

SECTIONS 25, 26, 35, & 36, TOWNSHIP 47N, RANGE 32W
IN LEE'S SUMMIT, JACKSON COUNTY, MO

	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



DESIGN/POSTED SPEED:
MO-HWY 150
OTHER PRINCIPAL ARTERIAL = 45 MPH

PRYOR ROAD
COMMERCIAL COLLECTOR = 35 MPH

	SECTION LINE
	PROPERTY LINE
	CENTER LINE
	PROPOSED ROW LINE
	EXISTING ROW LINE
	UTILITY EASEMENT
	EXISTING CONTOUR
	EXISTING CONTOUR
	PROPOSED MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	EXISTING TELEPHONE LINE
	EXISTING SANITARY LINE
	EXISTING STORM LINE
	EXISTING GAS LINE
	EXISTING WATER LINE
	EXISTING CHAIN LINK FENCE
	EXISTING OVERHEAD ELECTRIC
	EXISTING PIPE LINE
	GRADING LIMITS
	TEMPORARY CONSTRUCTION EASEMENT
	PROPOSED UTILITY OVERHEAD EASEMENT
	PROPOSED SIDEWALK EASEMENT
	PROPOSED PERMANENT DRAINAGE EASEMENT
	PROPOSED CHAIN LINK FENCE
	PROPOSED WOOD PRIVACY FENCE
	EXISTING TREELINE

M.G.	MATCH GRADE
BOC	BACK OF CURB
EOP	EDGE OF PAVEMENT
R/W	RIGHT-OF-WAY
D/E	DRAINAGE EASEMENT
S/E	SANITARY EASEMENT
S/W	SIDEWALK
T.C.E.	TEMPORARY CONSTRUCTION EASEMENT
O.O.H.E.	OVERHEAD EASEMENT
P.D.E.	PERMANENT DRAINAGE EASEMENT
P.U.E.	PERMANENT SIDEWALK EASEMENT
PROP.	PROPOSED
EXIST.	EXISTING
TYP.	TYPICAL
CONST.	CONSTRUCT
BM	TEMPORARY BENCHMARK
C.P.	CONTROL POINT
D.N.D.	DO NOT DISTURB
U.I.P.	USE IN PLACE
ADJ.	ADJUST
EL.	ELEVATION
ESMT.	EASEMENT
BK.B.C.	BACK OF CURB
BK.S.W.K.	BACK OF SIDEWALK



1-800-DIG-RITE or 811
www.mo1call.com

THE EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY NOT INCLUDE ALL LINES PRESENT. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALL "1-800-DIG-RITE", AND COORDINATE FIELD LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO BEGINNING GRADING ACTIVITIES. !!STOP!! CALL BEFORE YOU DIG!!

<u>SHEET NO.</u>	<u>TITLE</u>
1	TITLE SHEET
2	GENERAL LAYOUT
3	ALIGNMENT DATA & SURVEY CONTROL
4	GENERAL NOTES & SUMMARY OF QUANTITIES
5-7	DEMOLITION & REMOVALS
8-9	TYPICAL SECTIONS
10-12	PLANS
13	DITCH PROFILES
14-15	INTERSECTION LAYOUTS
16-17	SIDEWALK RAMP LAYOUTS
18-19	CONCRETE JOINTING LAYOUT & DETAILS
20	STORM SEWER PROFILES
21	DRAINAGE MAP
22	STORM SEWER CALCULATIONS
23-33	STANDARD DETAILS
34-41	EROSION CONTROL SHEETS
42	LIGHTING PLAN
43-44	SIGNAL MODIFICATION
45-46	PAVEMENT MARKING & SIGNING
47-49	TRAFFIC CONTROL PLAN
50-55	HWY 150 CROSS SECTIONS
56-62	PRYOR ROAD CROSS SECTIONS

REVIEWED BY:

CITY OF LEE'S SUMMIT

DATE _____

OLSSON HAS BEEN RETAINED TO PROVIDE AS-BUILT DRAWINGS FOR THIS PROJECT. *A. M. Olsson*

JAMES P. GALLAGHER, P.E.
CIVIL ENGINEER
MO# 2018010499

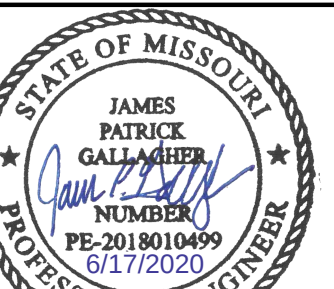
6/17/2020

DATE

☐ NOT FOR CONSTRUCTION

 REVIEWED FOR CONSTRUCTION

olson



JAMES PATRICK GALLAGHER
PE-2018010499

[illegible]

TABLE SHEET I

ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

Drawn by: AKU
 Checked by: JPG
 Approved by: JPG
 VQC by: RBC
 Project no.: A19-2339
 Drawing no.: T TTL A192339
 Date: 2020.06.16

SHEET
of 62

DWG: F:\2019\2001-2500\019-2339-A140-Design\AutoCAD\Final Plans\Sheets\RD8R\GENERAL\T_ALIG_A192339.dwg
DATE: Jun 16, 2020 12:40pm
USER: asoavedra
XREFS: T_FTBK_A192339

SURVEY CONTROL INFORMATION

BENCHMARK #1
CHISELED PLUS ON THE EAST
FLANGE BOLT OF THE FIRE
HYDRANT ON THE WEST SIDE
OF SW PRYOR ROAD ON
ADJOINING PROPERTY SOUTH
OF SOUTHWEST CORNER OF
SUBJECT PROPERTY.
ELEVATION= 1014.83

BENCHMARK #2
RAILROAD SPIKE IN THE
NORTH FACE OF POWER POLE
LOCATED ON THE SOUTH SIDE
MISSOURI STATE HIGHWAY 150
AT THE WEST SIDE OF THE
DRIVEWAY TO 2025 MISSOURI
STATE HIGHWAY 150, LEES
SUMMIT, MO.
ELEVATION= 1031.31

CONTROL POINT #10
NORTHING: 978315.07
EASTING: 2811579.16
CTL IB3VCONCAP
ELEVATION= 1030.34

CONTROL POINT #11
NORTHING: 978424.22
EASTING: 2811650.44
CTL IB3 CONCAP
ELEVATION= 1030.85

CONTROL POINT #12
NORTHING: 978340.57
EASTING: 2811650.44
CTL IB3 CONCAP
ELEVATION= 1036.11

CONTROL POINT #13
NORTHING: 977064.52
EASTING: 2812265.95
CTL IB3 CONCAP
ELEVATION= 1012.10

CONTROL POINT #14
NORTHING: 977092.55
EASTING: 2810924.89
CTL IB3 CONCAP
ELEVATION= 1040.93

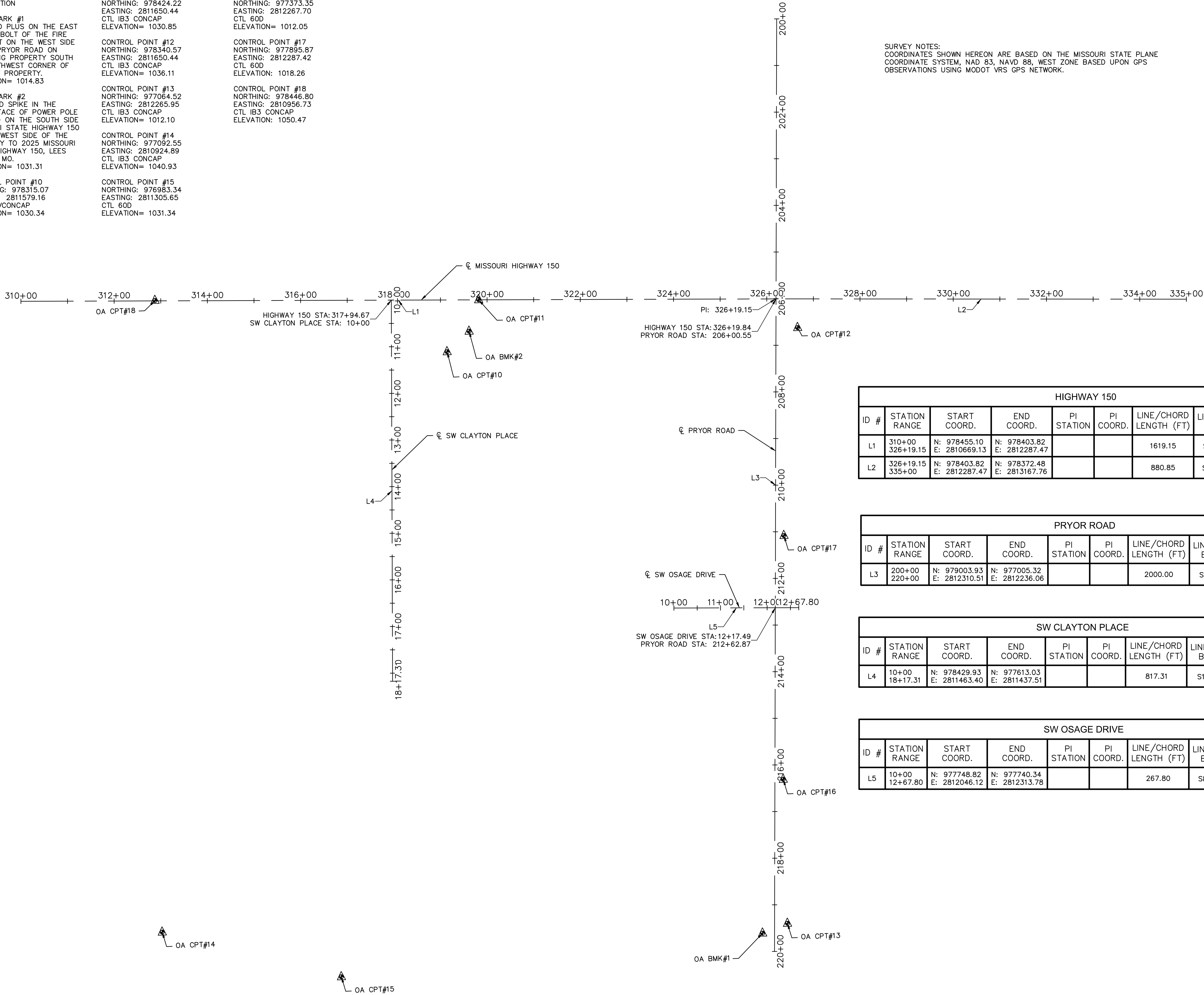
CONTROL POINT #15
NORTHING: 976983.34
EASTING: 2811305.65
CTL 60D
ELEVATION= 1031.34

CONTROL POINT #16
NORTHING: 977373.35
EASTING: 2812267.70
CTL 60D
ELEVATION= 1012.05

CONTROL POINT #17
NORTHING: 977895.87
EASTING: 2812287.42
CTL 60D
ELEVATION: 1018.26

CONTROL POINT #18
NORTHING: 978446.80
EASTING: 2810956.73
CTL IB3 CONCAP
ELEVATION: 1050.47

SURVEY NOTES:
COORDINATES SHOWN HEREON ARE BASED ON THE MISSOURI STATE PLANE
COORDINATE SYSTEM, NAD 83, NAVD 86, WEST ZONE BASED UPON GPS
OBSERVATIONS USING MODOT VRS GPS NETWORK.

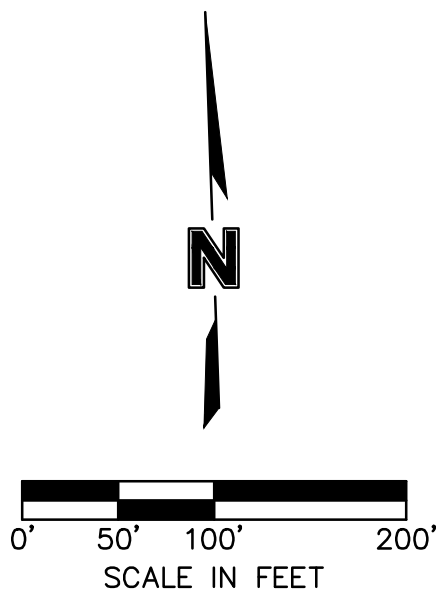


HIGHWAY 150								
ID #	STATION RANGE	START COORD.	END COORD.	PI STATION	PI COORD.	LINE/CHORD LENGTH (FT)	LINE/CHORD BEARING	RADIUS (FT)
L1	310+00 326+19.15	N: 978455.10 E: 2810669.13	N: 978403.82 E: 2812287.47			1619.15	S88°11'07"E	
L2	326+19.15 335+00	N: 978403.82 E: 2812287.47	N: 978372.48 E: 2813167.76			880.85	S87°57'40"E	

PRYOR ROAD								
ID #	STATION RANGE	START COORD.	END COORD.	PI STATION	PI COORD.	LINE/CHORD LENGTH (FT)	LINE/CHORD BEARING	RADIUS (FT)
L3	200+00 220+00	N: 979003.93 E: 2812310.51	N: 977005.32 E: 2812236.06			2000.00	S2°08'00"W	

SW CLAYTON PLACE								
ID #	STATION RANGE	START COORD.	END COORD.	PI STATION	PI COORD.	LINE/CHORD LENGTH (FT)	LINE/CHORD BEARING	RADIUS (FT)
L4	10+00 18+17.31	N: 978429.93 E: 2811463.40	N: 977613.03 E: 2811437.51			817.31	S1°48'53"W	

SW OSAGE DRIVE								
ID #	STATION RANGE	START COORD.	END COORD.	PI STATION	PI COORD.	LINE/CHORD LENGTH (FT)	LINE/CHORD BEARING	RADIUS (FT)
L5	10+00 12+67.80	N: 977748.82 E: 2812046.12	N: 977740.34 E: 2812313.78			267.80	S88°11'07"E	



JAMES PATRICK GALLAGHER
PE-2018010499

BY		REVISIONS DESCRIPTION		DATE	REV. NO.

ALIGNMENT DATA & SURVEY CONTROL		2020	
HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS		LEE'S SUMMIT, MO	

drawn by: AKU
checked by: JPG
approved by: RBC
QA/QC by: RBC
project no.: A19-2339
drawing no.: T_ALIG_A192339
date: 2020.06.16

GENERAL NOTES:

1. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE PLANS (APPROVED BY THE CITY OF LEES SUMMIT, MO.) AND (1) COPY OF THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES.
2. APWA "TECHNICAL SPECIFICATIONS" LATEST EDITION ALONG WITH APWA "SPECIFICATIONS AND CRITERIA" SHALL GOVERN CONSTRUCTION OF THE PROJECT. THE ONLY EXCEPTION IS AREAS OF THE PROJECT THAT ARE WITHIN MODOT RIGHT OF WAY.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.
4. CONSTRUCTION OF THE IMPROVEMENTS SHOWN OR IMPLIED BY THIS SET OF DRAWINGS SHALL NOT BE INITIATED OR ANY PART THEREOF UNDERTAKEN UNTIL THE DIRECTOR OF PUBLIC WORKS OR HIS AGENT IS NOTIFIED OF SUCH INTENT AND ALL REQUIRED PERMITS, PROPERTY ACQUISITIONS, SECURITY AND OTHER CONTRACT BONDS, AND CONTRACT AGREEMENTS ARE RECEIVED AND APPROVED BY THE CITY.
5. CONTRACTOR SHALL NOT BE ALLOWED TO WORK WEEKENDS OR HOLIDAYS WITHOUT REQUESTING PRIOR APPROVAL FROM THE CITY THREE WORKING DAYS IN ADVANCE.
6. PRIOR TO ORDERING PRECAST STRUCTURES, SHOP DRAWINGS ARE TO BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL.



