

PUBLIC STREET PLANS FOR
COLLEGE BOULEVARD
BRIDGE OVER INDIAN CREEK
CITY OF OVERLAND PARK
JOHNSON COUNTY, KANSAS
CITY PROJECT NO. BR-2020
KDOT PROJECT NO.: 046 N-0785-01
FEDERAL AID PROJECT NO.: DE-N078(501)
CARS PROJECT NO.: 320001519

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025
FEDERAL:	F.A. NO. DE-N078(501)	

OVERLAND PARK
KANSAS

olsson
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
www.ollson.com

PREPARED & SUBMITTED BY:
olsson

7301 W. 133RD STREET, SUITE 200
OVERLAND PARK, KANSAS 66213

LEGEND

	SURVEY CONTROL POINT		TRAFFIC SIGNAL BOX
	SURVEY BENCHMARK		TRAFFIC SIGNAL MANHOLE
	SURVEY TEMPORARY BENCHMARK		TRAFFIC SIGNAL POLE W/ ARM
	GAS METER		TRAFFIC SIGNAL POLE
	GAS RISER		TRAFFIC SIGNAL CONTROL BOX
	GAS MANHOLE		TRAFFIC SIGNAL PEDESTAL
	GAS REGULATOR		ELECTRIC MANHOLE
	TELEVISION PEDESTAL		ELECTRIC METER
	FIBER BOX		ELECTRIC RISER
	FIBER PEDESTAL		ELECTRIC BOX
	CABLE BOX		ELECTRIC CABINET
	CABLE VAULT		ELECTRIC JUNCTION BOX
	TELEPHONE PEDESTAL		SPRINKLER HEAD
	STORM MANHOLE		SPRINKLER CONTROL VALVE
	STORM GRATE		WATER METER PIT
	SANITARY MANHOLE		FIRE HYDRANT
	YARD LIGHT		WATER METER
	LIGHT POLE		WATER VALVE
	POWER POLE		FLAG POLE
	POWER POLE W/ LIGHT		SIGN
	GUY WIRE		BOLLARD
	STUMP		WOOD POST
	BUSH		STEEL POST
	EVERGREEN TREE		COLUMN
	DECIDUOUS TREE		BORE HOLE
	MAILBOX		FIBER OPTIC VAULT

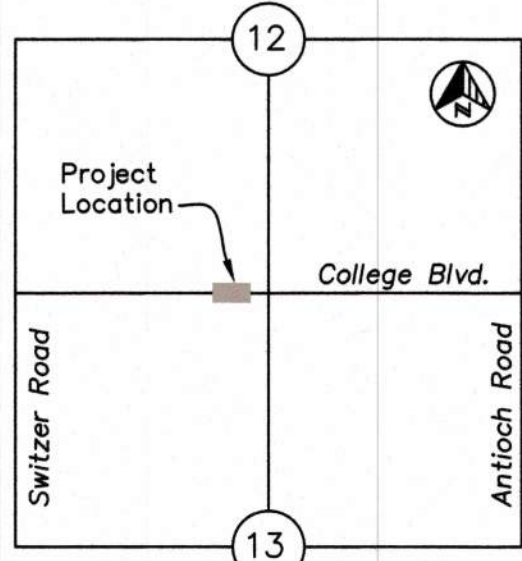
	SECTION LINE
	PROPERTY LINE
	CENTER LINE
	PROPOSED ROW LINE
	EXISTING ROW LINE
	UTILITY EASEMENT
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	EXISTING TELEPHONE LINE
	EXISTING SANITARY LINE
	EXISTING STORM LINE
	EXISTING GAS LINE
	EXISTING WATER LINE
	EXISTING CHAIN LINK FENCE
	EXISTING OVERHEAD ELECTRIC
	EXISTING UNDERGROUND ELECTRIC
	GRADING LIMITS
	TEMPORARY CONSTRUCTION EASEMENT
	PROPOSED CHAIN LINK FENCE
	PROPOSED WOOD PRIVACY FENCE
	EXISTING TREELINE
	EXISTING FIBER OPTIC LINE
	EXISTING CATV LINE
	PROPOSED UNDERDRAIN

	ASPHALT
	CONCRETE
	BRICK PAVERS

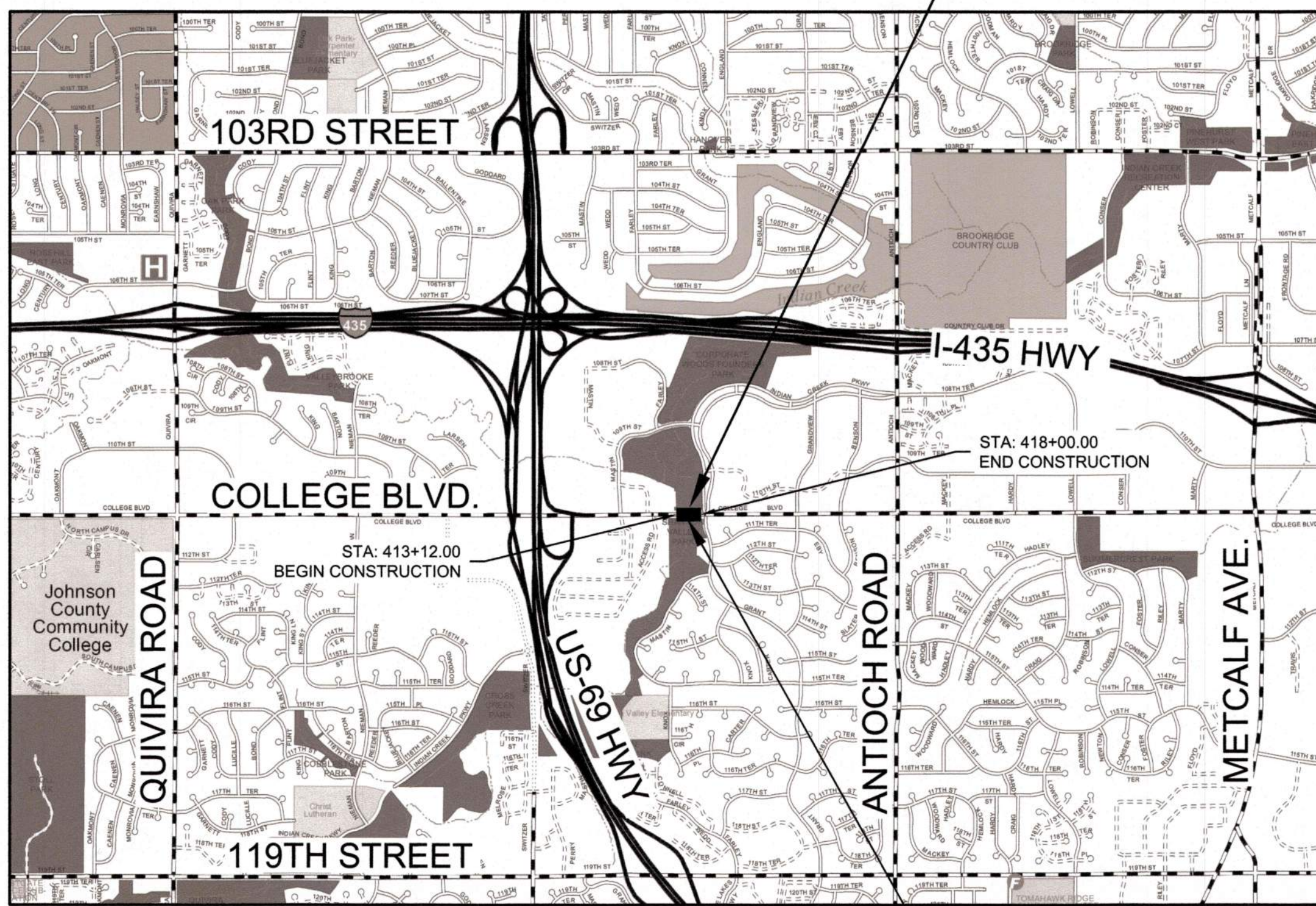
ABBREVIATION TABLE

M.G.	MATCH GRADE
P.	PAVEMENT
TC	TOP OF CURB
BC	BACK OF CURB
EP	EDGE OF PAVEMENT
R/W	RIGHT-OF-WAY
TCE	TEMPORARY CONSTRUCTION EASEMENT
PROP.	PROPOSED
EXIST.	EXISTING
TYP.	TYPICAL
(R)	REMOVAL
CONST.	CONSTRUCT
TBM	TEMPORARY BENCHMARK
CPT	CONTROL POINT
D.N.D.	DO NOT DISTURB
U.I.P.	USE IN PLACE
ADJ.	ADJUST
EL.	ELEVATION
ESMT.	EASEMENT
B-B	BACK OF CURB TO BACK OF CURB DIMENSION
SP.	SPECIAL
DT.	DITCH
STD.	STANDARD
PERM.	PERMANENT

PROJECT LENGTH:	488.00 L.F.
BRIDGE LENGTH:	183.00 L.F.
ROADWAY LENGTH:	305.50 L.F.



Section 12, T.13S., R.24E.
Section 13, T.13S., R.24E.
VICINITY MAP



LOCATION MAP

NOT TO SCALE

DESIGN DESIGNATION

V (DESIGN) = 45 MPH
V (POSTED) = 45 MPH
CLEAR ZONE = 20 FEET
ADT 2023 = 16,716

UTILITY COMPANIES

WATER — WATERONE
JAN HARDIE
10747 RENNER BLVD.
LENEXA, KS 66219
913-895-5775

WASTEWATER — JOHNSON CO. WASTEWATER
BRANDON MORRIS
11811 S. SUNSET DR SUITE 2500
OLATHE, KS 66061
913-715-8537

ELECTRIC — EVERGY
JEFF WOOSTER
16215 W. 180TH ST.
LENEXA, KS 66219
913-652-1835

GAS — ATMOS
SANDRA MUSONZA
25090 W. 110TH TERR.
OLATHE, KS 66061
913-388-0051

TELEPHONE — AT&T
TROY MITCHELL
9444 NALL AVE
OVERLAND PARK, KS 66207
913-293-8453

CABLE — CHARTER
JASON RODICK
8221 W. 119TH ST
OVERLAND PARK, KS 66213
913-215-8910

FIBER OPTIC — EVERFAST
CLARENCE GRIFFIN
14859 W. 95TH ST
LENEXA, KS 66215
913-322-9619

FIBER OPTIC — LUMEN
RICK REDEL
816-518-2804

FIBER OPTIC — COGENT
JASON CANTRELL
816-217-8996

FIBER OPTIC — KANSAS FIBER NETWORK
BRAD BURGER
913-901-7021

FIBER OPTIC — GOOGLE FIBER
JASON DEMAR
KC-GOOGLE-UC@GOOGLE.COM

FIBER OPTIC — OVERLAND PARK
TIM OSWALD
913-485-8239

FIBER OPTIC — VERIZON
BRYAN BURGER
816-204-4494

FIBER OPTIC — ZAYO
DWIGHT DAVIS
816-591-0282

CITY OF OVERLAND PARK
BLUE VALLEY MAINTENANCE FACILITY
6869 W. 153RD ST
OVERLAND PARK, KS 66223
SEAN RUIJ
913-327-6600

TRAFFIC SIGNALS, STREET LIGHTING, AND
CITY OF OVERLAND PARK FIBER OPTICS
SEAN RUIJ
BLUE VALLEY MAINTENANCE FACILITY
6869 W. 153RD ST.
OVERLAND PARK, KS
(913) 327-6600

STA. 415+95 0.00'
NBI STRUCT NO. 421950462874056
BRIDGE 59'-67'54"
PRESTRESSED CONCRETE NU35 SPANS (PBMG)
99'-0" ROADWAY, NO SKEW

PAUL B. MOORE, P.E. DATE 01/31/2025
I CERTIFY THESE PLANS WERE PREPARED BY ME
OR UNDER MY IMMEDIATE PERSONAL SUPERVISION.
THE FOLLOWING DRAWINGS ARE INTENDED TO BE
AUTHENTICATED BY MY SEAL: 1-32, 45-63, 121,
160-189

KRISTEN A. STEHL, P.E. DATE 01/31/2025
I CERTIFY THESE PLANS WERE PREPARED BY ME
OR UNDER MY IMMEDIATE PERSONAL SUPERVISION.
THE FOLLOWING DRAWINGS ARE INTENDED TO BE
AUTHENTICATED BY MY SEAL: 33-44, 64-97

JEREMY S. STRETZ, P.E. DATE 01/31/2025
I CERTIFY THESE PLANS WERE PREPARED BY ME
OR UNDER MY IMMEDIATE PERSONAL SUPERVISION.
THE FOLLOWING DRAWINGS ARE INTENDED TO BE
AUTHENTICATED BY MY SEAL: 122-159

APPROVED BY:
CITY OF OVERLAND PARK

LORRAINE BASALO, P.E. DATE 02/04/2025
CITY ENGINEER

JOHNSON COUNTY, KANSAS
PROJECT APPEARS TO CONFORM TO JOHNSON COUNTY CARS
PROGRAM REQUIREMENTS

SCOTT KARAGIORGAS, P.E. DATE 3/4/2025
JOHNSON COUNTY PUBLIC WORKS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

TITLE SHEET
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS

2025
1 of 189



DWG: F:\2022\06501-07000\022-06529\40-Design\AutoCAD\Final Plans\Sheets\RDW\GENERAL\T_INDEX_02206529.dwg
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COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

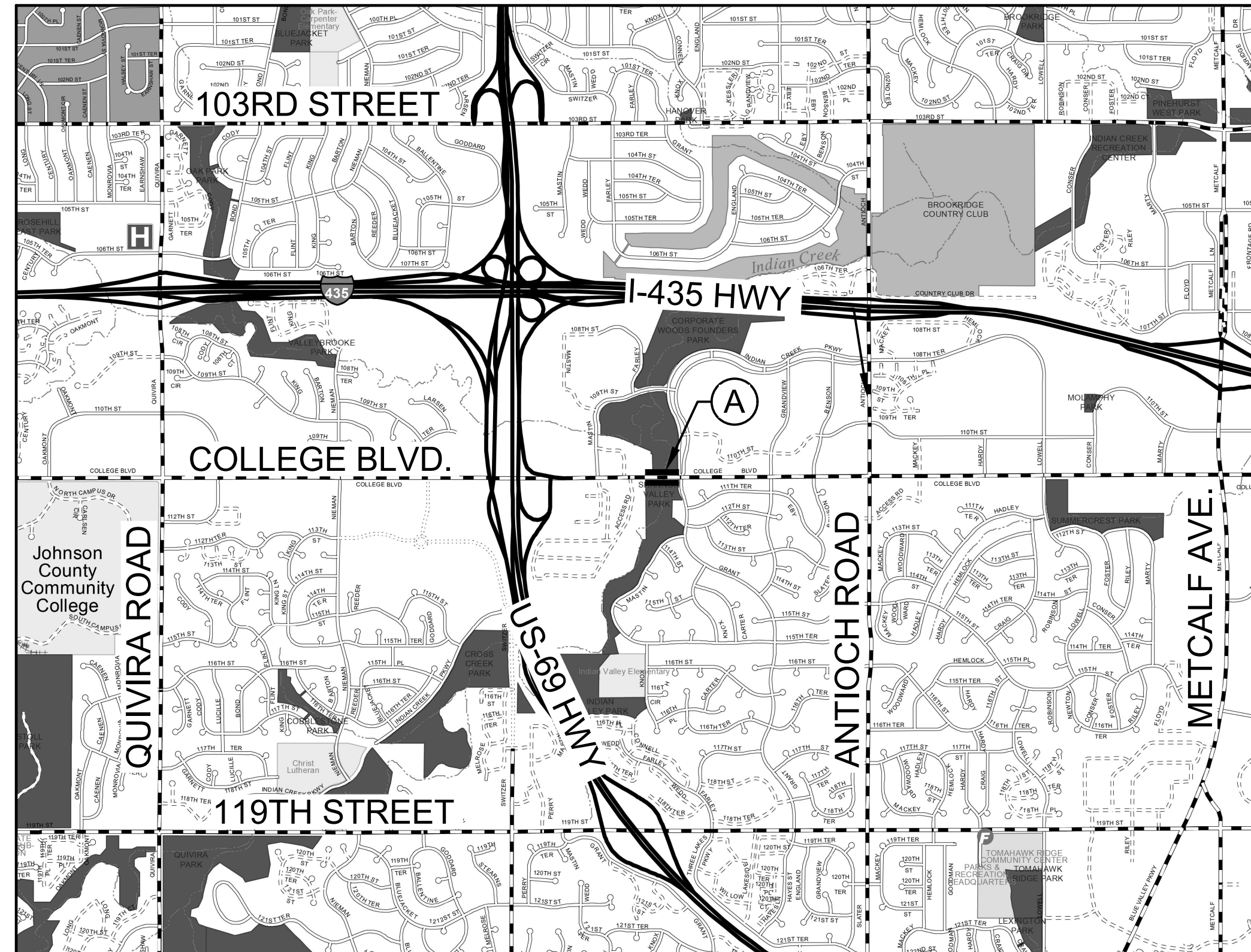
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

GRADING & SURFACING
BRIDGE REPLACEMENT
PEDESTRIAN & BICYCLE PATHS
LIGHTING
PAVEMENT MARKING
SIGNING
SEEDING, SODDING
EROSION CONTROL

olsson
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STA. 415+95.00 CONSTRUCT
NBI STRUCT. NO. 421950462874056
BRIDGE 59'-67'-54'
PRESTRESSED CONCRETE NU35 SPANS (P BMC)
99'-0" ROADWAY, NO SKEW

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

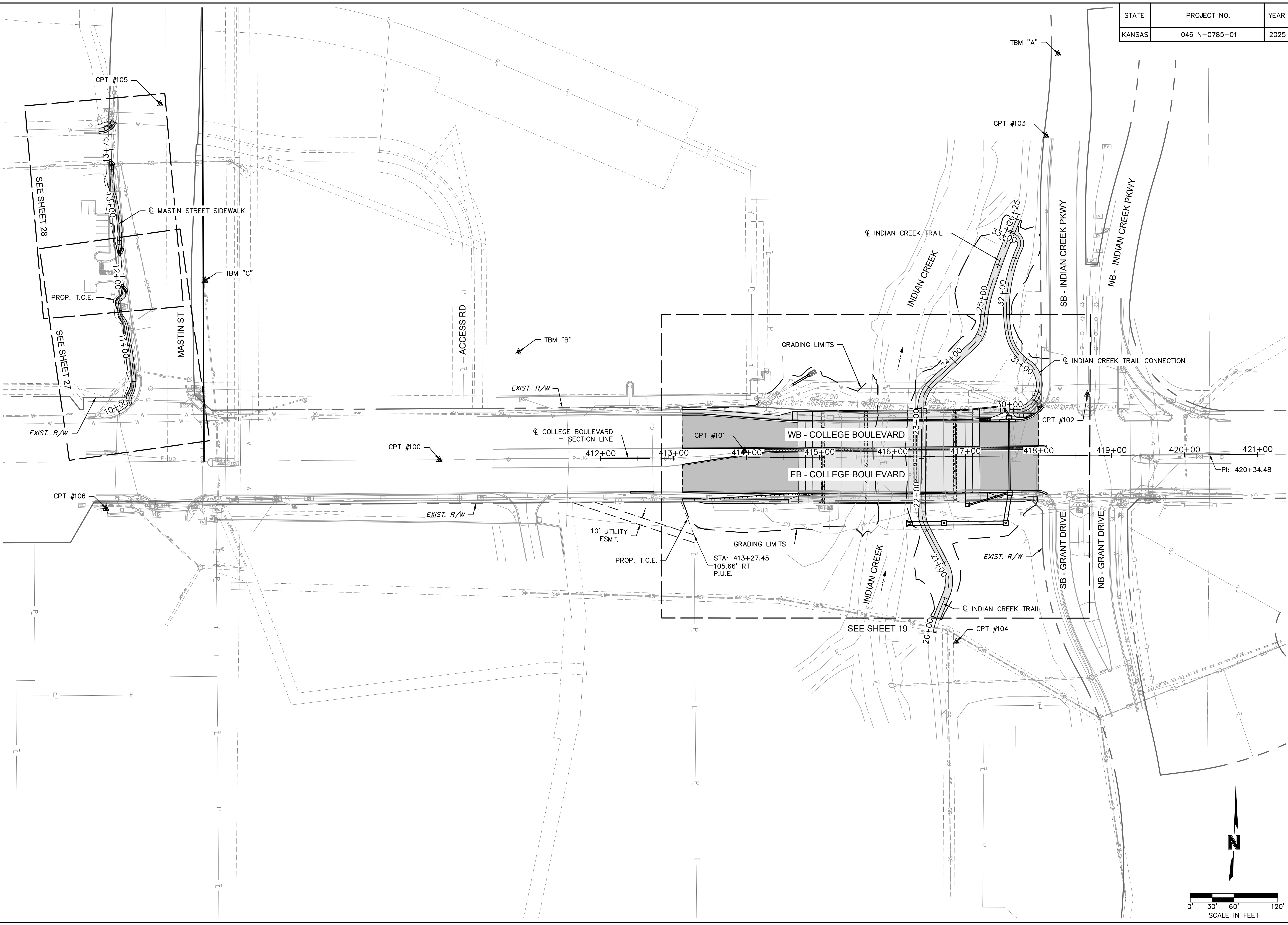
INDEX OF SHEETS
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS
2025

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: T_INDEX_02206529
date: 1-31-2025

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

GENERAL LAYOUT

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
 project no.: 022-06529
 drawing no.: T_LAY_02206529
 date: 1-31-2025

SHEET
 3 of 189

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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

VERTICAL CONTROL POINT BENCHMARK INFORMATION:

Vertical Control based upon Johnson County Vertical Control Network benchmark BM 579.
Bernsten Aluminum Disk stamped BM 579 on top of SE corner of bridge abutment of bridge over Indian Creek.
Elevation: 917.16' (NAVD 88)

Olsson Bench Mark "A":
Set chiseled square cut on center front face of cub inlet, West side of Indian Creek Parkway, 115± North of CP #103.
Elevation: 907.35' (NAVD 88)

Olsson Bench Mark "B":
Set chiseled square cut on top of light pole base, Southwestern most light pole in parking lot for "The Shaps at Corporate Woods" shopping center.
Elevation: 913.54' (NAVD 88)

Olsson Bench Mark "C":
Set chiseled square cut on center front face of curb inlet, West curb line of parking lot for "Academy Bank" building, opposite West building entrance.
Elevation: 913.49' (NAVD 88)

CONTROL POINT INFORMATION:

Horizontal control is based upon GPS observations using the VRS Continuously Operating GNSS Network, holding the published section corner coordinates for the North Quarter Corner, and the Northwest Corner of Section 13, Township 13 South, Range 24 East, per the M33 Township Plat, prepared for the Johnson County, Kansas Public Works Department, and referenced to the Kansas Coordinate System of 1983, North Zone.

Coordinates shown are Ground Coordinates scaled from State Plane Coordinates, holding the North Quarter Corner of Section 13, Township 13 South, Range 24 East as the base point, utilizing a Combined Adjustment Factor of 0.999933867.
N. Corner, Sec. 13-T13S-R24E: N.= 233527.243 E.= 2252203.462

Olsson Control Point #100
Set 1/2" rebar with yellow control cap in grass median of College Boulevard, 418± West of CP #101.
Project Coordinates:
N: 233483.7937
E: 2251148.8425
Elevation: 914.36'

- 12.5' N. to back of curb.
- 44.4' ENE. to digital info sign post.
- 11.7' S. to back of curb.

Olsson Control Point #101
Set 1/2" rebar with yellow control cap in grass median of College Boulevard, 130± West of West edge of bridge over Indian Creek.
Project Coordinates:
N: 233510.8454
E: 2251566.0189
Elevation: 918.69'

- 3.8' N. to back of curb.
- 40.4' E. to edge of brick.
- 5.9' SE. to back of curb.

Olsson Control Point #102
Set 1/2" rebar with yellow control cap in grass median of Indian Creek Parkway, 53± South of South edge of Corporate Woods Monument sign..
Project Coordinates:
N: 233604.3272
E: 2252033.0457
Elevation: 915.11

- 20.8' S. to "Keep Right" sign post.
- 12.9' W. to back of curb.
- 8.8' NW. to center of water vault lid.

Olsson Control Point #103
Set 1/2" rebar with yellow control cap in grass on West side of Southbound lane of Indian Creek Parkway, 429± North of intersection with College Boulevard.
Project Coordinates:
N: 233956.2509
E: 2251964.4699
Elevation: 908.86'

- 7.8' E. to back of curb.
- 103.4' S. to street light pole.
- 21.0' W. to East edge of asphalt trail.

Olsson Control Point #104
Set 1/2" rebar with yellow control cap in grass on East side of asphalt trail, 206± South of South curb line of College Boulevard.
Project Coordinates:
N: 233258.9699
E: 2251865.6222
Elevation: 904.78'

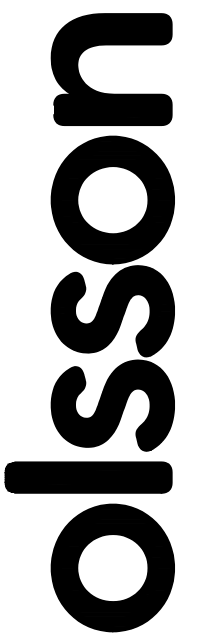
- 20.0' NW. to center of sanitary manhole lid.
- 47.7' WNW. to center of electric vault lid.
- 29.1' W. to East edge of asphalt trail.

Olsson Control Point #105
Set 1/2" rebar with yellow control cap in grass median of Mastin Street, 483± North of intersection with College Boulevard.
Project Coordinates:
N: 233957.6164
E: 2250749.7298
Elevation: 915.77'

- 10.5' East to back of curb.
- 19.5' South to "One Way" sign post.
- 13.3' West to back of curb.

Olsson Control Point #106
Set 1/2" rebar with yellow control cap in grass near Northwest corner of Capitol Federal parking lot.
Project Coordinates:
N: 233400.9508
E: 2250695.0518
Elevation: 912.84'

- 6.9' N. to South edge of sidewalk.
- 6.9' S. to corner of curb at Northwest corner of parking lot.
- 12.1' W. to Northeast corner of Capitol Federal sign.



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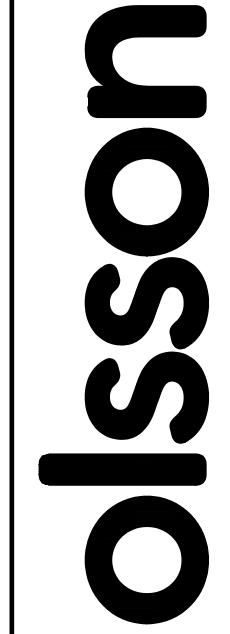
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SURVEY CONTROL		COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	OVERLAND PARK, KANSAS	2025
				REVISIONS

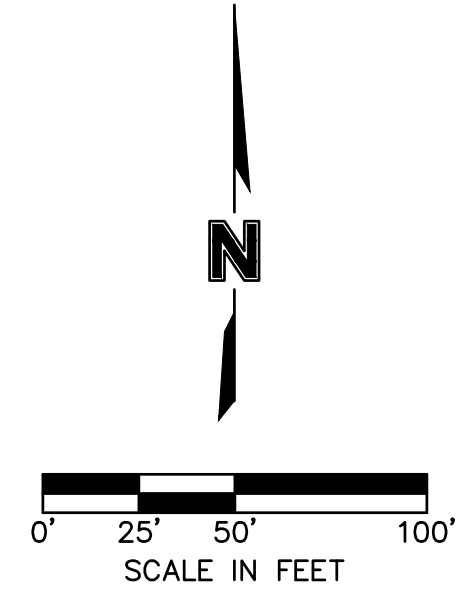
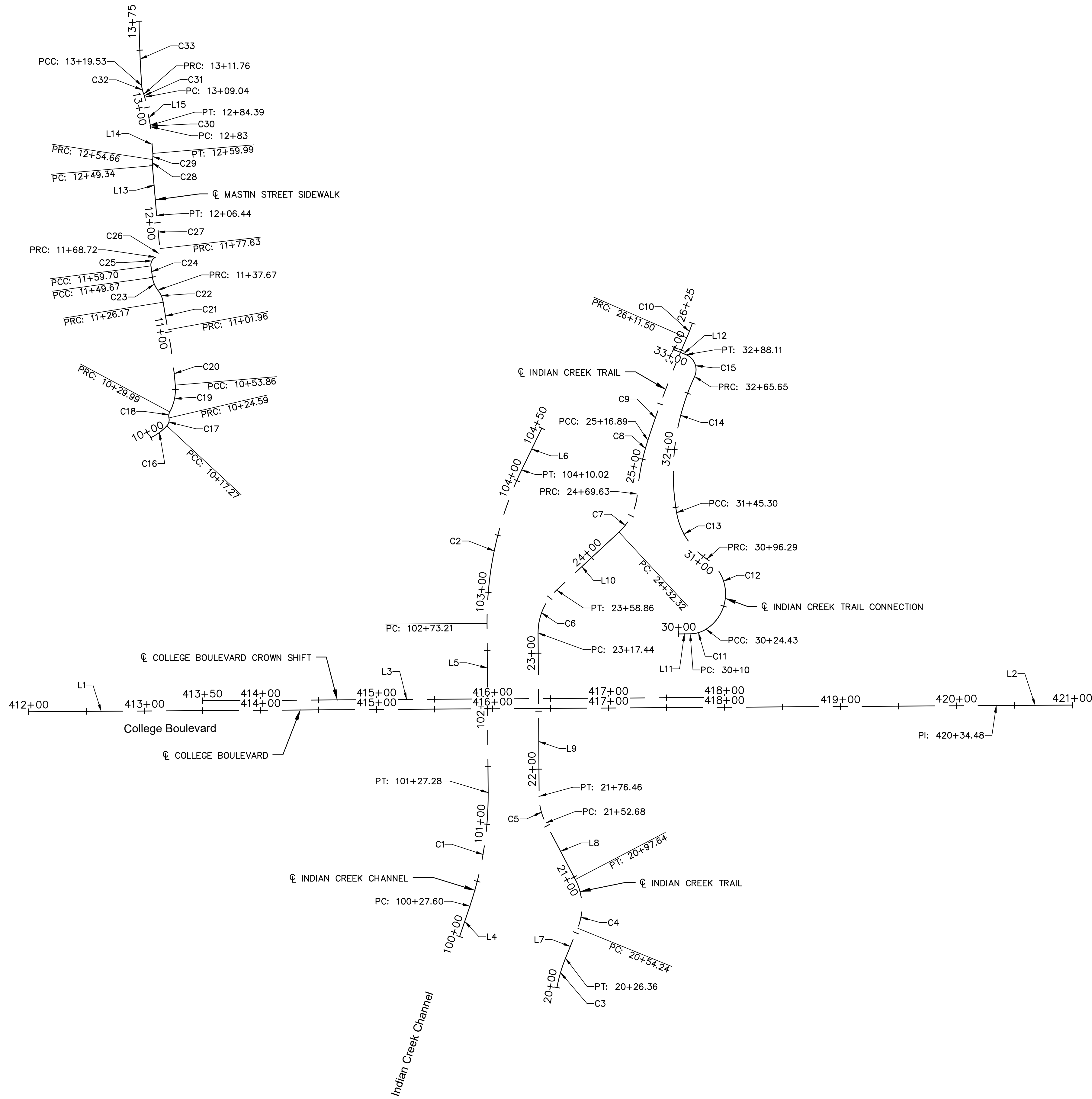
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DWG: F:\2022\06501-07000\022-06529-40-Design\AutoCAD\Final Plans\Sheets\RDWY\GENERAL\T_ALI_02206529.dwg USER: mwelch
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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4760
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

ALIGNMENT DATA	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	

drawn by:	CJC
checked by:	PBM
approved by:	PBM
QA/QC by:	RBF
project no.:	022-06529
drawing no.:	T_ALI_02206529
date:	1-31-2025

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DATE: Feb 02, 2025 12:23pm T_PBASE_02206529 V_XTOPO_02206529 V_XPPATT_02206529 T_PSTRM_02206529

College Boulevard

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L1	412+00.00 420+34.48	233492.7546 233527.2430	2251369.6945 2252203.4615	834.48'	N87°37'53"E			
L2	420+34.48 421+00.00	233527.2430 233529.8800	2252203.4615 2252268.9284	65.52'	N87°41'36"E			

College Boulevard Crown Shift

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L3	413+50.00 418+00.00	233507.4467 233526.0449	2251519.2150 2251968.8305	450.00'	N87°37'53"E			

Indian Creek Channel

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L4	100+00.00 100+27.60	233311.9802 233338.4196	2251747.8771 2251755.7938	27.60'	N16°40'09"E			
C1	PC= 100+27.60 PI= 100+77.90 PT= 101+27.28	233338.4196 233386.6105 233436.8724	2251755.7938 2251770.2236 2251768.1445	99.68'	N7°09'01"E	19°02'17"	50.30'	300.00'
L5	101+27.28 102+73.21	233436.8724 233582.6768	2251768.1445 2251762.1134	145.93'	N2°22'07"W			
C2	PC= 102+73.21 PI= 103+42.82 PT= 104+10.02	233582.6768 233652.2301 233715.9431	2251762.1134 2251759.2363 2251787.2828	136.80'	N10°41'43"E	26°07'40"	69.61'	300.00'
L6	104+10.02 104+50.00	233715.9431 233752.5391	2251787.2828 2251803.3923	39.98'	N23°45'33"E			

Indian Creek Trail

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
C3	PC= 20+00.00 PI= 20+13.23 PT= 20+26.36	233271.0347 233284.1170 233296.5378	2251833.3012 2251835.2538 2251839.8014	26.36'	N14°17'57"E	11°37'10"	13.23'	130.00'
L7	20+26.36 20+54.24	233296.5378 233322.7193	2251839.8014 2251849.3871	27.88'	N20°06'32"E			
C4	PC= 20+54.24 PI= 20+77.42 PT= 20+97.64	233322.7193 233344.4794 233364.6235	2251849.3871 2251857.3540 2251845.9002	43.40'	N4°45'24"W	49°43'52"	23.17'	50.00'
L8	20+97.64 21+52.68	233364.6235 233412.4665	2251845.9002 2251818.6970	55.04'	N29°37'20"W			
C5	PC= 21+52.68 PI= 21+64.80 PT= 21+76.46	233412.4665 233423.0034 233435.1140	2251818.6970 2251812.7058 2251812.2048	23.78'	N15°59'44"W	27°15'13"	12.12'	50.00'
L9	21+76.46 23+17.44	233435.1140 233575.9736	2251812.2048 2251806.3782	140.98'	N2°22'07"W			
C6	PC= 23+17.44 PI= 23+39.42 PT= 23+58.86	233575.9736 233597.9338 233613.4509	2251806.3782 2251805.4699 2251821.0358	41.42'	N21°21'38"E	47°27'31"	21.98'	50.00'
L10	23+58.86 24+32.32	233613.4509 233665.3144	2251821.0358 2251873.0626	73.46'	N45°05'24"E			
C7	PC= 24+32.32 PI= 24+51.89 PT= 24+69.63	233665.3144 233679.1337 233698.6918	2251873.0626 2251896.9254 2251887.7215	37.31'	N23°42'38"E	42°45'33"	19.57'	50.00'
C8	PC= 24+69.63 PI= 24+93.37 PT= 25+16.89	233698.6918 233722.4098 233745.2428	2251887.7215 2251888.6869 2251895.1773	47.25'	N9°05'58"E	13°32'14"	23.74'	200.00'
C9	PC= 25+16.89 PI= 25+64.23 PT= 26+11.50	233745.2428 233790.7837 233834.7934	2251895.1773 2251908.1226 2251925.5783	94.61'	N18°45'06"E	5°46'00"	47.35'	940.00'
C10	PC= 26+11.50 PI= 26+18.25 PT= 26+25.00	233834.7934 233841.0723 233847.5388	2251925.5783 2251928.0687 2251930.0211	13.50'	N19°13'03"E	4°50'06"	6.75'	160.00'

Indian Creek Trail Connection

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L11	30+00.00 30+10.00	233579.3813 233579.7946	2251927.4757 2251937.4671	10.00'	N87°37'53"E			
C11	PC= 30+10.00 PI= 30+17.40 PT= 30+24.43	233579.7946 233580.1005 233584.2573	2251937.4671 2251944.8642 2251950.9906	14.43'	N71°44'14"E	31°47'18"	7.40'	26.00'
C12	PC= 30+24.43 PI= 30+80.26 PT= 30+96.29	233584.2573 233615.6072 233644.7535	2251950.9906 2251997.1952 2251949.5698	71.87'	N1°20'43"W	114°22'36"	55.84'	36.00'
C13	PC= 30+96.29 PI= 31+22.25 PT= 31+45.30	233644.7535 233658.3063 233683.7271	2251949.5698 2251927.4243 2251922.1436	49.01'	N35°08'04"W	46°47'55"	25.96'	60.00'
C14	PC= 31+45.30 PI= 32+07.36 PT= 32+65.65	233683.7271 233744.4880 233801.7212	2251922.1436 2251909.5218 2251933.5123	120.35'	N5°30'12"E	34°28'38"	62.06'	200.00'
C15	PC= 32+65.65 PI= 32+80.13 PT= 32+88.11	233801.7212 233815.0769 233820.2205	2251933.5123 2251939.1107 2251925.5733	22.46'	N23°13'36"W	91°56'15"	14.48'	14.00'
L12	32+88.11 33+00.00	233820.2205 233824.4435	2251925.5733 2251914.4587	11.89'	N69°11'44"W			

Mastin Street Sidewalk

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
C16	PC= 10+00.00 PI= 10+08.73 PT= 10+17.27	233533.8770 233537.9589 233544.5642	2250707.2895 2250715.0107 2250720.7246	17.27'	N51°29'56"E	21°16'30"	8.73'	46.50'
C17	PC= 10+17.27 PI= 10+21.25 PT= 10+24.59	233544.5642 233547.5774 233551.4240	2250720.7246 2250723.3311 2250722.2936	7.32'	N12°53'00"E	55°57'22"	3.98'	7.50'
C18	PC= 10+24.59 PI= 10+27.41 PT= 10+29.99	233551.4240 233554.1503 233556.6846	2250722.2936 2250721.5583 2250722.8035	5.40'	N5°32'11"E	41°15'44"	2.82'	7.50'
C19	PC= 10+29.99 PI= 10+42.27 PT= 10+53.86	233556.6846 233567.7008 233579.8891	2250722.8035 2250728.2164 2250726.7662	23.87'	N9°41'28"E	32°57'10"	12.27'	41.50'
C20	PC= 10+53.86 PI= 10+77.93 PT= 11+01.96	233579.8891 233603.7917 233627.2990	2250726.7662 2250723.9222 2250718.7421	48.10'	N9°36'23"W	5°38'31"	24.07'	488.50'
C21	PC= 11+01.96 PI= 11+14.07 PT= 11+26.17	233627.2990 233639.1170 233650.9934	2250718.7421 2250716.1378 2250713.8140	24.20'	N11°44'57"W	1°21'22"	12.10'	1022.50'
C22	PC= 11+26.17 PI= 11+32.05 PT= 11+37.67	233650.9934 233656.7668 233661.2484	2250713.8140 2250712.6843 2250708.8734	11.51'	N25°43'25"W	29°18'18"	5.88'	22.50'
C23	PC= 11+37.67 PI= 11+43.82 PT= 11+49.67	233661.2484 233665.9311 233671.9879	2250708.8734 2250704.8915 2250703.8435	12.00'	N25°05'47"W	30°33'35"	6.15'	22.50'
C24	PC= 11+49.67 PI= 11+54.69 PT= 11+59.70	233671.9879 233676.9267 233681.8736	2250703.8435 2250702.9889 2250702.1825	10.02'	N9°32'14"W	0°33'30"	5.01'	1028.50'
C25	PC= 11+59.70 PI= 11+64.84 PT= 11+68.72	233681.8736 233686.9498 233689.5506	2250702.1825 2250701.3551 2250705.7921	9.02'	N25°10'56"E	68°52'51"	5.14'	7.50'
C26	PC= 11+68.72 PI= 11+73.78 PT= 11+77.63	233689.5506 233692.1136 233697.1266	2250705.7921 2250710.1647 2250709.4175	8.91'	N25°34'22"E	68°05'59"	5.07'	7.50'
C27	PC= 11+77.63 PI= 11+92.03 PT= 12+06.44	233697.1266 233711.3742 233725.6762	2250709.4175 2250707.2940 2250705.5741	28.81'	N7°40'02"W	1°37'11"	14.41'	1018.99'
L13	12+06.44 12+49.34	233725.6762 233768.2740	2250705.5741 2250700.4493	42.91'	N6°51'36"W			
C28	PC= 12+49.34 PI= 12+52.02 PT= 12+54.66	233768.2740 233770.9283 233773.5835	2250700.4493 2250700.1300 2250700.4415	5.32'	N0°05'03"W	13°33'07"	2.67'	22.50'
C29	PC= 12+54.66 PI= 12+57.34 PT= 12+59.99	233773.5835 233776.2387 233778.8929	2250700.4415 2250700.7531 2250700.4338	5.32'	N0°05'03"W	13°33'07"	2.67'	22.50'
L14	12+59.99 12+83.00	233778.8929 233801.7408	2250700.4338 2250697.6850	23.01'	N6°51'36"W			
C30	PC= 12+83.00 PI= 12+83.70 PT= 12+84.39	233801.7408 233802.4323 233803.1102	2250697.6850 2250697.6018 2250697.4423	1.39'	N10°02'56"W	6°22'41"	0.70'	12.50'
L15	12+84.39 13+09.04	233803.1102 233827.1048	2250697.4423 2250691.7977	24.65'	N13°14'17"W			
C31	PC= 13+09.04 PI= 13+10.40 PT= 13+11.76	233827.1048 233828.4324 233829.6613	2250691.7977 2250691.4854 2250690.8942	2.72'	N19°27'52"W	12°27'10"	1.36'	12.50'
C32	PC= 13+11.76 PI= 13+15.68 PT= 13+19.53	233829.6613 233833.1991 233837.1042	2250690.8942 2250689.1923 2250688.7890	7.77'	N15°47'36"W	19°47'42"	3.93'	22.50'
C33	PC= 13+19.53 PI= 13+47.27 PT= 13+75.00	233837.1042 233864.6990 233892.4079	2250688.7890 2250685.9394 2250684.5933	55.47'	N4°20'19"W	3°06'52"	27.74'	1020.50'

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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REVISIONS

REV. NO.	DATE	REVISION DESCRIPTION	BY

ALIGNMENT DATA
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS

2025

drawn by: _____	CJC
checked by: _____	PBM
approved by: _____	PBM
QA/QC by: _____	RBE
project no.: _____	022-06529
drawing no.: _____	T ALI 02206529
date: _____	1-31-2025

SHEET
6 of 189

General Notes:

- All excavation shall be unclassified, with the exception of bridge related Class I & II excavation. No separate or additional payment will be made for any rock excavation required for these improvements. Trench excavation shall be subsidiary to other items of work.
- All construction shall conform to the City of Overland Park Municipal Code (OPMC) in effect on the City's approval date shown on these plans and incorporated herein by reference.
- The Contractor shall thoroughly review and become familiar with the Project Special Provisions and General Conditions of the Contract Documents prior to beginning construction on this project.
- All workmanship and materials shall be subject to the inspection and approval by City personnel.
- 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 insure the safety of motorists, pedestrians, and workers at all times. All traffic control shall be in conformance with the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) and the Overland Park Traffic Control Handbook for Street Maintenance and Construction Operations.
- The Contractor is responsible for the protection of all property corners, Johnson County Benchmarks, and section corners. Any property corner, Johnson County Benchmark, and/or section corner disturbed or damaged by construction activities shall be reset by a Registered Land Surveyor licensed in the State of Kansas, at the Contractor's expense, unless otherwise noted.
- The Contractor shall be responsible for the restoration of right-of-way and for damaged improvements such as curbs, sidewalks, driveways, street light and traffic signal boxes, traffic signal loop lead-ins, signal poles, etc. Damaged improvements shall be repaired in conformance with the latest City standards and to the City's satisfaction at the Contractor's expense.
- The Contractor shall be responsible for maintaining and, if damaged, restoring mailboxes, driveway markers, yard lights, basement drains, roof drains, sprinkler systems, utility service line connections, septic systems and all other public and private property to a condition equal to or better than that before damage occurred. Adjustments, reinstallations, and replacements shall be subsidiary to all other bid items.
- The Contractor is responsible for providing berms, silt fences, or other approved means to prevent eroded materials from entering streets open to traffic, the storm sewer systems, or properties adjacent to the project. In the event the preventative measures are not effective, the Contractor shall remove any debris, silt, or mud and restore the effected area to its original or better condition.
- All concrete used in this work shall meet the requirements of the OPMC. KCMMB Concrete shall be used throughout, unless otherwise noted. The Contractor shall, at the Contractor's expense, submit and receive approval of a concrete mix design by the City Engineer prior to placement of any concrete. The mix design shall include certified test results by an independent laboratory for the aggregate tests required by the Overland Park Municipal Code. All ready-mix concrete delivered to the job site shall be so certified.
- All reinforced concrete pipe shall be Class III, unless otherwise noted on the plans. All RCP shall use rubber gasket joints that conform to ASTM C-1628-06, except as noted in the OPMC.
- All repairs, adjustments, encasement, or modifications to the sanitary sewer lines or structures shall be performed by a contractor who is pre-qualified with the Johnson County Wastewater District (JCW). Requests for pre-qualification shall be directed to the office of the JCW. The Contractor must demonstrate to the satisfaction of JCW that he has sufficient equipment and experience to complete the work involved. The contractor shall contact JCW for inspection prior to any sanitary work. All adjustments of facilities are subject to the approval of JCW and shall be done in accordance with the JCW's "Construction and Material Specification for Sanitary Sewers, KDHE No.20969", and the JCW's Standard Detail Sheet. Inspection of all repairs, modifications, or adjustments by JCW is required.
- The Contractor shall install lighting conduit and signal conduit prior to constructing pavement. All non-evasive loops shall be trenched in and backfilled with flowable fill prior to installation of subgrade. Boring of loops will not be allowed after subgrade has been installed. For location of existing street lighting and traffic signal cable conduit, contact the City of Overland Park Traffic Services Maintenance, 913-327-6605.
- The removal of existing signs shall be subsidiary to "Removal of Existing Structures". The Engineer will notify the Contractor of which signs will be retained by the City.
- All existing property signs shall be removed and reset by the Contractor at his own expense.
- Any existing signs removed by the Contractor for construction purposes other than stop signs, yield signs, and street name signs shall be stockpiled in one location for pick up by the City sign crews. Stop signs, yield signs, and street name signs removed shall be temporarily erected in reflectorized drums (no less than 7" from grade) until City sign crews can be notified and re-installation is accomplished. Any temporary stop or yield sign installation to be left in place overnight will require prior approval from the Engineer.
- All trees to be grubbed are marked thus "X" on the demolition sheets. Spare all trees that are marked DND (Do Not Disturb) or any trees not marked at all. Exceptionally good trees shall be spared by adjusting backslope lines during construction, as directed by the Engineer. All trees within the construction limits to be saved shall have their trunks and root zone physically protected prior to construction operations by methods approved by the Engineer.

- Where excavation is shown to be wasted on sites provided by the Contractor, these sites shall be approved by the Engineer as to suitability, appearance and site location. Locations that, in the opinion of the Engineer, will leave an unsightly appearance will not be approved.
- All borrow to be obtained from areas provided by the Contractor shall be approved by the Engineer, both as to suitability of material and site location. Contractor supplied borrow material shall be inorganic soil free of concrete rubble, asphalt, rock, shale, wood, vegetation and debris. In addition, special care shall be taken in this approval to minimize the increase of siltation and turbidity of streams, lakes and reservoirs and to avoid interference with the movement of migratory fish. Areas which, in the opinion of the Engineer, may leave an unsightly appearance to the project will not be approved.
- The Contractor shall remove and dispose of all unsuitable material from existing roadside ditches and other locations as noted or as directed by the Engineer.
- All manholes, catch basins, utility valves, and meter pits shall be adjusted or rebuilt to grade as required and set in concrete if in roadway for field adjustment. This work shall be subsidiary to all other bid items unless otherwise noted.
- Connections of storm sewer pipe to new or existing inlets, manholes, culverts and existing pipes shall be considered subsidiary to other bid items.
- Sawcuts shall be full depth. This shall be subsidiary to paving items.
- Driveways shall be removed and replaced to existing joints, unless otherwise noted.
- All existing structures within the construction limits shall be removed, unless otherwise noted on the plans. This work shall be paid for under the bid item "Removal of Existing Structures".
- All work shall be confined within the easements and/or construction limits as directed by the Engineer. All construction limits shown are approximate and may be extended or reduced at the direction of the Engineer.
- The Contractor shall notify all property owners a minimum 24 hours in advance of all work pertaining to their entrances.
- Police, Fire, Med-Act and school bus companies shall be notified prior to closing of any street with approval of the Engineer.
- The Contractor shall sod or seed all disturbed areas within the project limits, unless noted otherwise on the plans.
- The information shown on these plans concerning the type and location of underground utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for contacting all utility companies for field location of all underground utility lines prior to any excavation and for making his own verification as to the type and location of underground utilities as may be necessary to avoid damage thereto.
- Public and private utility facilities shall be moved or adjusted as necessary by the owners to fit the new construction, unless otherwise noted on the plans or in the contract documents.
- Any existing and/or temporary storm sewer pipes or culverts to be abandoned in place shall be completely filled using a flowable fill mixture. The flowable fill mixture of cement, fine aggregate, forming agents and water shall be approved by the Engineer and shall possess adequate flow characteristics to completely fill all voids. The cost of flowable fill shall be considered subsidiary to other items of work.
- Flowable fill (low strength) shall be used to backfill around all storm sewer structures (within 2' of finish grade) and all trenches under pavement areas. The flowable fill shall be subsidiary to other items of work.
- The Contractor shall at no time leave equipment, materials or debris within 4' of traveled way or locations that could obstruct intersection sight distance, obstruct any existing capacity of storm sewer system, or cause flooding or erosion to residences.
- The Contractor shall pothole and survey all utility crossings prior to construction of any portion of storm sewer, underdrains, conduit, and any other subsurface elements of the project. This Survey information shall be forwarded to the Engineer for review. The Contractor shall not begin construction on any subsurface element on the project without the approval of the Engineer. This item shall be subsidiary to other bid items.
- All irrigation systems disturbed during construction shall remain operational in an interim configuration in order to provide irrigation beyond the construction limits. After construction the Contractor shall replace the irrigation system (design build) to a final configuration. All work shall be subsidiary to the unit price for "Lawn Sprinkler System". Systems not identified as a pay item shall be subsidiary to other bid items.
- Drives or streets with a grade differential of one inch or more during construction will require ramping with commercial grade asphalt. This work shall be subsidiary to other bid items.
- Overland Park has the first right of refusal on demolition and removal items.
- The Contractor shall support and protect all exposed utilities in trenches and brace all poles as required by the Engineer.
- The proposed curb and gutter depth shall be equal to the depth of the adjacent pavement.
- The concrete walking path shall have contraction joints sawed at right angles to the centerline of the trail. Contraction joints shall be 1/4" wide by 1.5" deep on shall be made with a concrete saw only. The joint spacing shall be 10' or as directed by the Engineer. This work shall be subsidiary to the bid item "Sidewalk Construction 6".

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

GENERAL NOTES	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	

drawn by:	CJC
checked by:	PBM
approved by:	PBM
QA/QC by:	RBF
project no.:	022-06529
drawing no.:	T_DET 02206529
date:	1-31-2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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EARTHWORK BALANCE CALCULATIONS (COLLEGE BLVD. 413+12.00 TO 416+00.00) (Cu. Yd.)

827	Compaction
/	0.85 VMF
	972.9
-	3495.0 Excavation Less Pavement Removal
	-2522.1 (Excess)*

*Includes 2522.1 cu. yd. to be wasted on sites provided by the contractor

EARTHWORK BALANCE CALCULATIONS (COLLEGE BLVD. 416+00.000 TO 418+00.00) (Cu. Yd.)

740	Compaction
/	0.85 VMF
	870.6
-	3464.0 Excavation Less Pavement Removal
	-2593.4 (Excess)*

*Includes 2593.4 cu. yd. to be wasted on sites provided by the contractor

EARTHWORK BALANCE CALCULATIONS (MASTIN ST SIDEWALKS 10+17.27 TO 13+47.51) (Cu. Yd.)

9	Compaction
/	0.85 VMF
	10.6
-	23.0 Excavation Less Pavement Removal
	-12.4 (Excess)*

RECAPITULATION OF QUANTITIES			
ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
1	Force Account (Set)*	Lump Sum	1
2	Clearing and Grubbing	Lump Sum	1
3	Removal of Existing Structures	Lump Sum	1
4	Unclassified Excavation	Cu. Yd.	7751
5	Excavation (Unsuitable)	Cu. Yd.	500
6	Excavation (Unstable)	Cu. Yd.	500
7	Compaction of Earthwork (All types)	Cu. Yd.	1576
8	Asphaltic Concrete (Surface Course)(2")	Ton	263
9	Asphaltic Concrete (Intermediate Course)(8")	Ton	1053
10	Temporary Surfacing Material (AB-3 OP Modified)	Ton	150
11	Aggregate For Base Course (AB-3 O.P. Modified)(4")	Sq. Yd.	1581
12	Aggregate For Base Course (AB-3 O.P. Modified)(6")	Sq. Yd.	3701
13	Cement	Ton	41
14	Manipulation for Cement Treated Subgrade (8")	Sq. Yd.	3728
15	Class I Excavation	Cu. Yd.	585
16	Class II Excavation	Cu. Yd.	47
17	KCMMB 5K Concrete (Bridge)	Cu. Yd.	1187.9
18	Reinforcing Steel (Grade 60)	Lbs.	46600
19	Reinforcing Steel (Grade 60) (Epoxy Coated)	Lbs.	200310
20	Pile (Steel) (HP12x53)	Lin. Ft.	1140
21	Pre-Drilled Pile Holes	Lin. Ft.	1080
22	Drilled Shaft (4'-6") (Cased)	Lin. Ft.	276
23	Sonic Test (Drilled Shaft) (Set Price)	Each	1
24	Core Hole (Investigative)	Lin. Ft.	60
25	Prestressed Concrete Beam (NU-35)	Lin. Ft.	2327
26	Prestressed Concrete Panels	Sq. Ft.	9492
27	Bridge Handrail (Metal) (1'-10")	Lin. Ft.	897
28	Concrete Masonry Coating	Sq. Yd.	209
29	Simulated Stone Masonry Stain	Sq. Yd.	312
30	Abutment Aggregate Drain	Cu. Yd.	302
31	Bridge Backwall Protection System	Sq. Yd.	232
32	Slope Protection (Heavy Stone)(1/4 TON)(36" Thick)	Cu. Yd.	2984
33	Geotextile Fabric	Sq. Yd.	3206
34	Curing Environment	Lump Sum	1
35	Bridge Number Plaque*	Each	1
36	Electric Conduit (Non-Metallic)(2")	Lin. Ft.	219
37	Multi Layer Polymer Concrete Overlay	Sq. Yd.	1942
38	Concrete Pavement (6" Uniform)(Stamped Colored)(AE)	Sq. Yd.	111
39	Modified Type E Curb	Lin. Ft.	498
40	Drilling and Grouting	Each	1250
41	KCMMB 5K Concrete (Bridge Approach Slab Footing)	Cu. Yd.	74.2
42	KCMMB 5K Concrete (Corral Rail on Approach Slab)	Cu. Yd.	8.3
43	KCMMB 5K Concrete (Knee Wall on Approach Slab)	Cu. Yd.	2.5
44	KCMMB 5K Concrete (Knee Wall on Sidewalk)	Cu. Yd.	3.6
45	Reinforcing Steel (Grade 60)(Epoxy Coated) (Corral Rail on Approach Slab)	Lbs.	1460
46	Reinforcing Steel (Grade 60)(Epoxy Coated) (Knee Wall on Approach Slab)	Lbs.	350
47	Reinforcing Steel (Grade 60)(Epoxy Coated) (Knee Wall on Sidewalk)	Lbs.	550
48	Concrete Pavement (4" Uniform)(AE)(Plain)(Stamped Colored)	Sq. Yd.	57
49	Concrete Pavement (10" Uniform)(AE)(BR APP)	Sq. Yd.	839
50	Curb and Gutter, Combined (Type B)	Lin. Ft.	342
51	Curb and Gutter, Combined (Type C)	Lin. Ft.	203

* NOT PARTICIPATING BID ITEM

SEE SHEETS 64 FOR BRIDGE
 SEE SHEETS 118 FOR LIGHTING
 SEE SHEETS 129 FOR TRAFFIC SIGNALS
 SEE SHEETS 138 FOR PAVEMENT MARKING
 SEE SHEETS 142 FOR SIGNING

52	Curb and Gutter, Combined (Type E)	Lin. Ft.	479
53	Curb and Gutter, Combined (Type V)	Lin. Ft.	72
54	Concrete Median Nose	Each	1
55	Sidewalk Construction (4")	Sq. Ft.	3175
56	Sidewalk Construction (6")	Sq. Ft.	10414
57	Sidewalk Ramp Construction	Sq. Ft.	451
58	Detectable Warning Surface	Sq. Ft.	95
59	15" Storm Sewer (RCP Class III)	Lin. Ft.	172
60	21" Storm Sewer (RCP Class III)	Lin. Ft.	20
61	51" x 31" Storm Sewer (RCAP Class III)	Lin. Ft.	154
62	End Section (21")(RC)	Each	1
63	End Section (42")(RC)	Each	1
64	Junction Box (6'x6')(Complete)	Each	2
65	Concrete Collar	Each	1
66	Adjustment Of Manholes	Each	1
67	Curb Inlet (6'x4')(Complete)	Each	1
68	Curb Inlet (6'x6')(Complete)	Each	1
69	Area Inlet (4'x3')(Complete)	Each	2
70	RipRap (Light 100 Lb.)(24" Thick)	Sq. Yd.	7
71	6" Pipe Underdrain (Type H or Type T)	Lin. Ft.	166
72	6" Pipe Underdrain (Type K)	Lin. Ft.	23
73	Guardrail, Steel Plate (MGS)	Lin. Ft.	100
74	Guardrail End Terminal (MGS FLEAT) Alt #1	Each	1
75	Guardrail End Terminal (MGS SRT) Alt #2	Each	1
76	Street Lighting Modification	Lump Sum	1
77	Traffic Control	Lump Sum	1
78	Permanent Traffic Control Signs	Sq. Ft.	7
79	1-3/4" x 1-3/4" Sign Posts	Lin. Ft.	65
80	Concrete Surface Anchor	Each	1
81	Paver Anchor and Sleeve	Each	6
82	CARS sign*	Each	2
83	City Project Sign*	Each	2
84	4" White - Thermoplastic	Lin. Ft.	510
85	6" White - Thermoplastic	Lin. Ft.	200
86	White Turn Arrows - Preformed Thermoplastic	Each	4
87	4" White - MMA	Lin. Ft.	750
88	White Turn Arrows - MMA	Each	2
89	Traffic Signal Modification (Indian Creek Parkway)	Lump Sum	1
90	Sod (Fescue)	Sq. Yd.	5878
91	Lawn Sprinkler System Modification (Tract 4 Double Tree)*	Lump Sum	1
92	Lawn Sprinkler System Modification (Tract 1 SB Indian Creek Parkway)*	Lump Sum	1
93	Seed (Temporary)	Acre	1.3
94	Water Quality Control Manager	Each	70
95	SWPPP Inspection (est.)	Each	70
96	Construction Entrance	Sq. Yd.	1464
97	Hydraulic Erosion Control (est.)	Lbs.	2353
98	Inlet Protection	Each	4
99	Erosion Control Blanket (Class 1 - Type C)	Sq. Yd.	1945
100	Silt Fence	Lin. Ft.	2074
101	Topsoil	Cu. Yd.	543
102	Contractor Construction Staking	Lump Sum	1
103	Impact Attenuator	Each	1

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

SUMMARY OF QUANTITIES	COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	OVERLAND PARK, KANSAS	2025
drawn by: CJC	checked by: PBM	approved by: PBM	QA/QC by: RBE
project no.: 022-06529	drawing no.: T_OTQ_02206529	date: 1-31-2025	

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 I_BRIDGEBASE_02206529
 T_PSTRM_02206529
 I_PPATTI_02206529
 T_PTBLK_02206529
 I_PBASE_02206529

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

SURFACING QUANTITIES								
STATION TO STATION	LOCATION	SIDE	ASPHALTIC CONCRETE SURFACE COURSE (2") (TONS)*	ASPHALTIC CONCRETE INTERMEDIATE COURSE (8") (TONS)*	CEMENT (TONS)**	MANIPULATION FOR CEMENT TREATED SUBGRADE (8")(SQYD)	CONCRETE PAVEMENT (10" UNIFORM)(AE) (BR APP)	6" AGGREGATE BASE COURSE (AB-3 OP MODIFIED) (SQ.YD.)
413+12.00	414+70.50	COLLEGE BLVD	RT	94.2	377.0	13.8	878.3	878.3
413+12.06	414+70.50	COLLEGE BLVD	LT	78.5	313.9	11.5	992.5	992.5
414+70.50	414+90.50	COLLEGE BLVD	LT & RT				402.8	
416+99.50	417+19.50	COLLEGE BLVD	LT & RT				435.4	
417+19.50	418+11.24	COLLEGE BLVD	RT	55.1	220.3	8.1	456.2	456.2
417+19.50	418+11.24	COLLEGE BLVD	LT	35.2	141.0	5.2	478.0	478.0
414+70.50	415+03.50	COLLEGE BLVD	LT & RT			0.8	447.1	429.3
416+86.50	417+19.50	COLLEGE BLVD	LT & RT			0.9	475.0	466.4
TOTALS:				263.0	1052.2	40.3	3727.1	3700.7
* Computed at a rate of 150 lbs./Cu. Ft.								
**Computed at a rate of 5% by weight of the top 8" of subgrade at 110 lbs./Cu. Ft.								

CURB AND GUTTER COMBINED						
STATION TO STATION	LOCATION	SIDE	V CURB	TYPE B (Ft.)	TYPE C (Ft.)	TYPE E (Ft.)
		LT				
412+40.71	412+72.71	COLLEGE BLVD	RT		32.0	
413+12	414+70.50	COLLEGE BLVD	LT			158.5
413+12	414+70.50	COLLEGE BLVD	LT			159.7
413+12	414+70.50	COLLEGE BLVD	RT		158.5	
413+12	414+70.50	COLLEGE BLVD	LT	137.9		
414+63.08	414+90.50	COLLEGE BLVD	LT	27.4		
416+99.50	417+29.50	COLLEGE BLVD	RT	30.0		
417+19.50	417+99.57	COLLEGE BLVD	LT			80.1
417+19.50	417+99.57	COLLEGE BLVD	LT			80.1
417+29+50	417+98.12	COLLEGE BLVD	RT	68.6		
417+34.83	417+47.00	COLLEGE BLVD	LT		12.2	
417+47.00	418+05.40	COLLEGE BLVD	LT	64.3		
417+98.12	418+10.12	COLLEGE BLVD	RT	12.9		
11+78.47	11+87.91	MASTIN	LT & RT	11.6		
12+30.06	13+38.76	MASTIN	LT & RT	10.7		
13+53.70	13+59.96	MASTIN	LT & RT	9.0		
13+75.00	13+75.00	MASTIN	LT & RT	26.9		
13+75.00	13+75.00	MASTIN	LT	14.1		
TOTAL			71.5	341.9	202.7	478.4

SOD / SEED / TOPSOIL						
STATION	LOCATION	SIDE	SODDING (SQ. YD.)	HYDRAULIC MULCHING (TYPE 5) (LBS)	TOPSOIL (CU. YD.)	
10+17.27	10+60.52	MASTIN ST	RT	26.2	19	4.4
10+17.31	11+87.70	MASTIN ST	LT	48.8	35	8.1
10+66.28	11+78.39	MASTIN ST	RT	83.9	61	14.0
12+30.06	13+59.96	MASTIN ST	LT	56.9	41	9.5
12+38.76	12+59.99	MASTIN ST	RT	3.9	3	0.7
12.83.00	13+53.70	MASTIN ST	RT	32.8	24	5.5
413+12.00	414+91.10	COLLEGE BLVD	RT	726.0	525	121.0
413+12.00	415+04.60	COLLEGE BLVD	LT	435.0	315	72.5
415+56.05	415+80.85	COLLEGE BLVD	RT	96.8	70	16.1
415+56.22	415+80.21	COLLEGE BLVD	LT	48.4	35	8.1
416+26.76	416+71.01	COLLEGE BLVD	RT	290.4	210	48.4
416+44.53	417.67.52	COLLEGE BLVD	LT	774.4	560	129.1
416+55.26	417+98.22	COLLEGE BLVD	RT	629.2	455	104.9
416+83.15	417.97.73	COLLEGE BLVD	LT	1113.2	805	185.5
417.29.50	418.10.22	COLLEGE BLVD	RT	48.4	35	8.1
417.34.83	417+85.25	COLLEGE BLVD	LT	48.4	35	8.1
417+61.22	418+15.53	COLLEGE BLVD	LT	387.2	280	64.5
417+70.88	418+00.07	COLLEGE BLVD	LT	48.4	35	8.1
TOTAL:			4898.3	2353	542.3	

SIDEWALK CONSTRUCTION						
STATION TO STATION	LOCATION	SIDE	SIDEWALK CONSTRUCTION (4") SQ. FT.	SIDEWALK CONSTRUCTION (6") SQ. FT.	4" AGGREGATE BASE COURSE (AB-3 OP MODIFIED) (Sq. Yd.)	
10+17.27	11+84.41	MASTIN ST	LT & RT	792.9		88.1
12+33.65	13+57.26	MASTIN ST	LT & RT	568.9		63.2
13+75.00	13+75.00	MASTIN ST	LT & RT	39.2		4.4
413+12.00	414+56.76	COLLEGE BLVD	RT	706.4		78.5
413+12.00	414+44.87	COLLEGE BLVD	LT	797.9		88.7
414+44.87	414+70.50	COLLEGE BLVD	LT		262.8	29.2
414+56.76	415+03.49	COLLEGE BLVD	RT		471.1	52.3
414+70.50	414+90.50	COLLEGE BLVD	LT		250.0	
416+99.50	417+19.50	COLLEGE BLVD	RT		250.0	
417+19.50	417+50.91	COLLEGE BLVD	RT		318.5	35.4
417+50.91	417+98.12	COLLEGE BLVD	RT	234.3		26.0
417+65.88	417+72.88	COLLEGE BLVD	LT	35.3		3.9
20+20.00	26+18.25	INDIAN CREEK TRAIL	LT & RT		5891.3	731.0
24+03.63	26+09.48	INDIAN CREEK TRAIL	LT & RT		2969.7	329.8
TOTAL			3174.9	10413.3	1530.5	

SIDEWALK RAMPS					
APPROX. STATION	LOCATION	SIDE	SIDEWALK RAMP WITH DETECTABLE WARNING SURFACE (Sq. Ft.)	4" AGGREGATE BASE COURSE (AB-3 OP MODIFIED) (Sq. Yd.)	DETECTABLE WARNING SURFACE (Sq. Ft.)
11+75.85	MASTIN ST	LT & RT	48.0	5.3	19.1
12+49.34	MASTIN ST	LT & RT	86.5	9.6	19.8
13+47.51	MASTIN ST	LT & RT	55.0	6.1	10.0
13+75.00	MASTIN ST	LT & RT	88.8	9.9	13.1
417+72.88	COLLEGE BLVD	LT	99.3	11.0	22.7
417+97.44	COLLEGE BLVD	LT	73.3	8.1	10.0
TOTAL			450.9	50.0	94.7

EARTHWORK								
STATION TO STATION	LOCATION	SIDE	UNCLASSIFIED EXCAVATION				COMPACTION (Cu. Yd.)	REMARKS
			(Cu. Yd.)	Exist. Pvmt. (Cu. Yd.)	VMF DIRT	VMF PVMT		
413+12.00 TO 416+00.00	COLLEGE BLVD	LT & RT	3495	455	0.85	1.00	827	WEST SIDE OF CREEK
416+00.00 TO 418+00.00	COLLEGE BLVD	LT & RT	3464	311	0.85	1.00	740	EAST SIDE OF CREEK INCLUDING TRAILS
10+17.27 TO 13+47.51	MASTIN ST SIDEWALKS	LT & RT	23	3	0.85	1.00	9	
TOTAL			6982	769			1576	

CONCRETE PAVEMENT (4" UNIFORM)(AE)(PLAIN)(STAMPED COLORED)				
STATION TO STATION	LOCATION	SIDE	AREA (SQ. YD.)	
414+24.86	414+70.50	COLLEGE BLVD	RT,LT	21.2
417+19.50	417+99.57	COLLEGE BLVD	RT,LT	35.6
TOTAL				56.8

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

SUMMARY OF QUANTITIES

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

drawn by: CJC

checked by: PBM

approved by: PBM

QA/QC by: RBE

project no.: 022-06529

drawing no.: I_QTO_02206529

date: 1-31-2025

2025

REVISIONS

SHEET

9 of 189

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 T_PSTRM_02206529

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

STORM SEWER STRUCTURES & PIPE													
STATION	LOCATION	SIDE	STRUCTURE NO.	STORM STRUCTURES				CONCRETE PIPE COLLAR	STORM PIPES			END SECTIONS	
				INLET (CURB) (6'x6') (Each)	INLET (CURB) (6'x4') (Each)	AREA INLET (4'x3') (Each)	JUNCTION BOX (6'x6') (Each)		RCP 15" (Ft.)	RCP 21" EXTENSION (Ft.)	RCAP 31.3"x51.13 (Ft.)	END SECTION 21" RC (Each)	END SECTION 42" RC (Each)
416+18.43	COLLEGE BLVD	RT	A1										1
416+70.00	COLLEGE BLVD	RT	A2				1					40.6	
417+54.24	COLLEGE BLVD	RT	A3				1					78.2	
417+60.00	COLLEGE BLVD	RT	A4	1								35.0	
417+60.00	COLLEGE BLVD	LT	A5		1				99.0				
417+50.81	COLLEGE BLVD	LT	A6			1			17.5				
414+86.85	COLLEGE BLVD	LT	B1									1	
414+64.42	COLLEGE BLVD	LT	B2					1		20.0			
417+02.00	COLLEGE BLVD	RT	C1			1			55.3				
TOTAL				1	1	2	2	1	171.8	20	153.79	1	1

PIPE UNDERDRAIN					
STATION	TO STATION	BASELINE	SIDE	PIPE UNDERDRAIN (6" PERFERATED)(Type H or TYPE T) (Ft.)	PIPE UNDERDRAIN (6" NON- PERFERATED)(TYPE K) (Ft.)
21+75.58	23+18.34	INDIAN CREEK TRAIL	RT	165.5	
23+18.03	23+18.34	INDIAN CREEK TRAIL	LT & RT		23.0
TOTAL				165.5	23.0

ADJUSTMENT OF MANHOLES			
APPROX. STATION	LOCATION	SIDE	EACH
414+19.42	COLLEGE BLVD	LT	1
TOTAL			1

MEDIAN NOSE			
STATION	LOCATION	SIDE	EACH
417+99.57	COLLEGE BLVD	LT	1
TOTAL			1

RIP-RAP (Light 100 Lb.) (24" Depth)			
STATION	LOCATION	SIDE	SQ. YD.
414+86.85	COLLEGE BLVD	LT	6.7
TOTAL			6.7

GUARDRAIL		
LOCATION	STEEL PLATE GUARDRAIL (Ft.)	END TERM. (MGS FLEAT) ALT. #1 (Each)
EB COLLEGE BRIDGE ENT RT	100	1
TOTAL:		1

IMPACT ATTENUATOR		
LOCATION	STATION	IMPACT ATTENUATOR (TL2)
WB COLLEGE BRIDGE ENT RT	417+19.50	1
TOTAL:		1

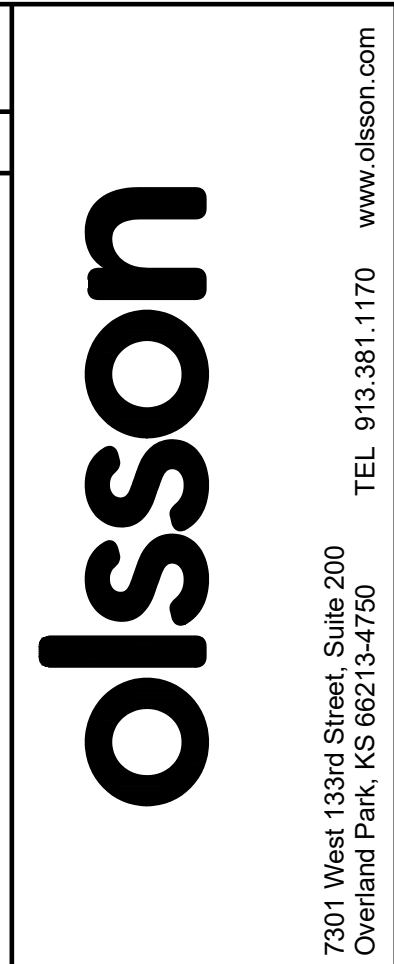
REMOVAL OF EXISTING STRUCTURES (For Information Only)				
STATION	STATION	LOCATION	SIDE	ITEM
414+63		COLLEGE BLVD.	LT	21" FLARED END SECTION
415+05		COLLEGE BLVD.	RT	CONTROLLER CABINATE
414+95	415+16	COLLEGE BLVD.	RT	BLOKc RETAINING WALL AND CONCRETE PAD
416+00		COLLEGE BLVD.	LT & RT	46.05'-47.58'-46.08' PRESTRESSED DECK GIRDER BRIDGE
416+67	417+60	COLLEGE BLVD.	RT	42" RCP
416+80		COLLEGE BLVD.	RT	3'X3' CONCRETE PAD
20+95		INDIAN CREEK TRAIL	LT	6'X10' CONCRETE PAD

EROSION CONTROL						
Description	Start	End	Baseline	Side	Quantity	Unit
CONSTRUCTION ENTRANCE	413+12.06	413+49.39	COLLEGE BLVD	RT	731.7	LNFT
CONSTRUCTION ENTRANCE	417+62.66	418+00.00	COLLEGE BLVD	LT	731.7	LNFT
TOTAL					1463.4	LNFT

Description	Start	End	Baseline	Side	Quantity	Unit
SILT FENCE	413+07.34	414+53.99	COLLEGE BLVD	LT	164.41	LNFT
SILT FENCE	413+21.68	415+30.11	COLLEGE BLVD	LT	384.5	LNFT
SILT FENCE	414+43.61	415+30.11	COLLEGE BLVD	LT	97.08	LNFT
SILT FENCE	414+53.99	415+42.68	COLLEGE BLVD	LT	102.7	LNFT
SILT FENCE	415+38.93	415+42.68	COLLEGE BLVD	LT	6.41	LNFT
SILT FENCE	415+64.30	415+78.06	COLLEGE BLVD	LT	205.53	LNFT
SILT FENCE	416+75.58	416+81.49	COLLEGE BLVD	RT	9.11	LNFT
SILT FENCE	416+75.58	417+15.98	COLLEGE BLVD	LT	386.98	LNFT
SILT FENCE	417+63.05	417+80.46	COLLEGE BLVD	RT	404.89	LNFT
SILT FENCE	10+03.98	11+88.74	MASTIN ST	LT	174.76	LNFT
SILT FENCE	12+28.71	13+58.36	MASTIN ST	LT	137.18	LNFT
TOTAL					2073.55	LNFT

Description	STATION	Baseline	Side	Quantity	Unit
INLET PROTECTION	417+60.00	417+60.00	COLLEGE BLVD	LT	1
INLET PROTECTION	417+60.00	417+60.00	COLLEGE BLVD	RT	1
INLET PROTECTION	417+02.00	417+02.00	COLLEGE BLVD	RT	1
INLET PROTECTION	417+50.81	417+50.81	COLLEGE BLVD	LT	1
TOTAL				4	EACH

Description	STATION	Baseline	Side	Quantity	Unit
ERC BLANKET - CLASS 1 -TYPE C	414+08.29	415+29.81	COLLEGE BLVD	LT	413.79
ERC BLANKET - CLASS 1 -TYPE C	413+12.00	415+27.71	COLLEGE BLVD	RT	804.62
ERC BLANKET - CLASS 1 -TYPE C	416+64.40	417+46.59	COLLEGE BLVD	LT	287.22
ERC BLANKET - CLASS 1 -TYPE C	416+66.41	417+84.89	COLLEGE BLVD	RT	438.44
TOTAL				1944.07	SQYD



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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

SUMMARY OF QUANTITIES

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

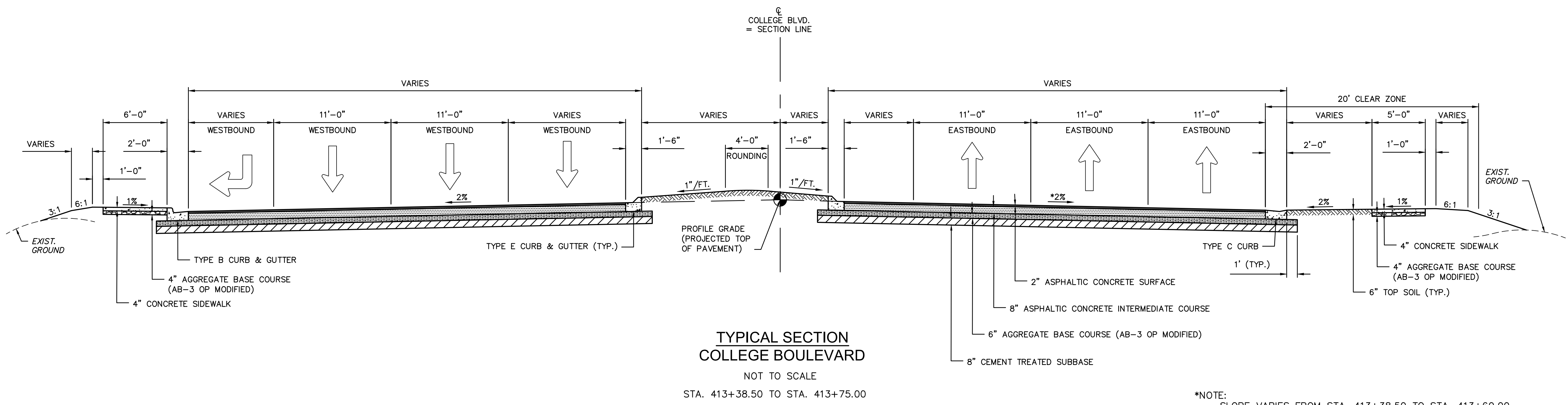
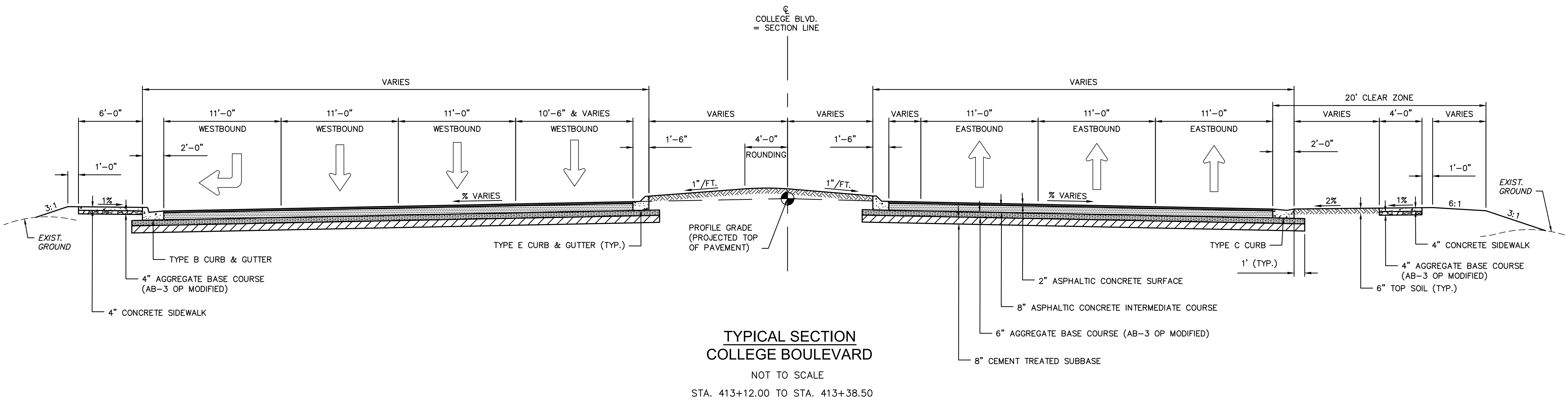
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 checked by: PBM
 approved by: PBM
 QA/QC by: RBE
 project no.: 022-06529
 drawing no.: I_QTO_02206529
 date: 1-31-2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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T_BRIDGEBASE_02206529
T_PBASE_02206529



*NOTE:
SLOPE VARIES FROM STA. 413+38.50 TO STA. 413+60.00

NOTE:
DIMENSIONS AND SLOPES FOR STANDARD SITUATIONS.
SEE PLAN AND CROSS SECTION SHEETS FOR VARIATIONS.

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

TYPICAL SECTIONS	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	

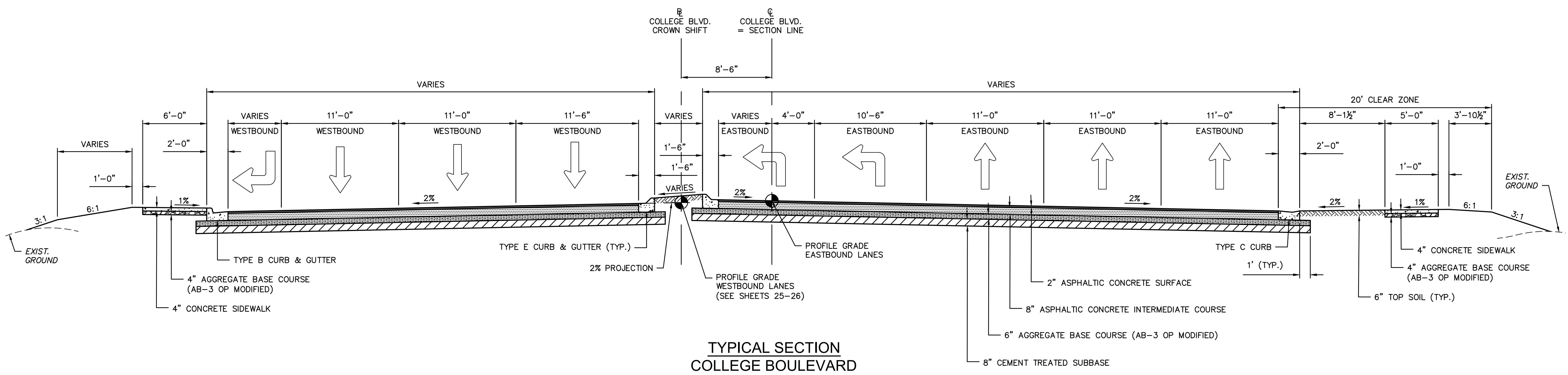
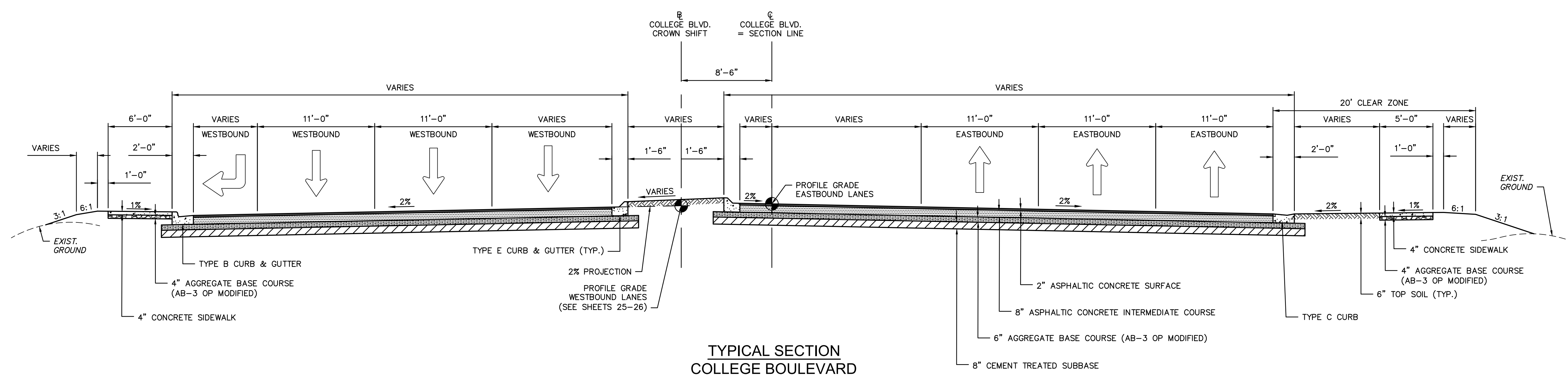
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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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TYPICAL SECTIONS	2025
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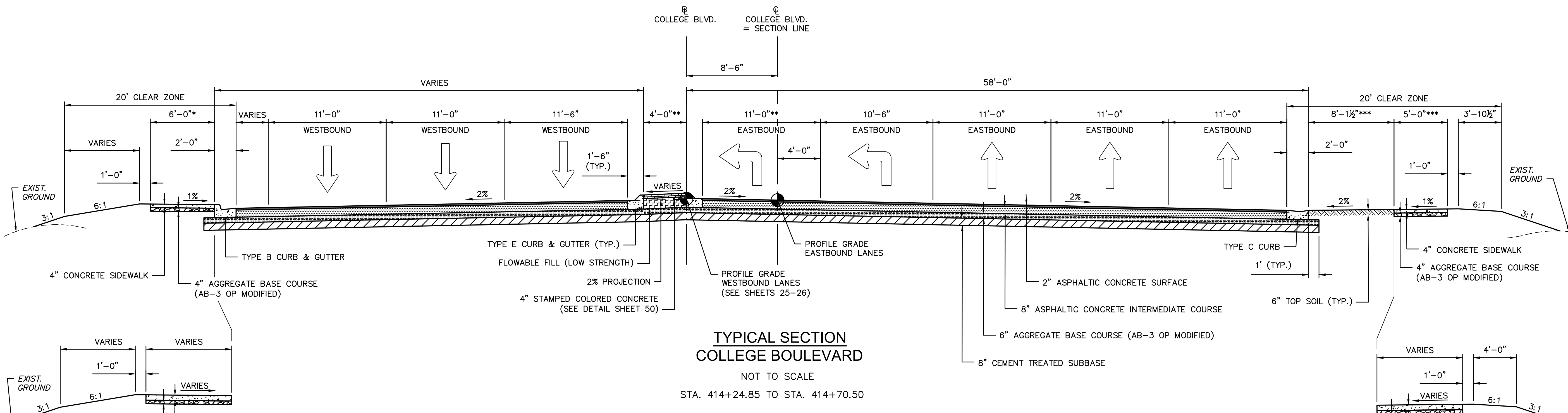
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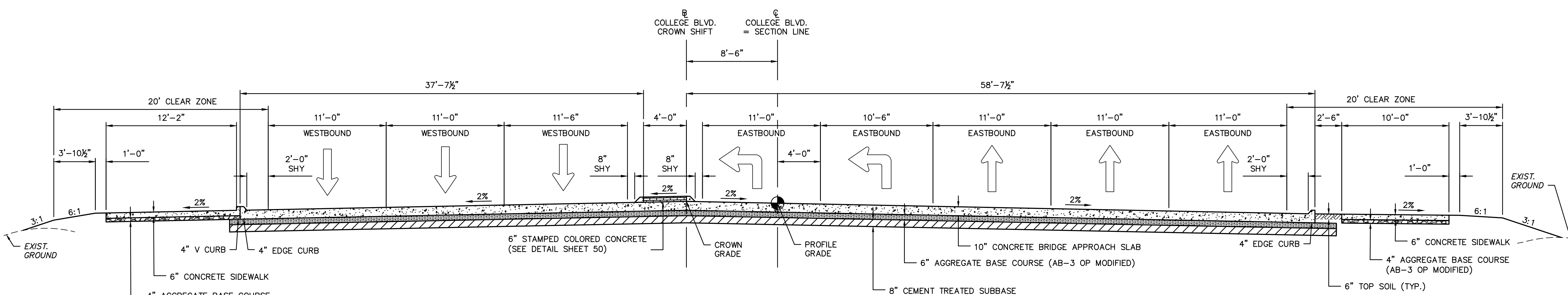
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**TYPICAL SECTION
COLLEGE BOULEVARD**
NOT TO SCALE
STA. 414+24.85 TO STA. 414+70.50

- *NOTE:
WIDTH VARIES FROM STA. 414+44.87 TO STA. 414+70.50
- **NOTE:
WIDTH VARIES FROM STA. 414+24.85 TO STA. 414+49.33
- ***NOTE:
WIDTH VARIES FROM STA. 414+56.76 TO STA. 414+70.50



**TYPICAL SECTION
COLLEGE BOULEVARD**
NOT TO SCALE
STA. 414+70.50 TO STA. 414+90.50

NOTE:
DIMENSIONS AND SLOPES FOR STANDARD SITUATIONS.
SEE PLAN AND CROSS SECTION SHEETS FOR VARIATIONS.

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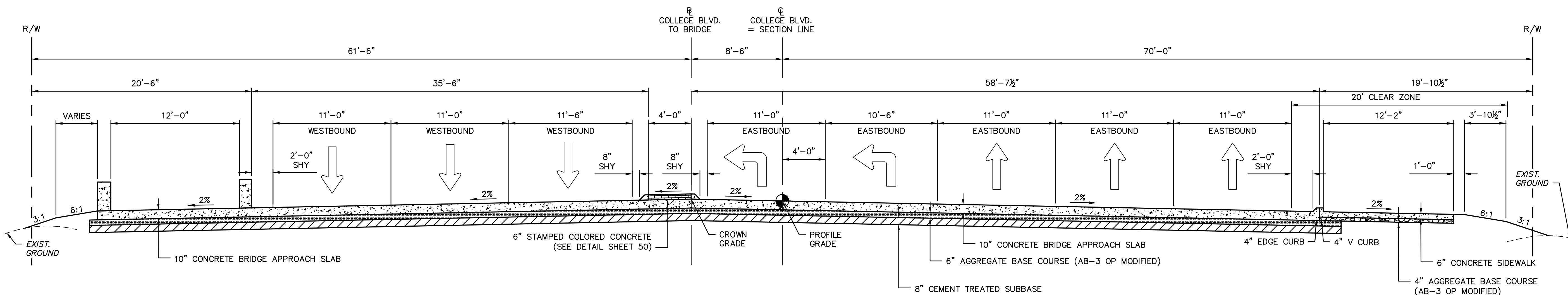
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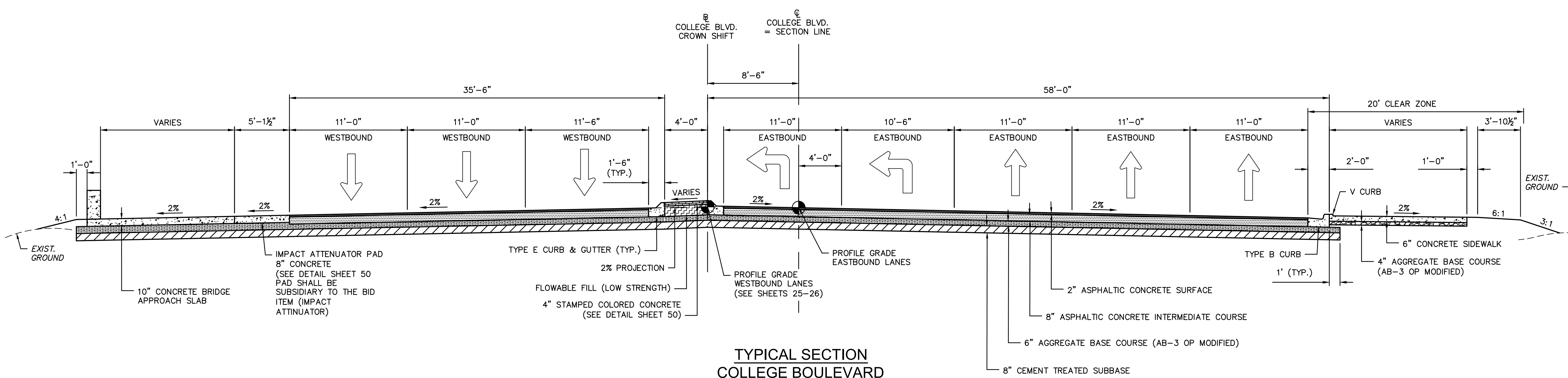
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**TYPICAL SECTION
COLLEGE BOULEVARD**
NOT TO SCALE
STA. 416+99.50 TO STA. 417+19.50



**TYPICAL SECTION
COLLEGE BOULEVARD**
NOT TO SCALE
STA. 417+19.50 TO STA. 417+34.83

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drawing no.: T_TYP01_02206529	
date: 1-31-2025	

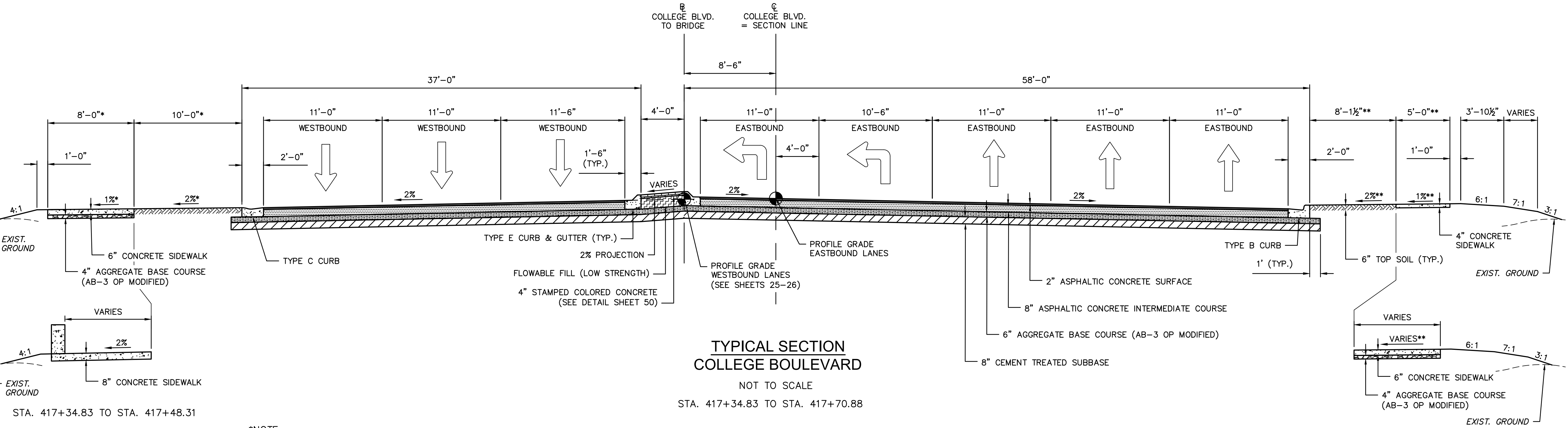
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DIMENSIONS AND SLOPES FOR STANDARD SITUATIONS.
SEE PLAN AND CROSS SECTION SHEETS FOR VARIATIONS.

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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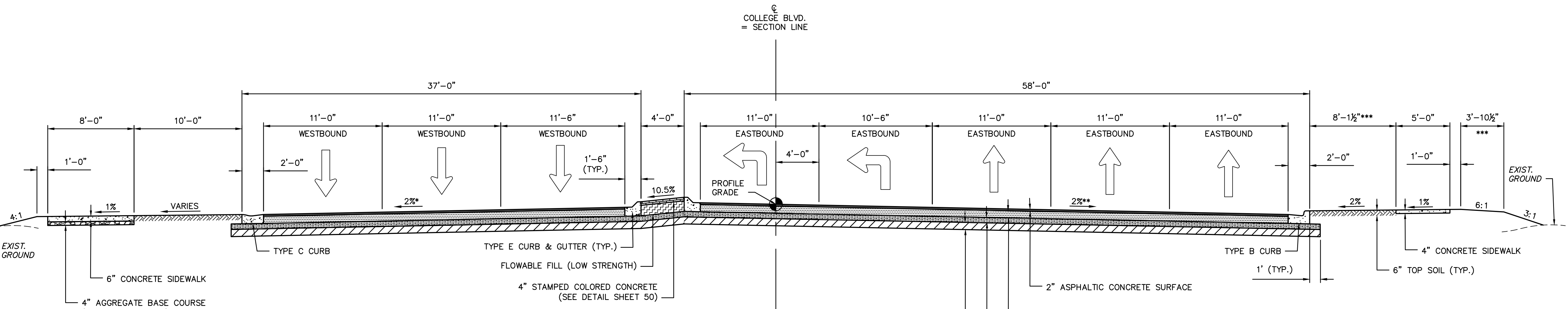
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olson.com

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USER: mvelch



**TYPICAL SECTION
COLLEGE BOULEVARD**
NOT TO SCALE
STA. 417+34.83 TO STA. 417+70.88

*NOTE: WIDTH AND SLOPE VARIES FROM STA. 417+34.83 TO STA. 417+53.72
**NOTE: WIDTH AND SLOPE VARIES FROM STA. 417+34.83 TO STA. 417+50.91



**TYPICAL SECTION
COLLEGE BOULEVARD**
NOT TO SCALE
STA. 417+70.88 TO STA. 418+00.00

*NOTE: SLOPE VARIES FROM STA. 417+95.00 TO STA. 418+00.00
**NOTE: SLOPE VARIES FROM STA. 417+90.00 TO STA. 418+00.00
***NOTE: WIDTH VARIES FROM STA. 417+76.13 TO STA. 417+98.12

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

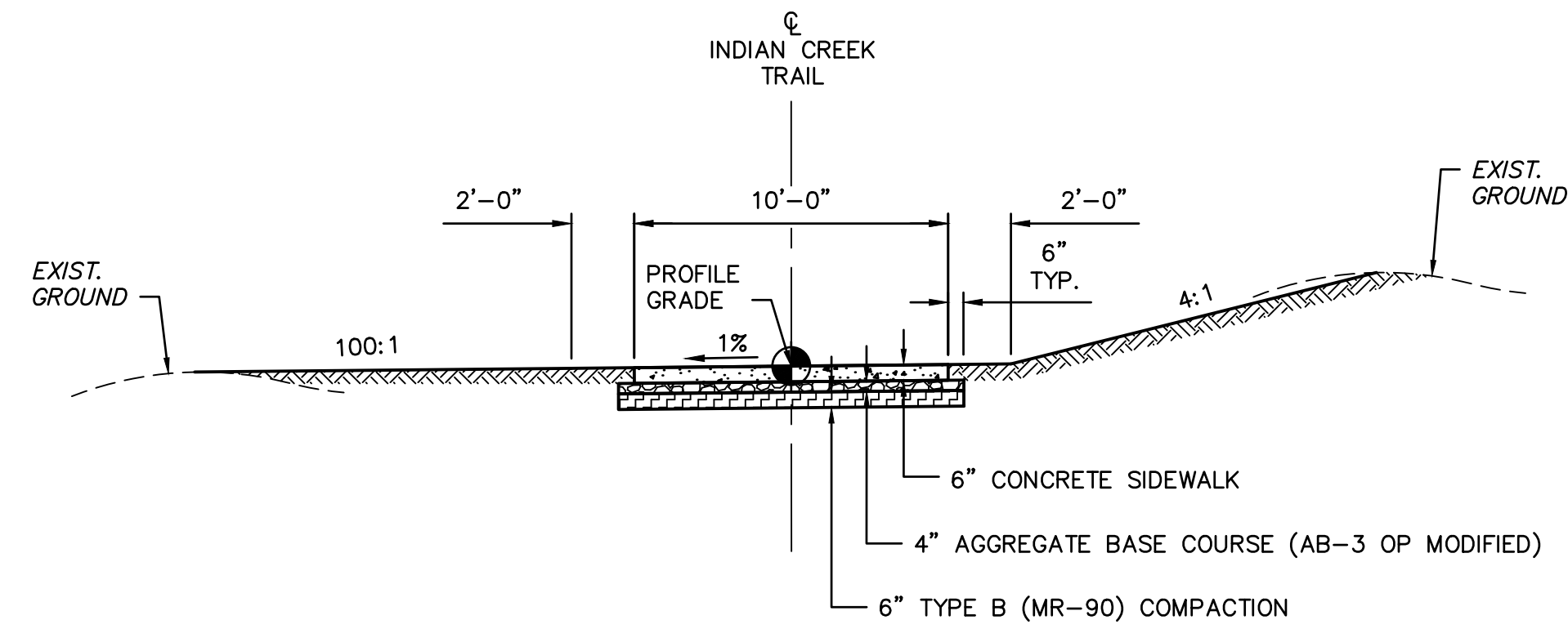
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COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	2025

drawn by: CJG
checked by: PBM
approved by: PBM
QA/QC by: RBE
project no.: 022-06529
drawing no.: T_TYP01_02206529
date: 1-31-2025

NOTE: DIMENSIONS AND SLOPES FOR STANDARD SITUATIONS. SEE PLAN AND CROSS SECTION SHEETS FOR VARIATIONS.

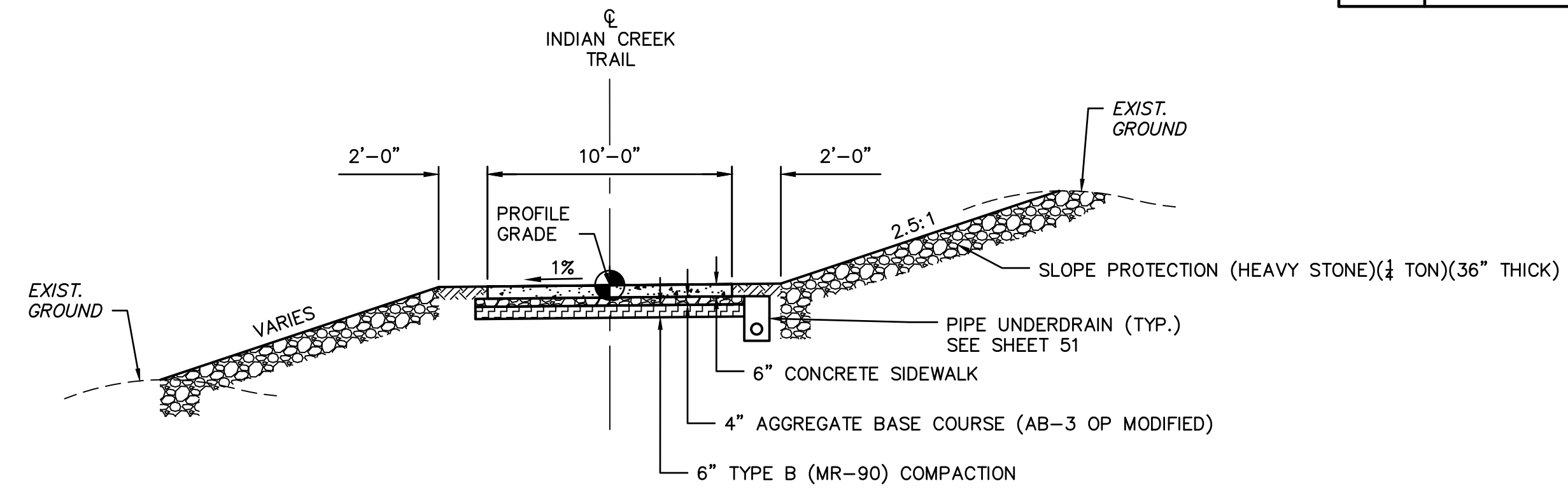
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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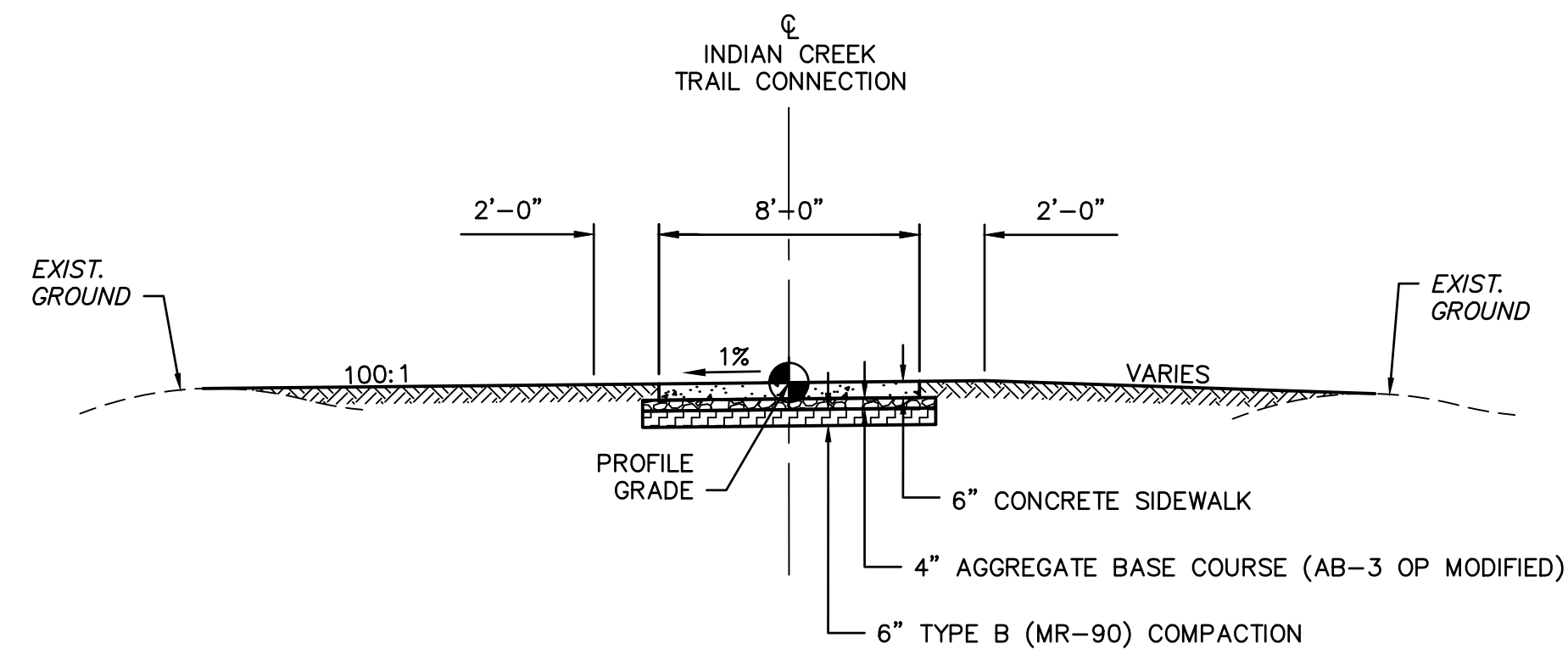
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NOT TO SCALE
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 STA: 23+91.20 TO STA: 24+98.20



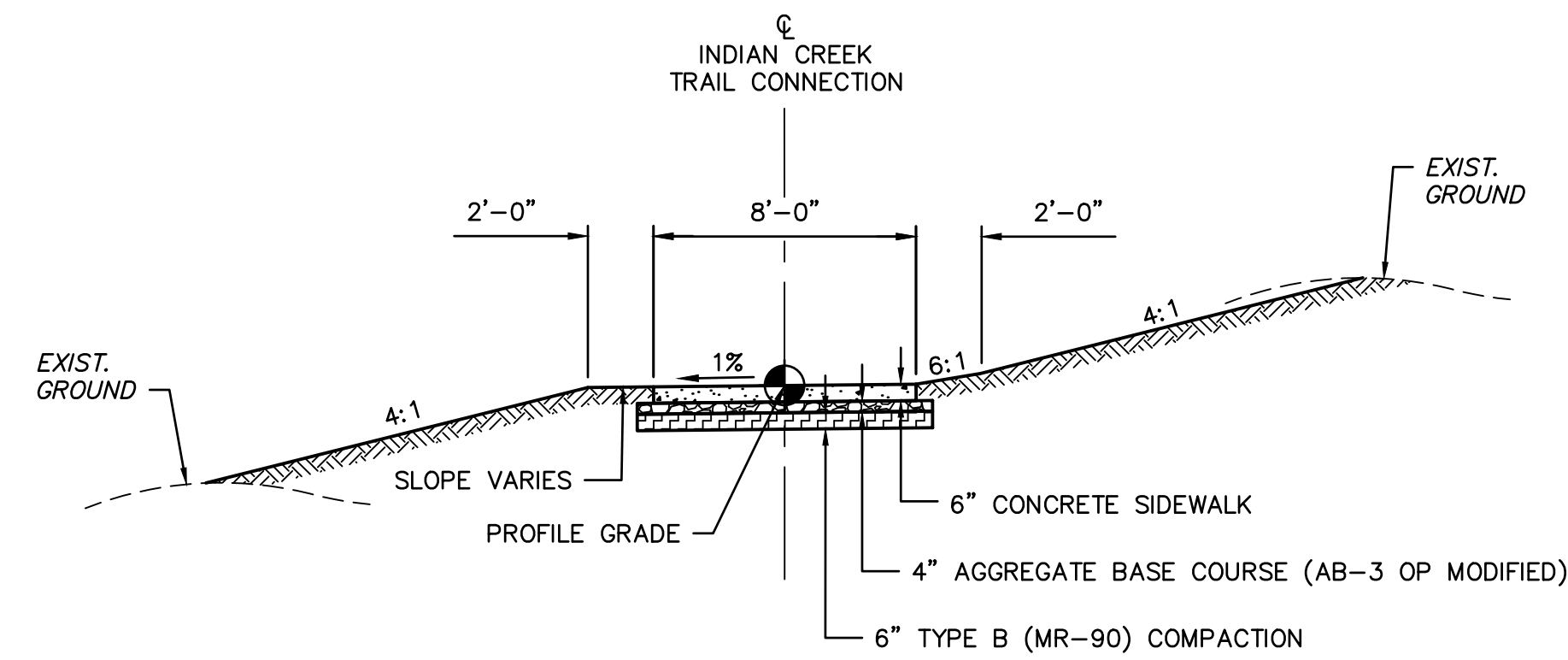
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INDIAN CREEK TRAIL**

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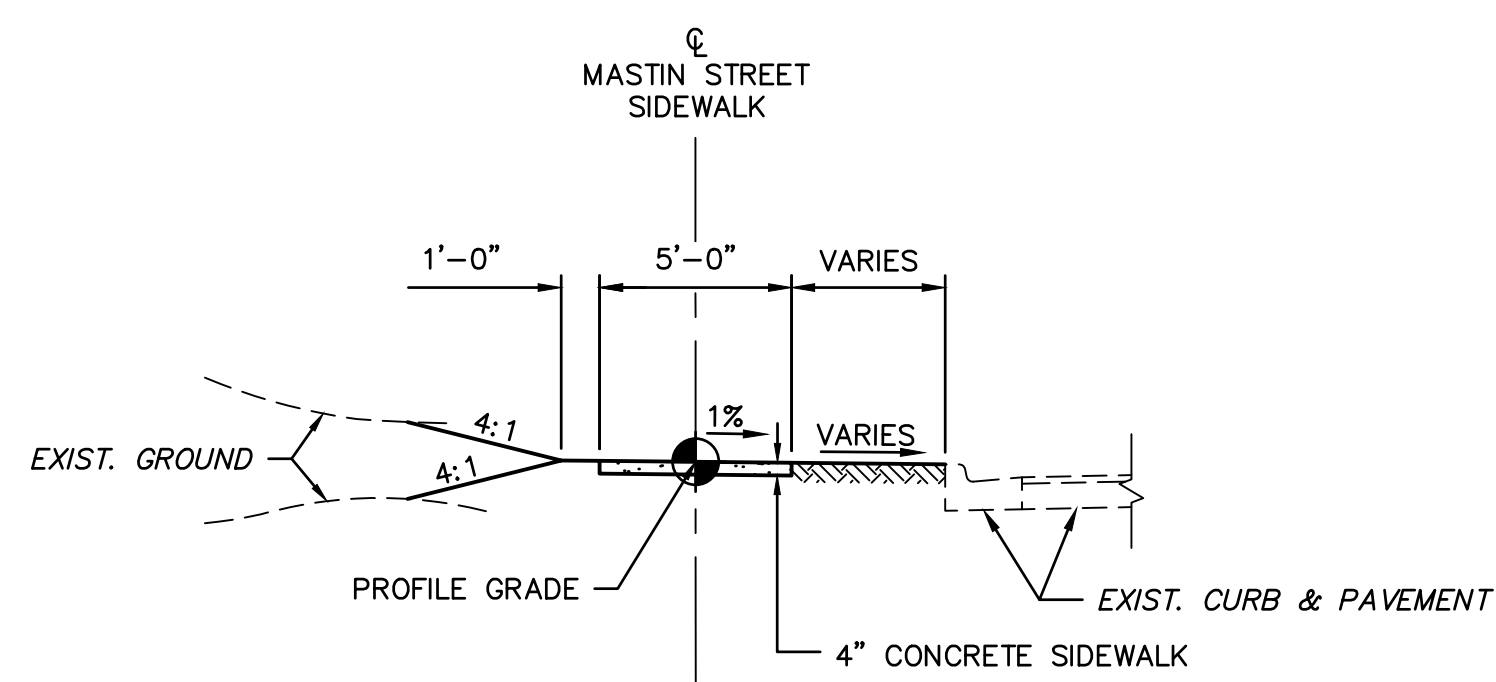
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INDIAN CREEK TRAIL CONNECTION**

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 STA: 30+10.00 TO STA: 32+88.11



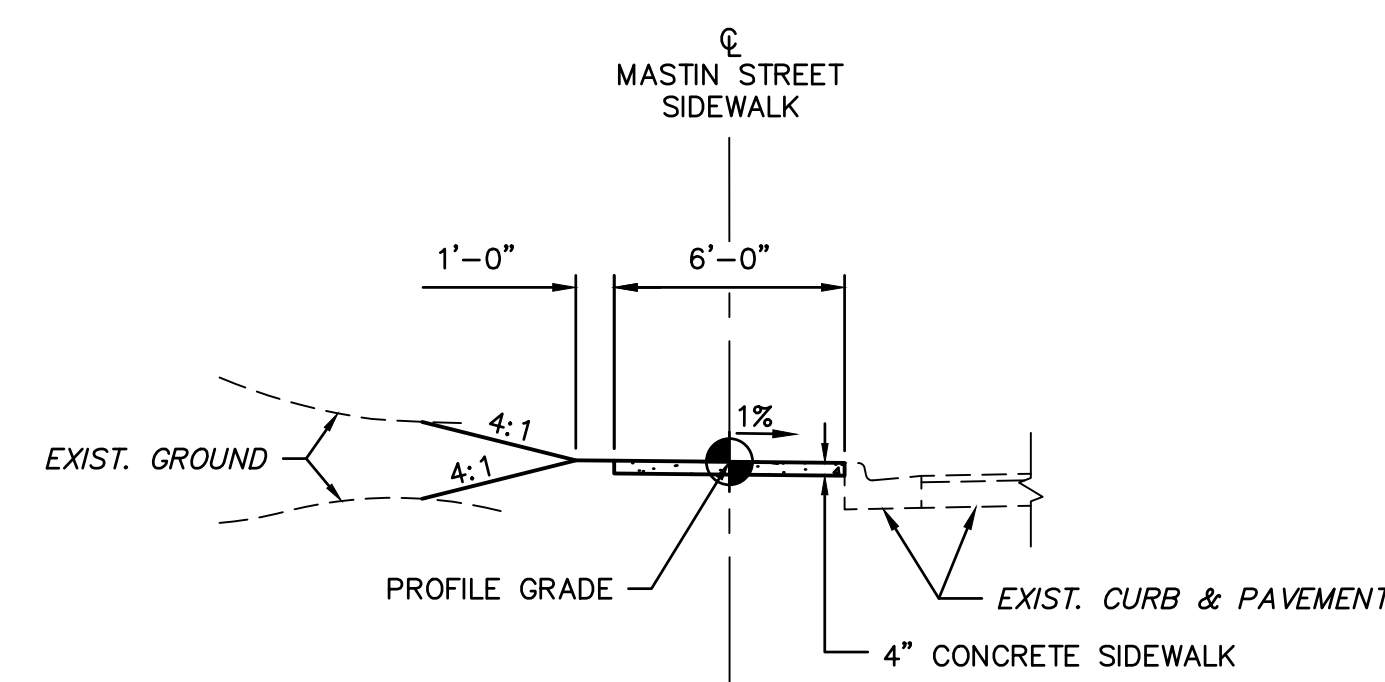
**TYPICAL SECTION
INDIAN CREEK TRAIL CONNECTION**

NOT TO SCALE
 STA: 30+95.00 TO STA: 32+88.11



**TYPICAL SECTION
MASTIN STREET SIDEWALK**

NOT TO SCALE
 STA: 10+17.27 TO STA: 11+59.70
 STA: 12+49.34 TO STA: 12+59.99
 STA: 12+83.00 TO STA: 13+47.50



**TYPICAL SECTION
MASTIN STREET SIDEWALK**

NOT TO SCALE
 STA: 12+59.99 TO STA: 12+83.00

NOTE:
 DIMENSIONS AND SLOPES FOR STANDARD SITUATIONS.
 SEE PLAN AND CROSS SECTION SHEETS FOR VARIATIONS.

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

TYPICAL SECTIONS	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	

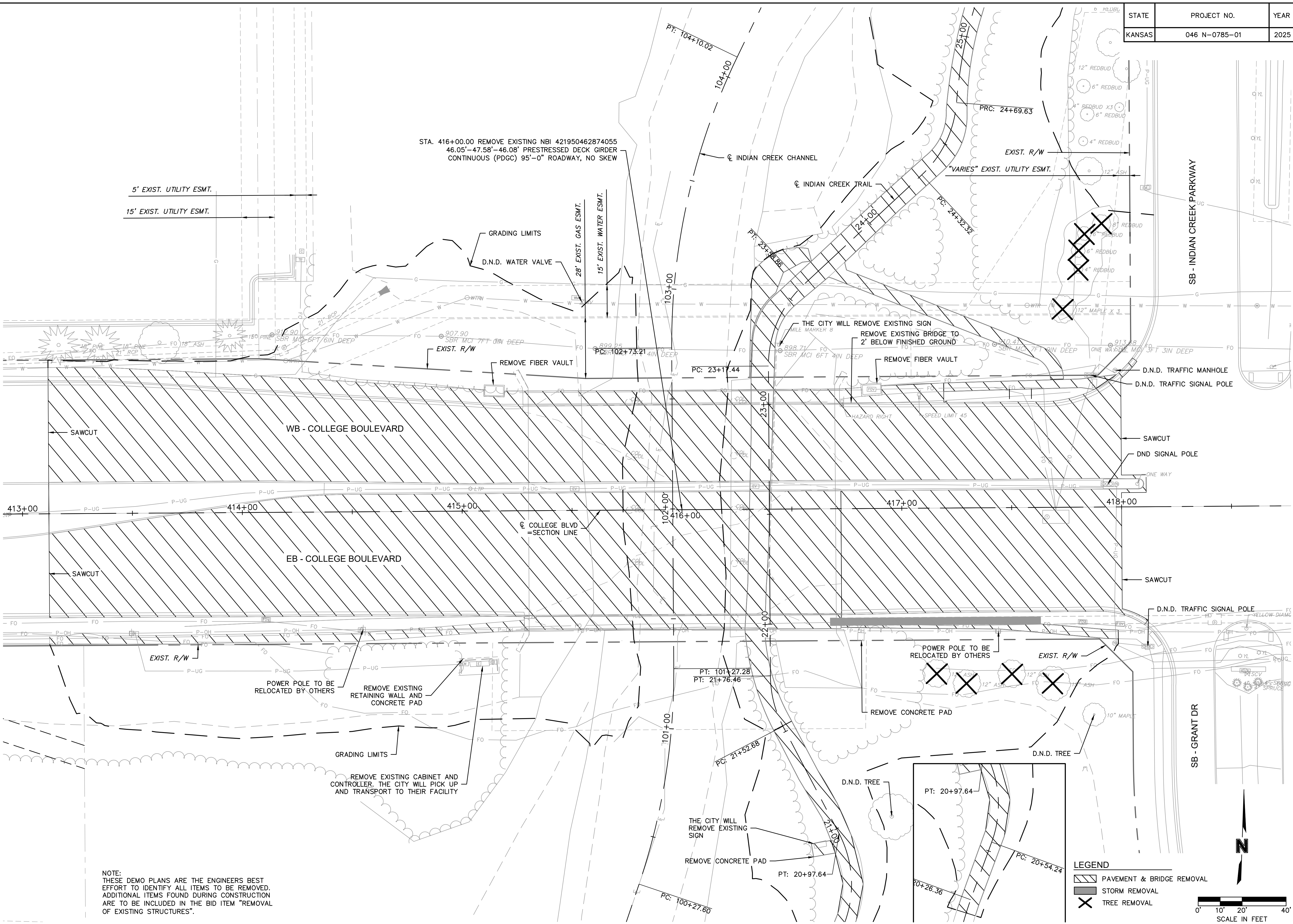
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 checked by: PBM
 approved by: PBM
 QA/QC by: RBE
 project no.: 022-06529
 drawing no.: T_TYP01_02206529
 date: 1-31-2025

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 USER: mvelch

DWG: F:\2022\06501-07000\022-06529-06529\40-Design\AutoCAD\Final Plans\Sheets\RDWY\DEMOLITION & REMOVALS\T_DEMO1_02206529.dwg
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 T_BRIDGEBASE_02206529
 T_PSTRM_02206529
 V_XBNDY_02206529
 V_XTOPO_02206529
 V_PRAIT_02206529

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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NOTE:
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LEGEND

	PAVEMENT & BRIDGE REMOVAL
	STORM REMOVAL
	TREE REMOVAL



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

DEMOLITION & REMOVALS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

REVISIONS

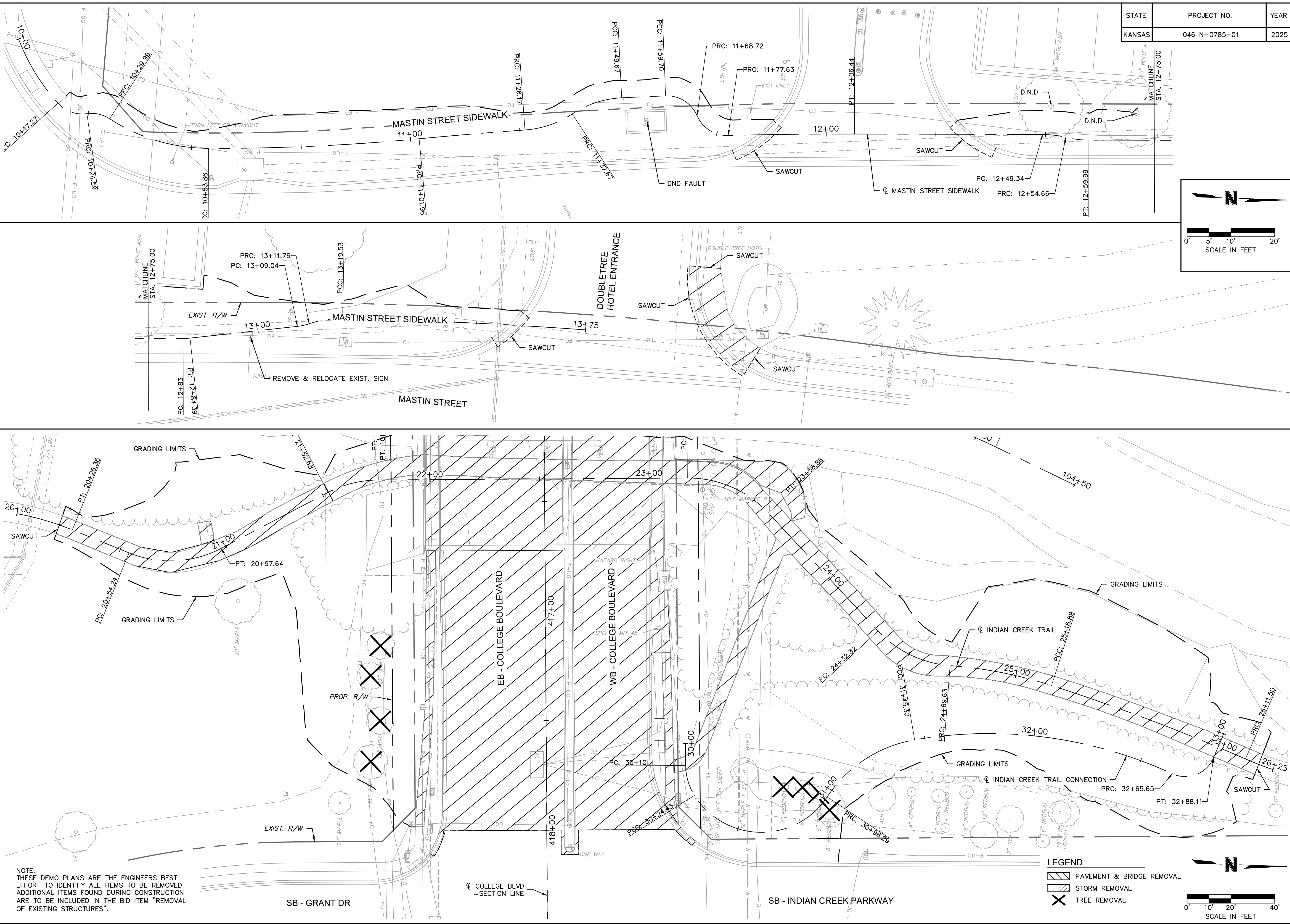
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checked by:	PBM
approved by:	PBM
QA/QC by:	RBF
project no.:	022-06529
drawing no.:	T_DEMO1_02206529
date:	1-31-2025

SHEET
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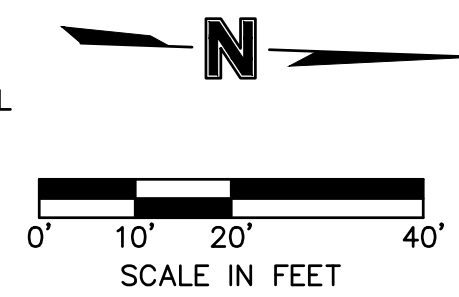
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T_PDEM_02206529 T_PBASE_02206529

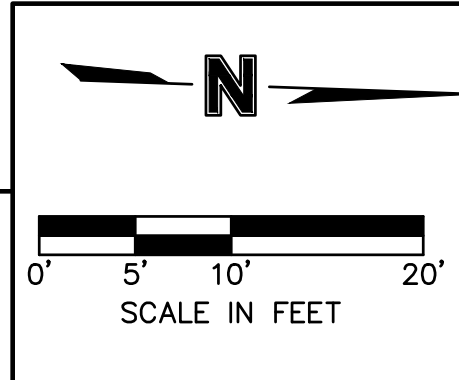


NOTE:
 THESE DEMO PLANS ARE THE ENGINEERS BEST EFFORT TO IDENTIFY ALL ITEMS TO BE REMOVED. ADDITIONAL ITEMS FOUND DURING CONSTRUCTION ARE TO BE INCLUDED IN THE BID ITEM "REMOVAL OF EXISTING STRUCTURES".

LEGEND
 [Hatched Box] PAVEMENT & BRIDGE REMOVAL
 [Cross-hatched Box] STORM REMOVAL
 [X] TREE REMOVAL



STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



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DEMOLITION & REMOVALS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

SHEET
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 V_XTOP0_02206529
 V_XBNDY_02206529
 T_PBASE_02206529
 XREFS: T_PITBLK_02206529

B2
 STA. 414+64.42, 99.93' LT.
 CONST. CONCRETE COLLAR
 EXTEND EXIST. 21" RCP
 SEE SHEET 55,63

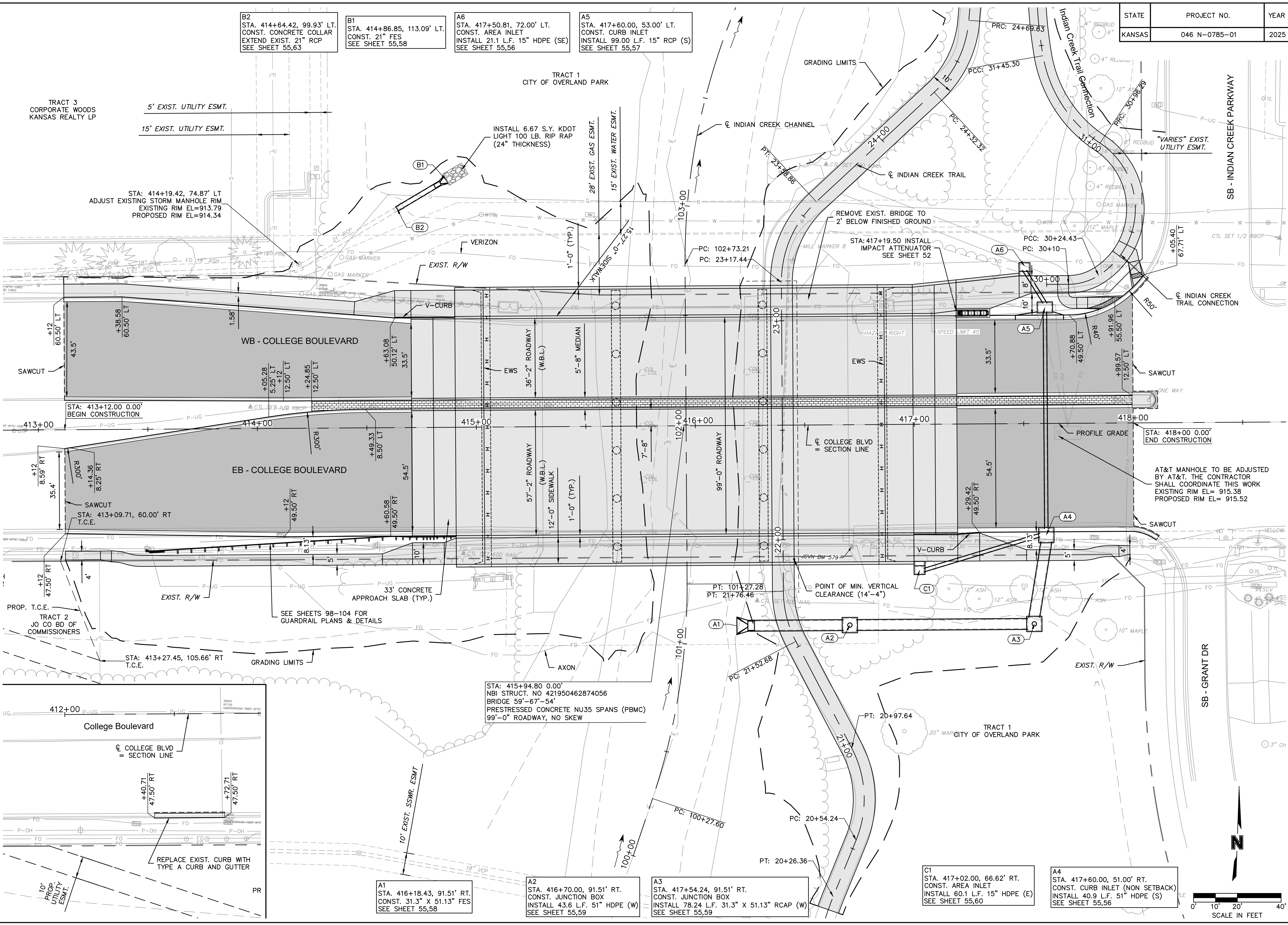
B1
 STA. 414+86.85, 113.09' LT.
 CONST. 21" FES
 SEE SHEET 55,58

A6
 STA. 417+50.81, 72.00' LT.
 CONST. AREA INLET
 INSTALL 21.1 L.F. 15" HDPE (SE)
 SEE SHEET 55,56

A5
 STA. 417+60.00, 53.00' LT.
 CONST. CURB INLET
 INSTALL 99.00 L.F. 15" RCP (S)
 SEE SHEET 55,57

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PLAN SHEET
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

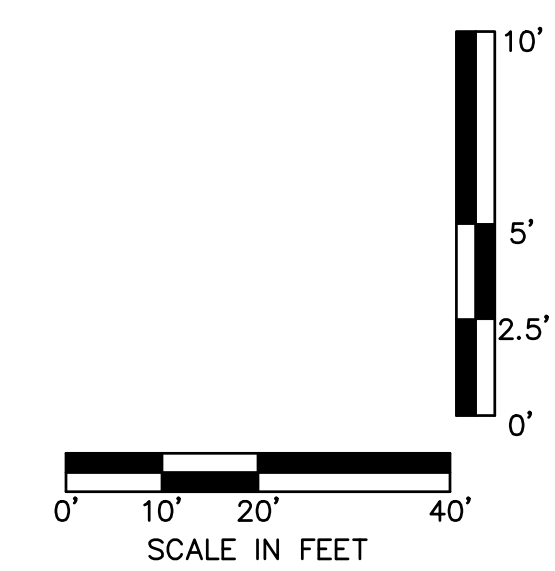
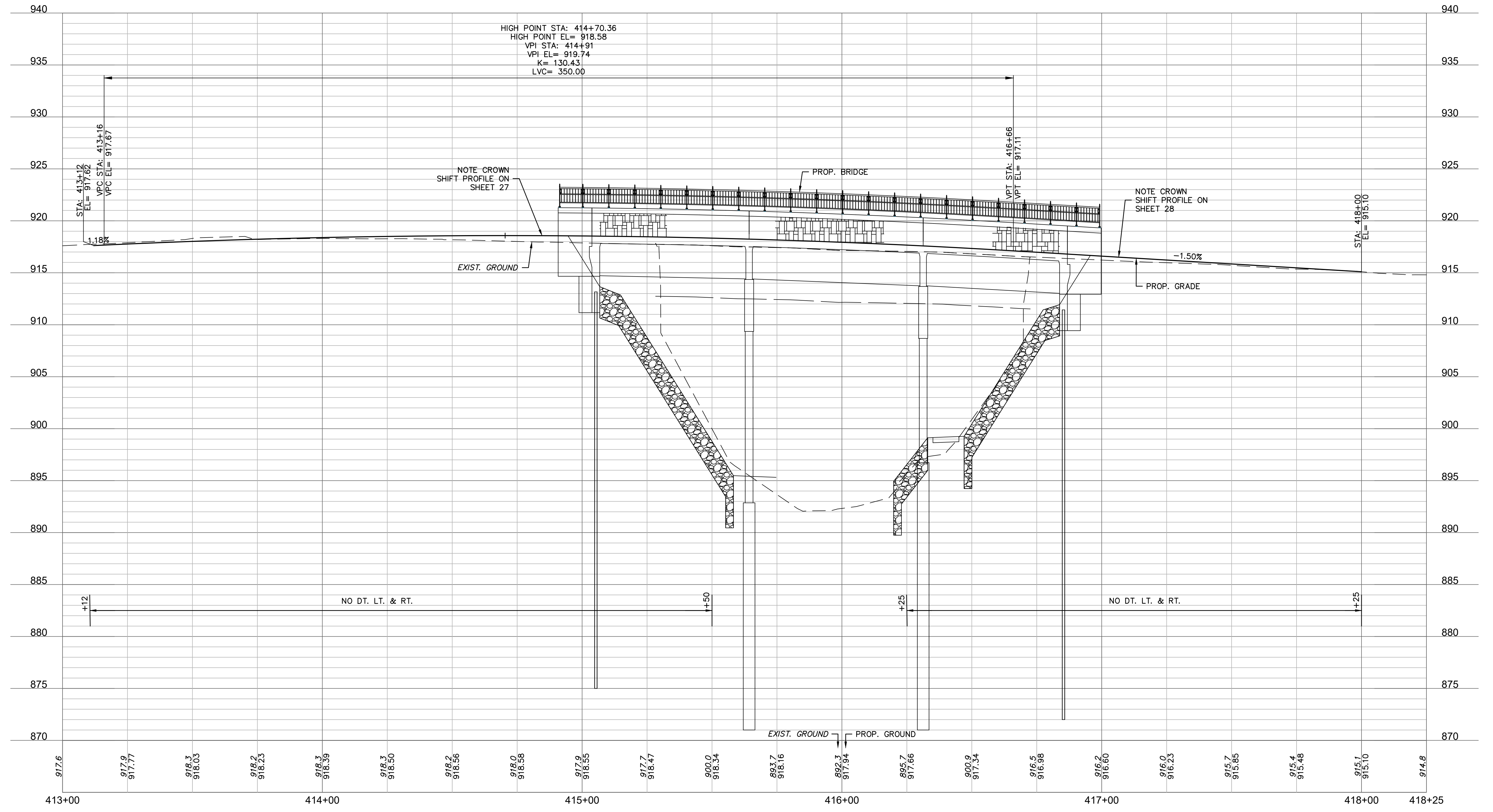
drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBE
 project no.: 022-06529
 drawing no.: T_RPP01_02206529
 date: 1-31-2025

SHEET
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 T_PSTRM_02206529 T_BRIDGEBASE_02206529 02206529_BRIDGE_South Fascia Elevation

COLLEGE BOULEVARD (413+00 - 418+25)



STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROFILE SHEET	2025	REVISIONS
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK		
OVERLAND PARK, KANSAS		

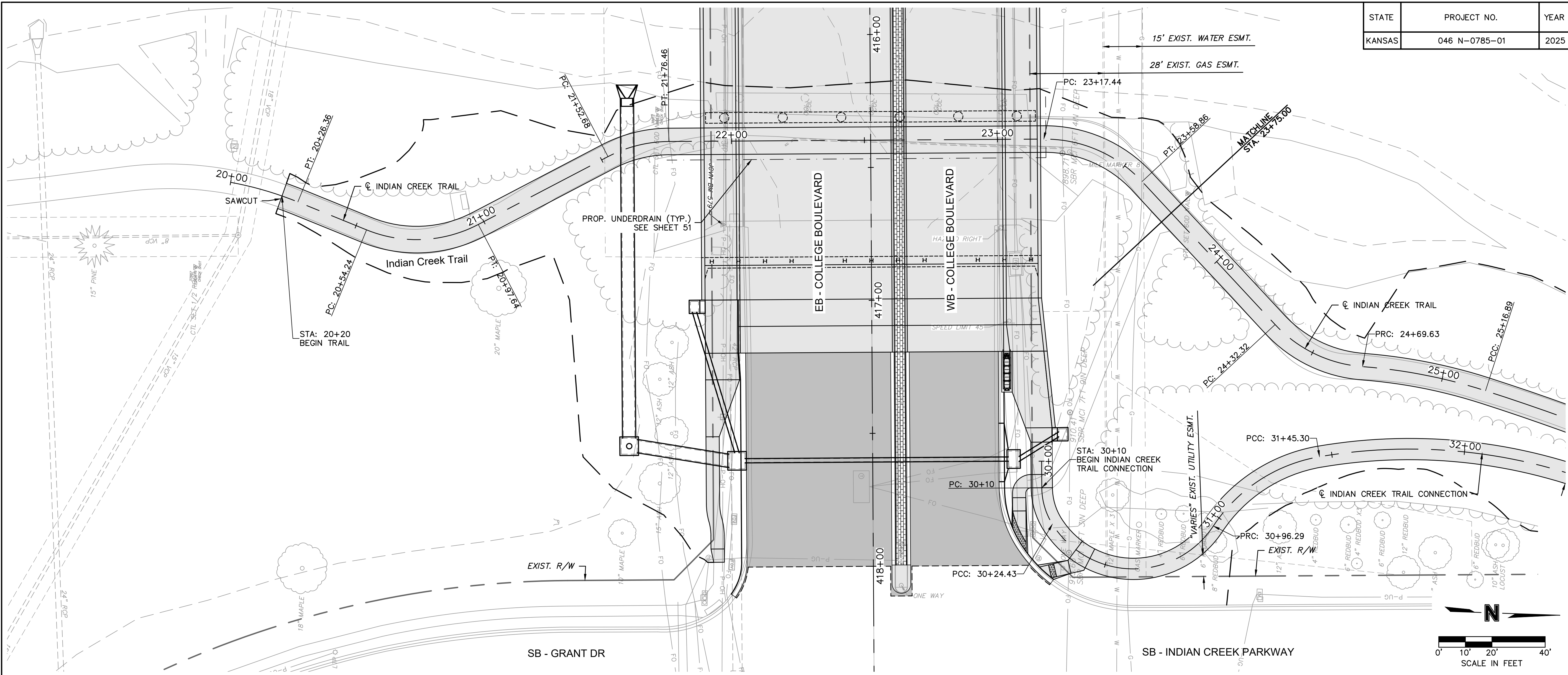
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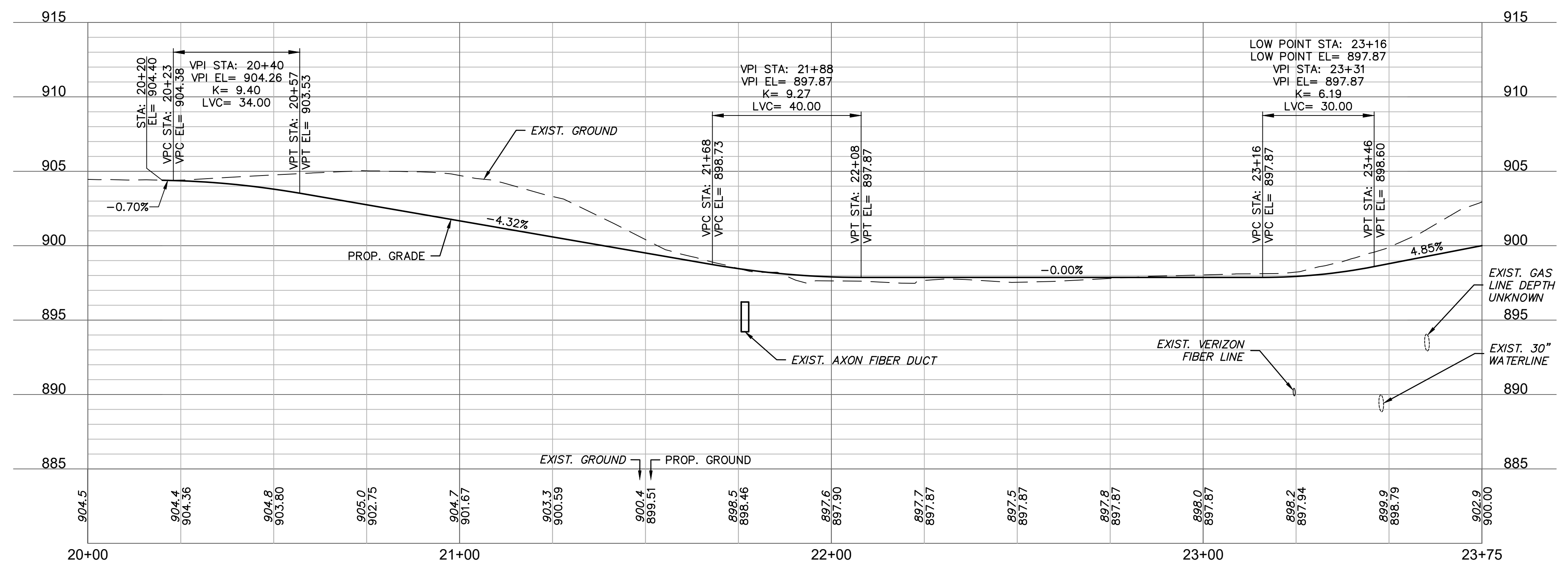
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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INDIAN CREEK TRAIL (20+00 - 23+75)



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

TRAIL PLAN & PROFILE

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBE
 project no.: 022-06529
 drawing no.: T_TPP01_02206529
 date: 1-31-2025

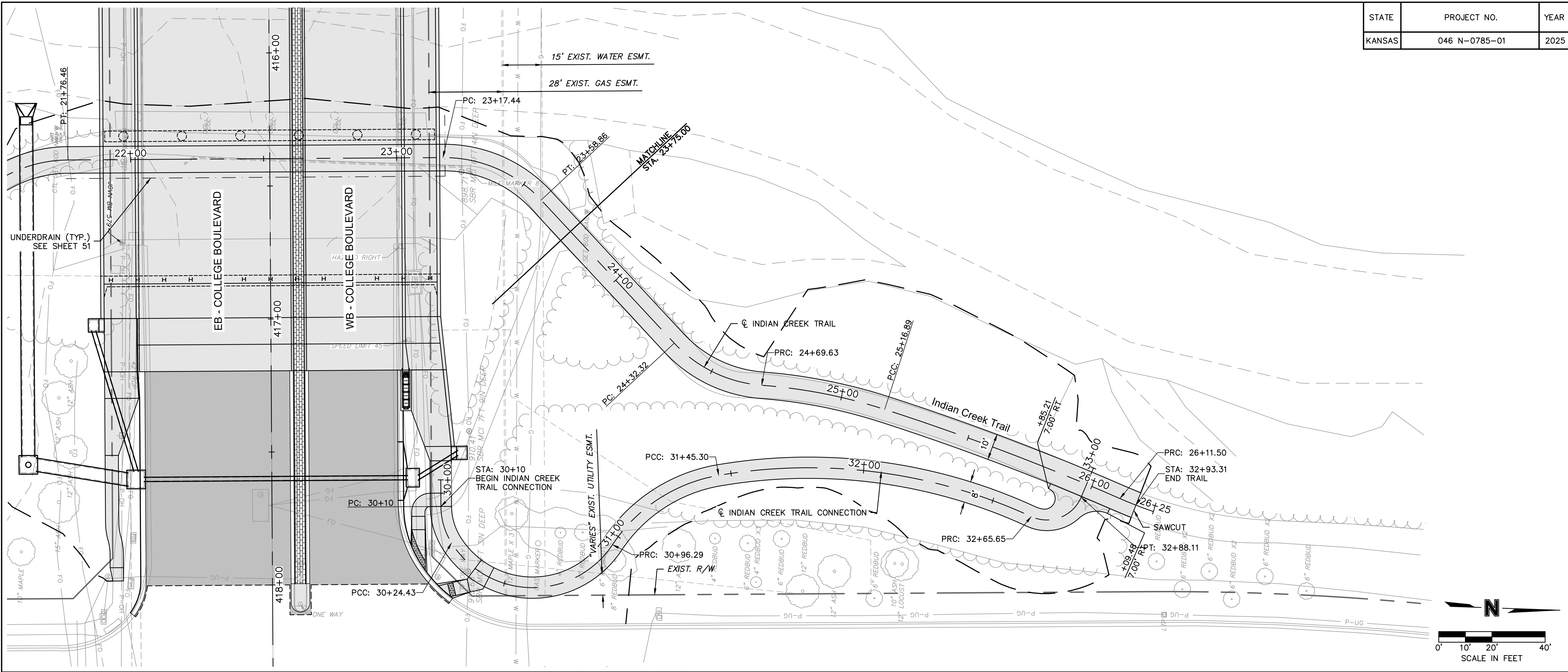
SHEET 21 of 189

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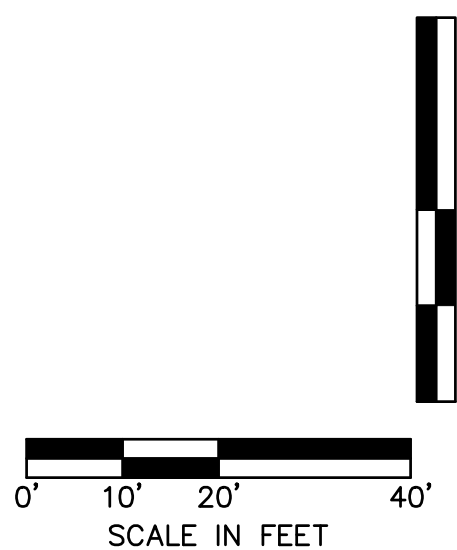
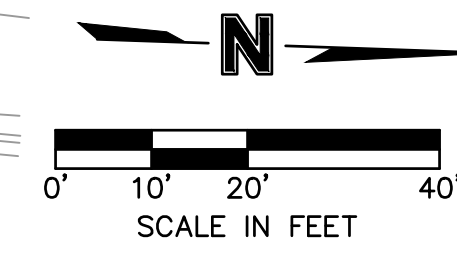
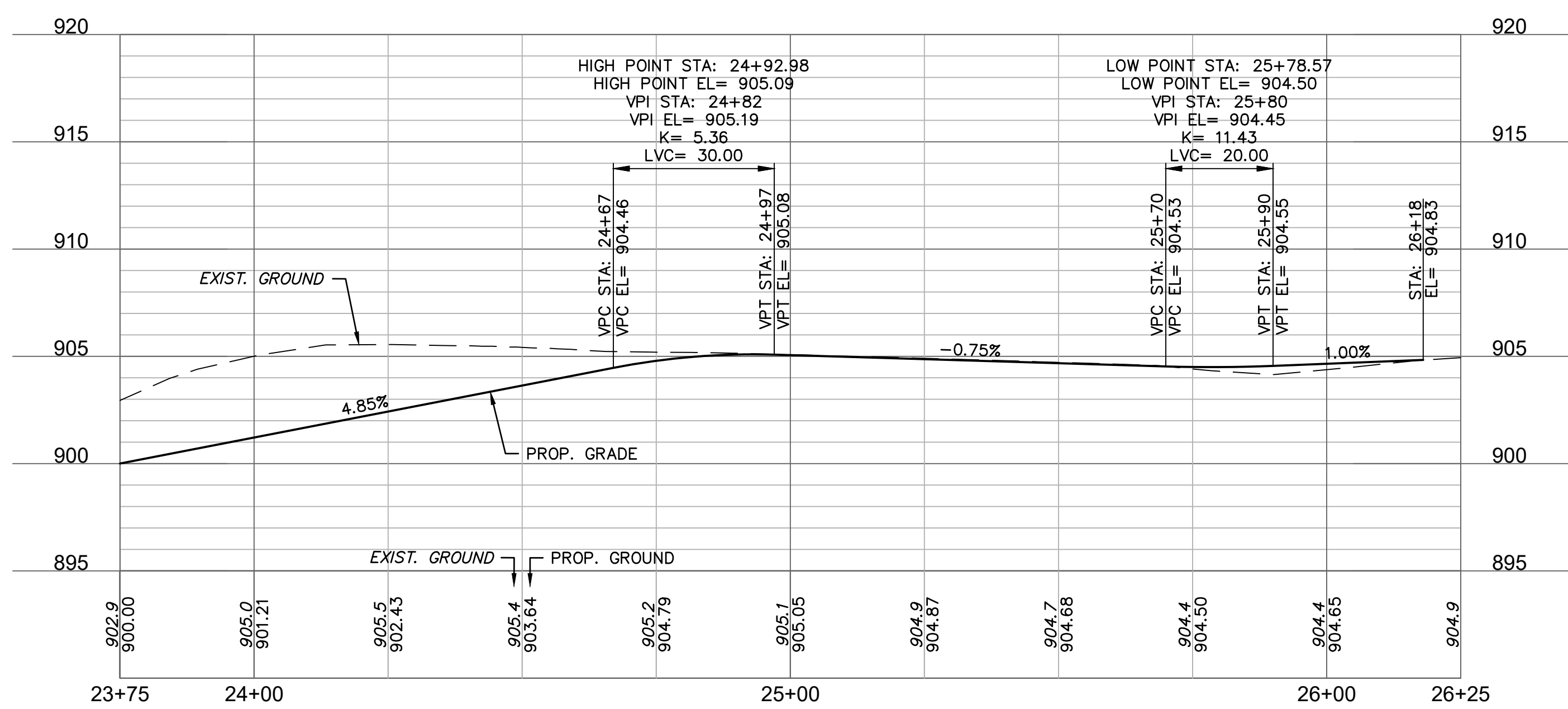
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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INDIAN CREEK TRAIL (23+75 - 26+25)



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

TRAIL PLAN & PROFILE

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
 project no.: 022-06529
 drawing no.: T_TPP01_02206529
 date: 1-31-2025

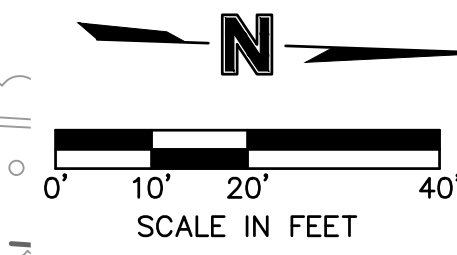
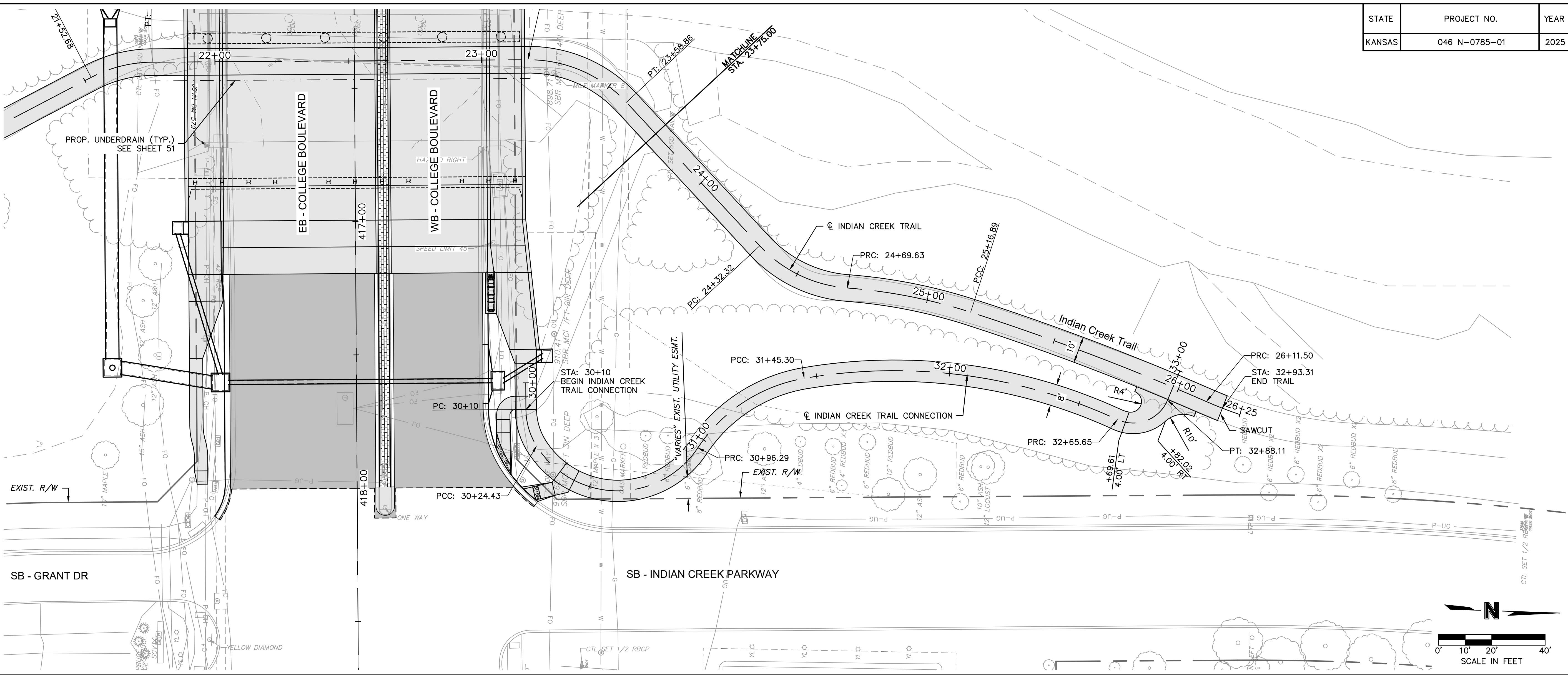
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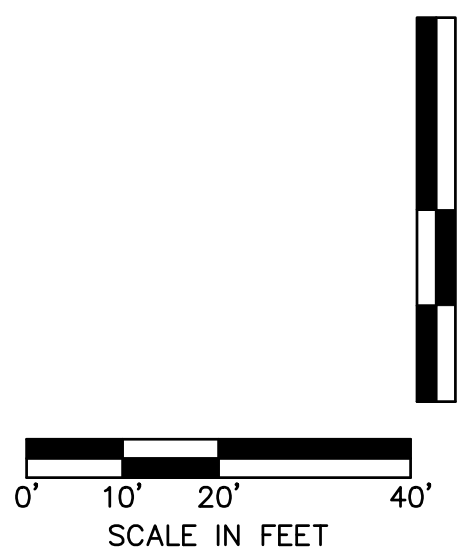
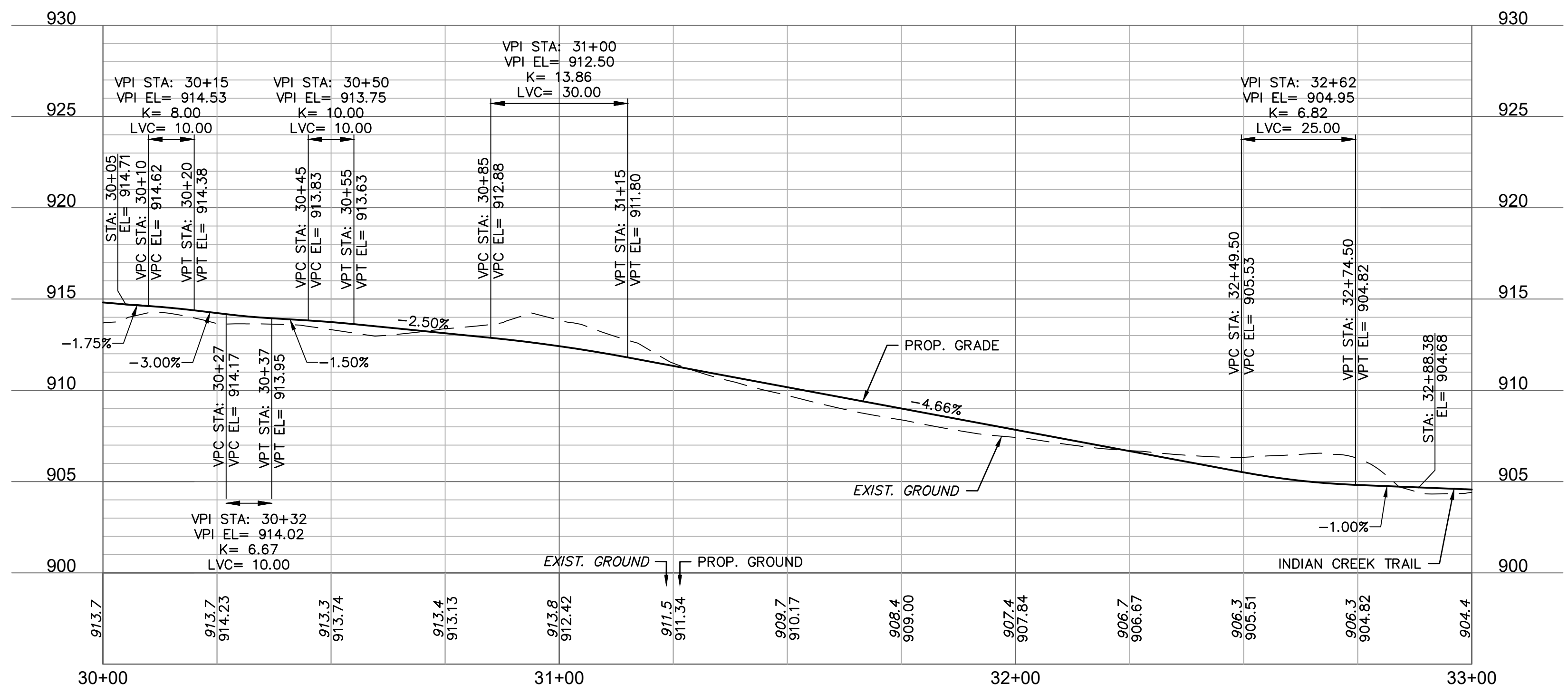
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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INDIAN CREEK TRAIL CONNECTION (30+00 - 33+00)



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

TRAIL PLAN & PROFILE

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

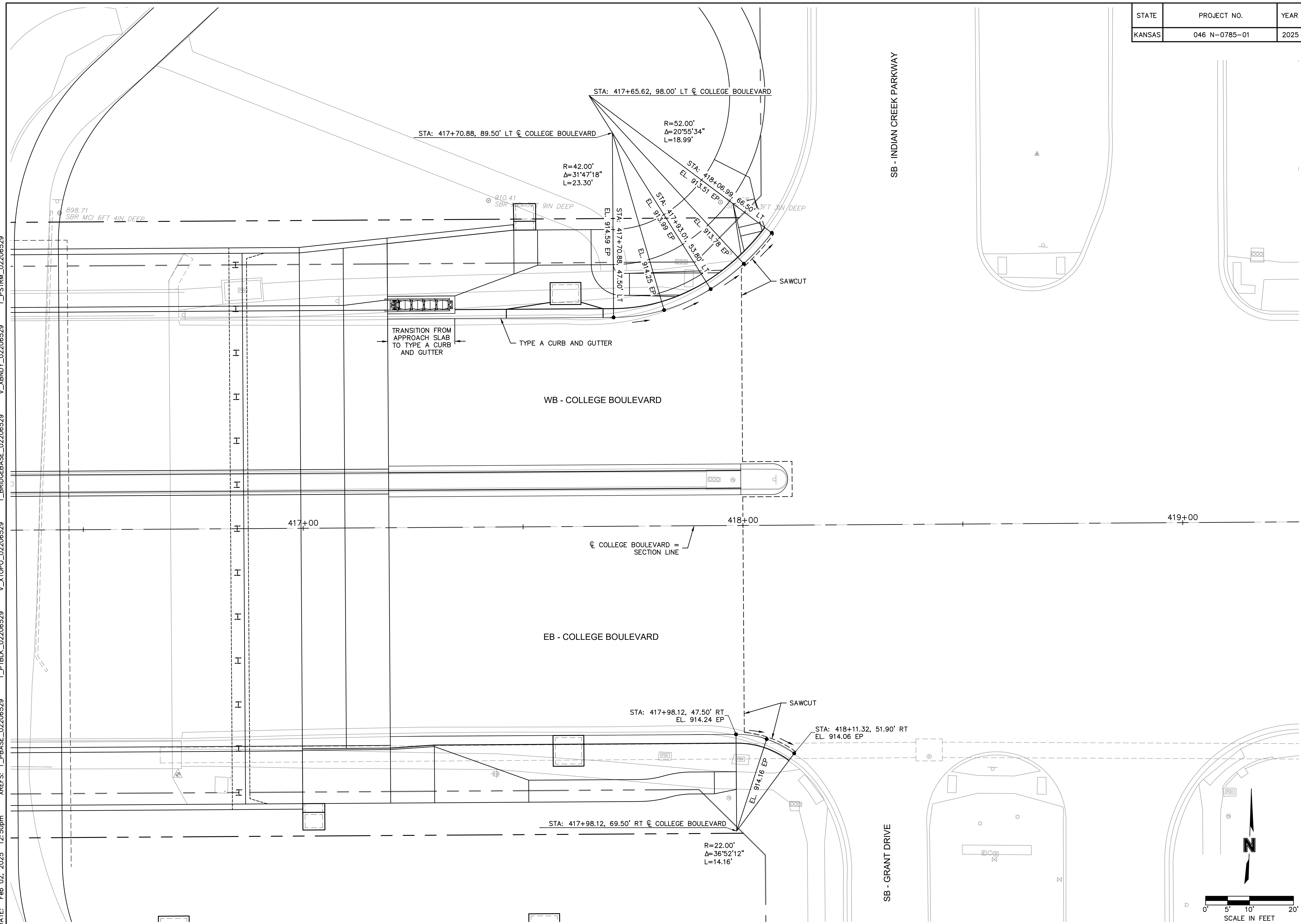
OVERLAND PARK, KANSAS

2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
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 drawing no.: T_TPP01_02206529
 date: 1-31-2025

SHEET 23 of 189

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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

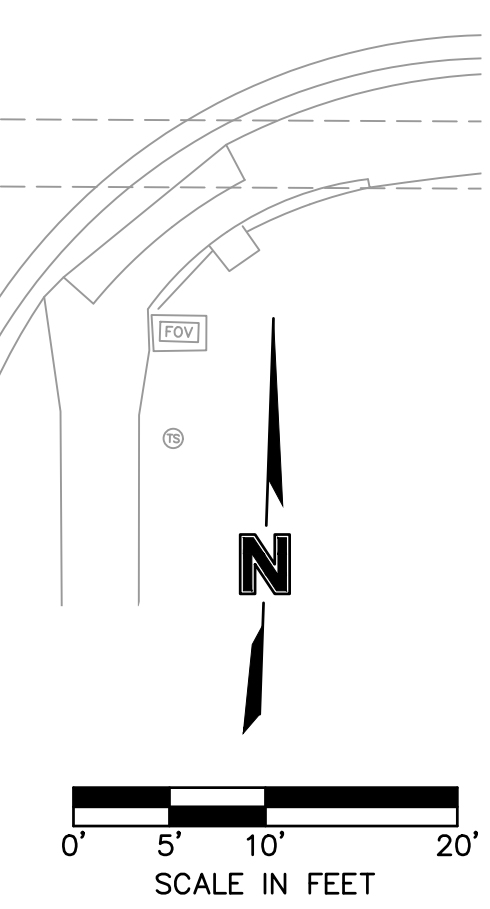
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

INTERSECTION LAYOUT
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

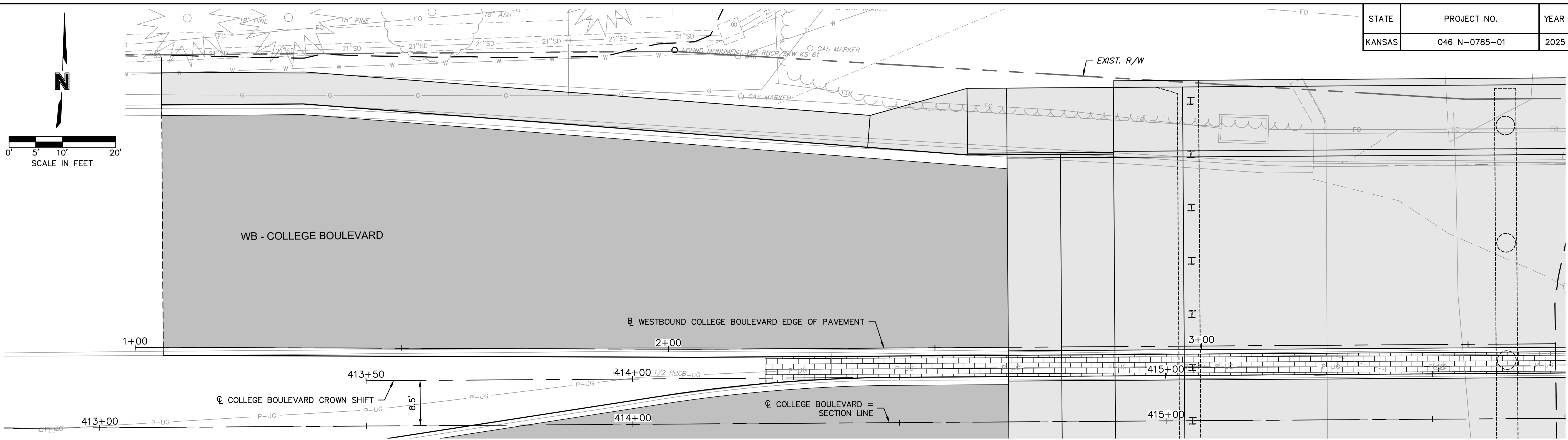
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 date: 1-31-2025

SHEET
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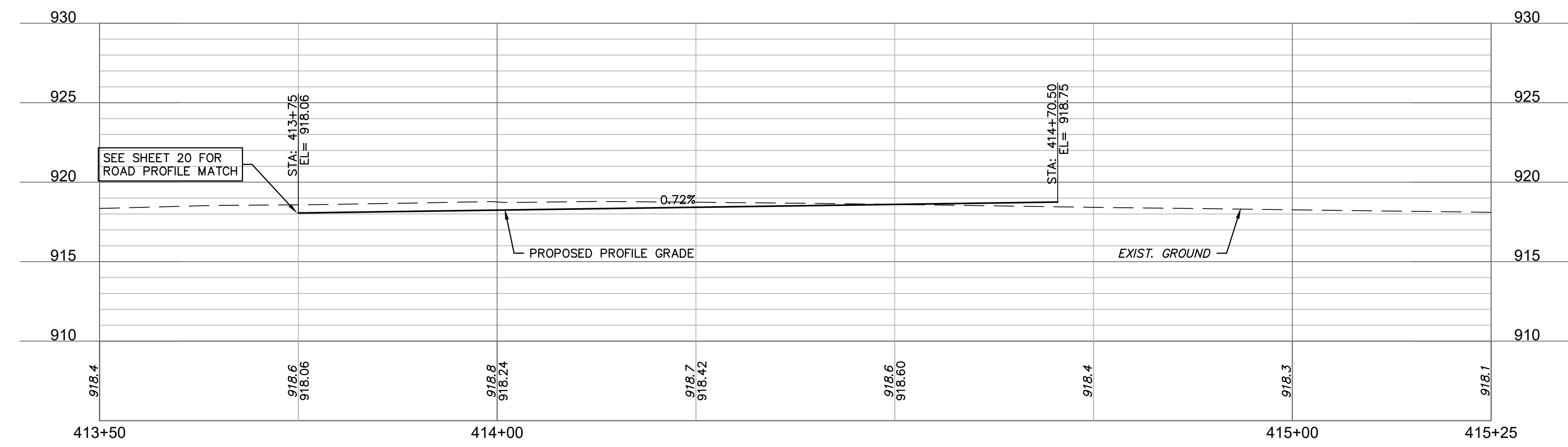


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 USER: mweach T_PPATT_02206529

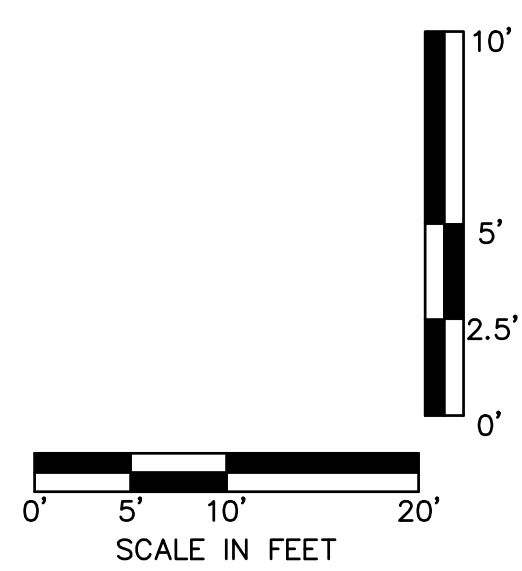
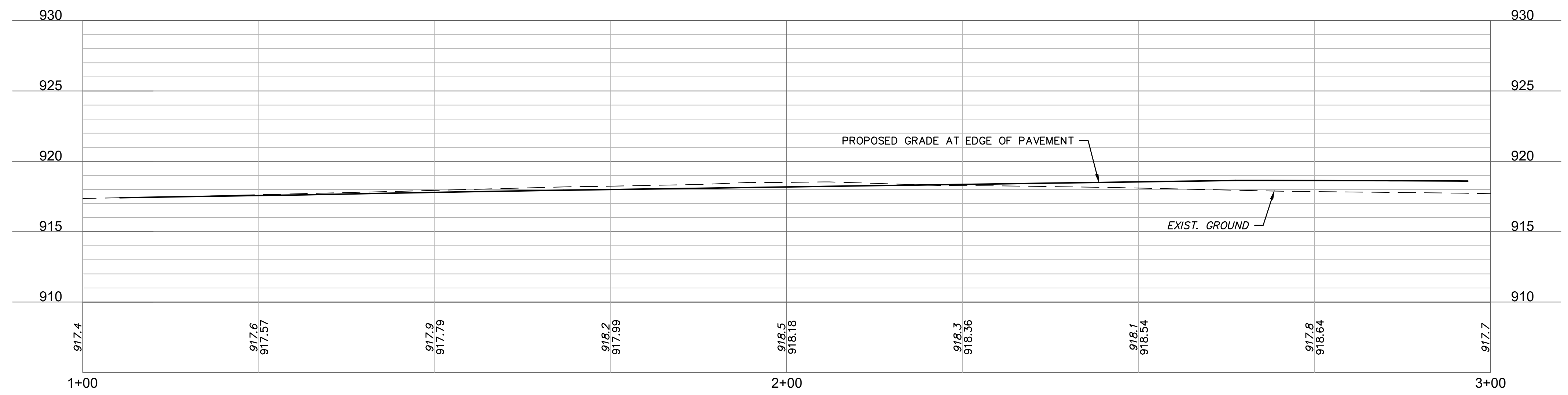
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



PROFILE - COLLEGE BOULEVARD CROWN SHIFT (413+50 - 415+25)



PROFILE - WESTBOUND COLLEGE BOULEVARD EDGE OF PAVEMENT (1+00 - 3+00)



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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

CROWN SHIFT GRADING TO THE BRIDGE

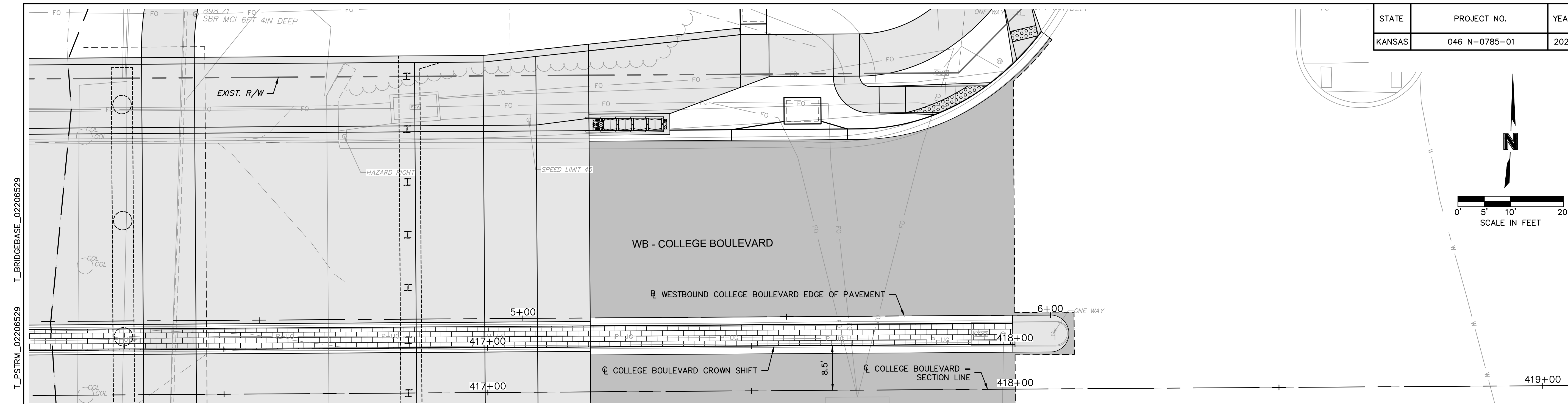
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
 project no.: 022-06529
 drawing no.: T_SRG01_02206529
 date: 1-31-2025

SHEET
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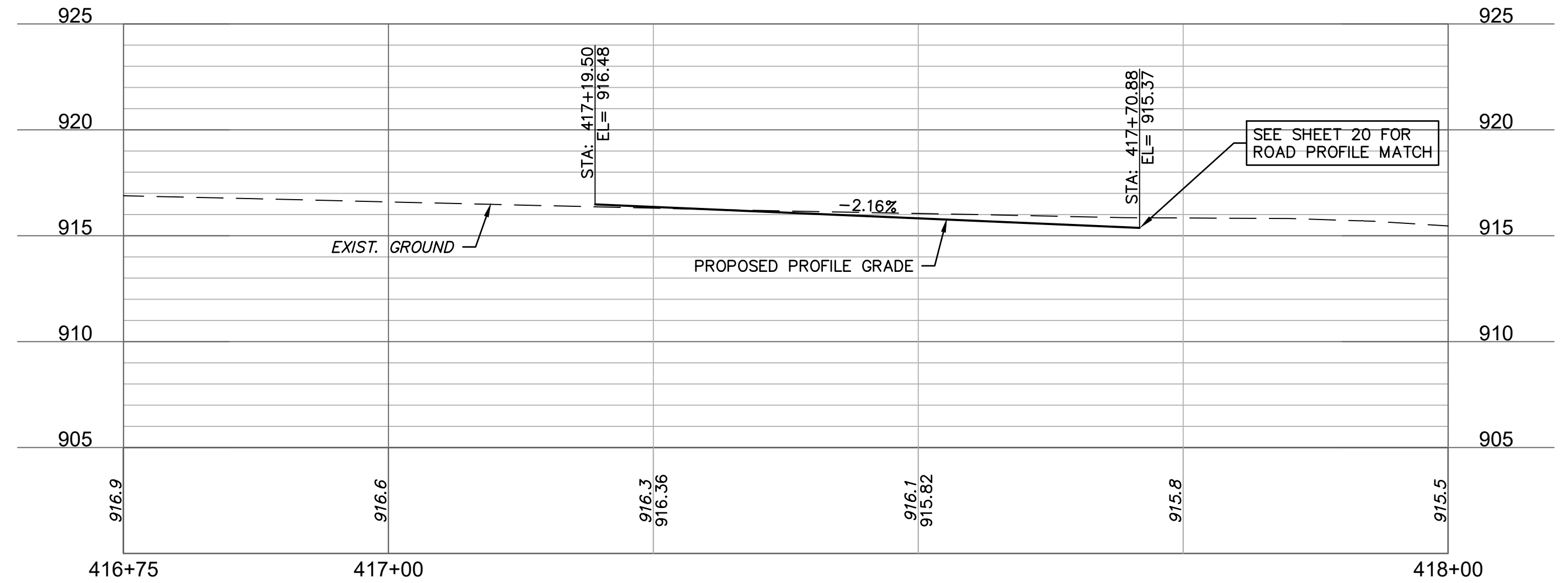
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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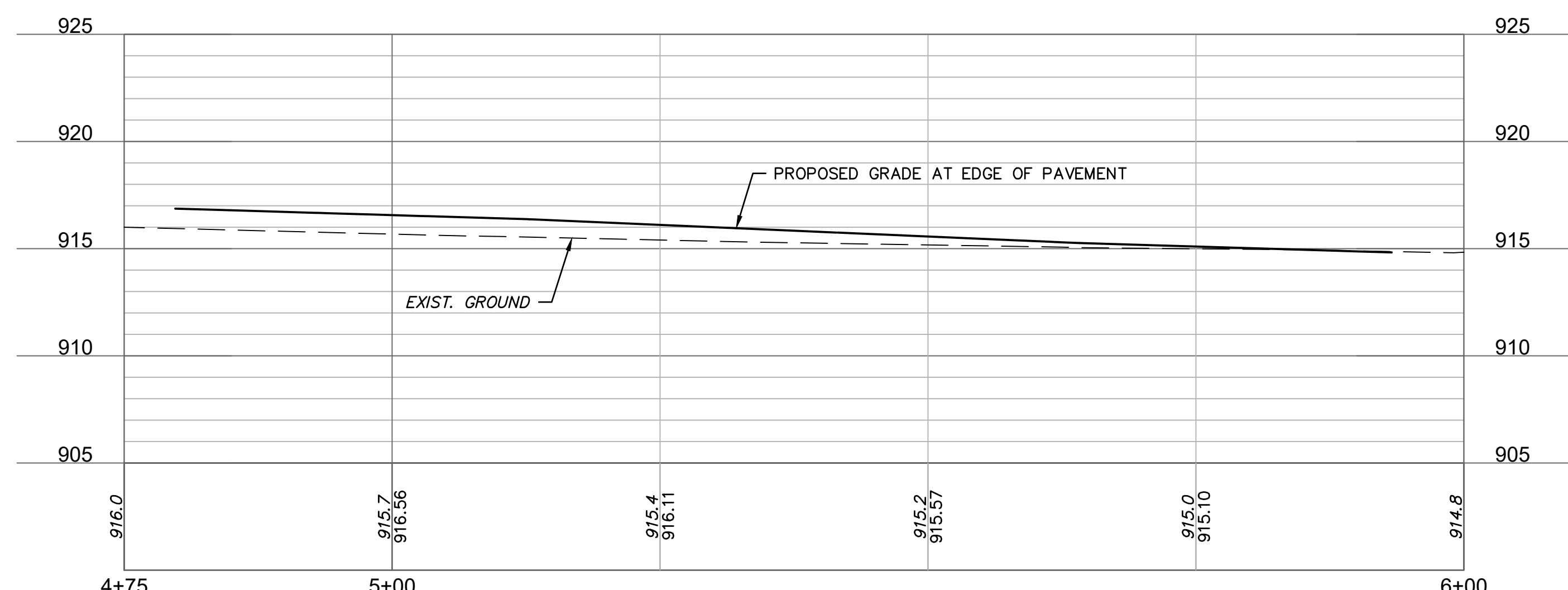
7301 West 133rd Street, Suite 200
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PROFILE - COLLEGE BOULEVARD CROWN SHIFT (416+75 - 418+00)



PROFILE - WESTBOUND COLLEGE BOULEVARD EDGE OF PAVEMENT (4+75 - 6+00)



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

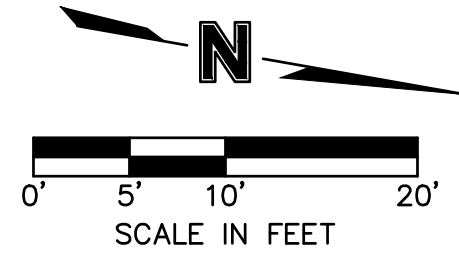
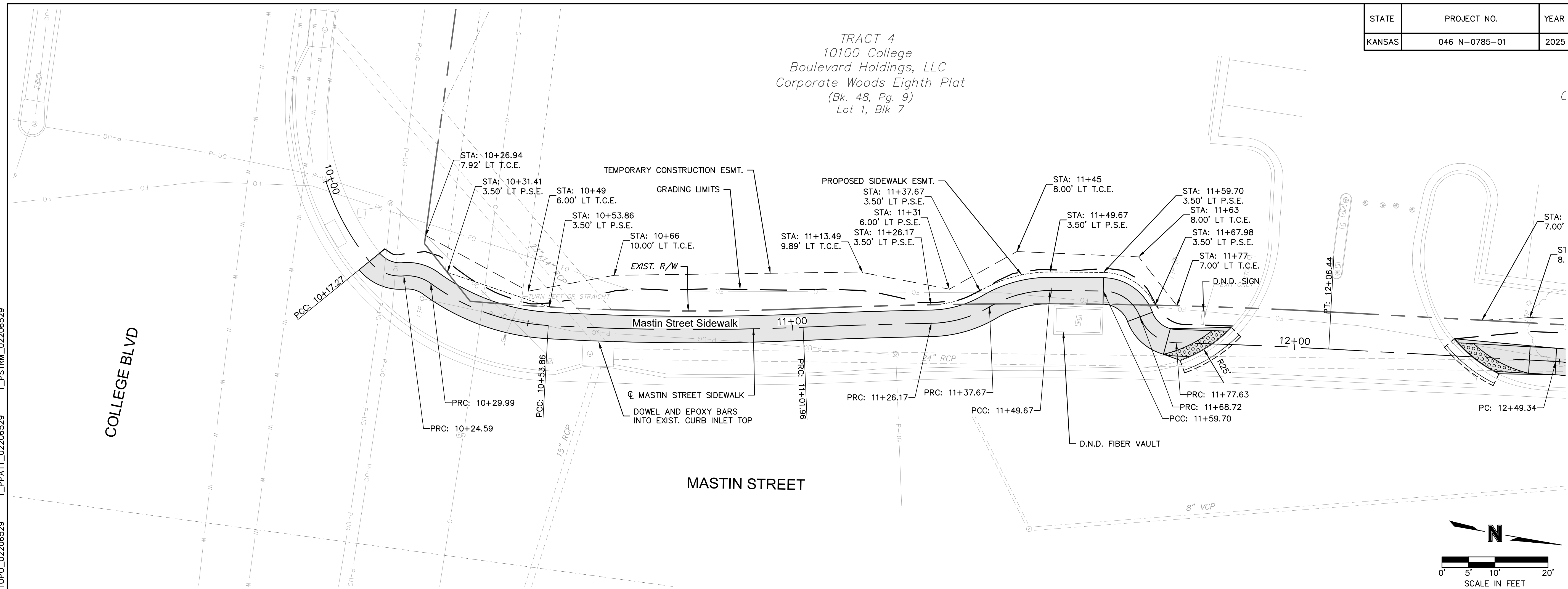
CROWN SHIFT GRADING TO THE BRIDGE
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS
2025

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: T_SRG01_02206529
date: 1-31-2025

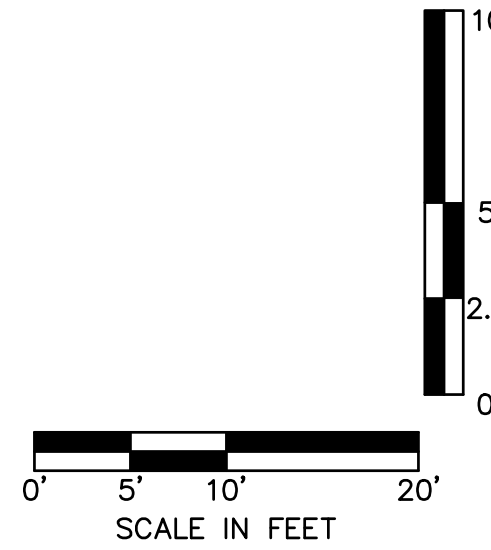
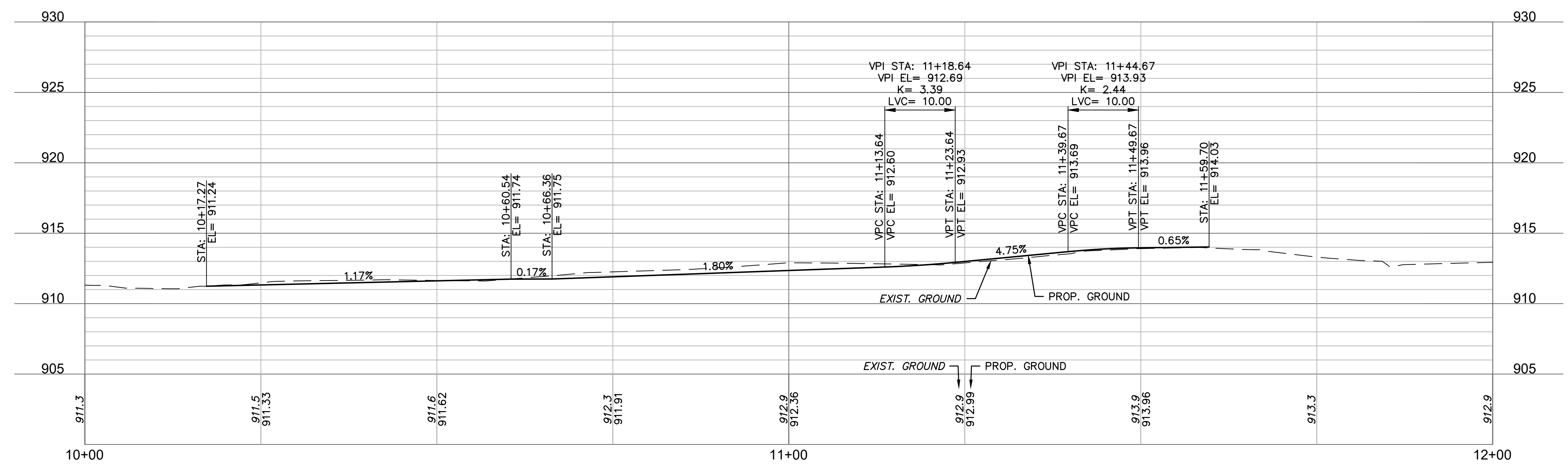
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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

TRACT 4
 10100 College
 Boulevard Holdings, LLC
 Corporate Woods Eighth Plat
 (Bk. 48, Pg. 9)
 Lot 1, Blk 7



MASTIN STREET SIDEWALK (10+00 - 12+00)



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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

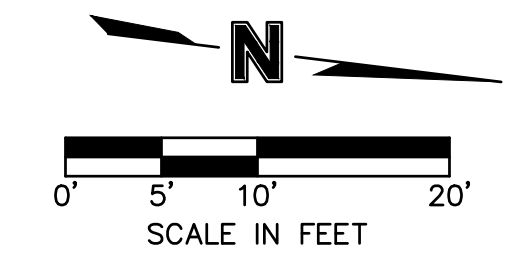
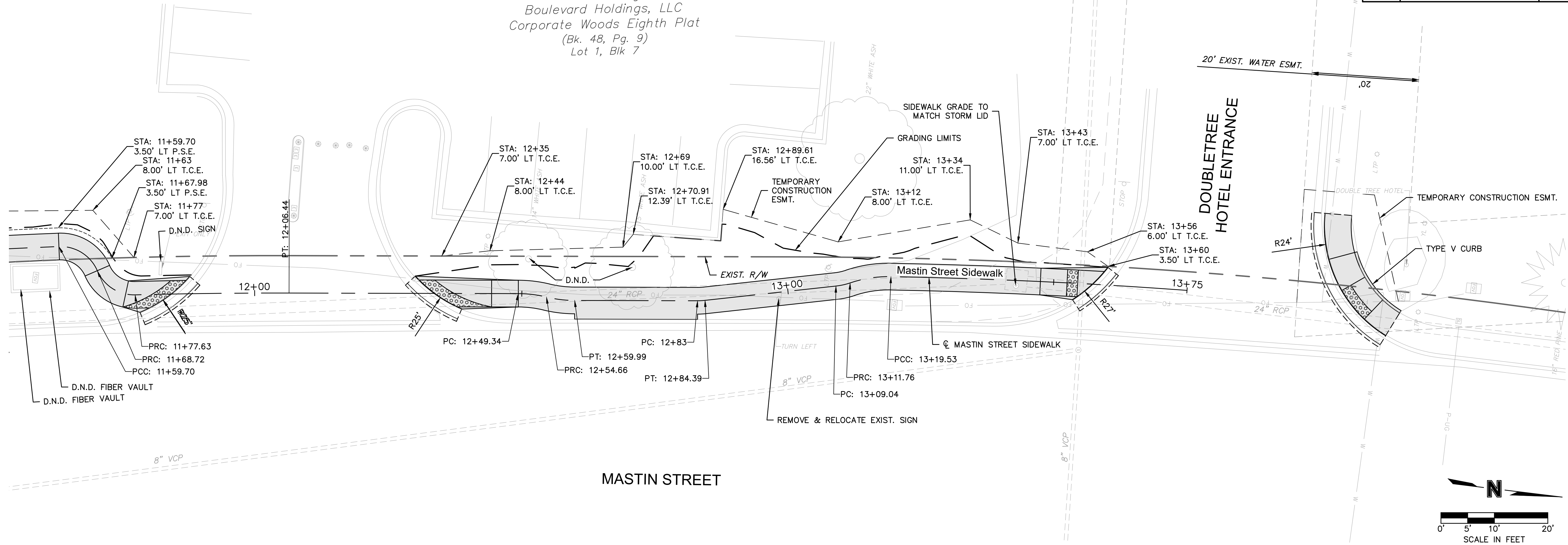
MASTIN STREET SIDEWALK PLAN & PROFILE
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
 project no.: 022-06529
 drawing no.: T_MSS01_02206529
 date: 1-31-2025

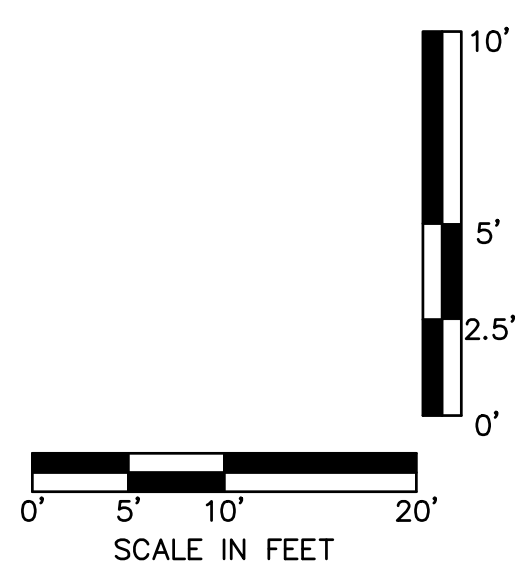
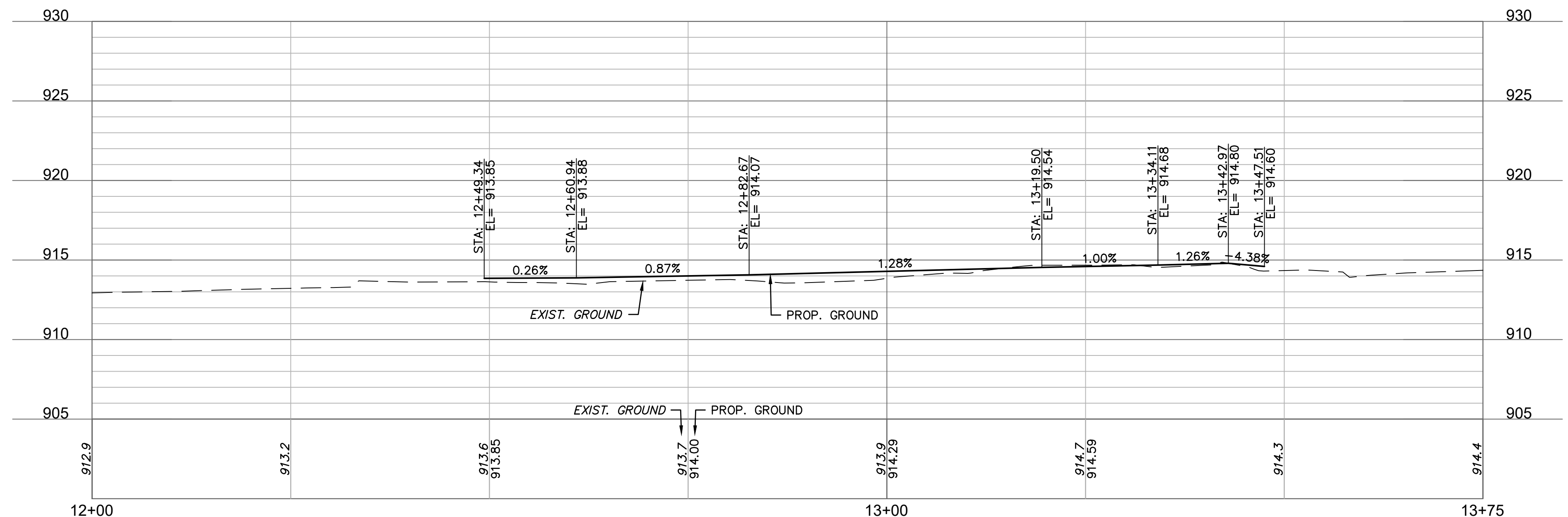
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TRACT 4
 10100 College
 Boulevard Holdings, LLC
 Corporate Woods Eighth Plat
 (Bk. 48, Pg. 9)
 Lot 1, Blk 7

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



MASTIN STREET SIDEWALK (12+00 - 13+75)



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MASTIN STREET SIDEWALK PLAN & PROFILE

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

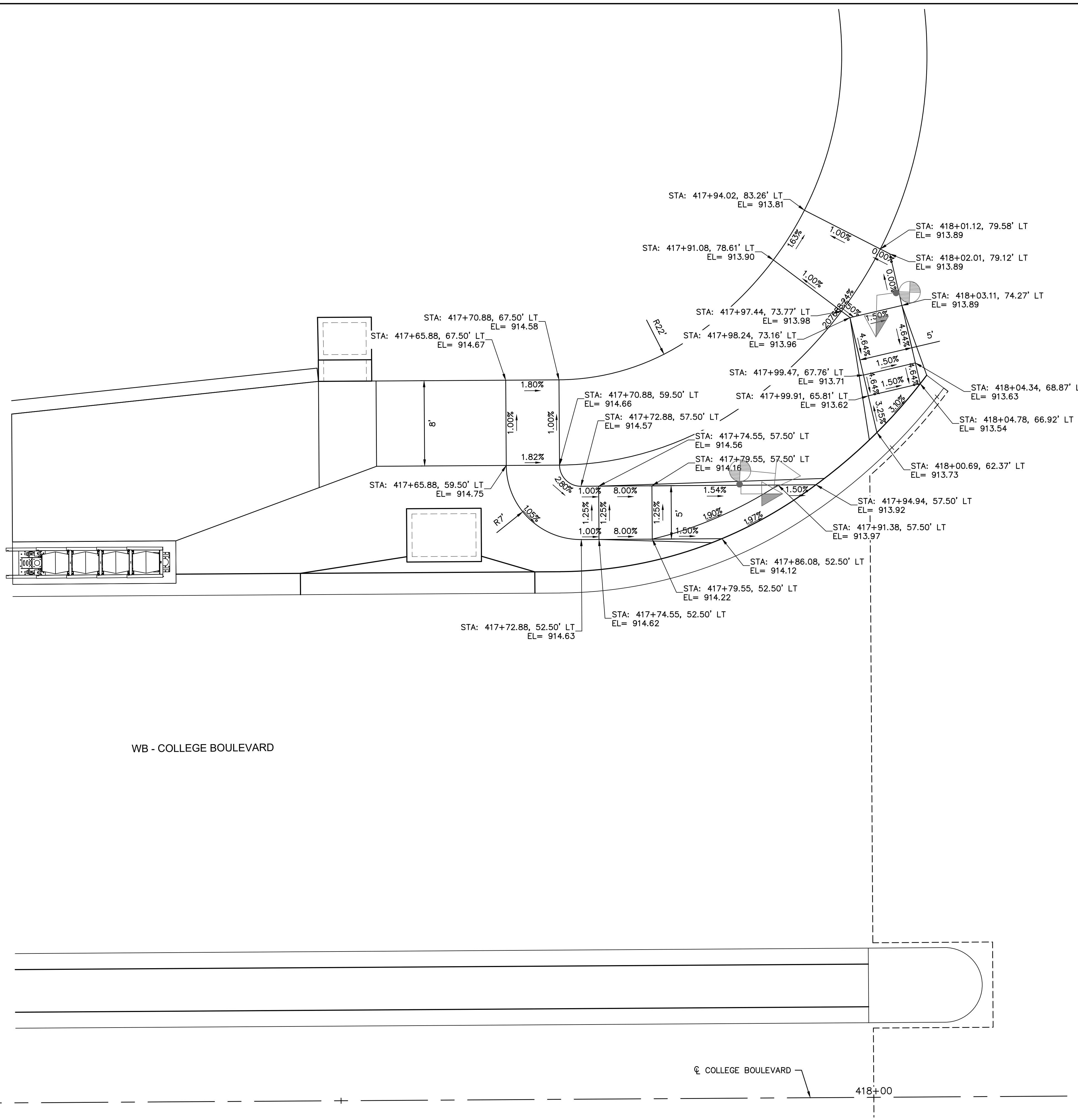
2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBE
 project no.: 022-06529
 drawing no.: T_MSS01_02206529
 date: 1-31-2025

SHEET
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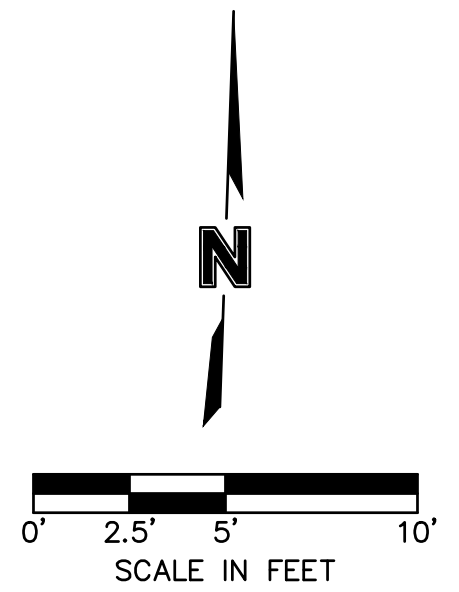
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



SB - INDIAN CREEK PARKWAY

WB - COLLEGE BOULEVARD

COLLEGE BOULEVARD



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2025

SIDEWALK RAMP LAYOUT
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS

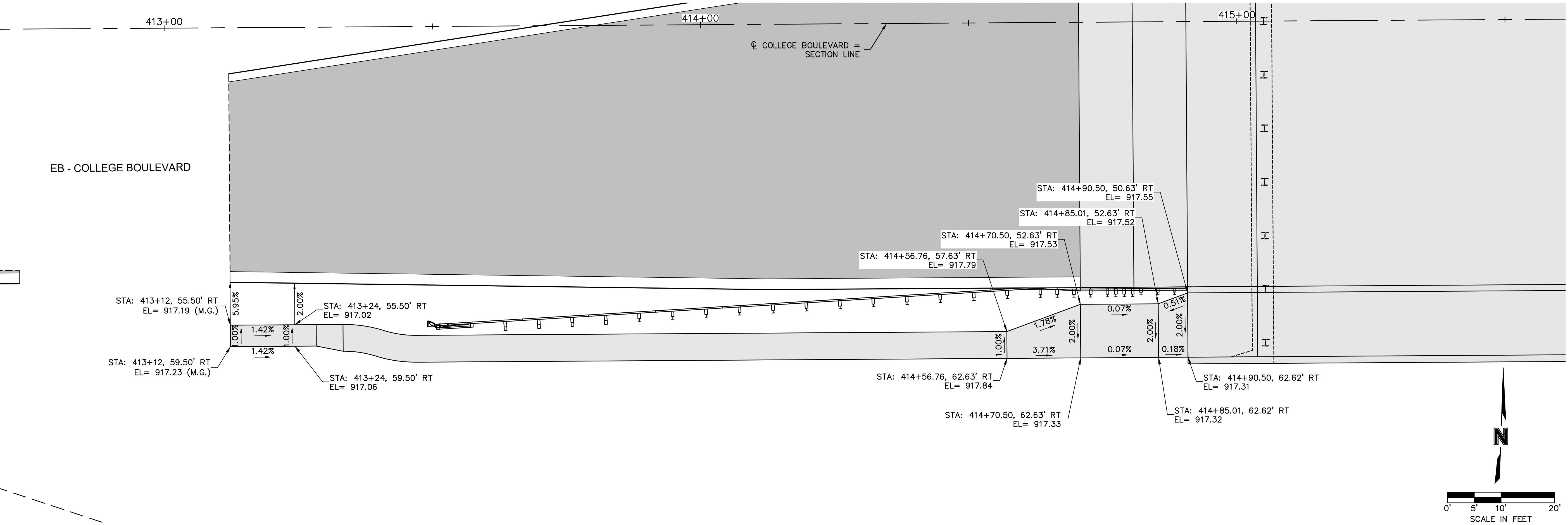
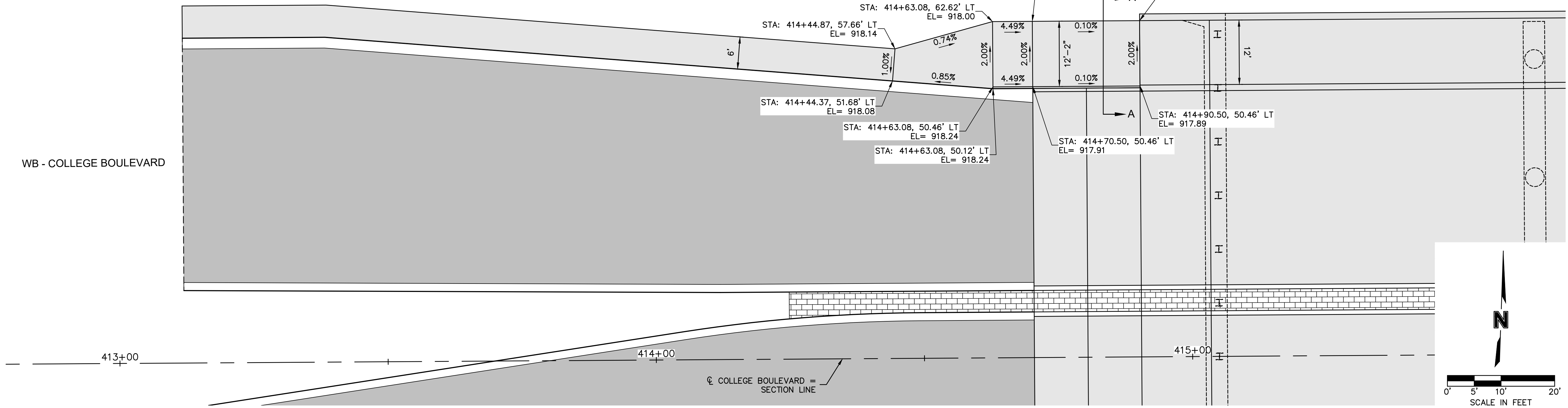
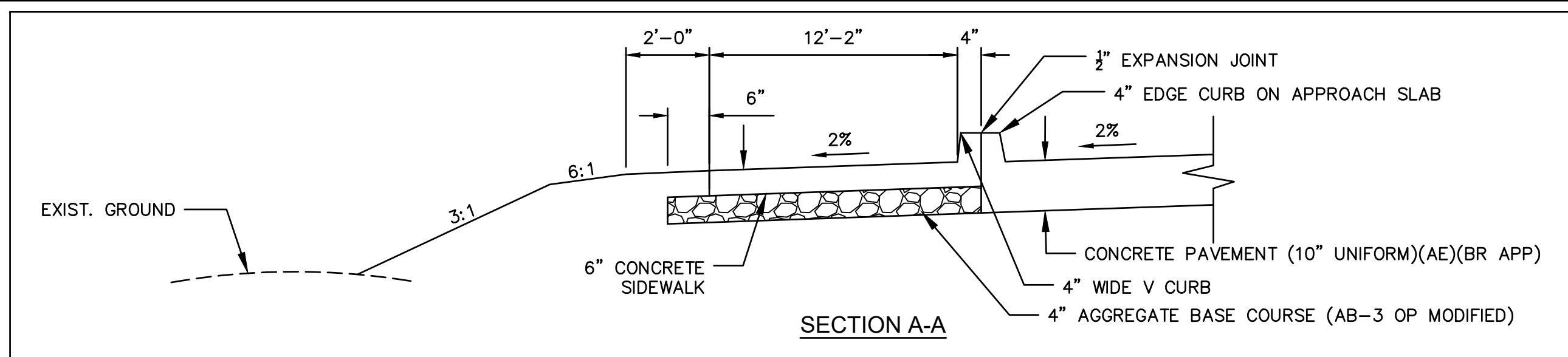
drawn by: CJC	checked by: PBM
approved by: PBM	QA/QC by: RBF
project no.: 022-06529	drawing no.: T_SWK01_02206529
date: 1-31-2025	

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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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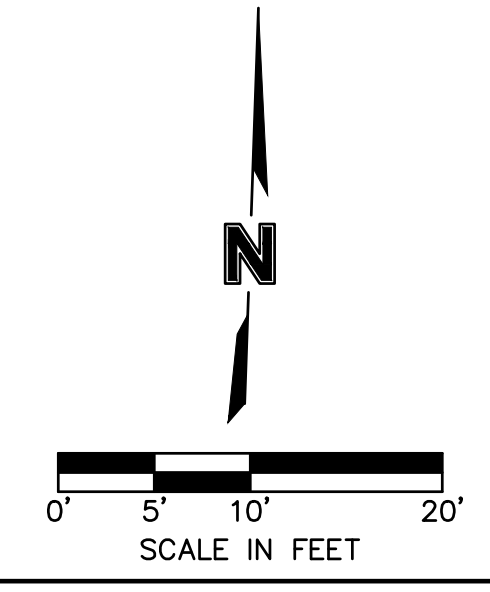
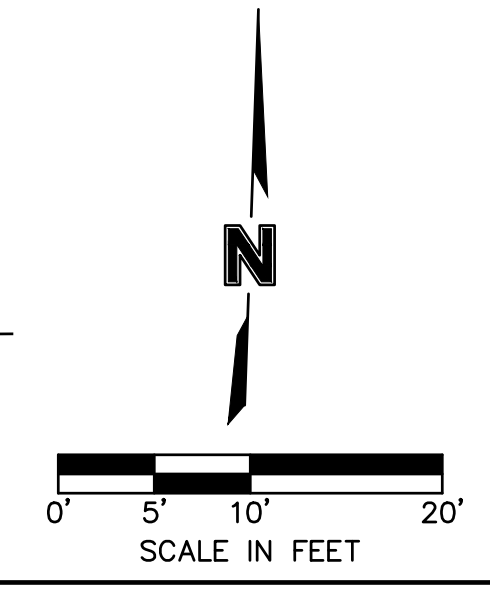
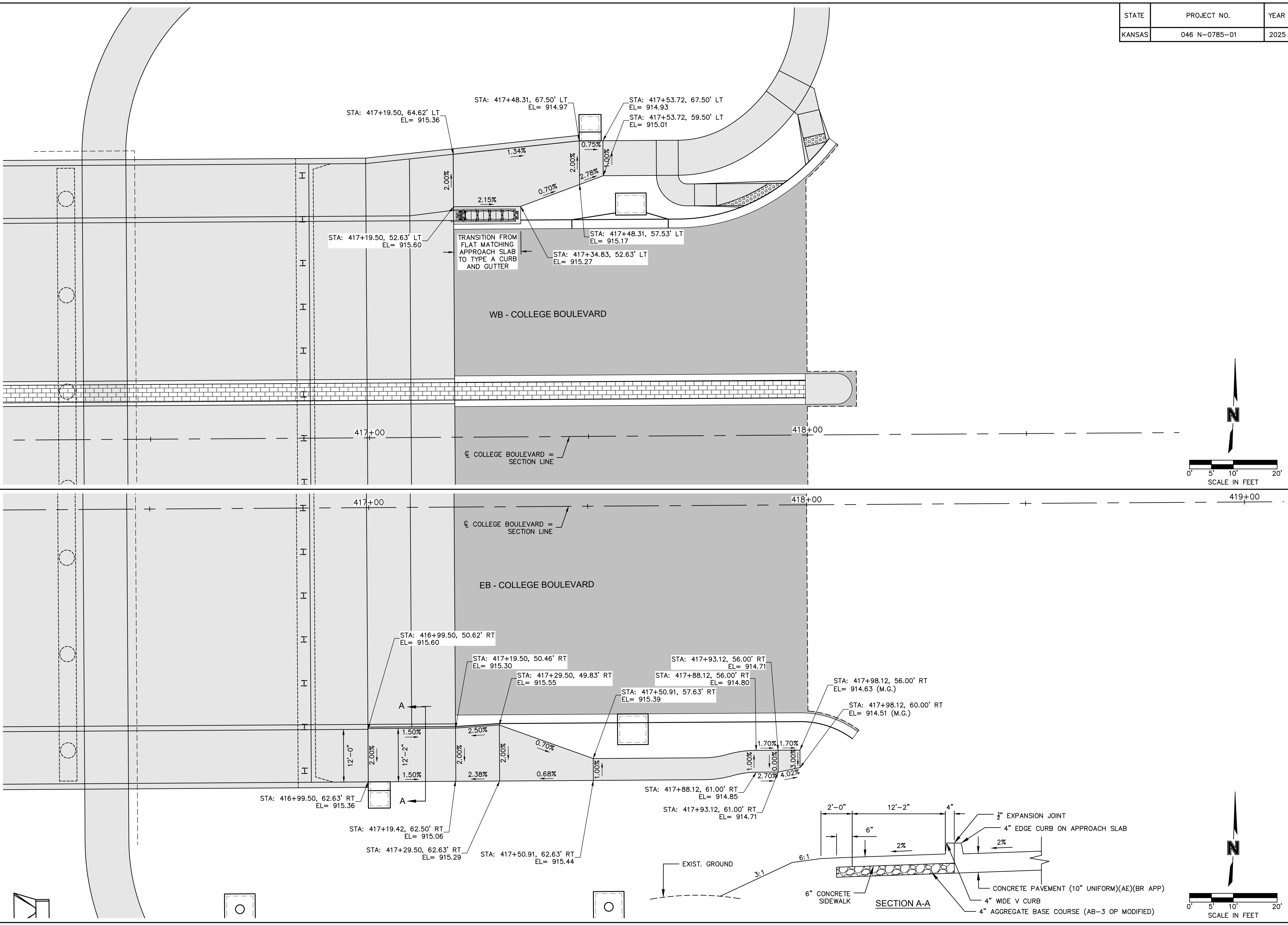
SPECIAL SIDEWALK GRADING		2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK		
OVERLAND PARK, KANSAS		
drawn by:	CJC	
checked by:	PBM	
approved by:	PBM	
QA/QC by:	RBF	
project no.:	022-06529	
drawing no.:	T_SSW01_02206529	
date:	1-31-2025	

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 USER: mwelech

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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DWG: F:\2022\06501-07000\022-06529\40-Design\AutoCAD\Final Plans\Sheets\RDWY\SPECIAL SIDEWALK GRADING\T_SSW01_02206529.dwg
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

SPECIAL SIDEWALK GRADING

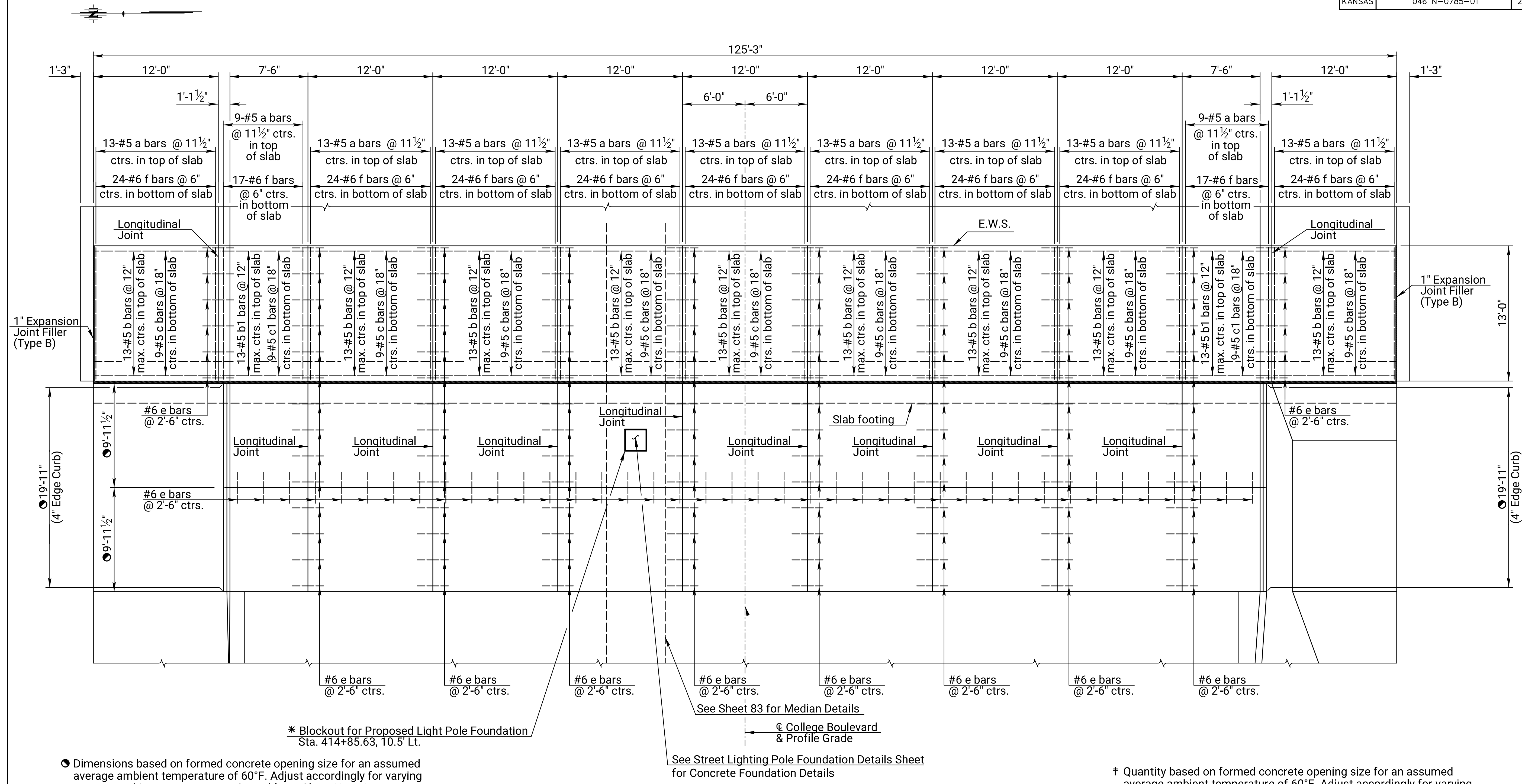
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBE
 project no.: 022-06529
 drawing no.: T_SSW01_02206529
 date: 1-31-2025

SHEET
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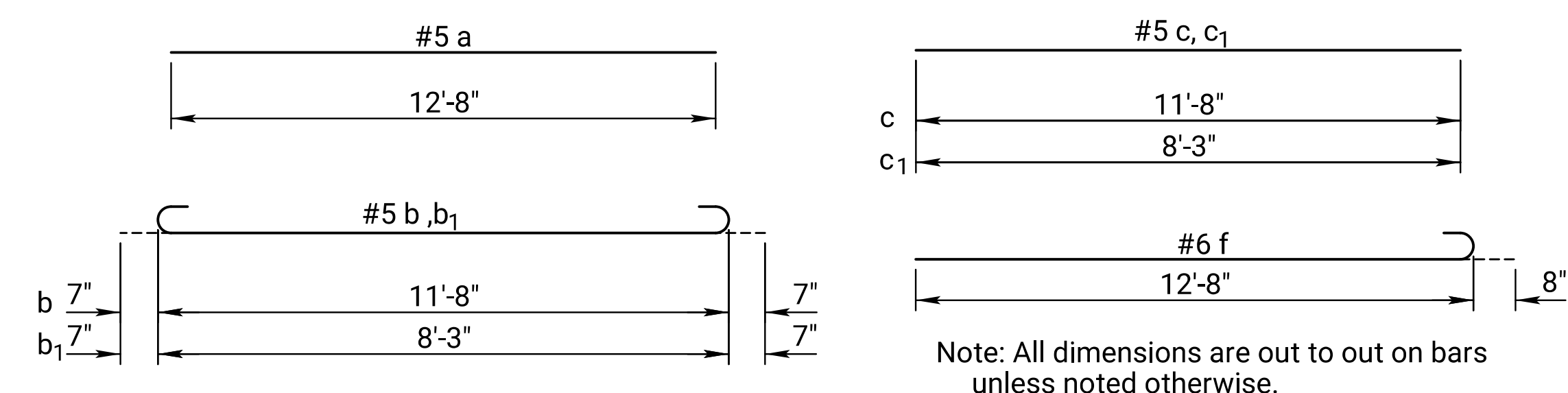
PLAN AT WEST APPROACH

● Dimensions based on formed concrete opening size for an assumed average ambient temperature of 60°F. Adjust accordingly for varying average ambient temperatures. See table on Sheet No. 66.

* For blockout details see Sheet 87

See Street Lighting Pole Foundation Details Sheet for Concrete Foundation Details

† Quantity based on formed concrete opening size for an assumed average ambient temperature of 60°F. Adjust accordingly for varying average ambient temperatures. See table on Sheet No. 66.



BENDING DIAGRAMS

Note: All dimensions are out to out on bars unless noted otherwise.

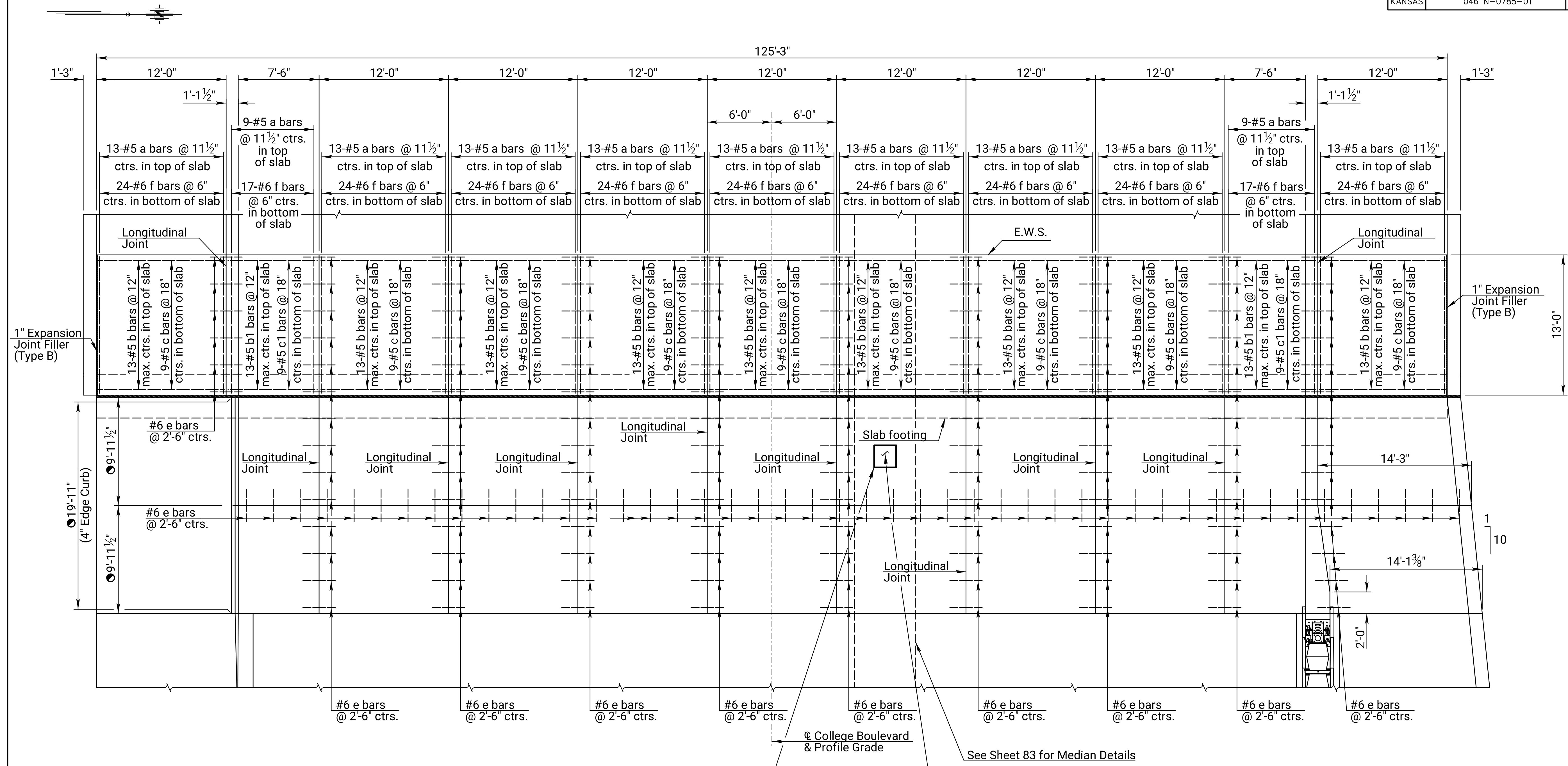
BILL OF MATERIALS									
Bar Schedule									
Bar	a	b	b ₁	c	c ₁	e	f		
No.	135	117	26	81	18	164	250		
Size	#5	#5	#5	#5	#5	#6	#6		
Length	12'-8"	12'-10"	9'-5"	11'-8"	8'-3"	3'-0"	13'-4"		
Reinforcing Steel (Grade 60) (Epoxy Coated)								10490 lbs.	
† Concrete Pavement (10" Unif.)(AE)(BR APP)								402.8 Sq. Yds.	
Expansion Jt. Membrane Sealant								125 Lin. Ft.	
Bridge Approach Slab Footing								37.1 Cu. Yds.	

Note: Quantities listed for one approach slab only. Reinforcing steel and joint lengths shown for information only.

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

WEST CONCRETE BRIDGE APPROACH PAVEMENT
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS

drawn by: ZDD
checked by: KAS
approved by: KAS
QA/QC by: GCL
project no.: 022-06529
drawing no.:
date: 01/31/2025



● Dimensions based on formed concrete opening size for an assumed average ambient temperature of 60°F. Adjust accordingly for varying average ambient temperatures. See table on Sheet No. 66.

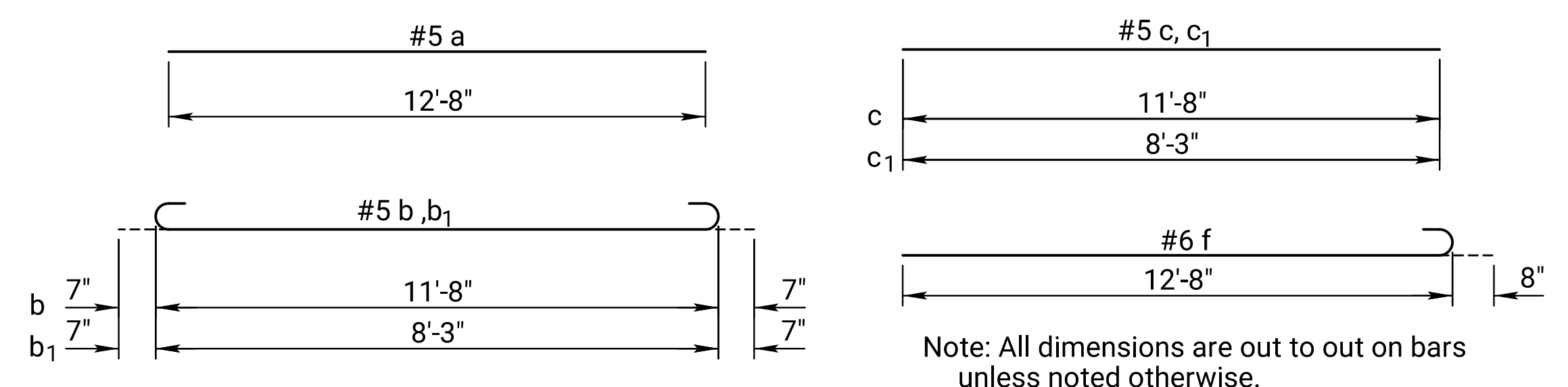
* Blockout for Proposed Light Pole Foundation
Sta. 417+07.04, 10.5' Lt.

See Street Lighting Pole Foundation Details Sheet for Concrete Foundation Details

† Quantity based on formed concrete opening size for an assumed average ambient temperature of 60°F. Adjust accordingly for varying average ambient temperatures. See table on Sheet No. 66.

* For blockout details see Sheet 87

PLAN AT EAST APPROACH



Note: All dimensions are out to out on bars unless noted otherwise.

BENDING DIAGRAMS

BILL OF MATERIALS									
Bar Schedule									
Bar	a	b	b ₁	c	c ₁	e	f		
No.	135	117	26	81	18	178	250		
Size	#5	#5	#5	#5	#5	#6	#6		
Length	12'-8"	12'-10"	9'-5"	11'-8"	8'-3"	3'-0"	13'-4"		
Reinforcing Steel (Grade 60) (Epoxy Coated)								10550 lbs.	
† Concrete Pavement (10" Unif.)(AE)(BR APP)								435.4 Sq. Yds.	
Expansion Jt. Membrane Sealant								127 Lin. Ft.	
Bridge Approach Slab Footing								37.1 Cu. Yds.	

Note: Quantities listed for one approach slab only. Reinforcing steel and joint lengths shown for information only.

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

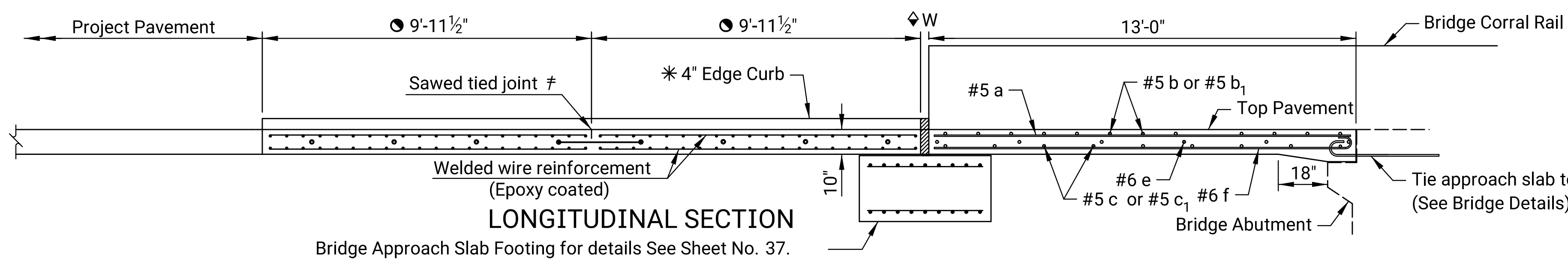
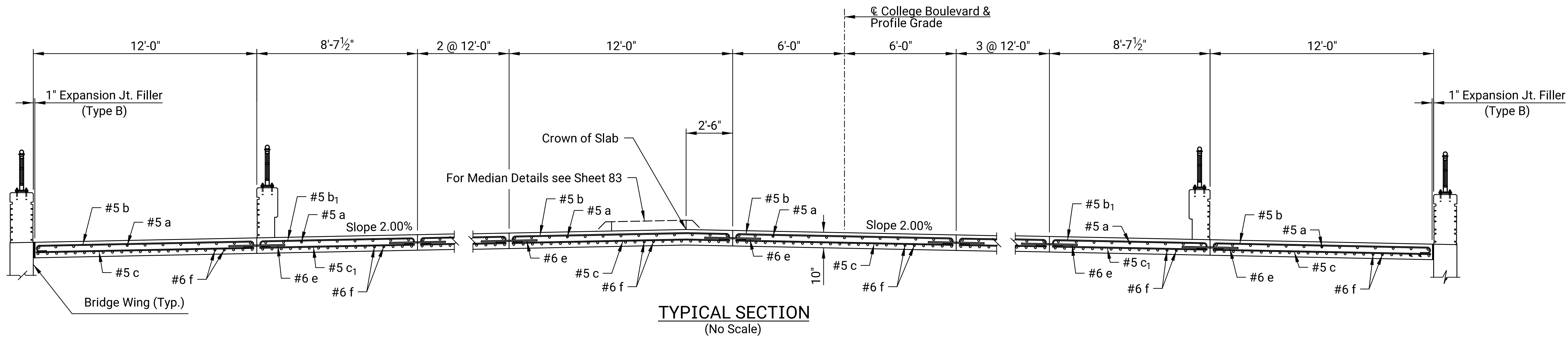
EAST CONCRETE BRIDGE APPROACH PAVEMENT
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS
2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

CONCRETE BRIDGE APPROACH PAVEMENT DETAILS	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	



- Dimensions based on formed concrete opening size for an assumed average ambient temperature of 60°F. Adjust accordingly for varying average ambient temperatures. See table on Sheet No. 66
- * For details of 4" Edge Curb, See Sheet No. 36.
- ◇ W for Expansion Joint width and details See Sheet No. 37.
- ≠ Contractor has the option of substituting a Tied Keyed Construction Joint.

GENERAL NOTES

Special Concrete Bridge Approach shall be paid for as Sq. Yds. of "Concrete Pavement (10" Unif.)(AE)(BR APP)" and includes all work and materials required to construct the approach slab as shown on this sheet.

All work and materials required for installation of expansion joints shall be subsidiary to this bid item.

At the Contractor's option #4x3'-0" tie bars @ 15" centers may be substituted for the #6 e bars at 2'-6" centers.

For details of joints, welded wire reinforcement and edge curb, see Sheet No. 36.

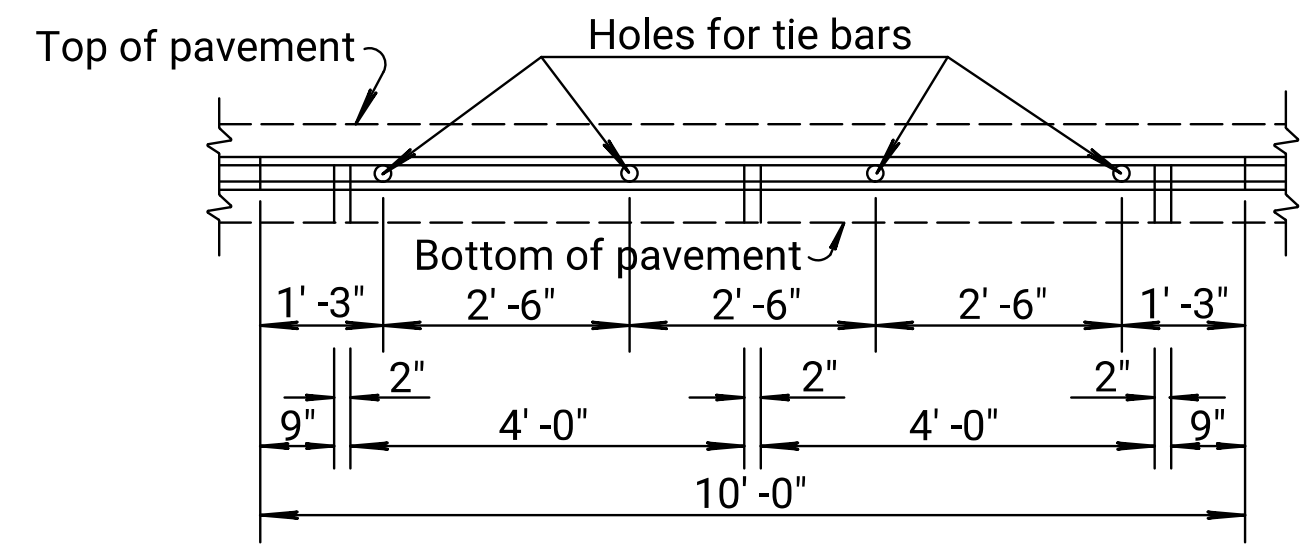
All reinforcing steel shall be epoxy coated.

Clearance from the face of concrete for all reinforcing steel shall be 2 inches.

Standard reinforcing bar hooks in accordance with the latest ACI specifications shall be used throughout.

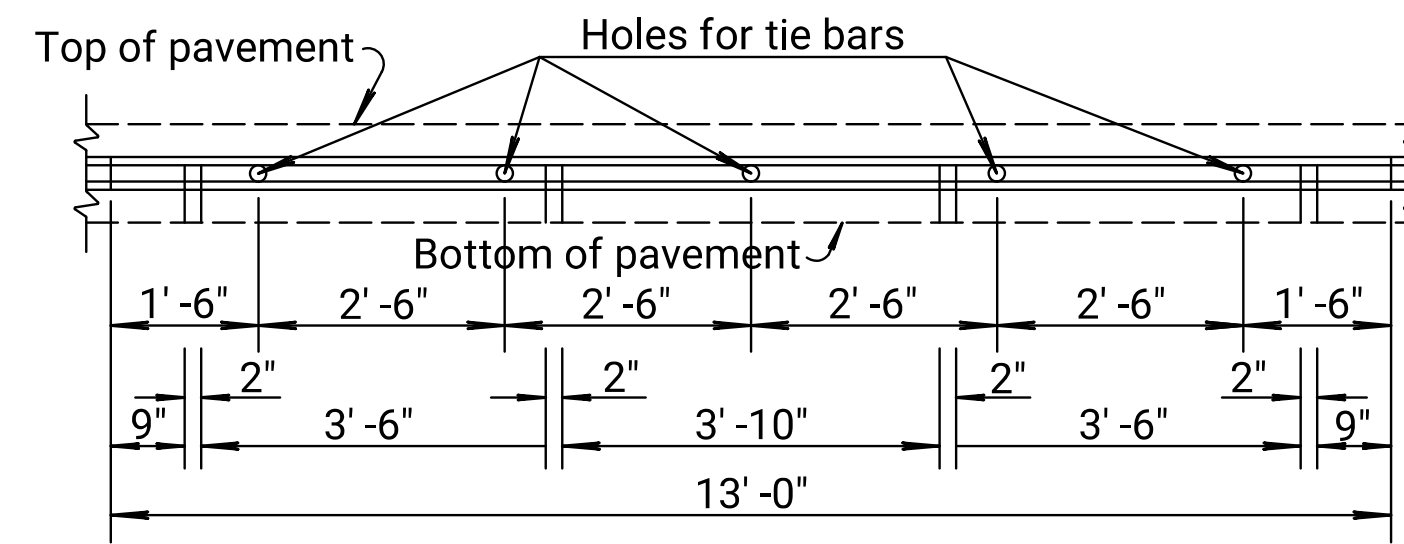
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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To be used only against forms. Shall not extend through contraction joints.

METAL STRIP FOR LONGITUDINAL CONSTRUCTION JOINT (10'-0")

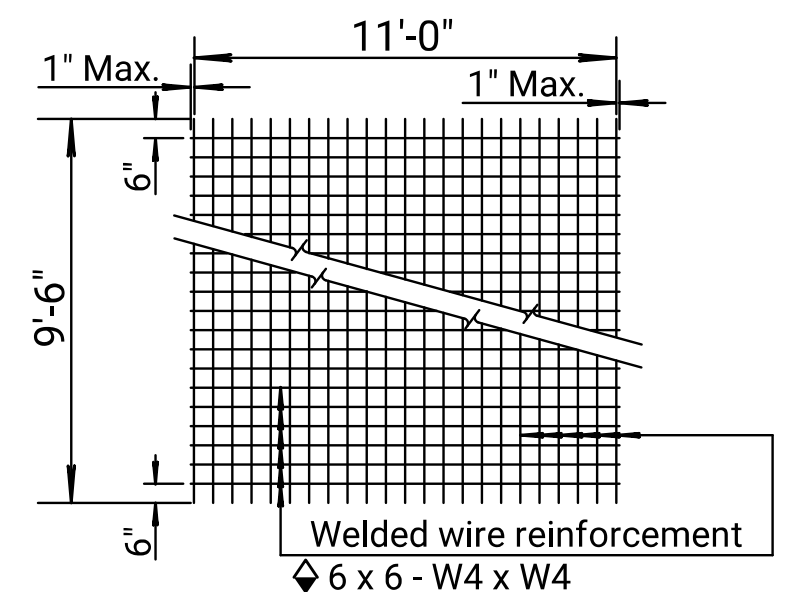


To be used only against forms. Shall not extend through contraction joints.

METAL STRIP FOR LONGITUDINAL CONSTRUCTION JOINT (13'-0")

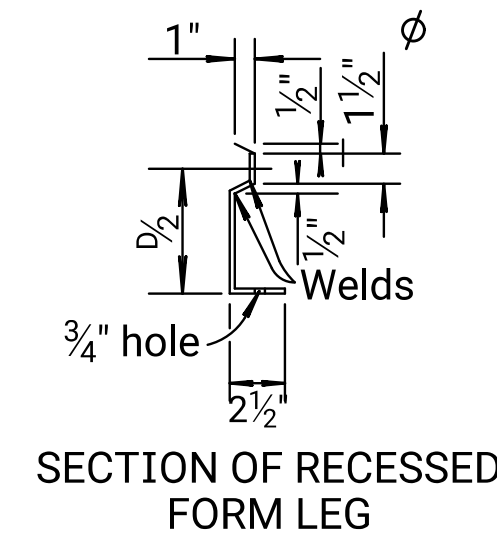
GENERAL NOTES

- All work shall be done in conformity with the Standard Specifications applicable to the project.
- The cost of all bars and joint material shown on this sheet is to be included in the bid price for Concrete Pavement.
- At each planned transverse joint location, a 4 to 6 inch wide strip of the pavement surface shall be protected from the texturing operation to provide a transverse textureless surface centered over the joint sawcut.
- All sawed joints on this project shall be filled with sealant in accordance with Standard Specifications.
- The 4 inch edge curb shall be constructed integral with the approach slab shoulder.
- All materials and work required for this construction shall be subsidiary to the concrete approach slab.
- Tie bars shall be evenly spaced along the length of the slab and no tie bars shall be within 12" of contraction joint.



TYPICAL SHEET OF WELDED WIRE REINFORCEMENT FOR SPECIAL BRIDGE APPROACH PAVEMENT

◆ Note: Epoxy coated #3 bars longitudinally @ 12" ctrs. & #3 bars transversely @ 18" ctrs. may be substituted for each layer of epoxy coated welded wire reinforcement.

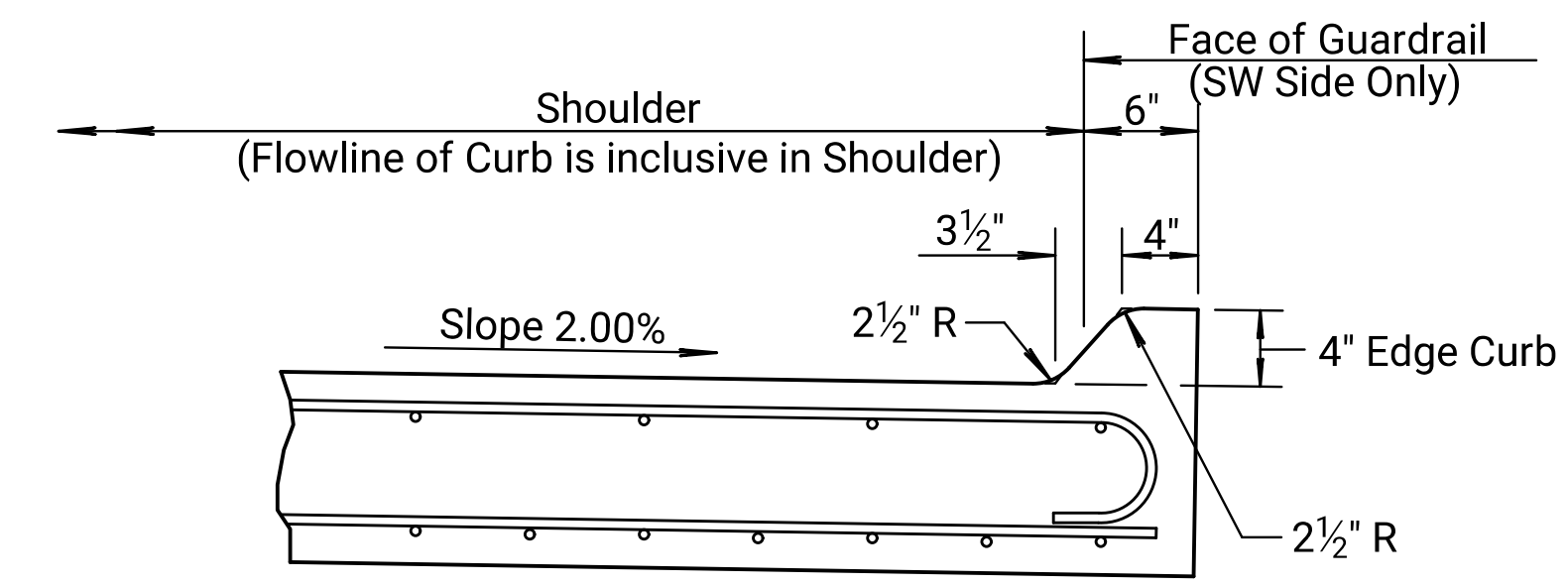


∅ Snap-in leg or other approved designs may be used in lieu of welded leg.

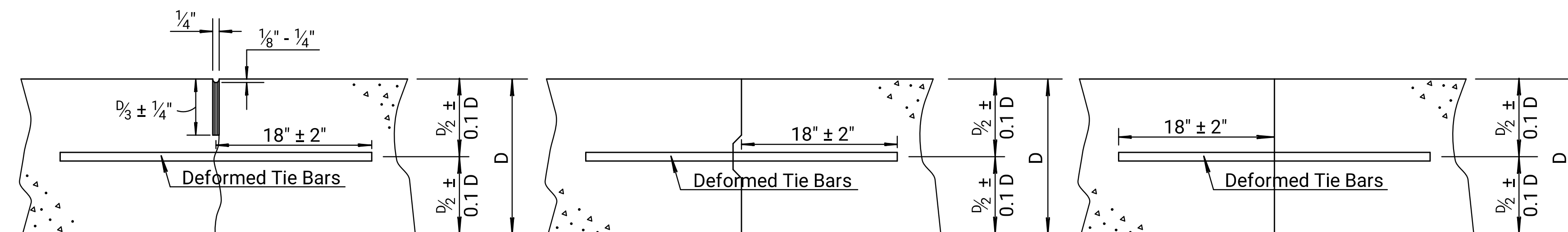


DETAIL OF LAP FOR WELDED WIRE REINFORCEMENT

The lap shall extend beyond the first transverse or bag wire of each sheet.
The sheet shall be wired securely at the edges and at intervals not to exceed 2'-6" for the full width of the sheet. Approximate weight of welded wire reinforcement = 58 lbs. per 100 sq. ft. Other methods for fastening the sheets of welded wire reinforcement at the laps may be used with the approval of the Engineer.

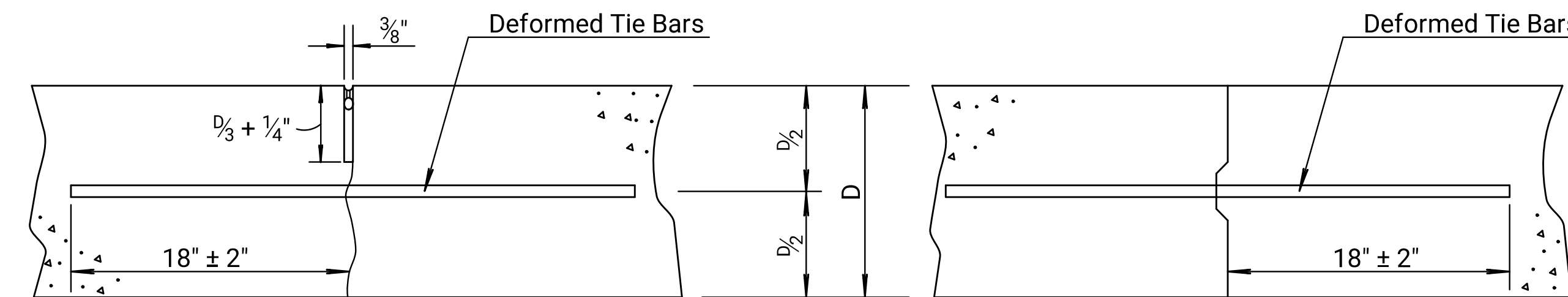


SECTION THRU 4" EDGE CURB



LONGITUDINAL JOINTS

Note: For longitudinal construction joints the contractor has the option of using either the keyed or butt type. Place deformed tie bars mid-depth of the shoulder.



TRANSVERSE JOINTS

Note: A construction joint is required when the concrete placement has been interrupted for a substantial length of time or at the end of a day's placement.

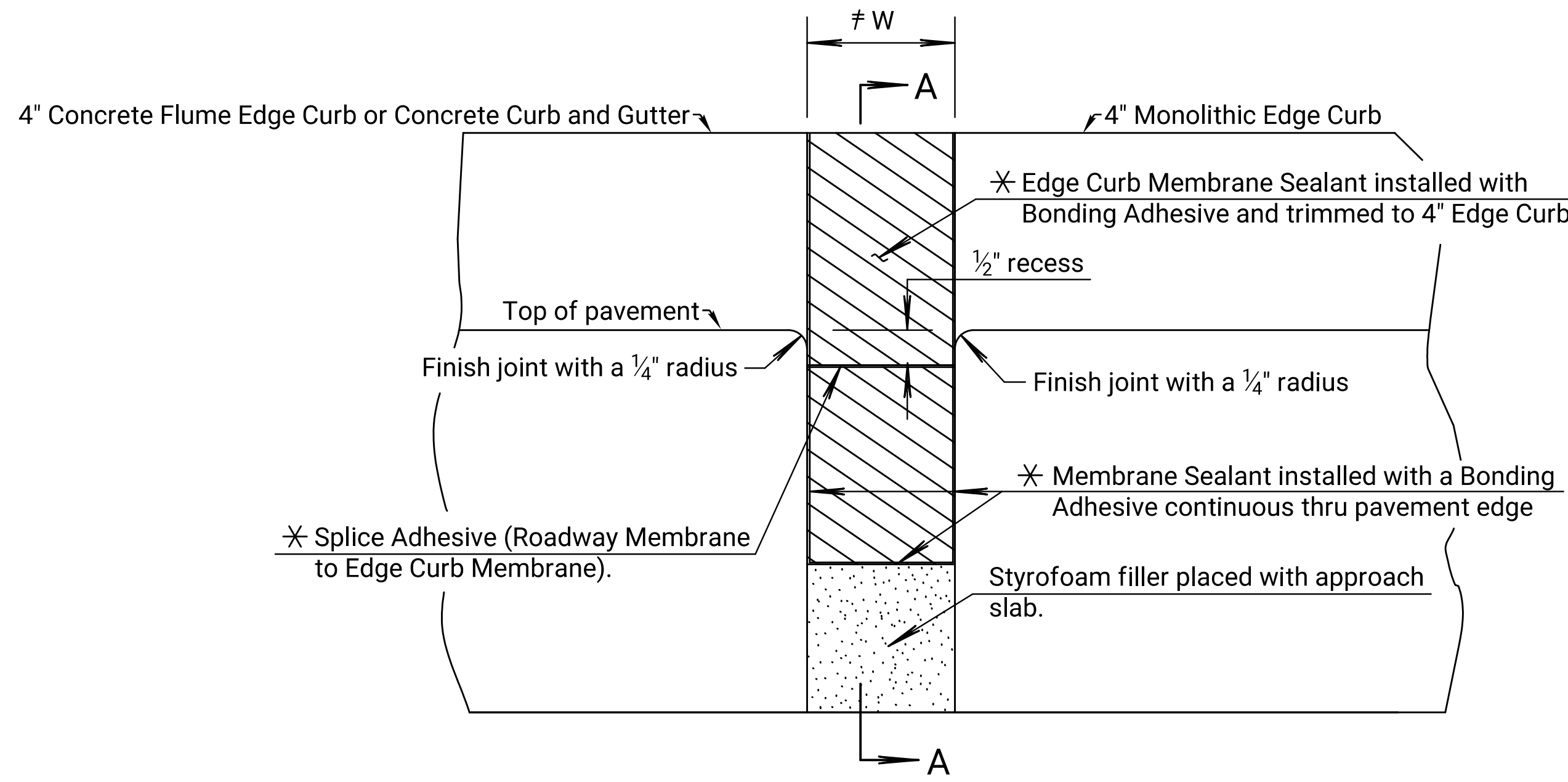
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

MISCELLANEOUS DETAILS FOR CONCRETE BRIDGE APPROACH PAVEMENT	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	

drawn by:	ZDD
checked by:	KAS
approved by:	KAS
QA/QC by:	GCL
project no.:	022-08529
drawing no.:	
date:	01/31/2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

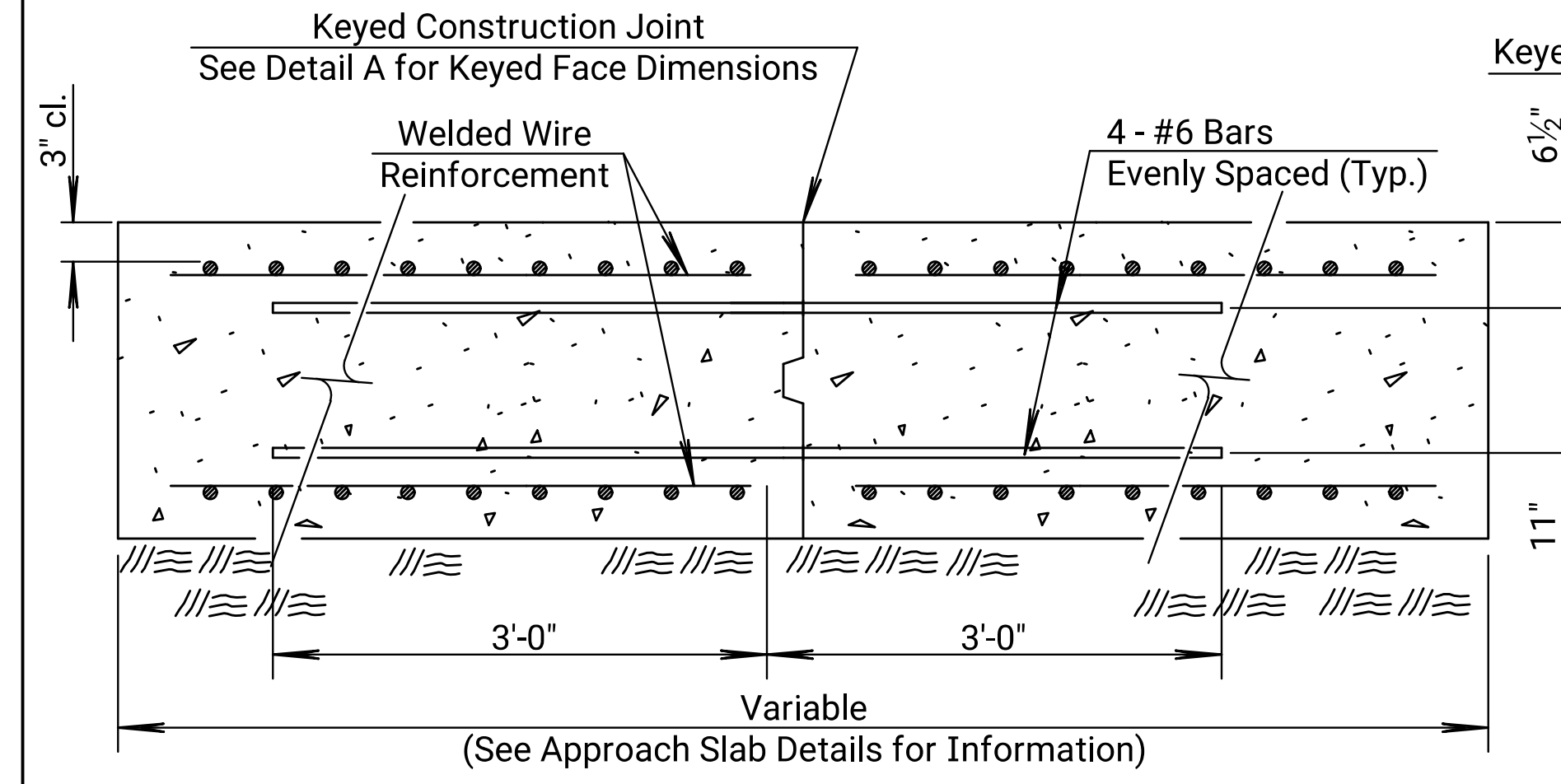
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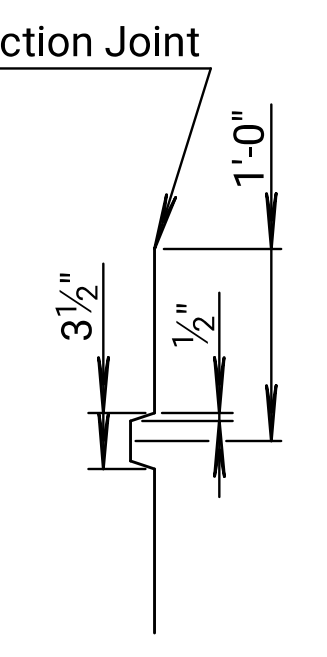
ELEVATION EXPANSION JT.

GENERAL NOTES

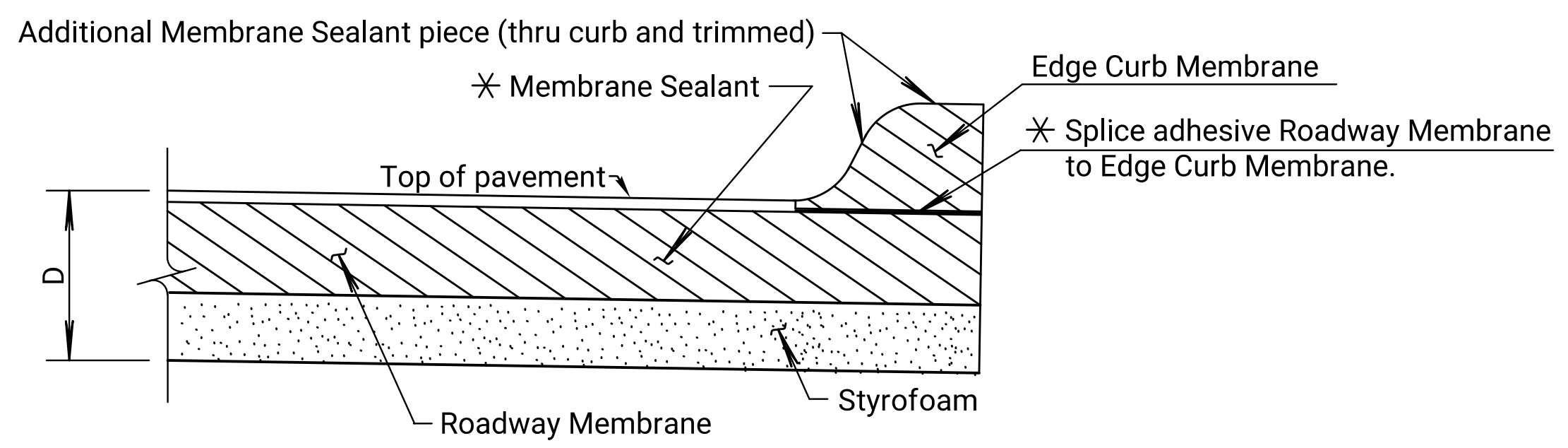
EXPANSION JOINTS
 For locations of expansion joints, see Sheets 33 & 34.
 Form the joint opening prior to placement of the pavement approach. Remove the material used to form the joint after the pavement approach has been in place for a minimum of 6 days.
 Clean and construct the joint only after the concrete in the approach slab has cured for a minimum of 7 days.
 Thoroughly clean the joint by sandblasting and by high pressure air blast to remove all laitance and contaminants from the joint. When any joint is shaped by saw cutting in lieu of forming, blast the joint with water prior to sandblasting and air cleaning.
 Accomplish sandblasting in two passes to clean each face of the joint (one pass for each face). Hold the nozzle 1 to 2 inches from the joint face at an angle to the joint face.
 Remove any contaminants such as oil, curing compound, etc. by sandblasting to the satisfaction of the Engineer. Solvents, wire brushing, or grinding are not permitted.
 Air blast the joint just prior to installing the Membrane Sealant. Equip the air compressor used to clean the joint with trap devices capable of providing moisture-free and oil-free air at a recommended pressure of 90 psi. Spot check the joint to verify any residual dust or dirt has been removed. The Engineer is required to inspect the joint immediately prior to installing the joint material.
 * See KDOT Standard Specifications for Membrane Sealant, Bonding Adhesive and Splice Adhesive. The width of the membrane sealant is 4 inches (nominal).
 Do not allow traffic on the joint for a minimum of 3 hours unless otherwise directed by the Engineer.
 Use splice materials and methods recommended by the Manufacturer.
 All work and materials for the preparation, construction, and installation of the joint will be subsidiary to the concrete approach pavement.
BRIDGE APPROACH SLAB FOOTING
 Pay for the Bridge Approach Slab Footing at the unit price bid per cubic yard for "Bridge Approach Slab Footing". This price will be full compensation for furnishing all materials and labor including KCMMB 5K Concrete, Reinforcing Steel (Gr. 60) (Epoxy Coated), excavation, Type "A" Compaction and materials used to prevent bonding of concrete. The Contractor may use KCMMB 4K Concrete or the mix used in the concrete pavement for the slab footing.



BRIDGE APPROACH SLAB FOOTING (CONST. JOINT DETAILS)

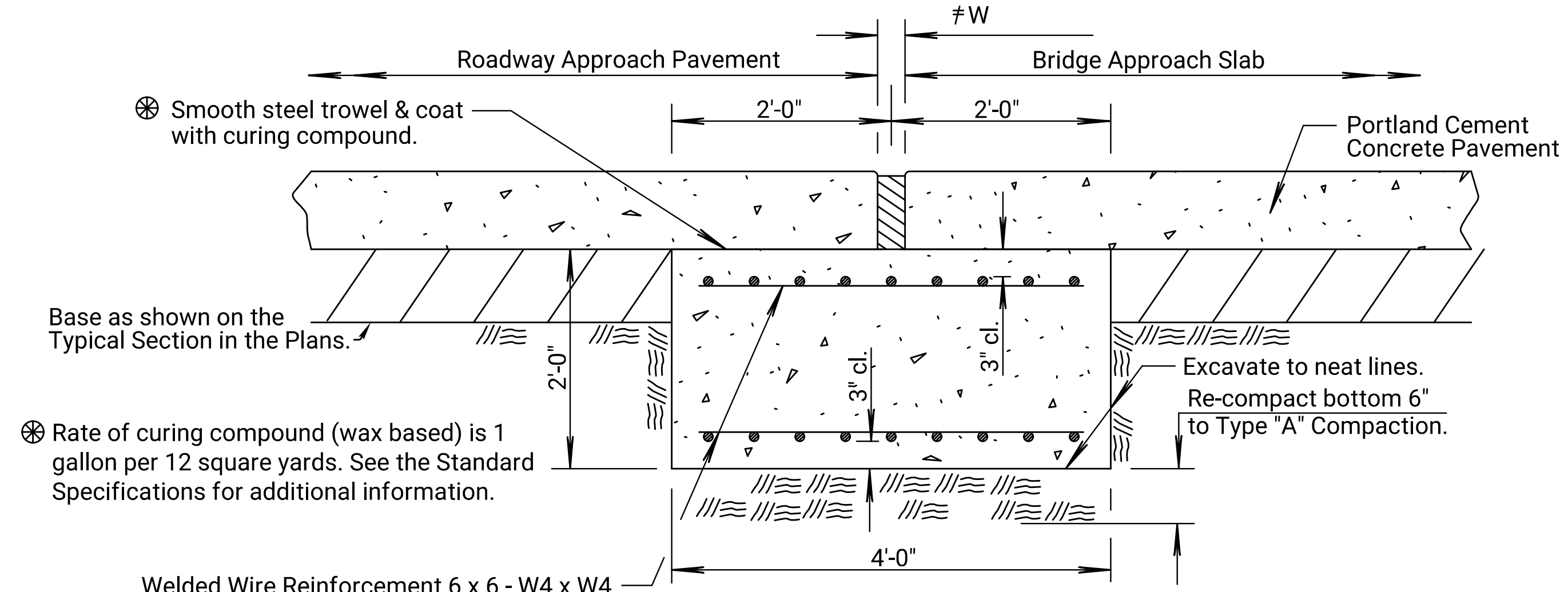


DETAIL A



SECTION A-A (For details of 4" Edge Curb, see Sheet 36.)

EXPANSION JOINT WIDTH DETAILS (W)
 See bridge construction layout sheet for details.



BRIDGE APPROACH SLAB FOOTING

Welded Wire Reinforcement 6 x 6 - W4 x W4 (May substitute #3 bars @ 1'-0" Ctrs. longitudinally & #3 bars @ 1'-6" Ctrs. transversely (Short bars).
 * Smooth steel trowel & coat with curing compound.
 * Rate of curing compound (wax based) is 1 gallon per 12 square yards. See the Standard Specifications for additional information.
 Excavate to neat lines. Re-compact bottom 6" to Type "A" Compaction.

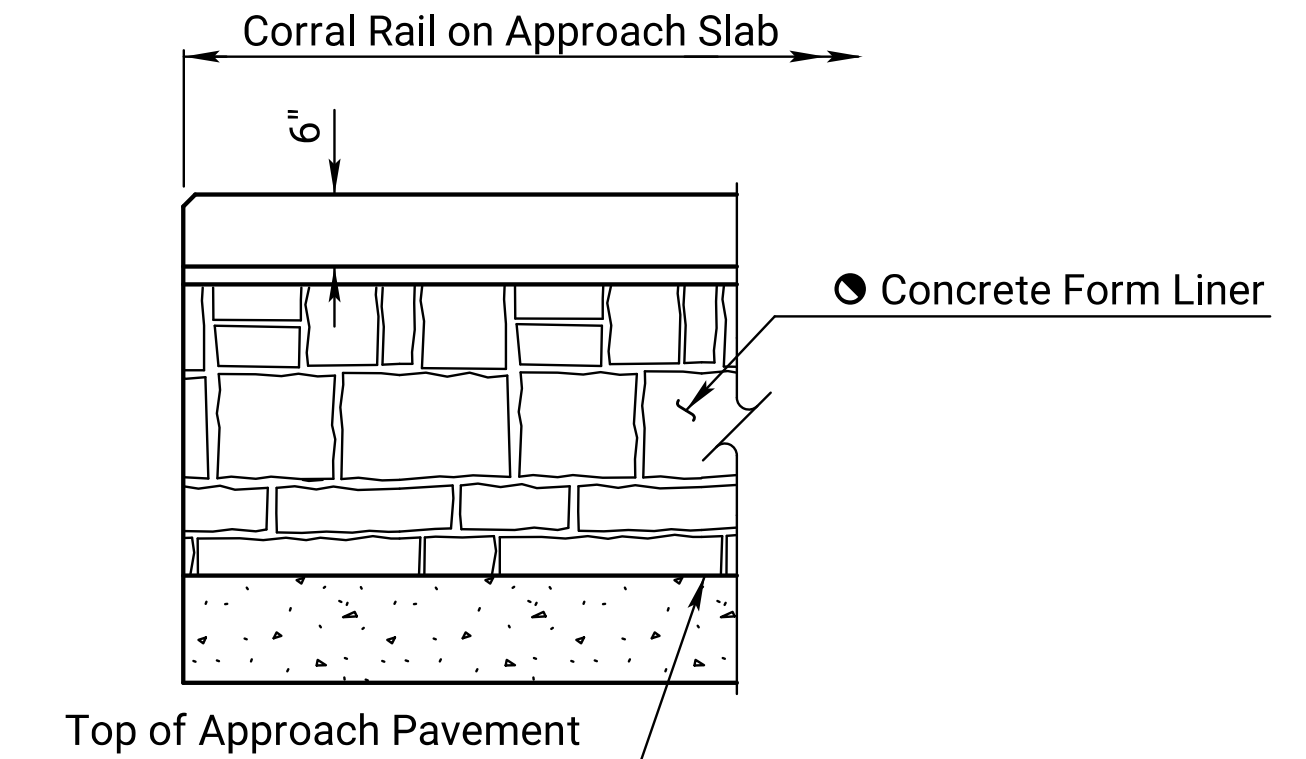
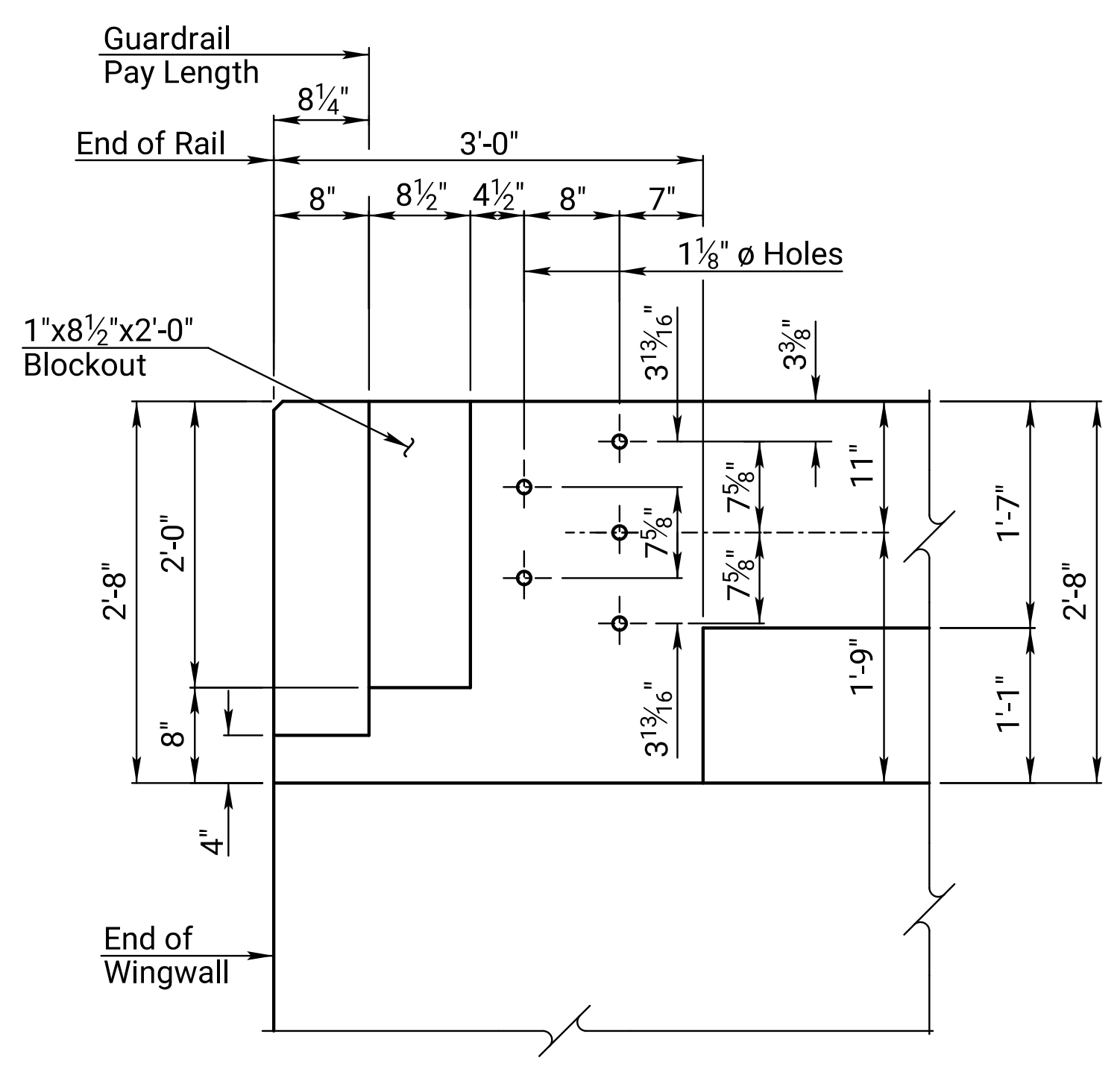
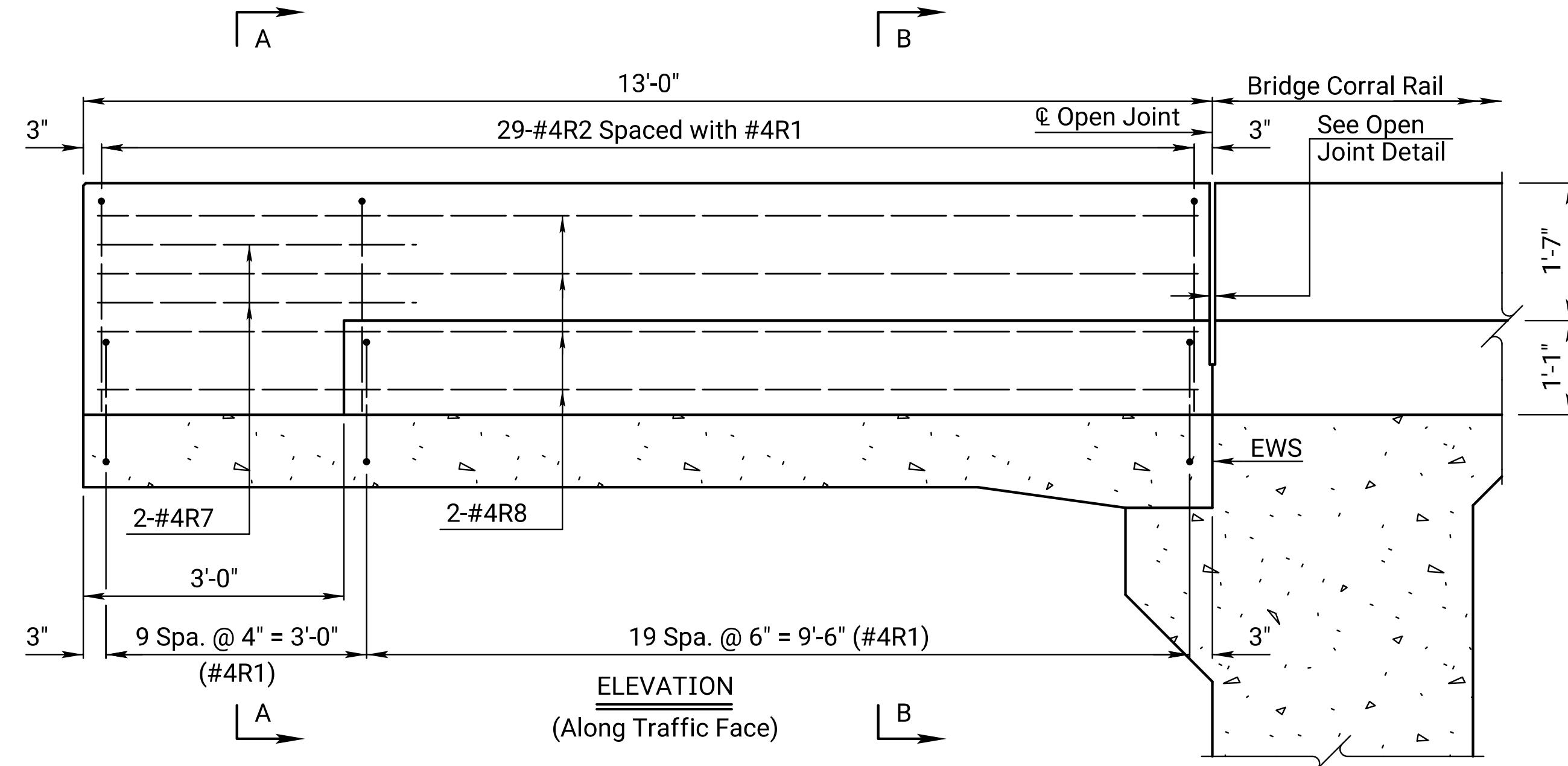
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BRIDGE APPROACH SLAB
 EXPANSION JOINT AND FOOTING DETAILS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

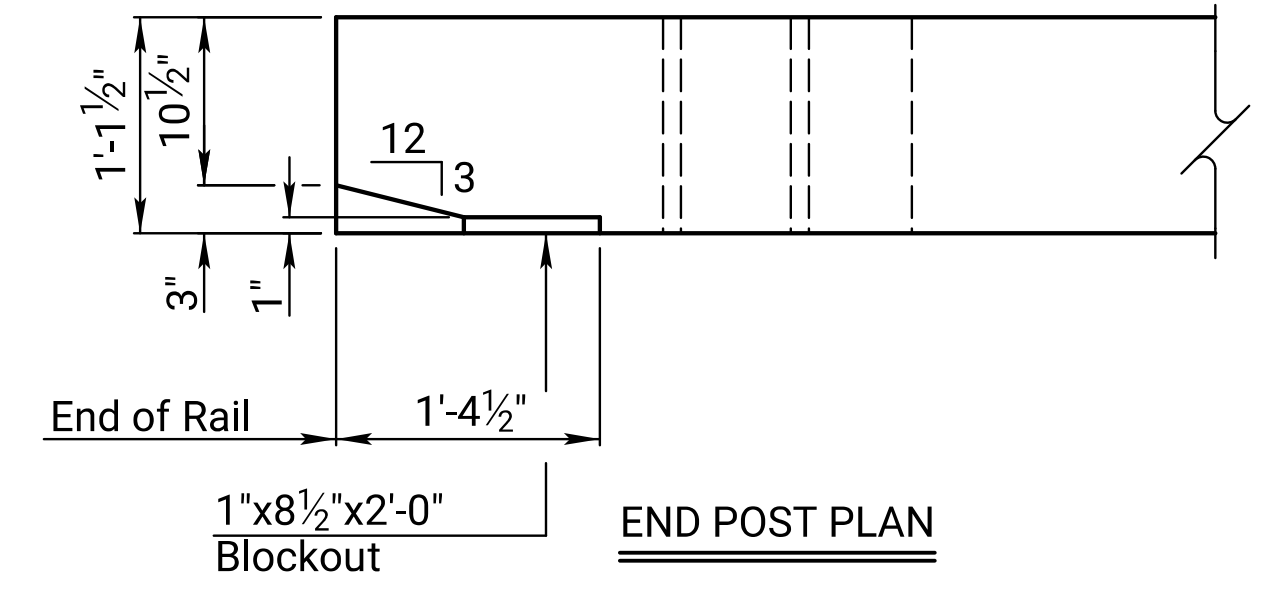
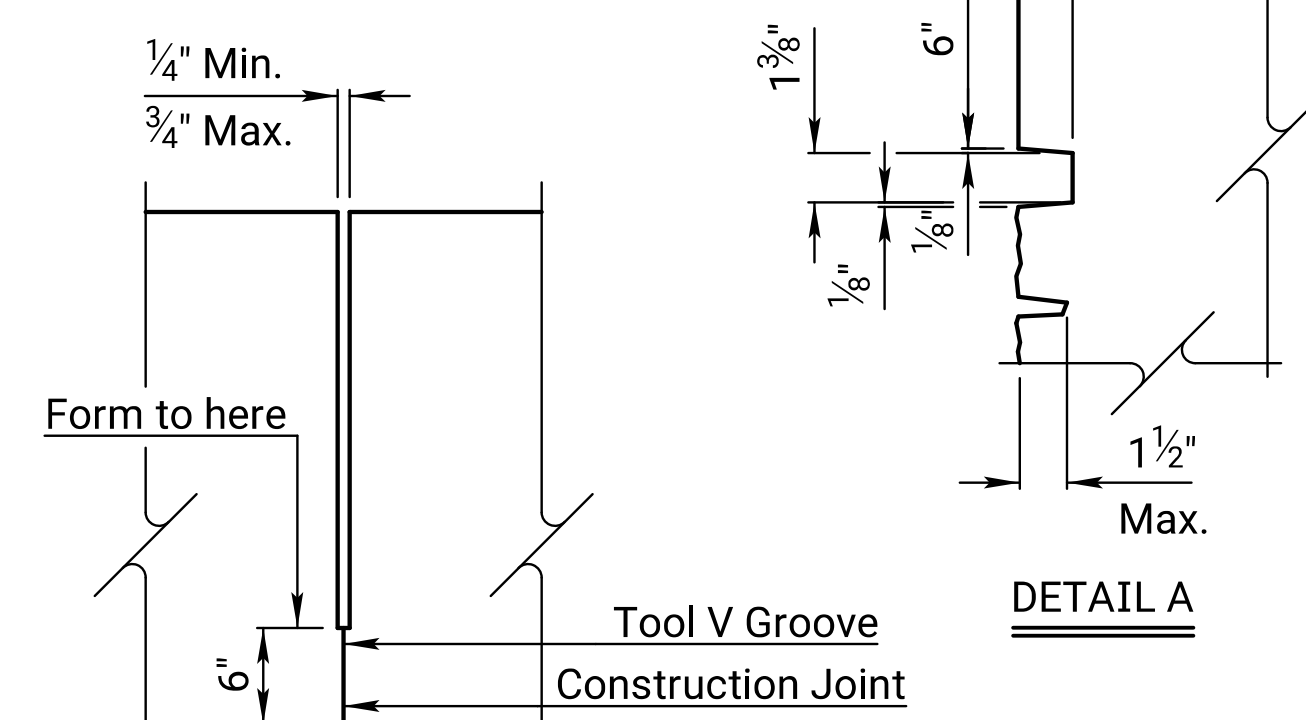
drawn by:	ZDD
checked by:	KAS
approved by:	KAS
QA/QC by:	GCL
project no.:	022-06529
drawing no.:	
date:	01/31/2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

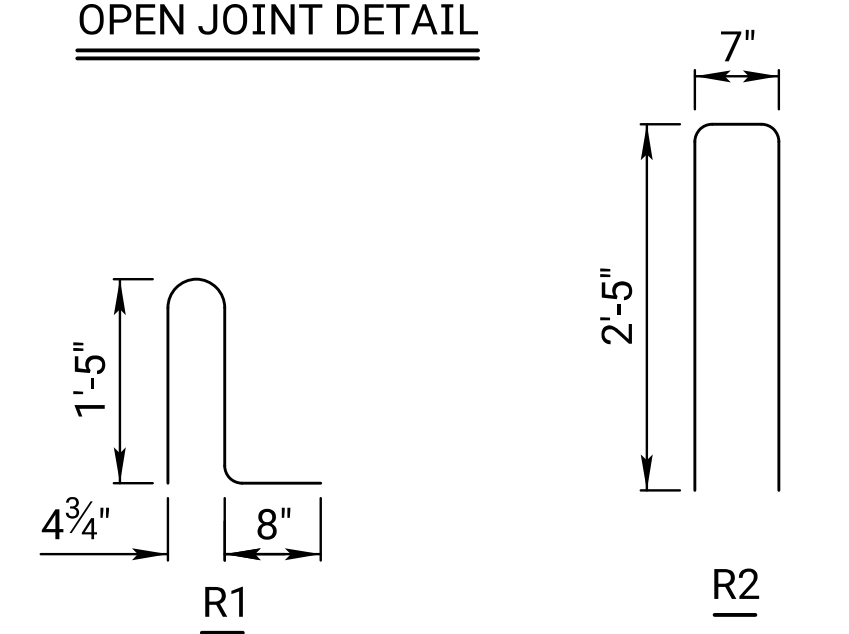
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SURFACE TREATMENT END ELEVATION
 (Along Sidewalk Face)

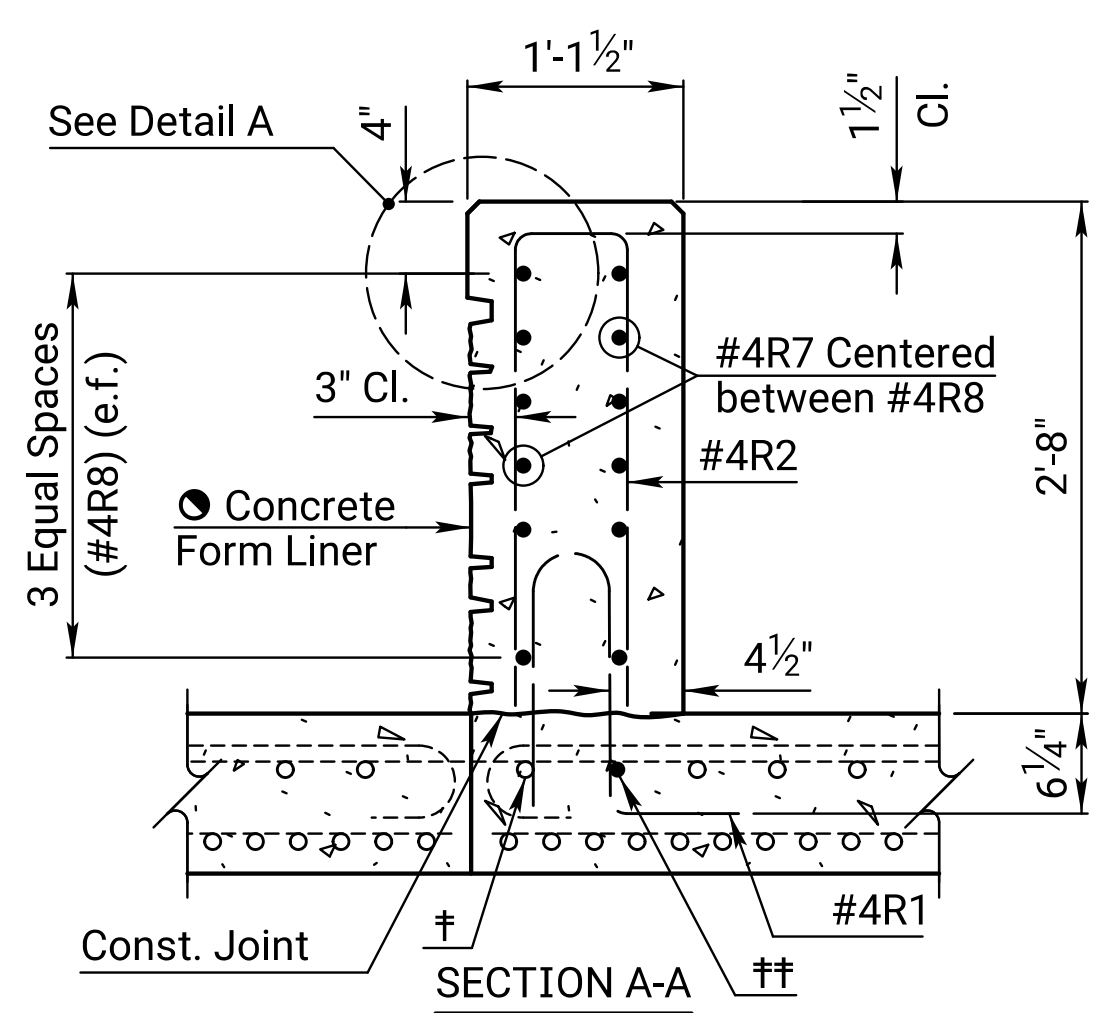


END POST PLAN

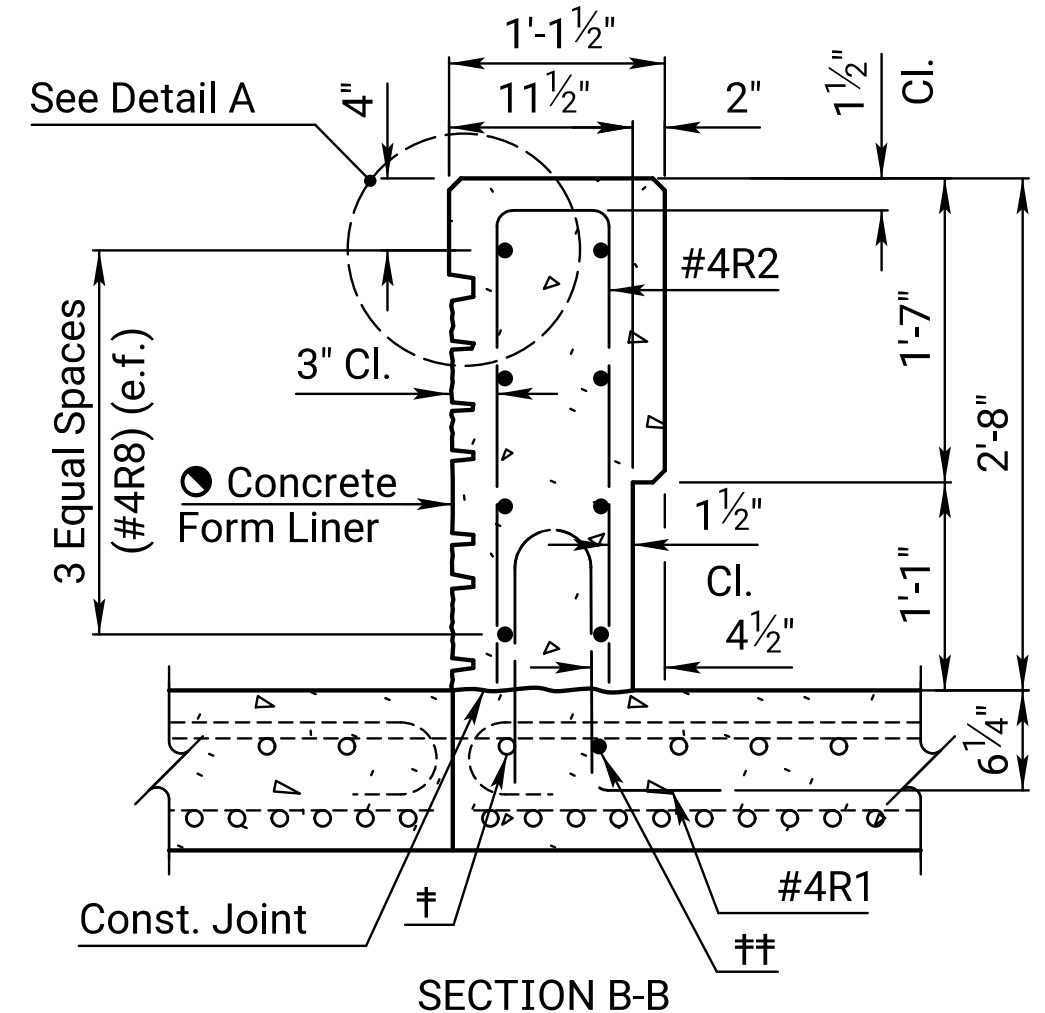


BENDING DIAGRAMS

All dimensions are out to out of bars.



SECTION A-A



SECTION B-B

- † As an aid in supporting reinforcement, additional longitudinal bars may be used in the slab with the approval of the Engineer. Such bars will be furnished at the contractor's expense.
- †† Top longitudinal approach slab bar may be adjusted laterally 3"± to tie reinforcing.
- The form liner used for the corral rail on approach slab will match that used for the bridge corral rail. For more information, see Sheet 89.

Notes:
 e.f. denotes each face.
 Apply "Concrete Masonry Coating" and "Simulated Stone Masonry Stain" to the corral rail on approach slab. For more information, see Sheet 90.
 Minimum concrete cover to reinforcing steel shall be 1 1/2" unless otherwise shown.
 Edges along the top of the corral rail shall be finished with a 3/4" chamfer.
 All concrete shall be KCMMB 5K Concrete.
 All reinforcing steel shall conform to ASTM A615 Grade 60. All bar spacings are from center to center of bars.

BILL OF MATERIALS							
Straight Bars				Bent Bars			
Mark	Size	Number	Length	Mark	Size	Number	Length
R7	#4	4	3'-8"	R1	#4	29	3'-9"
R8	#4	8	12'-8"	R2	#4	29	5'-5"
Reinforcing Steel (Grade 60)(Epoxy Coated)(Corral Rail on Approach Slab)				255 lbs.			
KCMMB 5K Concrete (Corral Rail on Approach Slab)				1.4 Cu. Yds.			
Concrete Masonry Coating *				2.2 Sq. Yds.			
Simulated Stone Masonry Stain *				3.0 Sq. Yds.			

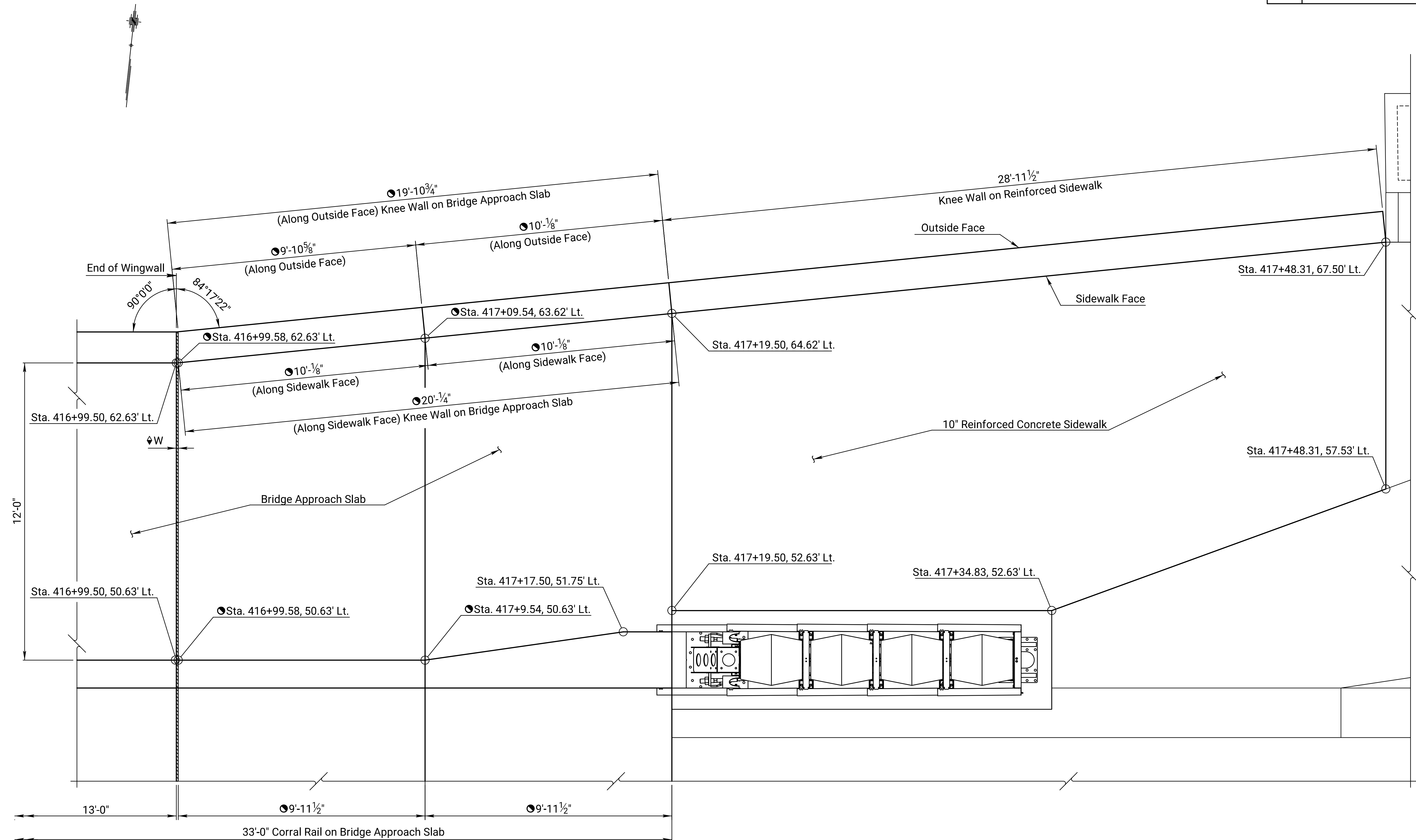
Bill of Materials for one 13'-0" Corral Rail only. Three total required for the project.
 * Concrete Masonry Coating and Simulated Stone Masonry Stain quantities are given for information only. Quantities are included in the Summary of Bridge Quantities on Sheet 64.

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

DETAILS OF CORRAL RAIL ON APPROACH SLABS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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● Dimensions based on formed concrete opening size for an assumed average ambient temperature of 60°F. Adjust accordingly for varying average ambient temperatures. See table on Sheet No. 66.

◆ W for Expansion Joint details, see Sheet. No. 39.

