

C:\12220\Civil_3D\Production Drawings\Street & Storm Plans\1222000100.dwg Layout: 1 Cover Sheet -- Tuesday, May 19, 2020, 4:14pm -- Copyright 2020, George Butler Associates, Inc. Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059

PUBLIC STREET, STORM SEWER AND STREET LIGHTING PLANS FOR PARAGON STAR DEVELOPMENT

Sections 33 & 34–Township 48–Range 32

City of Lee’s Summit
Jackson County, Missouri

Summary of Quantities

Item No.	Description	Unit	Approx. Unit Quantity
1	Concrete Surface (7") w/ Aggregate Base (6")	SY	13,858
2	Concrete Curb and Gutter (Type "B")	LF	10,577
3	4" Underdrain	LF	8,627
4	Street Lighting	EA	47
5	8"x5' Curb Inlet	EA	1
6	8"x4' Curb Inlet	EA	3
7	7"x4' Curb Inlet	EA	1
8	7"x3' Curb Inlet	EA	6
9	6"x3' Curb Inlet	EA	5
10	5"x4' Curb Inlet	EA	1
11	5"x3' Curb Inlet	EA	6
12	Storm Sewer (15") (RCP)	LF	985
13	Storm Sewer (18") (RCP)	LF	1,186
14	Storm Sewer (24") (RCP)	LF	578
15	4' MH	EA	4
16	Seeding	Acre	2.91
17	Temporary Gravel Construction Entrance	EA	1
18	Curb Inlet Protection	EA	144
19	Concrete CG-2 (Mountable Curb)(Roundabout)	LF	981
20	Concrete C-1 (Barrier Curb)(Roundabout)	LF	698
21	Brick Pavers (Roundabouts)	SY	3,590
22	Brick Pavers (Street Medians)	SY	2,204
23	5" KCP&L Conduit	LF	5,908
24	4" Telecom conduit	LF	4,570
25	4" SCH 40 PVC	LF	948
26	Cut	CY	18,169
27	Fill	CY	11,609
28	End Section 15" RCP w/ Conc. Toewall	EA	1
29	End Section 18" RCP w/ Conc. Toewall	EA	1
30	Concrete Sidewalk (6' Wide)	LF	3,654
31	Concrete Sidewalk (10' Wide)	LF	2,345
32	Retaining Wall	SF	337
33	Median Nose	EA	4

PROJECT BENCHMARK

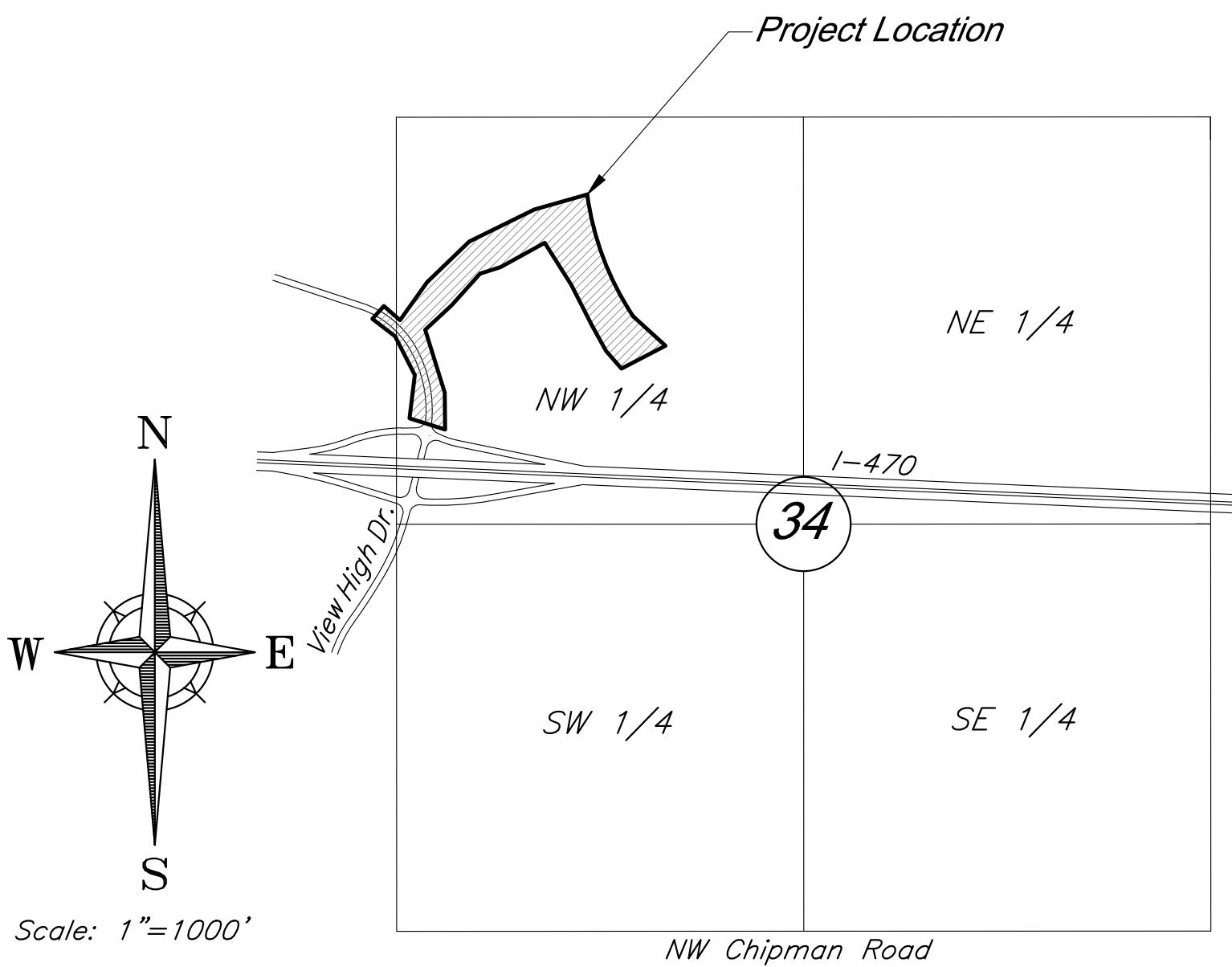
BM #11 – Chiseled "L" on top
Northeast corner of concrete guardrail
at the Northeast corner of I-470 bridge
spanning View High Drive.
EL=833.80

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

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

Design Speed = 40 mph



VICINITY MAP

Section 33 & 34-T48N-R32W

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

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



PROJECT ENGINEER:

APPROVED:

CITY ENGINEER:

INDEX OF SHEETS

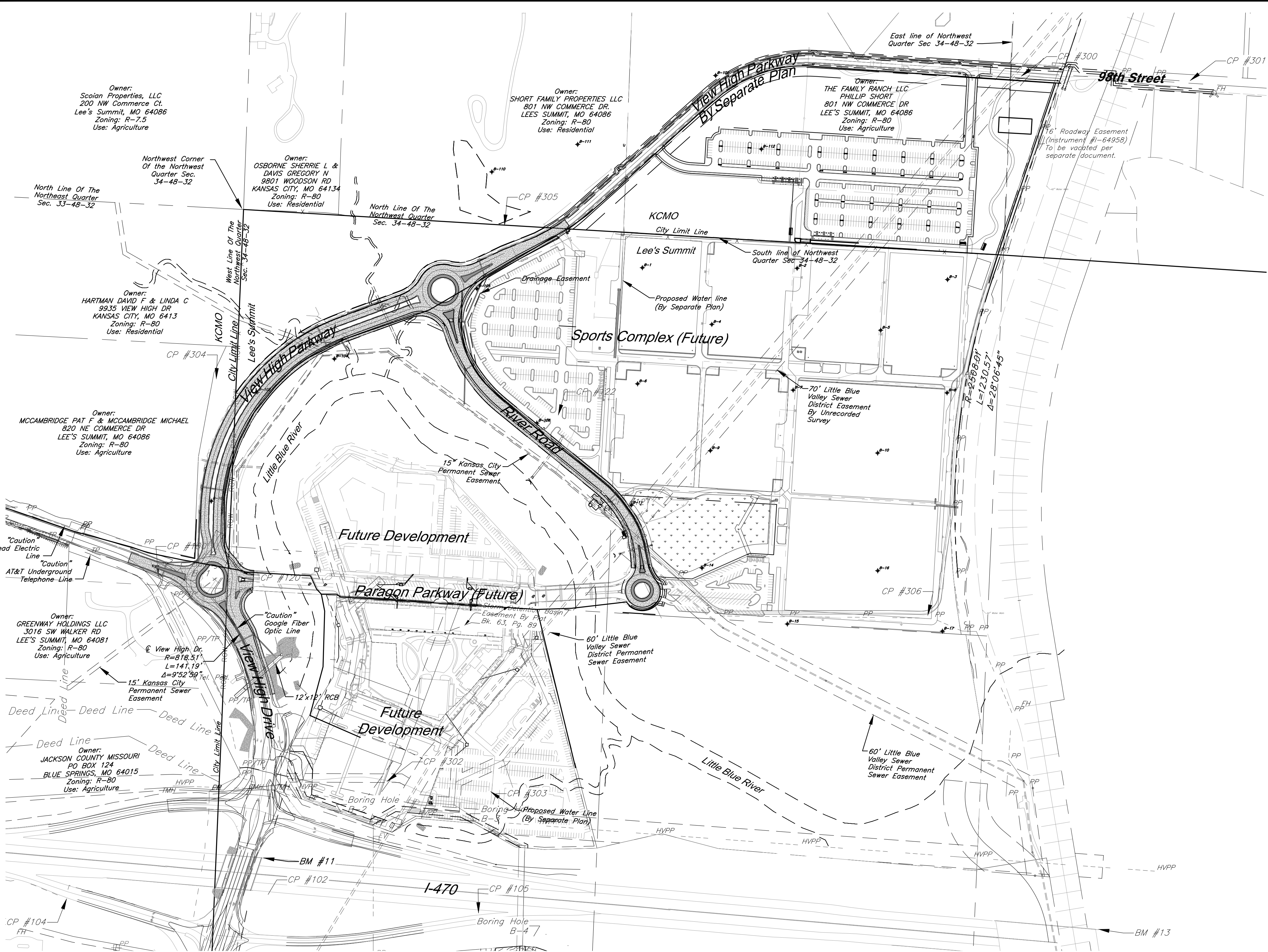
Sht. No.	Description
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8-9	Plan & Profile (View High Pkwy)
10-11	Plan & Profile (River Dr)
12	Utility Plan (View High Dr)
13	Utility (View High Pkwy)
14	Utility Plan (River Dr)
15-16	Private Water Main Line C Plan & Profiles
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engineers

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4/2/2020

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PROJECT CONTROL

Modified State Plane (Project Ground Coordinates), NAD83
2403 - Missouri West, U.S. Feet
Vertical - NAVD83, 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) NNW 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: 1010126.43'
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: 1010126.43'
E: 2804698.47'
EL: 888.55'

Ties:
SE 4.00' to great break at ridge line

Legend

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

FLOODPLAIN NOTE:

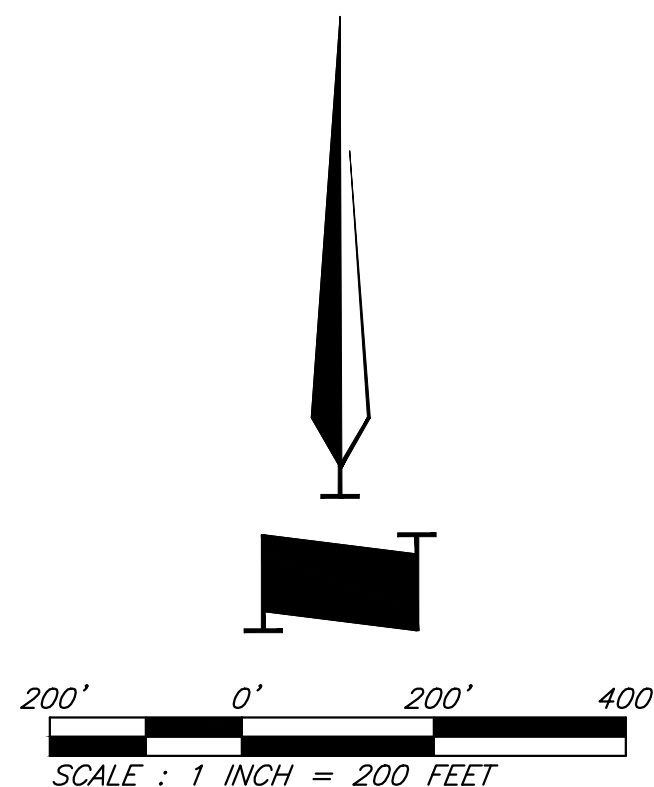
According to FEMA Flood Insurance Rate Map (FIRM) Community Panel No. 29095C0404G, effective Date 1/20/17, the tract lies partially within an area designated as Special Flood Hazard Areas. Special Flood Hazard Areas defined on portions of the site include regulatory floodway, Zone AE (with depths identified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

Total Disturbed Area = 10.14 Acres

PROJECT BENCHMARK

BM #11 - Chiseled "L" on top Northeast corner of concrete guardrail at the Northeast corner of I470 bridge spanning View High Drive. Coordinates: N=1008590.33', E=2803864.07', EL=833.80

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



General Layout



GBA
architects
engineers

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

DATE: 4-2-2020
DESIGN BY: CEL
DRAWN BY: DRV
PROJECT NO.: 12720

SHEET NO.

TOTAL SHEETS

382

Bradley D. Burton
Professional Engineer
License No. 25862

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

NO.	DATE	REVISIONS	BY	APPROVED

GENERAL NOTES

General Notes:

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

Permitting:

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

Erosion Control:

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

Earthwork:

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

- Slopes shall be constructed to a maximum slope of 3:1 (Horiz:Vert).
- Refer to "Geotechnical Engineering Report: Paragon Star – Soccer Fields" Dated 6/27/2016 (Terracon Project #02165149), and "Geotechnical Engineering Report – Paragon Star Roadways and Borrow Site" Dated December 8, 2016 – along with Addendum #1 dated 1/4/17, and Addendum #2 dated 2/13/17, and "Preliminary Geotechnical Report: View High Green Development" Dated May 29, 2013, by Terracon Consultants, Inc., 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. It is provided for informational purposes only. The content of these plans may change based on recommendations found in the final geo-technical report.
- Unless otherwise noted, all spot elevations and contours are shown to "finish" grade surface. Contractor shall adjust for any overcut required in paving, parking, landscape, or building pad areas as defined in the Geotechnical Report, these plans, or the project specifications.
- All temporary slopes and excavations should conform to Occupational Safety and Health Administration (OSHA) standards for the Construction Industry (29 CFR part 1026, subpart P).
- Cut/Fill – All fills are to be made with suitable structural fill material in accordance with the project's geotechnical report recommendations.

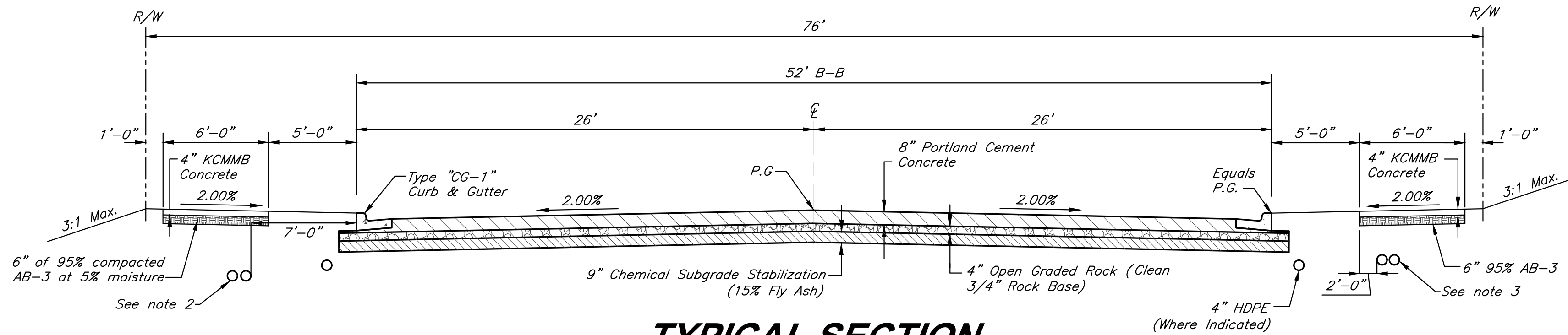
Utility:

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

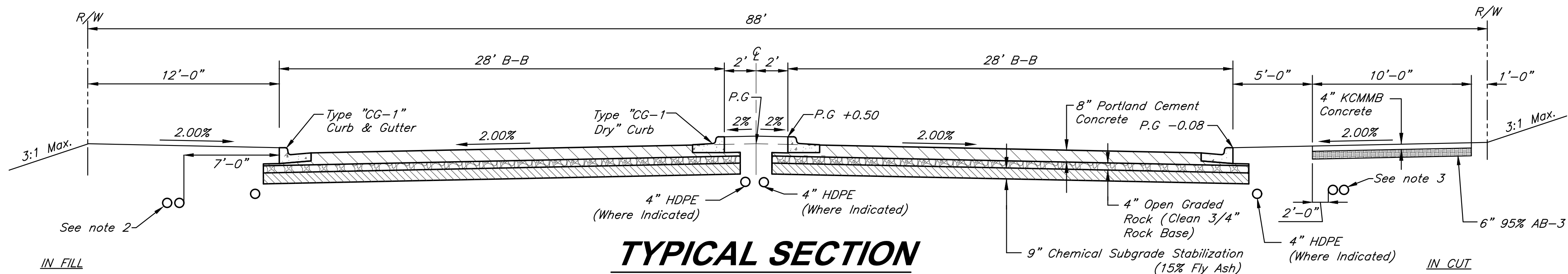
Storm Sewer:

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

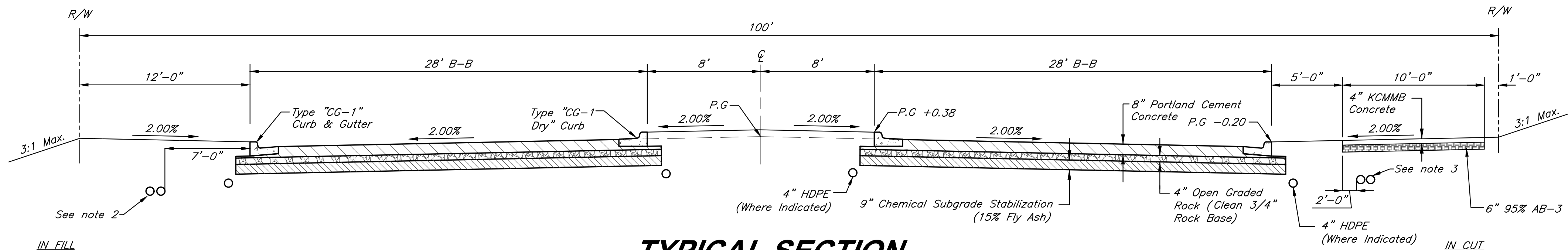
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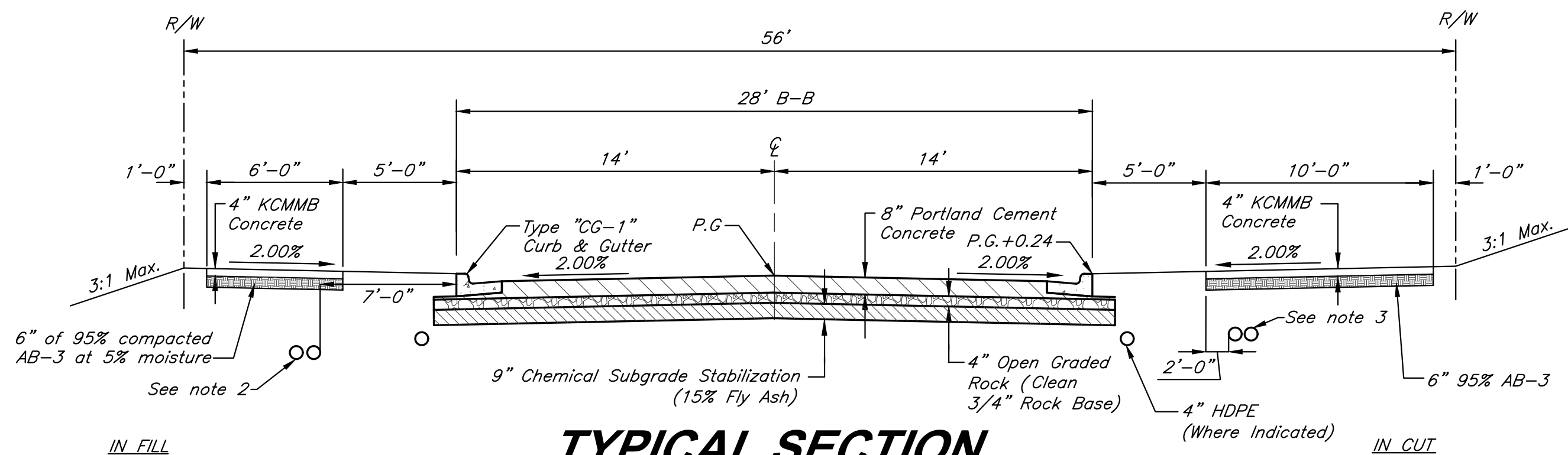
TYPICAL SECTION
VIEW HIGH DRIVE
Sta 111+00 - 113+50
Scale: 1" = 5'



TYPICAL SECTION
VIEW HIGH DRIVE
Sta 106+25 - 110+00
Scale: 1" = 5'



TYPICAL SECTION
VIEW HIGH PARKWAY
Sta 10+00 - 24+19
Scale: 1" = 5'



TYPICAL SECTION
RIVER ROAD
Sta 10+00 - 23+06
Scale: 1" = 5'



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engineers
9801 Renner Boulevard
Lenexa, Kansas 66219
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DATE:	4-2-2020
DESIGN BY:	CEL
DRAWN BY:	DRV
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
4	82

Bradley D. Burton
Professional Engineer
License No. 25862

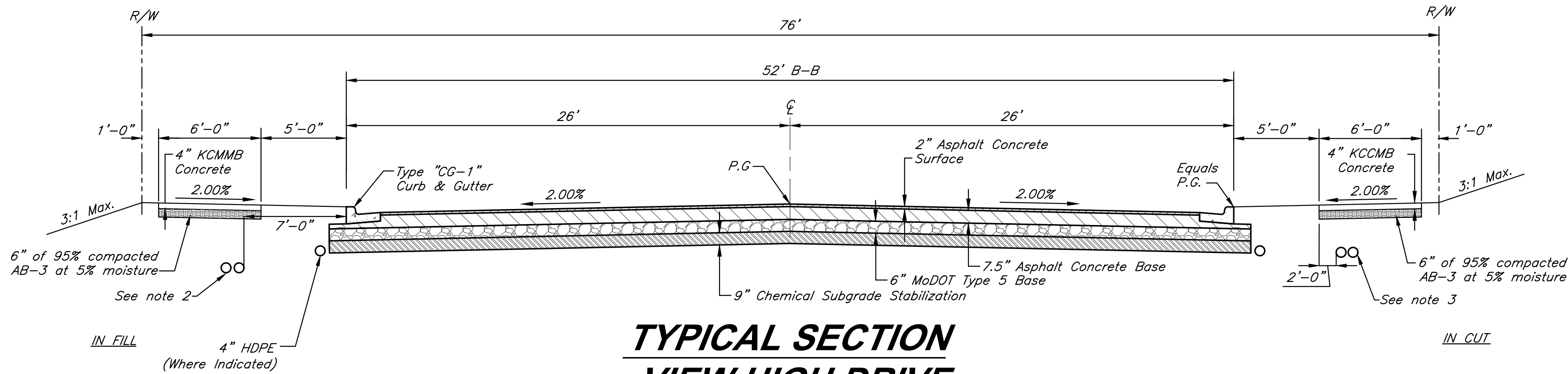
Street and Storm Sewer Plans
Paragon Star Development
Lee's Summit, Missouri

NO.	DATE	REVISIONS	BY	APPROVED

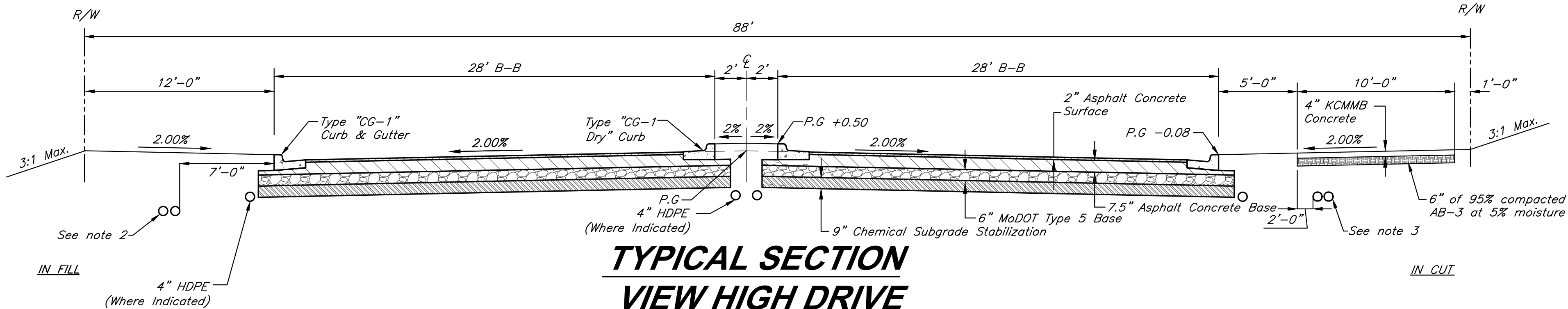
NOTES:

- All paving shall adhere to Lee's Summit Standards, Section 2200.
- Install Two 5" PVC Schedule 40 electrical conduit. Minimum 41" depth from final grade to top of conduit with buried electric line plastic caution tape at a depth of 12" per utility standards.
- Install Two 4" PVC Schedule 40 electrical conduit. Minimum 30" depth from final grade to top of conduit with buried electric line plastic caution tape at a depth of 12" per utility standards.

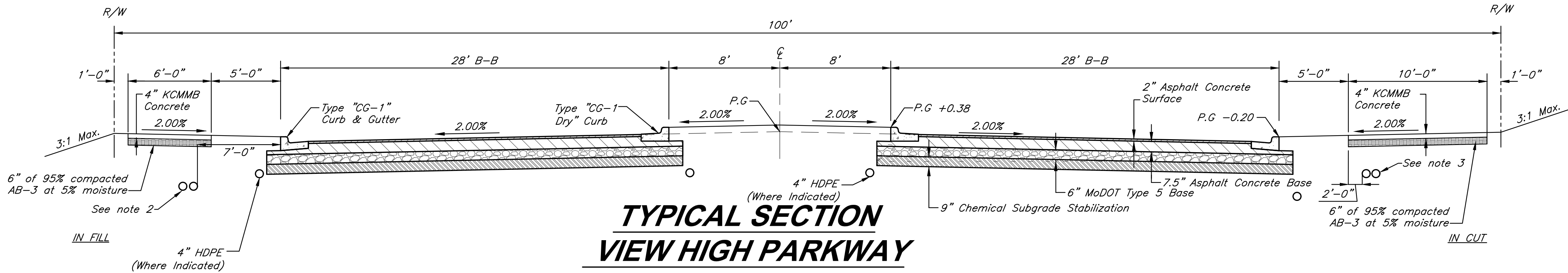
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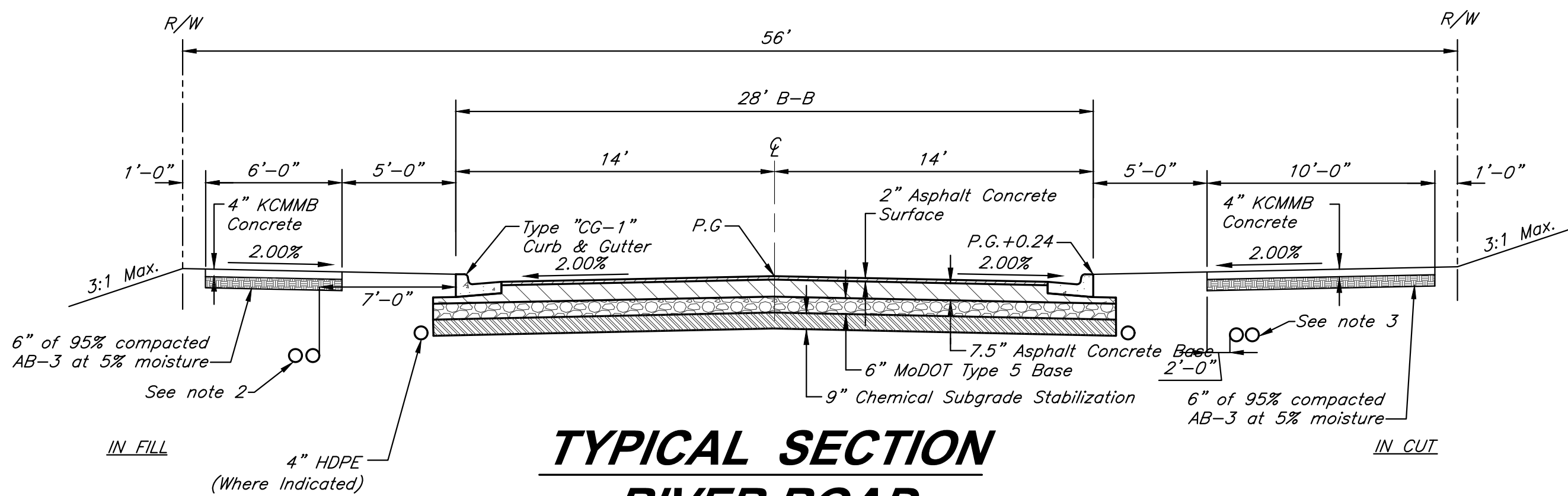
TYPICAL SECTION
VIEW HIGH DRIVE
ALT ASPHALT PAVING
Sta 111+00 - 113+50
Scale: 1" = 5'



TYPICAL SECTION
VIEW HIGH DRIVE
ALT ASPHALT PAVING
Sta 106+25 - 110+00
Scale: 1" = 5'



TYPICAL SECTION
VIEW HIGH PARKWAY
ALT ASPHALT PAVING
Scale: 1" = 5'



TYPICAL SECTION
RIVER ROAD
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Bradley D. Burton Professional Engineer License No. 25862		Street and Storm Sewer Plans Paragon Star Development Lee's Summit, Missouri	
NO.	DATE	REVISIONS	BY APPROVED

Typical Sections Alt.

C:\12720\Civil 3D\Production Drawings\Street & Storm Plans\1272000000.dwg Layout: 6 Demolition Plan -- Tuesday, May 19, 2020, 4:17pm -- Copyright 2020, George Butler Associates, Inc. Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059



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Professional Engineer
License No. 25862

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

NO.	DATE	REVISIONS	BY	APPROVED

PROJECT BENCHMARKS

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:

- All material to be removed shall be disposed of off site by contractor. All disposal shall meet all applicable local, state, and federal guidelines.
- Trees marked for removal shall be completely removed, including root balls.
- All pavement and concrete shall be cleanly sawcut prior to removal.
- All demolition shall be as per these plans and shall adhere to all local, state, and federal laws, ordinances, codes, and statutes governing such demolition.
- Contractor shall remove any existing facilities as required to complete the construction of all site improvements detailed on these plans.
- Any Utility relocation shall be performed by respective Utility companies.
- Stapling, nailing or otherwise attaching materials to trees to be preserved is not allowed.

TO BE REMOVED:

Asphalt	5210 SY
Curb and Gutter	100 LF
Street Signs	4
Fence	220 LF
Guardrail	188 LF
4'x2.5' FO Vault	1
18" CMP	34 LF

LEGEND



Existing asphalt pavement to be removed

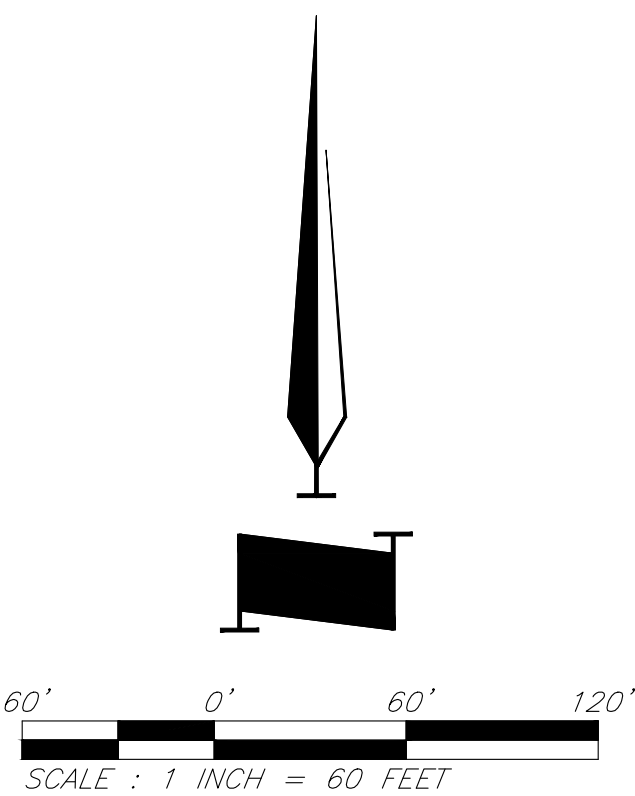


Existing site features to be removed

— — Limits of Disturbance

CAUTION!

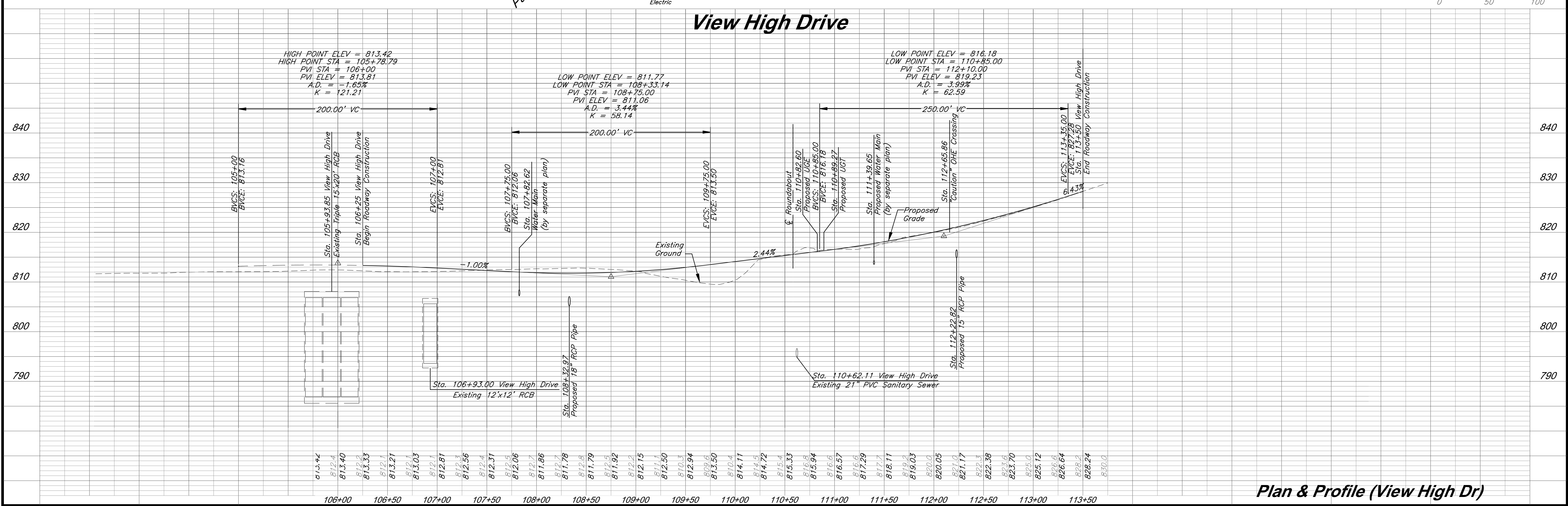
Existing Utilities shown per
the best information available
to the Engineer. Contractor to
locate existing utilities and
irrigation system prior to
construction

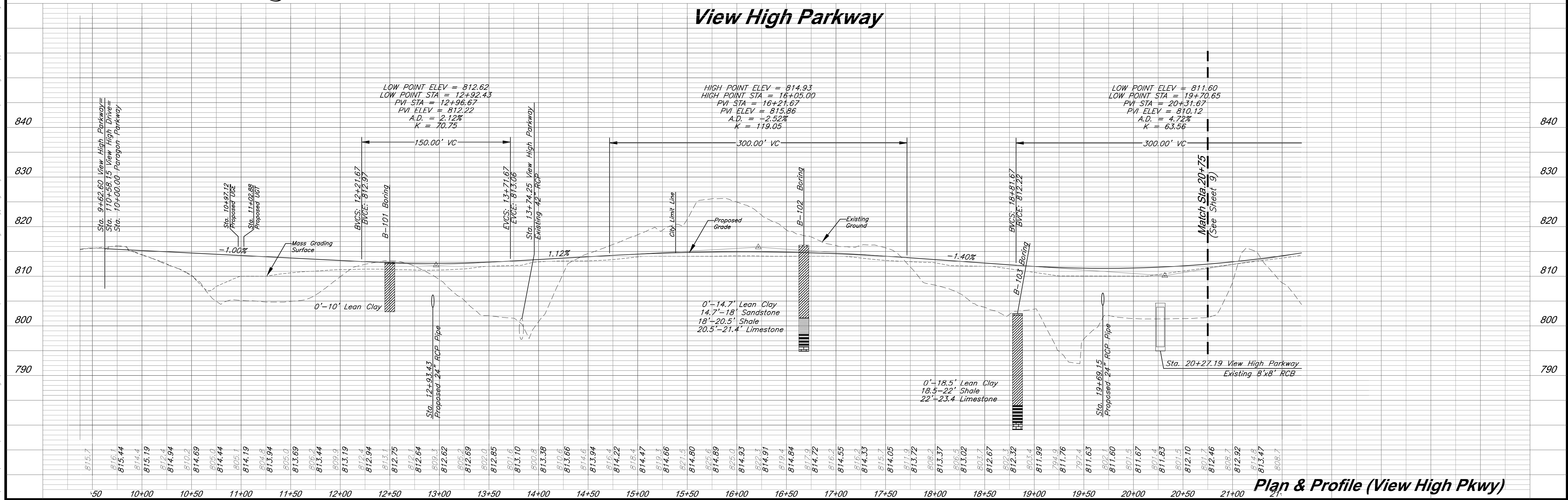
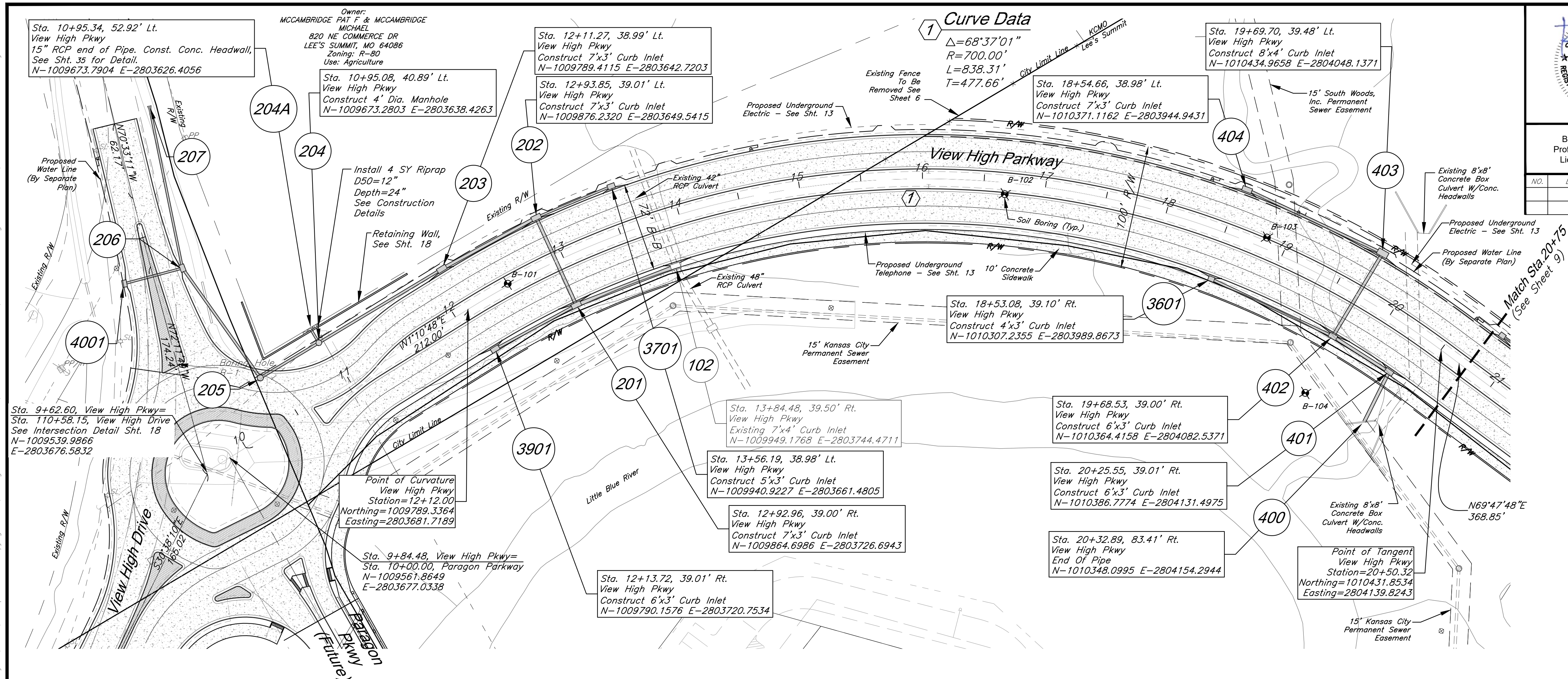


Demolition Plan

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.



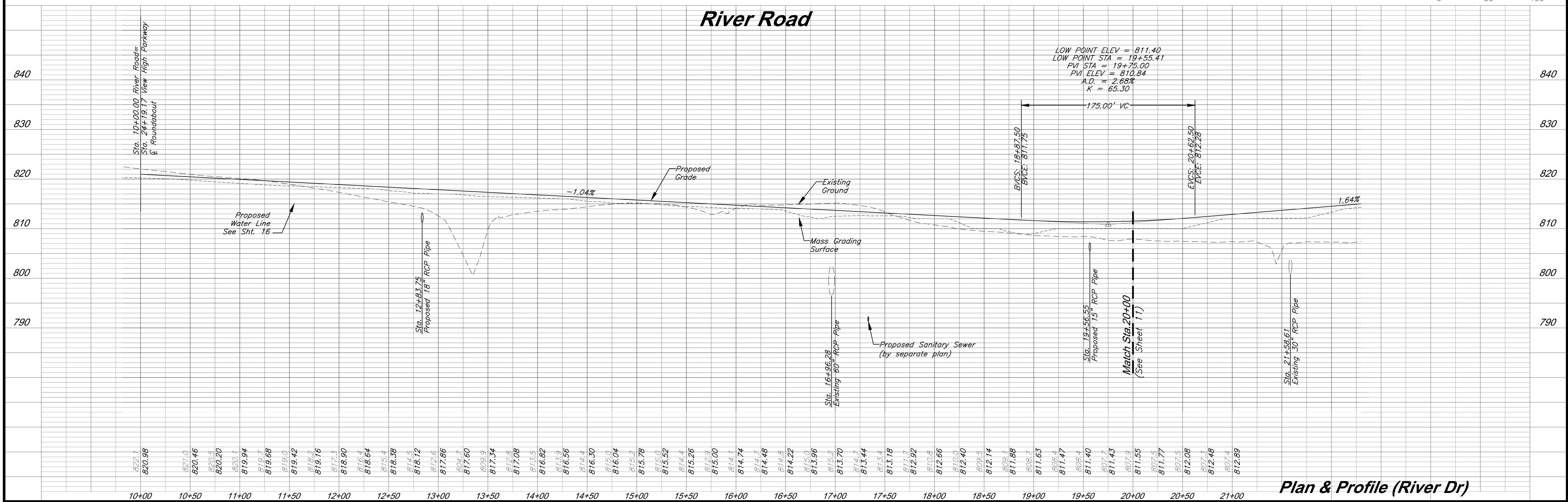


PROJECT BENCHMARKS

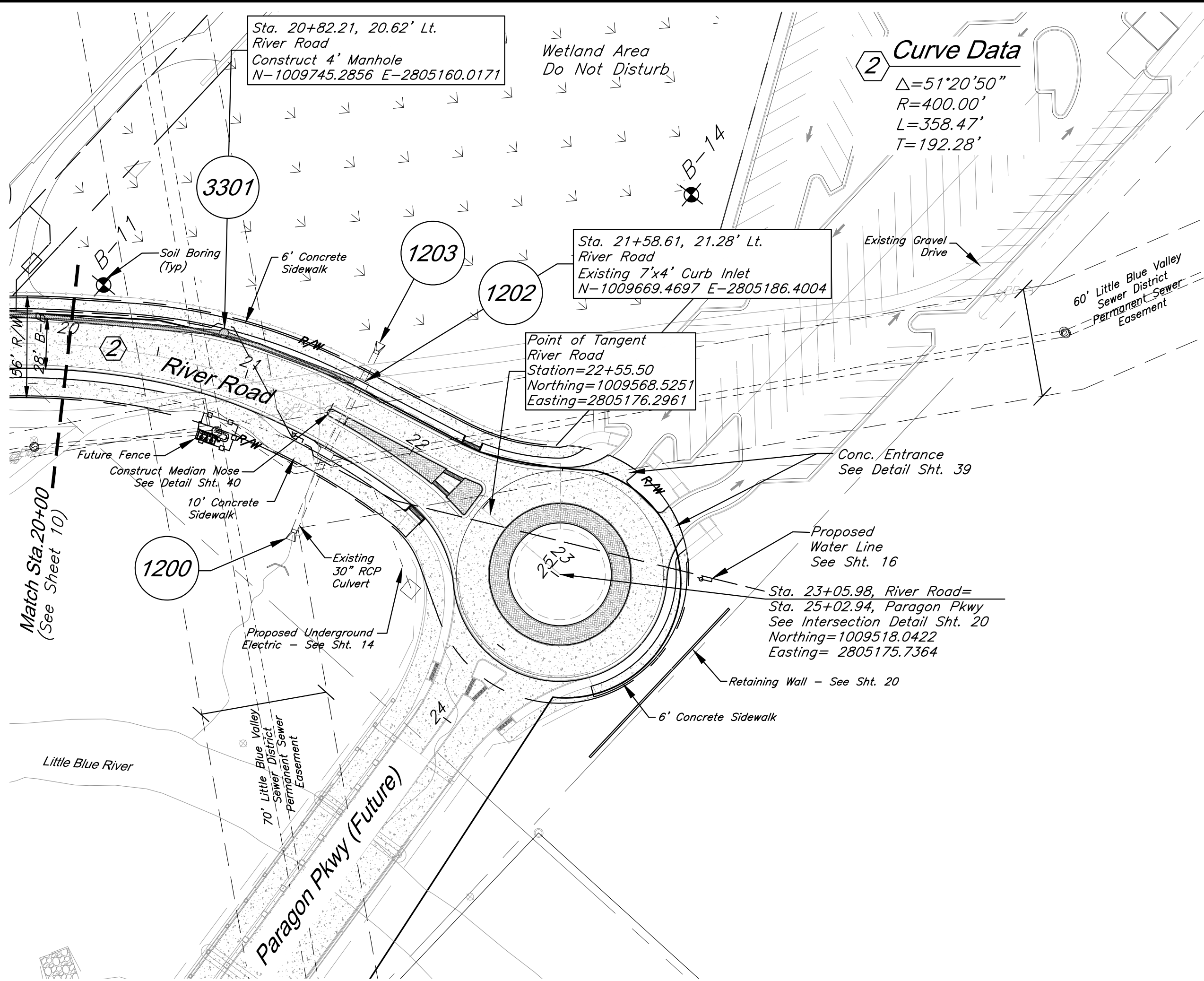
*BM #11 – Chiseled “L” on top
Northeast corner of concrete guardrail
at the Northeast corner of I470 bridge
spanning View High Drive.
EL=833.80*

Notes:

- 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.*



C:\12220\Civil 3D\Production Drawings\Street & Storm Plans\12220C1300 (River Dr)\dwg Layout: 11 Plan & Profile (River Rd) -- Tuesday May 19, 2020, 4:22pm -- Copyright 2020, George Butler Associates, Inc. Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059



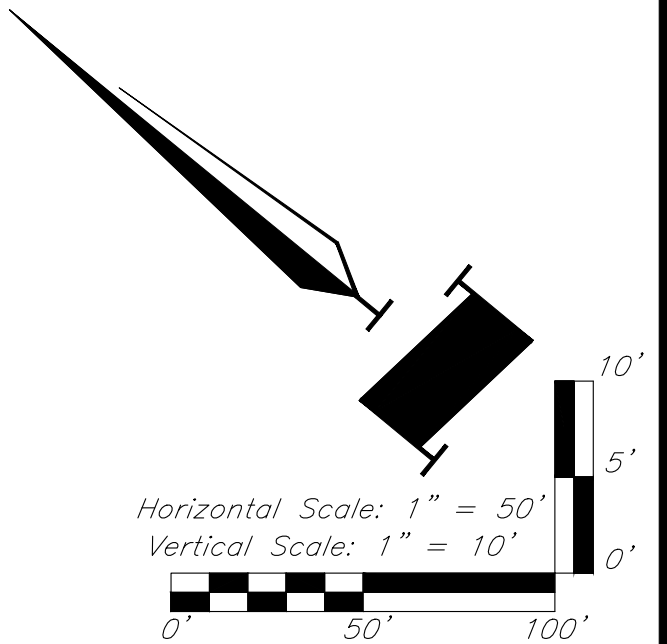
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	DESIGN BY: CEL
	DRAWN BY: DRV
 9801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com	PROJECT NO.: 12720
	SHEET NO. 11
TOTAL SHEETS 82	
Street and Storm Sewer Plans Paragon Star Development Lee's Summit, Missouri	
NO. DATE	
REVISIONS BY APPROVED	

PROJECT BENCHMARKS

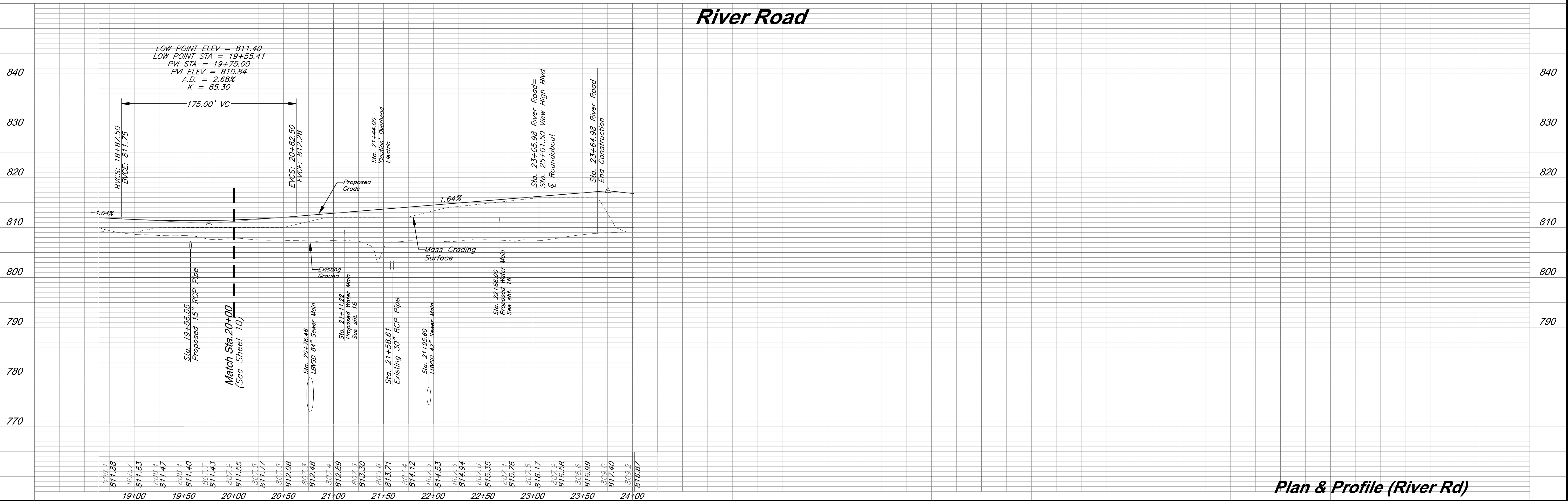
BM #11 - Chiseled "L" on top Northeast corner of concrete guardrail at the Northeast corner of 1470 bridge spanning View High Drive. EL=833.80

Notes:

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



River Road



Plan & Profile (River Rd)

C:\12720\Civil_3D\Production Drawings\Street & Storm Plans\12720C0900 (View High Pkwy).dwg Layout: 12 Utility Plan (View High Dr) -- Tuesday, May 19, 2020, 4:28pm -- Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059

STATE OF MISSOURI

BRADLEY D. BURTON

REGISTERED PROFESSIONAL ENGINEER

E-25862

5/19/2020

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

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PROJECT NO.: 12720

SHEET NO. 12

TOTAL SHEETS 82

Bradley D. Burton
Professional Engineer
License No. 25862

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

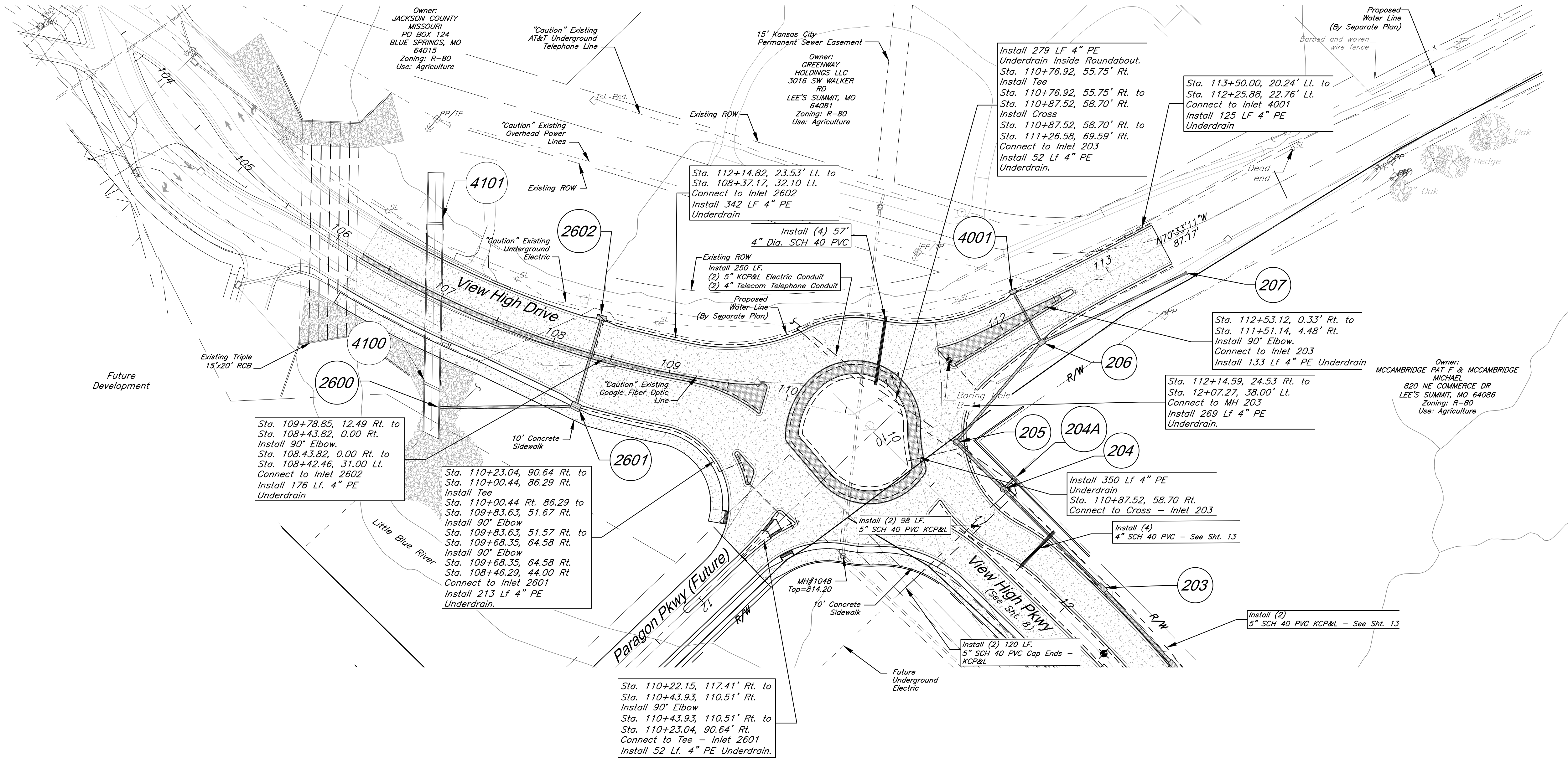
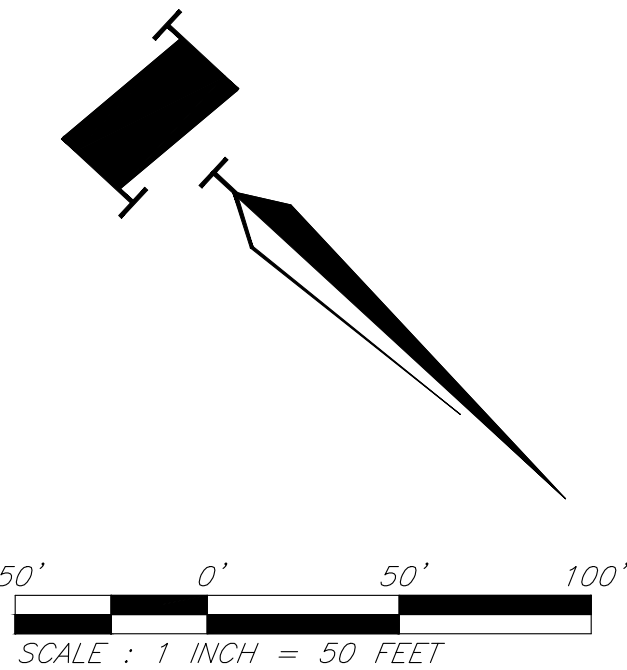
NO.	DATE	REVISIONS	BY	APPROVED

PROJECT BENCHMARK

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

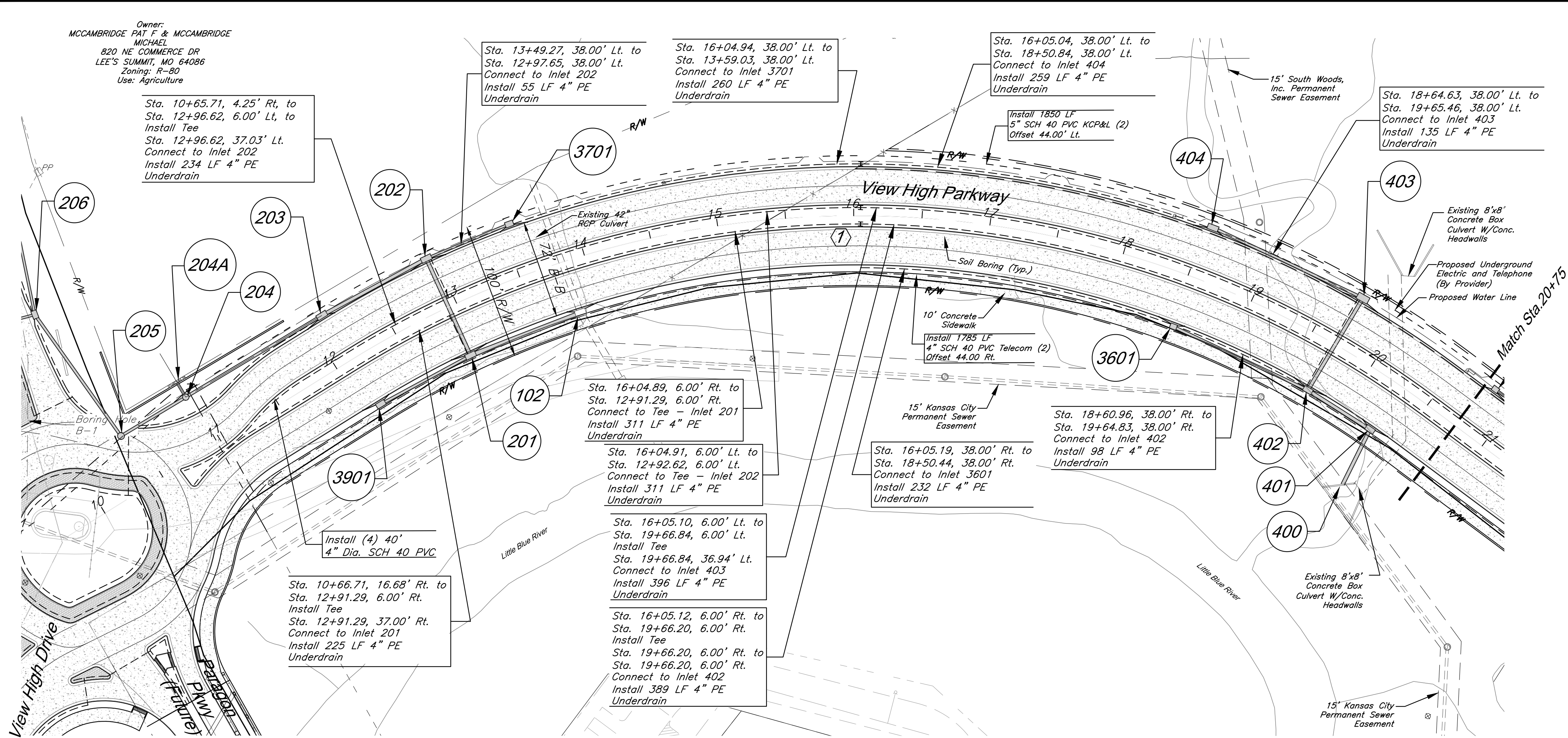
Notes:

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



Utility Plan (View High Dr)

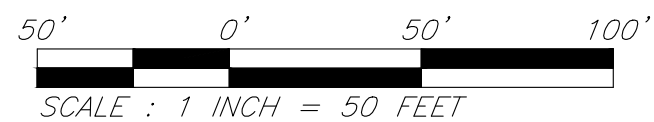
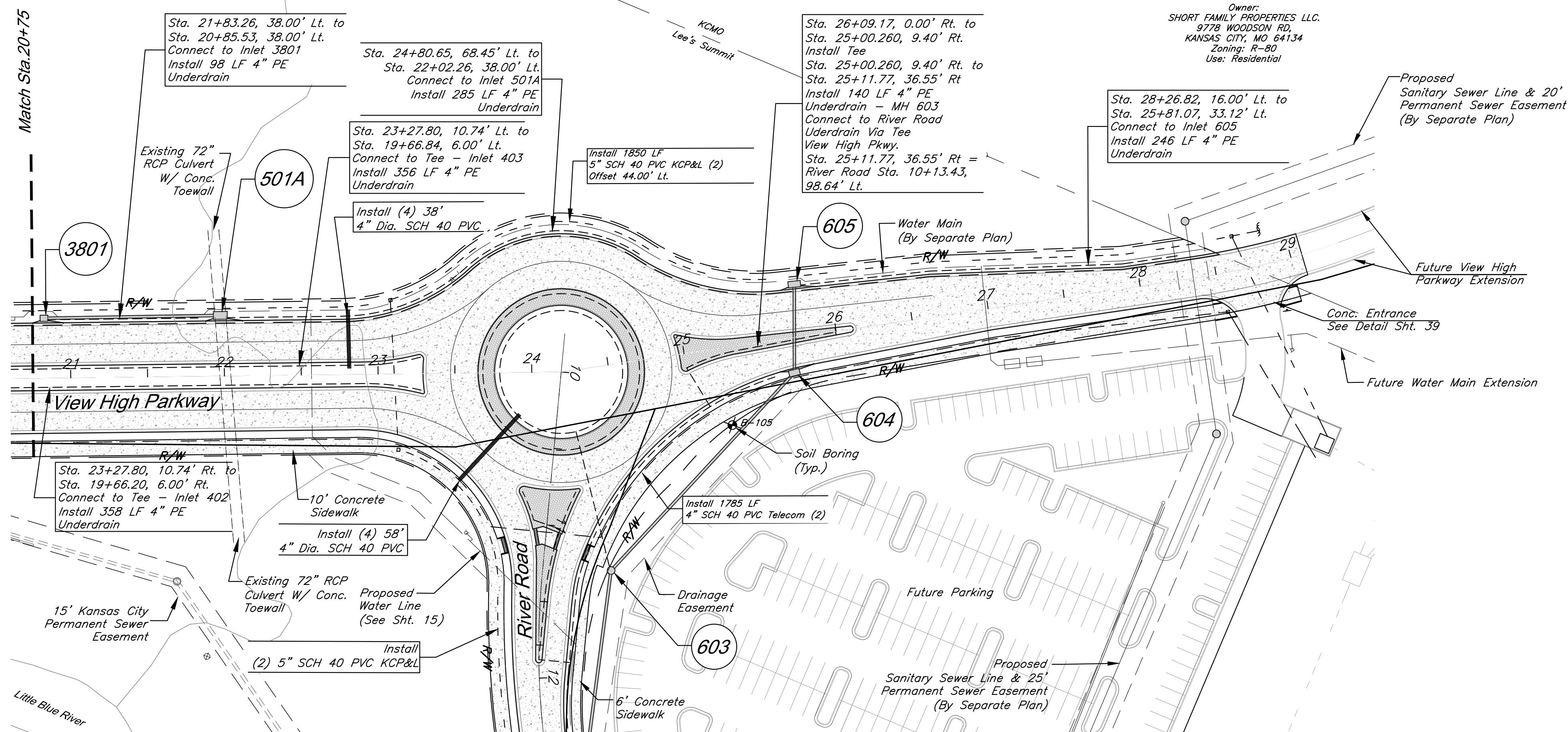
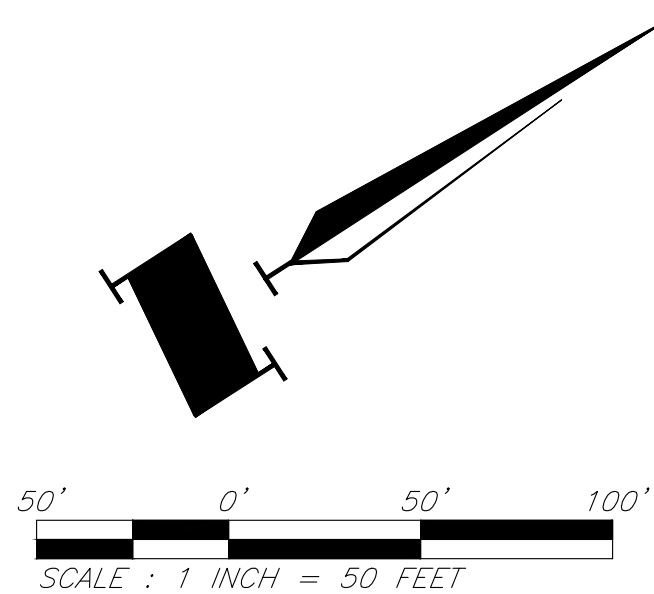
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	DATE: 4-2-2020	
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	SHEET NO.	TOTAL SHEETS
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Bradley D. Burton Professional Engineer License No. 25862		
Street and Storm Sewer Plans Paragon Star Development Lee's Summit, Missouri		
NO.	DATE	BY
REVISIONS		

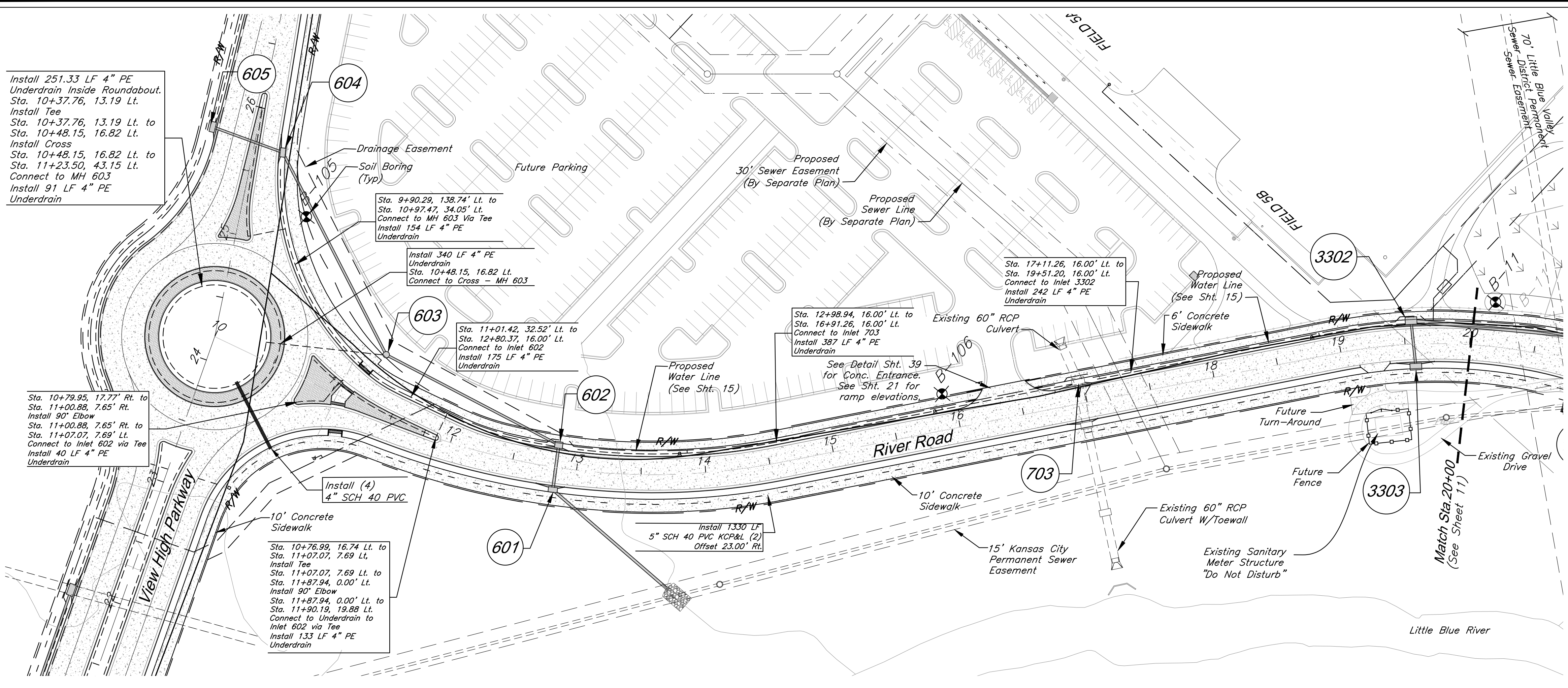
PROJECT BENCHMARK

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



Utility (View High Pkwy)

G:\12720\Civil 3D\Production Drawings\Street & Storm Plans\12720C0900 (River Dr)\dwg Layout: 14 Utility Plan (River Dr) -- Tuesday May 19, 2020, 4:32pm -- Copyright 2020, George Butler Associates, Inc. Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059



Install 251.33 LF 4" PE Underdrain Inside Roundabout. Sta. 10+37.76, 13.19 Lt. Install Tee Sta. 10+37.76, 13.19 Lt. to Sta. 10+48.15, 16.82 Lt. Install Cross Sta. 10+48.15, 16.82 Lt. to Sta. 11+23.50, 43.15 Lt. Connect to MH 603 Install 91 LF 4" PE Underdrain

Sta. 9+90.29, 138.74' Lt. to Sta. 10+97.47, 34.05' Lt. Connect to MH 603 via Tee Install 154 LF 4" PE Underdrain

Sta. 11+01.42, 32.52' Lt. to Sta. 12+80.37, 16.00' Lt. Connect to Inlet 602 Install 175 LF 4" PE Underdrain

Sta. 12+98.94, 16.00' Lt. to Sta. 16+91.26, 16.00' Lt. Connect to Inlet 703 Install 387 LF 4" PE Underdrain

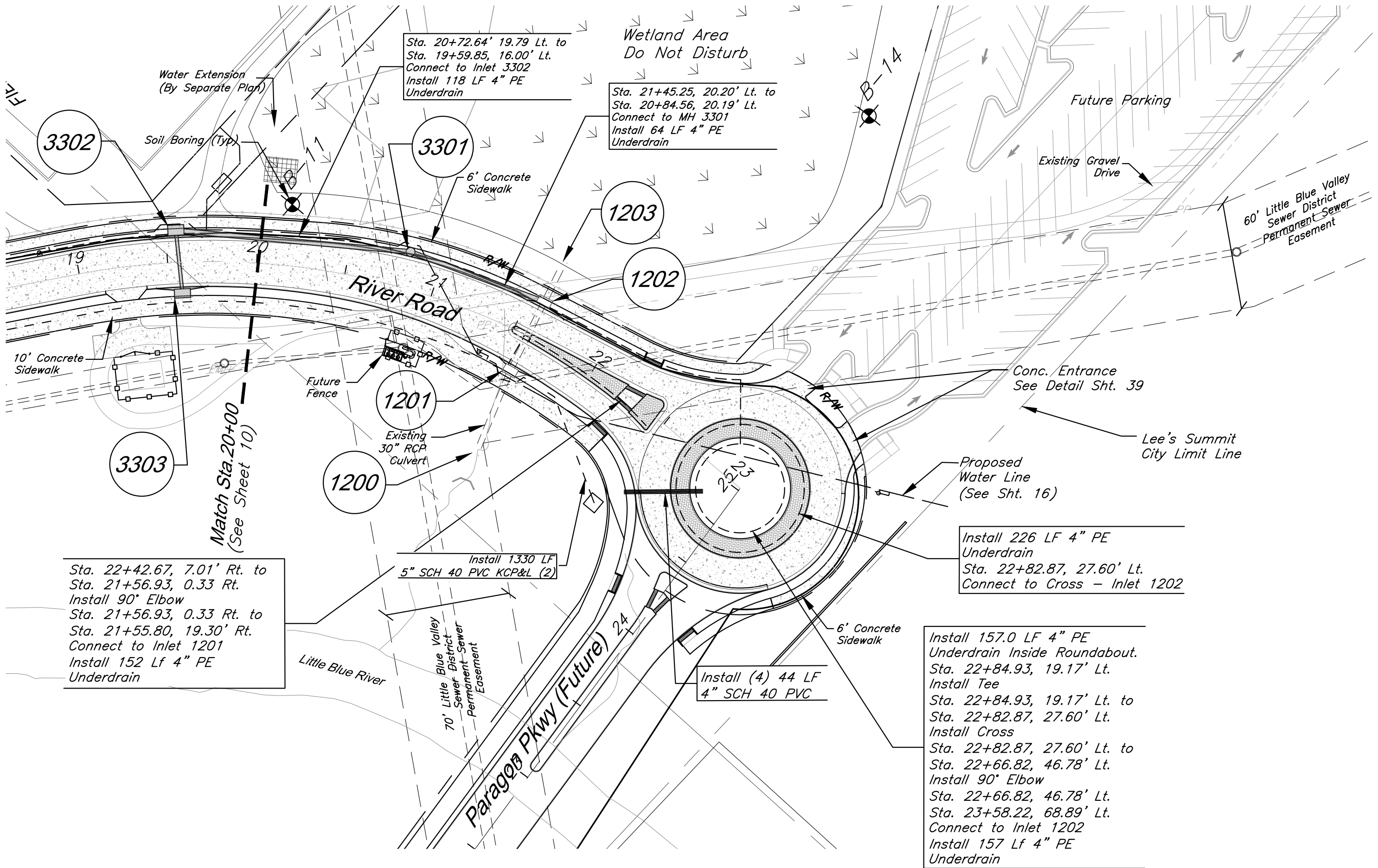
Sta. 17+11.26, 16.00' Lt. to Sta. 19+51.20, 16.00' Lt. Connect to Inlet 3302 Install 242 LF 4" PE Underdrain

See Detail Sht. 39 for Conc. Entrance. See Sht. 21 for ramp elevations.

Sta. 10+76.99, 16.74 Lt. to Sta. 11+07.07, 7.69 Lt. Install Tee Sta. 11+07.07, 7.69 Lt. to Sta. 11+87.94, 0.00' Lt. Install 90" Elbow Sta. 11+87.94, 0.00' Lt. to Sta. 11+90.19, 19.88 Lt. Connect to Underdrain to Inlet 602 via Tee Install 133 LF 4" PE Underdrain

Install 1330 LF 5" SCH 40 PVC KCP&L (2) Offset 23.00' Rt.

Existing Sanitary Meter Structure "Do Not Disturb"



Sta. 20+72.64, 19.79 Lt. to Sta. 19+59.85, 16.00' Lt. Connect to Inlet 3302 Install 118 LF 4" PE Underdrain

Sta. 21+45.25, 20.20' Lt. to Sta. 20+84.56, 20.19' Lt. Connect to MH 3301 Install 64 LF 4" PE Underdrain

Sta. 22+42.67, 7.01' Rt. to Sta. 21+56.93, 0.33 Rt. Install 90" Elbow Sta. 21+56.93, 0.33 Rt. to Sta. 21+55.80, 19.30' Rt. Connect to Inlet 1201 Install 152 LF 4" PE Underdrain

Install 1330 LF 5" SCH 40 PVC KCP&L (2)

Install 226 LF 4" PE Underdrain Sta. 22+82.87, 27.60' Lt. Connect to Cross - Inlet 1202

Install 157.0 LF 4" PE Underdrain Inside Roundabout. Sta. 22+84.93, 19.17' Lt. Install Tee Sta. 22+84.93, 19.17' Lt. to Sta. 22+82.87, 27.60' Lt. Install Cross Sta. 22+82.87, 27.60' Lt. to Sta. 22+66.82, 46.78' Lt. Install 90" Elbow Sta. 22+66.82, 46.78' Lt. to Sta. 23+58.22, 68.89' Lt. Connect to Inlet 1202 Install 157 LF 4" PE Underdrain

	DATE: 4-2-2020	
	DESIGN BY: CEL	
	DRAWN BY: DRV	
	PROJECT NO.: 12720	
	SHEET NO.	TOTAL SHEETS
	14	82
8801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com		
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Bradley D. Burton Professional Engineer License No. 25862		
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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

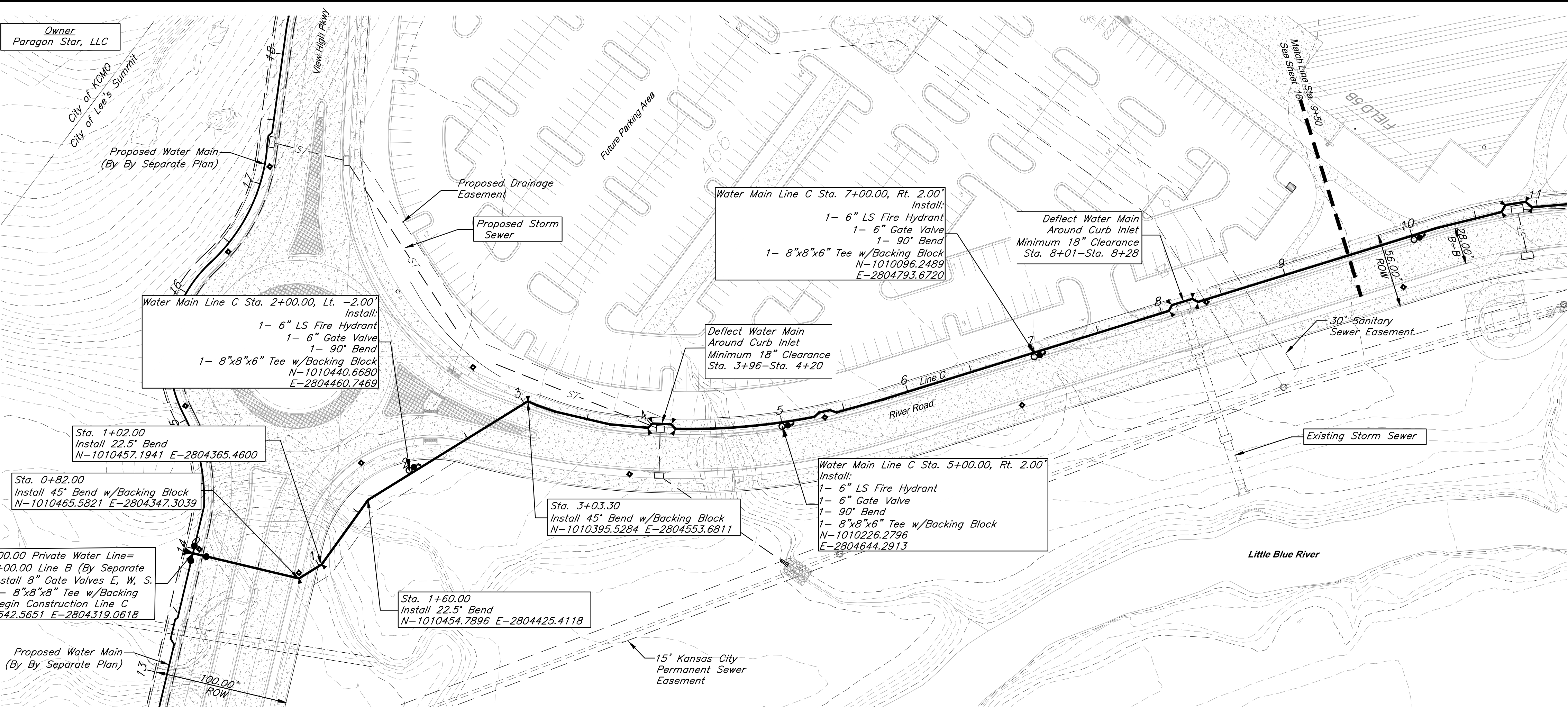
Notes:

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.

50' 0' 50' 100'
SCALE: 1 INCH = 50 FEET

Utility Plan (River Dr)

C:\12720\Civil 3D\Production Drawings\Street & Storm Plans\12720C1600.dwg Layout: 15 Private Water Main Line C Plan & Profiles --- Tuesday May 19, 2020, 4:35pm --- Copyright 2020, George Butler Associates, Inc. Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059



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DRAWN BY:
PROJECT NO.: 12720
SHEET NO. TOTAL SHEETS
15 82

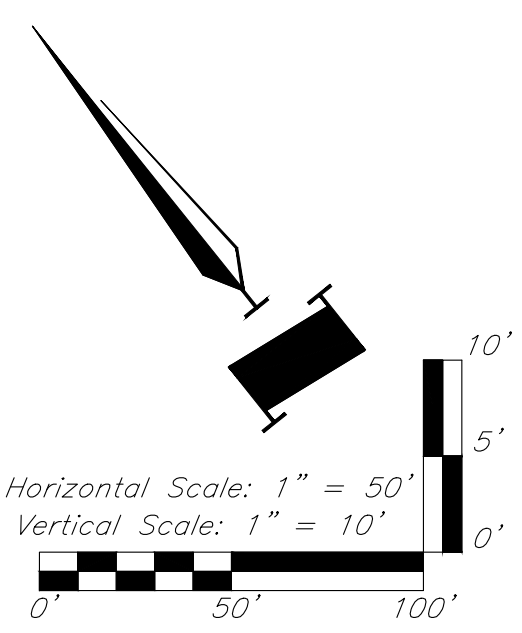
Bradley D. Burton Professional Engineer License No. 25862		Street and Storm Sewer Plans Paragon Star Development Lee's Summit, Missouri	
NO.	DATE	REVISIONS	BY APPROVED

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

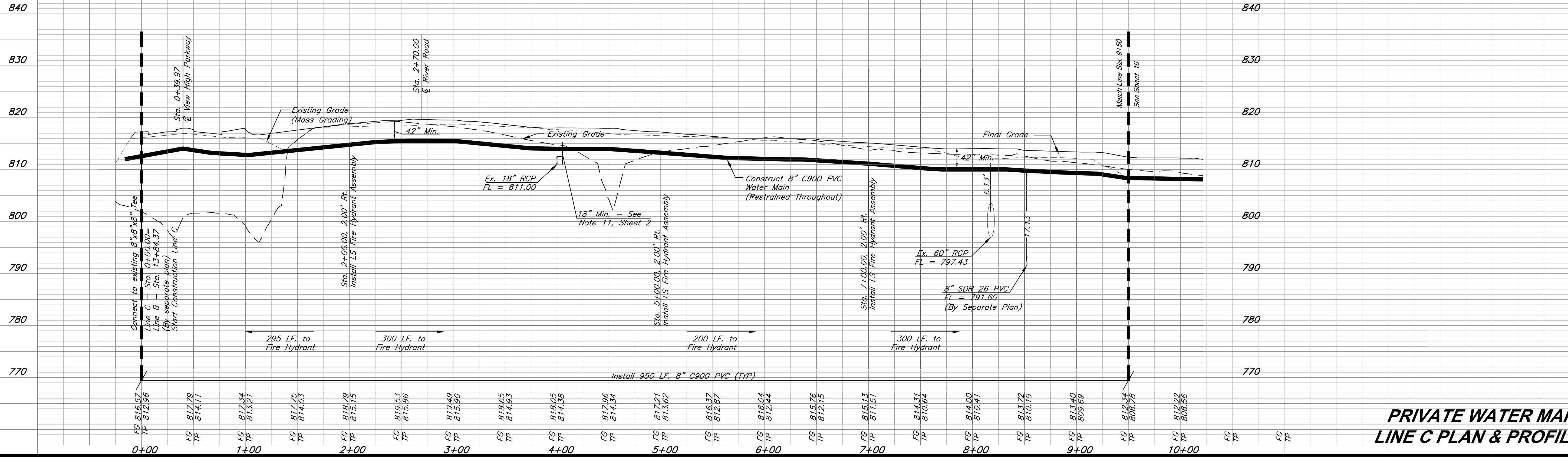
- NOTE:**
- Fire Hydrants shall be spaced every 300' in mixed use area and every 600' in residential areas.
 - Waterline shall be installed 4' off of back of curb, except where noted otherwise.
 - Water Main shall maintain 3 feet of separation from Light Poles.