1-800-DIG-RITE or 811
www.mo1call.com

7. ALL EXISTING UTILITIES INDICATED ON THE DRAWINGS ARE ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER; HOWEVER ALL UTILITIES ACTUALLY EXISTING MAY NOT BE SHOWN. UTILITIES DAMAGED THROUGH THE NEGLIGENCE OF THE CONTRACTOR TO OBTAIN THE EXACT LOCATION OF SAME SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT THEIR EXPENSE. ONE-CALL/DIG RITE (1-800-344-7483 AND 1-800-DIG-RITE).
8. ALL PRIVATELY OWNED UTILITIES IN CONFLICT WITH THESE IMPROVEMENTS SHALL BE RELOCATED BY THE APPROPRIATE UTILITY COMPANIES. UTILITY RELOCATIONS WILL BE COMPLETED PRIOR TO THE START OF CONSTRUCTION, WHEN PRACTICABLE.
9. CONSTRUCTION STAKING IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL SET THOSE STAKES NECESSARY TO CONSTRUCT THIS PROJECT IN ACCORDANCE WITH THE PLANS.
10. CONTRACTOR SHALL REMOVE THOSE TREES NECESSARY TO ACCOMPLISH THE GRADING WORK SHOWN HEREON. ALL TREES AND BRUSH FROM THE WORK SHALL BE COMPLETELY REMOVED FROM THE SITE BY THE CONTRACTOR. BURNING WILL NOT BE ALLOWED ON THE PROJECT.
11. ALL BACKFILL SHALL BE PLACED AND COMPACTED TO THE REQUIRED DENSITY AS INDICATED IN THE SPECIFICATIONS.
12. ALL ROADWAY EXCAVATION IN ROCK (SHALE, SANDSTONE OR LIMESTONE) WILL BE UNDERCUT NO LESS THAN 6" INCHES FOR THE FULL WIDTH OF THE ROADWAY AND BACKFILLED WITH SUITABLE SOIL OR GRANULAR MATERIAL. THERE WILL BE NO DIRECT PAYMENT FOR ROCK EXCAVATION. PAYMENT FOR ALL MATERIAL WILL BE MADE AT THE CONTRACT BID PRICE FOR UNCLASSIFIED EXCAVATION.
13. THE CONTRACTOR SHALL USE ADEQUATE DUST CONTROL MEASURES DURING ALL PHASES OF THE CONSTRUCTION TO MINIMIZE DUST ON SURROUNDING PROPERTIES AT THE CONTRACTOR'S EXPENSE.
14. WATER CAN BE OBTAINED BY RENTING A FIRE HYDRANT METER FROM THE CITY OF LEES SUMMIT, MO WATER UTILITIES DEPARTMENT.
15. DRIVEWAYS, SIDEWALKS, FENCES, SPRINKLER SYSTEMS AND OTHER AREAS DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT EXISTING BEFORE DAMAGE OCCURRED. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT IS CONSIDERED SUBSIDIARY TO OTHER BID ITEMS.
16. WHERE THE NEW STREET IS TO CONNECT TO AN EXISTING STREET ALL DETERIORATED OR CRACKED ASPHALT WITHIN TWO (2) FEET OF THE CONNECTION POINT SHALL BE REMOVED TO A DEPTH WHERE SOUND MATERIAL IS FOUND, IF FULL-DEPTH PAVEMENT REMOVAL IS REQUIRED, THE SUB-GRADE SHALL BE RE-COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D-698).
24. APPROPRIATE TRAFFIC CONTROL DEVICES, SIGNAGE, AND PAVEMENT MARKINGS SHALL BE ESTABLISHED AND MAINTAINED THROUGHOUT THE PROJECT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND MUTCD.
25. HANDICAP RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ADA REQUIREMENTS AT ALL LOCATIONS WHERE POSSIBLE.
26. THE CONTRACTOR MUST REMOVE AT THEIR COST ANY BAD SUBSURFACE SOIL WHICH WOULD NOT BE ABLE TO SUPPORT ANY PROPOSED PUBLIC IMPROVEMENT. BACKFILL SHOULD BE ACCOMPLISHED IN ACCORDANCE WITH SECTIONS 2100 AND 2201 ENTITLED "GRADING AND SITE PREPARATION" AND "SUBGRADE PREPARATION."
27. ALL SIGNS INSTALLED, INCLUDING STOP SIGNS, KEEP RIGHT SIGNS AND OBJECT MARKERS ALONG WITH THE SIGN POSTS SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND APWA GUIDELINES.
28. SAWCUTS SHALL BE FULL DEPTH. THIS SHALL BE SUBSIDIARY TO PAVING ITEMS.
29. 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".
30. 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.
31. THE CONTRACTOR SHALL POTHOLE AND SURVEY ALL UTILITY CROSSINGS OF THE 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.
32. THE CONTRACTOR SHALL SUPPORT AND PROTECT ALL EXPOSED UTILITIES IN TRENCHES AND BRACE ALL POLES AS REQUIRED BY THE ENGINEER.
33. ALL REINFORCED CONCRETE PIPE SHALL BE CLASS III, UNLESS OTHERWISE NOTED ON THE PLANS.
34. KCMBC CONCRETE SHALL BE USED THROUGHOUT THE PROJECT.
35. CONTACT STEVE HOLLOWAY WITH THE MISSOURI DEPARTMENT OF TRANSPORTATION PERMITS AT 816-607-2186 AT LEAST 24 HOURS PRIOR TO BEGINNING WORK AND FOR REQUIRED INSPECTIONS ON PORTIONS IN THE MODOOT RIGHT OF WAY.
36. ANY WORK PERFORMED WITHIN MODOOT RIGHT OF WAY SHALL CONFORM TO MODOOT STANDARDS AND SPECIFICATIONS. IN ADDITION, THE CONTRACTOR SHALL PROVIDE MATERIALS CERTIFICATION AND COMPACTION TESTING THAT COMPLIES WITH MODOOT SPECIFICATIONS.
37. MISSOURI DEPARTMENT OF TRANSPORTATION WILL HAVE FIRST RIGHT OF REFUSAL TO SALVAGED MATERIALS SUCH AS LIGHT POLES AND TRAFFIC SIGNAL EQUIPMENT, ETC. THE CONTRACTOR SHALL COORDINATE WITH MODOOT FOR A TIME AND LOCATION TO DELIVER THOSE ITEMS.

BEST MANAGEMENT PRACTICES:

- A. PRIOR TO LAND DISTURBANCE ACTIVITIES, THE CONTRACTOR SHALL INSTALL SILT FENCE ALONG THE CONSTRUCTION LIMITS TO DIVERT CLEAN WATER AWAY FROM THE DISTURBED SITE. THE CONTRACTOR AND THE ENGINEERS REPRESENTATIVE SHALL USE DISCRETION IN THE PLACEMENT OF THE SILT FENCE AS TO PREVENT FLOODING IN UNDESIRABLE LOCATIONS.

B. CONSTRUCT A STABILIZED ENTRANCE/PARKING/DELIVERY AREA AND INSTALL ALL PERIMETER SEDIMENT CONTROLS ON THE SITE.

C. INSTALL AND REQUEST THE INSPECTION OF THE PRE-CONSTRUCTION EROSION AND SEDIMENT CONTROL MEASURES DESIGNATED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN. LAND DISTURBANCE WORK SHALL NOT PROCEED UNTIL THERE IS A SATISFACTORY INSPECTION.

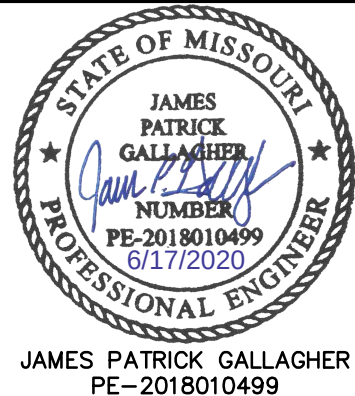
D. TEMPORARY FENCING SHALL BE INSTALLED ALONG ALL TEMPORARY EASEMENTS AND MAINTAINED FOR THE DURATION OF THE PROJECT.
2. THE CONTRACTOR SHALL MINIMIZE THE AREA DISTURBED DURING EXCAVATION AND CONSTRUCTION OF THE STORM SEWER PIPES AND STRUCTURES. FOLLOWING THE CONSTRUCTION OF THE STORM SEWER LINE, THE CONTRACTOR SHALL INSTALL THE TEMPORARY DITCH CHECKS AT 100' INTERVALS WITHIN TWO WORKING DAYS AFTER CONSTRUCTION ACTIVITY HAS CEASED IN THAT AREA. THE TEMPORARY DITCH CHECKS SHALL REMAIN IN PLACE UNTIL SOD HAS BEEN PLACED ON THE DISTURBED AREAS. INLETS SHALL BE PROTECTED WITH SEDIMENT BARRIERS AS SHOWN ON THE DETAIL.
3. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF KC APWA CHAPTER 5100, SUCH AS:

THE CONTRACTOR SHALL SEED, MULCH, OR OTHERWISE STABILIZE ANY DISTURBED AREA WHERE THE LAND DISTURBANCE ACTIVITY HAS CEASED OR IS PLANNED TO CEASE FOR MORE THAN 21 DAYS.

THE CONTRACTOR SHALL PERFORM INSPECTIONS OF EROSION AND SEDIMENT CONTROL MEASURES AT LEAST ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING EACH RAINFALL EVENT OF 1/2" OR MORE WITHIN ANY 24-HOUR PERIOD.

THE CONTRACTOR SHALL MAINTAIN AN INSPECTION LOG INCLUDING THE INSPECTOR'S NAME, DATE OF INSPECTION, OBSERVATIONS AS TO THE EFFECTIVENESS OF THE EROSION AND SEDIMENT CONTROL MEASURES, ACTIONS NECESSARY TO CORRECT DEFICIENCIES, WHEN THE DEFICIENCIES WERE CORRECTED, AND THE SIGNATURE OF THE PERSON PERFORMING THE INSPECTION. THE LOG SHALL BE AVAILABLE FOR REVIEW BY THE CITY OF LEES SUMMIT AND THE STATE OF MISSOURI.
4. THE CONTRACTOR SHALL MAINTAIN INSTALLED EROSION AND SEDIMENT CONTROL DEVICES IN A MANNER THAT PRESERVES THEIR EFFECTIVENESS FOR PREVENTING SEDIMENT FROM LEAVING THE SITE OR ENTERING A SENSITIVE AREA SUCH AS A NATURAL STREAM CORRIDOR, AREAS OF THE SITE INTENDED TO BE LEFT UNDISTURBED, A STORM SEWER, OR AN ON-SITE DRAINAGE CHANNEL.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING EROSION AND SEDIMENT CONTROL FOR THE DURATION OF A PROJECT. IF THE CITY DETERMINES THAT THE BMP'S IN PLACE DO NOT PROVIDE ADEQUATE EROSION AND SEDIMENT CONTROL AT ANY TIME DURING THE PROJECT, THE CONTRACTOR SHALL INSTALL ADDITIONAL OR ALTERNATE MEASURES THAT PROVIDE EFFECTIVE CONTROL.
6. THE CONTRACTOR MAY UTILIZE PUBLIC RIGHT-OF-WAY, PERMANENT DRAINAGE EASEMENTS AND TEMPORARY EASEMENTS FOR STAGING EQUIPMENT AND MATERIALS SO LONG AS TWO-WAY TRAFFIC AND ACCESS TO DRIVEWAYS IS MAINTAINED AT ALL TIMES.
7. EXCAVATED MATERIAL AND TOPSOIL STAGING SHALL NOT BE PERMITTED IN STREET RIGHT-OF-WAY AND SHALL BE CONFINED TO DRAINAGE EASEMENTS AND THOSE AREAS IDENTIFIED ON THIS PLAN. STOCKPILE AREAS SHALL BE PROTECTED WITH SILT FENCING TO PREVENT SOIL LOSS TO NEARBY STORM DRAINAGE SYSTEMS AND PROPERTY.
8. PROJECT SHALL BE CONSTRUCTED DOWNSTREAM TO UPSTREAM. THE AMOUNT OF DISTURBED AREA LEFT EXPOSED SHALL BE MINIMIZED.
9. ALL AREA INLETS AND CURB INLETS SHALL BE PROTECTED WITH TEMPORARY INLET SEDIMENT BARRIERS PRIOR TO TOP SLAB INSTALLATION AS WELL AS AFTER TOP SLAB INSTALLATION UNTIL SODDING AND PAVING IS COMPLETE.
10. SODDING SHALL OCCUR IN PHASES AS DEPICTED ON THIS PLAN. SOD SHALL NOT BE INSTALLED AFTER NOV. 15.

RECAPITULATION OF QUANTITIES			
ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
1	Mobilization	Lump Sum	1
2	Clearing and Grubbing	Lump Sum	1
3	Demolition and Removal	Lump Sum	1
4	Contractor Construction Staking	Lump Sum	1
5	Unclassified Excavation	Cu. Yd.	5198
6	Compaction of Earthwork (All Types)	Cu. Yd.	2455
7	Asphaltic Concrete (Surface Course Type 5 or 6) (2")	Ton	721
8	Asphaltic Concrete (Base Course Type 5) (7 1/2")	Ton	669
9	Asphaltic Concrete (Base Course Type 5) (2")	Ton	167
10	Concrete Pavement (9")	Sq. Yd.	565
11	Milling	Sq. Yd.	3338
12	Type 5 Aggregate (4")	Sq. Yd.	646
13	Type 5 Aggregate (12")	Sq. Yd.	3456
14	Geogrid	Sq. Yd.	3456
15	Type CG-1 Curb and Gutter	Lin. Ft.	90
16	MoDOT Type B Curb and Gutter	Lin. Ft.	547
17	Field Inlet (4'x4')	Each	1
18	Field Inlet (6'x6')	Each	1
19	Curb Inlet (5'x3')	Each	2
20	Junction Box (3'x3')	Each	1
21	RCP (15")	Lin. Ft.	456.0
22	RCP (24")	Lin. Ft.	163.3
23	RCP (48")	Lin. Ft.	9.5
24	CMP (30")	Lin. Ft.	12.0
25	Flared End Section (15" RCP)	Each	2
26	Beveled Pipe End Treatment (3-30" CMP)	Each	2
27	Concrete Pipe Collar	Each	3
28	Concrete Sidewalk (4")	Sq. Ft.	5427
29	Concrete Sidewalk Ramp	Sq. Ft.	389
30	Detectable Warning Surface	Sq. Ft.	91
31	Edge Drain (4")	Lin. Ft.	437
32	Silt Fence	Lin. Ft.	1950
33	Biodegradable Log (9-Inch Class A)	Lin. Ft.	250
34	Inlet Protection	Each	10
35	Construction Entrance	Sq. Yd.	245
36	Sodding	Sq. Yd.	935.5
37	Seeding	Acre	2.38
38	Riprap (MoDOT Type 2)	Sq. Yd.	19.4
39	Pavement Marking	Lump Sum	1
40	Permanent Signing	Lump Sum	1
41	Temporary Traffic Control	Lump Sum	1
42	Street Lighting	Lump Sum	1
43	Traffic Signal Modification	Lump Sum	1
44	Signal Interconnect	Lump Sum	1