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

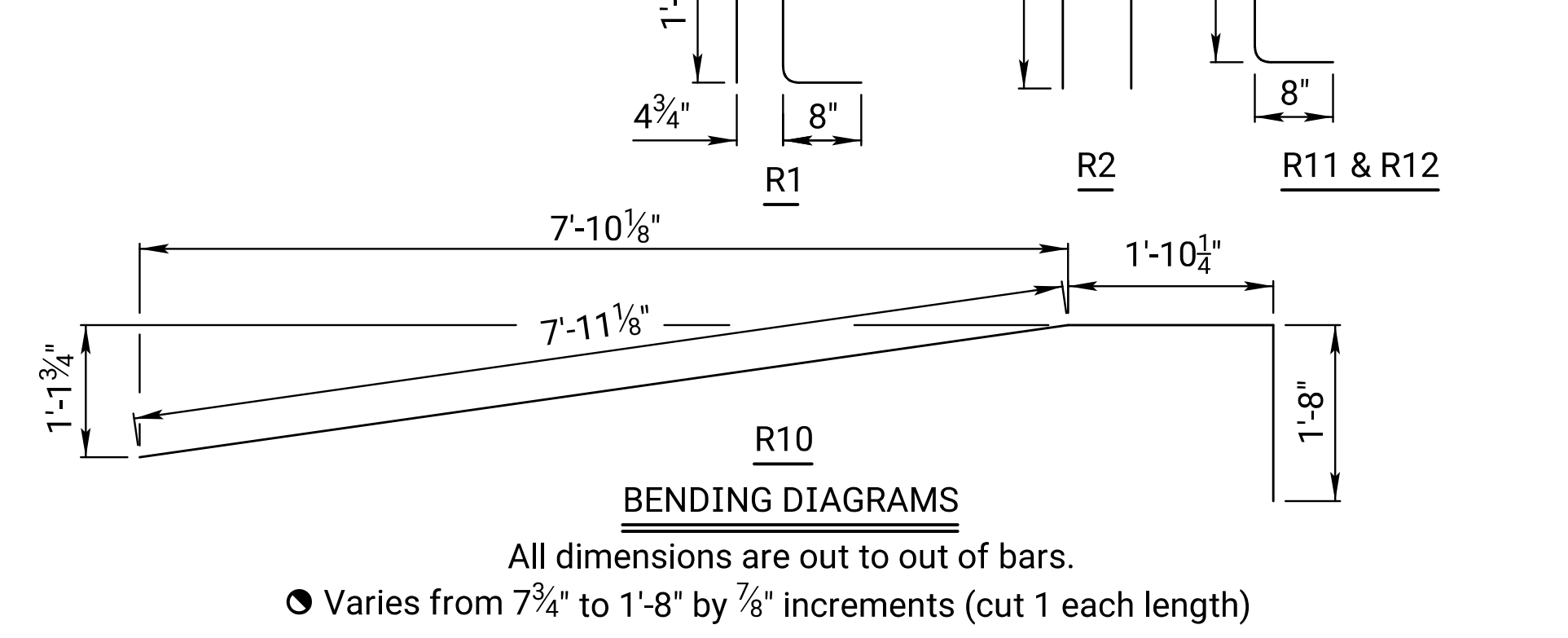
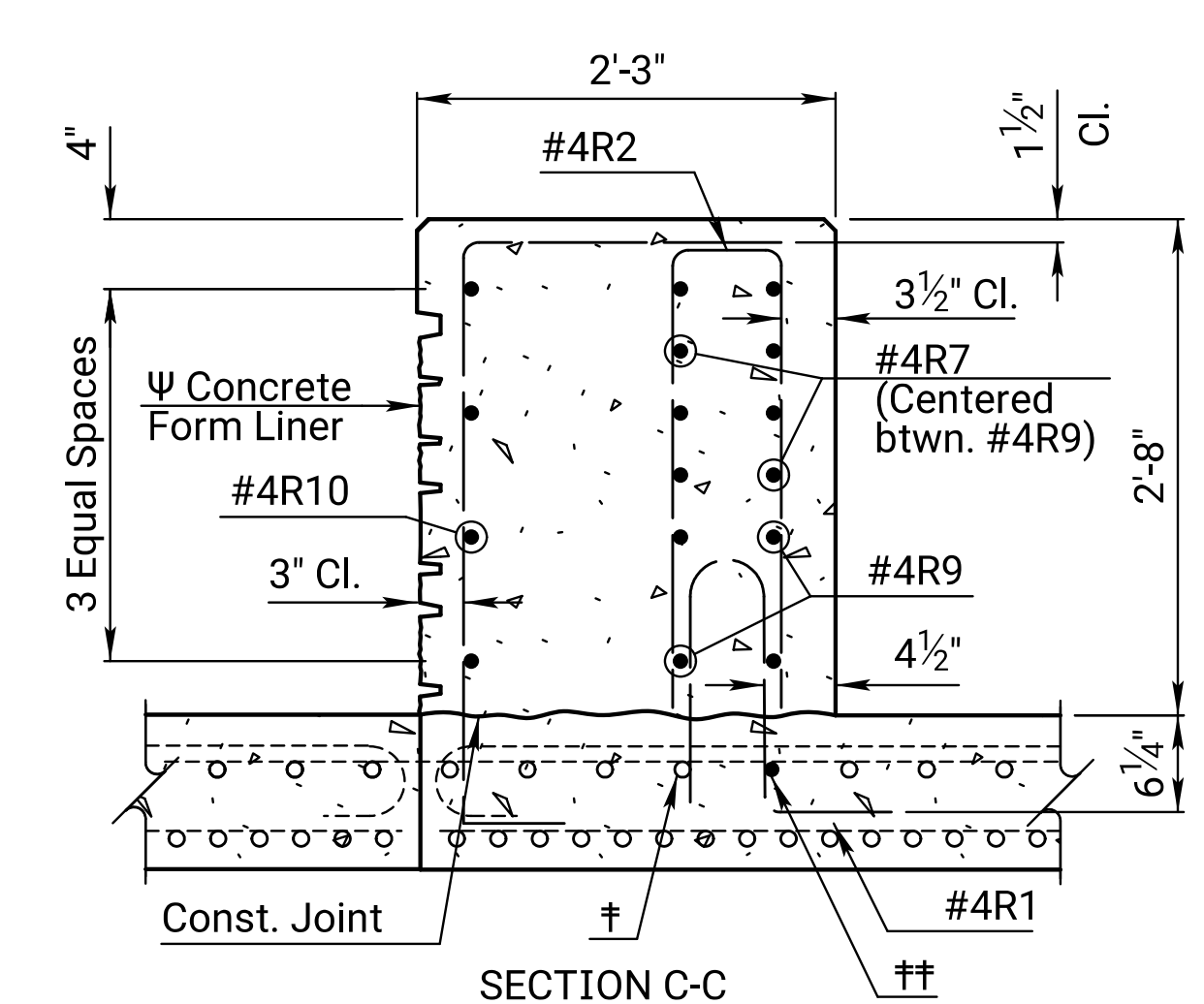
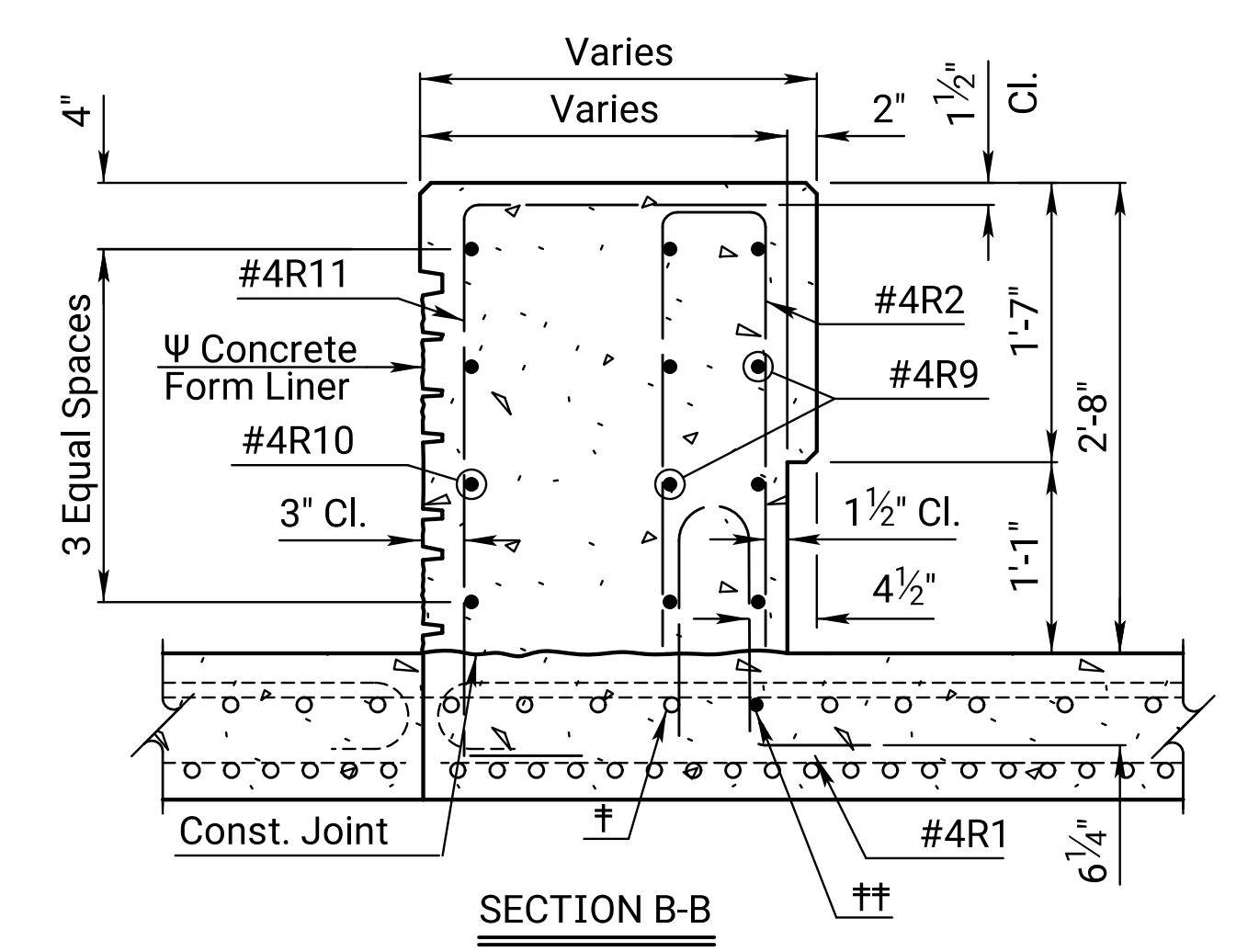
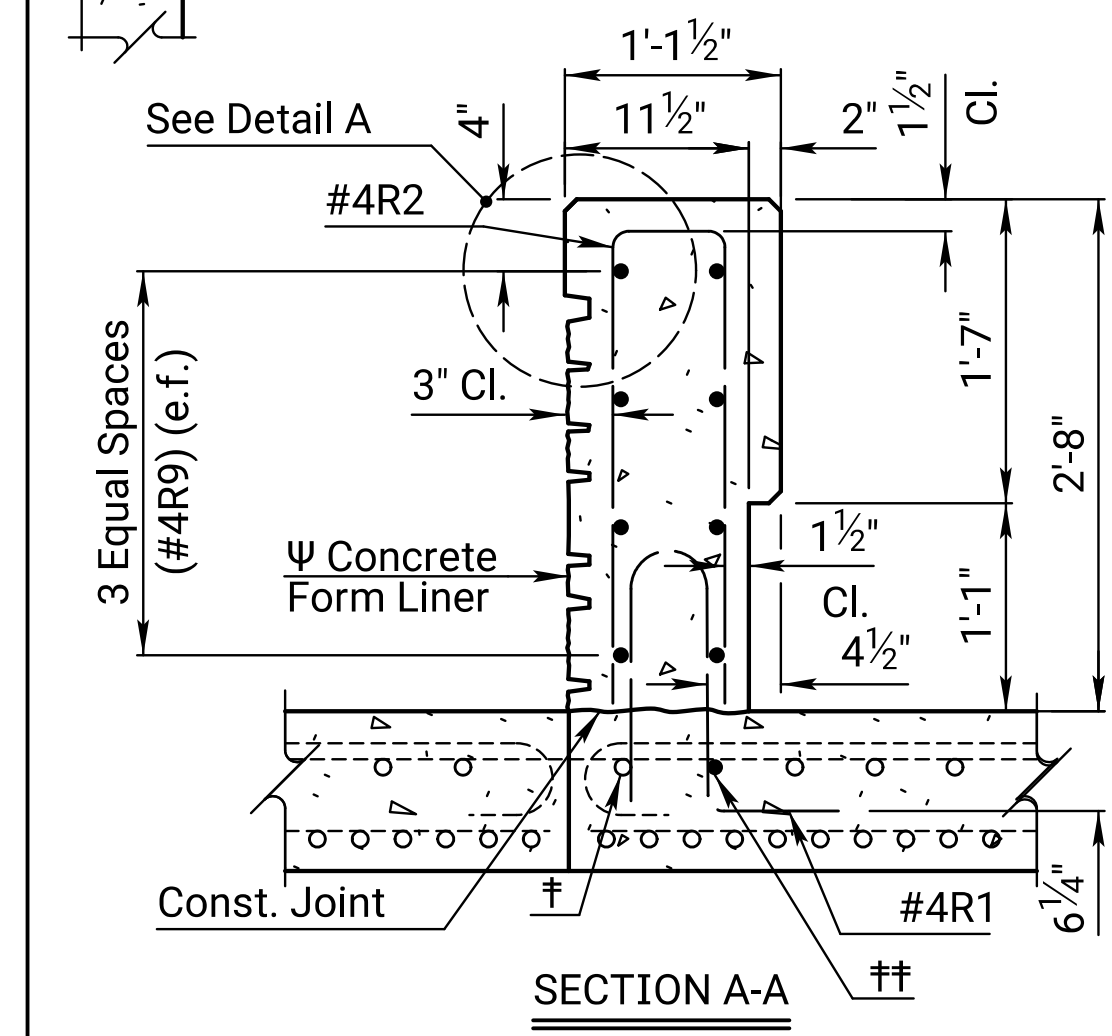
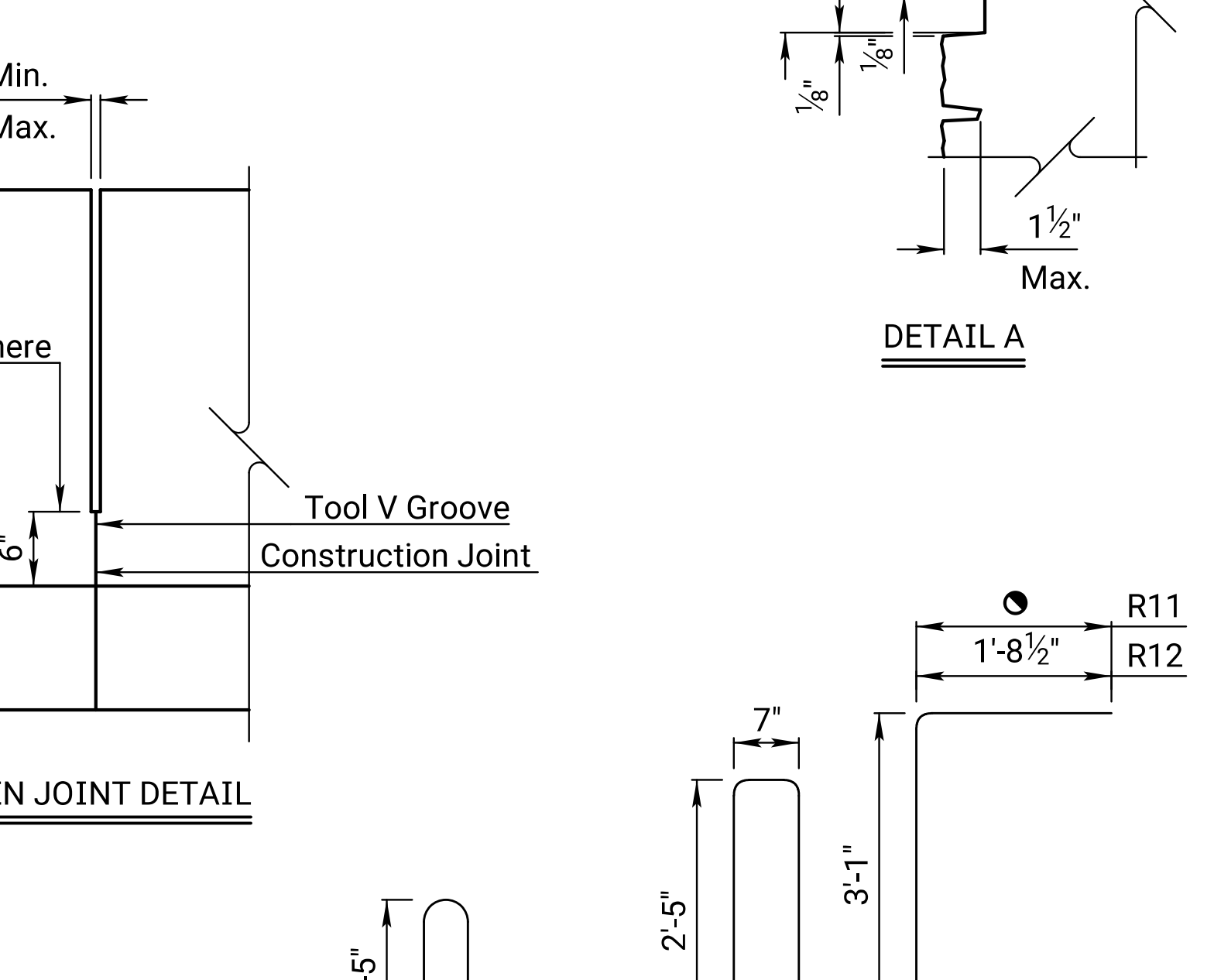
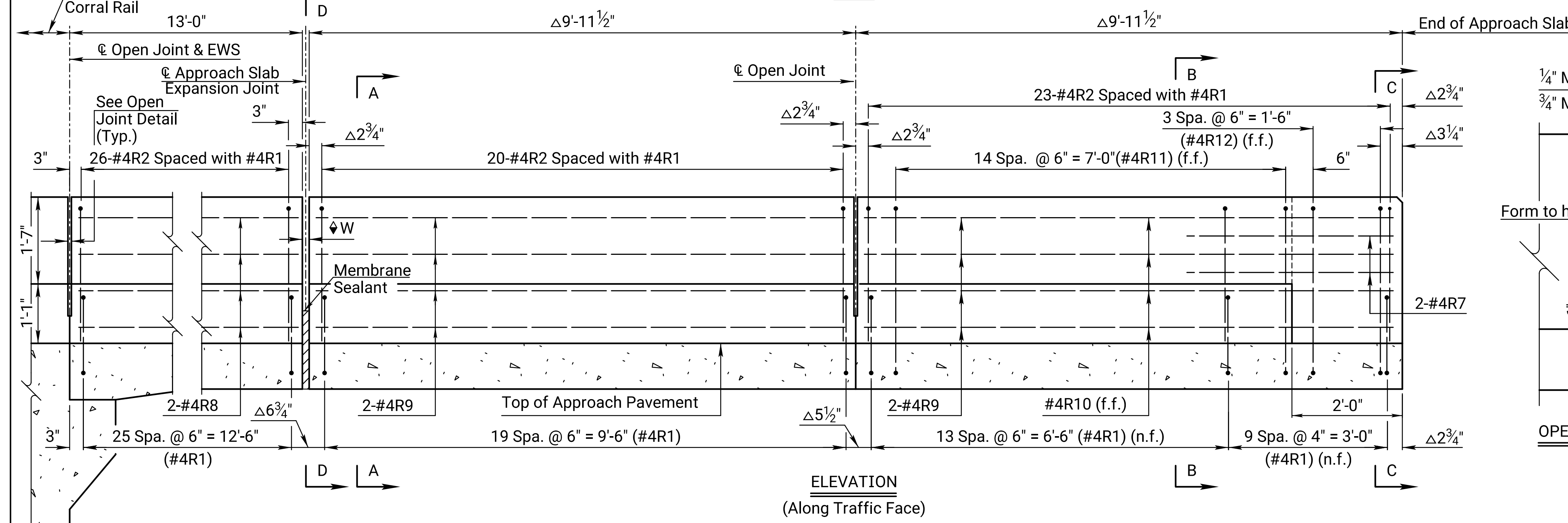
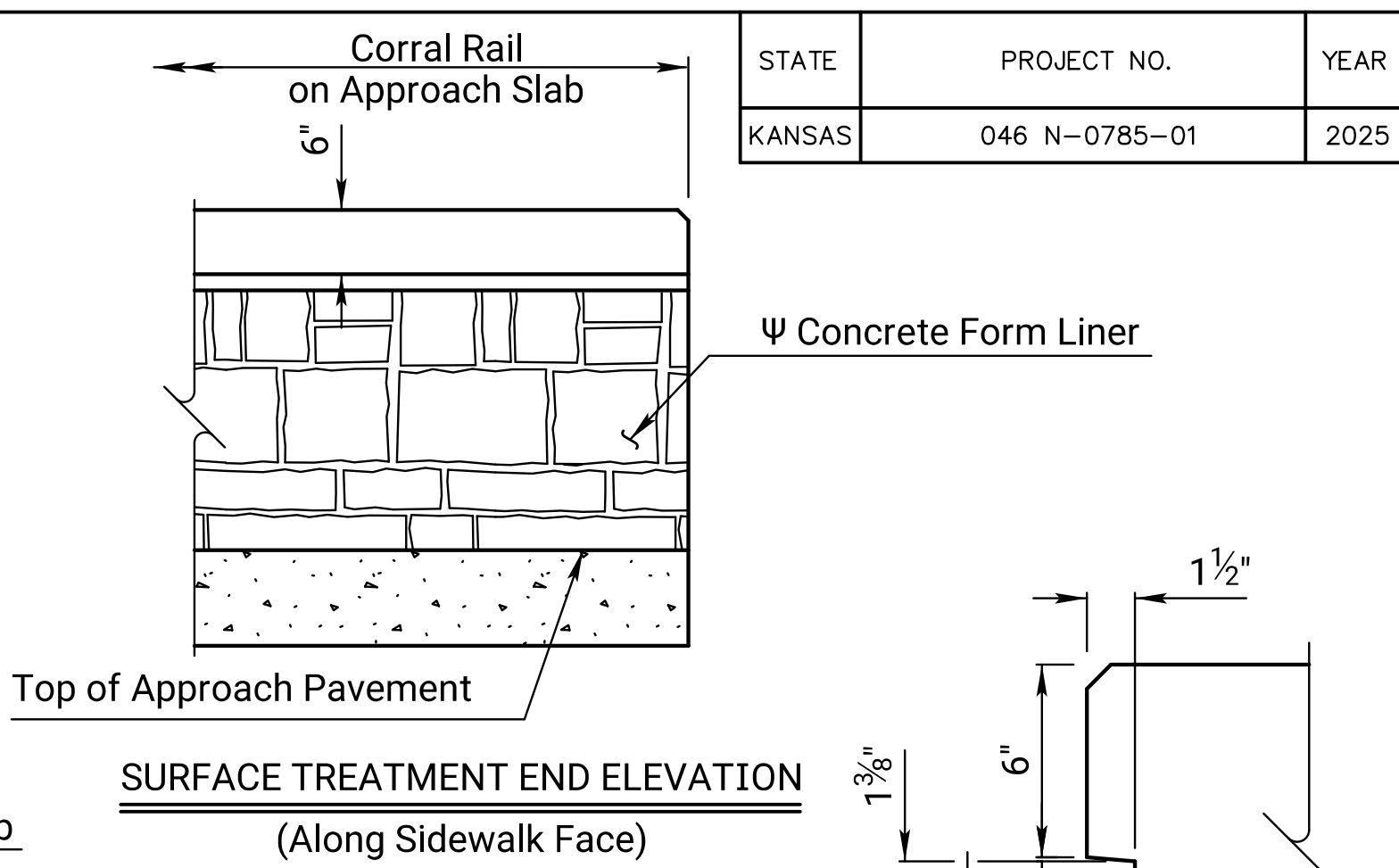
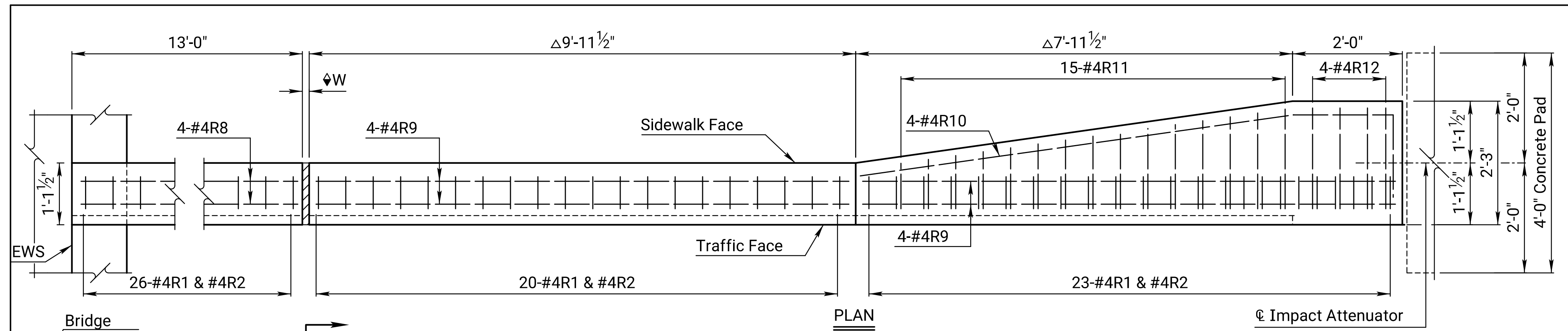
NORTHEAST CORRAL RAIL AND KNEE WALL LAYOUT
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

drawn by: ZDD
 checked by: KAS
 approved by: KAS
 QA/QC by: GCL
 project no.: 022-06529
 drawing no.:
 date: 01/31/2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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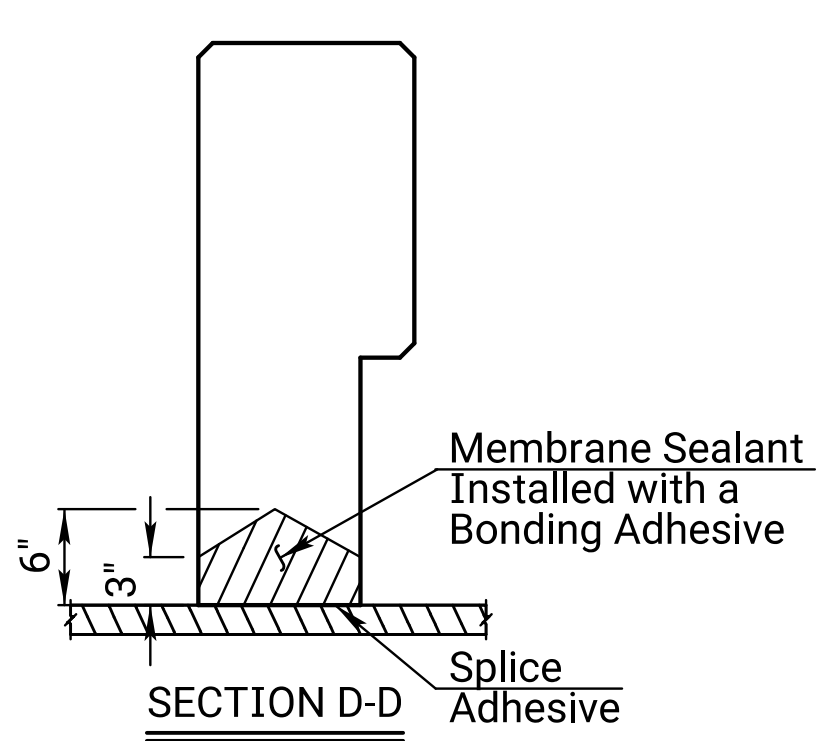


● Varies from 7 3/4" to 1'-8" by 7/8" increments (cut 1 each length)

BILL OF MATERIALS							
Straight Bars				Bent Bars			
Mark	Size	Number	Length	Mark	Size	Number	Length
R7	#4	4	3'-8"	R1	#4	69	3'-9"
R8	#4	8	12'-8"	R2	#4	69	5'-5"
R9	#4	16	9'-8"	R10	#4	4	11'-5"
				R11	#4	15	*
				R12	#4	4	5'-6"
Reinforcing Steel (Grade 60)(Epoxy Coated)(Corral Rail on Approach Slab)				698 Lbs.			
KCMMB 5K Concrete (Corral Rail on Approach Slab)				4.1 Cu. Yds.			
Concrete Masonry Coating **				6.3 Sq. Yds.			
Simulated Stone Masonry Stain **				7.5 Sq. Yds.			

Notes:
 n.f. denotes near face.
 f.f. denotes far face.
 e.f. denotes each face.
 Apply "Concrete Masonry Coating" and "Simulated Stone Masonry Stain" to the corral rail on approach slab. For more information, see Sheet 90.
 Minimum concrete cover to reinforcing steel shall be 1 1/2" unless otherwise shown.
 Edges along the top of the corral rail shall be finished with a 3/4" chamfer.
 All concrete shall be KCMMB 5K Concrete. All reinforcing steel shall conform to ASTM A615 Grade 60. All bar spacings are from center to center of bars.

- † As an aid in supporting reinforcement, additional longitudinal bars may be used in the slab with the approval of the Engineer. Such bars will be furnished at the contractor's expense.
- ‡ Top longitudinal approach slab bar may be adjusted laterally 3"± to tie reinforcing.
- Ψ The form liner used for the corral rail on approach slab will match that used for the bridge corral rail. For more information, see Sheet 90.
- Δ Dimensions based on formed concrete opening size for an assumed average ambient temperature of 60°F. Adjust accordingly for varying average ambient temperatures. See table on Sheet No. 66.
- ◆ Provide a vertical joint in the corral rail to match the location of the expansion joint in the concrete approach pavement. For expansion joint details, see Sheet No. 39.



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

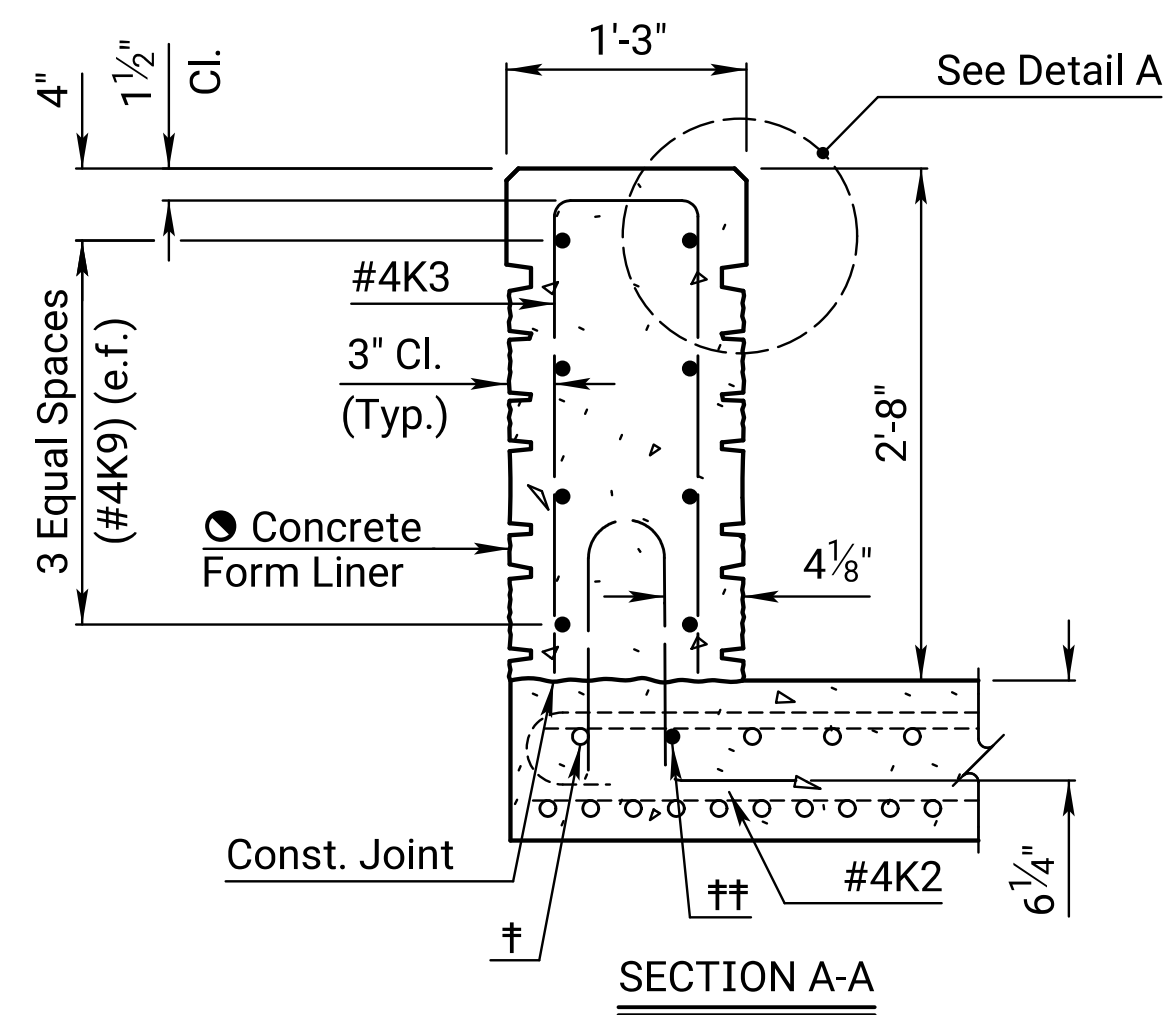
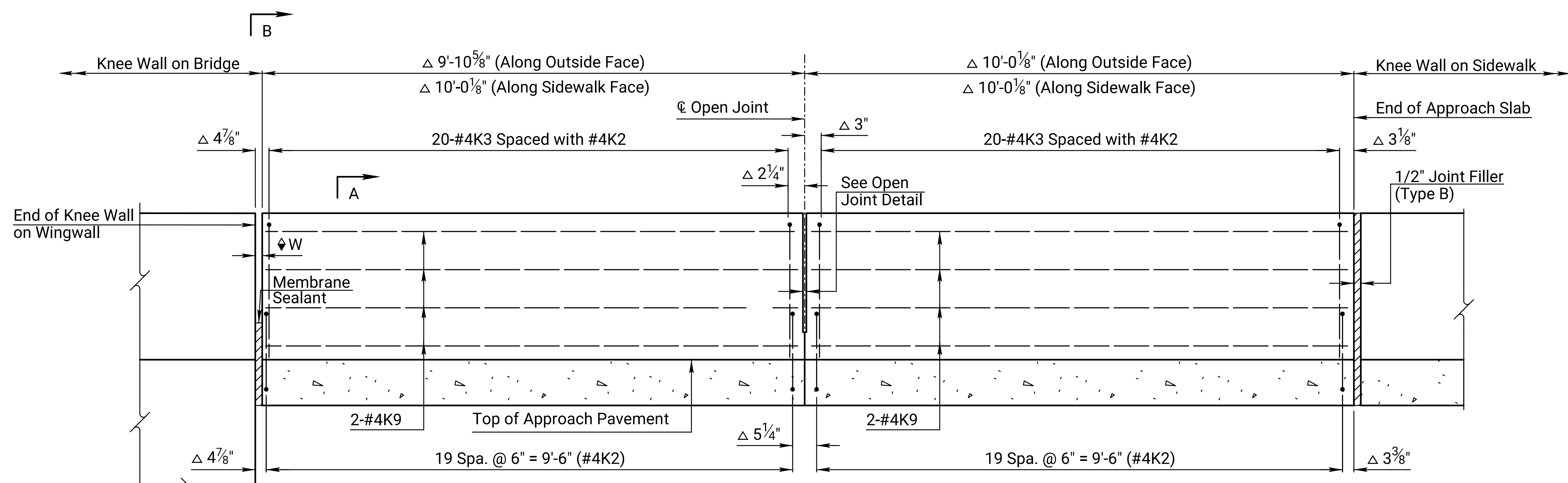
DETAILS OF NORTHEAST CORRAL RAIL ON APPROACH SLAB
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

drawn by: ZDD
 checked by: KAS
 approved by: KAS
 QA/QC by: GCL
 project no.: 022-06522
 drawing no.:
 date: 01/31/2025

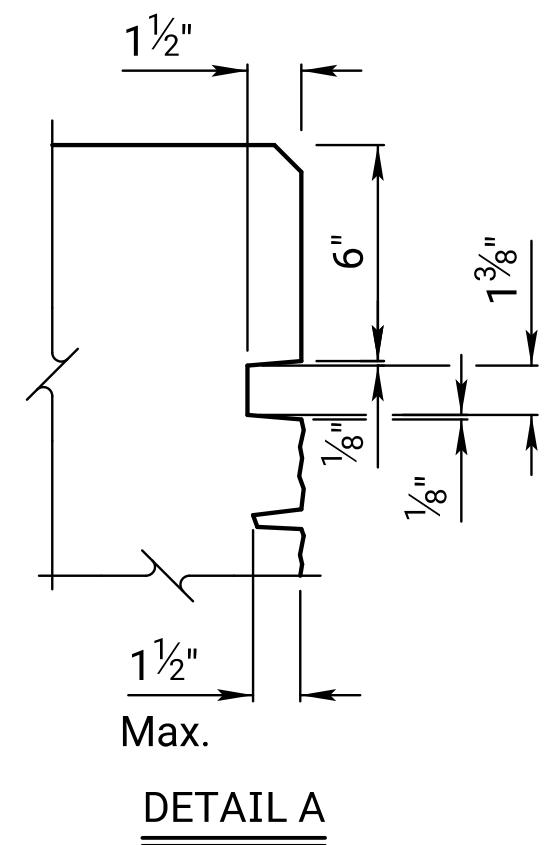
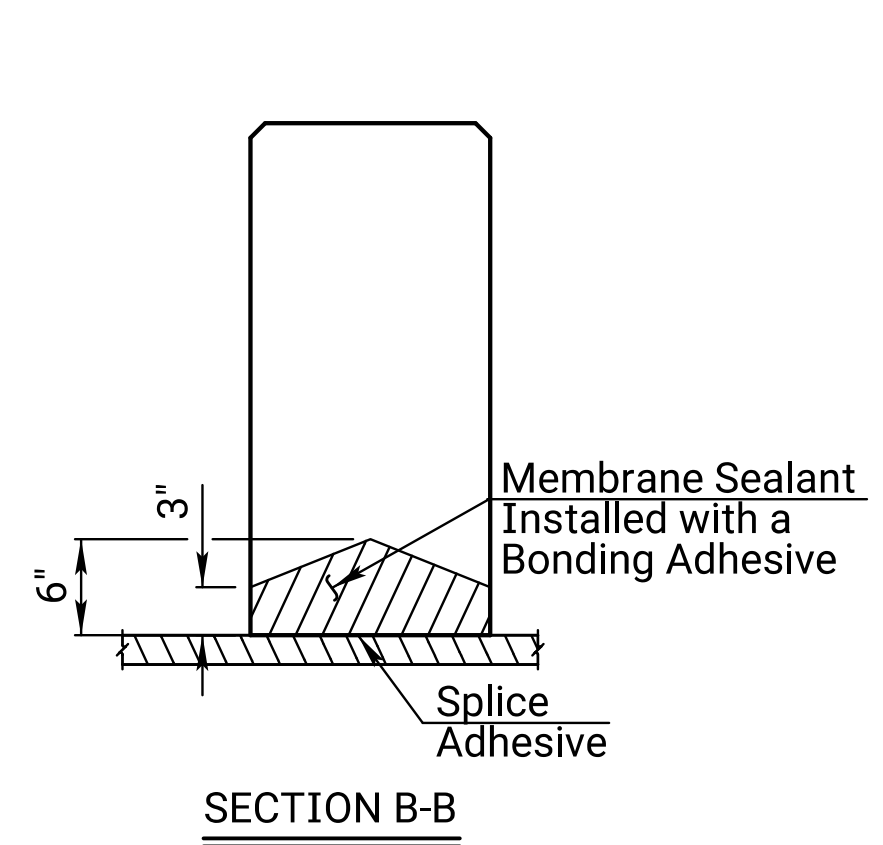
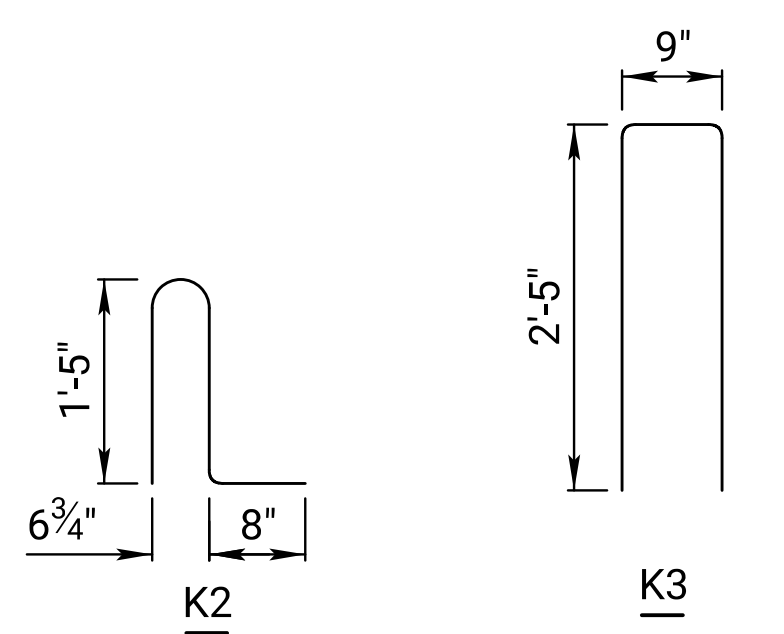
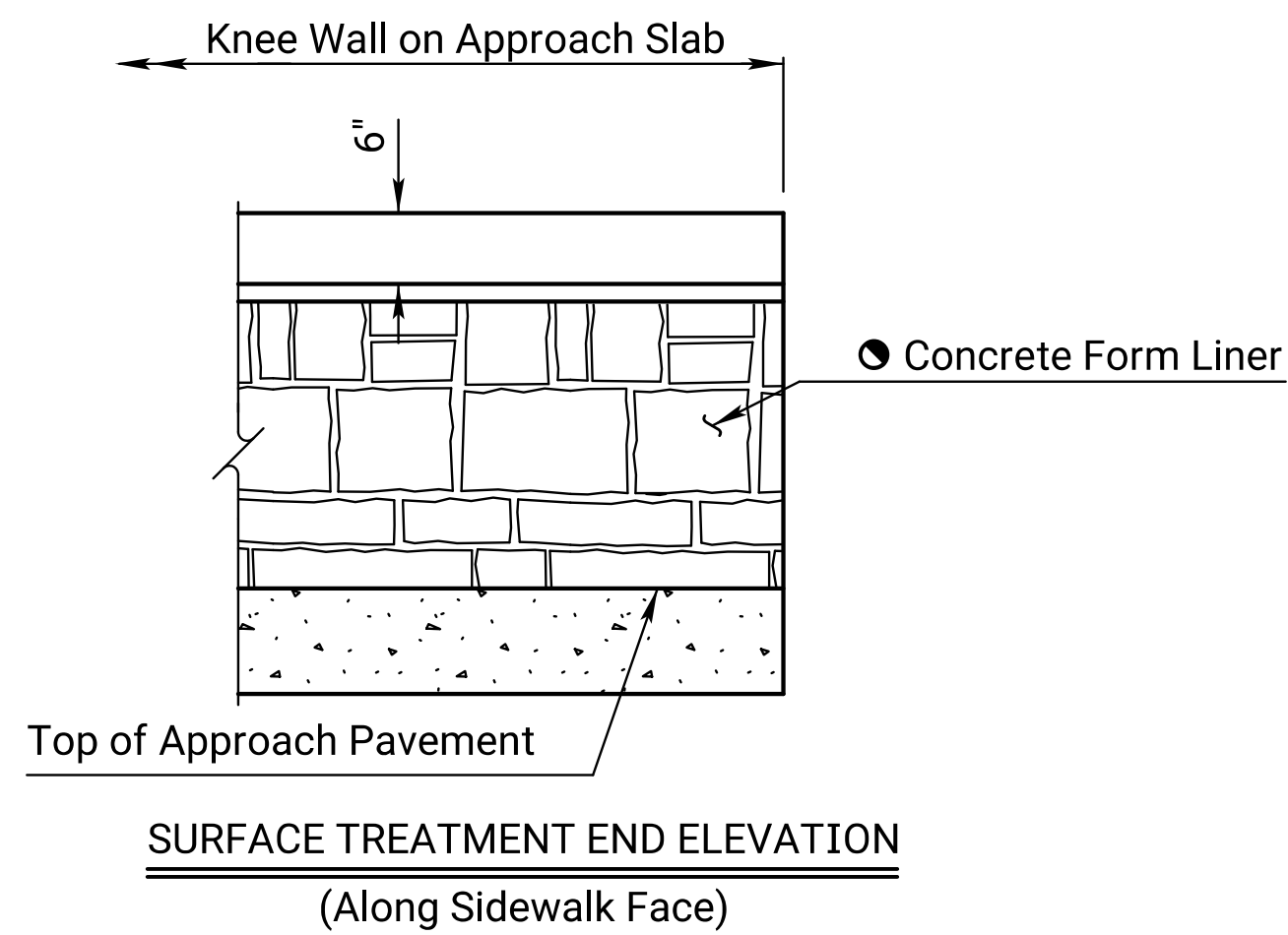
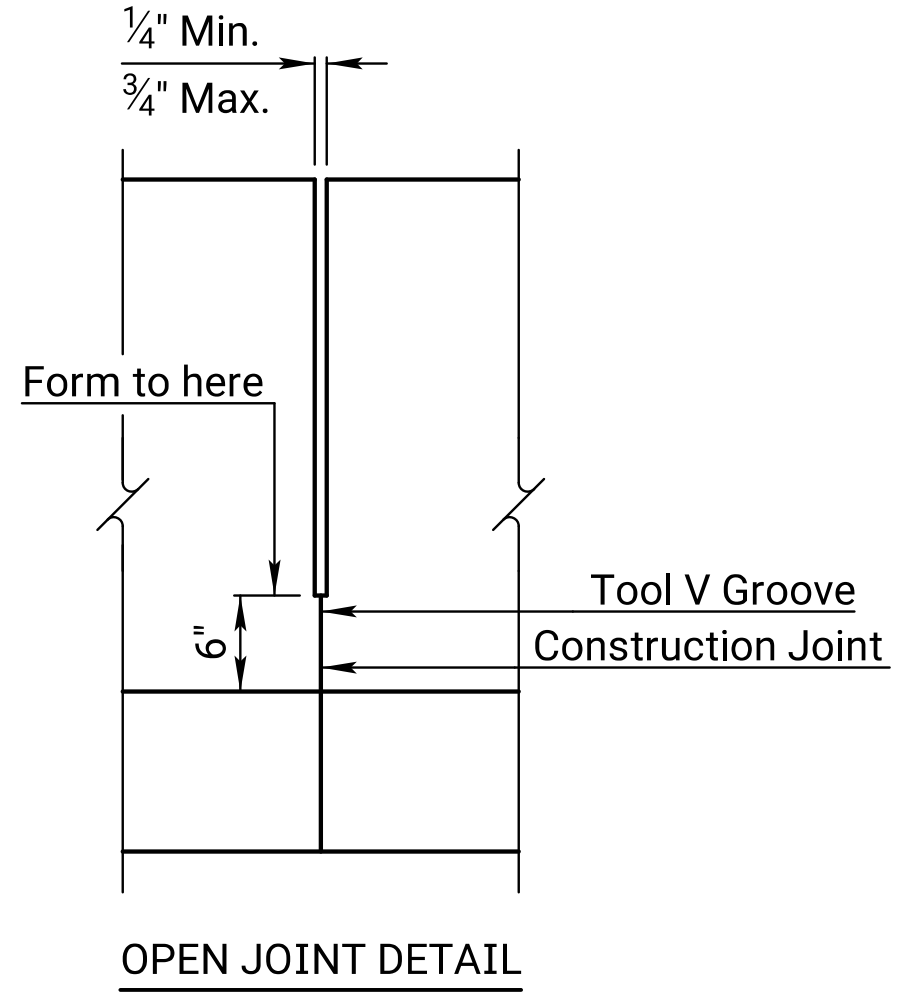
SHEET
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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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† As an aid in supporting reinforcement, additional longitudinal bars may be used in the slab with the approval of the Engineer. Such bars will be furnished at the contractor's expense.
 †† Top longitudinal approach slab bar may be adjusted laterally 3" ± to tie reinforcing.



- △ Dimensions based on formed concrete opening size for an assumed average ambient temperature of 60°F. Adjust accordingly for varying average ambient temperatures. See table on Sheet No. 66.
- ◆ Provide a vertical joint in the corral rail to match the location of the expansion joint in the concrete approach pavement. For expansion joint details, see Sheet No. 39.
- The form liner used for the knee wall on approach slab will match that used for the bridge knee wall. For more information, see Sheet 89.

Notes:
 e.f. denotes each face.
 Apply "Concrete Masonry Coating" and "Simulated Stone Masonry Stain" to the knee wall on approach slab. For more information, see Sheet 89.
 Minimum concrete cover to reinforcing steel shall be 1 1/2" unless otherwise shown.
 Edges along the top of the knee wall shall be finished with a 3/4" chamfer.
 For additional knee wall on approach slab layout details, see Sheet 41.
 All concrete shall be KCMMB 5K Concrete.
 All reinforcing steel shall conform to ASTM A615 grade 60. All bar spacings are from center to center of bars.

BILL OF MATERIALS							
Straight Bars				Bent Bars			
Mark	Size	Number	Length	Mark	Size	Number	Length
K9	#4	16	9'-7"	K2	#4	40	3'-10"
				K3	#4	40	5'-7"
Reinforcing Steel (Grade 60)(Epoxy Coated)(Knee Wall on Approach Slab)				354 lbs.			
KCMMB 5K Concrete (Knee Wall on Approach Slab)				2.5 Cu. Yds.			
Concrete Masonry Coating *				4.9 Sq. Yds.			
Simulated Stone Masonry Stain *				9.0 Sq. Yds.			

* Concrete Masonry Coating and Simulated Stone Masonry Stain quantities are given for information only. Quantities are included in the Summary of Bridge Quantities on Sheet 63.

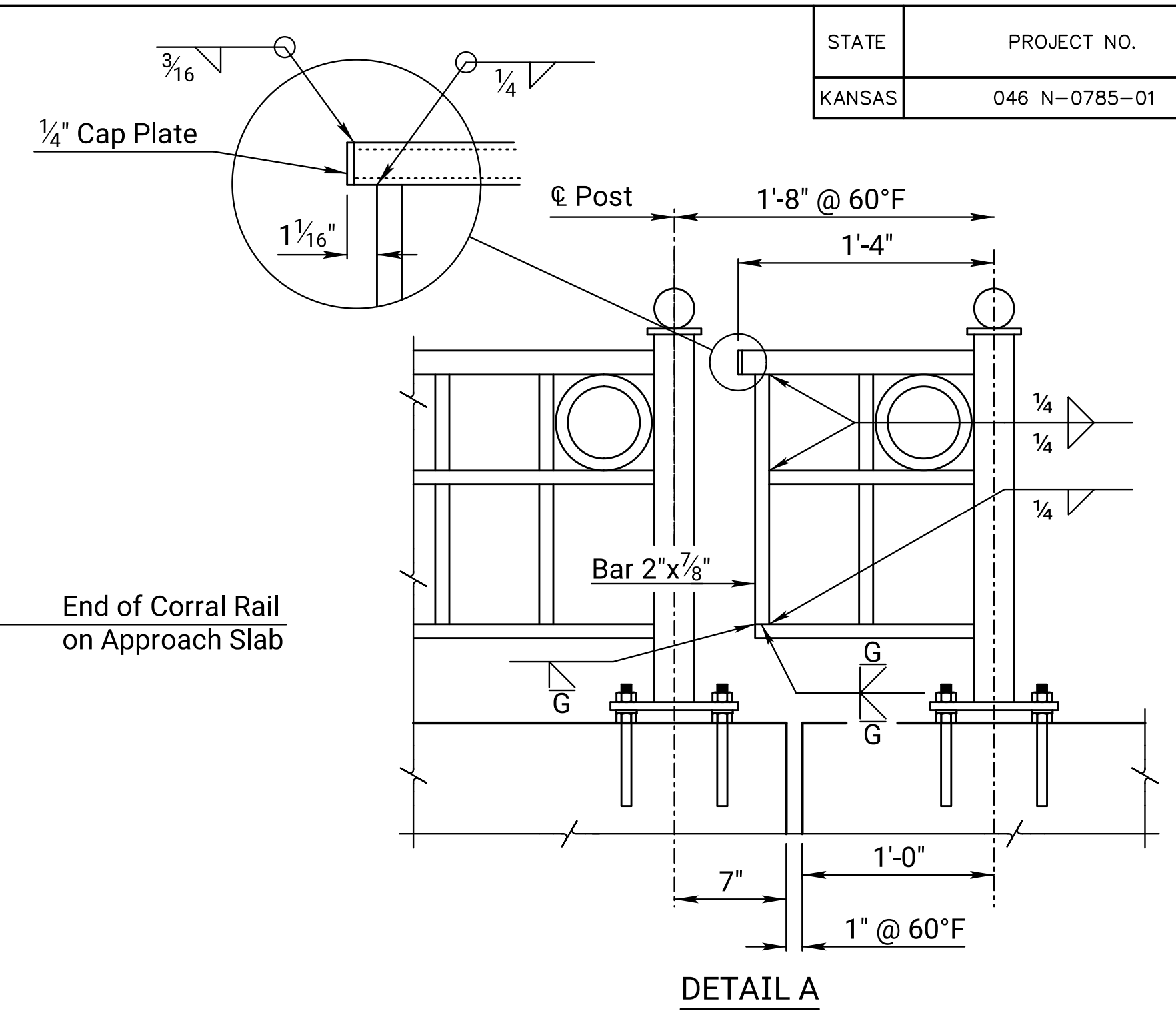
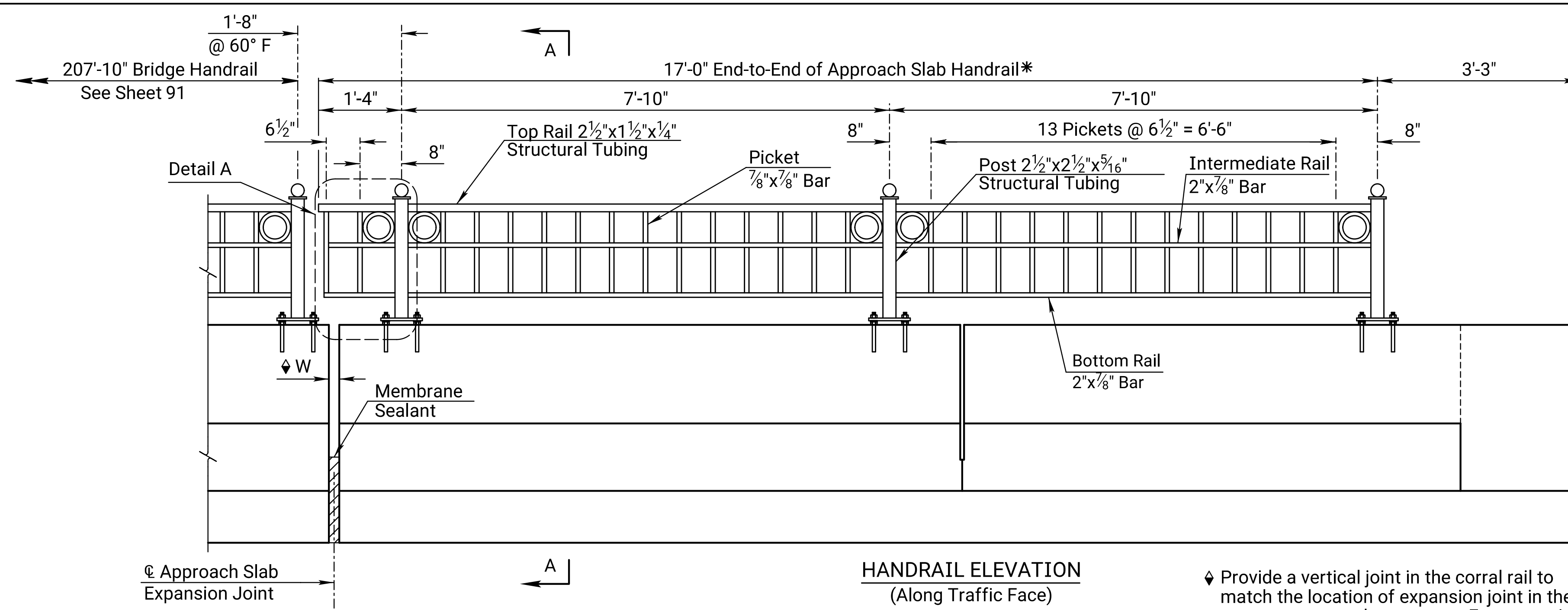
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

DETAILS OF KNEE WALL ON APPROACH SLAB
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

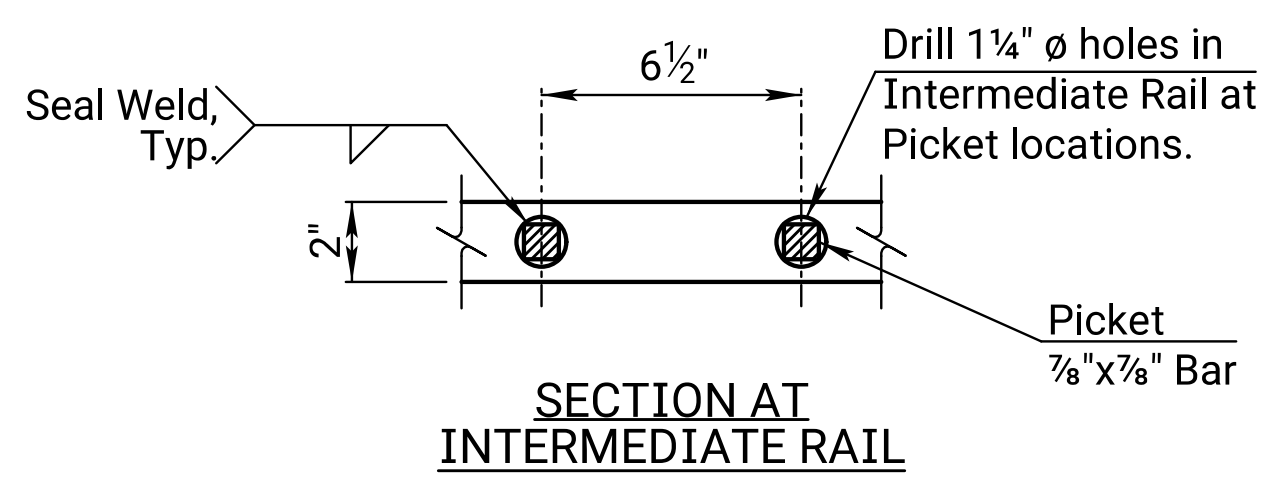
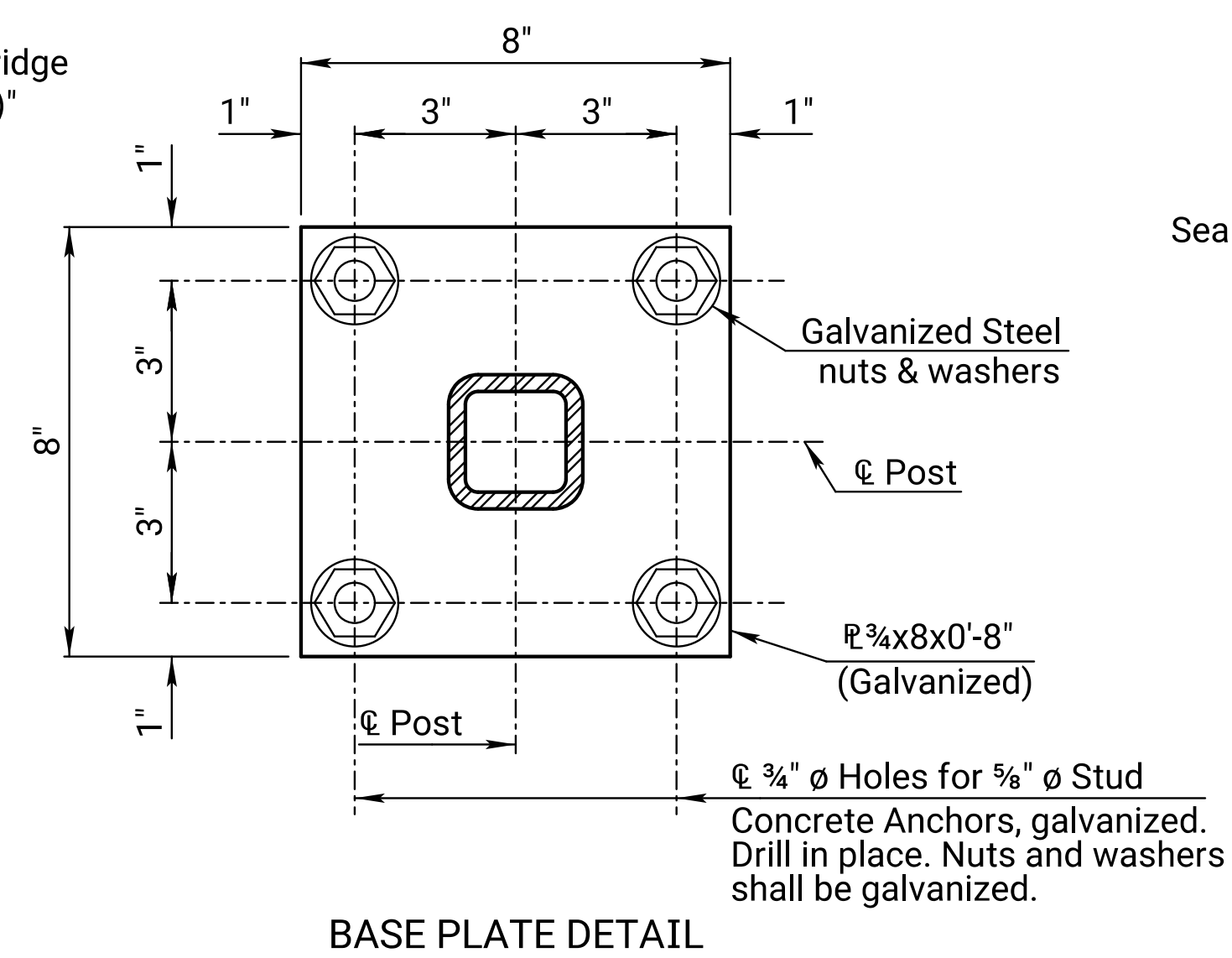
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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* This handrail section is included in the bridge pay item "Bridge Handrail (Metal) (1'-10")"



BRIDGE HANDRAIL NOTES:

Top rails shall be 2 1/2 x 1 1/2 x 1/4 Hollow Structural Sections (HSS). All posts shall be 2 1/2 x 2 1/2 x 5/16 HSS. All HSS members shall conform to ASTM A500, Grade B.

Pickets shall be 7/8 x 7/8 steel bar. Intermediate and bottom rails, pickets, and base plates shall conform to ASTM A709 (Grade 36).

Galvanize all anchor bolts and galvanize and paint all rails, posts, pickets and base plates after fabrication. Galvanization shall be in accordance with ASTM A123. The paint system shall be as described in Section 1805 of the KDOT Standard Specifications. The finish coat shall be a high-build polyurethane powder coat. Color of the finish coat shall be black. After preparing surfaces of partially weathered galvanized steel, as described in ASTM D 6386, apply to all of the galvanized materials, a two-component, 98-percent polymeric epoxy, amido-amine primer tiecoat of approximately 1-2 mils in thickness prior to application of the finish coat. Follow the manufacturer's recommendation for application and cure time.

Anchors, nuts, and washers shall be galvanized in accordance with ASTM A153 and Sec. 1081.

Nuts shall conform to ASTM A307. Nuts shall be regular hexagon type. Washers shall be of standard commercial quality.

Construct bridge handrail according to Section 721 of the KDOT Standard Specifications. Set rail parallel to the top of corral rail. Set all posts and pickets vertical, both in and out of plane of the handrail. Leveling nuts shall be used between concrete and base plate of steel post.

All rail-to-post welded connections shall be ground smooth. Use E70XX electrodes for all welding. Field welding is not permitted.

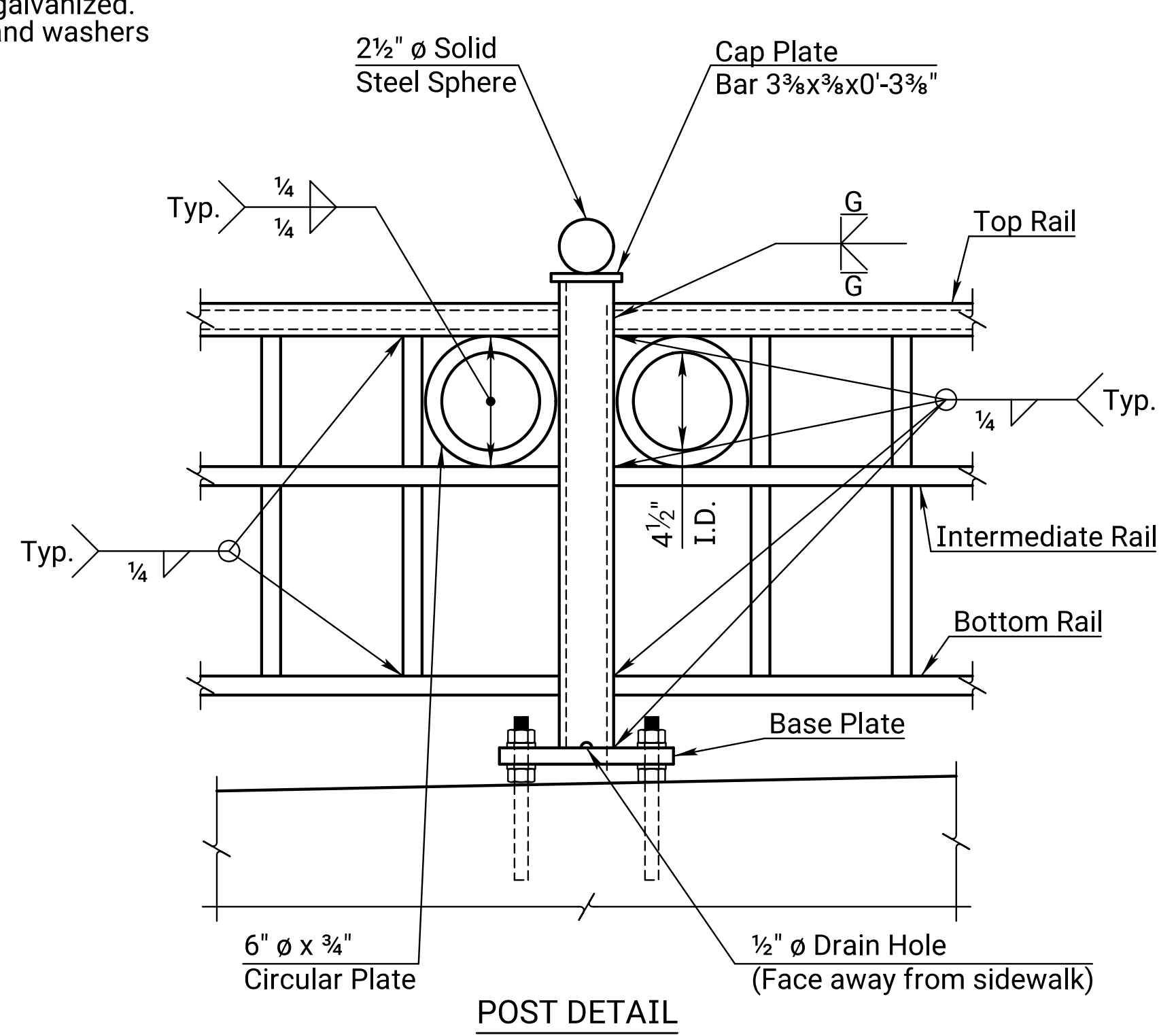
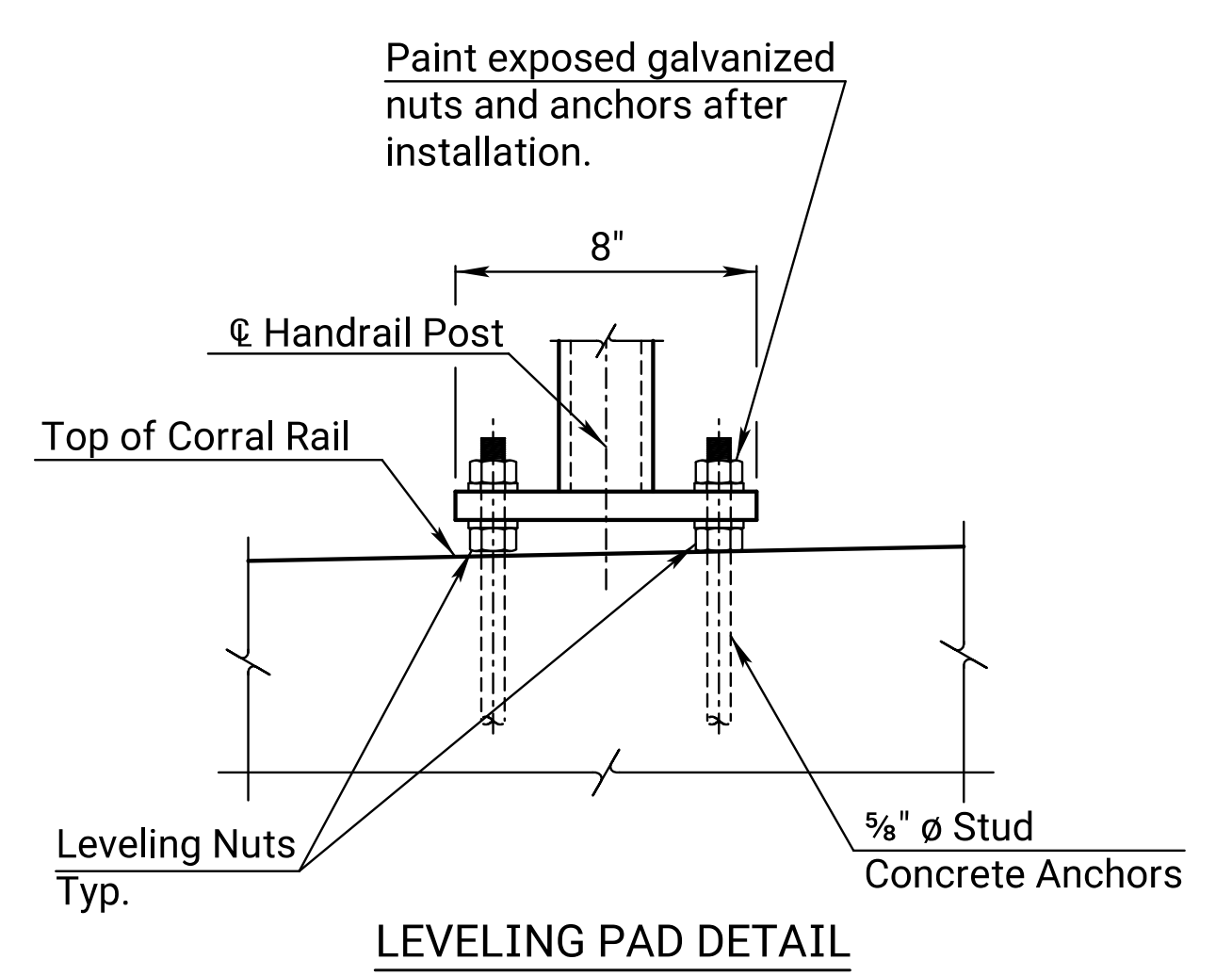
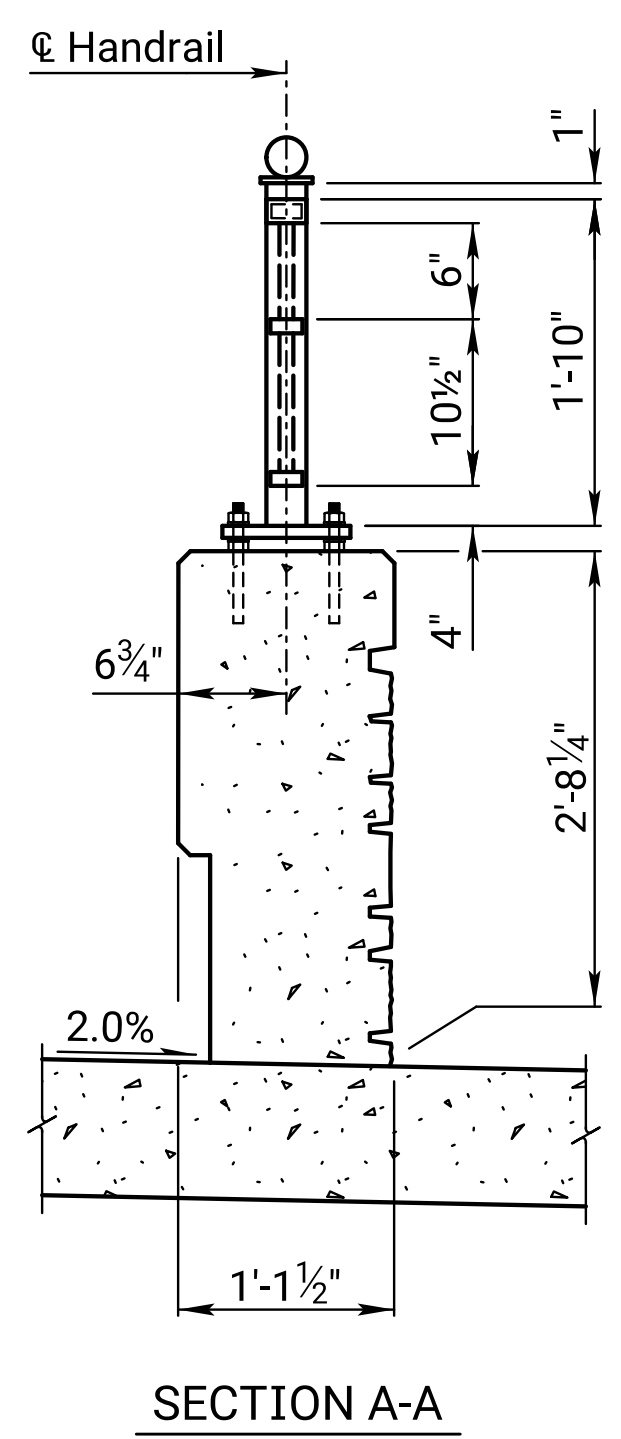
Anchor bolt embedment depth shall conform to manufacturer's recommendations for the specific anchor system for embedment into 4,000 psi concrete and a minimum factored tensile load of 2,000 pounds. Tensile resistance of the anchors shall be determined in accordance with AASHTO LRFD Specifications. Concrete anchor breakout and pullout resistance shall be determined in accordance with strength design provisions of ACI 318-11, Appendix D. The contractor shall submit verification from the anchor system manufacturer that the anchor system is adequate to resist the specified factored load.

All material, labor, splices, galvanizing, painting, and installation shall be paid for under the bid item "Bridge Handrail (Metal) (1'-10)". The bridge handrail is to be bid on a per linear foot basis measured from end to end of handrail.

Contractor shall verify dimensions prior to fabrication. The Contractor shall submit shop drawings to the Engineer for approval prior to fabrication of the handrail.

NOTES:

For Additional Details of Corral Rail on Approach Slab, see Sheet 40.
For Bridge Handrail Details, see Sheet 91.



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CORRAL RAIL HANDRAIL DETAILS ON APPROACH SLAB

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

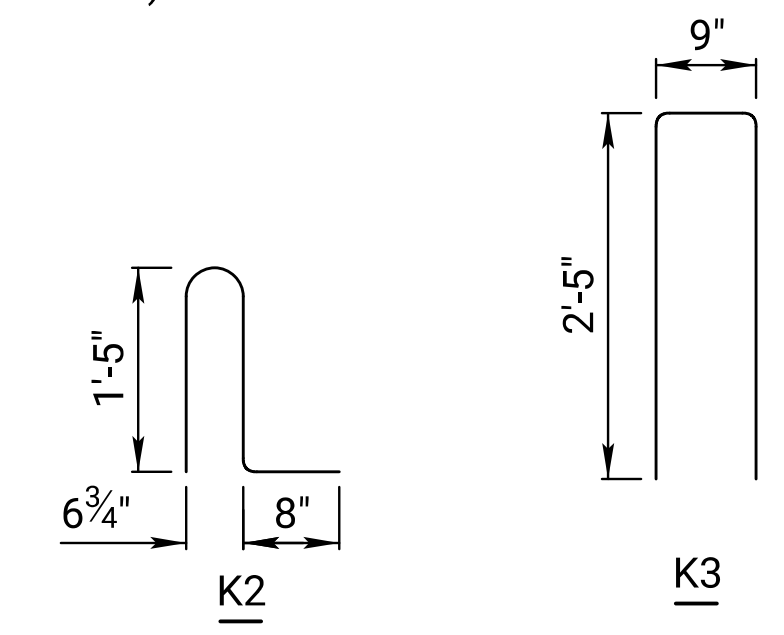
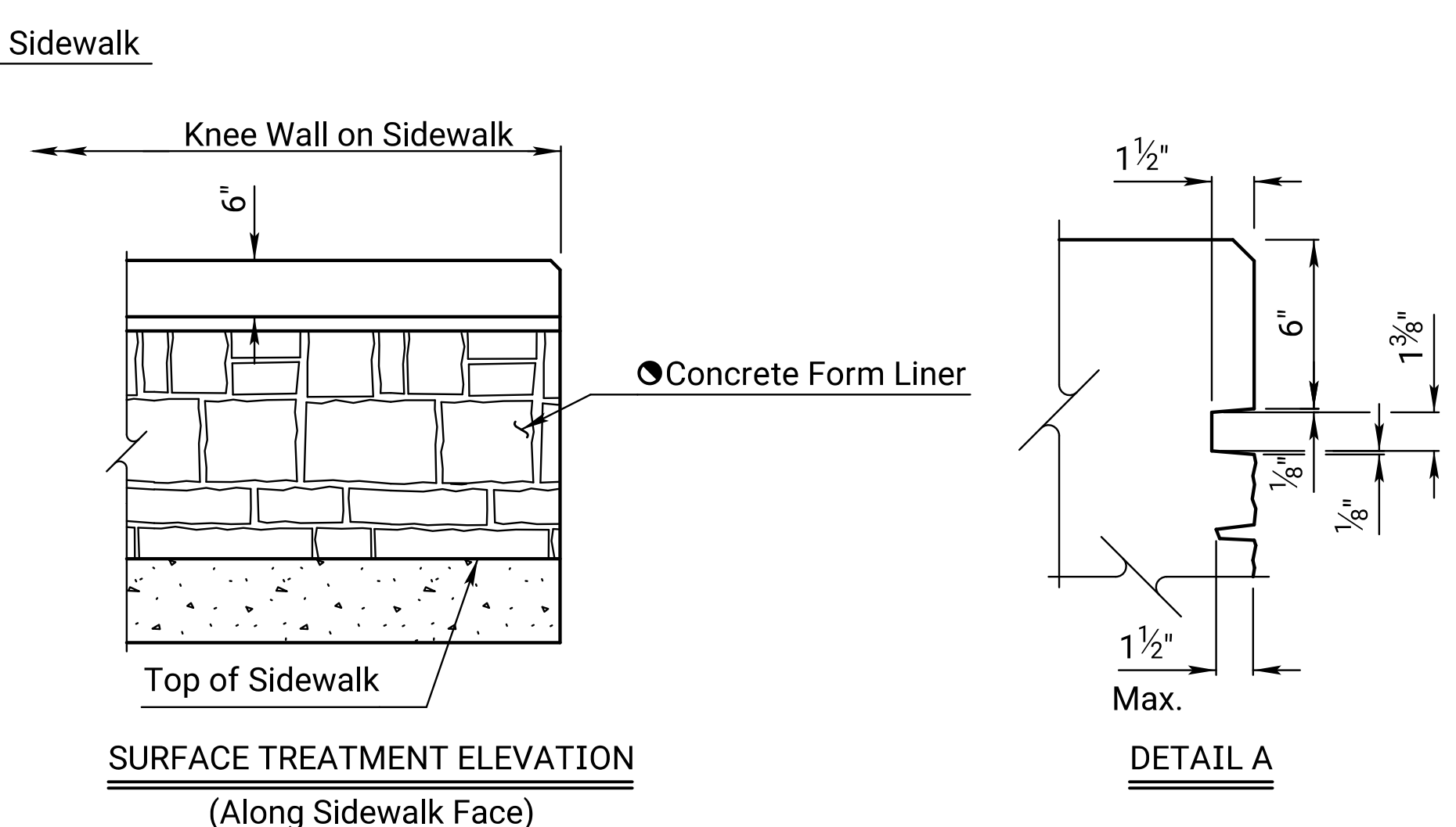
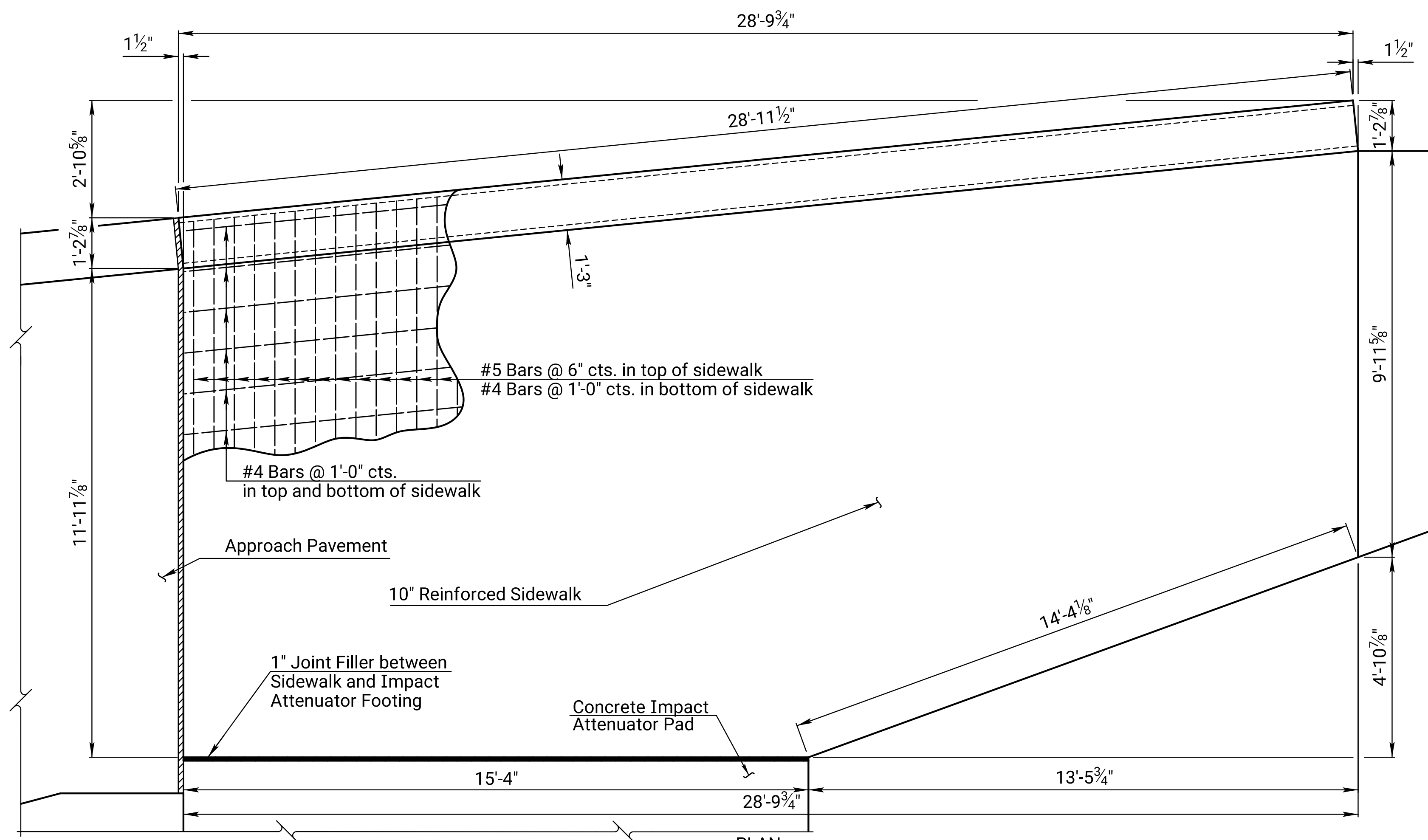
OVERLAND PARK, KANSAS

2025

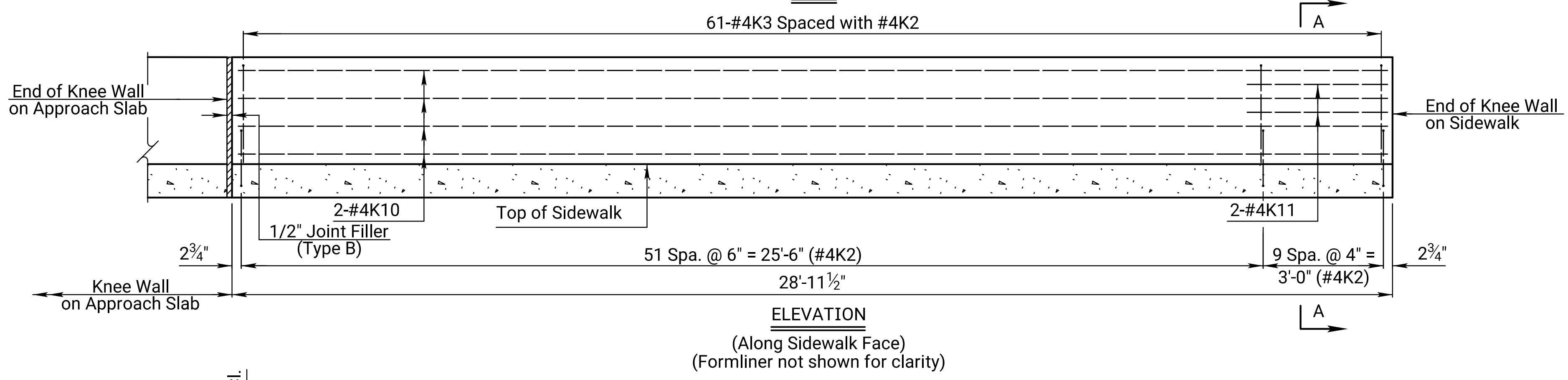
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checked by: KAS
approved by: KAS
QA/QC by: GCL
project no.: 022-06529
drawing no.:
date: 01/31/2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

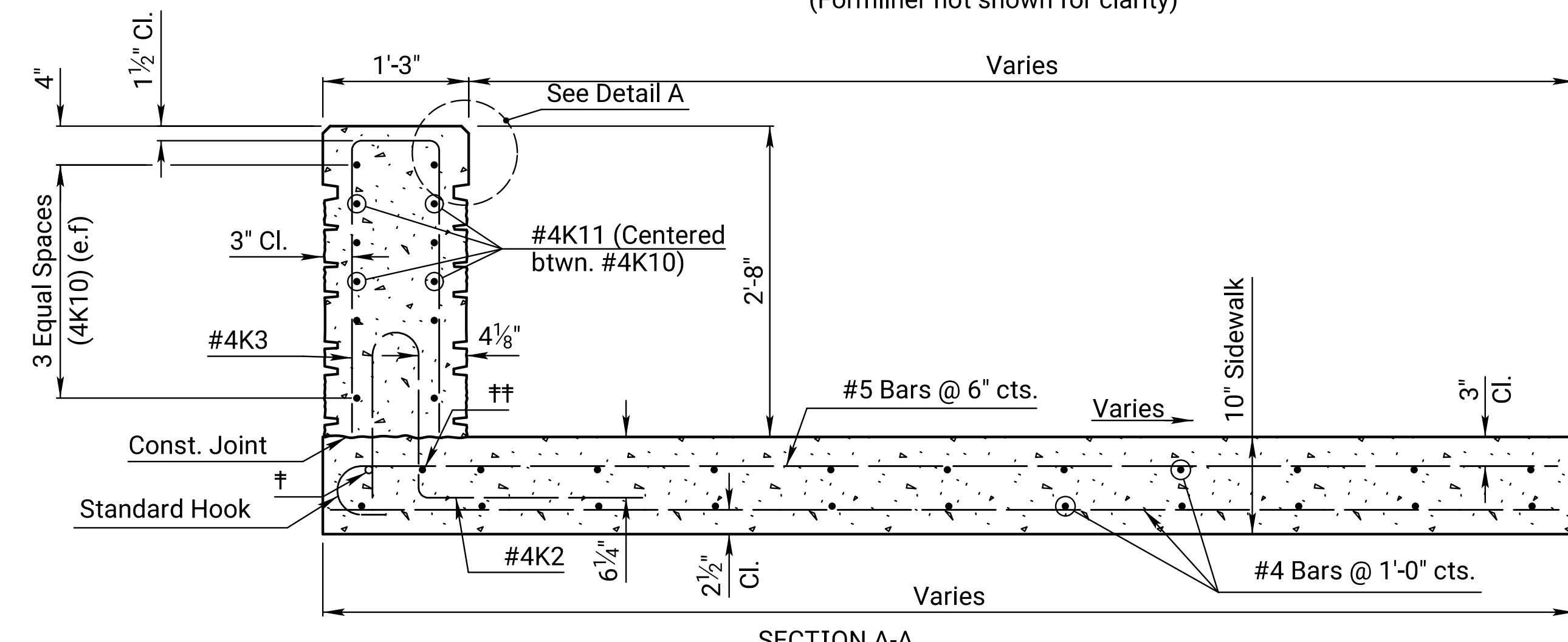
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BENDING DIAGRAMS
 All dimensions are out to out of bars.



BILL OF MATERIALS							
Straight Bars				Bent Bars			
Mark	Size	Number	Length	Mark	Size	Number	Length
K10	#4	8	28'-8"	K2	#4	61	3'-10"
K11	#4	4	3'-8"	K3	#4	61	5'-7"
Reinforcing Steel (Grade 60)(Epoxy Coated)(Knee Wall on Sidewalk)							547 lbs.
KCMMB 5K Concrete (Knee Wall on Sidewalk)							3.6 Cu. Yds.
Sidewalk Construction (10")(Reinforced)							43.3 Sq. Yds.
Concrete Masonry Coating *							7.0 Sq. Yds.
Simulated Stone Masonry Stain *							13.1 Sq. Yds.



† As an aid in supporting reinforcement, additional longitudinal bars may be used in the slab with the approval of the Engineer. Such bars will be furnished at the contractor's expense.
 †† Top longitudinal approach slab bar may be adjusted laterally 3"± to tie reinforcing.

● The form liner used for the knee wall on approach slab will match that used for the bridge knee wall. For more information, see Sheet 89.

* Concrete Masonry Coating and Simulated Stone Masonry Stain quantities are given for information only. Quantities are included in the Summary of Bridge Quantities on Sheet 63.

Notes:
 e.f. denotes each face.
 Apply "Concrete Masonry Coating" and "Simulated Stone Masonry Stain" to the knee wall on Sidewalk. For more information, see Sheet 89.
 Contractor to submit shop drawings for reinforcing steel for review and approval by the Engineer in the 10" sidewalk prior to ordering material.
 Minimum concrete cover to reinforcing steel shall be 1 1/2" unless otherwise shown.
 Edges along the top of the knee wall shall be finished with a 3/4" chamfer.
 For additional knee wall on approach slab layout details, see Sheet 41.
 All concrete shall be KCMMB 5K Concrete.
 All reinforcing steel shall conform to ASTM A615 grade 60 and shall be epoxy coated. All bar spacings are from center to center of bars.

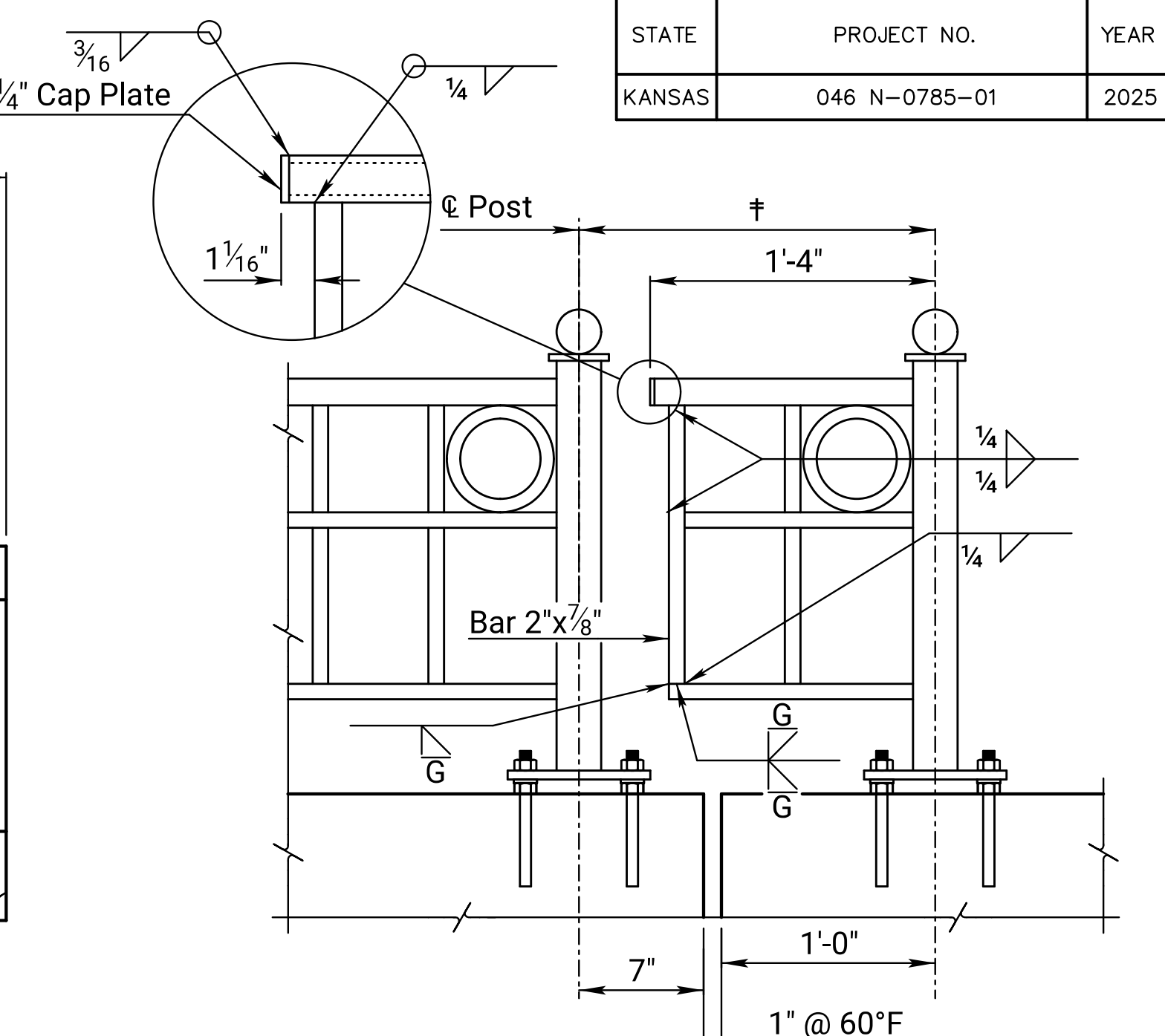
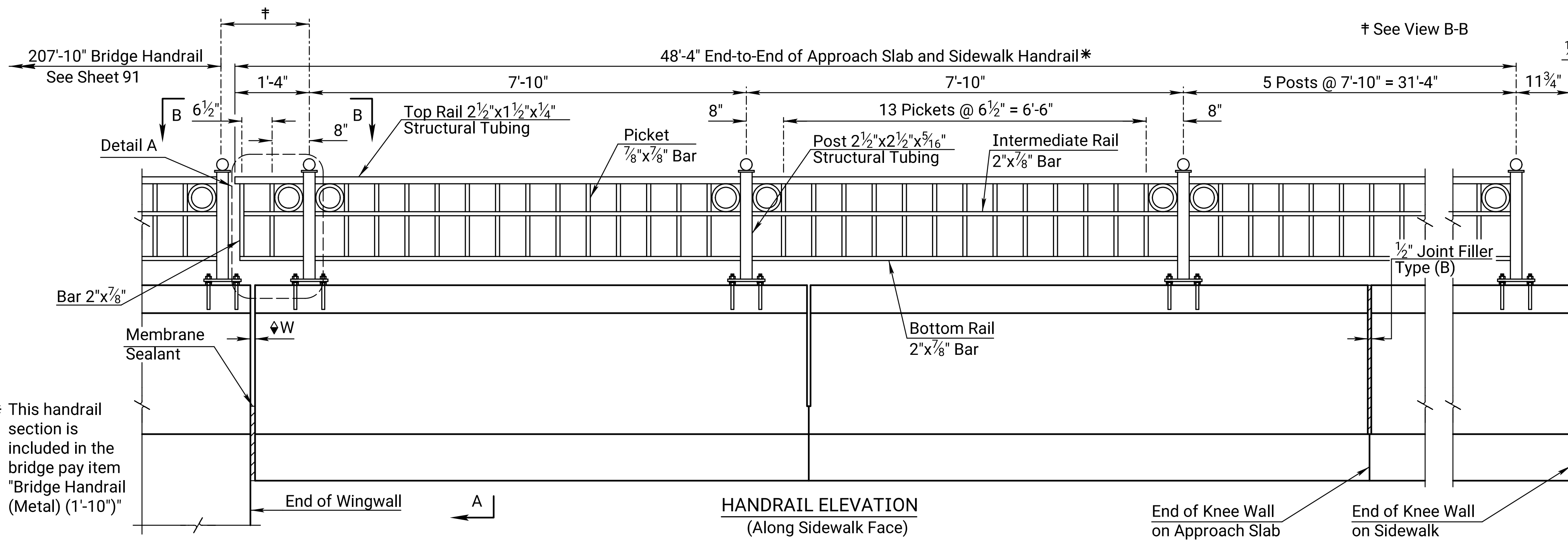
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

SIDEWALK KNEE WALL DETAILS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025
 SHEET 43 of 189

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

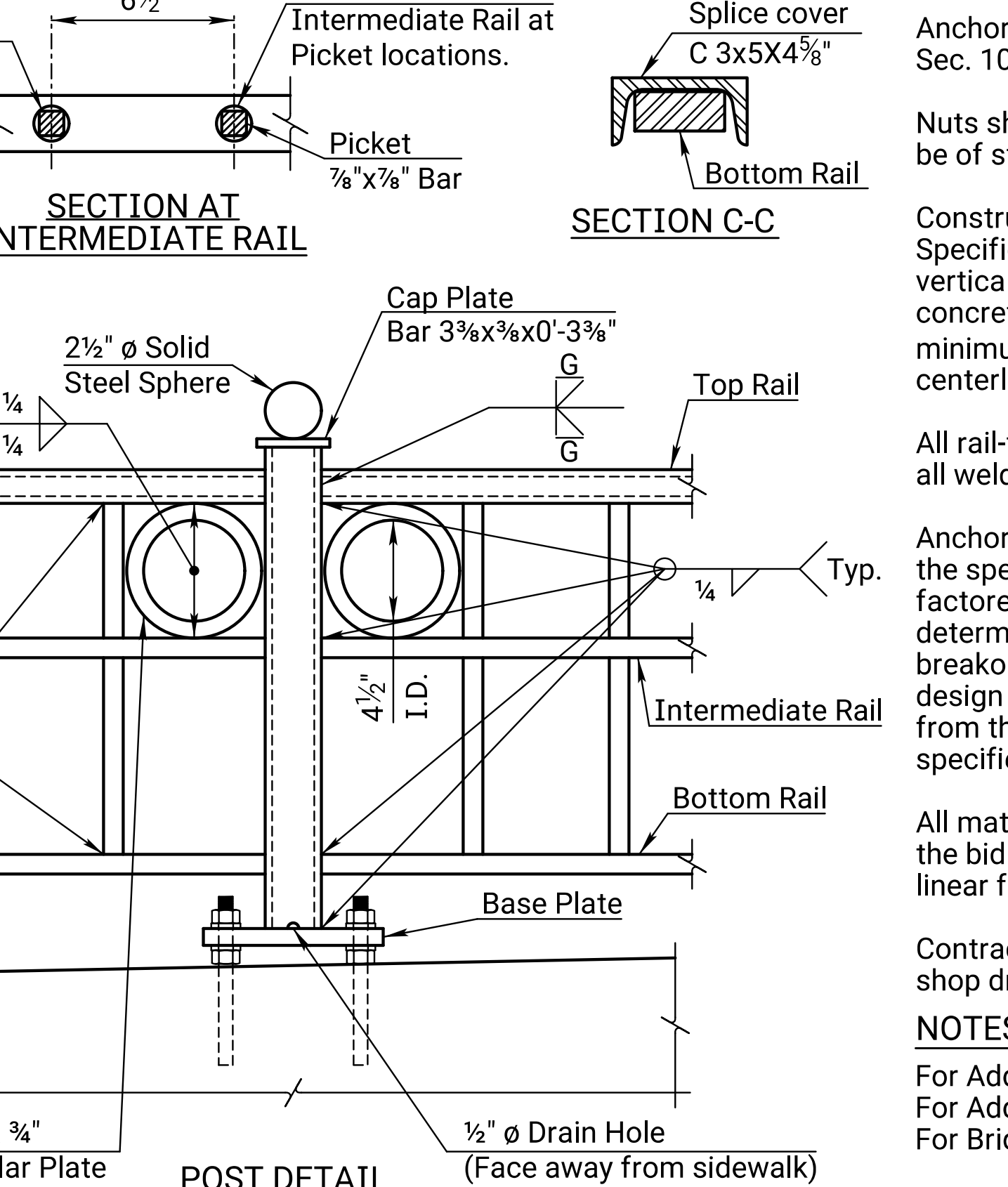
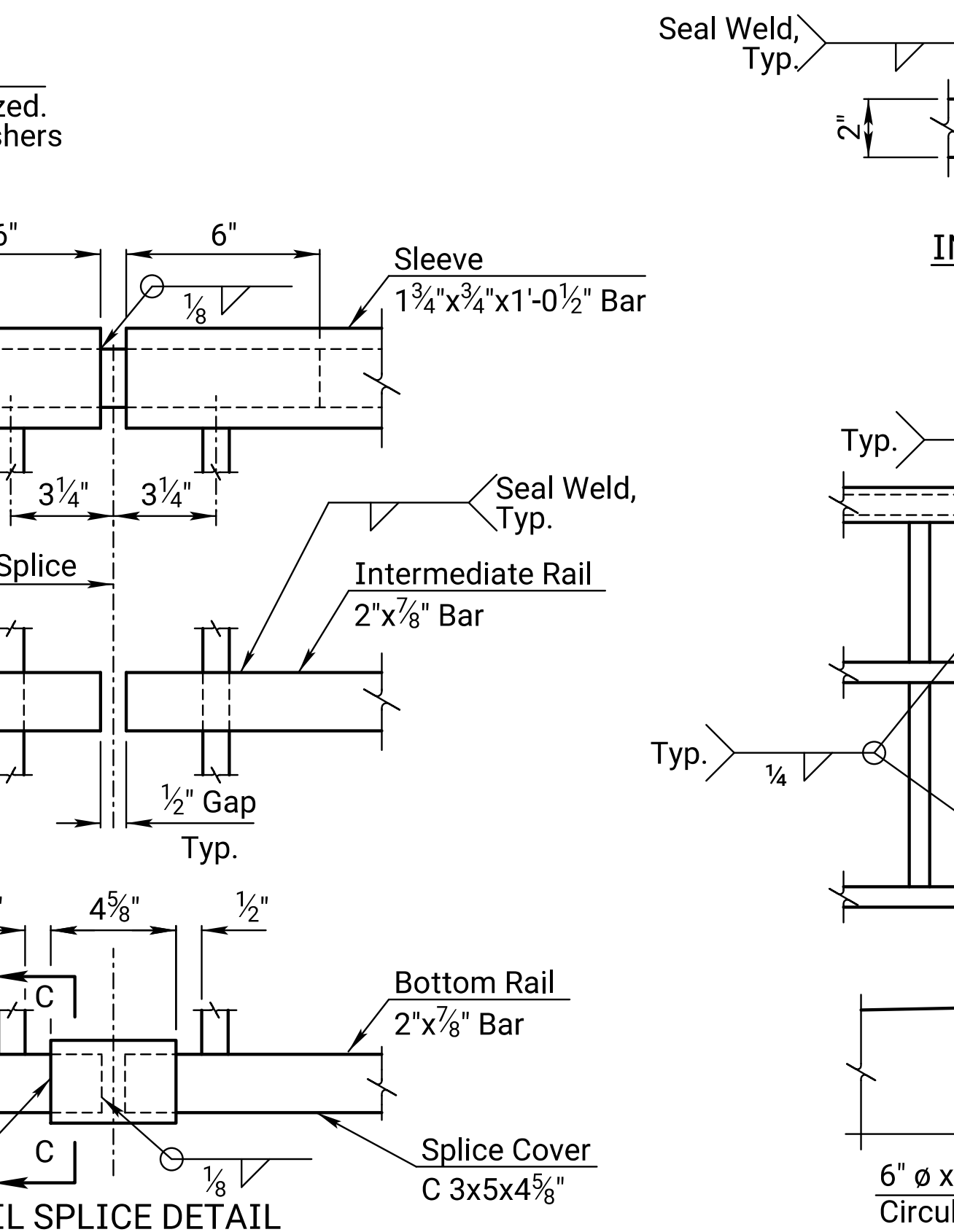
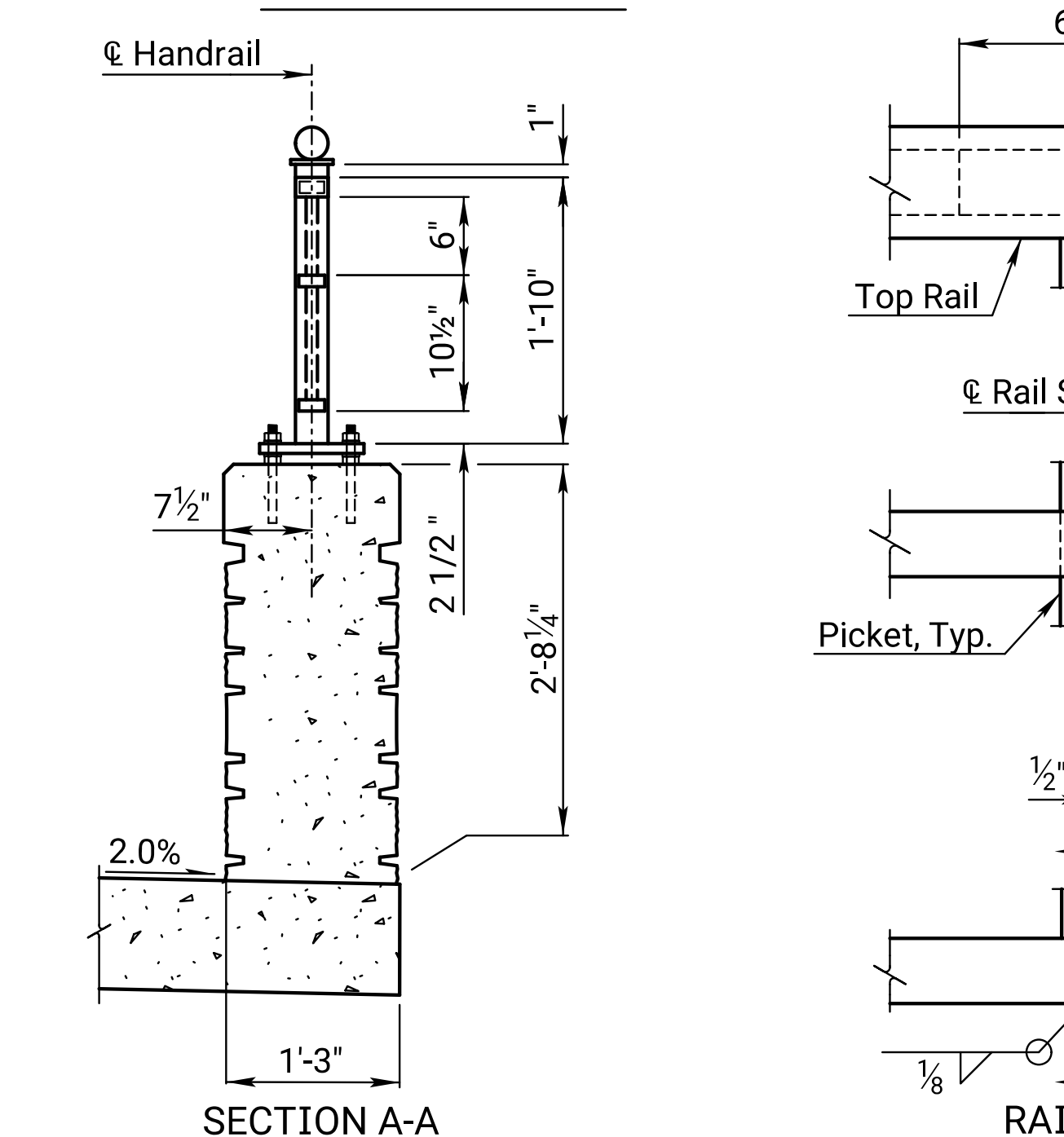
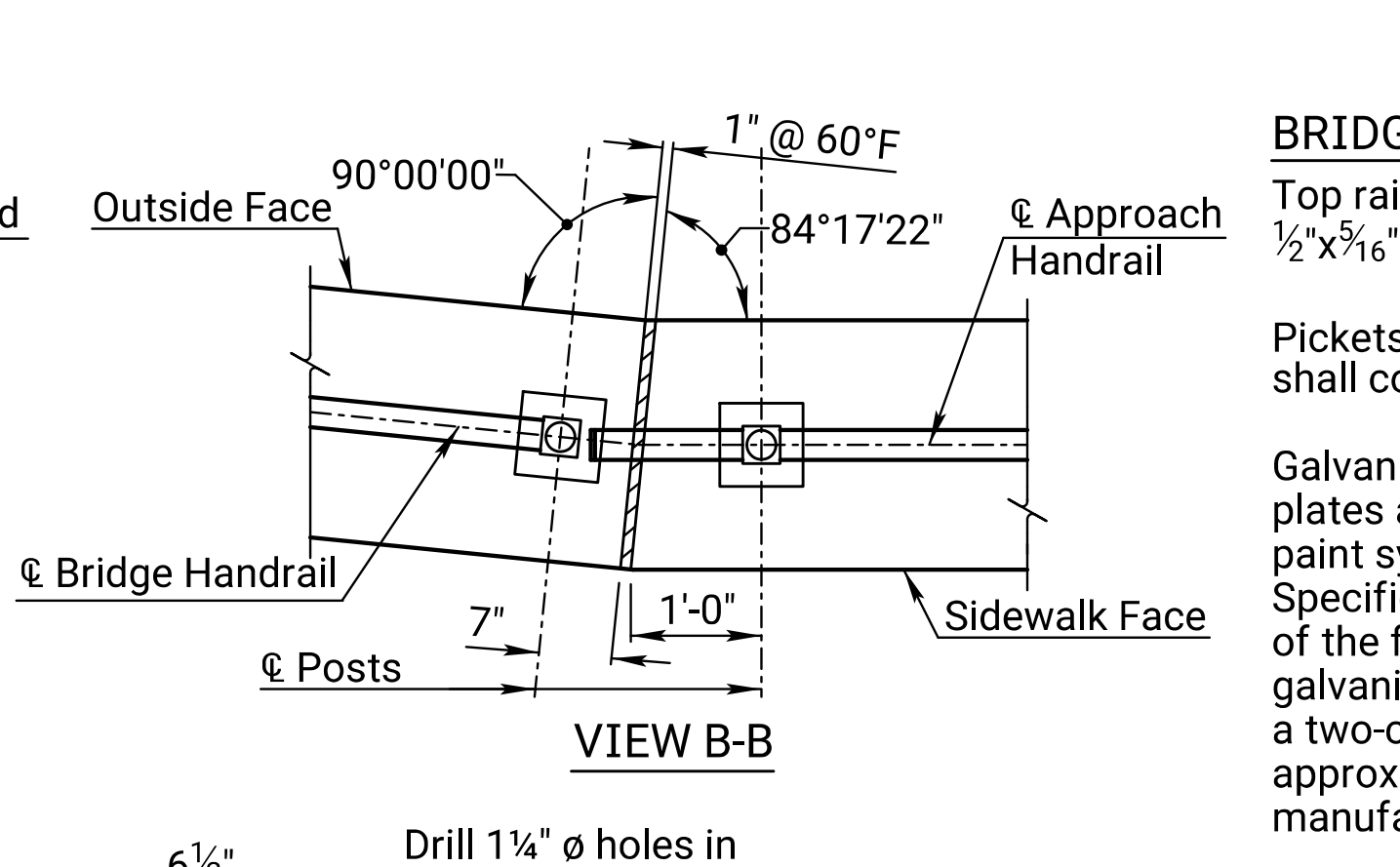
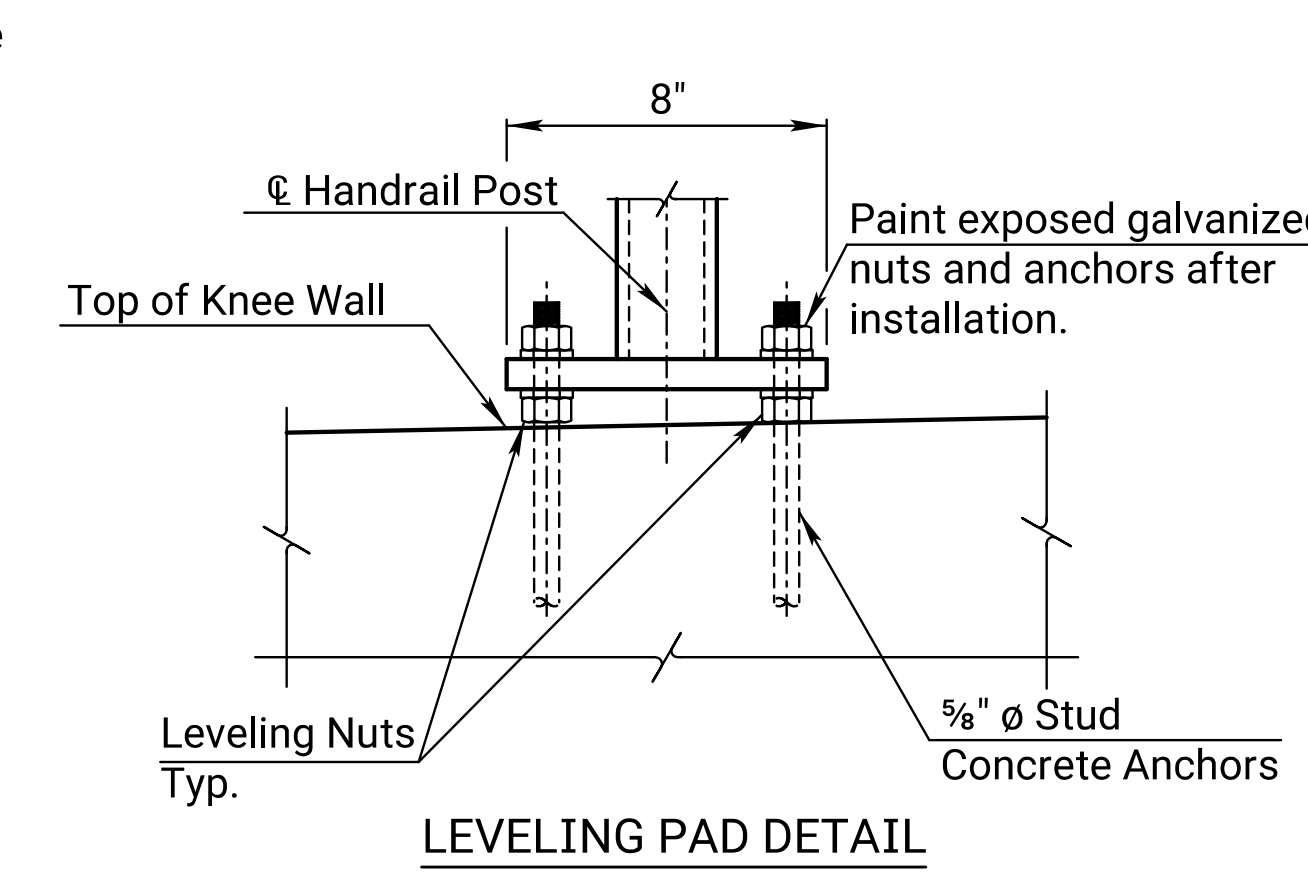
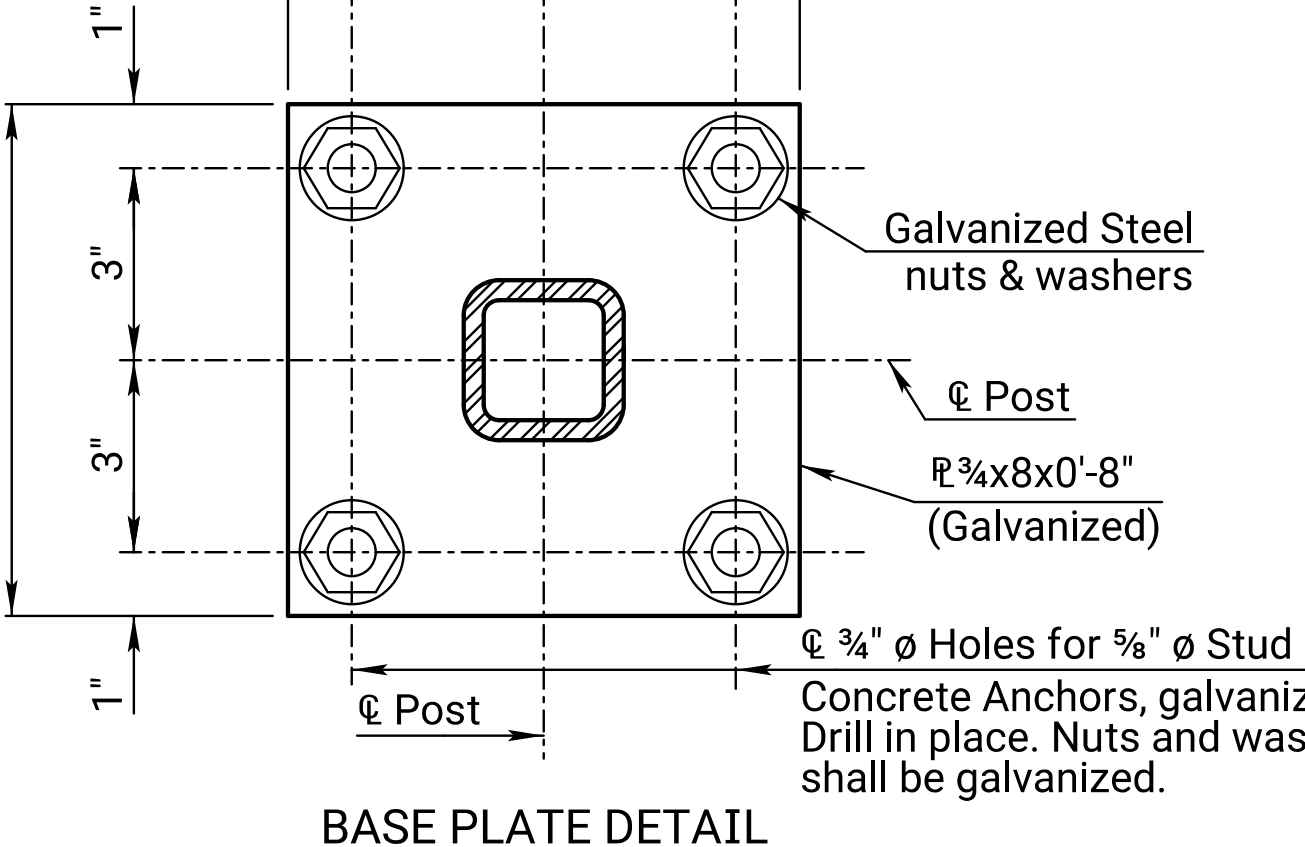
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7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4760
TEL 913.381.1170
www.olson.com



* This handrail section is included in the bridge pay item "Bridge Handrail (Metal) (1'-10")"

◆ Provide a vertical joint in the corral rail to match the location of the expansion joint in the concrete approach pavement. For expansion joint details, see Sheet No. 39.



BRIDGE HANDRAIL NOTES:
Top rails shall be 2 1/2"x1 1/2"x1/4" Hollow Structural Sections (HSS). All posts shall be 2 1/2"x2 1/2"x5/16" HSS. All HSS members shall conform to ASTM A500, Grade B.

Pickets shall be 7/8"x7/8" steel bar. Intermediate and bottom rails, pickets, and base plates shall conform to ASTM A709 (Grade 36).

Galvanize all anchor bolts and galvanize and paint all rails, posts, pickets and base plates after fabrication. Galvanization shall be in accordance with ASTM A123. The paint system shall be as described in Section 1805 of the KDOT Standard Specifications. The finish coat shall be a high-build polyurethane powder coat. Color of the finish coat shall be black. After preparing surfaces of partially weathered galvanized steel, as described in ASTM D 6386, apply to all of the galvanized materials, a two-component, 98-percent polymeric epoxy, amido-amine primer tiecoat of approximately 1-2 mils in thickness prior to application of the finish coat. Follow the manufacturer's recommendation for application and cure time.

Anchors, nuts, and washers shall be galvanized in accordance with ASTM A153 and Sec. 1081.

Nuts shall conform to ASTM A307. Nuts shall be regular hexagon type. Washers shall be of standard commercial quality.

Construct bridge handrail according to Section 721 of the KDOT Standard Specifications. Set rail parallel to the top of knee wall. Set all posts and pickets vertical, both in and out of plane of the handrail. Leveling nuts shall be used between concrete and base plate of steel post. Fabricate handrail in lengths to include a minimum of 2 and a maximum of 3 sections. Locate center of rail splices 2'-0 1/4" from centerline of posts. Fabricate handrail in lengths shown.

All rail-to-post welded connections shall be ground smooth. Use E70XX electrodes for all welding. Field welding is not permitted.

Anchor bolt embedment depth shall conform to manufacturer's recommendations for the specific anchor system for embedment into 4,000 psi concrete and a minimum factored tensile load of 2,000 pounds. Tensile resistance of the anchors shall be determined in accordance with AASHTO LRFD Specifications. Concrete anchor breakout and pullout resistance shall be determined in accordance with strength design provisions of ACI 318-11, Appendix D. The contractor shall submit verification from the anchor system manufacturer that the anchor system is adequate to resist the specified factored load.

All material, labor, splices, galvanizing, painting, and installation shall be paid for under the bid item "Bridge Handrail (Metal) (1'-10")". The bridge handrail is to be bid on a per linear foot basis measured from end to end of handrail.

Contractor shall verify dimensions prior to fabrication. The Contractor shall submit shop drawings to the Engineer for approval prior to fabrication of the handrail.

NOTES:
For Additional Details of Knee Wall on Approach Slab, see Sheet 43.
For Additional Details of Knee Wall on Sidewalk, see Sheet 45.
For Bridge Handrail Details, see Sheet 90.

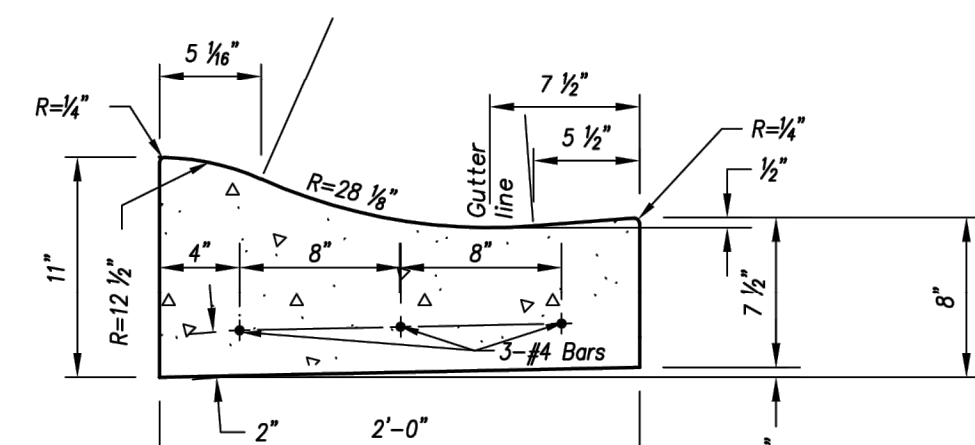
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

KNEE WALL HANDRAIL DETAILS ON APPROACH SLAB AND SIDEWALK		2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK		
OVERLAND PARK, KANSAS		
drawn by:	ZDD	
checked by:	KAS	
approved by:	KAS	
QA/QC by:	GCL	
project no.:	022-06529	
drawing no.:		
date:	01/31/2025	

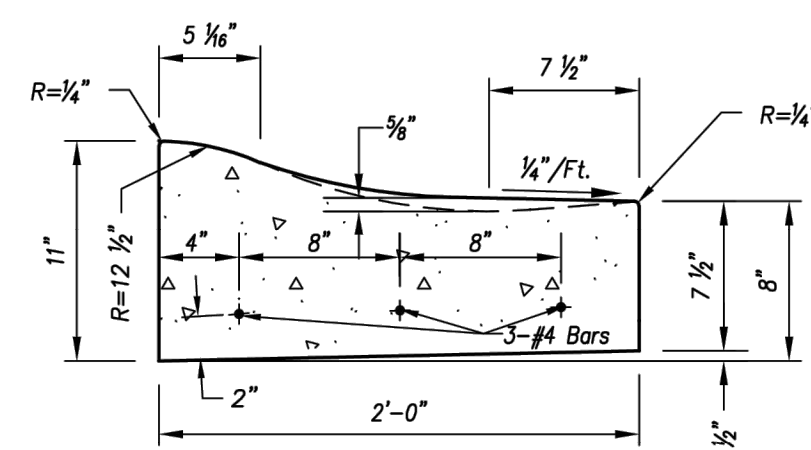
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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TEL 913.381.1170 www.olson.com



Standard Type "A" Curb



Type "A - Dry" Curb

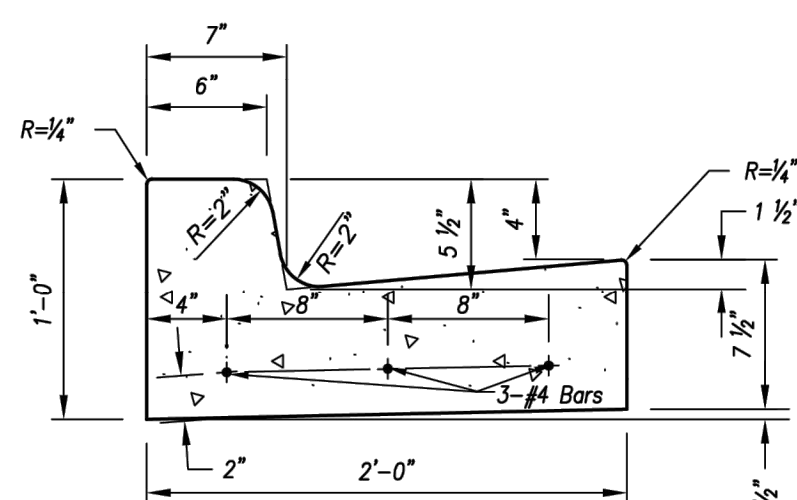
NOTE: in transitions, water shall flow from the gutter of Type "A" curb to the lip of Type "A-Dry" curb at 0.5% min. slope.

Curb & Gutter Notes:

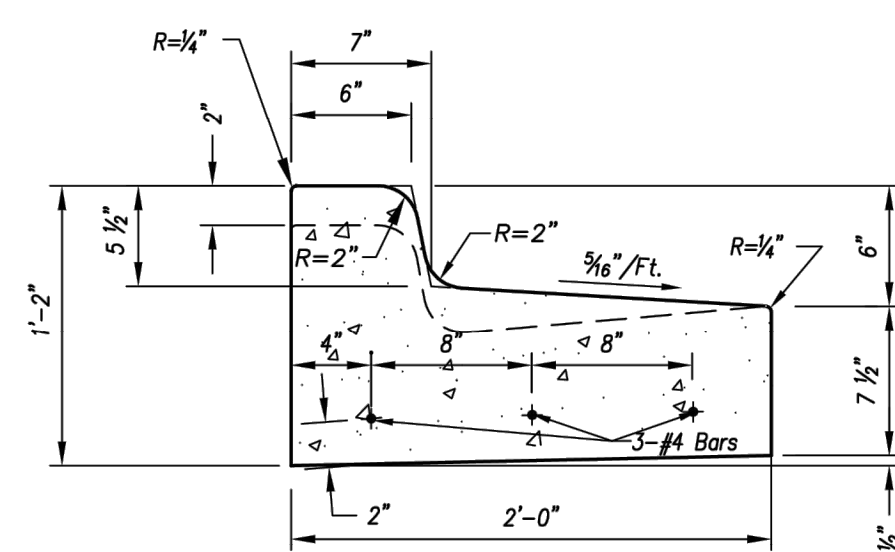
- The Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
- 1/2" preformed expansion joints shall be placed at points of curvature, curb returns, curb inlets, and at 250' centers. The expansion joints shall be sealed in accordance with OPDCSM. Contraction joints shall be 2" deep, and placed at 15' intervals equally spaced between expansion joints.
- All concrete used in this work shall meet the requirements of the OPMC. KOMMB4K Concrete shall be used throughout.
- For hand-formed curb all reinforcing steel shall be supported on fabricated steel bar supports @ 3'-0" maximum spacing, or as directed by the City Engineer.
- See sidewalk ramp details for typical sidewalk ramp curb & gutter sections.

CONCRETE CURB & GUTTER

Not to Scale



Standard Type "B" Curb



Type "B - Dry" Curb

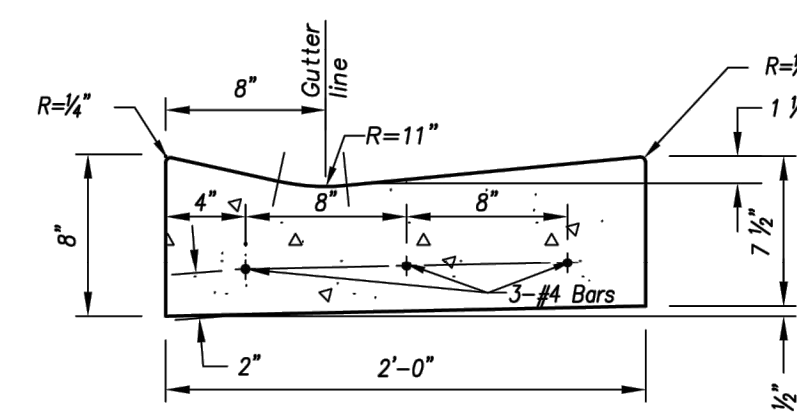
NOTE: in transitions, water shall flow from the gutter of Type "B" curb to the lip of Type "B-Dry" curb at 0.5% min. slope.

Curb & Gutter Notes:

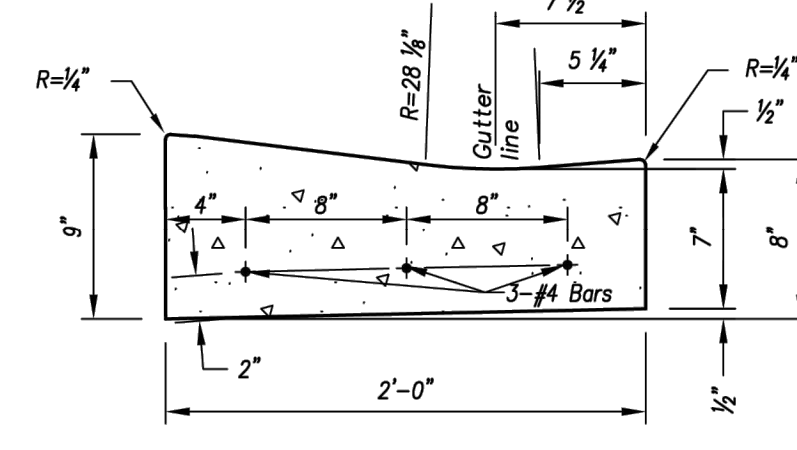
- The Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
- 1/2" preformed expansion joints shall be placed at points of curvature, curb returns, curb inlets, and at 250' centers. The expansion joints shall be sealed in accordance with OPDCSM. Contraction joints shall be 2" deep, and placed at 15' intervals equally spaced between expansion joints.
- All concrete used in this work shall meet the requirements of the OPMC. KOMMB4K Concrete shall be used throughout.
- For hand-formed curb all reinforcing steel shall be supported on fabricated steel bar supports @ 3'-0" maximum spacing, or as directed by the City Engineer.
- See sidewalk ramp details for typical sidewalk ramp curb & gutter sections.

CONCRETE CURB & GUTTER

Not to Scale



Standard Type "C" Curb*



Type "C-1" Curb *

(Use w/ type "A" curb)

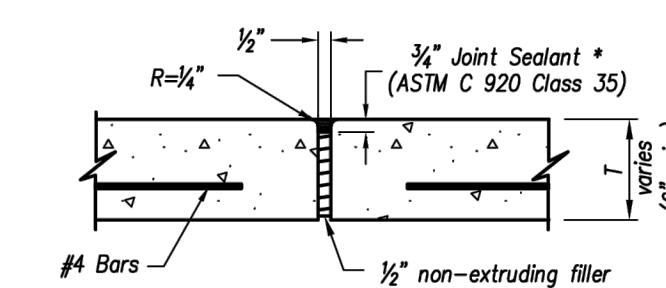
* Use for commercial entrances

Curb & Gutter Notes:

- The Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
- 1/2" preformed expansion joints shall be placed at points of curvature, curb returns, curb inlets, and at 250' centers. The expansion joints shall be sealed in accordance with OPDCSM. Contraction joints shall be 2" deep, and placed at 15' intervals equally spaced between expansion joints.
- All concrete used in this work shall meet the requirements of the OPMC. KOMMB4K Concrete shall be used throughout.
- For hand-formed curb all reinforcing steel shall be supported on fabricated steel bar supports @ 3'-0" maximum spacing, or as directed by the City Engineer.
- See sidewalk ramp details for typical sidewalk ramp curb & gutter sections.

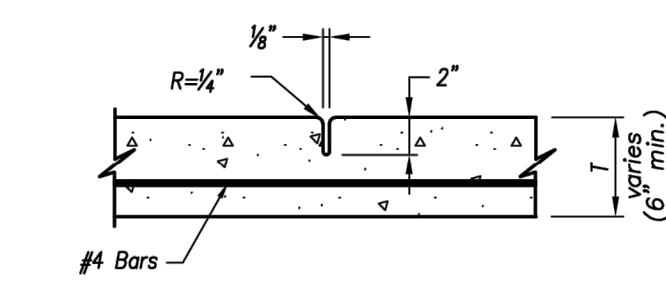
CONCRETE CURB & GUTTER

Not to Scale

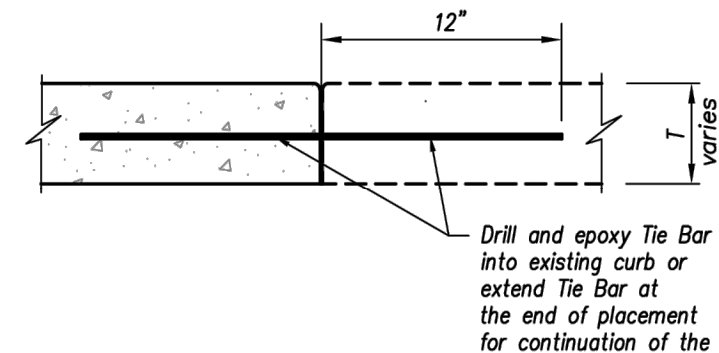


* - Joint Sealant shall be installed within 48 Hours of curb placement

Expansion Joint



Contraction Joint



Construction Joint

CURB JOINT DETAILS

Not to Scale

REVISIONS:	Year 2024 Edition
RELATED ORDINANCES:	OPMC Title 13
DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS	
CONCRETE CURB WITH ASPHALT PAVEMENT (COLLECTOR AND RESIDENTIAL STREETS)	
DATE: 09/28/99	SHEET: 10

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STANDARD DETAILS	COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	2025
OVERLAND PARK, KANSAS		REVISIONS

drawn by:	CJC
checked by:	PBM
approved by:	PBM
QA/QC by:	RBE
project no.:	022-06529
drawing no.:	T_DTL_02206529
date:	1-31-2025

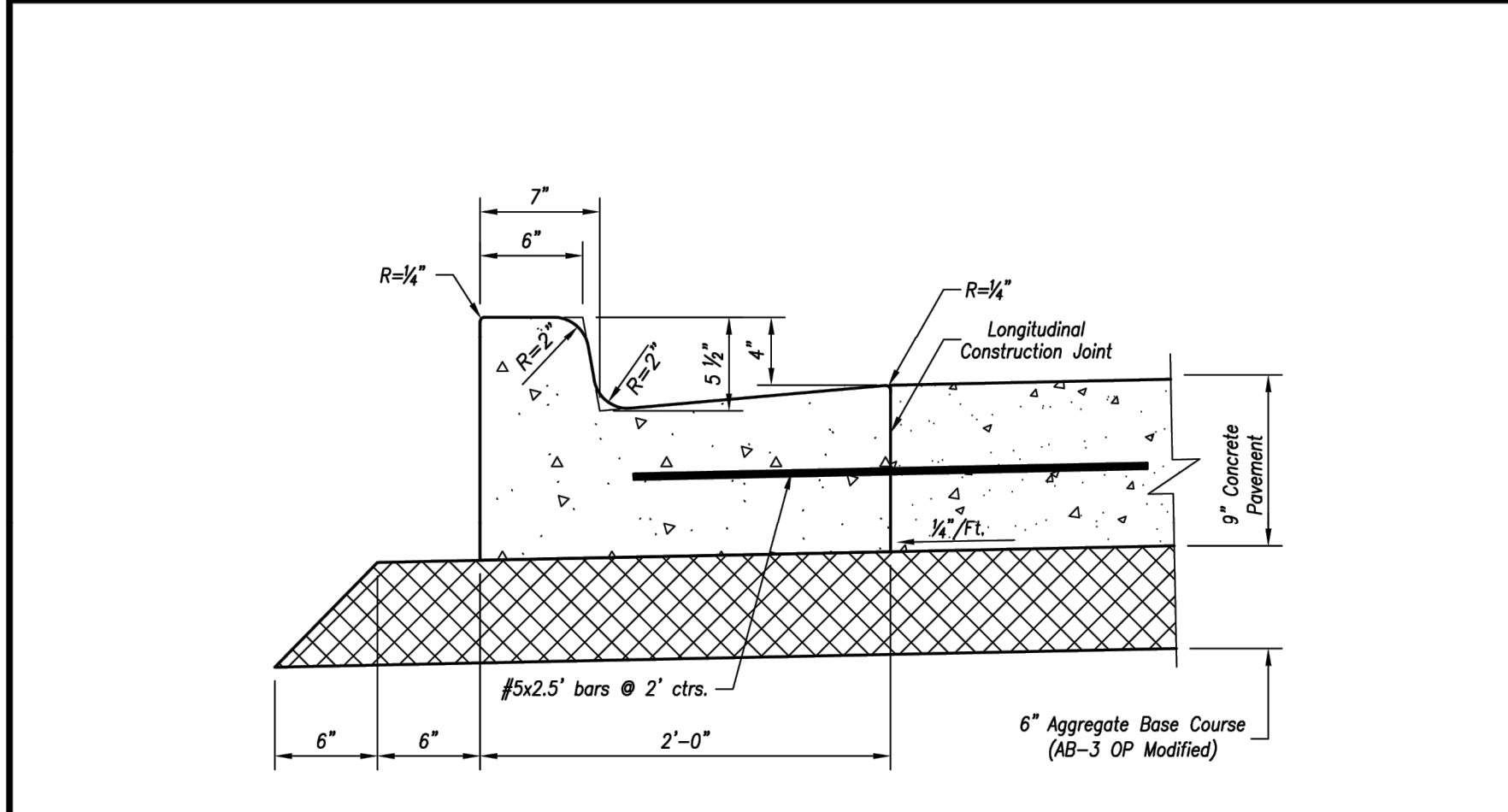
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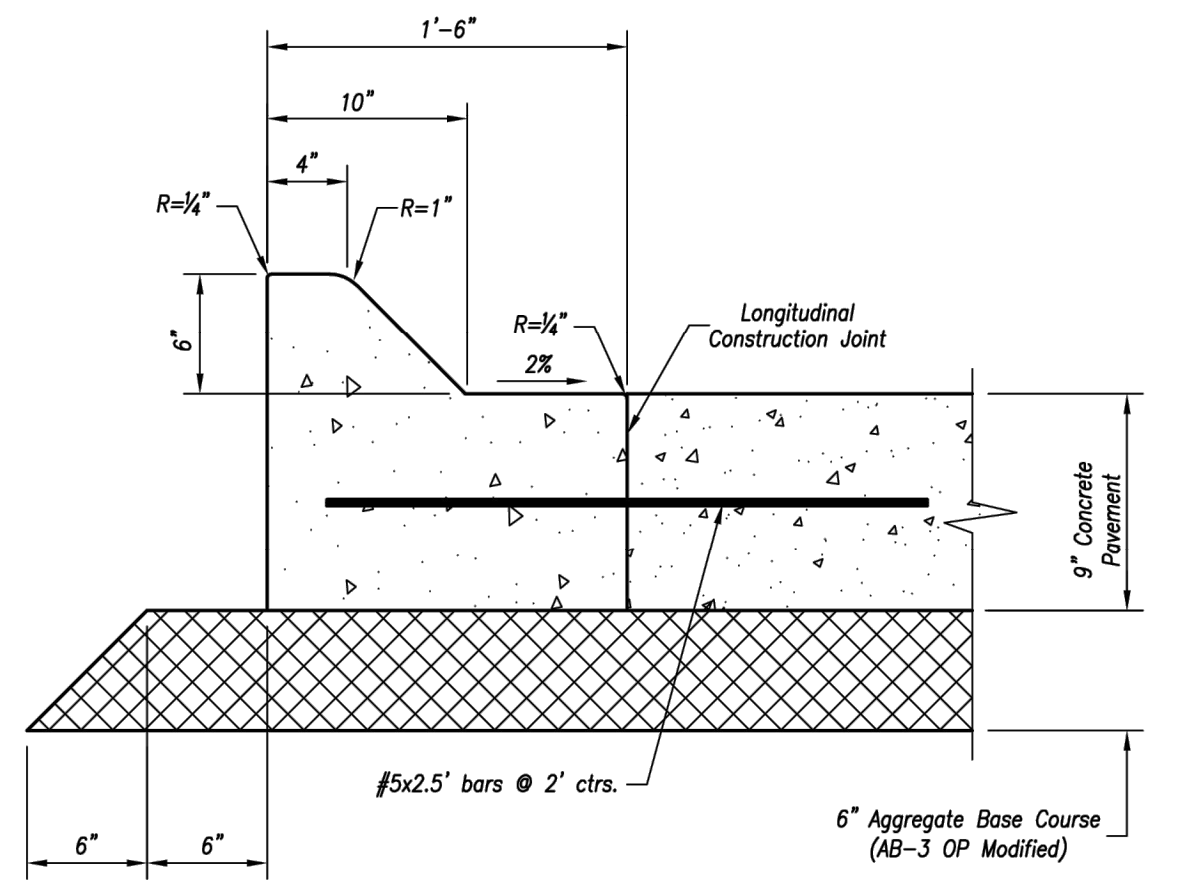
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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

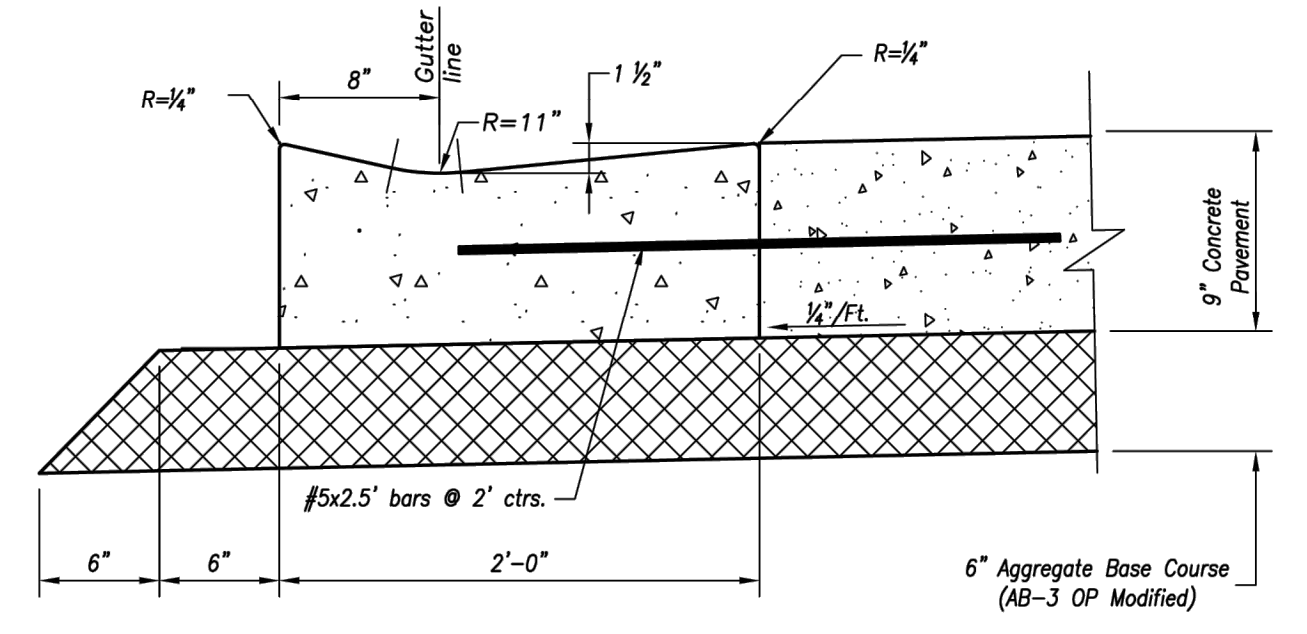
olsson
 7301 West 133rd Street, Suite 200
 Overland Park, KS 66213-4760
 TEL 913.381.1170 www.olson.com



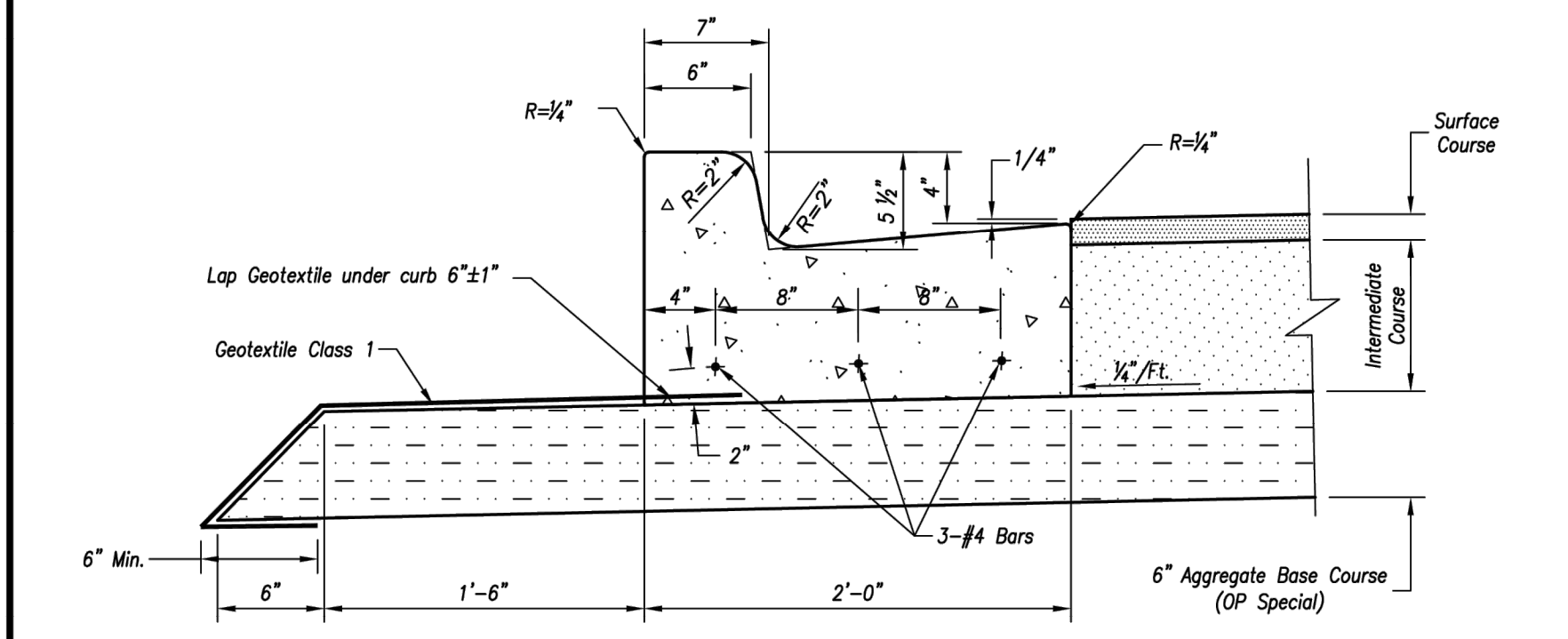
**Type "B" Curb / Concrete Pavement
with AB-3 OP Modified Base**



**Type "E" Median Curb / Concrete Pavement
with AB-3 OP Modified Base**



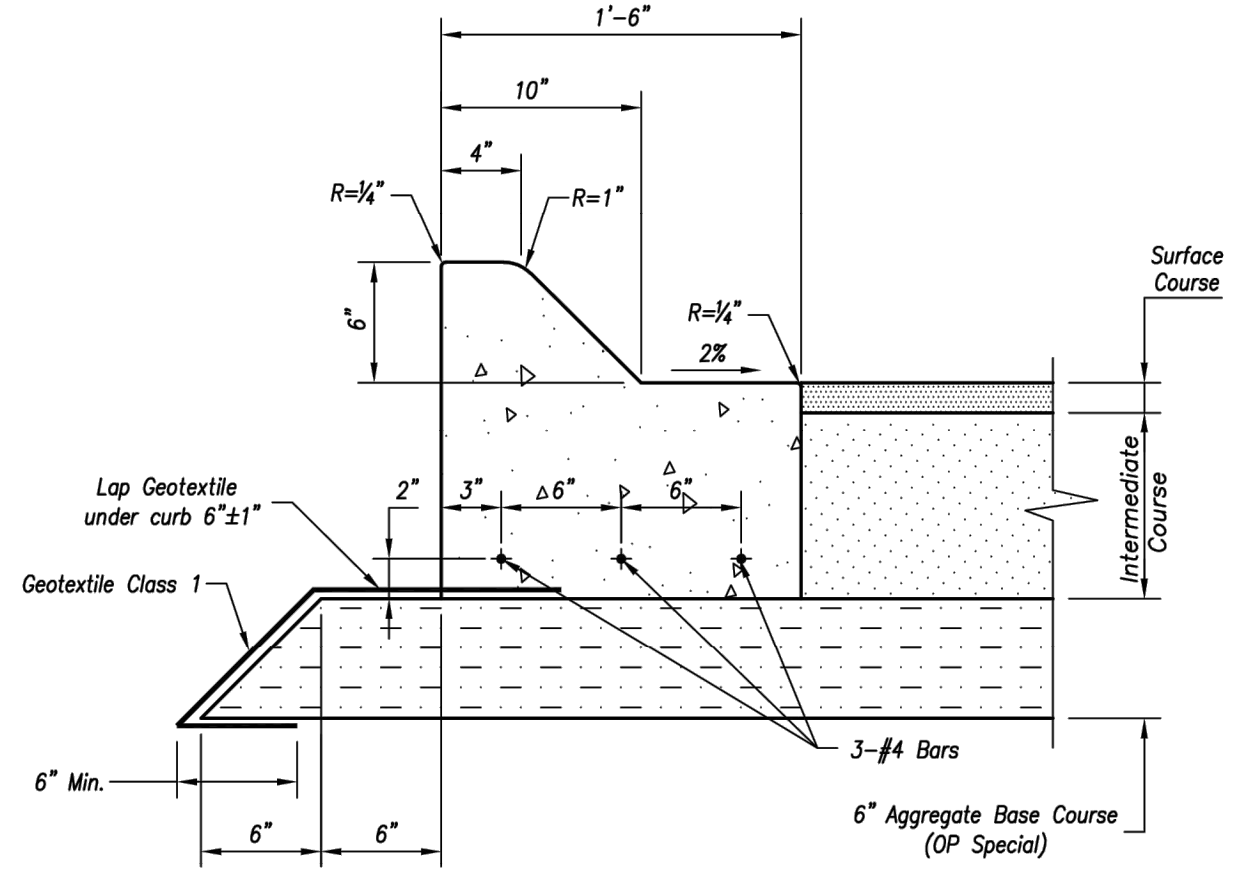
**Type "C" Curb / Concrete Pavement
with AB-3 OP Modified Base**



**Type "B" Curb / Asphalt Pavement
with (OP Special) Base**

- Notes:**
- The Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
 - Aggregate Base (OP Special) may be substituted with Aggregate Base (KDOT AB-1).

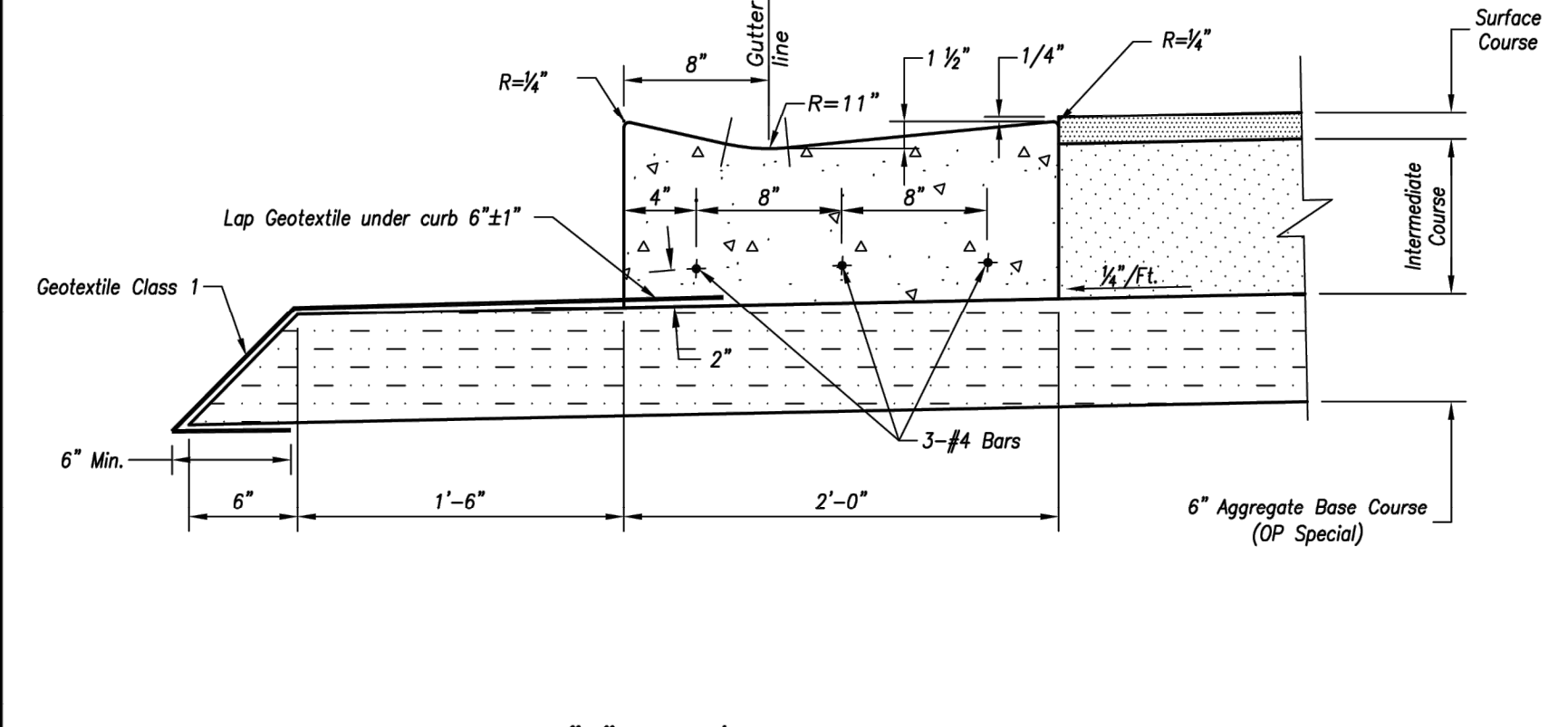
CONCRETE CURB & GUTTER
Not to Scale



**Type "E" Median Curb / Asphalt Pavement
with (OP Special) Base**

- Notes:**
- The Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
 - Aggregate Base (OP Special) may be substituted with Aggregate Base (KDOT AB-1).

CONCRETE MEDIAN CURB
Not to Scale



**Type "C" Curb / Asphalt Pavement
with (OP Special) Base**

- Notes:**
- The Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
 - Aggregate Base (OP Special) may be substituted with Aggregate Base (KDOT AB-1).

CONCRETE CURB & GUTTER
Not to Scale

REVISIONS	
04/2024	Changed "OP Special" to "AB-1"

Year 2024 Edition

OVERLAND PARK
KANSAS
ABOVE AND BEYOND. BY DESIGN.

DEPARTMENT OF PUBLIC WORKS
STANDARD DETAILS

CONCRETE CURB WITH AGGREGATE BASE
(THOROUGHFARES)

RELATED ORDINANCES: OPMC Title 13
 DATE: 05/20/03 SHEET: 11

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 DATE: Feb 02, 2025 1:03pm XREFS: T_PTBK_02206529 USER: mwach

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STANDARD DETAILS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

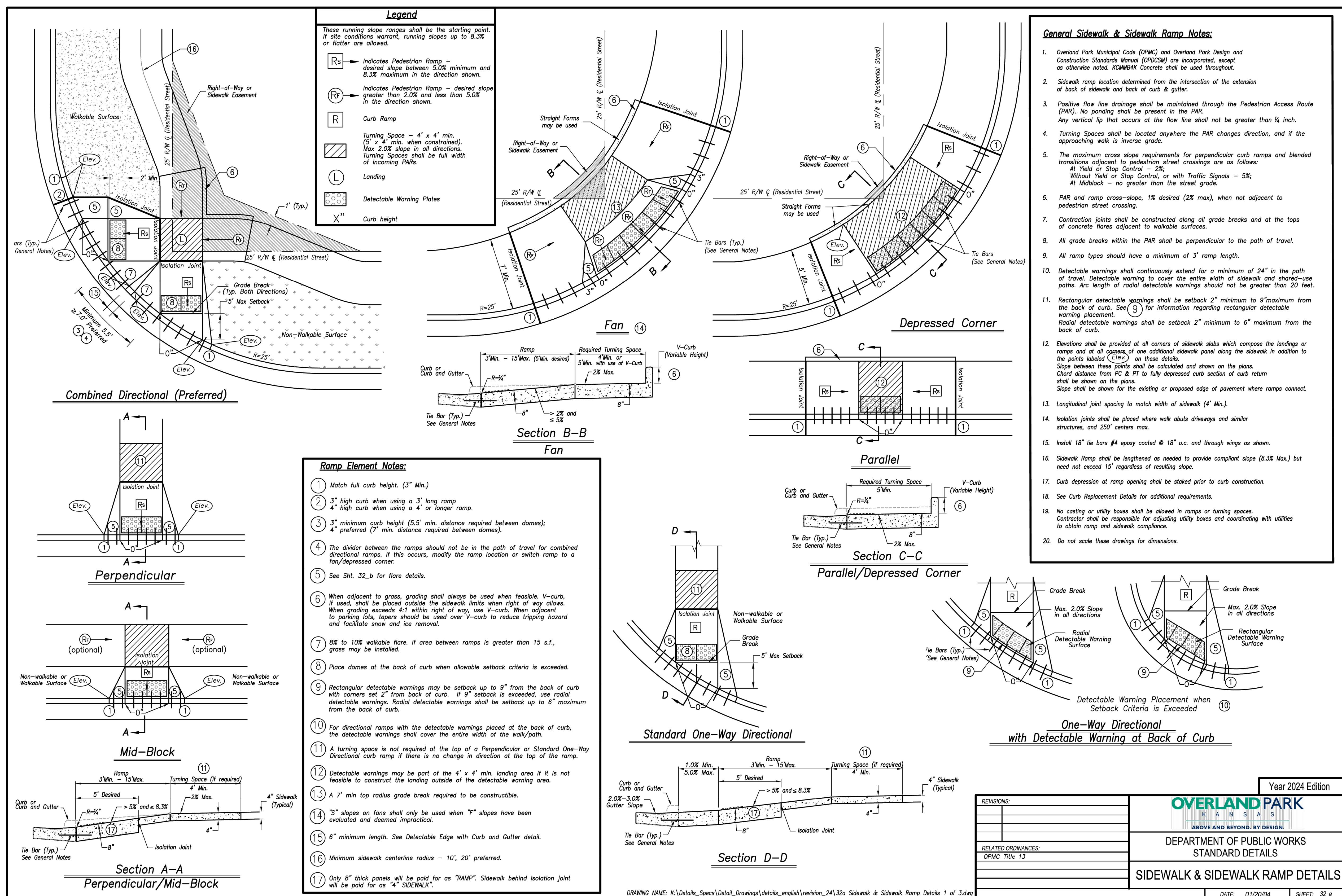
REVISIONS

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBE
 project no.: 022-06529
 drawing no.: T_DTL_02206529
 date: 1-31-2025

SHEET
46 of 189

DRAWING NAME: K:\Details_Specs\Detail_Drawings\details_english\revision_24\11 Concrete Curb - Aggregate Base.dwg

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



- Ramp Element Notes:**
- Match full curb height. (3" Min.)
 - 3" high curb when using a 3' long ramp
4" high curb when using a 4' or longer ramp.
 - 3" minimum curb height (5.5' min. distance required between domes);
4" preferred (7' min. distance required between domes).
 - The divider between the ramps should not be in the path of travel for combined directional ramps. If this occurs, modify the ramp location or switch ramp to a fan/depressed corner.
 - See Sht. 32_b for flare details.
 - When adjacent to grass, grading shall always be used when feasible. V-curb, if used, shall be placed outside the sidewalk limits when right of way allows. When grading exceeds 4:1, within right of way, use V-curb. When adjacent to parking lots, tapers should be used over V-curb to reduce tripping hazard and facilitate snow and ice removal.
 - 8% to 10% walkable flare. If area between ramps is greater than 15 s.f., grass may be installed.
 - Place domes at the back of curb when allowable setback criteria is exceeded.
 - Rectangular detectable warnings may be setback up to 9" from the back of curb with corners set 2" from back of curb. If 9" setback is exceeded, use radial detectable warnings. Radial detectable warnings shall be setback up to 6" maximum from the back of curb.
 - For directional ramps with the detectable warnings placed at the back of curb, the detectable warnings shall cover the entire width of the walk/path.
 - A turning space is not required at the top of a Perpendicular or Standard One-Way Directional curb ramp if there is no change in direction at the top of the ramp.
 - Detectable warnings may be part of the 4' x 4' min. landing area if it is not feasible to construct the landing outside of the detectable warning area.
 - A 7' min top radius grade break required to be constructible.
 - "S" slopes on fans shall only be used when "T" slopes have been evaluated and deemed impractical.
 - 6" minimum length. See Detectable Edge with Curb and Gutter detail.
 - Minimum sidewalk centerline radius - 10', 20' preferred.
 - Only 8" thick panels will be paid for as "RAMP". Sidewalk behind isolation joint will be paid for as "SIDEWALK".

- General Sidewalk & Sidewalk Ramp Notes:**
- Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted. KCMHB4K Concrete shall be used throughout.
 - Sidewalk ramp location determined from the intersection of the extension of back of sidewalk and back of curb & gutter.
 - Positive flow line drainage shall be maintained through the Pedestrian Access Route (PAR). No ponding shall be present in the PAR. Any vertical lip that occurs at the flow line shall not be greater than 1/4 inch.
 - Turning Spaces shall be located anywhere the PAR changes direction, and if the approaching walk is inverse grade.
 - The maximum cross slope requirements for perpendicular curb ramps and blended transitions adjacent to pedestrian street crossings are as follows:
At Yield or Stop Control - 2%;
Without Yield or Stop Control, or with Traffic Signals - 5%;
At Midblock - no greater than the street grade.
 - PAR and ramp cross-slope, 1% desired (2% max), when not adjacent to pedestrian street crossing.
 - Contraction joints shall be constructed along all grade breaks and at the tops of concrete flares adjacent to walkable surfaces.
 - All grade breaks within the PAR shall be perpendicular to the path of travel.
 - All ramp types should have a minimum of 3' ramp length.
 - Detectable warnings shall continuously extend for a minimum of 24" in the path of travel. Detectable warning to cover the entire width of sidewalk and shared-use paths. Arc length of radial detectable warnings should not be greater than 20 feet.
 - Rectangular detectable warnings shall be setback 2" minimum to 9" maximum from the back of curb. See (9) for information regarding rectangular detectable warning placement. Radial detectable warnings shall be setback 2" minimum to 6" maximum from the back of curb.
 - Elevations shall be provided at all corners of sidewalk slabs which compose the landings or ramps and at all corners of one additional sidewalk panel along the sidewalk in addition to the points labeled (Elev.) on these details. Slope between these points shall be calculated and shown on the plans. Chord distance from PC & PT to fully depressed curb section of curb return shall be shown on the plans. Slope shall be shown for the existing or proposed edge of pavement where ramps connect.
 - Longitudinal joint spacing to match width of sidewalk (4' Min.).
 - Isolation joints shall be placed where walk abuts driveways and similar structures, and 250' centers max.
 - Install 18" tie bars #4 epoxy coated @ 18" o.c. and through wings as shown.
 - Sidewalk Ramp shall be lengthened as needed to provide compliant slope (8.3% Max.) but need not exceed 15' regardless of resulting slope.
 - Curb depression at ramp opening shall be staked prior to curb construction.
 - See Curb Replacement Details for additional requirements.
 - No casting or utility boxes shall be allowed in ramps or turning spaces. Contractor shall be responsible for adjusting utility boxes and coordinating with utilities to obtain ramp and sidewalk compliance.
 - Do not scale these drawings for dimensions.

Year 2024 Edition

OVERLAND PARK
KANSAS
ABOVE AND BEYOND. BY DESIGN.

DEPARTMENT OF PUBLIC WORKS
STANDARD DETAILS

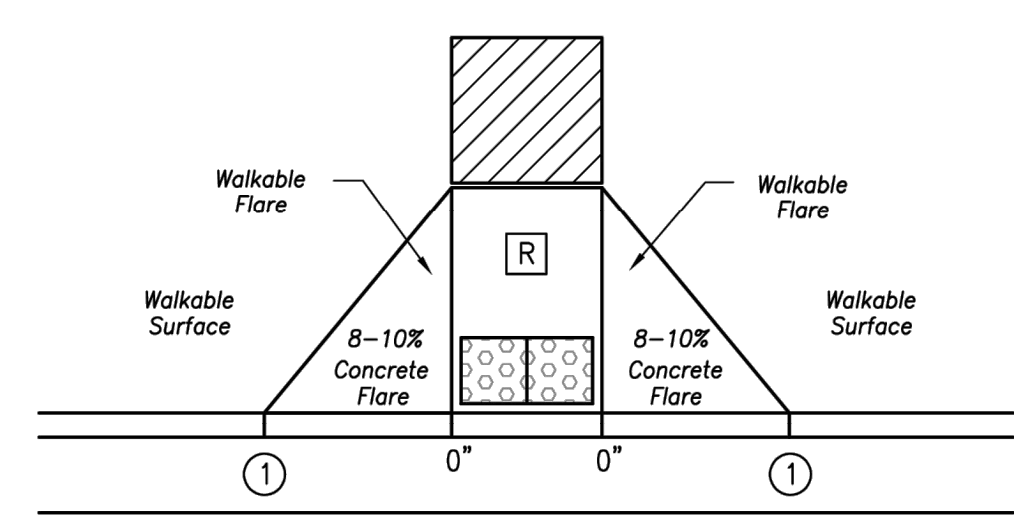
SIDEWALK & SIDEWALK RAMP DETAILS

REVISIONS:	
RELATED ORDINANCES:	OPMC Title 13
DATE:	01/20/04
SHEET:	32_a

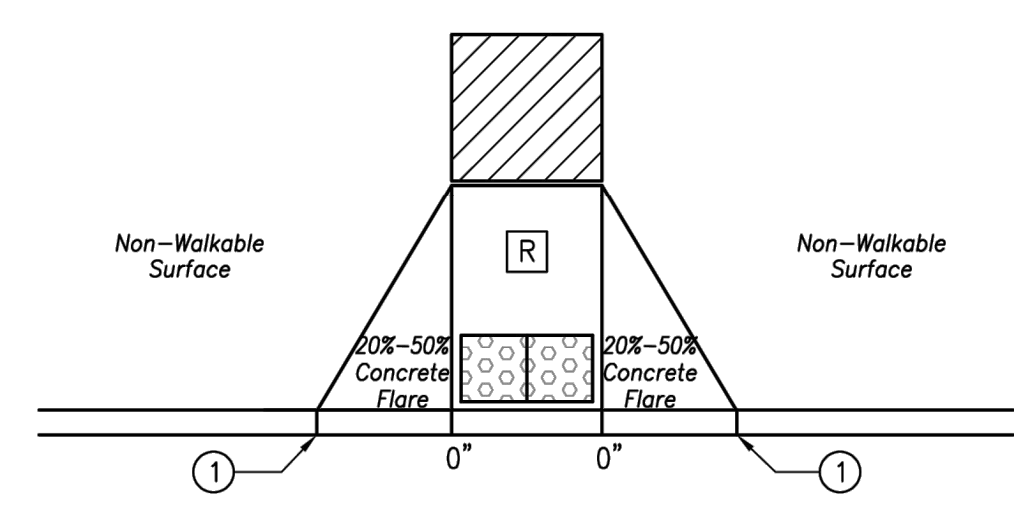
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

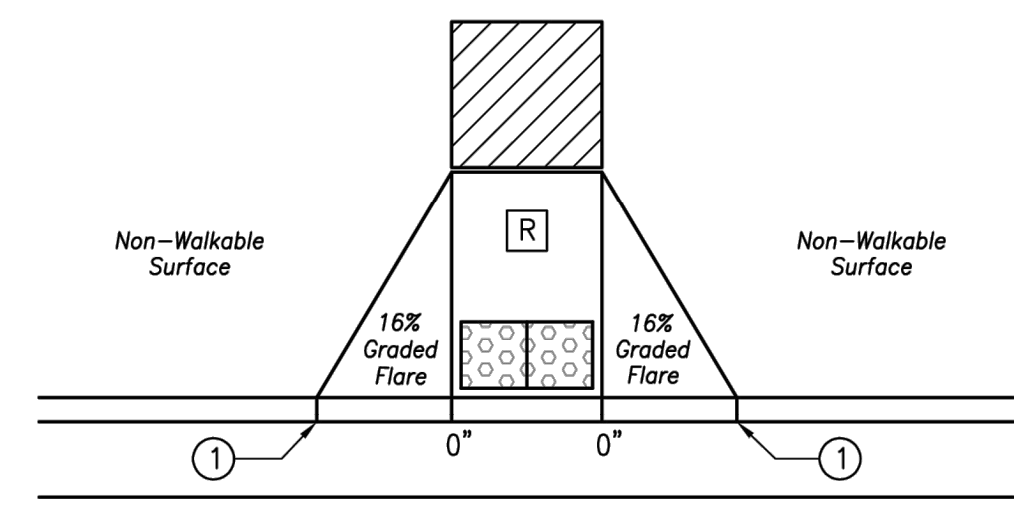
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



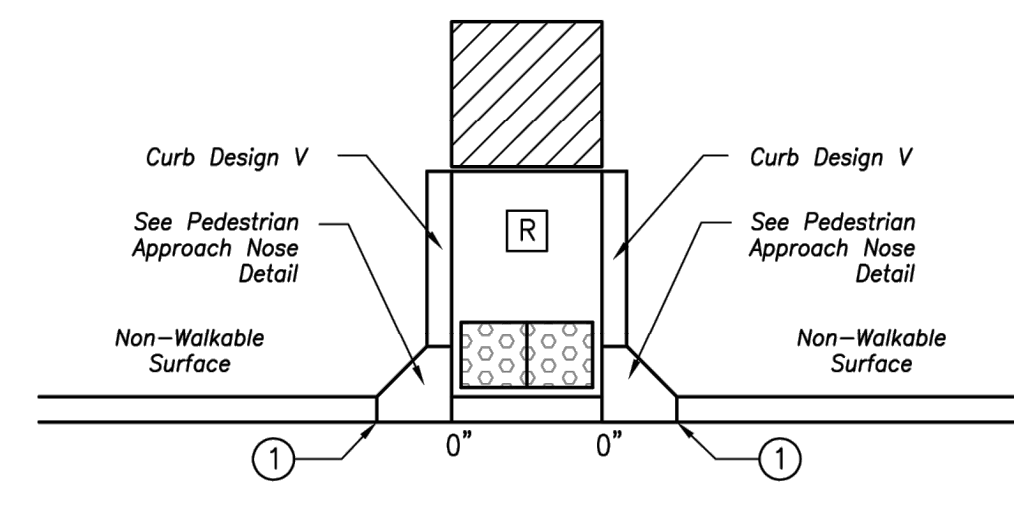
Paved Flares Adjacent to Walkable Surface



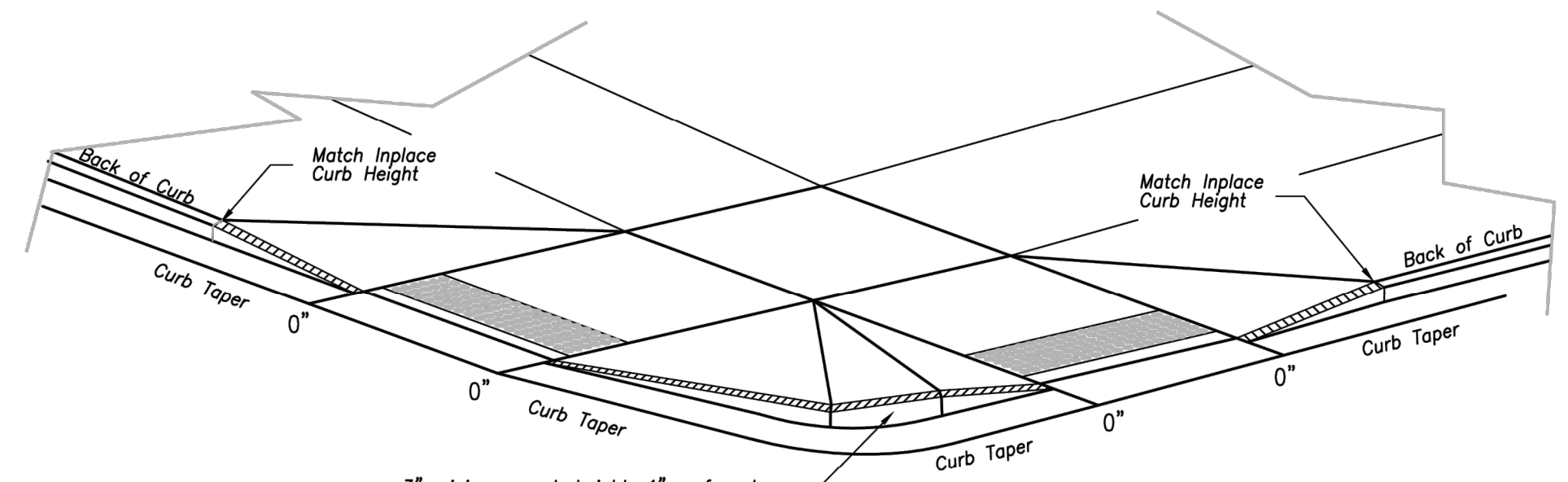
Paved Flares Adjacent to Non-Walkable Surface



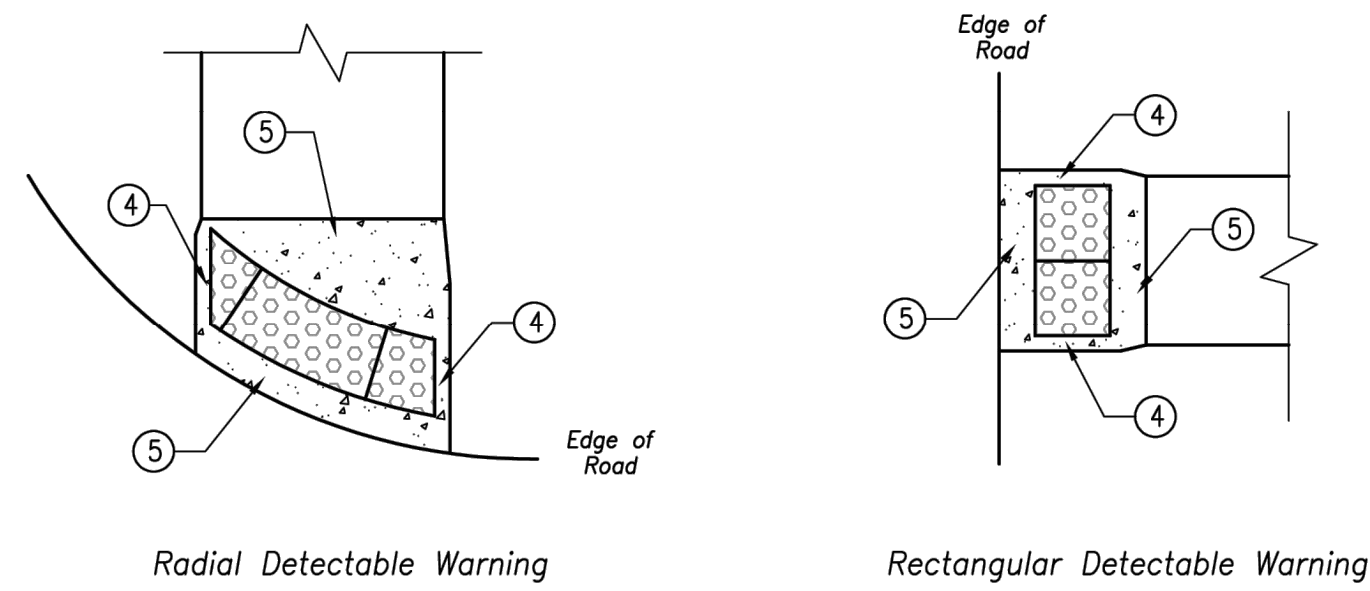
Non-Paved (Graded) Flares



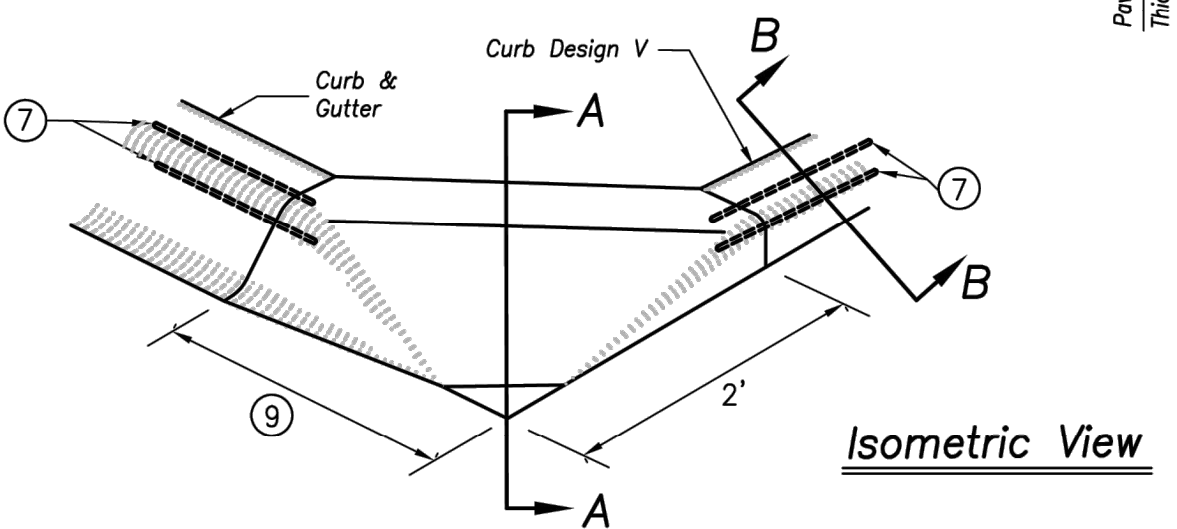
Typical Side Treatment Options



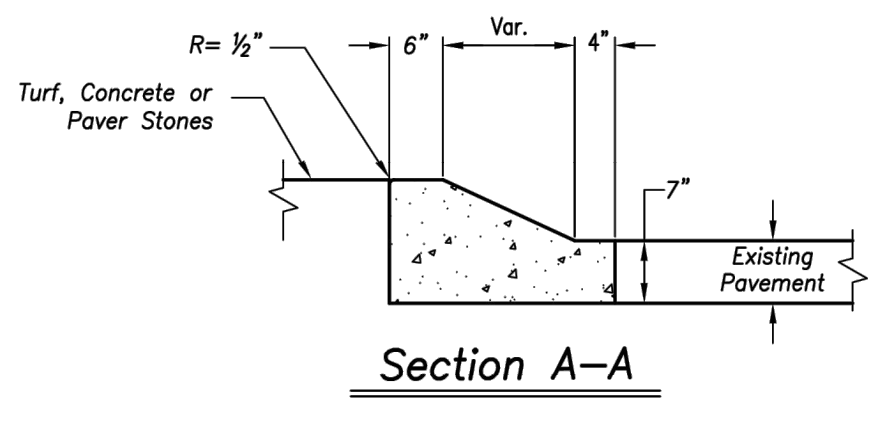
Detectable Edge with Curb and Gutter



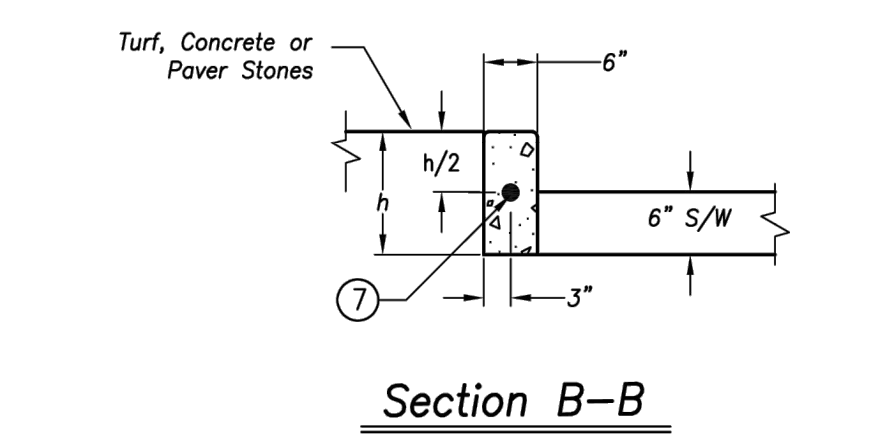
Detectable Edge without Curb and Gutter



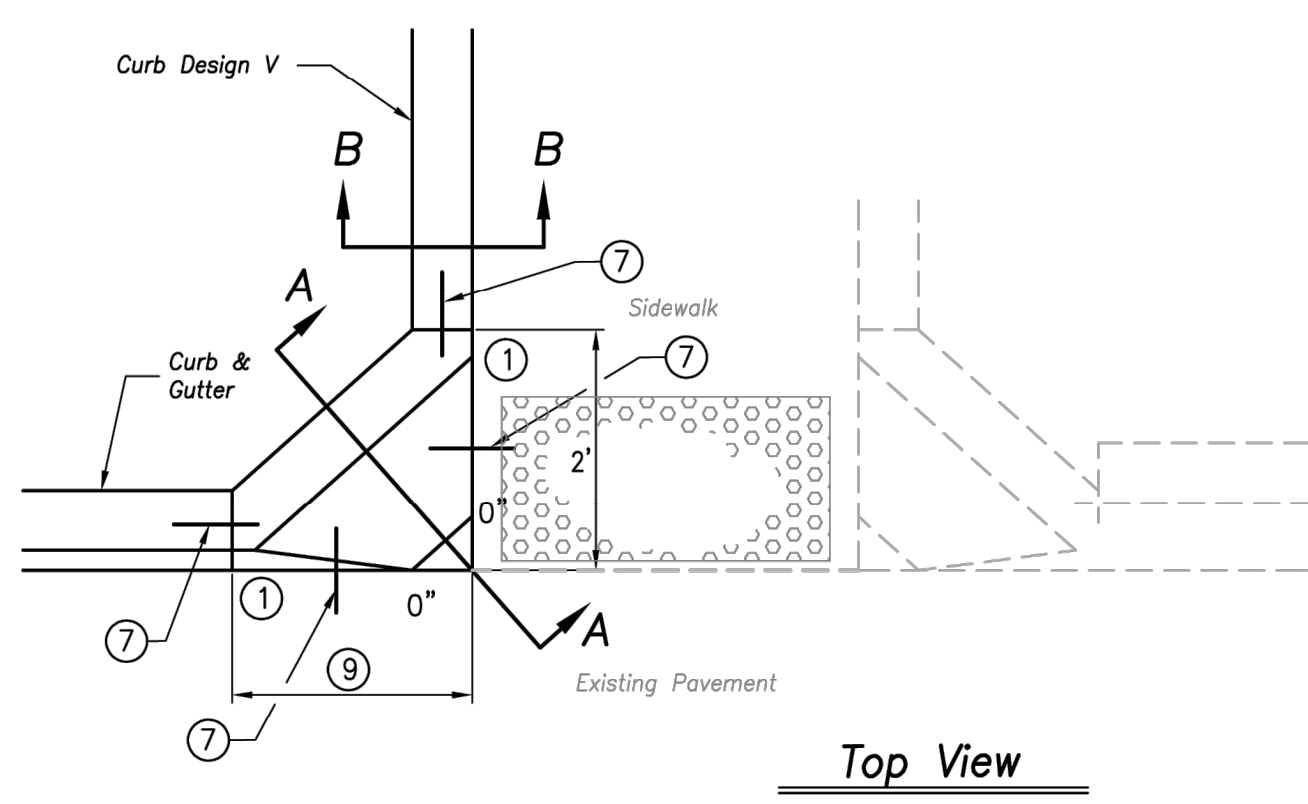
Isometric View



Section A-A



Section B-B



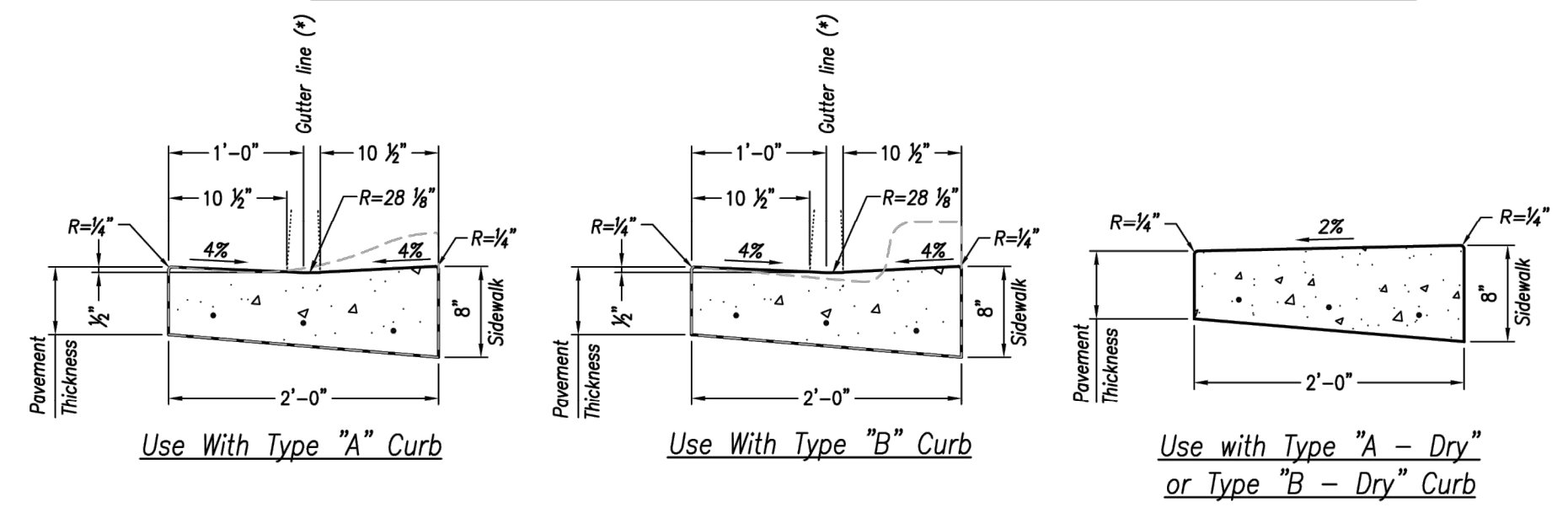
Top View

Pedestrian Approach Nose Detail
(For Returned Curb Side Treatment)

Ramp Element Notes

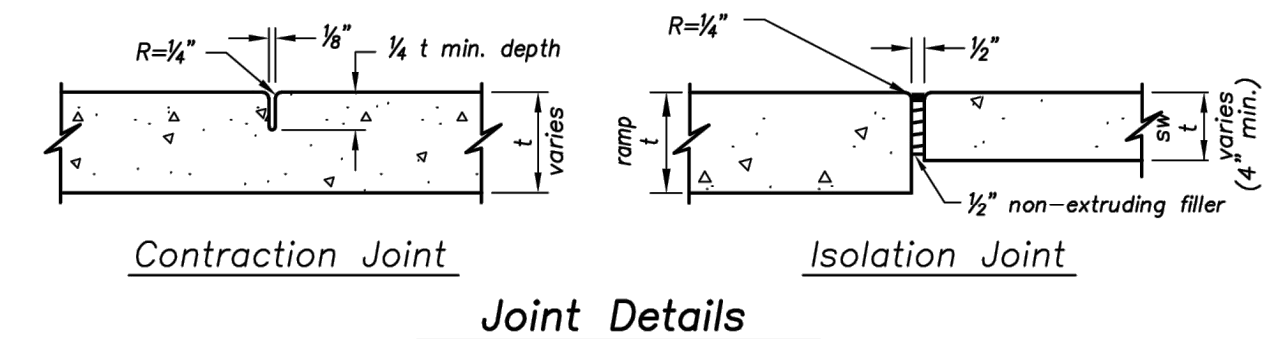
A walkable surface is defined as a paved surface adjacent to a curb ramp without raised obstacles that could mistakenly be traversed by a user who is visually impaired. Concrete flare lengths adjacent to non-walkable surfaces should be less than 8' long measured along the ramps from the back of curb.

- Full curb height. (3" Min.)
- Side treatments are applicable to all ramp types and should be implemented as needed as field conditions dictate. The engineer shall determine the ramp side treatments based on maintenance of both roadway and sidewalk, adjacent property considerations, and mitigating construction impacts.
- Typically used for medians and islands.
- When no concrete flares are proposed, maintain 2" between edge of domes and edge of concrete.
- If no curb and gutter is placed in rural sections, detectable warnings shall be placed 9" from the edge of bituminous roadway and/or bituminous shared-use path to provide visual contrast.
- All constructed curbs must have a continuous detectable edge for the visually impaired. This detectable edge requires detectable warnings wherever there is zero-inch high curb. Curb tapers are considered a detectable edge when the taper starts within 2' of the edge of the detectable warnings and uniformly rises to a 3" min. curb height. Any curb not part of a curb taper and less than 3" in height is not considered a detectable edge and therefore is not compliant with accessibility standards.
- Drill and epoxy 1 - #4 12" long reinforcement bar (epoxy coated) with 3" min. cover. Reinforcement bars are not needed if the approach nose is poured integral with the curb. Use 2 - #4 bars when curb height exceeds 6".
- Side treatment examples shown are when the initial landing is approximately level with the full height curb (i.e. 6" long ramp for 6" high curb). When the initial landing is more than 1" below full height curb refer to sheets 1 & 2 to modify the curb height tapers and maintain positive boulevard drainage.
- 3' for medians and splitter islands. Nose can be reduced to 2' on free right islands.



Street Curb Detail at Ramp

Note: See Standard Curb Detail for additional requirements



Joint Details

Legend	
R	Curb Ramp
[Pattern]	Turning Space - 4' x 4' min. (5' x 4' min. when constrained). Max 2.0% slope in all directions. Turning Spaces shall be full width of incoming PARs
[Pattern]	Detectable Warning Plates
X"	Curb height

Year 2024 Edition

REVISIONS:	
RELATED ORDINANCES:	OPMC Title 13
DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS	
SIDEWALK & SIDEWALK RAMP DETAILS	

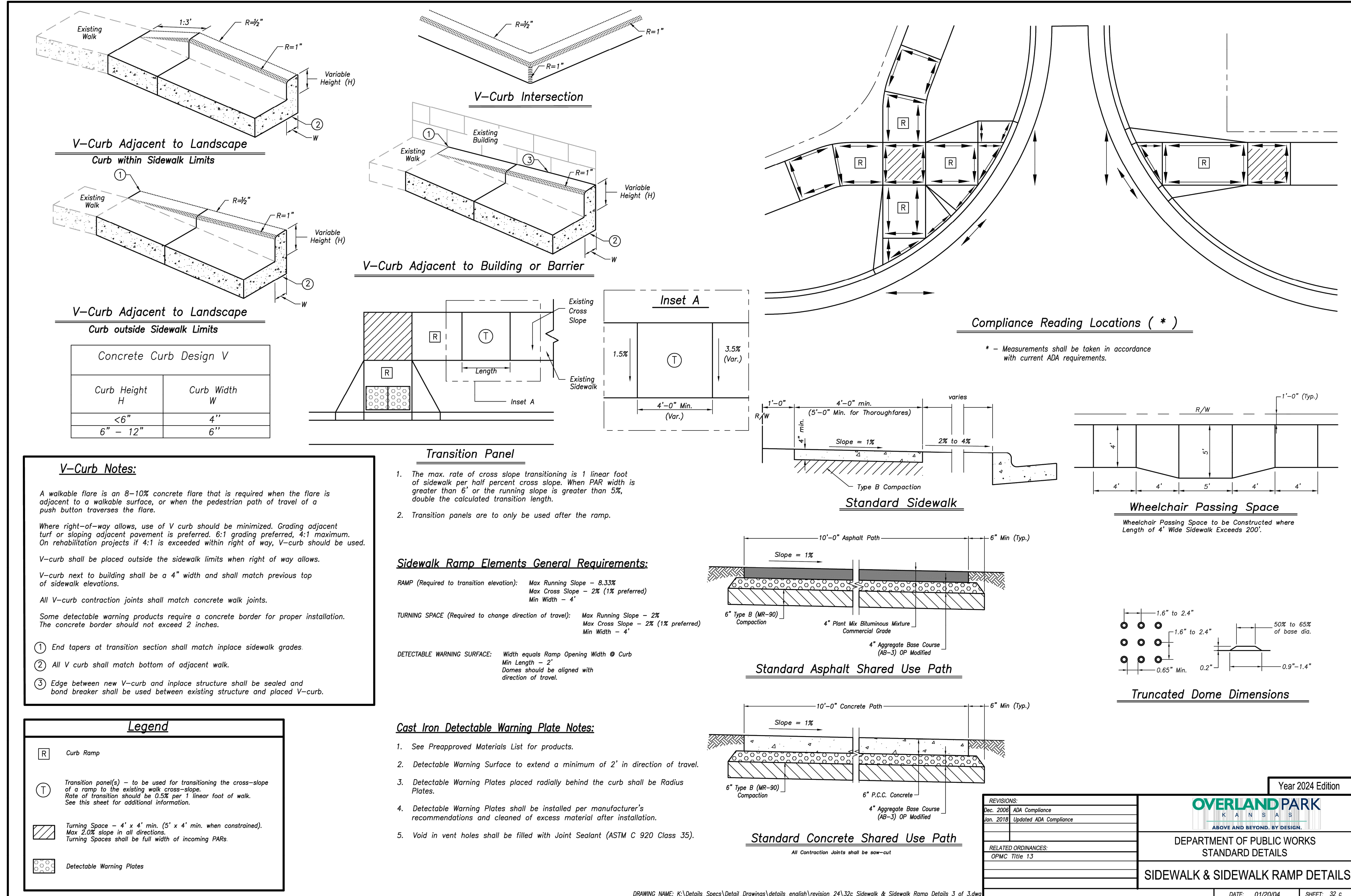
DATE:	01/20/04	SHEET:	32 of 32
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STANDARD DETAILS	COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	2025
OVERLAND PARK, KANSAS	OVERLAND PARK, KANSAS	

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STANDARD DETAILS	COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	2025



V-Curb Notes:

A walkable flare is an 8-10% concrete flare that is required when the flare is adjacent to a walkable surface, or when the pedestrian path of travel of a push button traverses the flare.

Where right-of-way allows, use of V curb should be minimized. Grading adjacent turf or sloping adjacent pavement is preferred. 6:1 grading preferred, 4:1 maximum. On rehabilitation projects if 4:1 is exceeded within right of way, V-curb should be used.

V-curb shall be placed outside the sidewalk limits when right of way allows.

V-curb next to building shall be a 4" width and shall match previous top of sidewalk elevations.

All V-curb contraction joints shall match concrete walk joints.

Some detectable warning products require a concrete border for proper installation. The concrete border should not exceed 2 inches.

- End tapers at transition section shall match in place sidewalk grades.
- All V curb shall match bottom of adjacent walk.
- Edge between new V-curb and in place structure shall be sealed and bond breaker shall be used between existing structure and placed V-curb.

Legend

R	Curb Ramp
T	Transition panel(s) - to be used for transitioning the cross-slope of a ramp to the existing walk cross-slope. Rate of transition should be 0.5% per 1 linear foot of walk. See this sheet for additional information.
	Turning Space - 4' x 4' min. (5' x 4' min. when constrained). Max 2.0% slope in all directions. Turning Spaces shall be full width of incoming PARs.
	Detectable Warning Plates

Cast Iron Detectable Warning Plate Notes:

- See Preapproved Materials List for products.
- Detectable Warning Surface to extend a minimum of 2' in direction of travel.
- Detectable Warning Plates placed radially behind the curb shall be Radius Plates.
- Detectable Warning Plates shall be installed per manufacturer's recommendations and cleaned of excess material after installation.
- Void in vent holes shall be filled with Joint Sealant (ASTM C 920 Class 35).

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REVISIONS:
Dec. 2006 ADA Compliance
Jan. 2018 Updated ADA Compliance

Year 2024 Edition

OVERLAND PARK
KANSAS
ABOVE AND BEYOND. BY DESIGN.

DEPARTMENT OF PUBLIC WORKS
STANDARD DETAILS

SIDEWALK & SIDEWALK RAMP DETAILS

RELATED ORDINANCES:
OPMC Title 13

DATE: 01/20/04 SHEET: 32_c

drawn by:	CJC
checked by:	PBM
approved by:	PBM
QA/QC by:	RBE
project no.:	022-06529
drawing no.:	T_DTL_02206529
date:	1-31-2025

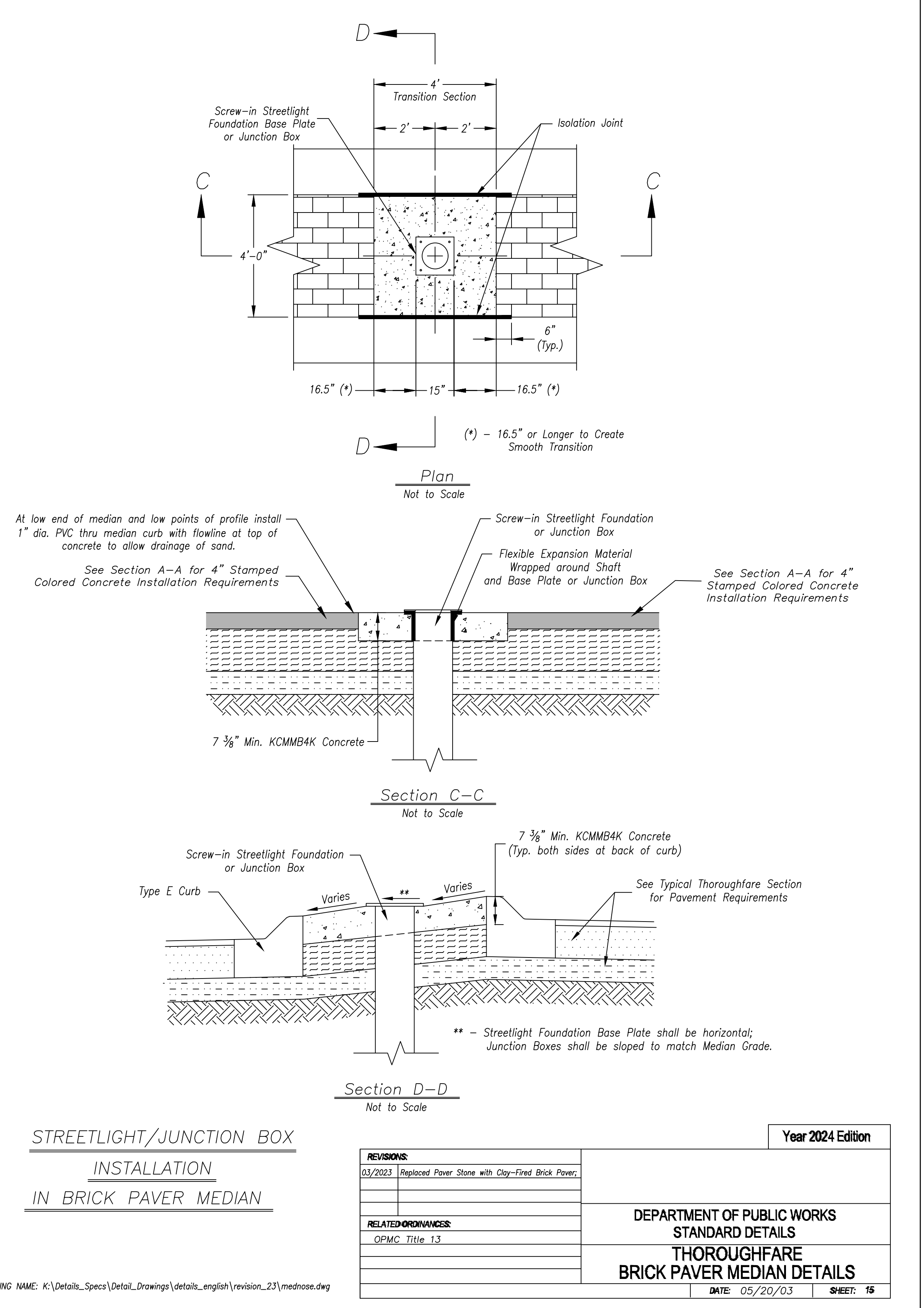
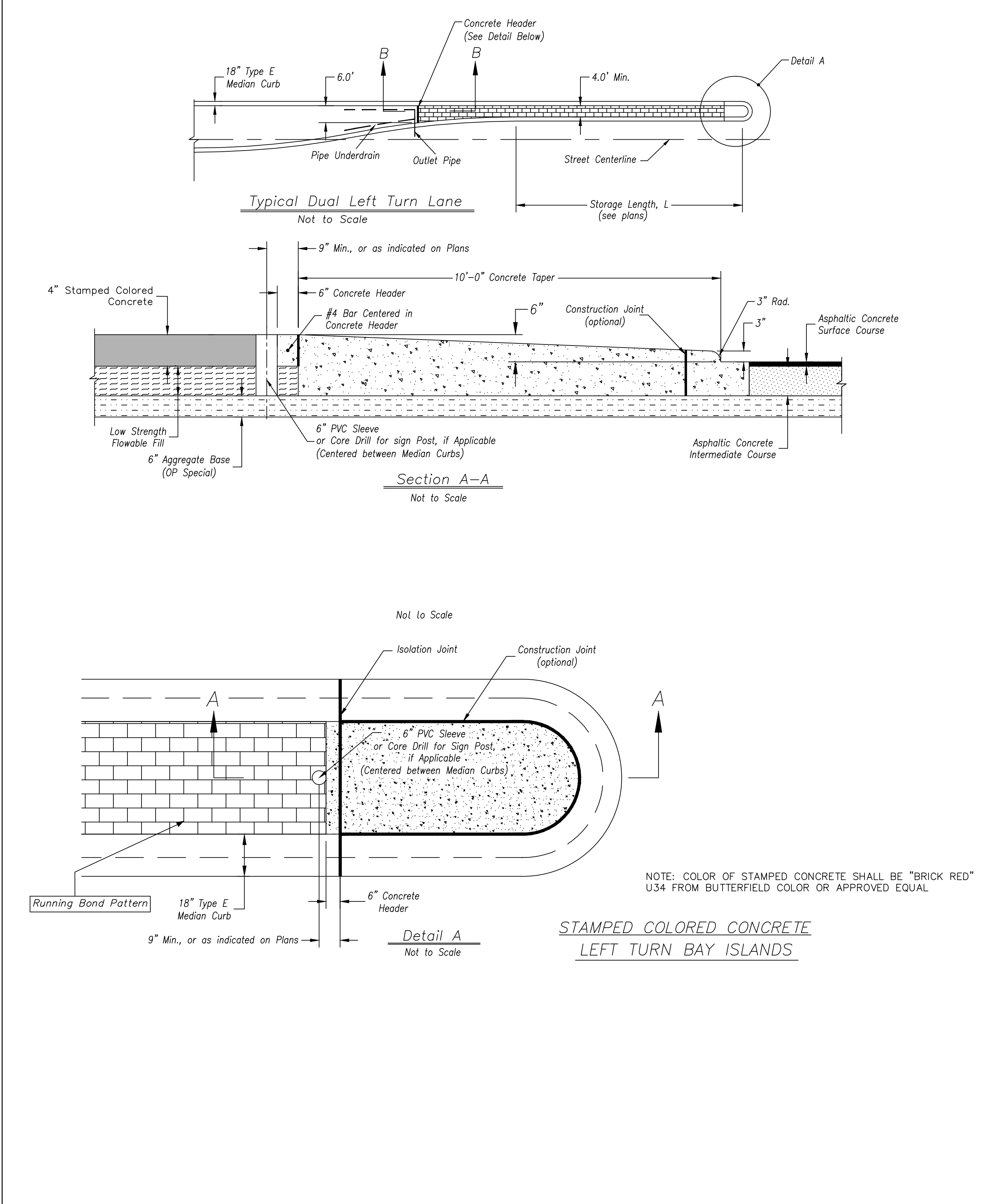
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STANDARD DETAILS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

DWG: F:\2022\06501-07000\022-06529-40-Design\AutoCAD\Final Plans\Sheets\RDW\DETAILS\STANDARD DETAILS\DTL_02206529.dwg
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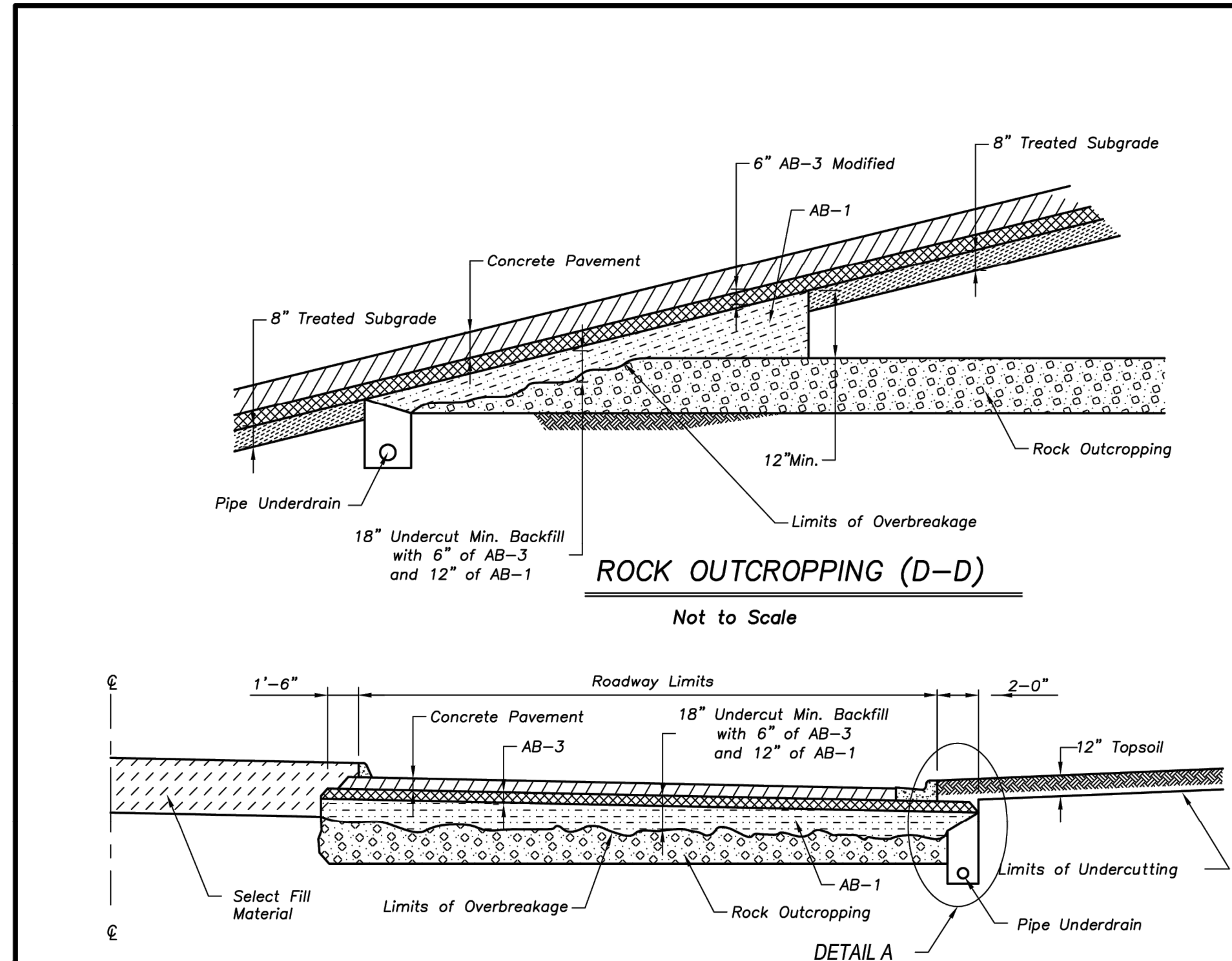
REVISIONS		Year 2024 Edition	
03/2023	Replaced Paver Stone with Clay-Fired Brick Paver;		
RELATED ORDINANCES		DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS	
OPMC Title 1.3		THOROUGHFARE BRICK PAVER MEDIAN DETAILS	
		DATE: 05/20/03	SHEET: 15

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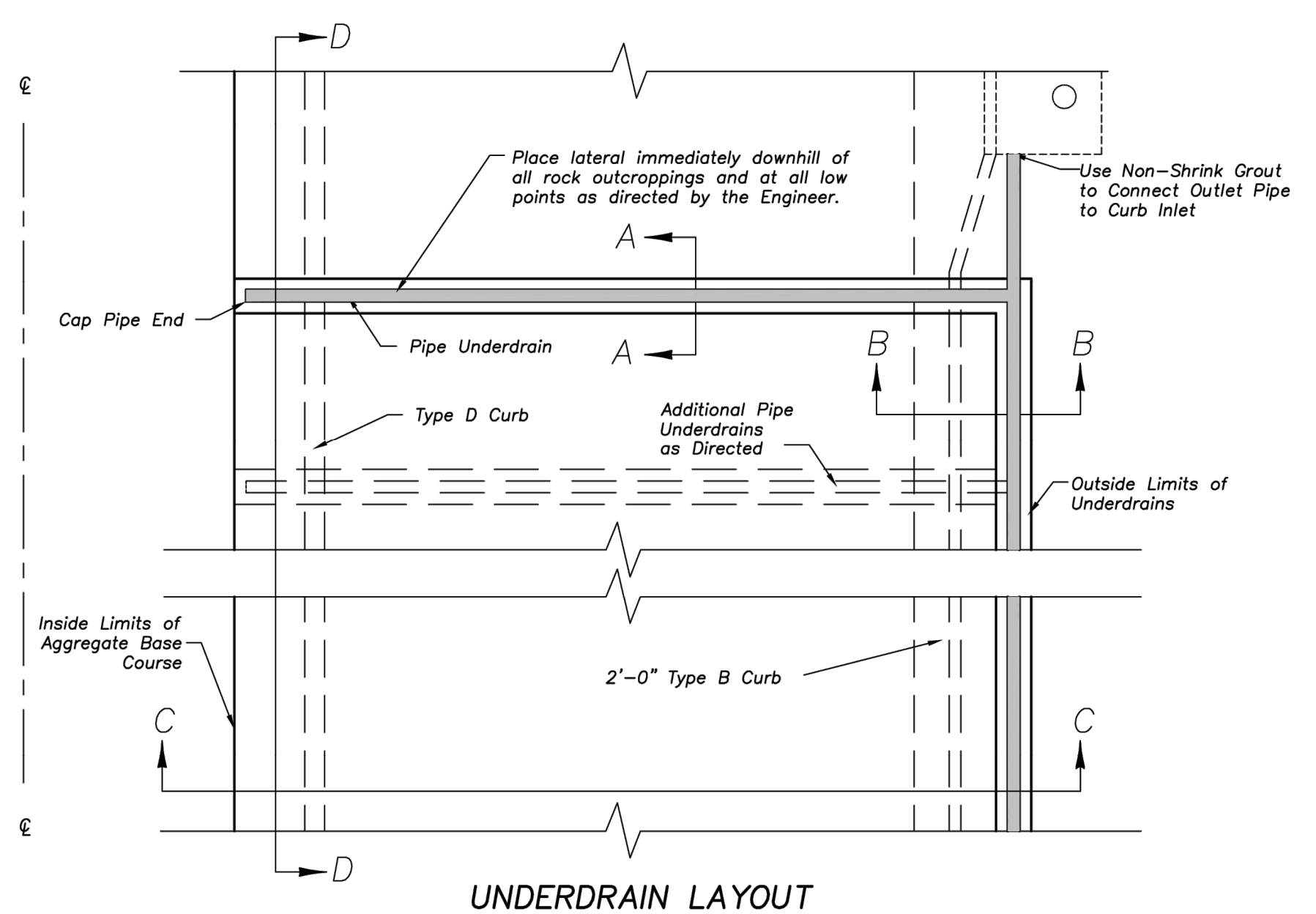
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STANDARD DETAILS	COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	2025
	OVERLAND PARK, KANSAS	

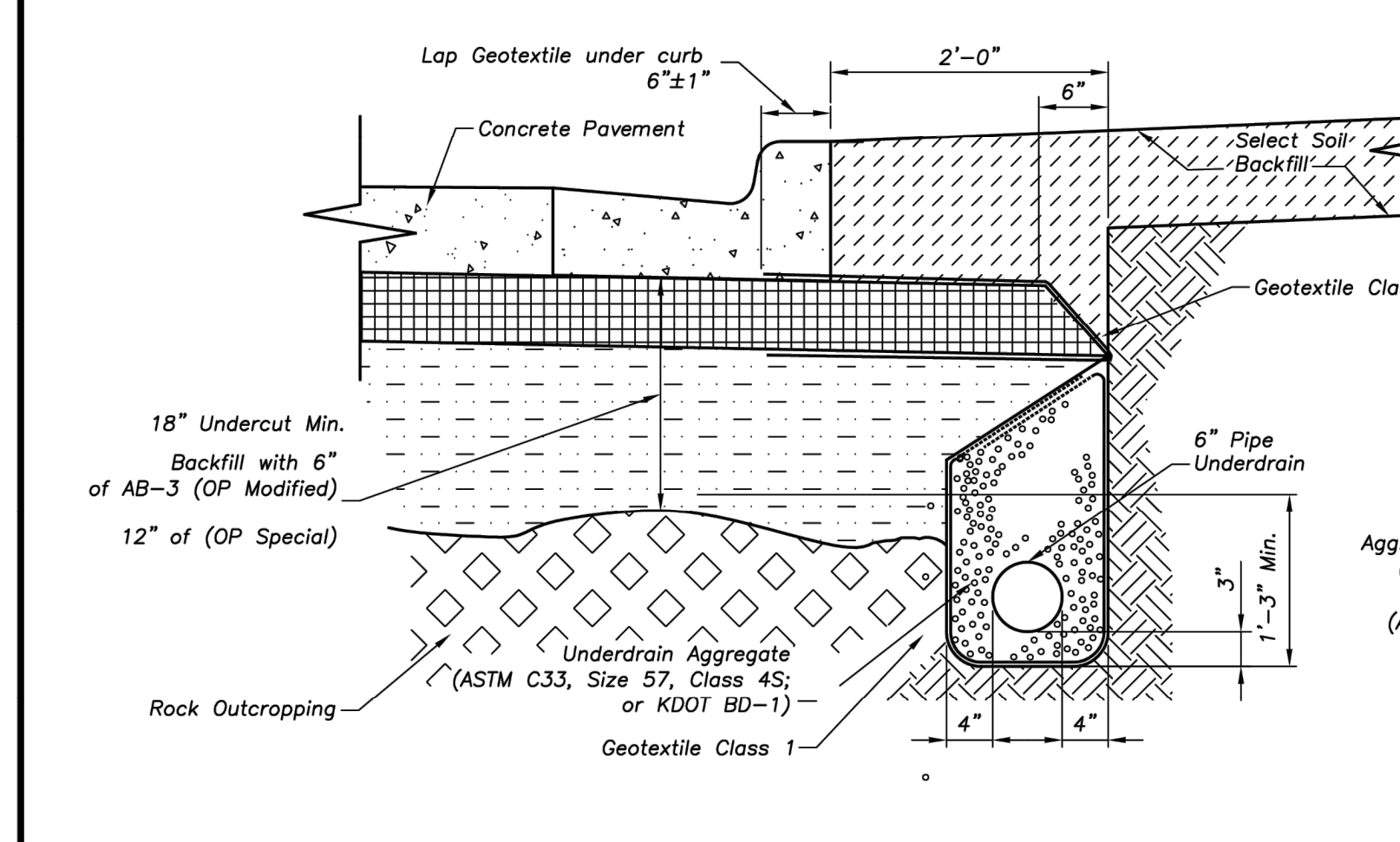
drawn by:	CJC
checked by:	PBM
approved by:	PBM
QA/QC by:	RBE
project no.:	022-06529
drawing no.:	T_DTL_02206529
date:	1-31-2025



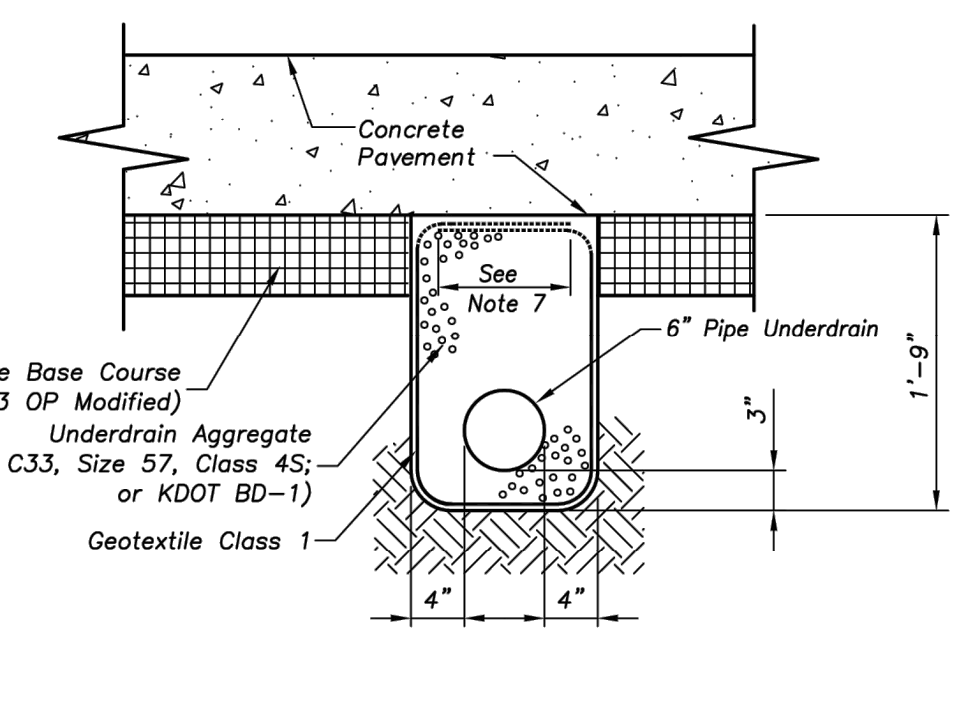
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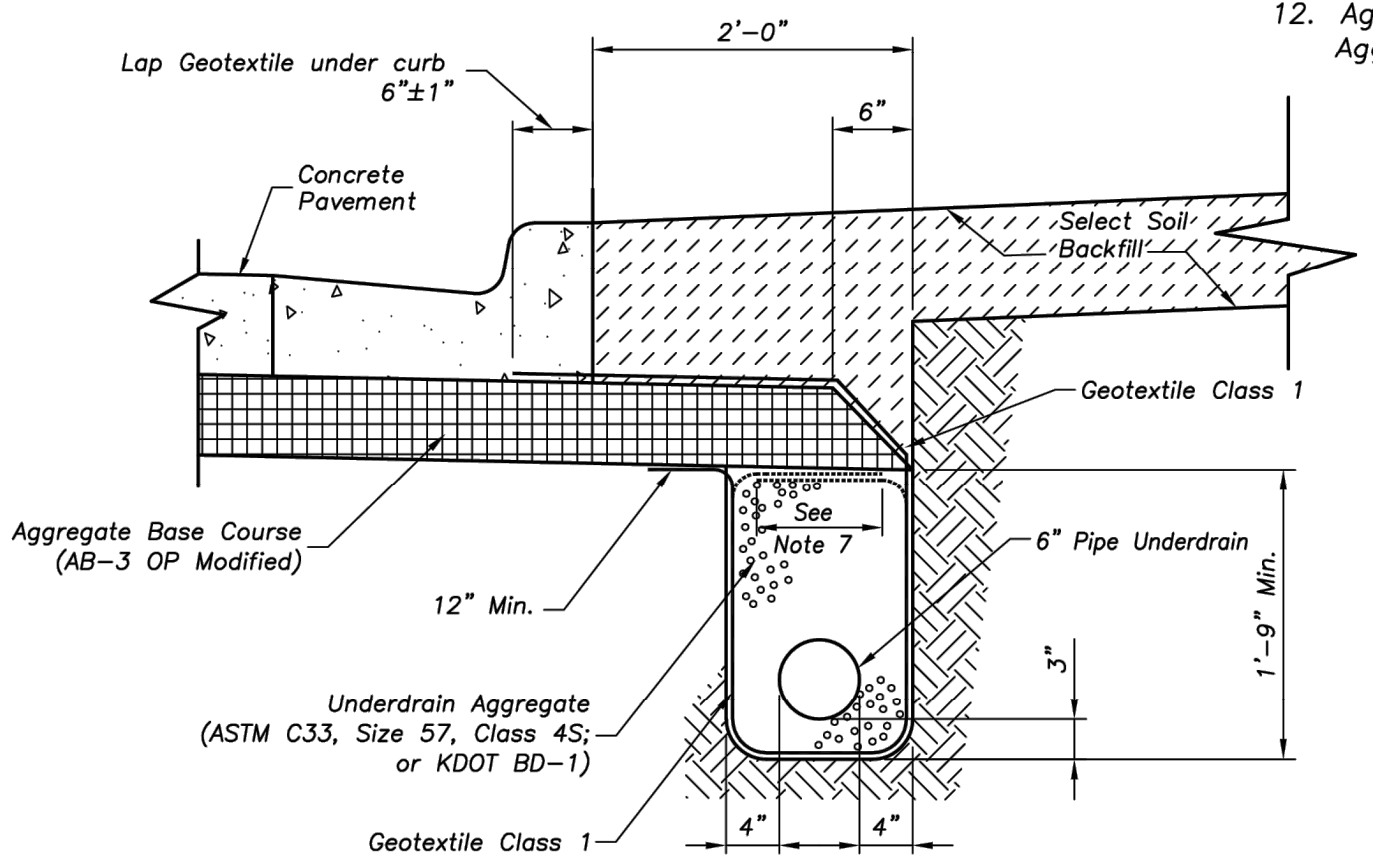
UNDERDRAIN LAYOUT
Not to Scale



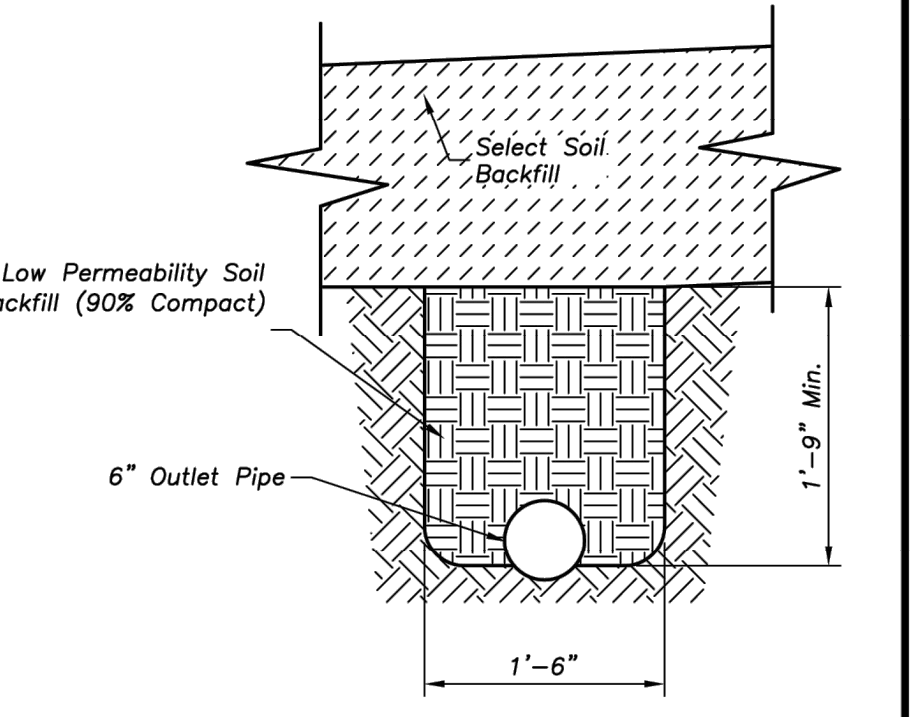
PIPE UNDERDRAIN - ROCK EXCAVATION (DETAIL A)
Not to Scale



PIPE UNDERDRAIN LATERAL A-A
Not to Scale



PIPE UNDERDRAIN BEHIND CURB B-B
Not to Scale



OUTLET PIPE
Not to Scale

UNDERDRAIN

Underdrain Notes:

- Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
- Where rock, shale, or similar material is found, the excavation shall be carried 18 inches below the finished subgrade for the full width of the paved area plus an additional width for form work for curbs, catch basins, curb inlets, etc. The excavated area shall be backfilled with suitable materials, and compacted. Undercut and over breakage in limestone and durable shale shall be backfilled with material meeting the requirements of Aggregate Base Course (AB-1) Specifications. Layers of earth or shale shall not be permitted for backfill up to the bottom of the Aggregate Base Course.
- A minimum of 12" of select soil (topsoil) shall be placed on exposed rock cut or fill slopes outside the limits of the roadway. All rock and shale slopes shall be benched at a maximum of 2' vertical intervals prior to placement of select soil.
- Proposed underdrain pipe layout, flowline elevations, inlet connection points, and details shall be approved prior to construction by the City Engineer.
- Where pipe underdrains are used, all underdrain outlet pipes shall have watertight joints. All outlet pipes shall be tied into the nearest storm sewer inlet as approved. Where edge underdrains are used, all underdrain outlet pipes shall have manufacturer joints approved by the City Engineer. All connections between underdrain pipes and edge connectors or curb inlets shall be made with 2' length of outlet pipe.
- All underdrain pipes shall be installed at a minimum slope of 1%. Pipe shall be installed with the perforations placed down.
- Geotextile seams shall be overlapped at a minimum of 12".
- The contractor shall not mix underdrain types of materials within any underdrain system.
- All edge underdrain shall be held in the center of the trench by mechanical methods while placing granular backfill. See detail this sheet. Alternate methods may be used with prior approval by the City Engineer.
- See Approved Materials List for pre-approved Geotextile Class 1.
- Cross Sections (C-C) & (D-D) apply to Rock Outcroppings only.
- Aggregate Base (OP SPECIAL) may be substituted with Aggregate Base (KDOT AB-1).

<p>REVISIONS:</p> <p>03/2023 Removed Edge Underdrain; Revised Notes</p>	<p>Year 2024 Edition</p> <p>OVERLAND PARK KANSAS ABOVE AND BEYOND. BY DESIGN.</p> <p>DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS</p> <p>UNDERDRAIN - CONCRETE ROADWAY</p>
<p>RELATED ORDINANCES:</p> <p>OPMC Title 13;</p> <p>OPMC Title 15;</p>	<p>DATE: 01/28/2015</p> <p>SHEET: 19</p>

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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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KANSAS				

GENERAL NOTES

Details shown on this sheet of TAU-M TL2 & TL3 are for Information Only and may not be an exact detail of TAU-M TL2 & TL3. See the Manufacturer's Installation Manual furnished to the Engineer for details of components and installation for the TAU-M TL2 & TL3.

⊗ Concrete shall have a minimum compressive strength of 4,000 p.s.i. For concrete pad thickness and details, see the manufacturer's Installation Manual.

ψ Foundation pad extends from a concrete curb, wall, abutment, or other concrete hazzard, see Manufacturer's Installation Manual for adjustment of the foundation length.

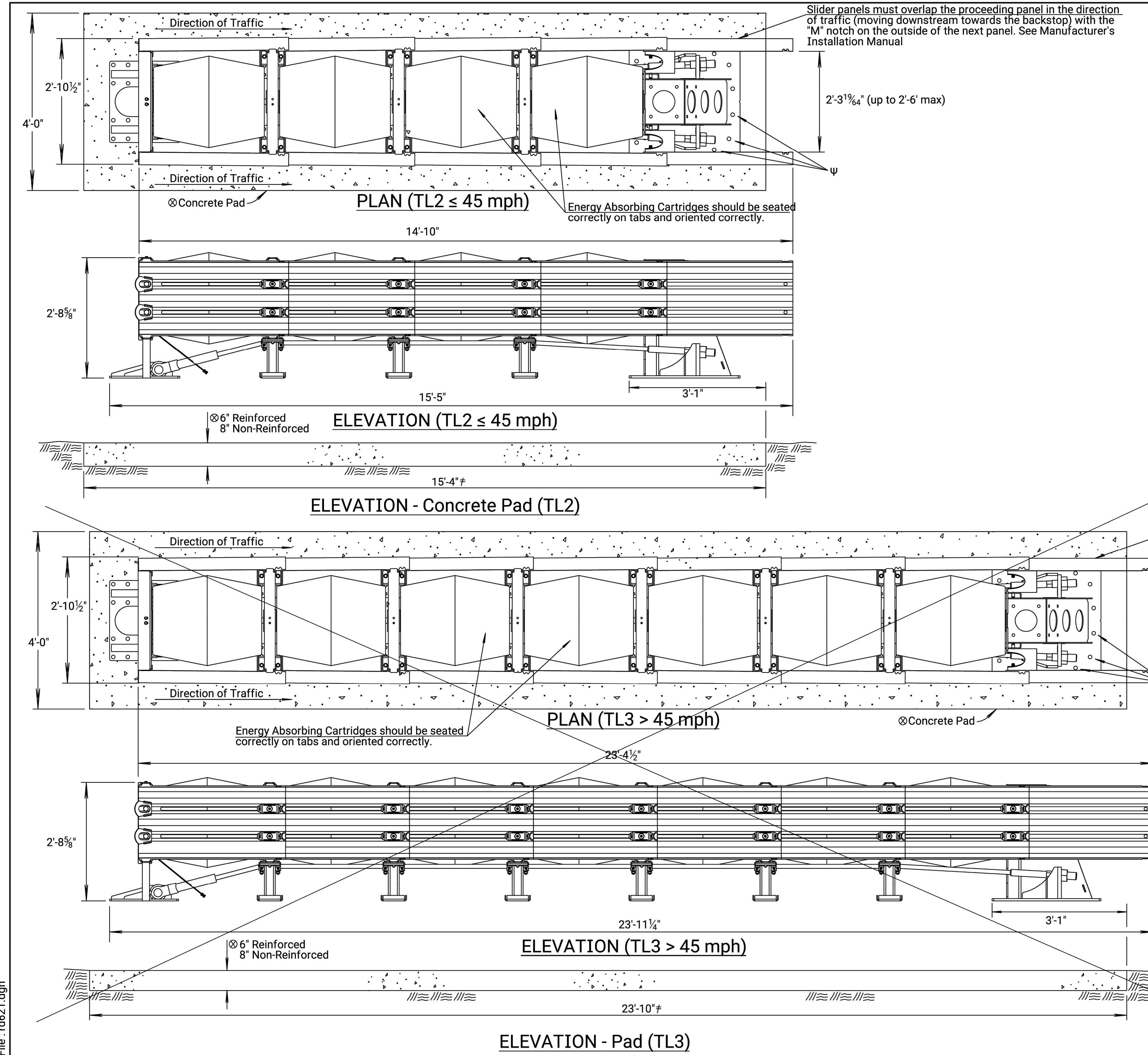
≠ Maximum cross-slope is 8.0%. If cross-slope varies more than 2% over the length of the system, the concrete pad will require leveling.

The installation area should be free from elevated objects or depressions.

Anchorage holes must be drilled to depth as per the Manufacturer's Installation Manual and cleared of debris to achieve proper anchorage.

ψ The TAU-M TL2 & TL3 system should be approximately parallel with the barrier or ϵ of merging barriers. In unidirectional traffic applications, the Tau-M is free standing. The unit can abut a barrier up to 30" wide. In bi-directional traffic the system requires a transition to a barrier system or guardrail. See Manufacturer's Installation Manual for acceptable transition configurations.

All work and material required for installation of this attenuator shall be paid under the bid item "Impact Attenuator (TL2 or TL3)".



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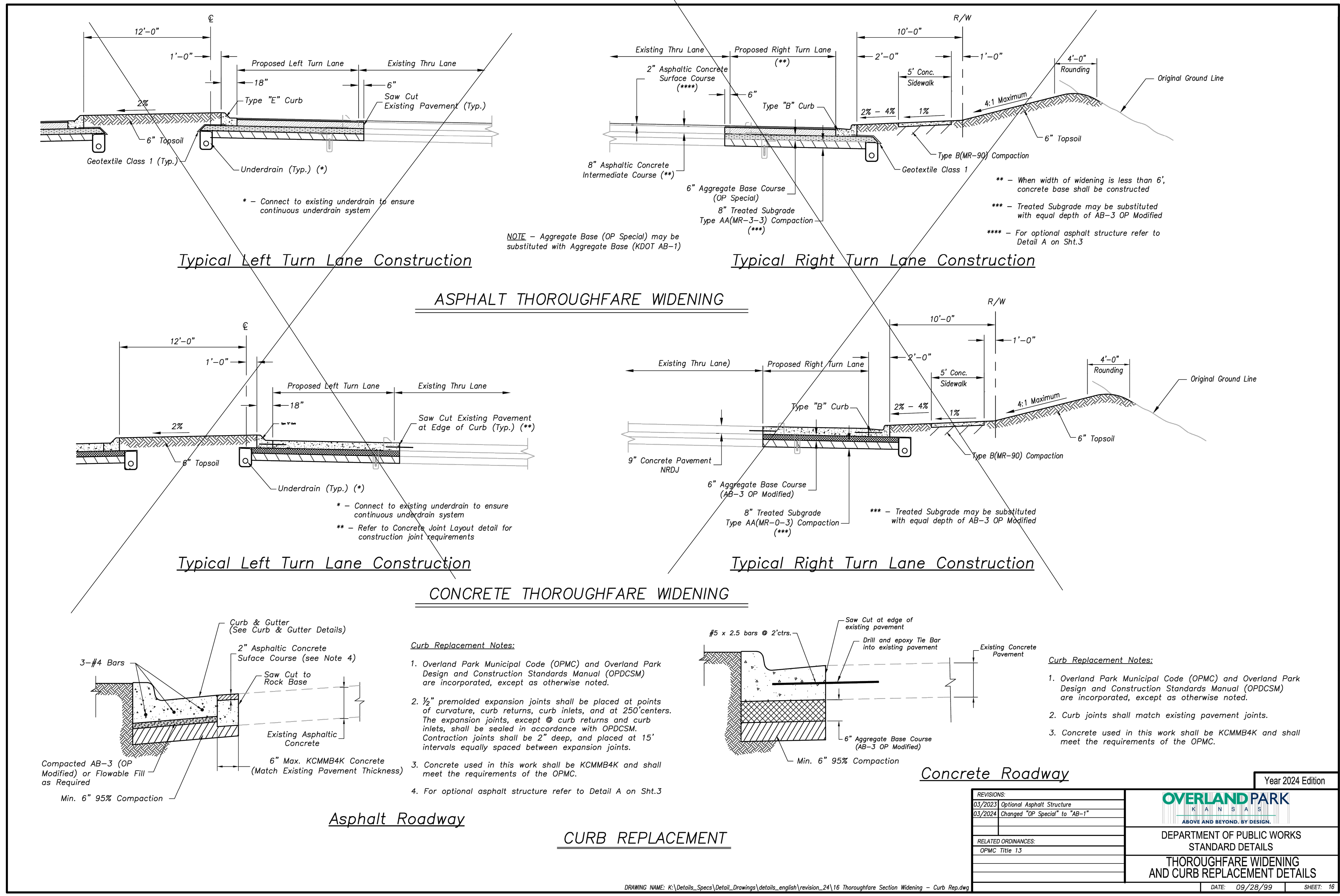
STANDARD DETAILS	COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	2025
OVERLAND PARK, KANSAS		

02	04-15-22	Replaced Tau-II with Tau-M model attenuator	A.L.R.	S.W.K.
01	11-16-09	Revised Temporary Bid Item	S.W.K.	J.O.B.
NO.	DATE	REVISIONS	BY	APPD
KANSAS DEPARTMENT OF TRANSPORTATION				
IMPACT ATTENUATOR TAU-M (TL2 & TL3)				
RD621				
FHWA APPROVAL	04-21-22	APPD.	Scott W. King	
DESIGNED	DETAILED	QUANTITIES	TRACED	
DESIGN CK.	DETAIL CK.	QUAN CK.	TRACE CK.	
KDOT Graphics Certified 05-02-2022 Sh. No. 0				

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBE
 project no.: 022-06529
 drawing no.: T DTL 02206529
 date: 1-31-2025

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 USER: mwach
 Plotted by: Amy.Rockers@ks.gov 18-MAY-2022 13:30
 File: rd621.dgn

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



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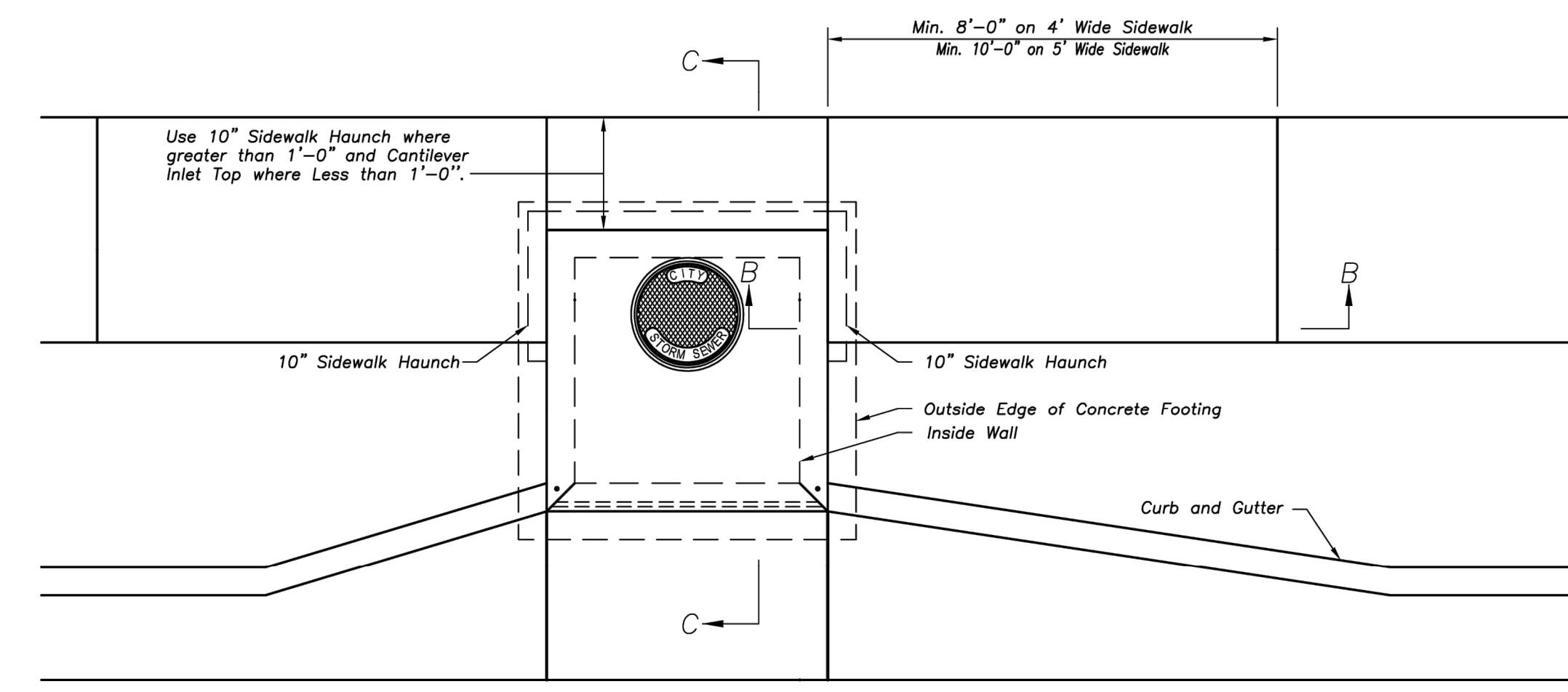
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STANDARD DETAILS	COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	2025
OVERLAND PARK, KANSAS	REVISIONS	

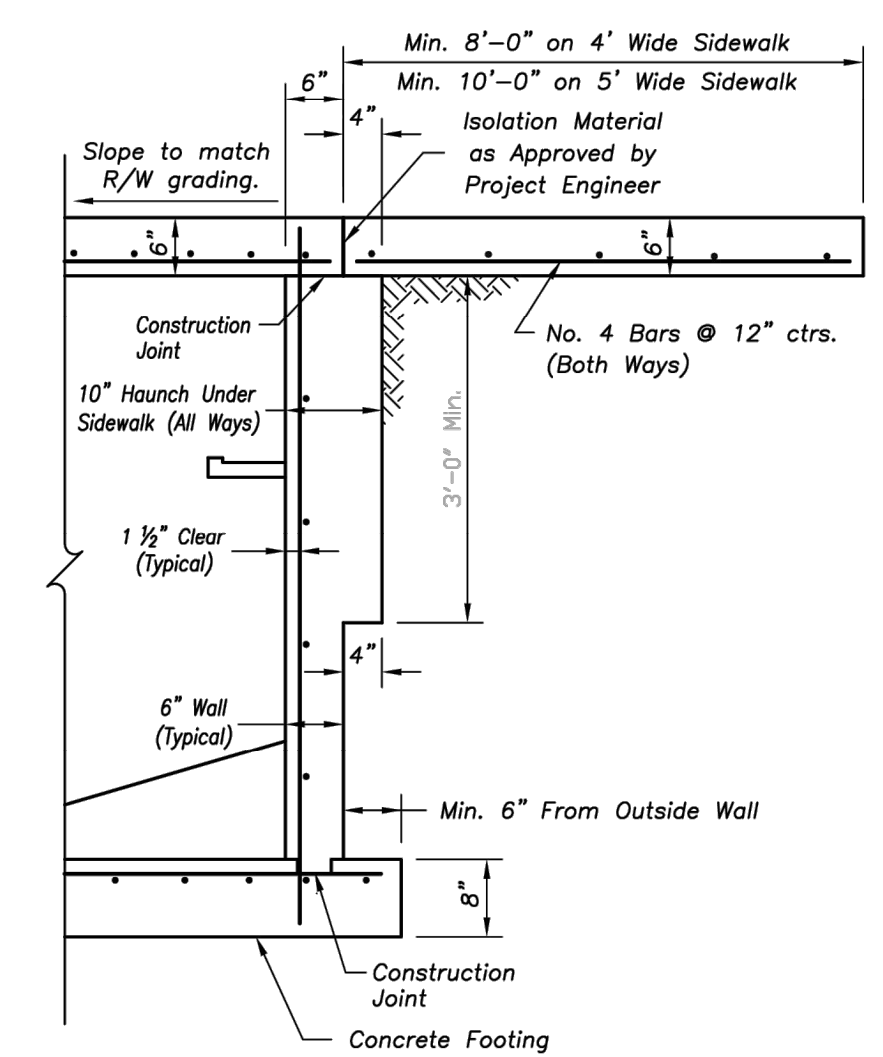
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RELATED ORDINANCES: OPMC Title 13	
DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS THOROUGHFARE WIDENING AND CURB REPLACEMENT DETAILS	Year 2024 Edition DATE: 09/28/99 SHEET: 16

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

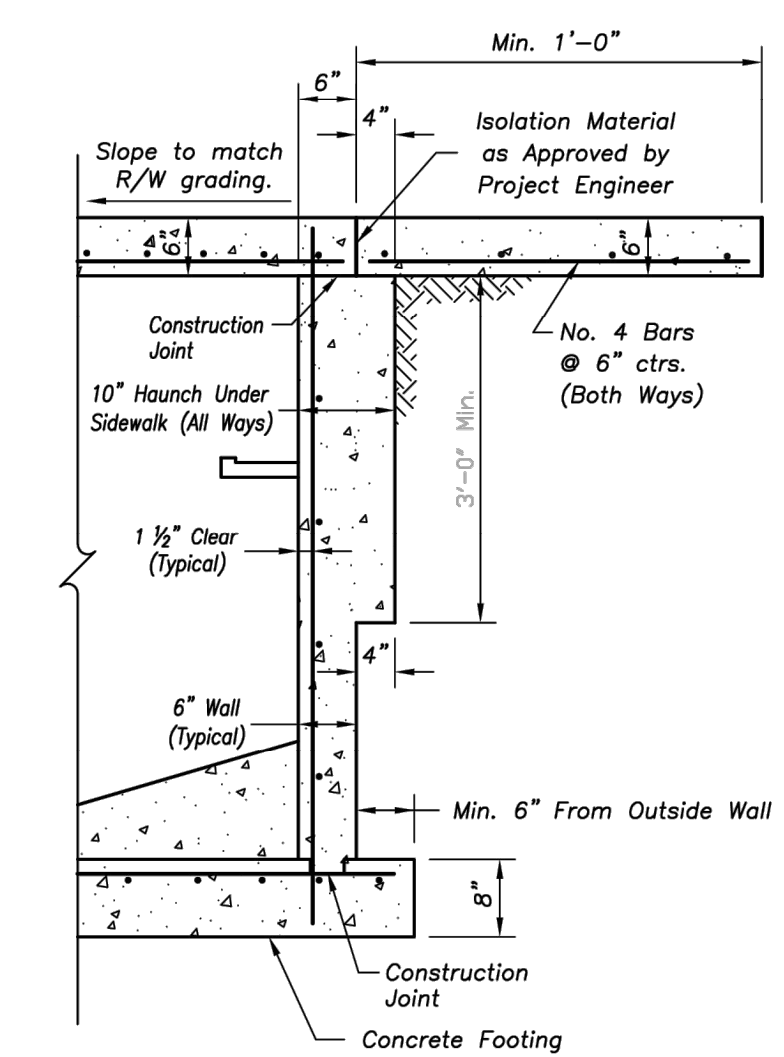
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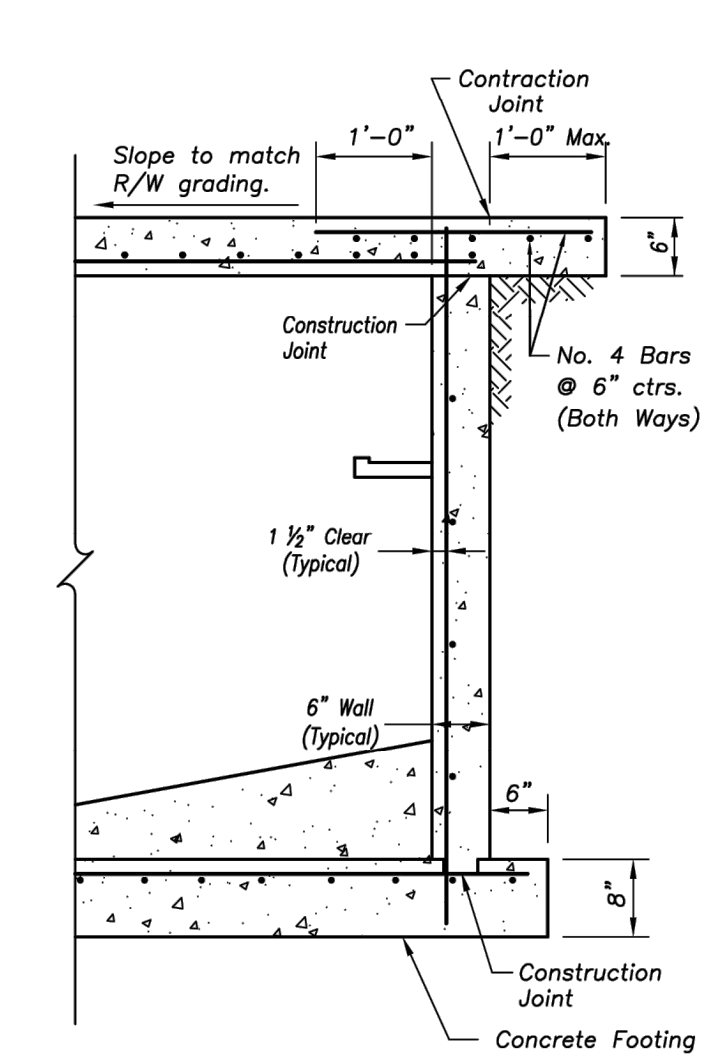
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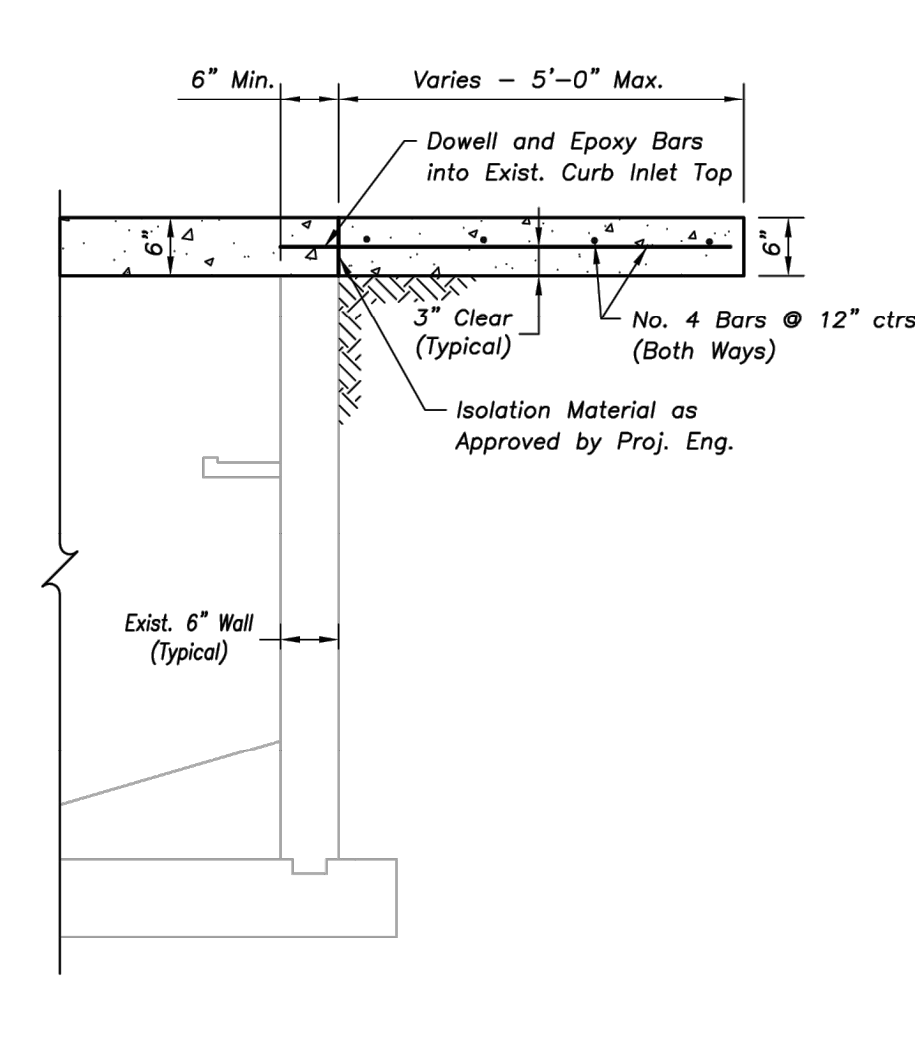
Section B-B
 With Sidewalk Haunch



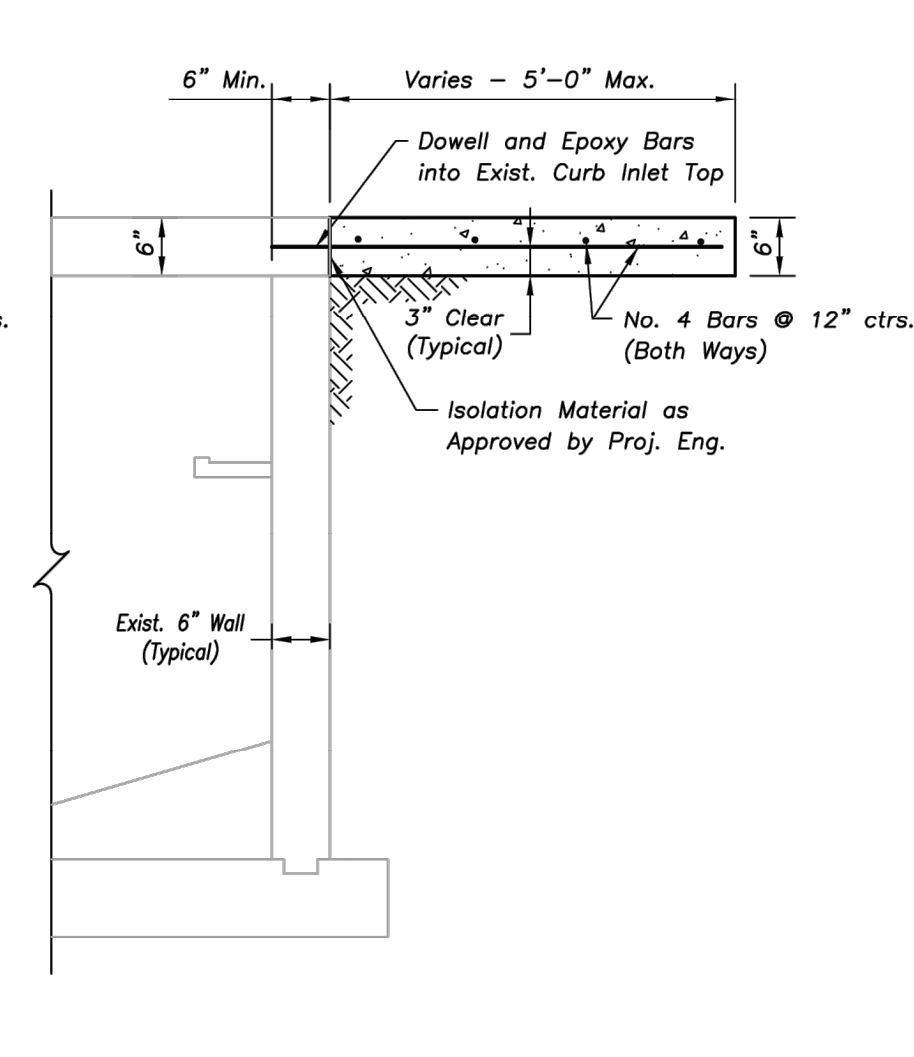
Section C-C
 With Sidewalk Haunch Where Sidewalk Width > 1' Along Back of Inlet



Section C-C
 With Cantilever Inlet Top Where Sidewalk Width < 1' Along Back of Inlet



Section C-C
 With Type I and Type II Curb Inlet Repair
 Typical all Sides



Section C-C
 With Exist. Curb Inlet
 Typical all Sides

Year 2024 Edition	
OVERLAND PARK KANSAS ABOVE AND BEYOND. BY DESIGN.	DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS CURB INLET WITH ADJOINING SIDEWALK
REVISIONS: RELATED ORDINANCES: OPMC Title 15	DATE: 03/28/2022 SHEET: 22_b

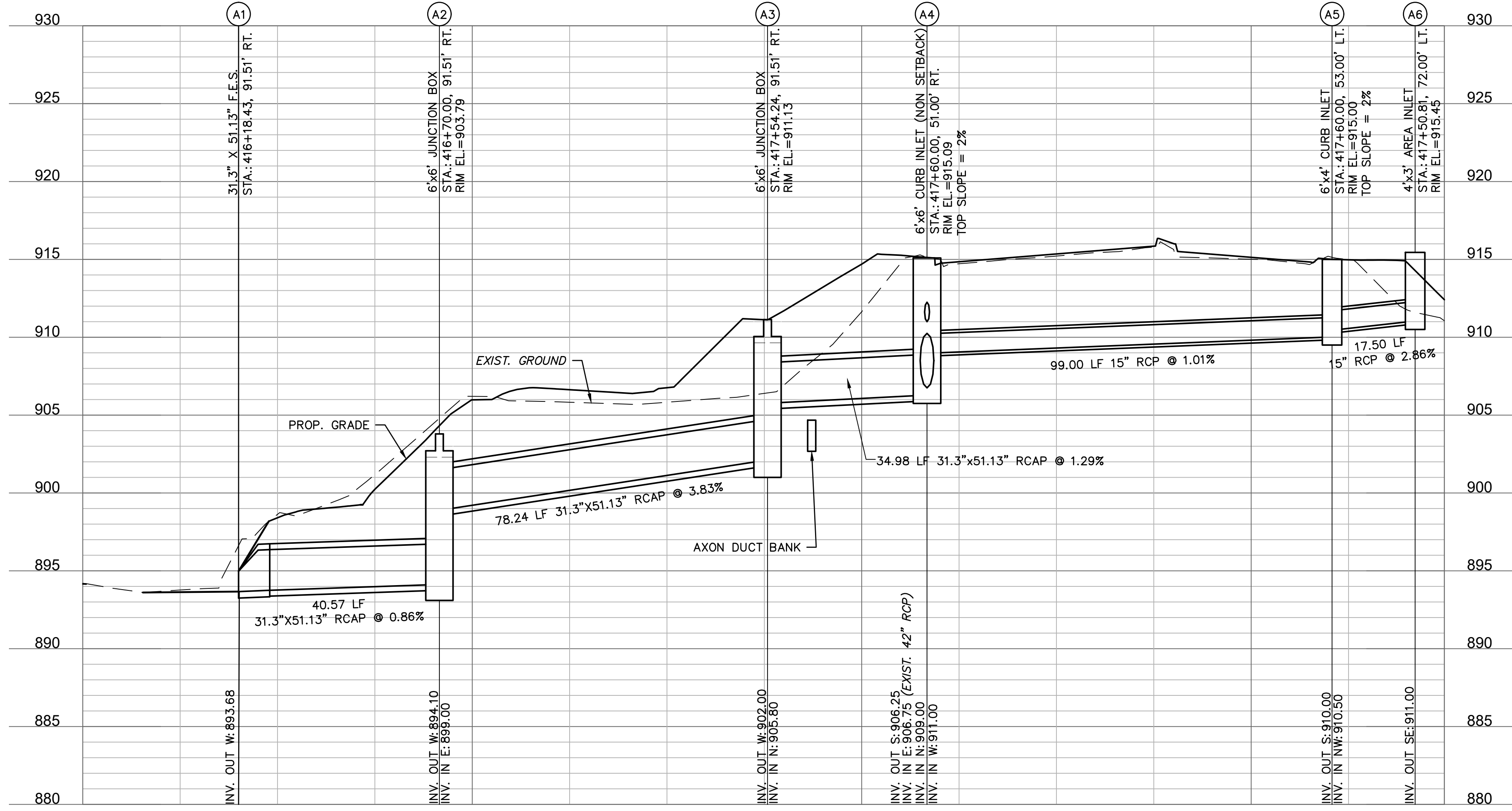
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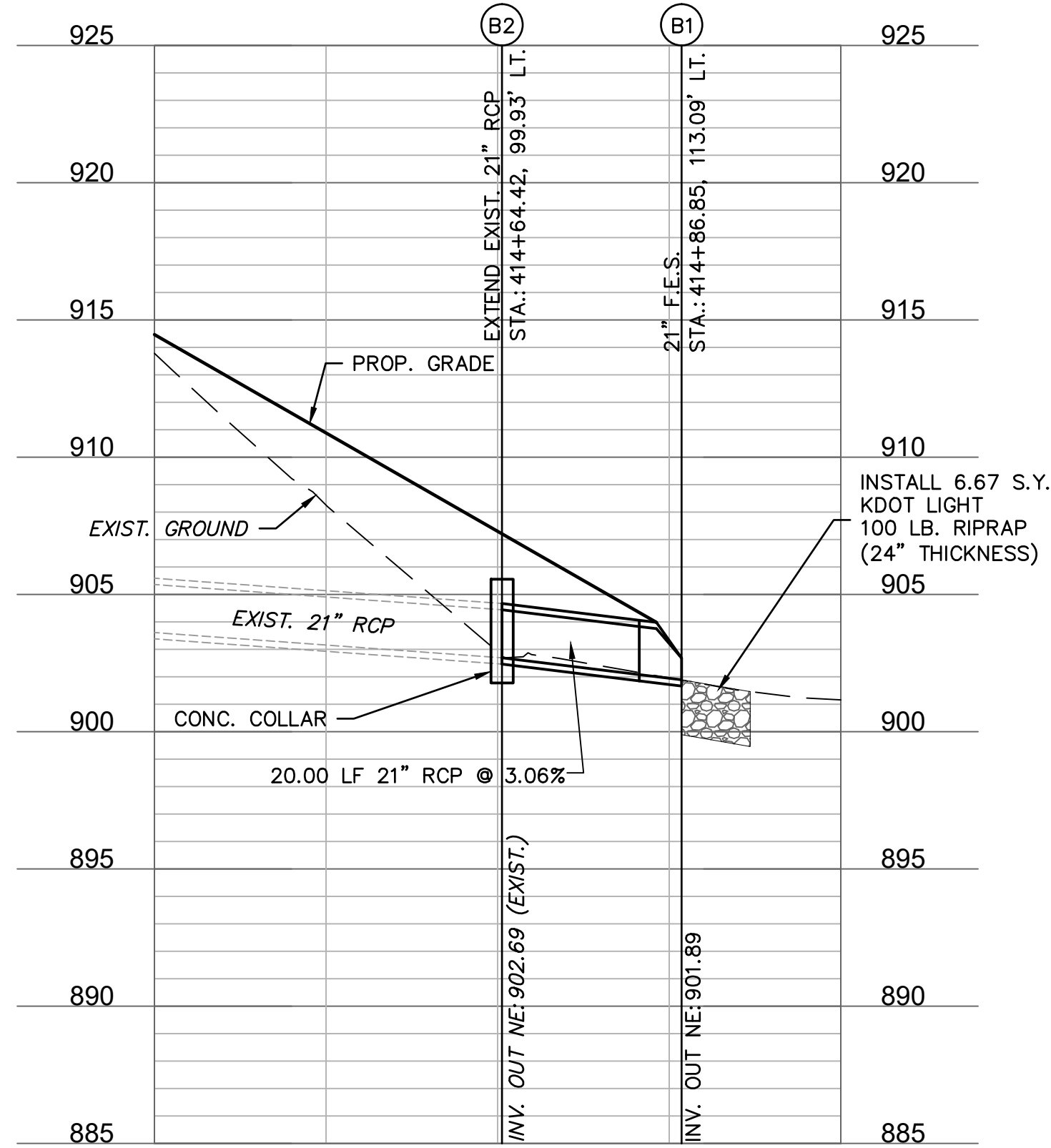
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STANDARD DETAILS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

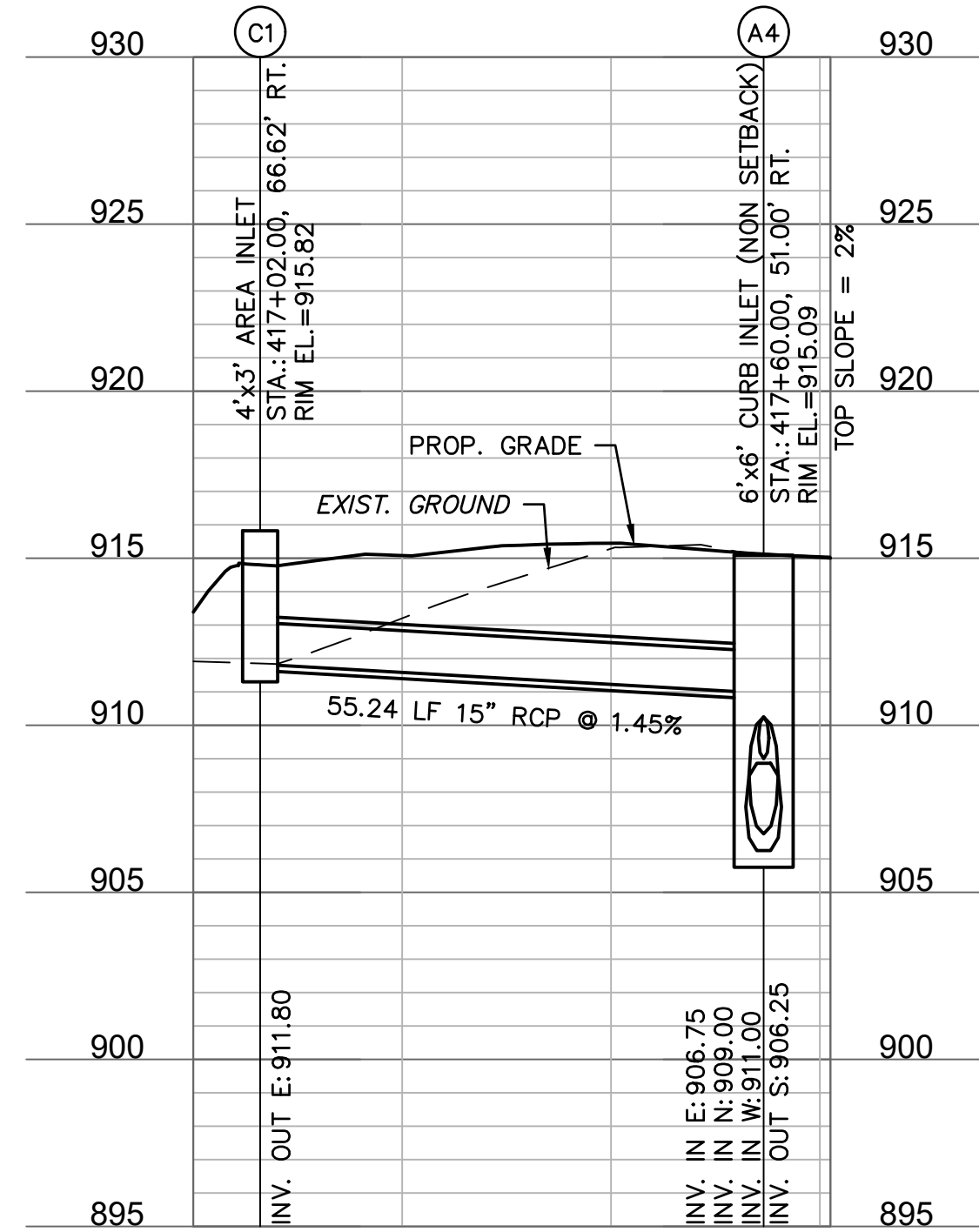
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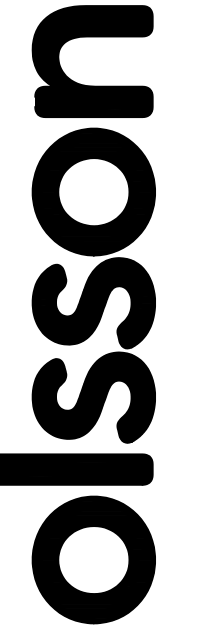
STORM LINE B



STORM LINE C



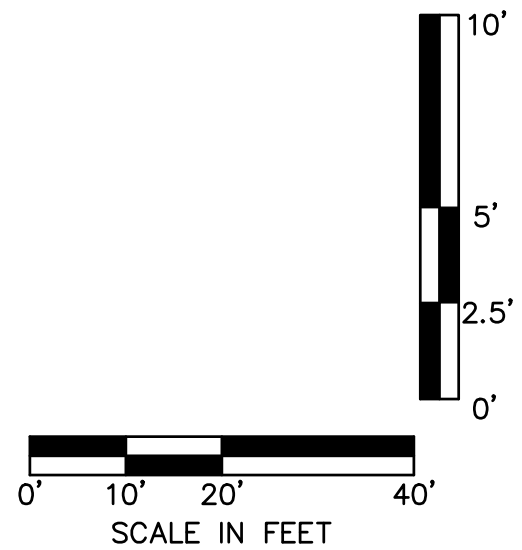
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STORM SEWER PROFILE	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	

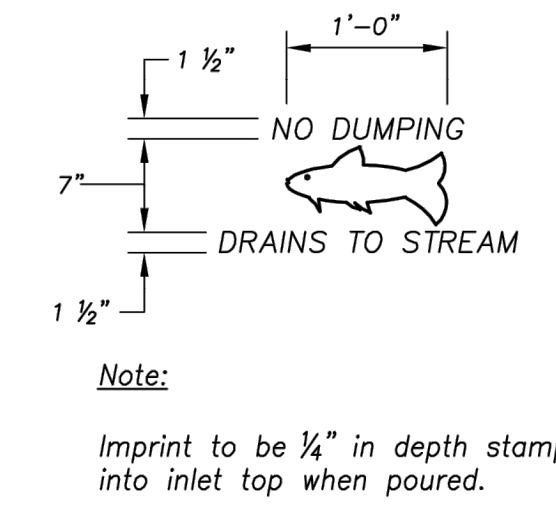
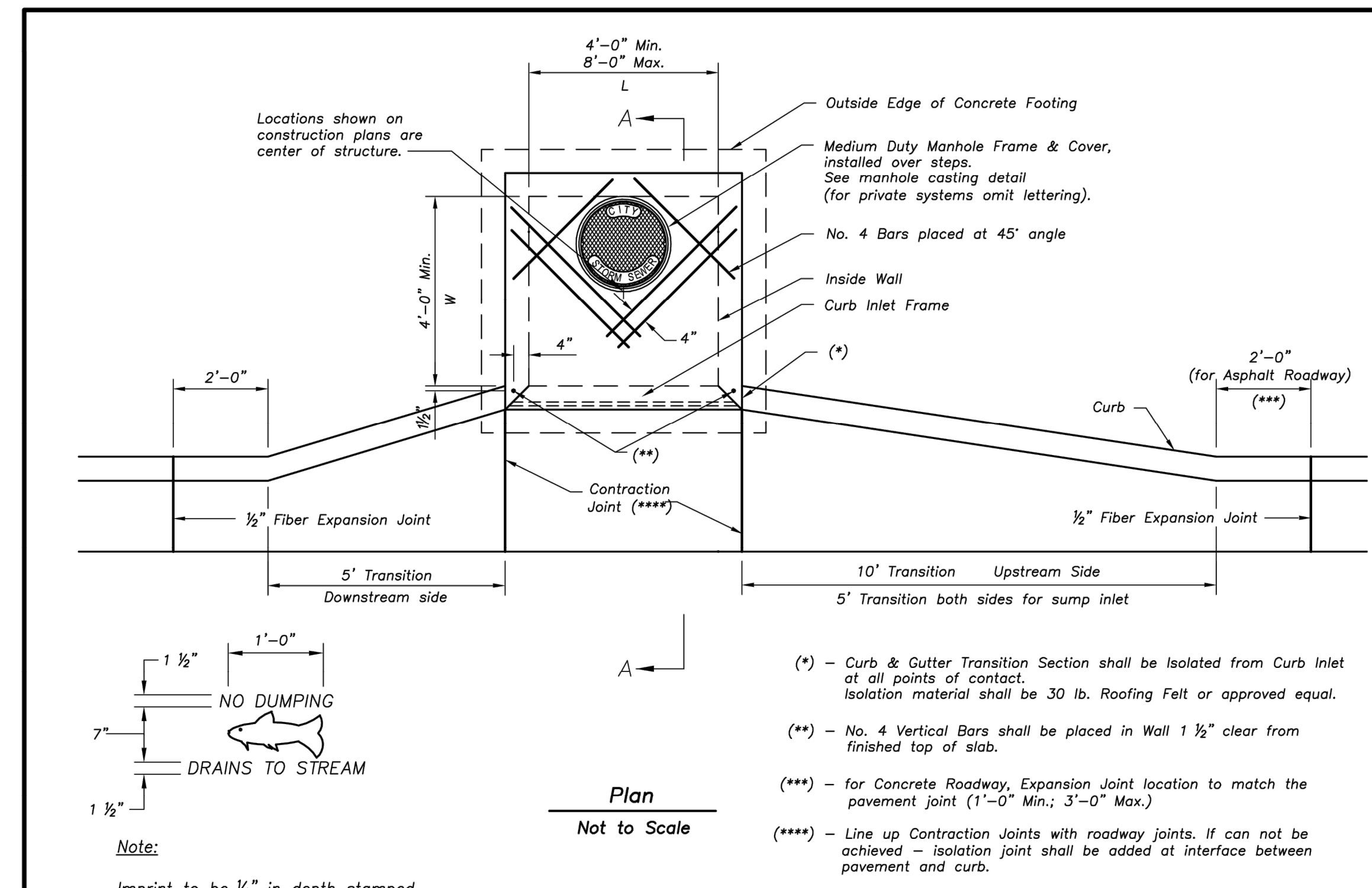


drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBE
 project no.: 022-06529
 drawing no.: T_STRM1_02206529
 date: 1-31-2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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ENVIRONMENTAL STAMP DETAIL

Curb Inlet Notes

General

- Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
- All storm sewer structures shall be pre-cast or poured in place. If pre-cast structures are used, the tops shall be poured in place and the wall steel shall be left exposed to a height 2" below the finish top elevation, or as directed by the City Engineer.
- Pre-cast shop drawings are to be approved by the City Engineer for publicly financed or administered projects. Pre-cast shop drawings for privately financed projects are to be submitted to the Engineering Services Division of the Planning and Development Services Department.
- Do not scale these drawings for dimensions or clearances. Any questions regarding dimensions shall be brought to the attention of the City Engineer prior to construction.
- On-grade inlets shall conform to the street grade and sump inlets shall be level.
- The first dimension listed in the construction notes is the "L" dimension. The second dimension is the "W" dimension. The concrete thickness and reinforcement shown is for boxes with ("L"+"H") and ("W"+"H") less than or equal to 20. For boxes with either of these calculations greater than 20, a special design is required.

Concrete

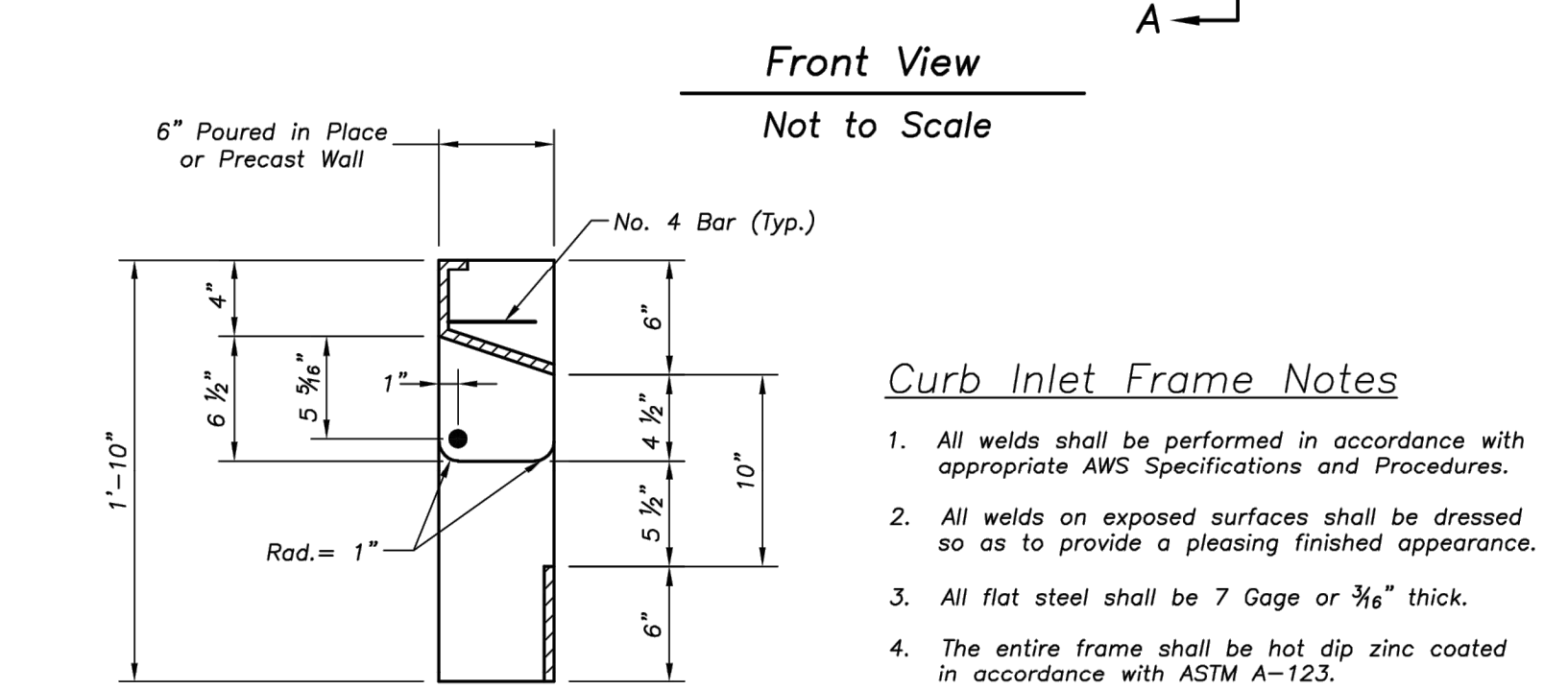
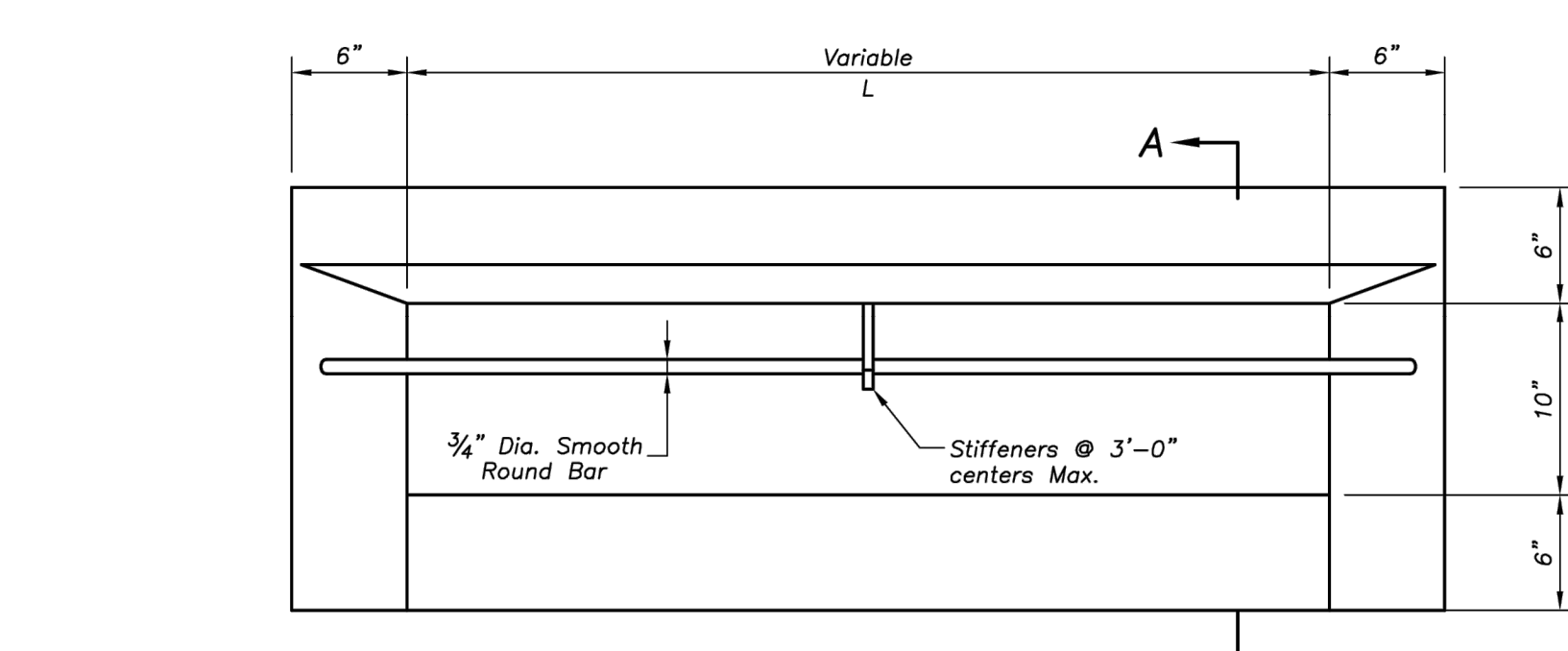
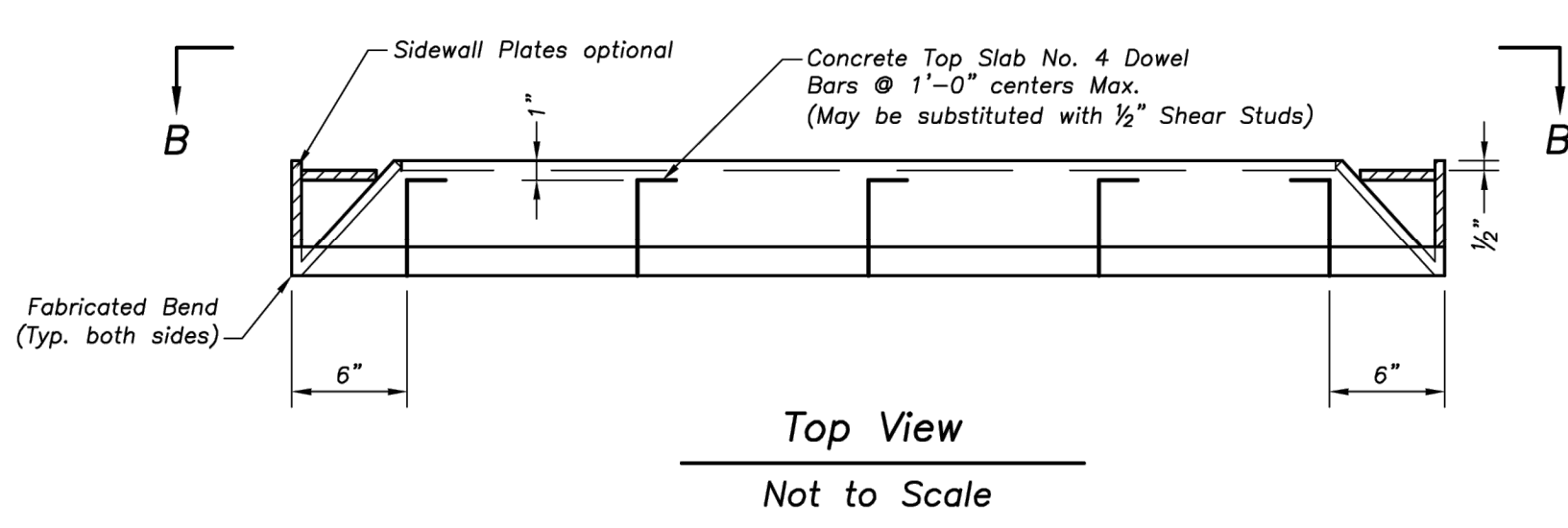
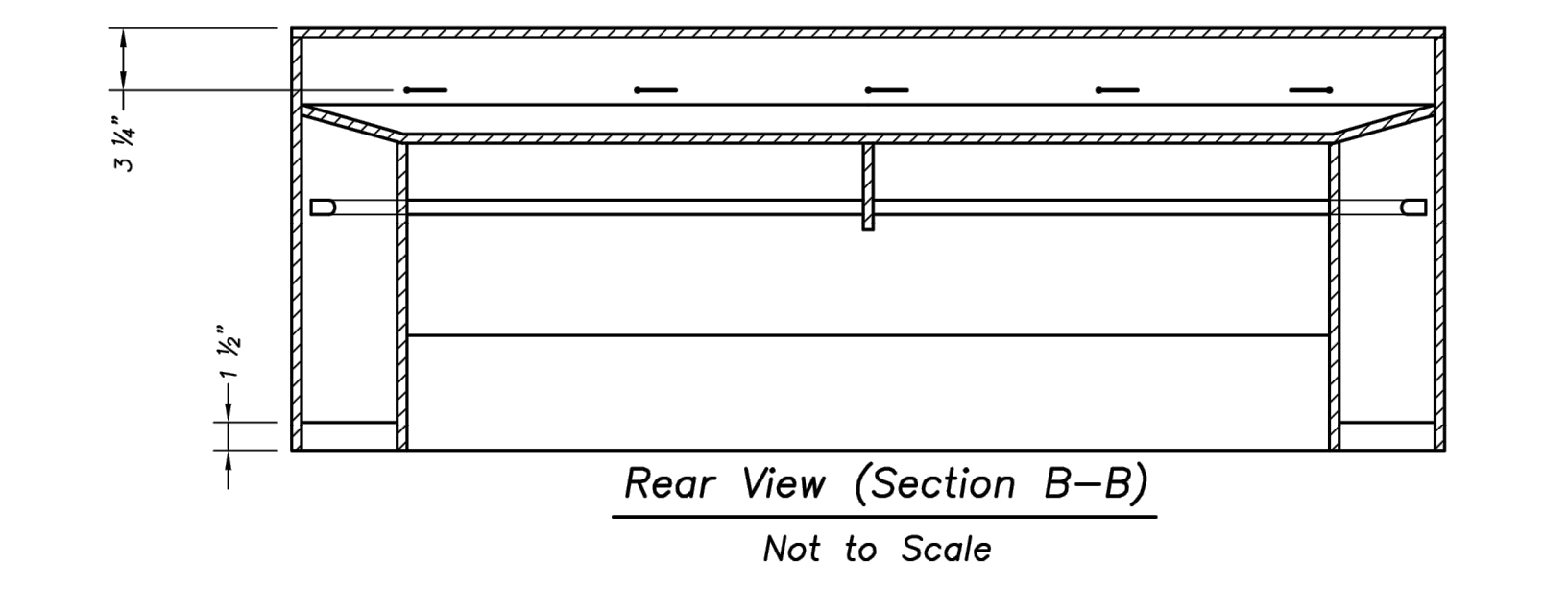
- Concrete used in this work shall be KCMMB4K, as approved by the Kansas City Metropolitan Materials Board, and shall meet the requirements of the OPMC.
- Non-reinforced concrete invert shall be shaped to provide smooth flow.
- Bevel all exposed edges with 3/4" triangular mauling.

Reinforcing Steel

- Reinforcing steel shall be new billet, minimum Grade 40 as per ASTM A615M, and shall be bent cold.
- All dimensions relative to reinforcing steel are to centerline of bars. 2" clearance shall be provided throughout unless noted otherwise. Tolerance of +/- 1/8" shall be permitted.
- All lap splices not shown shall be a minimum of 40 bar diameters in length.
- All reinforcing steel shall be supported on fabricated steel bar supports @ 3'-0" maximum spacing.
- All dowels shall be accurately placed and securely tied in place prior to placement of bottom slab concrete. Sticking of dowels into fresh or partially hardened concrete will not be acceptable.

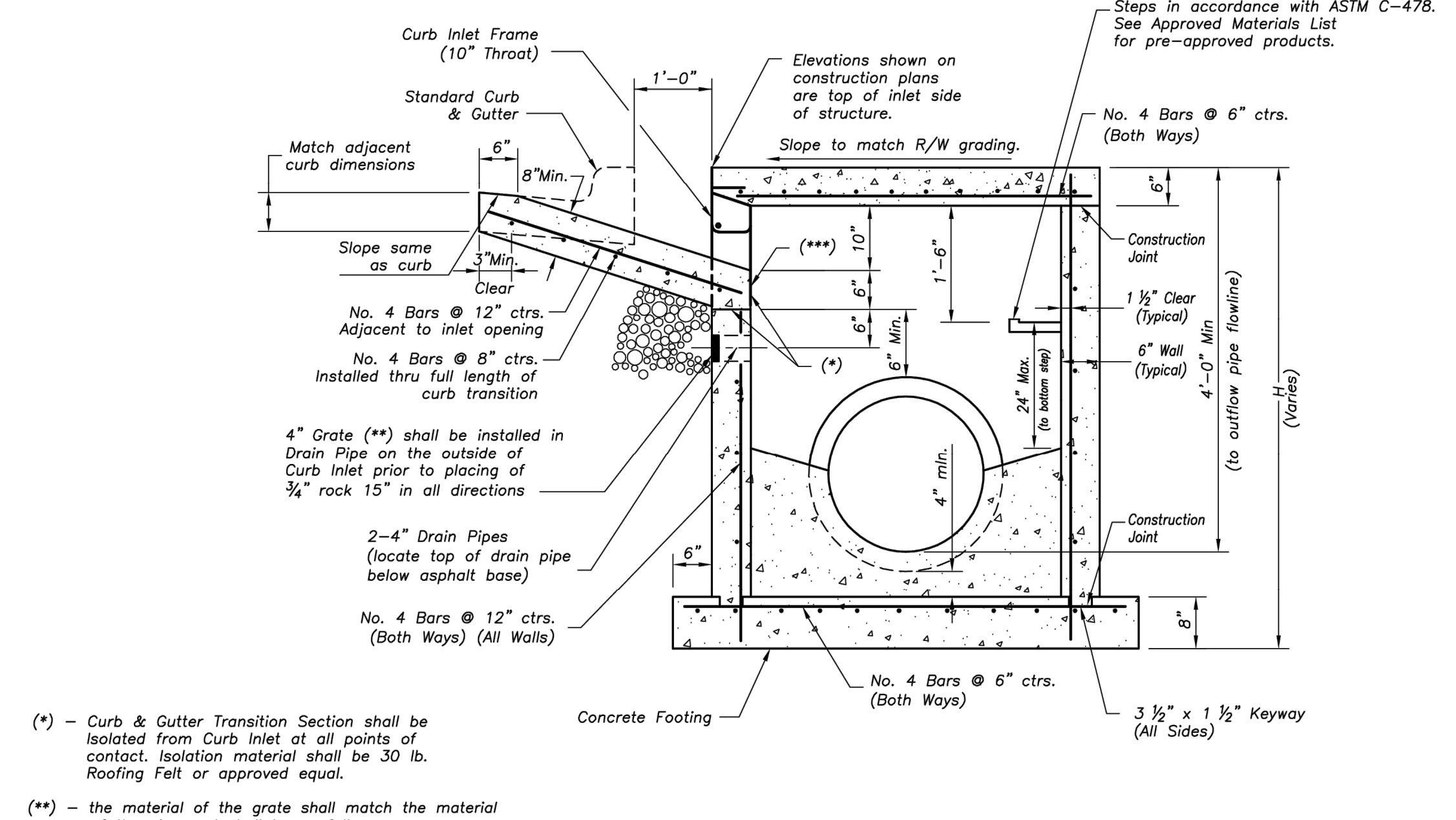
Construction

- The bottom slab shall be at least 24 hours old before placing sidewall concrete. All sidewall forms shall remain in place a minimum of 24 hours after sidewalls are poured before removal, and after removal shall be immediately treated with membrane curing compound.
- All curb inlet tops are to be constructed after final curb string line has been approved by the Engineer and prior to curb construction, or as directed by the City Engineer.
- Pipe connections to pre-cast structures shall have a minimum of 6" of concrete around the entire pipe within 2' of the outside wall of structure. A minimum of 2" - maximum of 6" clearance is required between the outside pipe wall and the edge of blackout.
- Tamped backfill shall be used around structures, except under paved areas. Tamped backfill shall be finely divided job excavated material free from debris, organic material and stones, compacted to 95% maximum density as determined by AASHTO STANDARD, Method T-99. Removable Flowable Fill is required under any portion of paved right of way, including the area within existing or future public street pavement and under existing or future curb and gutter, median, asphalt path, concrete sidewalk.