NOTES:
D.E. = Drainage Easement
U.E. = Utility Easement
P.L. = Property Line
R/W = Right-of-Way
FG = Finished Grade
TP = Top of Pipe
LS = Lee's Summit

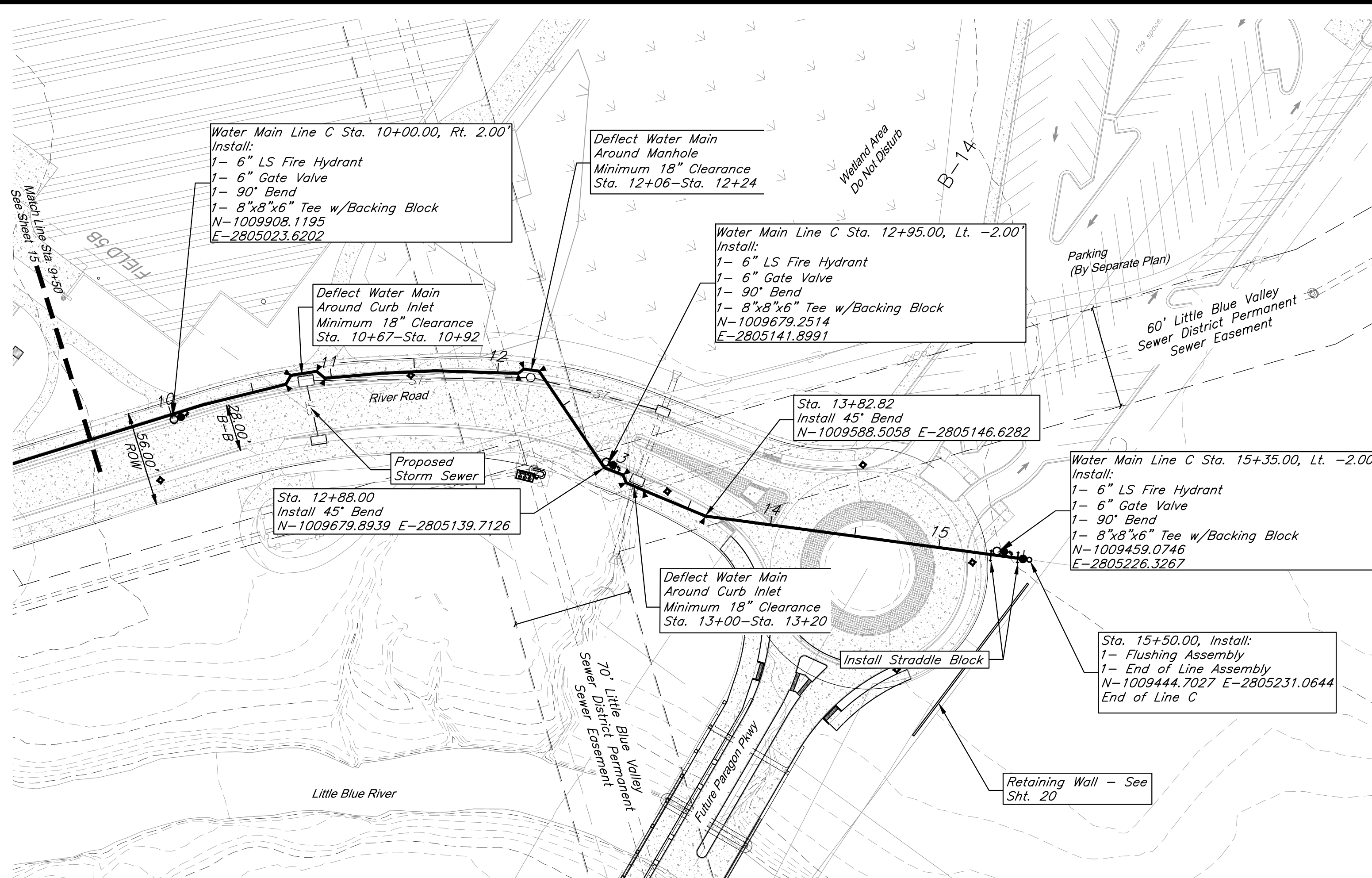
BENCHMARK:
BM #11 - Chiseled "L" on top
Northeast corner of concrete guardrail
at the Northeast corner of 1470 bridge
spanning View High Drive.
EL=833.80



PRIVATE LINE C



PRIVATE WATER MAIN LINE C PLAN & PROFILES



CAUTION!

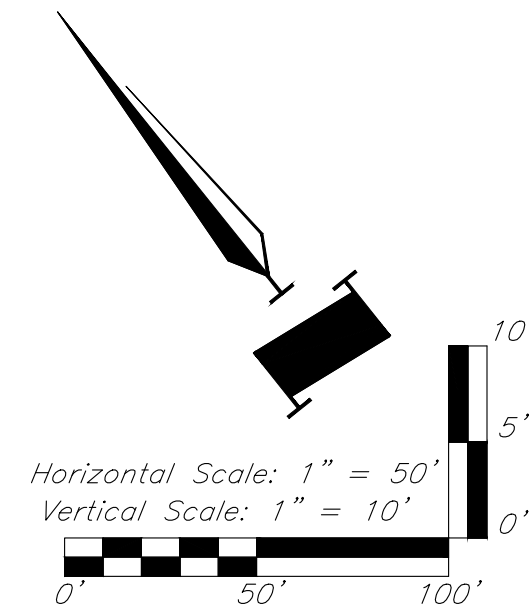
*Numerous Utilities on Site.
Contractor to verify location
and elevation of all utilities
prior to commencing
construction.*

NOTES:

D.E. = Drainage Easement
U.E. = Utility Easement
PL = Property Line
R/W = Right-of-Way
FG = Finished Grade
TP = Top of Pipe
LS = Lee's Summit

BENCHMARK:

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

$$EL=833.80$$


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PROJECT NO.: 12720

SHEET
NO.

TOTAL
SHEETS

16

82

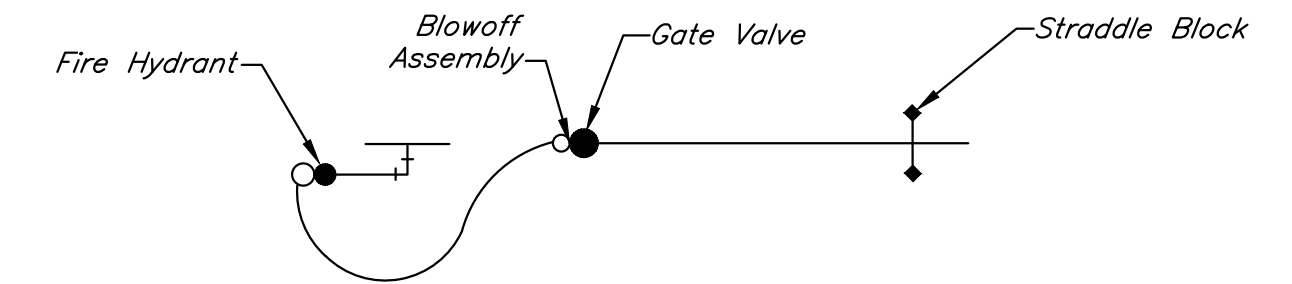
Bradley D. Burton
Professional Engineer
License No. 25862

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

NO.	DATE

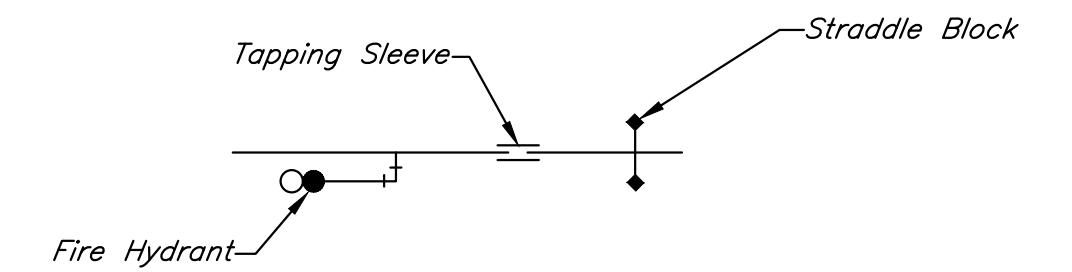
REVISIONS	BY	APPROVED
-----------	----	----------

1. *Fire Hydrants shall be spaced every 300' in mixed use area and every 600' in residential areas.*
2. *Waterline shall be installed 4' off of back of curb, except where noted otherwise.*
3. *Water Main shall maintain 3 feet of separation from Light Poles.*



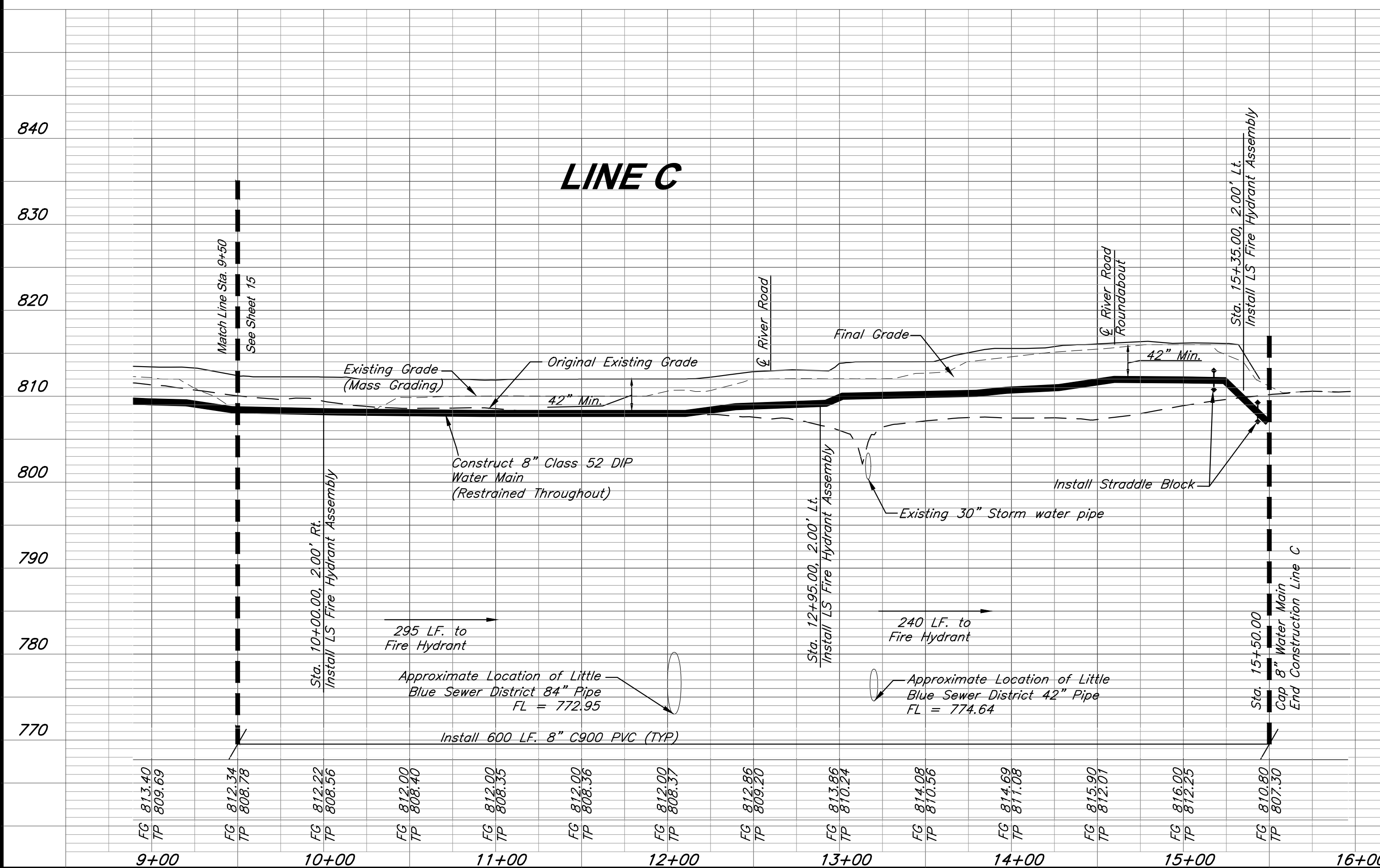
Temporary Connection Detail

Restrain Throughout
Not To Scale



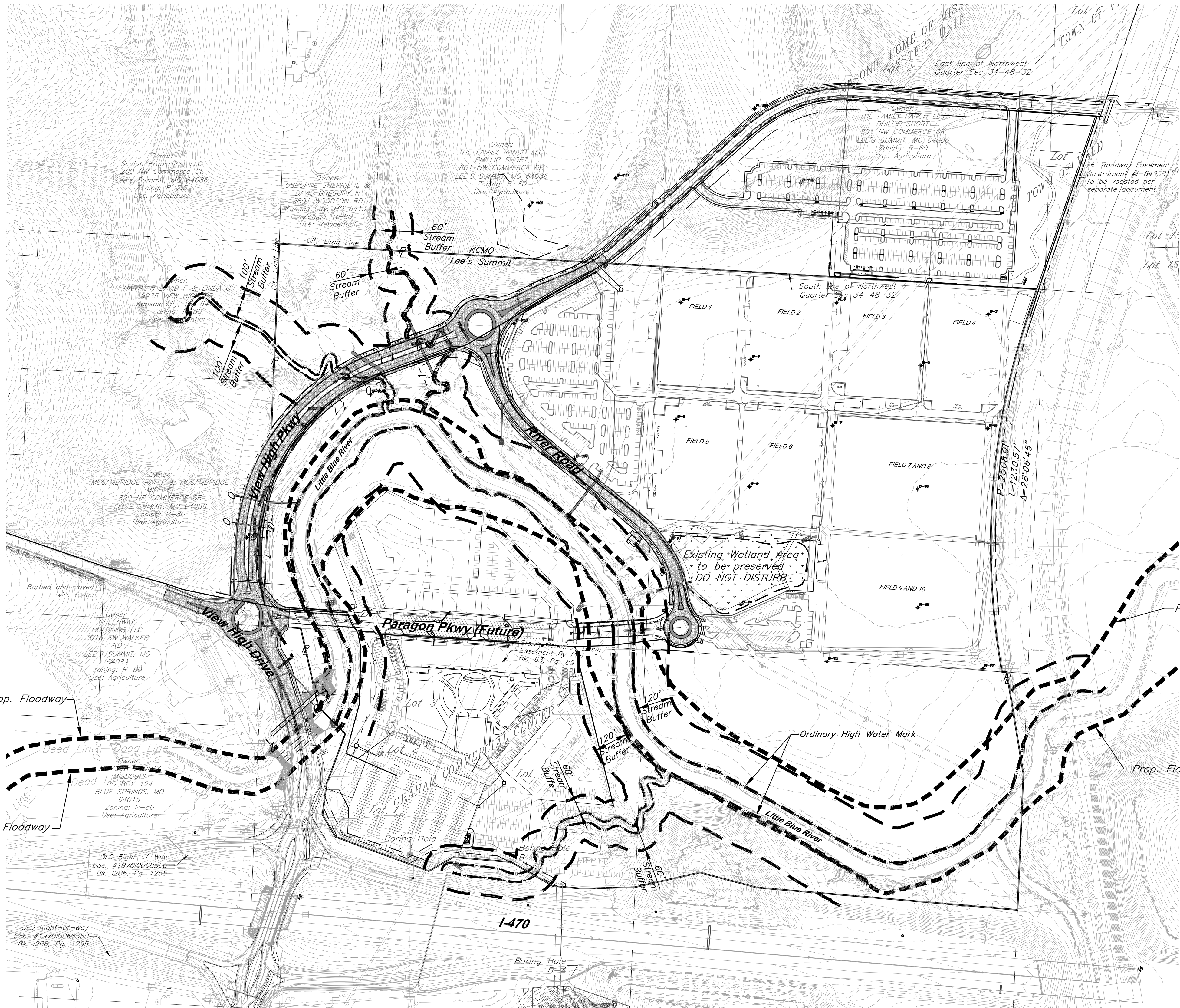
Permanent Connection Detail

Restrain Throughout
Not To Scale



PRIVATE WATER MAIN LINE C PLAN & PROFILES

C:\12720\Civil 3D\Production Drawings\Street & Storm Plans\12720c2800.dwg Layout: 17 Floodway & Floodplain Plan -- Tuesday, May 19, 2020, 4:38pm -- Copyright 2020, George Butler Associates, Inc. Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059

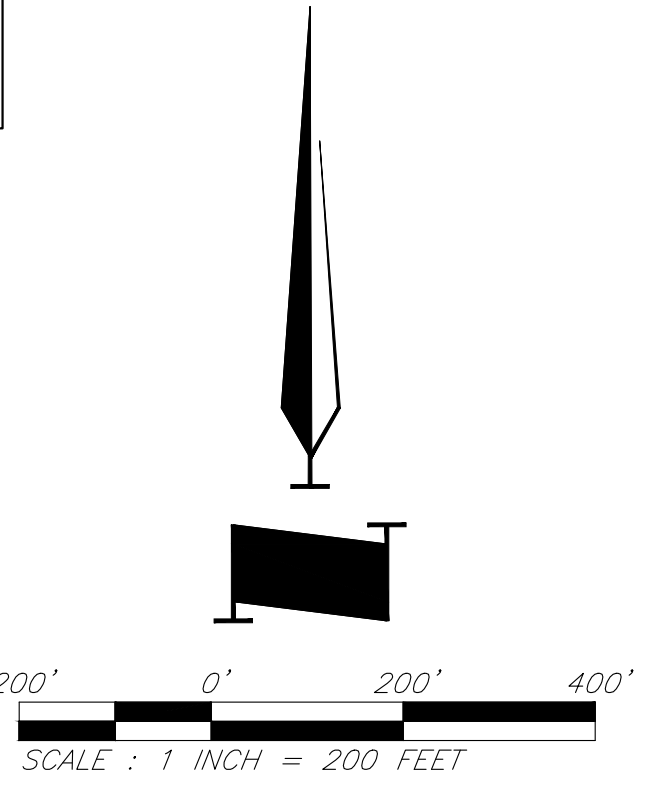


		DATE: 4-2-2020		
		DESIGN BY: CEL		
		DRAWN BY: DRV		
		PROJECT NO.: 12720		
	9801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com		SHEET NO. 17	TOTAL SHEETS 82
	Street and Storm Sewer Plans Paragon Star Development Lee's Summit, Missouri			
Bradley D. Burton Professional Engineer License No. 25862		REVISIONS BY APPROVED		
NO.	DATE			

Legend

- Stream Buffer
- Proposed Floodway
- Ordinary High Water Mark

Proposed Floodway and Floodplain, refer to lines established by the FEMA CLOMR dated 2/14/2020, Case No. 20-70-0520R.



Floodway & Floodplain Plan

NOTE.

1. All Elevations are to Top of Curb unless otherwise noted.
2. See Sheet 38 for Curb & Gutter Detail.

LEGEND

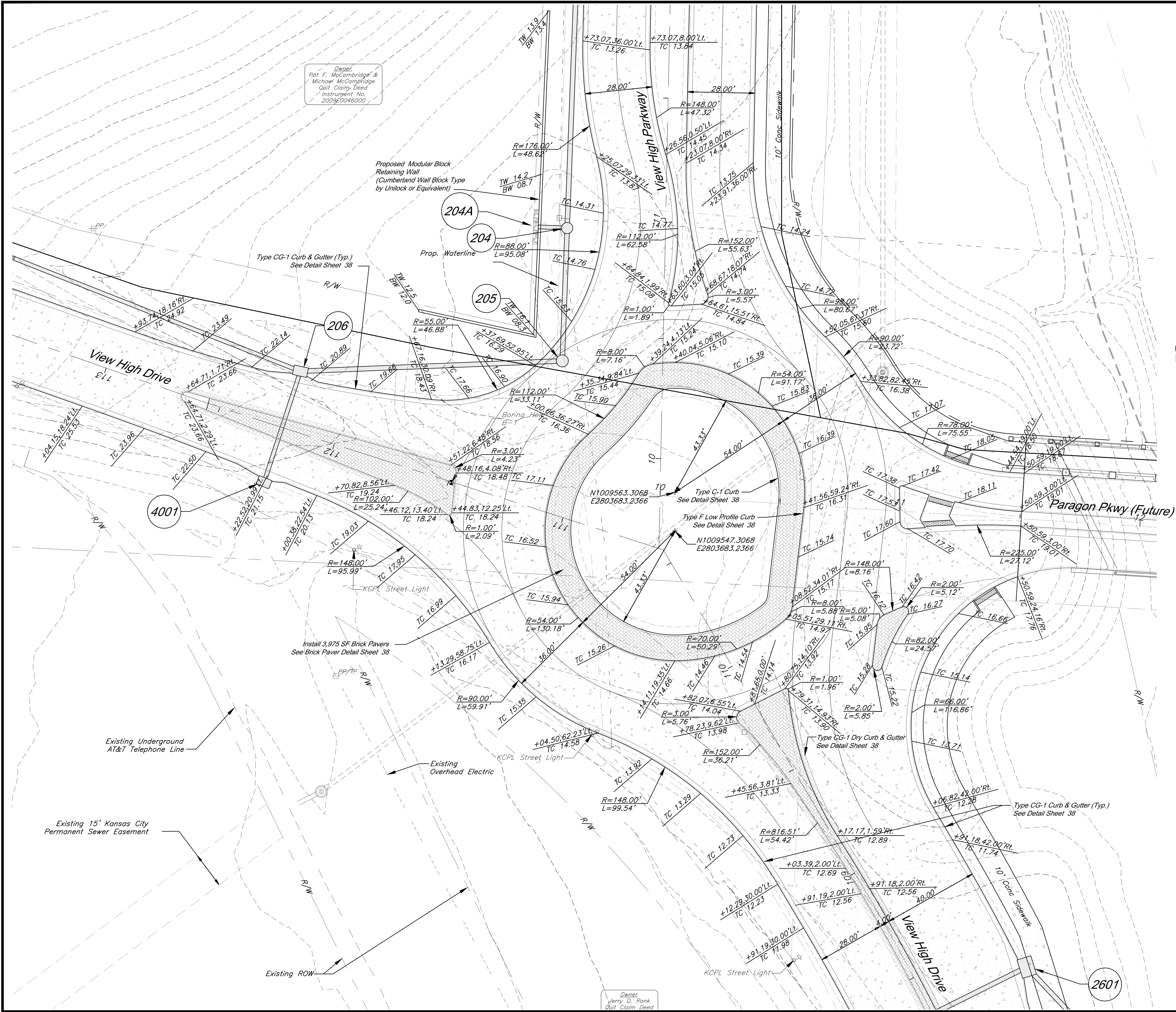
- | | |
|---|-----------------------------|
| R/W | Right of Way |
| PT | Point of Tangent |
| MP | Mid Point |
| PC | Point of Curvature |
| PCC | Point of Compound Curvature |
| PRC | Point of Reverse Curvature |
| TC | Top of Curb |
|  | Dry Curb (CG-1 DRY) |
|  | Paver |

See Intersection Enlargement
Sht. 21 For Crosswalk Detail

- ① View High Pkwy-North
- ② View High Pkwy-West
- ③ View High Pkwy-East
- ④ River Road-North
- ⑤ River Road-South

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

Intersection Details





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*

NOTE:

1. All Elevations are to Top
of Curb unless
otherwise noted.

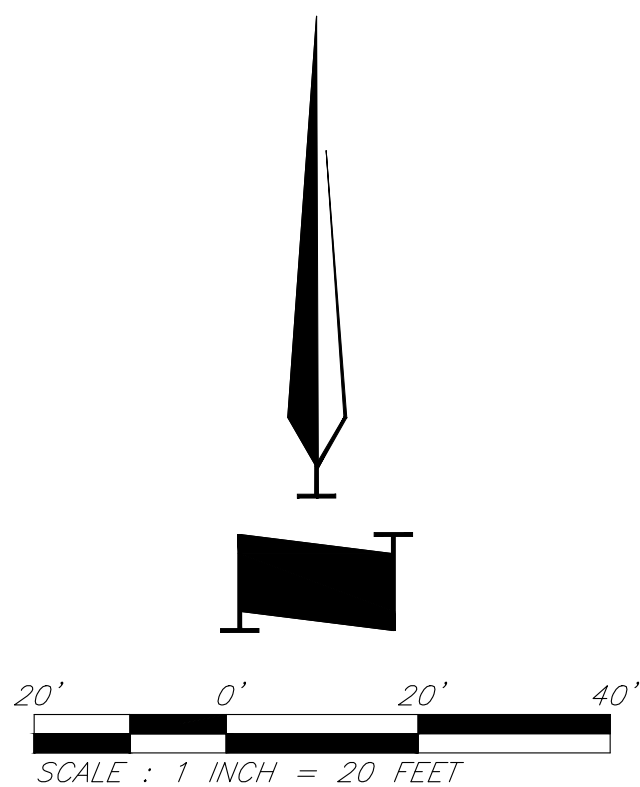
2. See Sheet 38 for Curb
& Gutter Detail.

LEGEND

*Right of Way
Point of Tangent
Mid Point
Point of Curvature
Point of Compound Curvature
Point of Reverse Curvature
Top of Curb
Dry Curb (CG-1 DRY)
Paver*

See Intersection Enlargement
Sht. 21 For Crosswalk Details

- ① View High Pkwy-North
- ② View High Pkwy-West
- ③ View High Pkwy-East
- ④ River Road-North
- ⑤ River Road-South

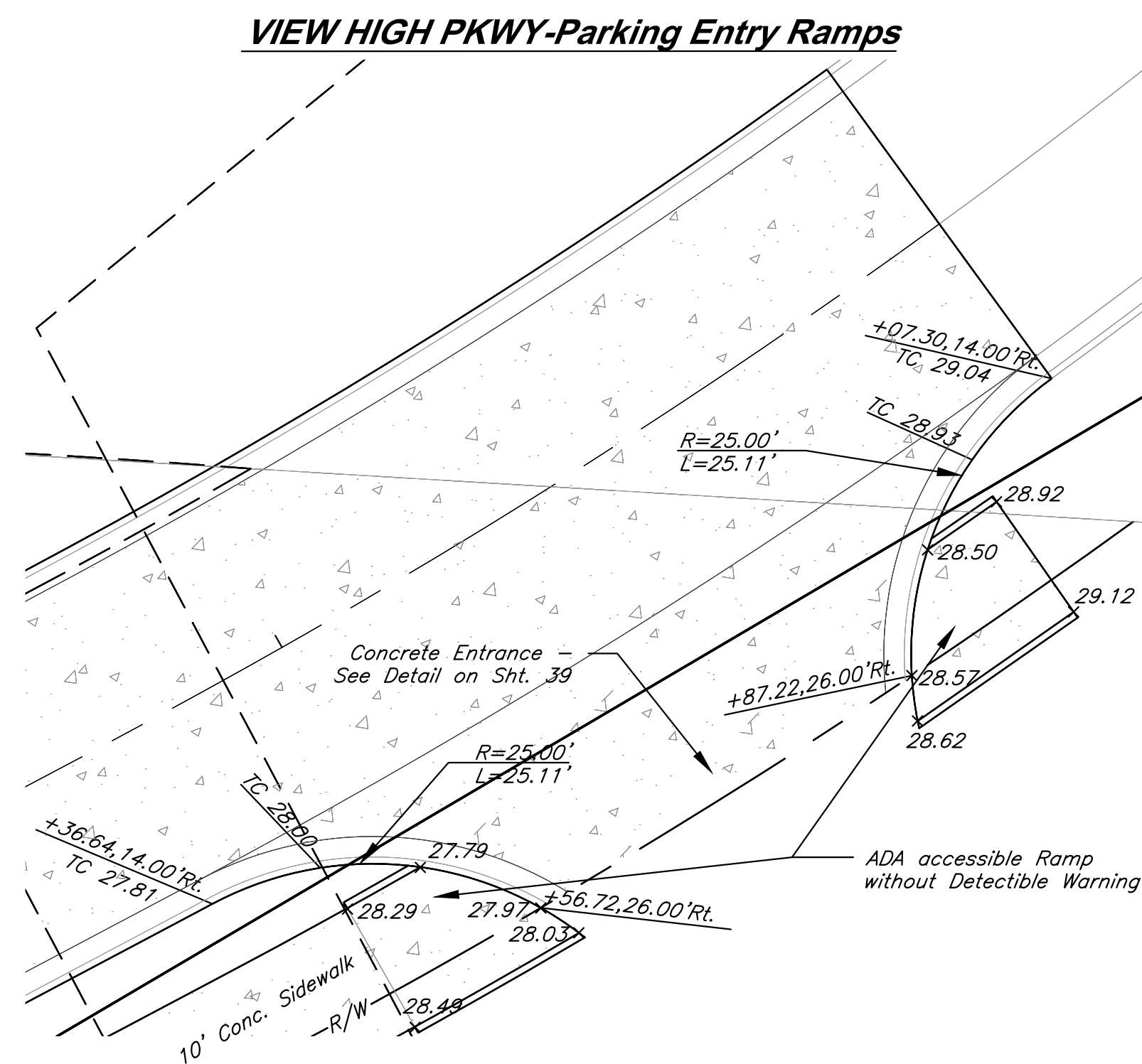
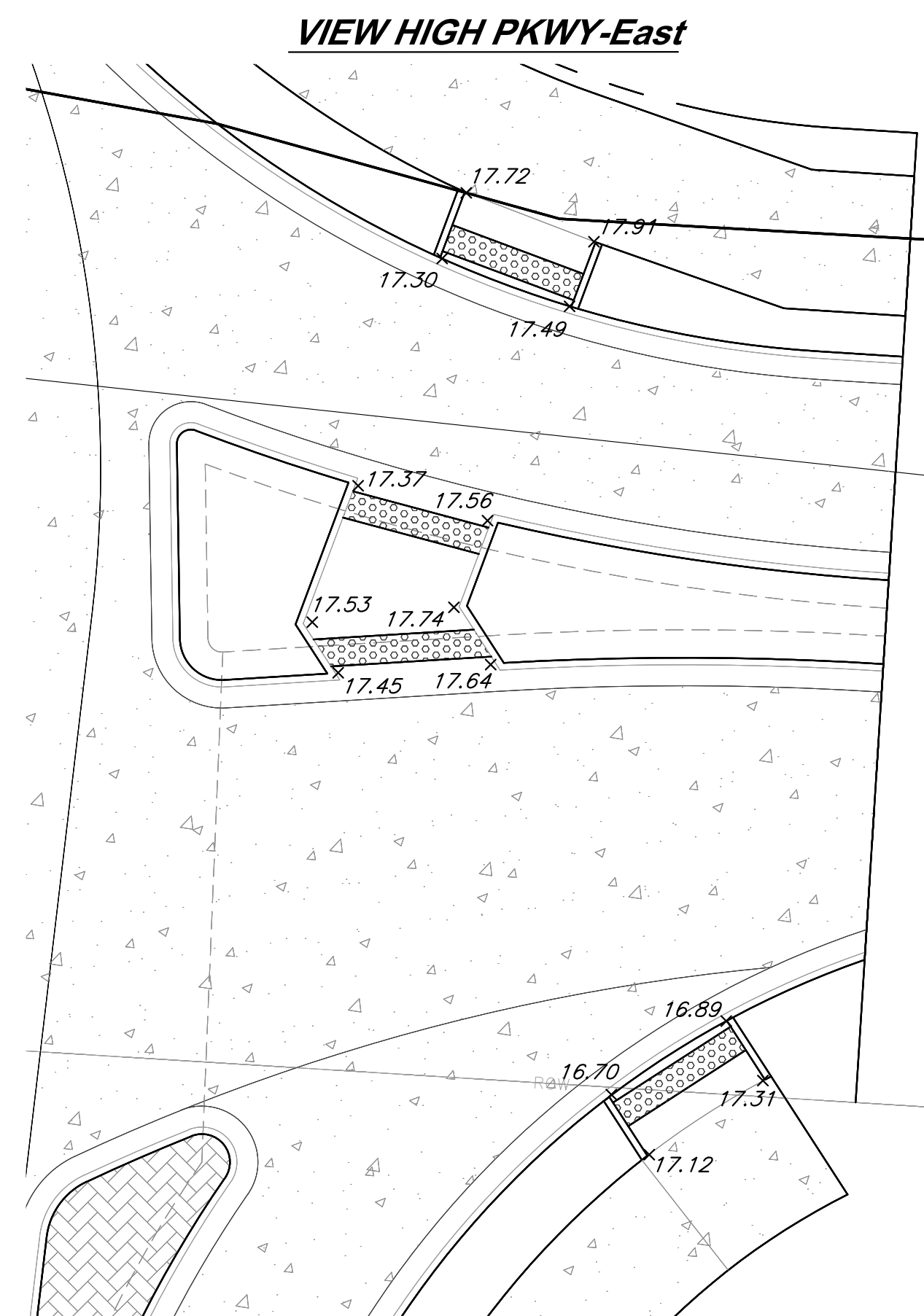


Intersection Details



- ① View High Pkwy-North
- ② View High Pkwy-West
- ③ View High Pkwy-East
- ④ River Road-North
- ⑤ River Road-South

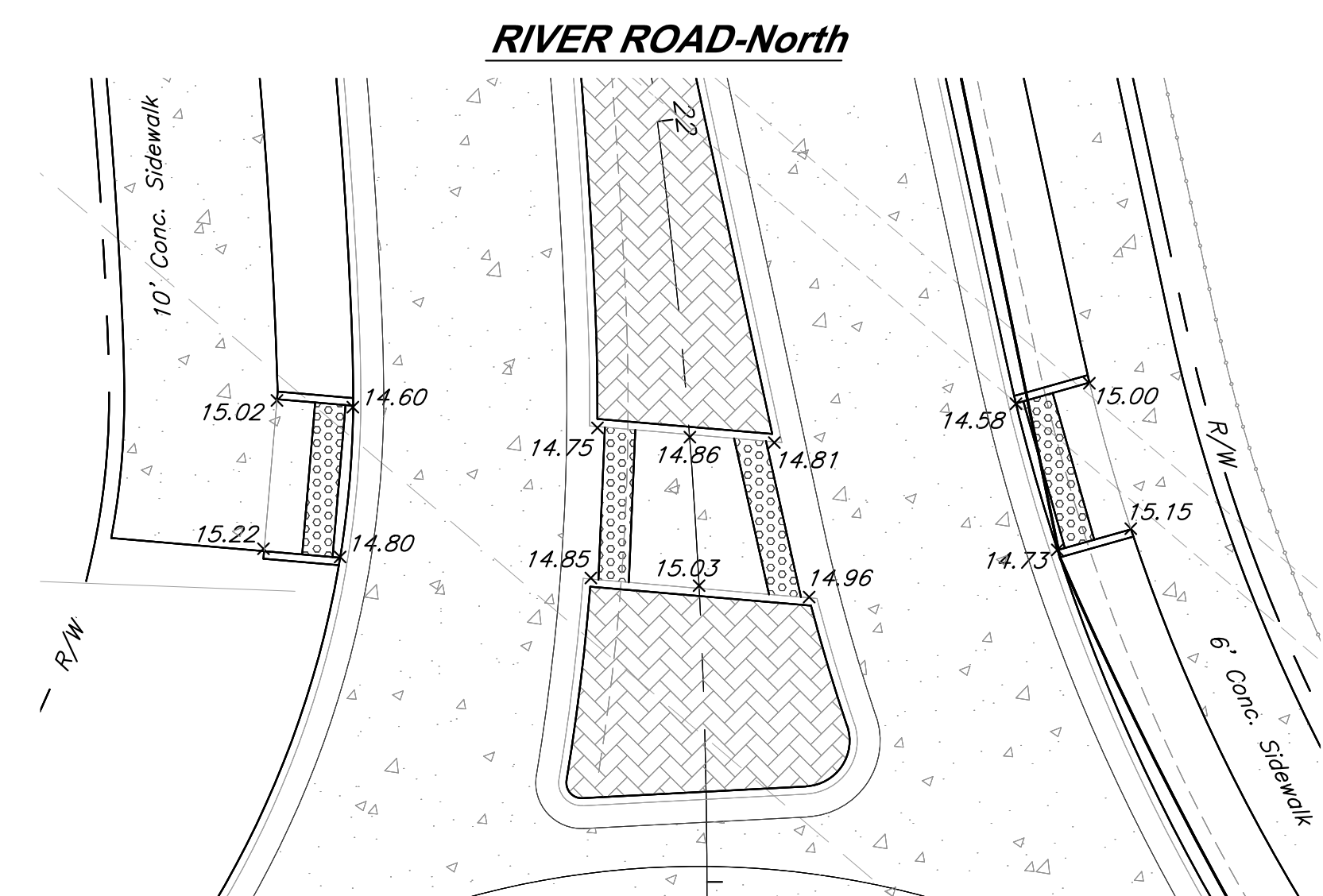
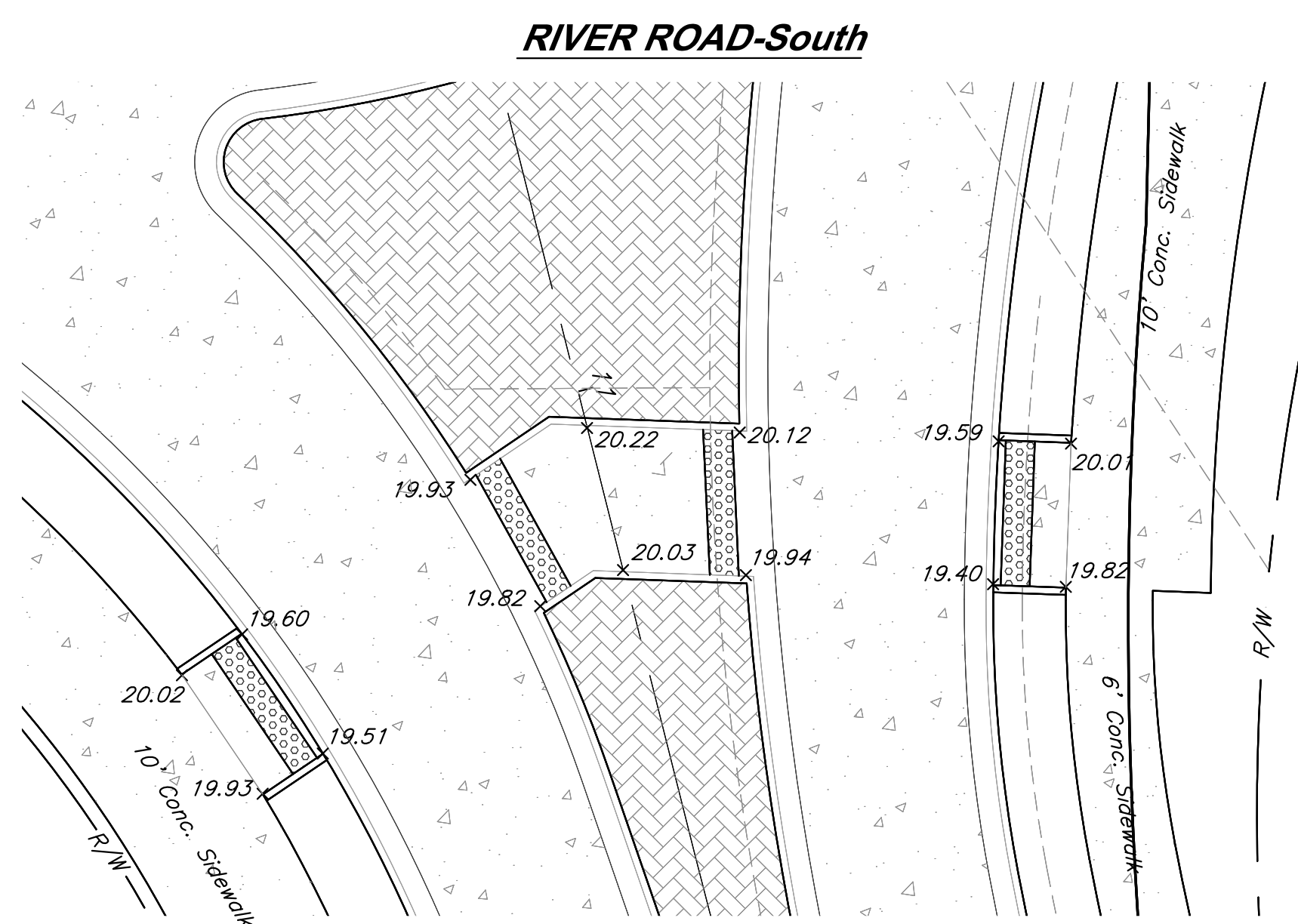
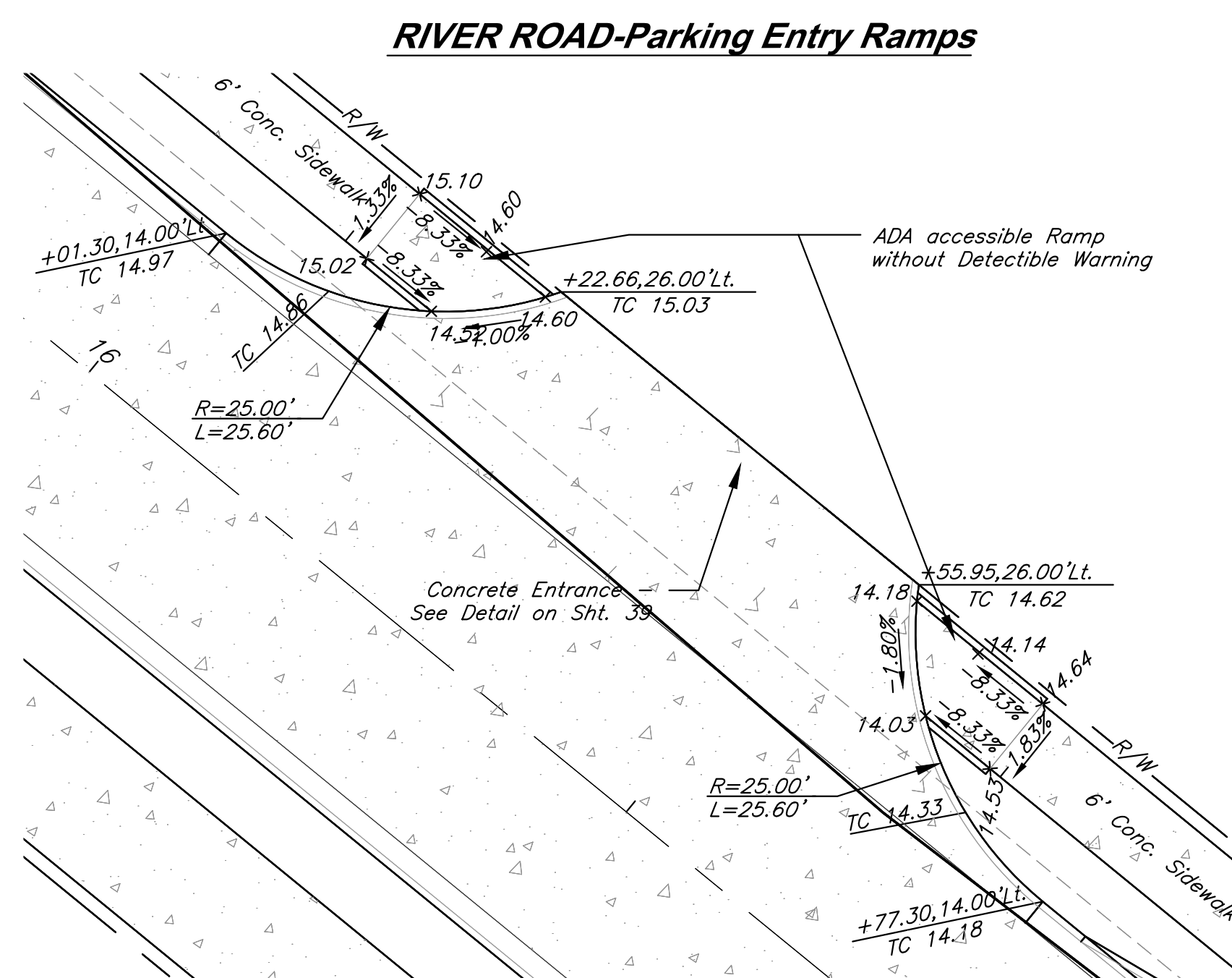
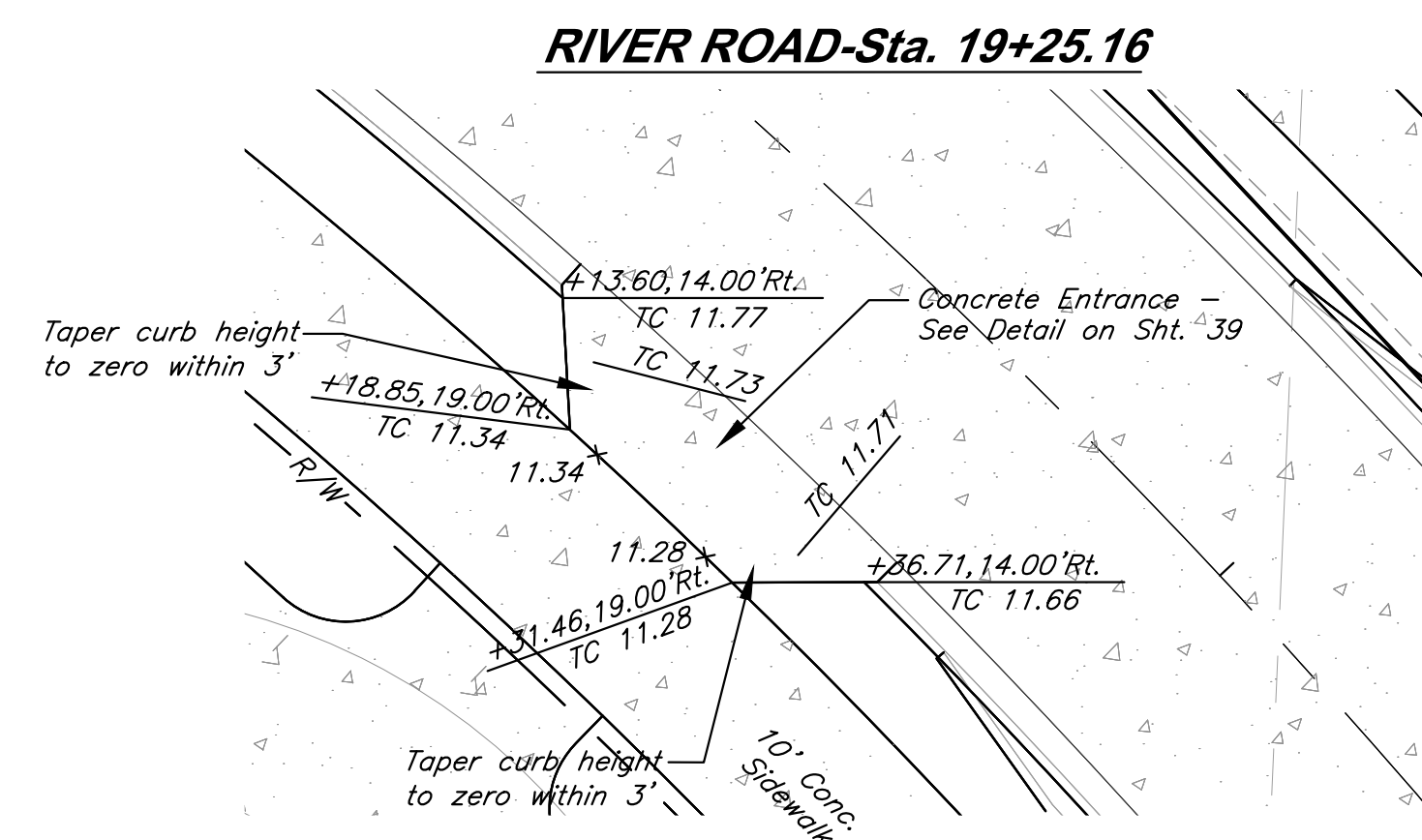
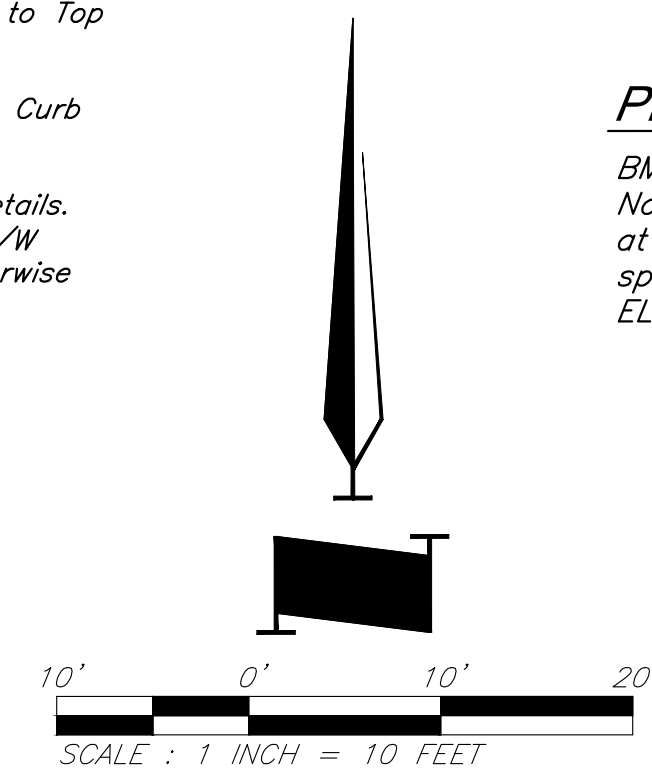
Intersection Details



LEGEND

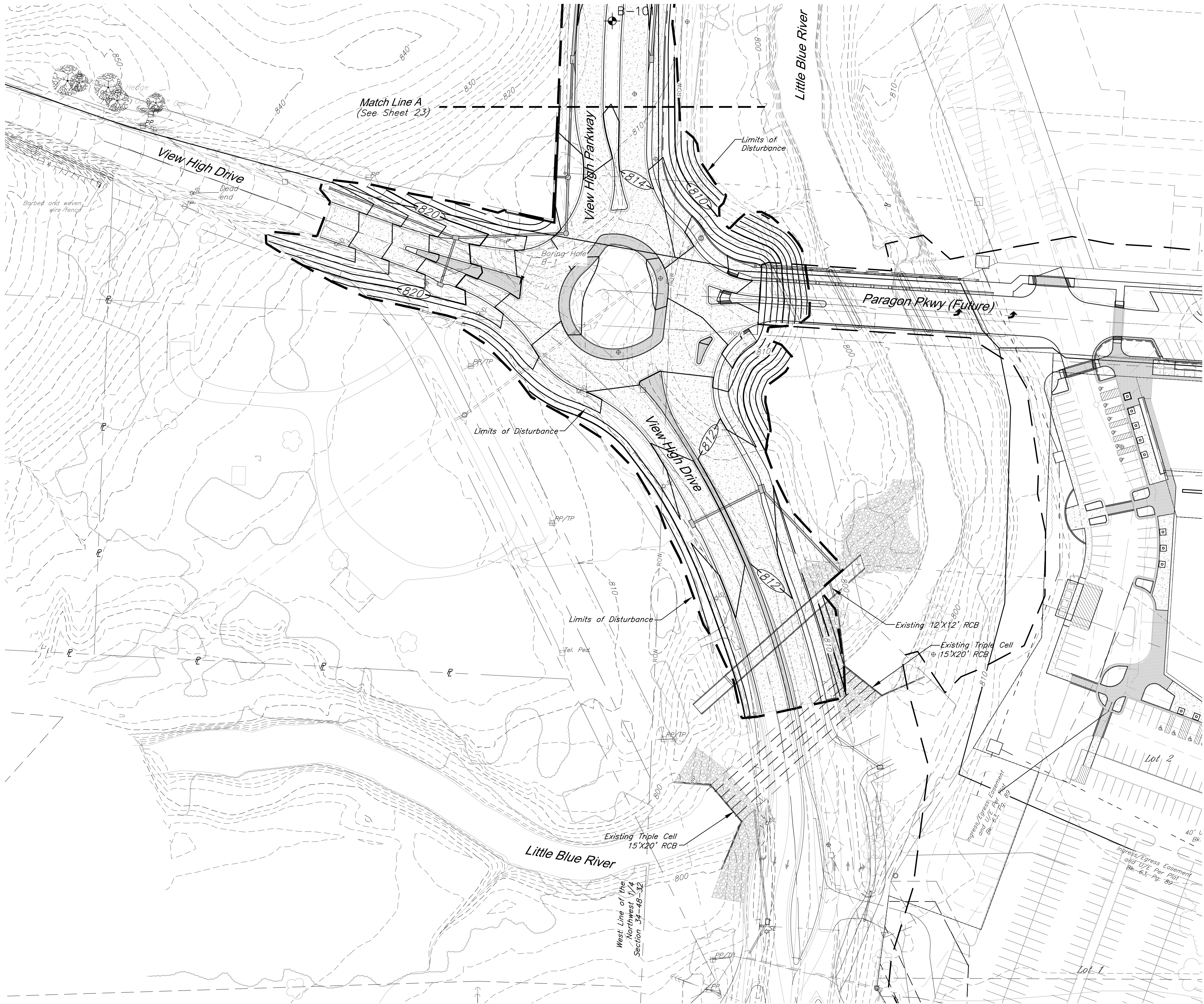
NOTE:

PROJECT BENCHMARKS



Intersection Enlargements

C:\12720\Civil 3D\Production Drawings\Street & Storm Plans\1272000700.dwg Layout: 22 Grading Plan -- Tuesday May 19, 2020, 4:44pm -- Copyright 2020, George Butler Associates, Inc. Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059



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DRAWN BY:	DRV
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
22	82

Bradley D. Burton
Professional Engineer
License No. 25862

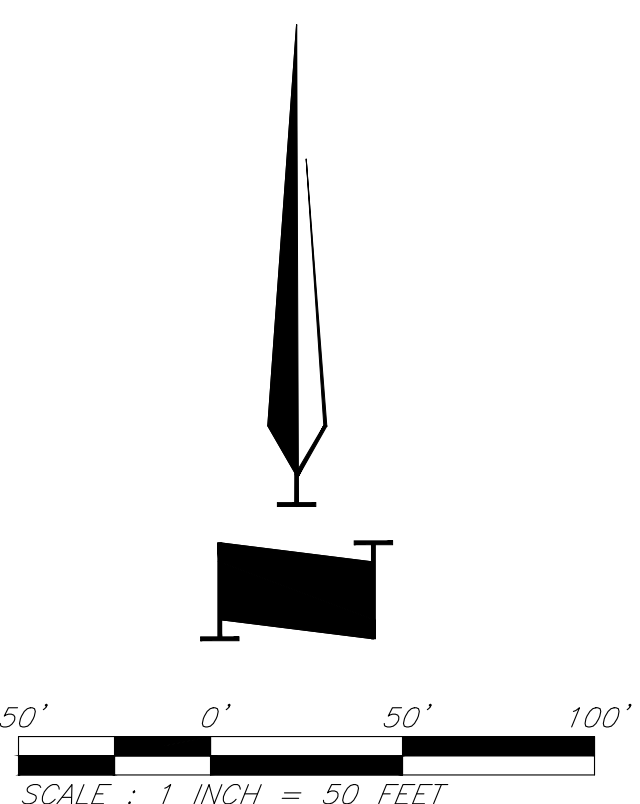
Street and Storm Sewer Plans
Paragon Star Development
Lee's Summit, Missouri

NO.	DATE

REVISIONS	BY	APPROVED

Legend

- Proposed Contours
- Existing Contours
- Limits of Disturbance



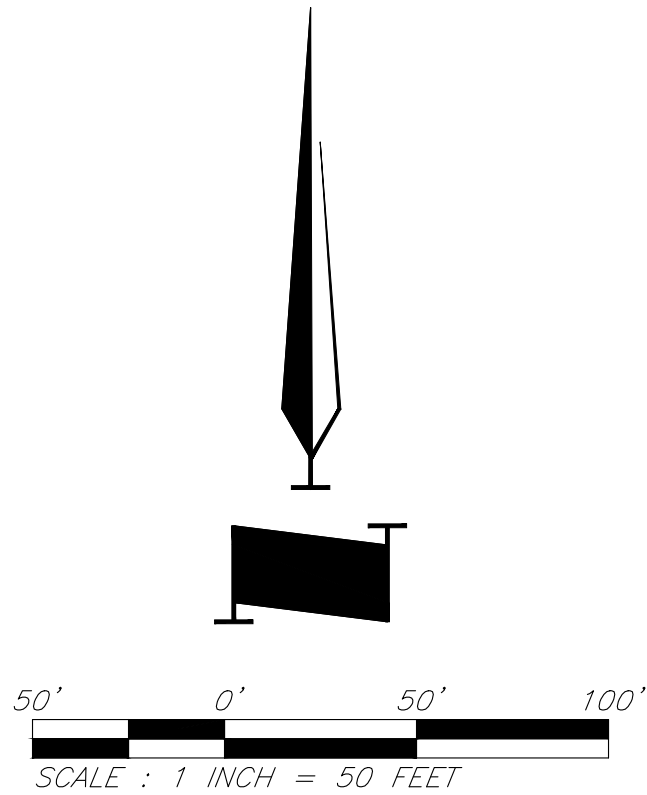
Grading Plan

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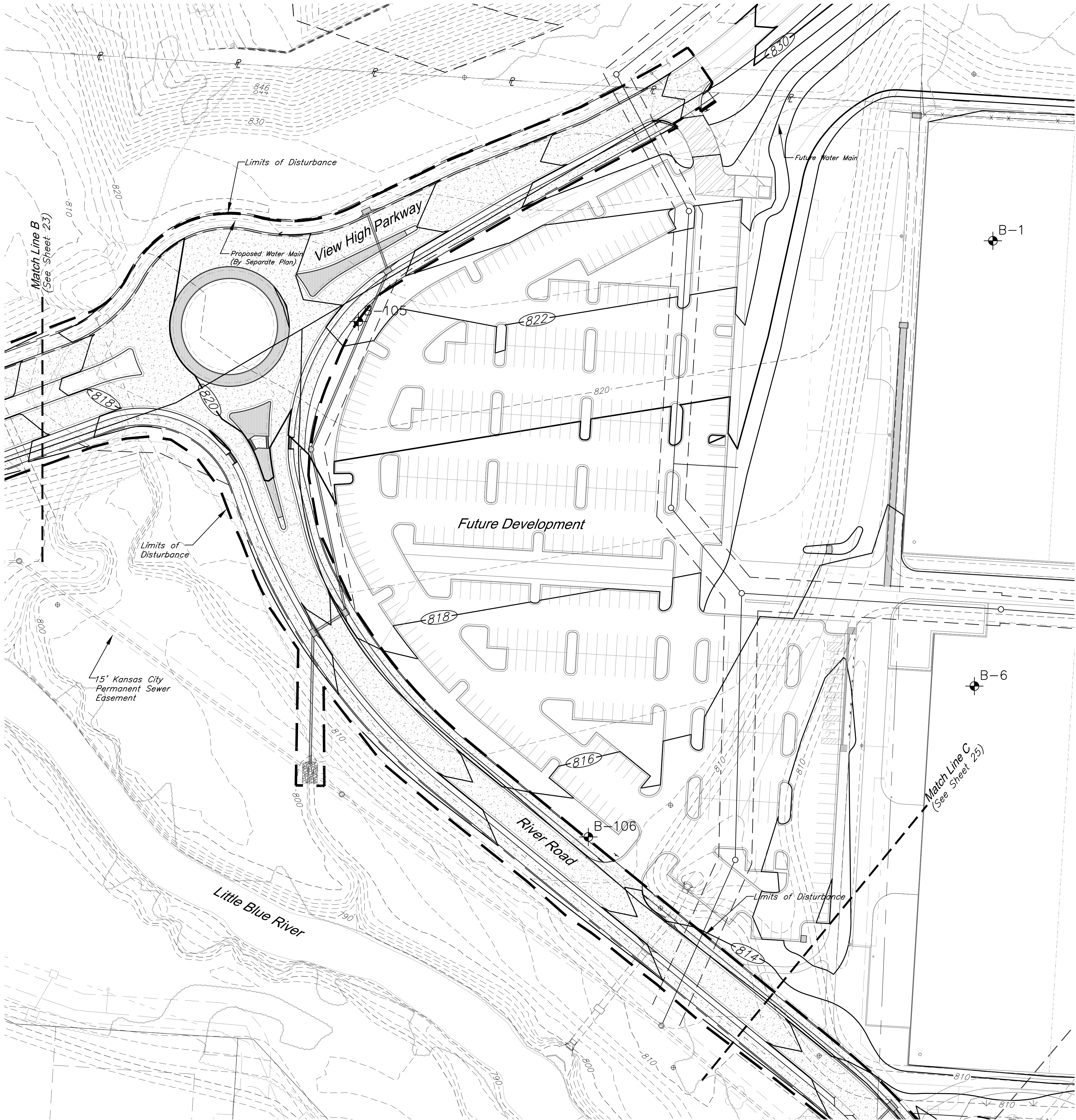
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	DESIGN BY: CEL	
	DRAWN BY: DRV	
	PROJECT NO.: 12720	
	SHEET NO.	TOTAL SHEETS
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8801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com		
Street and Storm Sewer Plans Paragon Star Development Lee's Summit, Missouri		
Bradley D. Burton Professional Engineer License No. 25862	REVISIONS BY APPROVED	

- Legend**
-  Proposed Contours
 -  Existing Contours
 -  Limits of Disturbance



Grading Plan

G:\12720\Civil 3D\Production Drawings\Street & Storm Plans\1272000700.dwg Layout: 24 Grading Plan -- Tuesday May 19, 2020, 4:45pm -- Copyright 2020, George Butler Associates, Inc. Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059



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DATE:	4-2-2020
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DRAWN BY:	DRV
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
24	82

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Professional Engineer
License No. 25862

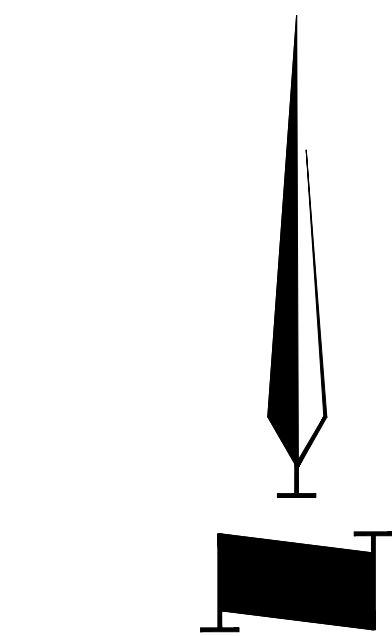
Street and Storm Sewer Plans
Paragon Star Development
Lee's Summit, Missouri

NO.	DATE

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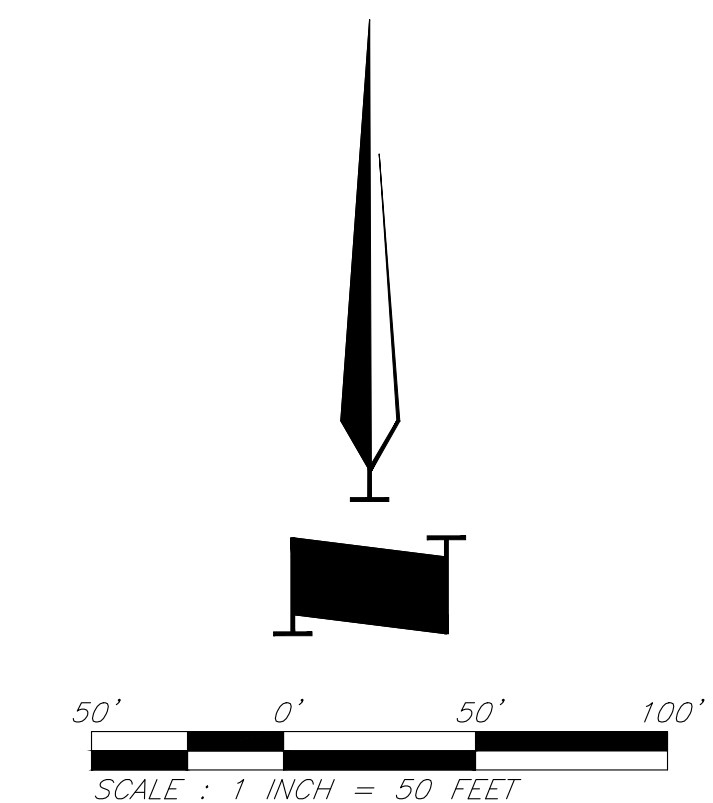
Legend

- Proposed Contours
- Existing Contours
- Limits of Disturbance



50' 0' 50' 100'
SCALE : 1 INCH = 50 FEET

Grading Plan



Grading Plan



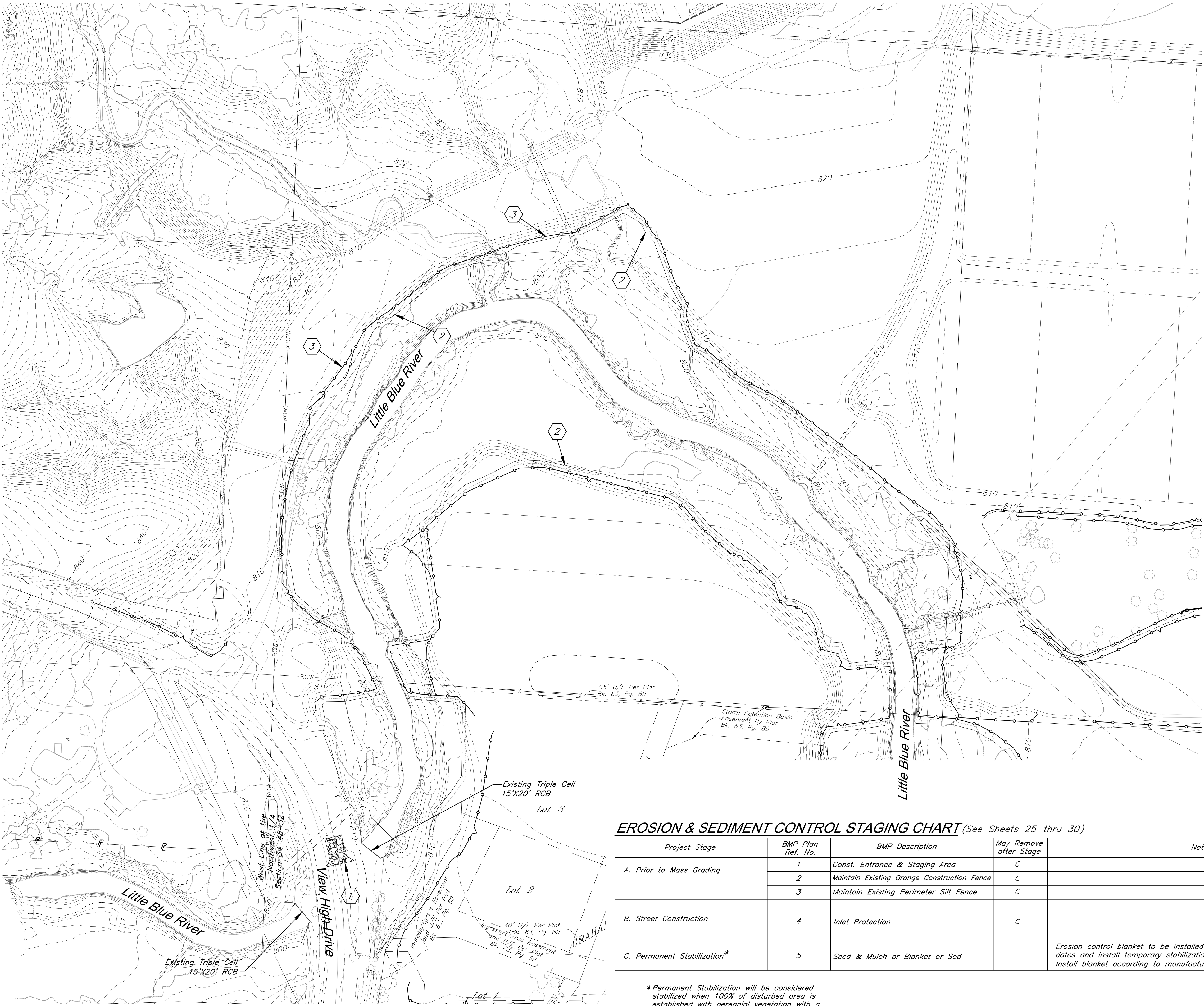
Street and Storm Sewer Plans
Paragon Star Development
Lee's Summit, Missouri

NO.	DATE	REVISIONS	BY	APPROVED

Legend

-
-  *Proposed Contours*
 *Existing Contours*
 *Limits of Disturbance*

G:\12720\Civil 3D\Production Drawings\Street & Storm Plans\12720c4000.dwg Layout: 26 Pre-Construction Erosion & Sediment Control Plan-Phase 1 -- Tuesday, May 19, 2020, 4:47pm -- Copyright 2020, George Butler Associates/Leant. 00212, Professional Engineer 000133, Professional Land Surveyor 000059



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engineers
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913.492.0400
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DATE:	4-2-2020
DESIGN BY:	CEL
DRAWN BY:	DRV
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
26	82

Bradley D. Burton
Professional Engineer
License No. 25862

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

NO.	DATE

REVISIONS	BY	APPROVED

Erosion Control Legend

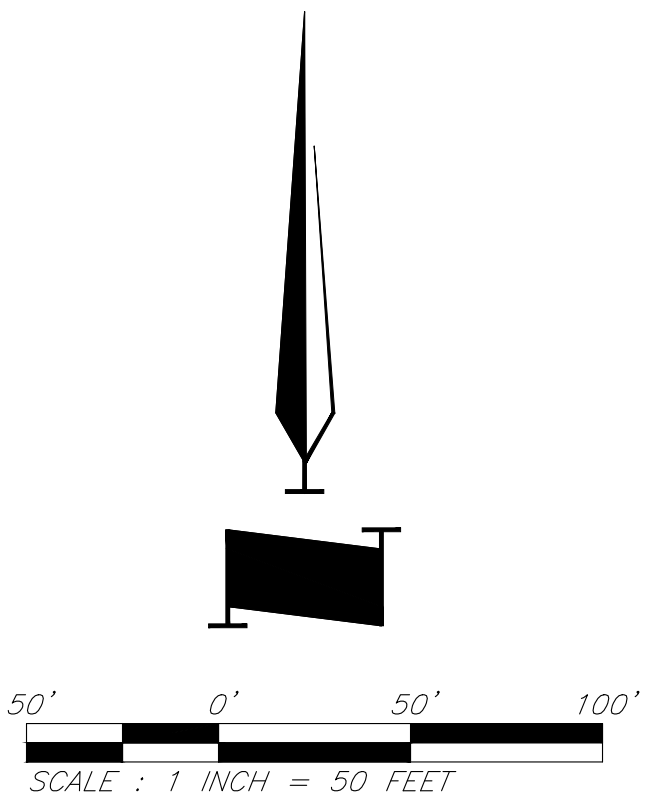
- Silt Fence
- Gravel Filter Bags
- Temporary Gravel Construction Entrance
- Proposed Contours
- Existing Contours
- Limits of Disturbance

Total Disturbed Area =
10.14 Acres

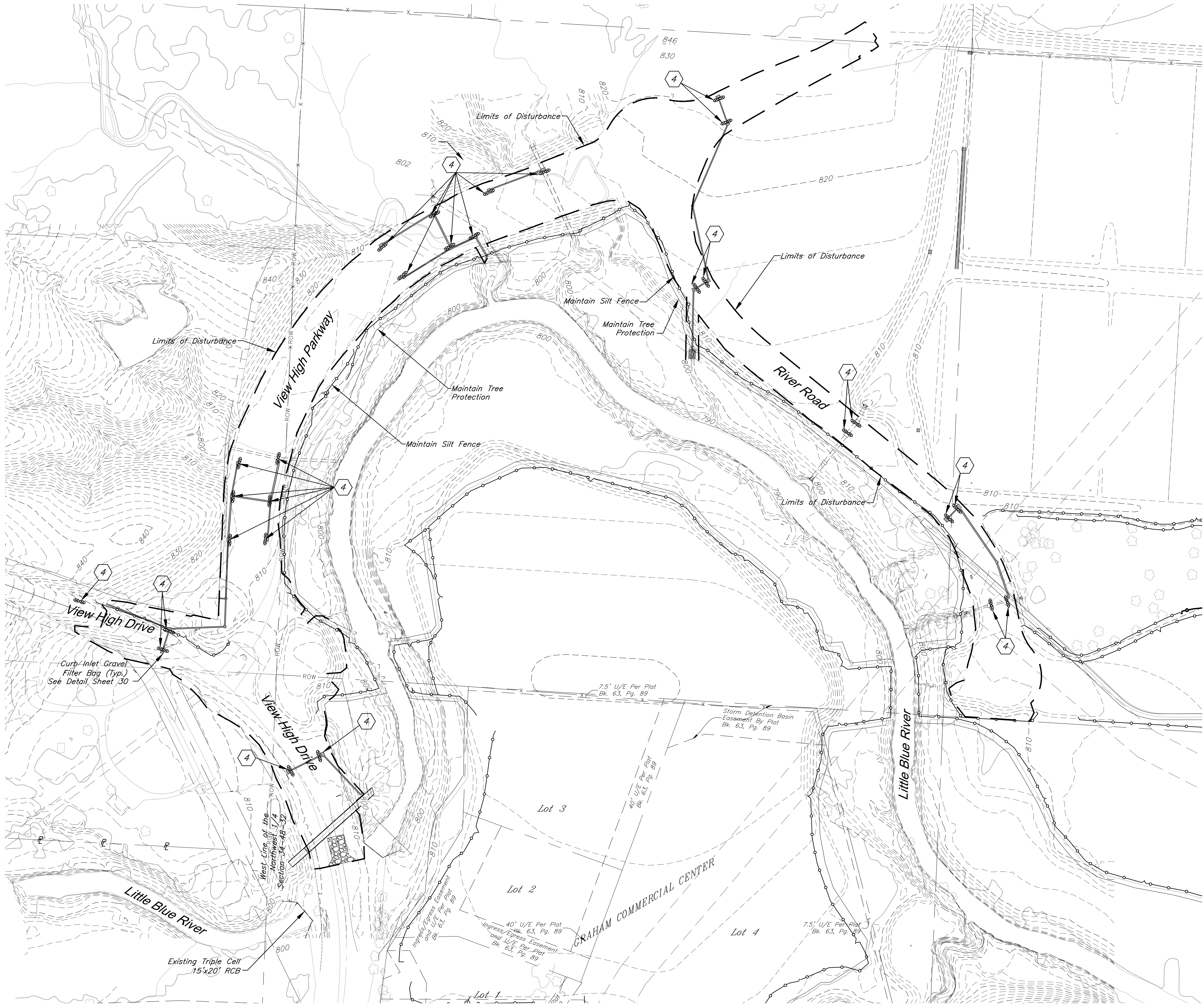
EROSION & SEDIMENT CONTROL STAGING CHART (See Sheets 25 thru 30)

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%.