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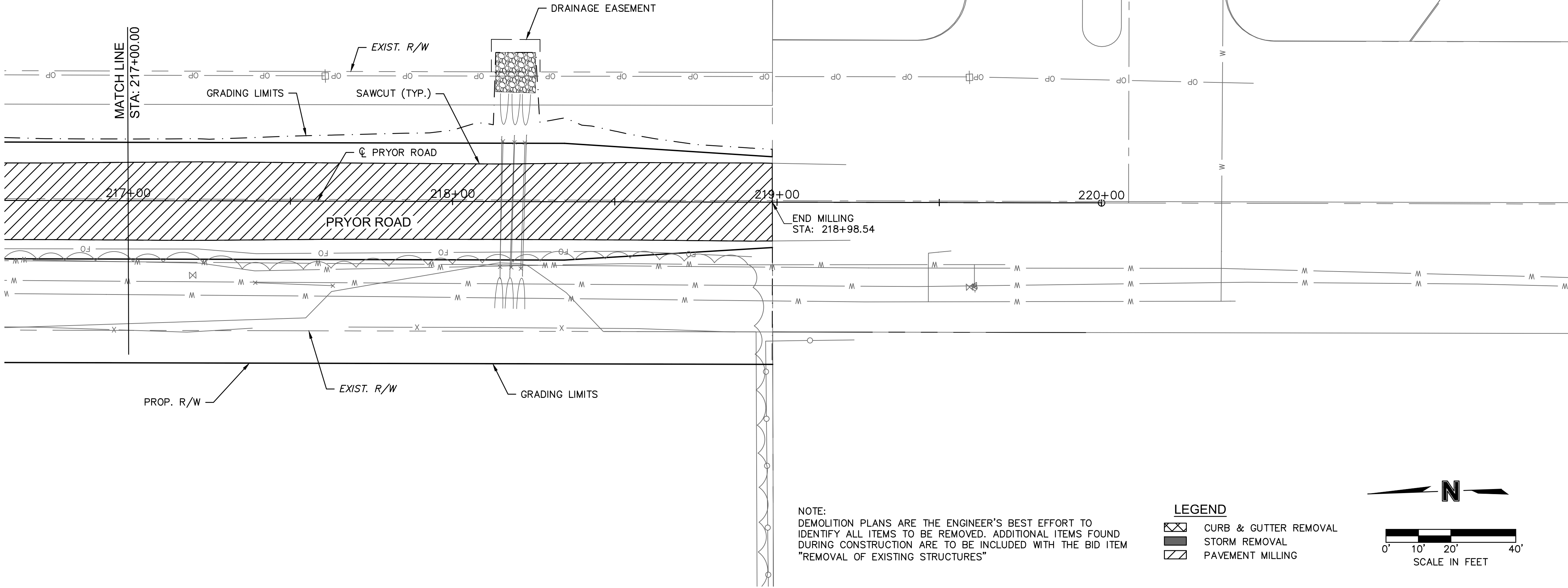
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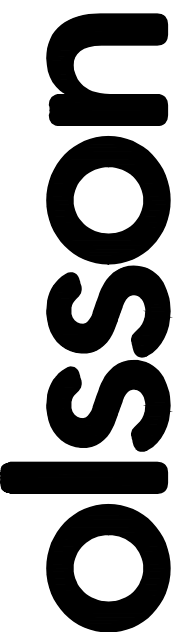
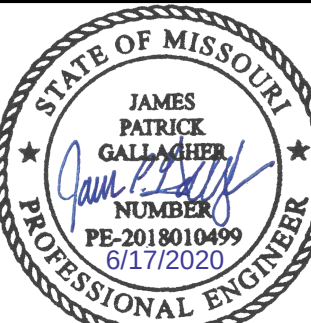
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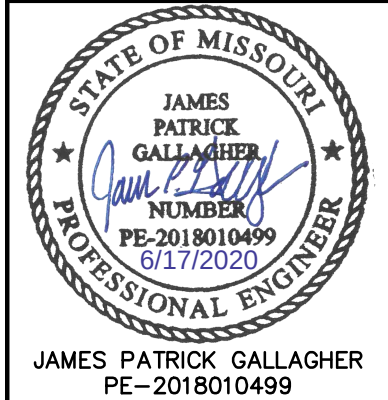
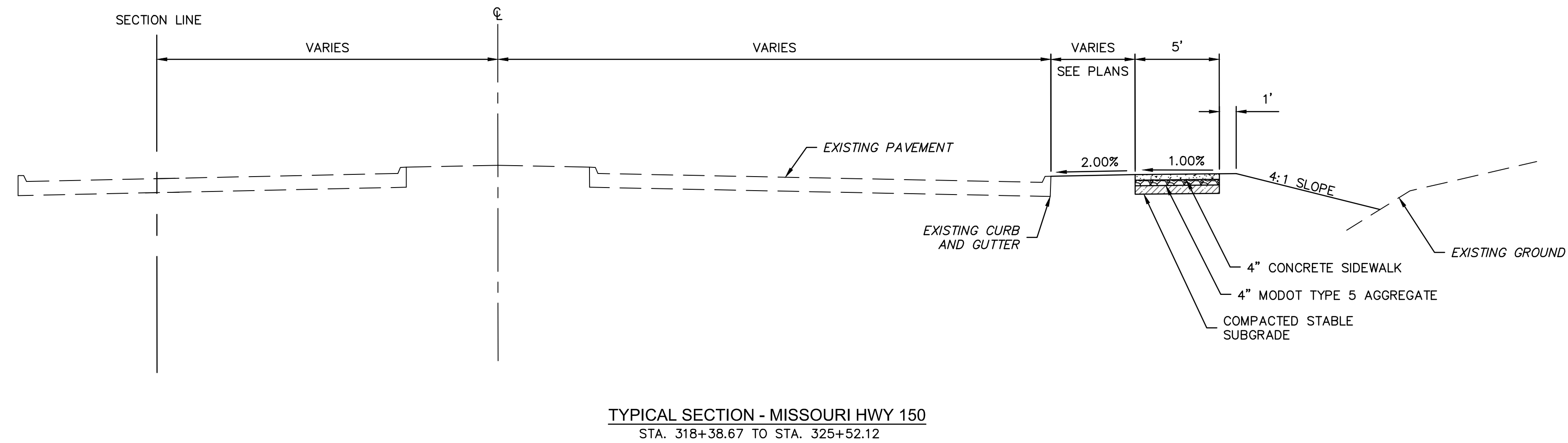
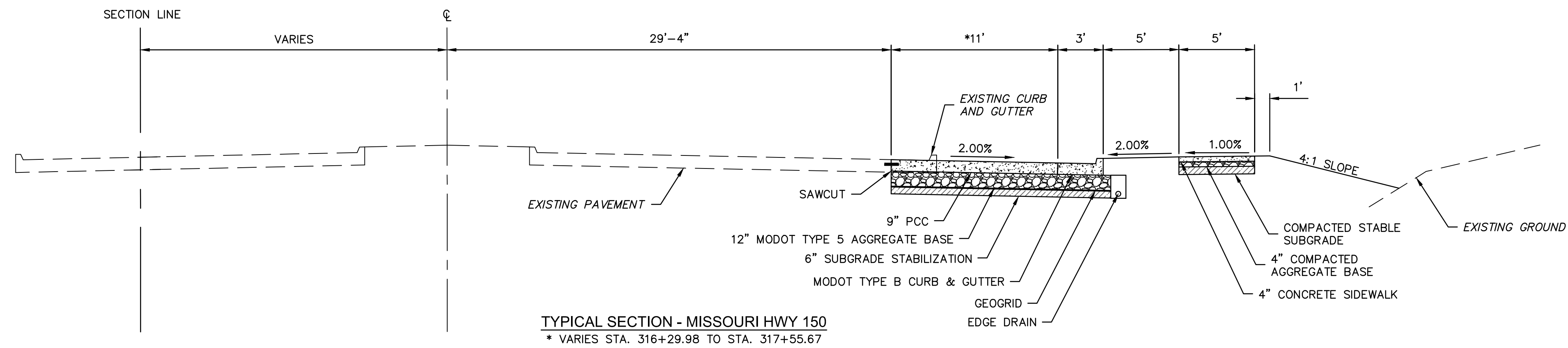
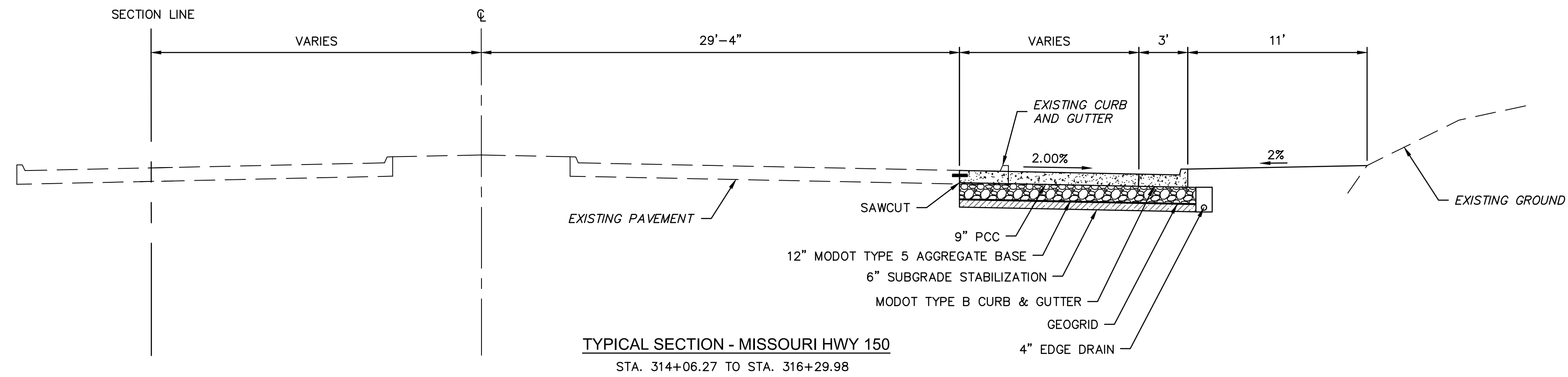
DEVISIONS

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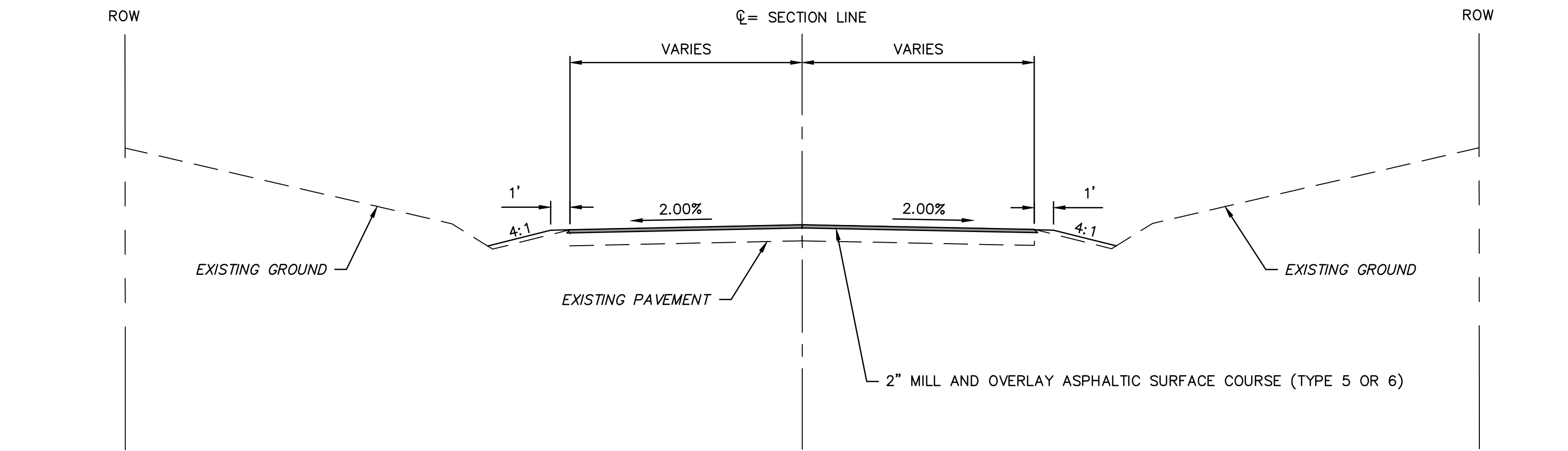
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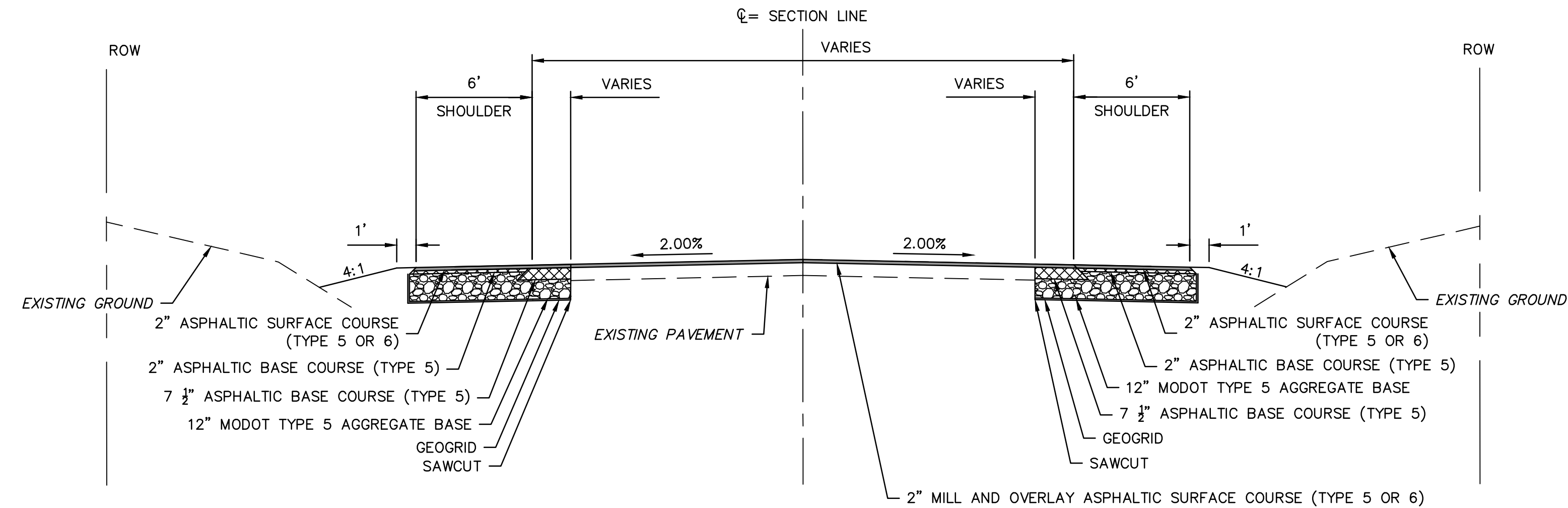
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HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS		2020					
LEE'S SUMMIT, MO				REVISIONS			
SHEET 7 of 62		 olsson Olsson - Civil Engineering 1301 Burlington Street North Kansas City, MO 64116 TEL 816.361.1177 www.olsson.com  JAMES PATRICK GALLAGHER PE-2018010499					

[illegible]

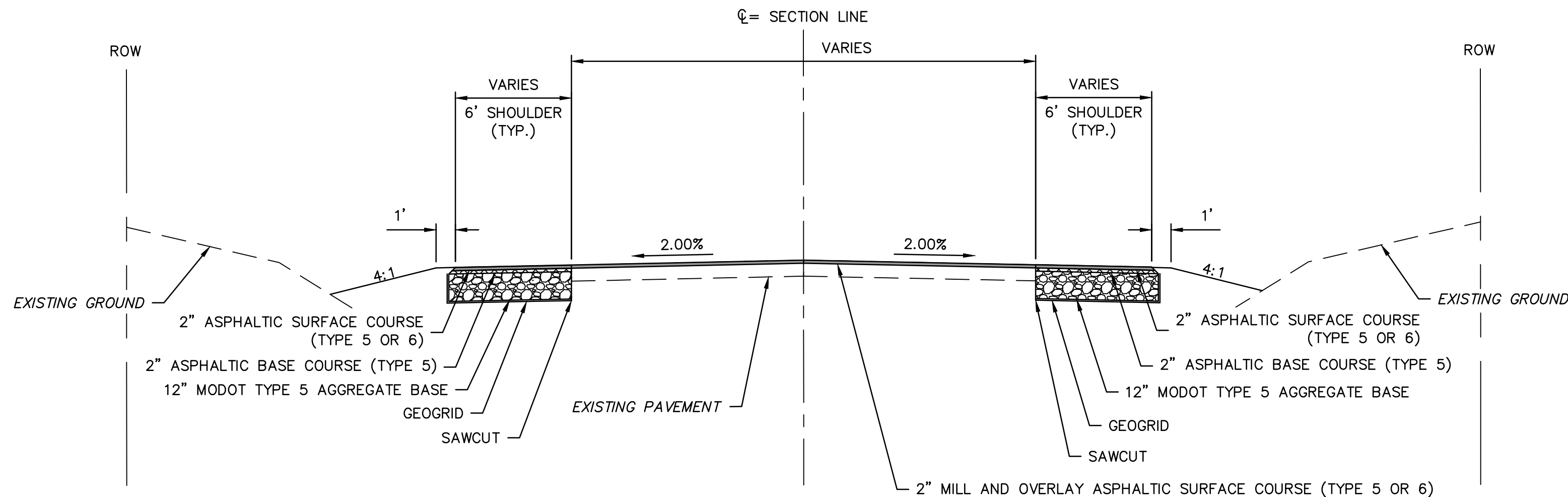
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TYPICAL SECTION - PRYOR ROAD
STA. 206+95.79 TO STA. 207+27.32



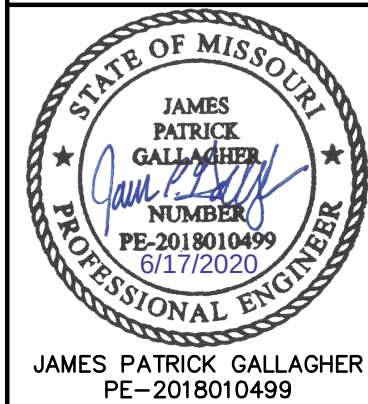
TYPICAL SECTION - PRYOR ROAD
STA. 207+27.32 TO STA. 215+88.36



TYPICAL SECTION - PRYOR ROAD
STA. 215+88.36 TO STA. 218+98.54

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REVISIONS DESCRIPTION

DATE

REV. NO.

2020

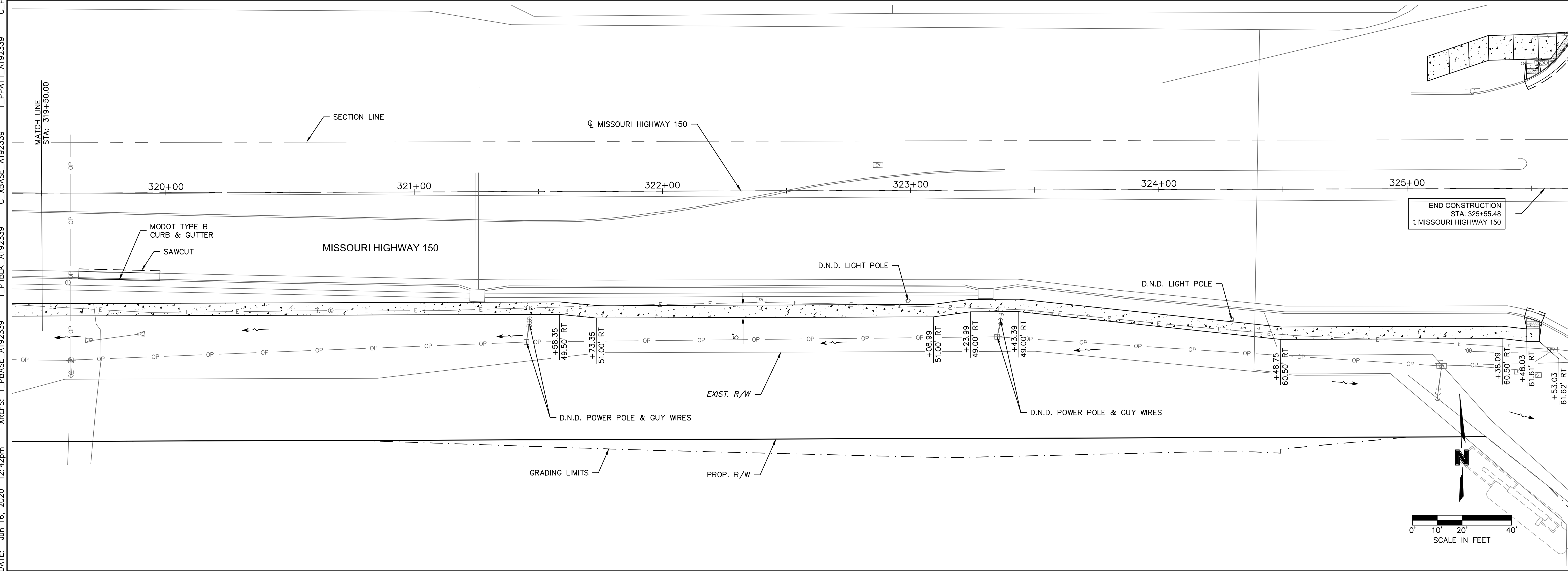
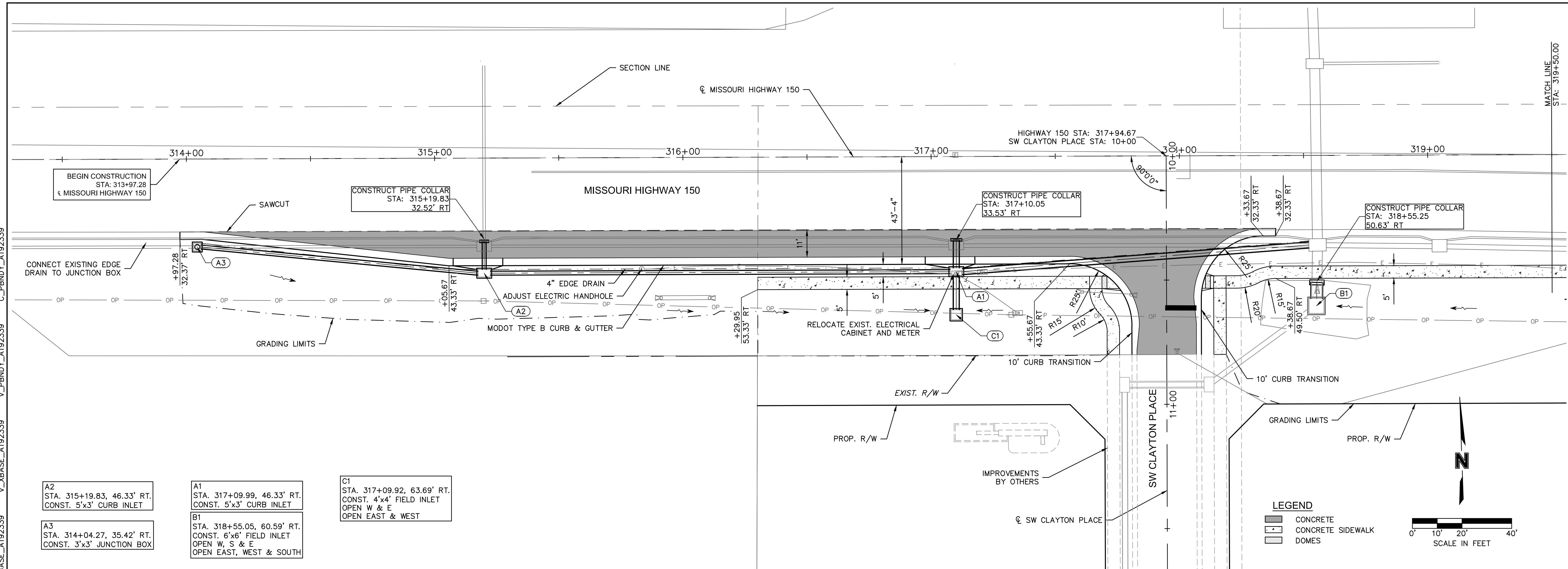
LEE'S SUMMIT, MO