Curb Inlet Frame Notes

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



- (*) - Curb & Gutter Transition Section shall be isolated from Curb Inlet at all points of contact. Isolation material shall be 30 lb. Roofing Felt or approved equal.
- (**) - the material of the grate shall match the material of the pipe and shall be as follows:
- PVC:** Pipe - 4" Schedule 40 PVC meeting ASTM D-1785'
Grate - 4" PVC Snap-in Drain - meets ASTM D-2665, with Stainless Steel (Type 304) Cover, mounted with two 18-8 Stainless Steel Screws; Maximum opening size 1/4".
 - HDPE:** Pipe - 4"HDPE meeting AASHTO M252, Type S;
Grate - 4"HDPE - meets ASTM D-3350;
Maximum opening size 1/4".
- (***) - grout all voids;

Section A-A
Not to Scale
CURB INLET (10" THROAT)

CURB INLET FRAME (10" THROAT)

REVISIONS:	Year 2023 Edition
RELATED ORDINANCES: OPMC Title 15	OVERLAND PARK KANSAS ABOVE AND BEYOND. BY DESIGN. DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS CURB INLET DETAILS
DATE: 09/28/99	SHEET: 22_a

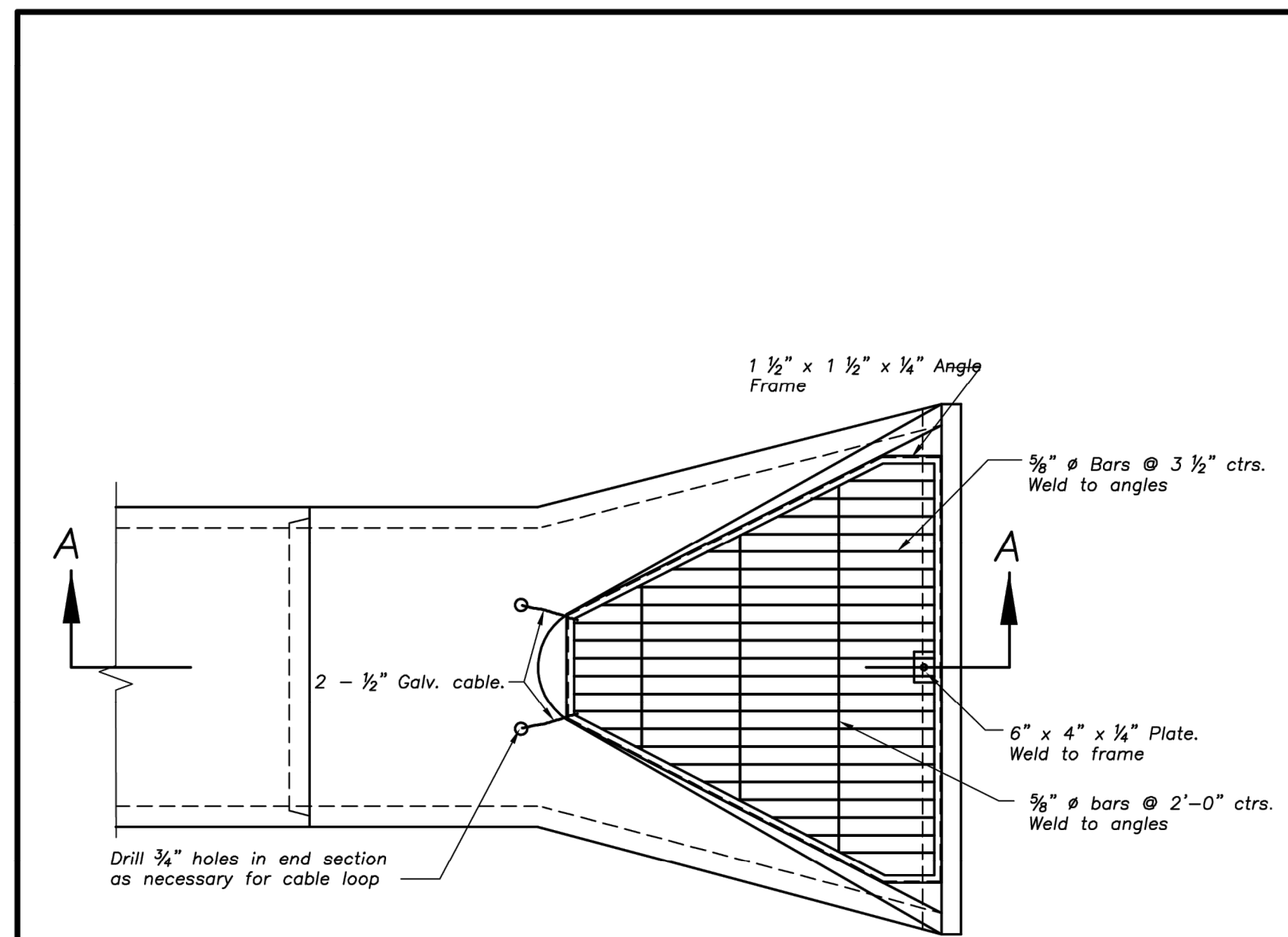
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STORM SEWER DETAILS	COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	OVERLAND PARK, KANSAS	2025
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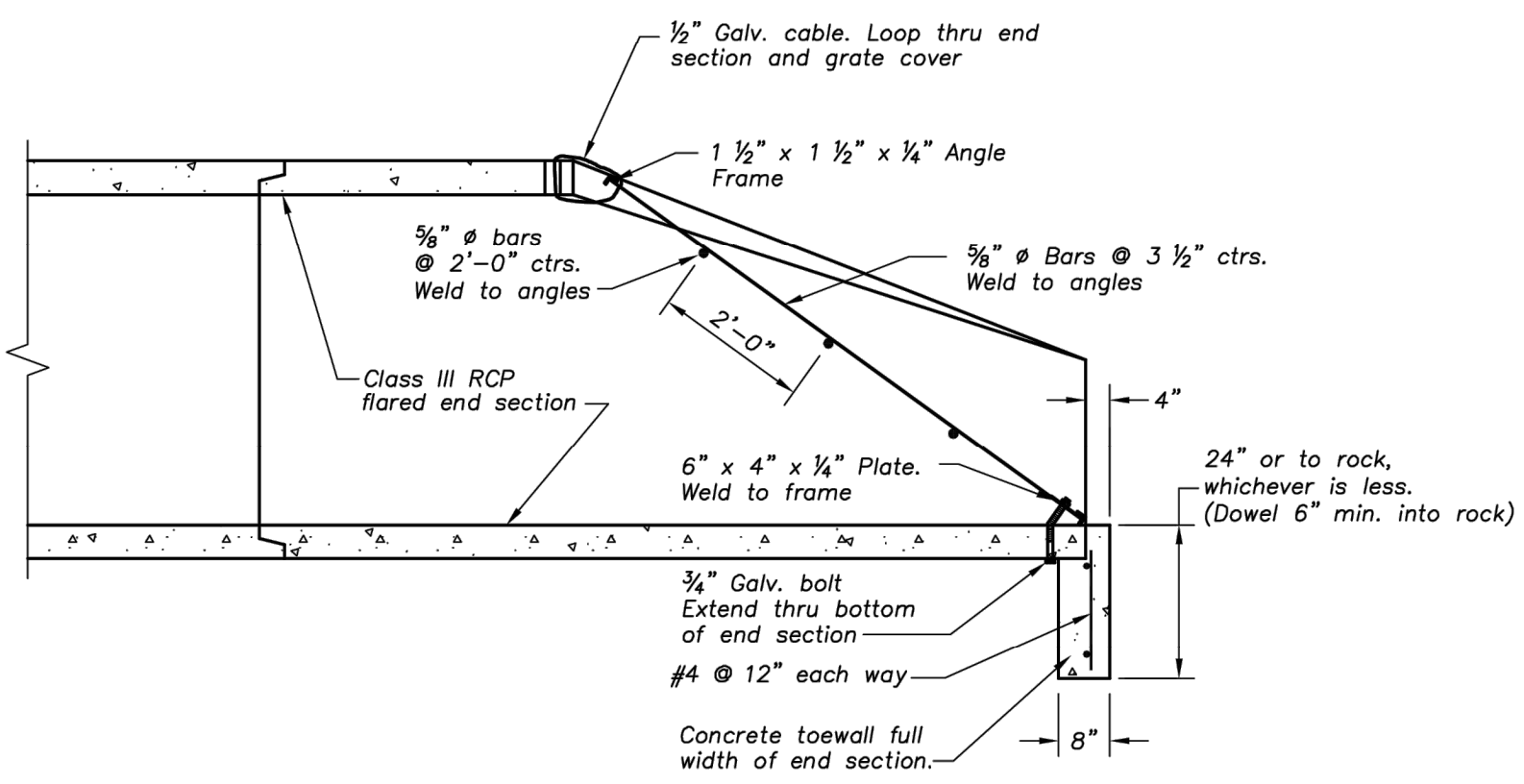
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 USER: mwelch



Plan View
Scale: 1/2"=1'-0"

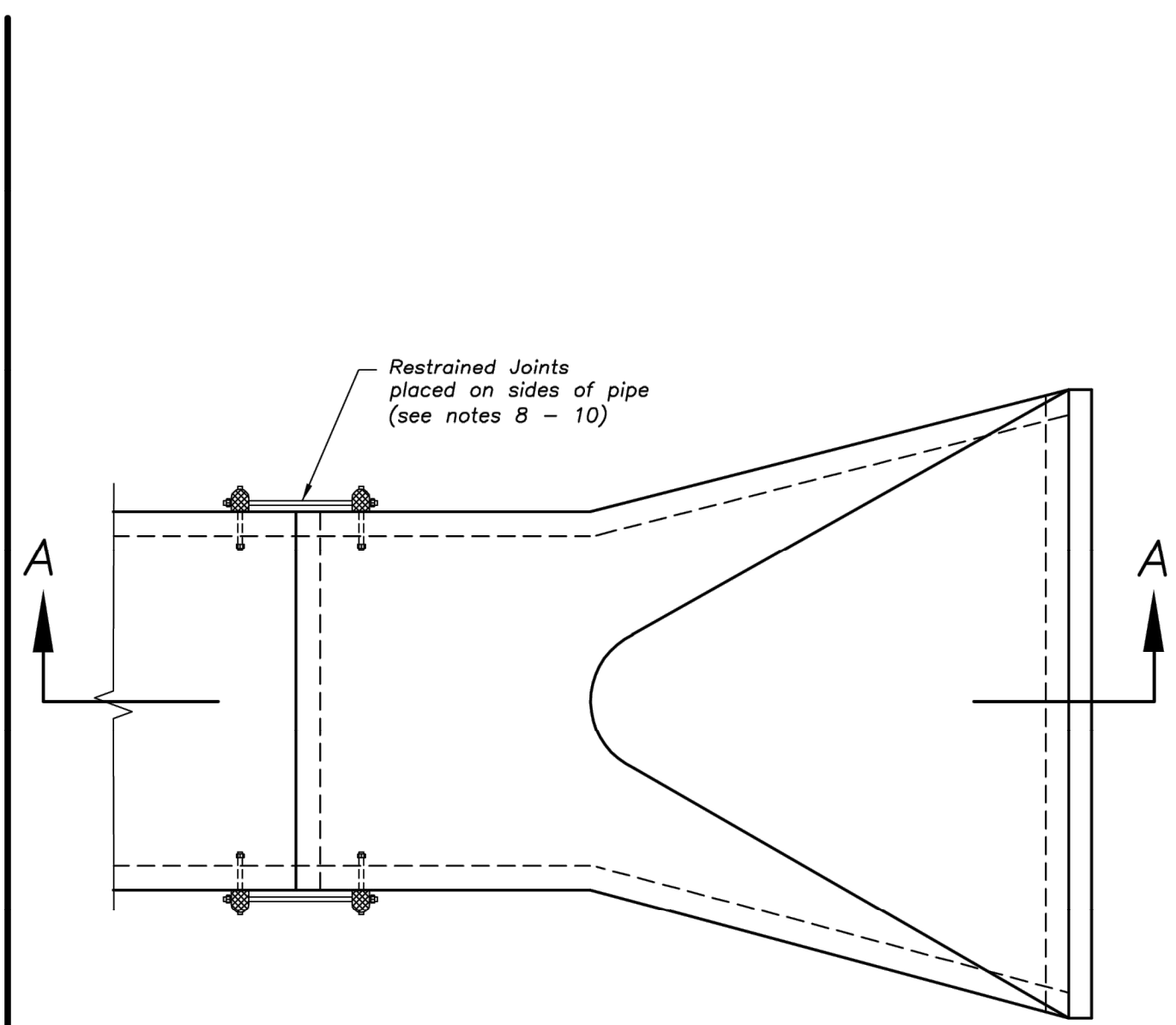


Section A-A
Not to Scale

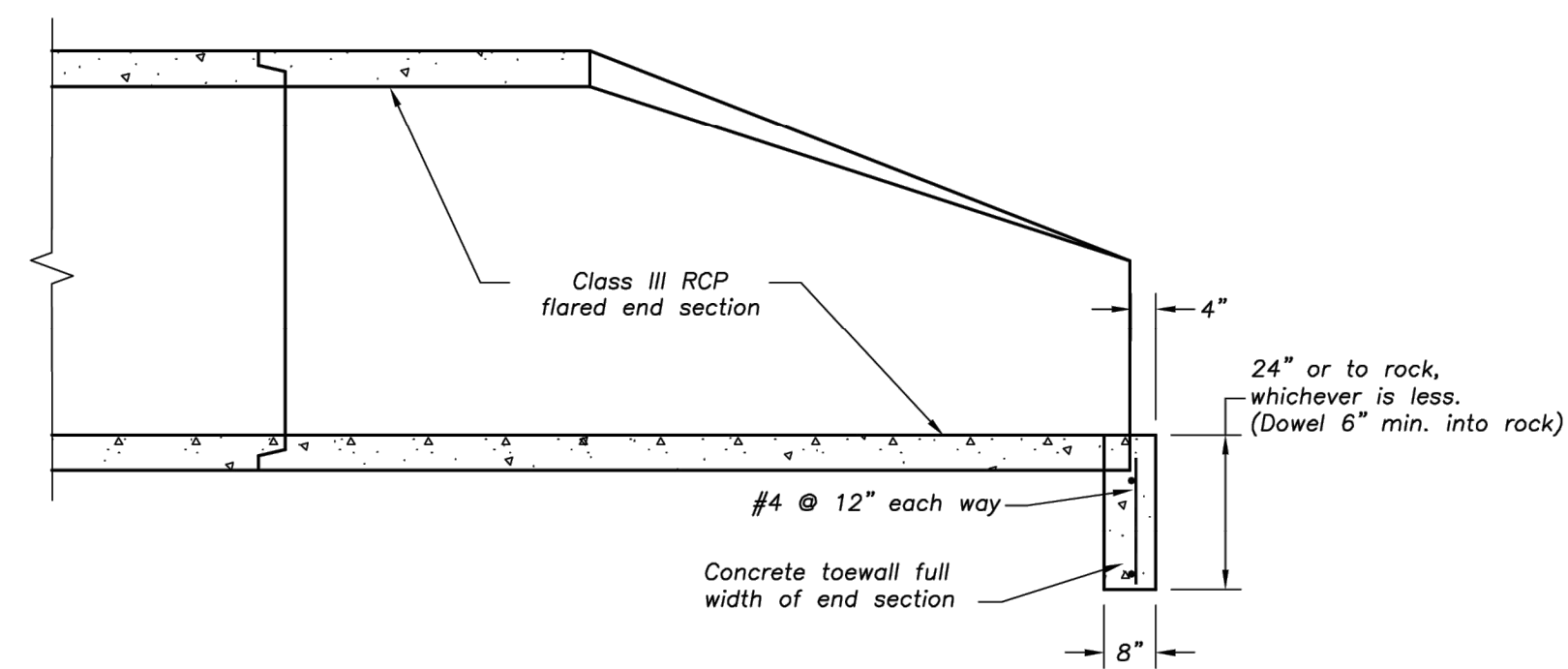
END SECTION TOEWALL & GRATE

End Section Notes

1. Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
2. Use KCMMB4K Concrete throughout.
3. Grate shall be provided for pipe sizes 24" to 60" (on inflow side only). Grades for pipes larger than 60" are only required if specified on the plan drawings.
4. Grate cover detail shall be adjusted as necessary to fit end section provided.
5. Maximum opening thru end section shall be no greater than 6". Adjust detail as necessary.
6. All metal surfaces shall be hot dip zinc coated in accordance with ASTM A-123.
7. Reinforcing steel shall be new billet, minimum Grade 40 as per ASTM A615, and shall be bent cold.
8. All dimensions relative to reinforcing steel are to centerline of bars. 2" clearance shall be provided throughout unless noted otherwise. Tolerance of +/- 1/8" shall be permitted.
9. All lap splices not shown shall be a minimum of 40 bar diameters in length.
10. All dowels shall be accurately placed and securely tied in place prior to placement of bottom slab concrete. Sticking of dowels into fresh or partially hardened concrete will not be acceptable.
11. All reinforcing steel shall be supported on fabricated steel bar supports @ 3'-0" maximum spacing.
12. Do not scale these drawings for dimensions or clearances. Any questions regarding dimensions shall be brought to the attention of the City Engineer prior to construction.



Plan View
Scale: 1/2"=1'-0"



Section A-A
Not to Scale

END SECTION TOEWALL

End Section Notes

1. Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
2. Use KCMMB4K Concrete throughout.
3. Reinforcing steel shall be new billet, minimum Grade 40 as per ASTM A615, and shall be bent cold.
4. All dimensions relative to reinforcing steel are to centerline of bars. 2" clearance shall be provided throughout unless noted otherwise. Tolerance of +/- 1/8" shall be permitted.
5. All lap splices not shown shall be a minimum of 40 bar diameters in length.
6. All dowels shall be accurately placed and securely tied in place prior to placement of bottom slab concrete. Sticking of dowels into fresh or partially hardened concrete will not be acceptable.
7. All reinforcing steel shall be supported on fabricated steel bar supports @ 3'-0" maximum spacing.
8. The last three joints of RCP, including the end section, shall be mechanically restrained where discharging into unimproved systems.
9. The restrained joint hardware shall be installed so the bolt projection inside of the pipe does not exceed 2".
10. The restrained joint hardware shall be hot dip zinc coated in accordance with ASTM A-123.
11. The handrail shall be required on end sections 42" height or larger.
12. Do not scale these drawings for dimensions or clearances. Any questions regarding dimensions shall be brought to the attention of the City Engineer prior to construction.

REVISIONS:	
RELATED ORDINANCES:	
OPMC Title 15	

Year 2023 Edition

DEPARTMENT OF PUBLIC WORKS
STANDARD DETAILS
END SECTION TOEWALL DETAIL

DATE: 09/28/99 SHEET: 27

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STORM SEWER DETAILS	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	

drawn by:	CJC
checked by:	PBM
approved by:	PBM
QA/QC by:	RBF
project no.:	022-06529
drawing no.:	I_STMDTL_02206529
date:	1-31-2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

olsson

7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
www.olson.com

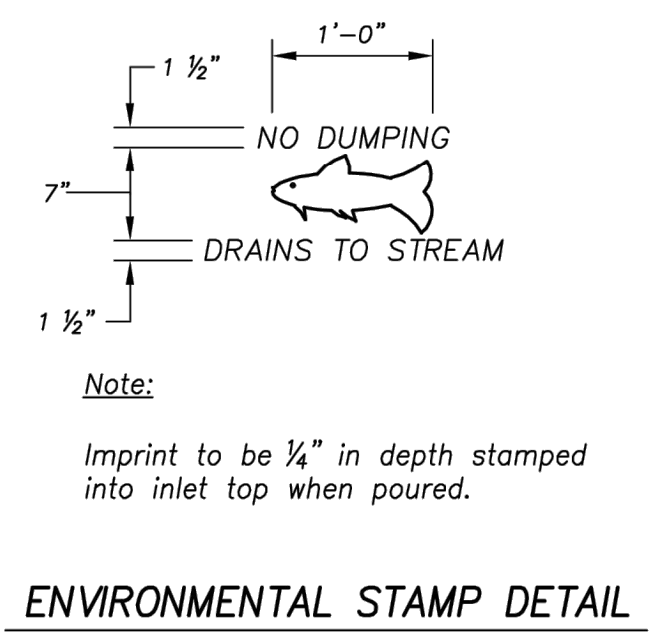
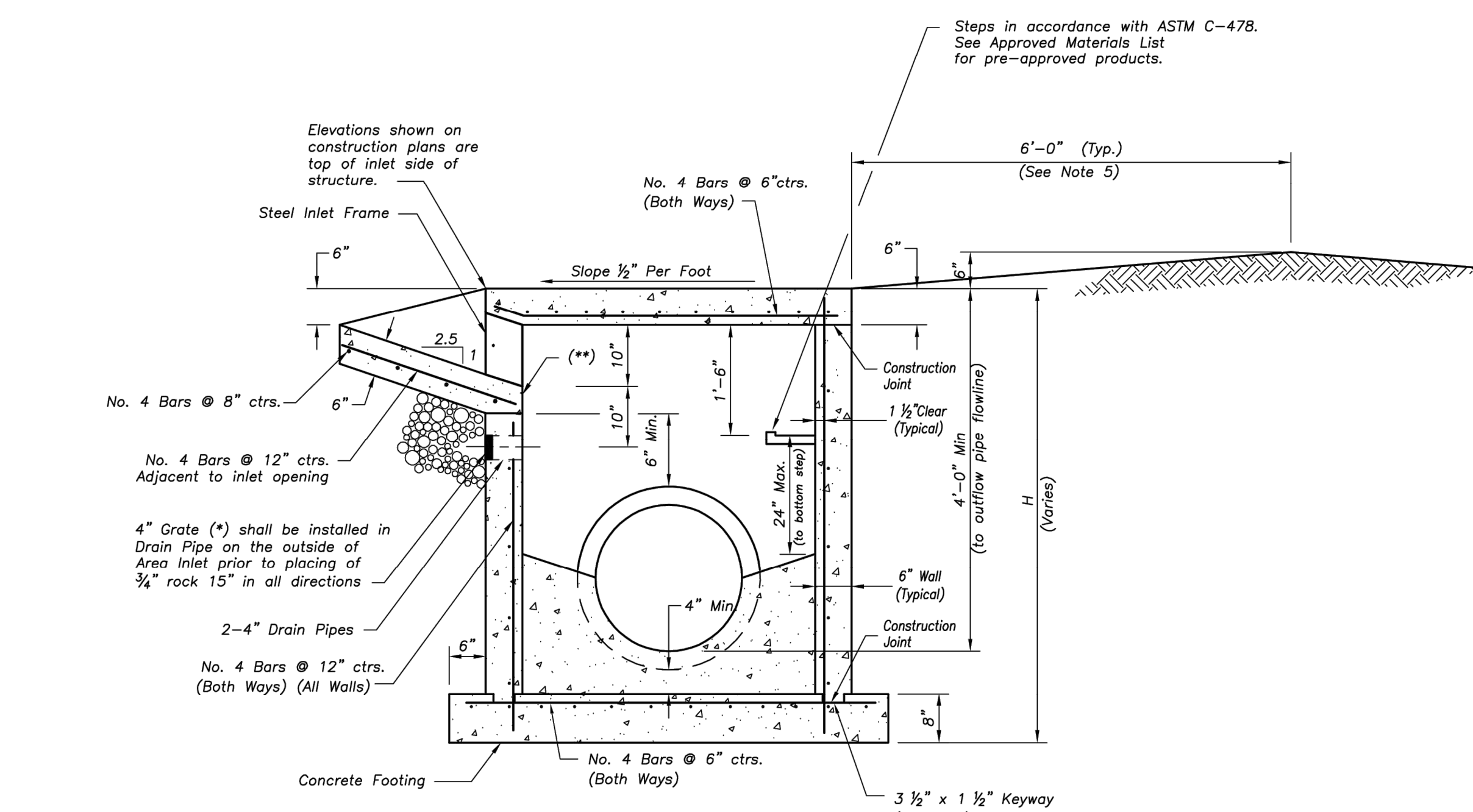
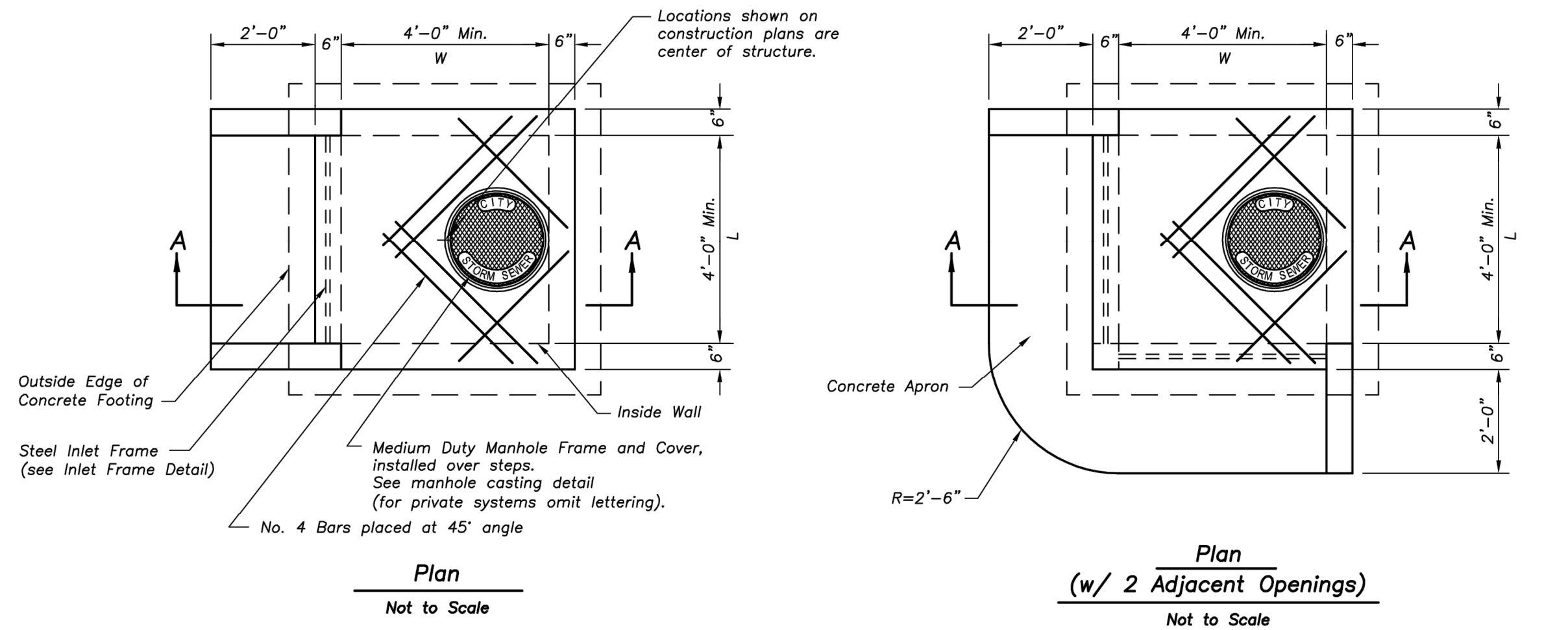
REVISIONS

2025

STORM SEWER DETAILS
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS

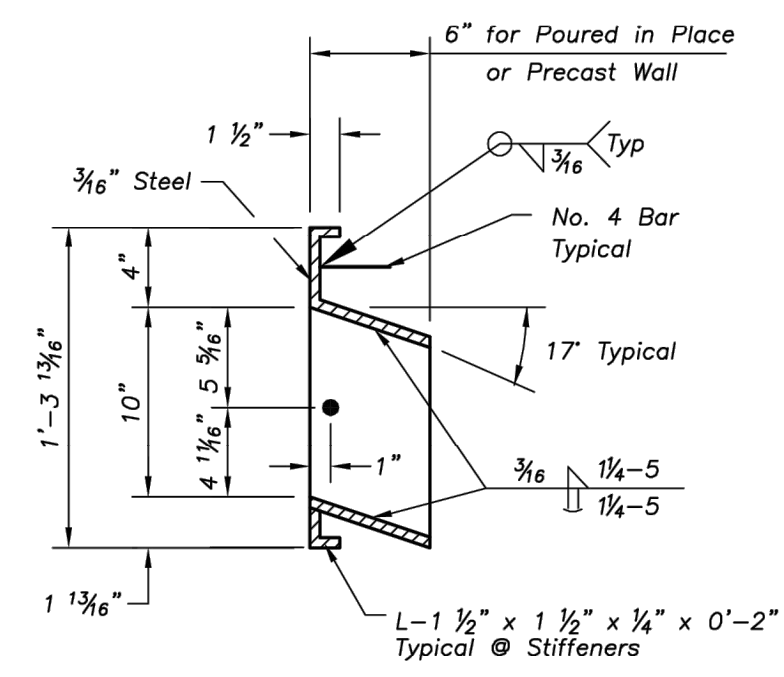
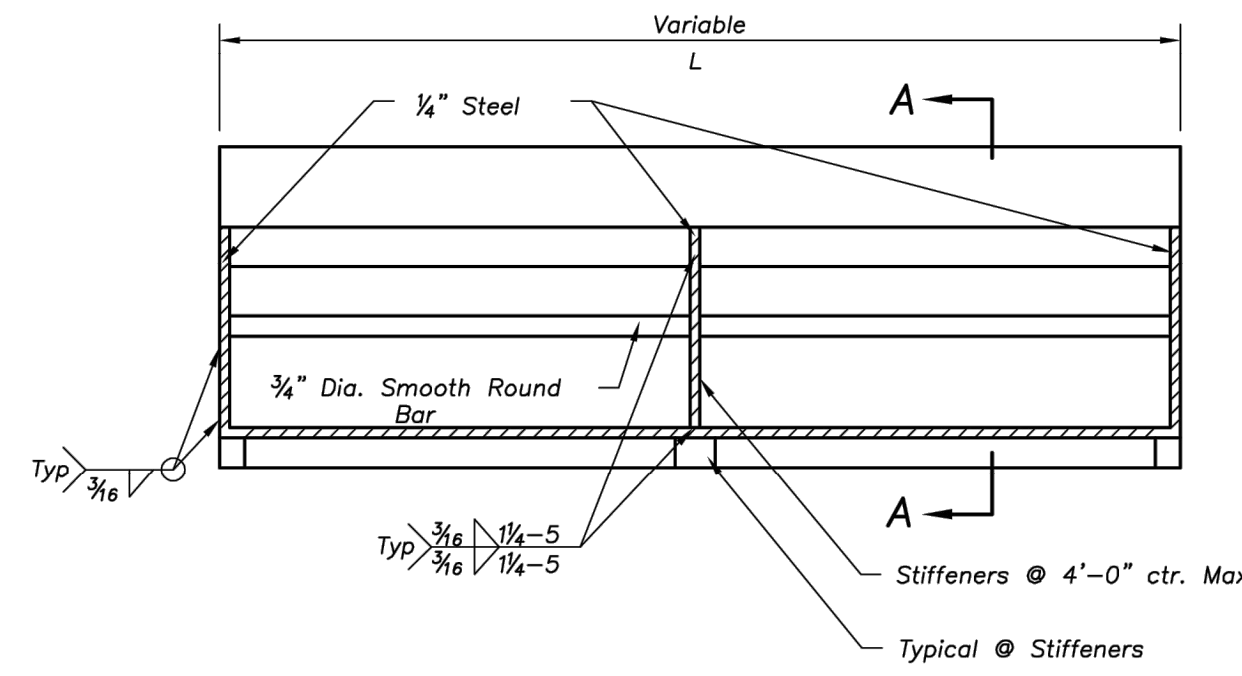
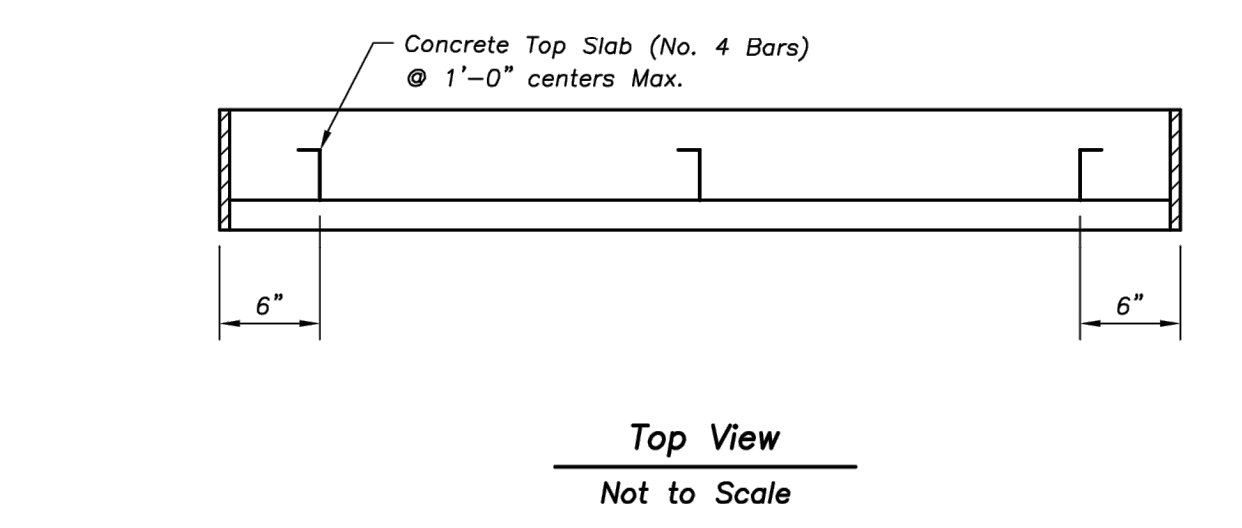
drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBE
project no.: 022-06529
drawing no. T_STMDTL 02206529
date: 1-31-2025

SHEET
58 of 189



Area Inlet Notes

- General**
- Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
 - All storm sewer structures shall be pre-cast or poured in place. If pre-cast structures are used, the tops shall be poured in place and the wall steel shall be left exposed to a height 2" below the finish top elevation, or as directed by the City Engineer.
 - Pre-cast shop drawings are to be approved by the City Engineer for publicly financed or administered projects. Pre-cast shop drawings for privately financed projects are to be submitted to the Engineering Services Division of the Planning and Development Services Department.
 - Do not scale these drawings for dimensions or clearances. Any questions regarding dimensions shall be brought to the attention of the City Engineer prior to construction.
 - Berm location and elevation may vary. See grading plan for exact location.
 - The first dimension listed in the construction notes is the "L" dimension. The second dimension is the "W" dimension. The concrete thickness and reinforcement shown is for boxes with ("L+H") and ("W+H") less than or equal to 20. For boxes with either of these calculations greater than 20, a special design is required.
- Concrete**
- Concrete used in this work shall be KCMMB4K, as approved by the Kansas City Metropolitan Materials Board, and shall meet the requirements of the OPMC.
 - Non-reinforced concrete invert shall be shaped to provide smooth flow.
 - Bevel all exposed edges with 3/4" triangular molding.
- Reinforcing Steel**
- Reinforcing steel shall be new billet, minimum Grade 40 as per ASTM A615, and shall be bent cold.
 - All dimensions relative to reinforcing steel are to centerline of bars. 2" clearance shall be provided throughout unless noted otherwise. Tolerance of +/- 1/8" shall be permitted.
 - All lap splices not shown shall be a minimum of 40 bar diameters in length.
 - All reinforcing steel shall be supported on fabricated steel bar supports @ 3'-0" maximum spacing.
 - All dowels shall be accurately placed and securely tied in place prior to placement of bottom slab concrete. Sticking of dowels into fresh or partially hardened concrete will not be acceptable.
- Construction**
- The bottom slab shall be at least 24 hours old before placing sidewall concrete. All sidewall forms shall remain in place a minimum of 24 hours after sidewalls are poured before removal, and after removal shall be immediately treated with membrane curing compound.
 - Pipe connections to pre-cast structures shall have a minimum of 6" of concrete around the entire pipe within 2' of the outside wall of structure. A minimum of 2" - maximum of 6" clearance is required between the outside pipe wall and the edge of blackout.
 - Tamped backfill shall be used around structures, except under paved areas. Tamped backfill shall be finely divided job excavated material free from debris, organic material and stones, compacted to 95% maximum density as determined by AASHTO STANDARD, Method T-99. Removable Flowable Fill is required under any portion of paved right of way, including the area within existing or future public street pavement and under existing or future curb and gutter, median, asphalt path, concrete sidewalk.



Area Inlet Frame Notes

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

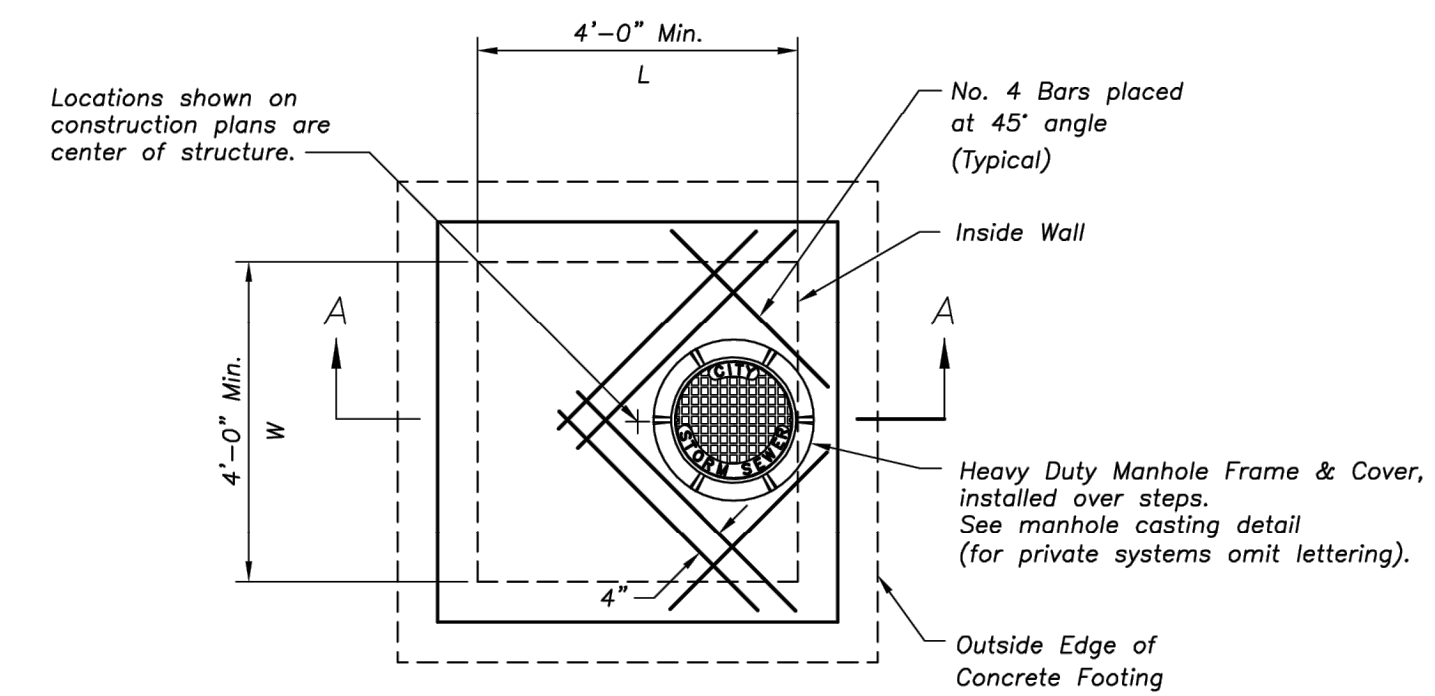
AREA INLET FRAME

REVISIONS:	Year 2023 Edition
RELATED ORDINANCES: OPMC Title 15	 DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS AREA INLET DETAILS
DATE: 09/28/99	SHEET: 23

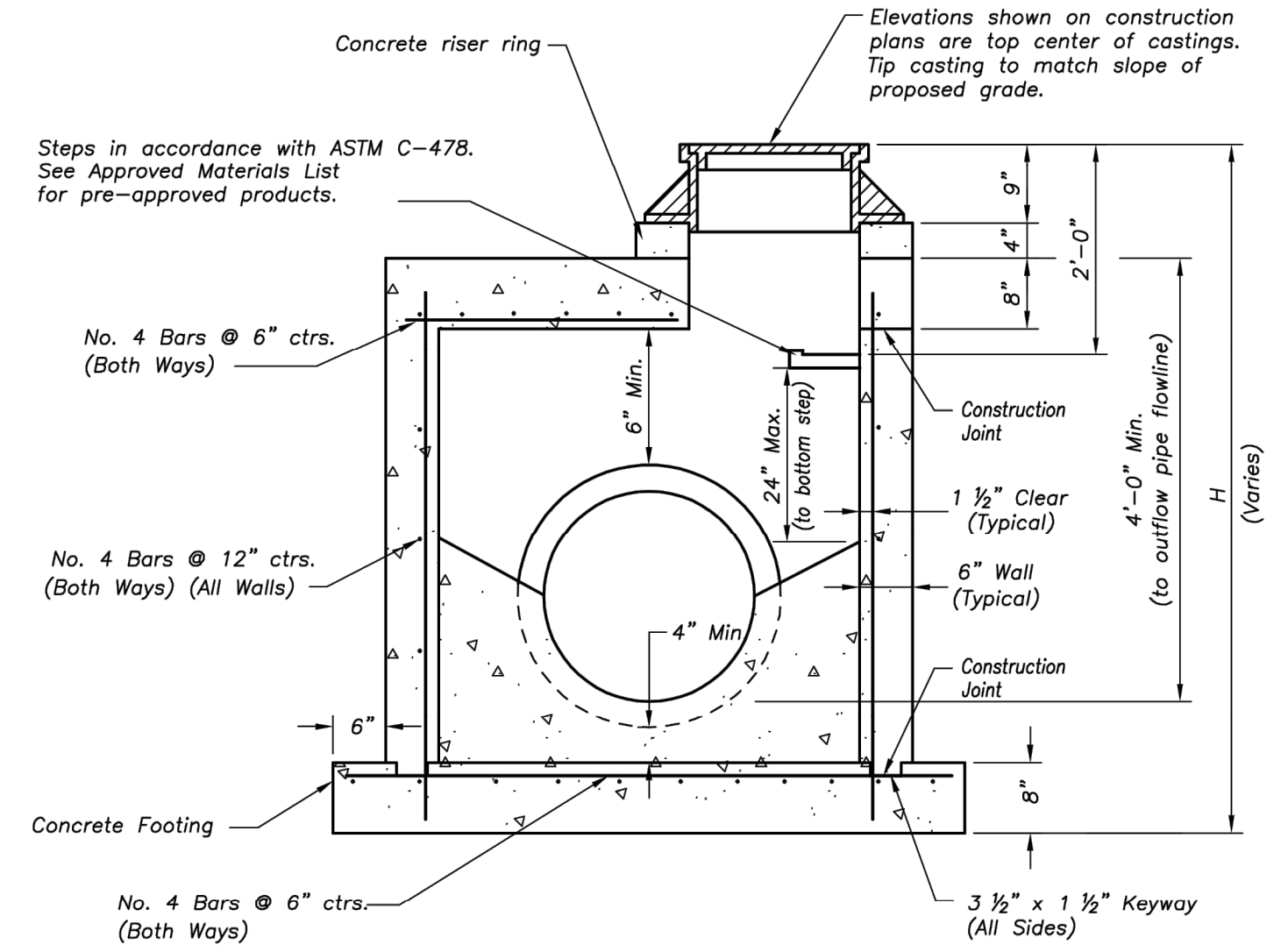
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 OP_Non-Setback_inlet

DRAWING NAME: K:\Details_Specs\Detail_Drawings\details_english\revision_23\inlet-a.dwg

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



Plan
Not to Scale



Section A-A
Not to Scale

JUNCTION BOX

Junction Box Notes

General

1. Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
2. All storm sewer structures shall be pre-cast or poured in place. If pre-cast structures are used, the tops shall be poured in place and the wall steel shall be left exposed to a height 2" below the finish top elevation, or as directed by the City Engineer.
3. Pre-cast shop drawings are to be approved by the City Engineer for publicly financed or administered projects. Pre-cast shop drawings for privately financed projects are to be submitted to the Engineering Services Division of the Planning and Development Services Department.
4. Do not scale these drawings for dimensions or clearances. Any questions regarding dimensions shall be brought to the attention of the City Engineer prior to construction.
5. The first dimension listed in the construction notes is the "L" dimension. The second dimension is the "W" dimension. The concrete thickness and reinforcement shown is for boxes with ("L"+"H") and ("W"+"H") less than or equal to 20. For boxes with either of these calculations greater than 20, a special design is required.

Concrete

6. Concrete used in this work shall be KCMBA4K, as approved by the Kansas City Metropolitan Materials Board, and shall meet the requirements of the OPMC.
7. Non-reinforced concrete invert shall be shaped to provide smooth flow.
8. Bevel all exposed edges with 3/4" triangular molding.

Reinforcing Steel

9. Reinforcing steel shall be new billet, minimum Grade 40 as per ASTM A615, and shall be bent cold.
10. All dimensions relative to reinforcing steel are to centerline of bars. 2" clearance shall be provided throughout unless noted otherwise. Tolerance of +/- 1/8" shall be permitted.
11. All lap splices not shown shall be a minimum of 40 bar diameters in length.
12. All reinforcing steel shall be supported on fabricated steel bar supports @ 3'-0" maximum spacing.
13. All dowels shall be accurately placed and securely tied in place prior to placement of bottom slab concrete. Sticking of dowels into fresh or partially hardened concrete will not be acceptable.

Construction


14. The bottom slab shall be at least 24 hours old before placing sidewall concrete. All sidewall forms shall remain in place a minimum of 24 hours after sidewalls are poured before removal, and after removal shall be immediately treated with membrane curing compound.
15. Pipe connections to pre-cast structures shall have a minimum of 6" of concrete around the entire pipe within 2' of the outside wall of structure. A minimum of 2" - maximum of 6" clearance is required between the outside pipe wall and the edge of blackout.
16. Tamped backfill shall be used around structures, except under paved areas. Tamped backfill shall be finely divided job excavated material free from debris, organic material and stones, compacted to 95% maximum density as determined by AASHTO STANDARD, Method T-99. Removable Flowable Fill is required under any portion of paved right of way, including the area within existing or future public street pavement and under existing or future curb and gutter, median, asphalt path, concrete sidewalk.

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STORM SEWER DETAILS	COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	2025
OVERLAND PARK, KANSAS		

REVISIONS:	
RELATED ORDINANCES:	
OPMC Title 15	

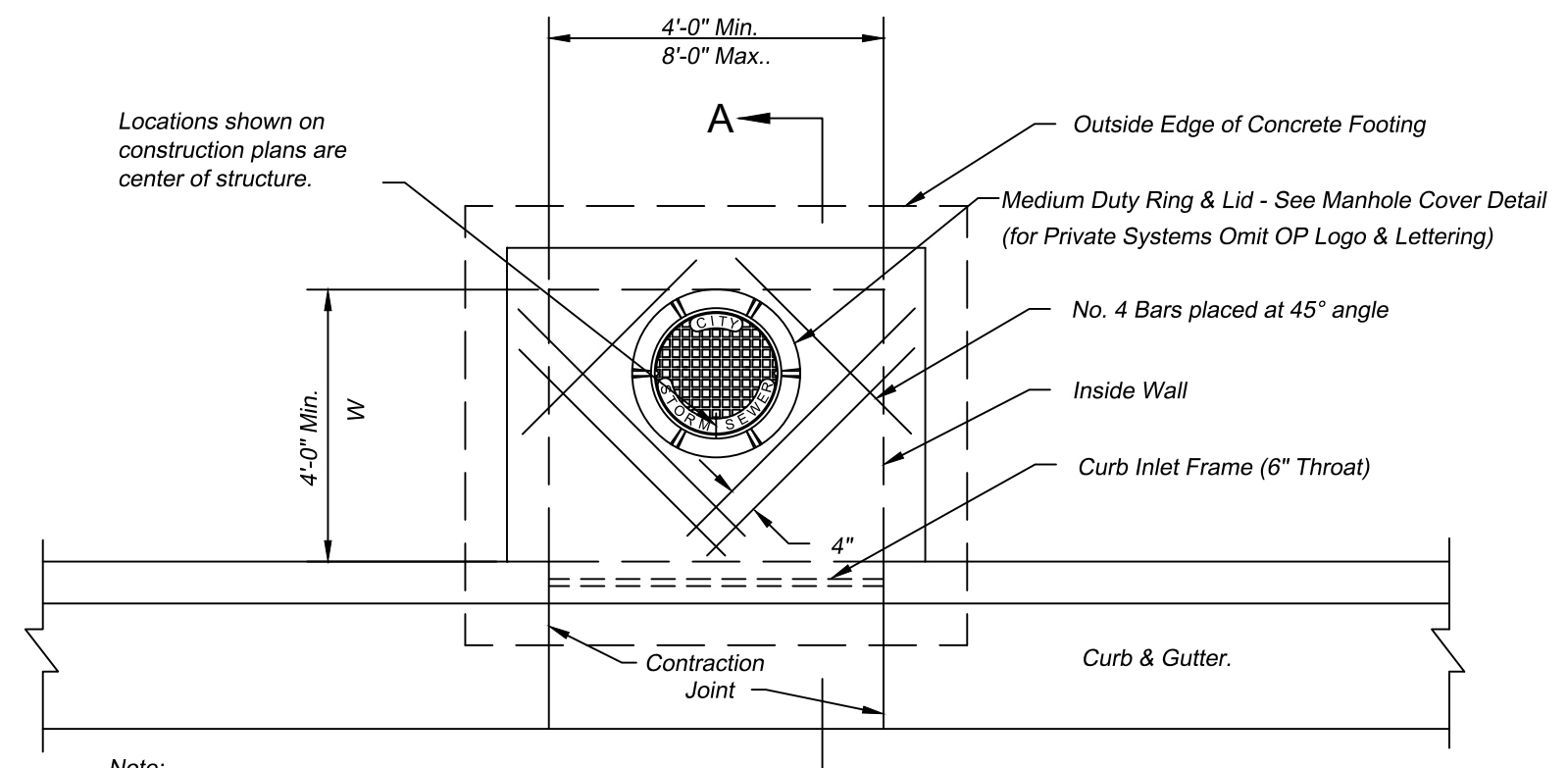
Year 2023 Edition


 ABOVE AND BEYOND. BY DESIGN.
 DEPARTMENT OF PUBLIC WORKS
 STANDARD DETAILS
JUNCTION BOX DETAILS

DATE: 09/28/99 SHEET: 24

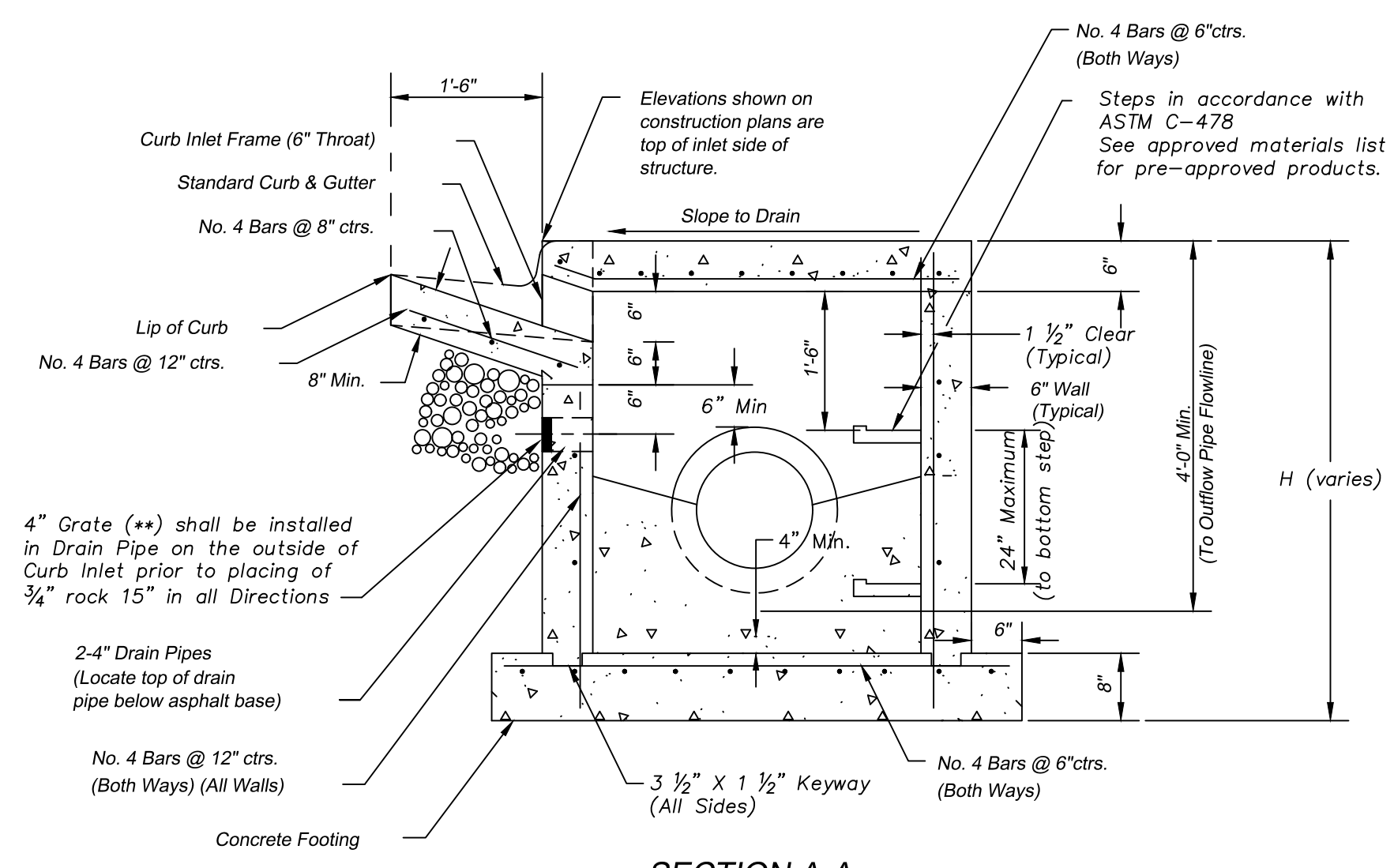
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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



Note:
Transition Curb and Gutter to
Match Proposed Curb Inlet
in 3' (Typical Both Sides).

PLAN
Not to Scale

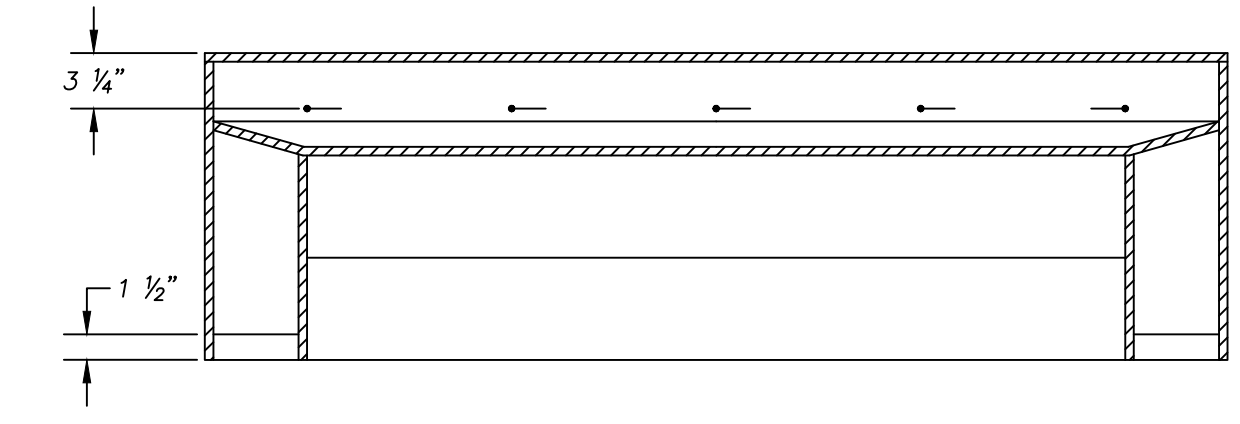


SECTION A-A
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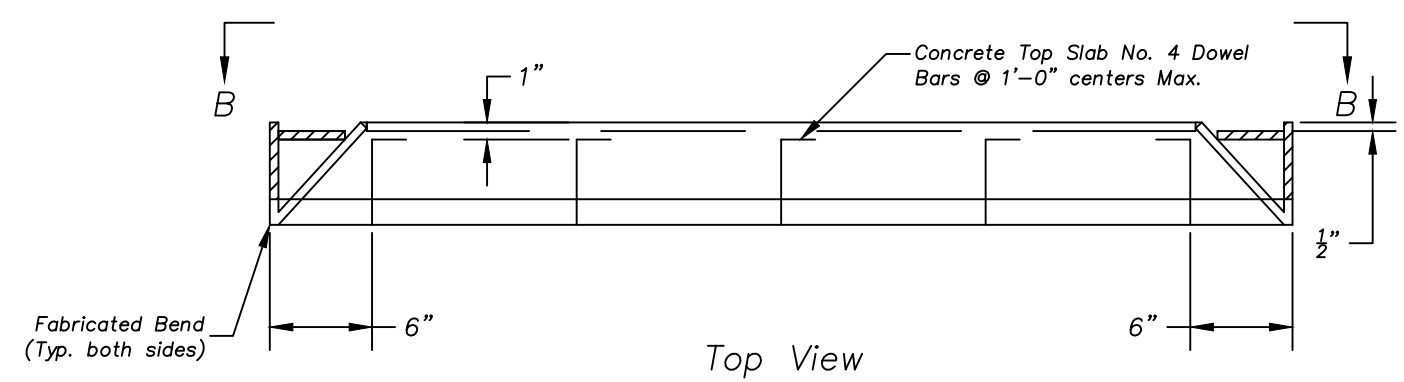
NON-SETBACK CURB INLET (6\"/>

Non-Setback Curb Inlet Notes

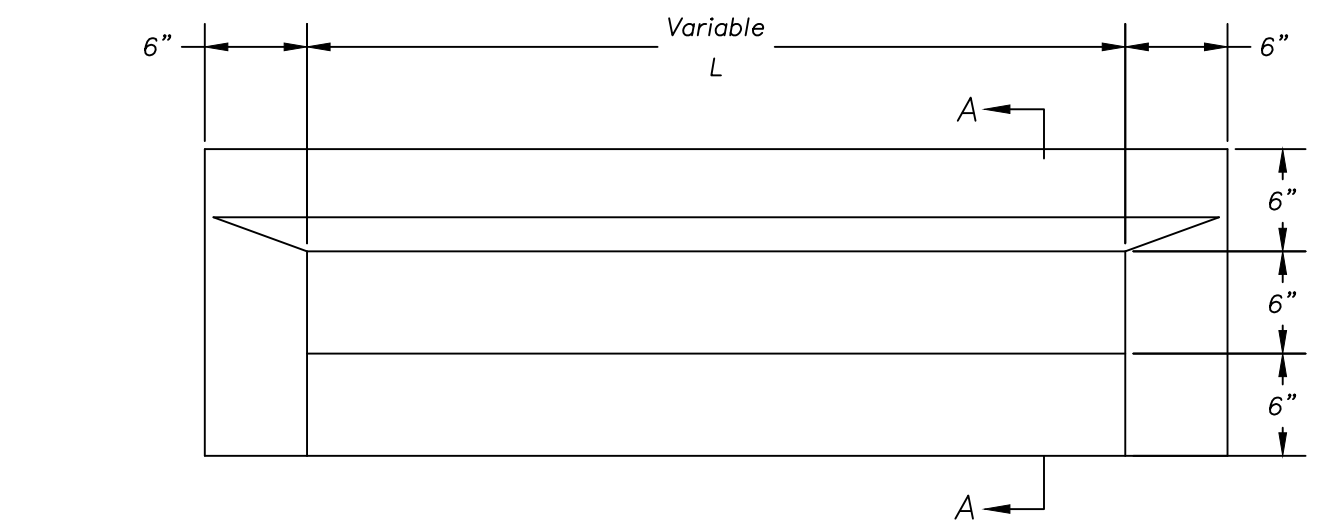
- General**
- Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
 - All storm sewer structures shall be pre-cast or poured in place. If pre-cast structures are used for publicly financed, maintained or administered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



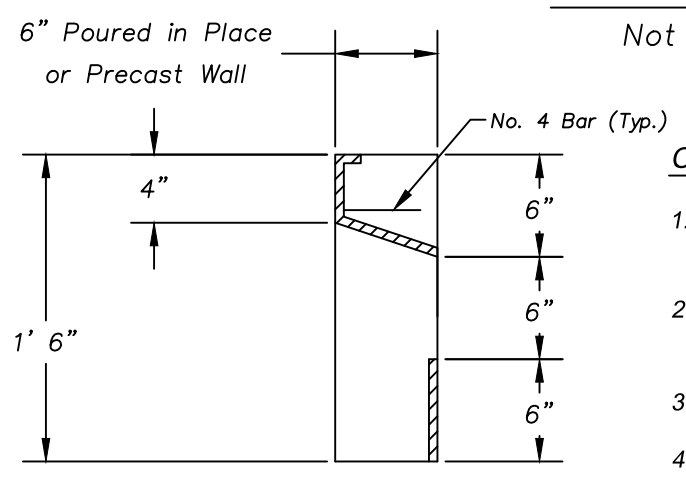
Rear View (Section B-B)
Not to Scale



Top View
Not to Scale



Front View
Not to Scale



Side View (Section A-A)
Not to Scale

Curb Inlet Frame Notes

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

NOTE TO DESIGN PROFESSIONAL:
This supplemental detail has been prepared by the City of Overland Park Planning Department solely for the convenience of registered design professionals. The City disclaims all warranties and representations of any kind, expressed or implied, with regard to this supplemental detail, including but not limited to, any warranty related to the fitness for a particular purpose.
The design professional assumes all responsibility for verification that this supplemental design detail is suitable for use on any specific construction plan. By incorporation of this supplemental design detail into a construction plan, the design professional certifies that they have determined that this supplemental design detail is suitable for use on their specific construction plan.

WEB SITE ADDRESS: <http://www.opkansas.org/Doing-Business/Construction-Details>

REVISIONS:	
5/20/2011	
12/1/2012	Revised Const. notes
RELATED ORDINANCES:	
OPMC Title 15	

Year 2013 Edition

OVERLAND PARK
KANSAS
ABOVE AND BEYOND. BY DESIGN.

PLANNING DEPARTMENT
SUPPLEMENTAL DETAILS

NON-SETBACK CURB INLET

DATE: 5/20/2012 SHEET:

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STORM SEWER DETAILS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

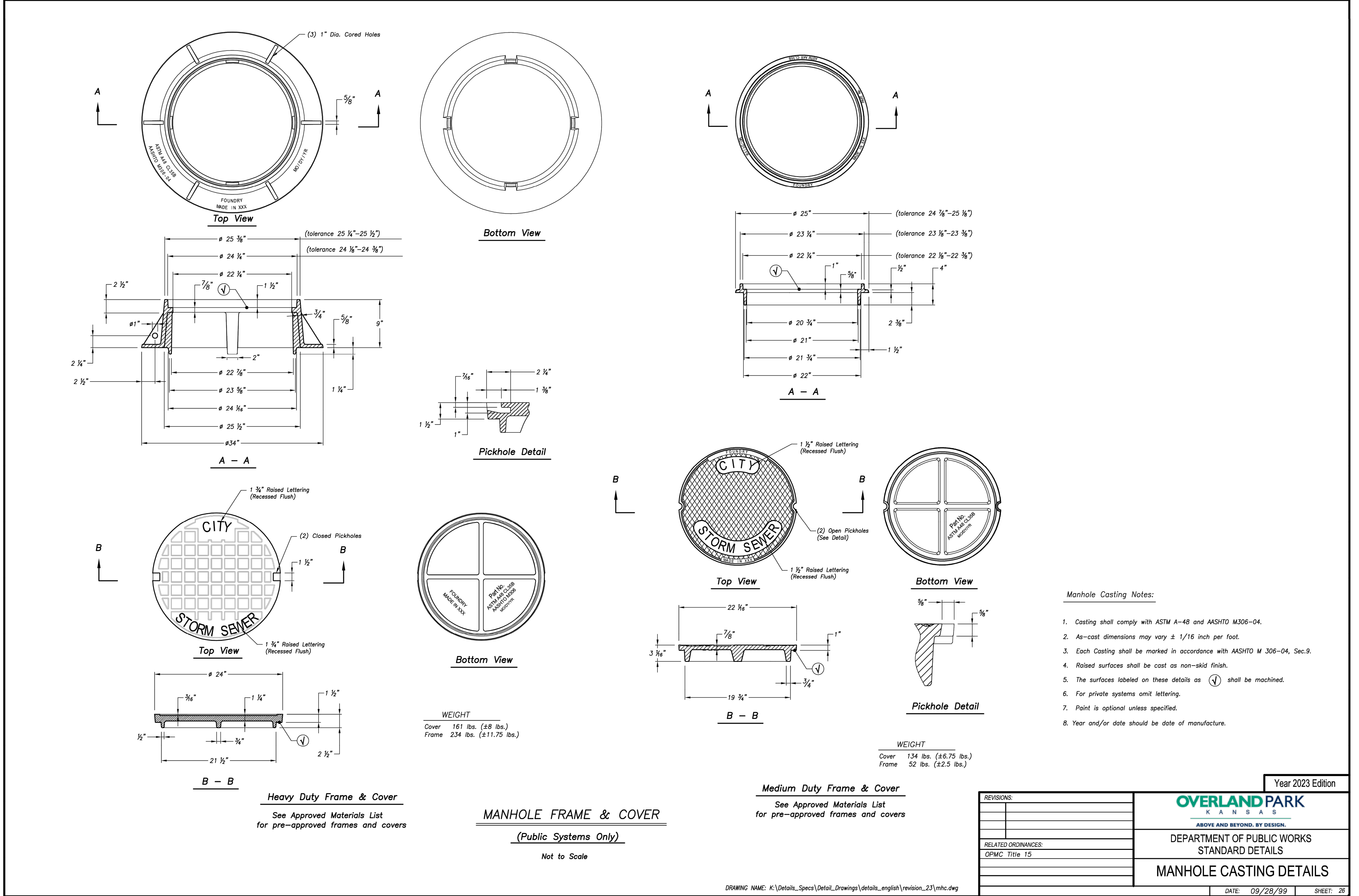
2025

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no. T_STMDTL 02206529
date: 1-31-2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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 www.olson.com

DWG: F:\2022\06501-07000\022-06529\40-Design\AutoCAD\Final Plans\Sheets\RDWY\DETAILS\STORM SEWER DETAILS\T_STMDTL_02206529.dwg
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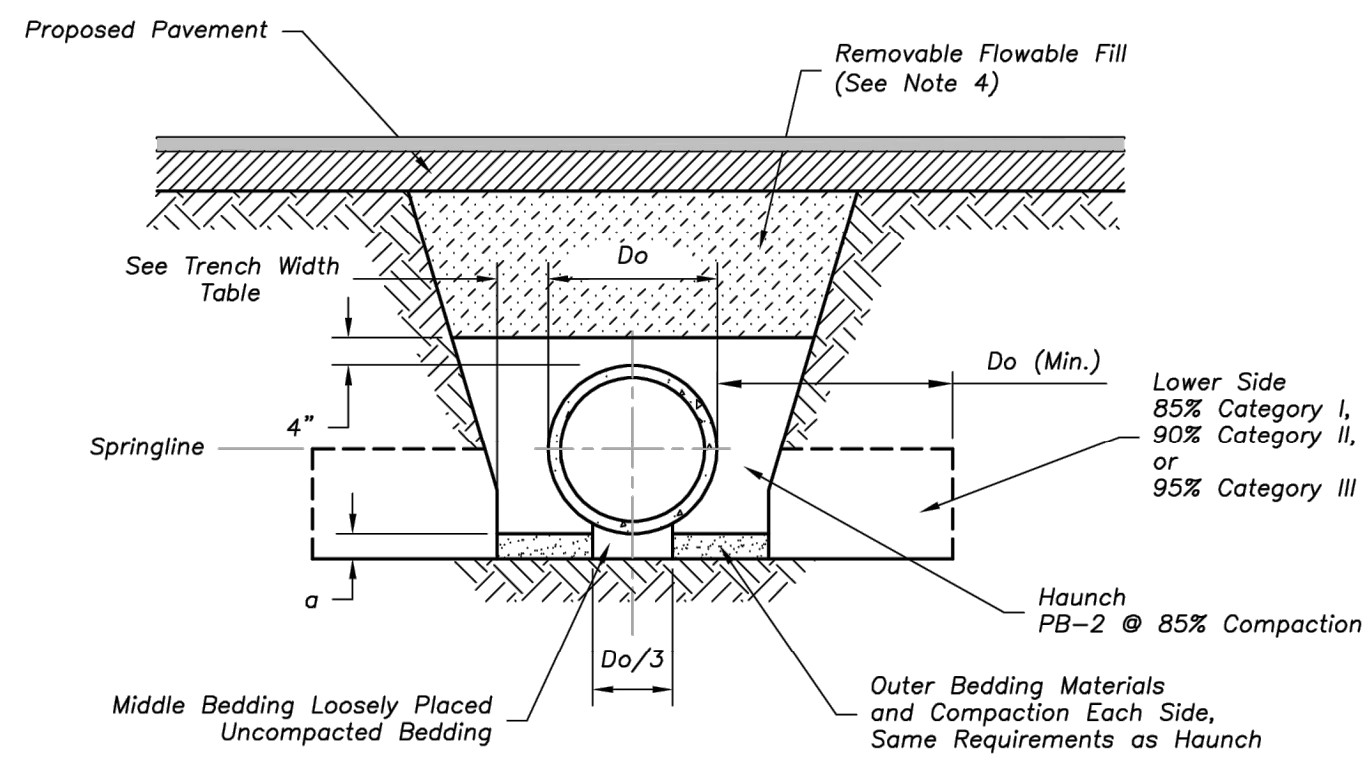
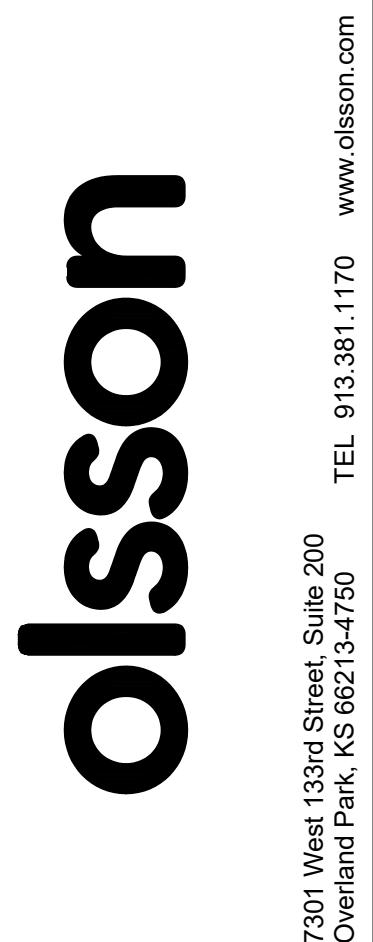


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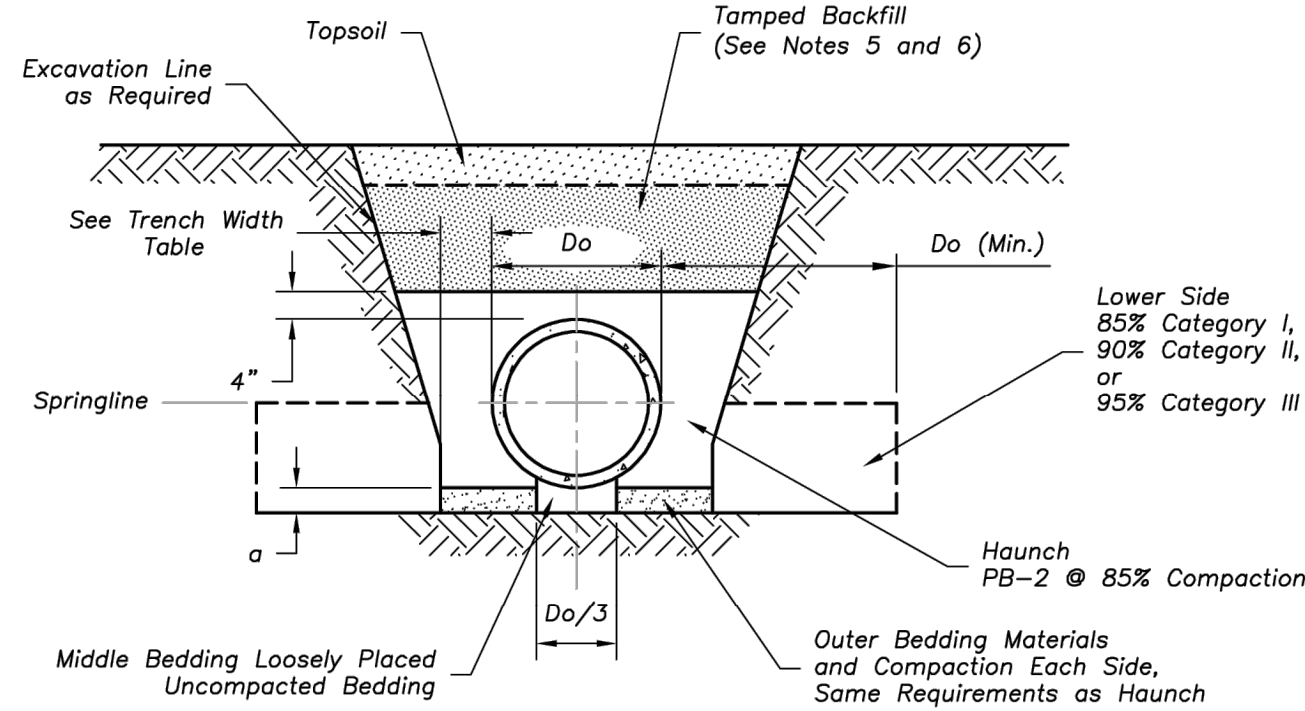
STORM SEWER DETAILS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

Year 2023 Edition
OVERLAND PARK KANSAS <small>ABOVE AND BEYOND. BY DESIGN.</small>
DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS MANHOLE CASTING DETAILS
REVISIONS: RELATED ORDINANCES: OPMC Title 15
DATE: 09/28/99 SHEET: 26

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
 project no.: 022-06529
 drawing no. T_STMDTL_02206529
 date: 1-31-2025



Trench Installation under Paved Surface



Trench Installation outside Paved Surface

RCP installation notes:

1. Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
2. Category I material shall be crushed stone or siliceous gravel meeting the requirements of Section 1107 of the Standard Specifications, Aggregate Designation PB-2.
3. Compaction and soil symbols - i.e. "95% Category I" - refers to Category I soil material with minimum standard Proctor compaction of 95%.
4. Removable Flowable Fill is required as shown on the Trench Installation detail in any paved portion of the right of way, including the area within existing or future public street pavement, under existing or future curb and gutter, median, shared use path, parking lots, concrete sidewalk. Also under existing concrete, asphalt, or gravel driveway approach and under any future driveway approach, when the location is known. Flowable Fill shall be considered subsidiary to the pipe installation.
5. Tamped backfill shall be used at all other locations unless otherwise noted. Tamped backfill shall be finely divided job excavated material free from debris, organic material and stones, compacted to 95% maximum density as determined by AASHTO STANDARD, Method T-99.
6. Granular fill may be substituted for all or part of tamped backfill. Granular fill shall be AB-3 OP Modified, as specified in the Standard Specifications, compacted to a minimum of 95% of optimum density, within 0 to minus 2 percent of optimum moisture placed up to an elevation 6" below surface. Topsoil shall be used in the top 6".
7. When the existing grade is not at least 18" above the proposed top of pipe profile, install compacted fill (95% Std. Proctor) to 18" above top of pipe prior to excavation for storm sewer installation, or as approved by the City Engineer.
8. Soil in outer bedding and haunch zones shall be compacted to at least the same compaction as specified for the majority of soil in the backfill zone.
9. The trench width shall be wider than shown if required for adequate space to attain the specified compaction in the haunch and bedding zones.
10. For trench walls that are within 10 degrees of vertical, the compaction or firmness of the soil in the trench walls and lower side zone need not be considered.
11. For trench walls with greater than 10 degree slopes that consist of embankment, the lower side shall be compacted to at least the same compaction as specified for the soil in the overfill zone.
12. See street repair details for additional backfill requirements under streets roadways, curbs, sidewalks and other structures in Right-of-Way.

TRENCH WIDTH TABLE

Pipe Size (inches)	Minimum Side Wall Clearance (inches)
12 - 18	6
21	6.5
24	7
27	8
30	8.5
33	9
36	10
42	11
48	12.5
54	13.5
60	15
66	15
72	15.5
78	15.5
84	16
90	16.5
96	17
102	17.5
108	18

TABLE OF FILL DEPTHS BELOW PIPE

D	"a" min. in Soil	"a" min. in Rock
60" & smaller	3"	6"
66" & larger	6"	12"

RCP INSTALLATION

No Scale

REVISIONS:		Year 2023 Edition
RELATED ORDINANCES:		 ABOVE AND BEYOND. BY DESIGN.
OPMC Title 15		
		DEPARTMENT OF PUBLIC WORKS
		STANDARD DETAILS
		RCP INSTALLATION DETAIL
	DATE: 09/28/99	SHEET: 30

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

2025

STORM SEWER DETAILS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS

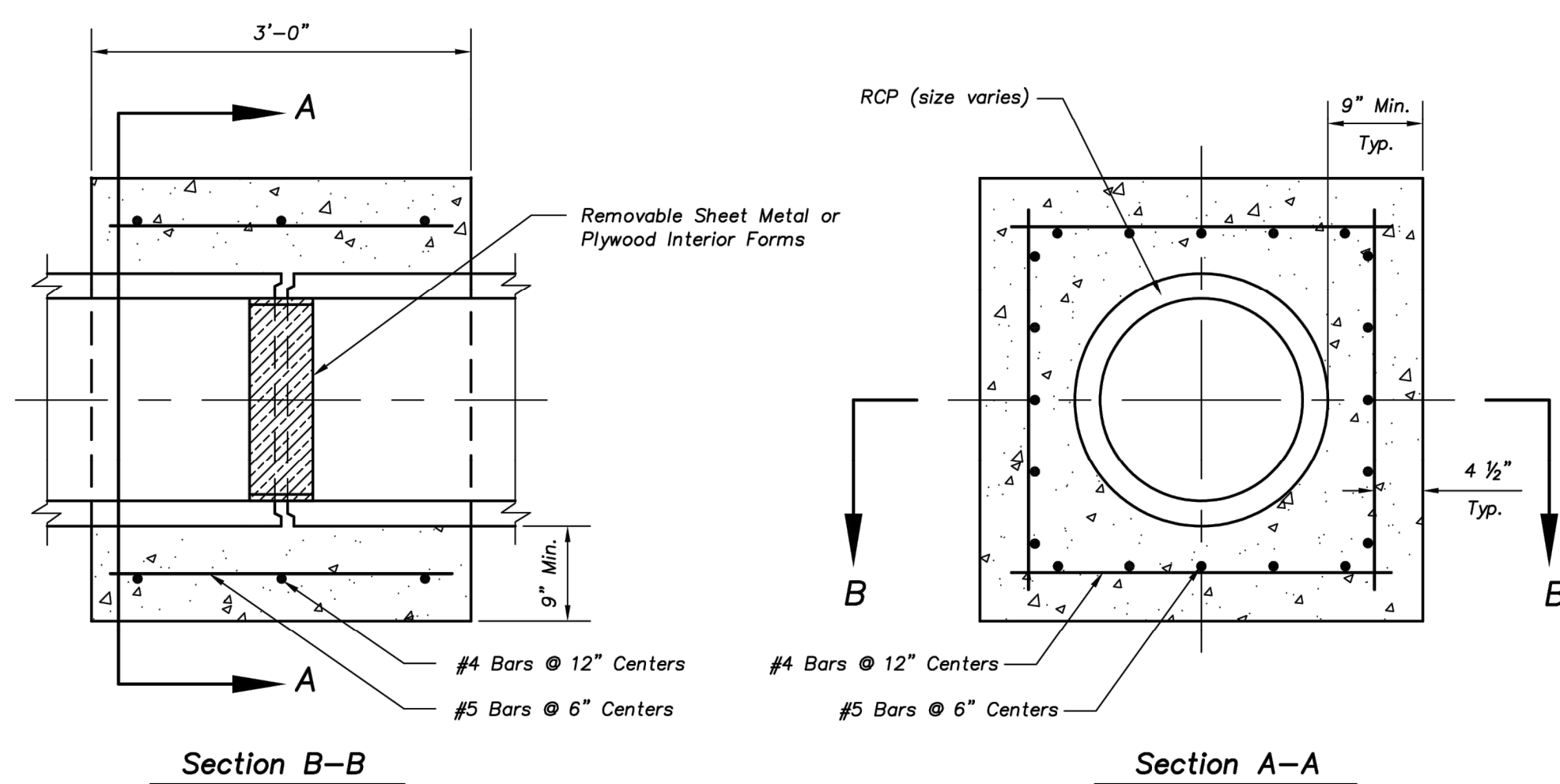
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 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
 project no.: 022-06529
 drawing no. T_STMDTL 02206529
 date: 1-31-2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

olsson

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Overland Park, KS 66213-4760
TEL 913.381.1170 www.olson.com


DWG: F:\2022\06501-07000\022-06529-40-Design\AutoCAD\Final Plans\Sheets\RDWY\DETAILS\STORM_SEWER DETAILS\I_STMDTL_02206529.dwg
DATE: Feb 02, 2025 1:07pm XREFS: I_PTBLK_02206529 OP_Non-Setback_inlet OP_Non-Setback_inlet (NO COLOR) USER: rmwelch



CONCRETE COLLAR DETAIL
Not to Scale

Concrete Collar Notes

- Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
- Use KCMMB4K Concrete throughout.
- Reinforcing steel shall be new billet, minimum Grade 40 as per ASTM A615, and shall be bent cold.
- All dimensions relative to reinforcing steel are to centerline of bars. 2" clearance shall be provided throughout unless noted otherwise. Tolerance of +/- 1/8" shall be permitted.
- All lap splices not shown shall be a minimum of 40 bar diameters in length.
- All dowels shall be accurately placed and securely tied in place prior to placement of bottom slab concrete. Sticking of dowels into fresh or partially hardened concrete will not be acceptable.
- All reinforcing steel shall be supported on fabricated steel bar supports @ 3'-0" maximum spacing.
- Do not scale these drawings for dimensions or clearances. Any questions regarding dimensions shall be brought to the attention of the City Engineer prior to construction.

REVISIONS:	Year 2024 Edition	
RELATED ORDINANCES:	 DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS CONCRETE COLLAR DETAIL	
OPMC Title 15	DATE: 09/28/99	SHEET: 29

DRAWING NAME: K:\Details_Specs\Detail_Drawings\details_english\revision_24\29 Concrete Collar Detail.dwg

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STORM SEWER DETAILS	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no. I_STMDTL_02206529
date: 1-31-2025

SUMMARY OF BRIDGE QUANTITIES													
ITEM	EXCAVATION		KCM MB 5K CONCRETE	REINFORCING STEEL		PILE (STEEL) (HP12x53)	PRE-DRILLED PILE HOLES	DRILLED SHAFT (4'-6") (CASED)	SONIC TEST (DRILLED SHAFT) (SET PRICE)	CORE HOLE (INVESTIGATIVE)	PRESTRESSED CONCRETE BEAM (NU35)	PRESTRESSED CONCRETE PANELS	BRIDGE HANDRAIL (METAL) (1'-10")
	CLASS I	CLASS II		(GRADE 60)	(GRADE 60) (EPOXY COATED)								
LOCATION	Cu. Yds.	Cu. Yds.	Cu. Yds.	Lbs.	Lbs.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Each	Lin. Ft.	Lin. Ft.	Sq. Ft.	Lin. Ft.
ABUTMENT NO. 1	293	---	∅62.6	---	∅7,790	600	570	---	---	---	---	---	---
PIER NO. 1	---	*27	116.3	23,610	---	---	---	132	---	29	---	---	---
PIER NO. 2	---	*20	112.2	22,990	---	---	---	144	---	31	---	---	---
ABUTMENT NO. 2	292	---	∅62.6	---	∅7,790	540	510	---	---	---	---	---	---
SUBSTRUCTURE	585	*47	353.7	46,600	15,580	1,140	1,080	276	1	60	---	---	---
SUPERSTRUCTURE	---	---	834.2	---	184,730	---	---	---	---	---	2,327	9,492	897
Total	585	*47	1187.9	46,600	200,310	†1,140	1,080	276	1	60	∅2,327	9,492	897

- ∅ Concrete and reinforcing steel in the abutments placed above the beam seat are included in the superstructure total quantities.
- ⊗ This includes 13 @ 59', 13 @ 66', & 13 @ 54'
- † This includes: 15 @ 40' (Abut. No. 1)
15 @ 36' (Abut. No. 2)
- Quantities include portion over the approach slabs
- * Excavation for pier drilled shafts are calculated relative to existing groundline.
- ♣ Stamped Concrete with Integral Color

SUMMARY OF BRIDGE QUANTITIES													
ITEM	CONCRETE MASONRY COATING	SIMULATED STONE MASONRY STAIN	ABUTMENT AGGREGATE DRAIN	BRIDGE BACKWALL PROTECTION SYSTEM	SLOPE PROTECTION (RIPRAP STONE) (3'-0")	GEOTEXTILE FABRIC	CURING ENVIRONMENT	BRIDGE NUMBER PLAQUE **	ELECTRIC CONDUIT (2") (NON-METALLIC)	MULTI-LAYER POLYMER CONCRETE OVERLAY	CONCRETE PAVEMENT (6" UNIFORM) (AE) ●♣	MODIFIED TYPE E CURB ●	DRILLING AND GROUTING ●
ABUTMENT NO. 1	---	---	151	116	---	---	---	---	---	---	---	---	---
PIER NO. 1	---	---	---	---	---	---	---	---	---	---	---	---	---
PIER NO. 2	---	---	---	---	---	---	---	---	---	---	---	---	---
ABUTMENT NO. 2	---	---	151	116	---	---	---	---	---	---	---	---	---
SUBSTRUCTURE	---	---	302	232	2,984	3,206	---	---	---	---	---	---	---
SUPERSTRUCTURE	209	312	---	---	---	---	1	1	219	1,942	111	498	1,250
Total	209	312	302	232	2,984	3,206	1	1	219	1,942	111	498	1,250

** Non-Participating

NOTE: Contractor Construction Staking for bridges requires two independent surveys. See KDOT Specifications.

INDEX OF BRIDGE DRAWINGS	
SHEET NO.	DRAWING TITLES
64	BRIDGE QUANTITIES & INDEX OF DRAWINGS
65	GENERAL NOTES
66	CONTOUR MAP
67	CONSTRUCTION LAYOUT
68	ENGINEERING GEOLOGY
69	ABUTMENT NO. 1 DETAILS (1 OF 2)
70	ABUTMENT NO. 1 DETAILS (2 OF 2)
71	ABUTMENT NO. 2 DETAILS (1 OF 2)
72	ABUTMENT NO. 2 DETAILS (2 OF 2)
73	ABUTMENT AGGREGATE DRAIN
74	PIER DETAILS (1 of 2)
75	PIER DETAILS (2 of 2)
76	FRAMING PLAN
77	NU35 BEAM DETAILS (1 OF 2)
78	NU35 BEAM DETAILS (2 OF 2)
79	STANDARD PRESTRESSED CONCRETE BEAM DETAILS NU 35
80	PRESTRESSED CONCRETE PANEL DETAILS (NU GIRDERS)
81	SLAB PLAN
82	SLAB TYPICAL SECTION
84	AUXILIARY SLAB DETAILS
83	MEDIAN DETAILS
85	PIER DIAPHRAGM DETAILS
86	ROADWAY SURFACE ELEVATIONS
87	BRIDGE LIGHTING LAYOUT AND DETAILS
88	CORRAL RAIL DETAILS
89	KNEE WALL DETAILS
90	CORRAL RAIL AND KNEE WALL AESTHETIC DETAILS
91	BRIDGE HANDRAIL DETAILS
92	BILL OF REINFORCING (1 OF 2)
93	BILL OF REINFORCING (2 OF 2)
94	BRIDGE EXCAVATION (LRFD)
95	STANDARD PILE DETAILS
96	SUPPORTS AND SPACERS FOR REINFORCING STEEL
97	BRIDGE BERM AND SLOPE PROTECTION U-TYPE ABUTMENT

LRFR RATING FACTORS			
DESIGN LOAD	RATING LEVEL	INVENTORY	OPERATING
	HL-93 LOADING		

2018 Manual for Bridge Evaluation

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

BRIDGE QUANTITIES AND INDEX OF DRAWINGS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 BRIDGE NO. 421950462874056 (LPA ID: 056)
 OVERLAND PARK, KANSAS
 2025

drawn by: ZDD
 checked by: KAS
 approved by: KAS
 QA/QC by: GCL
 project no.: 022-08522
 drawing no.:
 date: 01/31/2025

GENERAL NOTES

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

CONSTRUCTION SPECIFICATIONS:

Kansas Department of Transportation Standard Specifications for State Road and Bridge Construction, 2015 Edition and Special Provisions.

DESIGN SPECIFICATIONS:

AASHTO LRFD Bridge Design Specifications, 9th Edition.

DESIGN LOADING:

Live Load	HL-93
Dead Load	Design Dead Load includes an allowance of 15 psf for a future wearing surface.

UNIT STRESSES:

KCMMB 5K Concrete	f'c = 5.0 ksi (Design using 4.0 ksi concrete strength)
Prestressed Beam Concrete	f'c = 8.0 ksi
Prestressed Panel Concrete	f'c = 5.0 ksi
Reinforcing Steel (Grade 60)	fy = 60 ksi
Prestressing Strand (Beams)	0.6" ø Grade 270 uncoated 7-wire low-relaxation strand
Prestressing Strand (Panels)	3/8" ø Grade 270 uncoated 7-wire low-relaxation strand

LRFD DESIGN PILE LOADS:

Design Loading (tons/pile)	Strength I	Service I	Phi
Abut. No. 1 & 2	100.7	71.8	0.35

LRFD DESIGN DRILLED SHAFT LOAD:

Design Loading (tons/shaft)	Strength	Service	Phi
Pier No. 2	484 tons	350 tons	End Bearing 0.50

CONTRACTOR CONSTRUCTION STAKING:

Contractor Construction Staking for clear span bridges requires two independent surveys. See KDOT Specifications.

GEOLOGY REPORT:

The geotechnical information shown on the plans is the best information available. A copy of the Geotechnical Engineering Report (November 2023) is available from Olsson. This report is for information only.

CONCRETE:

All concrete is bid as KCMMB 5K Concrete. Bevel all exposed edges of all concrete with a ¼" inch triangular molding, except as otherwise noted on the plans. Construction joints are optional with the Contractor, but if used, place only at locations shown, or at locations approved by the Engineer.

DRILLED SHAFTS:

Construct the drilled shafts using the cased method. A permanent casing is required. All excavation, concrete, reinforcing steel, pipes for Sonic Testing, casings, labor, and incidentals necessary to complete the shaft as shown on the details and as directed by KDOT Specifications shall be included in the bid item "Drilled Shafts (4'-6") (Cased)". Use KCMMB 5K Concrete in the drilled shaft. In no case shall the bottom of the drilled shaft be placed higher than the elevation shown unless otherwise directed by the Engineer's geologist.

Drill an Investigative Core Hole at the locations shown on the Engineering Geology sheets. See KDOT Specifications.

If the location of the top of the shaft is such that the casing cannot be overtopped to remove concrete impurities, provide extra casing length to over-pour the concrete in the shaft and chip back to the plan elevation of the top of the shaft.

If the permanent casing is to be corrugated metal pipe (CMP) then it will be galvanized.

SONIC TESTING:

Equip all drilled shafts with piping to allow sonic testing to be done. Install pipes at locations shown on the plans. All wet pours will be tested. Also, the Engineer has the option to require sonic, non-destructive, integrity testing at any location of concern. Sonic testing shall be paid for at the unit price set for "Sonic Test (Drilled Shaft) (Set Price)". If the sonic testing indicates defective concrete in the shaft, the Engineer will measure the first sonic test for payment, and the Contractor is responsible for subsequent sonic testing of that shaft. Report test results directly to the Engineer. No work will be done above the top of drilled shaft without the approval of the Engineer.

PRE-DRILLED PILING:

All steel piles at the abutments shall be pre-drilled to the following elevations.

Abutment No. 1:	Elev. 872.00
Abutment No. 2:	Elev. 875.00

Confirm that the bottom of the pre-drilled pile holes is free from loose material. Set the piles in the holes and backfill without driving. Backfill the annular space between the abutment piles and holes with KCMMB 4K Concrete to top of sound rock. Backfill the remaining annular space with sand.

Cost of the backfill is subsidiary to "Pre-drilled Pile Holes".

PRESTRESSED BEAM CONCRETE:

Use air entrained concrete with select coarse aggregate as specified in the Special Provisions. The release strength and 28 day strength requirements shall be as noted on the plans. Submit mix design to the Engineer for approval.

REINFORCING STEEL:

All reinforcing steel dimensions are to the centerline of bars unless otherwise noted. All reinforcing steel, except the spiral bars, shall conform to the requirements of ASTM A615, Grade 60. Spiral bars may meet the requirements of either ASTM A615 (Gr. 40 or 60) or AASHTO M 32, and are included in the bid item "Reinforcing Steel (Gr. 60)". Where non-coated bars come in contact with epoxy coated bars, they need not be coated.

DEMOLITION PLANS:

This is a Category A Demolition. Submit detailed Demolition Plans to the Field Engineer per KDOT Specifications. No Demolition work will begin without approved Demolition Plans. A Licensed Professional Engineer is not required.

REMOVAL OF EXISTING STRUCTURES:

Removal of the existing bridge is included in the projectwide Lump Sum bid item "Removal of Existing Structures".

DECK PROTECTIVE SYSTEM:

Epoxy coat all reinforcing steel in the deck slab and rails.

BRIDGE EXCAVATION:

Elevation 900.70 shall designate the Excavation Boundary Plane of Class I and Class II Excavation; Class I above the plane, Class II below the plane. See the Bridge Excavation sheet for the limits of pay excavation.

EMBANKMENT:

Complete the embankment at the abutments as shown on the Bridge Excavation sheet prior to placing the abutment piling or commencing with the abutment footing excavation.

SLOPE PROTECTION (Riprap Stone):

Place Slope Protection (Riprap Stone) to the limits and thicknesses shown on the plans or as directed by the Engineer.

Use Heavy 1/4 Ton stone as described in Division 1100 placed to the limits shown on the plans.

BACKFILL COMPACTION:

Compact backfill at the abutments.

MULTI-LAYER POLYMER CONCRETE OVERLAY:

No concrete curing membrane will be used on structures with a polymer overlay. Roughen the bridge deck surface using a burlap drag attached to the finish machine. When the date and temperature requirements of the specifications are met, grind profile, place a polymer overlay, and apply permanent pavement markings on the bridge deck. When the date and temperature requirements are not met, complete any required grinding and apply temporary pavement markings. Apply the polymer overlay according to the next available date(s) and temperature allowed per the current specifications. See KDOT specification for complete information. Apply polymer overlay to the limits shown in the plans.

ABUTMENT AGGREGATE DRAIN:

See the General Notes on the "Abutment Aggregate Drain" sheet.

BRIDGE BACKWALL PROTECTION SYSTEM:

See the General Notes on the "Abutment Aggregate Drain" sheet.

ERECTION ELEVATION CHECKS:

After the abutment and pier concrete has cured and before setting any prestressed beams, present verification to the Engineer that the elevations at the bearings match plan elevation (± ¼").

CAMBER:

For camber and deflection for prestressed concrete beams, see Sheet 83.

ERECTION PLANS:

This is a Category A Structure. Submit detailed Erection Plans to the Field Engineer per KDOT Specifications. A Licensed Professional Engineer is not required.

DECK FORMS:

Steel stay-in-place forms will not be allowed. Use prestressed concrete panels where shown on the plans.

CONCRETE PLACING SEQUENCE:

The sequence of placing concrete in the slab and curbs shall be as shown, or the Contractor may submit an alternate placing sequence for review. Submit the alternate placing sequence to the Engineer at the Preconstruction Conference. Include the proposed rate of concrete placement in C.Y./h, the plant capacity, placement direction, construction joint location, a description of the equipment used in placing the concrete, proposed admixtures, and the quantity of concrete in each placing segment. Any additional cost for the Contractor's alternate plan of placing concrete, including admixtures, shall be at the Contractor's expense and shall be considered subsidiary to the bid item, "KCMMB 5K Concrete". Approval of the Contractor's alternate sequence is required prior to placement of concrete in the deck.

CONSTRUCTION LOADS:

Limited traffic is permitted on the new sub-deck, one-course deck or any concrete overlay during the curing period, keep any exposed deck wet during the curing period. See KDOT Specifications Section 710 Tables 710-1 & 710-2 for additional information.

TEMPERATURE:

The design temperature for all dimensions is 60°F.

BRIDGE NUMBER PLAQUE:

The Contractor shall install one Bridge Number Plaque at the location shown on the Construction Layout. Cost of materials and installation shall be considered completely covered by the bid item "Bridge Number Plaque".

Bridge Number plaque shall be made from materials that conform to Section 1625 of KDOT Standard Specifications for State Road and Bridge Construction, 2015 Edition. Refer to Overland Park Bridge Asset Inventory Procedure, current revision, for installation guidelines.

QUANTITIES:

Items not listed separately in the Summary of Quantities are subsidiary to other items in the proposal.

DIMENSIONS:

All dimension shown on the design plans are horizontal dimension unless otherwise noted. Make necessary allowances for roadway grade and cross slope.

CONCRETE MASONRY COATING:

Exposed concrete faces designated in the plans will be coated with an approved pigmented sealer within the limits as detailed in the plans. All surfaces to be coated shall be prepared with a light brush sandblast prior to application. The form release agent used on concrete surfaces to be coated shall be compatible with the color stain product to be applied to the surface. Use of curing compound on surfaces to be coated is prohibited. All labor, materials and incidentals required to perform this work shall be paid for as "Concrete Masonry Coating" in accordance with the KDOT Specifications.

SIMULATED STONE MASONRY STAIN:

The form liner textured surfaces designated in the plans will be coated with a variable colored pigmented stain which is designed to duplicate closely the appearance of natural limestone on simulated masonry formed concrete surfaces. The Contractor shall schedule a pre-construction conference with the Architect/Engineer. The form release agent used on concrete surfaces to be coated shall be compatible with simulated stone masonry molds and with the color stain system to be applied to the surface. Use of curing compound on surfaces to be coated is prohibited. All labor, materials and incidentals required to perform this work shall be paid for as "Simulated Stone Masonry Stain" in accordance with the Special Provisions.

DRILLING AND GROUTING:

This item shall consist of grouting reinforcing steel, anchor bolts, tie bars, or dowel bars into the concrete, where required by the Engineer, with an epoxy grout. Follow KDOT Specification 842 and any associated Special Provisions. Follow the manufacturer's directions for mixing, application, and curing. The tools, materials, labor, and incidentals necessary to complete the work shall be paid for per each by the bid item "Drilling and Grouting" per each.

7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4760
TEL 913.381.1170 www.olsson.com

BY										
	REVISIONS DESCRIPTION									
DATE										
REV. NO.										

GENERAL NOTES

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
BRIDGE NO. 421950462874056 (LPA ID: 056)

OVERLAND PARK, KANSAS

2025

drawn by: ZDD
checked by: KAS
approved by: KAS
QA/QC by: GCL
project no.: 022-08529
drawing no.:
date: 01/31/2025

P.O.T. STA. 413+00.00
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 E=2251469.6091
 NOTHING SET

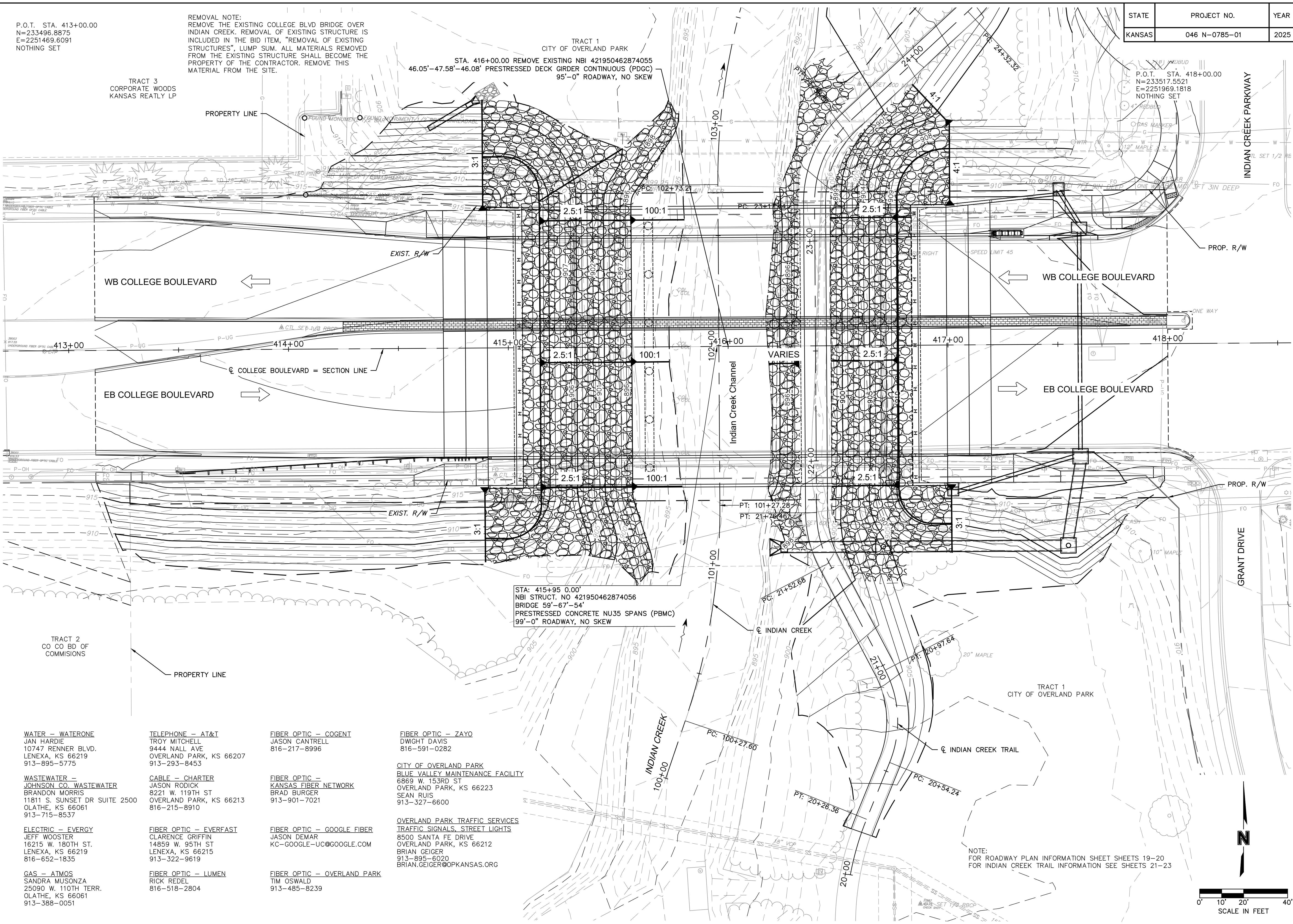
REMOVAL NOTE:
 REMOVE THE EXISTING COLLEGE BLVD BRIDGE OVER INDIAN CREEK. REMOVAL OF EXISTING STRUCTURE IS INCLUDED IN THE BID ITEM, "REMOVAL OF EXISTING STRUCTURES", LUMP SUM. ALL MATERIALS REMOVED FROM THE EXISTING STRUCTURE SHALL BECOME THE PROPERTY OF THE CONTRACTOR. REMOVE THIS MATERIAL FROM THE SITE.

TRACT 1
 CITY OF OVERLAND PARK
 STA. 416+00.00 REMOVE EXISTING NBI 421950462874055
 46.05'-47.58'-46.08' PRESTRESSED DECK GIRDER CONTINUOUS (PDGC)
 95'-0" ROADWAY, NO SKEW

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

P.O.T. STA. 418+00.00
 N=233517.5521
 E=2251969.1818
 NOTHING SET

DWG: F:\2022\06501-07000\022-06529_40-Design\AutoCAD\Final Plans\Sheets\RDWY\BRIDGE CONTOUR MAP_T_BCM01_02206529.dwg
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 USER: mweilch



STA: 415+95 0.00'
 NBI STRUCT. NO 421950462874056
 BRIDGE 59'-67'-54'
 PRESTRESSED CONCRETE NU35 SPANS (P BMC)
 99'-0" ROADWAY, NO SKEW

- WATER - WATERONE
 JAN HARDIE
 10747 RENNER BLVD.
 LENEXA, KS 66219
 913-895-5775
- WASTEWATER - JOHNSTON CO. WASTEWATER
 BRANDON MORRIS
 11811 S. SUNSET DR SUITE 2500
 OLATHE, KS 66061
 913-715-8537
- ELECTRIC - EVERGY
 JEFF WOOSTER
 16215 W. 180TH ST.
 LENEXA, KS 66219
 816-652-1835
- GAS - ATMOS
 SANDRA MUSONZA
 25090 W. 110TH TERR.
 OLATHE, KS 66061
 913-388-0051
- TELEPHONE - AT&T
 TROY MITCHELL
 9444 MALL AVE
 OVERLAND PARK, KS 66207
 913-293-8453
- CABLE - CHARTER
 JASON RODICK
 8221 W. 119TH ST
 OVERLAND PARK, KS 66213
 816-215-8910
- FIBER OPTIC - EVERFAST
 CLARENCE GRIFFIN
 14859 W. 95TH ST
 LENEXA, KS 66215
 913-322-9619
- FIBER OPTIC - LUMEN
 RICK REDEL
 816-518-2804
- FIBER OPTIC - COGENT
 JASON CANTRELL
 816-217-8996
- FIBER OPTIC - KANSAS FIBER NETWORK
 BRAD BURGER
 913-901-7021
- FIBER OPTIC - GOOGLE FIBER
 JASON DEMAR
 KC-GOOGLE-UC@GOOGLE.COM
- FIBER OPTIC - OVERLAND PARK
 TIM OSWALD
 913-485-8239
- FIBER OPTIC - ZAYO
 DWIGHT DAVIS
 816-591-0282
- CITY OF OVERLAND PARK
 BLUE VALLEY MAINTENANCE FACILITY
 6869 W. 153RD ST
 OVERLAND PARK, KS 66223
 SEAN RUIS
 913-327-6600
- OVERLAND PARK TRAFFIC SERVICES
 TRAFFIC SIGNALS, STREET LIGHTS
 8500 SANTA FE DRIVE
 OVERLAND PARK, KS 66212
 BRIAN GEIGER
 913-895-6020
 BRIAN.GEIGER@OPKANSAS.ORG

7301 West 133rd Street, Suite 200
 Overland Park, KS 66213-4750
 TEL 913.381.1170 www.olsson.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

BRIDGE CONTOUR MAP
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS

REVISIONS
 2025

drawn by: _____ CJC

checked by: _____ PBM

approved by: _____ PBM

QA/QC by: _____ RBE

project no.: 022-06529

drawing no.: T_BCM01_02206529

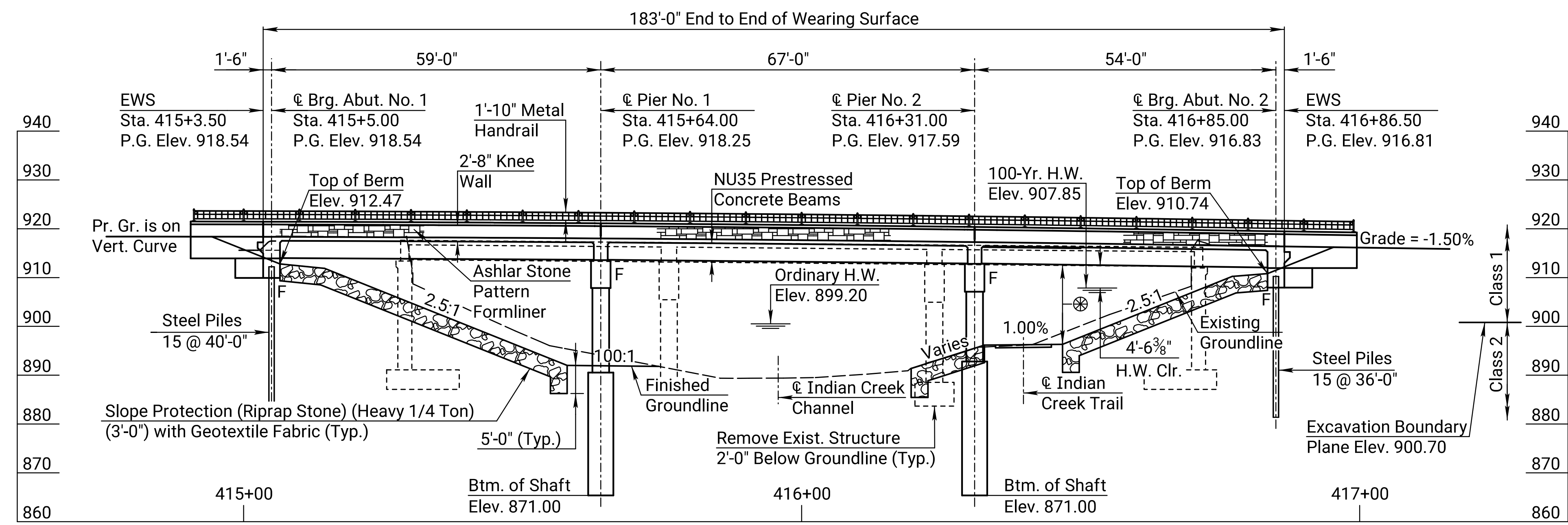
date: 1-31-2025

SHEET
 66 of 189

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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Overland Park, KS 66213-4750
TEL 913.381.1170 www.olsson.com



B.M. A: Set chiseled "D" cut on center front face of curb inlet, West side of Indian Creek Parkway, 115± North of CP#103, Elev. 907.35 Sea Level Datum of NAVD '88.

B.M. B: Set chiseled "D" cut on top of light pole base, Southwestern most light pole in parking lot for "The Shops at Corporate Woods Shopping Center", Elev. 913.54 Sea Level Datum of NAVD '88.

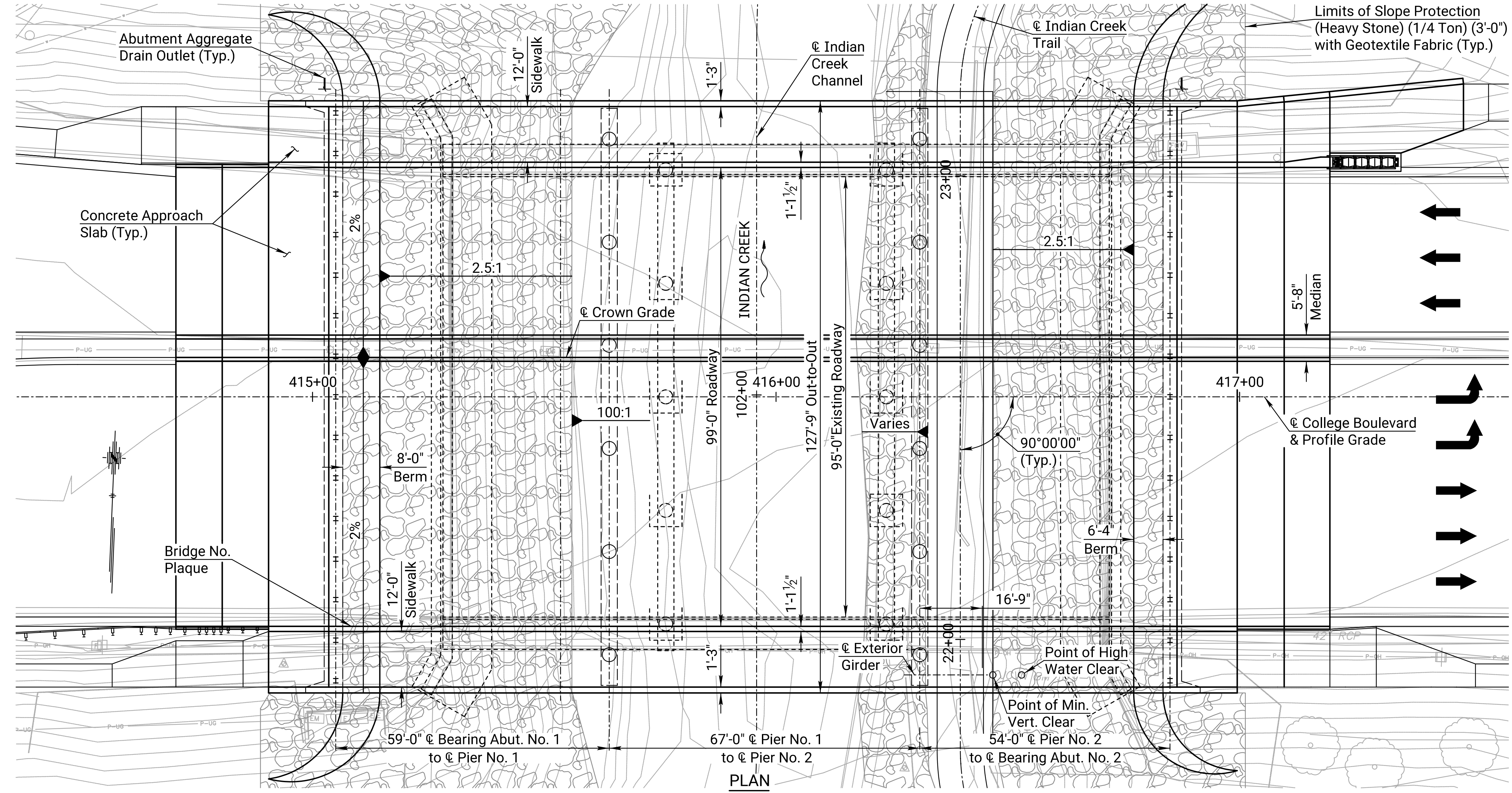
Type C Expansion Joint only: (See "Expansion Joint Details" on Bridge Approach Slab Details Sheet.)

See Table on this sheet for adjusted "W" values. "W" is the formed gap. The temperatures in the table are the average ambient temperature over the last 24 hours.

ELEVATION
Scale: 1"=14'
59'-67'-54'

Prestressed Concrete Beam Spans (P BMC)
Continuous and Composite
Pile Bent Abutments, Column Bent Piers
99'-0" Roadway, No Skew

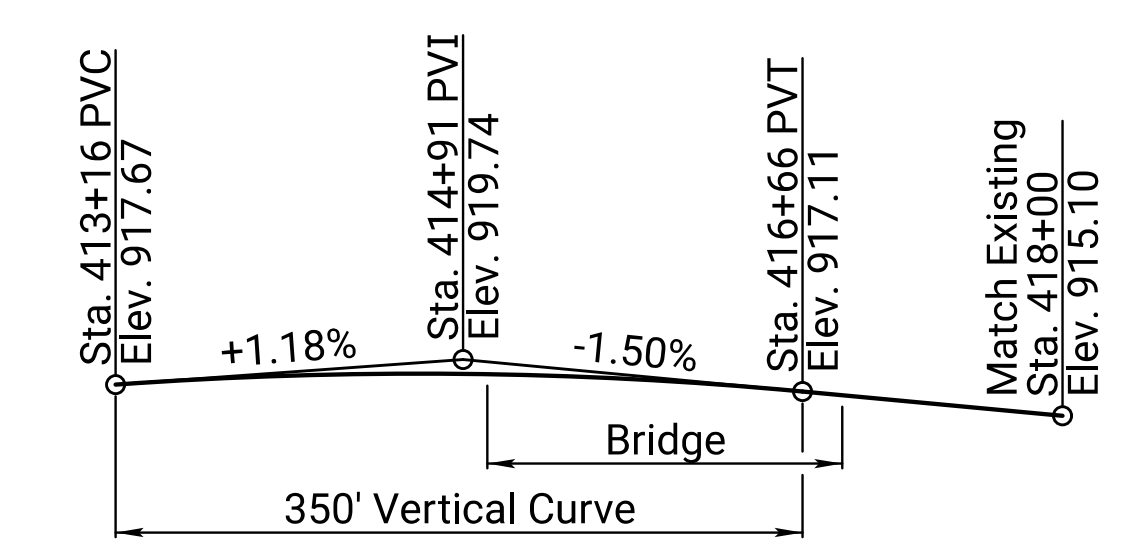
Temperature (F°)	40°	50°	60°	70°	80°	90°
Type Formed Concrete Opening Size	1 1/8"	1 1/8"	1"	7/8"	7/8"	3/4"



Drainage Area	16.8 sq. mi.
Design Frequency	100 yrs
Design Discharge (Q100)	10,749 cfs
Design Velocity (V100)	7.3 fps
Design High Water Elevation	907.85
Change in Design Backwater	-1.25 ft.
Design Backwater Elevation	909.15

Overtopping Elevation (Sta. 406+72.80)	910.63
Overtopping Discharge	14,721 cfs
Overtopping Frequency	500 yrs

Ordinary High Water Elevation	899.20
Total Waterway Provided	2,125 sq. ft.
Design Waterway Provided	1,463 sq. ft.



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

CONSTRUCTION LAYOUT

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
BRIDGE NO. 421950462874056 (LPA ID: 056)

OVERLAND PARK, KANSAS

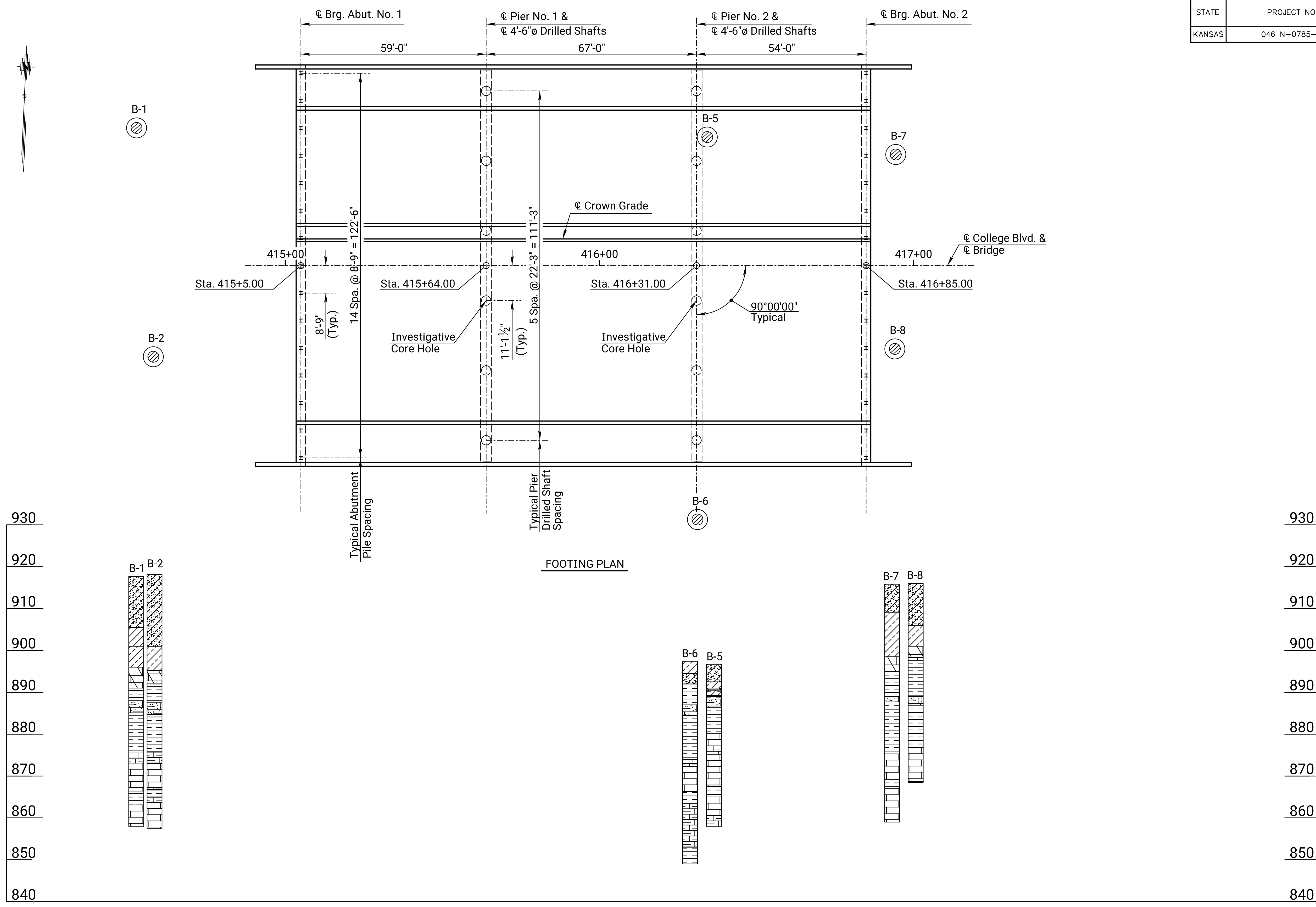
2025

drawn by: ZDD
checked by: KAS
approved by: KAS
QA/QC by: GCL
project no.: 022-06522
drawing no.:
date: 01/31/2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

olsson

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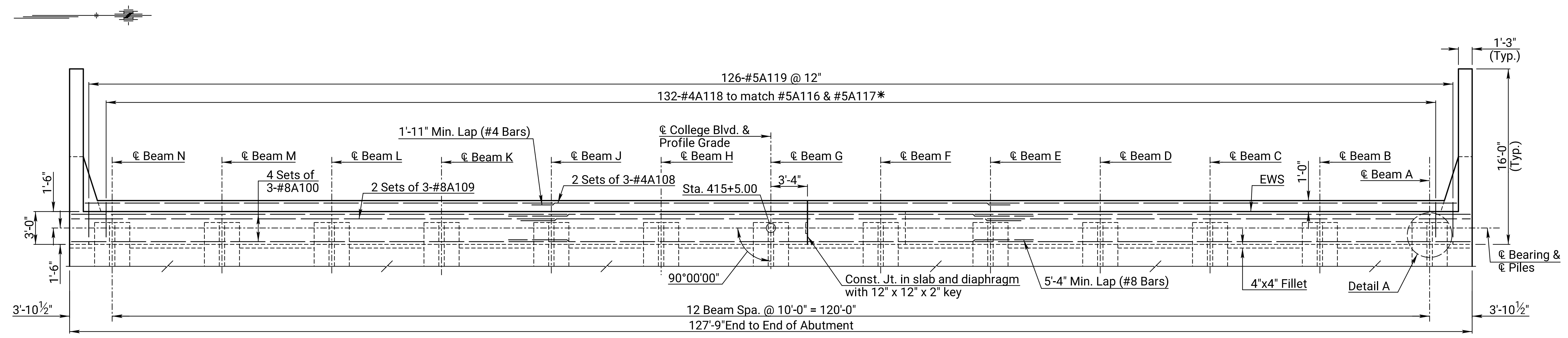
Notes:
 For bottom of abutment elevations, and top of pile elevations, see Sheets 67-71.
 Pre-drilled pile holes are required for all abutment piles. See General Notes.
 Drill Investigative Core Holes at the locations shown. See General Notes.

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

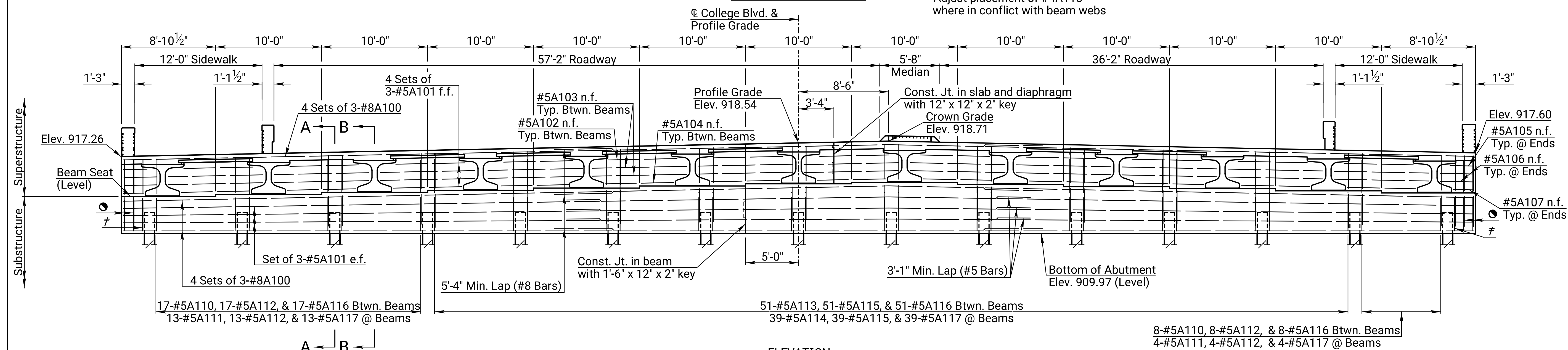
ENGINEERING GEOLOGY	COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	2025	
	BRIDGE NO. 421950462874056 (LPA ID: 056)		
	OVERLAND PARK, KANSAS		
drawn by:	ZDD	checked by:	KAS
approved by:	KAS	QA/QC by:	GCL
project no.:	022-08522	drawing no.:	01/31/2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

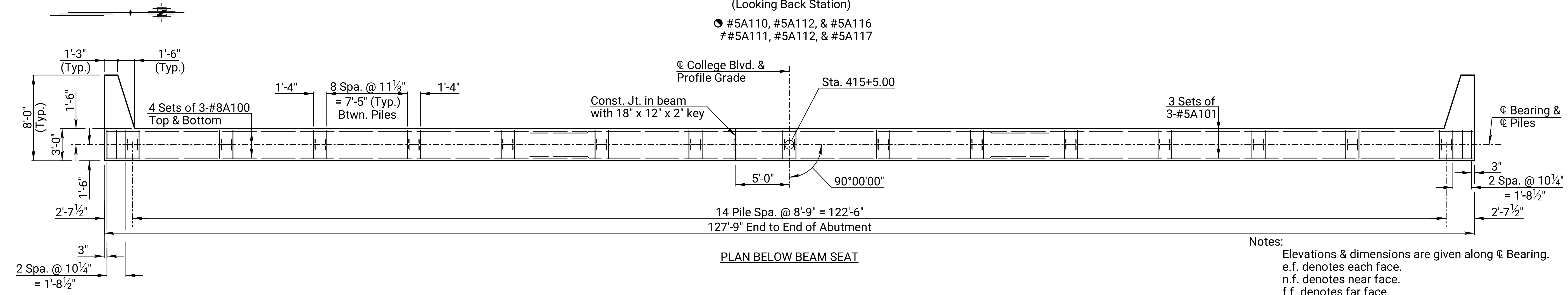
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PLAN ABOVE BEAM SEAT * Adjust placement of #4A118 where in conflict with beam webs



ELEVATION (Looking Back Station)
 ● #5A110, #5A112, & #5A116
 # #5A111, #5A112, & #5A117



PLAN BELOW BEAM SEAT

Notes:
 Elevations & dimensions are given along \O Bearing.
 e.f. denotes each face.
 n.f. denotes near face.
 f.f. denotes far face.
 For Sections A-A and B-B see Sheet 70.
 For Detail A see Sheet 70.
 For Wingwall Details see Sheet 70.
 For abutment drainage details and limits of Bridge Backwall Protection System see Sheet 73.

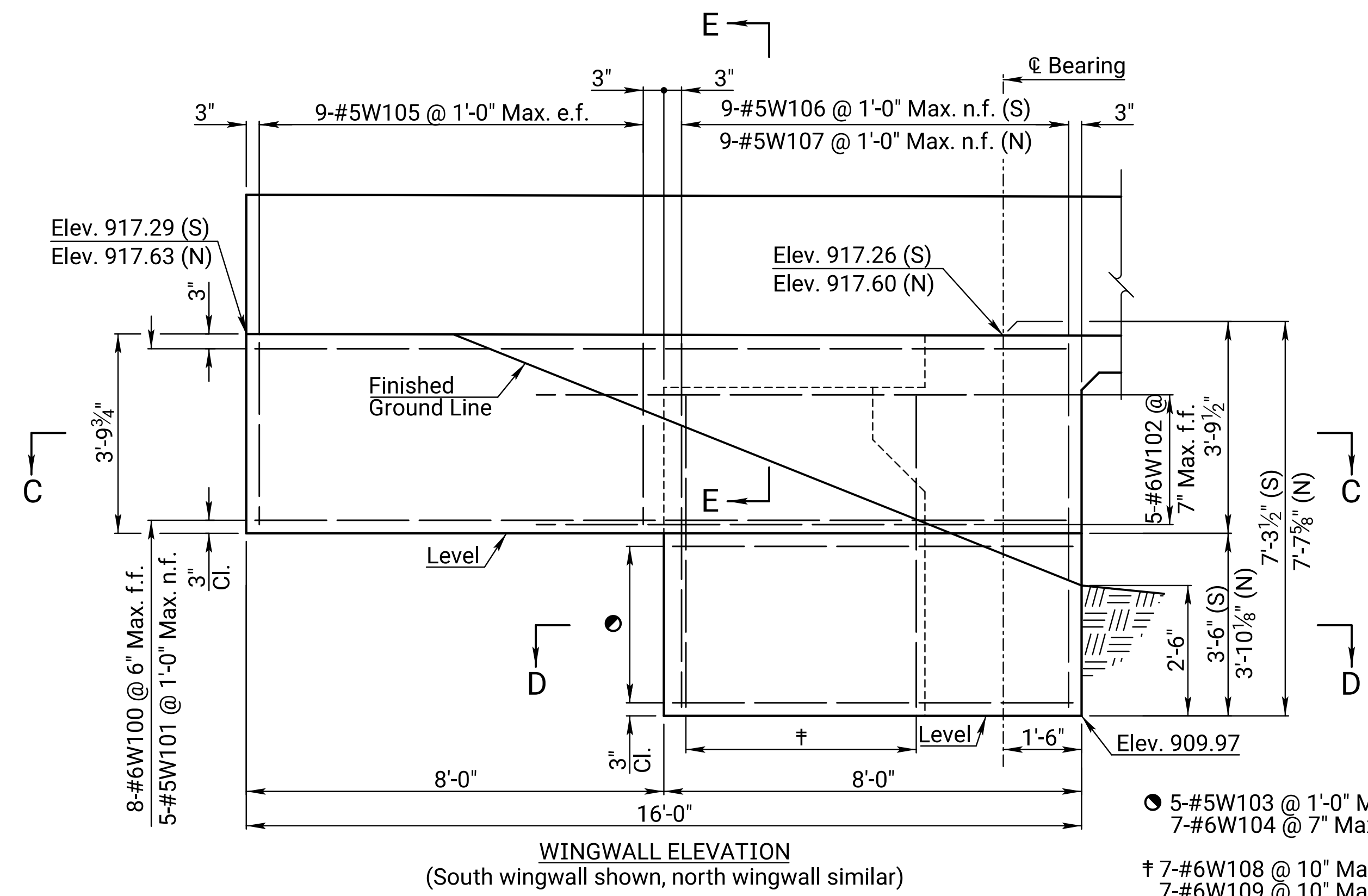
Max. Factored Design Load (Strength I) = 101 tons/pile.
 Factored Resistance = 135 tons/pile.
 Use HP12x53 Grade 50 Steel Piles.

TABLE OF BEAM SEAT ELEVATION													
Beam	A	B	C	D	E	F	G	H	J	K	L	M	N
Elevation	913.81	914.01	914.21	914.41	914.61	914.81	914.67	914.47	914.27	914.07	913.87	913.67	913.47

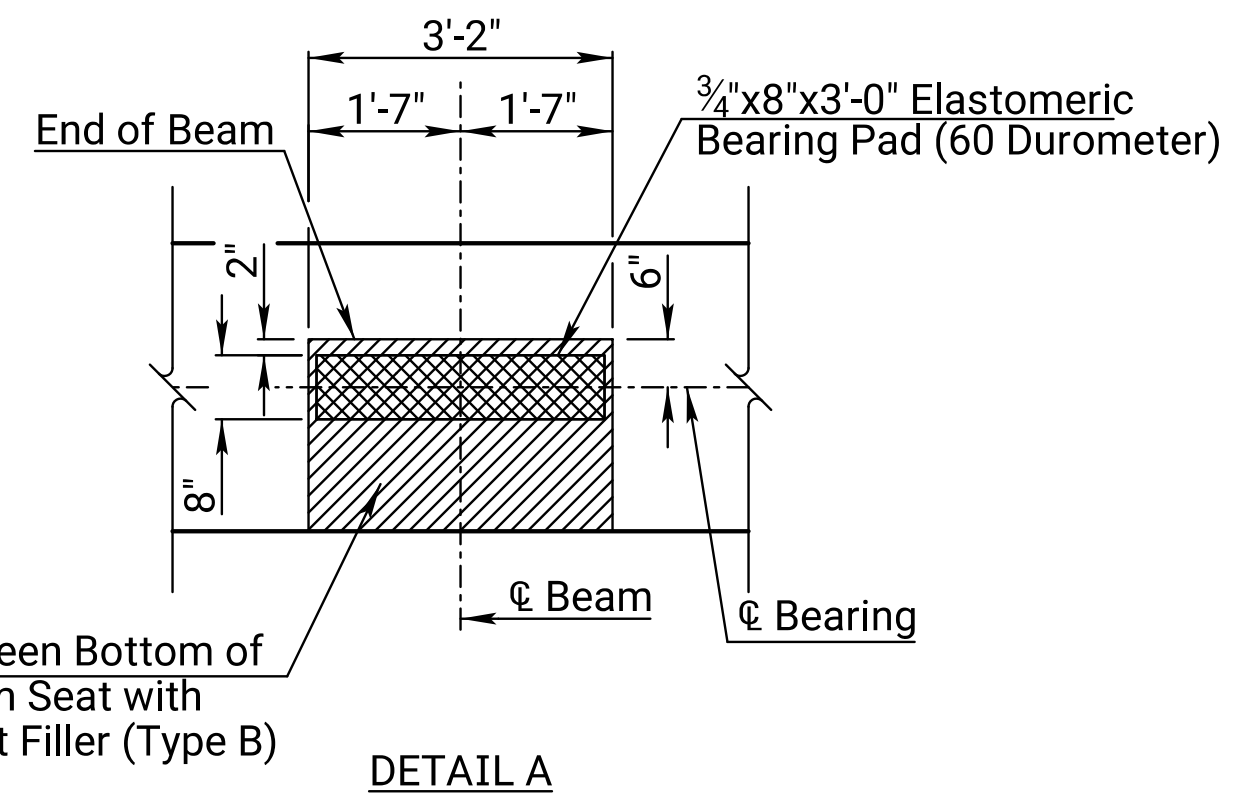
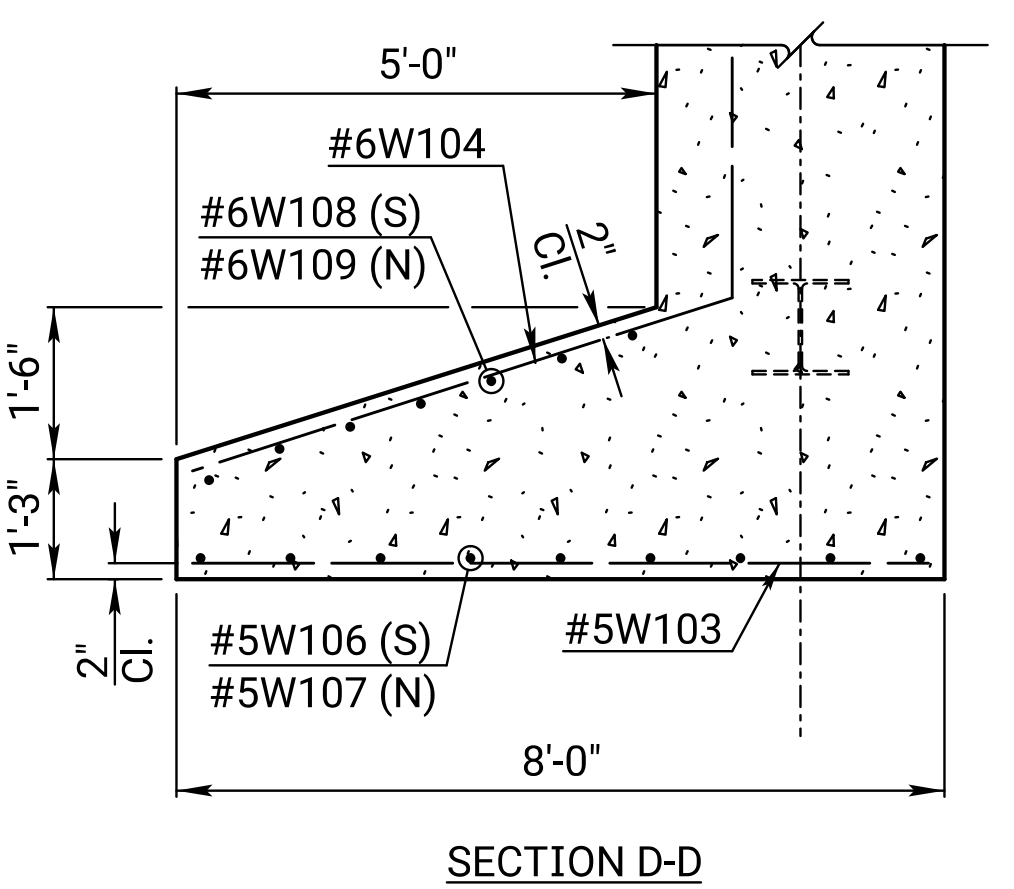
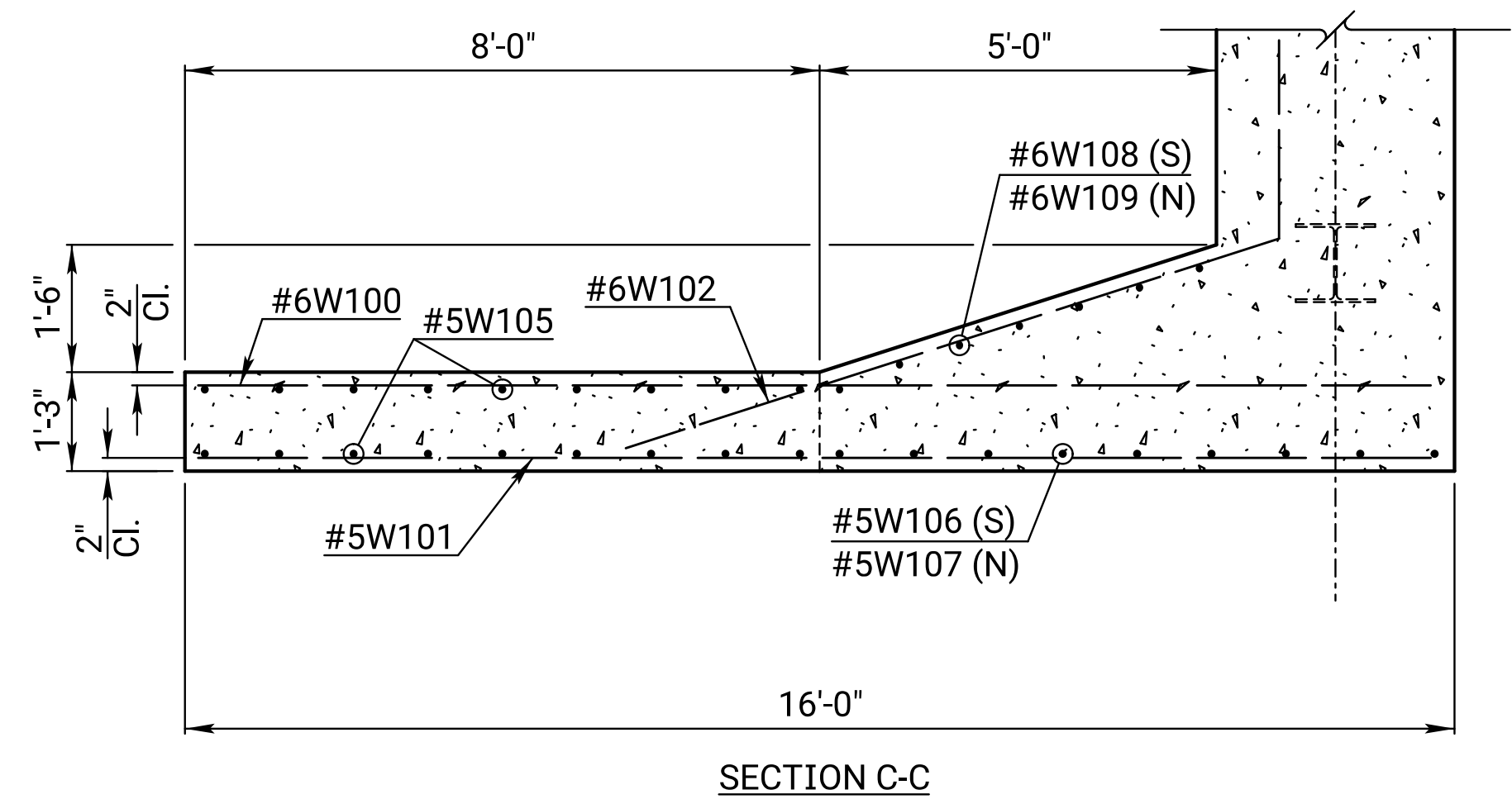
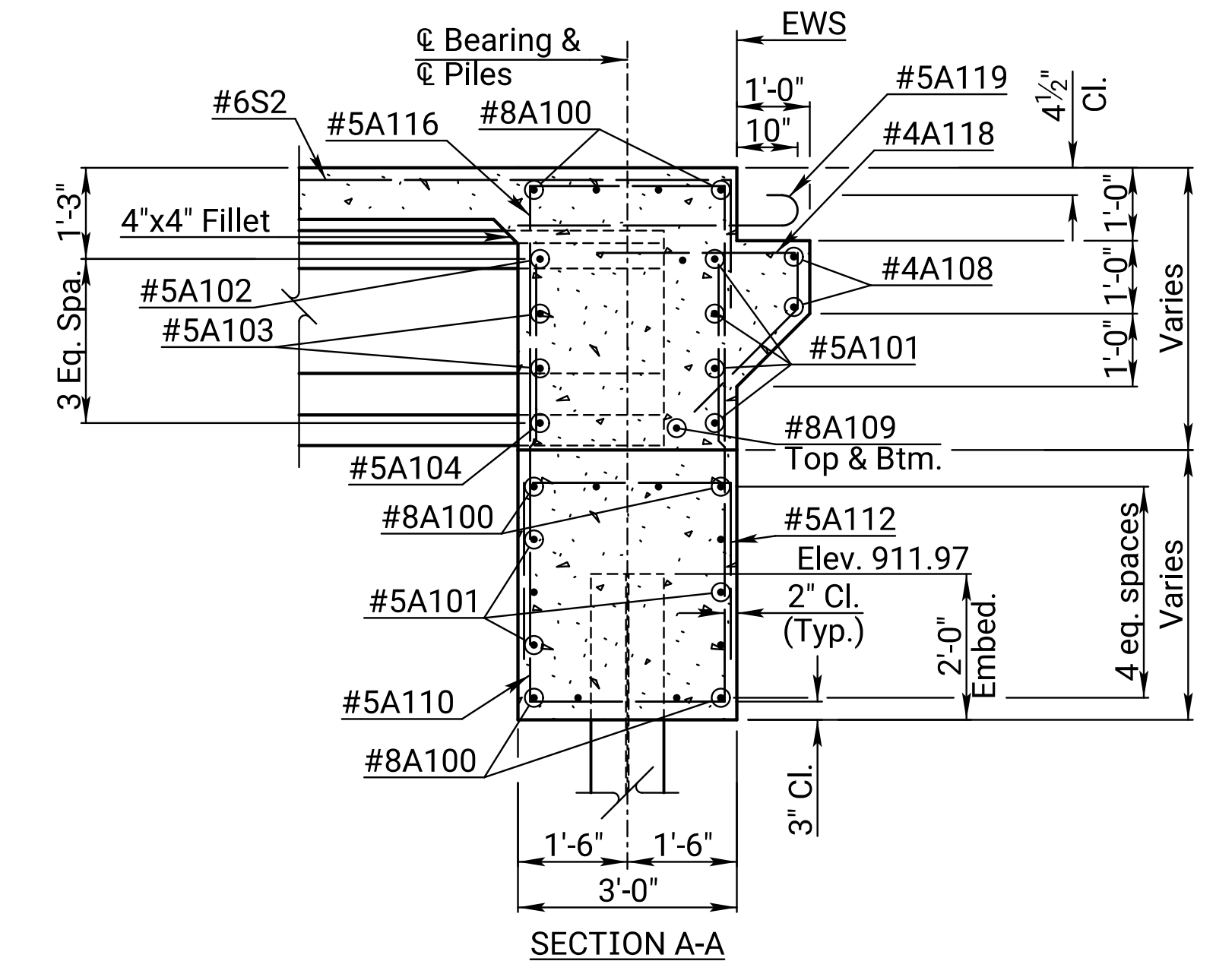
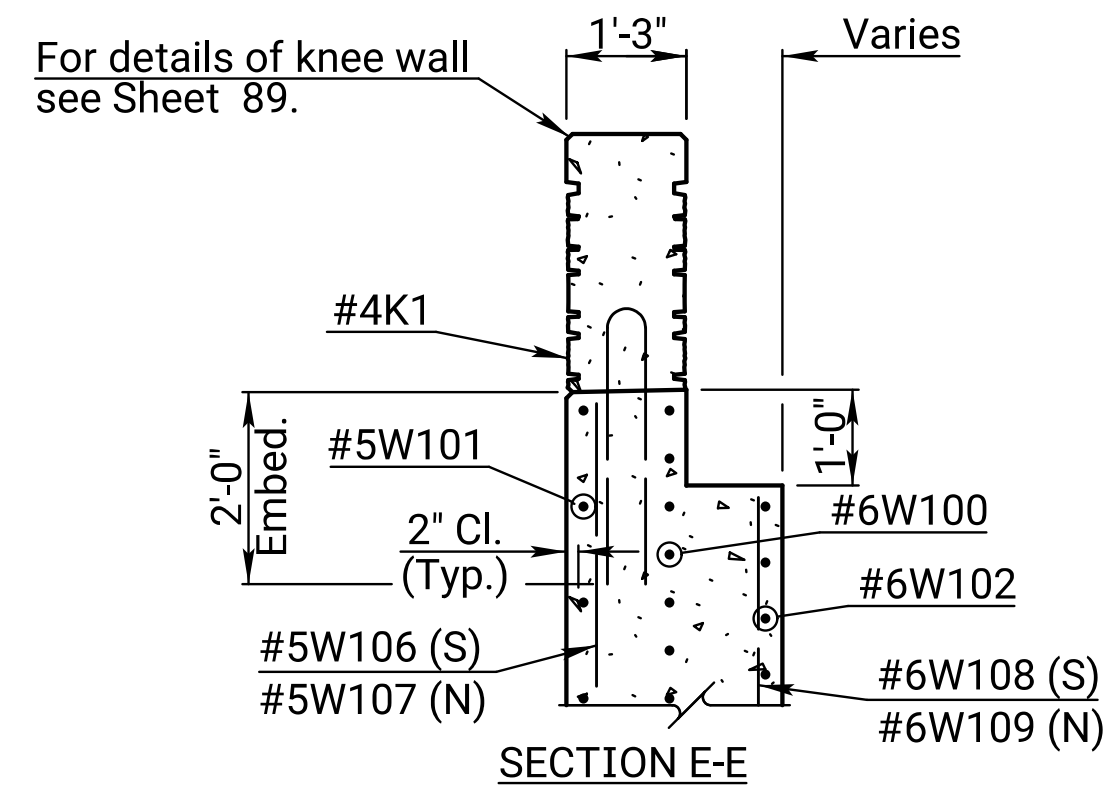
REV. NO.	DATE	REVISION DESCRIPTION	BY

ABUTMENT NO. 1 DETAILS (1 OF 2)
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 BRIDGE NO. 421950462874056 (LPA ID: 056)
 OVERLAND PARK, KANSAS
 2025
 SHEET 69 of 189

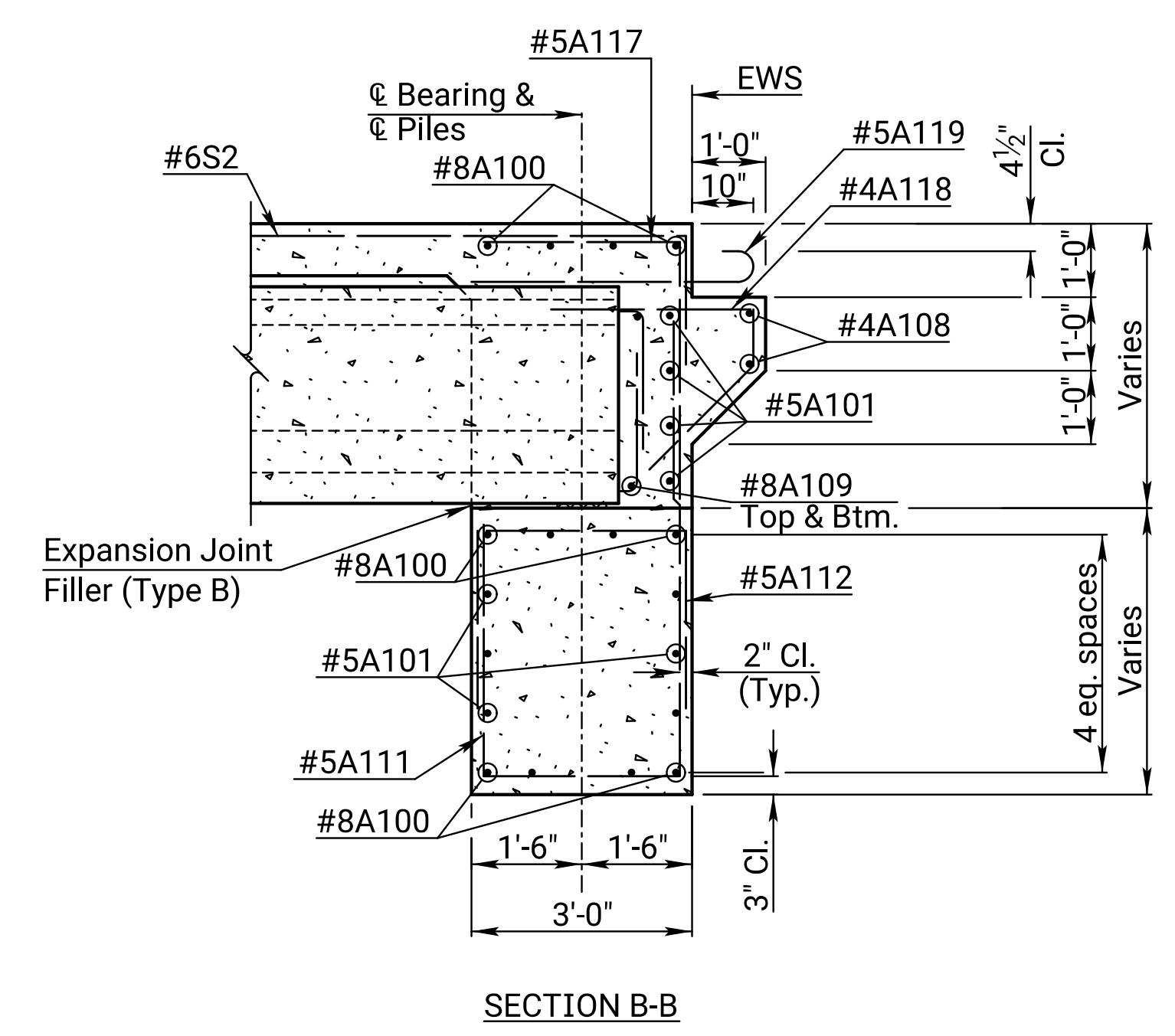
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



- 5-#5W103 @ 1'-0" Max. n.f.
- 7-#6W104 @ 7" Max. f.f.
- † 7-#6W108 @ 10" Max. f.f. (S)
- 7-#6W109 @ 10" Max. f.f. (N)



Fill Space Between Bottom of Beam and Beam Seat with Expansion Joint Filler (Type B)

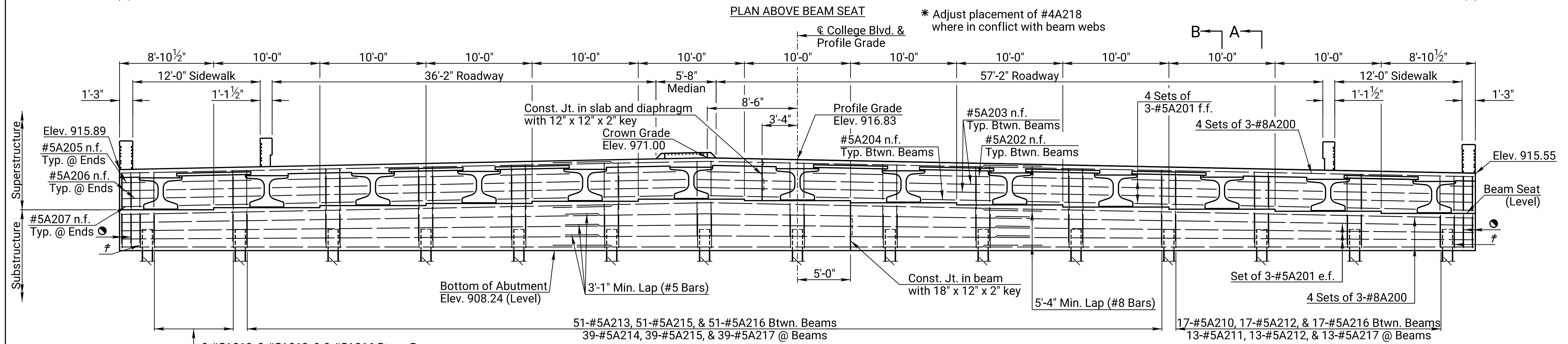
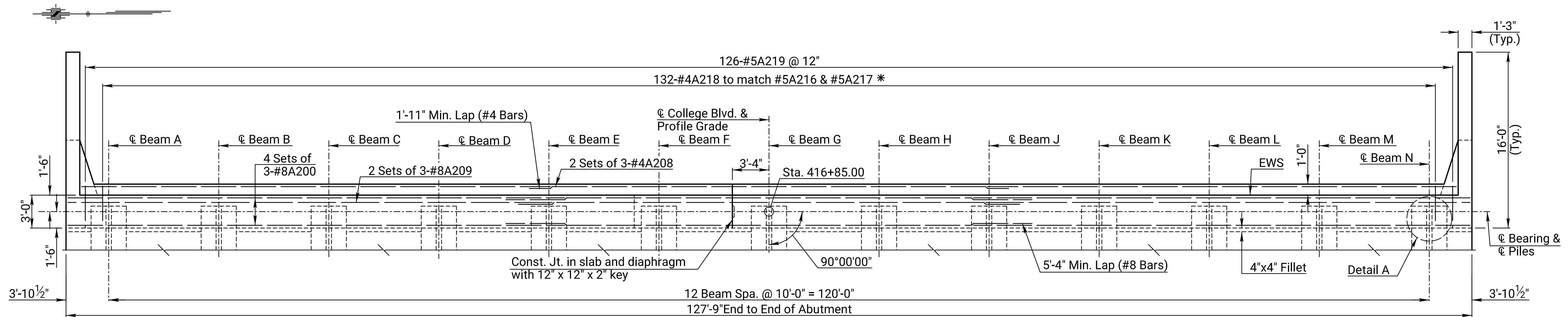


Notes:
 (S) denotes south wingwall.
 (N) denotes north wingwall.

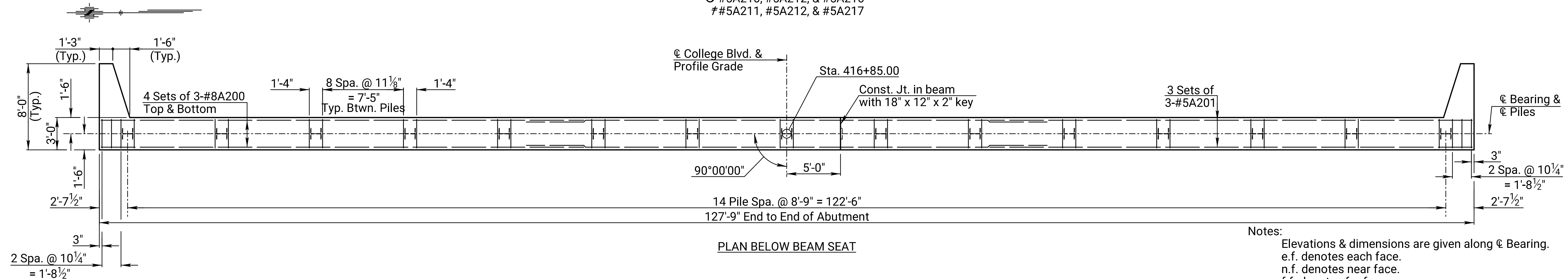
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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ELEVATION
 (Looking Ahead Station)
 ● #5A210, #5A212, & #5A216
 #5A211, #5A212, & #5A217



Notes:
 Elevations & dimensions are given along \O Bearing.
 e.f. denotes each face.
 n.f. denotes near face.
 f.f. denotes far face.
 For Sections A-A and B-B see Sheet 72.
 For Detail A see Sheet 72.
 For Wingwall Details see Sheet 72.
 For abutment drainage details and limits of Bridge Backwall Protection System see Sheet 73.

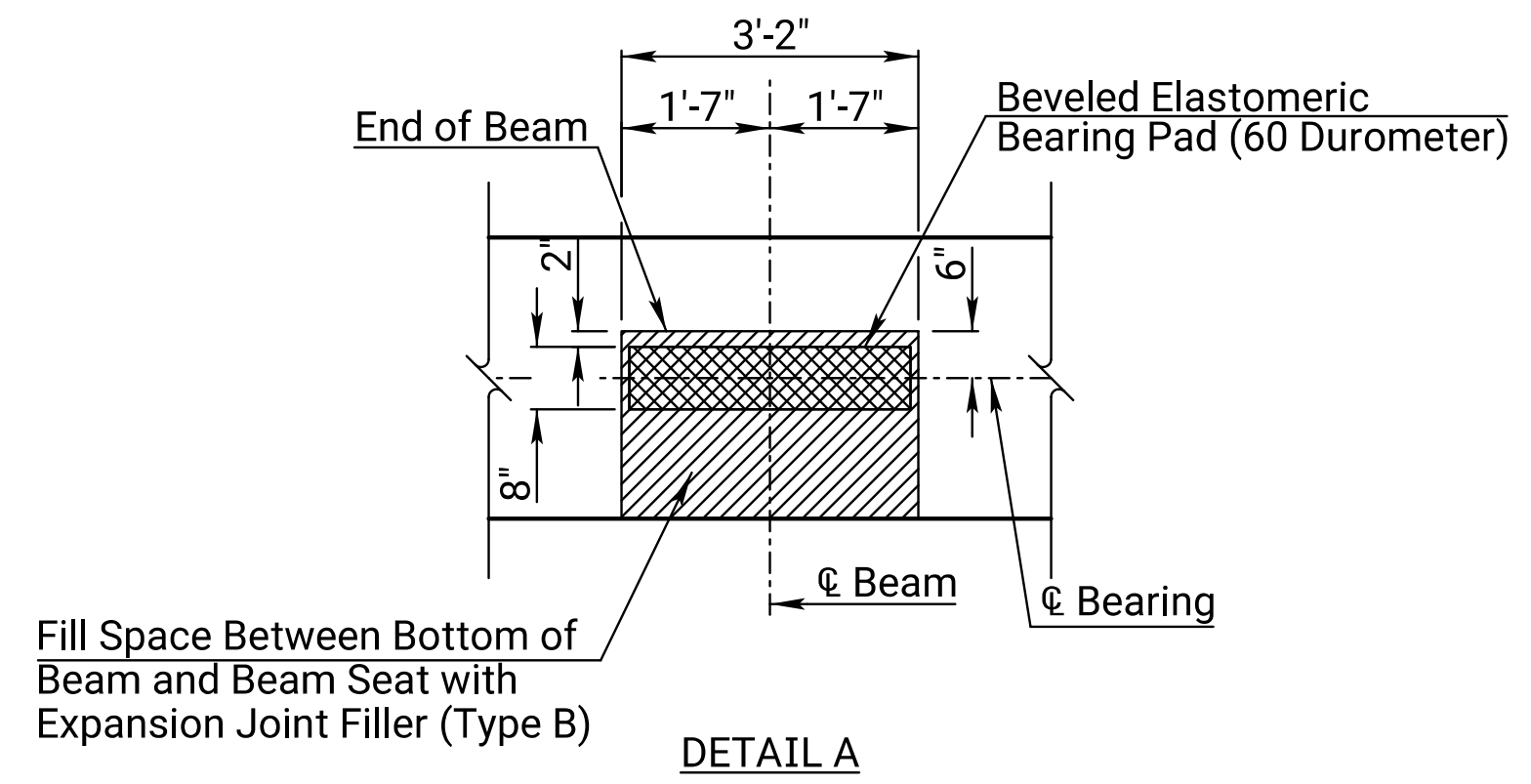
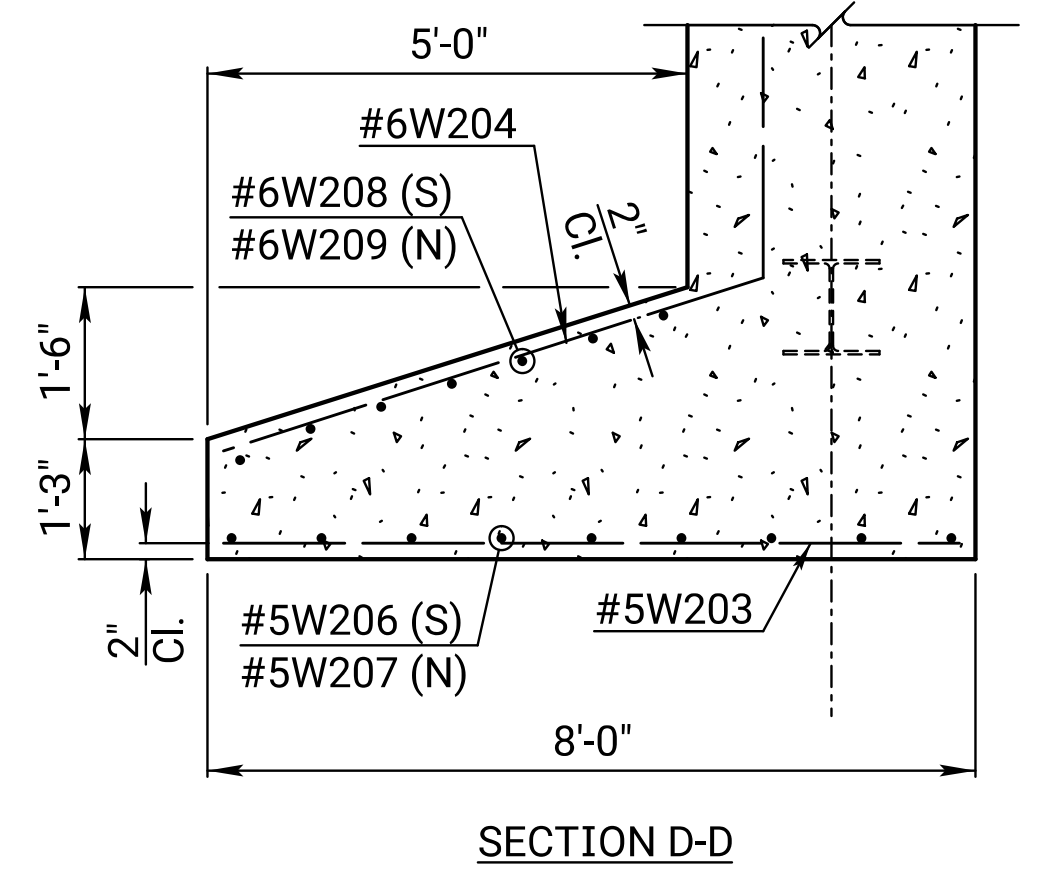
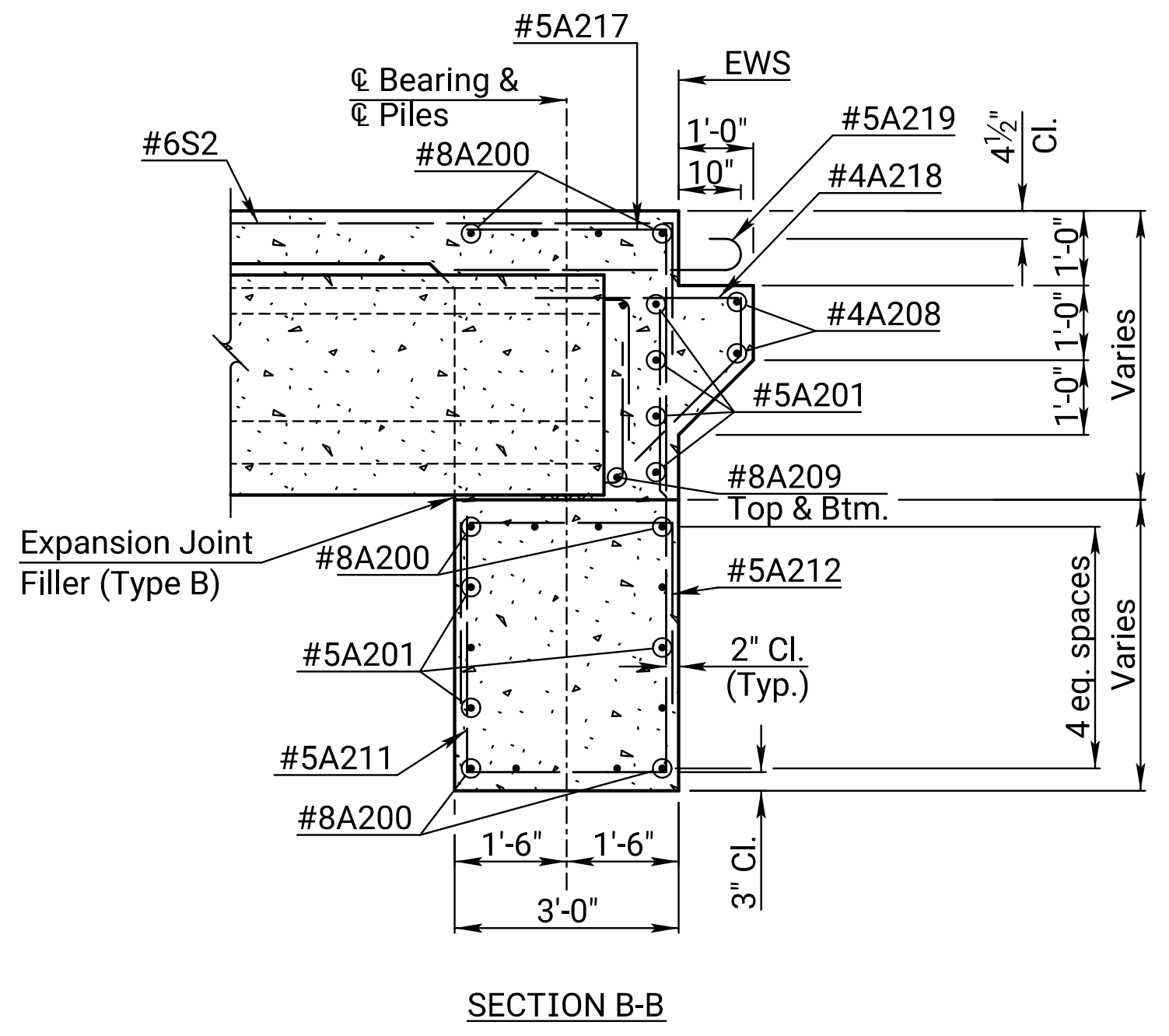
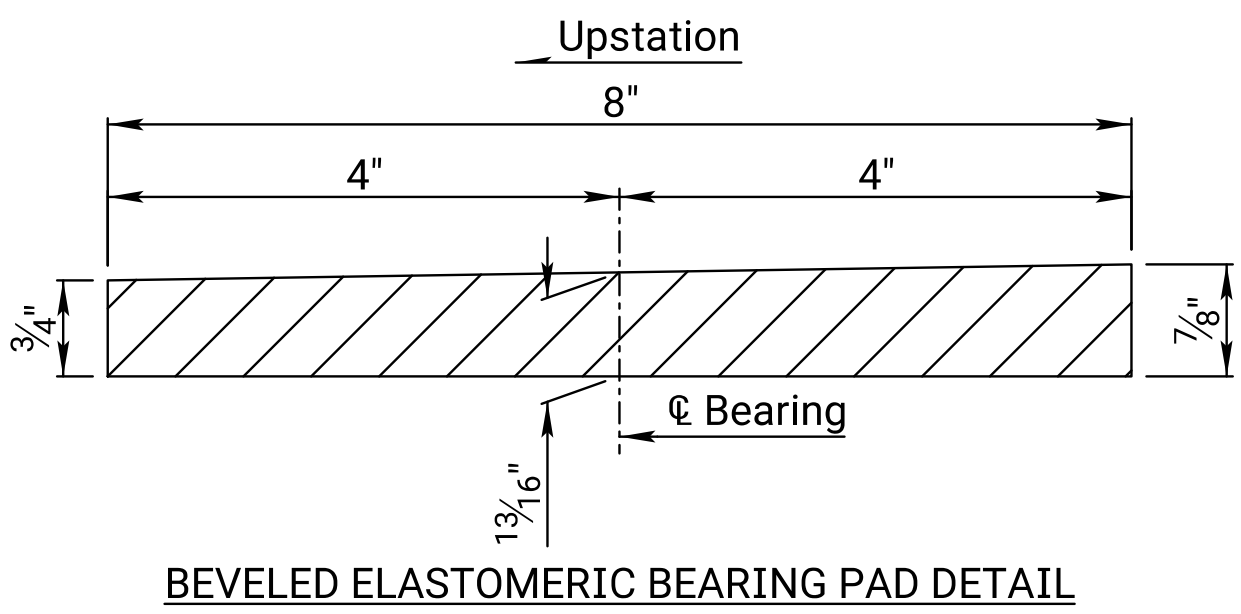
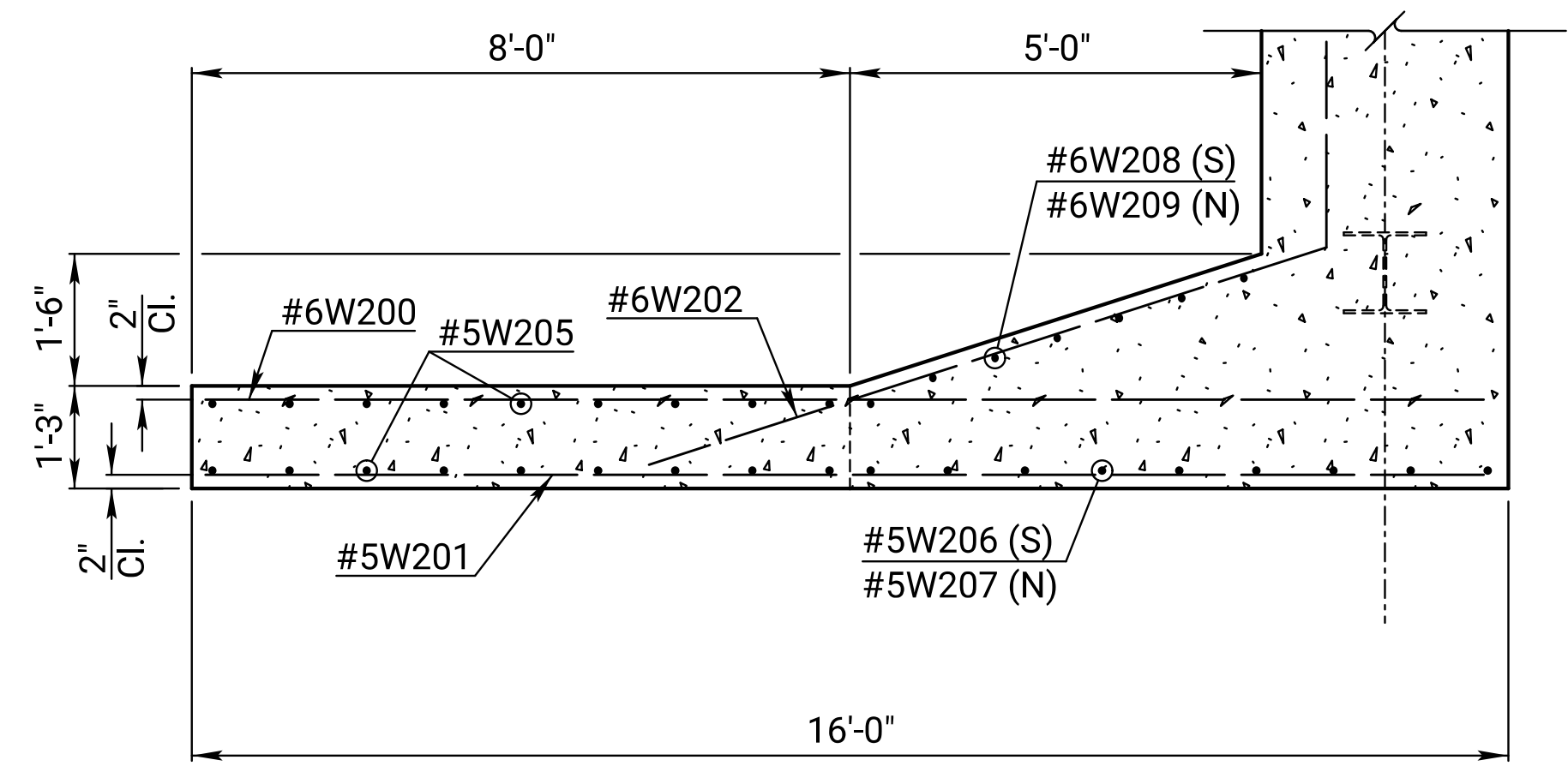
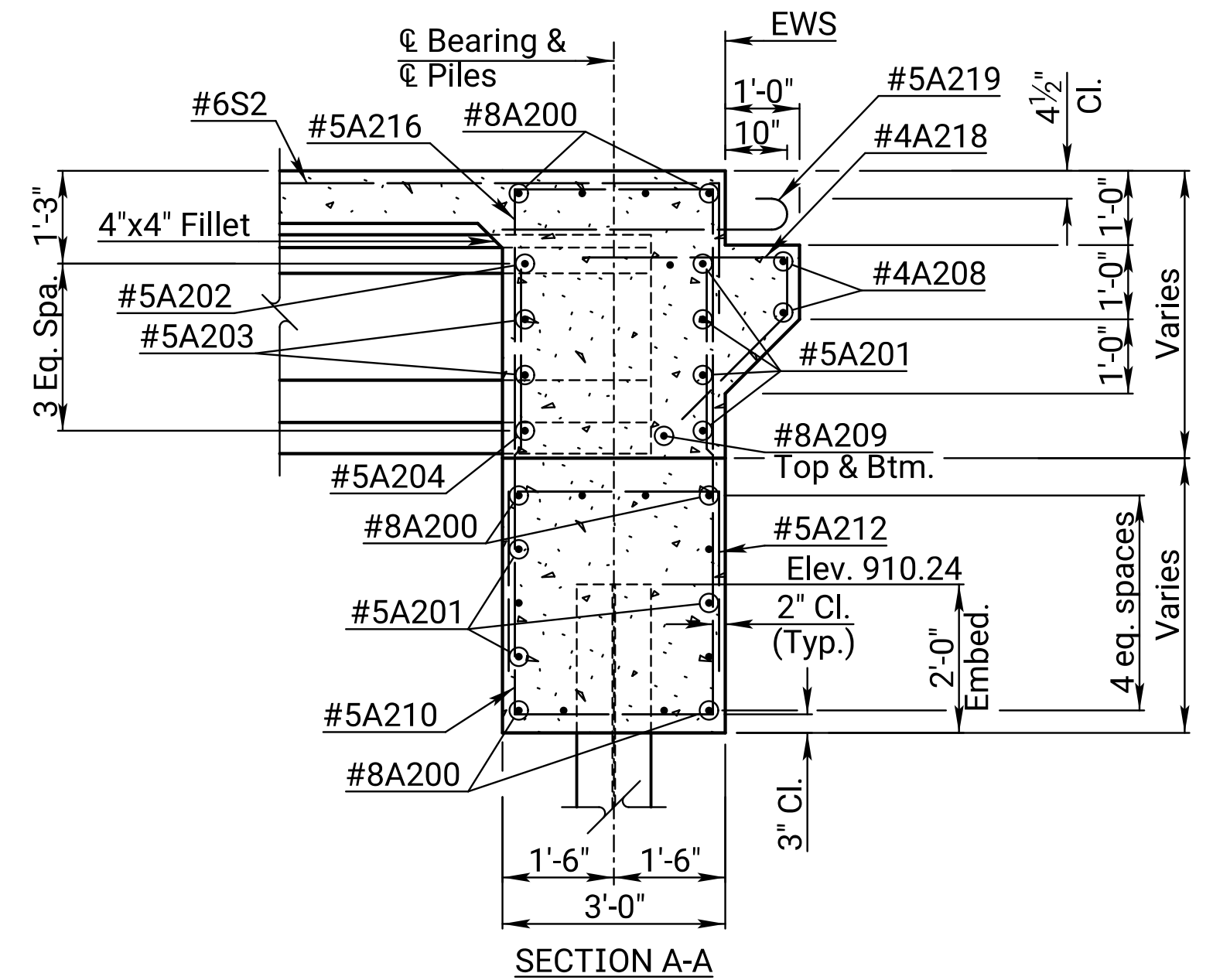
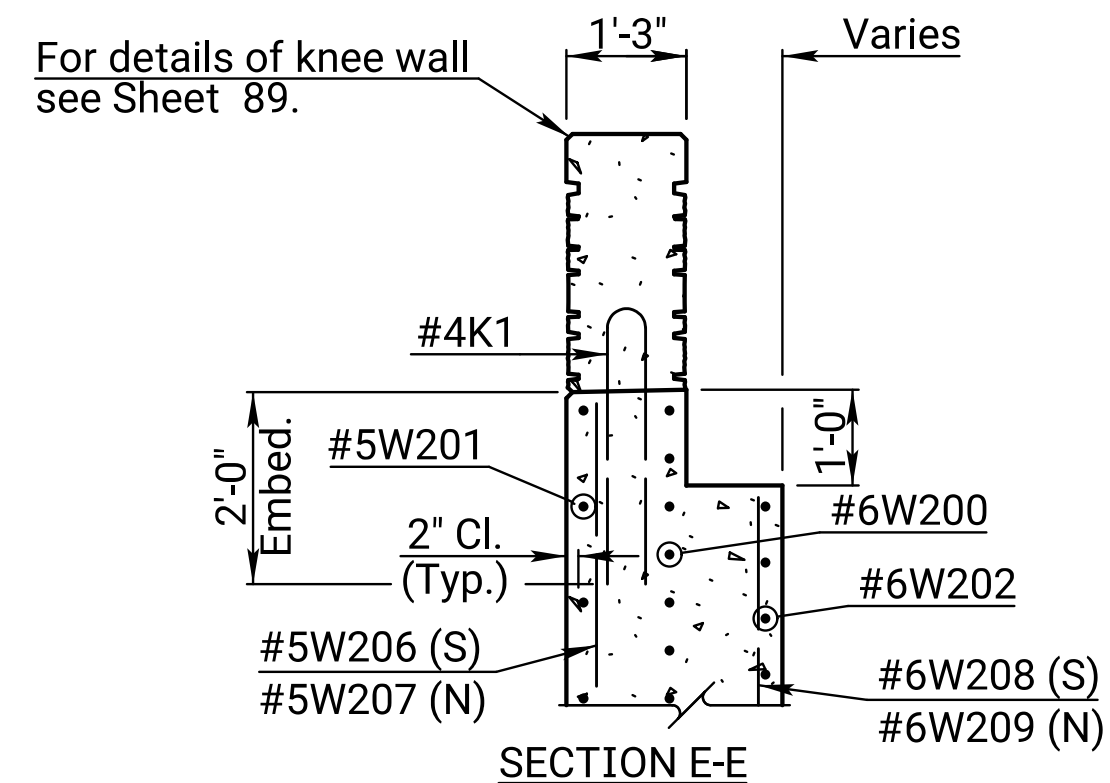
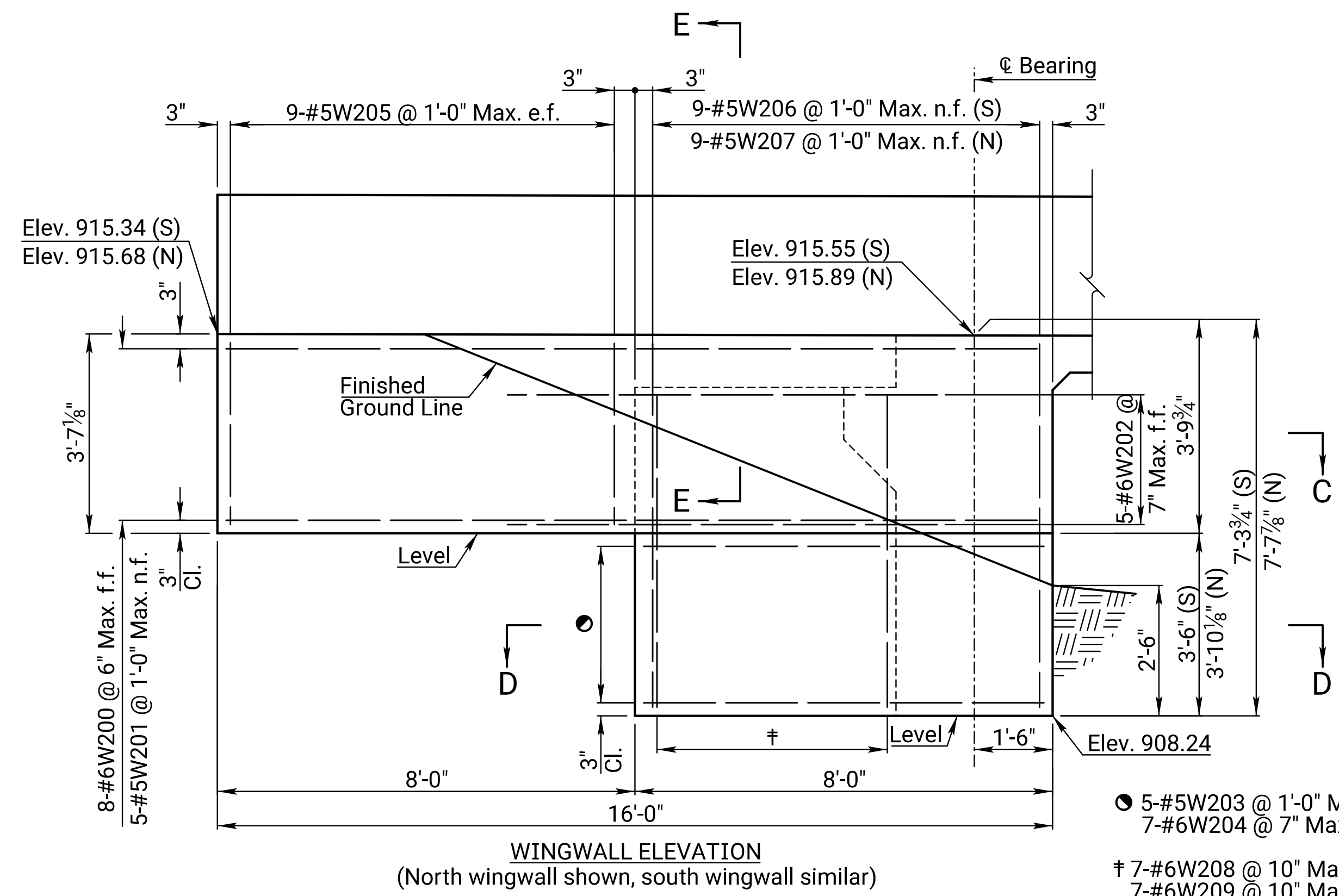
Max. Factored Design Load (Strength I) = 101 tons/pile.
 Factored Resistance = 135 tons/pile.
 Use HP12x53 Grade 50 Steel Piles.

TABLE OF BEAM SEAT ELEVATION													
Beam	A	B	C	D	E	F	G	H	J	K	L	M	N
Elevation	912.08	912.28	912.48	912.68	912.88	913.08	912.94	912.74	912.54	912.34	912.14	911.94	911.74

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

ABUTMENT NO. 2 DETAILS (1 OF 2)
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 BRIDGE NO. 421950462874056 (LPA ID: 056)
 OVERLAND PARK, KANSAS
 2025
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KANSAS	046 N-0785-01	2025



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

ABUTMENT NO. 2 DETAILS (2 OF 2)
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
BRIDGE NO. 421950462874056 (LPA ID: 056)
OVERLAND PARK, KANSAS
2025

drawn by: ZDD
checked by: KAS
approved by: KAS
QA/QC by: GCL
project no.: 022-08529
drawing no.:
date: 01/31/2025

Notes:
(S) denotes south wingwall.
(N) denotes north wingwall.

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

GENERAL NOTES

GEOSYNTHETICS: Use material that complies with KDOT Specification Section 1710 Class 2 subsurface drainage fabric. Place the Class 2 subsurface drainage fabric on graded and compacted material shaped as shown. Allow for enough material so that the sides can be overlapped and that the ends fully separate the aggregate drain from the embankment soils. Place the perforated drain pipe and couple to non-perforated pipe as shown. Allow the non-perforated pipe to pass through a hole carefully cut in fabric. Place aggregate within fabric to just leave the top of the pipe visible. Verify the slope of the pipe, that it is not damaged or displaced and that the couplers are firmly coupled. Continue to backfill to the elevation and shape shown.

AGGREGATE: Use aggregates that complies with KDOT Specifications for SB-1 or SB-2.

BASE COURSE REINFORCEMENT: Use "Base Course Reinforcement" that complies with KDOT Specification Division 1700 or approved material. Place this material in uniform layers without gaps or sags per the manufacturer's recommendations.

GEOFOAM: Use "Geofoam" that complies with ASTM D6817 EPS 12. Acceptance according to Type "C" certification. Bond this material to the backwall protection using materials recommended by the manufacturer.

PIPE: Place perforated pipe within the limits and use non-perforated pipe outside the limits of the Abutment Aggregate Drain.

ABUTMENT AGGREGATE DRAIN: The Bridge Contractor shall excavate to the limits shown on the Bridge Excavation Sheet. Backfill, compact & grade the cohesive soil to the limits shown. Place the bridge backwall protection, geofoam, geotextile, perforated pipe, alternating layers of aggregate and base course reinforcement as shown. Place the outlet pipe, the CMP, and the backfill. Guidepost and coarse aggregate are subsidiary to this bid item. Guidepost and coarse aggregate are not required if the CMP empties onto Slope Protection. Separate as shown the entire Abutment Aggregate Drain with the geotextile.

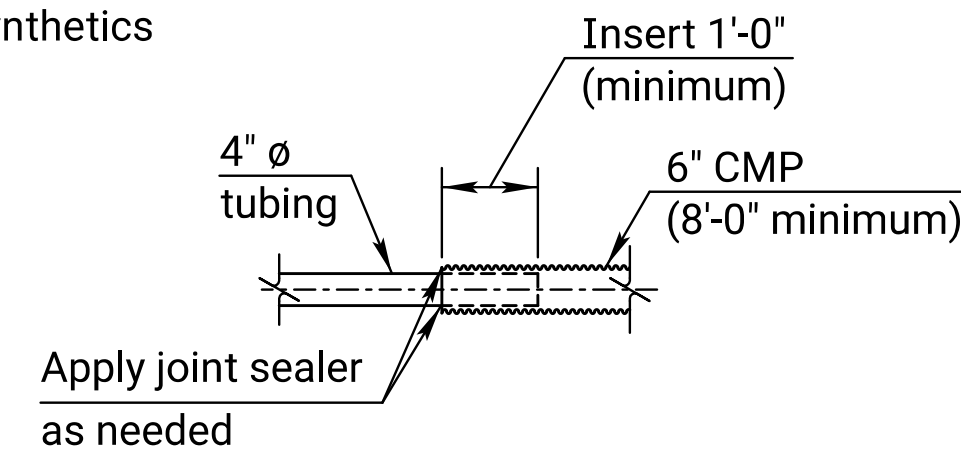
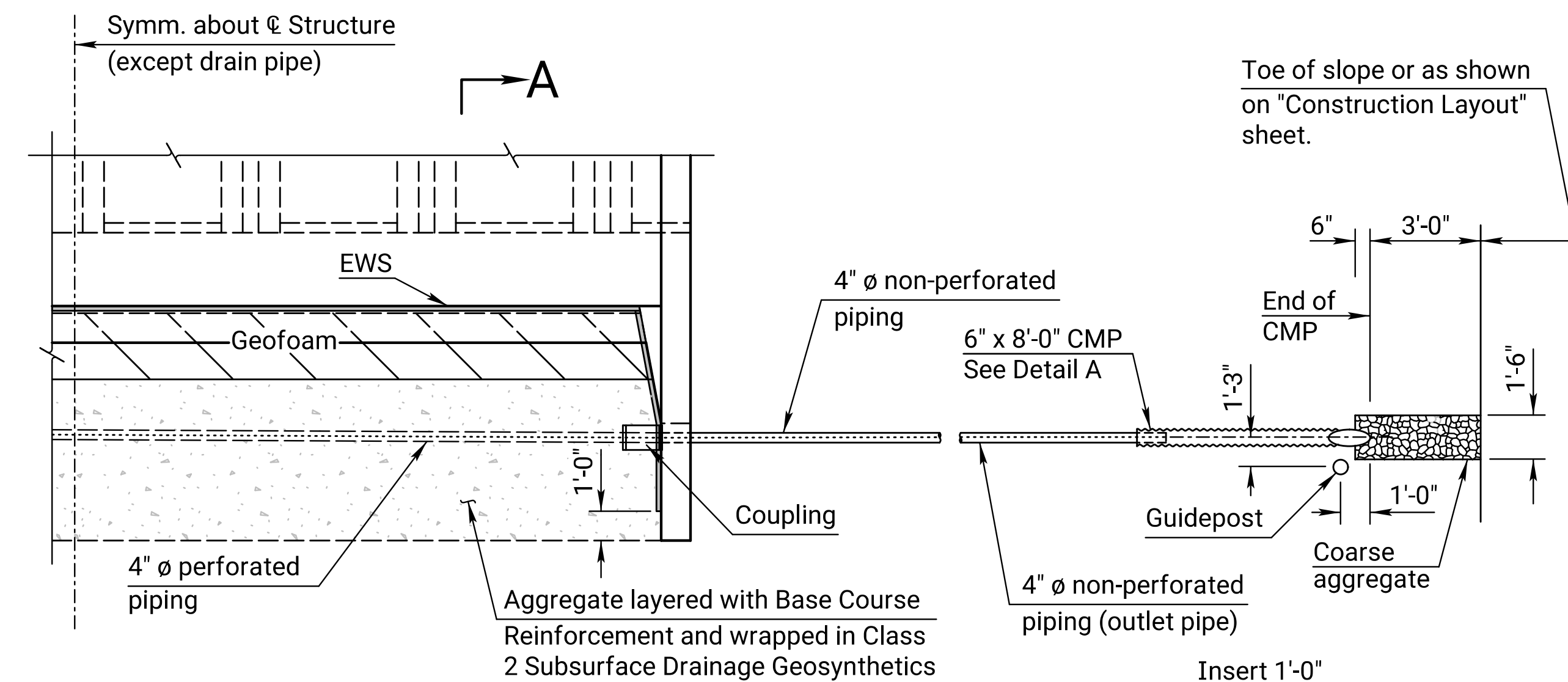
BRIDGE BACKWALL PROTECTION SYSTEM: Apply a non coal-tar Bridge Backwall Protection System to the approach side of the abutments and the wings in accordance with KDOT Specifications and the manufacturer's recommendations. Cover the abutments and wings to the limits shown on the details. Repair any damage done at no charge to the state.

Compact the abutment backfill. See the KDOT Specifications.

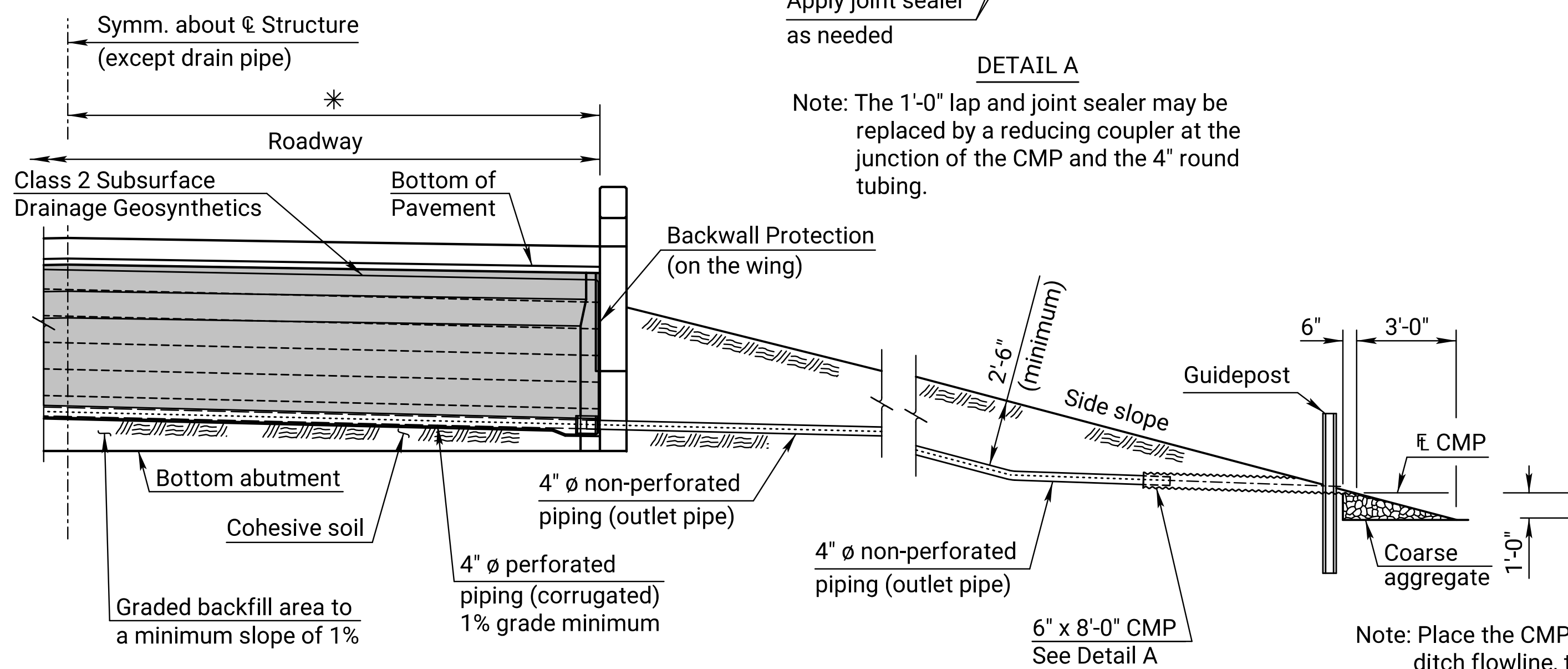
Perforated pipe and non-perforated outlet pipe shall be corrugated polyethylene tubing conforming to the KDOT Specifications.

Fit the CMP end section with 1/4" galvanized mesh screen to prevent the entrance of rodents. Seal the joint between the outlet pipe and the end section with a joint sealer. Place Coarse aggregate at the outlet end as shown.

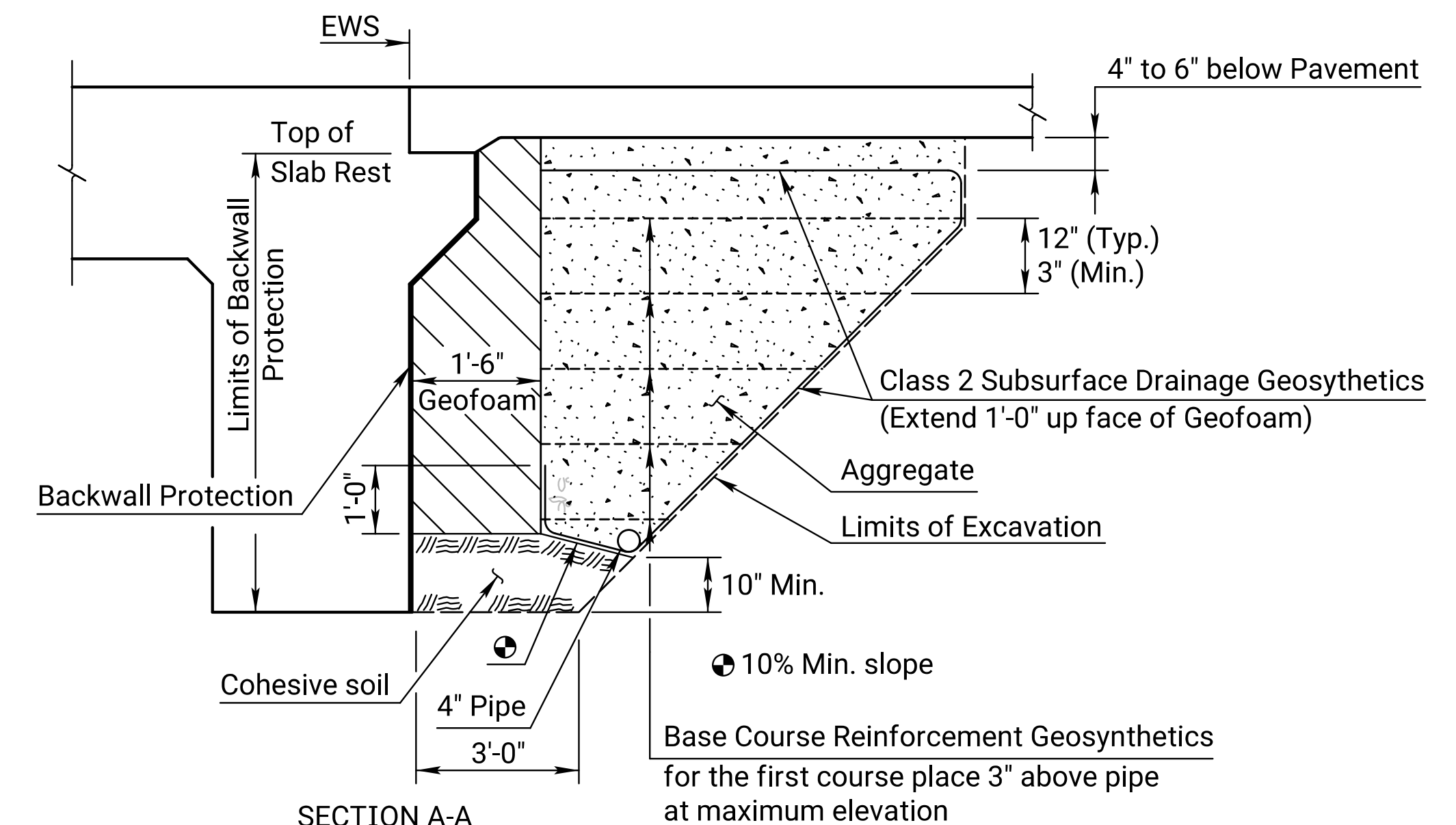
COHESIVE SOILS: Grade the bottom surface of the excavated area to drain as shown. Backfill this area with a cohesive type of soil. The soil will have a Unified Soil Classification of CL, CH, ML or MH according to ASTM D2487 Classification System with a minimum plasticity index of 13. Compact the material to Type A, MR-90 specifications. If the plasticity index cannot be met add and mix Bentonite, to the soil prior to placement and compaction so that the PI ≥ 13.



Note: The 1'-0" lap and joint sealer may be replaced by a reducing coupler at the junction of the CMP and the 4" round tubing.



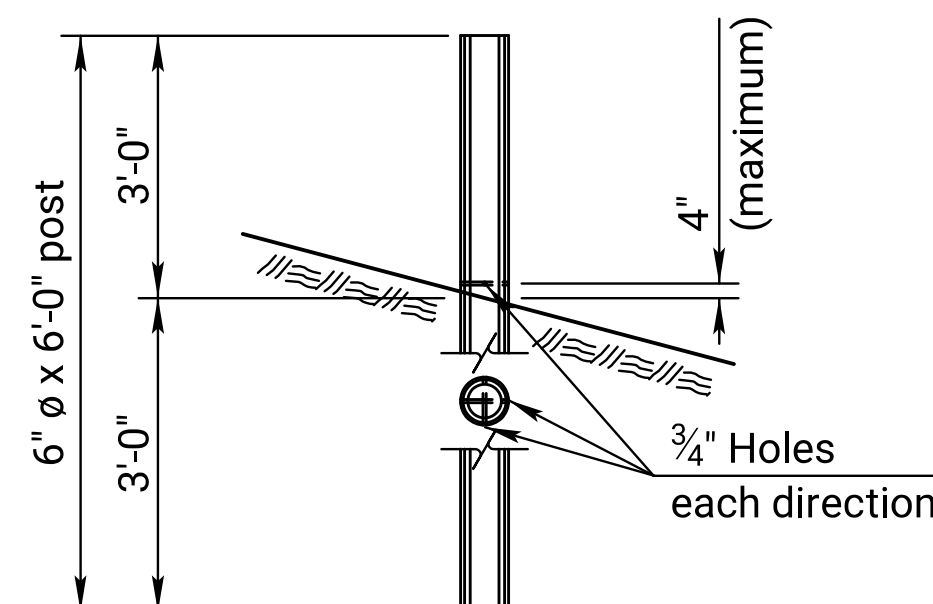
Note: Place the CMP flowline 1'-0" above ditch flowline, toe of sideslope, or as shown on the "Construction Layout" sheet. For stream crossings place outlet on downstream side of bridge.



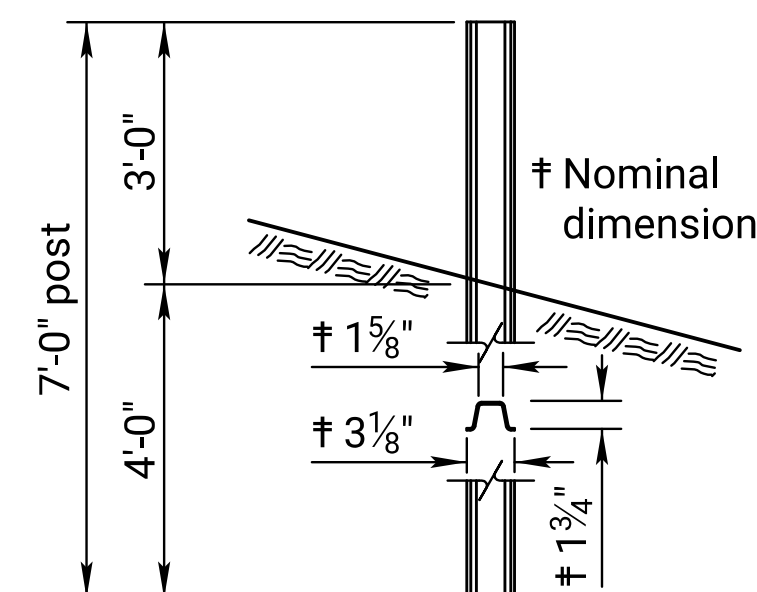
* Limits of Bridge Backwall Protection System & Geofoam

Notes:
Wood Guideposts: Apply a preservative treatment conforming to the KDOT Specifications to the posts. Use only one type of preservative treatment on a project. Apply two coats of aluminum paint to the top 18" of the posts. Apply one coat of International Orange paint to the top 12" of the posts. State forces will apply reflectorized material.

Metal Guideposts: Posts shall conform to the KDOT Specifications. Posts shall have a galvanized or baked enamel coating. Apply one coat of International Orange paint to the top 12" of the posts.



Wood Guidepost Option (6" ϕ x 6'-0")



Metal Guidepost Option 7'-0" at 3.0 lbs/ft flanged channel

GUIDEPOST

SUMMARY OF QUANTITIES (2 Abutments)	
Abutment Aggregate Drain	302 Cu. Yds.
Bridge Backwall Protection System	232 Sq. Yds.
Items subsidiary to Abutment Aggregate Drain	
4" ϕ Perforated Pipe	251 Lin. Ft.
4" ϕ Outlet Pipe	30 Lin. Ft.
6" ϕ CMP	16 Lin. Ft.
Guidepost	2 Each
Geosynthetics (Class 2 Subsurface Drainage)	494 Sq. Yds.
Geosynthetics (Base Course Reinforcement)	836 Sq. Yds.
Geofoam	70 Cu. Yds.

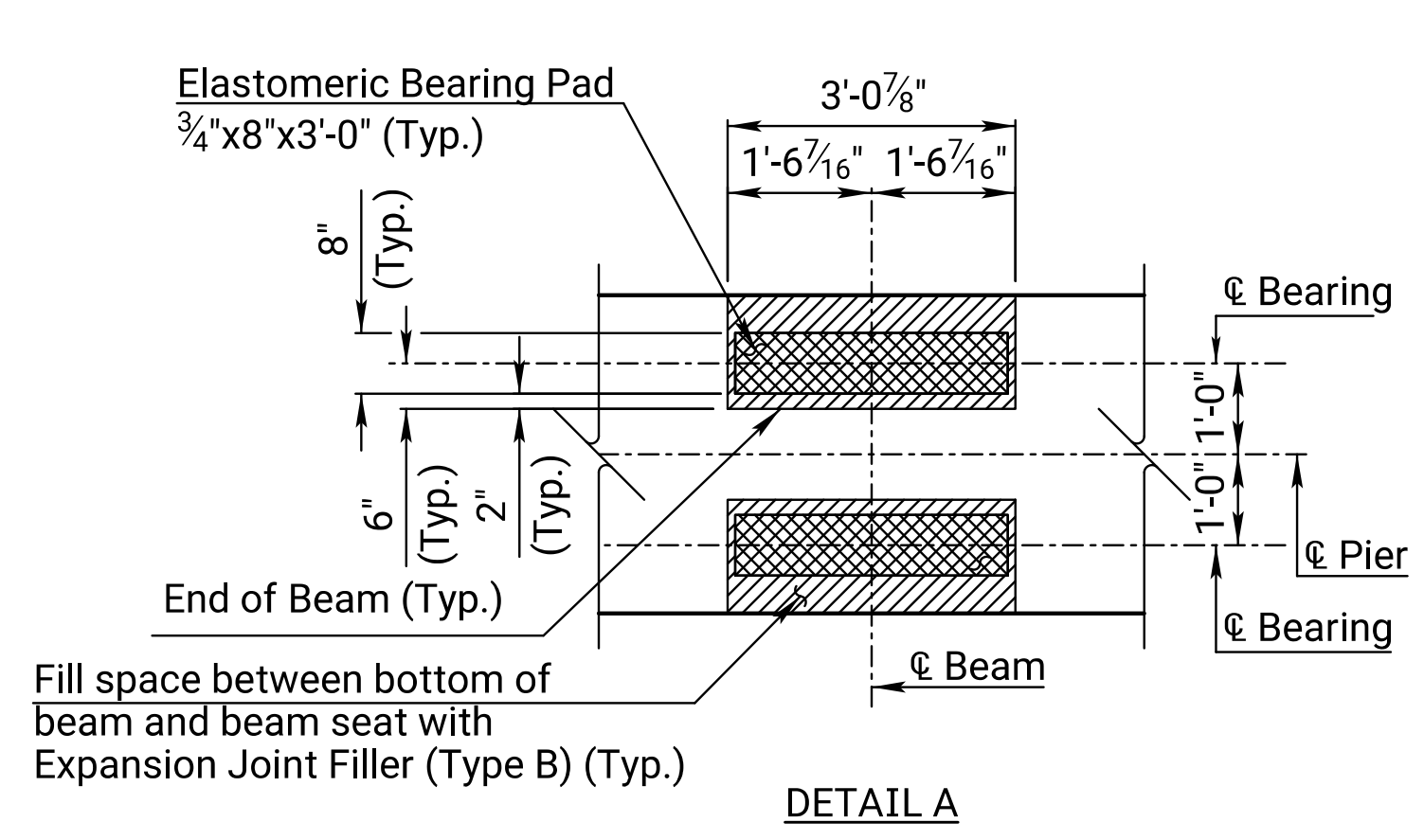
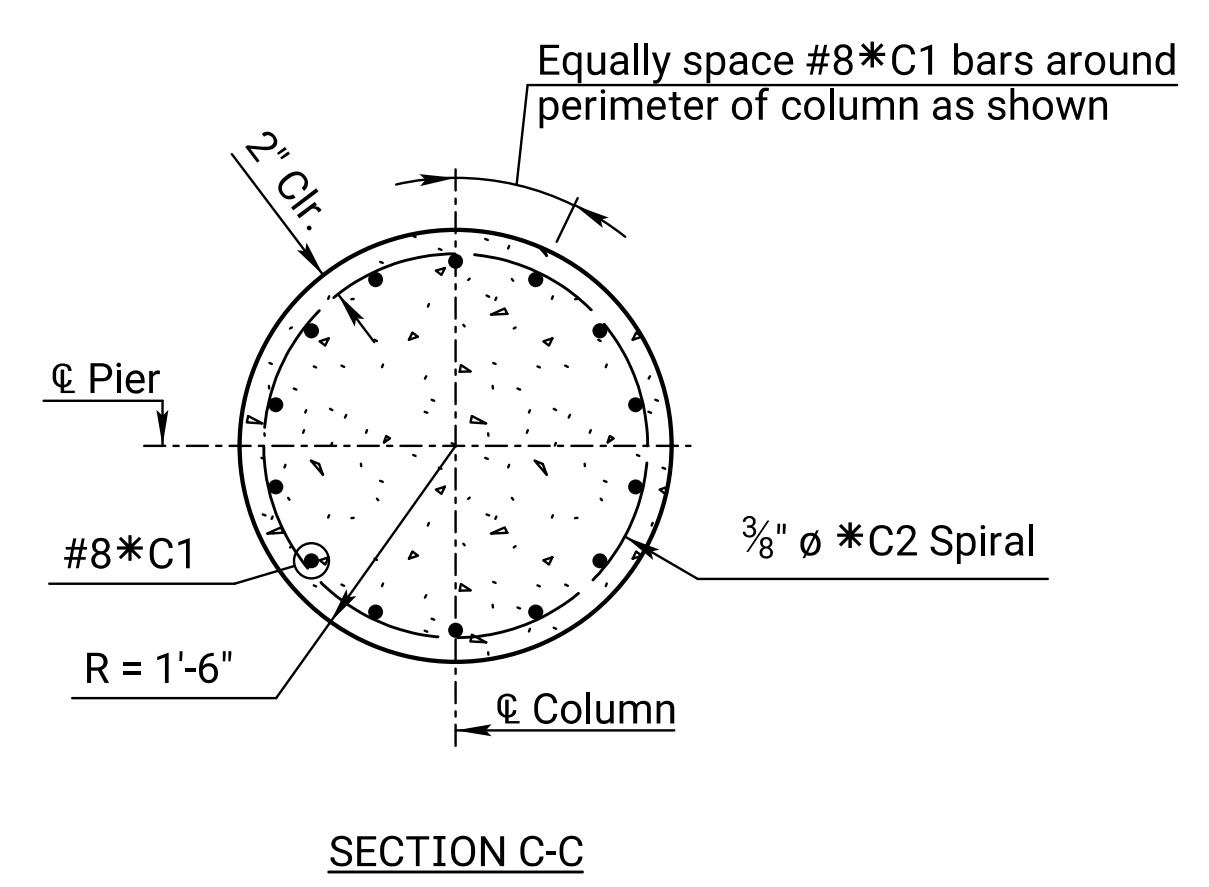
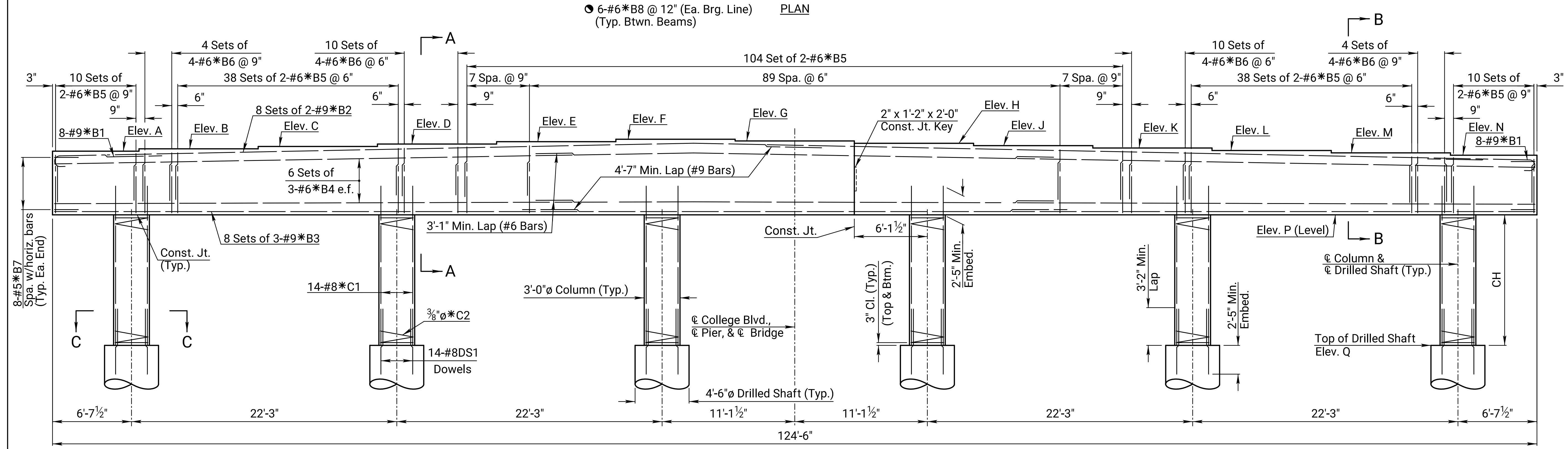
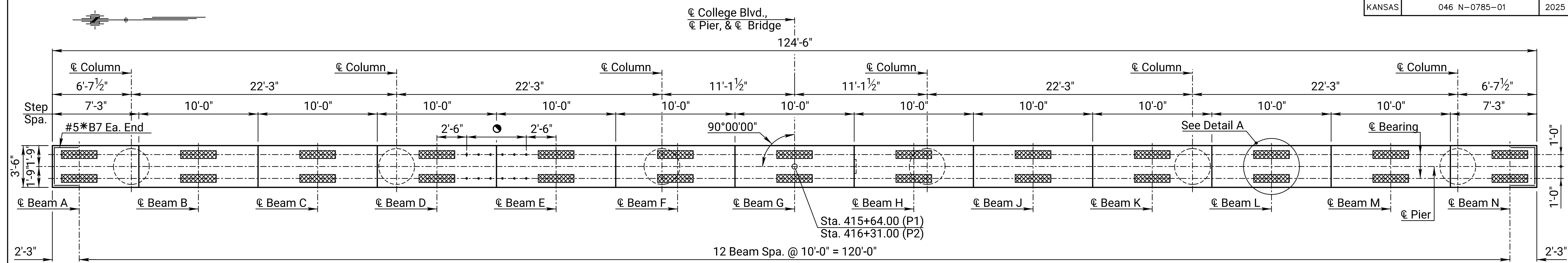
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

ABUTMENT AGGREGATE DRAIN
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
BRIDGE NO. 421950462874056 (LPA ID: 056)
OVERLAND PARK, KANSAS
2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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Location	Pier No. 1	Pier No. 2
Elev. A	913.49	912.83
Elev. B	913.69	913.03
Elev. C	913.89	913.23
Elev. D	914.09	913.43
Elev. E	914.29	913.63
Elev. F	914.49	913.83
Elev. G	914.35	913.69
Elev. H	914.15	913.49
Elev. J	913.95	913.29
Elev. K	913.75	913.09
Elev. L	913.55	912.89
Elev. M	913.35	912.69
Elev. N	913.15	912.49
Elev. P	908.15	907.49
Elev. Q	893.00	895.00
CH	15'-1 3/4"	12'-5 7/8"
* Benchmark	B	C

Notes:
 P1 denotes Pier No. 1
 P2 denotes Pier No. 2
 e.f. denotes each face.
 For Section A-A & B-B, see Sheet 75.
 For Drilled Shaft Details, see Sheet 75.
 Column and drilled shaft reinforcing steel is typical for each column.

REV. NO.	DATE	REVISIONS DESCRIPTION

PIER DETAILS (1 OF 2)
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 BRIDGE NO. 421950462874056 (LPA ID: 056)
 OVERLAND PARK, KANSAS
 2025

SHEET
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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PIER DETAILS (2 OF 2)

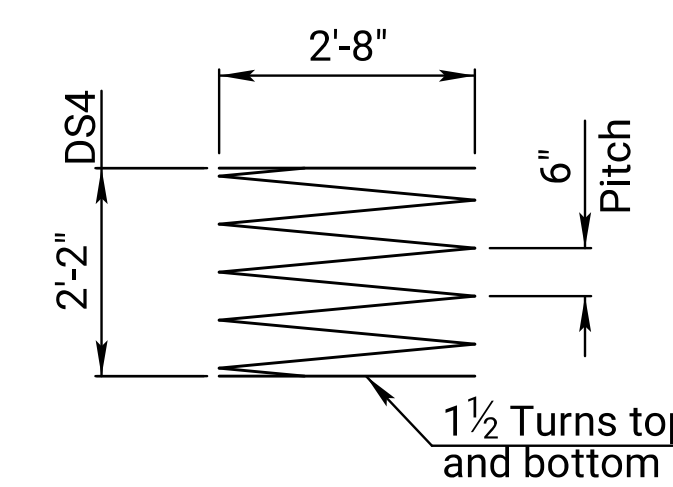
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
BRIDGE NO. 421950462874056 (LPA ID: 056)
OVERLAND PARK, KANSAS

drawn by: ZDD
checked by: KAS
approved by: KAS
QA/QC by: GCL
project no.: 022-06529
drawing no.:
date: 01/31/2025

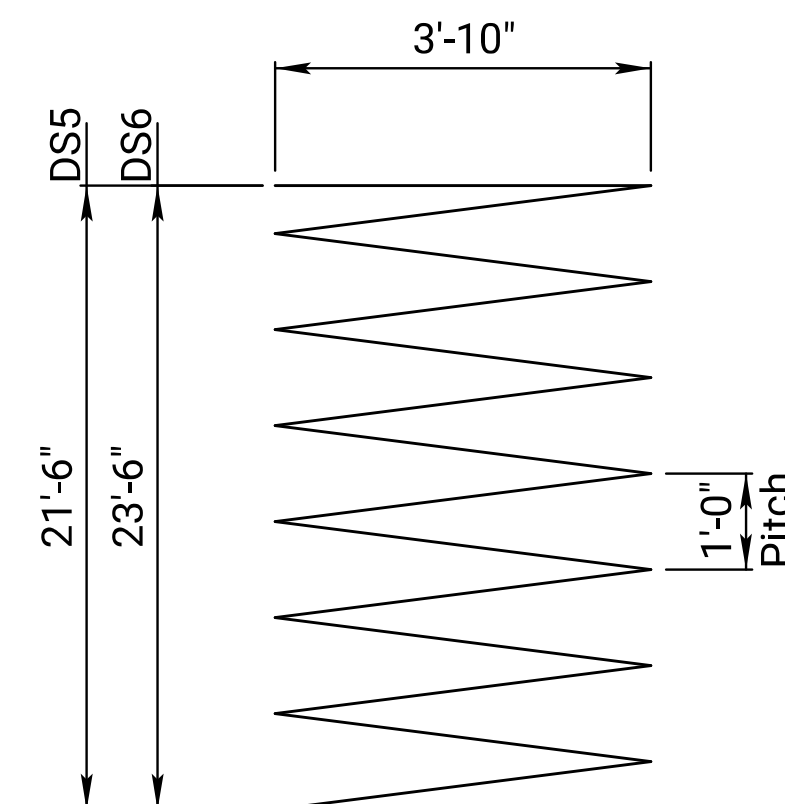
SHEET
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Mark	Size	Number	Length
DS1	8	168	5'-7"
DS2	10	102	21'-9"
DS3	10	102	23'-9"
DS4	3/8" ϕ	12	##
DS5	1/2" ϕ	6	##
DS6	1/2" ϕ	6	##

See Bending Diagram
* Bars with the prefix "DS" are subsidiary to the bid item "Drilled Shafts" and are shown for information only.



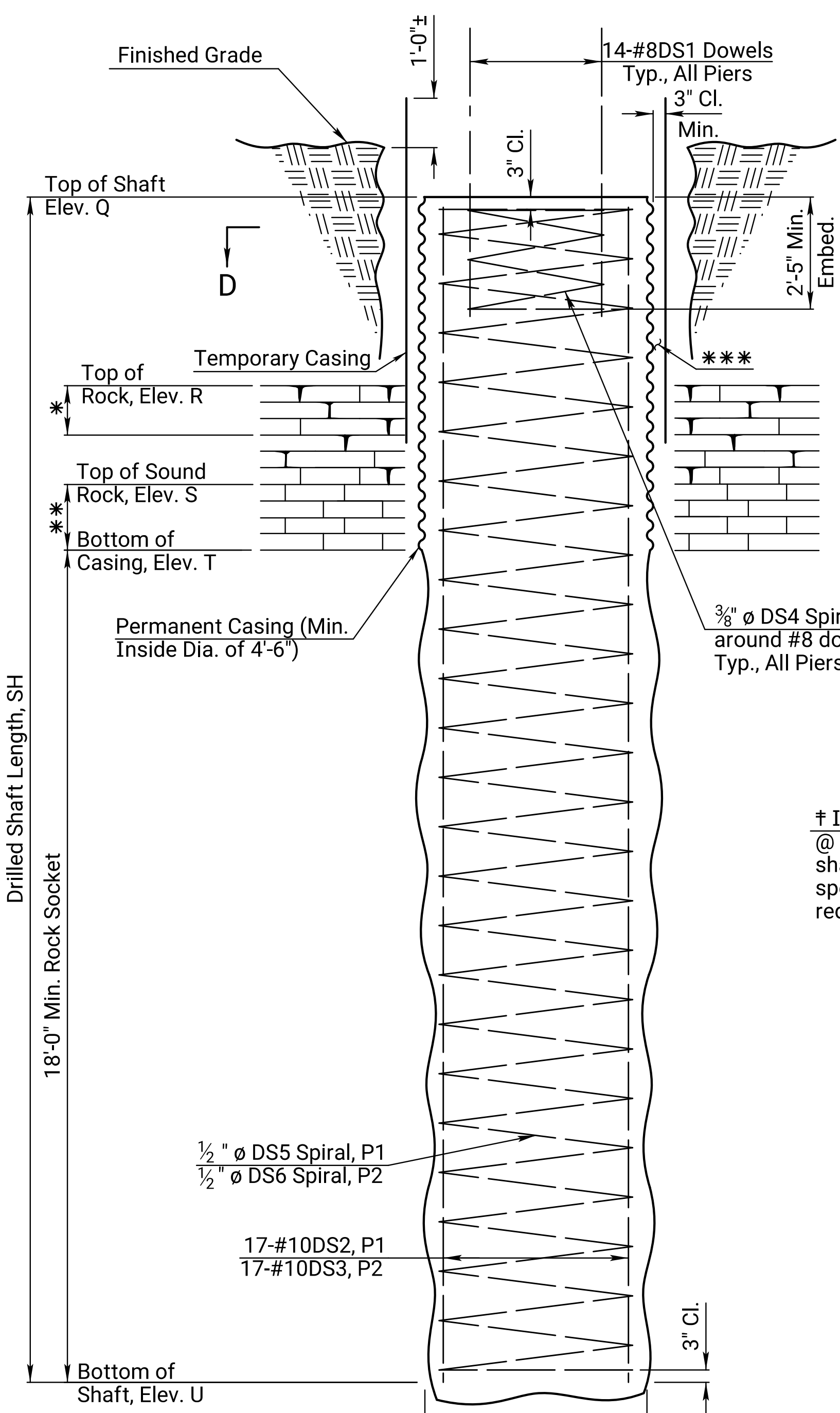
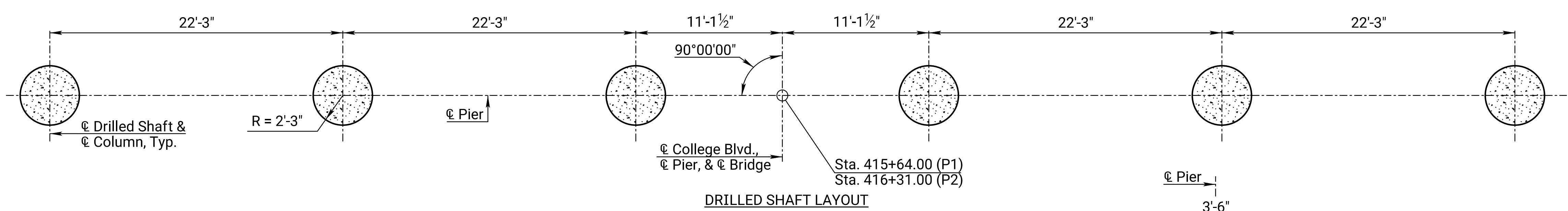
DS4
(3/8" Dia. smooth or deformed bar)
Spiral Spacer Bars:
1) Minimum section modulus = 0.008 in³
2) 4 required per spiral



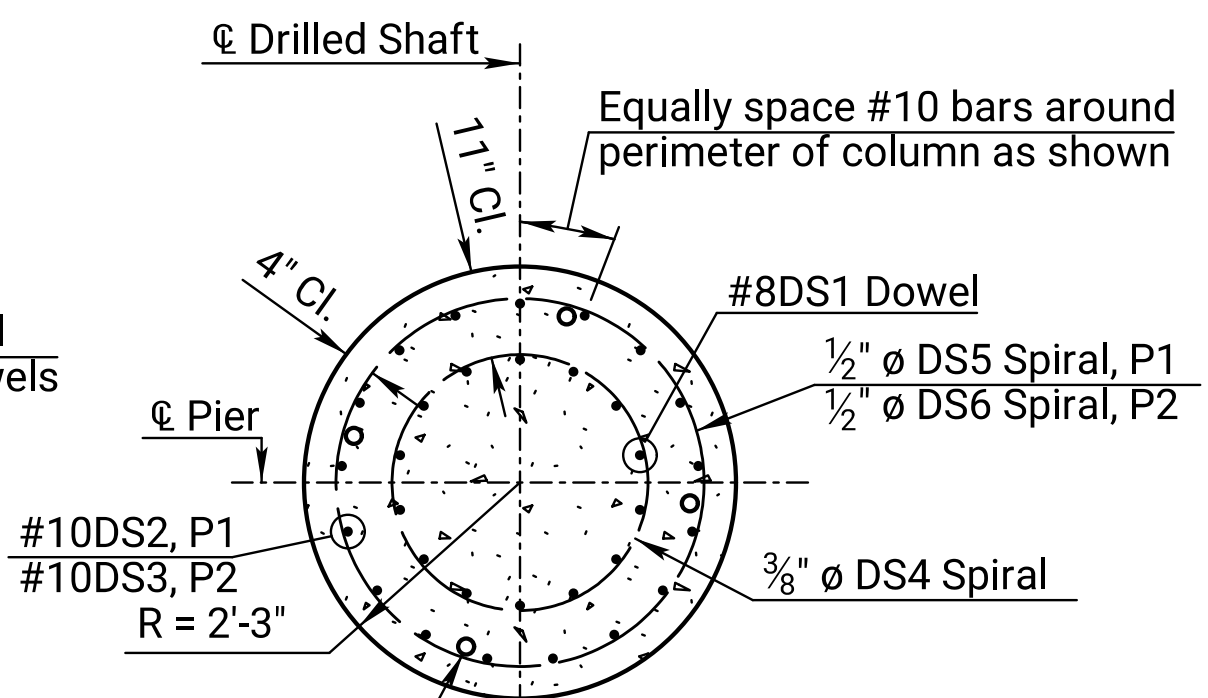
DS5, DS6
(1/2" Dia. smooth or deformed bar)
Spiral Spacer Bars:
1) Minimum section modulus = 0.030 in³
2) 4 required per spiral

Location	Pier No. 1	Pier No. 2
Elev. Q	893.00	895.00
Elev. R	891.00	891.00
Elev. S	889.00	889.00
Elev. T	888.00	888.00
Elev. U	871.00	871.00
SH	22'-0"	24'-0"

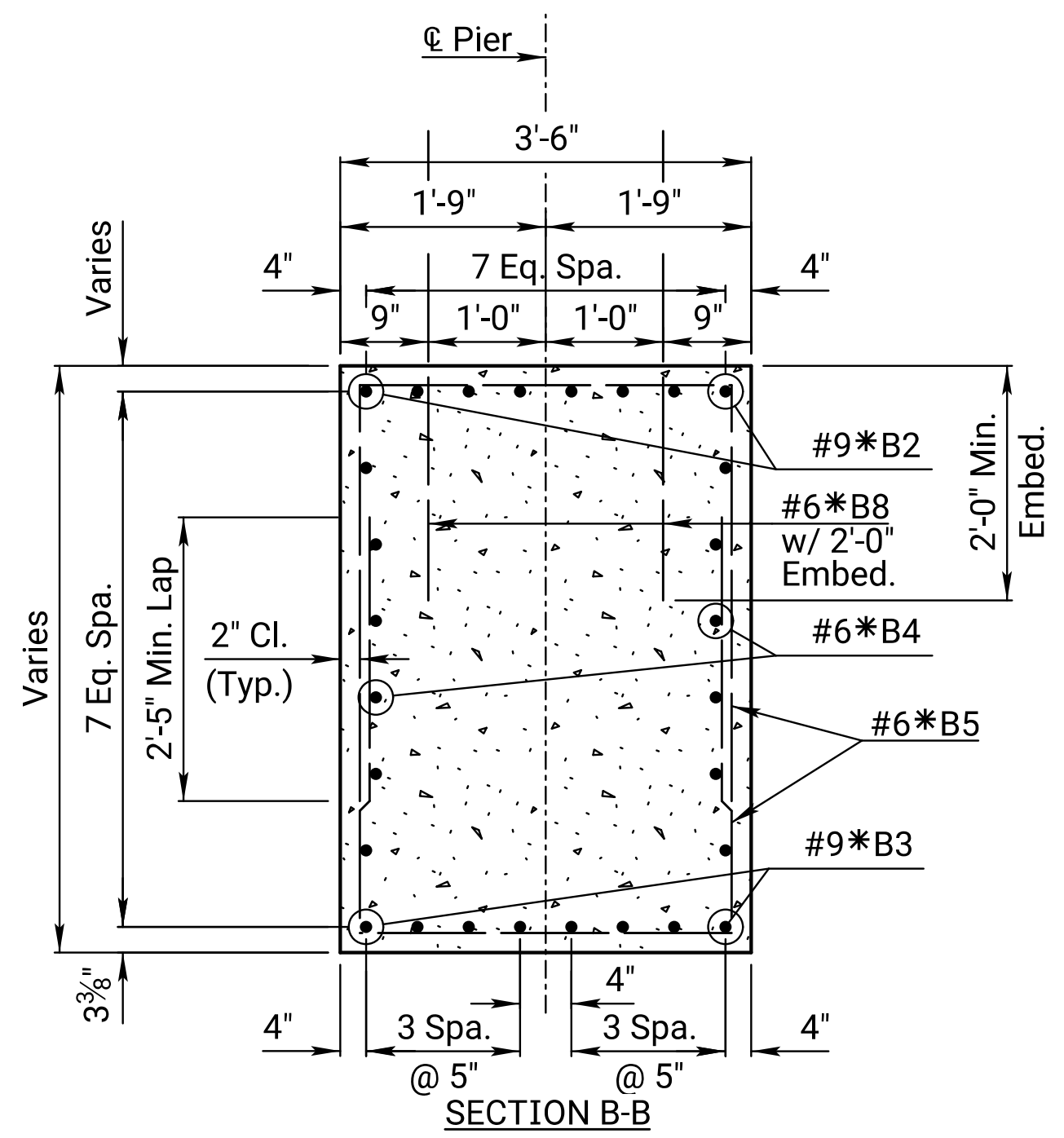
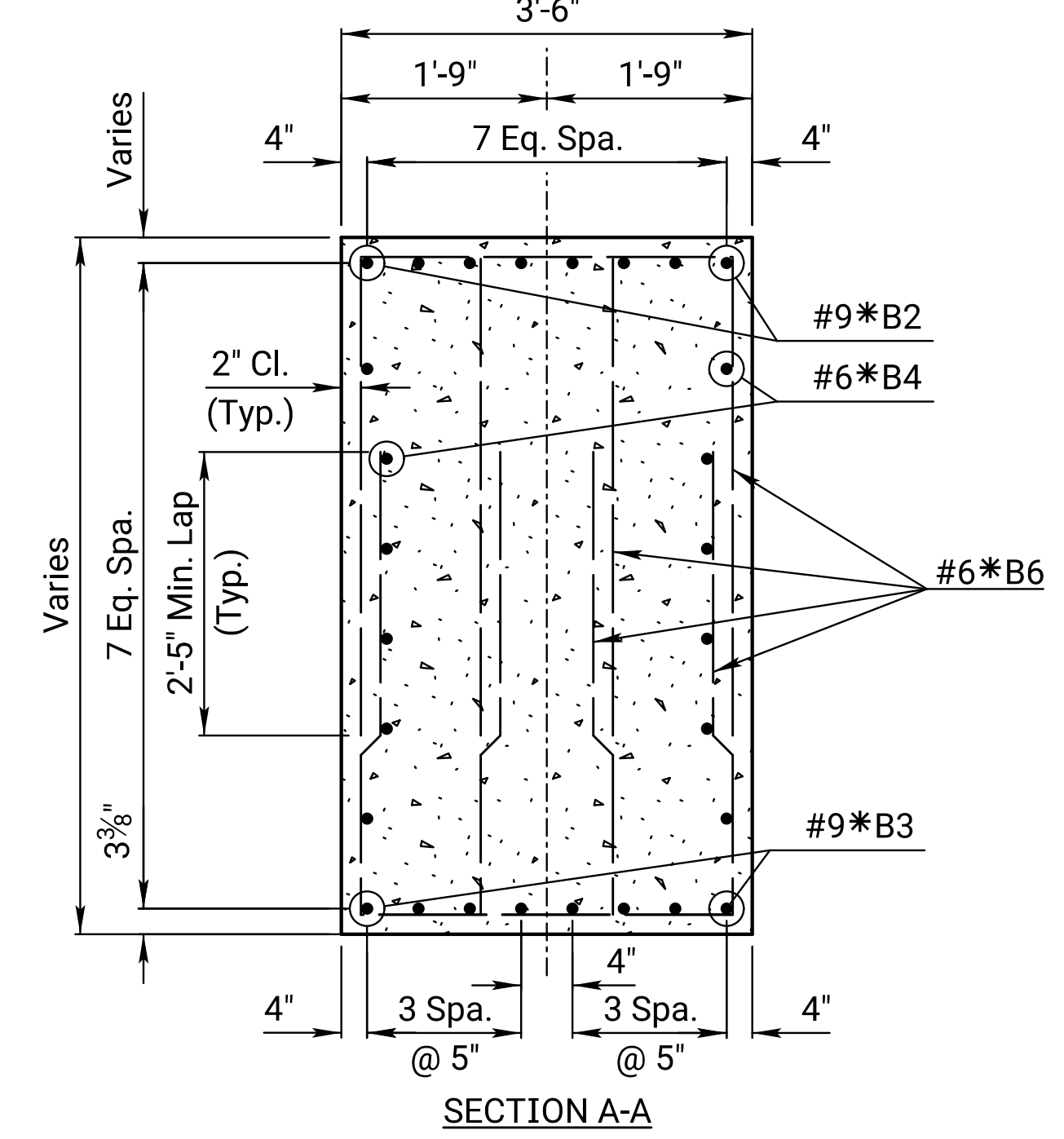
Notes:
P1 denotes Pier No. 1
P2 denotes Pier No. 2
For additional Pier Details, see Sheet 74.



* It is anticipated that the temporary casing will achieve a minimum of 1.0 ft. of penetration into rock.
** Permanent casing shall be set 1.0 ft. into sound rock and 1.0 ft. past the tip of temporary casing.
*** Backfill the space between the permanent and temporary casing with granular material per KDOT specifications.



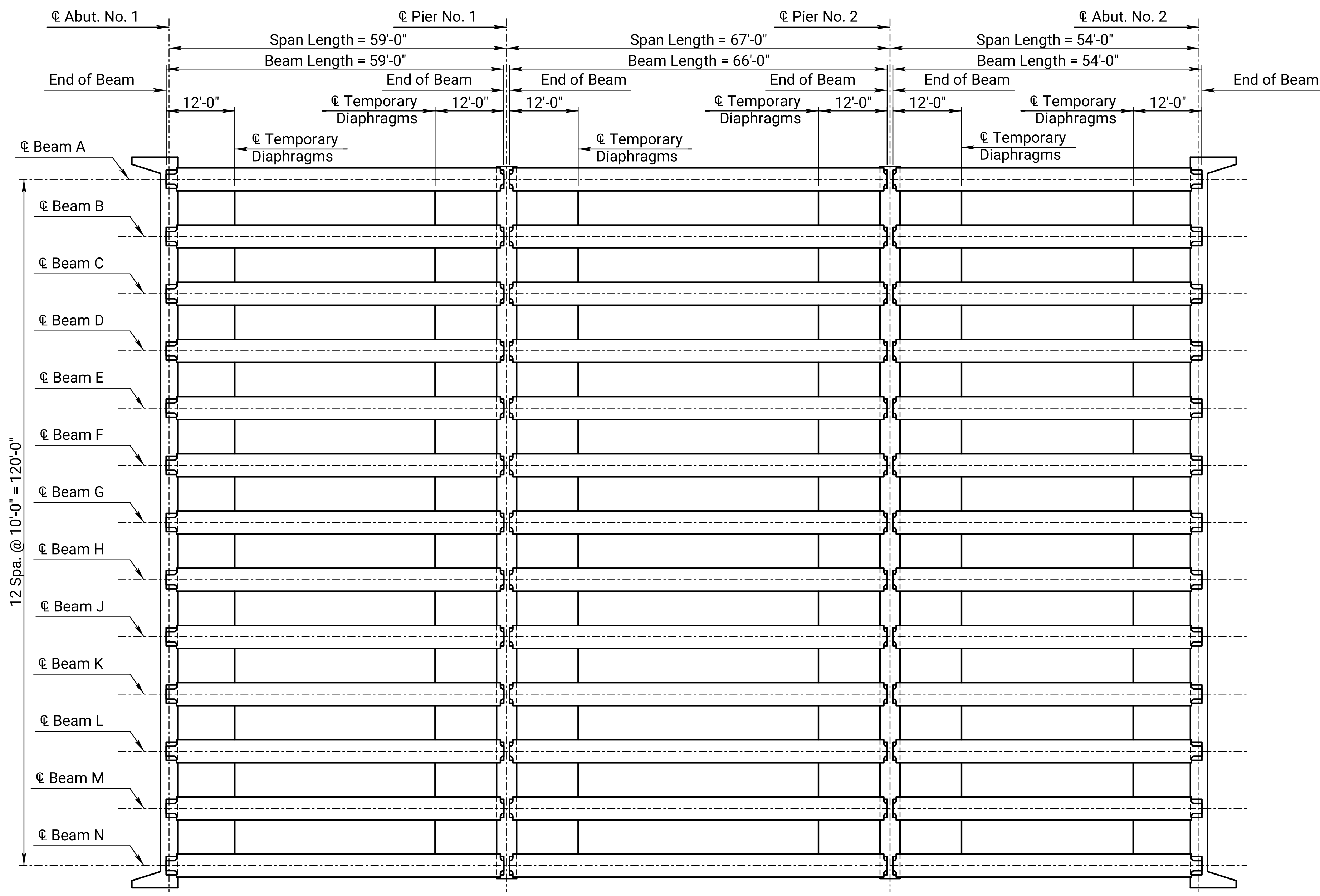
† Install 4'-2" ϕ steel pipes @ equal spacing in each shaft for sonic testing. See specification for installation requirements.



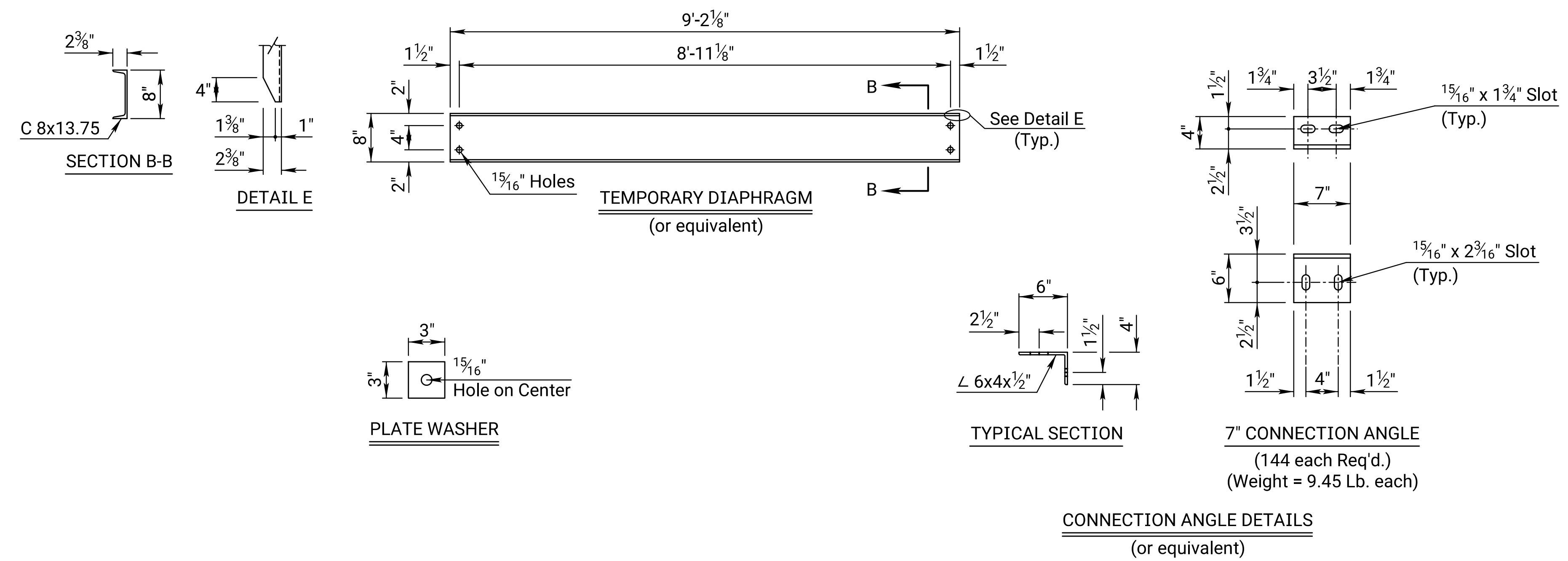
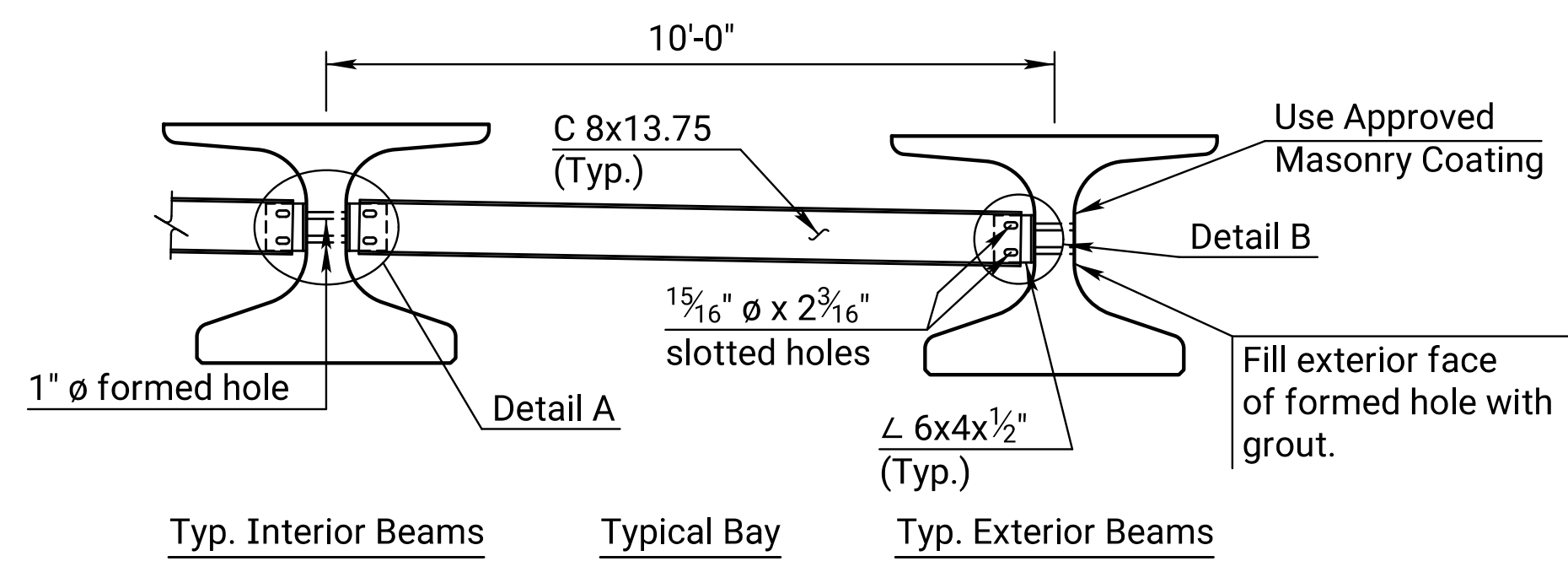
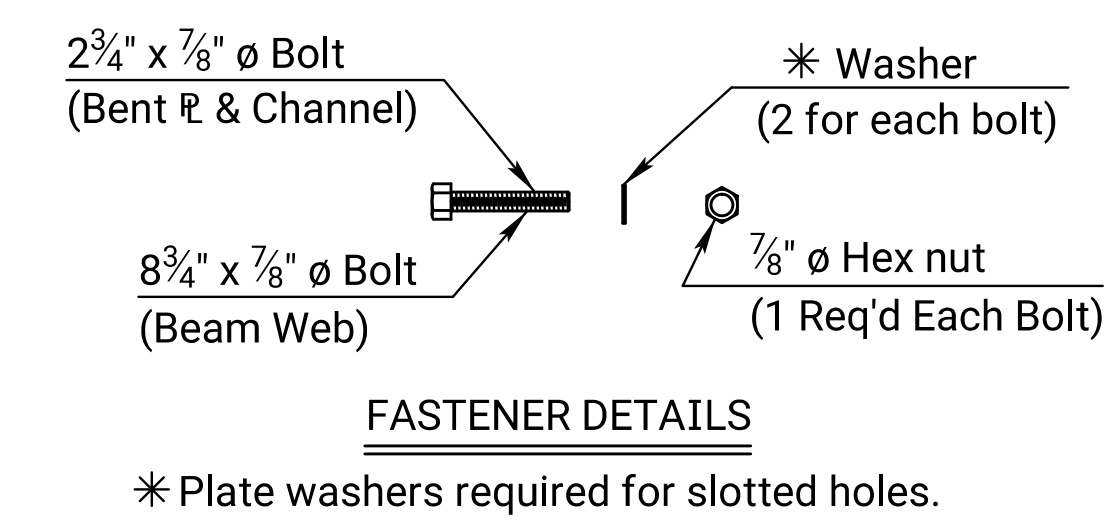
LRFD DESIGN DRILLED SHAFT LOAD:
Design Loading (tons/shaft) Strength Service Phi
All Piers 503 tons 367 tons End Bearing 0.50

STATE	PROJECT NO.	YEAR
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TEMPORARY DIAPHRAGMS: Use ASTM A709 Gr. 36 steel for all angles and bent plates for temporary diaphragms. All bolts, nuts, and washers for fasteners shall conform to the heavy hex structural requirements of ASTM F3125 Gr. A325, Type 1. Galvanize the angles, bolts, nuts, and washers in accordance with the KDOT Specifications. Use hardened steel washers over any oversized holes. Use 5/16" plate washers over any slotted holes along with hardened washers under the turned elements. Use the turn-of-the-nut tightening method. DTI's are not required. Install the temporary diaphragms, as shown in the details, prior to placing any superstructure concrete. Leave the temporary diaphragms in place until the concrete diaphragms and deck have cured. Remove the angles from the beams and fill the holes in the prestressed beams with an approved epoxy grout. The bent plate diaphragms, angles, nuts, bolts, and washers shall remain the property of the Contractor. Submit shop drawings of the temporary diaphragms to the Engineer for review and approval. The material, equipment, and labor necessary for the installation of the temporary diaphragms, including filling the bolt holes, shall not be paid for directly, but shall be subsidiary to the bid item "Prestressed Concrete Beams".



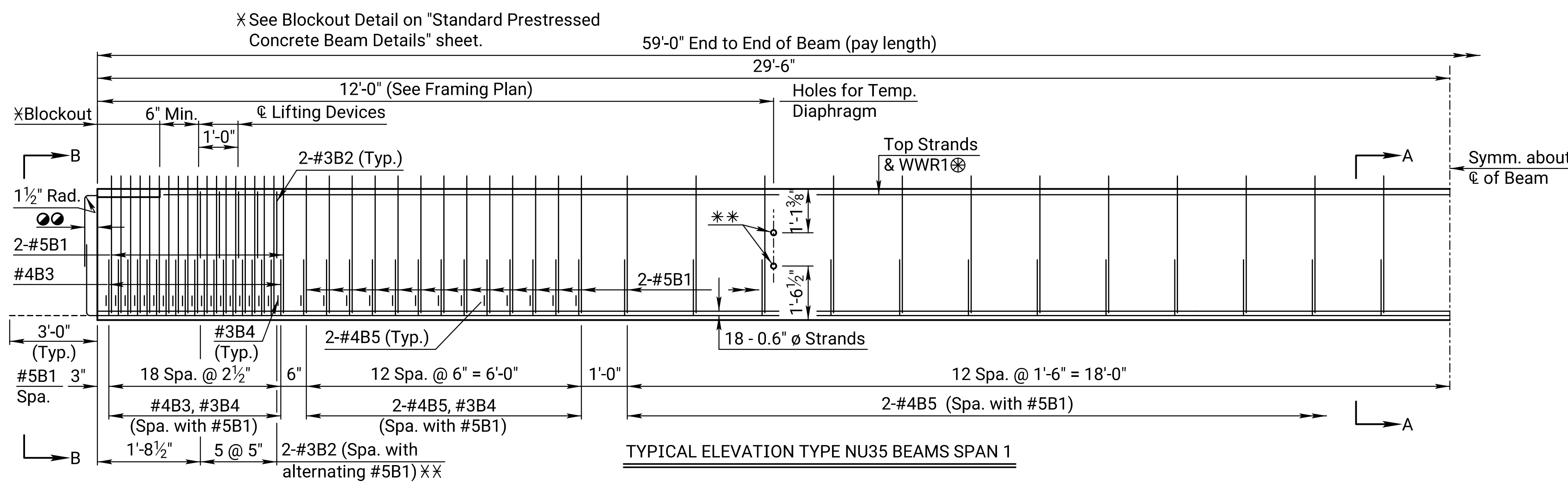
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

FRAMING PLAN
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 BRIDGE NO. 421950462874056 (LPA ID: 056)
 OVERLAND PARK, KANSAS
 2025
 drawn by: ZDD
 checked by: KAS
 approved by: KAS
 QA/QC by: GCL
 project no.: 022-06522
 drawing no.:
 date: 01/31/2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

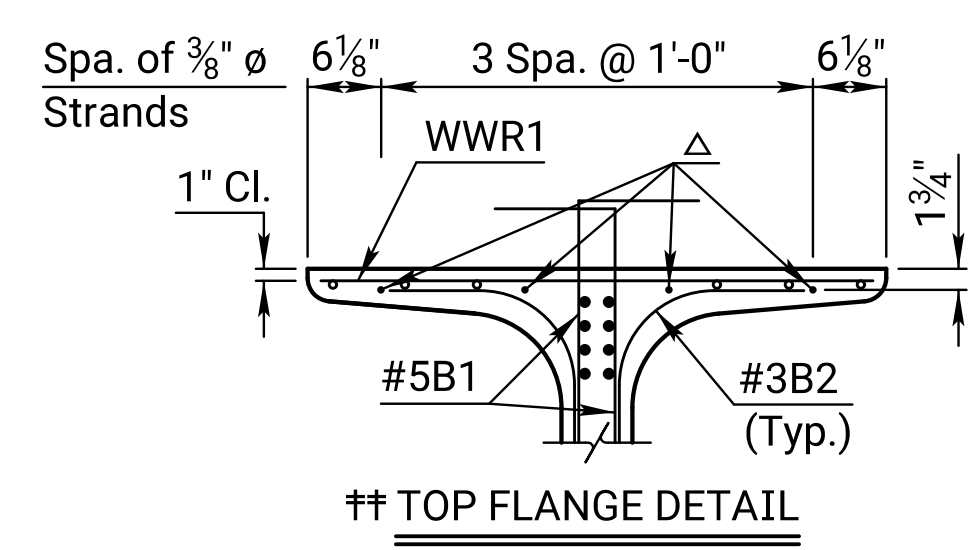
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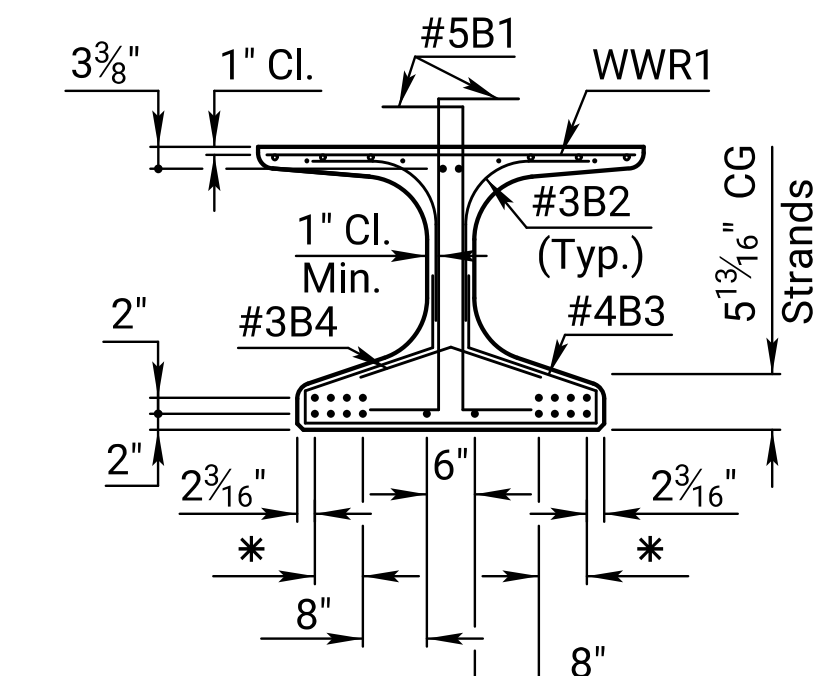
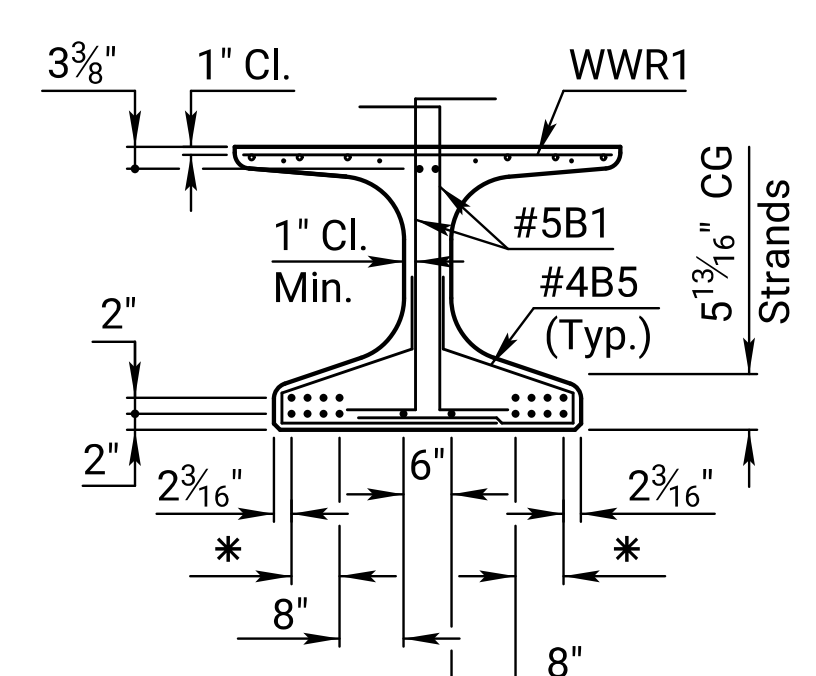
XX Spacing of #3B2 bar @ Abutment End.

- 4" @ Abutments
- 8" @ Piers
- 1" Diam. Formed Hole
- Discontinue WWR1 at top flange blockout location.

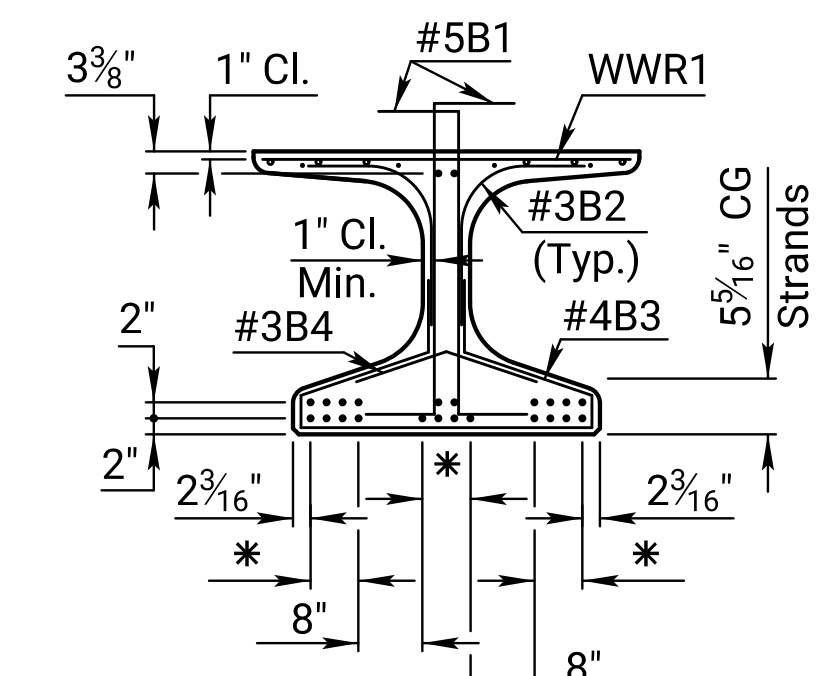
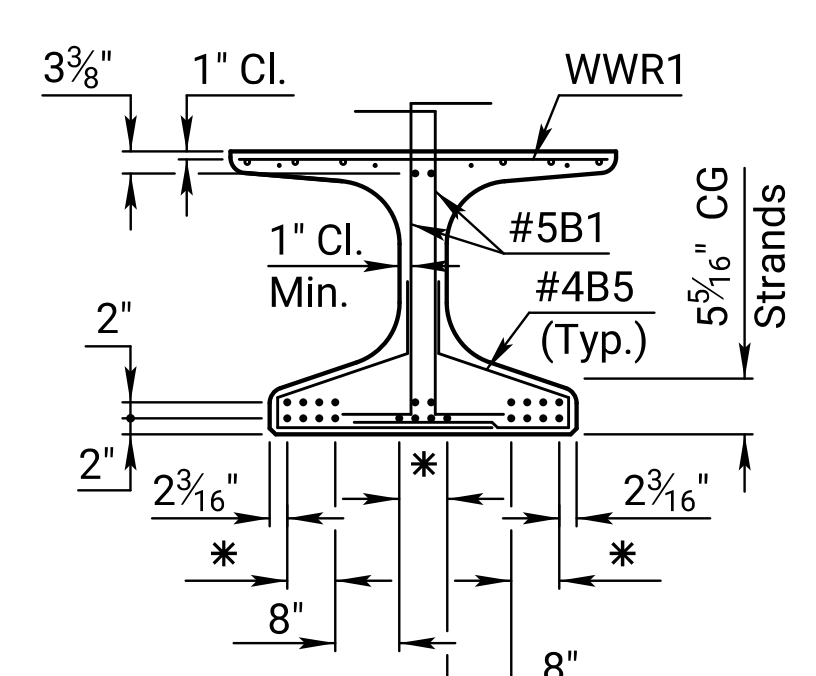
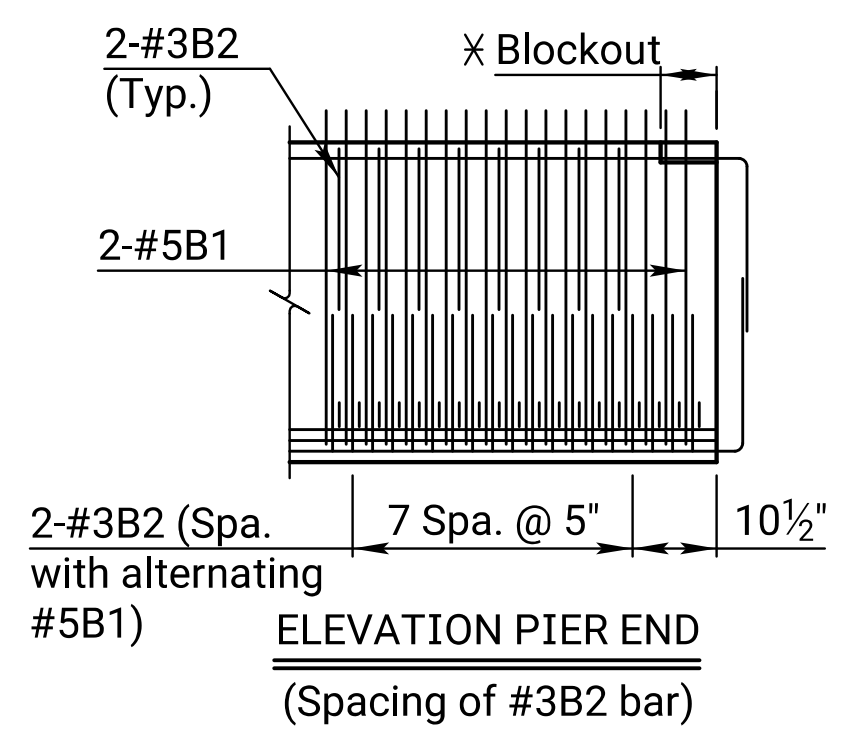
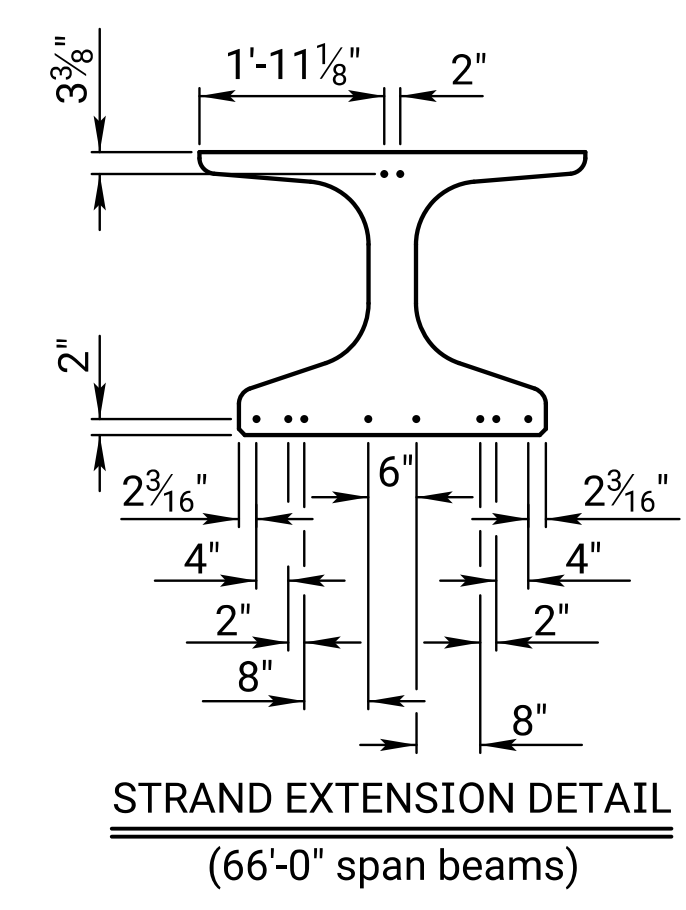
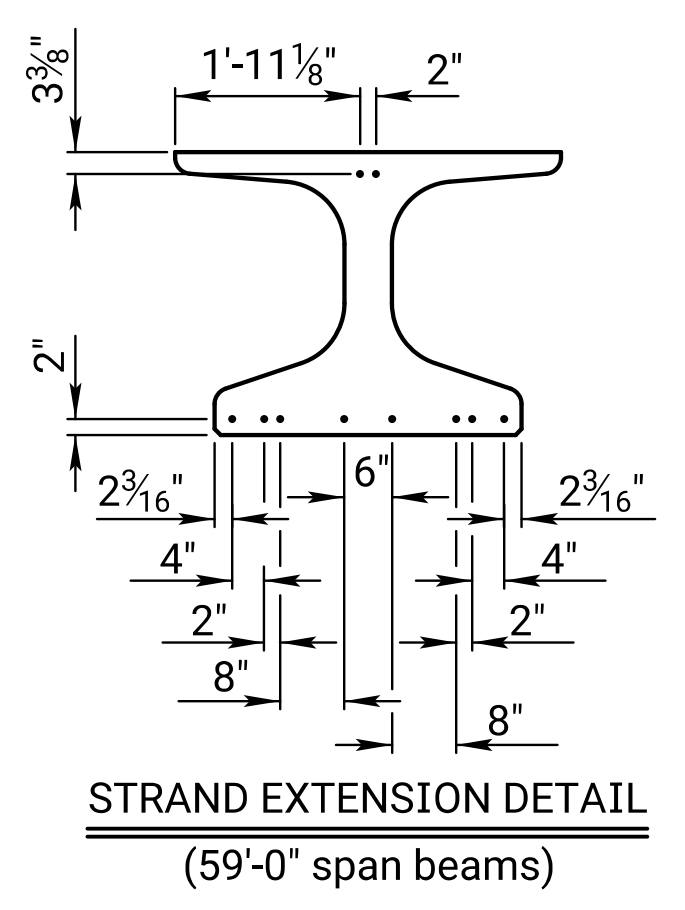
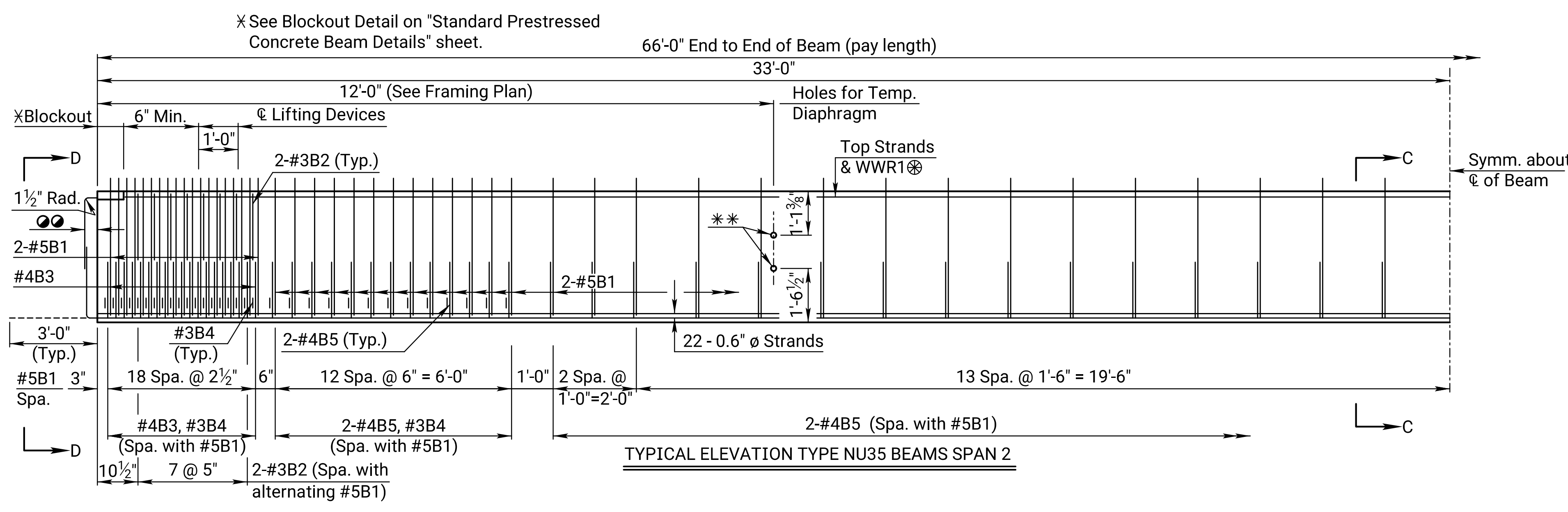


3/8" Dia. reinforcement support strands (required). Tension to 2.0 kips/strand and place symmetrical about \bar{C} beam. May be moved laterally in pairs to maintain symmetry.

Check flange for Overhang Bracket loads where applicable.



* 3 Spa. @ 2"



NOTE: See "NU35 Beam Details II" sheet for Bill of Reinforcing Steel, additional notes and details, and Bill of Materials.

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

NU35 BEAM DETAILS (1 OF 2)

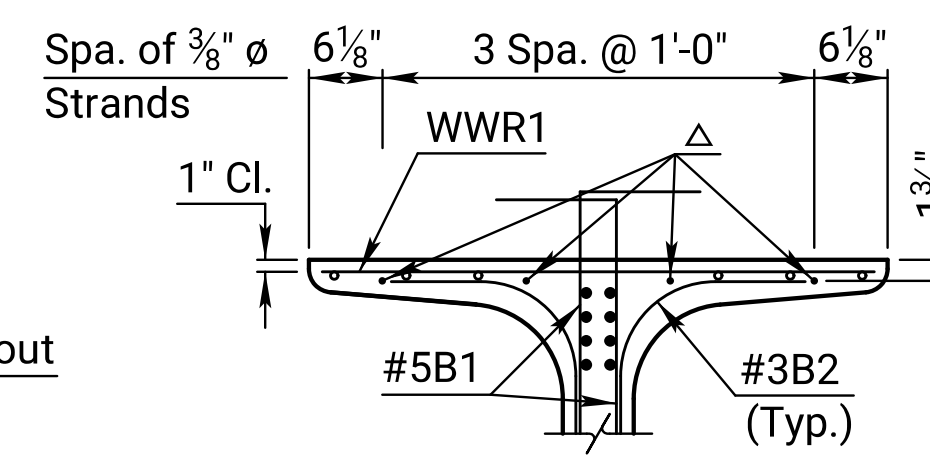
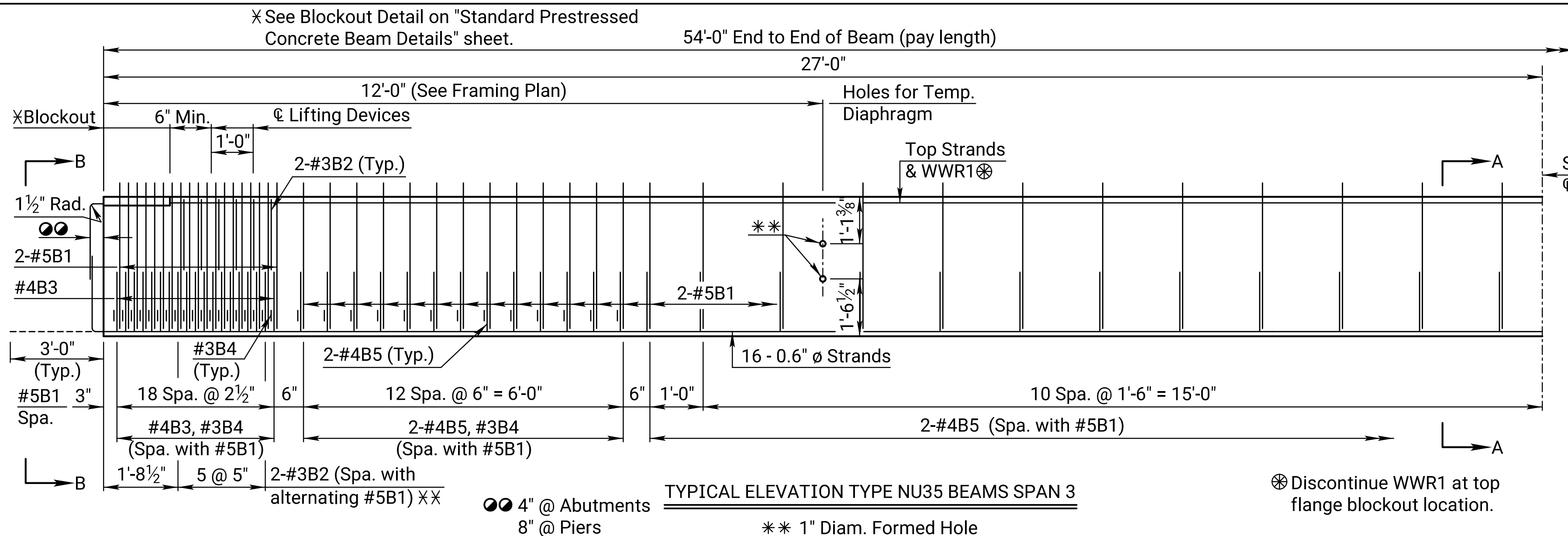
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
BRIDGE NO. 421950462874056 (LPA ID: 056)

OVERLAND PARK, KANSAS

2025

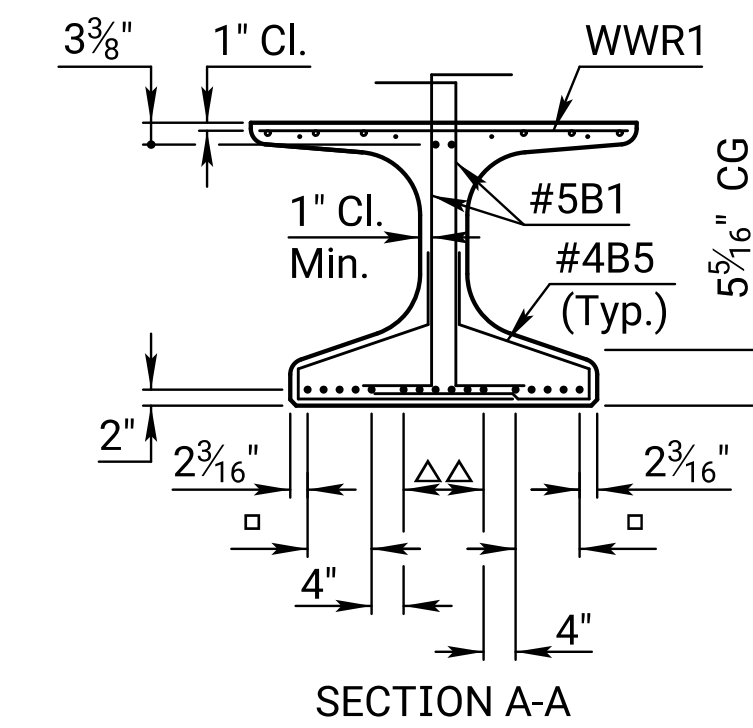
drawn by: ENO
checked by: KAS
approved by: KAS
QA/QC by: GCL
project no.: 022-08522
drawing no.:
date: 01/31/2025

See Blockout Detail on "Standard Prestressed Concrete Beam Details" sheet.

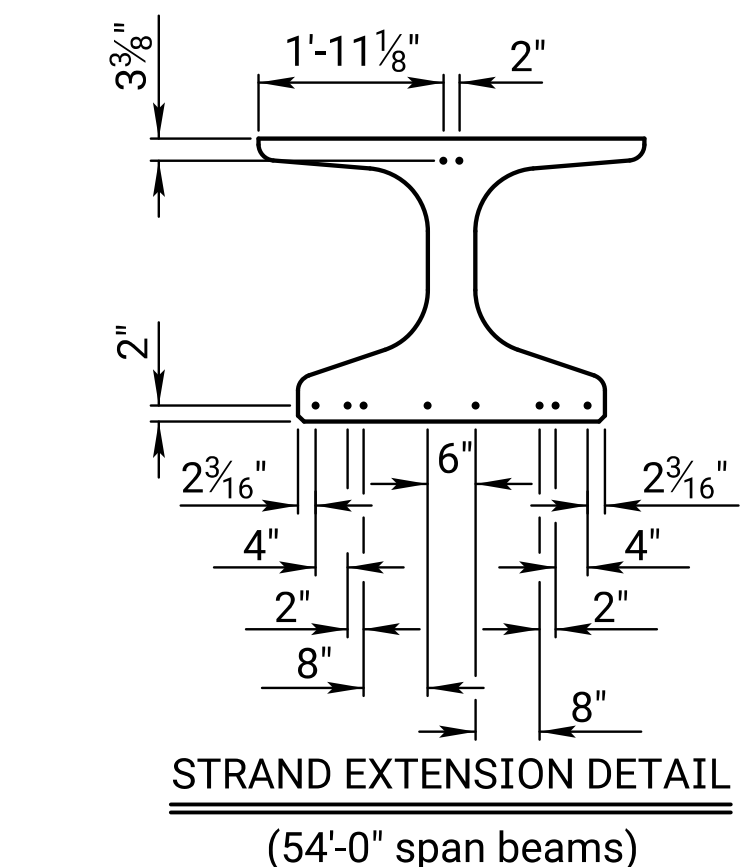
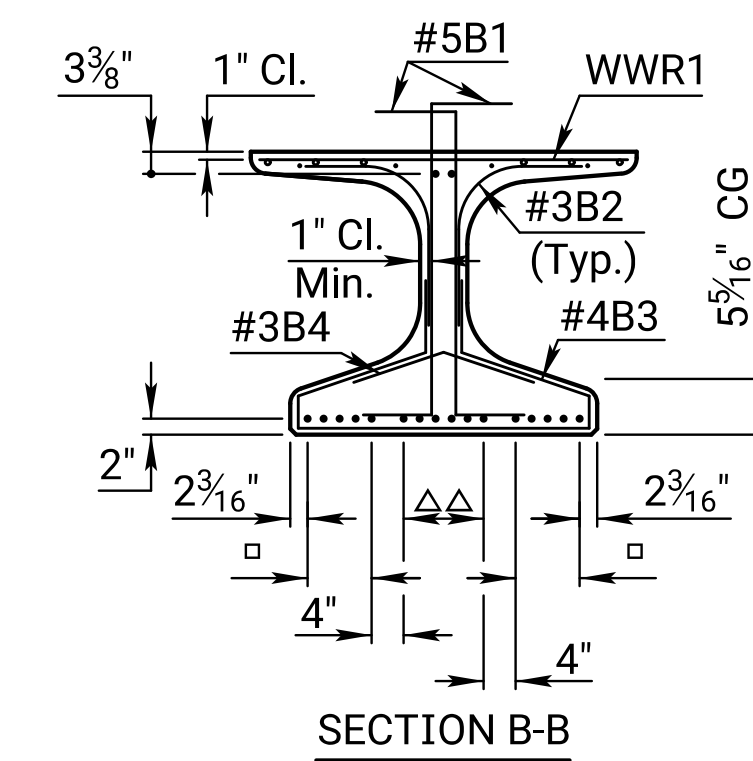


△ 3/8" Dia. reinforcement support strands (required). Tension to 2.0 kips/strand and place symmetrical about C of beam. May be moved laterally in pairs to maintain symmetry.

†† Check flange for Overhang Bracket loads where applicable.



□ 4 Spa. @ 2"
△ 5 Spa. @ 2"



XX Spacing of #3B2 bar @ Abutment End.

NOTE: Extend 10 strands 3'-0" beyond the end of the beam. Strands not shown shall be cut flush with the end of the beam. See "Strand Extension Details."

NOTE: During transportation and construction only, support beams on bearing points a maximum of 7 feet from the beam end. The Fabricator shall show the proposed support locations on the shop drawings.

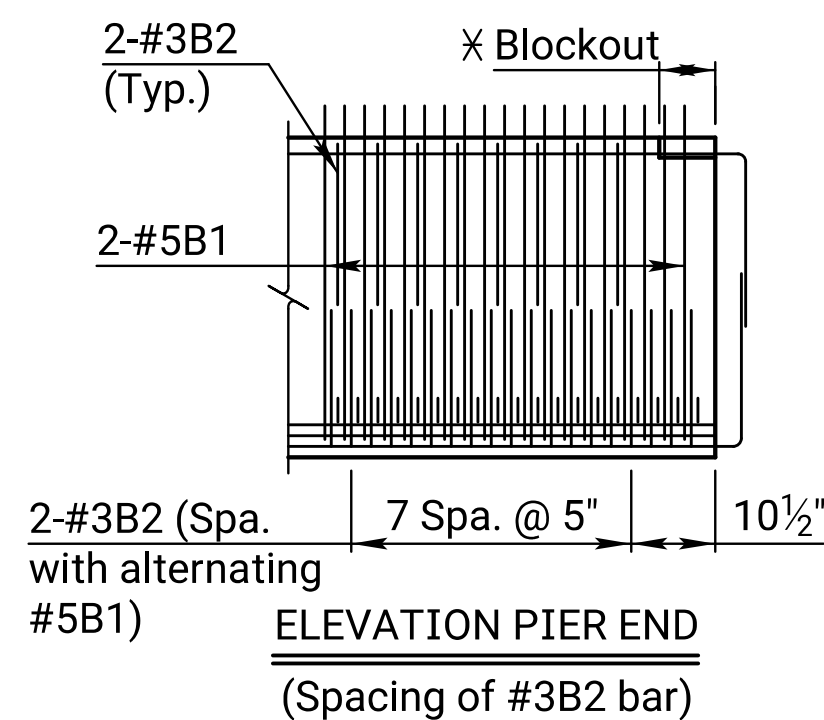
† WELDED WIRE REINFORCEMENT EQUIVALENT STEEL As						
Size	3"	6"	9"	12"	15"	18"
#3	0.440	0.220	0.147	0.110	0.088	0.073
#4	0.800	0.400	0.267	0.200	0.160	0.133
#5	1.234	0.617	0.411	0.308	0.247	0.206
#6	1.761	0.880	0.587	0.440	0.352	0.293

† If Welded Wire Reinforcement (WWR) is used in-lieu of reinforcing steel bars shown on this sheet, the spacing of wires for the WWR shall be equal to or less than the vertical bars shown in the typical beam section above. The equivalent As for the WWR shall be equal to or greater than typical beam section above.

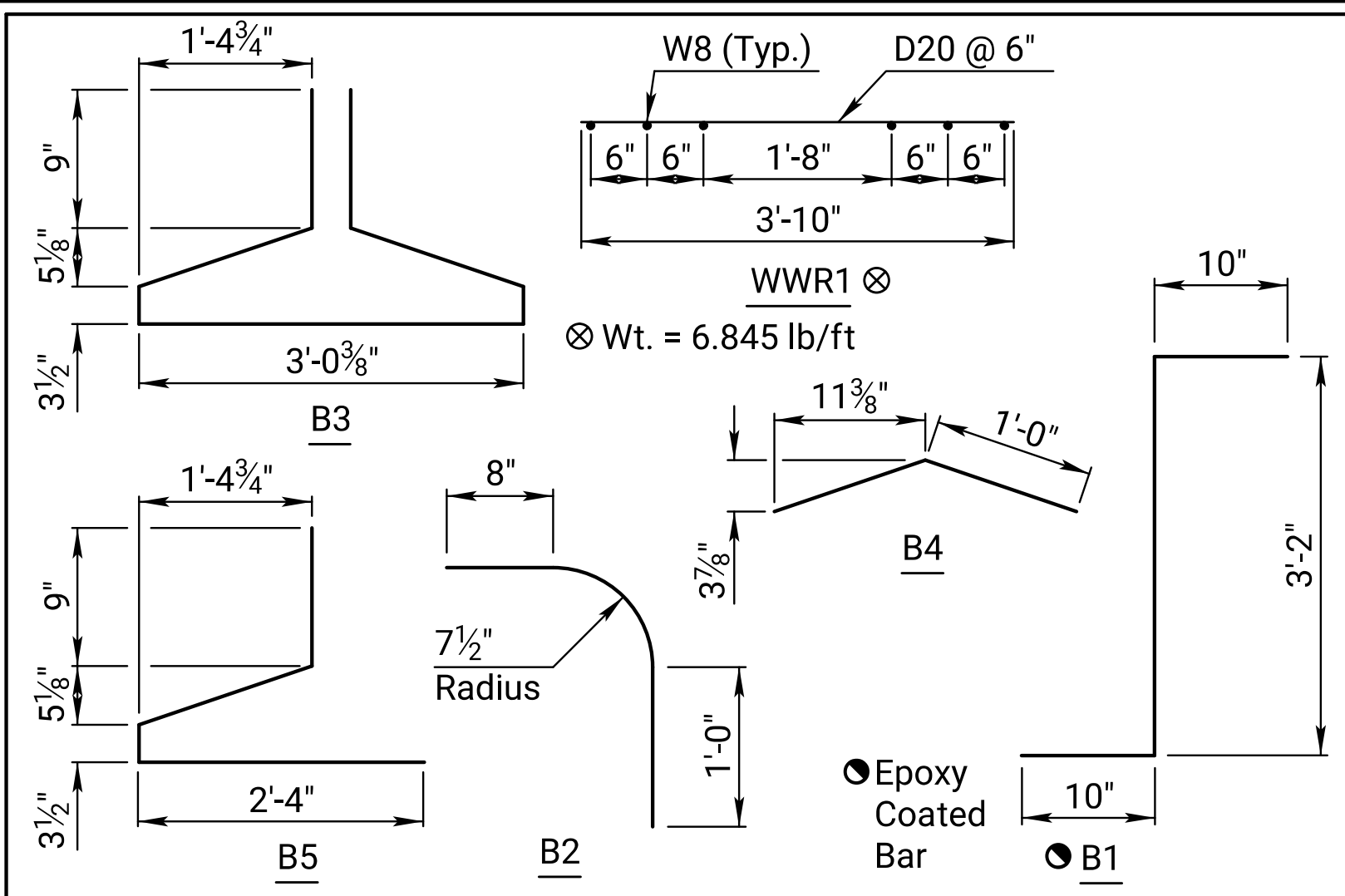
● 4" @ Abutments
8" @ Piers

** 1" Diam. Formed Hole

⊗ Discontinue WWR1 at top flange blockout location.



BILL OF REINFORCING STEEL						
59'-0" Beam (1 Listed-13 Reqd.) (Span 1)						
Straight bars				Bent bars		
Mark	No.	Size	Length	Mark	No.	Length
				B2	28	2'-8"
				B4	64	2'-0"
				B3	38	7'-8"
				B5	102	4'-10"
				B1	178	4'-10"
66'-0" Beam (1 Listed-13 Reqd.) (Span 2)						
Straight bars				Bent bars		
Mark	No.	Size	Length	Mark	No.	Length
				B2	32	2'-8"
				B4	64	2'-0"
				B3	38	7'-8"
				B5	114	4'-10"
				B1	190	4'-10"
54'-0" Beam (1 Listed-13 Reqd.) (Span 3)						
Straight bars				Bent bars		
Mark	No.	Size	Length	Mark	No.	Length
				B2	28	2'-8"
				B4	64	2'-0"
				B3	38	7'-8"
				B5	98	4'-10"
				B1	174	4'-10"



BILL OF MATERIAL		
Item	Unit	Quantity
Prestressed Concrete Beams (NU35) Span 1 (59'-0")	Lin.Ft.	767
Prestressed Concrete Beams (NU35) Span 2 (66'-0")	Lin.Ft.	858
Prestressed Concrete Beams (NU35) Span 3 (54'-0")	Lin.Ft.	702
The following quantities are given for information only and shall not be paid for directly but shall be made subsidiary to the bid item "Prestressed Concrete Beams"		
Beam concrete (f'c= 8000 PSI) (Span 1) (per beam)	Cu.Yds.	9.8
Beam concrete (f'c= 8000 PSI) (Span 2) (per beam)	Cu.Yds.	11.0
Beam concrete (f'c= 8000 PSI) (Span 3) (per beam)	Cu.Yds.	9.0
Approx. Wt. per 59'-0" beam	Tons	19.9
Approx. Wt. per 66'-0" beam	Tons	22.3
Approx. Wt. per 54'-0" beam	Tons	18.2
0.6" Ø Prestressing strand (270 KSI low relaxation fy= 243 KSI)	Lin.Ft.	50,910
Epoxy reinforcing steel (fy=60,000 PSI)	Lbs.	35,520
Reinforcing steel (fy=60,000 PSI)	Lbs.	23,790
Welded Wire Reinforcement (fy=70,000 PSI)	Lbs.	15,350
Elastomeric Brg. pads (*x8"x3'-0")	Each	78
1" Formed Holes	Each	156
Lifting devices	Each	156
Bearing plates (*x 1'-4" x 3'-0 3/8")	Each	78

* See Abutment and Pier details for pad thickness.

☆ Use 3/4" R when field welding will occur, otherwise use 1/2" R.

STATE: KANSAS
PROJECT NO.: 046 N-0785-01
YEAR: 2025

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BY: _____
REVISIONS DESCRIPTION: _____
DATE: _____
REV. NO.: _____

NU35 BEAM DETAILS (2 OF 2)

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
BRIDGE NO. 421950462874056 (LPA ID: 056)

2025
OVERLAND PARK, KANSAS

drawn by: ENQ
checked by: KAS
approved by: KAS
QA/QC by: GCL
project no.: 022-06522
drawing no.: _____
date: 01/31/2025

SHEET
78 of 189

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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GENERAL NOTES

Fabricate the precast prestressed beams in accordance with the KDOT Specifications. Submit shop drawings in accordance with the KDOT Specifications.

Use air entrained concrete. The Engineer shall approve the mix design. Unless otherwise shown on the plans, $f'c = 8,000$ psi and $f'c$ at release = 6,500 psi.

Use reinforcing steel conforming to the requirements of ASTM A615, Grade 60. The reinforcing steel shown shall be uncoated unless otherwise indicated. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Use 0.60" nominal diameter (unless otherwise indicated), uncoated, seven-wire, low relaxation prestressing tendons conforming to the requirements of ASTM A416, Grade 270.

Use bolts having an ultimate strength 50% in excess of the manufacturer's safe load. All items (except the tendons) cast-in or inserted in prestressed beams shall be epoxy coated or galvanized. Show Formed Holes on shop drawings. All bolts, nuts and washers shall be subsidiary to the bid item, "Prestressed Concrete Beams".

Show on the shop drawings any hardware, holes or other appurtenances that are required to be incorporated into the girder to construct the girder or for any temporary works needed to construct the bridge (e.g. safety railing pockets).

After beams are in the final position, remove lifting devices. See "Lifting Device" detail below. Removal of the lifting devices, coating and grouting shall be subsidiary to the bid item: "Prestressed Concrete Beams".

Use elastomeric bearing pads conforming to the KDOT Specifications. Bearing pads and Type B expansion joint material shall be subsidiary to the bid item, "Prestressed Concrete Beams".

The beam lengths shown on the design plans are net lengths measured horizontally along the beam centerline. The beam manufacturer shall make necessary allowances for grade, and for shortening due to elastic shortening, creep and shrinkage.

The beams shall reasonably conform to the lines and dimensions shown on the design plans and be within the tolerances specified in the latest edition of Prestressed Concrete Institute's, "Manual for Quality Control for Plants and Production of Structural Precast Concrete Products", except as modified by this sheet or the KDOT Specifications.

Apply an initial force of 1,000 to 3,000 pounds to each strand to take up any slack in the cables. Unless otherwise noted on the plans, apply a force of 43,900 pounds to each strand. Stress harped strands to a magnitude such that they are tensioned to 43,900 pounds after they are in position.

The center portion of the girder top flange shall be rough finished by scarifying the surface transversely with a wire brush or stiff broom and no laitance shall remain on the surface. The outside 9" on each side of the top flange shall be steel troweled to a smooth finish and a bond breaker shall be applied to this region only. Bond breaker shall be 30# roofing felt. Secure roofing felt to the top flange with an adhesive approved by the Engineer.

Fill trapped air holes and surface voids on the exterior face of the exterior beams with an approved concrete masonry coating. This work shall conform to KDOT Specifications. This work shall be subsidiary to the bid item, "Prestressed Concrete Beams".

Detension strands in a sequence which minimizes lateral eccentricity. Show the method and sequence of strand release on the shop drawings. Use extreme care when lifting, handling, storing and transporting beams. Use the lifting system shown or an alternate system approved by the Engineer. Keep the beam in an upright position at all times. Support the beam on bearing points positioned directly below the designated lifting points or designated bearing points.

Do not place the bridge slab before the beams are 28 days old. Pour diaphragms as detailed in the bridge plans.

Stencil with paint the following information on the webs approximately 5'-0" from one end of the beam: date of concrete placement, date of strand release, and beam mark.

