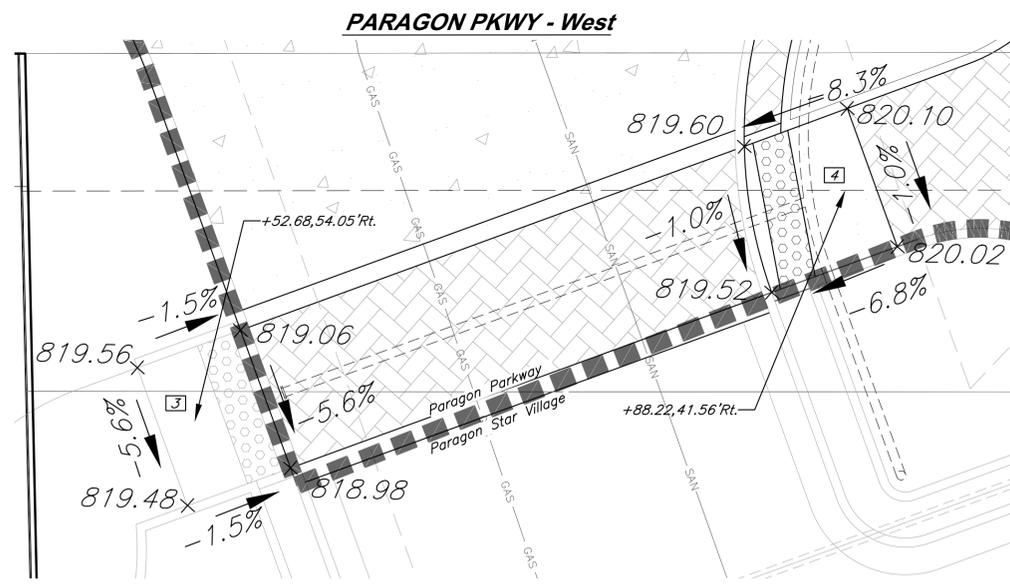
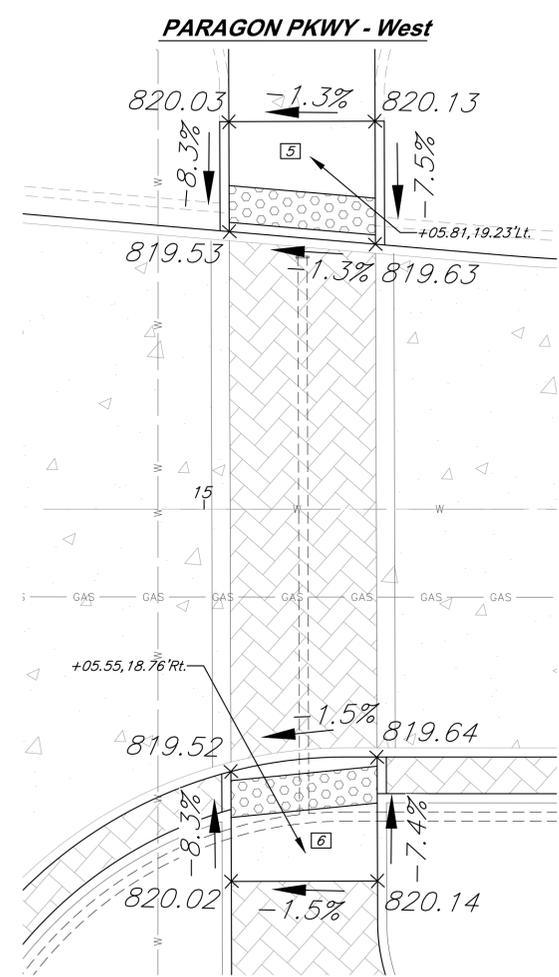
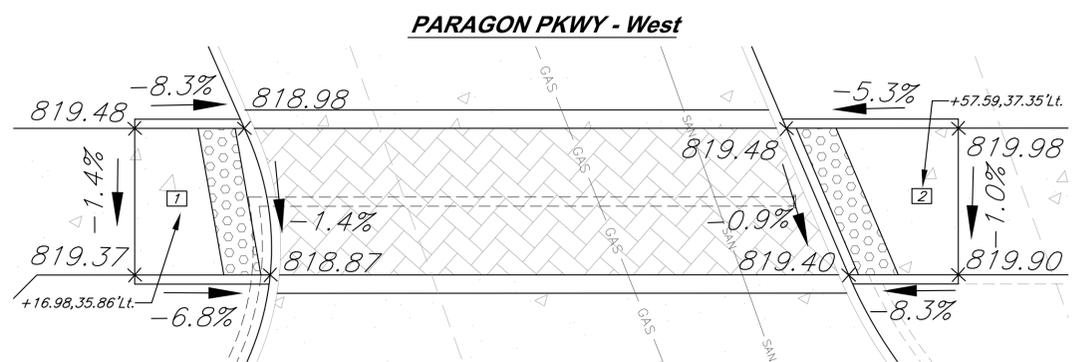
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engineers  
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TOTAL SHEETS:	68

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

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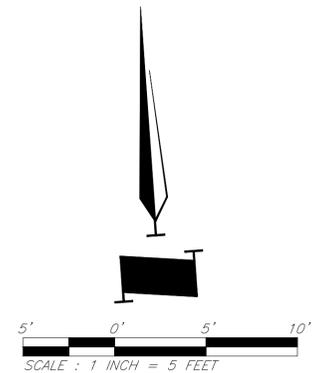


**LEGEND**

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

**NOTE:**

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



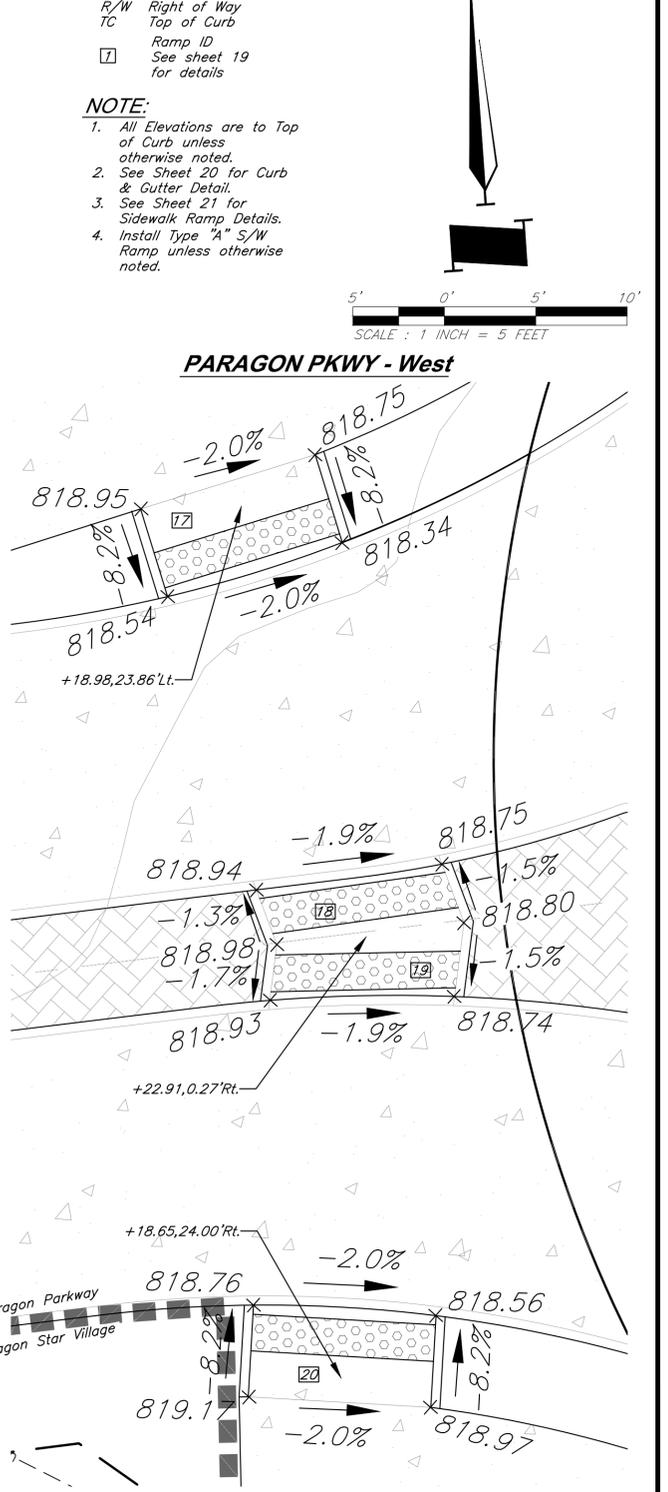
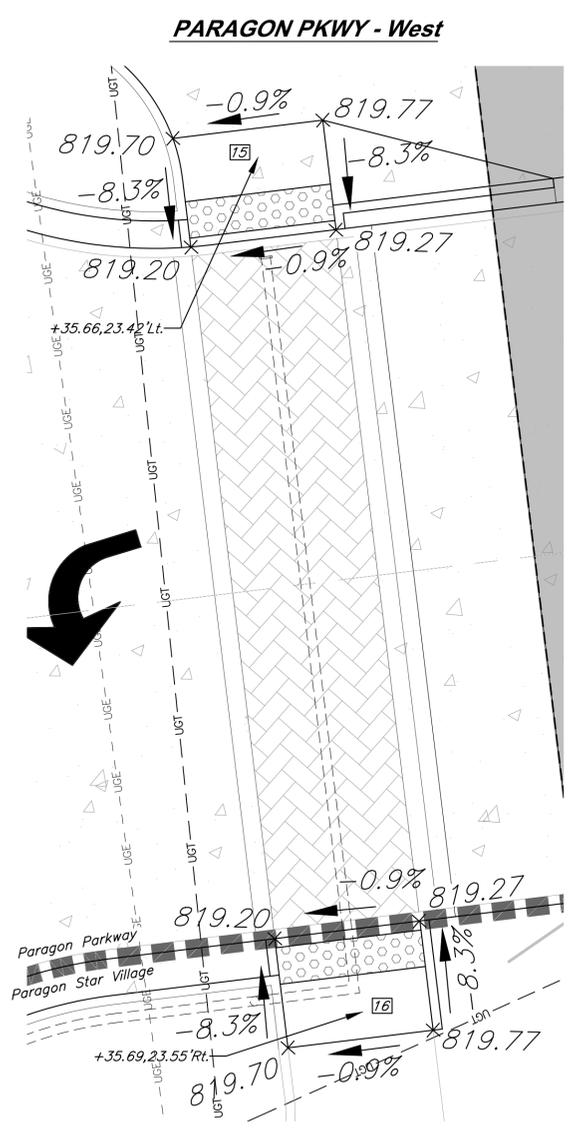
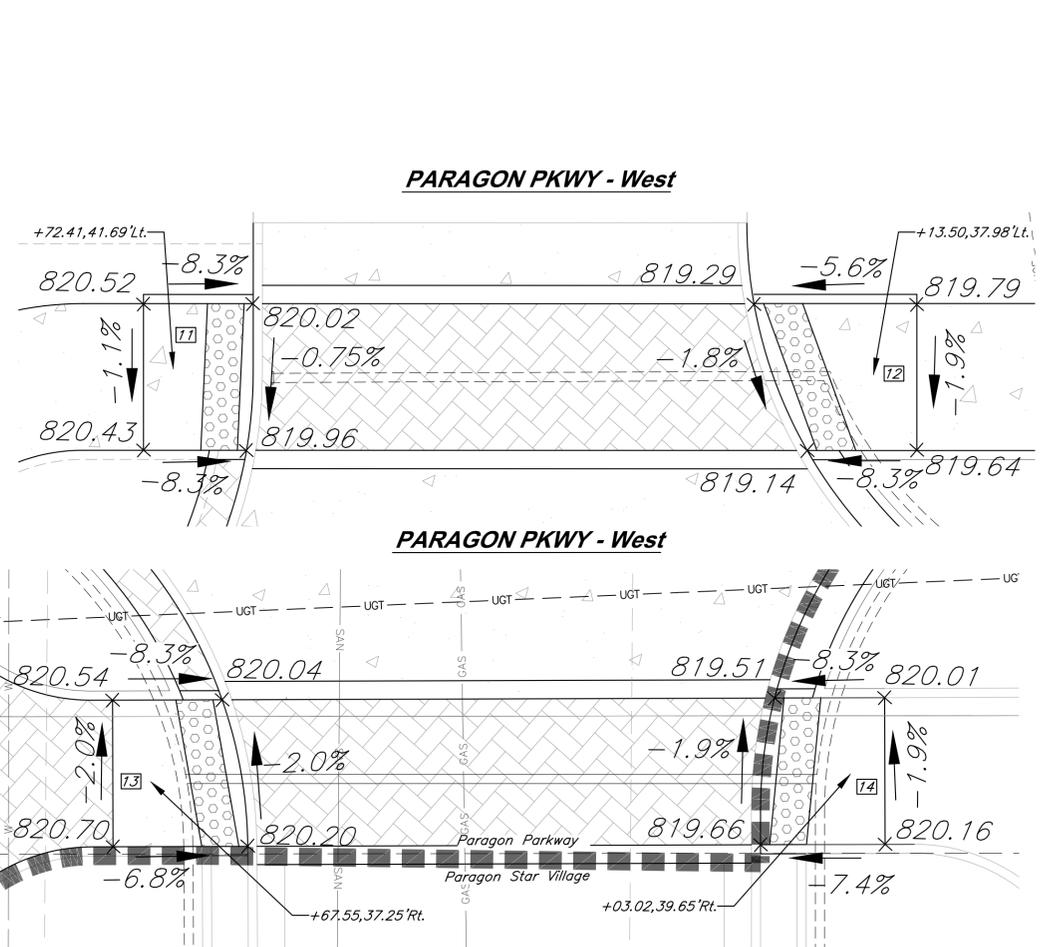
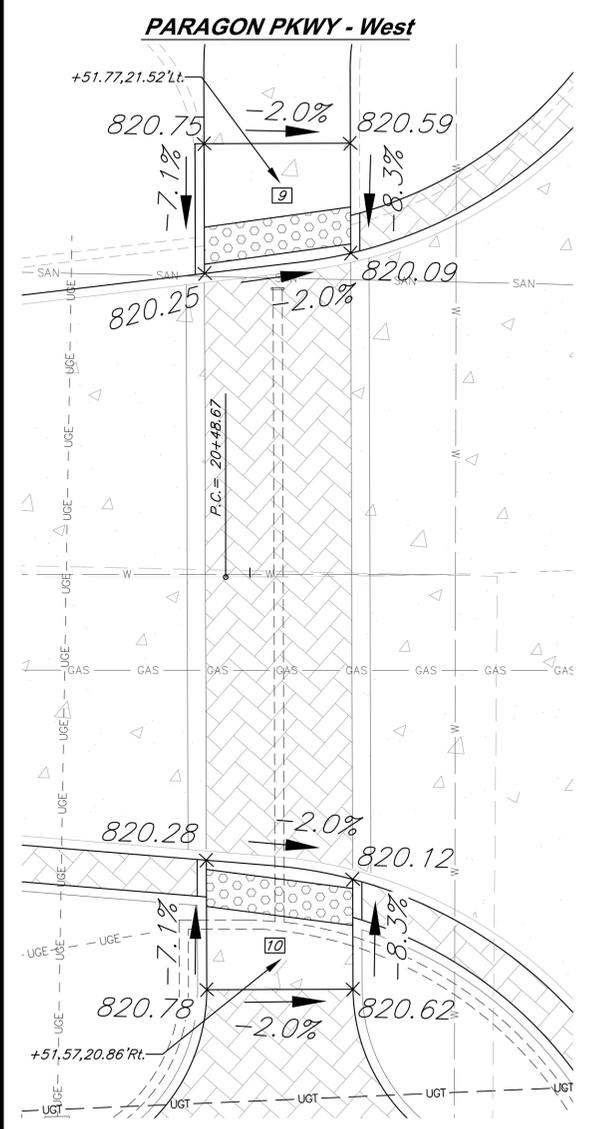
**Legend**  
 Paragon Parkway Construction Line for Paragon Parkway and Paragon Star Village  
 Paragon Star Village Construction Line for Paragon Parkway and Paragon Star Village

**Intersection Enlargements**

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

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		DESIGN BY: CEL
		DRAWN BY: DRW/DGL
PROJECT NO.: 12720		SHEET NO.: 10
9801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com		TOTAL SHEETS: 68
Clint Loumaster Professional Engineer License No. PE2011-009651		Street and Storm Sewer Plans <b>Paragon Parkway</b> Lee's Summit, Missouri
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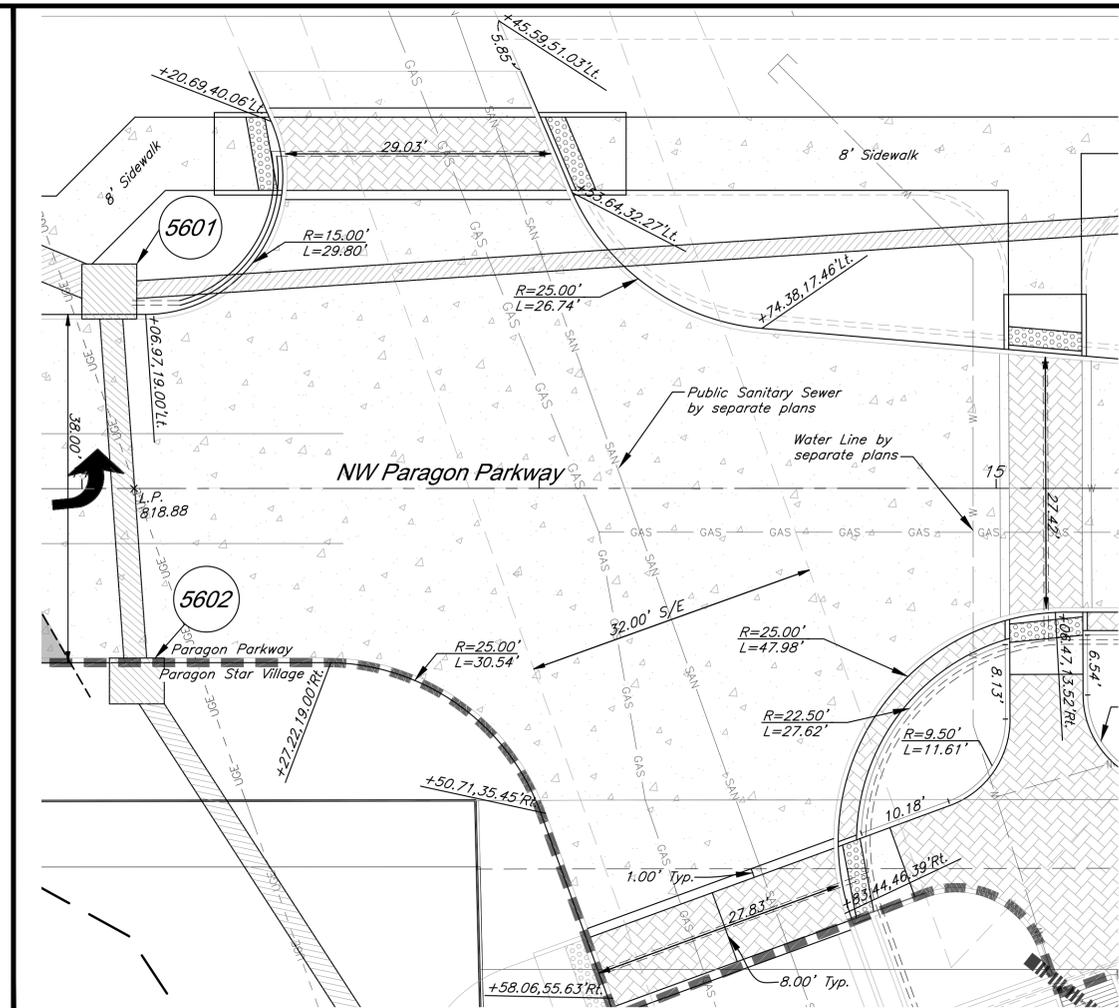
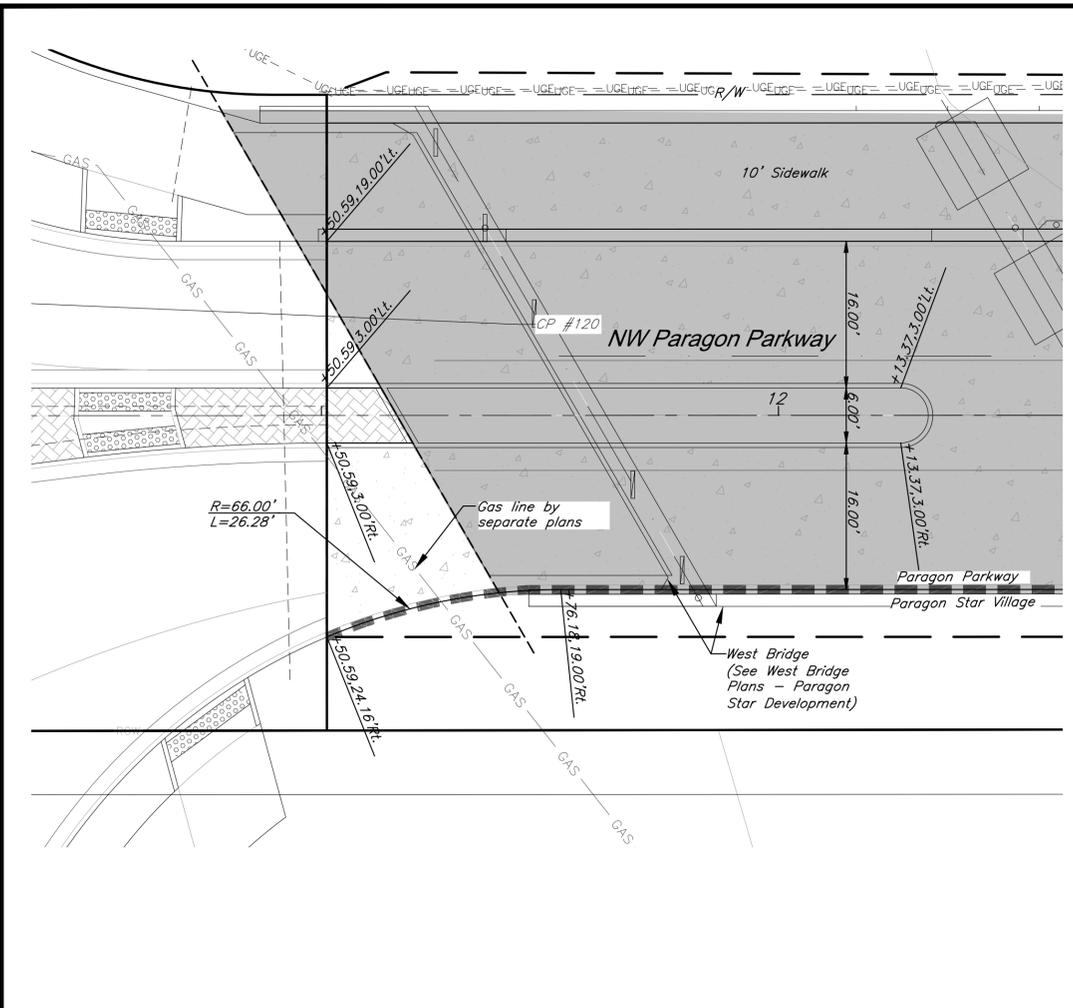
**LEGEND**  
 R/W Right of Way  
 TC Top of Curb  
 Ramp ID  
 [ ] See sheet 19 for details

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

SCALE: 1 INCH = 5 FEET

**Intersection Enlargements**

C:\12220\Civil 3D\Production Drawings\Street & Storm Plans - Paragon Parkway\12220C070.dwg, Layout: 11 Intersection Dimension Details -- Tuesday, January 12, 2021, 10:36am -- Copyright © 2018 GBA Architects, Engineer, 000133, Landscape Architect, 000025, Professional Land Surveyor, 000039

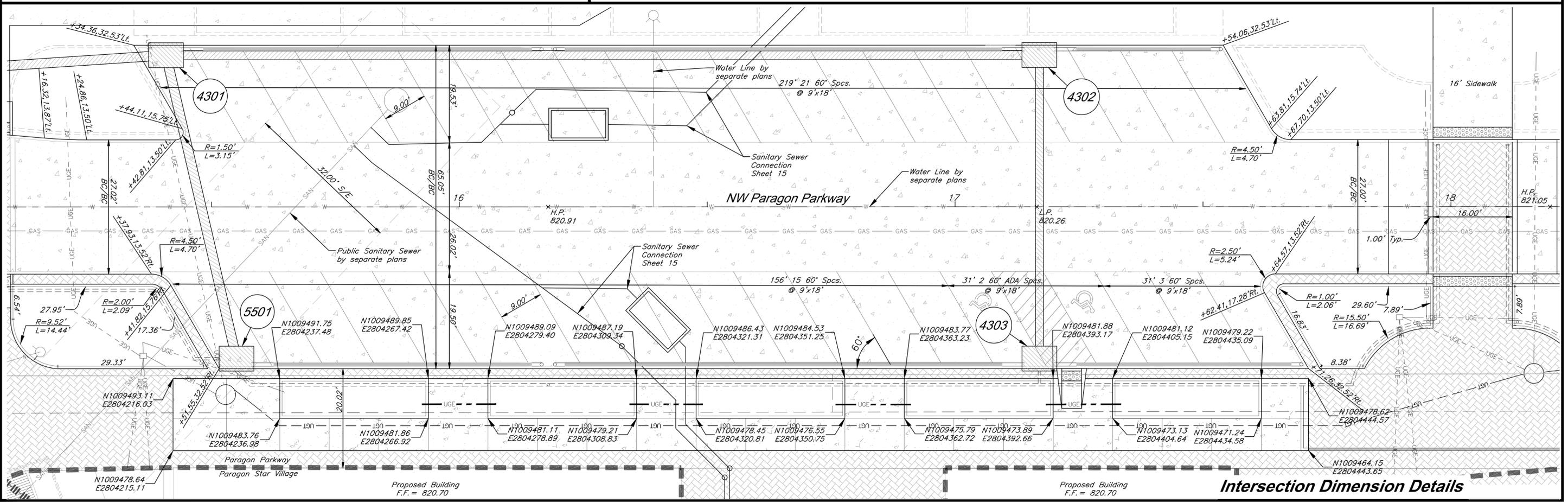
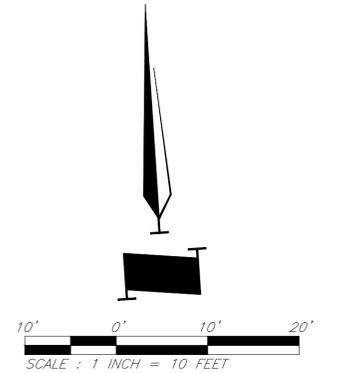


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	PROJECT NO.:	12720
SHEET NO. <b>11</b>		TOTAL SHEETS <b>68</b>

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1/12/21		City Comments	

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

**Notes:**  
 1. See L100 series sheets for hardscape material plans.



**Intersection Dimension Details**

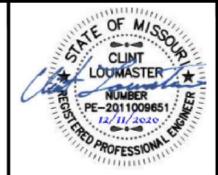


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**LEGEND**

- 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.



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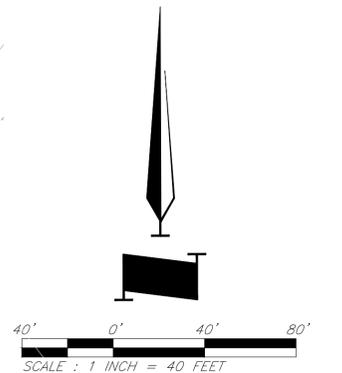
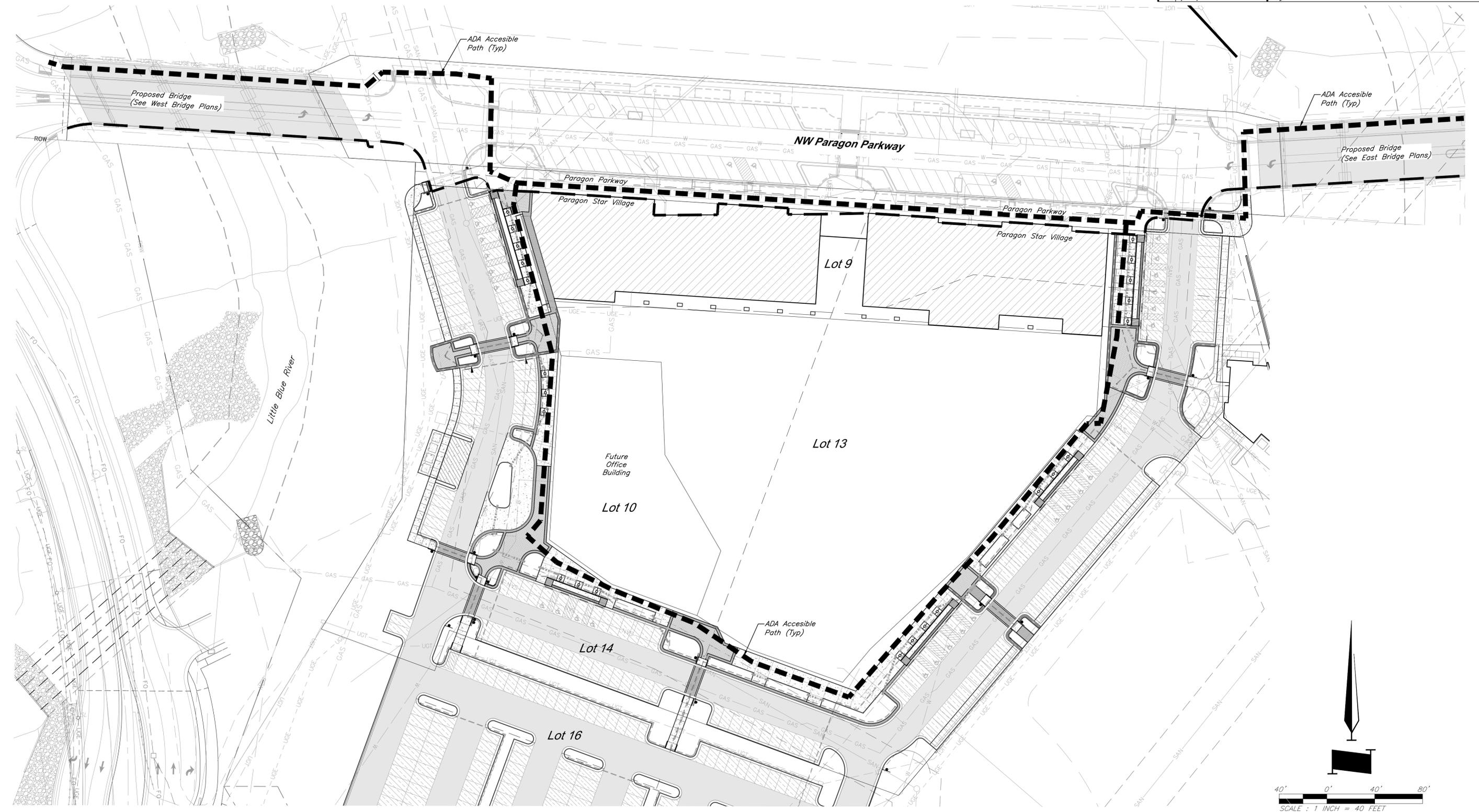
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DESIGN BY: CEL	
DRAWN BY: DRV/DGL	
PROJECT NO.: 12720	
SHEET NO.	TOTAL SHEETS
<b>13</b>	<b>68</b>

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

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NO.	DATE	REVISIONS	BY	APPROVED



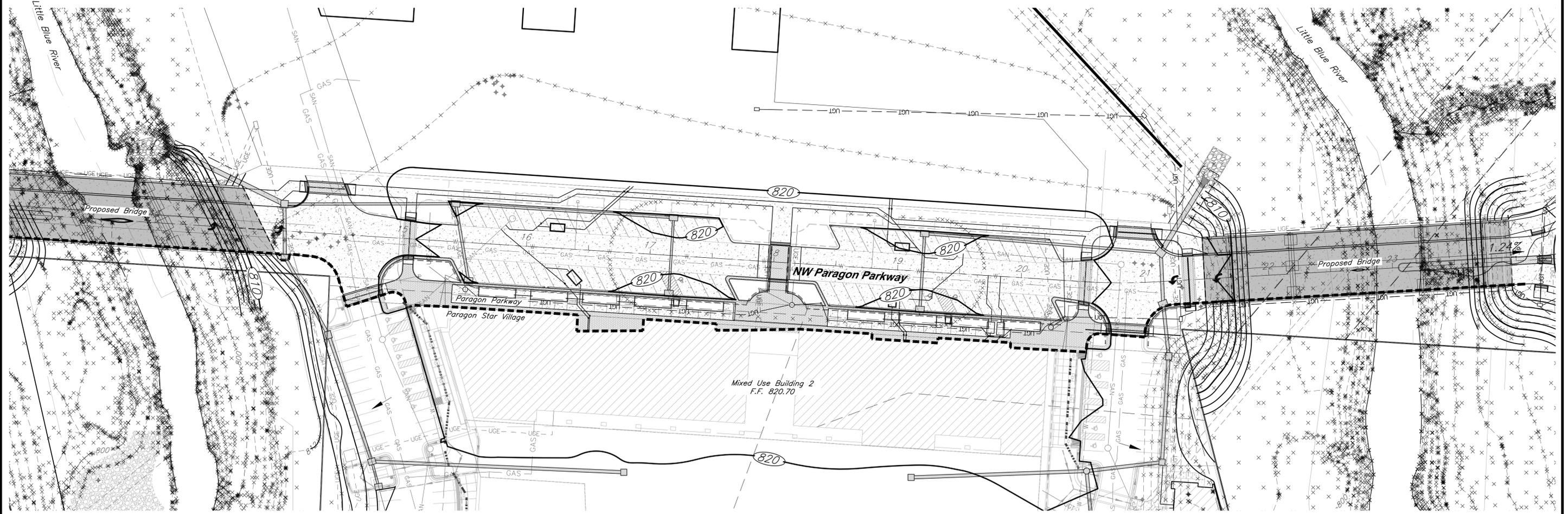
**ADA Accessible Plan**

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**FLOODPLAIN NOTE:**

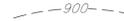
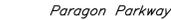
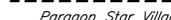
According to FEMA Flood Insurance Rate Map (FIRM) Community Panel No. 29095C0404G, effective Date 1/20/17, the tract lies partially within an area designated as Special Flood Hazard Areas. Special Flood Hazard Areas defined on portions of the site include regulatory floodway, Zone AE (with depths identified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

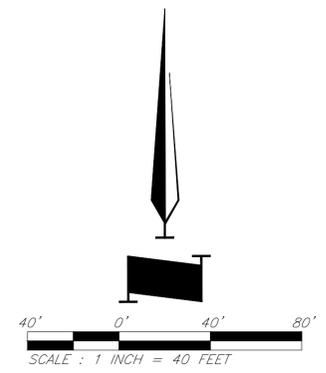
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PROJECT NO.: 12720		SHEET NO.: 14
CLINT LOUMASTER Professional Engineer License No. PE2011-009651		TOTAL SHEETS: 68
Street and Storm Sewer Plans <b>Paragon Parkway</b> Lee's Summit, Missouri		
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**CAUTION!**  
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
  -  Paragon Parkway Construction Line for Paragon Parkway and Paragon Star Village
  -  Paragon Star Village



**Grading Plan**

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 C:\12720\Civil\_3D\Production Drawings\Street & Storm Plans - Paragon Parkway\12720C0900.dwg, Layout: 15 Utility Plan -- Tuesday January 12, 2021, 10:49am

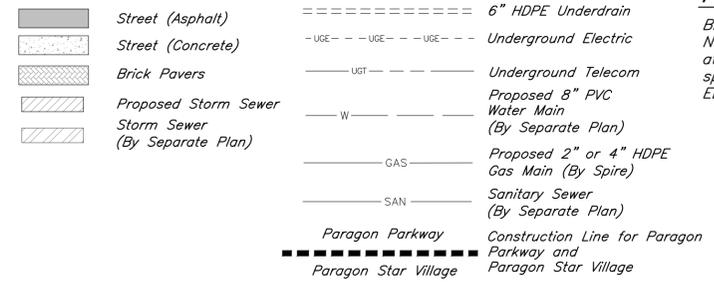
**Sanitary Sewer Construction Notes**

- S1 Connect 6" Service Line to Sanitary Sewer Line E with cut-in wye, Sta=1+30.5, E=808.68. Install 48 LF 6" Dia. SDR26 PVC pipe @ 5.75% to S2.
- S2 Install wye connection, 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, E=814.50. See MEP plan for continuation.
- S4 Connect 4" to grease interceptor, E=812.47.
- S5 Install 2000 gallon grease interceptor. See Utility Details Sheet 23.
- S6 Connect 4" to grease interceptor, E=812.47. Install 42 LF 4" Dia. SDR26 PVC pipe @ 4.83% to S7.
- S7 Connect to 4" building stub, 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, E=811.08. Install 43 LF 6" Dia. SDR26 PVC pipe @ 1.00% to S11.
- S11 Install wye connection, 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, E=812.38. See MEP plan for continuation.
- S13 Connect 4" to grease interceptor, E=811.86.
- S14 Install 2000 gallon grease interceptor. See Utility Details Sheet 23.
- S15 Connect 4" to grease interceptor, E=811.86. Install 31 LF 4" Dia. SDR26 PVC pipe @ 1.68% to S16.
- S16 Connect to 4" building stub, 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, E=811.12. Install 42 LF 6" Dia. SDR26 PVC pipe @ 1.0% to S19.
- S19 Install wye connection, 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 E=813.20.
- S21 Connect 4" to grease interceptor, E=811.70.
- S22 Install 2000 gallon grease interceptor. See Utility Details Sheet 23.
- S23 Connect 4" to grease interceptor, 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, E=813.20.
- S25 Connect 6" Service Line to Sanitary Sewer Line E with cut-in wye, Sta. 1+35.50, E=808.74. Install 29 LF 6" Dia. SDR26 PVC pipe @ 3.3% to S26.
- S26 Install wye connection, 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, E=810.83.
- S28 Connect 4" to grease interceptor, E=809.89.
- S29 Install 2000 gallon grease interceptor. See Utility Details Sheet 23.
- S30 Connect 4" to grease interceptor, 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, E=810.83.

**General Utility Notes**

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

**Legend:**



**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=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

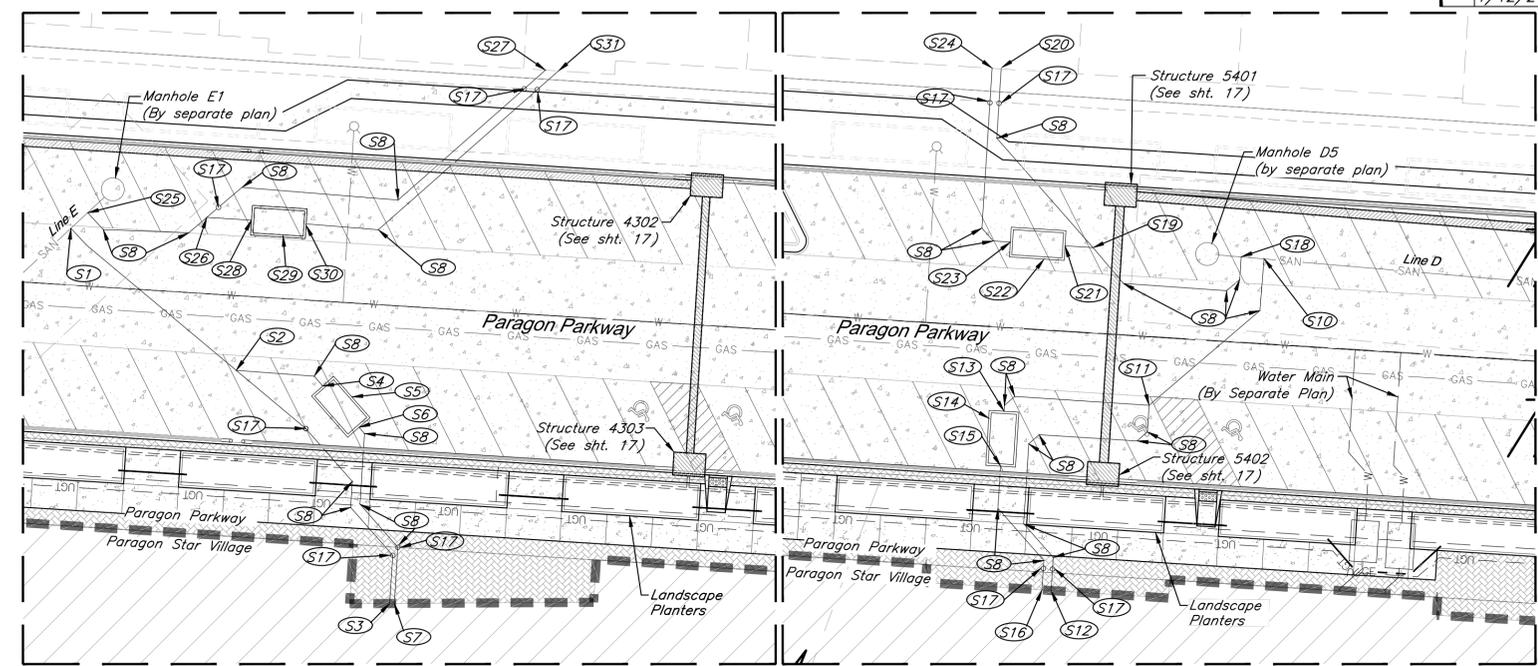
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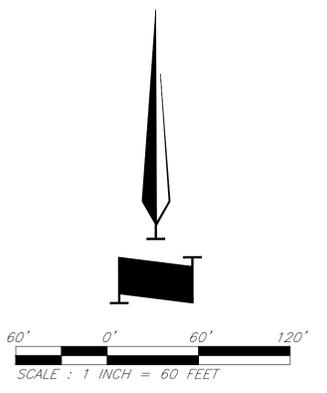
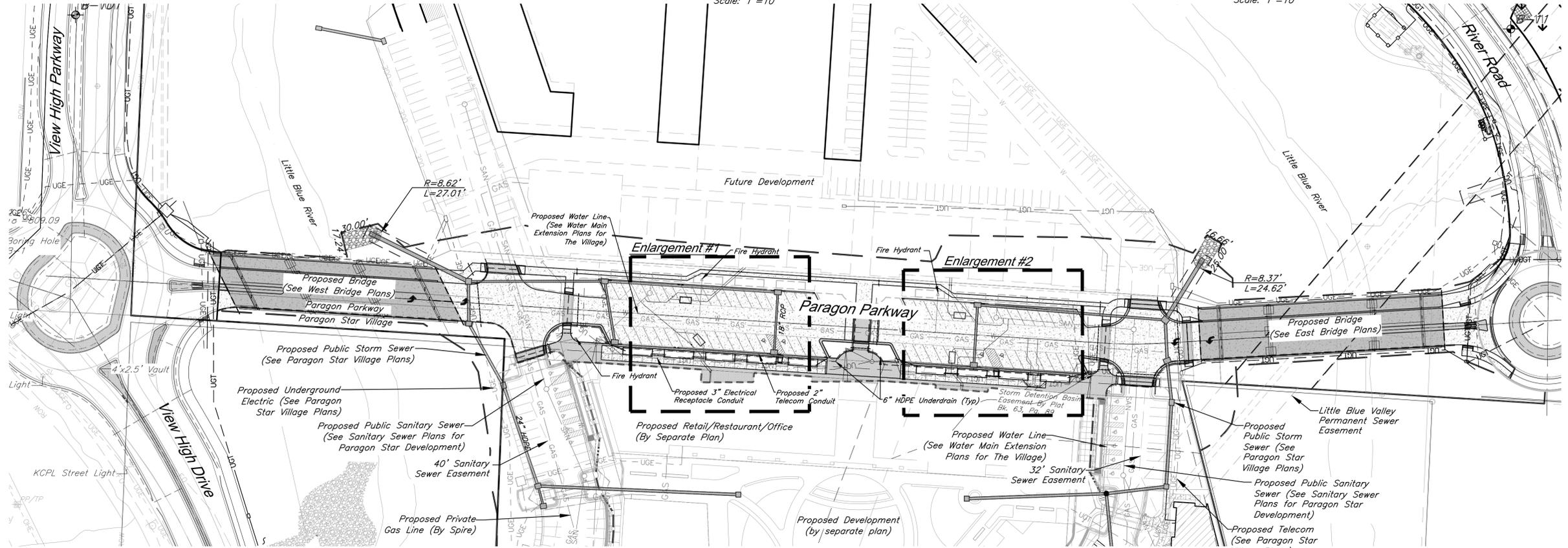
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 TOTAL SHEETS: 68

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- Notes:**
1. Pipe length called out is from center of structure to center of structure. Payment for pipe length is from inside face to inside face of structure.
  2. Storm Sewer Structure Station offset and coordinates based on center of structure. Top elevations are top center of lid.
  3. Tops on all in grade inlets shall maintain street slope, low point inlets to be set level.
  4. Boring information based on original undisturbed earth - see Geotechnical report.



**Utility Plan**

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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 28 LF 1" HDPE Conduit to Planter Box
- E5 Install 27 LF 1" HDPE Conduit to Digital Display
- E6 Install 16 LF 1" HDPE Conduit to Digital Display
- E7 Install 31 LF 1" HDPE Conduit to Planter Box
- 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**

1. All electrical work shall conform to Every Standards
2. Electrical routing reflects the latest, although preliminary designs from Every. Final routing of conduit shall match Final design from Every.
3. Electrical conduit shall be NEC approved schedule 40 gray PVC.
4. 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)
5. Conduit between planters to be installed per sidewalk detail on Sheet 24.