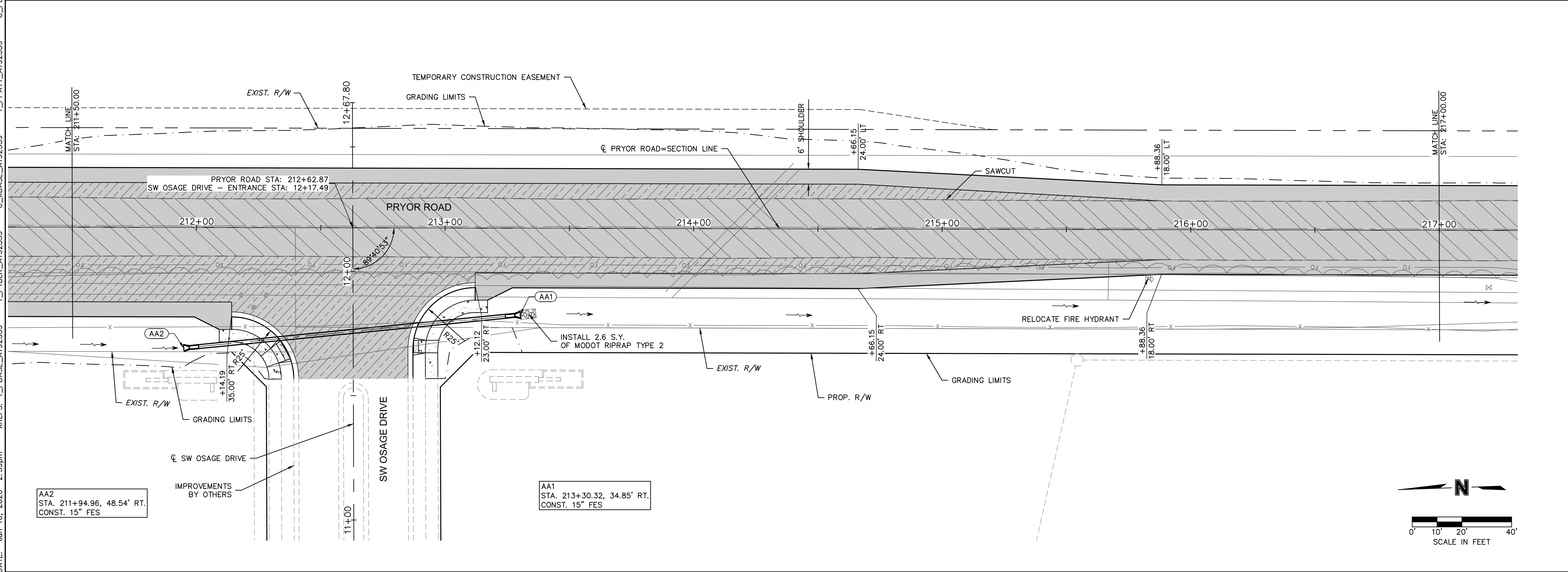
HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

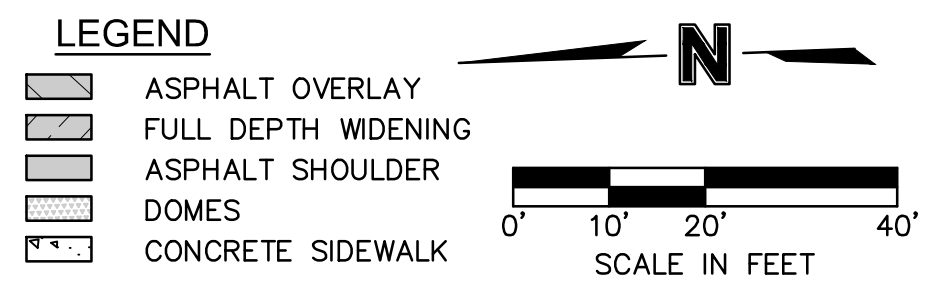
TYPICAL SECTIONS

drawn by: AKU
checked by: JFG
approved by: JFG
QA/QC by: RBC
project no.: A19-2339
drawing no.: TYP A19-2339
date: 2020.06.16

SHEET
9 of 62

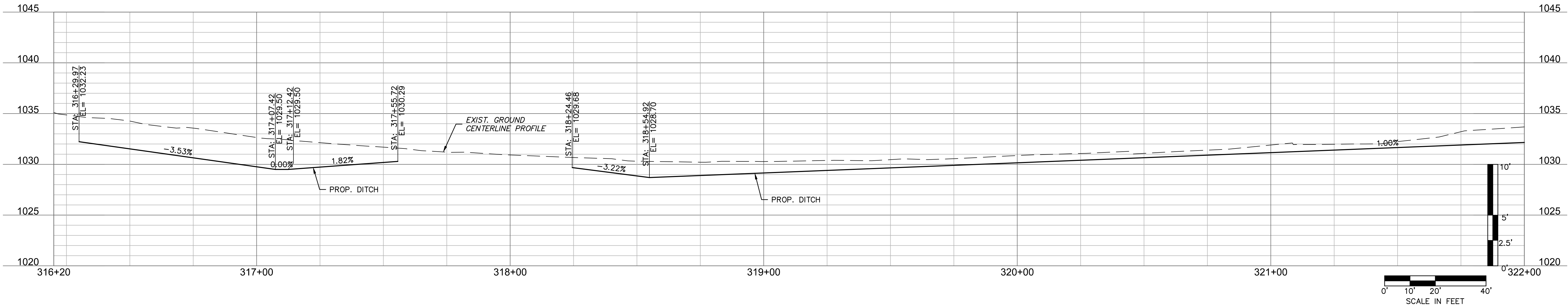




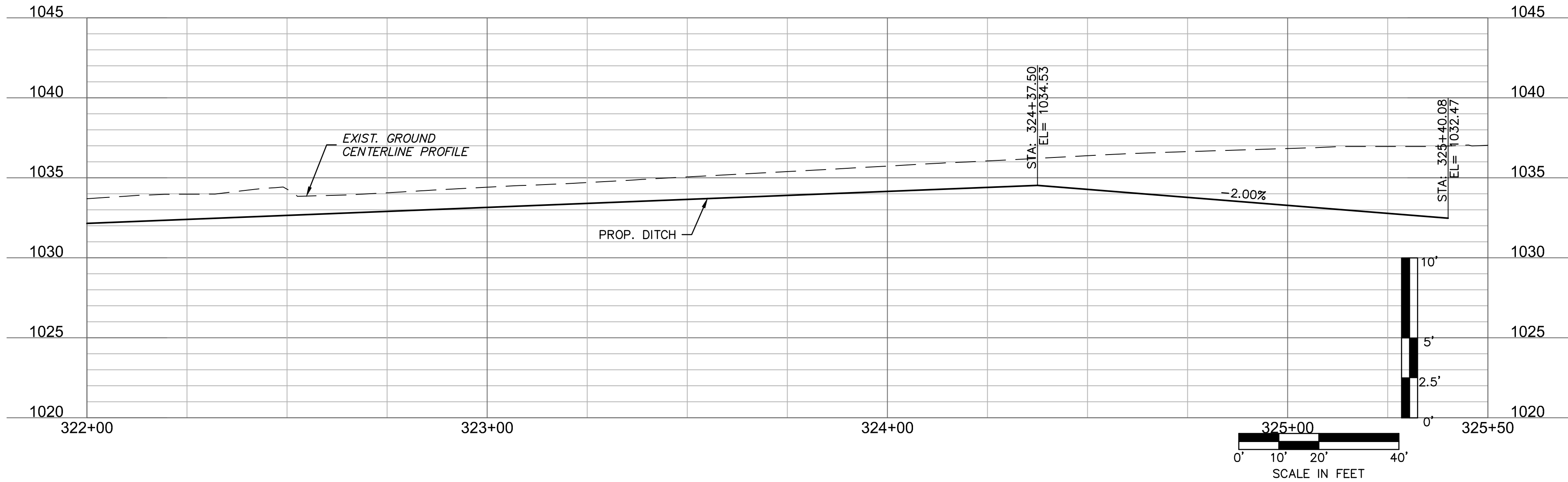


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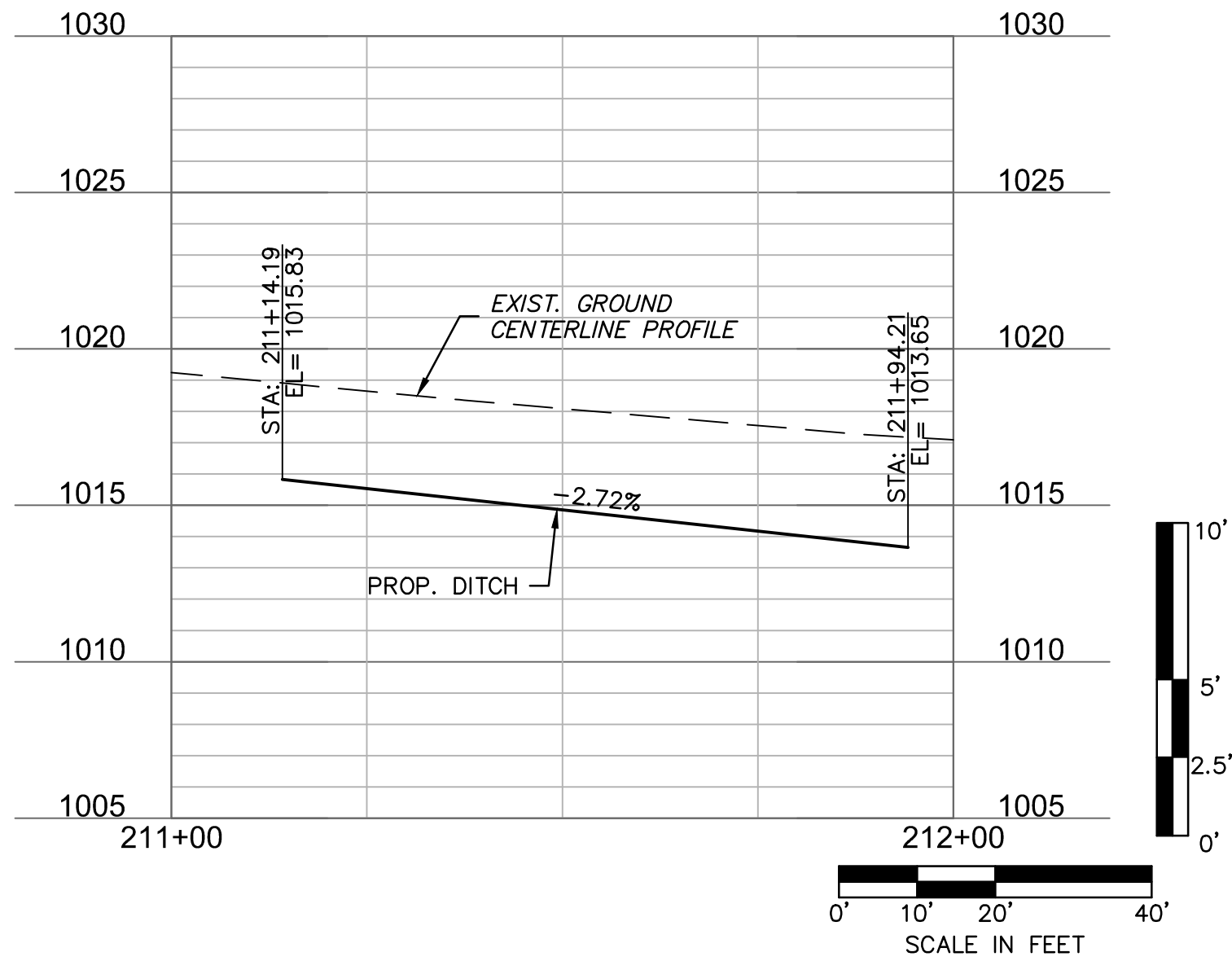
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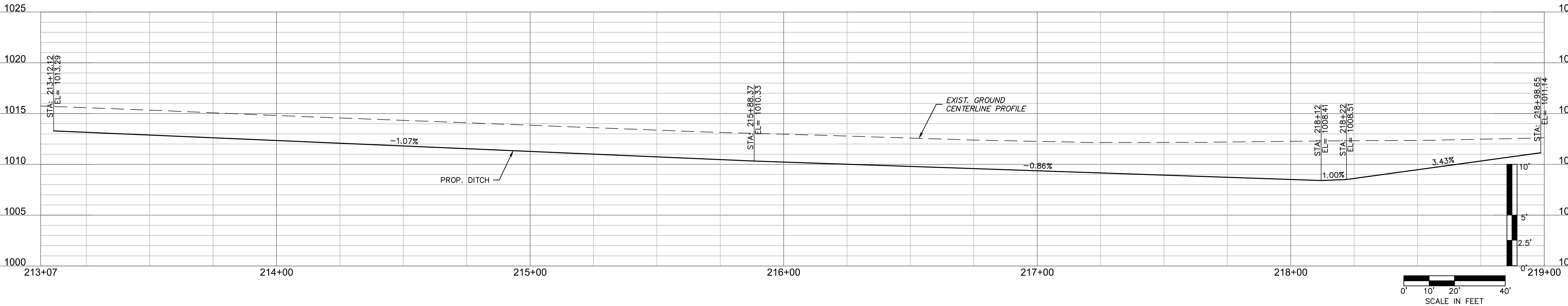
HIGHWAY 150 (DITCH PROFILE)



PRYOR ROAD (DITCH PROFILE)



PRYOR ROAD (DITCH PROFILE)



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JAMES PATRICK GALLAGHER
NUMBER
PE-2018010499
6/17/2020
PROFESSIONAL ENGINEER

JAMES PATRICK GALLAGHER
PE-2018010499

BY

REVISIONS DESCRIPTION

DATE

REV. NO.