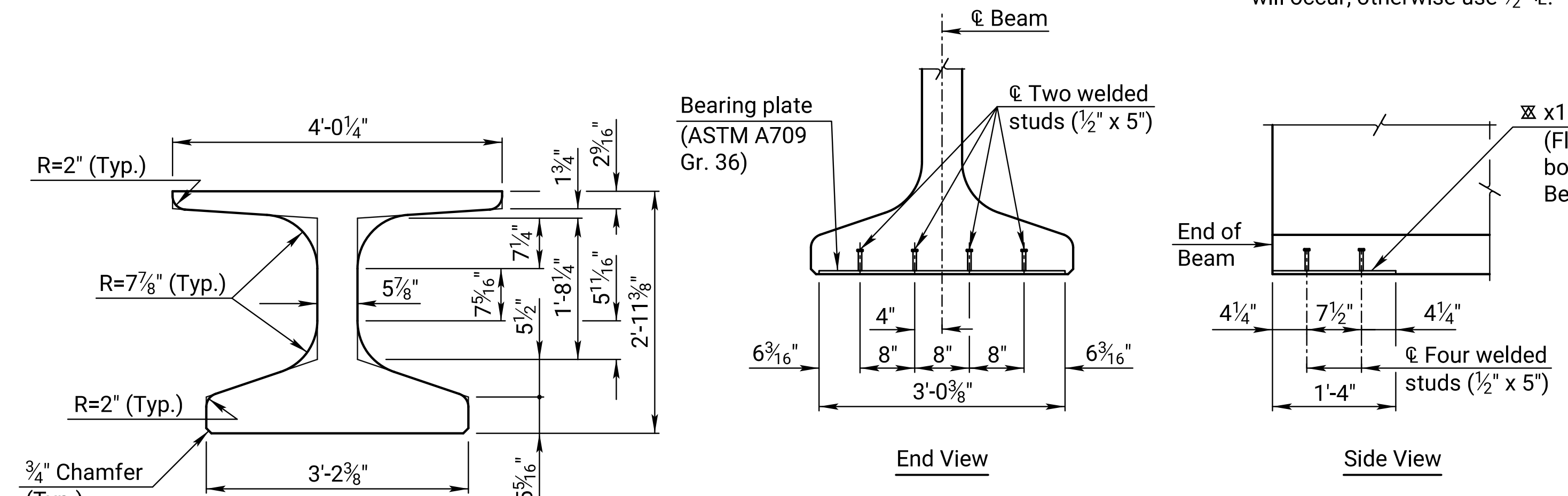
Note: Stud welding will be in accordance with the latest edition of AWS D1.1.

Use plate conforming to the requirements of ASTM A709 Grade 36. The stud anchors will be made of material as specified for Shear Connector Studs in the KDOT Specifications.

The exposed surface of the bearing plates shall be galvanized.

All work and material to install the bearing plates shall be subsidiary to the bid item "Prestressed Concrete Beam".

Use $\frac{3}{4}$ " R when field welding will occur, otherwise use $\frac{1}{2}$ " R.



TYPE NU35

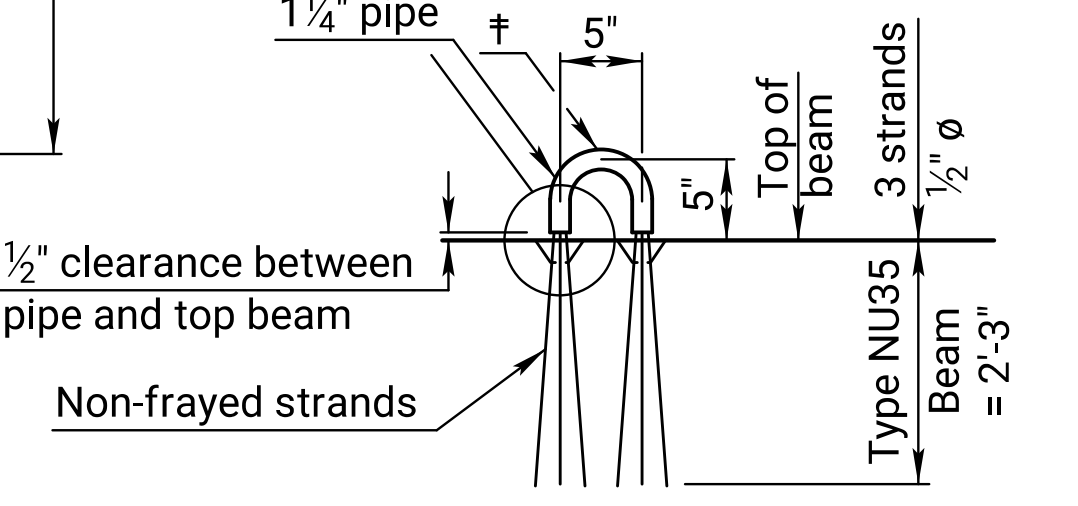
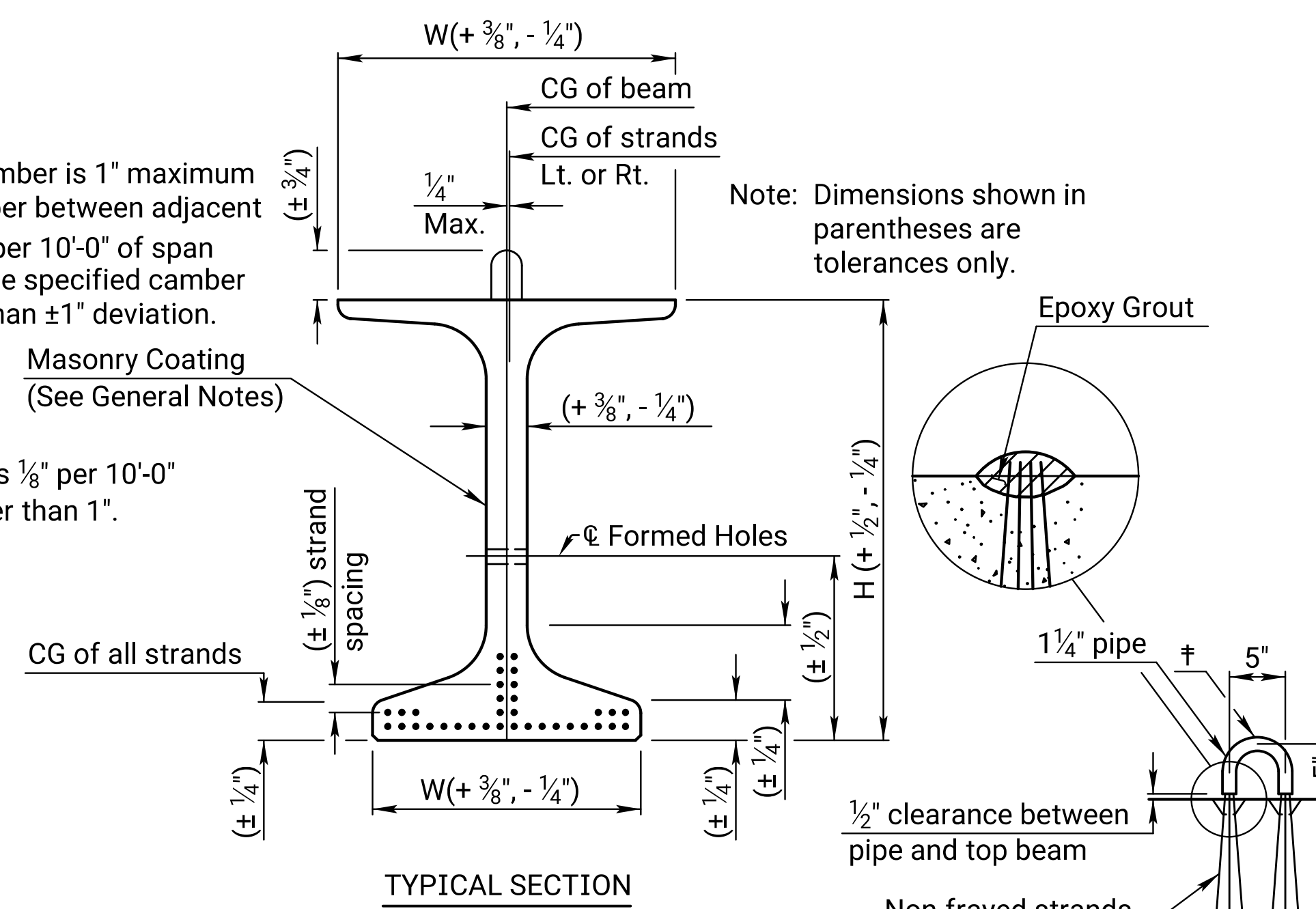
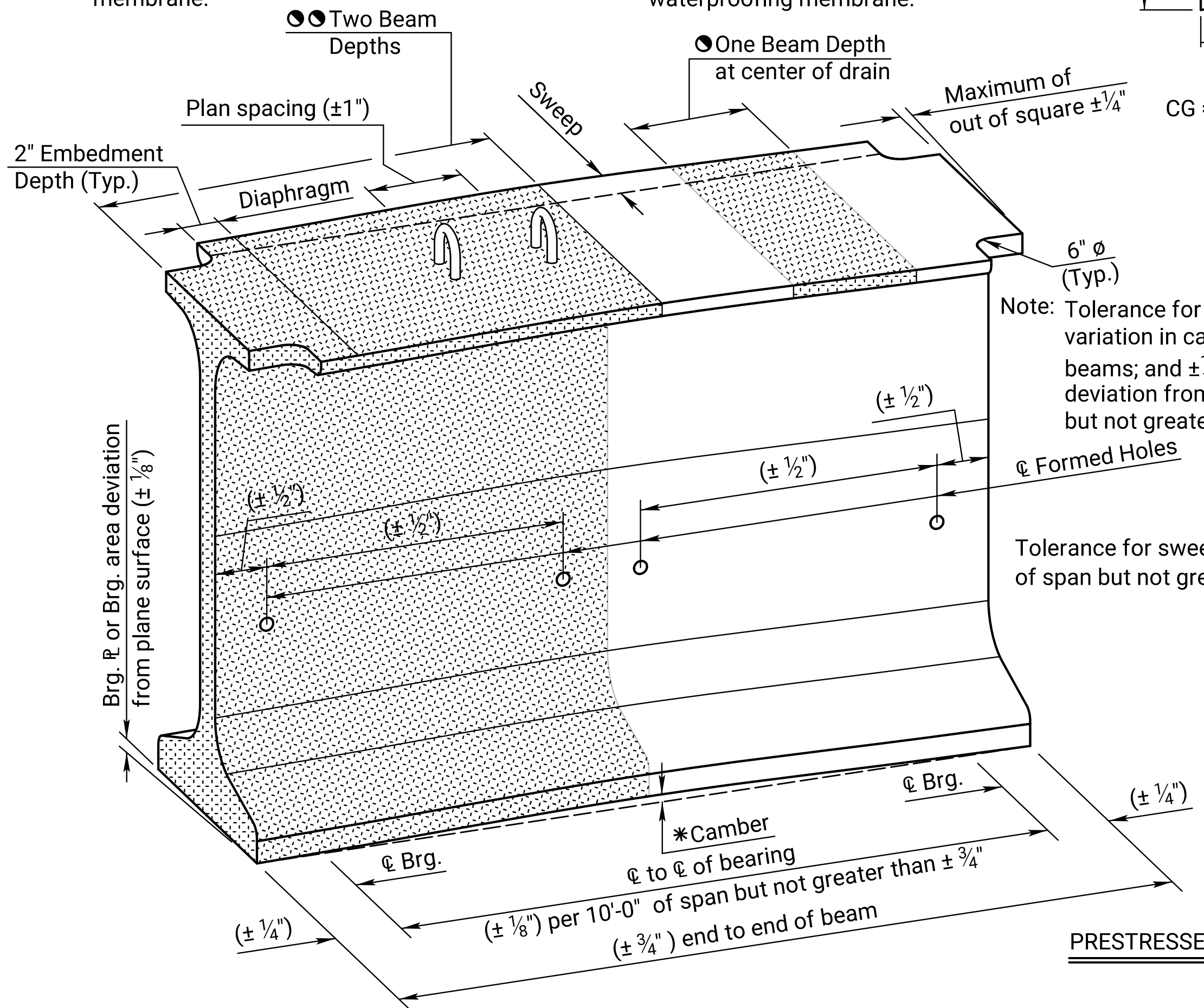
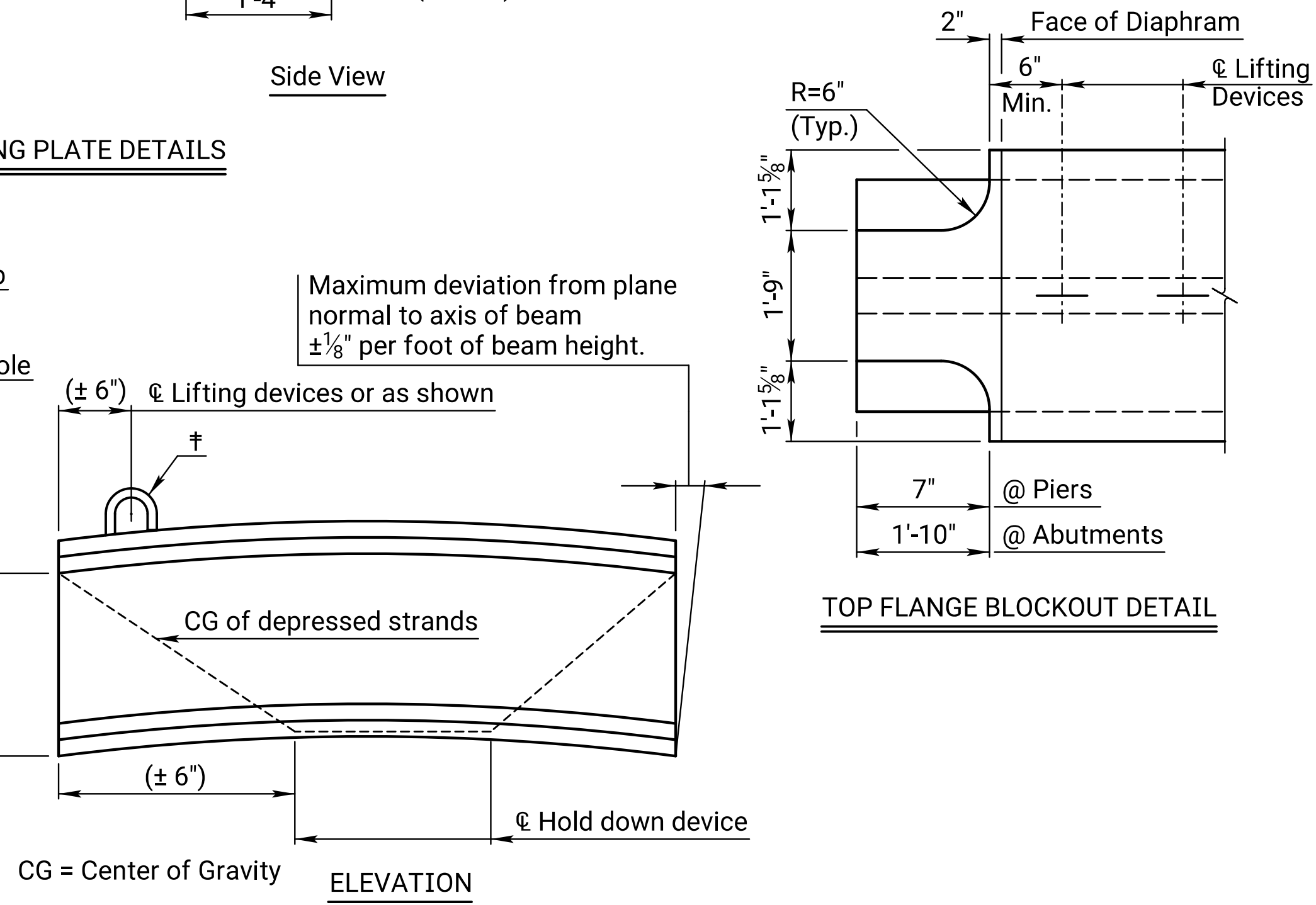
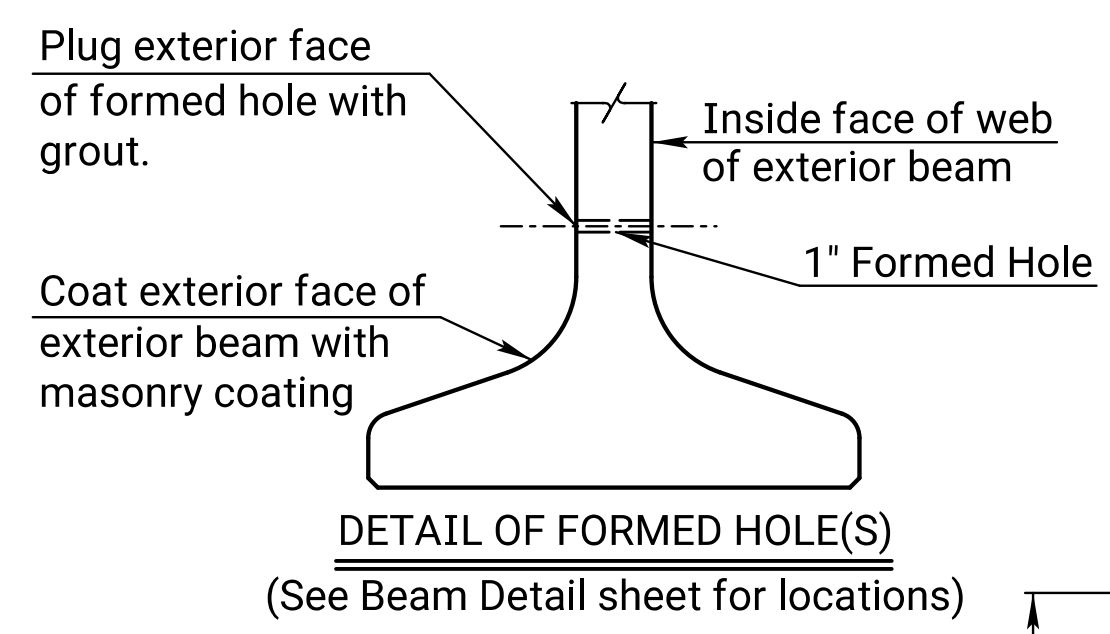
Area	648.3 in. ²
IcG	110,307 in. ⁴
Y Bot	16.12 in.
Vol./Surf. Area	3.10 in.
Wt./Ft.	675 lbs

TYPICAL BEAM SECTION
 (Dimensions and properties are converted from metric fabrication forms.)

* Prior to shipping, the camber shall be no greater than the design camber + 1/2". The design camber is equal to the 50 day camber shown in the plans.

At expansion joint locations coat beam with approved epoxy substructure waterproofing membrane.

At bridge deck drain locations coat beam with approved epoxy substructure waterproofing membrane.



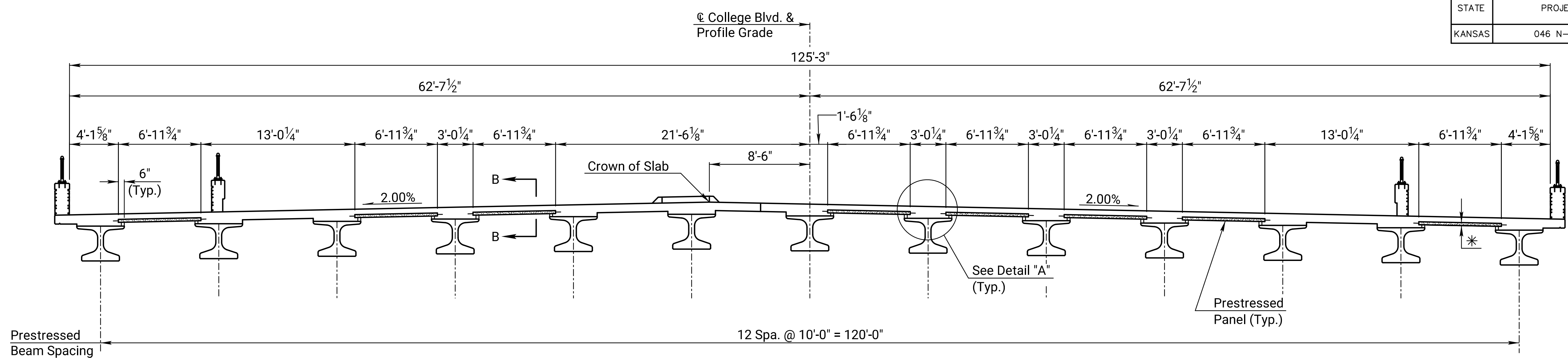
BY	
REVISIONS DESCRIPTION	
DATE	
REV. NO.	
STANDARD PRESTRESSED CONCRETE BEAM DETAILS NU35	
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
BRIDGE NO. 421950462874056 (LPA ID: 056)	
OVERLAND PARK, KANSAS	
2025	
checked by: ZDD	
approved by: KAS	
QA/QC by: GCL	
project no.: 022-06522	
drawing no.:	
date: 01/31/2025	

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PRESTRESSED CONCRETE PANEL DETAILS (NU GIRDERS)
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 BRIDGE NO. 421950462874056 (LPA ID: 056)
 OVERLAND PARK, KANSAS
 2025



GENERAL NOTES FOR PANELS

- Use Concrete (Grade 5.0)(AE)(PB). (f'c = 5000 psi; f'c at release = 4000 psi).
- Use reinforcing steel conforming to the requirements of ASTM A615, Grade 60. All reinforcing steel shall be epoxy coated.
- Use 3/8" nominal diameter, uncoated, seven-wire, low relaxation prestressing tendons conforming to the requirements of ASTM A416, Grade 270.
- Initial prestressing force = 16.1 kips per strand.
- Submit shop details showing the length of the panels and the method of releasing the strands. Release strands symmetrically beginning with the center strand. Lift panels using four corner PA2 bars or by using alternate lifting devices approved by the Engineer.
- Store the panels on a flat surface to prevent warping.
- Bedding material for the precast units shall meet the following requirements for expanded or extruded polystyrene:

PROPERTY	TEST REQUIREMENTS
Compression Strength 60 psi Min.	ASTM D1621
Water Absorption 2% by Vol Max.	ASTM D2842
Oxygen Index 24 Min.	ASTM D2863

Glue all panel bedding material to the girder. The glue used shall be the type recommended by the panel bedding material manufacturer. Provide a 1/2" gap in the bedding strips for venting purposes. Locate the gaps near the center of each panel.

Deposit concrete in continuous strips over the girders and allow to flow under the ends of the composite deck panels. Consolidate concrete by additional insertion of vibrators directly over girder line. Concrete should then be placed on the remainder of the panels.

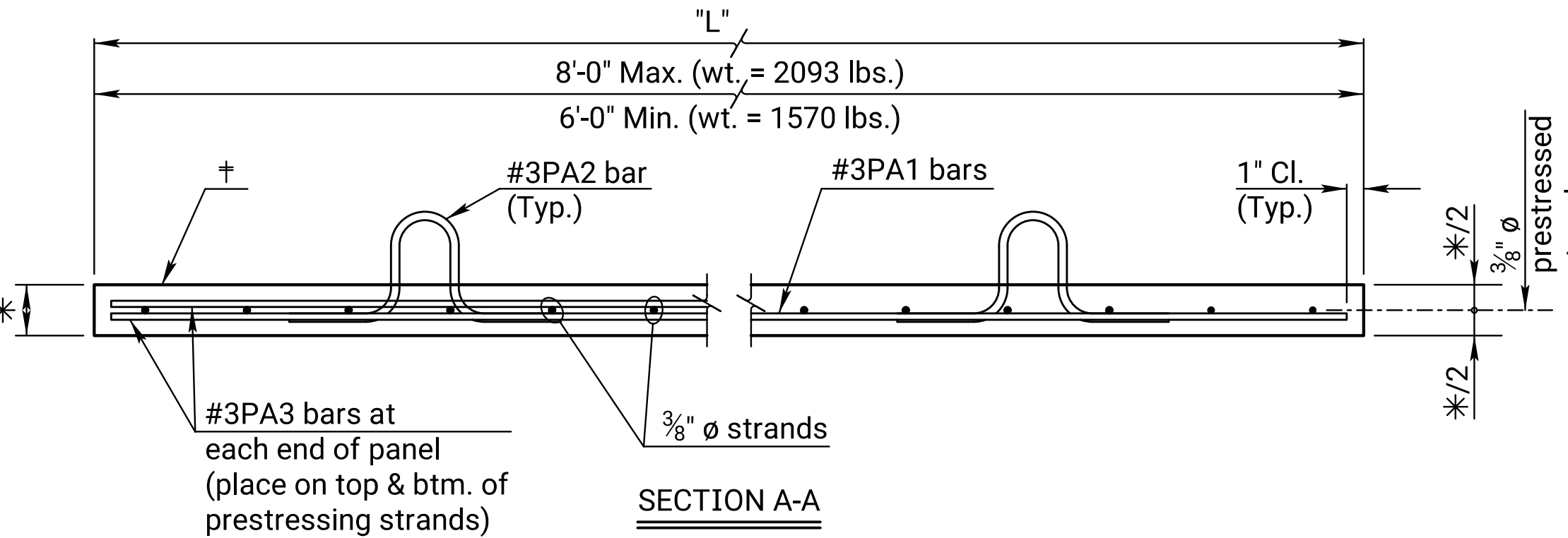
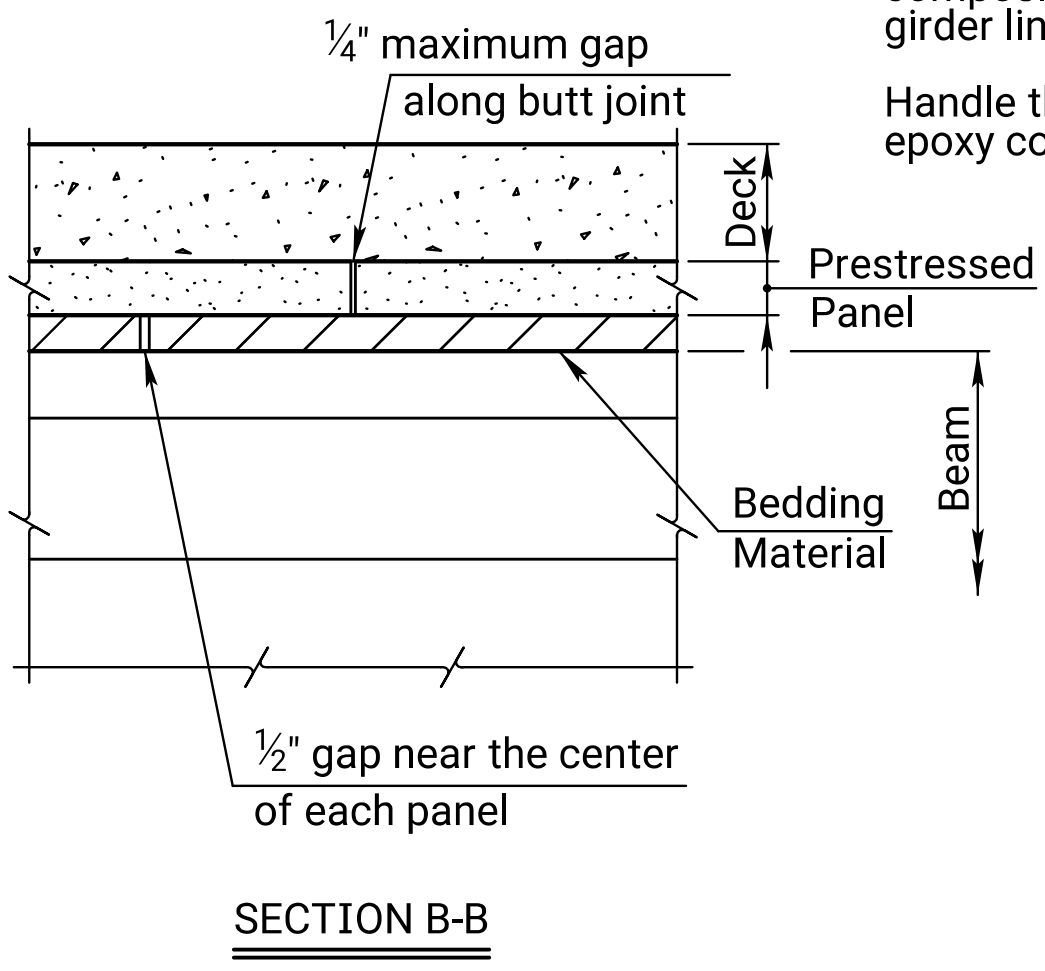
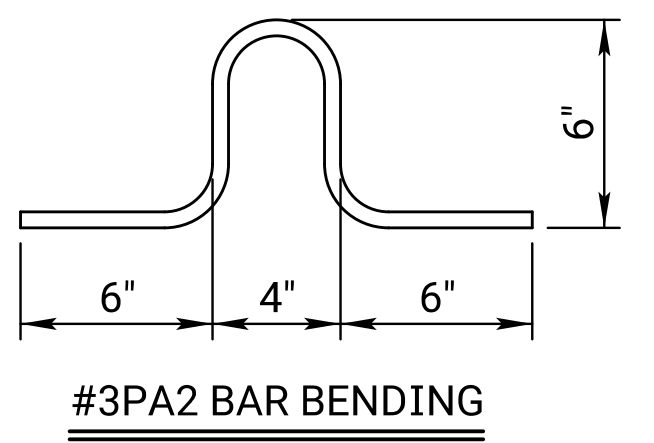
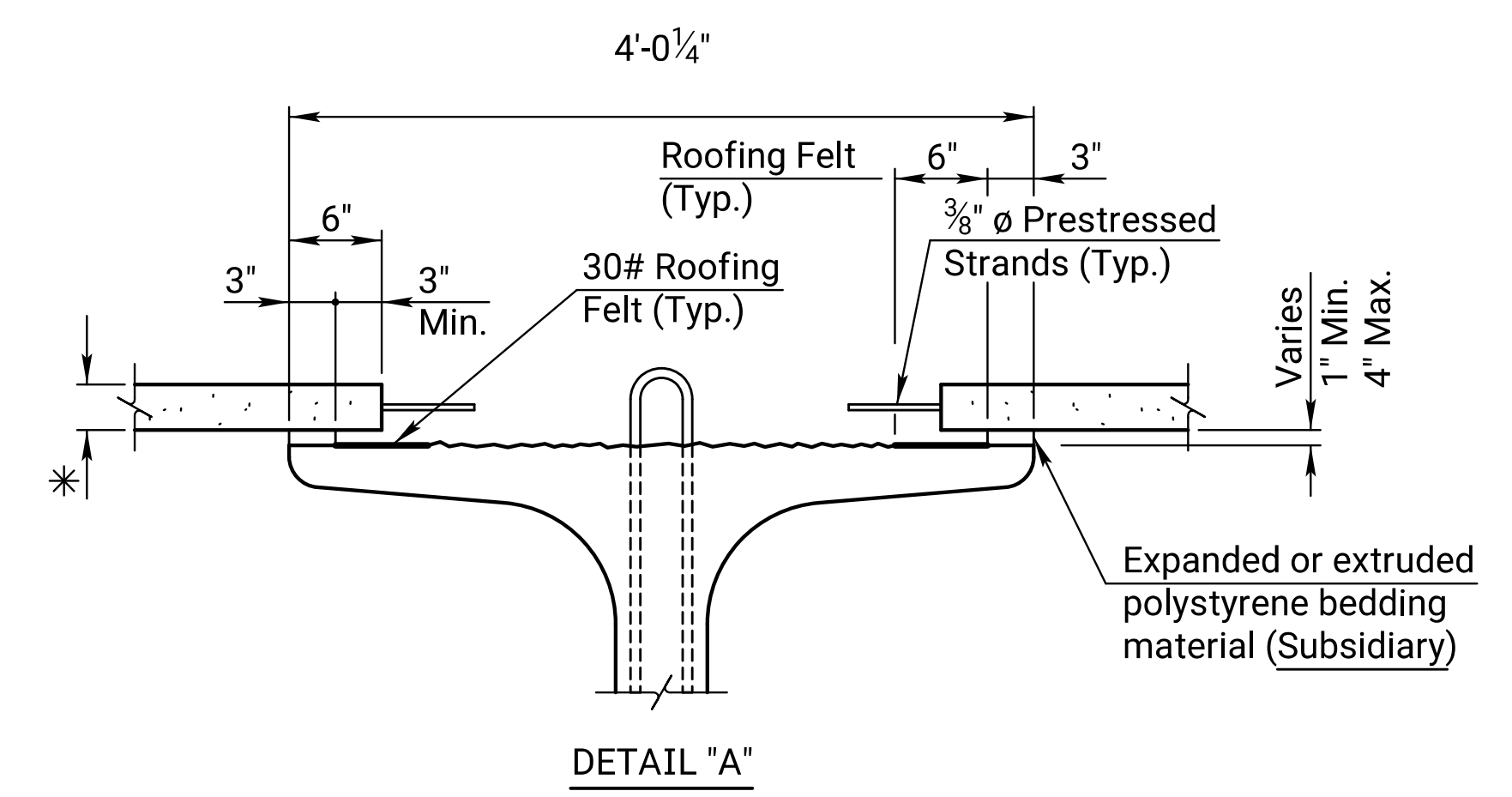
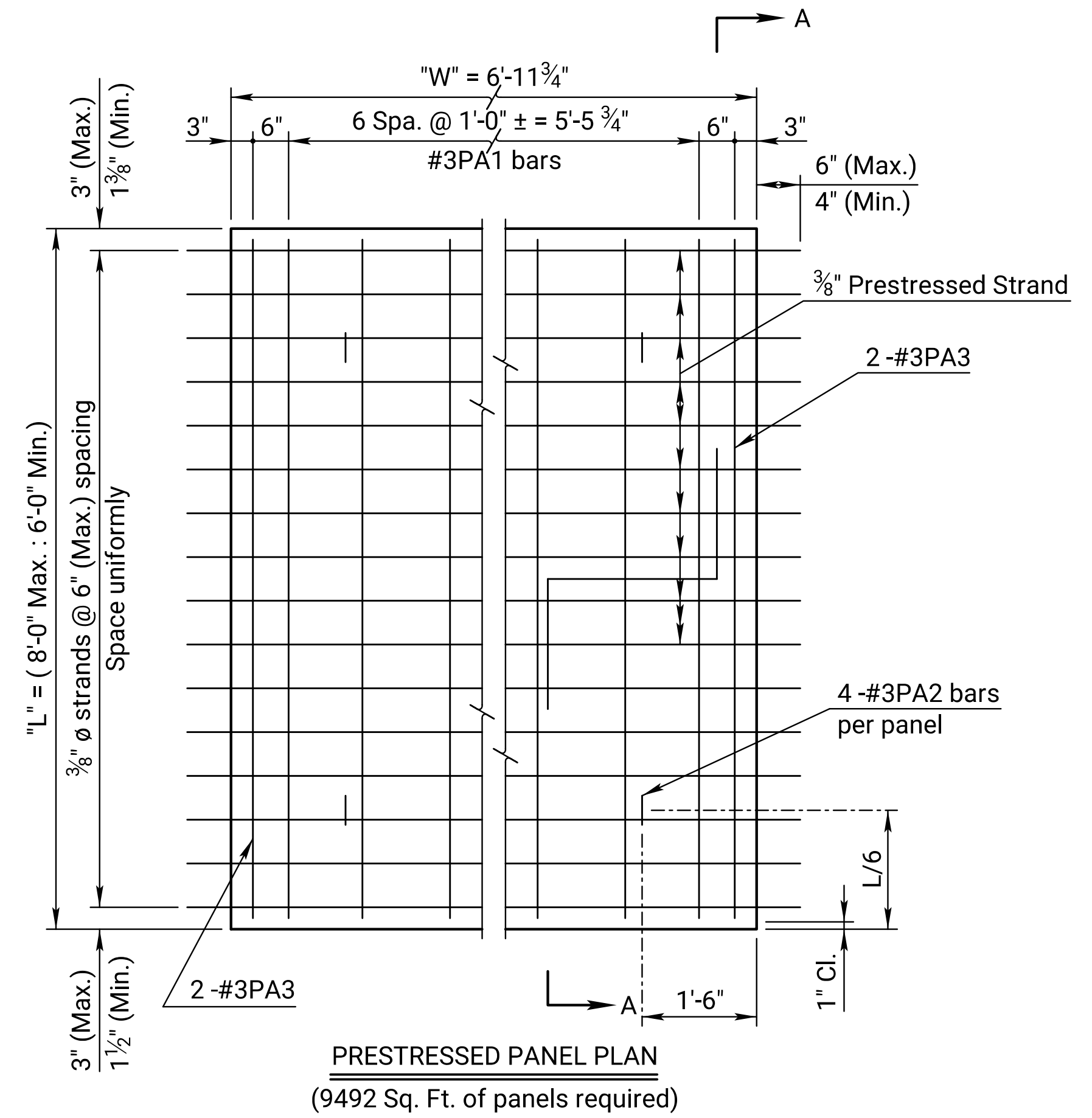
Handle the panels so that the PA2 bars are not damaged. Repair any damage to the PA2 bar epoxy coating in accordance with the KDOT Specifications.

TOLERANCES FOR PANELS	
Thickness	+ 1/4", - 1/8"
Length	± 1/4"
Width	± 1/4"
Square Ends (deviation from square)	± 1/4"
Deviation from straightness of mating edge	± 1/8"
Position of Strands:	± 1/8" Vertical, ± 1/2" Horizontal

BILL OF MATERIALS (Panels)	
Concrete	87.9 Cu. Yds.
Reinforcing Steel	6211 Lbs.
3/8" Ø Prestressed Strands	21,770 Lin. Ft.

Quantities shown for information only. These quantities shall not be paid for directly but shall be included in the unit price bid for "Prestressed Concrete Panels".

* Use 3" when panel width "W" ≤ 8'-3".
 Use 3 1/2" when panel width 8'-3" < "W" ≤ 8'-9".
 Special Design for "W" > 8'-9".

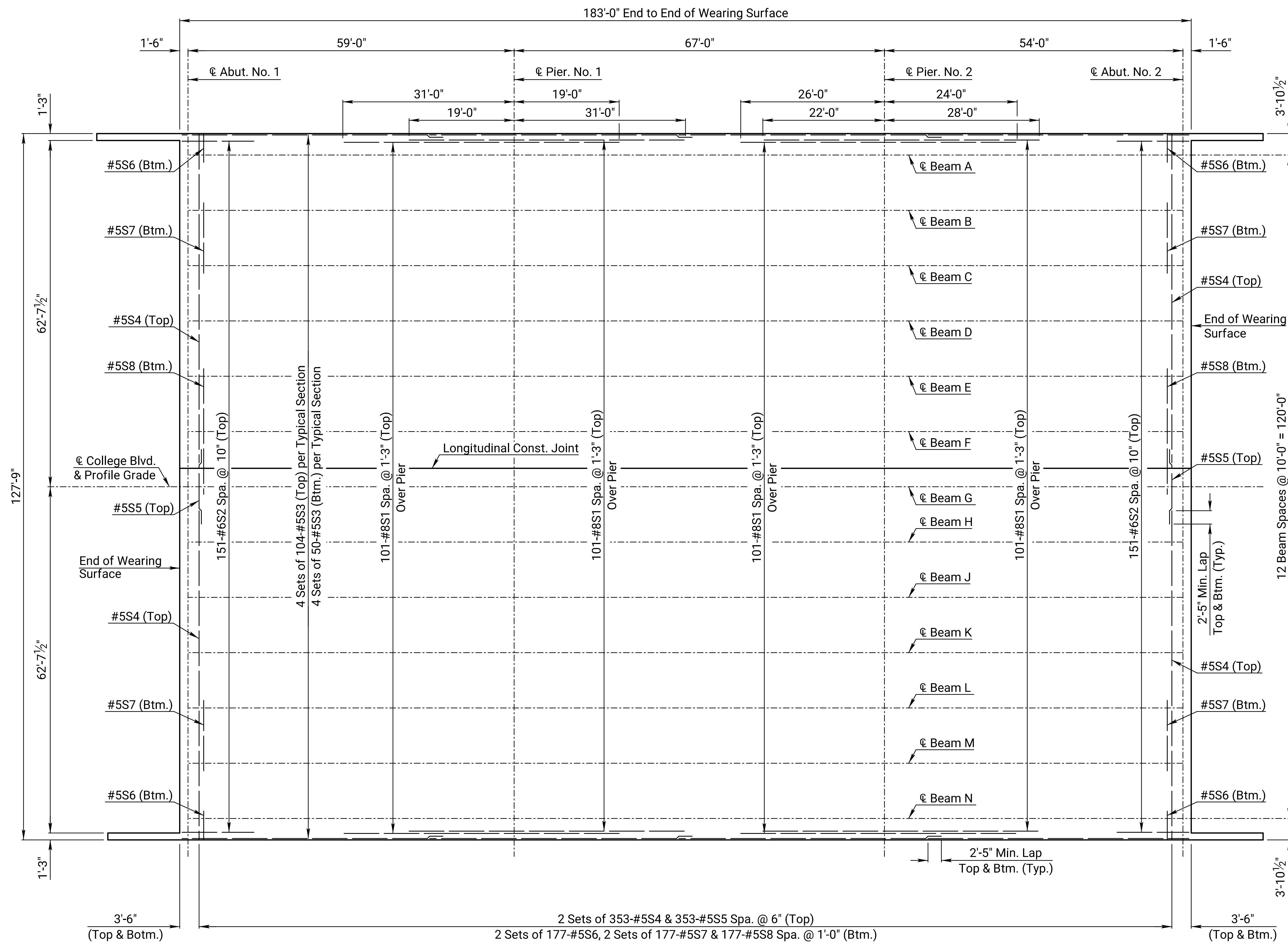


+ When initial set occurs, rake the surface perpendicular to the strands making depressions of approximately 1/4". Use care with the rake to prevent pulling out the coarse aggregate. The Contractor shall make every effort to insure that this surface remains free of foreign material until the deck concrete is placed.

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SLAB PLAN

Notes:

- For Typical Section see Sheet 82.
- For Concrete Placing Sequence see Sheet 83.
- Place Construction Joints only at locations shown or at locations approved by the Engineer.
- For Construction Joint Details see Sheet 82.
- For Corral Rail Details see Sheets 88.
- For Knee Wall Details see Sheets 89.

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

SLAB PLAN

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
BRIDGE NO. 421950462874056 (LPA ID: 056)

OVERLAND PARK, KANSAS

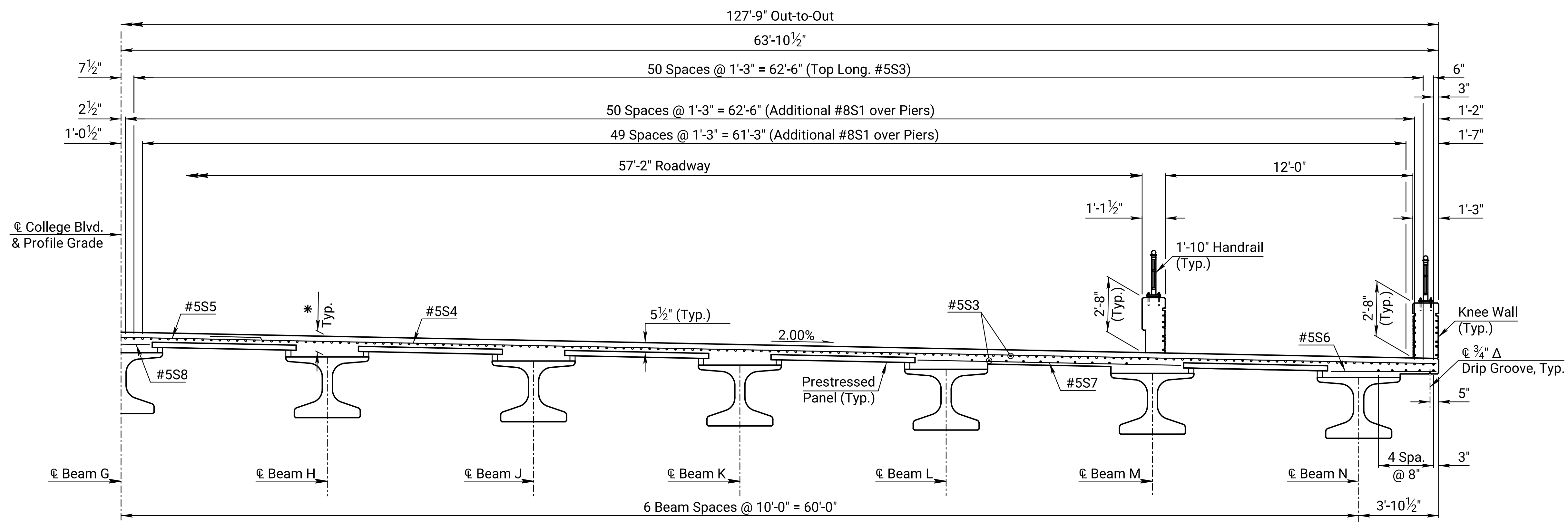
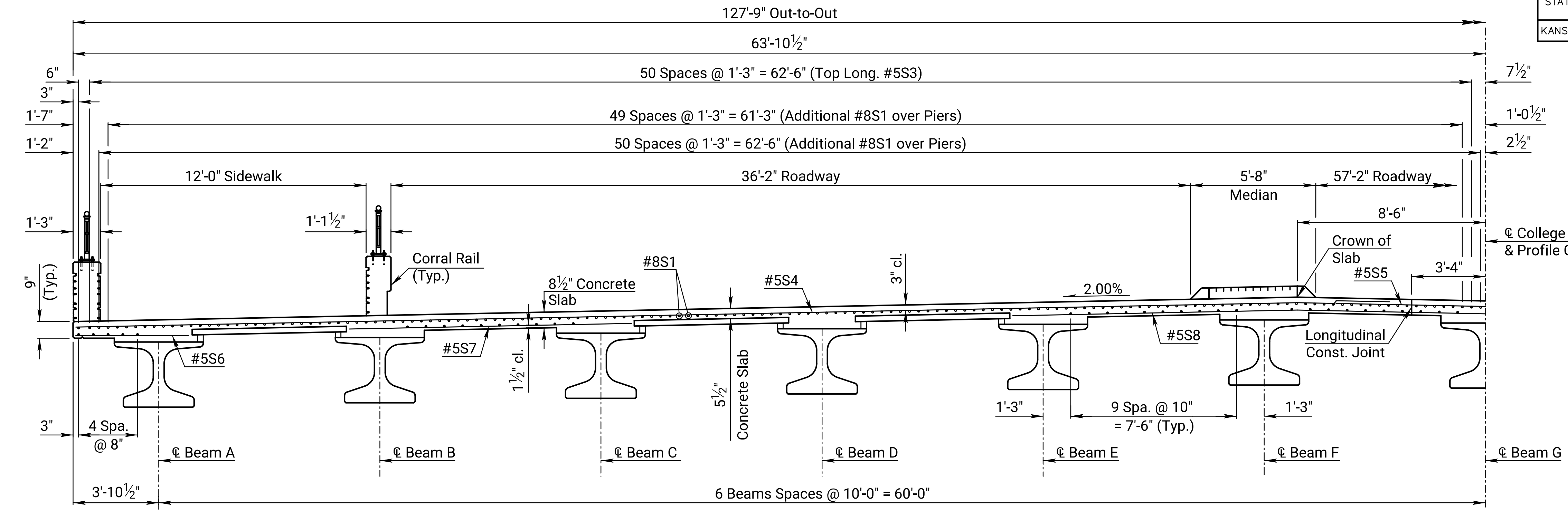
2025

drawn by:	ENO
checked by:	KAS
approved by:	KAS
QA/QC by:	GCL
project no.:	022-06529
drawing no.:	
date:	01/31/2025

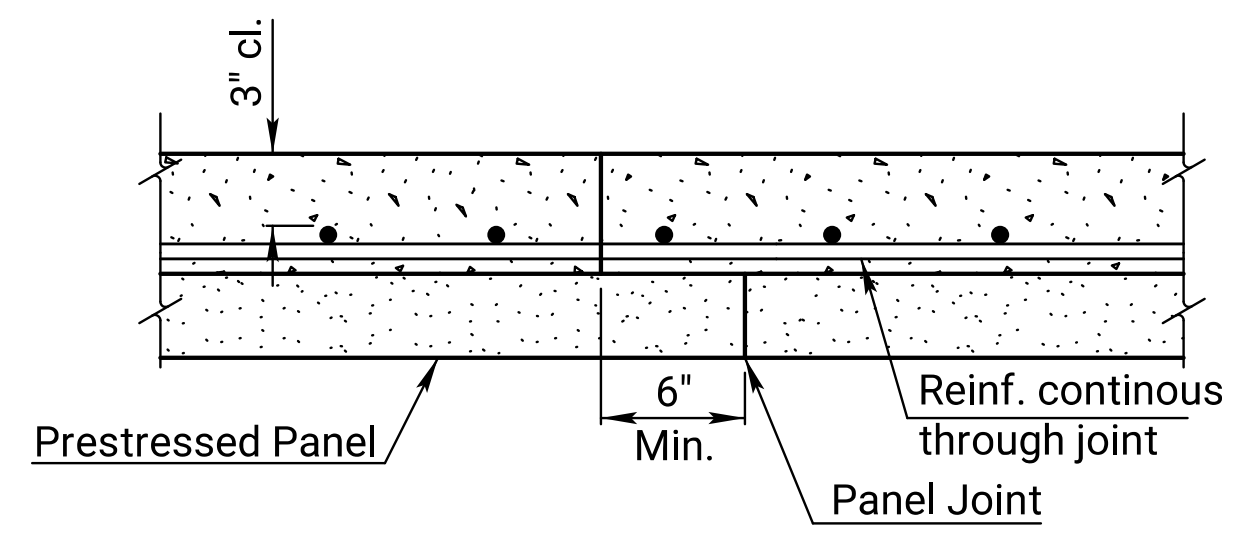
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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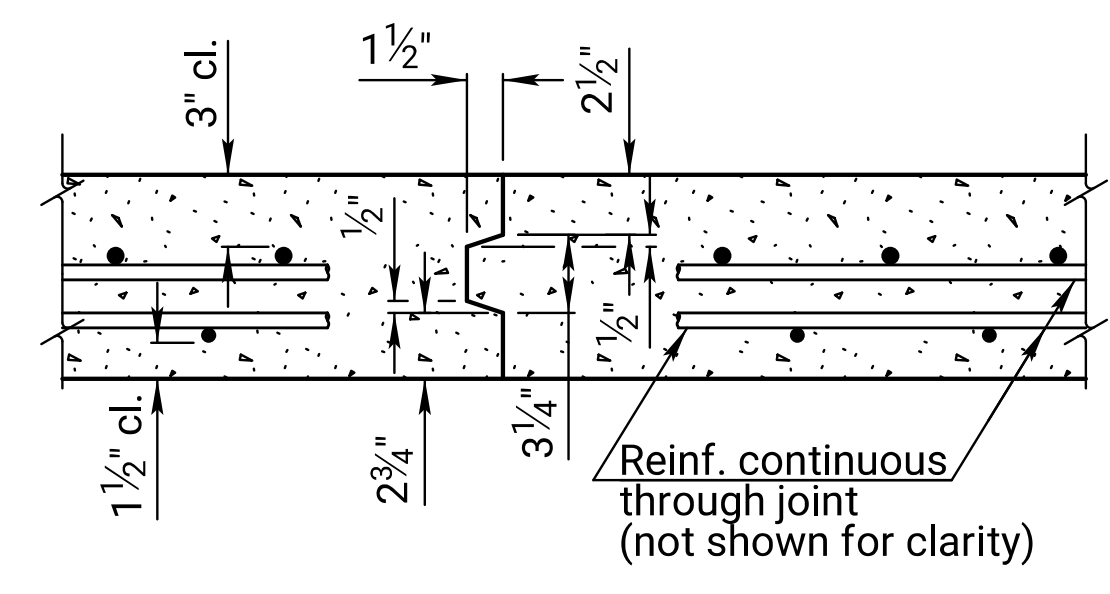
7301 West 133rd Street, Suite 200
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TYPICAL SECTION



TRANSVERSE CONSTRUCTION JOINT AT PRESTRESSED PANEL



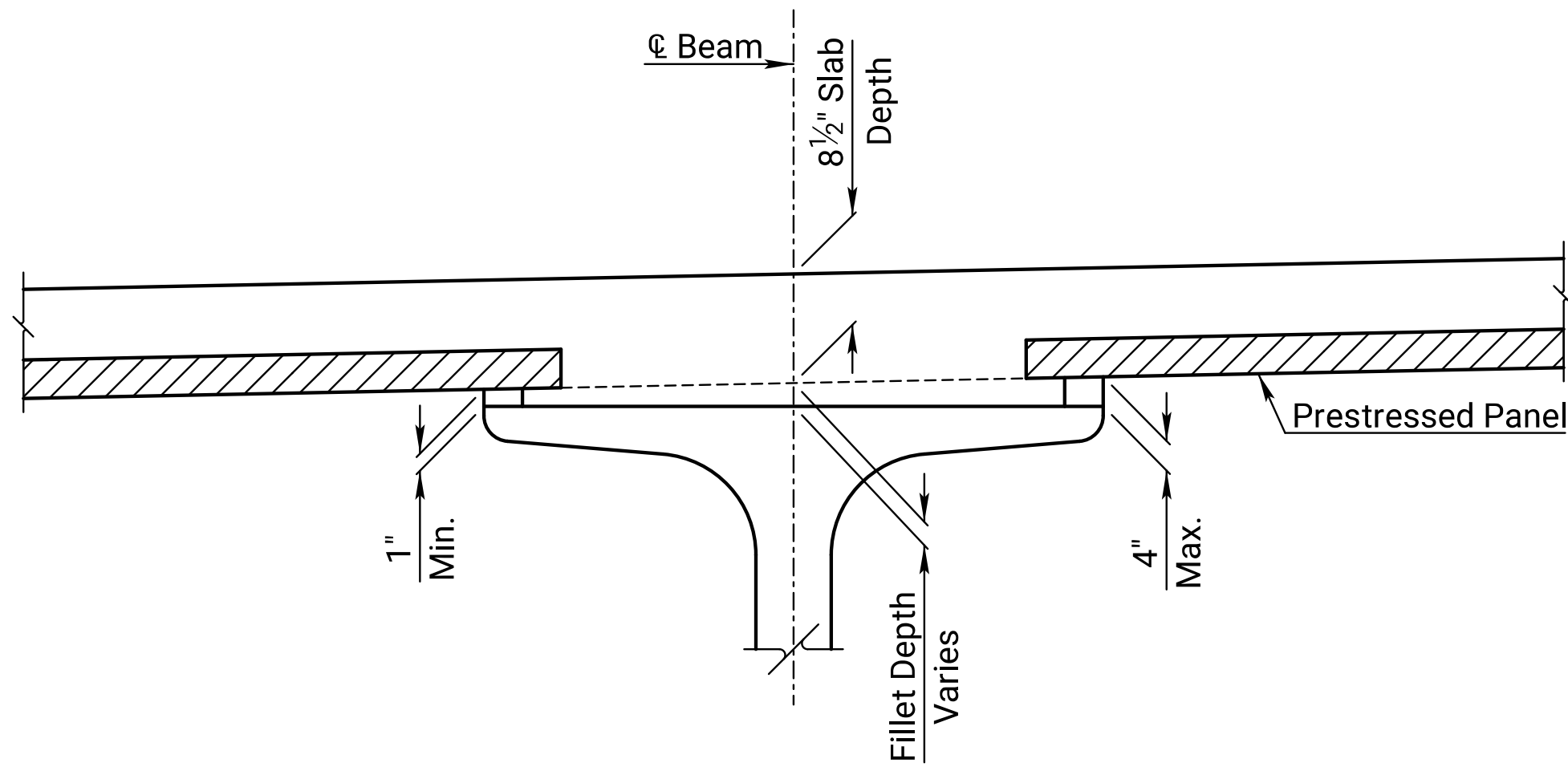
LONGITUDINAL CONSTRUCTION JOINT AND TRANSVERSE CONSTRUCTION JOINT AT FULL DEPTH CAST-IN-PLACE SLAB

- * Nominal Dimension @ CL Bearing.
- 10¼" @ Abument 1
 - 10⅝" @ Pier 1 Back Station
 - 10½" @ Pier 1 Ahead Station
 - 10⅞" @ Pier 2 Back Station
 - 10½" @ Pier 2 Ahead Station
 - 10½" @ Abument 2

Notes:
 Place Construction Joints only at locations shown or at locations approved by the Engineer.
 For Corral Rail Details see Sheets 88.
 For Knee Wall Details see Sheet 89.
 For Beam Camber Diagram and Diaphragm Details see Sheet 83.
 For Handrail Details, see Sheets 91.

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

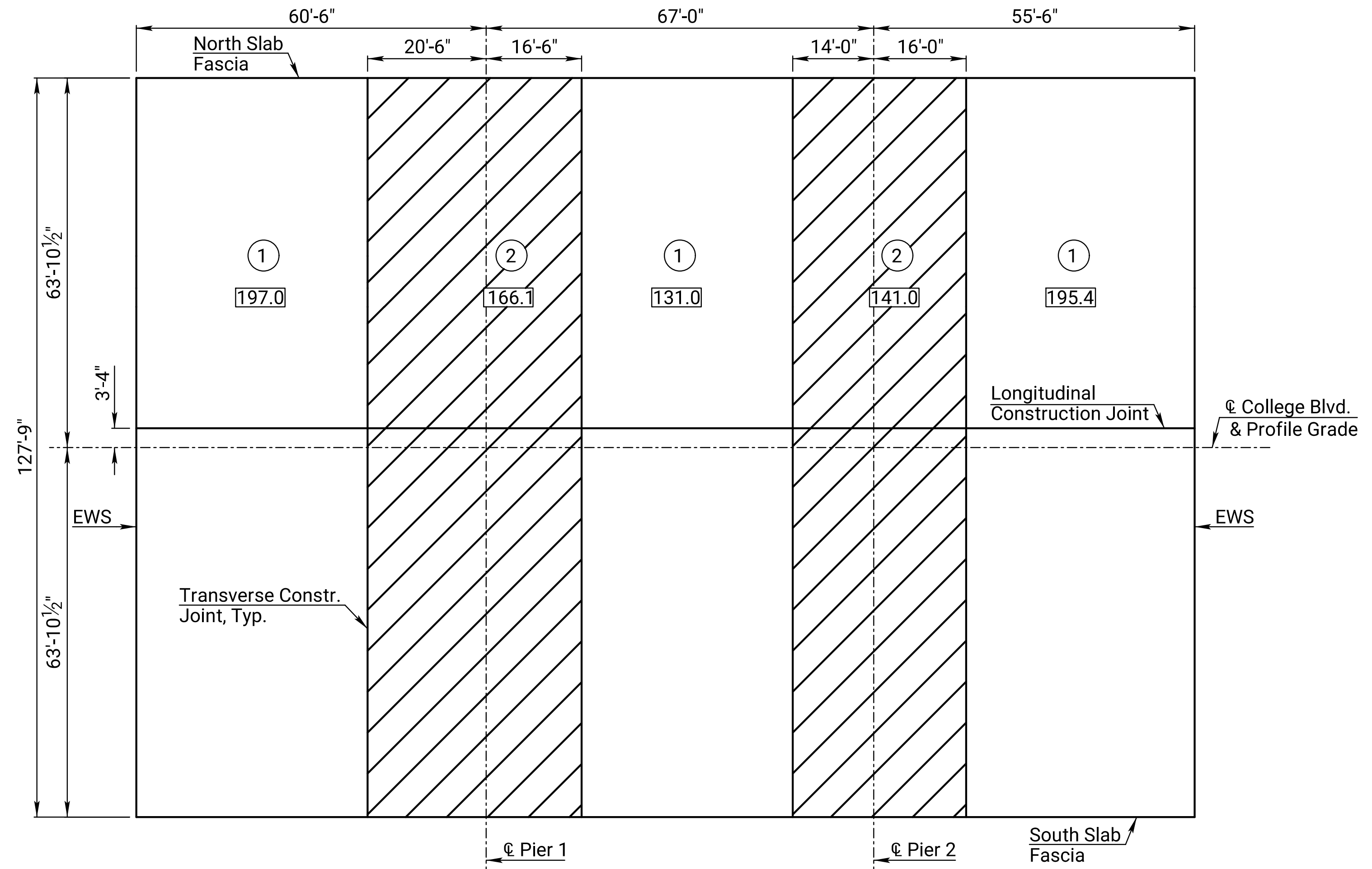
SLAB TYPICAL SECTION		2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK BRIDGE NO. 421950462874056 (LPA ID: 056)		
OVERLAND PARK, KANSAS		
drawn by:	ENO	
checked by:	KAS	
approved by:	KAS	
QA/QC by:	GCL	
project no.:	022-06522	
drawing no.:		
date:	01/31/2025	



CONCRETE FILLET DETAIL

CAMBER: Construct the finished deck to plan grade by varying the thickness of the polystyrene bedding material between the top of the beams and the bottom of the panels, and if necessary, by varying the thickness of the deck above the panels to provide for prestress camber, concrete dead load deflection, and vertical curvature. After the prestressed beams are erected, measure the camber in the field by taking a profile of each beam. Correct any variation between the actual camber and concrete dead load deflection shown in the plans by varying the thickness of the polystyrene bedding material between the top of the beam and the bottom of the panel, and if necessary, by varying the deck thickness so that the finished floor is constructed to the theoretical grade. The polystyrene bedding material thickness shall be a maximum of 4" and a minimum of 1". The minimum thickness of the slab over the beam shall be 5 1/2" above the top of the panels.

The theoretical amount of concrete required for the variable deck thickness below the minimum thickness of 8.5 inches is 42.4 C.Y. This amount of concrete is included in the Summary of Quantities. Any additional concrete required to construct the deck to plan grade will be subsidiary. Prior to shipping, the camber shall be no greater than the design camber + 1/2". The design camber is equal to the 50 day camber shown in the plans.

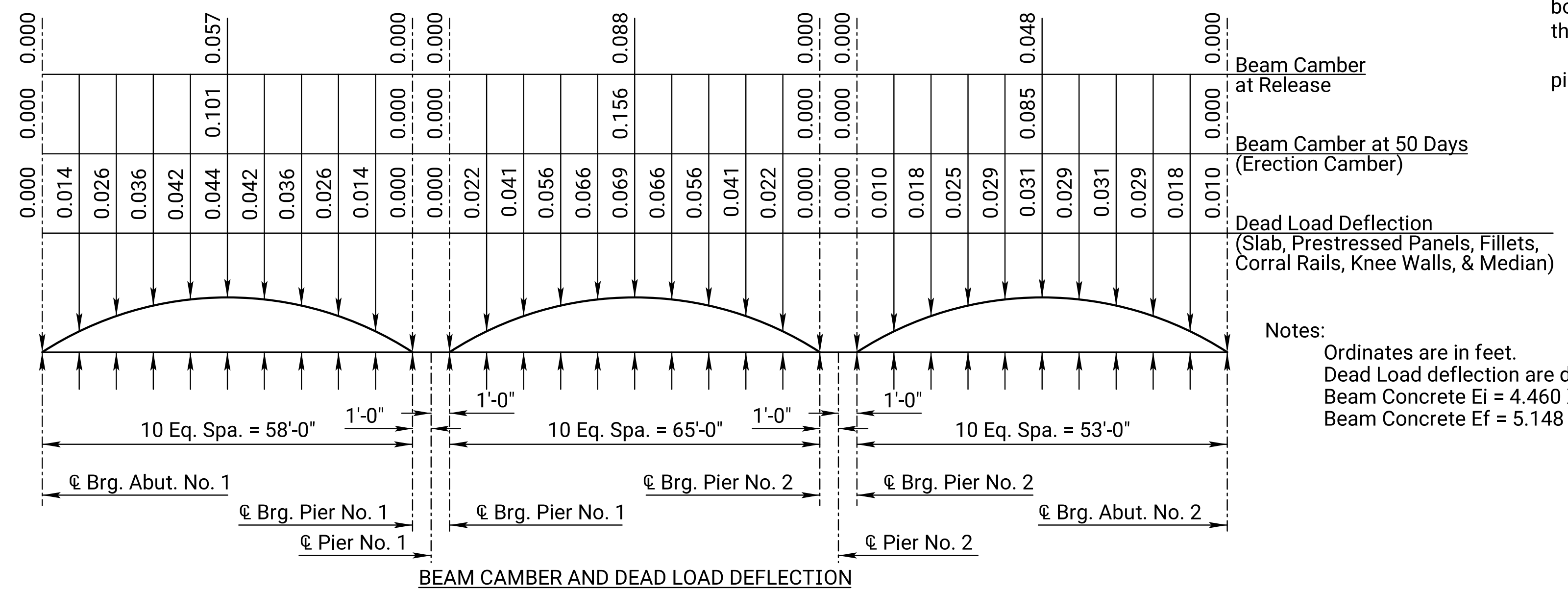


CONCRETE PLACING SEQUENCE

① Circled numbers indicate placing sequence. Segmental, combined or continuous pours are allowed by an approved alternate placing sequence. Any discontinuous pour must stop at a construction joint short of a pier. For "Concrete Placing Sequence" note, see General Notes, Sheet 65.

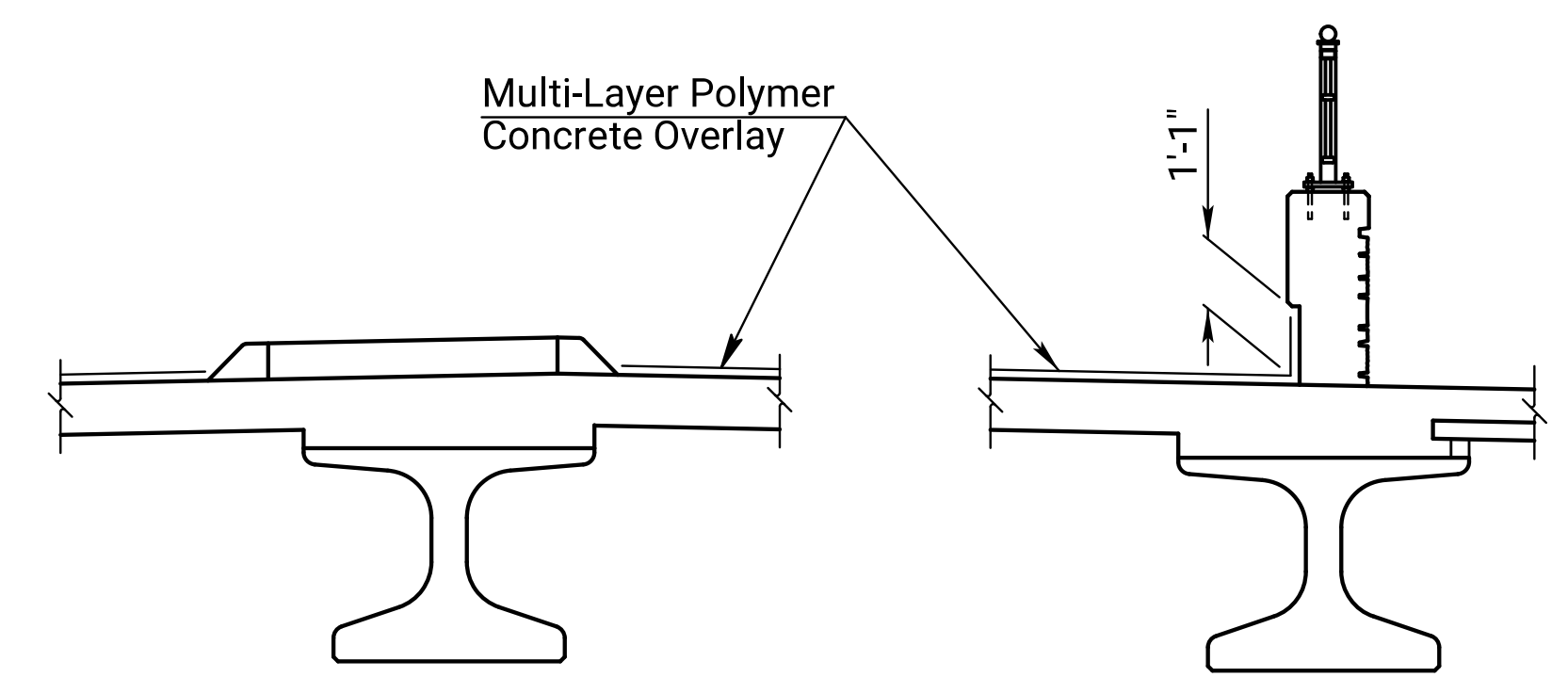
The Contractor may place the corral rail and knee wall continuously from one end of the bridge to the other. Place and hand vibrate all concrete for the pier diaphragms and the abutments above the construction joint to the bottom of the deck just prior to the normal paving train operations. Do this work in a manner to avoid a cold joint in either the abutments or in the diaphragms.

XXX.X Boxed numbers indicate quantity (cu. yds.) of KCMMB 5K Concrete required to pour 8 1/2" slab, including fillets, pier diaphragms and abutments above the construction joint (for information only).



BEAM CAMBER AND DEAD LOAD DEFLECTION

Notes:
Ordinates are in feet.
Dead Load deflection are downward.
Beam Concrete $E_i = 4.460 \times 10^6$ psi.
Beam Concrete $E_f = 5.148 \times 10^6$ psi.



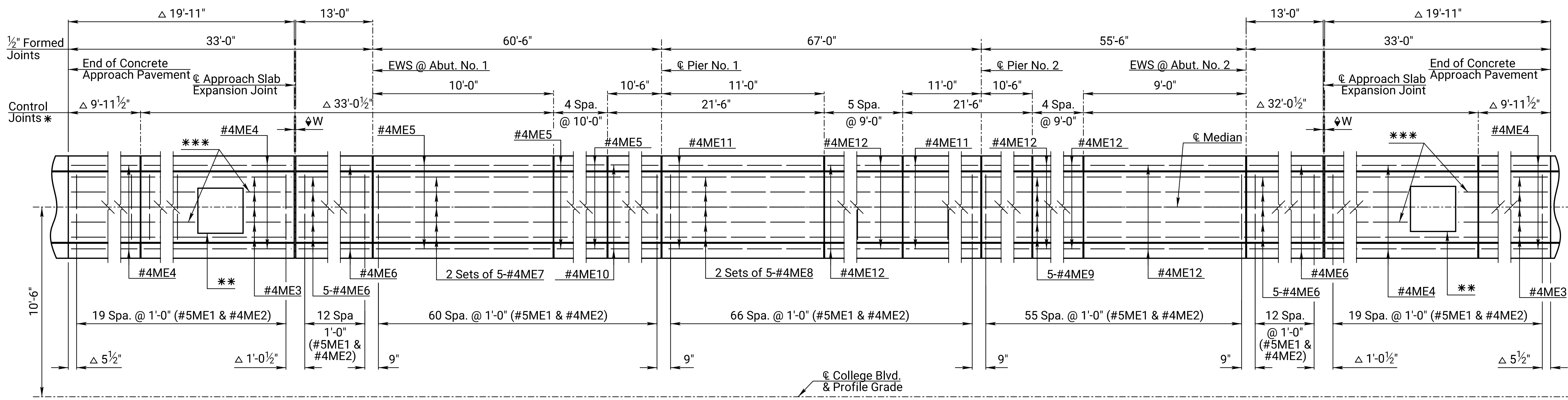
MULTI-LAYER POLYMER CONCRETE OVERLAY LIMITS
(See KDOT Specifications for applications)

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

AUXILIARY SLAB DETAILS	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK BRIDGE NO. 421950462874056 (LPA ID: 056)	
OVERLAND PARK, KANSAS	
drawn by: ZDD	
checked by: KAS	
approved by: KAS	
QA/QC by: GCL	
project no.: 022-06522	
drawing no.:	
date: 01/31/2025	

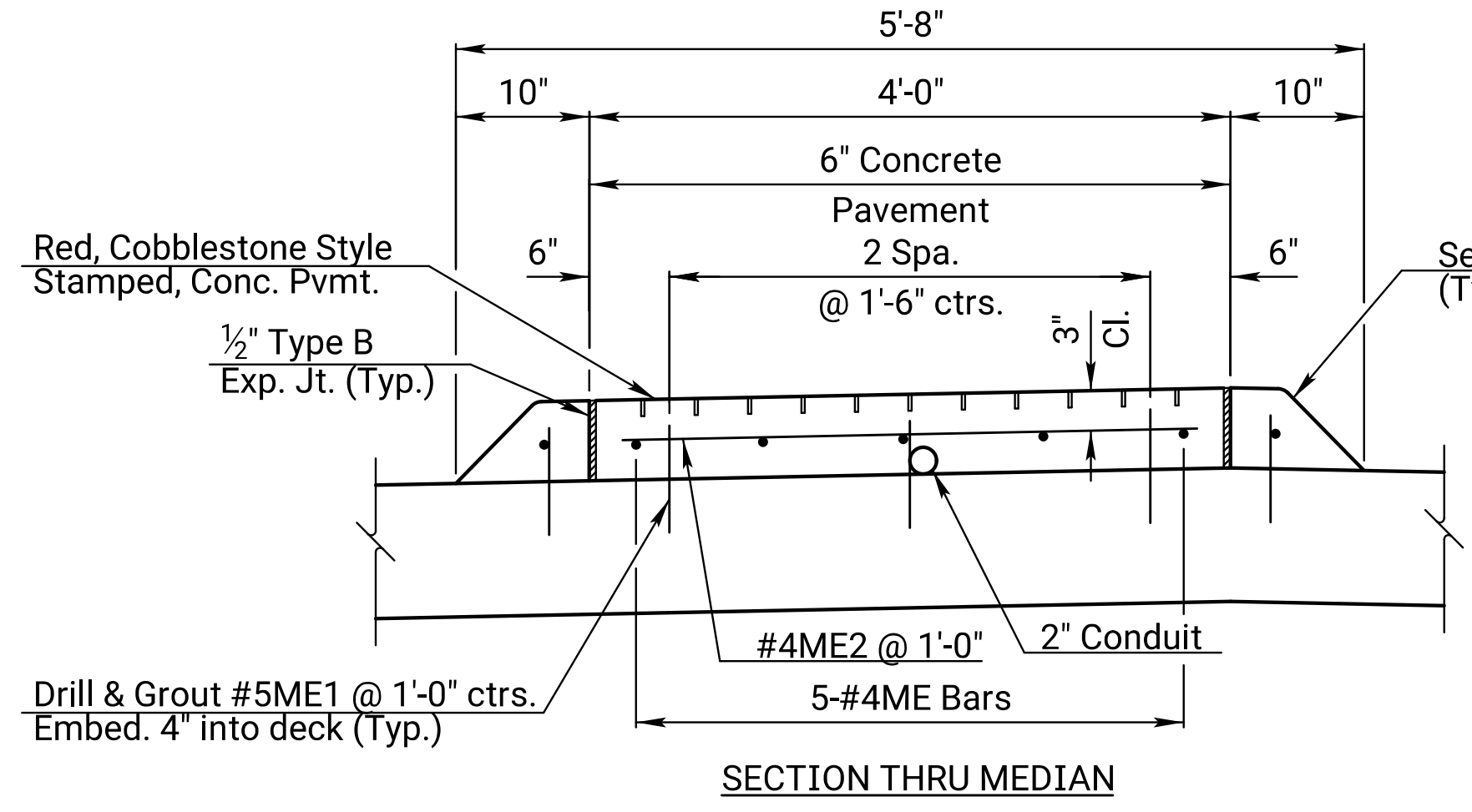
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

olsson
 7301 West 133rd Street, Suite 200
 Overland Park, KS 66213-4750
 TEL 913.381.1170 www.olson.com

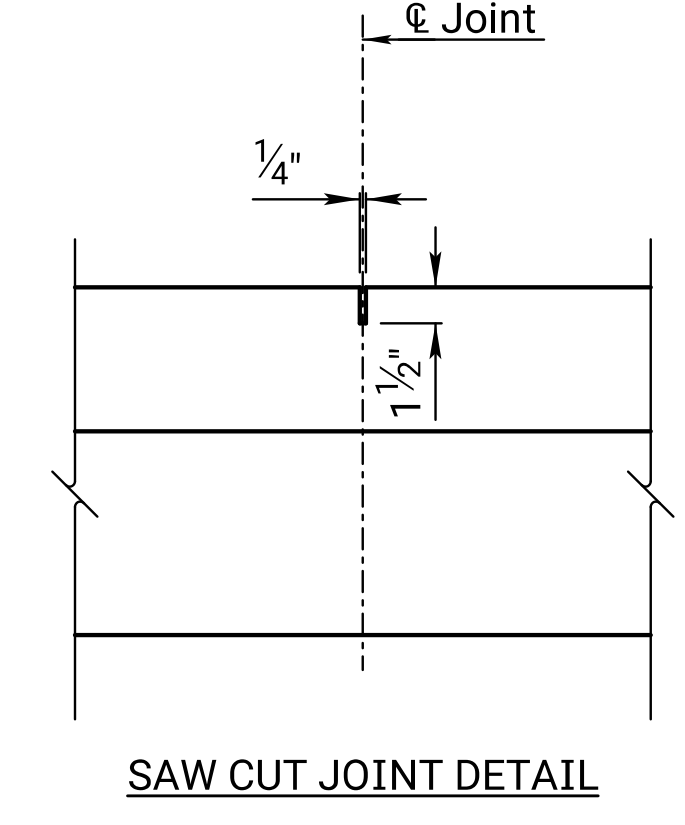
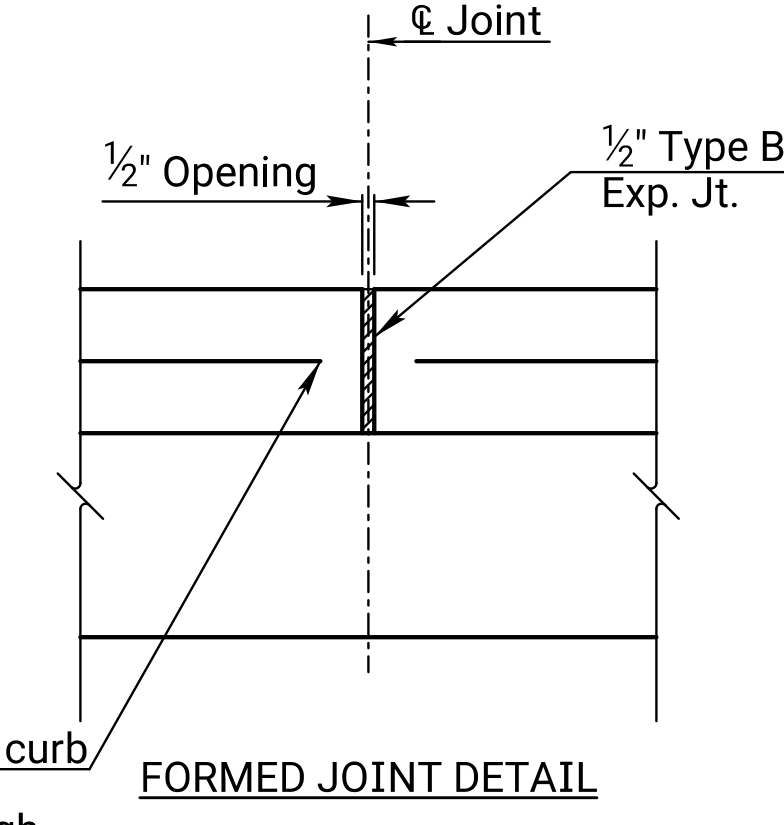
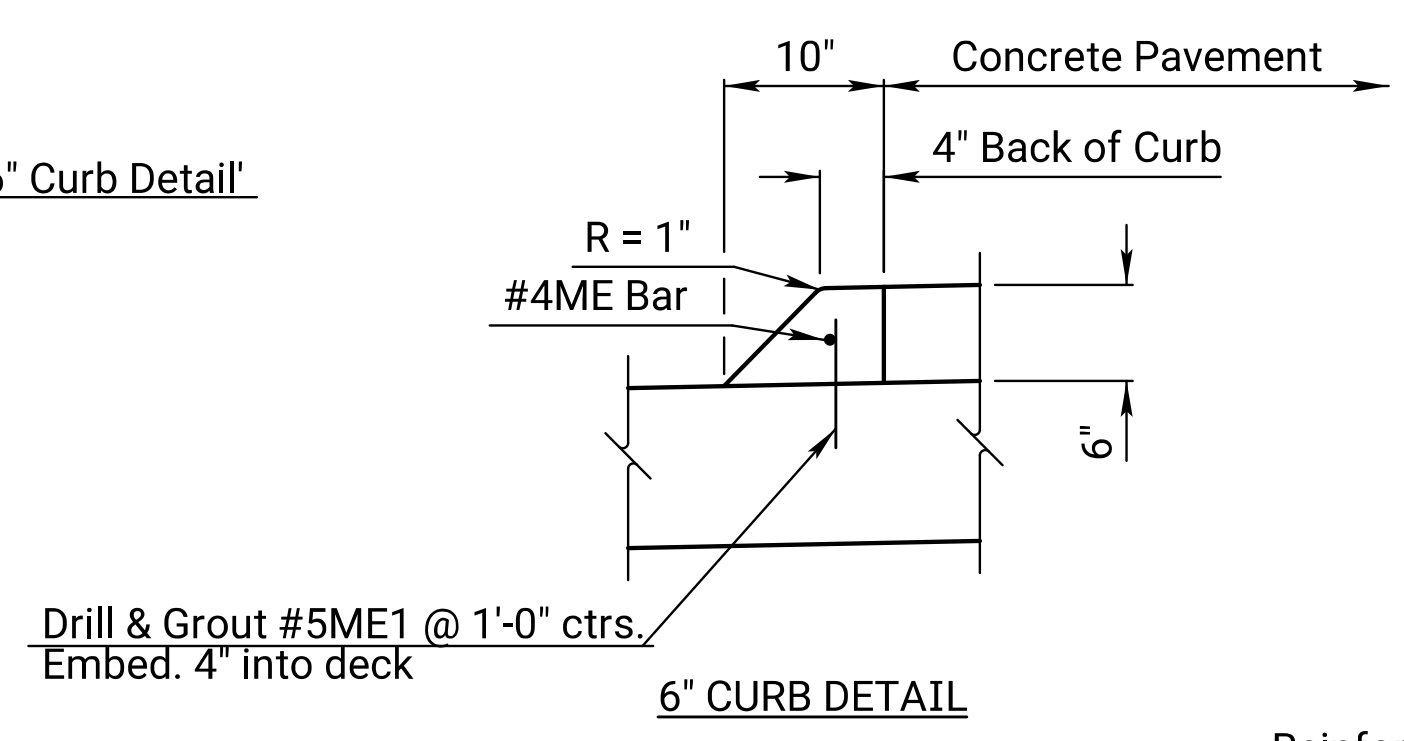


PLAN OF MEDIAN SHOWING JOINTS AND REINFORCING

- * 1/2" Formed Joints in Curb & 1/4"x1 1/2" Saw Cut in Concrete Pavement
- ** See Bridge Lighting Layout and Details Sheet for Light Pole Blockout Details
- *** Trim bars to maintain 1 1/2" clr. (Min.) to lightpole blockout (Typ. for #4ME2 & #4ME3)



NOTE: Stamp the median pavement with a running bond style pattern. Integral color shall be Prism Pigments P1840 Red Barn.



BILL OF REINFORCING STEEL Grade 60 Epoxy Coated			
Mark	Size	Number	Length
ME1	5	1250	0'-8"
ME2	4	250	3'-7"
ME3	4	10	19'-7"
ME4	4	8	9'-7"
ME5	4	10	9'-8"
ME6	4	14	12'-8"
ME7	4	14	31'-1"
ME8	4	14	34'-4"
ME9	4	7	55'-2"
ME10	4	4	10'-2"
ME11	4	4	10'-8"
ME12	4	20	8'-8"

Bars with the prefix "ME" are subsidiary to the bid items "Concrete Pavement (6" Uniform)(AE)" and "Modified Type E Curb" and are shown for information only.

NOTES:
 6" Concrete Pavement shall be paid for as Sq. Yds. of "Concrete Pavement (6" Uniform)(AE)" and includes all work and materials (including reinforcing steel, Type B Expansion Joint, stamping, and integral color) required to construct the 6" Concrete Pavement as shown.

6" Curb shall be paid for as Lin. Ft. of "Modified Type E Curb" and includes all work and materials (including reinforcing steel and Type B Expansion Joint) required to construct the 6" curb as shown.

All reinforcing steel shall be epoxy coated.

See "General Notes" sheet for "Drilling and Grouting" note.

Minimum concrete cover to reinforcing steel shall be 1 1/2" unless otherwise shown.

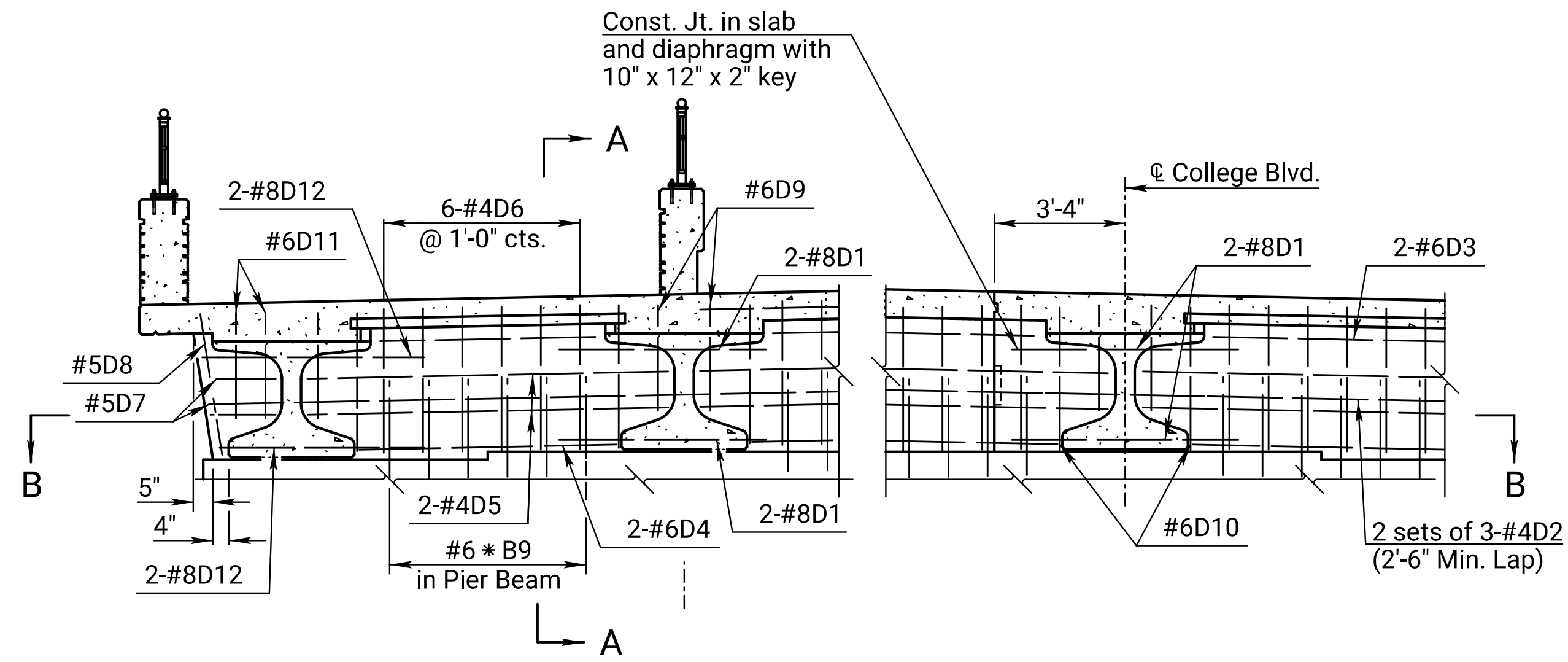
△ Dimensions based on formed concrete opening size for an assumed average ambient temperature of 60°F. Adjust accordingly for varying average ambient temperatures. See table on Sheet No. 66.

◆ Provide a vertical joint in the median to match the location of expansion joints in the concrete approach pavement. For expansion joint details, see Sheet No. 39.

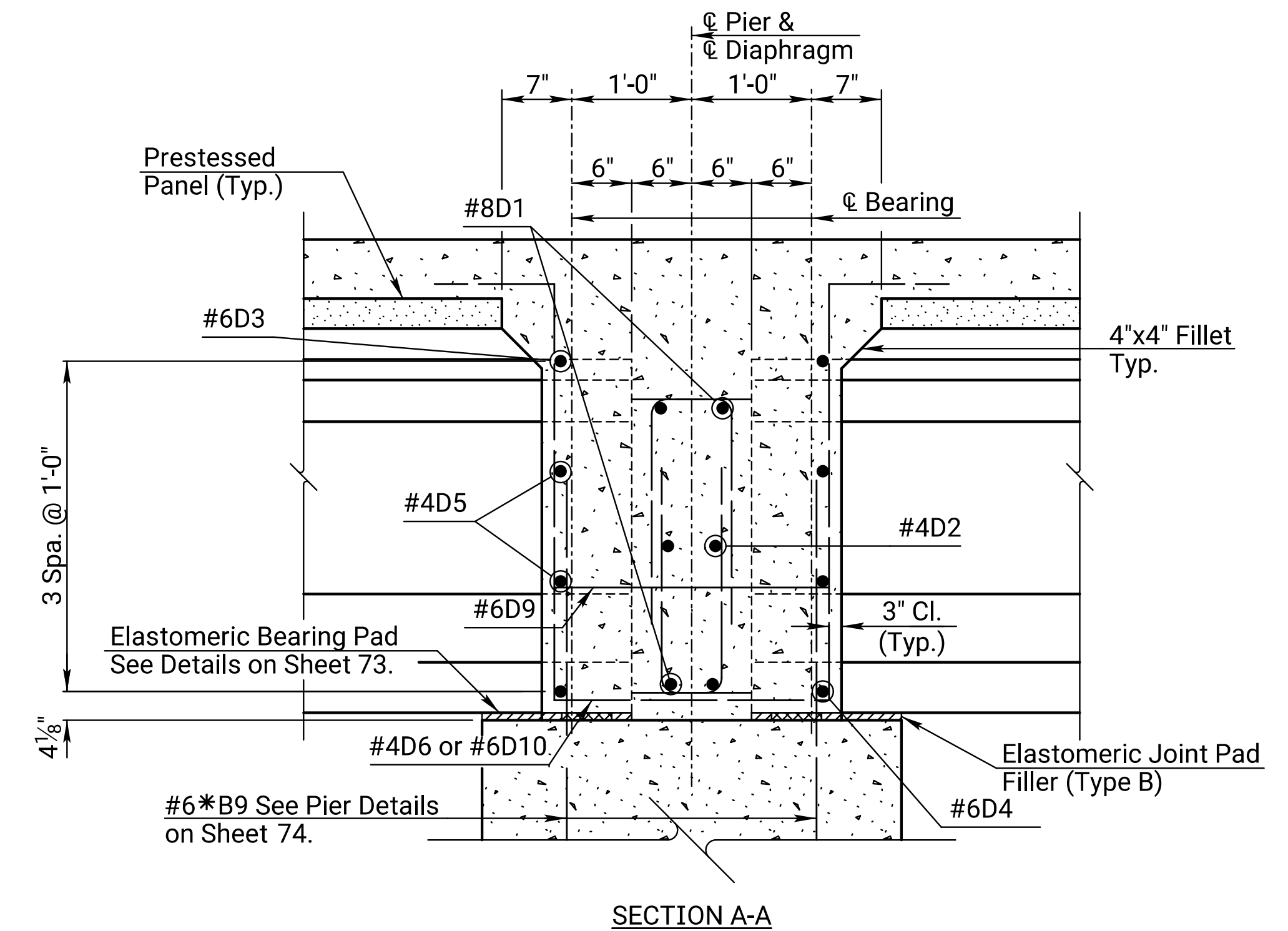
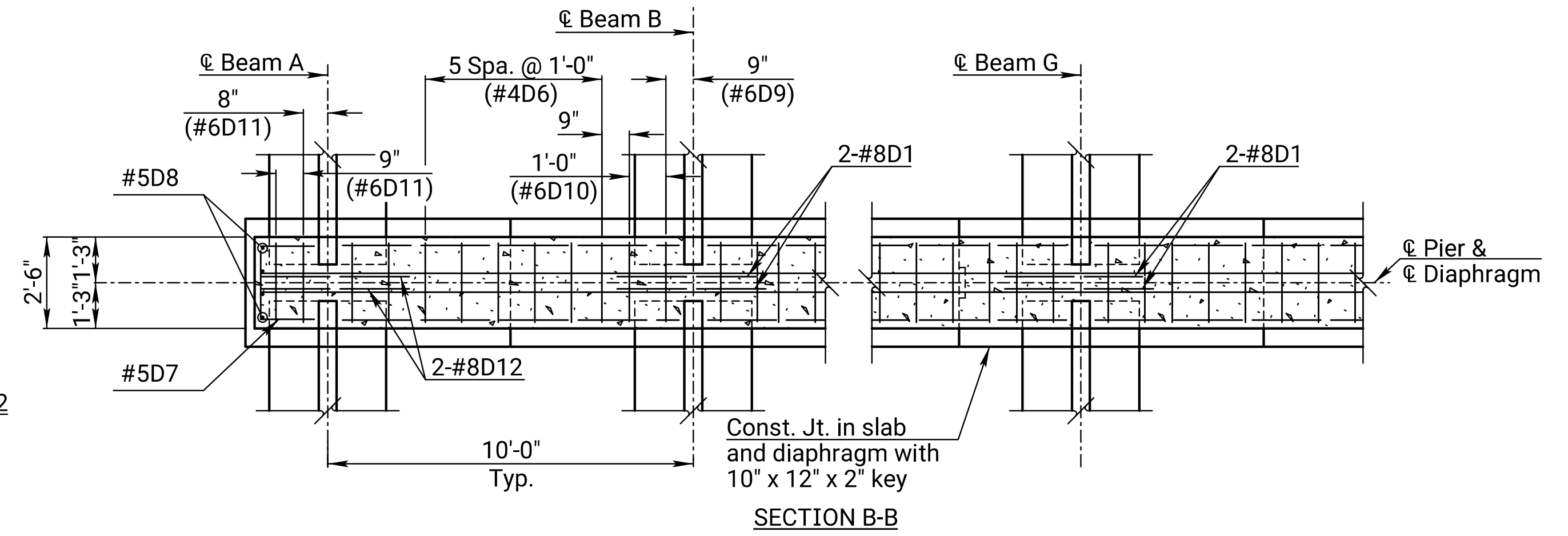
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

MEDIAN DETAILS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 BRIDGE NO. 421950462874056 (LPA ID: 056)
 OVERLAND PARK, KANSAS
 2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



PART ELEVATION AT PIER DIAPHRAGM
(* Denotes barmark "B" at Pier No. 1 and "C" at Pier No. 2.)



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PIER DIAPHRAGM DETAILS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
BRIDGE NO. 421950462874056 (LPA ID: 056)

OVERLAND PARK, KANSAS
2025

drawn by:	ZDD
checked by:	KAS
approved by:	KAS
QA/QC by:	GCL
project no.:	022-08529
drawing no.:	
date:	01/31/2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

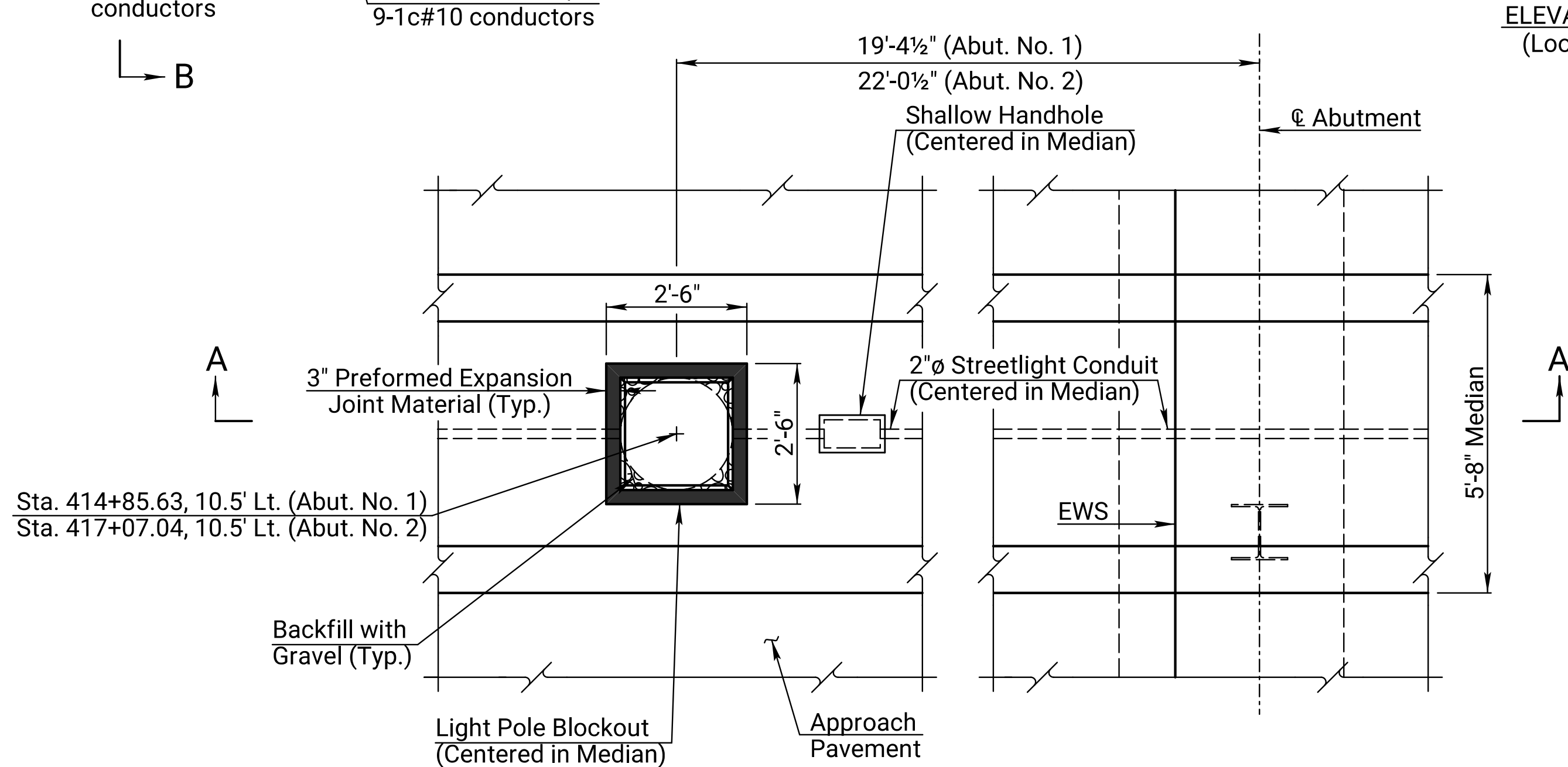
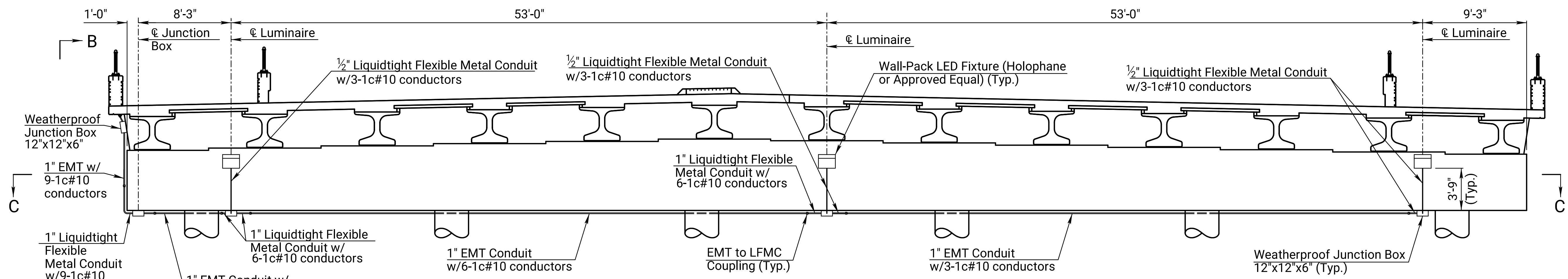
TOP OF PAVEMENT ELEVATIONS																
LOCATION	POINT	BEAM A		BEAM B		BEAM C		BEAM D		BEAM E		BEAM F		BEAM G		POINT
		STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	
☉ BRG. ABUT. NO. 1	0	415+05.00	917.68	415+05.00	917.88	415+05.00	918.08	415+05.00	918.28	415+05.00	918.48	415+05.00	918.68	415+05.00	918.54	0
	1	415+10.80	917.66	415+10.80	917.86	415+10.80	918.06	415+10.80	918.26	415+10.80	918.46	415+10.80	918.66	415+10.80	918.52	1
	2	415+16.60	917.64	415+16.60	917.84	415+16.60	918.04	415+16.60	918.24	415+16.60	918.44	415+16.60	918.64	415+16.60	918.50	2
	3	415+22.40	917.62	415+22.40	917.82	415+22.40	918.02	415+22.40	918.22	415+22.40	918.42	415+22.40	918.62	415+22.40	918.48	3
	4	415+28.20	917.60	415+28.20	917.80	415+28.20	918.00	415+28.20	918.20	415+28.20	918.40	415+28.20	918.60	415+28.20	918.46	4
	5	415+34.00	917.57	415+34.00	917.77	415+34.00	917.97	415+34.00	918.17	415+34.00	918.37	415+34.00	918.57	415+34.00	918.43	5
	6	415+39.80	917.54	415+39.80	917.74	415+39.80	917.94	415+39.80	918.14	415+39.80	918.34	415+39.80	918.54	415+39.80	918.40	6
	7	415+45.60	917.51	415+45.60	917.71	415+45.60	917.91	415+45.60	918.11	415+45.60	918.31	415+45.60	918.51	415+45.60	918.37	7
	8	415+51.40	917.47	415+51.40	917.67	415+51.40	917.87	415+51.40	918.07	415+51.40	918.27	415+51.40	918.47	415+51.40	918.33	8
	9	415+57.20	917.43	415+57.20	917.63	415+57.20	917.83	415+57.20	918.03	415+57.20	918.23	415+57.20	918.43	415+57.20	918.29	9
☉ BEARING SPAN NO. 1 ☉ PIER NO. 1	10	415+63.00	917.39	415+63.00	917.59	415+63.00	917.79	415+63.00	917.99	415+63.00	918.19	415+63.00	918.39	415+63.00	918.25	10
☉ BEARING SPAN NO. 2	0	415+65.00	917.38	415+65.00	917.58	415+65.00	917.78	415+65.00	917.98	415+65.00	918.18	415+65.00	918.38	415+65.00	918.24	0
	1	415+71.50	917.33	415+71.50	917.53	415+71.50	917.73	415+71.50	917.93	415+71.50	918.13	415+71.50	918.33	415+71.50	918.19	1
	2	415+78.00	917.28	415+78.00	917.48	415+78.00	917.68	415+78.00	917.88	415+78.00	918.08	415+78.00	918.28	415+78.00	918.14	2
	3	415+84.50	917.22	415+84.50	917.42	415+84.50	917.62	415+84.50	917.82	415+84.50	918.02	415+84.50	918.22	415+84.50	918.08	3
	4	415+91.00	917.17	415+91.00	917.37	415+91.00	917.57	415+91.00	917.77	415+91.00	917.97	415+91.00	918.17	415+91.00	918.03	4
	5	415+97.50	917.10	415+97.50	917.30	415+97.50	917.50	415+97.50	917.70	415+97.50	917.90	415+97.50	918.10	415+97.50	917.96	5
	6	416+04.00	917.04	416+04.00	917.24	416+04.00	917.44	416+04.00	917.64	416+04.00	917.84	416+04.00	918.04	416+04.00	917.90	6
	7	416+10.50	916.97	416+10.50	917.17	416+10.50	917.37	416+10.50	917.57	416+10.50	917.77	416+10.50	917.97	416+10.50	917.83	7
	8	416+17.00	916.90	416+17.00	917.10	416+17.00	917.30	416+17.00	917.50	416+17.00	917.70	416+17.00	917.90	416+17.00	917.76	8
	9	416+23.50	916.82	416+23.50	917.02	416+23.50	917.22	416+23.50	917.42	416+23.50	917.62	416+23.50	917.82	416+23.50	917.68	9
☉ BEARING SPAN NO. 2 ☉ PIER NO. 2	10	416+30.00	916.75	416+30.00	916.95	416+30.00	917.15	416+30.00	917.35	416+30.00	917.55	416+30.00	917.75	416+30.00	917.61	10
☉ BEARING SPAN NO. 3	0	416+31.00	916.73	416+31.00	916.93	416+31.00	917.13	416+31.00	917.33	416+31.00	917.53	416+31.00	917.73	416+31.00	917.59	
	0	416+32.00	916.72	416+32.00	916.92	416+32.00	917.12	416+32.00	917.32	416+32.00	917.52	416+32.00	917.72	416+32.00	917.58	0
	1	416+37.30	916.65	416+37.30	916.85	416+37.30	917.05	416+37.30	917.25	416+37.30	917.45	416+37.30	917.65	416+37.30	917.51	1
	2	416+42.60	916.59	416+42.60	916.79	416+42.60	916.99	416+42.60	917.19	416+42.60	917.39	416+42.60	917.59	416+42.60	917.45	2
	3	416+47.90	916.51	416+47.90	916.71	416+47.90	916.91	416+47.90	917.11	416+47.90	917.31	416+47.90	917.51	416+47.90	917.37	3
	4	416+53.20	916.44	416+53.20	916.64	416+53.20	916.84	416+53.20	917.04	416+53.20	917.24	416+53.20	917.44	416+53.20	917.30	4
	5	416+58.50	916.37	416+58.50	916.57	416+58.50	916.77	416+58.50	916.97	416+58.50	917.17	416+58.50	917.37	416+58.50	917.23	5
	6	416+63.80	916.29	416+63.80	916.49	416+63.80	916.69	416+63.80	916.89	416+63.80	917.09	416+63.80	917.29	416+63.80	917.15	6
	7	416+69.10	916.21	416+69.10	916.41	416+69.10	916.61	416+69.10	916.81	416+69.10	917.01	416+69.10	917.21	416+69.10	917.07	7
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	9	416+79.70	916.05	416+79.70	916.25	416+79.70	916.45	416+79.70	916.65	416+79.70	916.85	416+79.70	917.05	416+79.70	916.91	9
☉ BRG. ABUT. NO. 2	10	416+85.00	915.97	416+85.00	916.17	416+85.00	916.37	416+85.00	916.57	416+85.00	916.77	416+85.00	916.97	416+85.00	916.83	10

TOP OF PAVEMENT ELEVATIONS														
LOCATION	POINT	BEAM H		BEAM J		BEAM K		BEAM L		BEAM M		BEAM N		POINT
		STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	
☉ BRG. ABUT. NO. 1	0	415+05.00	918.34	415+05.00	918.14	415+05.00	917.94	415+05.00	917.74	415+05.00	917.54	415+05.00	917.34	0
	1	415+10.80	918.32	415+10.80	918.12	415+10.80	917.92	415+10.80	917.72	415+10.80	917.52	415+10.80	917.32	1
	2	415+16.60	918.30	415+16.60	918.10	415+16.60	917.90	415+16.60	917.70	415+16.60	917.50	415+16.60	917.30	2
	3	415+22.40	918.28	415+22.40	918.08	415+22.40	917.88	415+22.40	917.68	415+22.40	917.48	415+22.40	917.28	3
	4	415+28.20	918.26	415+28.20	918.06	415+28.20	917.86	415+28.20	917.66	415+28.20	917.46	415+28.20	917.26	4
	5	415+34.00	918.23	415+34.00	918.03	415+34.00	917.83	415+34.00	917.63	415+34.00	917.43	415+34.00	917.23	5
	6	415+39.80	918.20	415+39.80	918.00	415+39.80	917.80	415+39.80	917.60	415+39.80	917.40	415+39.80	917.20	6
	7	415+45.60	918.17	415+45.60	917.97	415+45.60	917.77	415+45.60	917.57	415+45.60	917.37	415+45.60	917.17	7
	8	415+51.40	918.13	415+51.40	917.93	415+51.40	917.73	415+51.40	917.53	415+51.40	917.33	415+51.40	917.13	8
	9	415+57.20	918.09	415+57.20	917.89	415+57.20	917.69	415+57.20	917.49	415+57.20	917.29	415+57.20	917.09	9
☉ BEARING SPAN NO. 1 ☉ PIER NO. 1	10	415+63.00	918.05	415+63.00	917.85	415+63.00	917.65	415+63.00	917.45	415+63.00	917.25	415+63.00	917.05	10
☉ BEARING SPAN NO. 2	0	415+64.00	918.05	415+64.00	917.85	415+64.00	917.65	415+64.00	917.45	415+64.00	917.25	415+64.00	917.05	
	0	415+65.00	918.04	415+65.00	917.84	415+65.00	917.64	415+65.00	917.44	415+65.00	917.24	415+65.00	917.04	0
	1	415+71.50	917.99	415+71.50	917.79	415+71.50	917.59	415+71.50	917.39	415+71.50	917.19	415+71.50	916.99	1
	2	415+78.00	917.94	415+78.00	917.74	415+78.00	917.54	415+78.00	917.34	415+78.00	917.14	415+78.00	916.94	2
	3	415+84.50	917.88	415+84.50	917.68	415+84.50	917.48	415+84.50	917.28	415+84.50	917.08	415+84.50	916.88	3
	4	415+91.00	917.83	415+91.00	917.63	415+91.00	917.43	415+91.00	917.23	415+91.00	917.03	415+91.00	916.83	4
	5	415+97.50	917.76	415+97.50	917.56	415+97.50	917.36	415+97.50	917.16	415+97.50	916.96	415+97.50	916.76	5
	6	416+04.00	917.70	416+04.00	917.50	416+04.00	917.30	416+04.00	917.10	416+04.00	916.90	416+04.00	916.70	6
	7	416+10.50	917.63	416+10.50	917.43	416+10.50	917.23	416+10.50	917.03	416+10.50	916.83	416+10.50	916.63	7
	8	416+17.00	917.56	416+17.00	917.36	416+17.00	917.16	416+17.00	916.96	416+17.00	916.76	416+17.00	916.56	8
	9	416+23.50	917.48	416+23.50	917.28	416+23.50	917.08	416+23.50	916.88	416+23.50	916.68	416+23.50	916.48	9
☉ BEARING SPAN NO. 2 ☉ PIER NO. 2	10	416+30.00	917.41	416+30.00	917.21	416+30.00	917.01	416+30.00	916.81	416+30.00	916.61</			

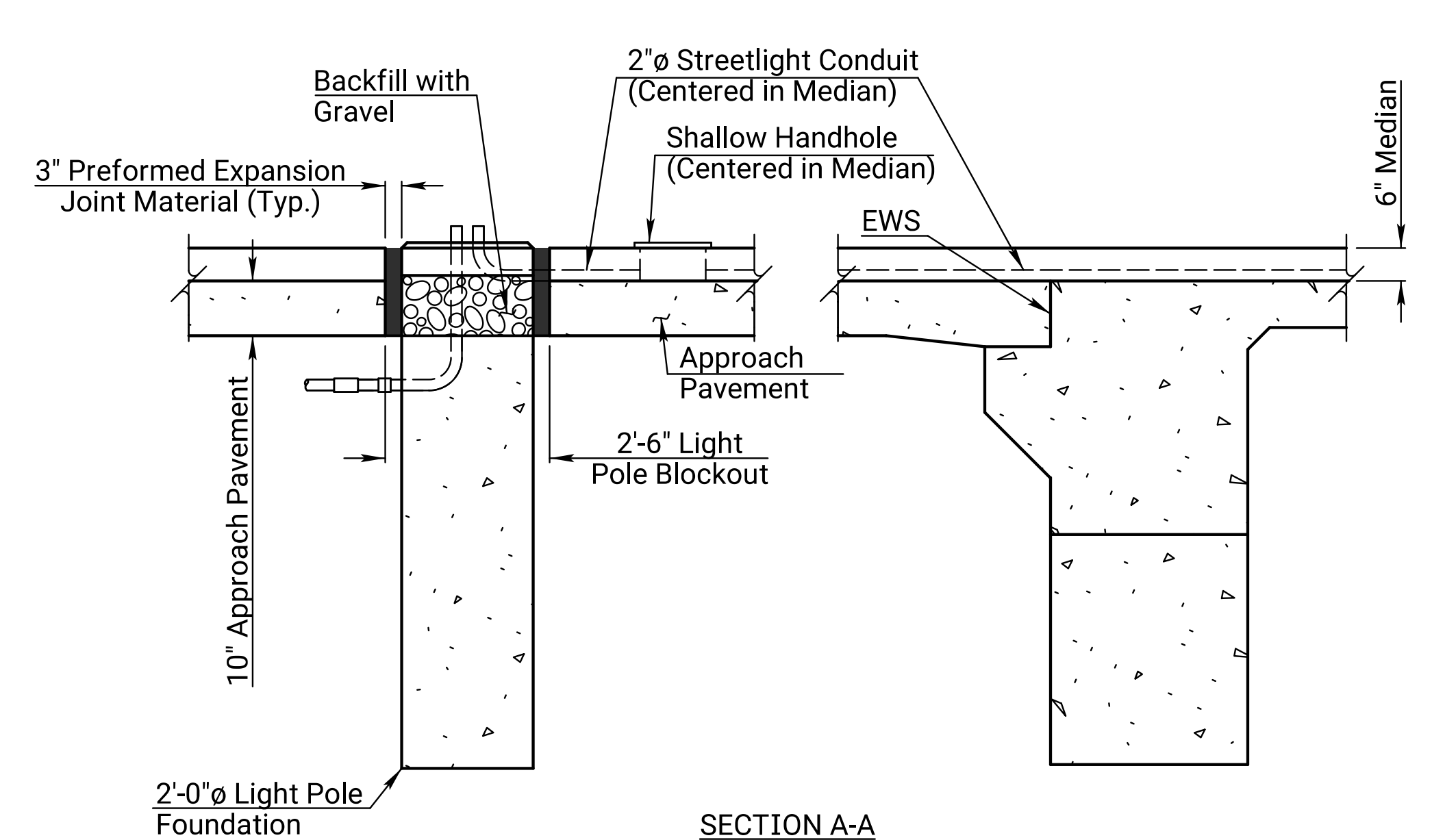
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

olsson

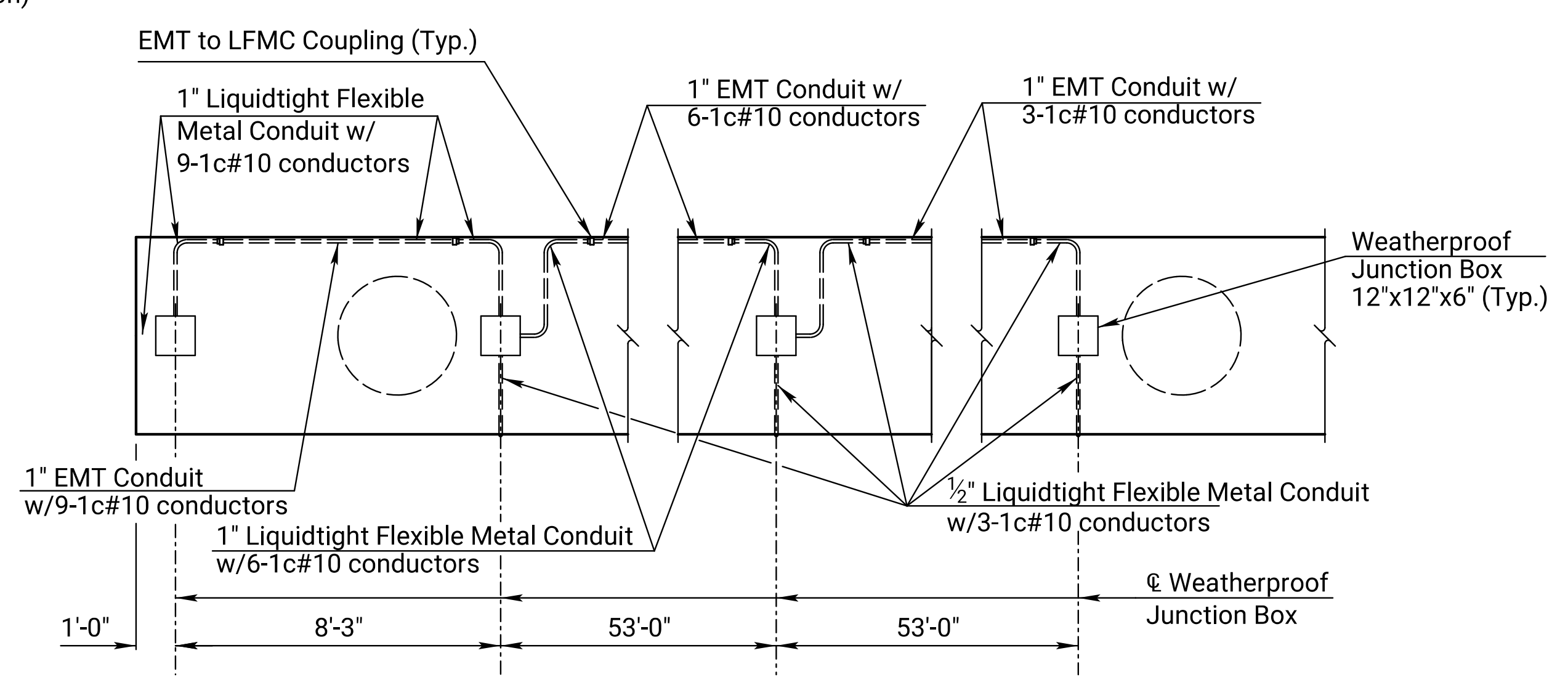
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olsson.com



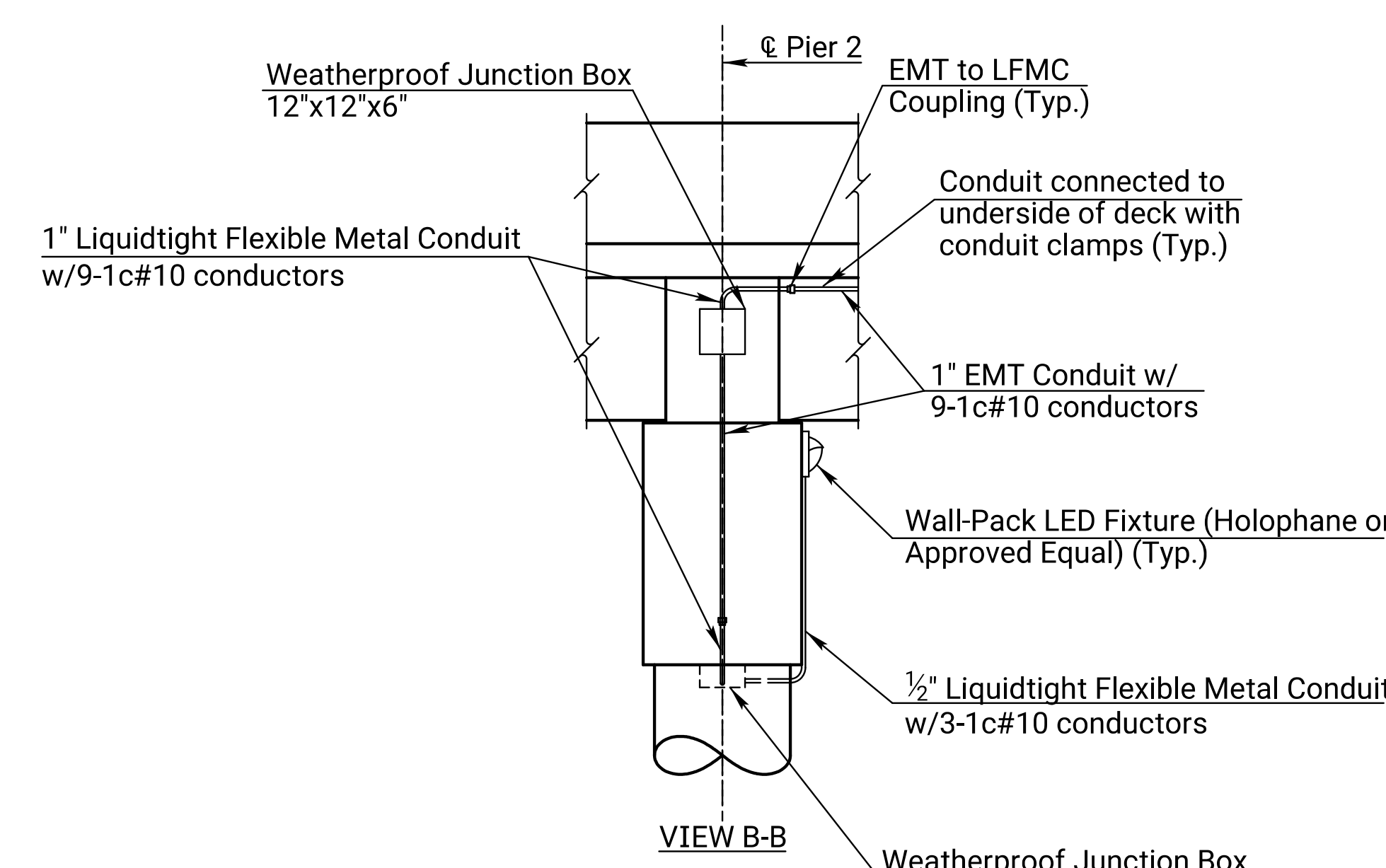
PLAN OF LIGHT POLE BLOCKOUT
(Abutment No. 1 shown, Abutment No. 2 similar)



SECTION A-A



SECTION C-C



VIEW B-B

Median Conduit Notes:
All conduit cast in the median shall be PVC and bear the U.L. Label. All fittings used with PVC conduit shall be PVC, no metallic fittings are acceptable. Conduit bends, elbows and offsets shall be accurately formed. Junction boxes and Handholes shall be made of 14 gauge sheet metal (steel) with welded seams, knockouts and weatherproof screw cover. Sheet metal boxes shall be hot dipped galvanized in accordance with ASTM A-123 or electroplated with a minimum thickness of 4 mil after fabrication. The surface of the junction box which comes in contact with the concrete shall be covered with aluminum colored butyl rubber sealant (caulking compound). Junction boxes, conduit drains, couplings, handhole, and all other hardware and miscellaneous fittings required for the installation of the conduit system will be subsidiary to the bid item "Electric Conduit (2") (Non-Metallic)". For additional conduit details, see Lighting Plans.

Bridge Pier Conduit Notes:
WEDGE TYPE STUD BOLT ANCHORS: The contractor shall install two 3/8" (inch) x 3" (inch) wedge type stud bolt anchors for conduit clamps. The anchors shall be wedge type made from carbon steel meeting AISI 12L14 steel. The minimum embedded depth shall be 1 3/4" (inch).

CONDUIT CLAMPS WITH CLAMP BACKS: The contractor shall install 1" (inch) conduit clamps with a compatible clamp back. Clamps shall be heavy duty steel to secure the 1" (inch) metallic conduit to structure. Conduit clamps are to be spaced at 6' (feet) intervals.

For additional conduit details, see Lighting Plans. For metallic conduit quantities, see Street Lighting Bill of Materials.

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

BRIDGE LIGHTING LAYOUT AND DETAILS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
BRIDGE NO. 421950462874056 (LPA ID: 056)

OVERLAND PARK, KANSAS

2025

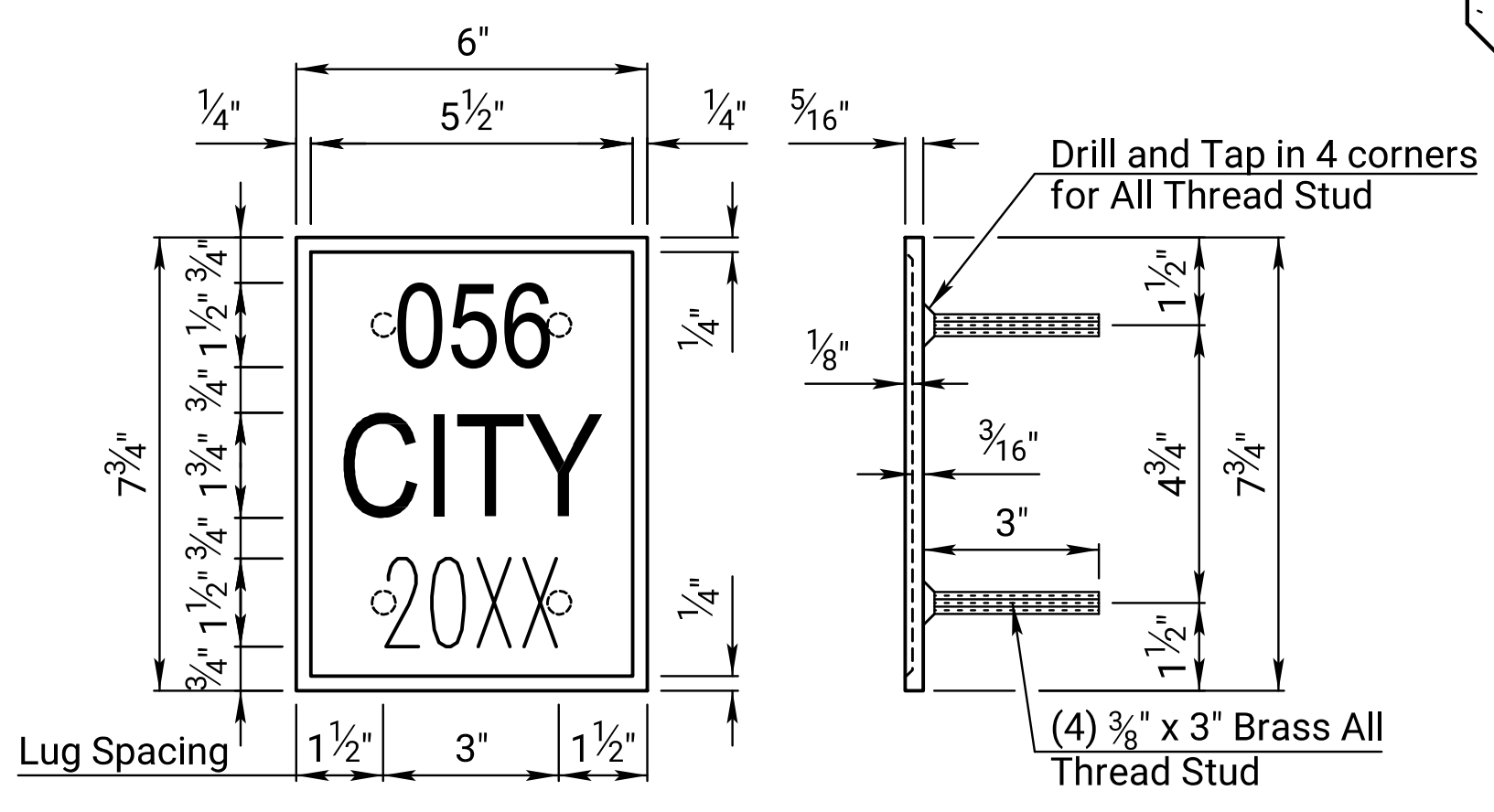
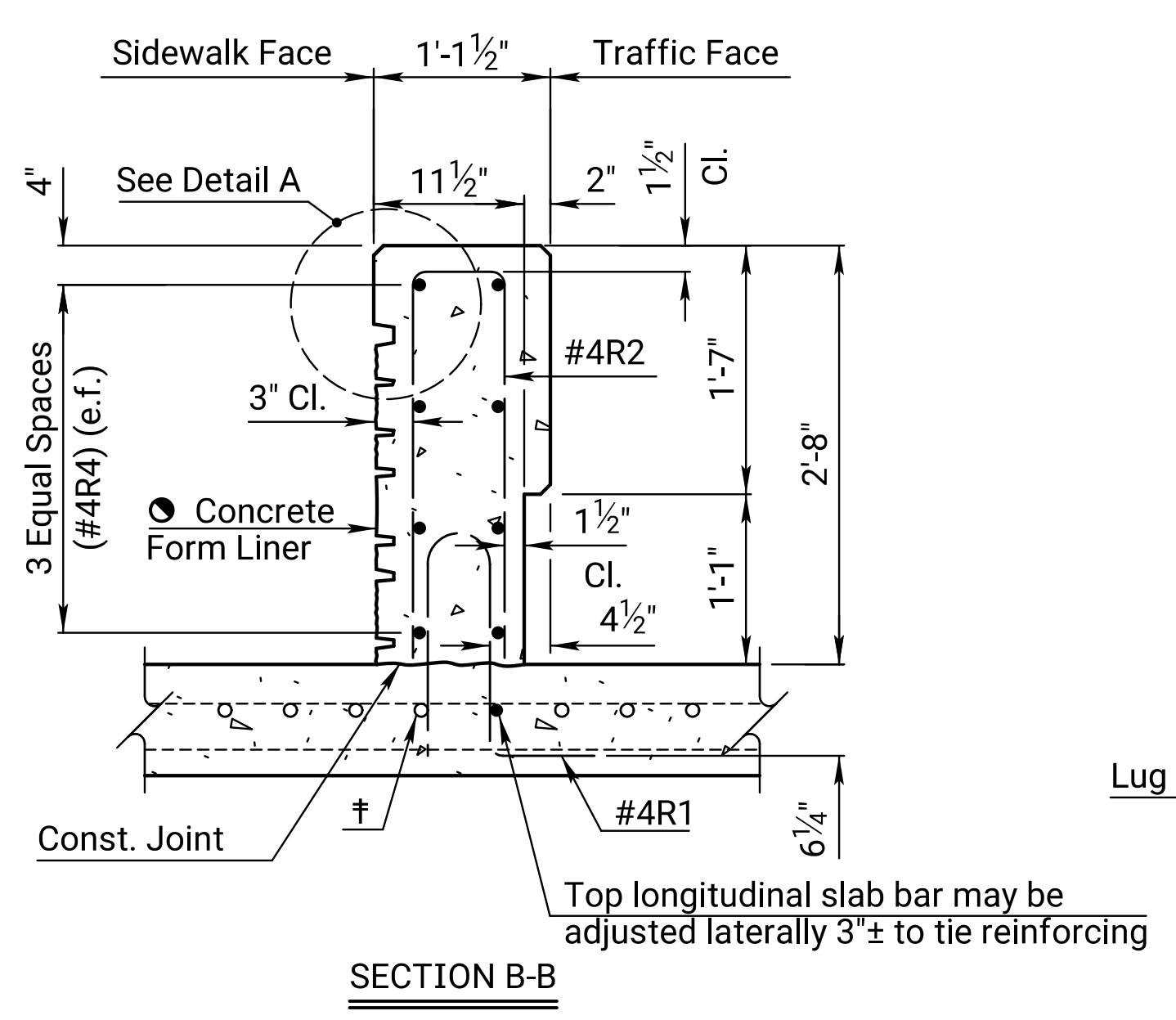
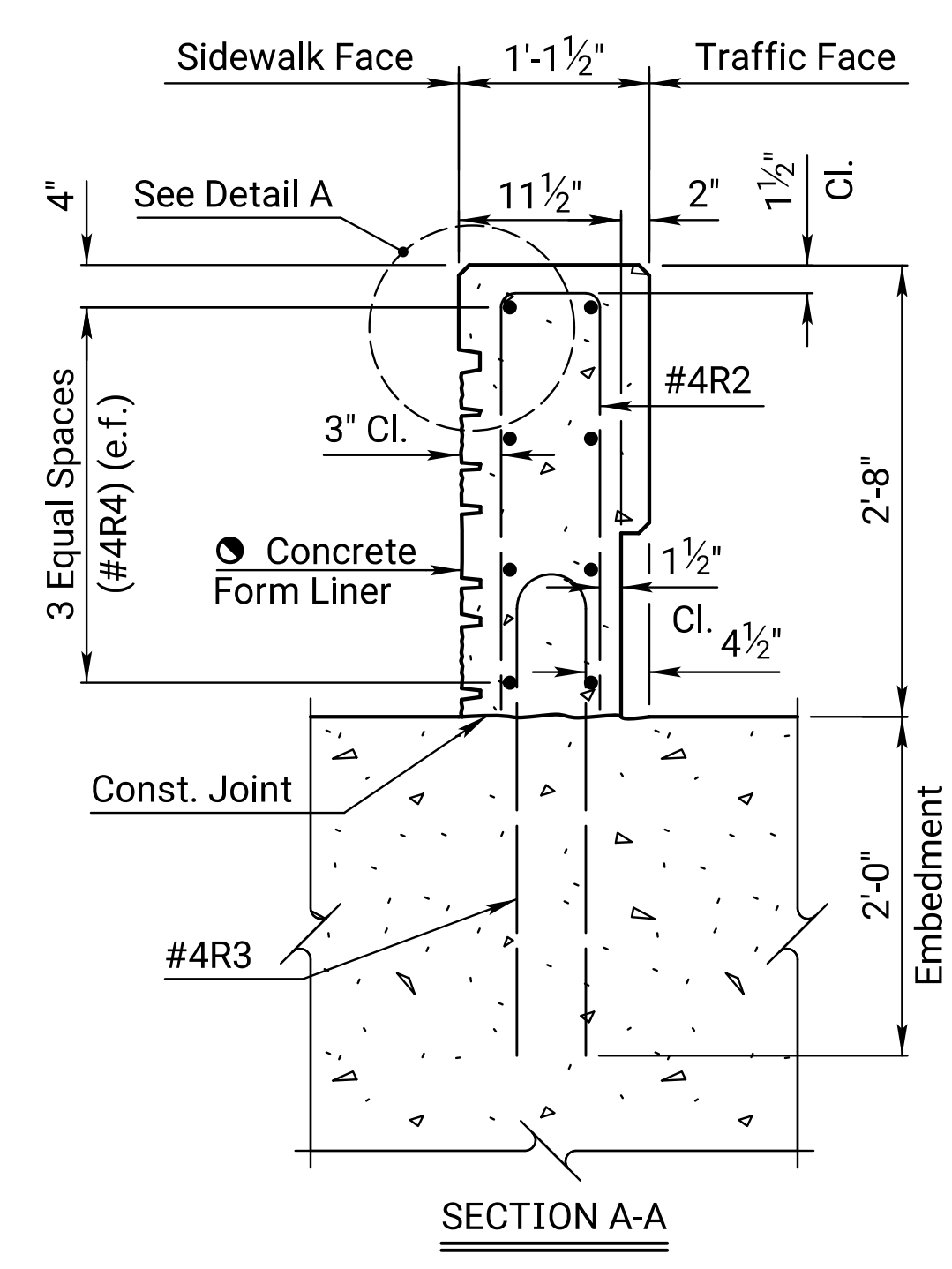
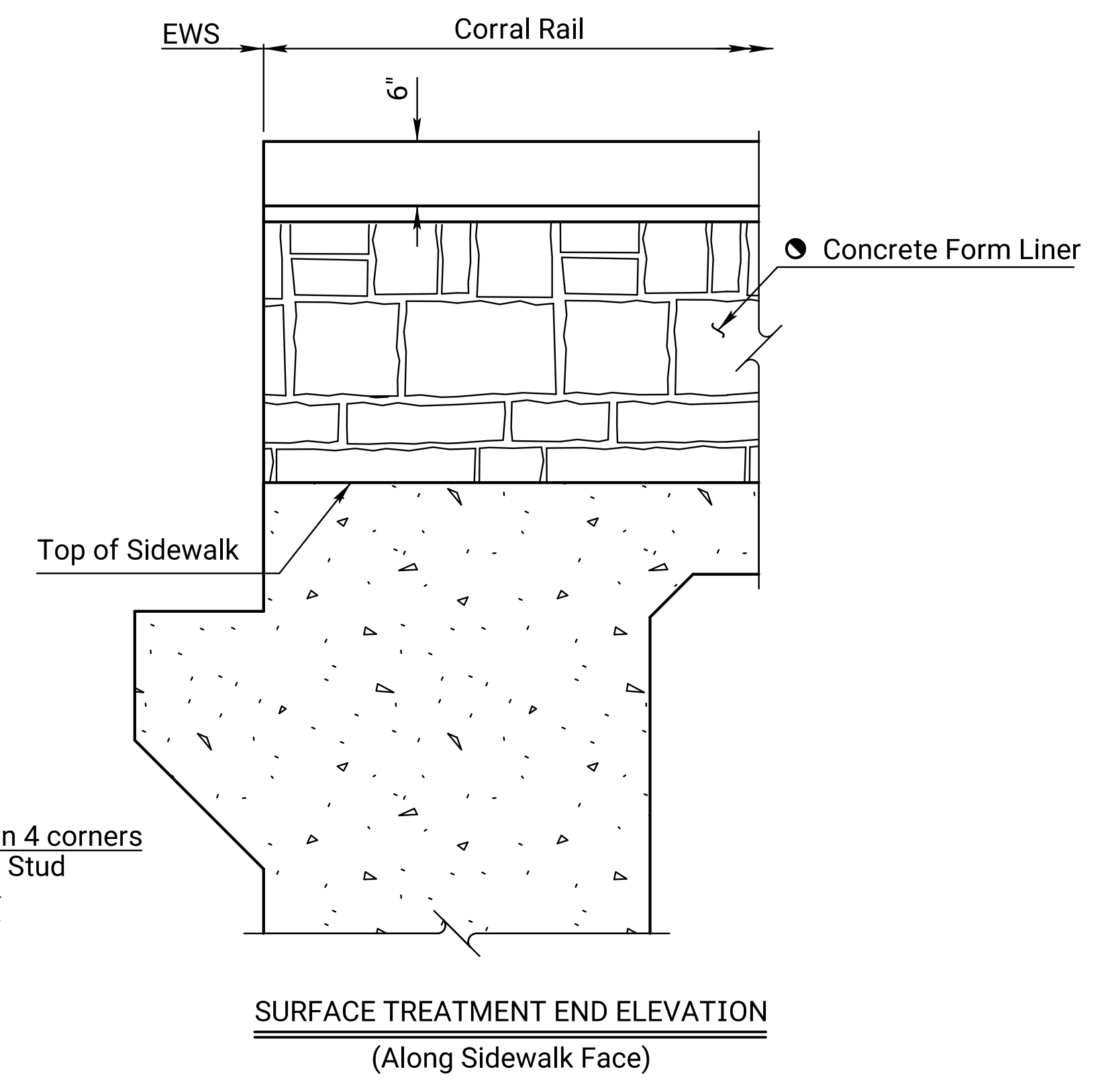
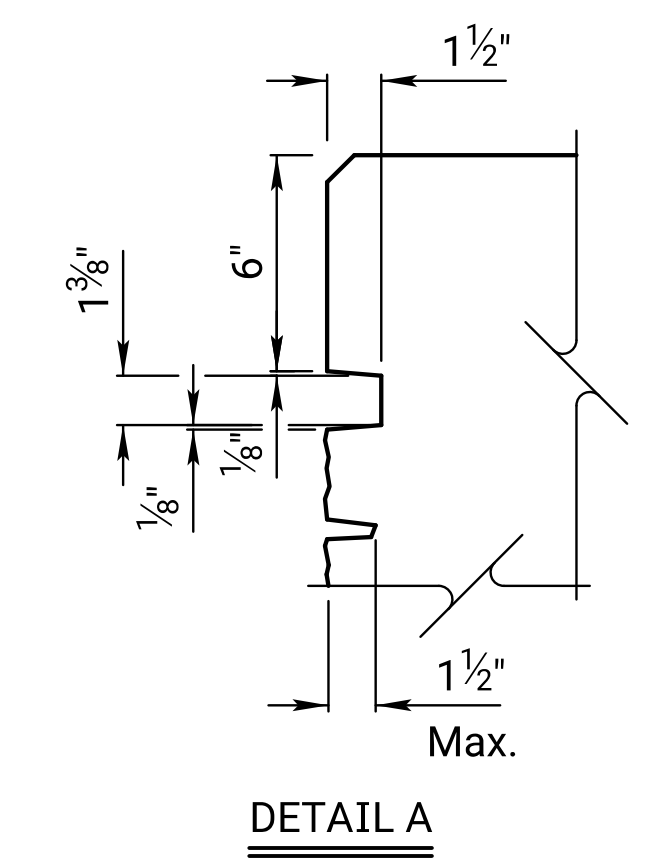
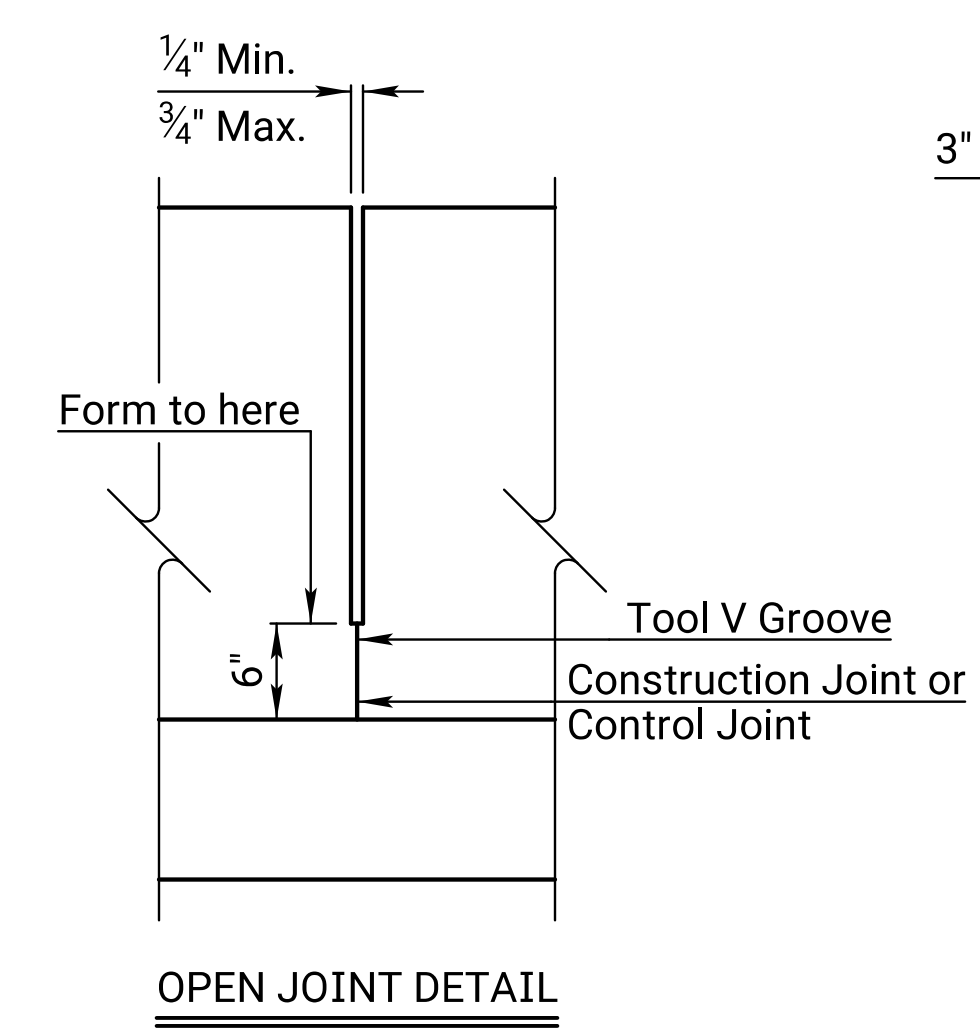
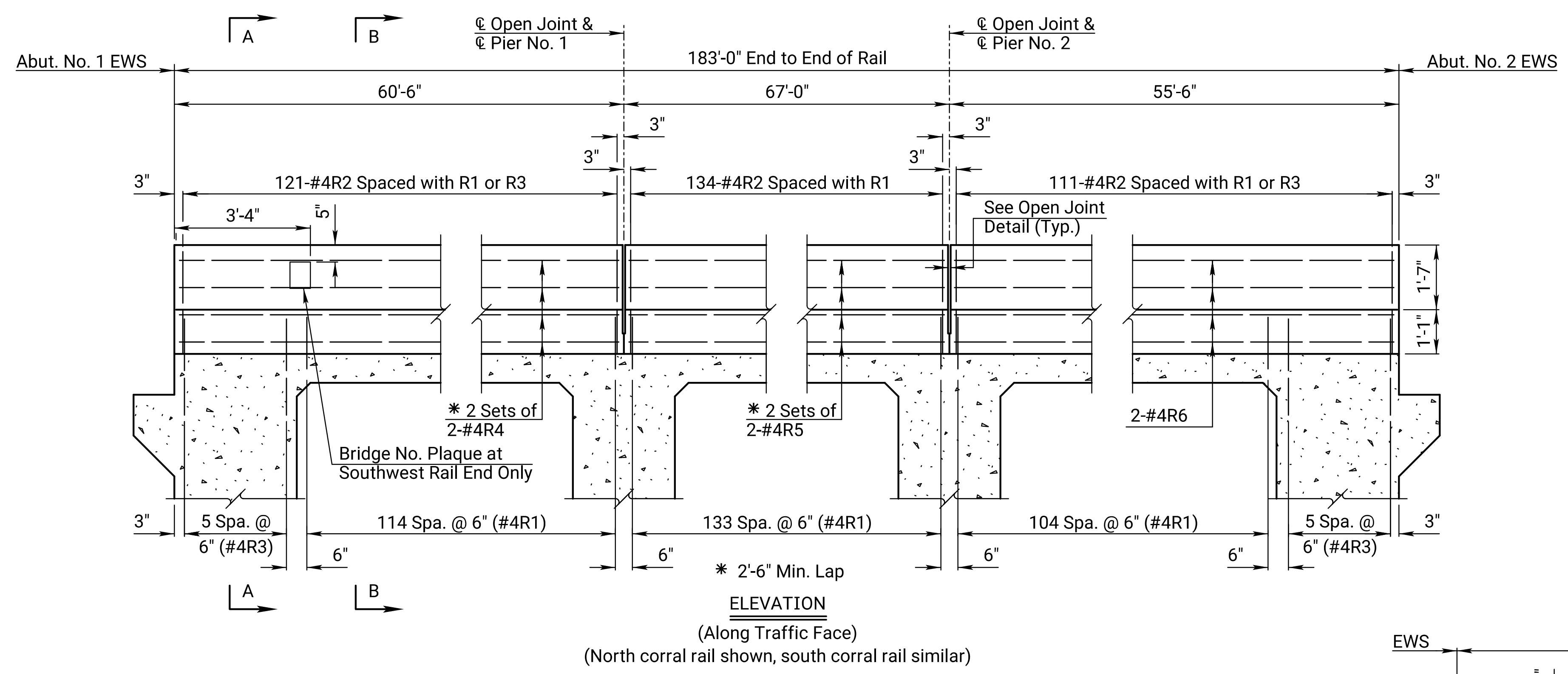
drawn by: ZDD
checked by: KAS
approved by: KAS
QA/QC by: GCL
project no.: 022-06522
drawing no.:
date: 01/31/2025

SHEET
87 of 189

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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† As an aid in supporting reinforcement, additional longitudinal bars may be used in the slab with the approval of the Engineer. Such bars will be furnished at the contractor's expense.

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

CORRAL RAIL DETAILS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
BRIDGE NO. 421950462874056 (LPA ID: 056)

OVERLAND PARK, KANSAS

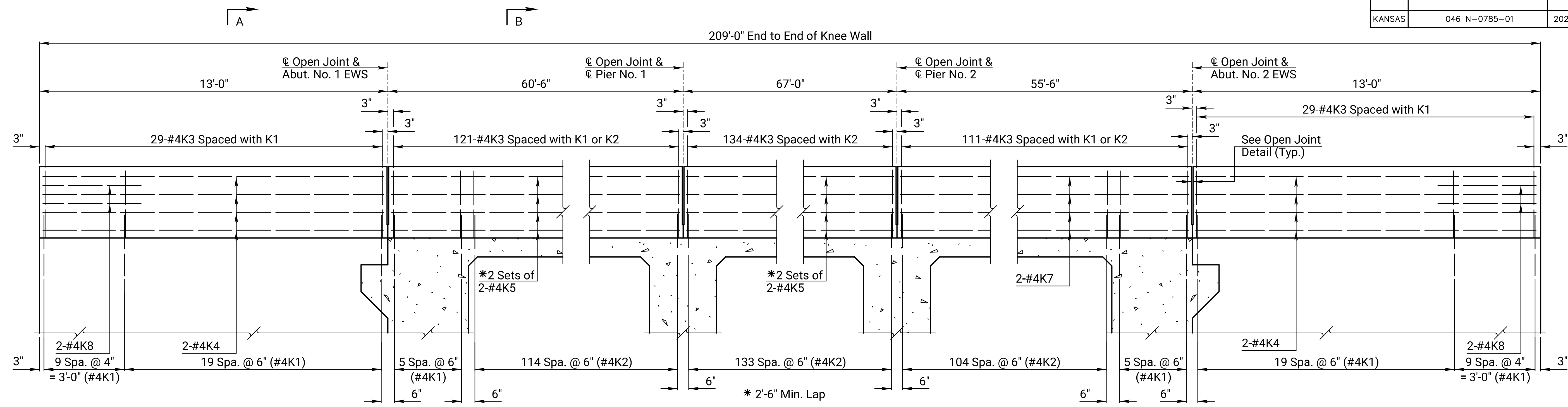
2025

drawn by:	ZDD
checked by:	KAS
approved by:	KAS
QA/QC by:	GCL
project no.:	022-06522
drawing no.:	
date:	01/31/2025

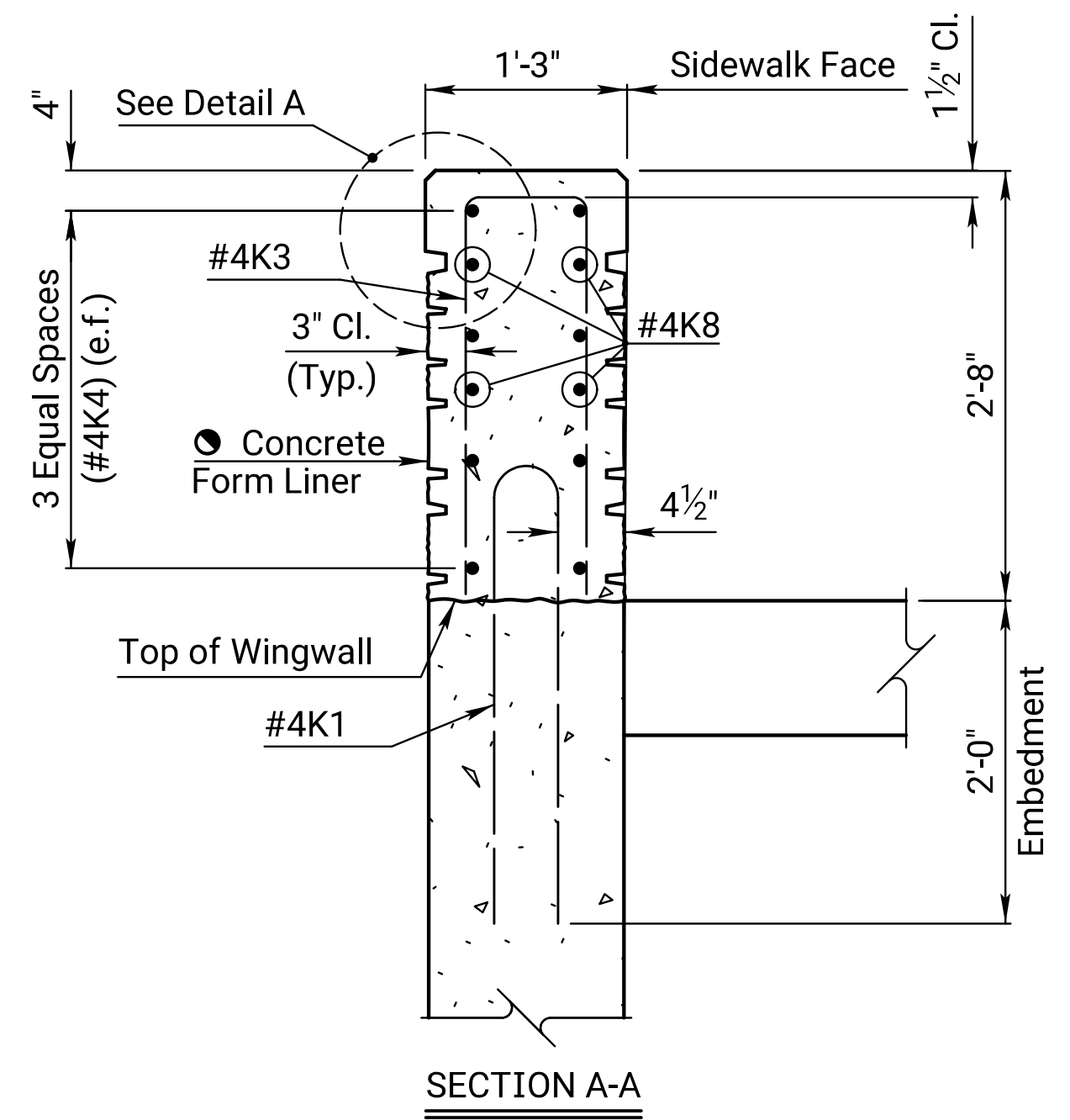
For complete description of the form liner and pigmented stain treatment, see Sheet 90.

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

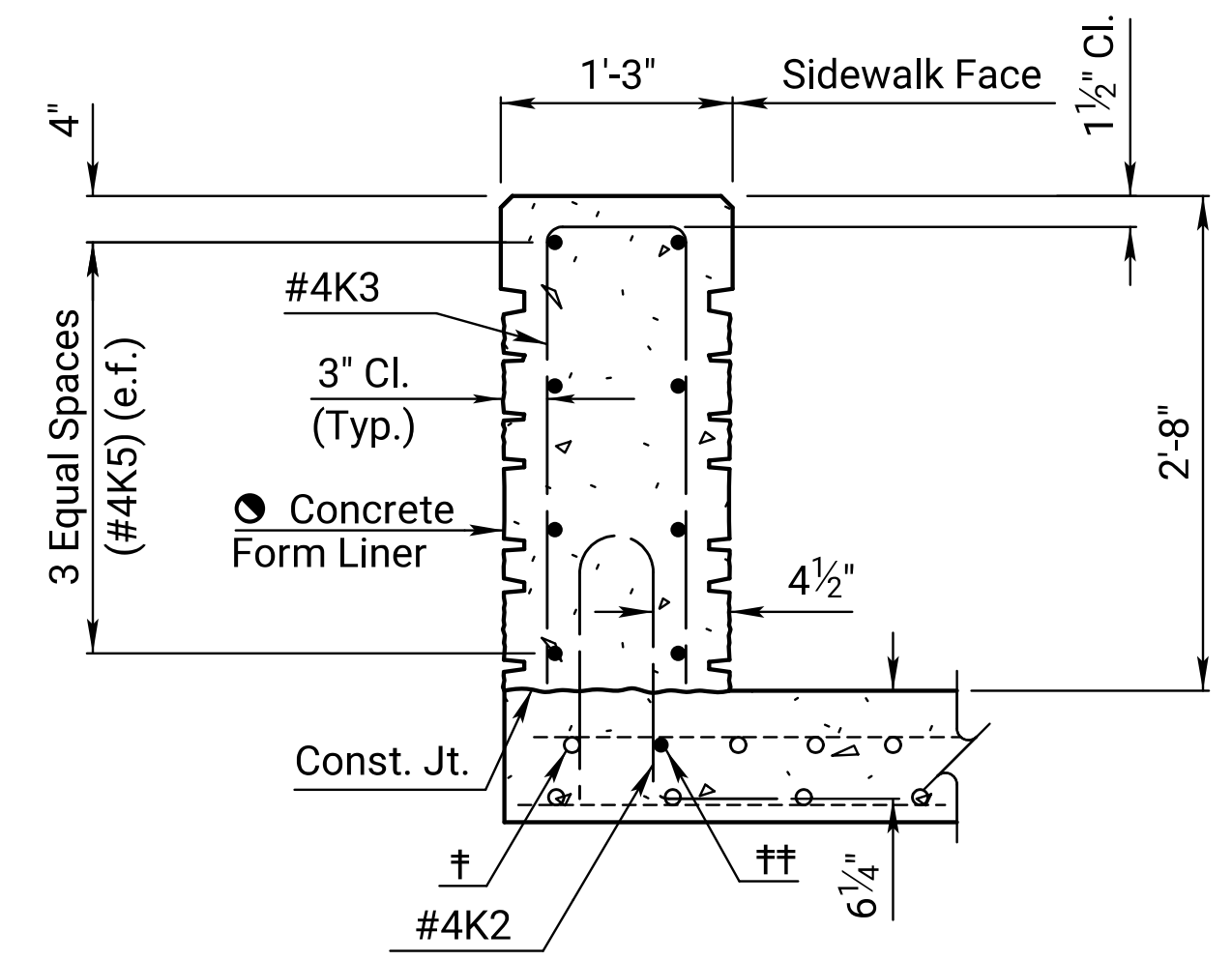
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ELEVATION
 (Along Sidewalk Face)
 (North knee wall shown, south knee wall similar)
 (Form liner not shown for clarity)

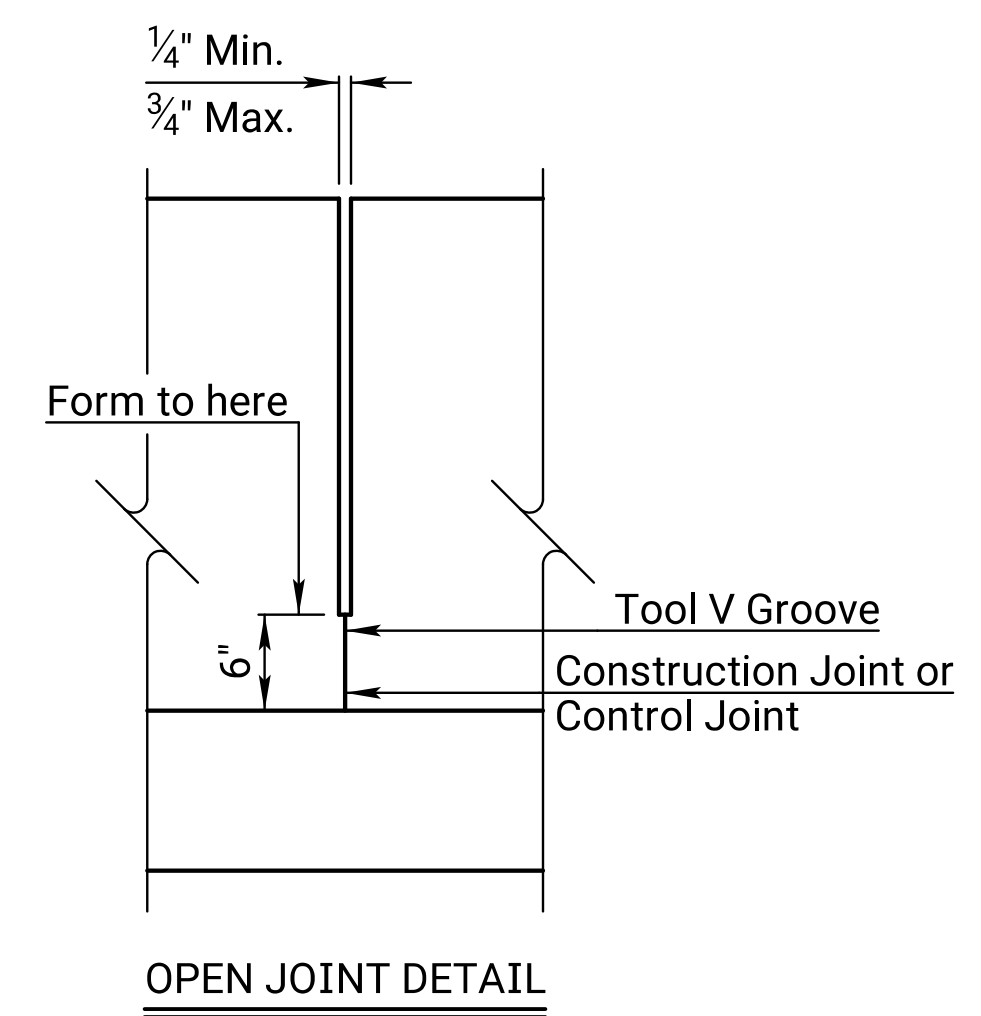


SECTION A-A

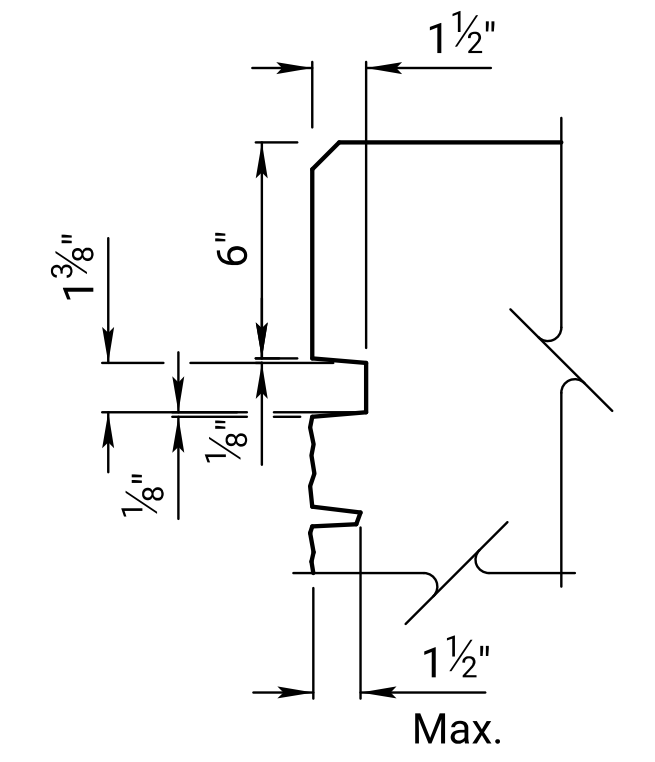


SECTION B-B

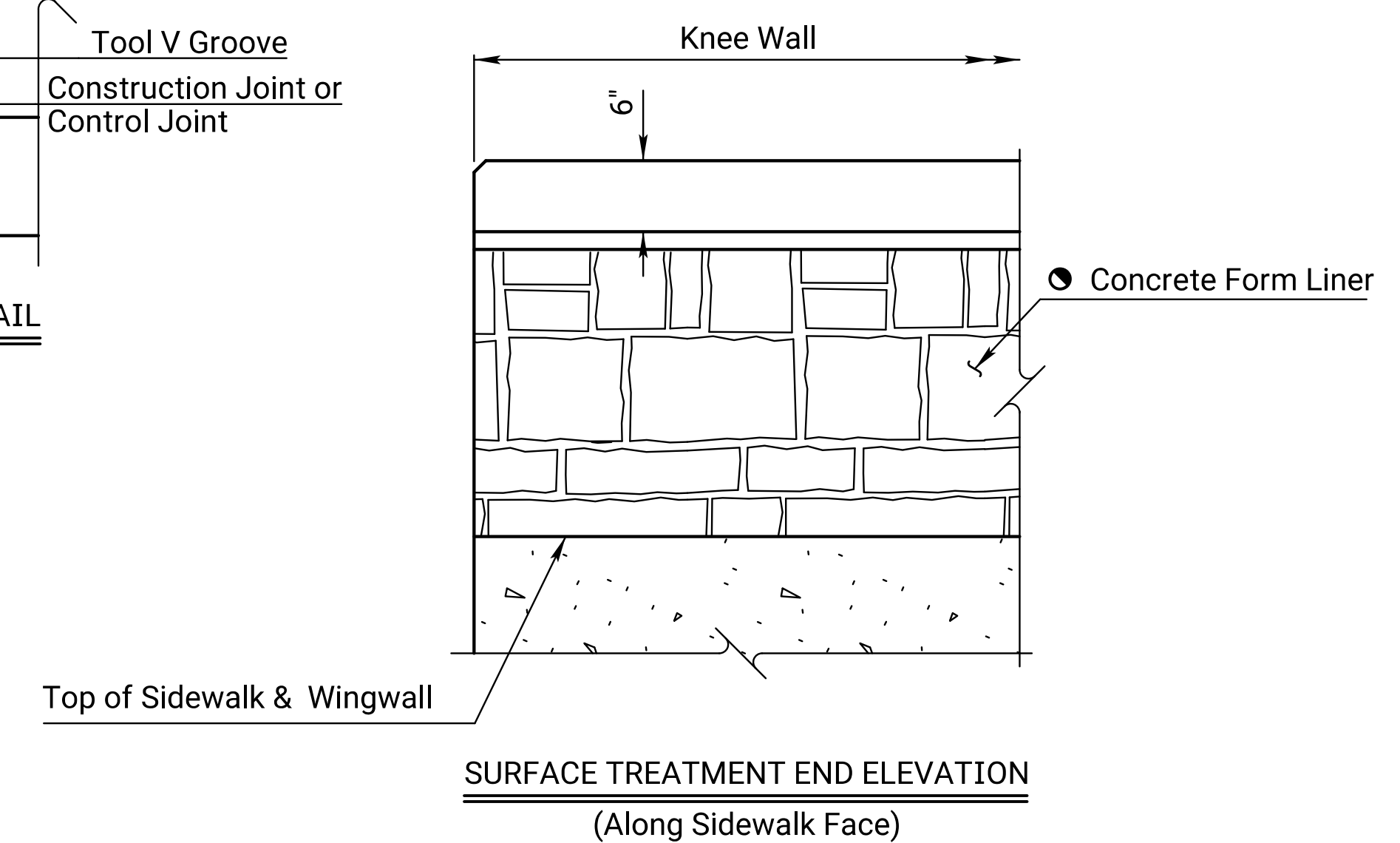
† As an aid in supporting reinforcement, additional longitudinal bars may be used in the slab with the approval of the Engineer. Such bars will be furnished at the contractor's expense.
 †† Top longitudinal approach slab bar may be adjusted laterally 3"± to tie reinforcing.



OPEN JOINT DETAIL



DETAIL A



SURFACE TREATMENT END ELEVATION
 (Along Sidewalk Face)

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

KNEE WALL DETAILS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 BRIDGE NO. 421950462874056 (LPA ID: 056)
 OVERLAND PARK, KANSAS
 2025

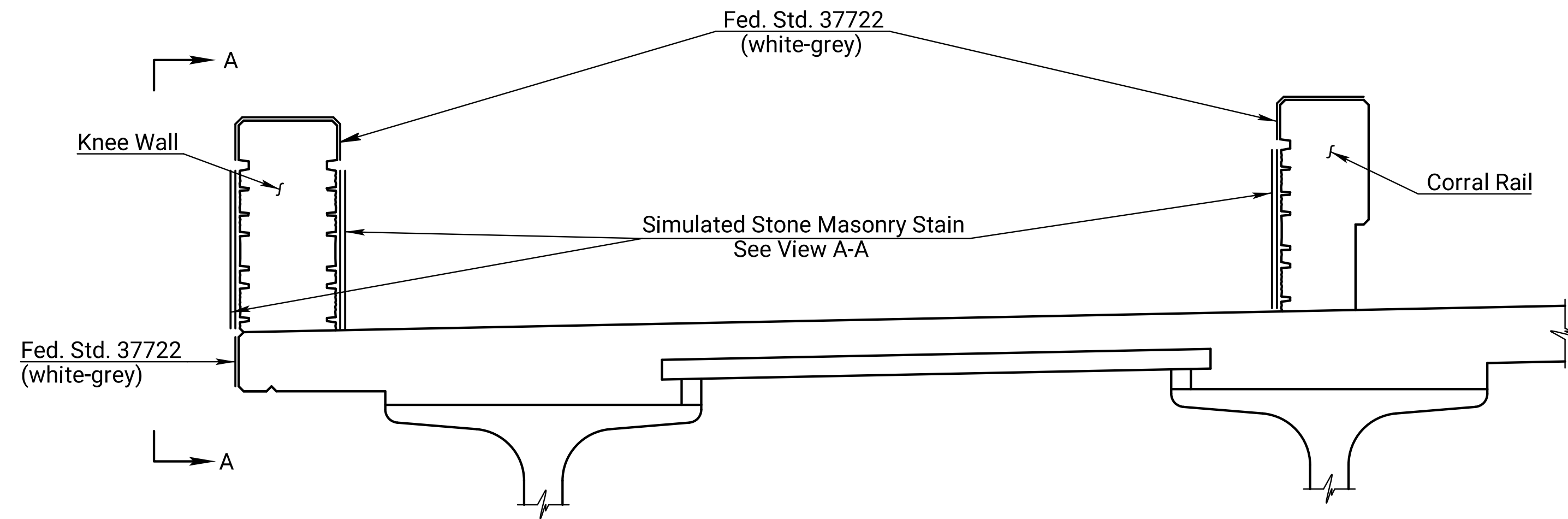
drawn by: ZDD
 checked by: KAS
 approved by: KAS
 QA/QC by: GCL
 project no.: 022-08529
 drawing no.:
 date: 01/31/2025

For complete description of the form liner and pigmented stain treatment, see Sheet 90.

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

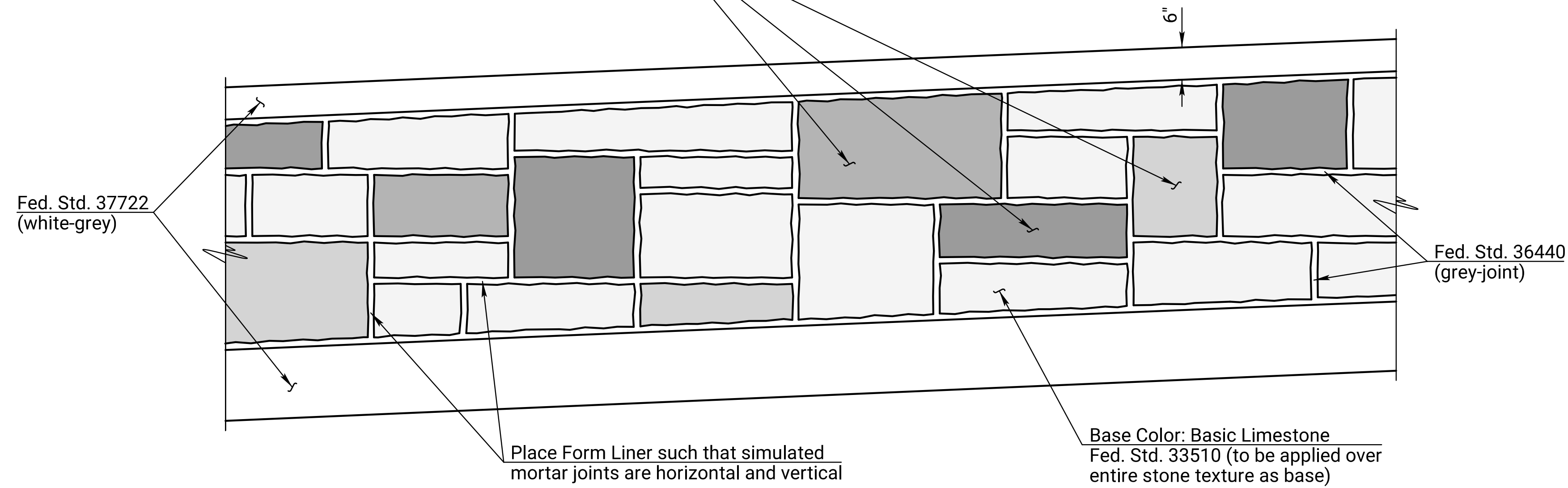
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LIMITS OF PIGMENTED STAIN

Formed stone surfaces will receive a second coat of blended colors: Fed. Std. 30318 (dark grey), 33448 (yellow), 30257 (orange), and Sherwin-Williams 6151 (Quiver Tan). See Special Provisions for Simulated Stone Masonry Stain.



Place Form Liner such that simulated mortar joints are horizontal and vertical

Base Color: Basic Limestone
Fed. Std. 33510 (to be applied over entire stone texture as base)

VIEW A-A

CONCRETE FORM LINER:

The Contractor shall submit the proposed form liner for the vertical faces of the knee wall and the sidewalk face of the corral rail for review and approval prior to placing concrete for the knee wall or corral rail. Patterning of simulated stone masonry shall appear natural and non-repeating. The depth of relief for the form line shall vary up to 1 1/2". The height of any single "stone" shall be 15 inches maximum. Form liner pattern shall be Symons Corporation "Southwest Ashlar Stone" or an approved equal may be used.

Exposed surfaces outside the limits of the ashlar stone surface treatment shall be given a rubbed finish.

Concrete form liner shall be subsidiary to "KCMMB 5K Concrete".

PIGMENTED STAIN TREATMENTS FOR CONCRETE:

Apply a pigmented stain to the top of surface and sidewalk face of the corral rail, the bridge slab fascia, and the top surface and front and back faces of the concrete knee wall. Color for each component is defined on the adjacent detail using standard color number references fro, Federal Standard 595B.

All flat concrete surfaces designated to receive a single color treatment (white-grey) will be coated with "Concrete Masonry Coating". All Ashlar Stone textured surfaces designated to receive a variable color treatment will be coated with "Simulated Stone Masonry Stain". See the Project Specifications for complete description of these two items.

Applications of the "Simulated Stone Masonry" system is designed to duplicate closely the appearance of natural limestone on simulated masonry formed concrete surfaces. The Contractor shall schedule a pre-construction conference with the Architect/Engineer, and manufacturer's representative to assure understanding of simulated stone masonry, color application, requirements for construction of mock-up, and to coordinate the work.

Prior to commencement of stain application to the finished surfaces, a mock-up panel will be created, using same materials, methods and work force that will be used for the project. Upon approval by the Architect/Engineer and Owner, mock-up shall be located at the project site and serve as quality reference standard for the duration of the project. The special surface finish of the finished work shall achieve the same final effect as demonstrated on the approved color mock-up panel.

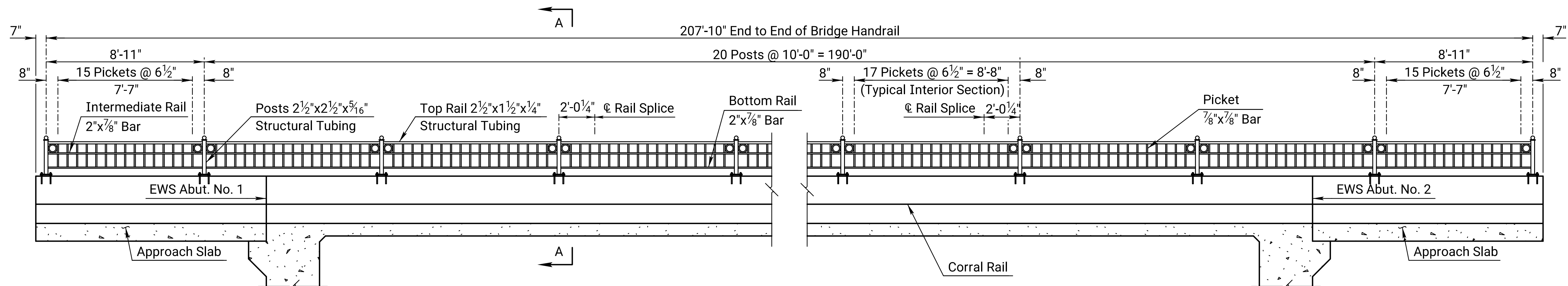
The form release agent used on concrete surfaces to be coated, shall be compatible with simulated stone masonry molds and with color stain system to be applied to surface. Consult manufacturer of the color stain system.

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

CORRAL RAIL AND KNEE WALL AESTHETIC DETAILS	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK BRIDGE NO. 421950462874056 (LPA ID: 056)	
OVERLAND PARK, KANSAS	

drawn by:	ZDD
checked by:	KAS
approved by:	KAS
QA/QC by:	GCL
project no.:	022-08529
drawing no.:	
date:	01/31/2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



BRIDGE HANDRAIL ELEVATION
(Looking @ Traffic Face of North Corral Rail)
(Handrail on Corral Rail Shown, Handrail on Knee Wall Similar))

BRIDGE HANDRAIL NOTES:
Top rails shall be 2 1/2"x1 1/2"x1/4" Hollow Structural Sections (HSS). All posts shall be 2 1/2"x2 1/2"x5/16 HSS. All HSS members shall conform to ASTM A500, Grade B.

Pickets shall be 7/8"x7/8" steel bar. Intermediate and bottom rails, pickets, and base plates shall conform to ASTM A709 (Grade 36).

Galvanize all anchor bolts and galvanize and paint all rails, posts, pickets and base plates after fabrication. Galvanization shall be in accordance with ASTM A123. The paint system shall be as described in Section 1805 of the KDOT Standard Specifications. The finish coat shall be a high-build polyurethane powder coat. Color of the finish coat shall be black. After preparing surfaces of partially weathered galvanized steel, as described in ASTM D 6386, apply to all of the galvanized materials, a two-component, 98-percent polymeric epoxy, amido-amine primer tiecoat of approximately 1-2 mils in thickness prior to application of the finish coat. Follow the manufacturer's recommendation for application and cure time.

Anchors, nuts, and washers shall be galvanized in accordance with ASTM A153 and Sec. 1081.

Nuts shall conform to ASTM A307. Nuts shall be regular hexagon type. Washers shall be of standard commercial quality.

Construct bridge handrail according to Section 721 of the KDOT Standard Specifications. Set rail parallel to the top of knee wall or corral rail. Set all posts and pickets vertical, both in and out of plane of the handrail. Leveling nuts shall be used between concrete and base plate of steel post. Fabricate handrail in lengths to include a minimum of 2 and a maximum of 3 sections. Locate center of rail splices 2'-0 1/4" from centerline of posts. Fabricate handrail in lengths shown.

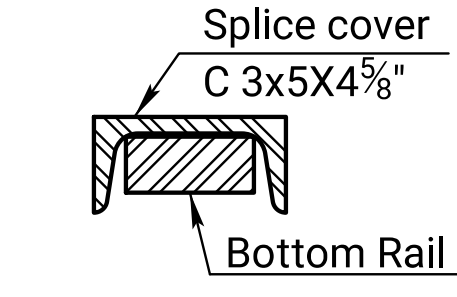
All rail-to-post welded connections shall be ground smooth. Use E70XX electrodes for all welding. Field welding is not permitted.

Anchor bolt embedment depth shall conform to manufacturer's recommendations for the specific anchor system for embedment into 4,000 psi concrete and a minimum factored tensile load of 2,000 pounds. Tensile resistance of the anchors shall be determined in accordance with AASHTO LRFD Specifications. Concrete anchor breakout and pullout resistance shall be determined in accordance with strength design provisions of ACI 318-11, Appendix D. The contractor shall submit verification from the anchor system manufacturer that the anchor system is adequate to resist the specified factored load.

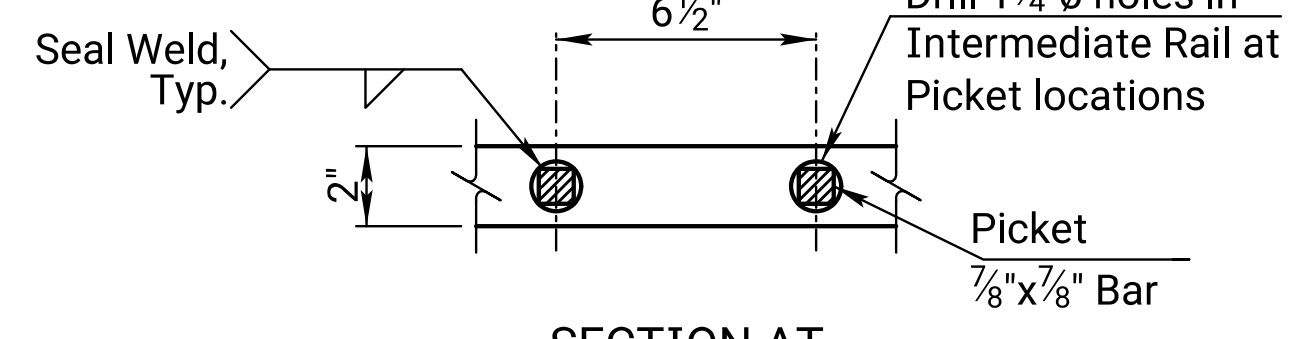
All material, labor, splices, galvanizing, painting, and installation shall be paid for under the bid item "Bridge Handrail (Metal) (1'-10")". The bridge handrail is to be bid on a per linear foot basis measured from end to end of handrail.

Contractor shall verify dimensions prior to fabrication. The Contractor shall submit shop drawings to the Engineer for approval prior to fabrication of the handrail.

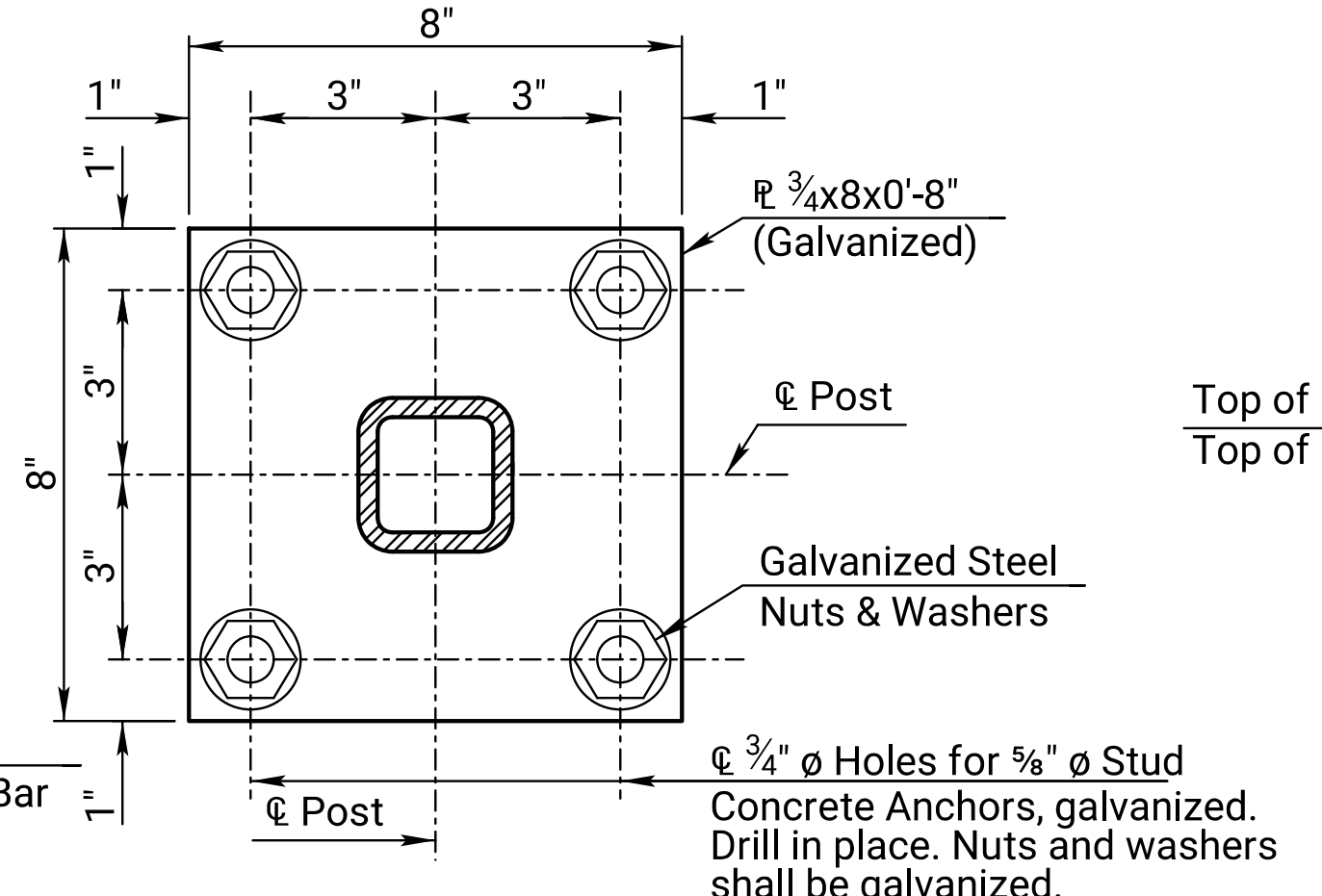
NOTES:
For Corral Rail Details, see Sheets 88.
For Knee Wall Details, see Sheets 89.
For Additional Details of Handrails on NE Corral Rail on Approach Slab, see Sheet 44.
For Additional Details of Handrails on NE Knee Wall on Approach Slab and Sidewalk, see Sheet 46.



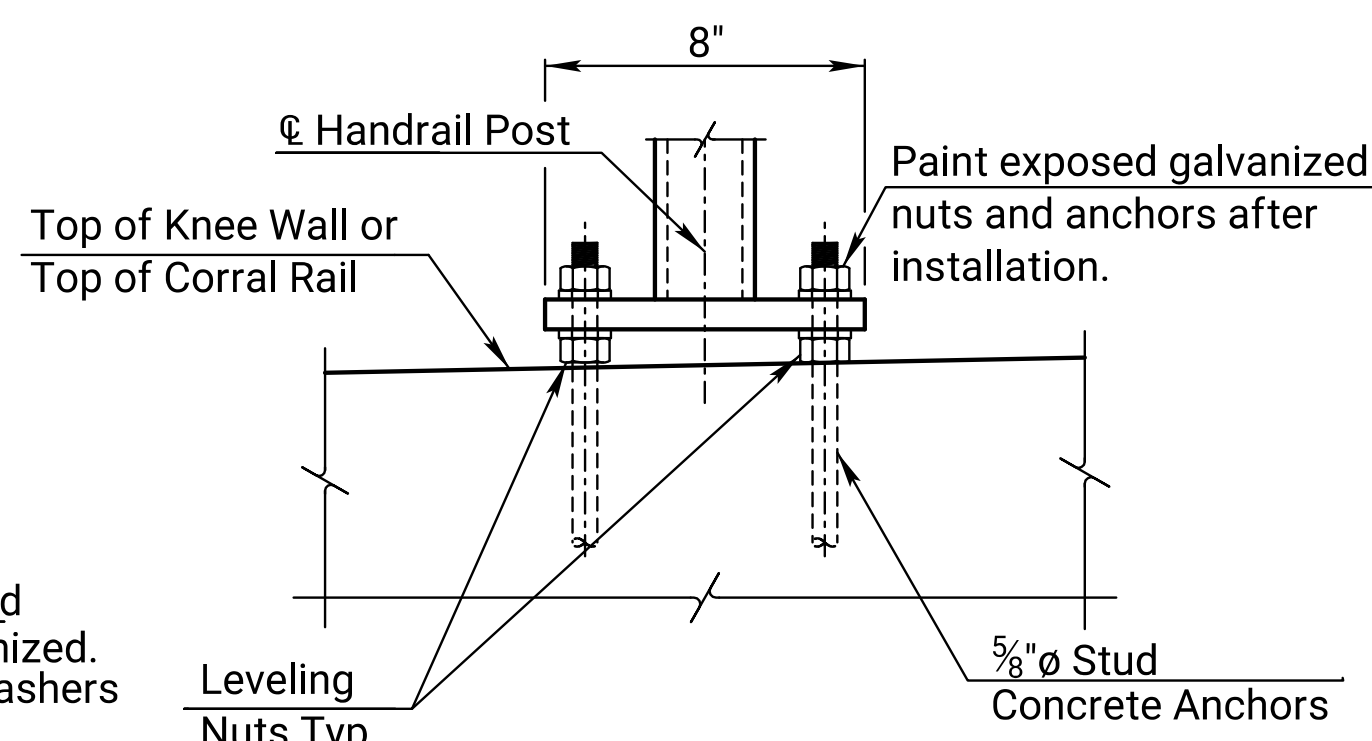
SECTION B-B



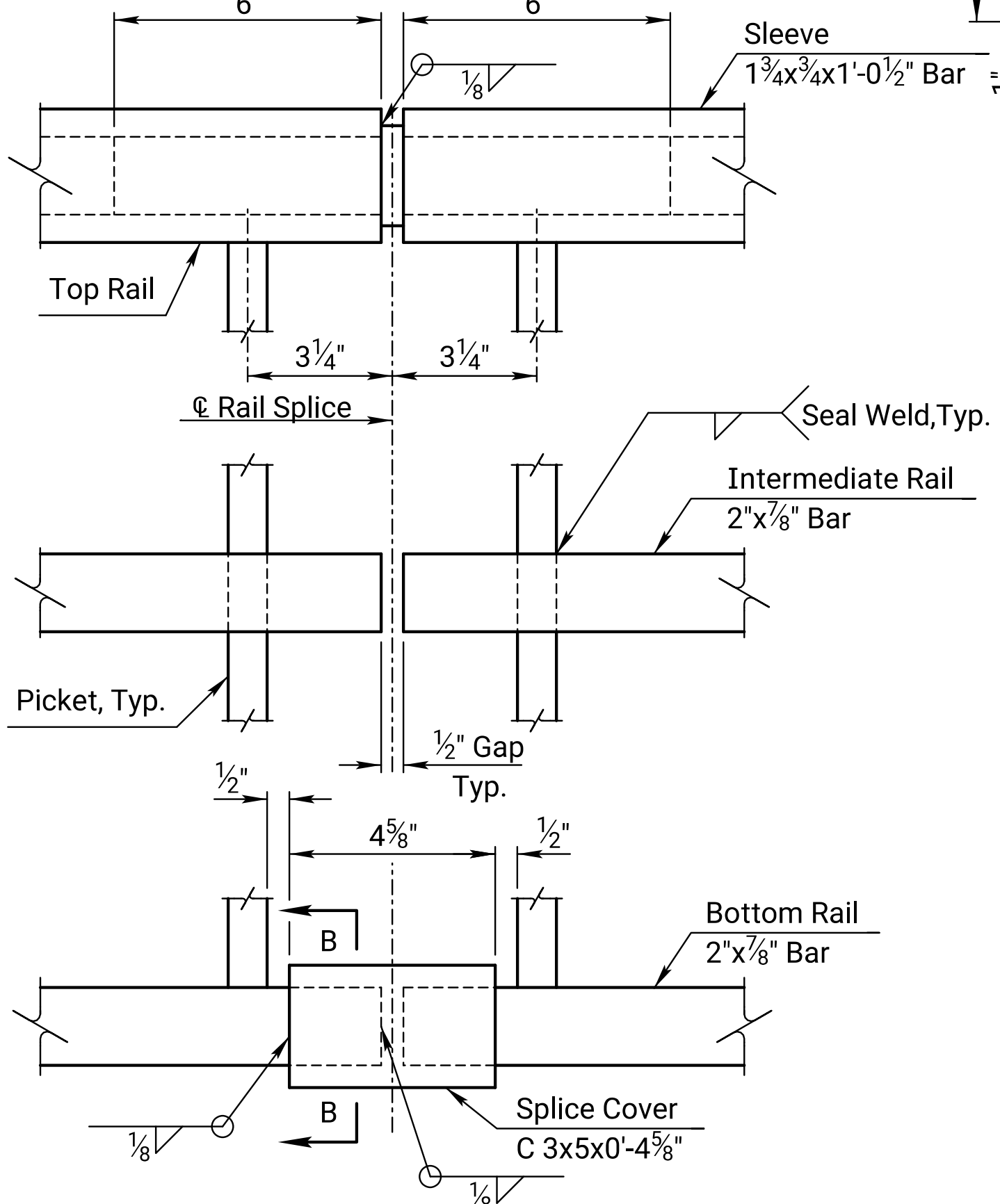
SECTION AT INTERMEDIATE RAIL



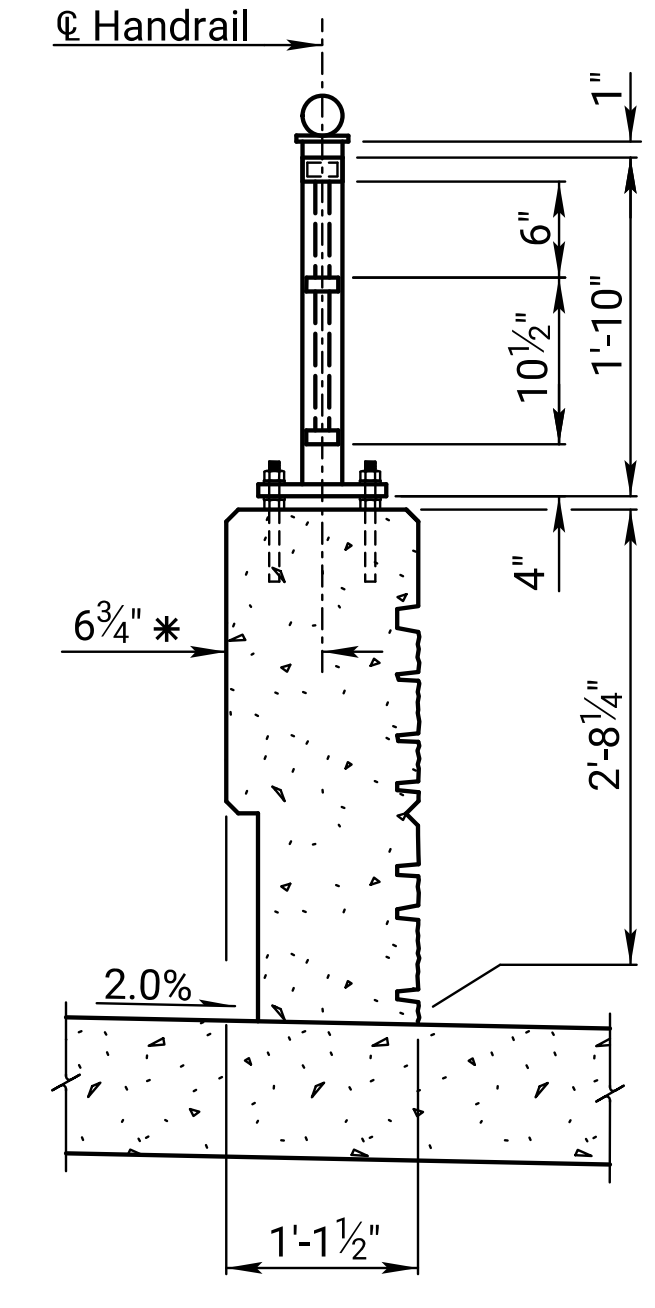
BASE PLATE DETAIL



LEVELING PAD DETAIL

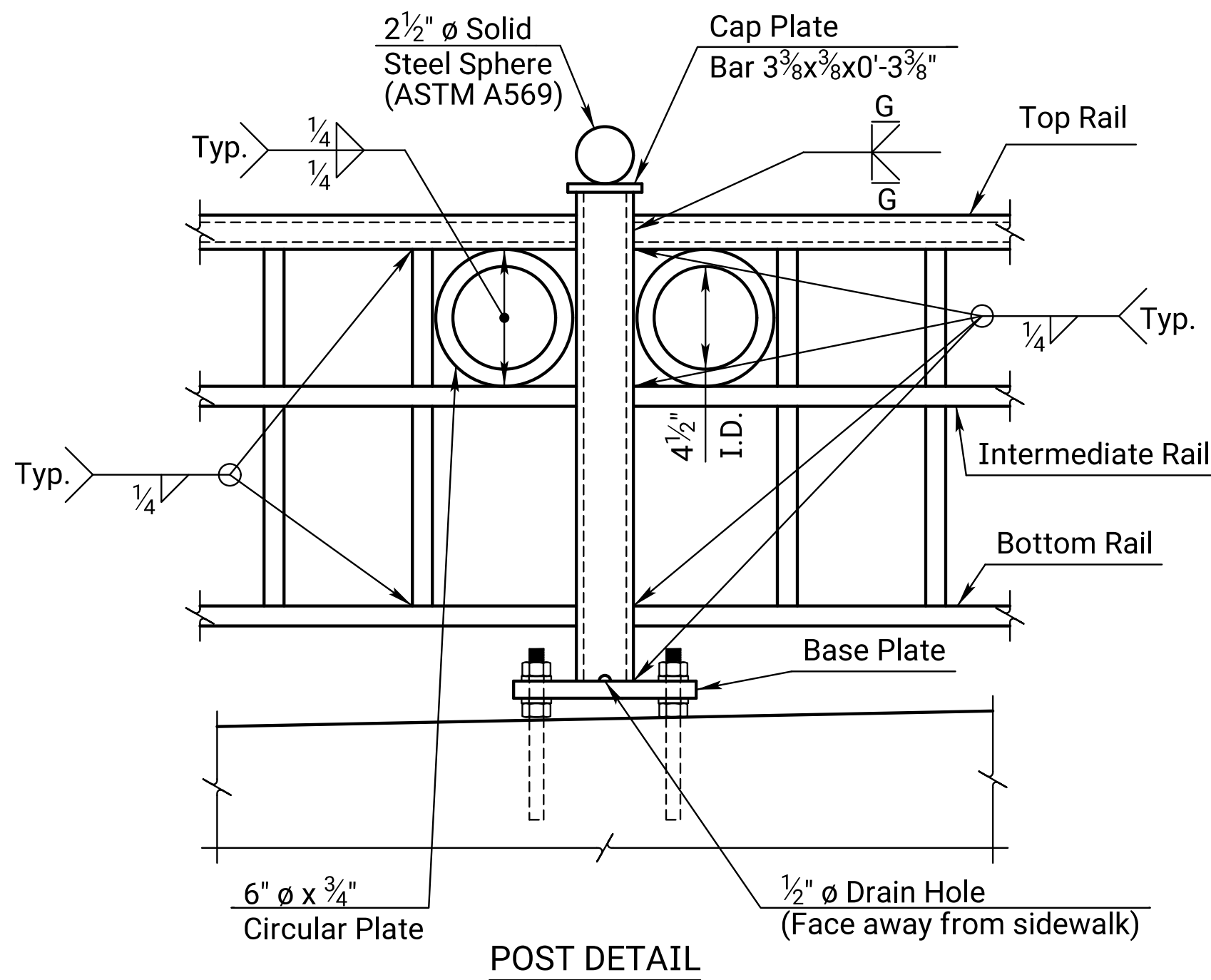


RAIL SPLICE DETAIL



SECTION A-A

Corral Rail shown, Knee Wall Similar.
* 6 3/4" for Corral Rail, 7 1/2" for Knee Wall



POST DETAIL

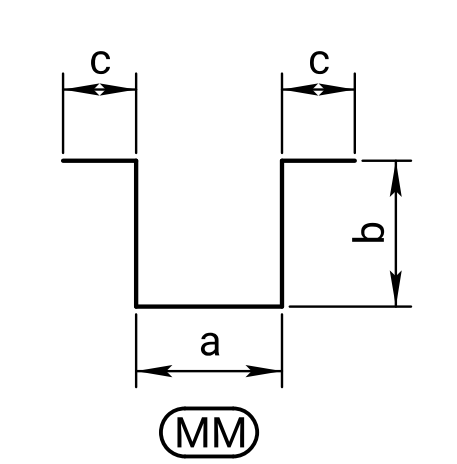
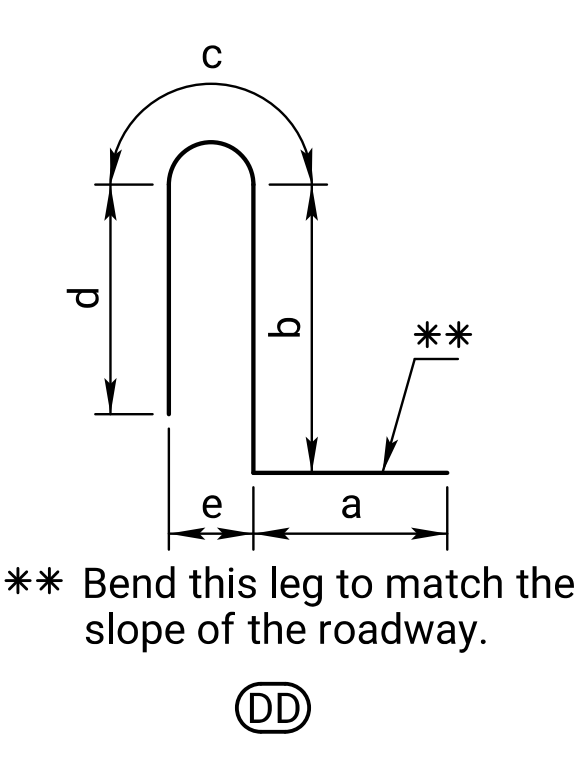
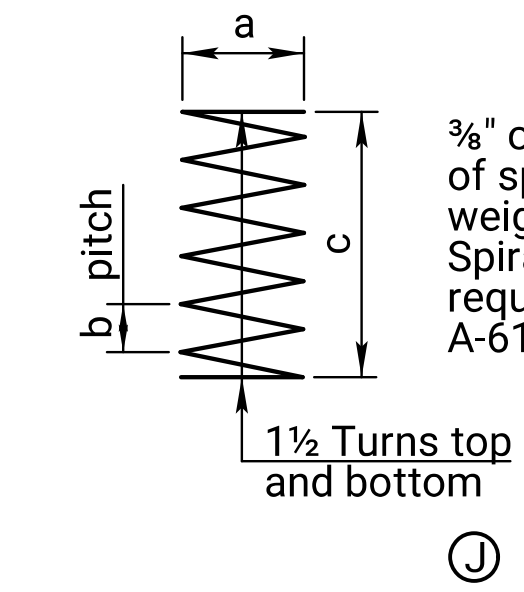
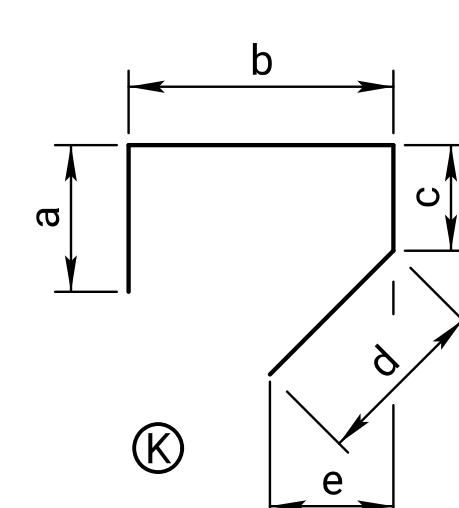
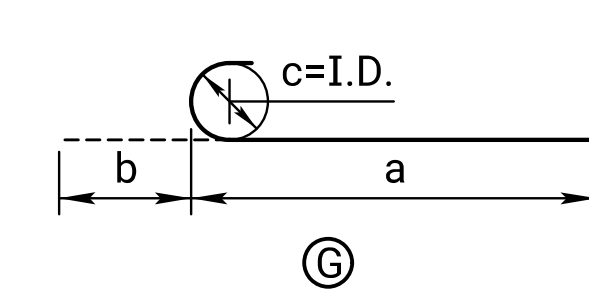
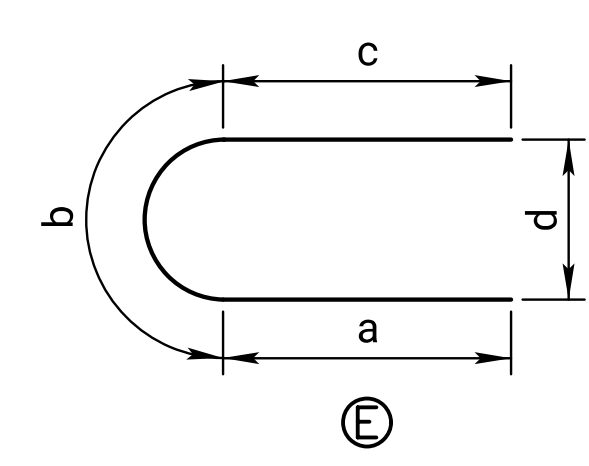
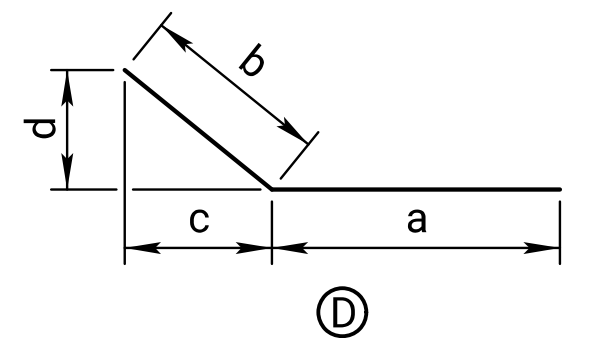
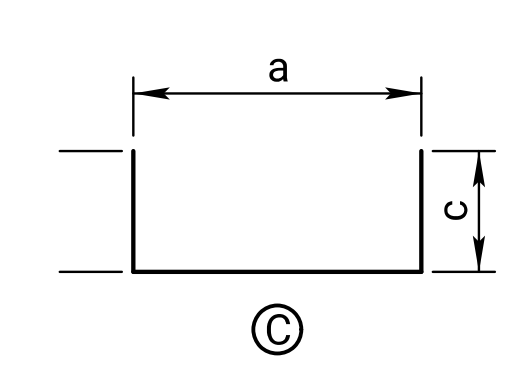
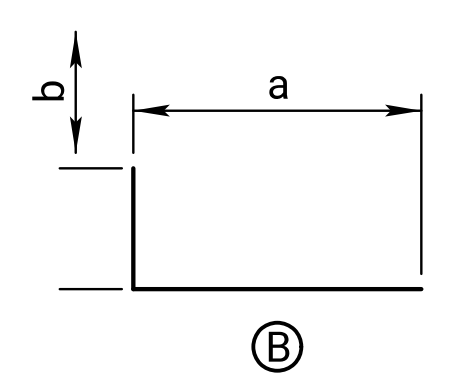
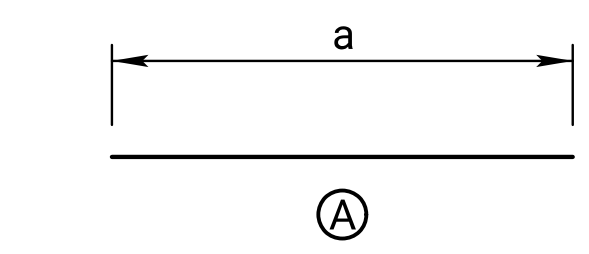
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

BRIDGE HANDRAIL DETAILS	
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK BRIDGE NO. 421950462874056 (LPA ID: 056)	2025
OVERLAND PARK, KANSAS	
drawn by: ZDD	
checked by: KAS	
approved by: KAS	
QA/QC by: GCL	
project no.: 022-06522	
drawing no.:	
date: 01/31/2025	

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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LOC.	DESIGN MARK	BENDING MARK	SIZE	NO.	LENGTH	DIMENSIONS															
						a	b	c	d	e	f										
ABUTMENT NO. 1 (EPOXY COATED)											A100	A	8	24	46'-1"	46'-1"					
											A101	A	5	18	44'-7"	44'-7"					
											A110	C	5	29	16'-0"	2'-8"	6'-8"	6'-8"			
											A111	C	5	19	12'-5"	2'-8"	6'-8"	3'-1"			
											A112	C	5	48	8'-4"	2'-8"	2'-10"	2'-10"			
											A113	C	5	51	17'-4"	2'-8"	7'-4"	7'-4"			
											A114	C	5	39	13'-8"	2'-8"	7'-4"	3'-7½"			
											A115	C	5	90	9'-0"	2'-8"	3'-2"	3'-2"			
											W103	A	5	10	7'-8"	7'-8"					
											W104	D	6	14	9'-0"	5'-11"	3'-1"	11¼"	2'-11¼"		
W106	A	5	9	6'-10"	6'-10"																
W107	A	5	9	7'-2"	7'-2"																
W108	A	6	7	5'-10"	5'-10"																
W109	A	6	7	6'-2"	6'-2"																
ABUTMENT NO. 2 (EPOXY COATED)											A200	A	8	24	46'-1"	46'-1"					
											A201	A	5	18	44'-7"	44'-7"					
											A210	C	5	29	16'-0"	2'-8"	6'-8"	6'-8"			
											A211	C	5	19	12'-5"	2'-8"	6'-8"	3'-1"			
											A212	C	5	48	8'-4"	2'-8"	2'-10"	2'-10"			
											A213	C	5	51	17'-4"	2'-8"	7'-4"	7'-4"			
											A214	C	5	39	13'-8"	2'-8"	7'-4"	3'-7½"			
											A215	C	5	90	9'-0"	2'-8"	3'-2"	3'-2"			
											W203	A	5	10	7'-8"	7'-8"					
											W204	D	6	14	9'-0"	5'-11"	3'-1"	11¼"	2'-11¼"		
W206	A	5	9	6'-10"	6'-10"																
W207	A	5	9	7'-2"	7'-2"																
W208	A	6	7	5'-10"	5'-10"																
W209	A	6	7	6'-2"	6'-2"																
PIER NO. 1 (UNCOATED)											BB1	G	9	16	10'-3"	9'-0"	1'-3"	9½"			
											BB2	A	9	16	60'-0"	60'-0"					
											BB3	A	9	24	44'-6"	44'-6"					
											BB4	A	6	36	43'-6"	43'-6"					
											BB5	C	6	400	11'-8"	3'-2"	4'-3"	4'-3"			
											BB6	C	6	112	10'-3"	2'-1"	4'-1"	4'-1"			
											BB7	C	5	16	7'-0"	3'-0"	2'-0"	2'-0"			
											BB8	A	6	144	4'-0"	4'-0"					
											BC1	A	8	84	17'-7"	17'-7"					
											BC2	J	3/8"Ø	6	SPIRAL	2'-8"	6"	14'-7"			
PIER NO. 2 (UNCOATED)											CB1	G	9	16	10'-3"	9'-0"	1'-3"	9½"			
											CB2	A	9	16	60'-0"	60'-0"					
											CB3	A	9	24	44'-6"	44'-6"					
											CB4	A	6	36	43'-6"	43'-6"					
											CB5	C	6	400	11'-8"	3'-2"	4'-3"	4'-3"			
											CB6	C	6	112	10'-3"	2'-1"	4'-1"	4'-1"			
											CB7	C	5	16	7'-0"	3'-0"	2'-0"	2'-0"			
											CB8	A	6	114	4'-0"	4'-0"					
											CC1	A	8	84	14'-11"	14'-11"					
											CC2	J	3/8"Ø	6	SPIRAL	2'-8"	6"	11'-11"			



3/8" or 1/2" Dia. smooth bar. Weight of spiral spacer bars is included in the weight of reinforcing steel. Spiral reinforcing shall meet the requirements of either ASTM A-615 or A-82.

Notes:
 (A) denotes bending mark. Dimensions are out to out, unless noted otherwise.
 No allowance for bend curvature is to be made except for standard hook and radii in excess of same.
 All reinforcing steel shall conform to the requirements of ASTM A615, Grade 60.

BENDING DIAGRAMS
 (All dimensions are out to out of bars.)

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

BILL OF REINFORCING (1 OF 2)
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 BRIDGE NO. 421950462874056 (LPA ID: 056)
 OVERLAND PARK, KANSAS
 2025

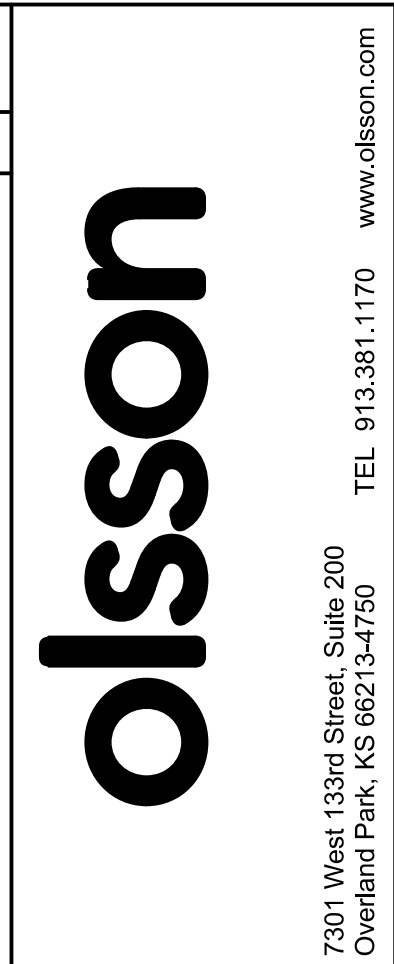
LOC.	DESIGN MARK	BENDING MARK	SIZE	NO.	LENGTH	DIMENSIONS					
						a	b	c	d	e	f
	A100	A	8	12	46'-1"	46'-1"					
	A101	A	5	12	44'-7"	44'-7"					
	A102	A	5	12	6'-6"	6'-6"					
	A103	A	5	24	8'-9"	8'-9"					
	A104	A	5	12	6'-5"	6'-5"					
	A105	A	5	2	2'-2"	2'-2"					
	A106	A	5	4	3'-0"	3'-0"					
	A107	A	5	2	1'-11"	1'-11"					
	A108	A	4	6	43'-1"	43'-1"					
	A109	A	8	6	46'-1"	46'-1"					
	A116	C	5	80	9'-4"	2'-8"	3'-4"	3'-4"			
	A117	B	5	58	6'-0"	2'-8"	3'-4"				
	A118	K	4	132	6'-5"		3'-6"	9"	2'-2"	1'-6 ³ / ₈ "	
	A119	G	4	126	4'-5"	3'-10"	7"	3 ³ / ₄ "			
	W100	A	6	16	15'-8"	15'-8"					
	W101	A	5	10	15'-8"	15'-8"					
	W102	D	6	10	11'-9"	8'-8"	3'-1"	11 ¹ / ₄ "	2'-11 ¹ / ₄ "		
	W105	A	5	36	3'-4"	3'-4"					
	A200	A	8	12	46'-1"	46'-1"					
	A201	A	5	12	44'-7"	44'-7"					
	A202	A	5	12	6'-6"	6'-6"					
	A203	A	5	24	8'-9"	8'-9"					
	A204	A	5	12	6'-5"	6'-5"					
	A205	A	5	2	2'-2"	2'-2"					
	A206	A	5	4	3'-0"	3'-0"					
	A207	A	5	2	1'-11"	1'-11"					
	A208	A	4	6	43'-1"	43'-1"					
	A209	A	8	6	46'-1"	46'-1"					
	A216	C	5	80	9'-4"	2'-8"	3'-4"	3'-4"			
	A217	B	5	58	6'-0"	2'-8"	3'-4"				
	A218	K	4	132	6'-5"		3'-6"	9"	2'-2"	1'-6 ³ / ₈ "	
	A219	G	5	126	4'-5"	3'-10"	7"	3 ³ / ₄ "			
	W200	A	6	16	15'-8"	15'-8"					
	W201	A	5	10	15'-8"	15'-8"					
	W202	D	6	10	11'-9"	8'-8"	3'-1"	11 ¹ / ₄ "	2'-11 ¹ / ₄ "		
	W205	A	5	36	3'-4"	3'-4"					
	D1	A	8	88	6'-7"	6'-7"					
	D2	A	4	12	43'-3"	43'-3"					
	D3	A	6	48	5'-7"	5'-7"					
	D4	A	6	48	6'-5"	6'-5"					
	D5	A	4	96	9'-2"	9'-2"					
	D6	MM	4	144	11'-8"	2'-0"	3'-4"	1'-6"			
	D7	C	5	8	4'-10"	1'-10 ¹ / ₂ "	1'-6"	1'-6"			
	D8	A	5	16	3'-4"	3'-4"					
	D9	MM	6	48	11'-7"	2'-0"	2'-7 ¹ / ₂ "	2'-2"			
	D10	MM	6	48	13'-0"	2'-0"	3'-4"	2'-2"			
	D11	MM	6	8	11'-5"	2'-0"	2'-6 ³ / ₄ "	2'-2"			
	D12	A	8	16	5'-5"	5'-5"					

SUPERSTRUCTURE (EPOXY COATED)

LOC.	DESIGN MARK	BENDING MARK	SIZE	NO.	LENGTH	DIMENSIONS					
						a	b	c	d	e	f
	S1	A	8	404	50'-0"	50'-0"					
	S2	B	6	302	15'-0"	13'-0"	2'-0"				
	S3	A	5	616	47'-6"	47'-6"					
	S4	A	5	706	59'-5"	59'-5"					
	S5	A	5	353	13'-6"	13'-6"					
	S6	A	5	354	5'-0"	5'-0"					
	S7	A	5	354	12'-8"	12'-8"					
	S8	A	5	177	22'-8"	22'-8"					
	R1	DD	4	708	3'-9"	8"	1'-2 ⁵ / ₈ "	7 ¹ / ₂ "	1'-2 ⁵ / ₈ "	4 ³ / ₄ "	
	R2	C	4	732	5'-5"	7"	2'-5"	2'-5"			
	R3	E	4	24	6'-0"	2'-7 ⁷ / ₈ "	7 ¹ / ₂ "	2'-7 ⁷ / ₈ "	4 ³ / ₄ "		
	R4	A	4	32	31'-4"	31'-4"					
	R5	A	4	32	34'-7"	34'-7"					
	R6	A	4	16	55'-2"	55'-2"					
	K1	E	4	140	6'-2"	2'-7 ³ / ₈ "	10 ⁵ / ₈ "	2'-7 ³ / ₈ "	6 ³ / ₄ "		
	K2	DD	4	708	3'-10"	8"	1'-1 ⁵ / ₈ "	10 ⁵ / ₈ "	1'-1 ⁵ / ₈ "	6 ³ / ₄ "	
	K3	C	4	848	5'-7"	9"	2'-5"	2'-5"			
	K4	A	4	32	12'-8"	12'-8"					
	K5	A	4	32	31'-4"	31'-4"					
	K6	A	4	32	34'-7"	34'-7"					
	K7	A	4	16	55'-2"	55'-2"					
	K8	A	4	16	3'-8"	3'-8"					

SUPERSTRUCTURE (EPOXY COATED)

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



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REVISIONS

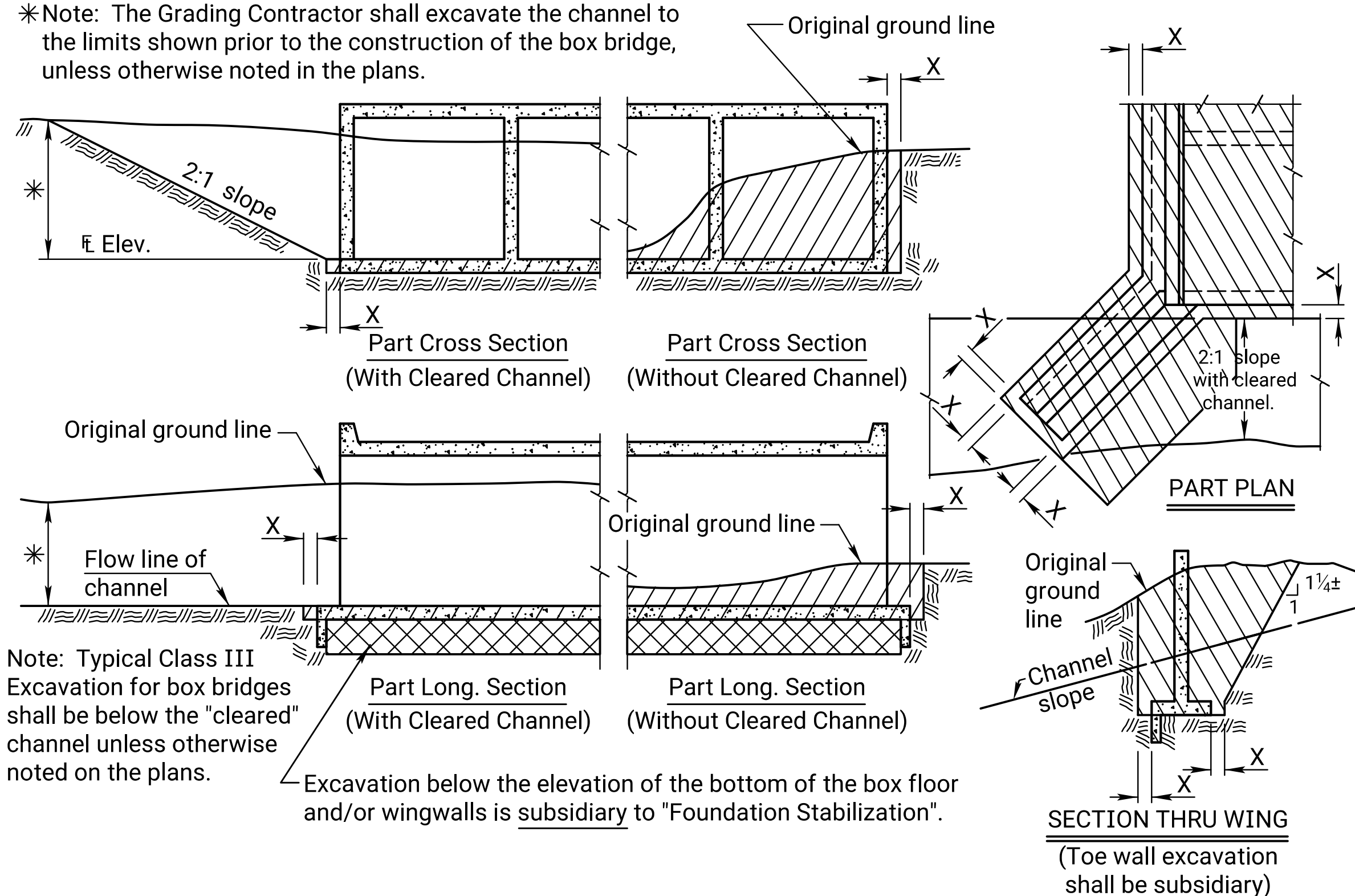
BILL OF REINFORCING (2 OF 2)
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 BRIDGE NO. 421950462874056 (LPA ID: 056)
 OVERLAND PARK, KANSAS

2025

Notes:
For bending diagrams and reinforcing notes, see Sheet 92.

drawn by: ZDD
checked by: KAS
approved by: KAS
QA/QC by: GCL
project no.: 022-08529
drawing no.:
date: 01/31/2025

*Note: The Grading Contractor shall excavate the channel to the limits shown prior to the construction of the box bridge, unless otherwise noted in the plans.

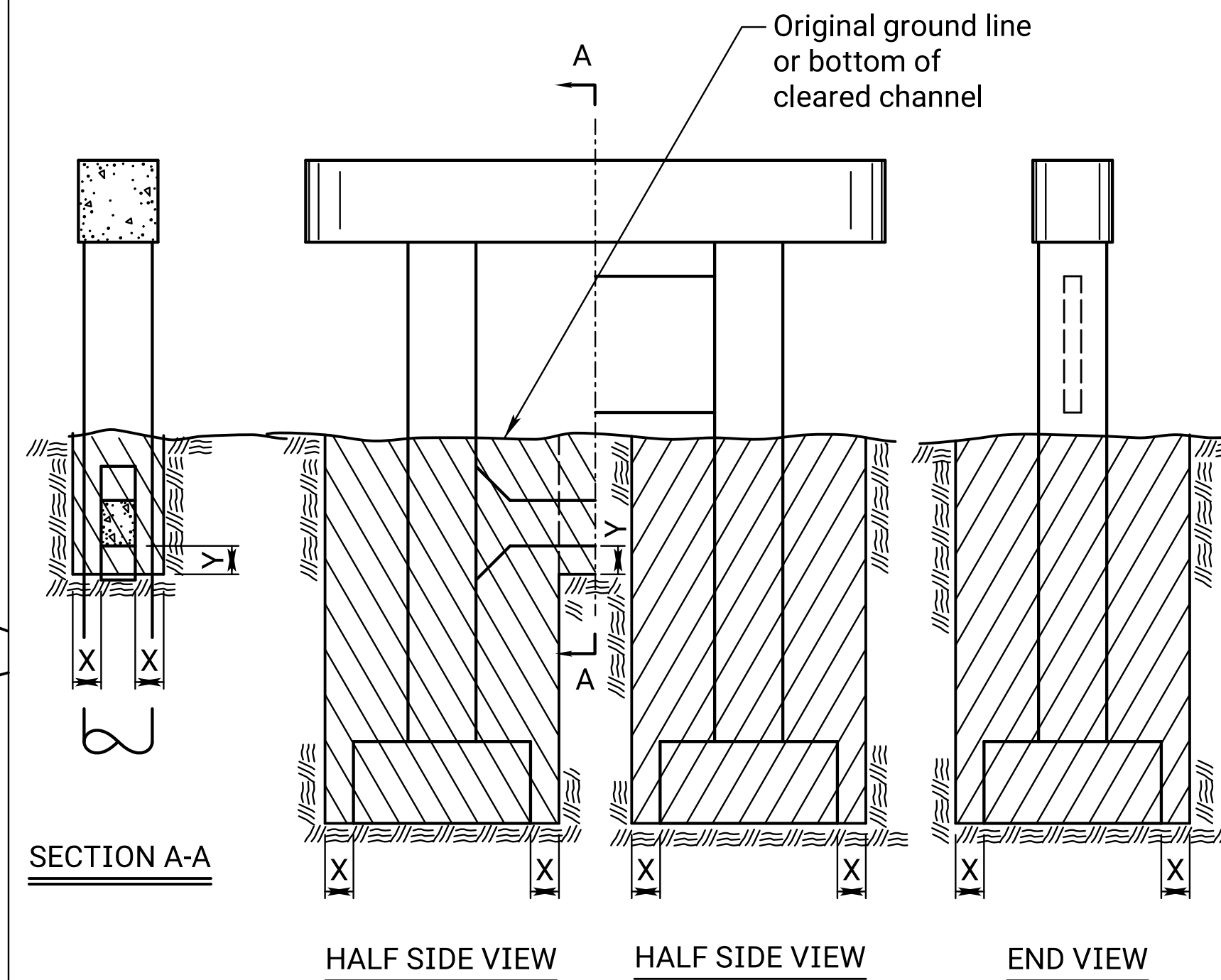


Note: Typical Class III Excavation for box bridges shall be below the "cleared" channel unless otherwise noted on the plans.

Excavation below the elevation of the bottom of the box floor and/or wingwalls is subsidiary to "Foundation Stabilization".

EXCAVATION DETAILS FOR REINFORCED CONCRETE BOX CULVERT

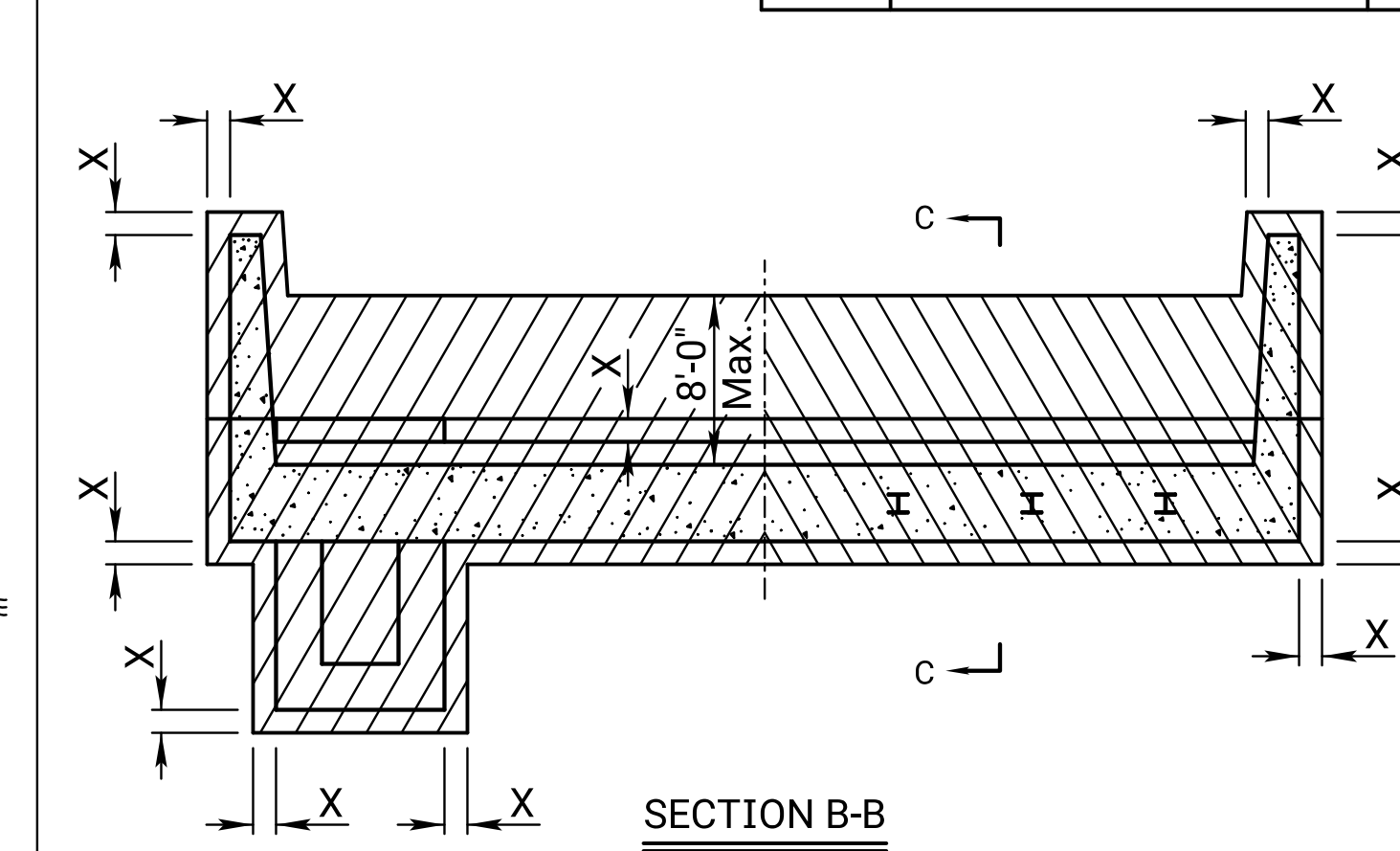
Note: Excavation for culverts less than bridge length and the additional excavation for "Embedded Structures" shall not be paid for as Class III Excavation, but shall be subsidiary to Grade 4.0 Concrete.



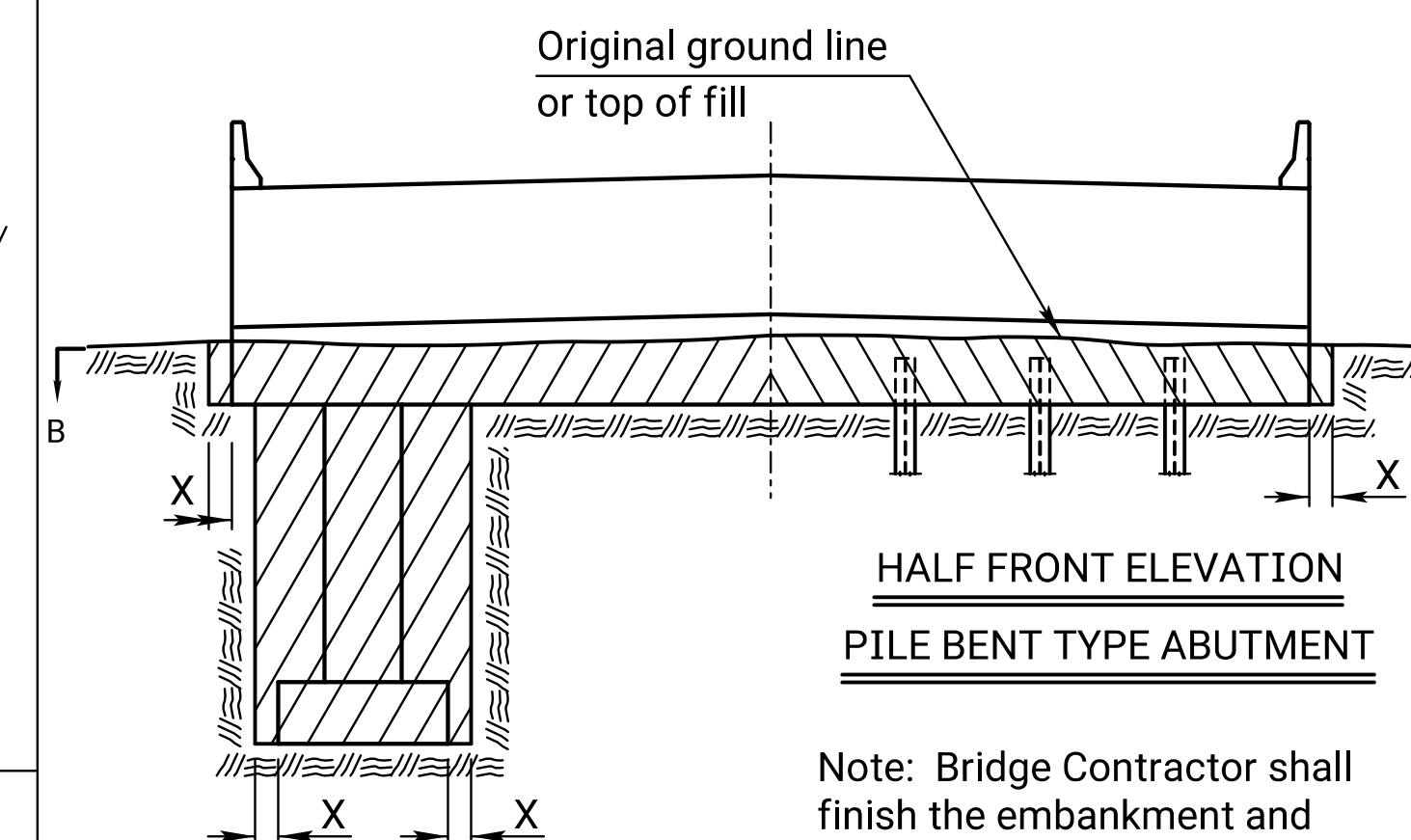
EXCAVATION DETAILS FOR TYPICAL PIERS

See detail when rock or shale (rock) is encountered. ☉

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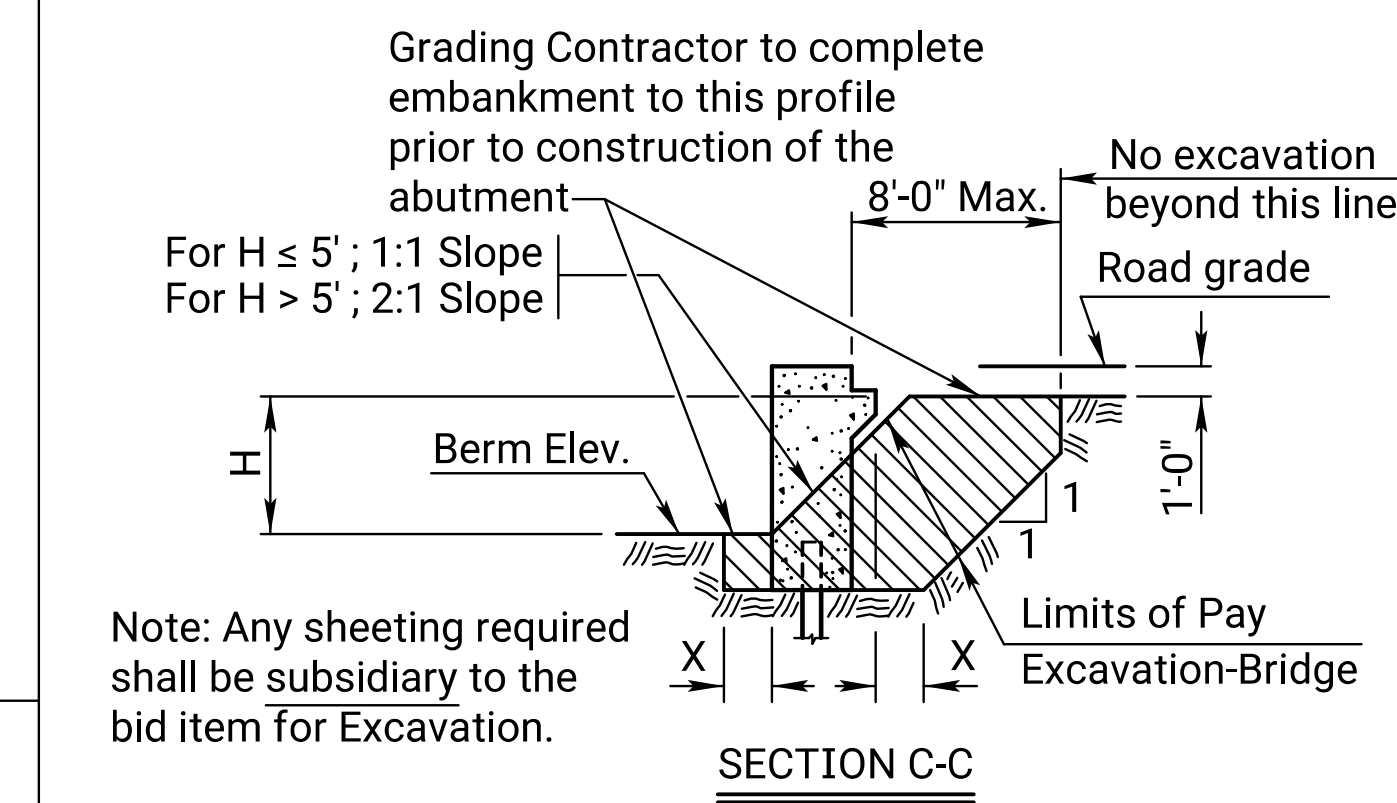
SECTION B-B



HALF FRONT ELEVATION
PILE BENT TYPE ABUTMENT

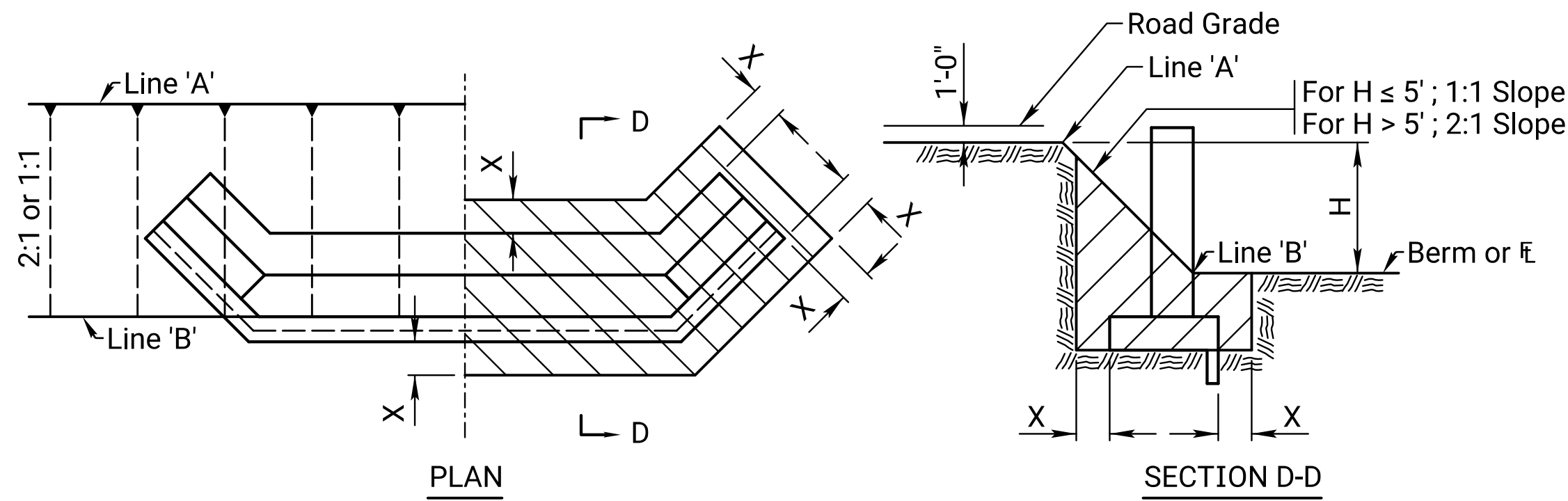
Note: Bridge Contractor shall finish the embankment and berms after the construction of the abutment and dispose of any excess material as approved by the Engineer.

HALF FRONT ELEVATION
PEDESTAL TYPE ABUTMENT



EXCAVATION DETAILS FOR TYPICAL ABUTMENTS

See detail when rock or shale (rock) is encountered. ☉

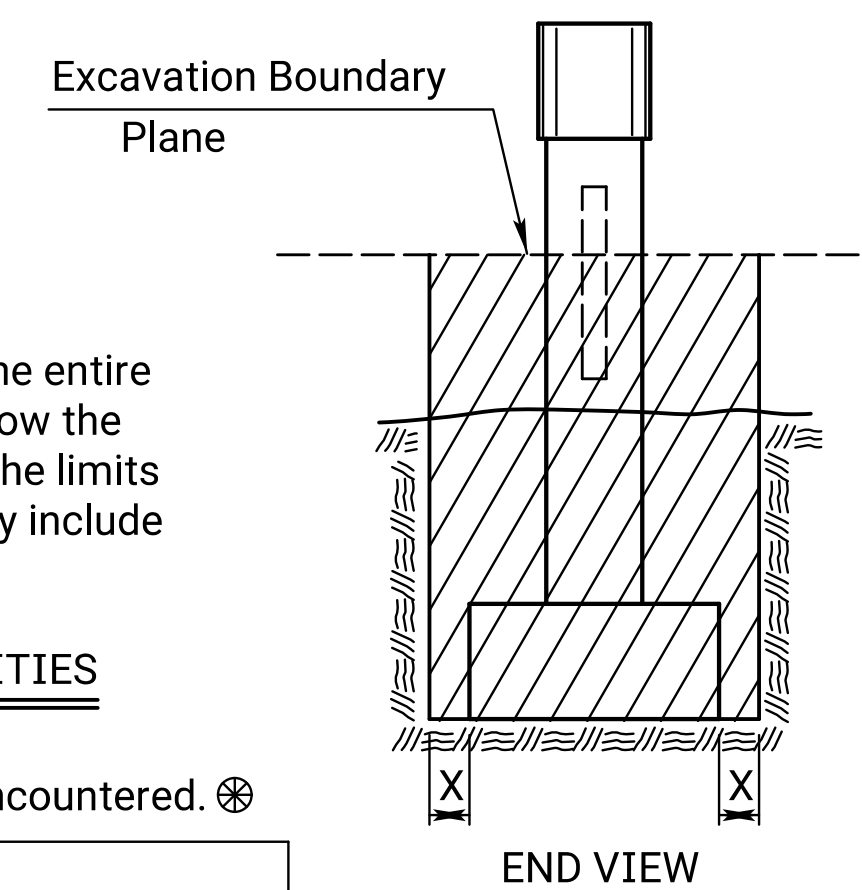


EXCAVATION DETAILS FOR ABUTMENTS WITH FLARED WINGWALLS

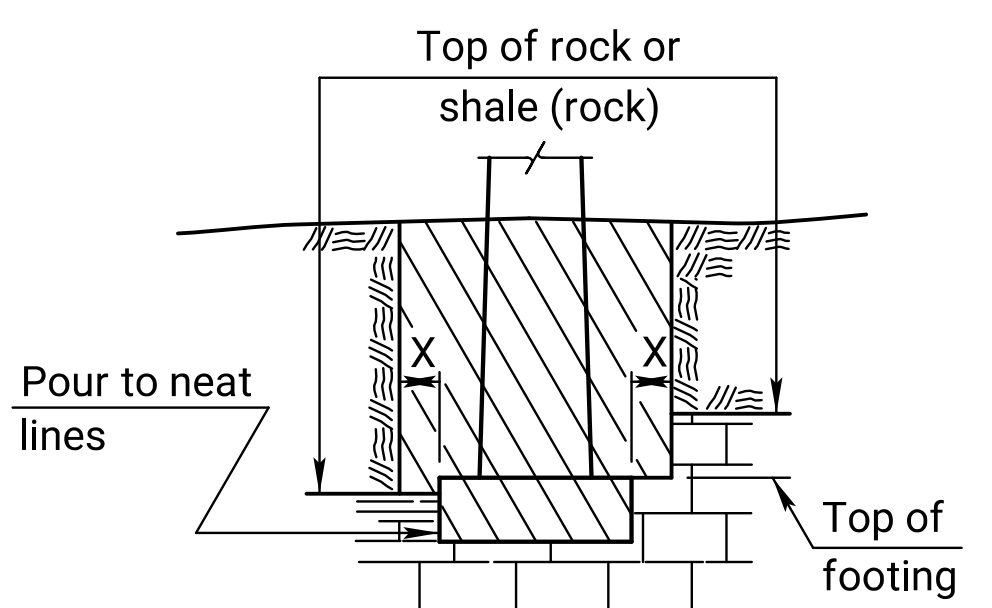
Note: Class II Excavation includes the entire volume of whatever nature found below the "Excavation Boundary Plane", within the limits specified for measurement. This may include water or air.

CLASS II EXCAVATION QUANTITIES

See detail when rock or shale (rock) is encountered. ☉

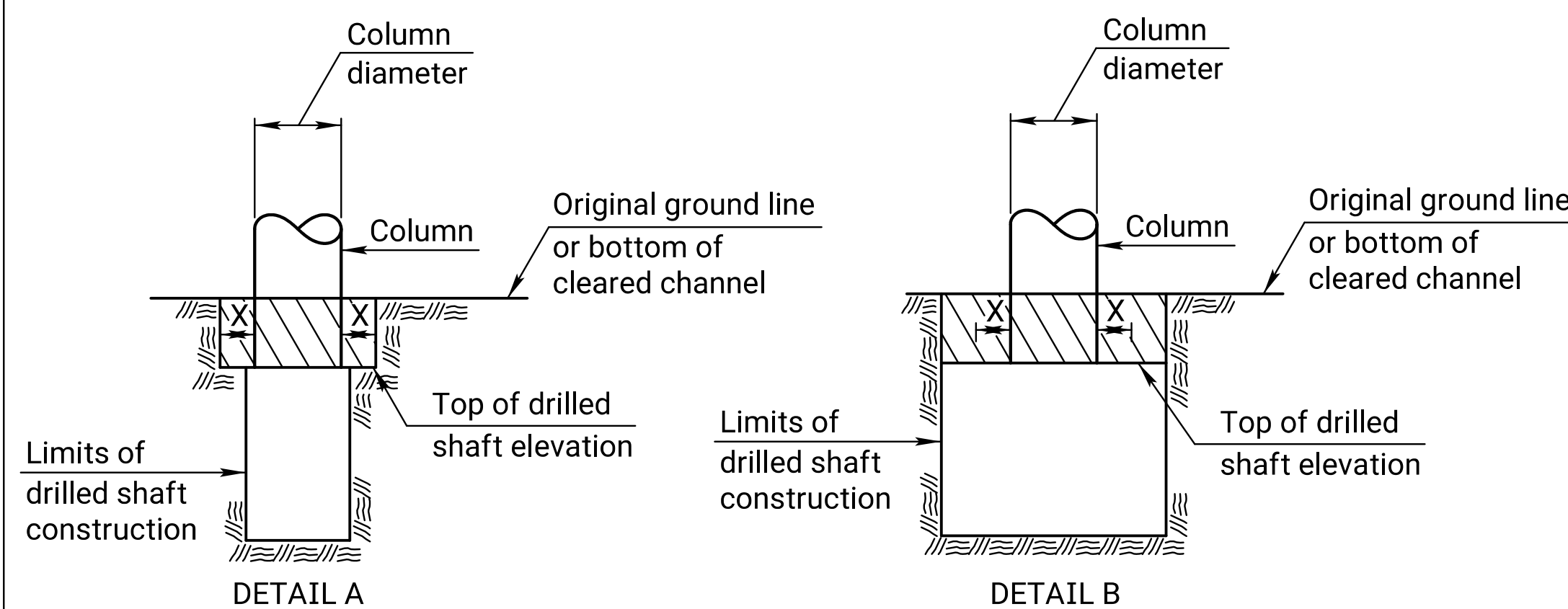


END VIEW



☉ EXCAVATION DETAIL FOR FOOTINGS IN ROCK OR SHALE (ROCK)
(Piers and Abutments)

Note: Excavation below top of rock, hard shale or below top of footing, whichever is lower, shall be to neat lines of the concrete construction.



DRILLED SHAFT DETAILS

Note: Whenever the limits of the drilled shaft construction are greater than the Column Diameter + 2X, the limits of Class I, II or III Excavation shall be the limits of the drilled shaft construction. (See Detail B)

Note: All bridge excavation shall be computed on the basis of the cross-hatch areas and boundary lines indicated on this sheet and the Excavation Boundary Plane on the Construction Layout.

Sides of trenches in hard or compacted soil including embankments shall be shored, sheeted, braced or otherwise supported when the trench is more than 5 feet in depth and 8 feet or more in length. In lieu of the shoring, the sides of the trench above the 5 foot level may be sloped to preclude collapse. The slope for average soils shall be 1:1. If the angle of repose of the soil is less, flatter slopes shall be required.

Dimension "X" shall be 2'-0" unless indicated otherwise on the general plans.

Dimension "Y" shall be 1'-6" unless indicated otherwise on the general plans.

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BRIDGE EXCAVATION (LRFD)

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
BRIDGE NO. 421950462874056 (LPA ID: 056)

OVERLAND PARK, KANSAS

REVISIONS

2025

drawn by: ZDD	checked by: KAS
approved by: KAS	QA/QC by: GCL
project no.: 022-06522	drawing no.:
date: 01/31/2025	

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

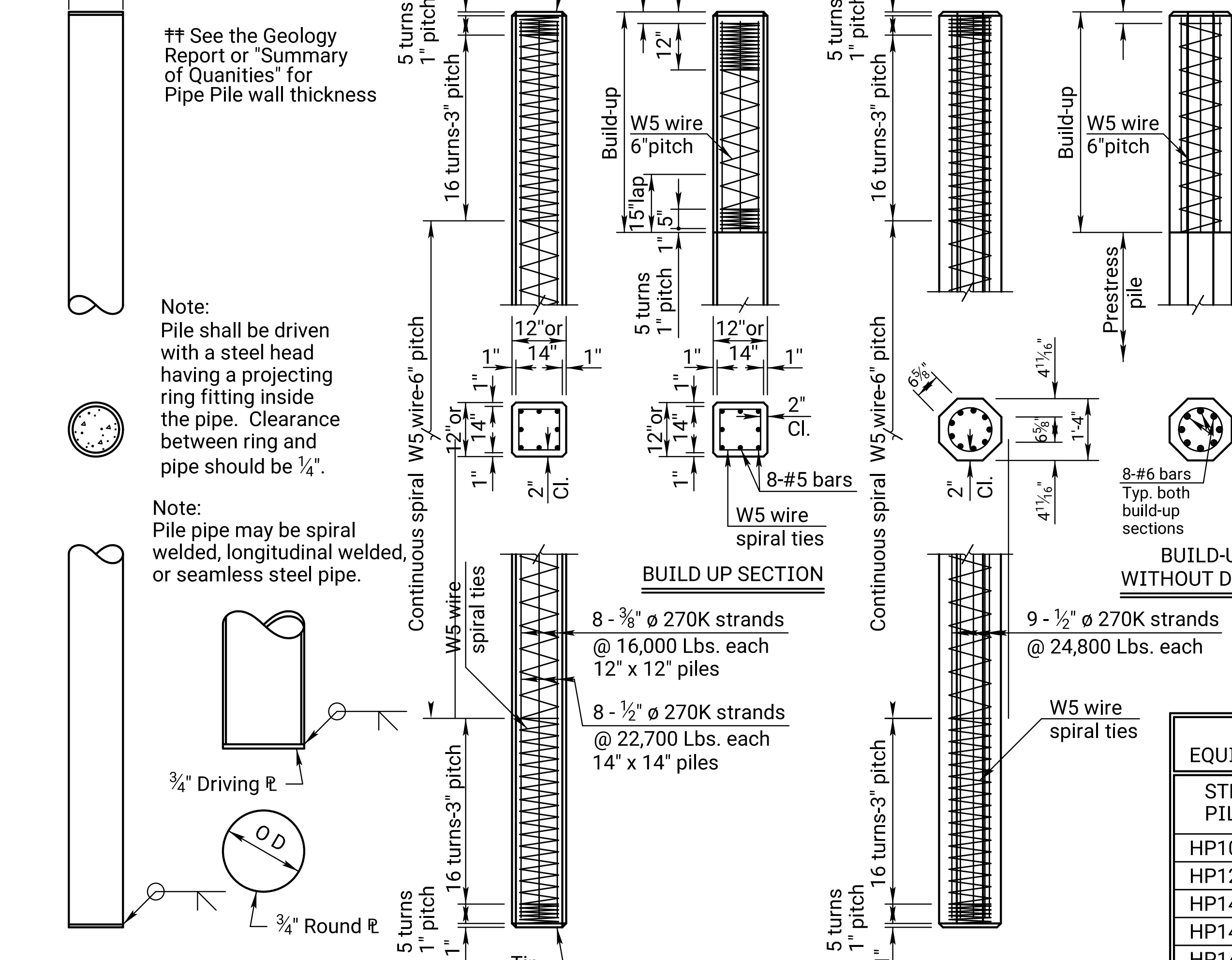
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OD	10 3/4"	T. = ##
OD	12 3/4"	T. = ##
OD	14"	T. = ##

See the Geology Report or "Summary of Quantities" for Pipe Pile wall thickness

Note: Pile shall be driven with a steel head having a projecting ring fitting inside the pipe. Clearance between ring and pipe should be 1/4".

Note: Pile pipe may be spiral welded, longitudinal welded, or seamless steel pipe.



Note: If additional driving is required, use 1" pitch as shown.

GENERAL NOTES

PRESTRESSED PILES: Fabricate prestressed concrete pile splices in accordance with the Manufacturer's recommendations subject to the approval of the Engineer.

SPECIFICATIONS: Standard Specifications for State Road and Bridge Construction as currently used by the Kansas Department of Transportation.

Method of attachment of pile to build-up may be by any of the methods given in the notes on "Alternate Methods." If mild reinforcing steel is used for attachment, the area shall be no less than that used in the build-up.

CONCRETE: Concrete for cast-in-place shall be f'c = 3,500 PSI. Concrete for prestressed shall be f'c = 5,000 PSI.

- ALTERNATE METHODS:** Method of attachment of a pile to build-up may be by any of the following methods:
1. Cut off at least 2'-0" of pile and expose a minimum of 2'-0" of strands.
 2. Cast 8-#6, or 8-#5 bars (equally spaced) into pile head. All bars shall extend into pile head and project from pile head a minimum of 2'-0".
 3. Drill 8 holes in pile head (equally spaced) for installation of 8 grouted dowel bars of same size and length as in 2.
 4. Provide cored holes for bars as in 3.

WELDING: All field welding shall meet the requirements of the Standard Specifications.

Use only Shielded Metal Arch Welding SMAW (stick welding) for pile splices.

Use only low hydrogen E7018, 7016, or 7015 series welding rod (electrode) for all welding applications during pile splicing.

New electrodes are to be purchased for each KDOT project. The electrodes shall arrive on the project in factory hermetically sealed containers, opened and labeled with indelible ink in front of the engineer. The label shall include the current date and the project Number. If the container seal is questionable or shows signs of damage the electrode is to be dried in an oven at least one hour at a temperature of 700°F to 800°F.

No bars or strands are to extend from head of pile or build-up into footing or pile cap unless approved by the Engineer.

Upon removal from intact hermetically sealed factory packaging or the drying oven the electrode is to be placed in a storage oven with a minimum temperature of 250°F.

TEST PILES: Drive test piles where called for on the bridge plans. The test piles located within the limits of the substructure will become a part of the bridge pile system.

When electrodes are removed from the hermetically sealed container or storage oven and exposed to the atmosphere for less than 4 hours place into the storage oven for at least 4 hours before removing for use.

DRIVING FORMULA: Driving formula shall conform to the Standard Specifications.

If electrode is exposed to the atmosphere for 4 hours or more (or 9 hours for moisture resistant electrodes designated with an R in their labeling) then electrode can be dried in a drying oven at a temperature of 450°F to 550°F.

MEASUREMENT AND PAYMENT: Measurement and payment for all piles shall comply with the Standard Specifications.

If the electrode is exposed to the atmosphere for 4 hours or more a second time or the rod becomes wet discard rod.

REINFORCEMENT: Use reinforcing steel conforming to ASTM A615, Grade 60. Hoops and spirals may be either plain or deformed bars.

CAST-IN-PLACE SHELLS: Steel shells for cast-in-place concrete piles shall conform to the requirements of the Standard Specifications.

PRESTRESSING STEEL: Use uncoated seven-wire low relaxation prestressing strand conforming to ASTM A416, Gr. 270.

All piles driven without a mandrel shall be of the minimum thicknesses shown. Piles driven with a mandrel shall be of sufficient strength and thickness to withstand driving without injury and to resist harmful distortion and/or buckling due to soil pressure after the mandrel is removed.

STEEL PILE: Steel pile shall conform to the requirements of the Standard Specifications.

Remove, replace or correct to the satisfaction of the Engineer improperly driven, broken or otherwise defective pipe piles. Otherwise drive an additional pile at no extra cost.

PILE POINTS: Pile points shall conform to the dimensions shown and to requirements of the Standard Specifications.

The Contractor shall maintain a light suitable for visual inspection of the pile on the job at all times prior to and during the filling of the pipe.

PAINT: All paint shall comply with the Standard Specifications, or as specified on the plans.

MILL TEST REPORTS: Steel piles test reports and steel shell test reports shall comply with the Standard Specifications.

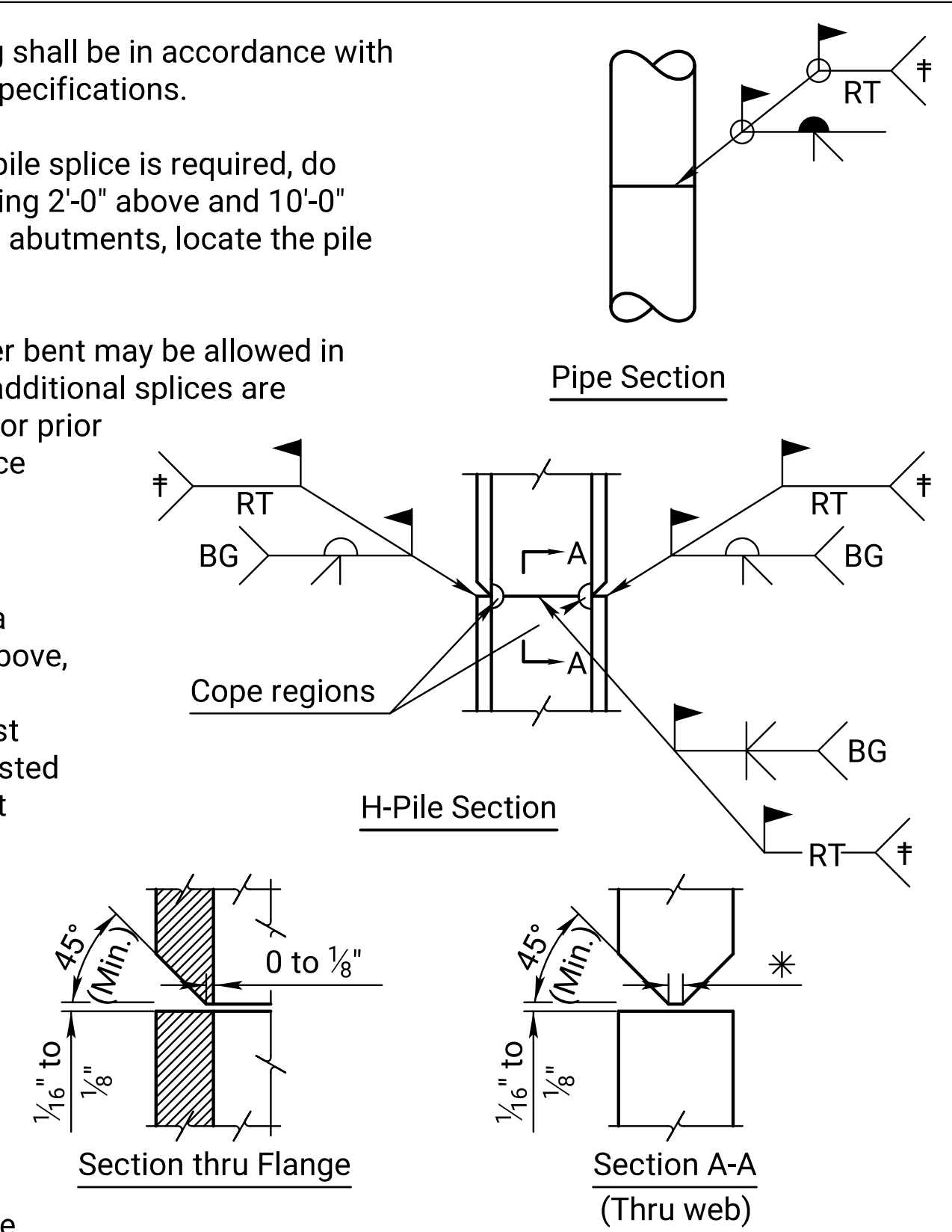
STEEL PILES	CONCRETE PILES	
	Pipe	Pre-stress
HP10x42	10 3/4"	
HP12x53	12 3/4"	
HP14x73	14"	12
HP14x102		14
HP14x117		16

SPLICES: Splices for steel piles and shell piling shall be in accordance with details shown on this sheet and the Standard Specifications.

For integral pile bent abutments and piers, if a pile splice is required, do not locate the pile splice within a region extending 2'-0" above and 10'-0" below the bottom of the concrete web wall. For abutments, locate the pile splice at least 10'-0" below top of fill.

With the approval of the Engineer, one splice per bent may be allowed in the region described above without testing. If additional splices are anticipated, based on the geology, the Contractor prior to driving, will locate the splice so that the splice will not fall within the regions described above.

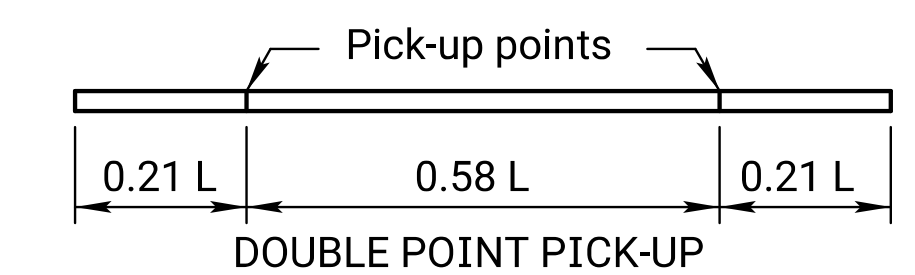
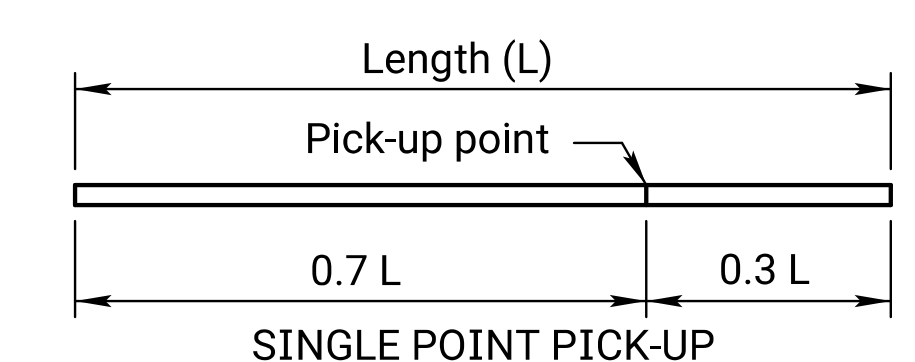
For integral pile bent abutments and piers, if a splice is located within the regions described above, then the Contractor will test the welds by Radiograph (RT) test methods. Repair and retest any welds not passing the test(s). Each weld tested will have written confirmation of results. Report these results to the Engineer. This work is not paid for directly, but is subsidiary to "Piles".



* Minimum as required by welding process.

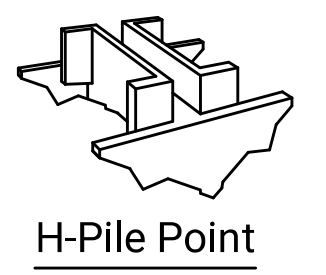
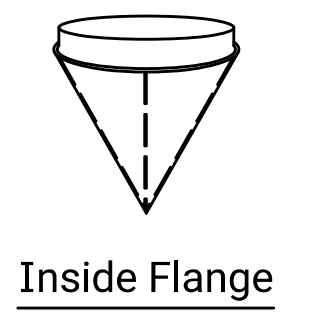
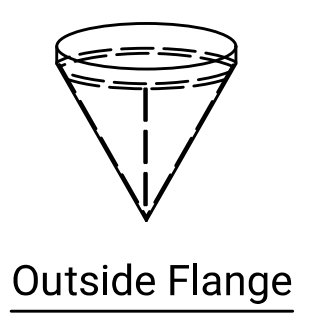
BG = Backgouge

PLAIN ROUND CAST-IN-PLACE CONCRETE PILES



PICK-UP POINTS FOR PRESTRESSED PILING
 Max. length - 55' single point pick-up
 Max. length - 80' double point pick-up

Note: Piles shall be marked at Pick-up points to indicate proper points for attaching handling lines.



CAST STEEL PILE POINT
 The pile point shall be a one-piece unit of cast steel. Weld pile points in accordance with manufacturer's recommendations to each steel pile before driving.

Weld Symbology Definition

Use grinder to bevel edges of splice as shown in weld symbology and drawing. In addition to bevels, produce clean, bare, and shiny surfaces at and around the splice welding location.

Lay full penetration root weld from beveled side of splice.

Back gouge root weld from side opposite of root welding application making sure to remove all foreign materials, porous steel, and inclusions from root weld. Finish welding the non beveled side of the splice.

Finish welding beveled side of the splice while removing slag, foreign materials, porous steel, and inclusions in between welding passes, use of a grinder may be needed.

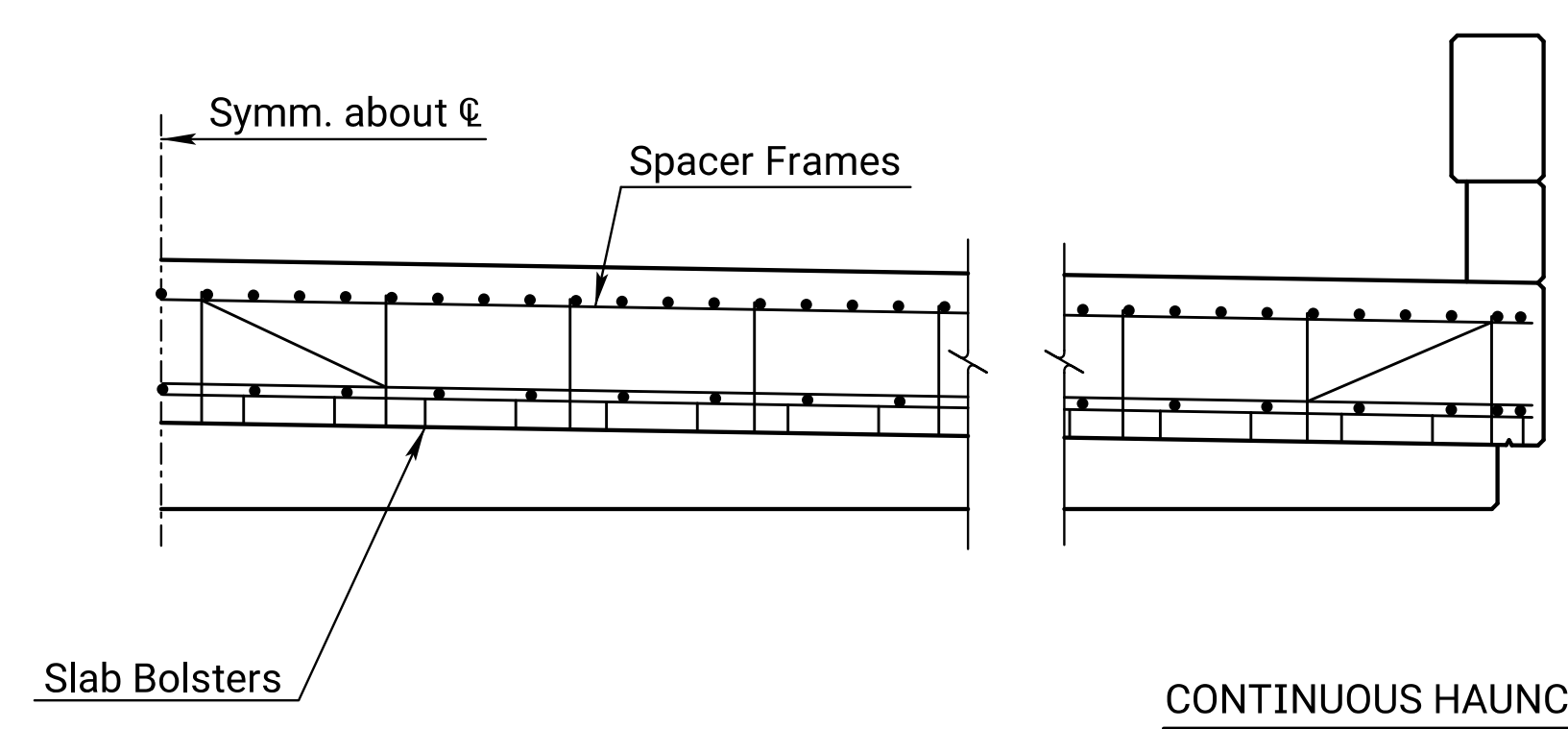
Verify that enough filler metal has been correctly placed in all weld locations to obtain a flush or convex surface with no concavity produced upon completion of the final welds.

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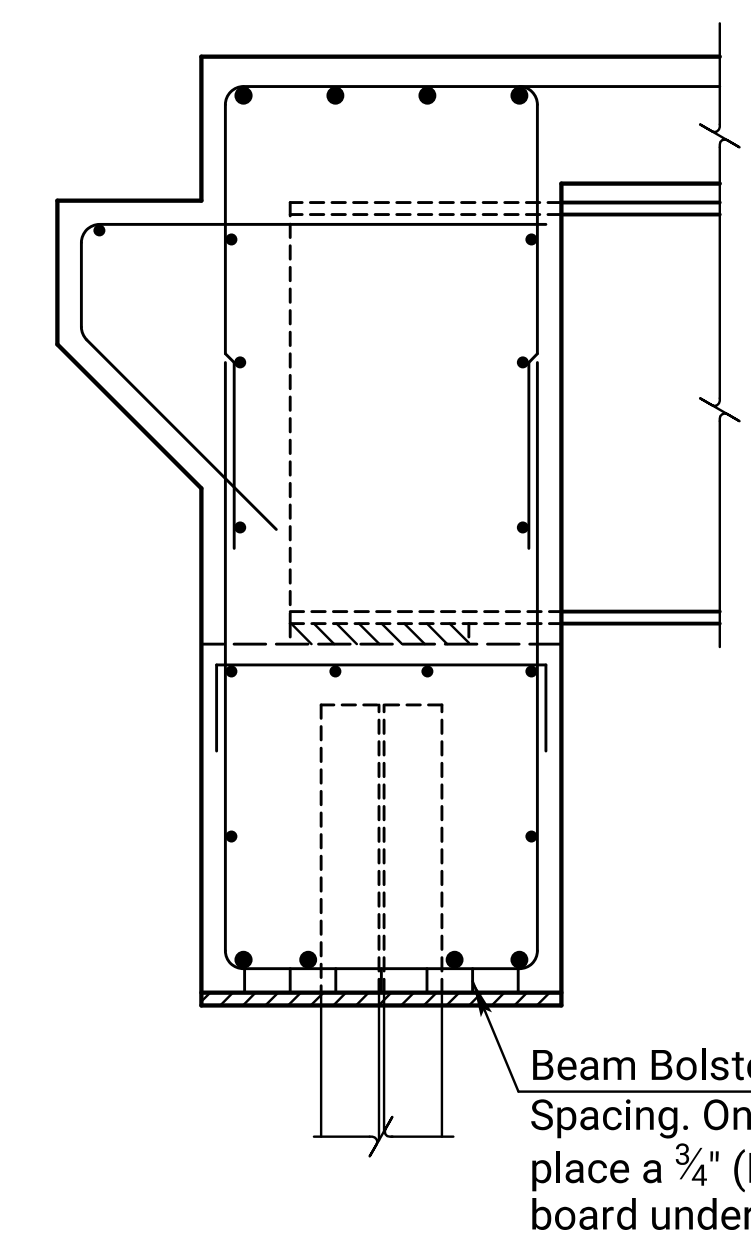
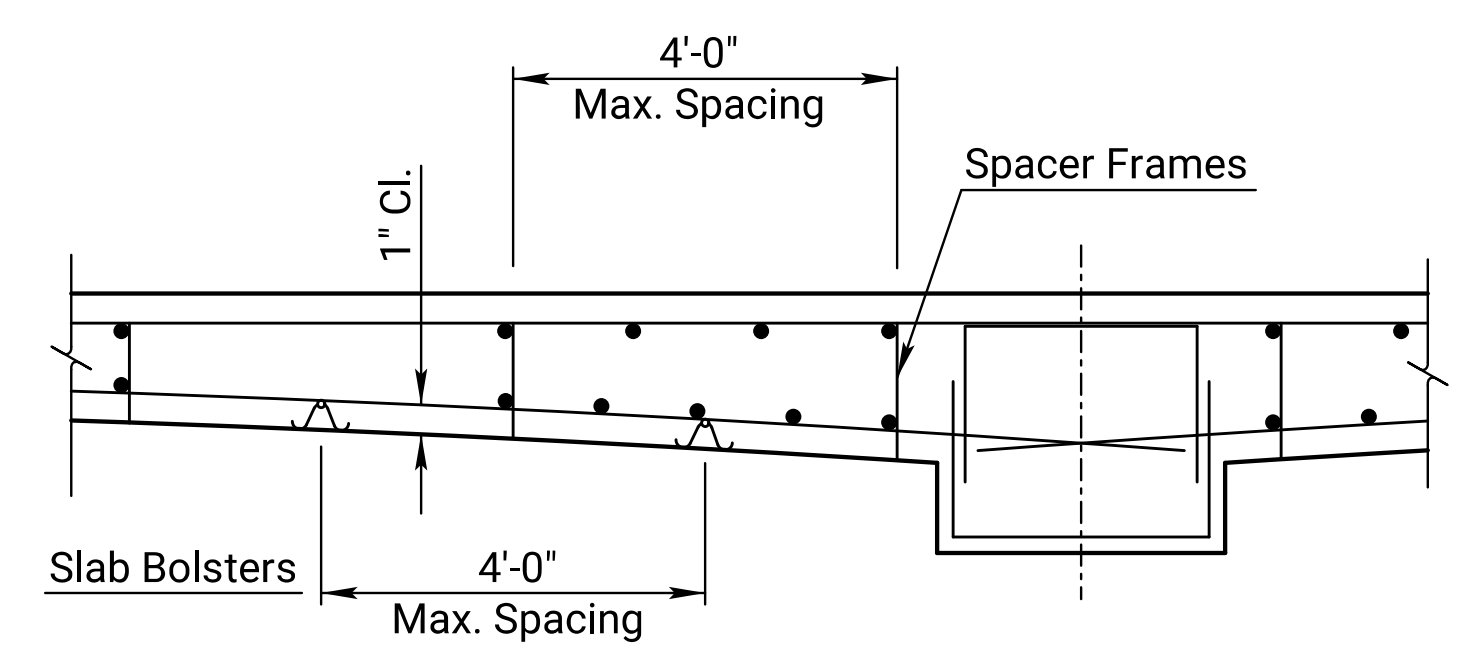
STANDARD PILE DETAILS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 BRIDGE NO. 421950462874056 (LPA ID: 056)
 OVERLAND PARK, KANSAS
 2025
 SHEET 95 of 189

drawn by:	ZDD
checked by:	KAS
approved by:	KAS
QA/QC by:	GCL
project no.:	022-06522
drawing no.:	
date:	01/31/2025

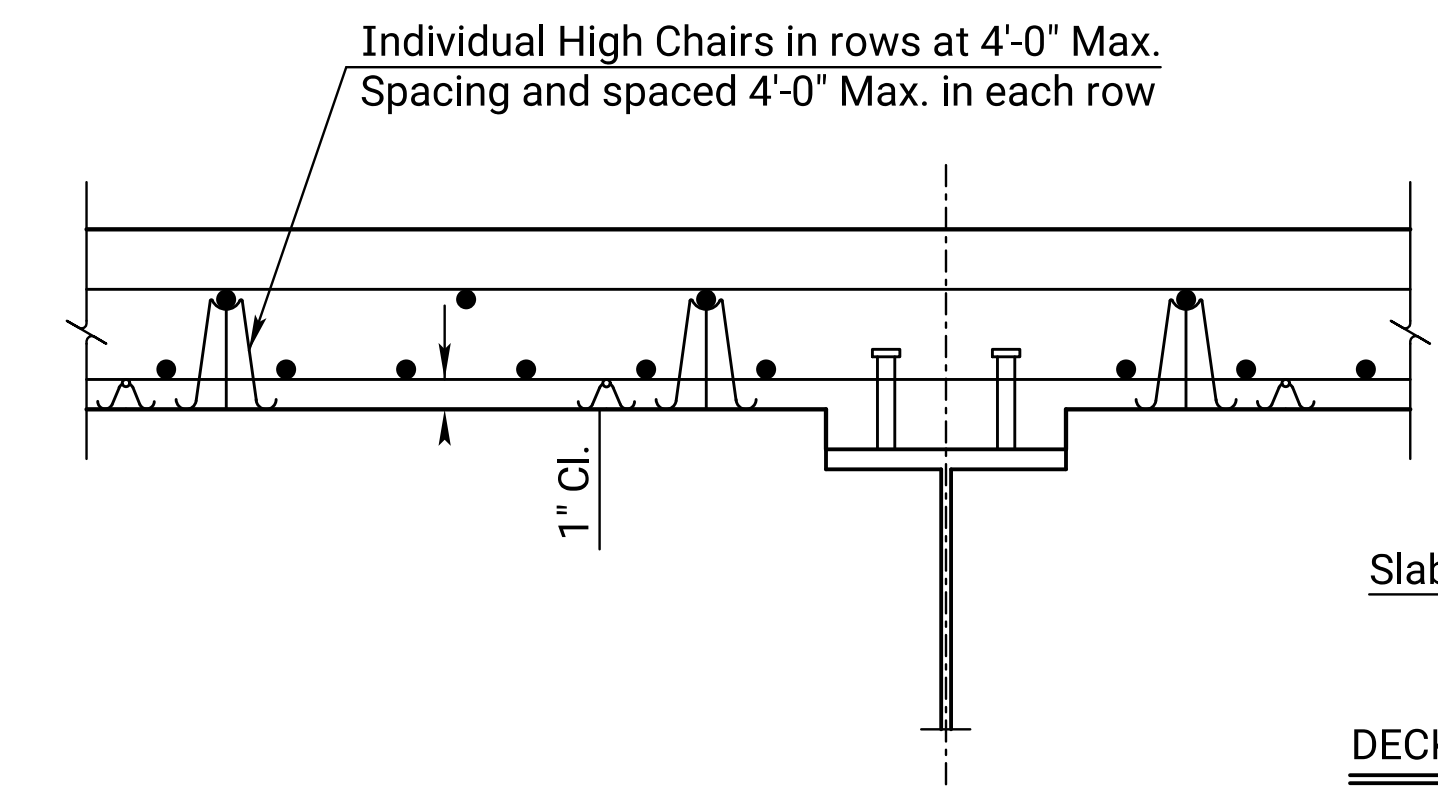
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



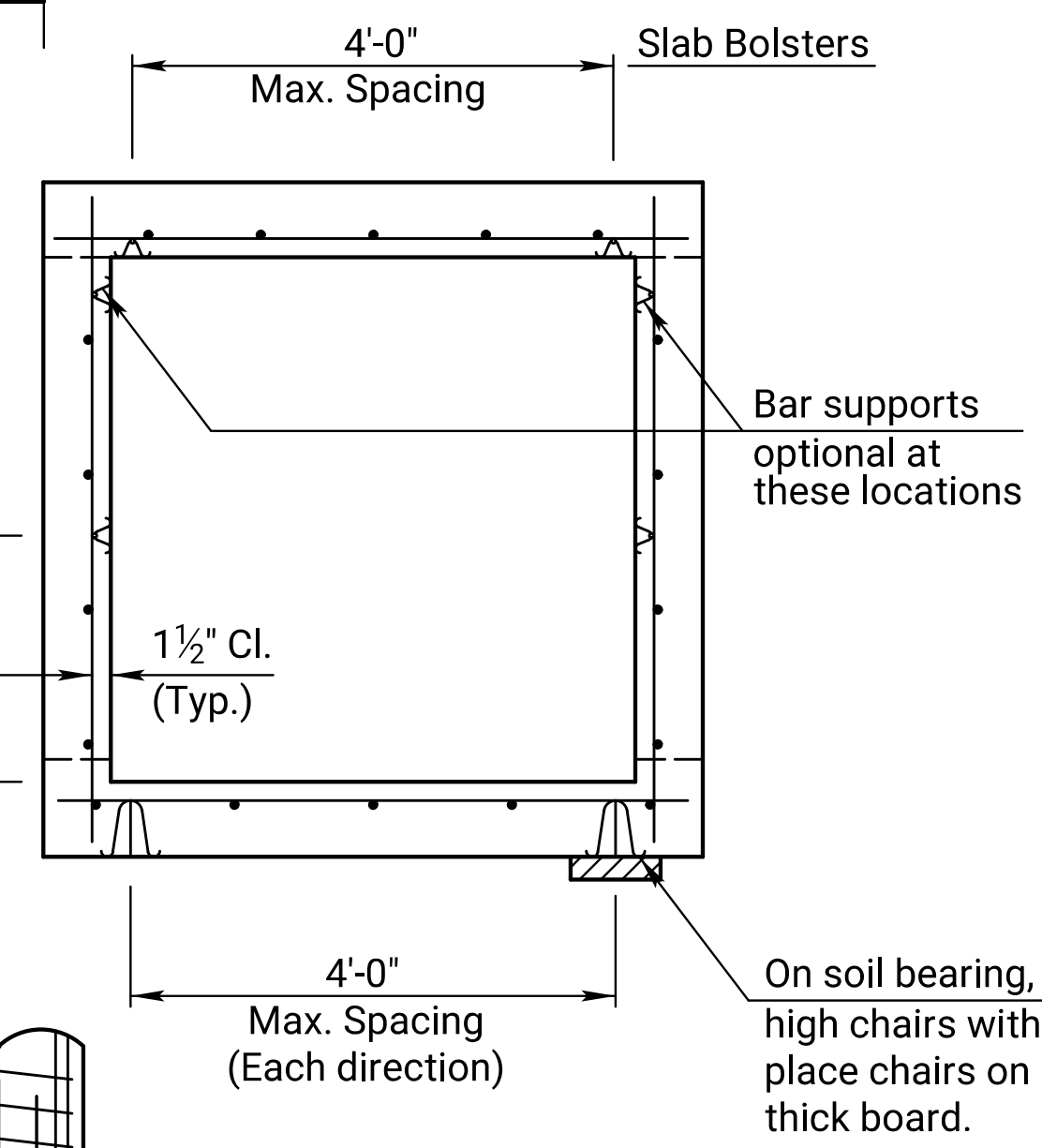
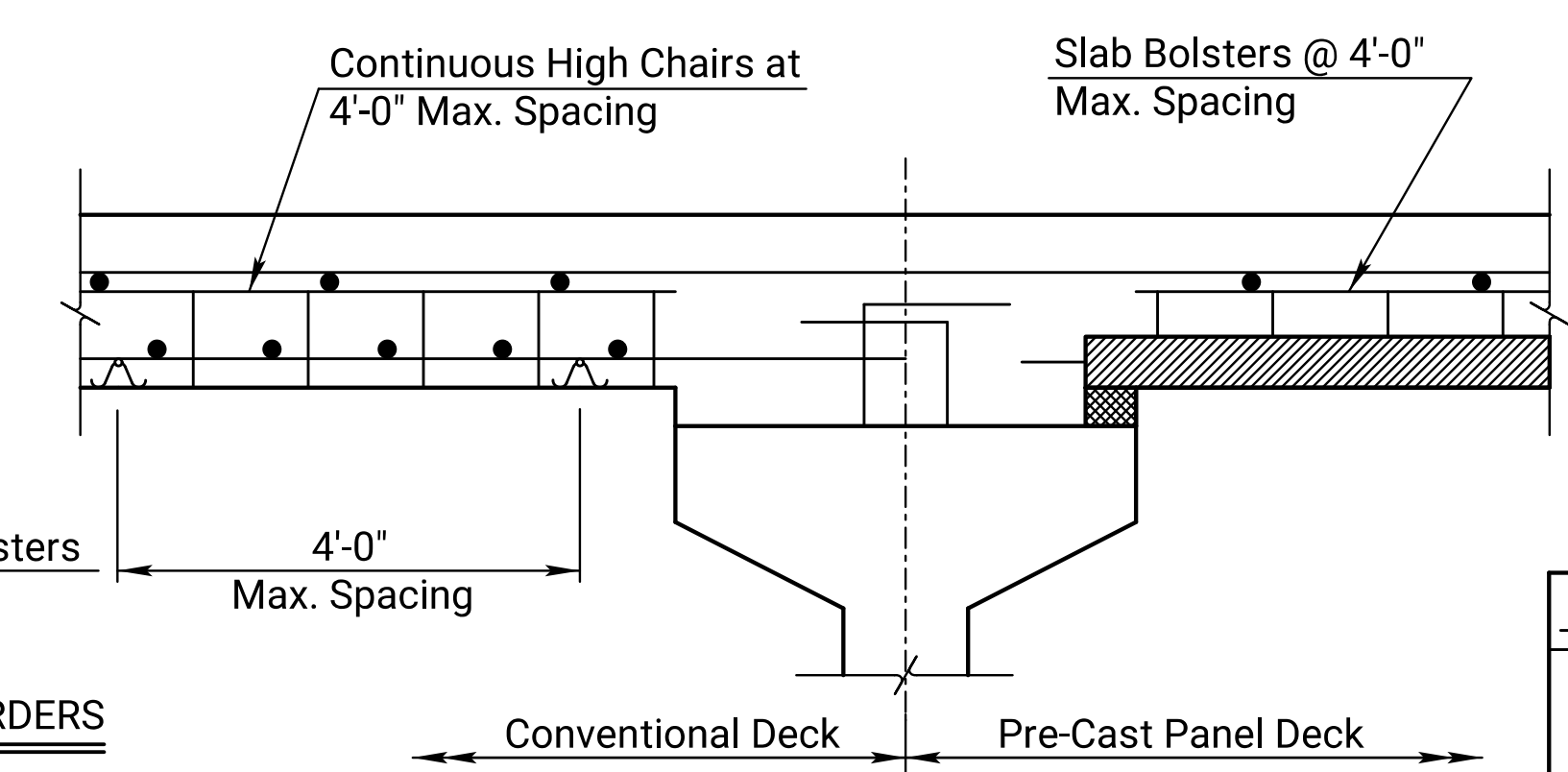
CONTINUOUS HAUNCHED SLAB



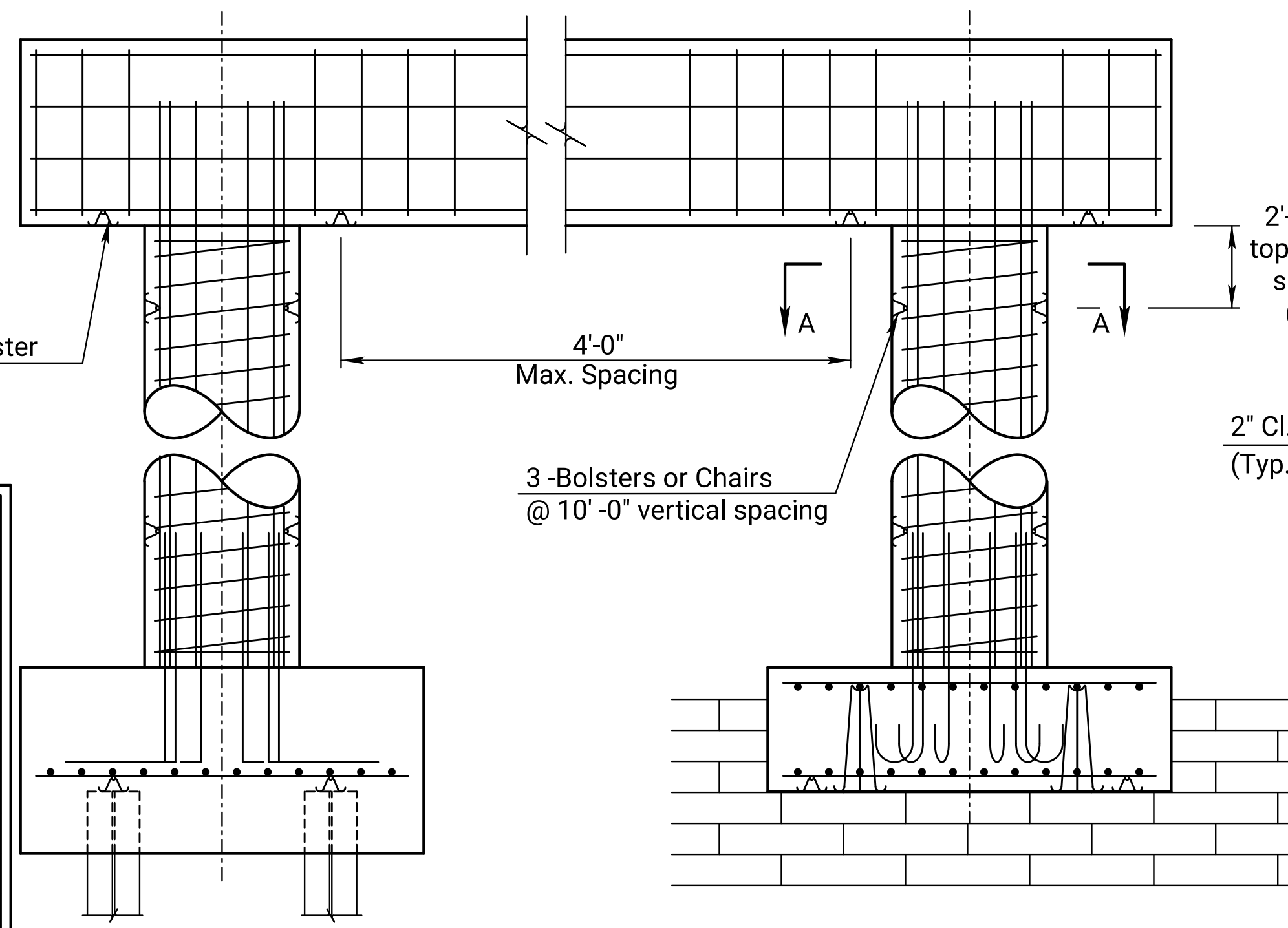
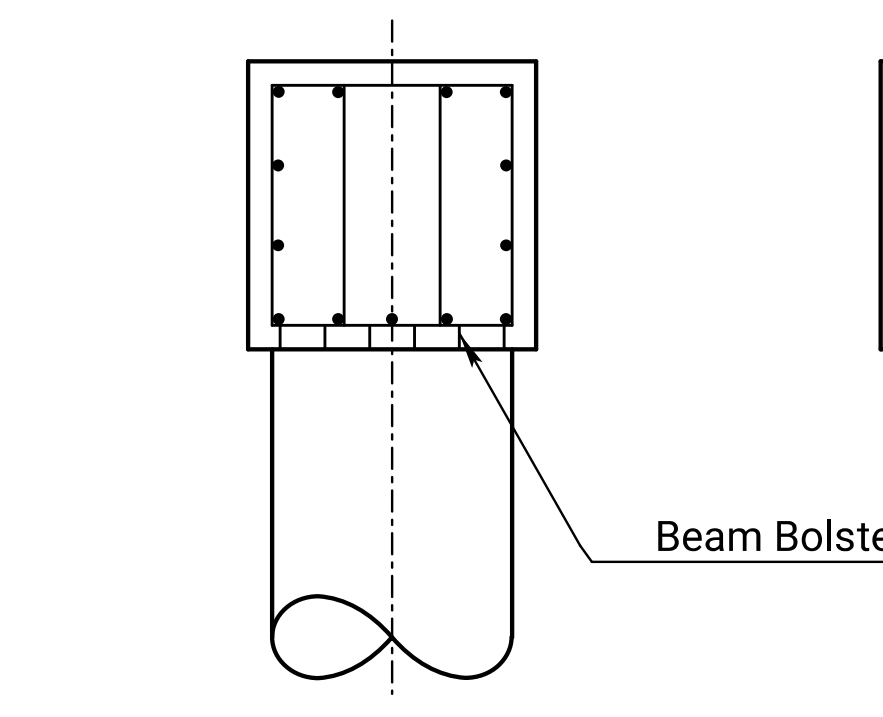
ABUTMENT



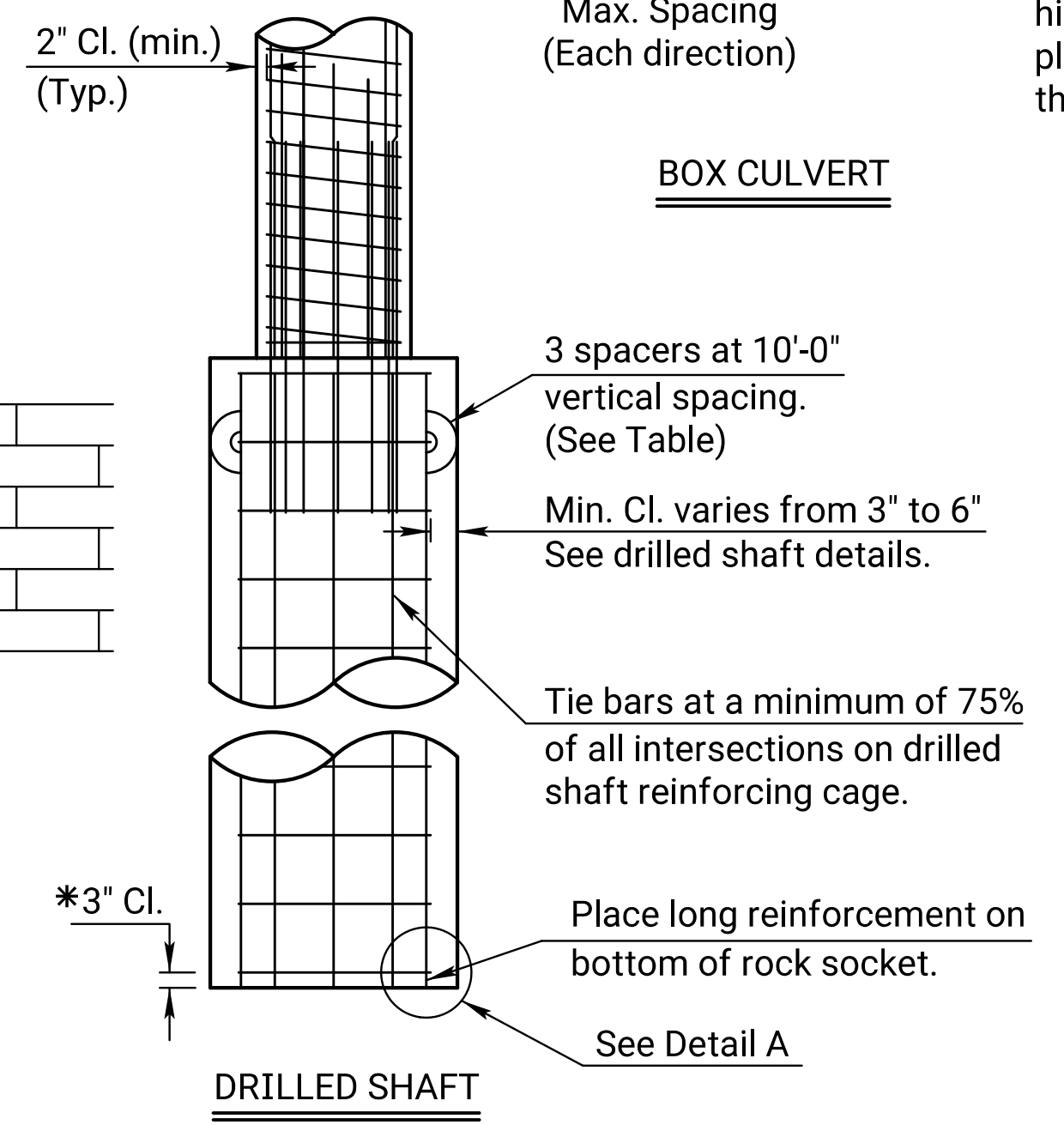
DECK GIRDERS



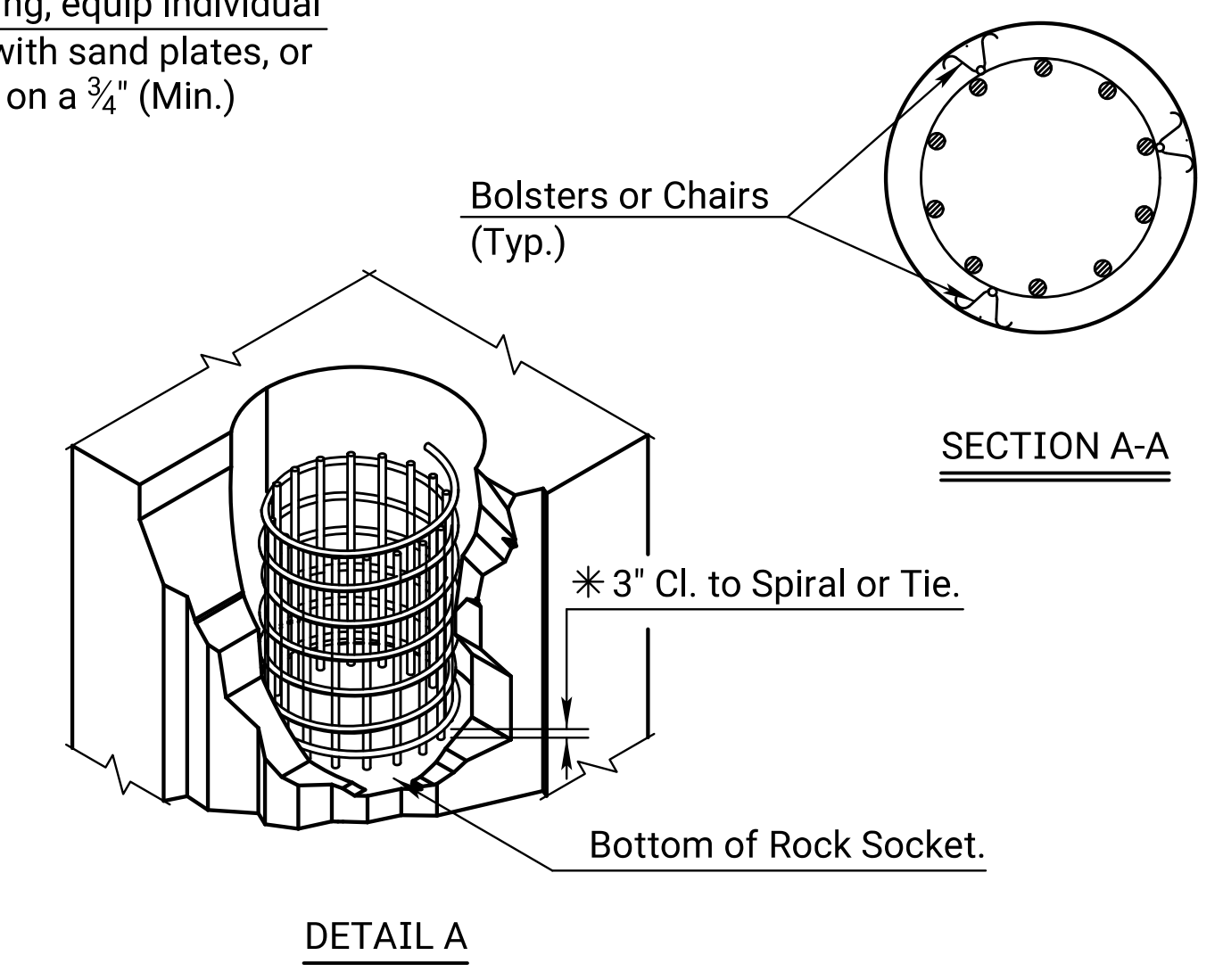
BOX CULVERT



PIER



DRILLED SHAFT



DETAIL A

Required Shaft Supports		
Diameter (in.)	Circumference (in.)	No. of Spacers
18	56	3
24	75	3
30	94	4
36	113	4
42	131	5
48	150	6
54	169	6
60	188	7
66	207	7
72	226	8
78	244	9
84	263	9
90	282	10
96	301	11
102	320	11
108	339	12

GENERAL NOTES

Reference is made to the latest edition of the CRSI "Manual of Standard Practice" for recommended industry practices concerning reinforcing steel.