G:\12720\Civil 3D\Production Drawings\Street & Storm Plans\12720c4000.dwg Layout: 27 Erosion & Sediment Control Plan-Phase 2 --- Tuesday May 19, 2020, 4:47pm --- Copyright 2020, George Butler Associates, Inc. Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059



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DESIGN BY: CEL
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PROJECT NO.: 12720
SHEET NO.: 27
TOTAL SHEETS: 82

Bradley D. Burton
Professional Engineer
License No. 25862

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

NO.	DATE

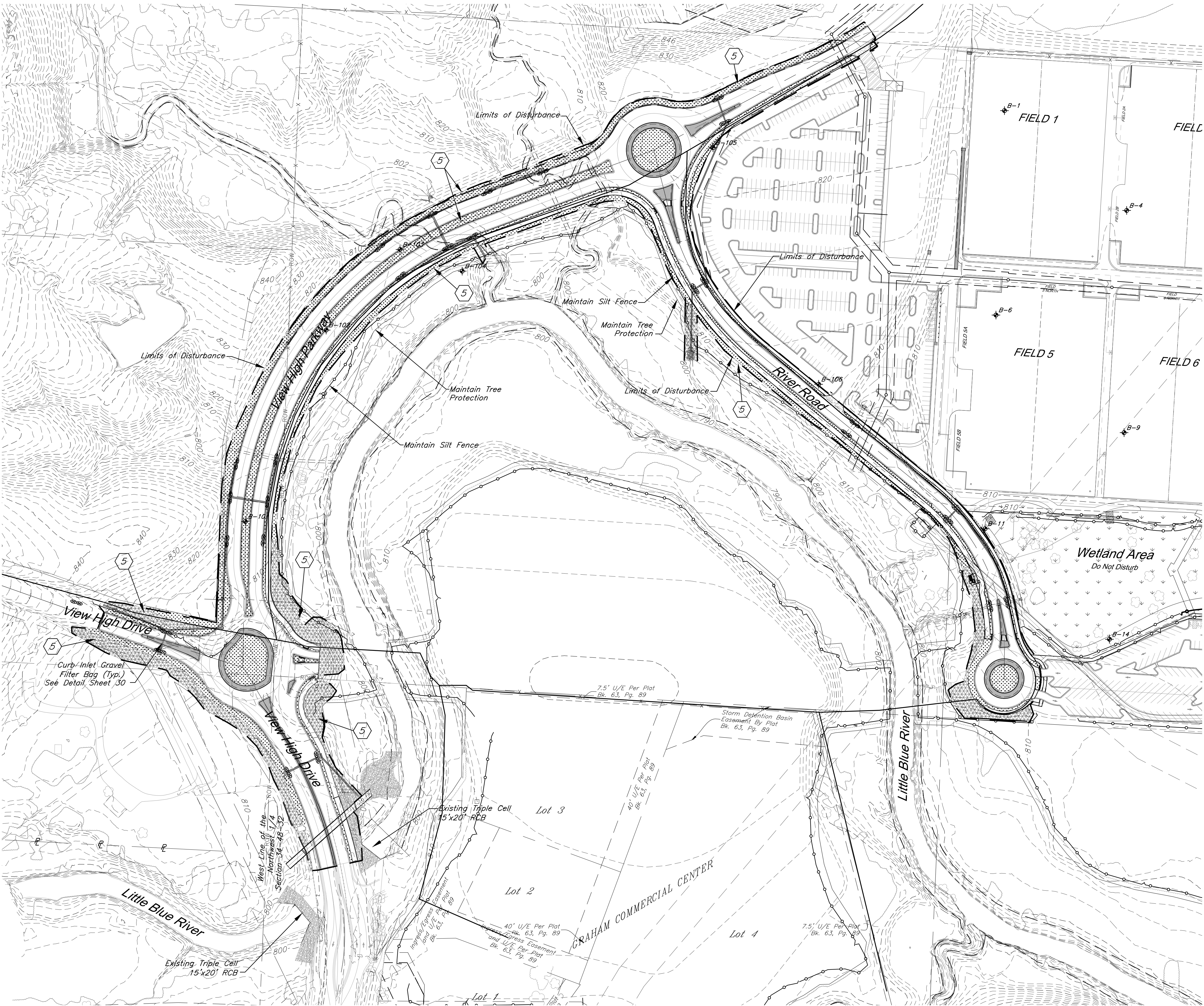
REVISIONS	BY	APPROVED

Erosion Control Legend

- Silt Fence
- Gravel Filter Bags
- Temporary Gravel Construction Entrance
- Proposed Contours
- Existing Contours
- Limits of Disturbance

Erosion & Sediment Control Plan-Phase 2

G:\12720\Civil 3D\Production Drawings\Street & Storm Plans\12720c4000.dwg Layout: 28 Erosion & Sediment Control Plan-Phase 3 --- Tuesday May 19, 2020, 4:46pm --- Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059



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DATE:	4-2-2020
DESIGN BY:	CEL
DRAWN BY:	DRV
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
28	82

Bradley D. Burton
Professional Engineer
License No. 25862

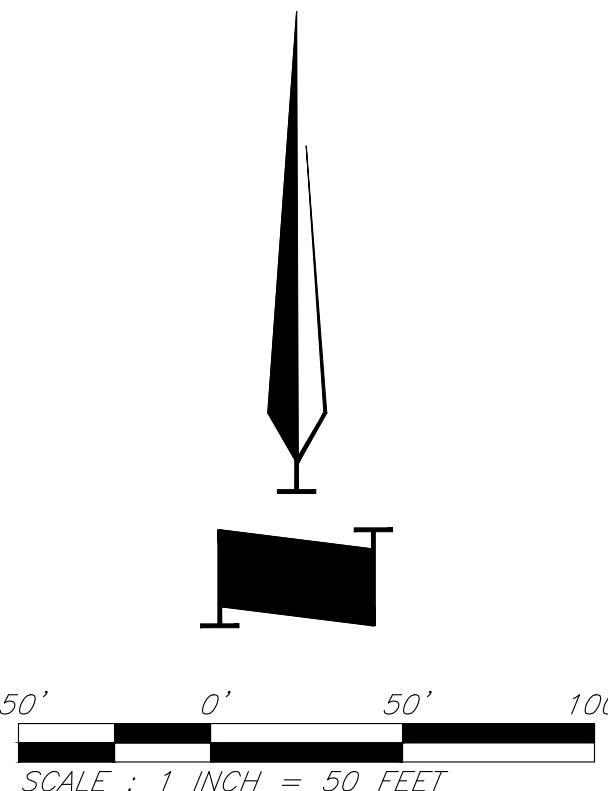
Street and Storm Sewer Plans
Paragon Star Development
Lee's Summit, Missouri

NO.	DATE	REVISIONS	BY	APPROVED

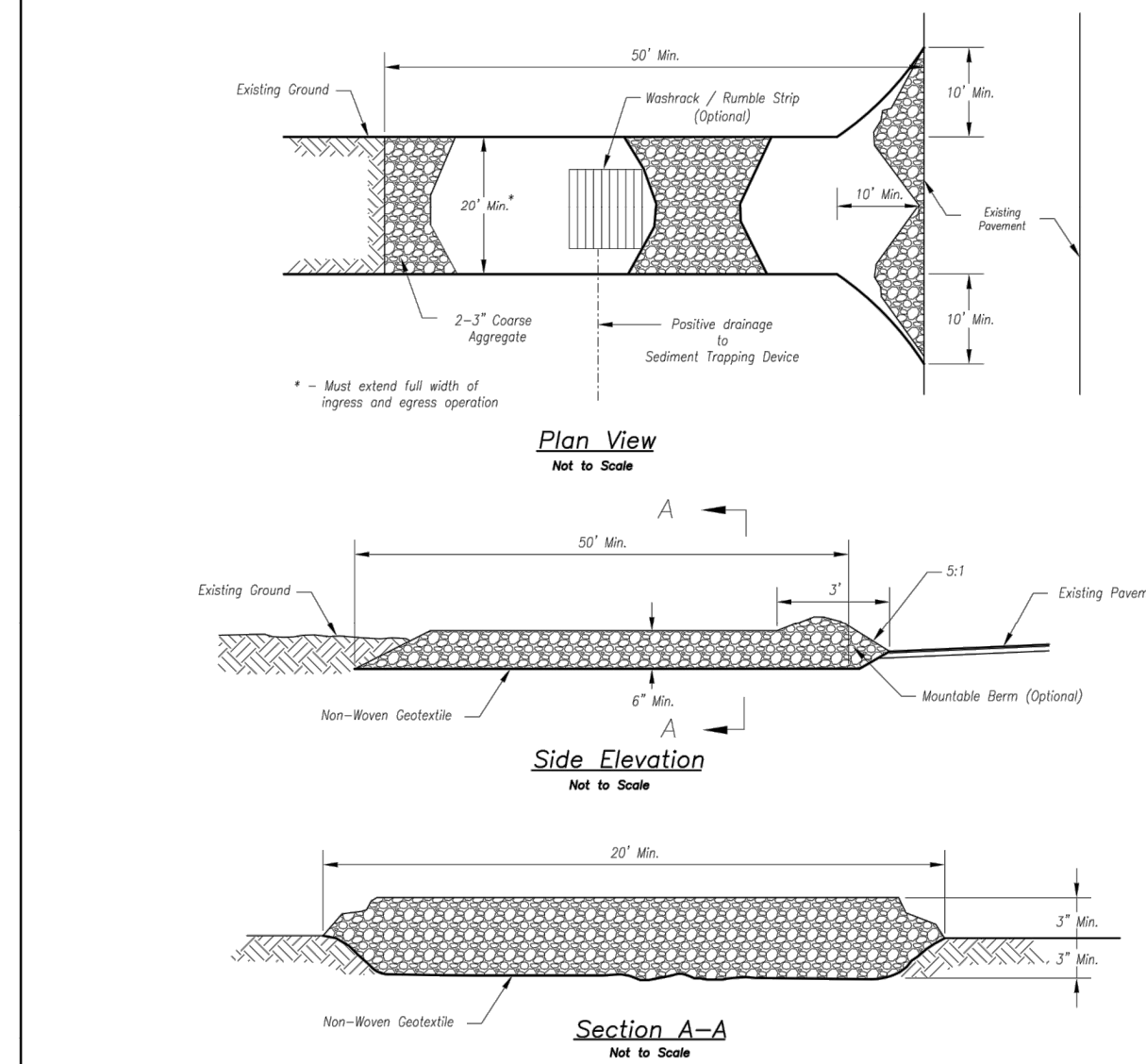
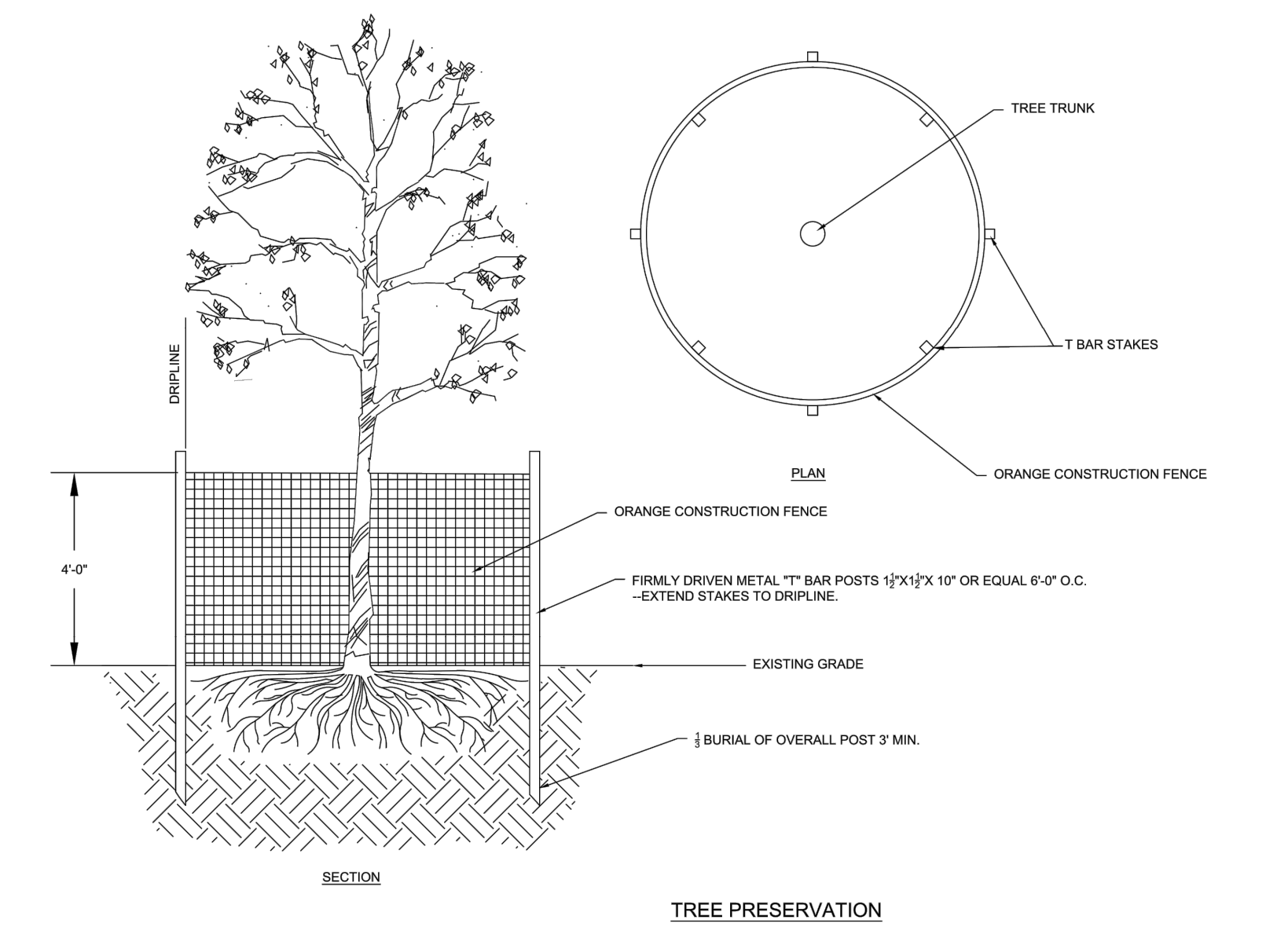
Erosion Control Legend

- Silt Fence
- Gravel Filter Bags
- Temporary Gravel Construction Entrance
- Proposed Contours
- Existing Contours
- Limits of Disturbance
- Erosion Control Blanket North American Green SC150BN or approved equal
- Establish Turf Type tall fescue with Seed and Straw Mulch

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



Post Construction - Erosion & Sediment Control Plan-Phase 3



- Notes for Construction Entrance:

1. Avoid locating on steep slopes, at curves on public roads, or downhill of disturbed area.
2. Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
3. If slope towards the public road exceeds 2%, construct a 6" to 8-inch high ridge with 36:1 side slopes across the foundation approximately 15 feet from the edge of the public road to divert runoff from it.
4. Install pipe under the entrance if needed to maintain drainage ditches along public roads.
5. Place stone to dimensions and grade as shown on plans. Leave surface sloped for drainage.
6. Divert all surface runoff and drainage from the entrance to a sediment control device.
7. If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

Maintenance for Construction Entrance:

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

CONSTRUCTION ENTRANCE

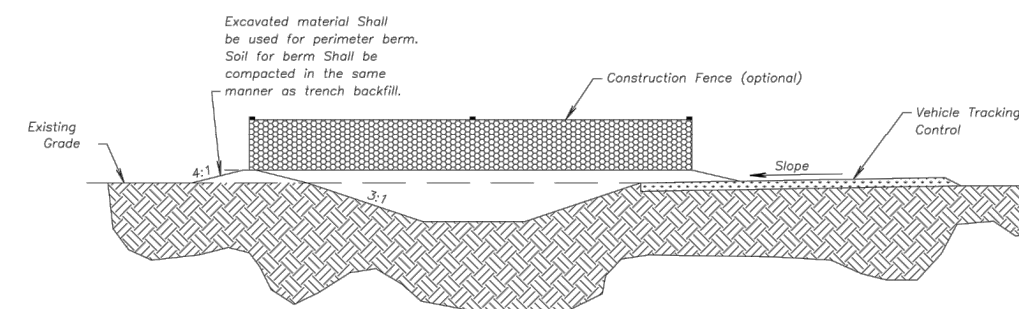
Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control; Concrete Washout modified from 2009 City of Great Bend Standard Drawings.

- Notes for Concrete Washout:

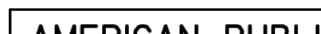
1. Concrete washout areas shall be installed prior to any concrete placement on site.
2. Concrete washout area shall include a flat subsurface pit sized relative to the amount of concrete to be placed on site. The slopes of the pit shall be 1:1. The concrete washout area shall include a trucking pad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

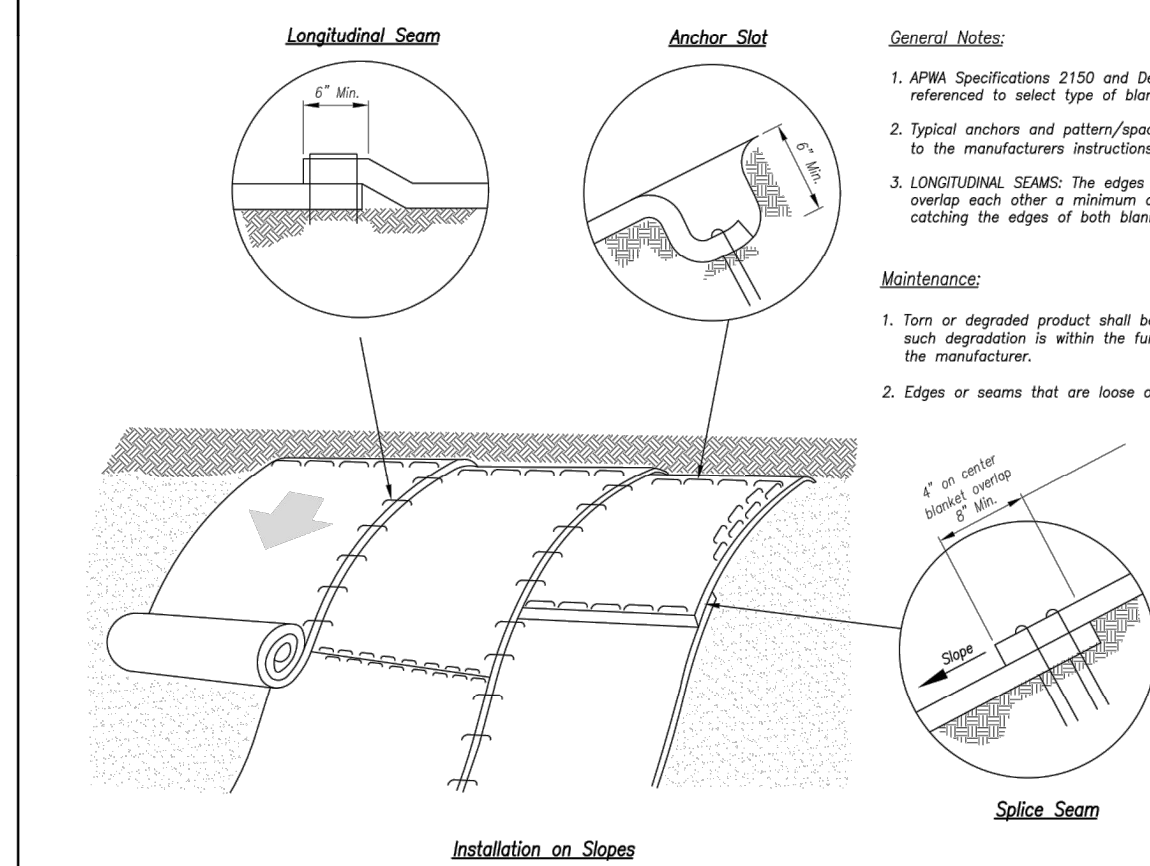
Maintenance for Concrete Washout

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

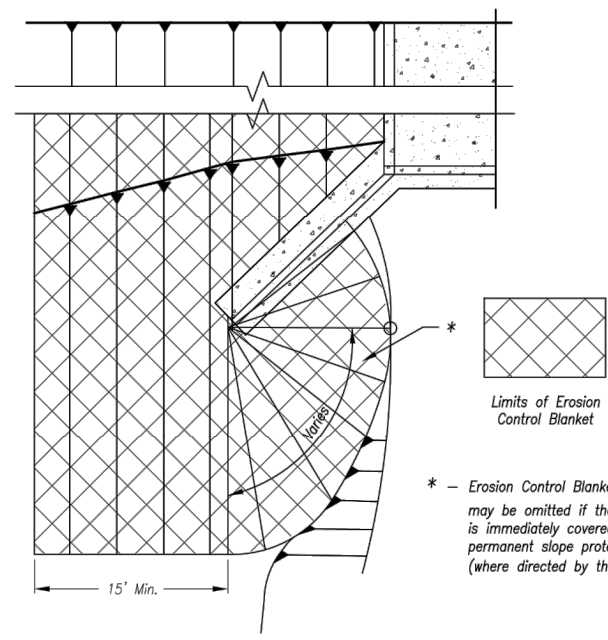


CONCRETE WASHOUT

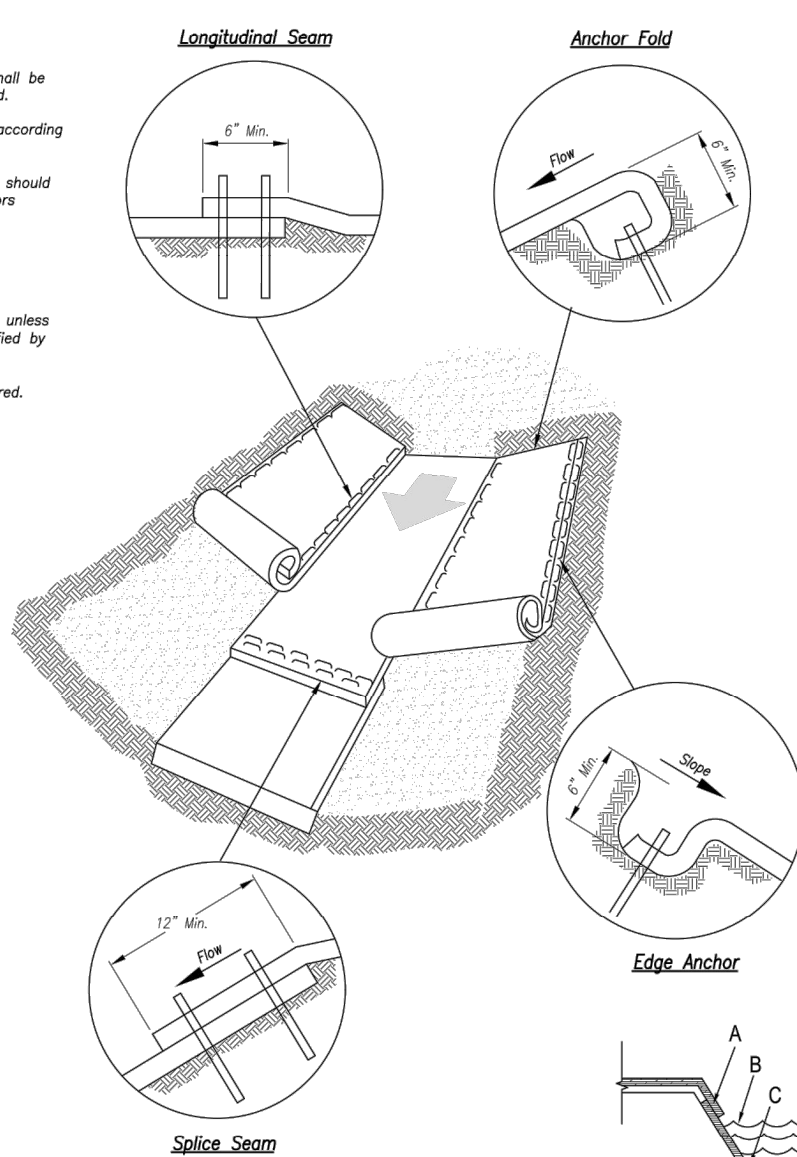
AMERICAN PUBLIC WORKS ASSOCIATION Kansas City Metro Chapter  AMERICAN PUBLIC WORKS ASSOCIATION		KANSAS CITY METRO CHAPTER
CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT	STANDARD DRAWING NUMBER ESC-01 ADOPTED: 10/24/2016	



Installation on Slopes



Installation Around Culvert Slope



Installation in Channels

- Notes for Installation in Channels:

1. **EROSION CONTROL Blankets and TIES** shall be laid in the direction of the flow, with the first course of the centerline of the slope, if applicable, to be the first course to be in contact with the soil, lay the mat loosely, avoiding stretching.
2. **ANCHOR FOLD:** The top of the mat should be folded under, buried and secured with wood or other approved anchors.
3. **ANCHOR TIE:** The mat should be folded under and secured in a slot 6 inches wide x 6 inches deep, anchored in the soil. The mat should be flattened, and the fold of the mat shown as depicted.
4. **SPACE SEAM:** When splices are necessary, overlap end a minimum of 12 inches in direction of water flow. Slagger spikes shall be used.
5. **EDGE SLOTS:** Establish check slots transverse to slope every 30 feet. The slots should be 6 inches wide x 6 inches deep. The mat should be cut to a length 12 inches beyond the slot. The mat should be folded under the slot and secured with wood and buried similar to the edge anchor fold. The upstream mat should be folded under the slot and secured as shown.
6. **EDGE ANCHORS:** Lay slots and be anchored as shown.
7. **TERMINUS:** The bottom edge of the mat shall be anchored.

Critical Points:

- A - Overlaps and seams;
B - Projected water line;
C - Channel bottom / side slope vertices;

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

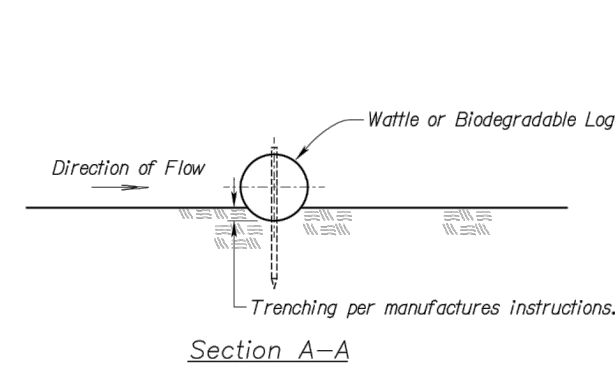
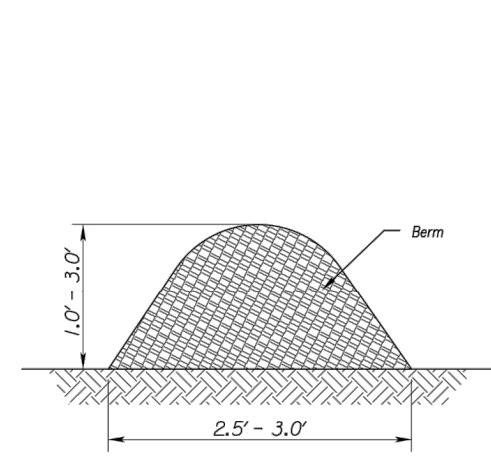
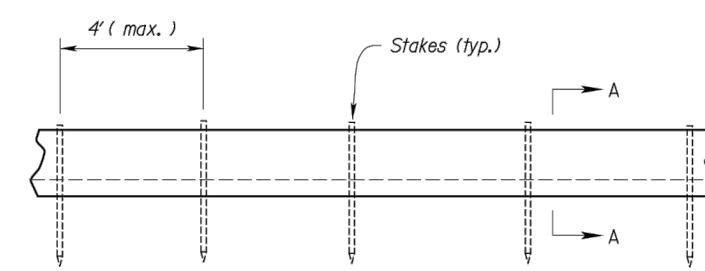
WATTLES AND BIODEGRADABLE LOG

Figure 1
(Perimeter Control)



Typical Elevation

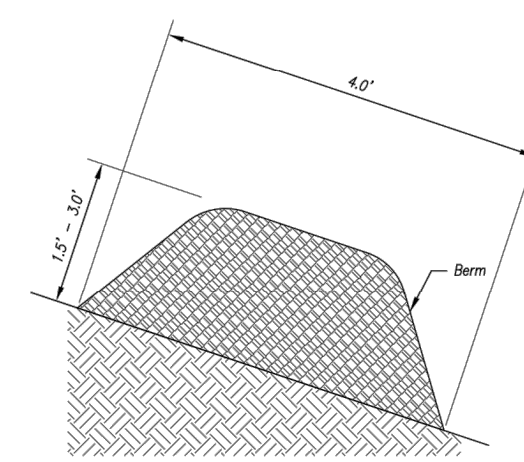


Figure 2
(Steep Slopes)

Notes for Wattles and Biodegradable Log Slope Protection:

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

Notes for Mulch and Compost Filter Beam:

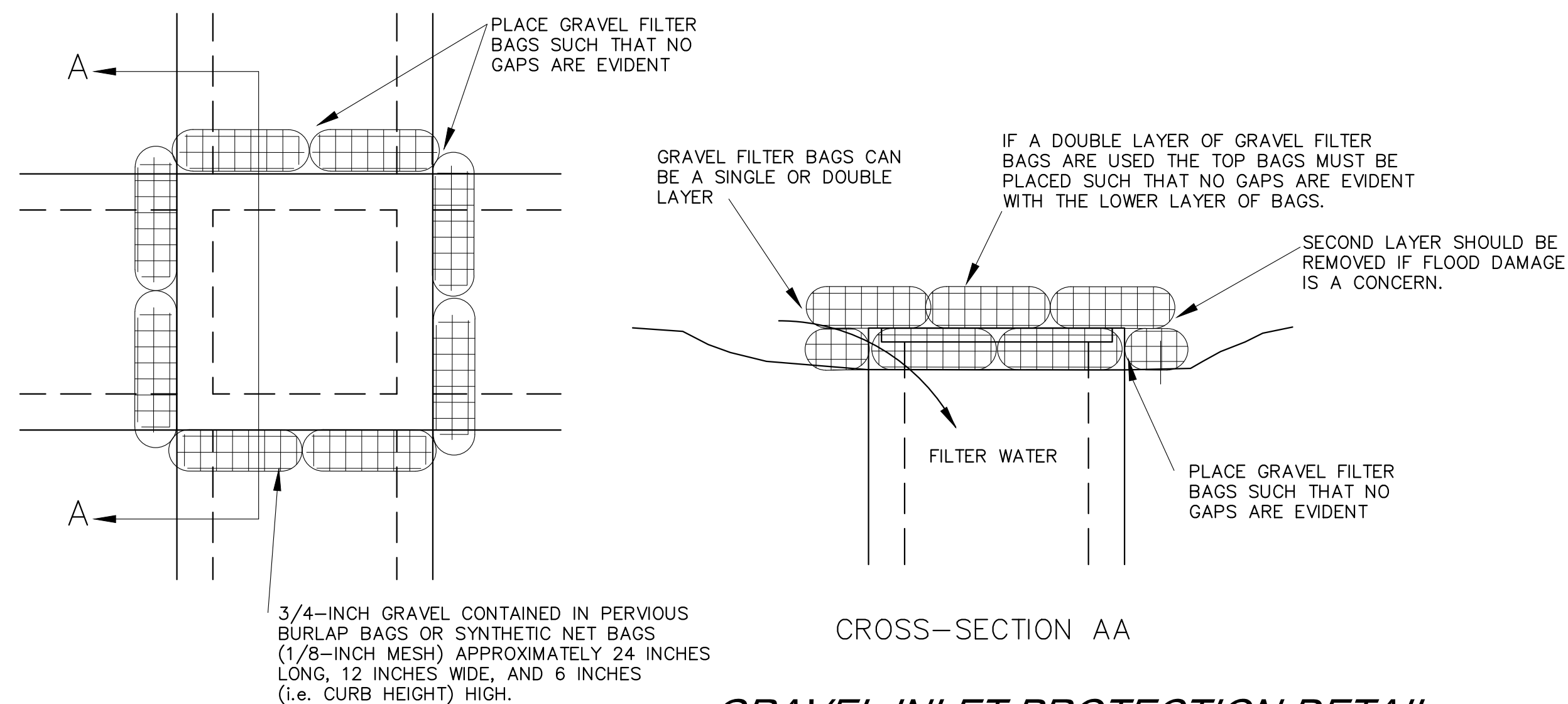
3. The sediment control berm shall be placed unobstructed in a window at locations shown on the plans or as directed by the engineer.
4. Parallel to the base of the slope, or around the perimeter of the slope, construct a 1 to 2 foot high by 2.5 to 3 foot wide berm (see Figure 1). For maximum water treatment ability for steep slopes construct a 1.5 to 3 foot high riprap berm that is 2 to 3 feet wide at the top (see Figure 2). In extreme conditions, or where specified by the engineer, a second berm shall be constructed at the top of the first. Erosion shall be controlled by the berm.
5. 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.
6. Do not use compost or wood mulch berms in any runoff channels or concentrated flow areas.
7. Wood mulch shall consist of tree and shrub debris resulting from clearing and grubbing and shall be ground to a fine mulch material such as requirements, hammermill, top grinder or other approved method.
8. Mulch sizing varies with a maximum width of 2" and a maximum length of 6".

Maintenance for Mulch and Compost Filter Beams:

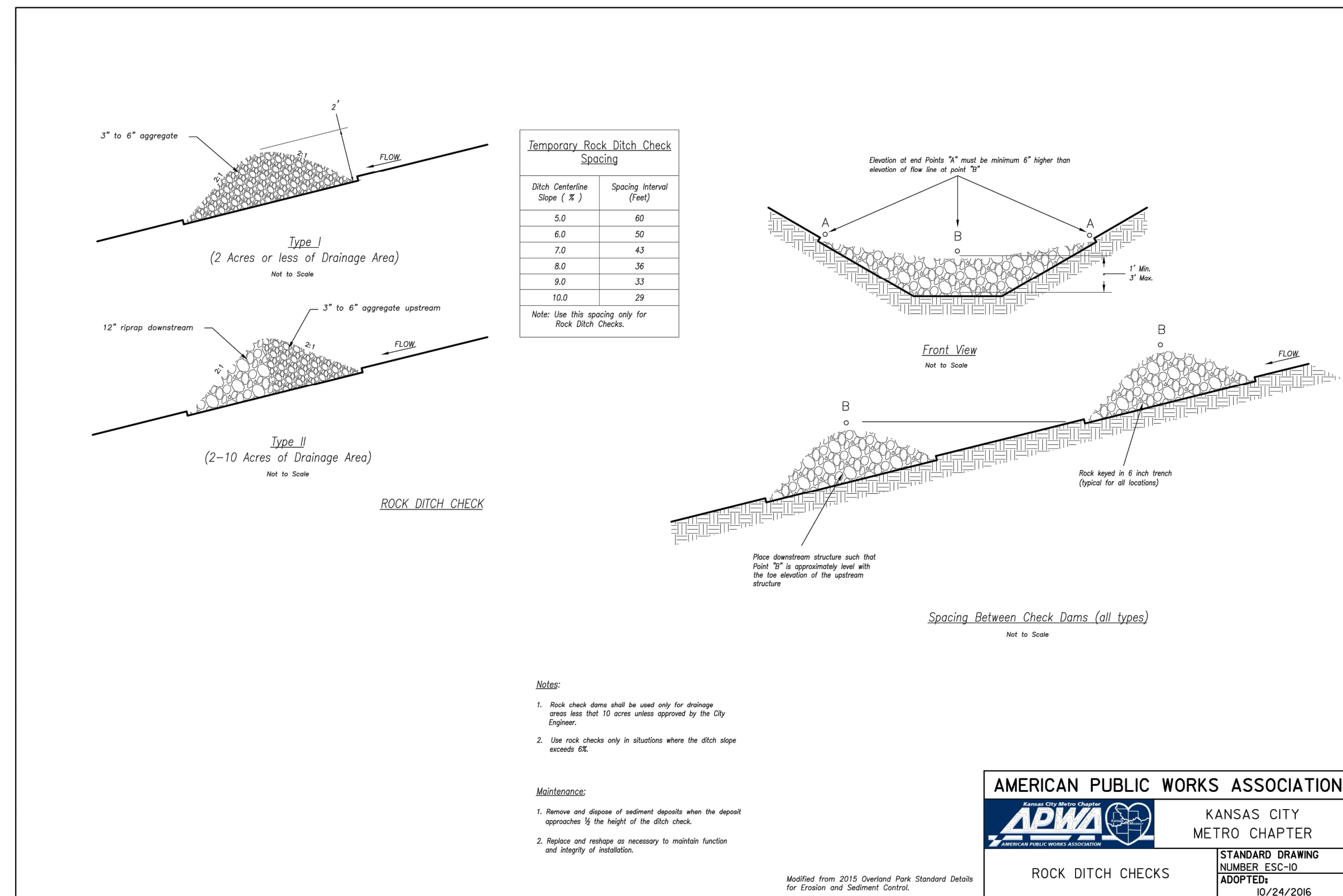
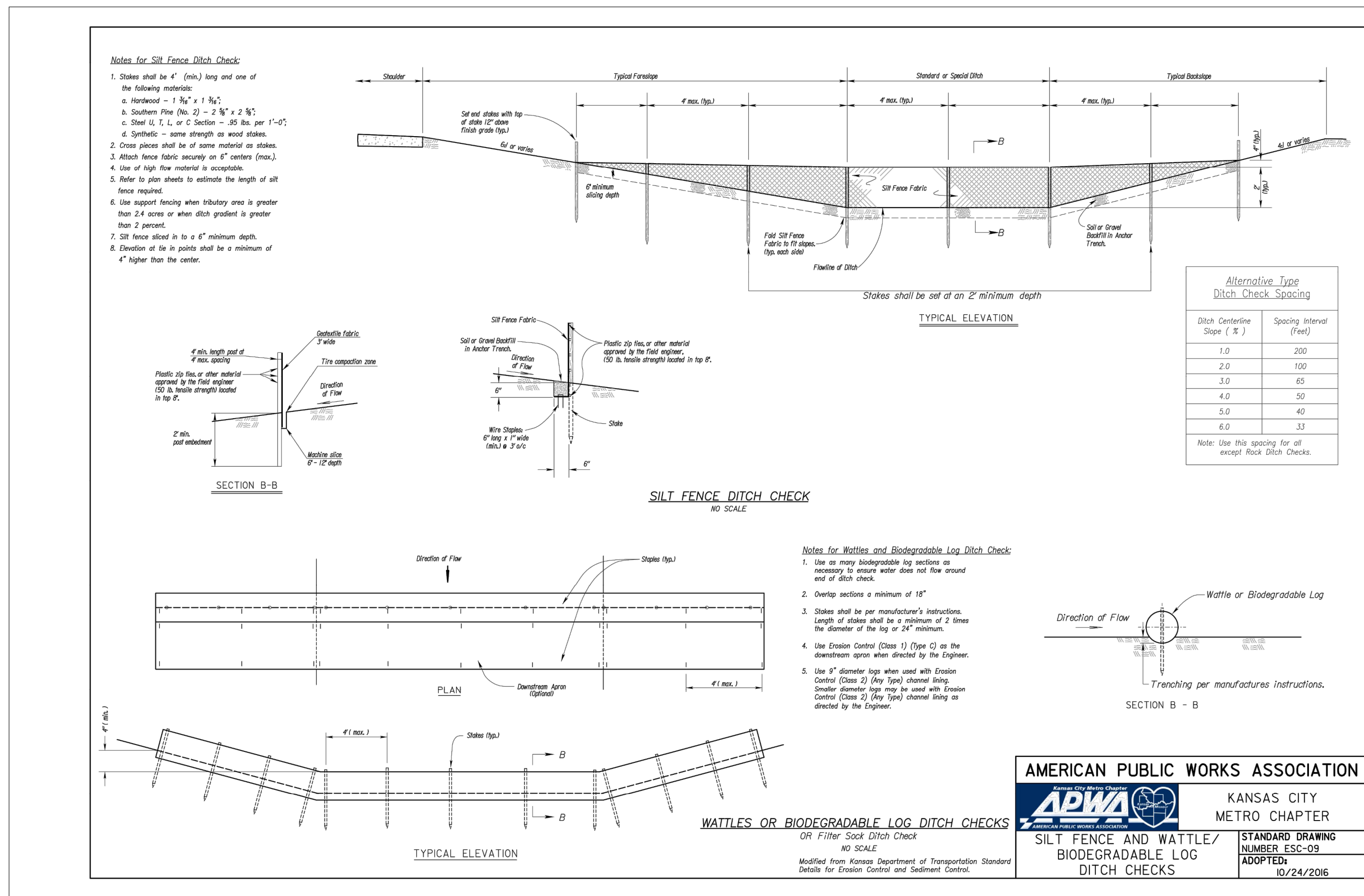
1. Berm shall be reshaped and material added as necessary to maintain function and dimensions.
2. Breaches in the berm shall be repaired promptly.

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

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



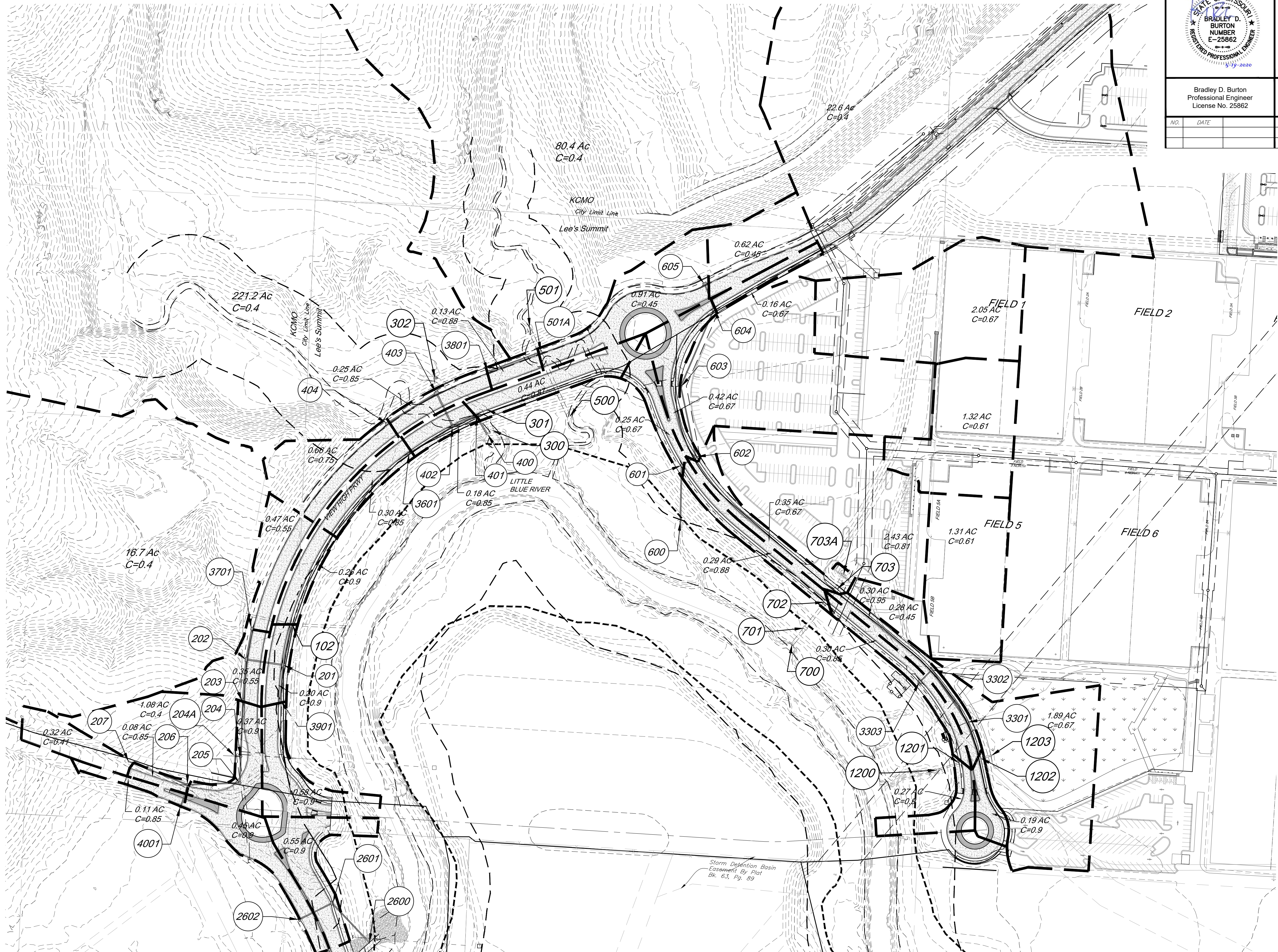
GRAVEL INLET PROTECTION DETAIL



Erosion Control Details

						DATE: 4-2-2020 DESIGN BY: CEL DRAWN BY: DRV PROJECT NO.: 12720		
BRADLEY D. BURTON NUMBER E-25862 REGISTERED PROFESSIONAL ENGINEER 5-19-2020			9801 Renner Boulevard Lenexa, Kansas 66119 913.492.0400 www.gbateam.com		SHEET NO. 30		TOTAL SHEETS 82	
Bradley D. Burton Professional Engineer License No. 25862			Street and Storm Sewer Plans Paragon Star Development Lee's Summit, Missouri					
NO.	DATE		REVISIONS				BY	APPROVED

C:\12720\Civil 3D\Production Drawings\Street & Storm Plans\12720C2000.dwg Layout: 31 Storm Drainage Map --- Tuesday May 19, 2020, 4:49pm --- Copyright 2020, George Butler Associates, Inc. Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059



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DRAWN BY:	DRV
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
31	82

Bradley D. Burton
Professional Engineer
License No. 25862

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

NO.	DATE

REVISIONS	BY	APPROVED

Legend

- Proposed Contours
- Existing Contours
- Drainage Area Boundary

100' 0' 100' 200'
SCALE : 1 INCH = 100 FEET

Storm Drainage Map

[illegible]

Bradley D. Burton Professional Engineer License No. 25862			<i>Street and Storm Sewer Plans</i> <i>Paragon Star Development</i> <i>Lee's Summit, Missouri</i>	
<i>NO.</i>	<i>DATE</i>		<i>REVISIONS</i>	<i>BY</i> <i>APPROVED</i>

STATE OF MISSOURI

BRADLEY D. BURTON

REGISTERED PROFESSIONAL ENGINEER

10-19-2020

DATE: 4-2-2020

DESIGN BY: CEL

DRAWN BY: DRV

PROJECT NO.: 12720

SHEET NO. 33

TOTAL SHEETS 82

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

NO.	DATE	REVISIONS	BY	APPROVED

LINE 200

LINE 3600

Note:
1) Compacted Fill shall be placed to a minimum 18" above the top of pipe prior to installation.

Connections:

- ① Line 3900 Sta 0+00.00 = Line 200 Sta 0+86.33
- ② Line 4000 Sta 0+00.00 = Line 200 Sta 4+81.43
- ③ Line 200 Sta 0+00.00 = Line 100 Sta 1+41.87
- ④ Line 3700 Sta 0+00.00 = Line 200 Sta 1+64.34
- ⑤ Line 3600 Sta 0+00.00 = Line 400 Sta 0+98.75

Horizontal Scale: 1" = 50'
Vertical Scale: 1" = 10'

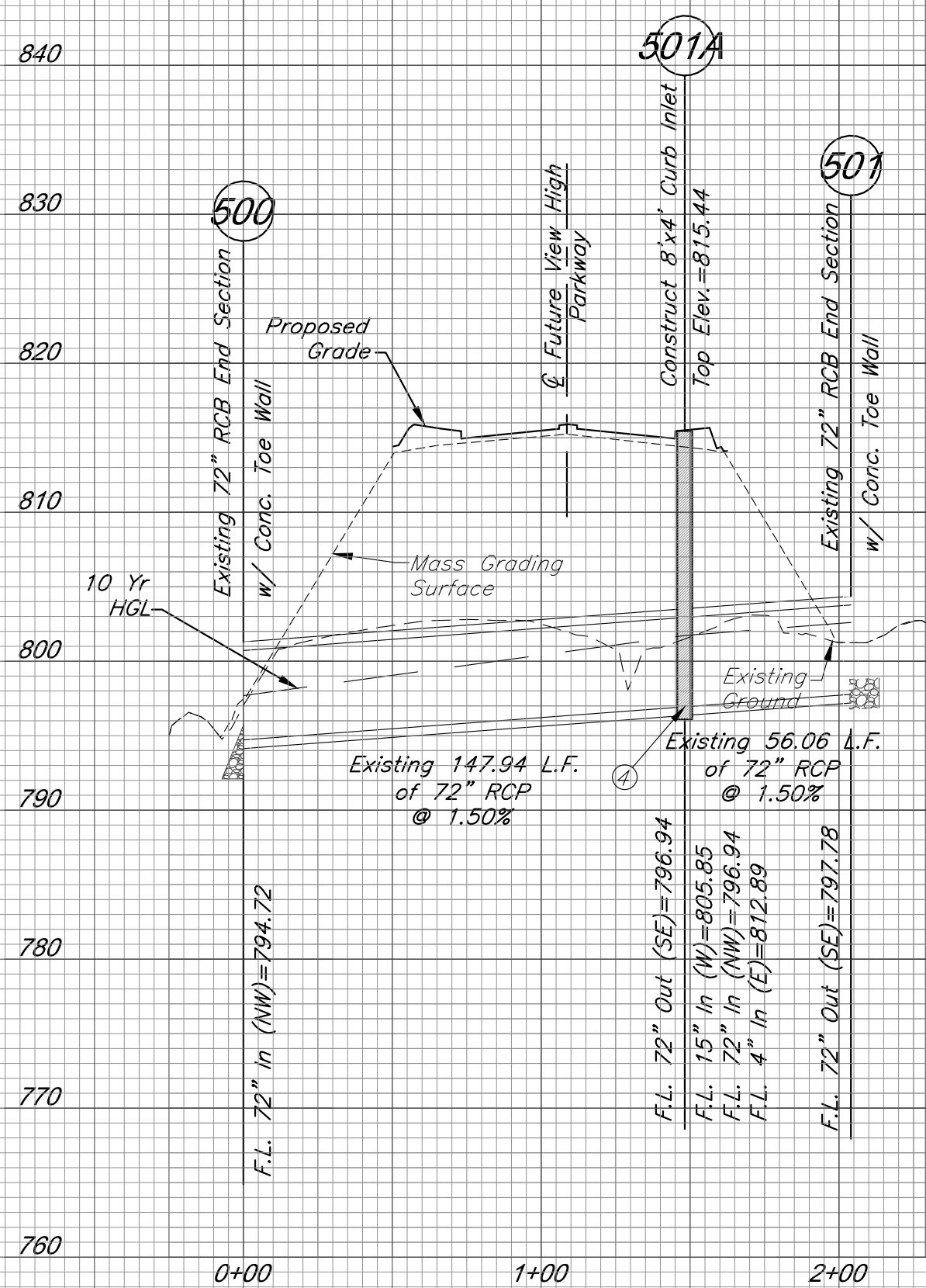
LINE 600

LINE 400

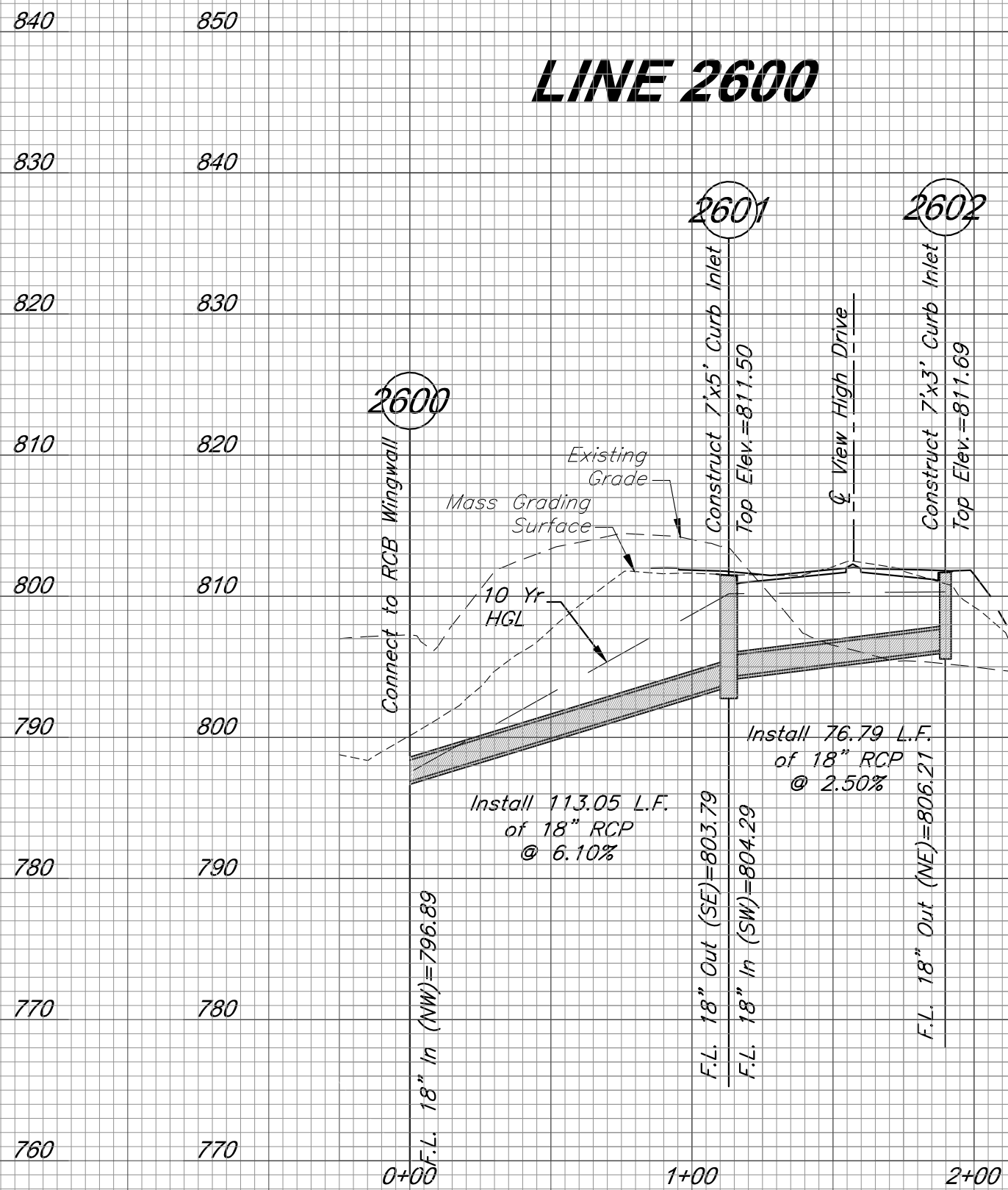
LINE 3700

Storm Sewer Profiles

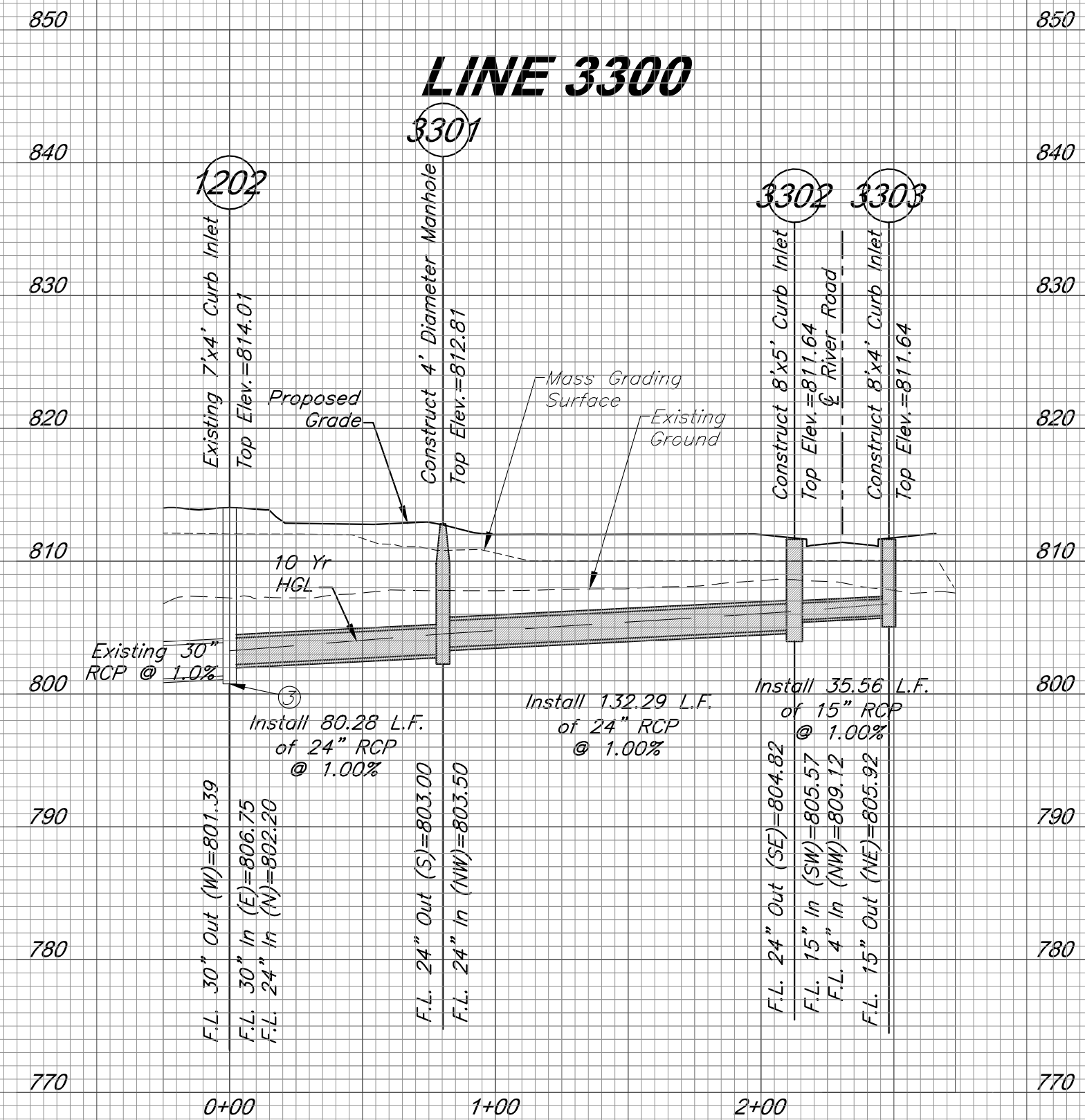
LINE 500



LINE 2600



LINE 3300

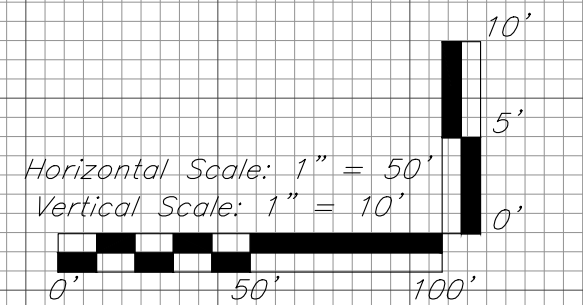


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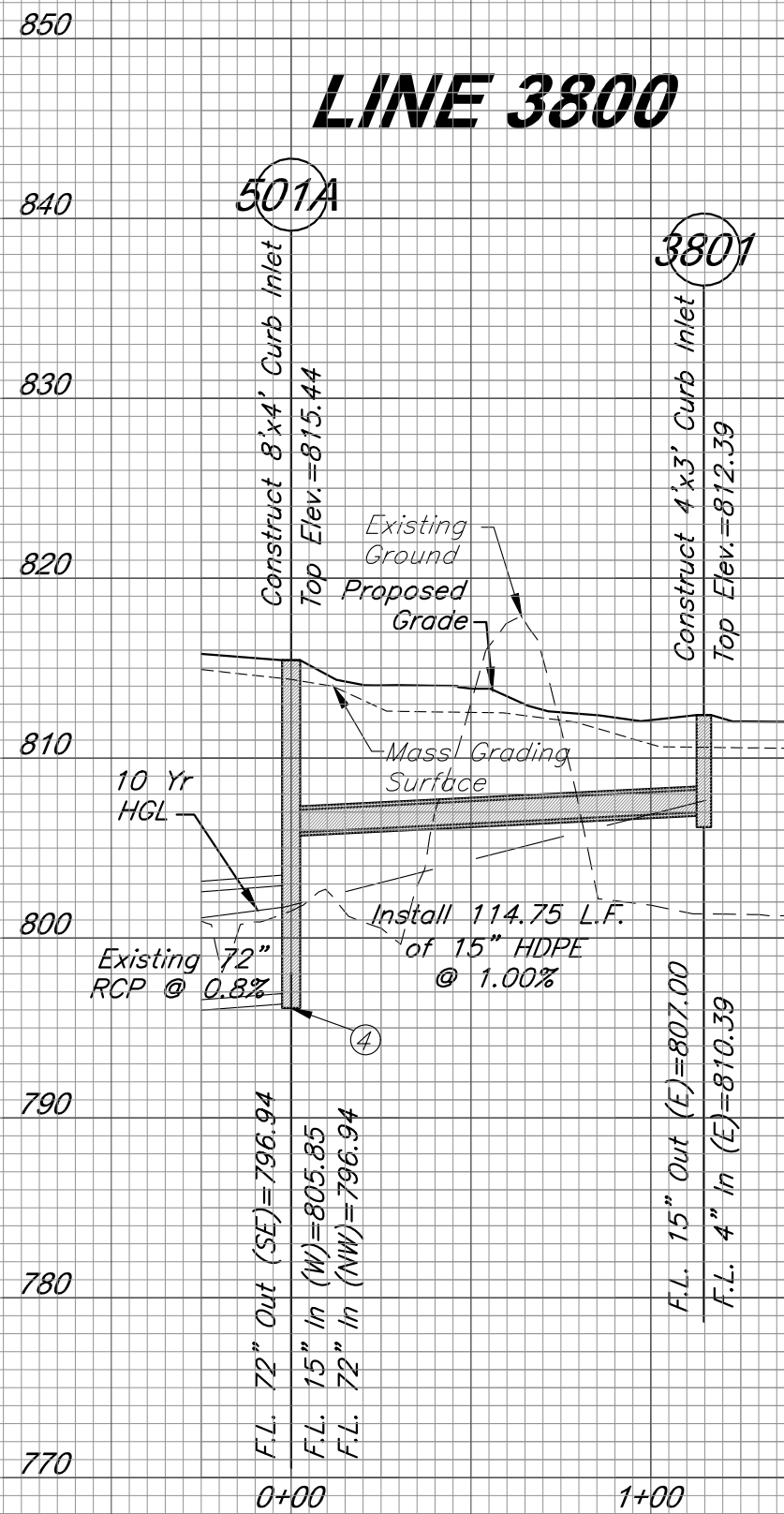
- 1) Compacted Fill shall be placed to a minimum 18" above the top of pipe prior to installation.

Connections:

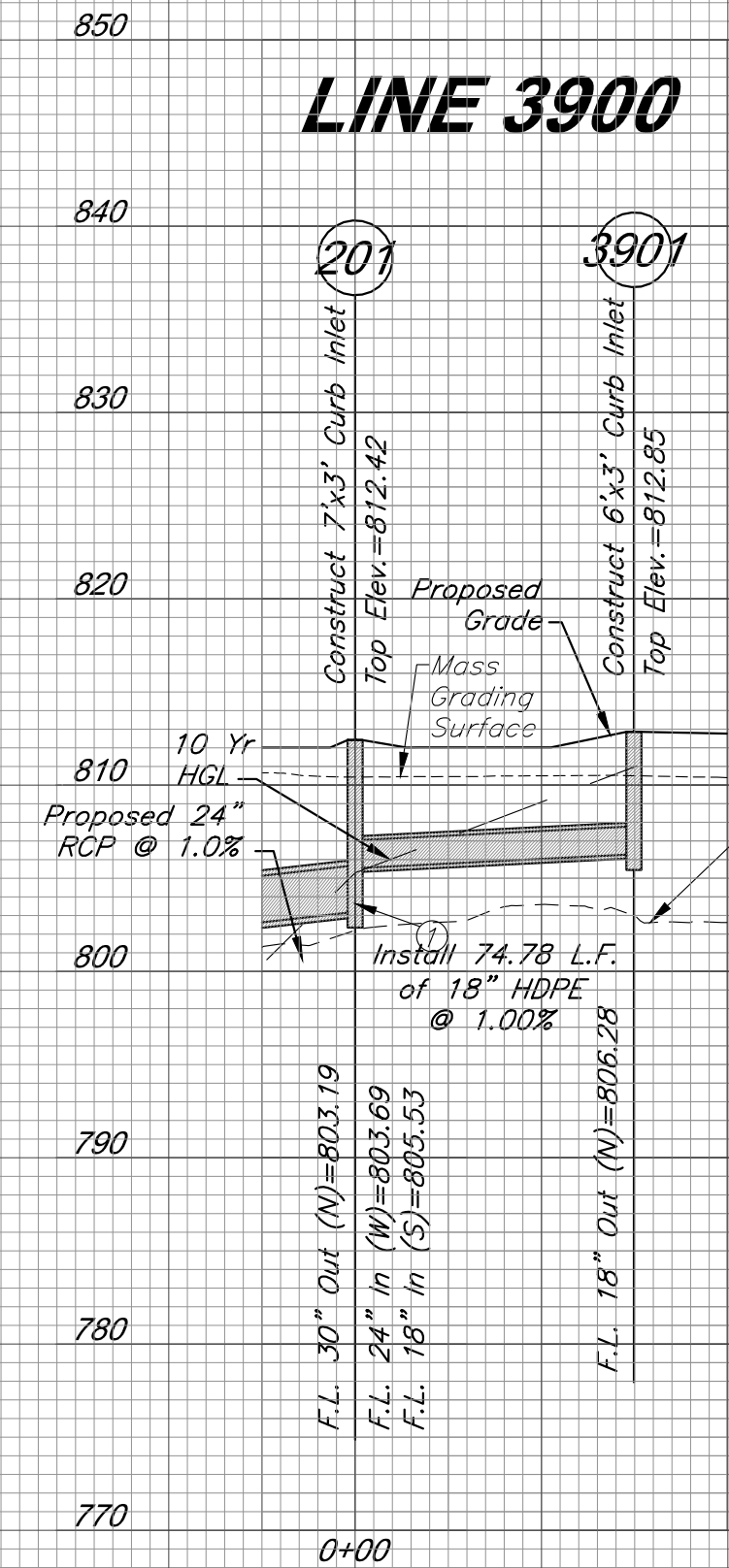
- ① Line 3900 Sta 0+00.00 = Line 200 Sta 0+86.33
- ② Line 4000 Sta 0+00.00 = Line 200 Sta 4+81.43
- ③ Line 3300 Sta 0+00.00 = Line 1200 Sta 1+19.13
- ④ Line 3800 Sta 0+00.00 = Line 500 Sta 1+48.20



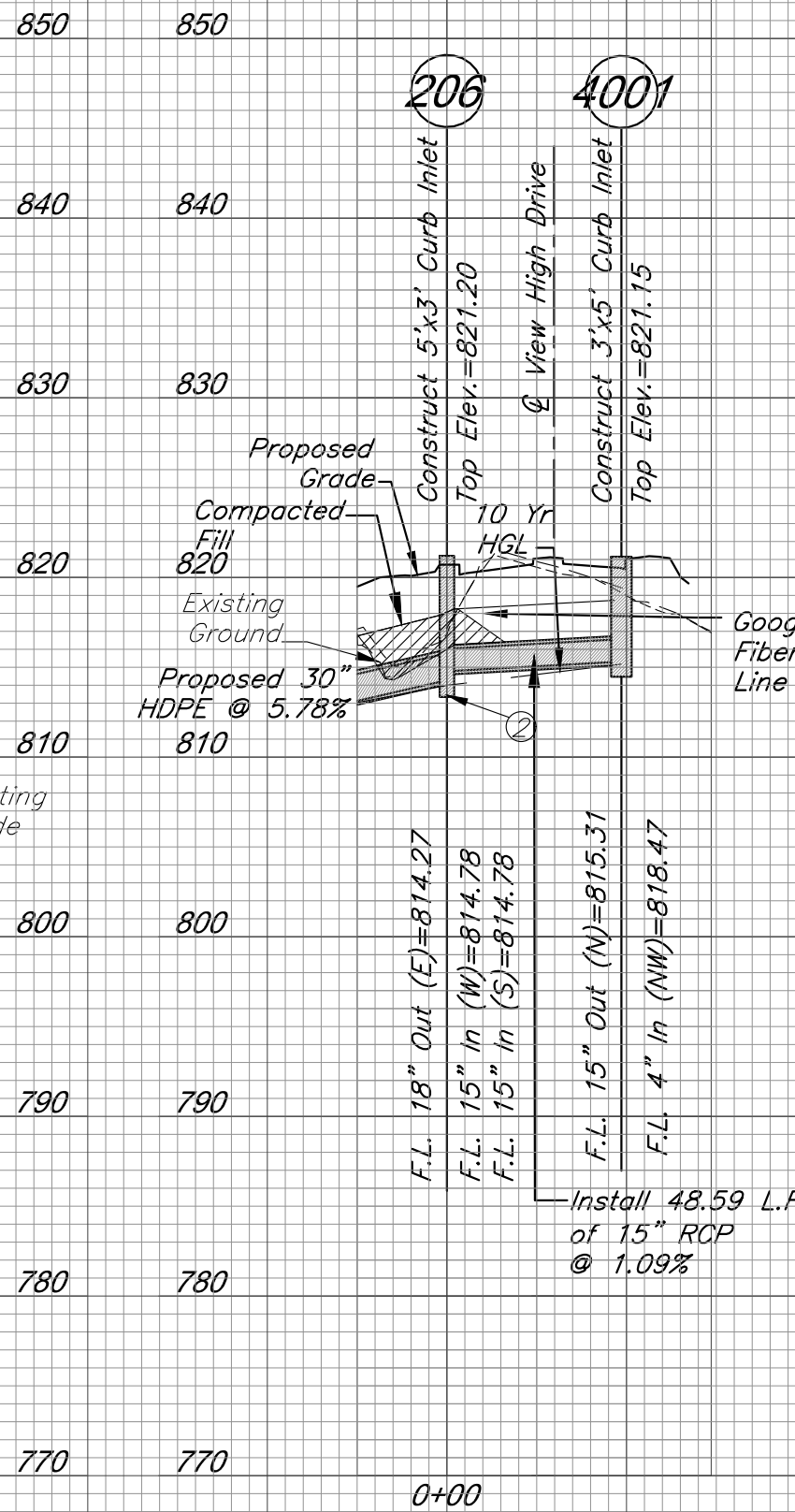
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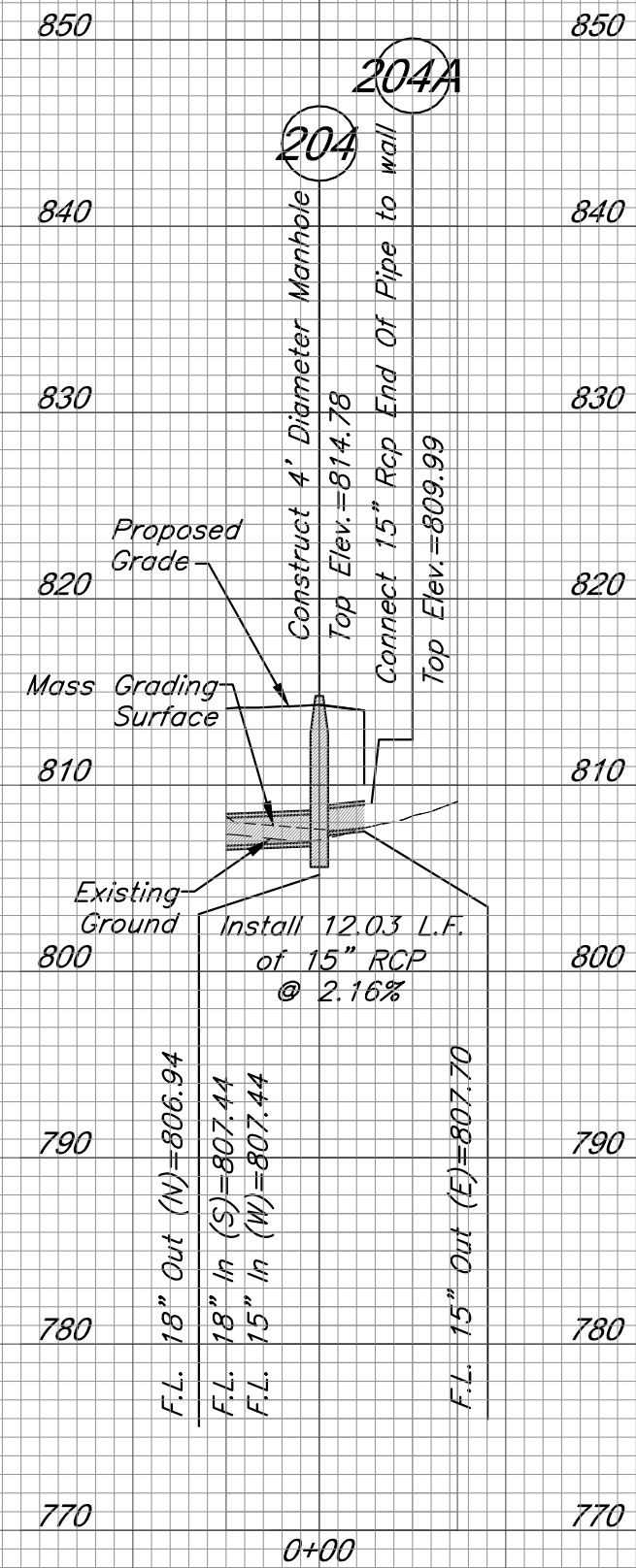
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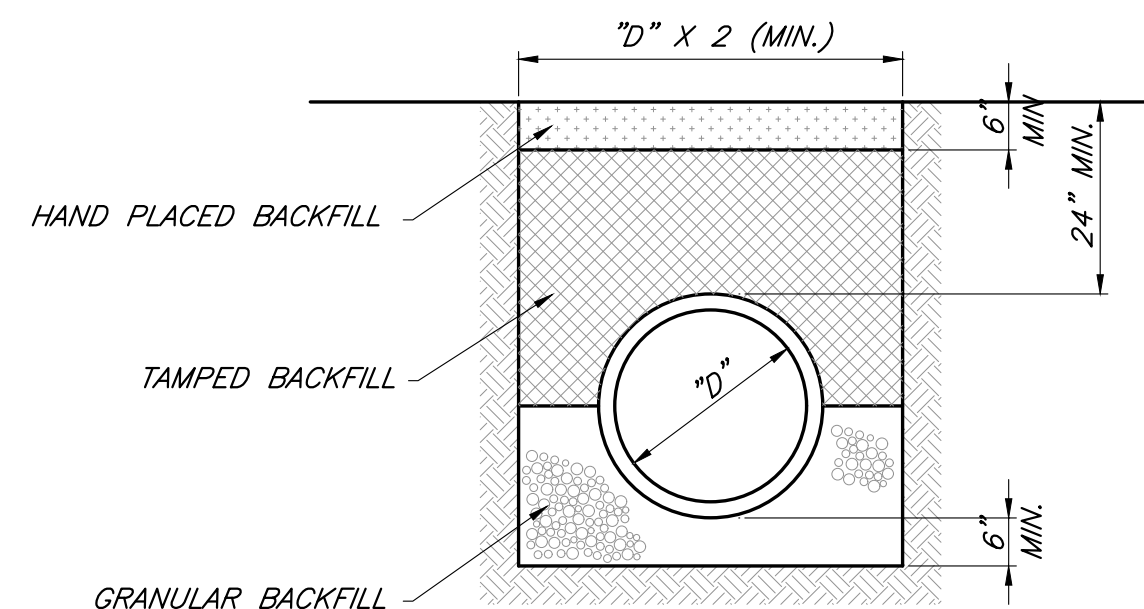
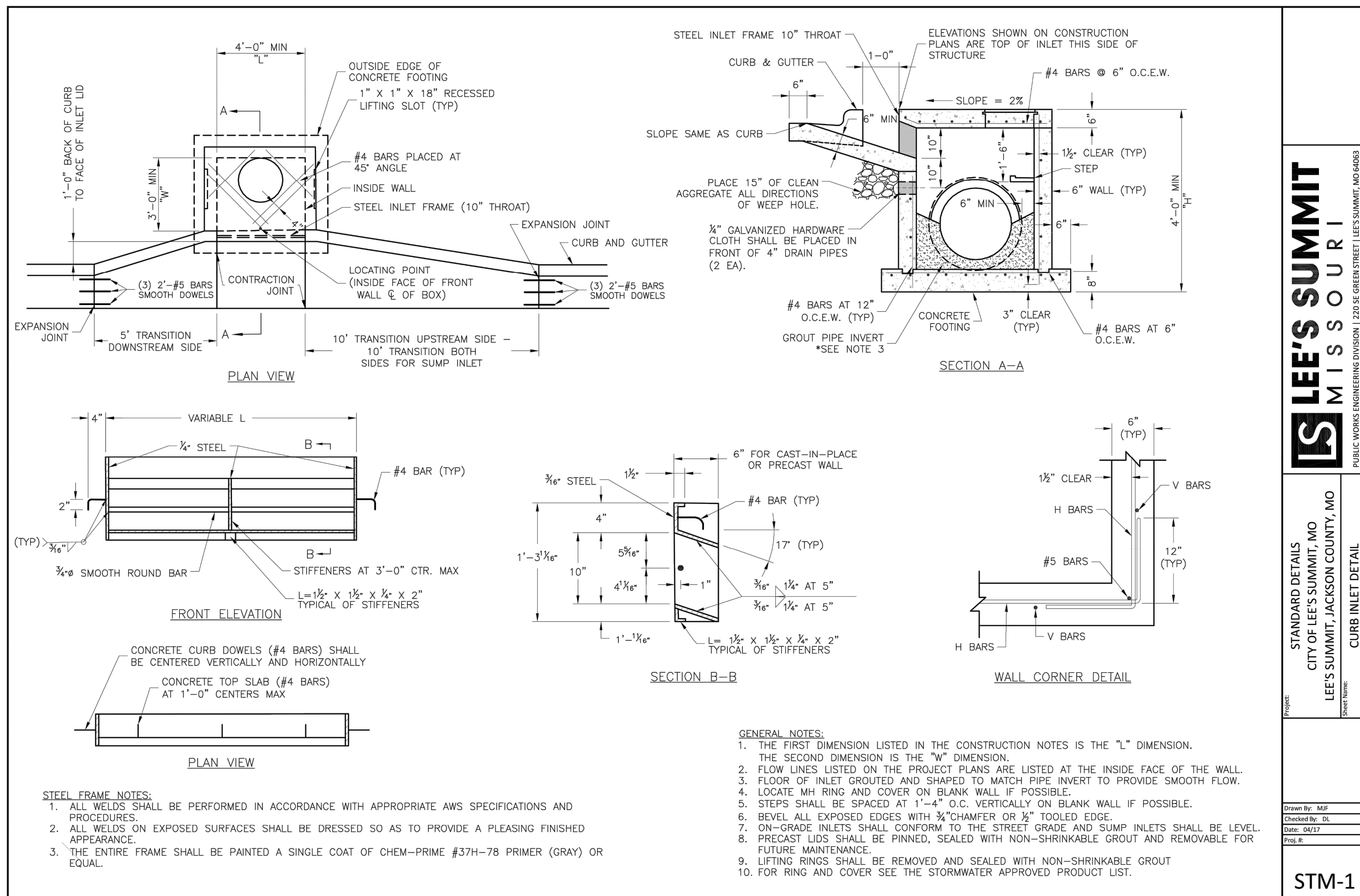


LINE 4000



LINE 204A





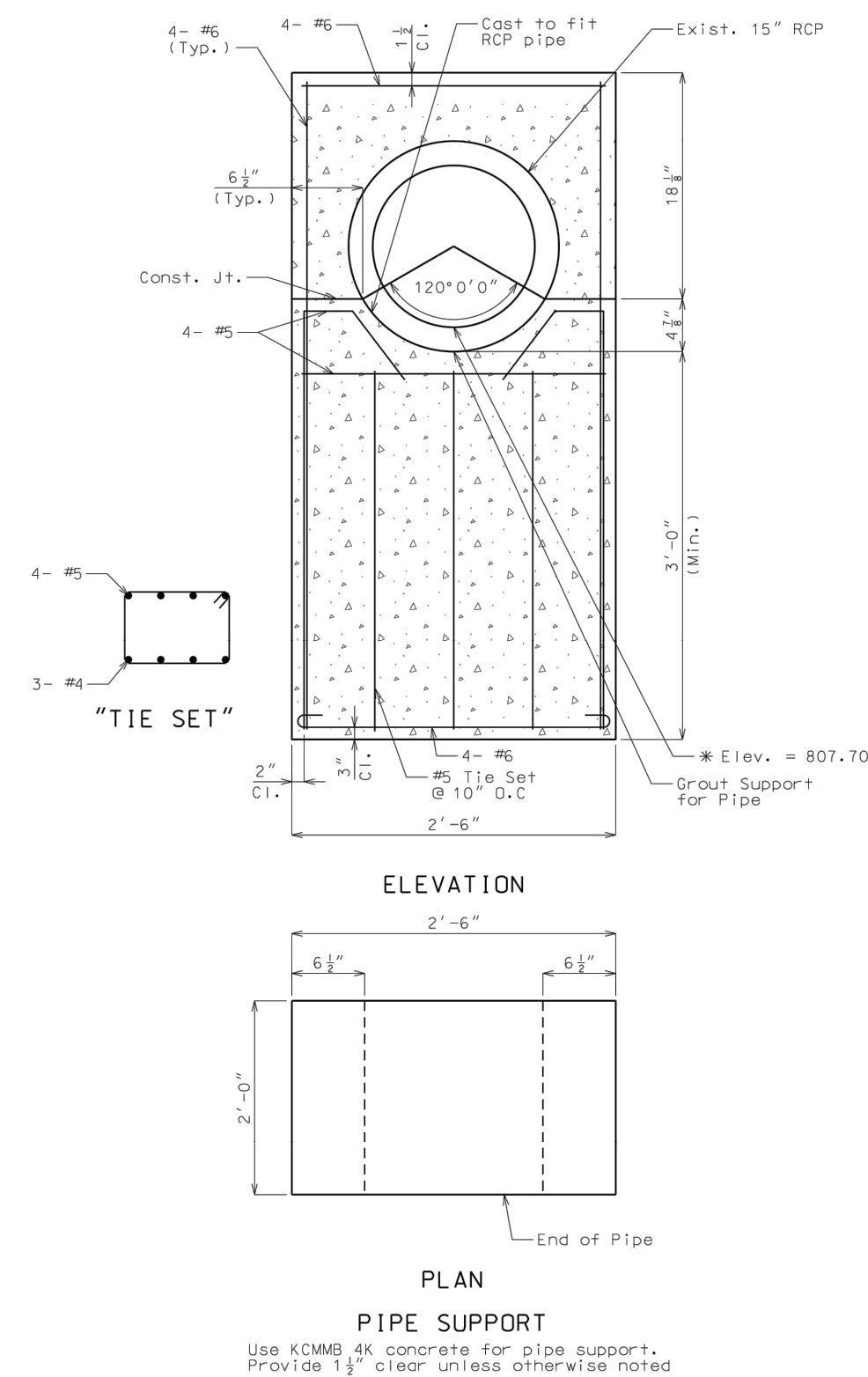
FIRST CLASS BEDDING (RCP)

NOTES:

1. GRANULAR FILL SHALL BE 1/2" CLEAN ROCK, PLACED IN 6" LIFTS AND COMPACTED BY SLICING WITH A SHOVEL.
2. TAMPED FILL SHALL BE FINELY DIVIDED, JOB EXCAVATED MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL, AND STONES, COMPACTED TO TYPE AA MR-5 COMPACTION.
3. HAND PLACED FILL SHALL BE FINELY DIVIDED MATERIAL, FREE OF DEBRIS AND STONES, COMPACTED TO TYPE AA MR-5 COMPACTION.
4. 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

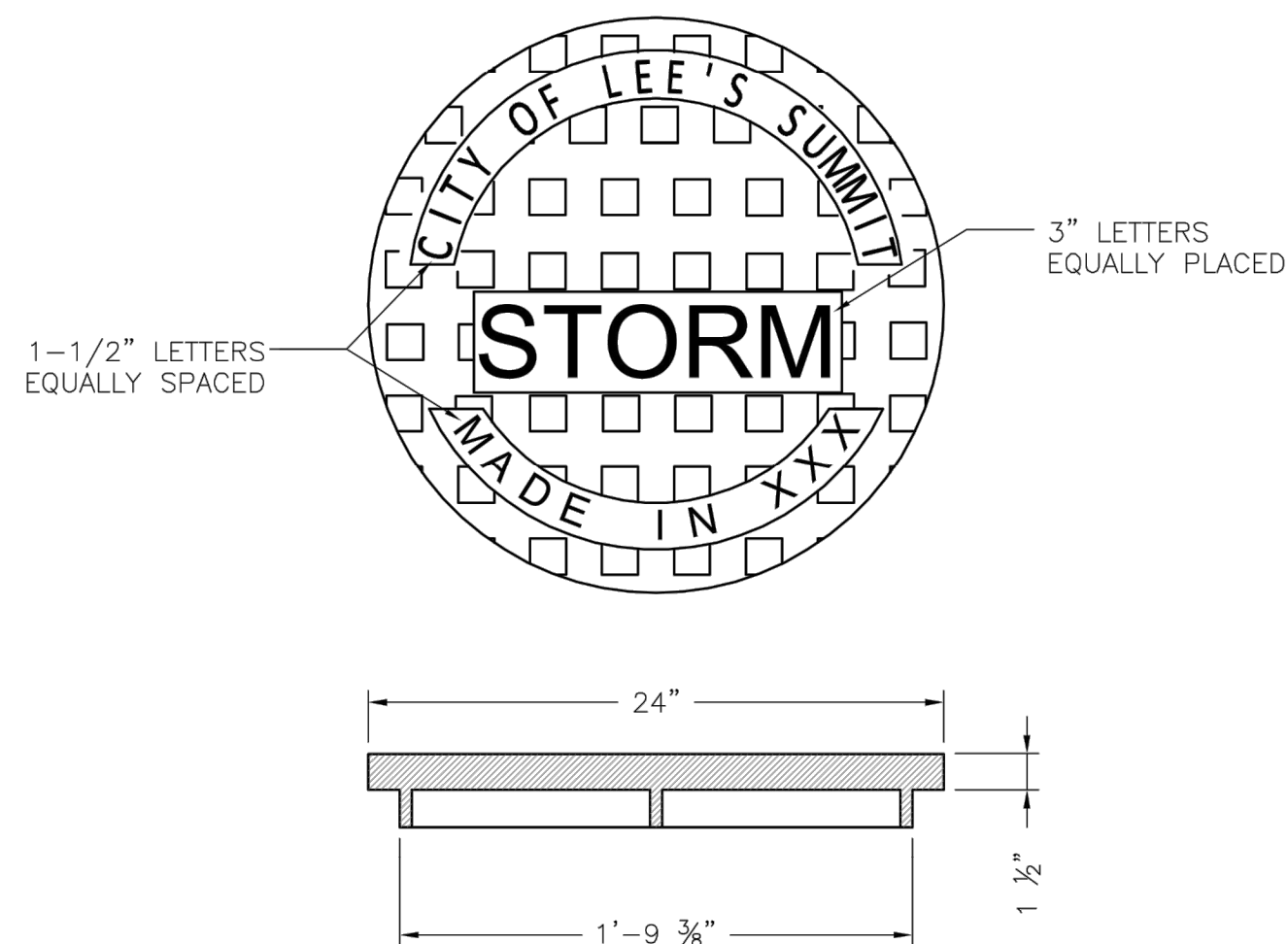


4000 PSI Grout piped under RCP pipe for the full length of pipe. Locate pipe support so that end of the pipe is flush with the front edge of the support. Use graph per 2019 Missouri Standard Specifications for Highway Construction, Section 105.02, for determining pipe support labor, excavation and incidentals used to construct the pipe support including grout shall be subsidiary to other items.