DITCH PROFILES

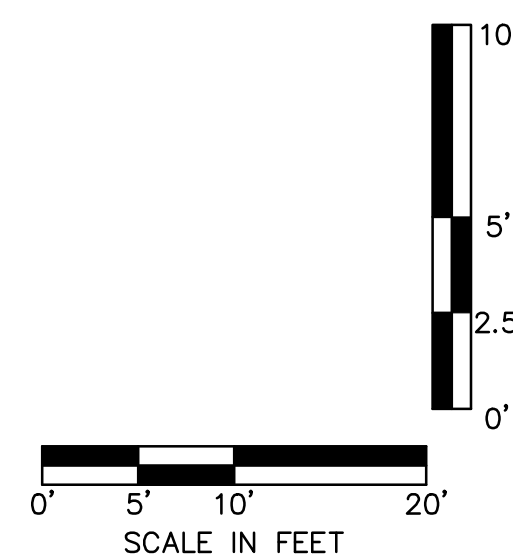
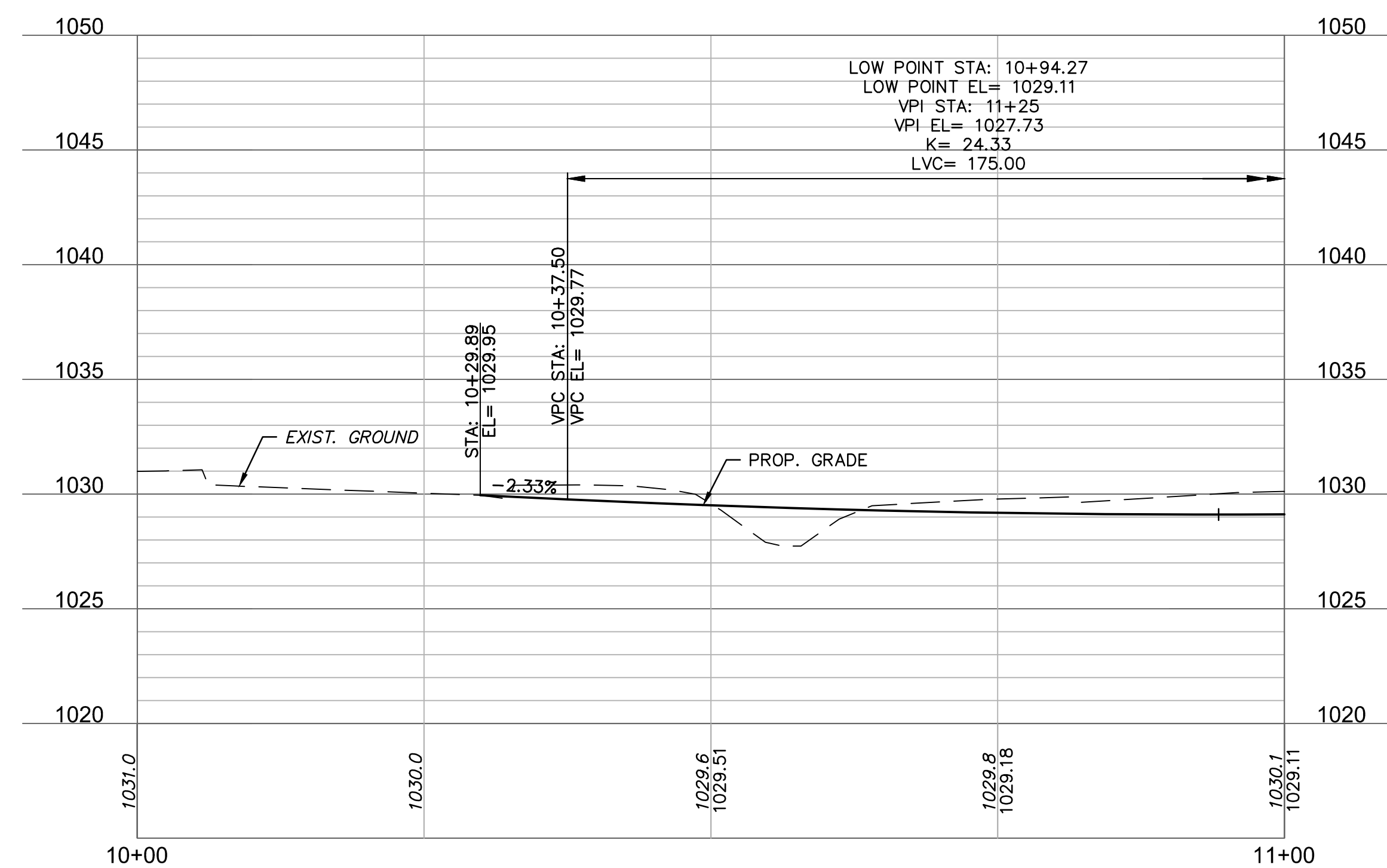
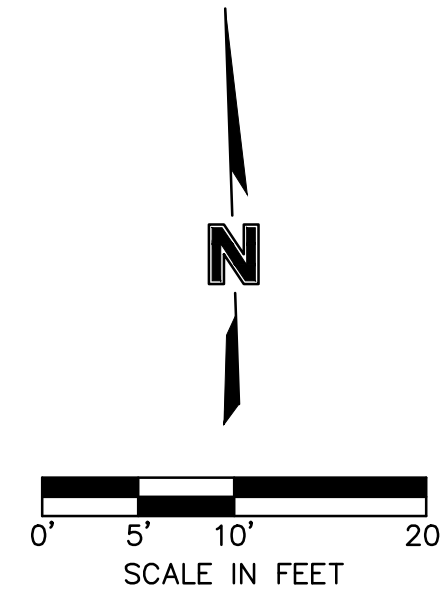
HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

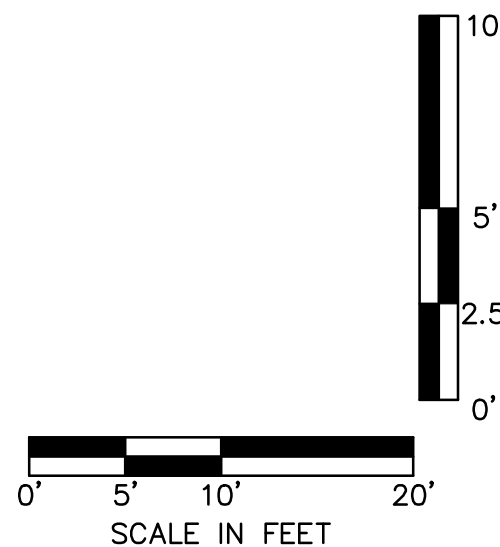
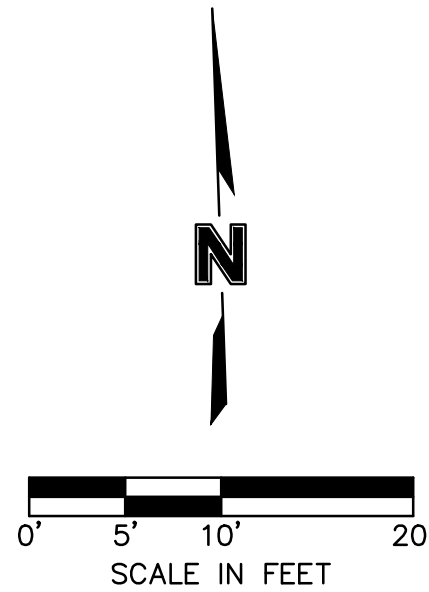
LEE'S SUMMIT, MO

drawn by: AKU
checked by: JFG
approved by: JFG
QA/QC by: RBC
project no.: A19-2339
drawing: T_DITCH_PROF_A192339
date: 2020.06.16

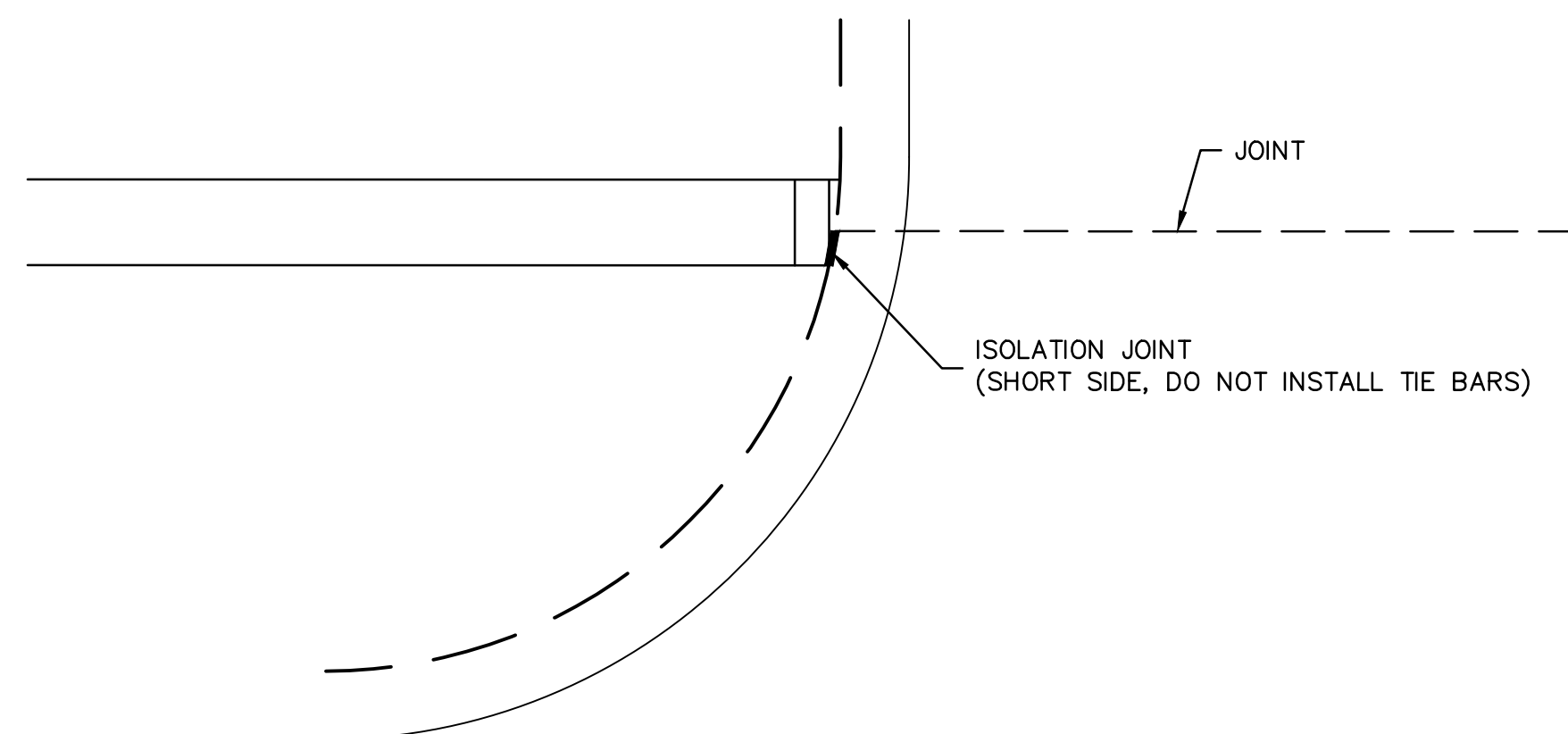
SHEET
13 of 62

2020

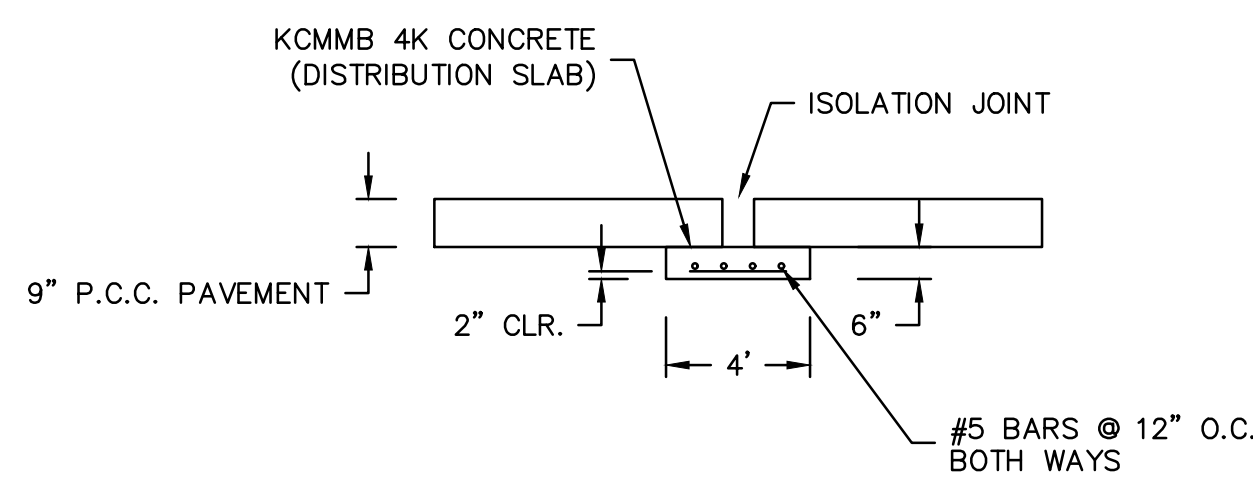




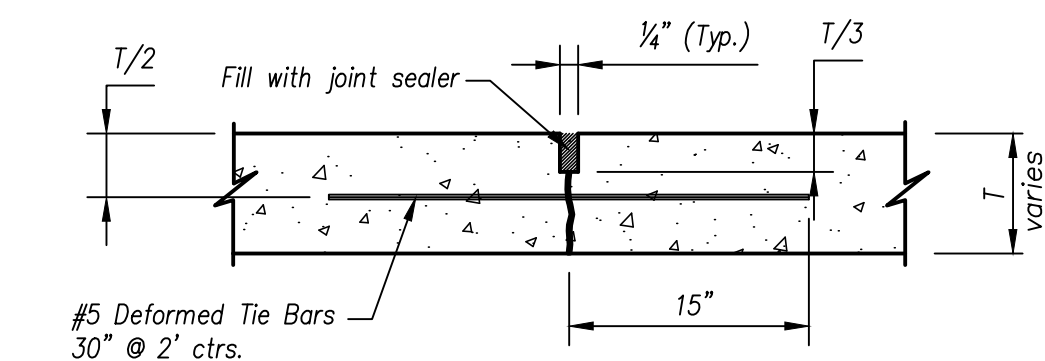
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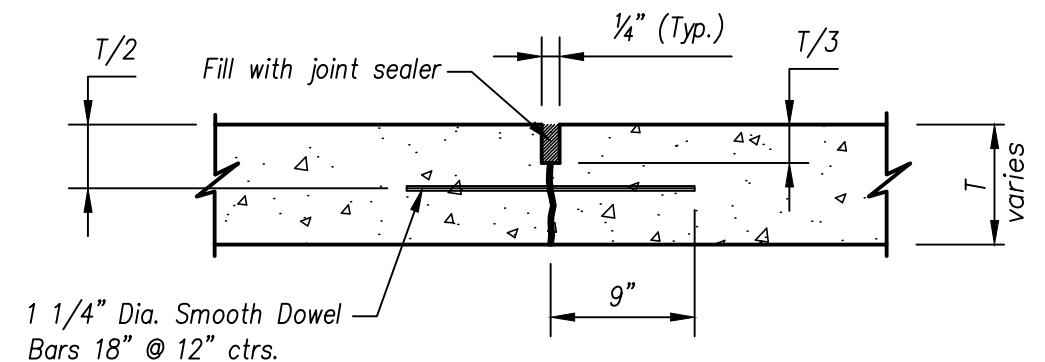
CONCRETE JOINT ADJACENT
TO SIDEWALK RAMP
*APPLIES TO ALL LOCATIONS THAT A
JOINT INTERSECTS WITH A SIDEWALK RAMP



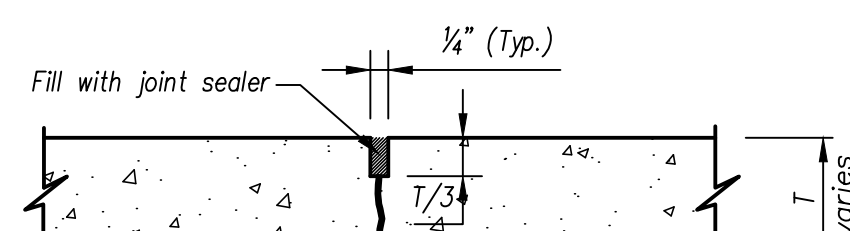
DISTRIBUTION SLAB DETAIL



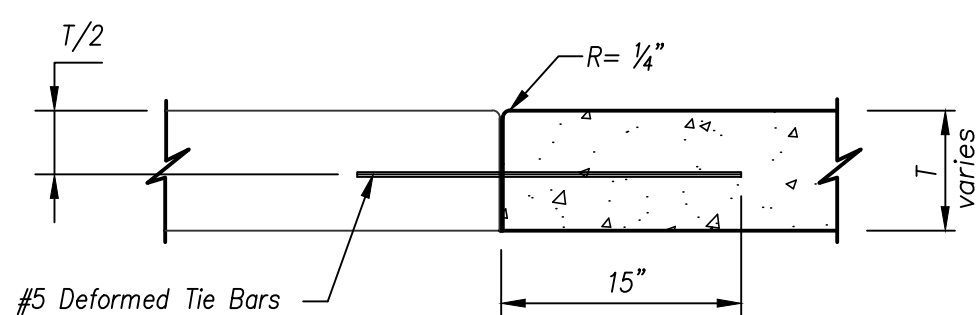
Logitudinal Tied Joint



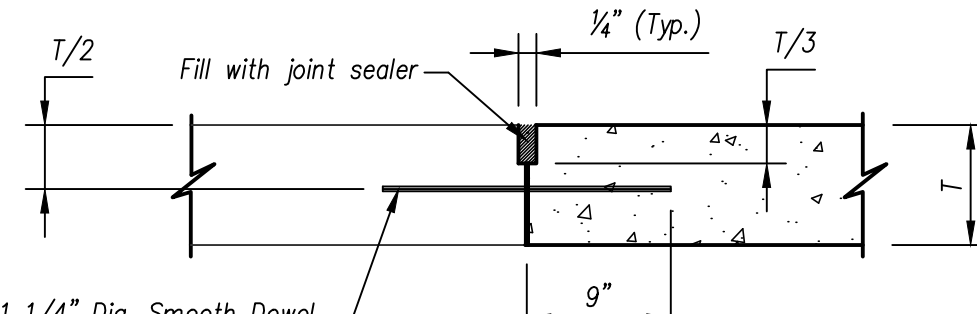
Transverse Contraction Joint



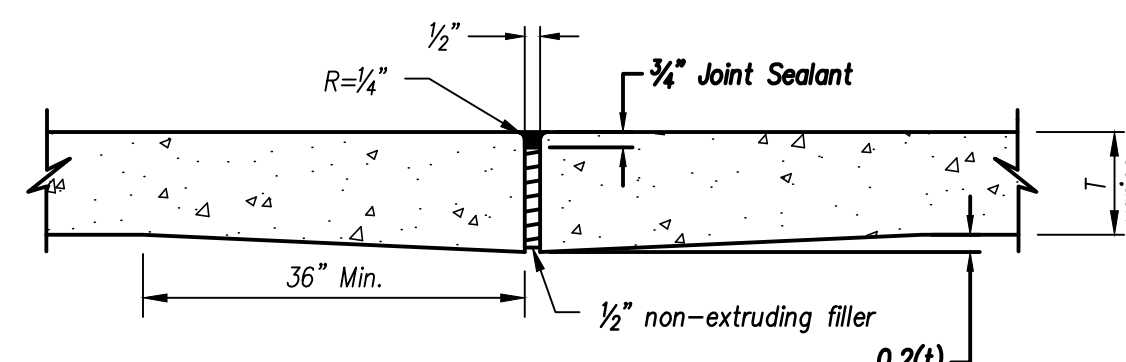
Contraction Joint Without Dowels



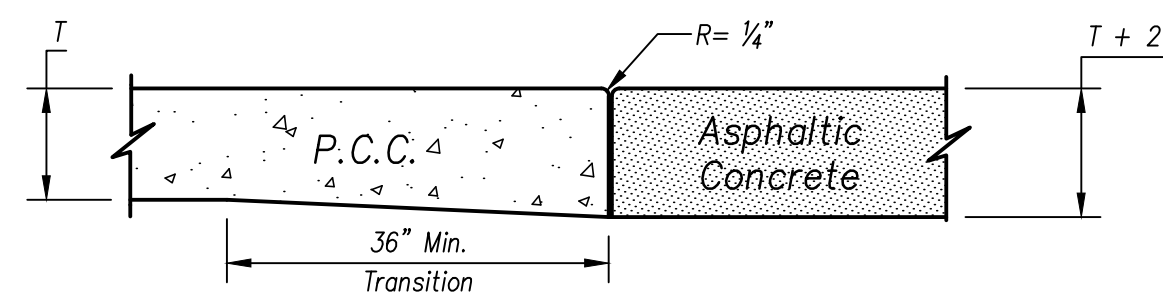
Longitudinal Construction Joint



Transverse Construction Joint



Isolation Joint



Construction Joint Adjacent to Asphalt Pavement

Joint Details

Note: Tie bars shall not be less than 12" from end of Dowel Bars.