**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**

1. 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. Install 3 LF 6" PVC. Connect to Storm Structure 4303.
- UD5 Install 265 LF 6" Dia. Perforated HDPE with Tee. Install 3 LF 6" PVC. Connect to Storm Structure 5402.
- UD6 Install 62 LF 6" Dia. Perforated HDPE.
- UD7 Install 35 LF 6" Dia. Perforated HDPE with Tee.
- UD8 Install 35 LF 6" Dia. Perforated HDPE with (2) Tees.
- UD9 Install 55 LF 6" Dia. Perforated HDPE. Install 4 LF 6" PVC. Connect to Storm Structure 4802.
- UD10 Install 41 LF 6" Dia. Perforated HDPE with Elbow.
- UD11 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	11
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)
- Street (Concrete)
- Brick Pavers
- Proposed Storm Sewer
- Storm Sewer (By Separate Plan)
- 6" HDPE Underdrain
- Underground Electric
- Underground Telecom
- Proposed 8" PVC Water Main (By Separate Plan)
- Storm Sewer (By Separate Plan)
- Proposed 2" or 4" HDPE Gas Main (By Spire)
- Sanitary Sewer (By Separate Plan)
- Paragon Parkway Construction Line for Paragon Parkway and Paragon Star Village

**Water Line Construction Notes**

- W1 Connect to water main. Install 40 LF 4" Dia. Class 305 C900 PVC to W2.
- W2 Install 4" Water Meter in Concrete Vault. Install 9 LF 4" Dia. Class 305 C900 PVC to W3.
- W3 Domestic Water Line Building Connection. See MEP plan for continuation.
- W4 Connect to water main. Install 39 LF 8" Dia. Class 305 C900 PVC to W5.
- W5 Install 8" Backflow Preventer in Concrete Vault. Install 7 LF 8" Dia. Class 305 C900 PVC to W6.
- W6 Fire Protection Line Building Connection. See MEP plan for continuation.



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Professional Engineer  
License No. PE2011-009651



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DATE: 12-18-2020  
DESIGN BY: CEL  
DRAWN BY: DRW/DGL  
PROJECT NO.: 12720  
SHEET NO.: 16  
TOTAL SHEETS: 68

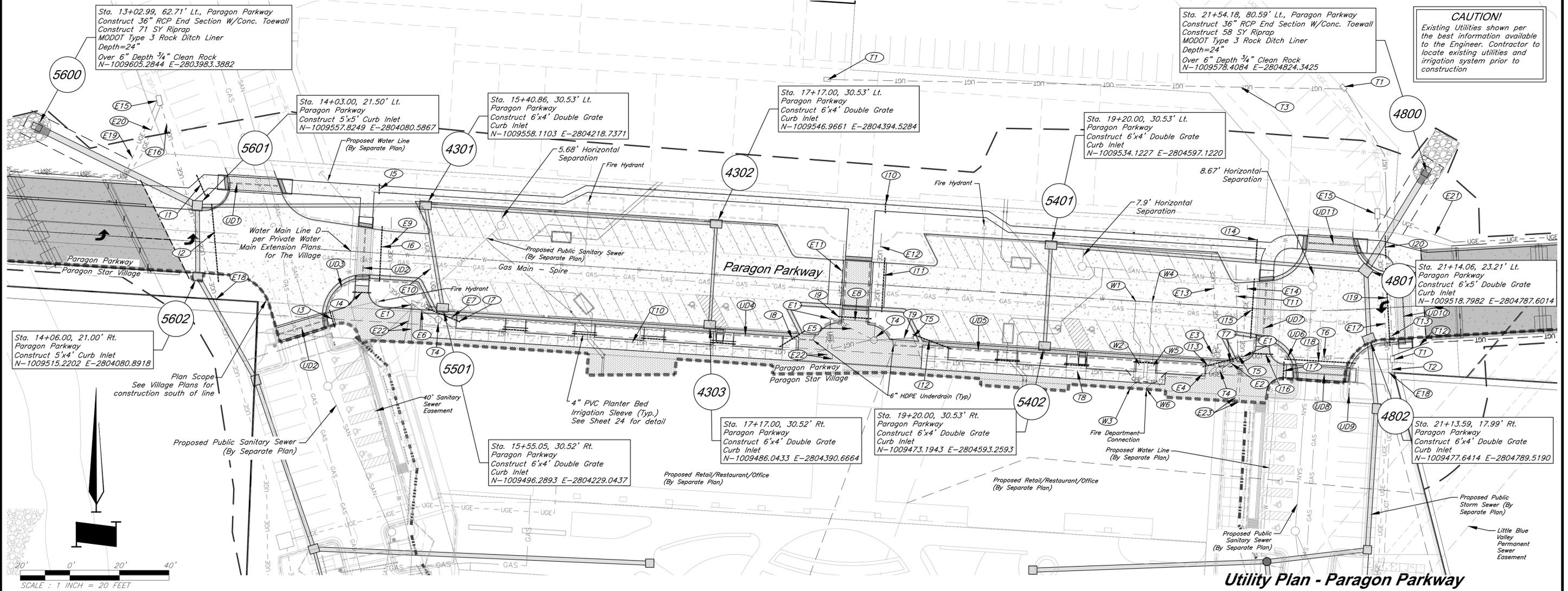
**Street and Storm Sewer Plans**  
**Paragon Parkway**  
Lee's Summit, Missouri

NO.	DATE	REVISIONS	BY	APPROVED
1	11/4/20	FDP Submittal		
2	12/18/20	Issued for Bid		
3	1/12/21	City Comments		

- Notes:**
1. Pipe length called out is from center of structure to center of structure. Payment for pipe length is from inside face to inside face of structure.
  2. Storm Sewer Structure Station offset and coordinates based on center of structure. Top elevations are top center of lid.
  3. Tops on all in grade inlets shall maintain street slope, low point inlets to be set level.

**General Utility Notes**

1. See Sheets 4 and 24 for Typical Street Section and Streetscape Details.
2. See Sheets 42-46 for Street Lighting and location of equipment.
3. See Sheet 23 for Utility Details
4. Contractor to deflect conduits as necessary to avoid conflicts with other utilities.
5. Contractor shall coordinate with the Surveyor to leave trenches open for collecting survey data for record drawings.
6. See Intersection Grading Details and Storm Sewer Details for Trench Drain.
7. All irrigation sleeves to be 4" PVC. Install sleeve 1' into planting area.
8. Gas line to be constructed by Spire.



**Utility Plan - Paragon Parkway**

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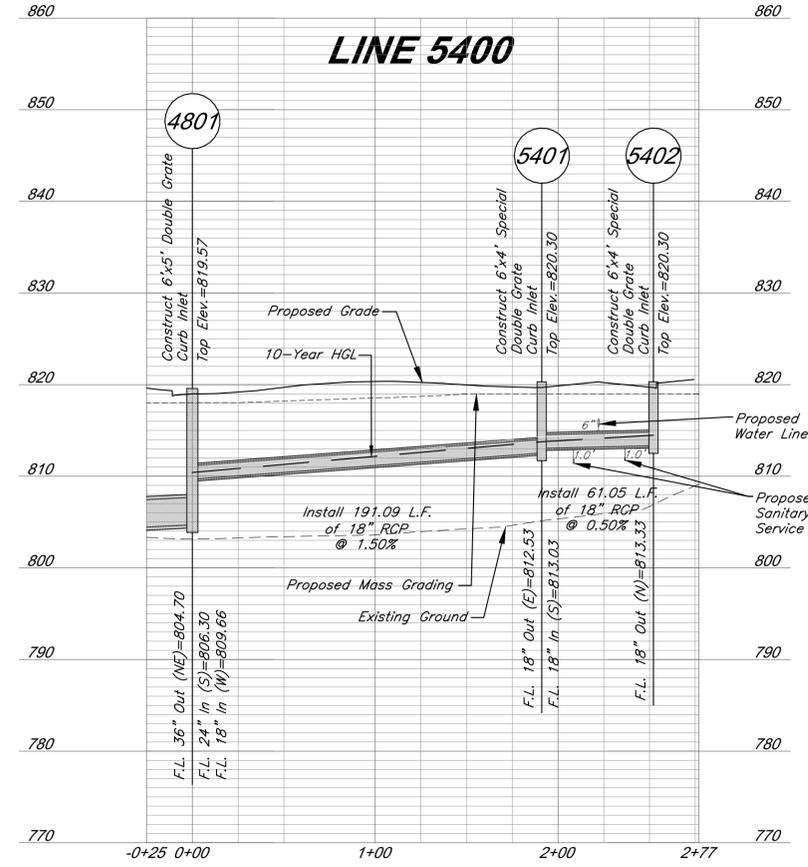
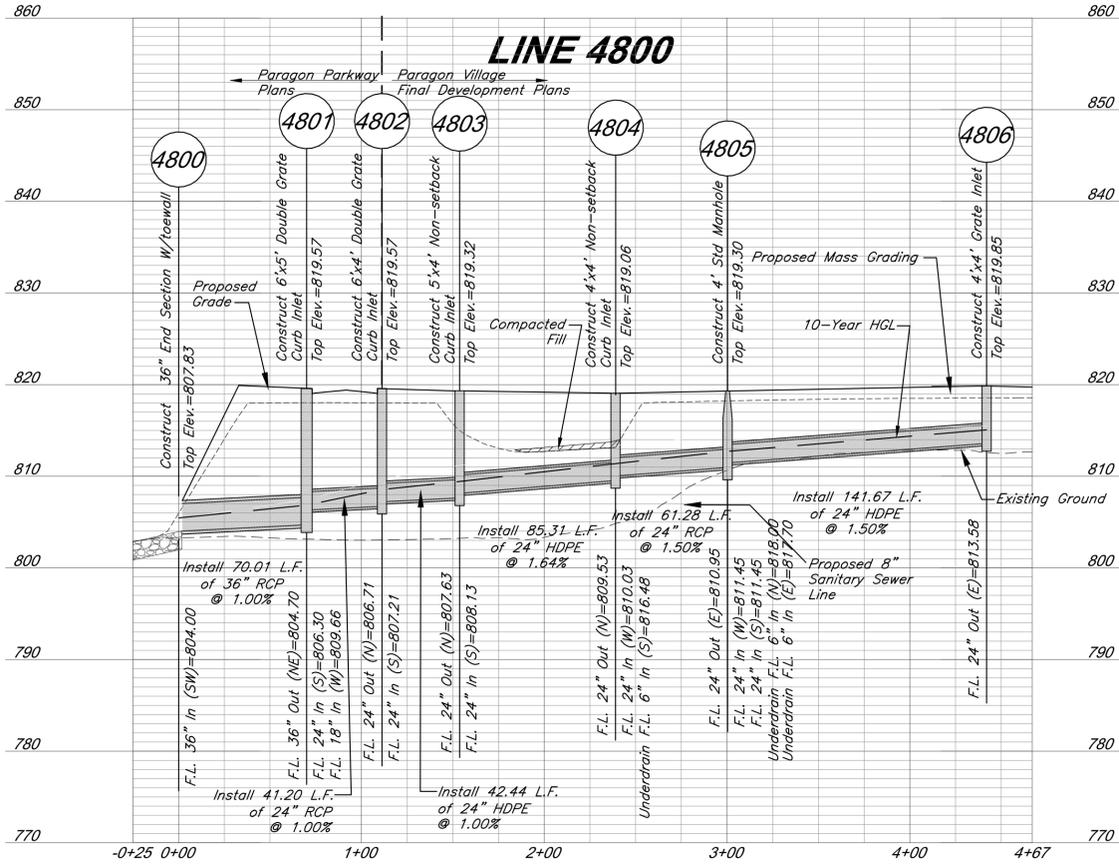


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DATE:	12-18-2020
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DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.:	17
TOTAL SHEETS:	68

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Professional Engineer  
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Street and Storm Sewer Plans				
Paragon Parkway				
Lee's Summit, Missouri				
NO.	DATE	REVISIONS	BY	APPROVED
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12/18/20		Issued for Bid		
1/12/21		City Comments		

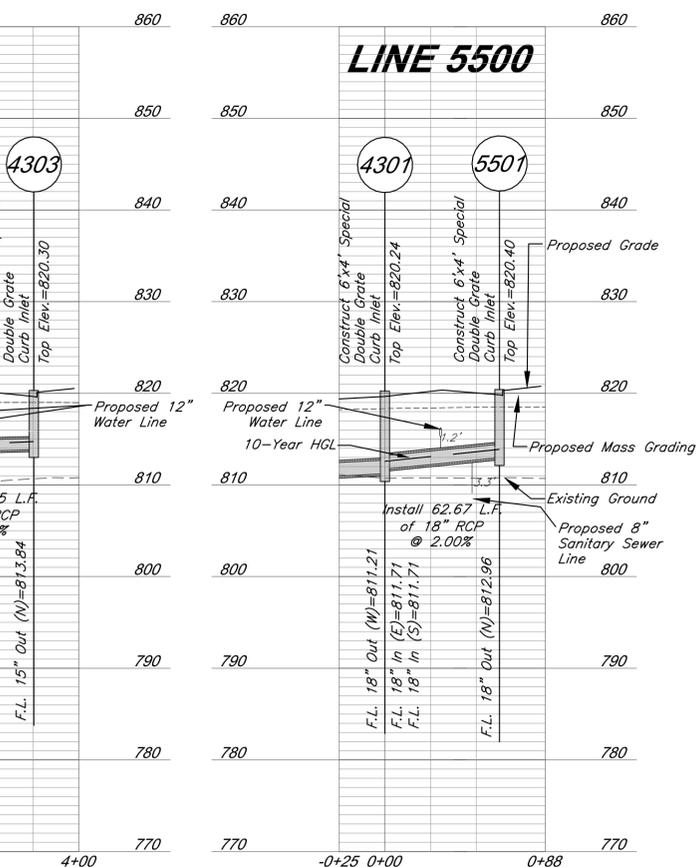
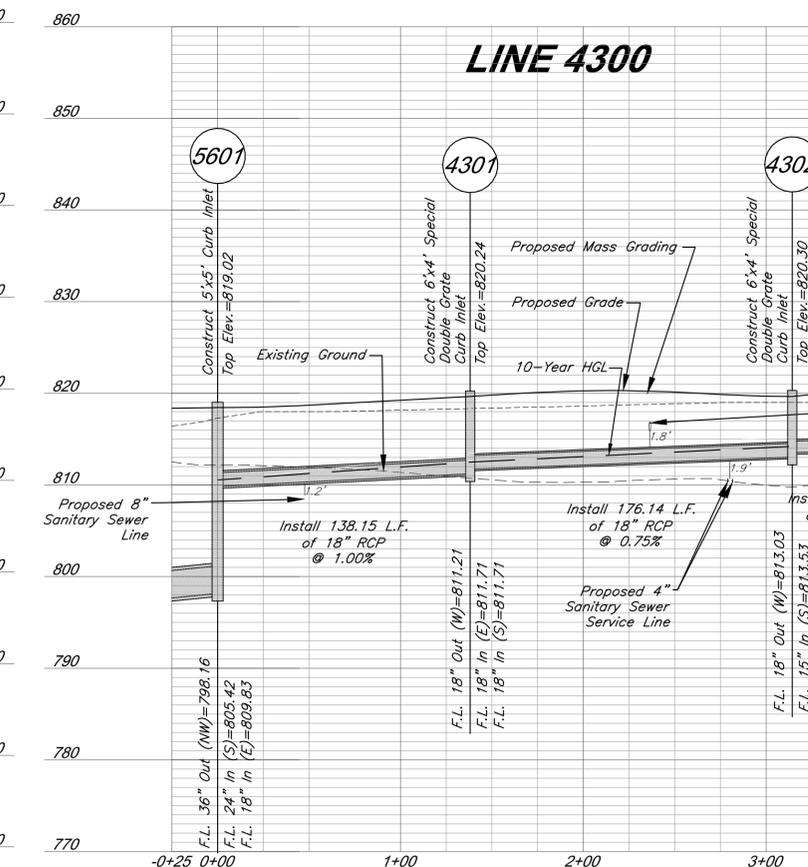
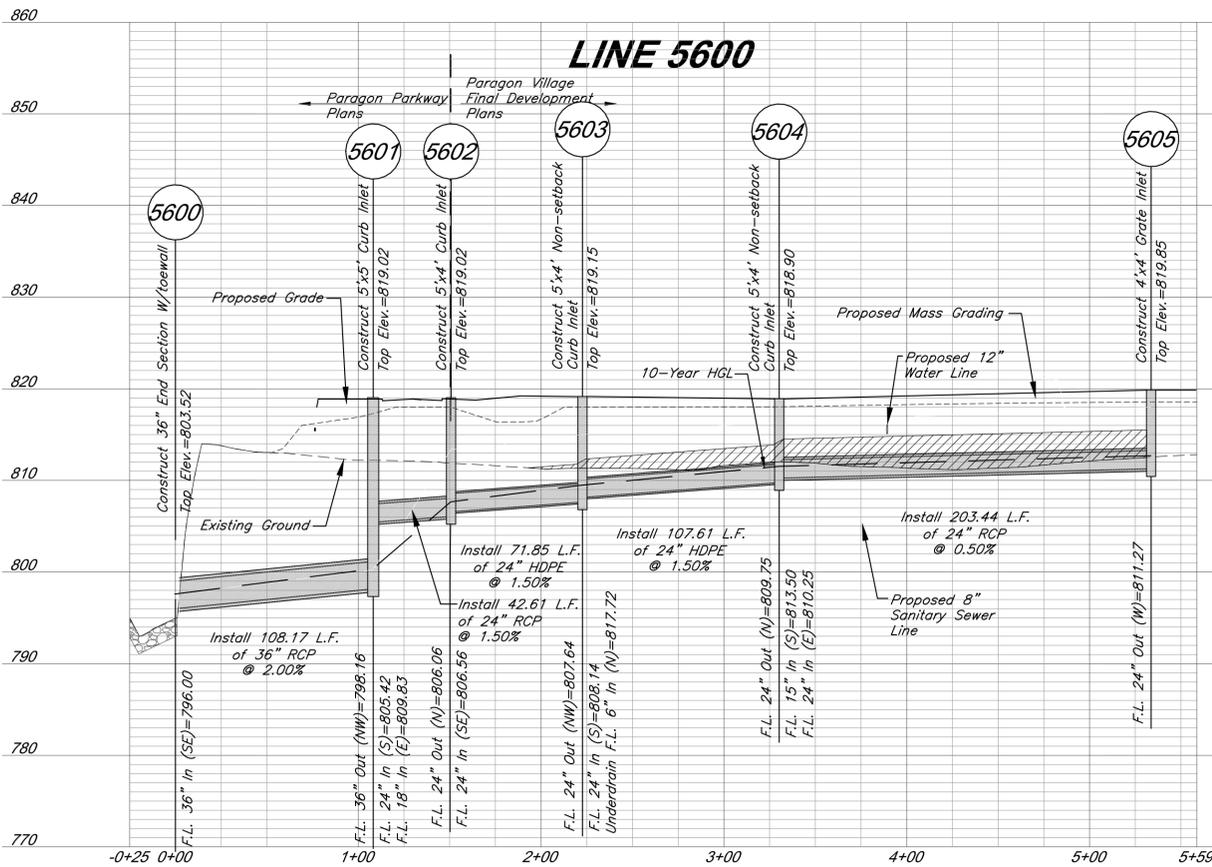
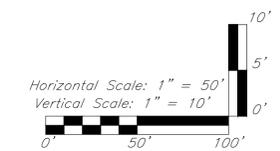


**LEGEND**

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

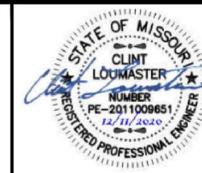
**Connections:**

- ① Line 4300 Sta 0+00.00 = Line 4100 Sta 1+08.17
- ② Line 5500 Sta 0+00.00 = Line 4300 Sta 1+38.15
- ③ Line 5400 Sta 0+00.00 = Line 4800 Sta 0+70.05



**Storm Sewer Profiles**

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TOTAL SHEETS:	68

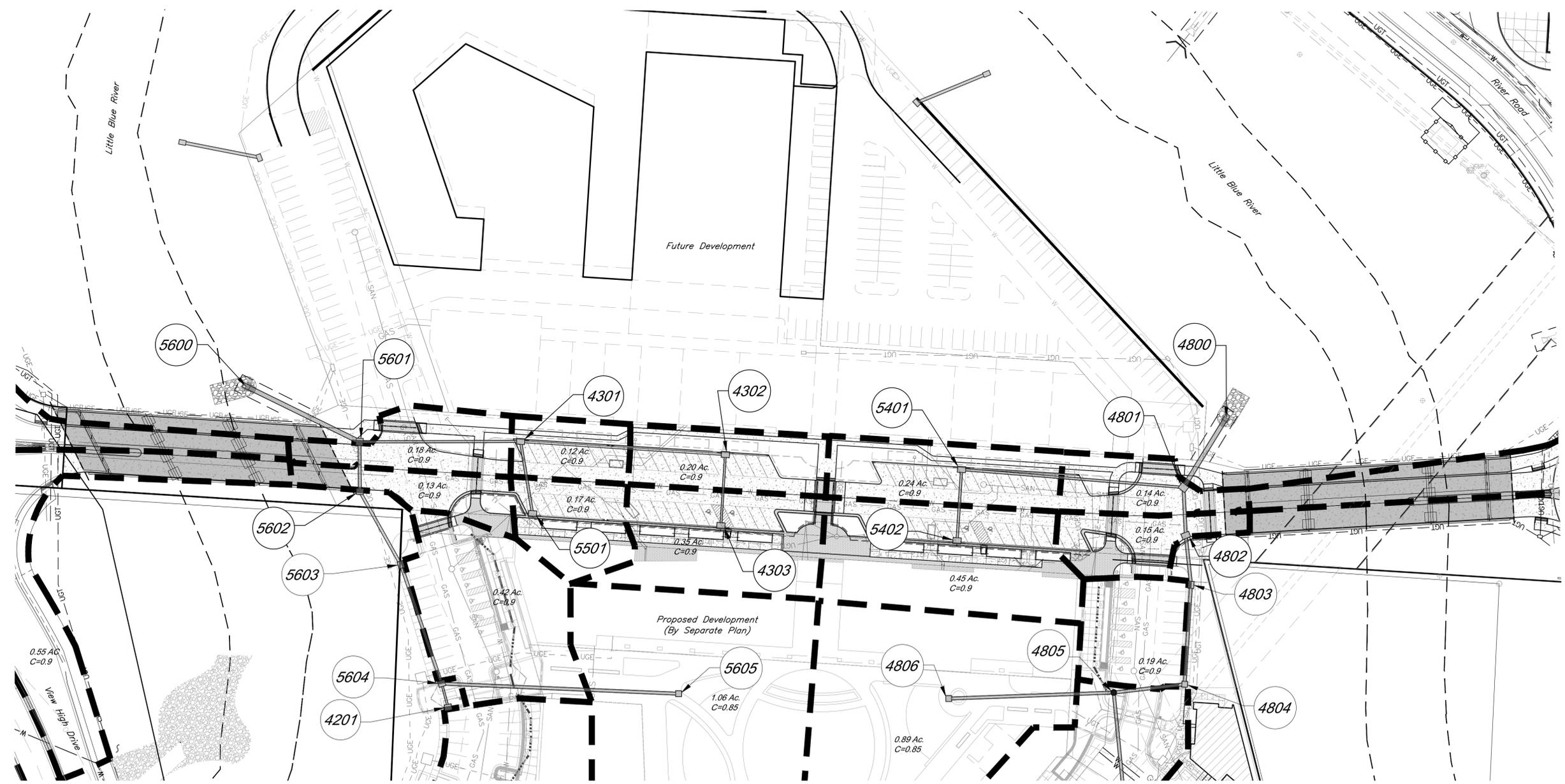
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*Street and Storm Sewer Plans*  
**Paragon Parkway**  
Lee's Summit, Missouri

NO.	DATE	REVISIONS	BY	APPROVED
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**Legend**

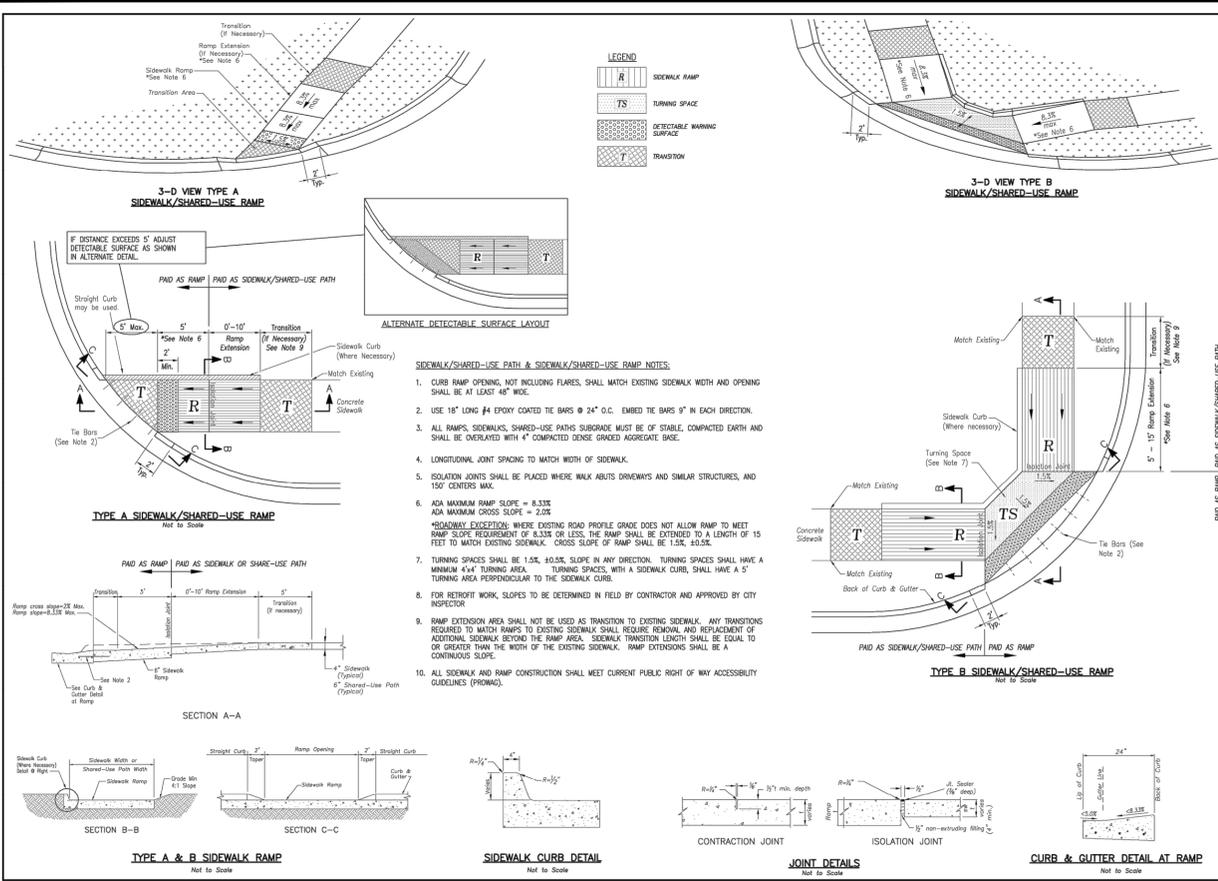
- Proposed Contours
- Existing Contours
- Drainage Area Boundary



**Storm Drainage Map**



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- SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:**
- CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
  - USE 18" LONG #4 EPOXY COATED BARS @ 24" O.C. EMBED THE BARS 9" IN EACH DIRECTION.
  - ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
  - LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
  - ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 150' CENTERS MAX.
  - ADA MAXIMUM RAMP SLOPE = 8.33%  
ADA MAXIMUM CROSS SLOPE = 2.08%  
ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.0% SLOPE.
  - TURNING SPACES SHALL BE 1.0% SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4x4' TURNING AREA. TURNING SPACES WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
  - FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR.
  - RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REMOVE AND REPLACE WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUING SLOPE.
  - ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).

**LEE'S SUMMIT MISSOURI**

PUBLIC WORKS ENGINEERING DIVISION 1202 E GREEN STREET | LEE'S SUMMIT, MO 64651

STANDARD DETAILS  
CITY OF LEE'S SUMMIT, MO  
LEE'S SUMMIT, JACKSON COUNTY, MO  
ADA RAMP RETROFIT DETAIL

Drawn By: MJP  
Checked By: JCL  
Date: 04/27  
Proj. #

GEN-3A

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

Note: Ramp ID Shown on Sheets 9 and 10.

**CLINT LOUMASTER**  
REGISTERED PROFESSIONAL ENGINEER  
NUMBER PE-2011008651  
12/11/2020

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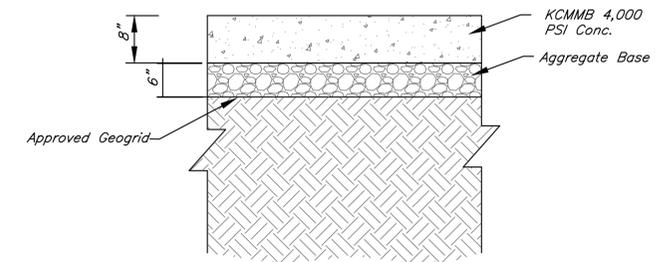
DATE: 12-18-2020  
DESIGN BY: DJM  
DRAWN BY: CMN  
PROJECT NO.: 12720  
SHEET NO.: 20  
TOTAL SHEETS: 68

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

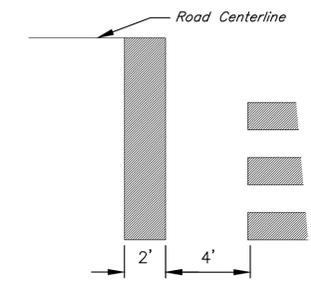
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Professional Engineer  
License No. PE2011-009651

REVISIONS

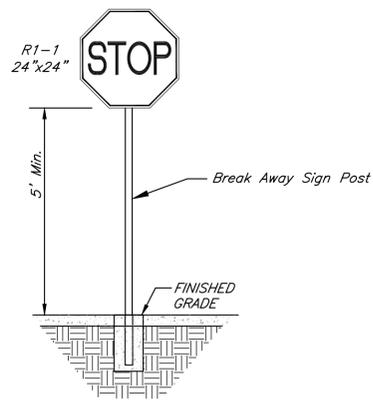
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1	11/4/20		FDP Submittal
2	12/18/20		Issued for Bid
3	1/12/21		City Comments



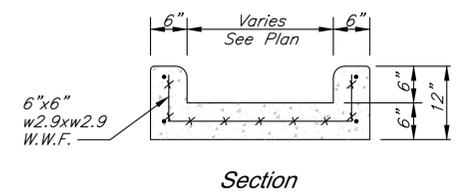
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**STOP BAR MARKING DETAIL**  
N.T.S.

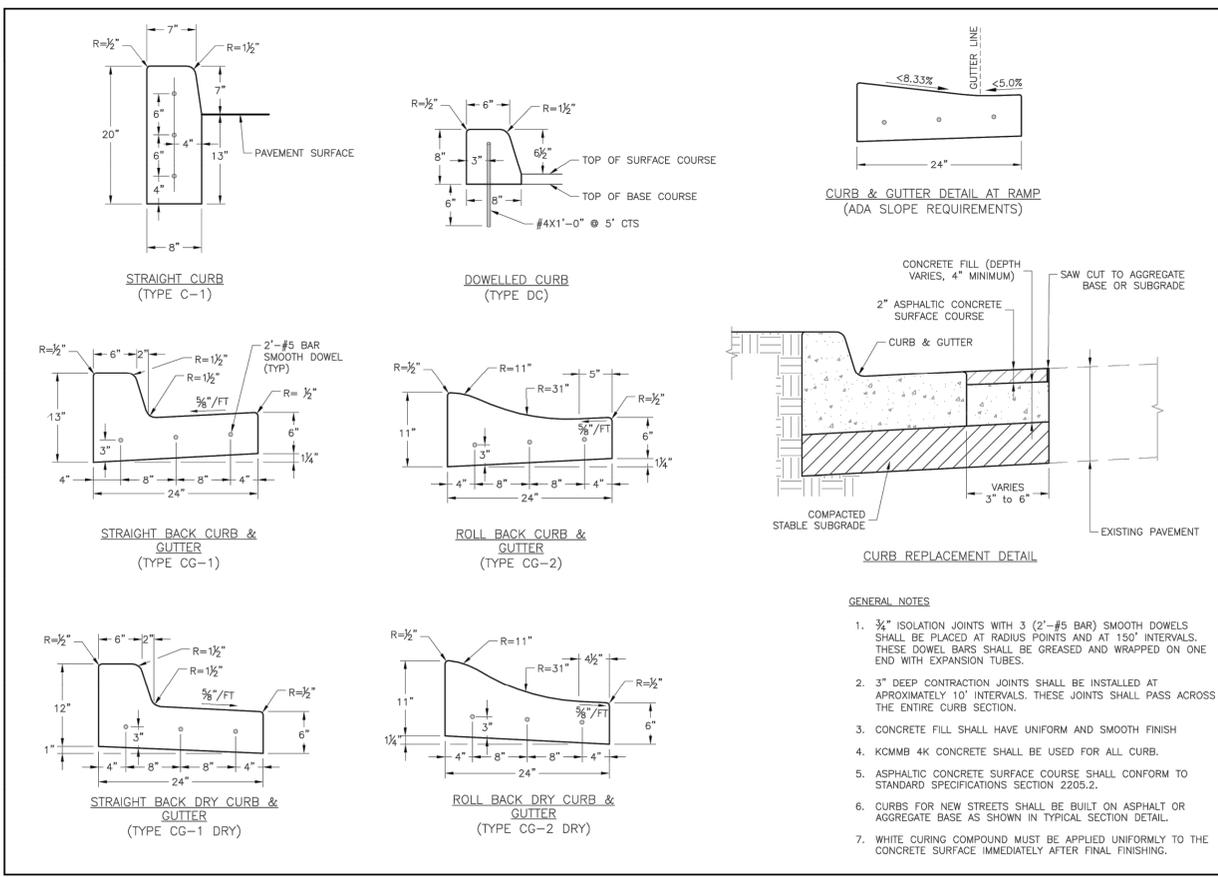


**STOP SIGN DETAIL**  
Not to Scale



**CONCRETE FLUME**  
Not To Scale

- 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.



**LEE'S SUMMIT MISSOURI**

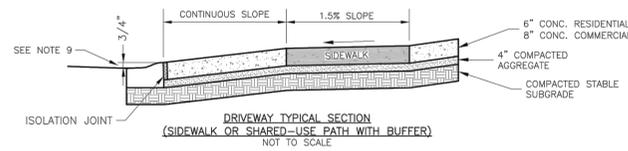
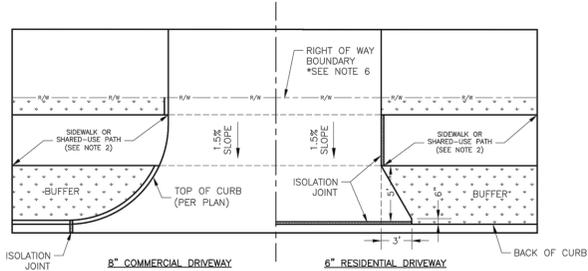
PUBLIC WORKS ENGINEERING DIVISION 1202 E GREEN STREET | LEE'S SUMMIT, MO 64651

STANDARD DETAILS  
CITY OF LEE'S SUMMIT, MO  
LEE'S SUMMIT, JACKSON COUNTY, MO  
CURB & GUTTER DETAIL

Drawn By: MJP  
Checked By: JCL  
Date: 04/27  
Proj. #

GEN-4

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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.
  - KCMBB 4K CONCRETE MIX IS REQUIRED FOR ALL CURBS.
  - COMMERCIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, SHALL BE KCMBB 4K CONCRETE MIX.
  - RESIDENTIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, KCMBB 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.

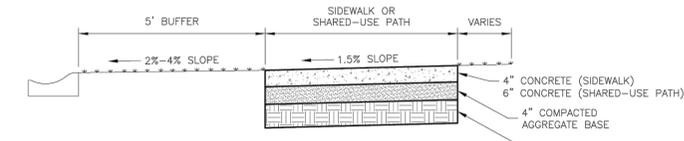
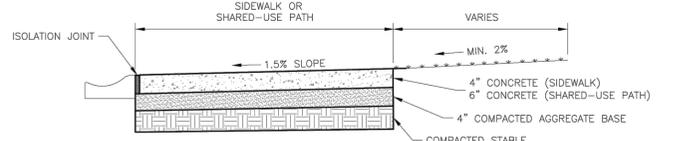
**LEE'S SUMMIT MISSOURI**  
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS  
 CITY OF LEE'S SUMMIT, MO  
 LEE'S SUMMIT, JACKSON COUNTY, MO  
 STREET NO. 12

Drawn By: MIF  
 Checked By: DL  
 Date: 04/17  
 Project: GEN-1

**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: MIF  
 Checked By: DL



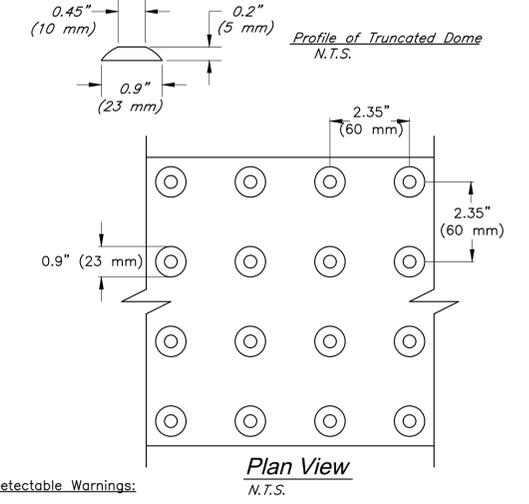
- GENERAL NOTES:**
- SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
  - 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
  - KCMBB 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS/SHARED-USE PATHS OR AS APPROVED BY THE CITY INSPECTOR.
  - 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.

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 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 <b>Paragon Parkway</b> Lee's Summit, Missouri		
NO.	DATE	REVISIONS	BY	APPROVED
	11/4/20	FDP Submittal		
	12/18/20	Issued for Bid		
	1/12/21	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:

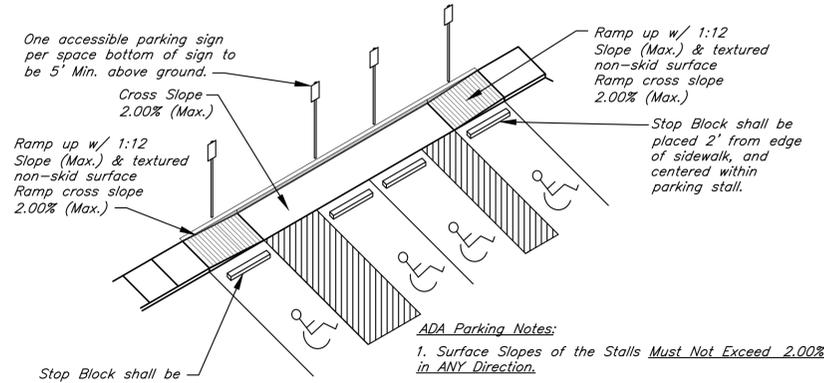
$$\text{Contrast} = [(B1 - B2)/B1] \times 100$$

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.

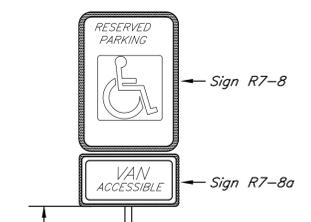


- ADA Parking Notes:**
- Surface Slopes of the Stalls Must Not Exceed 2.00% in ANY Direction.
  - Van Accessible Spaces are denoted on the plan.
  - Parking Blocks shall be placed 24" from edge of sidewalk to center line of parking block.

**ADA PARKING DETAIL**  
Construction Details  
Not to Scale

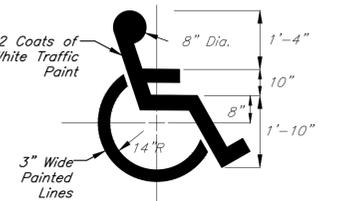
**Sign Notes:**

- 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.



- 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**

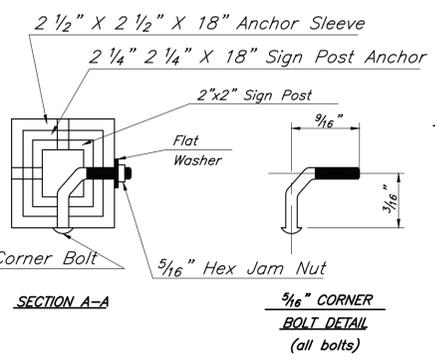
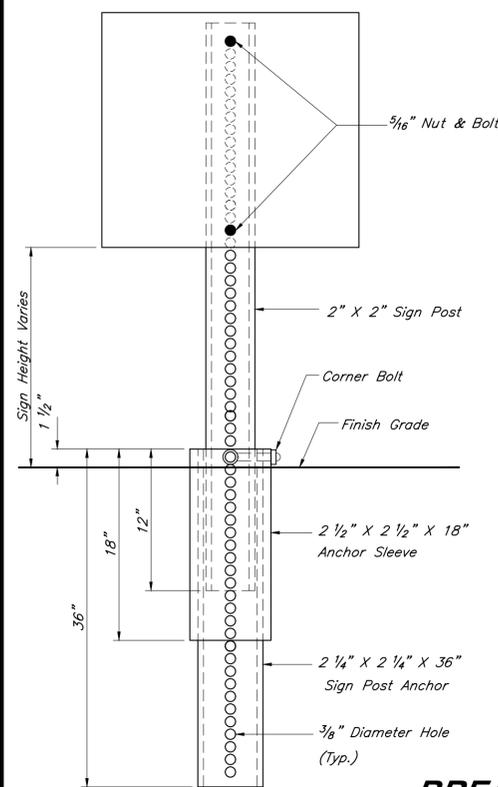
- Sign post anchor driven into the ground.
- Anchor sleeve driven into the ground over the sign post anchor.
- Insert sign post into the sign post anchor and bolt in place.

**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.

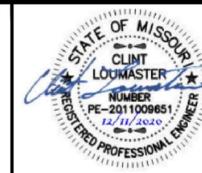
All corner bolts and nuts for fastening the signs and sign post assembly shall comply the applicable ANSI standards and ASTM testing requirements and shall be subsidiary items.

All Components shall be galvanized.