Use only the following types of bar supports:

- 1) Wire Bar Supports:
 - a) Epoxy coated reinforcing: Class 1 Protection
 - b) Non-epoxy coated reinforcing: Class 1, 2, or 3 Protection
- 2) Plastic Bar Supports
- 3) Supplementary bars

When securing epoxy coated reinforcement, use tie wires or metal clips that are epoxy or plastic coated.

Do not weld reinforcing steel to bar supports or to other reinforcing steel. Shop weld spacer frames for haunched slabs.

Tie bars at all intersections around the perimeter of each mat and at not less than 2'-0" centers or at every intersection, whichever is greater.

Where more than one length of bar support is required, lap the end legs so they are locked or tied together.

Use proper height supports to maintain the distance between the reinforcing and the formed surface or the top surface of deck slabs within 1/4" of that indicated on the plans.

Spacings shown are maximums. Use sufficient supports, as determined by the Engineer, to retain the reinforcing steel in position.

Construct any platforms, required for the support of workers and/or equipment during concrete placement, directly on the forms and not on the reinforcing steel.

Designs and arrangements of Supports or Spacers other than as shown on this sheet, may be used with the permission of the Engineer.

* Note: Longitudinal reinforcing steel is placed on the bottom of the rock socket. Maintain 3" clearance from the bottom of rock socket to the first spiral or tie bar.

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SUPPORTS AND SPACERS FOR REINFORCING STEEL
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 BRIDGE NO. 421950462874056 (LPA ID: 056)
 OVERLAND PARK, KANSAS
 2025

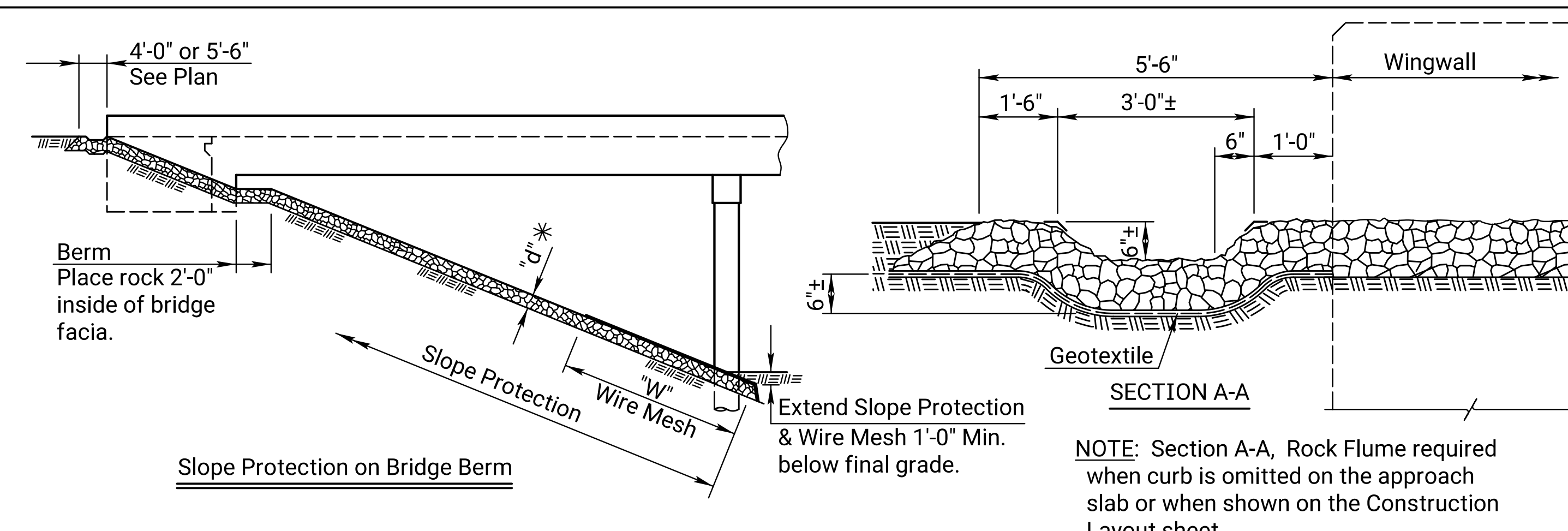
STATE	PROJECT NO.	YEAR
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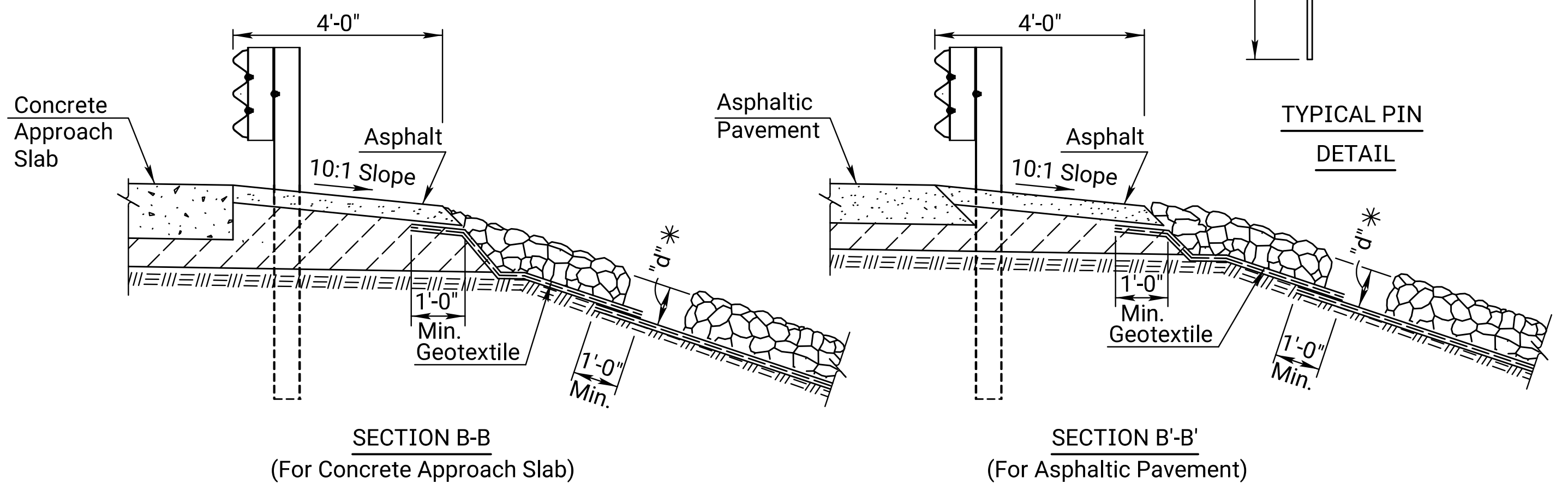
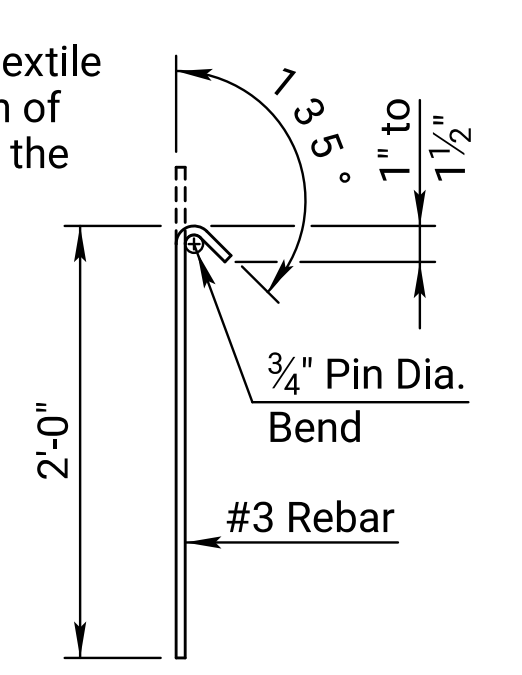
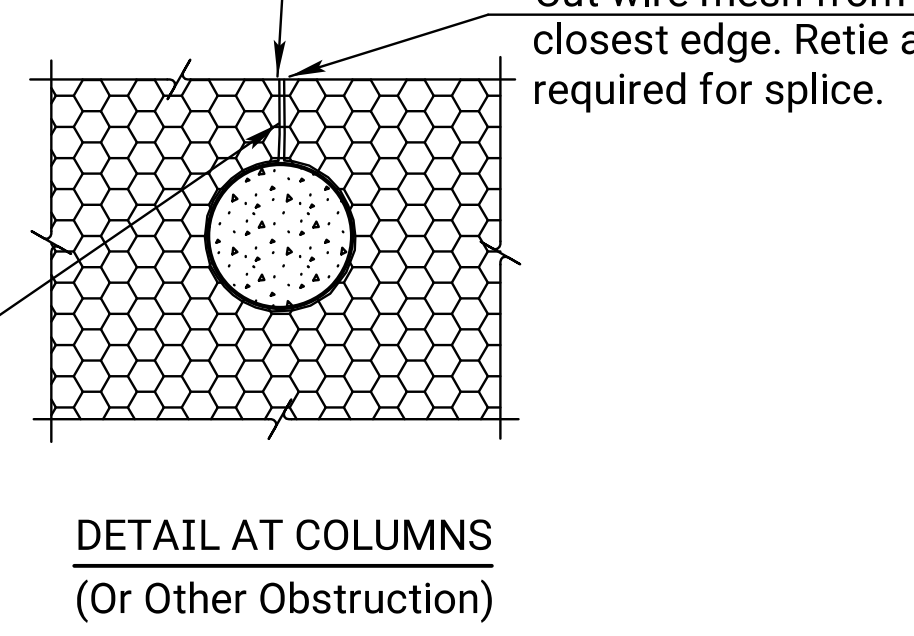
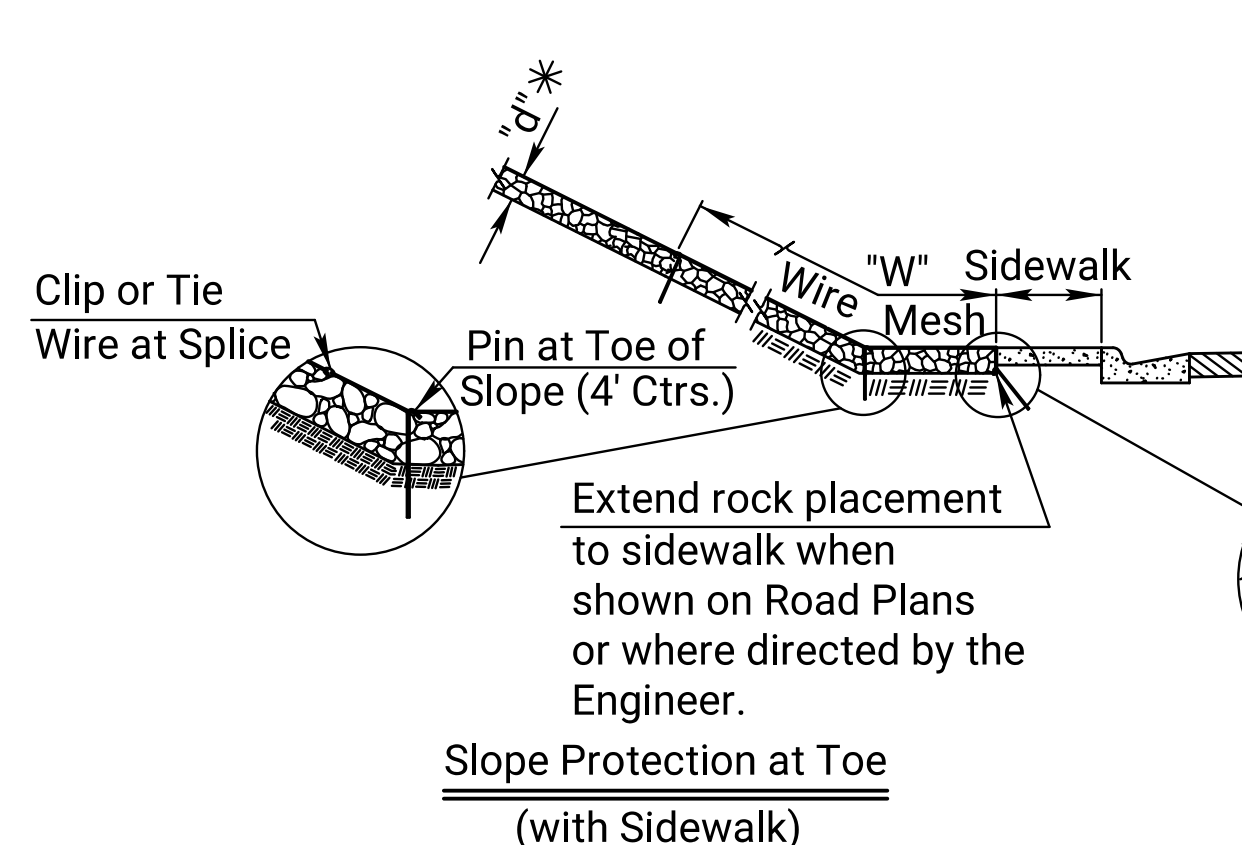
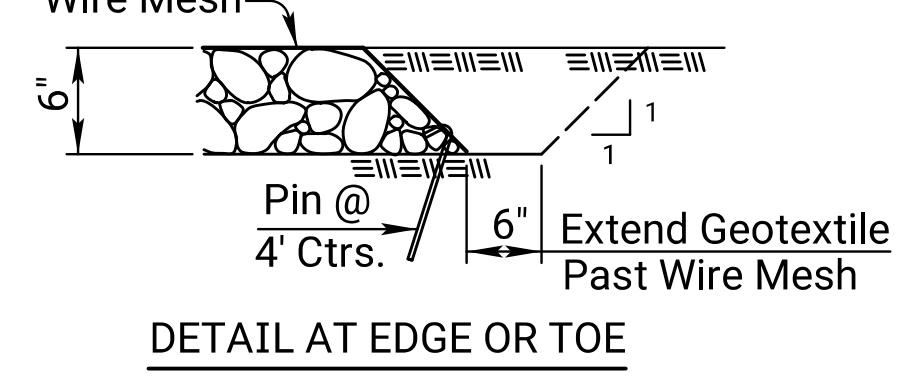
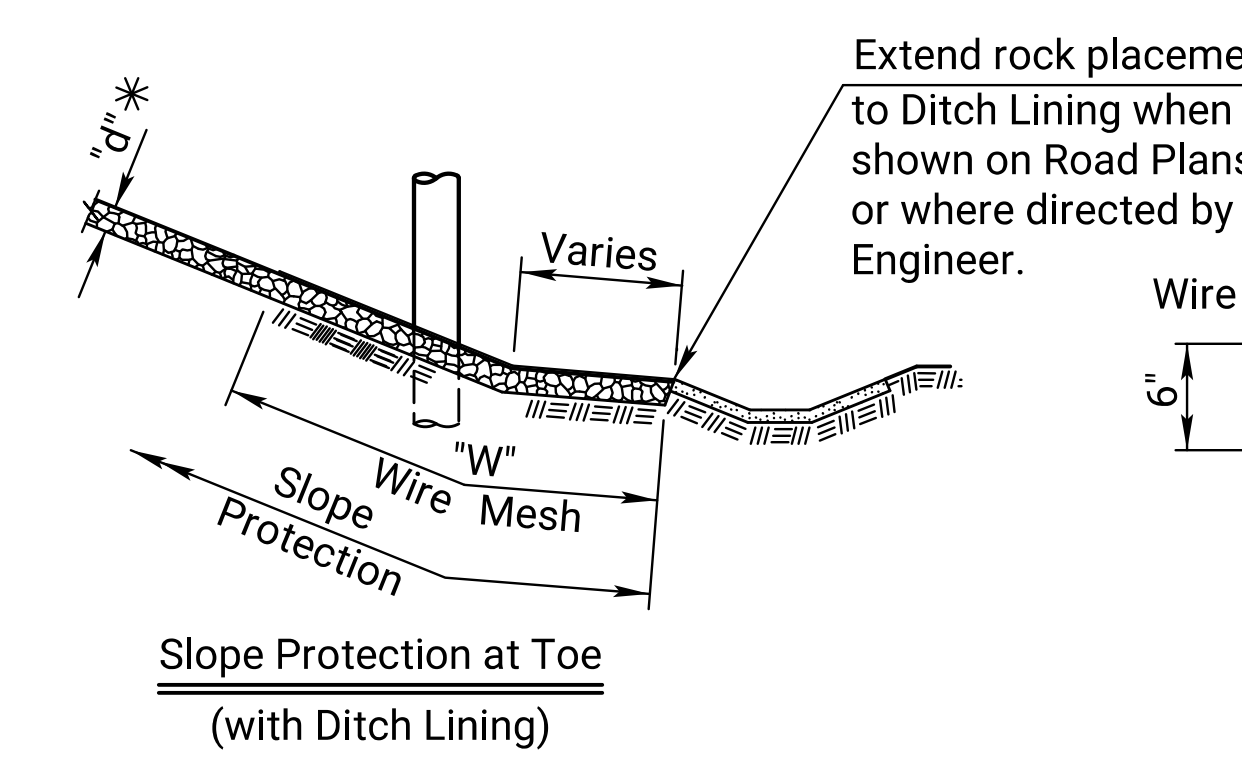
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olson.com

GENERAL NOTES

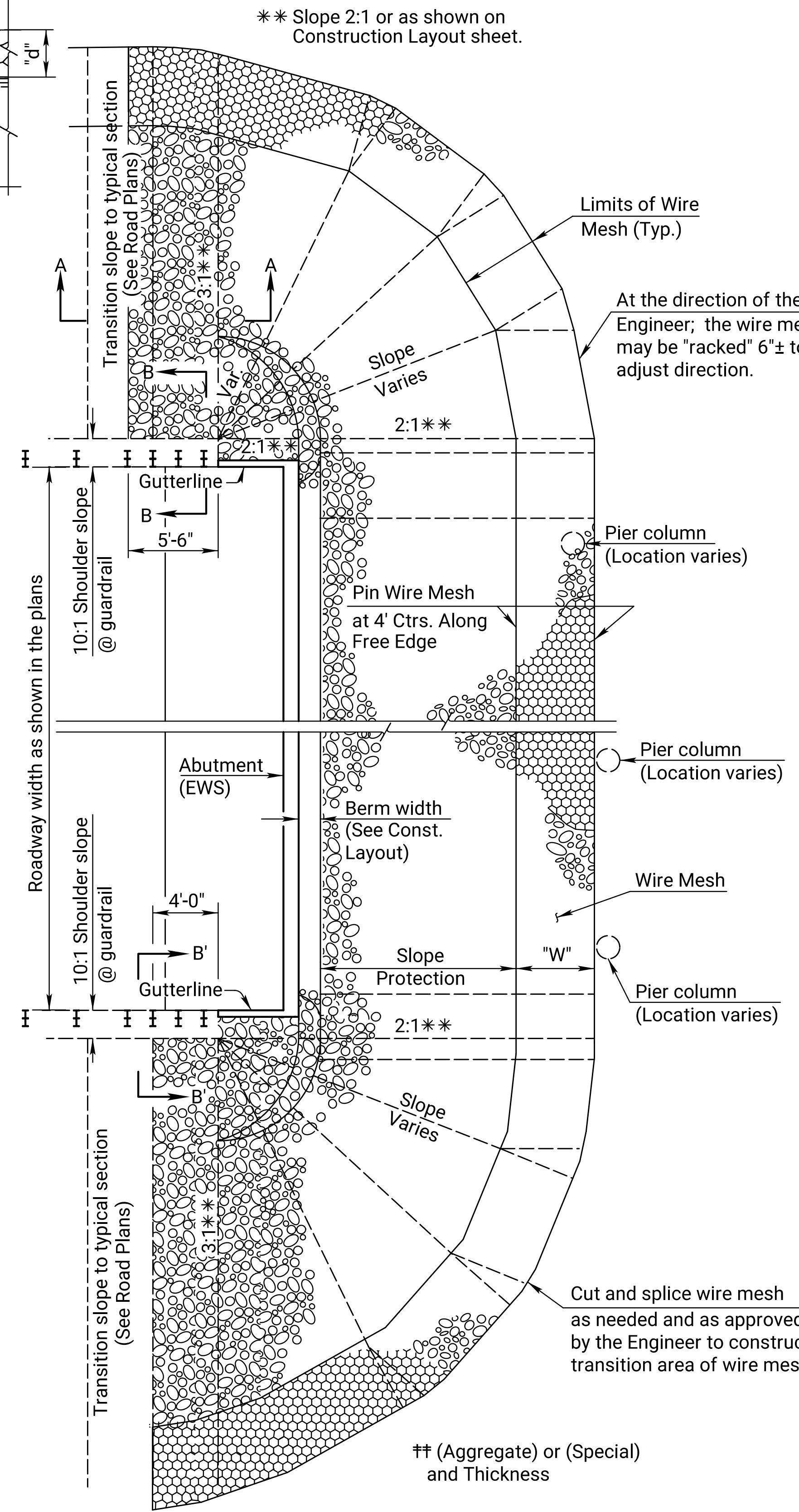
- Limits of slope protection are shown on the Construction Layout sheet. Limits may be adjusted as needed at the direction of the Engineer to match ground elevations found at the site.
- Gradation and aggregate for the Slope Protection (Aggregate) shall meet the requirements of stone for Aggregate Ditch Lining and have a D₅₀ of 4 inches unless otherwise noted on the Plans.
- Wire mesh shall be PVC coated and have a nominal mesh opening of 2½"x3¼". Wire mesh shall be furnished full width up to widths of 12.0 feet ("W" = 12.0 ft.). When widths greater than 12.0 feet are specified on the plans, the furnished width shall be as recommended by the manufacturer but not less than 6.0 feet. All splices shall be made with PVC coated lacing wire, PVC coated wire ties, or stainless steel fastener clips. The longitudinal edges of the wire mesh shall be securely selvaged to prevent raveling of the mesh. Wire mesh and tie wires shall meet the material requirements for Gabions in the KDOT Specifications. Wire mesh shall not be used unless noted in the Plans and shown in the Table of Quantities. When wire mesh is specified, the bid item shall be "Slope Protection (Special)" and wire mesh shall be subsidiary.
- Excavation and grading for placement of slope protection shall be subsidiary to slope protection and geotextile fabric.
- All slope protection shall be underlain with geotextile fabric. Fabric damaged or displaced during construction shall be replaced at no cost to KDOT. Fabric shall be installed and secured as recommended by the fabric manufacturer. One (1) copy of the fabric manufacturer's installation procedure shall be submitted to the Engineer. The installation procedure shall show details of the splices, overlaps, and pin layout. Minimum overlap of geotextile shall be 1 ft. Fabric shall be anchored along edges and splices at a maximum of 3 foot centers with staples or pins (w/washers). Interior area of fabric shall be pinned or stapled as recommended by the manufacturer but not more than 5 foot centers. Pins or staples shall be a minimum of 12 inches in length. Geotextile fabric shall meet the requirements of KDOT Specifications.
- Unless noted otherwise on the Construction Layout, "d" shall be a minimum of 6 in., "W" shall be 12.0 ft.
- The Contractor shall place the rock from the bottom to the top of the slope. Place the rock in a manner which produces a reasonably well graded mass of rock without segregation of the material sizes. Placement, measurement, and payment shall conform to KDOT Specifications for Slope Protection.



SECTION A-A
NOTE: Section A-A, Rock Flume required when curb is omitted on the approach slab or when shown on the Construction Layout sheet.



TYPICAL ELEVATIONS



BERM AND SLOPE PROTECTION PLAN (U-Type Abutment)

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

BRIDGE BERM AND SLOPE PROTECTION U-TYPE ABUTMENT
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
BRIDGE NO. 421950462874056 (LPA ID: 056)
OVERLAND PARK, KANSAS
2025

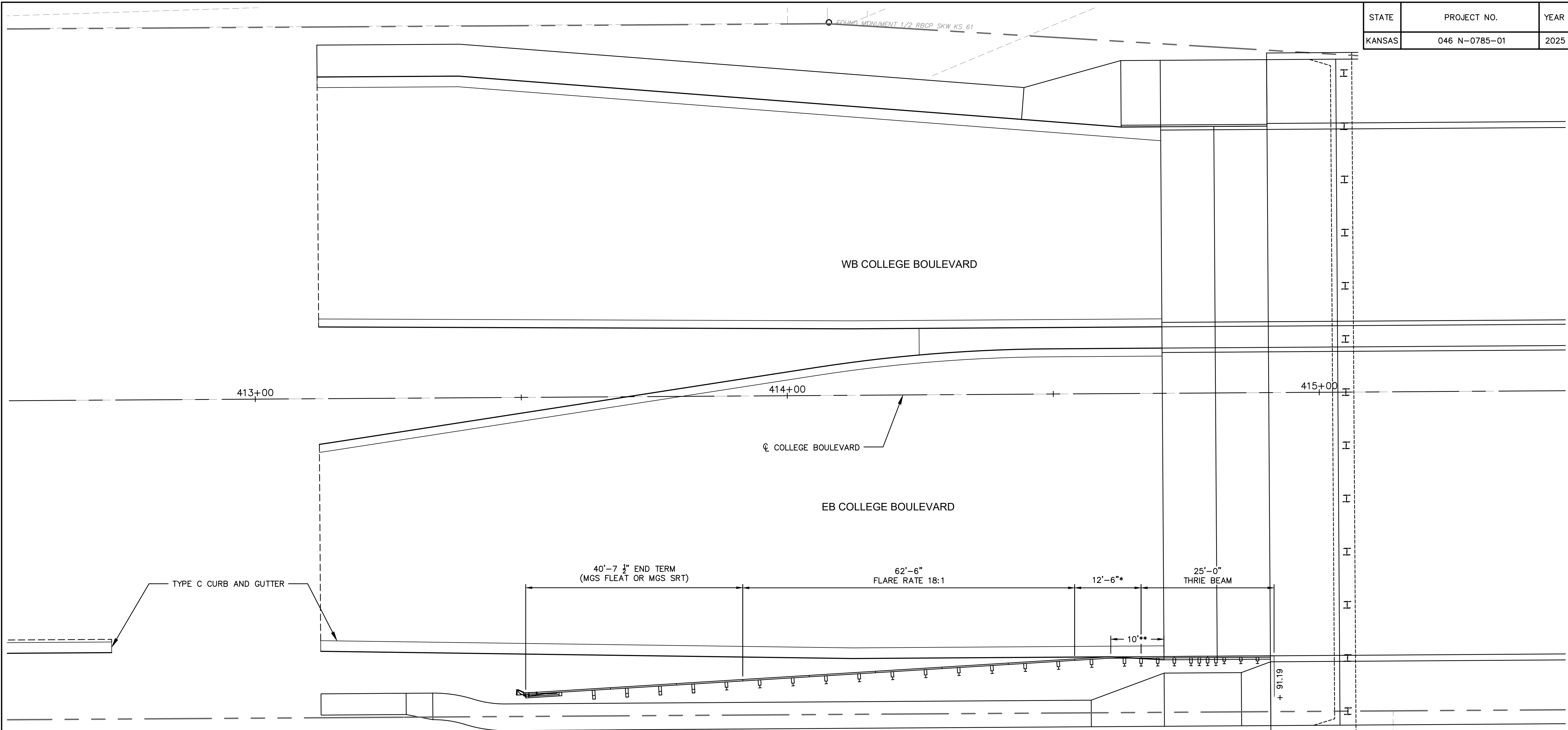
drawn by: ZDD
checked by: KAS
approved by: KAS
QA/QC by: GCL
project no.: 022-06522
drawing no.:
date: 01/31/2025

DWG: F:\2022\06501-07000\022-06529\40-Design\AutoCAD\Final_Plans\Sheets\RDWY\GUARDRAIL PLANS AND DETAILS\T_GRAIL_02206529.dwg USER: mweilch
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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

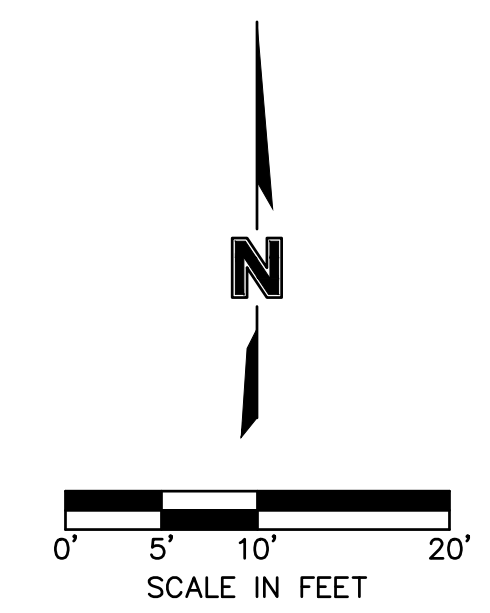
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NOTE:
 ALL CALLOUTS ARE BASED ON ϵ COLLEGE BLVD. AND REFERENCE THE GUARDRAIL FACE

- * CURVE RADIUS = 225.23'
- ** TRANSITION TYPE A CURB AND GUTTER TO 4" EDGE CURB ON APPROACH SLAB.



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

GUARDRAIL LAYOUT

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

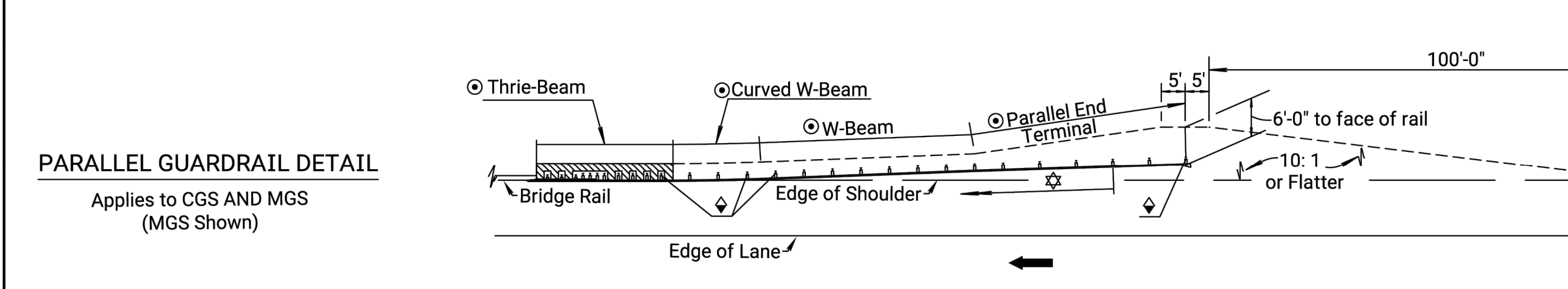
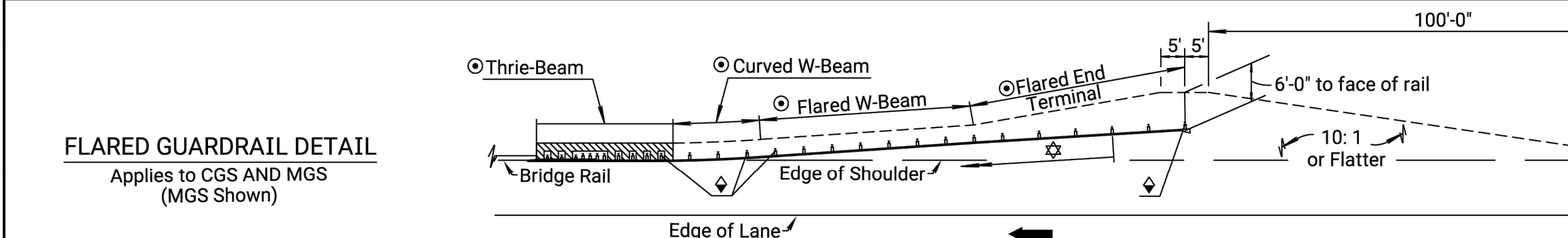
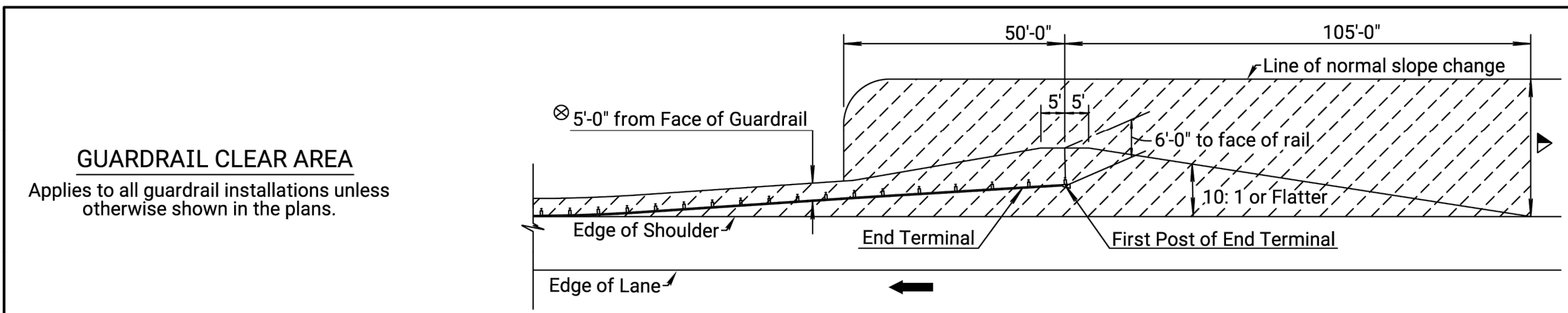
REVISIONS

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
 project no.: 022-06529
 drawing no.: T_GRAIL_02206529
 date: 1-31-2025

SHEET
 98 of 199

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

Note to Designer - Design guardrail installations using guidance shown on KDOT's 'Guardrail Typical Alignments' Standard Drawings. 'Flared' guardrail installations are preferred over 'Parallel' or 'Zero Flare' installations. Where 'Flared' or 'Parallel' installations are used, the flare rate of the guardrail end terminal typically matches the flare rate of the remaining guardrail installation. For 'Zero Flare' installations, 'Parallel' guardrail end terminals should be designed using typical flare rates of 50:1 or flatter for the length of the end terminal. However, while 50:1 or flatter flare rates are typical for 'Parallel' guardrail end terminals, these end terminals may be flared as steep as 26:1 or flatter in order to offset the end terminal head as far from the edge of the through traveled lane as practicable.

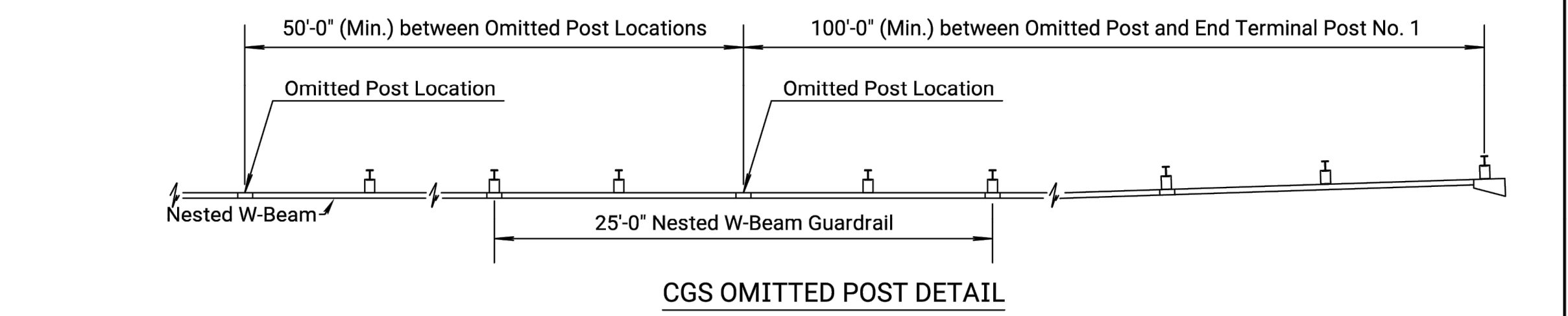
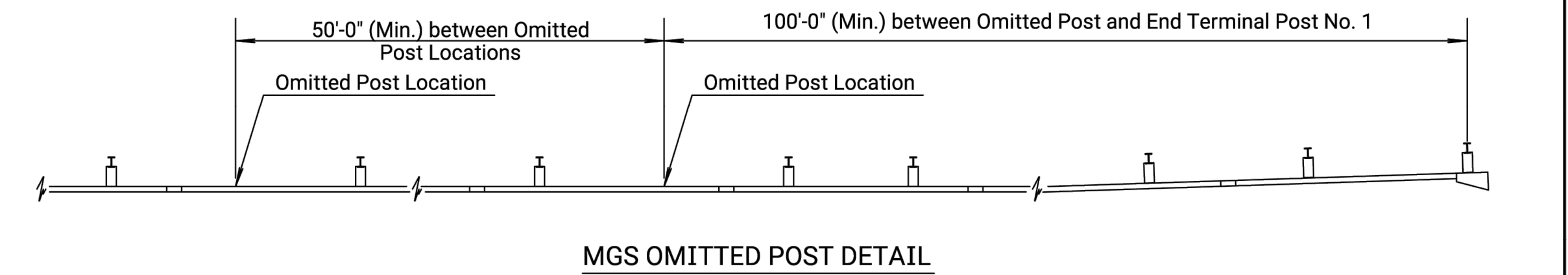
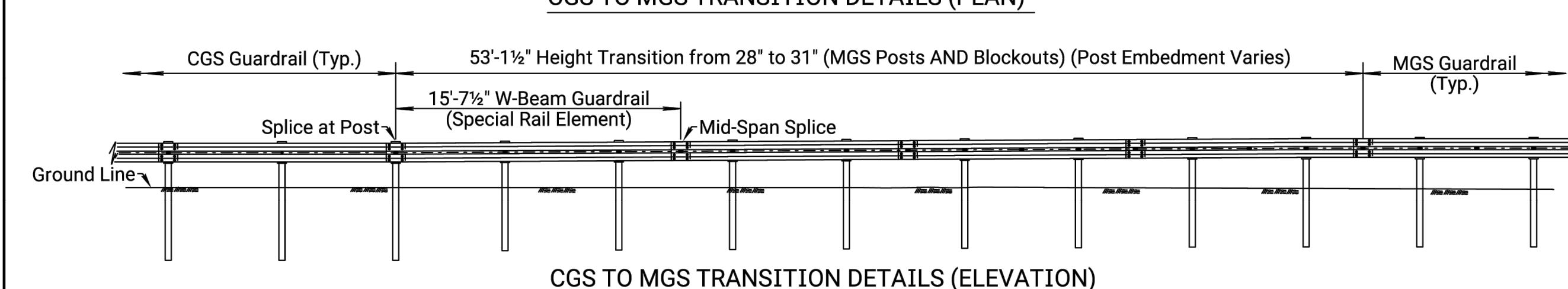
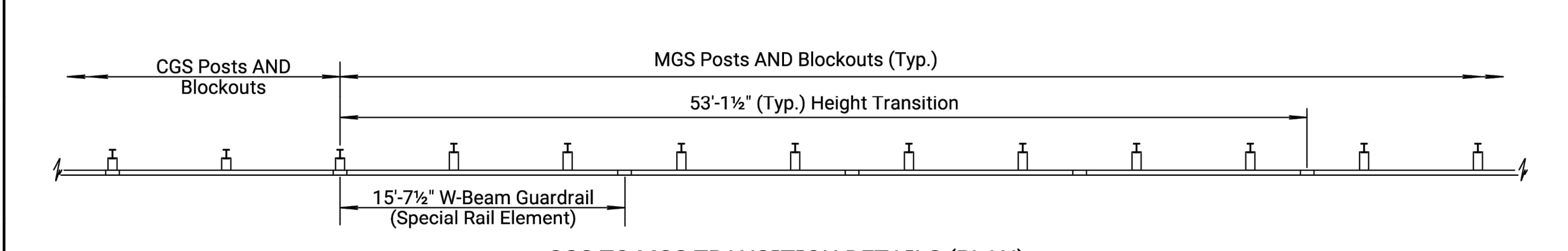


Keep Area Free of Stockpiled Material, Equipment, or Other Obstacles, Such as Temporary Signs, Regardless of Crash Worthiness. This Clear Area Extends 105 Feet in Advance of and 50 Feet behind the First Post of the Guardrail End Terminal and Then, in Order to Maintain Full Post Spacing, Continues 5 Feet behind the Face of the Guardrail through the W-Beam Portion of the Installation as Shown in the 'Guardrail Clear Area' Detail on this Sheet.
 ▲ Normal Project Side Slope.
 ⊗ Deflection Distance for Normal Post Spacing

See Guardrail Layout Sheets for Details
 On Guardrail Layout Sheets, Show Station AND Offset from the Roadway Alignment to the Face of Post at these Locations.
 ☆ Length of Need (Begins at Post 3)

GENERAL NOTES
 Install the guardrail end terminals according to the Manufacturer's Installation Manual. The Contractor will furnish a copy of the Manufacturer's Installation Manual to the Engineer prior to the start of the installation.
 Use approved steel (preferred) or wood posts provided by the Manufacturer. The guardrail end terminal post type may be independent of the post type used in the remainder of the installation. However, no mixing of post types is permitted in the remaining w-beam and thrie-beam installation.
 Use approved polymer (preferred) or wood blockouts provided by the Manufacturer. The guardrail end terminal blockout size and type may be independent of the blockout size and type used in the remainder of the installation. For blockout size and types for the remaining w-beam and thrie-beam portion of the installation see the details shown on KDOT's 'Guardrail Post Details' and 'Guardrail Thrie-Beam Transition Details' Standard Drawings.
 Apply retroreflective sheeting to the end terminal impact head before installation.
 Tighten all cable anchor assemblies as per the Manufacturer's Installation Manual.
 Lap w-beam and thrie-beam guardrail splices, in the direction of permanent traffic, even where temporary traffic may be carried in the opposite direction of the final traffic configuration. Lap end terminal splices per the Manufacturer's Installation Manual in the direction of permanent traffic, even where temporary traffic may be carried in the opposite direction of the final configuration.
 The minimum length of w-beam guardrail required between the thrie-beam transition and the guardrail end terminal is 12'-6" for all installations; unless otherwise stated in the Manufacturer's Installation Manual.
 Where pavement with a thickness less than or equal to 8" is encountered during installation, use the details shown on KDOT's 'Guardrail Post Details' Standard Drawings to provide openings in the pavement for the guardrail posts. Where pavement with a thickness greater than 8" or geologic rock is encountered during installation, follow the Manufacturer's Installation Manual for guidance. Where the Manufacturer's Installation Manual does not address pavement with a thickness greater than 8" or geologic rock, contact the manufacturer for instructions or install the guardrail posts as directed by the Engineer.
 All work and materials required for w-beam and thrie-beam guardrail installations are paid for under the appropriate bid items for either CGS or MGS guardrail depending on the type of installation.
 All work and materials required for guardrail end terminal installations are paid for under the bid item for the selected guardrail end terminal. See the table on this sheet for the appropriate end terminal bid item information.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS				



MIDWEST GUARDRAIL SYSTEM (MGS) END TERMINALS									
END TERMINAL BID ITEM	FLARED OR PARALLEL	MOUNTING HEIGHT	CRASH TESTING CRITERIA	STEEL POST DESIGN AVAILABLE	WOOD POST DESIGN AVAILABLE	ENERGY ABSORBING	MANUFACTURER	DESIGN LENGTH	MANUFACTURER SYSTEM LENGTH
Guardrail End Terminal (MGS-FLEAT)	Flared	31"	NCHRP 350	Yes	Yes	Yes	Road Systems	40'-7 1/2"	37'-6"
Guardrail End Terminal (MGS-SRT)	Flared	31"	NCHRP 350	Yes	Yes	No	Valtir	40'-7 1/2"	37'-6"
Guardrail End Terminal (MGS-MSKT)	Parallel	31"	MASH	Yes	No	Yes	Road Systems	46'-10 1/2"	46'-10 1/2"
Guardrail End Terminal (MGS-SOFTSTOP)	Parallel	31"	MASH	Yes	No	Yes	Valtir	46'-10 1/2"	50'-9 1/2"

CONVENTIONAL GUARDRAIL SYSTEM (CGS) END TERMINALS									
END TERMINAL BID ITEM	FLARED OR PARALLEL	MOUNTING HEIGHT	CRASH TESTING CRITERIA	STEEL POST DESIGN AVAILABLE	WOOD POST DESIGN AVAILABLE	ENERGY ABSORBING	MANUFACTURER	DESIGN LENGTH	MANUFACTURER SYSTEM LENGTH
Guardrail End Terminal (FLEAT)	Flared	28"	NCHRP 350	Yes	Yes	Yes	Road Systems	37'-6"	37'-6"
Guardrail End Terminal (SRT)	Flared	28"	NCHRP 350	Yes	Yes	No	Valtir	37'-6"	37'-6"
Guardrail End Terminal (SKT)	Parallel	28"	NCHRP 350	Yes	Yes	Yes	Road Systems	50'-0"	50'-0"

02	09-05-18	ADD. OMITTED POST AND TRANS. DETAILS	A.L.R.	T.T.R.
01	06-05-18	INITIAL RELEASE	A.L.R.	T.T.R.
NO.	DATE	REVISIONS	BY	APPD.
KANSAS DEPARTMENT OF TRANSPORTATION				
GUARDRAIL AUXILIARY DETAILS				
RD606				
FHWA APPROVAL		09-25-18	APPD.	Scott W. King
DESIGNED	DETAILED	QUANTITIES	TRACED	
DESIGN CK.	DETAIL CK.	QUAN CK.	TRACE CK.	

Plotted by : Amy.Rockers@ks.gov 22-MAY-2023 11:59
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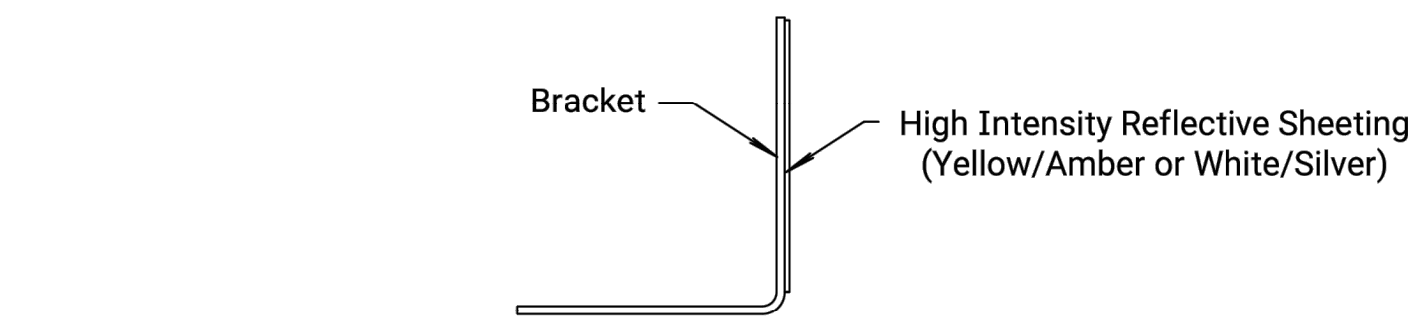
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

GUARDRAIL DETAILS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025
 REVISIONS

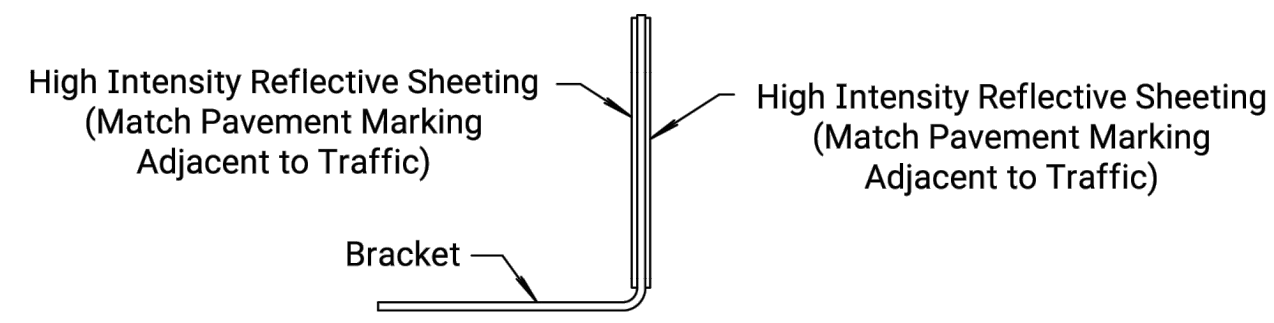
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 approved by: PBM
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 project no.: 022-06529
 drawing no.: GRAILDTL_02206529
 date: 1-31-2025

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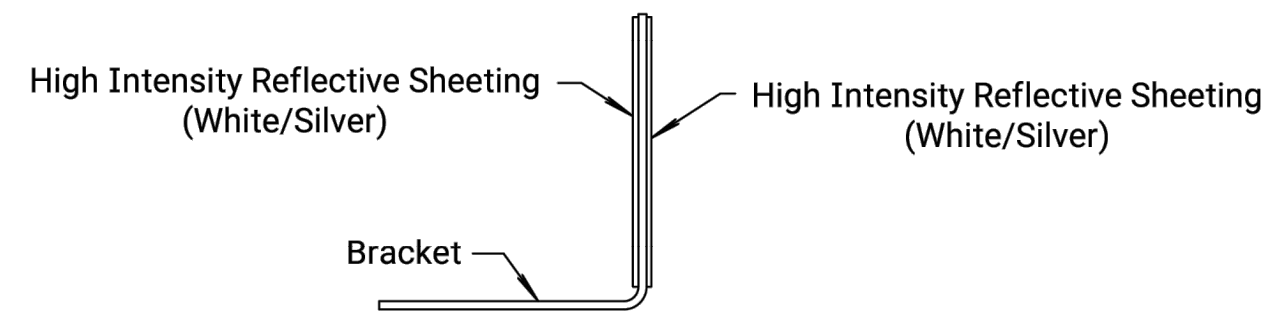
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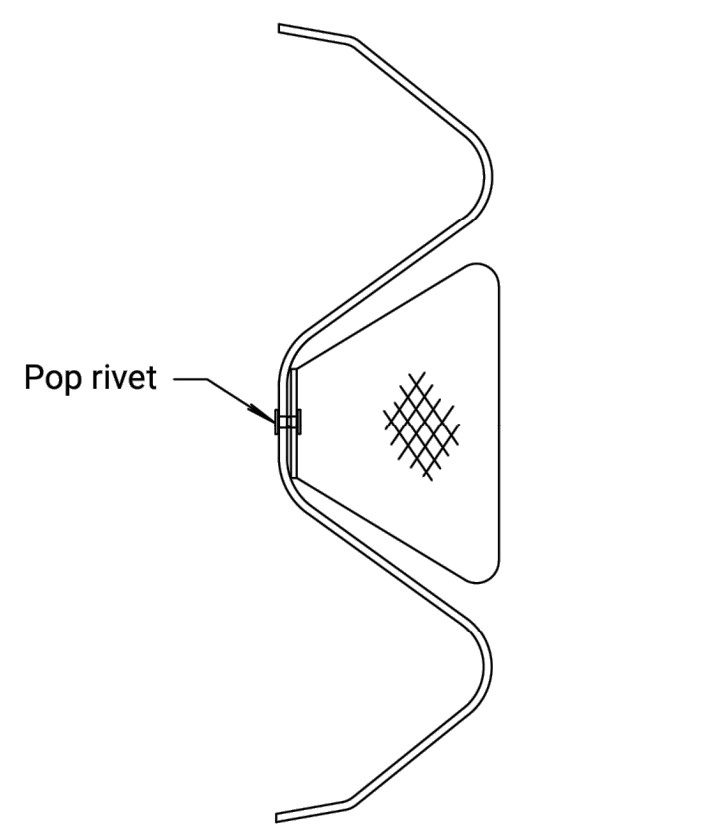
Side View
**Flexible Marker
 One-Way Traffic**



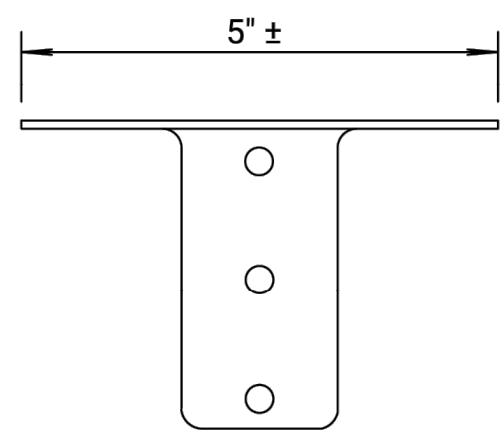
Side View
**Flexible Marker
 Median Locations**



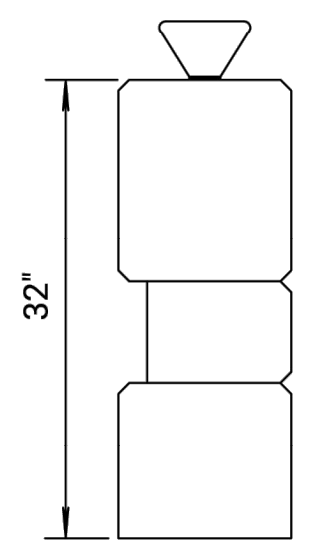
Side View
**Flexible Marker
 Two-Way Traffic**



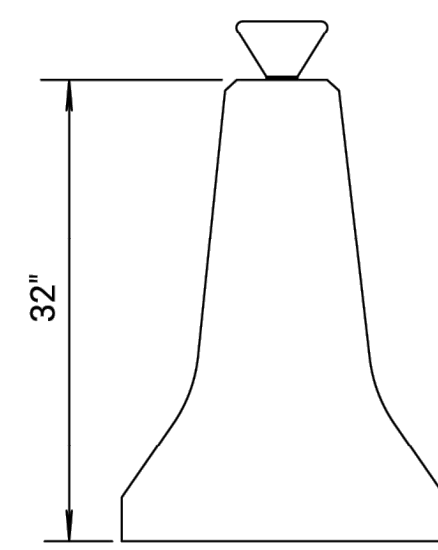
Typical Mounting on W-Beam
 Pop rivet attachment to Guardrail when necessary.



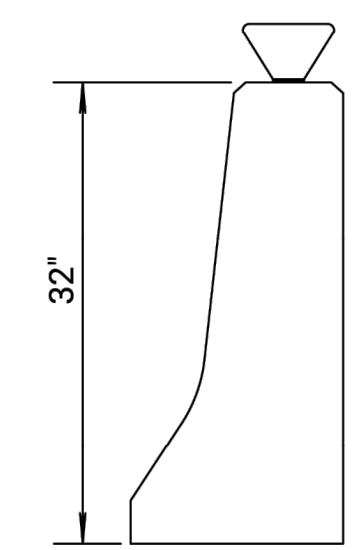
Top View
Barrier/Bridge Rail



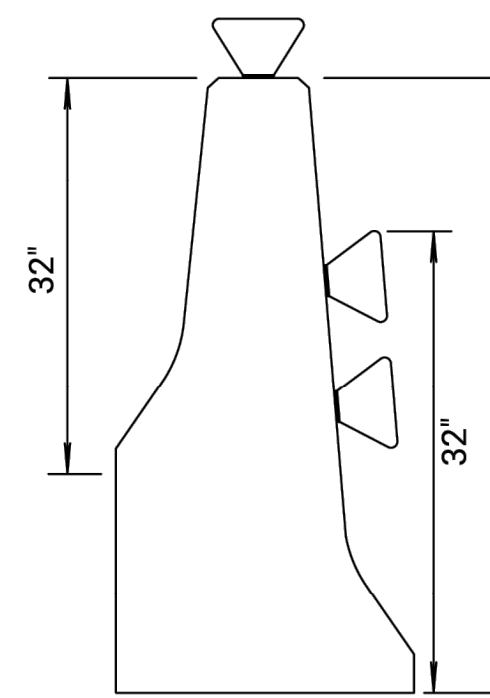
CORRAL RAIL



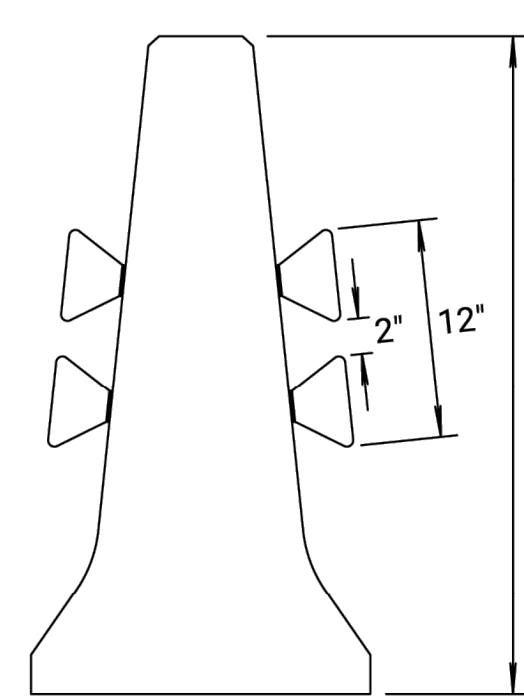
TYPE I CSB



TYPE II CSB or
 F-SHAPED BRIDGE RAIL

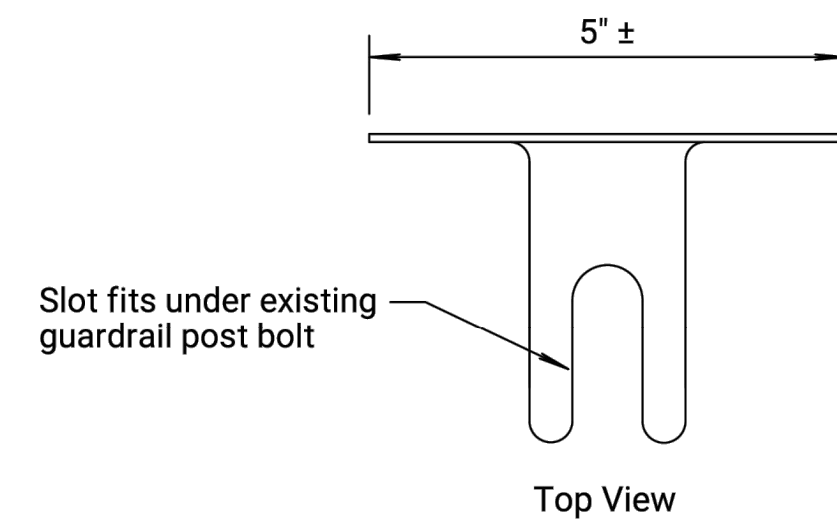


TYPE III CSB

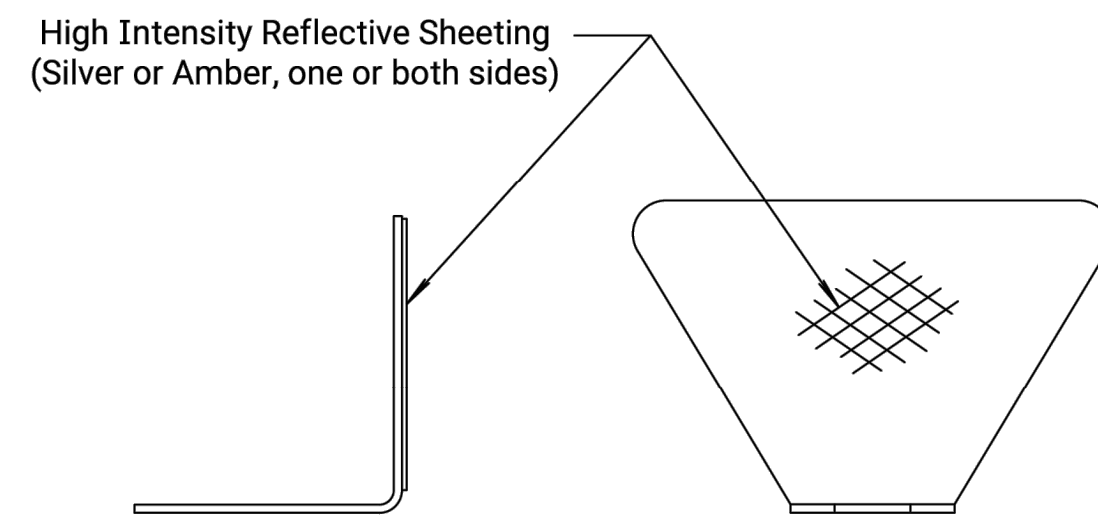


TYPE IV CSB

TYPICAL BARRIER/BRIDGE RAIL MOUNTING DETAILS



Top View

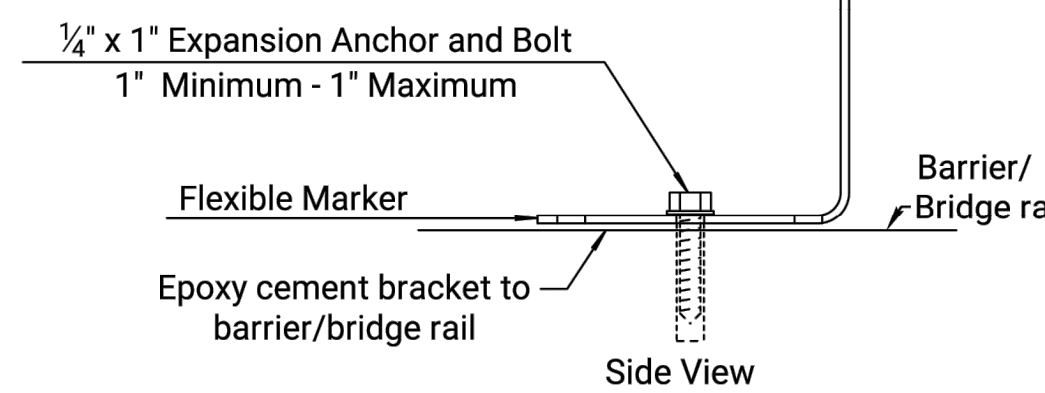


Side View

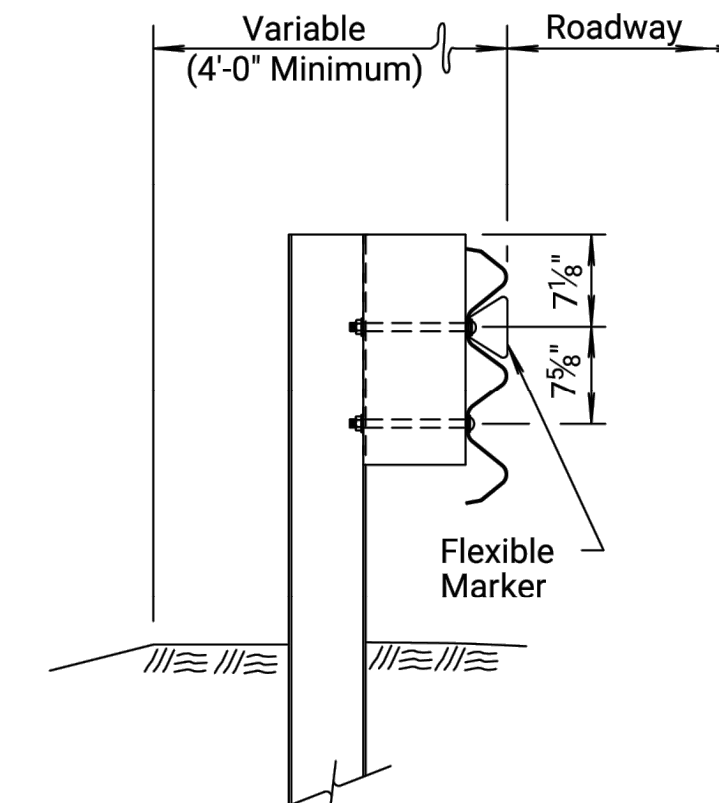
Front View

Flexible Guardrail Marker

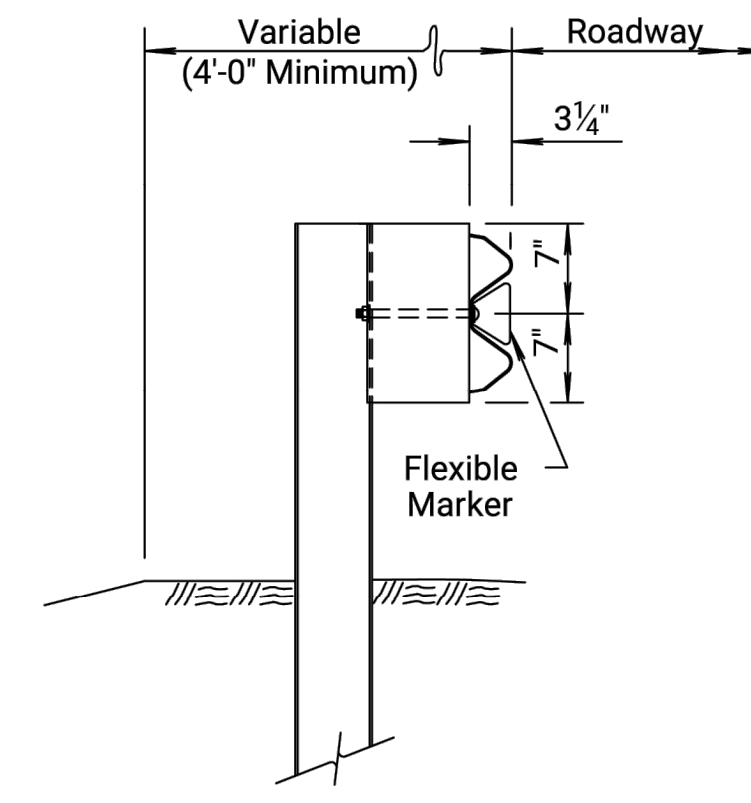
(High Impact Polycarbonate approx. .085" thick, 5 1/4" x 3")



Method of Attaching Flexible
 Marker to Barrier/Bridge Rail



THREE-BEAM GUARDRAIL



W-BEAM GUARDRAIL

GENERAL NOTES

Install flexible markers on a post behind the guardrail bolt head on the traffic side of guardrail installations at a spacing not to exceed 25'. No marker is installed between the head and post #5 when the guardrail is terminated with a crashworthy end terminal.
 Install flexible markers on the top of bridge rails at a spacing not to exceed 50', except for long bridges (greater than 200' long), where spacing may be increased to 100'.
 Install flexible markers on the top of concrete safety barrier at a spacing not to exceed 100', except for barrier along a horizontal curve or along ramps and ramp tapers, where spacing is not to exceed 50'.
 Where the height of the bridge rail or concrete barrier is greater than 32", mount the flexible markers on the side of the barrier at a height of 32" as shown on this sheet.
 For guardrail, bridge rail, or concrete safety barrier located on two-way roadways, use flexible markers with white/silver high intensity reflective sheeting on both sides.
 For guardrail located on one-way or divided roadways, use flexible markers with reflective sheeting installed on the approach traffic side of the bracket only. For bridge rail or concrete safety barrier located on the outside edge of one-way or divided roadways, use flexible markers with reflective sheeting installed on the approach traffic side of the bracket only. For bridge rail or concrete safety barrier located in the median, use flexible markers with reflective sheeting installed on both sides of the bracket. Match the color of the marker (yellow/amber or white/silver) to the color of the pavement marking adjacent to the traffic lane.
 Use High Impact Polycarbonate Flexible Guardrail Marker with High Intensity Reflective Sheeting or an approved equivalent, see Standard Specifications.
 Use zinc or cadmium plated fasteners that comply with Standard Specifications.
 Work and materials required for installation of markers on guardrail, bridge rail, or concrete safety barrier are subsidiary to other bid items in the contract.
 Install flexible markers for the final (permanent) traffic configuration.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	046 N-0785-01	2025		

NO.	DATE	REVISIONS	BY	APPD.
09	09-11-17	Rev. Det. Markers, Rev. Gen. Note	A.L.R.	S.W.K.
08	11-15-10	Revised notes	S.W.K.	J.O.B.
07	12-21-08	AKT marker or approved equal	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

MARKER DETAILS FOR GUARDRAIL, BARRIER, AND BRIDGE RAILS

RD610

DESIGNED	03-15-18	APPD.	Scott W. King
DETAIL CK		QUANTITIES	TRACED
DESIGN CK		QUAN. CK	TRACE CK

KDOT Graphics Certified 05-11-2022 Sh. No. 0

STATE PROJECT NO. YEAR
 KANSAS 046 N-0785-01 2025

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 Overland Park, KS 66213-4750
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

GUARDRAIL DETAILS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

REVISIONS

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBE
 project no.: 022-06529
 drawing no.: GRAILDTL 02206529
 date: 1-31-2025

SHEET
 100 of 189

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS				

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

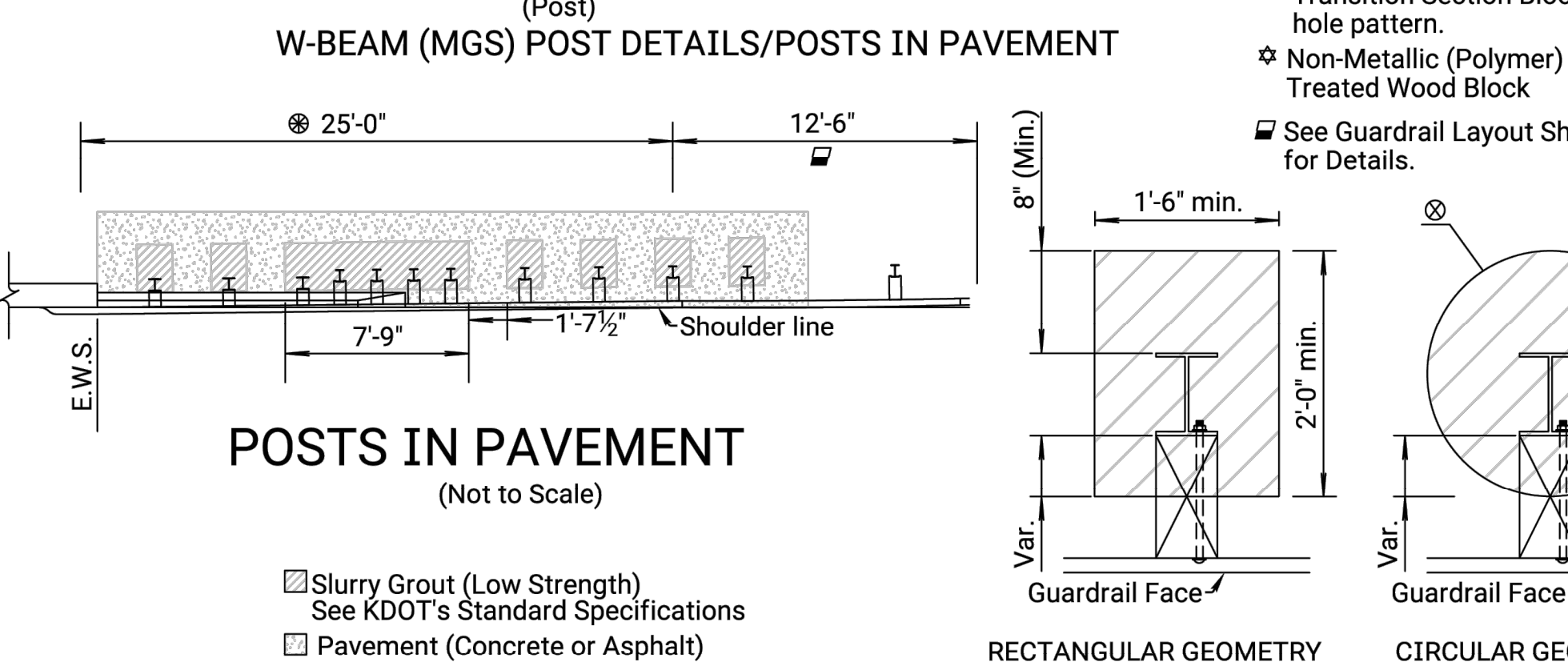
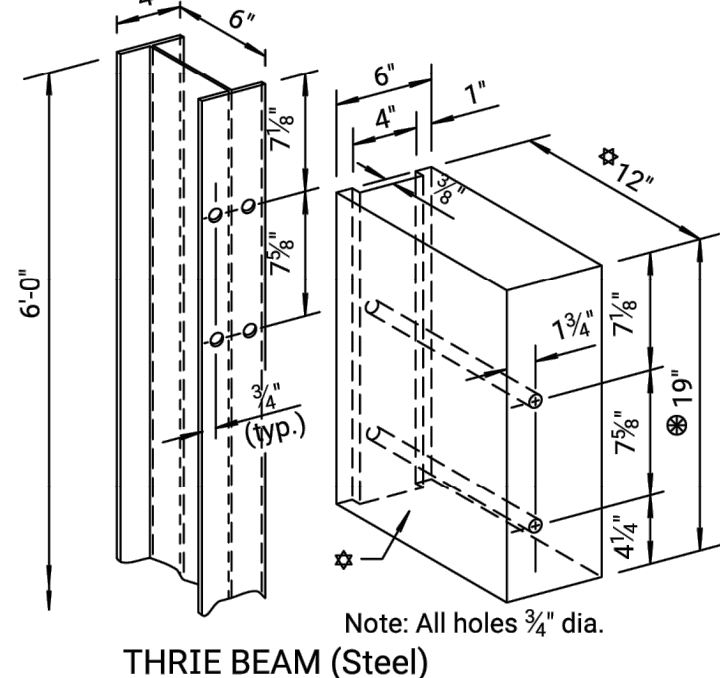
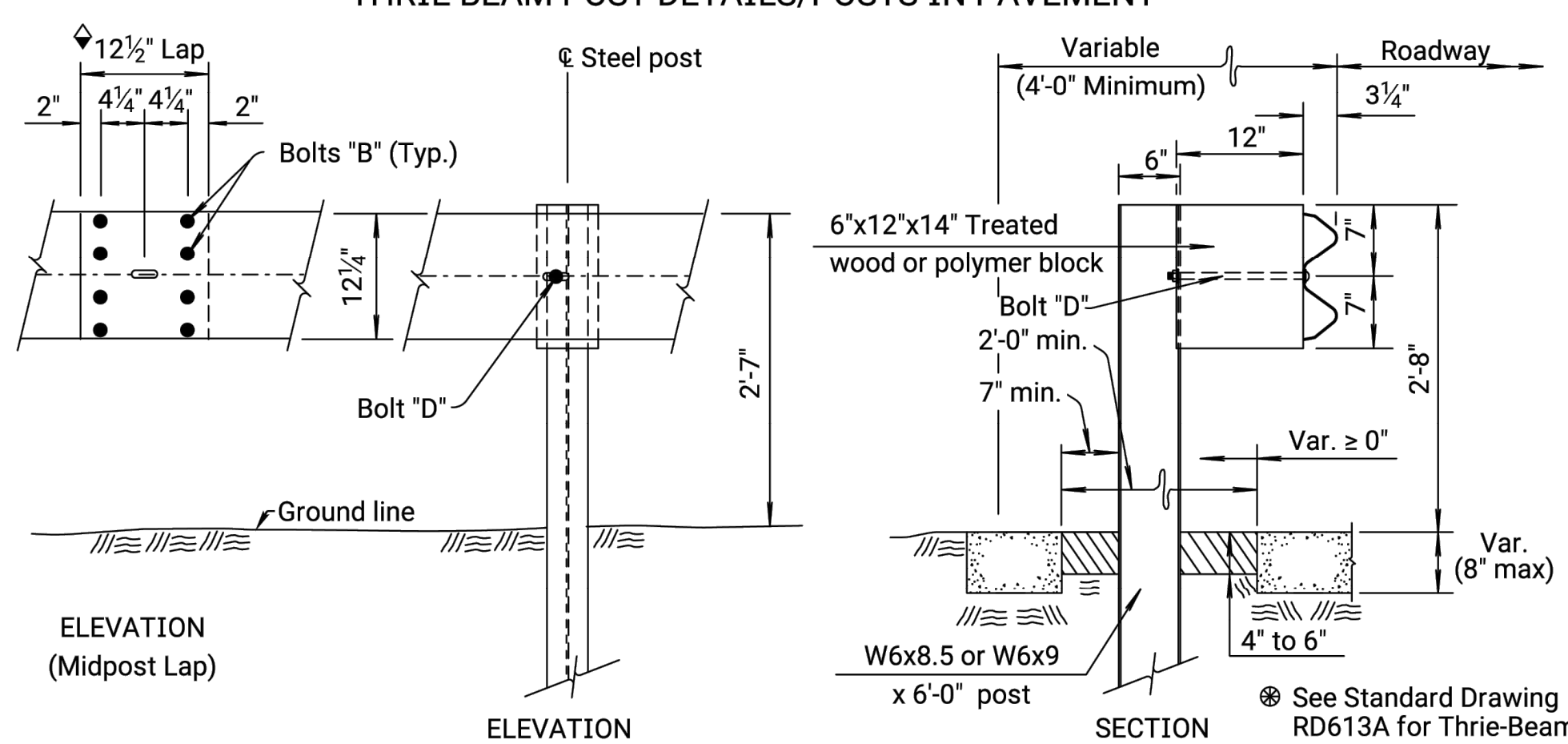
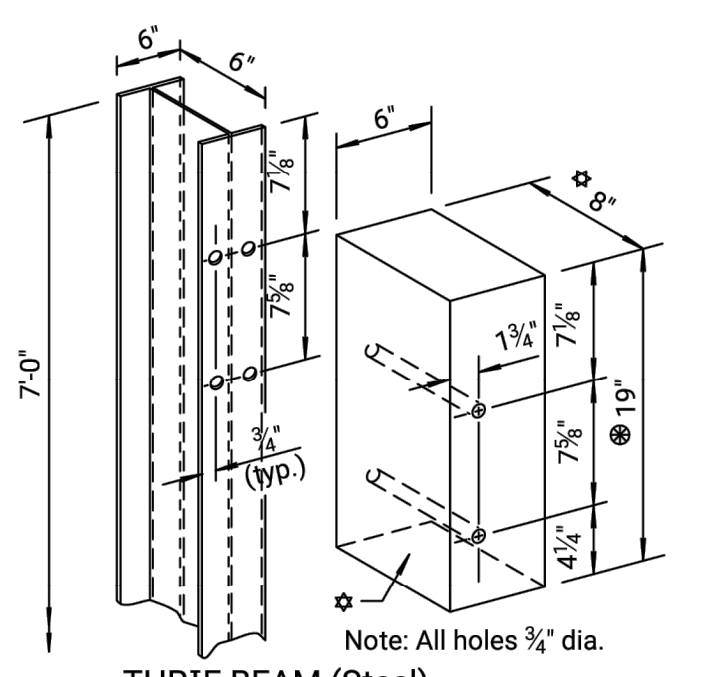
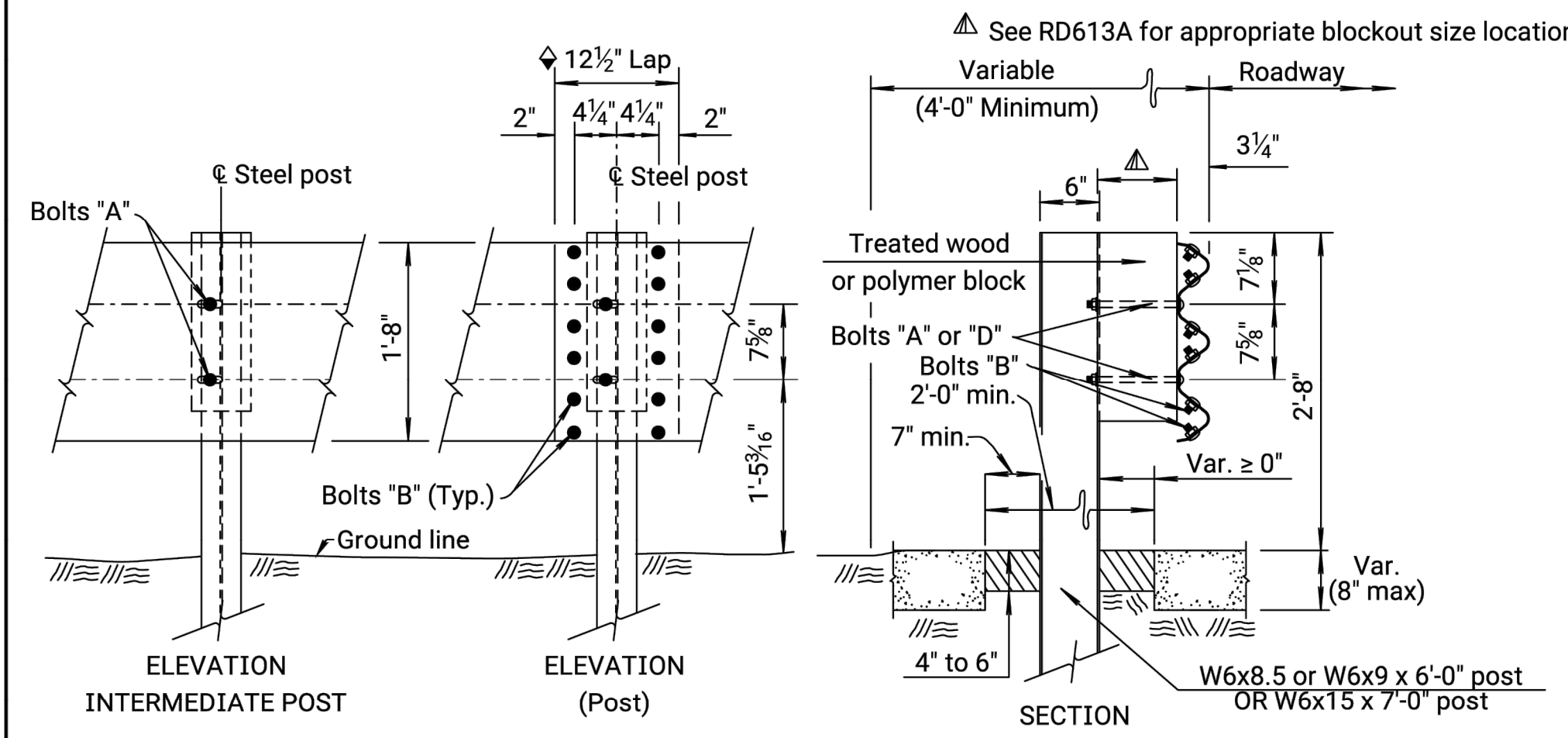
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GUARDRAIL DETAILS
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS

2025

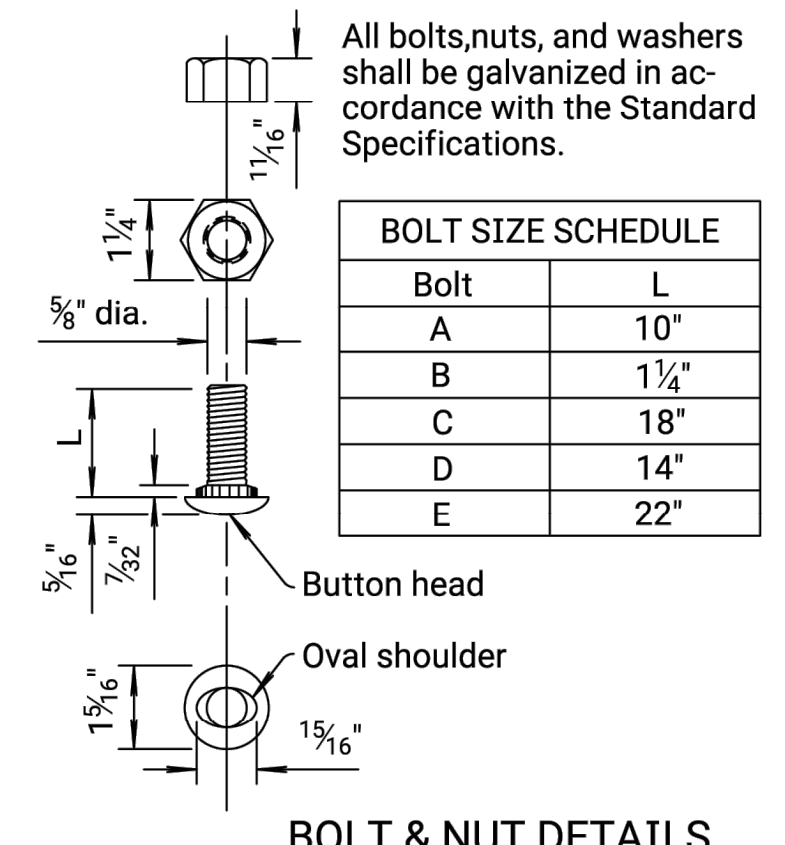
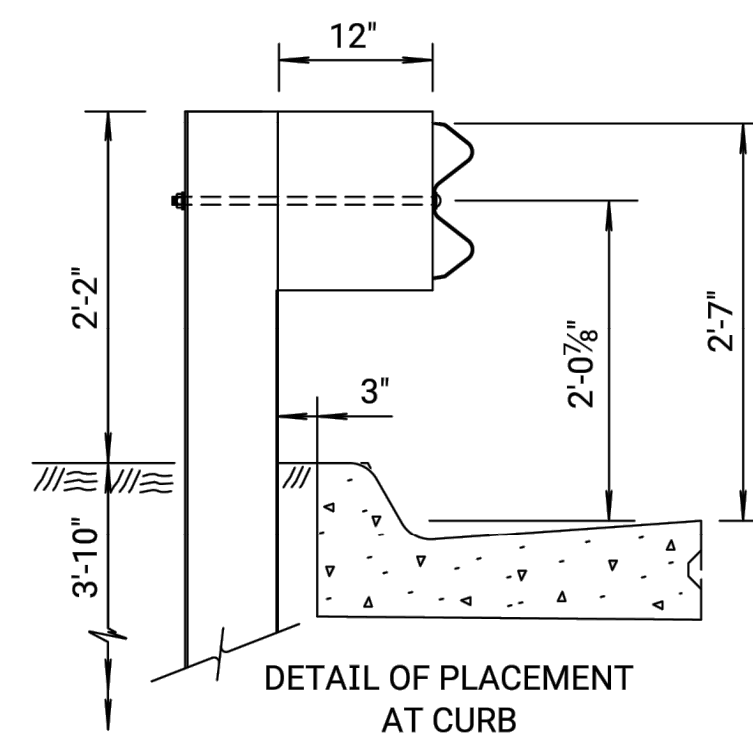
SHEET
101 of 189

◆ Lap guardrail splices, including terminal connector, in the direction of traffic. Where traffic is temporarily carried in the opposite direction of final configuration, lap rail splices in the direction of permanent traffic.



Note: Low Strength Grout must have a 28-day compressive strength of 120 psi or less. All work and materials related to posts in pavement are subsidiary to other guardrail bid items. Rectangular geometry shown in Posts in Pavement detail. Circular geometry, as shown on this sheet, may be used at the Contractor's option.

Legend:
 Slurry Grout (Low Strength)
 See KDOT's Standard Specifications
 Pavement (Concrete or Asphalt)



Note: Measure height of rail from the pavement surface at the curb/pavement joint as shown. A special design is needed when guardrail is not located as detailed. A Type II (laydown) curb & gutter is preferred when guardrail is adjacent to curb.

NO.	DATE	REVISIONS	BY	APPD.
05	09-24-15	Separated Steel/Wood Post Details	S.W.K.	S.W.K.
04	11-08-12	Revised Detail, Posts in Pavement	S.W.K.	J.O.B.
03	08-01-12	Revised Note to Designer	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION
GUARDRAIL POST (STEEL) (MGS) DETAILS

RD611A	01-29-16	APPD.	Scott W. King
DESIGNED	DETAILED	QUANTITIES	TRACED
DESIGN CK.	DETAIL CK.	QUAN. CK.	TRACE CK.

KDOT Graphics Certified 05-11-2022 Sh. No. 0

Notes to Designer: For posts installed in pavement thicker than 8" or posts installed in rock formations refer to AASHTO's Roadside Design Guide for details then revise this drawing and all supporting drawings appropriately.

Plotted by: KDOT#CADD.Support_Lks.gov 11-JUN-2022 00:46
 File: rd611a.dgn

USER: mweich

RD611A.dgn

11-JUN-2022 00:46

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DATE: Feb 02, 2025 1:14pm

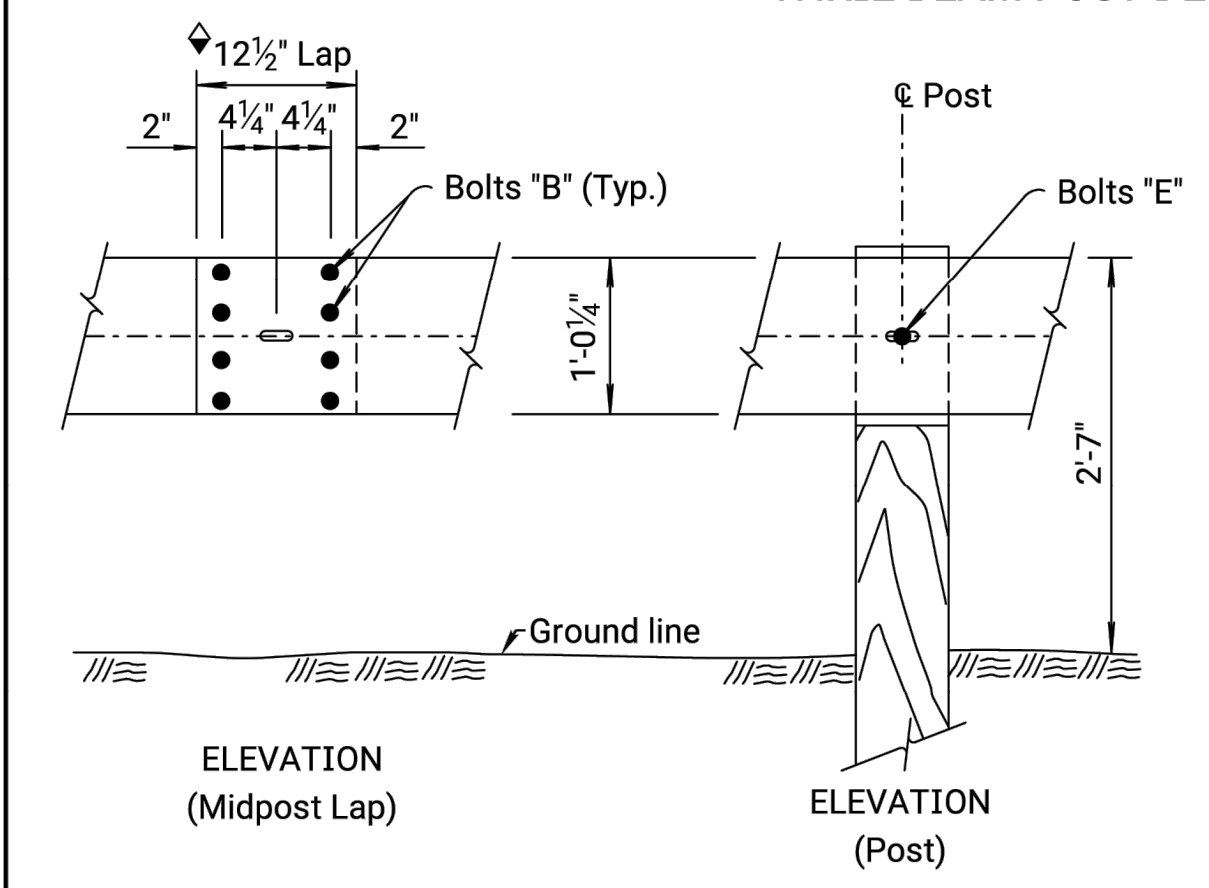
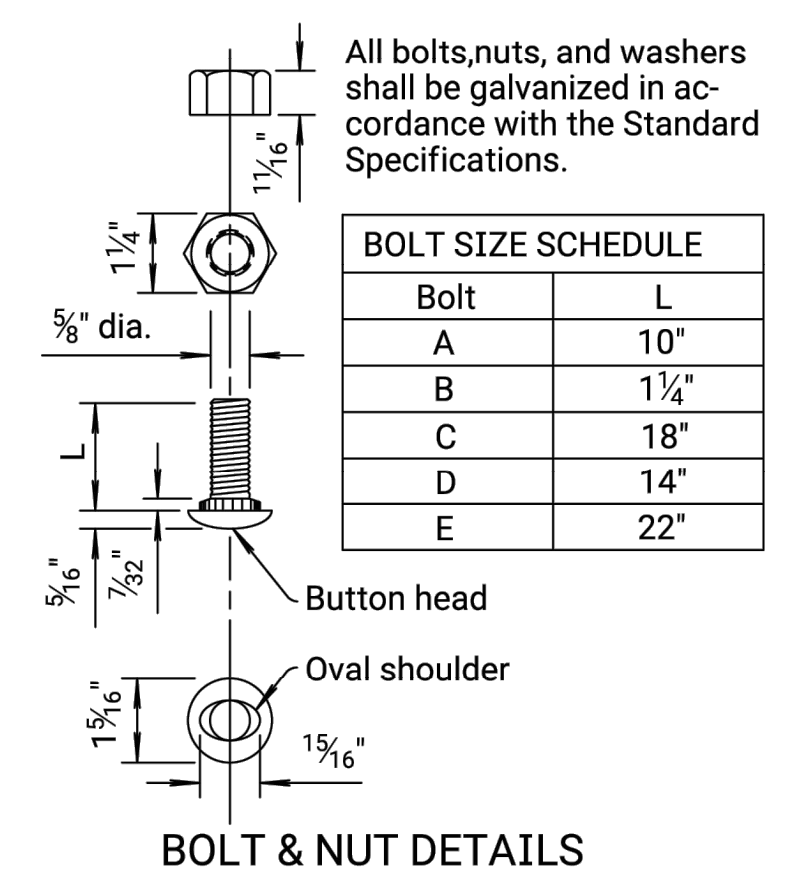
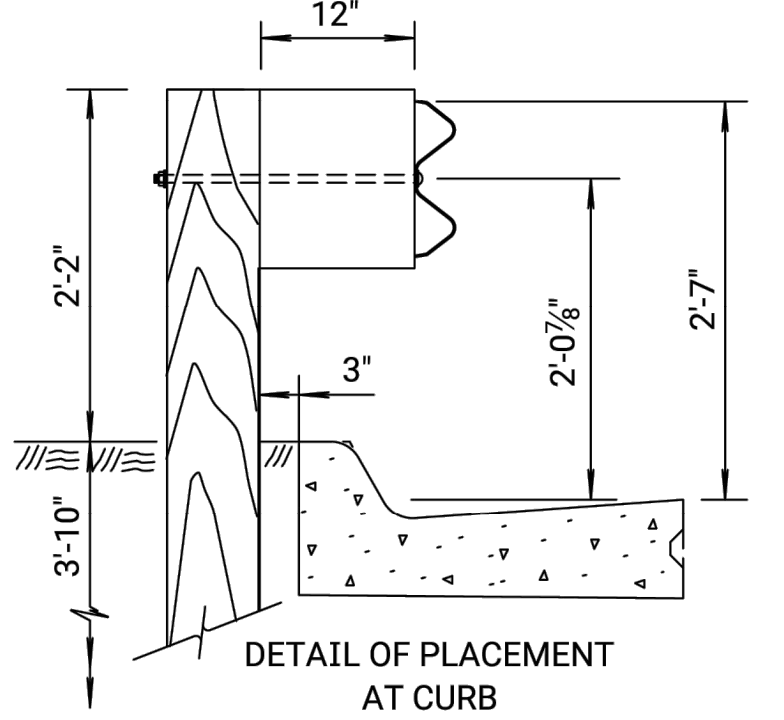
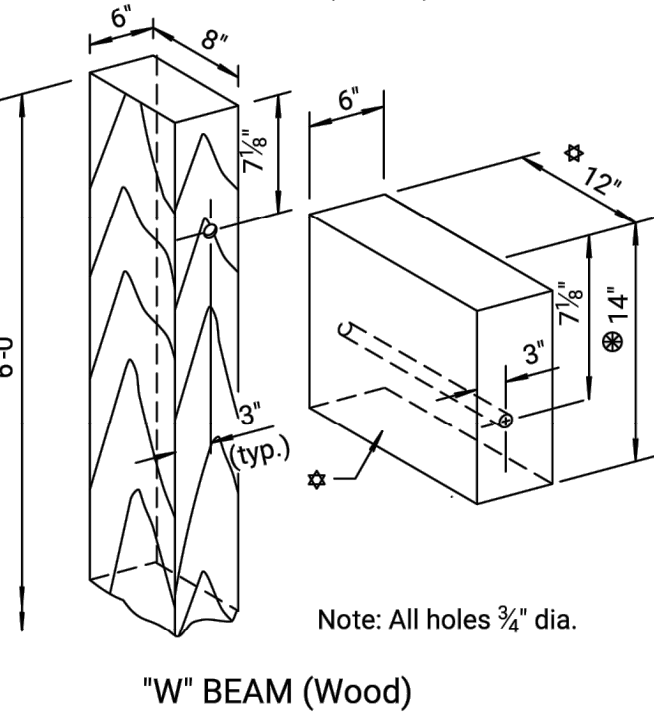
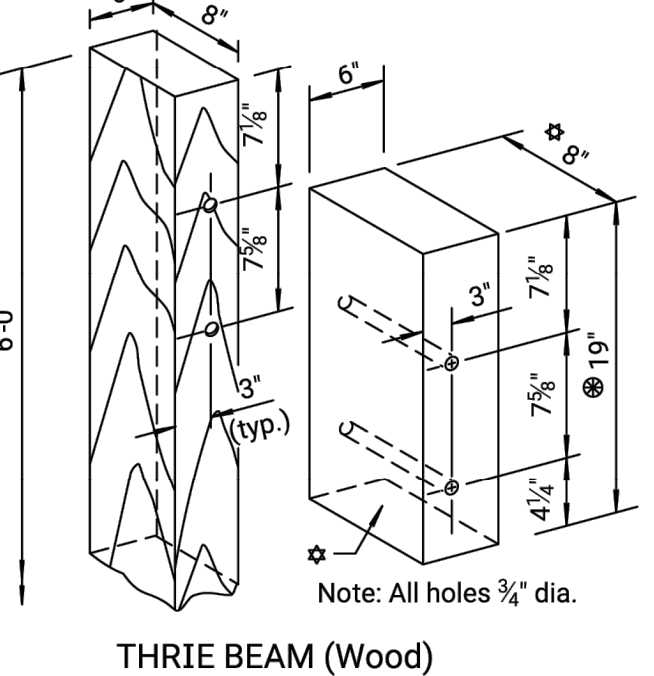
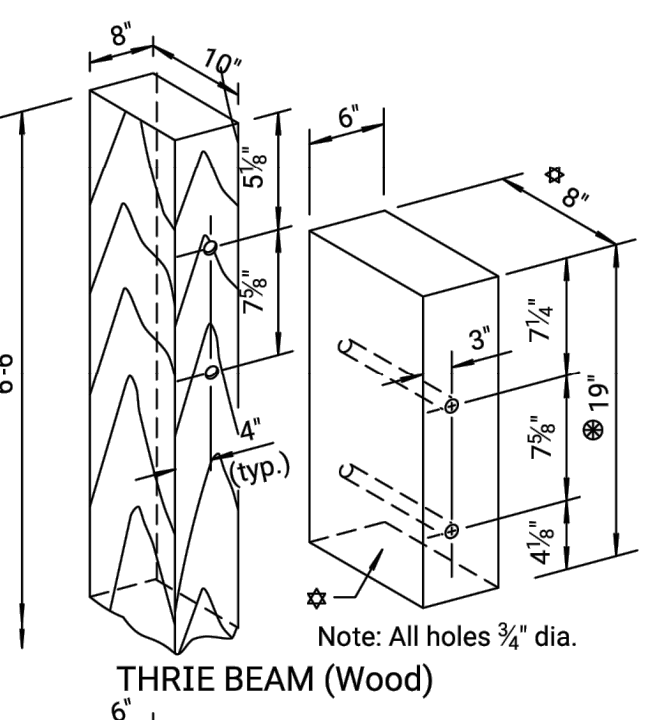
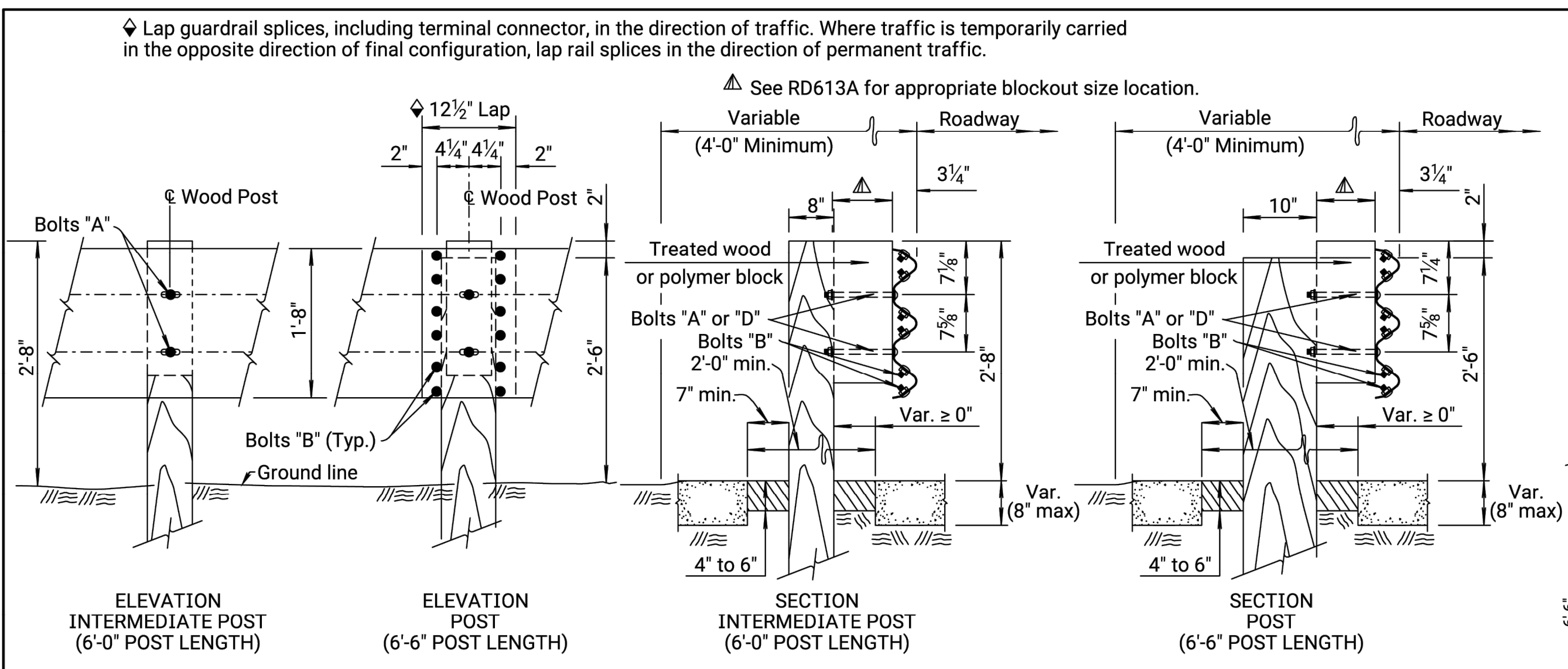
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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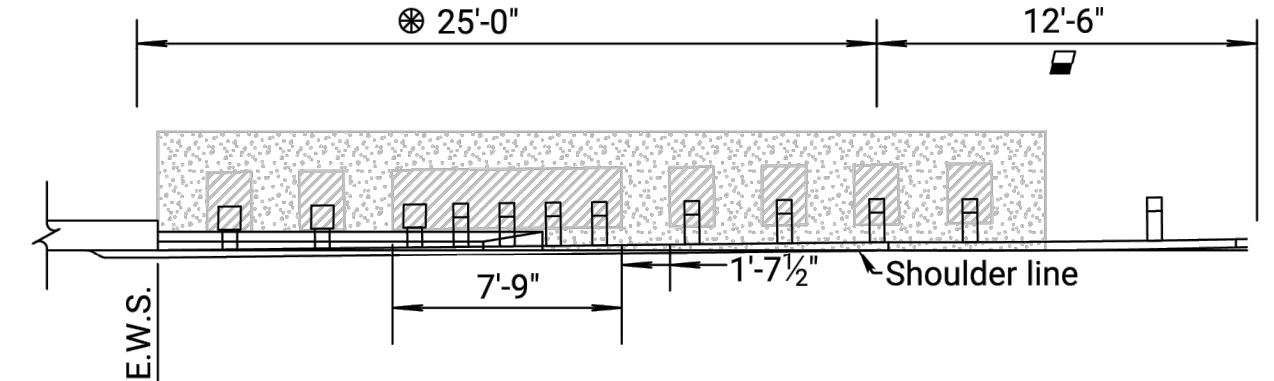
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Overland Park, KS 66213-4750
TEL 913.381.1170 www.olson.com

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS				

Notes to Designer: For posts installed in pavement thicker than 8" or posts installed in rock formations refer to AASHTO's Roadside Design Guide for details then revise this drawing and all supporting drawings appropriately.



W-BEAM (MGS) POST DETAILS/POSTS IN PAVEMENT

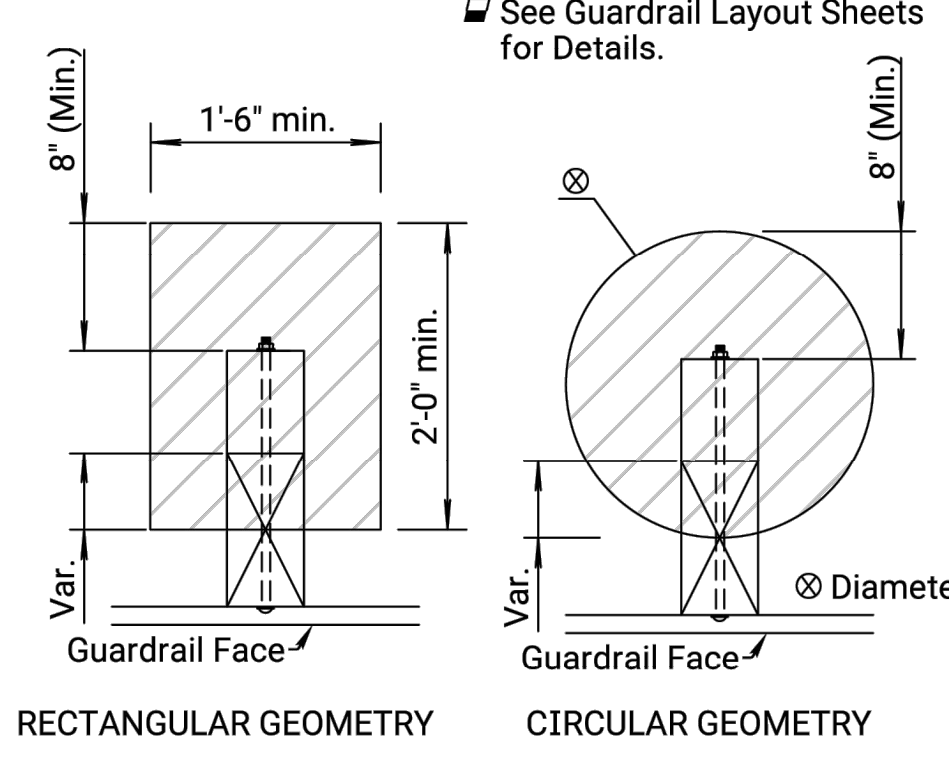


POSTS IN PAVEMENT (Not to Scale)

Slurry Grout (Low Strength)
See KDOT's Standard Specifications

Pavement (Concrete or Asphalt)

Note: Low Strength Grout must have a 28-day compressive strength of 120 psi or less. All work and materials related to posts in pavement are subsidiary to other guardrail bid items. Rectangular geometry shown in Posts in Pavement detail. Circular geometry, as shown on this sheet, may be used at the Contractor's option.



PLAN (ALTERNATE GEOMETRIES)

04	09-24-15	Initial Release	T.T.R.	S.W.K.
NO.	DATE	REVISIONS	BY	APPD.
KANSAS DEPARTMENT OF TRANSPORTATION				
GUARDRAIL POST (WOOD) (MGS) DETAILS				
RD611B				
FHWA APPROVAL	01-29-16	APPD.	Scott W. King	
DESIGNED	DETAILED	QUANTITIES	TRACED	
DESIGN CK.	DETAIL CK.	QUAN CK.	TRACE CK.	
KDOT Graphics Certified		05-11-2022	Sh. No. 0	

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

GUARDRAIL DETAILS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

REVISIONS

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBE
project no.: 022-06529
drawing no.: GRAILDTL 02206529
date: 1-31-2025

USER: mweich

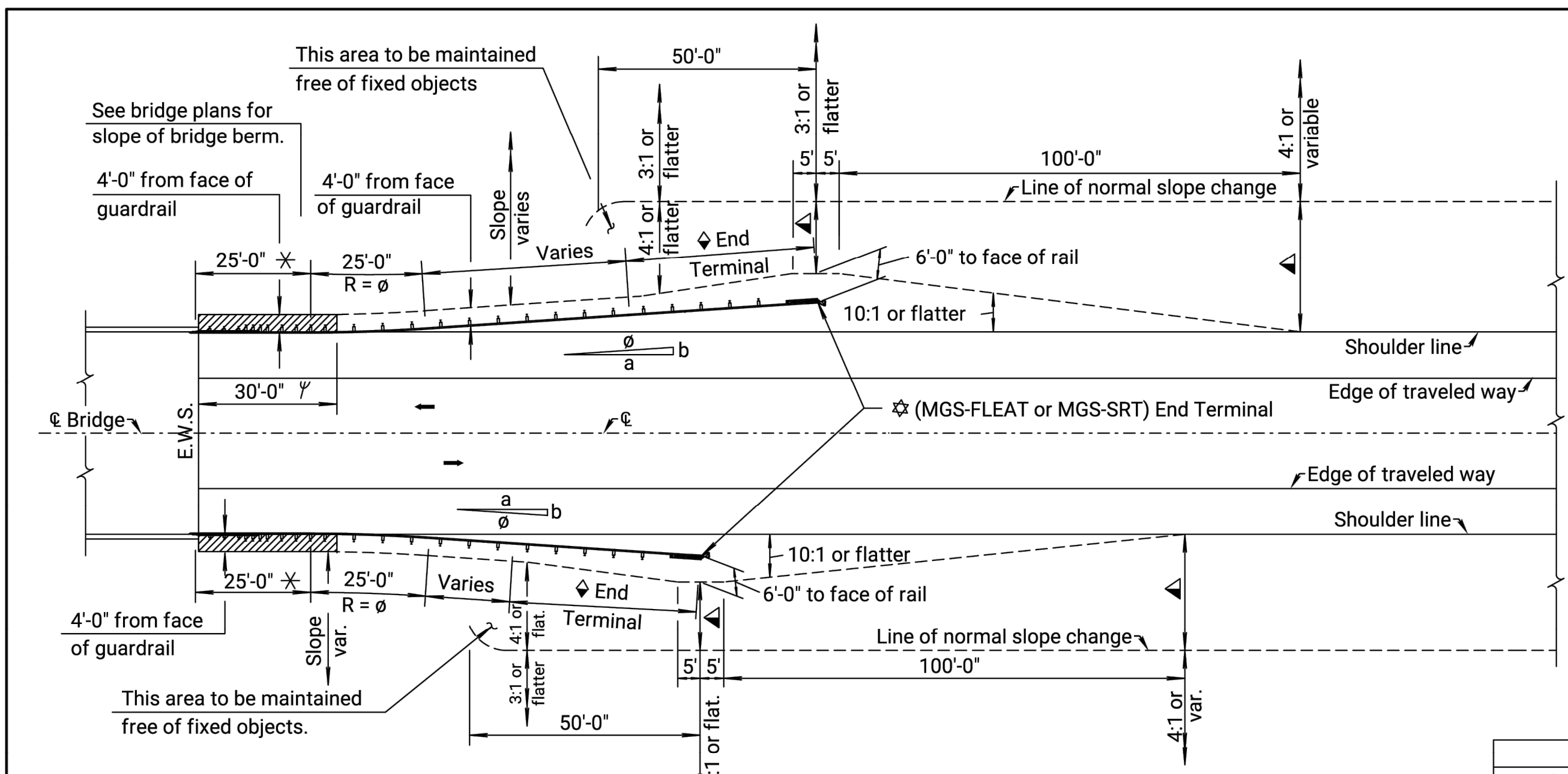
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File: rd611b.dgn

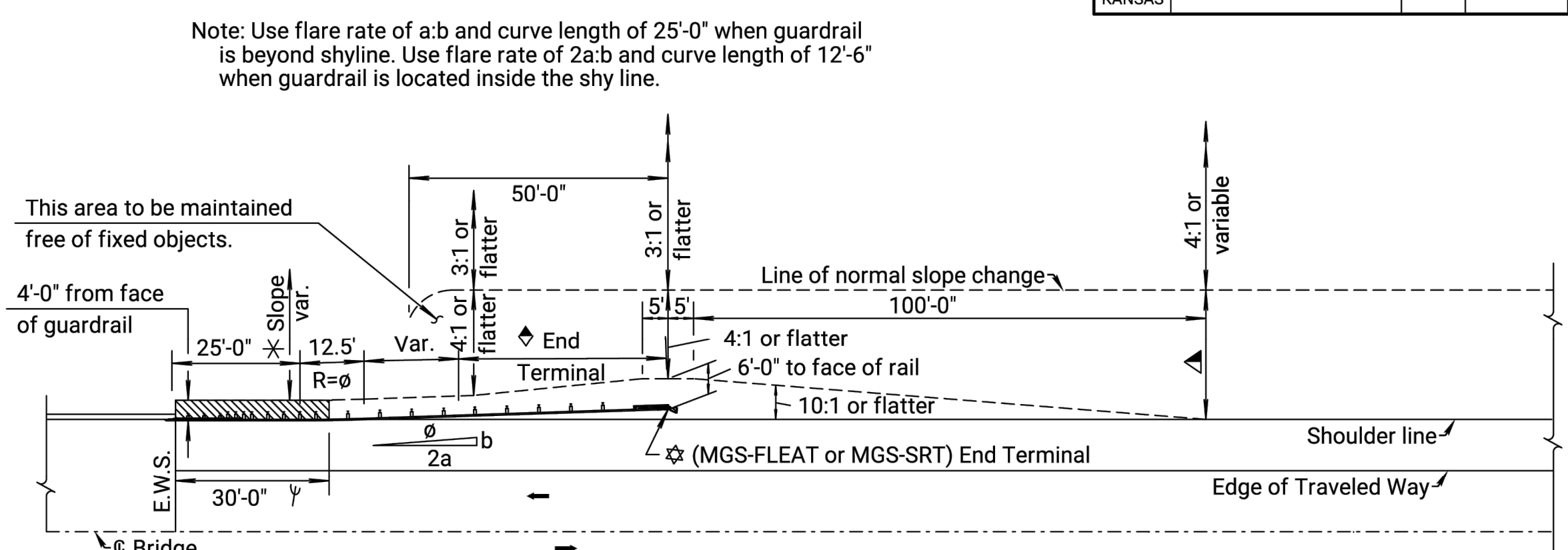
DWG: F:\2022\06501-07000\022-06529\40-Design\AutoCAD\Final Plans\Sheets\RD611B_GUARDRAIL PLANS AND DETAILS\T_GRAILDTL_02206529.dwg

DATE: Feb 02, 2025 1:14pm

Notes to Designer: Determine guardrail length of need using either KDOT's Length of Need Equation or a graphic design approach with an L_c distance measured from the edge of the area of concern to the P.I. of the curved guardrail section. Combine materials for asphalt widening in the plan quantities.
Optional: If approach side is within the shyline, use a flare rate of 2a:b for all quadrants.

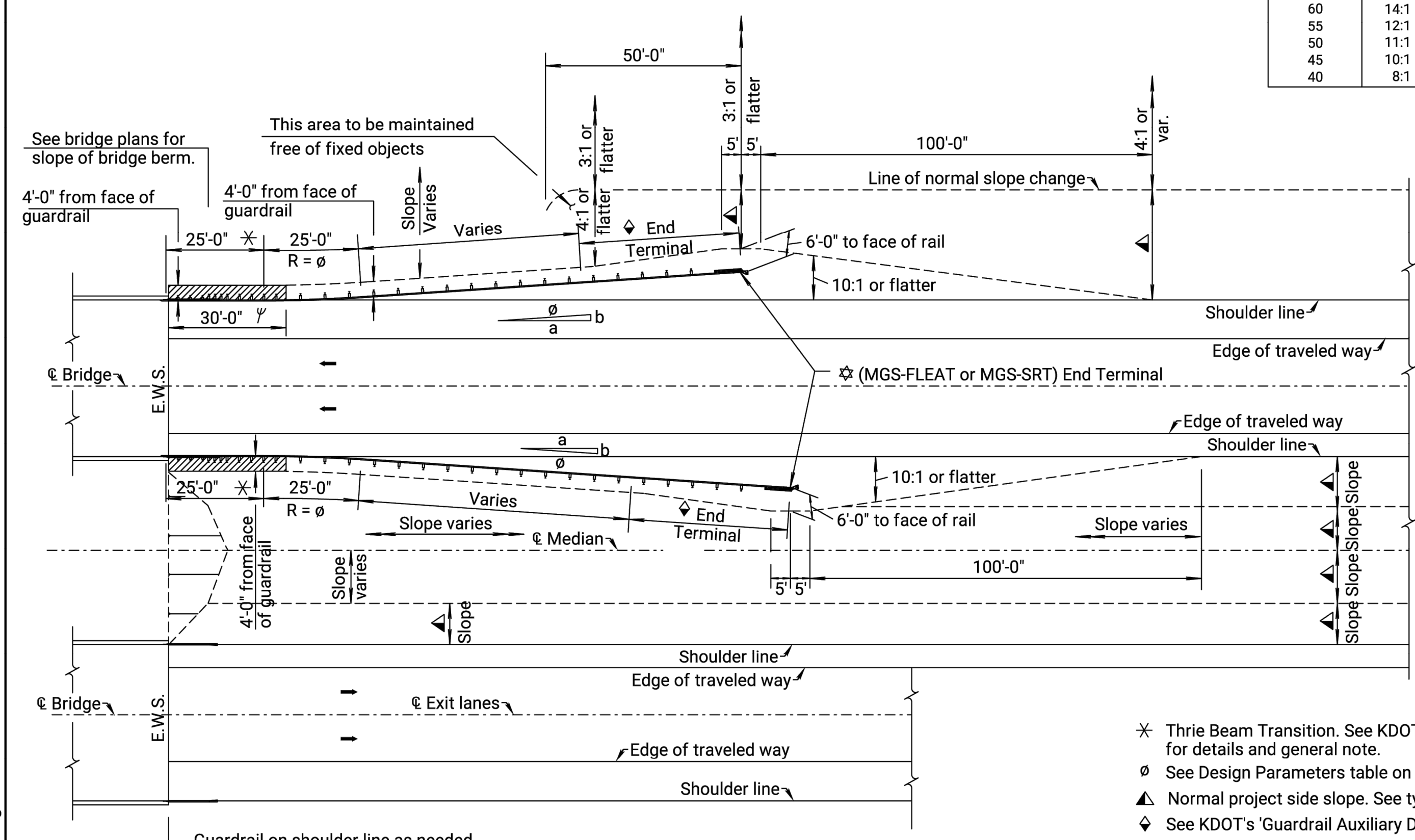


THRIE BEAM TRANSITION - TWO LANES



ALTERNATE TREATMENT - TWO LANES (Flare Rate = 2a:b)

DESIGN PARAMETERS				
Design Speed (mph)	Flare Rate (a:b)	Radius (R)	Flare Rate (2a:b)	Radius (R)
70	15:1	375.55'	30:1	375.14'
60	14:1	350.59'	26:1	325.16'
55	12:1	300.69'	24:1	300.17'
50	11:1	275.76'	21:1	262.70'
45	10:1	250.83'	18:1	225.23'
40	8:1	201.04'	16:1	200.26'



THRIE BEAM TRANSITION - FOUR LANES (DIVIDED)

- * Thrie Beam Transition. See KDOT's 'Thrie Beam Guardrail Transition Details' Standard Drawings for details and general note.
- ∅ See Design Parameters table on this sheet for radius, length of curve and flare rate information.
- ▲ Normal project side slope. See typical sections.
- ◆ See KDOT's 'Guardrail Auxiliary Details' Standard Drawing.
- ∇ 4" Asphalt material placed on 4'-0" embankment widening unless flume inlet and slope drain is constructed. See KDOT's 'Guardrail Post Details' Standard Drawings for 'Post in Pavement' details.
- ✱ The minimum length of w-beam guardrail required between the guardrail end terminal and any transition section, including the thrie-beam transition, is 12'-6".

NO.	DATE	REVISIONS	BY	APPD.
04	06-05-18	Removed Flare beyond the Flare	ALR	T.T.R.
03	05-15-17	Removed XLITE	ALR	S.W.K.
02	06-07-12	Revised Note to Designer	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

THRIE BEAM GUARDRAIL (MGS) BRIDGE APPROACH TRANSITION TYPICAL ALIGNMENTS (FLARED)

RD612C

DESIGNED	06-19-18	APPD.	Scott W. King
DETAILED		QUANTITIES	TRACED
DESIGN CK.		QUAN CK.	TRACE CK.

KDOT Graphics Certified 08-21-2022 Sh. No. 0

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

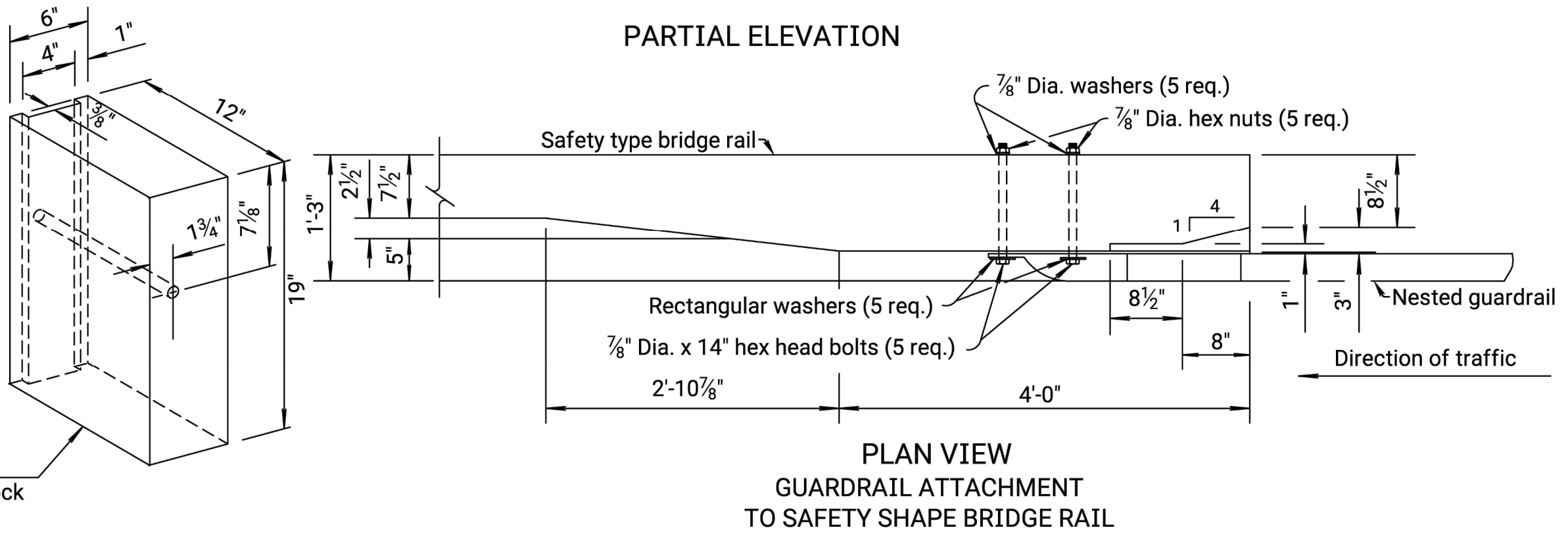
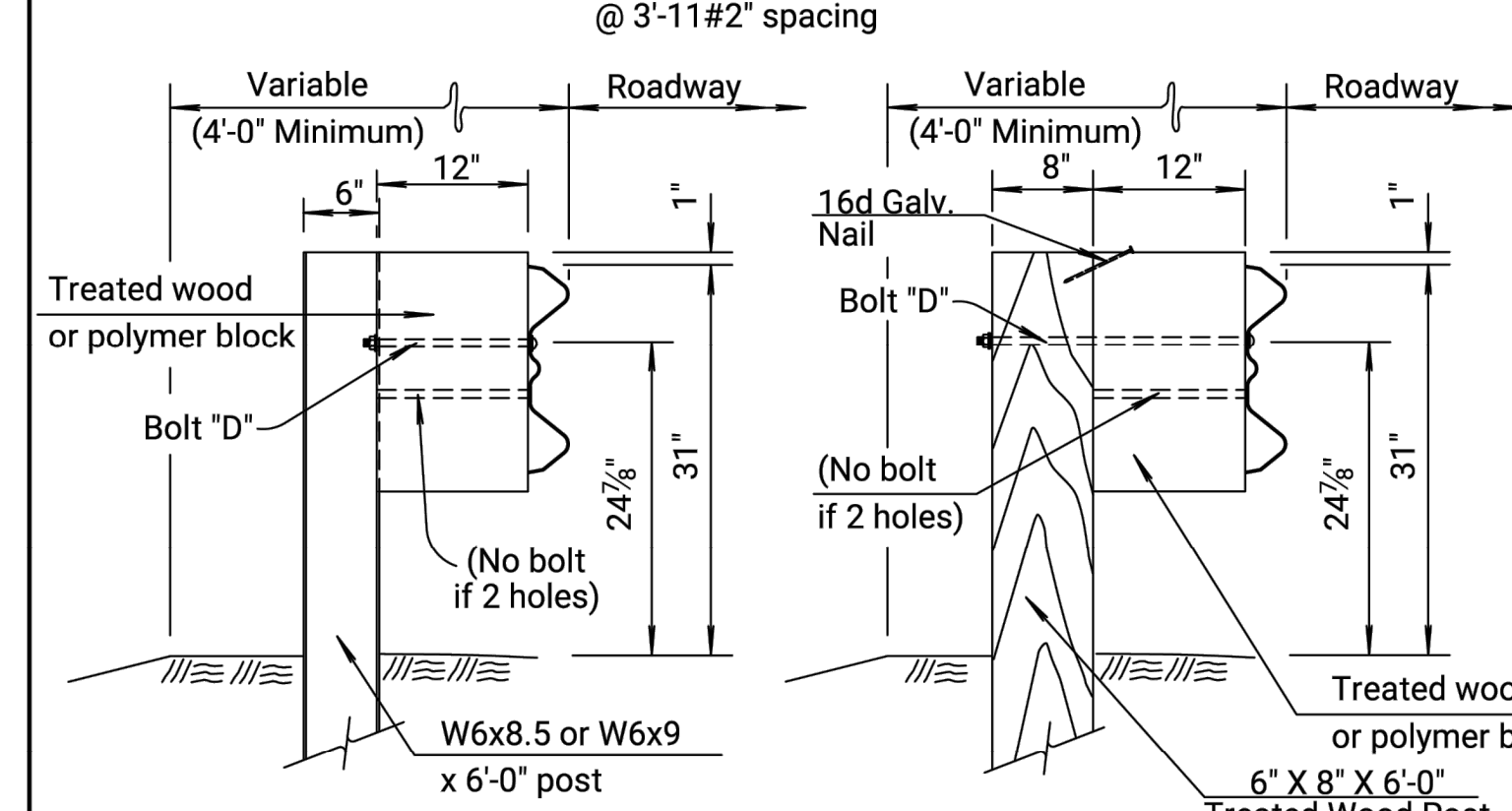
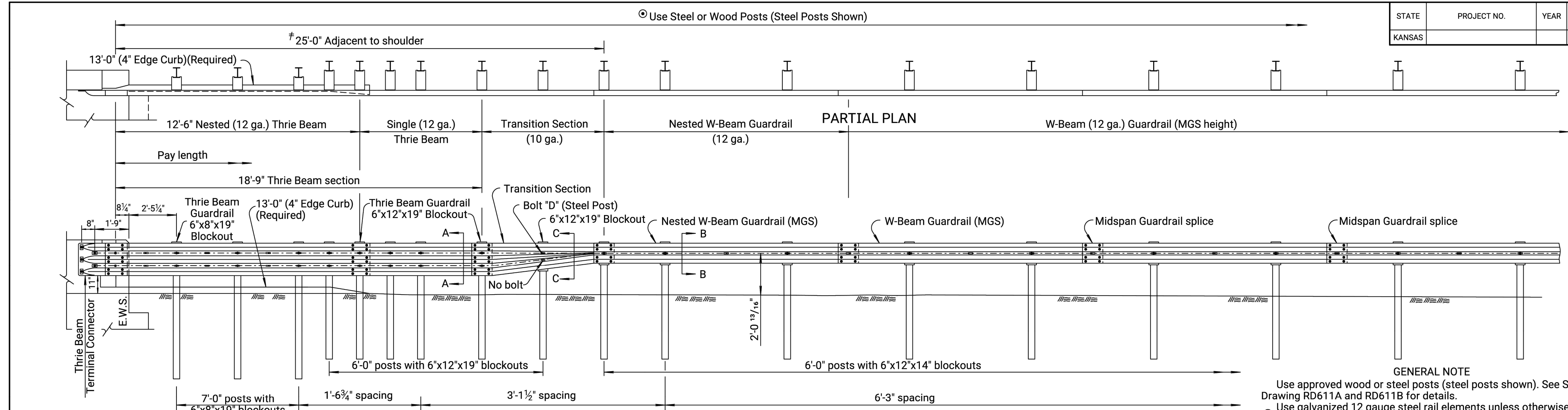
GUARDRAIL DETAILS	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBE
project no.: 022-06529
drawing no.: GRAILDTL 02206529
date: 1-31-2025

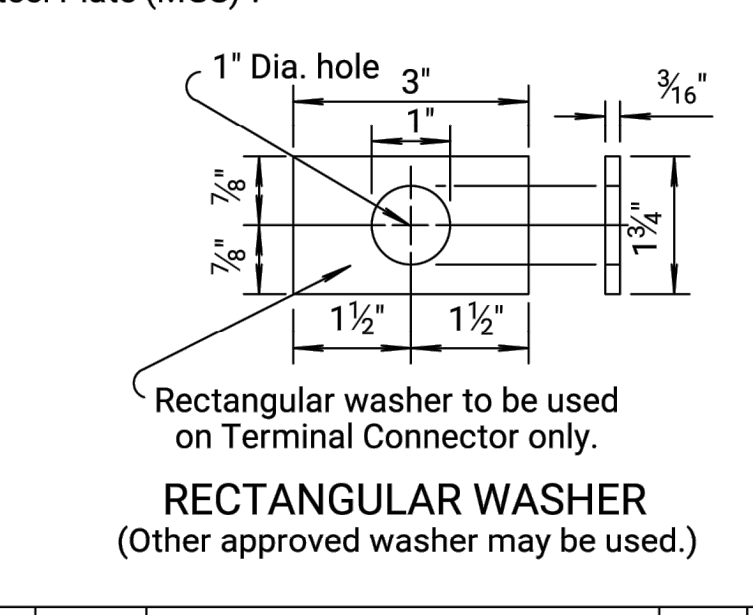
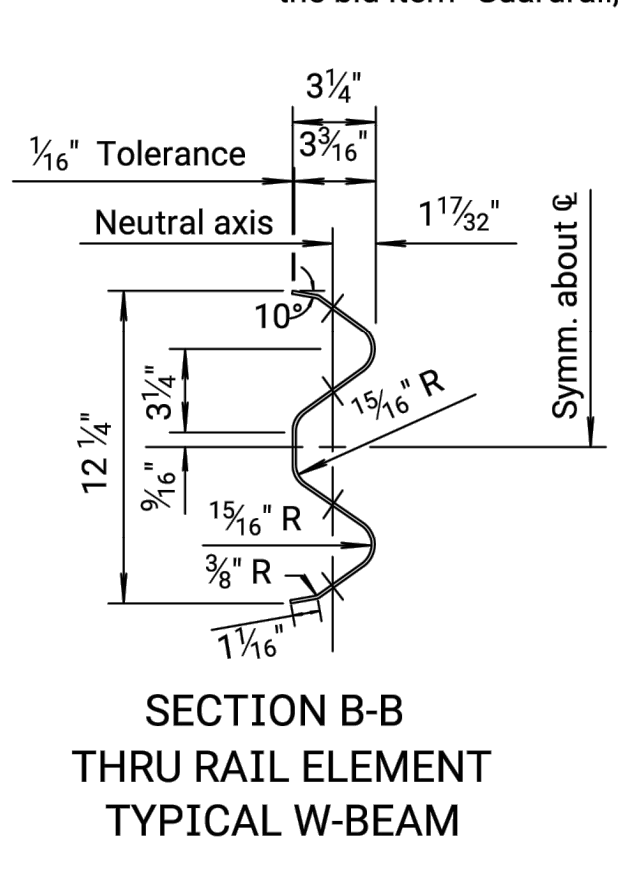
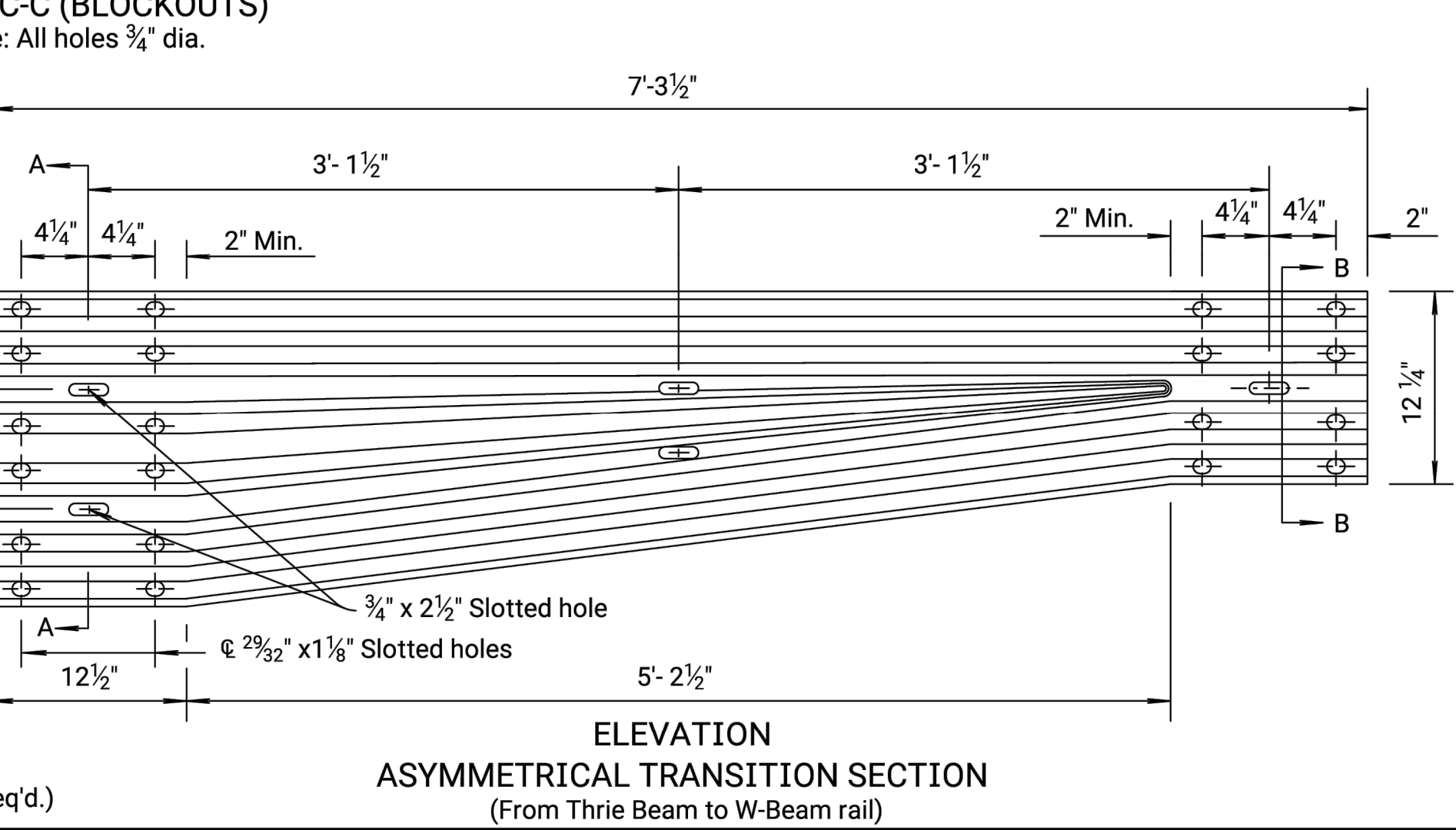
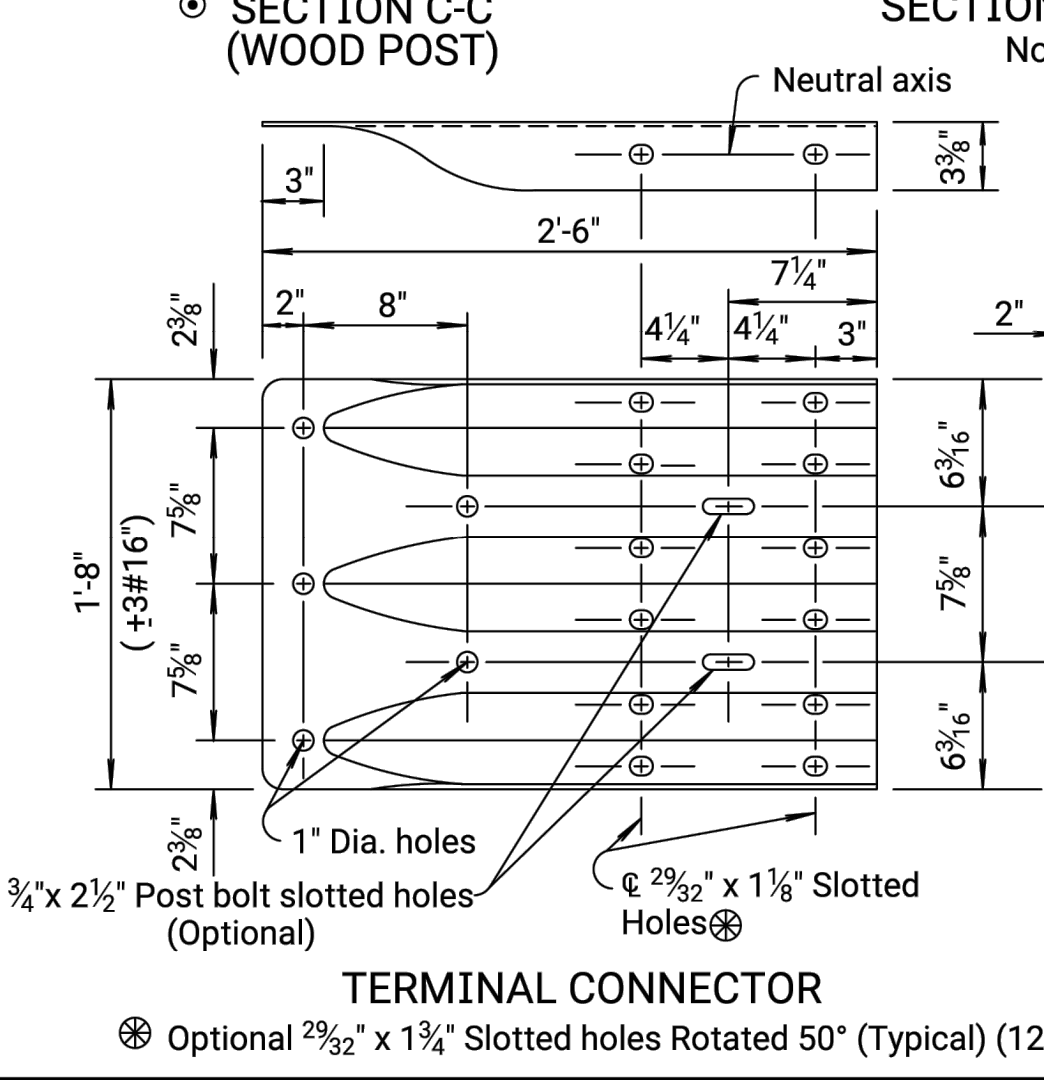
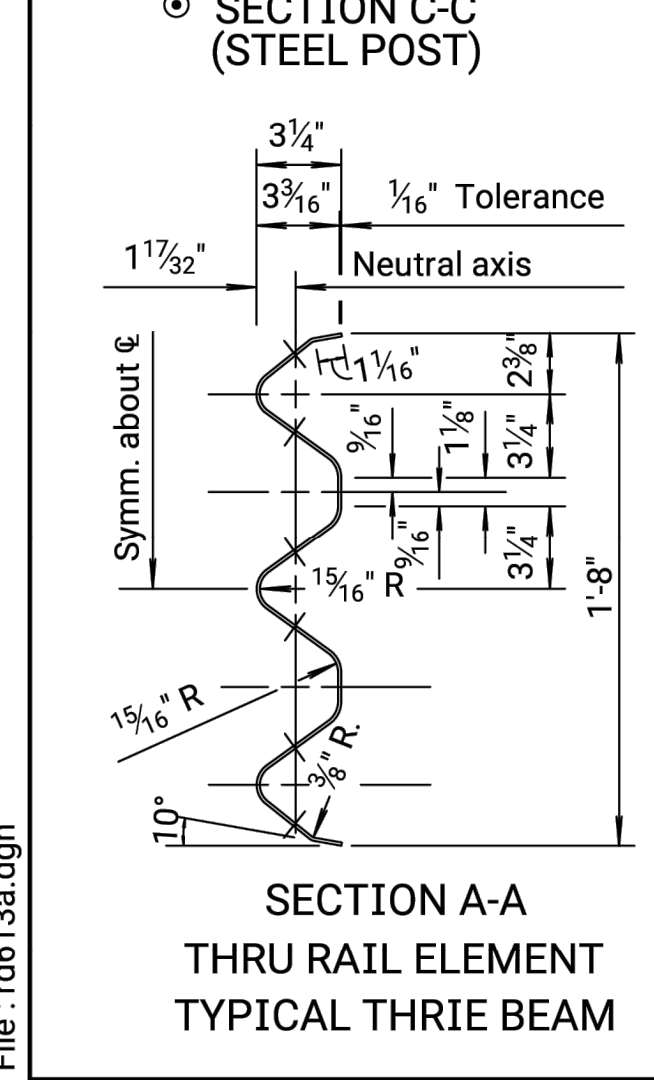
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS				



GENERAL NOTE
 Use approved wood or steel posts (steel posts shown). See Standard Drawing RD611A and RD611B for details.
 Use galvanized 12 gauge steel rail elements unless otherwise noted.
 Use galvanized anchor bolts and post rail fittings, see Standard Specifications. Supply guardrail parts that are interchangeable with similar parts regardless of source or manufacturer.
 Wood blockouts may be used through the 25'-0" thrie-beam section with wood or composite blockouts used throughout the remainder of the w-beam installation. The blockout size and material used in the guardrail end terminal may be independent from the remainder of the installation.
 Fabricate Terminal Connector from 10 gauge steel, see Standard Specification. The connector has the same section as thrie beam guardrail. Terminal connector is Subsidiary to the bid item "Guardrail, Steel Plate (MGS)".
 Shop bend curve rails when radius is less than 150'.
 Lap guardrail splices, including terminal connector, in the direction of traffic. Where traffic is temporarily carried in the opposite direction of final configuration, lap rail splices in the direction of permanent traffic.
 Bridge to guardrail transition consists of 1- 18'-9" thrie-beam with 1- 12'-6" thrie-beam section nested in back of 18'-9" section (See Layout), 1- Thrie beam to W-beam Asymmetrical transition section, use associated hardware with post sizes and location shown. For the remainder of installation use (MGS) W-beam guardrail with only one post type used within (MGS) guardrail run.
 All material and work required for this construction is Subsidiary to the bid item "Guardrail, Steel Plate (MGS)".



02	02-10-16	Added Detail, Wood Post	T.T.R.	S.W.K.
01	01-25-12	Revised Details, Thrie-Beam	S.W.K.	J.O.B.
NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

RD613A
 DETAILS OF THRIE BEAM to (MGS) GUARDRAIL TRANSITION

DESIGNED	04-21-16	APP'D	Scott W. King
DESIGN CK.	DETAIL CK.	QUANTITIES	TRACED
		QUAN CK.	TRACE CK.

KDOT Graphics Certified 11-18-2022 Sh. No. 0

BY	
REVISIONS DESCRIPTION	
DATE	
REV. NO.	

GUARDRAIL DETAILS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBE
 project no.: 022-06529
 drawing no.: GRAILDTL 02206529
 date: 1-31-2025

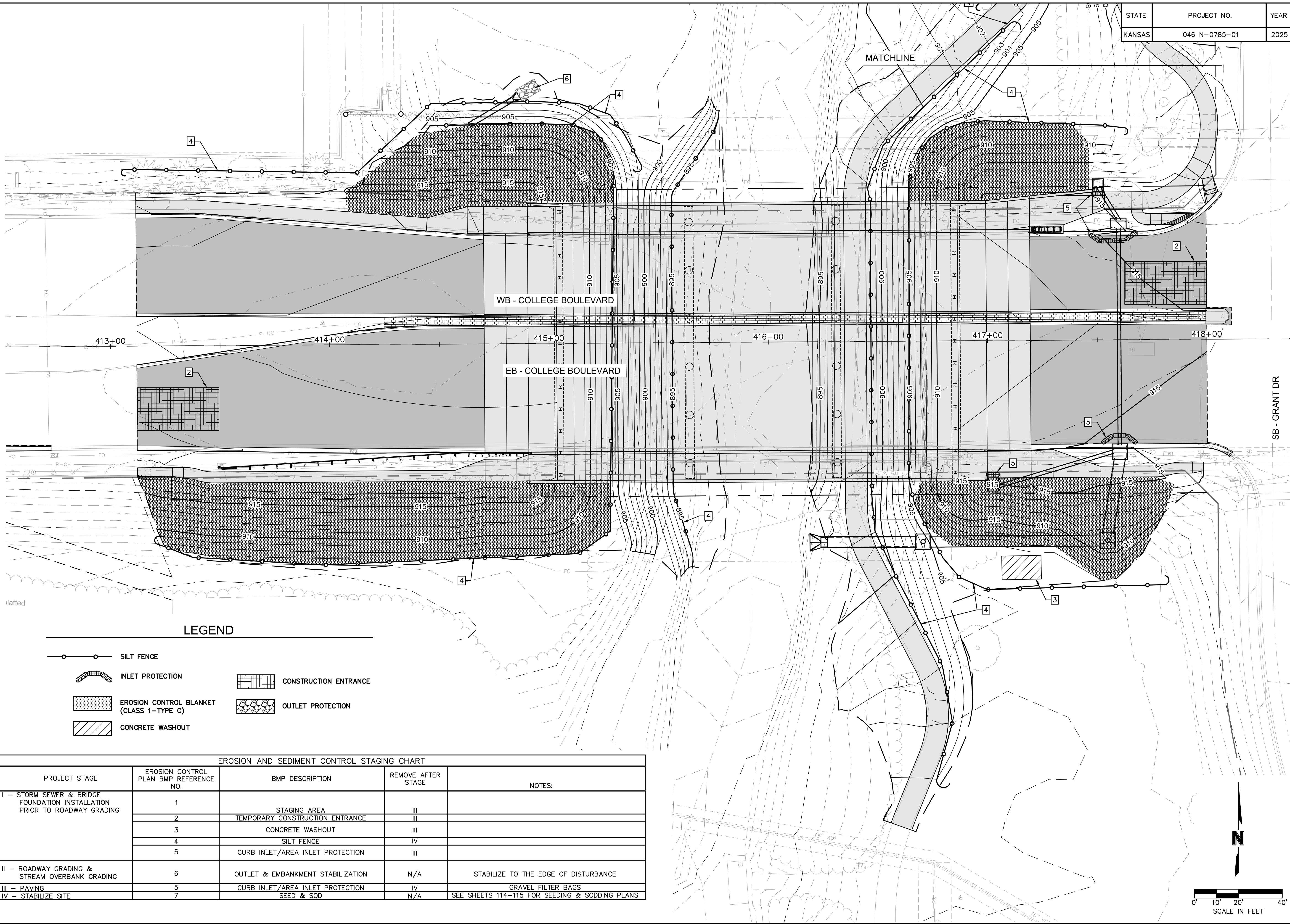
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 Plotted by: Amy.Rockers@ks.gov 18-NOV-2022 22:12
 File: rd613a.dgn

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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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LEGEND

- SILT FENCE
- INLET PROTECTION
- EROSION CONTROL BLANKET (CLASS 1-TYPE C)
- CONCRETE WASHOUT
- CONSTRUCTION ENTRANCE
- OUTLET PROTECTION

EROSION AND SEDIMENT CONTROL STAGING CHART

PROJECT STAGE	EROSION CONTROL PLAN BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
I - STORM SEWER & BRIDGE FOUNDATION INSTALLATION PRIOR TO ROADWAY GRADING	1	STAGING AREA	III	
	2	TEMPORARY CONSTRUCTION ENTRANCE	III	
	3	CONCRETE WASHOUT	III	
	4	SILT FENCE	IV	
	5	CURB INLET/AREA INLET PROTECTION	III	
II - ROADWAY GRADING & STREAM OVERBANK GRADING	6	OUTLET & EMBANKMENT STABILIZATION	N/A	STABILIZE TO THE EDGE OF DISTURBANCE
III - PAVING	5	CURB INLET/AREA INLET PROTECTION	IV	GRAVEL FILTER BAGS
IV - STABILIZE SITE	7	SEED & SOD	N/A	SEE SHEETS 114-115 FOR SEEDING & SODDING PLANS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

EROSION CONTROL PLANS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBE
 project no.: 022-06529
 drawing no.: T_ERC01_02206529
 date: 1-31-2025

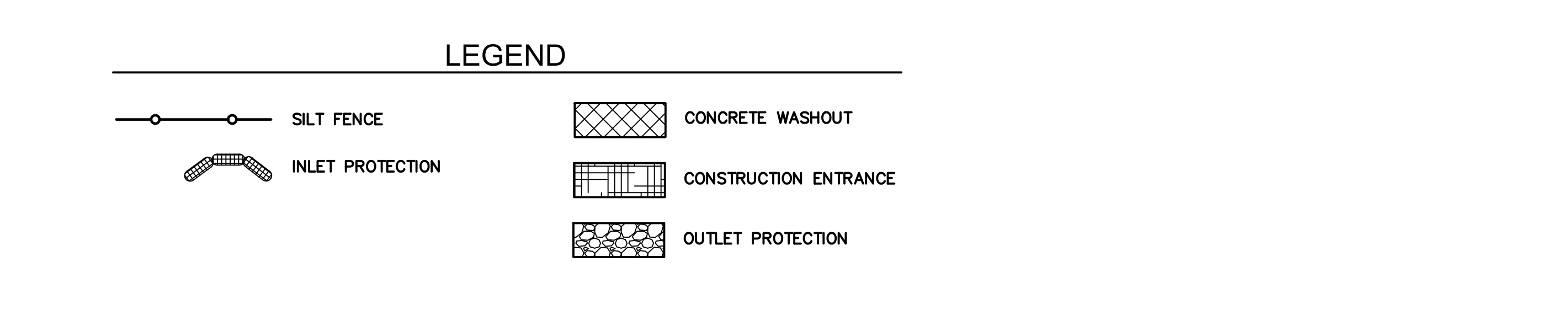
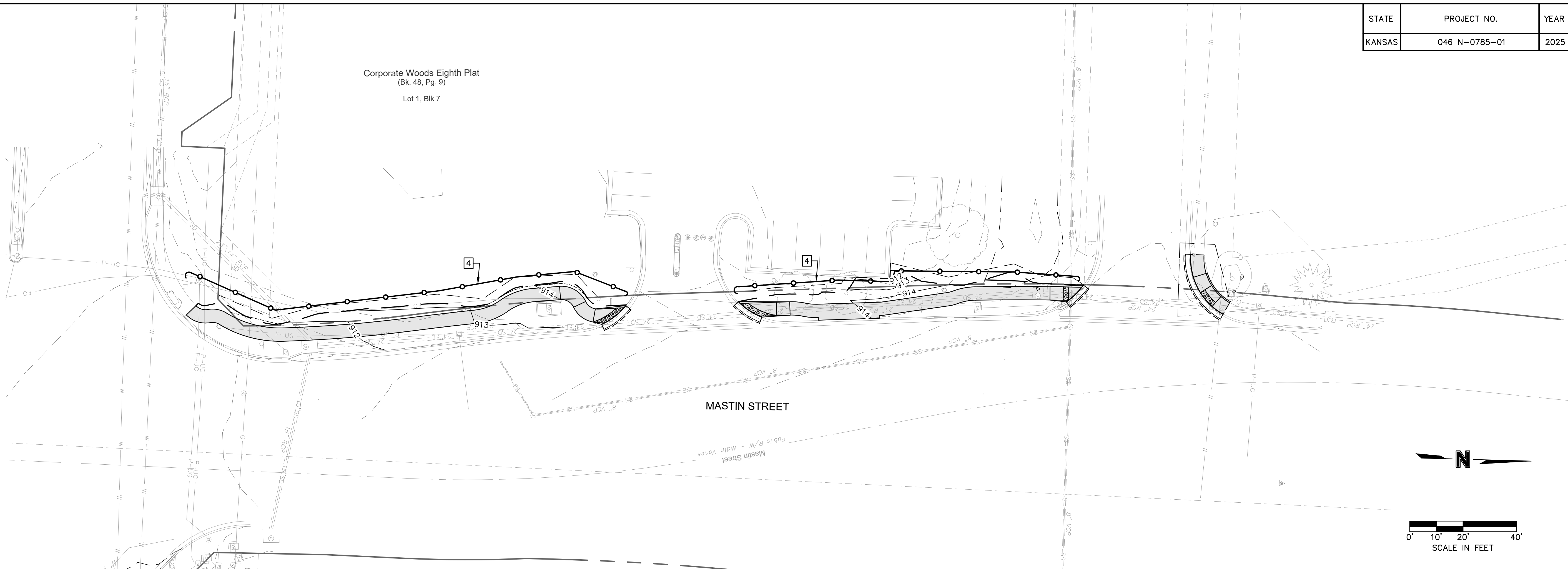
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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

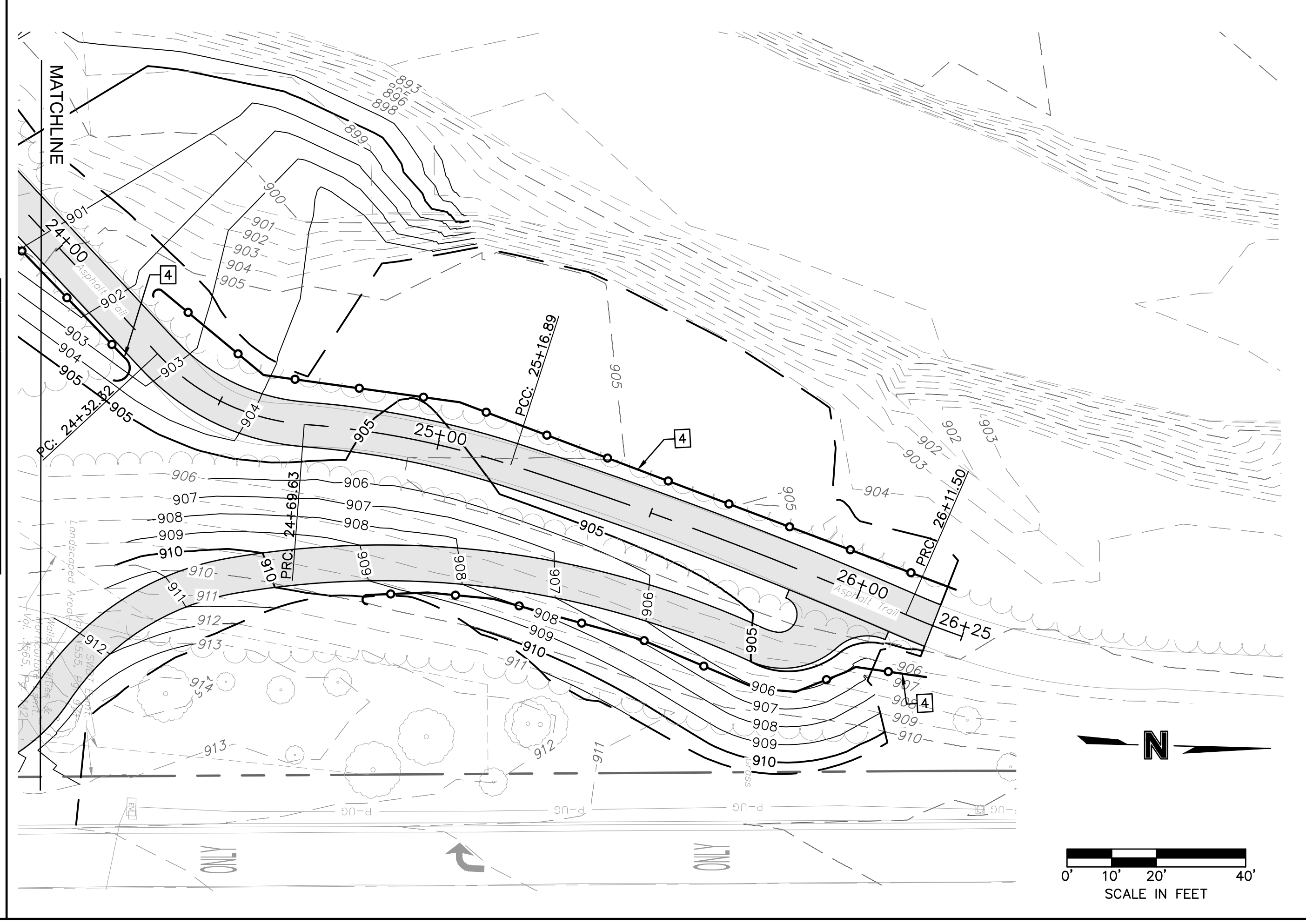
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 USER: mwach



EROSION AND SEDIMENT CONTROL STAGING CHART				
PROJECT STAGE	EROSION CONTROL PLAN BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
I - STORM SEWER & BRIDGE FOUNDATION INSTALLATION PRIOR TO ROADWAY GRADING	1	STAGING AREA	III	
	2	TEMPORARY CONSTRUCTION ENTRANCE	III	
	3	CONCRETE WASHOUT	III	
	4	SILT FENCE	IV	
	5	CURB INLET/AREA INLET PROTECTION	III	
II - ROADWAY GRADING & STREAM OVERBANK GRADING	6	OUTLET & EMBANKMENT STABILIZATION	N/A	STABILIZE TO THE EDGE OF DISTURBANCE
III - PAVING	5	CURB INLET/AREA INLET PROTECTION	IV	GRAVEL FILTER BAGS
IV - STABILIZE SITE	7	SEED & SOD	N/A	SEE SHEETS 114-115 FOR SEEDING & SODDING PLANS



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

EROSION CONTROL PLANS

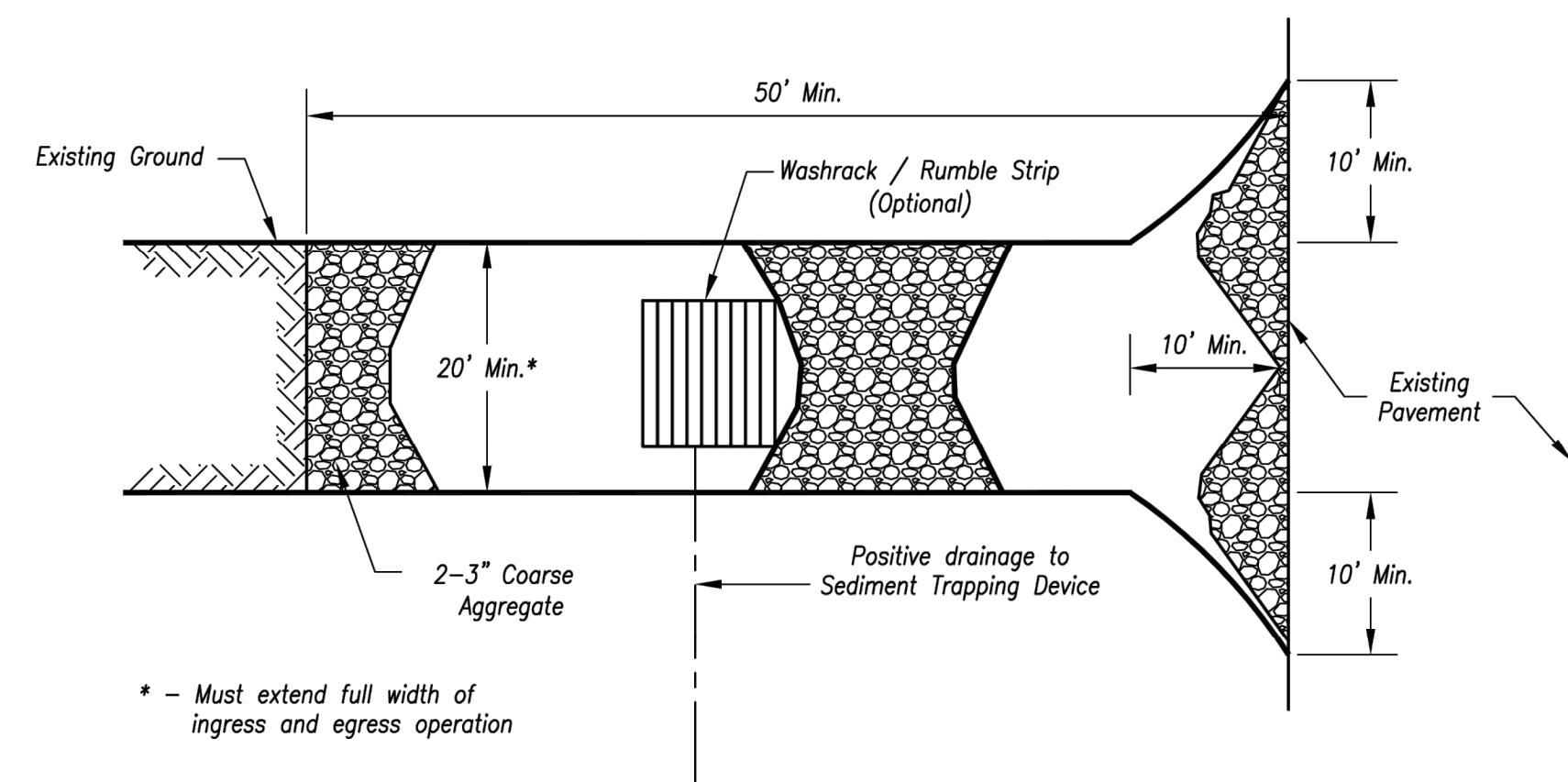
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

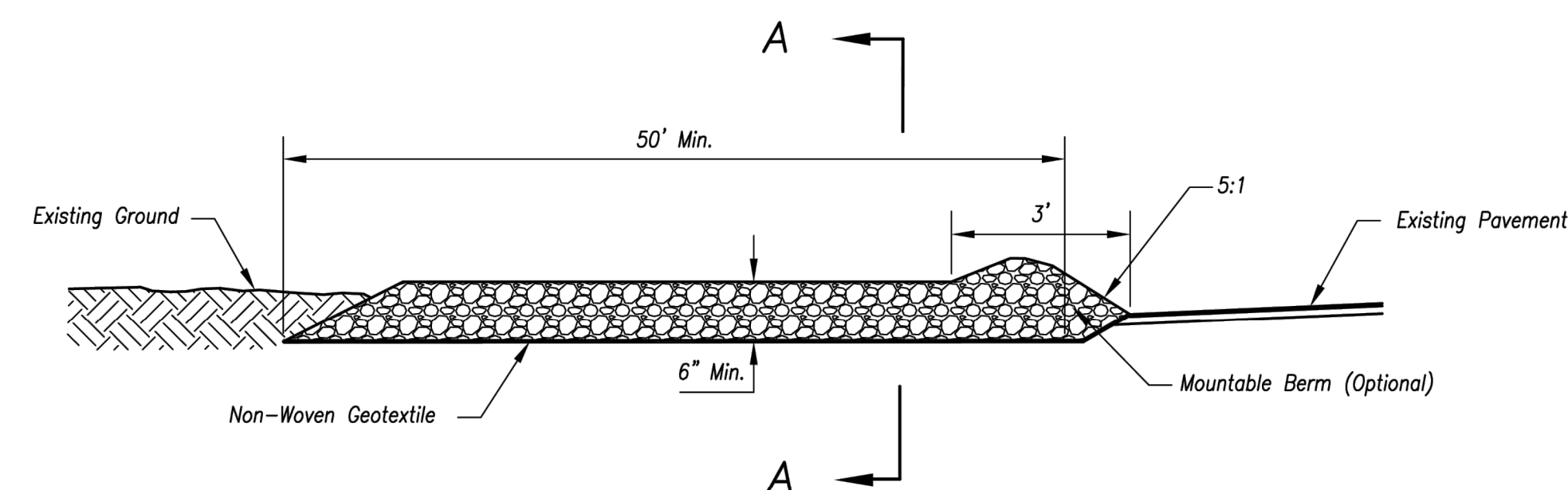
2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
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 drawing no.: T_ERC01_02206529
 date: 1-31-2025

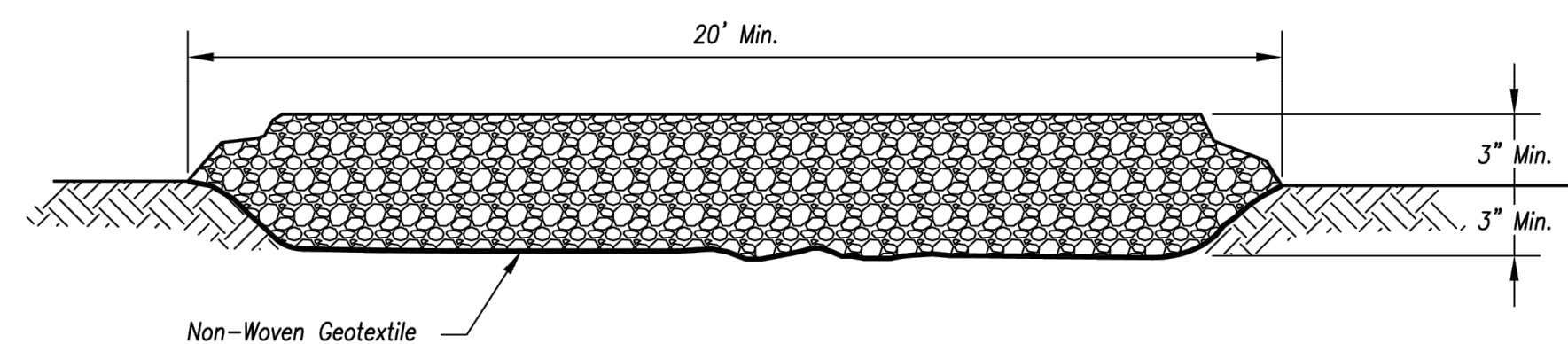
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106 of 189



Plan View
Not to Scale



Side Elevation
Not to Scale



Section A-A
Not to Scale

CONSTRUCTION ENTRANCE

DRAWING NAME: K:\Details_Specs\Detail_Drawings\details_english\revision_24\49 Construction Entrance.dwg

Notes:

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

Maintenance:

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

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

Year 2024 Edition

DEPARTMENT OF PUBLIC WORKS
STANDARD DETAILS
CONSTRUCTION ENTRANCE

DATE: 01/10/2012 SHEET: 49

EROSION CONTROL DETAILS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

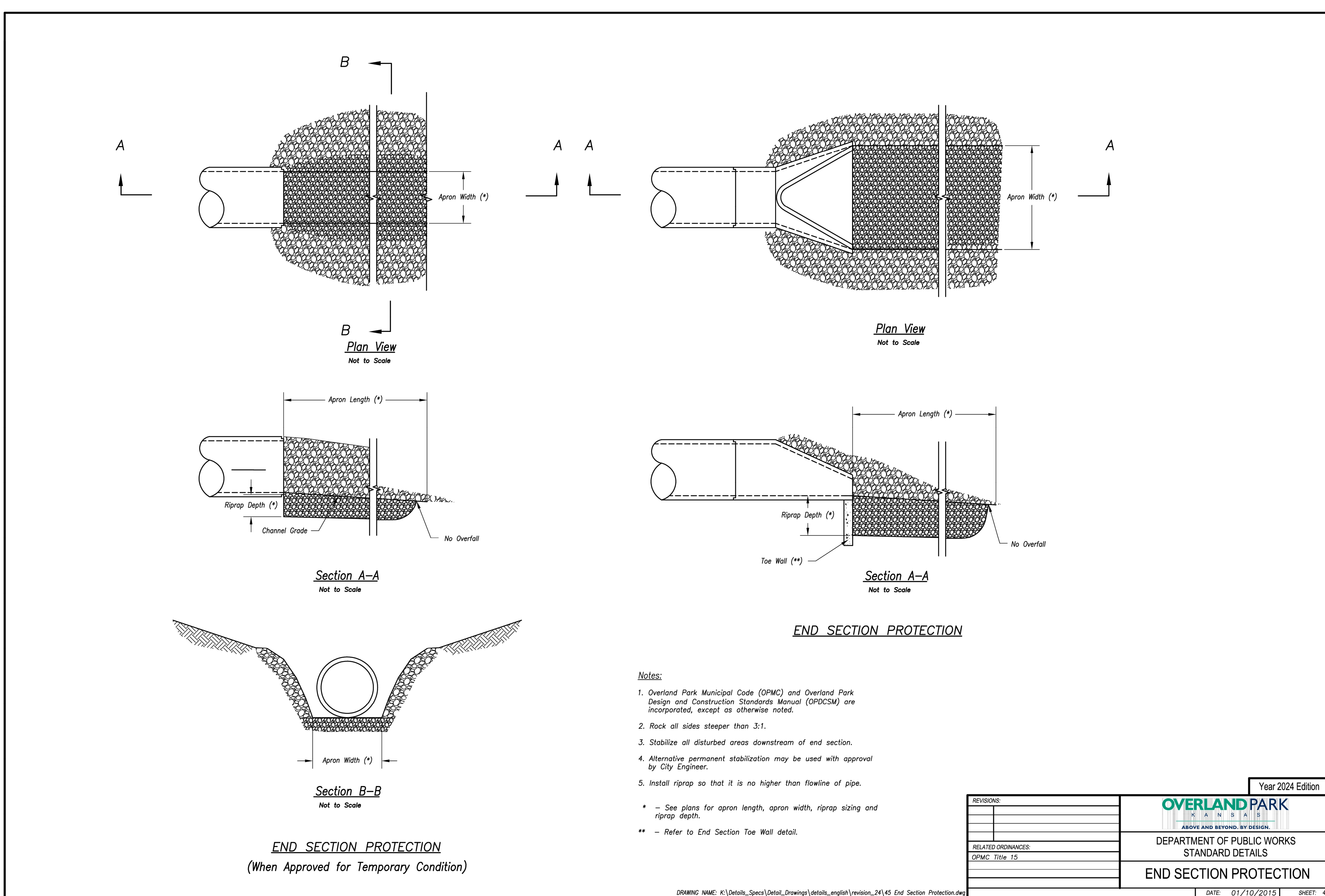
OVERLAND PARK, KANSAS

2025

REVISIONS

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBE
project no.: 022-06529
drawing no. ERCDTL01_02206529
date: 1-31-2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



- Notes:**
- Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
 - Rock all sides steeper than 3:1.
 - Stabilize all disturbed areas downstream of end section.
 - Alternative permanent stabilization may be used with approval by City Engineer.
 - Install riprap so that it is no higher than flowline of pipe.
- * - See plans for apron length, apron width, riprap sizing and riprap depth.
 ** - Refer to End Section Toe Wall detail.

REVISIONS:

Year 2024 Edition

OVERLAND PARK
 KANSAS
 ABOVE AND BEYOND. BY DESIGN.

DEPARTMENT OF PUBLIC WORKS
 STANDARD DETAILS

END SECTION PROTECTION

DATE: 01/10/2015 SHEET: 45

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

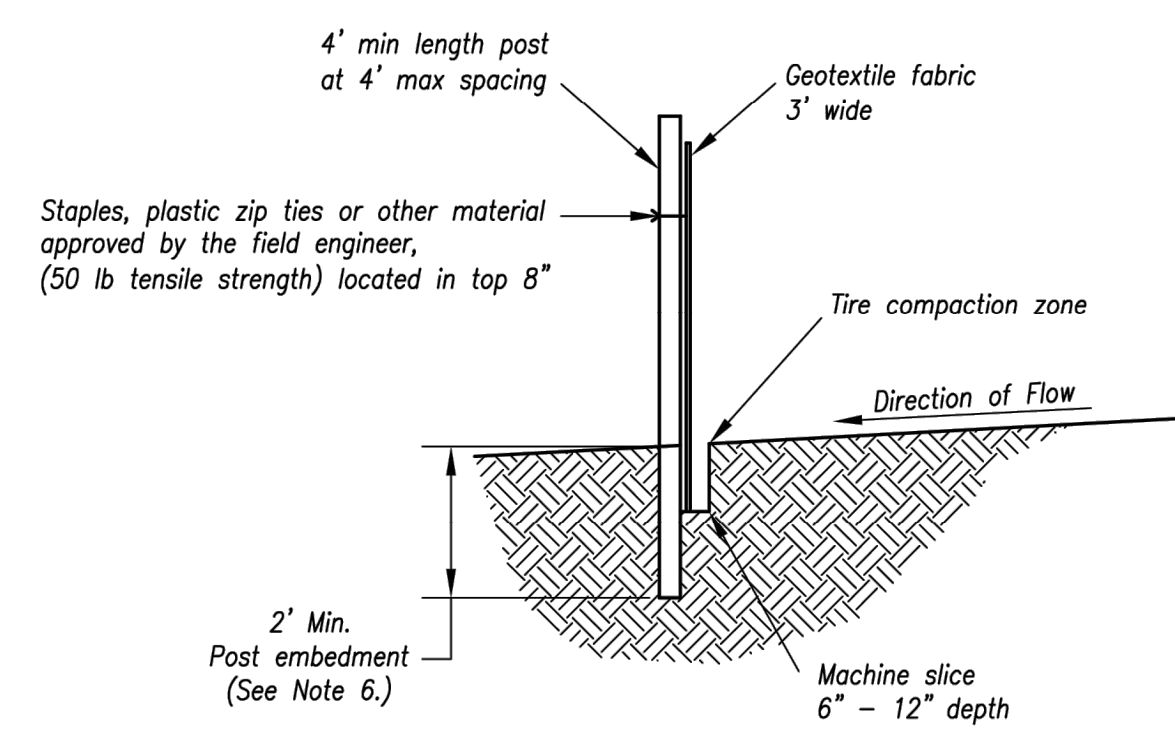
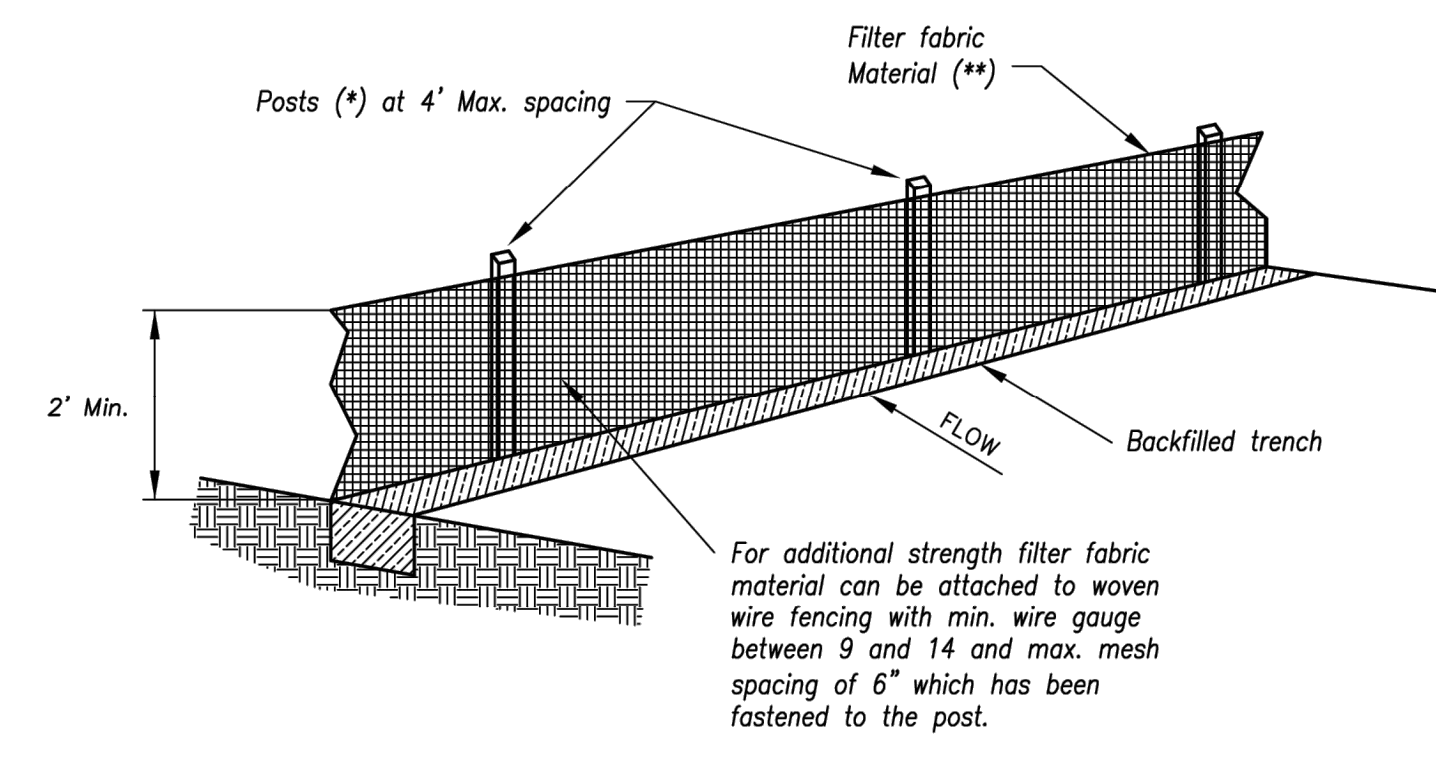
EROSION CONTROL DETAILS	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBE
project no.: 022-06529
drawing no.: ERCDTL01_02206529
date: 1-31-2025

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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



- (*) POSTS**
- MIN. LENGTH 4'
 - HARDWOOD 1 3/8" x 1 3/8"
 - NO.2 SOUTHERN PINE 2 3/8" x 2 3/8"
 - STEEL 1.33 LB/FT

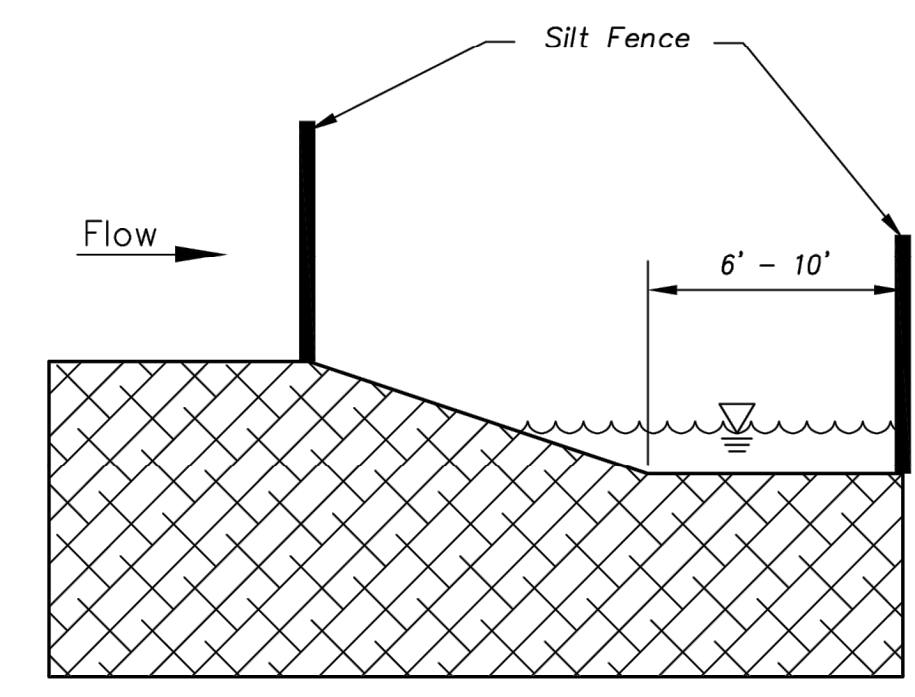
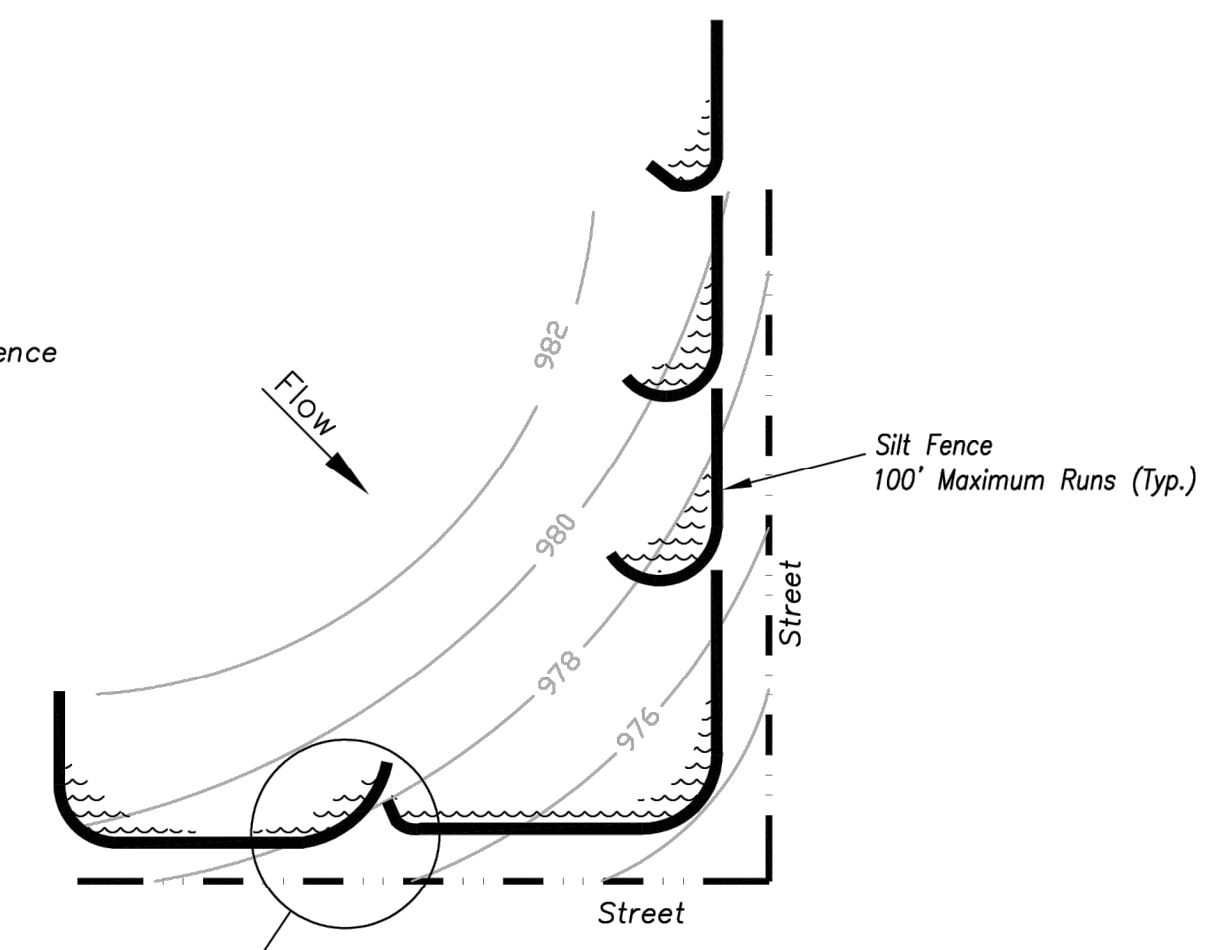
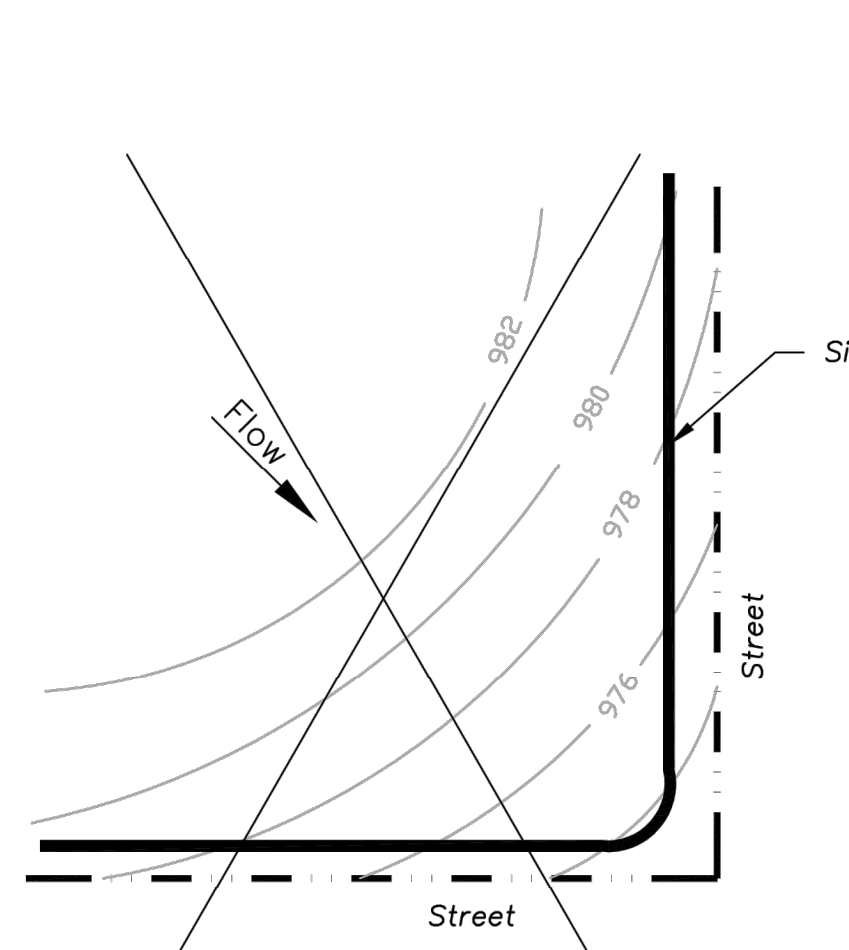
()** - Geotextile Fabric shall meet the requirements of AASHTO M288

Notes:

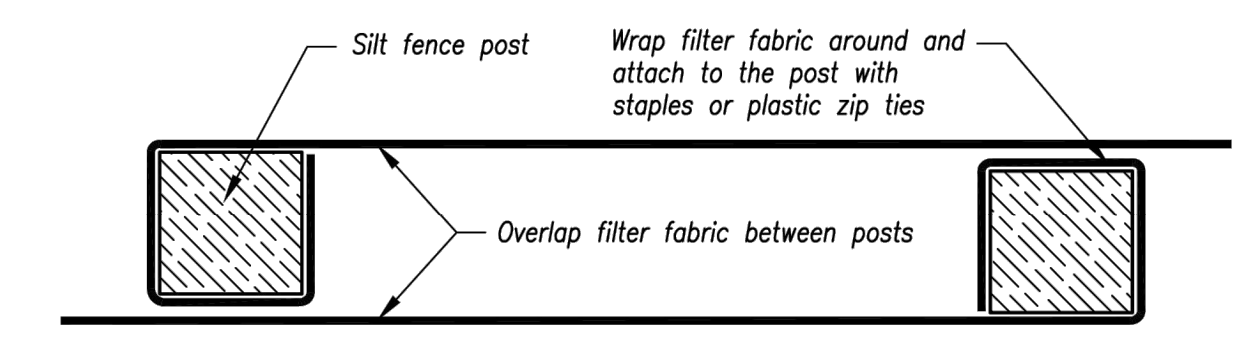
1. Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
2. In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
3. Long perimeter runs of silt fence must be limited to 100'.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

Maintenance:

Remove and dispose of sediment deposits when the deposit approaches 1/3 the height of silt fence. Repair as necessary to maintain function and structure.



Install silt fence at the top of the slope to slow velocity and volume of water and 6' to 10' away from the toe to create a sediment storage area.



JOINING FENCE SECTIONS
Not to Scale

Incorrect

Ends Turned Uphill (Typ)

Correct

Figure A

SILT FENCE LAYOUT
Not to Scale

REVISIONS:	
Jan. 2009	Miscellaneous
Dec. 2011	Maintenance Statement
RELATED ORDINANCES:	
OPMC Title 15	

Year 2024 Edition

OVERLAND PARK
KANSAS
ABOVE AND BEYOND. BY DESIGN.

DEPARTMENT OF PUBLIC WORKS
STANDARD DETAILS

SILT FENCE

DATE: 11/01/05 SHEET: 46

EROSION CONTROL DETAILS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

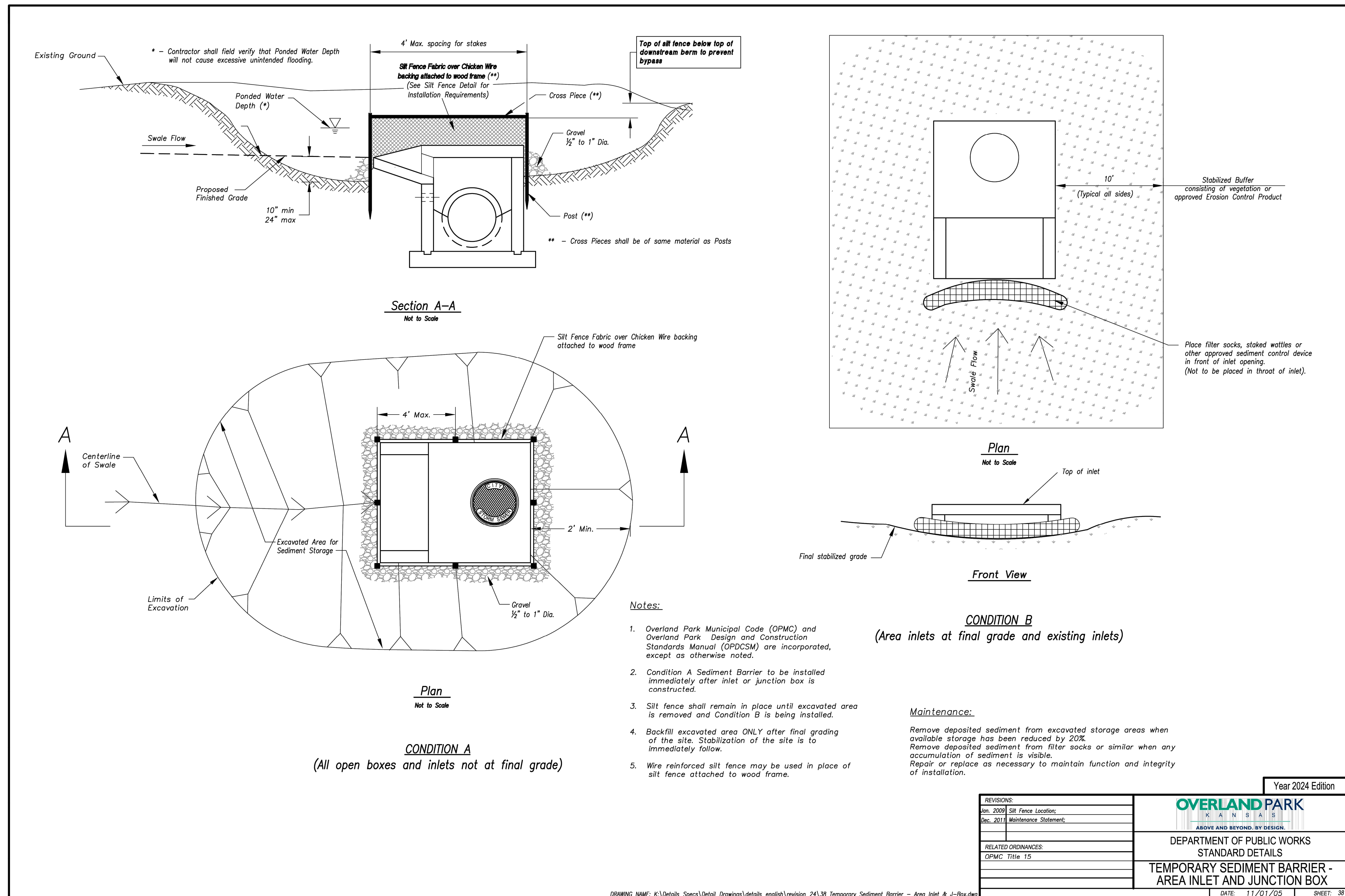
2025

REVISIONS

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STATE	PROJECT NO.	YEAR
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DWG: F:\2022\06501-07000\022-06529\40-Design\AutoCAD\Final Plans\T_ERCDTL01_02206529.dwg
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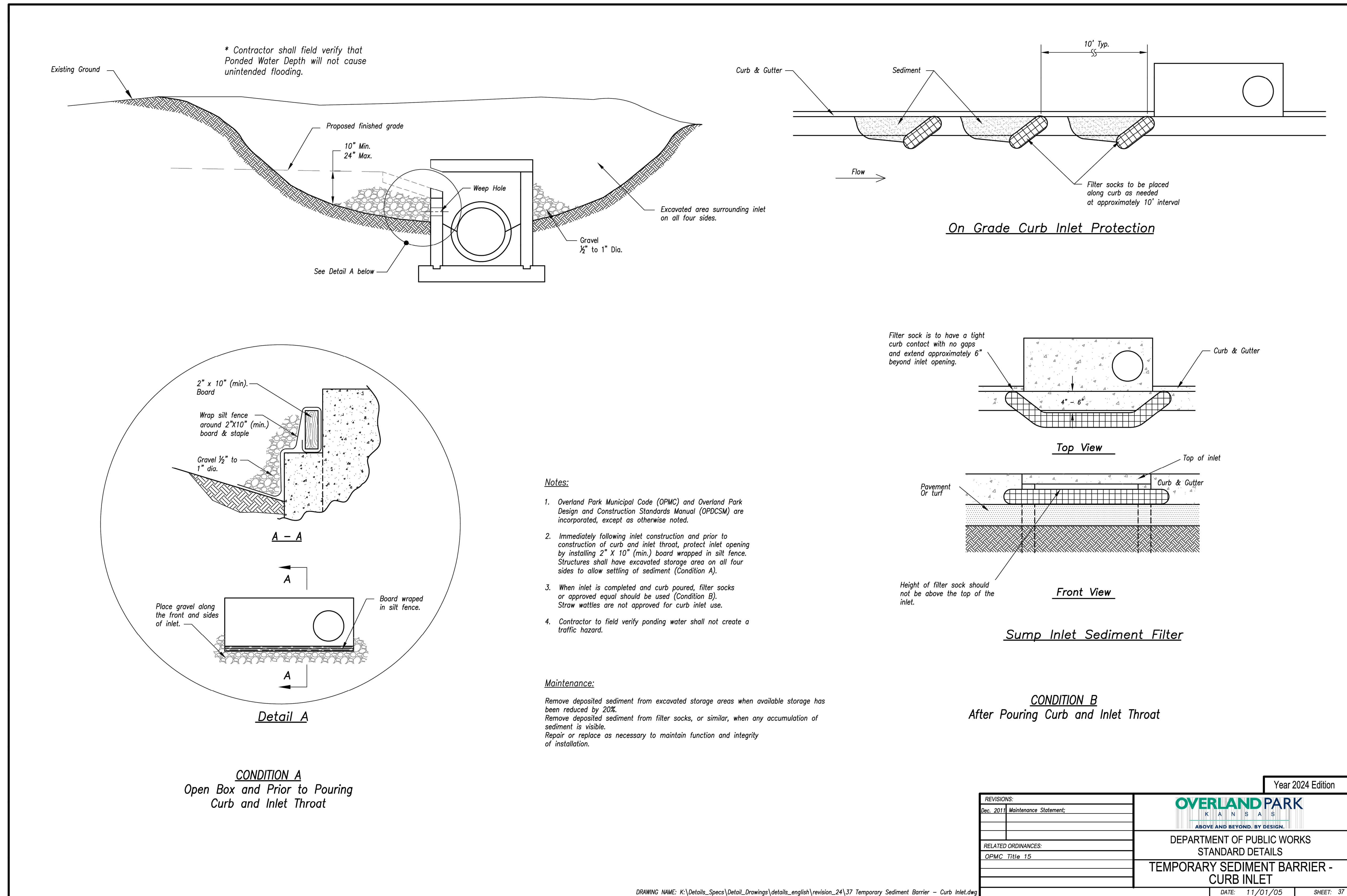
EROSION CONTROL DETAILS	COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	2025
	OVERLAND PARK, KANSAS	

REVISIONS: Jan. 2009 Silt Fence Location; Dec. 2011 Maintenance Statement;	OVERLAND PARK KANSAS ABOVE AND BEYOND. BY DESIGN.
RELATED ORDINANCES: OPMC Title 15	DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS TEMPORARY SEDIMENT BARRIER - AREA INLET AND JUNCTION BOX
DATE: 11/01/05 SHEET: 38	Year 2024 Edition

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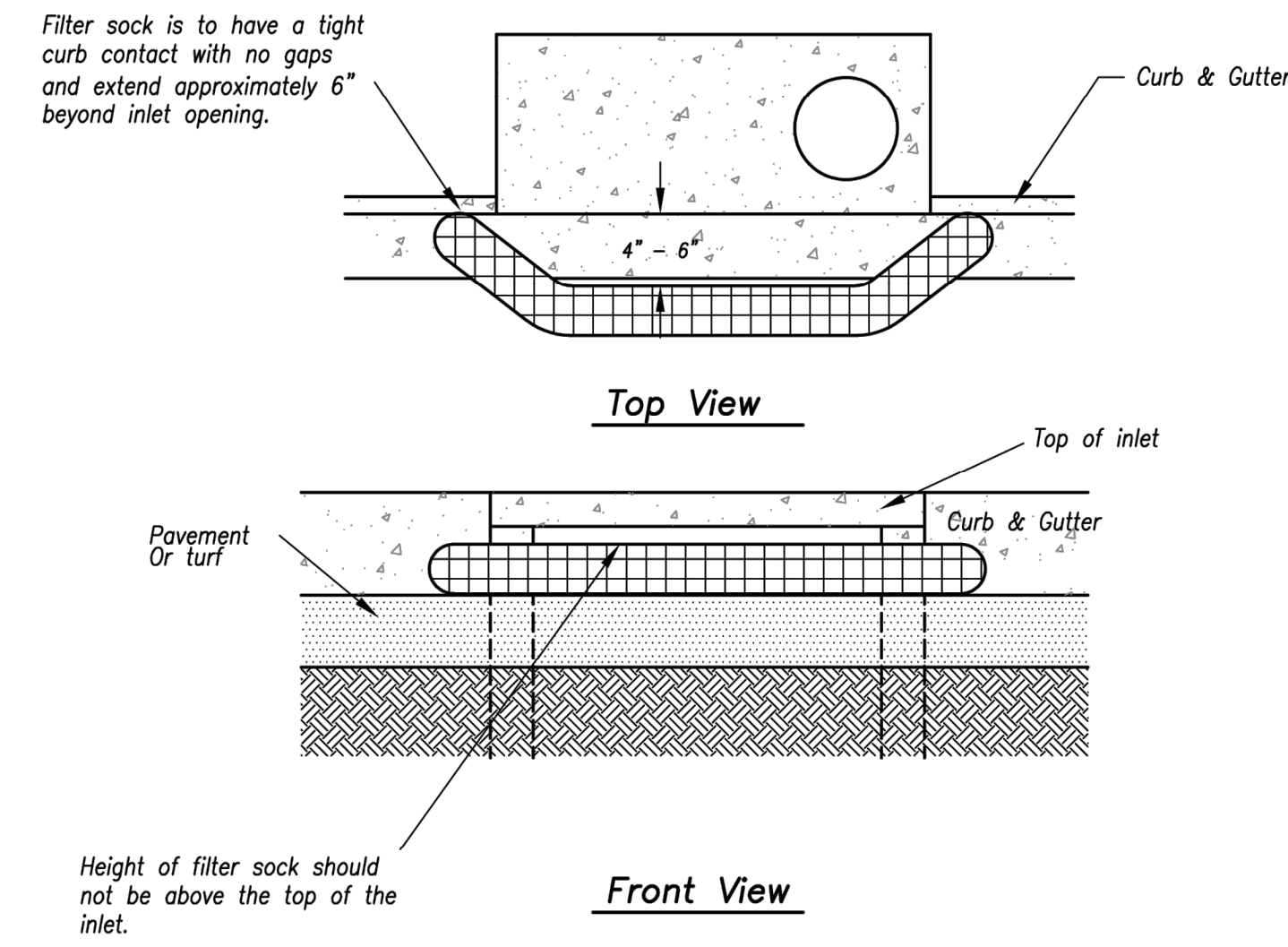
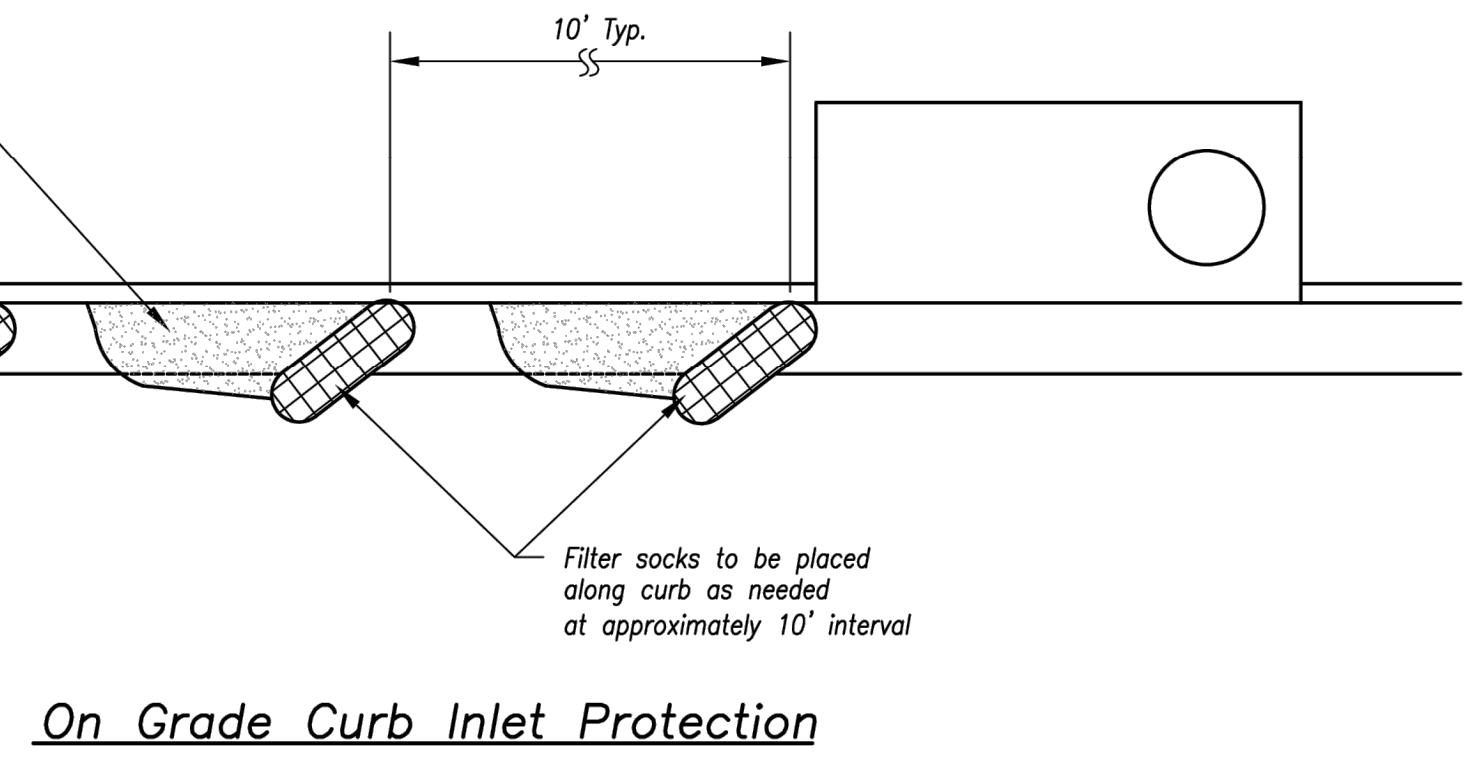
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- Notes:**
- Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
 - Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2" X 10" (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Condition A).
 - When inlet is completed and curb poured, filter socks or approved equal should be used (Condition B). Straw wattles are not approved for curb inlet use.
 - Contractor to field verify ponding water shall not create a traffic hazard.

Maintenance:

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



CONDITION B
After Pouring Curb and Inlet Throat

CONDITION A
Open Box and Prior to Pouring
Curb and Inlet Throat

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<p>REVISIONS:</p> <p>Dec. 2011 Maintenance Statement;</p>	<p>Year 2024 Edition</p> <p>OVERLAND PARK KANSAS ABOVE AND BEYOND. BY DESIGN.</p> <p>DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS</p> <p>TEMPORARY SEDIMENT BARRIER - CURB INLET</p>
<p>RELATED ORDINANCES:</p> <p>OPMC Title 15</p>	
<p>DATE: 11/01/05</p> <p>SHEET: 37</p>	<p>drawn by: CJC</p> <p>checked by: PBM</p> <p>approved by: PBM</p> <p>QA/QC by: RBE</p> <p>project no.: 022-06529</p> <p>drawing no. ERCDTL01_02206529</p> <p>date: 1-31-2025</p>

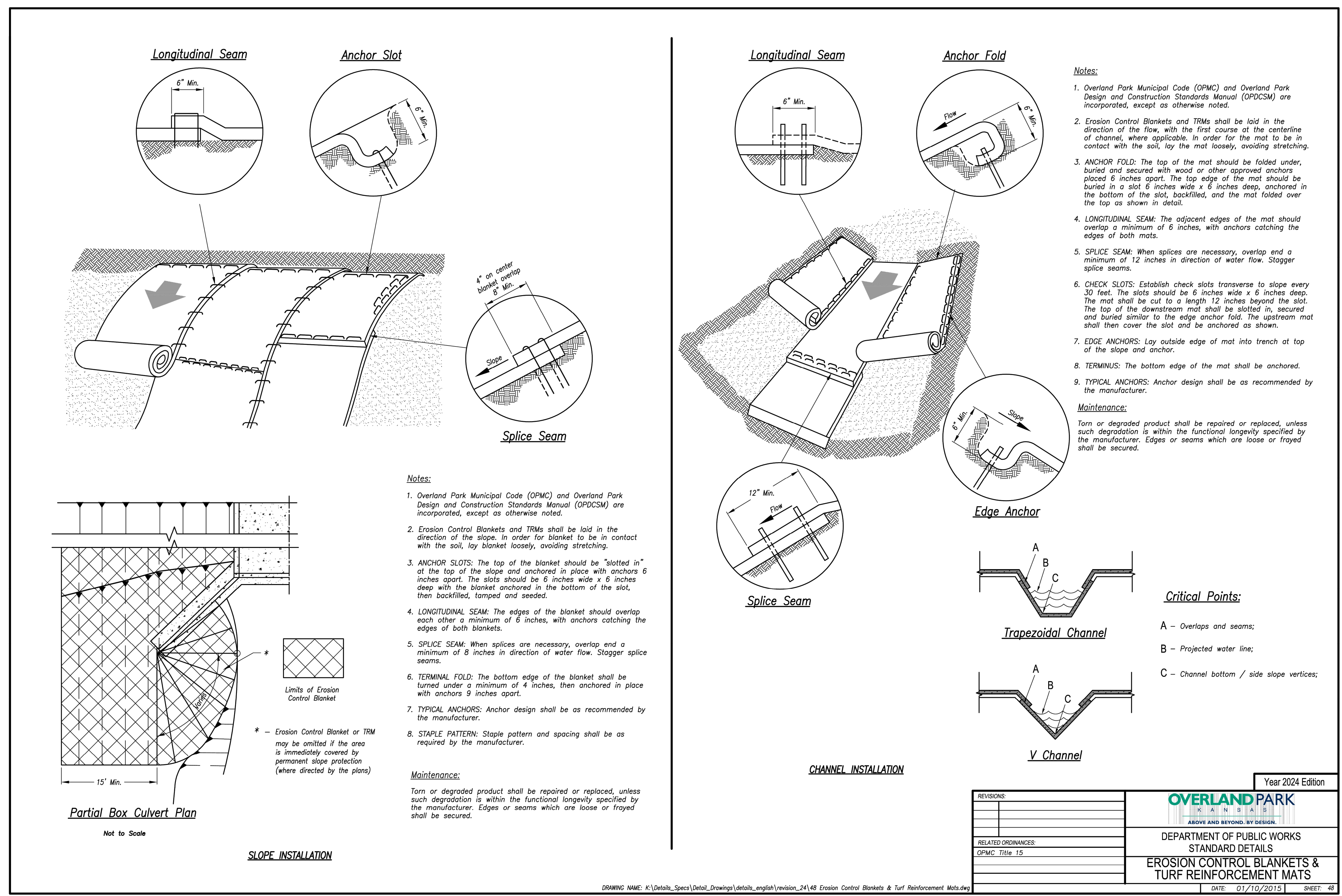
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OVERLAND PARK KANSAS <small>ABOVE AND BEYOND. BY DESIGN.</small>
DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS EROSION CONTROL BLANKETS & TURF REINFORCEMENT MATS
DATE: 01/10/2015 SHEET: 48

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EROSION CONTROL DETAILS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

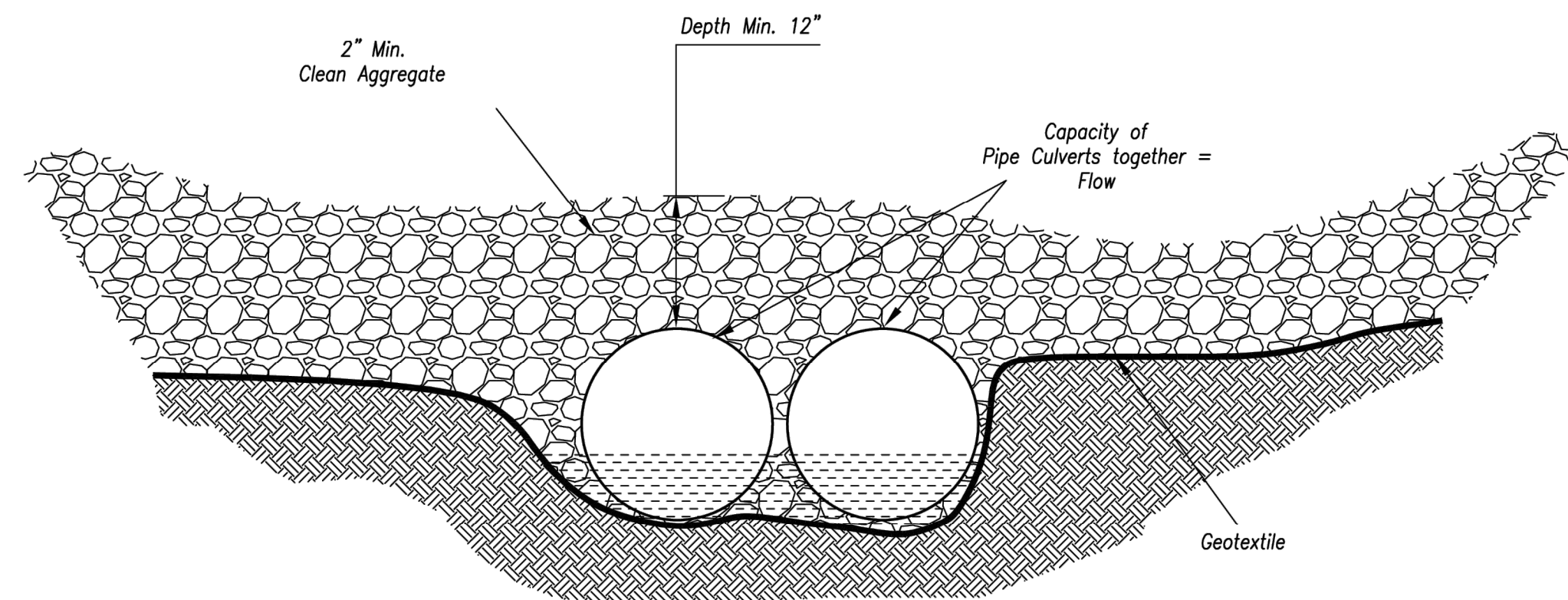
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 checked by: PBM
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 QA/QC by: RBE
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 drawing no.: ERCDTL01_02206529
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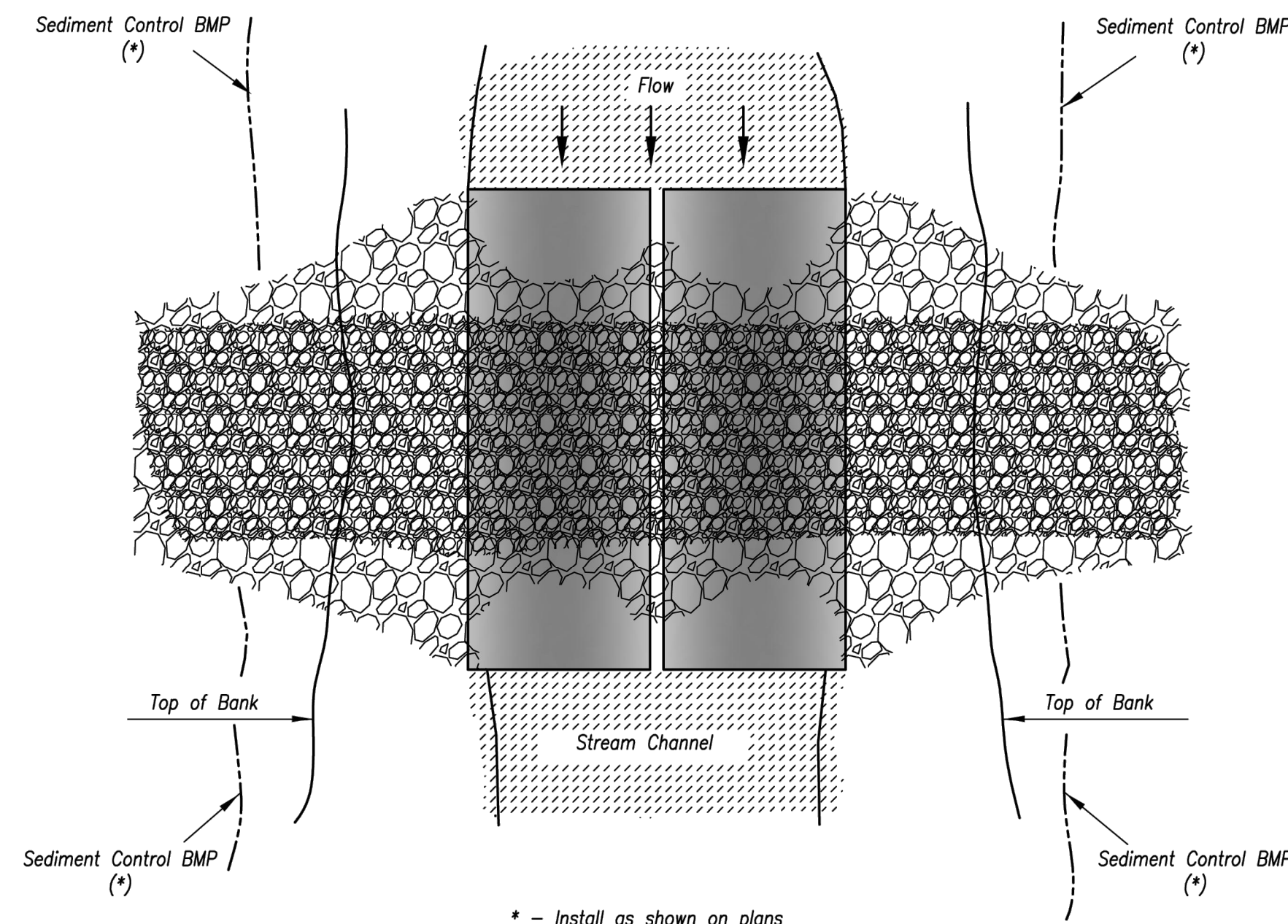
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DRAWING NAME: K:\Details_Specs\Detail_Drawings\details_english\revision_24\48 Erosion Control Blankets & Turf Reinforcement Mats.dwg

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ELEVATION



PLAN VIEW

* - Install as shown on plans

Notes:

1. Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
2. Clearing and excavation of the stream bed and banks shall be kept to a minimum.
3. Place one pipe, buried 6" into the stream bottom, at the lowest point of the channel to allow the passage of aquatic organisms. Additional pipes shall be placed along the remainder of the stream channel bottom such that ordinary high water (OHW) flows designated in the Contract Documents shall flow through the pipes without overtopping the crossing. (See Specification for more information).
4. Geotextile shall be placed on the streambed and streambanks prior to placement of the pipe culvert and aggregate. The geotextile shall cover the streambed and extend a minimum of 6 inches and a maximum of 1 foot beyond the end of culvert and bedding material. Filter cloth reduces settlement and improves crossing stability.
5. The culvert shall extend a minimum of 1 foot beyond the upstream and downstream toe of the aggregate placed around the culvert. In no case shall the culvert exceed 40 feet in length.
6. The culvert shall be covered with a minimum of 1 foot of aggregate. If multiple culverts are used, they shall be separated by at least 12" of compacted aggregate fill.
7. As soon as the temporary crossing is no longer needed, all structures including culverts, bedding and geotextile materials shall be removed. Removal of the structure and clean-up of the area shall be accomplished without construction equipment working in the channel.
8. Upon removal of the structure, the stream and banks shall immediately be shaped to its original cross-section and properly stabilized. Take care to minimize the amount of sediment lost into the stream.

Maintenance:

Repair stream bank erosion by stabilizing with erosion control BMPs such as erosion control blankets.
For in-stream degradation, armor the culvert outlet(s) with riprap to dissipate energy.
If sediment or debris is accumulating upstream of the crossing, remove as needed to maintain the functionality of the crossing.
If a temporary crossing is requiring excessive maintenance, replacement with a larger culvert or alternate design may be necessary.

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REVISIONS									
04/2024	Edited notes (grammar)								
<p>RELATED ORDINANCES: OPMC Title 15</p>	<p>DATE: 01/15/15</p> <p>SHEET: 42</p>								

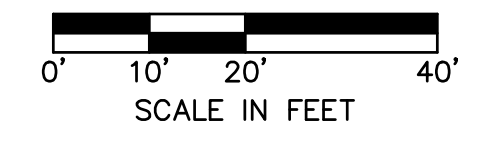
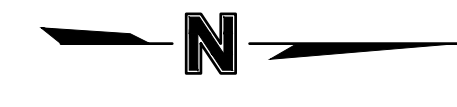
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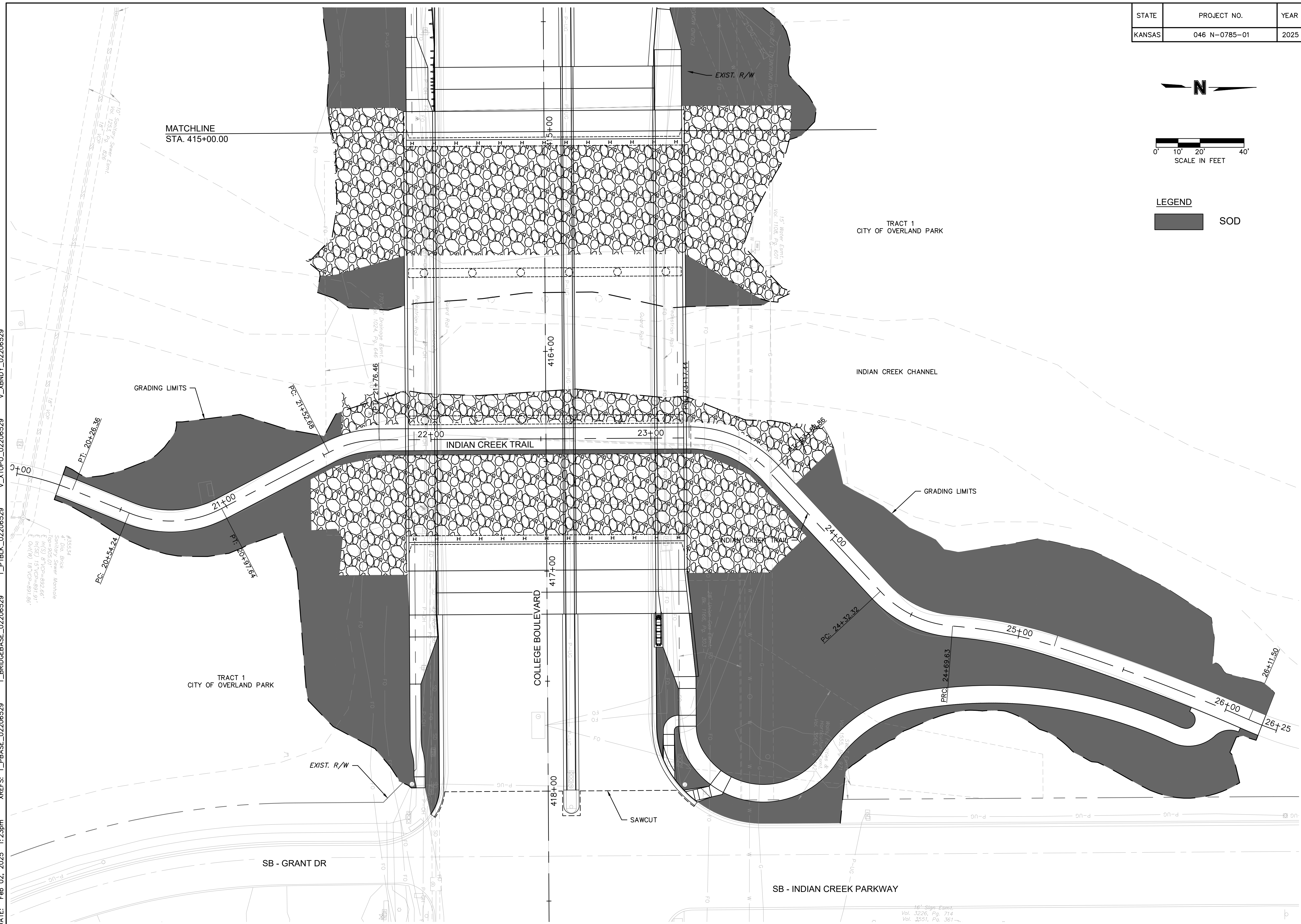
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LEGEND

SOD



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SOD AND SEEDING PLANS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

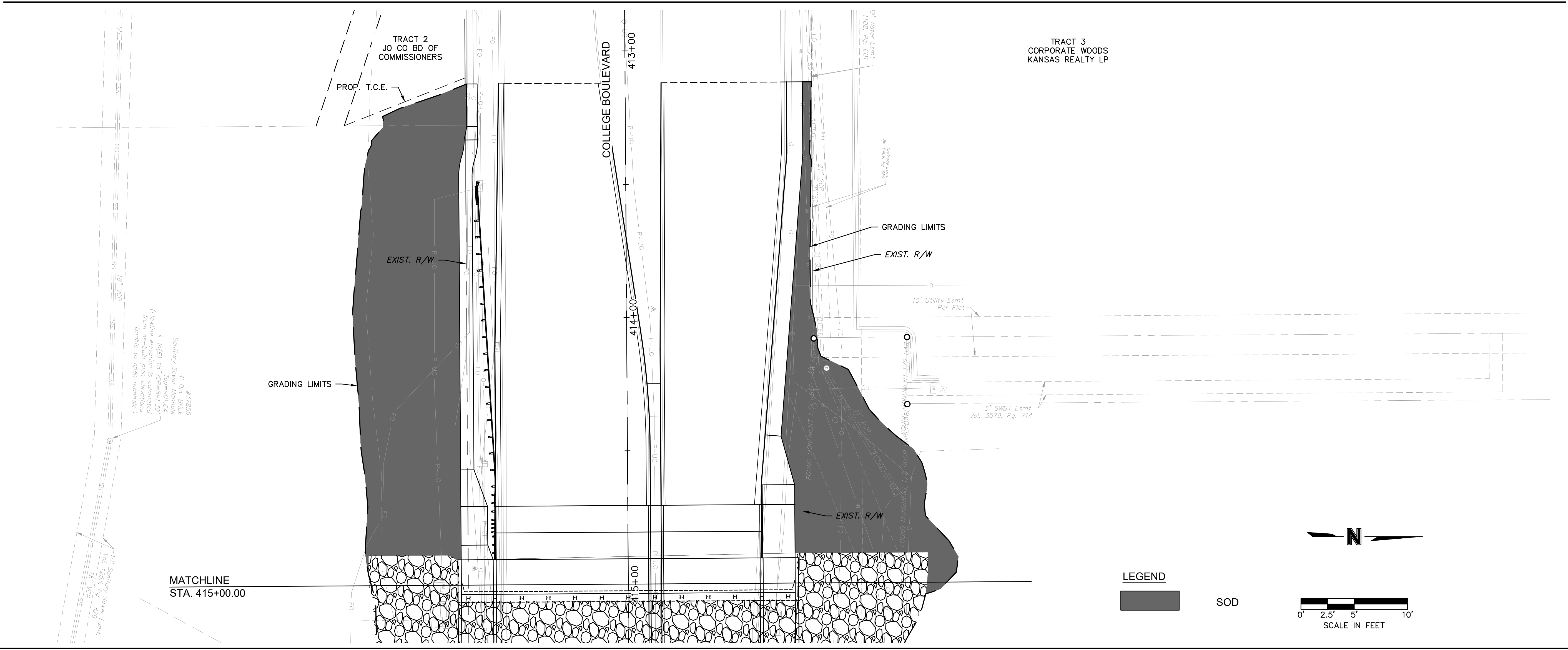
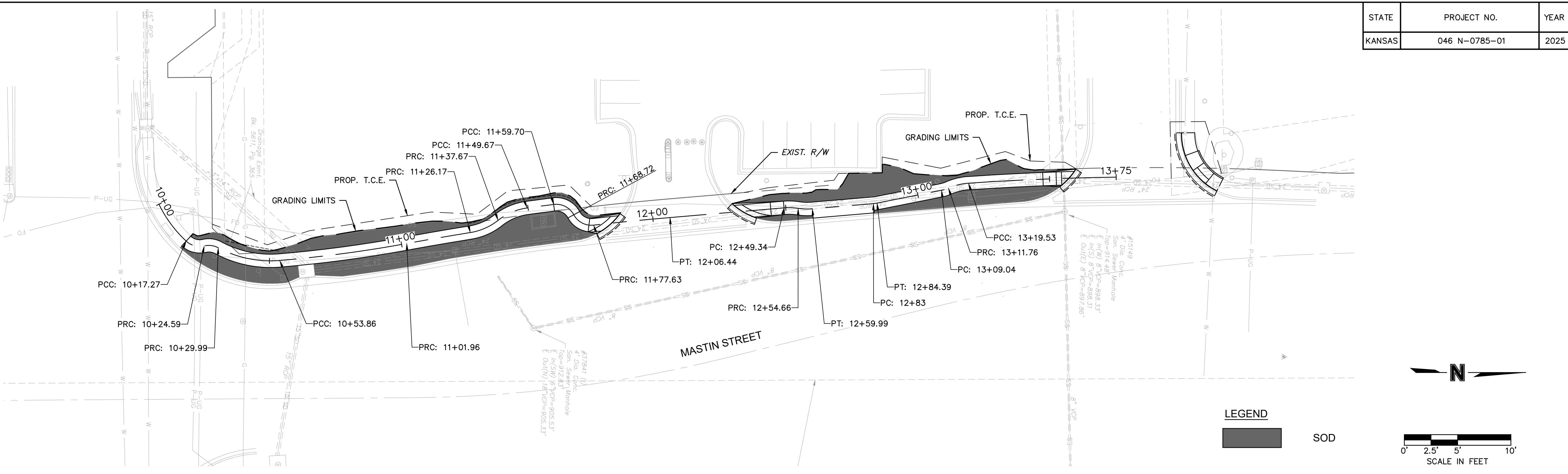
REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

2025

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 checked by: PBM
 approved by: PBM
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 drawing no: SOD_SEED_02206529
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COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

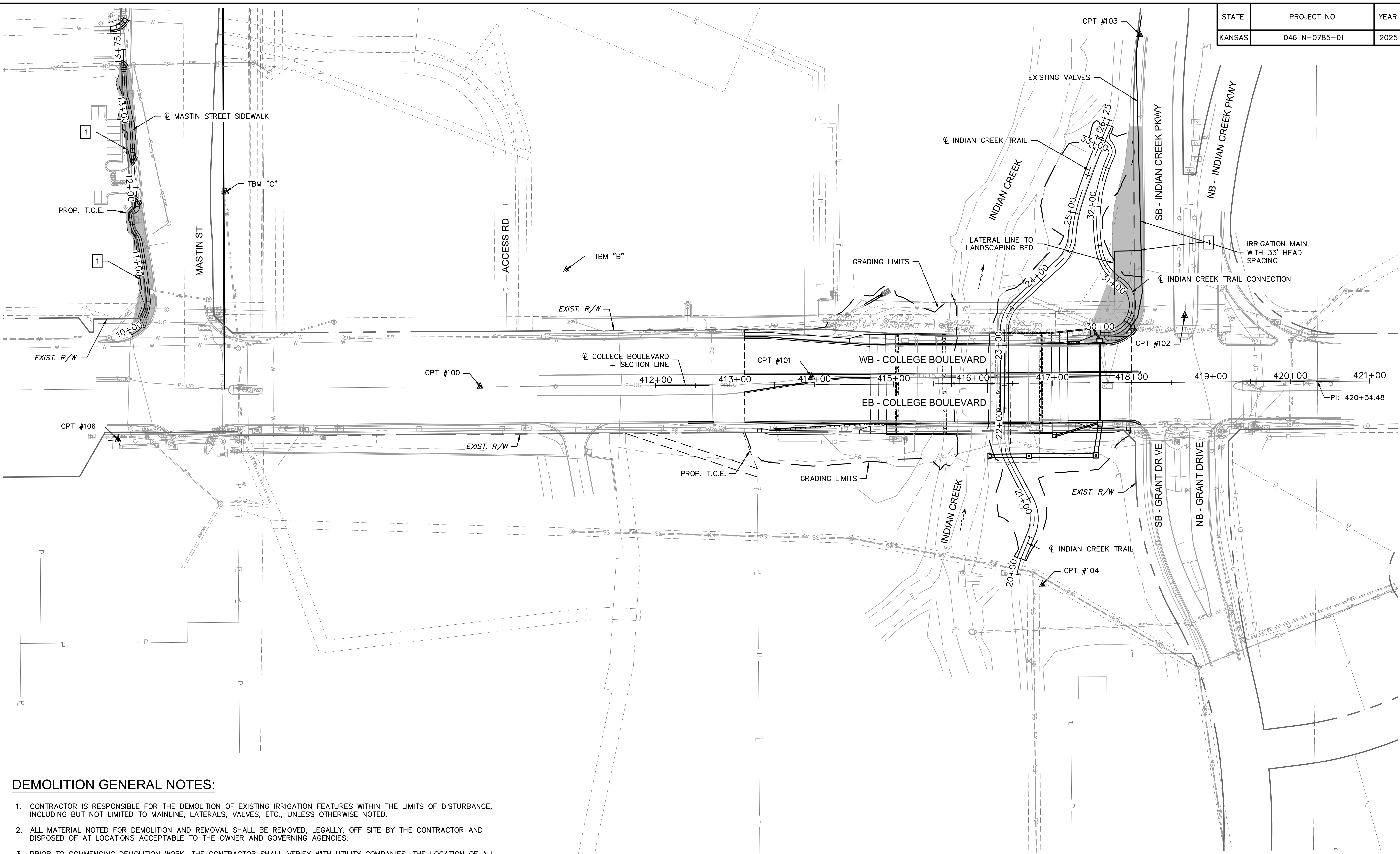
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DEMOLITION GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION OF EXISTING IRRIGATION FEATURES WITHIN THE LIMITS OF DISTURBANCE, INCLUDING BUT NOT LIMITED TO MAINLINE, LATERALS, VALVES, ETC., UNLESS OTHERWISE NOTED.
2. ALL MATERIAL NOTED FOR DEMOLITION AND REMOVAL SHALL BE REMOVED, LEGALLY, OFF SITE BY THE CONTRACTOR AND DISPOSED OF AT LOCATIONS ACCEPTABLE TO THE OWNER AND GOVERNING AGENCIES.
3. PRIOR TO COMMENCING DEMOLITION WORK, THE CONTRACTOR SHALL VERIFY WITH UTILITY COMPANIES, THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL PROTECT ALL UTILITIES TO REMAIN IN SERVICE DURING DEMOLITION AND CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE THE RELOCATION OF ANY AND ALL UTILITIES AS REQUIRED BY THIS CONSTRUCTION.
4. CONTRACTOR SHALL PROTECT EXISTING STORM DRAINAGE STRUCTURES FROM SILTATION DURING CONSTRUCTION. CONTRACTOR SHALL PROVIDE FOR CONTROL OF SURFACE EROSION DURING CONSTRUCTION AND UNTIL THE OWNER ACCEPTS THE WORK AS COMPLETE. THE CONTRACTOR SHALL PROVIDE BERMS, SILT FENCE, STRAW BALES OR OTHER MEANS TO PREVENT SEDIMENT FROM REACHING THE PUBLIC RIGHT-OF-WAY, OR ADJACENT PROPERTY. IN THE EVENT THE PREVENTION MEASURES ARE NOT EFFECTIVE, THE CONTRACTOR SHALL REMOVE ANY DEBRIS AND SEDIMENT AND RESTORE THE RIGHT-OF-WAY AND ADJACENT PROPERTY TO ORIGINAL OR BETTER CONDITION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL REQUIRED PERMITS TO COMPLETE SCOPE OF WORK.
6. DEBRIS SHALL NOT BE ALLOWED TO ACCUMULATE AND SHALL BE REMOVED AT FREQUENT INTERVALS. AT COMPLETION OF WORK IN EACH AREA, THE CONTRACTOR SHALL GATHER AND REMOVE ALL DEBRIS, EQUIPMENT, AND EXCESS MATERIAL FROM THAT AREA. AT FINAL COMPLETION OF ALL WORK HE SHALL REMOVE ALL SUCH ITEMS FROM THE PREMISES.

IRRIGATION GENERAL NOTES:

1. CONTRACTOR SHALL LOCATE ALL EQUIPMENT ASSOCIATED WITH EXISTING IRRIGATION SYSTEM. ADJUST EXISTING IRRIGATION SYSTEM AND, WHERE NECESSARY, INSTALL NEW IRRIGATION EQUIPMENT TO PROVIDE HEAD TO HEAD IRRIGATION COVERAGE OF ALL DISTURBED TURF AREAS.

IRRIGATION DEMOLITION LEGEND

- EXIST. IRRIGATION SYSTEM TO BE REMOVED
- PROP. RIGHT OF WAY

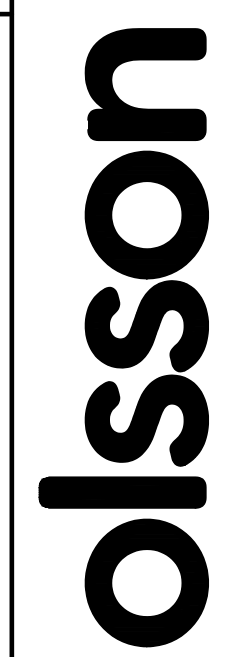
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IRRIGATION DEMOLITION PLAN COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK OVERLAND PARK, KANSAS	2025
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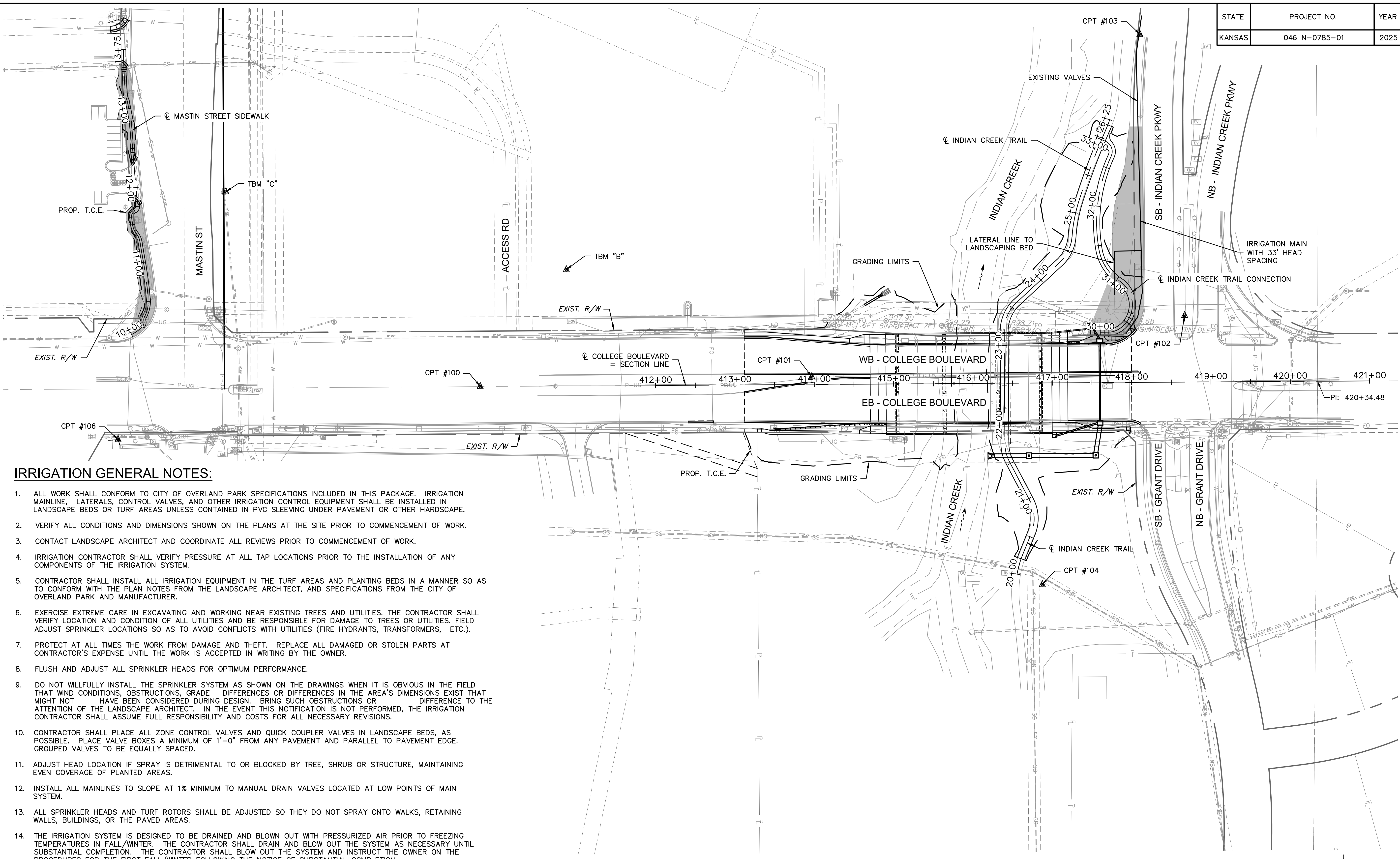
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IRRIGATION GENERAL NOTES:



- ALL WORK SHALL CONFORM TO CITY OF OVERLAND PARK SPECIFICATIONS INCLUDED IN THIS PACKAGE. IRRIGATION MAINLINE, LATERALS, CONTROL VALVES, AND OTHER IRRIGATION CONTROL EQUIPMENT SHALL BE INSTALLED IN LANDSCAPE BEDS OR TURF AREAS UNLESS CONTAINED IN PVC SLEEVING UNDER PAVEMENT OR OTHER HARDSCAPE.
- VERIFY ALL CONDITIONS AND DIMENSIONS SHOWN ON THE PLANS AT THE SITE PRIOR TO COMMENCEMENT OF WORK.
- CONTACT LANDSCAPE ARCHITECT AND COORDINATE ALL REVIEWS PRIOR TO COMMENCEMENT OF WORK.
- IRRIGATION CONTRACTOR SHALL VERIFY PRESSURE AT ALL TAP LOCATIONS PRIOR TO THE INSTALLATION OF ANY COMPONENTS OF THE IRRIGATION SYSTEM.
- CONTRACTOR SHALL INSTALL ALL IRRIGATION EQUIPMENT IN THE TURF AREAS AND PLANTING BEDS IN A MANNER SO AS TO CONFORM WITH THE PLAN NOTES FROM THE LANDSCAPE ARCHITECT, AND SPECIFICATIONS FROM THE CITY OF OVERLAND PARK AND MANUFACTURER.
- EXERCISE EXTREME CARE IN EXCAVATING AND WORKING NEAR EXISTING TREES AND UTILITIES. THE CONTRACTOR SHALL VERIFY LOCATION AND CONDITION OF ALL UTILITIES AND BE RESPONSIBLE FOR DAMAGE TO TREES OR UTILITIES. FIELD ADJUST SPRINKLER LOCATIONS SO AS TO AVOID CONFLICTS WITH UTILITIES (FIRE HYDRANTS, TRANSFORMERS, ETC.).
- PROTECT AT ALL TIMES THE WORK FROM DAMAGE AND THEFT. REPLACE ALL DAMAGED OR STOLEN PARTS AT CONTRACTOR'S EXPENSE UNTIL THE WORK IS ACCEPTED IN WRITING BY THE OWNER.
- FLUSH AND ADJUST ALL SPRINKLER HEADS FOR OPTIMUM PERFORMANCE.
- DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT WIND CONDITIONS, OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN THE AREA'S DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED DURING DESIGN. BRING SUCH OBSTRUCTIONS OR DIFFERENCE TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY AND COSTS FOR ALL NECESSARY REVISIONS.
- CONTRACTOR SHALL PLACE ALL ZONE CONTROL VALVES AND QUICK COUPLER VALVES IN LANDSCAPE BEDS, AS POSSIBLE. PLACE VALVE BOXES A MINIMUM OF 1'-0" FROM ANY PAVEMENT AND PARALLEL TO PAVEMENT EDGE. GROUPED VALVES TO BE EQUALLY SPACED.
- ADJUST HEAD LOCATION IF SPRAY IS DETRIMENTAL TO OR BLOCKED BY TREE, SHRUB OR STRUCTURE, MAINTAINING EVEN COVERAGE OF PLANTED AREAS.
- INSTALL ALL MAINLINES TO SLOPE AT 1% MINIMUM TO MANUAL DRAIN VALVES LOCATED AT LOW POINTS OF MAIN SYSTEM.
- ALL SPRINKLER HEADS AND TURF ROTORS SHALL BE ADJUSTED SO THEY DO NOT SPRAY ONTO WALKS, RETAINING WALLS, BUILDINGS, OR THE PAVED AREAS.
- THE IRRIGATION SYSTEM IS DESIGNED TO BE DRAINED AND BLOWN OUT WITH PRESSURIZED AIR PRIOR TO FREEZING TEMPERATURES IN FALL/WINTER. THE CONTRACTOR SHALL DRAIN AND BLOW OUT THE SYSTEM AS NECESSARY UNTIL SUBSTANTIAL COMPLETION. THE CONTRACTOR SHALL BLOW OUT THE SYSTEM AND INSTRUCT THE OWNER ON THE PROCEDURES FOR THE FIRST FALL/WINTER FOLLOWING THE NOTICE OF SUBSTANTIAL COMPLETION.
- THE CONTRACTOR SHALL PRESSURIZE AND MAKE THE SYSTEM OPERATIONAL IN THE SPRING, AFTER ALL CHANCES OF FREEZING TEMPERATURES PASSES. UNTIL NOTICE OF SUBSTANTIAL COMPLETION. THE CONTRACTOR SHALL ALSO PRESSURIZE AND MAKE THE SYSTEM OPERATIONAL AND INSTRUCT THE OWNER ON PROCEDURES FOR THE FIRST SPRING FOLLOWING THE NOTICE OF SUBSTANTIAL COMPLETION.
- CONTRACTOR SHALL INSTALL SLEEVES UNDER HARDSCAPE AT ALL POINTS WHERE MAINLINE AND LATERALS ARE LOCATED.
- ALL IRRIGATION EQUIPMENT INCLUDING HEADS, VALVES, MAINLINES AND LATERALS SHALL BE LOCATED ON THE OWNERS PROPERTY.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE RECORD DRAWINGS PER CITY SPECIFICATIONS UPON COMPLETION OF WORK.

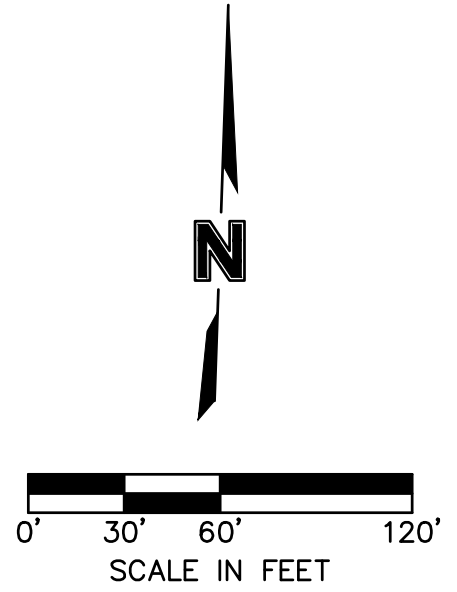
IRRIGATION GENERAL NOTES:

CONTRACTOR SHALL LOCATE ALL EQUIPMENT ASSOCIATED WITH EXISTING IRRIGATION SYSTEM. ADJUST EXISTING IRRIGATION SYSTEM AND, WHERE NECESSARY, INSTALL NEW IRRIGATION EQUIPMENT TO PROVIDE HEAD TO HEAD IRRIGATION COVERAGE OF ALL DISTURBED TURF AREAS.

NOTE: EXISTING IRRIGATION LOCATIONS WERE NOT SURVEYED AND ARE SHOWN SCHEMATICALLY FOR INFORMATION ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING IRRIGATION EQUIPMENT.

IRRIGATION PLAN LEGEND

-  IRRIGATION SYSTEM TO BE INSTALLED
-  PROP. RIGHT OF WAY



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

IRRIGATION PLAN
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025
 REVISIONS

Streetlighting General Notes

- All work and material shall conform to the latest edition of the City of Overland Park Design and Construction Manual and shall be from the City of Overland Park approved materials list available at ppm.opkansas.org.
- All traffic control in conjunction with the streetlighting construction shall be in conformance with the Manual on Uniform Traffic Control Devices and the Overland Park Traffic Control Handbook for Street Maintenance and Construction Operations, latest revisions.
- The Contractor shall stake the locations for all poles, controllers and junction boxes to be installed. The stations and offsets provided are to the center of the streetlighting equipment. The contractor shall provide elevations. If obstructions are encountered during installation, the contractor will re-stake those locations affected by the obstruction. The city streetlighting inspector shall inspect the staking prior to any excavation/construction.
- The locations of existing underground utilities, if shown, are approximate only and have not been independently verified. The Contractor shall be responsible for contacting all utility companies for locations of all underground lines prior to excavation and be fully responsible for any and all damages, which might occur as a result of the Contractor's failure to exactly locate and preserve any and all underground utilities.
- The City of Overland Park is on the KS One Call System. The contractor shall call 811 to obtain locates for streetlighting, traffic signal, and fiber optic conduits/cables.
- All circuit cables in junction and service boxes and poles shall be identified with color-coded tape around individual cables as follows:
 North Cable: Tape Color Code Blue
 East Cable: Tape Color Code Yellow
 South Cable: Tape Color Code Purple
 West Cable: Tape Color Code Red
 Ground Cable: Tape Color Code Green.
- The contractor shall be responsible for removing and salvaging existing equipment as noted. See instructions for Disassembly and Return of Salvaged Streetlighting Equipment.
- Rock and shale may be encountered and thus the bid items shall reflect the extra work necessary to accomplish the installation. No additional payments ("extras") will be made for excavation of rock or shale and suitable backfill materials. The following conditions shall prevail:
 Screw-in foundations have been assumed for all areas. In the event a screw-in foundation may not be installed, then the contractor may at his option install the screw-in foundation within a pre-drilled hole. All pre-drilled holes within rock/shale shall be backfilled with flowable fill up to the bottom of the conduit slot, in accordance with the specifications.
- Conduit shall be bored under all street pavements that are in place at the time of installation. Saw cutting existing street pavement for the purpose of trenching conduit across any existing pavement will not be allowed. Multiple conduits cannot be pulled back through the same bore unless otherwise approved.
- The conduit placement shall be coordinated with the paving operation, when applicable. Conduit installation and conduit connections shall be inspected and approved by the City streetlighting inspector. The contractor shall pay any and all extra costs of installing conduits by alternate construction methods after pavement has been placed or for any damages to pavement that may occur during conduit installation. All trenches for conduit under proposed paved surfaces (drives, streets and sidewalks) shall be backfilled with diggable flowable fill unless otherwise directed, to below the proposed pavement surface.
- Continuous 2" HDPE conduit shall be installed between all streetlighting appurtenances prior to paving within the limits of the street improvements. Conduit splices between appurtenances shall not be allowed unless fusion couplings or other fusion methods are used with prior approval from the Engineer.
- All existing streetlight poles to be relocated shall be reinstalled from their present location to their new location according to the address stenciled on the pole. All existing streetlighting equipment to be relocated shall become the responsibility of the contractor for safe storage. The contractor, at his own expense, shall replace any materials to be reused that have been damaged with approved materials in accordance with the current standard details, specifications, policies and practices.
- The conduit and cable shall be installed under underdrain pipe crossings and under the underdrain blankets. Refer to the street plans for underdrain pipe and blanket locations and appropriate details, if applicable. Where pole foundations are to be installed through an underdrain blanket, the blanket shall be pre-cut to prevent damage of the blanket. In the event the blanket is damaged, the fabric shall be replaced.
- All cable connections at junction boxes shall be watertight.
- All cable re-connections at existing light poles shall require new connector kits (i.e., multi-tap connectors and fused and non-fused connectors).
- The connections of the new system made at an existing junction box, light pole or control center for the continuation of the existing circuit shall be made in the presence of the streetlighting inspector for approval.
- The contractor shall take all precautions necessary to minimize the downtime of the existing streetlighting systems to be modified. Any existing streetlighting system shall be maintained during construction as long as possible until the new city-owned streetlighting system is installed and operating.
- Damage to any existing streetlighting equipment due to the construction shall be the responsibility of the contractor. The equipment shall be replaced or repaired (as directed by the City) with materials equal or better than the existing material.
- All existing streetlighting equipment is to be used in place (U.I.P.) unless otherwise noted in the plans.
- The contractor shall notify the City of Overland Park, KS, Department of Public Works Project Manager, of the exact construction schedule so that inspection of the streetlight installation can be made, including conduit installations.
- The contractor shall be responsible for any damage to existing underground sprinkler systems during construction. All affected pipes or fittings shall be restored to original condition and location with new materials similar to existing. All restoration work shall be acceptable to the engineer and property owner.
- The contractor shall install service conduit with electrical service cable from the control center to the Evergy power source. (See Streetlighting Service Connection Detail)
- All areas disturbed by construction shall be sodded as directed by the Engineer. The grass medians shall be seeded and brick pavers restored, unless otherwise noted or directed. Sidewalk damaged by construction or removed due to construction shall be replaced as directed, in accordance with the Overland Park Municipal Code requirements.
- The contractor shall be required to apply stick-on street address numerals on the poles and controller cabinet as indicated in the plans. Letters and numerals should be 2 inches high. (See Stencil Detail)
- Contractor shall use a polymer lubricating agent to facilitate conduit bores under paved streets. Failure to do so will result in a denial to retrieve bore head, in the case of loss, under any paved street by excavation methods.
- All existing concrete foundations, shown to be removed, shall be removed a minimum of 24" below final grade.
- The ends of all conduit in service boxes, junction boxes, and controller cabinets shall be plugged with duct seal.
- If the final streetlight pole is less than ten (10) feet away from the nearest overhead power line, the contractor shall contact KCP&L and request them to sleeve their line prior to pole foundation and/or pole installation. All associated costs shall be the responsibility of the contractor.
- Forms (including rebar cages, etc.) conduit and anchor bolts shall be installed and in place for review by the inspector a minimum of 24 hours in advance of the proposed concrete placement. No concrete placement shall begin after 3:00 pm.
- The contractor, or their supplier, shall at the contractor's expense, submit a concrete mix design for approval by the Kansas City Metro Materials Board (KCMMB) prior to placement of any concrete. Additional information regarding KCMMB approved concrete mix designs is available on the following website: www.kcmmmb.org

Instructions for Disassembly and Return of Salvaged Streetlighting Equipment

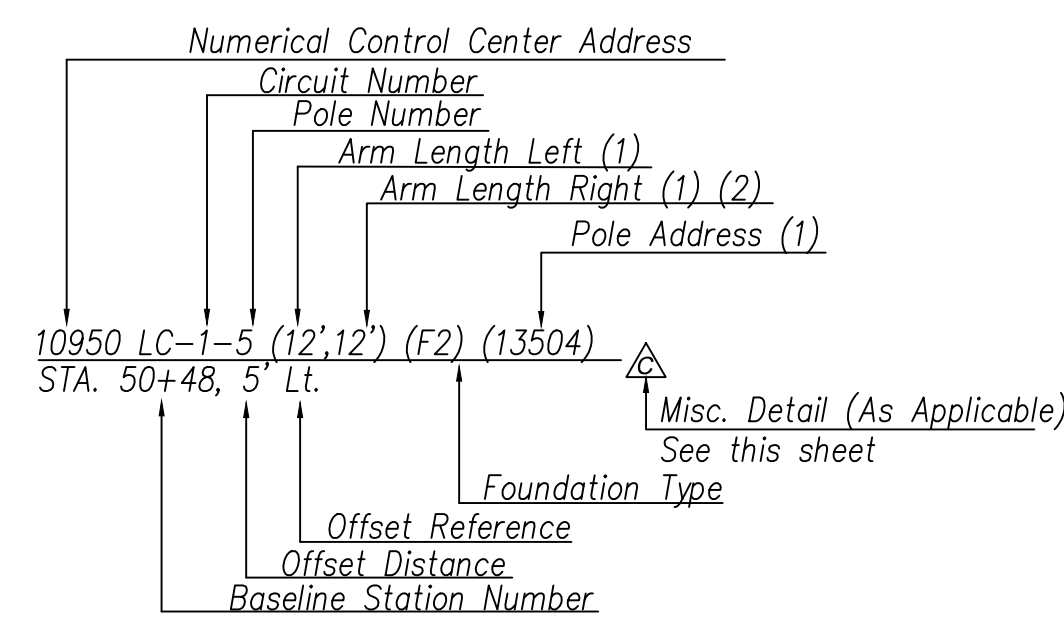
The following is a list of streetlighting equipment which shall be salvaged and returned(1) to the City of Overland Park, unless otherwise instructed by the inspector. The condition at the time of delivery shall be the same as prior to removal. Disassembly of equipment shall be done prior to returning the equipment to the Blue Valley Public Works Maintenance Facility (Traffic Services Maintenance Office and Shop) 6869 W. 153rd Street. The contractor shall notify the City of Overland Park Department of Public Works, Inventory Control Specialist (913) 327-6603 to arrange for the delivery of the salvaged equipment. Provide 48-hours advance notice.

(1) For Federally Funded Projects salvaged equipment shall be carefully disassembled and stored on site. Contractor to arrange for pickup, by the City of Overland Park, with the Inventory Control Specialist.

The City maintains the first right of refusal of any of the equipment listed. The project inspector will make an on-site assessment to determine if the equipment should be salvaged or disposed. Any equipment that will not be salvaged shall become the property of the contractor.

- All luminaires must be removed from streetlight arms or poles and be returned.
- All luminaire arms shall be removed from the streetlight poles without cutting the arms and be returned with the pole. Pole caps shall remain attached to the pole.
- All cable located in the pole and arms must be disconnected from luminaires, removed from the streetlight pole and arm and discarded.
- All breakaway couplings shall be removed from the streetlight pole and screw-in base and discarded. Frangible bases with hardware shall be returned.
- All screw in bases shall be cleaned of dirt and debris and returned with anchor studs or bolts threaded into the base plate.
- All streetlight control centers must be returned with all circuit breakers, relays and other internal equipment still installed. Any removable entry panels shall be returned with the control center.
- All streetlight equipment hardware (i.e. arm bolts, multi-tap connectors, fuse holders and other small accessories) shall be discarded.
- All junction boxes, service boxes and lids shall be removed and returned if in good condition.
- Disassembly of any traffic signal equipment attached to streetlight equipment shall follow the guidelines as stated in the "Instructions for Disassembly and Removal of Salvaged Traffic Signal Equipment".

Streetlight Designation



- (1) Not applicable for 14' poles
- (2) Not applicable for a single bracket arm pole

Design Parameters

- Applications**
College Boulevard
- Design Luminaires:**
All luminaires used in the design analysis shall be from the City of Overland Park pre-approved materials lists for the various classes and/or wattages.
- Design Requirements:**
 - Design Criteria**
Pedestrian Conflict Area - Medium
Functional Street Classification - Thoroughfare
 - Luminance Design Criteria**
Avg. Maintained Luminance 0.90 cd/m²
Avg. to Min. Uniformity 3.0 :1
Max. to Min. Uniformity 5.0 :1
Veiling Luminance Ratio 0.3 :1
Designed Pole Spacing 176(ft)
 - Luminance Design Results**
Avg. Maintained Luminance 0.97:cd/m²
Avg. to Min. Uniformity 2.43:1
Max. to Min. Uniformity 4.93:1
Veiling Luminance Ratio 0.31:1
 - Illuminance Design Results**
Avg. Maintained Illuminance 1.13 Fc
Avg. to Min. Uniformity 1.95 :1
- Design Calculation Factors**
Light Loss Factor (LLF) - 0.91
Mounting Height - 40 Ft.

Streetlight Legend

Proposed

- Class E LED Lamp Post-Top Luminaire w/14' Pole
- Class A LED Cobra-Head Luminaire w/ 30' Pole
- Class B LED Cobra-Head Luminaire w/ 30' Pole
- Class C LED Cobra-Head Luminaire w/ 30' Pole
- Class D LED Cobra-Head Luminaire w/ 30' Pole
- Class E LED Cobra-Head Luminaire w/ 30' Pole
- Class A LED Cobra-Head Luminaire w/ 40' Pole
- Class B LED Cobra-Head Luminaire w/ 40' Pole
- Class C LED Cobra-Head Luminaire w/ 40' Pole
- Class D LED Cobra-Head Luminaire w/ 40' Pole
- Type 1 Service Box
- Type 2 Service Box
- Type 1 Junction Box
- Type 2 Junction Box
- Type 1 Fiber Optic Service Box
- Type 2 Fiber Optic Service Box
- Pad Mounted Control Center (Shaded Area Indicates Photocell Orientation) (North or East)
- 2 Inch HDPE Conduit
- 3 Inch HDPE Conduit
- HDPE Fiber Optic Conduit w/Locating Cable
- Construction Note Number
- Electrical Service
- Evergy Service Pedestal

Existing

- 150W HPS Lamp Post-Top Luminaire w/ 14' Pole
- Class E Lamp Post-Top Luminaire w/ 14' Pole
- Class A Cobra-Head Luminaire w/ 30' Pole
- Class B Cobra-Head Luminaire w/ 30' Pole
- Class C Cobra-Head Luminaire w/ 30' Pole
- Class D Cobra-Head Luminaire w/ 30' Pole
- Class A Cobra-Head Luminaire w/ 40' Pole
- Class B Cobra-Head Luminaire w/ 40' Pole
- Class C Cobra-Head Luminaire w/ 40' Pole
- Class D Cobra-Head Luminaire w/ 40' Pole
- Former KCPL Owned Street Light
- Type 1 Service Box
- Type 2 Service Box
- Type 1 Junction Box
- Type 2 Junction Box
- Type 1 Fiber Optic Service Box
- Type 2 Fiber Optic Service Box
- Pad Mounted Control Center (Shaded Area Indicates Photocell Orientation)
- 3" HDPE Conduit
- 2" HDPE Conduit
- HDPE Fiber Optic Conduit w/Locating Cable
- Evergy Service Pedestal

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06/07/2024	DATE
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2	
3	

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 141236-PBASE-TRNS

PRE BRIDGE DEMOLITION LIGHTING PLANS

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FEDERAL:	F.A. NO. DE-N078(501)	

olsson

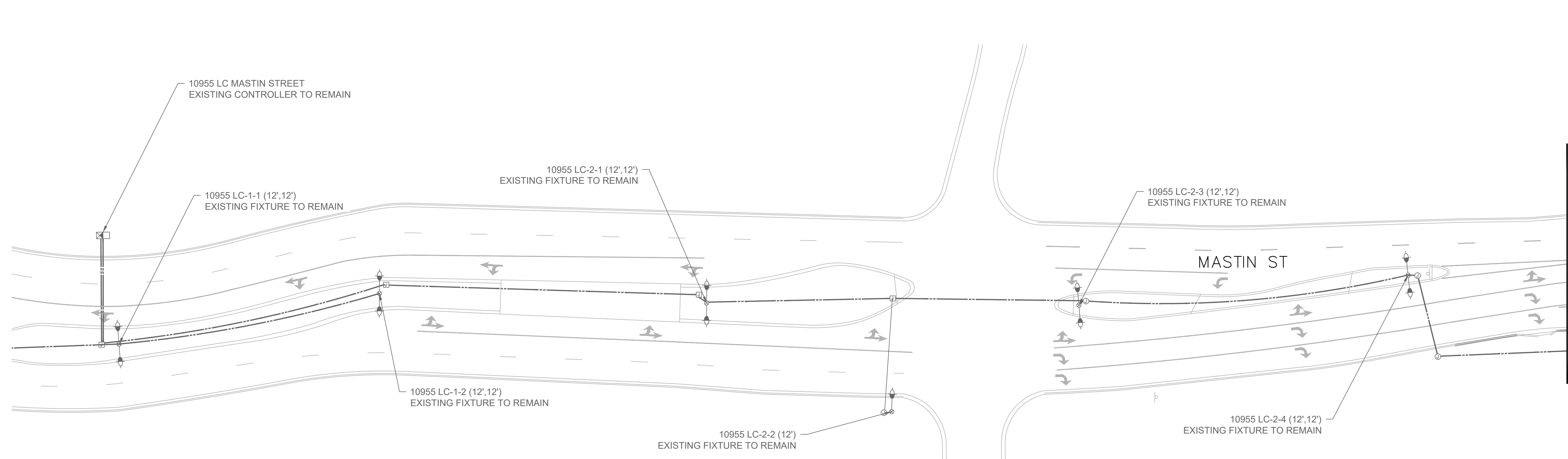
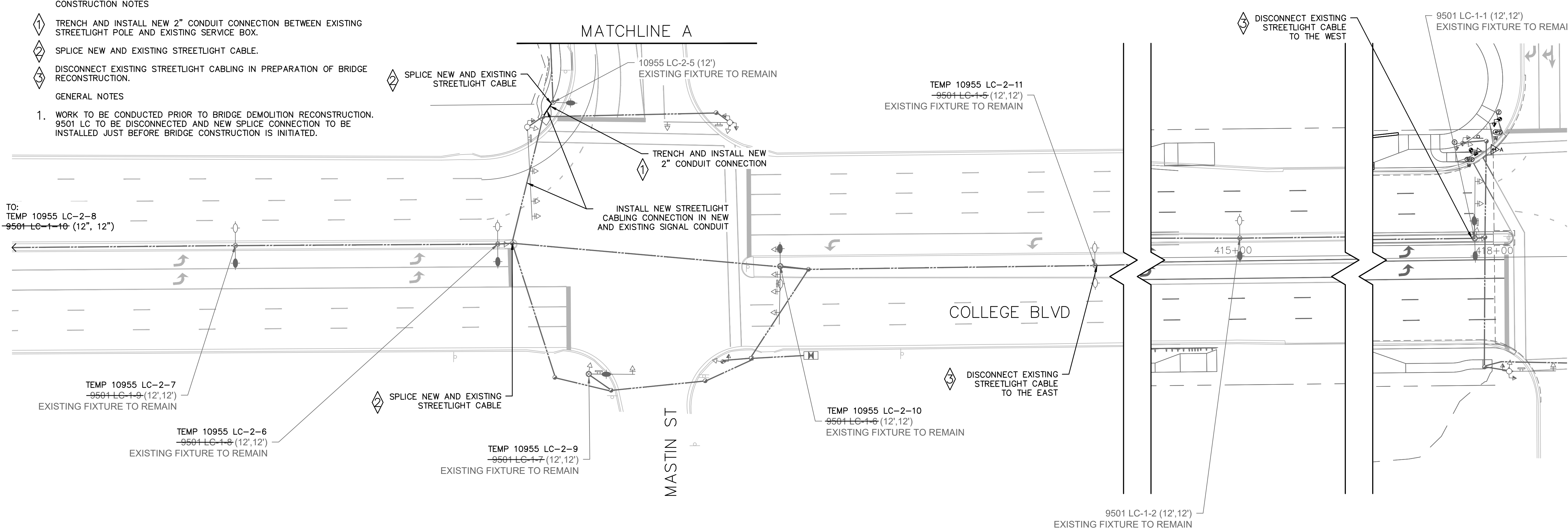
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.981.1170 www.olson.com

FINAL PLANS
NOT FOR CONSTRUCTION

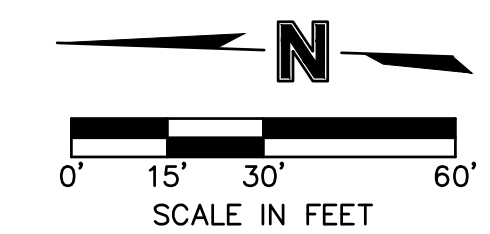
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PRE-CONSTRUCTION LIGHTING MODIFICATION PLANS	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	

drawn by:	SRH
checked by:	JSC
approved by:	JSS
QA/QC by:	JSS
project no.:	022-06529
drawing no.:	F.LIT. 02206529
date:	2/2/2025



**EXISTING STREETLIGHTING CONTROLLER CABINET
ELECTRICAL SERVICE ADDRESS:
10955 LC MASTIN STREET
9501 LC COLLEGE BOULEVARD**



FINAL LIGHTING MODIFICATION PLANS

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025
FEDERAL:	F.A. NO. DE-N078(501)	

olsson

7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olson.com

FINAL PLANS
NOT FOR CONSTRUCTION

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

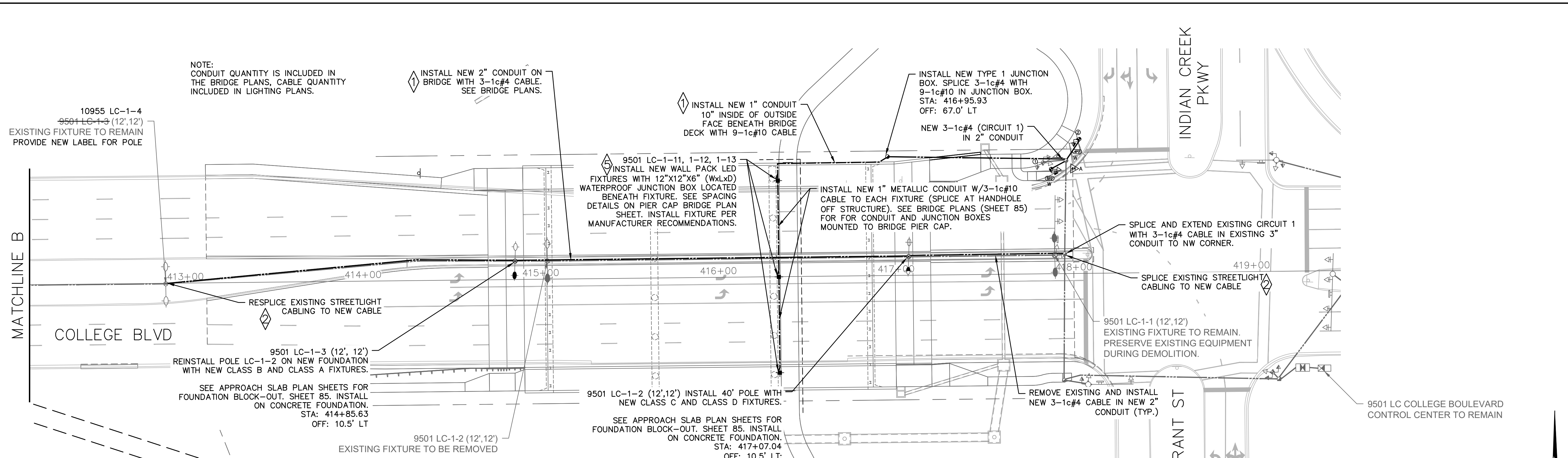
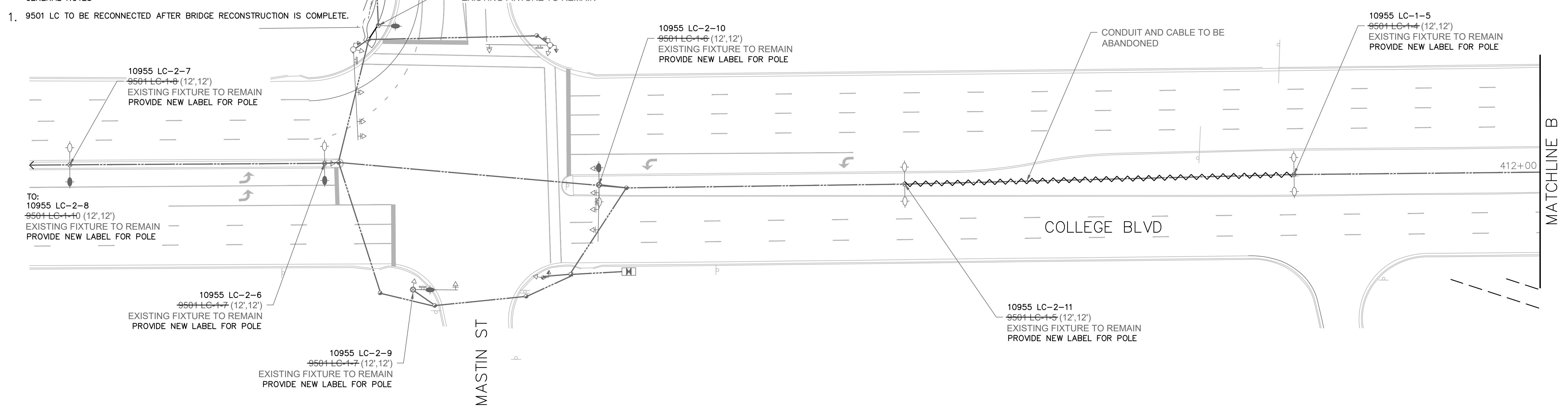
2025

LIGHTING PLANS
LIGHTING MODIFICATION PLANS
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS

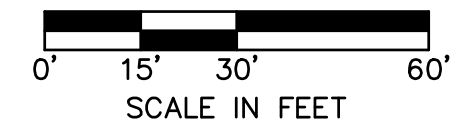
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checked by:	JSC
approved by:	JSS
QA/QC by:	JSS
project no.:	022-06529
drawing no.:	F.LIT. 02206529
date:	2/2/2025

SHEET
120 of 189

- CONSTRUCTION NOTES**
- INSTALL NEW 1" CONDUIT CONNECTION IN NEW BRIDGE SPAN. SEE BRIDGE PLANS FOR DETAILS. CONTRACTOR SHALL INSTALL EXPANSION JOINTS WHERE NECESSARY
 - RESPLICE NEW AND EXISTING STREETLIGHT CABLE.
 - INSTALL NEW TYPE 1 JUNCTION BOX TO INTERCEPT EXISTING STREET LIGHTING CONDUIT TO EXISTING SIGNAL BASE.
 - INSTALL NEW FOUNDATION IN VOID AREA OF NEW BRIDGE APPROACH SLAB. REFER TO BRIDGE PLANS (SHEET 85) FOR LOCATION AND COORDINATE WITH BRIDGE CONTRACTOR FOR FINAL FINISH GRADE ELEVATION AND CONSTRUCTION TIMELINE.
 - INSTALL NEW WALL PACK LIGHT FIXTURES ON BRIDGE. SEE BRIDGE PLANS (SHEET 85) FOR DETAILS AND SPECIFIC LOCATIONS.
- GENERAL NOTES**
- 9501 LC TO BE RECONNECTED AFTER BRIDGE RECONSTRUCTION IS COMPLETE.



EXISTING STREETLIGHTING CONTROLLER CABINET
ELECTRICAL SERVICE ADDRESS:
10955 LC MASTIN STREET
9501 LC COLLEGE BOULEVARD



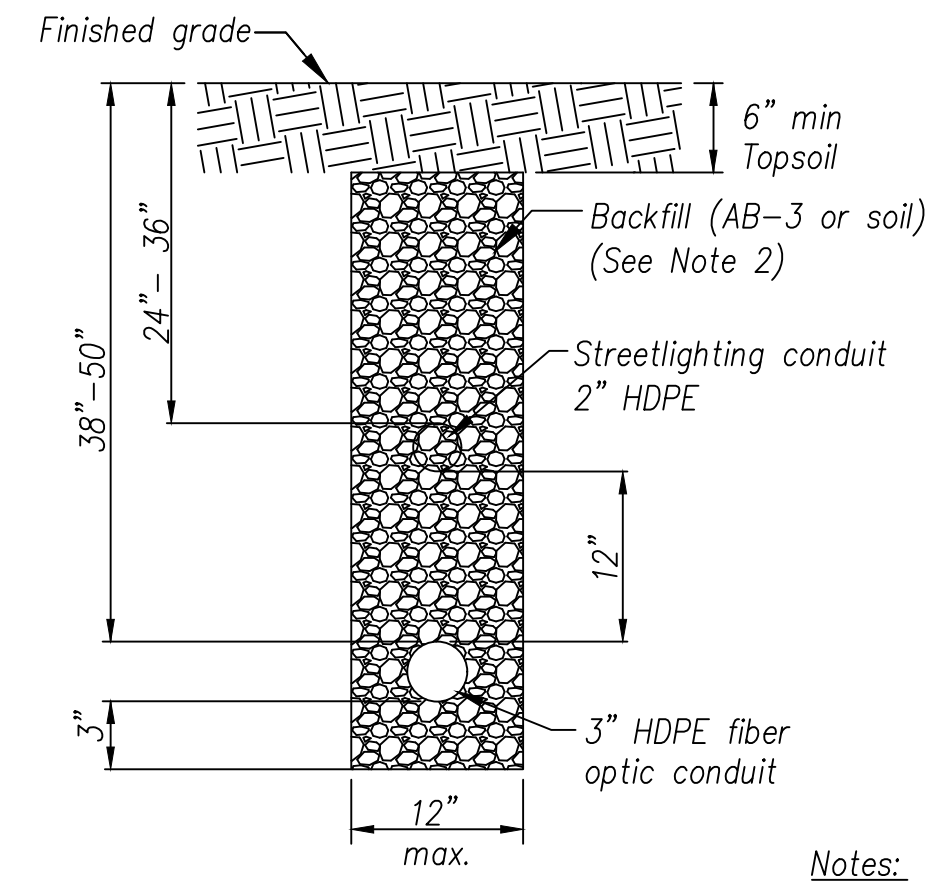
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 141236-PBASE-TRNS

Bill of Materials (1)

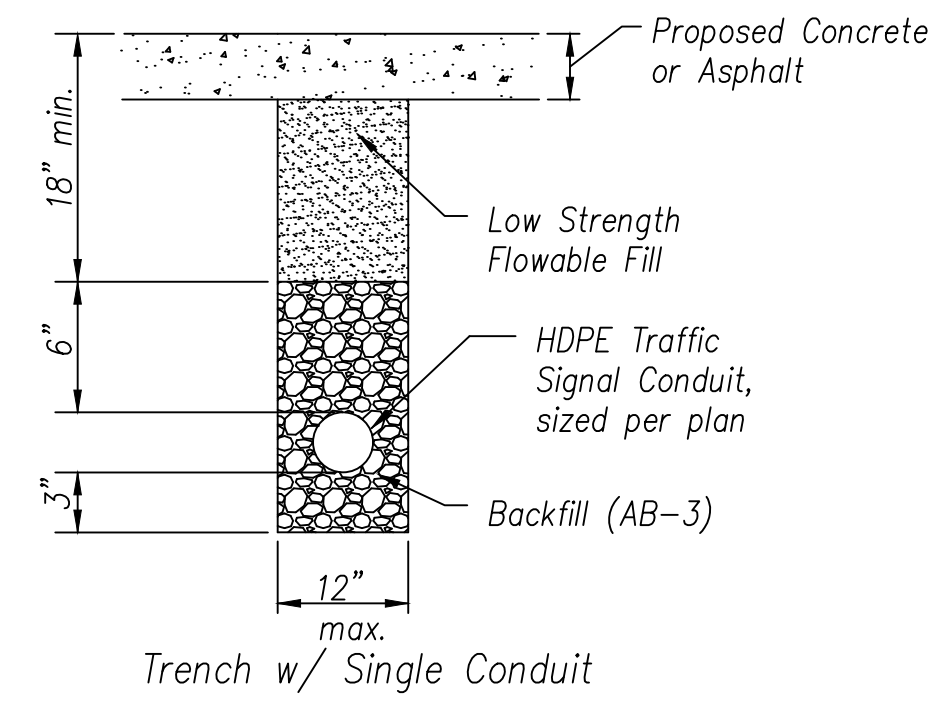
Item	Unit	Quantity
Steel Combination Lighting/Signal Pole	Each	-
40' Aluminum Pole w/ ___' Bracket Arm	Each	-
40' Aluminum Pole w/ ___' Bracket Arm	Each	-
40' Aluminum Pole w/ Twin 12' Bracket Arms	Each	1
40' Aluminum Pole w/ ___' and ___' Bracket Arms	Each	-
30' Aluminum Pole w/ ___' Bracket Arm	Each	-
30' Aluminum Pole w/12' Bracket Arm	Each	-
30' Aluminum Pole w/ Twin 8' Bracket Arms	Each	-
14' Aluminum Pole	Each	-
Concrete Pole Foundation Cap	Each	2
Concrete Foundation for 40' Pole w/Anchor Bolts	Each	2
Concrete Foundation for 30' Pole w/Anchor Bolts	Each	-
Concrete Foundation for 14' Pole w/Anchor Bolts	Each	-
5/8" x 10' Ground Rod w/ Clamp for Concrete Foundation	Each	2
Type F1 Screw-in Foundation	Each	-
Type F2 Screw-in Foundation	Each	-
Type T1 Screw-in Foundation	Each	-
Type R Screw-in Foundation	Each	-
Class A LED Cobra-Head Luminaire	Each	1
Class B LED Cobra-Head Luminaire	Each	1
Class C LED Cobra-Head Luminaire	Each	1
Class D LED Cobra-Head Luminaire	Each	1
Class E LED Cobra-Head Luminaire	Each	-
Class E Post-Top Luminaire w/ LED Lamp	Each	-
Post-Top Luminaire w/ ___ Watt H.P.S. Lamp	Each	-
Wall-Pack LED Fixture (Holograph or Approved Equal, see City APL)	Each	3
Type 1 Service Box	Each	-
Type 1 Junction Box	Each	-
Type 2 Junction Box	Each	1
Wall Mount Junction Box (12"x12"x6") (Hubbel or Approved Equal, see City APL)	Each	5
Control Center - Pad Mounted (1-Circuit) (100 Amp; 240 V)	Each	-
Control Center - Pad Mounted (4 Circuit) (100 Amp; 240 V)	Each	-
Concrete Control Center Foundation (1-Circuit Control Center)	Each	-
Concrete Control Center Foundation (4-Circuit Control Center)	Each	-
5/8" x 10'-0" Ground Rod with Clamp for Control Center	Each	-
Photo Cell	Each	-
1" Rigid Metallic Conduit (Bridge Mount, with Hangers)	Ln. Ft.	210
1" LFMC (Liquidtight Flexible Metal Conduit)	Ln. Ft.	35
Schedule 40 PVC Conduit, 1" (for Equipment Ground Cable)	Ln. Ft.	5
Schedule 40 PVC Conduit, (Gray) Electrical Service Conduit, 3" (Between Every Service Pedestal and Power Pole)	Ln. Ft.	-
SDR 13.5 HDPE (Black w/ Red Stripes) KCP&L Electrical Service Conduit, 2" or Schedule 40 PVC, 2"	Ln. Ft.	-
SDR 13.5 HDPE (Black w/ Red Stripes) KCP&L Electrical Service Conduit, 3" or Schedule 40 PVC, 3"	Ln. Ft.	-
SDR 13.5 HDPE (Gray) Conduit, 2"	Ln. Ft.	715
SDR 13.5 HDPE (Gray) Conduit, 3"	Ln. Ft.	-
Distribution Cable 3-1c No. 10 AWG	Ln. Ft.	460
Distribution Cable 3-1c No. 4 AWG	Ln. Ft.	790
Pole and Bracket Cable 1c No. 10 AWG	Ln. Ft.	310
Solid Copper Ground Cable (Bare # 6 AWG)	Ln. Ft.	10
Locating Cable (Red) 1c No. 10 AWG	Ln. Ft.	-
Electrical Service Power Cable 3-1c #2 AWG	Ln. Ft.	-
8 AMP Fuse	Each	8
Break-Away Non-Fused Connector Kits	Each	4
Break-Away Fused Connector Kits	Each	8
Multiple Streetlight Tap Connector	Each	6
Remove Existing Equipment	Each	-
Relocate Existing Equipment	Each	-
Break-Away Pole Device	Set/Each	-
Cable Retainer Device For Type R Screw-in Foundations	Each	-
Cable Retainer Device For Type T1 Screw-in Foundations	Each	-
Cable Retainer Device For Type F1 Screw-in Foundations	Each	-
Cable Retainer Device For Type F2 Screw-in Foundations	Each	-
Cable Retainer Device For Concrete Foundations	Each	2
Every Service Pedestal (Supplied by Every to Contractor)	Each	-

Notes:

- These approximate quantities were prepared solely for the contractor's convenience. It is not guaranteed that this list of materials constitutes all items required for the completion of the work.
- Approved break-away couplings or frangible bases are acceptable. Frangible bases shall be measured per each and couplings shall be measured as four units per set.
- Refer to Chart B "Traffic Signal Pole Summary" on Traffic Signal Detail Sheet for design parameters.
- All LED Cobra-Head luminaires shall have a minimum 10 year manufacturer's warranty
- If PVC is used it shall be trenched.
- Equipment shall be provided by the City of Overland Park



Trench in Unpaved Areas

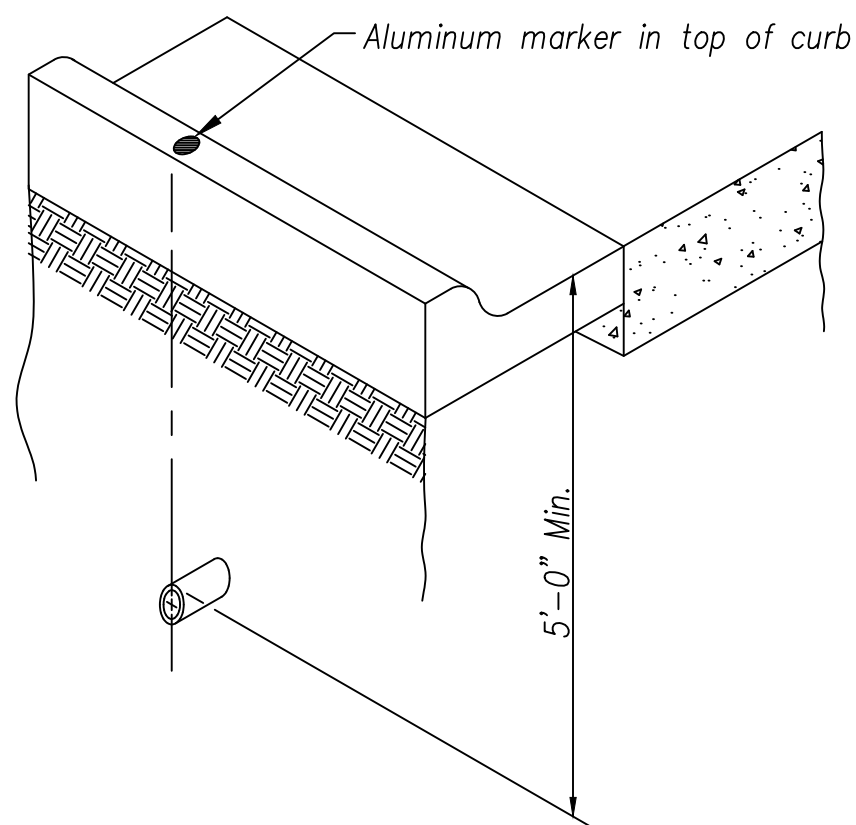


Trench w/ Single Conduit

Notes:

- All trenches for conduit under proposed paved surfaces (drives, streets, and sidewalks) shall be backfilled with AB-3 to 6" above the conduit and then low strength flowable fill to below the proposed paved surface or existing terrain, unless otherwise directed.
- Backfill shall be free of rubble and rock greater than 1.5".
- If multiple conduits are installed, they shall have a minimum of 12" horizontal or vertical clearance between them.
- Details are typical and information for the separation of multiple conduits are applicable whether trenching in unpaved or paved areas.

Trenching Details

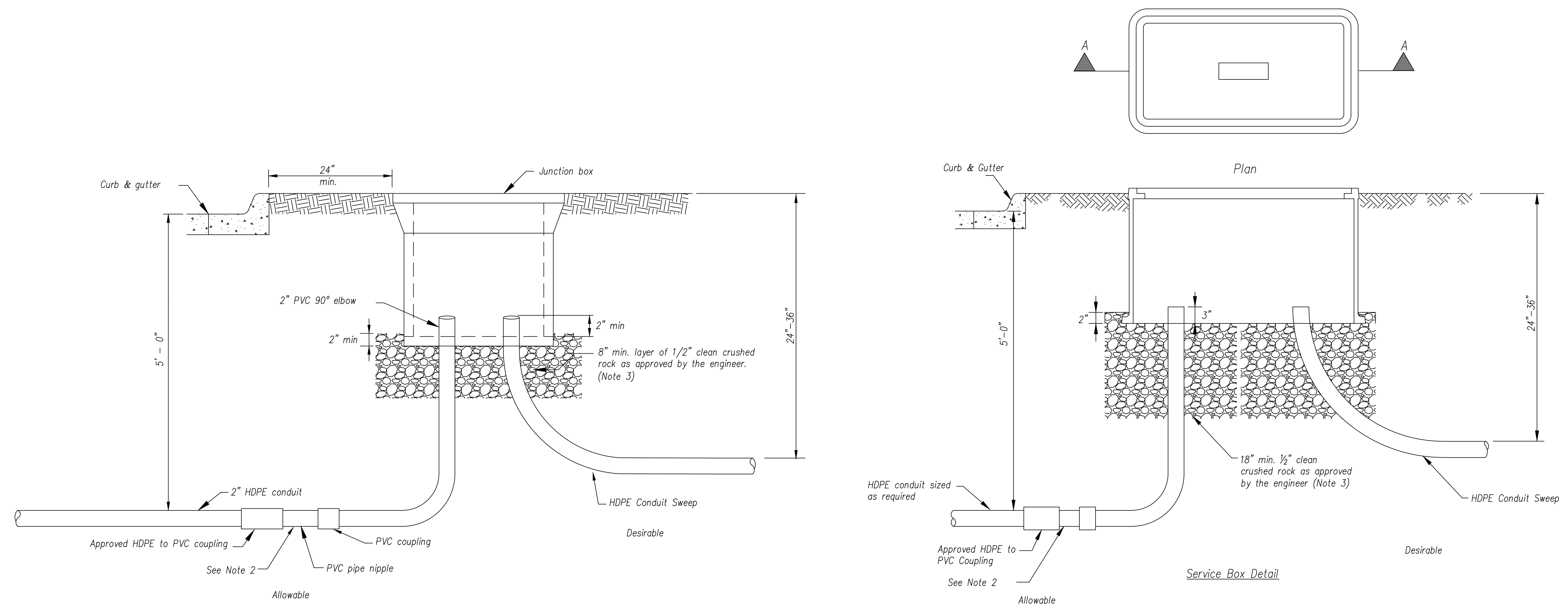


Conduit Marking Detail Notes

- Conduit under all roadway surfaces shall be placed a minimum of 5'-0" below the top of pavement and shall extend to signal appurtenances as indicated in the plans. Refer to the City of Overland Park Horizontal Directional Drilling Guidelines Handbook, latest edition for further requirements for conduit installation under roadway surfaces. The conduit shall be installed to drain, and all ends shall be capped if not being used. An aluminum marker shall be placed in the top of the curb, or outside edge of the shoulder, directly over the conduit with epoxy. Markers shall be embedded such that the top is flush. Aluminum markers will be furnished by the City of Overland Park.
- The contractor shall notify the City of Overland Park, Department of Public Works, Traffic Services Division at 895-6000 for inspection of the conduit installation by the City Inspector. At least 24 hours notice shall be provided. The conduit shall not be covered so as to ensure proper depth, correct conduit material, and proper conduit end treatment as described above.