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6/17/2020
PROFESSIONAL ENGINEER

JAMES PATRICK GALLAGHER
PE-2018010499

BY

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REVISIONS

CONCRETE JOINTING DETAILS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

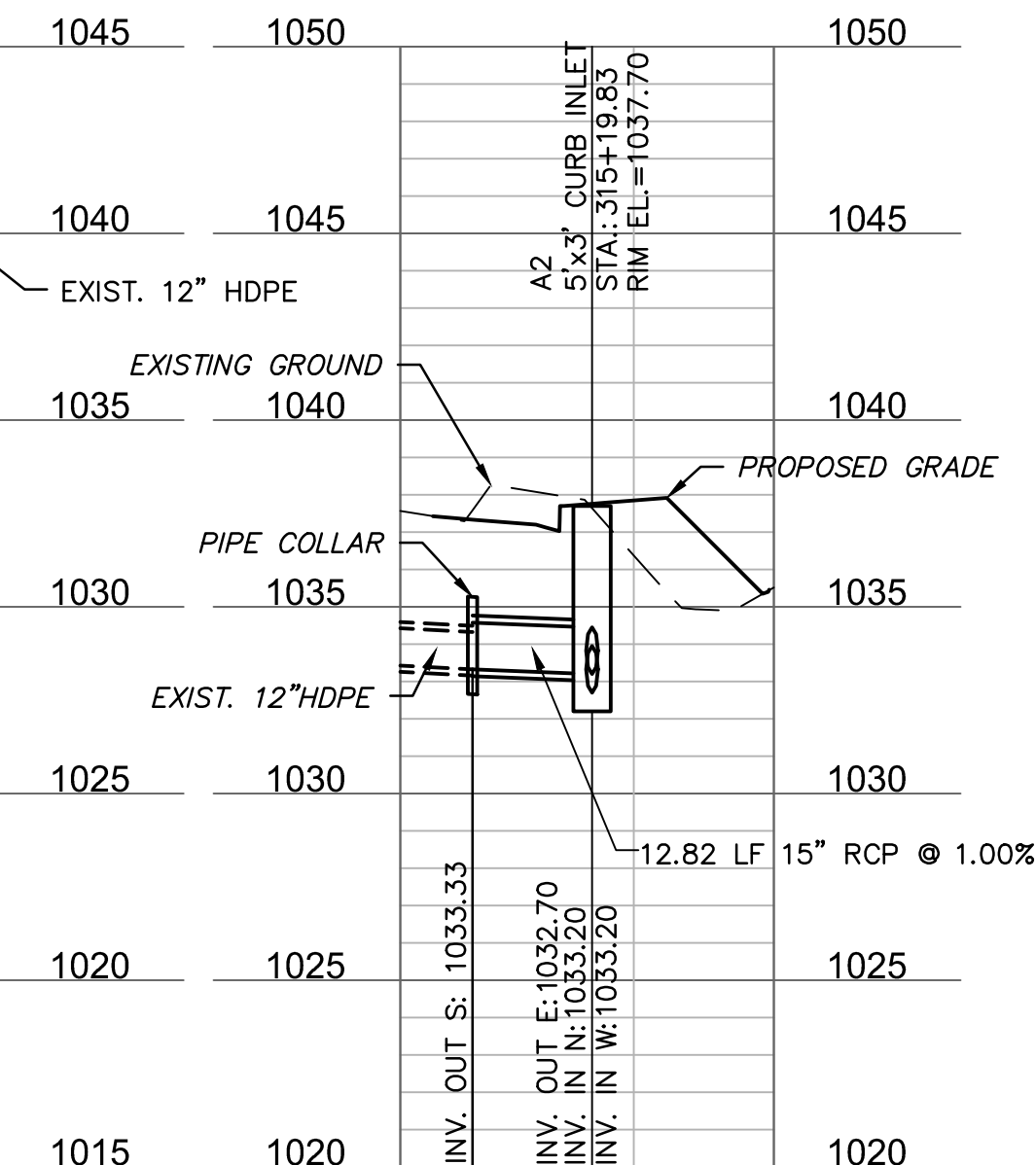
drawn by:	AKU
checked by:	JPG
approved by:	JPG
QA/QC by:	RBC
project no.:	A19-2339
drawing no.:	T_JNT_A192339
date:	2020.06.16

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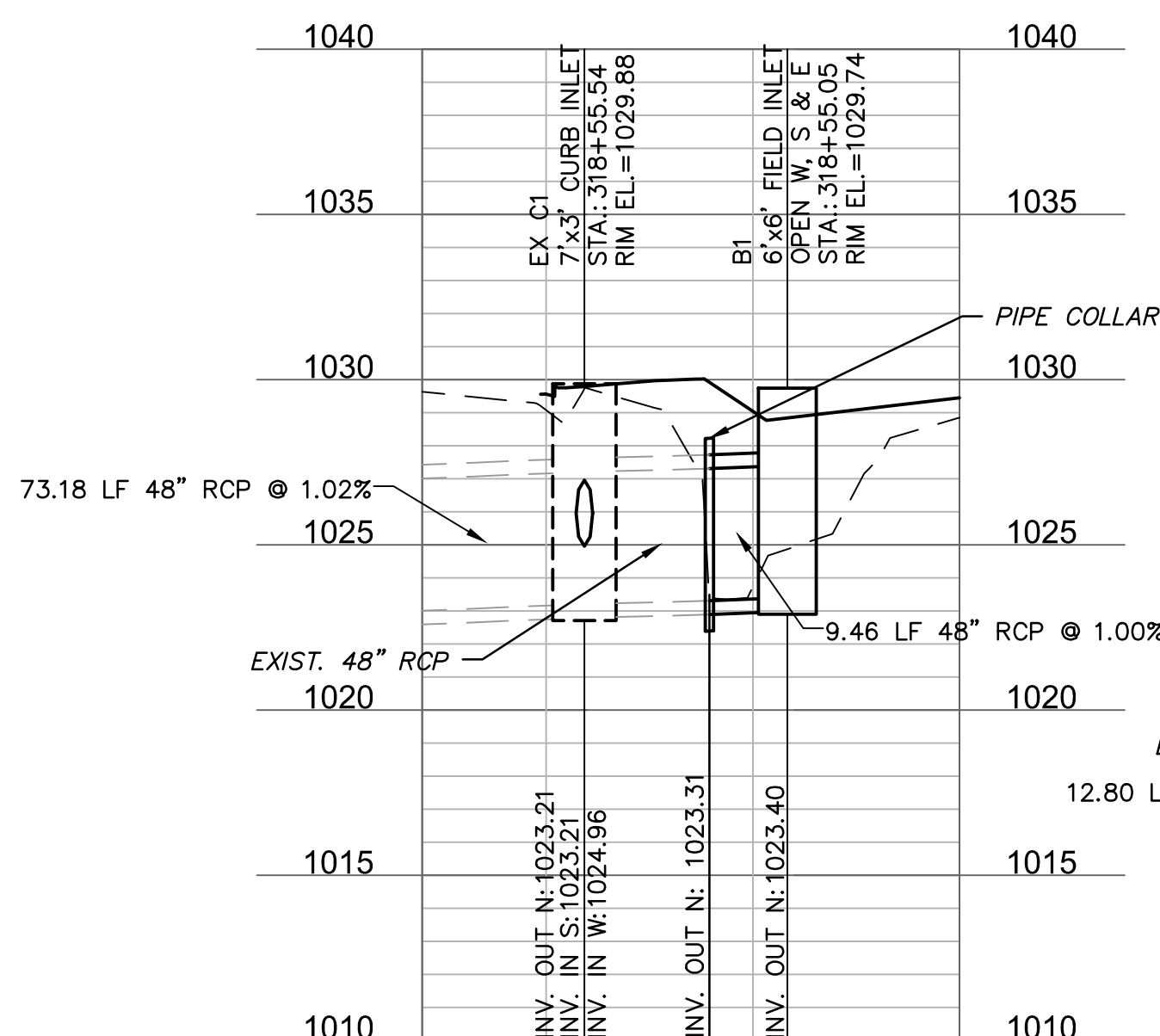
STORM LINE A