**BREAK-AWAY SIGN POST DETAIL**  
Not to Scale



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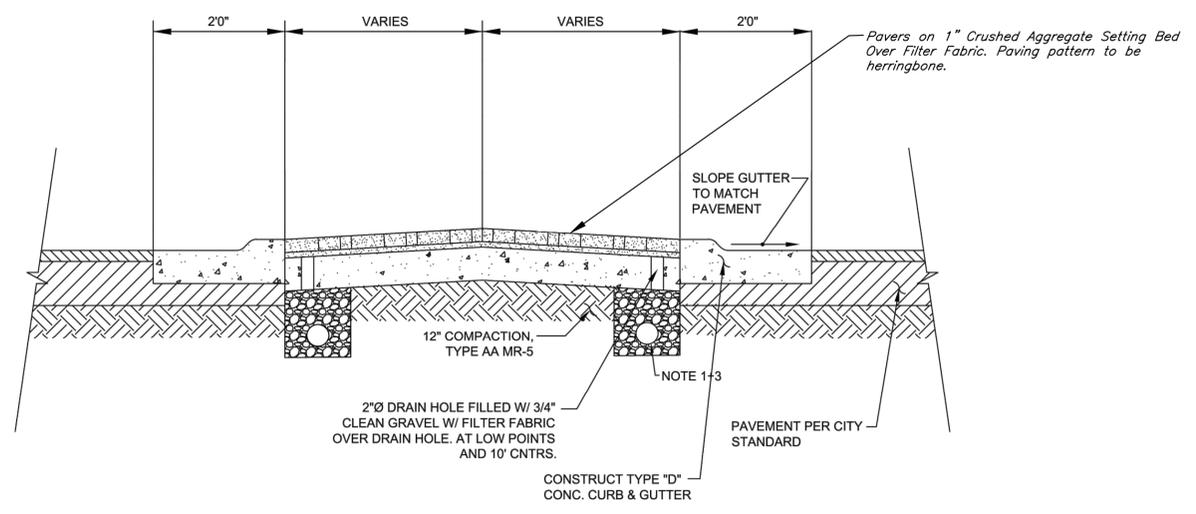
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 engineers  
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DATE:	12-18-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.:	22
TOTAL SHEETS:	68

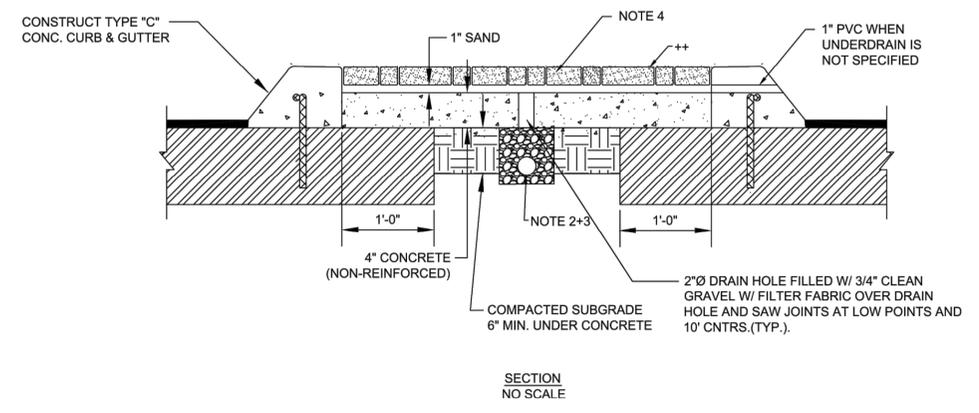
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Street and Storm Sewer Plans  
**Paragon Parkway**  
 Lee's Summit, Missouri

NO.	DATE	REVISIONS	BY	APPROVED
	11/4/20	FDP Submittal		
	12/18/20	Issued for Bid		
	1/12/21	City Comments		

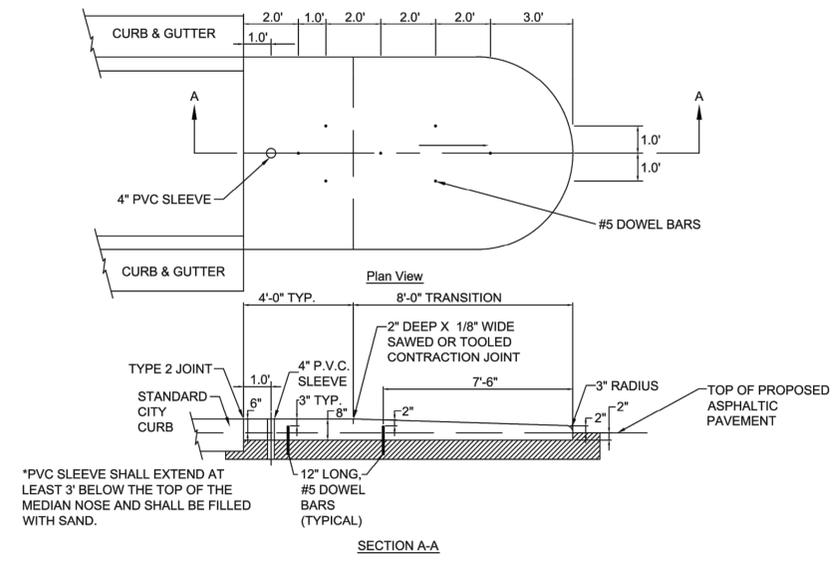


MOUNTABLE MEDIAN PAVER DETAIL



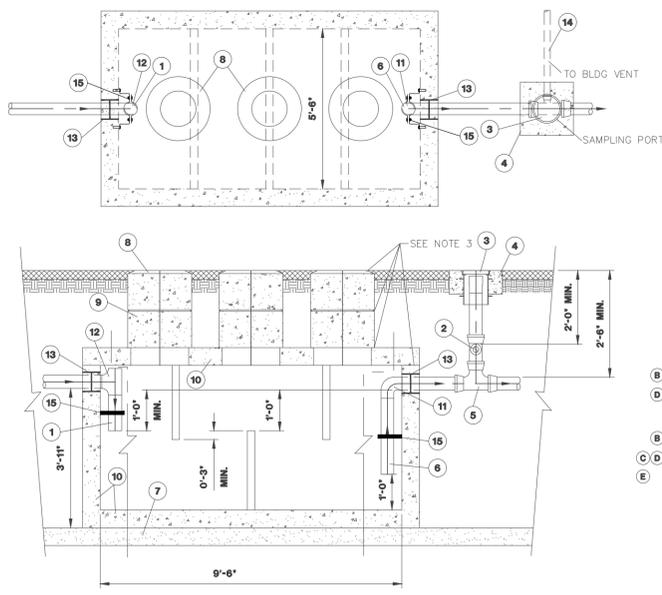
MEDIAN PAVER DETAIL

- 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, CONCRETE PAVER TYPE 3; REFER TO SECTION 321400
- PAVER COLOR VARIABLE. CONTACT ENGINEERING



MEDIAN NOSE DETAIL

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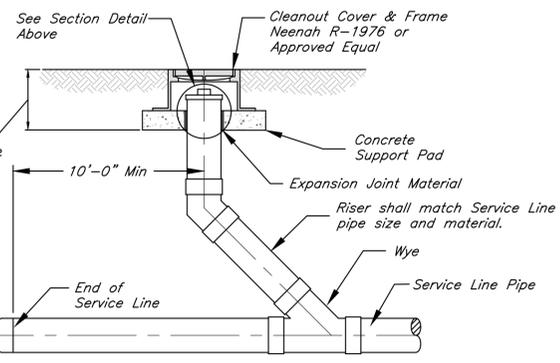
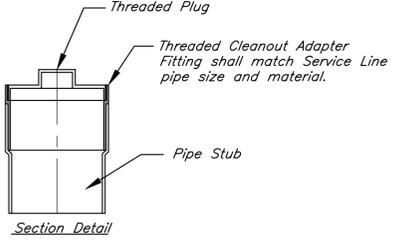


**GREASE INTERCEPTOR DETAILS**  
Not to Scale

ITEM	DESCRIPTION
1	4" ABS INLET PIPE*
2	4"x4"x2" TEE WITH 2" PIPE TO BUILDING VENT*
3	THREADED C/O CAP JOSAM 58860 OR APP EQUAL**
4	CONCRETE PAD
5	4"x4"x4" TWO-WAY CLEANOUT TEE*
6	4" ABS OUTLET*
7	4" - 6" GRAVEL BEDDING
8	HEAVY-DUTY CAST IRON FRAME AND COVER ***
9	CONCRETE ADJUSTMENT RINGS
10	REINFORCE AS REQUIRED FOR SERVICE CONDITIONS
11	4" ABS 90° ELBOW*
12	4" ABS TEE*
13	A=LOK OR PRESS SEAL PSX PIPE/WALL CONNECTOR
14	2" VENT PIPE (IDENTIFY PIPE TYPE, CLASS & JOINT AS REQUIRED FOR PROJECT)
15	STAINLESS STEEL PIPE SUPPORT CLAMP ****

\* 6" PIPE MAY BE SUBSTITUTED TO MATCH UPSTREAM PIPE DIAMETER.  
 \*\* REFER TO CLEAN OUT DETAIL(S) ON STANDARD DETAIL SHEET.  
 \*\*\* CLAY & BAILEY 2008 BV OR EQUAL (FROST PROOF COVERS OPTIONAL)  
 \*\*\*\* M STAINLESS FASTENERS #63 OR EQUAL. 1/2"x2-1/2" SS BRACKET W/ 1/2"x1-1/2" FULLY THREADED SS HEX BOLT WITH 1/2" SS WASHER AND 1/2"x1-3/4" SS ANCHORS. CLAMP TO BE FACTORY INSTALLED.

- NOTES:
- THREE COVERS AND RISERS SHOWN. TWO COVERS AND RISERS CENTERED OVER UPPER TWO BAFFLES ARE OPTIONAL.
  - INTERCEPTOR SIZE - 1500 GAL (REVISE THE SIZE DIMENSIONS, AS NEEDED, FOR LARGER CAPACITY INTERCEPTORS).
  - ALL JOINTS AT THE FRAME & COVER\*, CONCRETE ADJUSTMENT RINGS AND THE LID OF THE INTERCEPTOR SHALL BE SEALED WITH A MINIMUM OF TWO (2) ROWS OF 3/4 TO 1 INCH PREFORMED BUTYL JOINT SEALER AND A 6" BUTYL JOINT WRAP AROUND SLEEVE (EZ WRAP). THE ENDS OF THE 6" EZ WRAP SHALL OVERLAP BY 12".
  - PIPING ON THE INTERIOR OF THE INTERCEPTOR SHALL BE ABS WITH SOLVENT-CEMENTED JOINTS.
  - INCREASE INTERCEPTOR INCLUDING ADJUSTMENT RINGS AND CASTINGS SHALL BE VACUUM TESTED FOR WATER TIGHTNESS AFTER THE BACKFILL OPERATIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH ICW TECHNICAL SPECIFICATIONS. A VACUUM OF 10 INCHES OF MERCURY SHALL BE DRAWN AND WITH THE VACUUM PUMP SHUT OFF THE MERCURY SHALL NOT DROP BELOW 9 INCHES WITHIN 1 MINUTE OR BELOW 5 INCHES WITHIN 5 MINUTES.

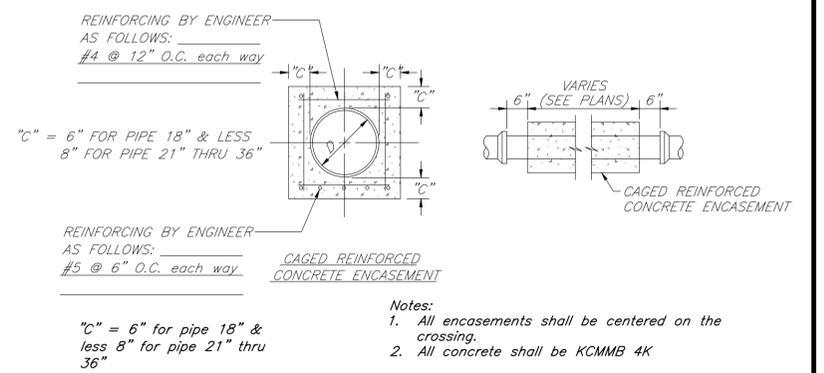


**CLEANOUT DETAIL**  
No Scale

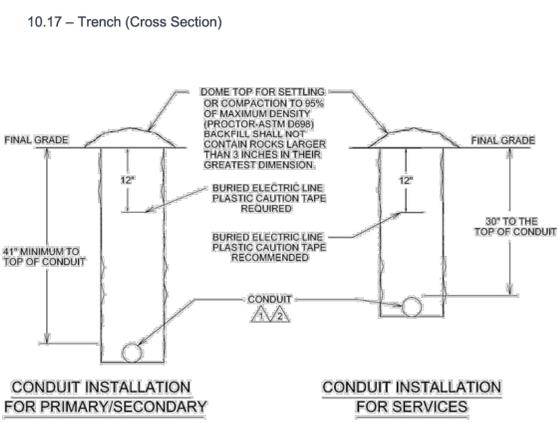
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DATE: 12-18-2020  
 DESIGN BY: DJM  
 DRAWN BY: CMN  
 PROJECT NO.: 12720  
 SHEET NO.: 22  
 TOTAL SHEETS: 68

Clint Loumaster Professional Engineer License No. PE2011-009651		Street and Storm Sewer Plans <b>Paragon Parkway</b> Lee's Summit, Missouri	
NO.	DATE	REVISIONS	BY / APPROVED
11/4/20		FDP Submittal	
12/18/20		Issued for Bid	
1/12/21		City Comments	



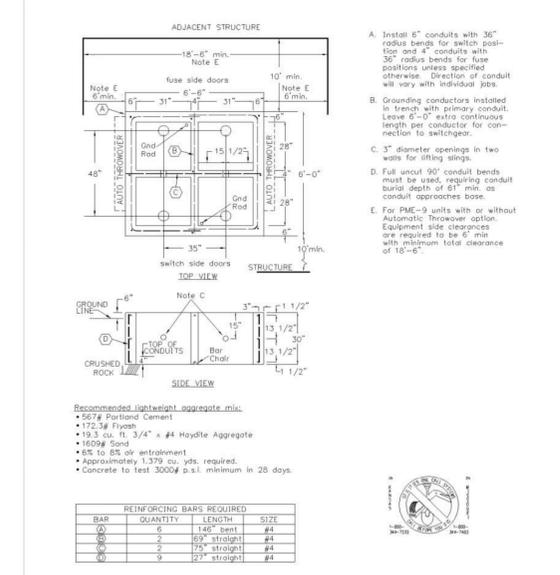
**CAGED REINFORCED CONCRETE ENCASEMENT**  
Not to Scale



- 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.)
- Conduit Sizing: See Section 6 - Underground Construction (Pg. 33).
- 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.

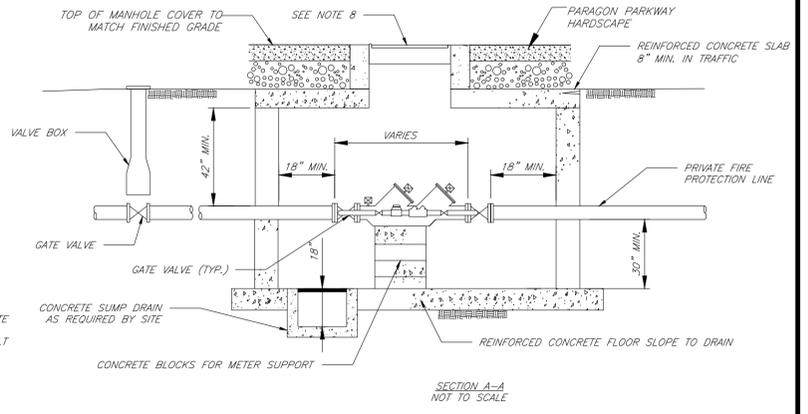
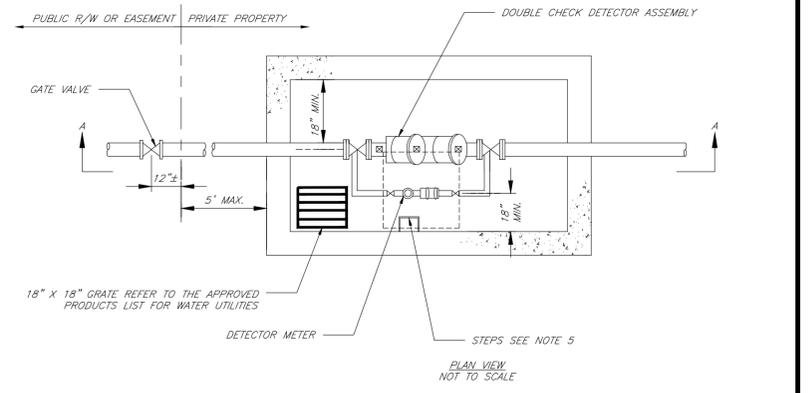
**EVERGY STANDARD TRENCH DETAIL**  
Not to Scale

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



BAR	QUANTITY	LENGTH	SIZE
⓪	6	148" bent	#4
Ⓛ	2	102" straight	#4
Ⓜ	2	75" straight	#4
Ⓝ	9	27" straight	#4

**SWITCHGEAR DETAIL**  
Not to Scale

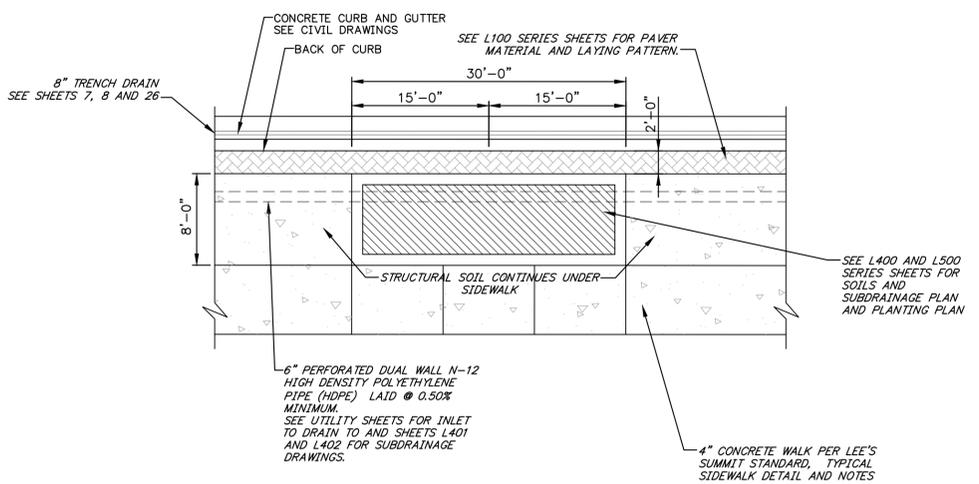


- GENERAL NOTES:
- METER VAULT WALLS TO BE POURED OR PRECAST CONCRETE. METER VAULT ROOF TO BE REINFORCED CONCRETE WITH OPENING CENTERED OVER DETECTOR METER. REINFORCED WALLS AND SLABS ARE TO BE DESIGNED BY THE OWNER'S ENGINEER OR PRECAST ENGINEER.
  - METER VAULT TO BE LOCATED, WHEN POSSIBLE, OUTSIDE 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.

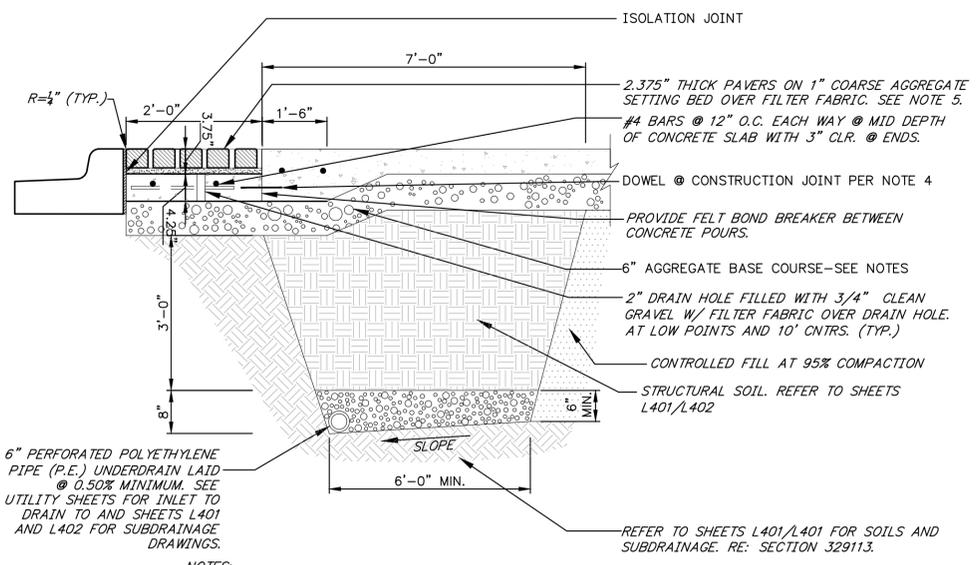
**WATER METER VAULT DETAIL**  
Not to Scale

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 Tuesday January 12, 2021, 10:54am  
 Paragon Parkway | 24 Streetscape Details  
 Layout: 24 Streetscape Details  
 G:\12720\Civil\3D Production Drawings\Street & Storm Plans\12720027100.dwg  
 12/17/2020  
 PE-2011008651  
 REGISTERED PROFESSIONAL ENGINEER

	<b>GBA</b> architects engineers 9801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com	DATE: 12-18-2020 DESIGN BY: DJM DRAWN BY: CMN PROJECT NO.: 12720 SHEET NO.: 24 TOTAL SHEETS: 68																			
	Street and Storm Sewer Plans <b>Paragon Parkway</b> Lee's Summit, Missouri																				
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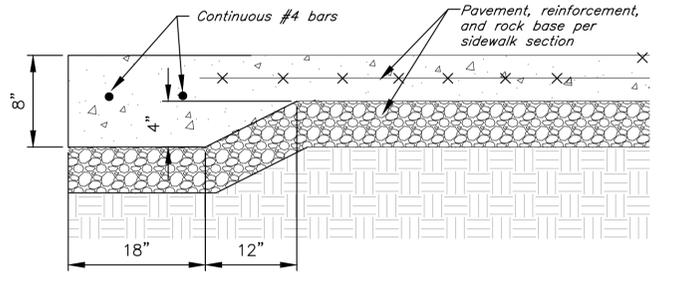


**RAISED PLANTER PLAN**  
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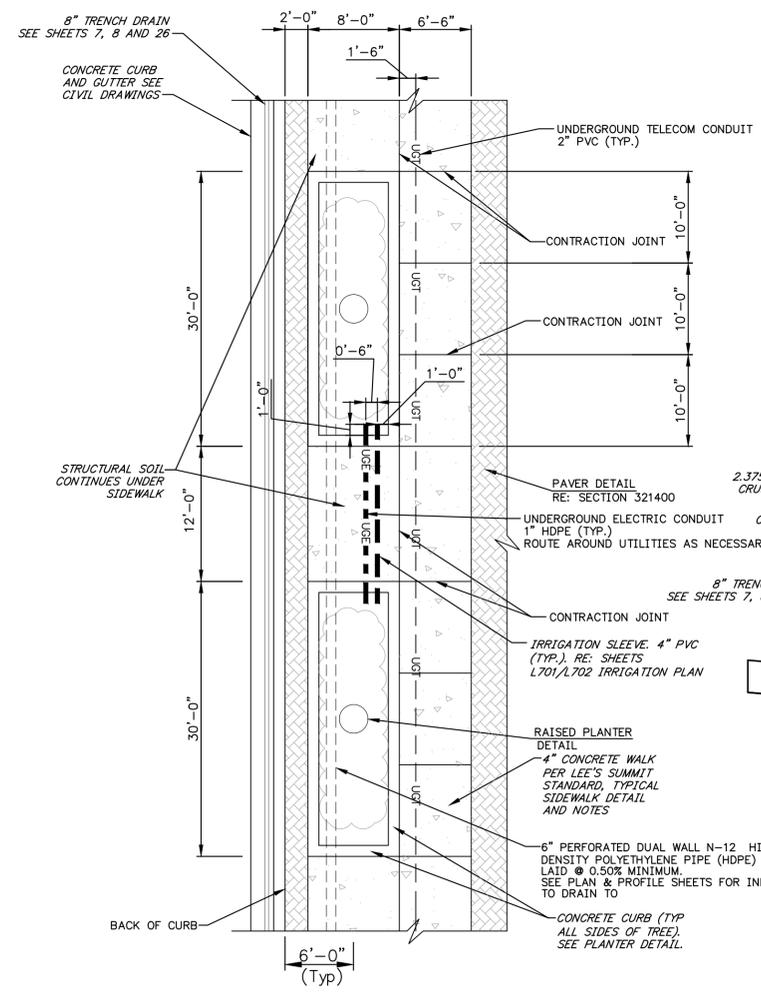


- NOTES:**
1. ALL CONCRETE SHALL BE KCMMB-4K.
  2. LEE'S SUMMIT STANDARD TYPE 1 JOINTS SHALL BE PLACED AS SHOWN ON PLANS.
  3. AGGREGATE BASE COURSE SHALL BE 97% COMPACTED AB-3 OR LIMESTONE SCREENINGS WITH A WATER CONTENT BETWEEN -2 AND +1 PERCENTAGE POINTS OF THE OPTIMUM WATER CONTENT.
  4. AT CONSTRUCTION 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.

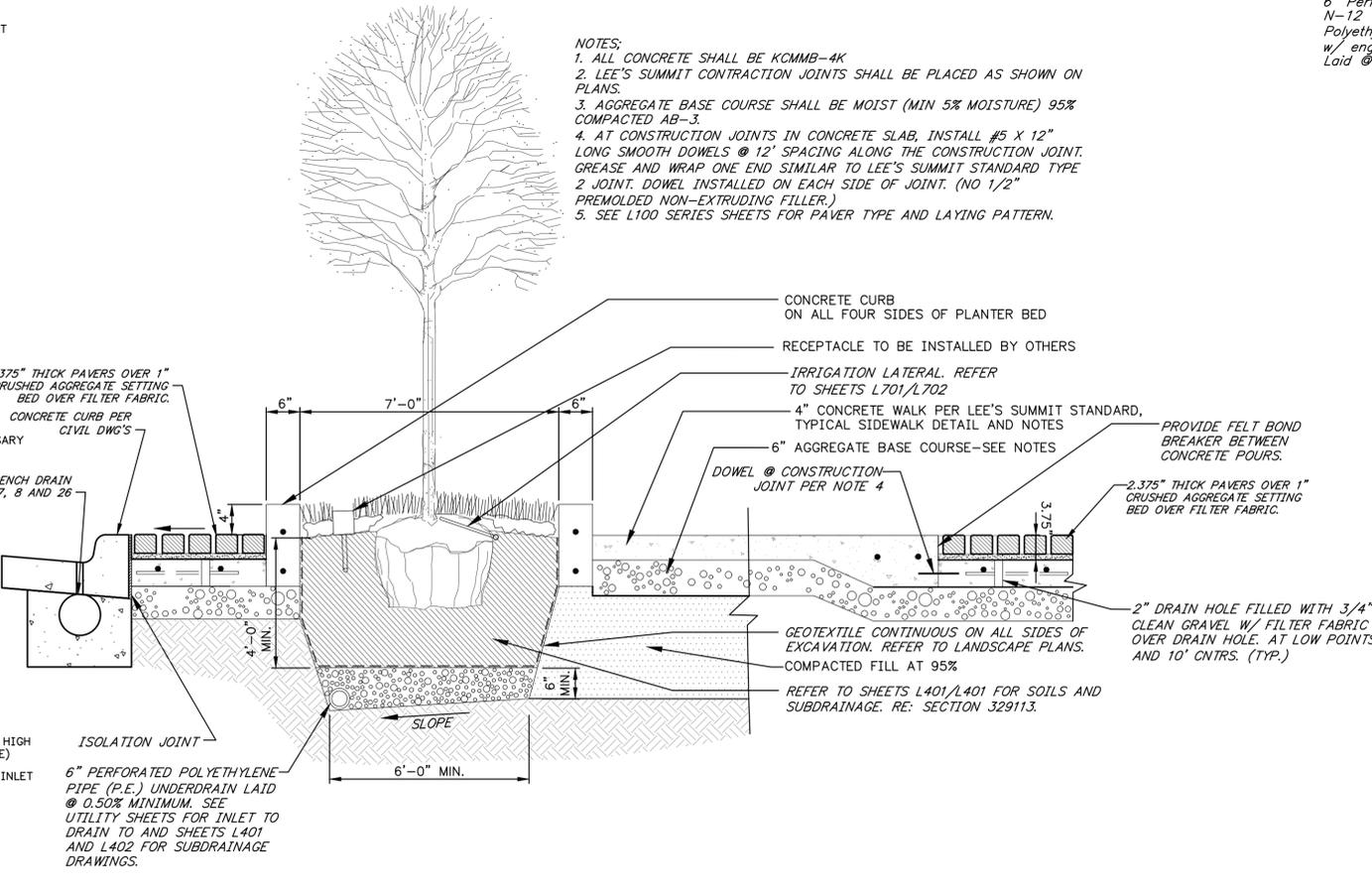
**AMENITY ZONE PAVER DETAIL**  
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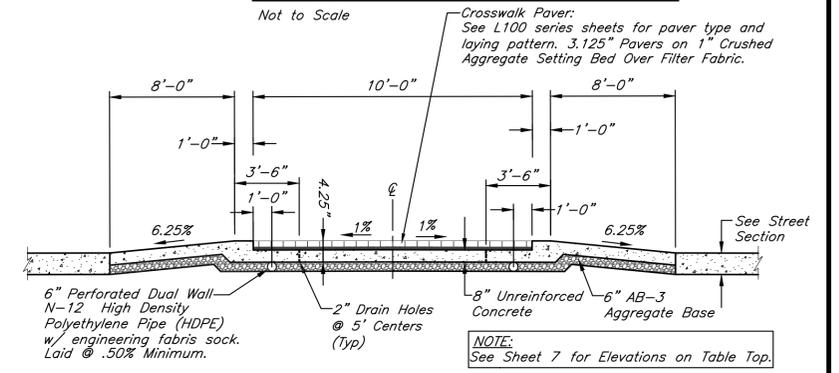
**THICKENED EDGE DETAIL**  
Not to Scale



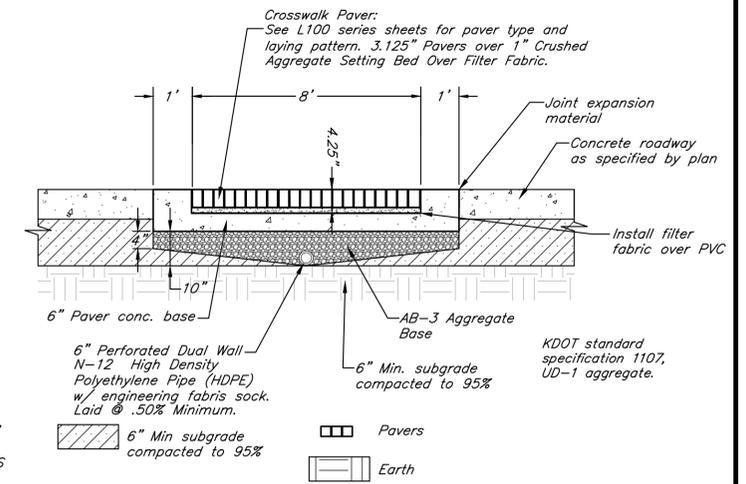
**TYPICAL SIDEWALK LAYOUT**  
Not to Scale



**TREE PLANTER 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**

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	DATE: 12-18-2020
	DESIGN BY: DJM
	DRAWN BY: CMN
PROJECT NO.: 12720	TOTAL SHEETS: 68
SHEET NO.: 25	

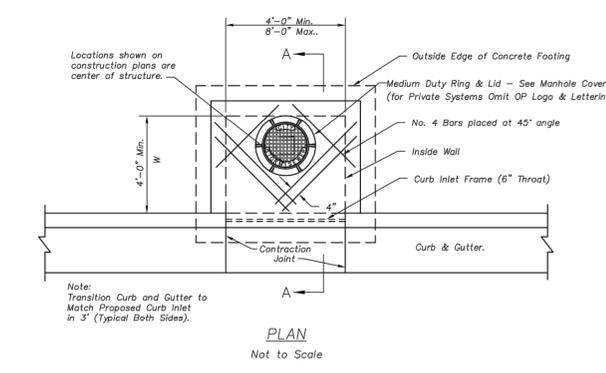
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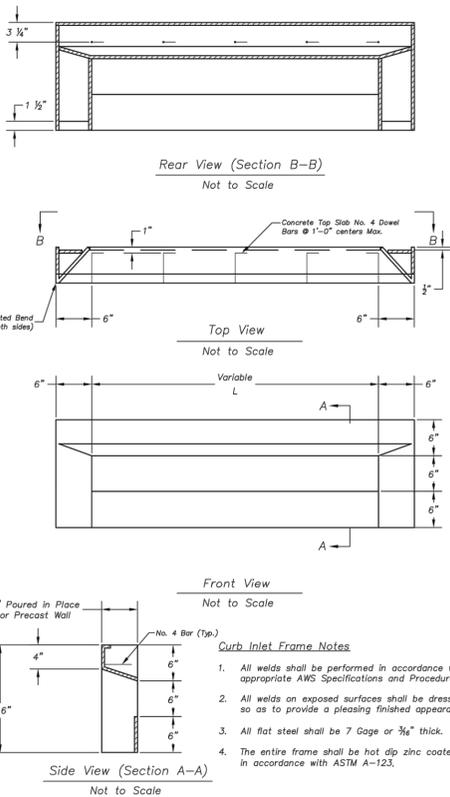
Street and Storm Sewer Plans  
**Paragon Parkway**  
 Lee's Summit, Missouri

NO.	DATE	REVISIONS	BY	APPROVED
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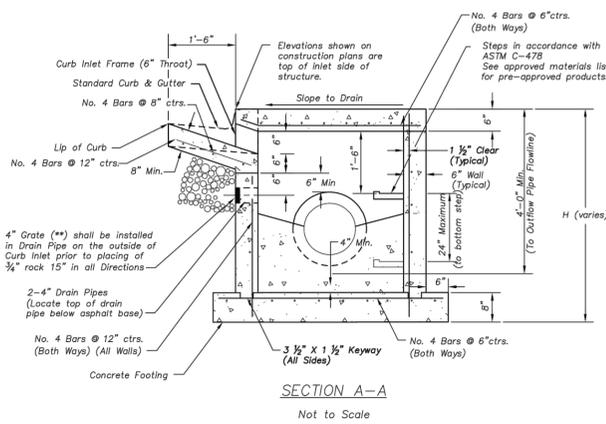


**Non-Setback Curb Inlet Notes**

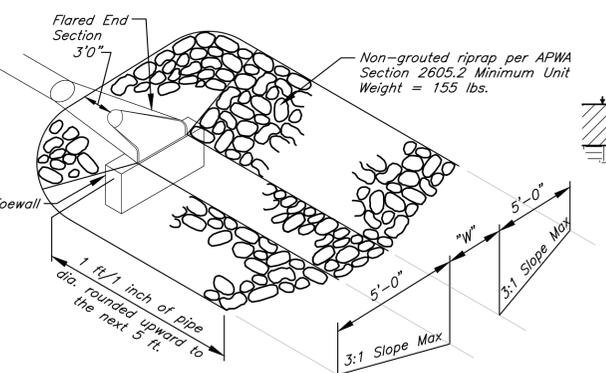
- General**
- City of Lee's Summit Municipal Code, Design Standards, and Specifications are incorporated except as otherwise noted.
  - All storm sewer structures shall be pre-cast or poured in place. If pre-cast structures are used for publicly financed, maintained or administered construction, the top 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" > "W") and ("W" > "L") 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 mauling.
- 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 curbs and inlets shall 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.



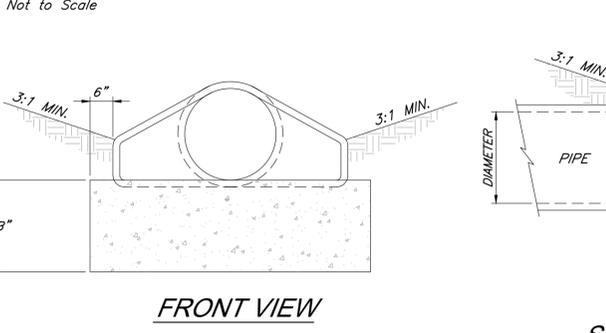
**NON-SETBACK CURB INLET DETAIL**  
 Not to Scale



**NON-SETBACK CURB INLET (6" THROAT)**  
 Not to Scale



**OUTLET EROSION PROTECTION - RIPRAP**  
 Not to Scale

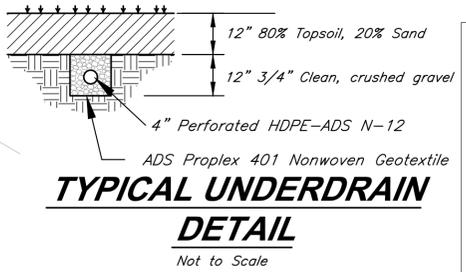


TABLE

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

**END SECTION DETAIL**  
 NOT TO SCALE

- END SECTION NOTES:**
- THE DEPTH OF THE TOE WALL SHALL BE PER TABLE. IF BEDROCK IS ENCOUNTERED A MINIMUM OF 12" INTO BEDROCK IS REQUIRED.
  - ALL CONCRETE SHALL BE KCMMB-4K.

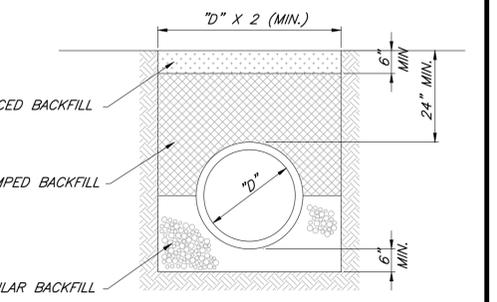


**TYPICAL UNDERDRAIN DETAIL**  
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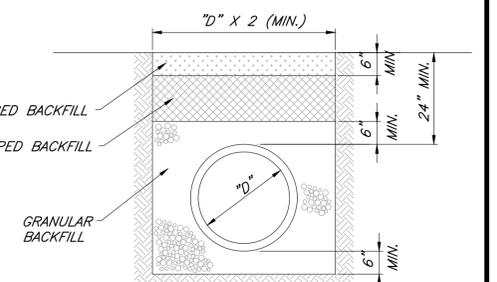
- Underdrain Notes:**
- All roadway excavation in rock will be undercut no less than 12" for the full width of the roadway as shown.
  - In areas where underdrains are not required, underdrain and underdrain aggregate shall be placed in the center of the roadway. All rock and shale shall be brought to within 12" of the subgrade and well compacted. The remaining 6" shall conform to Standard Specifications Section 2202.
  - Layers of earth or shale shall not be permitted for backfill up to the bottom of the crushed stone.
  - A minimum of 12" of select soil (topsoil) shall be placed on exposed rock or 18" slope outside the limits of the drainage. All rock and shale slopes shall be benched at maximum 2:1 vertical intervals prior to placement of select soil.
  - Proposed underdrain pipe layout, location, elevations, joint connection points, and details shall be approved prior to construction by the City Engineer.
  - Where pipe underdrains are used, all underdrain outlet pipes shall be tied into the nearest storm sewer. All outlet pipes shall be tied into the storm sewer. All outlet pipes shall be tied into the storm sewer. All outlet pipes shall be tied into the storm sewer.
  - All underdrain pipes shall be installed at a minimum slope of 1%.
  - Blanket underdrains shall be placed on bedrock unless otherwise directed by the City Engineer. Underdrain and overdrain aggregate and stone shall be brought to within 12" of the subgrade and well compacted. The remaining 6" shall conform to Standard Specifications Section 2202.
  - All filter fabric used for pipe underdrain construction shall conform to Standard Specifications Section 2202.6.
  - The Contractor may, at his option, use either pipe underdrain or stone underdrain, but shall not mix underdrain types within any underdrain system.
  - All pipe underdrains shall be tied to the center of the trench by mechanical means while placing granular backfill. See detail B-1. All underdrain methods may be used with prior approval by the City Engineer.
  - Blanket underdrain aggregate, pipe underdrain aggregate, pipe underdrain edge underdrain and stone pipe shall conform to Standard Specifications Section 2202.6.

AMERICAN PUBLIC WORKS ASSOCIATION  
**APWA**  
 UNDERDRAIN DETAILS

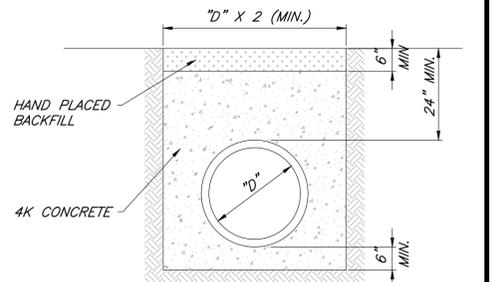
KANSAS CITY  
 METROPOLITAN CHAPTER  
 STANDARD DRAWING  
 D-1  
 ADOPTED:  
 MAY 23, 2001



**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 CONTRACTORS EXPENSE.

**PIPE BEDDING DETAILS**  
 Not to Scale

**Storm Sewer Details**

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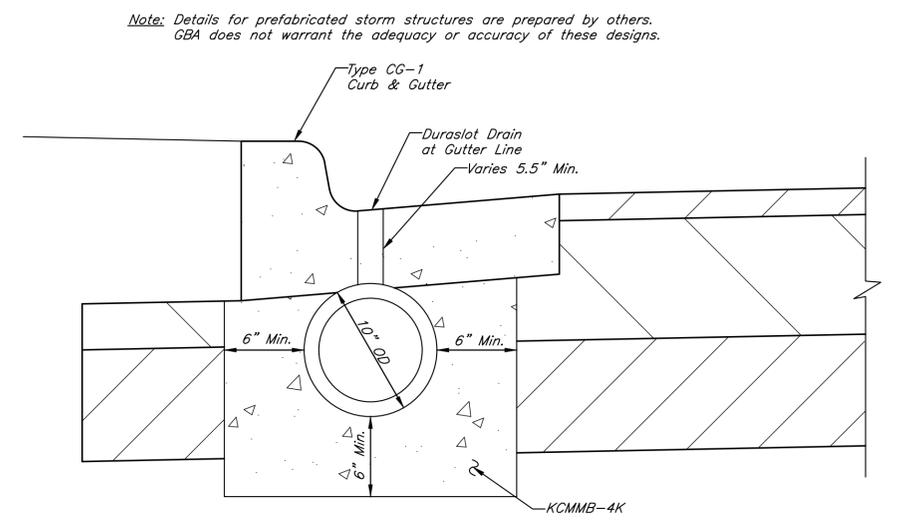
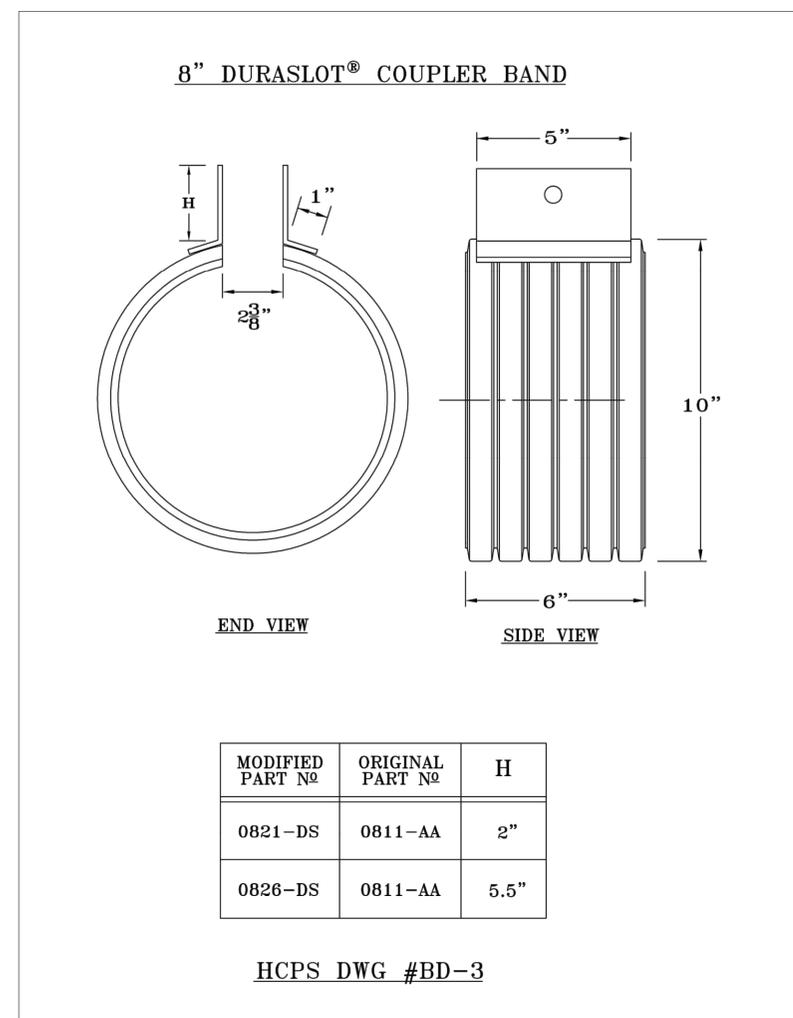
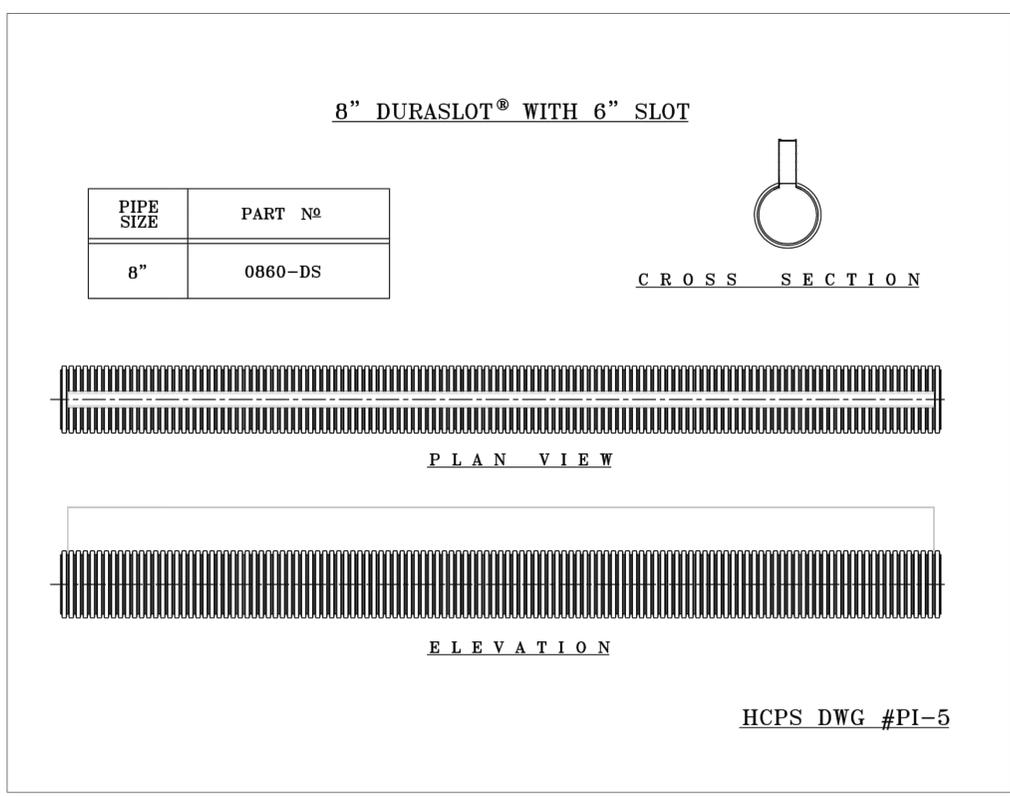
DATE: 12-18-2020  
DESIGN BY: DJM  
DRAWN BY: CMN  
PROJECT NO.: 12720

SHEET NO.	TOTAL SHEETS
26	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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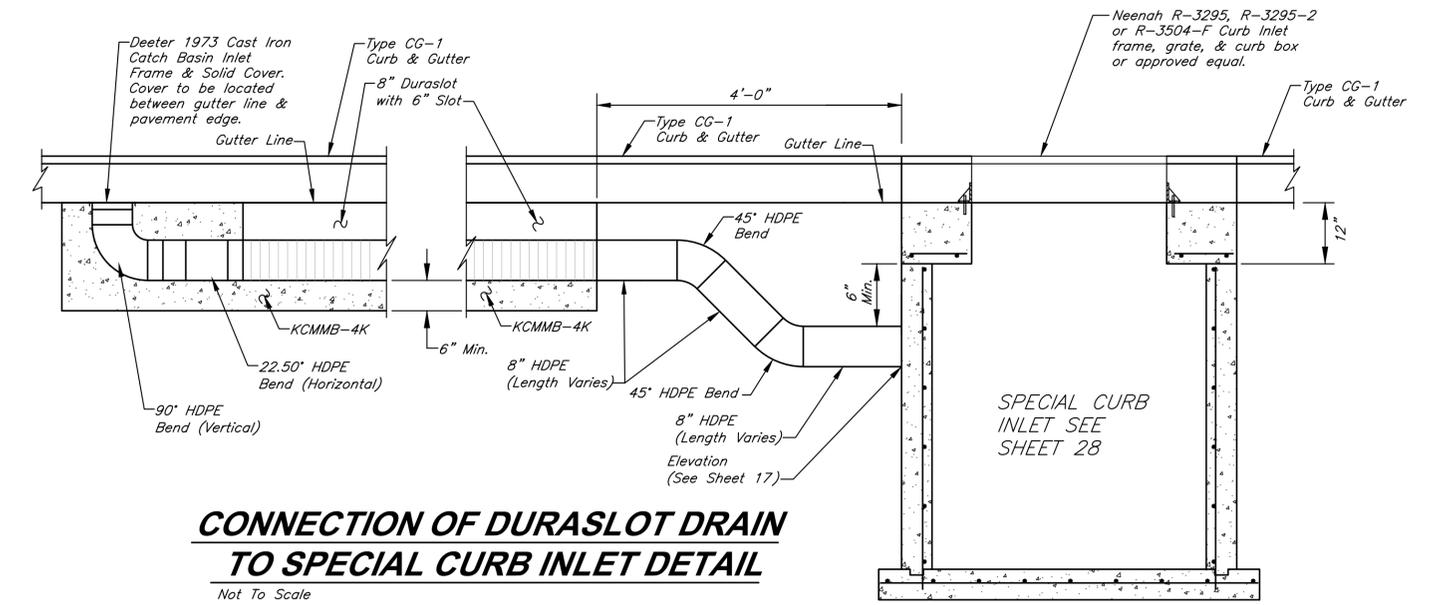