Contractor shall verify flowline and pipe dimensions prior to ordering materials. Contractor shall notify the Engineer immediately if any discrepancies in elevations or plan are discovered. The bottom of the Pipe Support shall be set a minimum of 3 feet below

CONCRETE HEADWALL DETAIL

Not to Scale



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

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

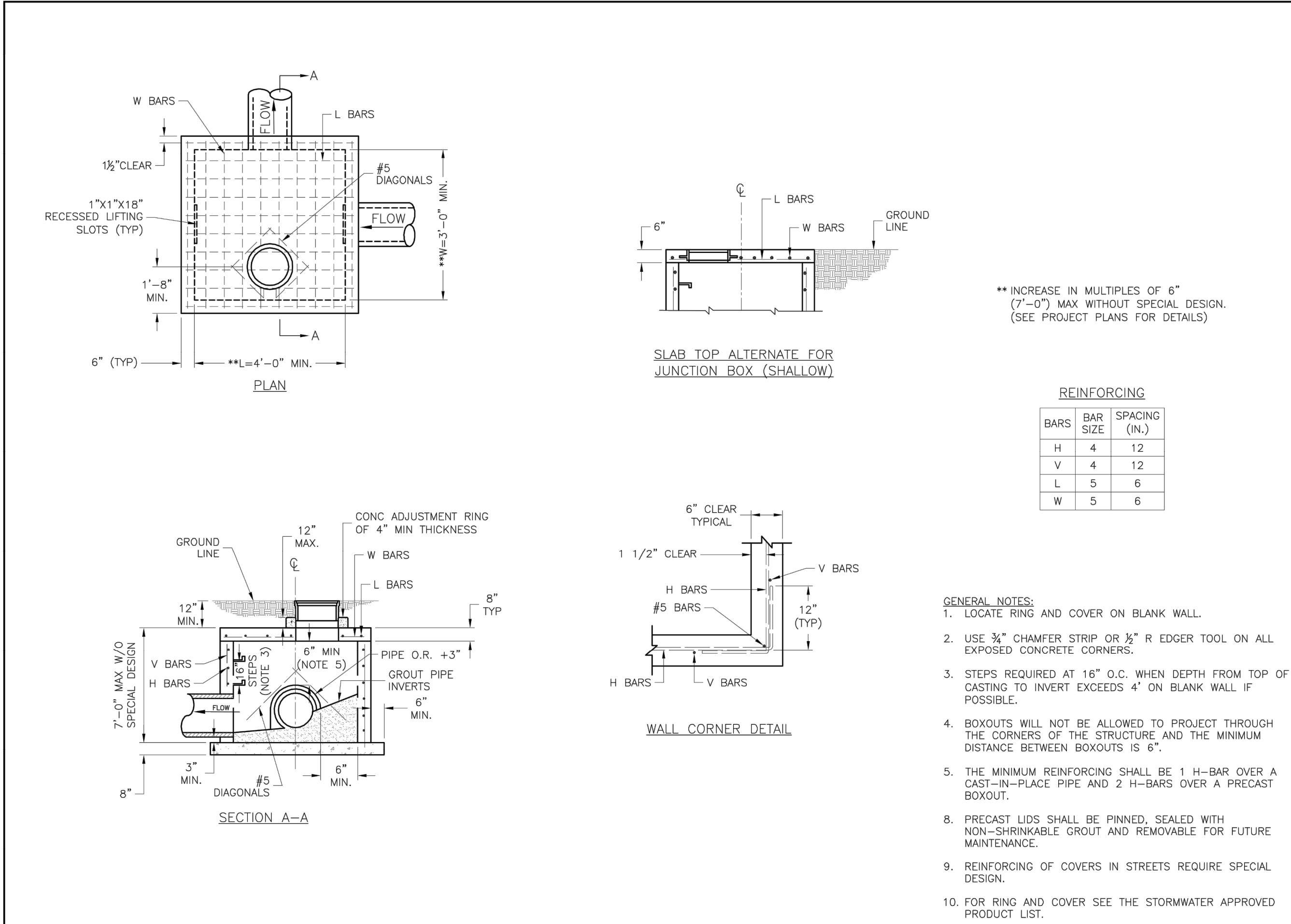


LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64062

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

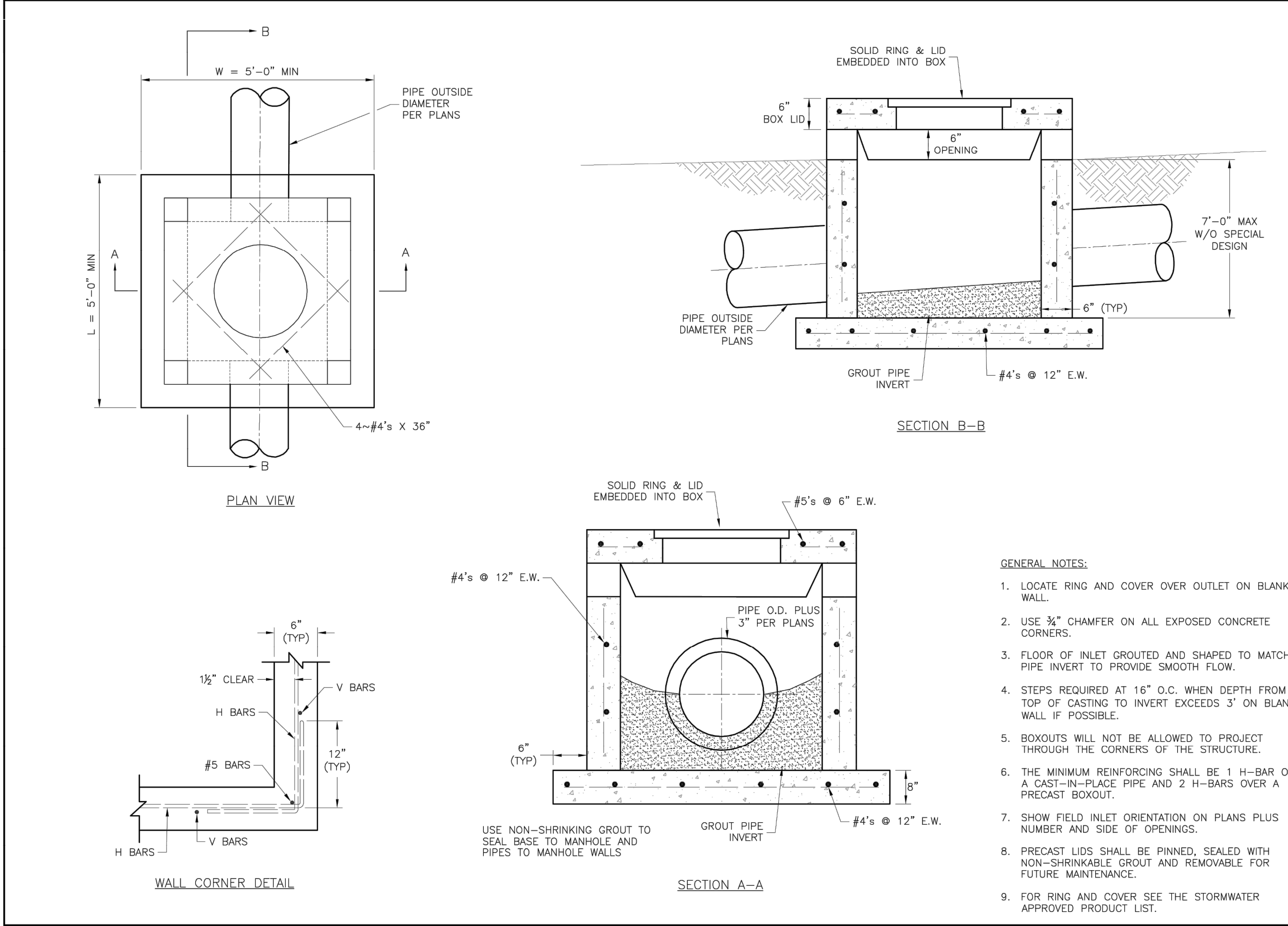
STM-6

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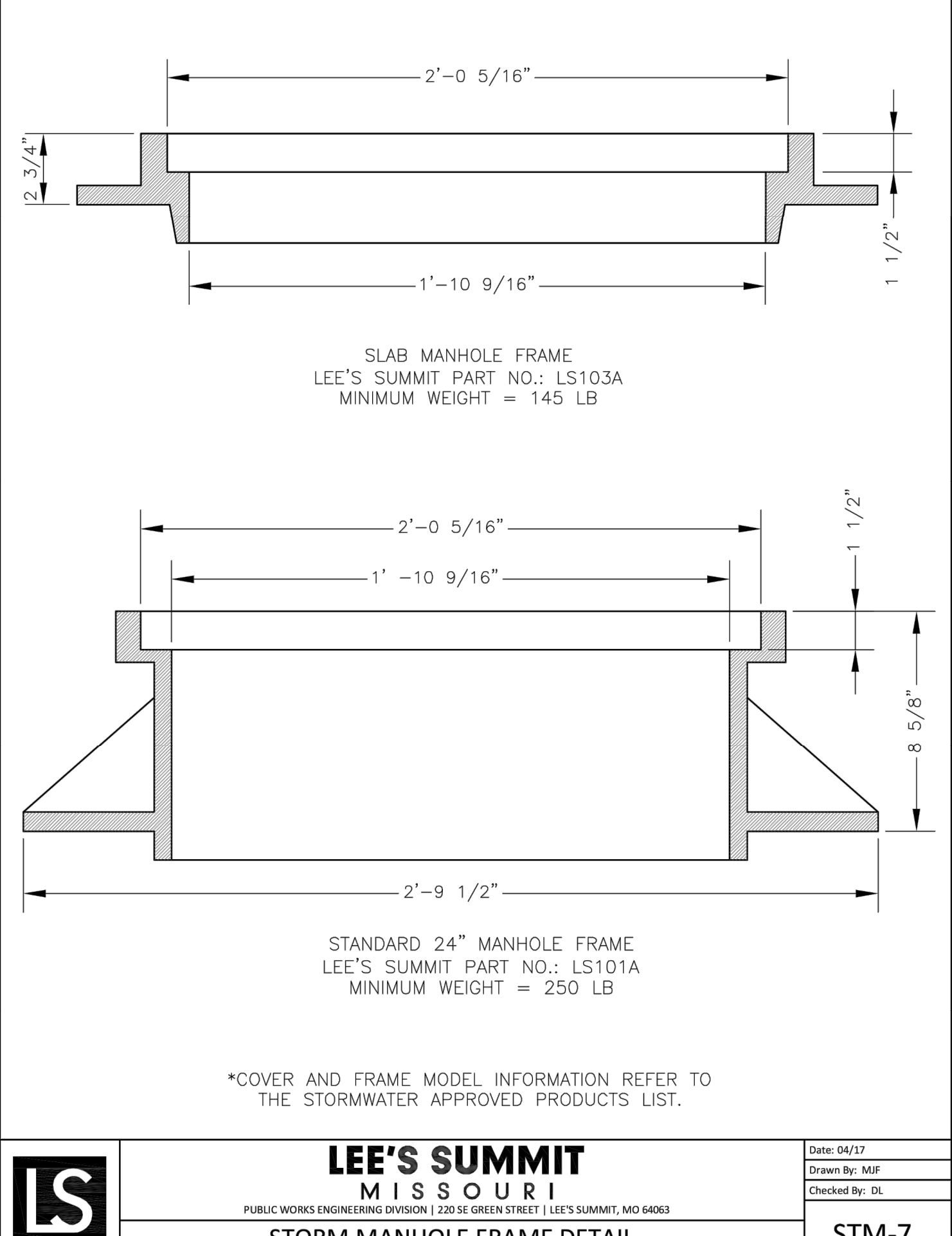
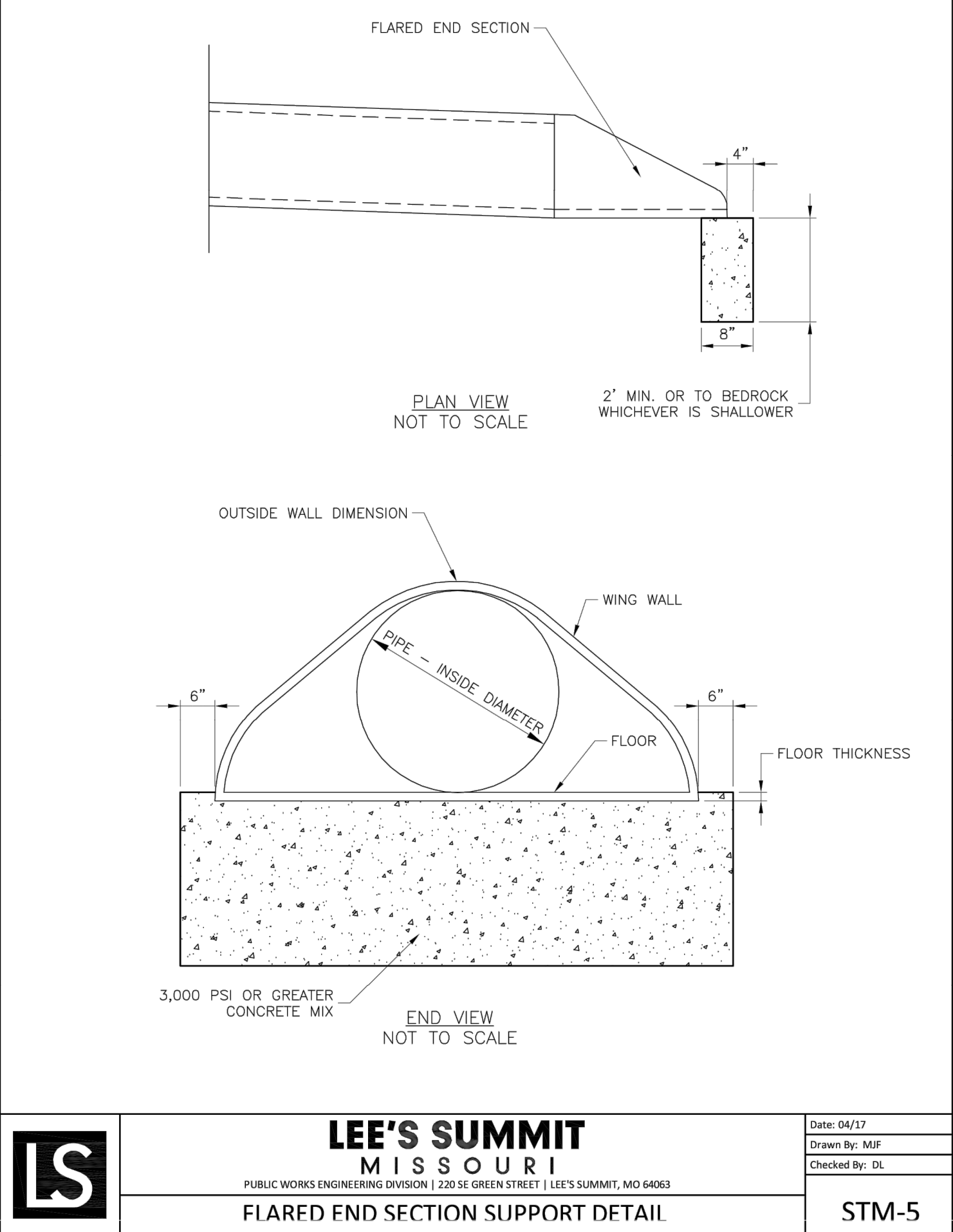
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name: JUNCTION BOX DETAIL
Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #: STM-3



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STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name: FIELD INLET DETAIL
Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #: STM-2



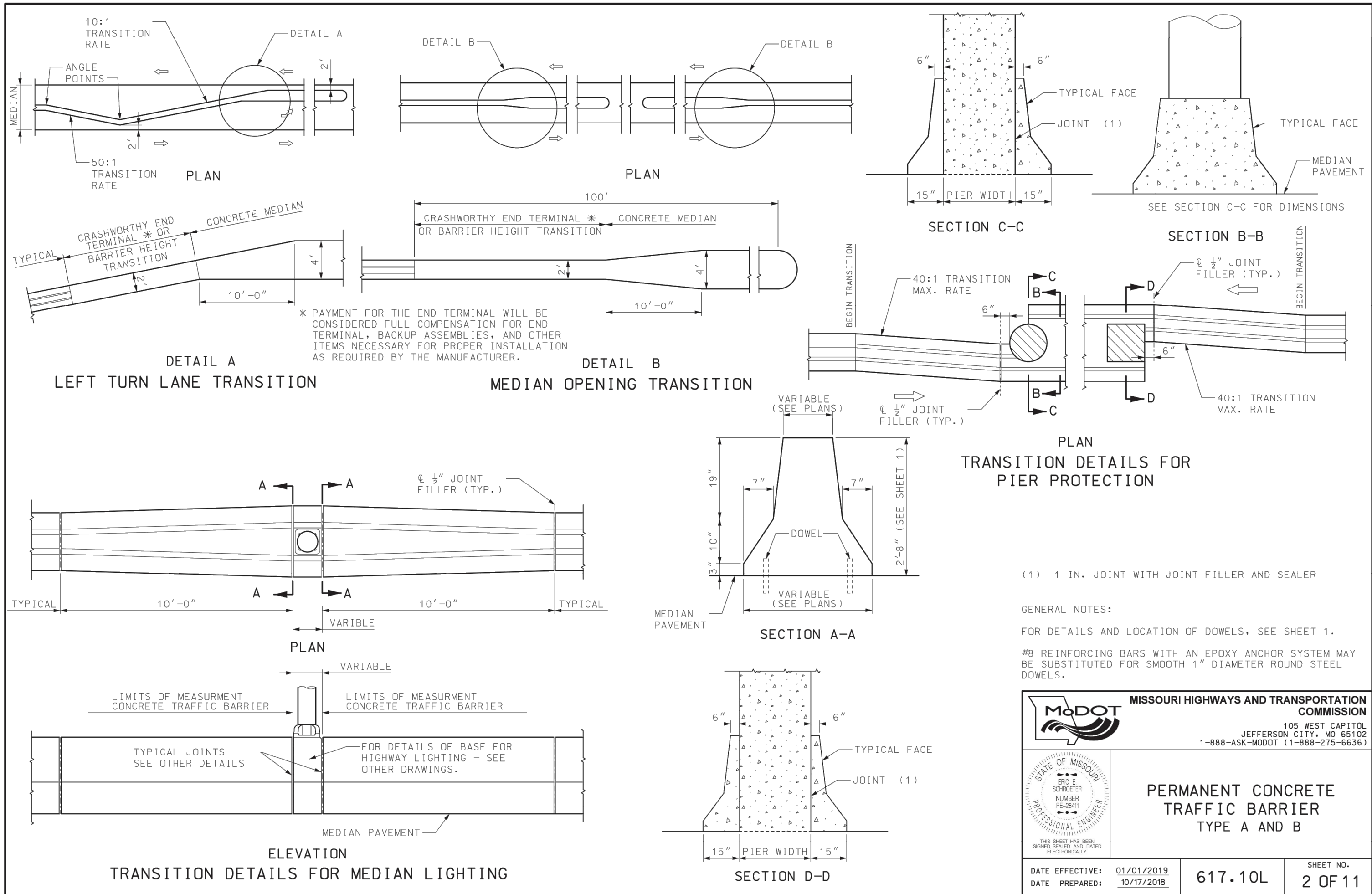
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Lenexa, Kansas 66219
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DATE: 4-2-2020
DESIGN BY: CEL
DRAWN BY: DRV
PROJECT NO.: 12720
SHEET NO. 36
TOTAL SHEETS 82

Bradley D. Burton
Professional Engineer
License No. 25862

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

NO.	DATE	REVISIONS	BY	APPROVED



STATE OF MISSOURI
BRADLEY D. BURTON
NUMBER E-25862
REGISTERED PROFESSIONAL ENGINEER
11-77-2020

GBA

architects
engineers

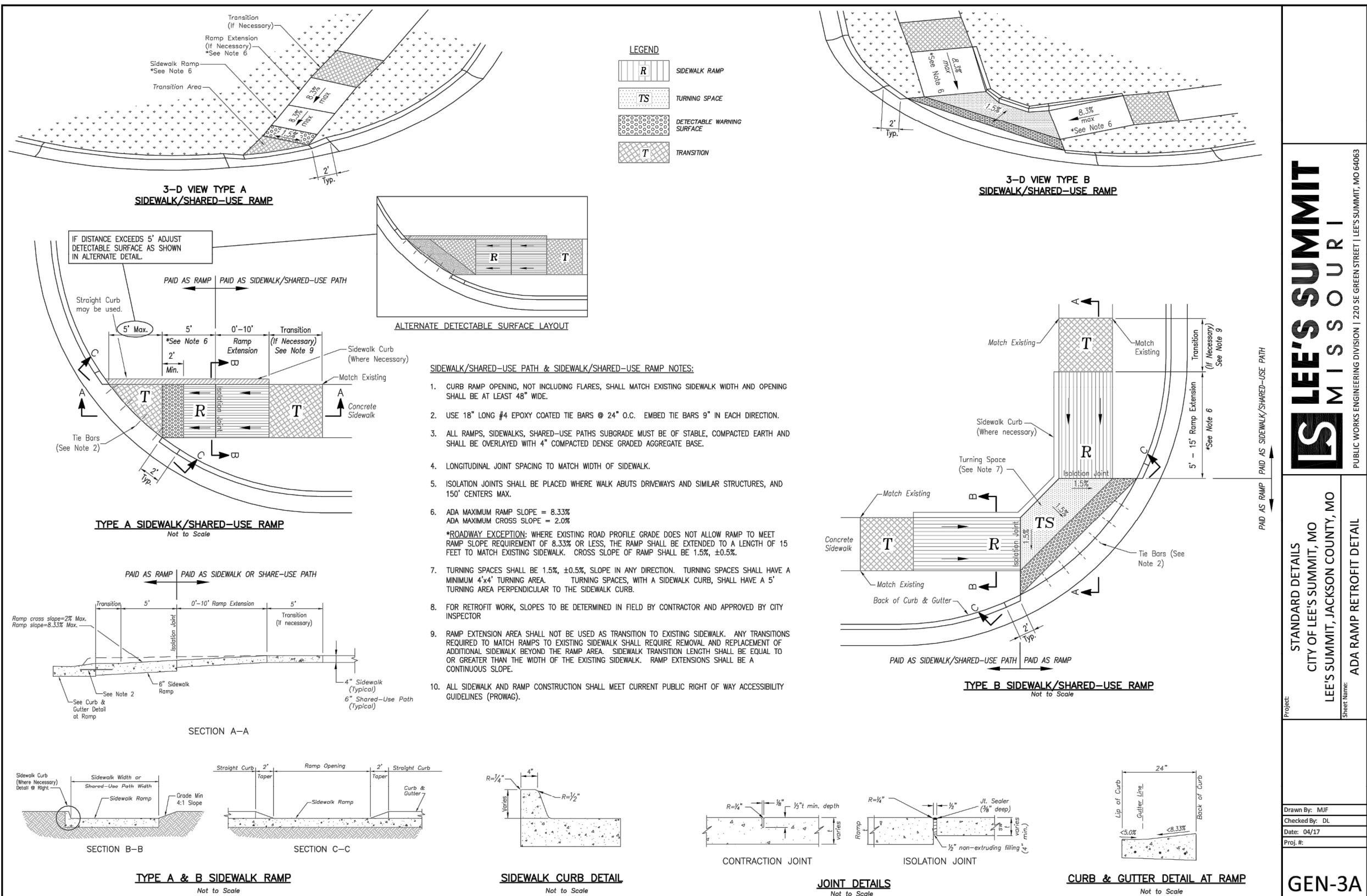
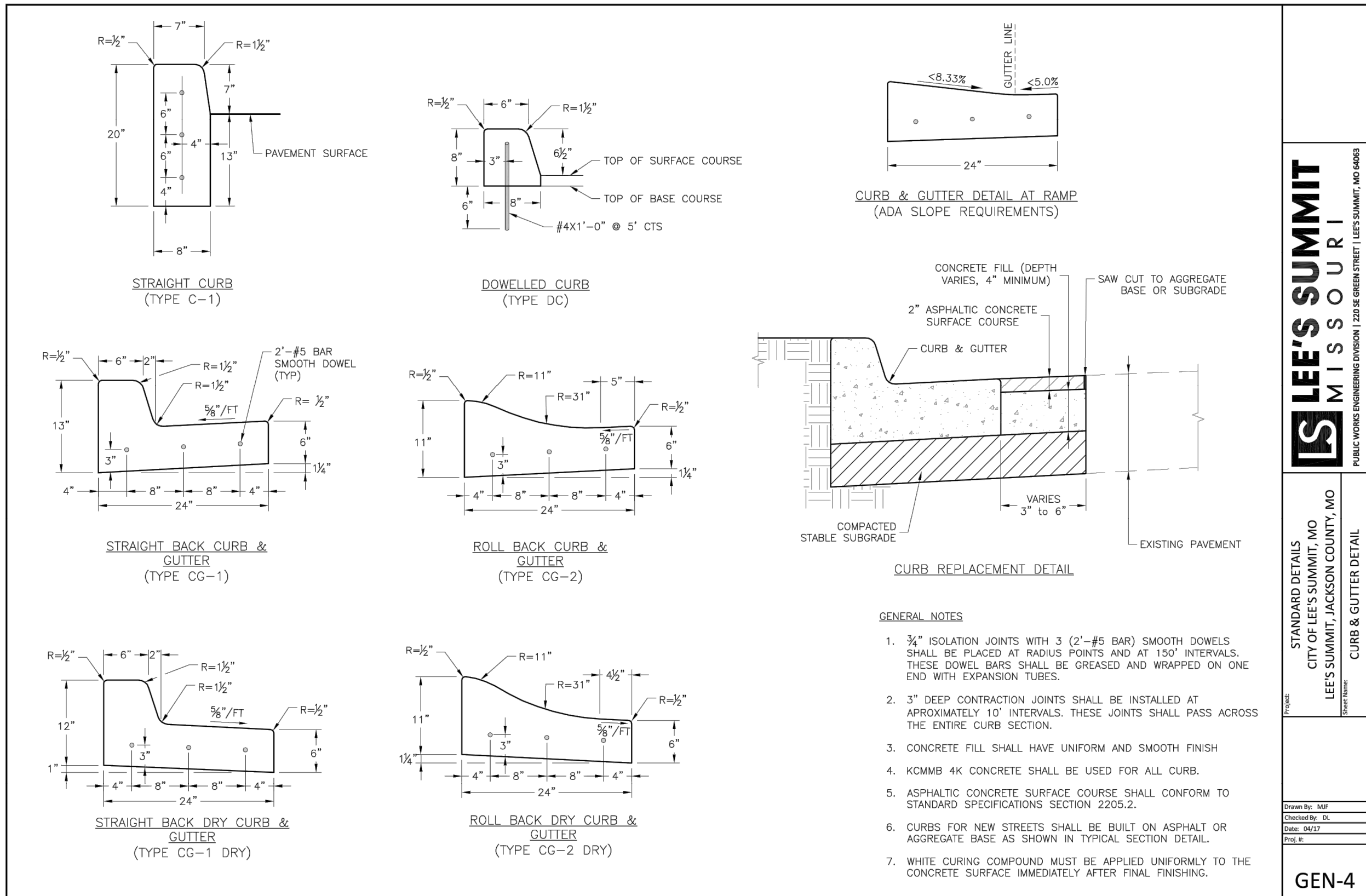
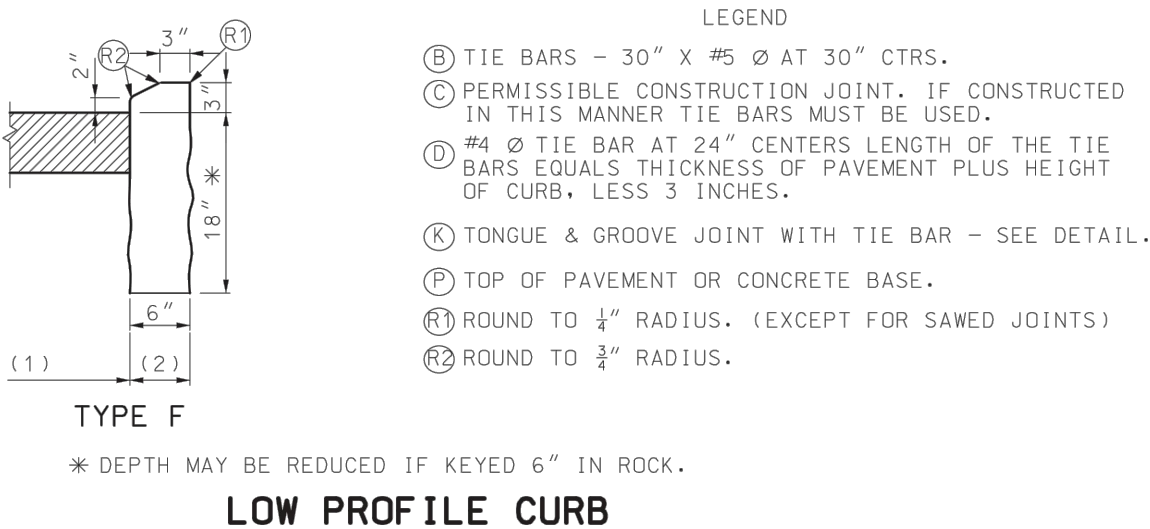
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DATE: 4-2-2020
DESIGN BY: CEL
DRAWN BY: DRV
PROJECT NO.: 12720
SHEET NO. 38
TOTAL SHEETS 82

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STATE OF MISSOURI

BRADLEY D. BURTON

REGISTERED PROFESSIONAL ENGINEER

E-25862

4/19/2020

DATE: 4-2-2020

DESIGN BY: CEL

DRAWN BY: DRV

PROJECT NO.: 12720

SHEET NO. 41

TOTAL SHEETS 82

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106+50

107+00

107+50

108+00

108+50

109+00

109+50

111+50

Horizontal Scale: 1" = 20'

Vertical Scale: 1" = 10'

View High Drive Cross Sections

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STATE OF MISSOURI

BRADLEY D. BURTON

NUMBER E-25862

REGISTERED PROFESSIONAL ENGINEER

5/19/2020

DATE: 4-2-2020

DESIGN BY: CEL

DRAWN BY: DRV

PROJECT NO.: 12720

SHEET NO. 42

TOTAL SHEETS 82

Bradley D. Burton
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112+00

112+50

113+00

113+50

Proposed Grade

Mass Grading Surface

Existing Surface

View High Dr

R/W

Horizontal Scale: 1" = 20'

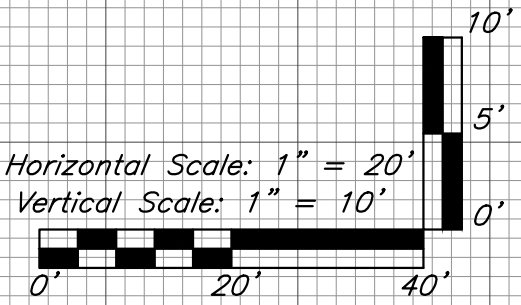
Vertical Scale: 1" = 10'

0' 20' 40'

0' 5' 10'

View High Drive Cross Sections

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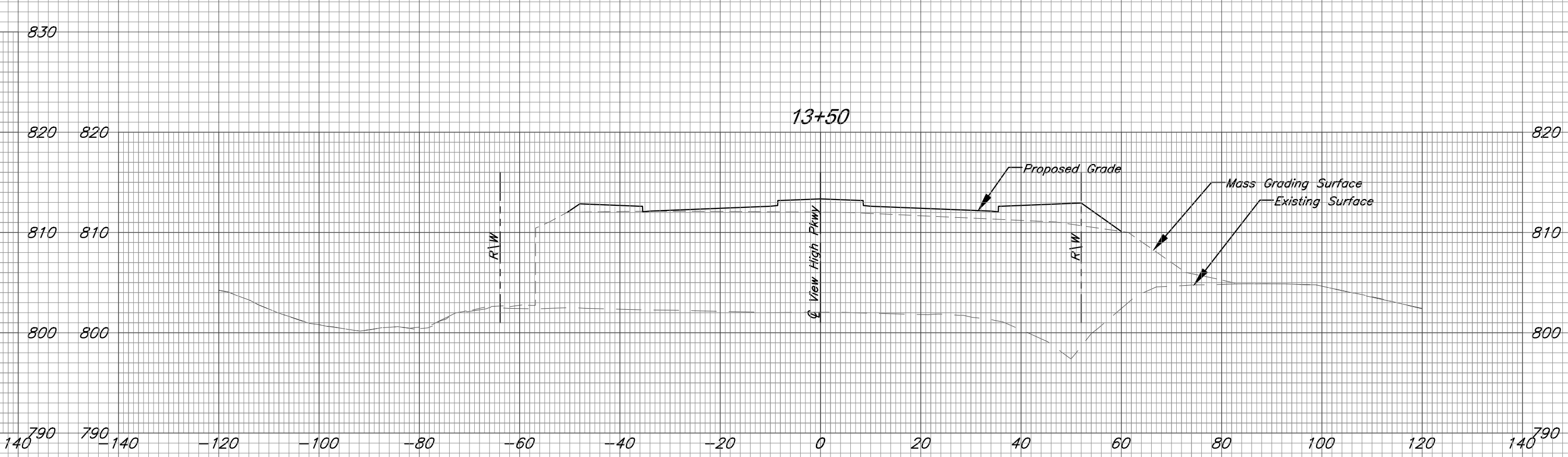
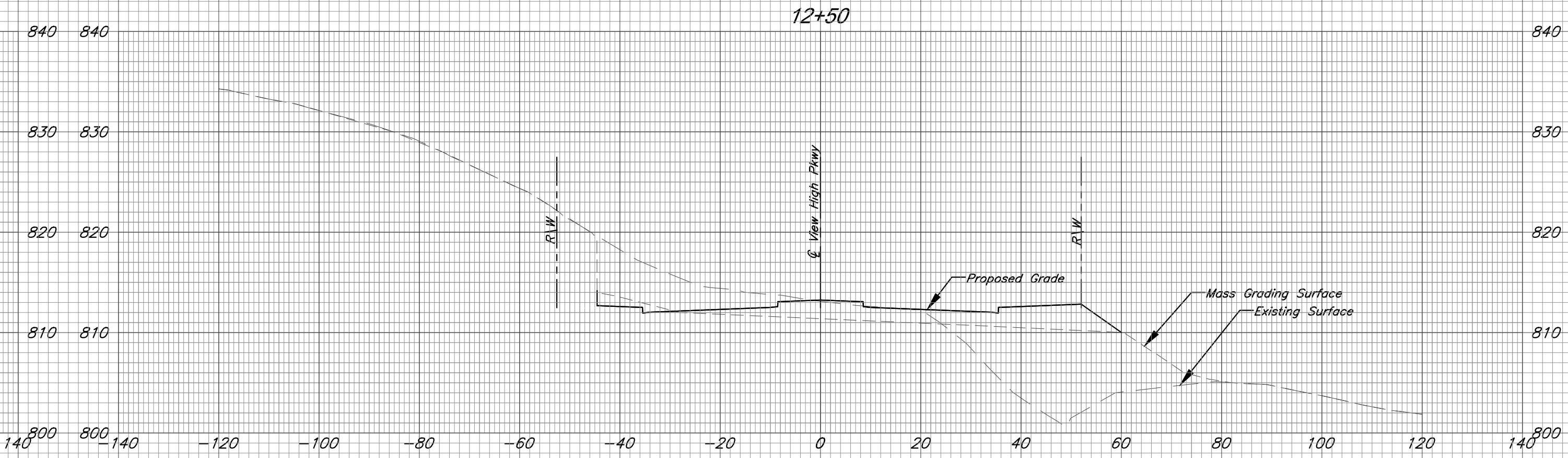
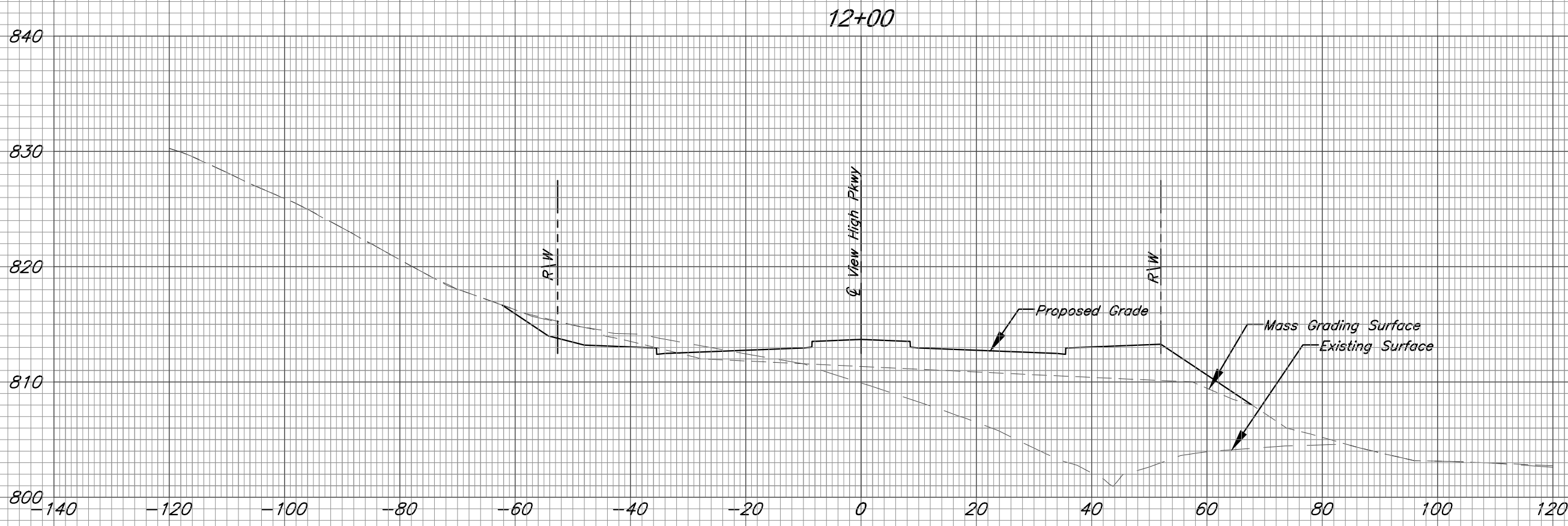
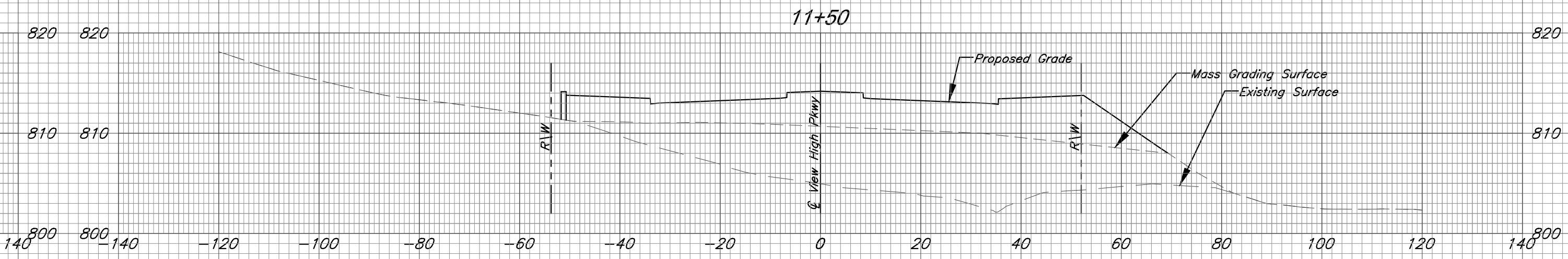
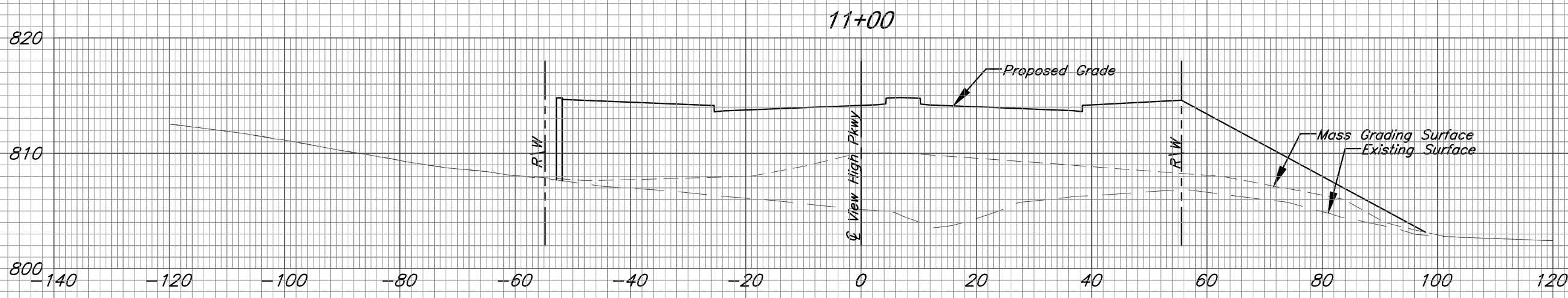
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DRAWN BY:	DRV
PROJECT NO.:	12720
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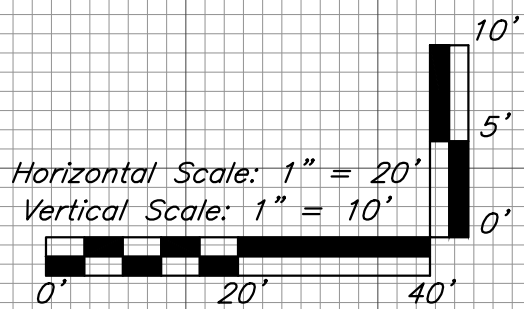
NO.	DATE

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View High Parkway Cross Sections

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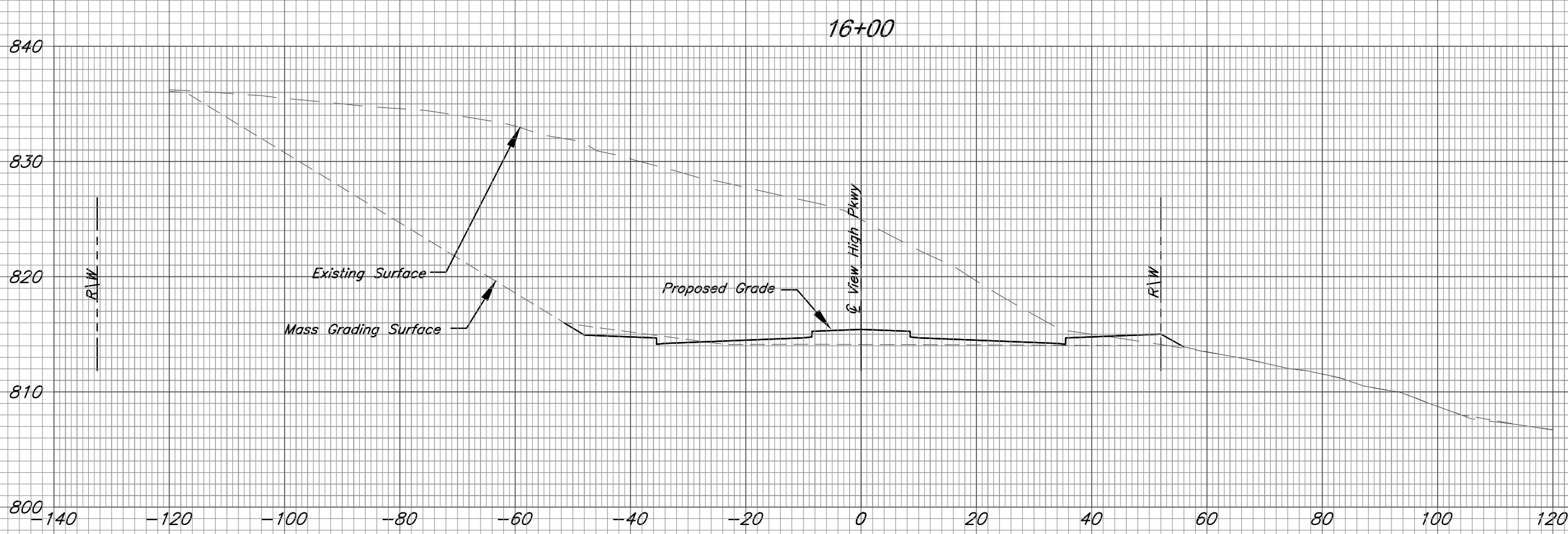
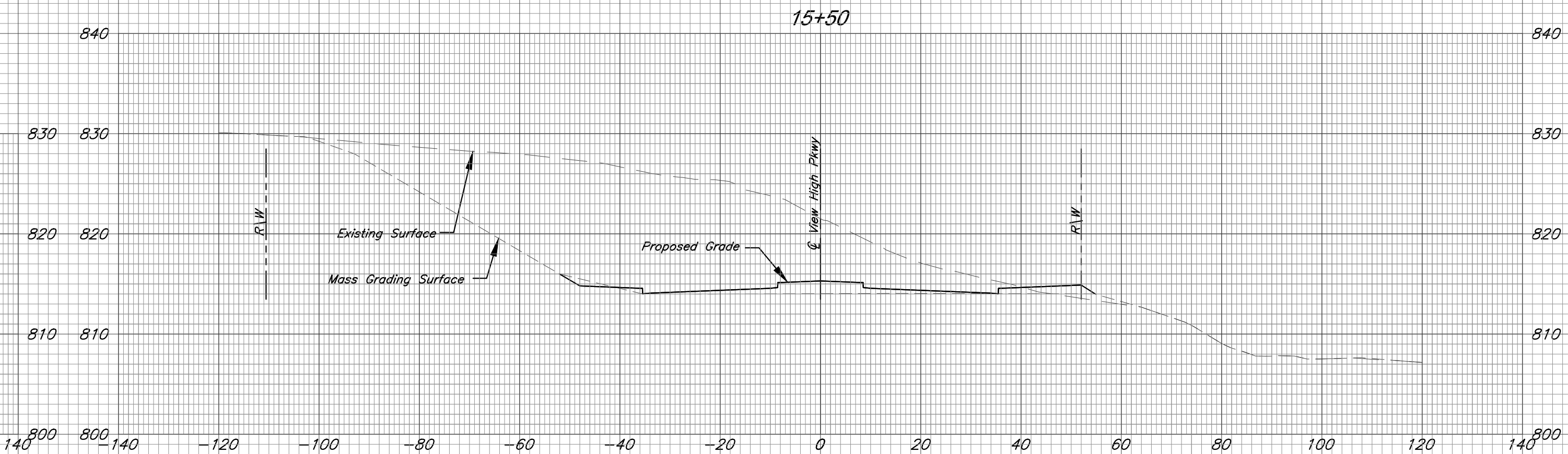
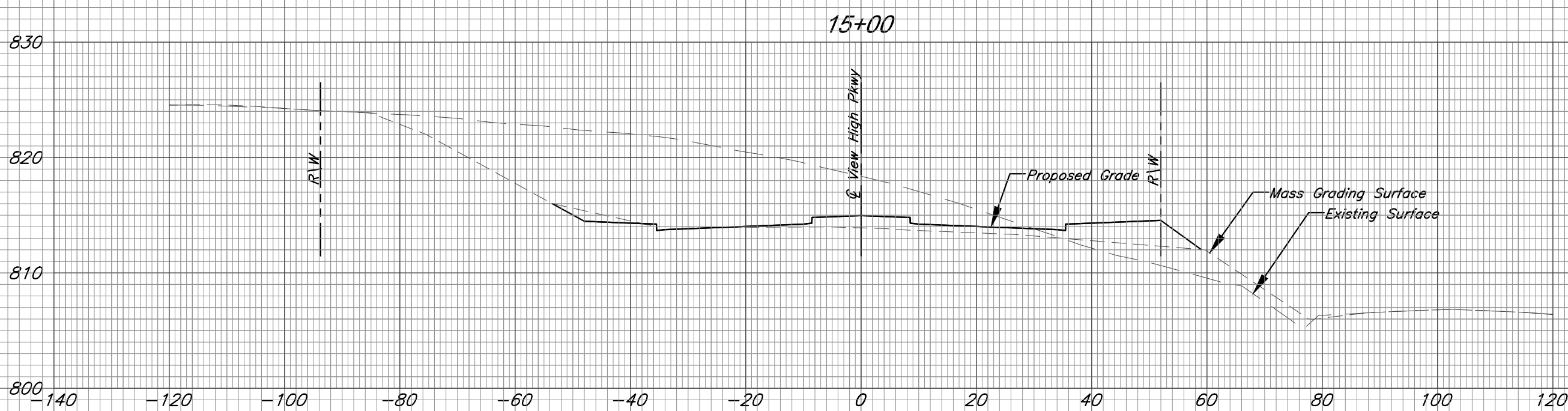
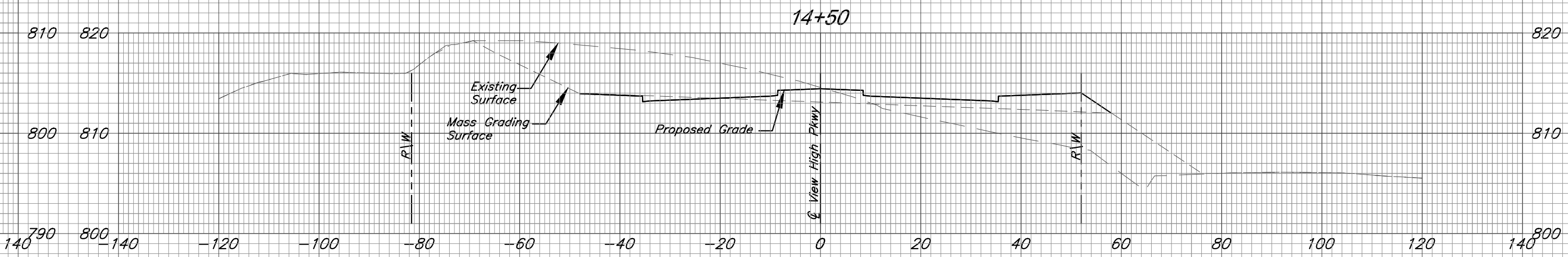
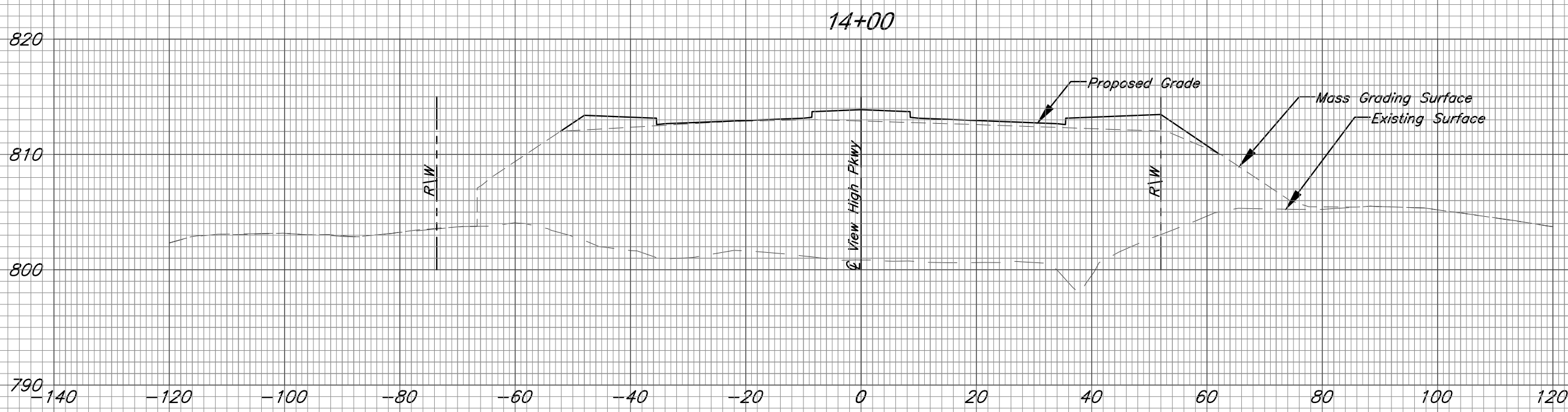
SHEET NO. 44
TOTAL SHEETS 82

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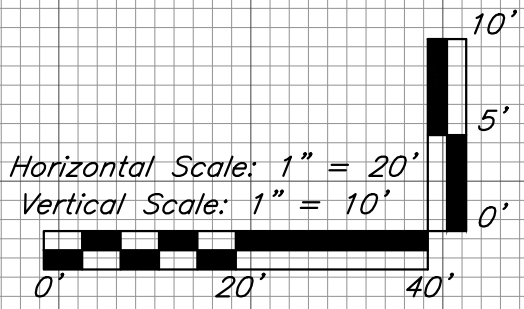
NO.	DATE

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View High Parkway Cross Sections

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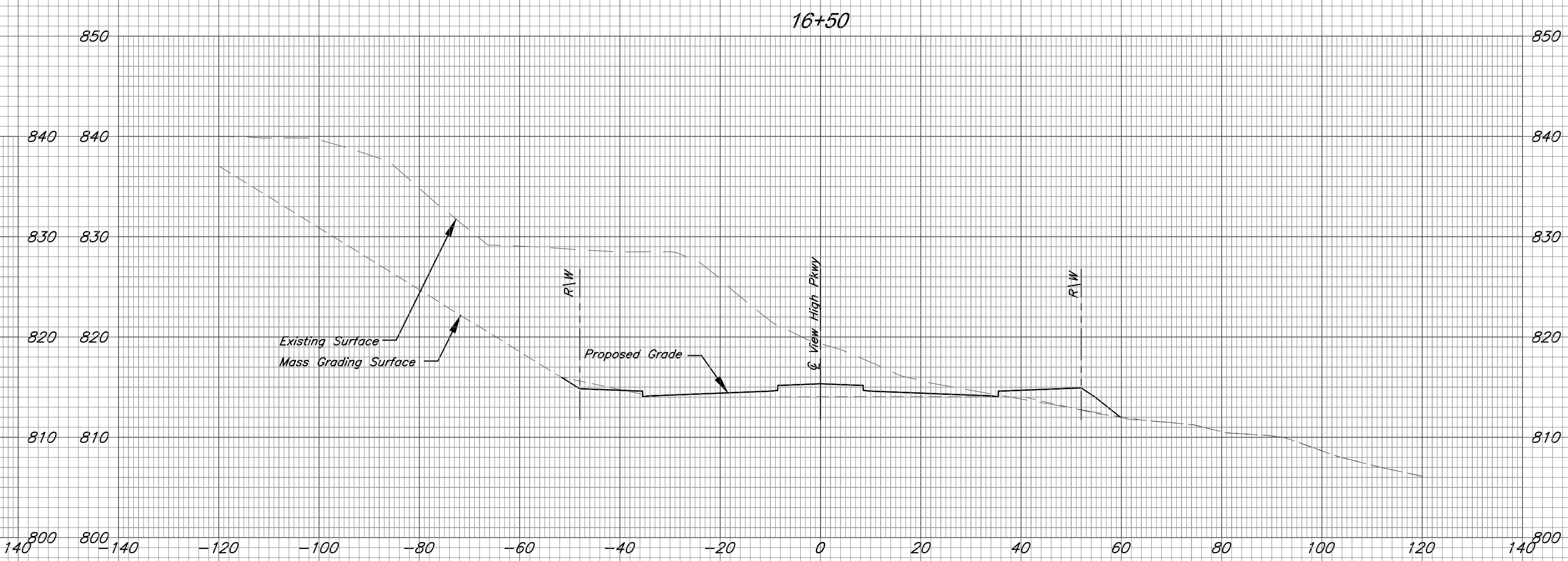
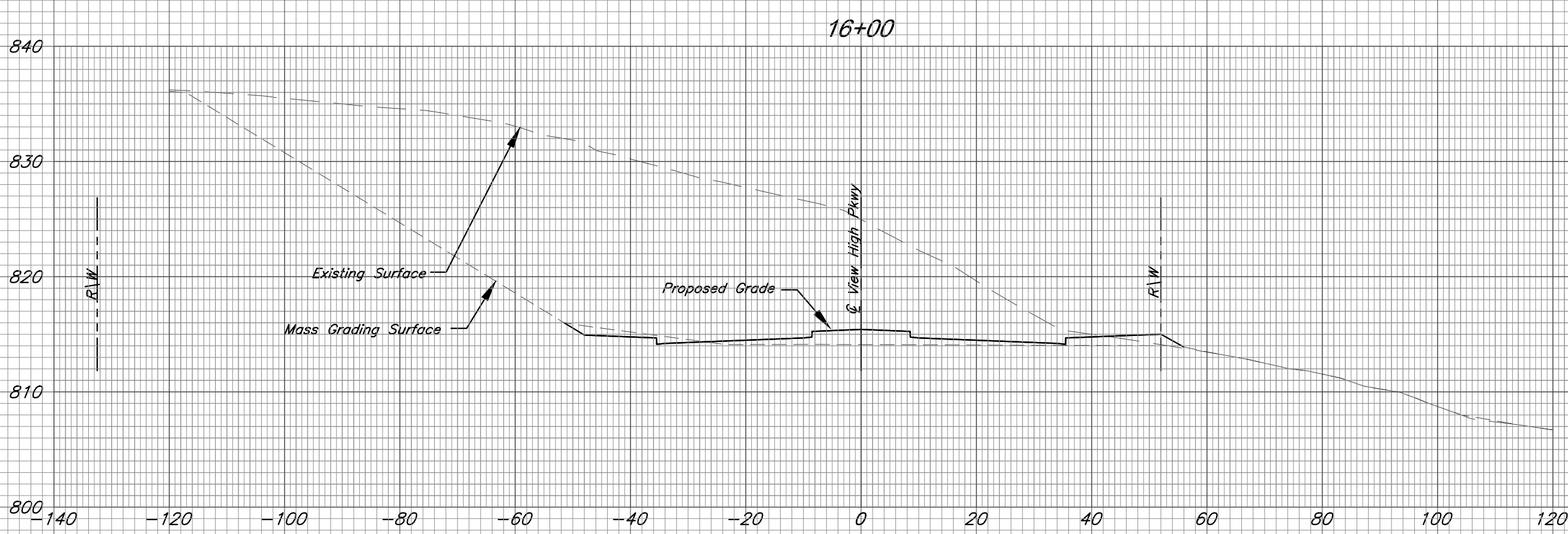
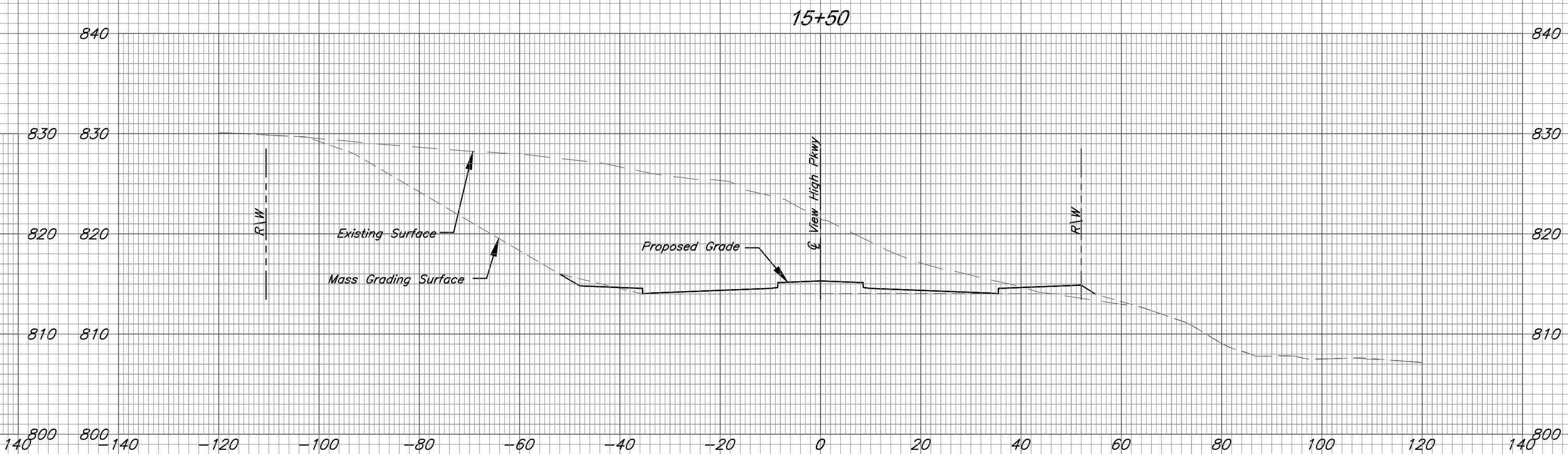
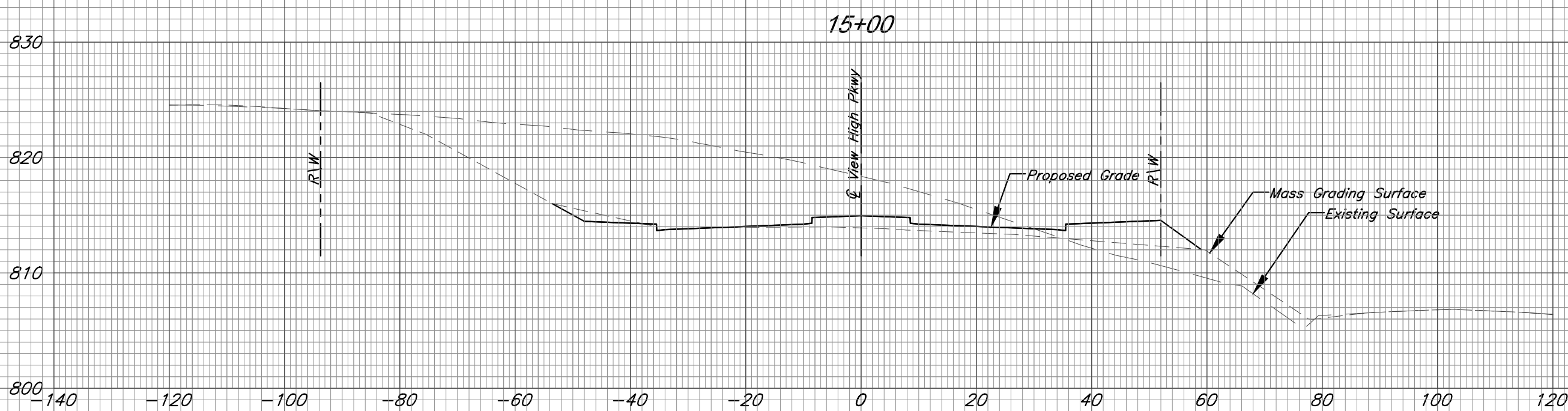
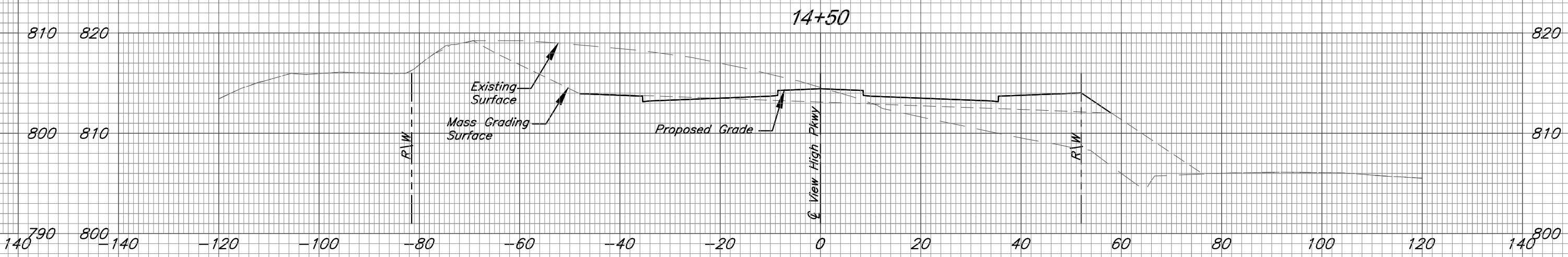
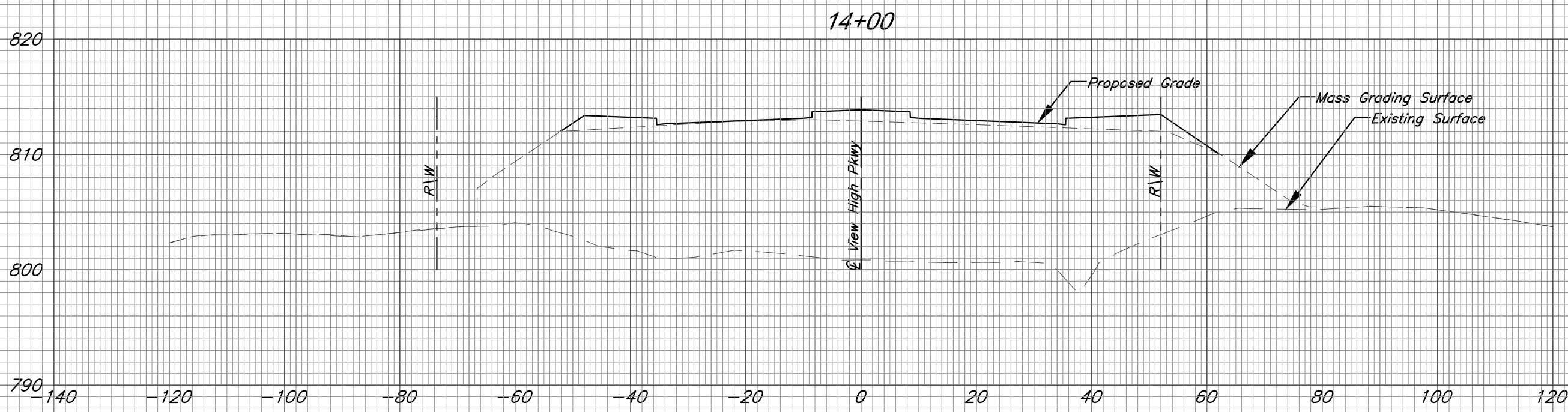
SHEET NO.	TOTAL SHEETS
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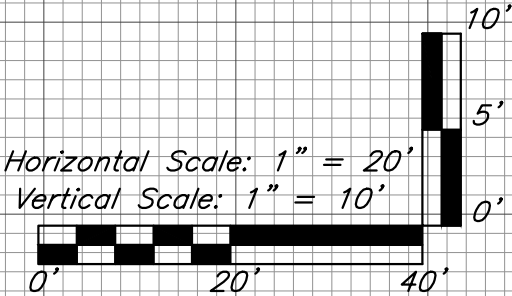
NO.	DATE

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View High Parkway Cross Sections

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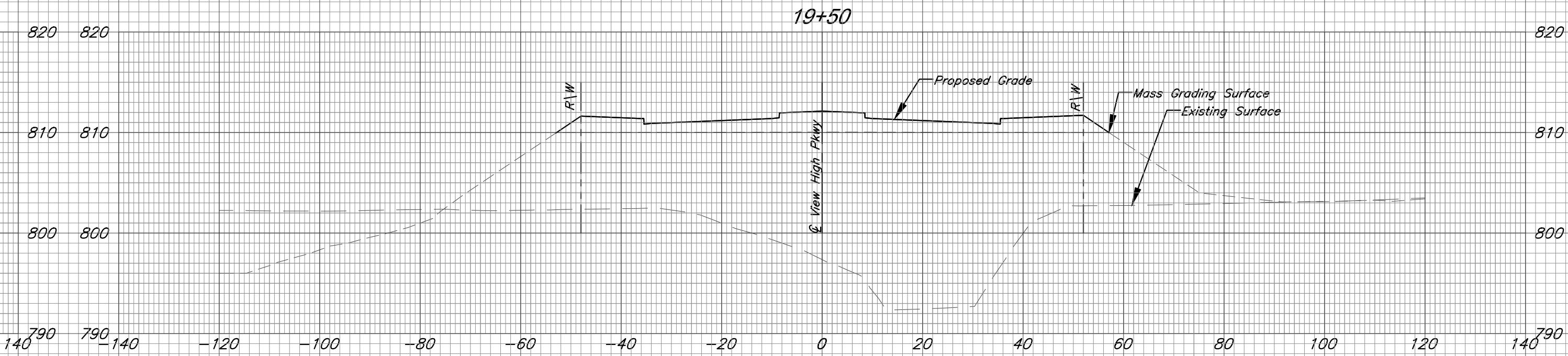
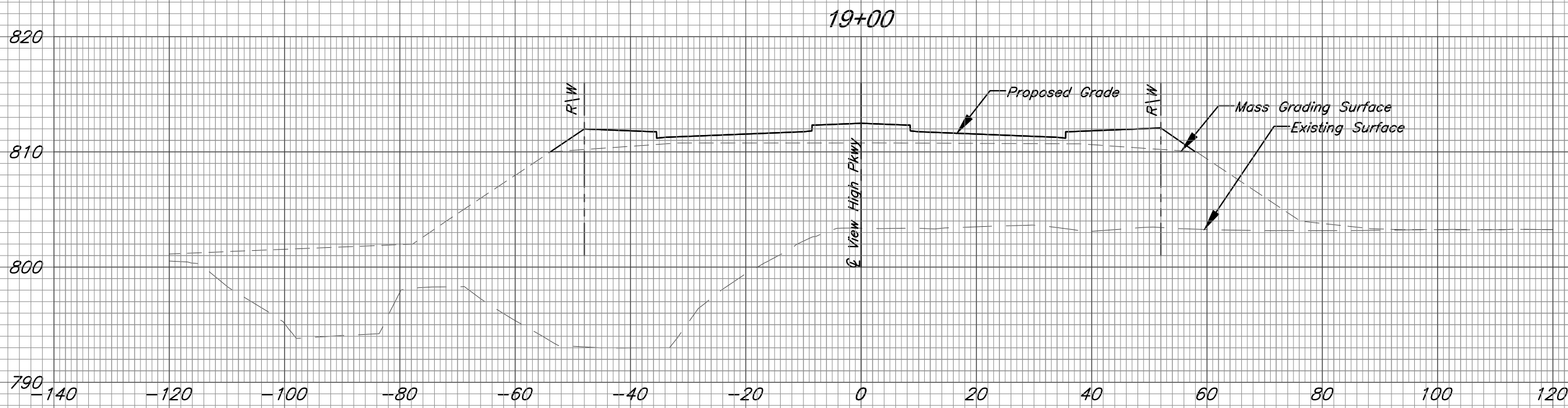
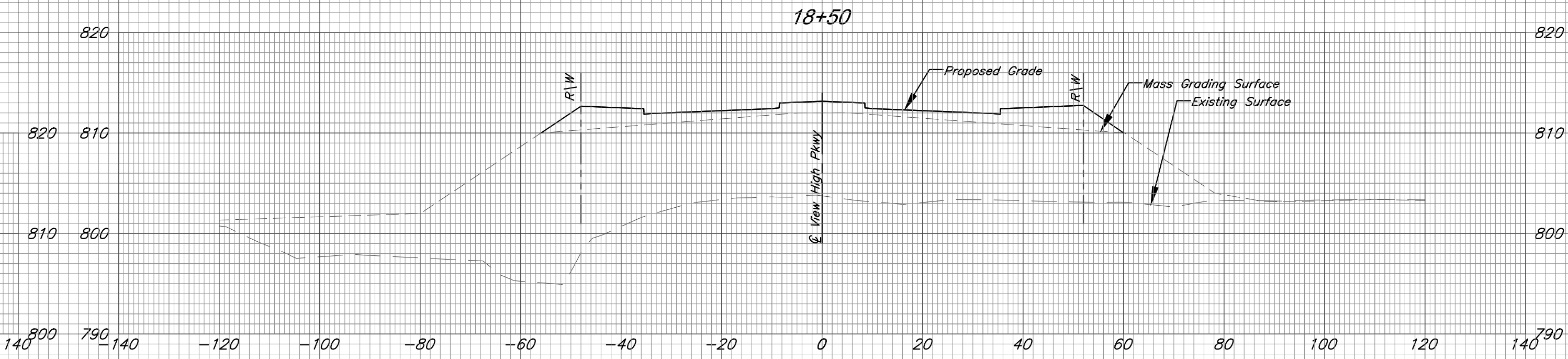
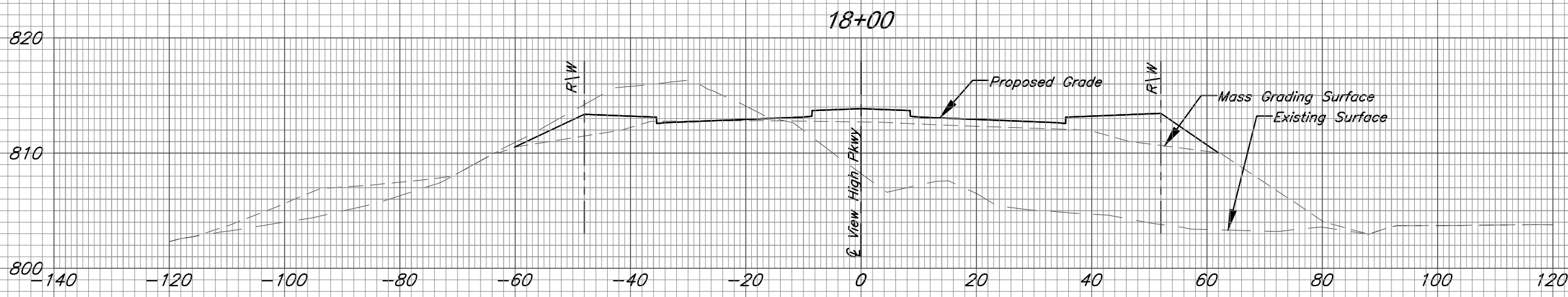
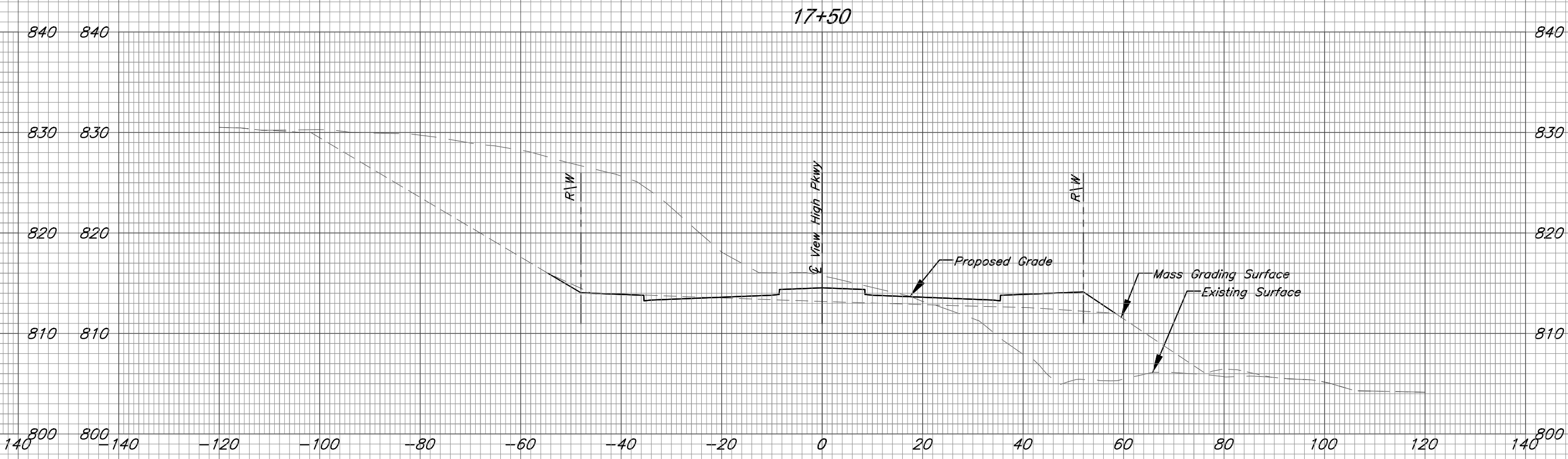
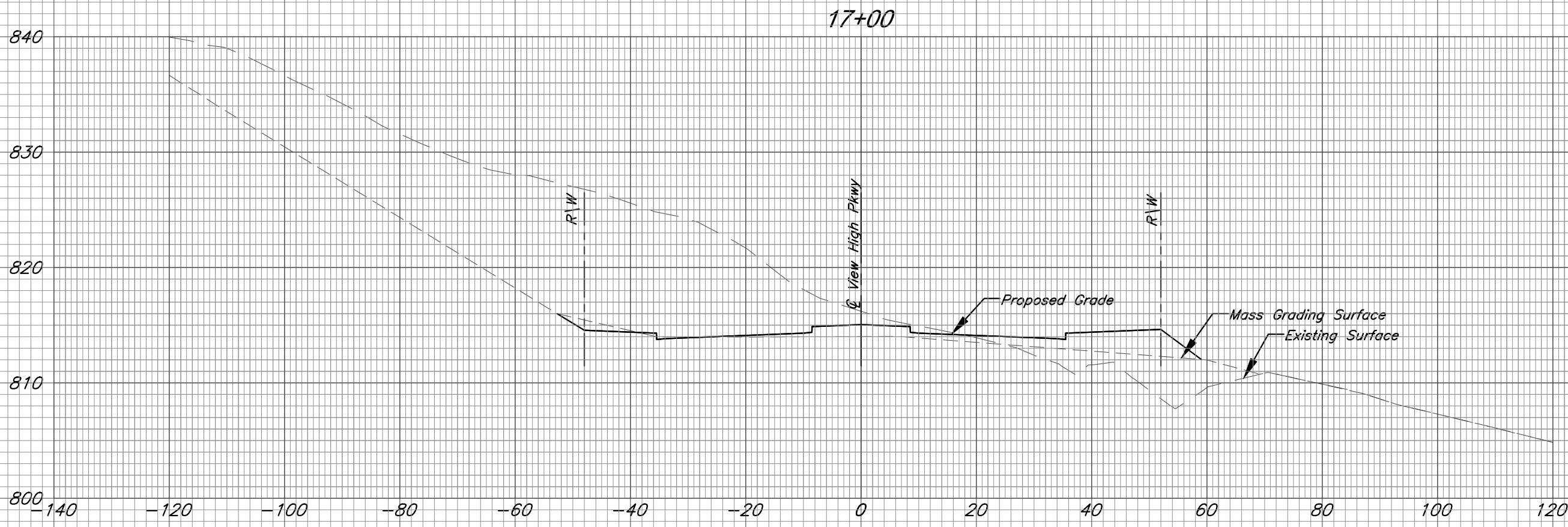
SHEET NO. 46
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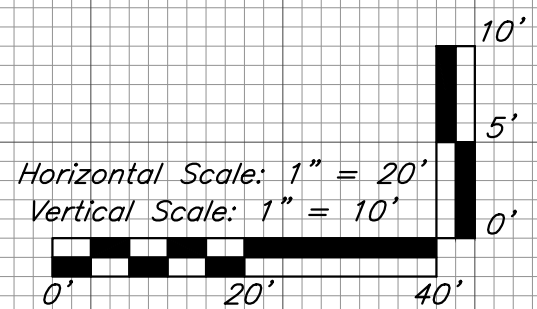
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View High Parkway Cross Sections

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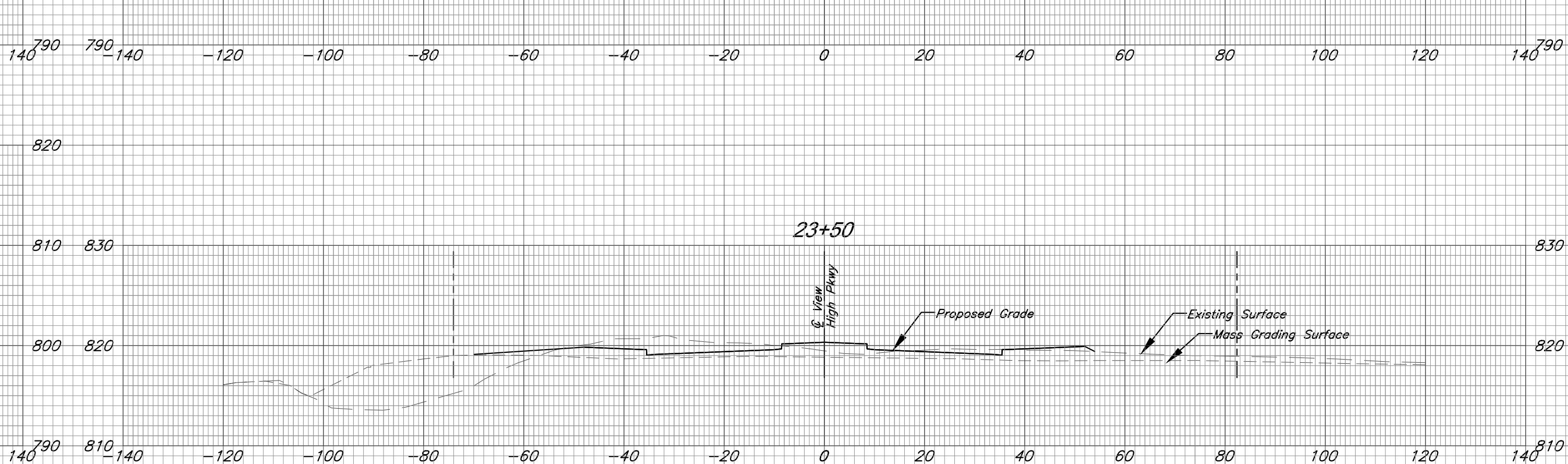
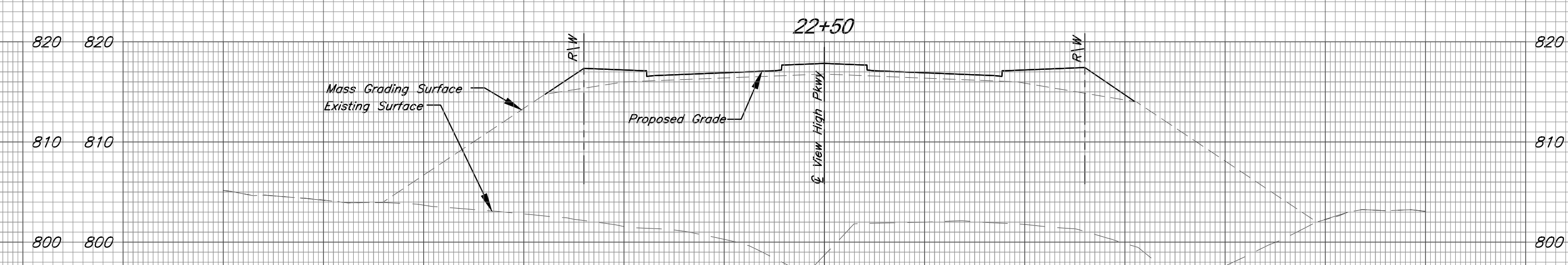
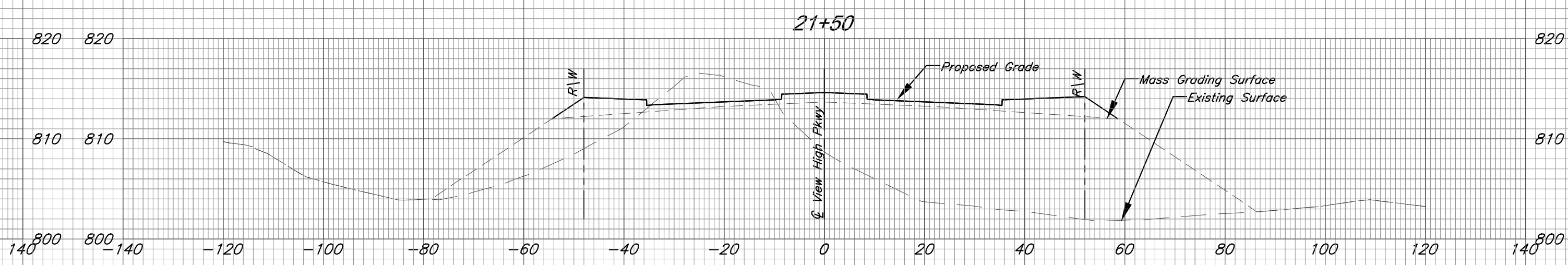
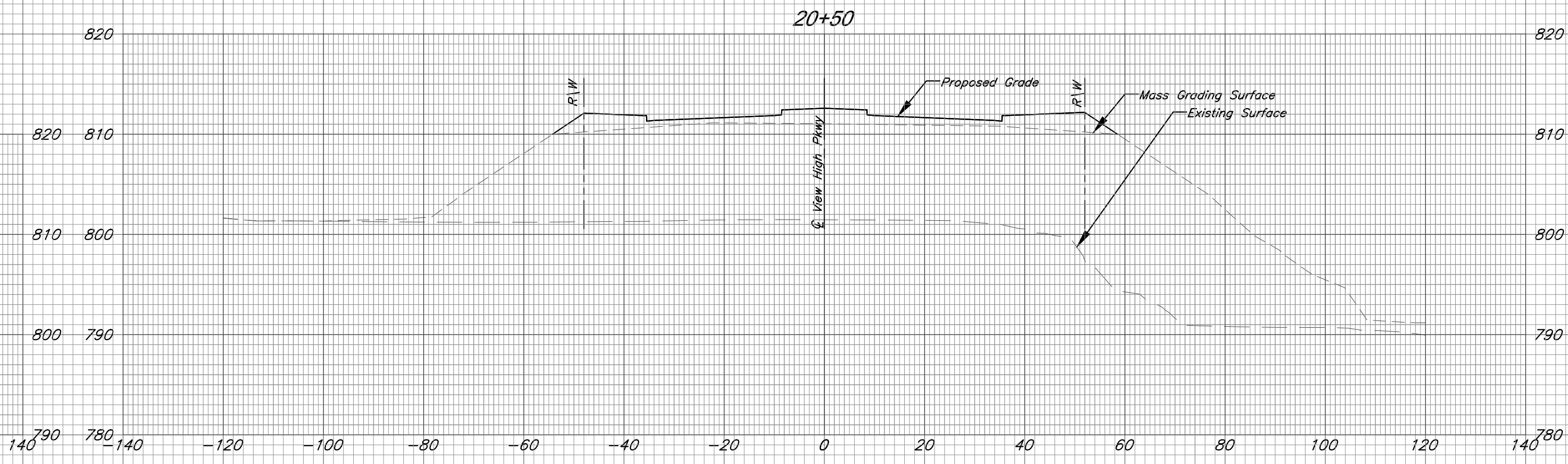
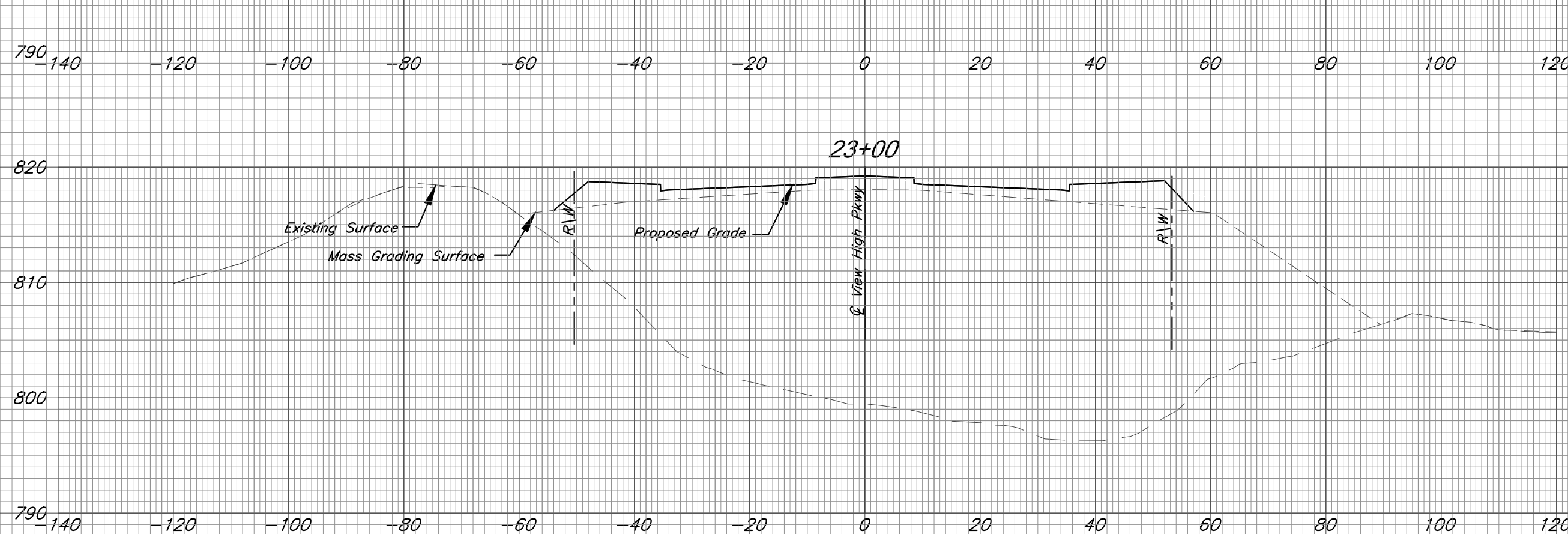
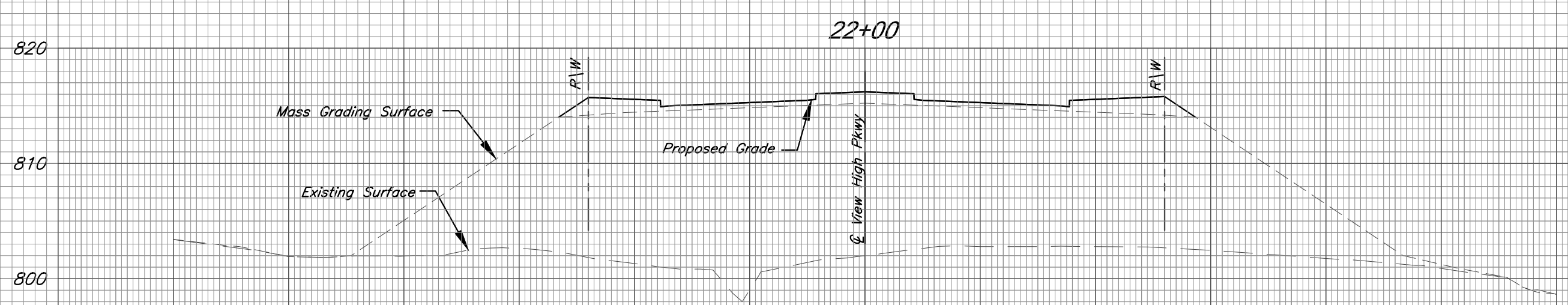
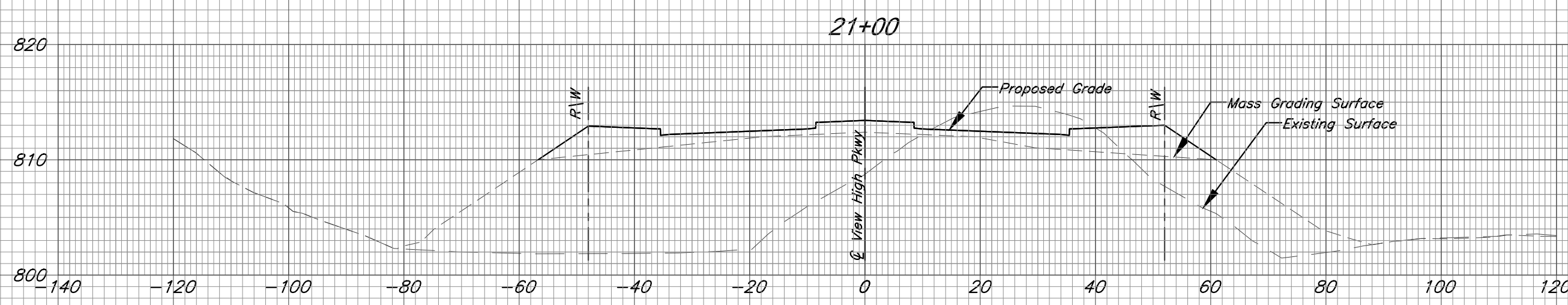
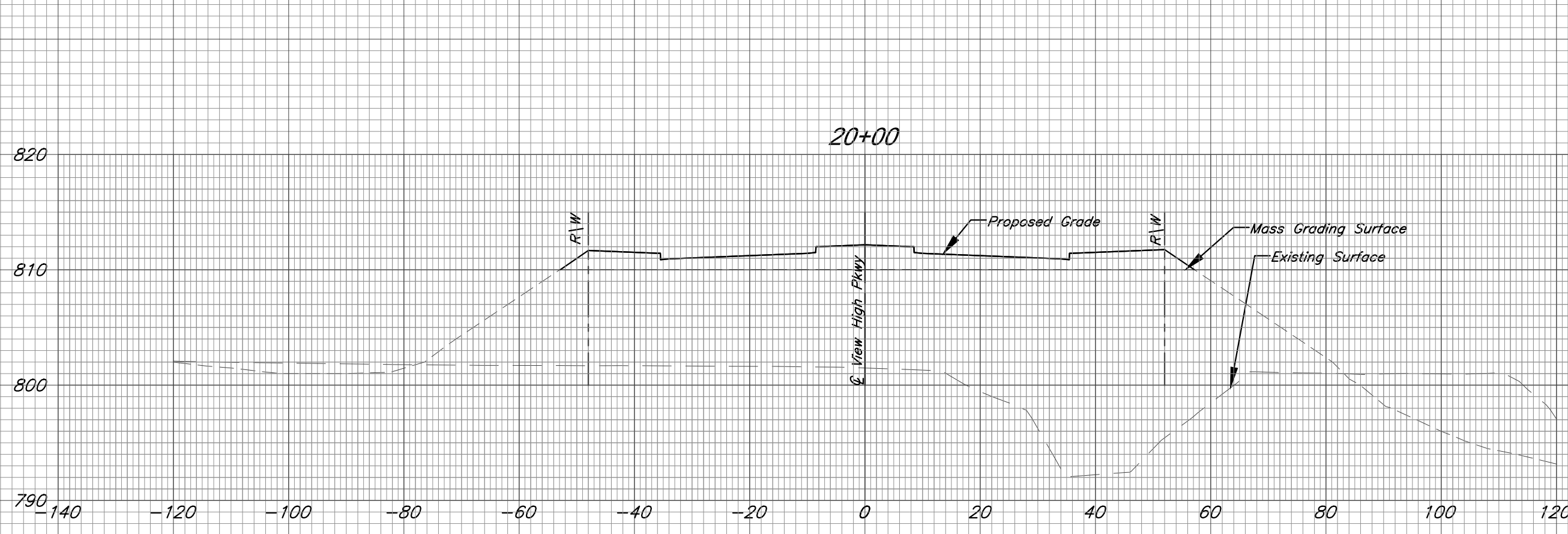
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DESIGN BY:	CEL
DRAWN BY:	DRV
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
47	82