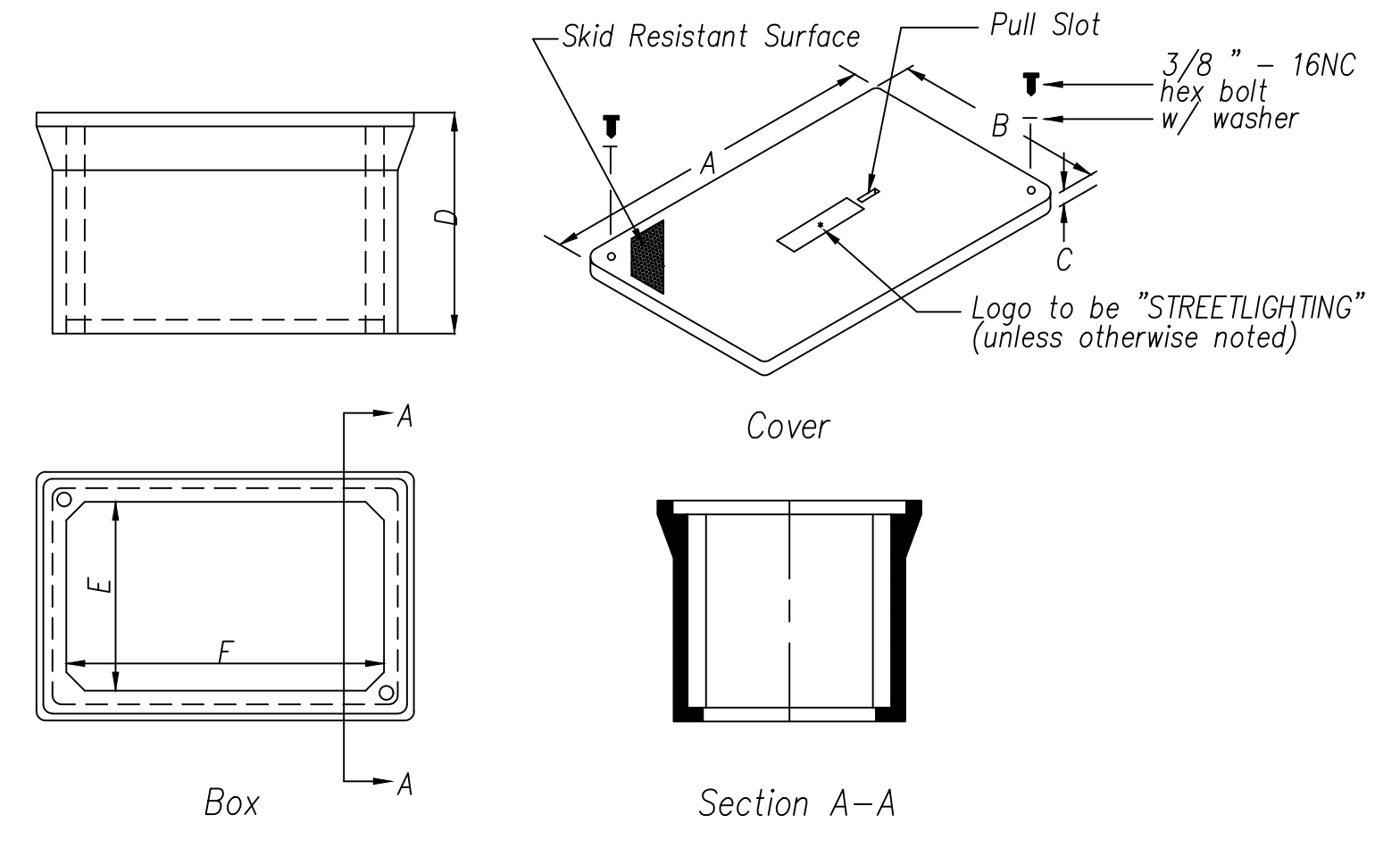
Conduit Marking Detail

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2024 Standard Details	
NO.	REVISIONS
1	DATE
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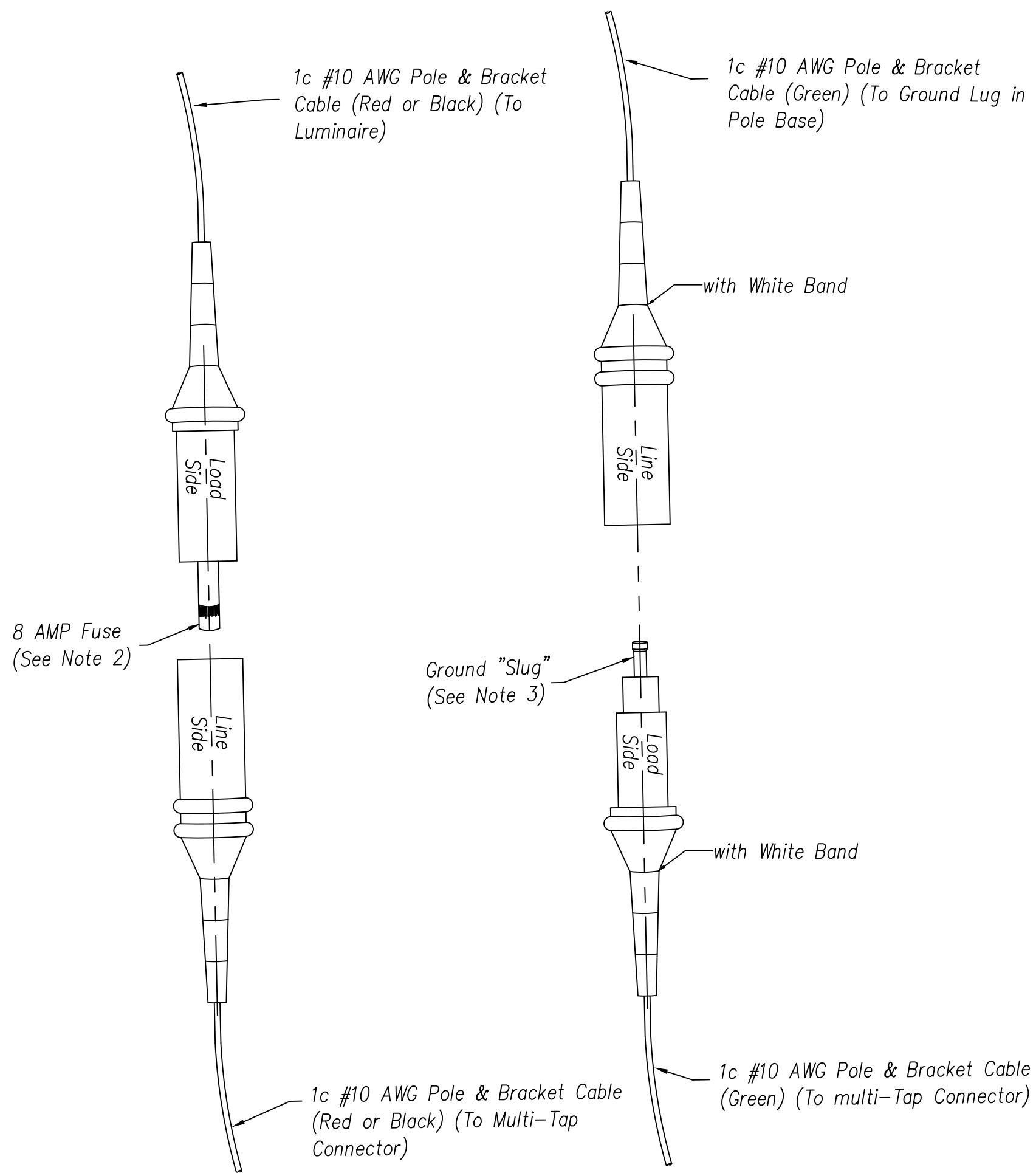
Notes:

- Saw cuts and conduit entrance to be sealed with a pliable non-hardening duct sealant.
- Maximum of a single 10' stick of PVC.
- Crushed rock shall be extended toward curb to underdrain if present.
- A layer of 1/2" clean, crushed rock, as approved by the engineer, shall be constructed below all boxes for drainage purposes. See details for thickness.



Type	Approximate Dimension (Inches)					
	A	B	C	D	E	F
1 - Junction	12 7/8"	12 7/8"	3/4"	12 3/4"	9 3/4"-10 1/2"	9 3/4"-10 1/2"
2 - Junction	18"-18 1/2"	11 1/4"-11 1/2"	2"	12"	9 1/2"-10 1/4"	16 1/2"-17 1/4"
1 - Service	35 5/8"	24"	3"	24"	22 1/4"	33 7/8"
2 - Service (2)	47 5/8"	30 1/8"	3"	24"	28 1/8"	45 5/8"

Fiberglass Reinforced Polymer Concrete
Junction & Service Box Details



Break-Away Fused Electrical Connector (1)

Break-Away Non Fused Electrical Connector (1)

Notes:

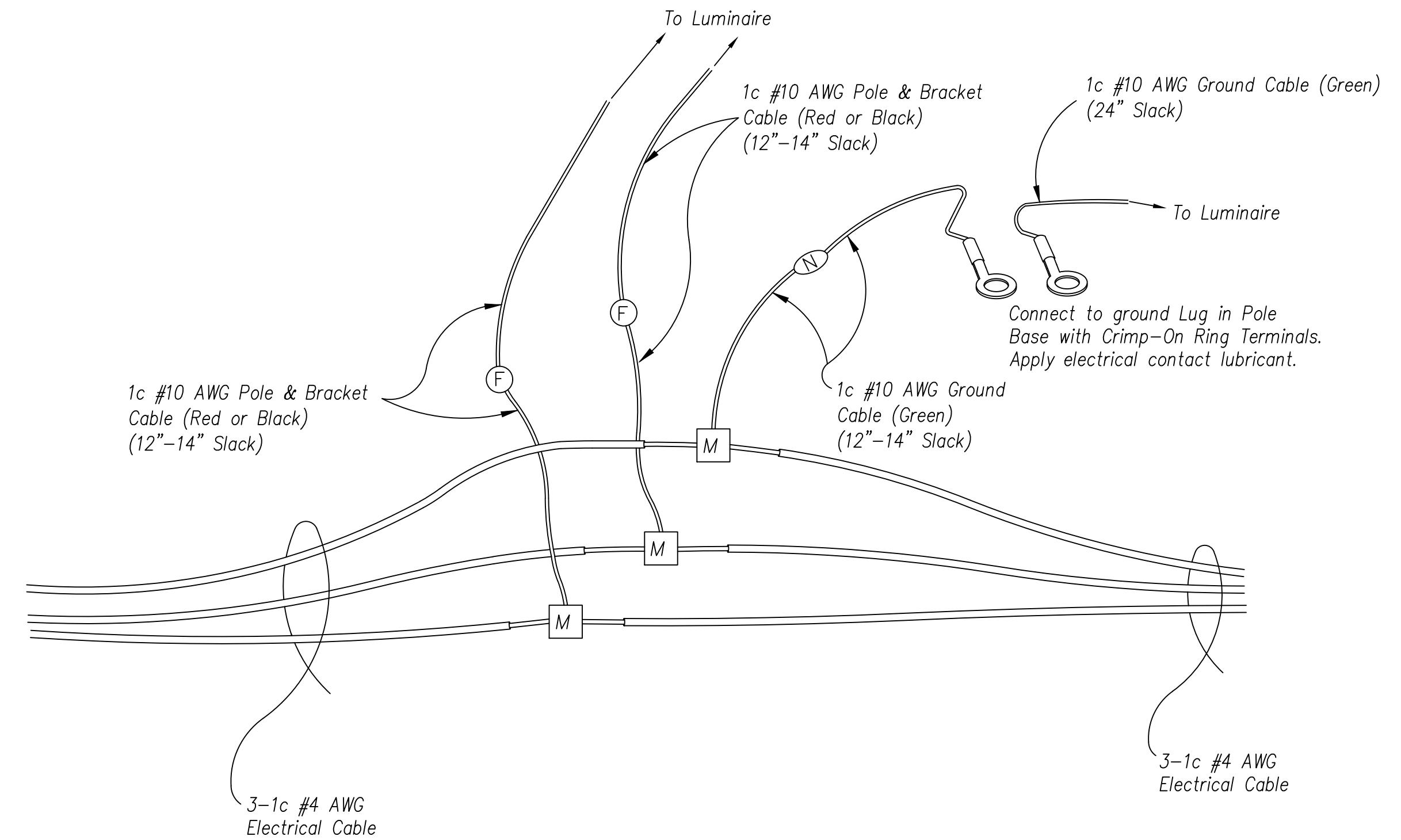
1. "Load" and "Line" refer to the actual marking for identification on the fuse holder.
2. Fuse remains in "Load Side" after break-away.
3. Ground "Slug" remains in "Load Side" after break-away.

Legend

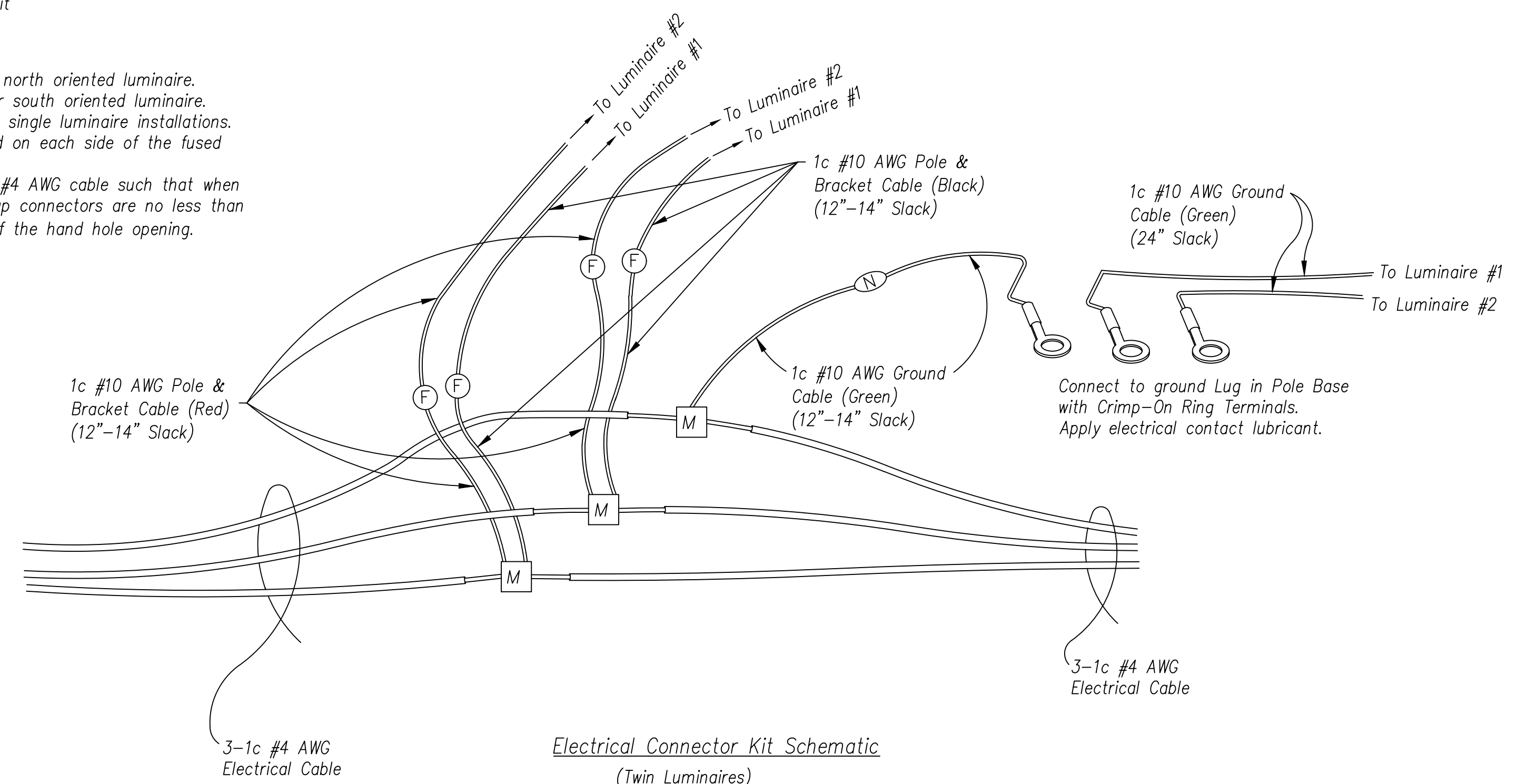
- M Multi-Tap Electrical Connector
- F Break-Away Fused Electrical Connector with 8 Amp Fuse
- N Break-Away Non-Fused Electrical Connector with Ground "Slug"
- S Splice Kit

Notes:

1. Red cables shall be connected to west or north oriented luminaire. Black cables shall be connected to east or south oriented luminaire. Either red or black cables can be used on single luminaire installations.
2. The specified cable slack shall be provided on each side of the fused and un-fused connectors.
3. Additional slack shall be provided for the #4 AWG cable such that when extended upward, the top of the multi-tap connectors are no less than 1" and no more than 3" above the top of the hand hole opening.



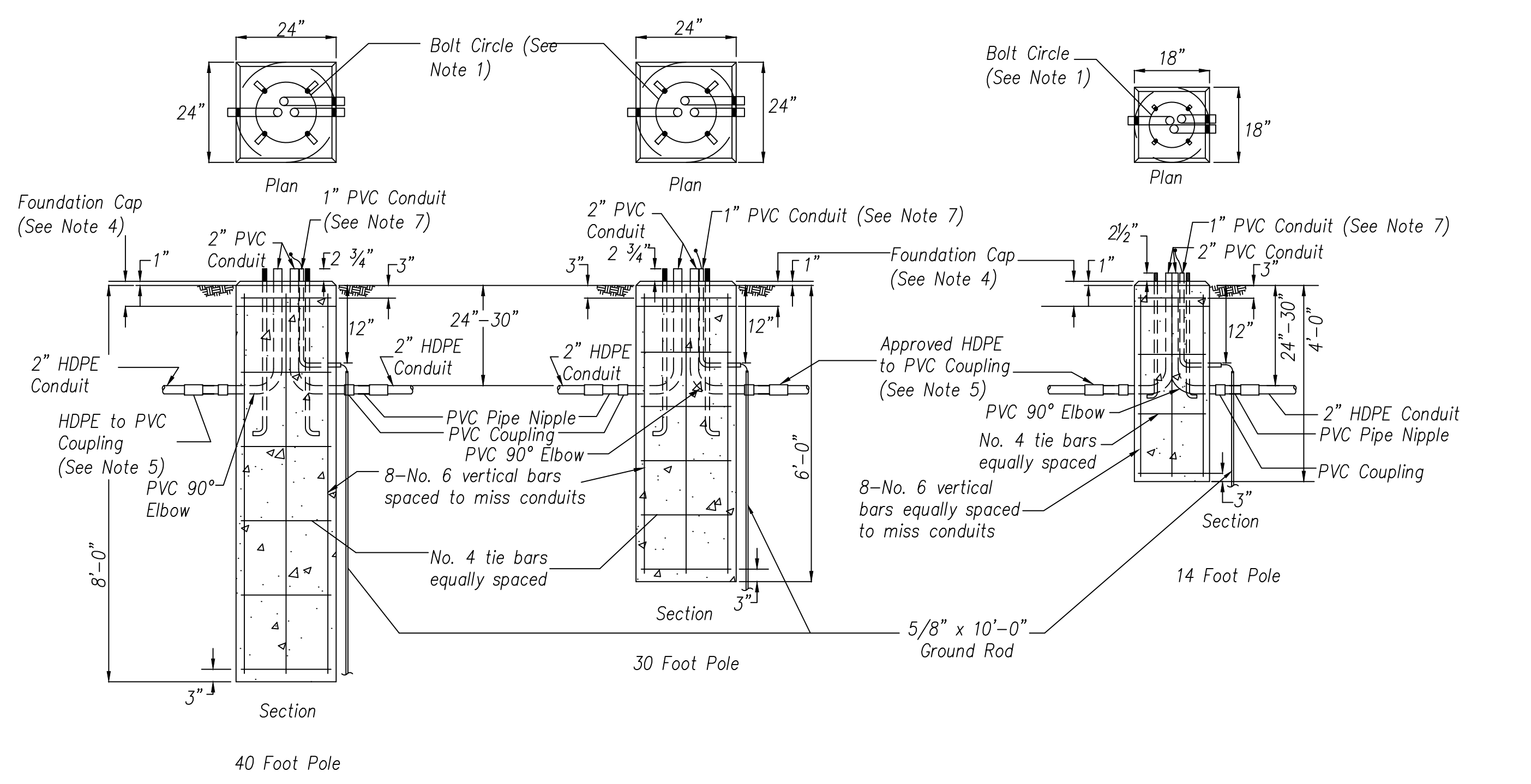
Electrical Connector Kit Schematic (Single Luminaire)



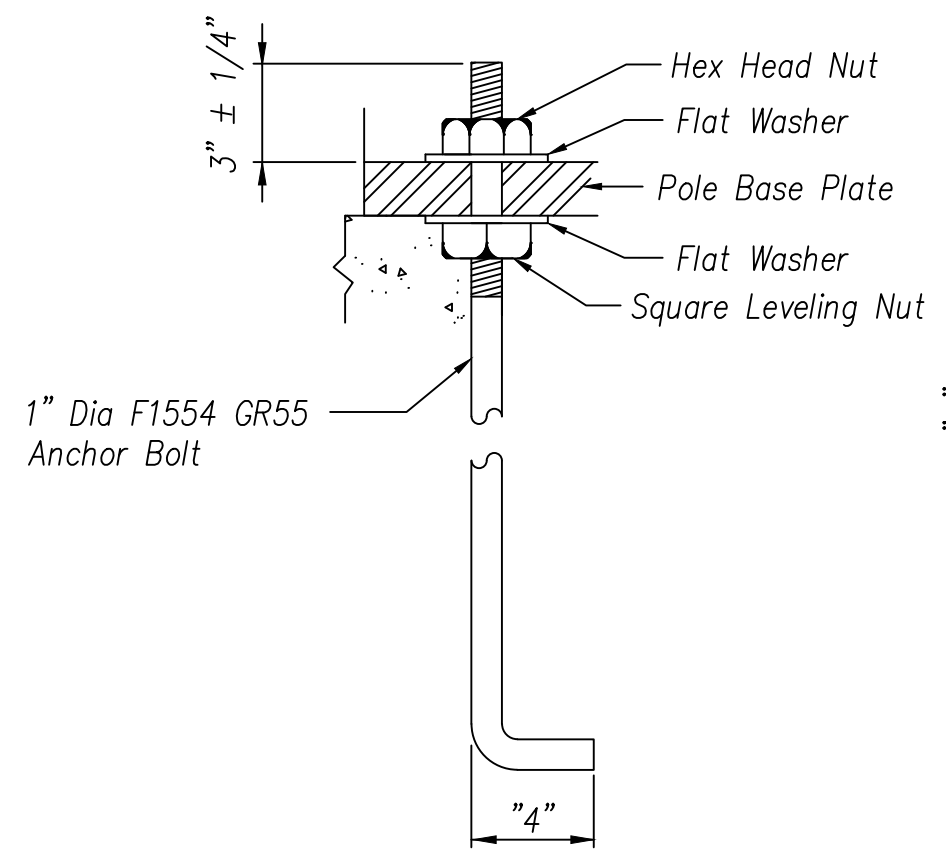
Electrical Connector Kit Schematic (Twin Luminaires)

CITY OF OVERLAND PARK DEPARTMENT OF PUBLIC WORKS	
2024 Standard Details	REVISIONS
06/07/2024	DATE
1	NO.
2	BY
3	JLL
TOTAL SHEETS	189
123	SHEET NO.

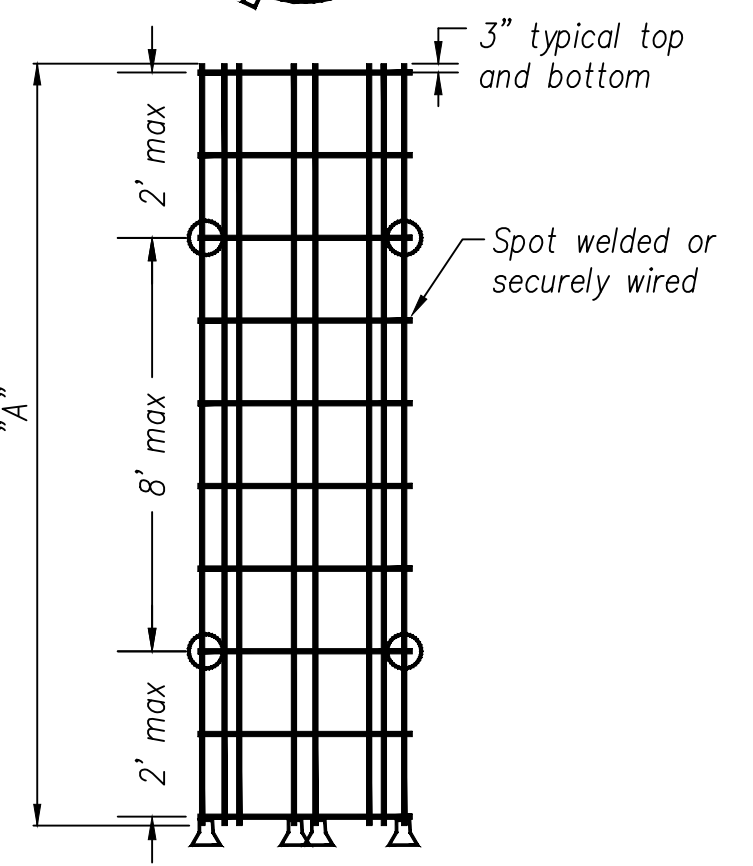
STREETLIGHTING ELECTRICAL CONNECTOR DETAILS



Vertical Steel Support Boots on every other vertical bar (Minimum of 4 Required)
Snap shaft wheels around horizontal steel equally spaced around perimeter of shaft (Minimum of 4 per tier)
Horiz. tie bar shall have 15" min. lap



Anchor Bolt Detail



Rebar Cage Detail

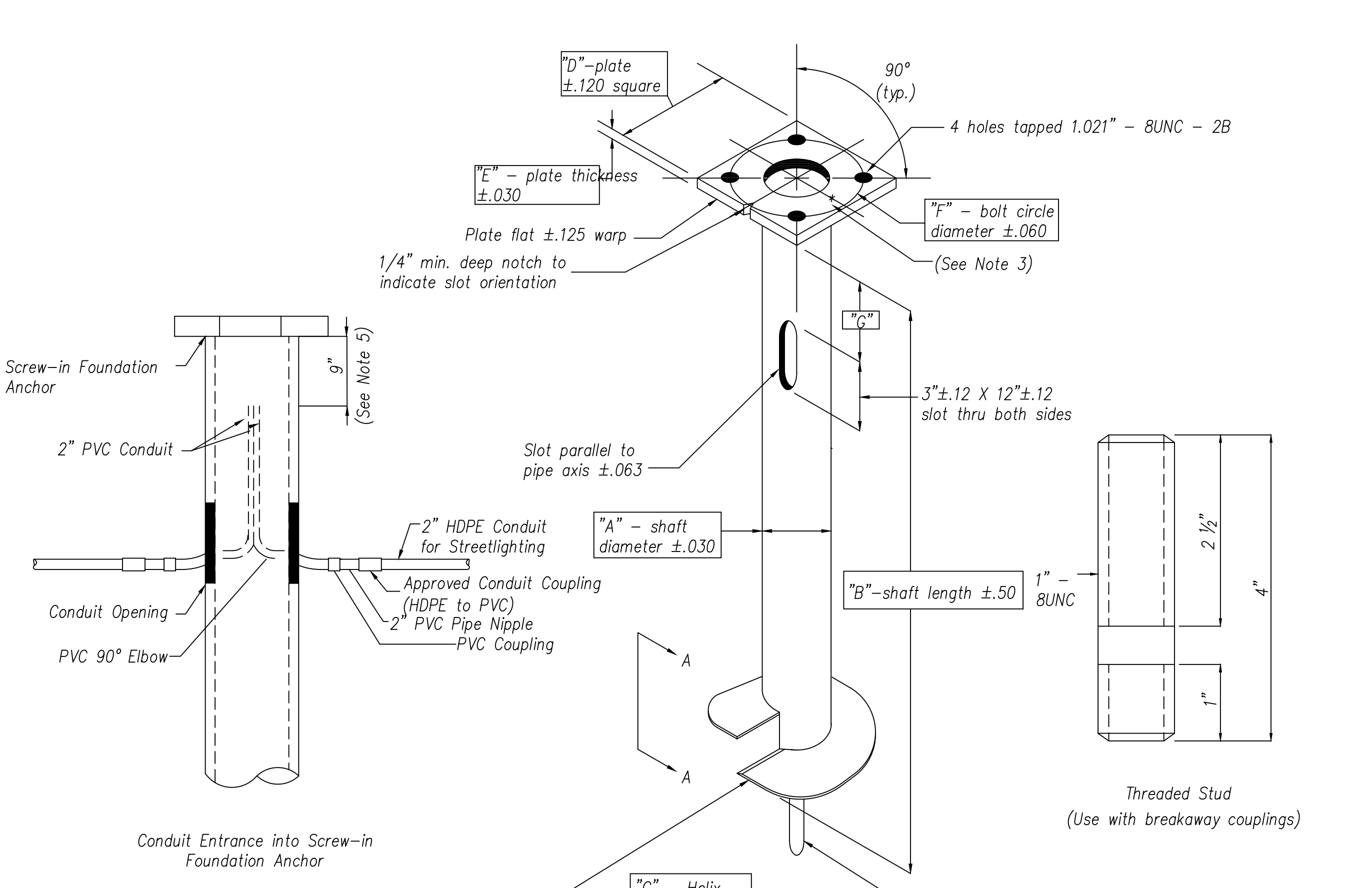
Anchor Bolt Information			
Pole Foundation Depth	Anchor Bolt Dia.	Anchor Bolt Length	Hook Length (in)
4'-0"	1"	24"	3"
6'-0"	1"	36"	4"
8'-0"	1"	36"	4"
10'-0" *	1"	36"	4"

* For foundations in parking lots with 2'-0" exposed top

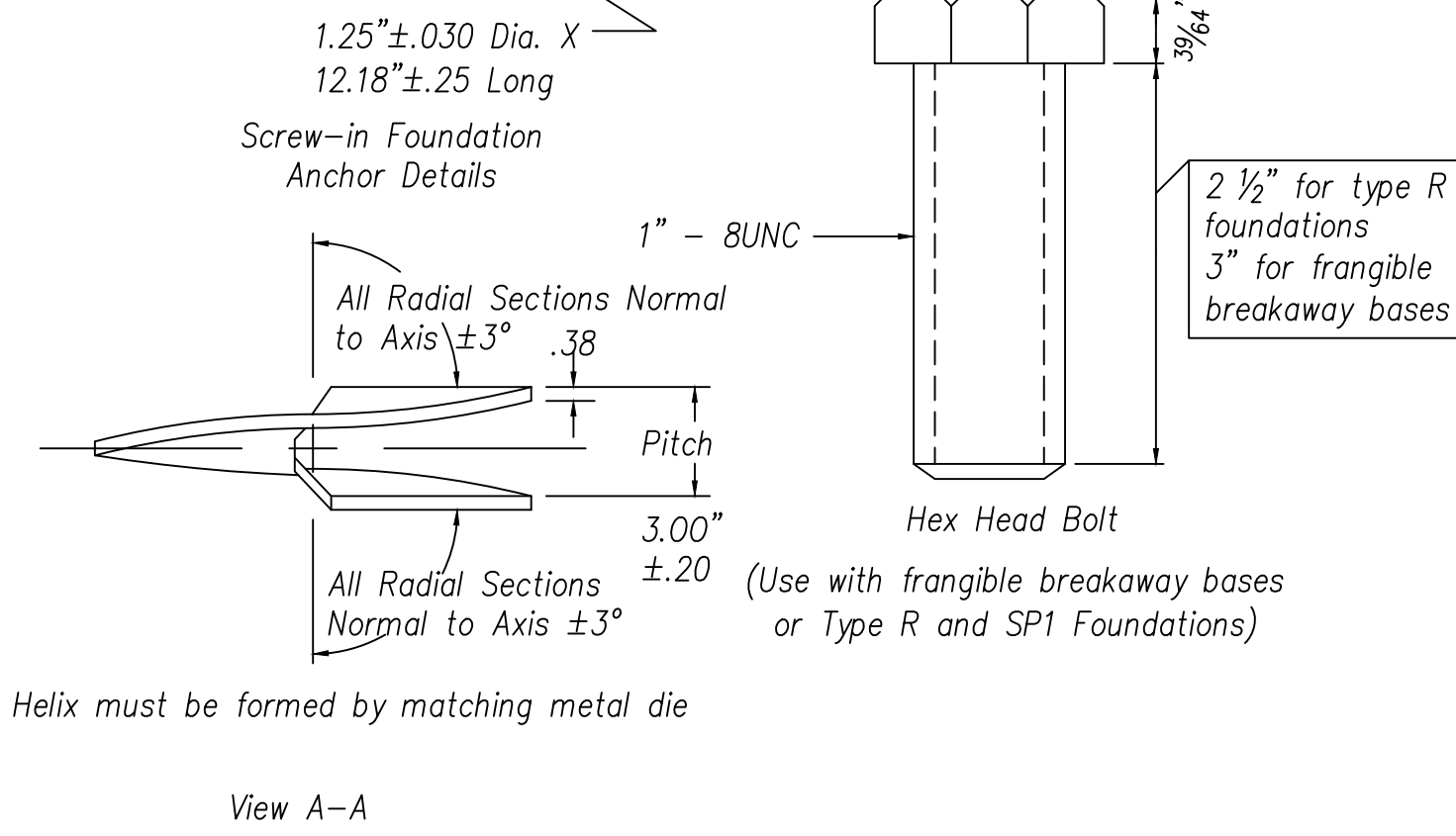
Streetlighting Foundation Horizontal Rebar			
Pole Fnd. Dia.	Pole Fnd. Depth	Rebar Cir. "D"	Spacing
18"	4'	15"	12" max.
24"	6'	18"	12" max.
24"	8'	18"	12" max.
24"	10' *	18"	12" max.

Streetlighting Foundation Vertical Rebar		
Pole Foundation Depth	Length** "A"	# of Spacers
4'-0"	3'-6"	4
6'-0"	5'-6"	8
8'-0"	7'-6"	8
10'-0" *	9'-6"	8

* For foundations in parking lots with 2'-0" exposed top
** Splicing or welding vertical rebar to achieve any specified Length shall not be allowed



- Screw-in Foundation Notes:**
- Anchor bolts shall be used with concrete foundations. Threaded stud shall be used with T and F screw-in foundation anchor when using breakaway couplings. Hex head bolt shall be used with type R screw-in foundation anchor or T and F foundations when using frangible breakaway base.
 - All 30' and 40' aluminum light poles shall be furnished with breakaway pole device. Breakaway pole devices are not required for 14' light poles.
 - Contractor shall ensure that earth around the base of the pole is thoroughly compacted prior to laying sod.
 - All anchor bolts, threaded studs, nuts and washers shall be hot-dipped galvanized.
 - Leave conduit below base plate to allow cable retainer device to be installed upside down.

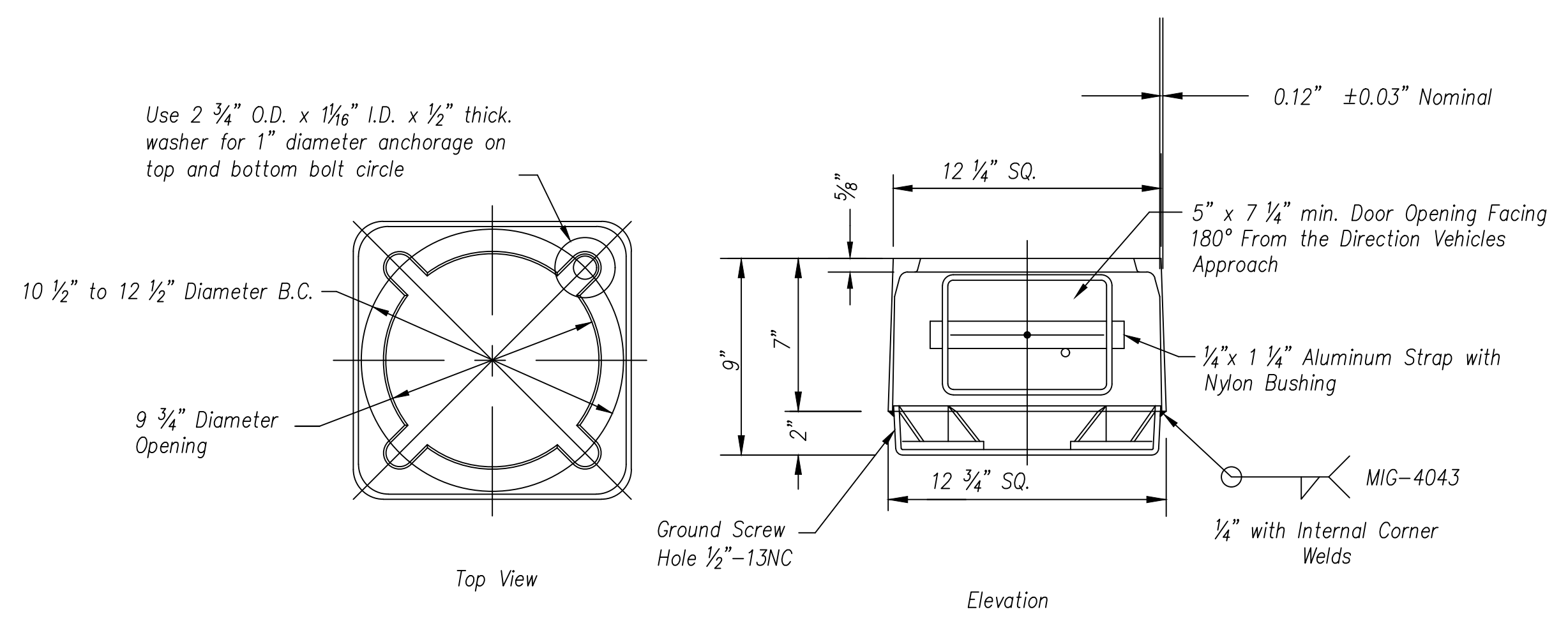


View A-A

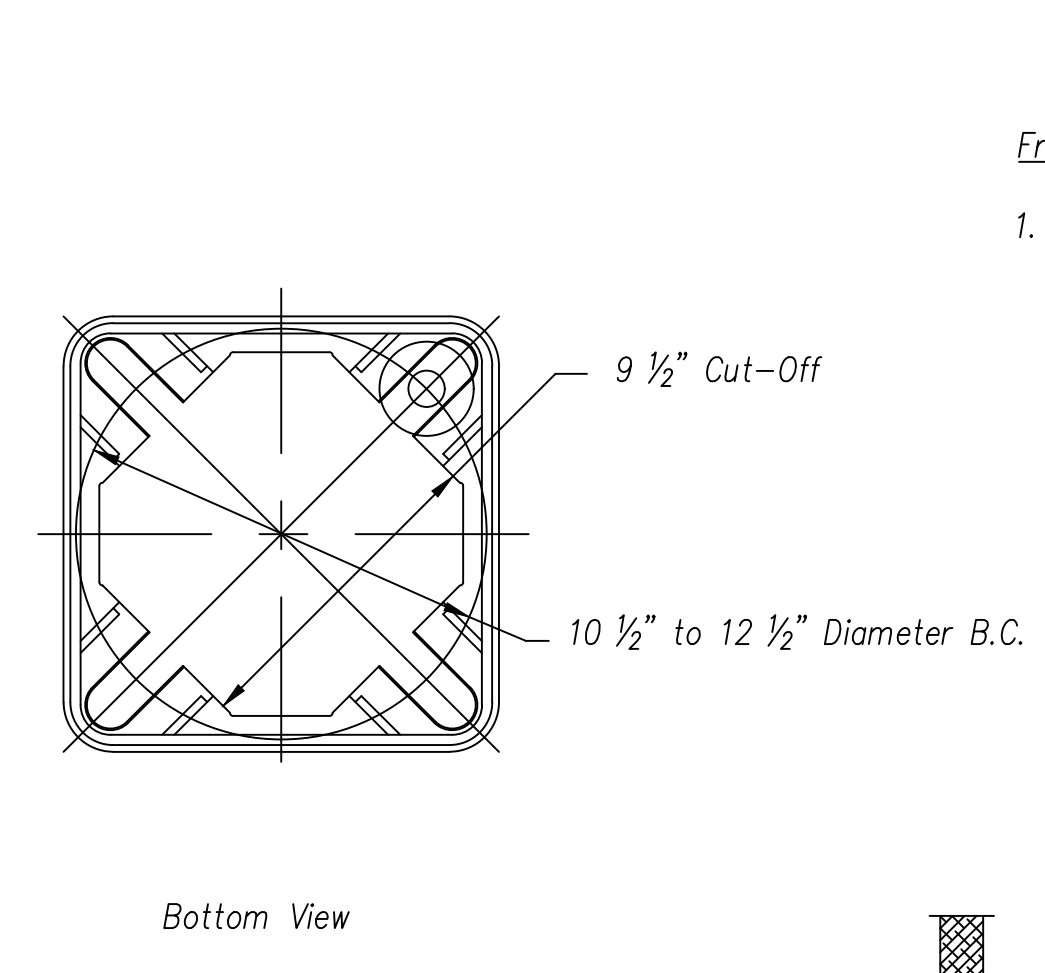
Screw-in Foundation Details

Type	Pole Type(s)	Max Torque Rating (lbs ft)	A Shaft Dia	B Shaft Length	C Helix Dia	D Plate Size	E Plate Thickness	F Bolt Circle	G Slot Location
R	OP14	15,000	6"	48"	12"	10"	0.75"	9.5"	12"
T1	OP301,302,303	15,000	6"	60"	12"	12"	1.0"	11"	18"
F1	OP401,OP402	20,000	8"	60"	14"	12"	1.0"	11.5"	18"
F2	OP403	20,000	8"	60"	14"	15"	1.25"	14.5"	18"
SP1	Decorative	15,000	6"	48"	12"	11.5"	0.75"	12"	12"

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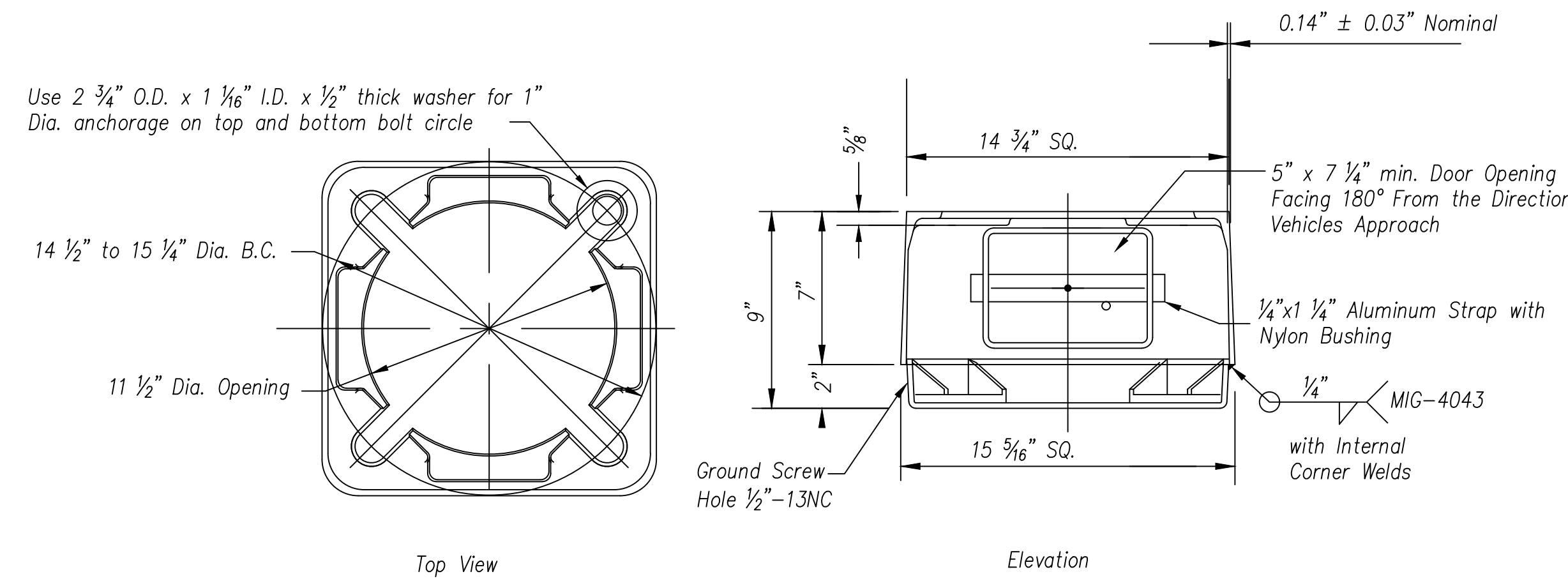
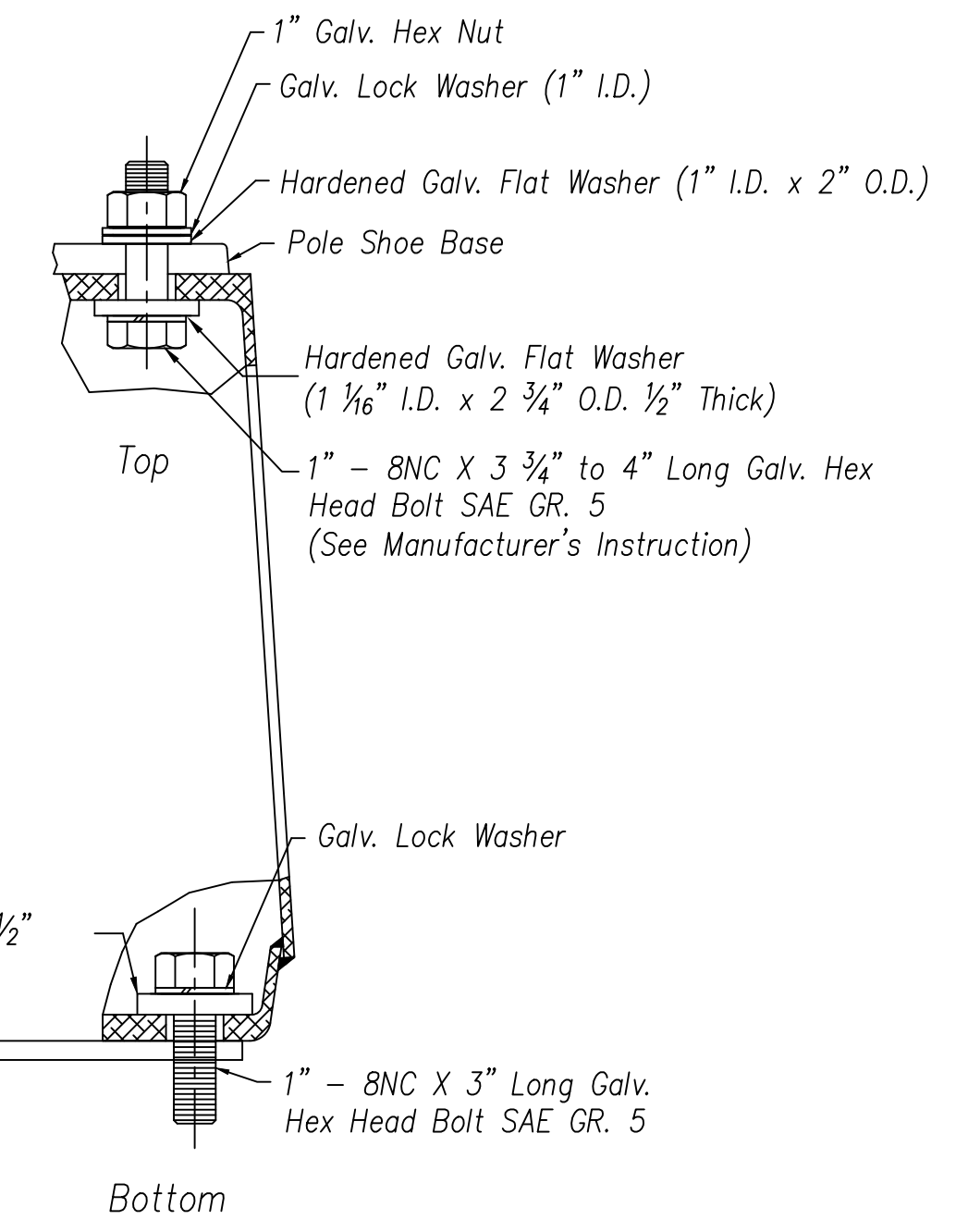
Frangible Base (30' Pole - Series 301, 302, & 303) and (40' Pole - Series 401 & 402)



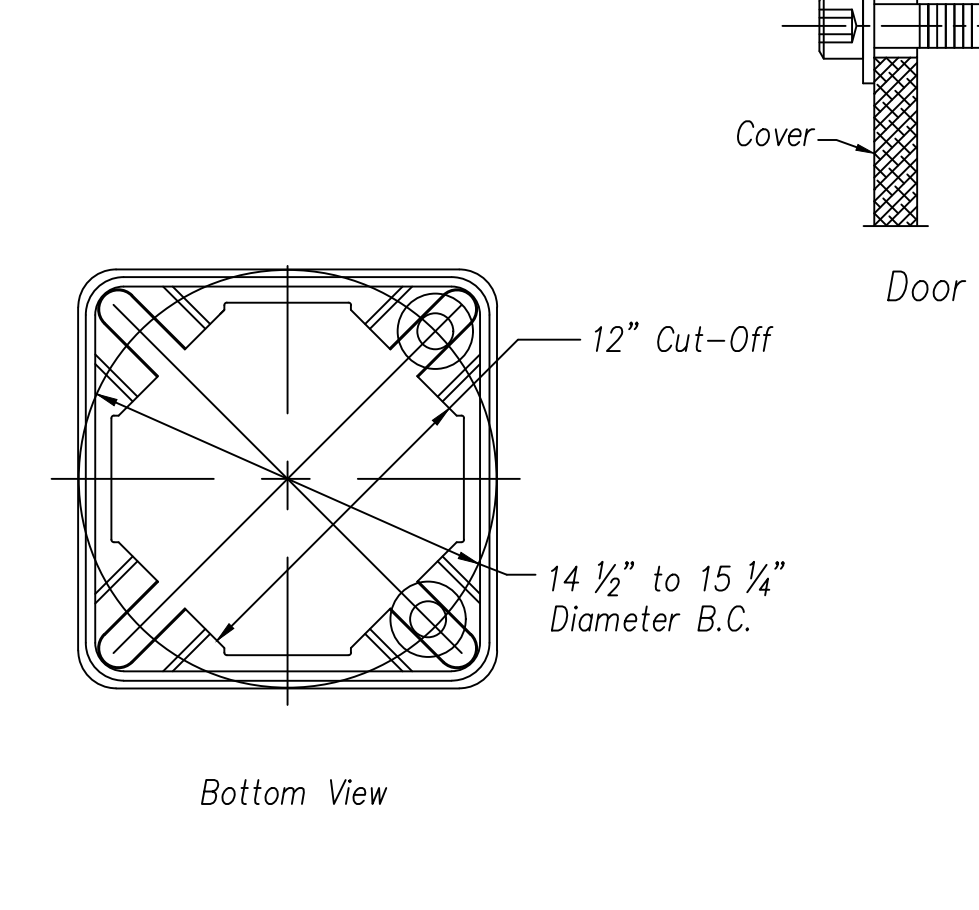
Bottom View

Frangible Base Notes:

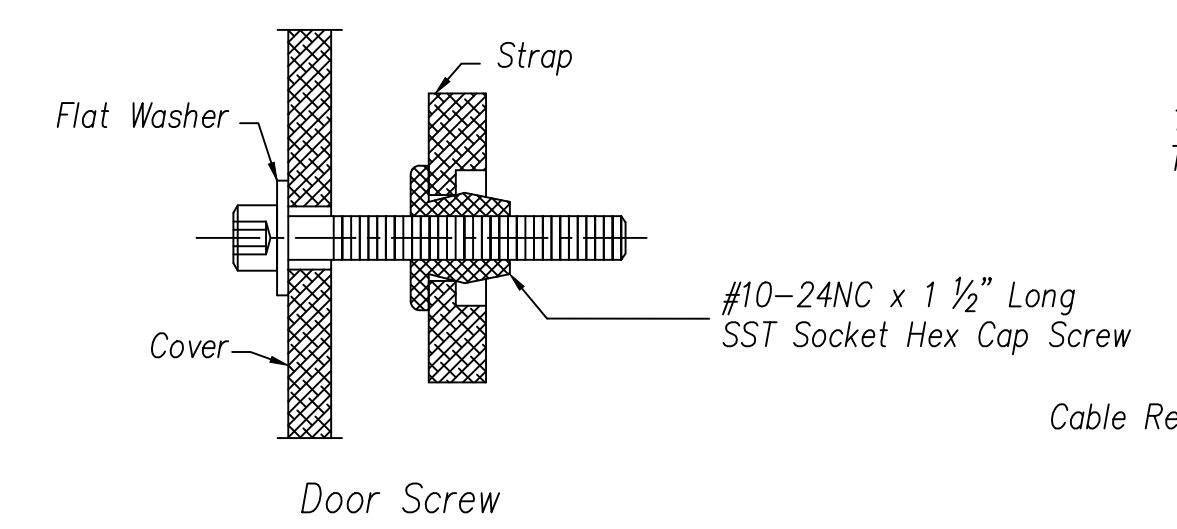
- Fastener Quantities:
 - (4) 1"-8NC x 3" long Galvanized Hex Head Bolt SAE GR.5
 - (4) 1"-8NC x 3 3/4" to 4" long Galvanized Hex Head Bolt SAE GR.5 (See Manufacturer's Instruction)
 - (4) 1" I.D. x 2" O.D. Hardened Galvanized Flat Washer
 - (4) 1" Galvanized Hex Nut
 - (8) Galvanized Lock Washer
 - (8) 1 1/6" I.D. x 2 3/4" O.D. x 1/2" Thick Galvanized Washer



Frangible Base (40' Pole - Series 403)



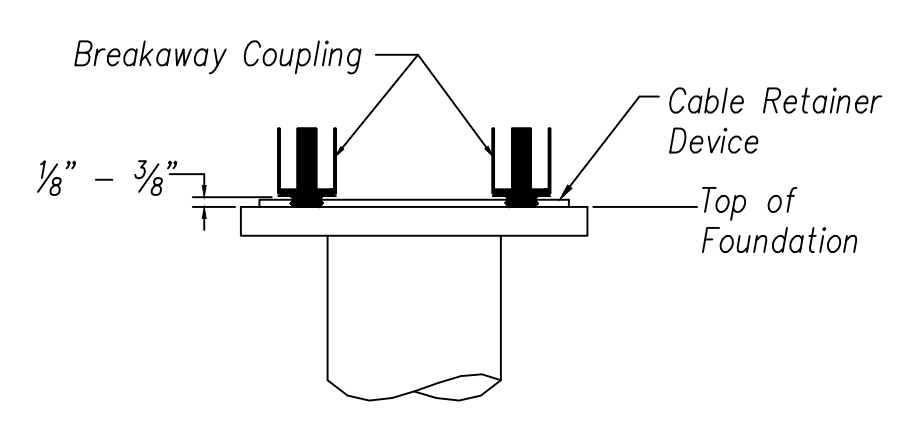
Bottom View



Door Screw

Cable Retainer Device

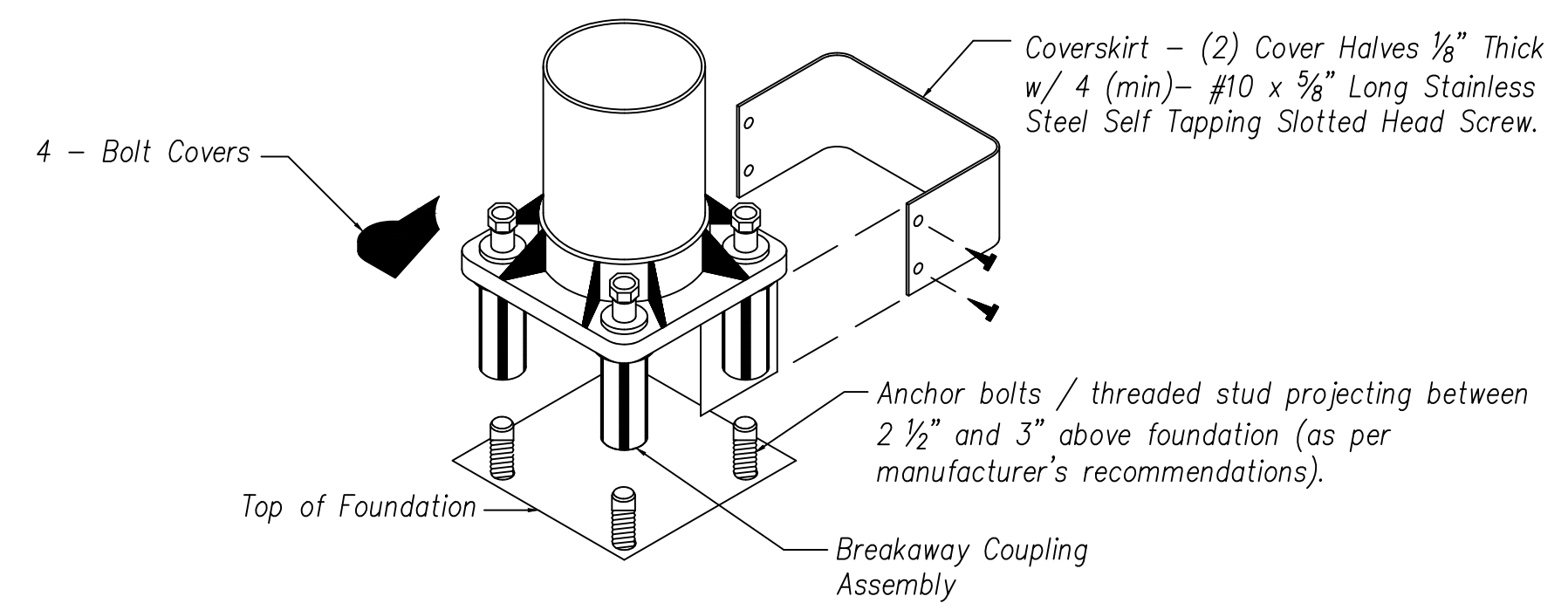
Frangible Base Details



Breakaway Coupling Installation

Coupling Notes:

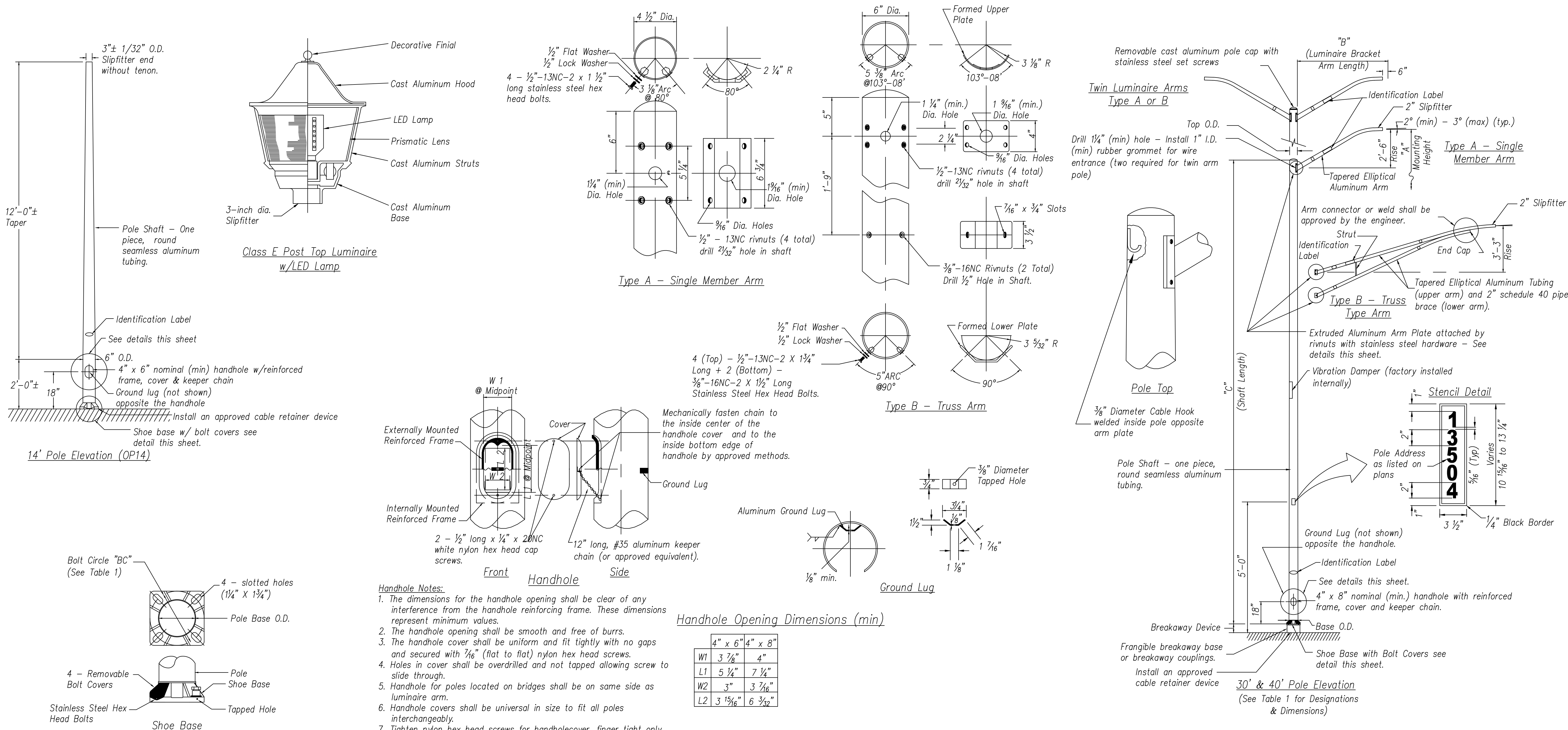
- Shall be as per manufacturer's recommended procedures.
- An approved cable retainer device shall be installed.



Breakaway Coupling Assembly & Coverskirt Detail

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CITY OF OVERLAND PARK		DEPARTMENT OF PUBLIC WORKS	
JLL		BY	
2024 Standard Details			
1	06/07/2024	DATE	
2		NO.	
3		REVISIONS	
STREETLIGHTING		BREAKAWAY POLE BASE DETAILS	
SHEET NO.	TOTAL SHEETS		
125	189		



Handhole Notes:

- The dimensions for the handhole opening shall be clear of any interference from the handhole reinforcing frame. These dimensions represent minimum values.
- The handhole opening shall be smooth and free of burrs.
- The handhole cover shall be uniform and fit tightly with no gaps and secured with 7/16" (flat to flat) nylon hex head screws.
- Holes in cover shall be overdrilled and not tapped allowing screw to slide through.
- Handhole for poles located on bridges shall be on same side as luminaire arm.
- Handhole covers shall be universal in size to fit all poles interchangeably.
- Tighten nylon hex head screws for handholecover, finger tight only.

Handhole Opening Dimensions (min)

	4" x 6" x 4" x 8"	
W1	3 7/8"	4"
L1	5 1/4"	7 1/4"
W2	3"	3 7/16"
L2	3 15/16"	6 3/32"

Table 1 - Luminaire Arm, Pole, Shoe Base & Anchor Bolt Data

OP Designation	Mounting Height (A)	Luminaire Arm(s)				Pole Shaft				Shoe Base Bolt Circle (BC)	Anchor Bolt for Concrete Foundation			Screw-in Anchor Foundation Type
		Length (B)	Type	Length (B)	Type	Base O.D.	Top O.D.	Minimum Wall Thickness	Shaft Lengths (C)		Diameter	Length	Hook	
OP14	14	NA	NA	NA	NA	6"	3"	0.156"	14'	9.5"	0.75"10NC	25"	3"	R
OP301	30	6, 8	A	NA	NA	7"	4.5"	0.188"	27'-6"	11"	1.0" 8NC	36"	4"	T1
OP302	30	12	B	NA	NA	8"	6"	0.188"	26'-8"	11"	1.0" 8NC	36"	4"	T1
OP303	30	8	A	8	A	8"	4.5"	0.188"	27'-6"	11"	1.0" 8NC	36"	4"	T1
OP401	40	6, 8	A	NA	NA	8"	4.5"	0.219"	37'-6"	11.5"	1.0" 8NC	36"	4"	F1
OP401	40	6, 8	A	6, 8	A	8"	4.5"	0.219"	37'-6"	11.5"	1.0" 8NC	36"	4"	F1
OP402	40	10,12,15	B	NA	NA	8"	6"	0.219"	36'-8"	11.5"	1.0" 8NC	36"	4"	F1
OP403	40	8,12,15	B	8,12,15	B	10"	6"	0.219"	36'-8"	14.5"	1.0" 8NC	48"	4"	F2

Table 1 Notes:

- The intent of these material restrictions is to provide interchangeability of both types of luminaire arms for mounting on either the 30' or 40' pole.
- Luminaire arms - 6' & 8' arms shall be single member (Type A) unless otherwise noted on the plans; 10, 12 & 15' arms shall be truss-type (Type B).
- Table 1 represents pole shaft dimensions for a 30' and 40' pole to be installed with breakaway devices. The pole shaft length shall be dimensioned accordingly but the top & bottom pole diameters, bolt circle, mounting height, and luminaire arm design and rise shown in Table 1 and noted in the pole elevation detail shall be maintained (see note 2).
- Anchor bolts/threaded studs shall project above the foundation as per manufacturer's recommended practices - 2.5" to 3". The leveling devices (i.e. washers) shall be installed between the steel shim plate, provided as per the manufacturer's recommended practices, and the top of the pole foundation.
- Pole OP403 shall be pre-drilled for the mounting of twin luminaire arms whether or not twin arms are noted on the plans to be installed. If the second luminaire arm is not to be installed, the extra holes shall be 'plugged'.

General Notes:

- All poles, arms, and miscellaneous equipment shall conform to these details and as specified in the latest edition of the Overland Park Streetlighting Specification. The poles and arms shall be dimensioned to enable interchangeability.
- The aluminum lighting standard including anchorage with luminaire properly installed shall be in accordance with the 2013 edition of American Association of State Highway and Transportation Officials (AASHTO) for continuous 90 MPH wind and a maximum luminaire size of 1.3 sq. ft. effective projected area and maximum 55 lbs.
- Minor adjustments in the location of streetlight poles should be made in the field during construction in order to maintain 4'-0" clearance from the centerline of any fire hydrant to the face of pole.
- All poles and arms shall be clearly identified by the manufacturer name, abbreviation or symbol engraved on the shaft, baseplate, handhole or other means such as to be readily visible after installation.
- All 14' poles shall be installed with the handhole oriented 180 degrees from the direction vehicles approach.

Stencil Note:

2" high black EC film letters and numerals applied to a one piece Type XI retro-reflective sheeting with a black EC film border by contractor. Apply on two sides of the pole 180° apart facing the street for median mounted poles. Apply on the "street side" of pole facing closest lane of traffic for poles mounted on the outside curb.

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General Notes

- The contractor shall stake the locations for all poles, controllers, service boxes and junction boxes to be installed. The stations and offsets provided are to the center of the traffic signal equipment. Elevations shall be provided. If obstructions are encountered during installation, the contractor will re-stake those locations affected by the obstruction. The Traffic Signal Inspector shall inspect the staking prior to any excavation/construction.
- The locations of existing underground utilities, if shown, are shown in an approximate location only and have not been independently verified. The contractor shall be responsible for contacting all utility companies for locations of all underground lines prior to excavation and be fully responsible for any and all damages, which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.
- The City of Overland Park is on the KS OneCall System. The contractor shall call 811 to obtain locates for streetlighting, traffic signal, and fiber optic conduits/cables.
- The contractor shall be responsible for removing and salvaging existing equipment as noted. See instructions for Disassembly and Salvage of Traffic Signal Equipment.
- Rock and shale may be encountered and thus the bid items shall reflect the extra work necessary to accomplish the installation. No additional payments ("extras") will be made for excavation of rock or shale and unsuitable backfill materials. The following conditions shall prevail: All conduit trenches and pre-drilled holes within rock/shale shall be backfilled with suitable material and properly compacted in accordance with the specifications.
- Conduits shall be installed under all streets, drives and sidewalks prior to paving within the limits of the street improvements. The conduit placement shall be coordinated with the paving operation, if applicable, and inspected by the City Traffic Signal Inspector (see Trench Details).
- The conduit shall be installed under any existing underdrain pipe crossings and underdrain blankets. Where pole foundations are to be installed through an existing underdrain blanket, the blanket shall be pre-cut to prevent damage of the blanket. In the event the blanket is damaged, the fabric shall be replaced.
- HDPE conduit shall be installed continuously between all traffic signal appurtenances. Conduit splices between appurtenances shall not be allowed unless fusion couplings (or other fusion methods) are approved by the Engineer.
- All cable splices from loop detector cable to lead-in cable at junction boxes shall be watertight.
- Damage to any existing traffic signal equipment due to the construction shall be the responsibility of the contractor, and the contractor shall report any operational problems to the Traffic Services Maintenance Department (913) 327-6600. The equipment shall be replaced or repaired (as directed by the Engineer) with approved materials in conformance with the current standard details, specifications, practices and policies. The contractor shall be responsible for any stored existing materials (removed for construction) to be re-installed.
- All existing traffic signal equipment is to be used in place (U.I.P.) unless otherwise noted in the plans.
- All areas disturbed by construction shall be sodded as directed by the Engineer. The grass medians shall be seeded and brick pavers restored, unless otherwise noted or directed. Sidewalk damaged by construction or removed due to construction shall be replaced as directed, in accordance with the Overland Park Municipal Code requirements.
- Forms (including rebar cages, etc.) conduit and anchor bolts shall be installed and in place for review by the City or construction representative a minimum of 24 hours in advance of the proposed concrete placement. No concrete placement shall begin after 3:00 p.m.
- All loop detectors shall be wet cut with equipment approved by the Engineer. Loops shall be cut prior to the final surface lift, but after review of the pre-marked locations.
- Luminaire arms shall be oriented in the same vertical plane as the mast arm unless otherwise indicated in the plans.
- Turn-on of the traffic signal system, shall be in accordance with City turn-on procedures (see this sheet).
- All construction of the traffic signal that will result in taking the existing traffic signal out of operation shall be performed on Sunday between 9:00 a.m. and 6:00 p.m. and completed that same day, unless otherwise directed by the Engineer. The City of Overland Park Police Department shall provide officer control of the intersection when the signal is out of operation. The contractor shall notify the police department and the City Traffic Services division at least 72 hours in advance. The Traffic Signal Inspector and the Traffic Signal Specialist shall be present during this time (unless otherwise directed by the Engineer).
- The traffic signal contractor shall notify the City of Overland Park Department of Public Works, (913) 895-6027, of the exact construction schedule so that inspection of the traffic signal installation can be made of all phases, including conduit installations.
- The contractor shall be responsible for any damage incurred to any existing underground sprinkler system during construction. All affected pipes or fittings shall be restored to their original condition and location and new materials used shall be similar to those of the existing system. All restoration work shall be acceptable to the Engineer and owner thereof.
- The contractor shall be required to submit catalog cuts or shop drawings for all equipment to be installed on this project. All materials shall be from the City of Overland Park pre-approved materials list available at ppm.opkansas.org.
- All signal cable shall be individually wrapped and positively identified at the controller and each pole with phase numbers and colored electrical tape as follows:

<u>Vehicle Phases</u>	<u>Pedestrian Phases</u>
φ 1 - Purple and White	φ 6 - Purple and Orange
φ 6 - Purple	φ 2 - Blue and Orange
φ 5 - Blue and White	φ 8 - Yellow and Orange
φ 2 - Blue	φ 4 - Red and Orange
φ 3 - Yellow and White	
φ 8 - Yellow	
φ 7 - Red and White	
φ 4 - Red	
- The contractor shall leave slack cable in poles, service boxes, junction boxes and control center according to the following:
 - provide 6' min. slack for all cable in service boxes
 - provide 10' min. slack for all cable in the controller cabinet
 - provide 3' slack for loop cable in the junction box
 - provide 3' slack for loop lead-in cable in the junction box
 - provide 1' min. slack on each side of the cable splice and for CCTV and EVP and #10 AWG ground cables
- The contractor shall positively identify the detector loop cables in the junction boxes, where they come in from the street, with wraps of white electrical tape corresponding to the loop number. The cables should be identified according to lane. The inside lane should be marked as number one and increasing outward. All loops shall be connected in series.
- Within the traffic signal cabinet, the contractor shall use plastic tie-wrap identification tags with permanent marker to identify all of the vehicular and pedestrian heads that are served by each cable. The numbering of the signal heads shall conform to the plan sheets.
- The contractor, or their supplier, shall, at the contractor's expense, submit a concrete mix design for approval by the Kansas City Metro Materials Board (KCMMB) prior to placement of any concrete. Additional information regarding KCMMB approved concrete mix designs is available on the following website: www.kcmmmb.org
- All non-functioning traffic signal and pedestrian signal heads shall be covered with approved opaque coverings specifically manufactured for traffic signal heads. The color of the coverings shall be as follows:
 - orange at locations of new traffic signals, where no previous signal existed.
 - black at locations of signal modifications such that the coverings do not detract from the functioning signal heads.
- All existing traffic signals shall remain in operation and be used in place until the permanent traffic signal installation is complete and in operation. Refer to the traffic control plans for additional requirements. The contractor shall coordinate the disconnection of service with Evergy for the existing signal system.
- All temporary traffic signals installed by the contractor shall be equipped with a 2070 or ASC3 Rackmount controller provided by the contractor for compatibility with the City's signal system.
- Contractor shall use a polymer lubricating agent to facilitate conduit bores under paved streets. Failure to do so will result in a denial to retrieve bore head by excavation methods, in the case of loss, under any paved street.
- The ends of all conduit in the controller cabinet shall be plugged with duct seal.
- All existing concrete foundations, shown to be removed, shall be removed a minimum of 24" below final grade.

- The contractor shall be required to install inventory stickers on the back of all signs installed on signal poles, or mast arms on the project, and record each respective bar code number on the plan sheet adjacent to the corresponding sign, for delivery to the project inspector. Inventory stickers will be provided by the City.
- If any work or equipment for a combination signal/streetlight pole location will be less than ten (10) feet away from the nearest overhead power line, the contractor shall contact Evergy and request them to sleeve their line prior to pole installation, or any other associated work. All associated costs shall be the responsibility of the contractor.
- The contractor shall be required to have all tree branches that obstruct CCTV cameras, radar detection sensors or traffic signal heads trimmed by a licensed arborist.
- Any equipment the City pre-ordered prior to the contract shall be picked up at the applicable City Maintenance facility at the contractor's expense. All the items must be picked up at one time.
- The Contractor shall deliver the controller, conflict monitor, Ethernet Switch, CCTV Camera, EVP Discriminator, etc. to the Traffic Signal Inspector at least two weeks prior to signal turn-on so the equipment can be programmed.

Traffic Signal Turn-on Procedure

- Turn-on should not be scheduled until power is actually available at the service pedestal and all other equipment and hardware is installed.
- At least two working days prior to scheduled signal activation, all testing should be completed and successful, all defects and deficiencies correct, all indications operational and properly aimed, cables tagged, controller fully operational performing all timing functions required, all other items of work associated with the signal completed, and all signs and pavement markings properly installed unless otherwise approved by the engineer.
- The City Inspector and Signal Technician will conduct a full inspection of the signal system within these same two days. Upon satisfactory conditions of the signal system, the turn-on schedule will be confirmed. Any deficiencies found during the final inspection shall result in the rescheduling of the activation.
- If the traffic signal is a new installation where previously none existed, the contractor shall install "SIGNAL AHEAD" (W3-3) and "NEW" (W16-15p) warning signs with orange background and yellow type B flashing beacons advising the motorists of the signal activation. Signs may be installed prior to putting the signal into operation and covered until such time as the signal is placed into full operation. Signs are subsidiary to other items.
- Actual activation shall consist of the following steps:
 - installation of all required equipment in the controller cabinet
 - testing of installed equipment
 - unbagging of all signal heads and signs if applicable
 - activation of the signal with the contractor's flagger stopping all traffic momentarily as the signal is turned on.
 - minor re-aiming of signal heads, if necessary
 - uncover the signal ahead sign and turn on flashing beacon
- Activation of the traffic signal shall not be scheduled for weekends, Fridays or days right before public holidays. Activation shall take place in the morning hours only after 9:00 a.m.
- The contractor shall remove the "Signal Ahead" (W3-3) and "NEW" (W16-15p) warning signs and flashing beacons after one week of operation.
- Assumption of maintenance operations related to equipment or signal timings within the traffic signal cabinet will be the responsibility of the City of Overland Park and shall occur after successful turn-on to full operation. This applies to temporary traffic signal installations, traffic signal modifications and new traffic signal installations and applies to normal maintenance operations or emergency callouts to take corrective action to return the signal back to full operating condition. Final acceptance by the City is conditional until the contractor has corrected all defects and punch list items. If a traffic signal malfunction occurs between successful turn-on and final acceptance and the signal malfunction is due to faulty work by the contractor, the City of Overland Park Maintenance Division will take corrective action and has the discretion to bill the contractor for all related expense, including overhead.

Instructions for Disassembly and Return of Salvaged Traffic Signal Equipment

The following is a list of traffic signal equipment which shall be salvaged and returned(1) to the City of Overland Park, unless otherwise instructed by the inspector. The condition at the time of delivery shall be the same as prior to removal. Disassembly of equipment shall be done prior to returning the equipment. All equipment shall be delivered to the Blue Valley Public Works Maintenance Facility (Traffic Services Maintenance Office and Shop) 6869 W. 153rd Street. The contractor shall notify the City of Overland Park Department of Public Works Inventory Control Specialist (913) 327-6603 to arrange for the City pickup of the salvaged equipment. Provide 48-hours advance notice.

- For Federally Founded Projects salvaged equipment shall be carefully disassembled and stored on site. Contractor to arrange for pickup, by the City of Overland Park, with the Inventory Control Specialist.

The City maintains the first right of refusal of any equipment listed. The project inspector will make an on-site assessment to determine if the equipment should be salvaged or disposed. Any equipment that will not be salvaged shall become the property of the contractor.

- Emergency Vehicle Pre-emption (EVP) detector units, Video Detection Cameras, Radar Detectors, CCTV cameras, pedestrian pushbuttons and any other equipment must be removed from the mast arms or poles and returned.
- All vehicular traffic signal heads and pedestrian signal heads shall be removed from the mast arms or poles and be returned. All LED indications must be removed from the vehicular signal and or pedestrian signal heads and boxed prior to returning. Lamps, visors and backplates should remain attached to the vehicular and pedestrian signal heads.
- Mounting brackets and signal head mounting arms should be removed from the signal heads. Mounting bracket cables shall not be cut for removal, unless they are cracked or damaged.
- All signal poles, pedestal poles, mast arms and luminaire arms shall be returned. Anchor bolt covers and pole caps must be boxed and or bagged and returned with the equipment. Mast arms and luminaire arms shall be removed from poles prior to delivery. The contractor shall be required to remove and discard all included cable except wiring harnesses for radar detection and RWS sensors which shall be returned with the equipment.
- Secondary service pedestal enclosures or battery backup enclosures shall be removed from the traffic signal controller cabinet and returned.
- Traffic signal controller cabinet and all internal components shall be returned. Any traffic signal controller cabinet hardware that is not attached to the cabinet must be boxed and or bagged and returned with the equipment. Field wire connections on returned signal controller cabinets shall be unscrewed at the terminals instead of cut off.
- All compressed natural gas generator assembly units shall be returned.
- Remove and return all junction box and service box covers. Boxes will not be salvaged.
- Disassembly of any streetlight equipment that is attached to the traffic signal equipment shall follow the guidelines as stated in the "instructions for disassembly and return of salvaged streetlighting equipment".
- Disassembly of any traffic sign equipment attached to the traffic signal equipment shall follow the guidelines as stated in the "instructions for disassembly and return of salvaged traffic sign equipment".

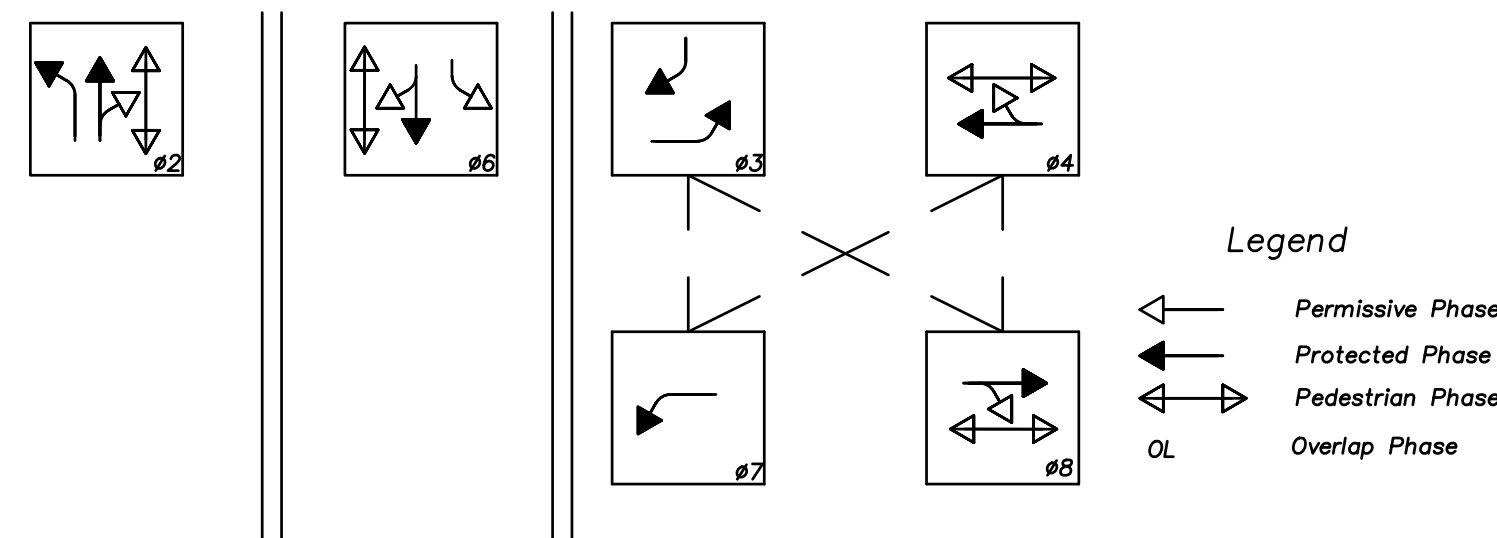
Traffic Signal Legend

(30') ○ Mast Arm Pole (Length)
 (30') ● Combination Pole (Traffic Signal and Street Light)
 ● Pedestal Pole
 ⊕ Pedestrian Pushbutton Pole
 ▲ Traffic Signal Head
 ▲ Traffic Signal Head w/Backplate
 ▲ Pedestrian Signal Indication
 ◀ EVP Detector
 ▶ Advance Radar Detector
 ▶ Presence Radar Detector
 □ Type 1 Service Box
 □ Type 2 Service Box
 ⊕ Type 1 Fiber Optic Service Box
 ⊕ Type 2 Fiber Optic Service Box
 ⊕ Type 1 Junction Box
 ⊕ Type 2 Junction Box
 ⊕ ATC Traffic Signal Controller Cabinet (Single Wide)
 ⊕ ATC Traffic Signal Controller Cabinet (Double Wide)
 ◇ Advance Loop Detector, OPTCS Loop
 ◇ Presence Loop Detector
 □ Presence Detection Zone (Abstract Only)
 ◀ Radar Detector Reference Aim Point (Abstract Only)
 □ Video Detection Camera
 ⊕ Closed Circuit TV (CCTV) Camera
 ⊕ CNG Generator Cabinet (Shaded Portion Shows Exhaust Side of Cabinet)
 ⊕ Gas Meter
 --- FO --- HDPE Fiber Optic Conduit with Locating Cable (Sized as Noted)
 --- PVC Conduit (Size as Noted)
 --- 1" HDPE Conduit
 --- 1.5" HDPE Conduit
 --- 2" HDPE Conduit
 --- 3" HDPE Conduit
 --- 4" HDPE Conduit
 ⊕ Electrical Service
 ⊕ Evergy Service Pedestal
 ⊕ 150W Post-Top Luminaire w/14' Pole
 ⊕ Class E LED Post-Top Luminaire w/14' Pole
 ⊕ Class A LED Cobra-Head w/30' Light Pole
 ⊕ Class B LED Cobra-Head w/30' Light Pole
 ⊕ Class C LED Cobra-Head w/30' Light Pole
 ⊕ Class D LED Cobra-Head w/30' Light Pole
 ⊕ Class A LED Cobra-Head w/40' Light Pole
 ⊕ Class B LED Cobra-Head w/40' Light Pole
 ⊕ Class C LED Cobra-Head w/40' Light Pole
 ⊕ Class D LED Cobra-Head w/40' Light Pole
 ⊕ Class A LED Cobra-Head w/Combination Pole
 ⊕ Class B LED Cobra-Head w/Combination Pole
 ⊕ Class C LED Cobra-Head w/Combination Pole
 ⊕ Class D LED Cobra-Head w/Combination Pole
 ◇ Construction Note
 ② Pole Number
 ② Service Box Number
 ▲ Vehicular Signal Head No.
 ▲ Pedestrian Signal Head No.
 ④ Loop Detector No. (Video or Radar Detection Zone No.)
 || Flat Sheet Street Name Sign
 || Flat Sheet Traffic Sign
 SNS Illuminated Street Name Sign

Existing Equipment Removal Summary

Location	Description of Item	Quantity
NW CORNER	PED POLE	1

CONSTRUCTION SIGNAL MODIFICATION PLANS



Phasing Diagram

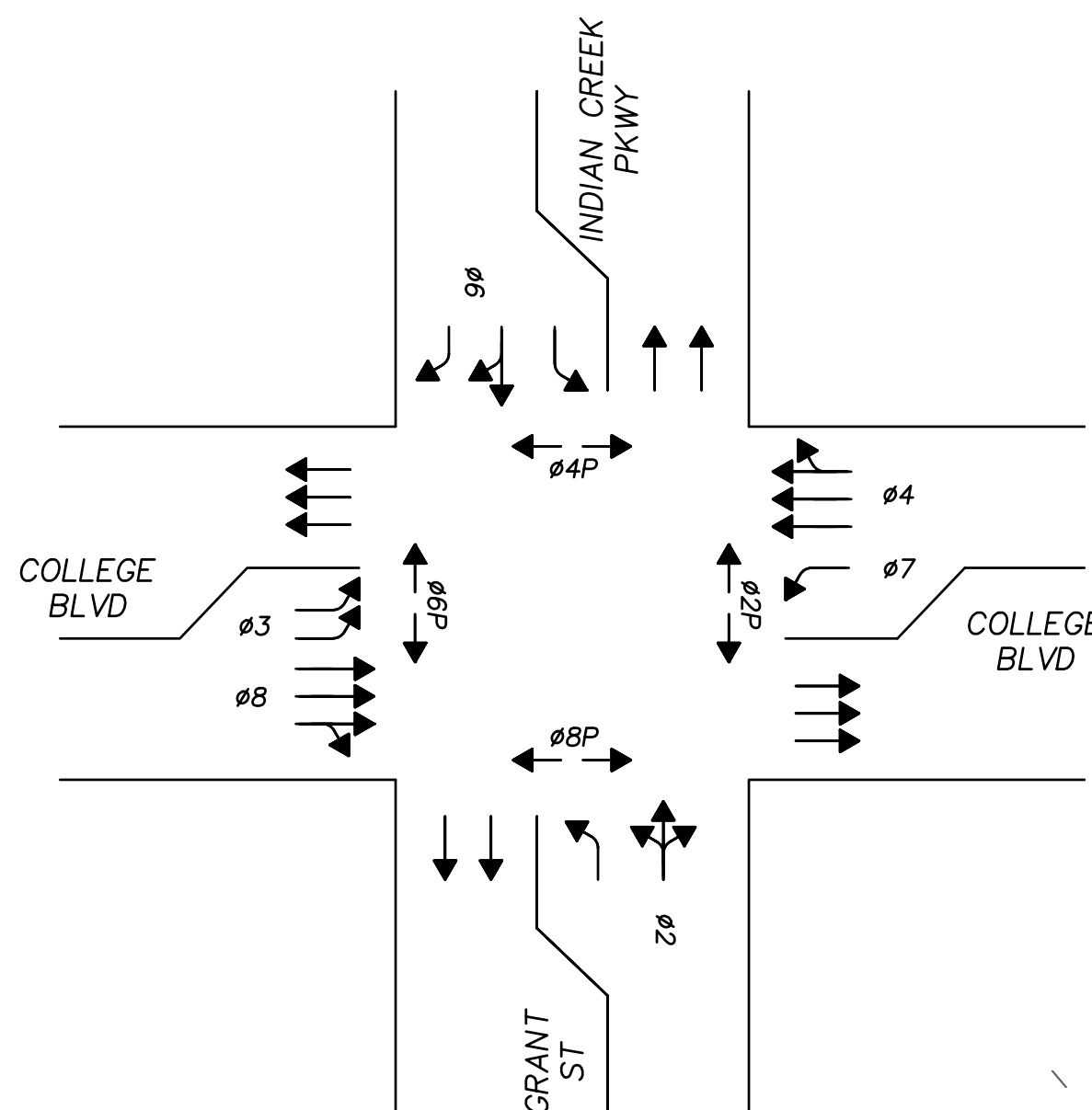
CONSTRUCTION NOTES:

- 1 REMOVE EXISTING PEDESTRIAN POLE, FOUNDATION, PUSH BUTTONS, SIGNS AND CABLE. FURNISH AND INSTALL NEW FOUNDATION AND RE-INSTALL EXISTING PEDESTRIAN POLE WITH EXISTING PEDESTRIAN SIGNAL HEAD, PUSHBUTTON, AND SIGN AS SHOWN. PLUG HOLES IN POLE WITH JB-WELD.
- 2 INSTALL NEW PEDESTRIAN POLE WITH RELOCATED PEDESTRIAN SIGNAL HEAD, PUSH BUTTON, AND SIGN.

GENERAL NOTES:

SEE GENERAL NOTE 17 (PRIOR PAGE) IN REGARD TO TAKING THE EXISTING TRAFFIC SIGNAL OUT OF OPERATION DURING CONSTRUCTION.

EXISTING TRAFFIC SIGNAL CONTROLLER CABINET
ELECTRICAL SERVICE ADDRESS:
9498 SC COLLEGE BOULEVARD



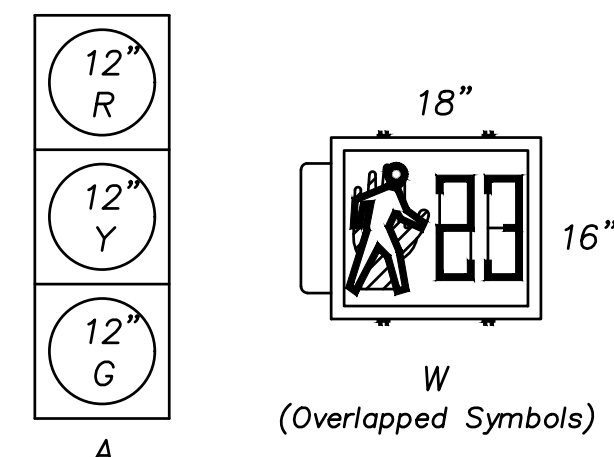
Signal Phasing

- 1 REMOVE AND RESET EX. PEDESTRIAN POLE WITH PUSH BUTTON, COUNTDOWN PEDESTRIAN SIGNAL HEAD, AND SIGN (RELOCATE FROM EXISTING)
STA: 417+87.82
OFF: 58.87' LT
- 2 INSTALL NEW 9' PEDESTRIAN POLE WITH PUSH BUTTON, COUNTDOWN PEDESTRIAN SIGNAL HEAD, AND SIGN (RELOCATE FROM EXISTING)
STA: 418+03.80
OFF: 75.39' LT

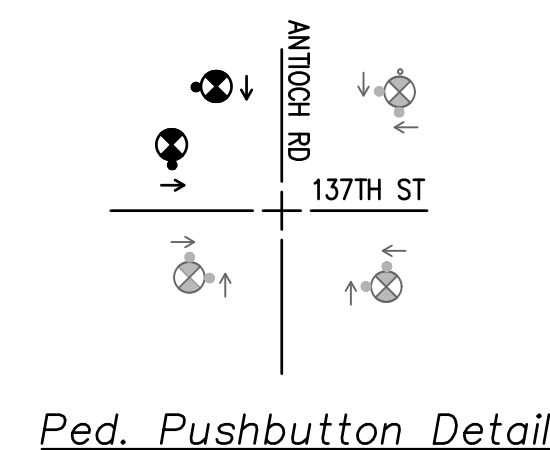
SEE LIGHTING PLANS

SEE LIGHTING PLANS

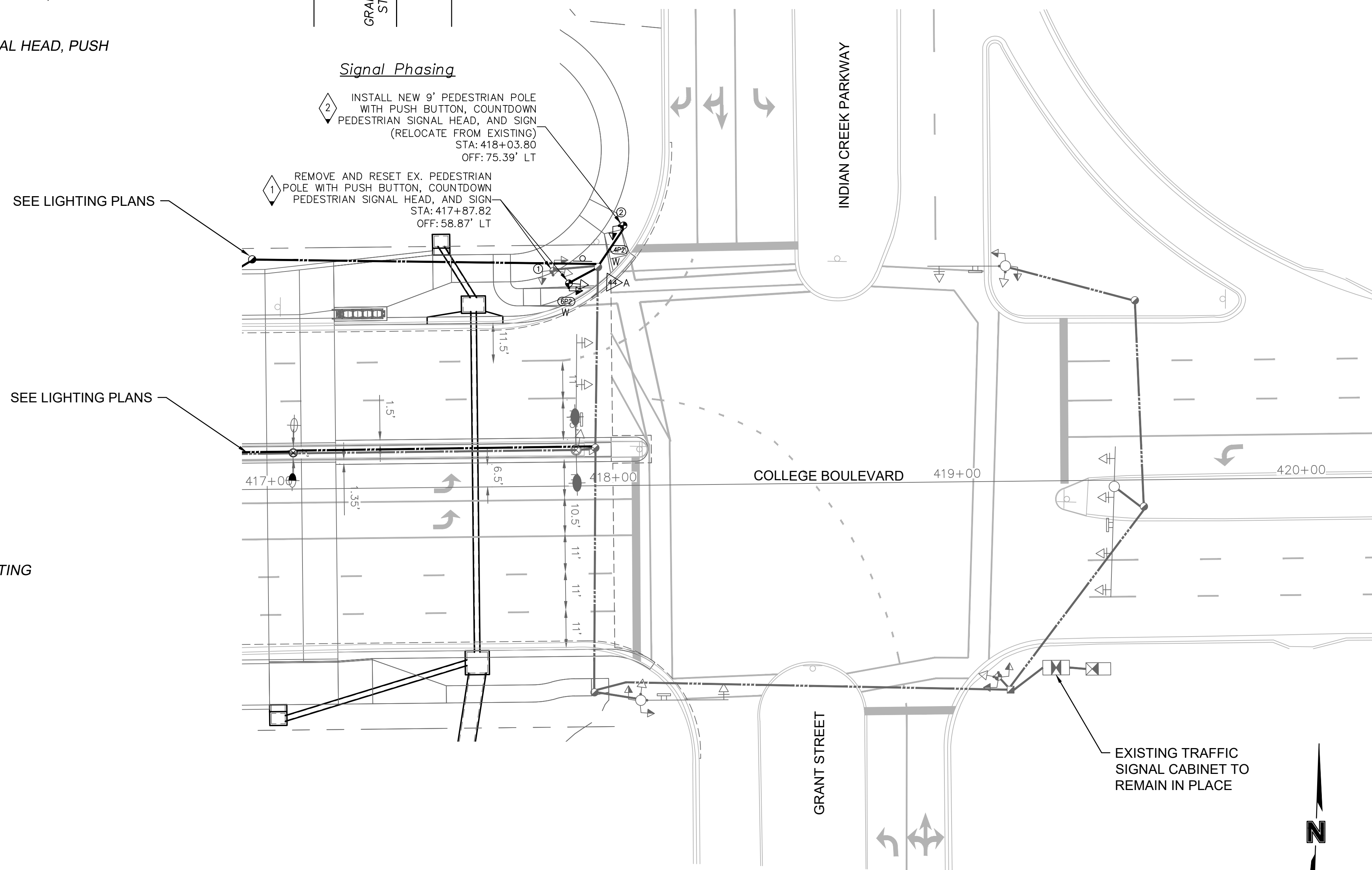
Signal Faces



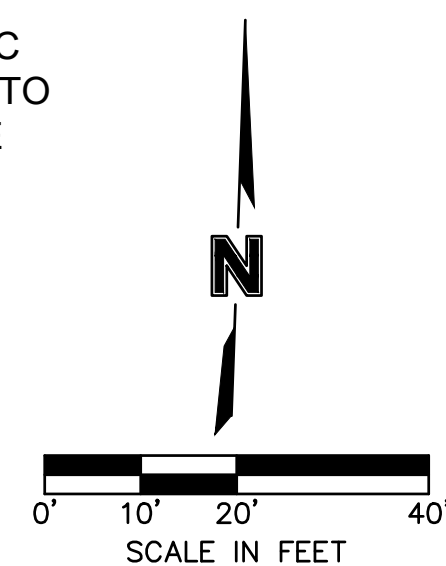
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025
FEDERAL:	F.A. NO. DE-N078(501)	
FLASHING OPERATIONS		
COLLEGE BOULEVARD		FR
INDIAN CREEK BLVD/GRANT ST		FR
PEDESTRIAN HEADS		DARK



Ped. Pushbutton Detail



EXISTING TRAFFIC SIGNAL CABINET TO REMAIN IN PLACE



olsson

7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olson.com

FINAL PLANS
NOT FOR CONSTRUCTION

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

TRAFFIC SIGNAL MODIFICATION PLAN
GRANT ST/INDIAN CREEK PKWY AND COLLEGE BLVD
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS

drawn by:	SRH
checked by:	JSC
approved by:	JSS
QA/QC by:	JSS
project no.:	022-06529
drawing no.:	F TRS 02206529
date:	2/2/2025

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 V_XBNDY_02206529
 V_XTOPO_02206529
 F_PBASE_02206529
 141236-PBASE-TRNS
 F_SASBASE_02206529
 T_BRIDGEBASE_02206529

CONSTRUCTION SIGNAL MODIFICATION PLANS

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025
FEDERAL:	F.A. NO. DE-N078(501)	

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TEL 913.381.1170
www.olson.com

FINAL PLANS
NOT FOR CONSTRUCTION

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

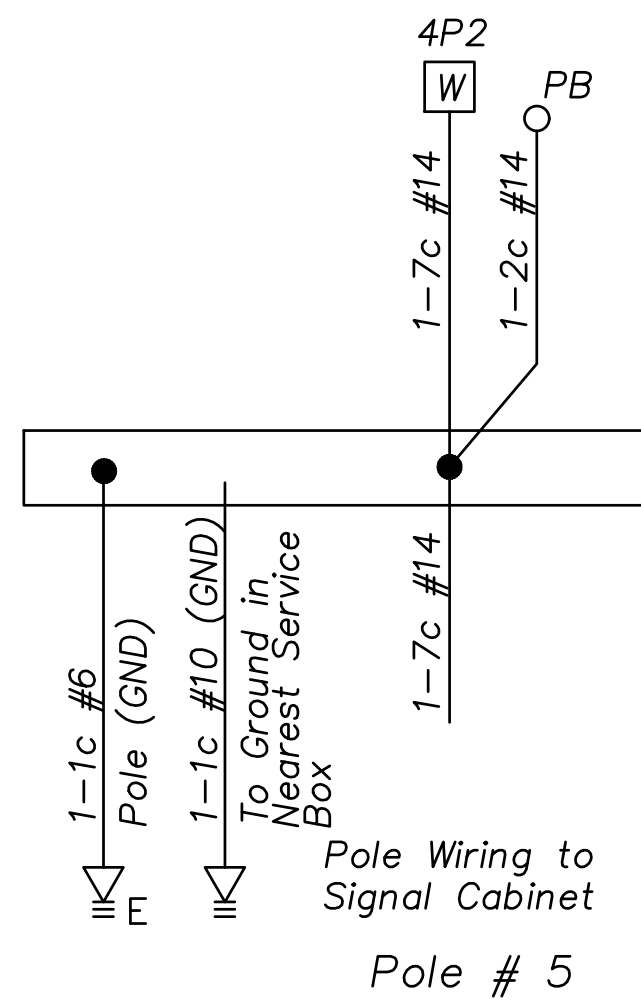
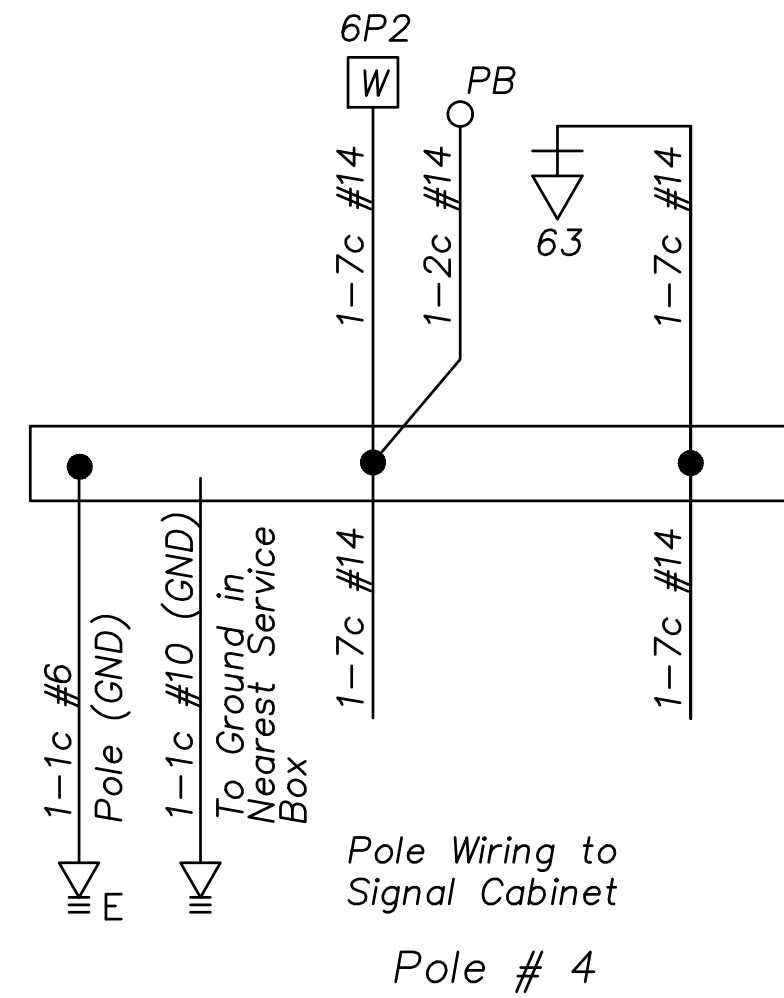
WIRING, BILL OF MATERIALS, AND DETAILS
GRANT ST/INDIAN CREEK PKWY AND COLLEGE BLVD
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

2025

OVERLAND PARK, KANSAS

drawn by:	SRH
checked by:	JSC
approved by:	JSS
QA/QC by:	JSS
project no.:	022-06529
drawing no.:	F TRS 02206529
date:	2/2/2025

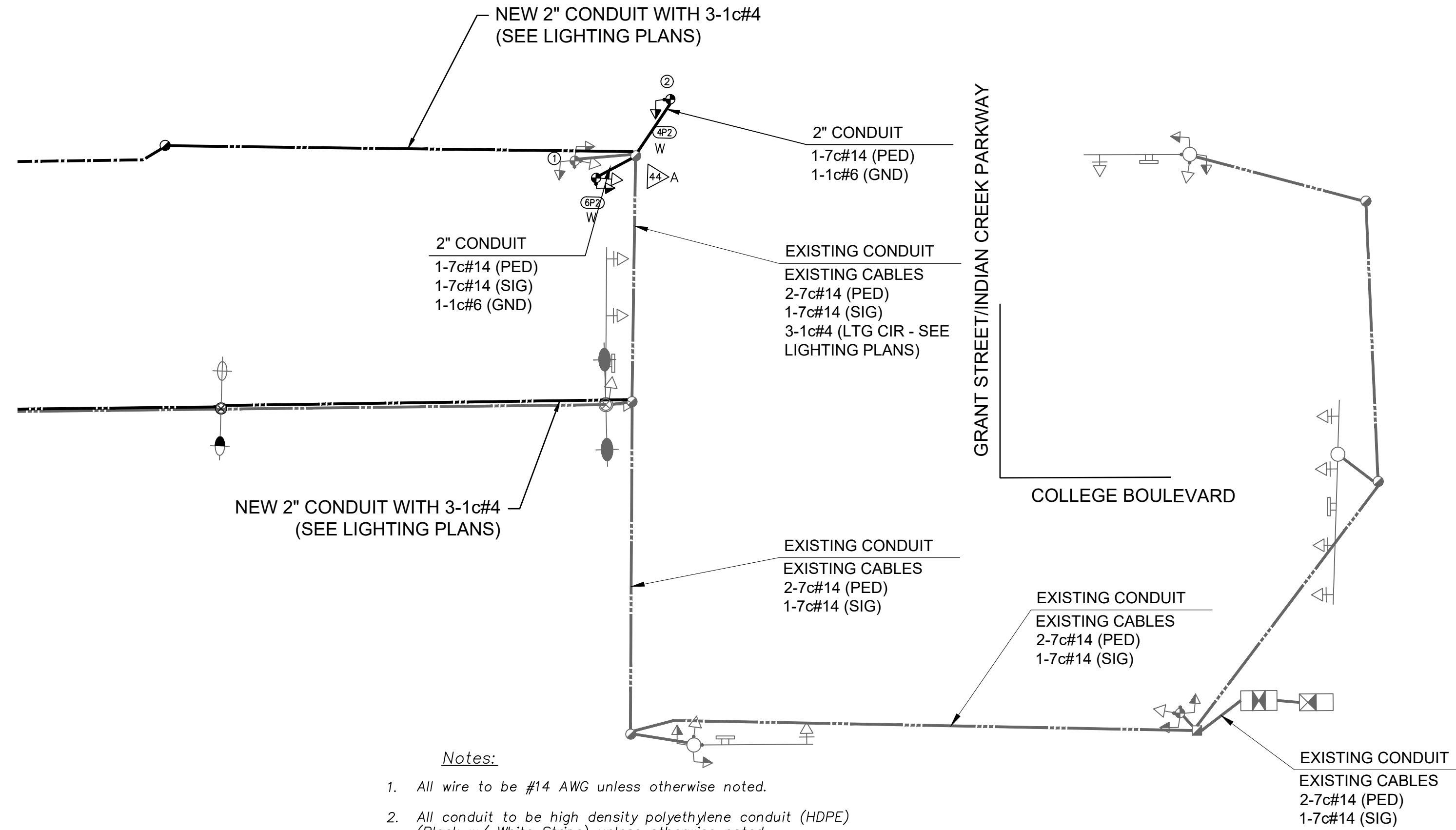
SHEET
129 of 189



- Legend**
- Video Detection Camera
 - Advance Radar Detector
 - Presence Radar Detector
 - Closed Circuit TV (CCTV) Camera
 - EVP Detector
 - Illuminated Street Name Sign
 - Streetlight
 - Traffic Signal Head
 - Pedestrian Signal Head
 - Pedestrian Pushbutton
 - Streetlight Electrical Connectors
 - Connection in Pole Base
 - Earth Ground
 - Equipment Ground

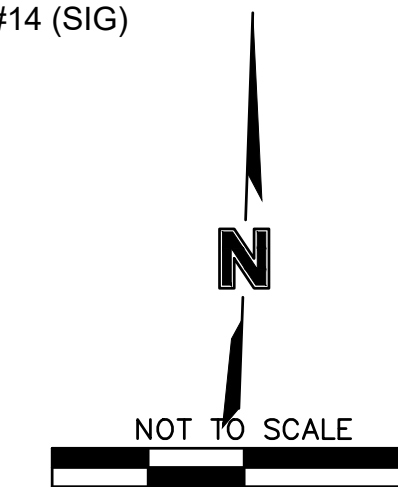
Notes:

- Tape individual wire nuts or connectors at the base of each pole. Then tape all groups of wire together.
- Wiring for CCTV and emergency pre-emption (EVP) detectors shall be continuous with no splices to the controller. Provide 2' of slack at the base of the pole.
- Pigtail connectors from the radar detection sensors to the base of the pole shall be performed by the supplier. Connections to the home run cable shall be made with self-stripping gel-filled electrical pigtail connectors.



Notes:

- All wire to be #14 AWG unless otherwise noted.
- All conduit to be high density polyethylene conduit (HDPE) (Black w/ White Stripes) unless otherwise noted.
- 2" COND. Indicates existing equipment to be Used In Place unless otherwise noted.
- 3-7c Indicates existing cable to be Used In Place unless otherwise noted.
- Indicates existing cable/conduit
- ///// Indicates existing equipment to be removed or abandoned as called out in the plans
- 3-7c Indicates existing cable to be removed
- Indicates cable/conduit installed for future use



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V_XTOPO_02206529
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F_SASBASE_02206529
T_BRIDGEBASE_02206529

Bill of Materials (1)

Cabinet Related Items		
Item	Unit	Quant.
ATC Cabinet (Double Wide) w/ 8" Riser	Each	-
ATC Cabinet (Single Wide) w/ 8" Riser	Each	-
Secondary Aluminum Service Enclosure w/30amp Main	Each	-
Manual Power Bypass Switch/30amp	Each	-
Battery Backup UPS System and Accessories	Each	-

Concrete Foundation Items		
Item	Unit	Quant.
Concrete Controller Cabinet Pad (Double Wide)	Each	-
Concrete Controller Cabinet Pad (Single Wide)	Each	-
Concrete Traffic Signal Pole Foundation w/ Cap and Anchor Bolts	Each	-
Concrete Pedestal Pole Foundation w/ Cap and Anchor Bolts	Each	2
Concrete Pedestrian Pushbutton Pole Foundation and Anchor Bolts	Each	-
Ground Rod & Clamp(s) (5/8" x 10") for Poles and Cabinet Foundation	Each	2

Conduit/Cable		
Item	Unit	Quant.
SDR 13.5 HDPE (Black w/ White Stripes) Signal Conduit 1.5"	Ln. Ft.	-
SDR 13.5 HDPE (Black w/ White Stripes) Signal Conduit 2"	Ln. Ft.	37
SDR 13.5 HDPE (Black w/ White Stripes) Signal Conduit 3"	Ln. Ft.	-
SDR 13.5 HDPE (Black w/ White Stripes) Signal Conduit 4"	Ln. Ft.	-
SDR 13.5 HDPE (Black w/ Red Stripes) or Sch 40 PVC (Gray) Electrical Service Conduit 2"	Ln. Ft.	-
SDR 13.5 HDPE (Orange) Fiber Optic Conduit 2"	Ln. Ft.	-
SDR 13.5 HDPE (Orange) Fiber Optic Conduit 3"	Ln. Ft.	-
Multi-Conductor Cable 7c #14 AWG	Ln. Ft.	1010
Multi-Conductor Cable 2c #14 AWG (From Ped Pushbutton to Traffic Signal Pole Base)	Ln. Ft.	16
Electrical Service Power Cable 3-1c #4 AWG	Ln. Ft.	-
Emergency Vehicle Pre-emption (EVP) Cable	Ln. Ft.	-
CCTV Camera Cat 6 Data Cable	Ln. Ft.	-
Radar Detector Home Run Cable (3 Pair)	Ln. Ft.	-
Video Detection Cable	Ln. Ft.	-
Detector Loop Wire 1c #14 AWG THHN/THWN in PVC Tube	Ln. Ft.	-
Shielded Detector Lead-in 2c #14 AWG	Ln. Ft.	-
Illuminated Street Name Sign Cable 3c #14 AWG	Ln. Ft.	-
Solid Bare Copper Ground Wire 1c #6 AWG	Ln. Ft.	37
Stranded Copper Ground Cable (Green) 1c #10 AWG THHN/THWN	Ln. Ft.	-
Stranded Copper Locating Cable (Red) 1c #10 AWG THHN/THWN	Ln. Ft.	-
Ethernet Cables (6')	Each	-

Detection/CCTV Equipment		
Item	Unit	Quant.
Audible Pedestrian Pushbutton w/ Accessories and Sign (R10-3e) 9" x 15"	Each	-
Pedestrian Pushbutton	Each	-
6" Straight Mounting Extender	Each	-
6" Angled Mounting Extender	Each	-
12" Straight Mounting Extender	Each	-
12" Angled Mounting Extender	Each	-
8" Curved Mounting Extender	Each	-
Emergency Vehicle Pre-emption (EVP) Detector	Each	-
CCTV Dome Camera w/ RJ-45 Connector Kit and High PoE Midspan 1-port	Each	-
CCTV Quad Camera w/ RJ-45 Connector Kit and High PoE Midspan 1-port	Each	-
Advance Radar Detector Sensor w/ Harness Cable	Each	-
Presence Radar Detector Sensor w/ Harness Cable	Each	-

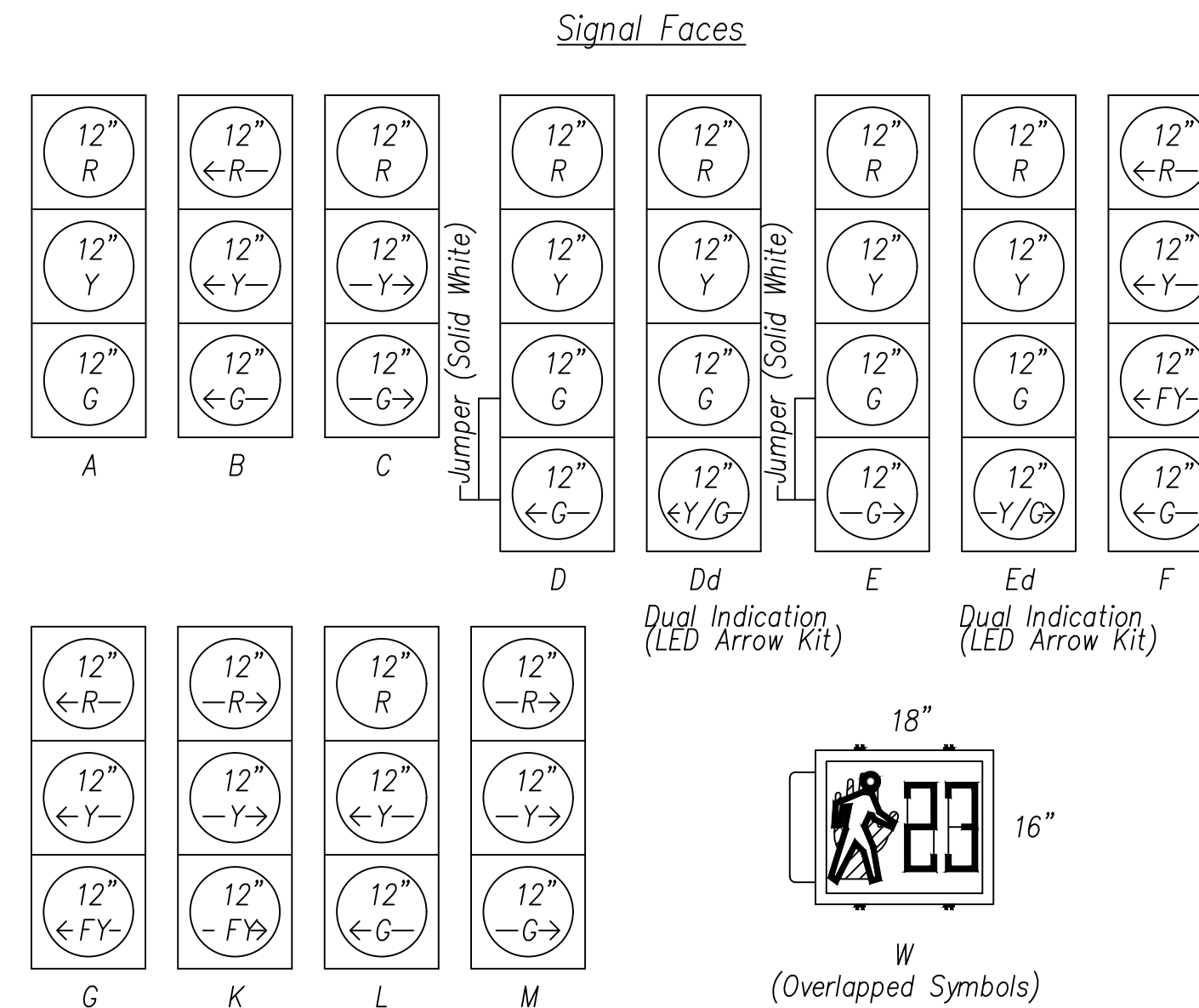
Mounting Brackets		
Item	Unit	Quant.
Mast Arm Bracket (3 Section Head)	Each	-
Mast Arm Bracket (4 Section Head)	Each	-
Side Pole Bracket (Vehicular and Pedestrian Heads)	Each	-
Mini Bracket for Emergency Vehicle Pre-emption (EVP) Detector	Each	-
Radar Detector Mounting Bracket	Each	-
CCTV Camera Mounting Bracket Equipment for Specified Camera	Each	-

Signing		
Item	Unit	Quant.
R10-17a (36"x48") Right on Red Arrow After Stop" w/ Bracket	Each	-
R10-FYA (30" x 36") "Yield on Flashing (Symbolic Yellow Arrow)" w/ Bracket	Each	-
R3-4 Sign (36" x 36") "No U-Turn" w/ Bracket	Each	-
R10-11b Sign (36" x 36") "No Turn on (Red)" w/ Bracket	Each	-
R10-3e Sign (9" x 15") "Pedestrian Push Button" w/ Steel Bands	Each	-
D3-1 Overhead Street Name Signs (Varies in Size) w/ Bracket	Each	-
Illuminated Street Name Signs (_____ x 19") w/ Mounting Brackets	Each	-
Illuminated Street Name Signs (_____ x 24") w/ Mounting Brackets	Each	-

Streetlighting Equipment		
Item	Unit	Quant.
Class A LED Cobra-Head Luminaire	Each	-
Class B LED Cobra-Head Luminaire	Each	-
Class C LED Cobra-Head Luminaire	Each	-
8 AMP Fuse	Each	-
Break-Away Non-Fused Connector Kits	Each	-
Break-Away Fused Connector Kits	Each	-
Multiple Street Light Tap Connector	Each	-
Lighting Cable #4 AWG 3-1c Type USE	Ln. Ft.	-
Pole & Bracket Cable #10 AWG 1c Type THHN/THWN	Ln. Ft.	-

Miscellaneous			
Item	Unit	Quant.	
Remove/Relocate Existing Equipment	L.S.	-	
Every Service Pedestal & Ground Rod (Provided by Every/Picked Up By Contractor)	Each	-	
Install City-Supplied Traffic Signal Mast Arm	Each	-	

Traffic Signal Heads			
Item	Unit	Quant.	
Pedestrian Signal Head (1 Section) (See Chart A)	Each	-	
Traffic Signal Head (See Chart A)	Each	-	
Backplate 5" (3 Section)	Each	-	
Backplate 5" (4 Section)	Each	-	
Red Arrow LED Kit	Each	-	
Yellow Arrow LED Kit	Each	-	
Green Arrow LED Kit	Each	-	
Red Ball LED Kit	Each	-	
Yellow Ball LED Kit	Each	-	
Green Ball LED Kit	Each	-	
Dual Indication Green/Yellow LED Arrow Kit	Each	-	
Orange/White "Hand/Person" Countdown LED Kit	Each	-	



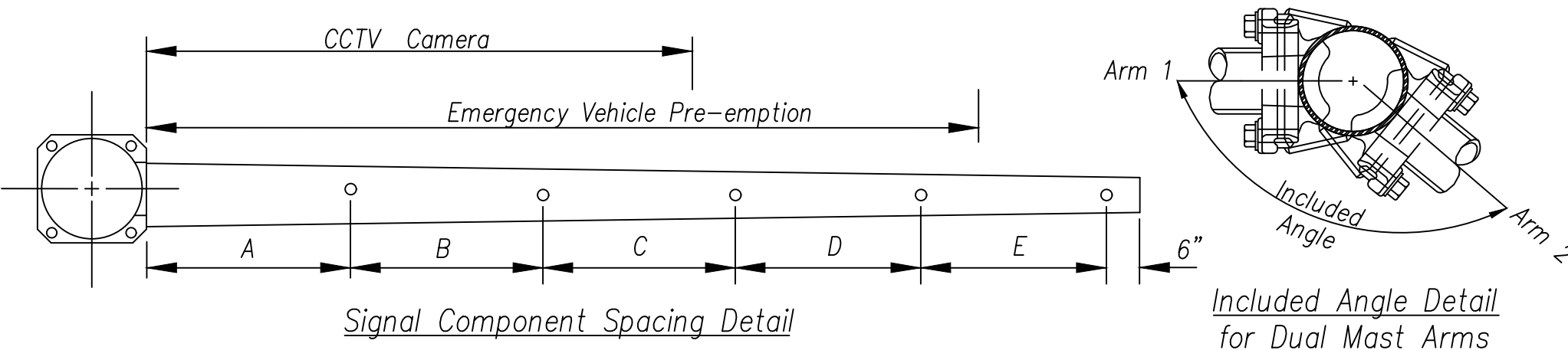
No. Sections	Signal Face Arrangement	Bracket Type	Quantity
-	-	Mast Arm Bracket	-
-	-	Mast Arm Bracket	-
-	-	Mast Arm Bracket	-
-	-	Pole Bracket	-
-	-	Pole Bracket	-
-	-	Pole Bracket	-
-	-	Pole Bracket	-
-	-	Pole Bracket	-
-	-	Pole Bracket	-
-	-	Pole Bracket	-
-	-	Pole Bracket	-
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-	-	Pole Bracket	-
-	-	Pole Bracket	-
-	-	Pole Bracket	-
-	-	Pole Bracket	-
-	-	Pole Bracket	-

Traffic Signal Poles		
Item	Unit	Quant.
Traffic Signal Steel Pole (See Chart B)	Each	-
Traffic Signal Aluminum Pedestal Pole (14") w/ Base and Collar	Each	-
Traffic Signal Aluminum Pedestal Pole (13") w/ Base and Collar	Each	-
Traffic Signal Aluminum Pedestal Pole (9") w/ Base and Collar	Each	1
Traffic Signal Aluminum Pedestrian Push Button Pole	Each	-
Traffic Signal Mast Arm (See Chart B)	Each	-
Luminaire Bracket Arm (12 ft) (See Also Chart B)	Each	-
Luminaire Bracket Arm (8 ft) (See Also Chart B)	Each	-

Traffic Signal Boxes		
Item	Unit	Quant.
Service Box Type 1 w/ Traffic Signal Logo	Each	-
Service Box Type 2 w/ Traffic Signal Logo	Each	-
Junction Box Type 1 w/ Traffic Signal Logo	Each	-
Junction Box Type 2 w/ Traffic Signal Logo	Each	-
Fiber Optic Service Box Type 1 w/ Fiber Optic Logo	Each	-
Fiber Optic Service Box Type 2 w/ Fiber Optic Logo	Each	-
Ground Rod & Clamp (5/8" x 8") for Service Boxes	Each	-

Major Electronic Equipment Items		
Item Description	Unit	Quant.
ATC Controller Unit w/ Firmware	Each	-
Cabinet Monitor Unit (CMU)	Each	-
High Density Switch Pack	Each	-
High Density Flash Transfer Relay	Each	-
Serial Interface Unit (SIU)	Each	-
Auxiliary Display Unit (ADU)	Each	-
Cabinet Alarm Panel	Each	-
242 DC Isolator	Each	-
Surge Protector (Traffic Signal Cabinet)	Each	-
Utility Power Surge Protector (Secondary Service Pedestal)	Each	-
EVP Discriminator Module 2-Channel	Each	-
EVP Discriminator Module 4-Channel	Each	-
Radar SDLC Cabinet Interface Device (4-Port)	Each	-
Radar SDLC Cabinet Interface Device (6-Port)	Each	-
RJ-45 Data Protector for CCTV Cameras	Each	-
Two Channel Detector Card	Each	-
Four Channel Detector Card	Each	-

- Bill of Materials Notes:**
- These approximate quantities were prepared solely for the contractor's convenience. It is not guaranteed that this list of materials constitutes all items required for the completion of the work. Unless otherwise noted, the installation/modification shall be bid "lump sum" for all necessary equipment.
 - City to furnish equipment for contractor installation, if designated.
 - Quantities for these items are included in the street lighting bill of materials.
 - Quantities for these items are included in the fiber optic bill of materials.
 - All sign sheeting shall be micro-encapsulated prismatic sheeting (Type XI).
 - Quantities for these items are included in the overhead street name sign quantity table.
 - See illuminated street name signs details for wiring diagrams, sizes and location.
 - All LED Cobra-Head luminaires shall have a minimum 10 year manufacturer's warranty.
 - Item color to be Black. If option exists, item to be ordered from the manufacturer in Black (Semi-Gloss). Field painting to be done by approved painter unless otherwise directed by the Engineer. For field painting color shall be FED-STD-595 #27038.
 - Polycarbonate body shall be made of impregnated Black materials.



Pole No.	Mast Arm Length No. 1	Combo Pole Type	Luminaire Arms		Mast Arm Length No. 2	Included Angle	No. of Signals on Mast Arm		Signal Component Spacing (See Signal Component Spacing Detail) (2)														
			Arm No. 1	Arm No. 2			Mast Arm No. 1	Mast Arm No. 2	Mast Arm No. 1						Mast Arm No. 2								
									A	B	C	D	E	EVP	CCTV	A	B	C	D	E	EVP	CCTV	

- Chart B Notes:**
- Manufacturer shall certify that all poles conform to the 2013 edition of the AASHTO standard specifications for structural supports for highway signs, luminaires and traffic signals.
 - Engineer to confirm signal component spacing prior to arm drilling and head installation.
 - When combination traffic signal/street light poles are specified to be supplied without the mast arms, The pole manufacturer shall be required to provide a steel or aluminum plate attachment to the mast arm plate with hardware to cover the cable entry hole.
- Chart B Legend:**
- EVP = Emergency Vehicle Pre-emption Detector
 - CCTV = Closed Circuit T.V. Camera

Pole Foundation Notes:

- Final pole, anchor bolt size, anchor bolt projection, and bolt circle shall be as per manufacturer's recommended practices (See Table 1). Rotate anchor bolt to maintain minimum clearance from edge of hole. All anchor bolt threads and nut surfaces shall be lubricated, with stick wax or approved alternative, prior to tightening.
- All conduits and anchor bolts for all the new pole bases shall be rigidly installed before concrete is placed. Anchor bolts shall be spaced by means of a factory certified template or drawing, the center of which shall coincide with the center of the base.
- All concrete used in this work shall meet the requirements of the Overland Park Municipal Code and shall be KCMMB5K concrete ($f'_c = 5,000$ psi) with a $7" \pm 1"$ slump.
- Poles shall not be erected until concrete has reached 3,500 psi.
- Maintain 3" minimum clearance from reinforcing steel to edge of hole or form.
- The drilled shaft foundation details presented herein are intended for installation into soil foundations. A special foundation investigation and design shall be conducted for residual soils with an "N" value of 4 or less or characterized as very soft to soft clay.
- These standard designs assume a minimum compactive effort of 90% of Standard or Modified Proctor for cohesive fill material.
- In the event excavation for the drilled shaft encounters sound limestone short of the required length shown in the table of dimensions, the shaft may be shortened to a minimum length of 8 feet with a minimum inclusive rock socket of 3 feet.
- Shale foundation material will be considered as a stiff clay. Drilled shafts in shale must satisfy the dimensions on Table 2.
- All concrete pole bases shall be consolidated by an internal type vibrator.
- Final 6" of concrete foundation (pole cap) shall be formed square or circular, at inspector discretion. The cap shall be formed and poured after the mast arm is erected and the pole plumb. Pole cap for pedestal pole shall be required at inspector discretion. Final top elevation shall match ADA sidewalk ramp.
- PVC conduit elbows in concrete foundations shall be connected to HDPE conduit with PVC pipe nipple and approved PVC to HDPE couplings. All PVC pipe nipples, elbows, and couplings shall be considered subsidiary to the traffic signal pole base.
- Bare No. 6 solid copper ground conductor shall be connected from internal pole grounding nut with a ring terminal to the clamp on the ground rod. Connect 1c#10 AWC system ground wire to separate ground rod clamp.
- All reinforcing steel shall be ASTM A615 Grade 60 for KCMMB5K concrete.
- All concrete surfaces should be brushed and sealed with curing compound.
- Contractor shall use drill shaft wheels and rebar support boots to maintain 3" clearance to shaft wall and shaft bottom, respectively, for all mast arm foundations.
- Contractor to provide ground rod(s) as required for maximum 25 ohms resistance to ground. Contractor shall be required to test with the inspector present.
- Contractor shall be required to place concrete foundations within 48 hours after completion of drilling. Contractor shall maintain the integrity of the hole until concrete is placed.
- Seven 6" x 12" cylinders shall be taken for each concrete signal foundation pour following the Overland Park Sampling and Testing Frequency Chart.

Vertical Steel Support Boots on every other vertical bar (Minimum of 4 Required)

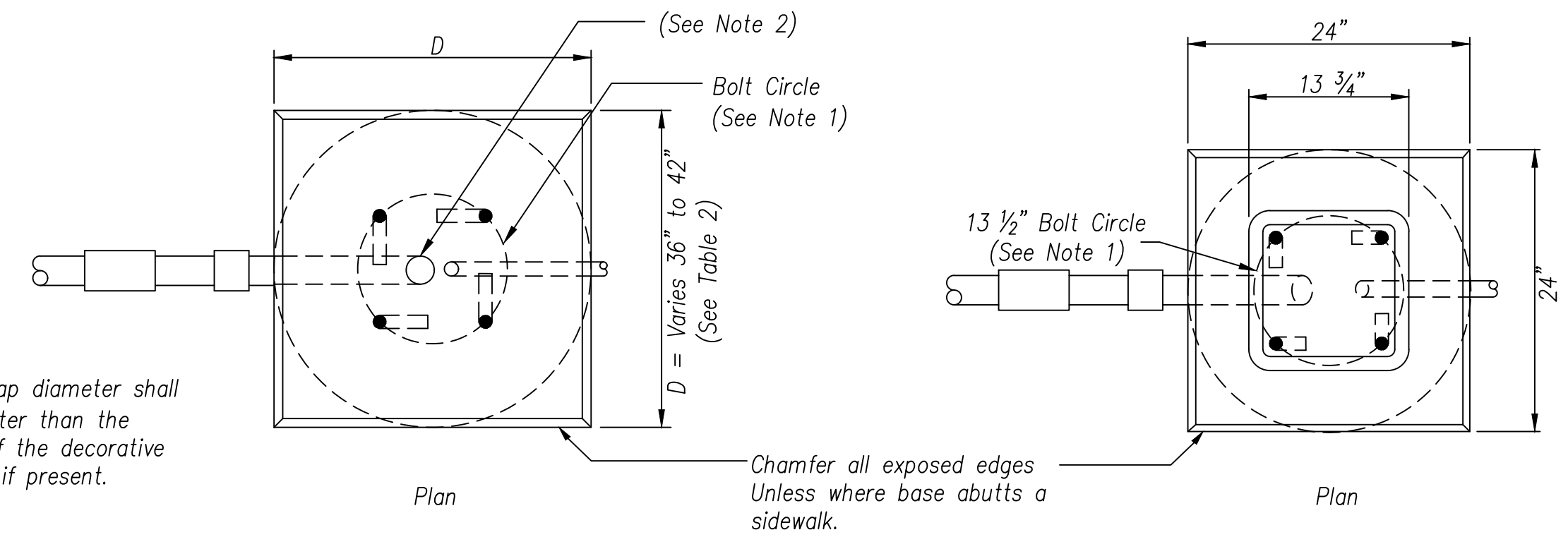
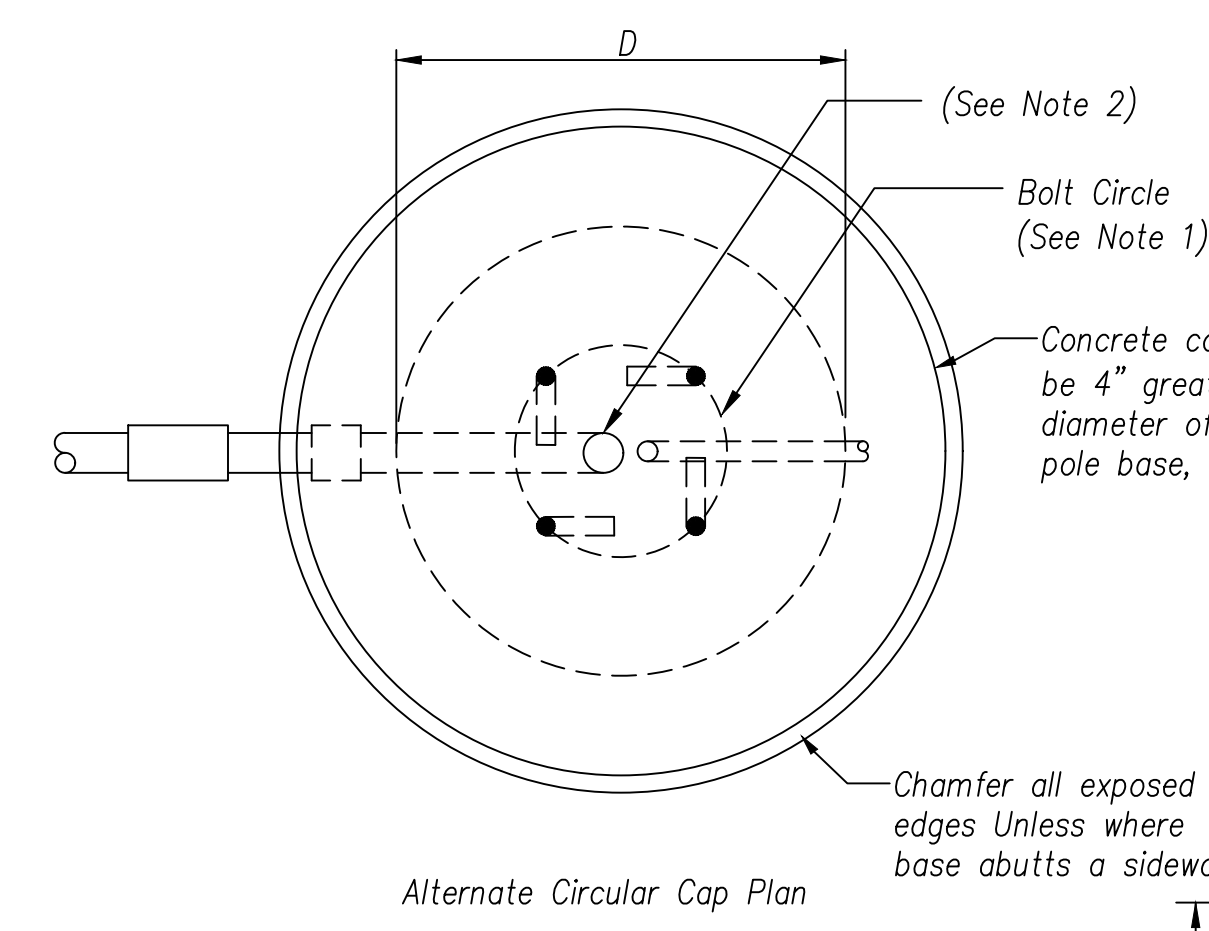
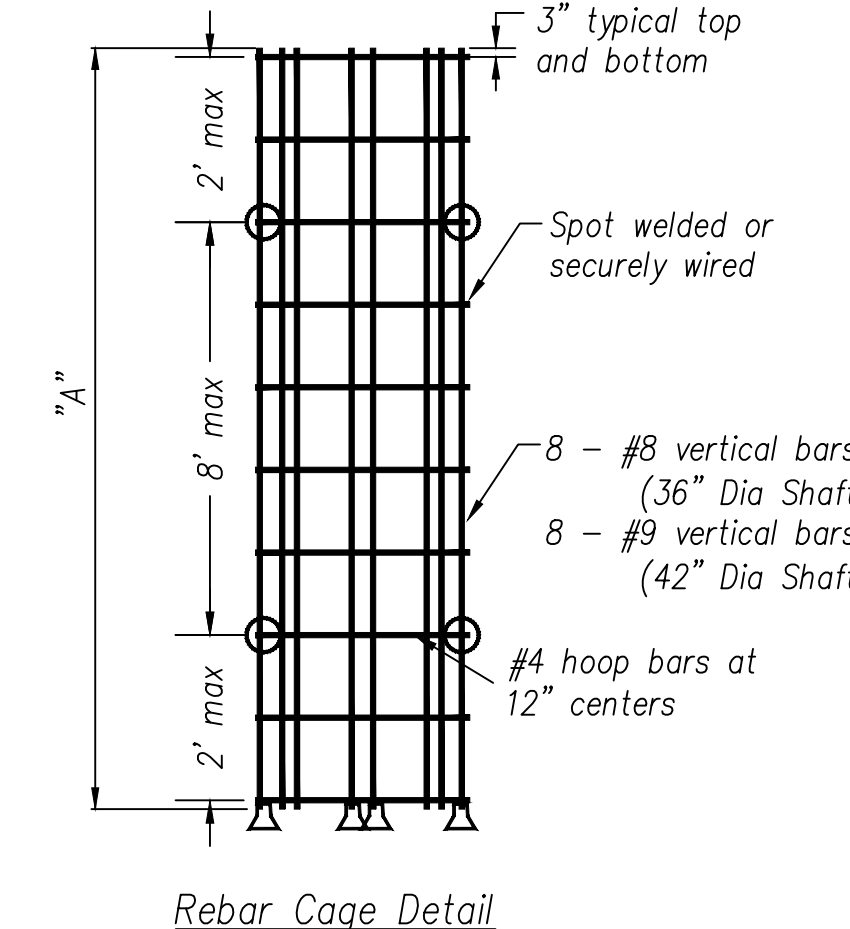
Snap shaft wheels around horizontal steel equally spaced around perimeter of shaft (Minimum of 4 per tier)

Horiz. tie bar shall have 15" min. lap

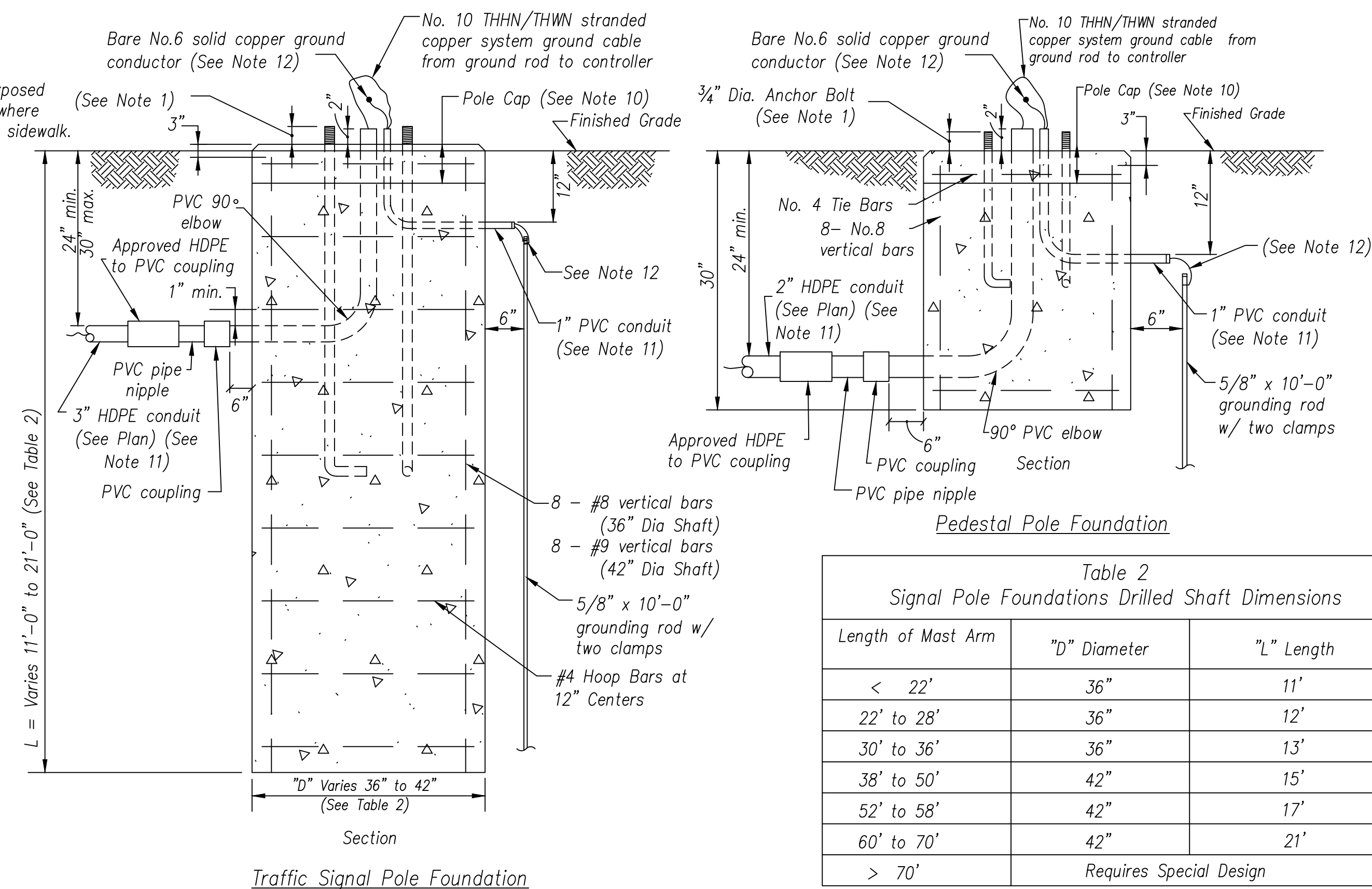
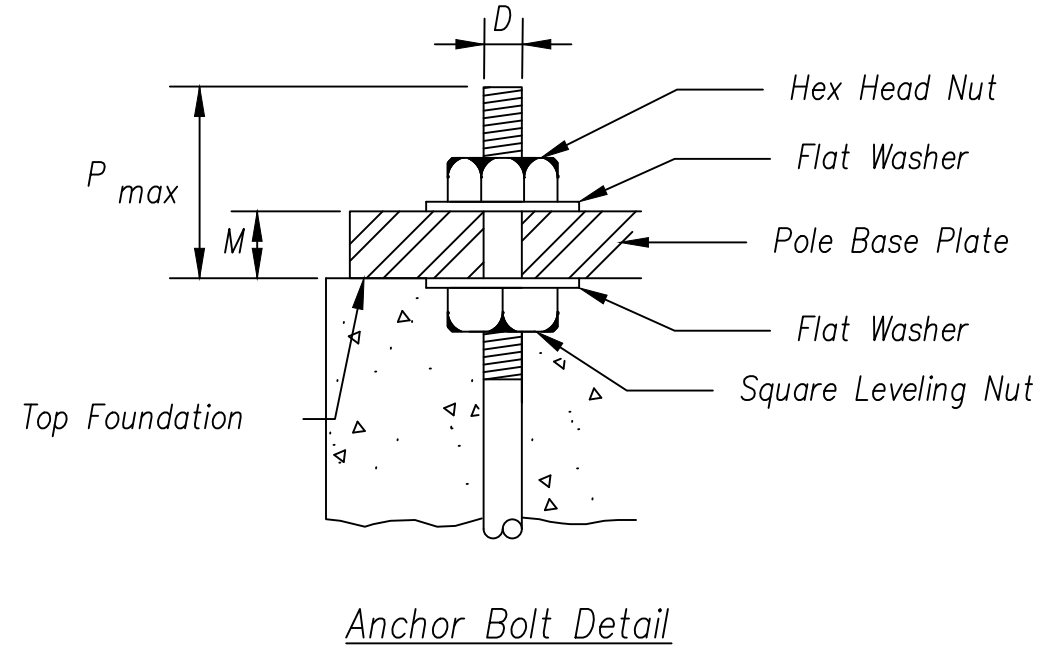
Horizontal Rebar			
Pole Fnd. Dia.	Pole Fnd Depth	Rebar Cir. "D"	Spacing
24"	30"	18"	12" MAX.
36"	11'-13'	30"	12" MAX.
42"	15'-21'	36"	12" MAX.

Vertical Rebar		
Pole Fnd. Depth	Length * "A"	No. of Spacers
30"	2'-3"	4
11'-0"	10'-6"	8
12'-0"	11'-6"	8
13'-0"	12'-6"	12
15'-0"	14'-6"	12
17'-0"	16'-6"	12
21'-0"	20'-6"	16

* Splicing or welding vertical rebar to achieve any specified length shall not be allowed.

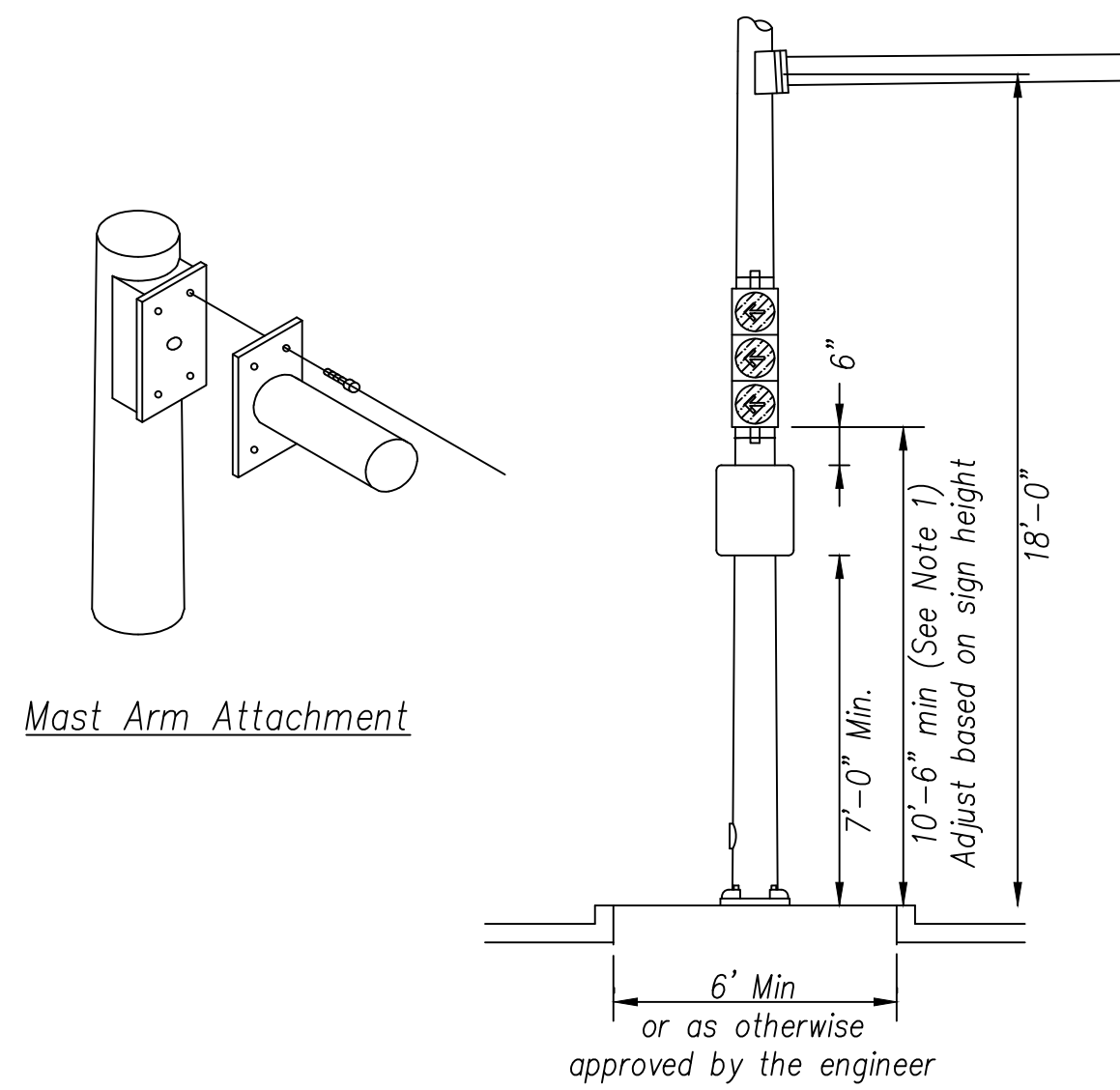


Bolt Diameter	Plate Thickness "M"	Maximum Bolt Projection "P"
0.75"	0.75"	2 1/4" ± 1/4"
1.50"	2.00"	6 1/4" ± 1/4"
1.75"	2.00"	6 3/4" ± 1/4"
1.75"	2.25"	7" ± 1/4"
2.00"	2.25"	7 1/2" ± 1/4"



Length of Mast Arm	"D" Diameter	"L" Length
< 22'	36"	11'
22' to 28'	36"	12'
30' to 36'	36"	13'
38' to 50'	42"	15'
52' to 58'	42"	17'
60' to 70'	42"	21'
> 70'	Requires Special Design	

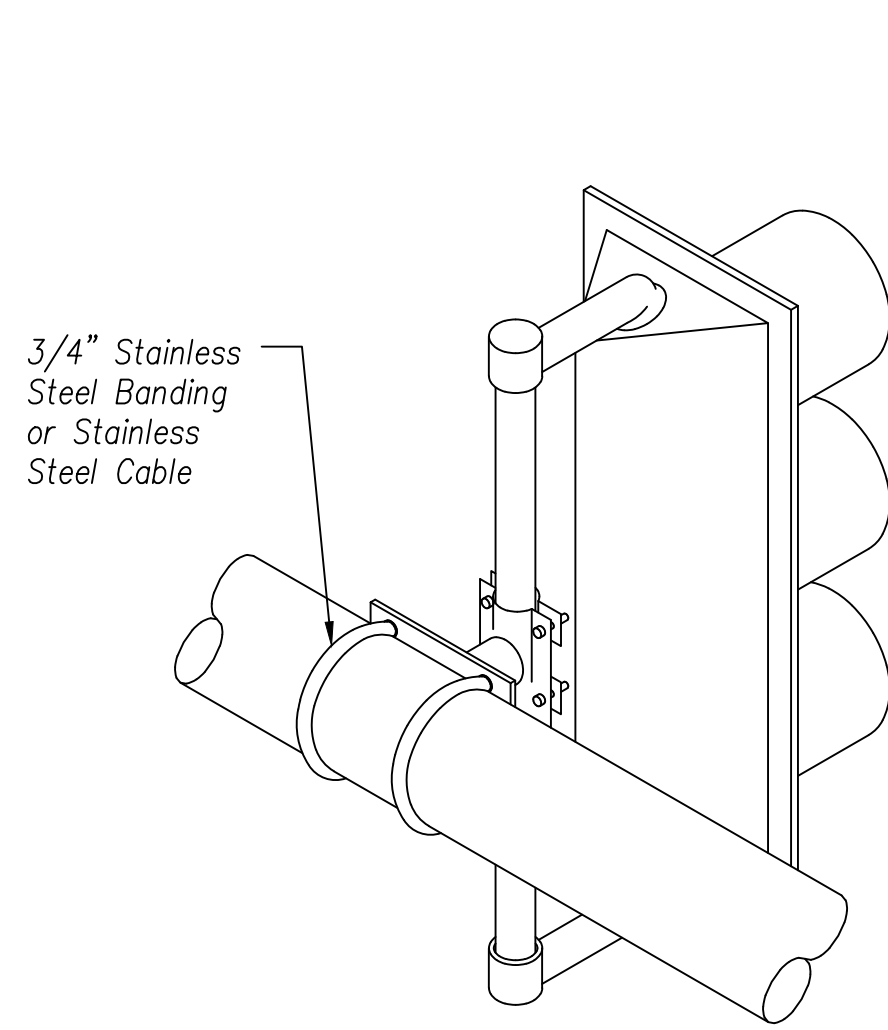
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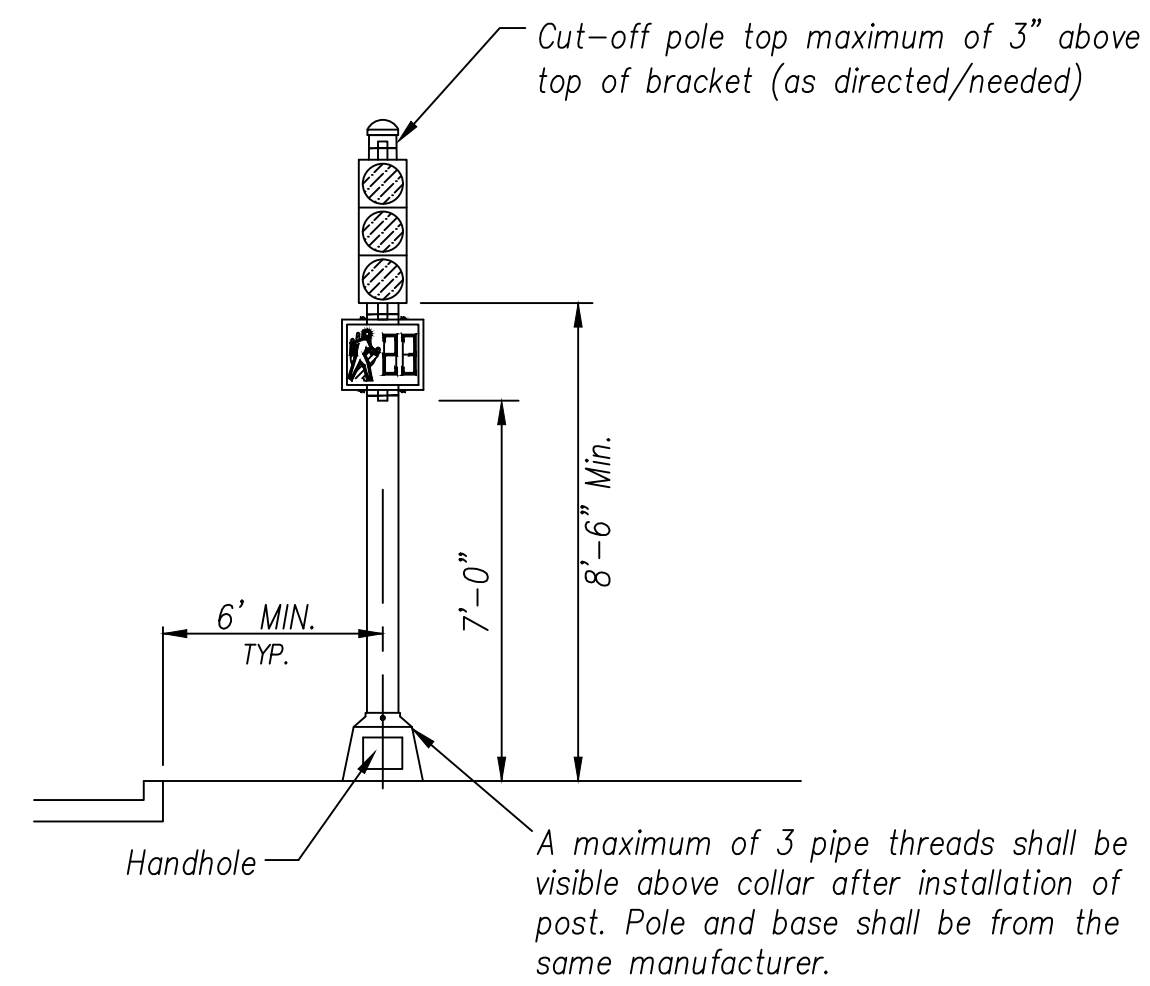
Mast Arm Attachment

Median Mounted Steel or Steel Combination Streetlighting & Signal Pole

- Note:
 1. Mount vehicular signal head at 8'-6" if no traffic sign specified.

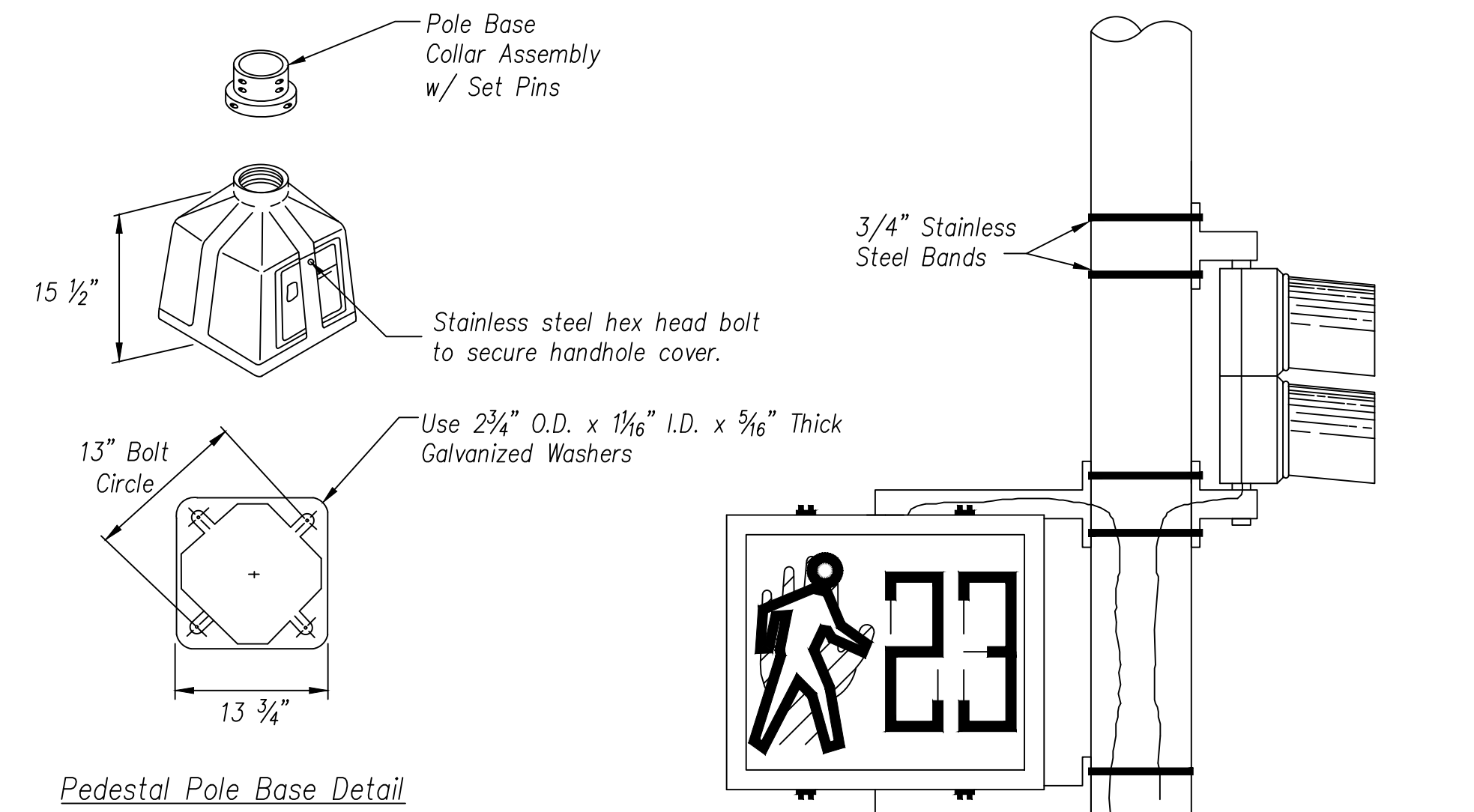


Mast Arm Signal Mounting Bracket (Band or Cable Mount Assembly)

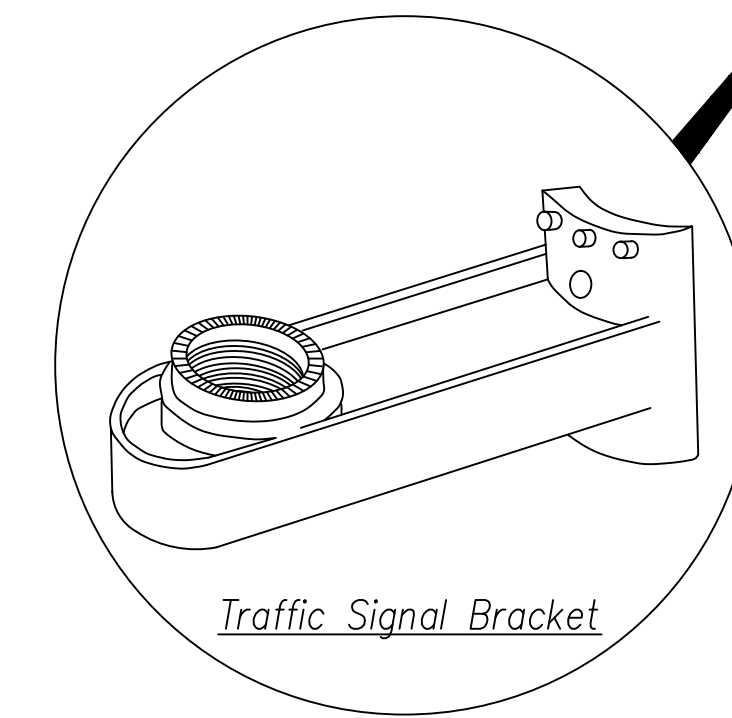


Aluminum Signal Pedestal Pole

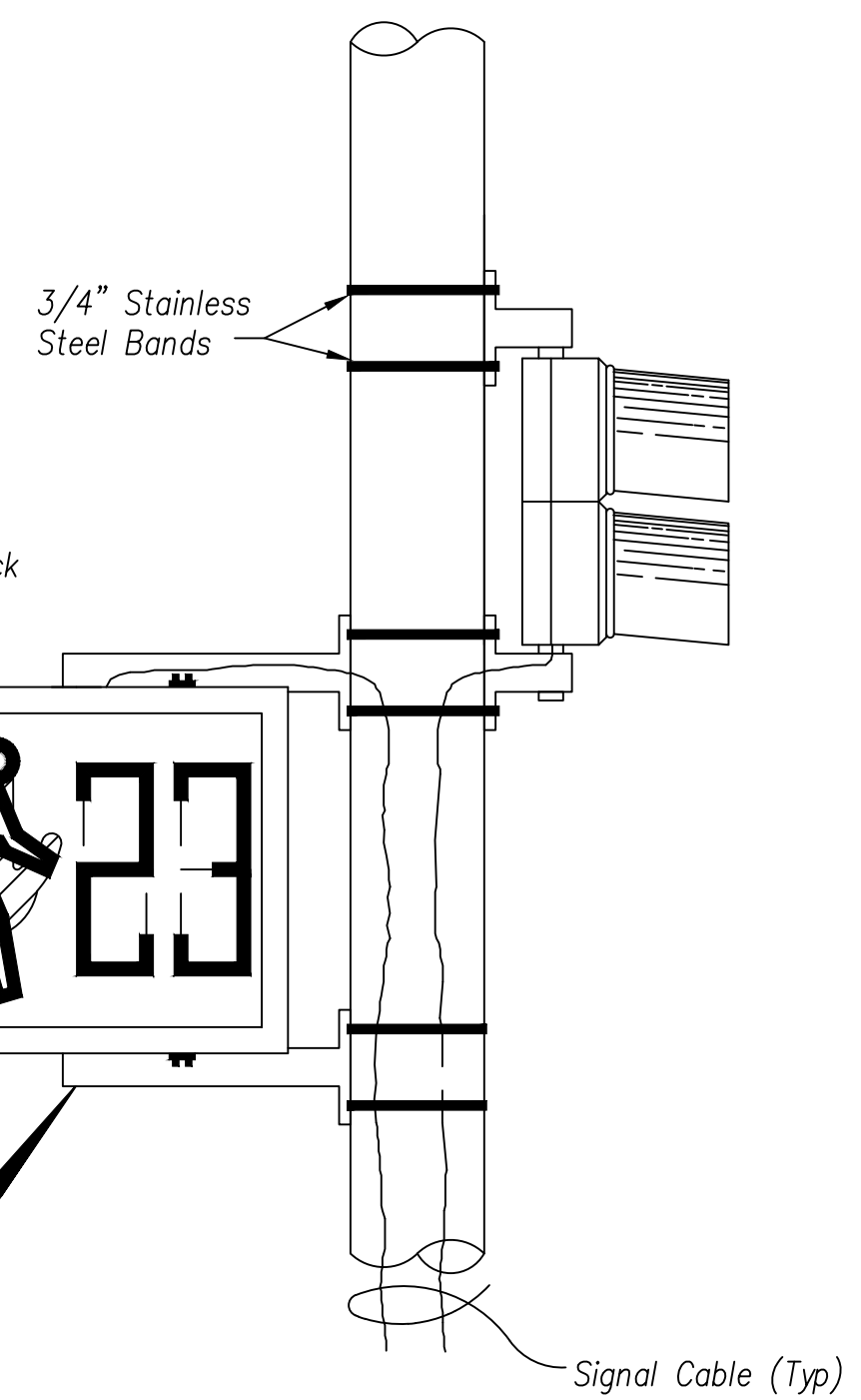
- Notes:
 1. Orient handhole toward the sidewalk opposite the direction of opposing traffic.



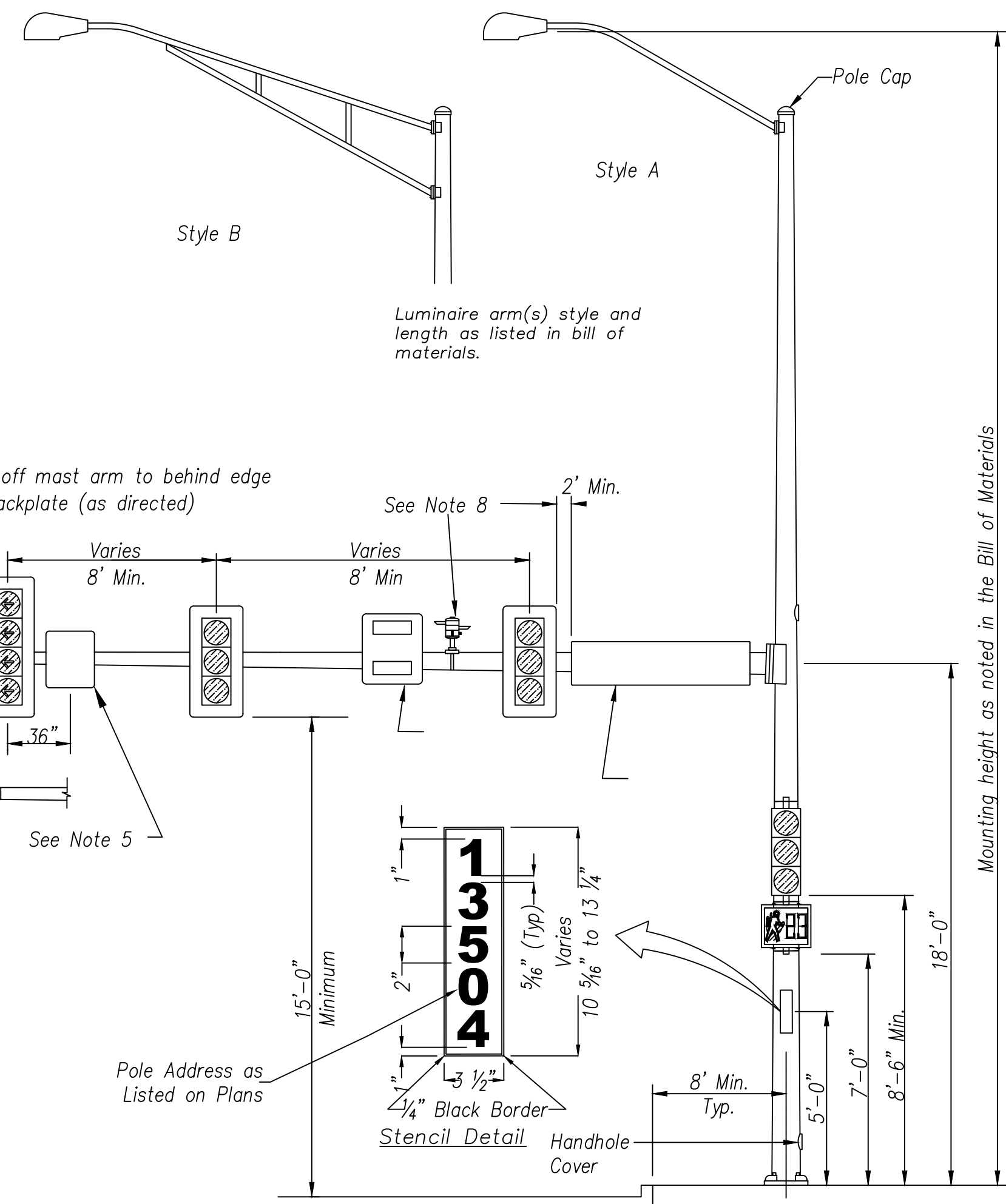
Pedestal Pole Base Detail



Traffic Signal Bracket



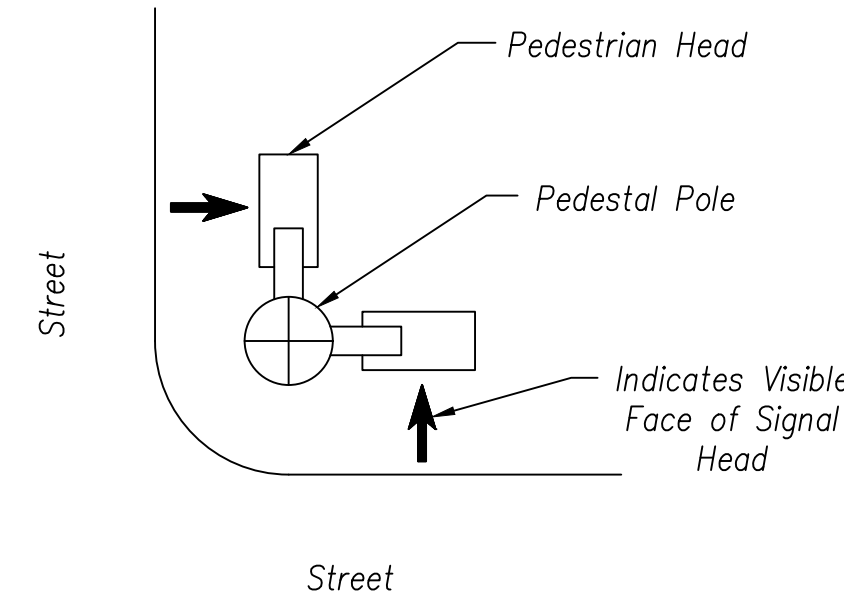
Pole Band and Bracket Mounting Detail



Steel Combination Streetlighting & Signal Pole

Notes:

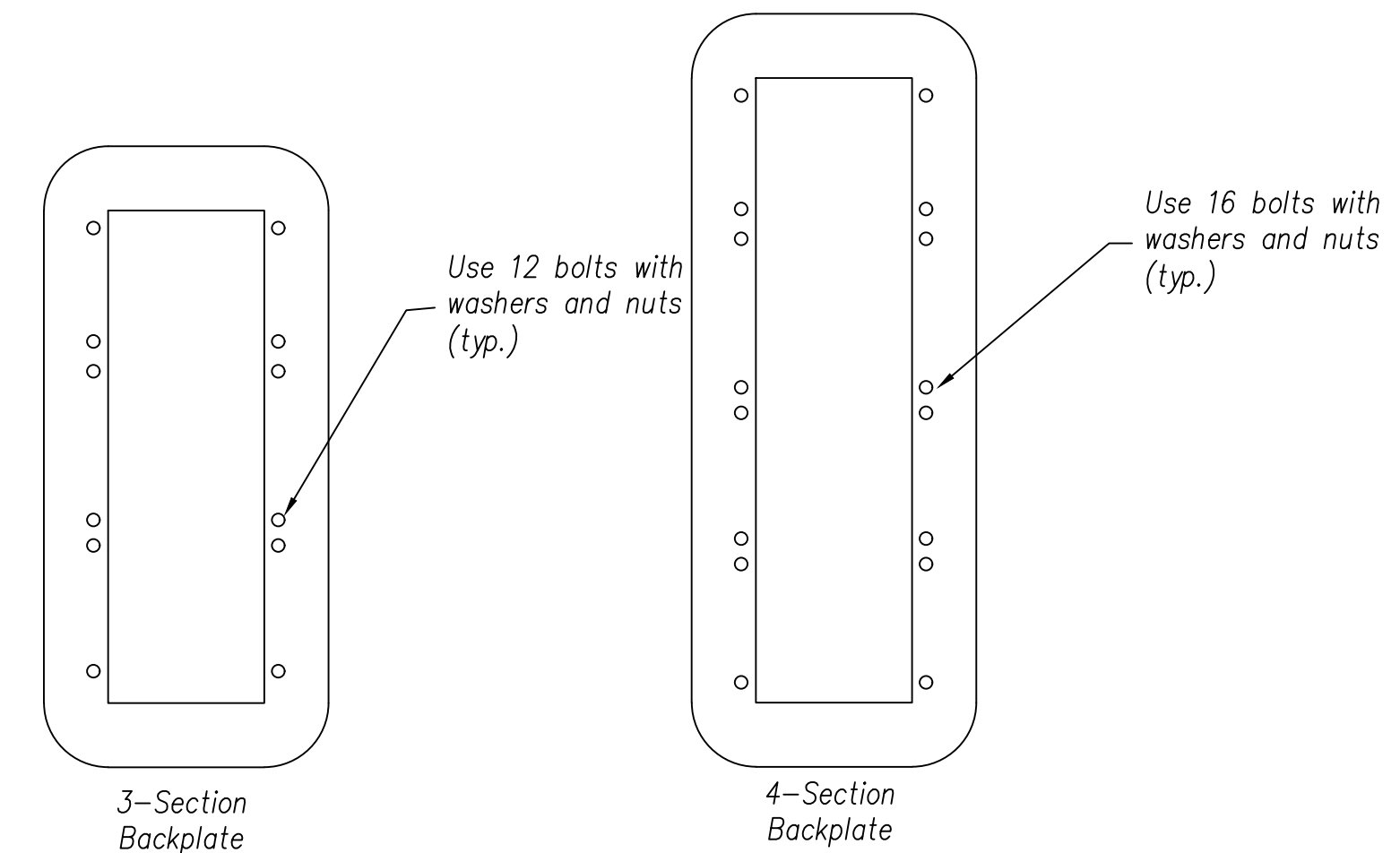
- Detail applies when there are only pedestrian signal heads.
- When vehicular signal heads are mounted on the same pole as pedestrian signal heads, they shall both be mounted in the same vertical plane with the pedestrian signal head mounted below the vehicle signal head with a shared bracket.



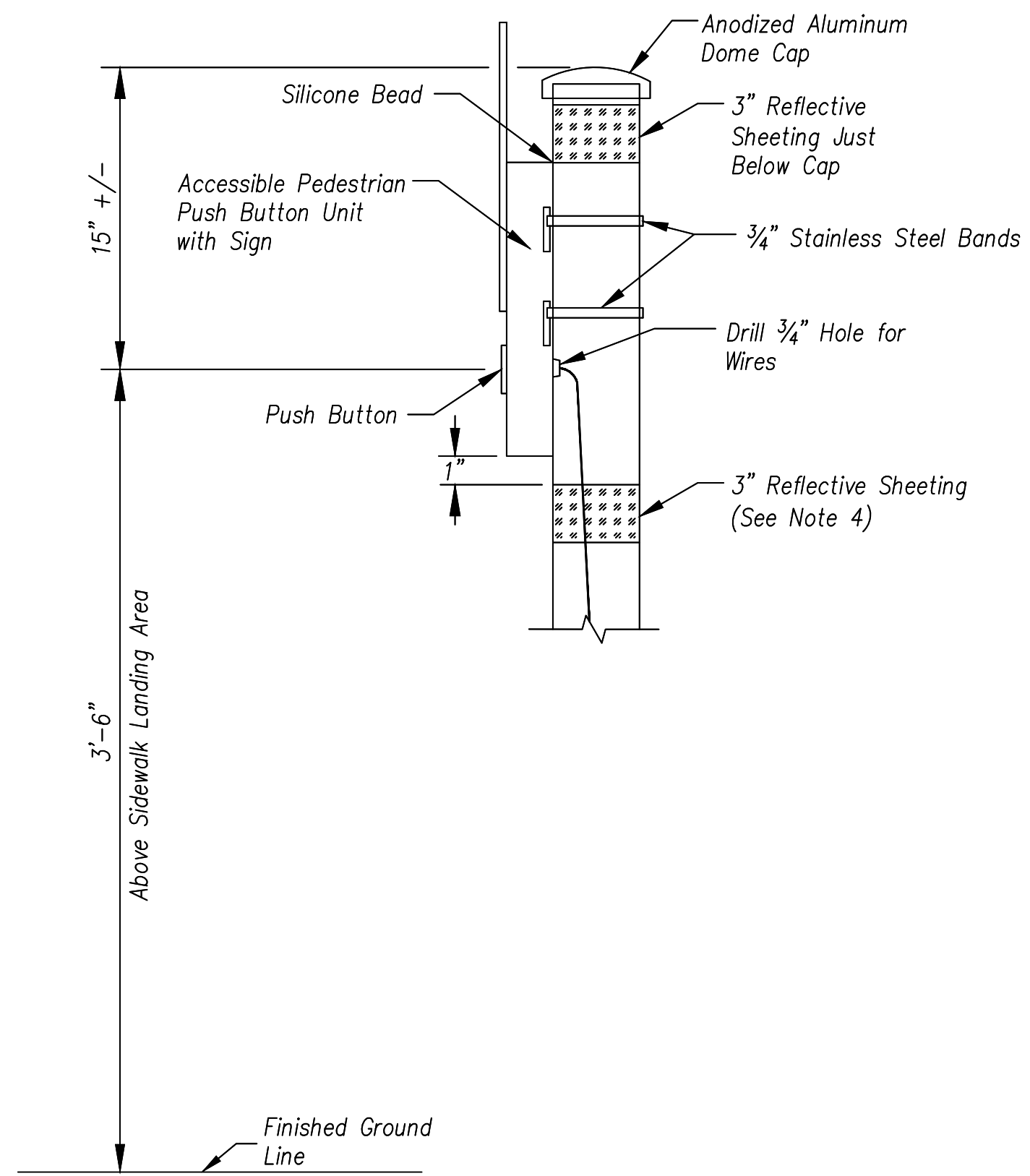
Pedestrian Signal Head Orientation Detail

Notes:

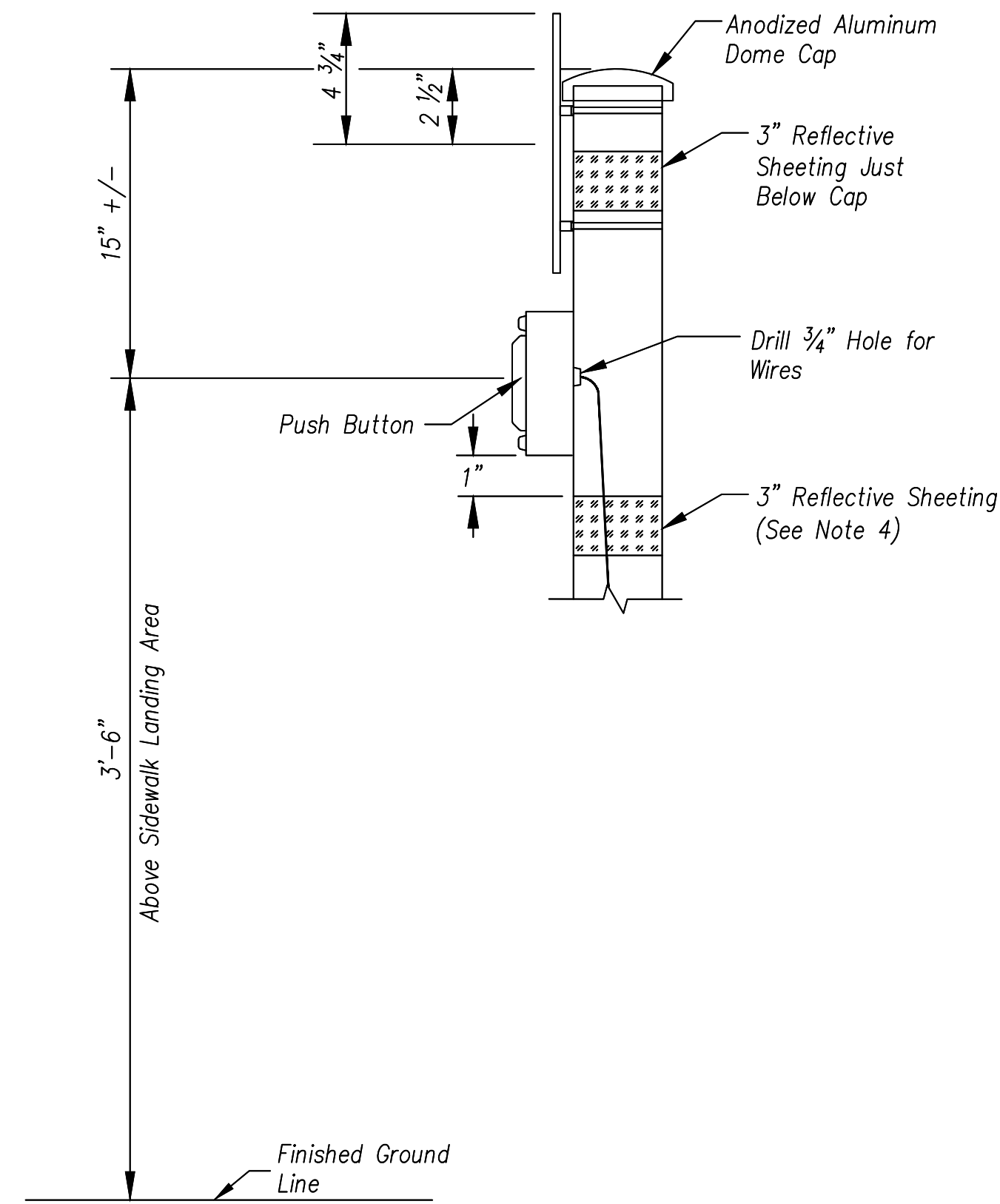
- Handhole cover, and mast arm & pole caps shall be shipped with the poles and be installed prior to final acceptance of the traffic signal system.
- Install corresponding colors of signal heads at the same elevation - adjust for mast arm rake.
- Each vehicular signal head (mast arm and/or pole mounted) shall be covered with a black or orange (unless otherwise noted) signal head cover during construction until the system is made operational.
- The side of pole signal head mounting heights shown are to the bottom of the housing and not to the brackets.
- All R10-11b, R10-17a, R10-FYA, or R3-4 signs to be mounted on the traffic signal poles or mast arms shall be provided and installed by the contractor. All signs shall conform to the Manual on Uniform Traffic Control Devices, latest edition for color, size, letter and legend. (See sign details and specifications)
- Contractor to provide and install overhead street name sign. (See mounting detail and overhead street name sign detail.)
- Vehicle advance radar detection unit shall be mounted as close to the center of the through traffic lane(s) per manufacturer's recommendation.
- Emergency Vehicle Pre-emption (EVP) detector shall be mounted near the center of the through traffic lane(s) to the right or left of the radar detection unit.
- All hardware not specifically shown in the details shall be in accordance with manufacturer's recommendation. Any deviations shall be submitted for approval.
- Minor adjustments in the location of traffic signal poles or signal controller cabinet should be made in the field during construction in order to maintain a minimum 4'-0" clearance from the centerline of any fire hydrant to the face of pole or cabinet.
- All traffic signal heads shall have two 1/4" diameter drain holes drilled in the bottom housing.
- Address Stencil shall have 2" high black EC film letters and numerals applied to a one piece Type XI retro-reflective sheeting with a black EC film border by the contractor. Apply on 'street side' of pole facing the referenced street address.



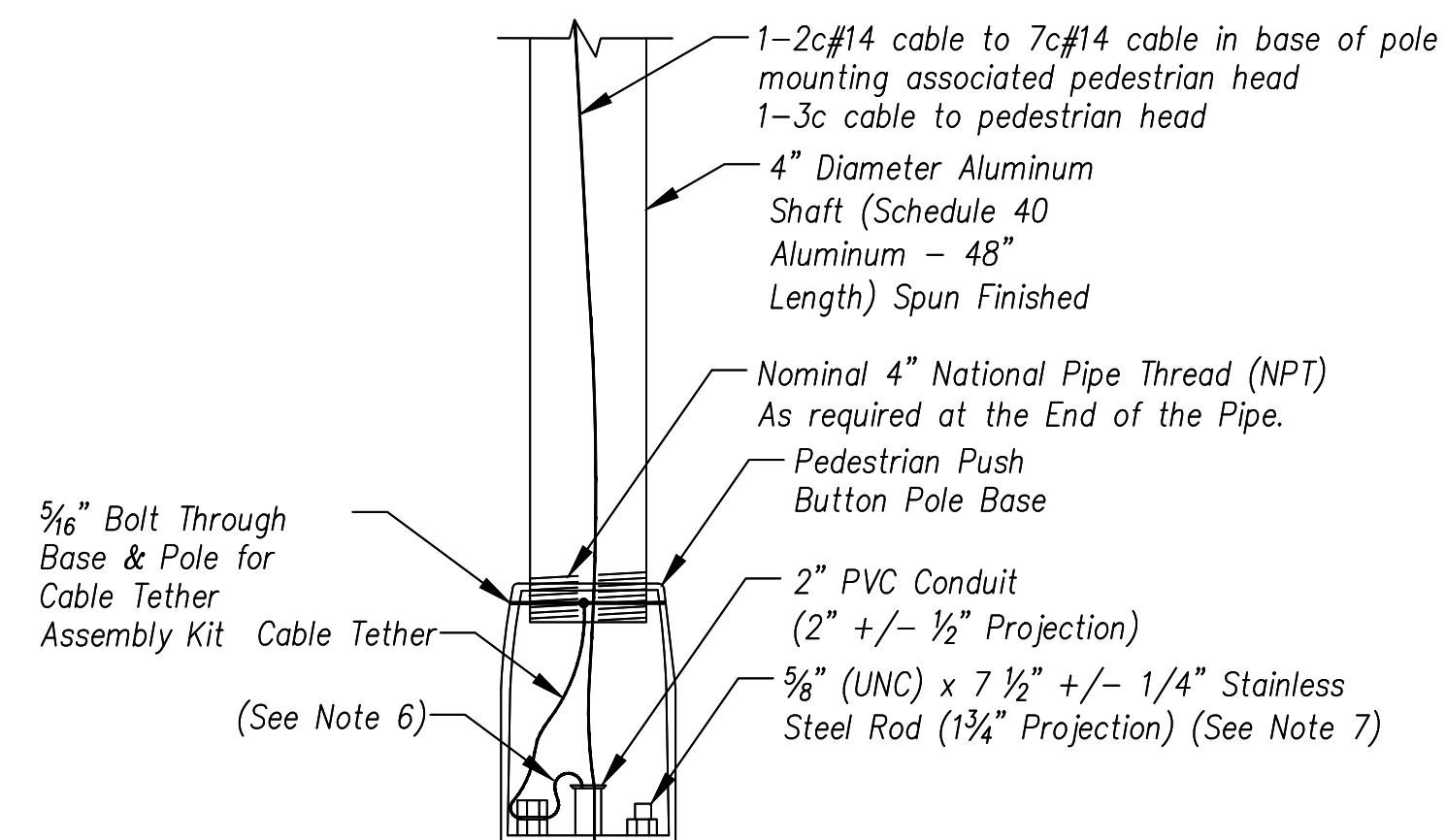
Traffic Signal Backplates



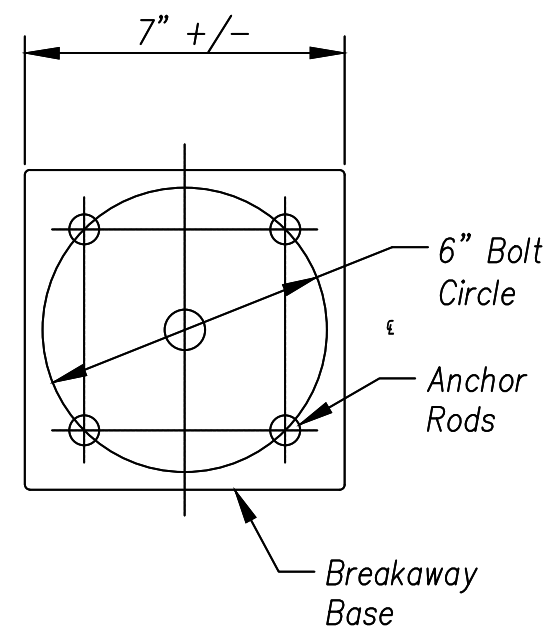
APS Detail



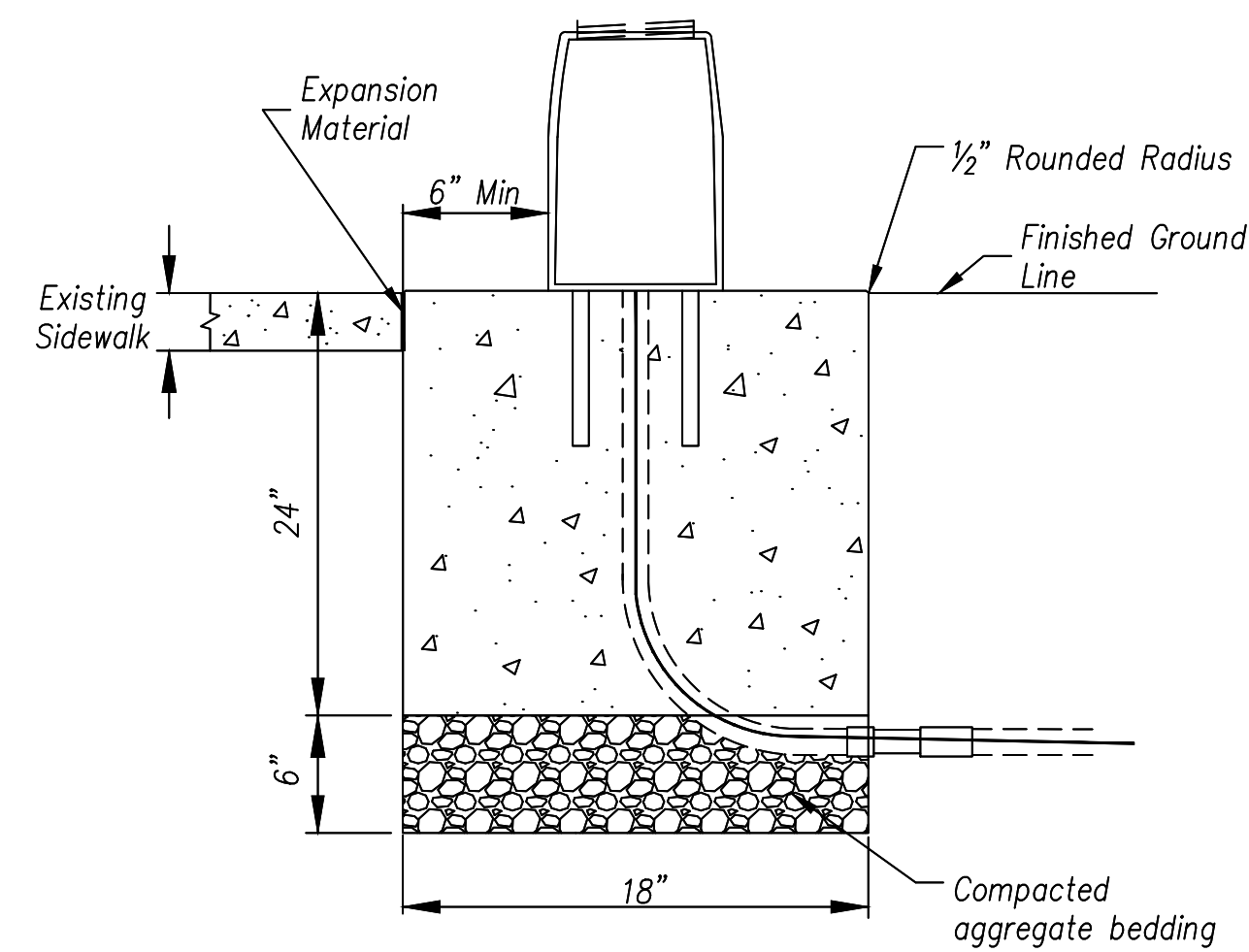
Standard Pushbutton Detail



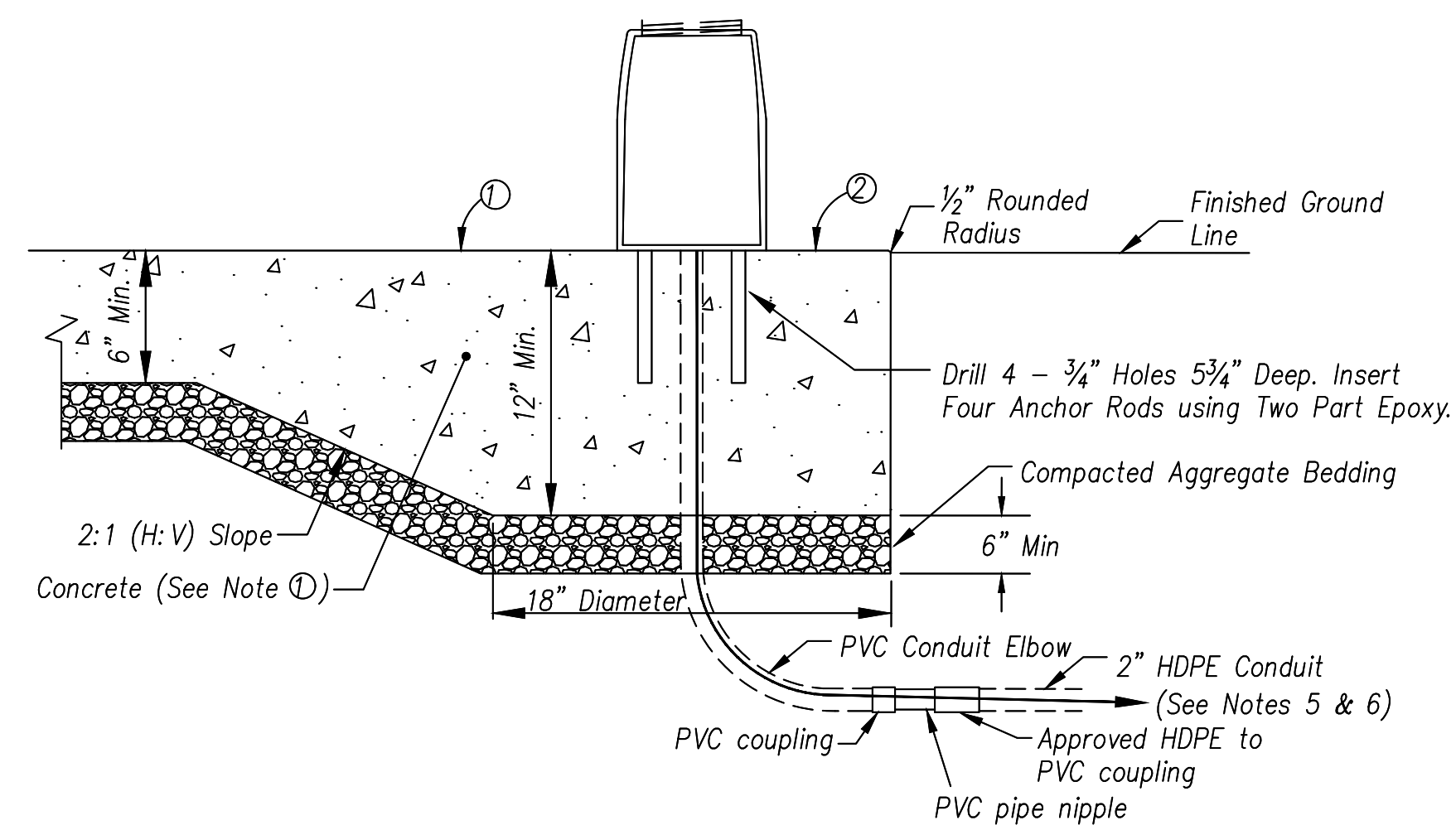
Anchor Bolt Placement



Breakaway Base

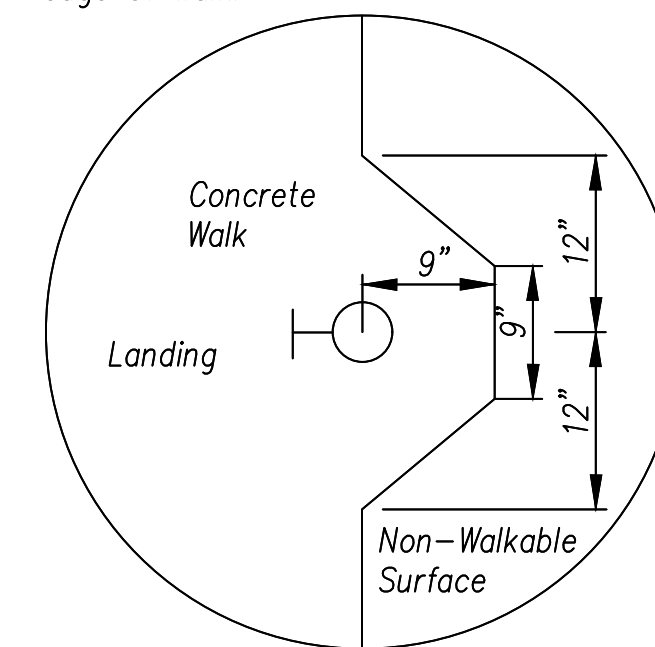


Stand Alone Installation



Monolithic Sidewalk Installation

Contractor must use this detail when the APS push button is shown at the edge of walk.



For Monolithic Installation Only

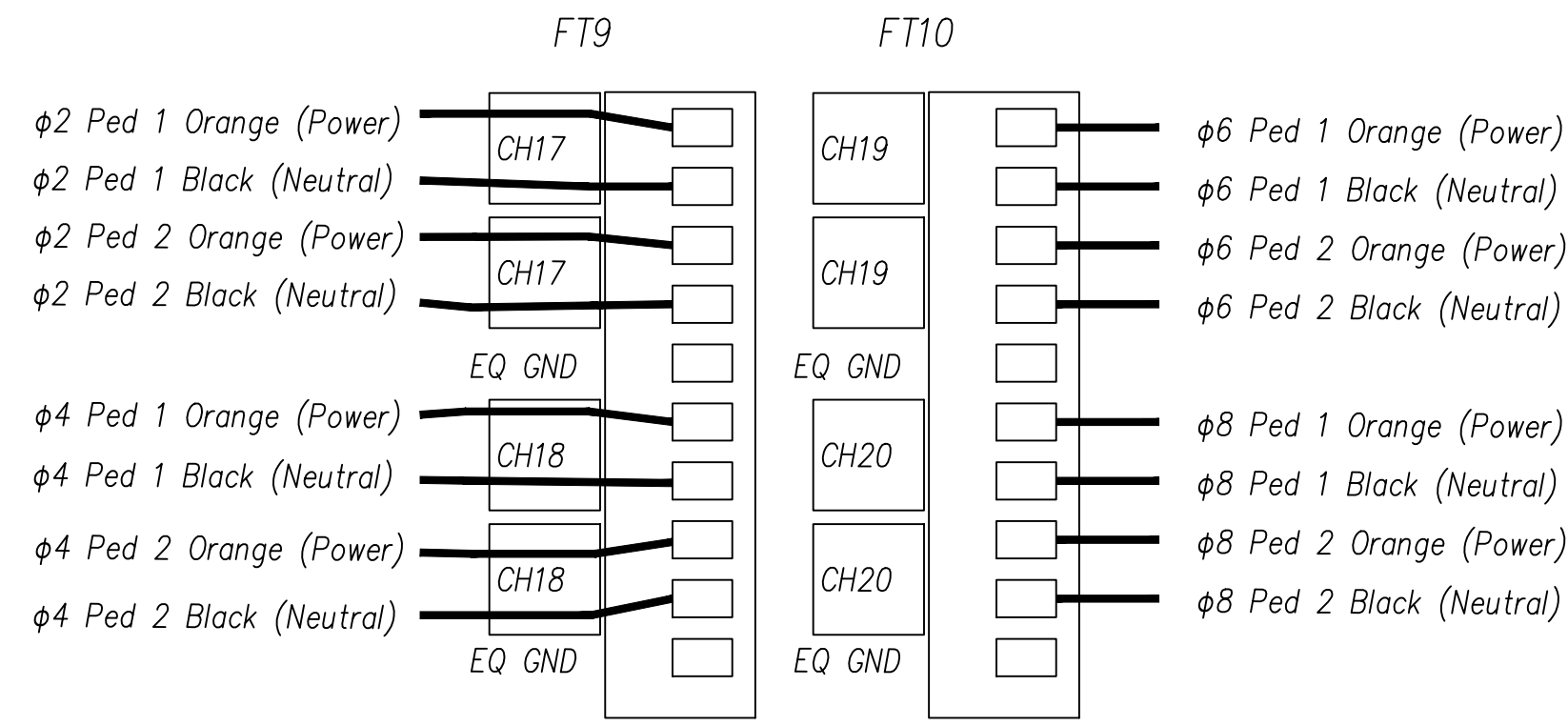
- ① The push button station foundation is monolithic (poured at one time) with the sidewalk. Provide a 2:1 (H:V) slope grade where the 6" min sidewalk depth transitions to the 12" min foundation depth. Maintain the compacted aggregate bedding and thickness used for the sidewalk throughout the slope and foundation grading. Provide 2:1 (H:V) slope grading 360 degrees for the transition from the sidewalk to the foundation when the foundation is not located near the edge of sidewalk and is surrounded by concrete walk.
- ② Ensure concrete control joints and edge of concrete walk are a minimum 9" from the center of the push button foundation.

Pushbutton Pole Notes:

1. Screw the pole shaft tightly into the base before mounting pushbutton unit to the shaft.
2. Orient access opening on the breakaway pedestal directly below the pushbutton.
3. Plumb the push button station with stainless steel washers.
4. Install reflective sheeting on pole shaft above and below pushbutton. Use white at intersection corners and yellow in center medians.
5. Install 1-2c #14 AWG cable from the pedestrian pushbutton through the nearest service box and then to the base of the signal pole containing the associated pedestrian signal head. Splice the 7c #14 AWG for the corresponding signal head to the 1-2c #14 AWG cable from the pedestrian pushbutton in the base of the signal pole.
6. Install a 1c #10 AWG stranded ground cable from anchor rods to the ground rod at the nearest service box.
7. Use one 8 1/2" stainless steel rod with a 2 3/4" bolt projection for the rod with the double nut and tether cable connection.

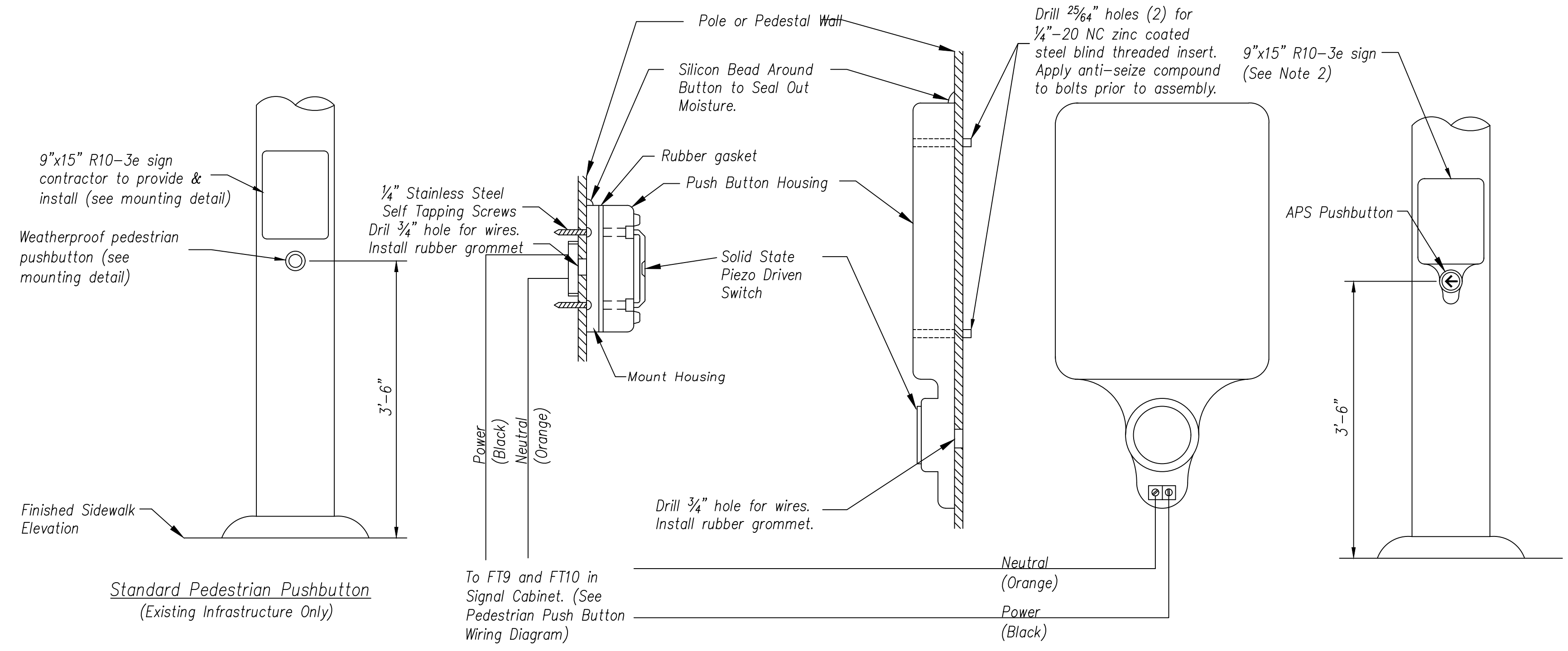
Pushbutton Pole Foundation Notes:

1. All concrete used in this work shall meet the requirements of the Overland Park Municipal Code and shall be KCMMB ($f_c = 4,000$ psi).
2. Install the concrete pad as level as possible to minimize leveling washers.
3. An 18" diameter x 6" deep fiber forming tube may be used for the lower half of the foundation with conditions that do not allow for the hole to stand open.



Pedestrian Pushbutton Wiring Diagram

FT9 and FT10 on the Field Input Terminal Assembly in the back of the signal cabinet



Standard Pedestrian Pushbutton
(Existing Infrastructure Only)

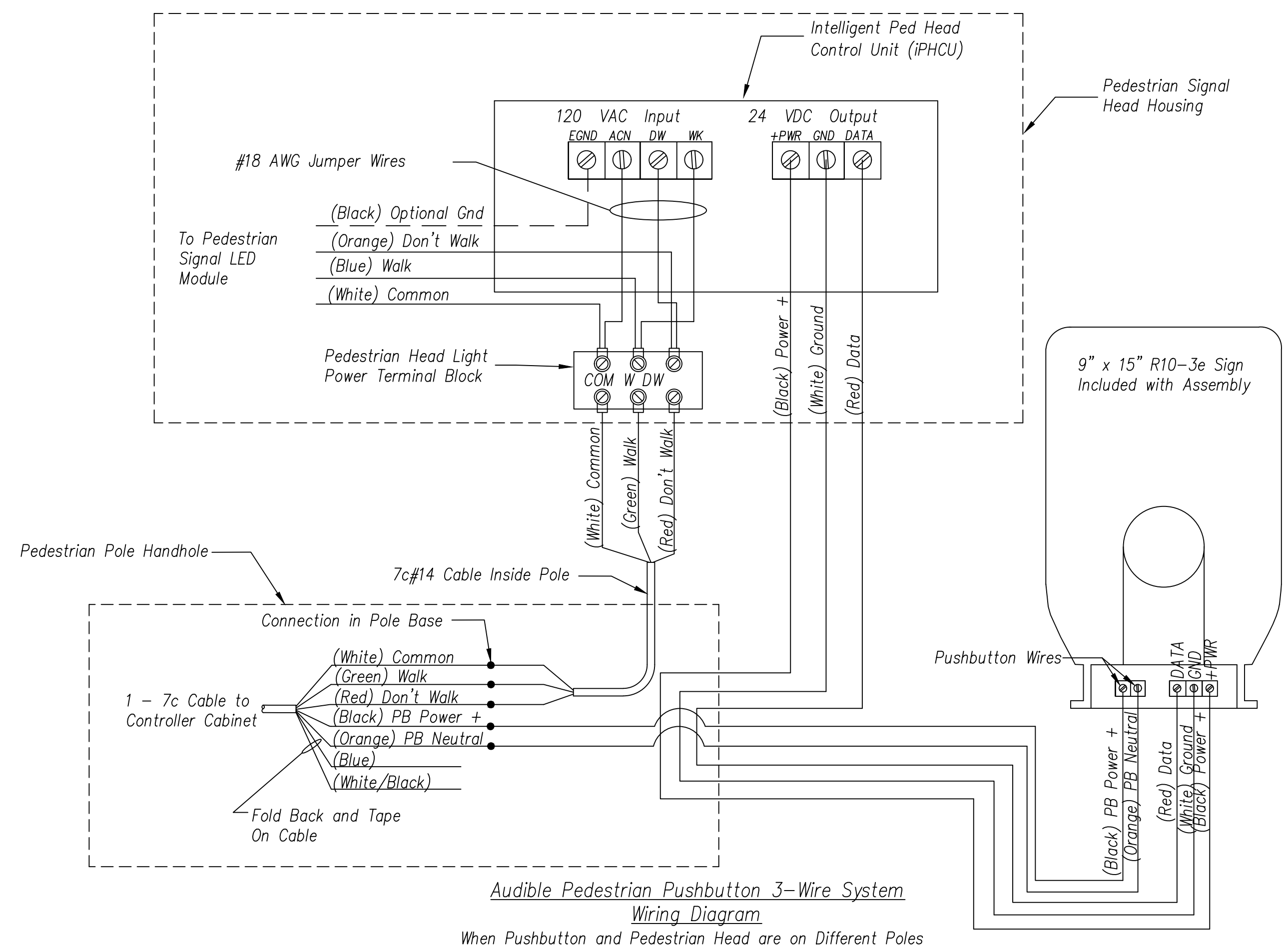
Pushbutton Mount Details

Audible Pushbutton Mount Details

Notes:

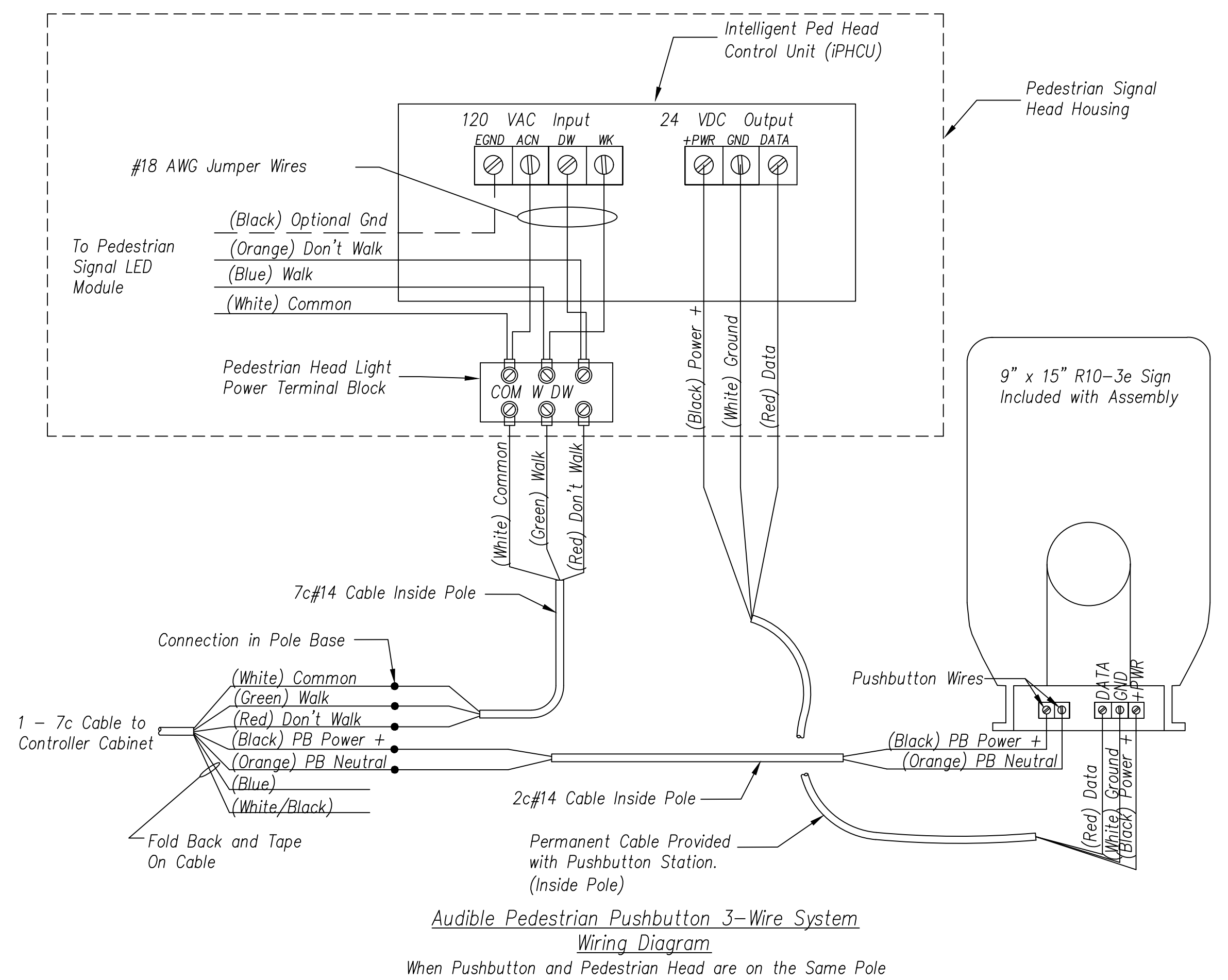
1. Placement and orientation of the pushbutton station is critical. Mount the button so that the face is parallel with the associated crosswalk. Pedestrian pushbuttons to be located in the field by the engineer.
2. Maintain a 10" maximum reach from an accessible sidewalk to the pedestrian pushbutton. Mounting extension brackets are available if a 10" maximum reach from an accessible sidewalk cannot be achieved.
3. Include a 9"x15" R10-3e sign with each standard pedestrian pushbutton.

January 22, 2025 - 2:30 PM npsescu@ci
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Audible Pedestrian Pushbutton 3-Wire System
Wiring Diagram

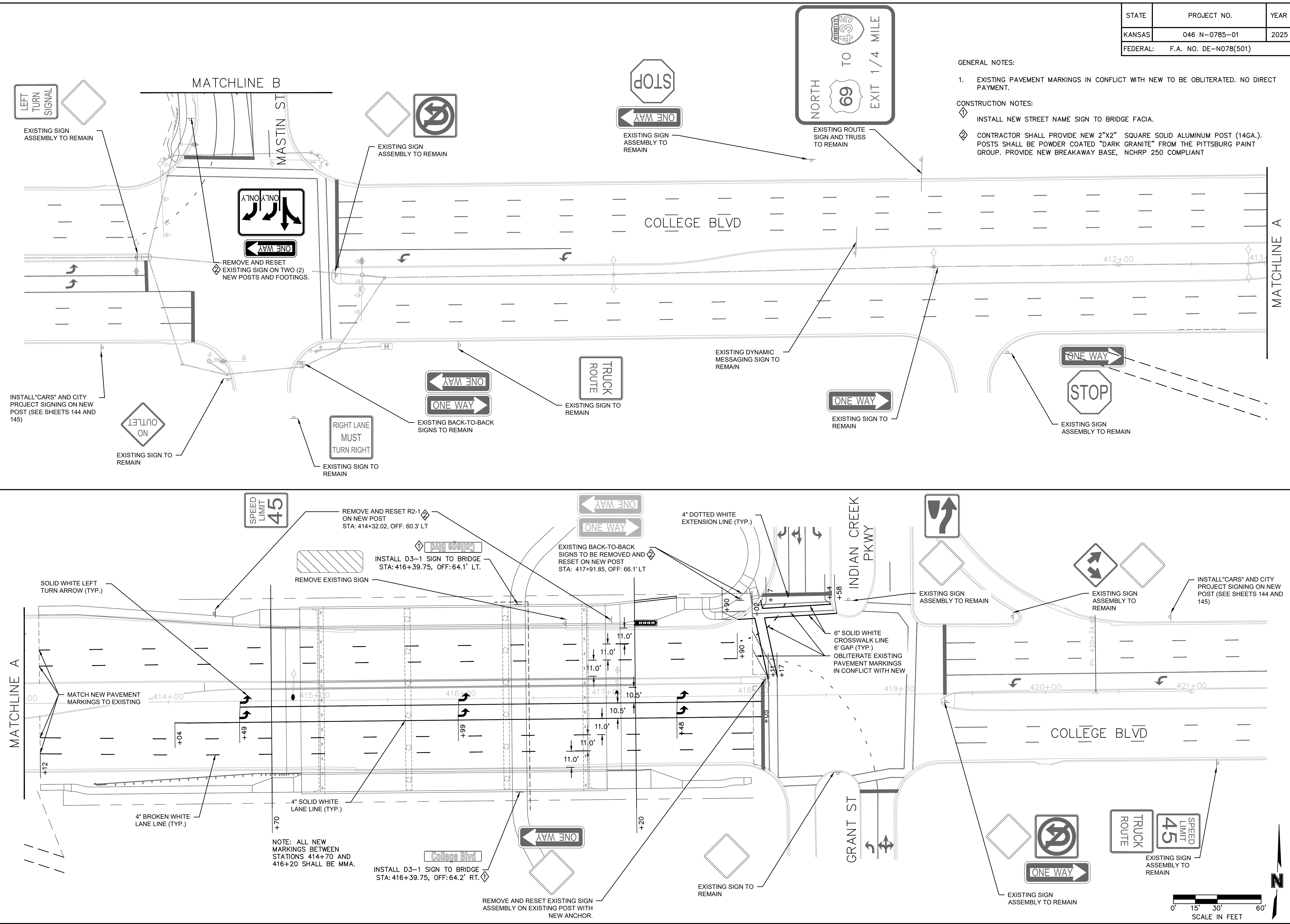
When Pushbutton and Pedestrian Head are on Different Poles



Audible Pedestrian Pushbutton 3-Wire System
Wiring Diagram

When Pushbutton and Pedestrian Head are on the Same Pole

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 USER: mwelch



STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025
FEDERAL:	F.A. NO. DE-N078(501)	

- GENERAL NOTES:
- EXISTING PAVEMENT MARKINGS IN CONFLICT WITH NEW TO BE OBLITERATED. NO DIRECT PAYMENT.
- CONSTRUCTION NOTES:
- INSTALL NEW STREET NAME SIGN TO BRIDGE FACIA.
 - CONTRACTOR SHALL PROVIDE NEW 2"x2" SQUARE SOLID ALUMINUM POST (14GA.). POSTS SHALL BE POWDER COATED "DARK GRANITE" FROM THE PITTSBURG PAINT GROUP. PROVIDE NEW BREAKAWAY BASE, NCHRP 250 COMPLIANT

olsson

7301 West 133rd Street, Suite 200
 Overland Park, KS 66213-4750
 TEL 913.381.1170
 www.olsson.com

FINAL PLANS
 NOT FOR CONSTRUCTION

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

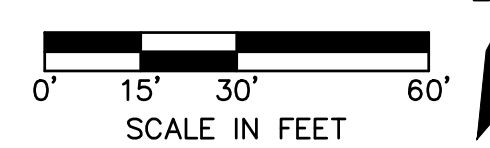
PAVEMENT MARKING AND SIGNING

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

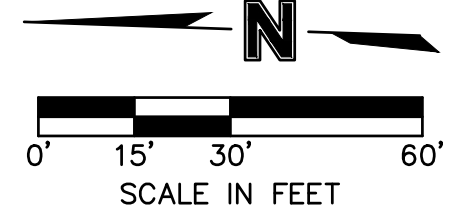
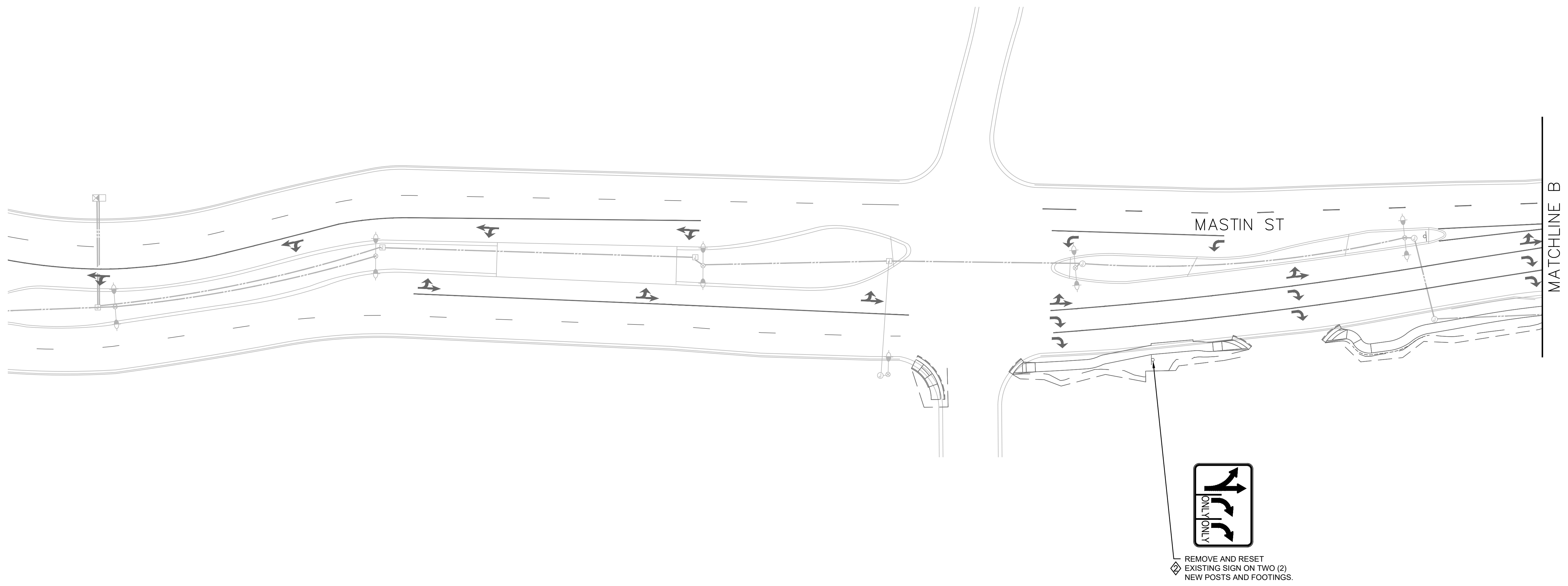
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 checked by: JSC
 approved by: JSS
 QA/QC by: JSS
 project no.: 022-06529
 drawing no.: F S A S 02206529
 date: 2/2/2025



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 USER: mwelch
 141236-PBASE-TRNS

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025
FEDERAL:	F.A. NO. DE-N078(501)	

- GENERAL NOTES:
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FINAL PLANS
NOT FOR CONSTRUCTION

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PAVEMENT MARKINGS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

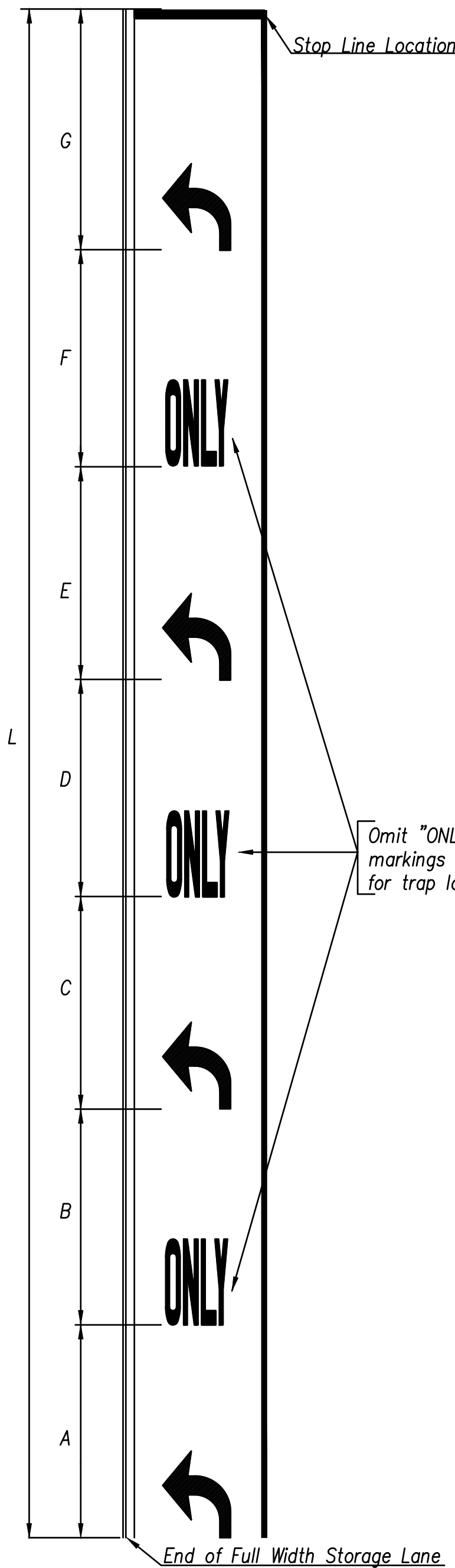
2025

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checked by:	JSC
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drawing no.:	F SAS 02206529
date:	2/2/2025

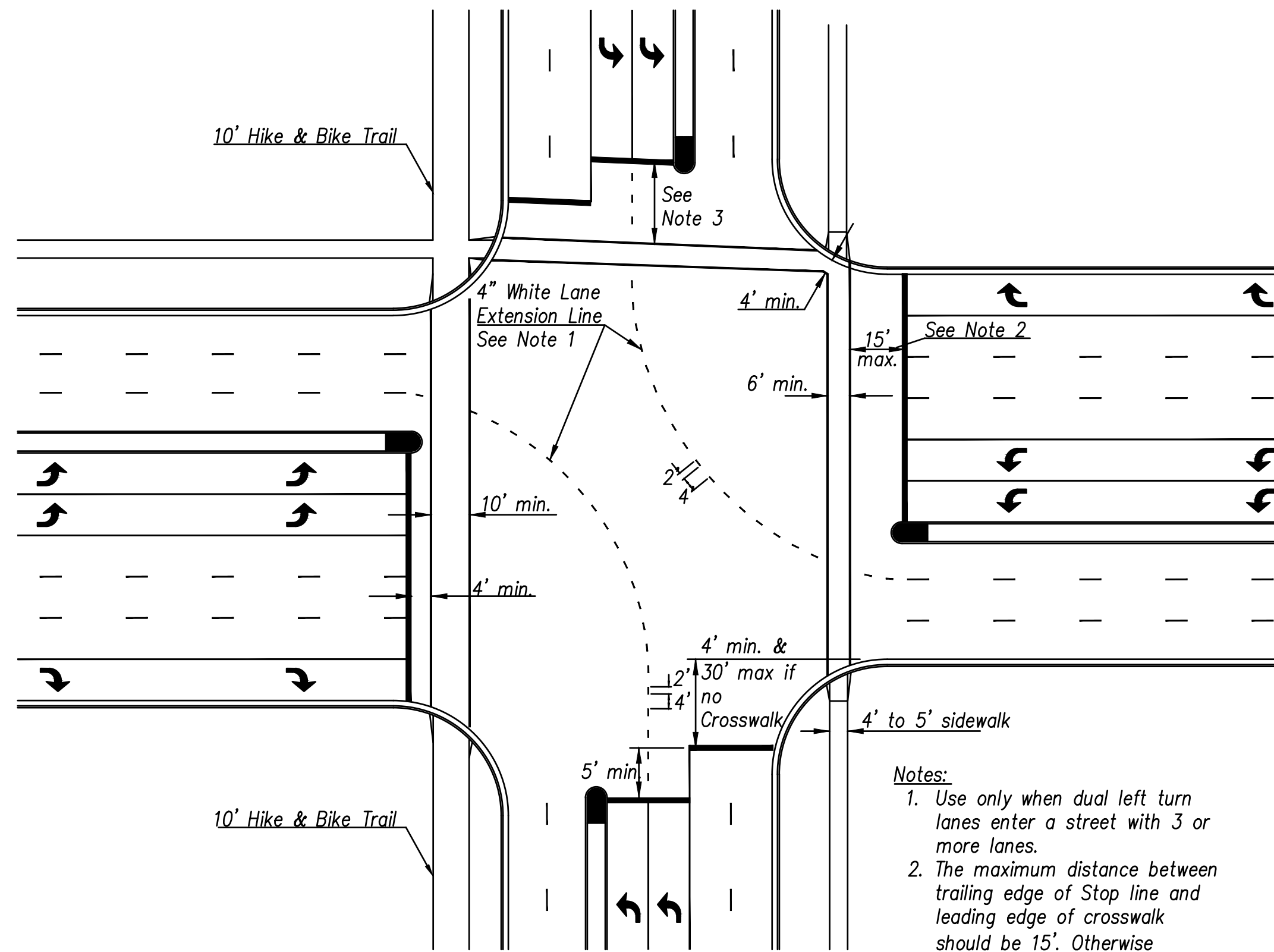
SHEET
136 of 189

L	A	B	C	D	E	F	G
<80'	One Arrow						
81'-100'	30'	30'	21'-40'				
101'-120'	40'	40'	21'-40'				
121'-140'	45'	45'	31'-50'				
141'-160'	55'	55'	31'-50'				
161'-180'	65'	65'	31'-50'				
181'-200'	75'	75'	31'-50'				
201'-220'	80'	80'	41'-60'				
221'-240'	45'	45'	45'	45'	41'-60'		
241'-260'	50'	50'	50'	50'	41'-60'		
261'-280'	55'	55'	55'	55'	41'-60'		
281'-300'	60'	60'	60'	60'	41'-60'		
301'-320'	65'	65'	65'	65'	41'-60'		
321'-340'	70'	70'	70'	70'	41'-60'		
341'-360'	75'	75'	75'	75'	41'-60'		
361'-380'	80'	80'	80'	80'	41'-60'		
381'-400'	55'	55'	55'	55'	55'	51'-70'	
401'-420'	60'	60'	60'	60'	60'	41'-60'	
421'-440'	65'	65'	65'	65'	65'	31'-50'	
441'-460'	65'	65'	65'	65'	65'	51'-70'	
461'-480'	70'	70'	70'	70'	70'	41'-60'	
481'-500'	75'	75'	75'	75'	75'	31'-50'	
>500'	80'	80'	80'	80'	80'	Varies	

Turn Lane Word and Symbol Spacing Schedule

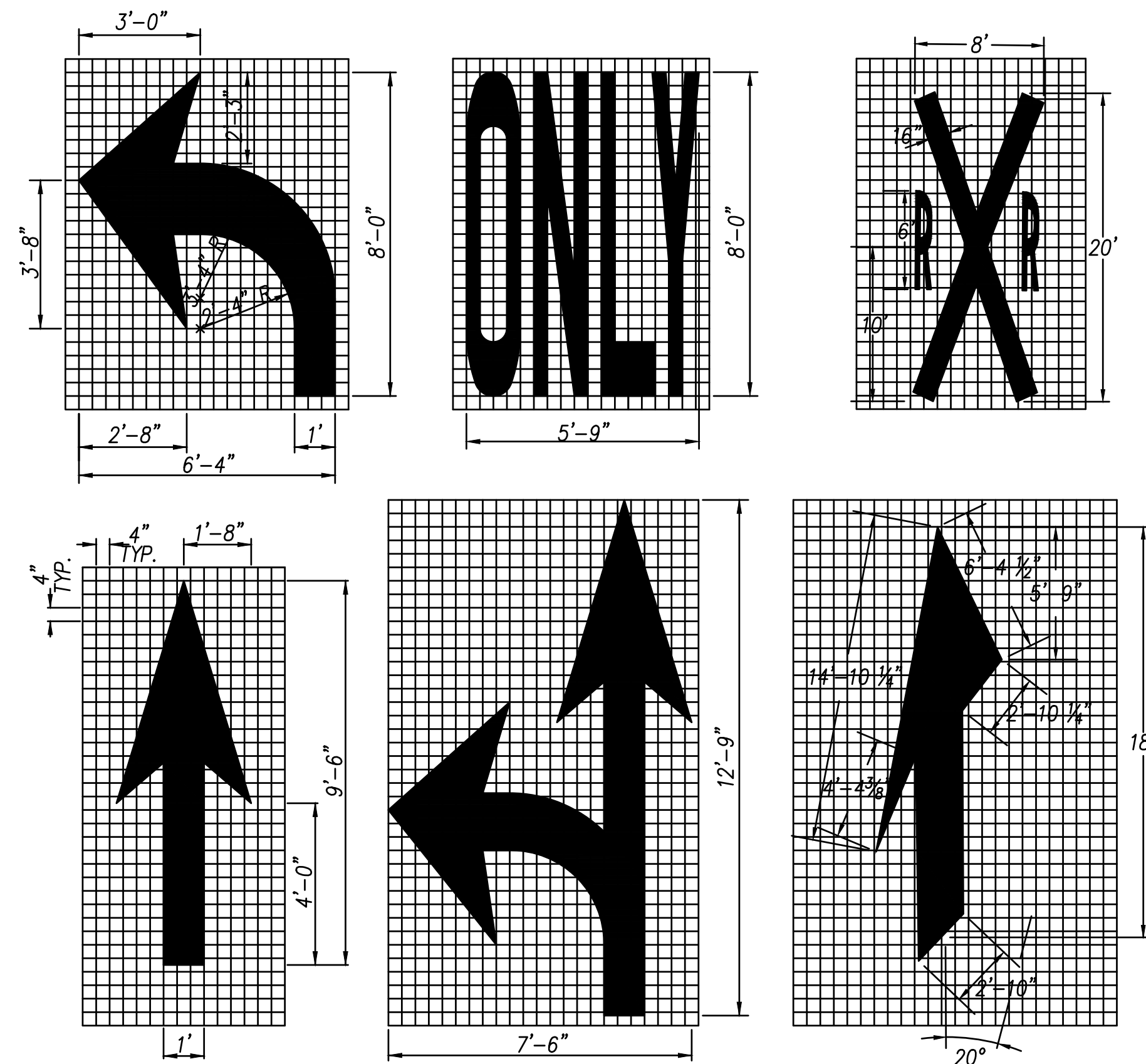


Omit "ONLY" markings except for trap lanes.



Typical Crosswalk and Left Turn Extension Line Markings

- Notes:
1. Use only when dual left turn lanes enter a street with 3 or more lanes.
 2. The maximum distance between trailing edge of Stop line and leading edge of crosswalk should be 15'. Otherwise consider staggering Stop line.
 3. Locate Stop line for left turn at median nose. If greater than 15' from the crosswalk, consider staggering the stop line for the through lanes.

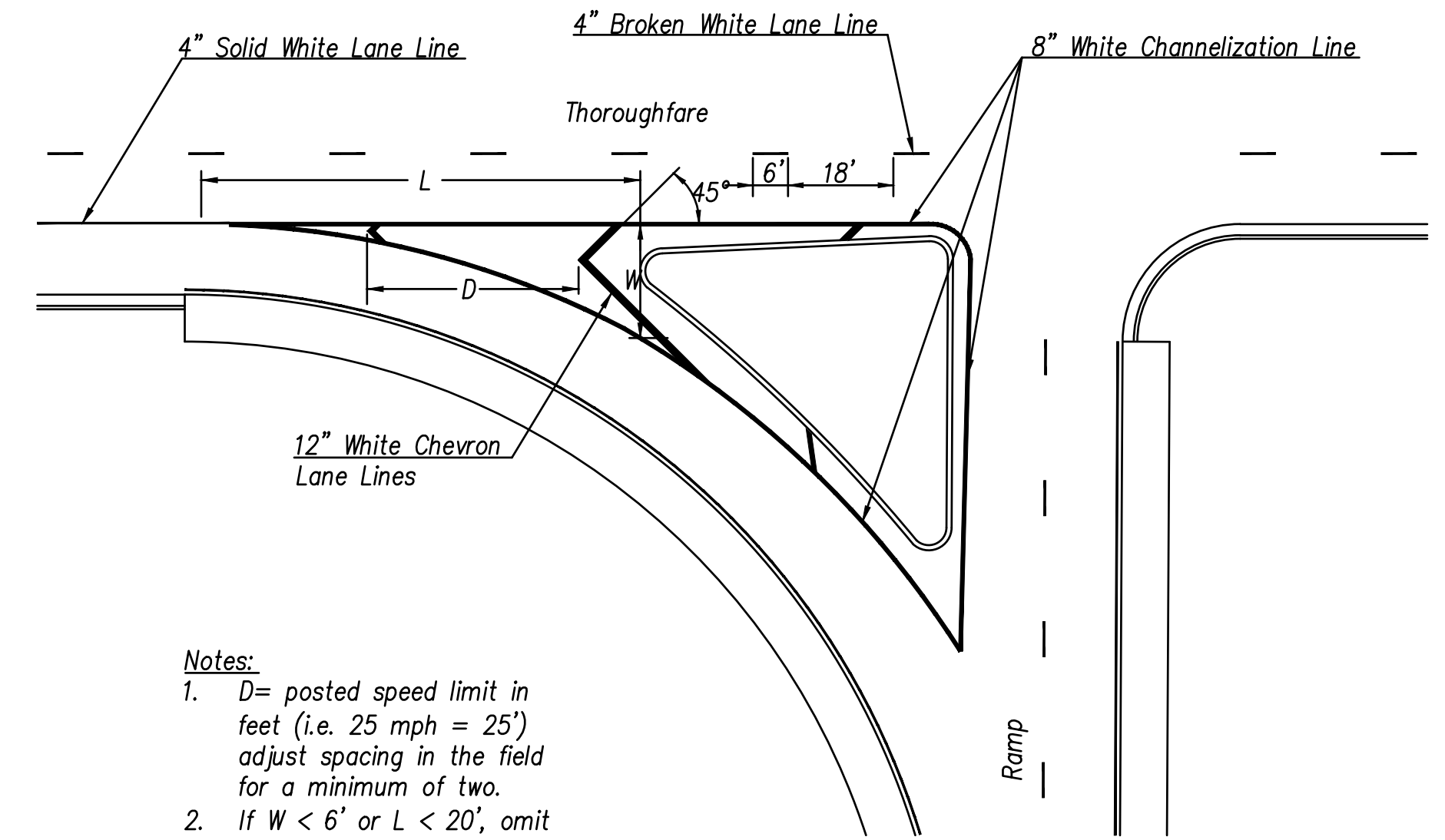


Word and Symbol Details

- Notes:
1. Word & symbol markings shall be white.
 2. Right Turn and Combination Right Turn/Straight arrows are reverse of arrows shown.

Pavement Marking General Notes

1. All permanent pavement markings shall be provided and installed by the contractor as indicated in the plans or as directed by the City Inspector. See the Pavement Marking Material Matrix and the Bill of Materials for the type of material required for this specific project.
2. Pavement markings on concrete, asphalt, chip seal or UBAS shall be per the specifications, unless otherwise indicated on the plans or directed by the City Inspector.
3. Crosswalk lines shall be installed such that the minimum distance between the inside edges of the line is 6' for standard crosswalks
4. Crosswalk lines shall be installed such that the distance between the inside edges of the line is 10' for bike path crossings and shall be installed for all instances where the bike path crosses a roadway.
5. Crosswalk lines shall be installed such that the distance between the inside edges of the line is 8' for mid-block crosswalk installs and the posted speed limit is 40 m.p.h. for greater.
6. Stop lines shall be installed such that the minimum distance between the trailing edge of the stop line and the leading edge of the first crosswalk line is 4 feet.
7. 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 and conditions of the surface have been approved by the City Inspector
8. Continental crosswalk lines, may be installed at locations that require higher visibility for pedestrians, as indicated in the plans. See details for guidelines.
9. For new traffic signal construction, stop bars for uncontrolled legs shall be marked after the signal is turned on.



- Notes:
1. D= posted speed limit in feet (i.e. 25 mph = 25') adjust spacing in the field for a minimum of two.
 2. If W < 6' or L < 20', omit chevron markings.

Typical Interstate Ramp Entrance Markings

Pavement Marking Material Matrix					
Permanent Markings	Pavement Type				
	Asphalt	UBAS	Chip Seal	Concrete	Bridge Decks w/ Polymer Overlays
Words & Symbols	PTP	PTP	PCP ³	PCP ²	MMA
Int'l Symbol of Accessibility	PTP	PTP	-	PTP ³	MMA
Transverse Lines	TP ¹	TP ¹	PCP ³	PCP MMA	MMA
Longitudinal Lines	TP	TP	UA	MMA	MMA
Temporary Markings	Pavement Type				
	Asphalt	UBAS	Chip Seal	Concrete	Bridge Decks w/ Polymer Overlays
Words & Symbols	CP P ⁴	CP P ⁴	-	CP P	-
Int'l Symbol of Accessibility	CP P ⁴	CP P ⁴	-	CP P	-
Transverse Lines	CP P ⁴	CP P ⁴	P ⁴	CP P	-
Longitudinal Lines	CP P ⁴	CP P ⁴	TRPM ⁴ P ⁴	CP P	-

Pavement Marking Material Matrix Notes

1. Applies only to transverse lines that can be installed with one pass of the installation equipment, e.g. 24" stop lines, shall be pre-formed thermoplastic on asphalt or UBAS and inlaid patterned cold plastic on concrete.
2. All patterned cold plastic on concrete shall be inlaid with a primer per the specifications.
3. Markings so indicated shall be installed with a two-part primer.
4. Markings so indicated are acceptable on asphalt surfaces only when installed prior to the application of the final surface material.

Legend:

- TP - Thermoplastic
- PTP - Pre formed Thermoplastic
- PCP - Patterned Cold Plastic
- UA - Urethane Acrylate
- CP - Cold Plastic
- P - Paint
- MMA - Methyl Methacrylate
- TRPM - Temporary Raised Pavement Marker

Pavement Marking Summary - (Thermoplastic) or (Methyl Methacrylate)																			
Station to Station	Location	4" Solid White Lane Line (L.F.)	4" Broken White Lane Line (L.F.)	4" Double White Channelization Line (L.F.)	4" Solid White Edge Line (L.F.)	4" White Lane Extension Line (L.F.)	8" Solid White Lane Line (L.F.)	8" White Dotted Line (L.F.)	4" Broken Yellow Centerline (L.F.)	4" Solid Yellow Edge Line (L.F.)	4" Solid & Broken Yellow Line (L.F.)	4" Double Yellow Line (L.F.)	6" White Lane Extension Line (L.F.)	8" White Channelization Line (L.F.)	6" White Crosswalk Lines (L.F.)	12" Yellow Diagonal Line (L.F.)	12" White Lane Extension Line (L.F.)	12" White Chevron Line (L.F.)	12" White Stop Line (L.F.)
413+12	414+70 COLLEGE BLVD	87	632																
414+70	417+20 COLLEGE BLVD*	500	1,000																
417+20	418+58 COLLEGE BLVD	170	310			45									200				
Start to End Length		757	1,942			45									200				
Multiplier		1.00	0.25	2.00	1.00	0.33	1.00	0.25	0.25	1.00	1.25	2.00	1.00	1.00	1.00	1.00	0.50	1.00	1.00
Total Material Quantity		757	486			15									200				

*MMA

Pavement Marking Bid Items		
Description	Unit	Quantity
4" White (TP)	L.F.	508
4" White (MMA)	L.F.	750
6" White (TP)	L.F.	200
White Turn Arrow (PTP)	Each	4
White Turn Arrow (MMA)	Each	2

Pavement Marking Summary - (Pre-formed Thermoplastic)																			
Station to Station	Location	24" White Stop Line (LF)	24" White Crosswalk Line (LF)	White Turn Arrow (EA)		White THRU Arrow (EA)	White MERGE Arrow (EA)	White THRU & RT,LT Turn Arrow (EA)		White "ONE" Marking (EA)	24"x36" White Yield Line (EA)	12"x18" White Yield Line (EA)	Blue & White ISA Symbol (EA)	White Railroad Crossing Symbol (EA)	White Bike Symbol (EA)	White Bike Sharrow (EA)	White Bike Lane Arrow (EA)	Speed Hump & Approach Markings (EA)	
				RT	LT			THRU/RT	THRU/LT										
414+49	COLLEGE BLVD																		
415+99	COLLEGE BLVD*																		
417+48	COLLEGE BLVD																		
Start to End Length																			
Multiplier		1.00	1.00																
Total Material Quantity						6													

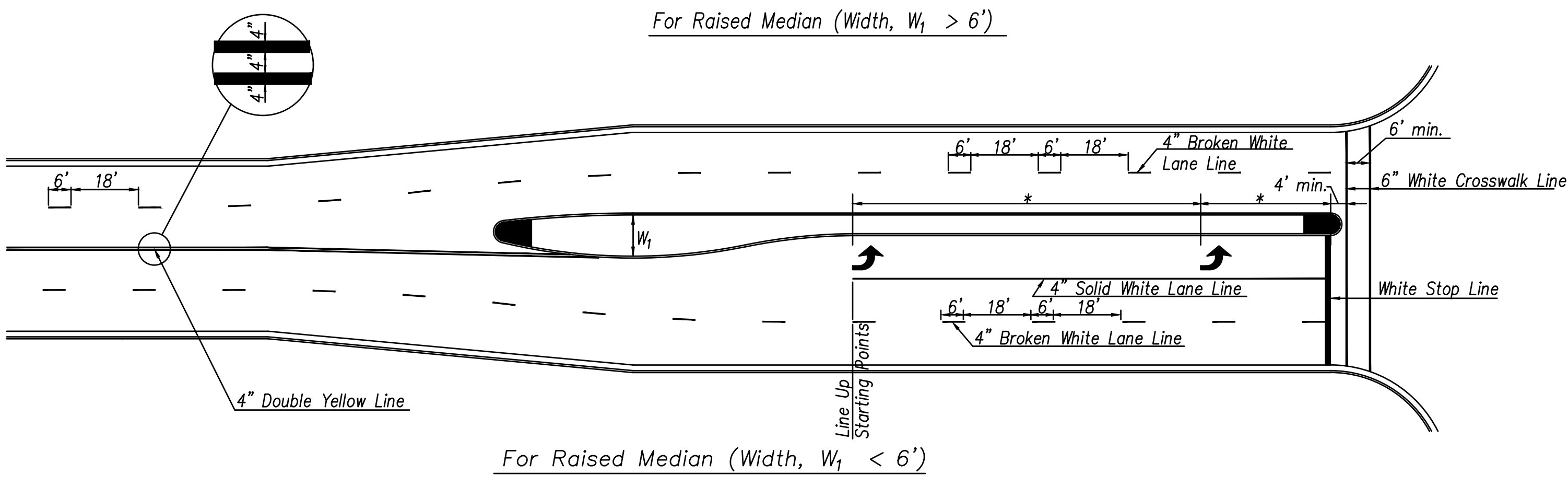
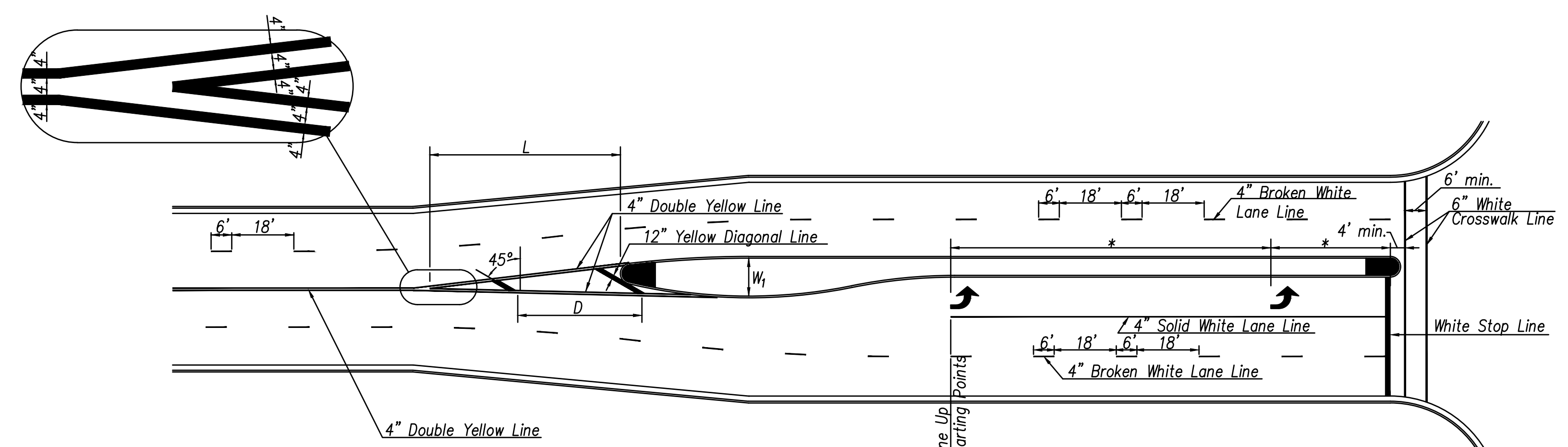
*MMA

Notes:
 These approximate quantities were prepared solely for the contractors convenience as a means of setting forth major items and is not guaranteed to be a complete nor accurate list of all items necessary to complete this work. Other items required for a complete installation, as shown or described shall be included in the prices as bid.

* ISA = International Symbol of Accessibility

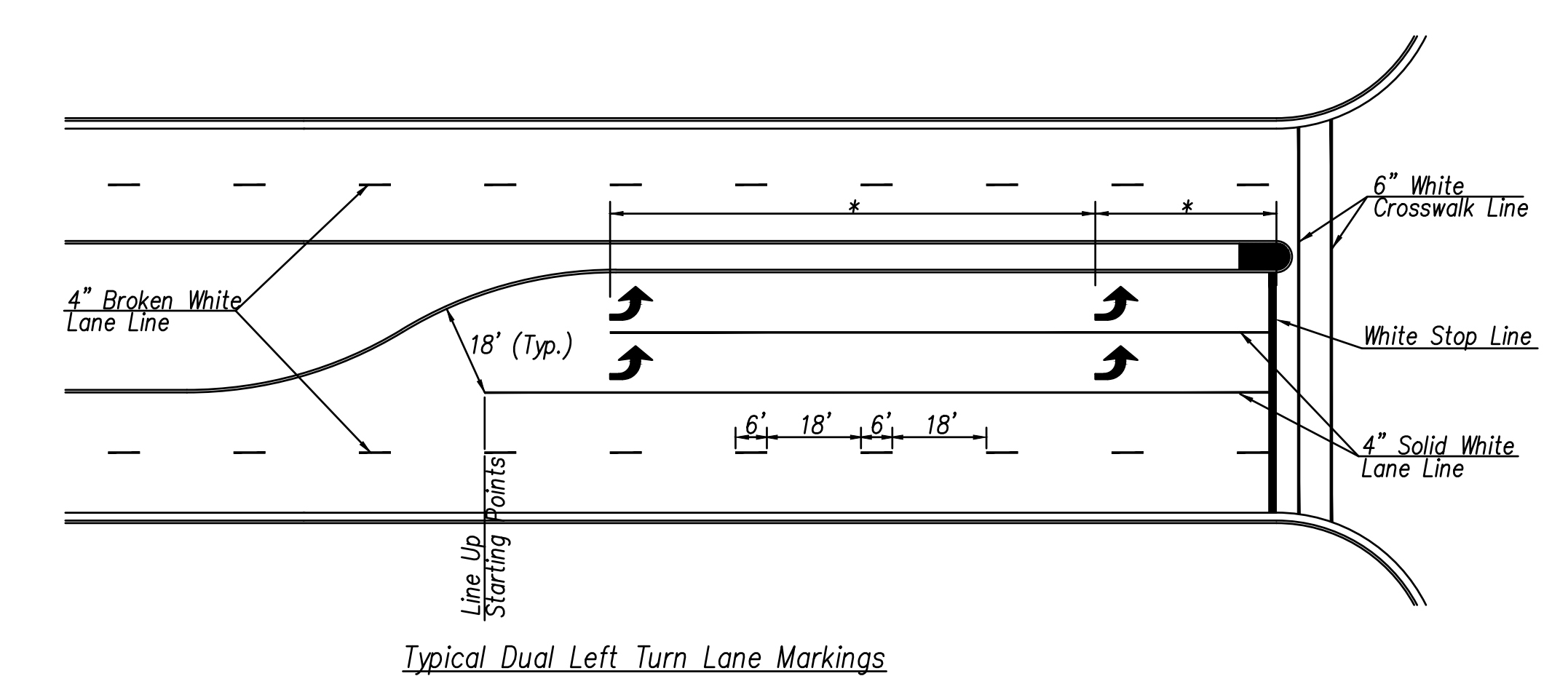
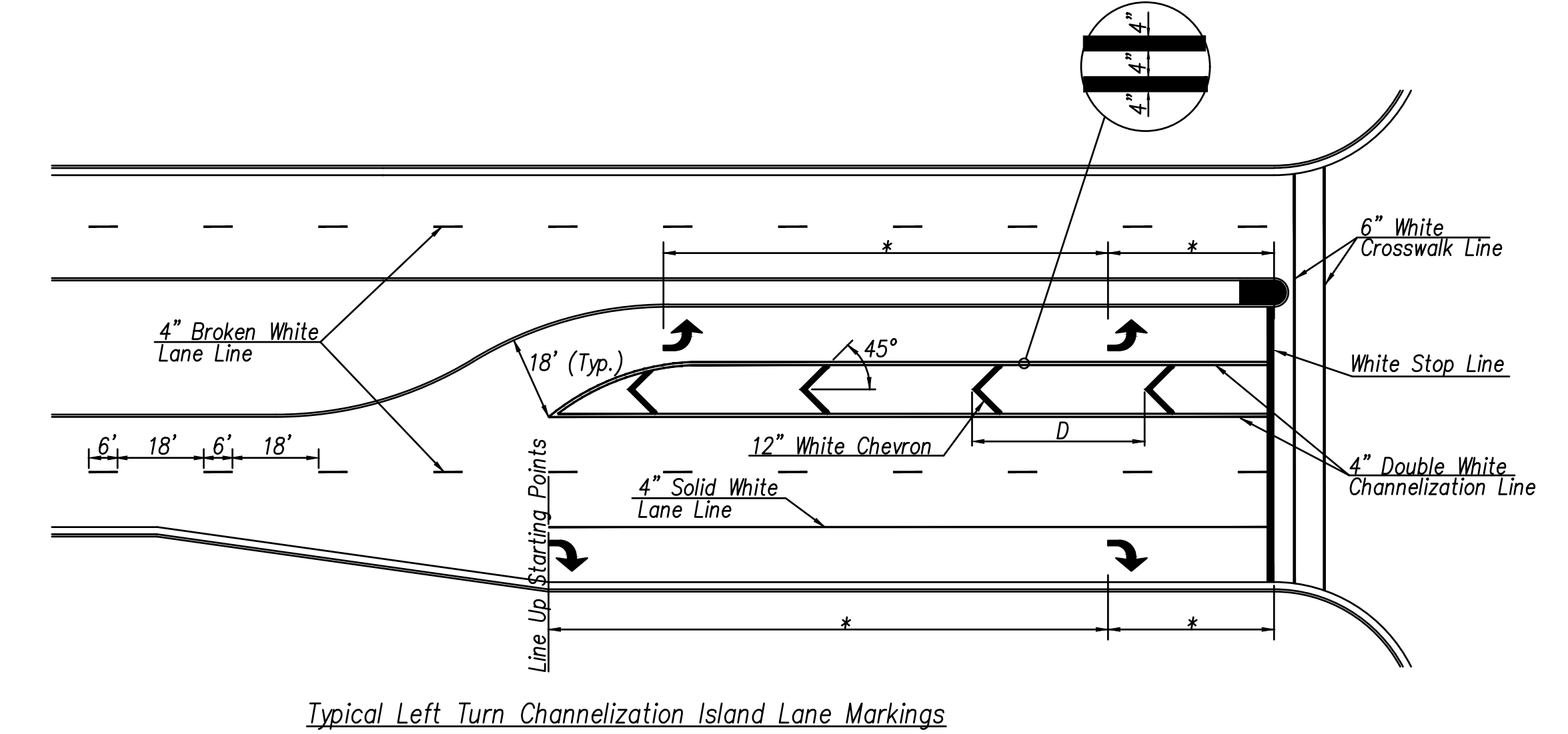
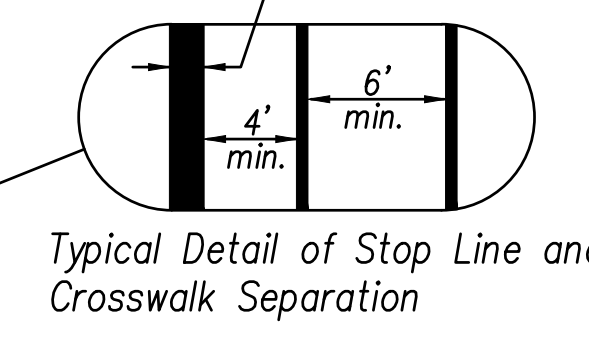
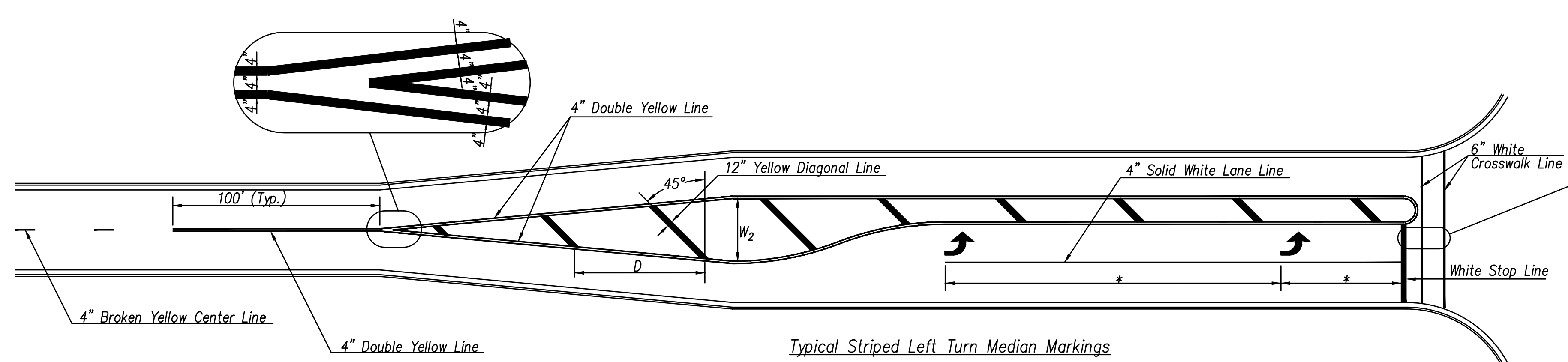
- Legend**
- TP - Thermoplastic
 - PTP - Pre-formed Thermoplastic
 - PCP - Patterned Cold Plastic
 - UA - Urethane Acrylate
 - P - Paint
 - CP - Cold Plastic
 - MMA - Methyl Methacrylate

JLL	2024 Standard Details	06/07/2024	NO.	DATE
BY	REVISIONS			



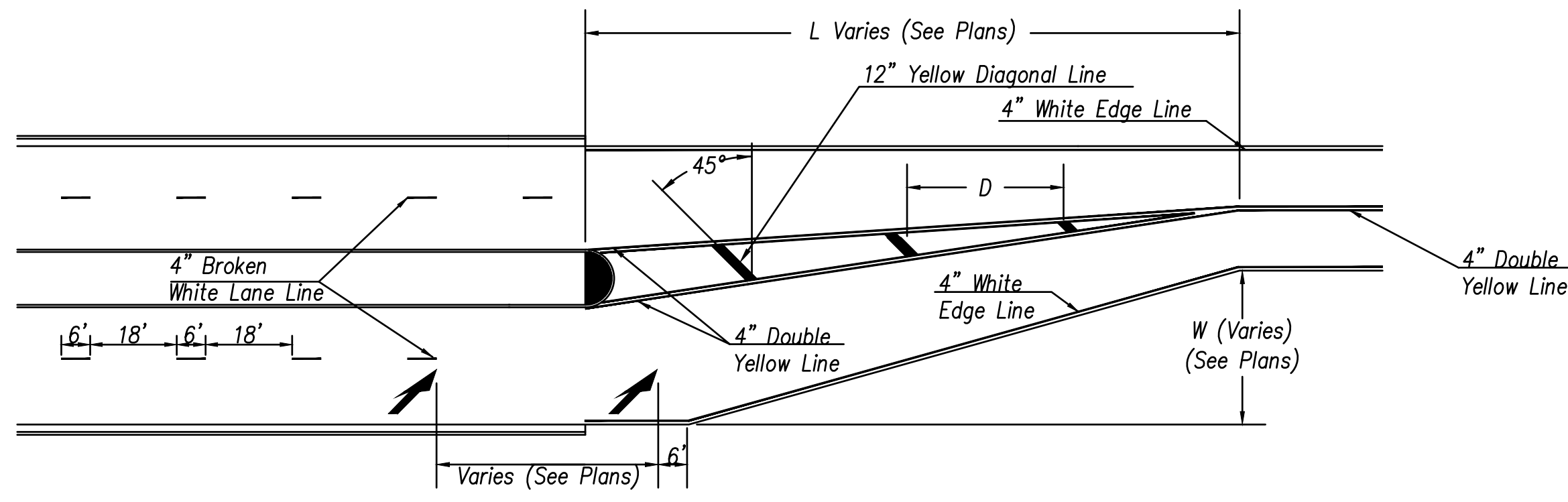
- Notes:
- * Variable, see spacing schedule and/or plans for location.
 - D = posted speed limit in feet (i.e. 25mph = 25' spacing) adjust in the field for a minimum of two.
 - If $W_2 < 4'$ or $L < 20'$, omit diagonal lines

- Stop Line Width (When Used):
- 12" will be used at a location where a 30" Stop sign is required.
 - 24" will be used at a location where a 36" Stop sign is required.
 - 24" will be used at all controlled approaches to a traffic signal.

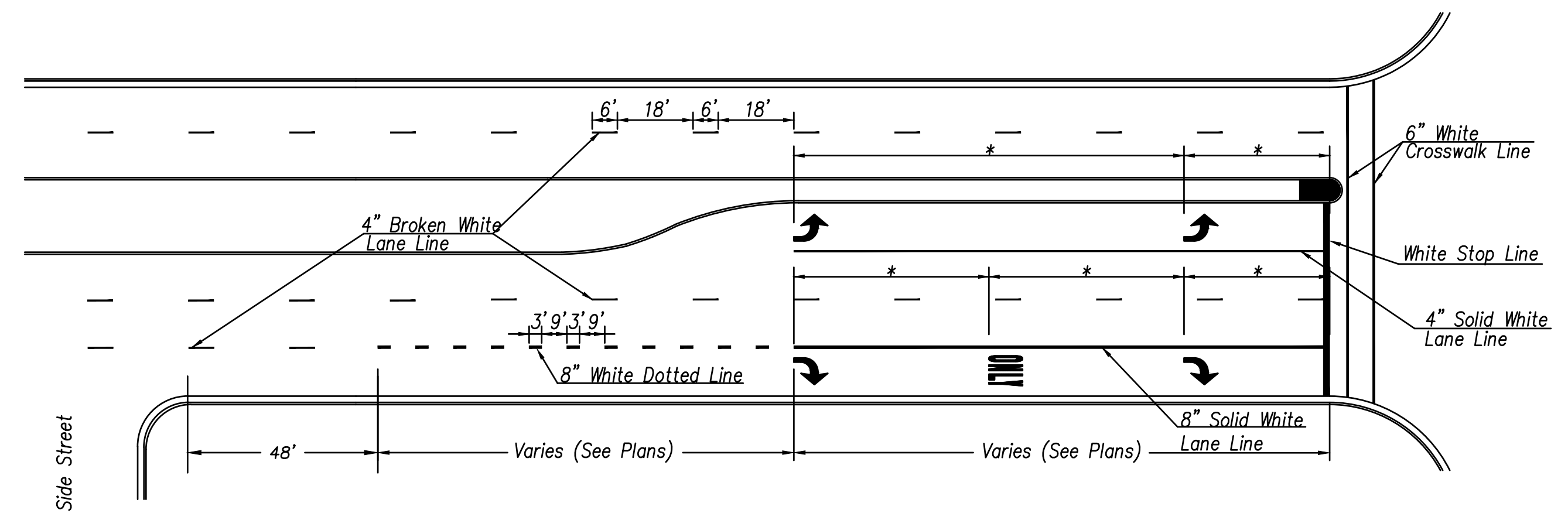


Typical Pavement Marking Details

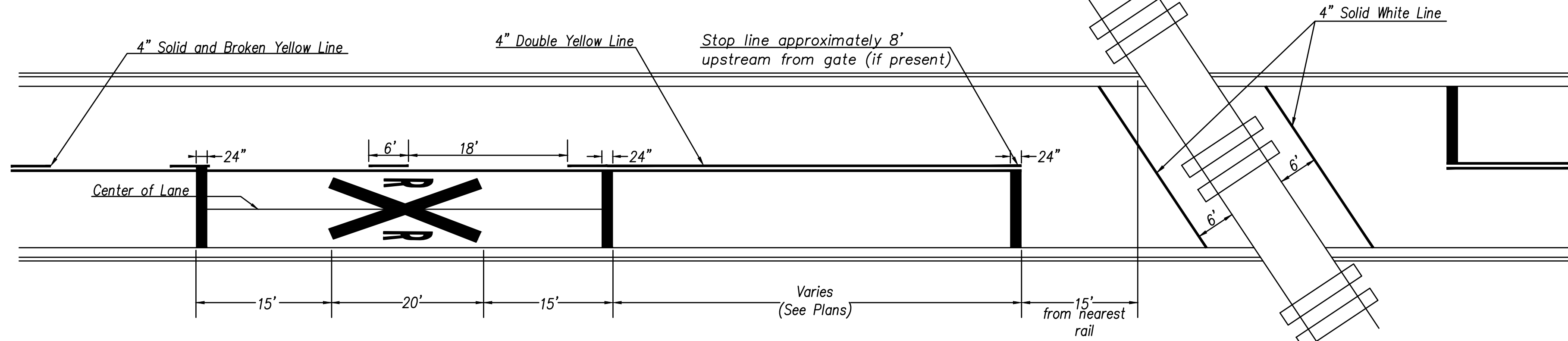
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Lane Reduction Transition Markings



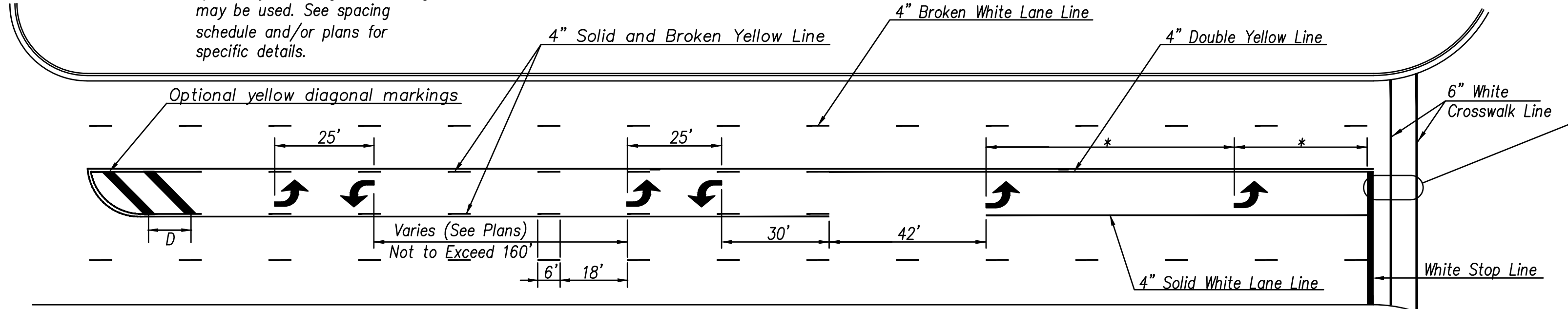
Trap Lane Drop Markings



Grade Crossing Pavement Markings

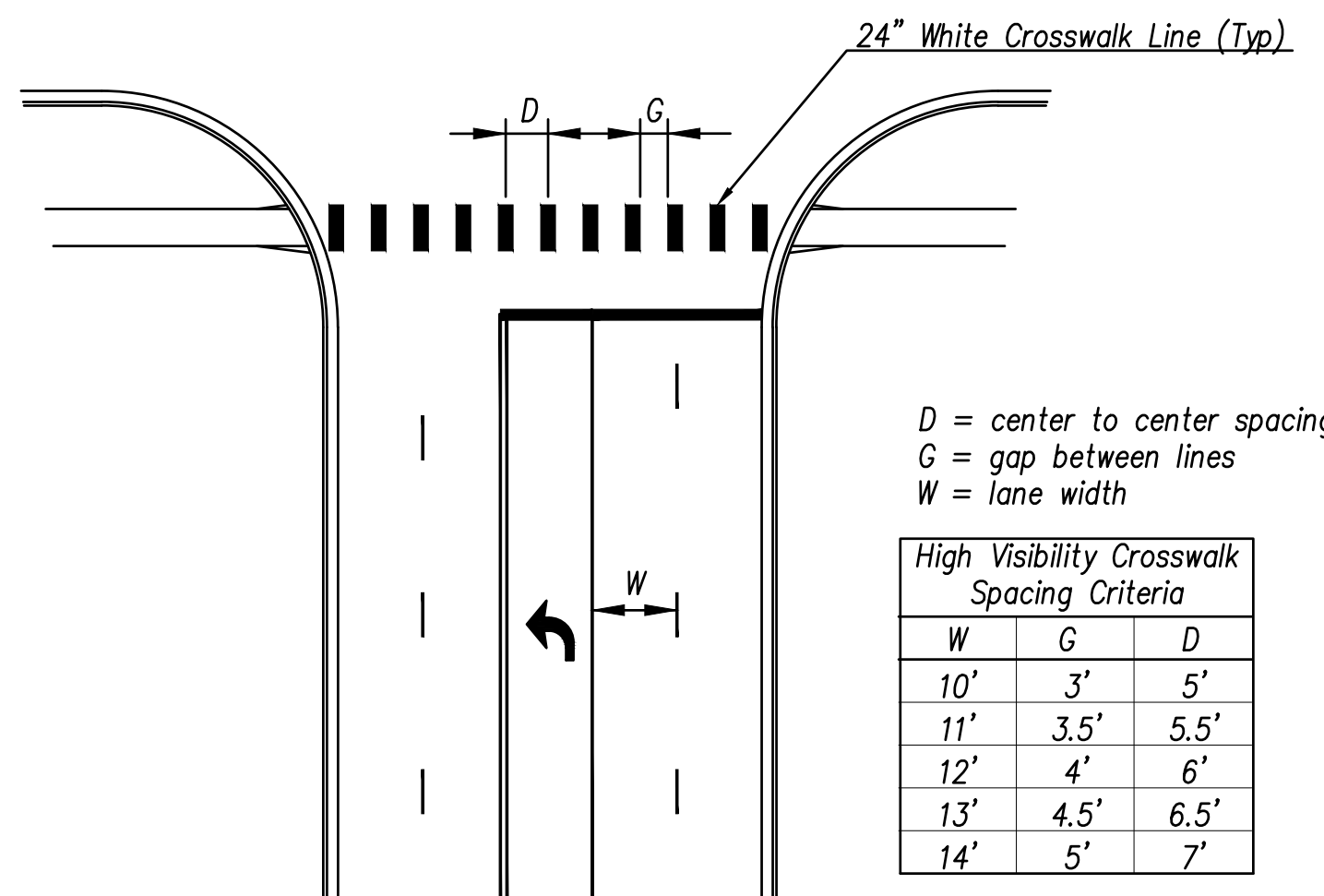
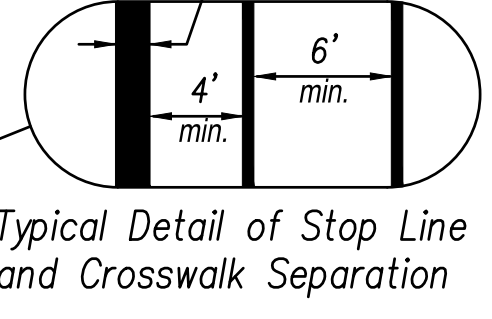
- Notes:
- * Variable, see spacing schedule and/or plans for locations.
 - D = posted speed limit in feet (i.e. 25mph = 25' spacing) adjust in the field for a minimum of two.

- Notes:
- For intersecting cross streets, optional yellow diagonal markings may be used. See spacing schedule and/or plans for specific details.



Typical Two-Way Left Turn Markings

- Stop Line Width (When Used):
- 12" will be used at a location where a 30" Stop sign is required.
 - 24" will be used at a location where a 36" Stop sign is required.
 - 24" will be used at all controlled approaches to a traffic signal.

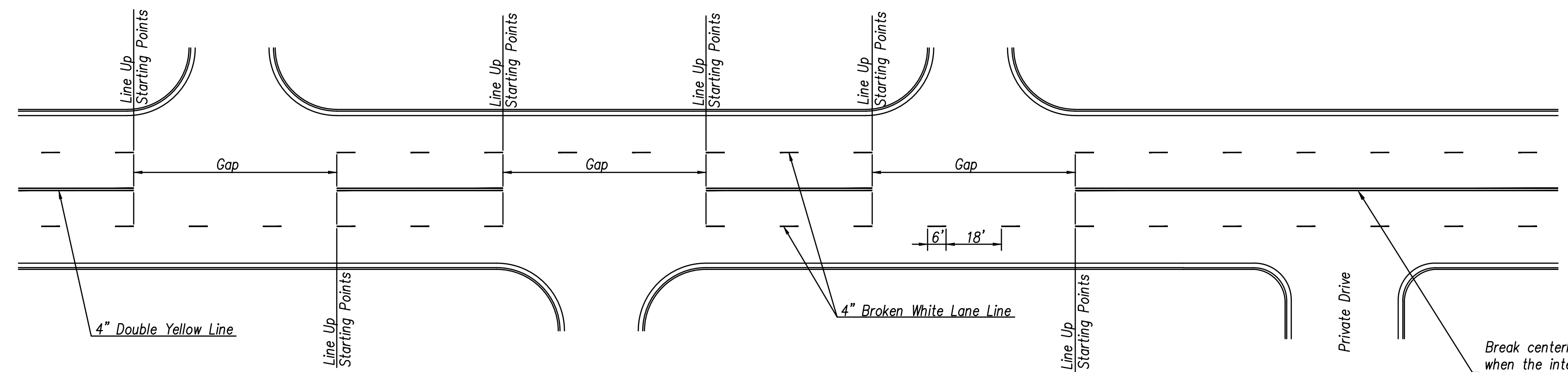


D = center to center spacing
G = gap between lines
W = lane width

High Visibility Crosswalk Spacing Criteria		
W	G	D
10'	3'	5'
11'	3.5'	5.5'
12'	4'	6'
13'	4.5'	6.5'
14'	5'	7'

- Notes:
- For roadways with variable lane widths, the lines and gaps should be spaced as evenly as possible across the lanes of vehicle travel to avoid wheel paths.
 - The gaps between the lines can vary from 3' to 5' within the same crosswalk, with the spacing from center to center varying from 5' to 7'.
 - Width of crosswalk shall be 6' for intersection locations and mid-block locations where the posted speed is 35 m.p.h. or less.
 - Width of crosswalk shall be 8' for mid-block locations where the posted speed is 40 m.p.h. or higher.

High Visibility Crosswalk



Typical Four-Lane Undivided Markings with Side Street Intersections

Break centerline for private drives only when the intersection is signalized or if there are left turn lanes from the major street.

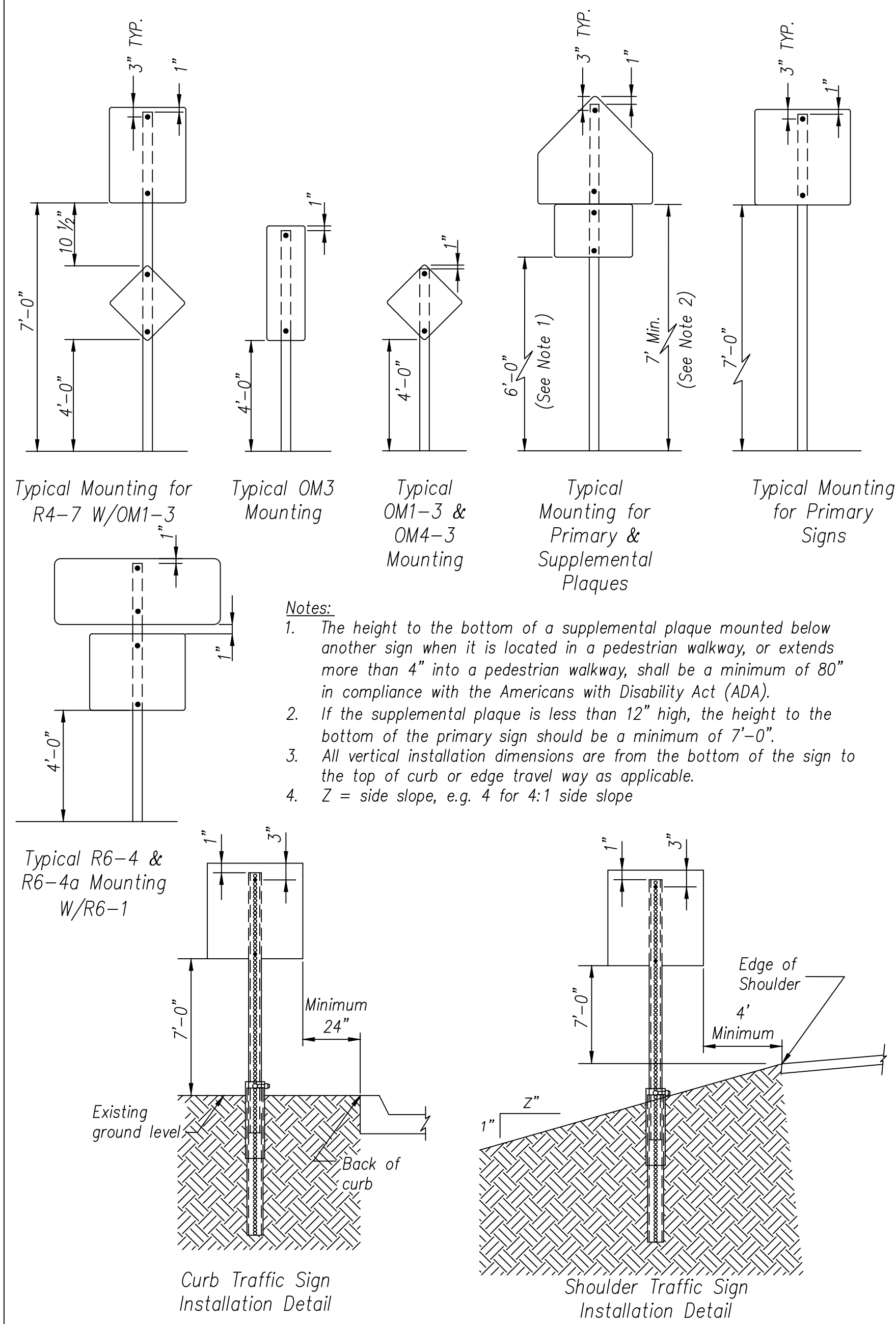
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JLL	BY

NO.	DATE	REVISIONS
1	06/07/2024	
2		
3		

Permanent Signing General Notes

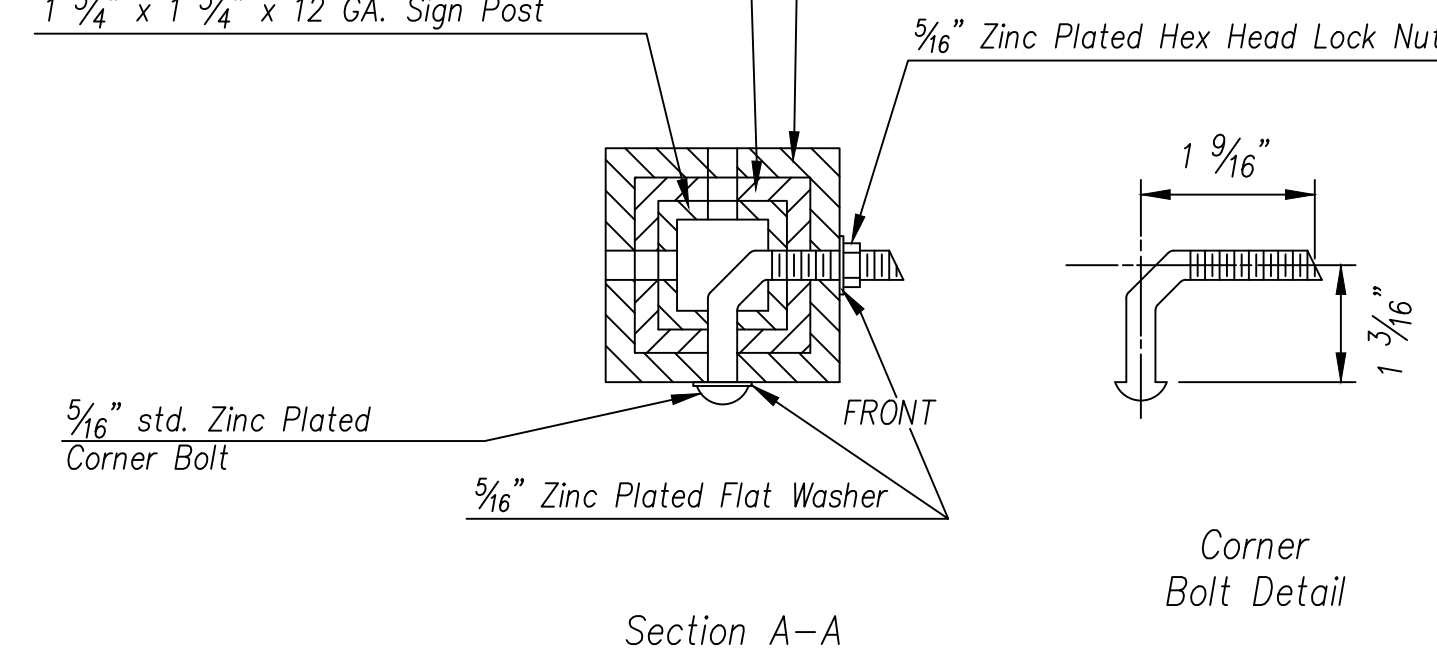
- All permanent signing shall be provided and installed by the contractor as indicated in the plans and specifications, and according to the City of Overland Park Standard Details.
- All letter, number and symbol sizes, spacing and sign colors shall conform to the current Manual on Uniform Traffic Control Devices (MUTCD).
- All school signing shall have a fluorescent yellow-green background with a black legend and border. All other warning signs shall have a standard yellow background.
- The locations of existing utilities, if shown, are approximate only and have not been independently verified. The Contractor shall be responsible for contacting all utility companies for locations of all underground lines prior to excavation and be fully responsible for any and all damages, which might occur as a result of the Contractor's failure to exactly locate and preserve any and all underground utilities.
- The City of Overland Park is on the KS One Call System. The Contractor shall call 811 to obtain locates for streetlighting, traffic signal, and fiber optic conduits/cables.
- All new signs shall be located within public right-of-way.
- All retro-reflective micro-encapsulated prismatic sheeting shall be ASTM Type XI. All signs shall be made from a combination retro-reflective sheeting background with electronic cuttable film applied to the surface. (Unless otherwise indicated in the plans or specifications). Process color inks or silk screening signs are not allowed.
- All sign blank material shall be made of 0.08" aluminum except all overhead street name signs shall be made of 0.125" aluminum.
- Existing street name signs in the way of construction:
The street name signs shall be relocated out of the way of construction but in a conspicuous location for the driving public and emergency providers. The street name signs shall be reinstalled in their proper location as soon as possible unless otherwise indicated. The removal and re-installation of existing signs will be considered subsidiary to other bid items.
- Signs shown to be installed on the side of poles shall be mounted by stainless steel mounting bands as detailed in the plans. All R10 series signs installed on a traffic signal mast arm shall be mounted with approved mounting brackets as specified.
- All post mounted signs shall be mounted on break-away sign posts according to the standard details.
- All signs and posts shown in the plans shall be new unless otherwise indicated in the plans or by the Traffic Service Inspector.
- All existing regulatory signs, warning signs, and street name signs shall 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, he shall be required to reinstall new signs and posts of the same type to replace the damaged equipment.
- Any existing permanent signs shown to be removed by the contractor for construction purposes other than stop signs, yield signs or street name signs shall be salvaged. See Instructions for Disassembly and Return of Traffic Sign Equipment.
- All stop, yield, warning signs, and 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 (no less than 7 feet vertical from grade) until they can be permanently re-installed. Any temporary stop or yield sign installation to be left in place overnight will require prior approval from the Traffic Services Inspector.
- All existing signs, other than stop, yield, warning signs, or street name signs, shown to be used in place shall be protected from damage by the contractor. The contractor may temporarily remove the sign and post to prevent damage at the approval of the inspector. Storage of the signs & posts is the responsibility of the contractor.
- All sign posts installed in concrete, asphalt or brick paver islands or medians shall have a 6" PVC sleeve or 6" core drilled hole completely through the full depth of pavement to the top of subgrade. See Median Nose Details.
- The contractor shall be required to install inventory stickers on the back of all signs installed on the project and record each respective bar code number on the plan sheet adjacent to the corresponding sign, for delivery to the project inspector. Inventory stickers will be provided by the City.
- Minor adjustments in the location of sign posts should be made in the field during construction in order to maintain 4'-0" clearance from the centerline of any fire hydrant to the face of the sign post.
- In the event of utility conflicts with sign post locations and the sign post cannot be relocated, the contractor shall be required to hand dig the sign post and backfill with concrete to provide a sturdy post installation. The cost shall be subsidiary to other sign bid items.
- The contractor shall flag sign locations for installation and shall not install signs until final location has been approved by the Engineer or Inspector.
- Slip bases may be required for any sign installation requiring more than one post.



- Notes:**
- The height to the bottom of a supplemental plaque mounted below another sign when it is located in a pedestrian walkway, or extends more than 4" into a pedestrian walkway, shall be a minimum of 80" in compliance with the Americans with Disability Act (ADA).
 - If the supplemental plaque is less than 12" high, the height to the bottom of the primary sign should be a minimum of 7'-0".
 - All vertical installation dimensions are from the bottom of the sign to the top of curb or edge travel way as applicable.
 - Z = side slope, e.g. 4 for 4:1 side slope

Sign Mounting Details

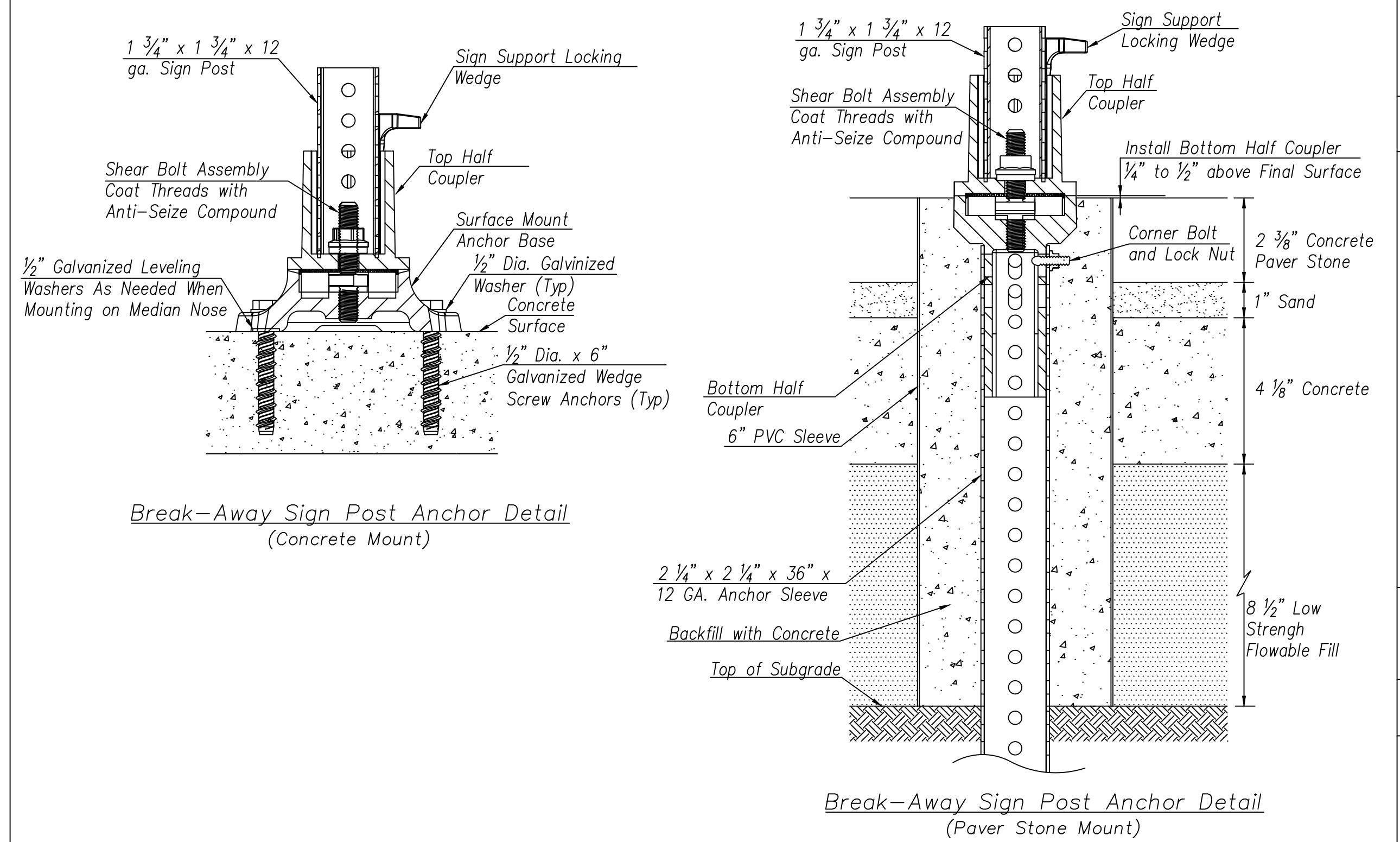
- 2 1/4" x 2 1/4" x 30" x 12 GA. Anchor Sleeve
- 2" x 2" x 48" x 12 GA. Sign Post Anchor
- 1 3/4" x 1 3/4" x 12 GA. Sign Post



Notes:
The detail drawing shows the bolt entering the back.