**DURASLOT INSTALLATION DETAIL**  
Not To Scale

#### DURASLOT® Variable Height Slot Table

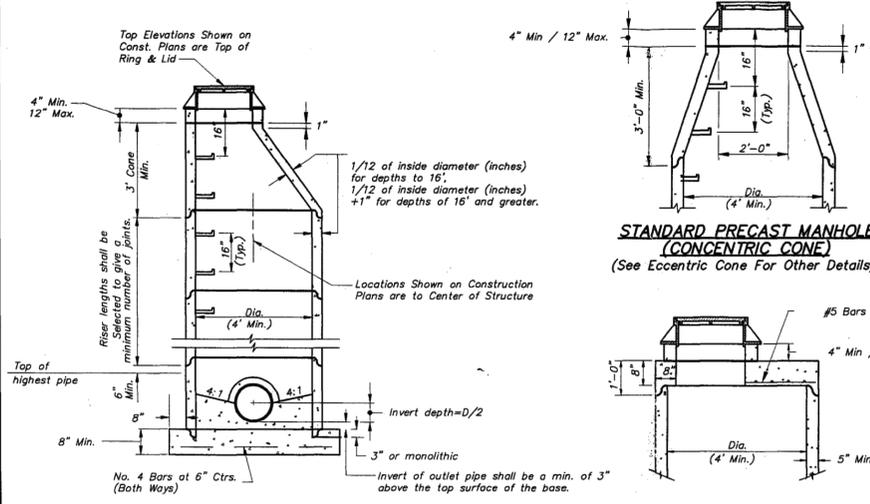
DURASLOT Number	H <sub>1</sub>	H <sub>2</sub>	DURASLOT Number	H <sub>1</sub>	H <sub>2</sub>
(Dia.)* - V1	2 1/2	3 1/8	(Dia.)* - V15	11 1/4	11 7/8
- V2	3 1/8	3 3/4	- V16	11 7/8	12 1/2
- V3	3 3/4	4 3/8	- V17	12 1/2	13 1/8
- V4	4 3/8	5	- V18	13 1/8	13 3/4
- V5	5	5 5/8	- V19	13 3/4	14 3/8
- V6	5 5/8	6 1/4	- V20	14 3/8	15
- V7	6 1/4	6 7/8	- V21	15	15 5/8
- V8	6 7/8	7 1/2	- V22	15 5/8	16 1/4
- V9	7 1/2	8 1/8	- V23	16 1/4	16 7/8
- V10	8 1/8	8 3/4	- V24	16 7/8	17 1/2
- V11	8 3/4	9 3/8	- V25	17 1/2	18 1/8
- V12	9 3/8	10	- V26	18 1/8	18 3/4
- V13	10	10 5/8	- V27	18 3/4	19 3/8
- V14	10 5/8	11 1/4	- V28	19 3/8	20

\* Each piece will have a 3 or 4 digit number starting with pipe diameter.  
Ex: The first piece in a line of 8" variable height slot = 8 - V1  
The fourth piece in a line of 12" variable height slot = 12 - V4



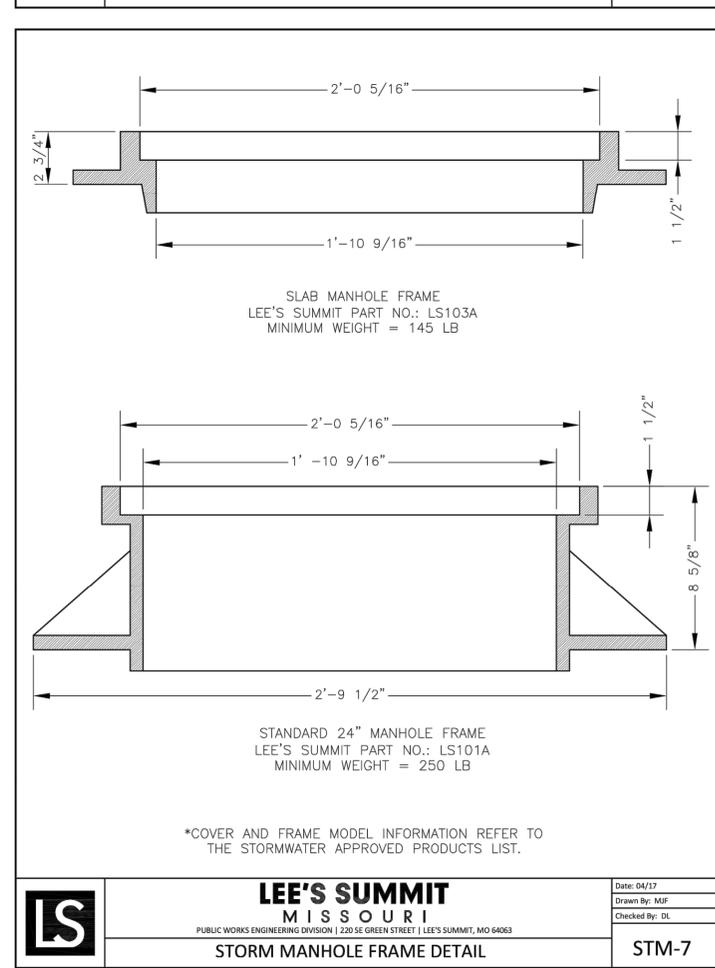
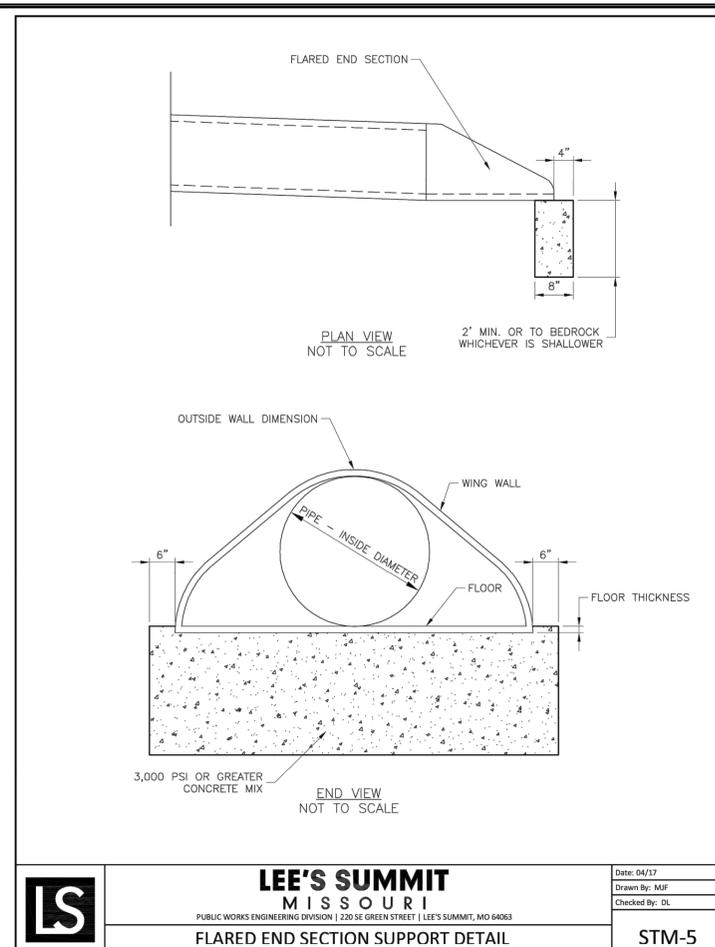
**CONNECTION OF DURASLOT DRAIN TO SPECIAL CURB INLET DETAIL**  
Not To Scale

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- 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 a 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 placed 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 2600.

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

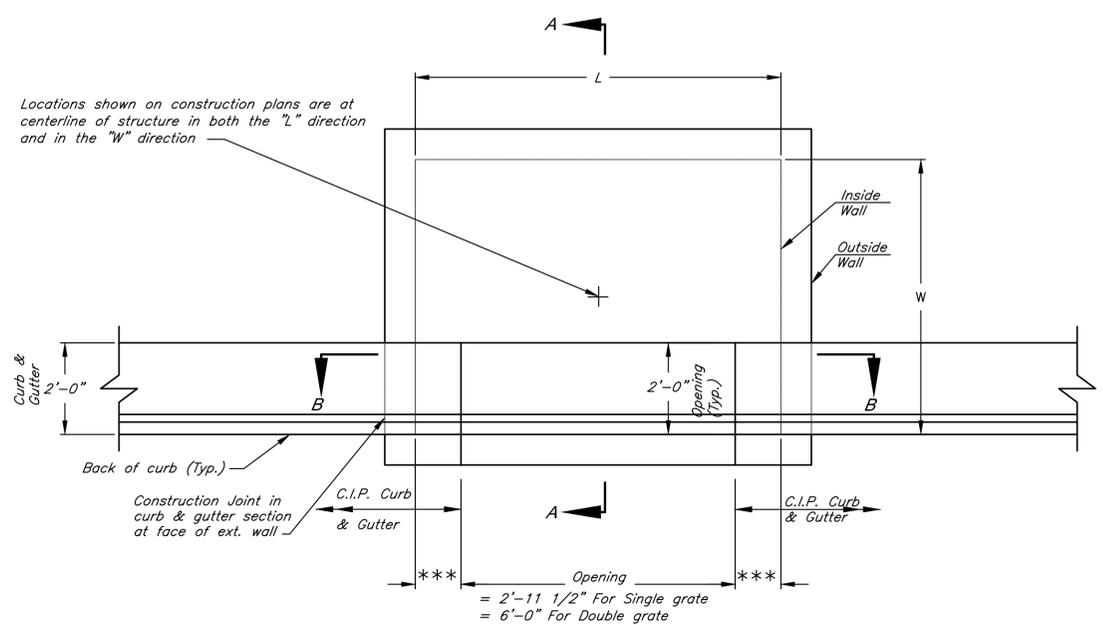


	DATE: 12-18-2020
	DESIGN BY: DJM
	DRAWN BY: CMN
	PROJECT NO.: 12720
	SHEET NO. 27
	TOTAL SHEETS 68
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Street and Storm Sewer Plans <b>Paragon Parkway</b> Lee's Summit, Missouri	
REVISIONS BY APPROVED	
NO.	DATE
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12/18/20	Issued for Bid
1/12/21	City Comments

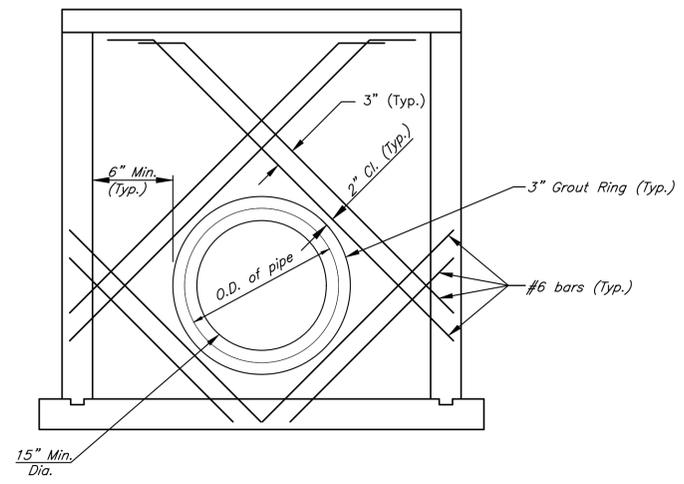
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	<b>GBA</b> architects engineers		DATE: 12-18-2020
			DESIGN BY: DJM
			DRAWN BY: CMN
		PROJECT NO.: 12720	
		SHEET NO.: 28	TOTAL SHEETS: 68
		9801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com	

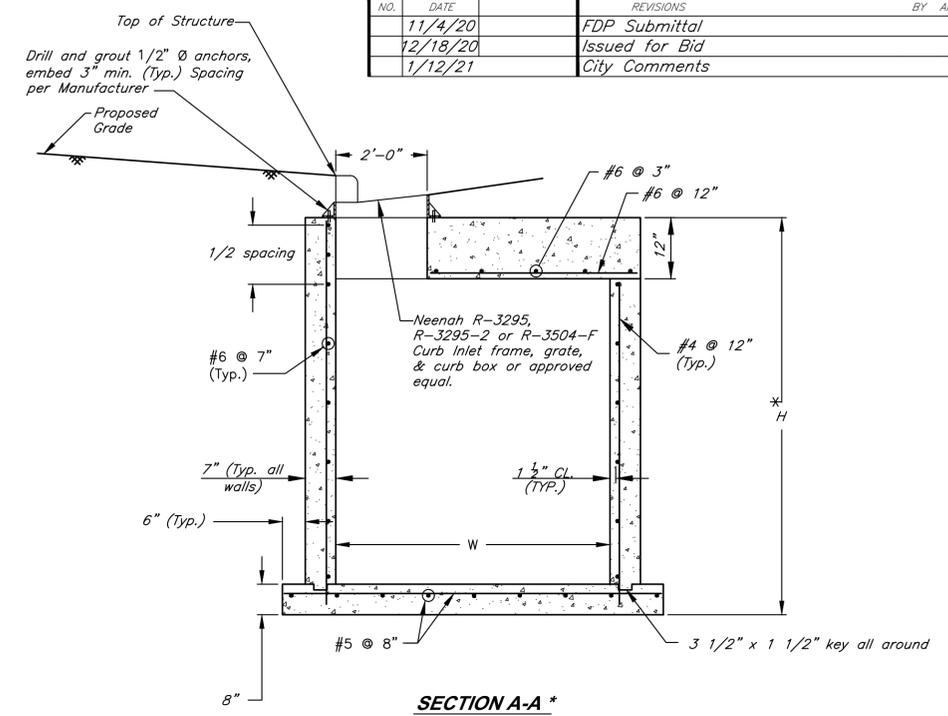
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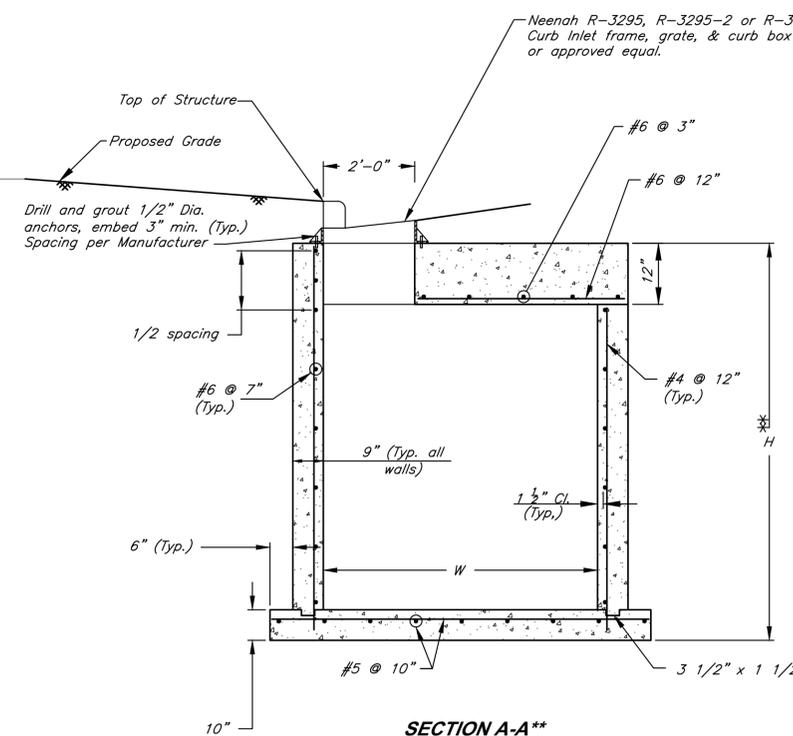
**PLAN**  
 \*\*\* Center opening in "L" direction  
 Steel grate not shown for clarity



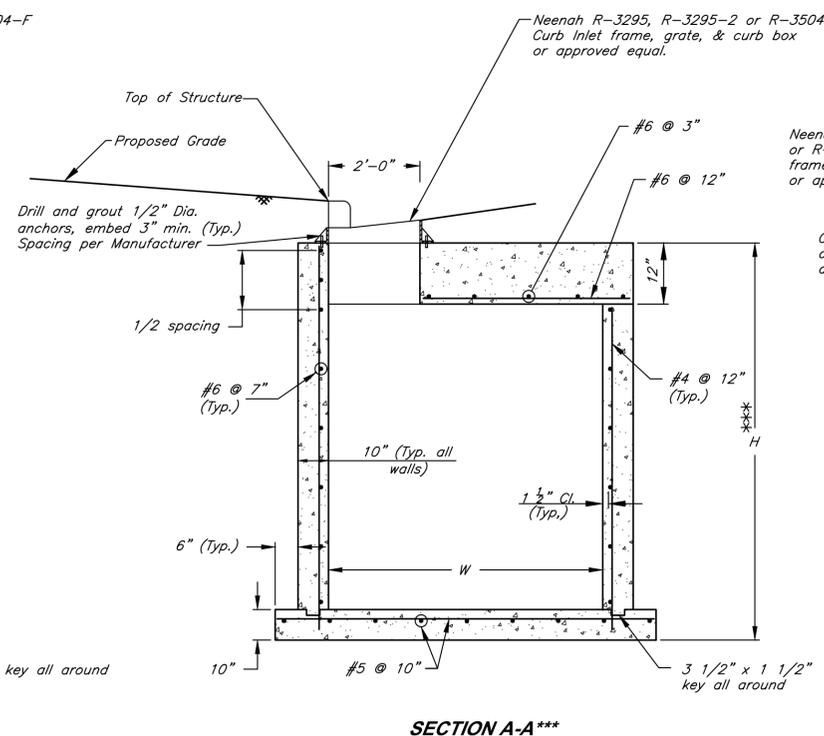
**TYPICAL PIPE PENETRATION**



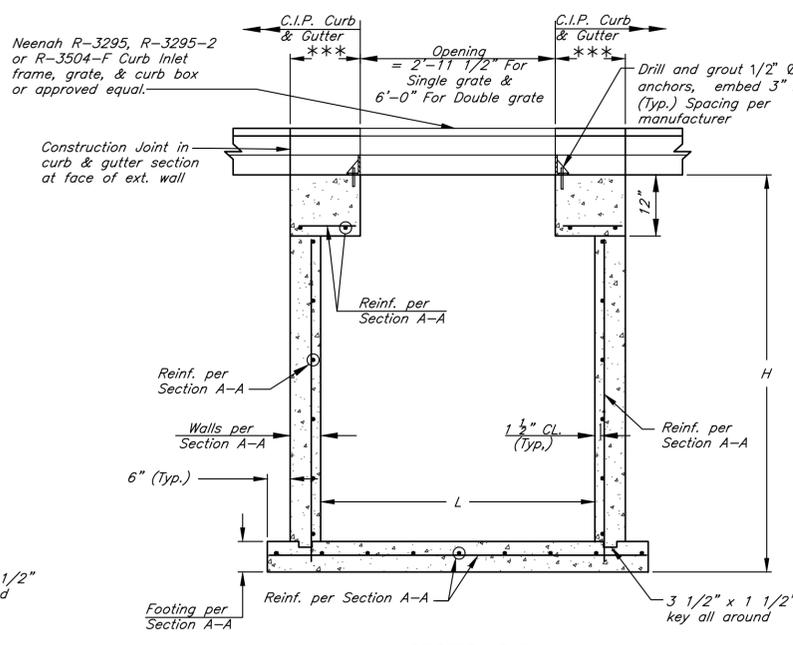
**SECTION A-A\***  
 \* For boxes up to H=12'-0"



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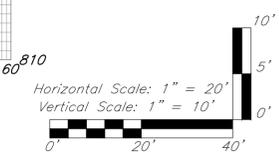
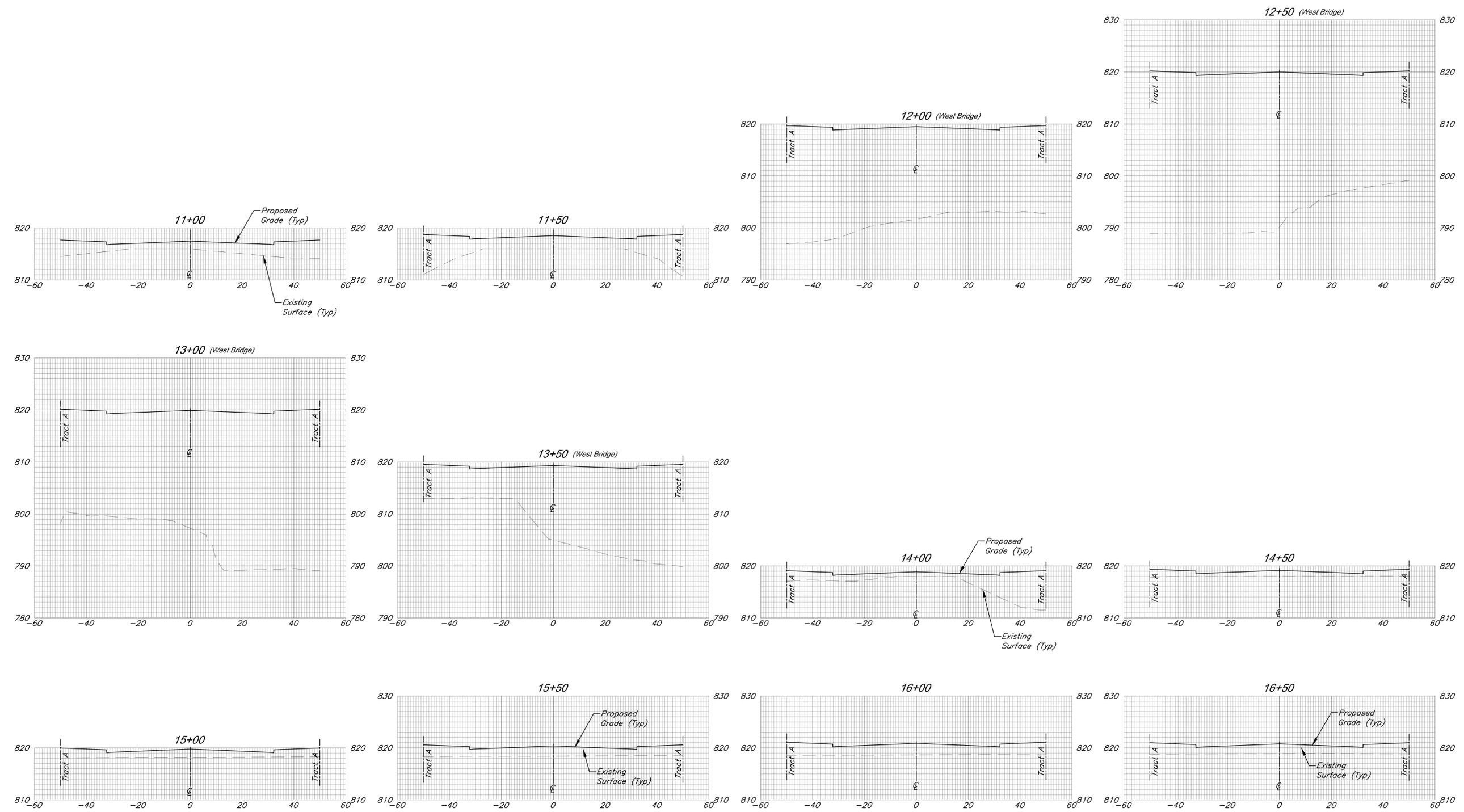
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Professional Engineer  
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Street and Storm Sewer Plans  
**Paragon Parkway**  
Lee's Summit, Missouri

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1/12/21		City Comments		

NO.	DATE	REVISIONS	BY	APPROVED
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**Paragon Pkwy Cross Sections**

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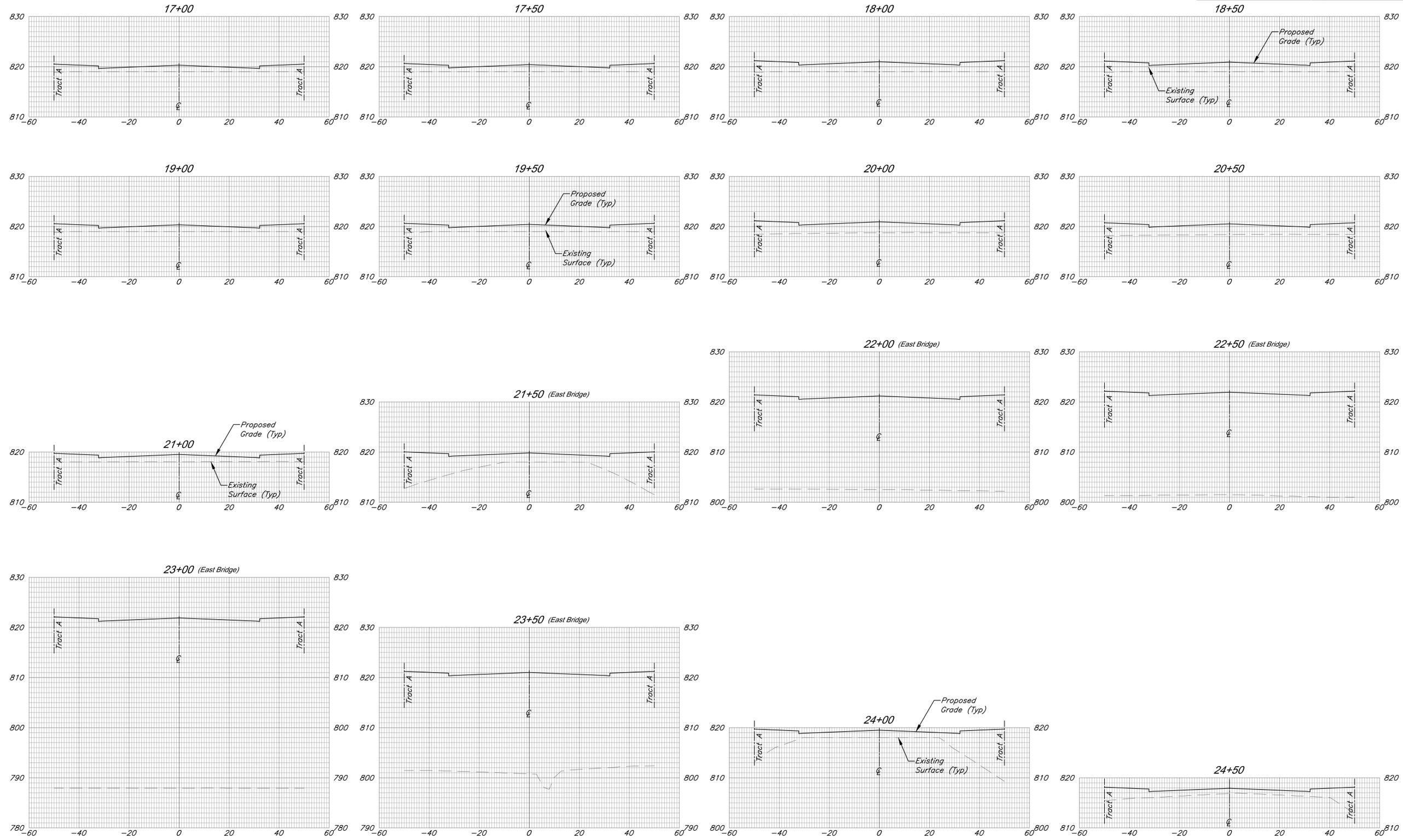
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TOTAL SHEETS:	68

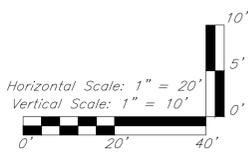
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Professional Engineer  
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**Paragon Pkwy Cross Sections**



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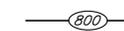
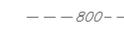
### EROSION & SEDIMENT CONTROL STAGING CHART

Project Stage	BMP Plan Ref. No.	BMP Description	May Remove after Stage	Notes
A. Prior to Mass Grading	1	Const. Entrance & Staging Area	C	See Village Plans for Construction Entrance and Concrete Washout
	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%.

Total Disturbed Area = 3.64 Acres

#### Erosion Control Legend

-  Silt Fence
-  Construction Fence
-  Proposed Contours
-  Existing Contours
-  Limits of Disturbance



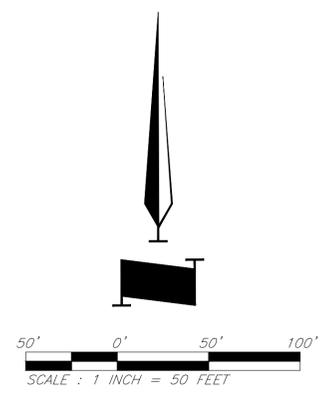
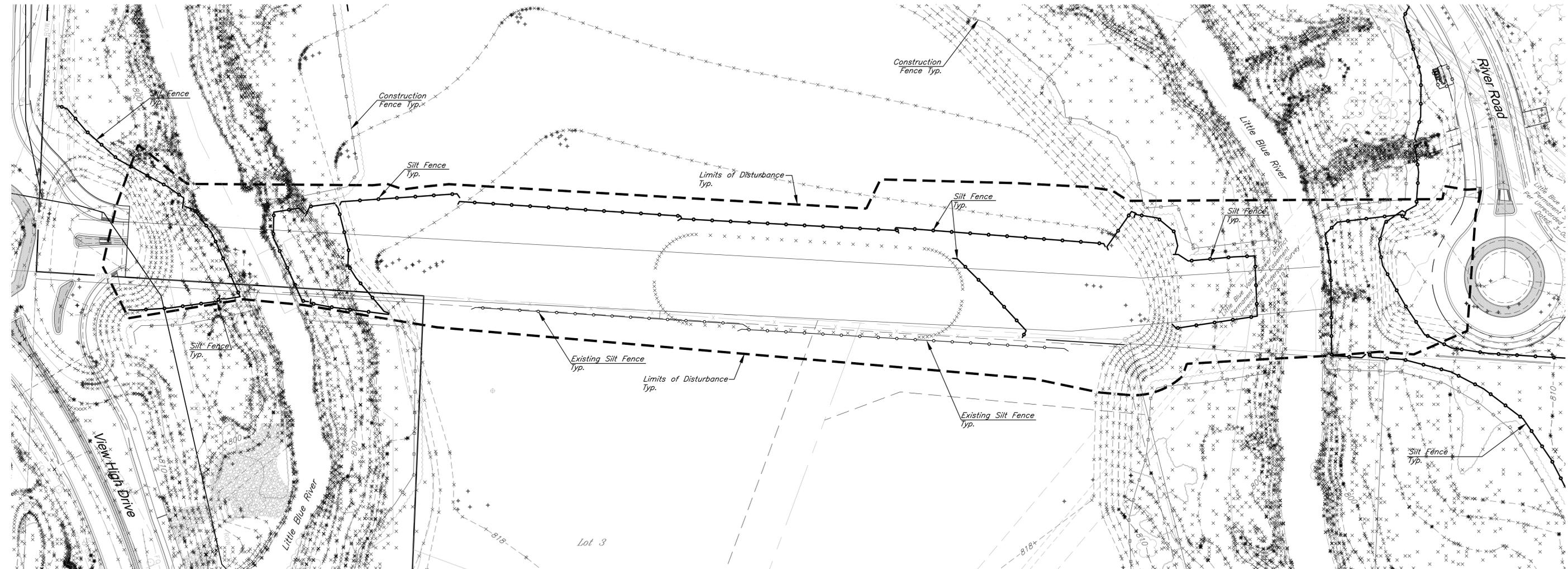
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DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.:	31
TOTAL SHEETS:	68

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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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### Pre-Construction Erosion & Sediment Control Plan-Phase 1

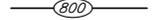
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### EROSION & SEDIMENT CONTROL STAGING CHART

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
-  Proposed Contours
-  Existing Contours
-  Limits of Disturbance
-  Paragon Parkway Construction Line for Paragon Parkway and Paragon Star Village
-  Paragon Star Village Construction Line for Paragon Parkway and Paragon Star Village



CLINT LOUMASTER  
Professional Engineer  
License No. PE2011-009651



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engineers

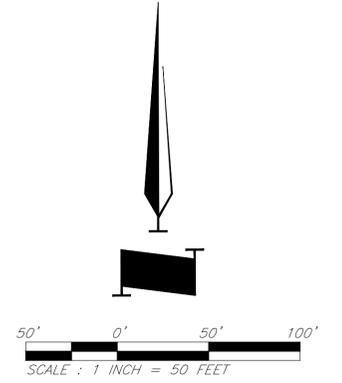
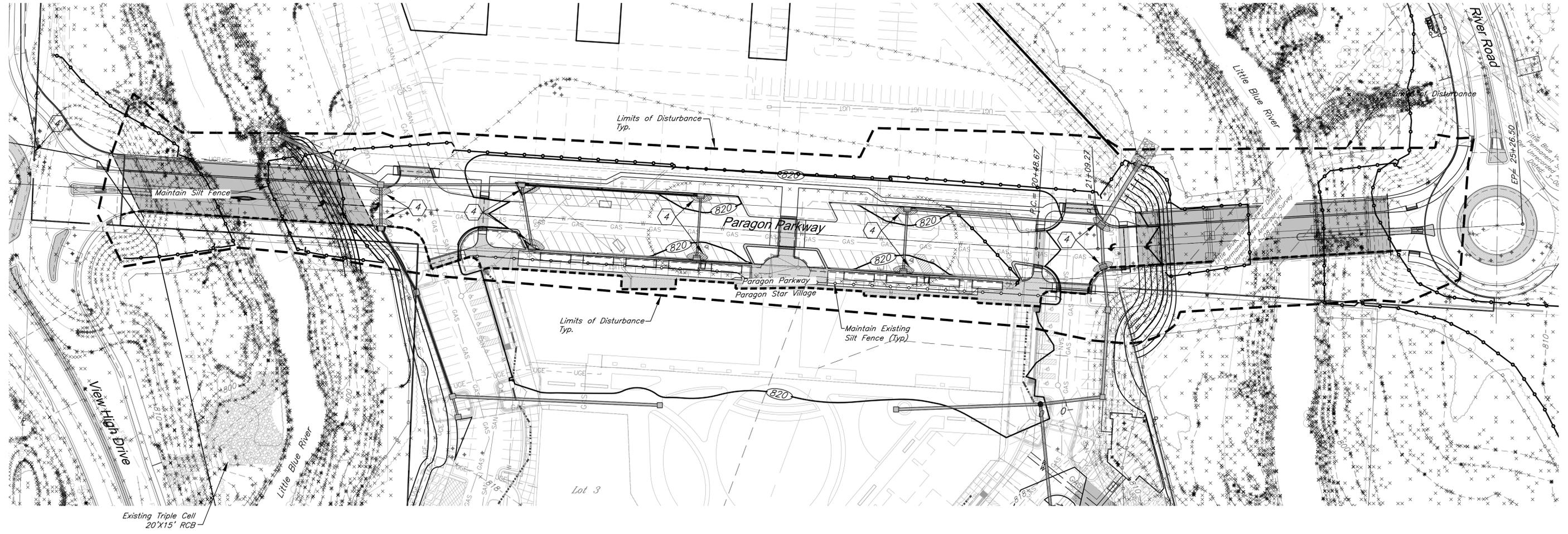
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DESIGN BY: DJM  
DRAWN BY: CMN  
PROJECT NO.: 12720

SHEET NO.	TOTAL SHEETS
32	68

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

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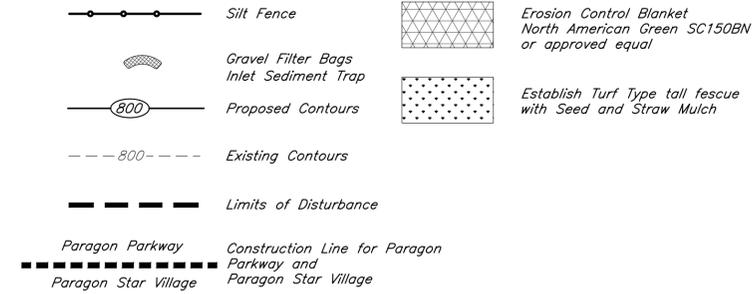
### EROSION & SEDIMENT CONTROL STAGING CHART

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	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



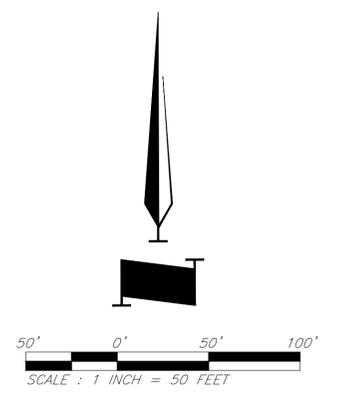
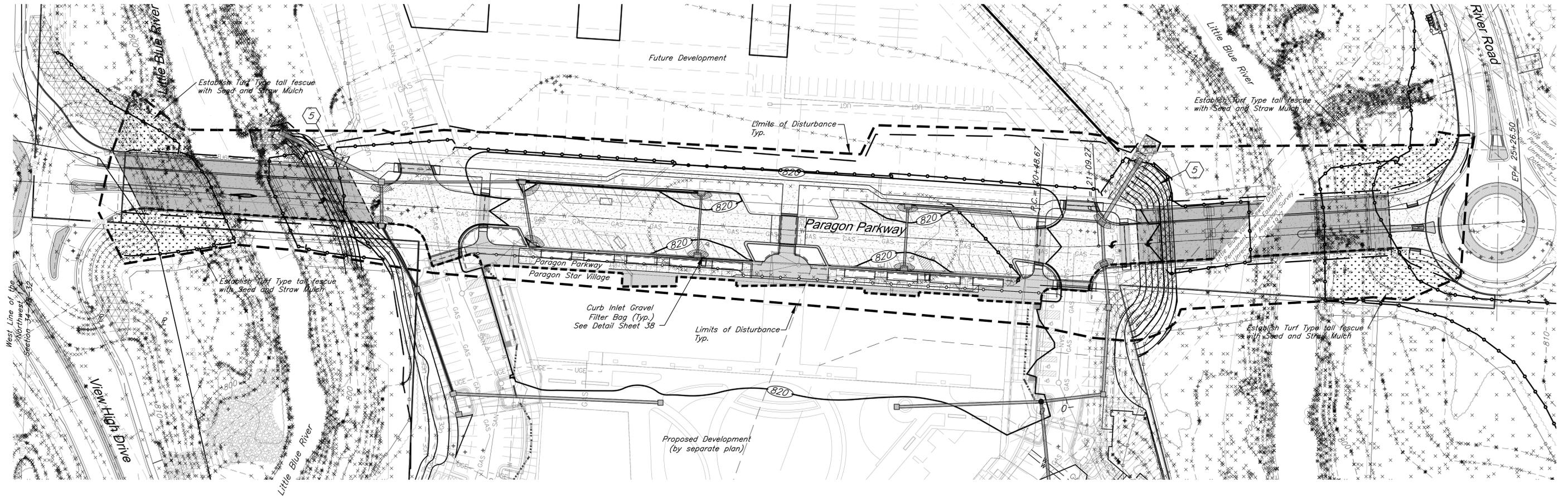
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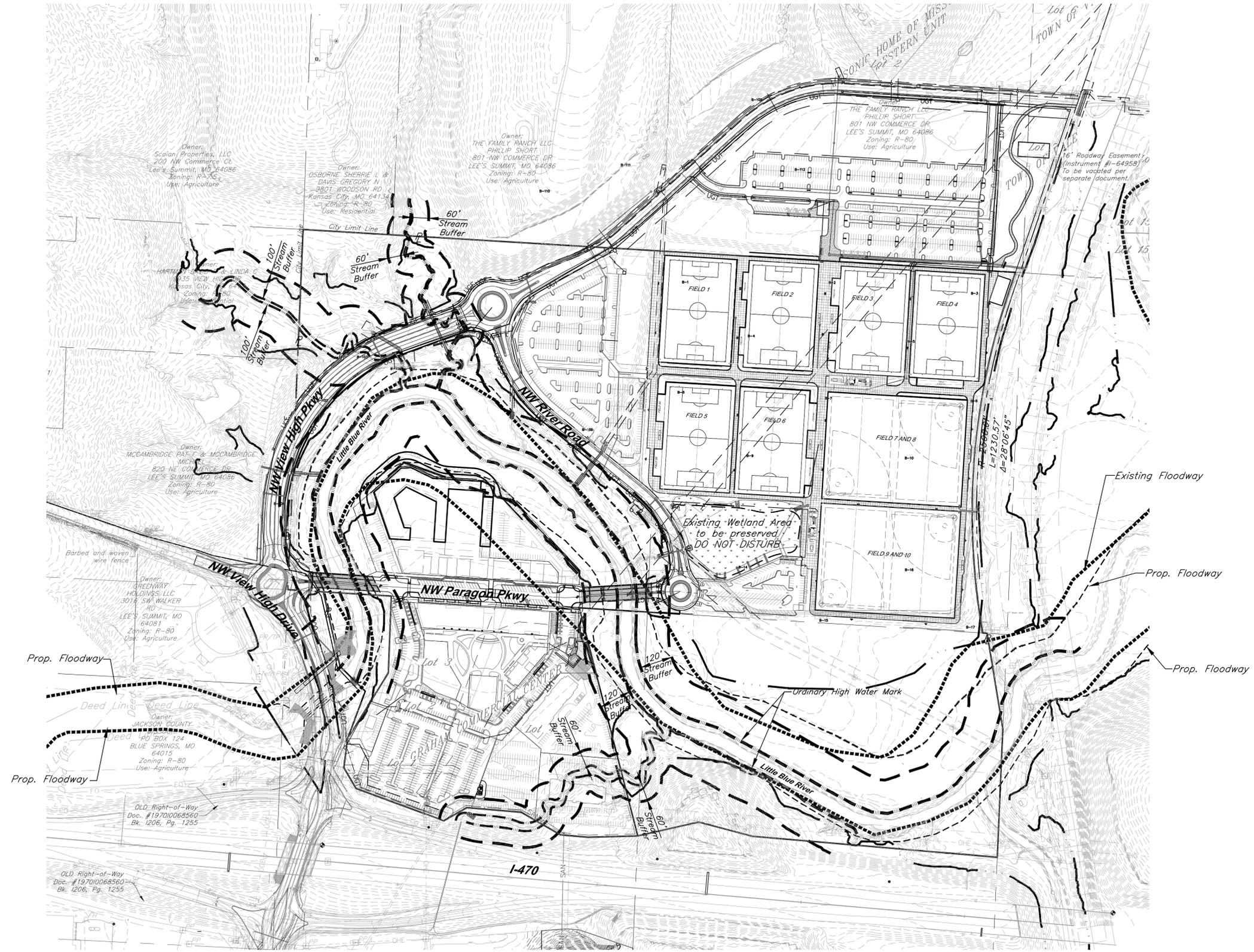
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Lee's Summit, Missouri

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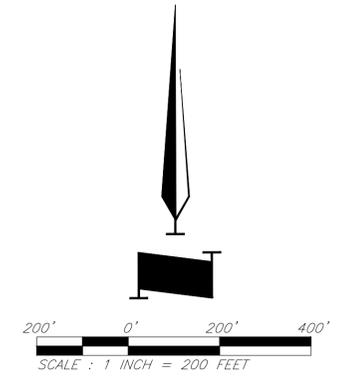
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**Legend**

-  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 rye 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.

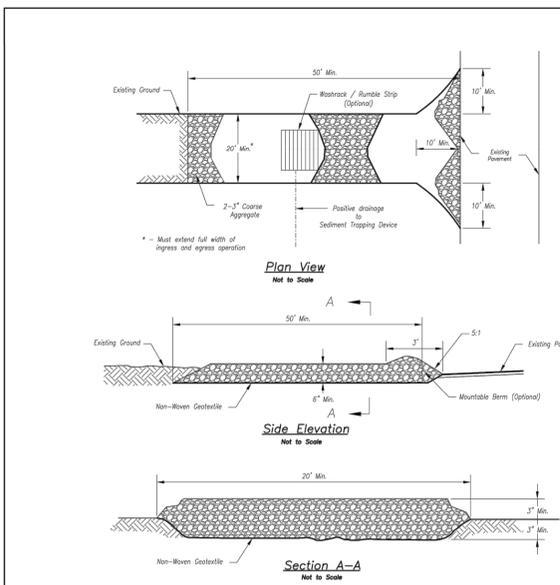
## EROSION CONTROL GENERAL NOTES

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.

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		SHEET NO.: <b>35</b> TOTAL SHEETS: <b>68</b>
	Clint Loumaster Professional Engineer License No. PE2011-009651	Street and Storm Sewer Plans <b>Paragon Parkway</b> Lee's Summit, Missouri
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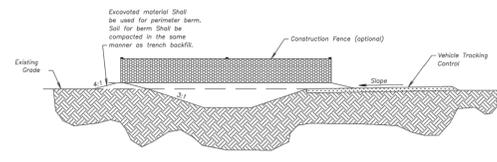


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- Notes for Concrete Washout:**
- Concrete washout areas shall be installed prior to any concrete placement on site.
  - Concrete washout area shall include a flat subsurface pit sized relative to the amount of concrete to be placed on site. The slope of the subsurface pit shall be 2:1. The entire washout area shall be sloped towards the concrete washout area.
  - Vehicle tracking control is required at the access point to all concrete washout areas.
  - 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 pumps.
  - A one-way impervious flow may be required along the bottom and sides of the subsurface pit in sandy or gravelly soils.

- Maintenance for Concrete Washout:**
- Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
  - Concrete washout areas shall be enlarged as necessary to maintain capacity for washed concrete.
  - 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.
  - Concrete washout areas shall remain in place until all concrete for the project is placed.
  - 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.