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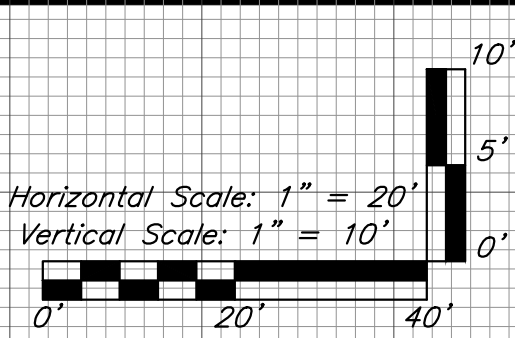
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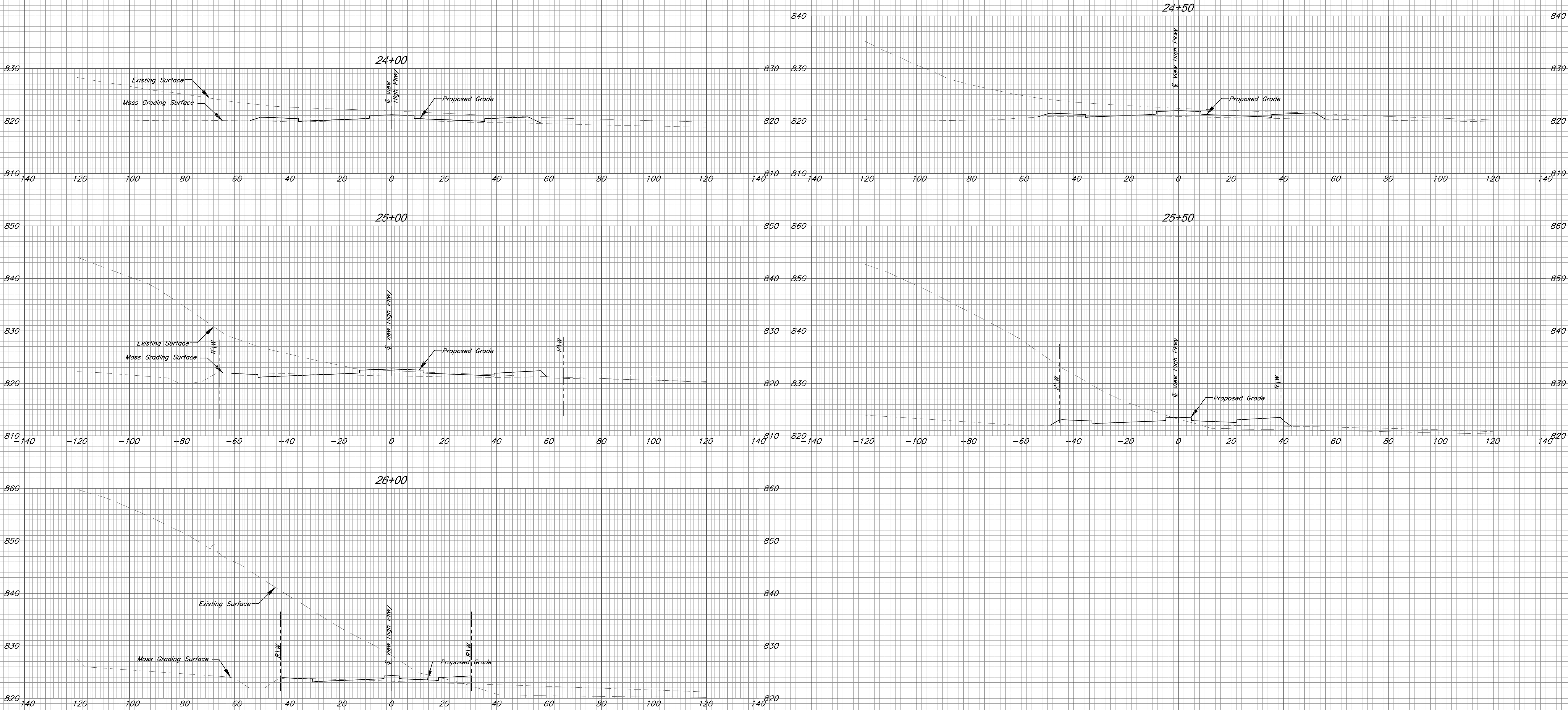


View High Parkway Cross Sections

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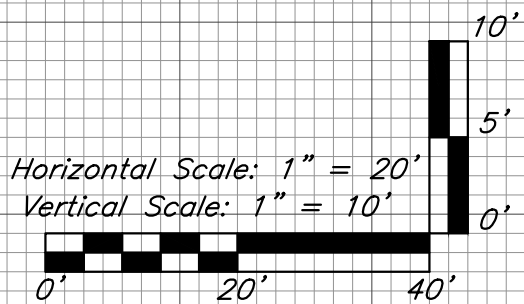


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	PROJECT NO.: 12720	
	SHEET NO. 48	TOTAL SHEETS 82
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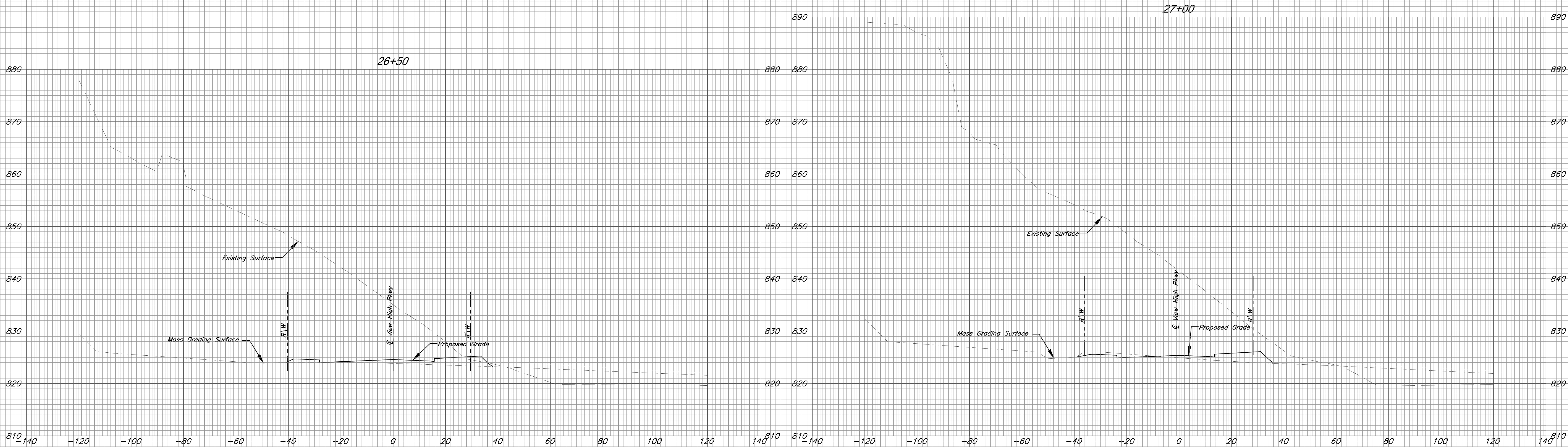
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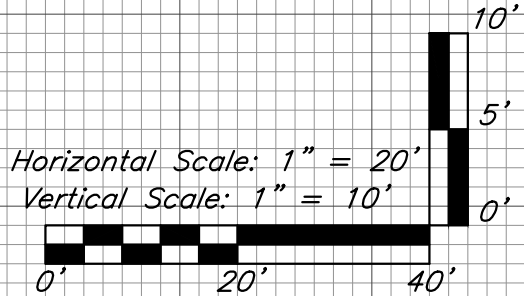
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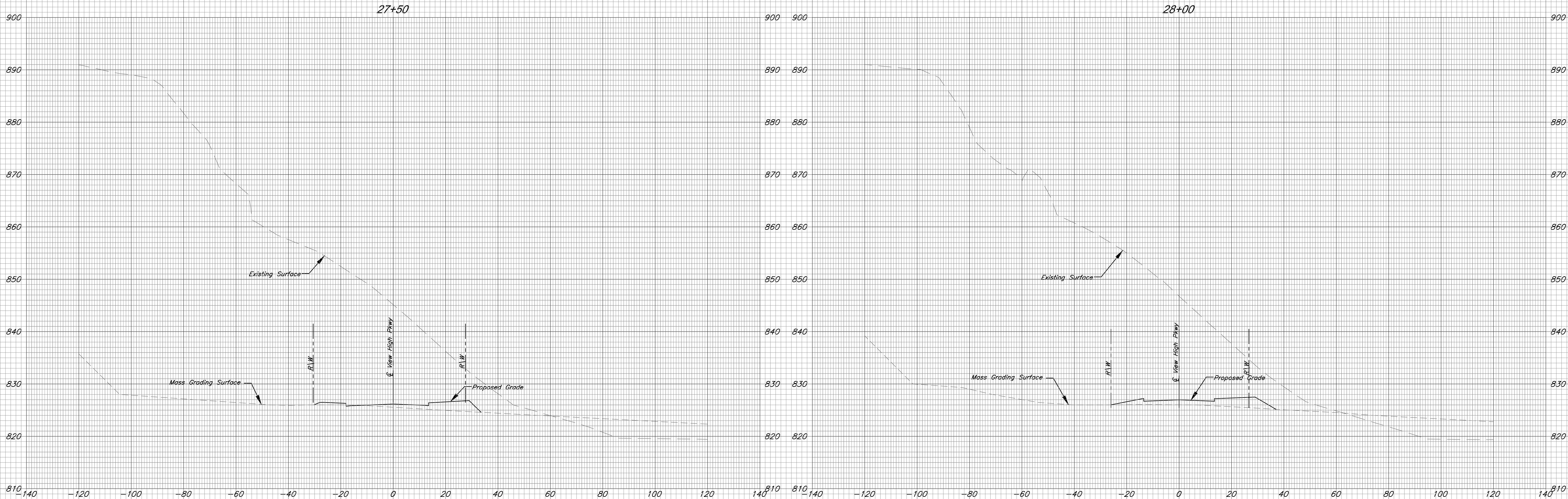
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PROJECT NO.:	12720
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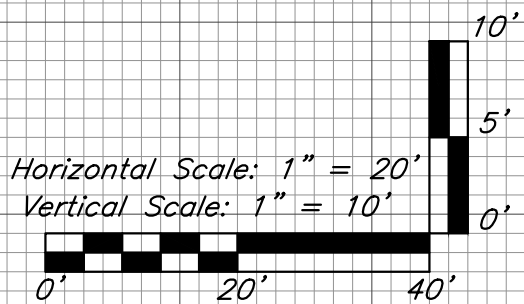
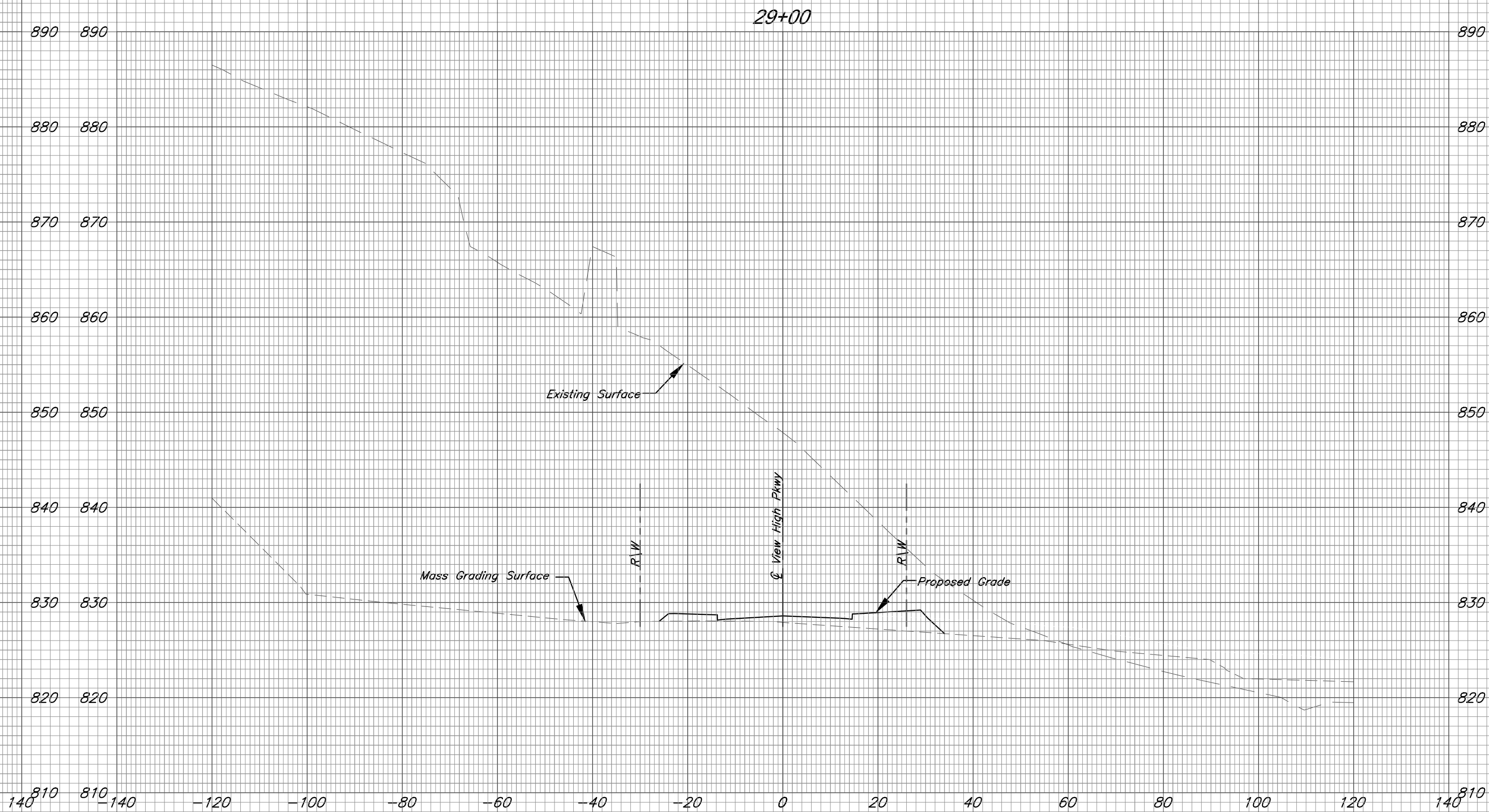
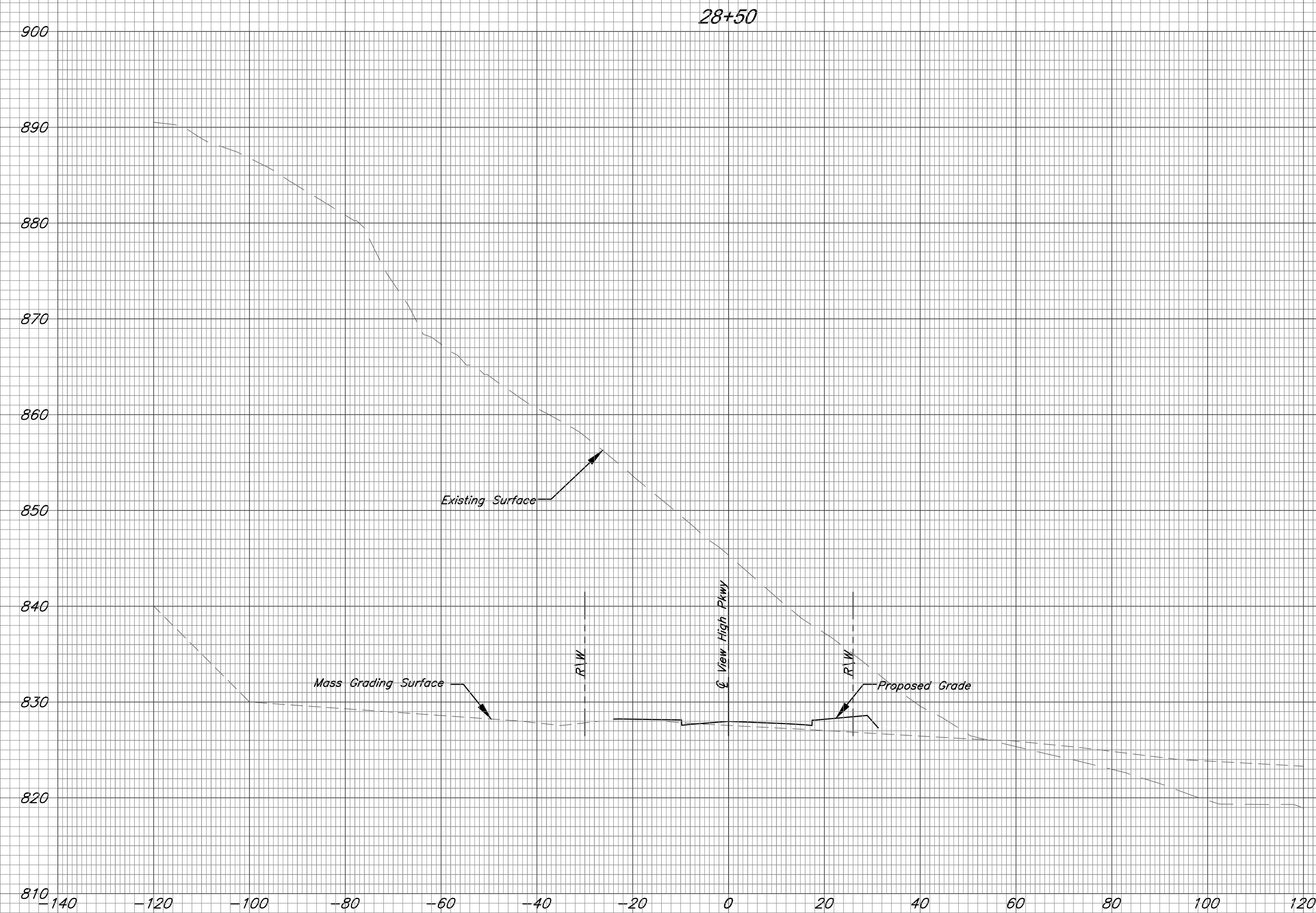
NO.	DATE

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View High Parkway Cross Sections

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SHEET NO. 51
TOTAL SHEETS 82

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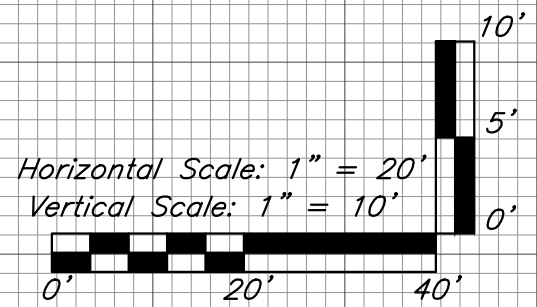
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View High Parkway Cross Sections

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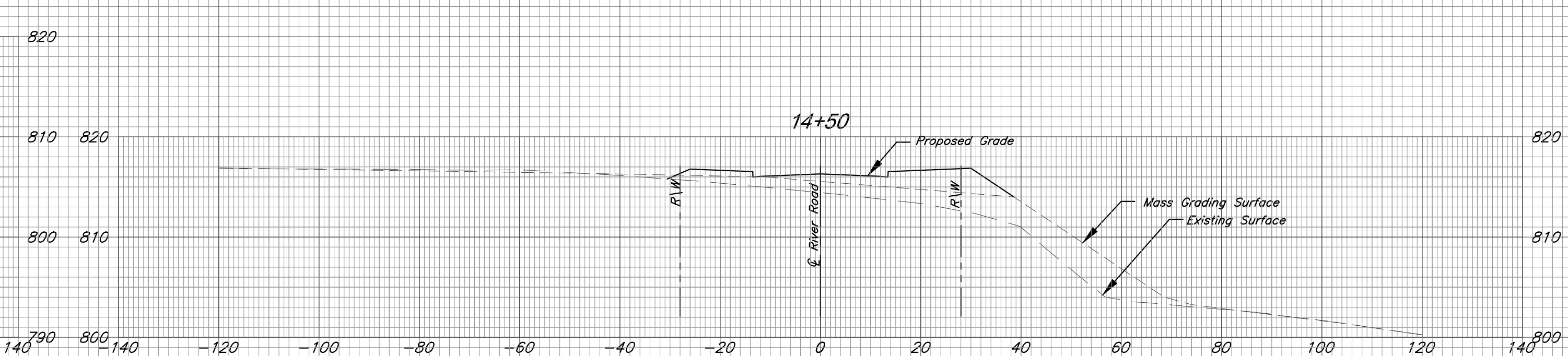
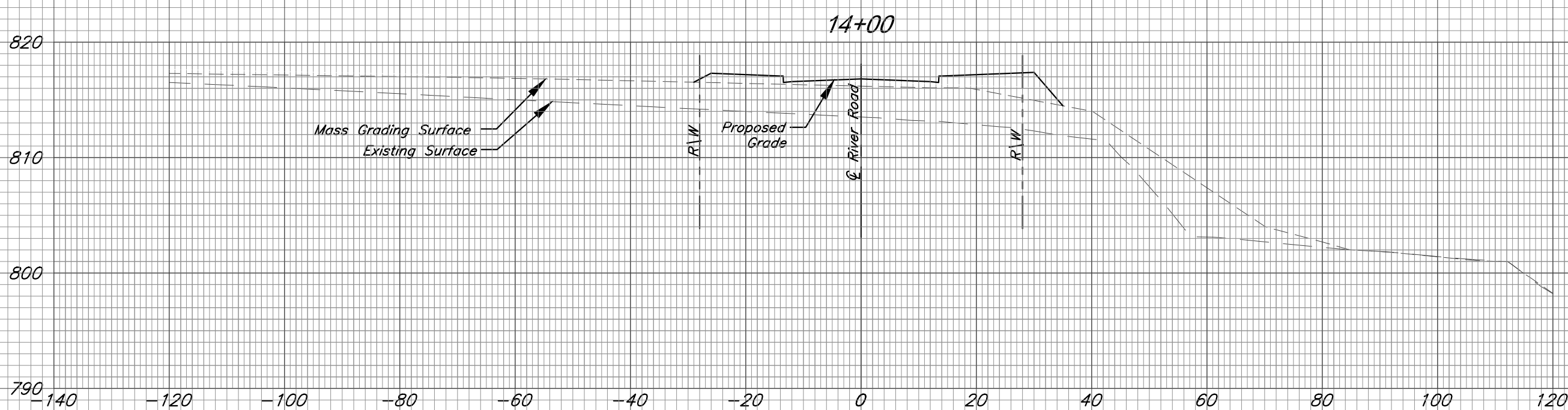
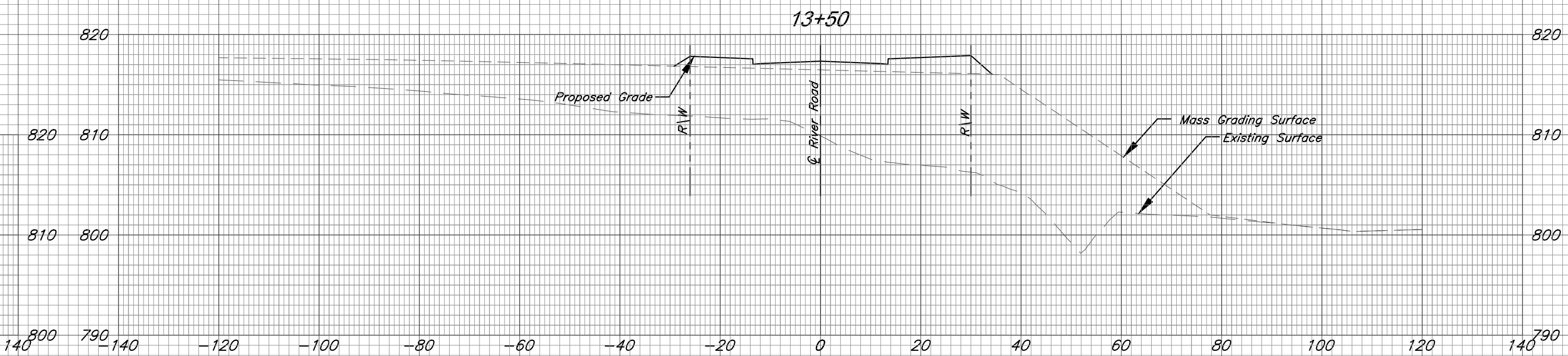
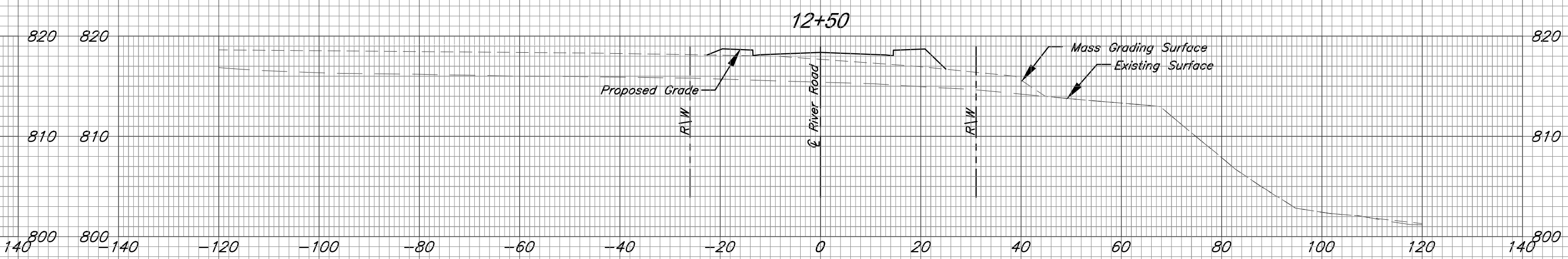
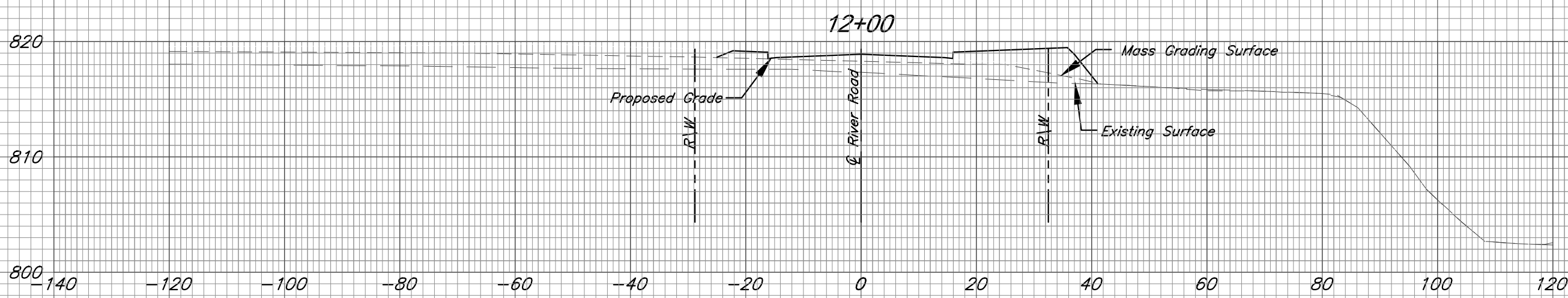
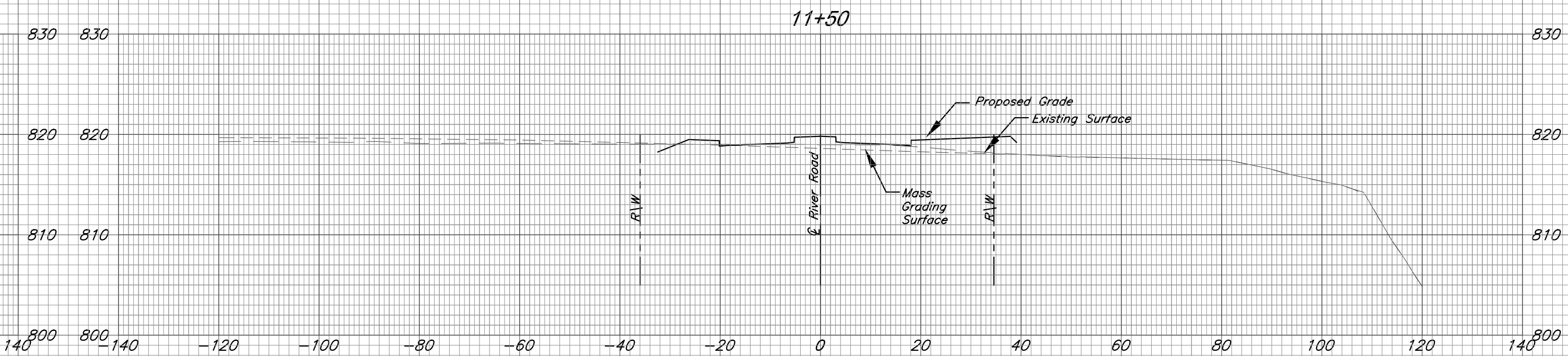
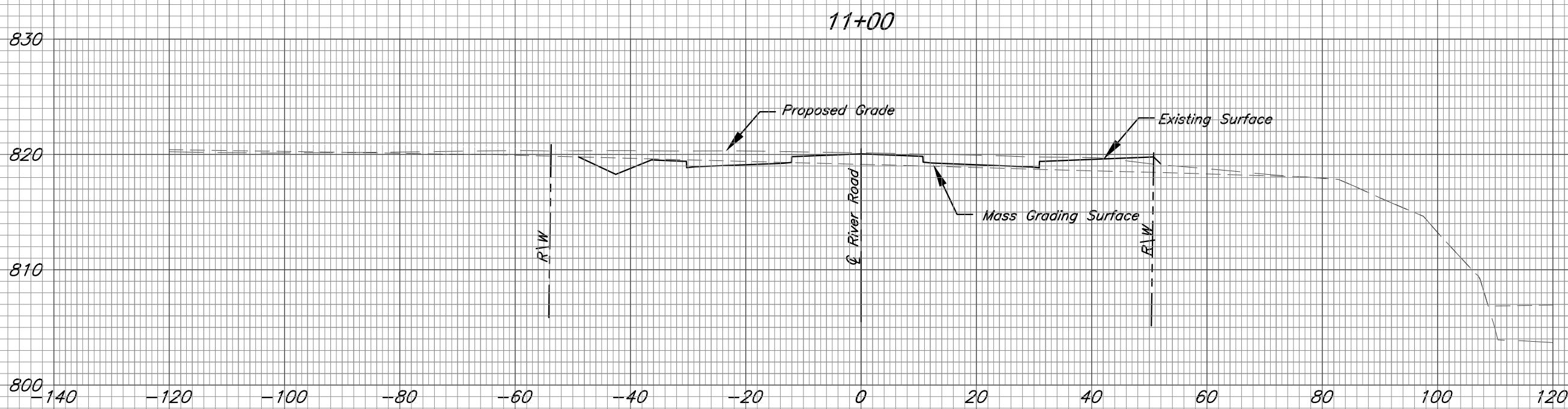
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Professional Engineer
License No. 25862

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Paragon Star Development
Lee's Summit, Missouri

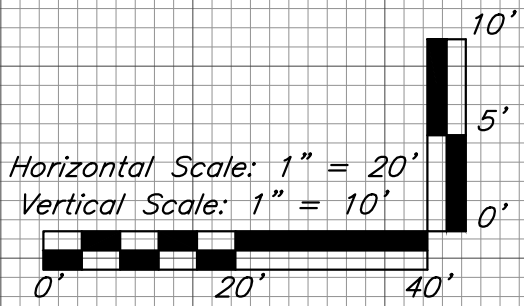
NO.	DATE

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River Road Cross Sections

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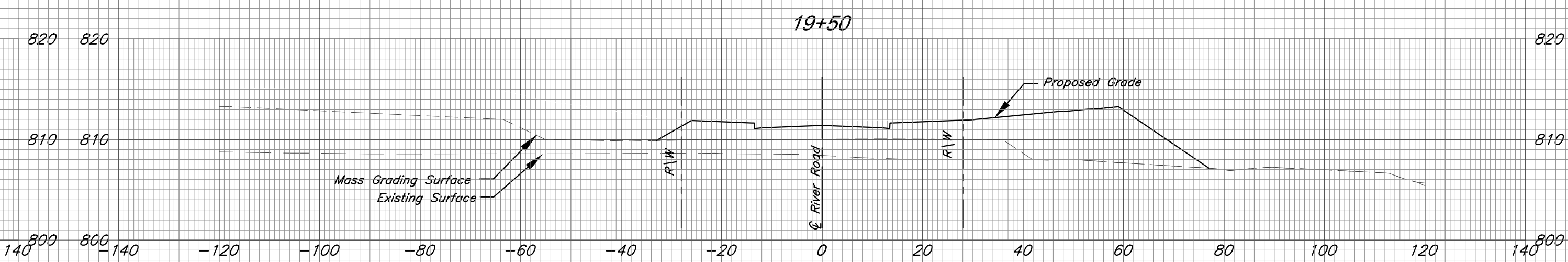
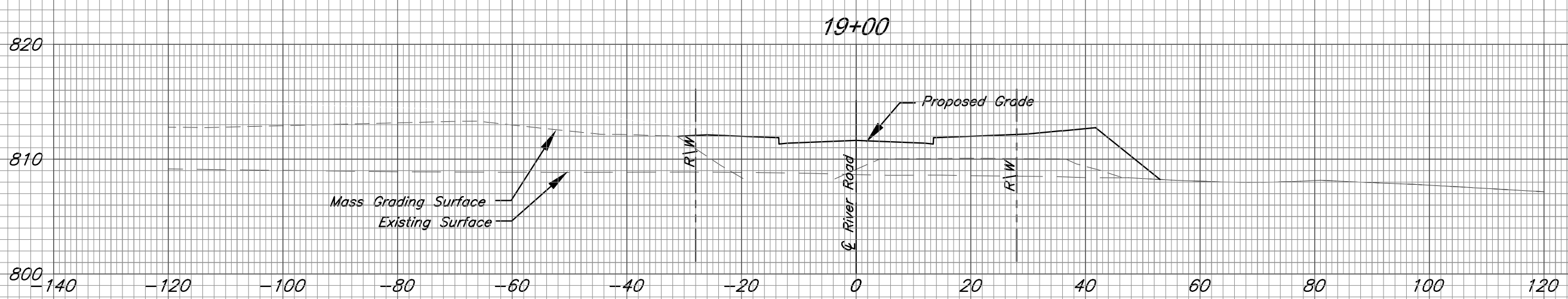
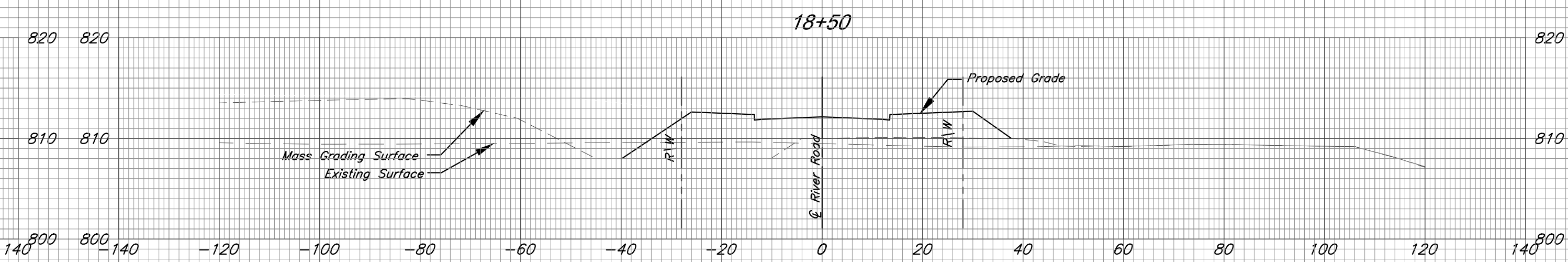
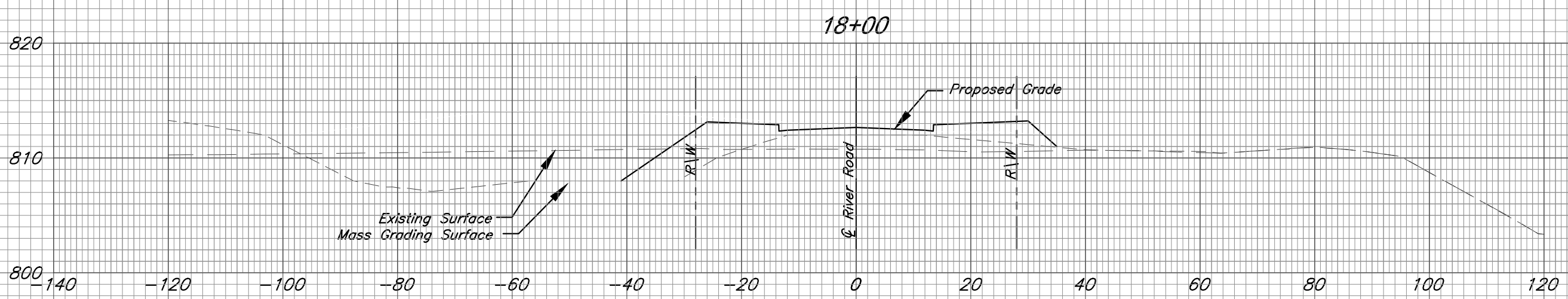
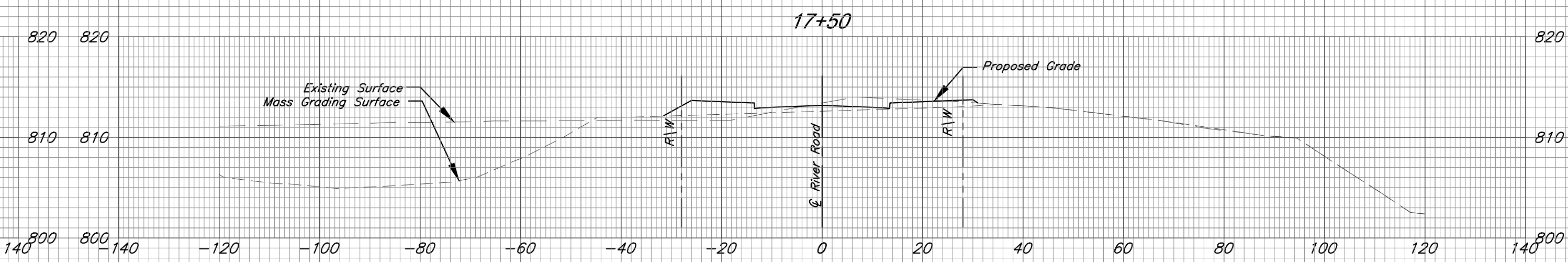
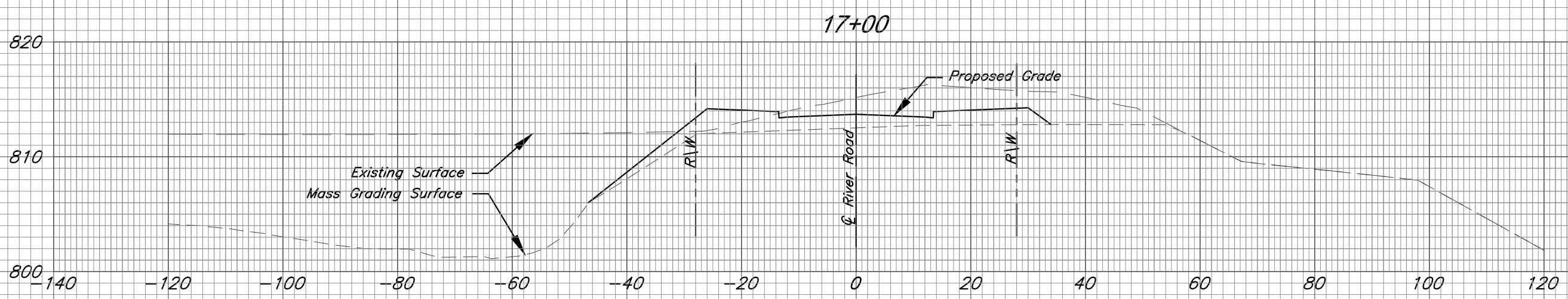
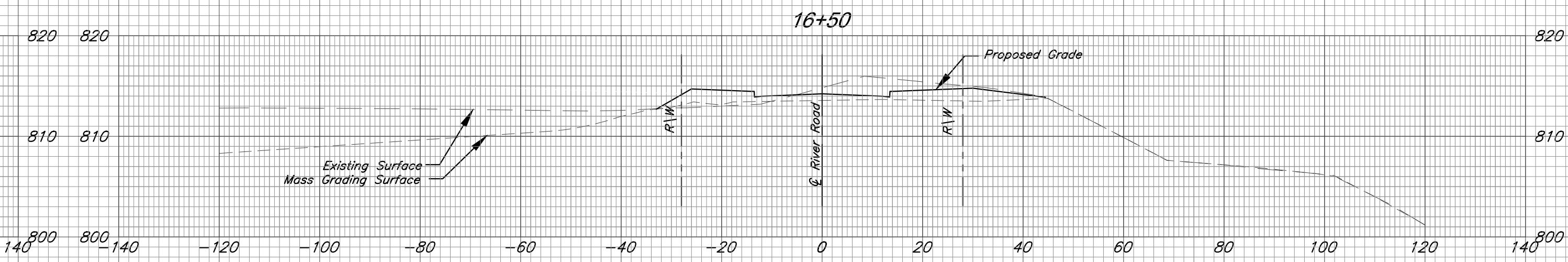
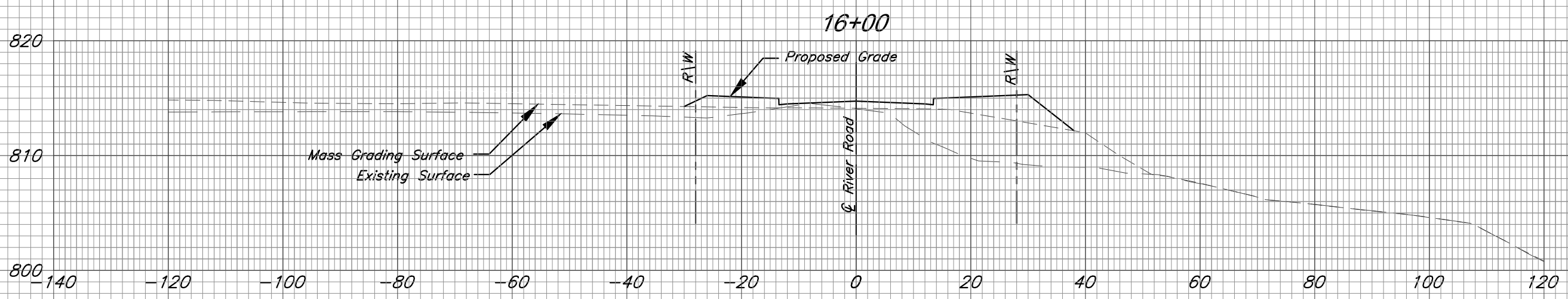
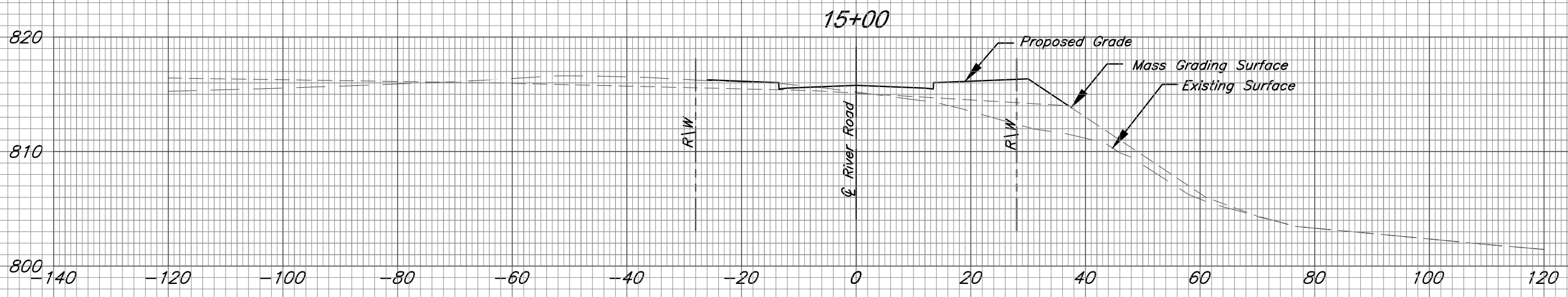
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DRAWN BY:	DRV
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
53	82

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Professional Engineer
License No. 25862

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River Road Cross Sections

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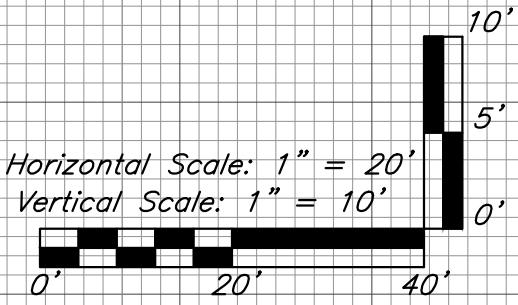
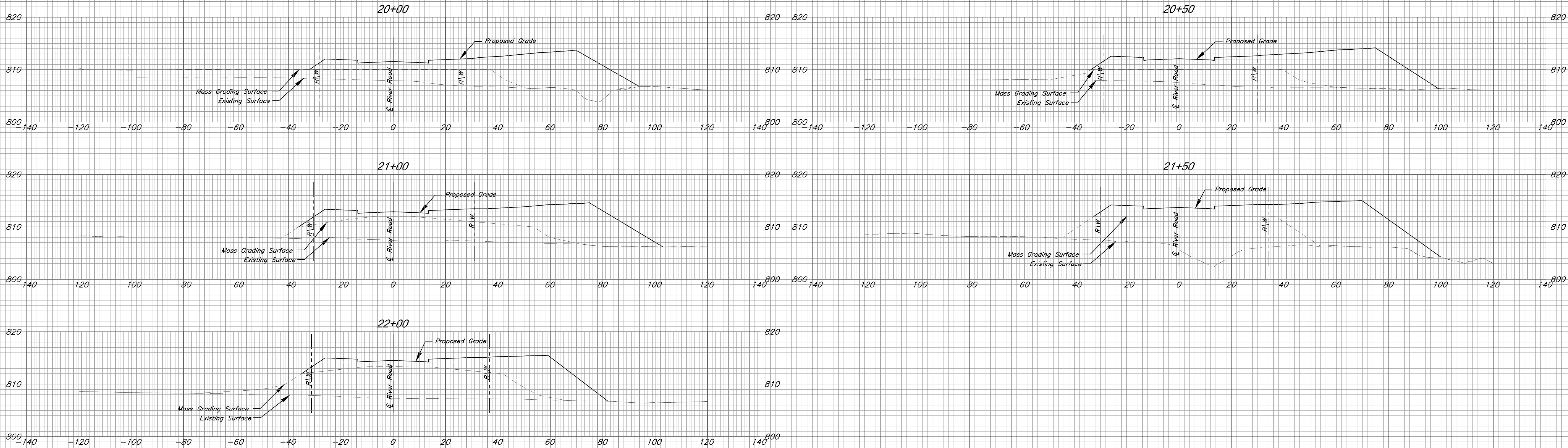
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DRAWN BY:	DRV
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
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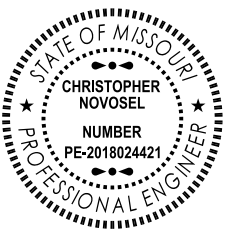
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River Road Cross Sections

G:\12720\Civil 3D\Production Drawings\Street & Storm Plans\1272075100.dwg Layout: 51 Street and Lighting Plan -- Wednesday, May 20, 2020, 4:22pm -- Copyright 2020, George Butler Associates, Inc. Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059



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DESIGN BY: CEL	
DRAWN BY: DRV	
PROJECT NO.: 12720	
SHEET NO.	TOTAL SHEETS
55	82

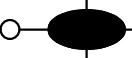
Christopher Novosel
Professional Engineer
License No. 2018024421

Street and Storm Sewer Plans
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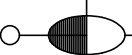
NO.	DATE	REVISIONS	BY	APPROVED

LEGEND

- 

Pole Mount Luminaire (35' Mt. Ht., 8' Arm Length, AEL Autobahn A1B2-60BLEDE70-MVOLT-R2-20-NL-P7-SH, Type 2 Distribution)
- 

Pole Mount Luminaire (30' Mt. Ht., 6' Arm Length, LED2-ARW-150W-T2M, Type 2 Distribution)
- 

Pole Mount Luminaire (30' Mt. Ht., 6' Arm Length, LED2-ARW-150W-T3M, Type 3 Distribution)
- 

Pole Mount Luminaire (Not Part of Project)
- 

Secondary Service Point
- 

Street Light Control Center
- 

Existing Street Light Control Center
- 

Junction Box
- 

Existing Junction Box
- 

HDPE Conduit
- 

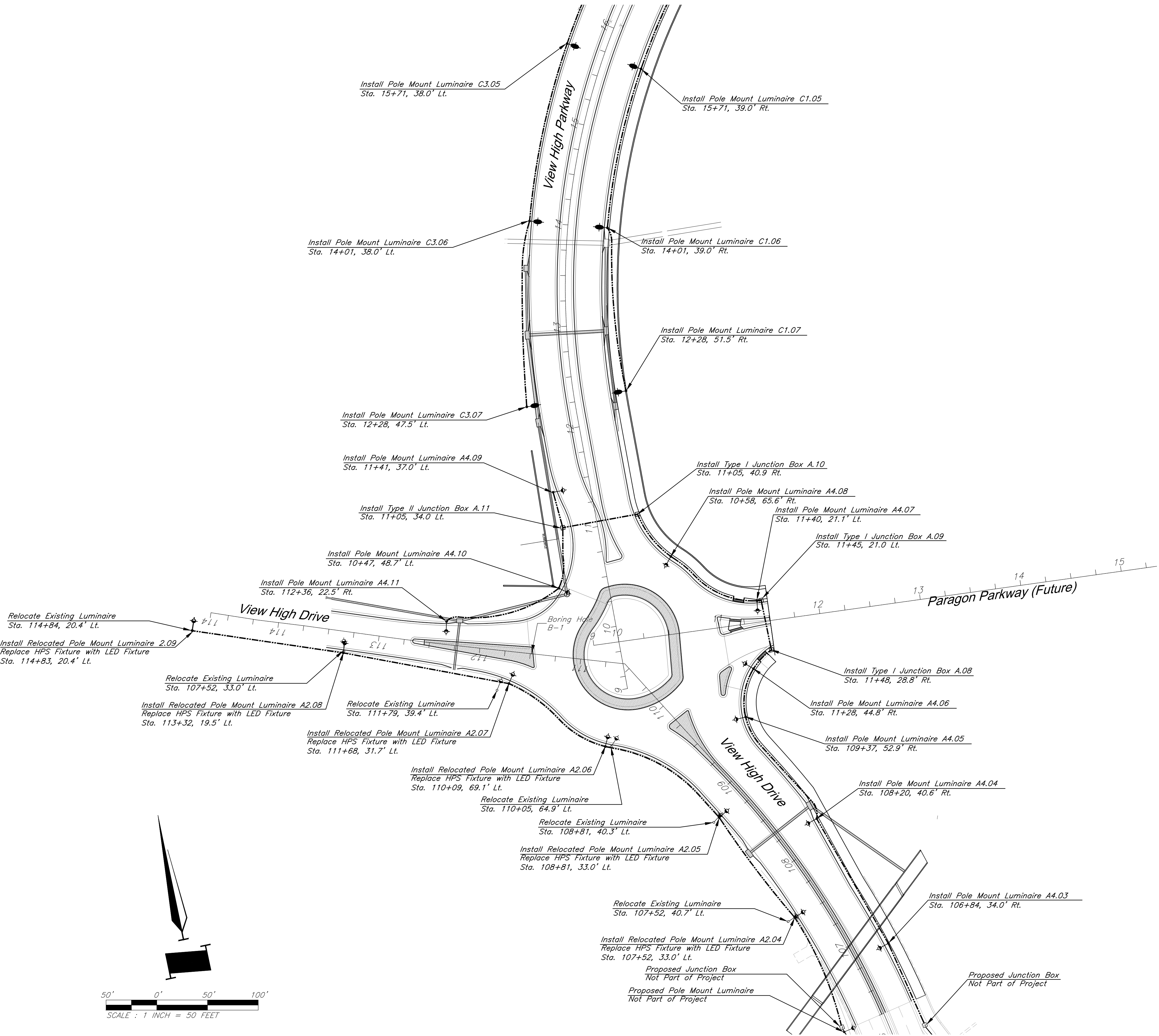
Existing HDPE Conduit

GENERAL NOTES:

Existing foundations to be removed a minimum of 24" below grade and surface restored to surrounding conditions.

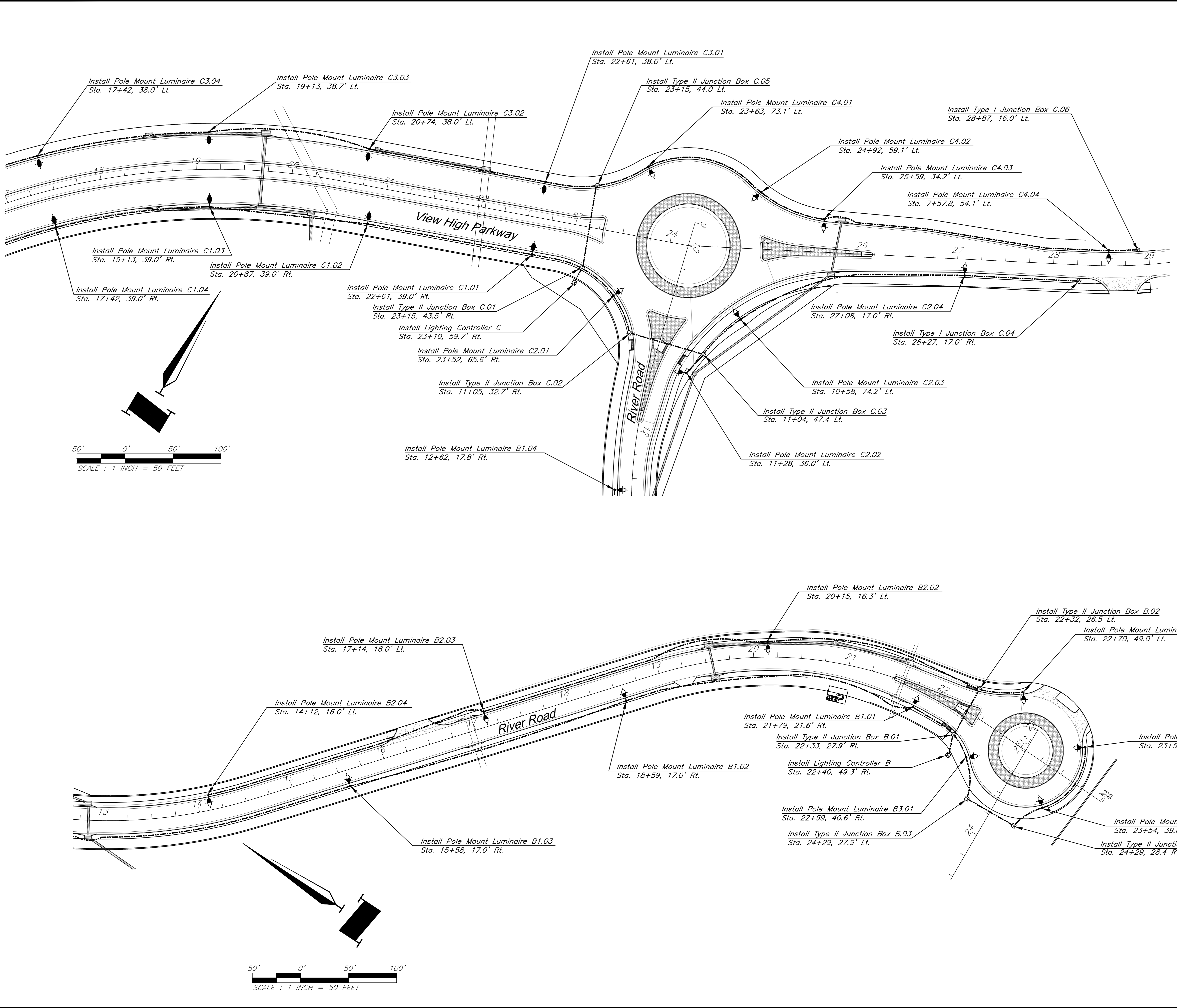
Circuit A2 and A4 cable and conduit shall be connected to adjacent interchange project lighting in adjacent project junction boxes. If adjacent project lighting is not already present, then Circuit A2 and A4 shall be capped and daylighted.

View High Dr lighting system currently is, and shall continue to be, owned and operated by the City of Kansas City, Missouri.



Street and Lighting Plan

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	DESIGN BY: CEL	
	DRAWN BY: DRV	
	PROJECT NO.: 12720	
GBA architects engineers 9801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com	SHEET NO.	TOTAL SHEETS
	56	82
Street and Storm Sewer Plans Paragon Star Development Lee's Summit, Missouri		
Christopher Novosel Professional Engineer License No. 2018024421		
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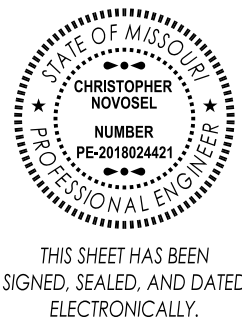
LEGEND

- Pole Mount Luminaire (35' Mt. Ht., 8' Arm Length, 250W LED Equivalent, Type 2 Distribution)
- Pole Mount Luminaire (30' Mt. Ht., 6' Arm Length, LED2-ARW-150W-T2M, Type 2 Distribution)
- Pole Mount Luminaire (30' Mt. Ht., 6' Arm Length, LED2-ARW-150W-T3M, Type 3 Distribution)
- Pole Mount Luminaire (Not Part of Project)
- Secondary Service Point
- Street Light Control Center
- Existing Street Light Control Center
- Junction Box
- Existing Junction Box
- HDPE Conduit
- Existing HDPE Conduit

Street and Lighting Plan

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58	82

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Paragon Star Development
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STREET LIGHT POLE, BRACKET ARM, AND BREAK-AWAY BASE

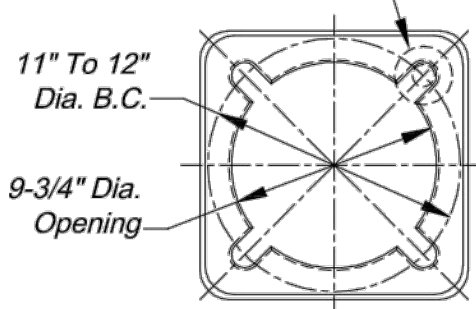
POLE TYPE	MOUNTING HEIGHT (A)	BRACKET ARMS		POLE SHAFT				SHOE BASE		ANCHOR BOLTS		
		LENGTH (B)		BASE O.D.	TOP O.D.	MIN. WALL THICKNESS	SHAFT LENGTH (C)	BOLT CIRCLE (BC)	DIAMETER	LENGTH	HOOK	
		ARM 1	ARM 2									
P14	14'	-	-	6"	3"	0.156"	14'-0"	9.5"	0.75" 10NC	25"	3"	
P30S	30'	6' or 10'	-	8"	6"	0.188"	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:
- All poles, arms, and miscellaneous equipment shall conform to these details and as specified by the latest city standard specifications.
 - Pole shaft shall have a satin ground finish.
 - 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.
 - 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 provided with each anchor.
 - All welding is to be done with 4043 weld wire. All arms and shafts are to be heat-treated to T6 temper after welding.
 - Anchor bolts shall project above the concrete base as per manufacturer's recommended practices, 2 1/2" to 3".
 - 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.
 - 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.

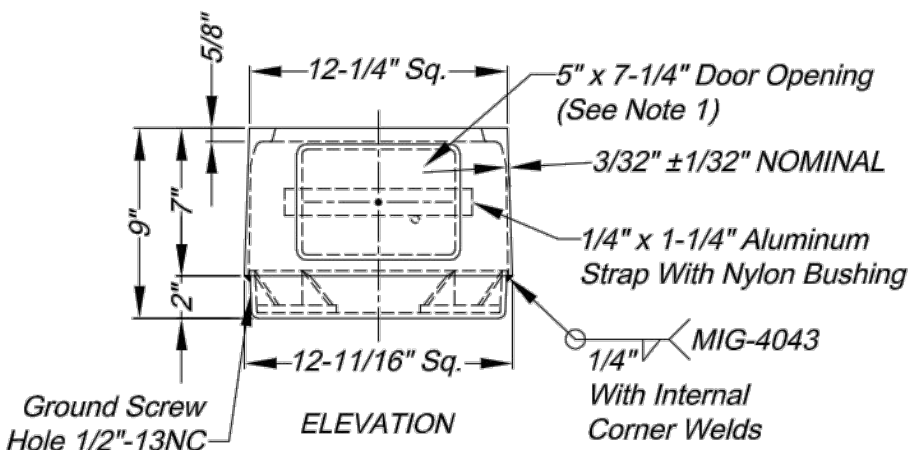
MATERIAL DATA

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

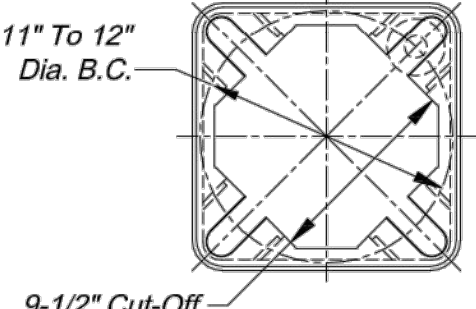
Use 2-3/4" O.D. x 1-1/16" I.D.
x 1/2" Thick Washer For
1" Dia. Anchorage On Top
And Bottom Bolt Circle



TOP



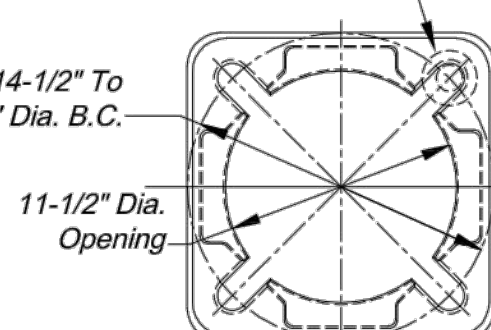
ELEVATION



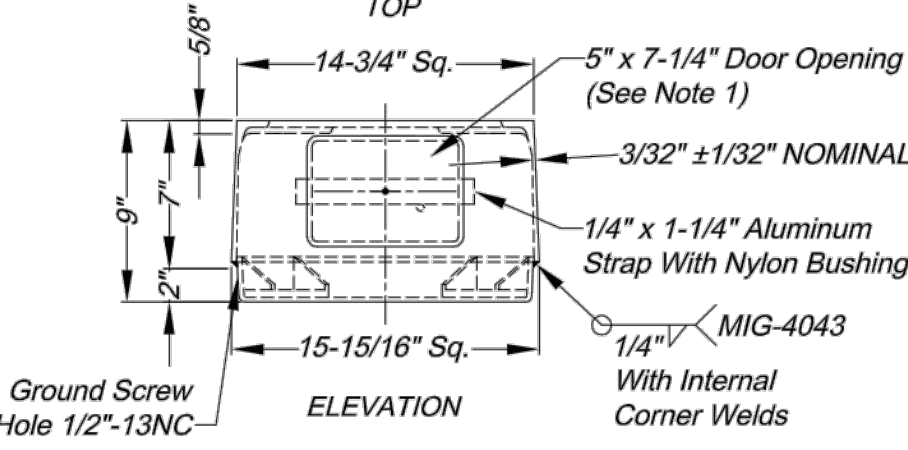
BOTTOM

11" BREAK-AWAY BASE

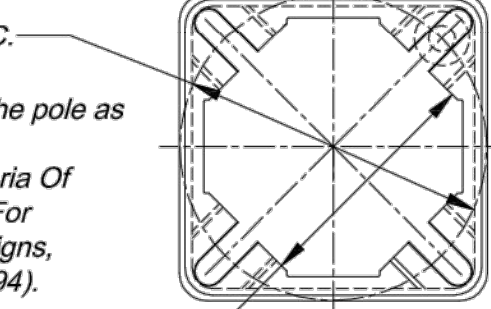
Use 2-3/4" O.D. x 1-1/16" I.D.
x 1/2" Thick Washer For
1" Dia. Anchorage On Top
And Bottom Bolt Circle



TOP



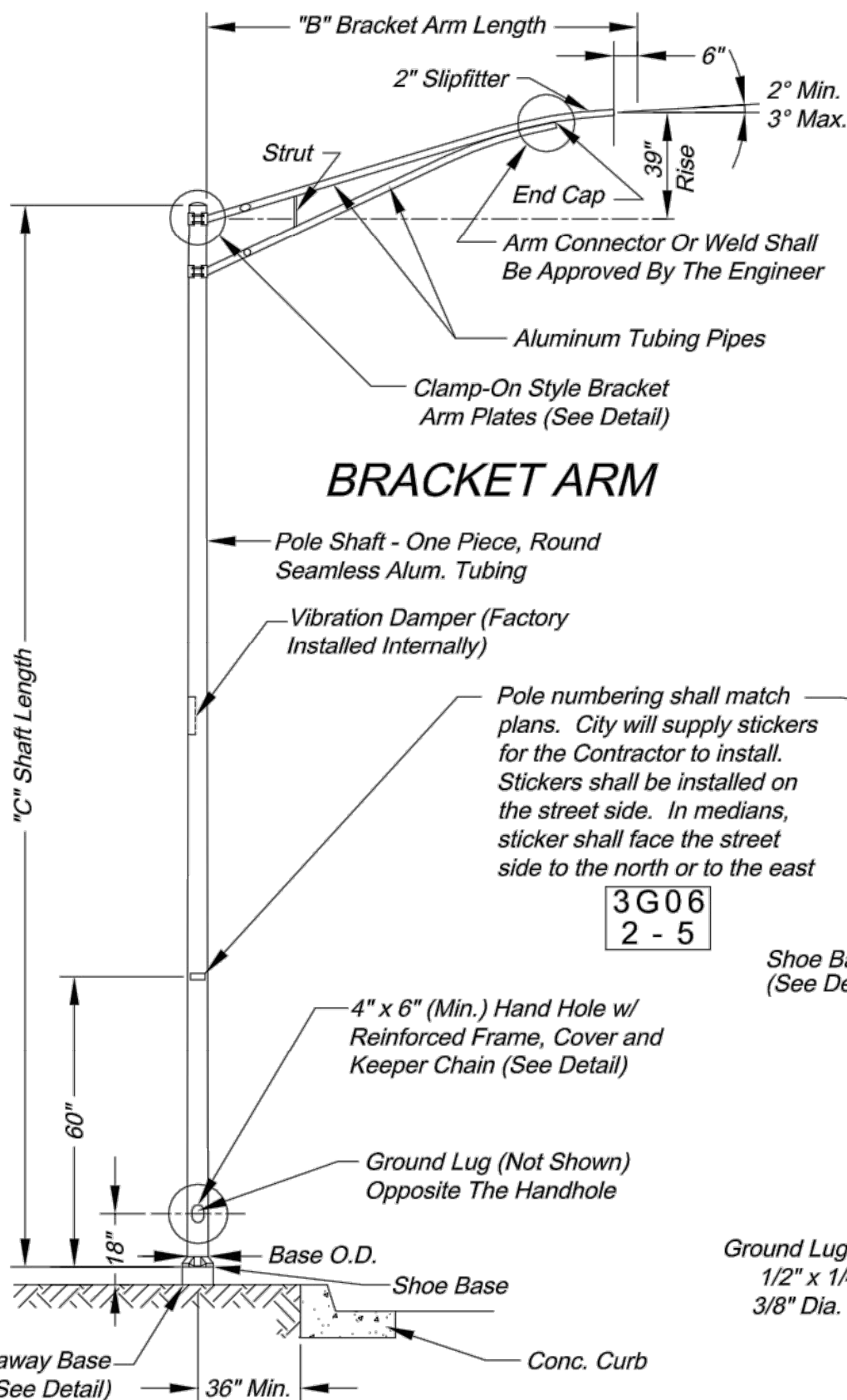
ELEVATION



BOTTOM

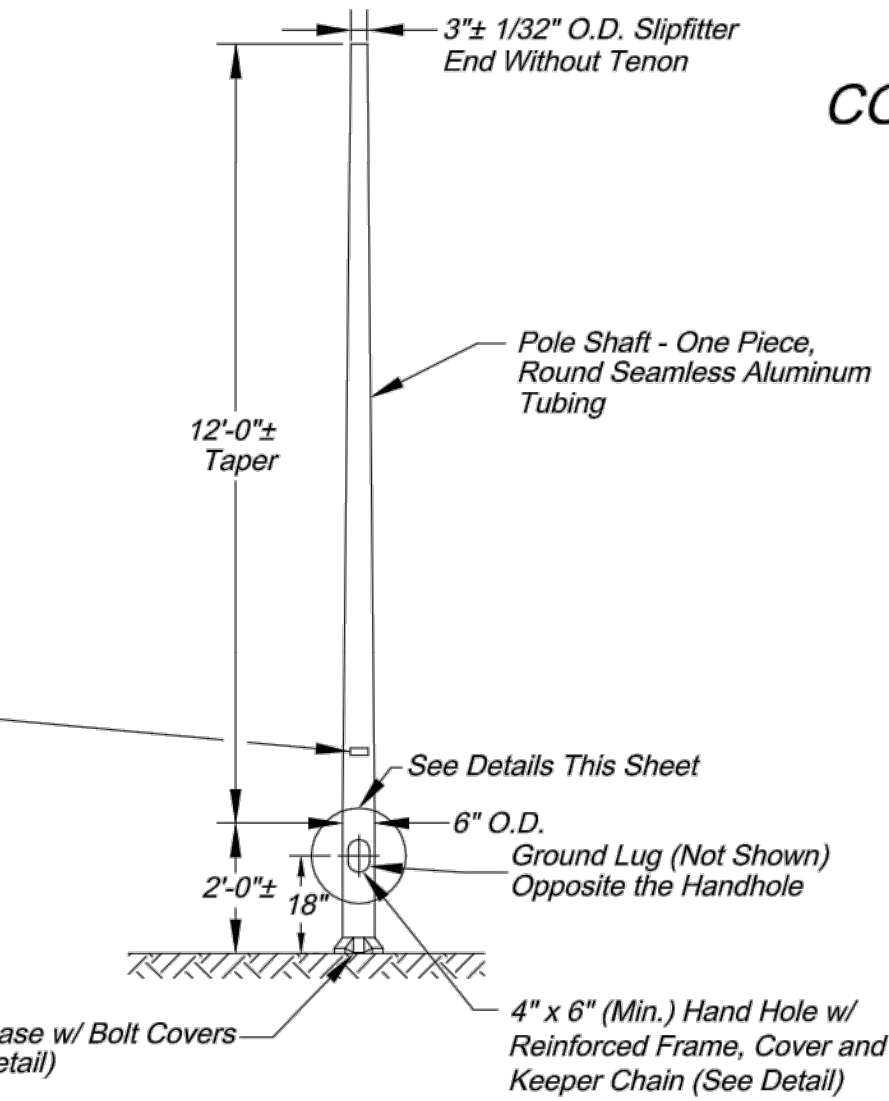
15" BREAK-AWAY BASE

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

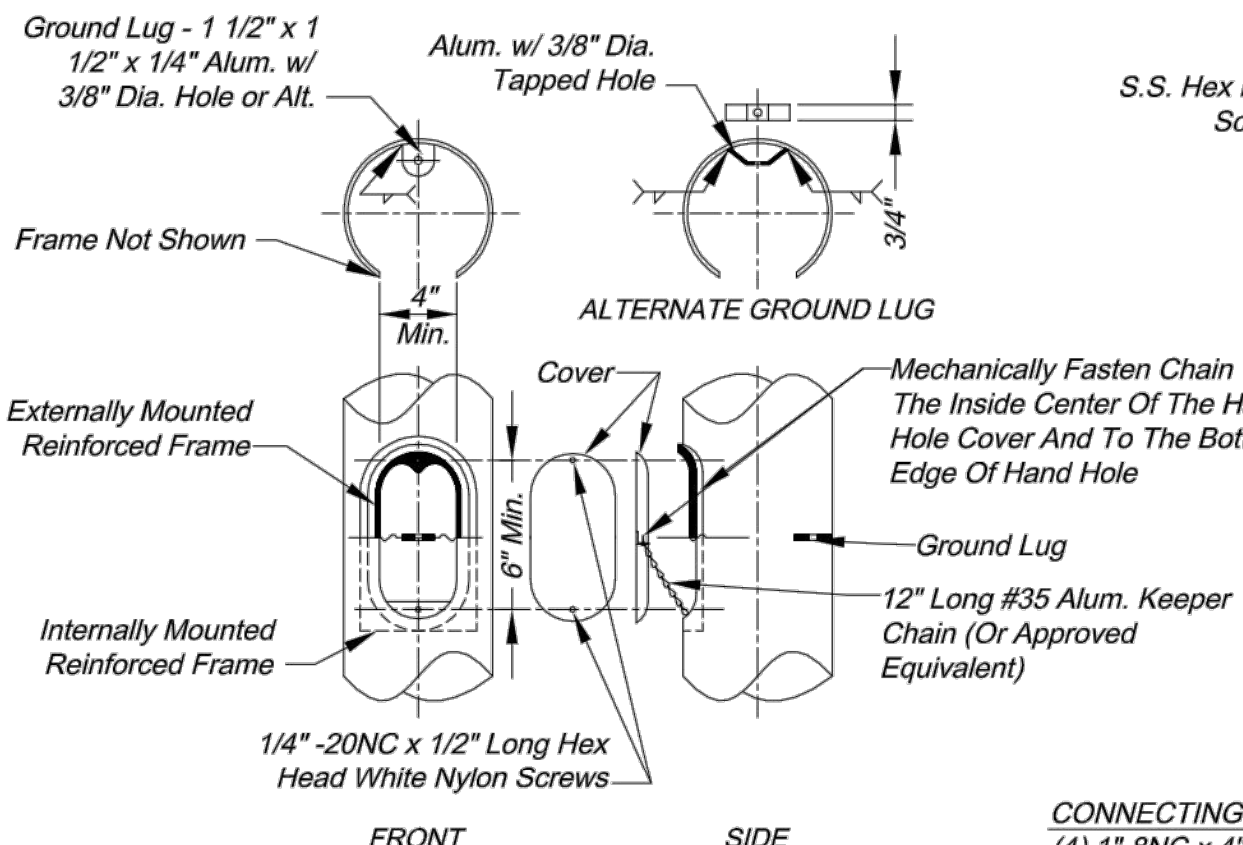


BRACKET ARM

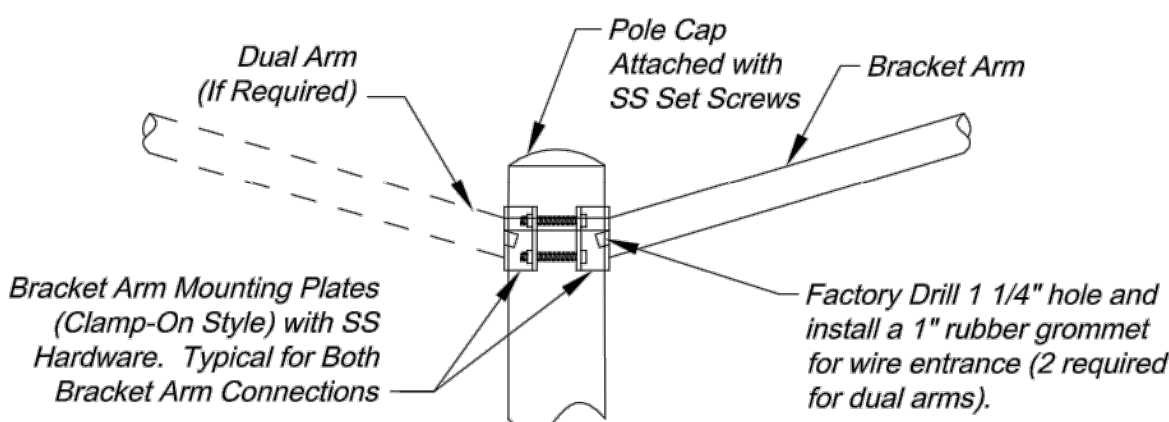
POLE ELEVATION
(See tables for dimensions and materials)



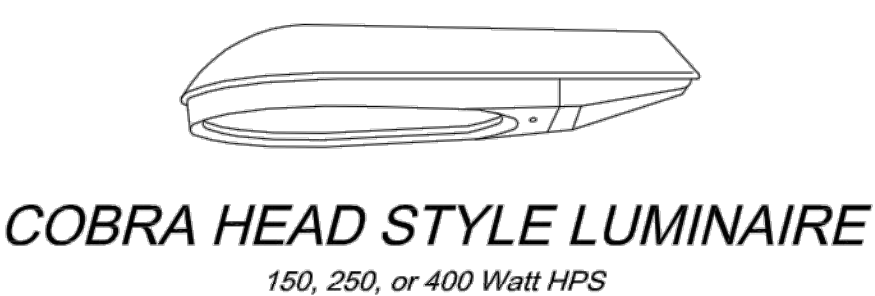
PEDESTAL POLE ELEVATION
(See tables for dimensions and materials)