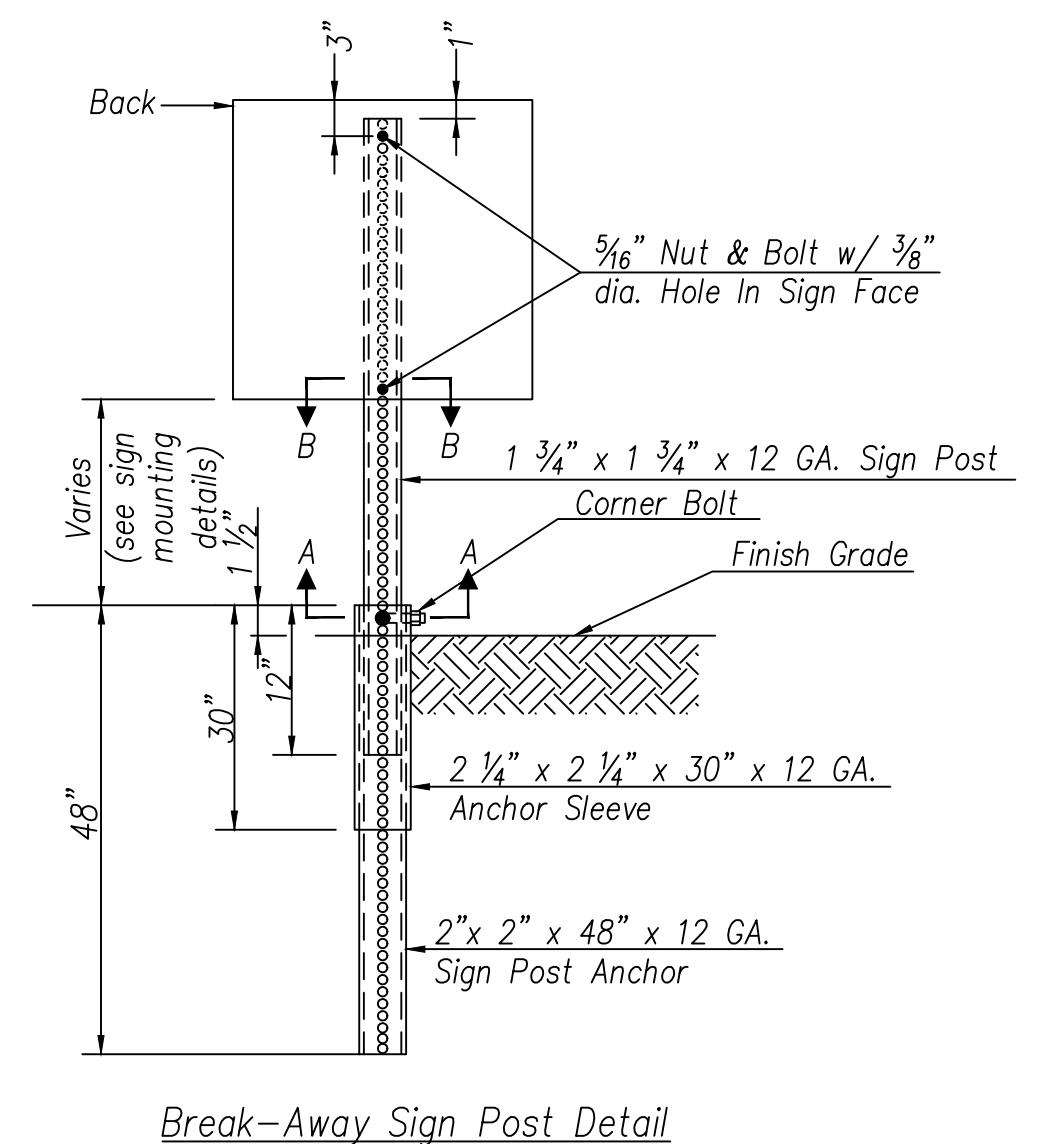
Instructions for Disassembly and Return of Traffic Sign Equipment

- The following is a list of permanent signing equipment which shall be salvaged and returned(1) to the City of Overland Park, unless otherwise instructed by the inspector. The condition at the time of delivery shall be the same as prior to removal. Disassembly of equipment shall be done prior to returning the equipment to the Blue Valley Public Works Maintenance Facility (Traffic Services Maintenance Office and Shop) 6869 W. 153rd Street. The contractor shall notify the City of Overland Park Department of Public Works, Inventory Control Specialist (913) 327-6603 to arrange for the delivery of the salvaged equipment. Provide 48-hours advance notice.
- (1) For Federally Founded Projects salvaged equipment shall be carefully disassembled and stored on site. Contractor to arrange for pickup by the City of Overland Park, with the Inventory Control Specialist.
- The City maintains the first right of refusal of any equipment listed. The project inspector will make an on-site assessment to determine if the equipment should be salvaged or disposed. Any equipment that will not be salvaged shall become the property of the contractor.
- All traffic signs shall be removed from sign posts, signal poles or street light poles and be salvaged.
 - All Astro-Brackets shall be removed from the tubular support. Do not cut the Astro-Bracket cable.
 - All traffic sign posts, shall be removed and salvaged unless bent. If the sign post or pole was mounted in concrete, the post or pole shall be discarded upon removal.
 - Any hardware (i.e. bolts, bandit material, etc.) involved in mounting the sign must be discarded.
 - All flashing beacon assemblies shall be salvaged, including solar panels, poles, cabinet and internal components. Solar panels and signs shall be removed removed prior to salvaging. Screw-in foundations shall be cleaned of dirt and debris and salvaged with bolt and anchor studs.



Sign Post Installation Sequence

- Sign post anchor driven partially into subgrade using a drive cap with sledge or power equipment.
 - Anchor sleeve slipped over anchor and driven into subgrade together with the sign post anchor.
 - Insert sign post into the post anchor and bolt in place.
- Note:**
For in-pavement installation, complete steps 1 & 2 prior to the placement of the pavement. The first hole above the finished grade level in all three units must be in line for insertion of the corner bolt. All corner bolts and nuts for fastening the signs and sign post assembly and all washers shall comply with appropriate sections of the standard specifications (latest edition) and shall be a subsidiary item.



Break-Away Sign Post Detail

JLL	BY
2024 Standard Details	REVISIONS
06/07/2024	DATE
1	NO.
2	
3	

Notes:

(1) MEP – Micro-Encapsulated Prismatic

(2) Sample Post Length Calculation: $(H1-S) + (H2+1) + \frac{(H3+1)}{12} + \dots + 10.5 + MH + \frac{4}{2} + 0.02 \times W$ (Round to nearest 0.1 foot)

Where: H = Sign Height (inches)

H1, H2, H3, ... = Sign Height(s) (inches)

9'-7" for posts with street name signs only

7'-0" for single mounted signs

6'-0" for signs with supplemental plaque < 12"

6'-8" for multiple mounted signs located in, or overhanging walking areas

Z = side slope, e.g. 4 for 4:1 side slope

W = shoulder width

S = 0 if the top sign is a street name sign, otherwise S=1

(3) Post anchors shall be 4' long.

(4) Anchor sleeves shall be 2.5' long.

Add only for a rural cross section with shoulder and side slope

Permanent Signing Summary

Station	Street Reference	Offset from \mathcal{C} (Lt or Rt)	MUTCD Designation	Sign Size	Area (S.F.) MEP Signs	(1) Post Length 1 3/4" x 1 3/4" (LF)	(2) Post Anchor 2"x2" (LF)	(3) Anchor Sleeve 2 1/4" x 2 1/4" (LF)	Conc. Surface Anchor (Ea)	Paver Anchor and Sleeve (Ea)	Comments
RESET IN PLACE	MASTIN ST	-	R3-8a	48" X 30"	EXISTING	24.04 (2, See Comments)	-	-	-	2 (See Comments)	REMOVE AND RESET EXISTING SIGN ON NEW POST (DOUBLE POST). POST SHALL BE 2"x2" 14GA. SQUARE STEEL TUBE & POWDER COATED "DARK GRANITE". ANCHOR SHALL BE GROUND MOUNT AND NCHRP 350 COMPLIANT.
RESET IN PLACE	MASTIN ST	-	R3-8a	48" X 30"	EXISTING	20.89 (2, See Comments)	-	-	-	2 (See Comments)	REMOVE AND RESET EXISTING SIGN ON NEW POST (DOUBLE POST). POST SHALL BE 2"x2" 14GA. SQUARE STEEL TUBE & POWDER COATED "DARK GRANITE". ANCHOR SHALL BE GROUND MOUNT AND NCHRP 350 COMPLIANT.
416+39.75	COLLEGE BLVD	64.1' LT	D3-1	42" X 12"	3.5	-	-	-	-	-	INSTALL NEW STREET NAME SIGN TO BRIDGE FACIA WITH .25" x 1.25" STAINLESS STEEL TAPCON SCREWS WITH 5/16" STAINLESS STEEL WASHERS AND 5/16" X 1/8" THICK FLAT PLASTIC OR FIBER WASHER.
416+39.75	COLLEGE BLVD	64.2' RT	D3-1	42" X 12"	3.5	-	-	-	-	-	INSTALL NEW STREET NAME SIGN TO BRIDGE FACIA WITH .25" x 1.25" STAINLESS STEEL TAPCON SCREWS WITH 5/16" STAINLESS STEEL WASHERS AND 5/16" X 1/8" THICK FLAT PLASTIC OR FIBER WASHER.
414+32.02	COLLEGE BLVD	60.3' LT	R2-1	30" X 36"	EXISTING	9.92 (See Comments)	-	-	-	1 (See Comments)	REMOVE AND RESET EXISTING SIGN ON NEW POST. POST SHALL BE 2"x2" 14GA. SQUARE STEEL TUBE & POWDER COATED "DARK GRANITE". ANCHOR SHALL BE GROUND MOUNT AND NCHRP 350 COMPLIANT.
417+91.82	COLLEGE BLVD	66.1' LT	R6-1 R/L	48" X 30"	EXISTING	9.42 (See Comments)	-	-	-	1 (See Comments)	REMOVE AND RESET EXISTING SIGN ON NEW POST. POST SHALL BE 2"x2" 14GA. SQUARE STEEL TUBE & POWDER COATED "DARK GRANITE". ANCHOR SHALL BE GROUND MOUNT AND NCHRP 350 COMPLIANT.
RESET IN PLACE	COLLEGE BLVD	-	R6-1 R/L, OM1-3	EXISTING	EXISTING	EXISTING (See Comments)	-	-	1	-	REMOVE AND RESET EXISTING SIGNS ON EXISTING POST. ANCHOR SHALL BE GROUND MOUNT AND NCHRP 350 COMPLIANT.
TBD	COLLEGE BLVD	-	-	-	24*	(13.125 X 2) * 26.25	4*	2.5*	-	-	INSTALL JOHNSON COUNTY "CARS" SIGNING ON NEW POSTS, ANCHORS, AND FOOTINGS. FINAL LOCATION TO BE DETERMINED BY ENGINEER OR FIELD INSPECTOR
TBD	COLLEGE BLVD	-	-	-	24*	(13.125 X 2) * 26.25	4*	2.5*	-	-	INSTALL JOHNSON COUNTY "CARS" SIGNING ON NEW POSTS, ANCHORS, AND FOOTINGS. FINAL LOCATION TO BE DETERMINED BY ENGINEER OR FIELD INSPECTOR
TBD	COLLEGE BLVD	-	-	-	16*	(11.125 X 2) * 22.25	4*	2.5*	-	-	INSTALL CITY OF OVERLAND PARK PROJECT SIGNING ON NEW POSTS, ANCHORS, AND FOOTINGS. FINAL LOCATION TO BE DETERMINED BY ENGINEER OR FIELD INSPECTOR
TBD	COLLEGE BLVD	-	-	-	16*	(11.125 X 2) * 22.25	4*	2.5*	-	-	INSTALL CITY OF OVERLAND PARK PROJECT SIGNING ON NEW POSTS, ANCHORS, AND FOOTINGS. FINAL LOCATION TO BE DETERMINED BY ENGINEER OR FIELD INSPECTOR
Totals					7	64.27	-	-	1	6	

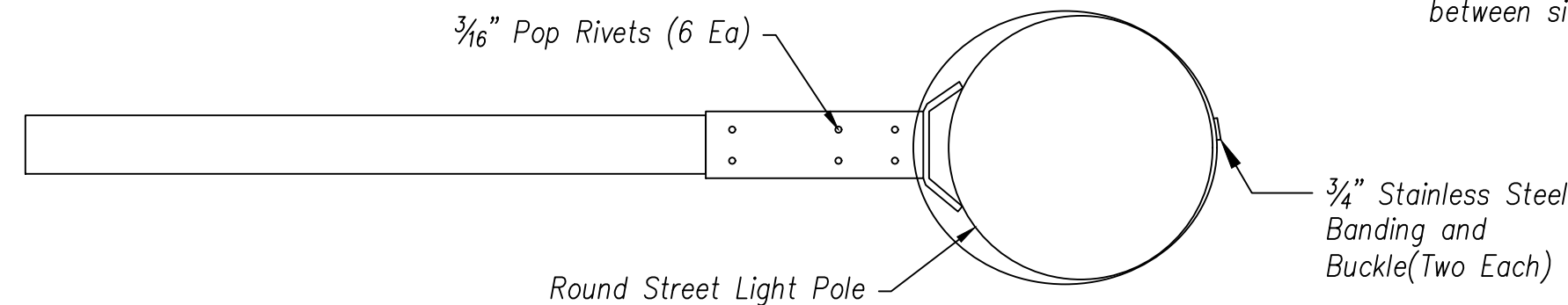
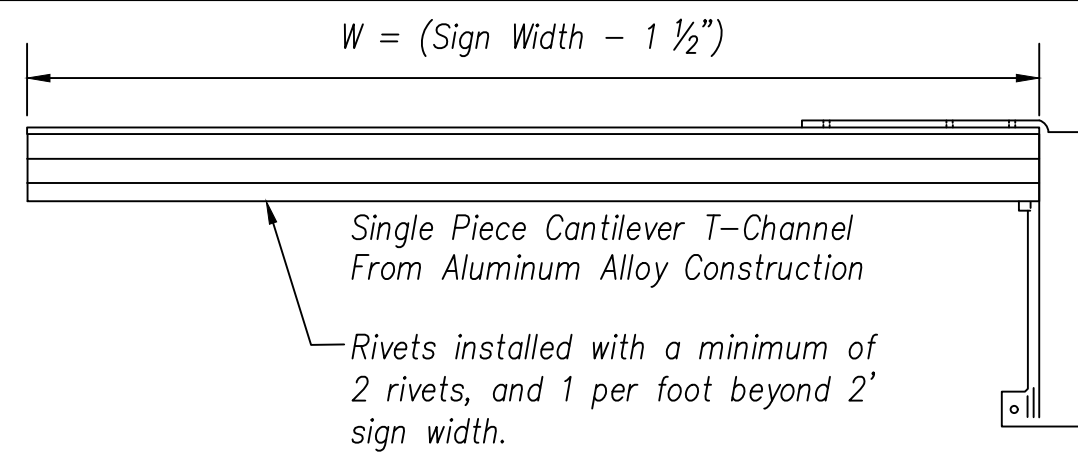
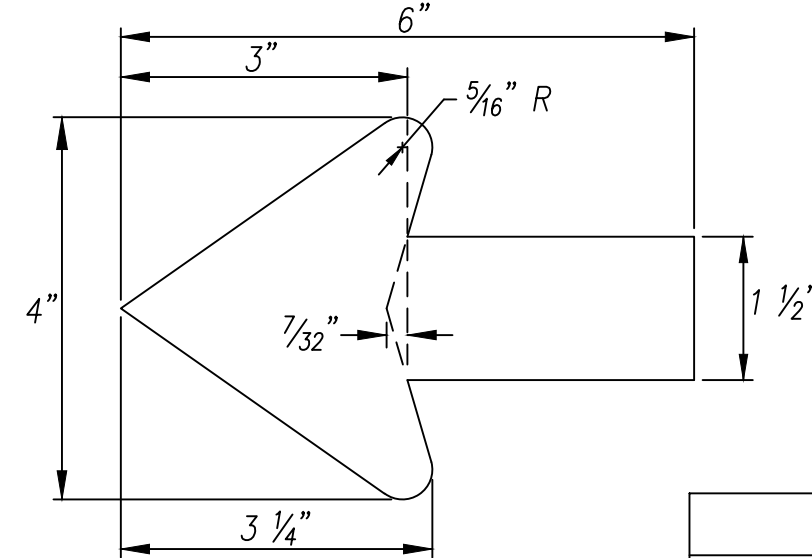
* NON PARTICIPATING ITEM. QUANTITIES INCLUDED FOR INFORMATION ONLY, SEE SEPARATE TABLE FOR BID ITEMS

NON-PARTICIPATING BID ITEMS		
ITEM	UNIT	QUANTITY
JOHNSON COUNTY "CARS" PROJECT SIGN	EACH	2
CITY OF OVERLAND PARK PROJECT SIGN	EACH	2

Table 1 (Alpha Streets)	
Standard Abbreviation List	
Avenue	Ave
Boulevard	Blvd
Circle	Cir
Court	Ct
Creek	Crk
Drive	Dr
Highway	Hwy
Lane	Ln
Parkway	Pkwy
Place	Pl
Plaza	Plz
Road	Rd
Street	St
Terrace	Ter
Trail	Tr
Way	Way

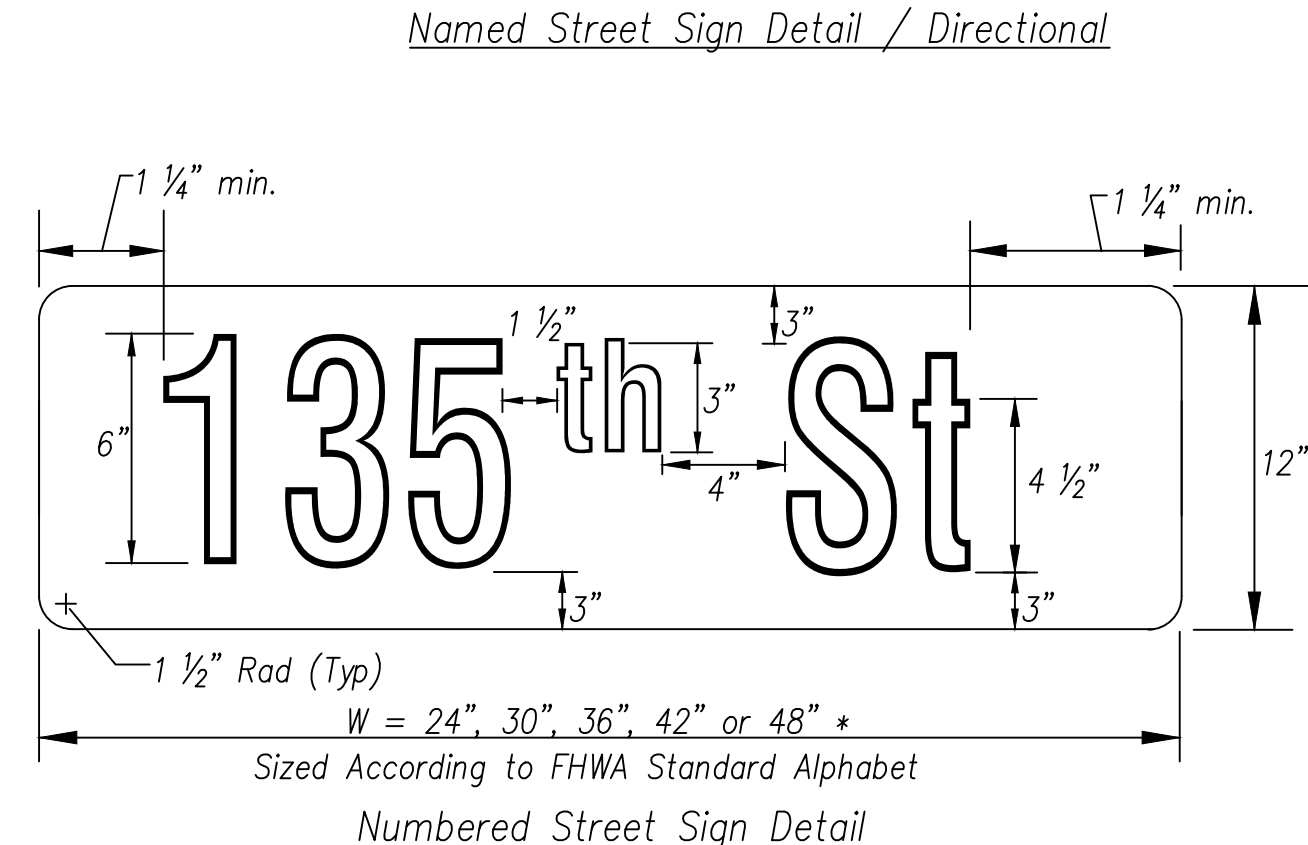
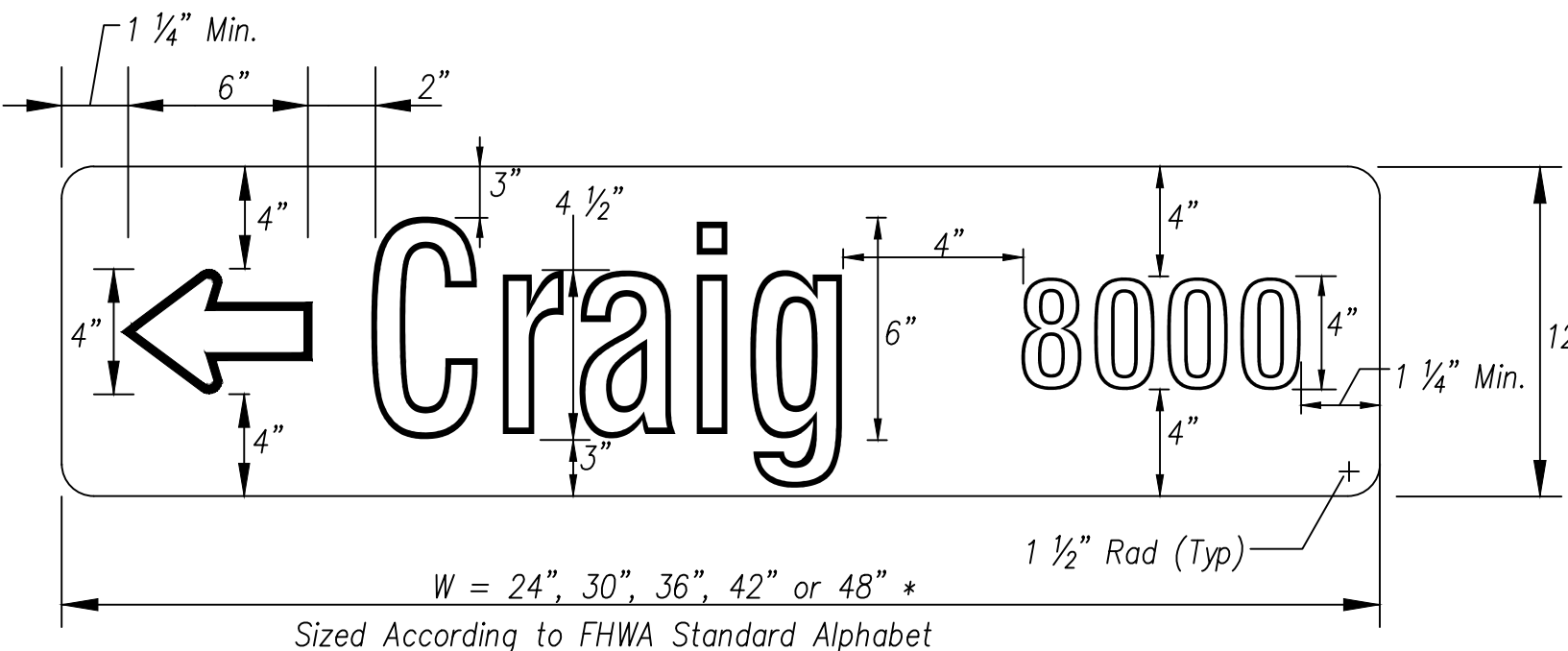
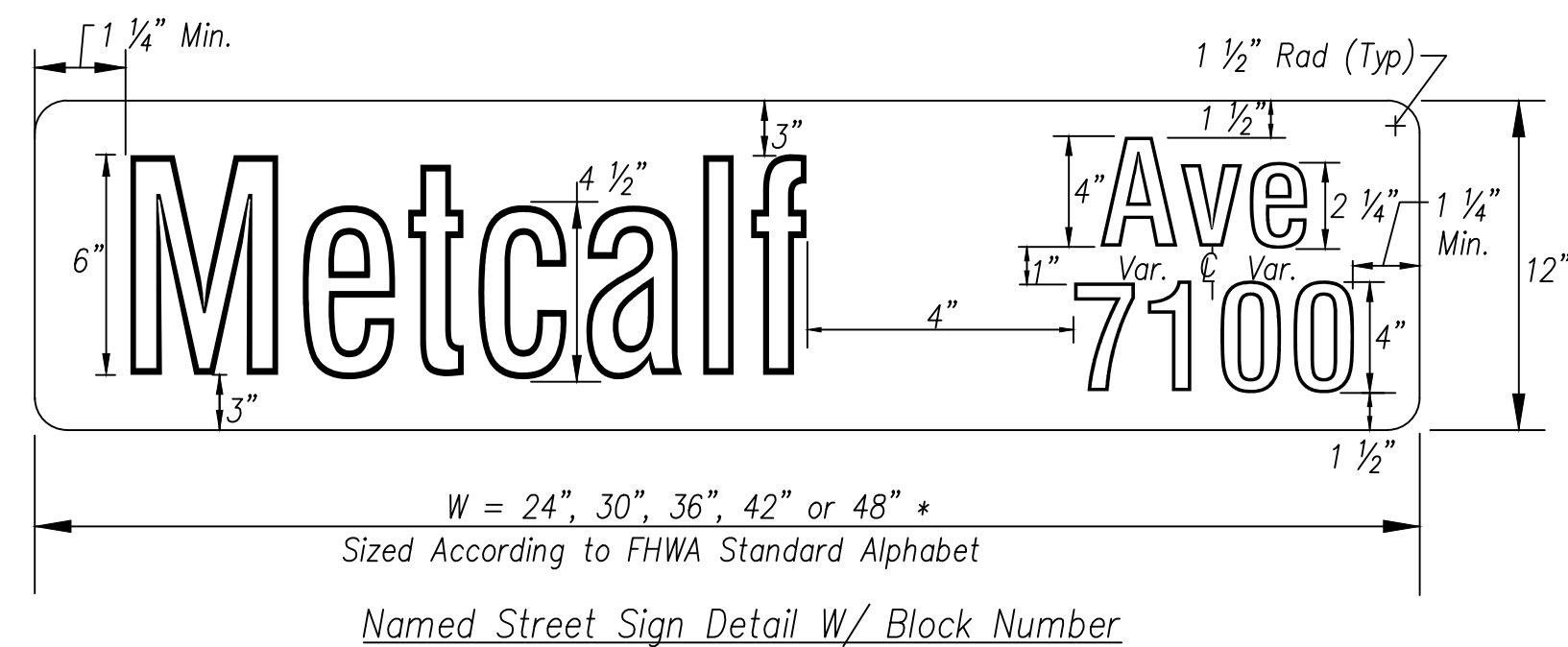
Table 2 (Numbered Streets)	
Standard Abbreviation List	
First	st
Second	nd
Third	rd
Fourth to Ninth	th

*Note: Series B 2000 letters shall be used in lieu of Highway Series C to avoid exceeding a 48" sign blank.



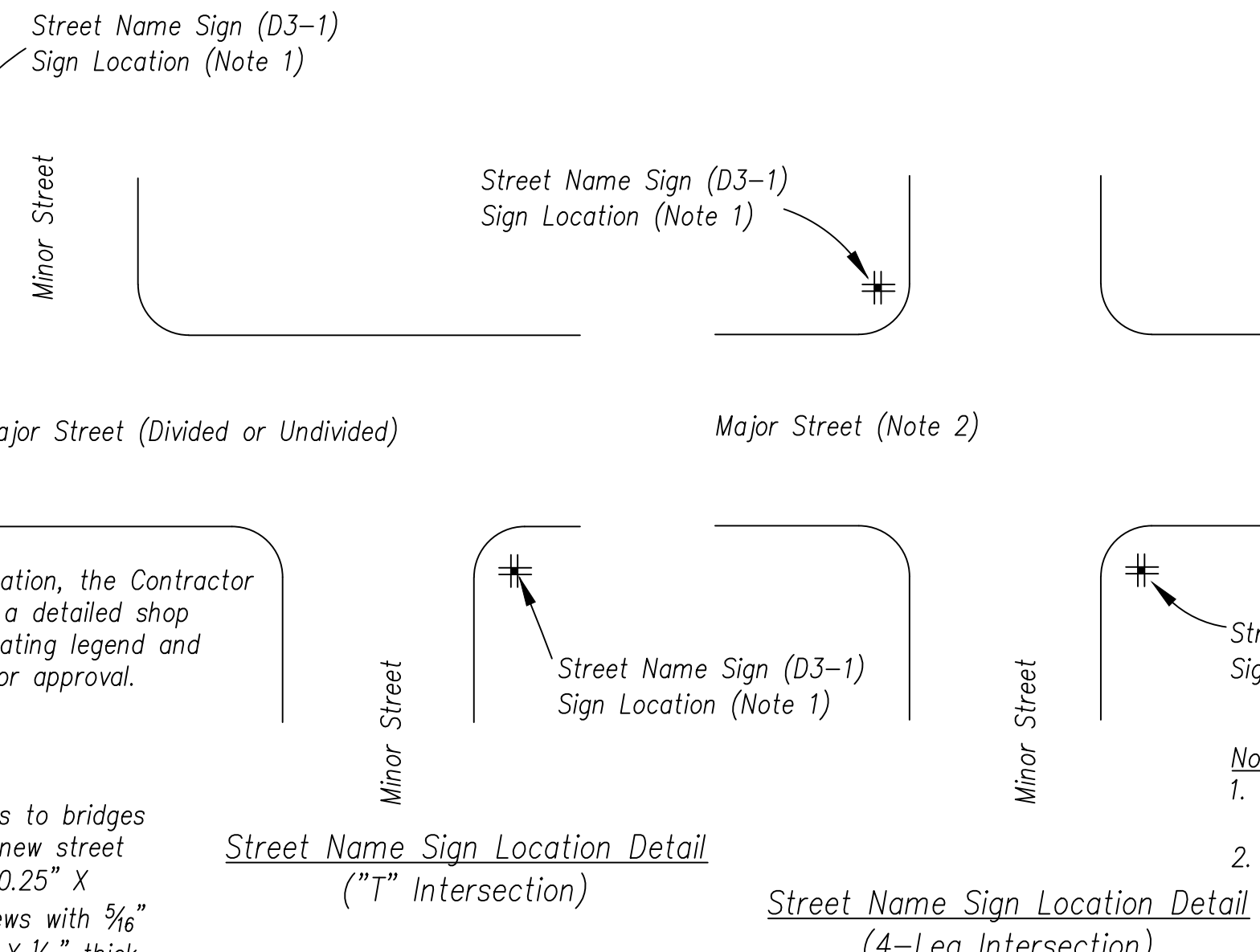
Street Name Sign Wing Bracket Detail for Round Tubular Supports

Street Name Sign Quantity Table				
Sign Designation	Size (W x H)	Area (S.F.)	Number	Quantity (S.F.)
D3-1 (SP-1) College Blvd	42" X 12"	3.5	2	7.0
D3-1 (SP-2)	X 12"			
D3-1 (SP-3)	X 12"			
D3-1 (SP-4)	X 12"			
D3-1 (SP-5)	X 12"			
D3-1 (SP-6)	X 12"			
Total				



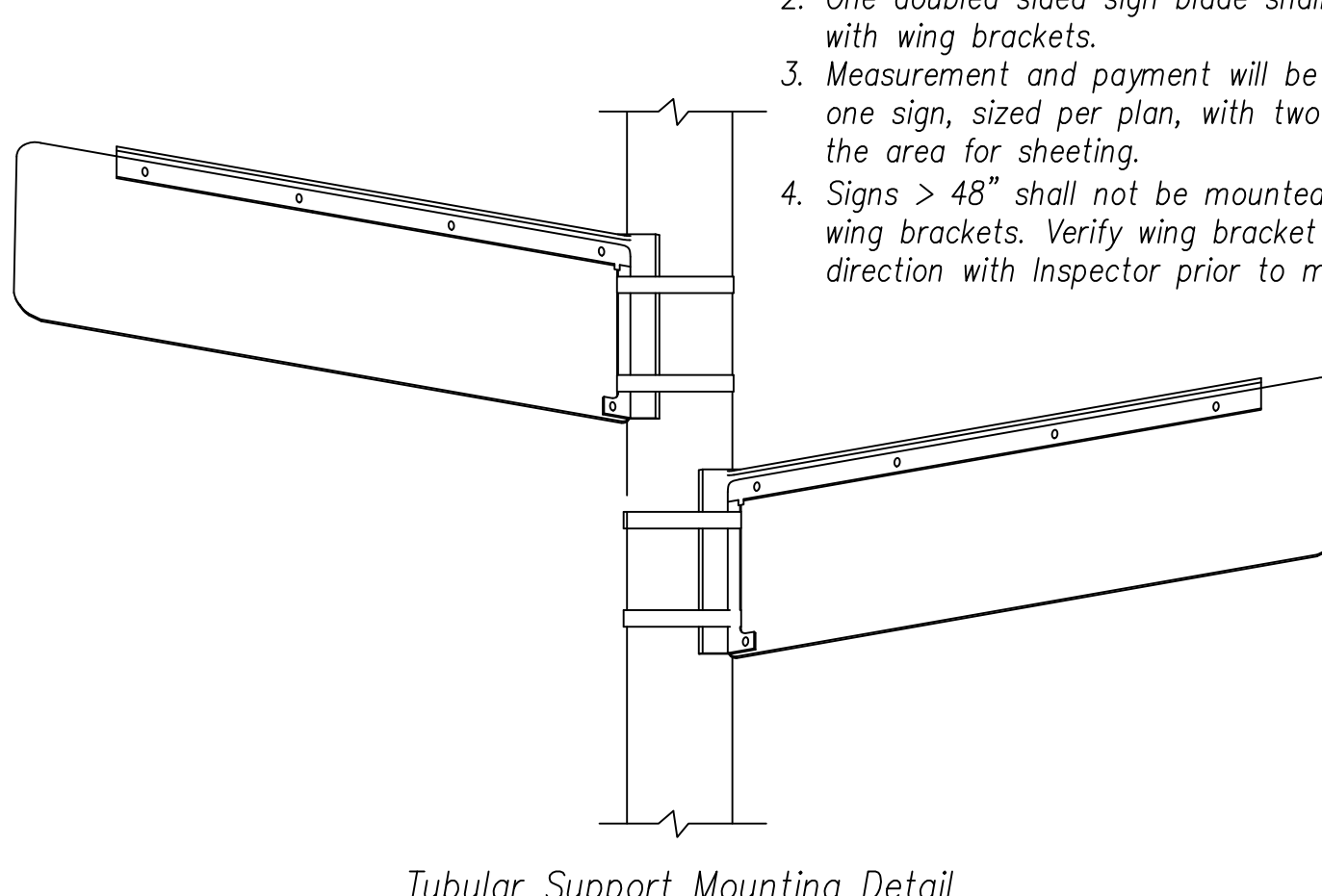
Sign Material Notes:
 Sign Blank: 0.080 Gauge, Alodized 6061-T6 or 5052-H38
 Legend: White (No Border)
 Background: Green (Federal Color STDS 595A, Color No.14109)
 Text Series: Series C 2000 as indicated in the examples
 Sheeting: Micro-Encapsulated, Retro-Reflective Prismatic Sheeting (Type XI)
 Process: Electro-Cutable Film

General Note:
 When installing street name signs to bridges for the trail system, install the new street name sign to bridge fascia with 0.25" X 1.25" stainless steel tapcon screws with 5/16" stainless steel washers and 5/16" X 1/16" thick flat plastic or fiber washer.

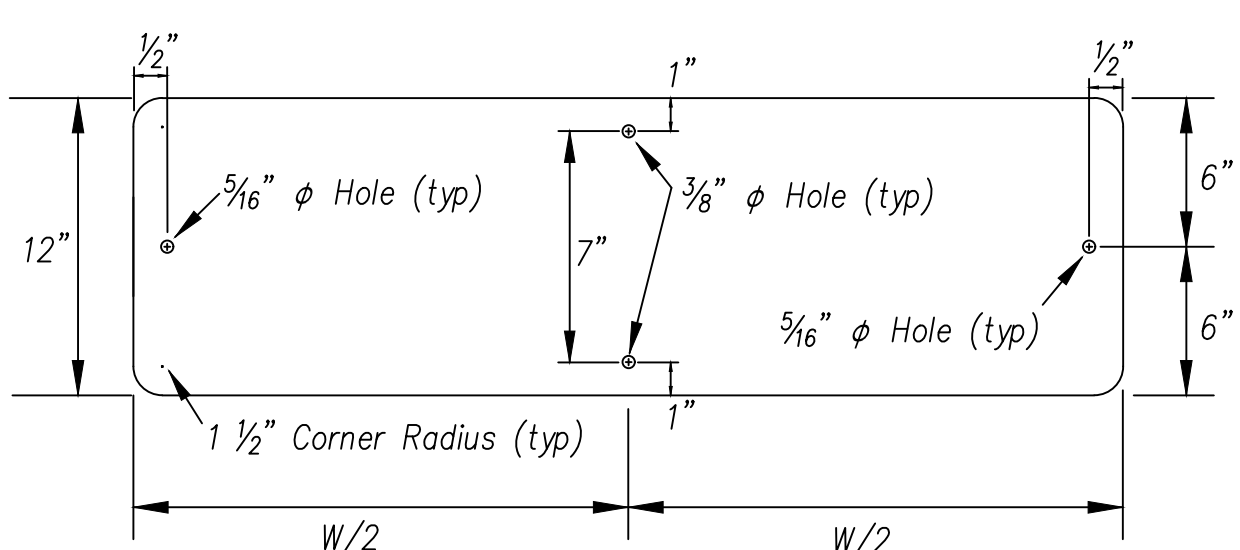


Street Name Sign Location Detail ("T" Intersection)

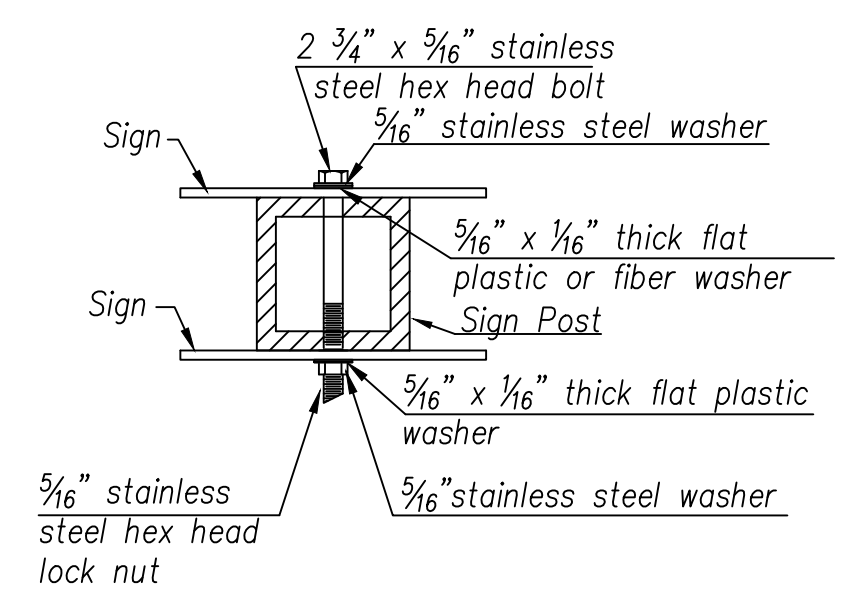
Street Name Sign Location Detail (4-Leg Intersection)



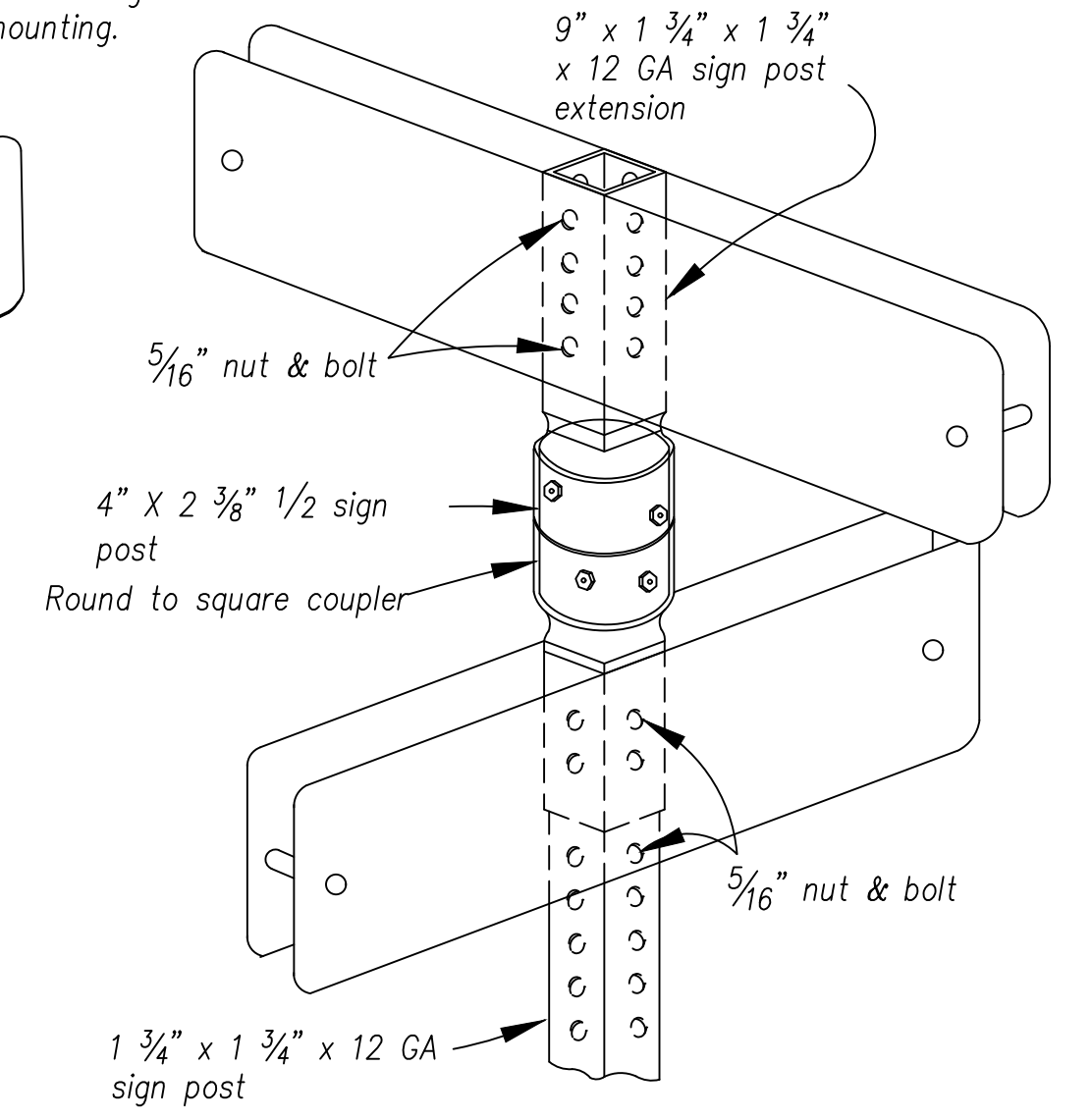
Tubular Support Mounting Detail



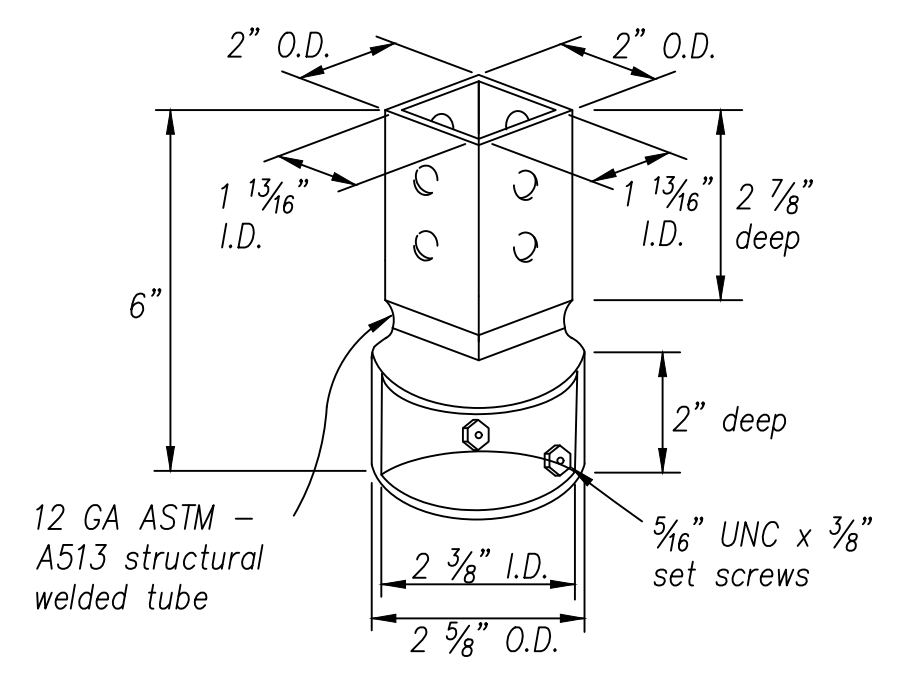
Sign Mounting Hole Detail (For Mounting on Square Tubular Supports)



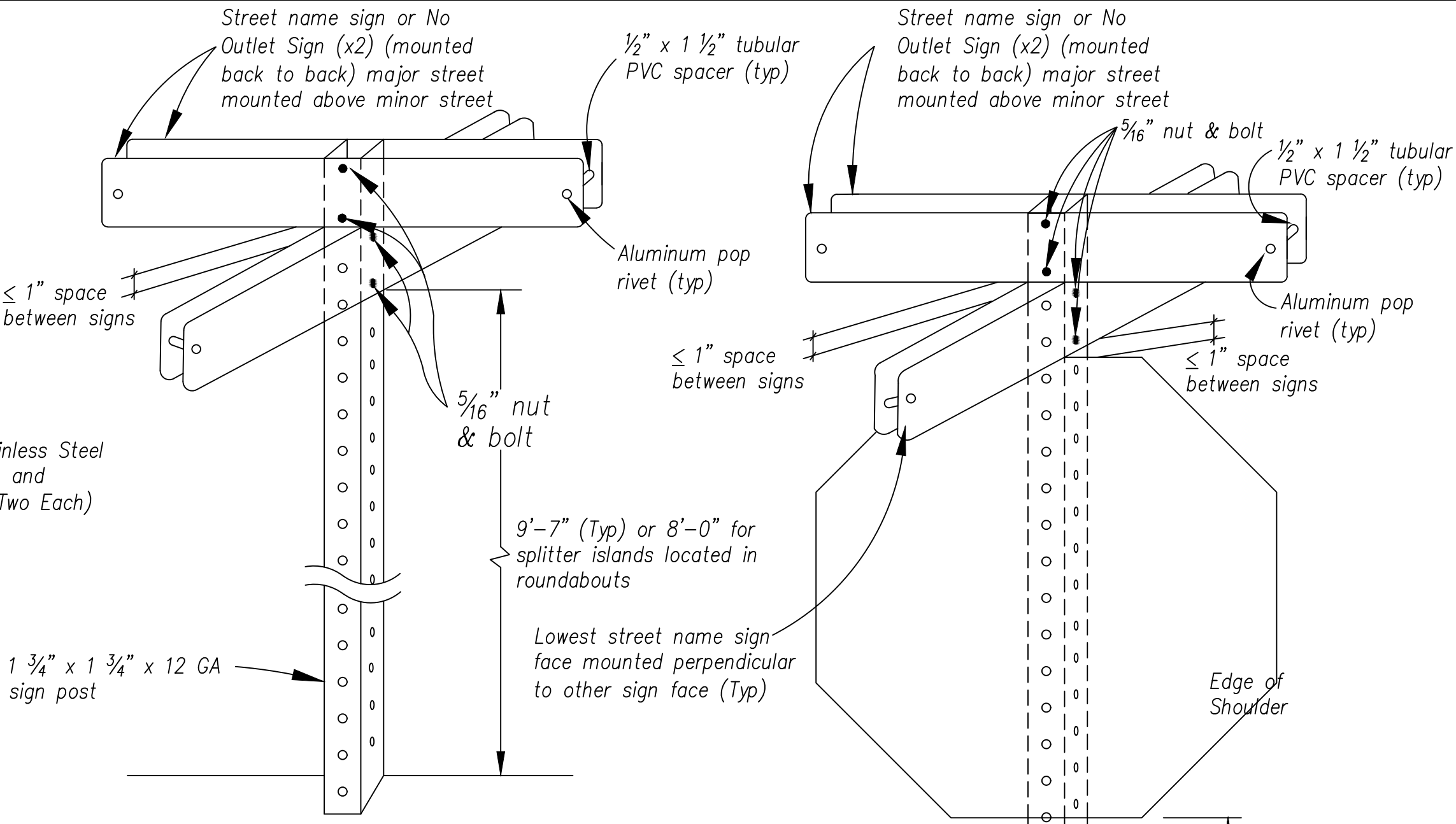
Double Sign Face Mounting Detail



Street Name Sign Bracket Square Tubular Supports (Skewed Intersections Only)



Round to Square Coupler Detail



Street Name Sign Assembly (Mounted Separately)

- Note:**
- One wing bracket shall be installed per each sign. Cross brackets are not permitted.
 - One doubled sided sign blade shall be used with wing brackets.
 - Measurement and payment will be based on one sign, sized per plan, with two times the area for sheeting.
 - Signs > 48" shall not be mounted with wing brackets. Verify wing bracket mounting direction with Inspector prior to mounting.

Sign Assembly (Mounted with Other Sign)

Project Sign Specs

1. Description
 - 1.1. Work

The Contractor shall furnish and install the project signing materials at the locations shown on the plans, in conformance with the details, and the material specifications included herein. Project signing materials shall include, but not be limited to, sign sheeting, aluminum sign blanks, sign posts, breakaway base assemblies, mounting brackets and hardware.
 - 1.2. Timing

The project sign shall be installed near the start of the project and before substantial work is visible to the public unless prior approval is received by the Engineer or City Inspector.
 - 1.3. Placement

The location of the project sign shall not obstruct traffic control devices.
2. Materials

Materials shall conform to Overland Park's bid item 1060 – PERMANENT TRAFFIC CONTROL SIGNING to the extent feasible.

 - 2.1. Aluminum Sign Blanks

The aluminum sign blanks shall be 4'x4', either 0.080" or 0.100" thick, and either 5052H38 or 6061-T6 aluminum alloy matching the standard Overland Park Approved Materials List for permanent signing.
 - 2.2. Sheeting

The sheeting shall conform to all current performance requirements of ASTM D4956 for Type IV retroreflective sheeting. This may be 3M's High Intensity Prismatic Reflective Sheeting Series 3930 or approved equal. Initial color shall meet the daytime and nighttime color limits as defined in the effective version of ASTM D4956.
 - 2.3. Digital Printing

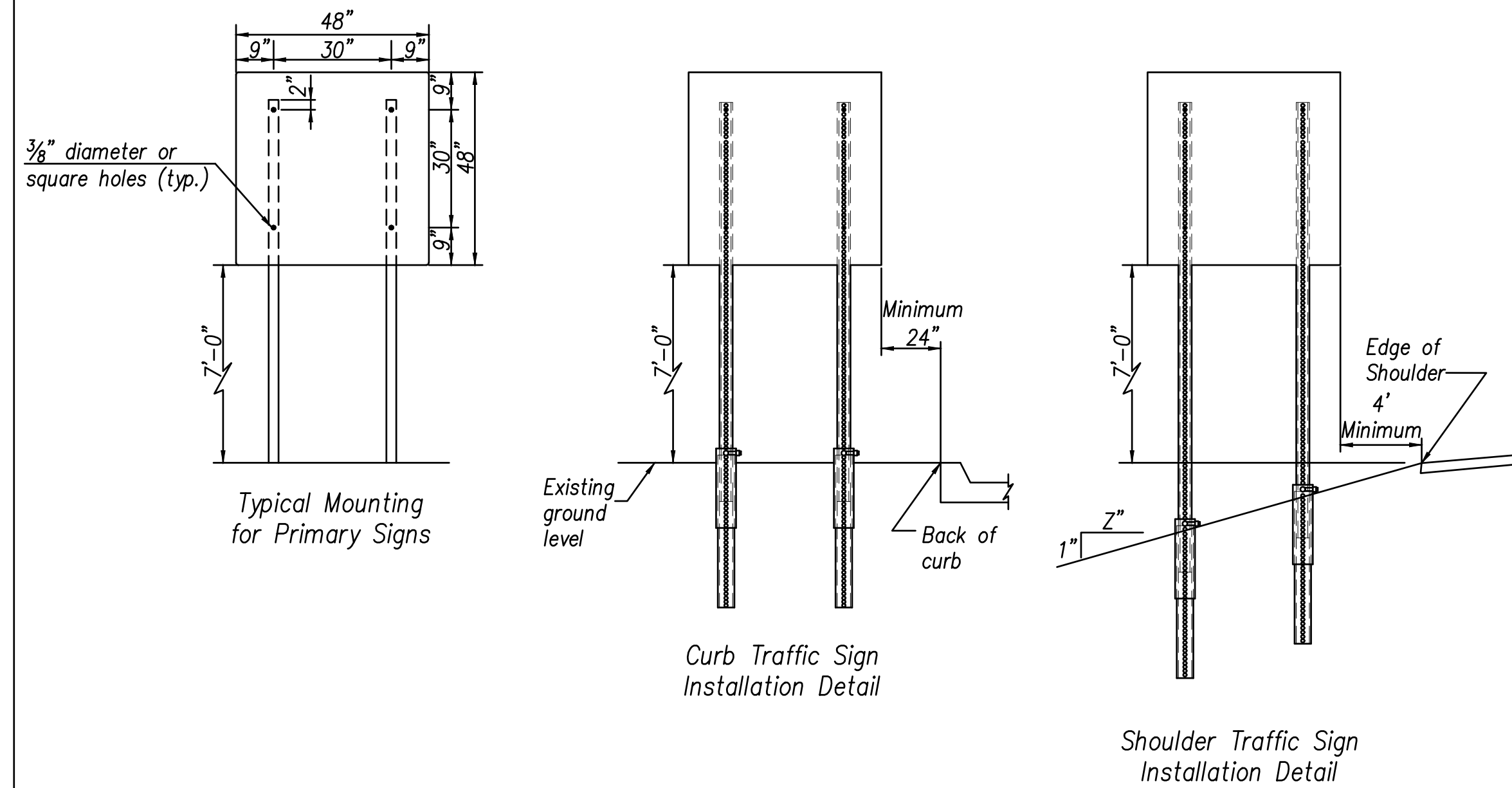
Digital imaging sheeting shall be compatible with qualified latex inkjet printers and ink systems.

Unless otherwise specified, sign background and copy (legends, symbols, and borders) can be applied via digital imaging process.

All numbers, letters and borders or background on signs shall be digitally printed (directly or through reverse image). Use a digital printing system that is part of a matched component system including appropriate software and drivers and recommended by a sheeting manufacturer listed on the Approved Materials List. The signs shall be manufactured using a system of matched components of reflective sheeting and overlay film supplied by the reflective sheeting manufacturer. All components must come from the same sheeting manufacturer. The digital printer and digital ink shall be required and approved by the reflective sheeting manufacturer with the printer settings defined by the reflective sheeting manufacturer.

Custom color means any color with a color reference other than the standard traffic colors subject to chromaticity requirements as defined in the effective version of ASTM D4956. Printed traffic colors shall meet the accelerated weathering and colorfastness requirements of the effective version of ASTM D4956. Digital printing shall produce the desired color and the same retroreflectivity values as required for the reflective sheeting of the same type and color when applied on reflective sheeting background. Digitally printed black copy shall remain sufficiently opaque for its intended use for the warranty period of the base sheeting.

Custom (or special) colors shall have documented sheeting manufacturer warranty, stating that custom colors do not excessively fade, discolor, crack, craze, peel, blister or lose reflectivity such that the signs become functionally unsuitable for their intended purpose.



- Notes:
1. The height to the bottom of a sign when it is located in a pedestrian walkway, or extends more than 4" into a pedestrian walkway, shall be a minimum of 80" in compliance with the Americans with Disability Act (ADA).
 2. All vertical installation dimensions are from the bottom of the sign to the top of curb or edge travel way as applicable.
 3. Z = side slope, e.g. 4 for 4:1 side slope
 4. All holes are 3/8" diameter or square, unless otherwise noted.

Sign Mounting Details



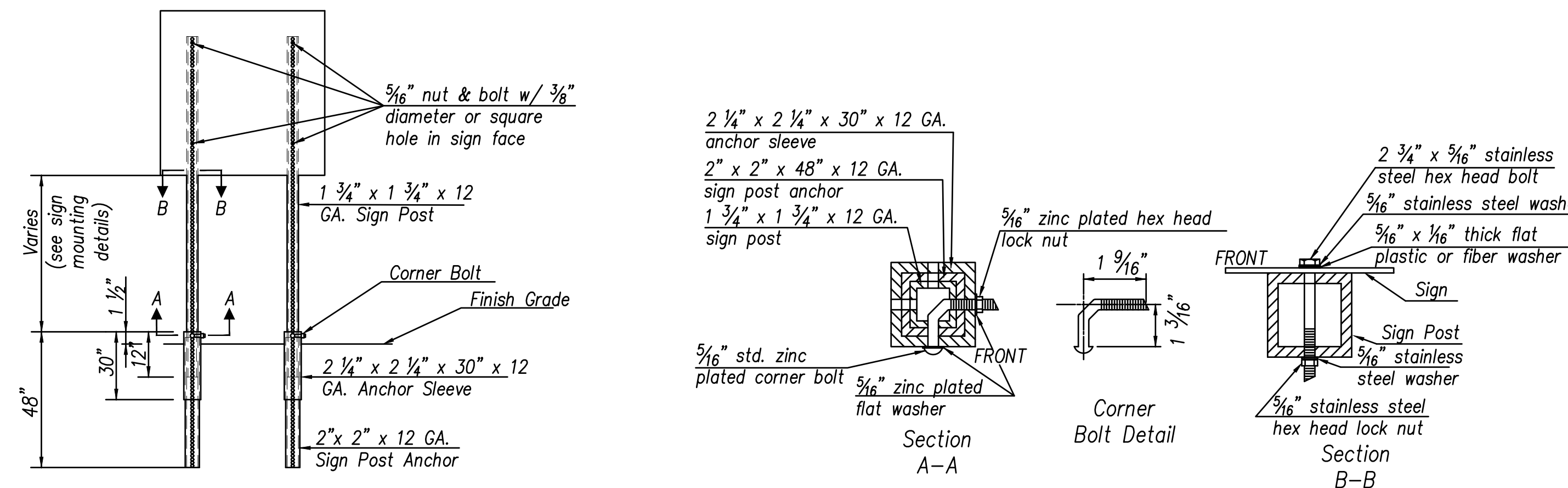
Project Sign

The Overland Park Communications Department will provide a final packaged design file with project name, start and end season, for printing and installation prior to project start date.

- 2.4. Electronic Cuttable Film

Electronic Cuttable Film (EC Film) shall be installed over the top of the printing for durability and to retain colors in the sun. EC Film shall be 3M's EC Series 1170C (transparent/clear) or approved equal.

Finished signs shall have a UV-protective clear overlay applied to the entire face of the sign supplied by the reflective sheeting manufacturer. Overlay shall be part of the matched component system as recommended by the reflective sheeting manufacturer. Completed printed surface shall have sharp edges, be free of bubbles, blemishes, streaks or spotted areas, and show good workmanship.



Break-Away Sign Post Detail

Sign Post Installation Sequence

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

Note: For in-pavement installation, complete steps 1 & 2 prior to the placement of the pavement.

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

All corner bolts and nuts for fastening the signs and sign post assembly and all washers shall comply with appropriate sections of the standard specifications (latest edition) and shall be a subsidiary item.

Project Sign General Notes

1. The locations of existing utilities, if shown, are approximate only and have not been independently verified. The Contractor shall be responsible for contacting all utility companies for locations of all underground lines prior to excavation and be fully responsible for any and all damages, which might occur as a result of the Contractor's failure to exactly locate and preserve any and all underground utilities.
2. The City of Overland Park is on the KS One Call System. The Contractor shall call 811 to obtain locates for streetlighting, traffic signal, and fiber optic conduits/cables.
3. All new signs shall be located within public right-of-way.
4. All post mounted signs shall be mounted on break-away sign posts according to the standard details.
5. All signs and posts shown in the plans shall be new unless otherwise indicated in the plans or by the Traffic Service Inspector.
6. Minor adjustments in the location of sign posts should be made in the field during construction in order to maintain 4"-0" clearance from the centerline of any fire hydrant to the face of the sign post.
7. The contractor shall flag sign locations for installation and shall not install signs until final location has been approved by the Engineer or Inspector.

Project Sign Post Length Calculation

Notes:

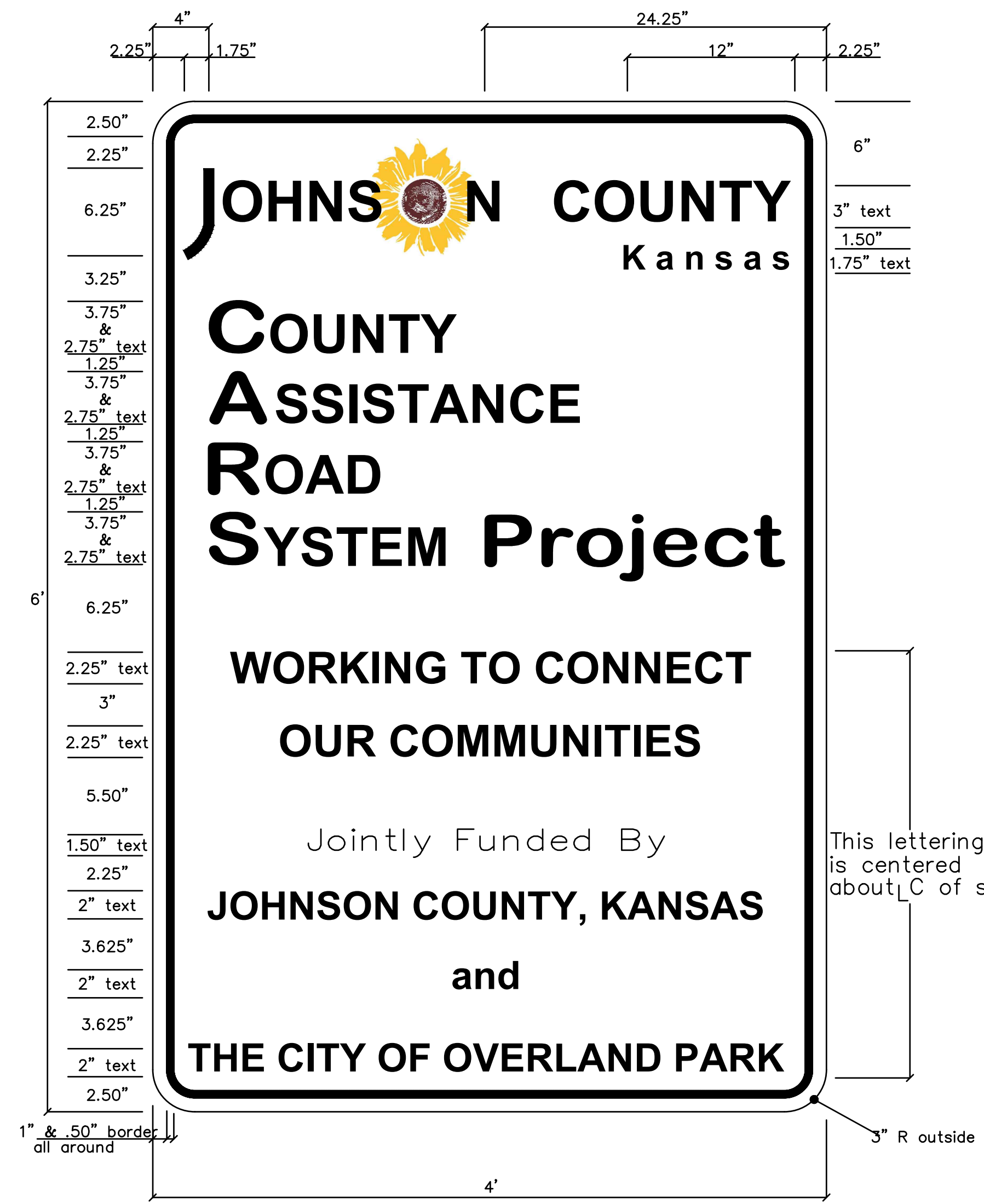
(1) Sample Post Length Calculation:
$$\frac{(H1-S) + (H2+1) + (H3+1) + \dots + 10.5}{12} + MH + \frac{4}{2} + 0.02 \times W$$
 (Round to nearest 0.1 foot)

- Where:
- H = Sign Height (inches)
 - H1, H2, H3, ... = Sign Height(s) (inches)
 - 9'-7" for posts with street name signs only
 - 7'-0" for single mounted signs
 - 6'-0" for signs with supplemental plaque < 12"
 - 6'-8" for multiple mounted signs located in, or overhanging walking areas
 - Z = side slope, e.g. 4 for 4:1 side slope
 - W = shoulder width
 - S = 0 if the top sign is a street name sign, otherwise S=1
- (3) Post anchors shall be 4' long.
- (4) Anchor sleeves shall be 2.5' long.

JUL	2024 Standard Details	REVISIONS	BY
06/07/2024			DATE
1			NO.
2			
3			

DWG: F:\2022\06501-07000\022-06529\40-Design\AutoCAD\Final Plans\Sheets\RDWY\DETAILS\2024 Car Sign DTL.dwg
 DATE: Feb 02, 2025 1:41pm
 USER: mwelch

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



NOTES:

SIGN TO BE ERECTED PRIOR TO CONSTRUCTION ACTIVITY, MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND REMOVED UPON COMPLETION OF THE PROJECT.

LOCATION OF SIGN TO BE DETERMINED BY THE ENGINEER.

NAME OF THE COOPERATING CITY TO BE SUPPLIED BY THE ENGINEER.

IF METAL IS USED, THE SIGN SHALL BE .080 GA ALUMINUM, SHEETED WITH WHITE VINYL.

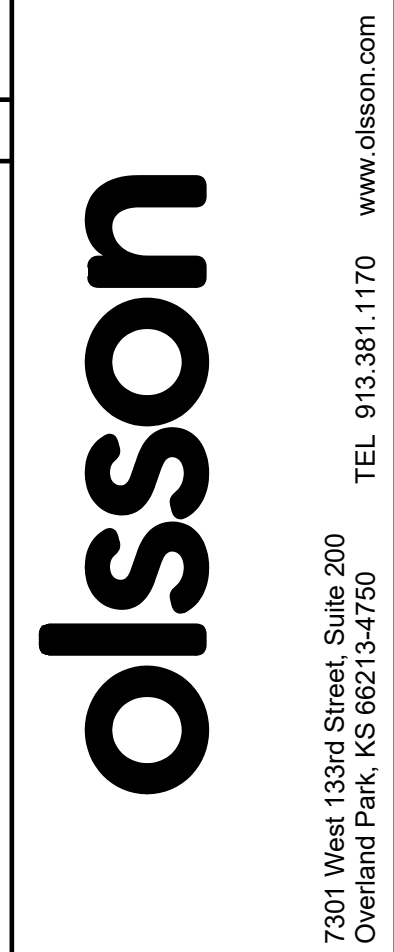
IF WOOD IS USED, THE SIGN SHALL BE 3/4" MDO, 1 SIDE PREPRIMED WITH FACE & EDGES PAINTED WHITE.

ALL SIGN HARDWARE AND INSTALLATION IS AS PER CITY STANDARD, KDOT STANDARD OR AS SHOWN ON THE PLANS.

AFTER THE PROJECT IS COMPLETE THE TWO SIGNS SHALL REMAIN IN PLACE FOR THE SUBSEQUENT PAVEMENT MARKING PROJECT 46N-0700-01.

Johnson County Logo:
 All Fonts: "Arial" (see sign for text height)
 Logo colors as follows:
 PMS 490C – Johnson County
 Kansas
 PMS 123C – Flower
 PMS 490C – Middle of Flower

Lettering – Color / Font As Follows:
 (see sign for text height)
 PMS 187C:
 C
 A
 R
 S Project
 WORKING TO CONNECT
 OUR COMMUNITIES
 (and .50" Border all around)
 Black Arial Bold:
 COUNTY, ASSISTANCE, ROAD SYSTEM
 Jointly Funded By
 JOHNSON COUNTY, KANSAS
 AND
 THE CITY OF OVERLAND PARK



7301 West 133rd Street, Suite 200
 Overland Park, KS 66213-4760
 TEL 913.381.1170 www.olsson.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

CAR SIGN DETAIL	COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	2025
		OVERLAND PARK, KANSAS

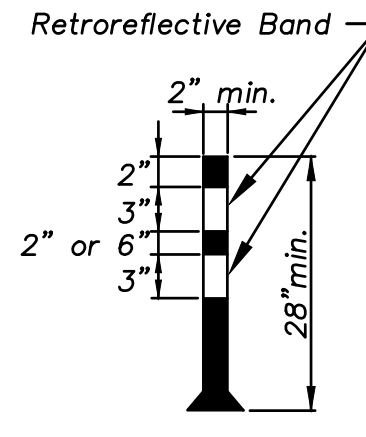
drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
 project no.: 022-06529
 drawing no.: 2024 CAR SIGN DTL
 date: 1-31-2025

General Notes:

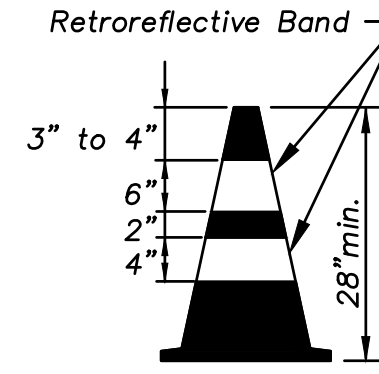
- All traffic control devices and application thereof, shall comply with the latest edition of the Manual on Uniform Traffic Control Devices (M.U.T.C.D.), and the City of Overland Park "Traffic Control Handbook". All roadside hardware shall have been tested and approved per the National Cooperative Highway Research Program (N.C.H.R.P.) Report 350 or the American Association of State Highway and Transportation Officials (A.A.S.H.T.O.) Manual for Assessing Safety Hardware (M.A.S.H.), as applicable.
- The traffic control requirements shown on the 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 their responsibility for selecting the proper traffic control devices and implementation procedures that will assure the safety of the motorist, pedestrians, and workers at all times. Any additional quantities of traffic control devices necessary to complete the contract or as ordered to be installed by the Engineer shall be considered subsidiary to the contract lump sum bid price.
- The Contractor may develop their own Temporary Traffic Control (T.T.C.) plan and submit to the Engineer for approval to use on this project.
- 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. Any deficiencies noted shall be corrected immediately.
- Should the Contractor fail to enforce the traffic control plan or fail to clean, repair, replace or otherwise maintain the traffic control devices when directed to do so by the Engineer or their representative, the City may take one or more of the following actions:
 - Employ another contractor to correct the deficiencies and deduct the cost from the project pay estimate.
 - Suspend all pay estimates until deficiencies are corrected.
 - Stop the work until deficiencies are corrected.
 - Place the contractor in default.
- During all construction periods, the Contractor shall have at the jobsite all necessary traffic control devices (appropriate signs, arrow displays, channelizing devices, direction indicator barricades, etc.) to properly close at least one lane of traffic.
- Any personnel working as a flagger must carry the proper flagger certification per KDOT Flagger Handbook, latest 805 – WORK ZONE TRAFFIC CONTROL & SAFETY 800–20 version. Properly equipped flaggers shall direct traffic as shown on the plans or as directed by the Engineer. Flaggers clothing and equipment shall conform to the latest edition of the M.U.T.C.D.
- Existing Stop, Yield, and Street Name signs shall be maintained during construction. Stop, Yield, and Street Name signs may be temporarily erected (no less than 7 feet vertical from grade) until they can be permanently installed. Any temporary Stop or Yield sign installation to be left in place overnight shall require prior approval from the Engineer.
- Existing signs that conflict with the temporary traffic control shall be covered or removed by the Contractor. The Contractor is responsible for removal, storage, and reinstallation of the signs and posts. Any damaged signs or posts shall be replaced at the Contractor's expense.
- Existing pavement markings that conflict with the temporary traffic control shall be covered temporarily, removed, or obliterated, as shown in the plans or as directed by the Engineer. If covered temporarily, removable, non-reflective, preformed tape that is approximately the same color as the pavement surface shall be used.
- All orange construction signs shall be fluorescent orange micro-encapsulated prismatic retro-reflective grade sheeting. All regulatory signs shall be prismatic retro-reflective grade sheeting.
- All retro-reflective sheeting on barricades, vertical panels, conical delineators, drums, tubular markers, cones, and directional indicator barricades shall use Kansas Department of Transportation approved high intensity retro-reflective grade sheeting.
- All pavement markings shall be retro-reflective with the use of glass beads.
- The Contractor shall provide as many barricades with appropriate warning lights as needed to effectively close or restrict all or a portion of the right-of-way as shown in the plans or as directed by the Engineer. Type III barricades shall be used at street closings at the point of closure and where new streets under construction connect to an existing street.
- Detectable Pedestrian Barricades and/or Channelizers shall be used for all sidewalk closures or temporary sidewalk facilities. A sidewalk detour shall be provided when necessary or directed by the Engineer. When existing pedestrian facilities are disrupted, closed, or relocated, the temporary facilities shall be detectable and include accessibility features consistent with the feature present in the existing facility. A barrier that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
- Appropriate warning lights shall be used at night on all barricades, unless otherwise specified.
- For merge taper channelization, direction indicator barricades shall be used for all long-term stationary traffic control installations. They may be used for intermediate-term, stationary, short-term stationary, and short duration installations but are not required. Standard conical delineators may be used in place of direction indicator barricades as long as the traffic control setup is three days or less.
- For longitudinal channelization, drums, conical delineators, or vertical panels are acceptable devices. For work that occupies a location less than 8 hours, retro-reflective cones (28 inches min. height) may be used. Where space restrictions do not allow for the use of other more visible devices, retro-reflective tubular markers (28 inches min. height) may be used.
- The maximum spacing between channelizing devices should be approximately equal in feet to the posted speed limit in miles per hour.
- Sign mounting height, measured vertically from the bottom of the sign to the top of the curb, shall be a minimum of 7 feet. Sign lateral offset, measured from the edge of the sign to the face of the curb, shall be a minimum of 2 feet.
- Construction signs that are to be in place for 3 days or less may be mounted on approved temporary supports. The mounting height for signs on temporary supports, measured vertically from the bottom of the sign to the traveled way, shall be a minimum of 1 foot above the adjacent pavement surface, with the exception of the Road Work Ahead sign (W20-1), which shall be a minimum of 7 feet above the adjacent pavement surface.
- Placement of advance work zone signing shall be based on the speed of the facility and the spacing indicated in the Advance Warning Sign Spacing Table.
- End Road Work signs (G20-2) should be placed at the downstream end of the termination area. If the End Road Work sign (G20-2) will be less than 1,000 feet from other construction improvements, it may be omitted.
- For road closures on a thoroughfare, a Changeable Message Sign shall be used to provide advance notices for all directions impacted by the closure. The message shall be displayed for a minimum of one week in advance of the closure.
- All messages to be displayed on Changeable Message Signs shall be approved by the Engineer in advance of sign deployment.
- Arrow boards shall be used at all lane closures on multilane streets. Preferred placement of the arrow display is at the start of the taper area.
- Traffic control devices shall be completely covered or removed when not in use.
- Any vertical pavement drop-off that exceeds 3 inches in depth and is located within 4 feet of an adjacent travel lane, shall require either a Curb Drop Off Ahead sign (OP TTC1) or Shoulder Drop Off sign (W8-17), as appropriate, spaced not less than 500 feet apart. Channelizing devices shall be placed at the edge of the drop-off. If the drop-off is to remain in place for more than 3 days, a solid edge line pavement marking shall be present for the adjacent lane.
- The minimum lane width for a thru lane is 10 feet. The minimum lane width for a turn lane is 10 feet. A lane shall be closed if the minimum lane width cannot be maintained.

Construction Requirements:

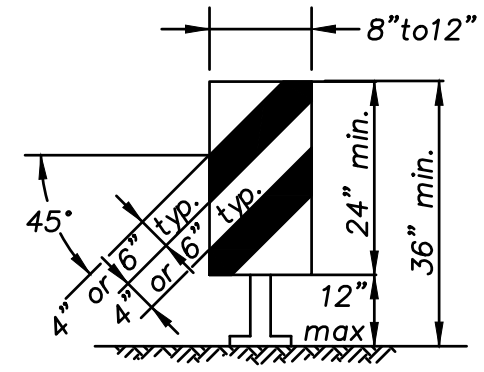
- Construction shall be sequenced to provide the least possible adverse effect to residents, roadway users, and pedestrians.
- Construction materials shall be kept off sidewalks and consolidated in areas within the City right-of-way unless otherwise approved by the Engineer.
- Mud and construction debris on streets or sidewalks shall be cleaned off immediately.
- Access shall be maintained to all drives and side streets or as indicated in the Temporary Traffic Control plan.
- Construction vehicles (and personal employee vehicles) shall be parked along streets so as not to cause sight restriction of vehicles coming from side streets or drives.
- The Contractor shall be responsible for coordinating with the Engineer for street closure locations and times.
- Construction shall not be performed on holidays or weekends unless prior approval is received in writing from the Engineer.
- The Contractor is responsible for avoiding any and all utilities when setting sign posts and will be required to coordinate their activities with any and all utility companies whether their facility is indicated on the plans or not.
- Street plates shall be A36 certified steel a minimum of 1 inch thick. The plate shall be securely anchored and all edges of the plate shall be ramped with hot mix asphalt. If hot mix asphalt is not available, cold mix may be used. A Steel Plate Ahead warning sign (W8-24) with a Type B warning light shall be installed at the location of the street plate, or where the temporary road surface is left below the final surface elevation (unless an asphalt wedge is installed on the leading and trailing edges).
- Any construction activities which require the closing of a lane of traffic on thoroughfares (arterial streets) or collector streets shall not occur between the hours of 7:00 a.m. to 8:30 a.m. and 4:00 p.m. to 6:00 p.m. or on holidays or weekends, unless prior approval is received from the Engineer or there are emergency repairs necessary by a utility company or their representative.



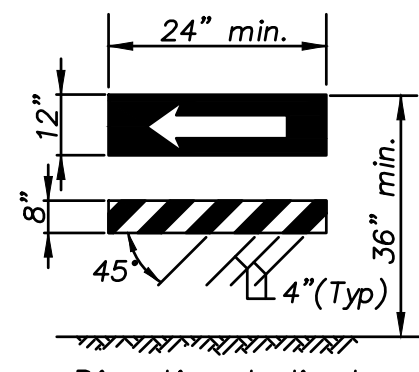
Tubular Marker



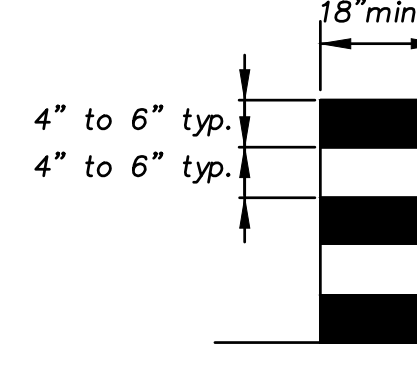
28" Cone



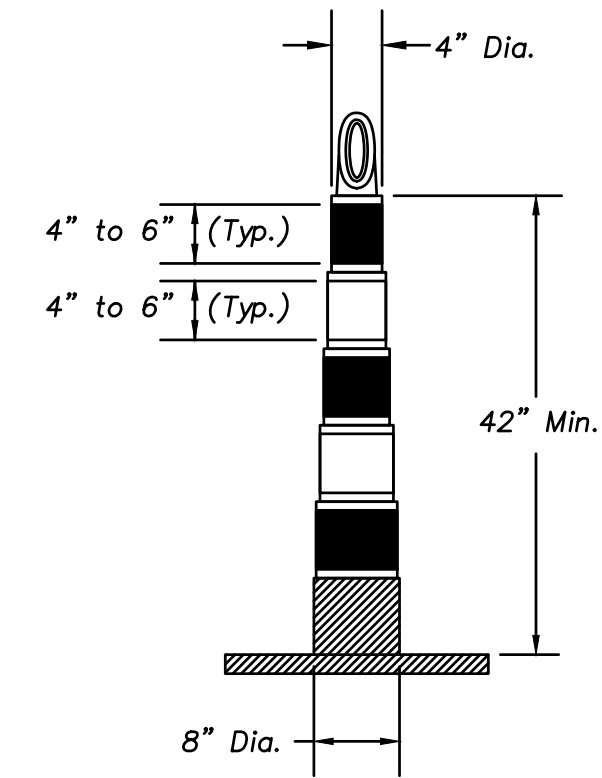
Vertical Panel



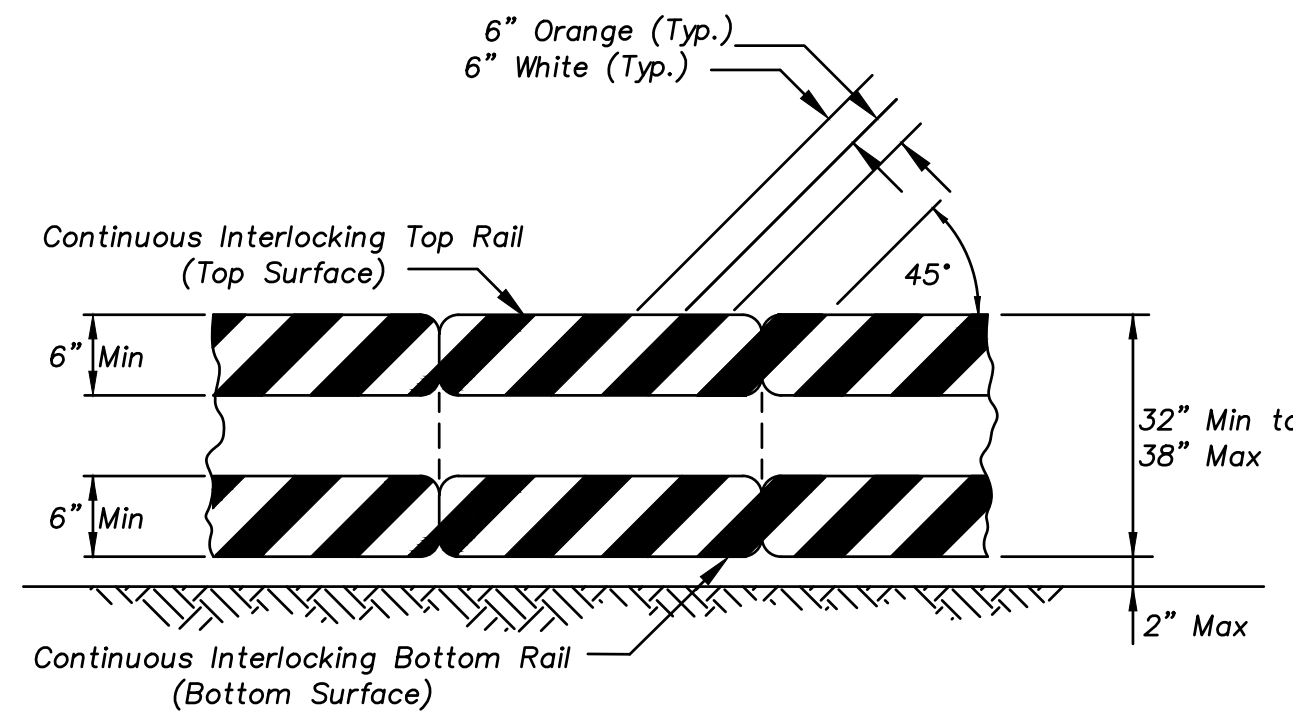
Direction Indicator Barricade (See Note 17)



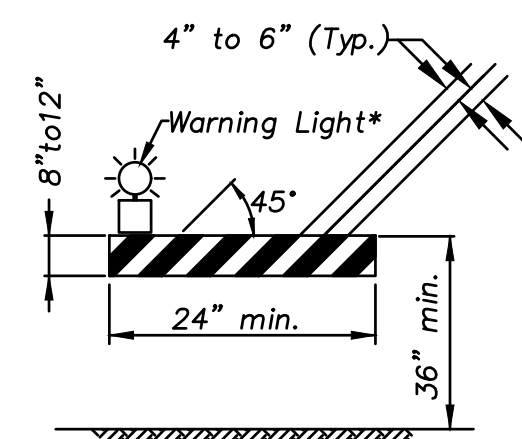
Drum



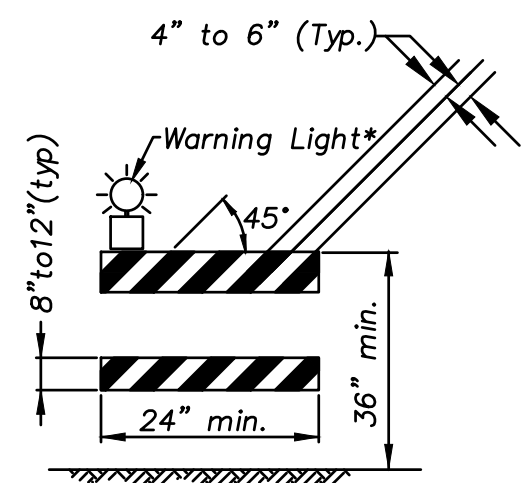
Conical Delineator



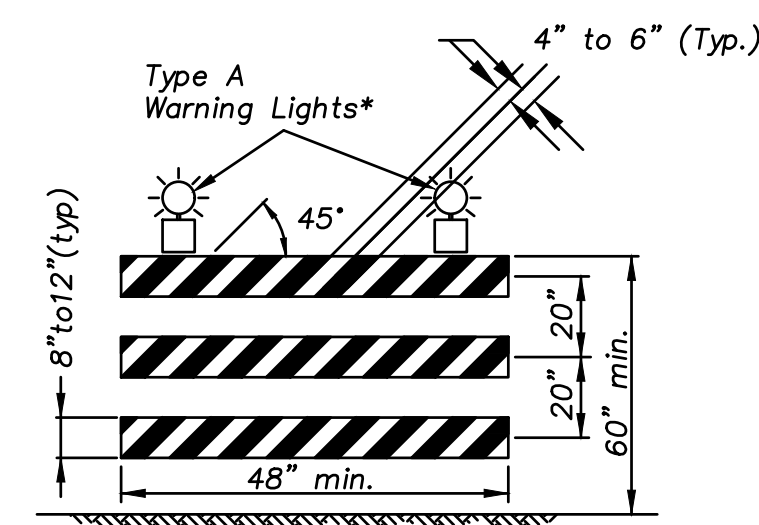
Detectable Pedestrian Barricade/Channelizer



Type 1 Barricade



Type 2 Barricade



Type 3 Barricade

*Optional during daylight hours (See general note #16)

Length and Device Spacing for Lane Closure					
Speed Limit	Minimum Taper Length (L) ¹			Min. No. of Devices for Taper	Maximum Device Spacing
	Lane Width in Feet	10	12		
M.P.H.				(12FT. Lane)	In Feet
20	70	75	80	5	20
25	105	115	125	6	25
30	150	165	180	7	30
35	205	225	245	8	35
40	270	295	320	9	40
45	450	495	540	13	45
50	500	550	600	13	50
55	550	605	660	13	55

$L = SxW$ $S \geq 45$ MPH
 $L = S^2xW/60$ $S \leq 40$ MPH

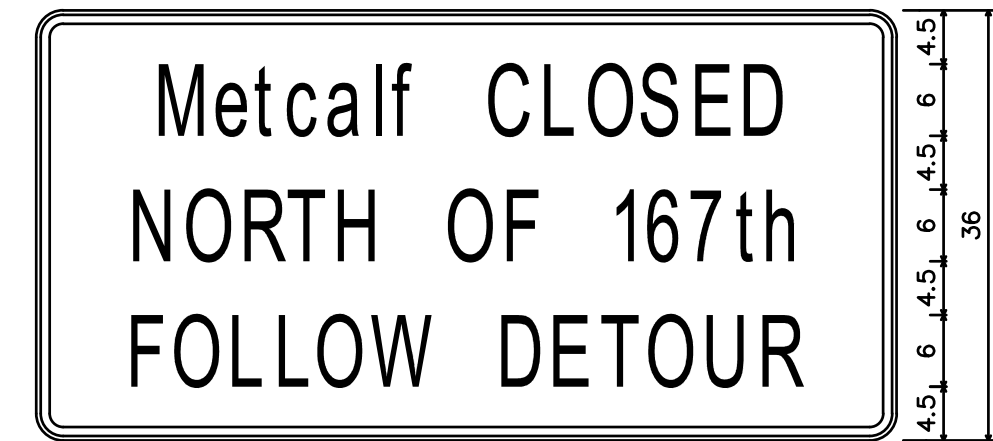
L = Minimum Taper Length (Feet)
 W = Width of Offset (Feet)
 S = Posted Speed Limits Prior to Construction (MPH)

Note: Length of downstream taper to be between 50' and 100' with device spacing of 20'.

LEGEND

(Applies to the Following Traffic Control Detail Sheets)

- Changeable Message Sign
- Arrow Board
- Type 3 Barricade
- Detectable Pedestrian Barricade/Channelizer
- Traffic or Pedestrian Signal
- Pavement Marking To Be Removed
- Work Area
- Sign Code
- Sign Symbol
- Channelizing Device
- Flagger
- Arrow Board Support
- Direction of Traffic
- Direction Indicator Barricade
- Tubular Markers

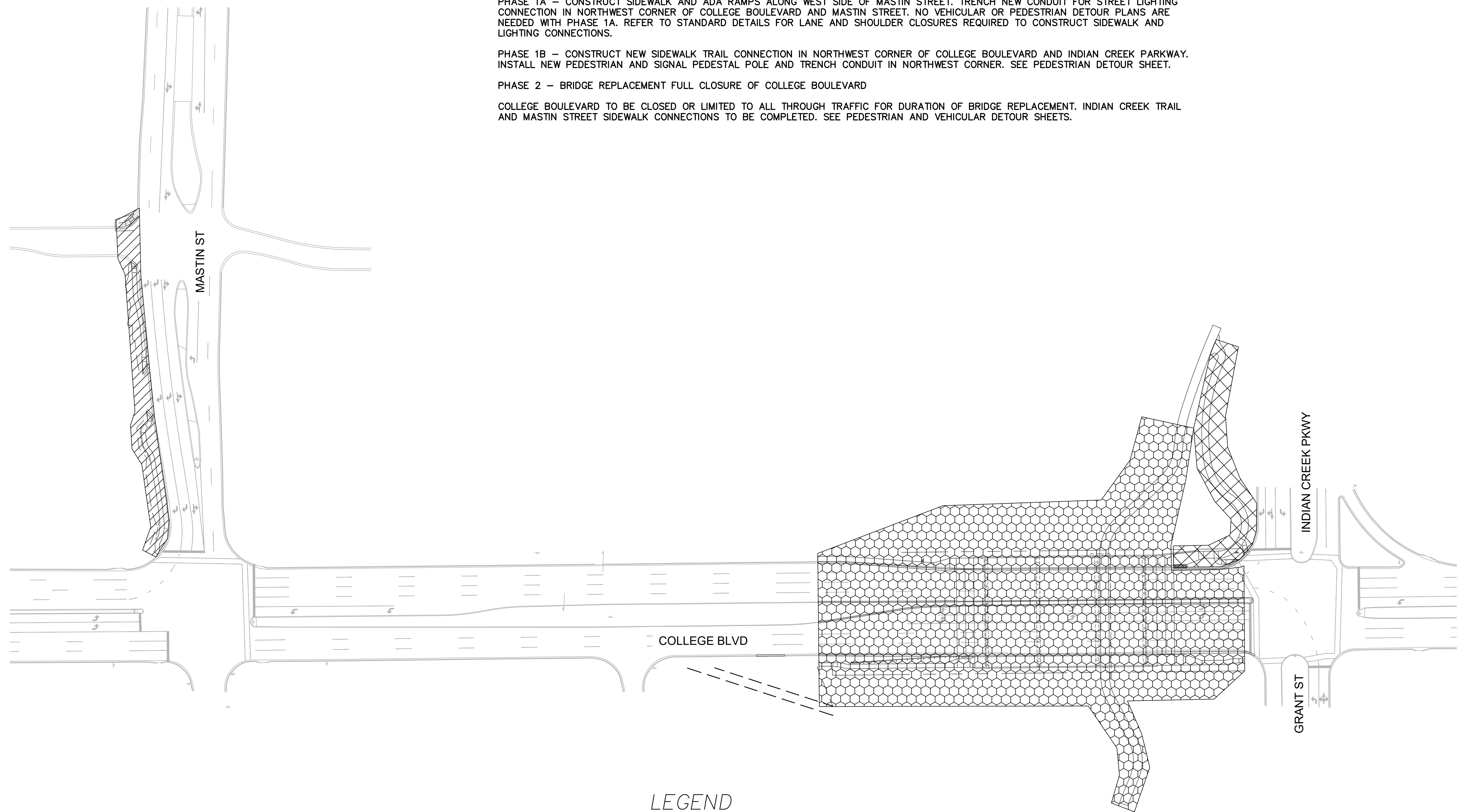


Legend and Border: Black
 Background: Orange
 Text Series: Uppercase: 6" Series C, Lowercase 4.5" Series C
 Border: 0.75"
 2.25" Radius

- Notes:**
- All street names on special signs shall be upper and lower case letters.
 - The legend shown is a typical example. Modify the legend for specific purpose.

SPECIAL CONSTRUCTION SIGN DETAIL

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 USER: mwelech
 F_PTBLK_02206529 F_PBASE_02206529 F_SASBASE_02206529 T_BRIDGEBASE_02206529



CONSTRUCTION SEQUENCING

PHASE 1 - PRE-BRIDGE REPLACEMENT PEDESTRIAN, LIGHTING MODIFICATIONS, AND AND UTILITY WORK OFF ROADWAY.

PHASE 1A - CONSTRUCT SIDEWALK AND ADA RAMPS ALONG WEST SIDE OF MASTIN STREET. TRENCH NEW CONDUIT FOR STREET LIGHTING CONNECTION IN NORTHWEST CORNER OF COLLEGE BOULEVARD AND MASTIN STREET. NO VEHICULAR OR PEDESTRIAN DETOUR PLANS ARE NEEDED WITH PHASE 1A. REFER TO STANDARD DETAILS FOR LANE AND SHOULDER CLOSURES REQUIRED TO CONSTRUCT SIDEWALK AND LIGHTING CONNECTIONS.

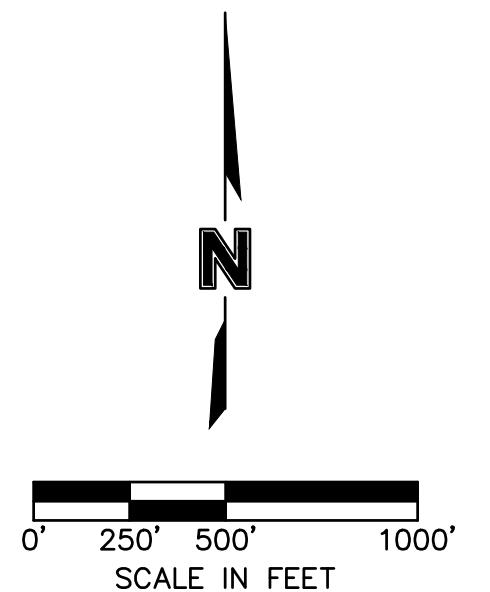
PHASE 1B - CONSTRUCT NEW SIDEWALK TRAIL CONNECTION IN NORTHWEST CORNER OF COLLEGE BOULEVARD AND INDIAN CREEK PARKWAY. INSTALL NEW PEDESTRIAN AND SIGNAL PEDESTAL POLE AND TRENCH CONDUIT IN NORTHWEST CORNER. SEE PEDESTRIAN DETOUR SHEET.

PHASE 2 - BRIDGE REPLACEMENT FULL CLOSURE OF COLLEGE BOULEVARD

COLLEGE BOULEVARD TO BE CLOSED OR LIMITED TO ALL THROUGH TRAFFIC FOR DURATION OF BRIDGE REPLACEMENT. INDIAN CREEK TRAIL AND MASTIN STREET SIDEWALK CONNECTIONS TO BE COMPLETED. SEE PEDESTRIAN AND VEHICULAR DETOUR SHEETS.

LEGEND

	Phase 1A Work Area
	Phase 1B Work Area
	Phase 2 Work Area



STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025
FEDERAL:	F.A. NO. DE-N078(501)	

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FINAL PLANS
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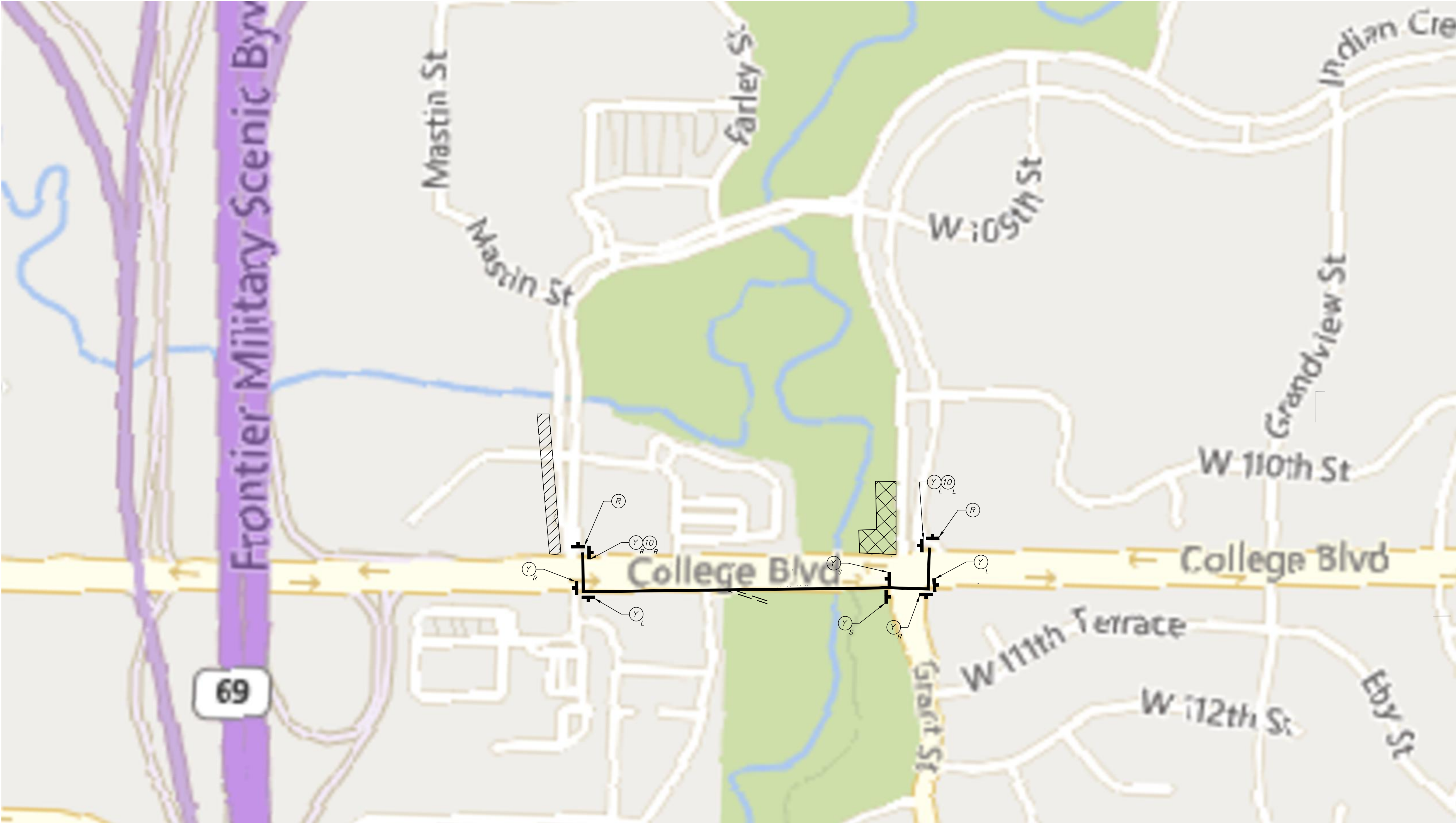
REV NO.	DATE	REVISIONS DESCRIPTION	BY

TRAFFIC CONTROL PHASING	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	REVISONS
OVERLAND PARK, KANSAS	

drawn by:	SRH
checked by:	JSC
approved by:	JSS
QA/QC by:	JSS
project no.:	022-06529
drawing no.:	F TRF 02206529
date:	2/2/2025

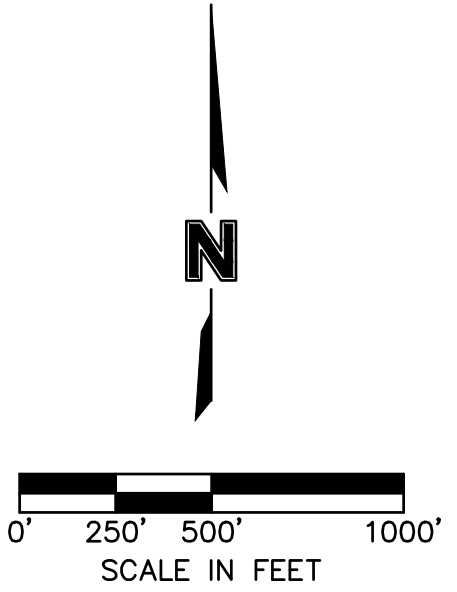
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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025
FEDERAL:	F.A. NO. DE-N078(501)	



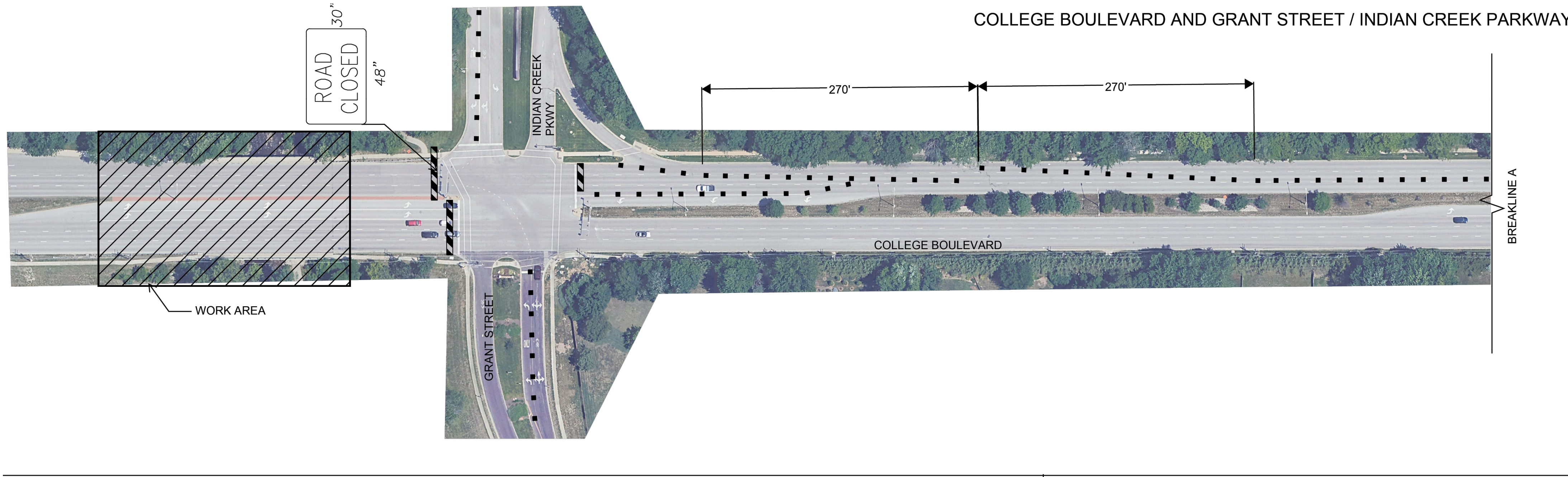
SIGN LEGEND

① R11-2	② R11-4	③ R9-9	④ M4-9b(L)	⑤ M4-9(L)	⑥ AL M4-9(AL)	⑦ M4-10(L)	⑧ G20-2	⑨ G20-5aP
④ W20-1	⑤ W20-3	⑥ W20-2	⑧ M4-9b(R)	⑨ M4-9(R)	⑩ AR M4-9(AR)	⑪ M4-10(R)		
			⑩ R9-11(L)	⑪ DL M4-9(DL)	⑫ M4-8a	⑬ D3-1	⑭ SP-1	⑮ SP-2
			⑪ R9-11(R)	⑫ DR M4-9(DR)				



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		FINAL PLANS NOT FOR CONSTRUCTION	
PEDESTRIAN DETOUR PLAN PHASE 1B	REVISIONS		
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	2025		
OVERLAND PARK, KANSAS	2025		
drawn by: _____ SRH checked by: _____ JSC approved by: _____ JSS QA/QC by: _____ JSS project no.: 022-06529 drawing no.: F TRF 02206529 date: 2/2/2025			
SHEET 148 of 189			

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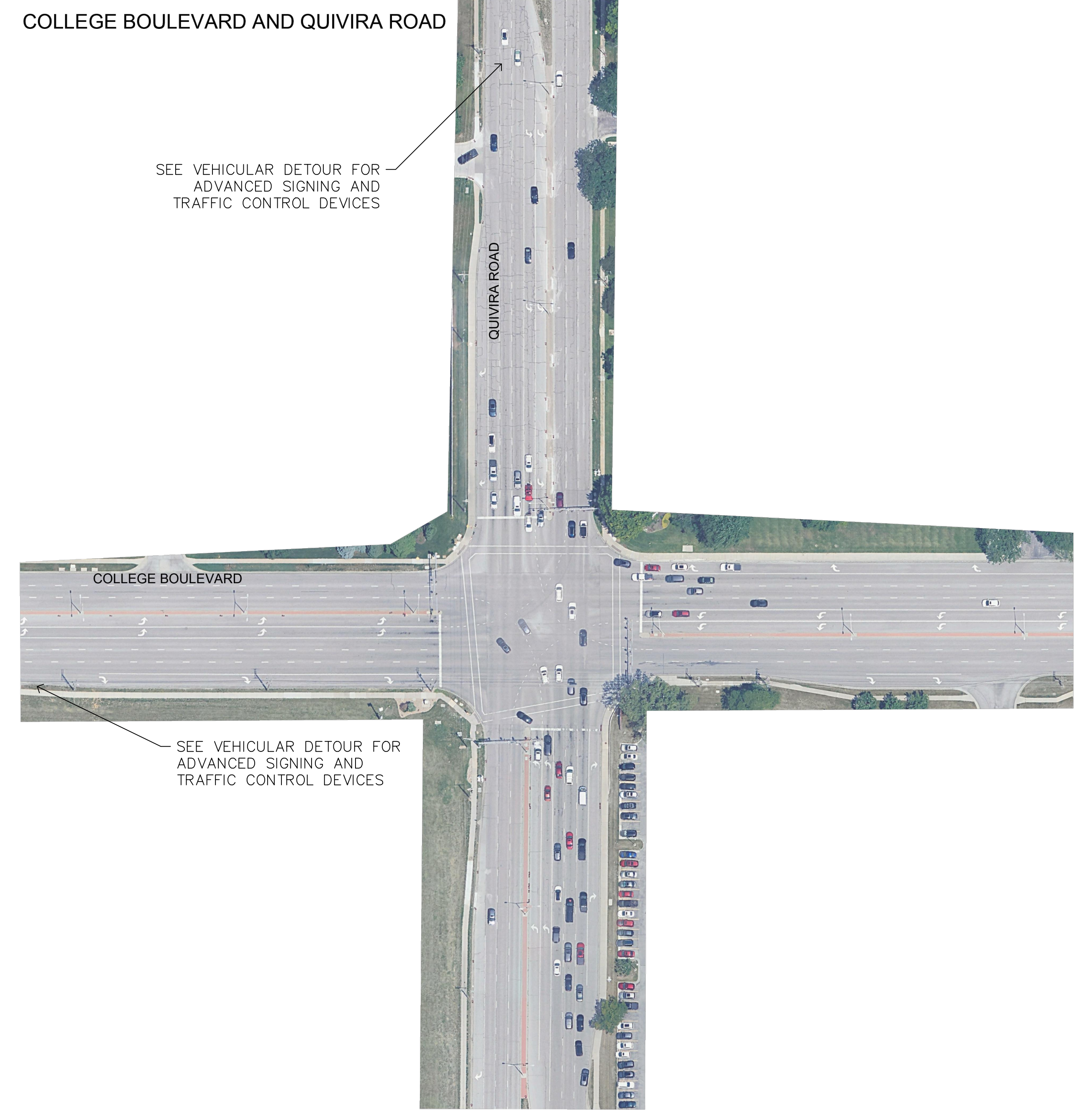
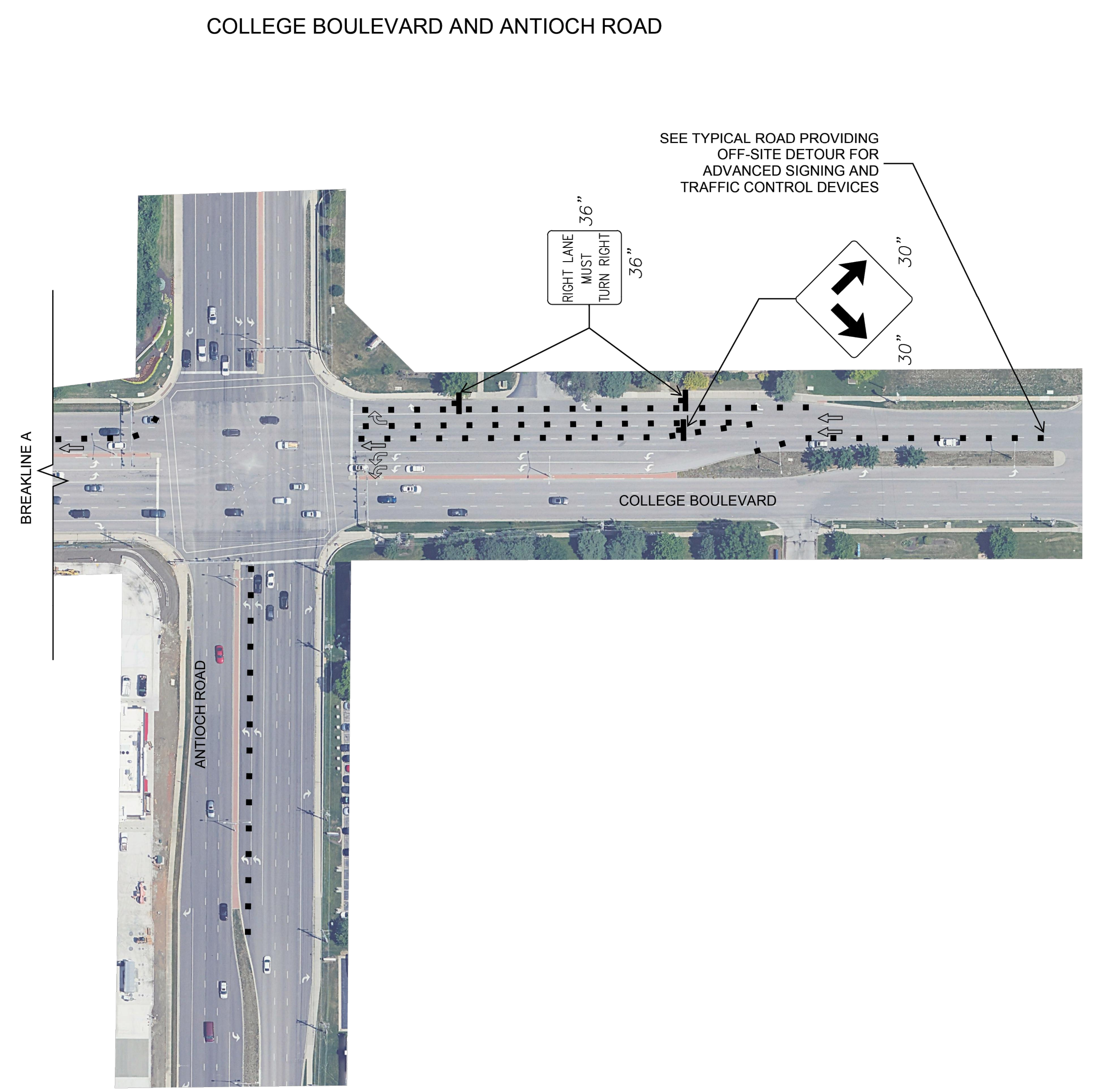


STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025
FEDERAL:	F.A. NO. DE-N078(501)	

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FINAL PLANS
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

TRAFFIC CONTROL PLAN

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

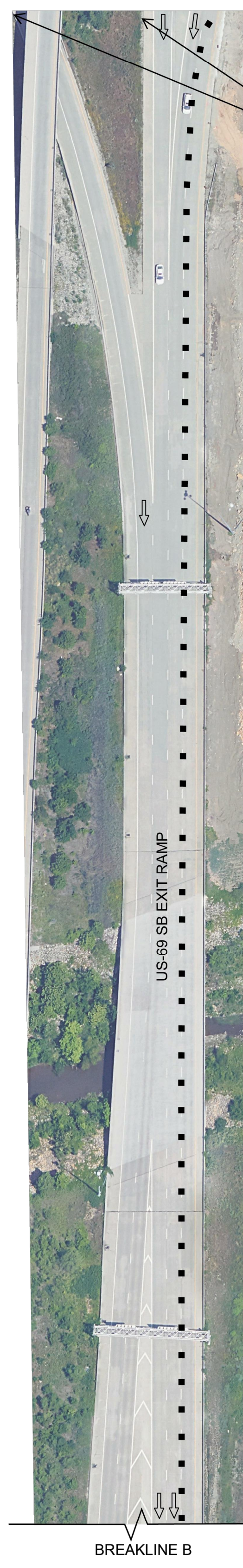
2025

REVISIONS

drawn by:	SRH
checked by:	JSC
approved by:	JSS
QA/QC by:	JSS
project no.:	022-06529
drawing no.:	F TRF 02206529
date:	2/2/2025

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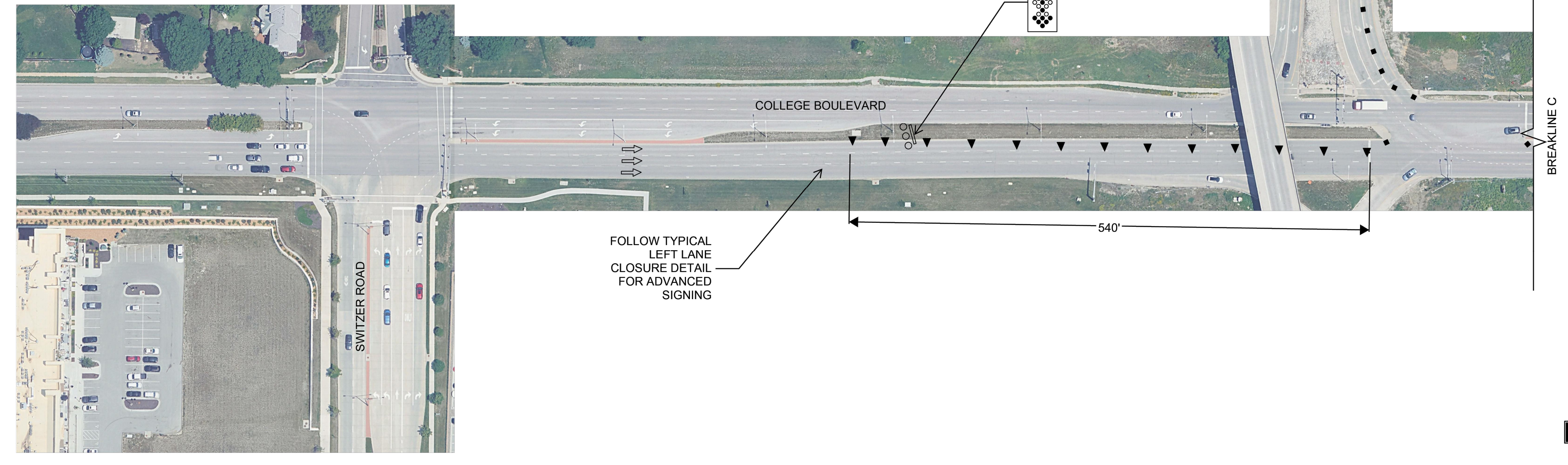
SOUTHBOUND US-69
 EXIT RAMP AT
 COLLEGE BOULEVARD



48"
 ROAD WORK
 AHEAD

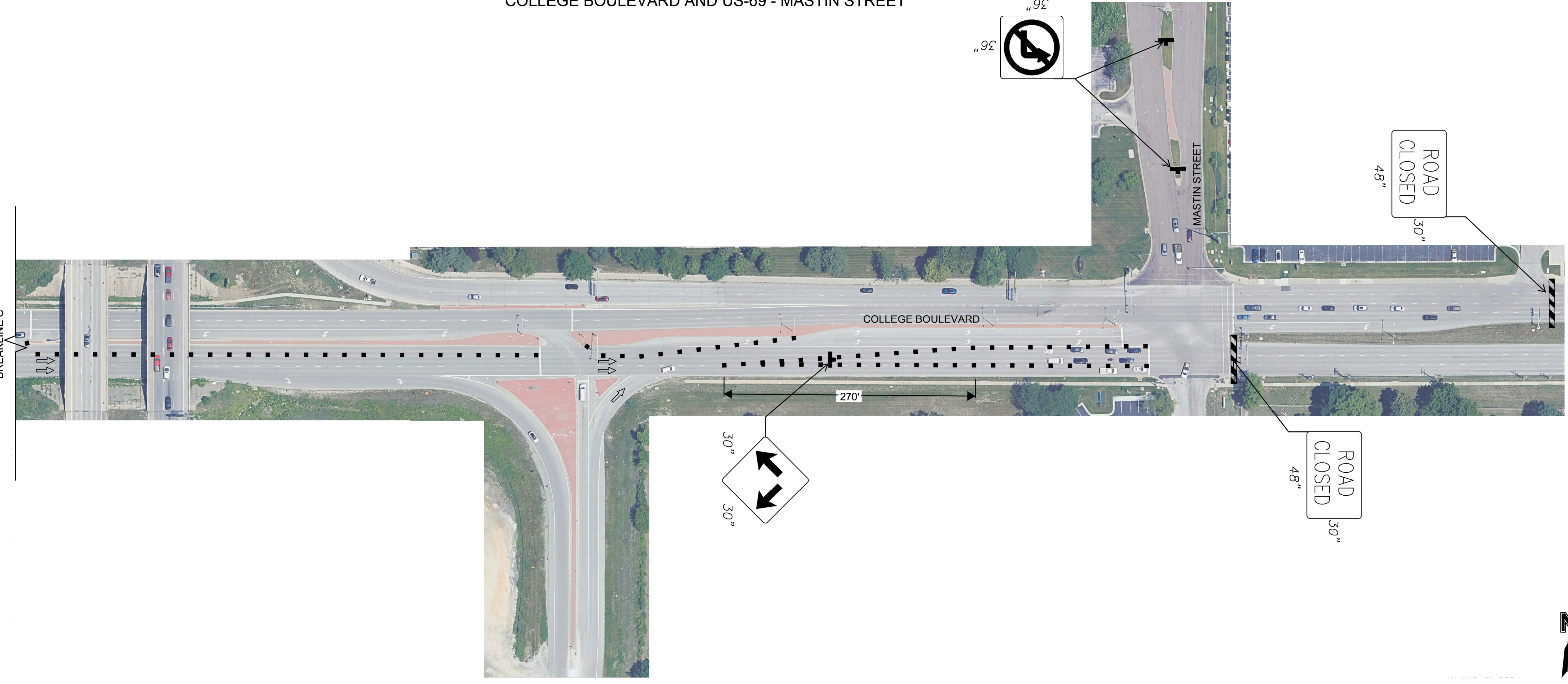
PLACE ROAD
 WORK AHEAD
 SIGNING IN
 ADVANCE OF
 CHANNELIZERS

COLLEGE BOULEVARD AND SWITZER - SOUTHBOUND US-69 EXIT RAMP



FOLLOW TYPICAL
 LEFT LANE
 CLOSURE DETAIL
 FOR ADVANCED
 SIGNING

COLLEGE BOULEVARD AND US-69 - MASTIN STREET



ROAD
 CLOSED
 30"
 48"

ROAD
 CLOSED
 30"
 48"

36"
 36"

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025
FEDERAL:	F.A. NO. DE-N078(501)	



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FINAL PLANS
 NOT FOR CONSTRUCTION

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

TRAFFIC CONTROL PLAN

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

REVISIONS

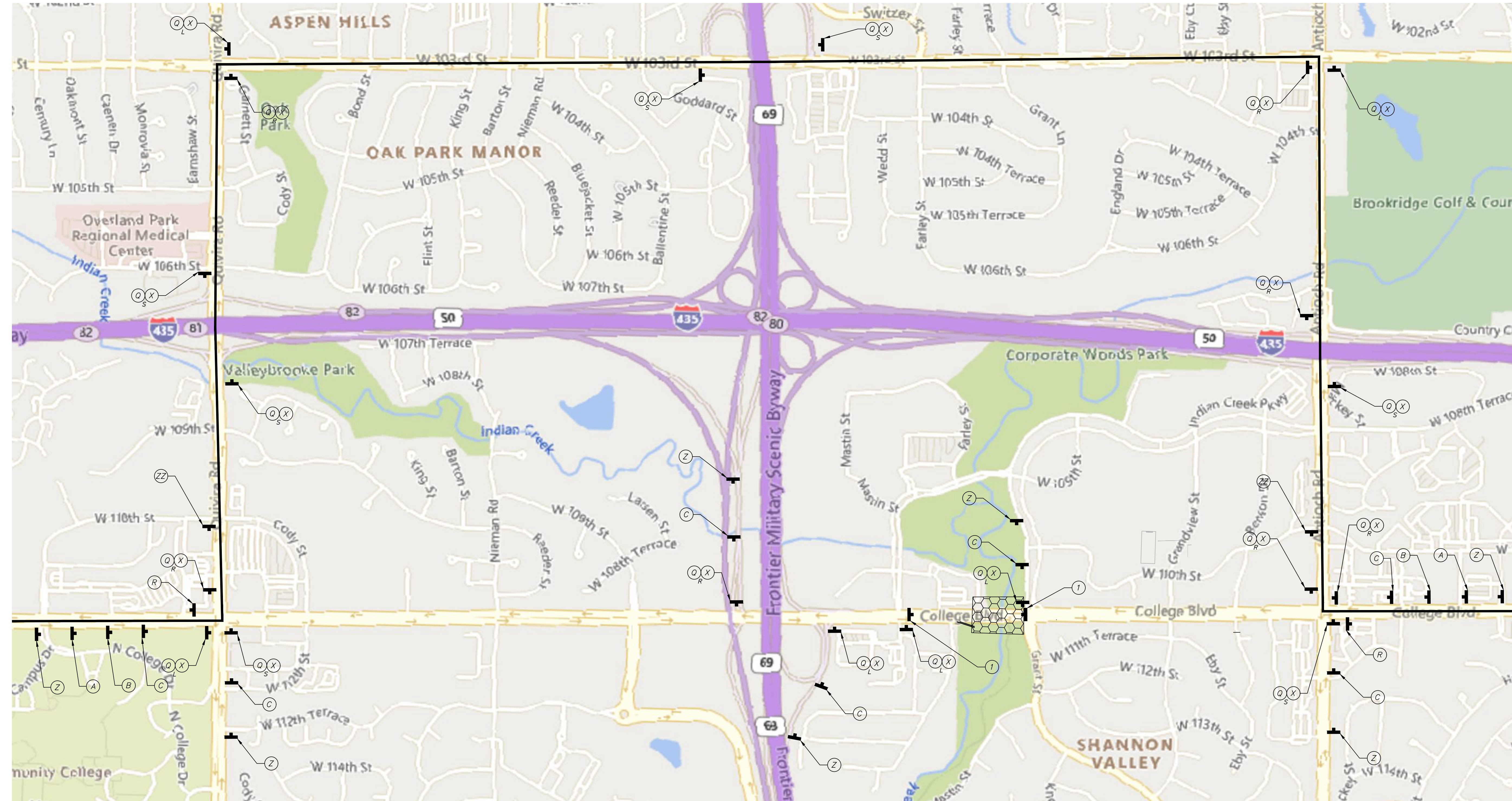
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 checked by: _____
 approved by: _____
 QA/QC by: _____
 project no.: 022-06529
 drawing no.: F TRF 02206529
 date: 2/2/2025

SHEET
 150 of 189

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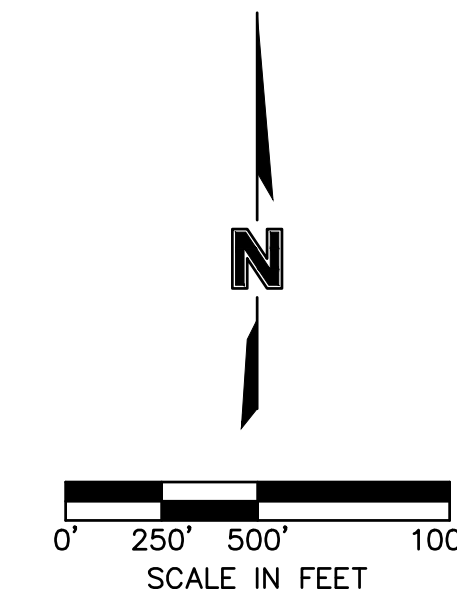
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025
FEDERAL:	F.A. NO. DE-N078(501)	

FINAL PLANS
 NOT FOR CONSTRUCTION



SIGN LEGEND

ROAD CLOSED 48" 30" (1) R11-2	ROAD CLOSED TO THRU TRAFFIC 60" 30" (2) R11-4	SIDEWALK CLOSED 24" 12" (3) R9-9	DETOUR 24" 30" (4) M4-9(L)	DETOUR 24" 30" (5) M4-9(R)	DETOUR 24" 30" (6) M4-9(S)	DETOUR 30" 30" (7) M4-9(AL)	DETOUR 30" 30" (8) M4-9(AR)	END ROAD WORK 18" 36" (9) G20-2	WORK ZONE 18" 24" (10) G20-5aP	
ROAD WORK AHEAD 36" 36" (A) W20-1	ROAD CLOSED AHEAD 36" 36" (B) W20-3	DETOUR AHEAD 36" 36" (C) W20-2	SIDEWALK CLOSED AHEAD 24" 18" (11) R9-11(L)	SIDEWALK CLOSED AHEAD 24" 18" (12) R9-11(R)	DETOUR AHEAD 30" 24" (13) M4-9(DL)	DETOUR AHEAD 30" 24" (14) M4-9(DR)	END DETOUR 18" 24" (15) M4-8a	COLLEGE BLVD 18" 48" (16) D3-1	COLLEGE CLOSED WEST OF GRANT FOLLOW DETOUR 18" 24" (17) SP-1	COLLEGE CLOSED WEST OF GRANT USE ALT ROUTE 18" 24" (18) SP-2



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

VEHICULAR DETOUR PLAN
 PHASE 2
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS

2025

drawn by: _____	SRH
checked by: _____	JSC
approved by: _____	JSS
QA/QC by: _____	JSS
project no.: 022-06529	F TRF 02206529
drawing no.: _____	2/2/2025
date: _____	

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025
FEDERAL:	F.A. NO. DE-N078(501)	

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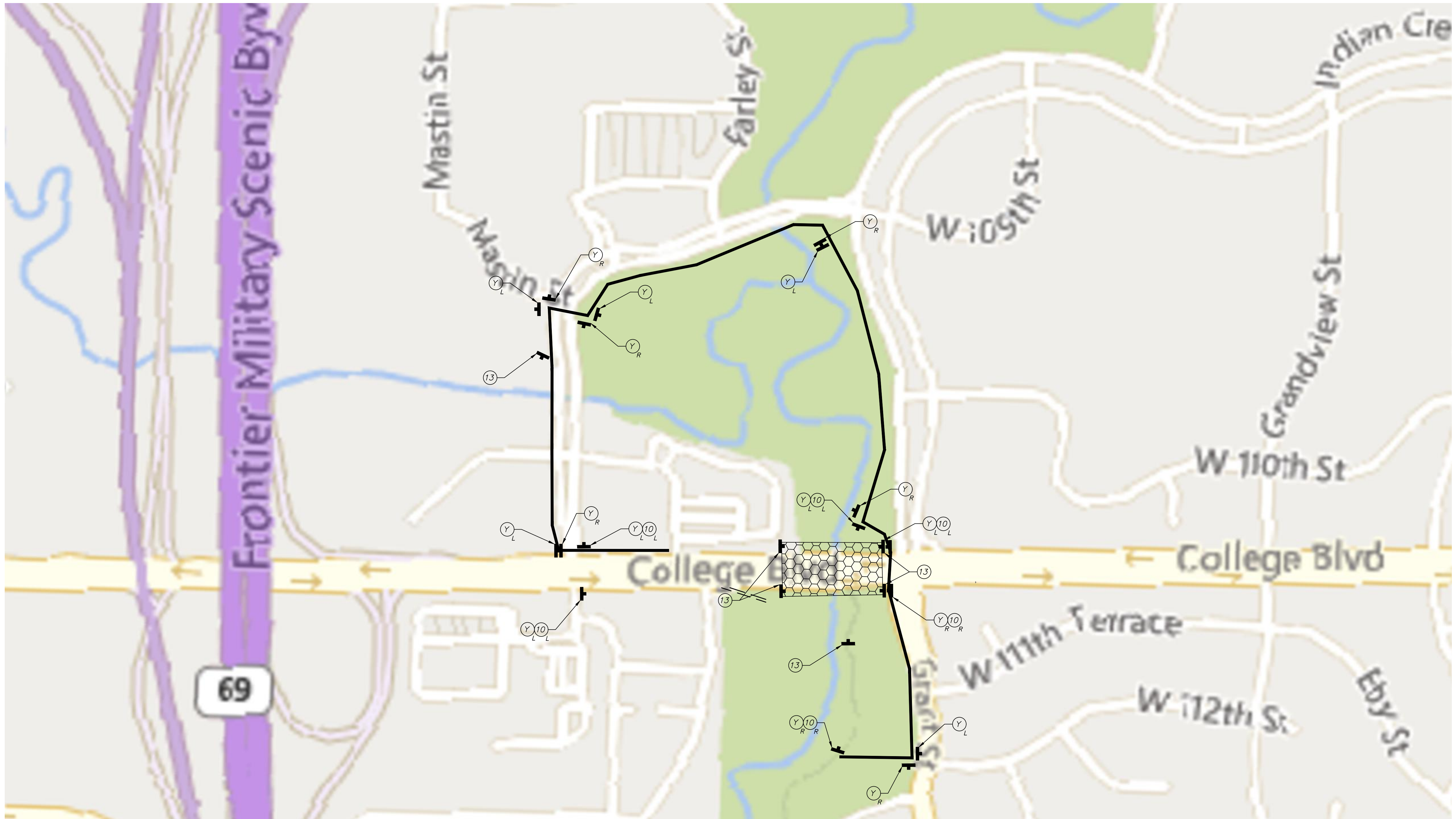
FINAL PLANS
 NOT FOR CONSTRUCTION

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

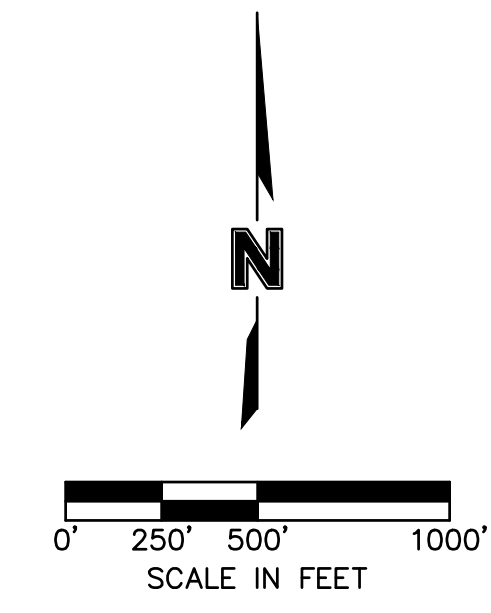
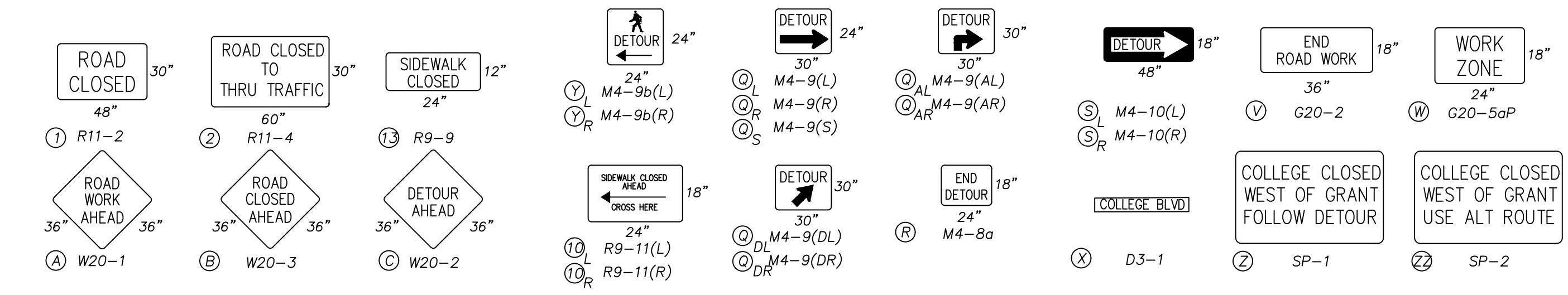
REVISIONS

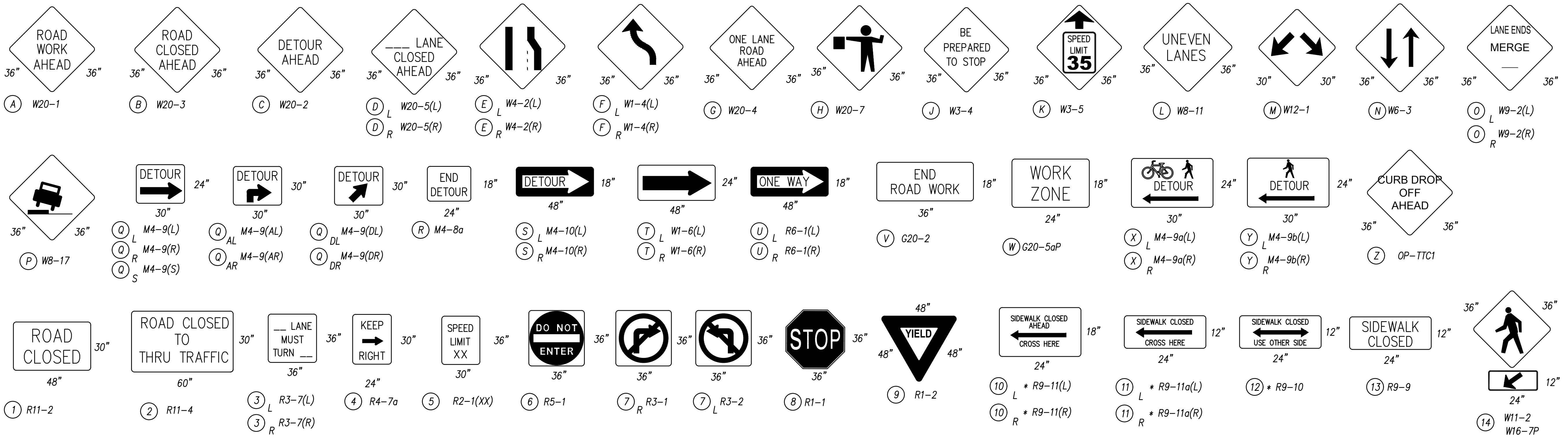
PEDESTRIAN DETOUR PLAN PHASE 2	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	

drawn by: SRH
 checked by: JSC
 approved by: JSS
 QA/QC by: JSS
 project no.: 022-06529
 drawing no.: F TRF 02206529
 date: 2/2/2025



SIGN LEGEND





* Requires Audible Information Device with a verbal message conveying the information that identifies the alternate pedestrian access route.

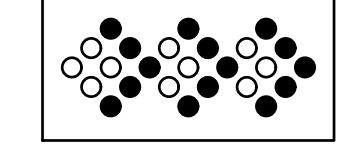
Sign Designations

Subscript Codes

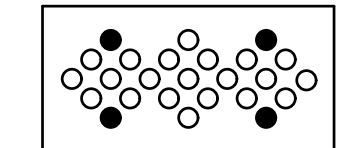
- L - Left
- R - Right
- S - Straight
- AL - Advance Left
- AR - Advance Right
- DL - Diagonal Left
- DR - Diagonal Right

- Notes:
1. Sizes shown are for conventional roadways.
 2. Signs 11, 12 and 13 shall be mounted on Portable Barricade/Channelizer

Type	Min. Size	Min. # of Elements	Usage
A	48"x24"	12	Speed Limit ≤ 30 MPH
B	60"x30"	13	Speed Limit = 35, 40, 45 MPH
C	96"x48"	15	Speed Limit ≥ 50 MPH



Arrow board shall be set in the sequential chevron or flashing arrow mode for lane closures.

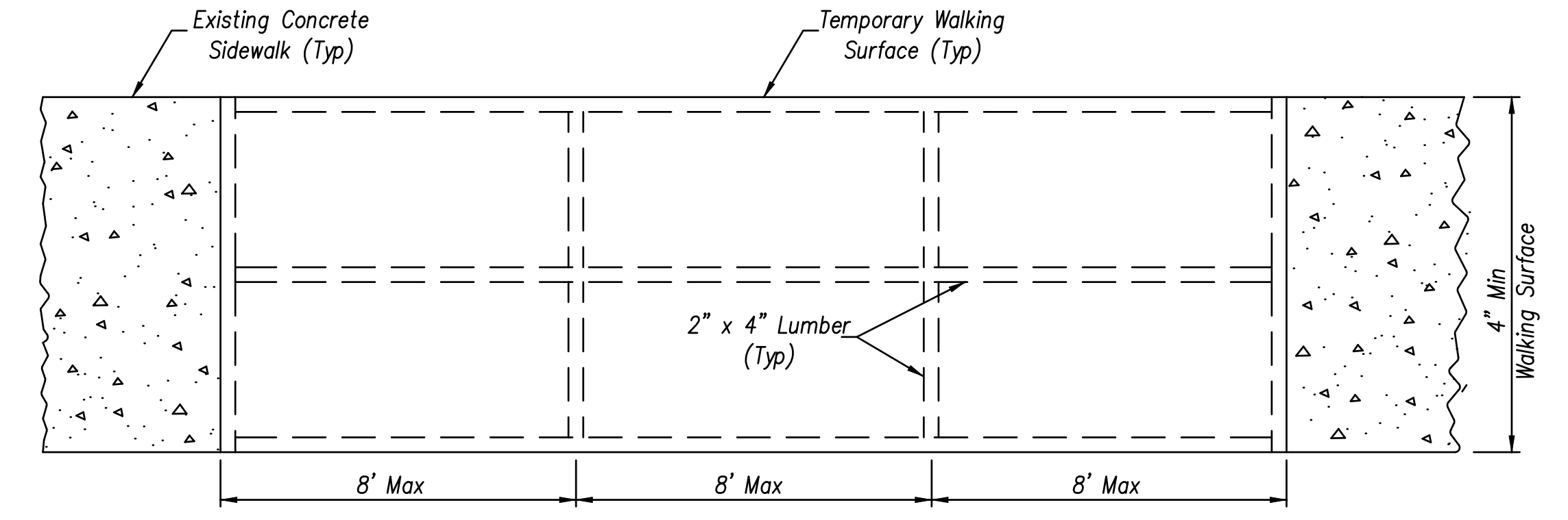


Arrow board shall be set in the flashing caution mode for shoulder work, roadside work near the shoulder, or temporary closing of one lane on a two-lane, two-way roadway.

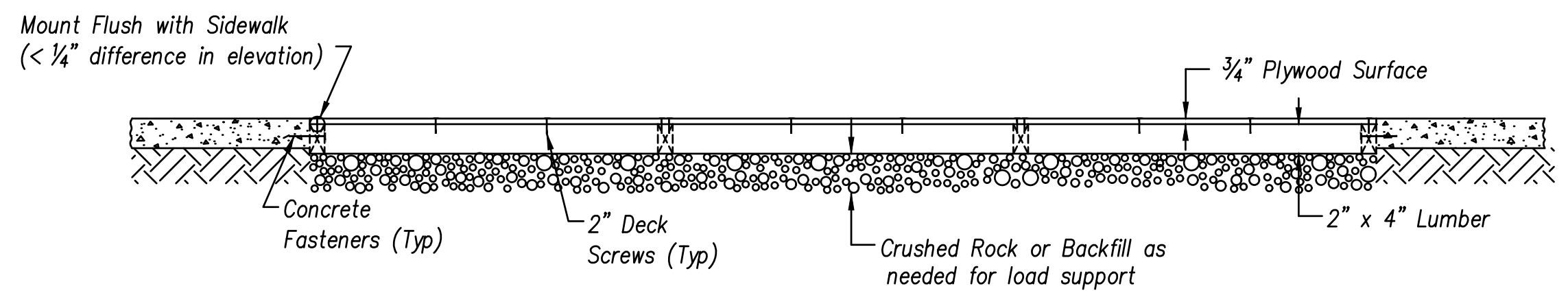
Arrow Board

Advance Warning Sign Spacing Table

Road Type	Minimum Distance Between Signs			
	A	B	C	D
Urban (Speed Limit ≤ 30 MPH)	100'	100'	100'	100'
Urban (Speed Limit ≥ 35 MPH)	350'	350'	350'	150'
Rural (Speed Limit ≤ 40 MPH)	350'	350'	350'	200'
Rural (Speed Limit > 40 MPH)	500'	500'	500'	200'



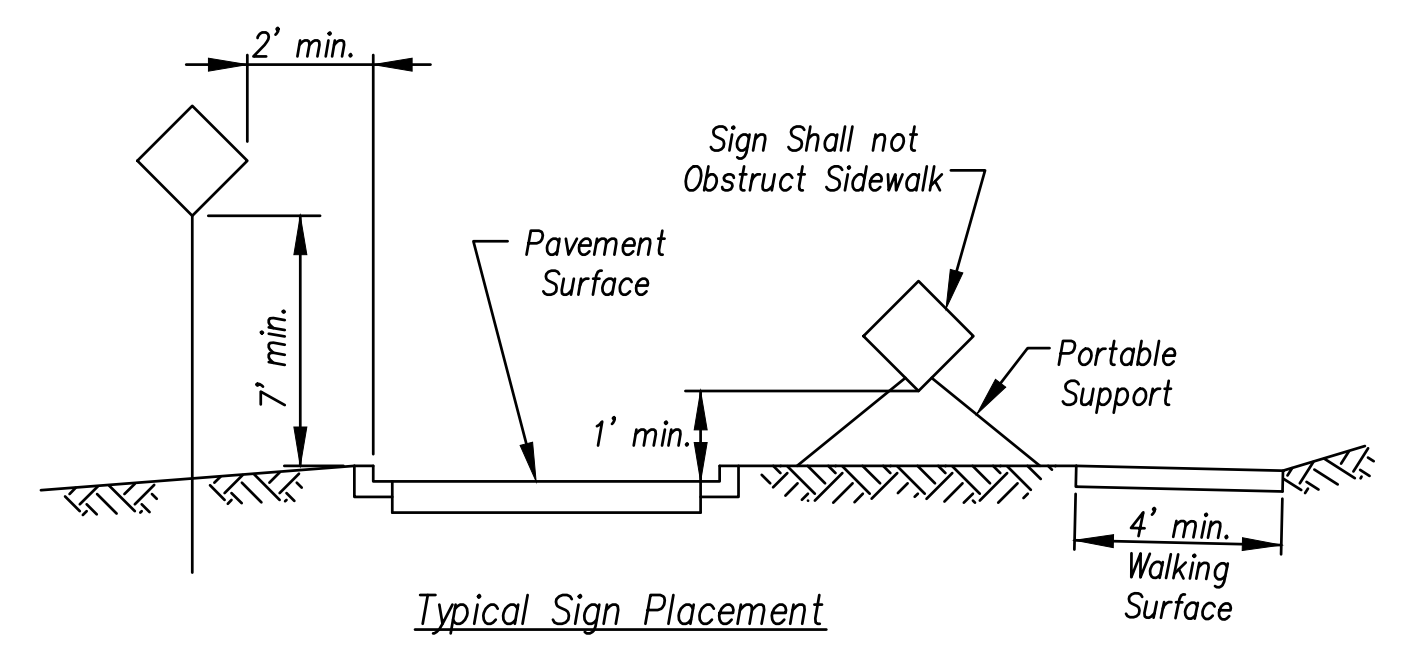
Top View



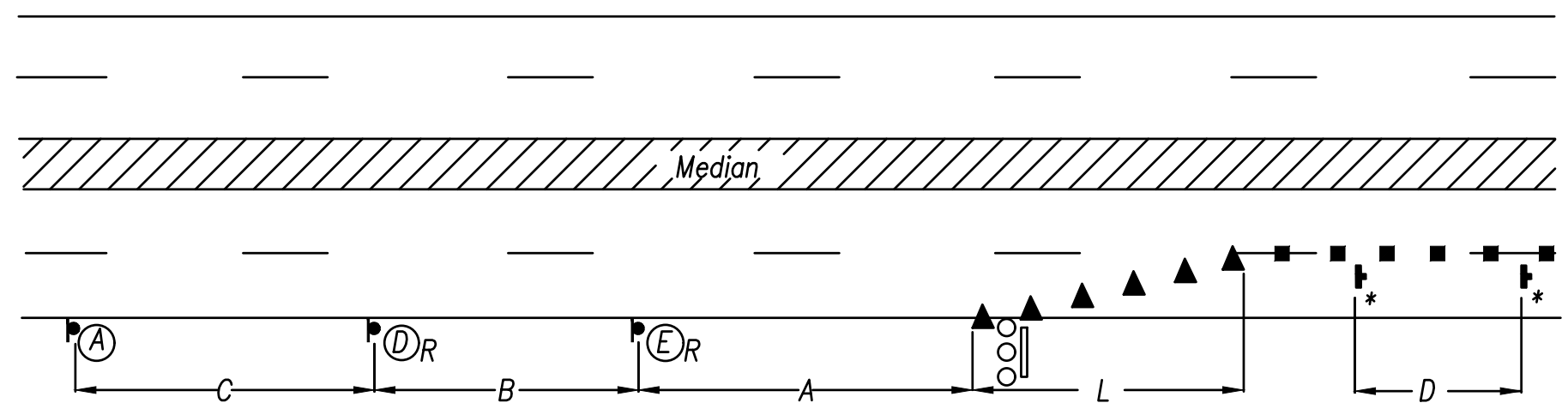
Side View

Temporary Sidewalk Detail

- Notes:
1. A temporary sidewalk may be installed, in lieu of providing a pedestrian detour, when removing sidewalk panels during construction with approval of the Engineer.
 2. The temporary sidewalk shall be installed immediately after the sidewalk has been removed.
 3. As an alternative to the temporary boardwalk sidewalk, the contractor may opt to backfill with digable flowable fill up to the surface of the existing sidewalk elevations.



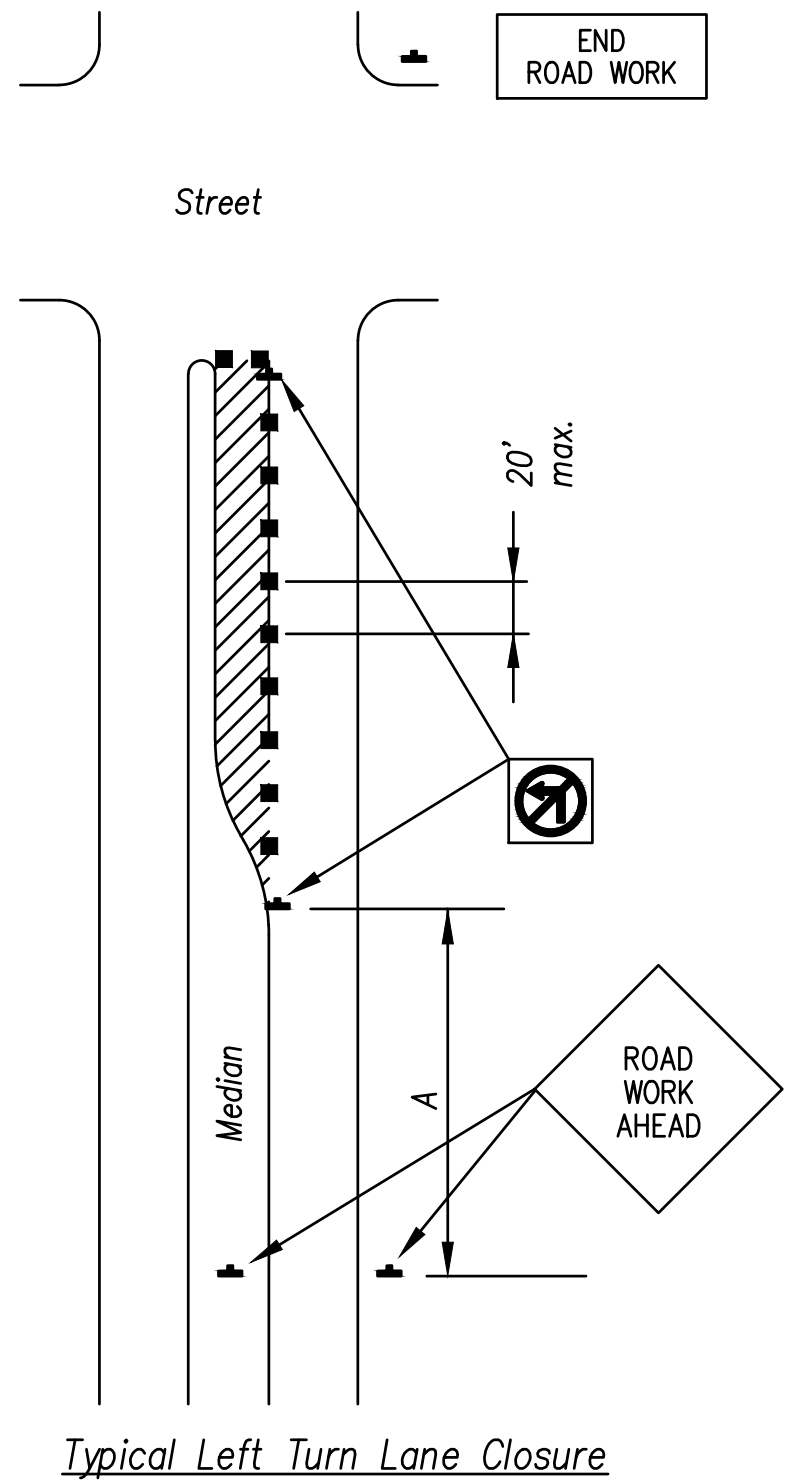
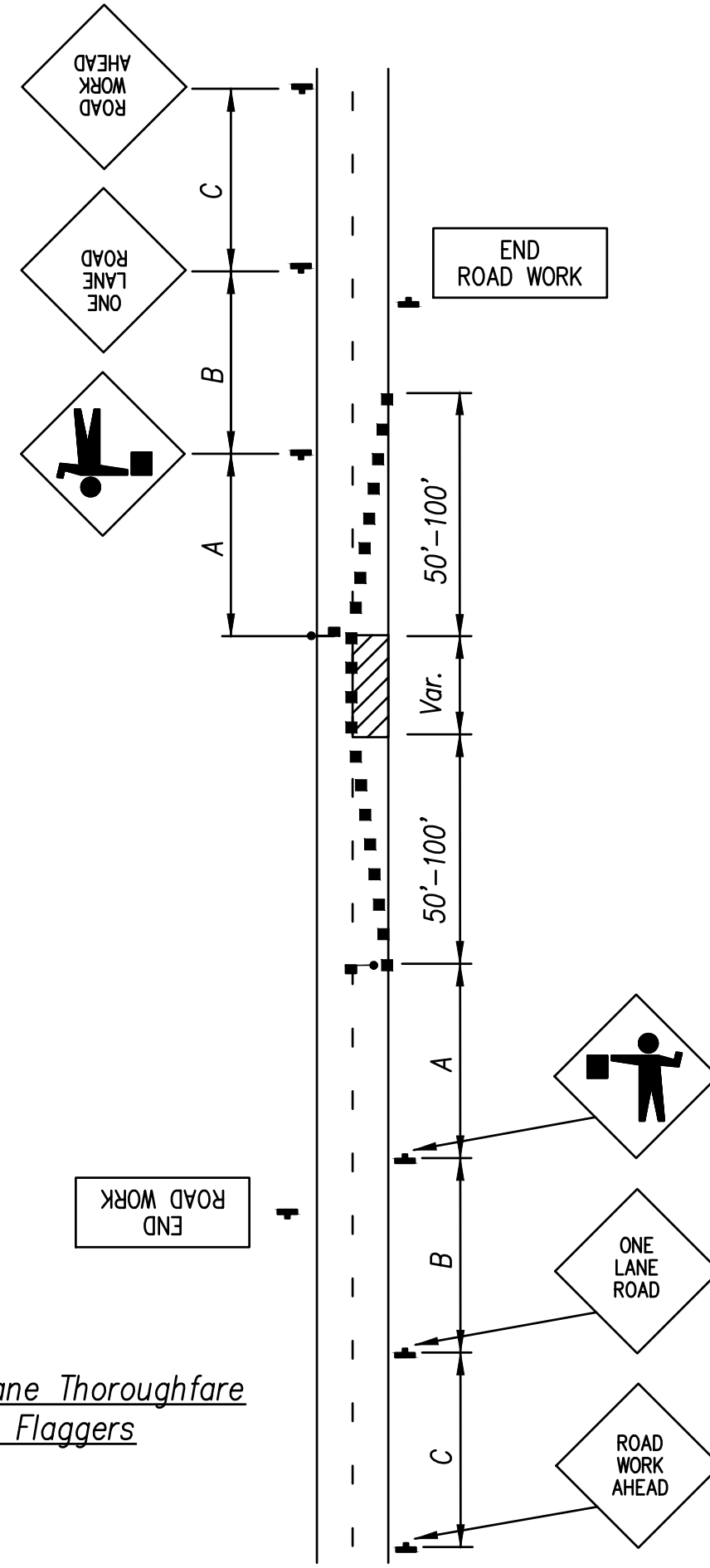
Typical Sign Placement



Typical Sign Spacing

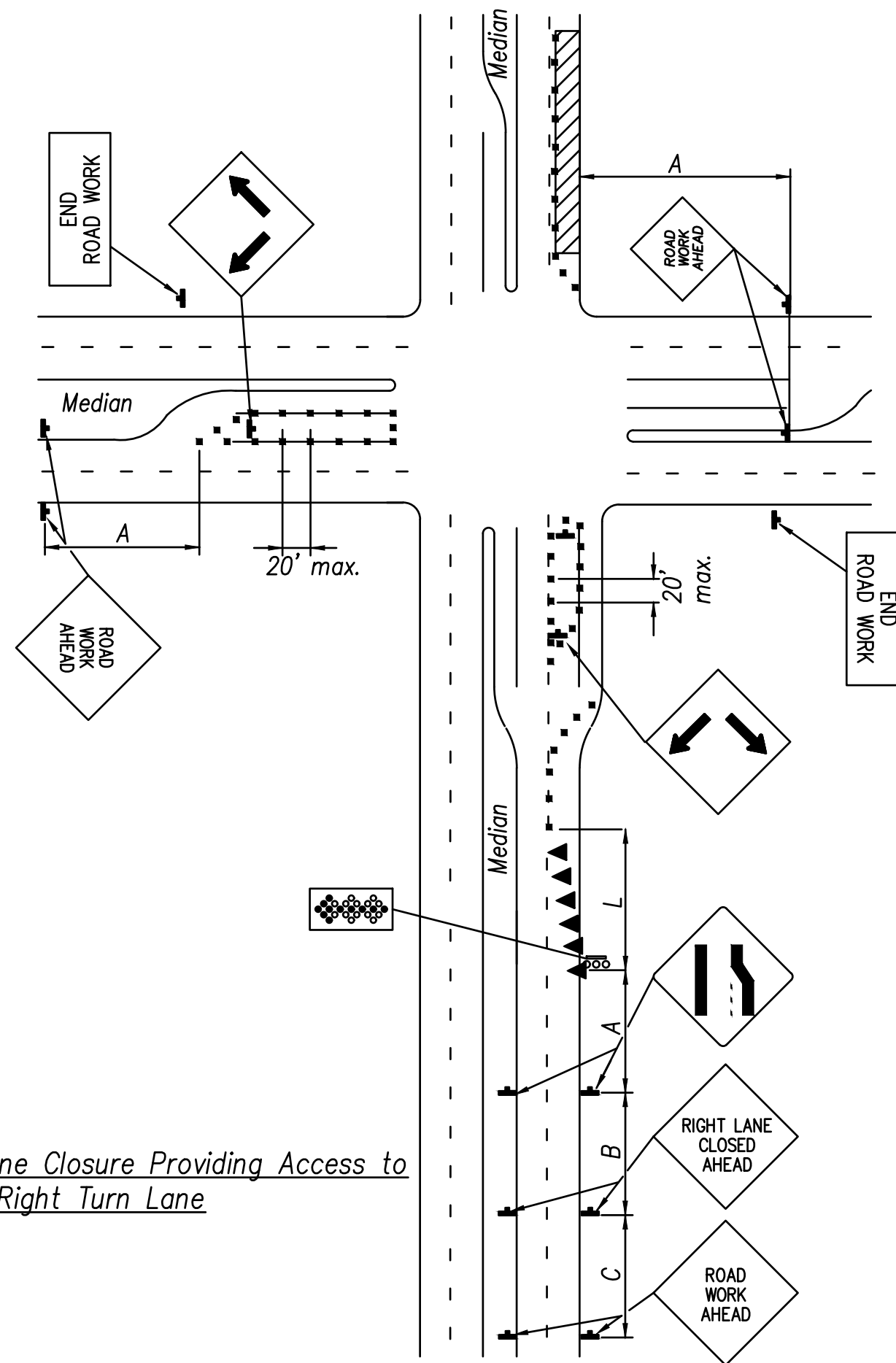
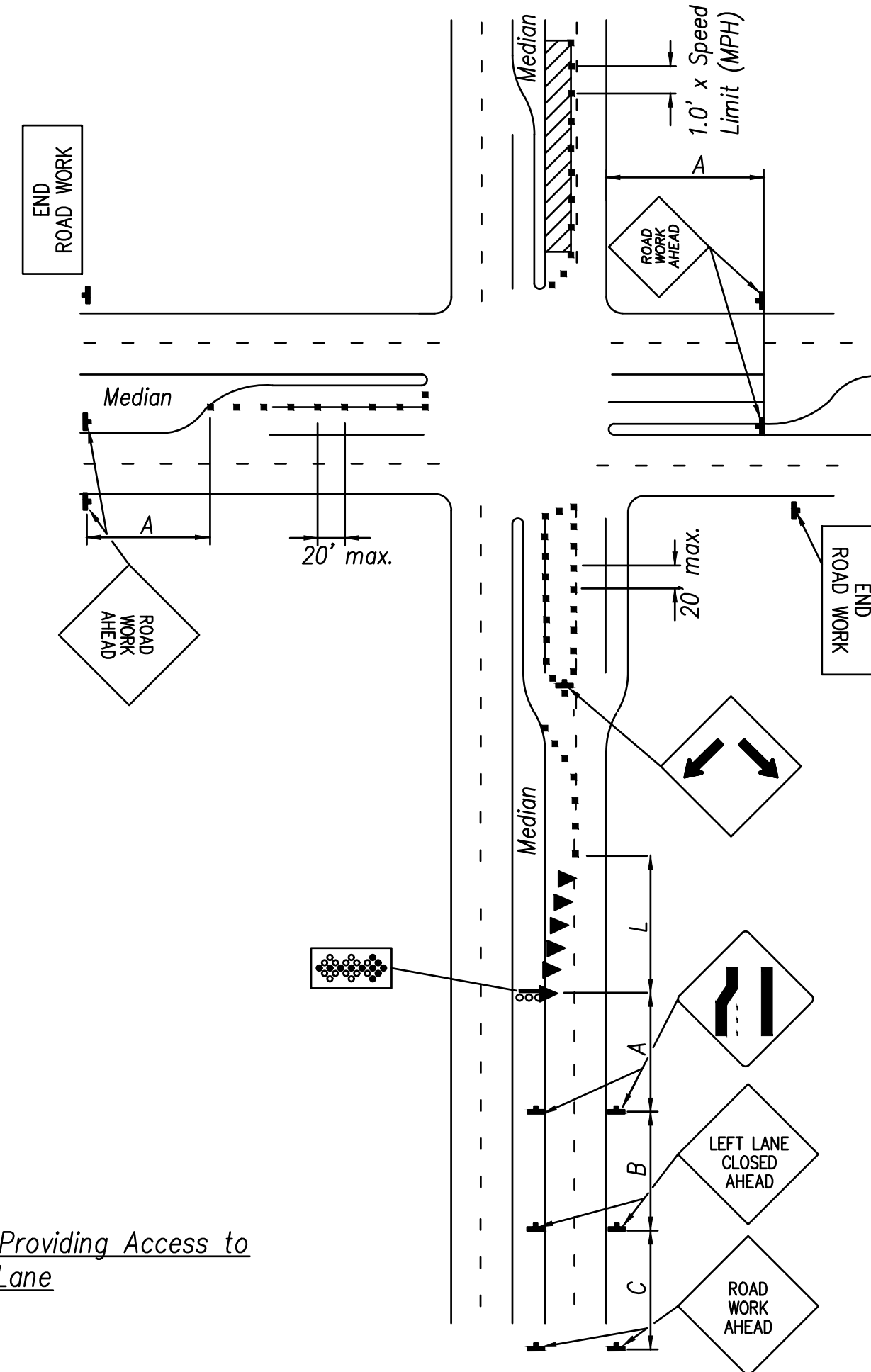
Note: * Applies to any subsequent sign in the work zone.

Typical Lane Closure on Two Lane Thoroughfare or Collector Road Using Flaggers



Typical Left Turn Lane Closure

Typical Left Lane Closure Providing Access to Left Turn Lane

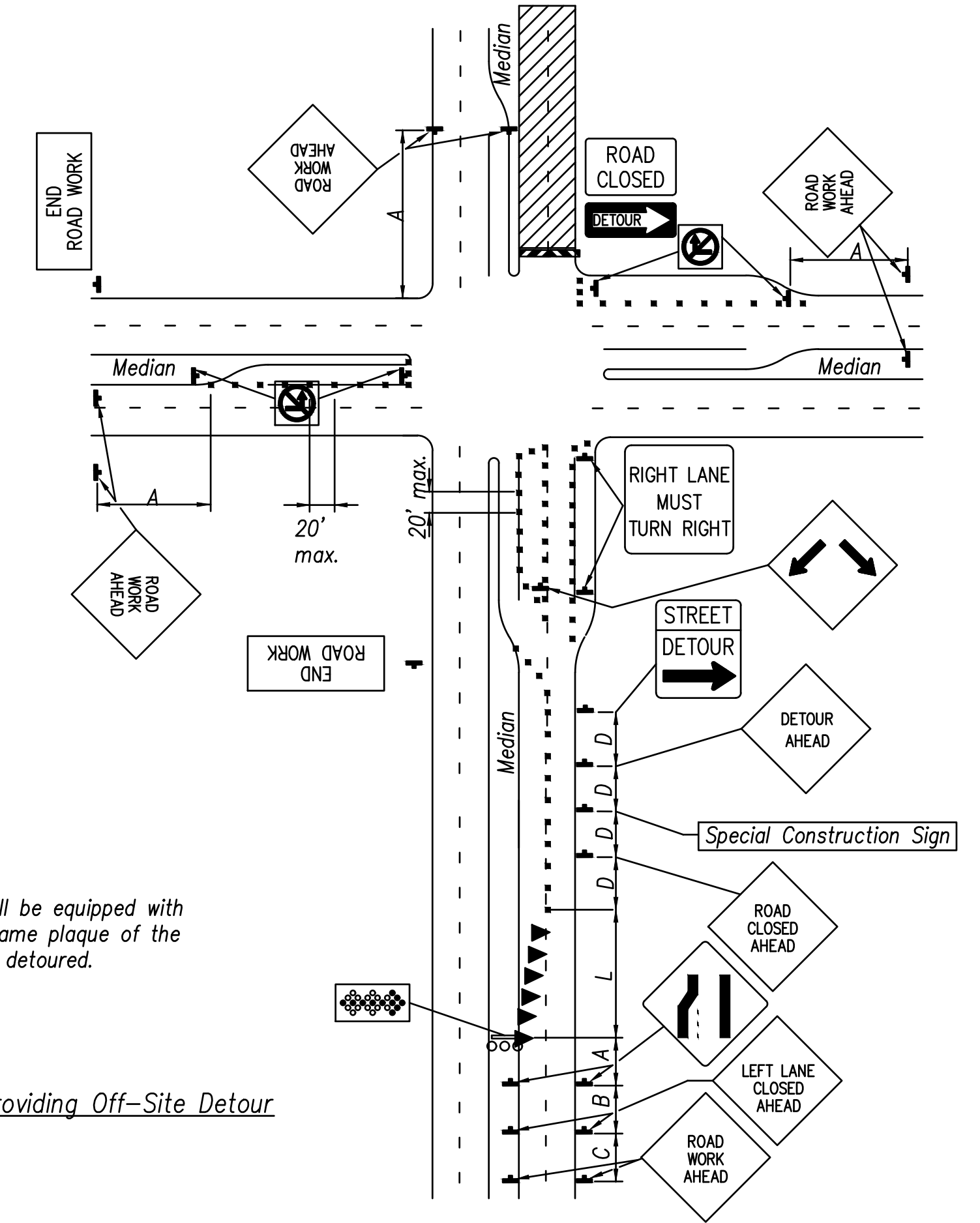


Typical Right Lane Closure Providing Access to Right Turn Lane

Typical Road Closure Providing Off-Site Detour



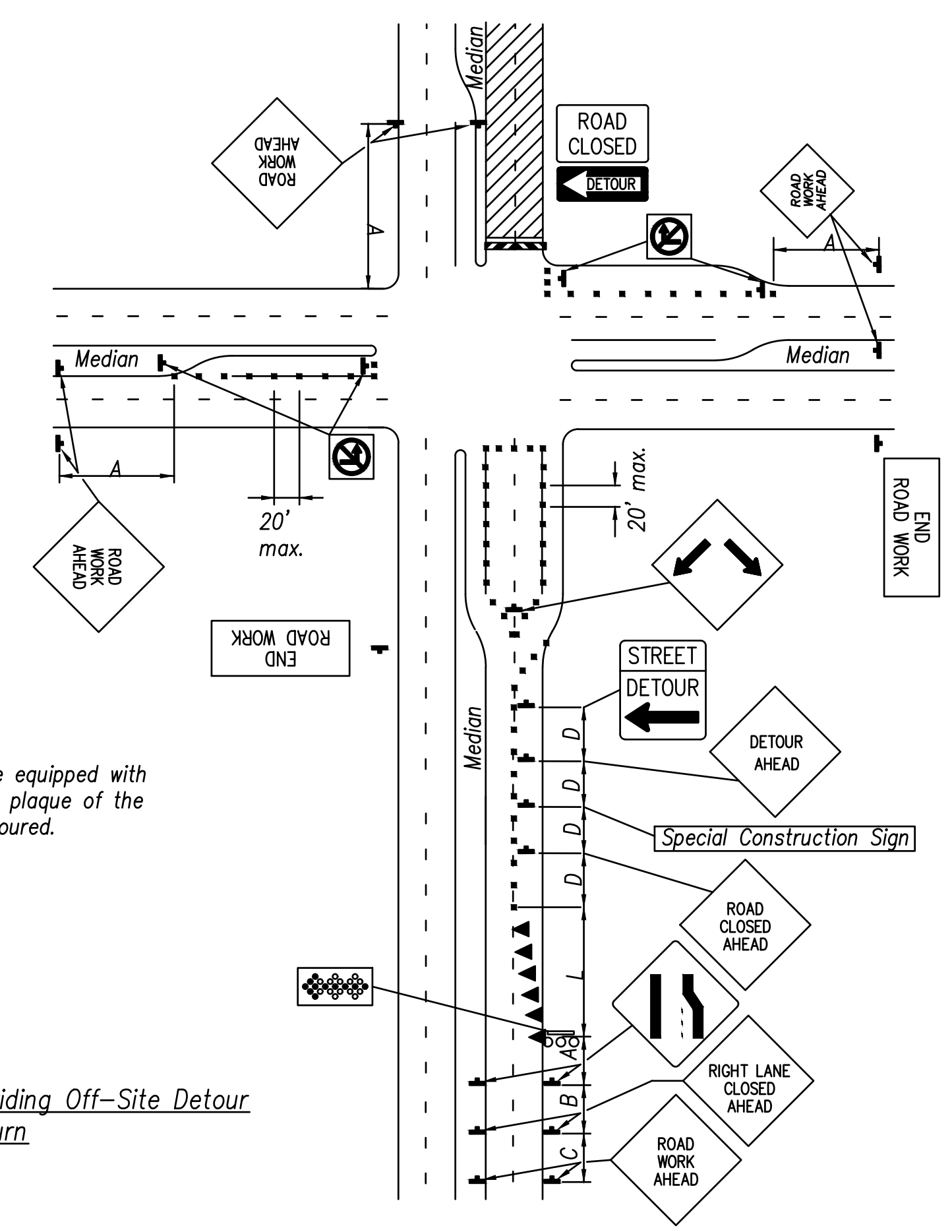
All detour signs shall be equipped with appropriate street name plaque of the street that is being detoured.



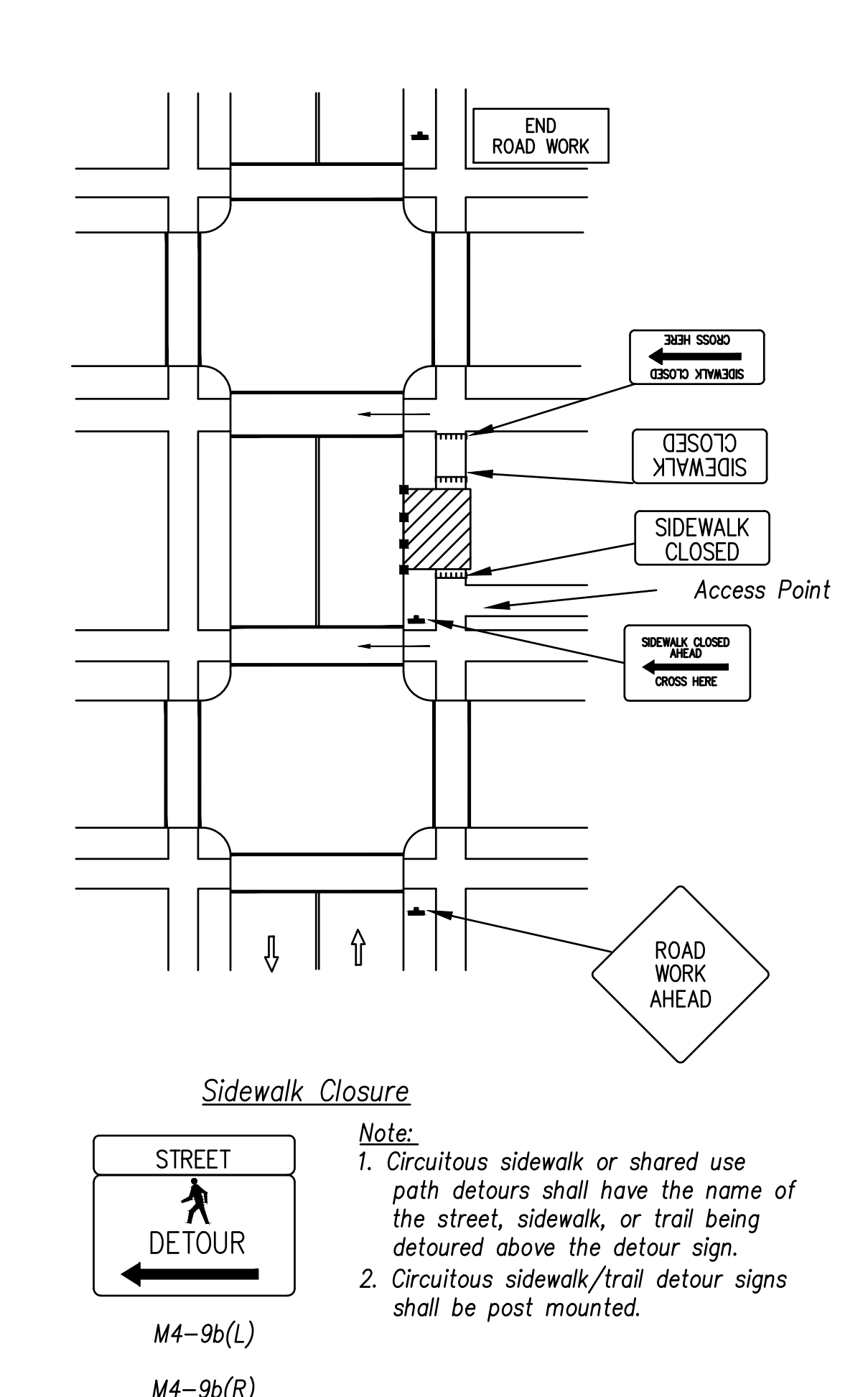
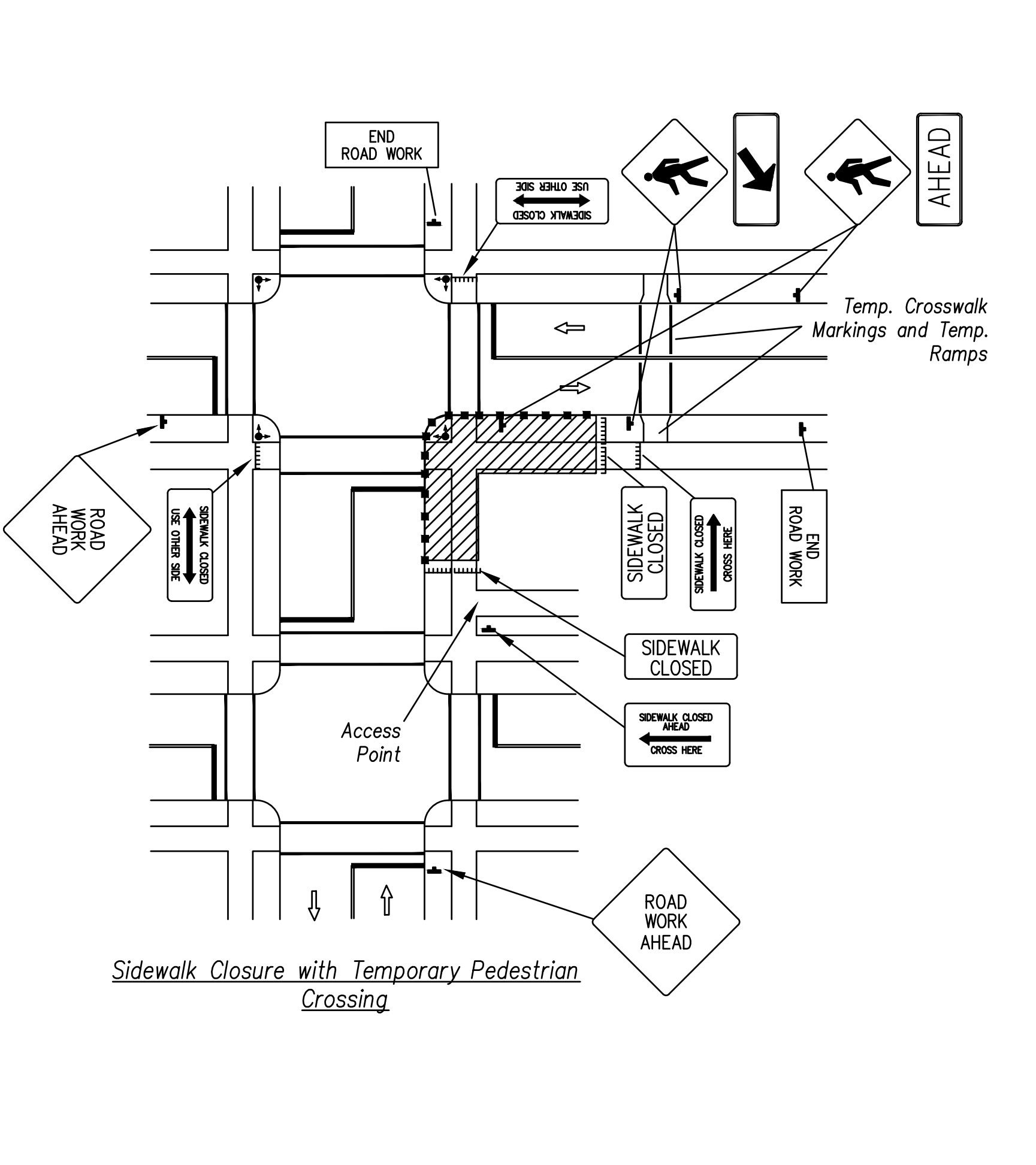
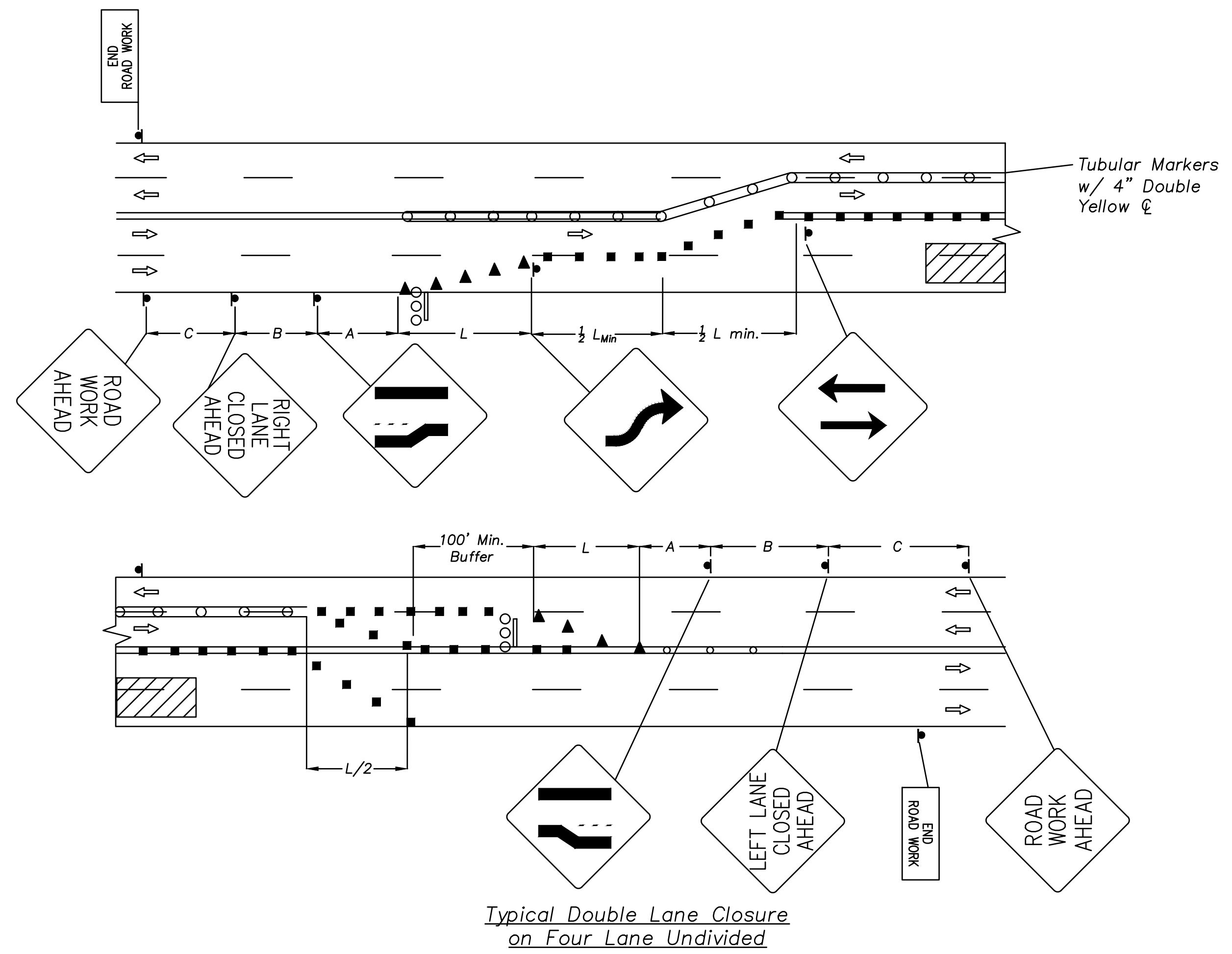
Typical Road Closure Providing Off-Site Detour Left Turn



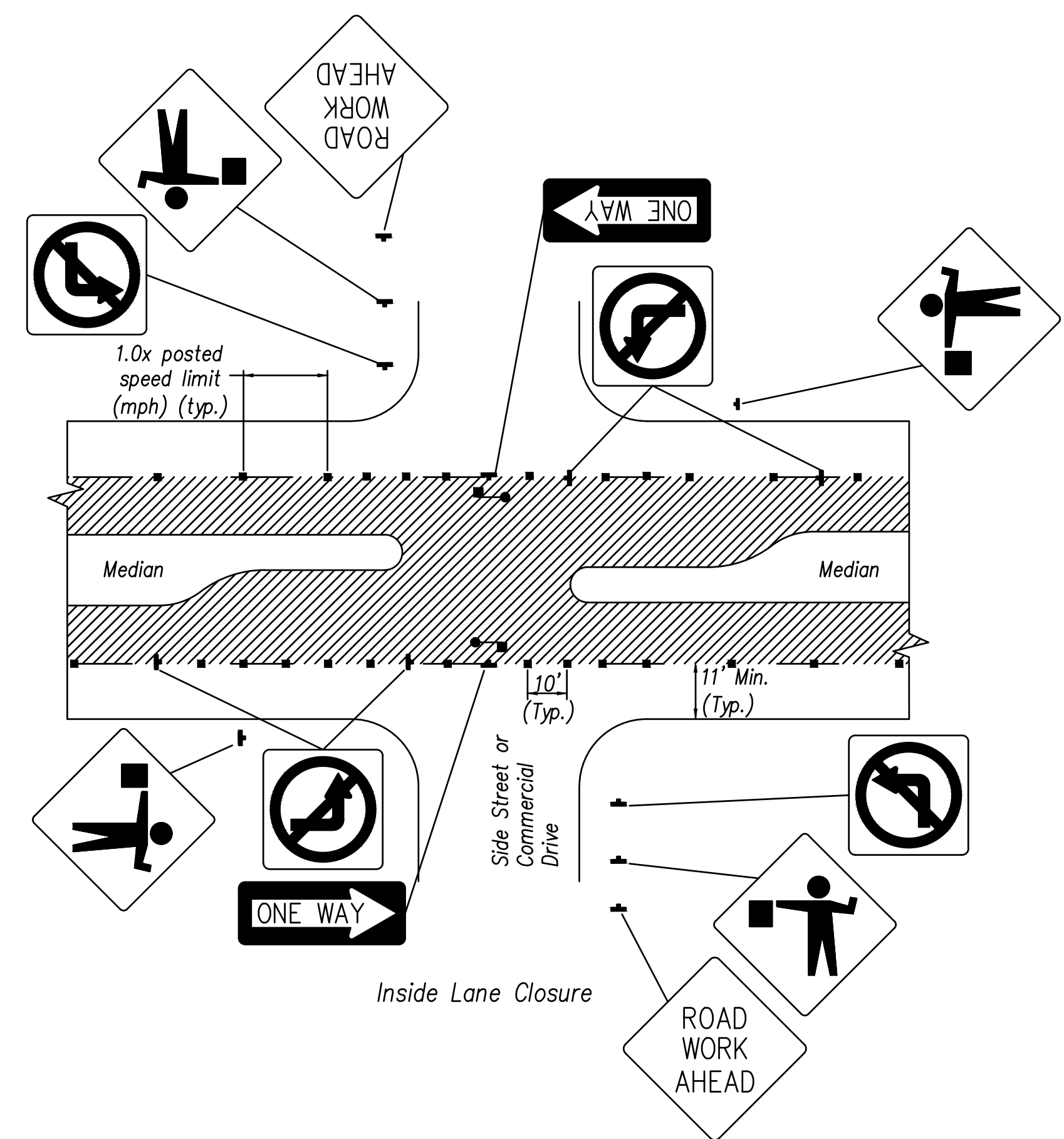
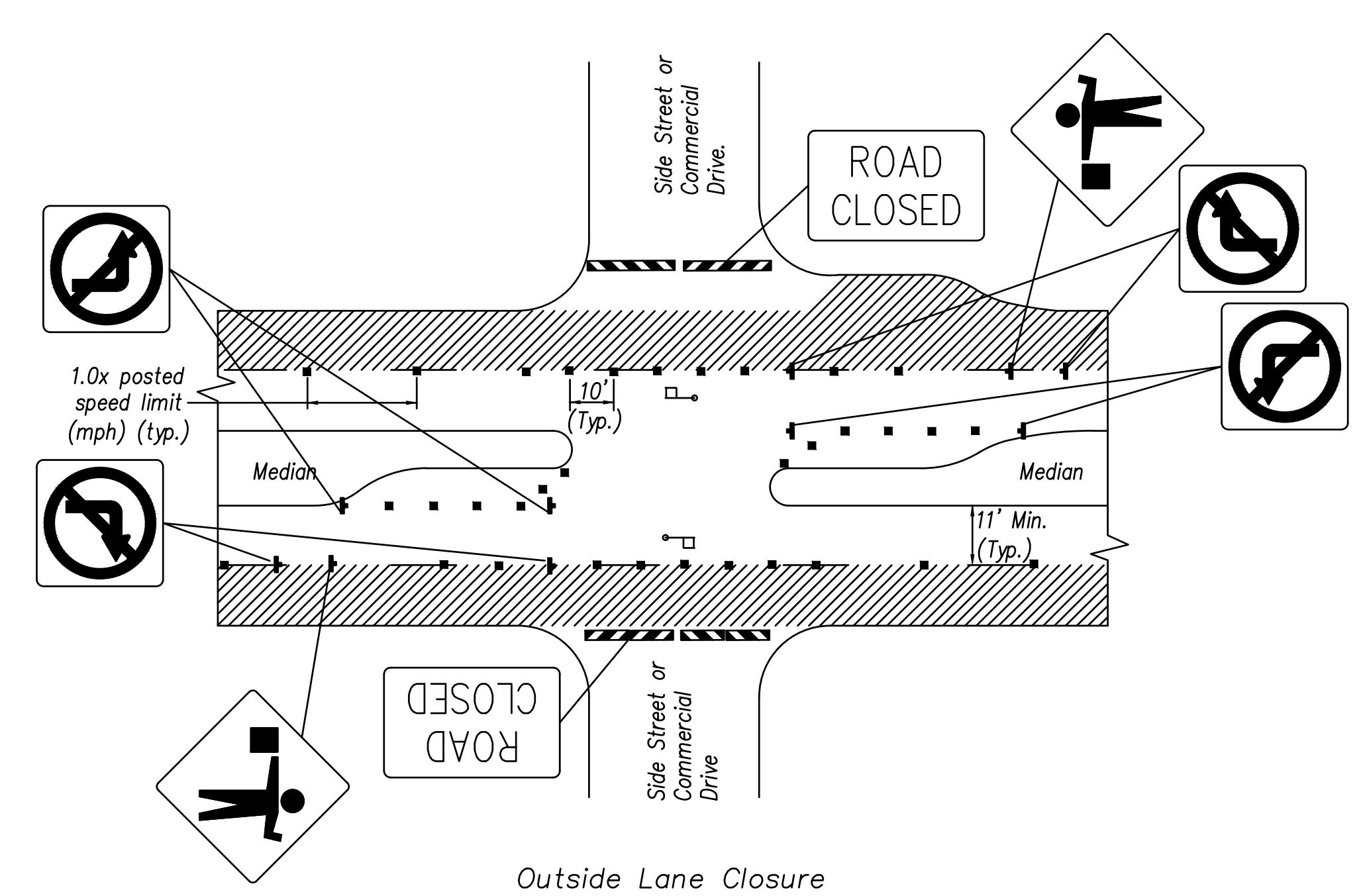
All detour signs shall be equipped with appropriate street name plaque of the street that is being detoured.



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 rnascozzj



Sidewalk Closure
Note:
 1. Circuitous sidewalk or shared use path detours shall have the name of the street, sidewalk, or trail being detoured above the detour sign.
 2. Circuitous sidewalk/trail detour signs shall be post mounted.
 STREET
 DETOUR
 M4-9b(L)
 M4-9b(R)

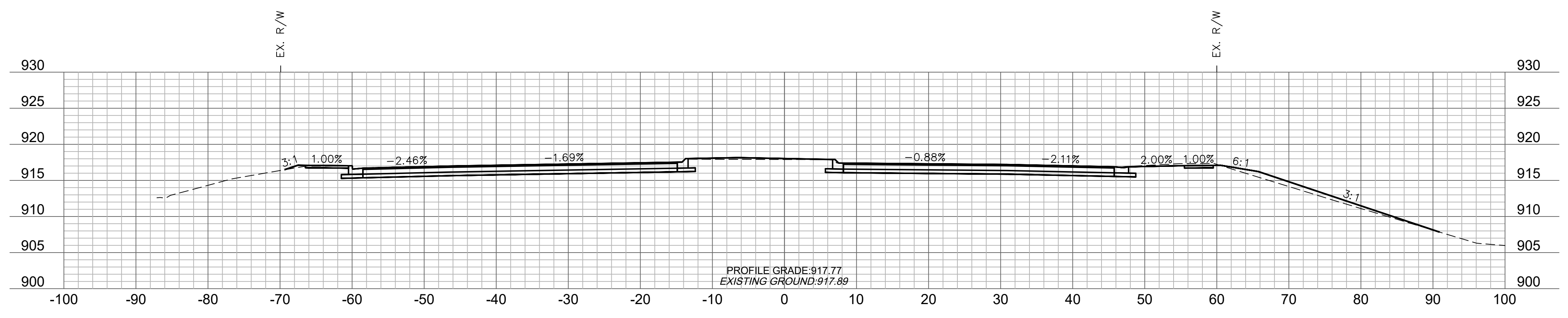


Note:
 A minimum of two (2) properly equipped flaggers shall be used at the intersection. Additional flaggers may be required as directed by the Engineer.
Overlay Lane Closure Details

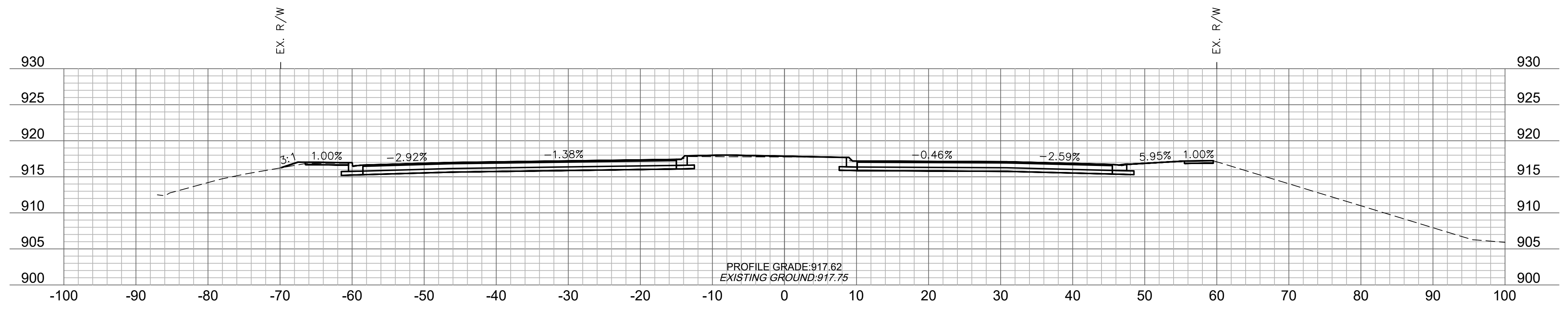
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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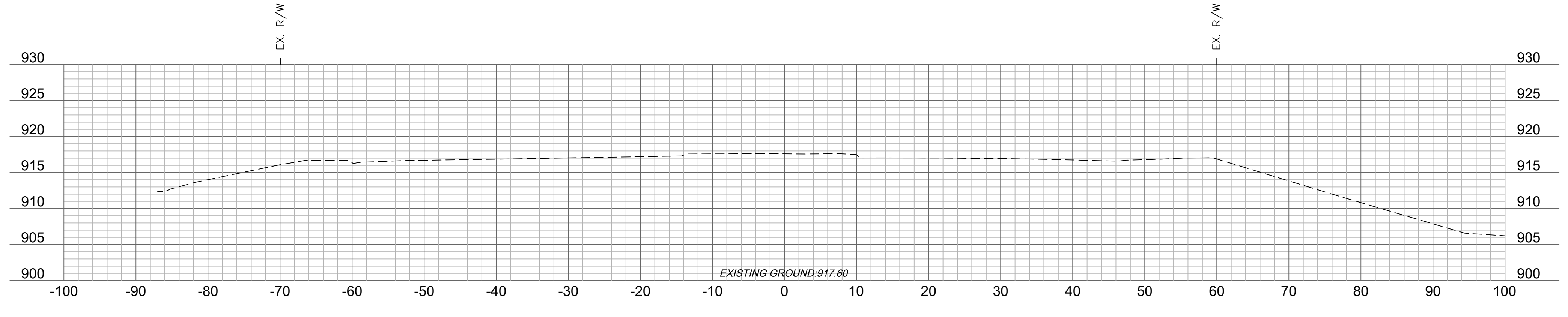
7301 West 133rd Street, Suite 200
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TEL 913.381.1170 www.olson.com



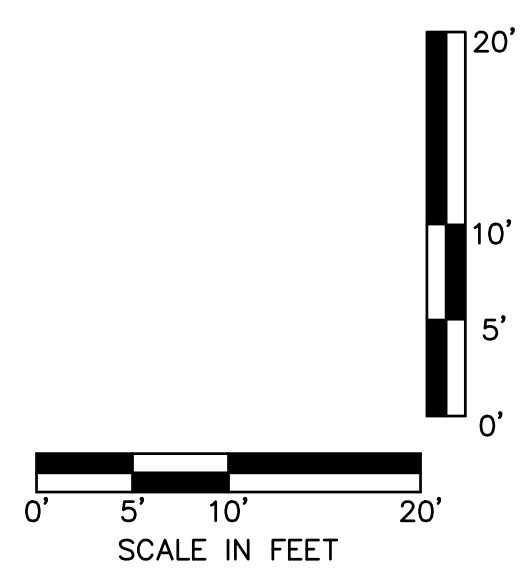
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413+12



413+00



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

COLLEGE BOULEVARD CROSS SECTIONS	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	

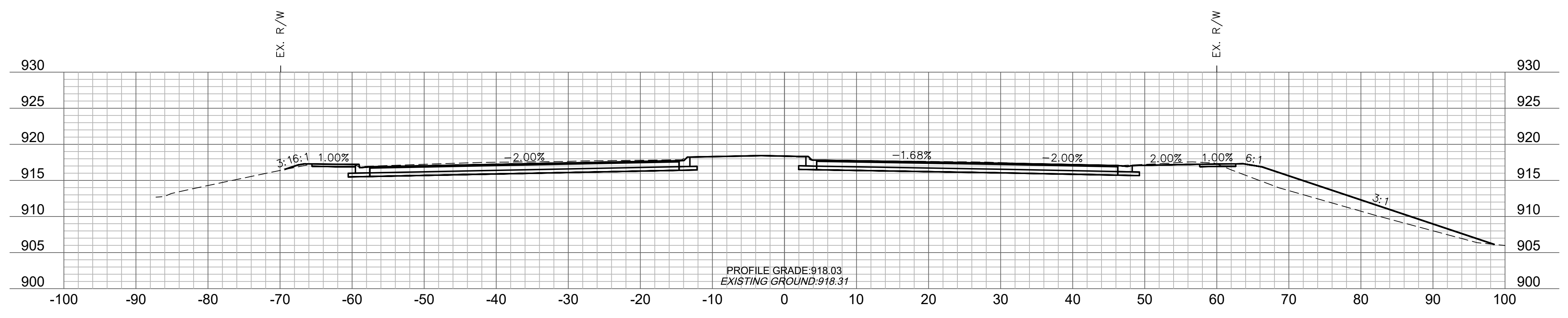
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checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: XSEC01 02206529
date: 1-31-2025

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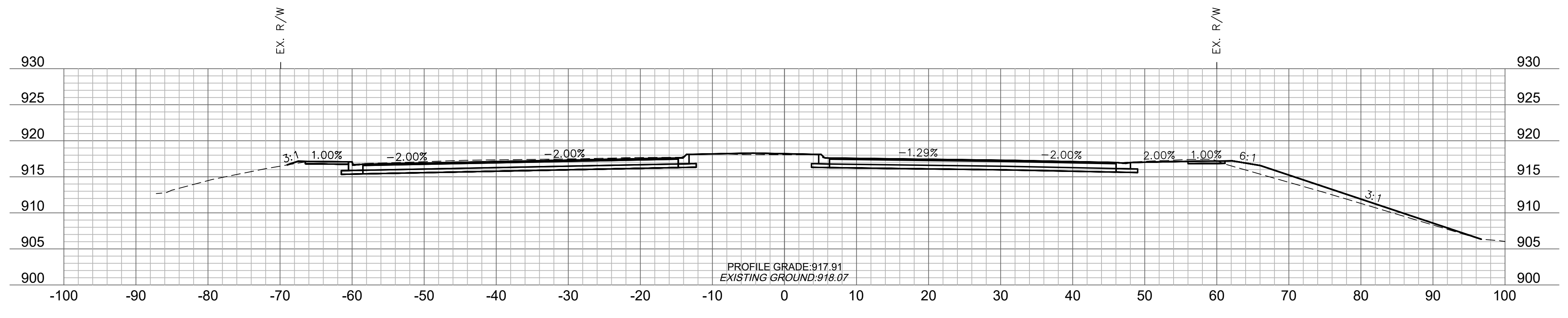
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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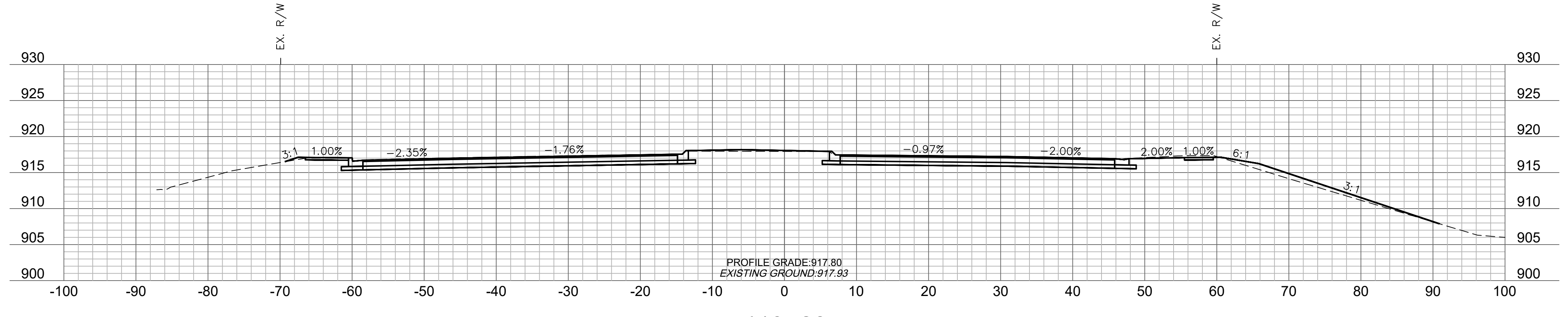
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4760
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413+50



413+38



413+28

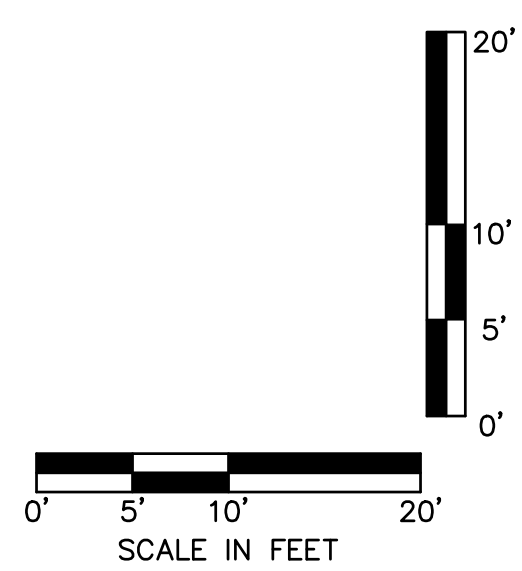
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

COLLEGE BOULEVARD CROSS SECTIONS	2025
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	
OVERLAND PARK, KANSAS	

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: T_XSEC01_02206529
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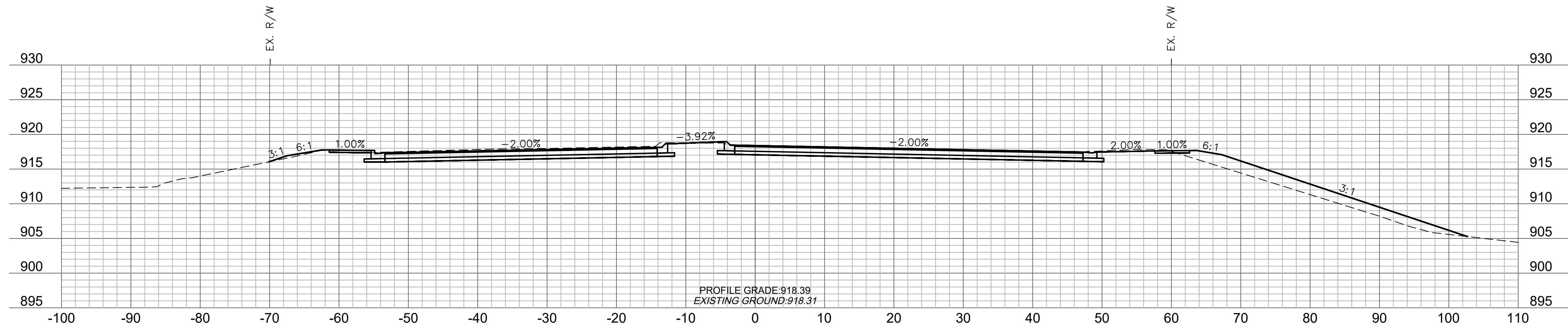


STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

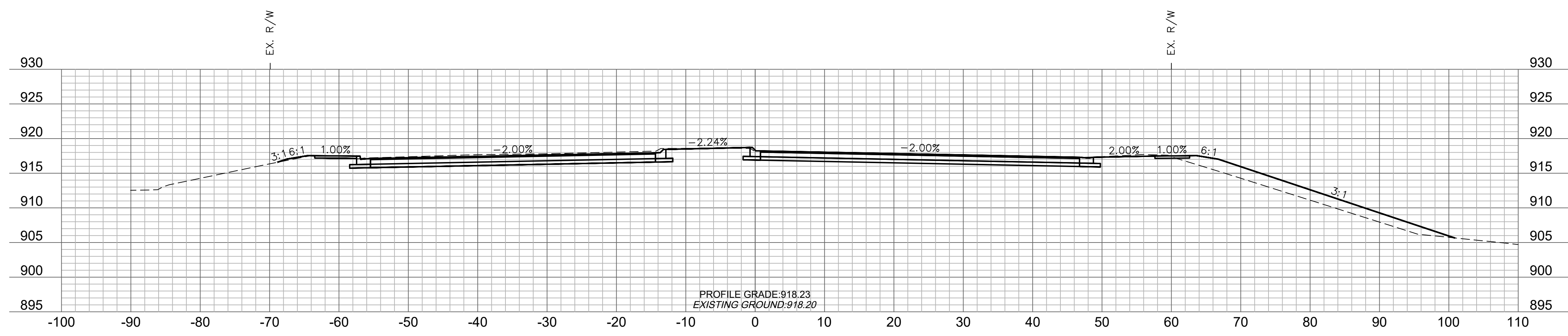
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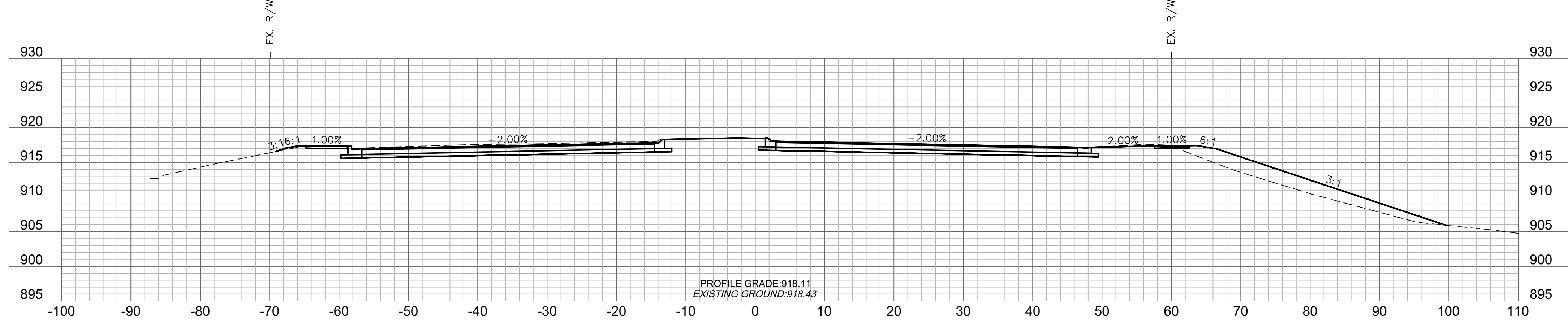
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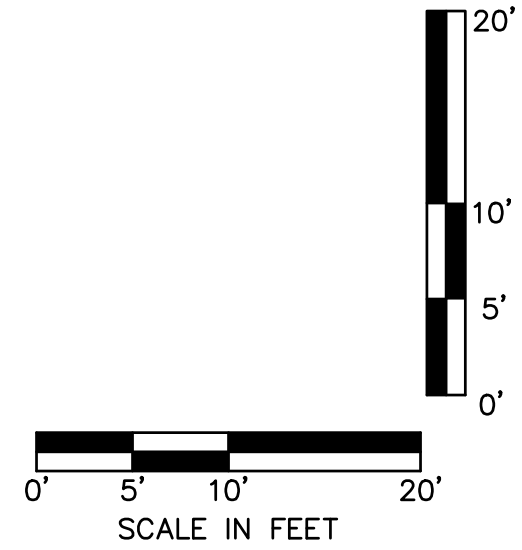
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413+75



413+60



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

COLLEGE BOULEVARD
CROSS SECTIONS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

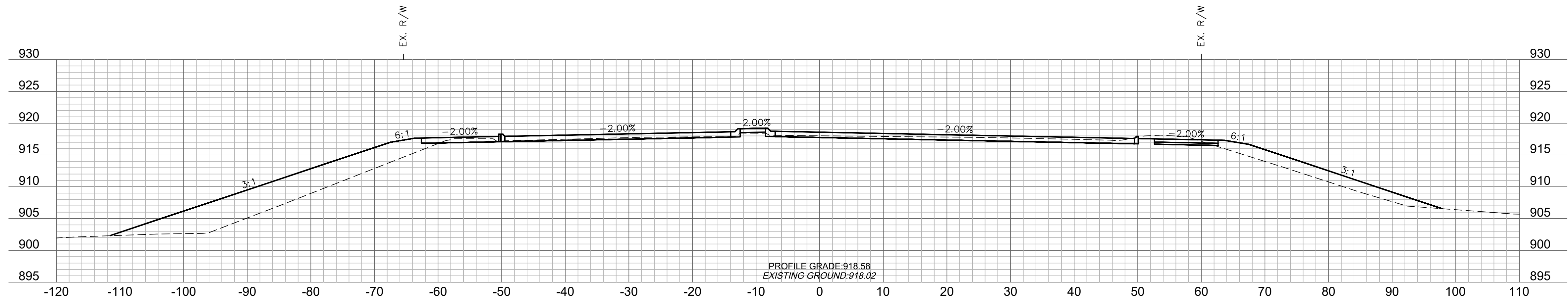
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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

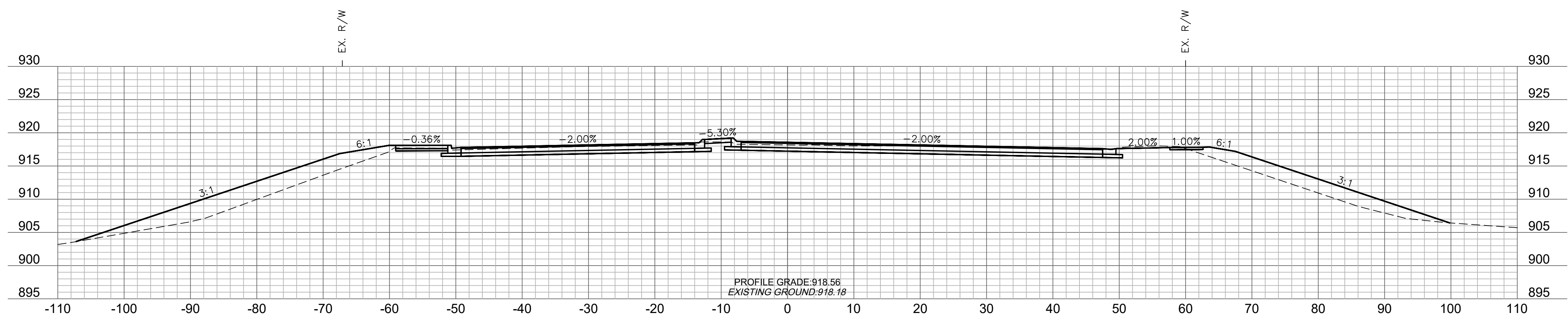
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7301 West 133rd Street, Suite 200
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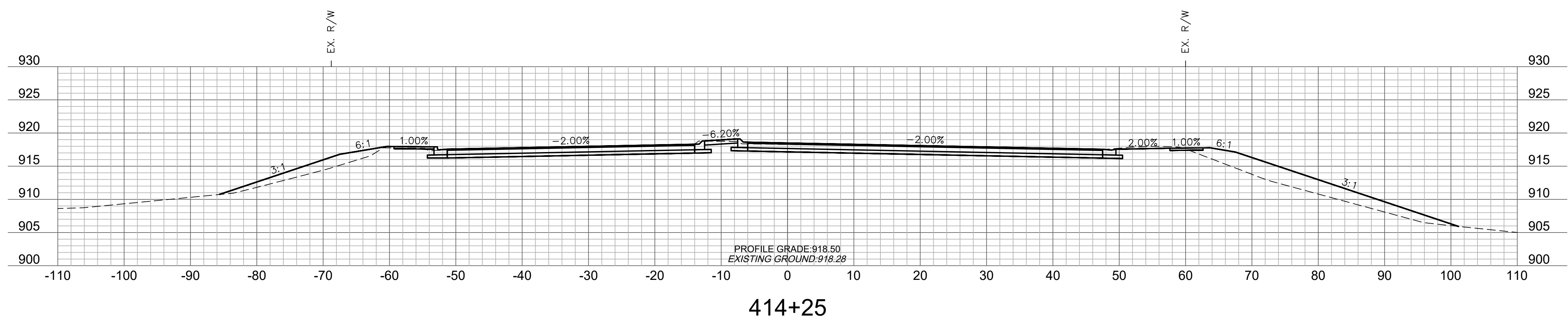
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414+50



414+25

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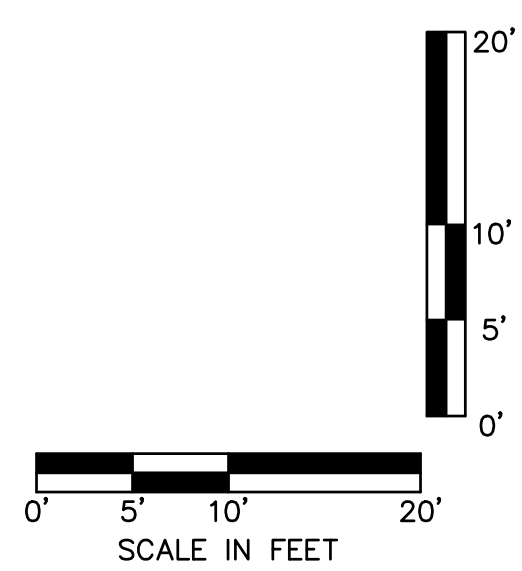
REVISIONS

COLLEGE BOULEVARD
CROSS SECTIONS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

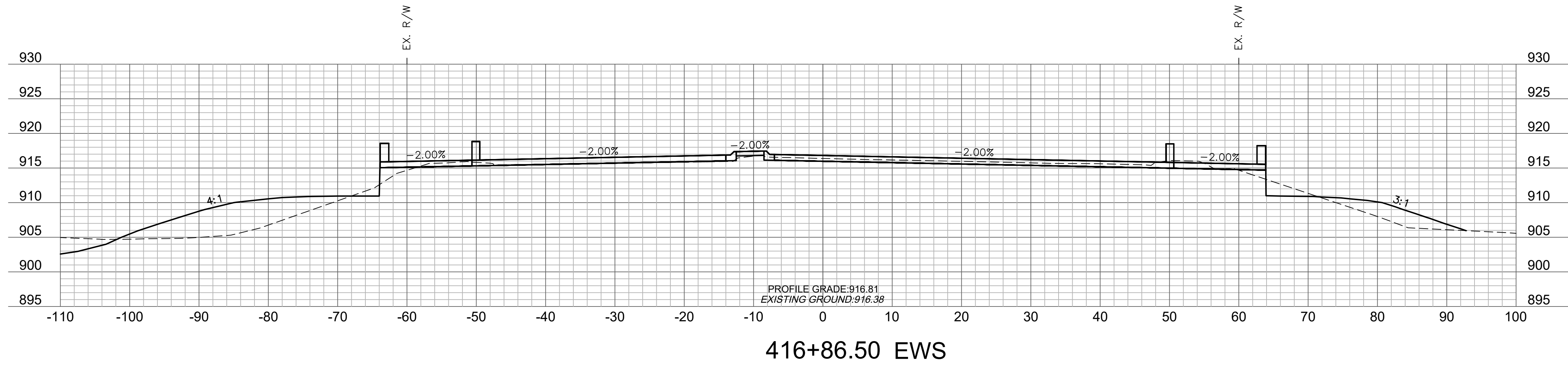
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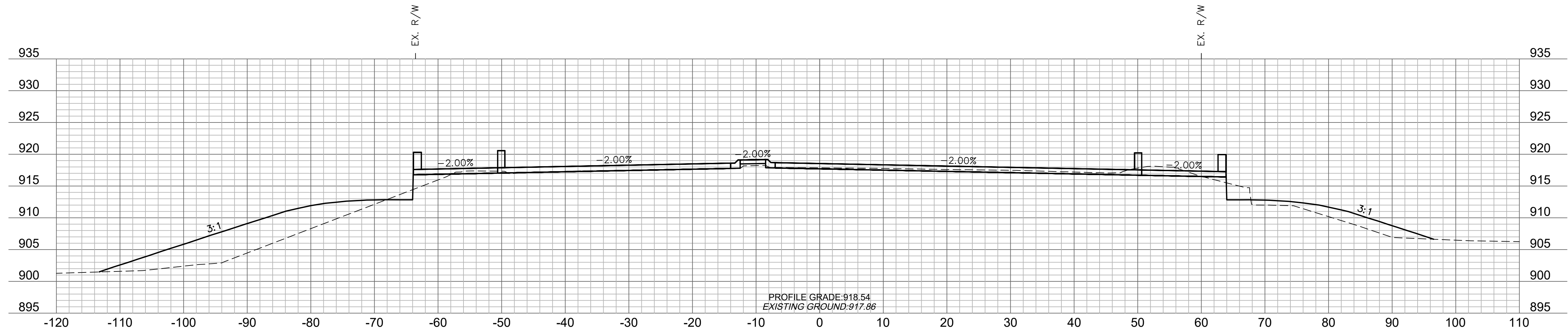
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KANSAS	046 N-0785-01	2025

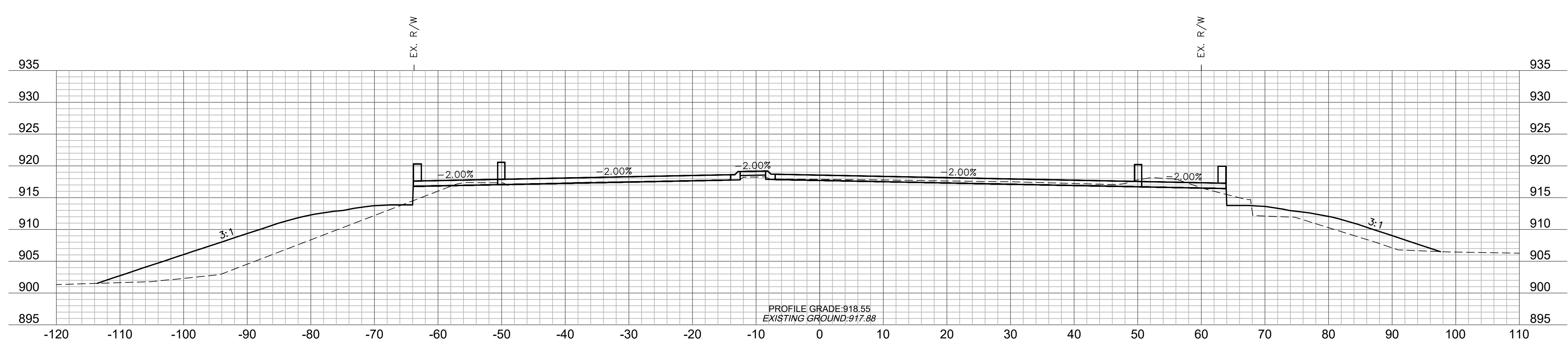
olsson
 7301 West 133rd Street, Suite 200
 Overland Park, KS 66213-4760
 TEL 913.381.1170 www.olson.com



416+86.50 EWS



415+03.50 EWS



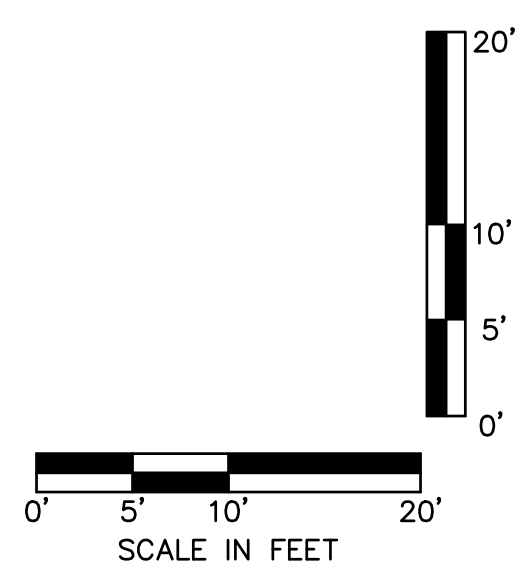
415+00

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 T_PTLK_02206529

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

COLLEGE BOULEVARD
 CROSS SECTIONS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025



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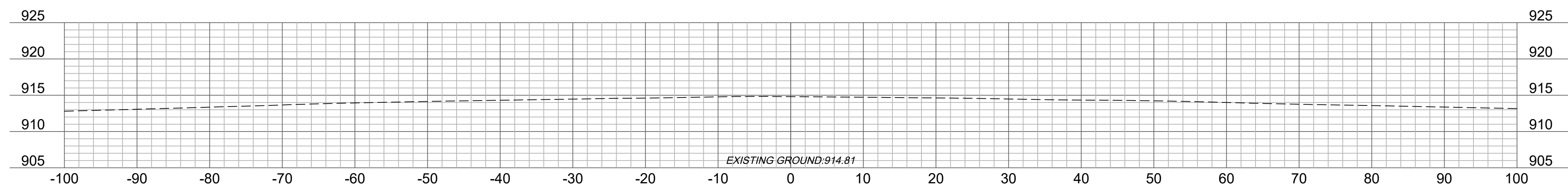
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KANSAS	046 N-0785-01	2025

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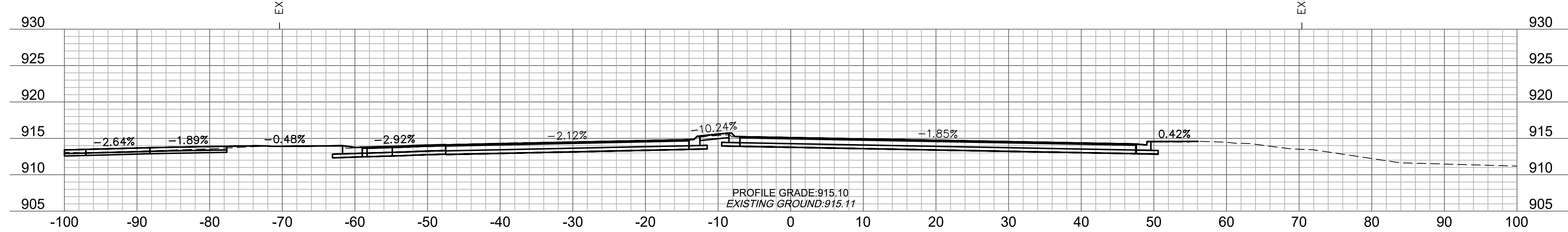
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4760
TEL 913.381.1170 www.olson.com

USER: mweilich

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418+25



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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

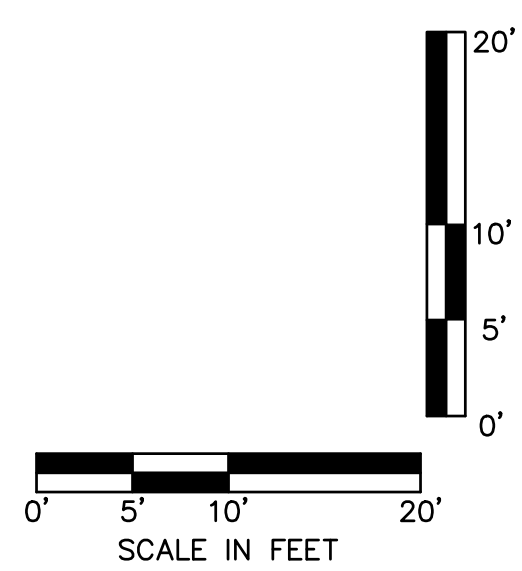
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COLLEGE BOULEVARD
CROSS SECTIONS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

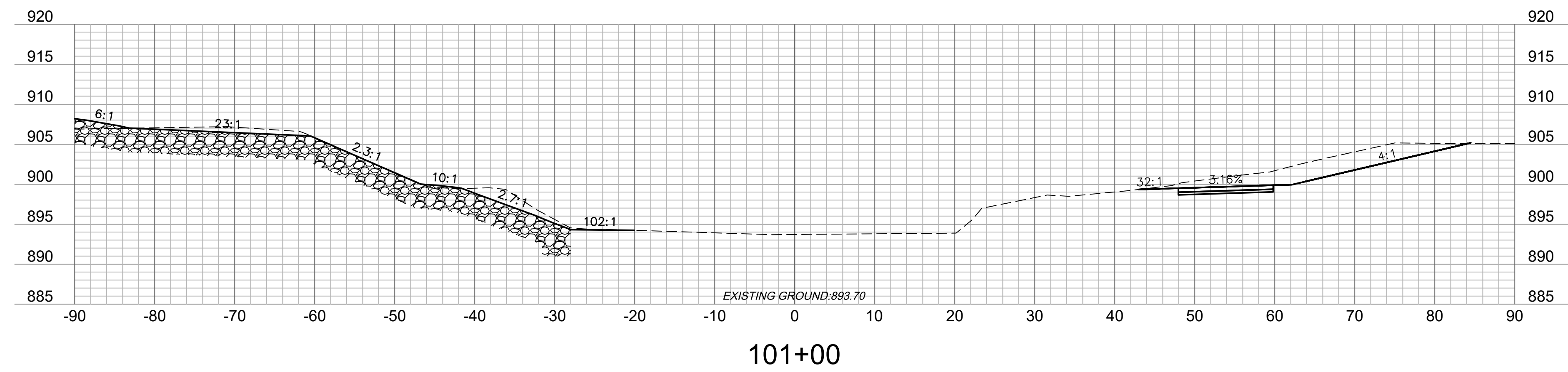


drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: T_XSEC01_02206529
date: 1-31-2025

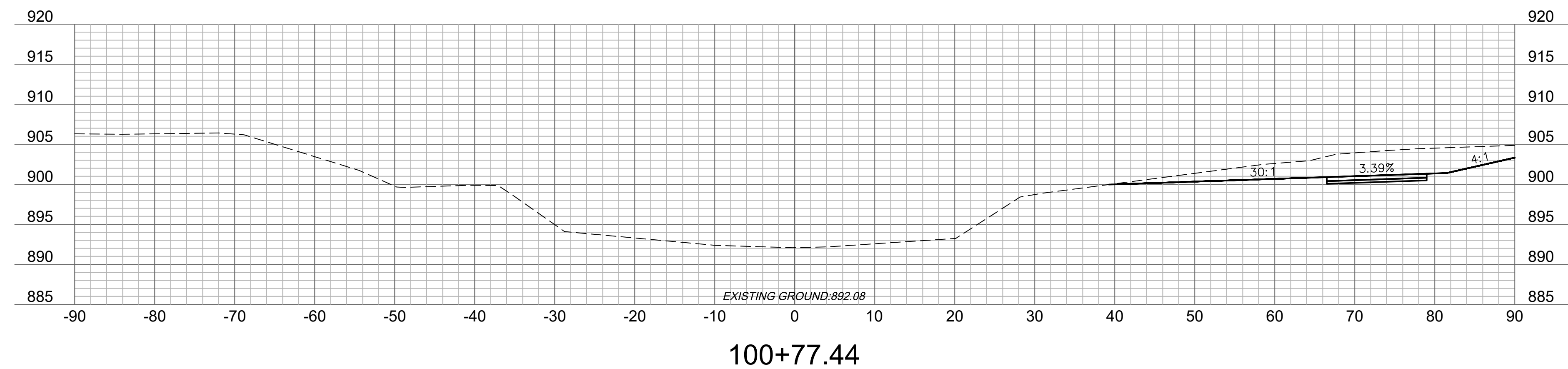
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KANSAS	046 N-0785-01	2025

olsson

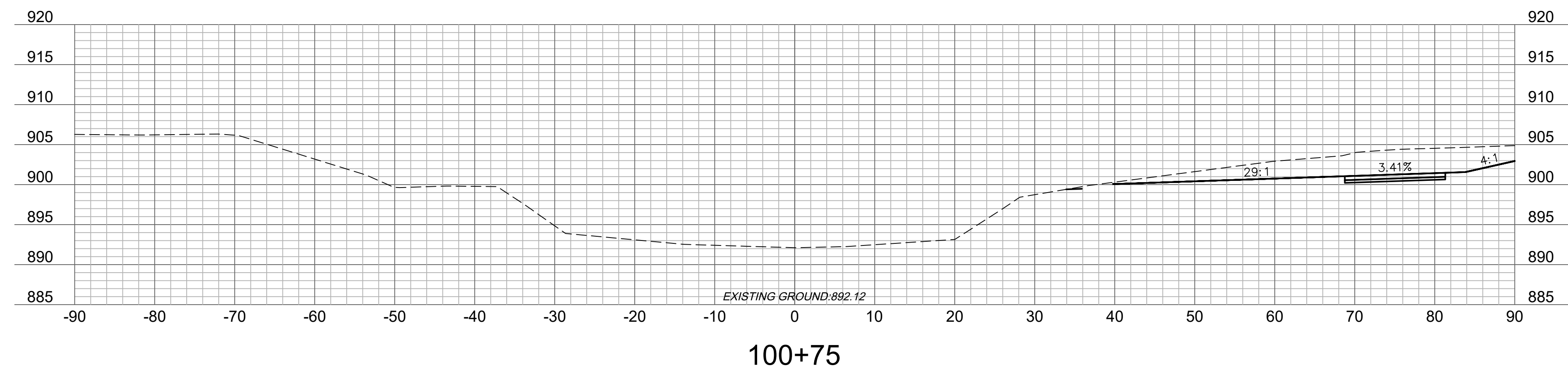
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Overland Park, KS 66213-4750
TEL 913.381.1170 www.olson.com



101+00



100+77.44



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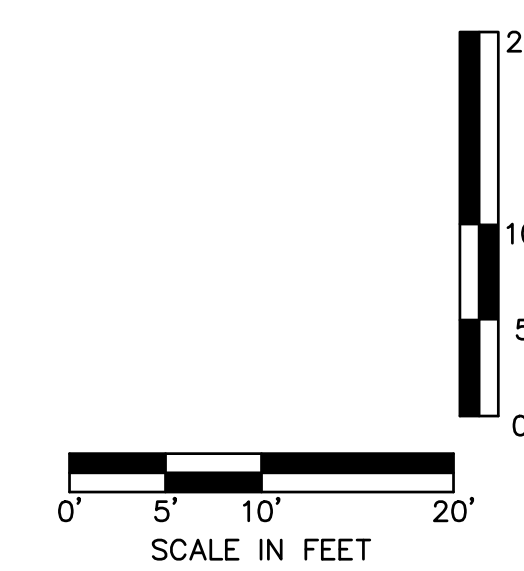
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REVISIONS

INDIAN CREEK CHANNEL CROSS SECTIONS	2025
	COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
	OVERLAND PARK, KANSAS

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: XSECC1 02206529
date: 1-31-2025

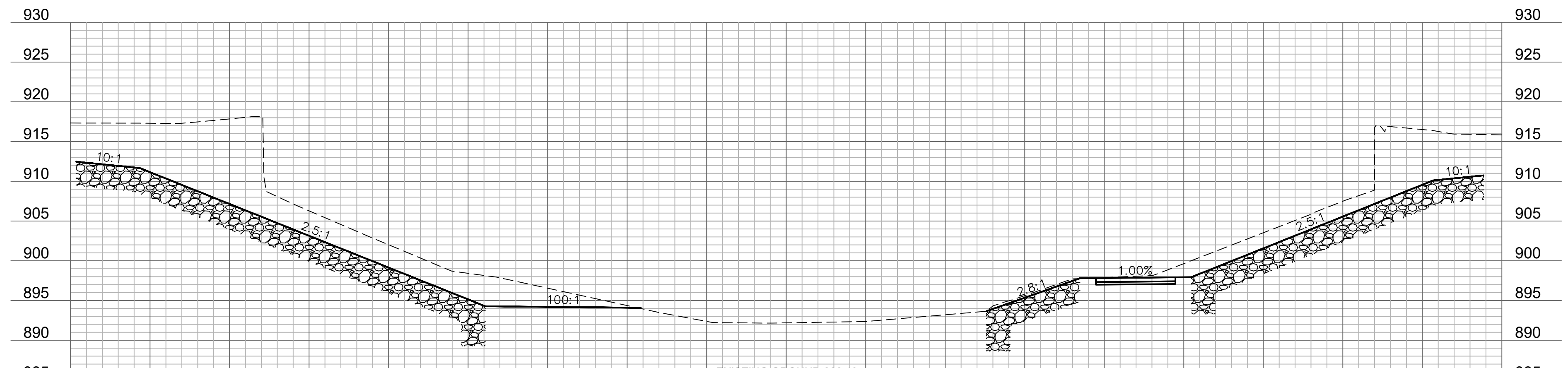
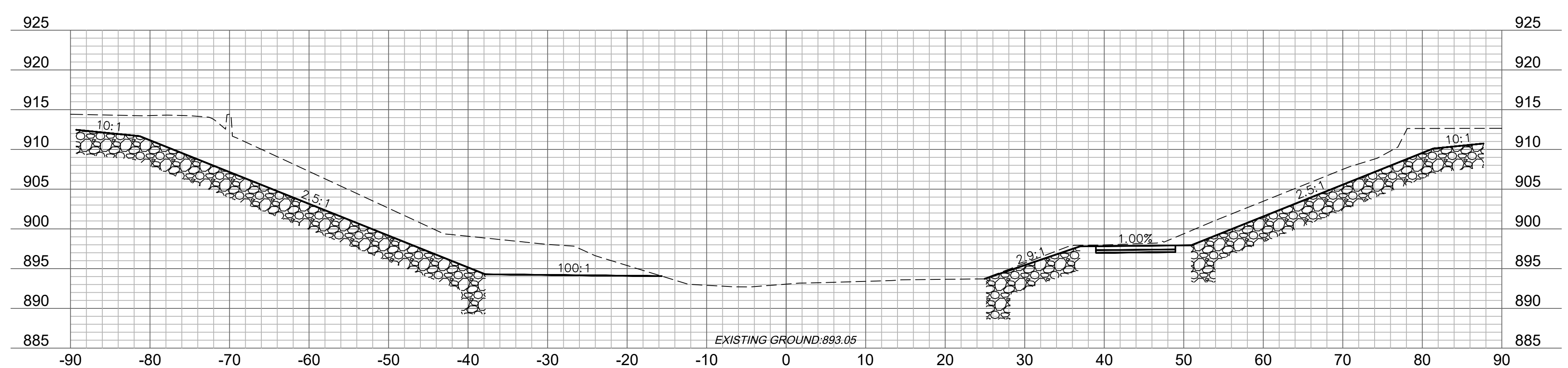
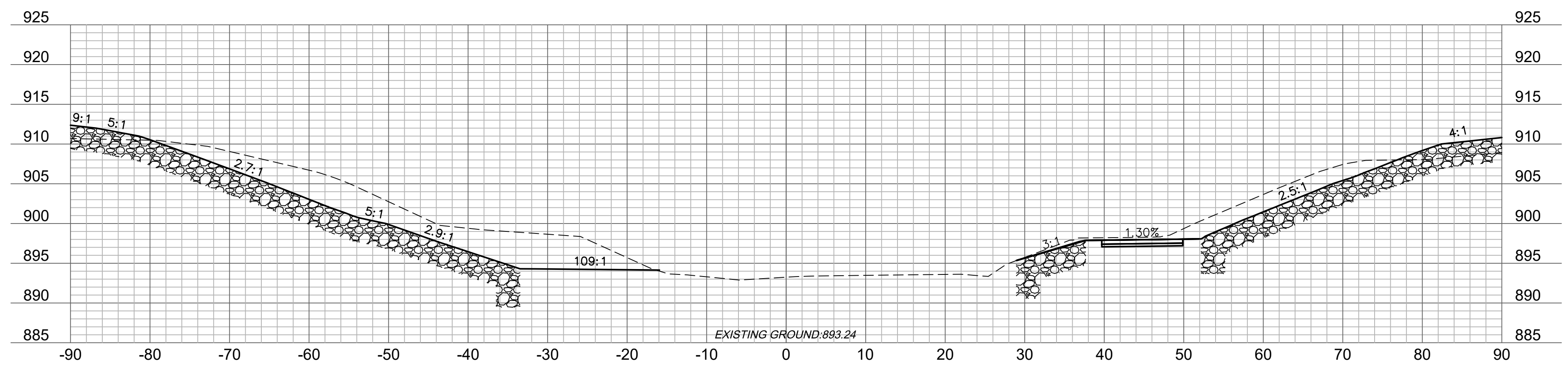
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USER: mweilch
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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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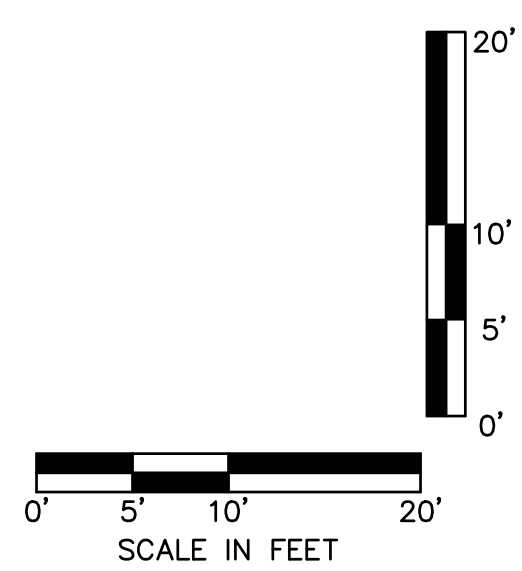


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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

INDIAN CREEK CHANNEL
 CROSS SECTIONS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
 project no.: 022-06529
 drawing no.: T_XSEC01_02206529
 date: 1-31-2025

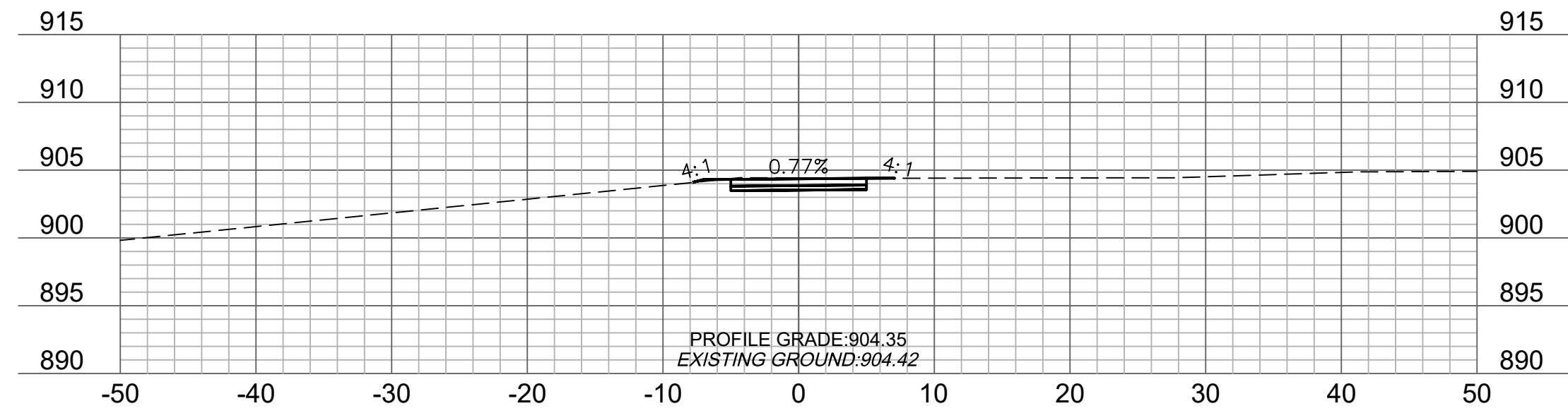


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KANSAS	046 N-0785-01	2025

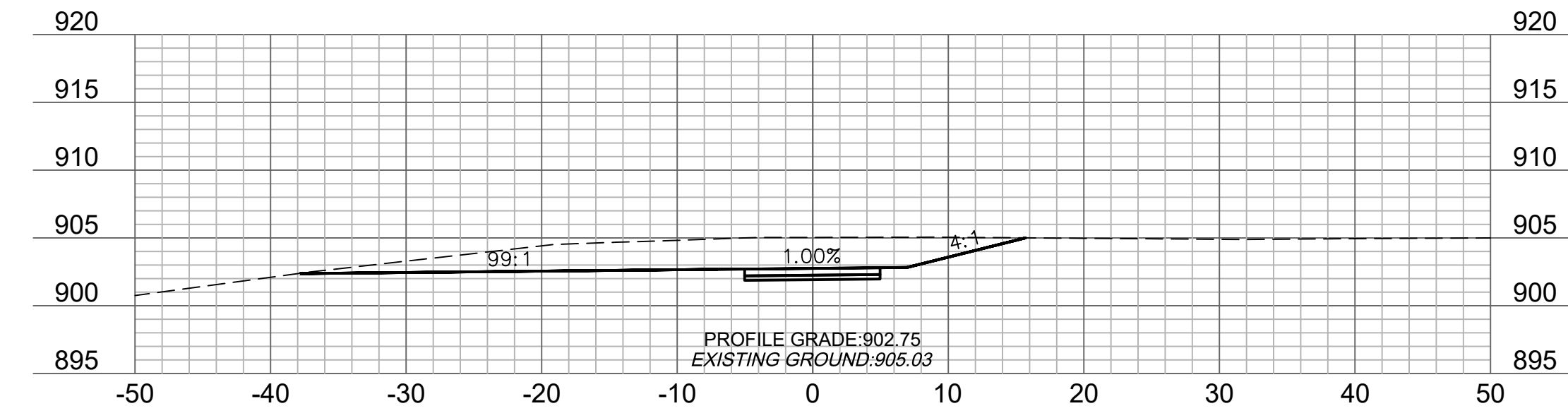
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 7301 West 133rd Street, Suite 200
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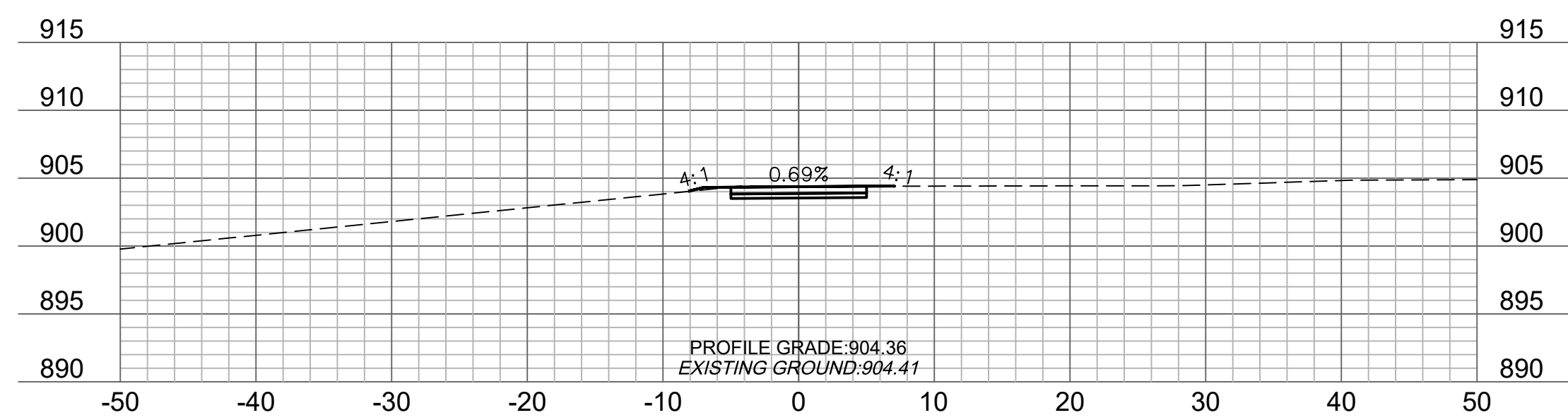
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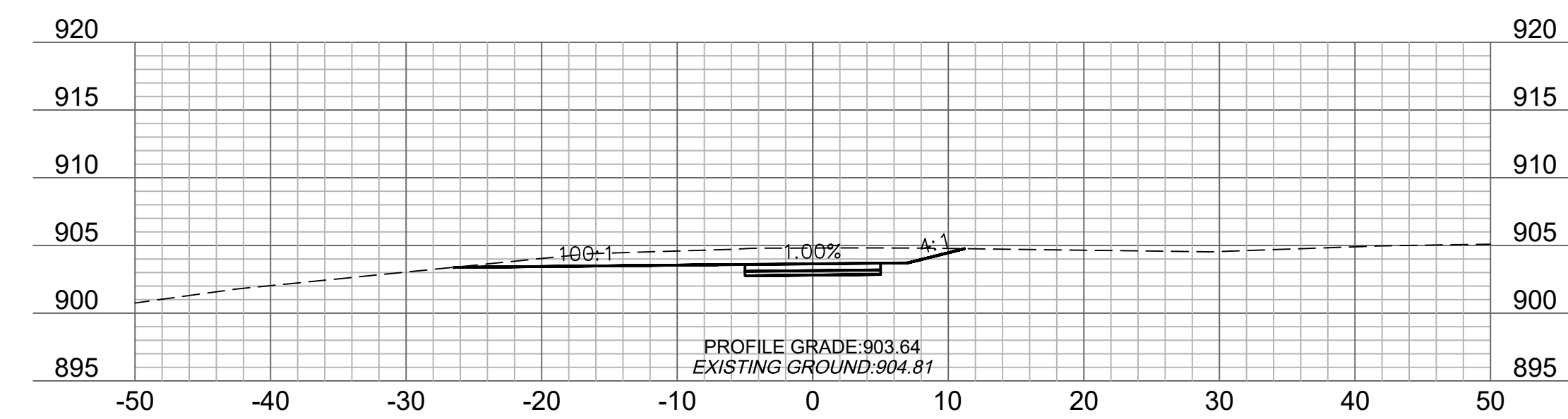
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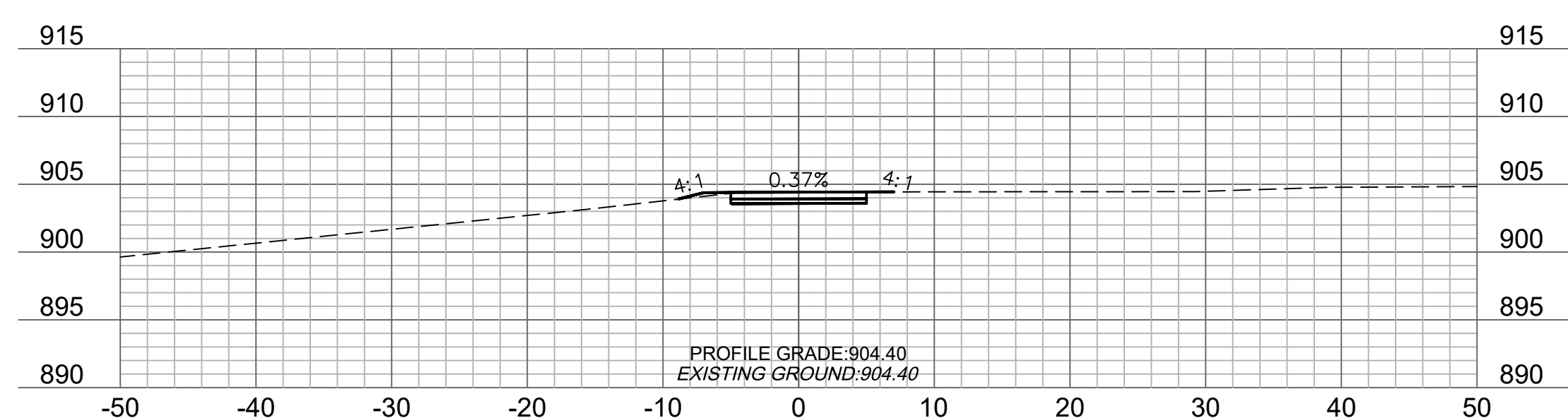
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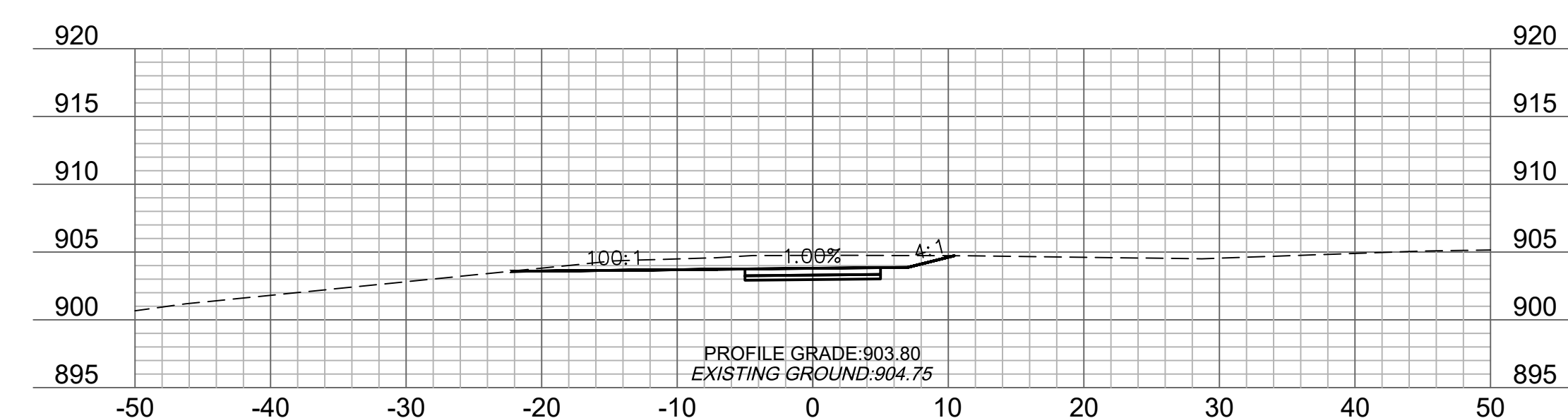
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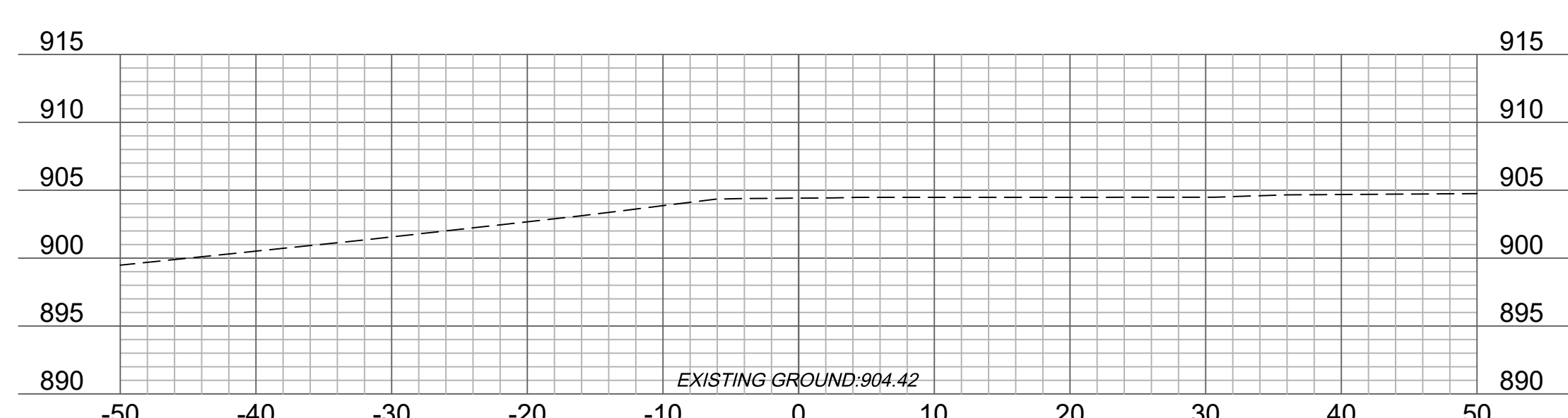
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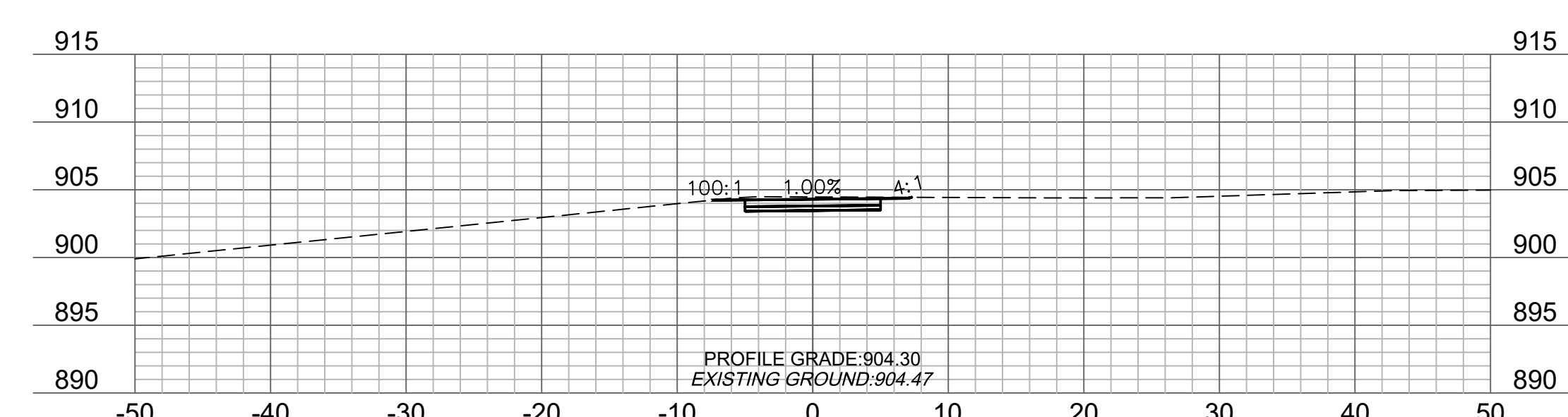
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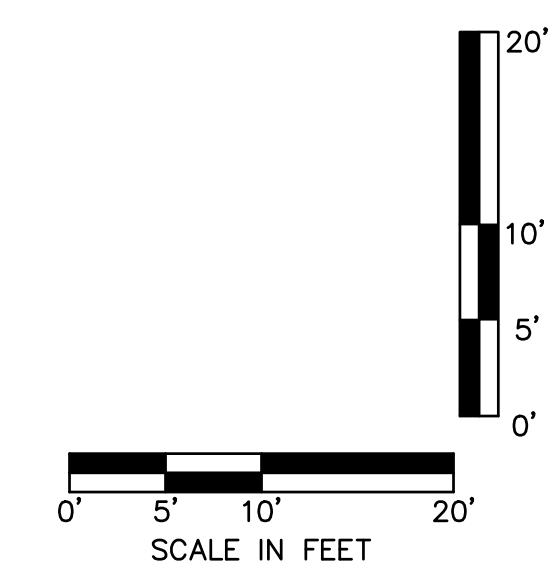
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

INDIAN CREEK TRAIL
 CROSS SECTIONS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
 project no.: 022-06529
 drawing no.: T_XSEC01_02206529
 date: 1-31-2025

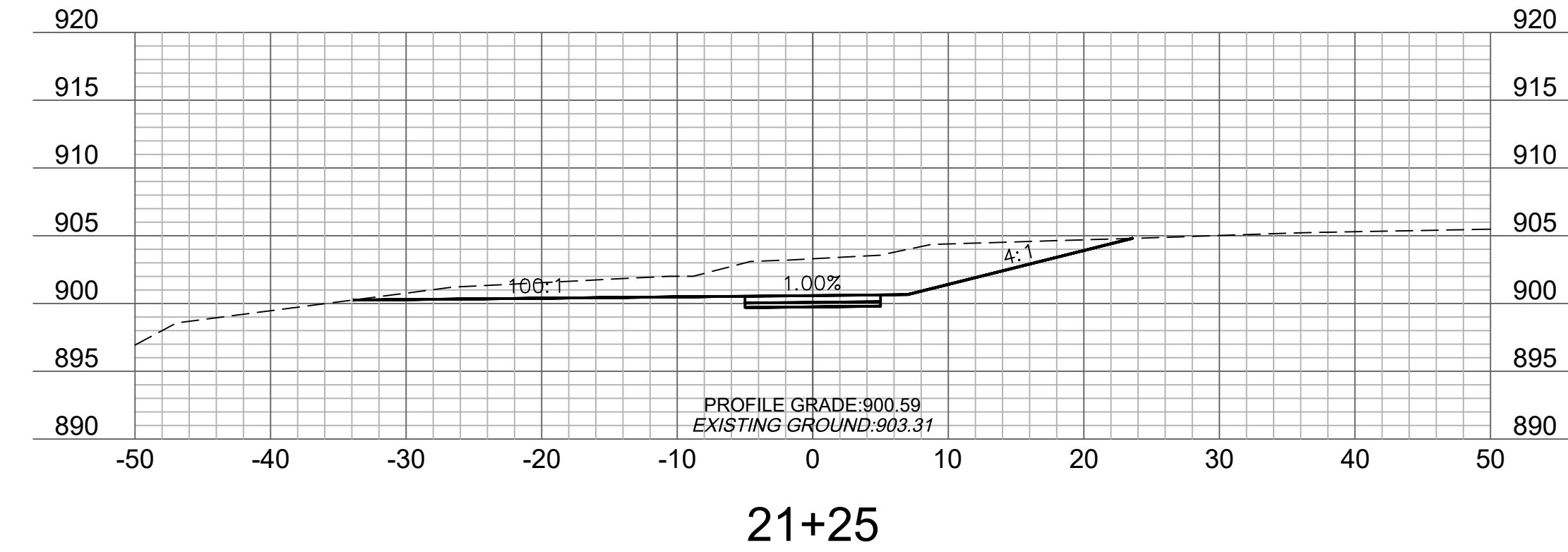
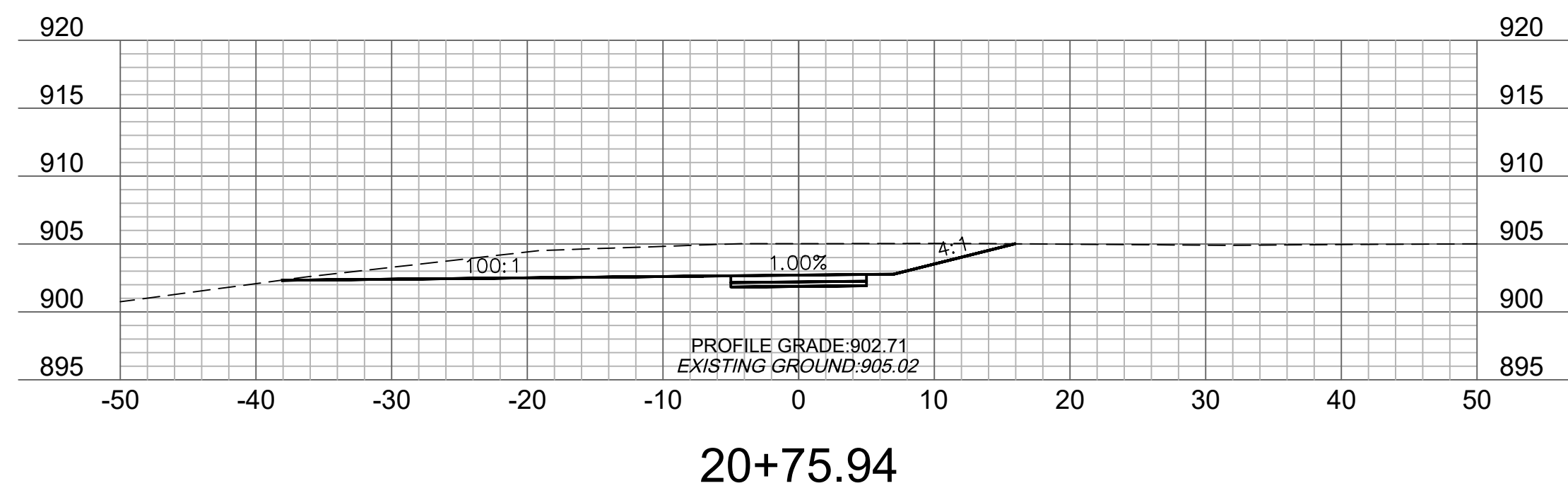
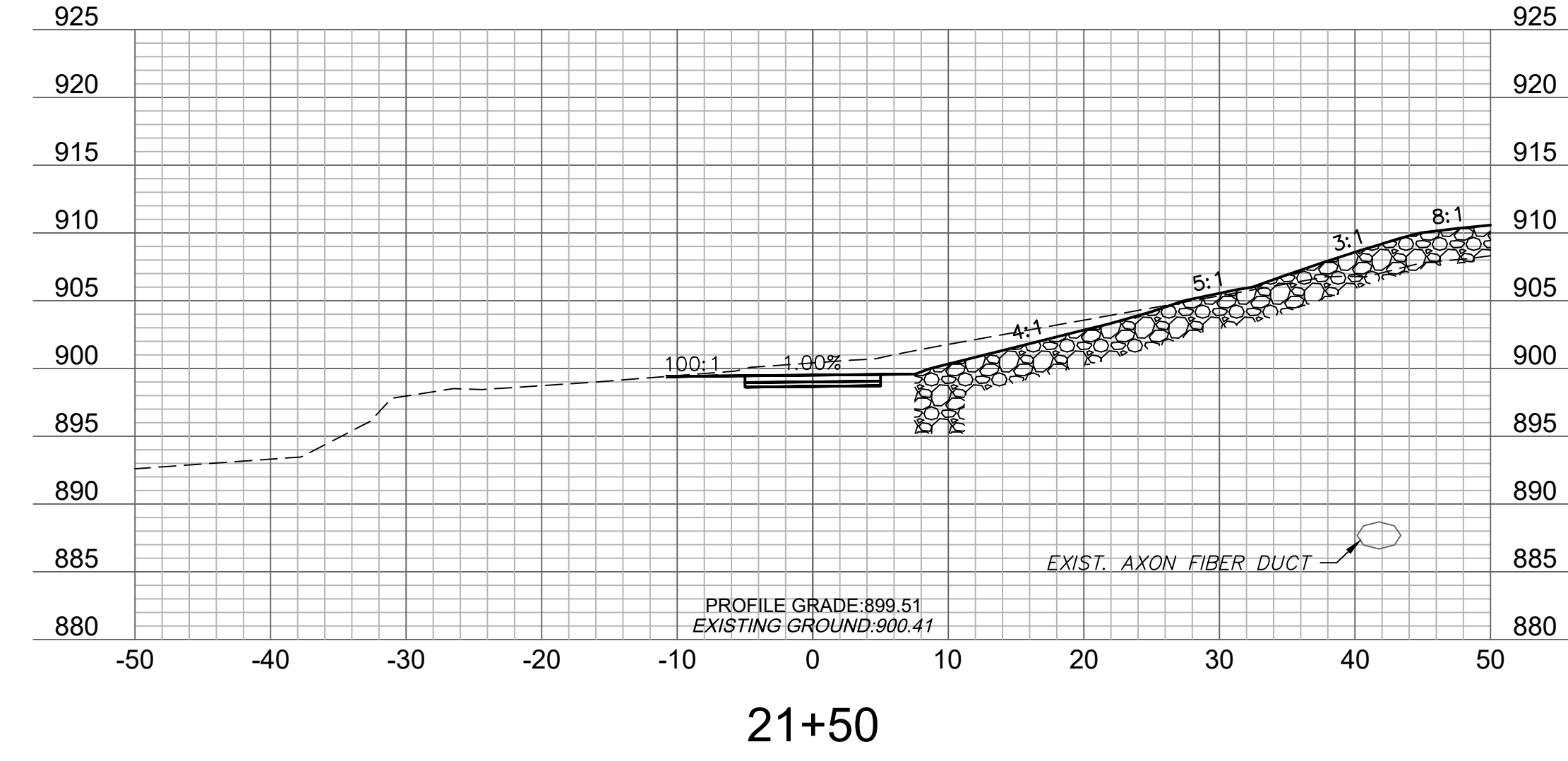
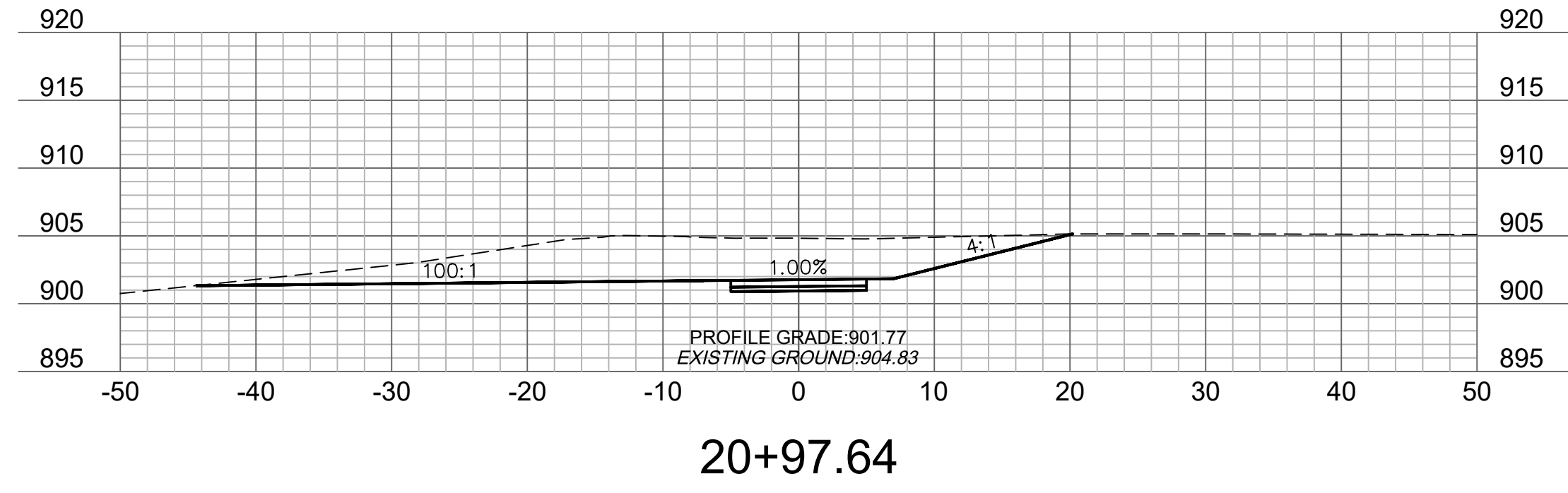
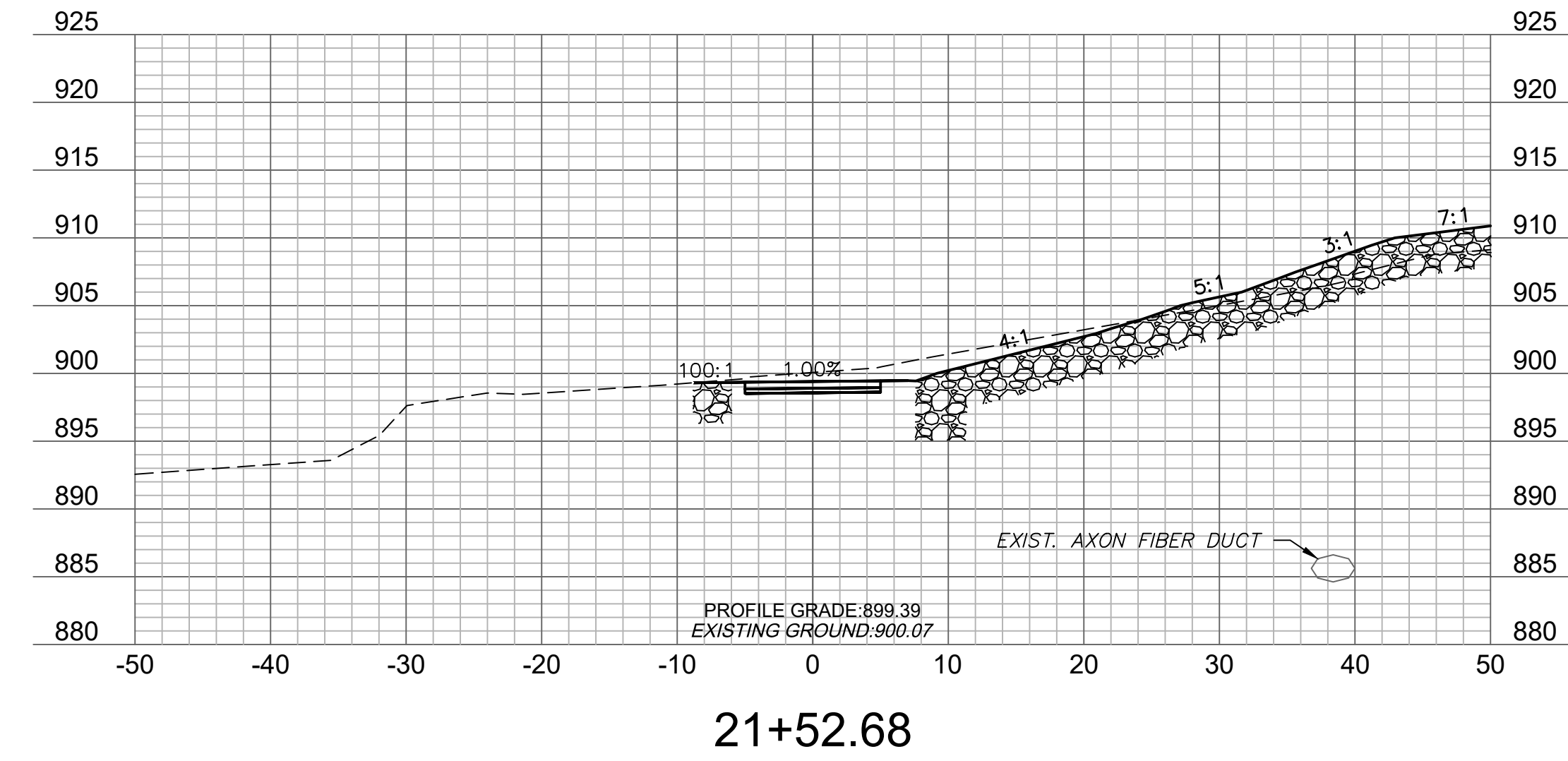
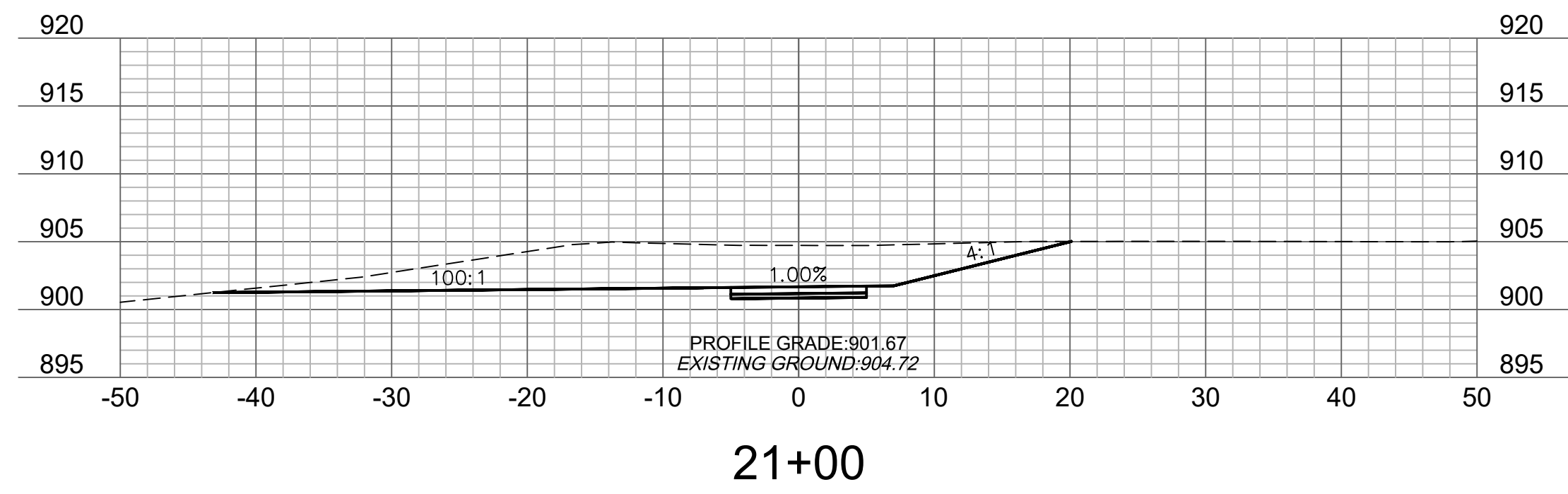


STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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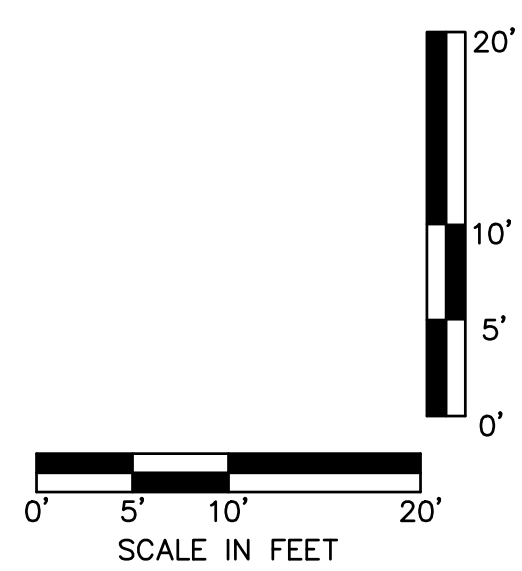
INDIAN CREEK TRAIL
CROSS SECTIONS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

2025

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: T_XSEC01_02206529
date: 1-31-2025



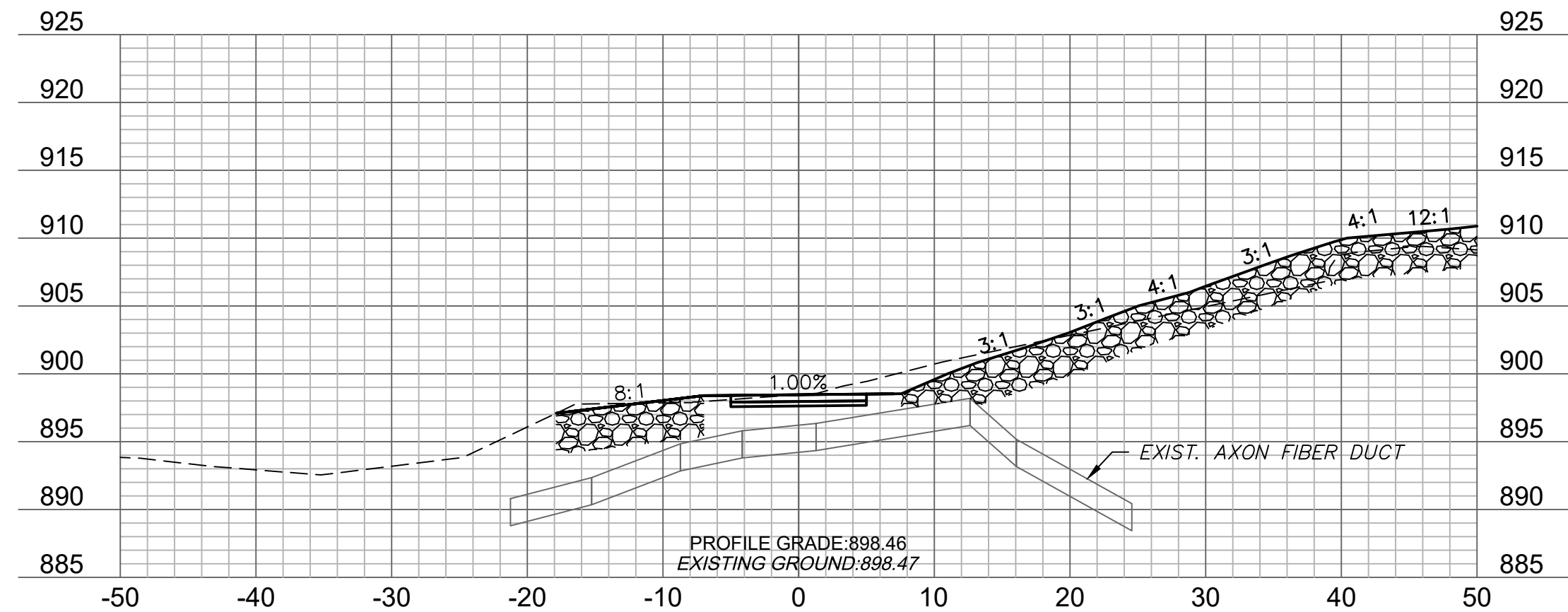
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KANSAS	046 N-0785-01	2025

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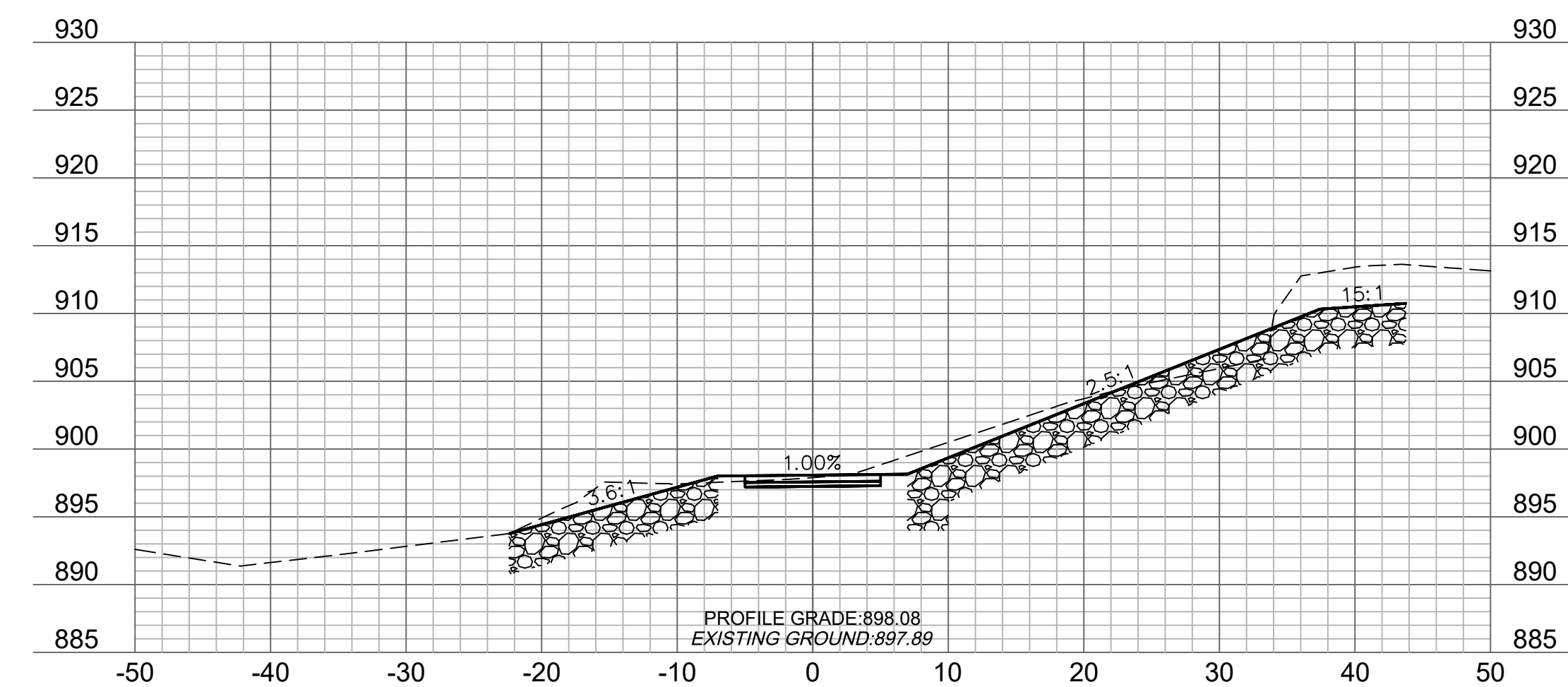
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Overland Park, KS 66213-4760
TEL 913.381.1170 www.olson.com

USER: mwelech

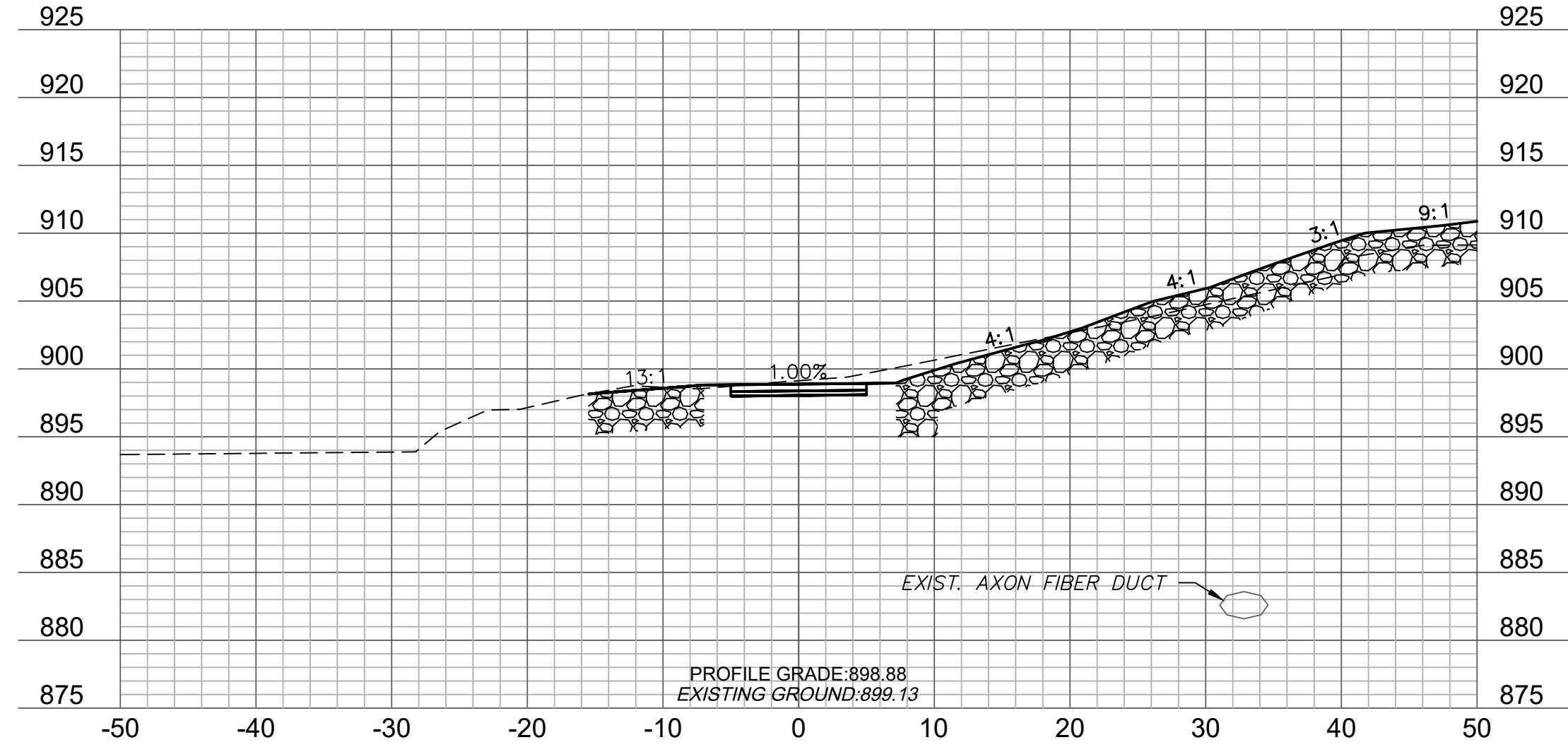
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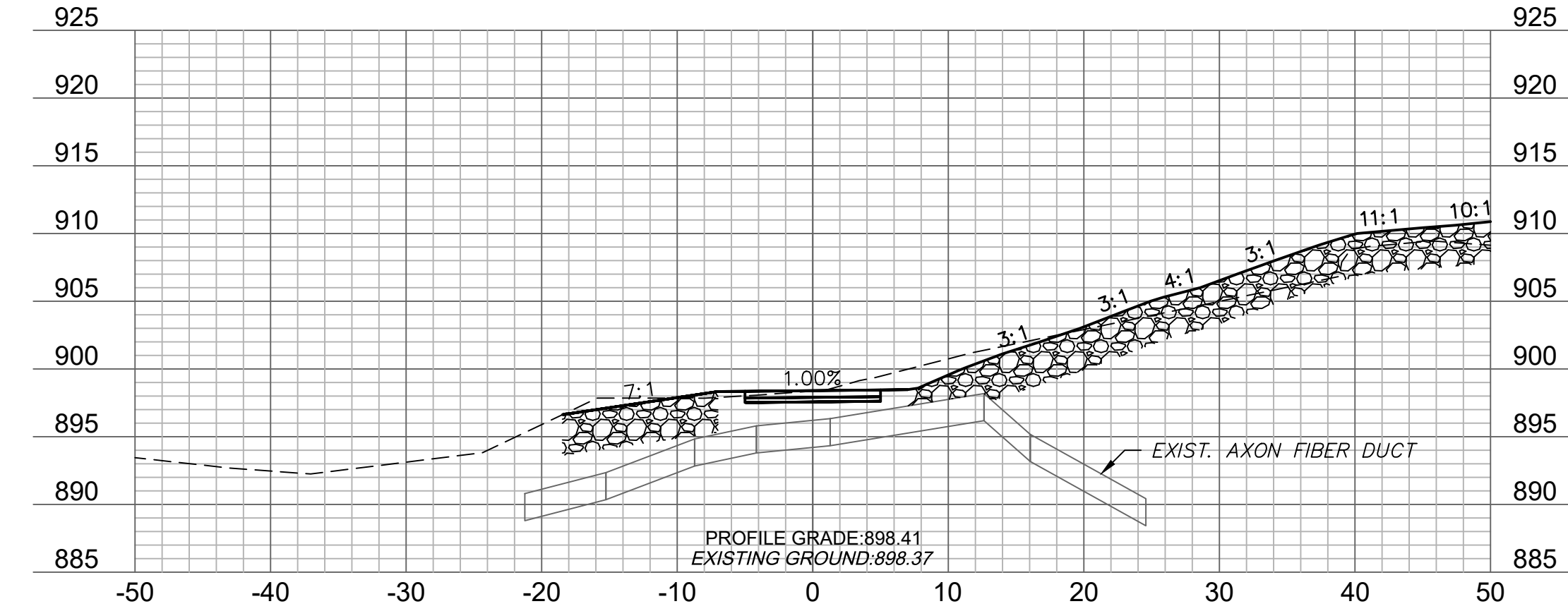
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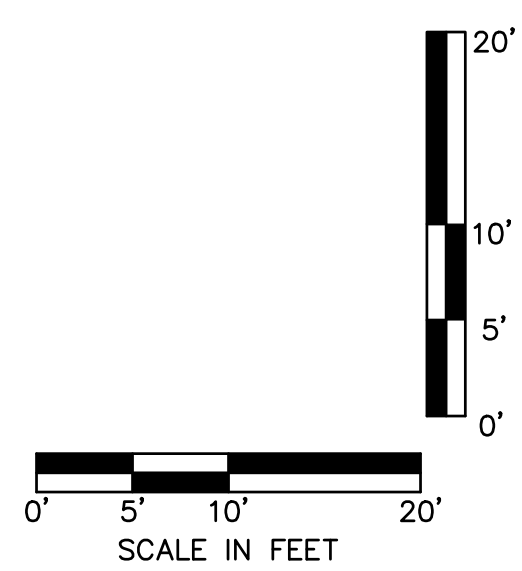
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21+64.57



21+76.46



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

INDIAN CREEK TRAIL CROSS SECTIONS	COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK	2025

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: T_XSEC01_02206529
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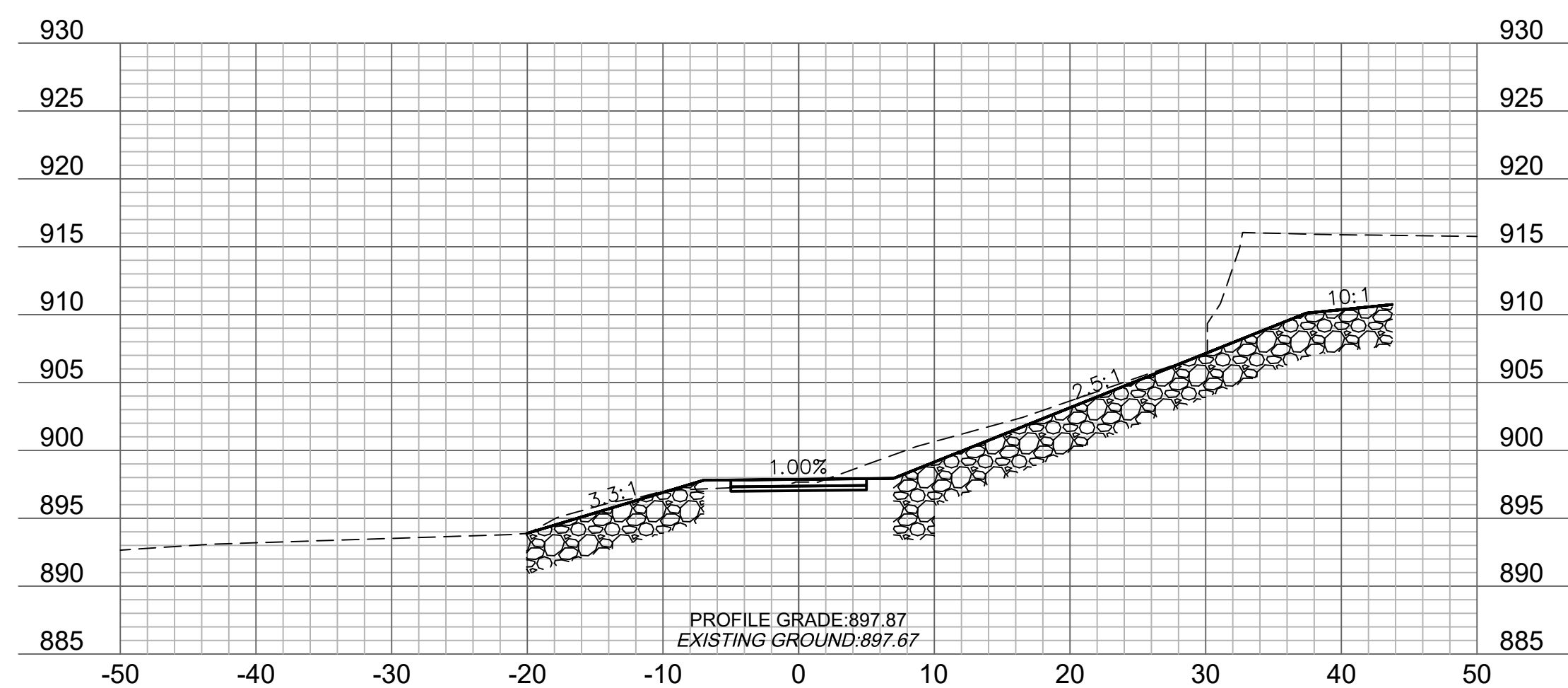
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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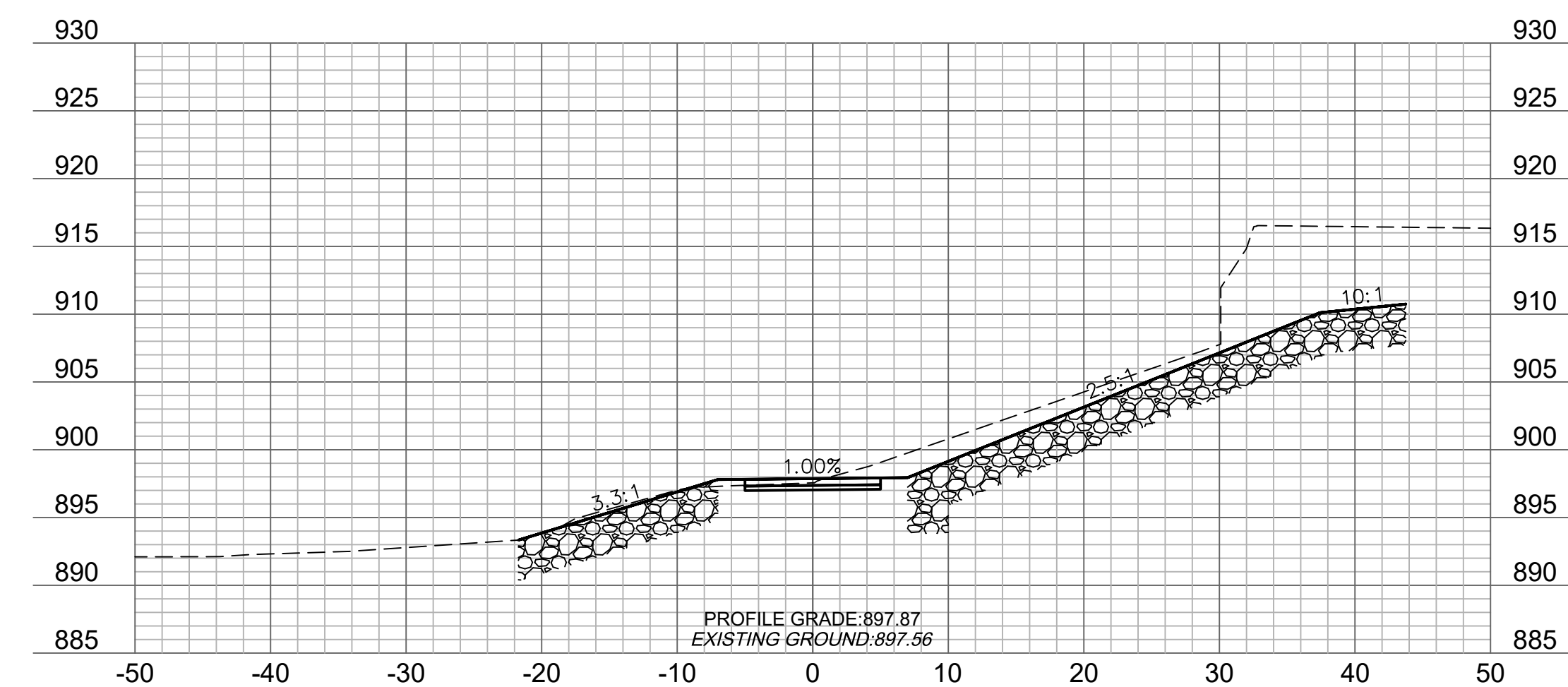
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4760
TEL 913.381.1170 www.olson.com