- Notes for Construction Entrance:**
- Avoid locating on steep slopes, at curves on public roads, or downhill of disturbed areas.
  - Remove all vegetation and other unsuitable material from the foundation area, grade, and cover for positive drainage.
  - 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 12 feet from the edge of the public road to divert runoff from it.
  - Install pipe under the entrance if needed to maintain drainage ditches along public roads.
  - Place stone to dimensions and grade as shown on plans. Leave surface slopes for drainage.
  - Divert all surface runoff and drainage from the entrance to a sediment control device.
  - If conditions warrant, place geotextile fabric on the graded foundation to improve stability.
- Maintenance for Construction Entrances:**
- Reshape entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.

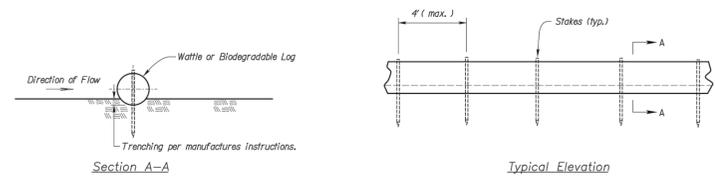
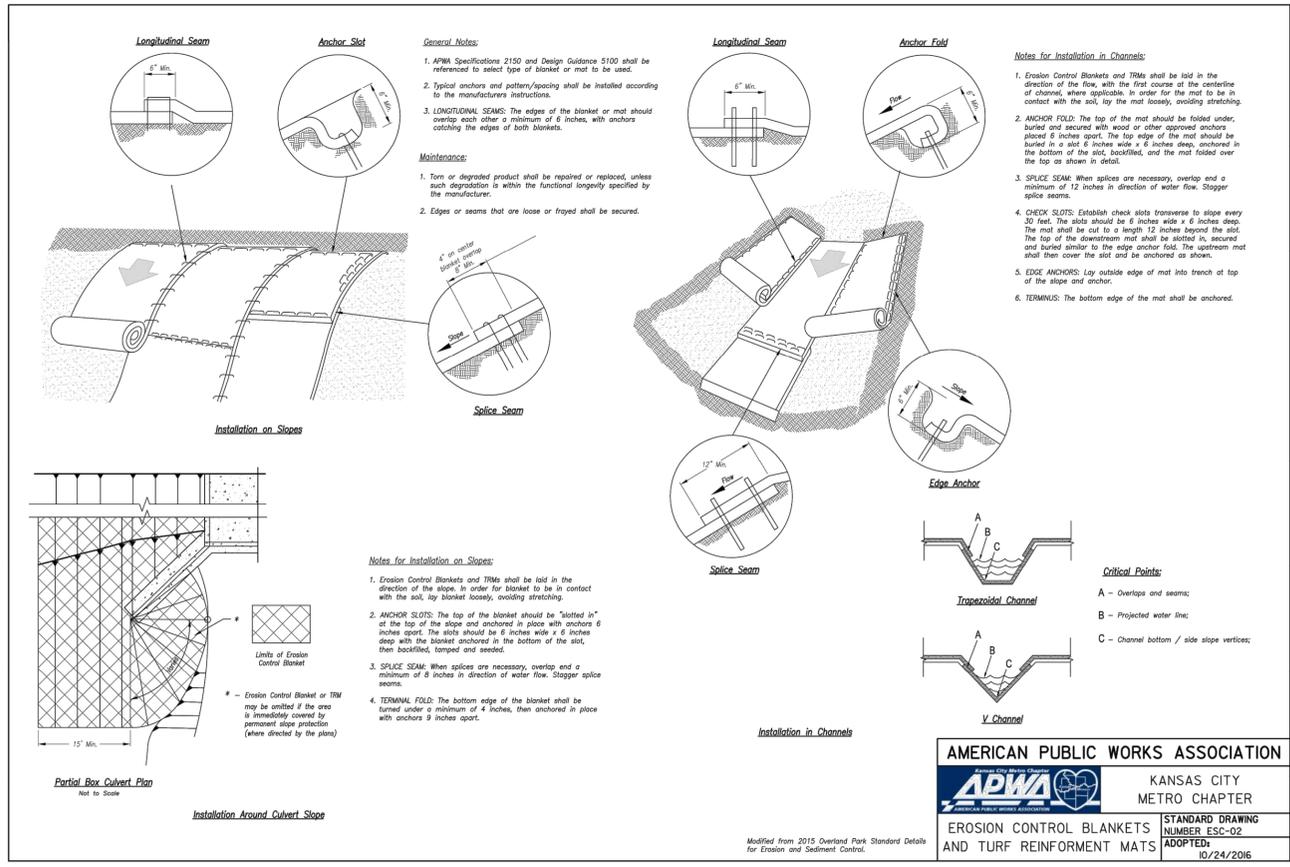
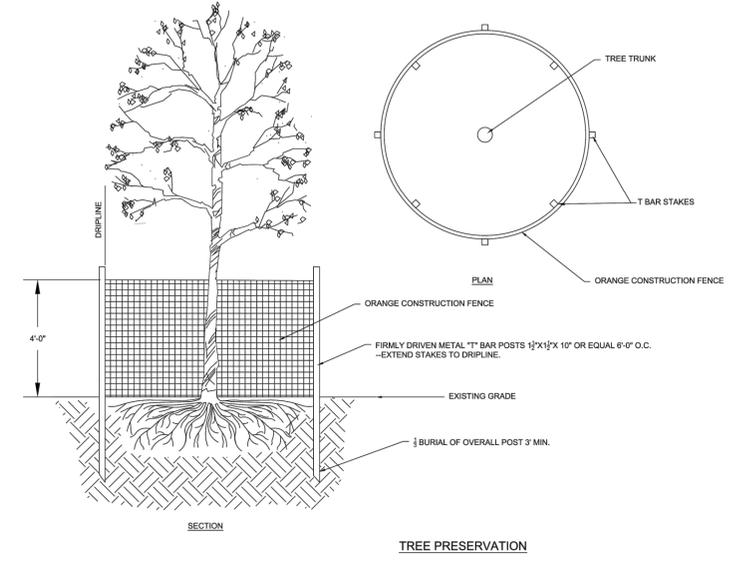
**CONCRETE WASHOUT**

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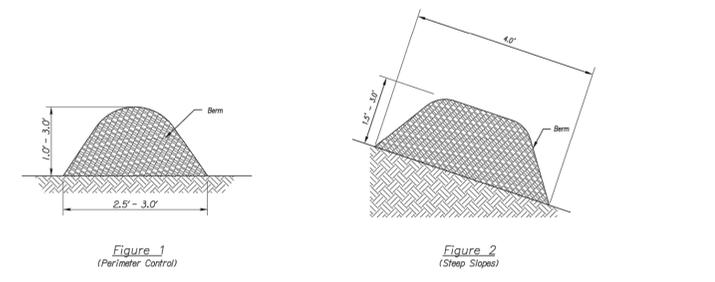
**APWA** KANSAS CITY METRO CHAPTER

**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.



- Notes for Wattles and Biodegradable Log Slope Protection:**
- The Slope barriers shall be placed along contour lines, with a short section turned up grade at each end of the barrier. The maximum length of the slope barrier shall not exceed 250 feet, and the barrier ends need to be staggered.
  - Install wattles and biodegradable logs per manufacturer's instructions.
  - 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 Berms:**
- The sediment control berm shall be placed uncompact in a window of locations shown on the plans or as directed by the engineer.
  - 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 low 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 may be constructed at the top of the slope. Engineer will specify berm requirements.
  - 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.
  - Do not use compost or wood mulch berms in any runoff channels or concentrated flow areas.
  - 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, mulcher, flail grinder or other approved method. Mulch sizing varies with a maximum width of 2" and a maximum length of 10".
- Maintenance for Mulch and Compost Filter Berms:**
- Berm shall be reshaped and material added as necessary to maintain function and dimensions.
  - Breaches in the berm shall be repaired promptly.

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**APWA** 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.

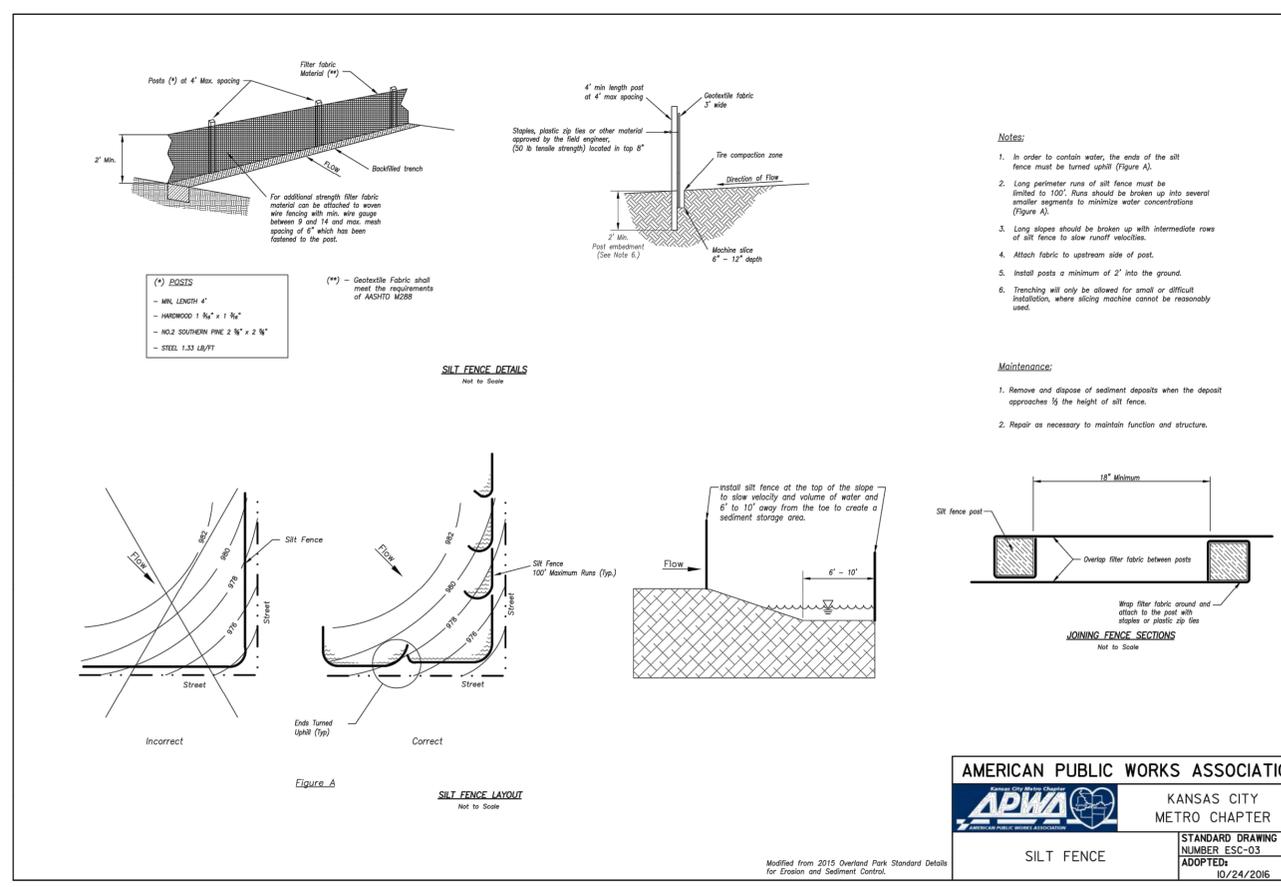
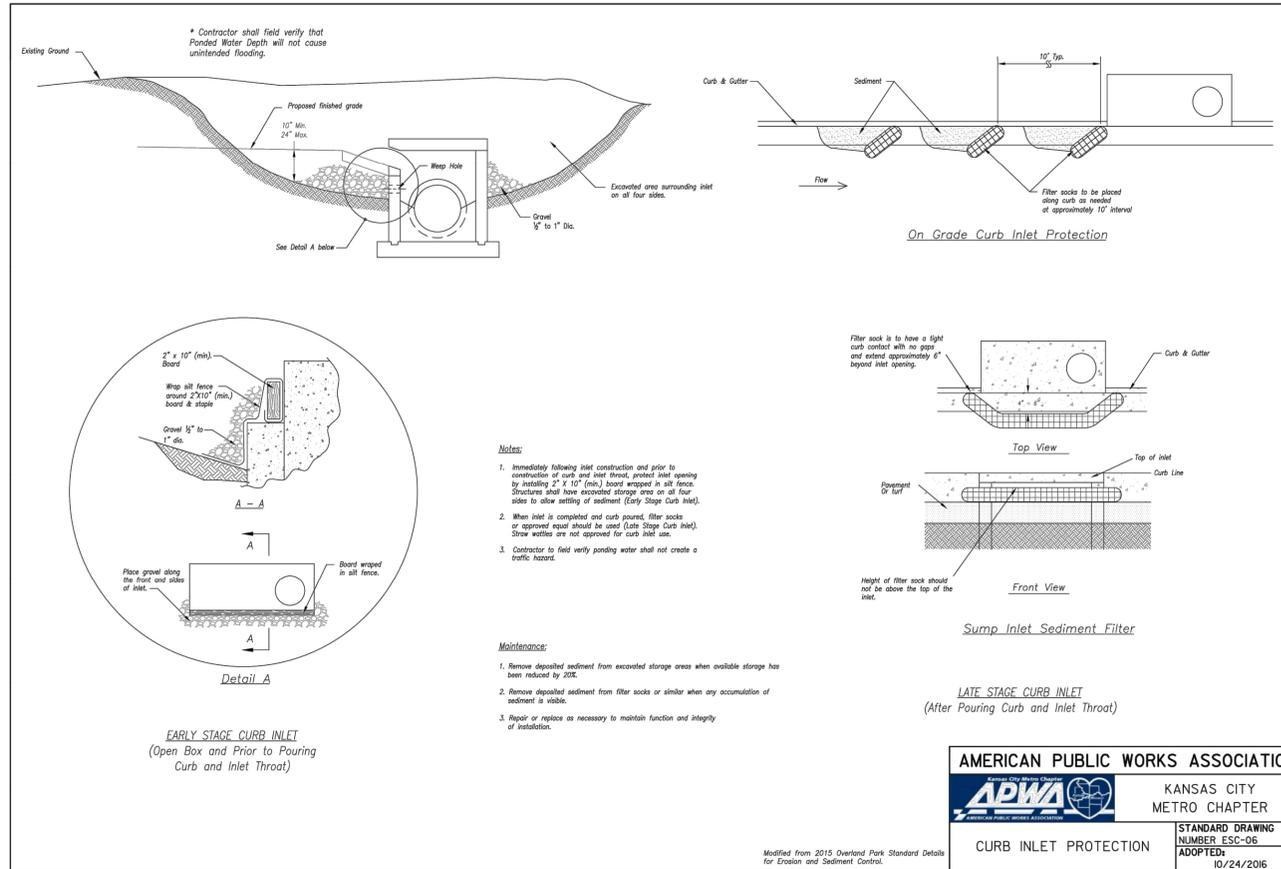
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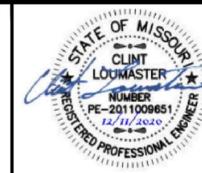
**WATTLES/BIODEGRADABLE LOG AND MULCH/COMPOST FILTER BERM** STANDARD DRAWING NUMBER ESC-04 ADOPTED: 10/24/2016

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

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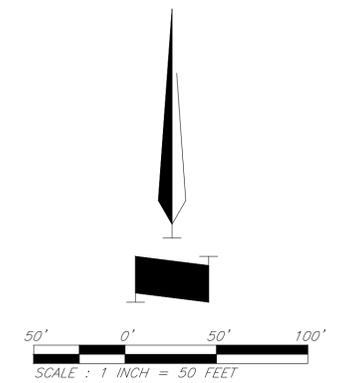
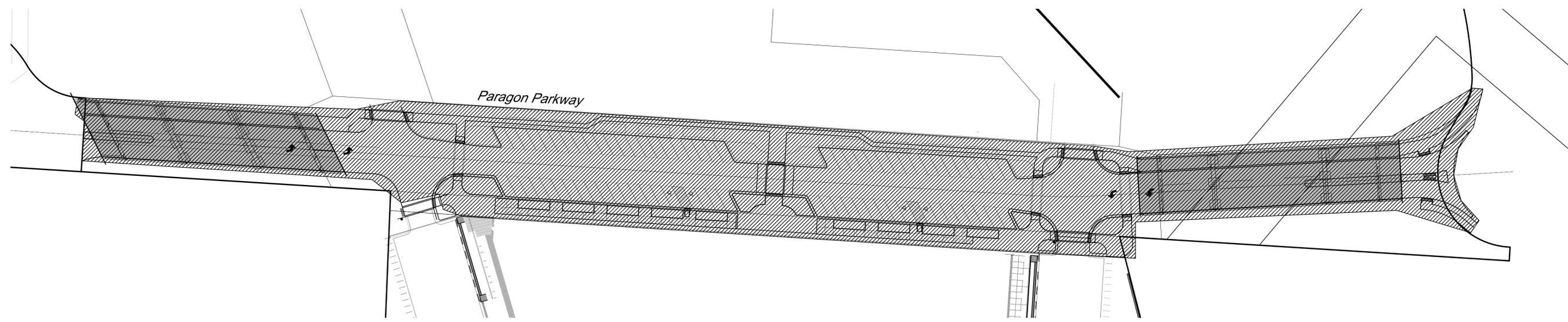
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Street and Storm Sewer Plans  
**Paragon Parkway**  
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 Phase 1 Work Area

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



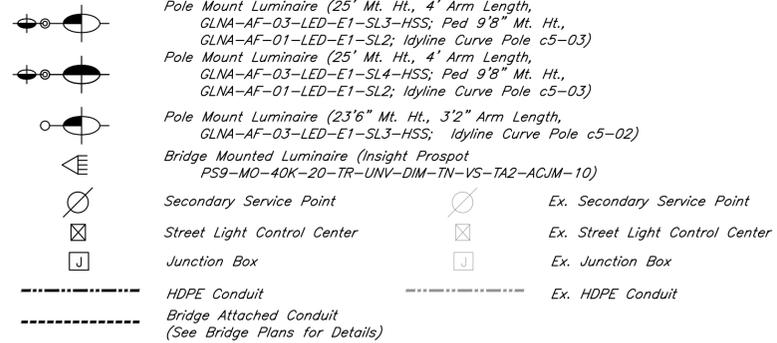
**Construction Sequencing Plan**

Copyright 2021, Christopher Novosel, Professional Engineer, License No. PE-2018024421, Landscape Architect, License No. LA-2018024421, Surveyor, License No. S-000029. Tuesday, January 12, 2021, 11:13am. Layout: 40 Street Lighting Plan.

**STREET LIGHTING NOTES**

- 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.
- All concrete foundations in hardscaped areas shall be at-grade as shown in the standard details.

**LEGEND**



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License No. PE-2018024421

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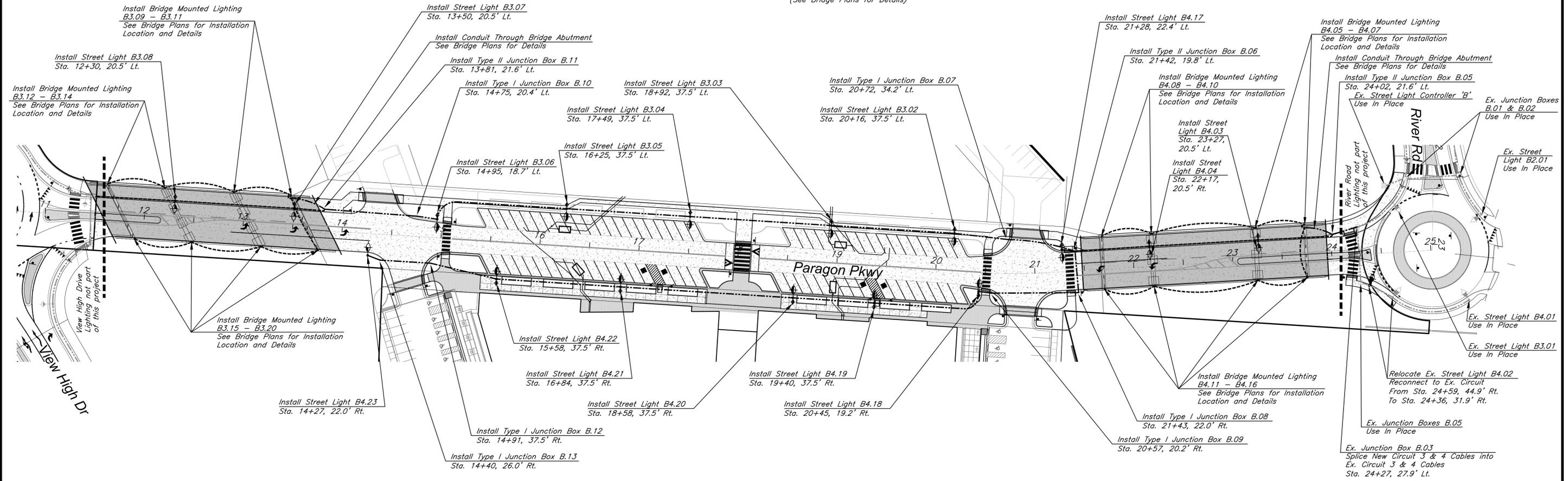
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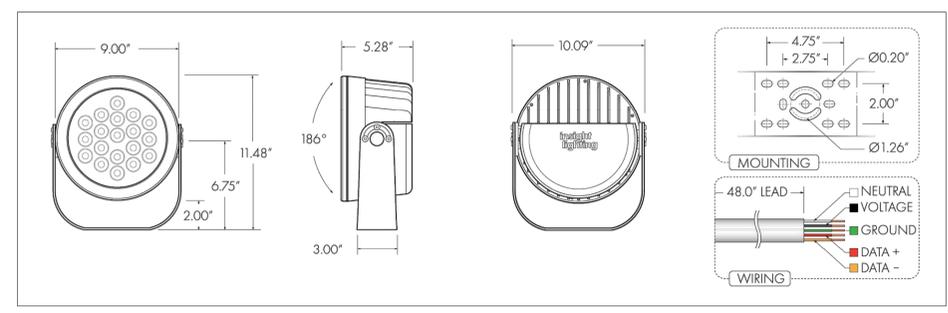
SHEET NO.	TOTAL SHEETS
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Street and Storm Sewer Plans  
**Paragon Parkway**  
Lee's Summit, Missouri

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*Insight Prospot 9*

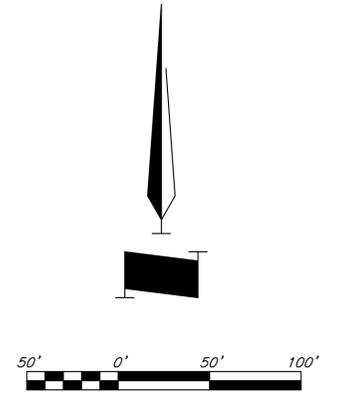


*Idlyline Curve Base Plate*

ANCHORAGE DATA									
NUMBER OF SECTIONS	POLE BASE OD (IN)	BOLT CIRCLE				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

0° - Handhole



**Street Lighting Plan**



**STREET LIGHTING NOTES**

1. City of Lee's Summit Street Lighting Standard Drawings included for reference. Where street lighting design specifies alternate equipment (e.g. street light luminaire, pole, etc.), the specified equipment shall be used.

**Street and Lighting Details 1 of 5**



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

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**STREET LIGHT POLE, BRACKET ARM, AND BREAK-AWAY BASE**

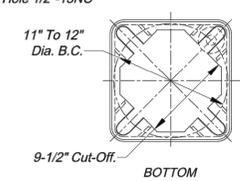
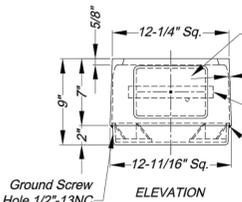
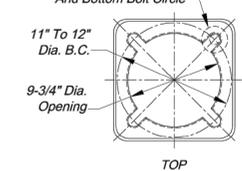
POLE TYPE	MOUNTING HEIGHT (A)	BRACKET ARMS		POLE SHAFT				SHOE BASE		ANCHOR BOLTS	
		ARM 1	ARM 2	LENGTH (B)	BASE O.D.	TOP O.D.	MIN. WALL THICKNESS	SHAFT LENGTH (C)	BOLT CIRCLE (BC)	DIAMETER	LENGTH
P14	14'	-	-	6"	3"	0.156"	14'-0"	9.5"	0.75" 10NC	25"	3"
P30S	30'	6' or 10'	-	8"	6"	0.188"	26'-6" ±2"	11.0"	1.00" 8NC	36"	4"
P30D	30'	6' or 10'	6' or 10'	8"	6"	0.219"	26'-6" ±2"	11.0"	1.00" 8NC	36"	4"
P40S	40'	6', 10' or 15'	-	8"	6"	0.219"	36'-6" ±2"	11.5"	1.00" 8NC	36"	4"
P40D	40'	6', 10' or 15'	6', 10' or 15'	10"	6"	0.219"	36'-6" ±2"	14.5"	1.00" 8NC	48"	4"

- NOTES:**
1. All poles, arms, and miscellaneous equipment shall conform to these details and as specified by the latest city standard specifications.
  2. Pole shaft shall have a satin ground finish.
  3. All hardware (bolts, nuts, washers but not including anchor bolts) not otherwise specifically designated in the specifications or details shall be 300-series stainless steel conforming to ASTM A193 or A194.
  4. Anchor bolts shall be used with concrete bases. Anchor bolts shall be steel with 50,000 PSI minimum yield; top 10" min. galvanized; including 8 nuts and 8 flat washers galvanized to ASTM A153 standards. Galvanized hex head bolts (see pole foundation sheet) shall be used with screw-in anchor bases. 4 bolts, 4 nuts and 8 flat washers to be provided with each anchor.
  5. All welding is to be done with 4043 weld wire. All arms and shafts are to be heat-treated to T6 temper after welding.
  6. Anchor bolts shall project above the concrete base as per manufacturer's recommended practices, 2 1/2" to 3".
  7. The aluminum street light pole assembly, including anchorage and luminaire, shall comply with the latest city standard specifications and the American Association of State Highway and Transportation Officials (AASHTO) load wind loading.
  8. All poles and arms shall be clearly identified by the manufacturer's name, abbreviation, or symbol engraved on the shaft, shoe base, hand hole, or other means such as to be readily visible after installation.

**MATERIAL DATA**

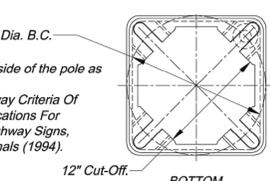
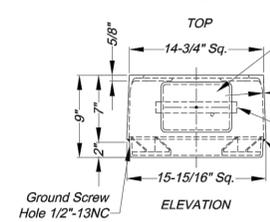
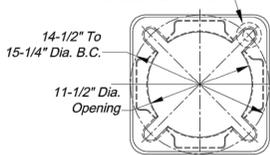
COMPONENT	ALUMINUM ALLOY DESIGNATION	SPECIFICATION
Shoe Base	356-T6, Cast	ASTM B26 or B108
Breakaway Base	356-T6, Cast	ASTM B108
Bolt Covers	356 or 360, Cast	ASTM B26 or B108
Pole Shaft	6063-T6, Extruded	ASTM B221 or B241
Ground Lug	6061-T5 or 6063-T6, Plate	ASTM B221
Reinforced Handhole Frame	356-T6 or 6061-T6	ASTM B26, B108 or B221
Handhole Cover	6063-T6	ASTM B209, B221 or B241
Bracket Arm & Tubing Pipes	6063-T6	ASTM B221, B241 or B249
Bracket Arm Mounting Plates	6061-T6 or 6063-T6 Extruded	ASTM B221
Bracket Arm Strut & Arm Connector	6061-T6 or 6063-T6 Extruded	ASTM B221, B241 or B249
Pole Cap	356, Cast	ASTM B26 or B108
Anchor Bolts	N/A	Galvanized per ASTM A153

Use 2-3/4" O.D. x 1-1/16" I.D. x 1/2" Thick Washer For 1" Dia. Anchorage On Top And Bottom Bolt Circle



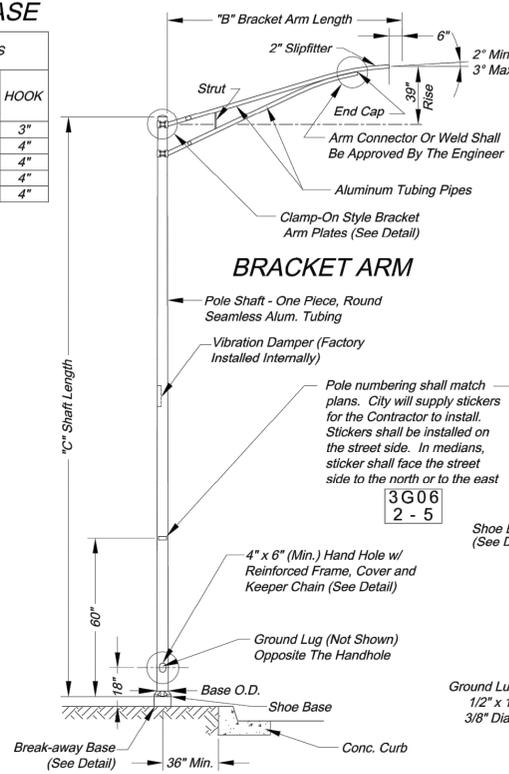
**11" BREAK-AWAY BASE**

Use 2-3/4" O.D. x 1-1/16" I.D. x 1/2" Thick Washer For 1" Dia. Anchorage On Top And Bottom Bolt Circle

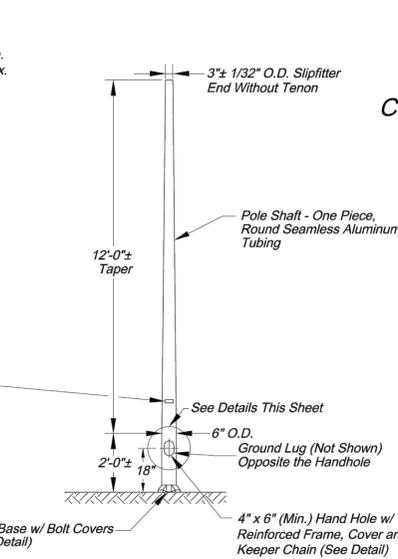


**15" BREAK-AWAY BASE**

- NOTES:**
1. Door shall be on the same side of the pole as the hand hole.
  2. Base Conforms to Breakaway Criteria Of AASHTO Standard Specifications For Structural Supports For Highway Signs, Luminaires And Traffic Signals (1994).



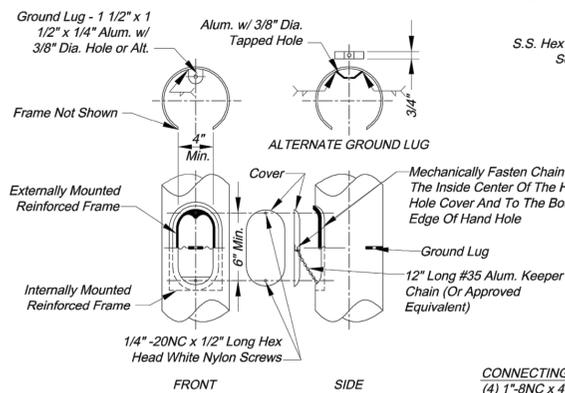
**POLE ELEVATION**  
(See tables for dimensions and materials)



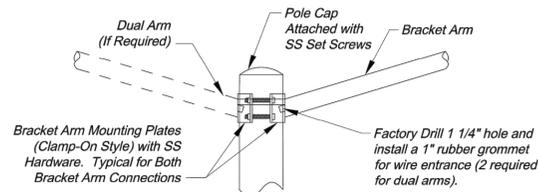
**COBRA HEAD STYLE LUMINAIRE**  
150, 250, or 400 Watt HPS

**POST TOP LUMINAIRE**  
150 Watt HPS

**PEDESTAL POLE ELEVATION**  
(See tables for dimensions and materials)

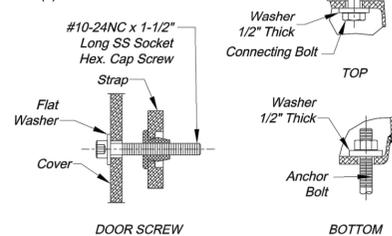


**HAND HOLE**



**BRACKET ARM MOUNTING**

- CONNECTING HARDWARE**
- (4) 1"-8NC x 4" Long Galv. Hex Head Bolt SAE Gr. 5
  - (8) 1/2" Galv. Washer 2-3/4" O.D.
  - (4) 1" Galv. Hex. Nut
  - (4) 1" Galv. Flat Washer
  - (4) 1" Lock Washer



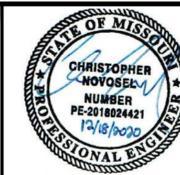
**BREAK-AWAY BASE ANCHORAGE**

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 AND LUMINAIRE  
DETAILS  
STANDARD DRAWING SL-1

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

C:\12720\Civil\_3D\Production Drawings\Street & Storm Plans - Paragon Parkway\1272015600.dwg, Layout: 42 Street and Lighting Details 1 of 5 -- Tuesday, January 12, 2021, 1:13:00 pm -- Copyright © 2020 GBA Architects, Inc. 000025, Landscape Architect, 000025, Professional Land Surveyor, 000029



**GBA**  
architects  
engineers

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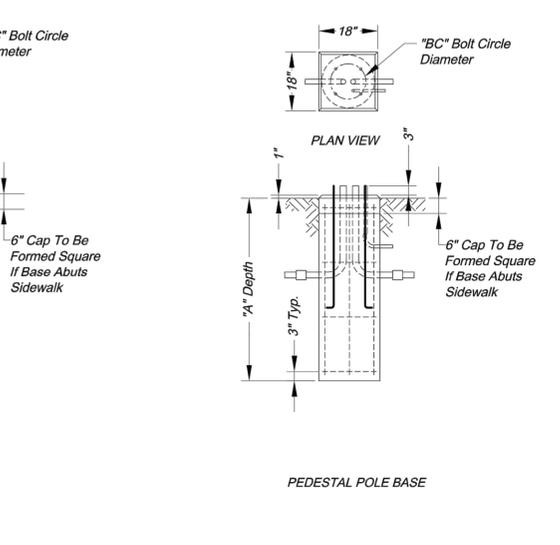
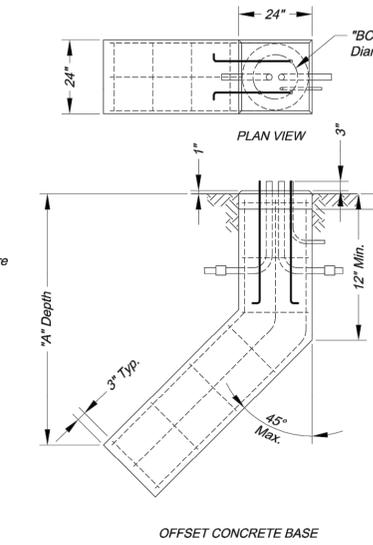
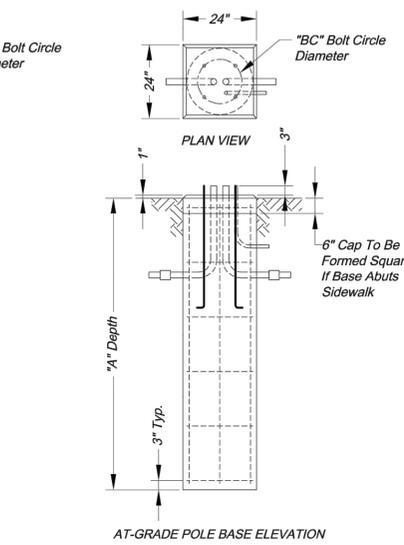
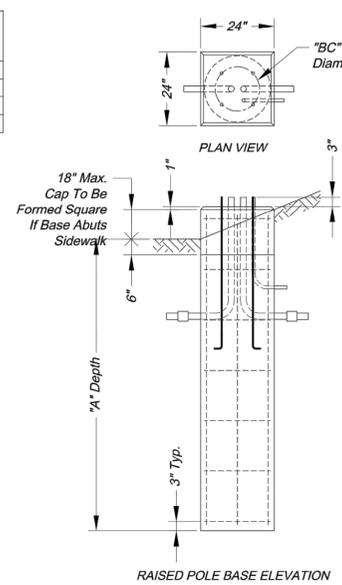
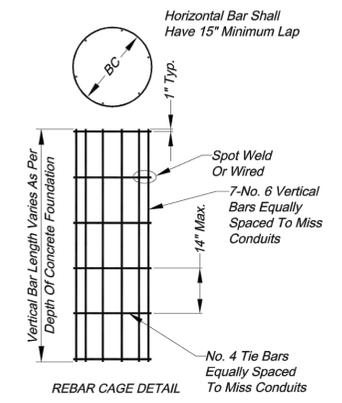
DATE:	12-18-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.:	43
TOTAL SHEETS:	68

Christopher Novosel  
Professional Engineer  
License No. PE-2018024421

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

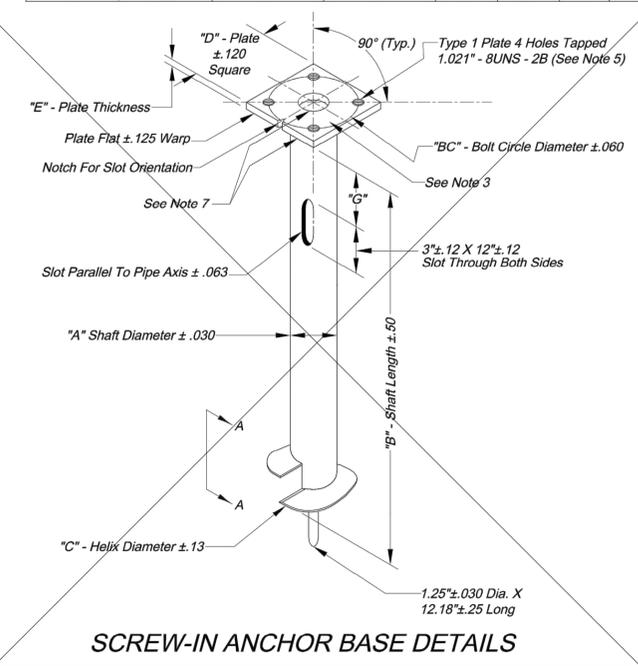
NO.	DATE	REVISIONS	BY	APPROVED
1	11/4/20	FDP Submittal		
2	12/18/20	Issued for Bid		
3	1/12/21	City Comments		

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"

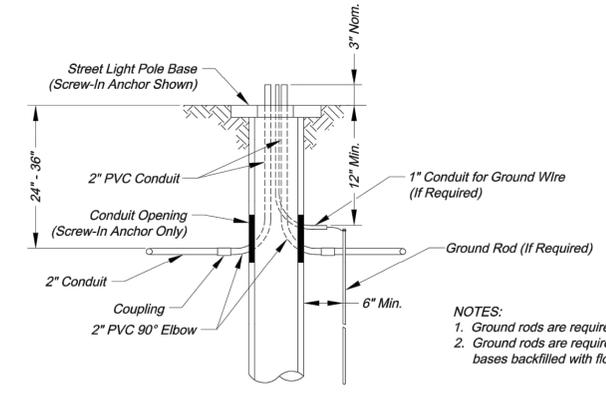
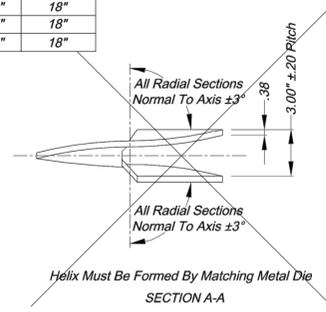


**CONCRETE BASE DETAILS**

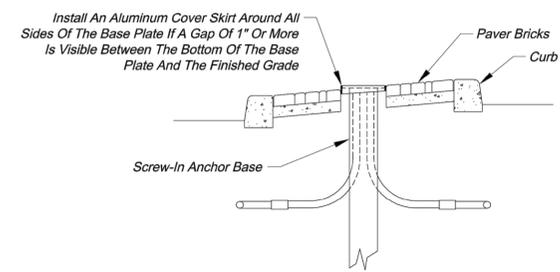
BASE TYPE	POLE TYPE	MINIMUM TORQUE RATING (lbs. ft.)	MAXIMUM TORQUE RATING (lbs. ft.)	SHAFT DIA. (A)	SHAFT LENGTH (B)	HELIX DIA. (C)	PLATE SIZE (D)	PLATE THICKNESS (E)	BOLT CIRCLE (BC)	SLOT LOCATION (G)
B14	P14	2,000	15,000	6"	48"	12"	10"	0.75"	9.5"	12"
B30	P30S & P30D	2,000	15,000	6"	60"	12"	12"	1.0"	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:**
- Finish: Hot dip galvanize per ASTM-A153 (latest revision).
  - Baseplate to be perpendicular to shaft axis ( $\pm 1^\circ$ ) and hole and concentric ( $\pm 188$  I.D. Fim) to shaft axis.
  - 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.
  - Pilot point and shaft axes to be concentric ( $\pm .125$  Fim) and in line ( $\pm 2^\circ$ ).
  - 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.
  - Preheat (room temperature 70°F), tumbleblast, handgrind, and clean baseplate, helix, and core on all weld areas.
  - 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.
  - Manufacturer to have in effect industry recognized written quality control for all materials and manufacturing processes.
  - 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).
    - Shaft: 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.
  - 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.
  - Flame cut notch or projection will be on the base plate to indicate slot orientation.



**CONDUIT ENTRANCE AND GROUNDING**



**COVERSKIRT REQUIREMENTS**

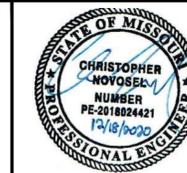
CITY OF LEE'S SUMMIT  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
220 SE GREEN STREET  
LEE'S SUMMIT, MISSOURI 64063  
PHONE: (816) 969-1800 FAX: (816) 969-1809



POLE BASE DETAILS  
STANDARD DRAWING SL-2

Project: \_\_\_\_\_  
Sheet Name: \_\_\_\_\_  
Drawn By: JH  
Checked By: JW  
Date: 08/21/2009  
2 OF 5  
**2**

C:\12720\Civil\_3D\Production Drawings\Street & Storm Plans - Paragon Parkway\1272015600.dwg Layout: 43 Street and Lighting Details 2 of 5 -- Tuesday, January 12, 2021, 11:13:00 am -- Copyright © 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 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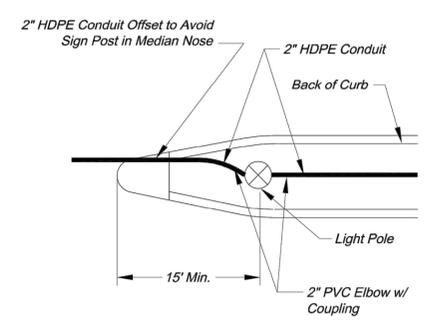
**GBA**  
architects  
engineers  
9801 Renner Boulevard  
Lenexa, Kansas 66219  
913.492.0400  
www.gbateam.com

DATE:	12-18-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
<b>44</b>	<b>68</b>

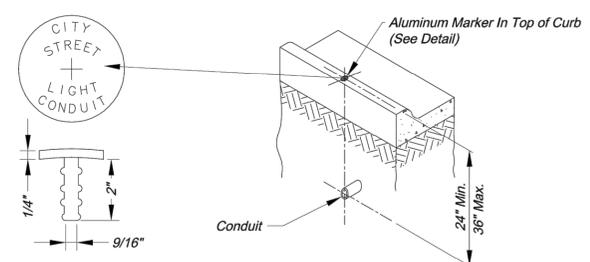
Christopher Novosel  
Professional Engineer  
License No. PE-2018024421

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

NO.	DATE	REVISIONS	BY	APPROVED
	11/4/20	FDP Submittal		
	12/18/20	Issued for Bid		
	1/12/21	City Comments		

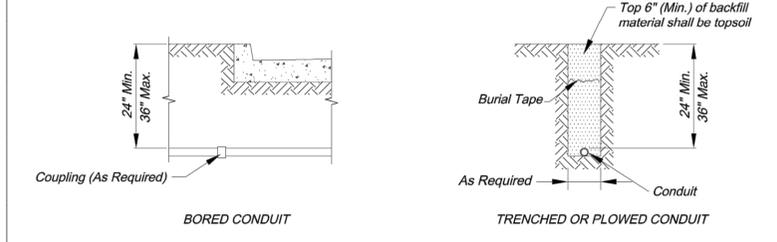


**STREET LIGHT POLE IN MEDIAN**



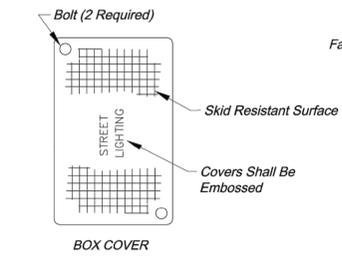
**CONDUIT MARKING DETAIL**

- 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 exposing 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.

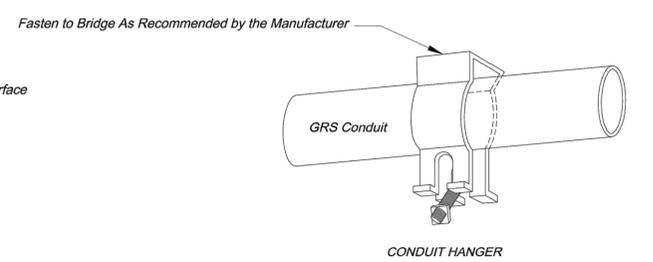


**CONDUIT LOCATIONS**

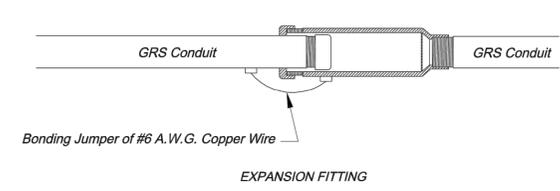
- NOTES:
1. Backfill under paved surfaces shall be flowable fill.
  2. The conduit shall not be covered unless inspected and approved by the City Engineer, so as to ensure proper depth, correct conduit material, and proper conduit end treatment.