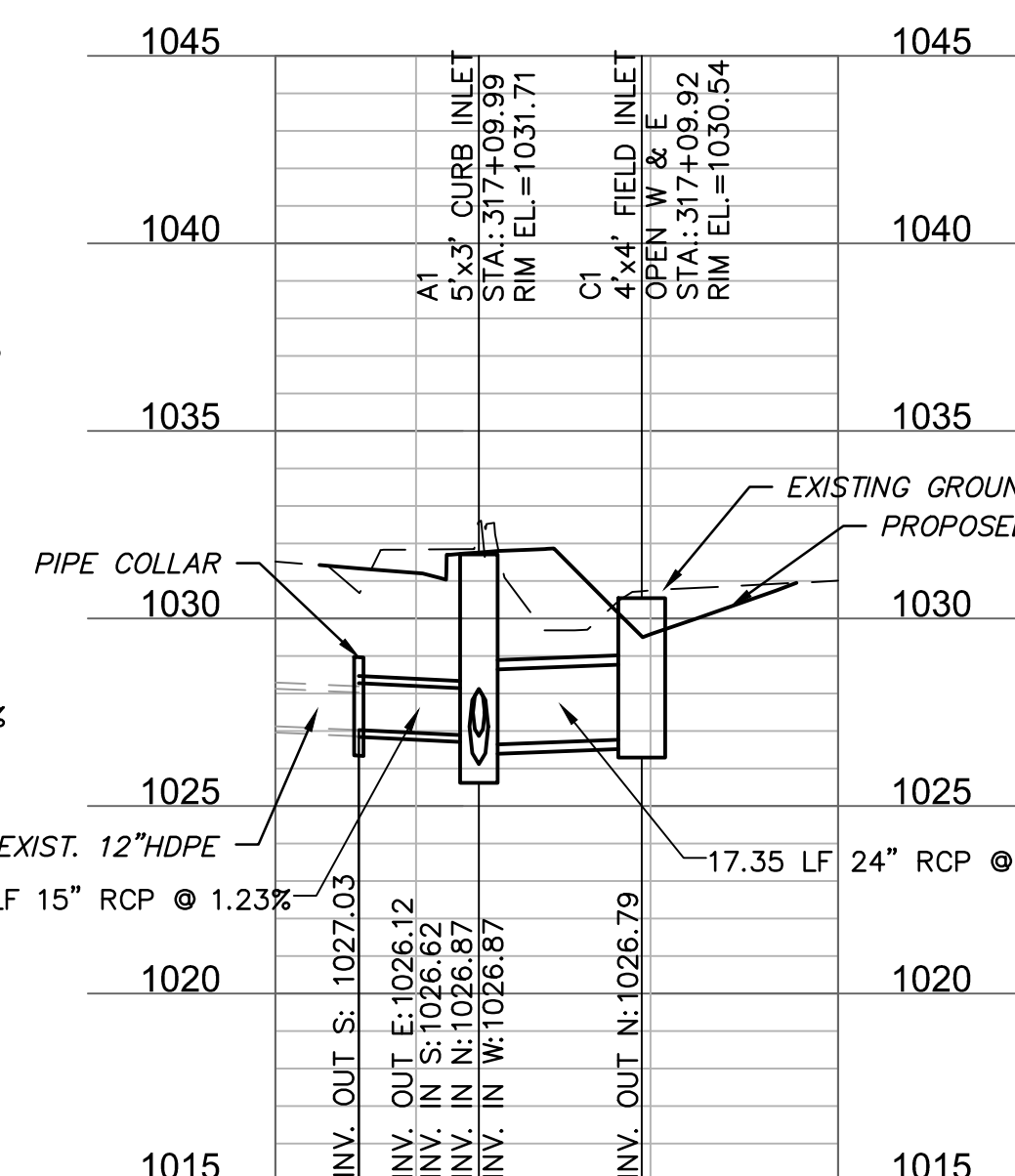
STORM LINE D



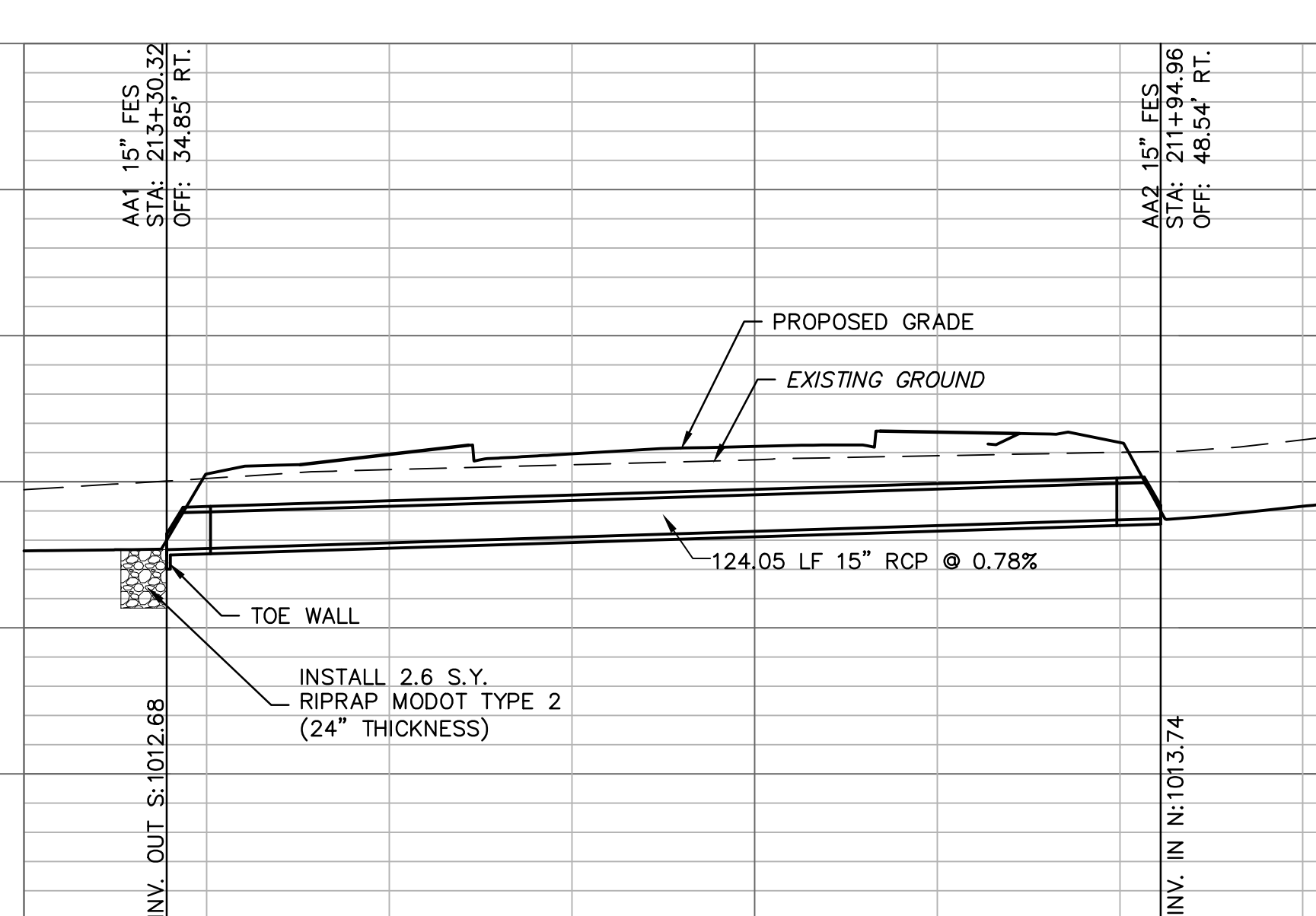
STORM LINE B



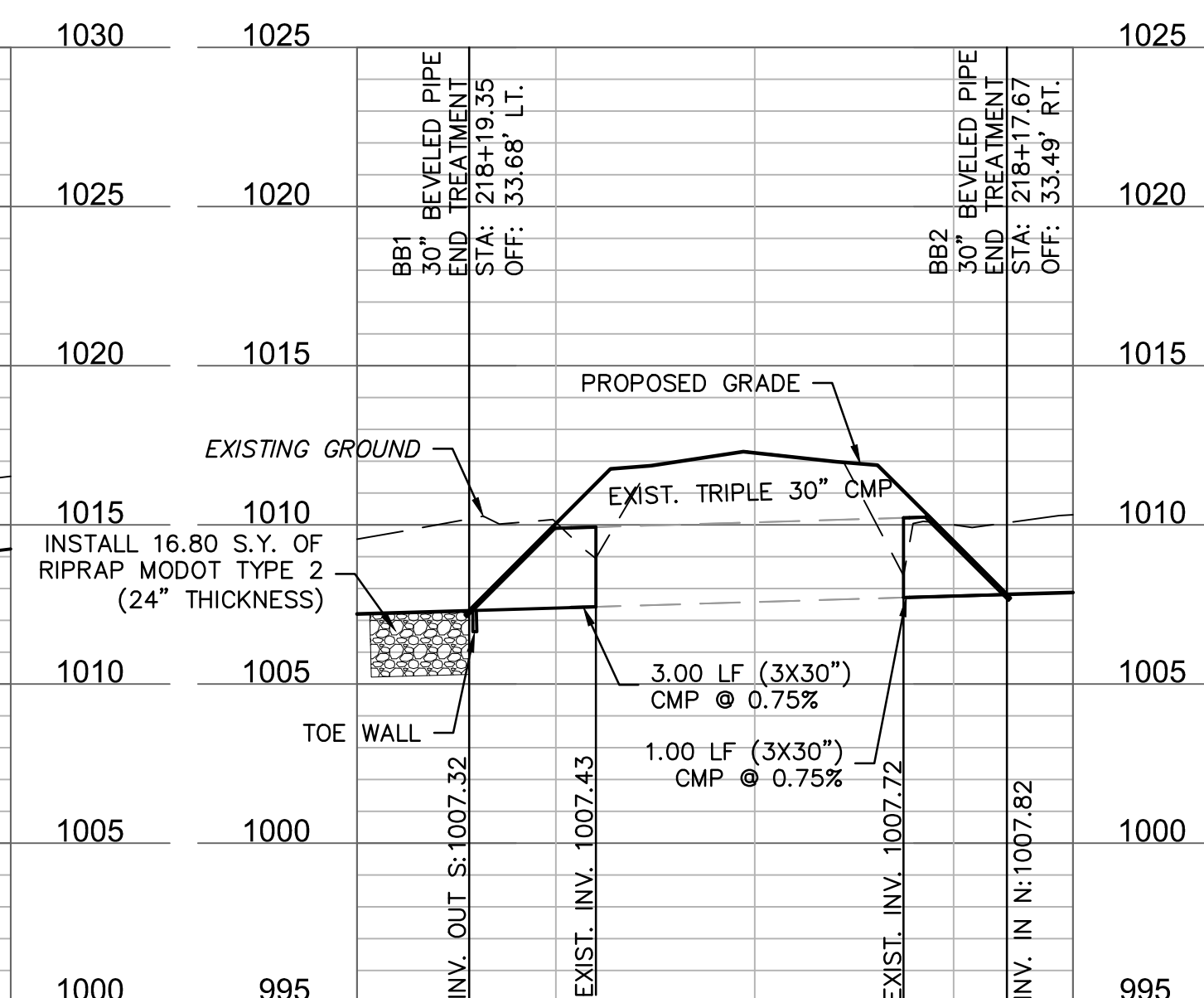
STORM LINE C



CULVERT CROSSING

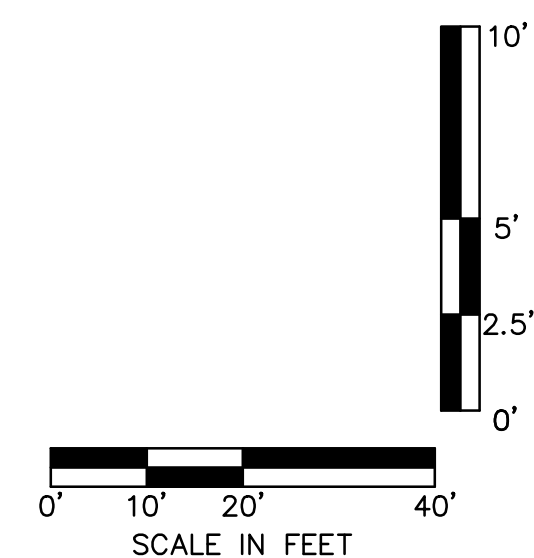


TRIPLE CULVERT CROSSING

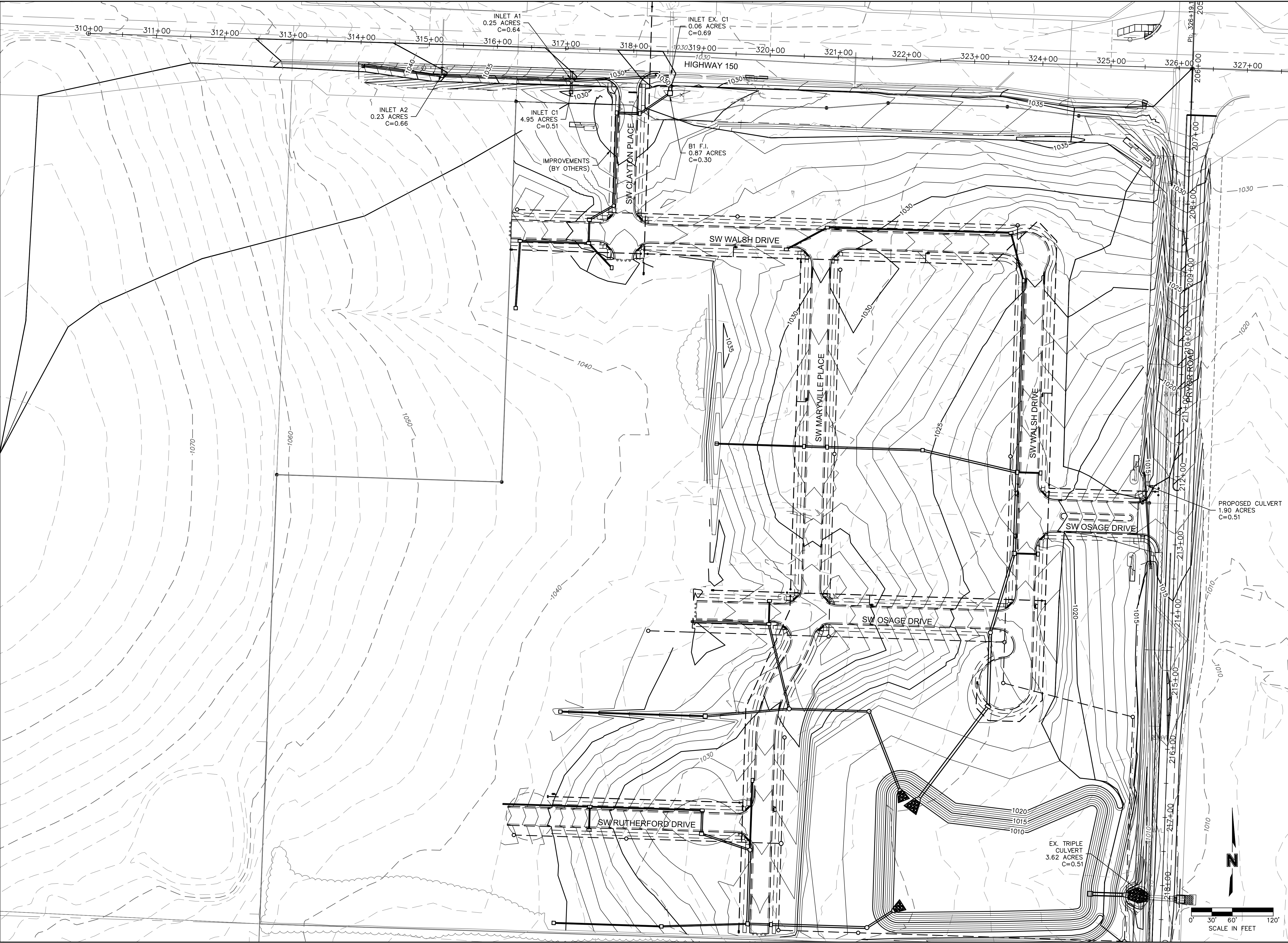


NOTE: CONTRACTOR TO FIELD VERIFY EXISTING FLOWLINES AND
TO CLEAN EXISTING TRIPLE 30" CMP CULVERT

CONTRACTOR TO FIELD VERIFY EXISTING FLOWLINES



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C:\BASE_A192339



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JAMES PATRICK GALLAGHER
PE-2018010499
6/17/2020
PROFESSIONAL ENGINEER

JAMES PATRICK GALLAGHER
PE-2018010499

BY

REVISIONS

DRAINAGE MAP

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

drawn by: AKU
checked by: JFG
approved by: JFG
QA/QC by: RBC
project no.: T_PDRN_A192339
drawing no.: 2020.06.16
date:

2020

SHEET
21 of 62

DWG: F:\2019\2001-2500\019-2339-A140-Design\AutoCAD\Final Plots\Sheets\PD06\STORM SEWER PROFILES\T_PDRN_A192339.dwg
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10 Year Storm Calculations																									
Label	Inlet Area (acres)	System Drainage Area (acres)	Upstream Inlet C	System CA (acres)	Inlet Tc (min)	Spread / Top Width (ft)	Depth (Gutter) (in)	System Intensity (in/h)	Capacity (Design) (cfs)	Flow (cfs)	Diameter (in)	Length (User Defined) (ft)	Manning's n	Invert (Start) (ft)	Invert (Stop) (ft)	Slope (Calculated) (%)	Flow / Capacity (Design) (%)	Velocity (ft/s)	Headloss Coefficient	Headloss (ft)	Elevation (Rim) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Elevation (Rim)-HGL (In) (ft)	Notes
A1	0.25	6.00	0.64	3.34	5.00	6.50	1.50	5.00	20.17	16.83	24.00	145.90	0.013	1026.12	1024.96	0.80	83.50	7.19	0.40	1.24	1031.71	1027.60	1026.36	4.11	C.I.
A2	0.23	1.40	0.66	0.71	5.00	6.70	1.60	7.35	11.31	5.26	15.00	190.20	0.013	1032.70	1026.87	3.07	46.50	9.05	0.40	5.75	1037.70	1033.63	1027.88	4.07	C.I.
A3	(N/A)	0.40	(N/A)	0.19	0.00	(N/A)	(N/A)	8.73	14.36	1.40	15.00	116.10	0.013	1038.94	1033.20	4.95	9.70	7.43	0.20	5.60	1043.86	1039.41	1033.81	4.45	JUNCTION BOX
B1	0.87	0.90	0.30	0.26	15.40	(N/A)	(N/A)	5.11	126.49	20.89	48.00	24.50	0.013	1023.40	1023.21	0.78	16.50	7.44	0.40	-0.04	1029.74	1025.11	1025.16	4.63	FIELD INLET
C1	4.17	4.20	0.51	2.13	16.05	(N/A)	(N/A)	5.00	22.39	10.73	24.00	17.40	0.013	1026.79	1026.62	0.98	47.90	7.05	1.00	0.08	1030.54	1027.96	1027.88	2.58	FIELD INLET

100 Year Storm Calculations																									
Label	Inlet Area (acres)	System Drainage Area (acres)	Upstream Inlet C	System CA (acres)	Inlet Tc (min)	Spread / Top Width (ft)	Depth (Gutter) (in)	System Intensity (in/h)	Capacity (Design) (cfs)	Flow (cfs)	Diameter (in)	Length (User Defined) (ft)	Manning's n	Invert (Start) (ft)	Invert (Stop) (ft)	Slope (Calculated) (%)	Flow / Capacity (Design) (%)	Velocity (ft/s)	Headloss Coefficient	Headloss (ft)	Elevation (Rim) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Elevation (Rim)-HGL (In) (ft)	Notes
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A2	0.23	1.40	0.66	0.58	5.00	8.80	2.10	15.16	11.31	7.47	15.00	190.20	0.013	1032.70	1026.87	3.066	66.10	9.85	0.40	3.83	1037.70	1033.79	1029.96	3.91	C.I.
A3	(N/A)	0.40	(N/A)	0.15	(N/A)	(N/A)	(N/A)	15.282	14.36	1.93	15.00	116.10	0.013	1038.94	1033.20	4.945	13.50	8.16	0.20	5.44	1043.86	1039.49	1034.06	4.37	JUNCTION BOX
B1	0.87	0.90	0.30	0.26	15.40	10.20	2.40	9.12	126.49	37.53	48.00	24.50	0.013	1,023.40	1,023.21	0.78	29.70	8.77	0.40	-0.03	1029.74	1,025.85	1,025.88	3.89	FIELD INLET
C1	4.17	4.20	0.51	2.13	16.05	35.60	8.50	8.98	22.39	19.25	24.00	17.40	0.013	1,026.79	1,026.62	0.98	86.00	6.13	1.00	0.13	1,030.54	1,030.08	1,029.96	0.46	FIELD INLET

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6/17/2020

PROFESSIONAL ENGINEER

JAMES PATRICK GALLAGHER
PE-2018010499

BY

REVISIONS DESCRIPTION

DATE

REV. NO.

2020

STORM SEWER CALCULATIONS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

drawn by: AKU

checked by: JPG

approved by: RBC

QA/QC by: RBC

project no.: A19-2339

drawing no.: T_PDRN_A192339

date: 2020.06.16

SHEET

22 of 62



1. SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. KCMMB 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS/SHARED-USE PATHS OR AS APPROVED BY THE CITY INSPECTOR.
4. ALL SIDEWALK/SHARED-USE PATHS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
5. AN ISOLATION JOINT SHALL BE PLACED AT A MAXIMUM OF 150 FT. CONSTRUCTION JOINTS SHALL BE PLACED THE SAME WIDTH OF SIDEWALK/SHARED-USE PATHS, BUT NO GREATER THAN 10 FT.
6. AN ISOLATION JOINT SHALL BE PLACED WHERE THE SIDEWALK/SHARED-USE PATHS MEETS A RESIDENTIAL DRIVEWAY.
7. SHARED-USE PATHS WIDTH SHALL BE 10 FT. WIDE.
8. SIDEWALK/SHARED-USE PATHS FINISHING SHALL BE FULL BROOM FINISH OR AS DIRECTED BY CITY INSPECTOR.
9. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.



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

SIDEWALK/SHARED-USE PATH DETAIL

Date: 04/17

Drawn By: MJF

Checked By: DL

GEN-2



JAMES PATRICK GALLAGHER
PE-2018010499

[illegible]

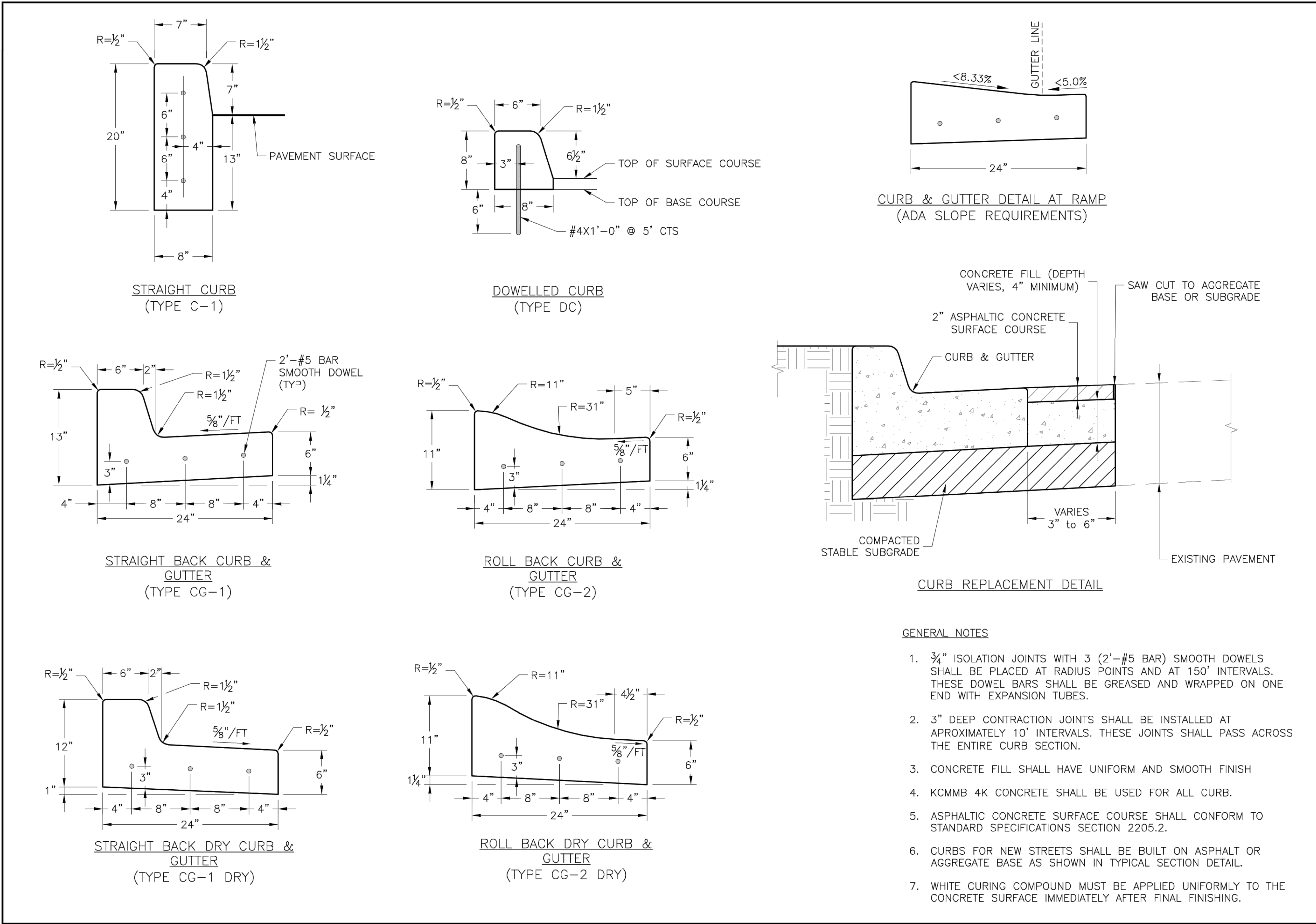
STANDARD DETAILS

ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

Drawn by:	AKU
Checked by:	JPG
Approved by:	JPG
WQC by:	RBC
Project no.:	A19-2339
Drawing no.:	T DTL A192339
Date:	2020.06.16