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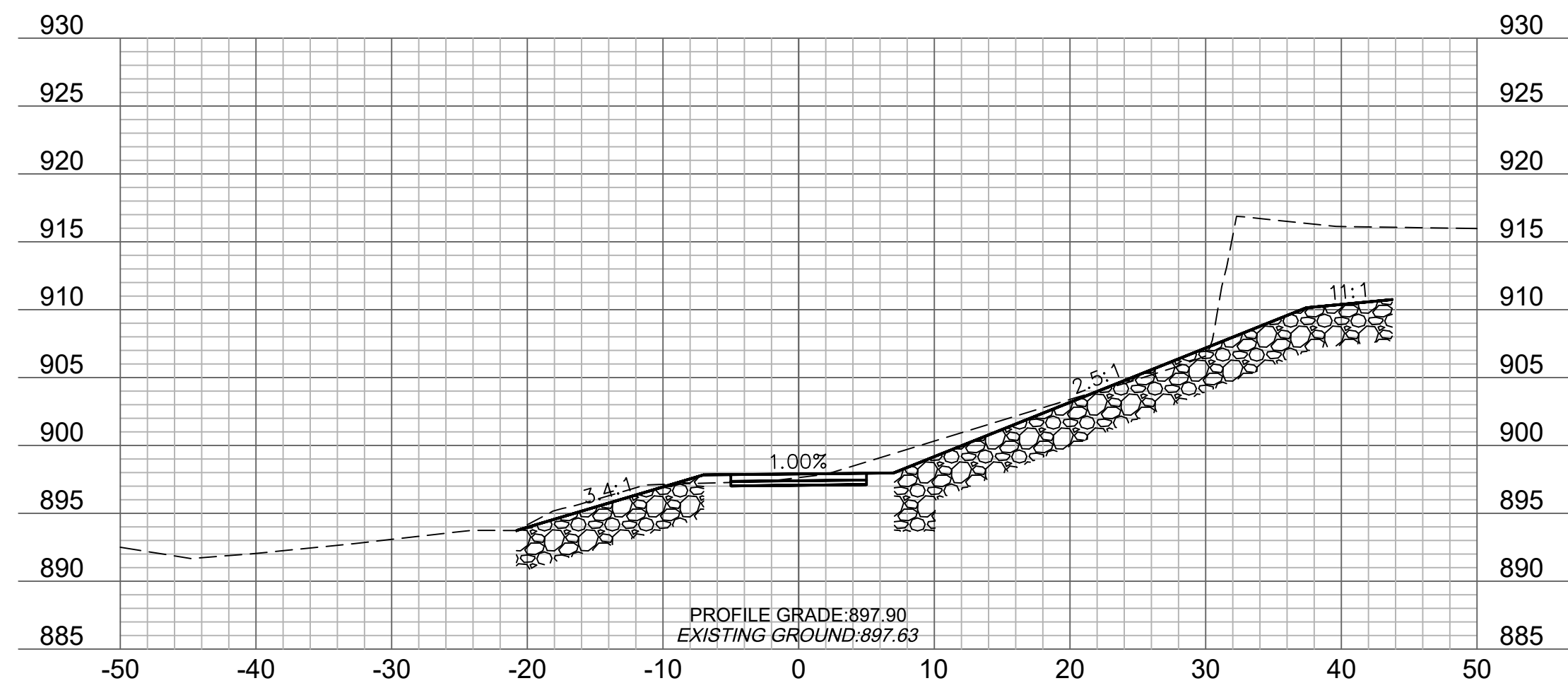
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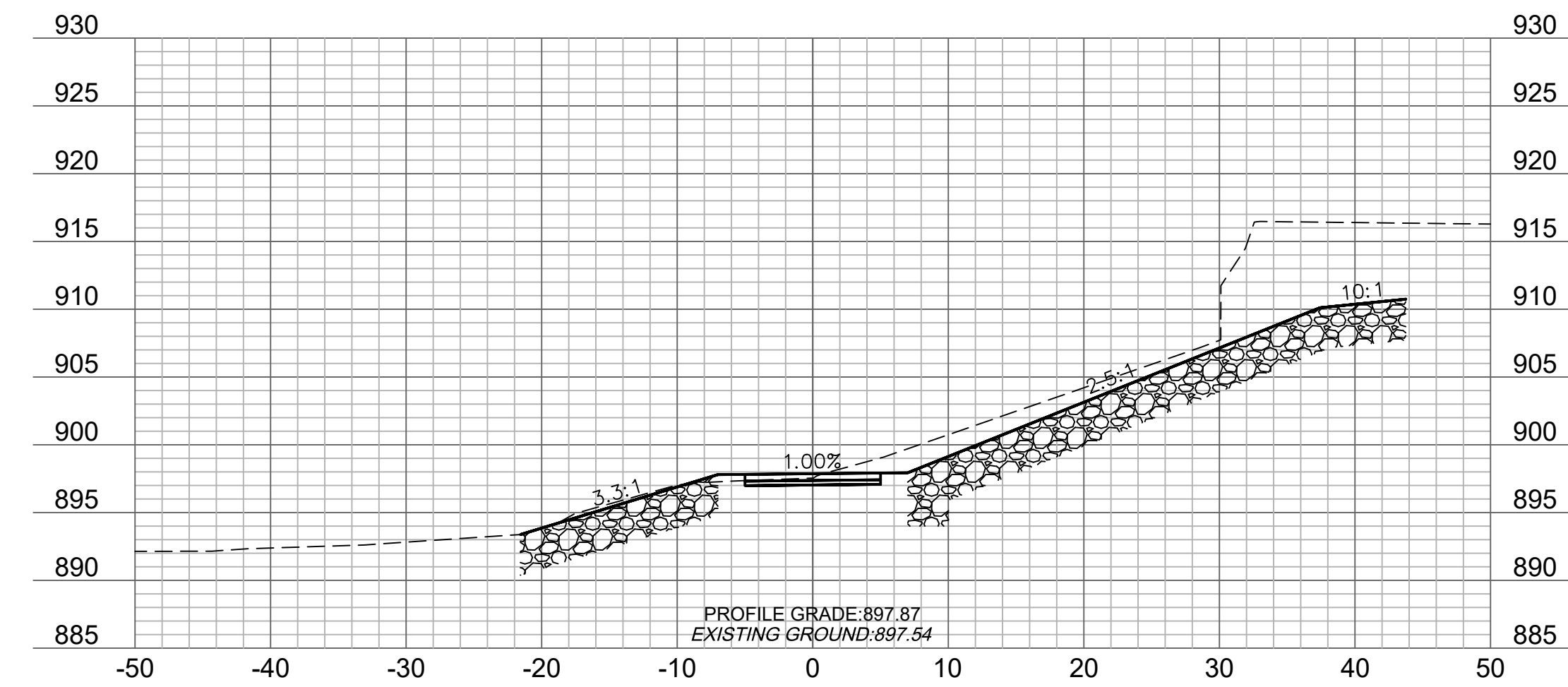
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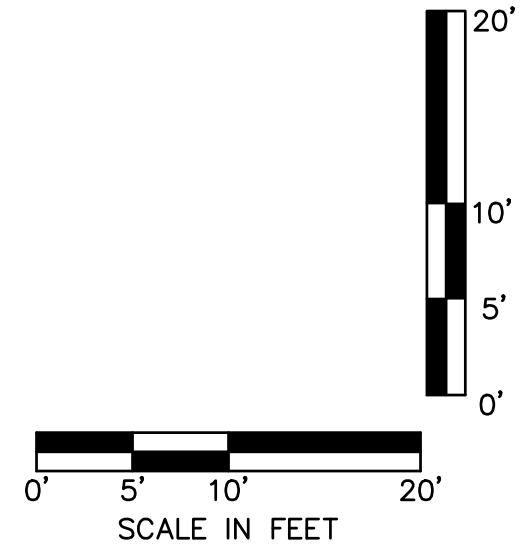
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

INDIAN CREEK TRAIL
CROSS SECTIONS
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS
2025

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: T_XSEC01_02206529
date: 1-31-2025

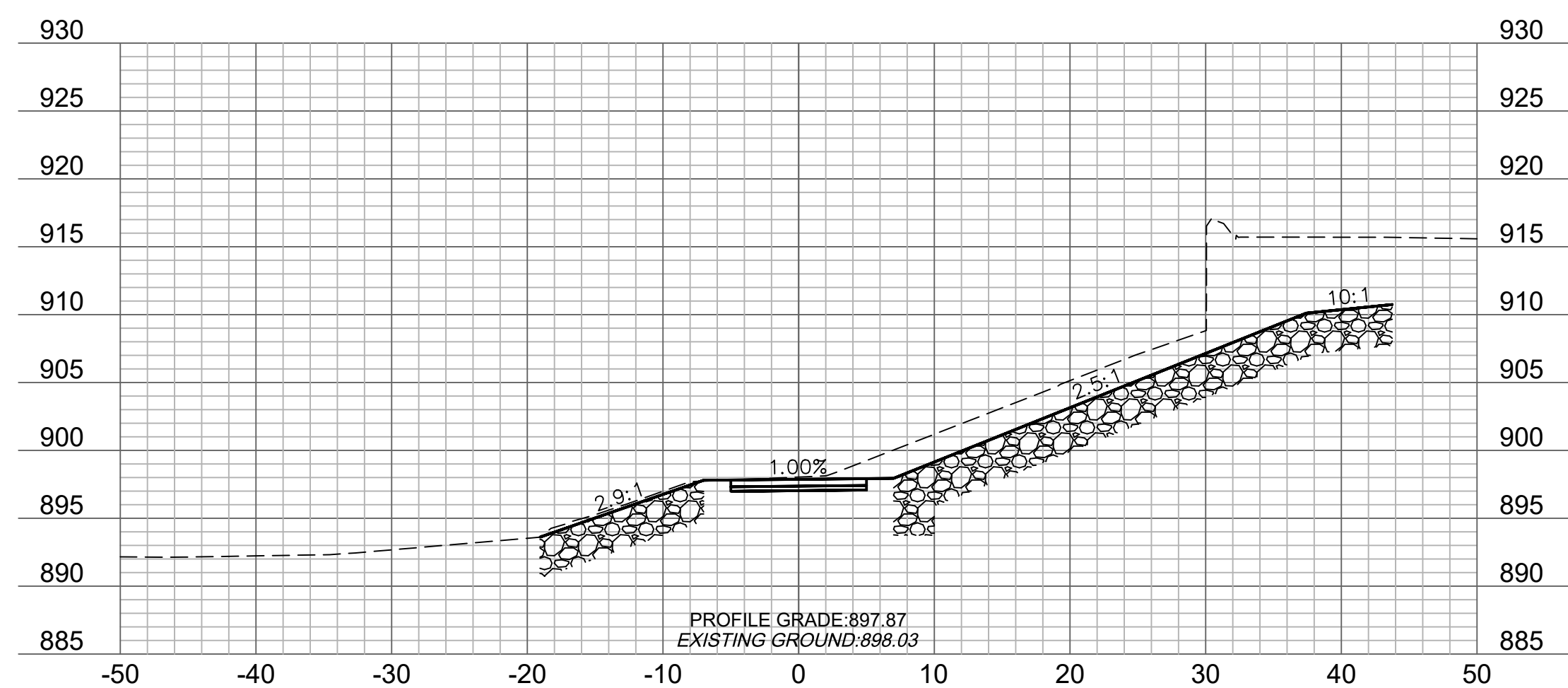
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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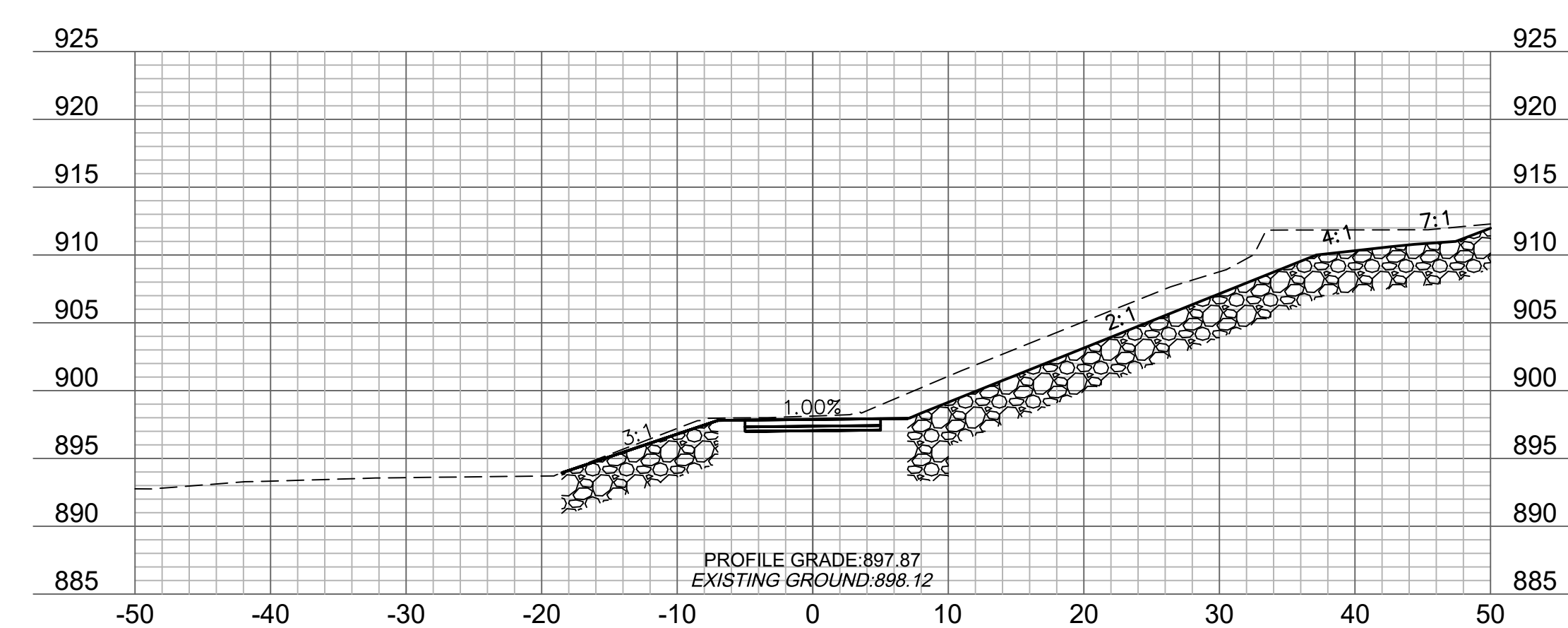
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Overland Park, KS 66213-4760
TEL 913.381.1170 www.olson.com

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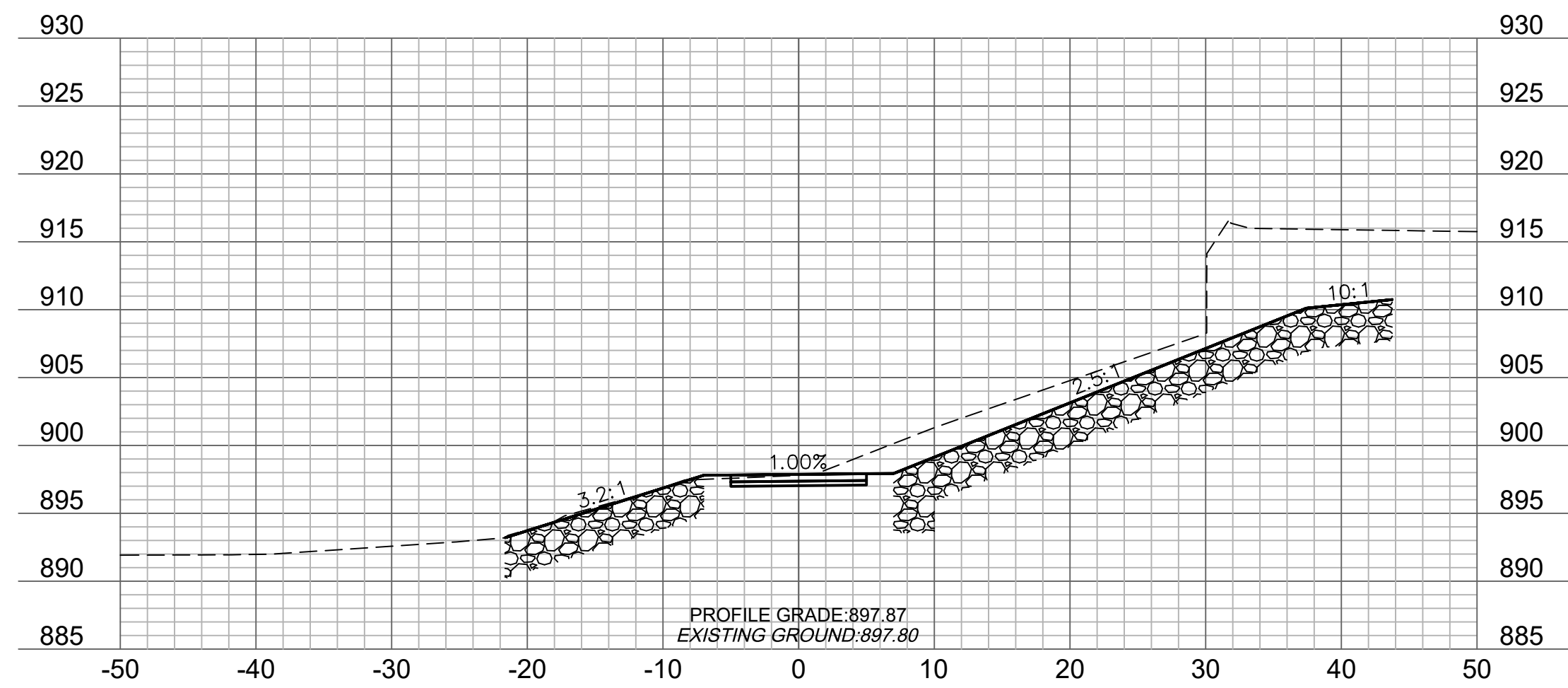
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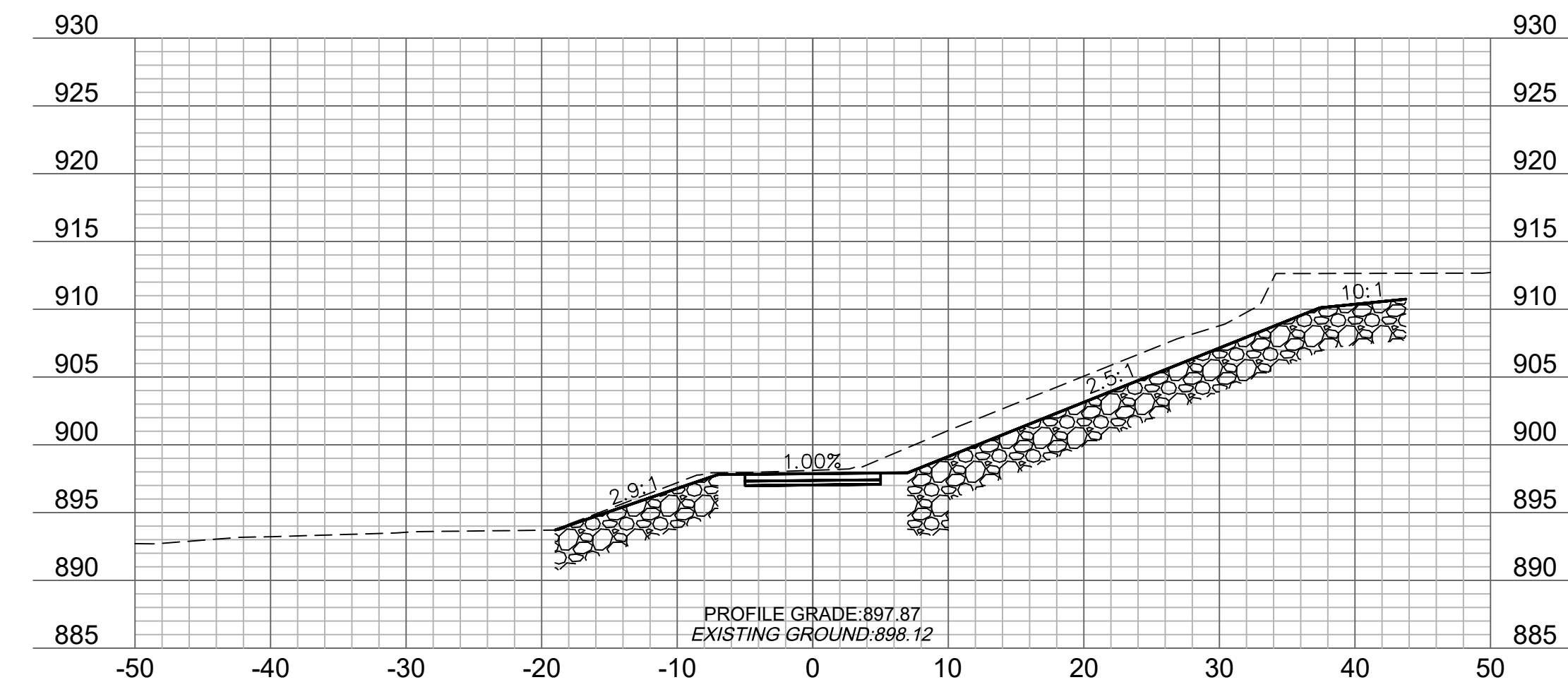
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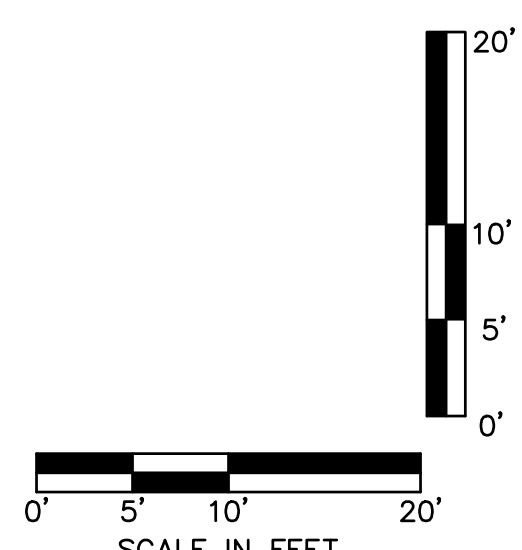


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REVISIONS

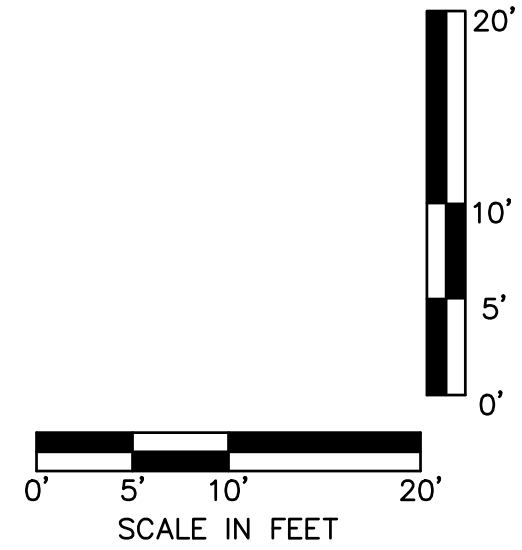
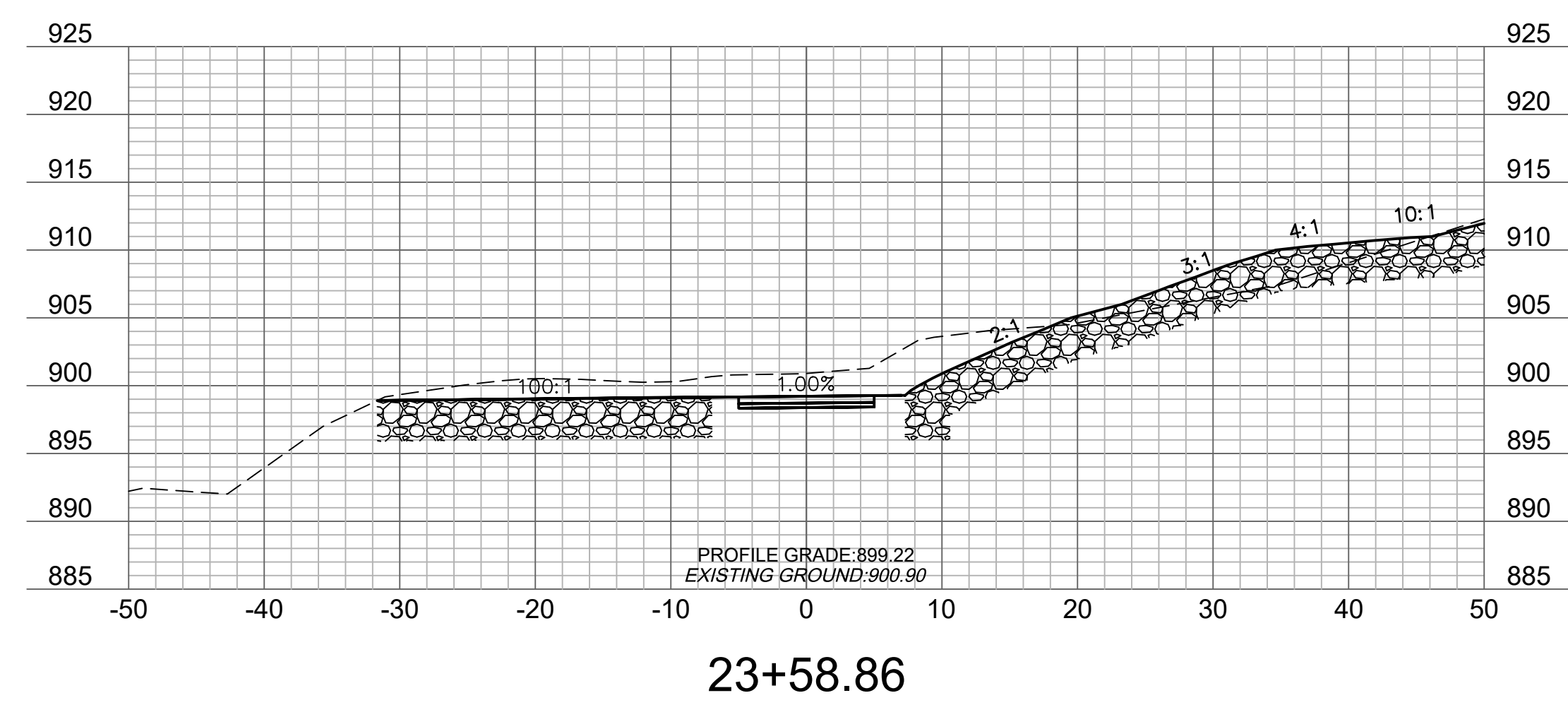
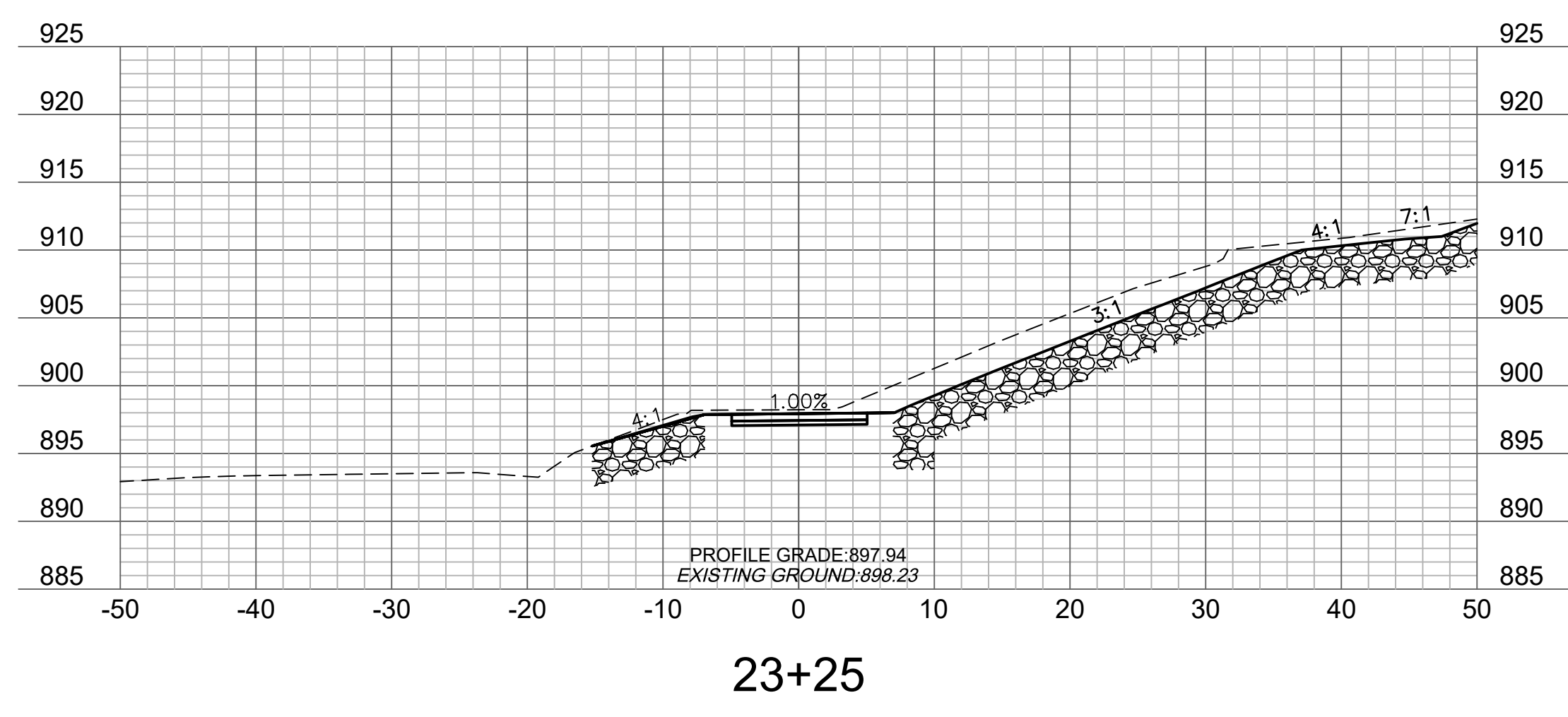
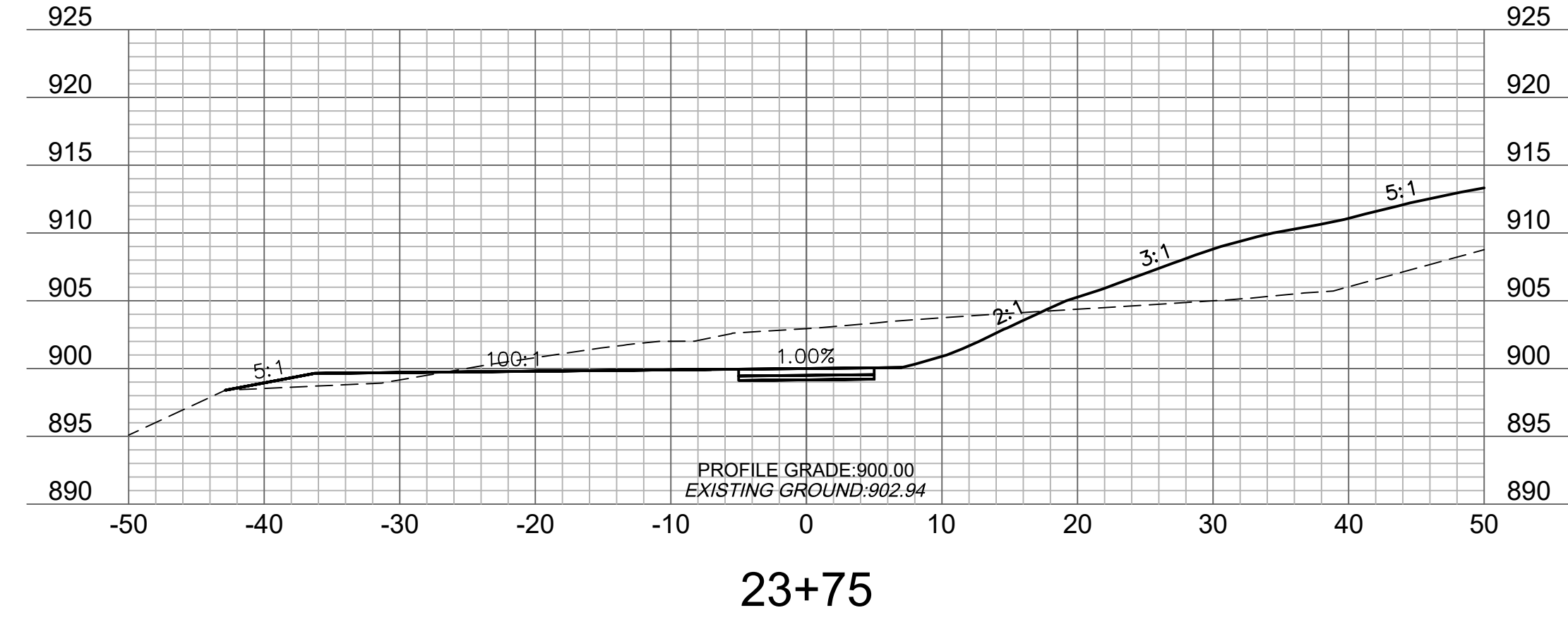
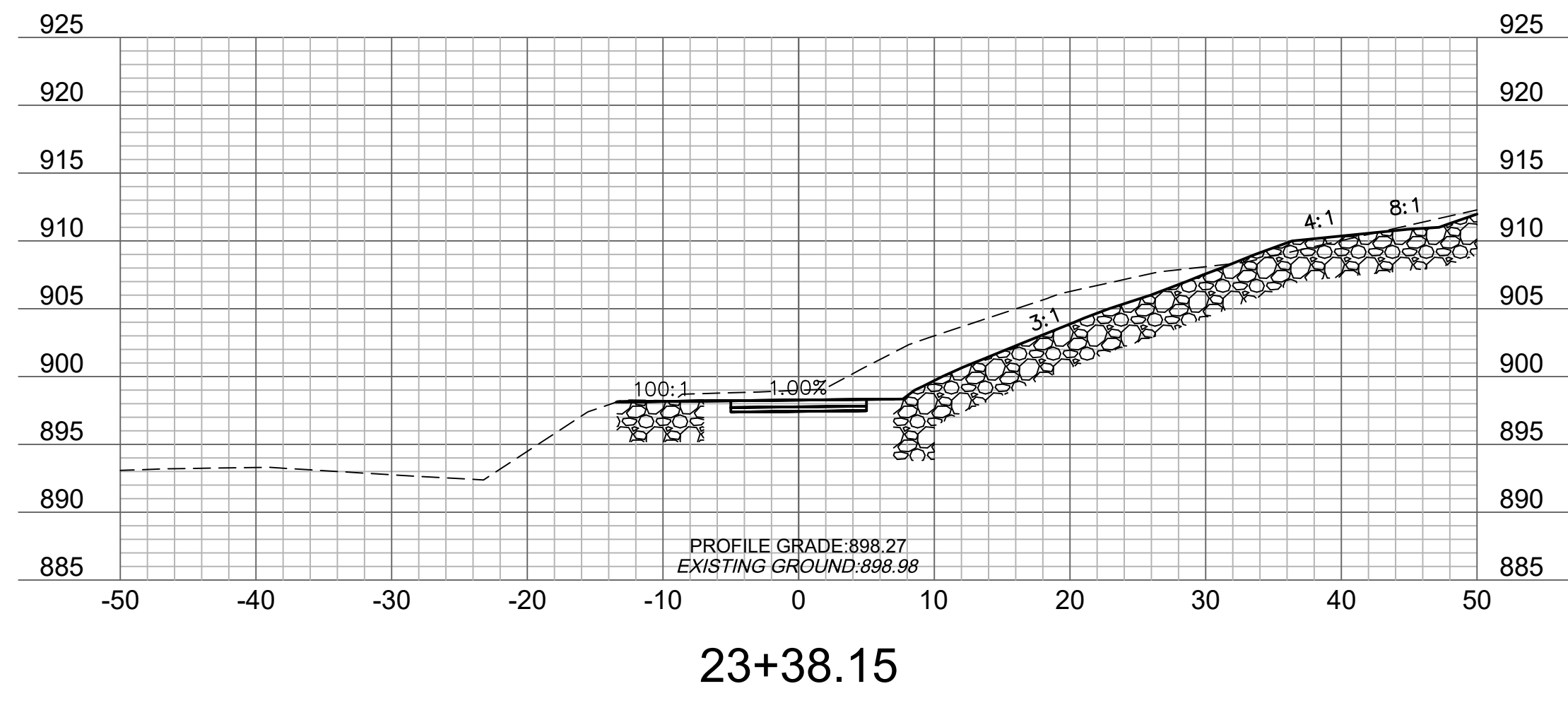
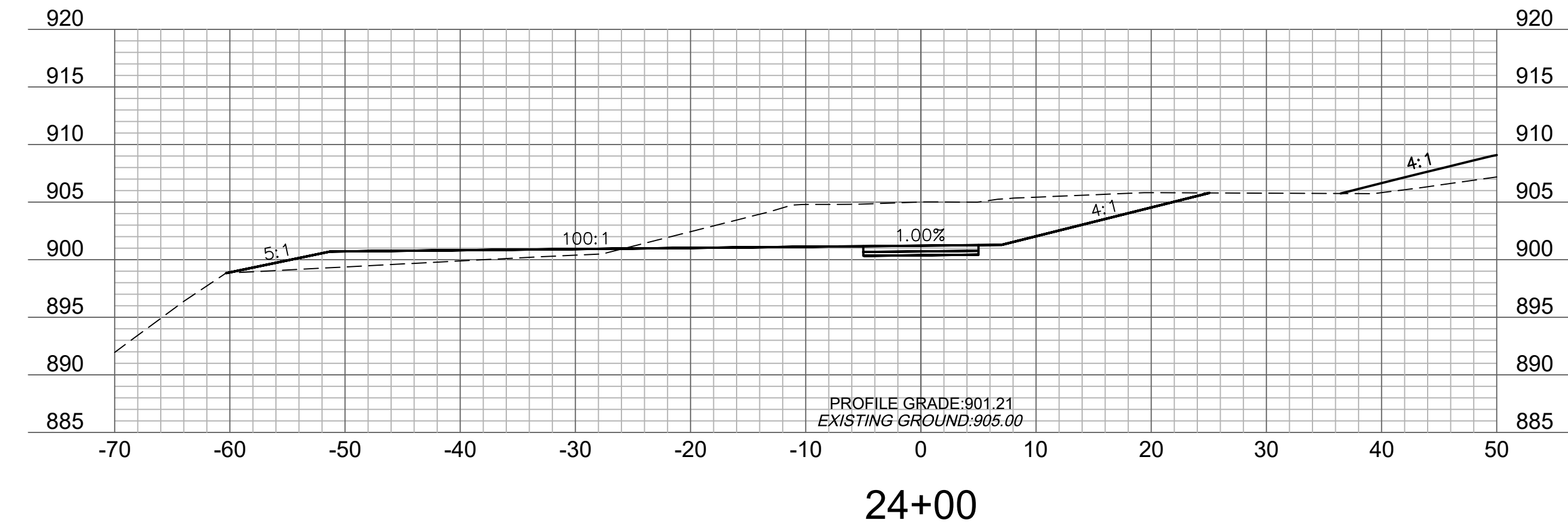
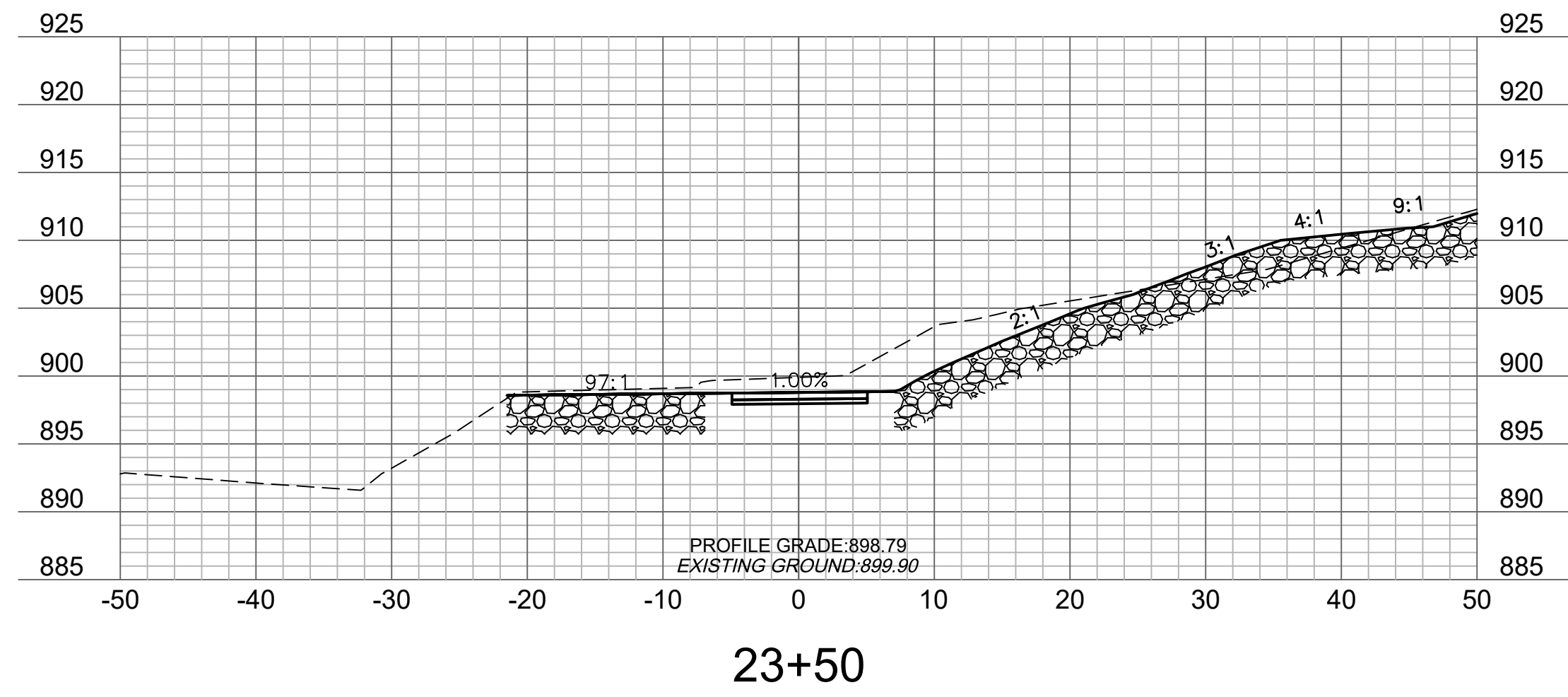
INDIAN CREEK TRAIL
CROSS SECTIONS
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS
2025



drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: XSEC01_02206529
date: 1-31-2025

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STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025



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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

INDIAN CREEK TRAIL
 CROSS SECTIONS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

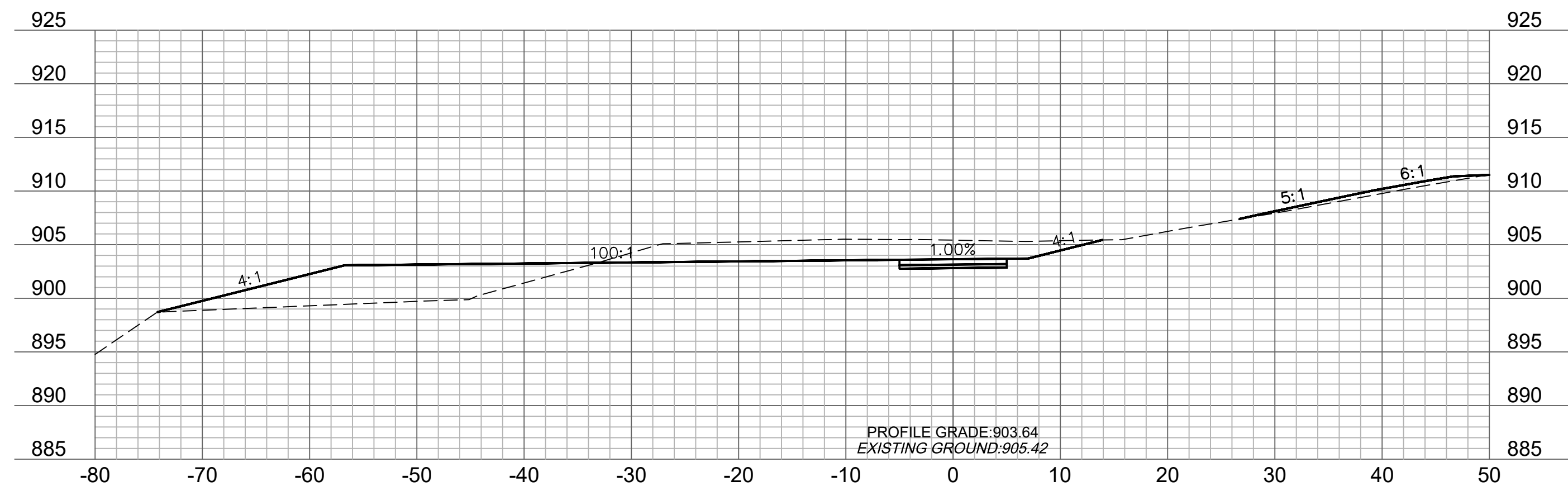
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 date: 1-31-2025

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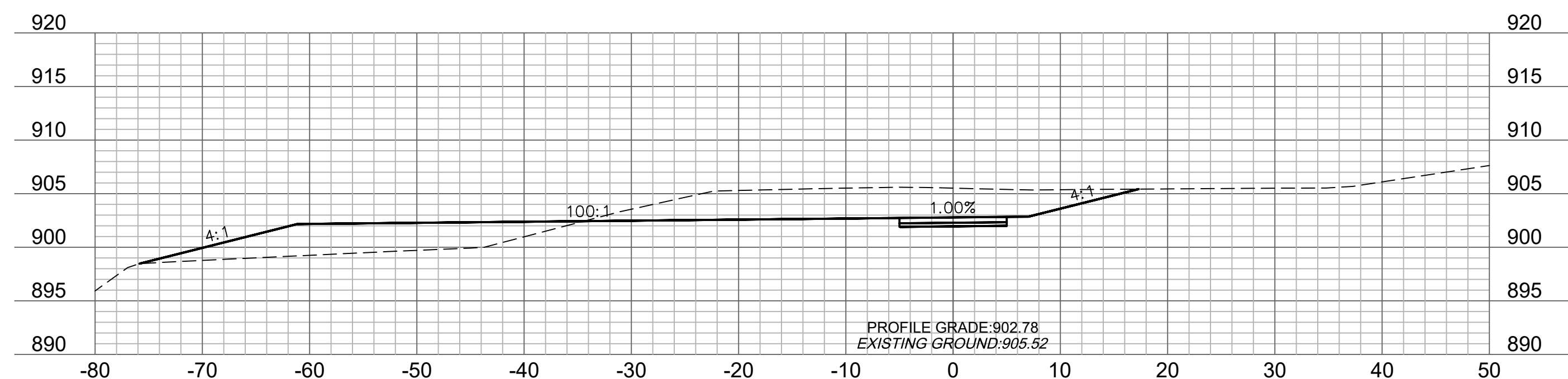
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

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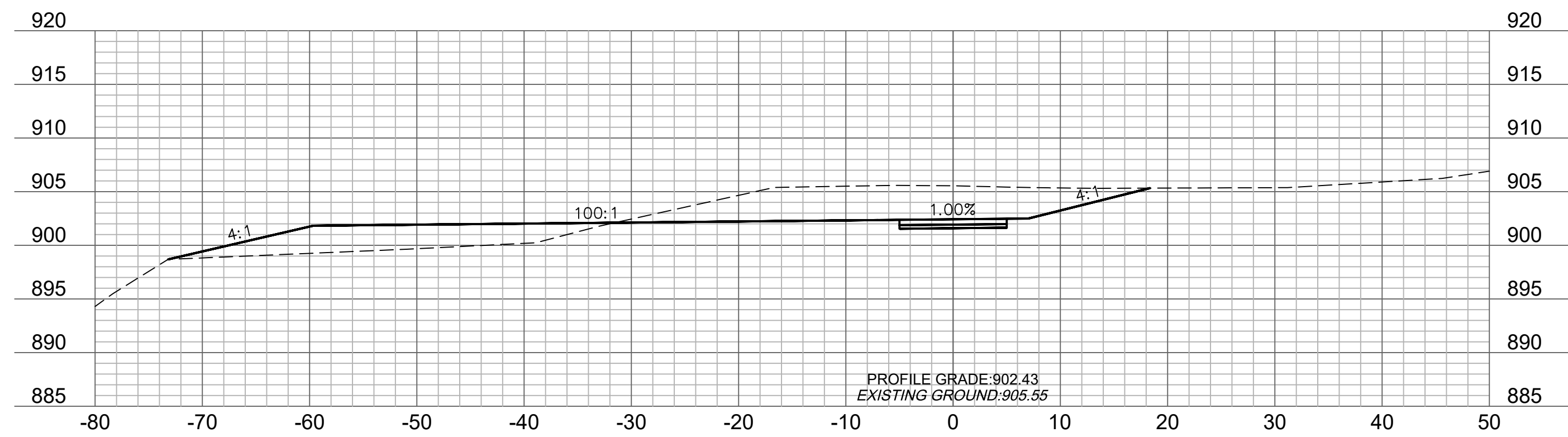
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Overland Park, KS 66213-4760
TEL 913.381.1170 www.olson.com



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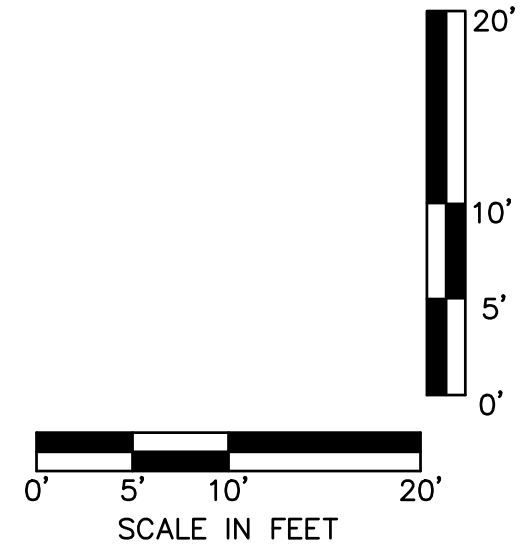
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

INDIAN CREEK TRAIL
CROSS SECTIONS
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS
2025

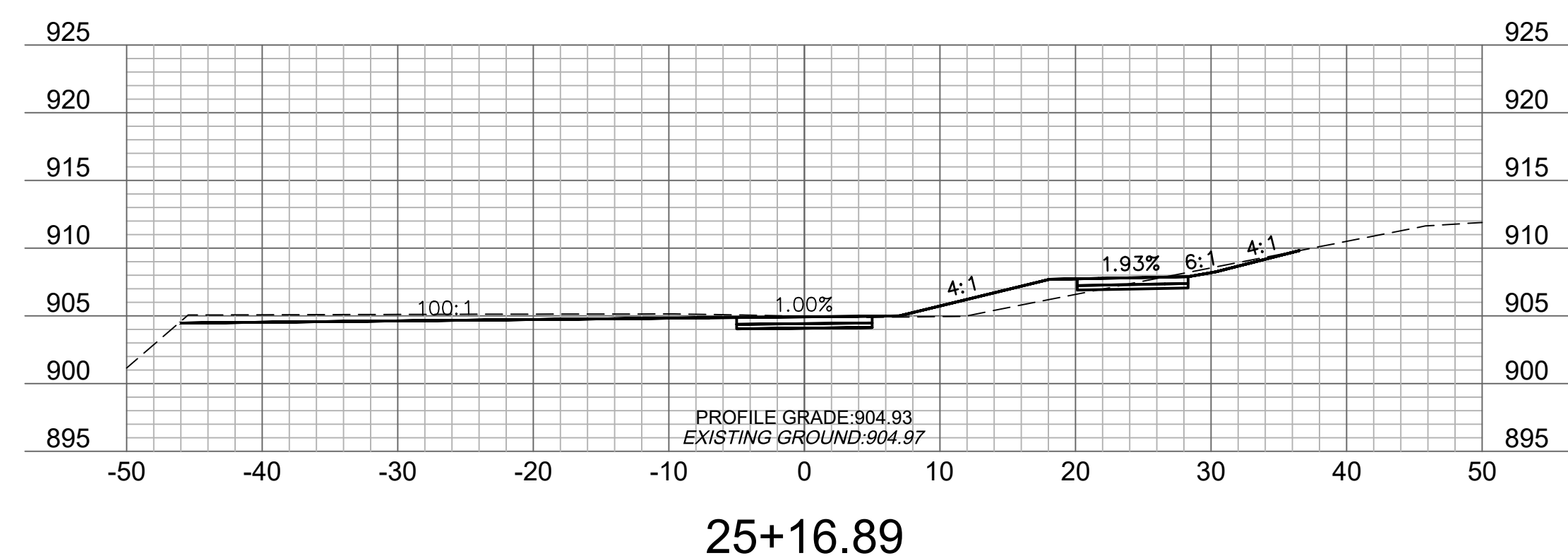
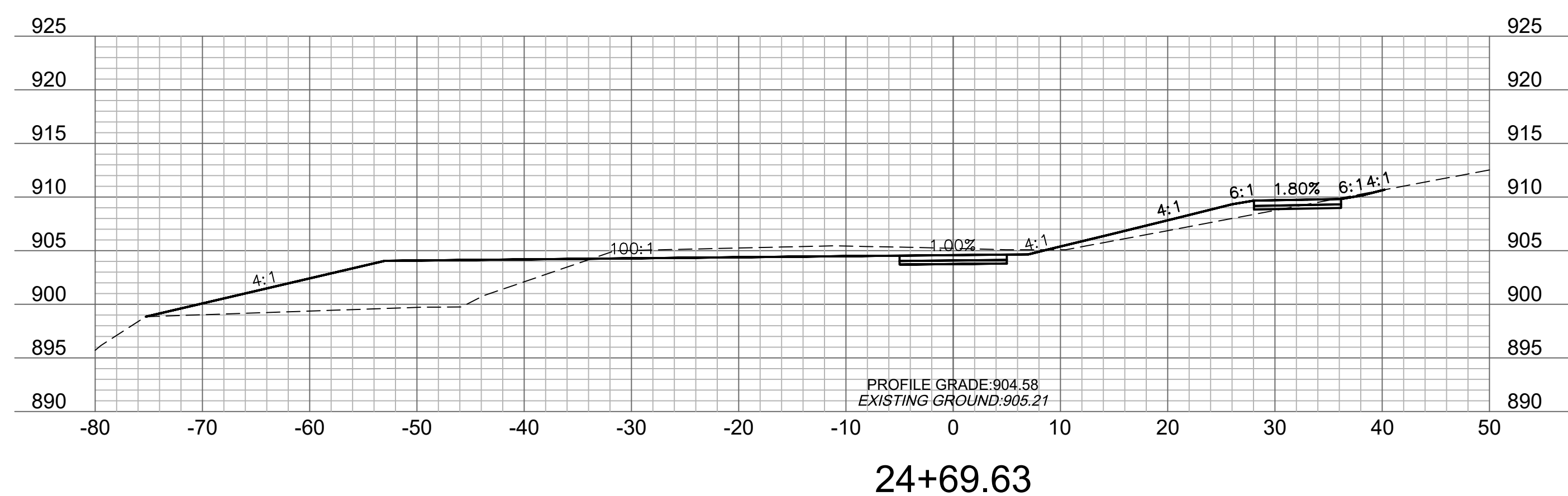
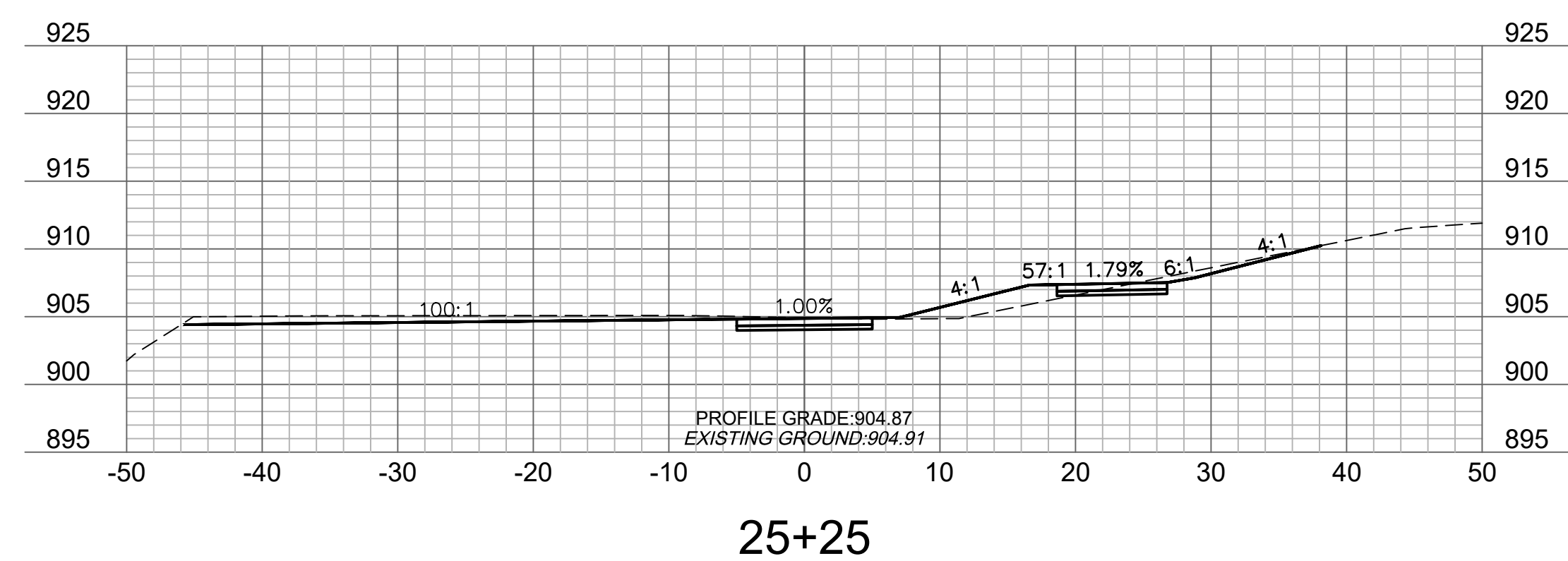
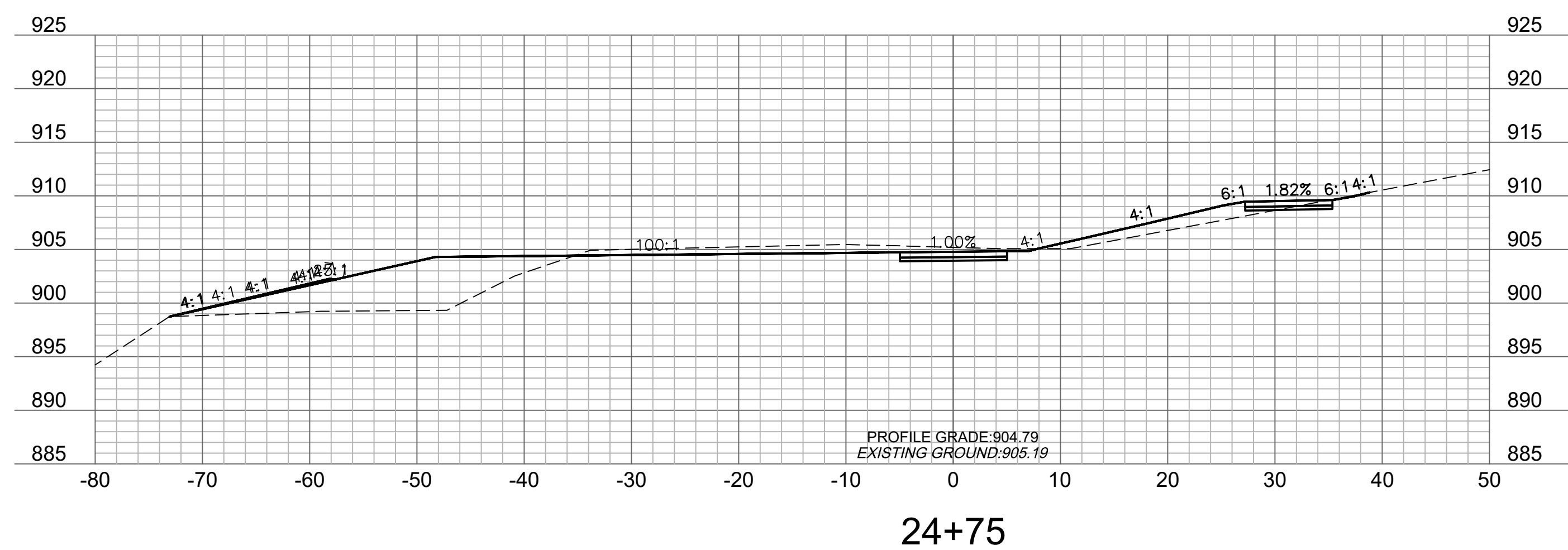
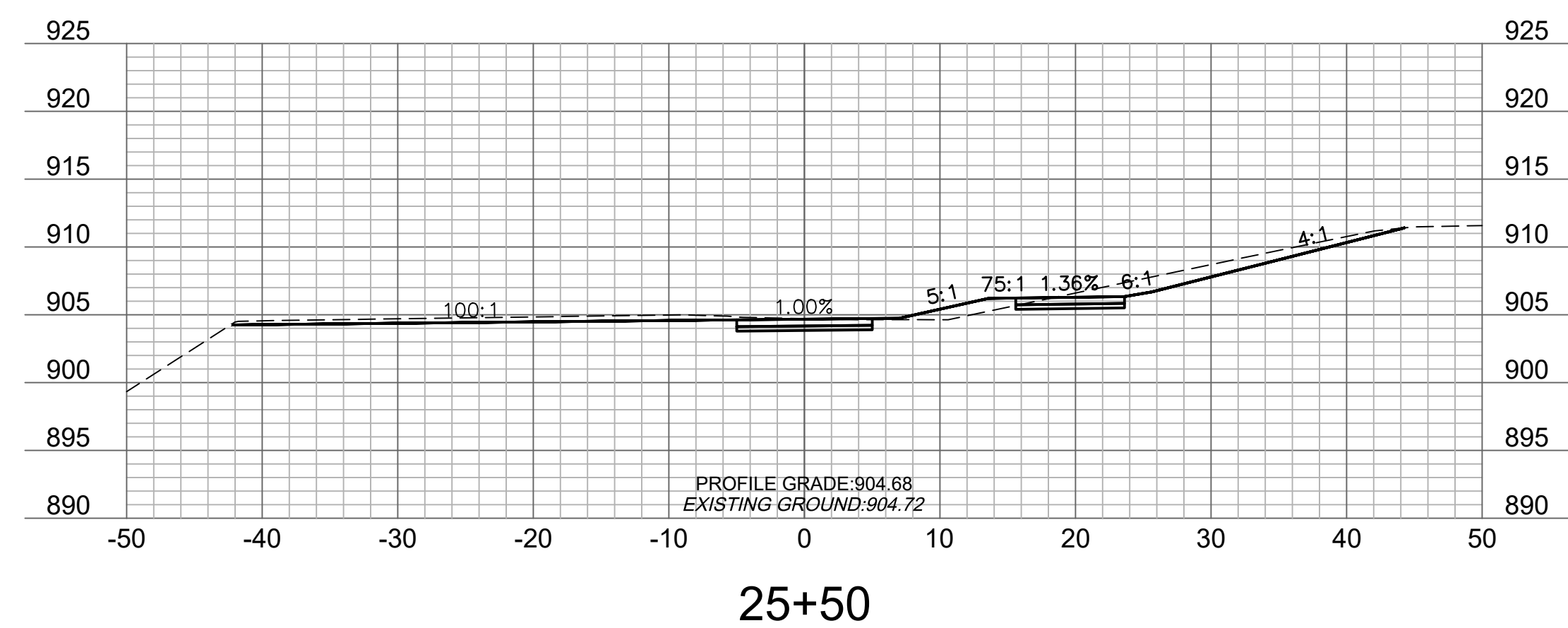
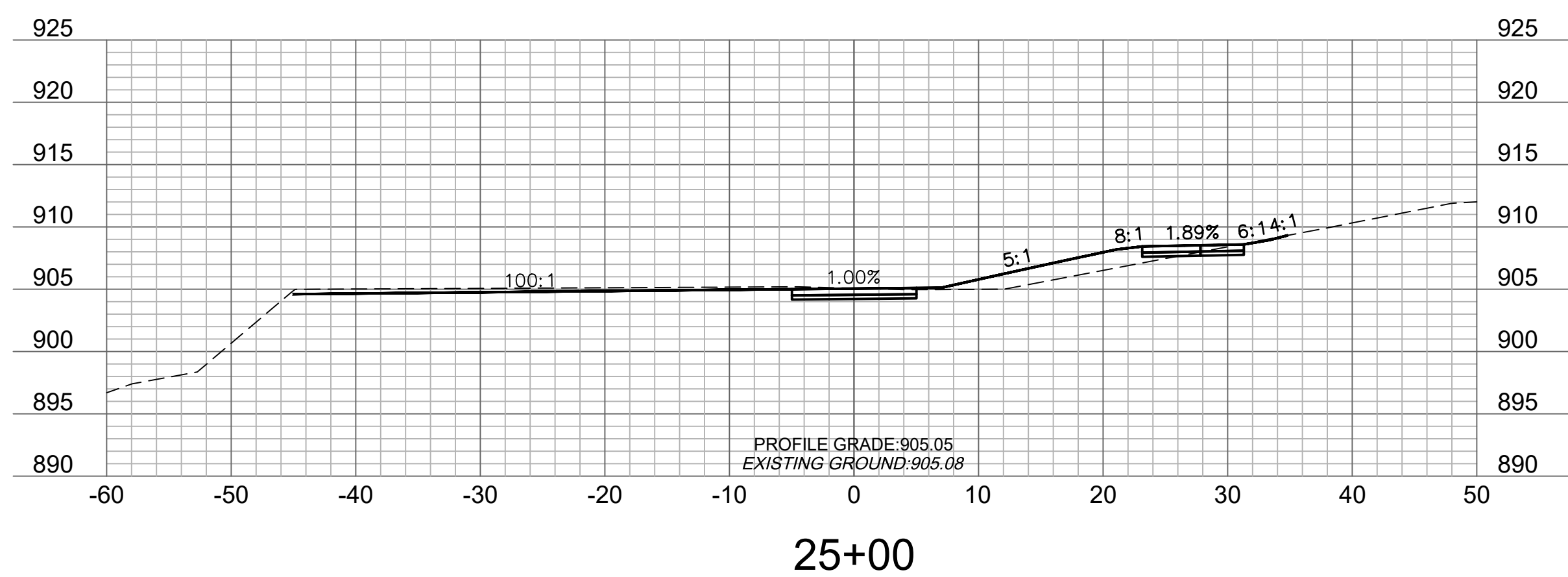


drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: T_XSEC01_02206529
date: 1-31-2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

olsson

7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olson.com



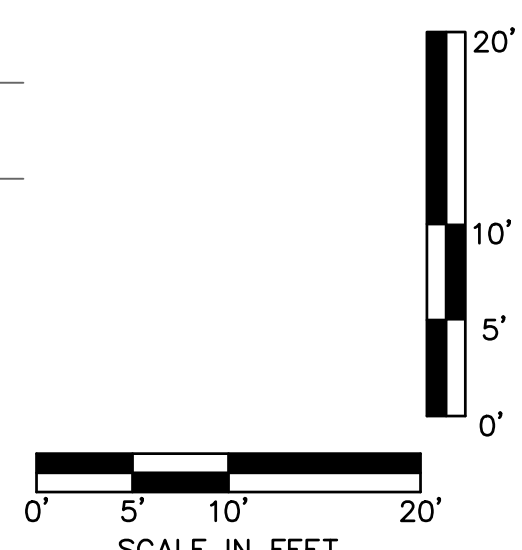
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

INDIAN CREEK TRAIL
CROSS SECTIONS
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS
2025

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: XSECC1 02206529
date: 1-31-2025

SHEET
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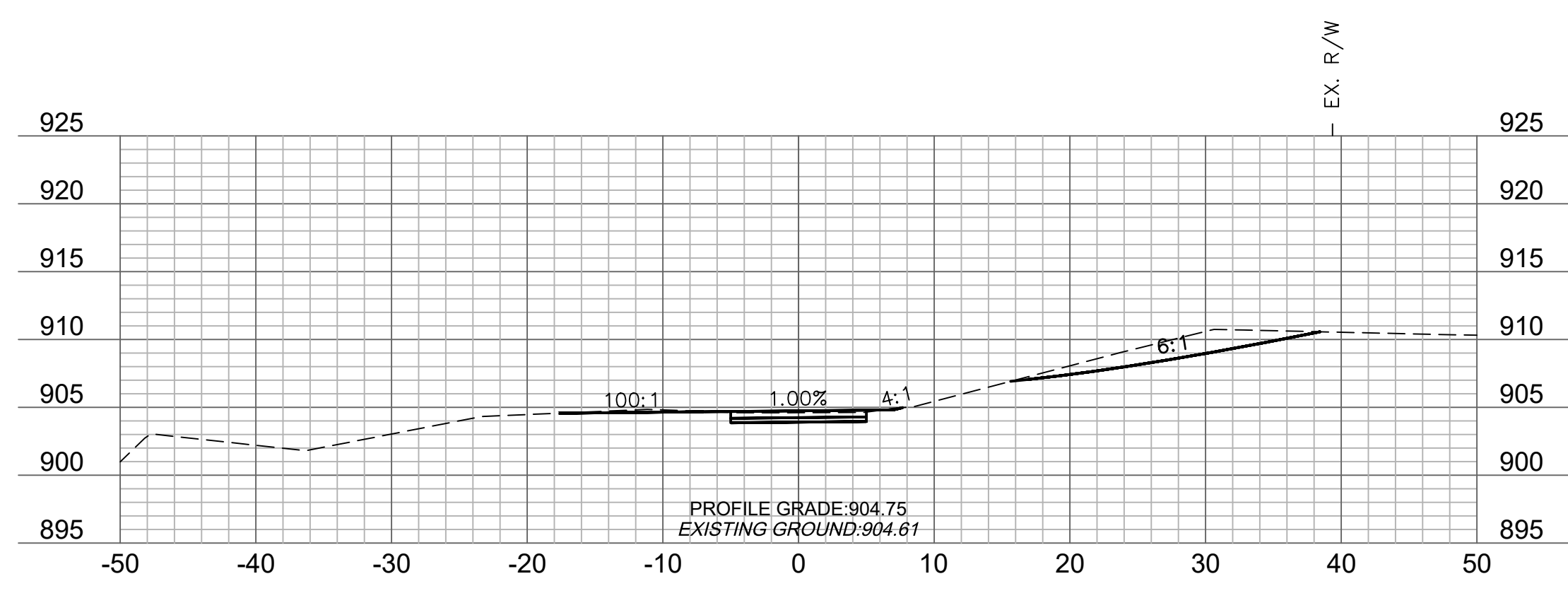


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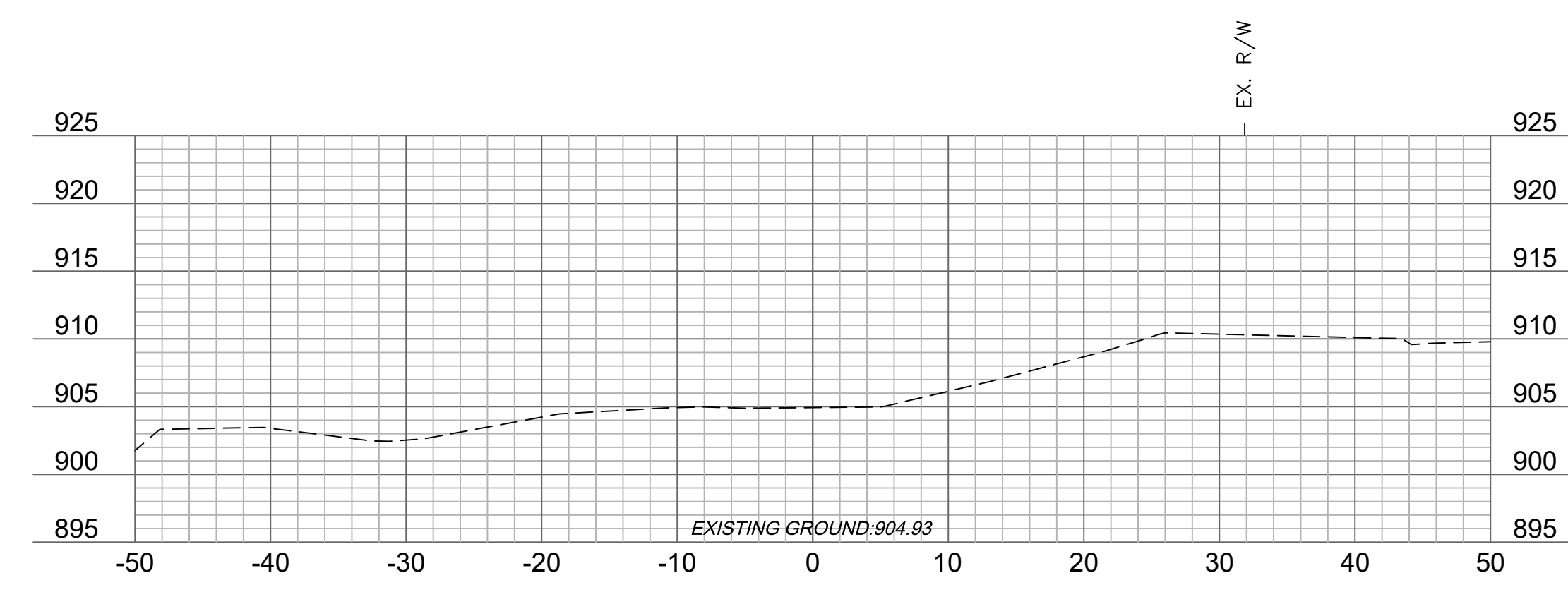
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

olsson
 7301 West 133rd Street, Suite 200
 Overland Park, KS 66213-4760
 TEL 913.381.1170 www.olson.com

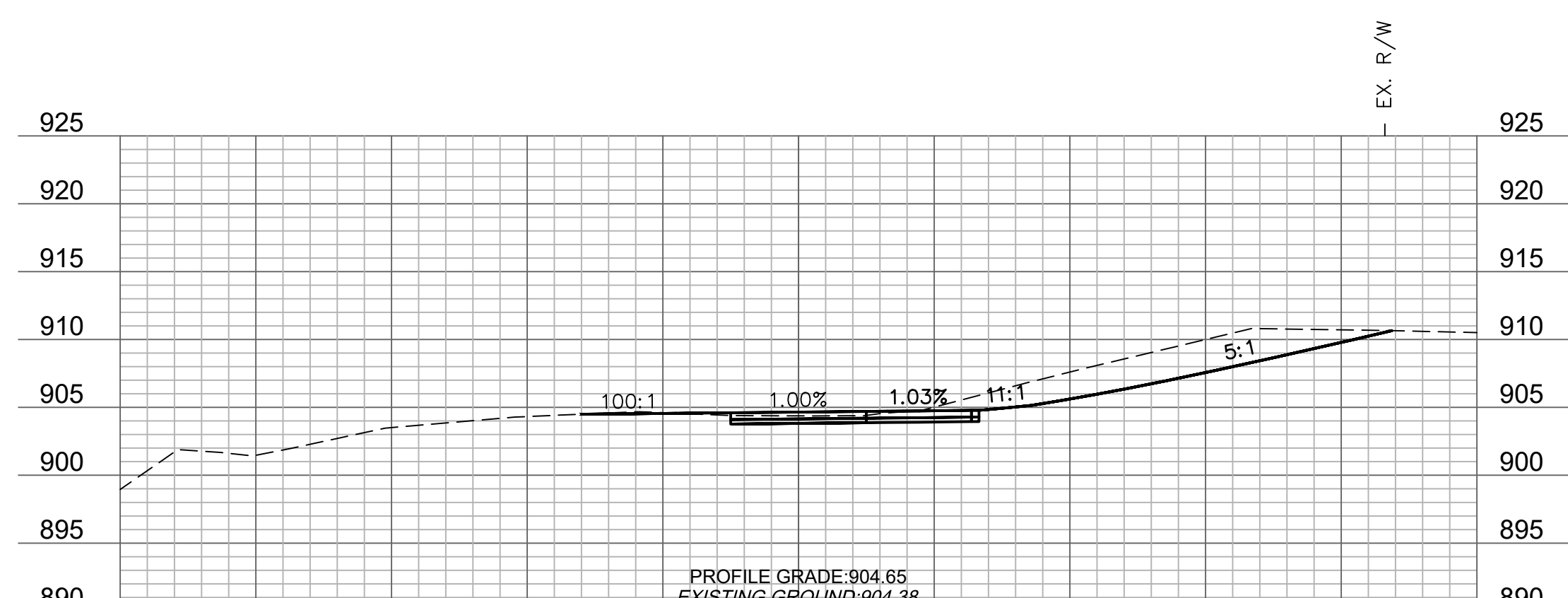
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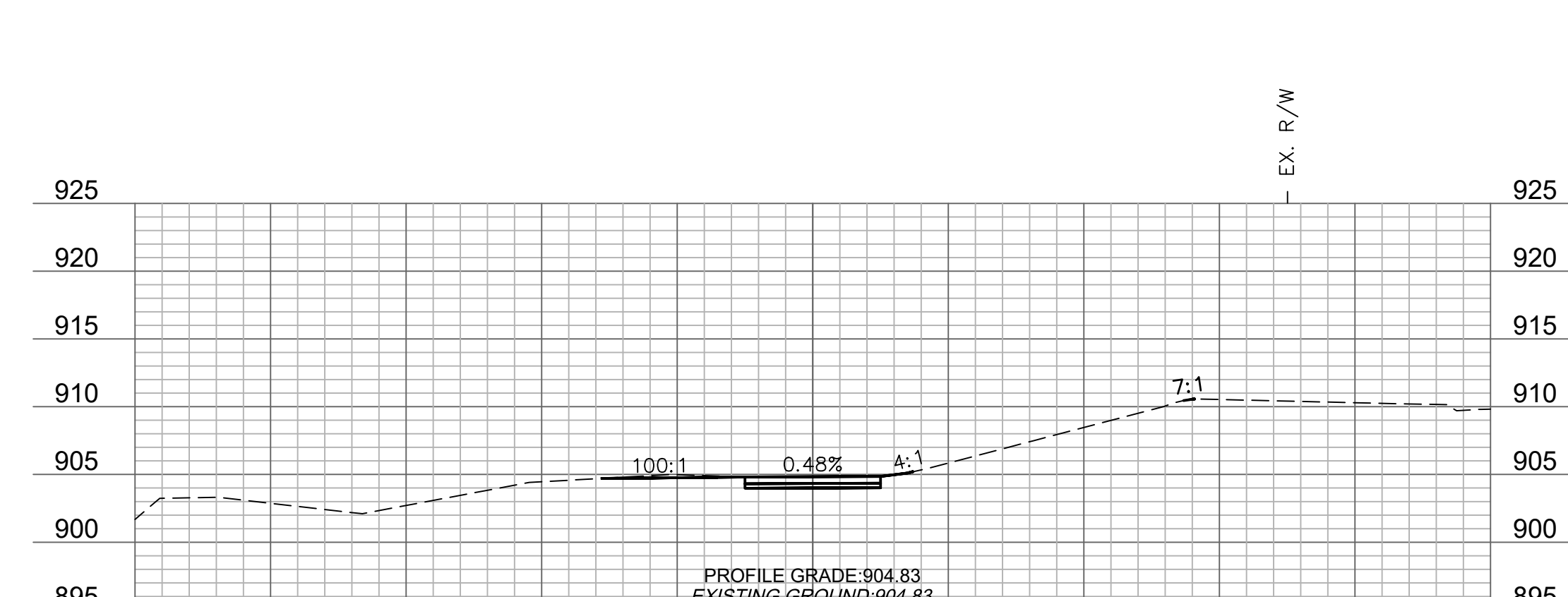
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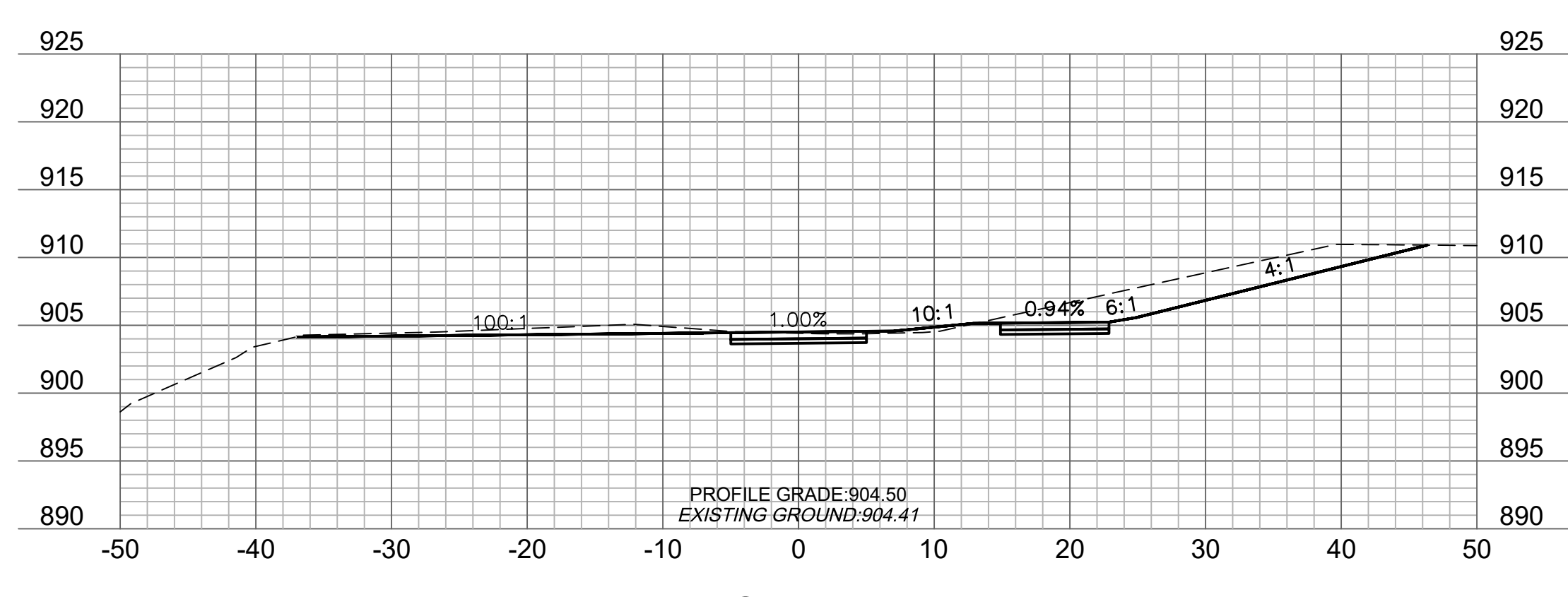
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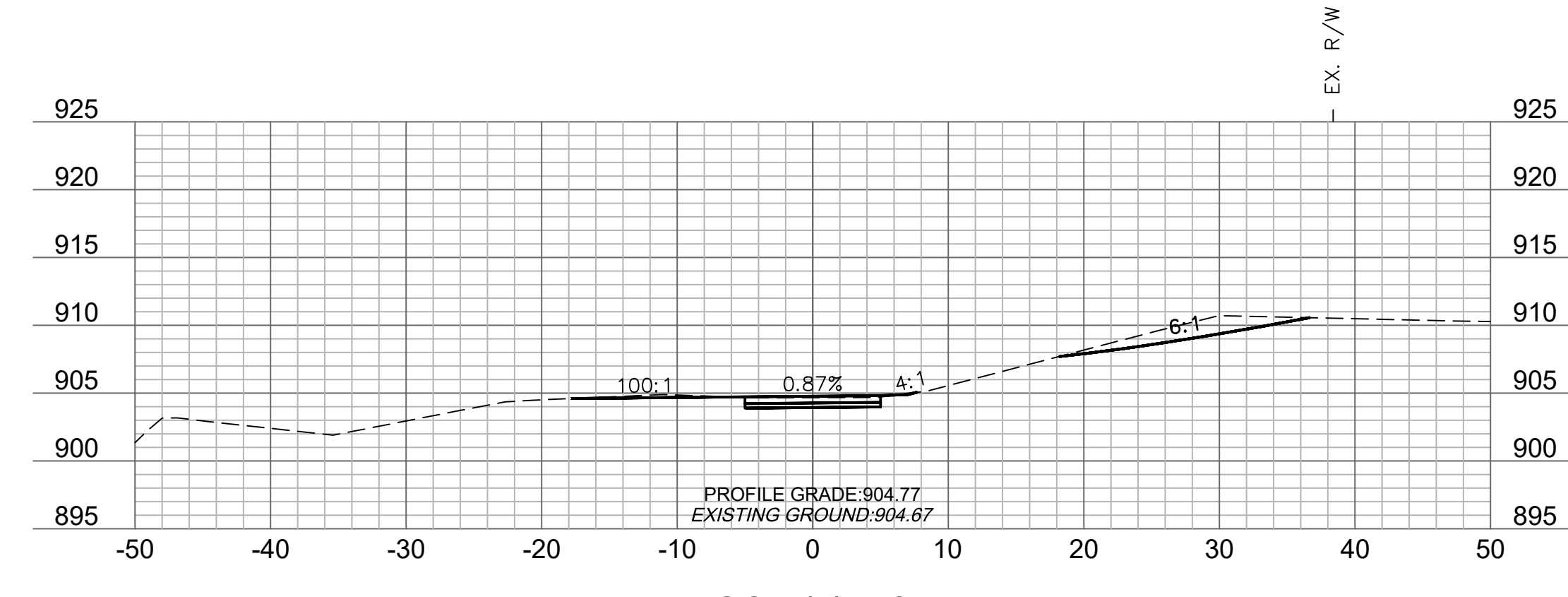
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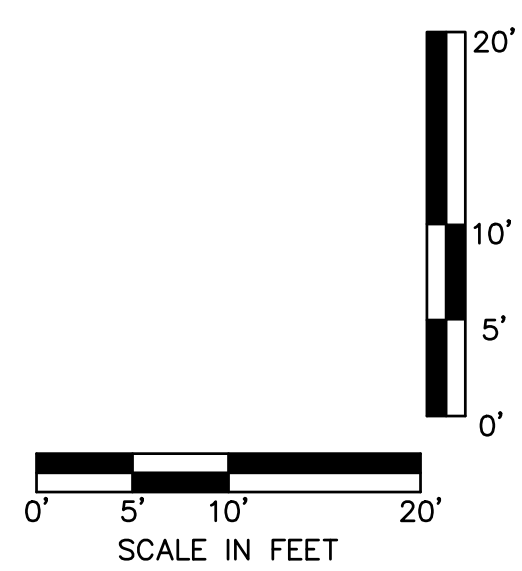
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26+11.50



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

INDIAN CREEK TRAIL
 CROSS SECTIONS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

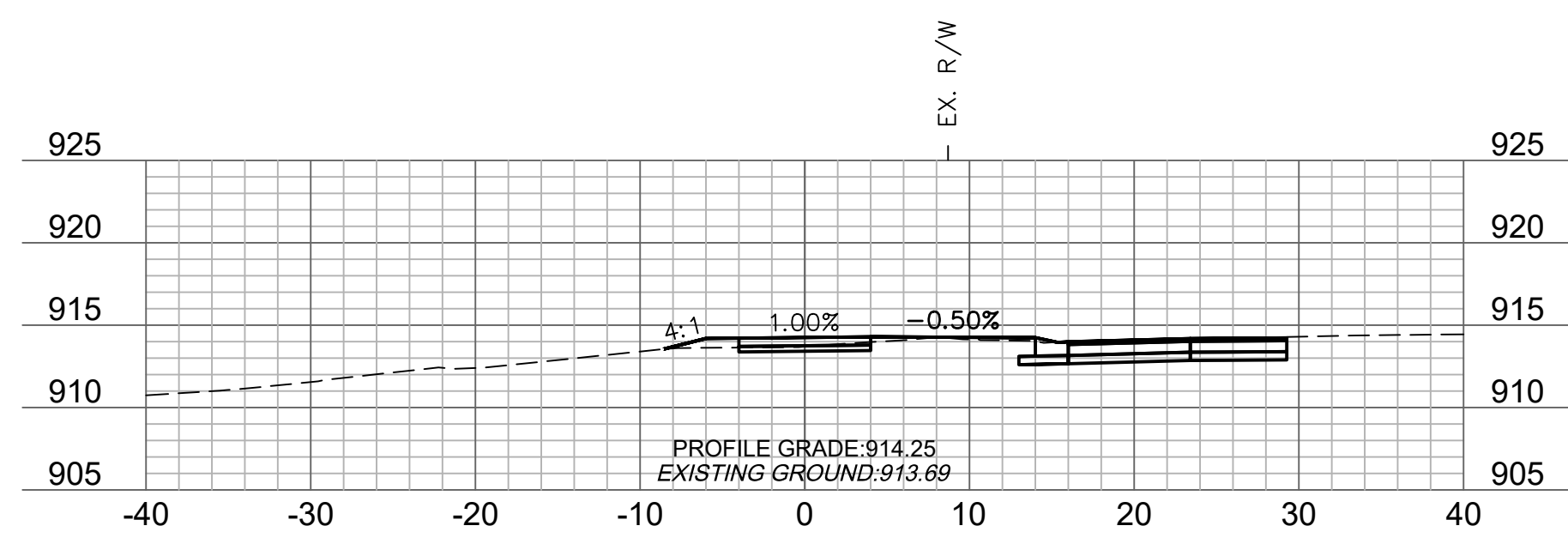
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 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
 project no.: 022-06529
 drawing no.: T_XSEC01_02206529
 date: 1-31-2025

STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

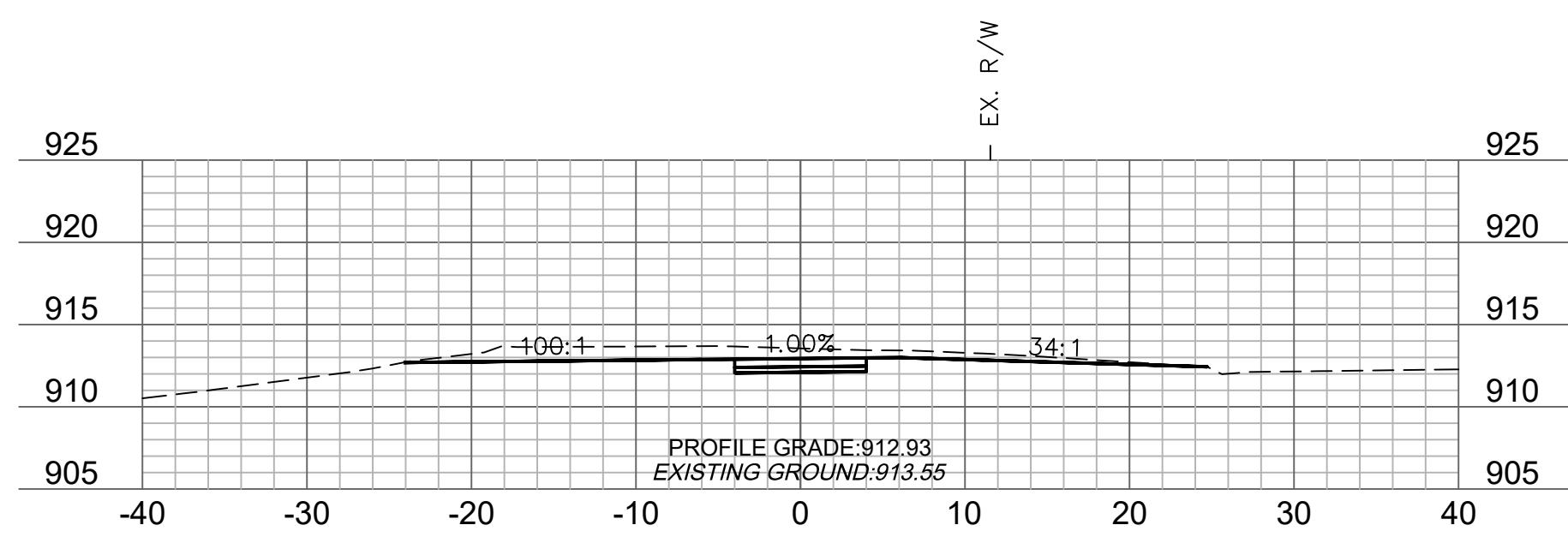
olsson
 7301 West 133rd Street, Suite 200
 Overland Park, KS 66213-4750
 TEL 913.381.1170 www.olson.com

USER: mwelech

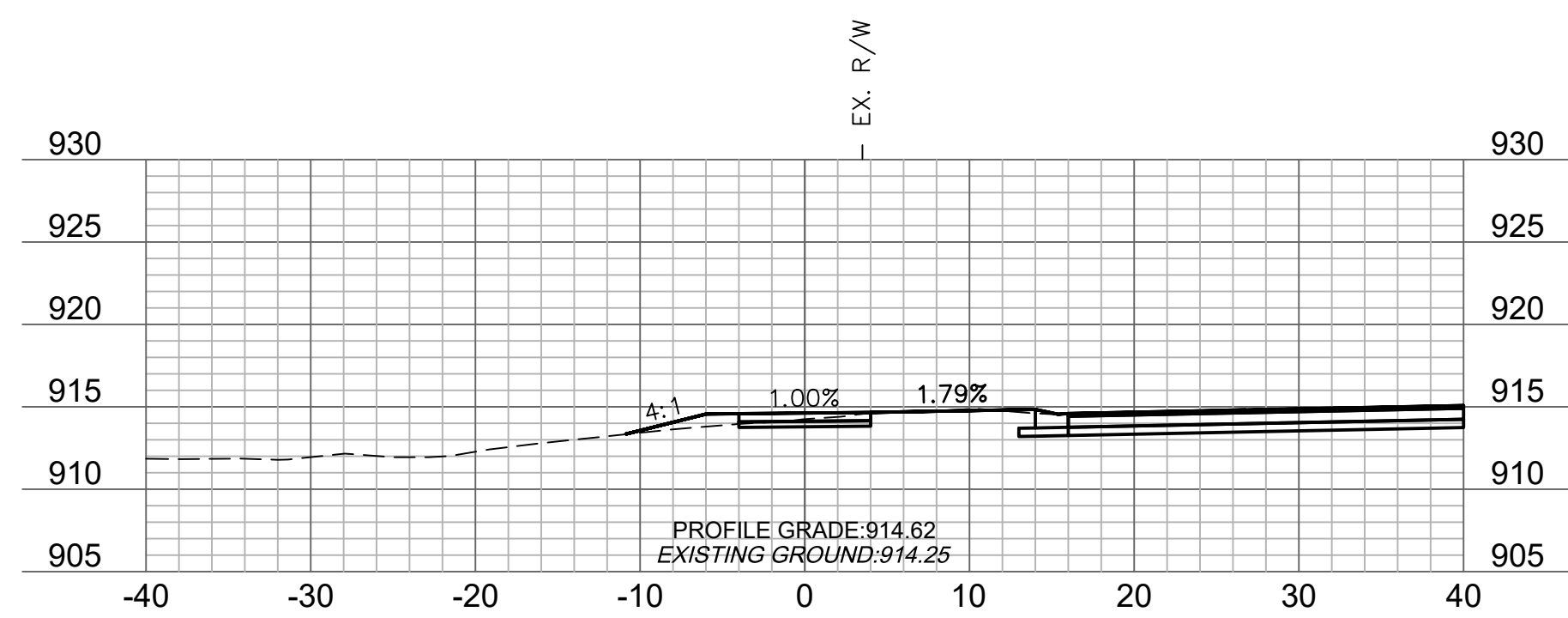
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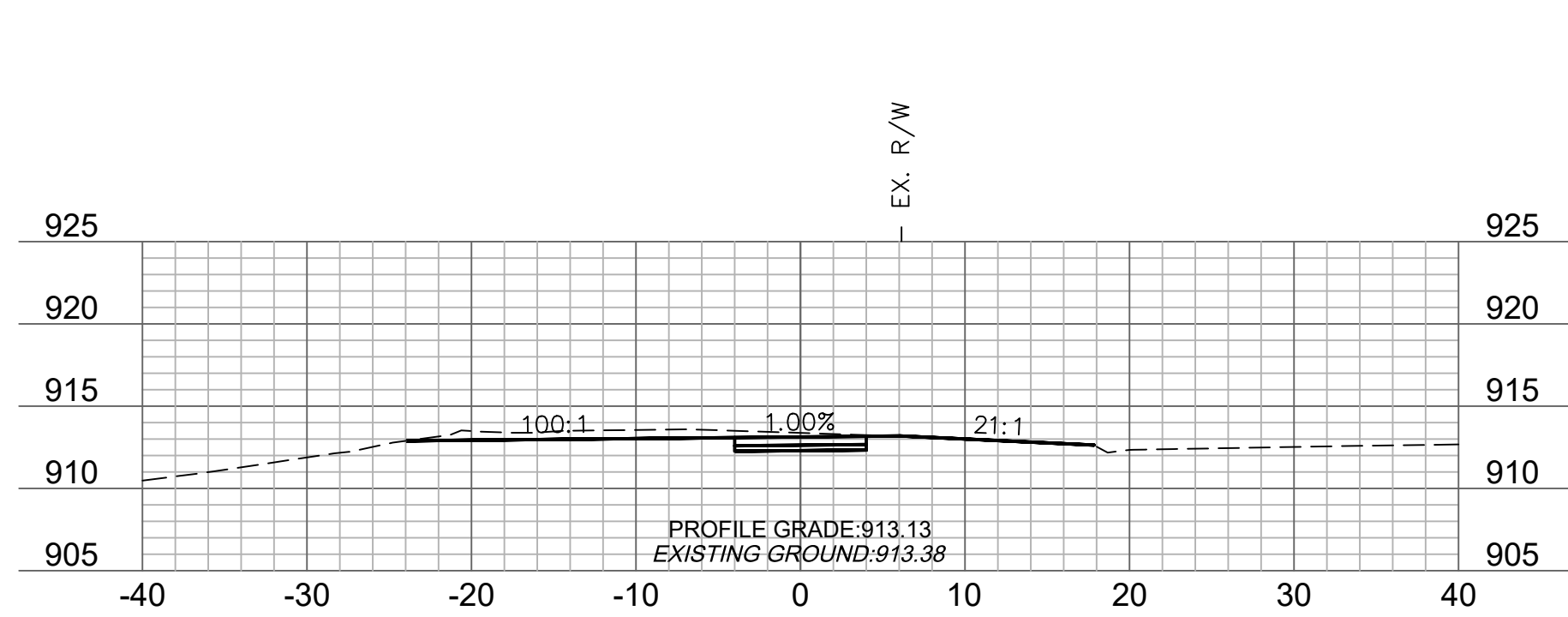
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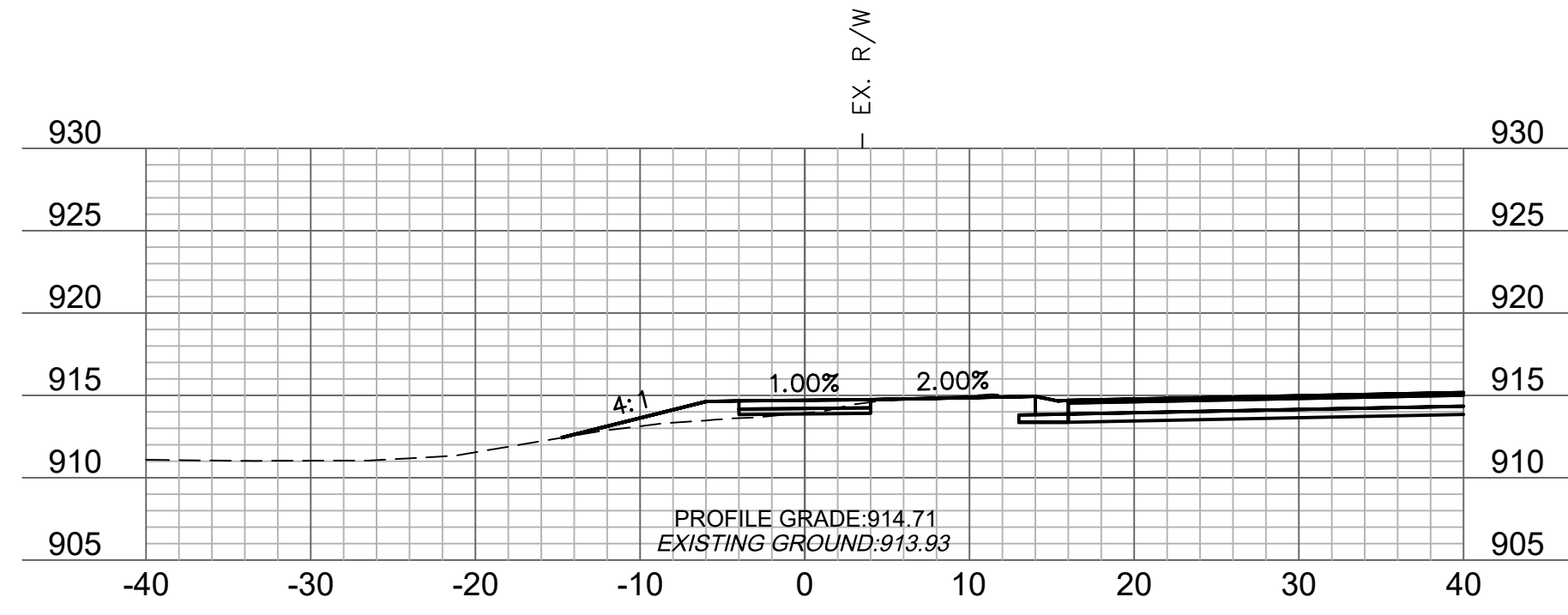
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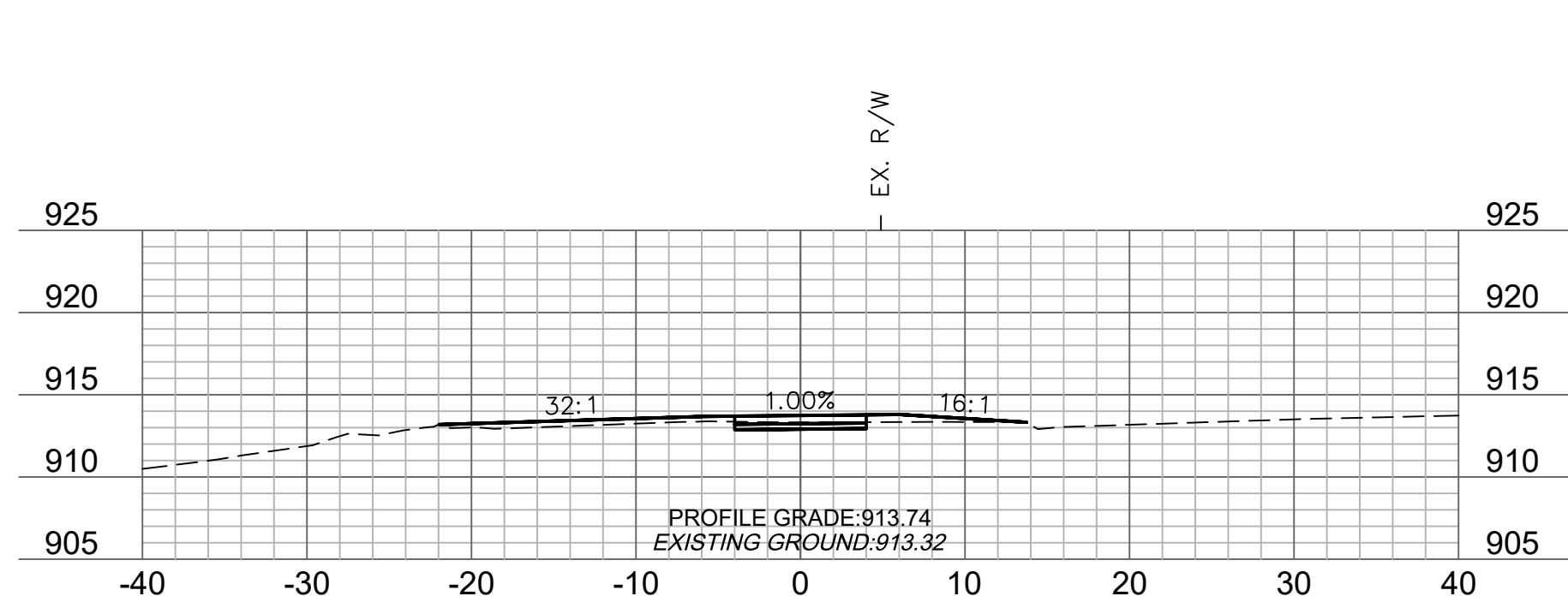
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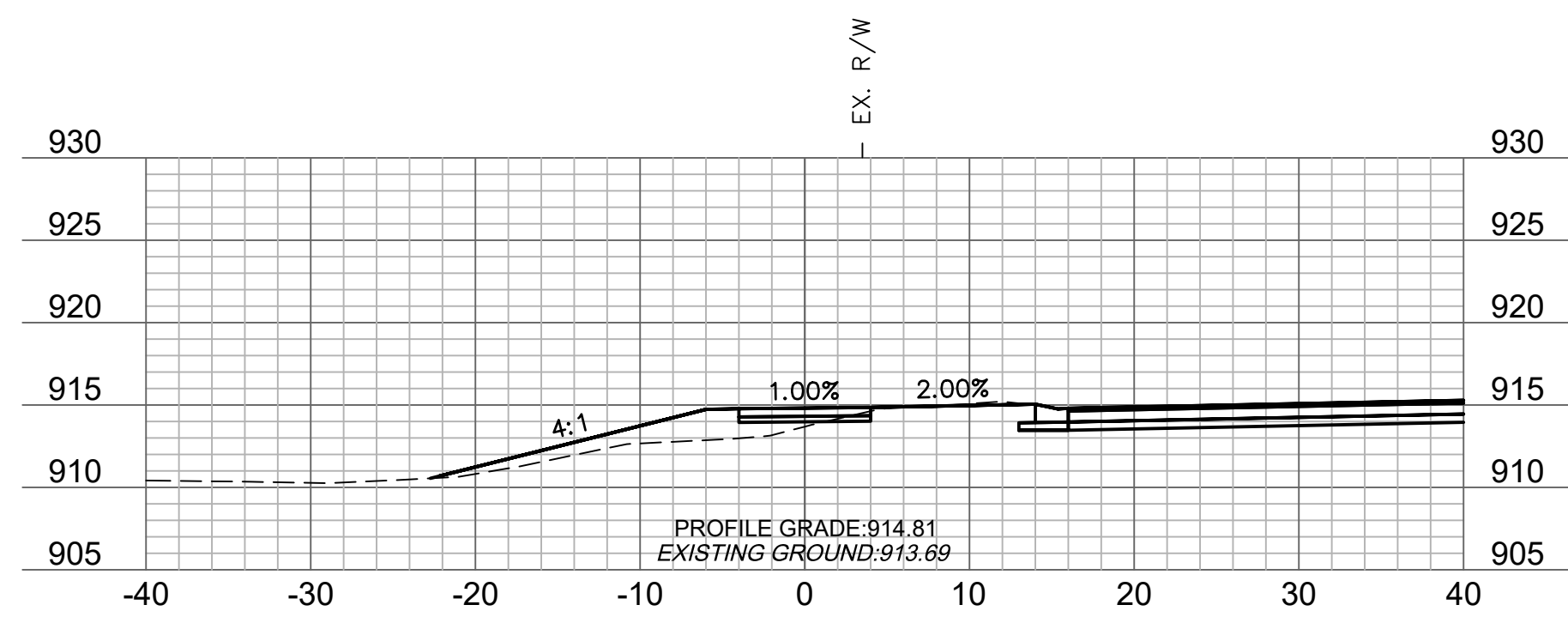
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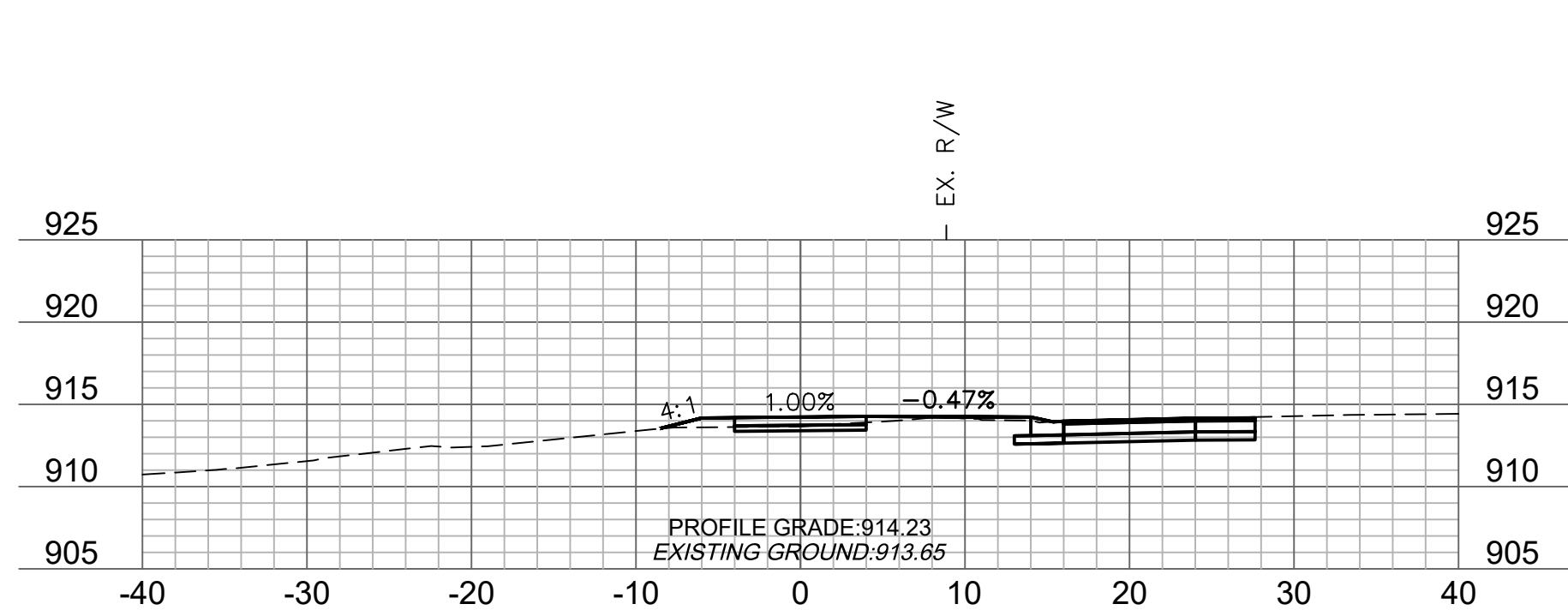
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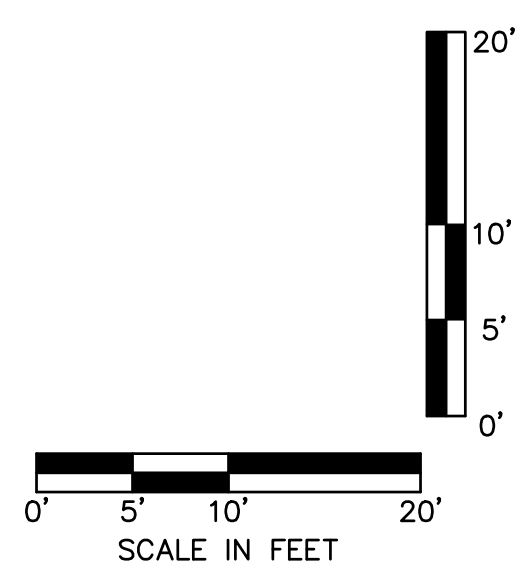
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

INDIAN CREEK TRAIL CONNECTION
 CROSS SECTIONS
 COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
 OVERLAND PARK, KANSAS
 2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
 project no.: 022-06529
 drawing no.: T_XSEC01_02206529
 date: 1-31-2025

SHEET
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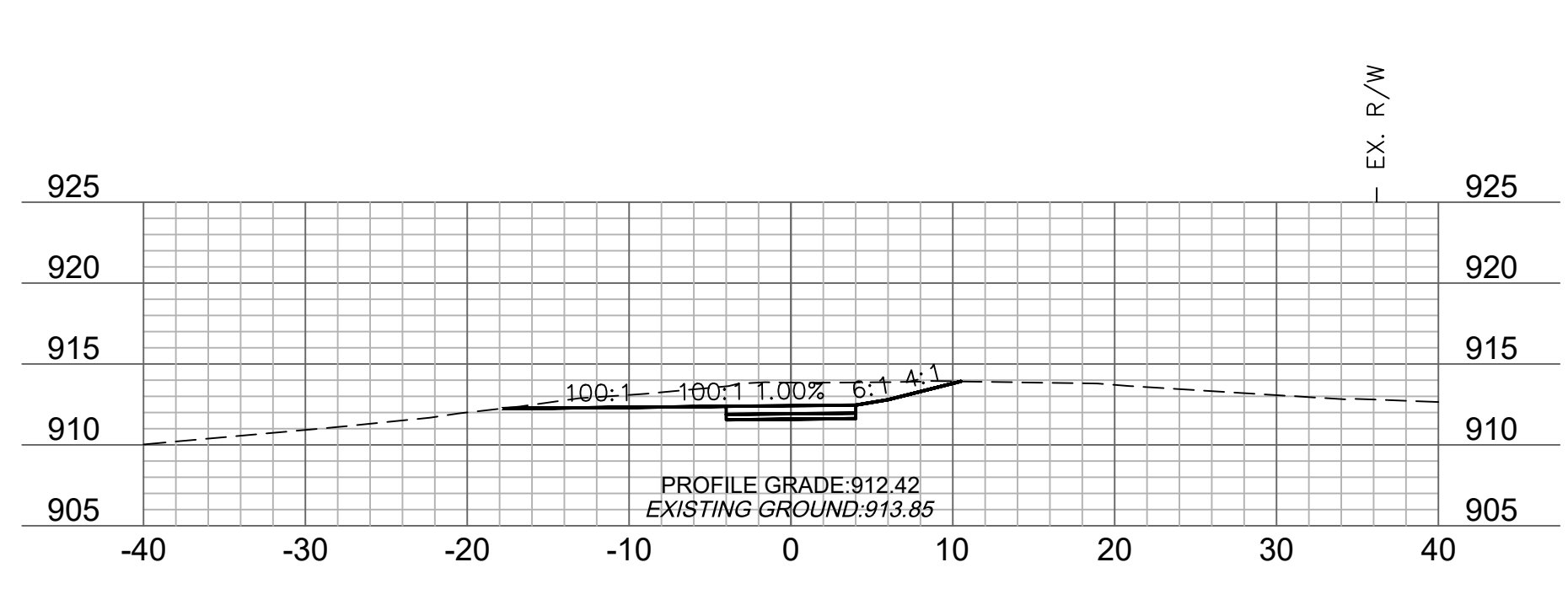
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

olsson

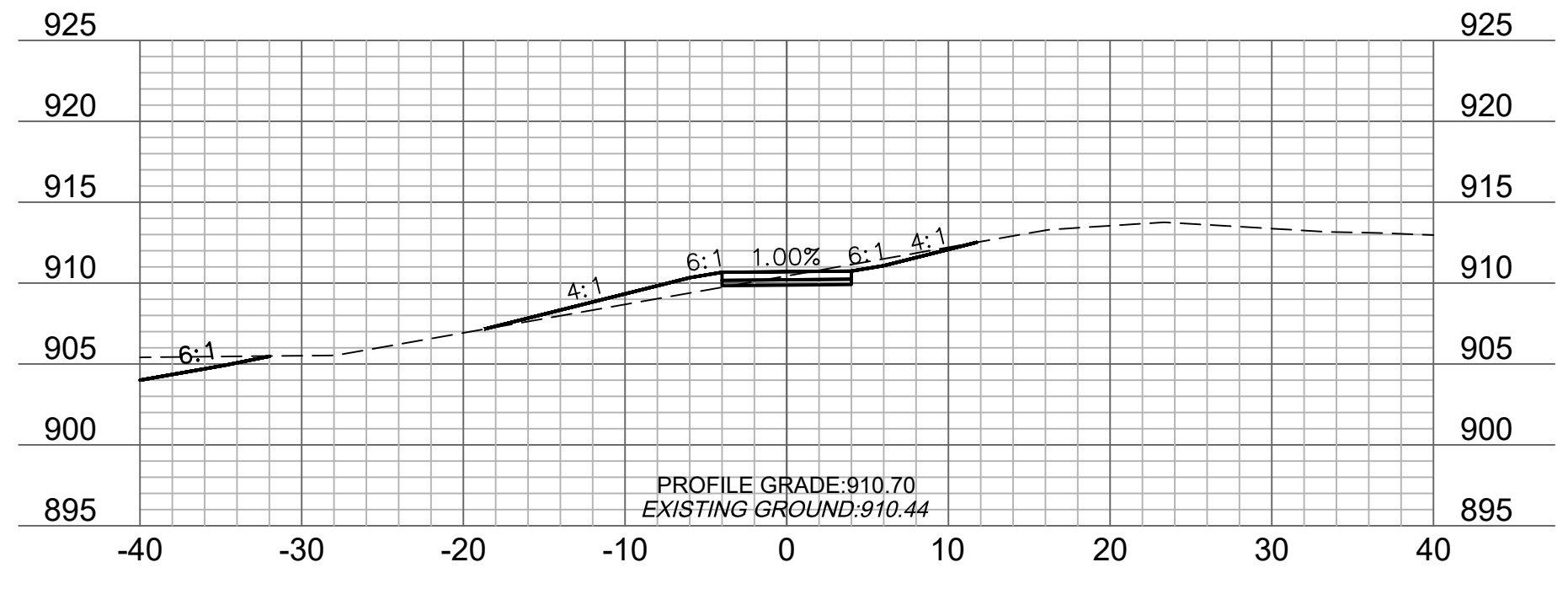
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4760
TEL 913.381.1170 www.olson.com

USER: mwelech

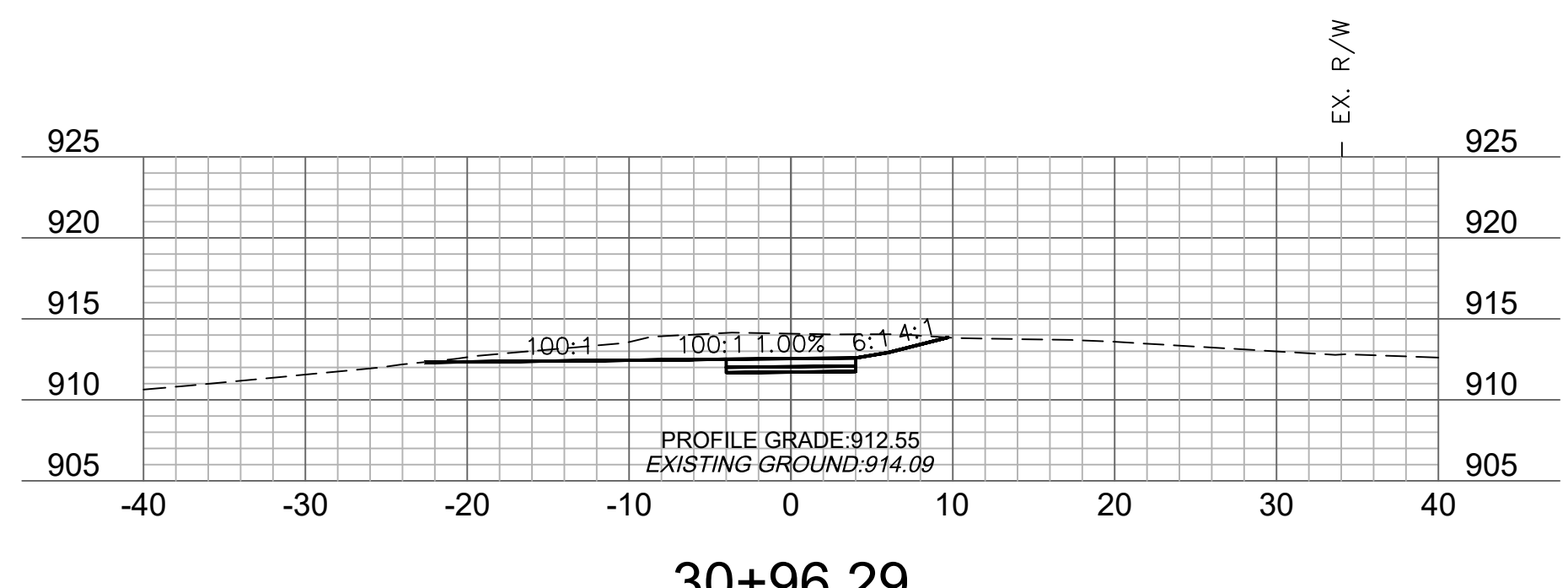
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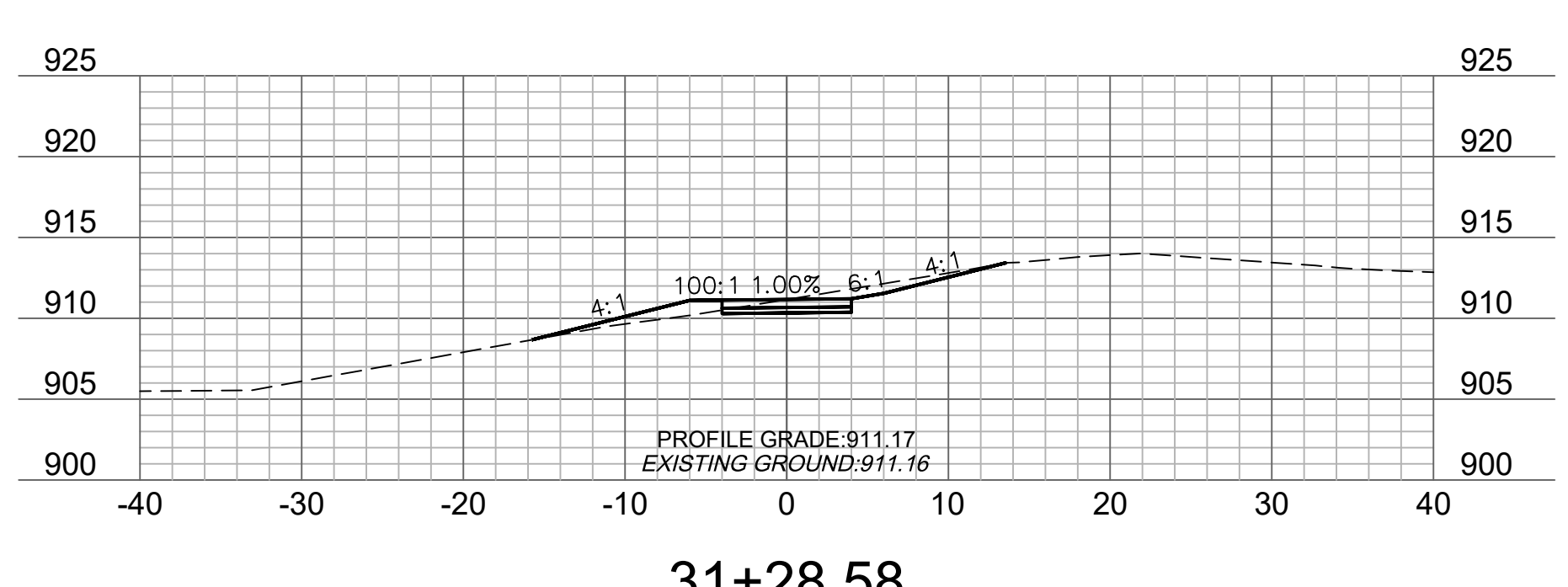
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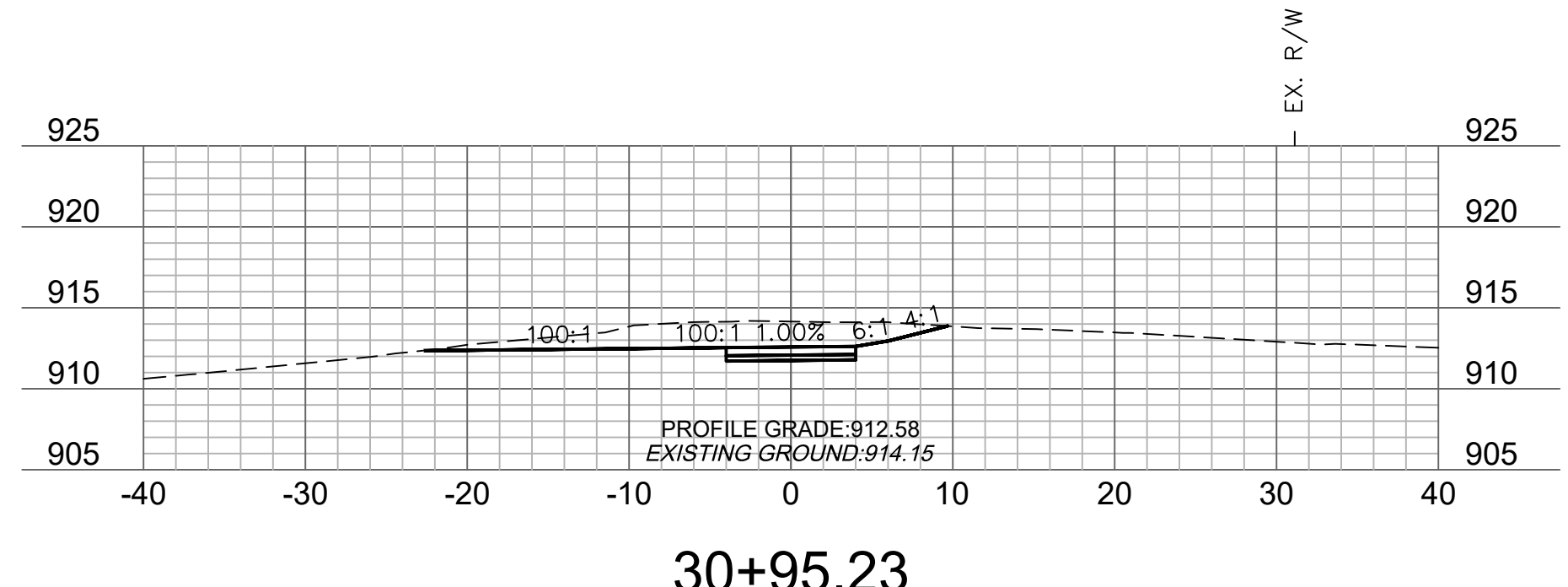
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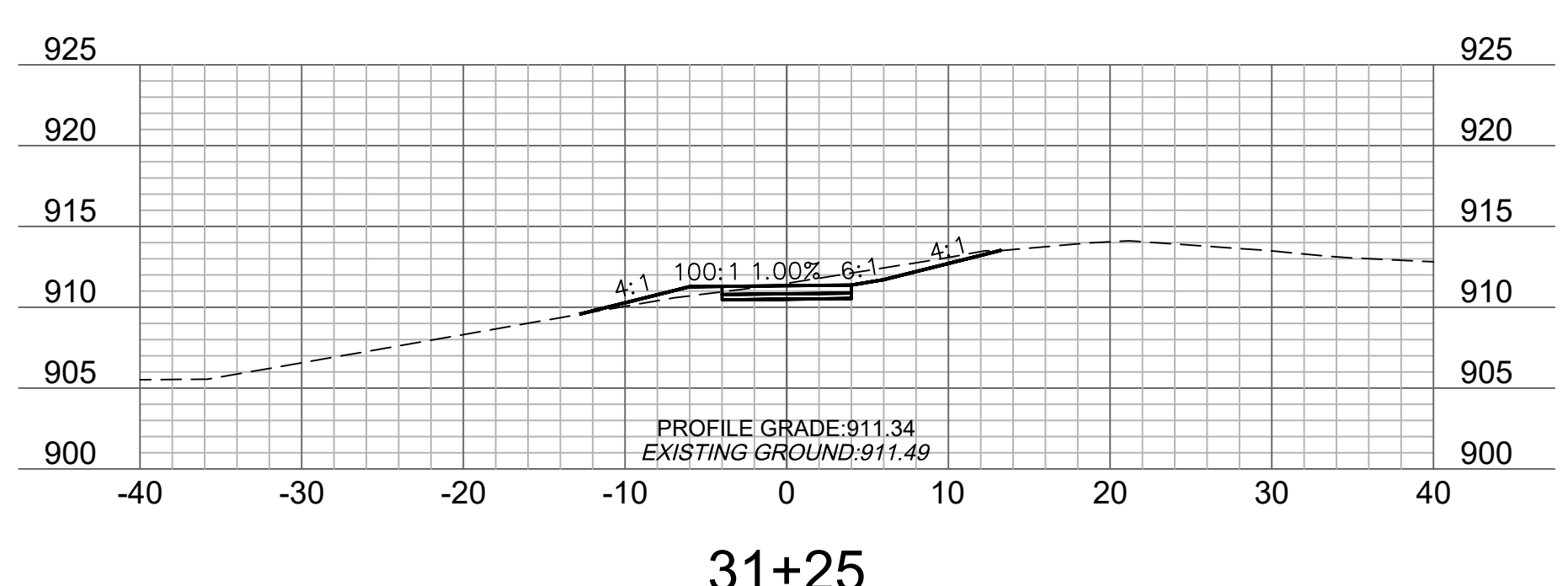
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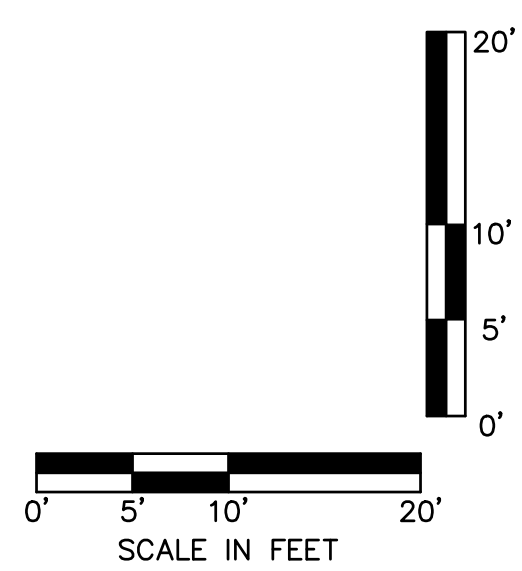
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

INDIAN CREEK TRAIL CONNECTION
CROSS SECTIONS
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS
2025

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: T_XSEC01_02206529
date: 1-31-2025

SHEET
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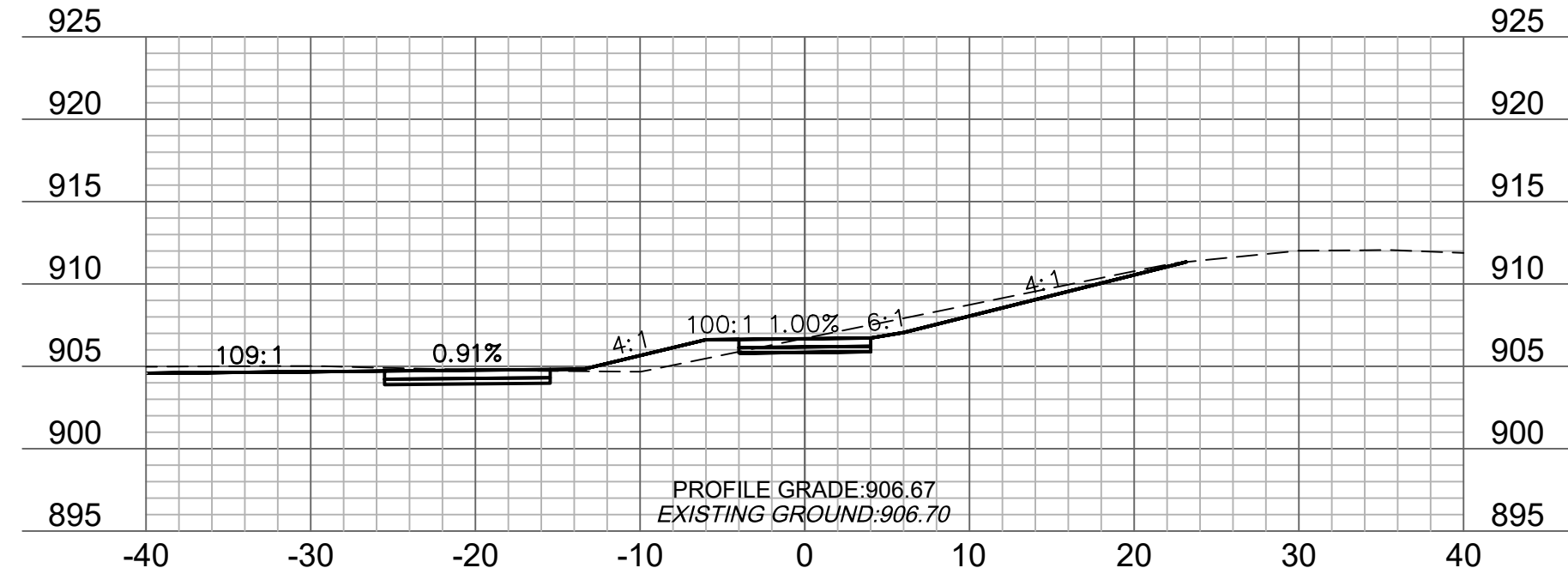


STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

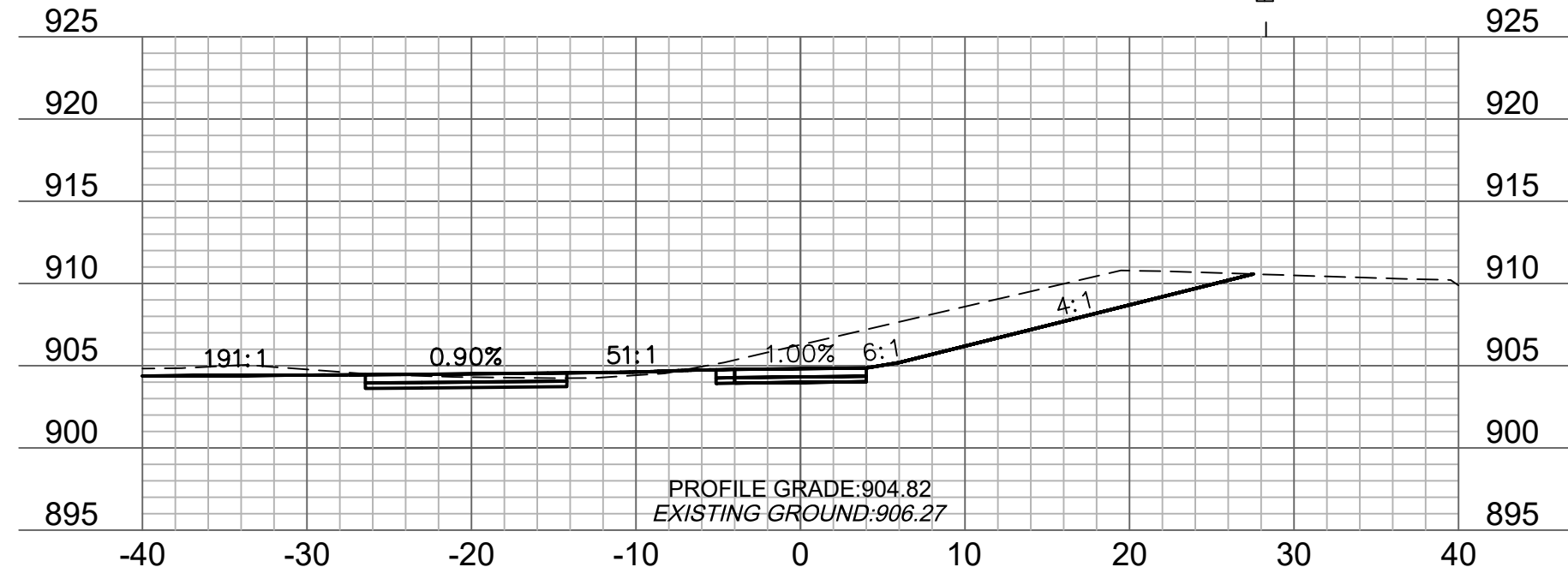
olsson

7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olson.com

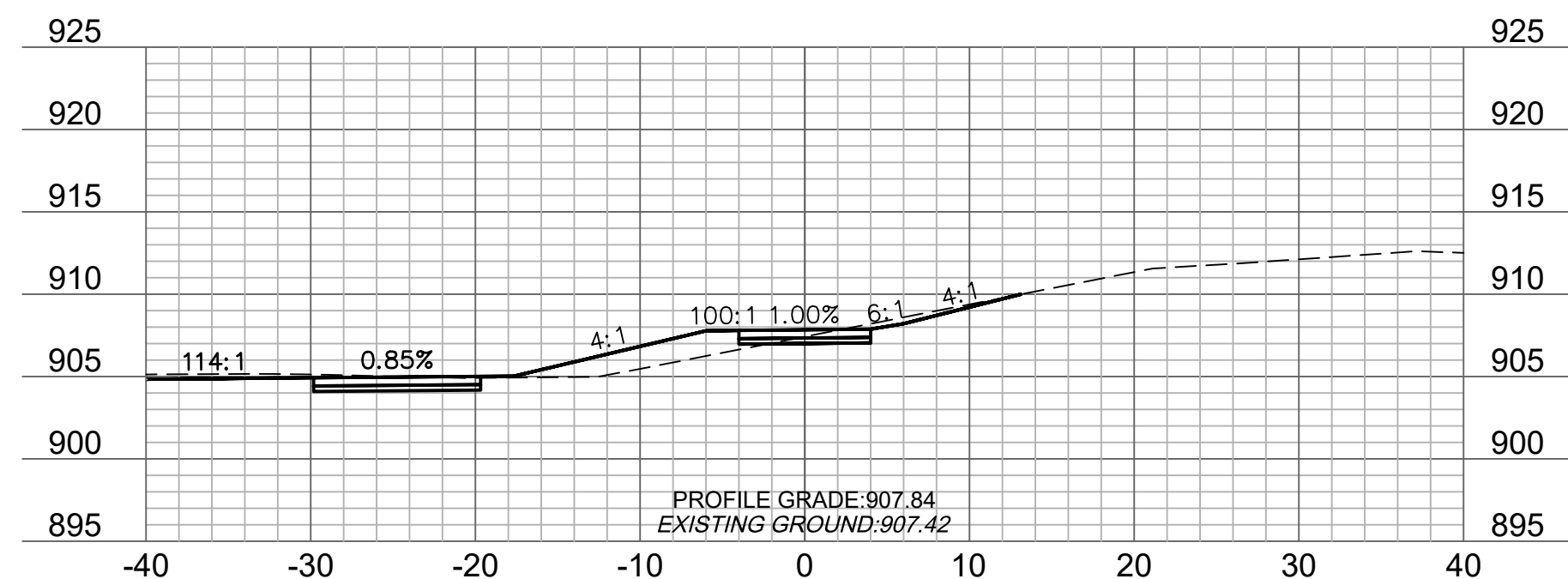
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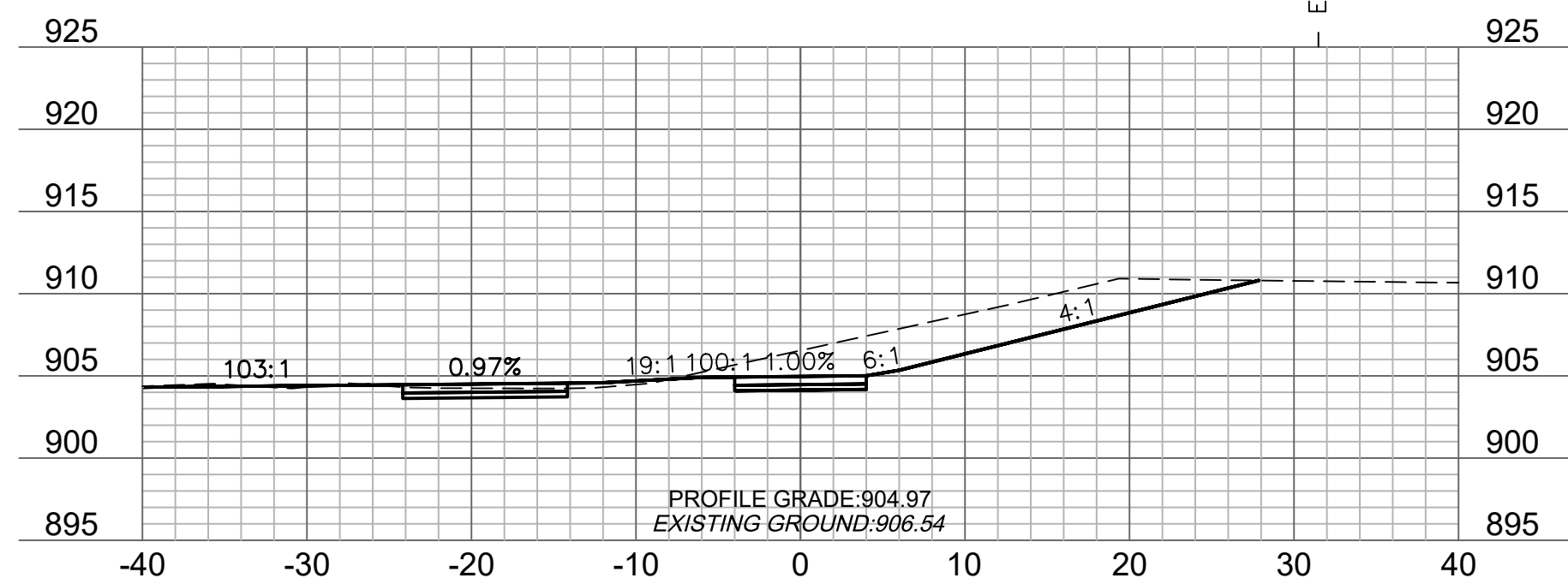
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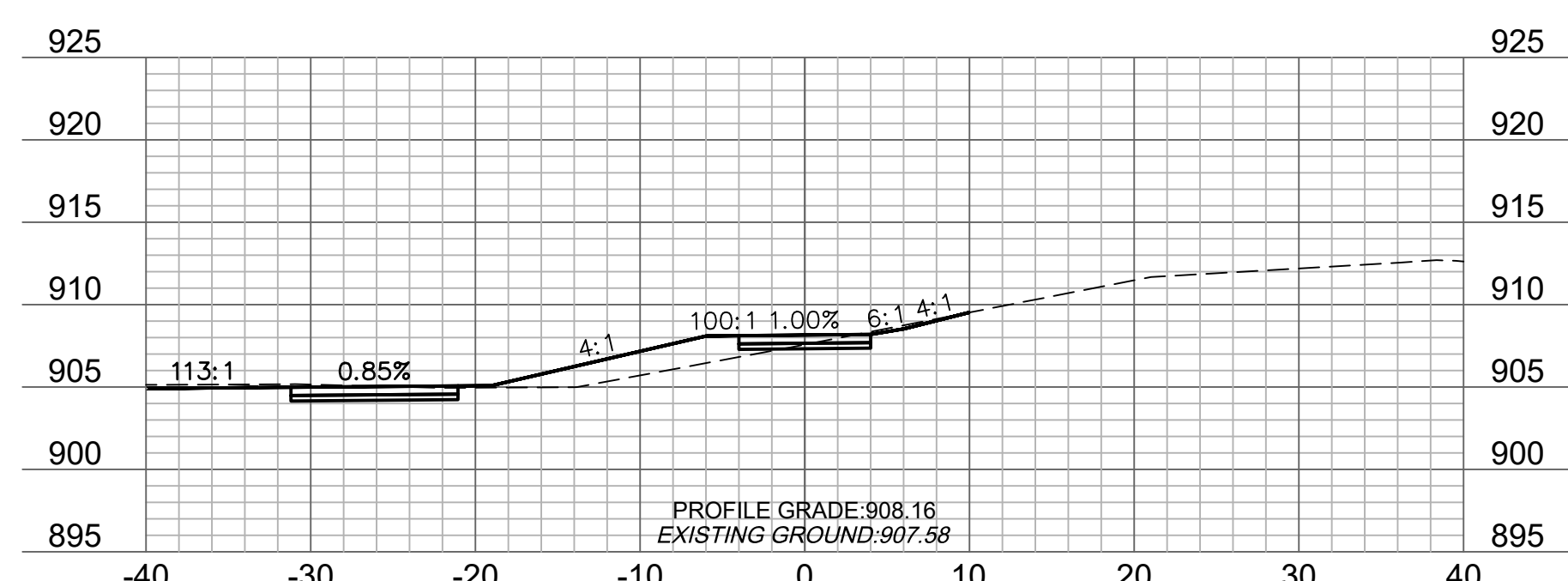
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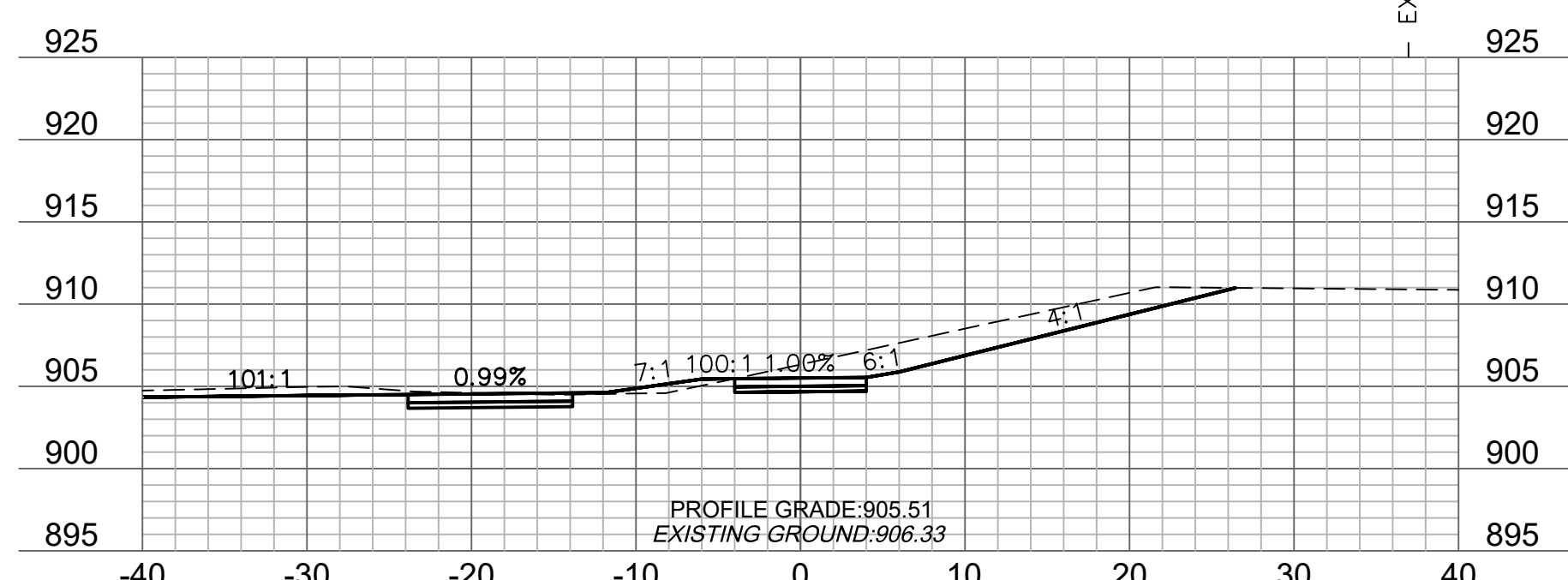
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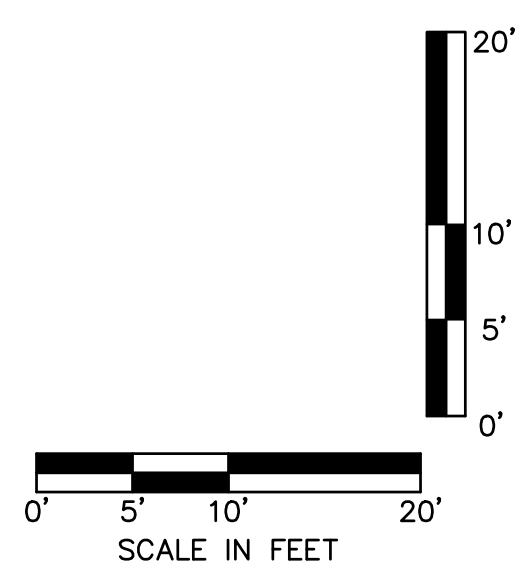
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

INDIAN CREEK TRAIL CONNECTION
CROSS SECTIONS
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS
2025

drawn by: CJC
 checked by: PBM
 approved by: PBM
 QA/QC by: RBF
 project no.: 022-06529
 drawing no.: T_XSEC01_02206529
 date: 1-31-2025



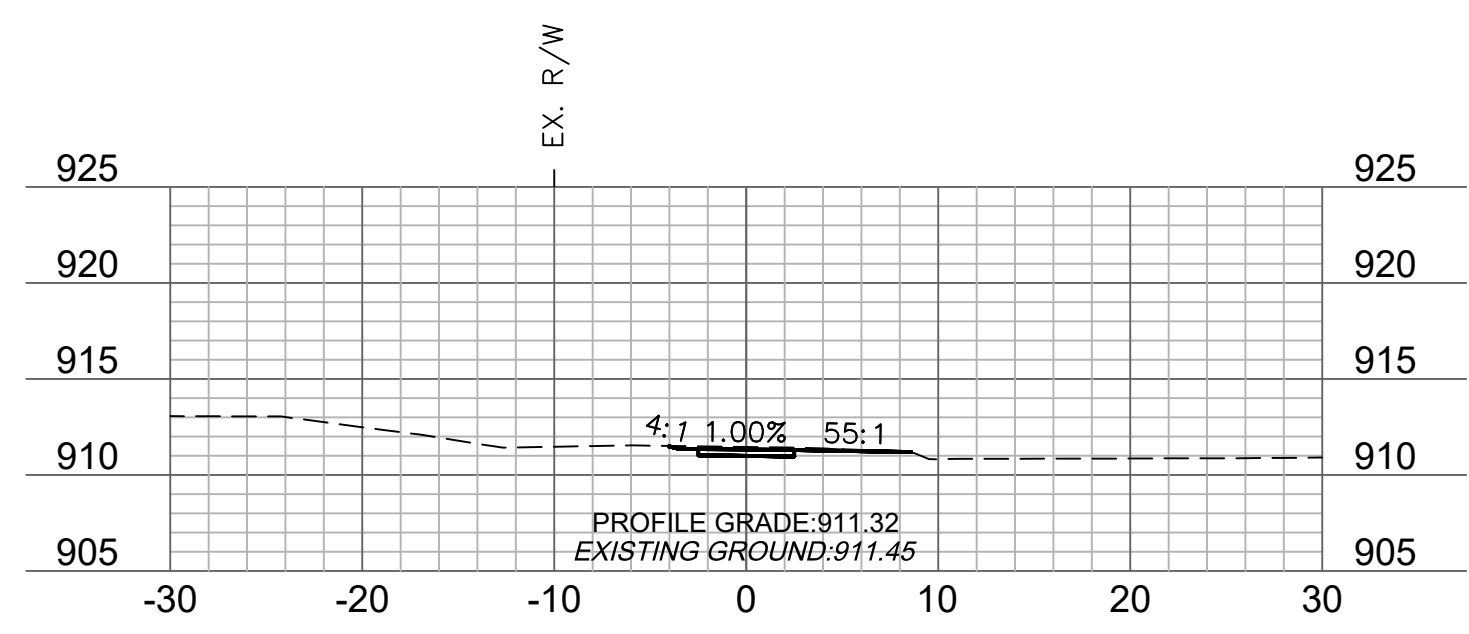
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

olsson

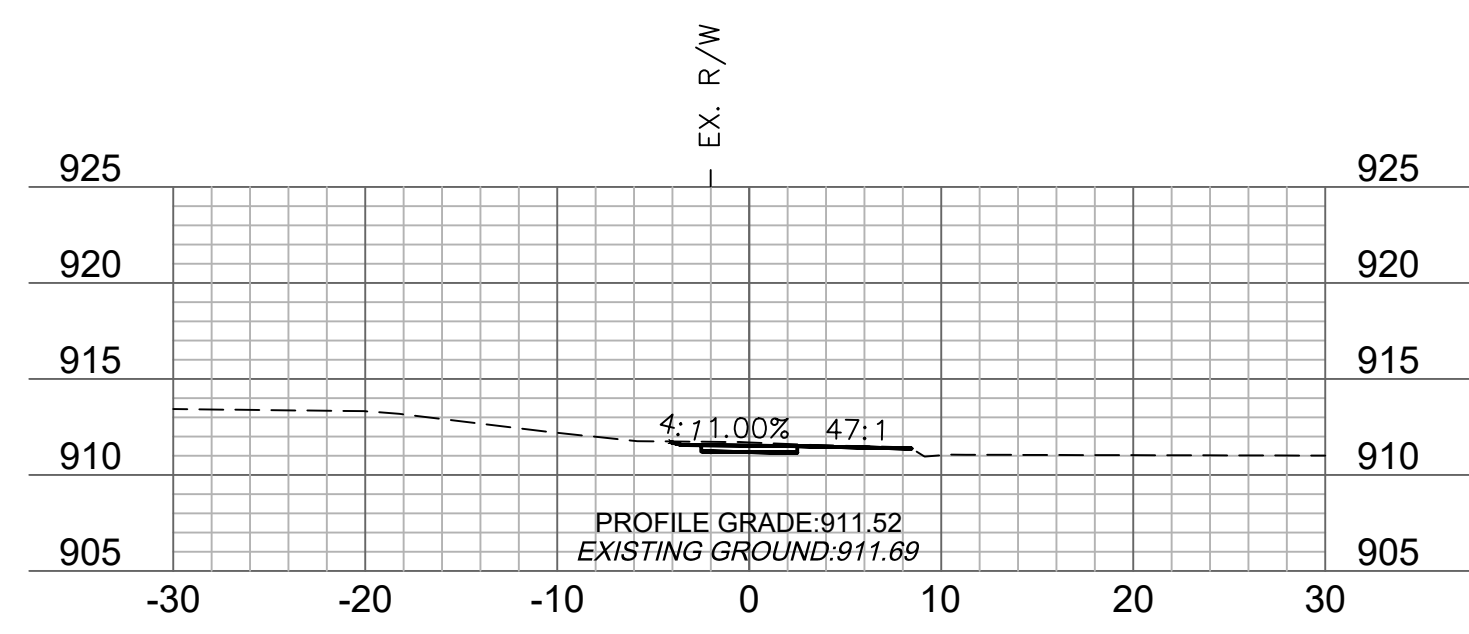
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olson.com

USER: mwelech

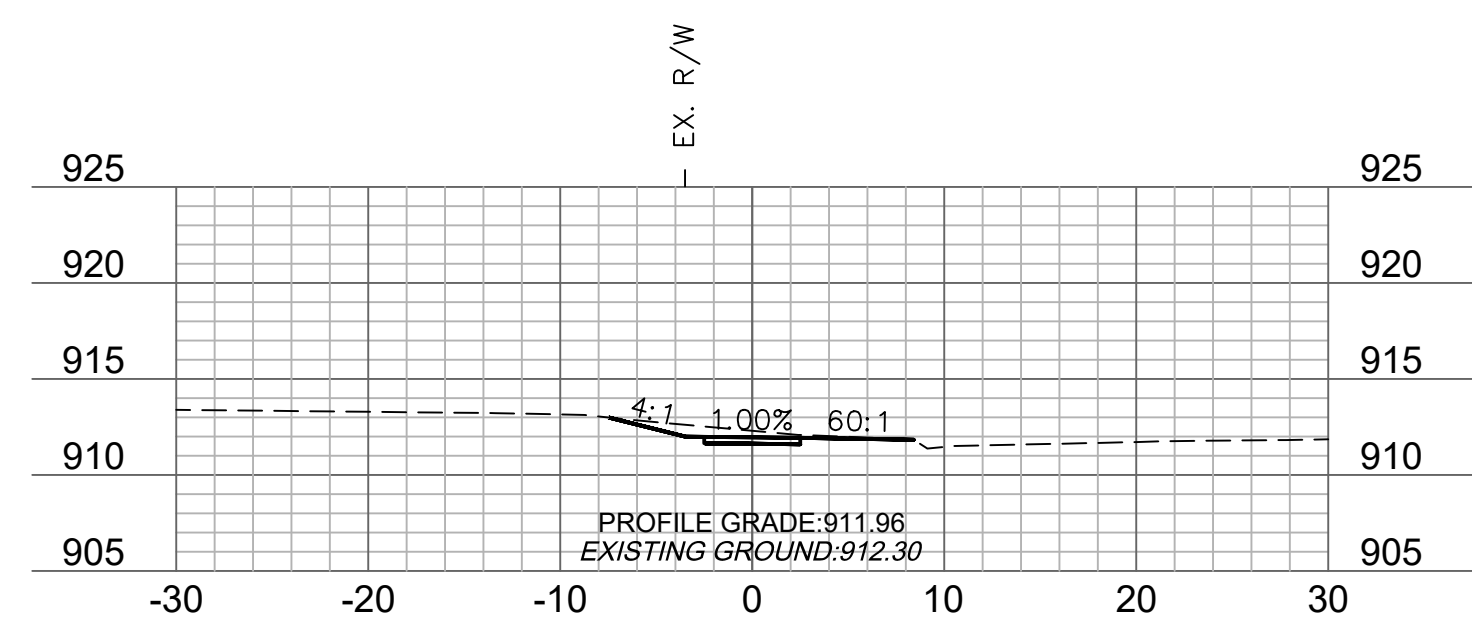
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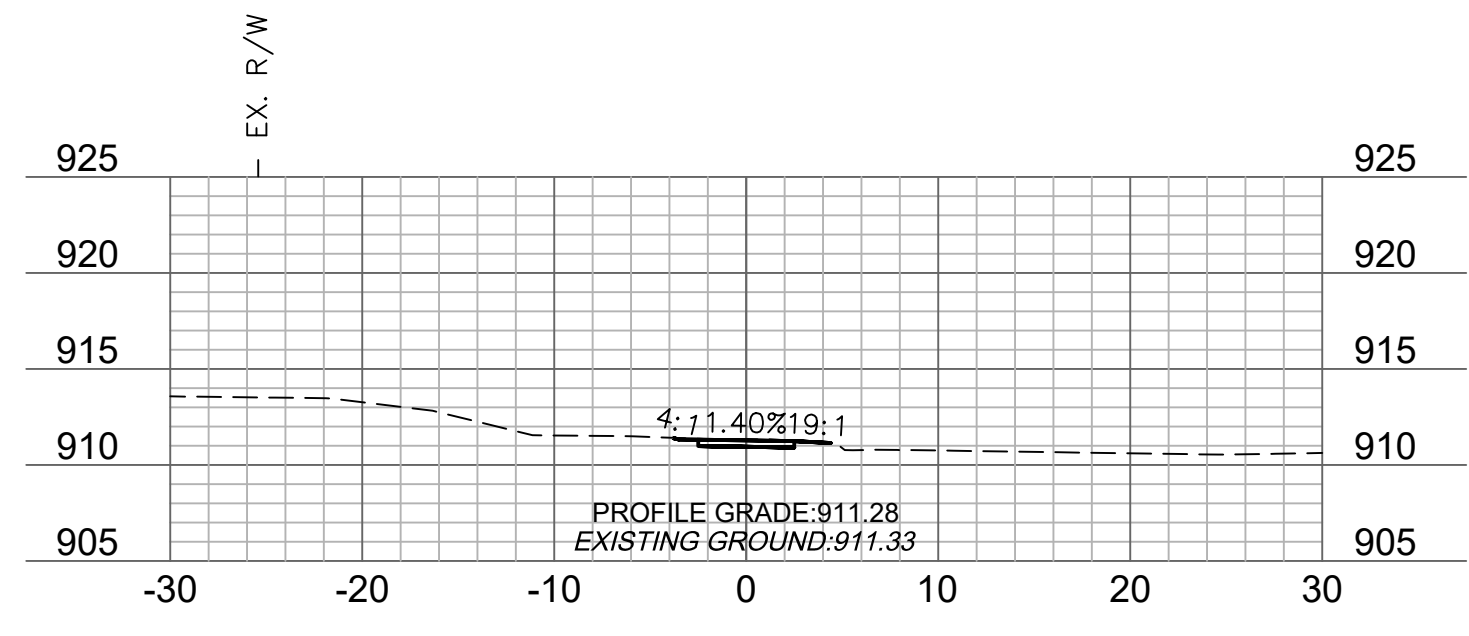
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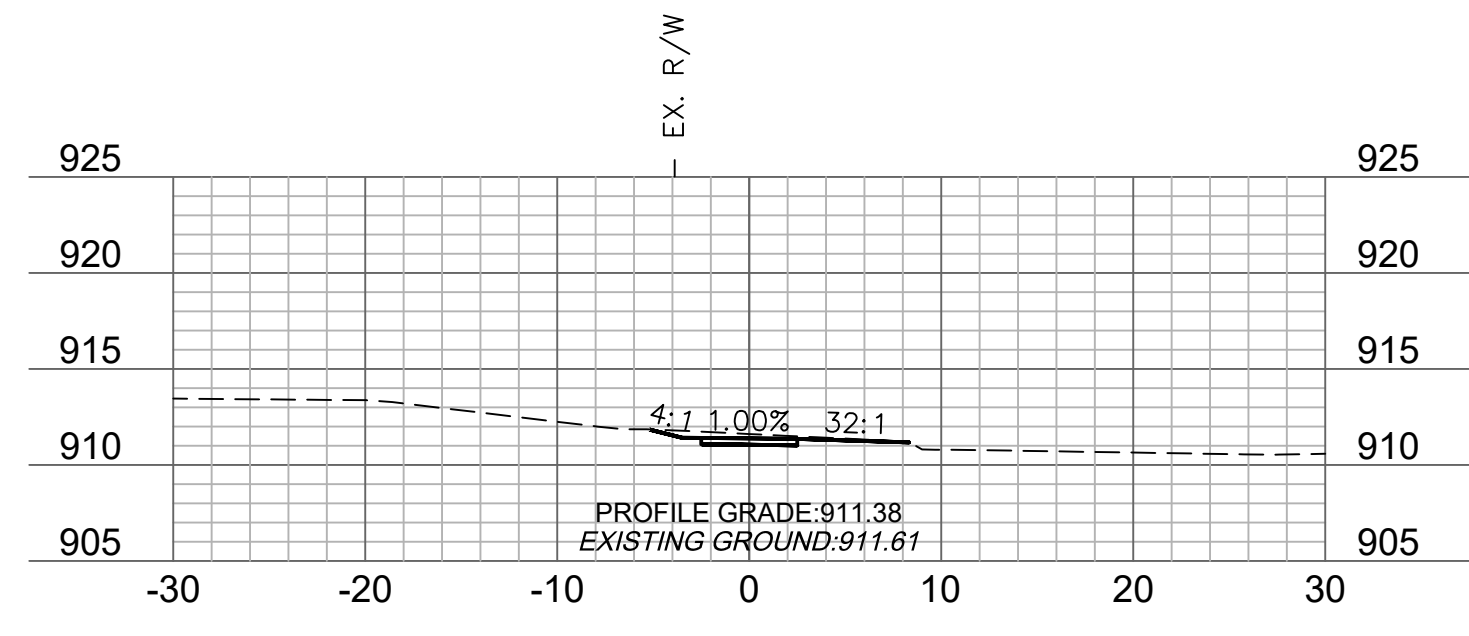
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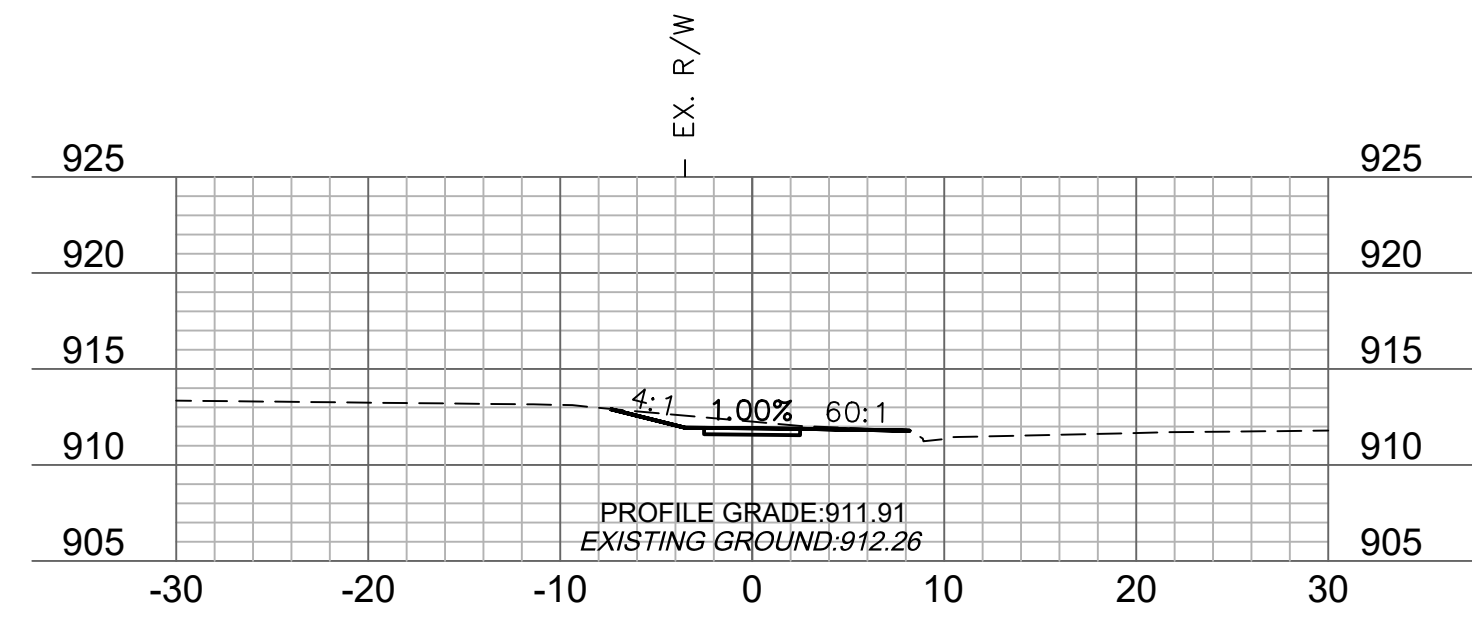
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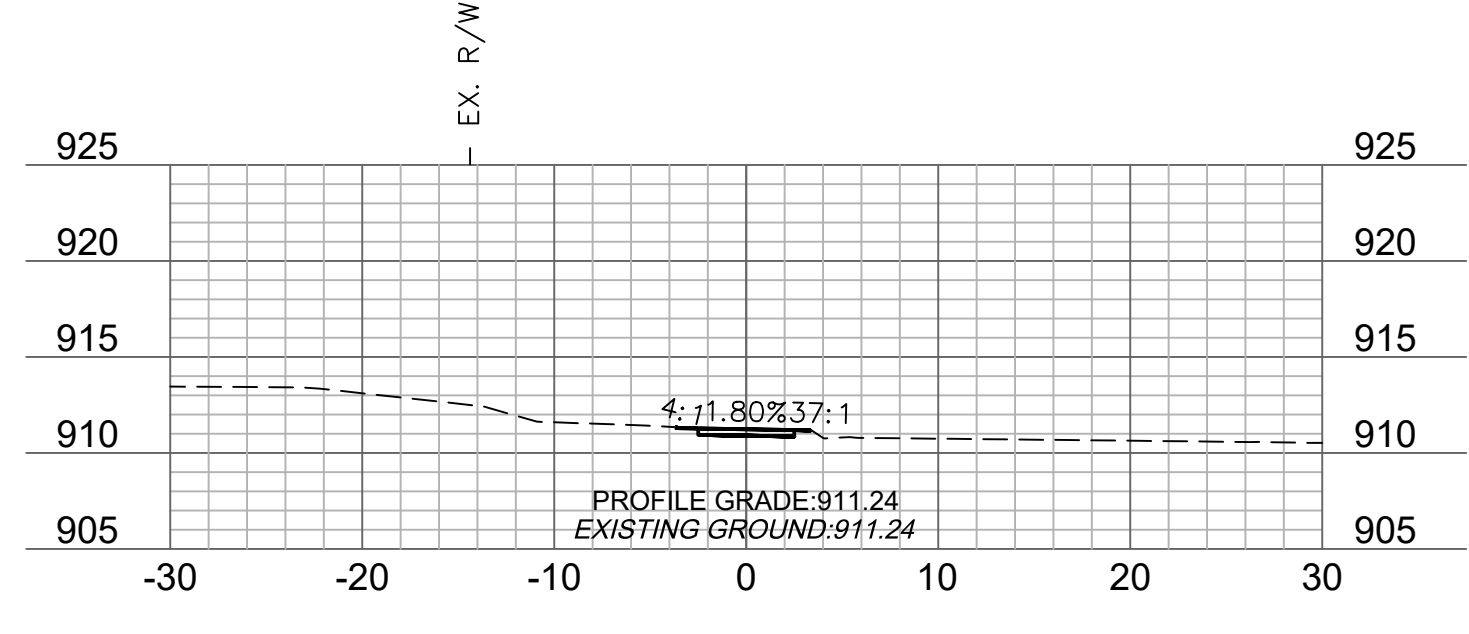
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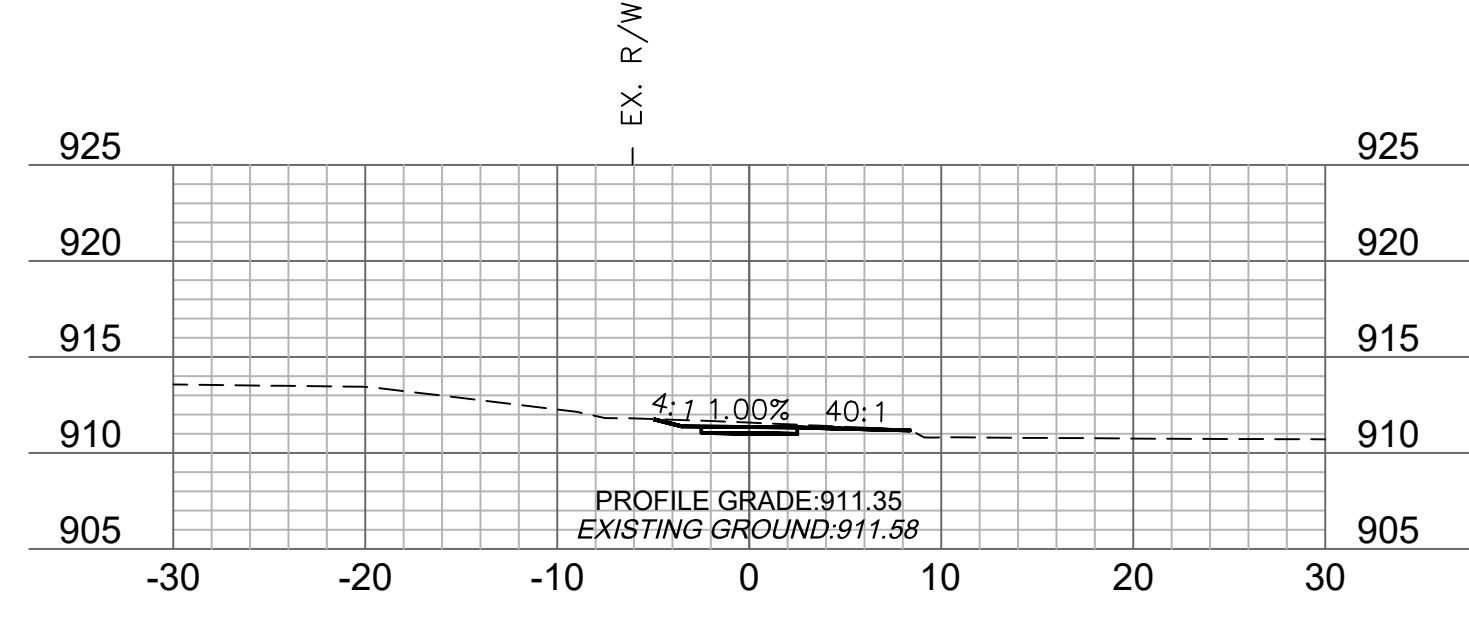
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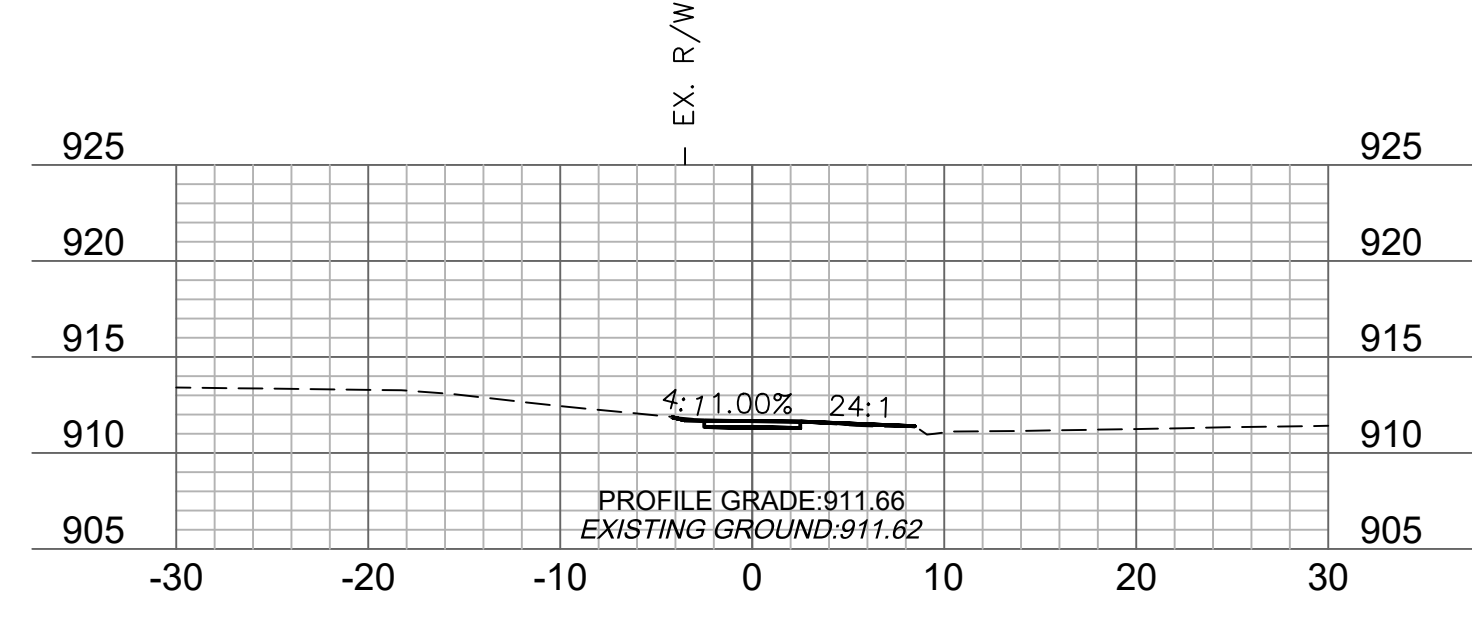
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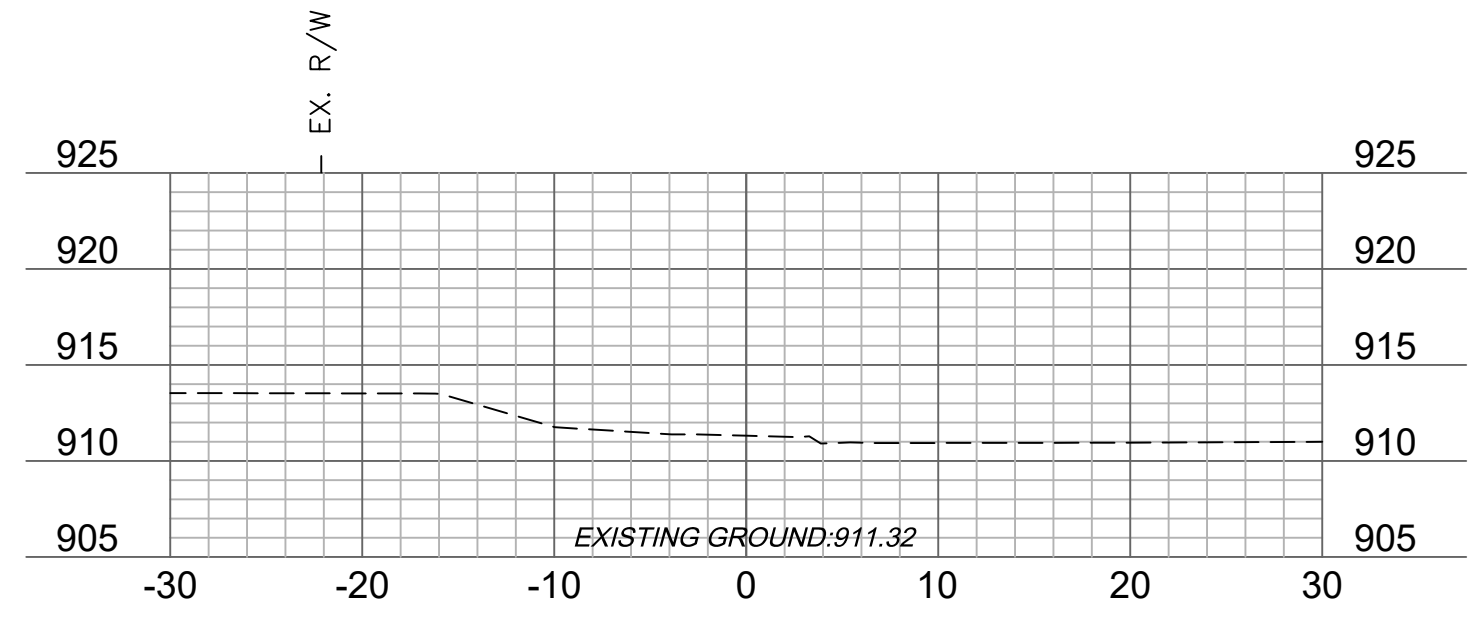
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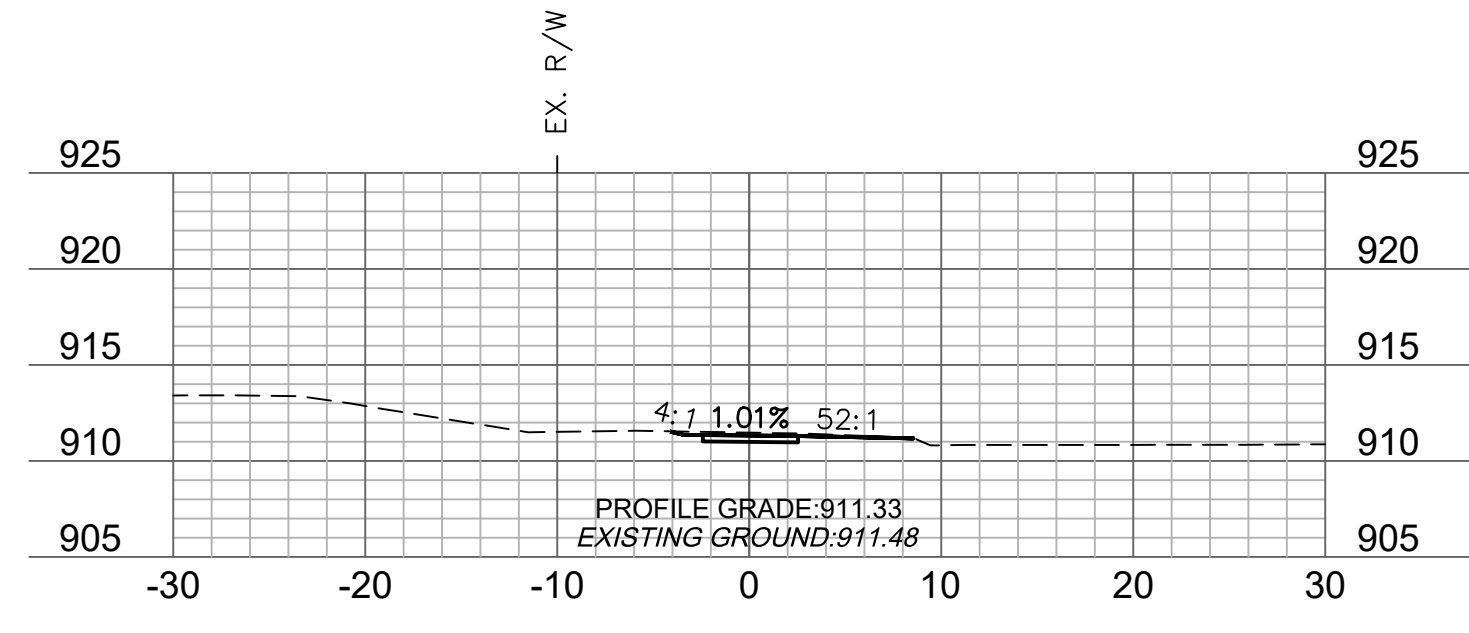
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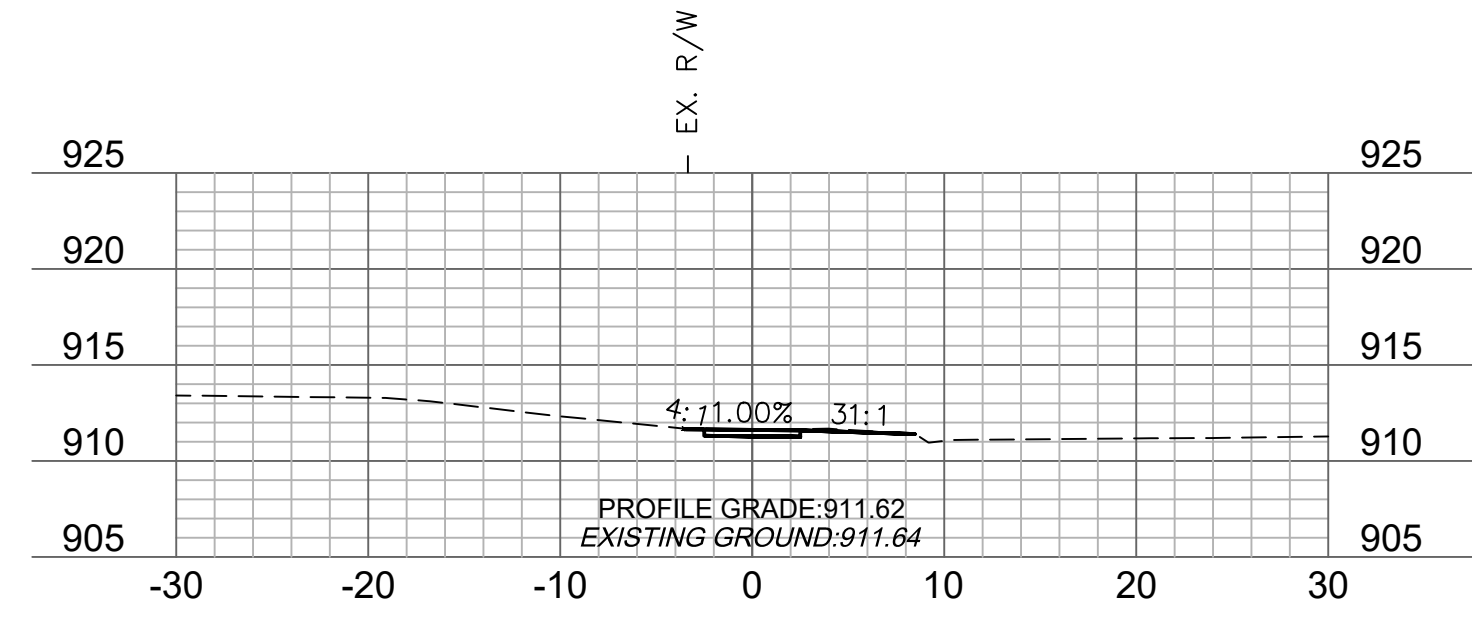
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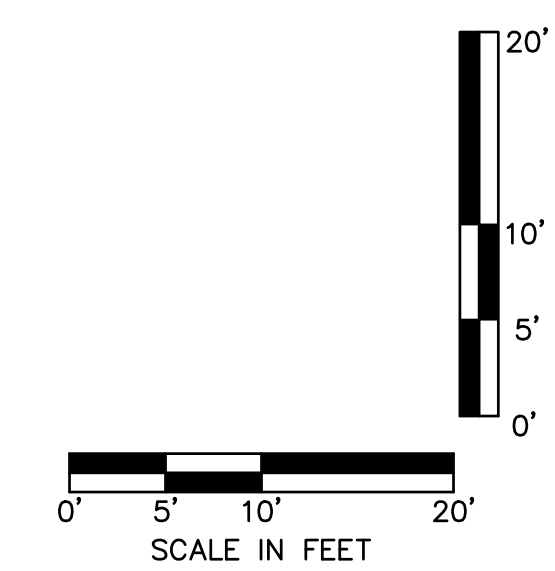
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10+25



10+50



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

MASTIN STREET SIDEWALK
CROSS SECTIONS
COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK
OVERLAND PARK, KANSAS
2025

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: T_XSEC01_02206529
date: 1-31-2025

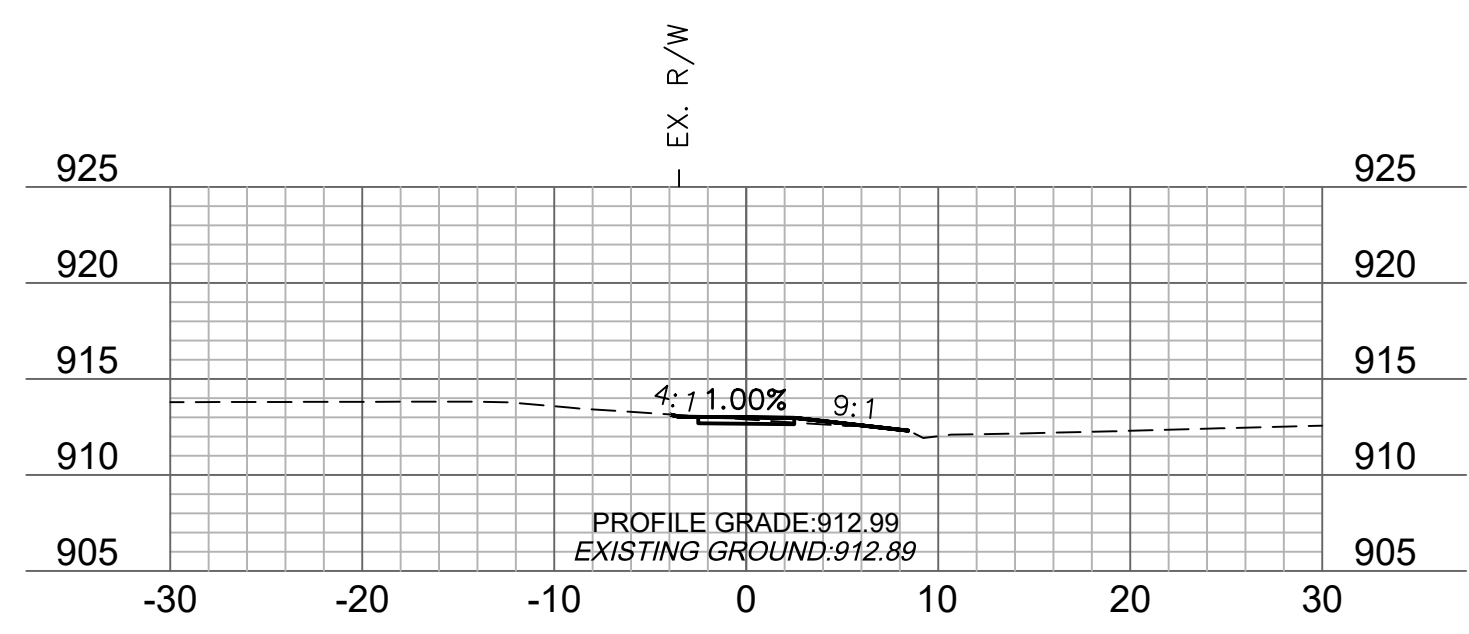
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

olsson

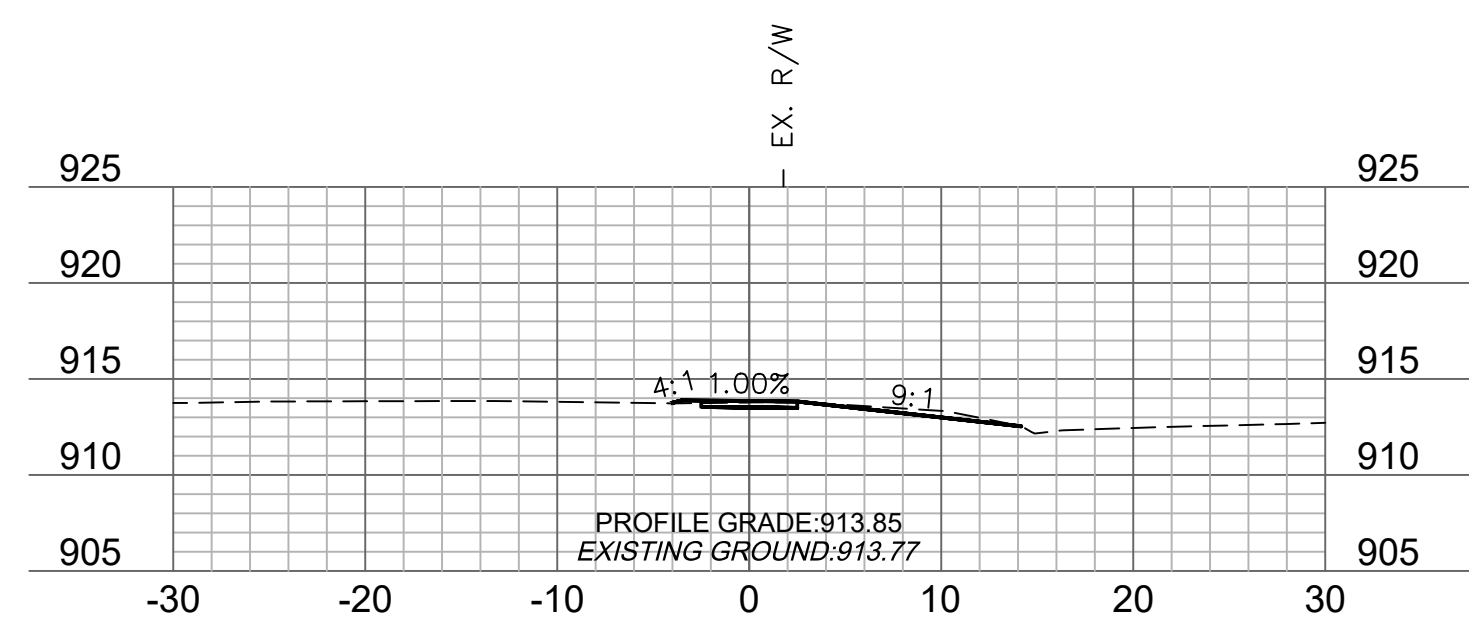
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olson.com

USER: mwelech

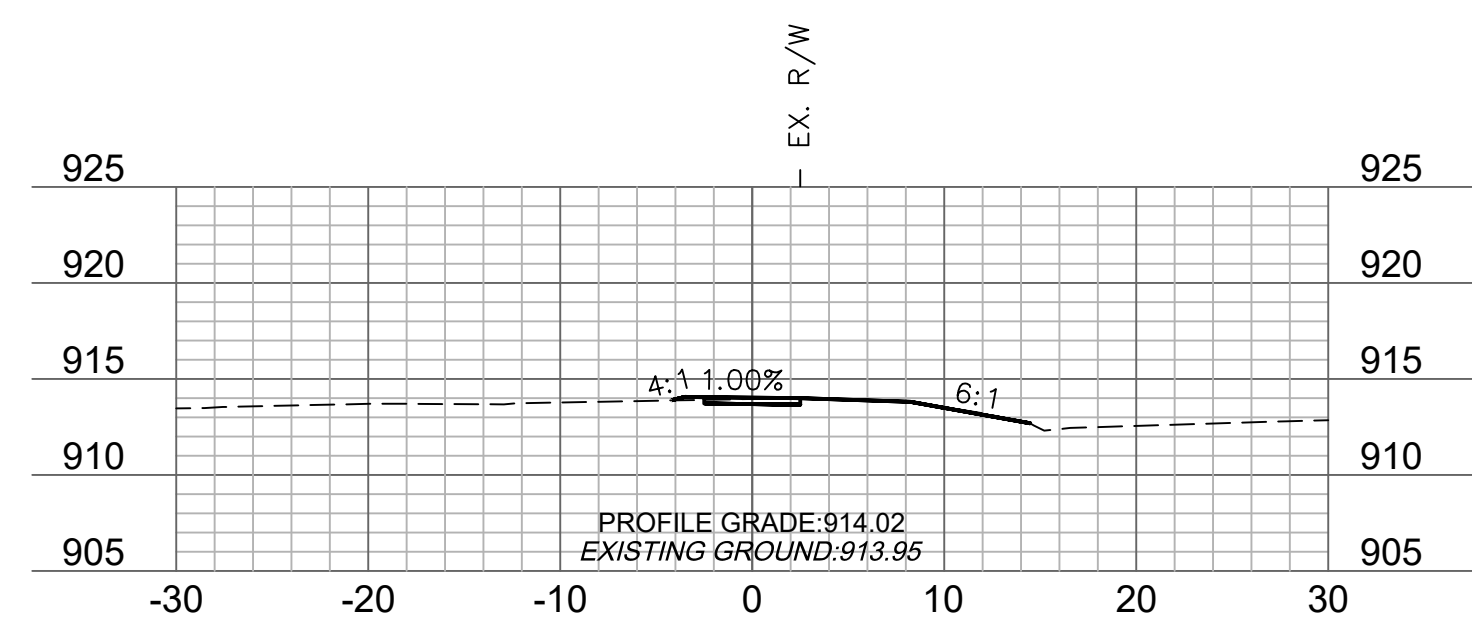
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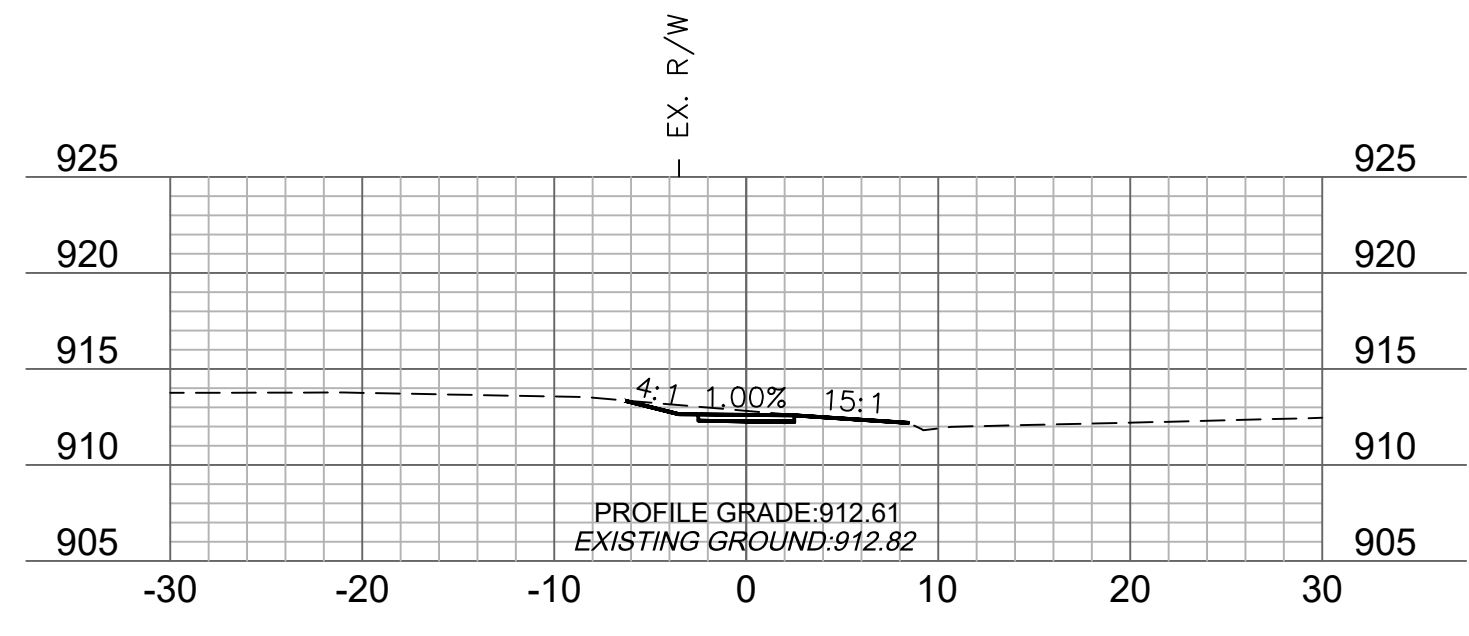
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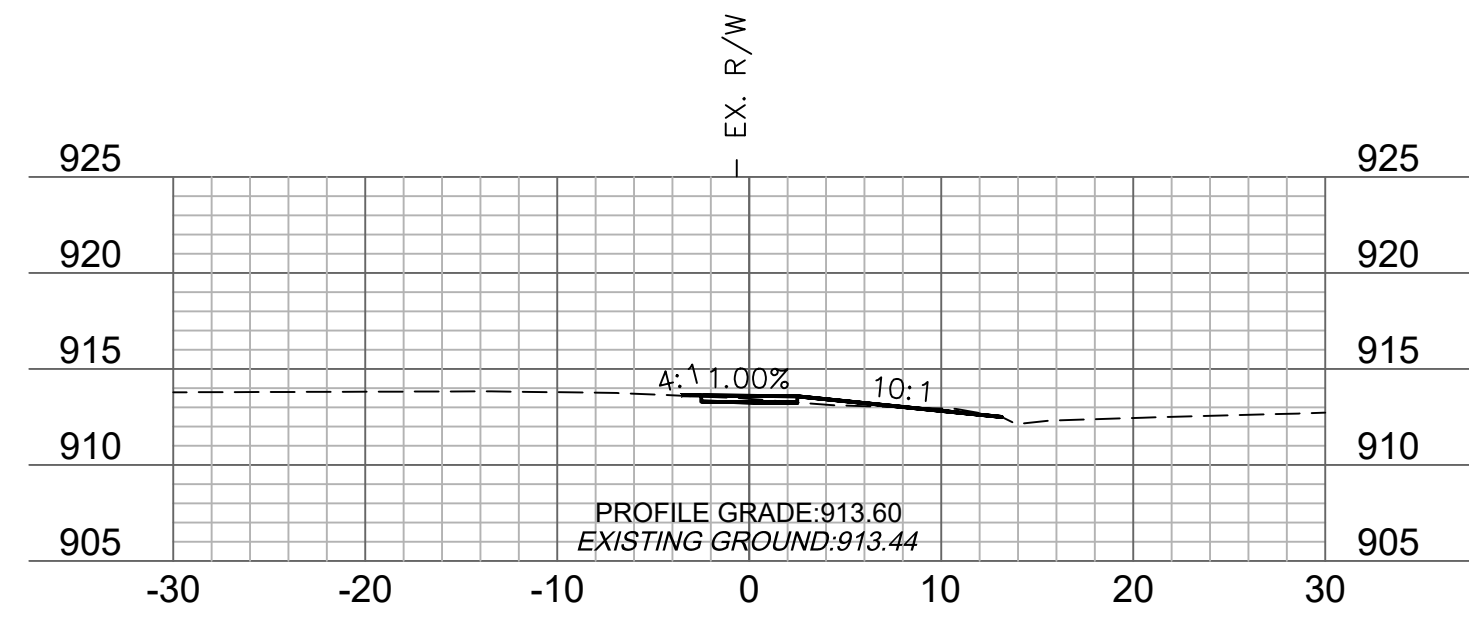
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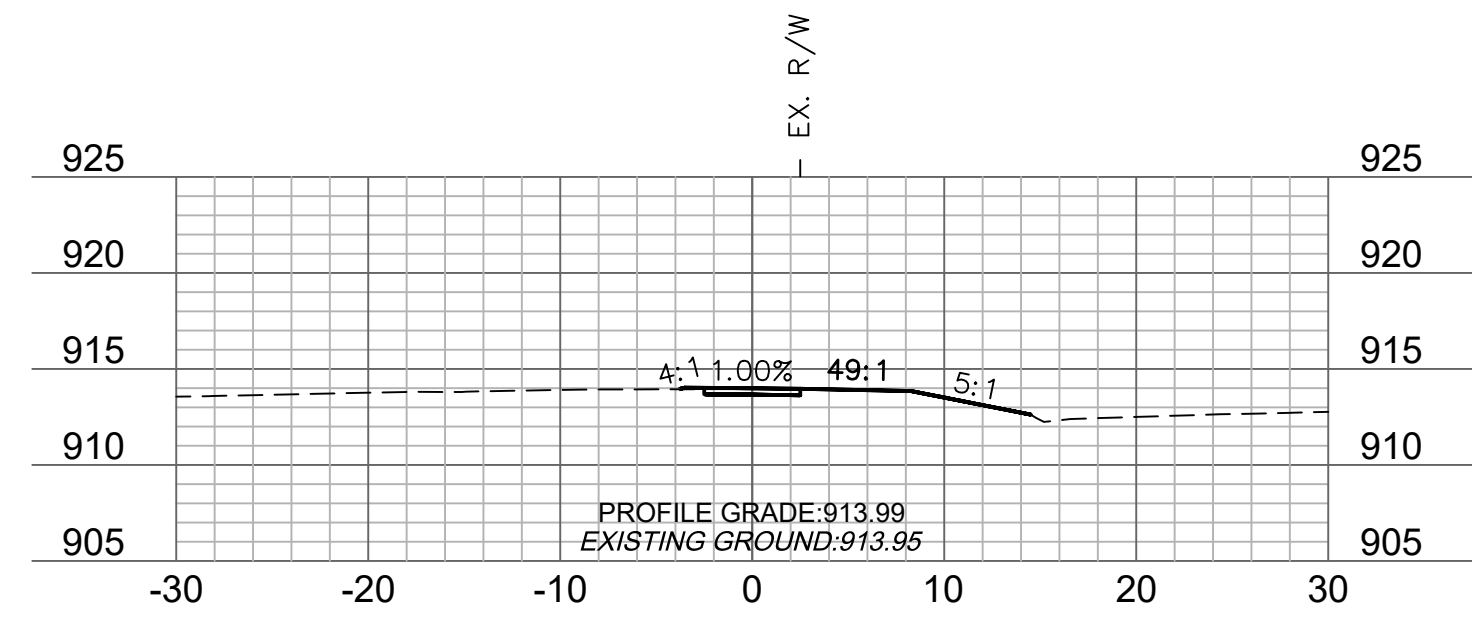
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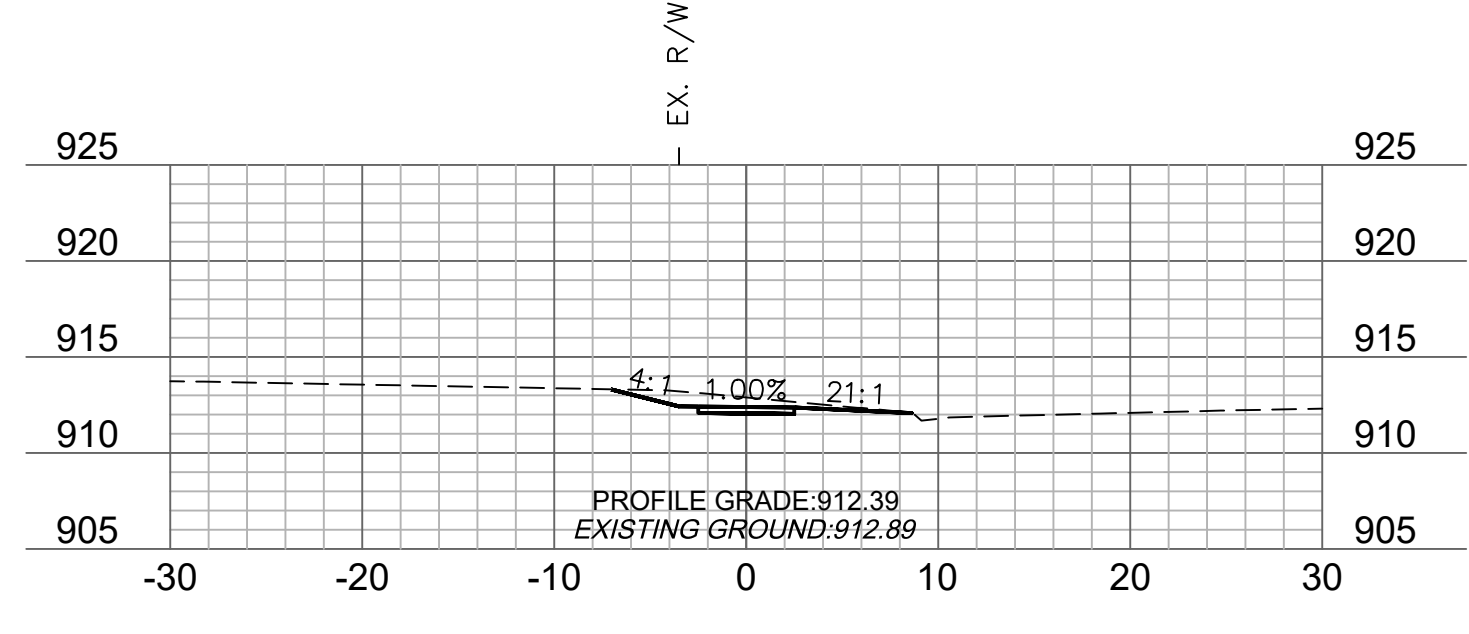
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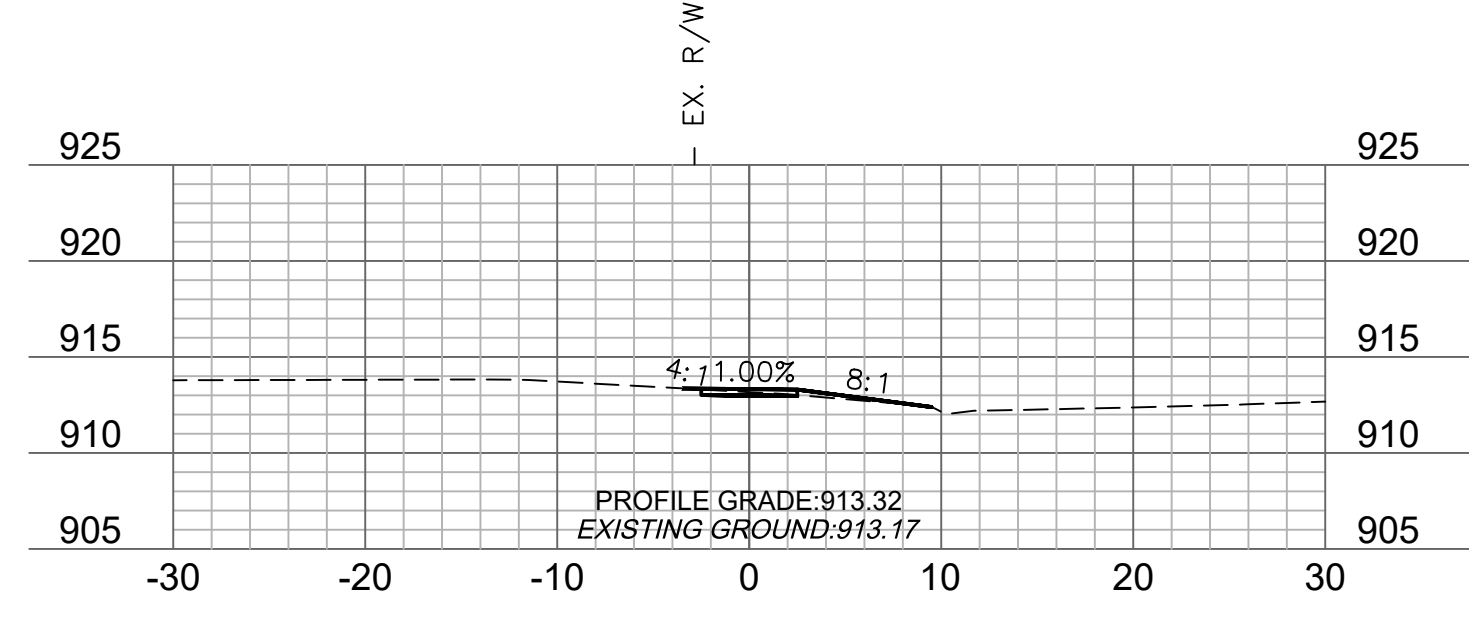
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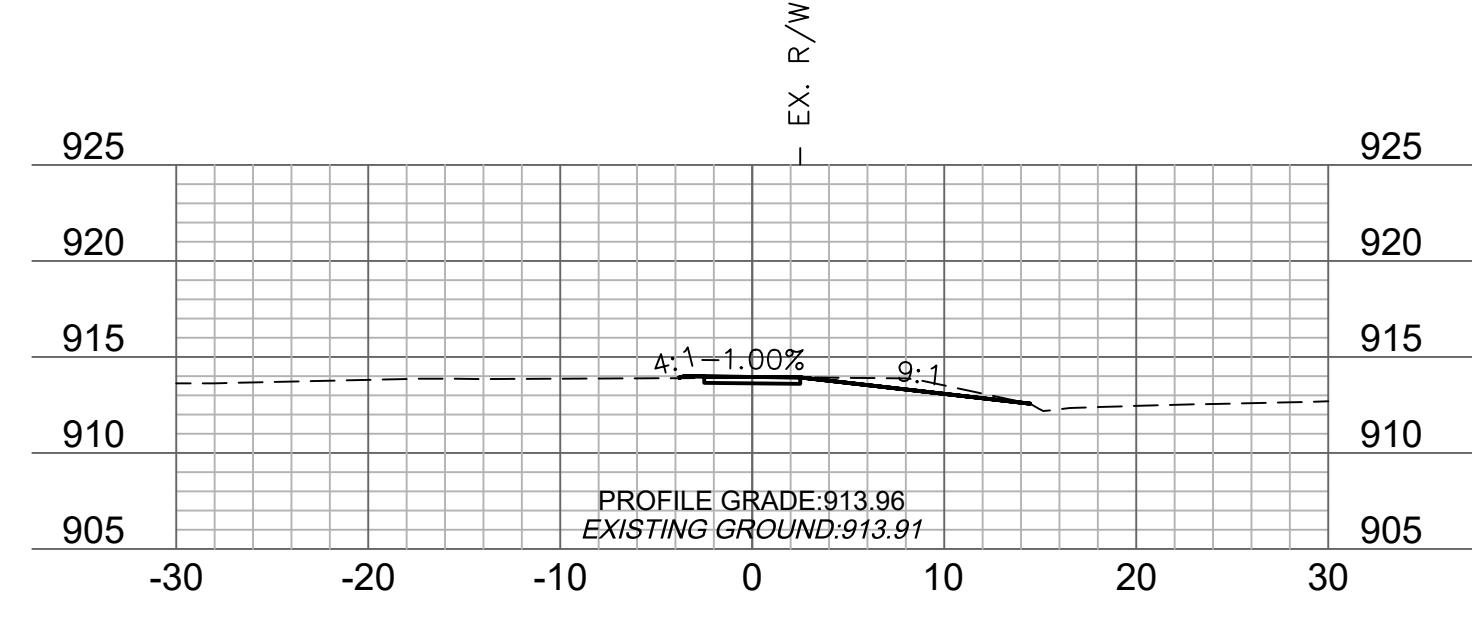
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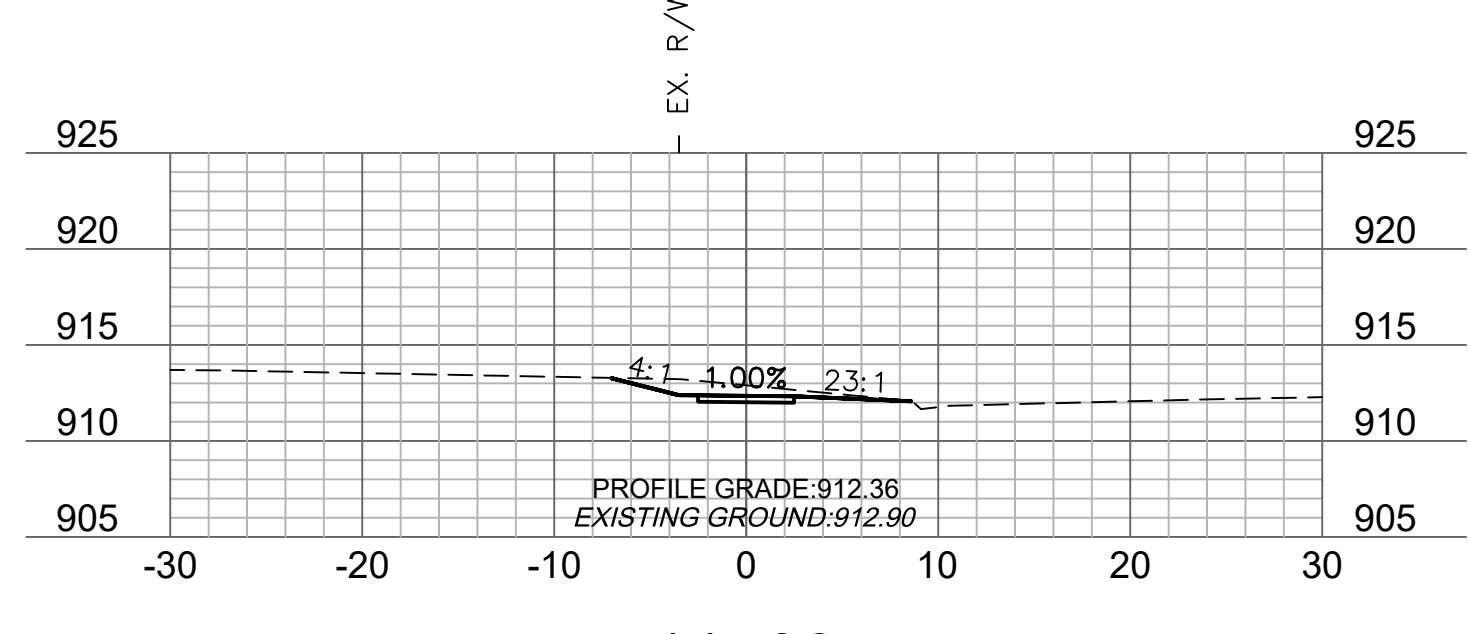
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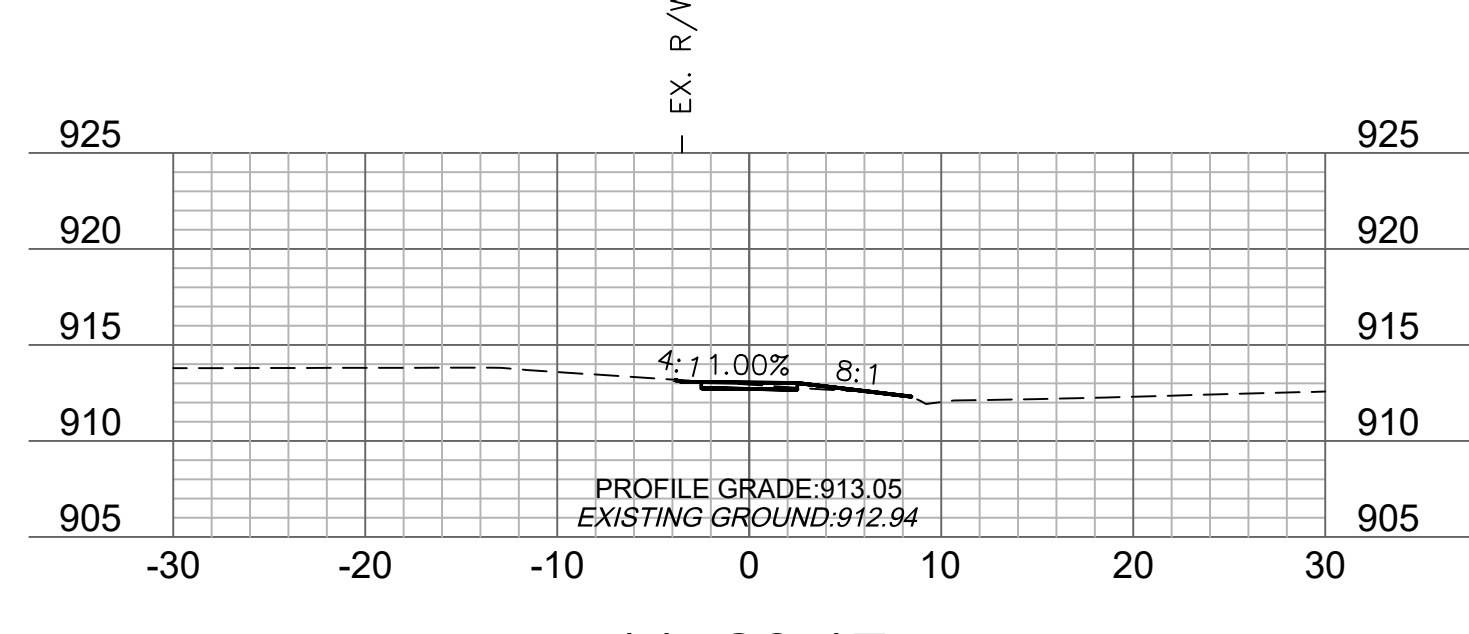
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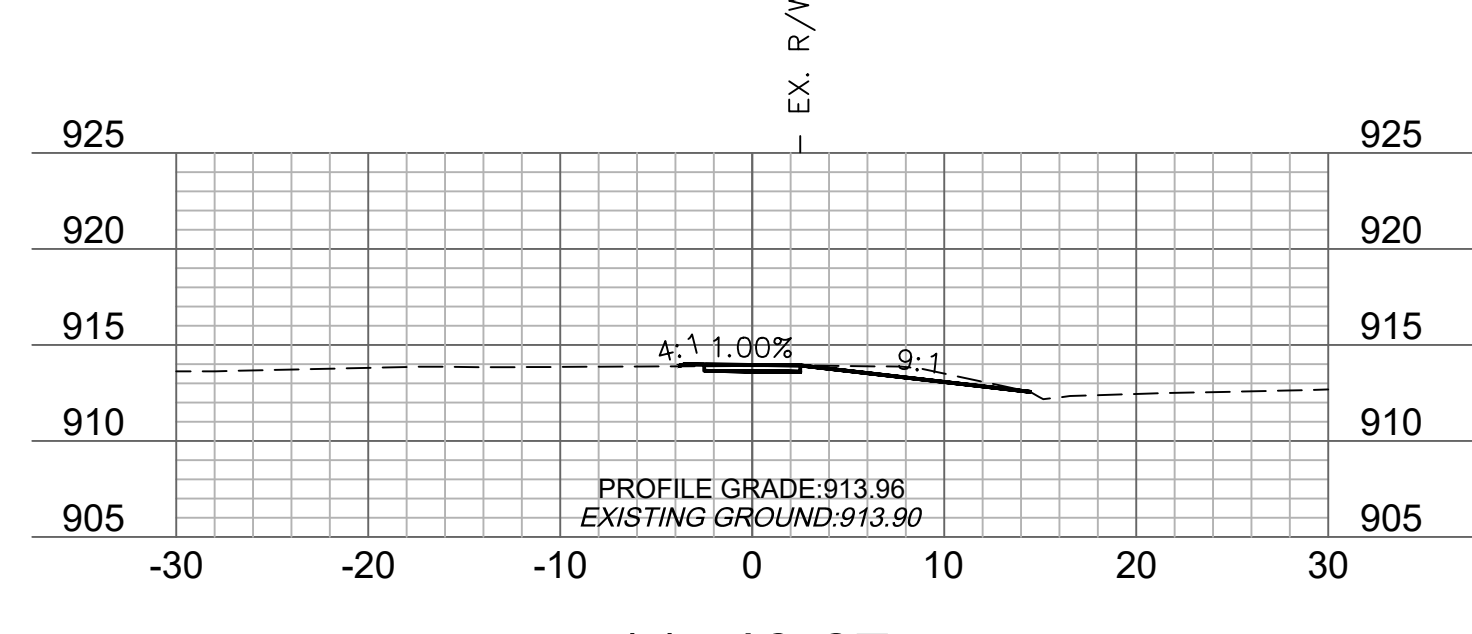
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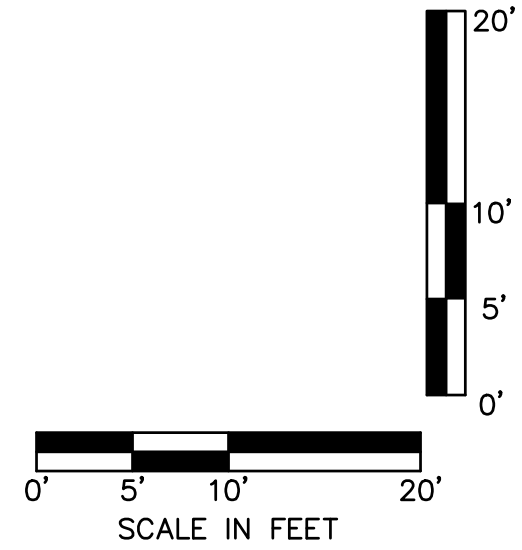
2025

MASTIN STREET SIDEWALK
CROSS SECTIONS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: T_XSEC01_02206529
date: 1-31-2025



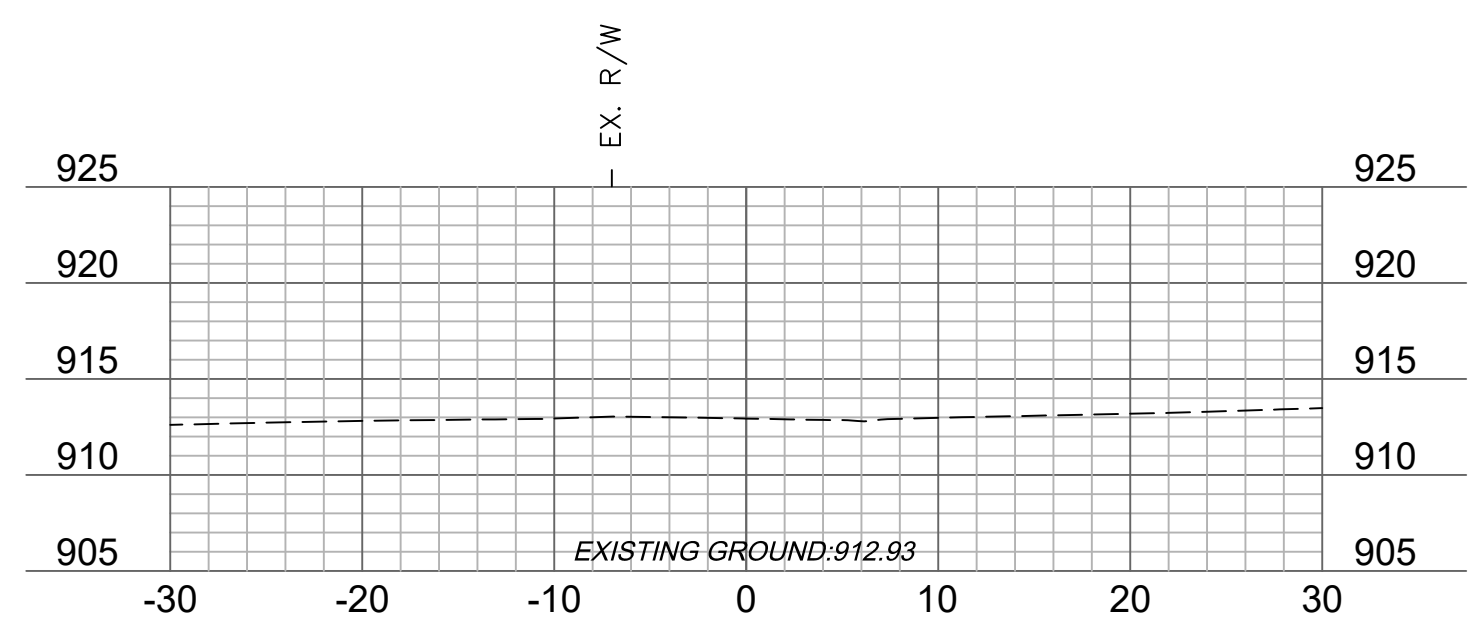
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

olsson

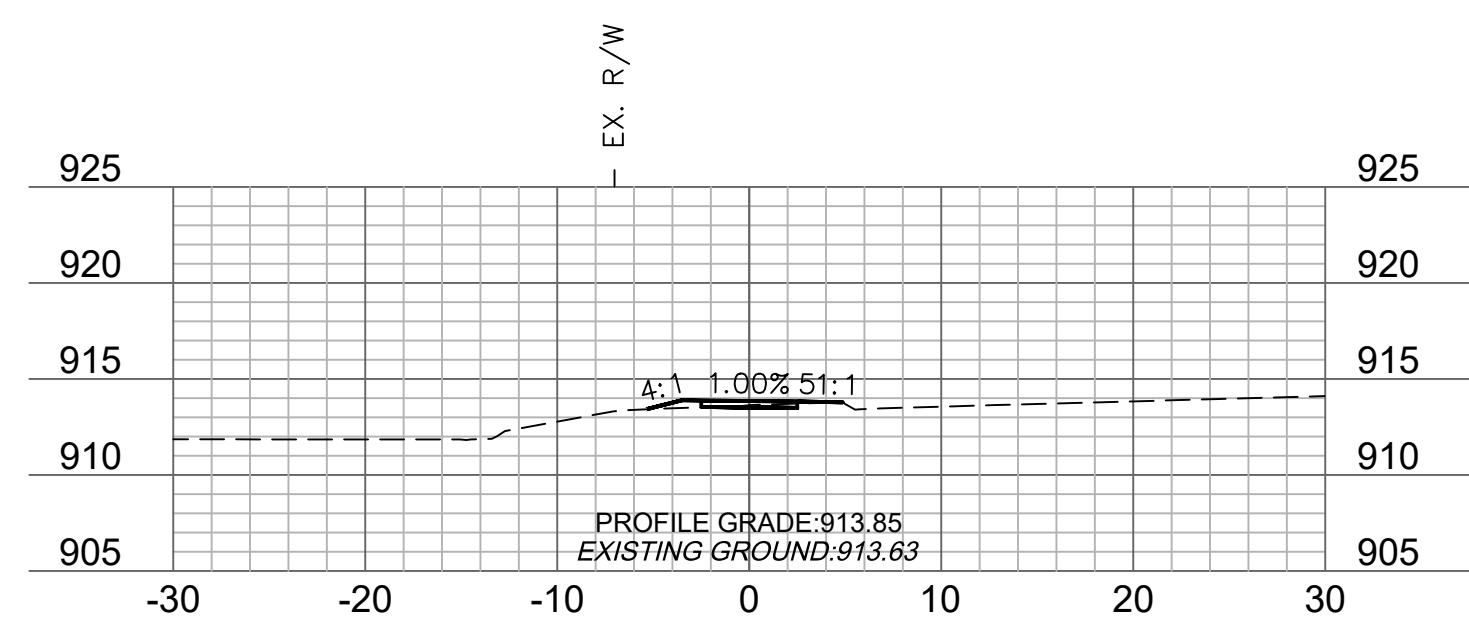
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Overland Park, KS 66213-4760
TEL 913.381.1170 www.olson.com

USER: mwelech

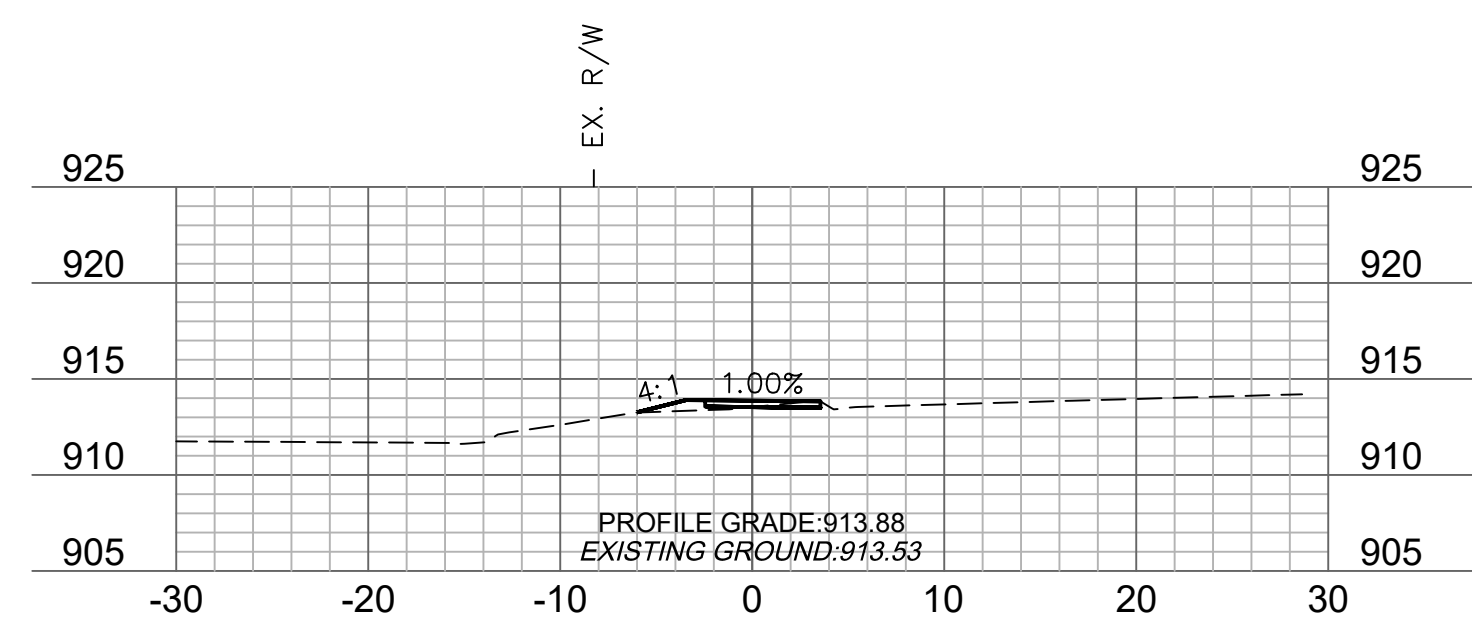
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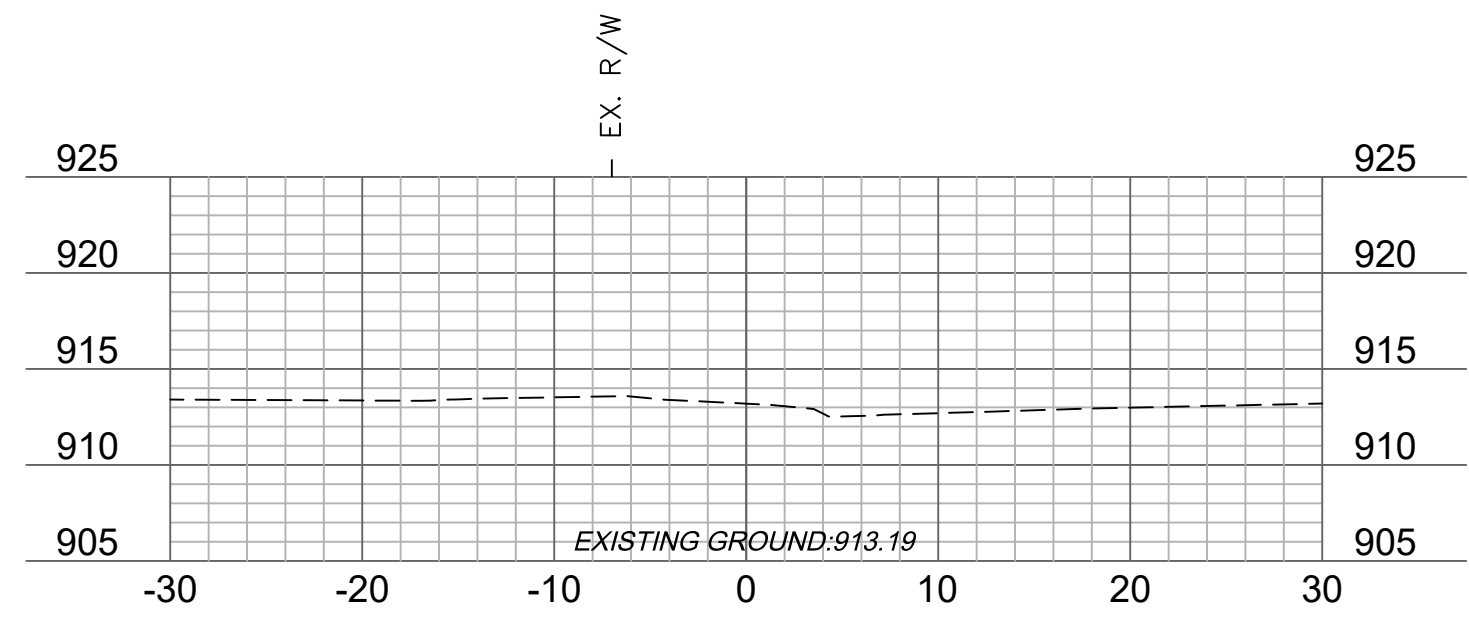
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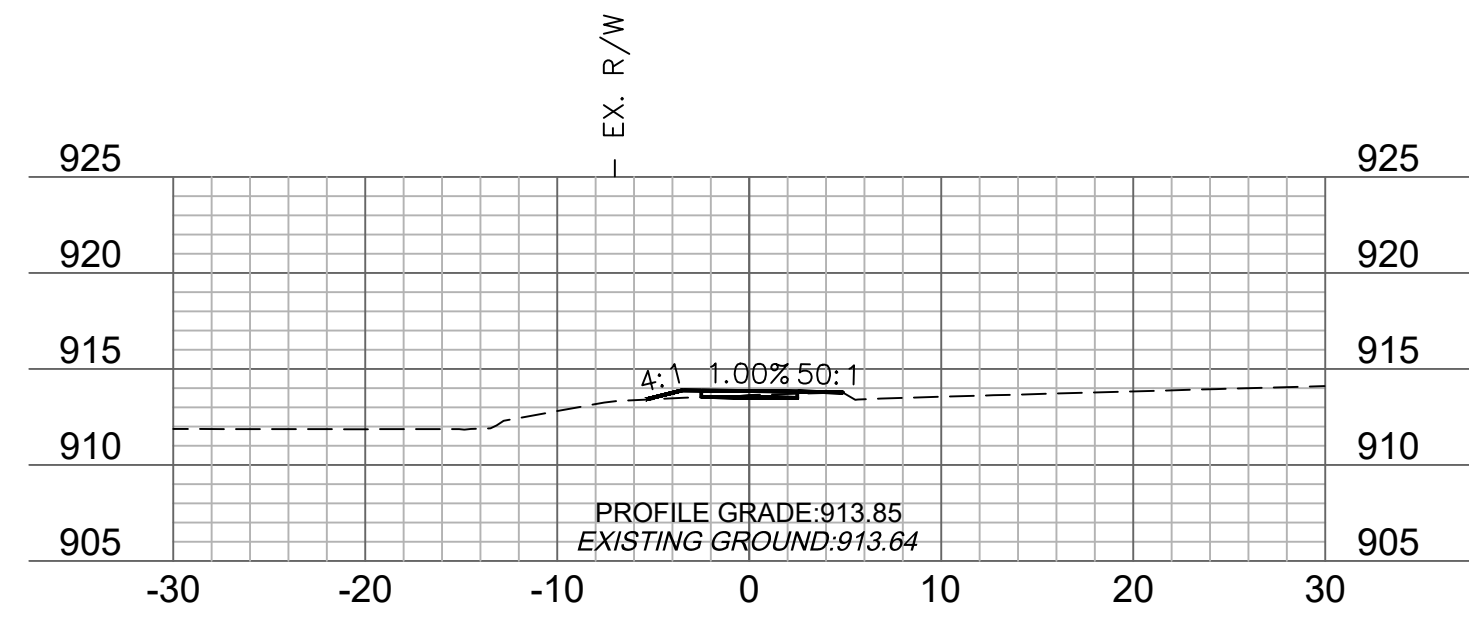
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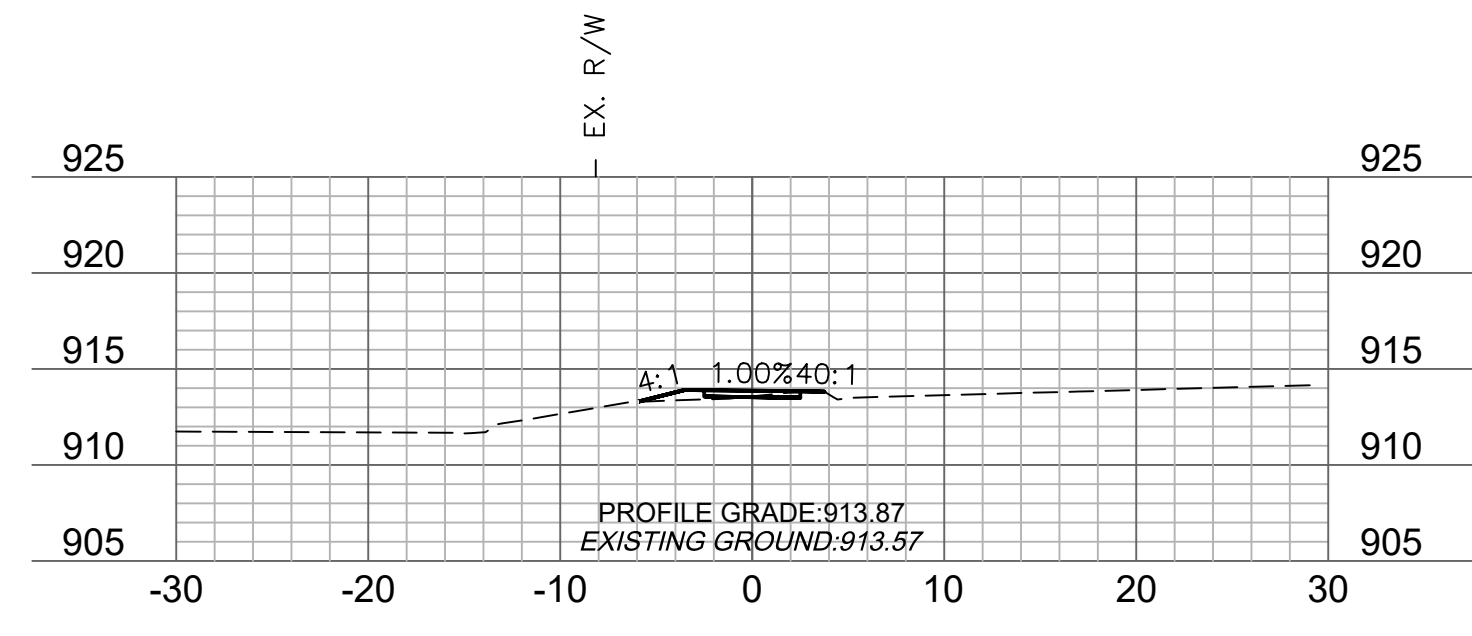
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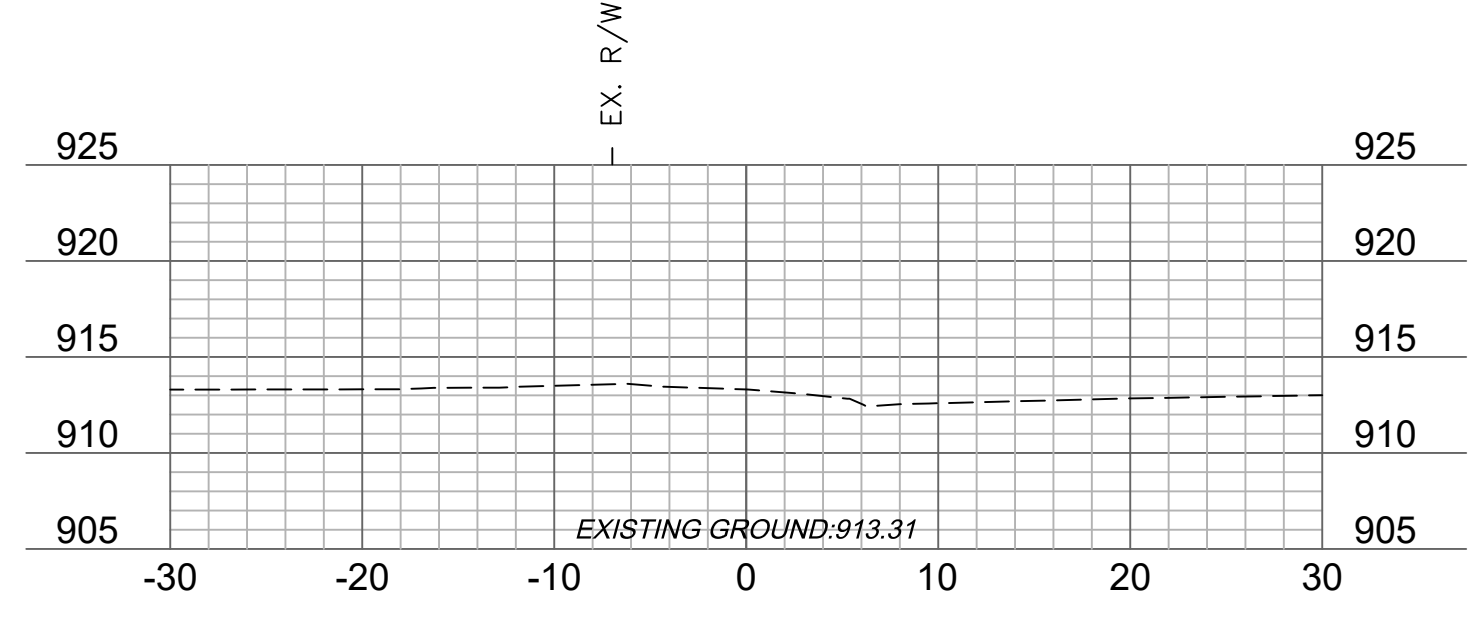
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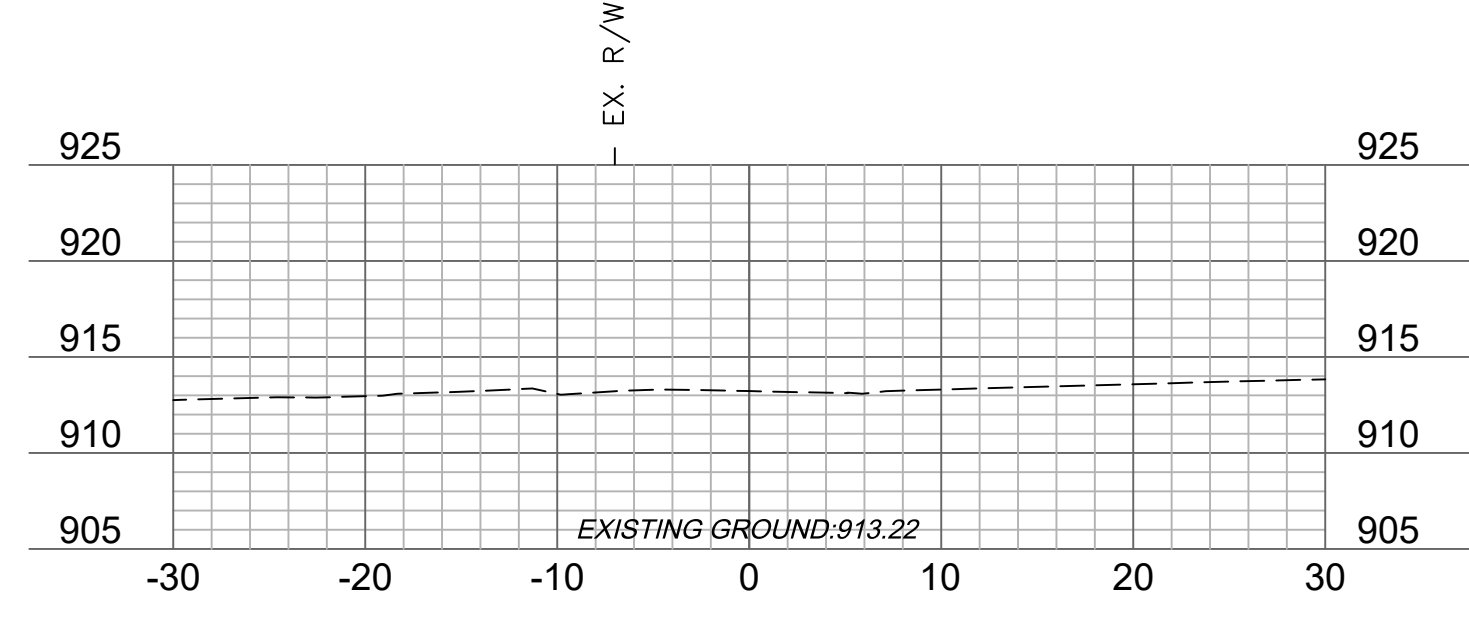
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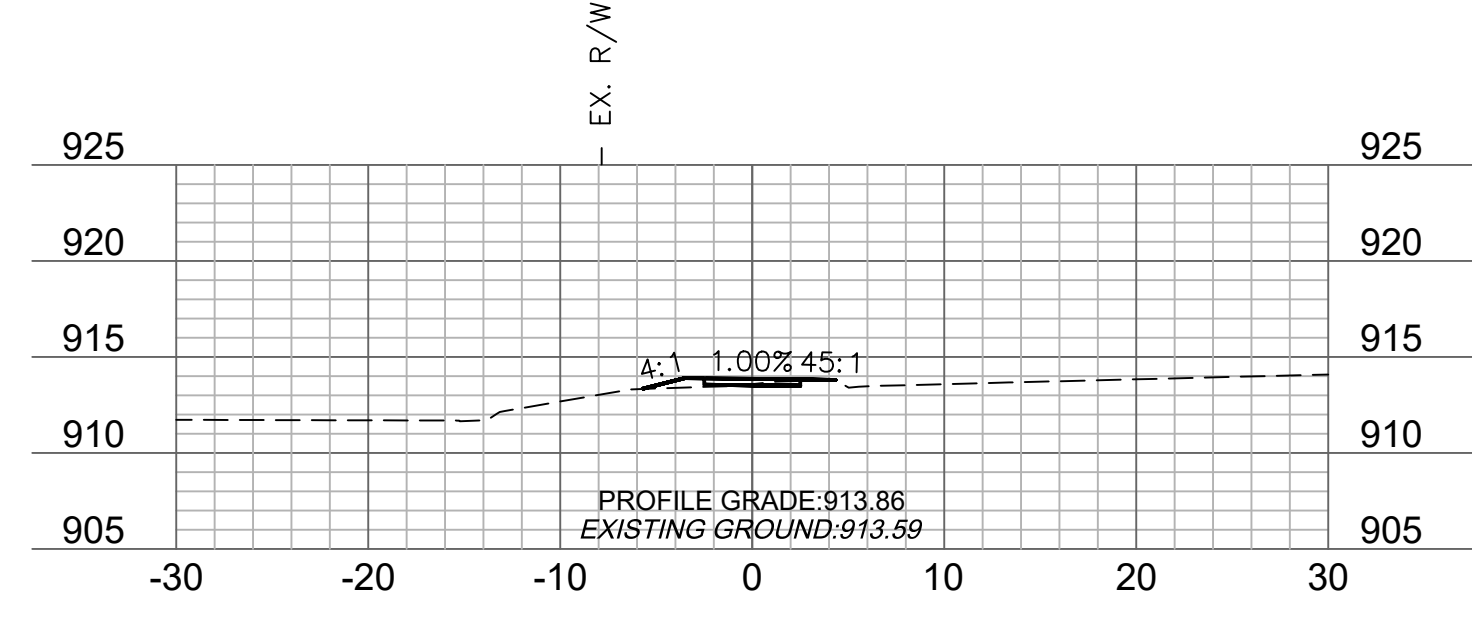
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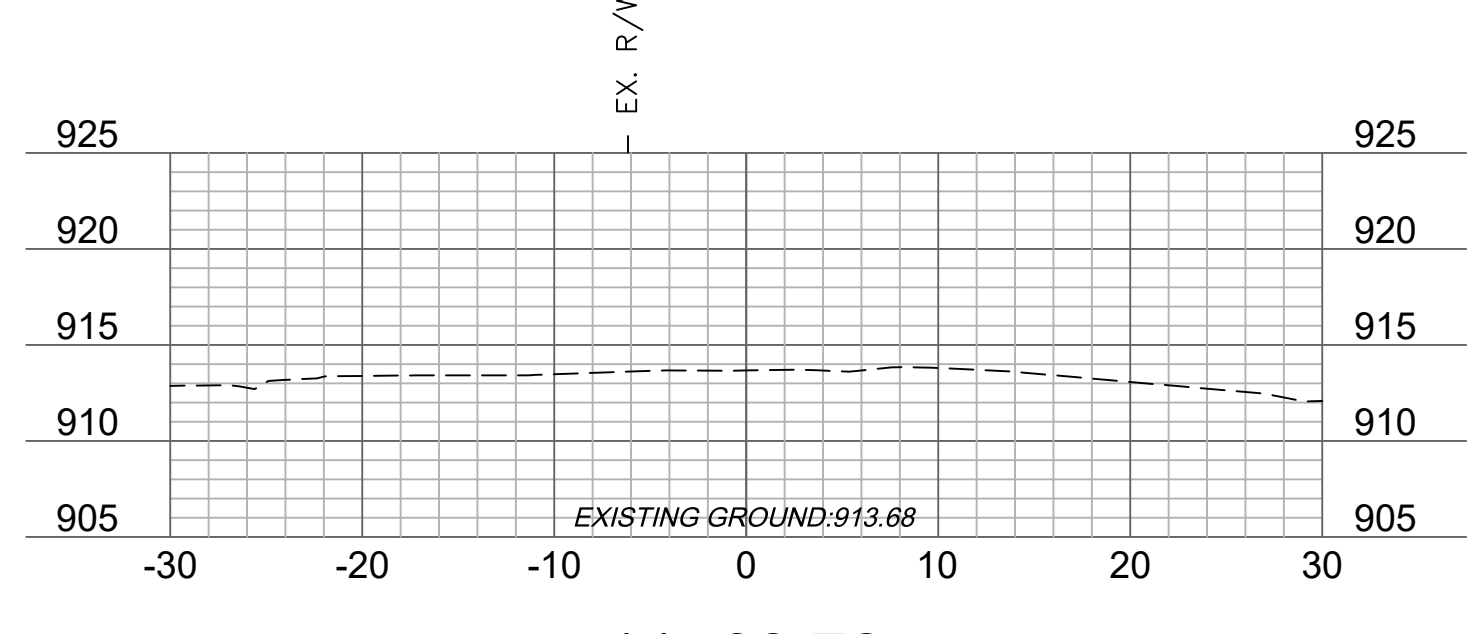
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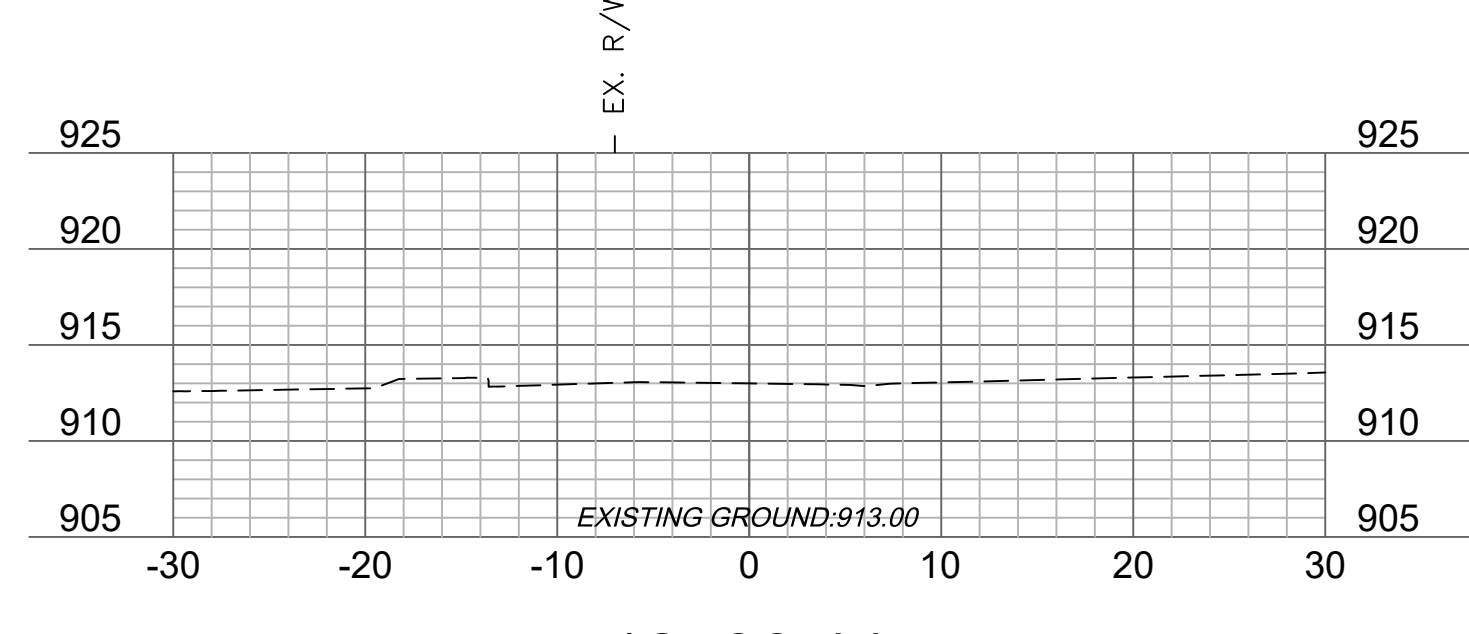
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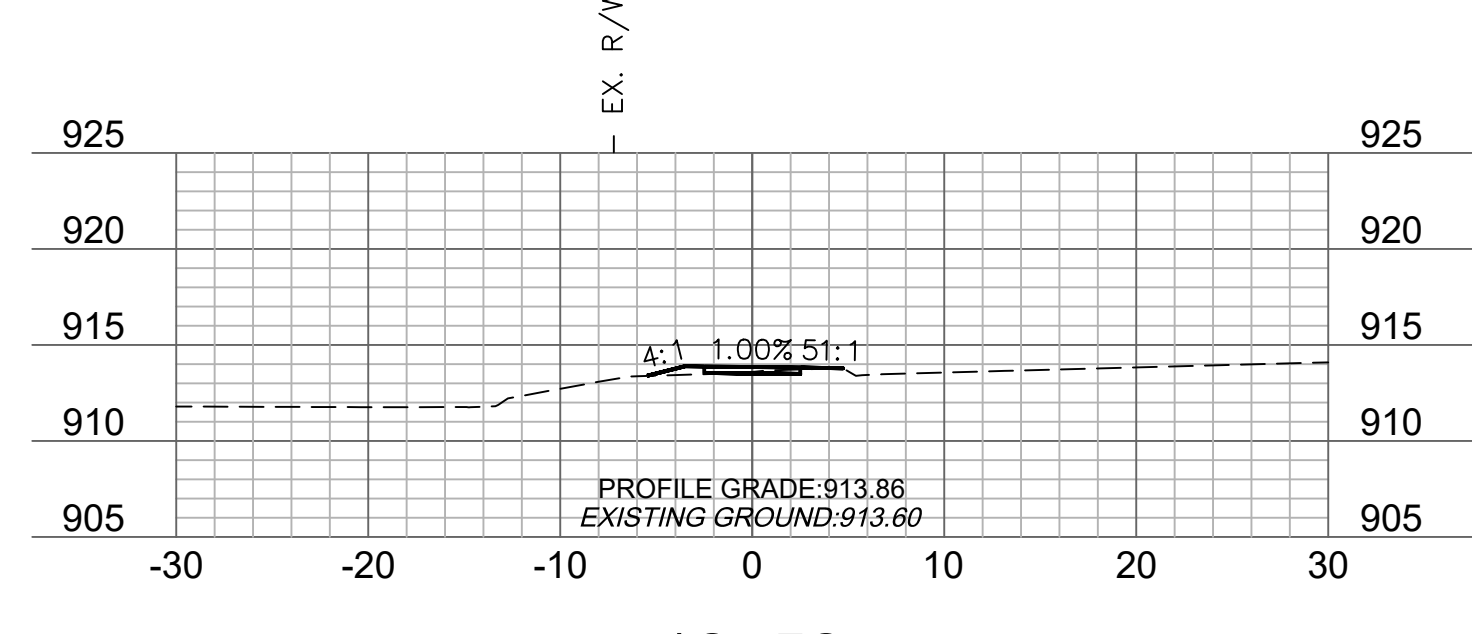
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

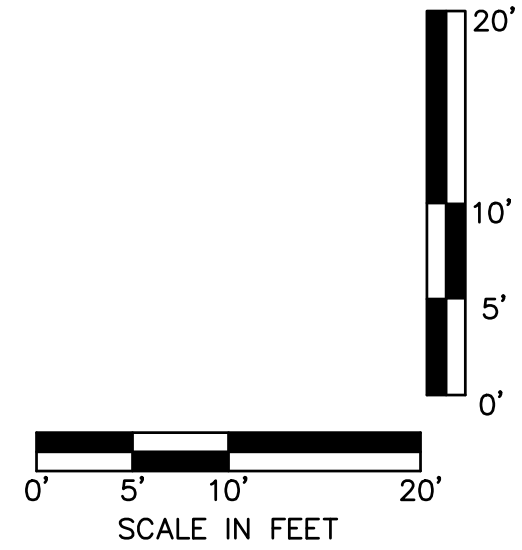
2025

MASTIN STREET SIDEWALK
CROSS SECTIONS

COLLEGE BOULEVARD BRIDGE OVER INDIAN CREEK

OVERLAND PARK, KANSAS

drawn by: CJC
checked by: PBM
approved by: PBM
QA/QC by: RBF
project no.: 022-06529
drawing no.: T_XSEC01_02206529
date: 1-31-2025



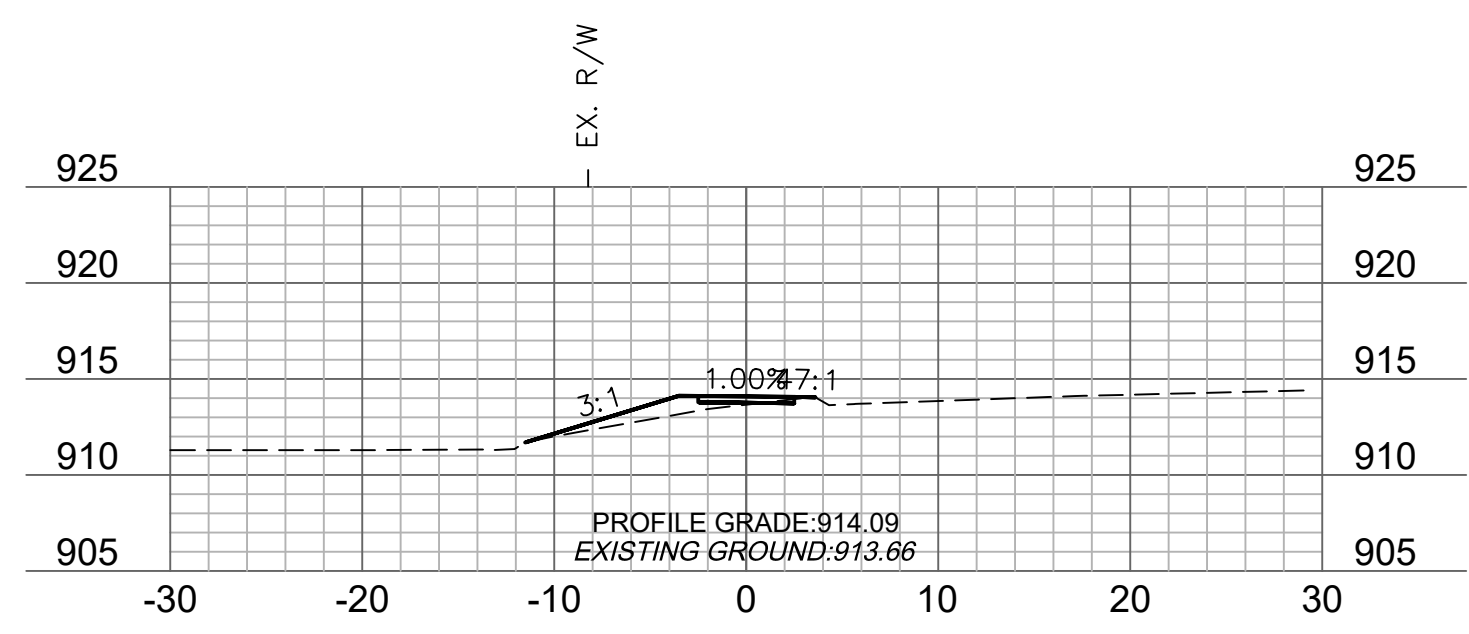
STATE	PROJECT NO.	YEAR
KANSAS	046 N-0785-01	2025

olsson

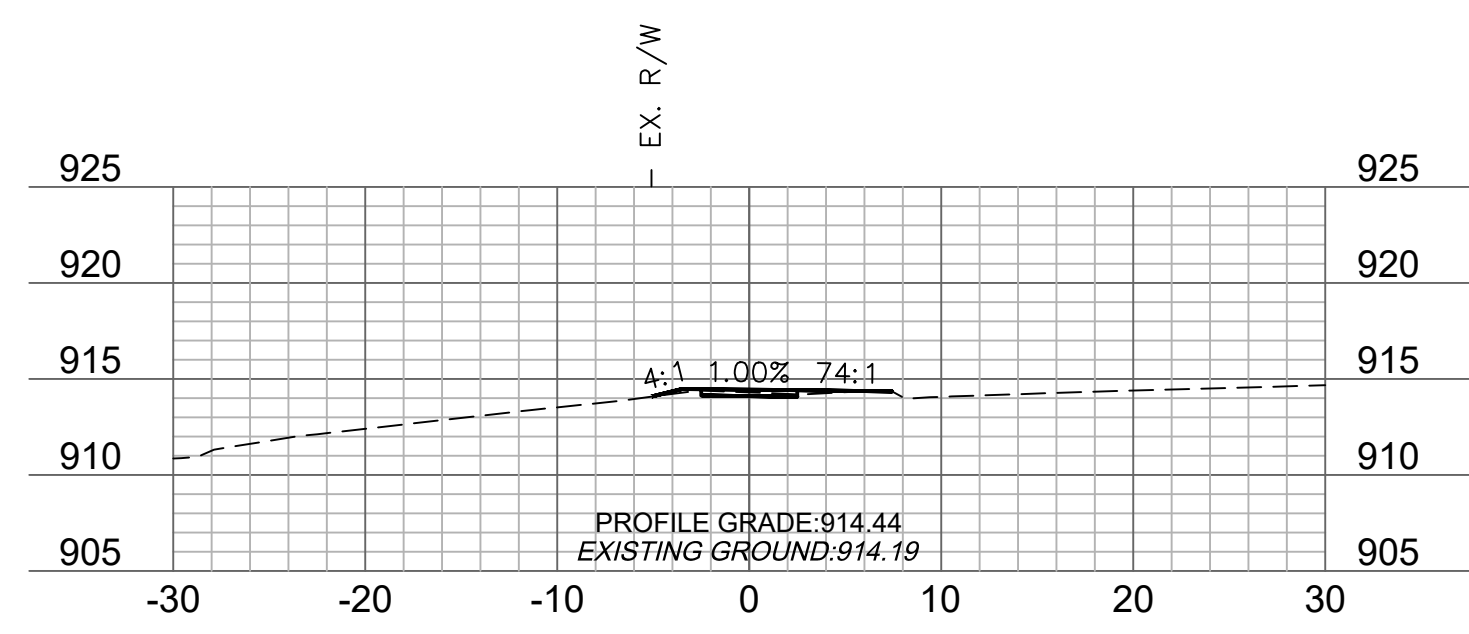
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olson.com

USER: mwelech

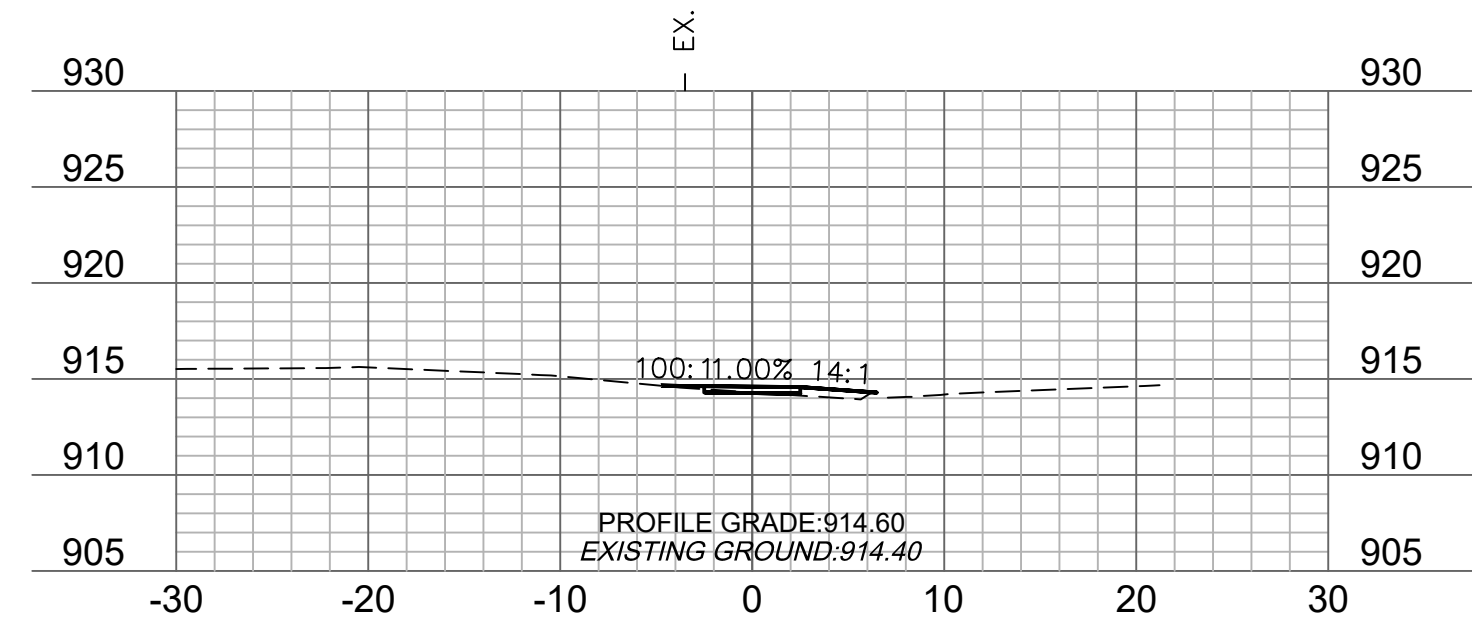
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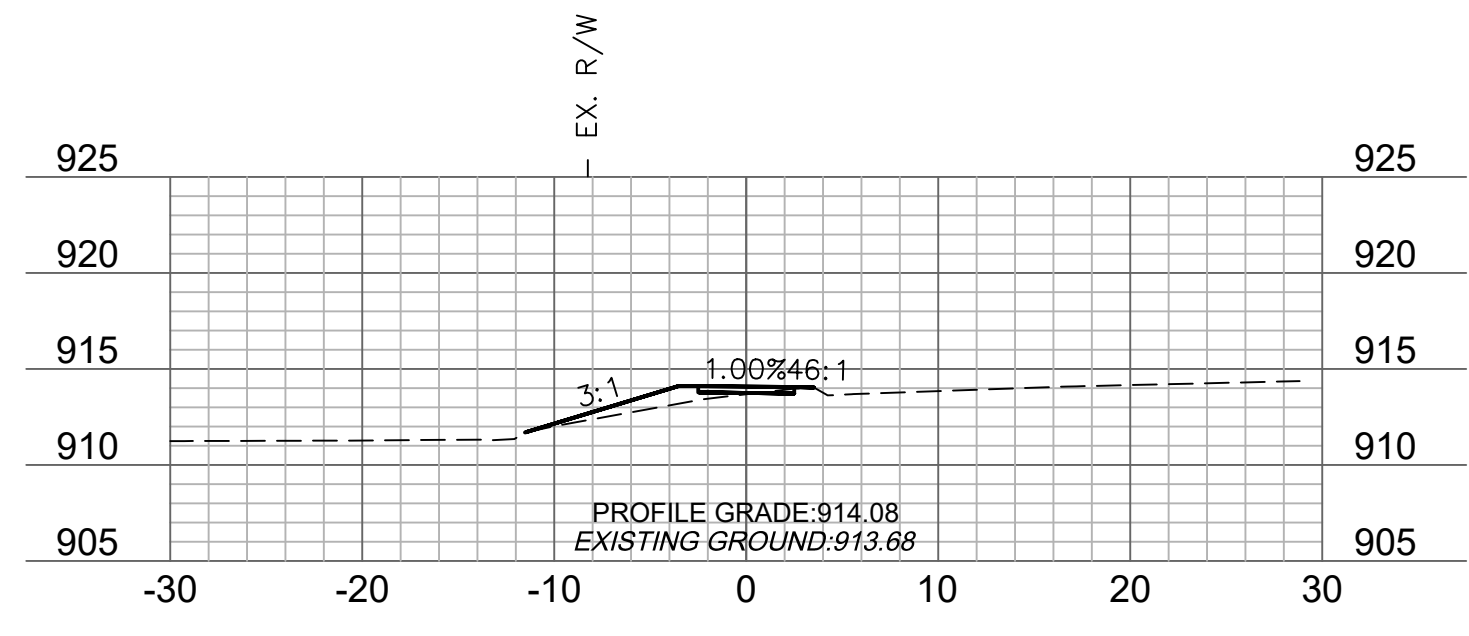
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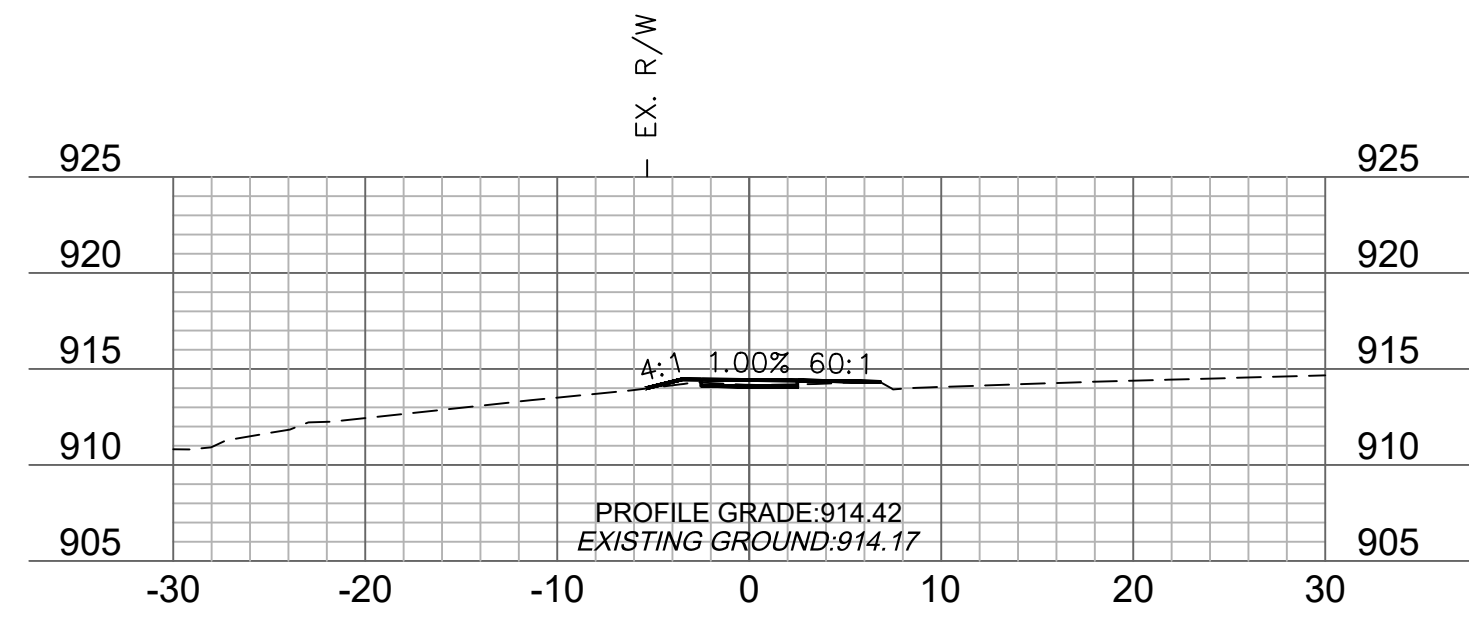
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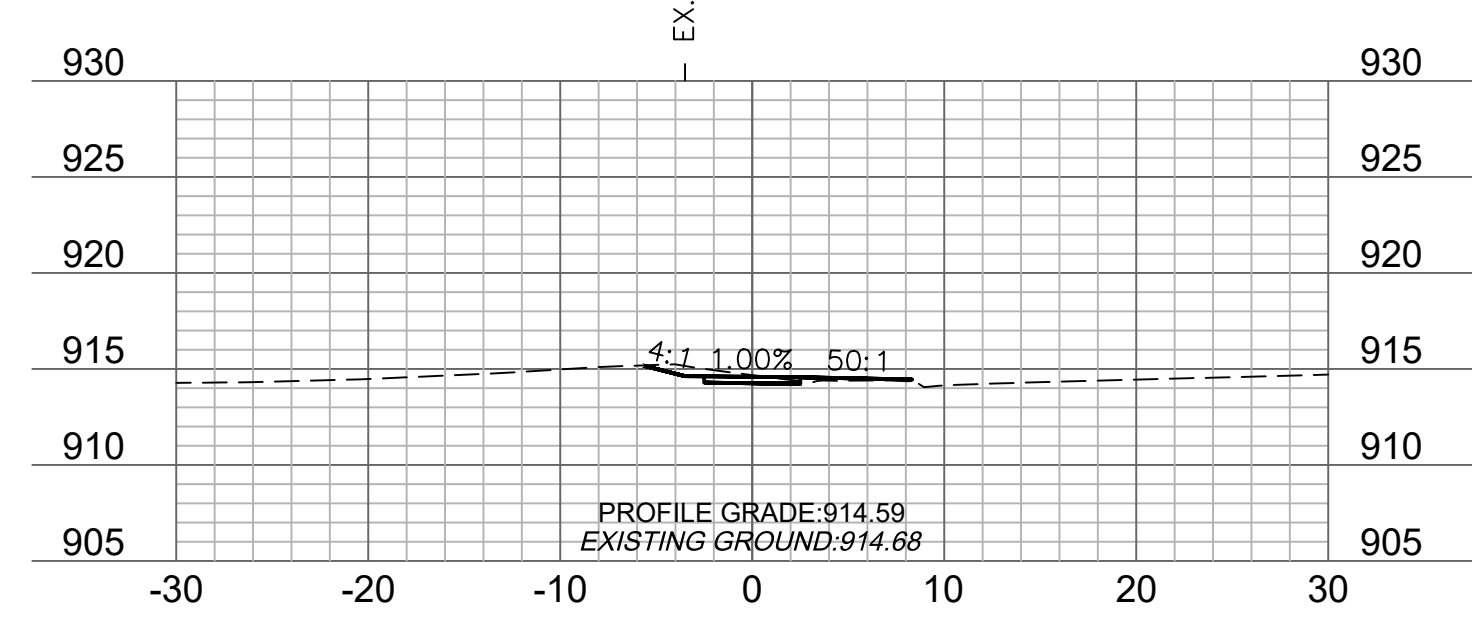
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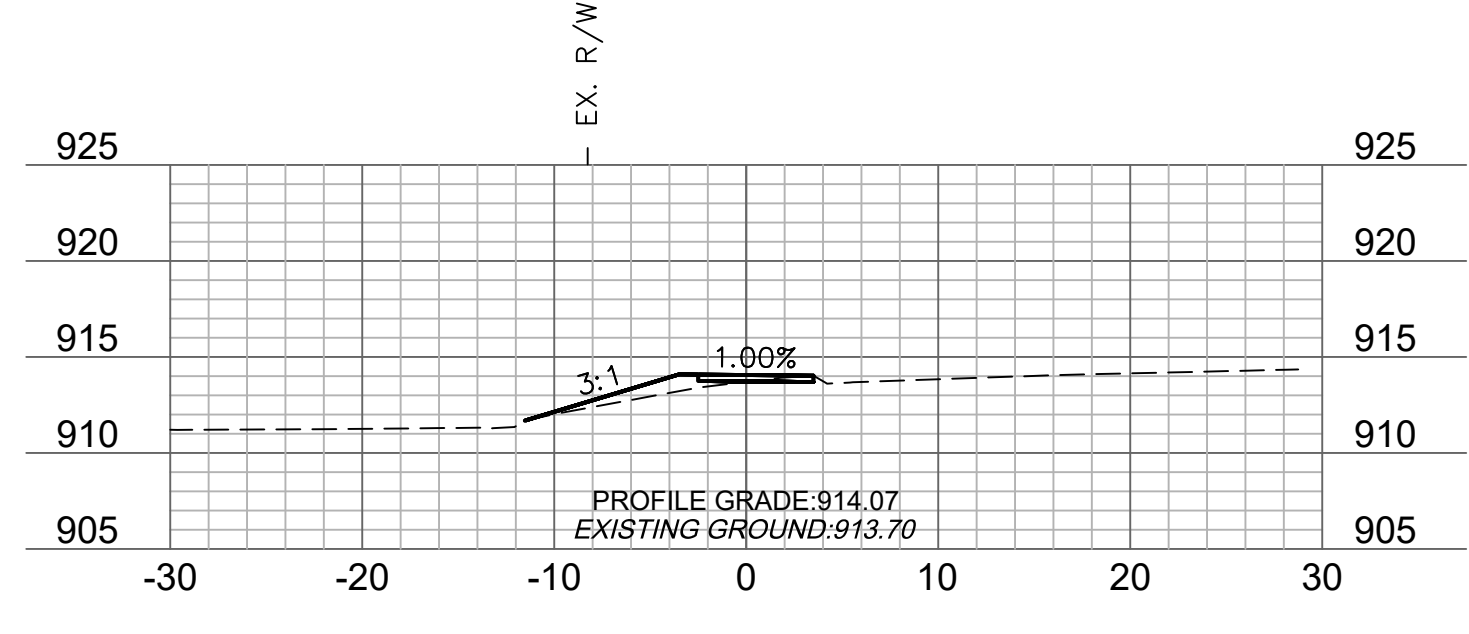
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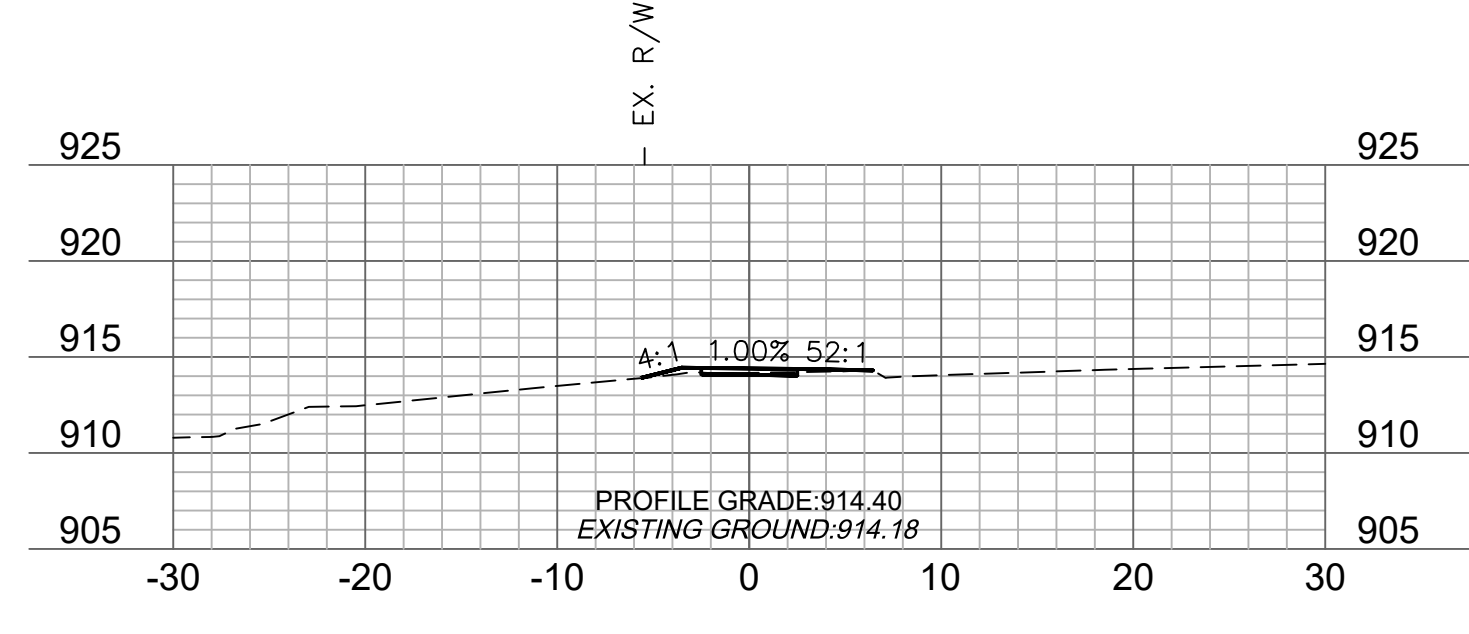
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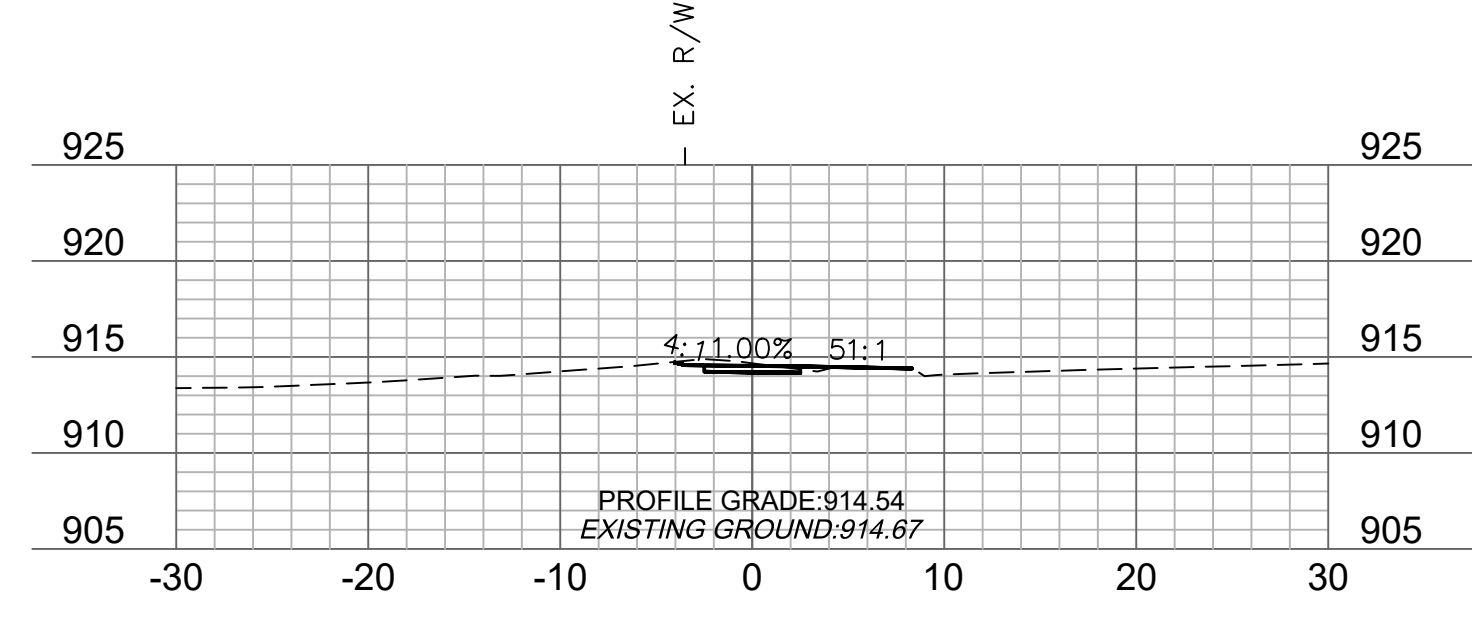
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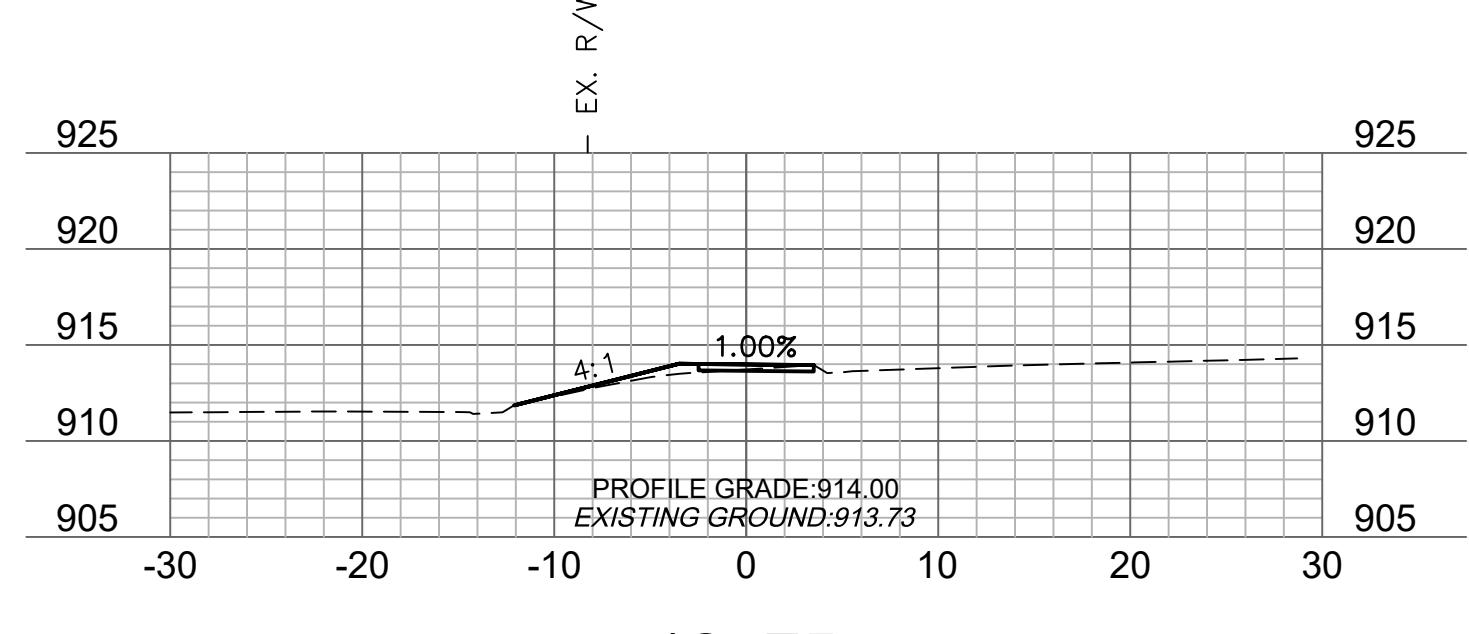
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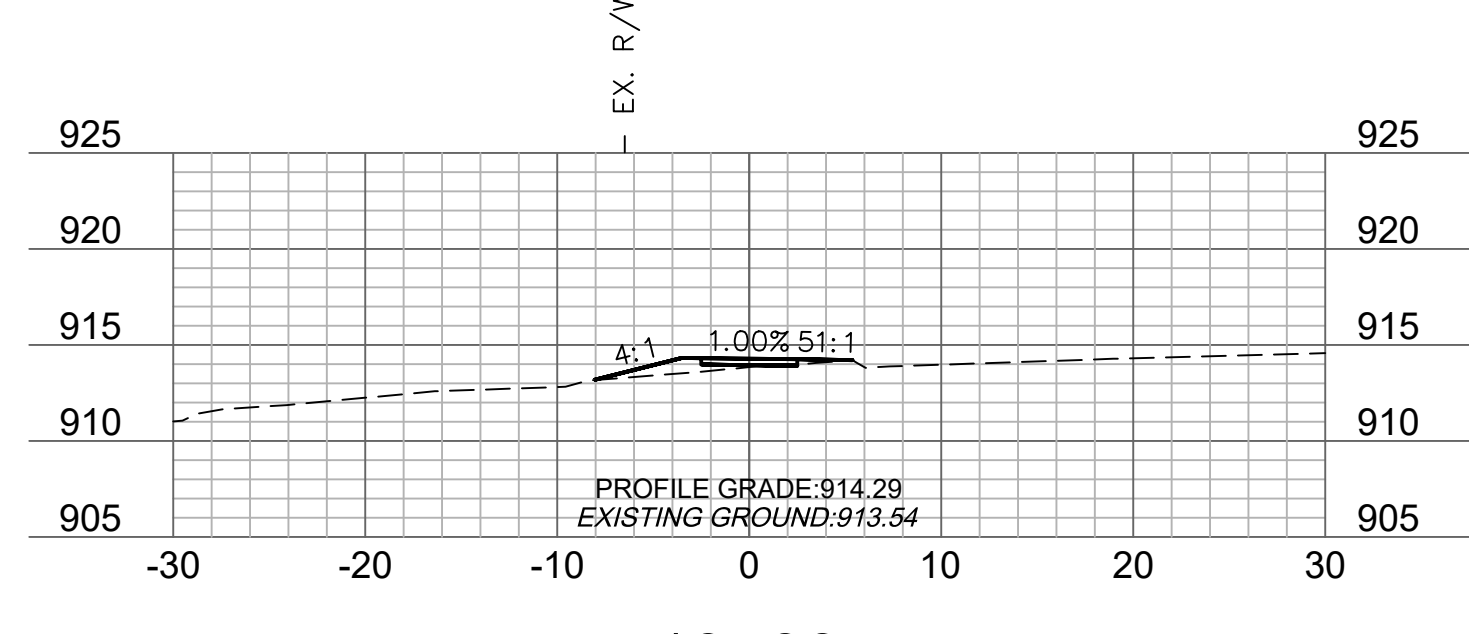
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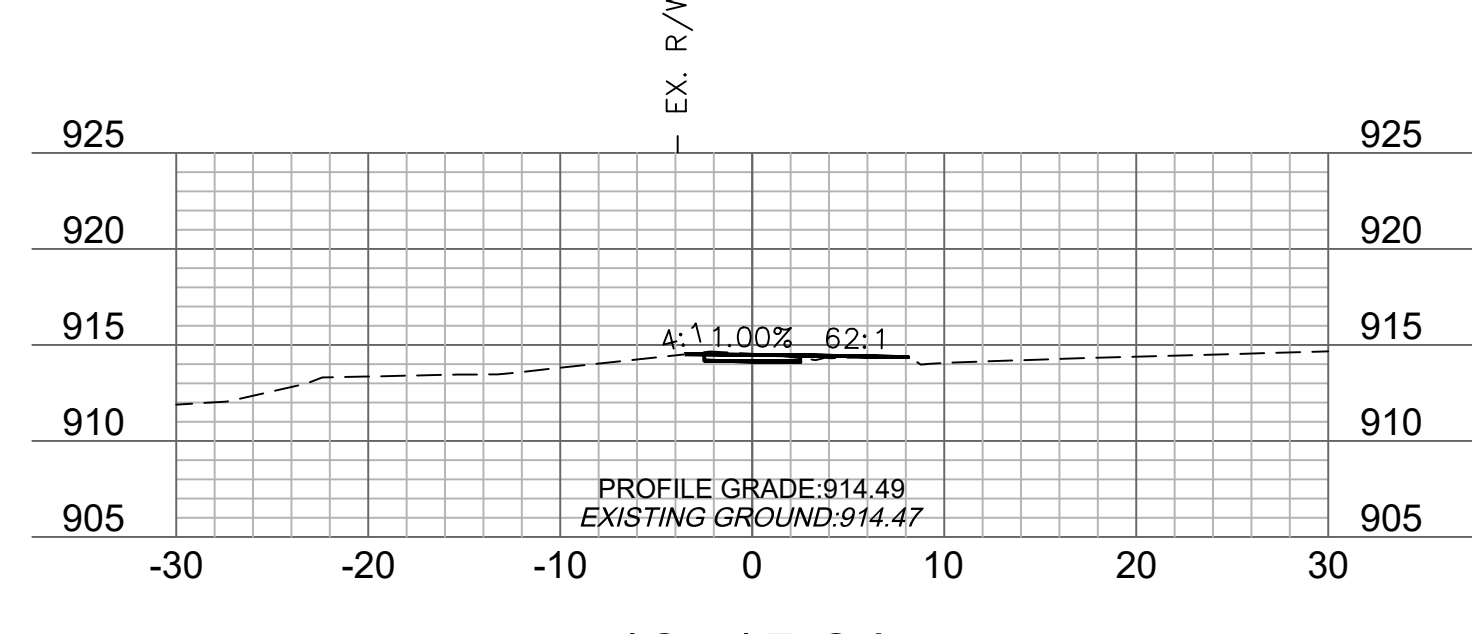
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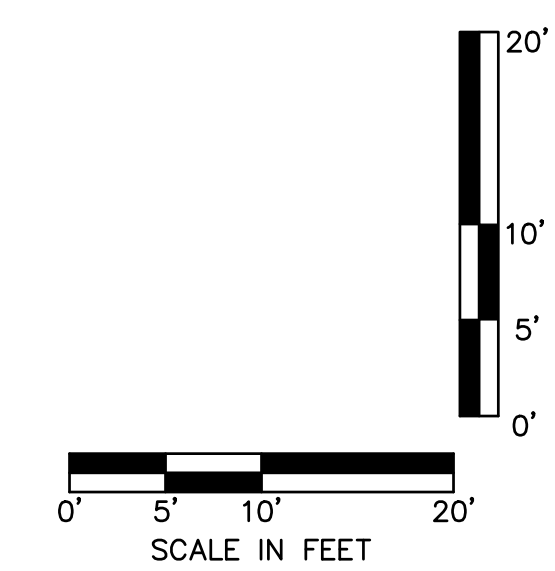
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13+00



13+15.64



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