**BOX COVER**



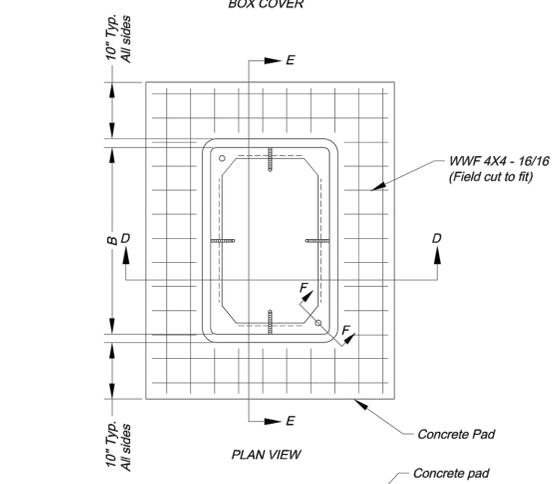
**CONDUIT HANGER**



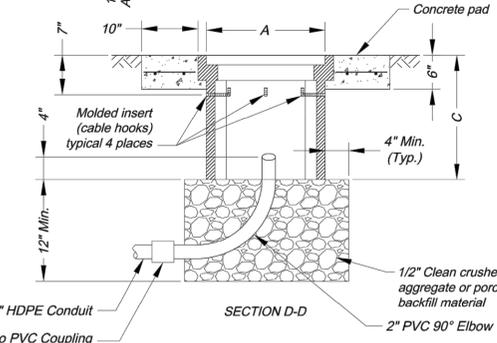
**EXPANSION FITTING**

**GRS CONDUIT DETAILS**

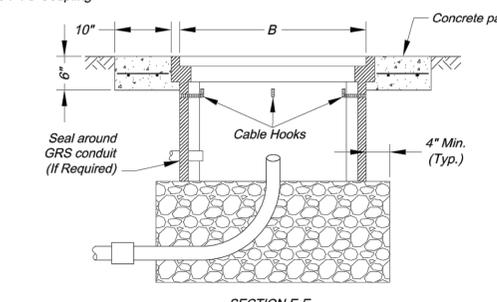
- NOTES:
1. All conduits installed above ground shall be GRS.
  2. Conduit attached to bridges shall have expansion fittings installed at each end of the bridge and at each expansion joint on the bridge.
  3. All GRS conduits shall be electrically bonded by a grounding bushing and ground wire as detailed.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



**PLAN VIEW**



**SECTION D-D**

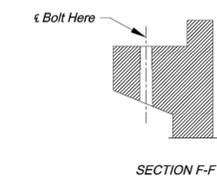


**SECTION E-E**

**PULL OR JUNCTION BOX DETAILS**

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



**SECTION F-F**

- 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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Project: **BOX AND CONDUIT DETAILS**  
Sheet Name: STANDARD DRAWING SL-3

Drawn By: JH  
Checked By: JW  
Date: 08/21/2009  
3 OF 5  
**3**

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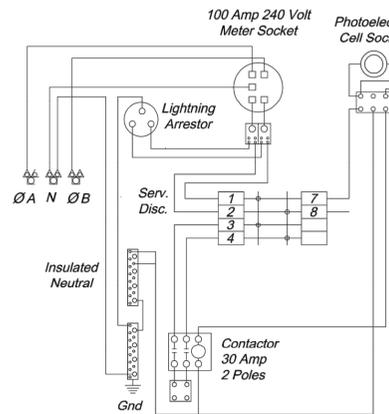
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DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.:	45
TOTAL SHEETS:	68

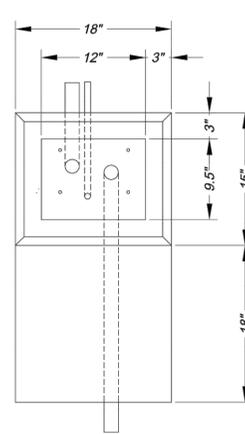
Christopher Novosel  
Professional Engineer  
License No. PE-2018024421

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

NO.	DATE	REVISIONS	BY	APPROVED
11/4/20		FDP Submittal		
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1/12/21		City Comments		

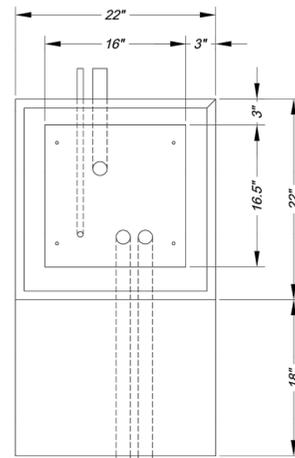


WIRING SCHEMATIC

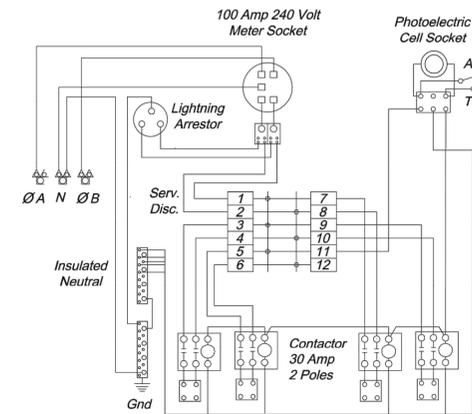


PLAN VIEW

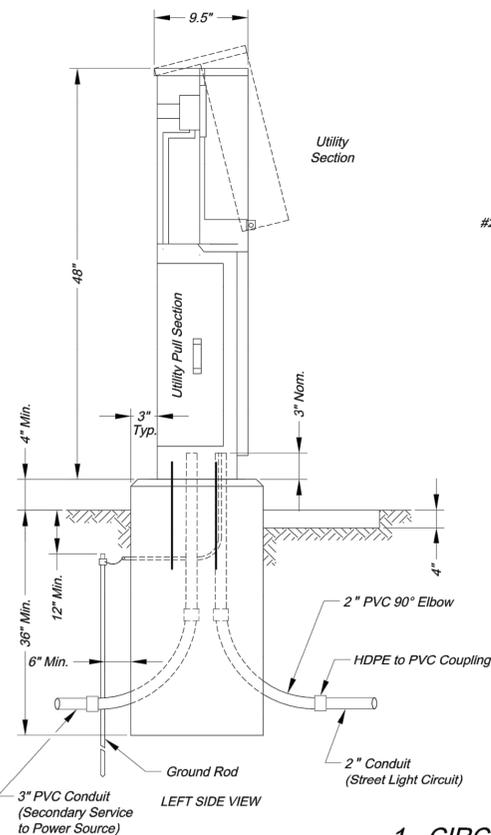
FUSED CONTACTORS  
ARE NOT PERMITTED



PLAN VIEW

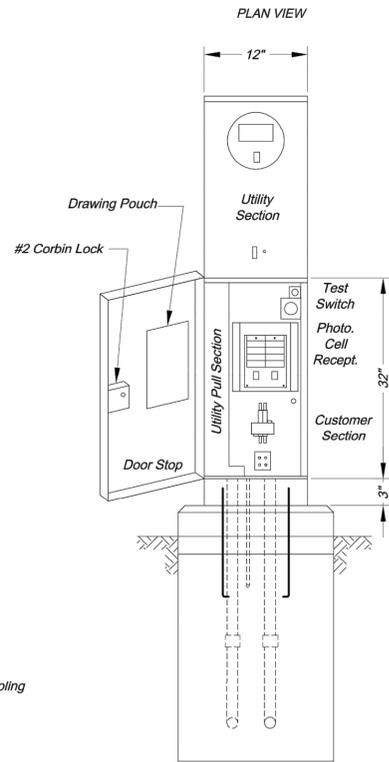


WIRING SCHEMATIC



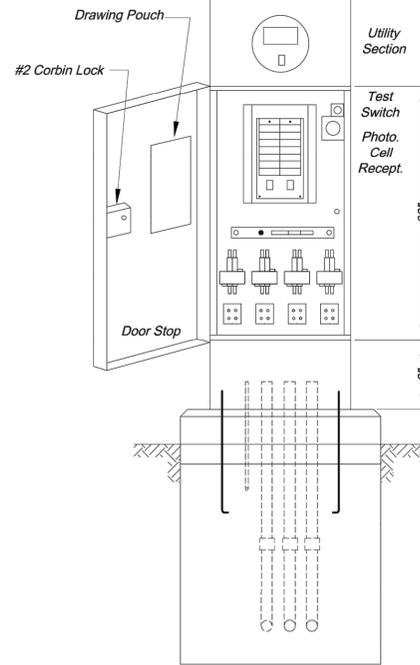
LEFT SIDE VIEW

**1 - CIRCUIT  
POWER SUPPLY**



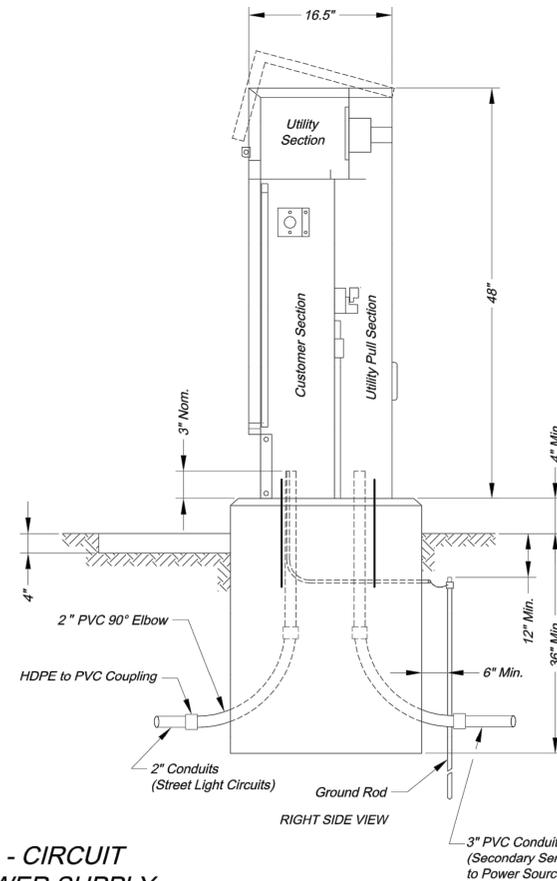
FRONT VIEW

- 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.



FRONT VIEW

**4 - CIRCUIT  
POWER SUPPLY**



RIGHT SIDE VIEW

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Project: POWER SUPPLY DETAILS  
Sheet Name: STANDARD DRAWING SL-4

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



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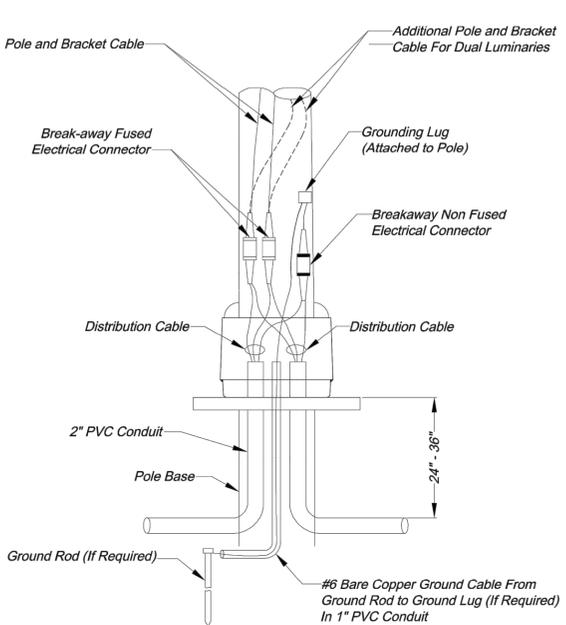
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DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.:	46
TOTAL SHEETS:	68

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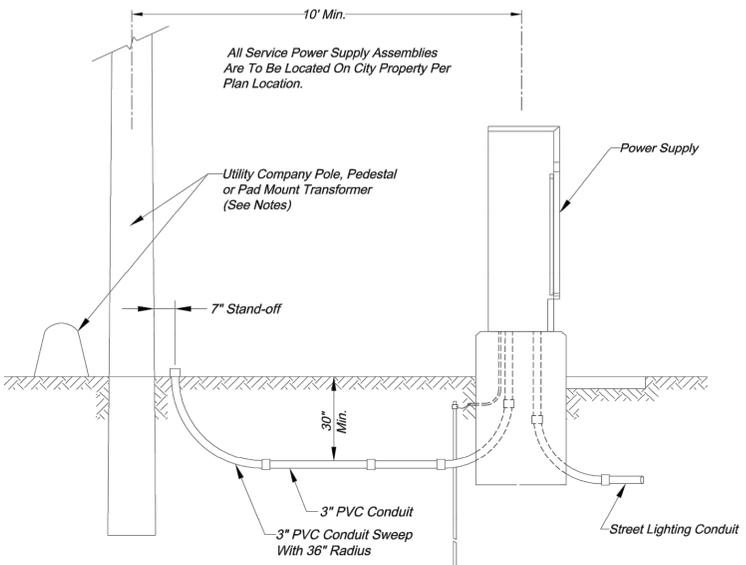
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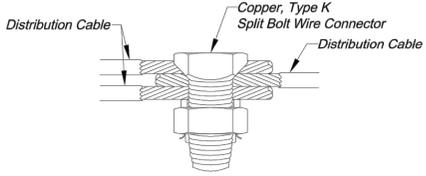


**POLE WIRING DETAILS**



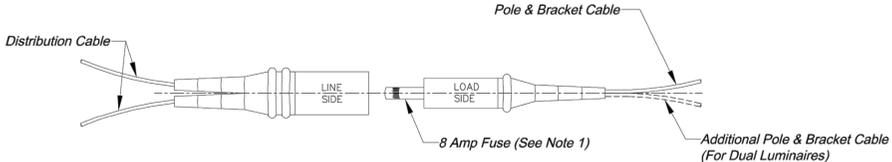
**SECONDARY SERVICE CONNECTION DETAILS**

- 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.

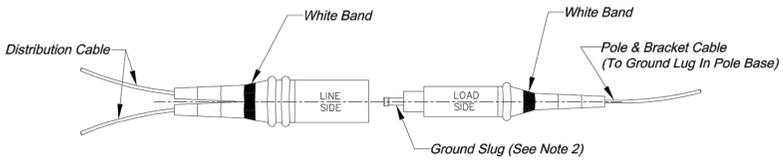


**SPLICE KIT DETAILS**

- 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.

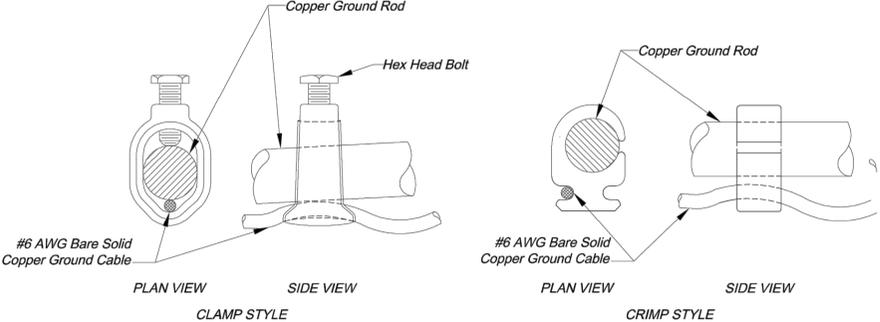


**BREAK-AWAY FUSED ELECTRICAL CONNECTORS**



**BREAK-AWAY NON FUSED ELECTRICAL CONNECTOR**

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



**GROUND ROD CONNECTION DETAILS**

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Project: ELECTRICAL DETAILS  
Sheet Name: STANDARD DRAWING SL-5

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

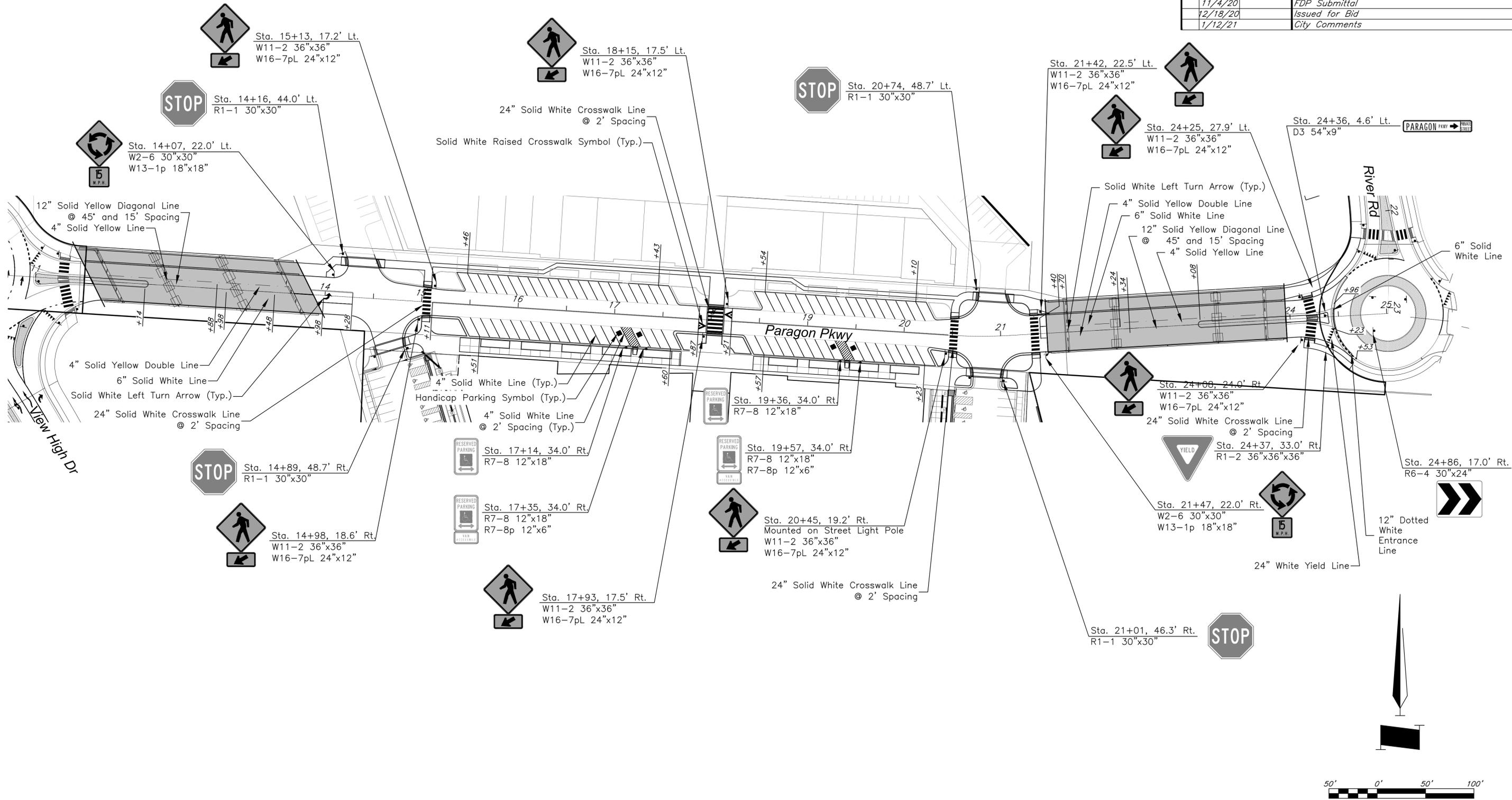
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**GENERAL NOTES:**

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.

		DATE: 12-18-2020 DESIGN BY: CEL DRAWN BY: DRW/DGL PROJECT NO.: 12720	
		SHEET NO.: 47	TOTAL SHEETS: 68
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NO. DATE 11/4/20 12/18/20 1/12/21		REVISIONS BY APPROVED FDP Submittal Issued for Bid City Comments	



**Pavement Marking and Signing Plan**



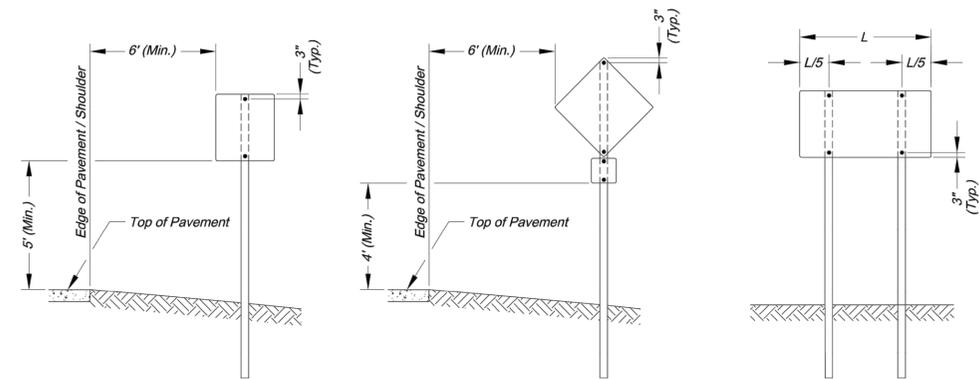
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DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
<b>48</b>	<b>68</b>

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**Paragon Parkway**  
Lee's Summit, Missouri

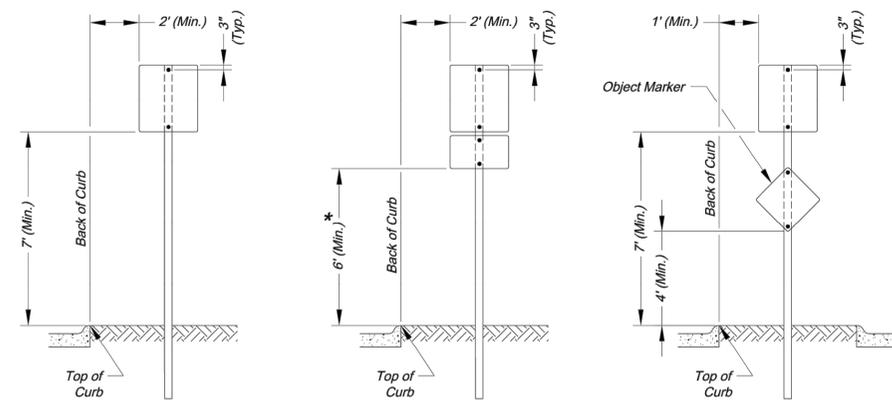
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SIGN INSTALLATION FOR NON-CURBED STREET

SIGN INSTALLATION WITH AUXILIARY SIGN FOR NON-CURBED STREET

SIGN INSTALLATION WITH TWO SIGN POSTS



SIGN INSTALLATION FOR CURBED STREET

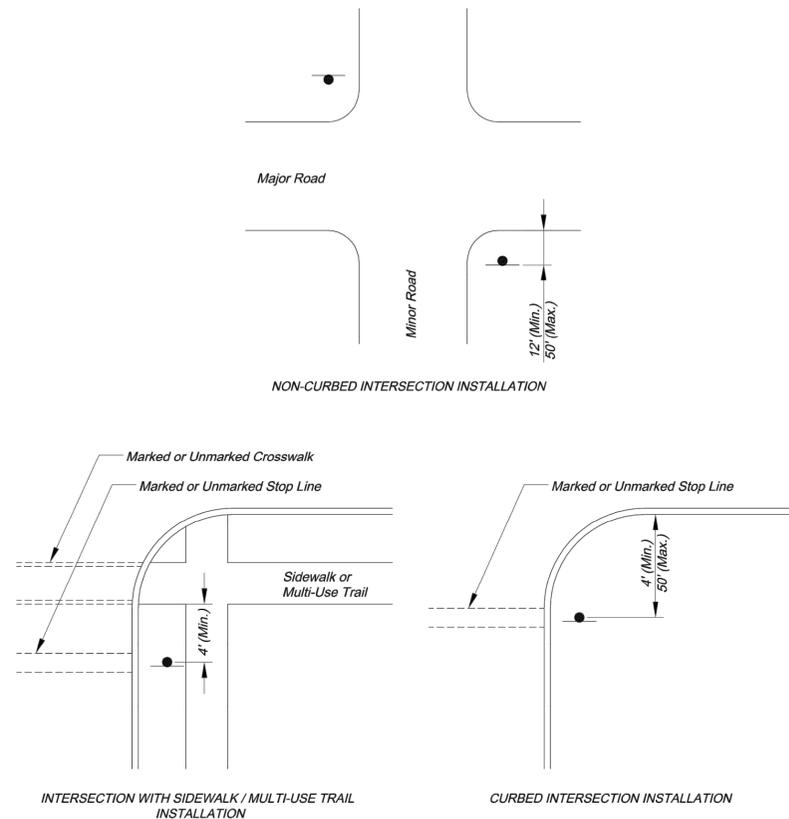
SIGN INSTALLATION WITH AUXILIARY SIGN FOR CURBED STREET

SIGN INSTALLATION FOR RAISED MEDIANS

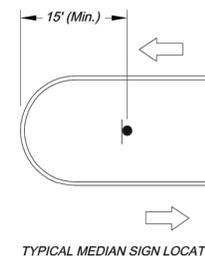
**SIGN MOUNTING DETAILS**

\* 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**

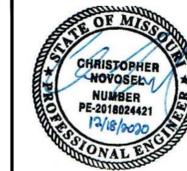
NOTES:  
1. A 4" P.V.C. sleeve shall be installed in new concrete medians at each location where a sign is to be installed.  
2. For existing concrete medians, a 4" hole shall be cored into the concrete.

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Project: SIGN MOUNTING DETAILS  
Sheet Name: STANDARD DRAWING SN-1

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



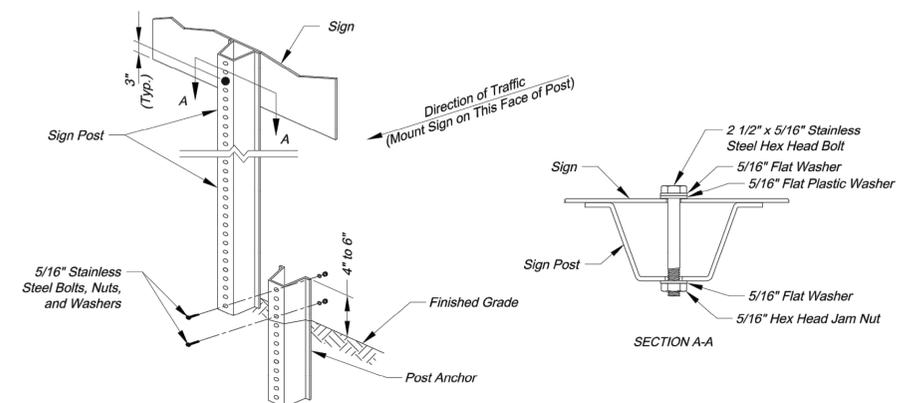
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DATE:	12-18-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
49	68

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Professional Engineer  
License No. PE-2018024421

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

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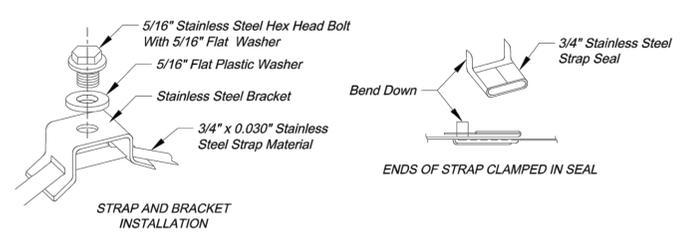
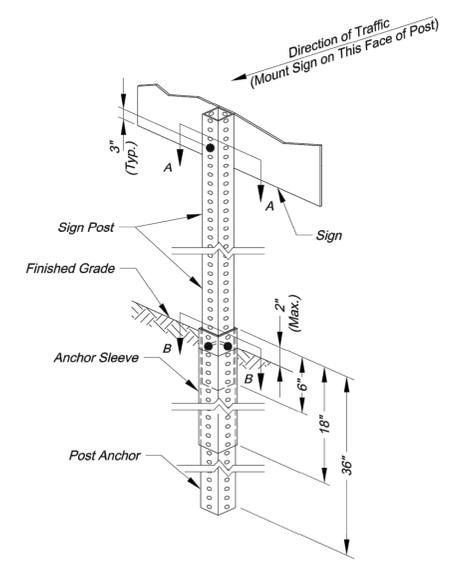


**U-STEEL POST DETAILS**

- 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.

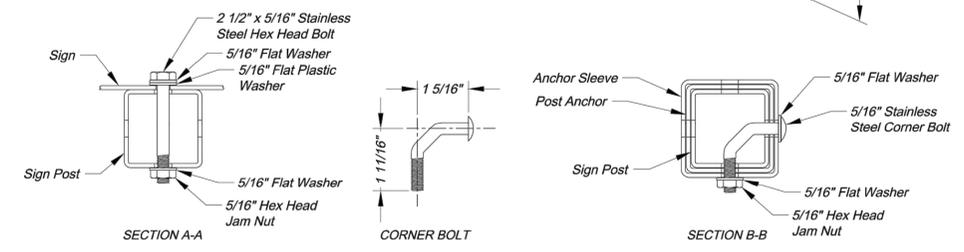
- PERMANENT SIGNING GENERAL NOTES:**
1. All signing shall be in accordance with the latest edition of the *Manual on Uniform Traffic Control Devices (MUTCD)*.
  2. The Contractor is responsible for avoiding any and all utilities when installing sign posts, whether the utility is indicated on the plans 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.



**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.



**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 1/2" 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**





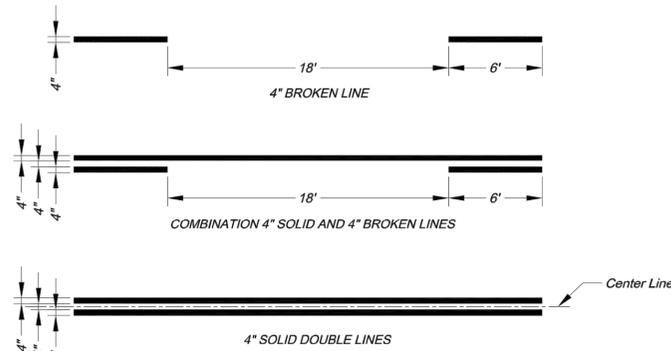
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<b>51</b>	<b>68</b>

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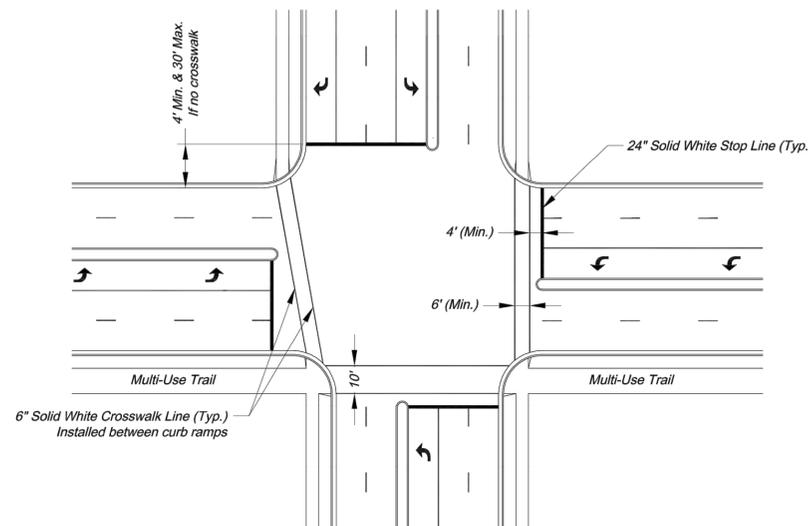
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**Paragon Parkway**  
Lee's Summit, Missouri

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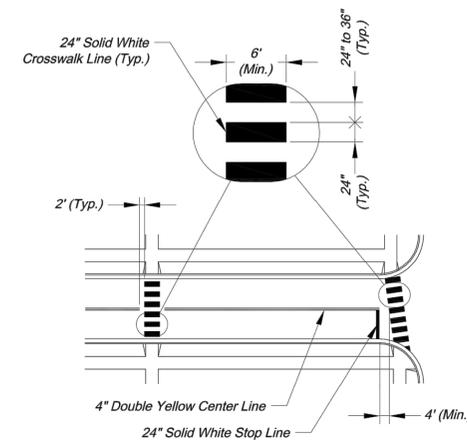
TYPICAL LINE DETAILS

- 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.

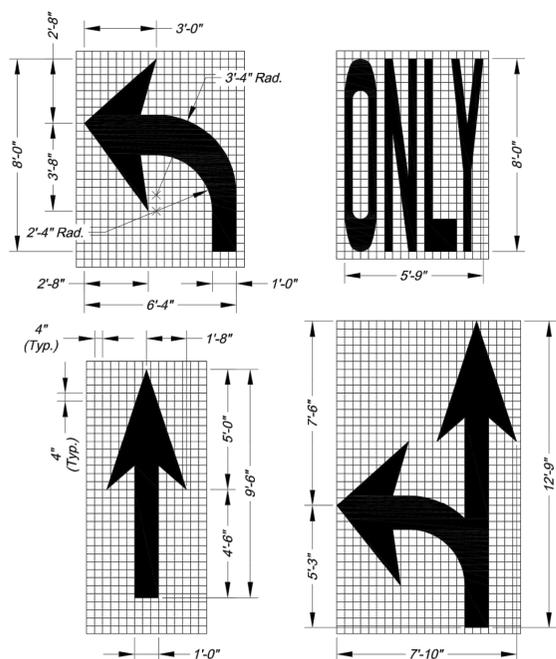


TYPICAL INTERSECTION MARKINGS

- 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.

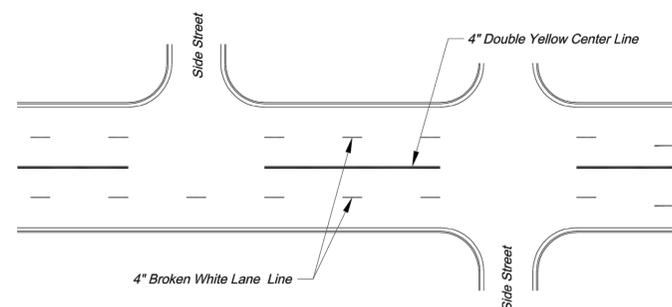


TYPICAL MIDBLOCK OR SCHOOL CROSS WALK

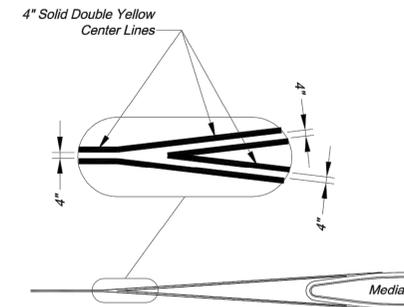


ARROW AND SYMBOL DETAILS

- 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 MARKINGS FOR FOUR-LANE UNDIVIDED ROADWAY



TYPICAL MEDIAN NOSE CENTER LINE DETAIL

PAVEMENT MARKING GENERAL NOTES:

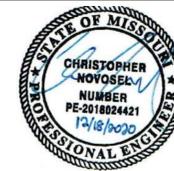
- All pavement markings shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
- All words and symbols shall conform to the latest edition of Standard Alphabets for Highway Signs and Pavement Markings printed by the U.S. Department of Transportation, 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) 969-1808



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

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



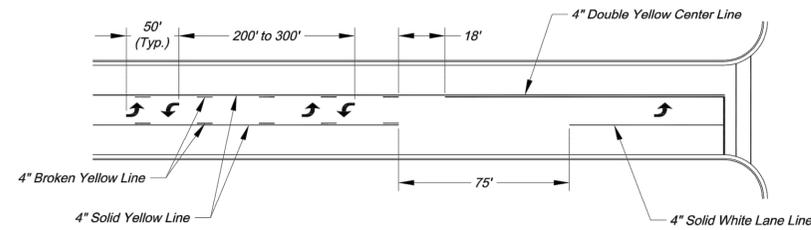
**GBA**  
architects  
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9801 Renner Boulevard  
Lenexa, Kansas 66219  
913-492-0400  
www.gbateam.com

DATE:	12-18-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
<b>52</b>	<b>68</b>

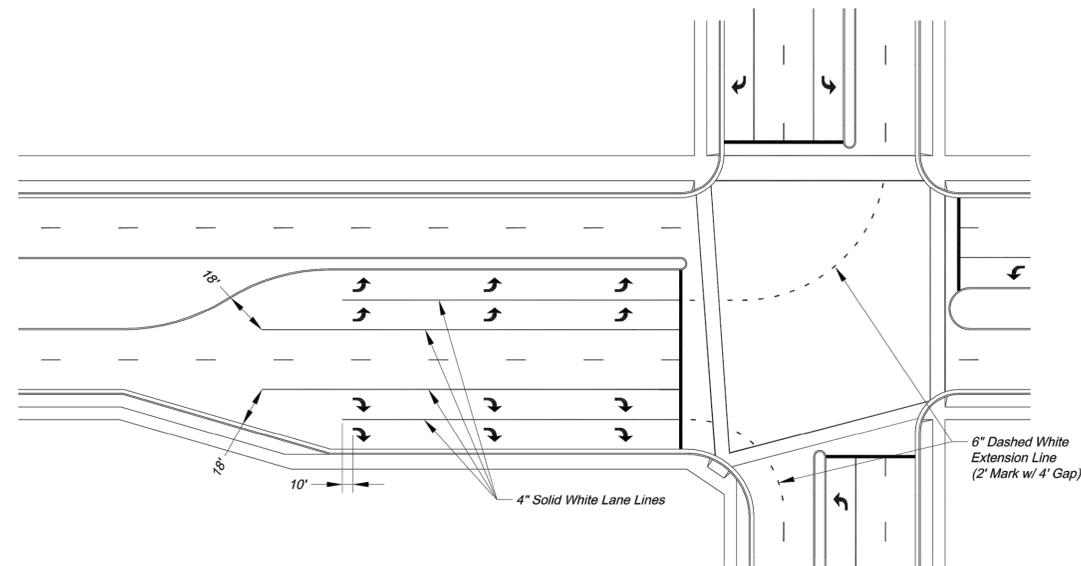
Christopher Novosel  
Professional Engineer  
License No. PE-2018024421

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

NO.	DATE	REVISIONS	BY	APPROVED
	11/4/20	FDP Submittal		
	12/18/20	Issued for Bid		
	1/12/21	City Comments		

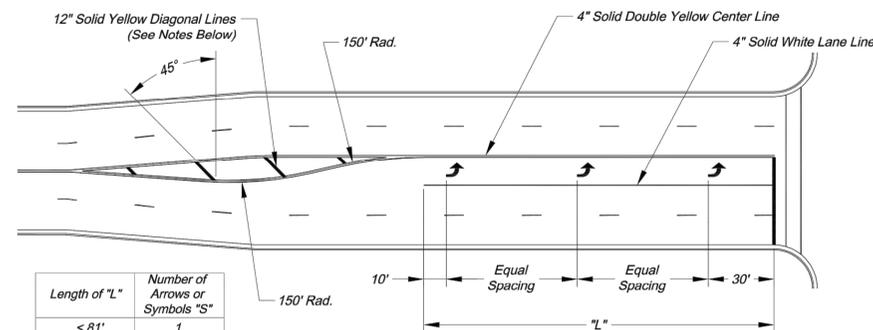


TYPICAL MARKINGS FOR TWO-WAY LEFT-TURN LANE



TYPICAL DUAL TURN LANE MARKINGS

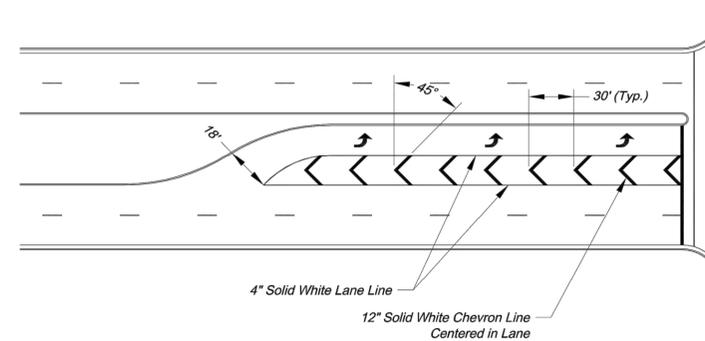
NOTE:  
1. Dashed extension lines shall not extend through crosswalks.