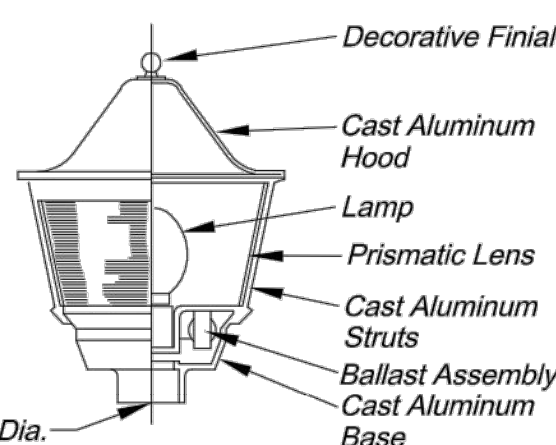
HAND HOLE



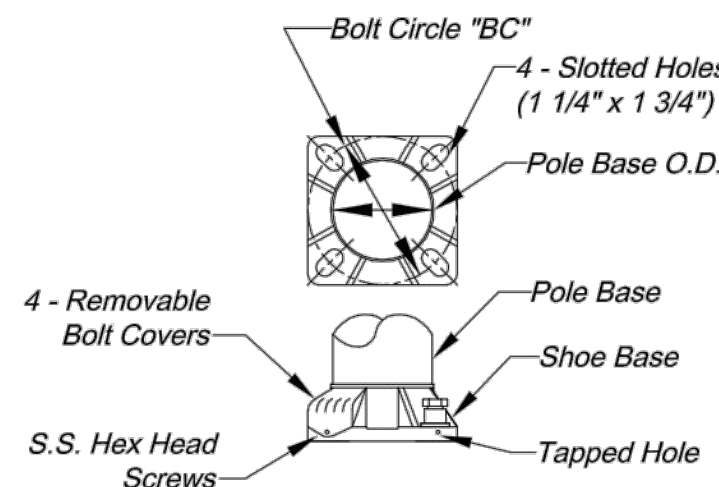
BRACKET ARM MOUNTING



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

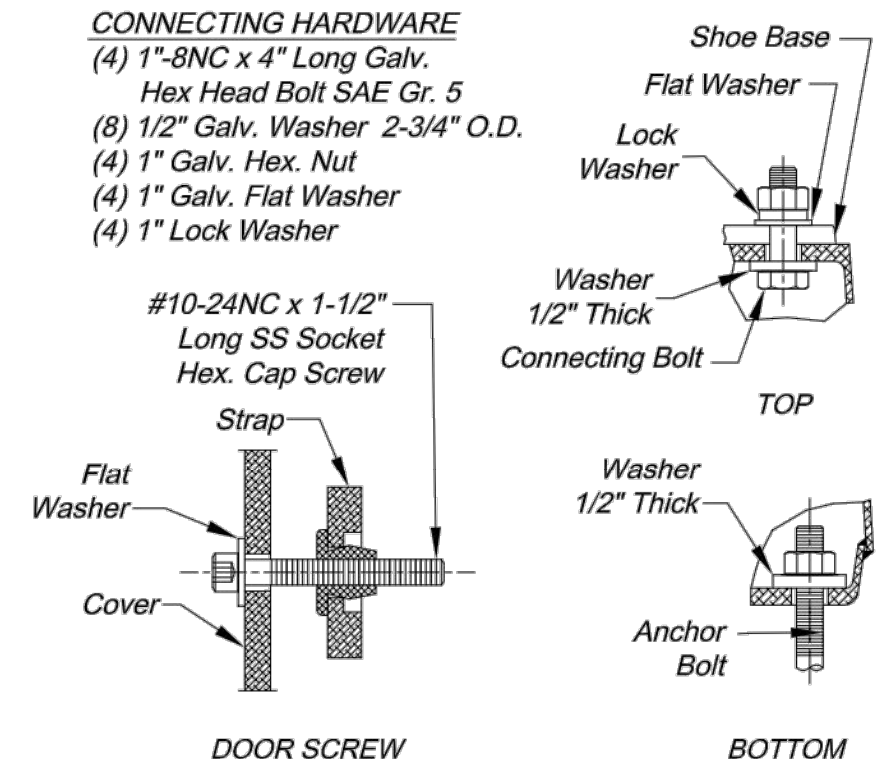


POST TOP LUMINAIRE
150 Watt HPS



SHOE BASE

- 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

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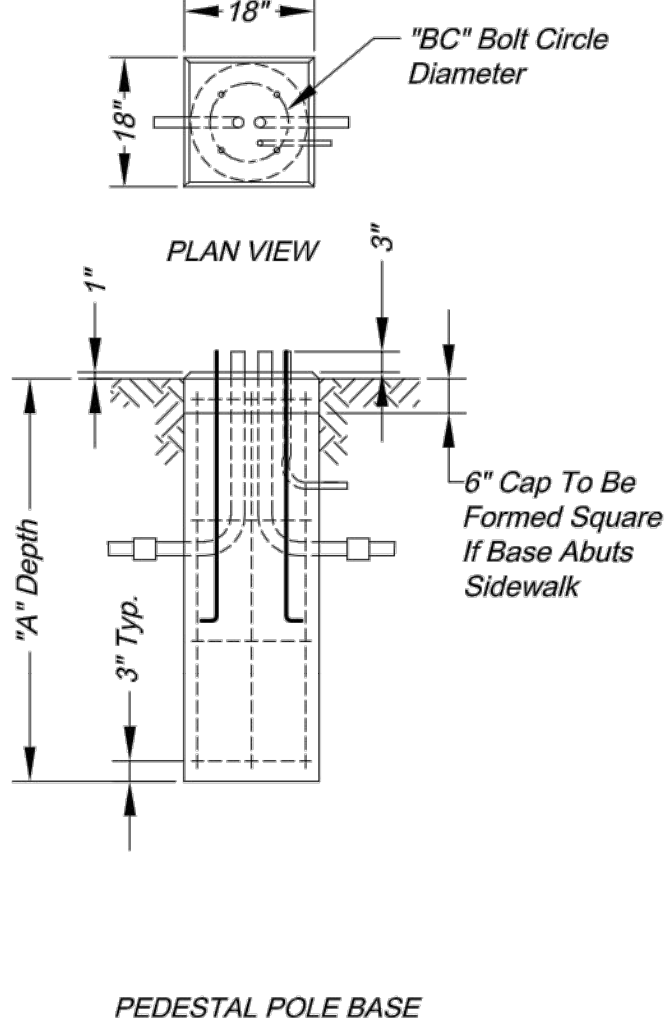
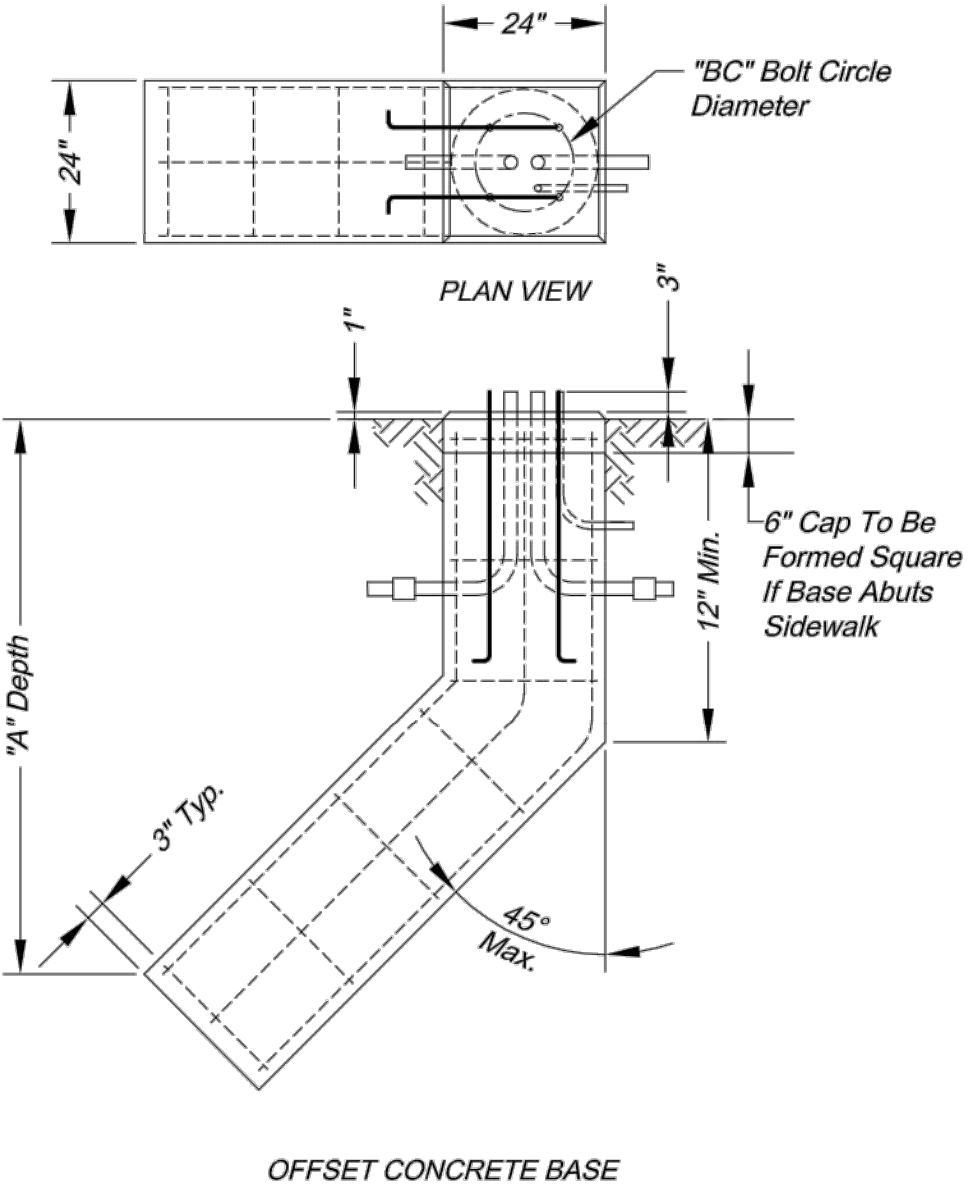
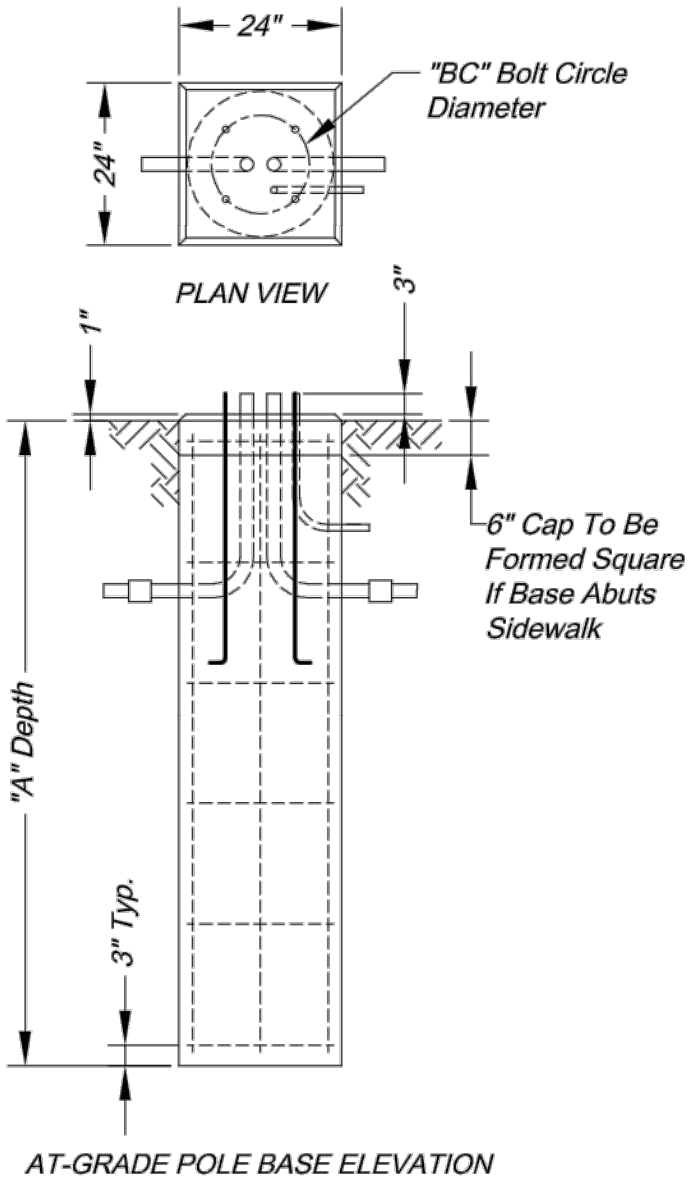
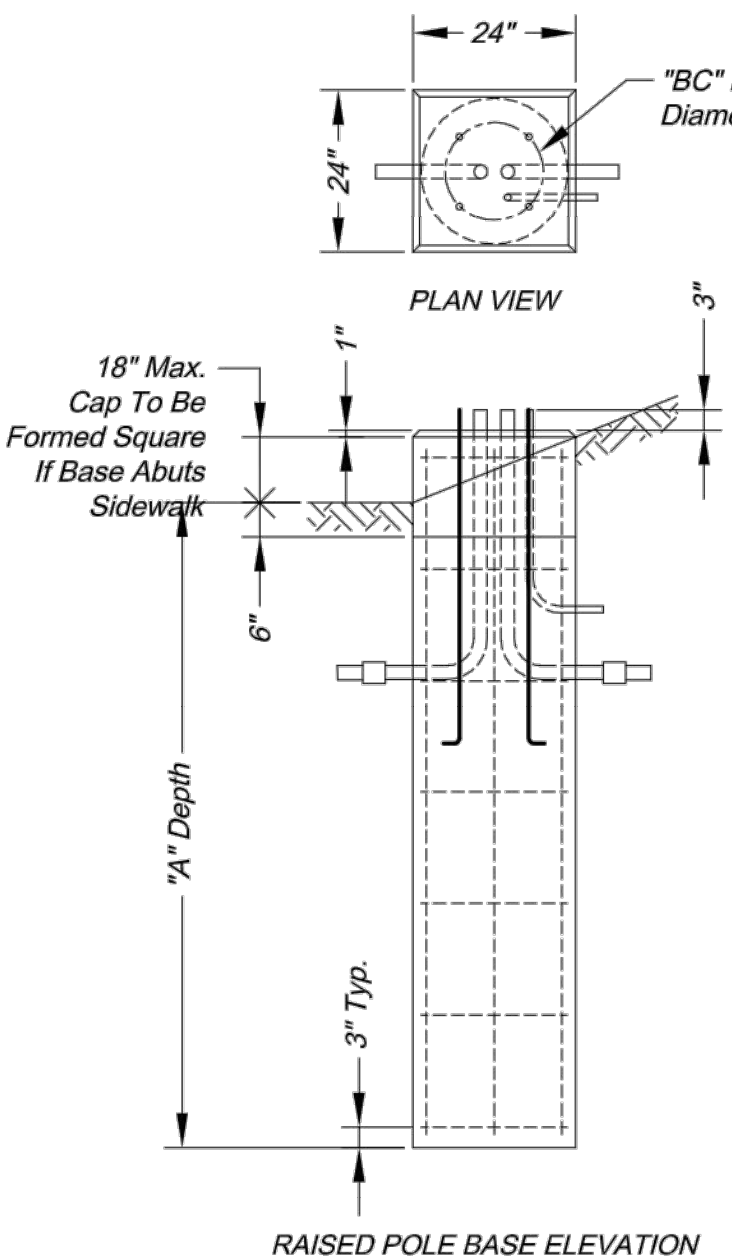
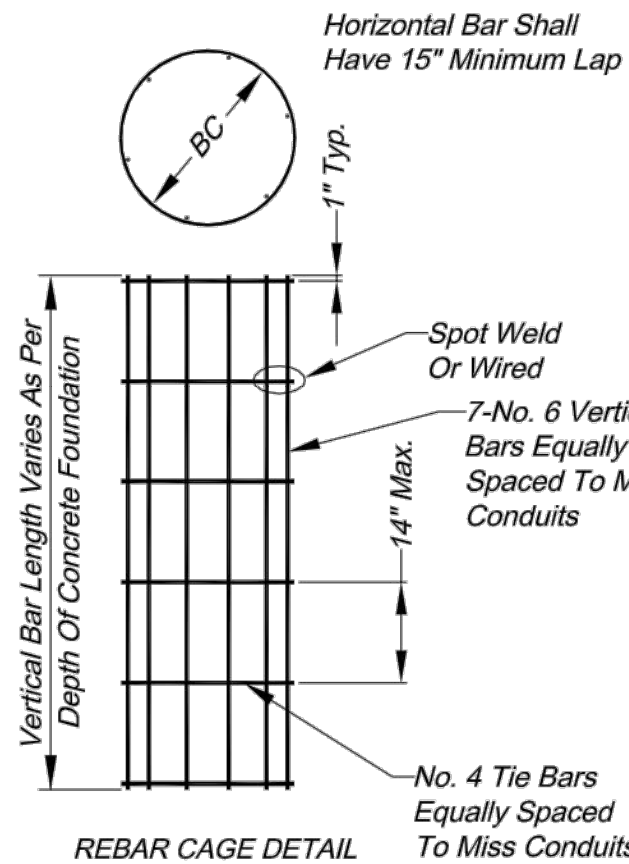
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DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
59	82

Christopher Novosel
Professional Engineer
License No. 2018024421

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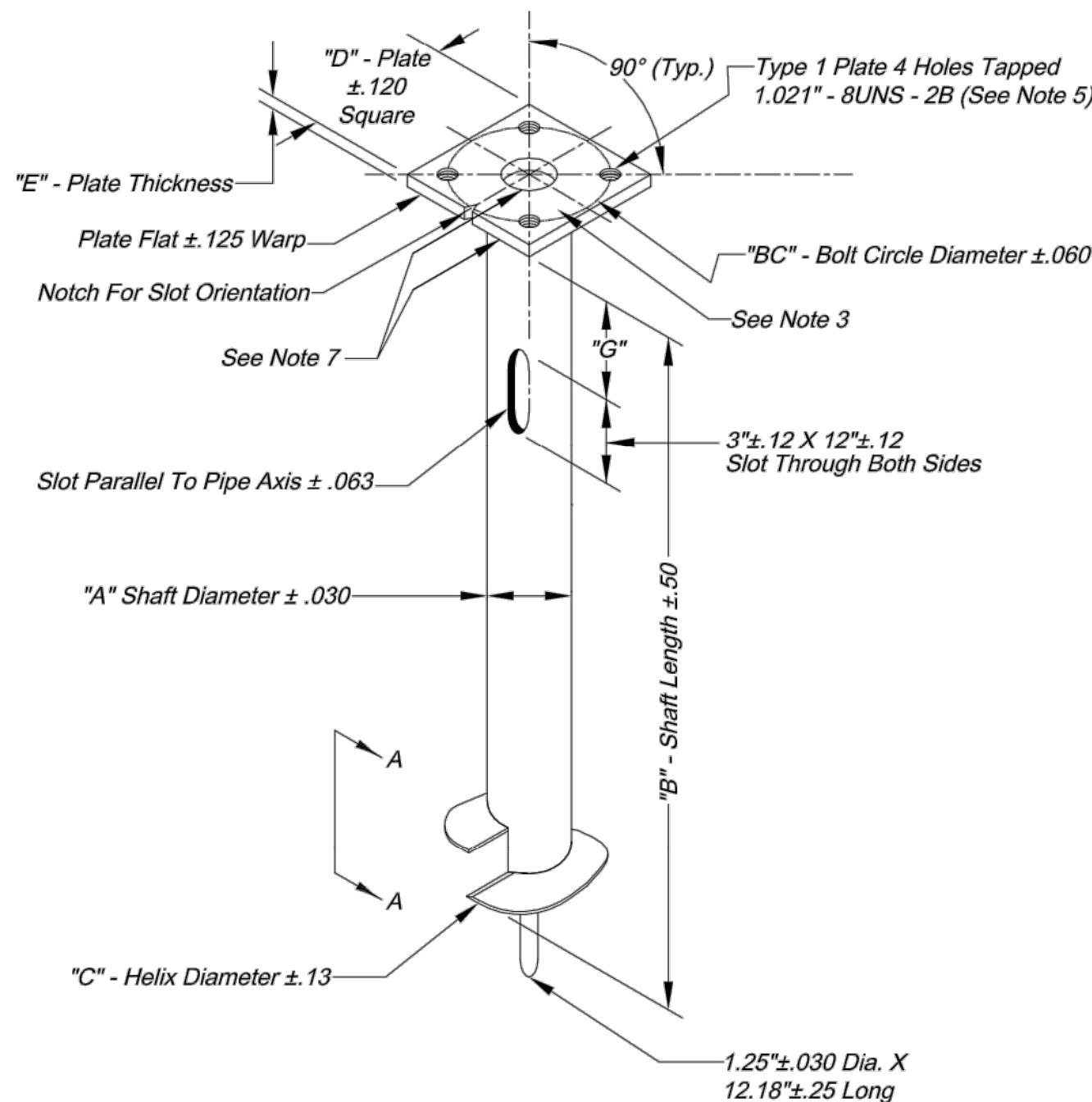
NO.	DATE	REVISIONS	BY	APPROVED

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"

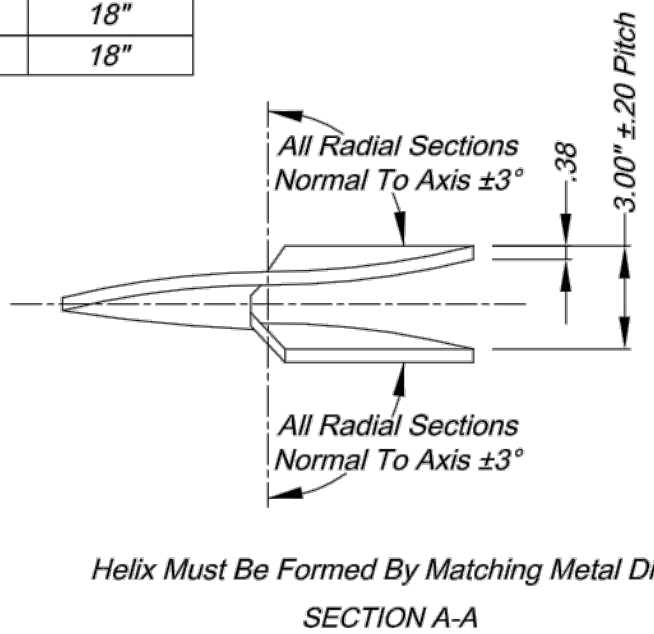


CONCRETE BASE DETAILS

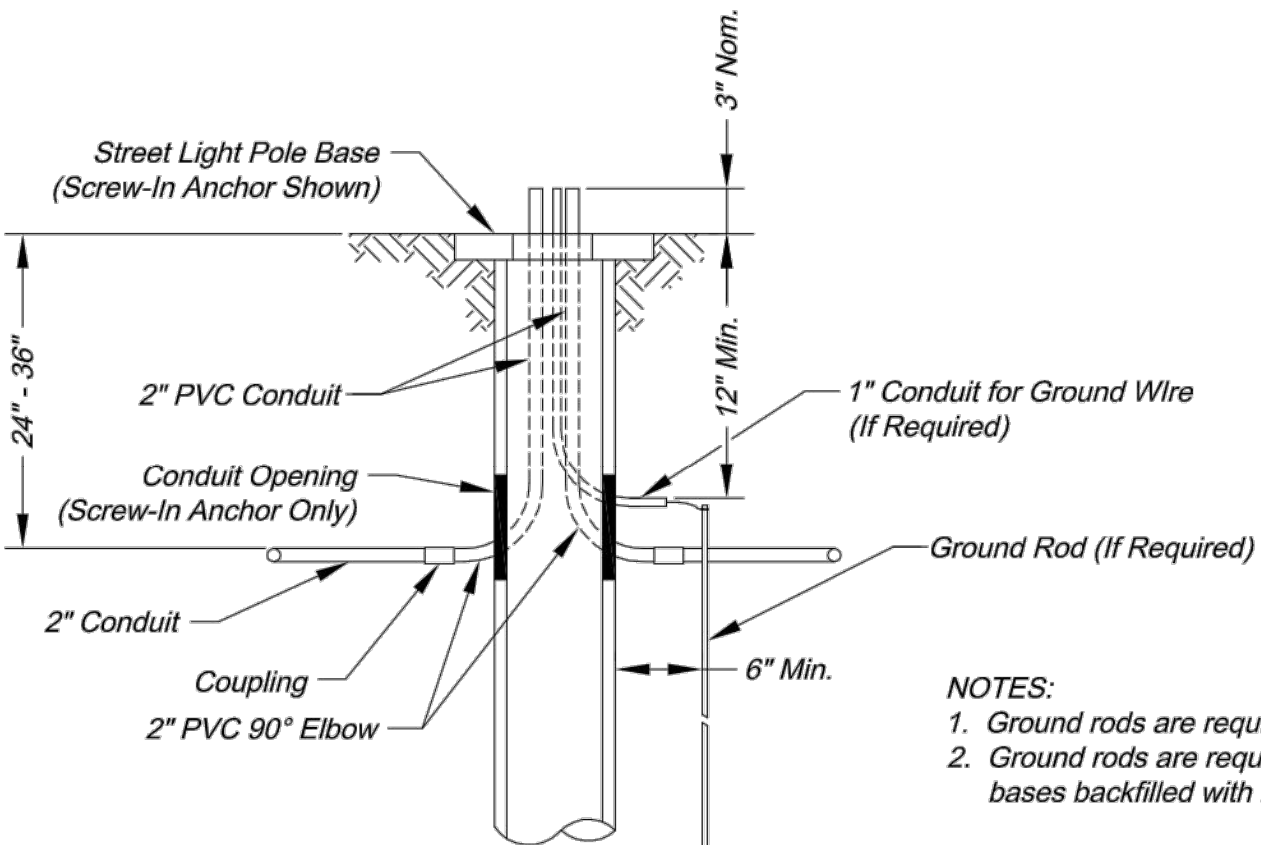
BASE TYPE	POLE TYPE	MINIMUM TORQUE RATING (lbs. ft.)	MAXIMUM TORQUE RATING (lbs. ft.)	SHAFT DIA. (A)	SHAFT LENGTH (B)	HELIX DIA. (C)	PLATE SIZE (D)	PLATE THICKNESS (E)	BOLT CIRCLE (BC)	SLOT LOCATION (G)
B14	P14	2,000	15,000	6"	48"	12"	10"	0.75"	9.5"	12"
B30	P30S & P30D	2,000	15,000	6"	60"	12"	12"	1.0"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



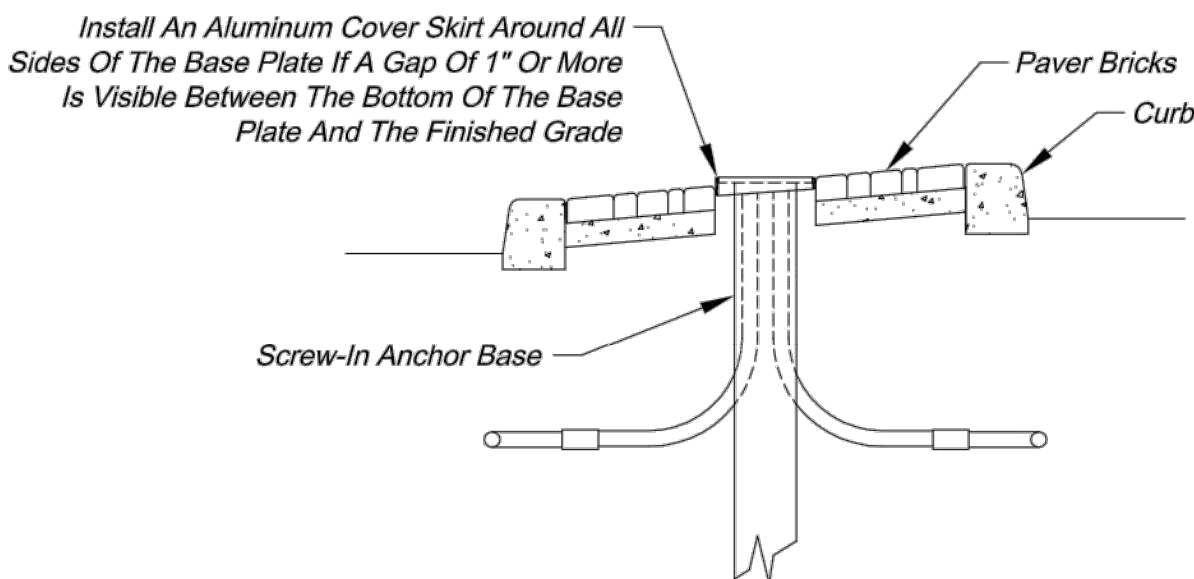
SCREW-IN ANCHOR BASE DETAILS



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



CONDUIT ENTRANCE AND GROUNDING



COVERSKIRT REQUIREMENTS

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



POLE BASE DETAILS

STANDARD DRAWING SL-2

Project:

Sheet Name:

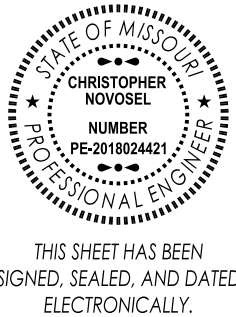
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2 OF 5

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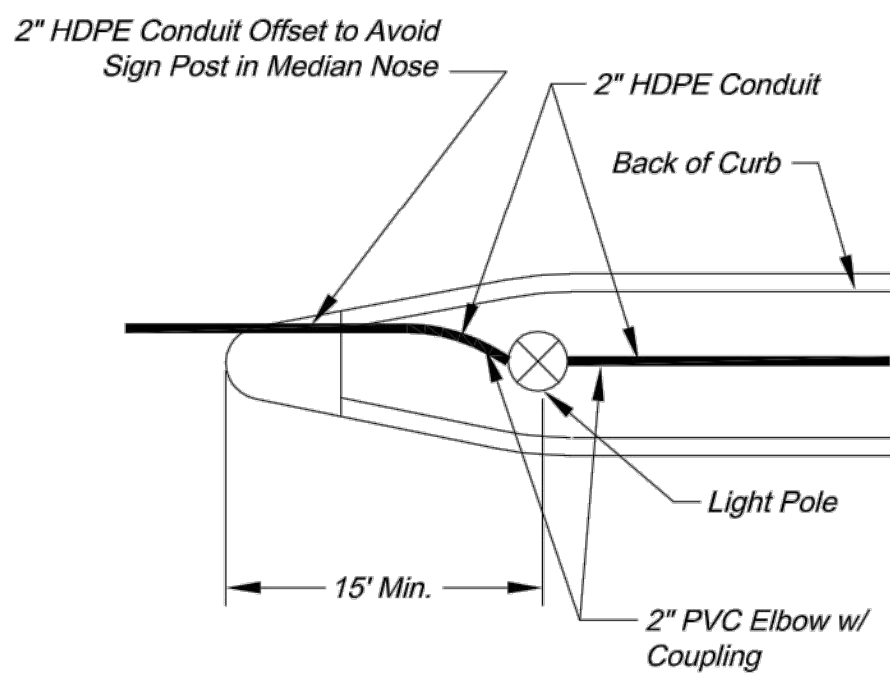
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SHEET NO.	TOTAL SHEETS
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Professional Engineer
License No. 2018024421

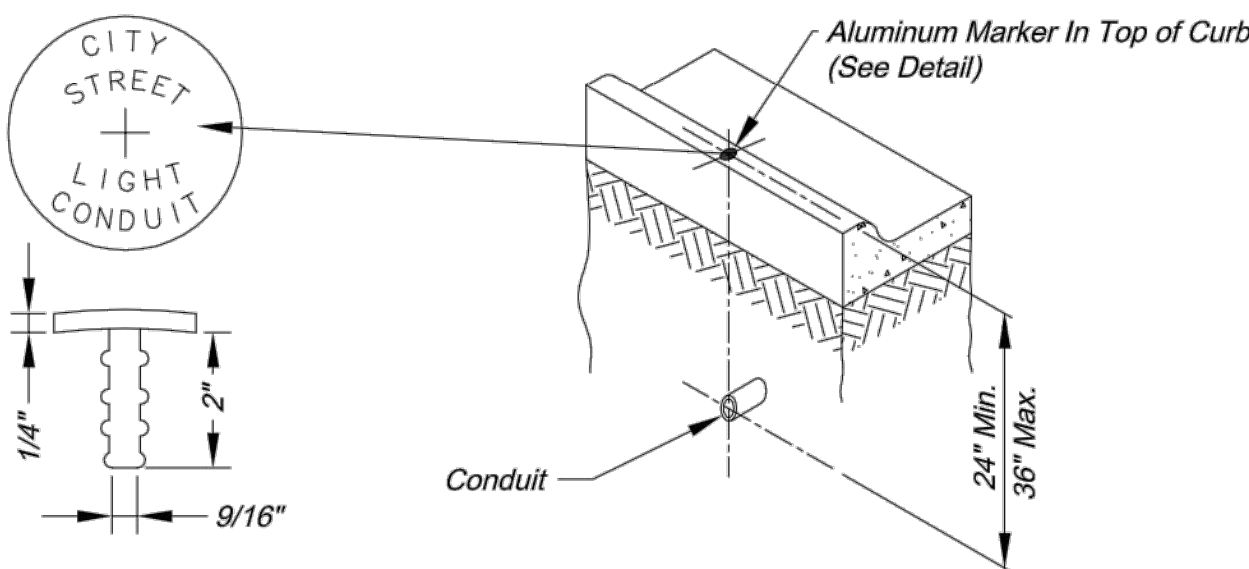
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Lee's Summit, Missouri

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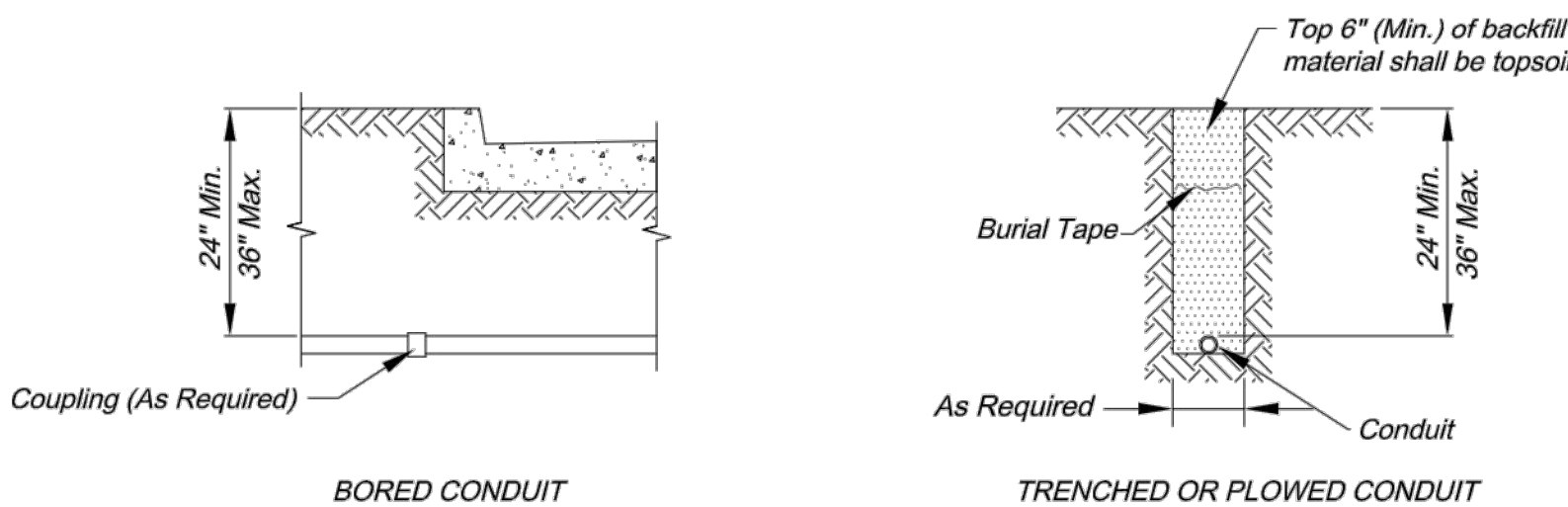


STREET LIGHT POLE
IN MEDIAN



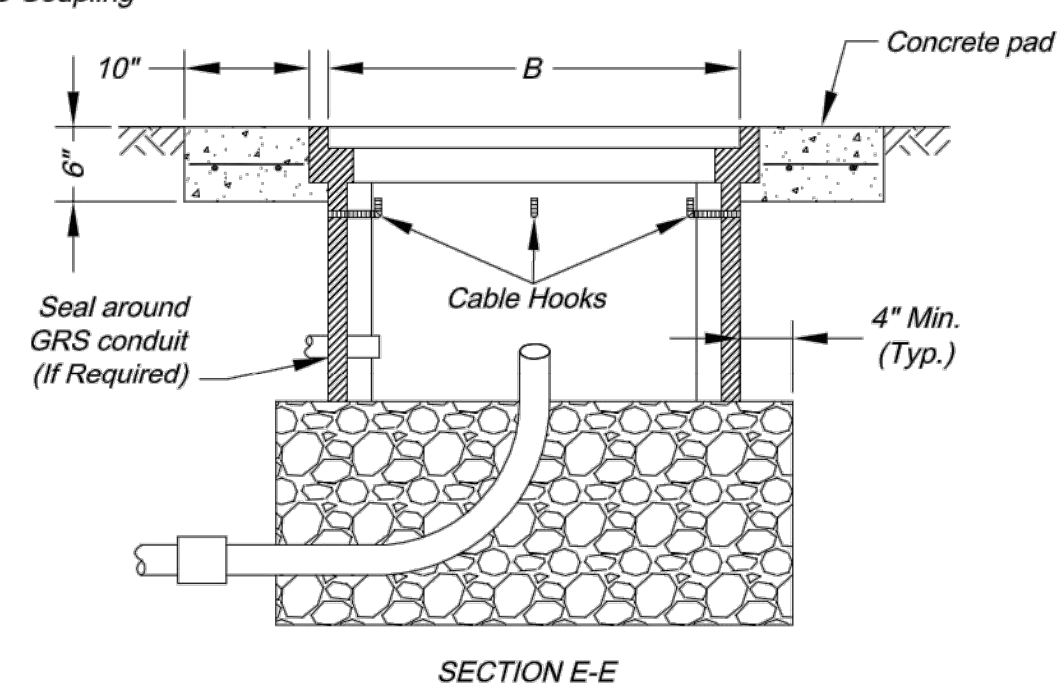
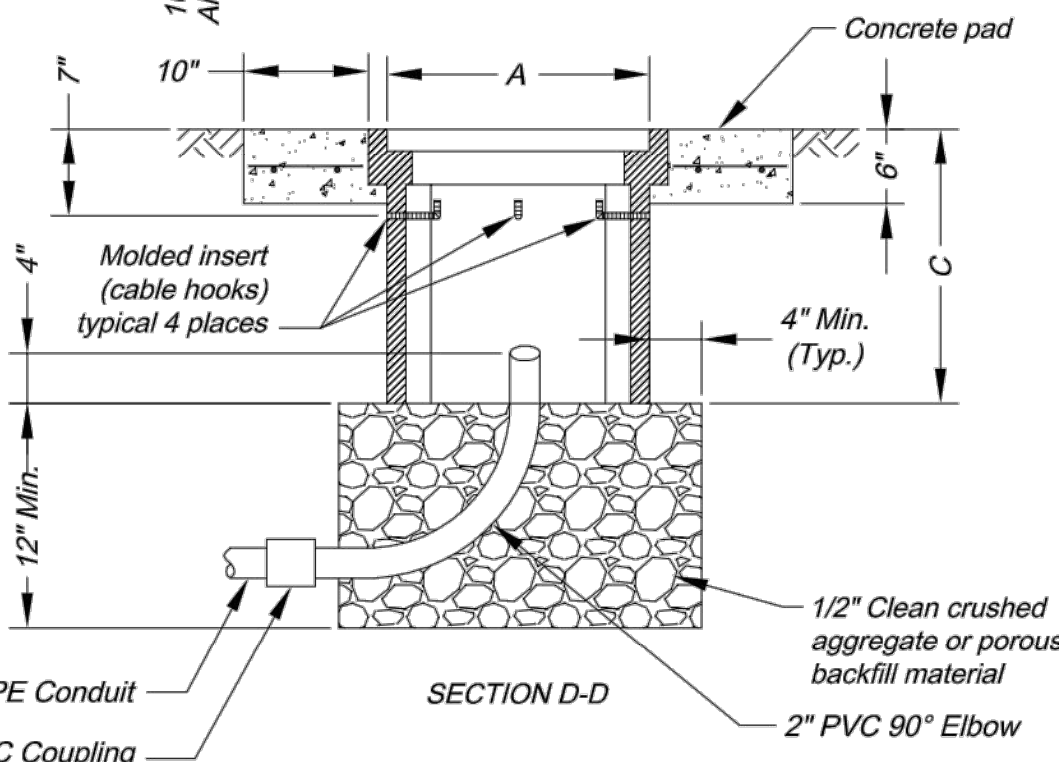
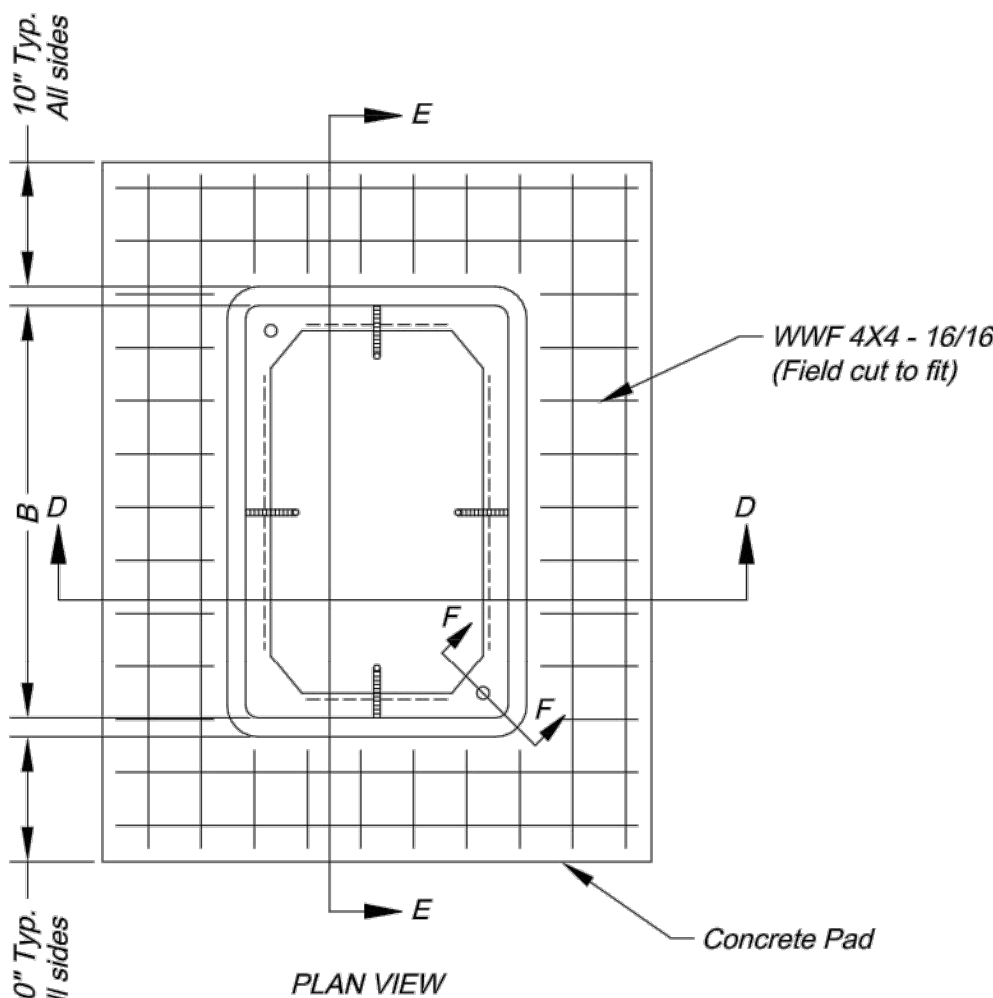
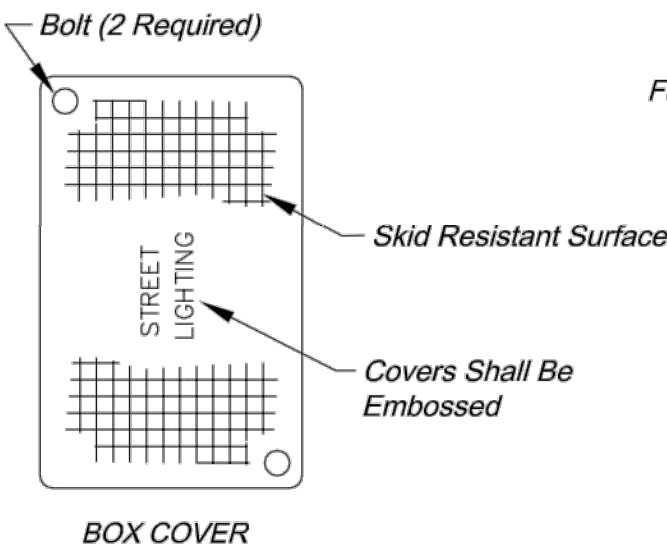
CONDUIT MARKING DETAIL

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

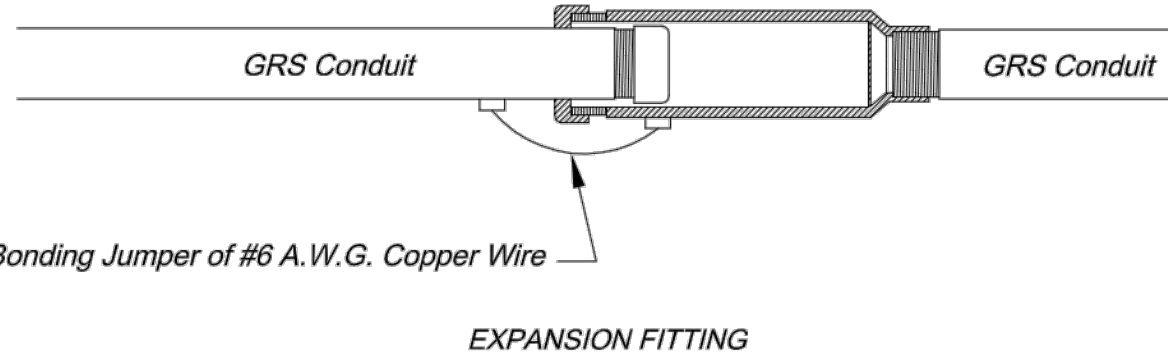
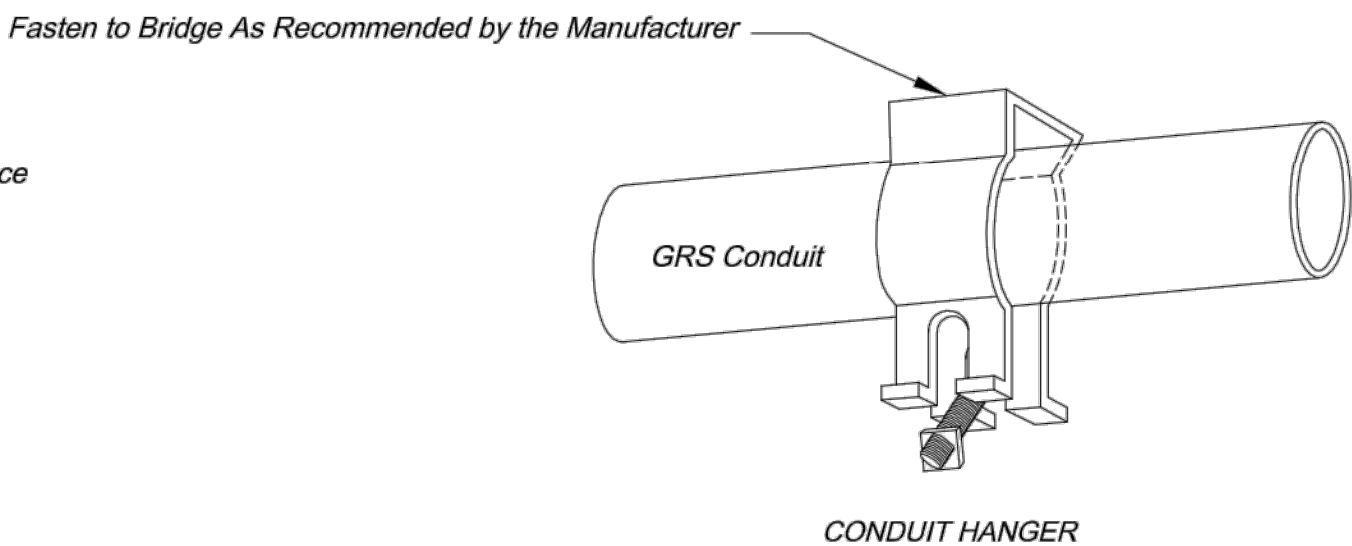


CONDUIT LOCATIONS

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



PULL OR JUNCTION BOX DETAILS

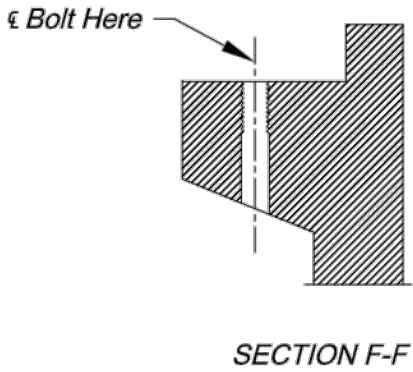


GRS CONDUIT DETAILS

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

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

All dimensions shown are nominal



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

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BOX AND CONDUIT DETAILS

STANDARD DRAWING SL-3

Project:

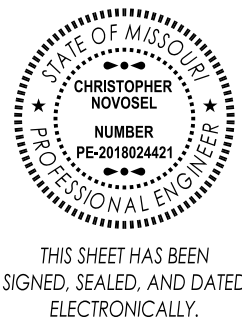
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Drawn By: JH
Checked By: JW
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3 OF 5

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Lee's Summit Street Lighting Details 4 of 5



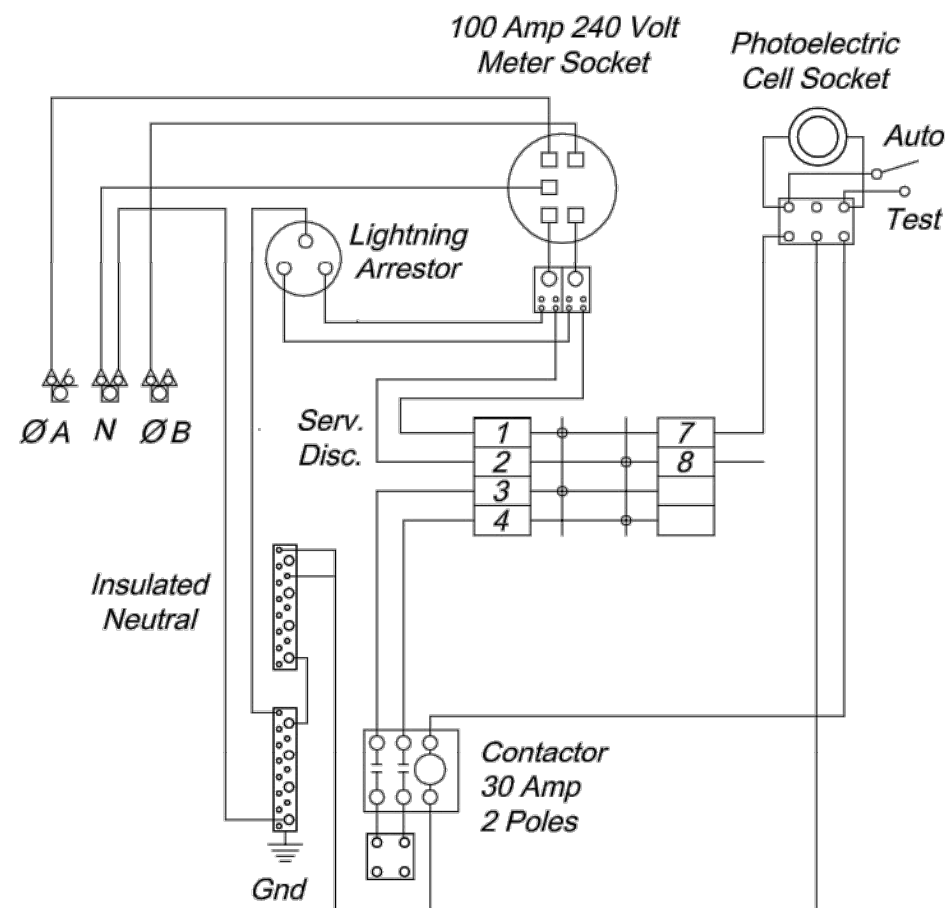
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DATE:	4-2-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
61	82

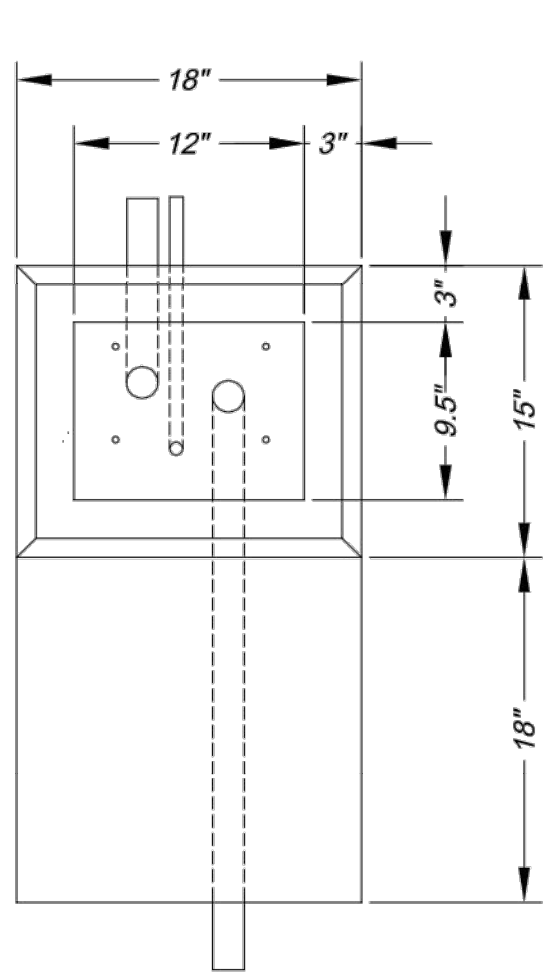
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License No. 2018024421

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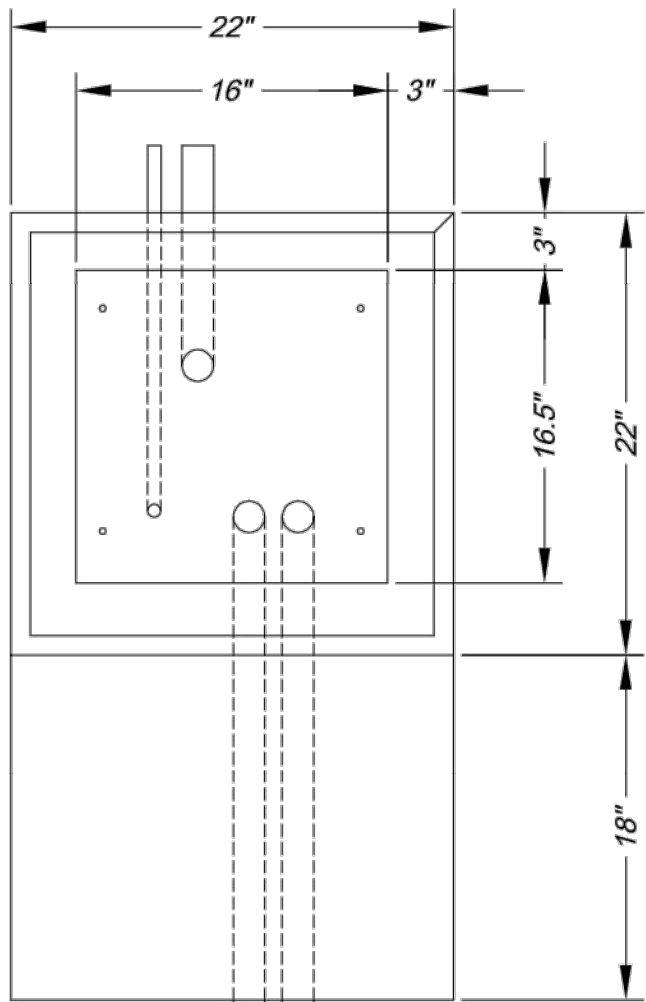


WIRING SCHEMATIC

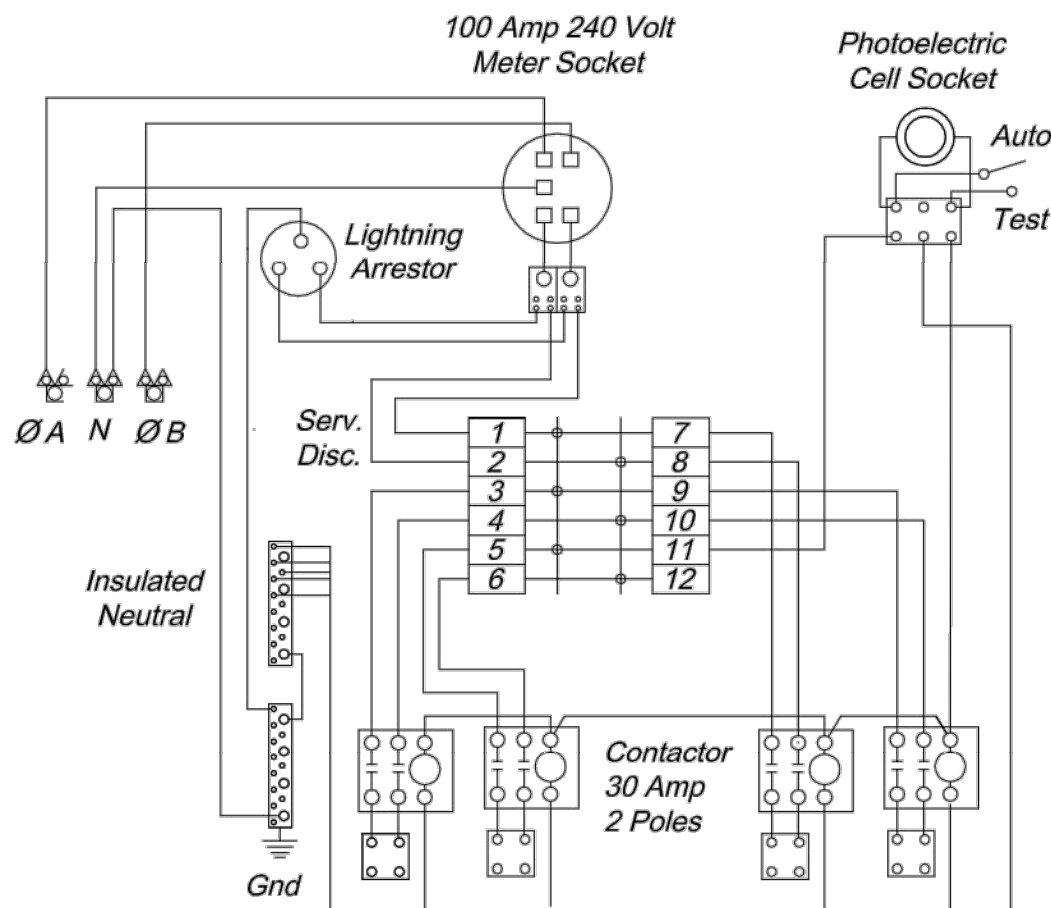


PLAN VIEW

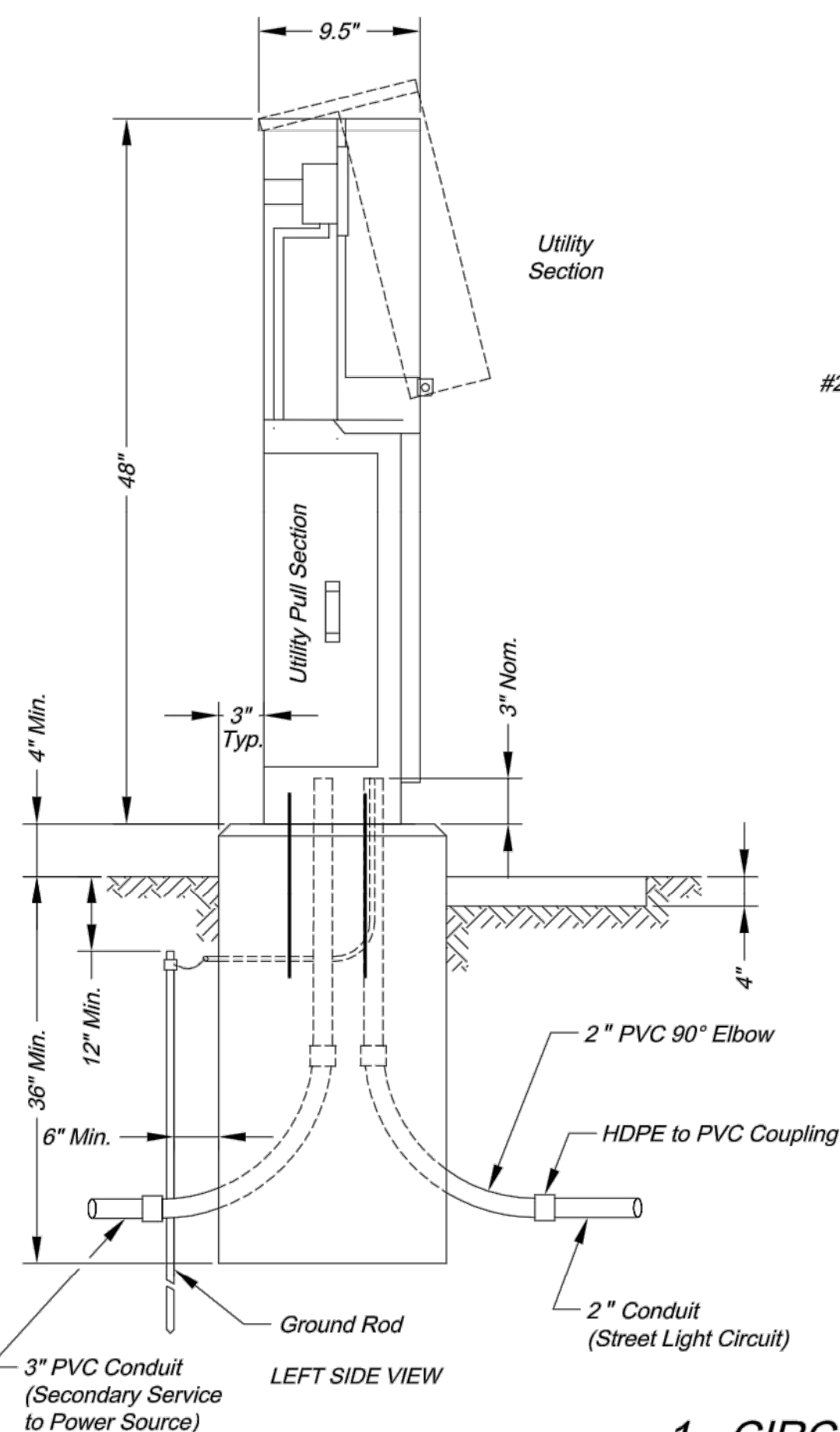
FUSED CONTACTORS
ARE NOT PERMITTED



PLAN VIEW

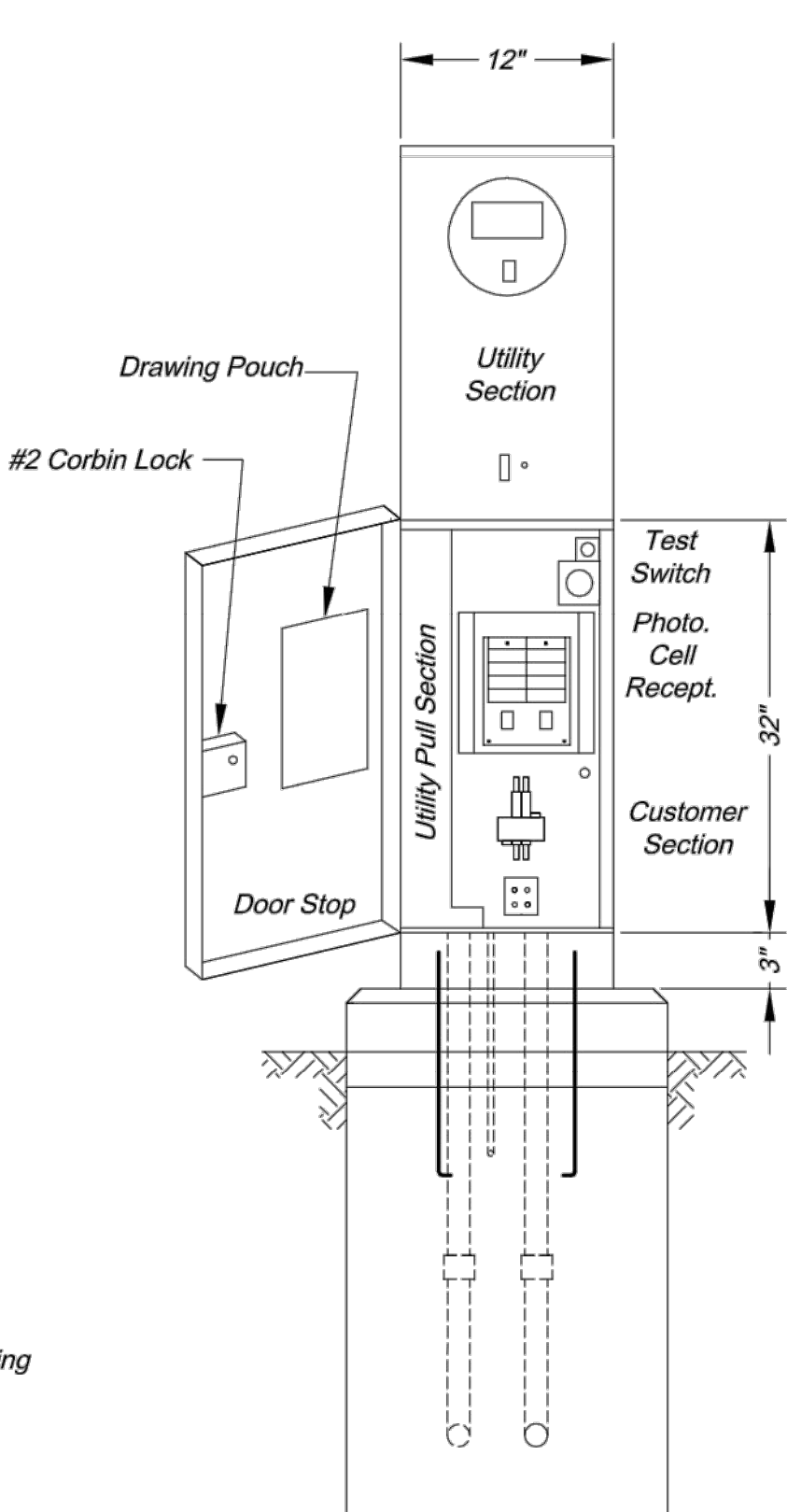


WIRING SCHEMATIC



LEFT SIDE VIEW

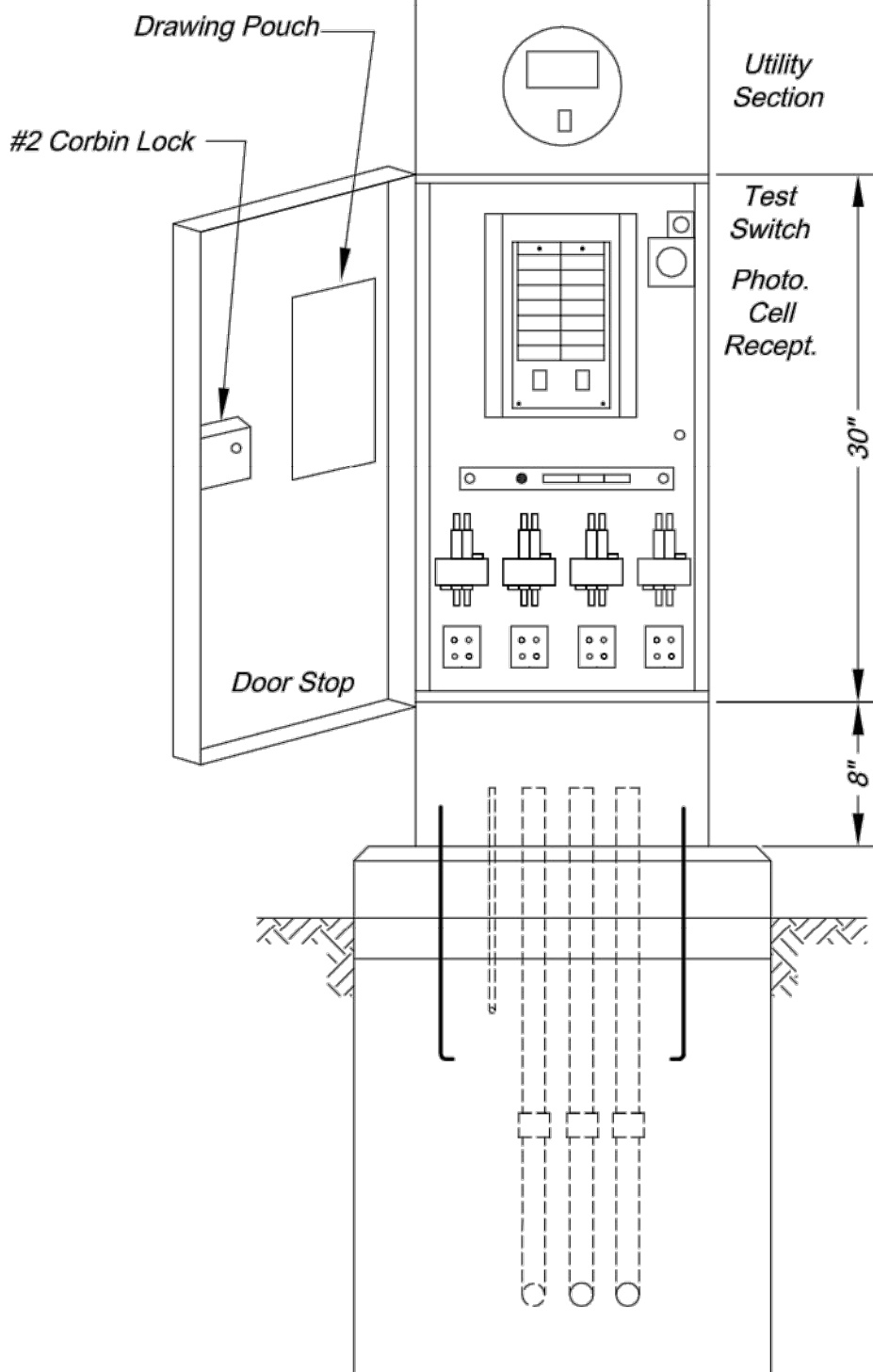
1 - CIRCUIT
POWER SUPPLY



FRONT VIEW

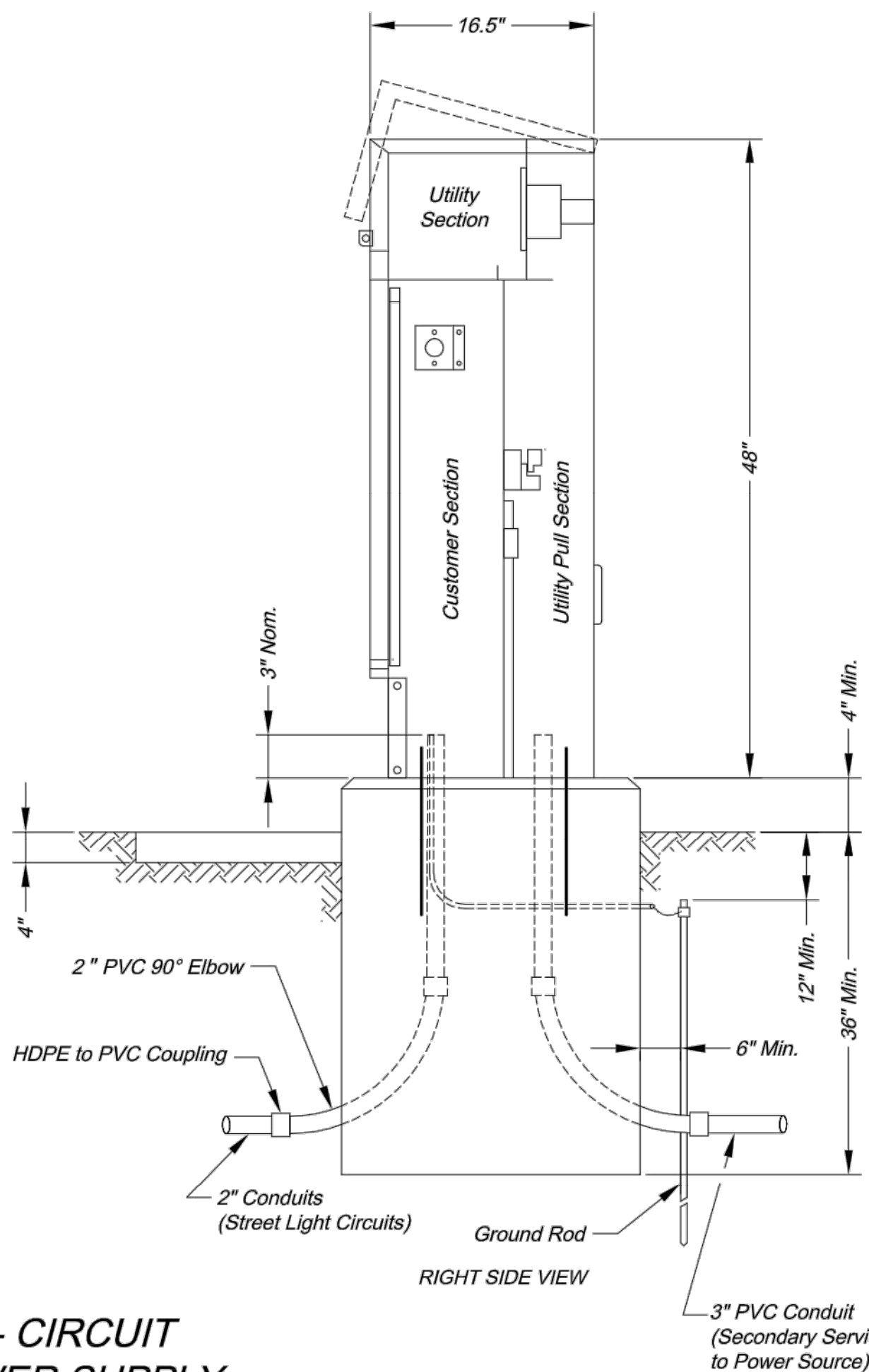
NOTES:

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.



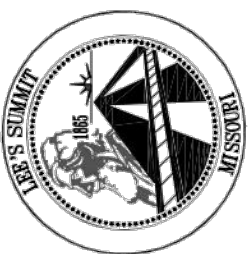
FRONT VIEW

4 - CIRCUIT
POWER SUPPLY



RIGHT SIDE VIEW

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POWER SUPPLY DETAILS

STANDARD DRAWING SL-4

Project:

Street Name:

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

4 OF 5

4

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STATE OF MISSOURI

CHRISTOPHER NOVOSSEL

REGISTERED PROFESSIONAL ENGINEER

NUMBER PE-001806404

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Professional Engineer
License No. 2018024421

DATE: 4-2-2020

DESIGN BY: DJM

DRAWN BY: CMN

PROJECT NO.: 12720

SHEET NO. 62

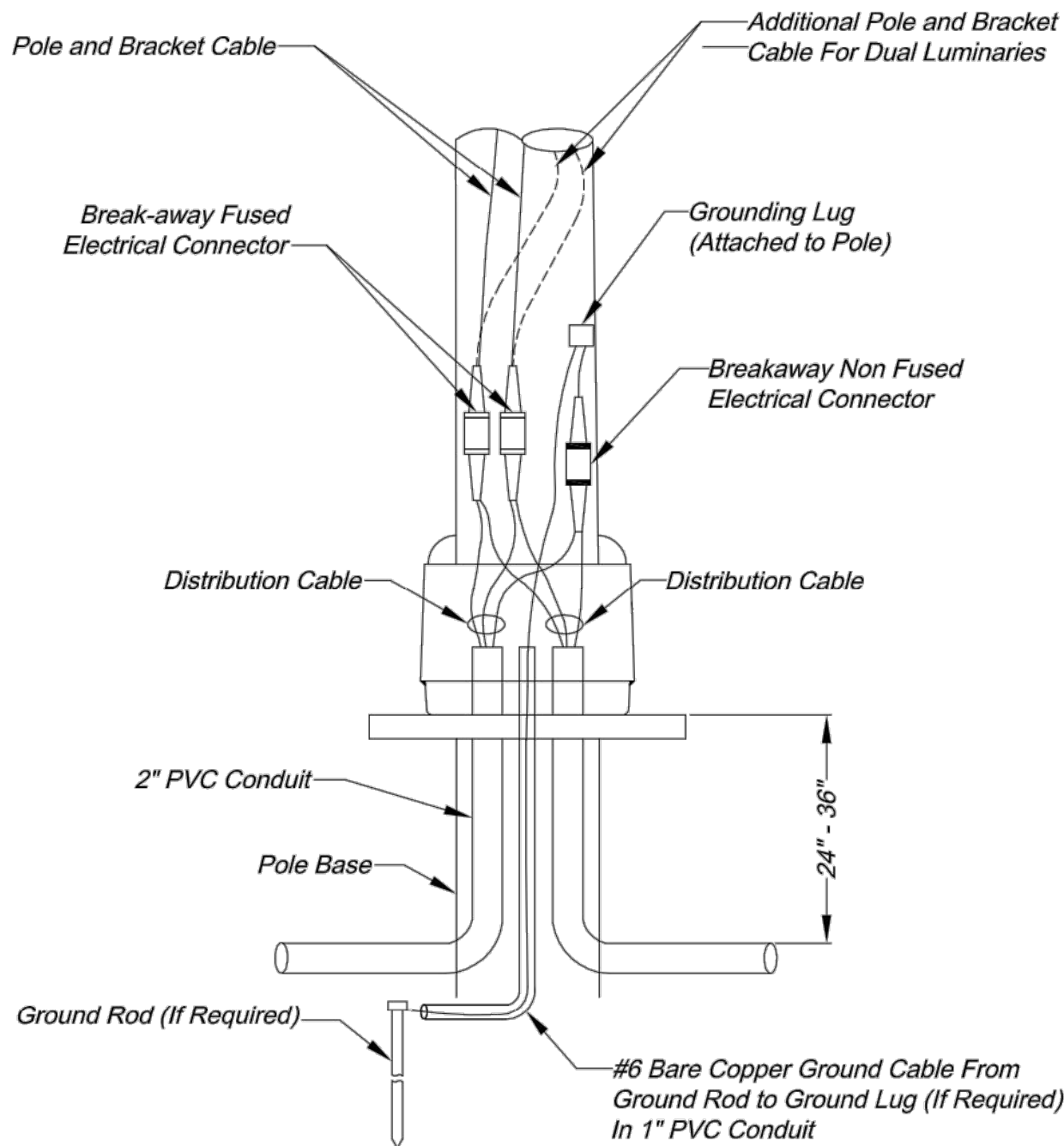
TOTAL SHEETS 82

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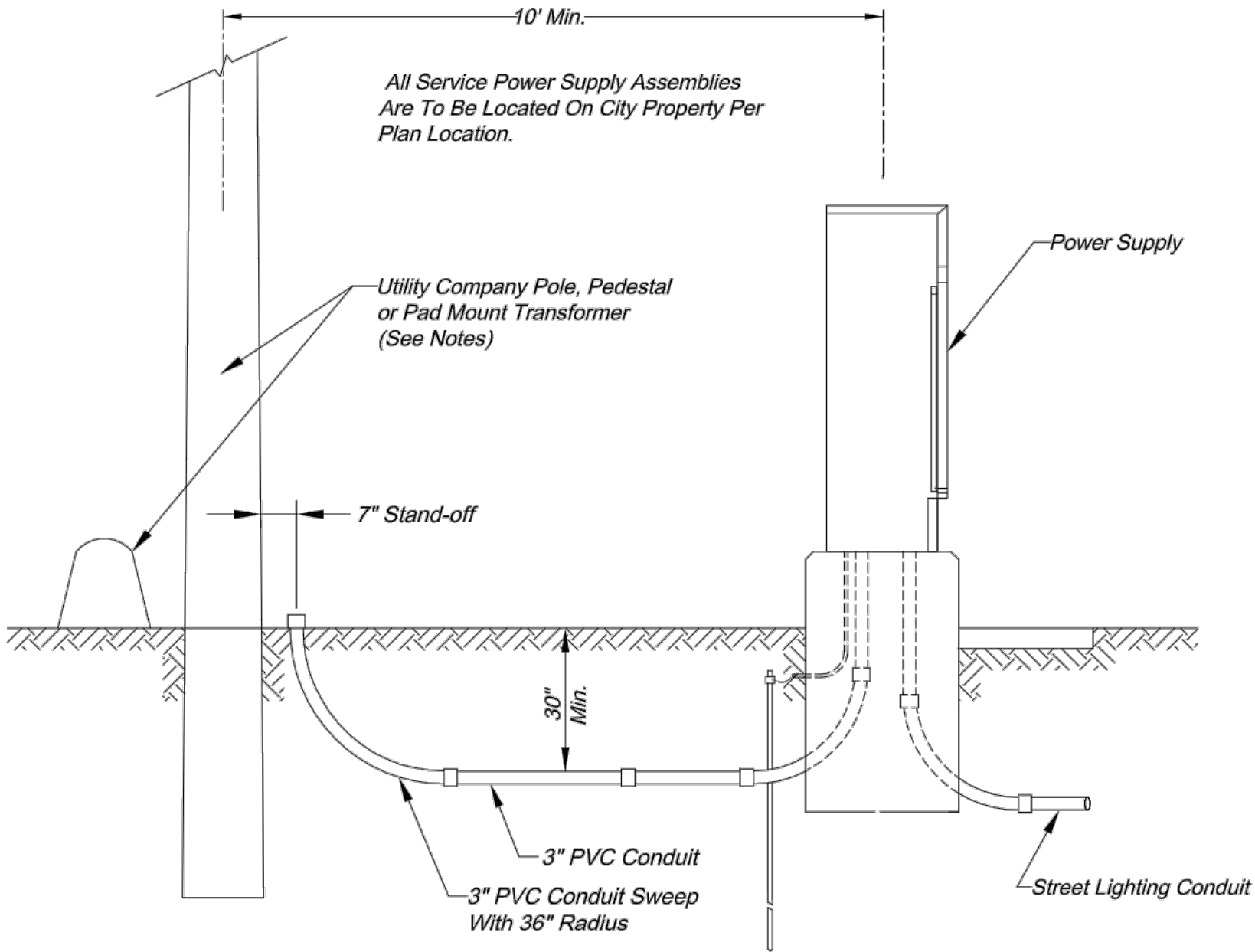
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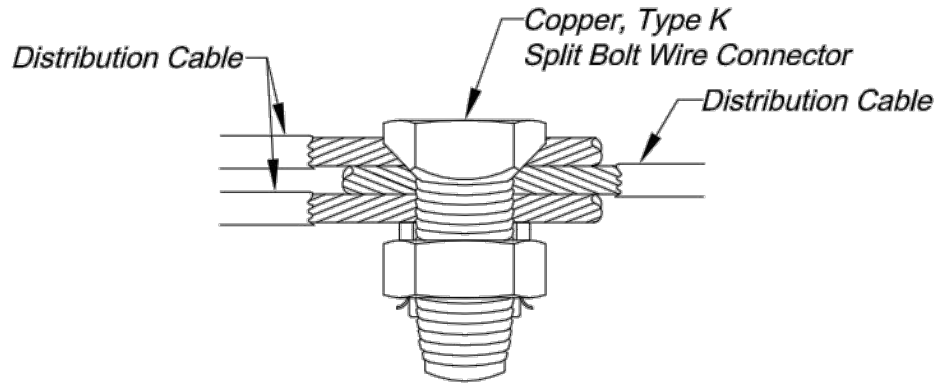


POLE WIRING DETAILS



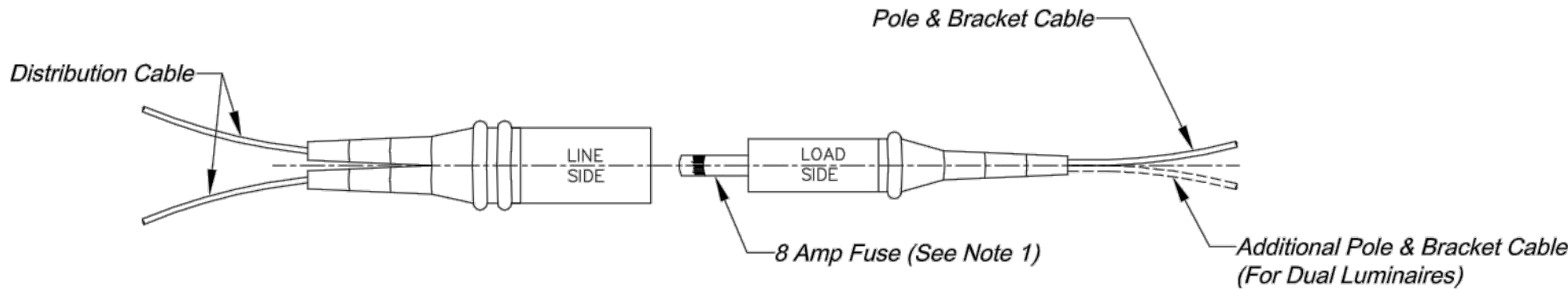
SECONDARY SERVICE CONNECTION DETAILS

- 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.

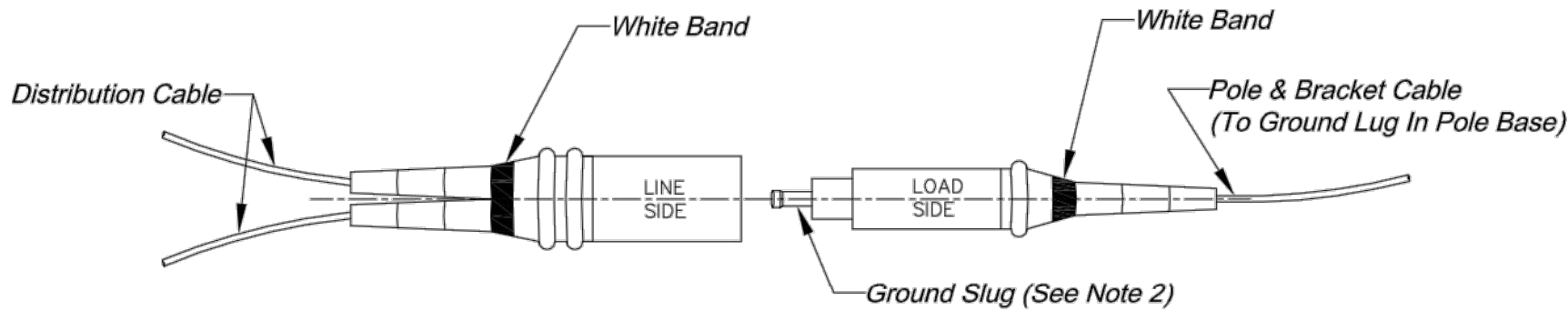


SPLICE KIT DETAILS

- 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.

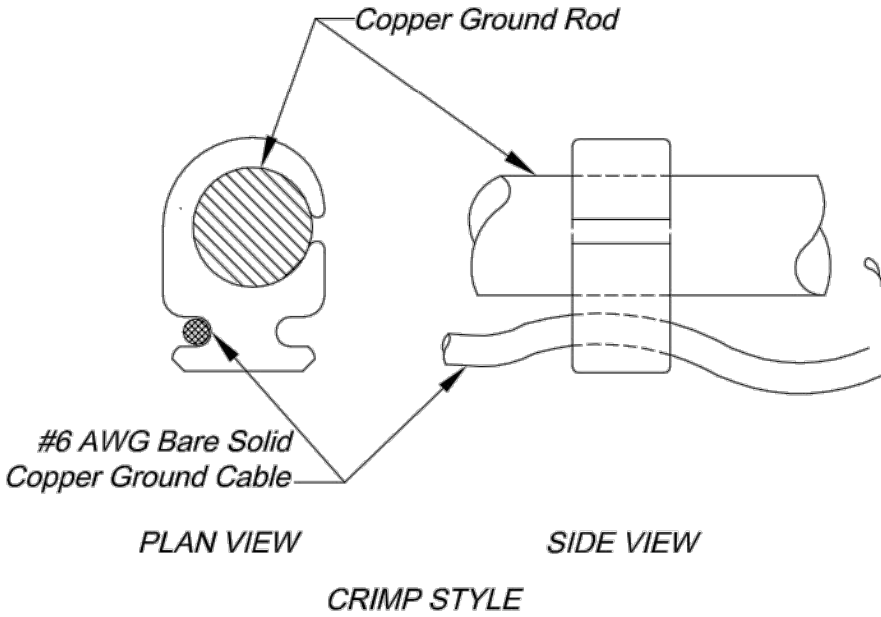
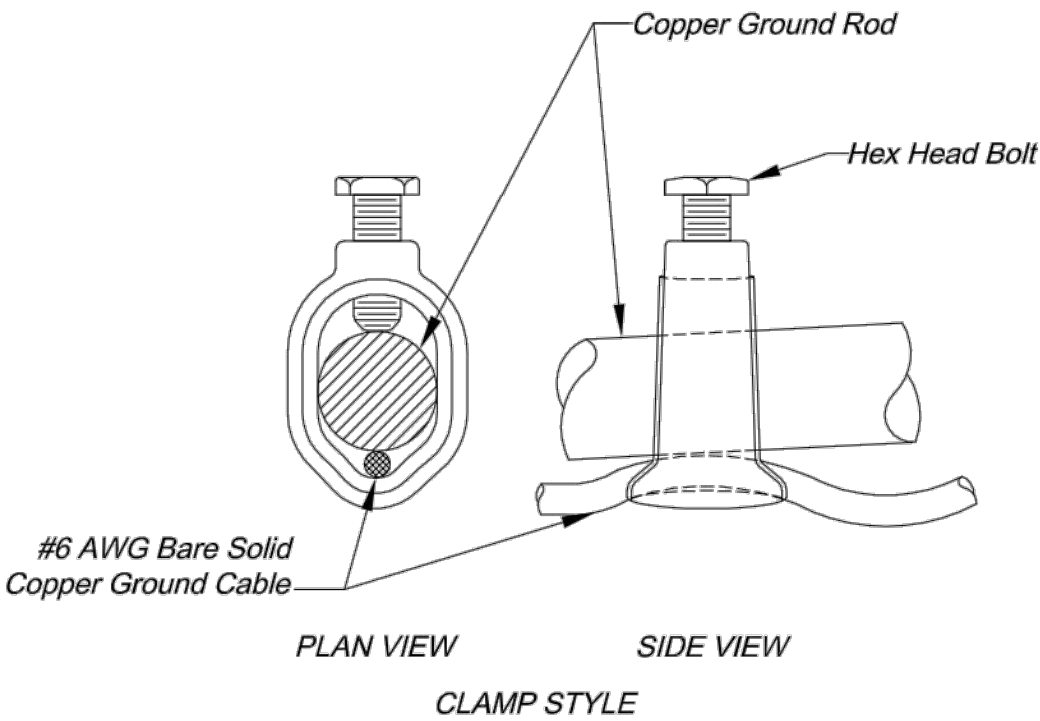


BREAK-AWAY FUSED ELECTRICAL CONNECTORS



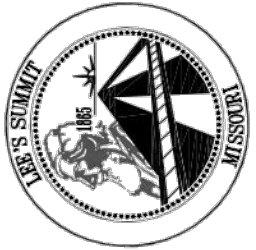
BREAK-AWAY NON FUSED ELECTRICAL CONNECTOR

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



GROUND ROD CONNECTION DETAILS

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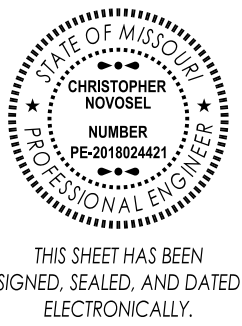
ELECTRICAL DETAILS
STANDARD DRAWING SL-5

Project:

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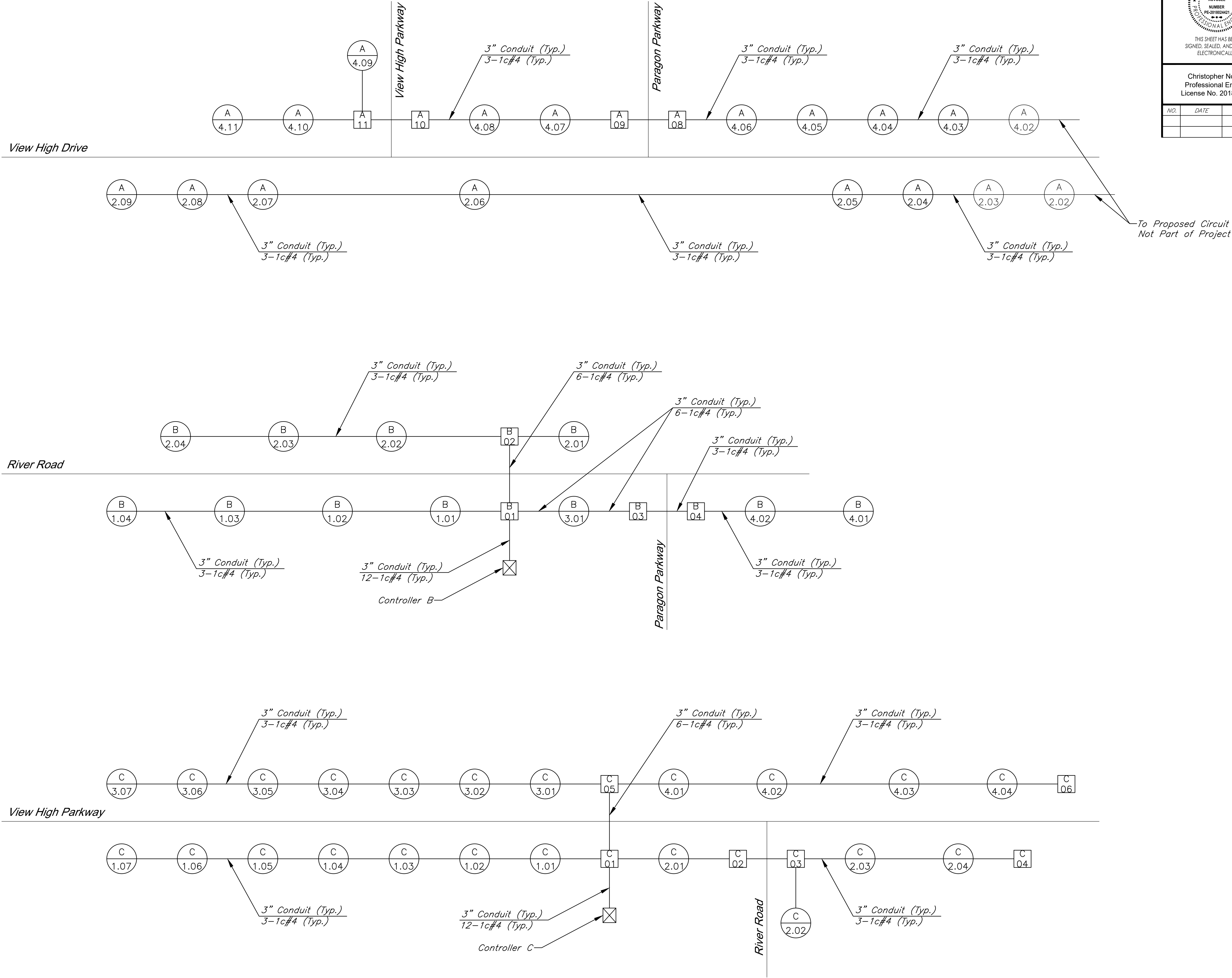
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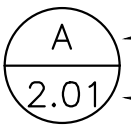
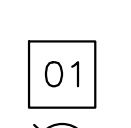
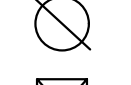
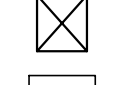
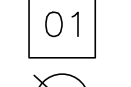
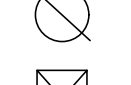
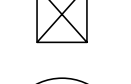
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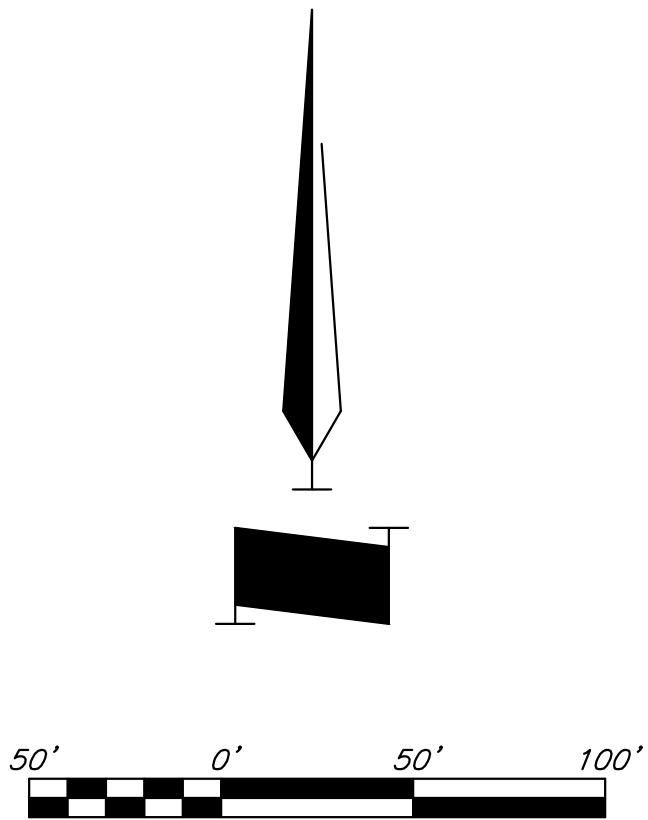
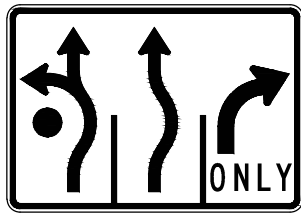
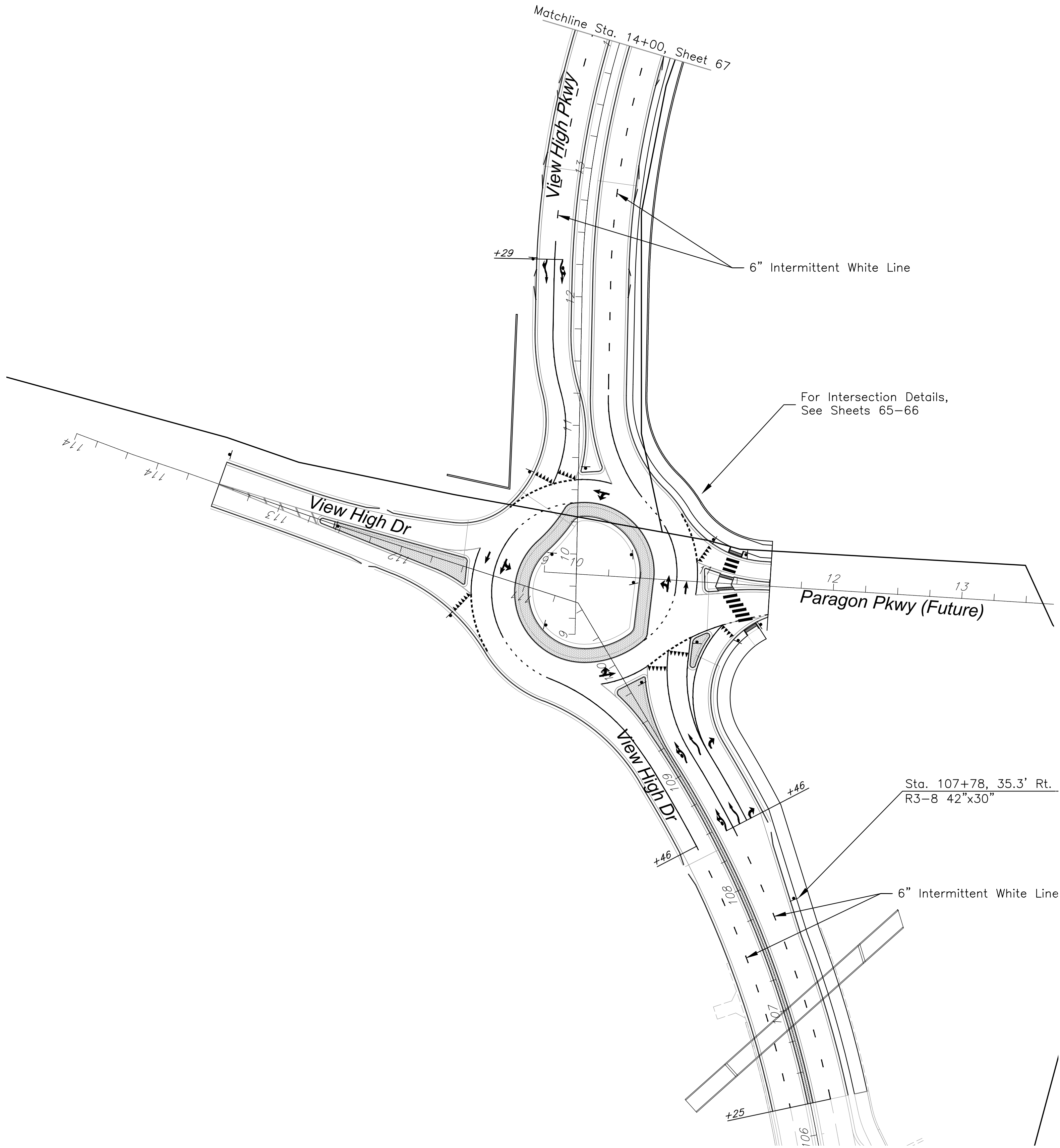


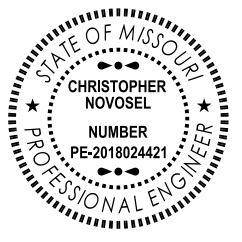
LEGEND

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

Street Lighting Wiring Diagram

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Pavement Marking & Signing Plan View High Drive



Pavement Marking & Signing Plan View High Drive



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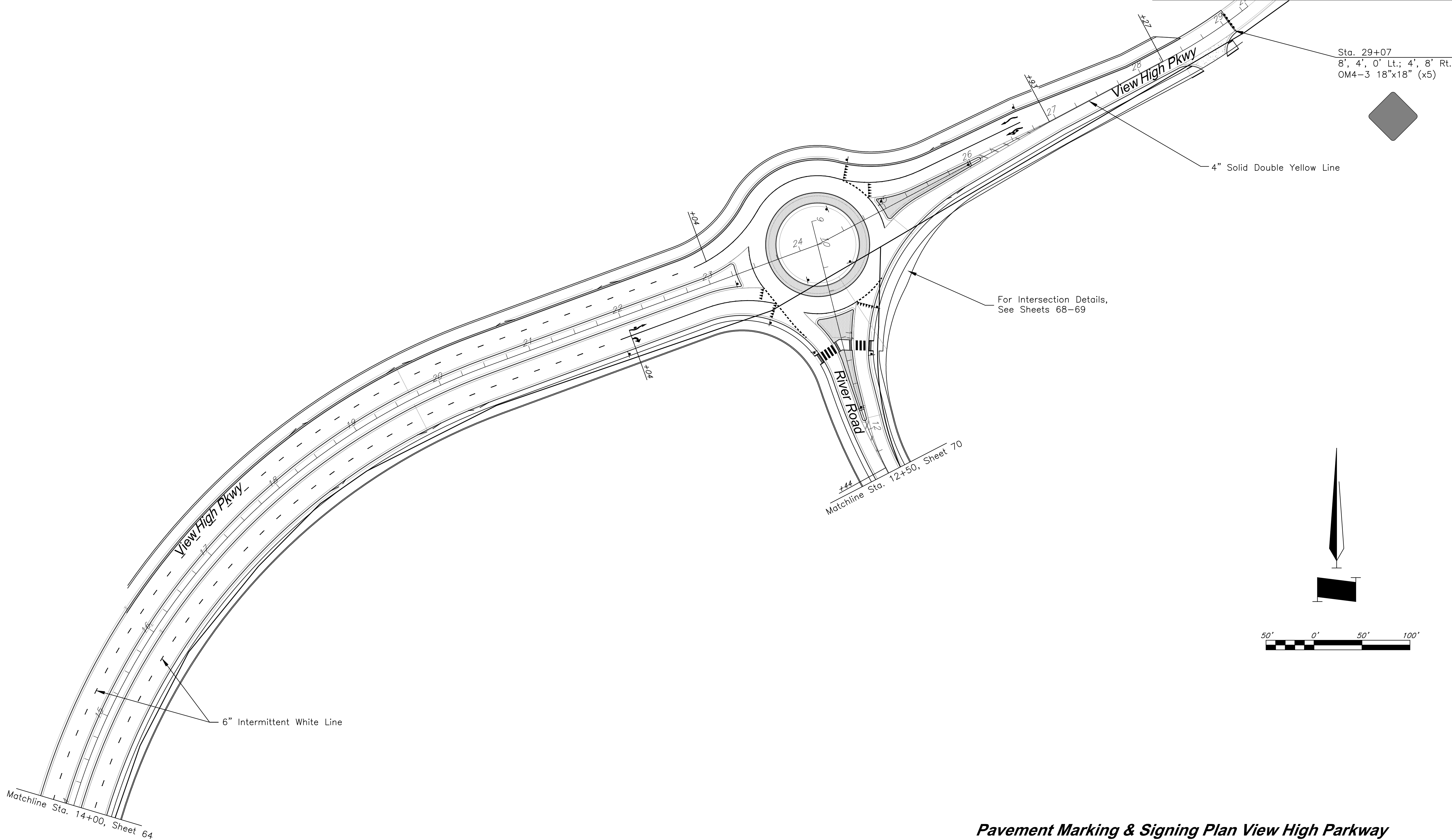
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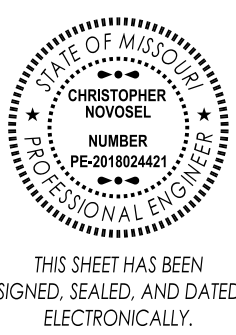
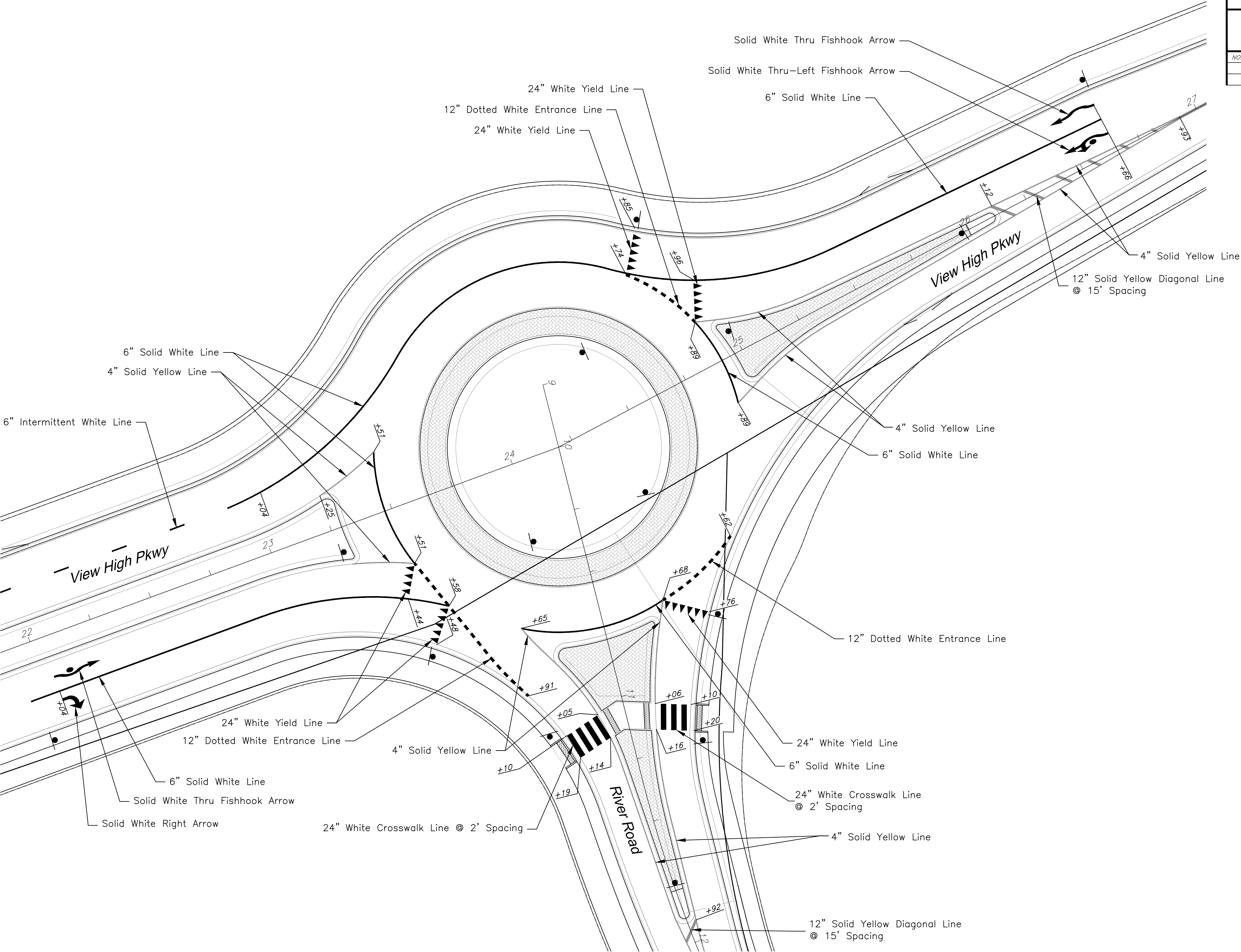
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Pavement Marking & Signing Plan View High Parkway

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Pavement Marking & Signing Plan View High Parkway

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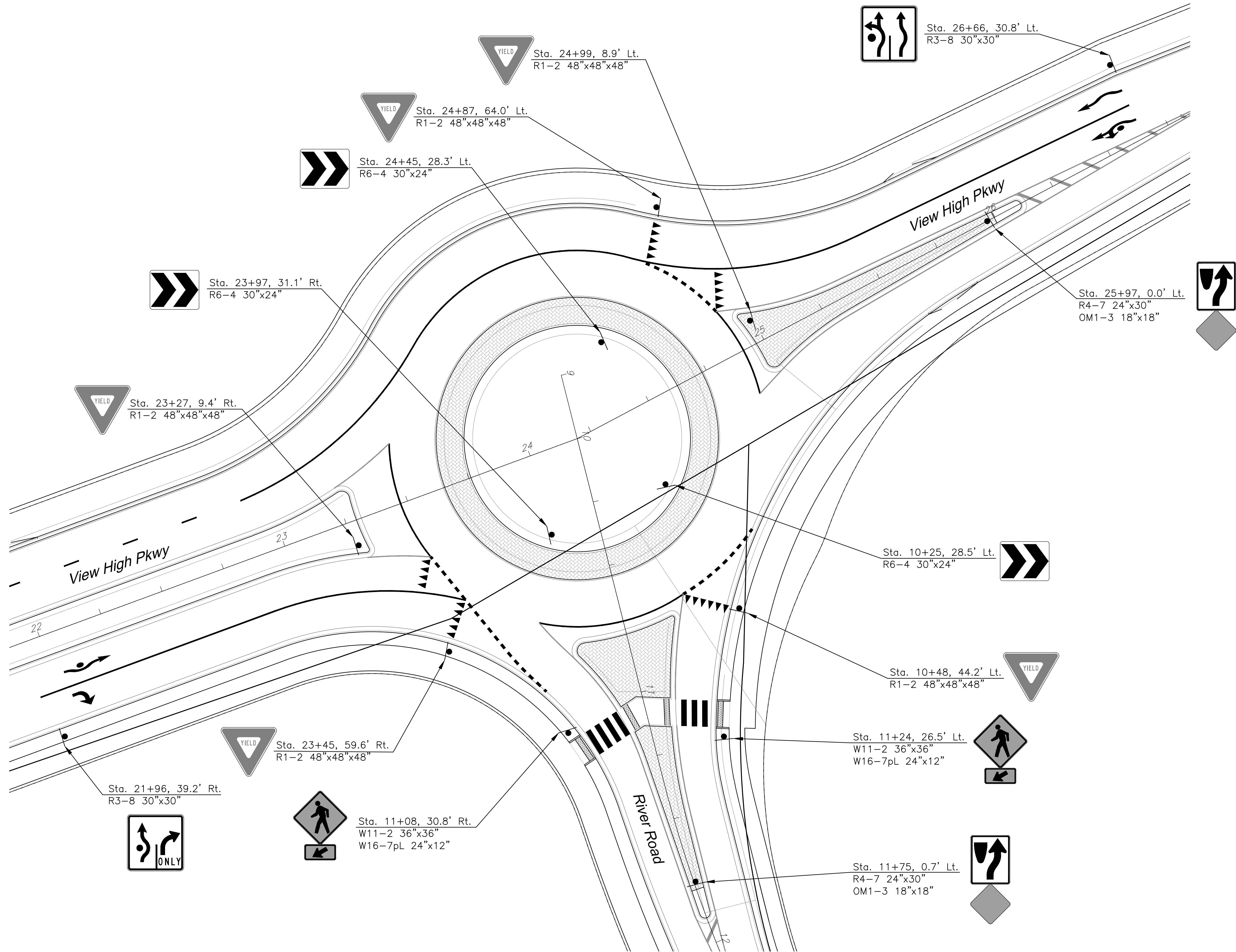
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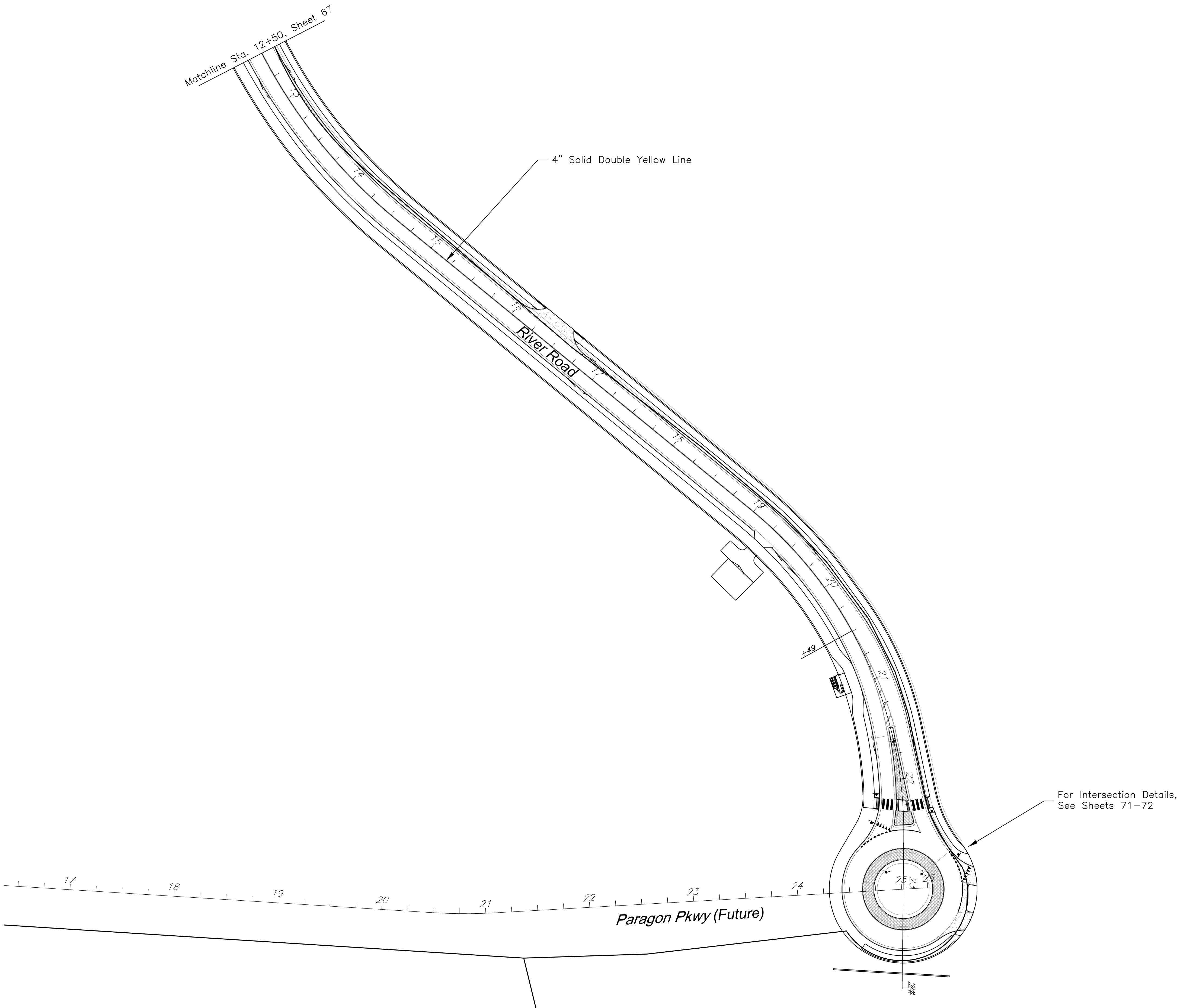
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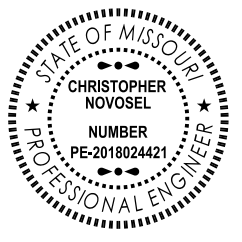
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Pavement Marking & Signing Plan View High Parkway

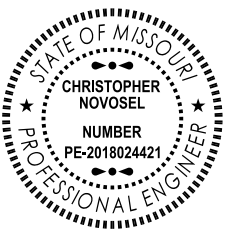
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Pavement Marking & Signing Plan River Road

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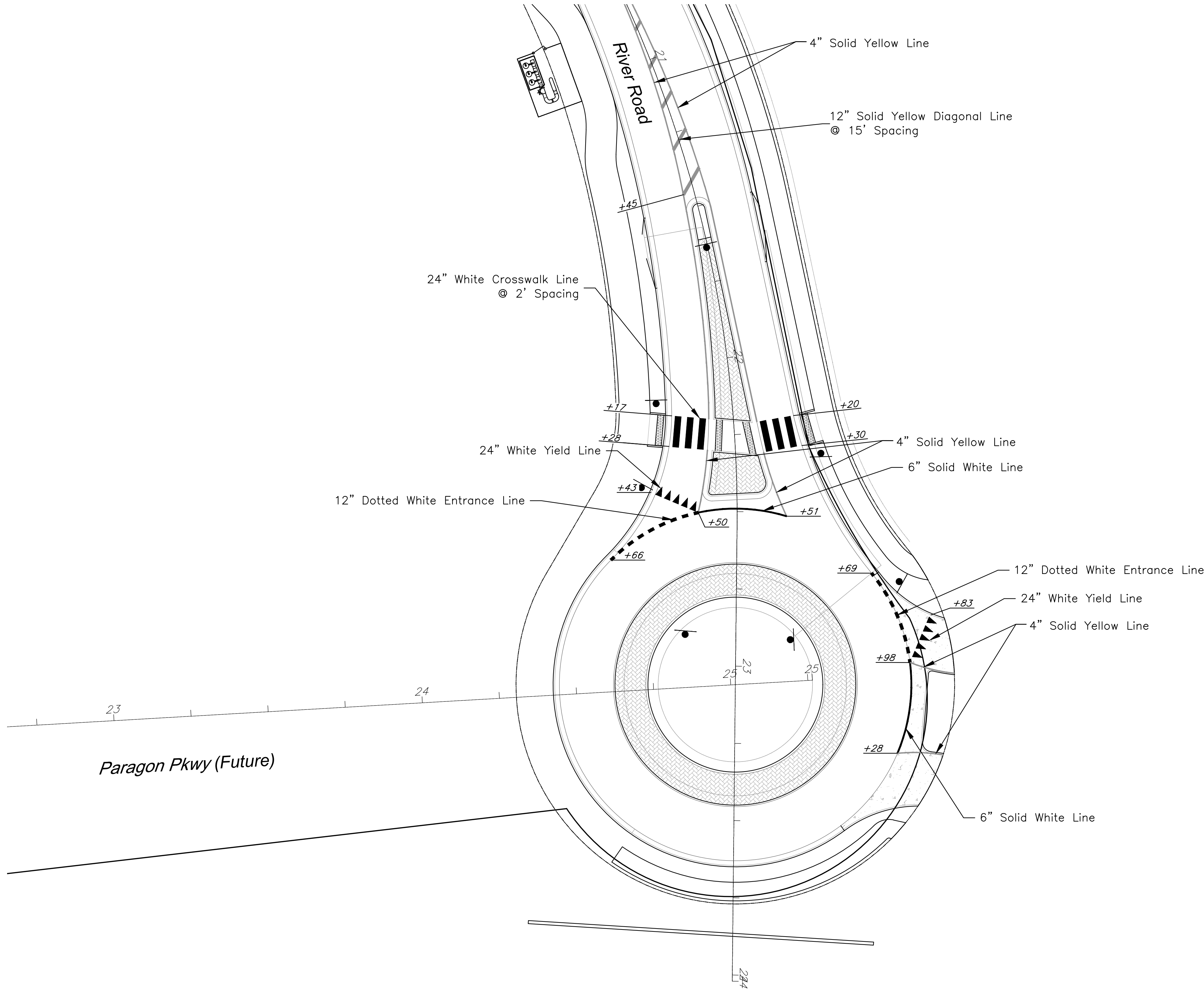
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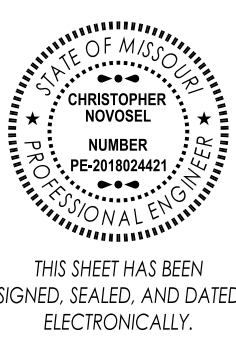
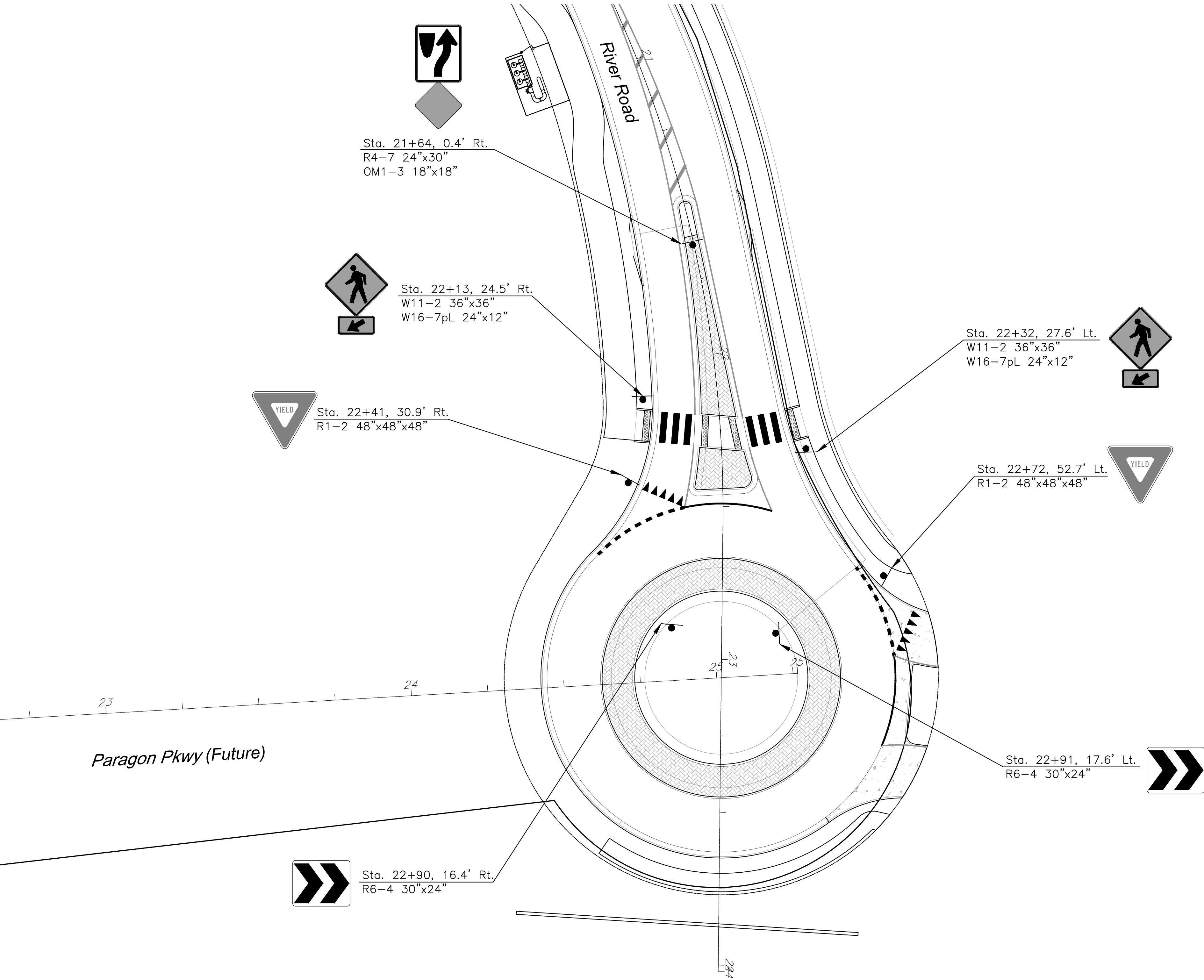
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Pavement Marking & Signing Plan River Road

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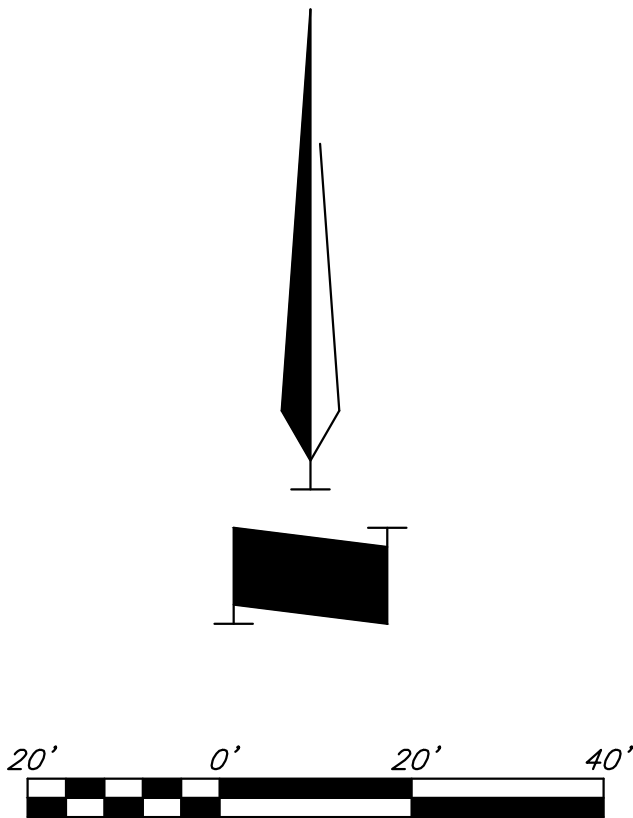


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SHEET NO.	TOTAL SHEETS
72	82

Christopher Novosel Professional Engineer License No. 2018024421		Street and Storm Sewer Plans Paragon Star Development Lee's Summit, Missouri	
NO.	DATE	REVISIONS	BY APPROVED



Pavement Marking & Signing Plan River Road

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Pavement Marking & Signing Details

STATE OF MISSOURI

CHRISTOPHER NOVOSSEL

REGISTERED PROFESSIONAL ENGINEER

NUMBER 000000000

PE-000000000

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

Christopher Novosel
Professional Engineer
License No. 2018024421

DATE: 4-2-2020

DESIGN BY: DJM

DRAWN BY: CMN

PROJECT NO.: 12720

SHEET NO.

73

TOTAL SHEETS

82

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Paragon Star Development
Lee's Summit, Missouri

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The diagrams illustrate various sign mounting details for different street conditions:

- SIGN INSTALLATION FOR NON-CURBED STREET:** Shows a sign post with a sign face. Dimensions include 6' (Min.) from the edge of pavement/shoulder to the sign face, 5' (Min.) from the top of pavement to the sign face, and 3" (Typ.) from the top of the sign face to the top of the post.
- SIGN INSTALLATION WITH AUXILIARY SIGN FOR NON-CURBED STREET:** Similar to the first, but includes an auxiliary sign. Dimensions include 6' (Min.) from the edge of pavement/shoulder to the sign face, 4' (Min.) from the top of pavement to the sign face, and 3" (Typ.) from the top of the sign face to the top of the post.
- SIGN INSTALLATION WITH TWO SIGN POSTS:** Shows two sign posts with a sign face. Dimensions include L/5 from the edge of pavement/shoulder to the sign face, L/5 from the top of pavement to the sign face, and 3" (Typ.) from the top of the sign face to the top of the post.
- SIGN INSTALLATION FOR CURBED STREET:** Shows a sign post with a sign face. Dimensions include 2' (Min.) from the back of curb to the sign face, 7' (Min.) from the top of curb to the sign face, and 3" (Typ.) from the top of the sign face to the top of the post.
- SIGN INSTALLATION WITH AUXILIARY SIGN FOR CURBED STREET:** Similar to the first, but includes an auxiliary sign. Dimensions include 2' (Min.) from the back of curb to the sign face, 6' (Min.) from the top of curb to the sign face, and 3" (Typ.) from the top of the sign face to the top of the post.
- SIGN INSTALLATION FOR RAISED MEDIANS:** Shows a sign post with a sign face. Dimensions include 1' (Min.) from the back of curb to the sign face, 7' (Min.) from the top of curb to the sign face, and 3" (Typ.) from the top of the sign face to the top of the post.

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.

The diagrams illustrate sign placement relative to road features:

- NON-CURBED INTERSECTION INSTALLATION:** Shows a major road and a minor road. The sign is placed at the intersection. Dimensions include 12' (Min.) to 50' (Max.) from the intersection to the sign.
- INTERSECTION WITH SIDEWALK / MULTI-USE TRAIL INSTALLATION:** Shows a marked or unmarked crosswalk and a marked or unmarked stop line. The sign is placed at the intersection. Dimensions include 4' (Min.) from the sidewalk or multi-use trail to the sign.
- CURBED INTERSECTION INSTALLATION:** Shows a marked or unmarked stop line. The sign is placed at the intersection. Dimensions include 4' (Min.) to 50' (Max.) from the intersection to the sign.
- TYPICAL MEDIAN SIGN LOCATION:** Shows a sign placed in a median. Dimensions include 15' (Min.) from the median to the sign.

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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SIGN MOUNTING DETAILS

STANDARD DRAWING SN-1

Project:

Drawn By: AS

Checked By: JW

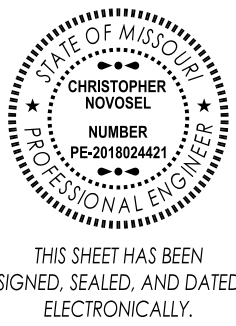
Date: 08/26/2009

Project#

1 OF 3
1

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Pavement Marking & Signing Details



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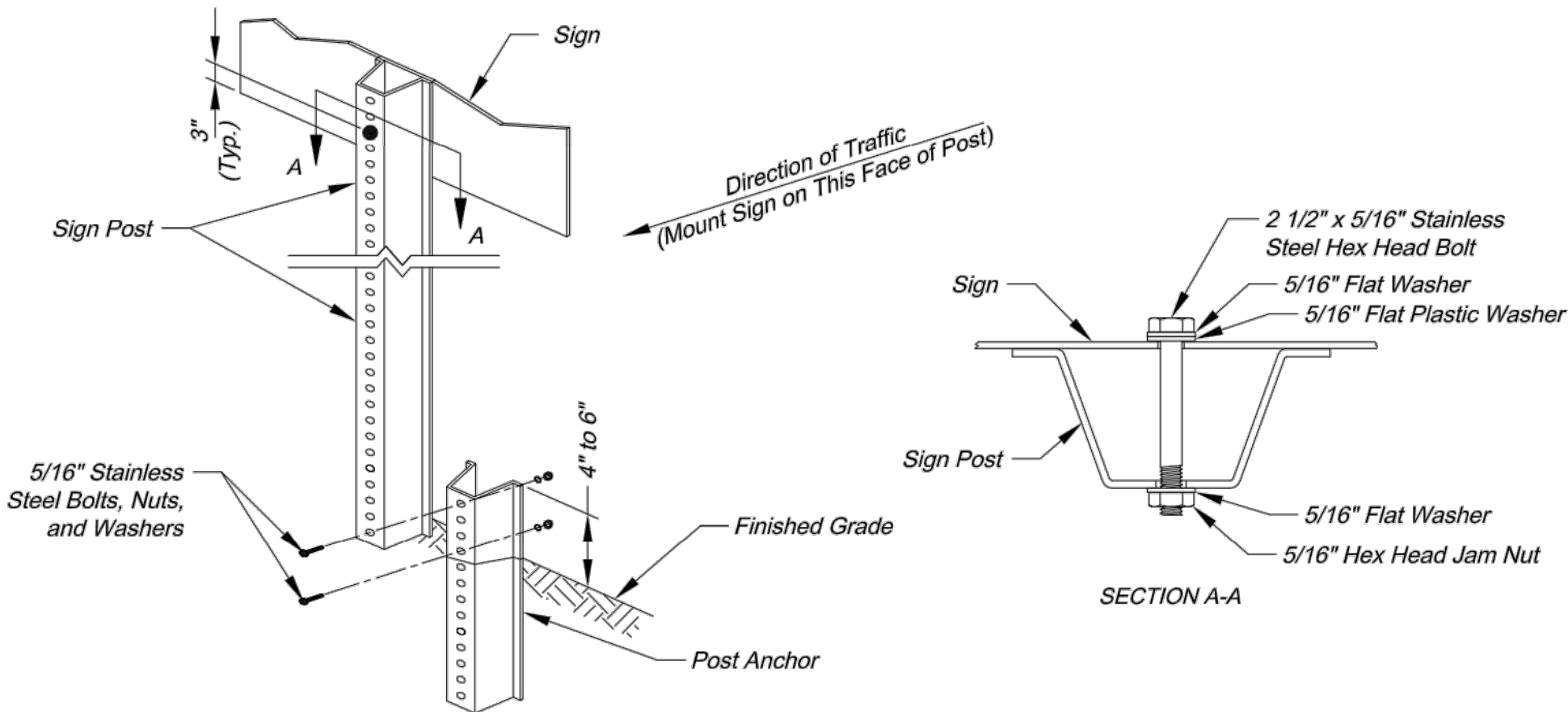
DATE:	4-2-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
74	82

Christopher Novosel
Professional Engineer
License No. 2018024421

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Paragon Star Development
Lee's Summit, Missouri

NO.	DATE

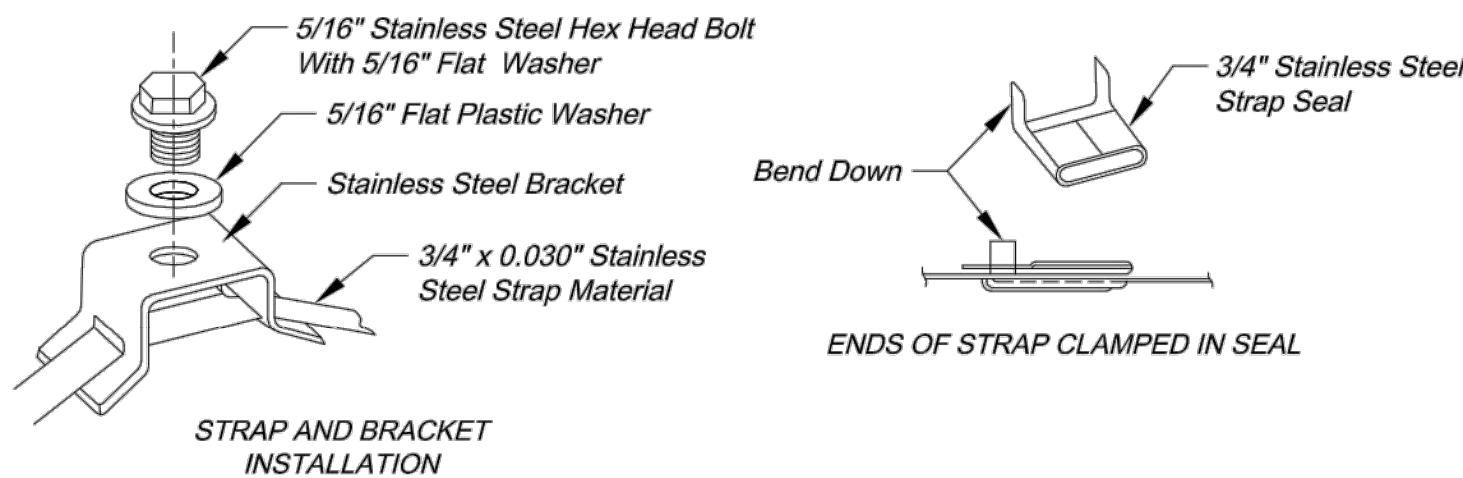
REVISIONS	BY	APPROVED



U-STEEL POST DETAILS

U-STEEL POST NOTES:

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



STRAP TYPE SIGN SUPPORT DETAILS

METAL POLE SIGN MOUNTING NOTES:

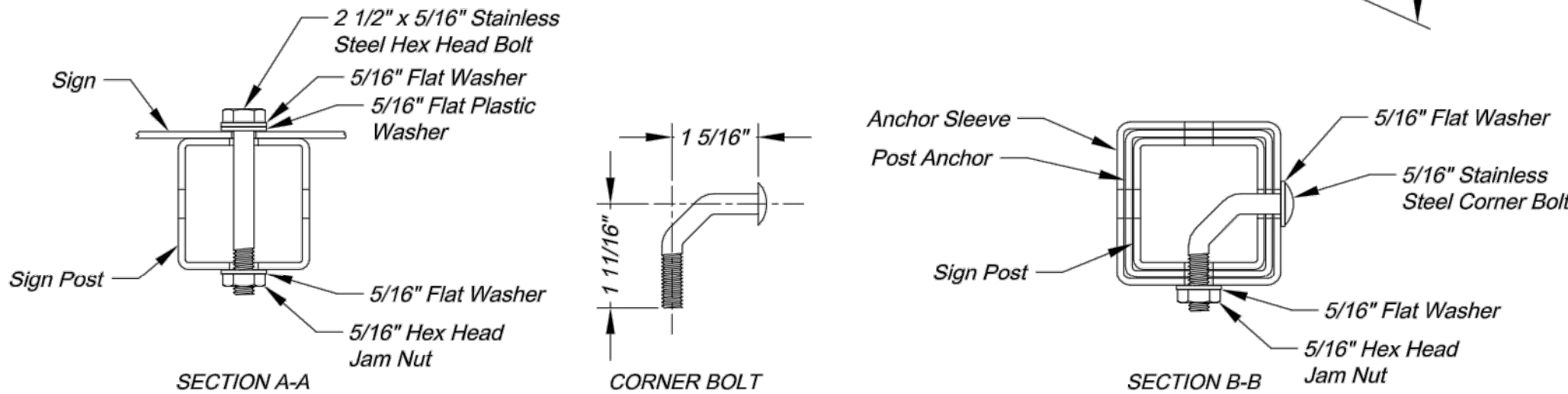
1. Signs on metal poles shall be attached with two brackets and stainless steel bands.
2. Holes in sign for attachment to the mounting brackets shall be offset a minimum of 2 inches from the edge of the sign.
3. Holes in sign shall be located such that the sign is level.
4. All strap, bracket, and seal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

PERMANENT SIGNING GENERAL NOTES:

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

SQUARE STEEL POST INSTALLATION SEQUENCE:

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



SQUARE STEEL POST DETAILS

SQUARE STEEL POST NOTES:

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

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SIGN POST DETAILS

STANDARD DRAWING SN-2

Project:

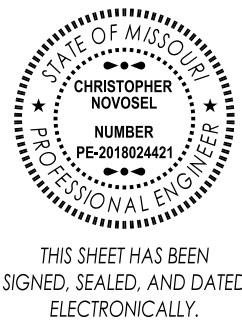
Sheet Name:

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

2 OF 3

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DATE:	4-2-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
75	82

Christopher Novosel
Professional Engineer
License No. 2018024421

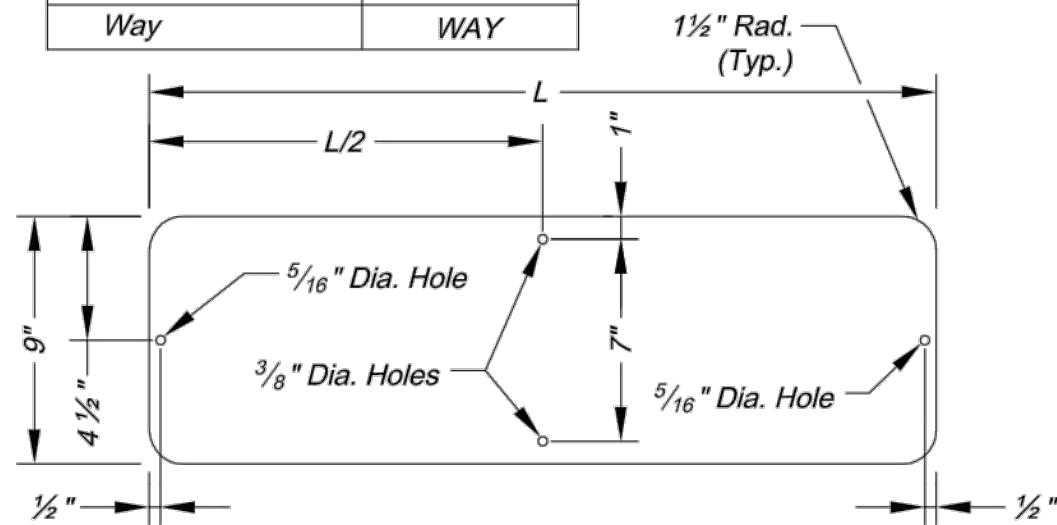
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Paragon Star Development
Lee's Summit, Missouri

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STANDARD ABBREVIATION LISTS

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

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

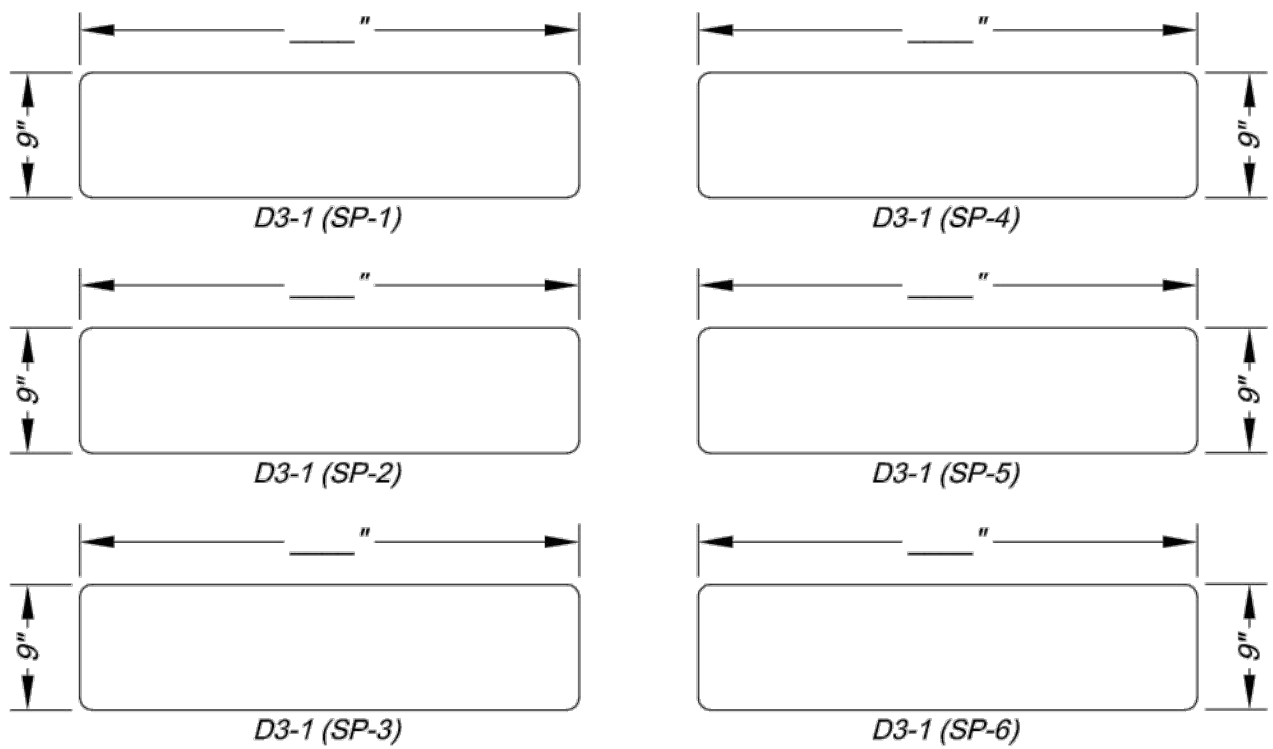


STREET NAME SIGN BLANK DETAILS

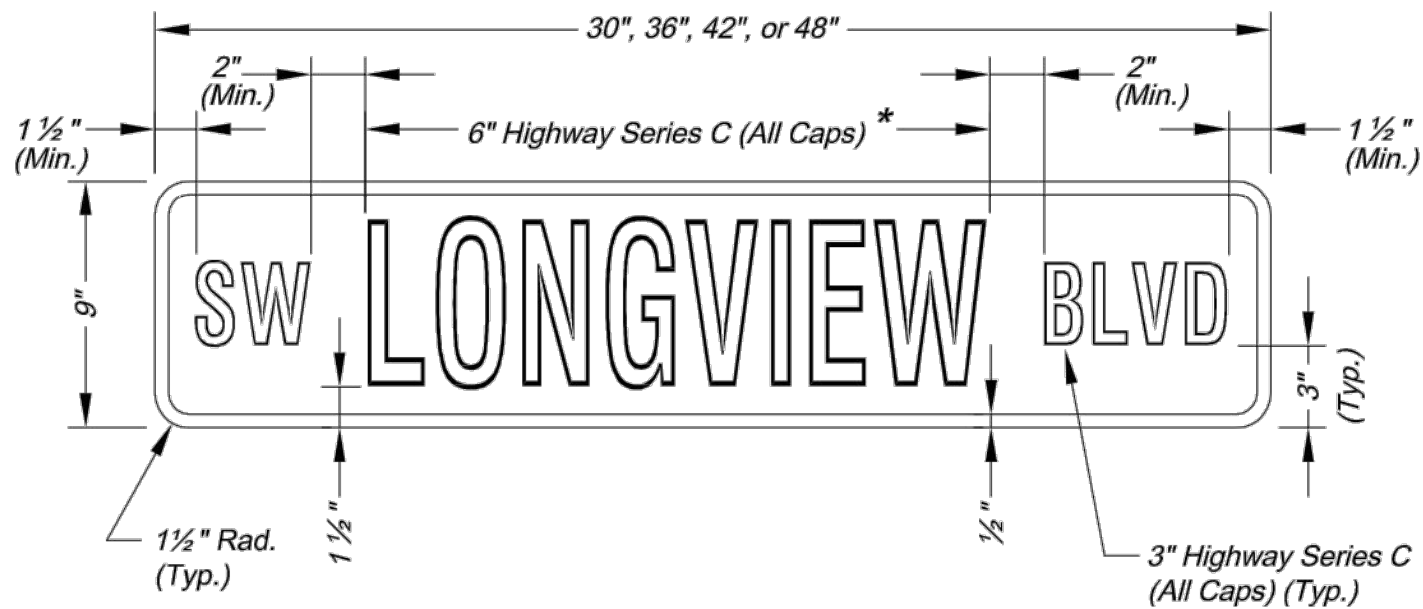
For Mounting on Square Steel Posts

STREET NAME SIGN QUANTITIES

Sign Designation	Sign Size	Sign Area (Sq. Ft.)	Number	Quantity (Sq. Ft.)
D3-1 (SP-1)	9" x 9"	Sq. Ft.	1	1
D3-1 (SP-2)	9" x 9"			
D3-1 (SP-3)	9" x 9"			
D3-1 (SP-4)	9" x 9"			
D3-1 (SP-5)	9" x 9"			
D3-1 (SP-6)	9" x 9"			

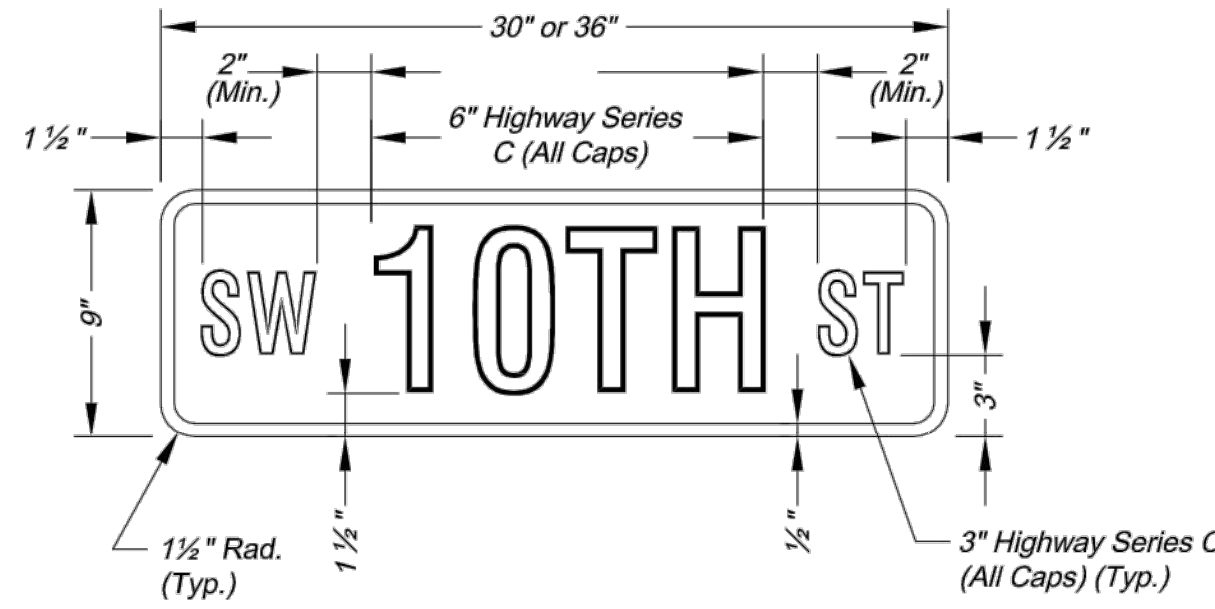


PROJECT SIGN DETAILS

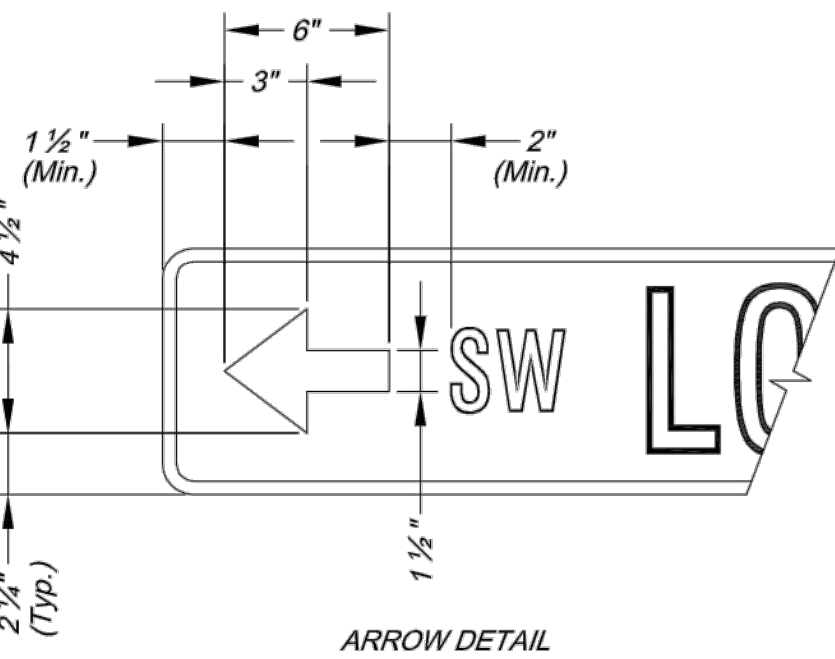


NAMED STREET NAME SIGN DETAIL

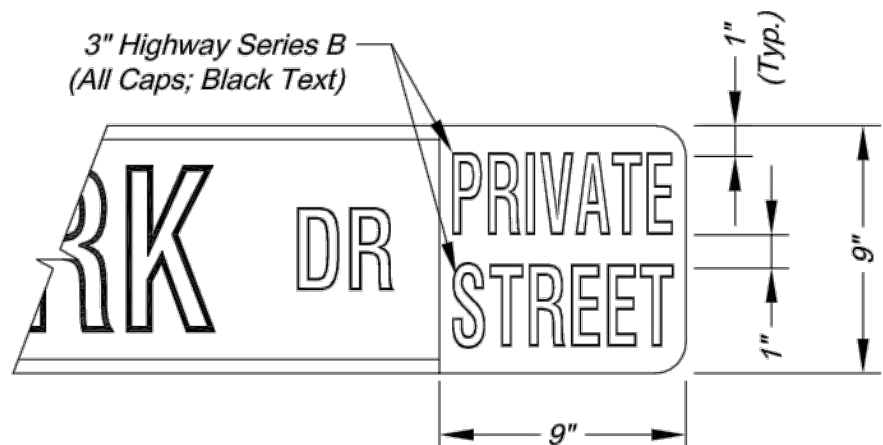
* Use Highway Series B (All Caps) in lieu of series C if necessary to fit text on a 36" sign blank.



NUMBERED STREET NAME SIGN DETAIL



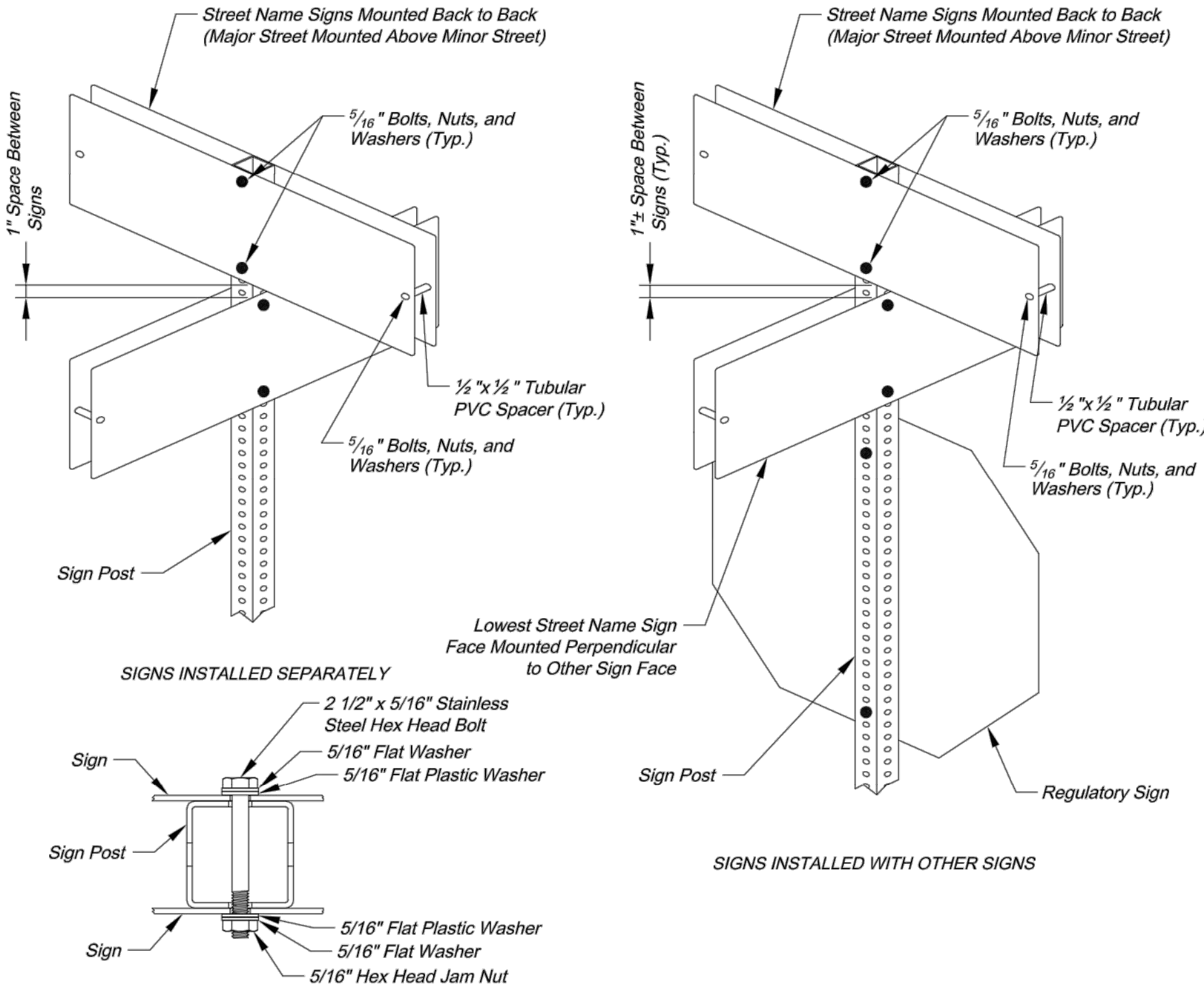
ARROW DETAIL



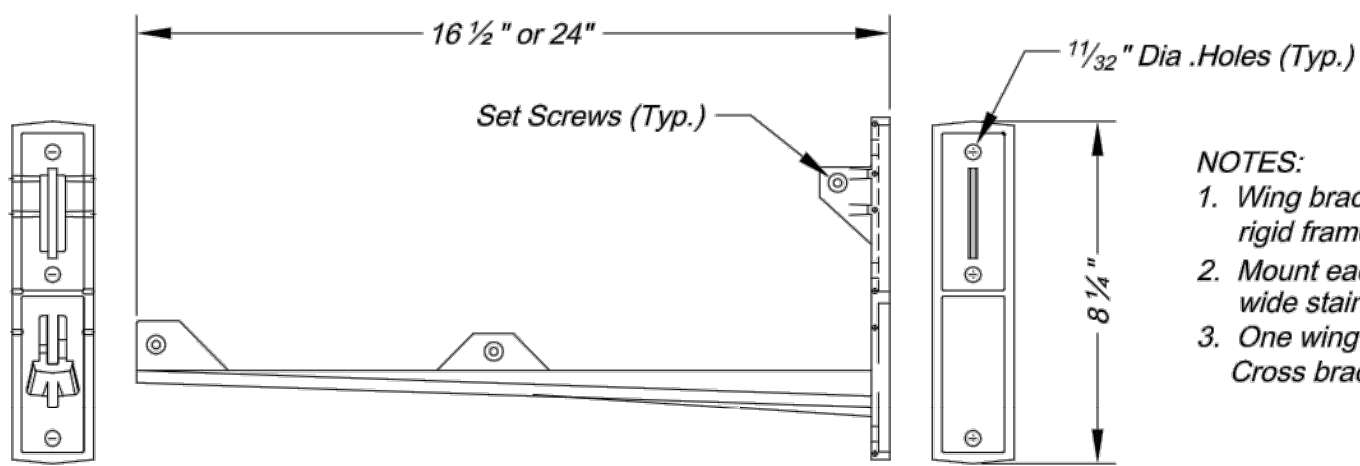
PRIVATE STREET TAG DETAIL

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

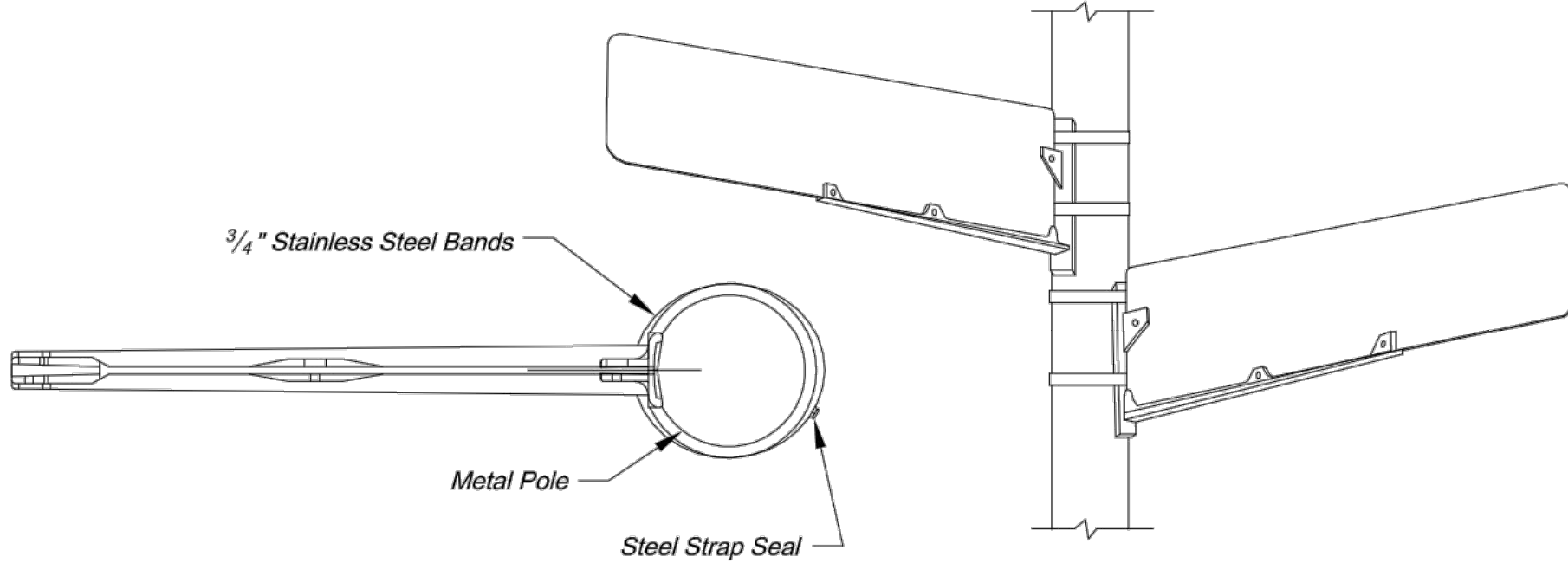
STREET NAME SIGN FACE DETAILS



SQUARE STEEL POST MOUNTING DETAILS

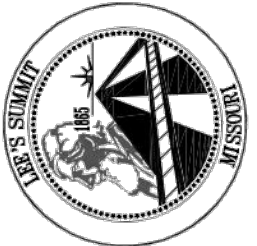


- NOTES:
- Wing bracket shall be an L-shaped cantilever of T-beam rigid frame 380-3 aluminum alloy construction.
 - Mount each wing bracket to metal pole using two 3/4" wide stainless steel straps.
 - One wing bracket shall be installed per each sign. Cross brackets are not allowed.