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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ENGINEERING DIVISION  
220 SE GREEN STREET  
LEE'S SUMMIT, MISSOURI 64063  
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Project: INTERSECTION MARKING DETAILS  
Sheet Name: STANDARD DRAWING PM-2

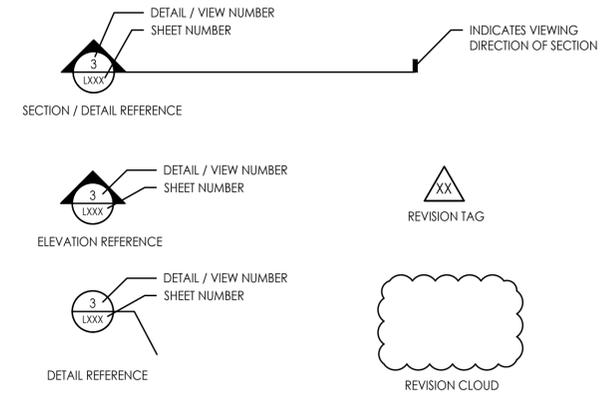
Drawn By: AS  
Checked By: JW  
Date: 09/09/2009  
Project#

**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.

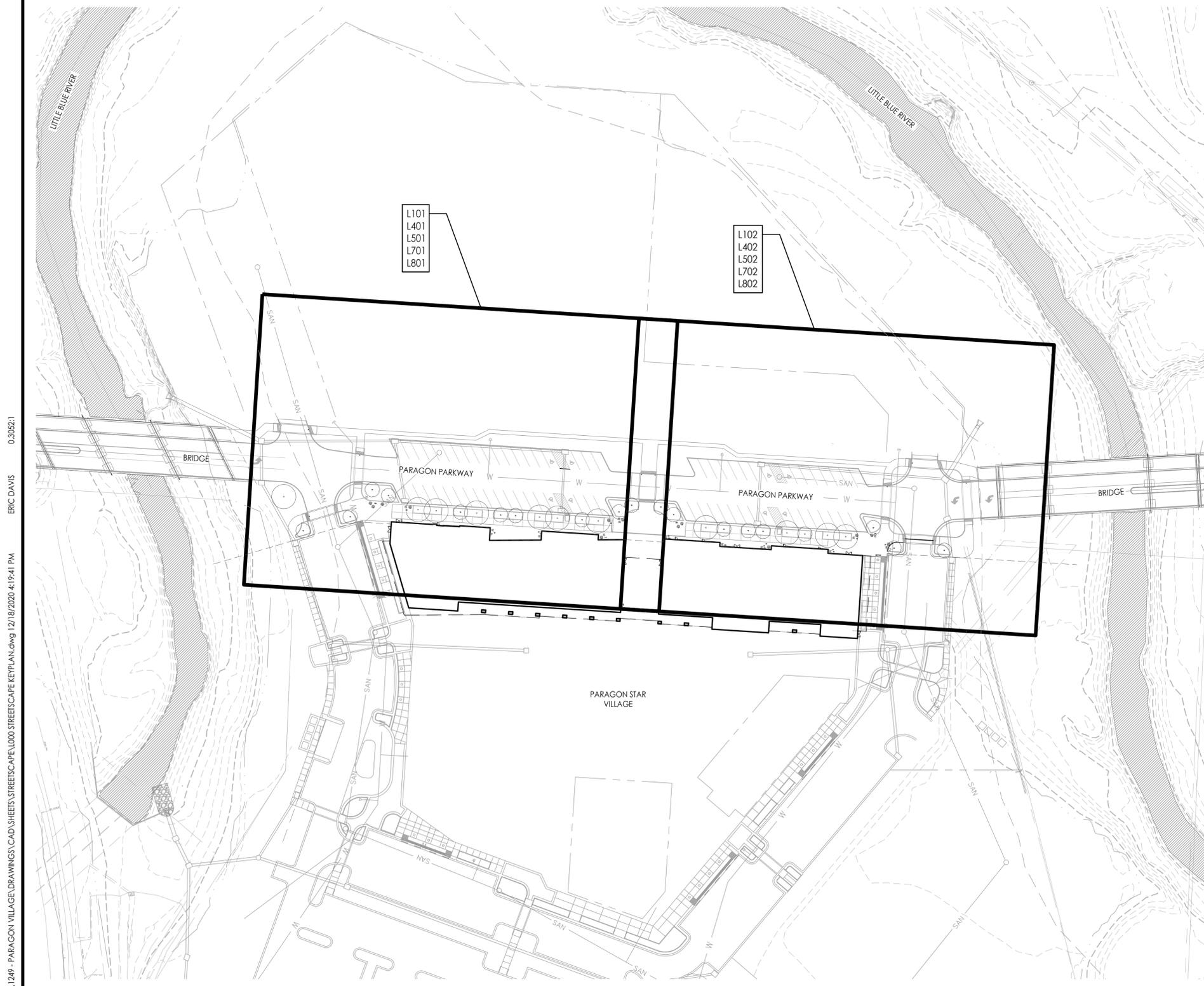
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	DESIGN BY: XX			
	DRAWN BY: XX			
	PROJECT NO.: 12720			
	SHEET NO. 53	TOTAL SHEETS 68		
LAND3 Studio - Landscape Architect MO LA Corp# 2008001860				
Street and Storm Sewer Plans <b>Paragon Parkway</b> Lee's Summit, Missouri				
NO.	DATE	REVISIONS	BY	APPROVED
	11/4/20	FDP Submittal		
	12/18/20	Issued for Bid		

**SYMBOLS LEGEND**



**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
CB	CALIPER	OD	OUTSIDE DIAMETER
CA	CATCH BASIN	PC	POINT OF CURVATURE
CF	CUBIC FEET	PE	POLYURETHANE
CIP	CAST IN PLACE	PERF	PERFORATED
CL	CENTERLINE	PI	POINT OF INTERSECTION
CLR	CLEAR, CLEARANCE	PL	PROPERTY LINE
CJ	CONTROL JOINT	PT	POINT, POINT OF TANGENCY
CM	CENTIMETER	PVC	POLYVINYL CHLORIDE
CO	CLEAN OUT	QTY	QUANTITY
CONT	CONTINUOUS	R	RADIUS
CY	CUBIC YARD	RE	REFERENCE, REFER TO
DEG	DEGREE	REINF	REINFORCED
DEMO	DEMOLISH, DEMOLITION	REQ'D	REQUIRED
DIA	DIAMETER	REV	REVISION, REVISED
DIM	DIMENSION	ROW	RIGHT OF WAY
DTL	DETAIL	S	SOUTH
DWG	DRAWING	SAN	SANITARY
E	EAST	SEC	SECTION
EA	EACH	SF	SQUARE FOOT (FEET)
EJ	EXPANSION JOINT	SHT	SHEET
EL	ELEVATION	SIM	SIMILAR
ENG	ENGINEER	SPECS	SPECIFICATIONS
EQ	EQUAL	STM	STORM SEWER
EST	ESTIMATE	SY	SQUARE YARD
E.W.	EACH WAY	STA	STATION
EXIST	EXISTING	STD	STANDARD
EXP	EXPANSION, EXPOSED	SYM	SYMMETRICAL
FFE	FINISHED FLOOR ELEVATION	T&B	TOP AND BOTTOM
FG	FINISHED GRADE	TBC	TOP OF BACK CURB
FL	FLOW LINE	TC	TOP OF CURB
FT	FOOT (FEET)	TF	TOP OF FOOTING
FIG	FOOTING	TH	THICK
GA	GAUGE	TOPO	TOPOGRAPHY
GEN	GENERAL	TW	TOP OF WALL
GR	GRADE ELEVATION	TYP	TYPICAL
HDPE	HIGH-DENSITY POLYURETHANE	VAR	VARIABLE
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		

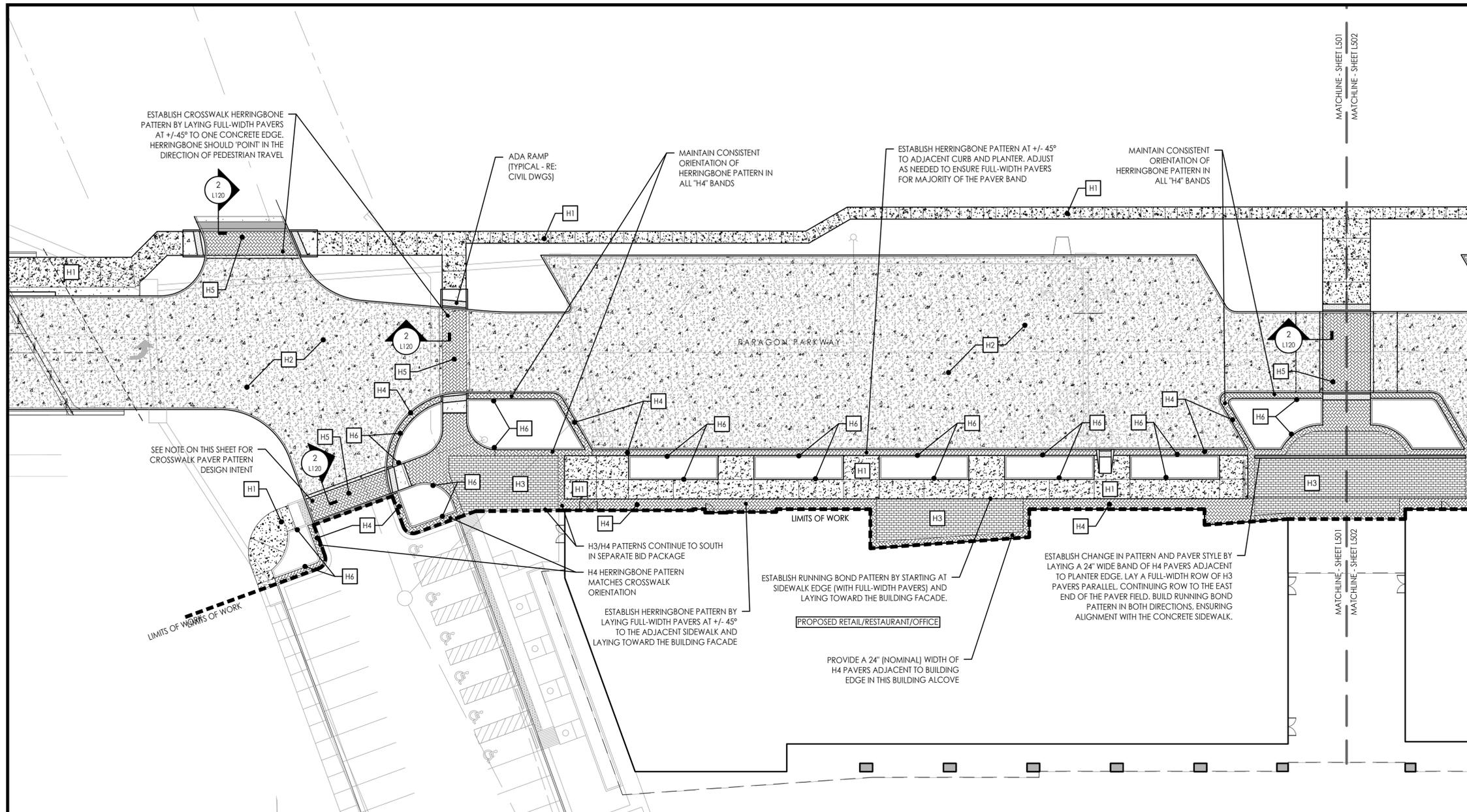


**1 KEY PLAN**  
Scale: 1" = 60'-0"

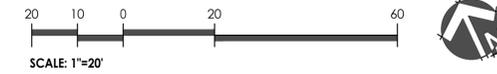


**L000**  
**STREETSCAPE KEYPLAN & GENERAL INFORMATION**

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

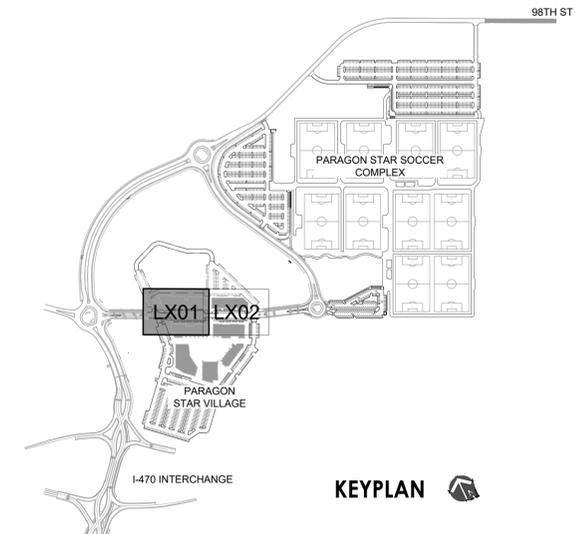


**SURFACE FINISHES AND MATERIALS LEGEND**

- 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)

**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 - UNIT PAVING
2. 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.



**L101**  
**SURFACE FINISHES & MATERIALS PLAN**



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architects  
engineers

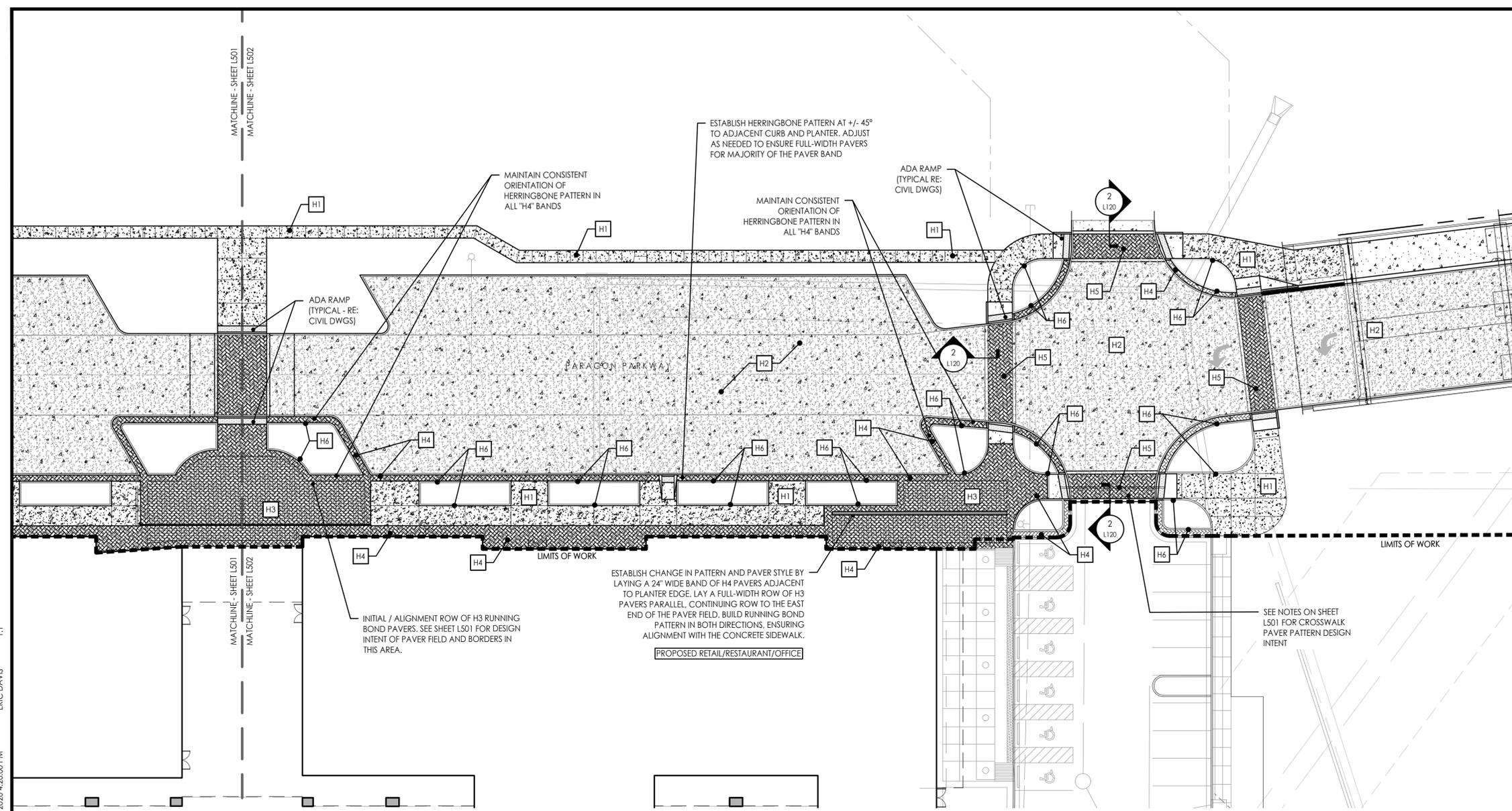
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DATE:	12-18-2020
DESIGN BY:	XX
DRAWN BY:	XX
PROJECT NO.:	12720
SHEET NO.:	55
TOTAL SHEETS:	68

LAND3 Studio - Landscape Architect  
MO LA Corp# 2009001860

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

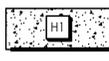
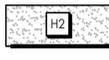
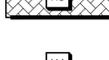
NO.	DATE	REVISIONS	BY	APPROVED
1	11/4/20	FDP Submittal		
2	12/18/20	Issued for Bid		



**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)

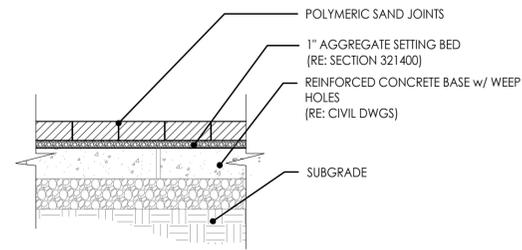
**SURFACE FINISHES AND MATERIALS NOTES**

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 - UNIT PAVING
2. 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.

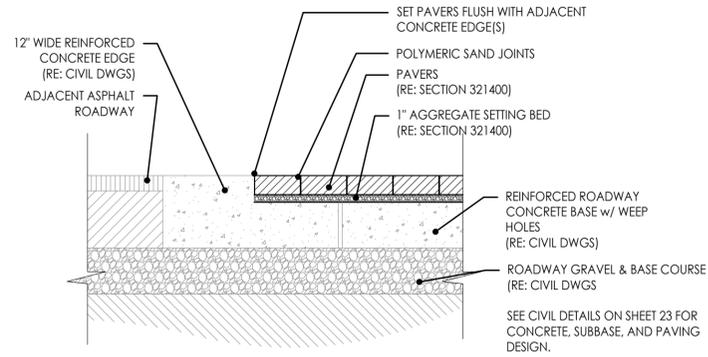


**L102**  
**SURFACE FINISHES & MATERIALS PLAN**

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



**2 CONCRETE PAVER ROADWAY PROFILE**  
Scale: N.T.S.



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DRAWN BY:	XX	
PROJECT NO.:	12720	
SHEET NO.:	56	TOTAL SHEETS: 68

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MO LA Corp# 2008001860

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

NO.	DATE	REVISIONS	BY	APPROVED
	11/4/20	FDP Submittal		
	12/18/20	Issued for Bid		



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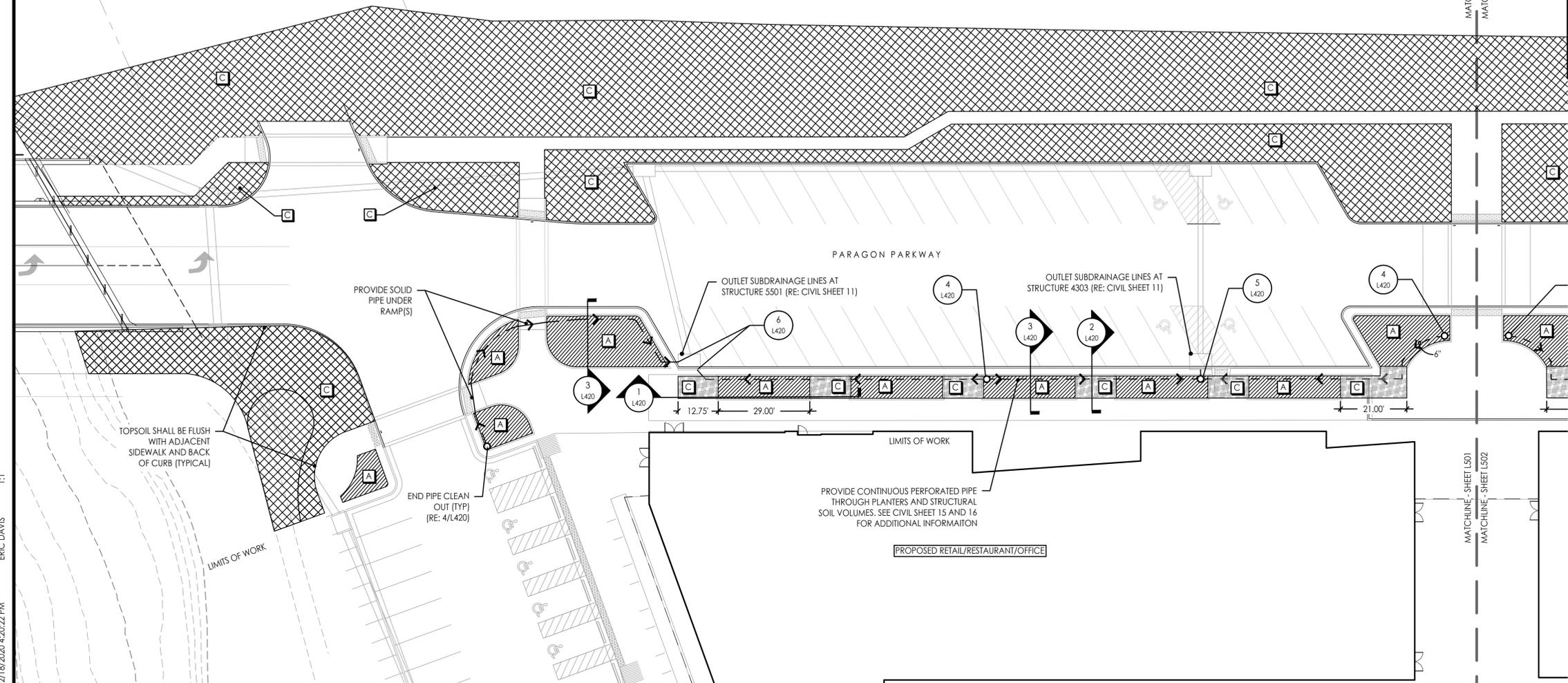
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DATE:	12-18-2020
DESIGN BY:	XX
DRAWN BY:	XX
PROJECT NO.:	12720
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TOTAL SHEETS:	68

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

NO.	DATE	REVISIONS	BY	APPROVED
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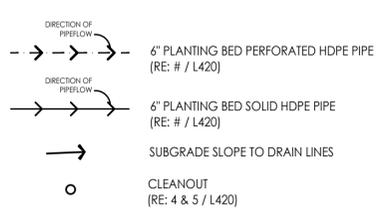
**1 SOILS & SUBDRAINAGE PLAN - VILLAGE PARKWAY WEST**  
Scale: 1"= 20'-0"



**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**



**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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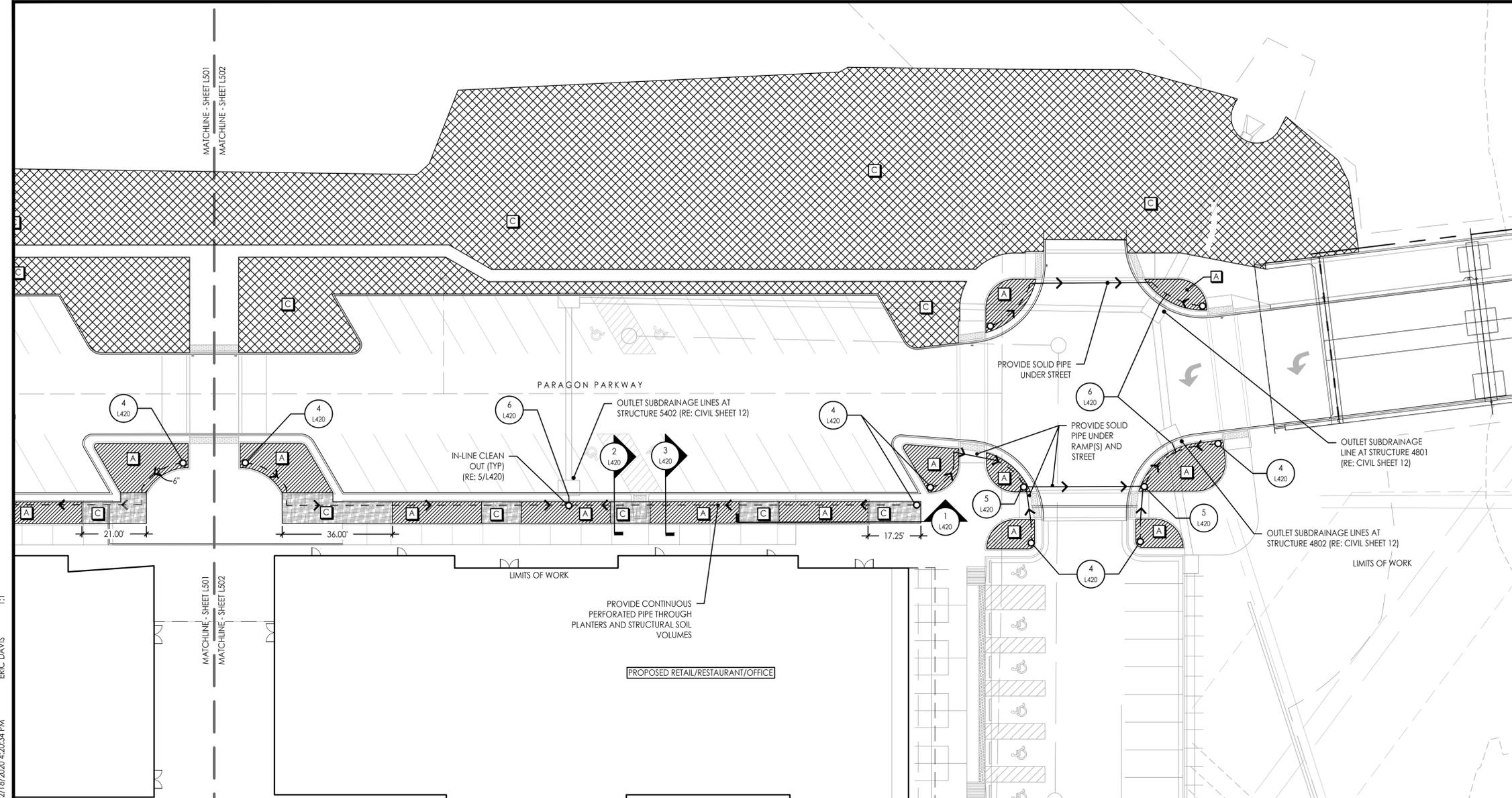
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DATE:	12-18-2020
DESIGN BY:	XX
DRAWN BY:	XX
PROJECT NO.:	12720
SHEET NO.:	58
TOTAL SHEETS:	68

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

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2	12/18/20	Issued for Bid		



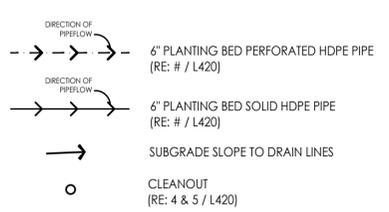
**1 SOILS & SUBDRAINAGE PLAN - VILLAGE PARKWAY EAST**  
Scale: 1"=20'-0"



**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**



**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.

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- 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.



**L402**  
**SOILS & SUBDRAINAGE PLAN**

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architects  
engineers

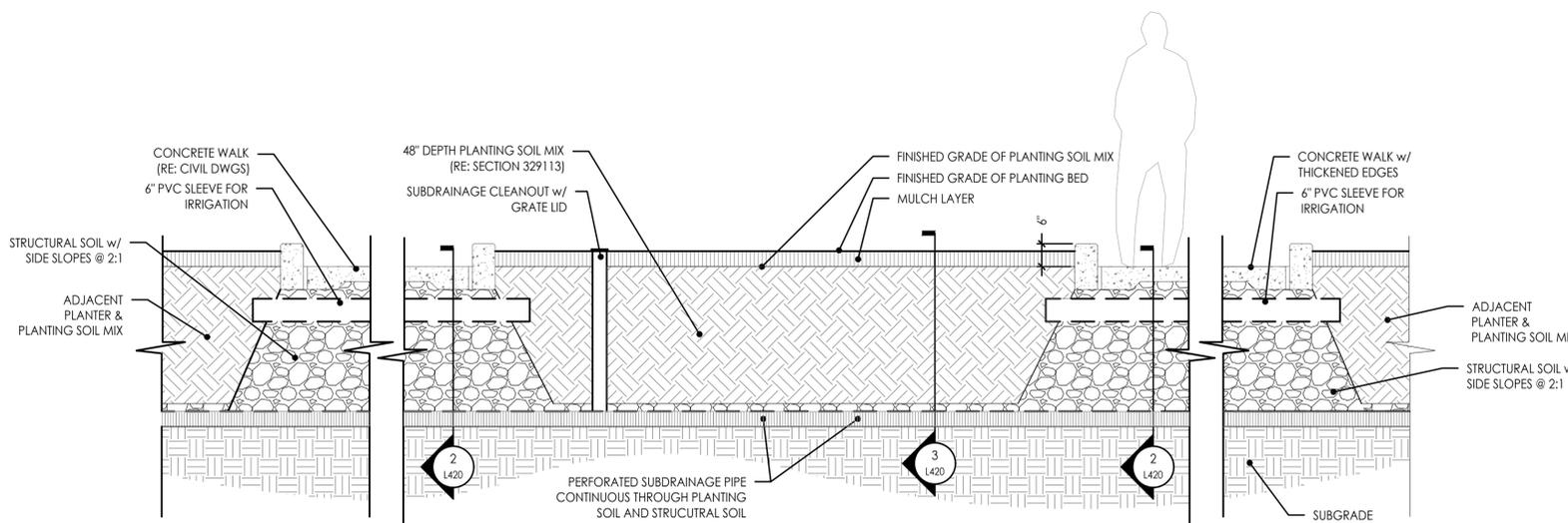
9801 Renner Boulevard  
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DATE:	12-18-2020
DESIGN BY:	XX
DRAWN BY:	XX
PROJECT NO.:	12720
SHEET NO.:	59
TOTAL SHEETS:	68

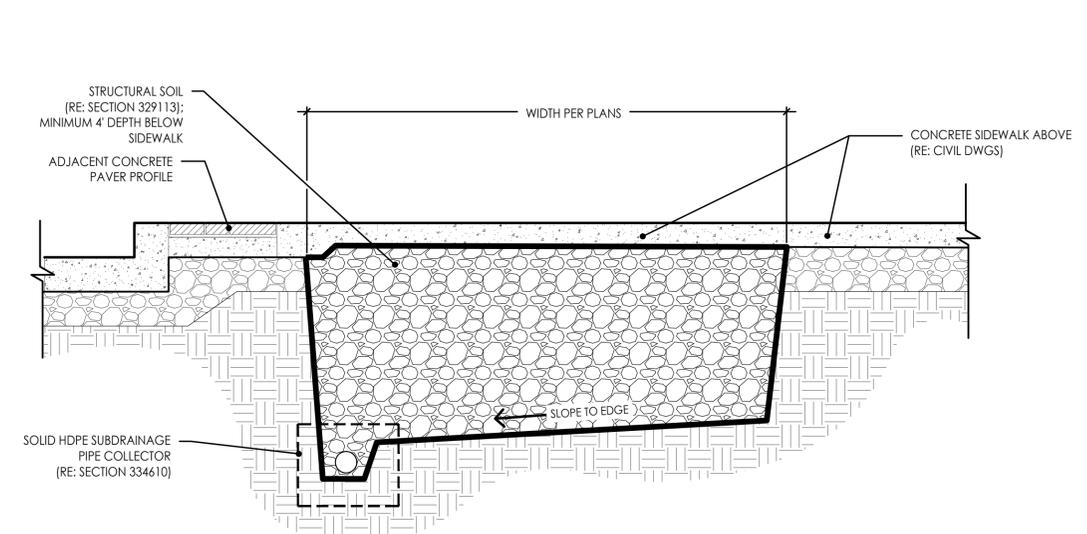
LAND3 Studio - Landscape Architect  
MO LA Corp# 2008001860

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

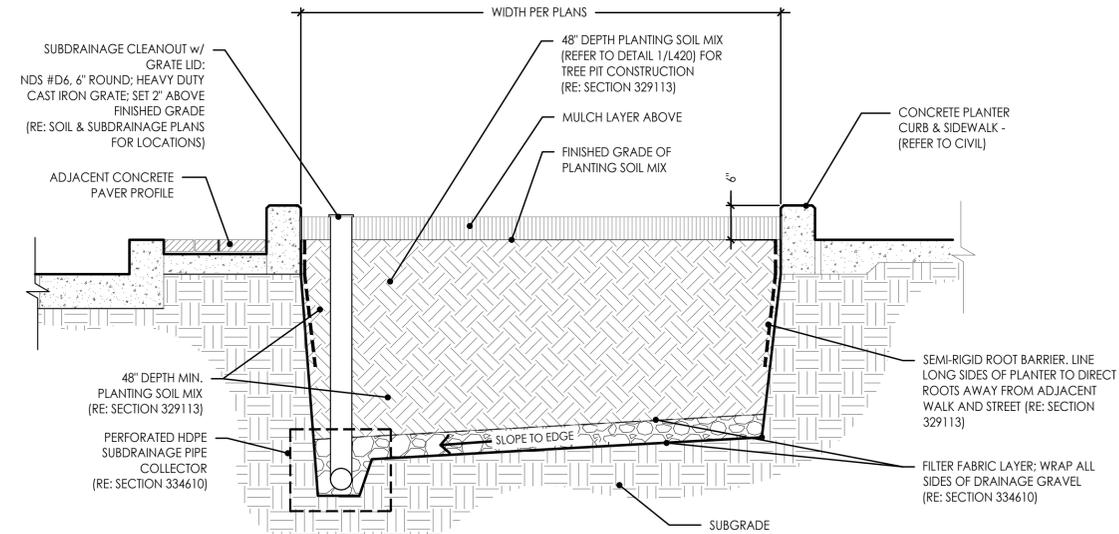
NO.	DATE	REVISIONS	BY	APPROVED
1	11/4/20	FDP Submittal		
2	12/18/20	Issued for Bid		



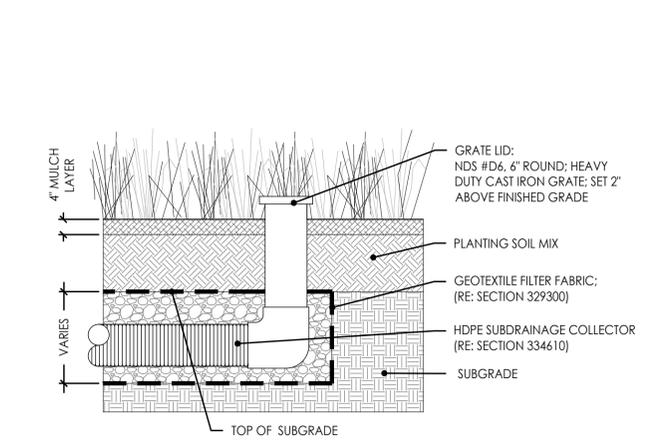
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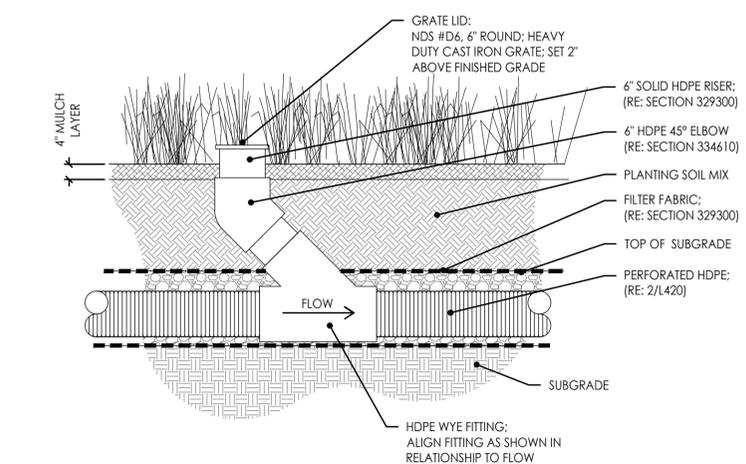
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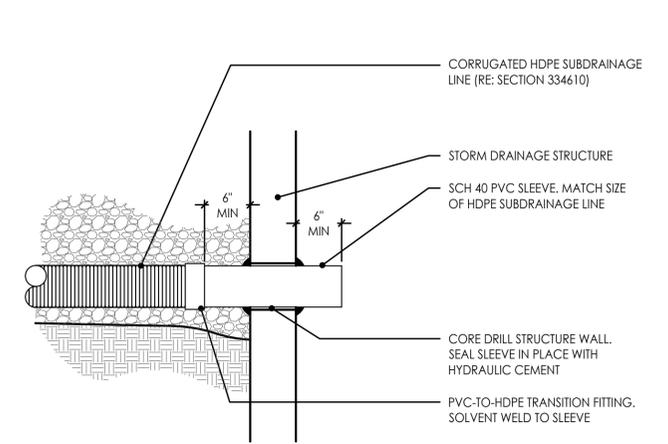
**3 TREE WELL PLANTER TYP**  
Scale: N.T.S.



**4 PLANTING SUBDRAINAGE ENDPipe CLEANOUT**  
Scale: N.T.S.

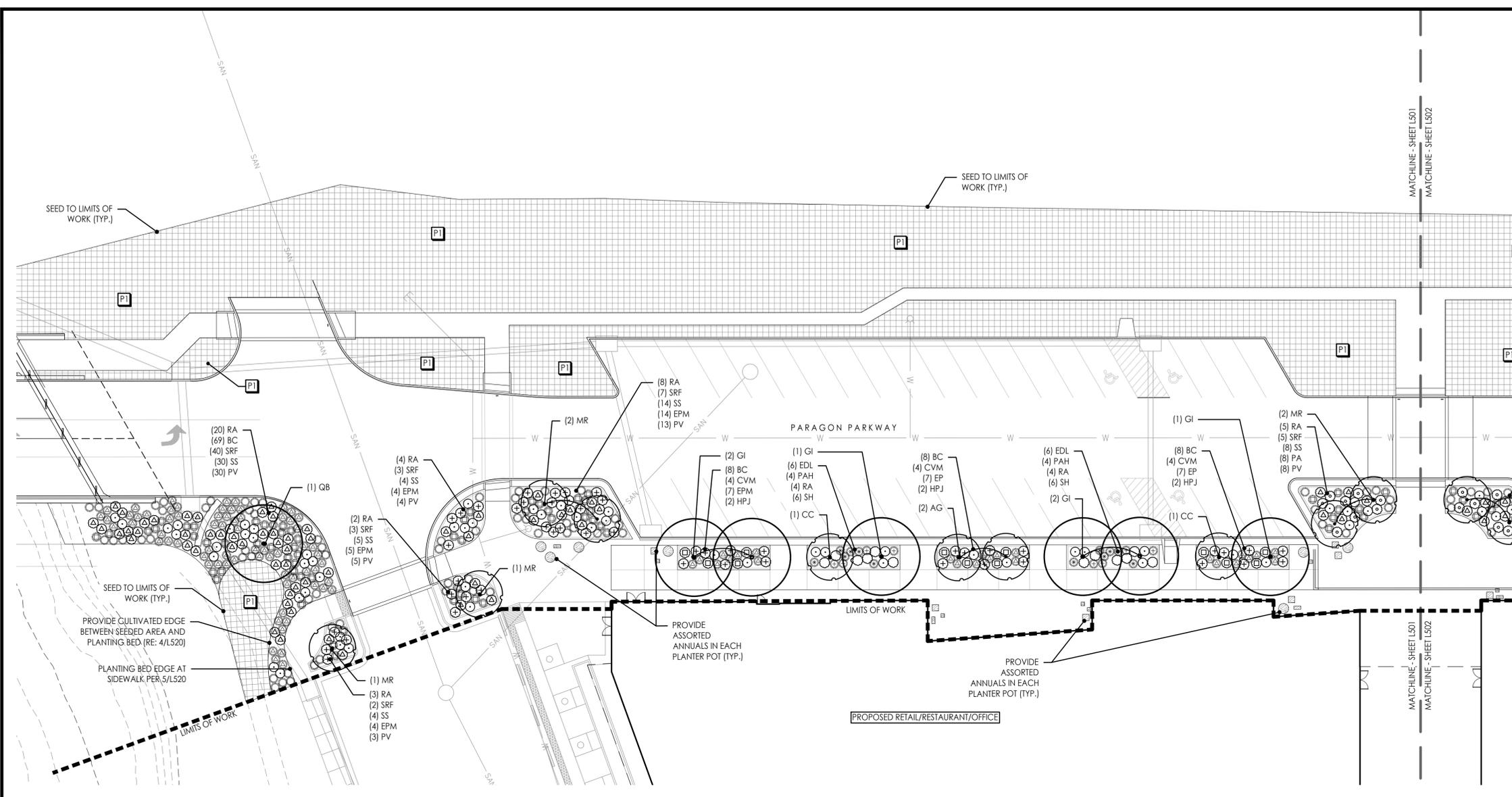


**5 PLANTING SUBDRAINAGE INLINE CLEANOUT**  
Scale: N.T.S.



**6 SUBDRAINAGE OUTLET CONNECTION**  
Scale: N.T.S.

G:\Archive\2019\1249 - PARAGON VILLAGE\DRAWINGS\CAD\SHEETS\STREETScape\420 SOILS.SUBDRAINAGE\STREETScape-DETAILS.dwg 12/18/2020 4:20:40 PM ERIC DAVIS 1:1



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

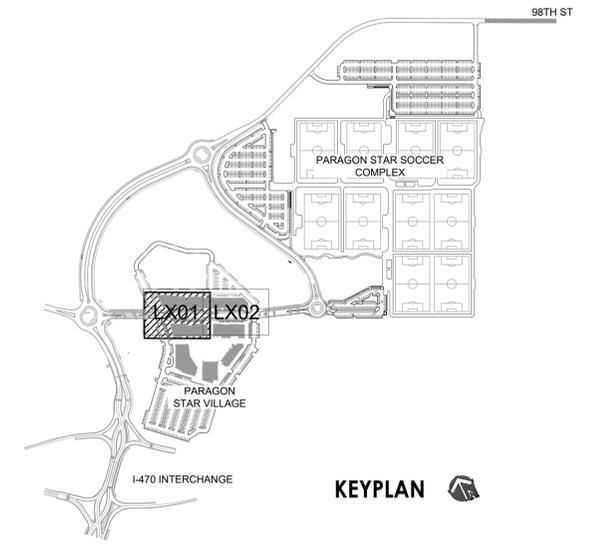


**PLANTING SCHEDULE**

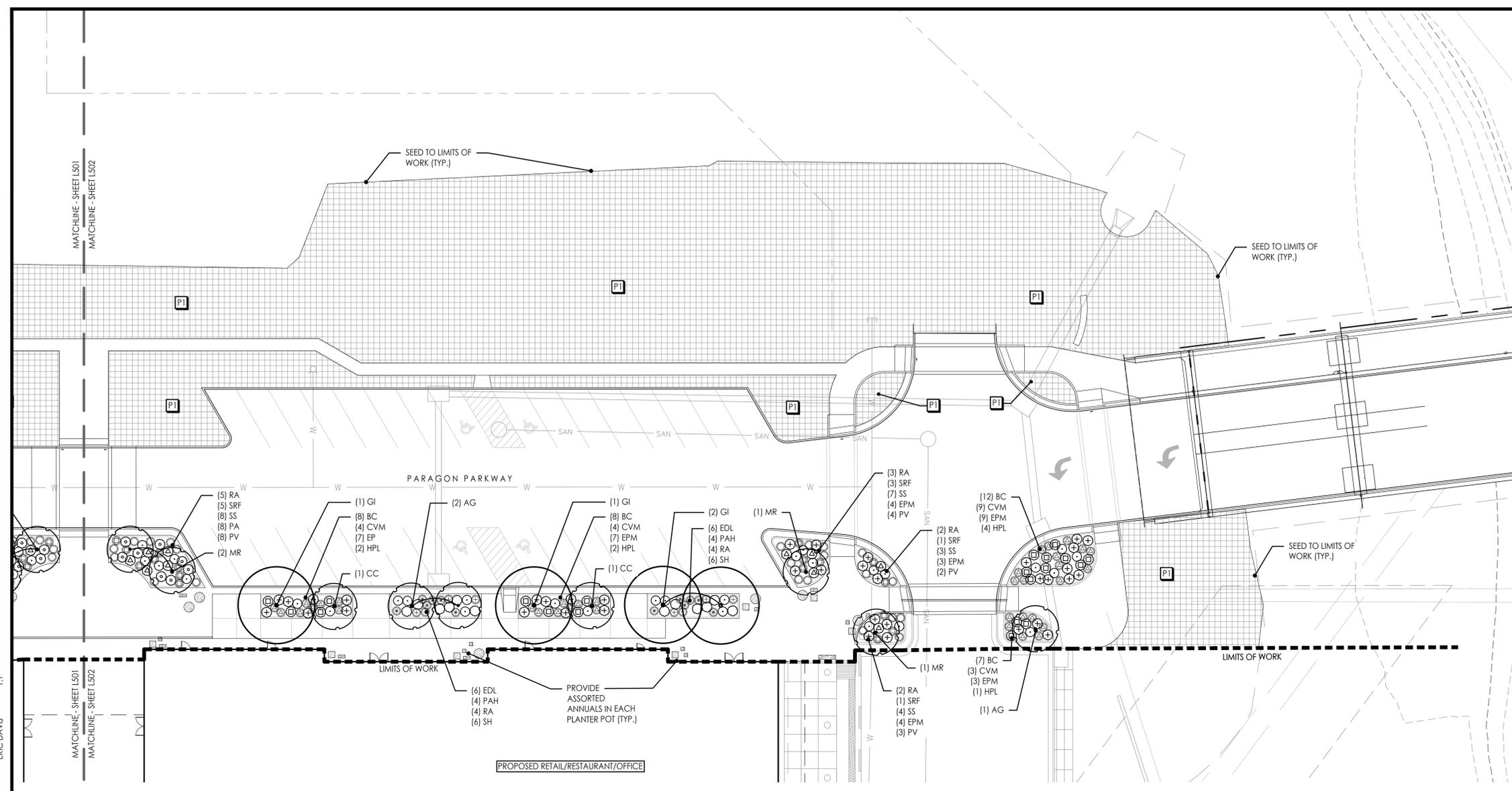
SYM.	KEY	COMMON NAME BOTANICAL NAME	SIZE & REMARKS	SYM.	KEY	COMMON NAME BOTANICAL NAME	SIZE & REMARKS	SYM.	KEY	COMMON NAME BOTANICAL NAME	SIZE & REMARKS	
●	SHADE/STREET TREES			●	DECIDUOUS SHRUB			P1	TURF/SEED MIXES			
	AF	Autumn Blaze Maple <i>Acer freemanii</i> 'Autumn Blaze'	3" cal.		RA	Grow-low Sumac <i>Rhus aromatica</i> 'Gro-low'	5 gal.		P1	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>Symphoricarpos 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.	SS	Little Bluestem <i>Schizachyrium scoparium</i>		1 gal.		
	CC	Eastern Redbud <i>Cercis canadensis</i>	3" cal.	SH	Prairie Dropseed <i>Sporobolus heterolepis</i>	1 gal.	PAH	Dwarf Fountain Grass <i>Pennisetum alopecuroides</i> 'Hamel'	1 gal.			
	MJ	Magnolia <i>Magnolia x 'Jane'</i>	3" cal.	PERENNIAL/GROUND COVER								
	MA	Royal Raindrops® Crabapple <i>Malus 'JFS-KWS'</i>	3" cal.	SRF	Rough Goldenrod <i>Solidago rugosa</i> 'Fireworks'	1 gal.	CVM	Moonbeam Careopsis <i>Careopsis verticillata</i> 'Moonbeam'	1 gal.			
	AG	Japanese Tree Lilac <i>Amelanchier x grandiflora</i> 'Autumn Brilliance'	3" cal.	EPM	Purple Coneflower <i>Echinacea purpurea</i> 'Magnus'	1 gal.	PA	Russian Sage <i>Perovskia atriplicifolia</i>	3 gal.			
	⊙	EVERGREEN TREE			EDL	Joe-pye Weed <i>Eupatorium dubium</i> 'Little-Joe'	1 gal.					
JC		Perfecta Juniper <i>Juniperus chinensis</i> 'Perfecta'	8' ht. min.									
PA		Norway Spruce <i>Picea abies</i>	8' ht. min.									
PS	Eastern White Pine <i>Pinus strobus</i>	8' ht. min.										

**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.
- PLANTING LAYOUT IS NOT INTENDED TO BE EXACT, BUT TO ILLUSTRATE THE DESIGN INTENT AS FOLLOWS:
  - CLUSTER THE SAME TYPE OF PLANT IN GROUPS OF 2-5. ADJUSTING BASED ON OVERALL PLANT COUNTS IN THE PLANTING BED (FEWER TOTAL PLANTS WILL HAVE SMALLER GROUPINGS, MORE TOTAL PLANTS WILL HAVE LARGER GROUPINGS)
  - PLACE SHORTER (AT MATURITY) PLANTS AT THE EDGES OF PLANTERS OR WHERE CAR DOORS OR BUMPERS MAY OVERHANG.
  - PLACE TALLER (AT MATURITY) PLANTS IN THE CENTER OF PLANTERS OR THE TRANSITION EDGE TO NATIVE SEEDED AREAS.



**L501**  
**PLANTING PLAN**



**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											
	AF	Autumn Blaze Maple <i>Acer freemanii</i> 'Autumn Blaze'	3" cal.	●	RA	Grow-low Sumac <i>Rhus aromatica</i> 'Gro-low'	5 gal.	P1	TURF/SEED MIXES			
	CO	Hackberry <i>Celtis occidentalis</i>	3" cal.		HPJ	Little Lime® Hydrangea <i>Hydrangea paniculata</i> 'Jane'	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 scaparium</i> (30%) Indiangrass- <i>Sorghastrum nutans</i> (20%) Fall Aster - <i>Symphoricarum oblongifolium</i> (10%)			
	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.		PV	Shennadoah Switchgrass <i>Panicum virgatum</i> 'Shennadoah'	3 gal.	
ORNAMENTAL TREE			SS		Little Bluestem <i>Schizachyrium scaparium</i>	1 gal.	SH		Prairie Dropseed <i>Sporobolus heterolepis</i>	1 gal.		
CC	Eastern Redbud <i>Cercis canadensis</i>	3" cal.	PAH	Dwarf Fountain Grass <i>Pennisetum alopecuroides</i> 'Hameln'	1 gal.	PERENNIAL/GROUND COVER						
MJ	Magnolia <i>Magnolia</i> x 'Jane'	3" cal.	SRF	Rough Goldenrod <i>Solidago rugosa</i> 'Fireworks'	1 gal.	JC	Perfecta Juniper <i>Juniperus chinensis</i> 'Perfecta'	8' ht. min.	CVM	Moonbeam Coreopsis <i>Coreopsis verticillata</i> 'Moonbeam'	1 gal.	
MA	Royal Raindrops® Crabapple <i>Malus</i> 'JFS-KWS'	3" cal.	EVERGREEN TREE			PA	Norway Spruce <i>Picea abies</i>	8' ht. min.	EPM	Purple Coneflower <i>Echinacea purpurea</i> 'Magnus'	1 gal.	
AG	Japanese Tree Lilac <i>Amelanchier x grandiflora</i> 'Autumn Brilliance'	3" cal.	JC	Perfecta Juniper <i>Juniperus chinensis</i> 'Perfecta'	8' ht. min.	PS	Eastern White Pine <i>Pinus strobus</i>	8' ht. min.	PA	Russian Sage <i>Perovskia atriplicifolia</i>	3 gal.	
			EDL	Joe-pye Weed <i>Eupatorium dubium</i> 'Little-Joe'	1 gal.							