WING BRACKET MOUNTING DETAILS

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STREET NAME SIGN DETAILS

STANDARD DRAWING SN-3

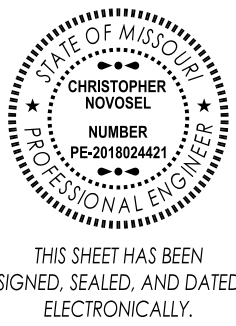
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Sheet Name:	
Drawn By:	AS
Checked By:	JW
Date:	08/26/2009
Project#	

3 OF 3

3

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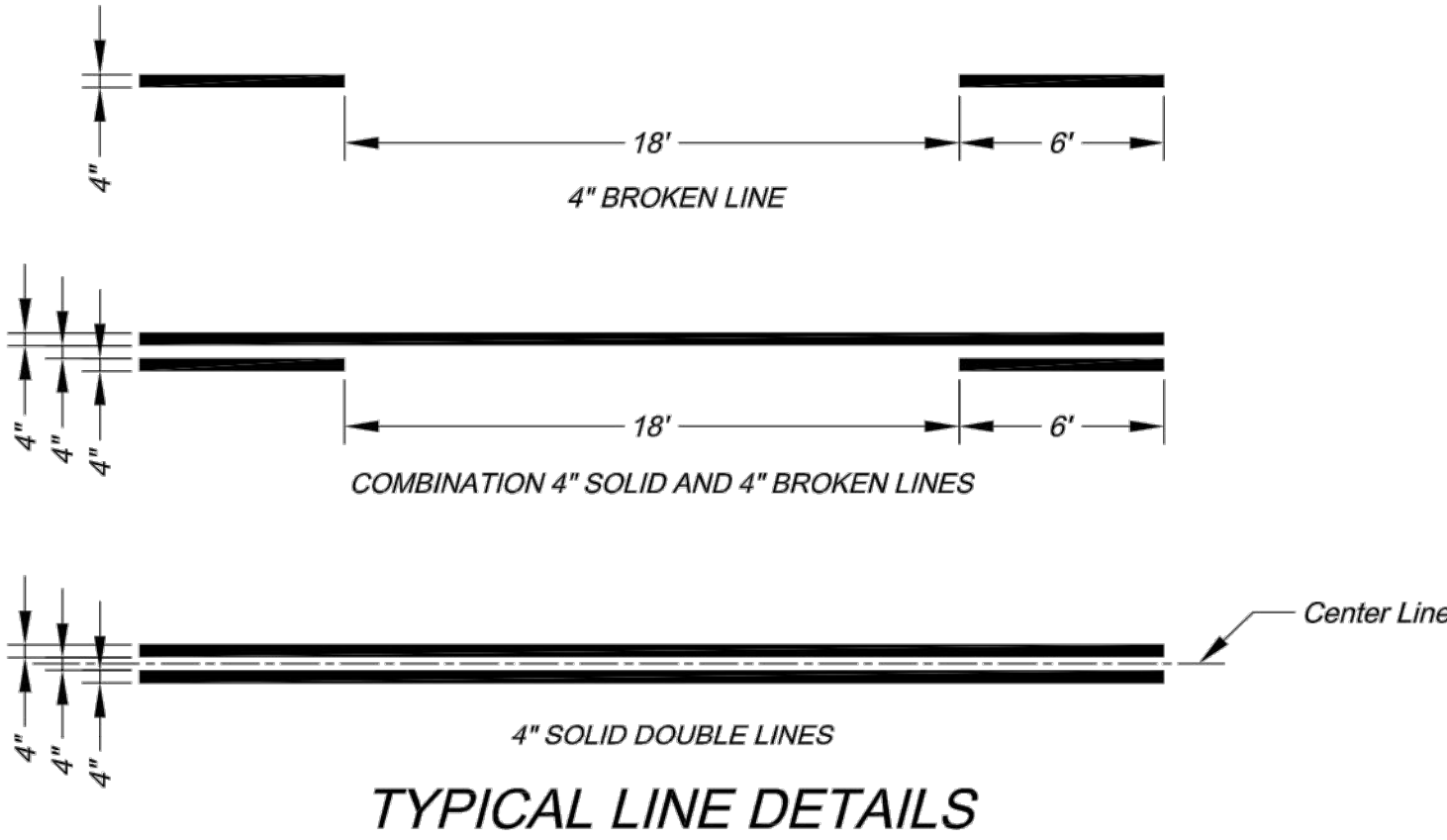
DATE:	4-2-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
76	82

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License No. 2018024421

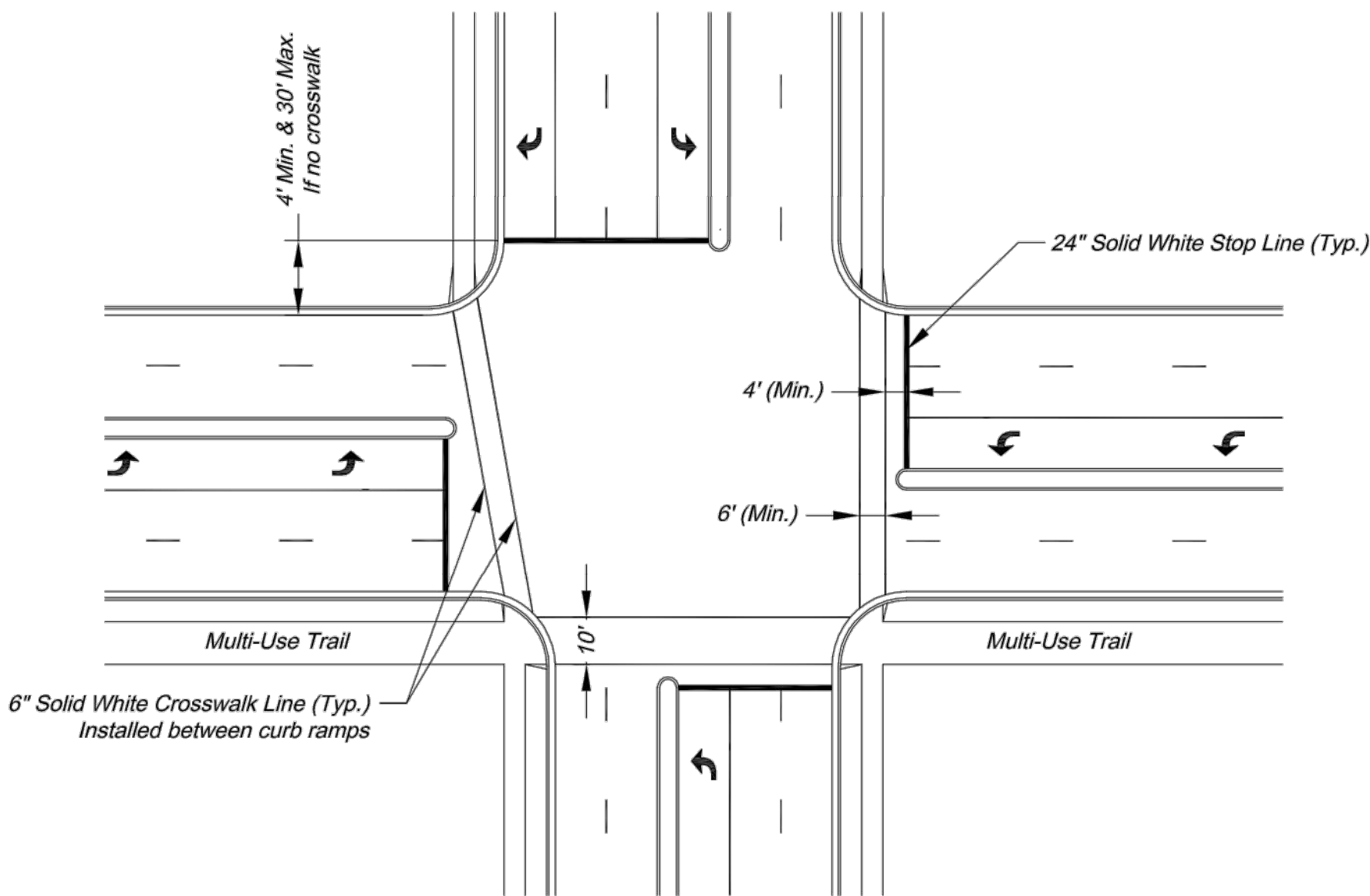
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Paragon Star Development
Lee's Summit, Missouri

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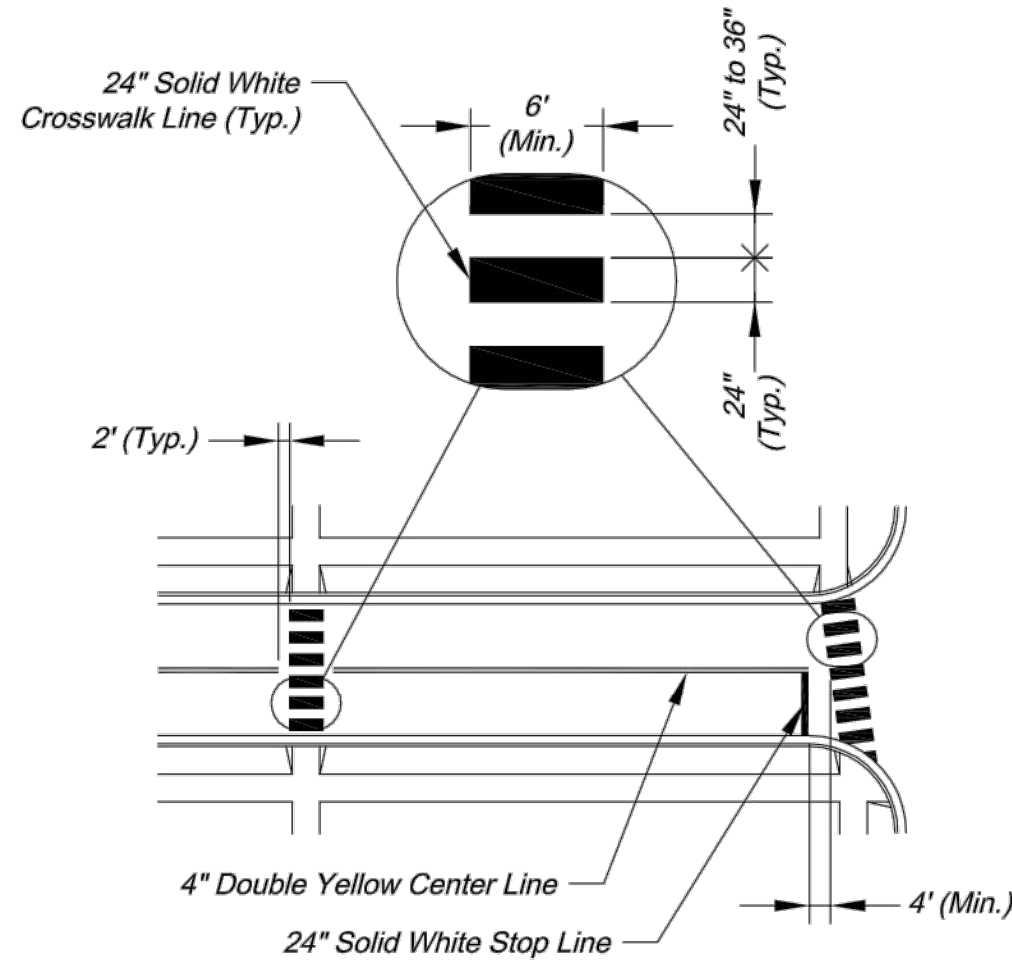


- NOTES:
- All edge line, center line, and lane line pavement markings shall be 4" wide unless otherwise noted.
 - Edge lines shall be continuous solid white or yellow lines. Right side edge lines shall be solid white. Median or left side edge lines on divided roadways are to be solid yellow. Edge lines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

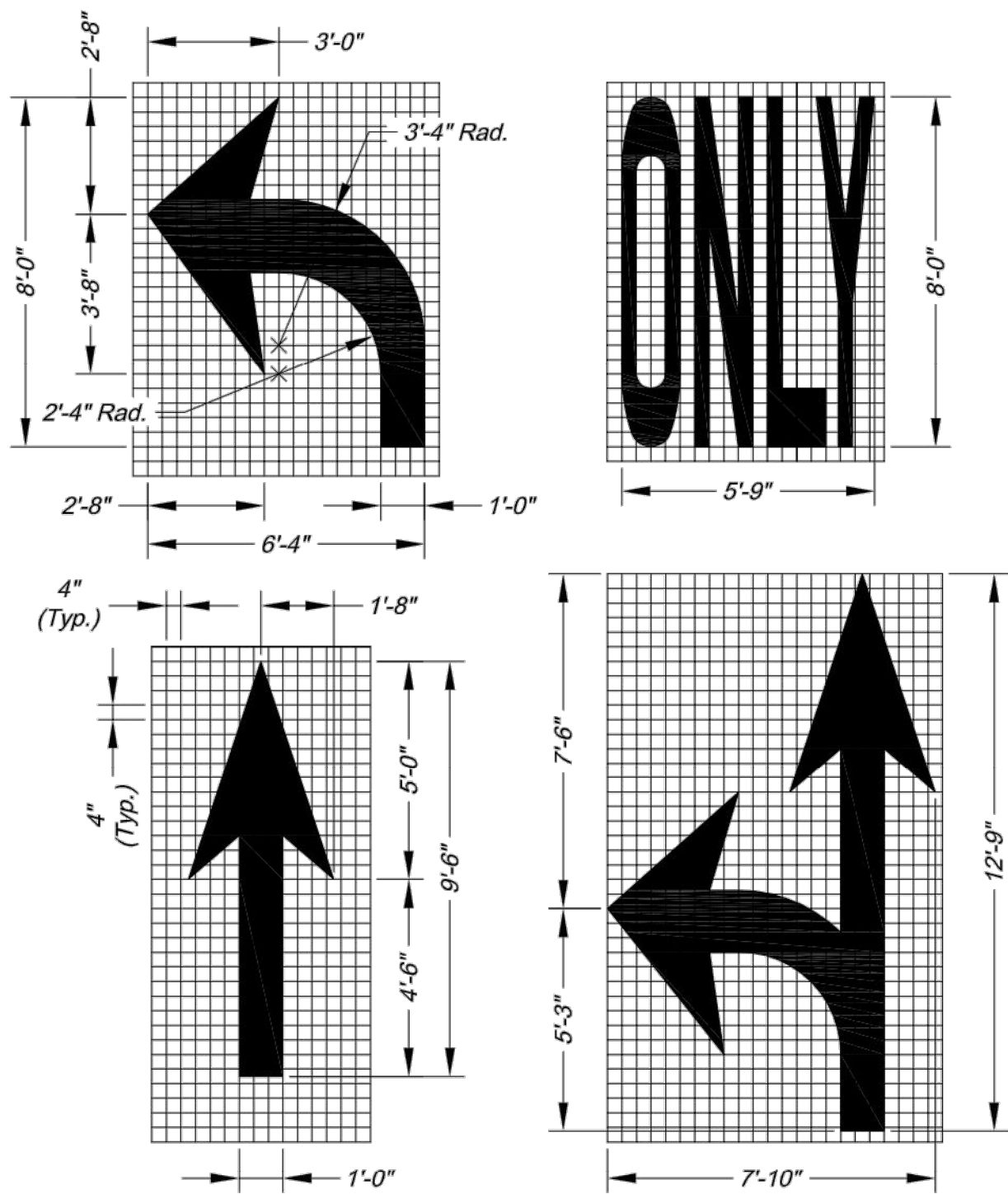


TYPICAL INTERSECTION MARKINGS

- 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.

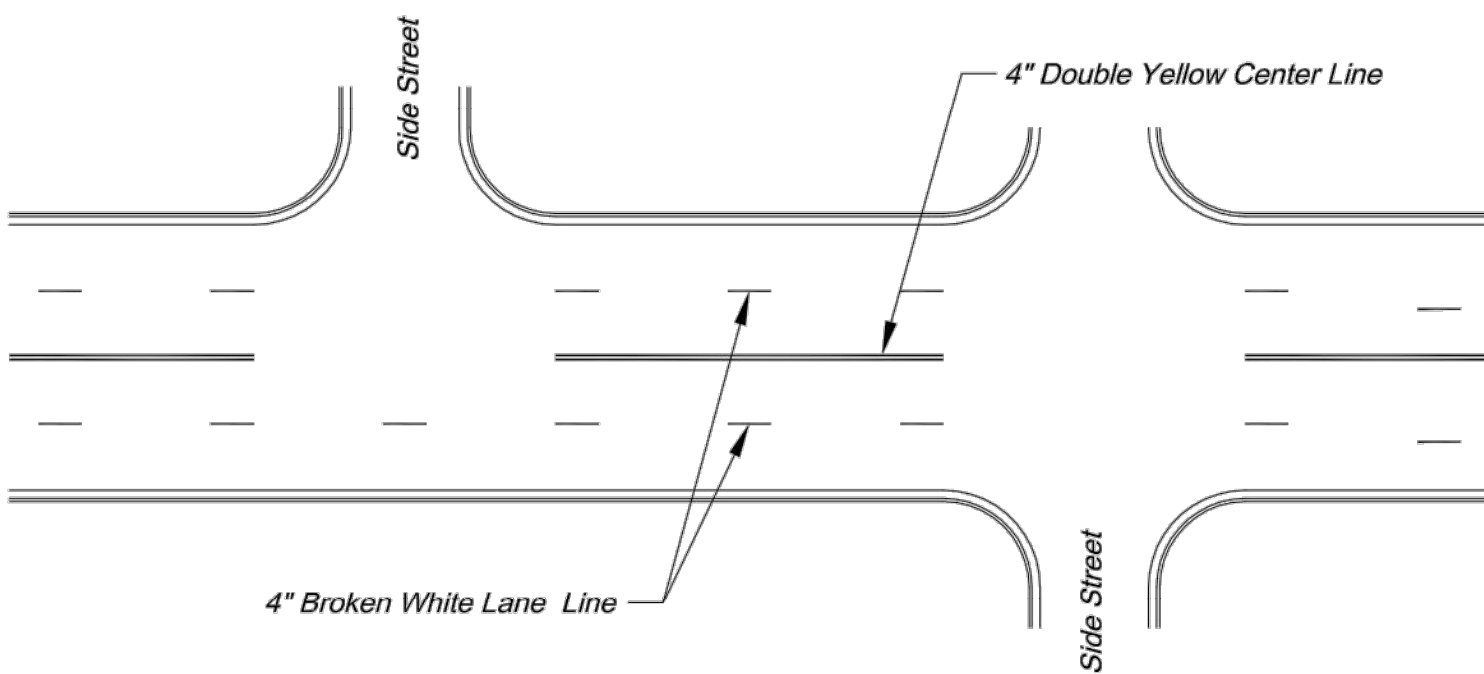


TYPICAL MIDBLOCK OR SCHOOL CROSS WALK

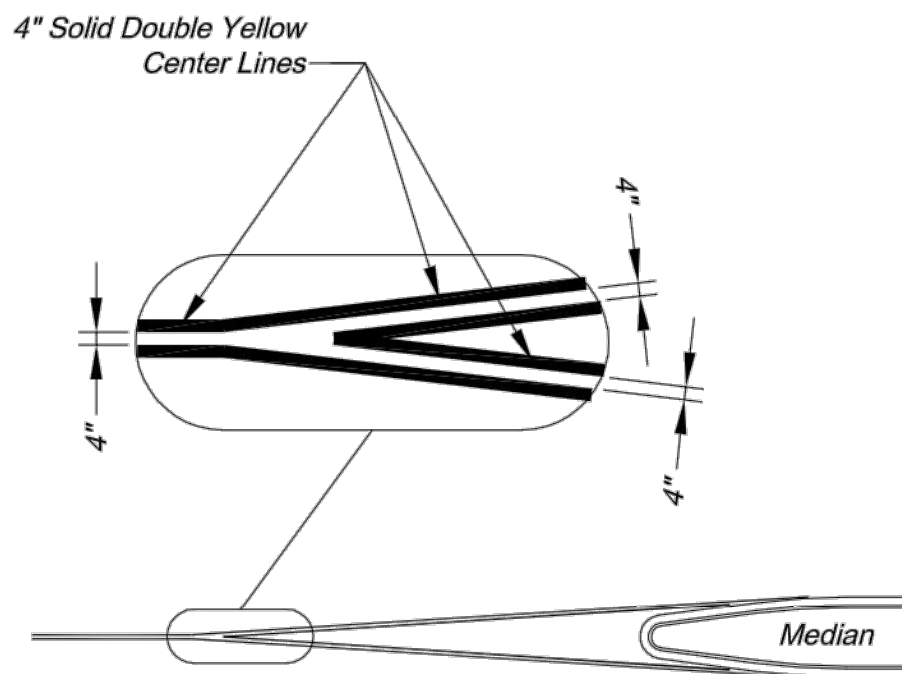


ARROW AND SYMBOL DETAILS

- 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.

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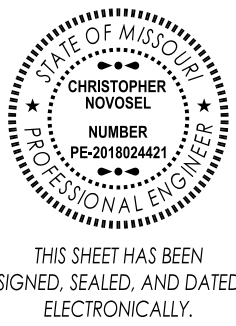


Project: ROADWAY MARKING DETAILS
Sheet Name: STANDARD DRAWING PM-1

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

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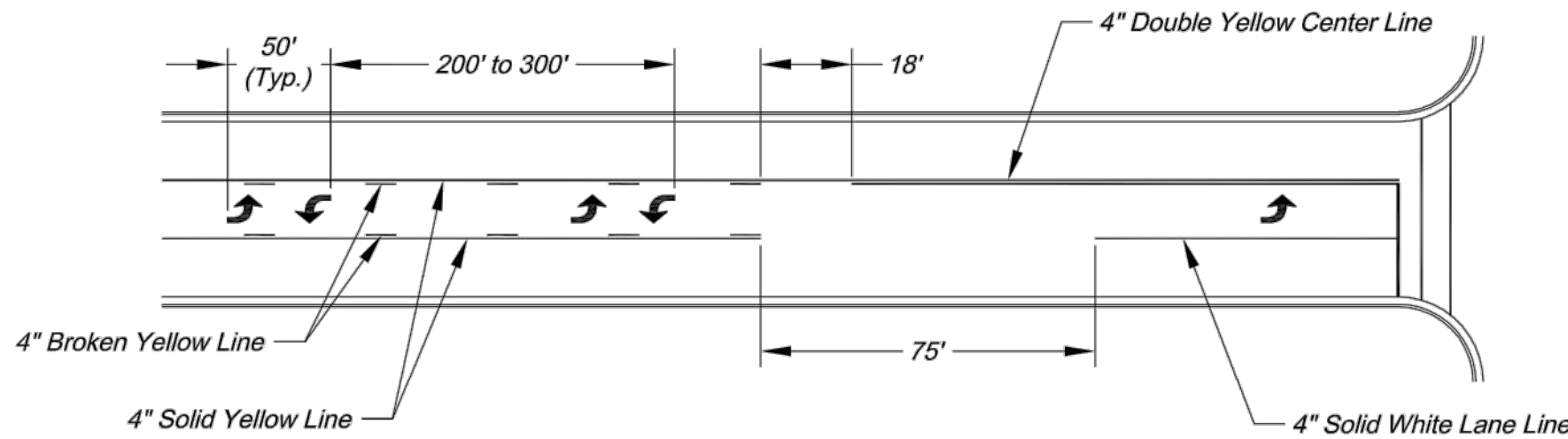
DATE:	4-2-2020
DESIGN BY:	DJM
DRAWN BY:	CMN
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
77	82

Christopher Novosel
Professional Engineer
License No. 2018024421

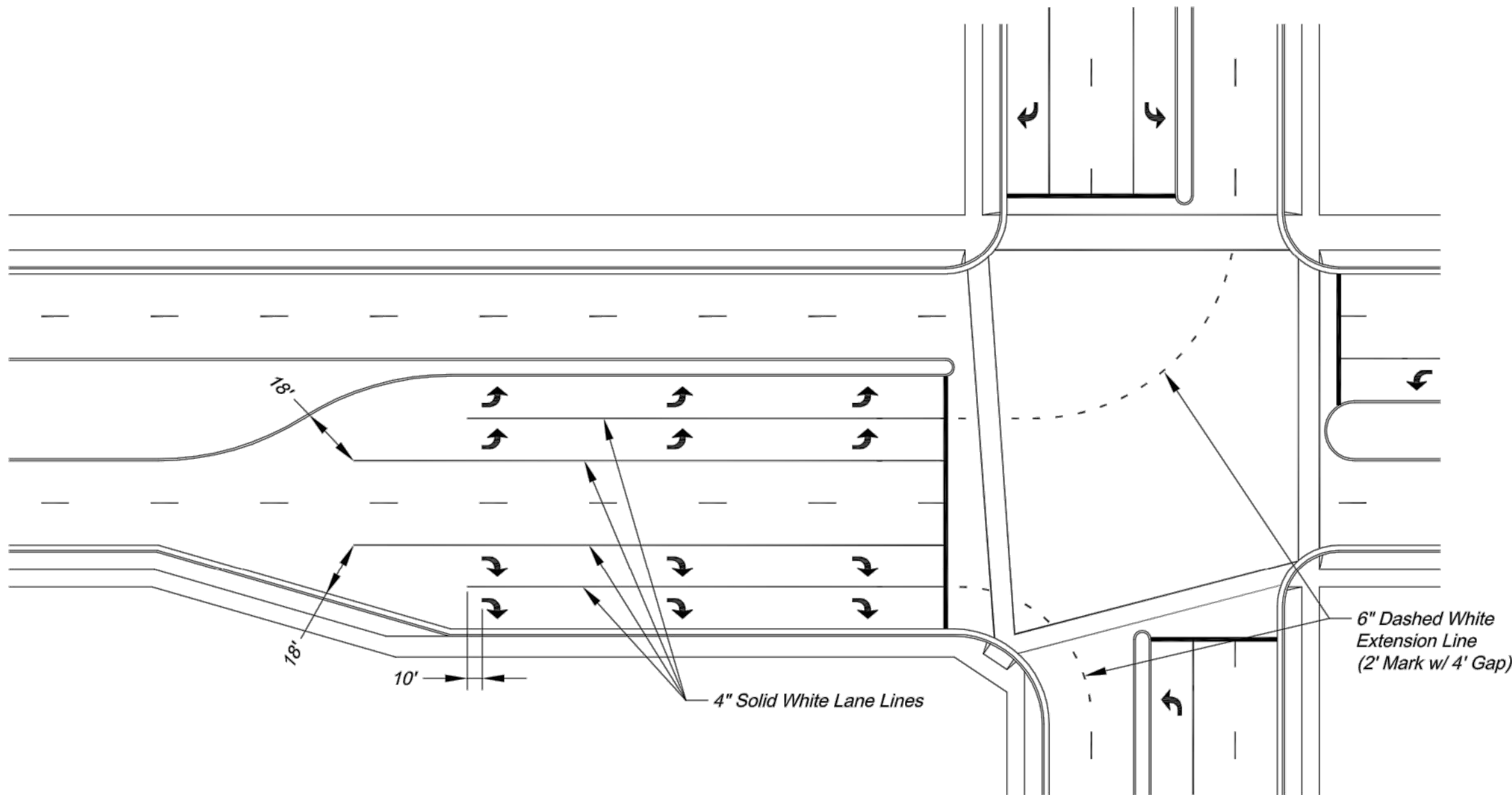
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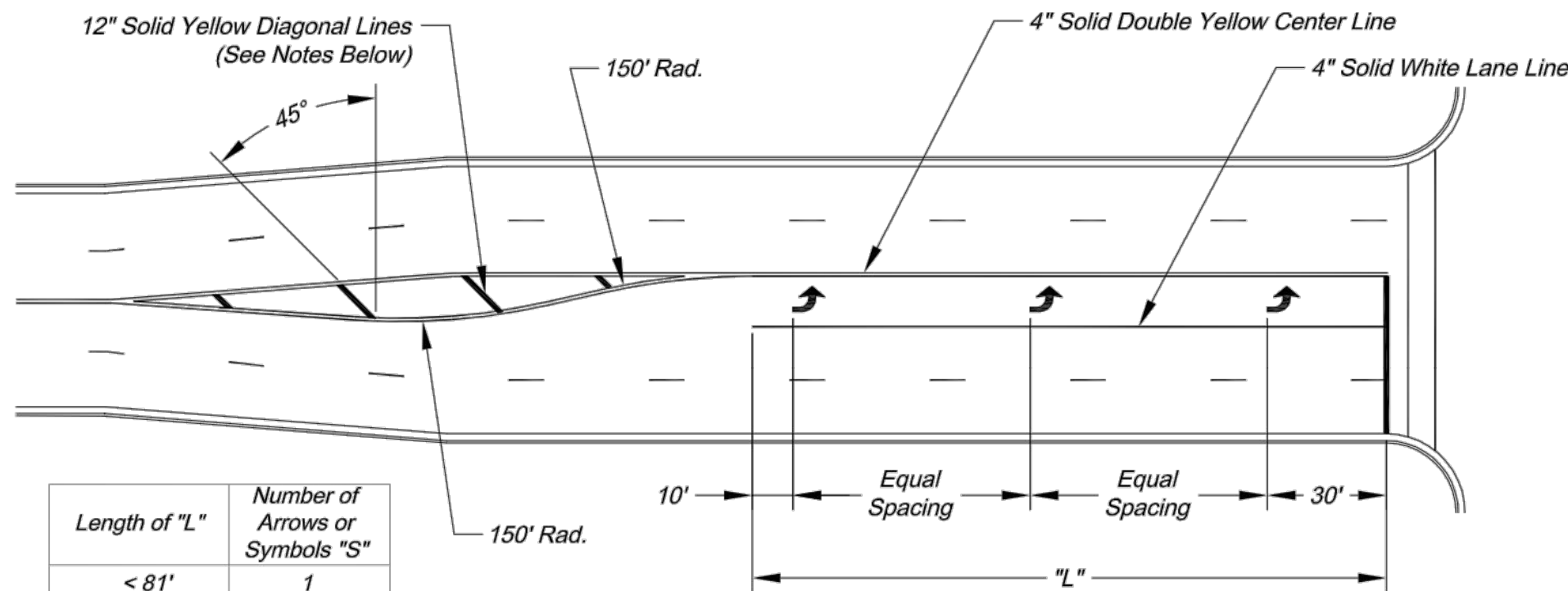


TYPICAL MARKINGS FOR TWO-WAY LEFT-TURN LANE



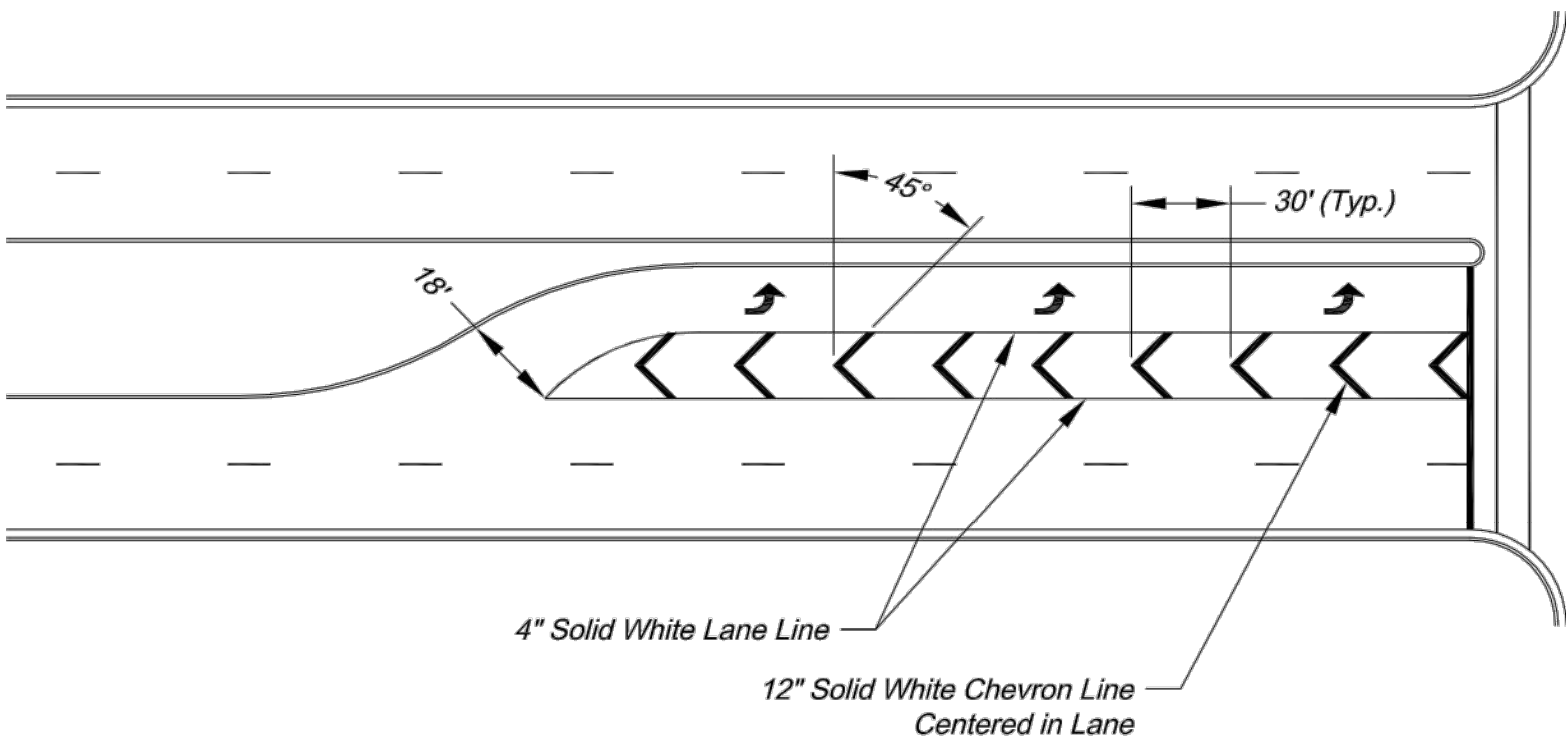
TYPICAL DUAL TURN LANE MARKINGS

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



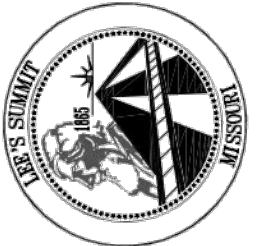
TYPICAL TURN LANE MARKINGS

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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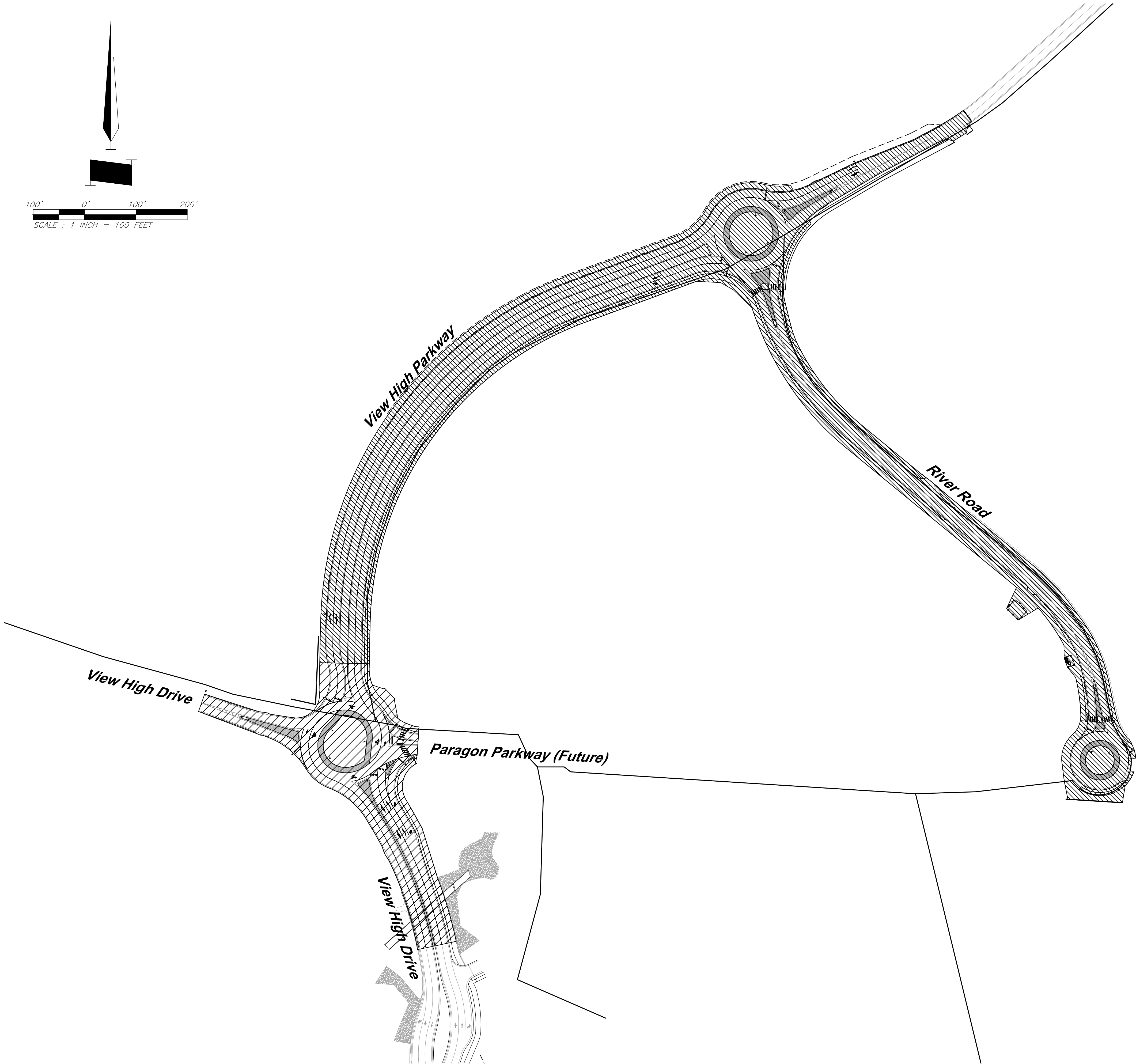
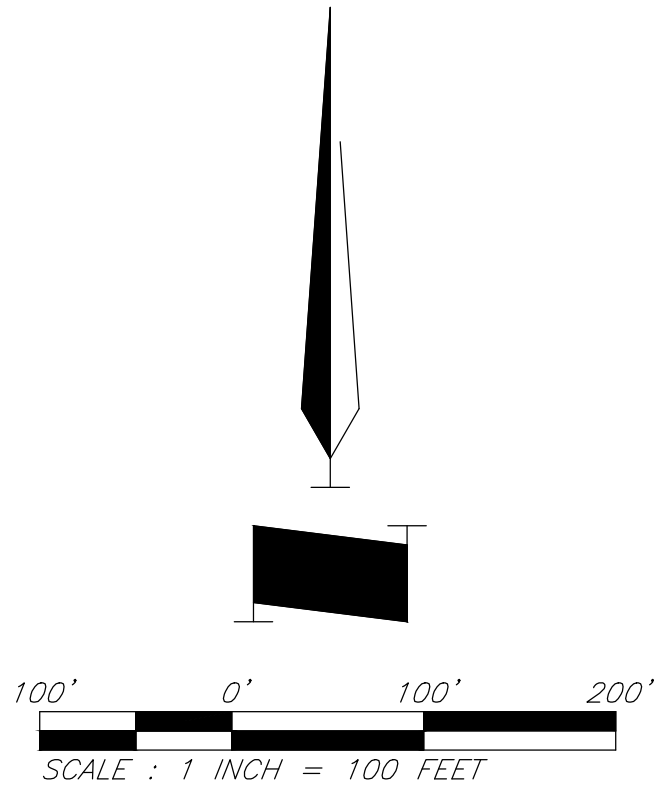


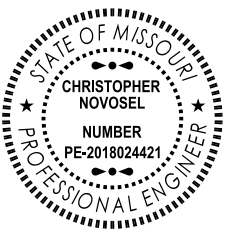
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Sheet Name: STANDARD DRAWING PM-2

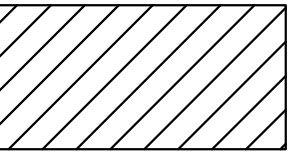
Drawn By: AS
Checked By: JW
Date: 09/09/2009
Project#

2 OF 2
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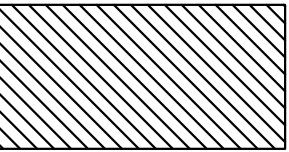
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	DESIGN BY: DJM		DRAWN BY: CMN	
	PROJECT NO.: 12720		SHEET NO.	TOTAL SHEETS
			78	82
Christopher Novosel Professional Engineer License No. 2018024421		Street and Storm Sewer Plans Paragon Star Development <i>Lee's Summit, Missouri</i>		
NO.	DATE	REVISIONS		
		BY APPROVED		



Phase 1 Work Area



Phase 2 Work Area

Construction Sequencing Plan

C:\12720\Civil 3D\Production Drawings\Street & Storm Plans\127205400.dwg Layout: 75 Traffic Control Detour -- Wednesday, May 20, 2020, 4:25pm -- Copyright 2020, George Butler Associates, Inc. Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059

LEGEND

- Construction Area
- Temporary Construction Sign
- Type III Barricade
- ADA-Compliant Type II Barricade
- Channelizer
- Arrow Display

GBA
architects
engineers

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

DATE: 4-2-2020
DESIGN BY: ###
DRAWN BY: ###
PROJECT NO.: 12720
SHEET NO. 79
TOTAL SHEETS 82

Christopher Novosel
Professional Engineer
License No. 2018024421

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

NO.	DATE	REVISIONS	BY	APPROVED

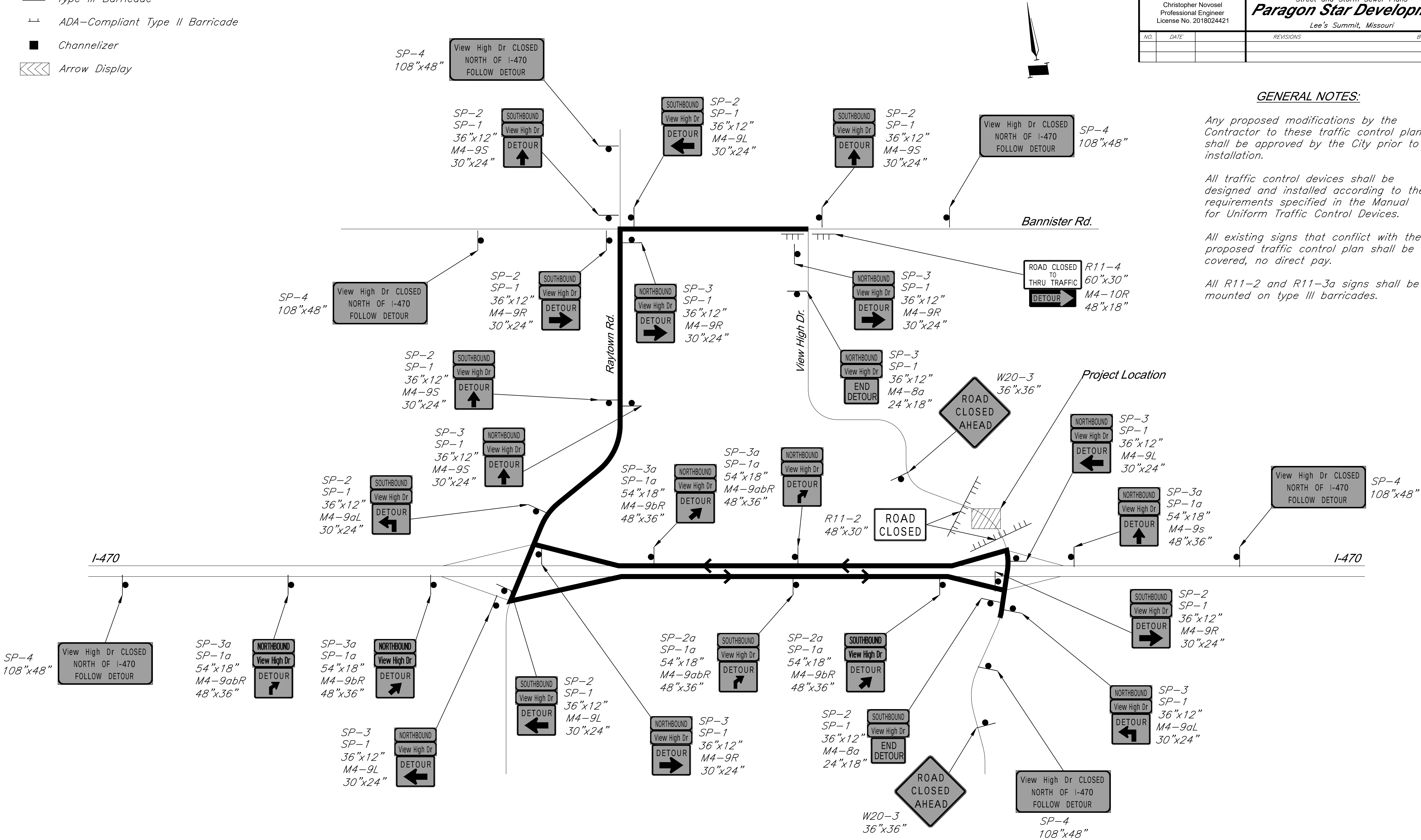
GENERAL NOTES:

Any proposed modifications by the Contractor to these traffic control plans shall be approved by the City prior to installation.

All traffic control devices shall be designed and installed according to the requirements specified in the Manual for Uniform Traffic Control Devices.

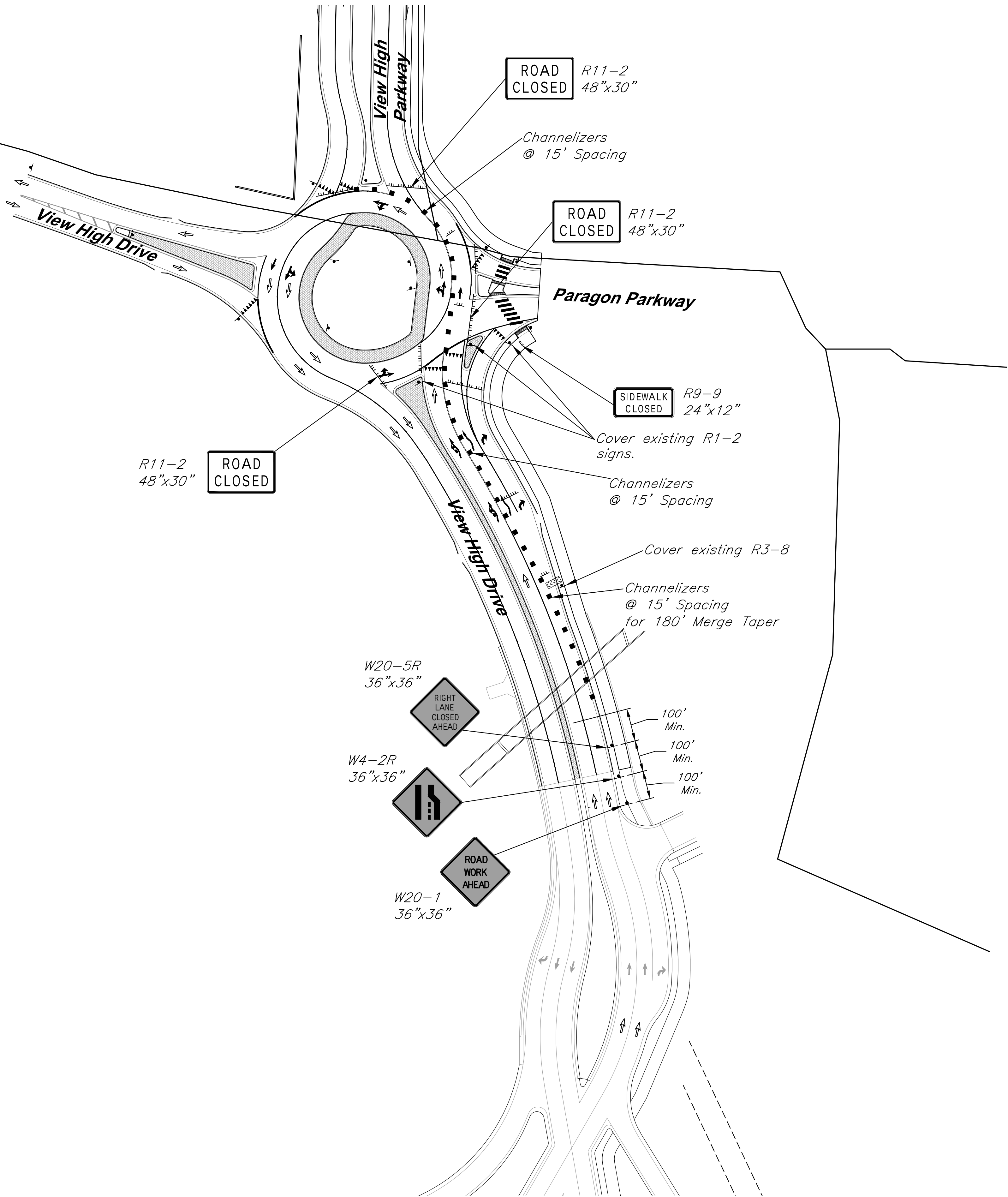
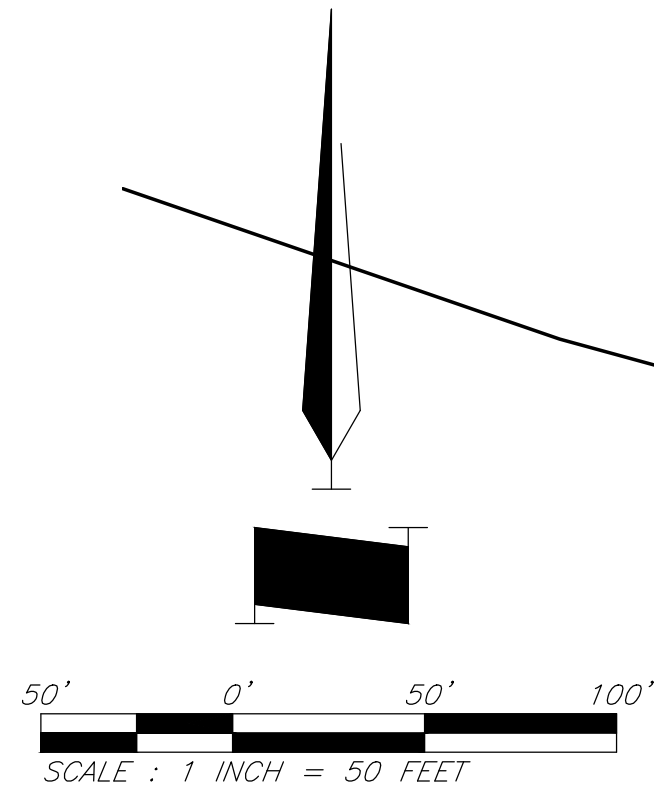
All existing signs that conflict with the proposed traffic control plan shall be covered, no direct pay.

All R11-2 and R11-3a signs shall be mounted on type III barricades.



Traffic Control Detour

C:\12720\Civil 3D\Production Drawings\Street & Storm Plans\1272015400.dwg Layout: 76 Traffic Control Plan -- Wednesday, May 20, 2020, 4:25pm -- Copyright 2020, George Buller Associates, Inc. Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059



	DATE: 4-2-2020	
	DESIGN BY: ###	
	DRAWN BY: ###	
	PROJECT NO.: 12720	
GBA architects engineers 9801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com	SHEET NO.	TOTAL SHEETS
	80	82
Christopher Novosel Professional Engineer License No. 2018024421		
Street and Storm Sewer Plans Paragon Star Development Lee's Summit, Missouri		
NO.	DATE	BY

- LEGEND**
- Construction Area
 - Temporary Construction Sign
 - Type III Barricade
 - ADA-Compliant Type II Barricade
 - Channelizer
 - Arrow Display
 - Direction of Travel

GENERAL NOTES:

Any proposed modifications by the Contractor to these traffic control plans shall be approved by the City prior to installation.

All traffic control devices shall be designed and installed according to the requirements specified in the Manual for Uniform Traffic Control Devices.

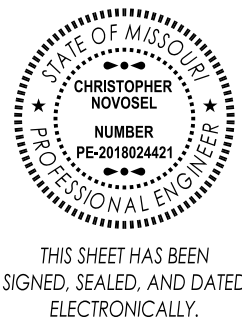
All existing signs that conflict with the proposed traffic control plan shall be covered, no direct pay.

All R11-2 and R11-3a signs shall be mounted on type III barricades.

Traffic Control Plan

C:\12720\Civil 3D\Production Drawings\Street & Storm Plans\12720S400.dwg Layout: 78 Temporary Traffic Control Details -- Wednesday, May 20, 2020, 4:25pm -- Copyright 2020, George Butler Associates, Inc. Architect 00212, Professional Engineer 000133, Professional Land Surveyor 000059

Temporary Traffic Control Details



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architects
engineers

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DATE:	4-2-2020
DESIGN BY:	###
DRAWN BY:	###
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
81	82

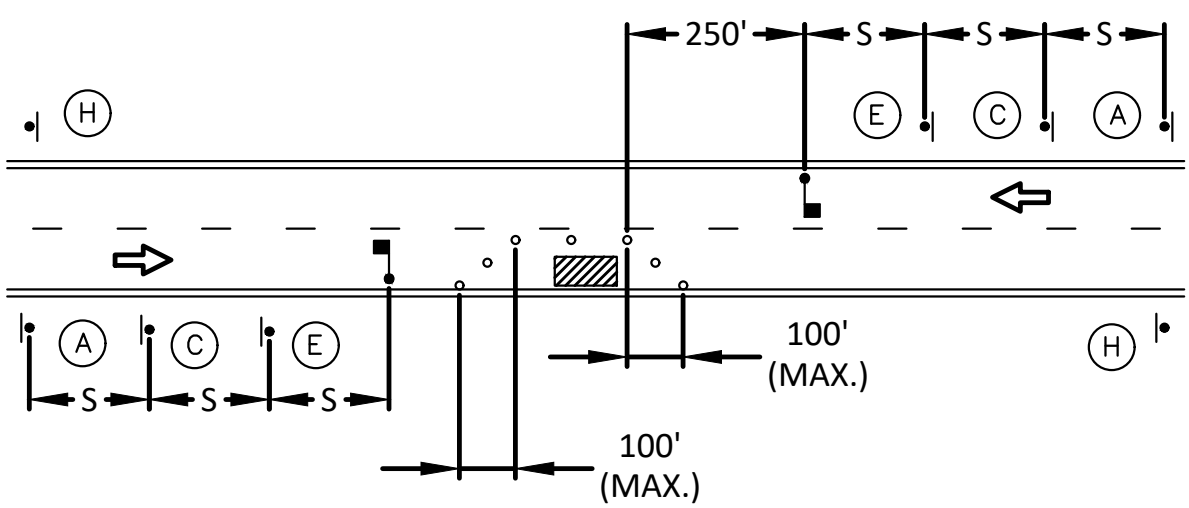
Christopher Novosel
Professional Engineer
License No. 2018024421

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

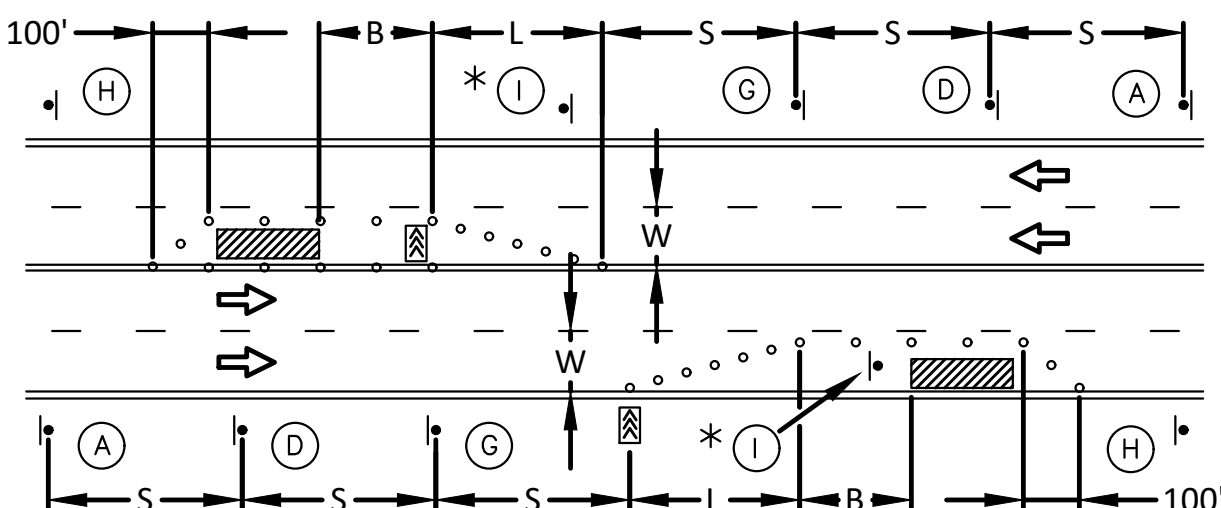
NO.	DATE	REVISIONS	BY	APPROVED

SYMBOL LEGEND

- WORK AREA
- SIGN
- BARRICADE
- DIRECTION OF TRAVEL
- CHANNELIZER
- ARROW PANEL
- FLAGGER

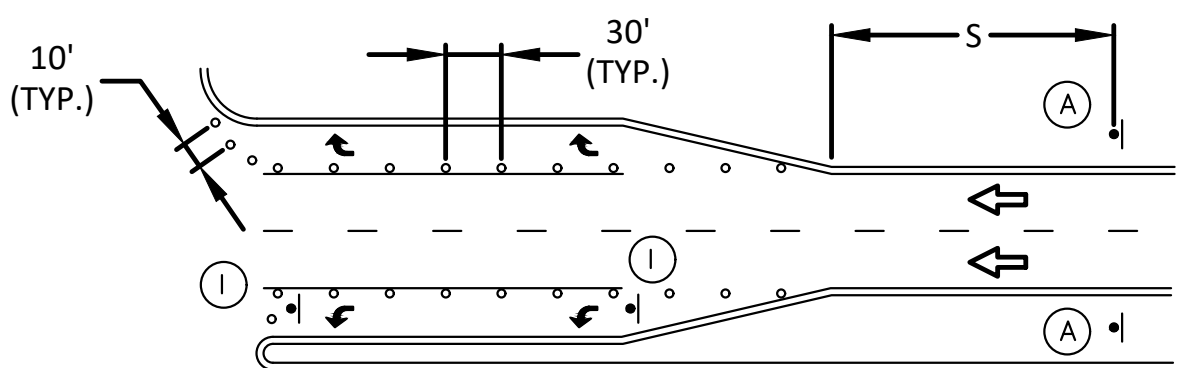


LANE CLOSURE - TWO LANE STREET



LANE CLOSURE - FOUR LANE STREET

* INSTALL SIGNS EVERY 200 FEET THROUGHOUT THE CLOSED LANE OR AS NEEDED



TURN LANE CLOSURE

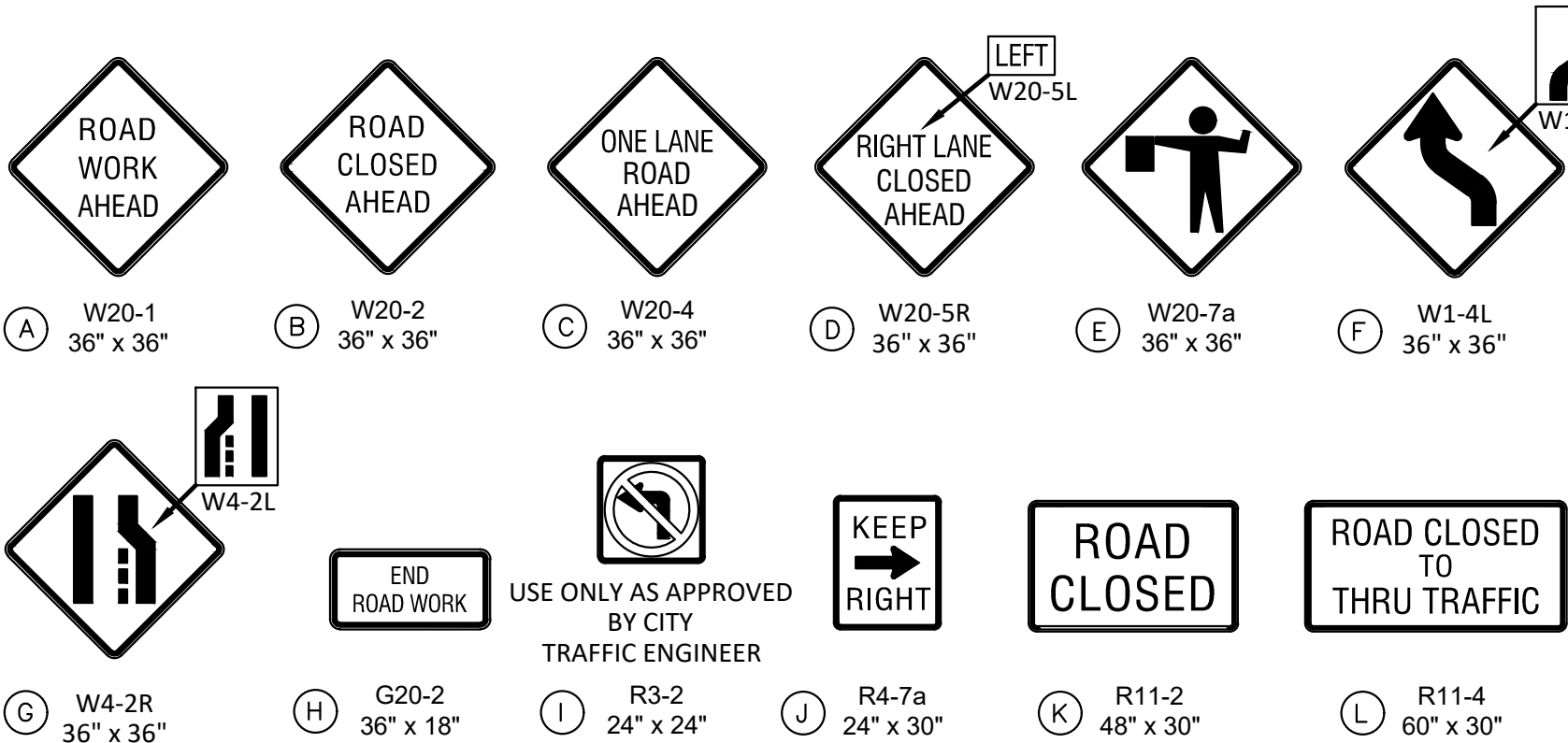
SIGN SPACING "S"	
SPEED LIMIT (MPH)	SPACING (FEET)
25	100
30-35	250
≥ 40	350

TAPER DIMENSIONS (FEET)				
SPEED LIMIT (MPH)	MINIMUM TAPER LENGTH "L", PER LANE WIDTH "W"			MINIMUM NUMBER OF CHANNELIZERS
25	10	11	12	6
30	105	115	125	7
35	150	165	180	8
40	205	225	245	9
45	270	295	320	13

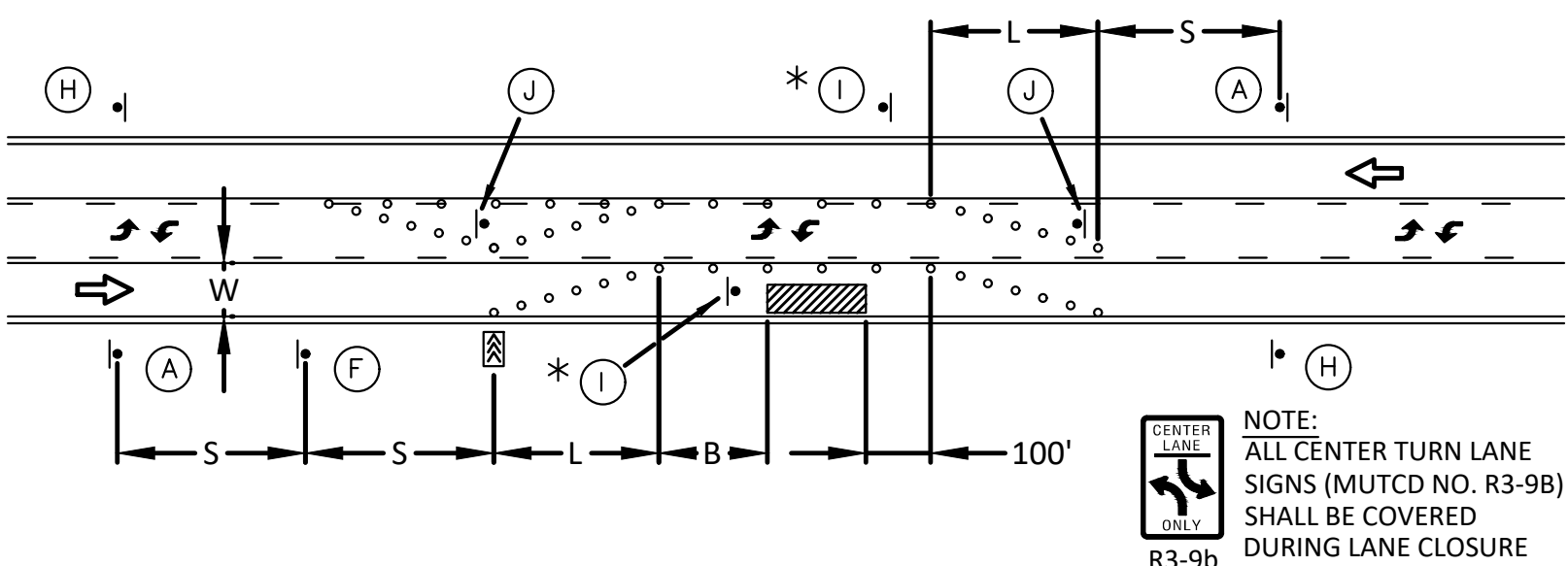
GUIDELINES FOR LENGTH OF LONGITUDINAL BUFFER SPACE "B"	
SPEED LIMIT (MPH)	LENGTH (FEET)
25	35
30	55
35	85
40	120
45	170

MAXIMUM CHANNELIZER SPACING		
SPEED LIMIT (MPH)	WITHIN TAPER (FEET)	OUTSIDE TAPER (FEET)
25	25	50
30	30	60
35	35	70
40	40	80
45	45	90

SIGN LEGEND

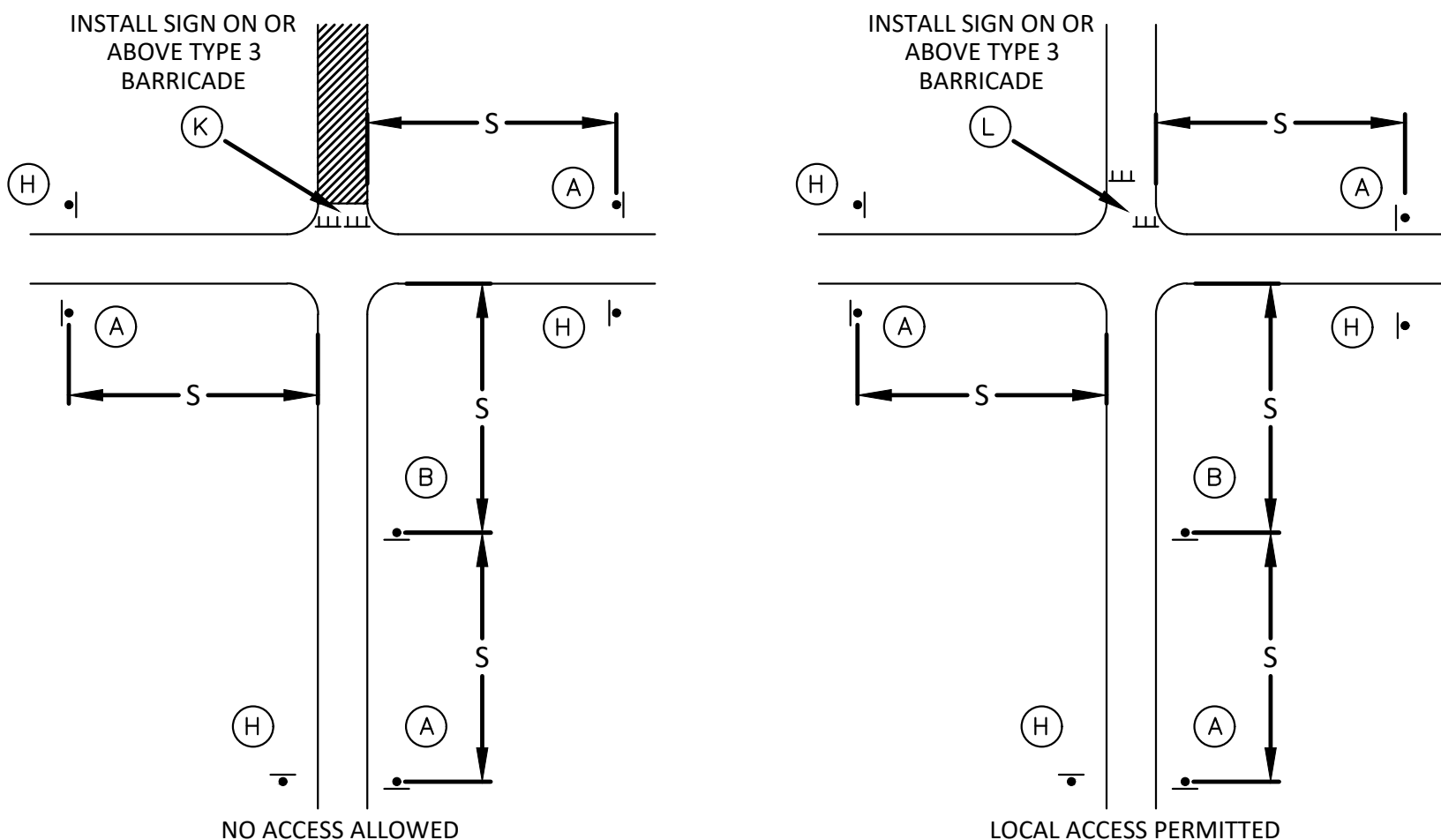


TYPICAL SIGNING FOR WORK ADJACENT TO THE STREET



LANE CLOSURE - THREE LANE STREET

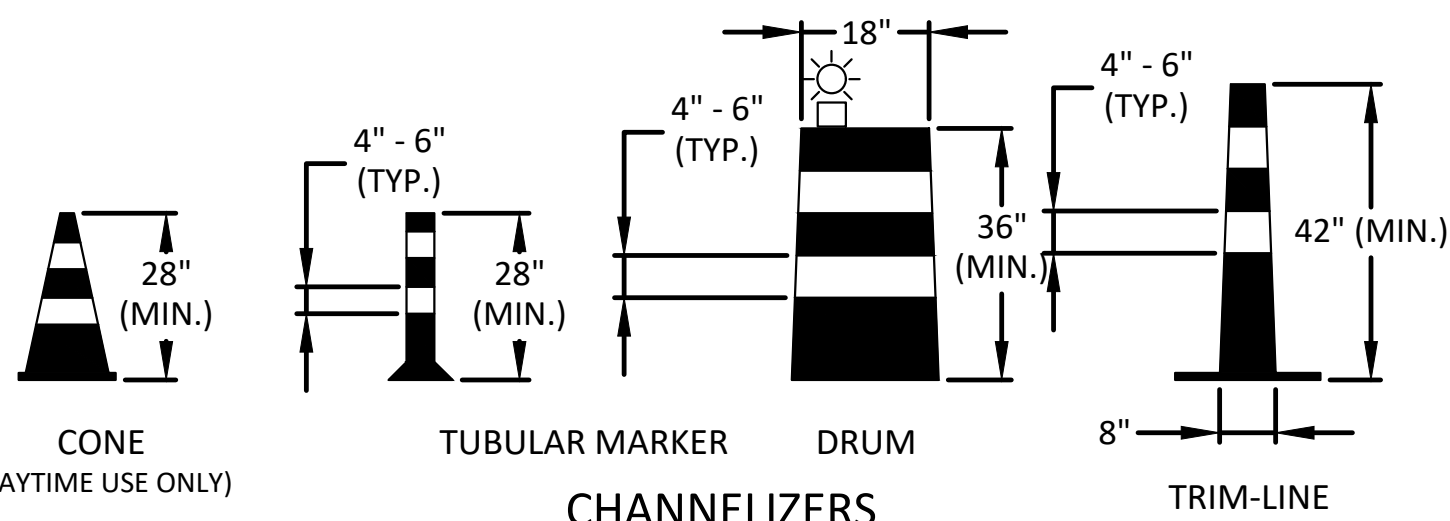
* INSTALL SIGNS EVERY 200 FEET THROUGHOUT THE CLOSED LANE OR AS NEEDED



TYPICAL STREET CLOSURE

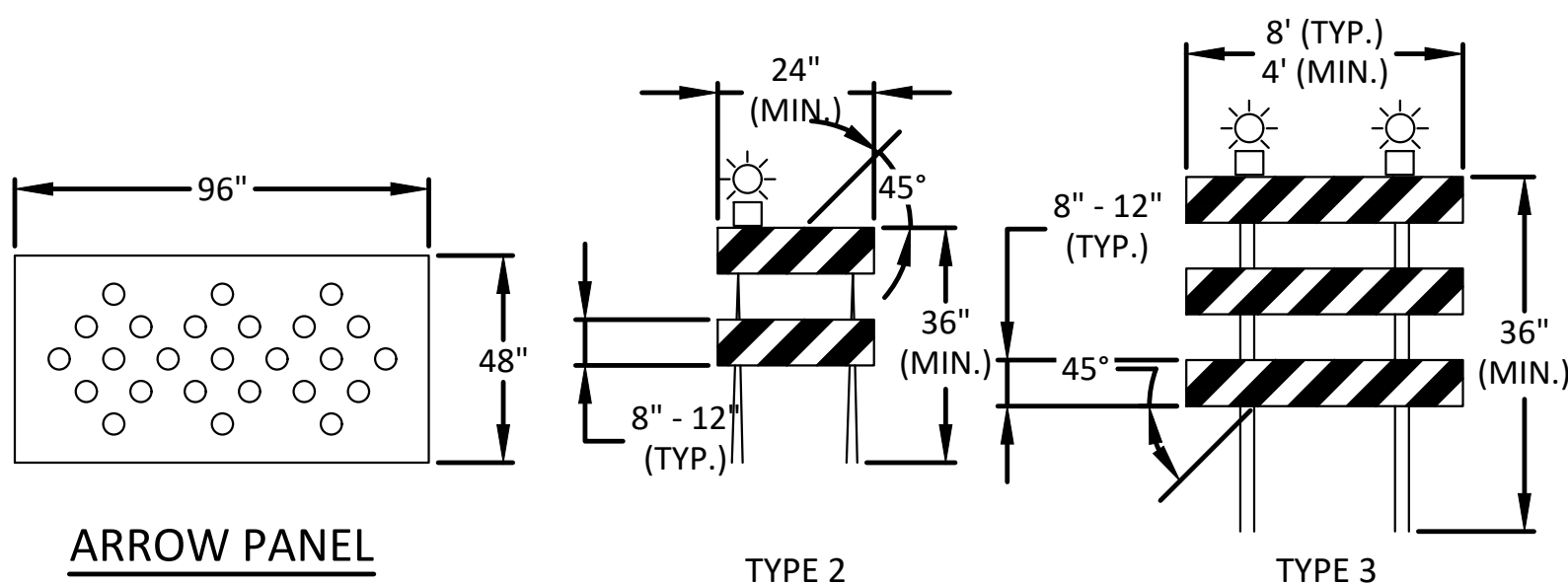
GENERAL NOTES:

- ALL SIGNS, BARRICADES, CHANNELIZERS, MARKINGS AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- ALL TRAFFIC CONTROL DEVICES SHALL BE STANDARD IN SIZE, SHAPE, COLOR, AND MESSAGE, IN GOOD CONDITION, AND RETRO-REFLECTORIZED. ALL SIGNS SHALL BE SECURELY MOUNTED WITH HEIGHT AND LATERAL LOCATION AS DESCRIBED IN THE MUTCD.
- WARNING LIGHTS SHALL BE USED ON BARRICADES IN PLACE AT NIGHT AND ON WARNING SIGNS WHICH ALERT DRIVERS ABOUT A CHANGE IN ALIGNMENT, TRAFFIC CONTROL, LANE CLOSURE, OR ROAD CLOSURE.
- FLAGGERS SHALL BE USED WHERE INDICATED ON THE PLANS, WHERE CONSTRUCTION VEHICLES INTERACT WITH NORMAL TRAFFIC, OR WHERE CONSTRUCTION ACTIVITIES IMPOSE A RESTRICTION ON TRAFFIC, AS DIRECTED BY THE CITY TRAFFIC ENGINEER. WHERE FLAGGERS ARE USED, ADVANCE SIGNING SHALL BE ERECTED AS SHOWN IN THE DETAILS OR AS SPECIFIED IN THE MUTCD. FLAGGERS SHALL MEET THE REQUIREMENTS IN THE MUTCD IN REGARD TO CHARACTER, TRAINING, ATTIRE, AND BEHAVIOR.
- TRIM-LINES ARE THE CITY'S PREFERRED CHANNELIZING DEVICE. CONES MAY NOT BE USED AT NIGHTTIME.
- TRAFFIC CONTROL DEVICES NOT IN USE OR NOT APPLICABLE SHALL BE EITHER COVERED OR REMOVED FROM THE WORK AREA.
- THE CONTRACTOR SHALL USE BARRICADES, STREET PLATES, OR FENCING AS NEEDED TO EFFECTIVELY SHIELD PEDESTRIAN AND VEHICULAR TRAFFIC FROM EXPOSED OBJECTS, EXCAVATIONS, AND CONSTRUCTION ACTIVITIES.
- ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS AND SIDE STREETS UNLESS NOTED OTHERWISE ON THE PLANS.
- NO STREET SHALL BE CLOSED WITHOUT THE APPROVAL OF THE CITY TRAFFIC ENGINEER. THE CONTRACTOR SHALL NOTIFY THE CITY TRAFFIC ENGINEER AT LEAST 7 DAYS IN ADVANCE OF ANY STREET CLOSURE. IF A DETOUR ROUTE AROUND THE CLOSURE IS TO BE PROVIDED, ALL DETOUR SIGNING SHALL BE AS SHOWN ON A PLAN APPROVED BY THE CITY TRAFFIC ENGINEER.
- CONSTRUCTION VEHICLES PARKED ALONG STREETS SHALL BE LOCATED WITHIN THE WORK AREA (TRAFFIC CONTROL) OR WHERE OTHERWISE NORMALLY PERMITTED. CONSTRUCTION MATERIALS, INCLUDING TRAFFIC CONTROL AND VEHICLES SHALL NOT RESTRICT SIGHT DISTANCE FOR VEHICLES EXITING AT STREETS OR DRIVES.
- CONSTRUCTION MATERIALS SHALL BE KEPT OFF OF SIDEWALKS, CONSOLIDATED IN ONE LOCATION WITHIN CITY RIGHT-OF-WAY, AND REMOVED DAILY UNLESS OTHERWISE APPROVED BY THE INSPECTOR. DIRT, MUD, AND OTHER CONSTRUCTION DEBRIS ON STREETS AND SIDEWALKS SHALL BE REMOVED IMMEDIATELY.
- THE CONTRACTOR SHALL NOT PERFORM ANY WORK THAT WILL RESTRICT VEHICULAR TRAFFIC IN ANY WAY BETWEEN THE HOURS OF 7:00 A.M. AND 9:00 A.M. OR 4:00 P.M. AND 6:00 P.M. MONDAY THROUGH FRIDAY UNLESS OTHERWISE INDICATED IN THE SPECIFICATIONS.
- ALL TRAVEL LANES SHOULD BE AT LEAST 11 FEET WIDE UNLESS OTHERWISE AUTHORIZED BY THE CITY TRAFFIC ENGINEER. A "NARROW LANES" SIGN SHALL BE INSTALLED IN ADVANCE OF A LANE WIDTH REDUCTION TO LESS THAN 11 FEET.
- ALL EDGE DROP-OFFS OF MORE THAN 2 INCHES AND LESS THAN 4 INCHES SHOULD BE PROTECTED BY A WEDGE OR BARRIER AND ALL EDGE DROP-OFFS GREATER THAN 4 INCHES SHALL HAVE EDGE PROTECTION (SEE TRAFFIC CONTROL SPECIFICATIONS FOR EDGE TREATMENT REQUIREMENTS).
- THE "WORKERS" SYMBOLIC SIGN (MUTCD NO. W21-1A) MAY BE USED INSTEAD OF THE "ROAD WORK AHEAD" SIGN FOR WORK WITH A DURATION OF 12 HOURS OR LESS. THE "END ROAD WORK" SIGN IS NOT REQUIRED TO BE INSTALLED AFTER THE "WORKERS" SIGN.
- NO TRAFFIC SIGNAL SHALL BE ALTERED OR MODIFIED IN ANY WAY WITHOUT A PLAN APPROVED BY THE CITY TRAFFIC ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TRAFFIC CONTROL DEVICES ON AN AROUND-THE-CLOCK BASIS, WHETHER OR NOT WORK IS ACTIVELY BEING PURSUED AND ANY DEFICIENCIES NOTED SHALL BE CORRECTED IMMEDIATELY.
- THE TRAFFIC CONTROL REQUIREMENTS SHOWN ON THESE PLANS ARE MINIMUM REQUIREMENTS ONLY AND DO NOT ATTEMPT TO ADDRESS IN DEPTH THE VARIETY OF SITUATIONS THAT MAY OCCUR ONCE CONSTRUCTION HAS STARTED. IN NO WAY DO THE REQUIREMENTS SHOWN ON THESE PLANS RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR SELECTING THE PROPER TRAFFIC CONTROL DEVICES AND IMPLEMENTATION PROCEDURES THAT WILL ASSURE THE SAFETY OF DRIVERS, PEDESTRIANS, AND WORKERS AT ALL TIMES.
- SHOULD THE CONTRACTOR FAIL TO ENFORCE THE TRAFFIC CONTROL PLAN OR FAIL TO CLEAN, REPLACE OR OTHERWISE MAINTAIN THE TRAFFIC CONTROL DEVICES WHEN DIRECTED TO DO SO BY THE CITY TRAFFIC ENGINEER OR REPRESENTATIVE, THE CITY MAY TAKE ONE OR MORE OF THE FOLLOWING ACTIONS:
 - EMPLOY ANOTHER AGENCY TO CORRECT DEFICIENCIES IN TRAFFIC CONTROL DEVICES AND DEDUCT THE COST FROM THE CONTRACTOR'S PAY ESTIMATE.
 - STOP THE WORK UNTIL DEFICIENCIES ARE CORRECTED.
 - SUSPEND ALL PAY ESTIMATES UNTIL DEFICIENCIES ARE CORRECTED, OR
 - PLACE THE CONTRACTOR IN DEFAULT.



CHANNELIZERS

NOTE:
WHITE BANDS ON BARRICADES AND CHANNELIZERS SHALL BE MADE FROM HIGH INTENSITY SHEETING MATERIAL.



ARROW PANEL

BARRICADES

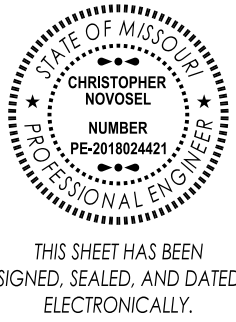
LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Project: TRAFFIC STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
CITY OF LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name: TRF-1 TRAFFIC CONTROL DETAILS

Drawn By: TWS
Checked By: .
Date: 6/2016
Proj. #: .

TRF-1

Temporary Traffic Control Details



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Lenexa, Kansas 66219
913.492.0400
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DATE:	4-2-2020
DESIGN BY:	###
DRAWN BY:	###
PROJECT NO.:	12720
SHEET NO.	TOTAL SHEETS
82	82

Christopher Novosel
Professional Engineer
License No. 2018024421

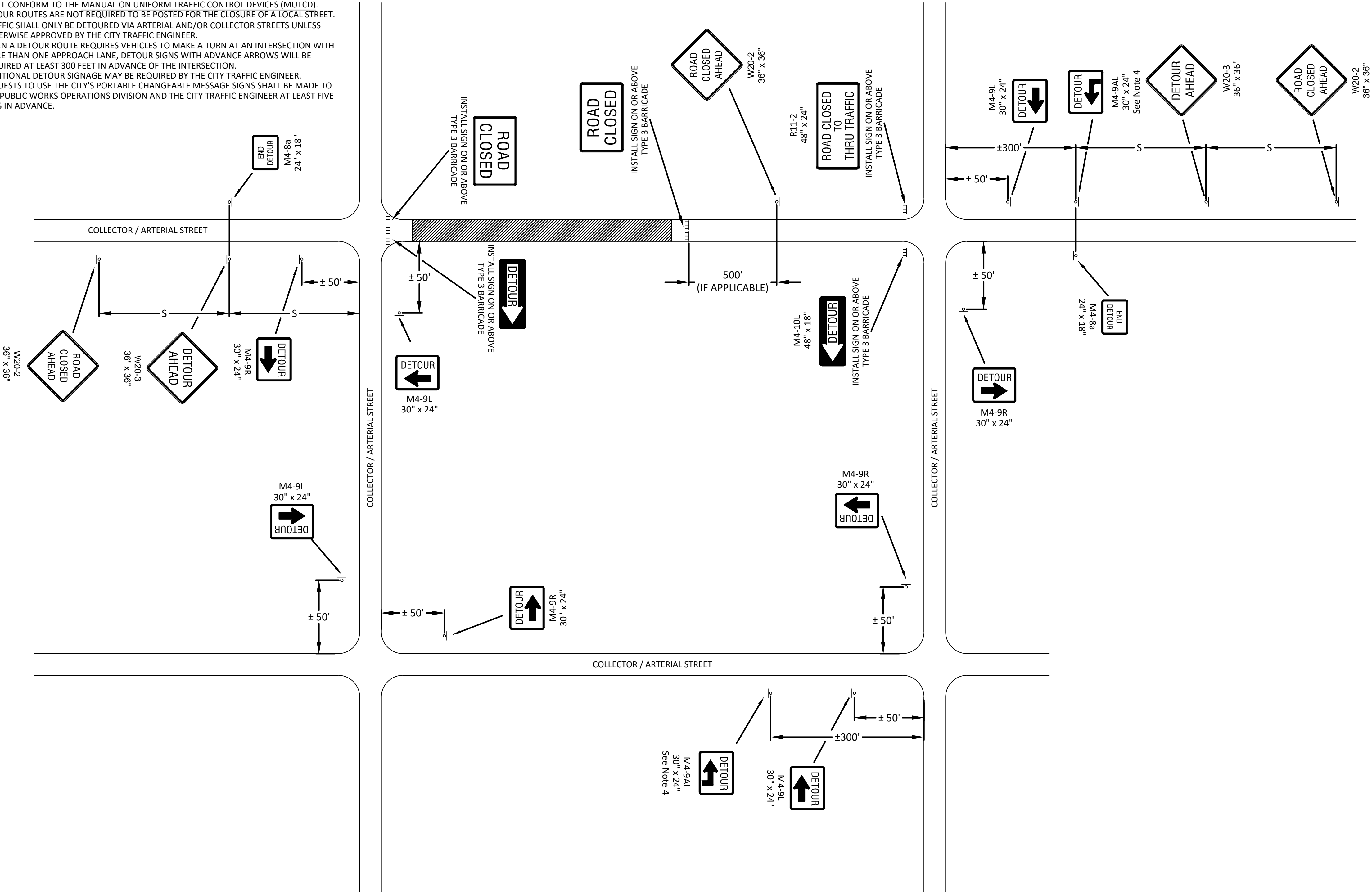
Street and Storm Sewer Plans
Paragon Star Development
Lee's Summit, Missouri

NO.	DATE

REVISIONS	BY	APPROVED

DETOUR GENERAL NOTES:

1. ALL SIGNS, BARRICADES, CHANNELIZERS, MARKINGS AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. DETOUR ROUTES ARE NOT REQUIRED TO BE POSTED FOR THE CLOSURE OF A LOCAL STREET.
3. TRAFFIC SHALL ONLY BE DETOURED VIA ARTERIAL AND/OR COLLECTOR STREETS UNLESS OTHERWISE APPROVED BY THE CITY TRAFFIC ENGINEER.
4. WHEN A DETOUR ROUTE REQUIRES VEHICLES TO MAKE A TURN AT AN INTERSECTION WITH MORE THAN ONE APPROACH LANE, DETOUR SIGNS WITH ADVANCE ARROWS WILL BE REQUIRED AT LEAST 300 FEET IN ADVANCE OF THE INTERSECTION.
5. ADDITIONAL DETOUR SIGNAGE MAY BE REQUIRED BY THE CITY TRAFFIC ENGINEER.
6. REQUESTS TO USE THE CITY'S PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE MADE TO THE PUBLIC WORKS OPERATIONS DIVISION AND THE CITY TRAFFIC ENGINEER AT LEAST FIVE DAYS IN ADVANCE.



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

Project: .
CITY OF LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name: TRF-2 TYPICAL DETOUR DETAIL

Drawn By: TWS
Checked By: .
Date: 6/2016
Proj. #: .

TRF-2