**PLANTING NOTES**

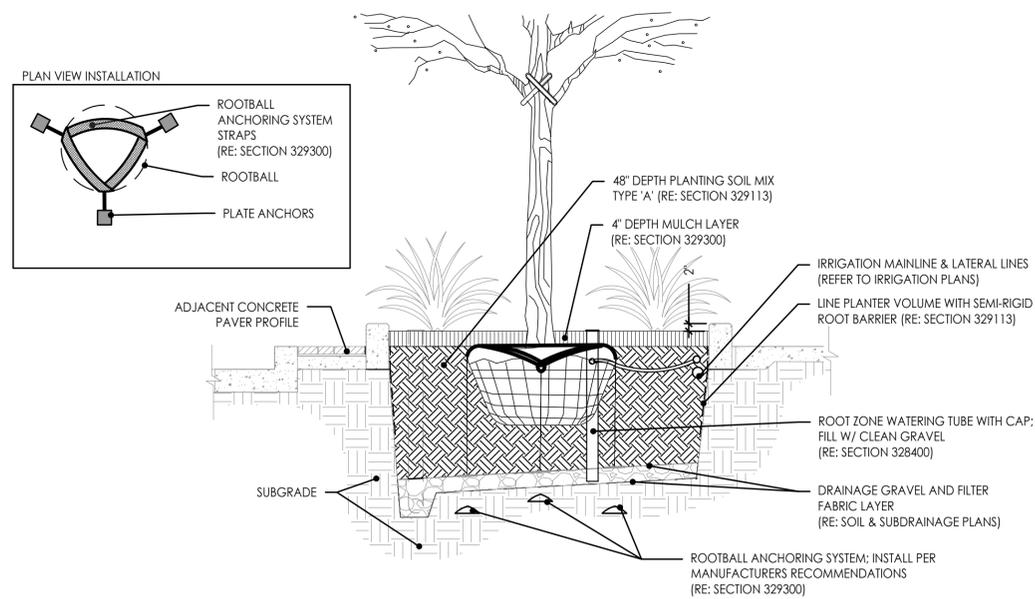
- THIS PLAN PROVIDES LAYOUT, QUANTITY & SIZES OF ALL PLANT MATERIAL TO BE INSTALLED BY THE LANDSCAPE CONTRACTOR. REFER TO SECTION 329300 - PLANTS AND SECTION 329200 - TURF AND GRASSES FOR COMPLETE SCOPE OF WORK, RESPONSIBILITIES, PRODUCTS & EXECUTION OF WORK.
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  - PLACE TALLER (AT MATURITY) PLANTS IN THE CENTER OF PLANTERS OR THE TRANSITION EDGE TO NATIVE SEEDED AREAS.



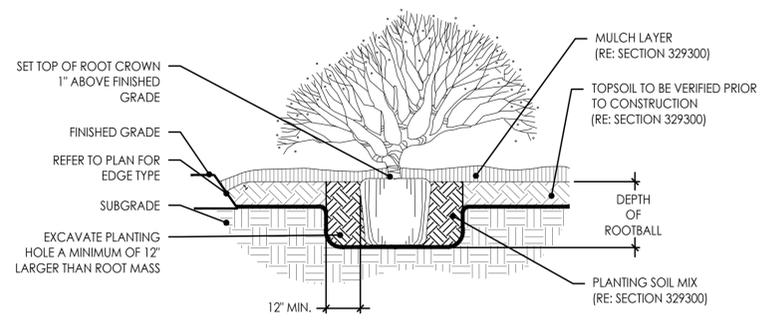
**L502**  
**PLANTING PLAN**

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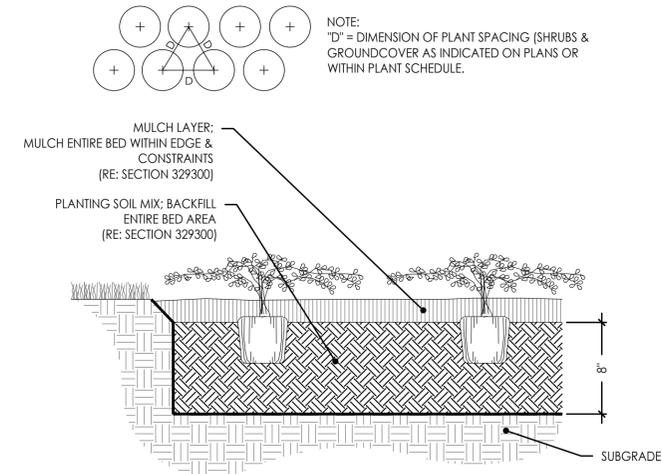
		<b>GBA</b> <b>architects</b> <b>engineers</b> 9801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com	DATE: 12-18-2020 DESIGN BY: DRAWN BY: XX PROJECT NO.: 12720 SHEET NO.: 62 TOTAL SHEETS: 68
LAND3 Studio - Landscape Architect MO LA Corp# 2008001860		<b>Street and Storm Sewer Plans</b> <b>Paragon Parkway</b> Lee's Summit, Missouri	
NO. DATE 11/4/20 12/18/20		REVISIONS BY APPROVED FDP Submittal Issued for Bid	



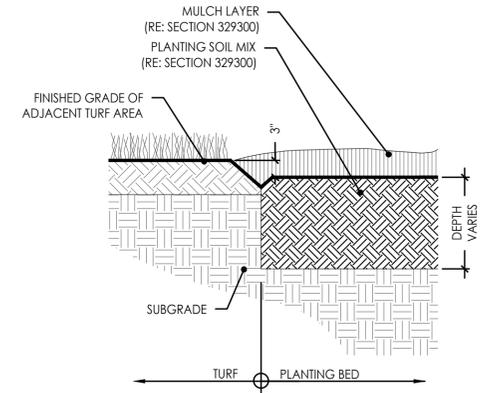
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Scale: N.T.S.



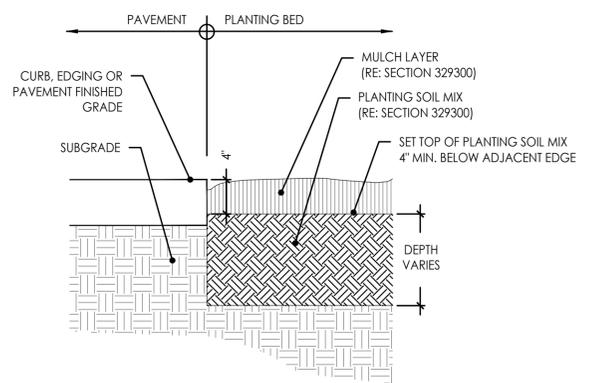
**2 SHRUB PLANTING**  
Scale: N.T.S.



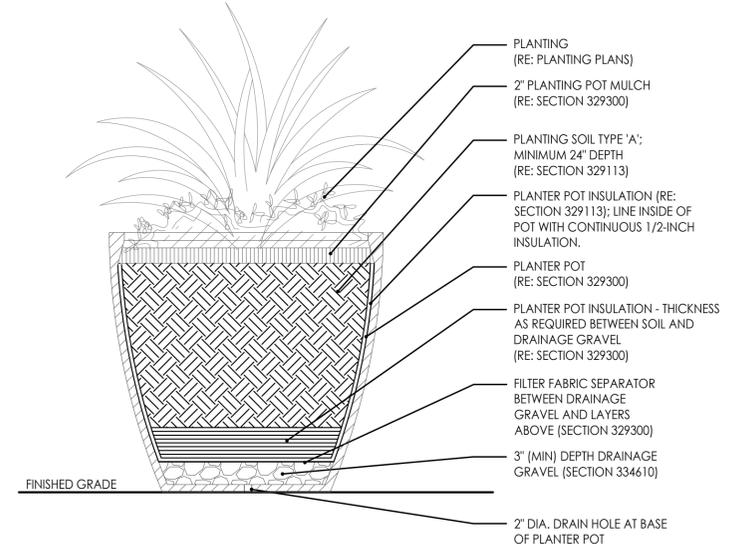
**3 GROUNDCOVER**  
Scale: N.T.S.



**4 CULTIVATED EDGE**  
Scale: N.T.S.



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



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

1:1  
 ERIC DAVIS  
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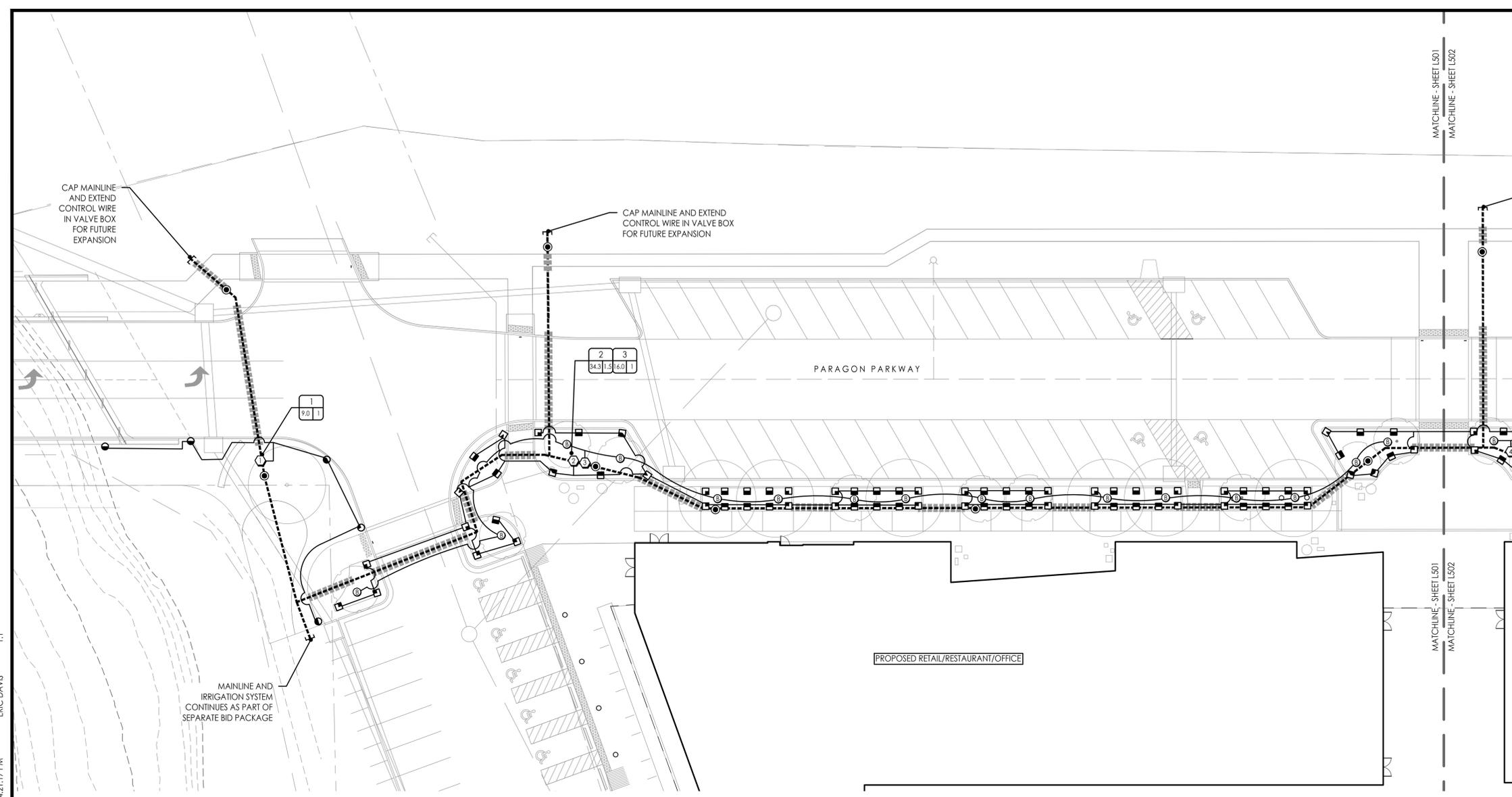
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 DESIGN BY: XX  
 DRAWN BY: XX  
 PROJECT NO.: 12720  
 SHEET NO. 63  
 TOTAL SHEETS 68



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

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

NO.	DATE	REVISIONS	BY	APPROVED
1	11/4/20	FDP Submittal		
2	12/18/20	Issued for Bid		



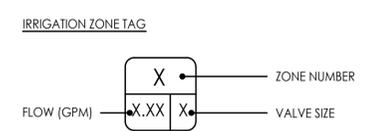
**1 IRRIGATION PLAN - VILLAGE PARKWAY WEST**  
 Scale: 1"= 20'-0"



**IRRIGATION LEGEND**

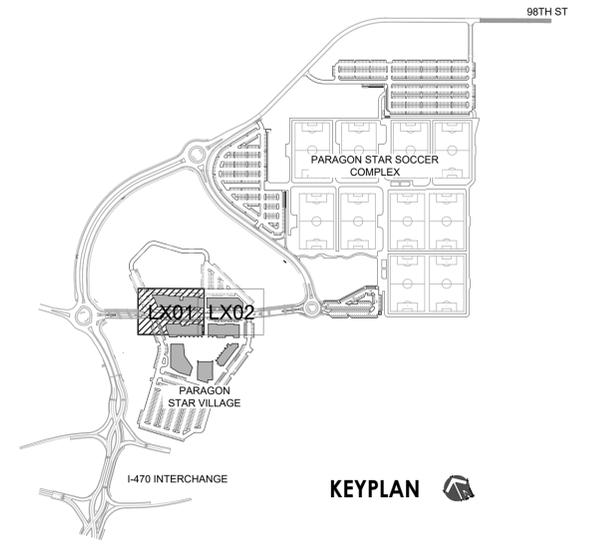
SYMBOL	DESCRIPTION	DETAIL
	2" PVC MAINLINE (SEE PLAN FOR SIZE)	RE: SECTION 328400 / RE: DETAIL 1/L720
	LATERAL LINE (1" UNLESS OTHERWISE NOTED)	RE: SECTION 328400 / RE: DETAIL 1/L720
	PVC PIPE SLEEVE (6" UNLESS OTHERWISE NOTED)	RE: DETAIL 2/L720
	CONTROLLER	RE: DETAIL 3/L721
	RAIN/FREEZE SENSOR	RE: DETAIL 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	
	FULL STRIP	WATER DELIVERY EQUIPMENT. REFER TO ZONE CHART SHEET XXX FOR MODEL NUMBERS, BODY TYPE, AND NOZZLE.
	HALF STRIP	

**REFER TO SHEET L721 FOR COMPLETE IRRIGATION ZONE SCHEDULE**



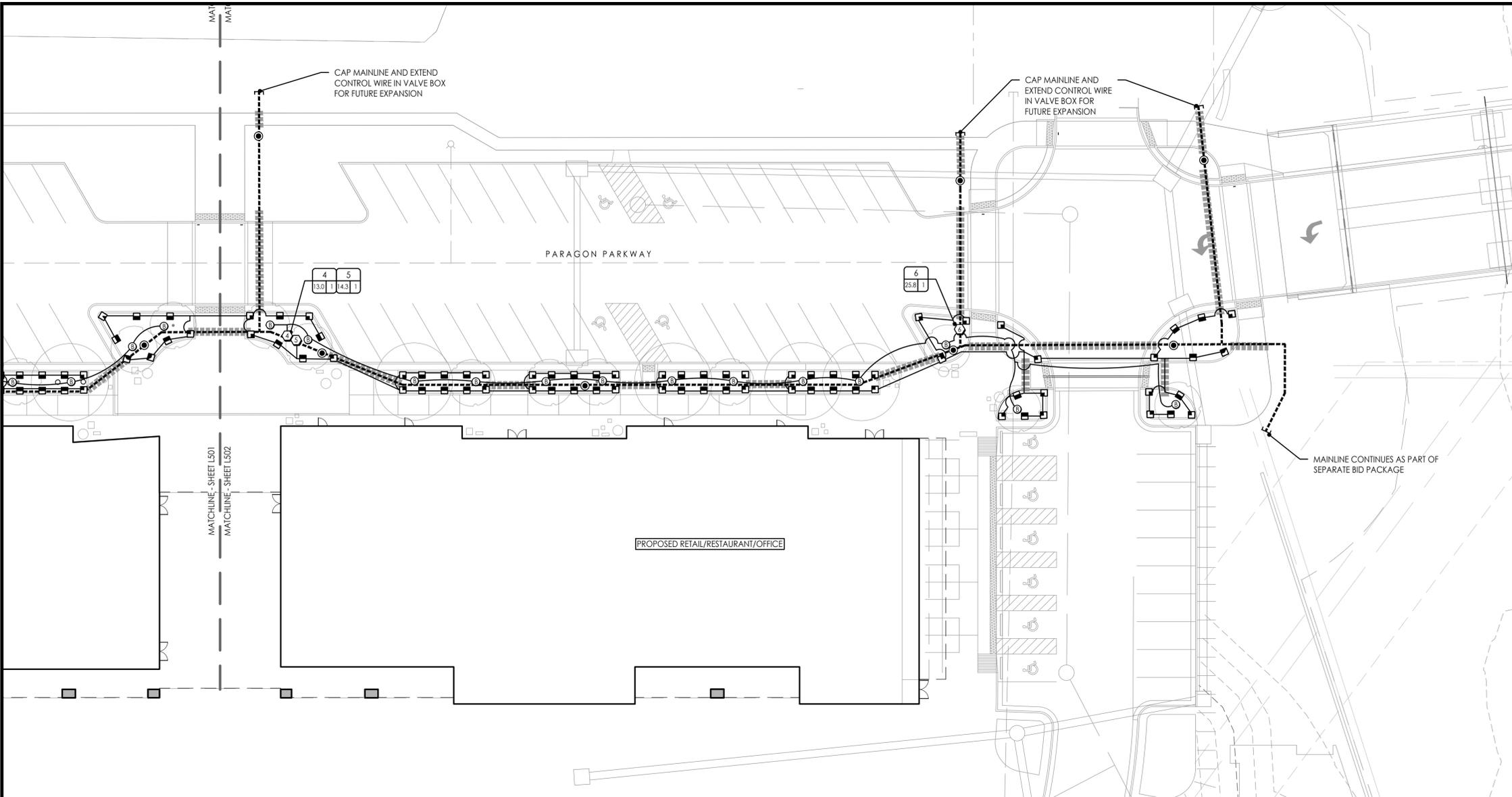
**IRRIGATION NOTES**

- 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.
  - 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.
  - 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.
  - 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.
  - 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.
  - RAIN SENSOR TO BE INCLUDED IN FUTURE PHASE.
  - 120-VOLT ELECTRICAL POWER SERVICE PROVIDED BY OTHERS; REFER TO ELECTRICAL.
  - 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**

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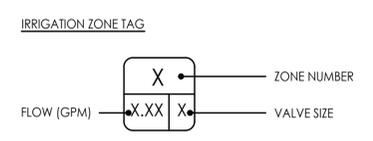
**1 IRRIGATION PLAN - VILLAGE PARKWAY EAST**  
 Scale: 1"= 20'-0"



**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
	ROOT WATERING SYSTEM	RE: DETAIL 10/L720
	ISOLATION VALVE	RE: DETAIL 3/L720
	QUICK COUPLER	RE: DETAIL 4/L720
	FULL ARC	WATER DELIVERY 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**

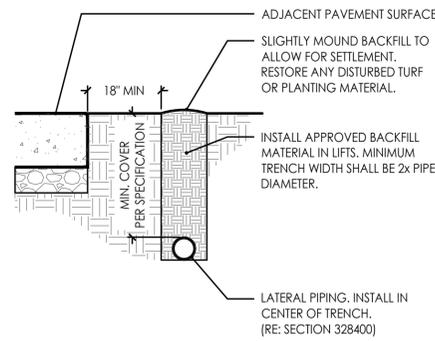
- THIS PLAN ILLUSTRATES THE SCHEMATIC SCOPE OF WORK FOR THE IRRIGATION SYSTEM FOR THE VILLAGE AT PARAGON STAR AND IS INTENDED TO BE USED FOR PRELIMINARY PRICING. REFER TO SECTION 328400 - IRRIGATION SYSTEM FOR THE DETAILED SCOPE OF WORK, RESPONSIBILITIES, PRODUCTS AND EXECUTION OF WORK.
  - CONTRACTOR 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.
  - 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.
  - 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.
  - 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.
  - RAIN SENSOR TO BE INCLUDED IN FUTURE PHASE.
  - 120-VOLT ELECTRICAL POWER SERVICE PROVIDED BY OTHERS; REFER TO ELECTRICAL.
  - 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.



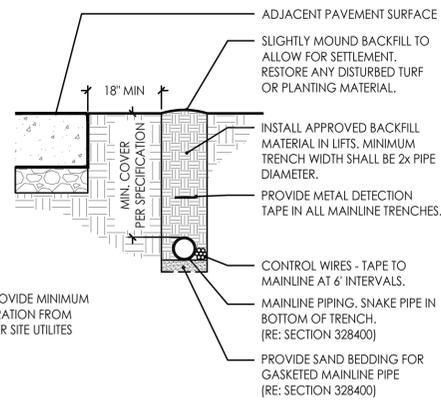
**L702**  
**IRRIGATION PLAN**

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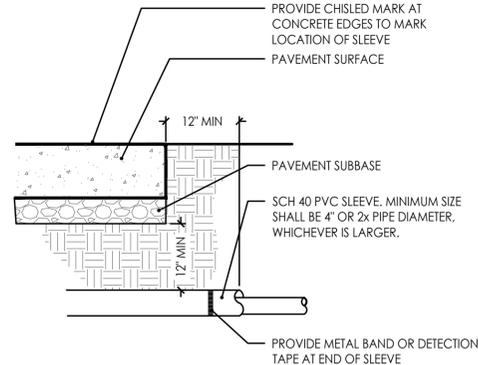
		<b>GBA</b> architects engineers 9801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com	
		DATE: 12-18-2020 DESIGN BY: DRAWN BY: XX PROJECT NO.: 12720 SHEET NO.: 65 TOTAL SHEETS: 68	Street and Storm Sewer Plans <b>Paragon Parkway</b> Lee's Summit, Missouri
LAND3 Studio - Landscape Architect MO LA Corp# 2008001860		REVISIONS 11/4/20 FDP Submittal 12/18/20 Issued for Bid	



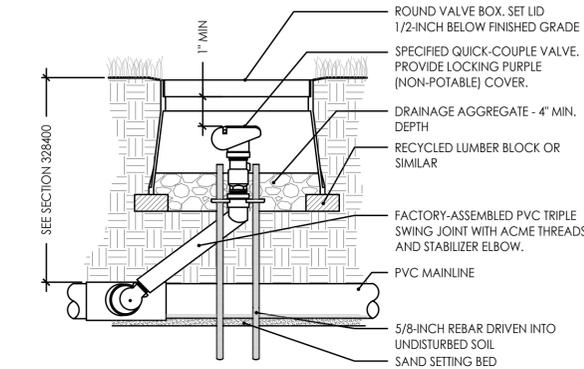
**1 PIPE TRENCHING**  
Scale: N.T.S.



**2 PIPE SLEEVE**  
Scale: N.T.S.

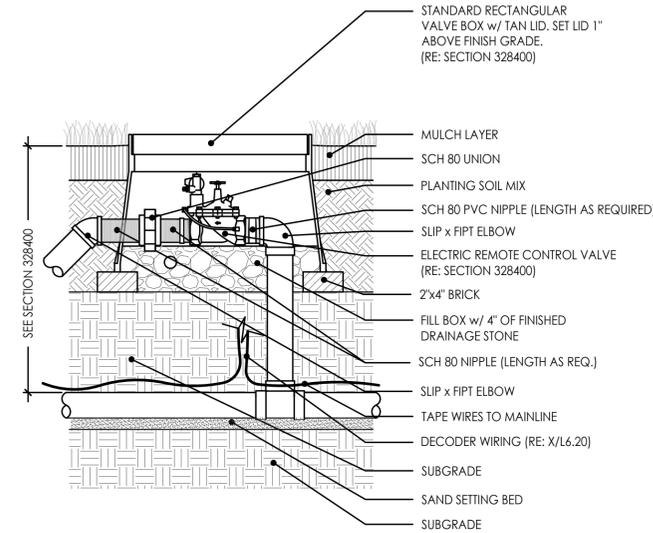


**3 ISOLATION VALVE**  
Scale: N.T.S.

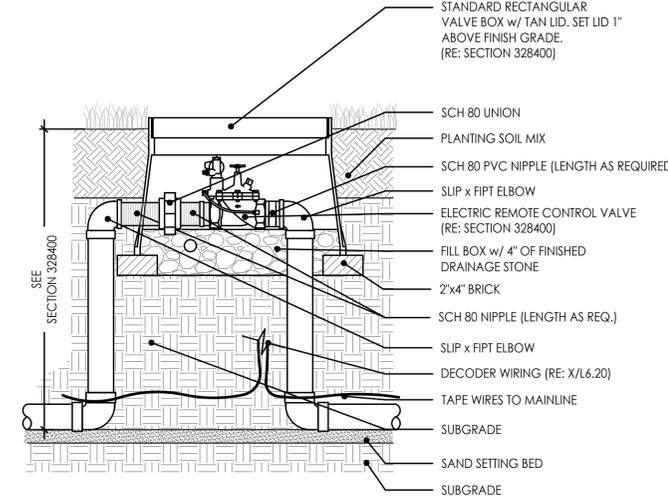


- NOTES
1. ACME O-RING SEALED THREADS ARE TO BE FINGER TIGHTENED AND BACKED OFF ONE FULL ROTATION BEFORE INSTALLATION.
  2. THE SWING JOINT ARM IS TO BE INSTALLED AT AN ANGLE BETWEEN 30° AND 45° TO THE MAINLINE
  3. TEFLON TAPE ALL METAL THREADS.

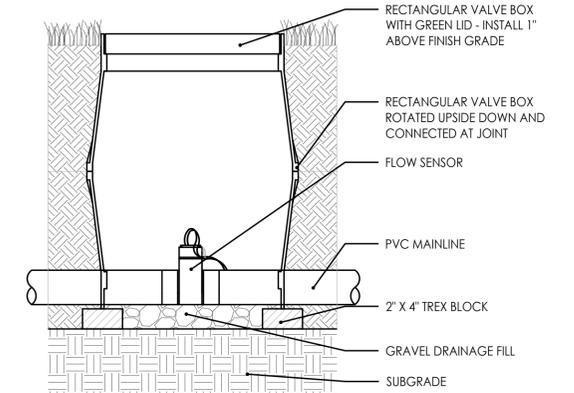
**4 QUICK COUPLE VALVE**  
Scale: N.T.S.



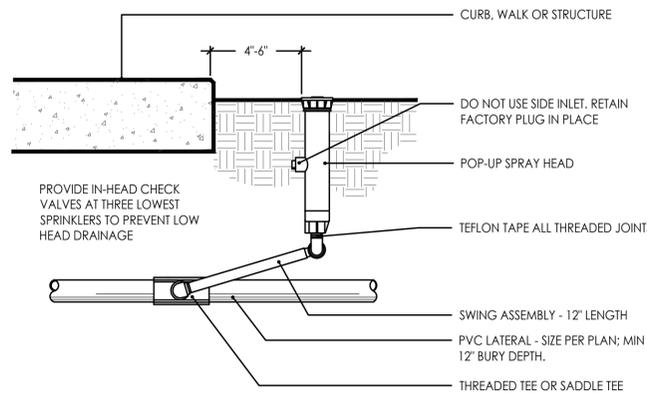
**5 REMOTE CONTROL VALVE**  
Scale: N.T.S.



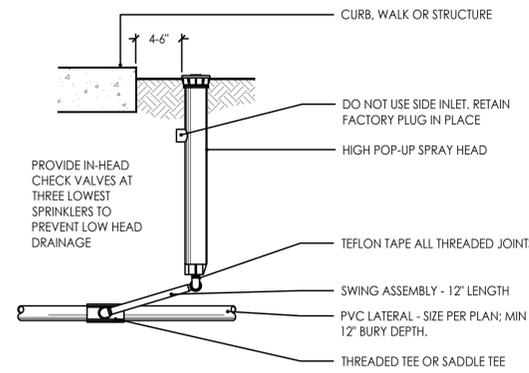
**6 MASTER VALVE**  
Scale: N.T.S.



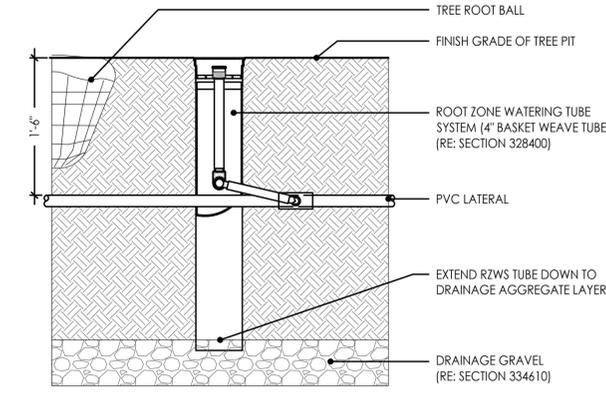
**7 FLOW SENSOR**  
Scale: N.T.S.



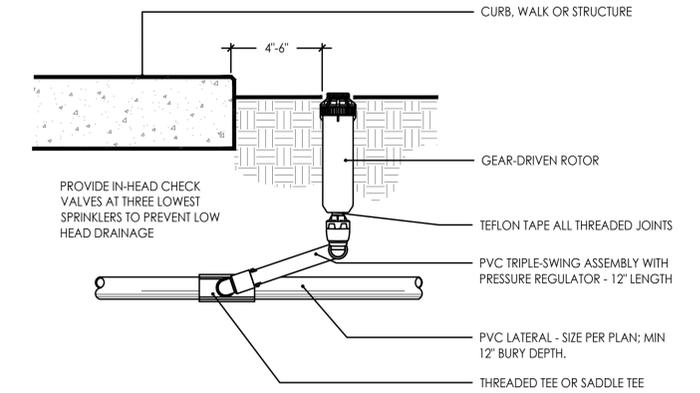
**8 POP-UP SPRAY HEAD**  
Scale: N.T.S.



**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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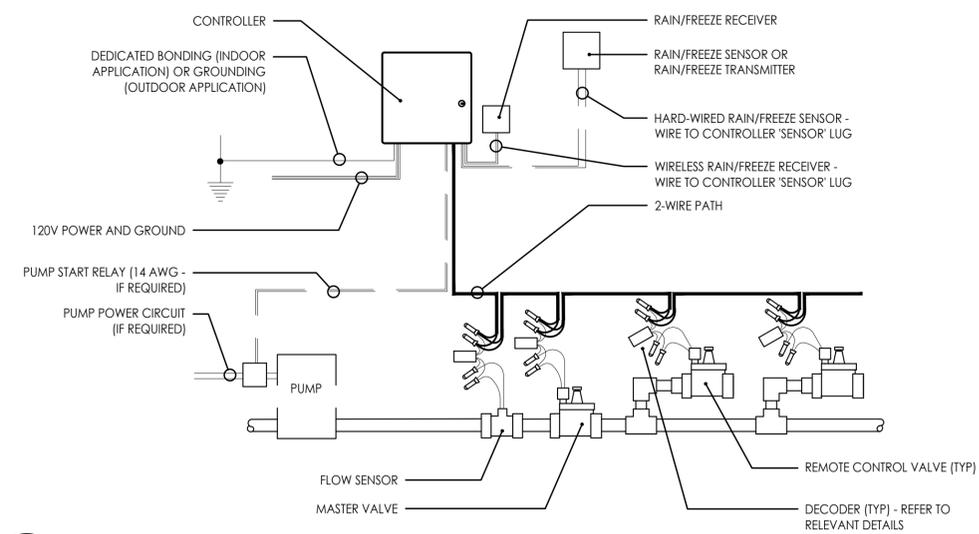
LAND3 Studio - Landscape Architect  
MO LA Corp# 2008001860

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

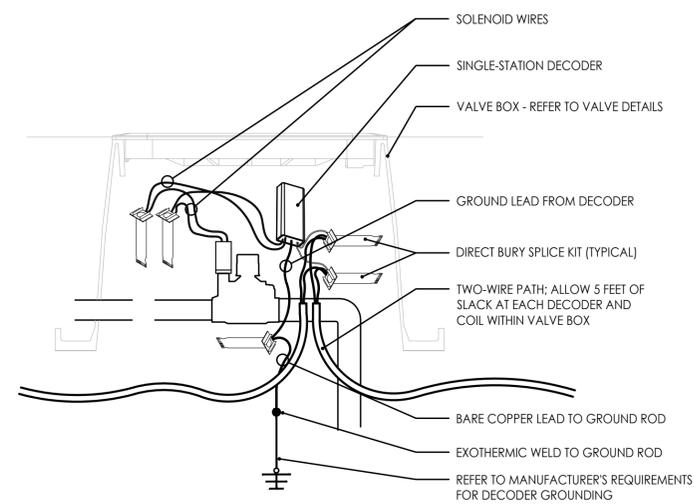
NO.	DATE	REVISIONS	BY	APPROVED
1	11/4/20	FDP Submittal		
2	12/18/20	Issued for Bid		

**IRRIGATION SCHEDULE**

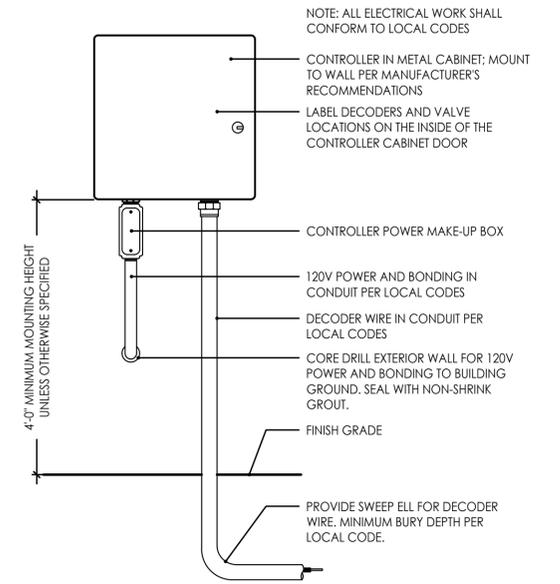
ZONE	ZONE TYPE	HEAD / LINE INFORMATION							FLOW (GPM)	OPERATING PRESSURE (PSI)	VALVE SIZE
		360°	270°	180°	90°	SST	RCS/LCS	CST			
1	TURF ROTOR	HEAD: RAINBIRD 5012/ NOZZLE: RAINBIRD RAIN CURTAIN							9.0	35	1"
		0	0	4	1	0	0	0			
2	BED SPRAY	HEAD: RAINBIRD 1812/ NOZZLE: RAINBIRD MPR							34.0	30	1"
		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			



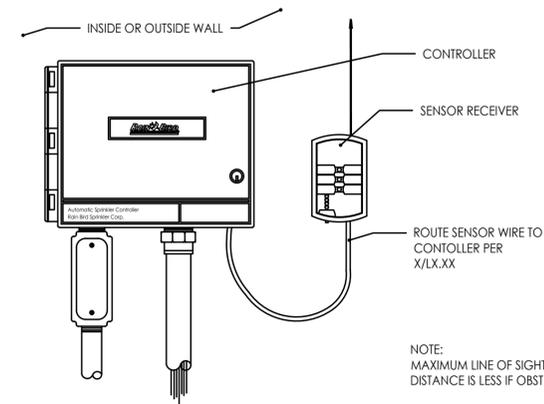
**1 WIRING SCHEMATIC**  
Scale: N.T.S.



**2 DECODER**  
Scale: N.T.S.

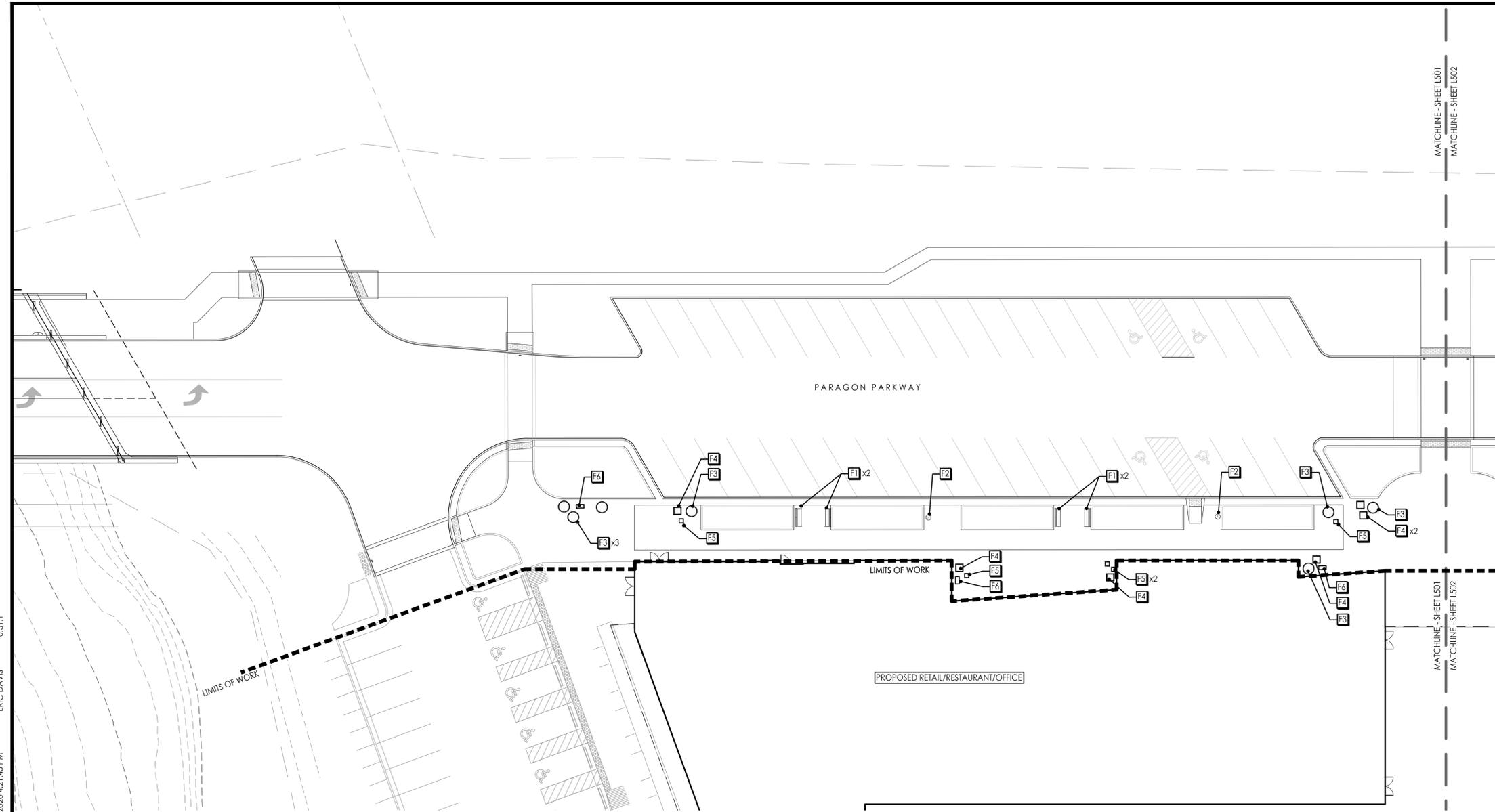


**3 CONTROLLER**  
Scale: N.T.S.



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.



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

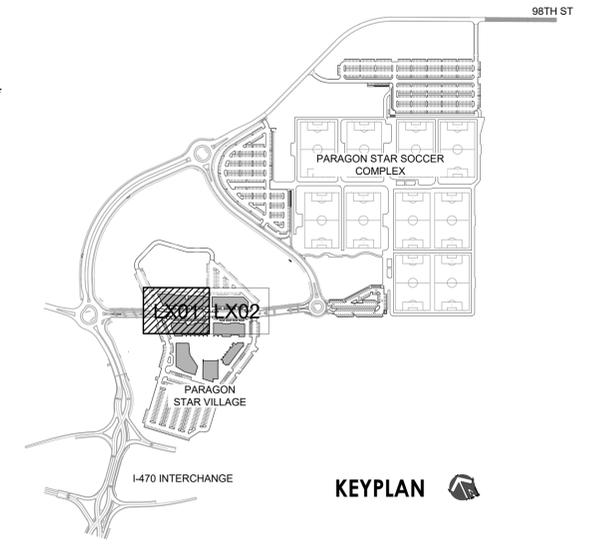


**SITE FURNISHINGS NOTES**

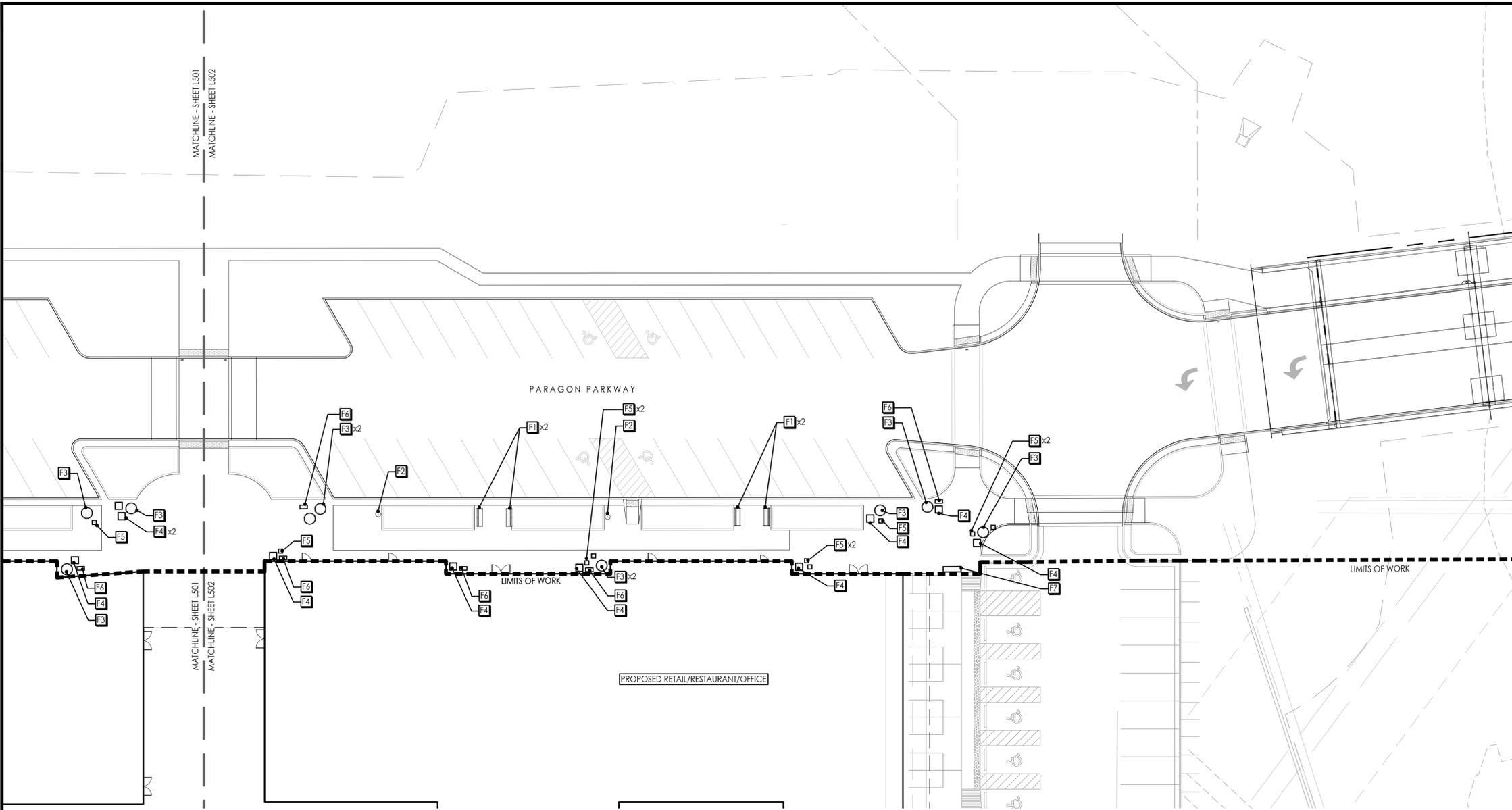
- THIS PLAN PROVIDES LAYOUT & QUANTITY OF ALL SITE FURNISHINGS TO BE PROVIDED BY THE LANDSCAPE CONTRACTOR. REFER TO SECTION 323300 - SITE FURNISHINGS FOR COMPLETE SCOPE OF WORK, RESPONSIBILITIES, PRODUCTS AND EXECUTION OF WORK.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES BY CONTACTING ALL OF THE RESPECTIVE UTILITY COMPANIES AND/ OR THE LOCAL "ONE-CALL"/"CALL-BEFORE-YOU-DIG" SYSTEM AND BY EXCAVATING TEST PITS IF NECESSARY.
- 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	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



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

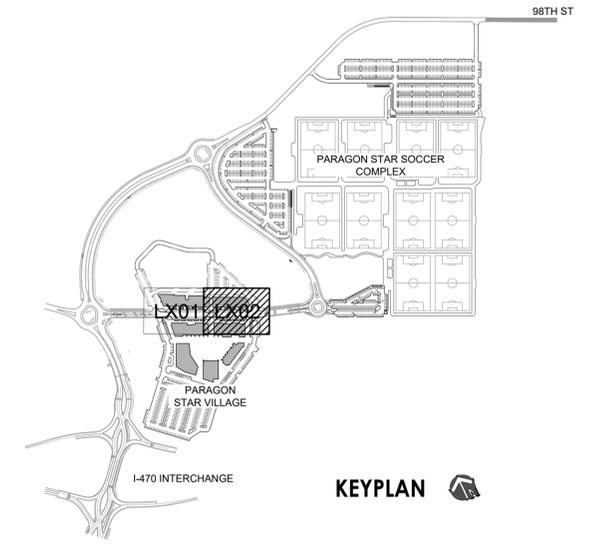


**SITE FURNISHINGS NOTES**

1. 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.
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. 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	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



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