LEE'S SUMMIT
MISSOURI

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

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

CURB & GUTTER DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-4



GUTTERS



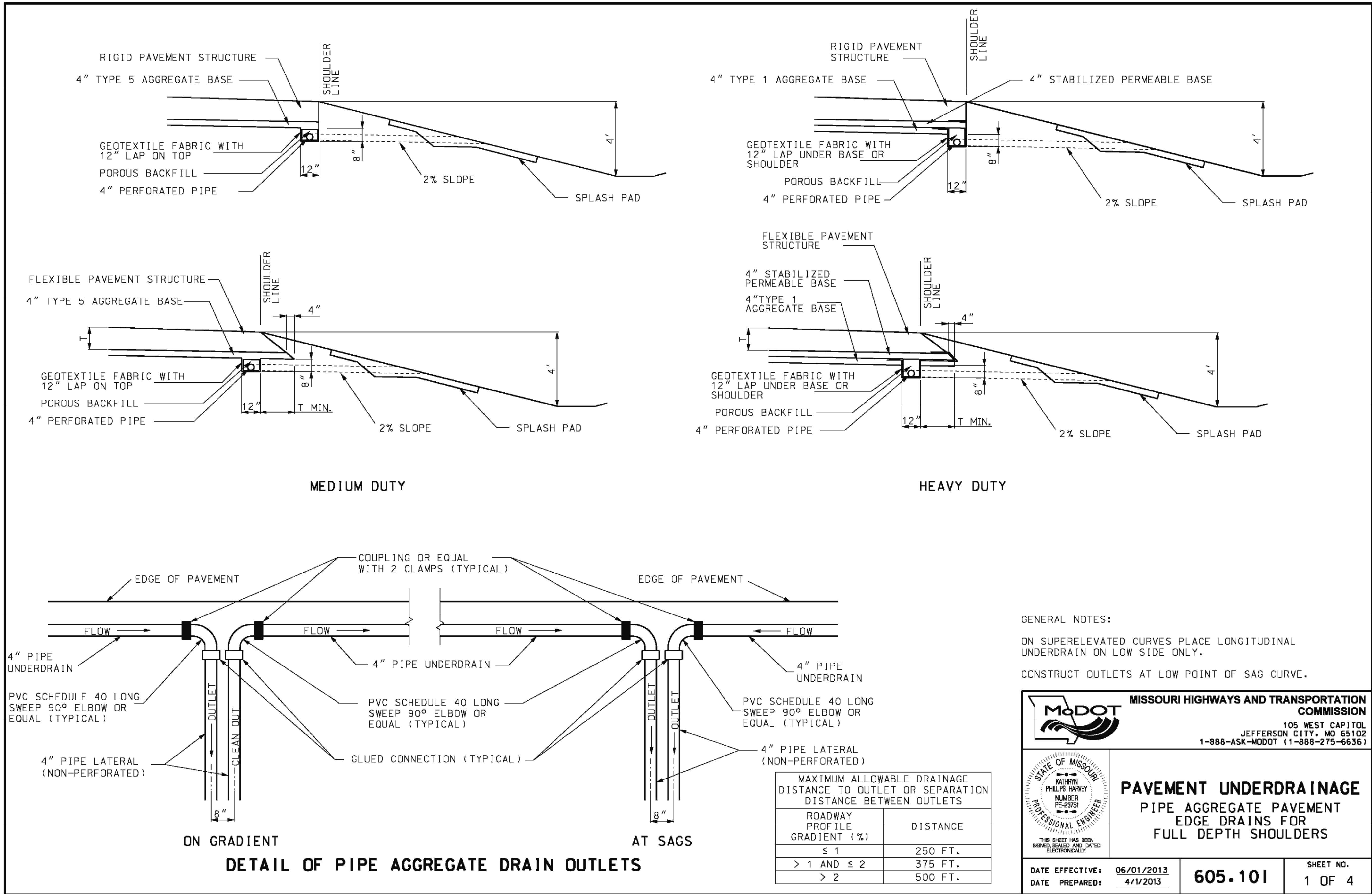
BARRIER CURBS



LOW PROFILE CURB

		MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
		CONCRETE CURB, CURB AND GUTTER AND GUTTER	
DATE EFFECTIVE: 07/01/2018 DATE PREPARED: 5/3/2018		609.00P	
		SHEET NO. 2 OF 2	

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USER: asoavedra
XREFS: T_T1BLC-A192339



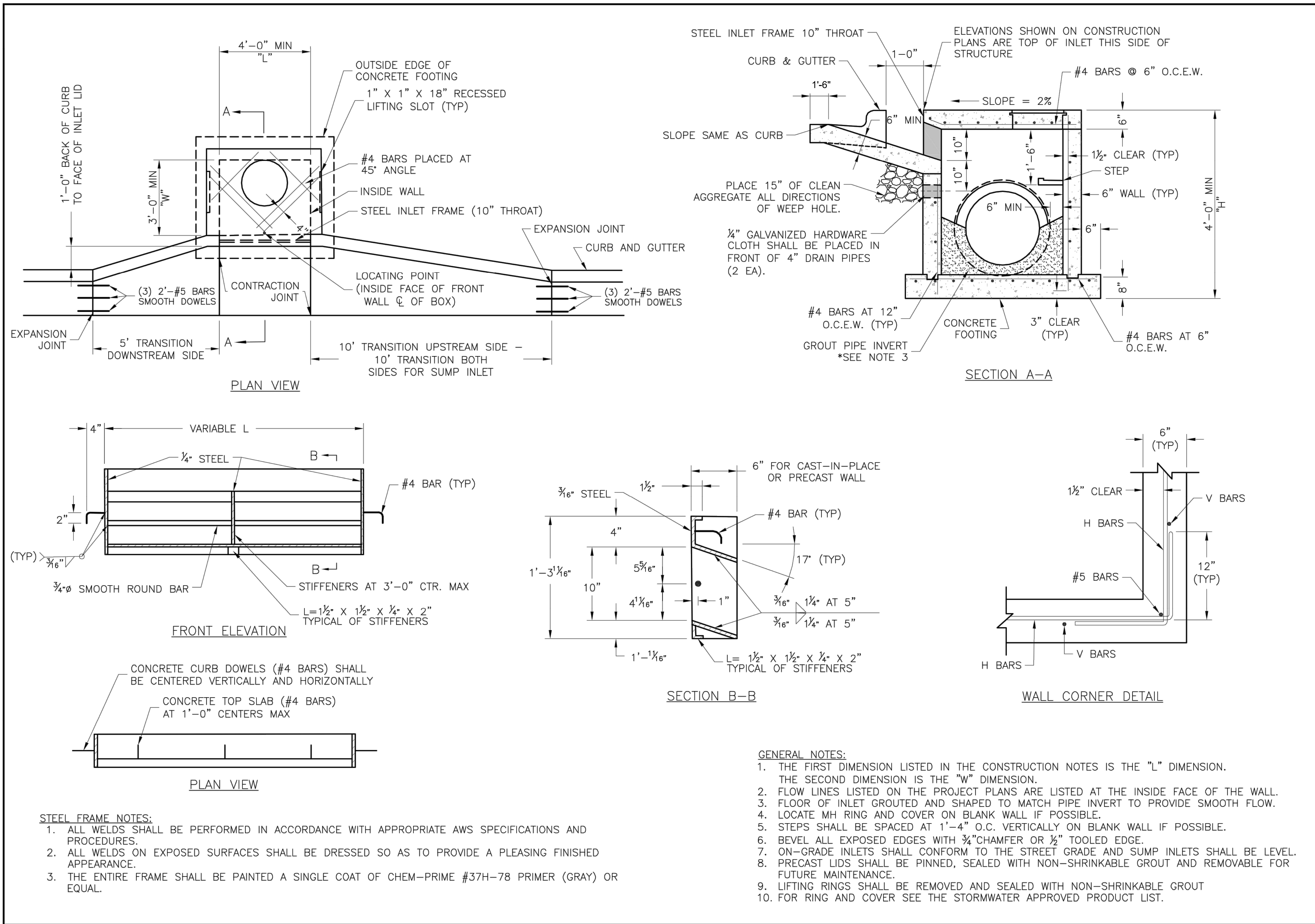
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

PAVEMENT UNDERDRAINAGE
PIPE AGGREGATE PAVEMENT
EDGE DRAINS FOR
FULL DEPTH SHOULDERS

DATE EFFECTIVE: 06/01/2013
DATE PREPARED: 4/1/2013

605.101

SHEET NO.
1 OF 4



LEE'S SUMMIT
MISSOURI

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

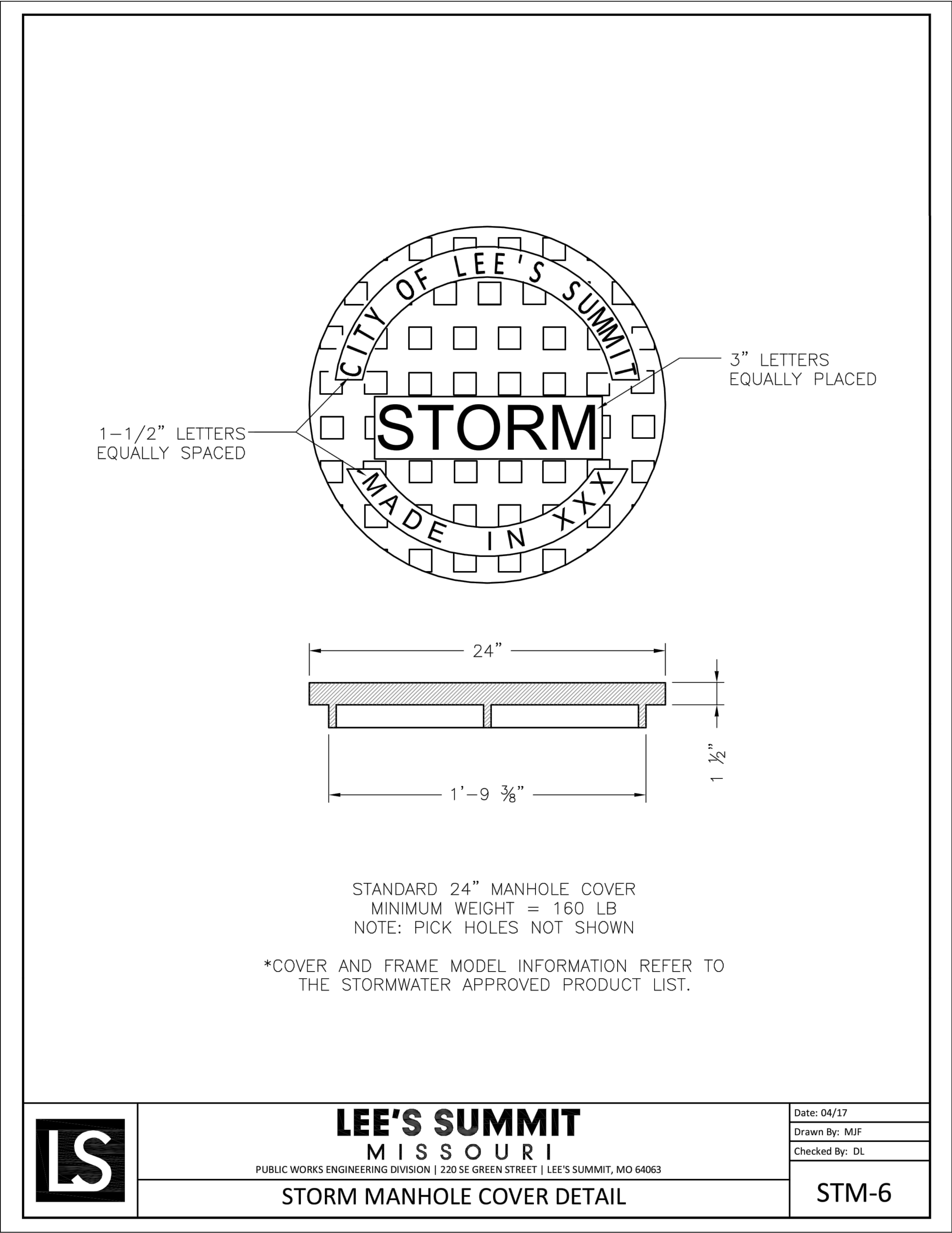
Project:
Sheet Name:

Public Works Engineering Division | 220 SE Green Street | Lee's Summit, MO 64063

STM-1

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

2020



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Olsson - Civil Engineering
Professional Engineer
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177 www.olsson.com

STATE OF MISSOURI
JAMES
PATRICK
GALLAGHER
NUMBER
PE-2018010499
6/17/2020
PROFESSIONAL ENGINEER

JAMES PATRICK GALLAGHER
PE-2018010499

BY

REV. NO.

DATE

REVISIONS DESCRIPTION

REVISIONS

STORM SEWER DETAILS

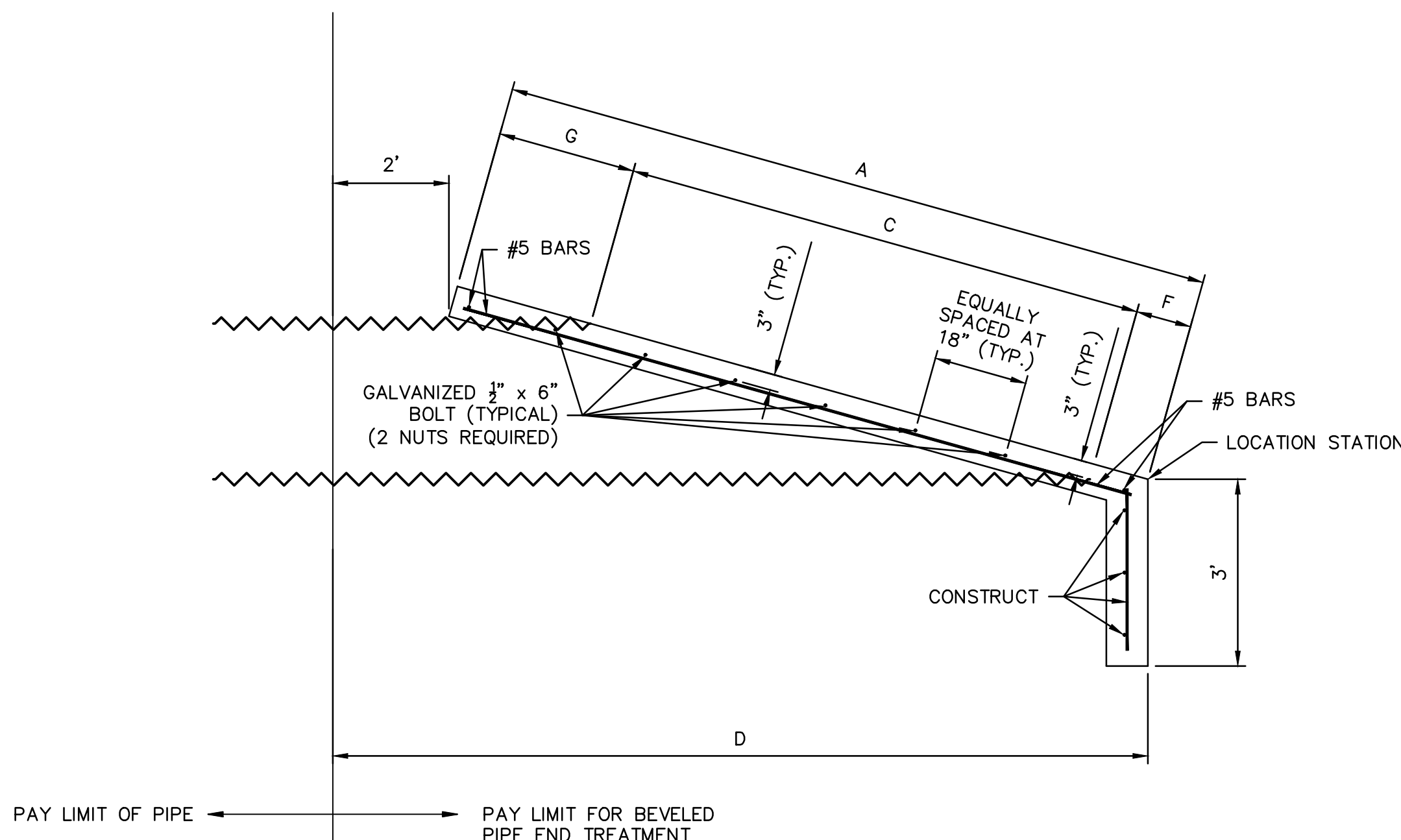
HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

drawn by: AKU
checked by: JPG
approved by: RBC
QA/QC by: T DTL
project no.: A19-2339
drawing no.: A19-2339
date: 2020.06.16

SHEET
31 of 62



NOT TO SCALE

SEE SHEET 33 FOR ADDITIONAL
INFORMATION.

REVISIONS

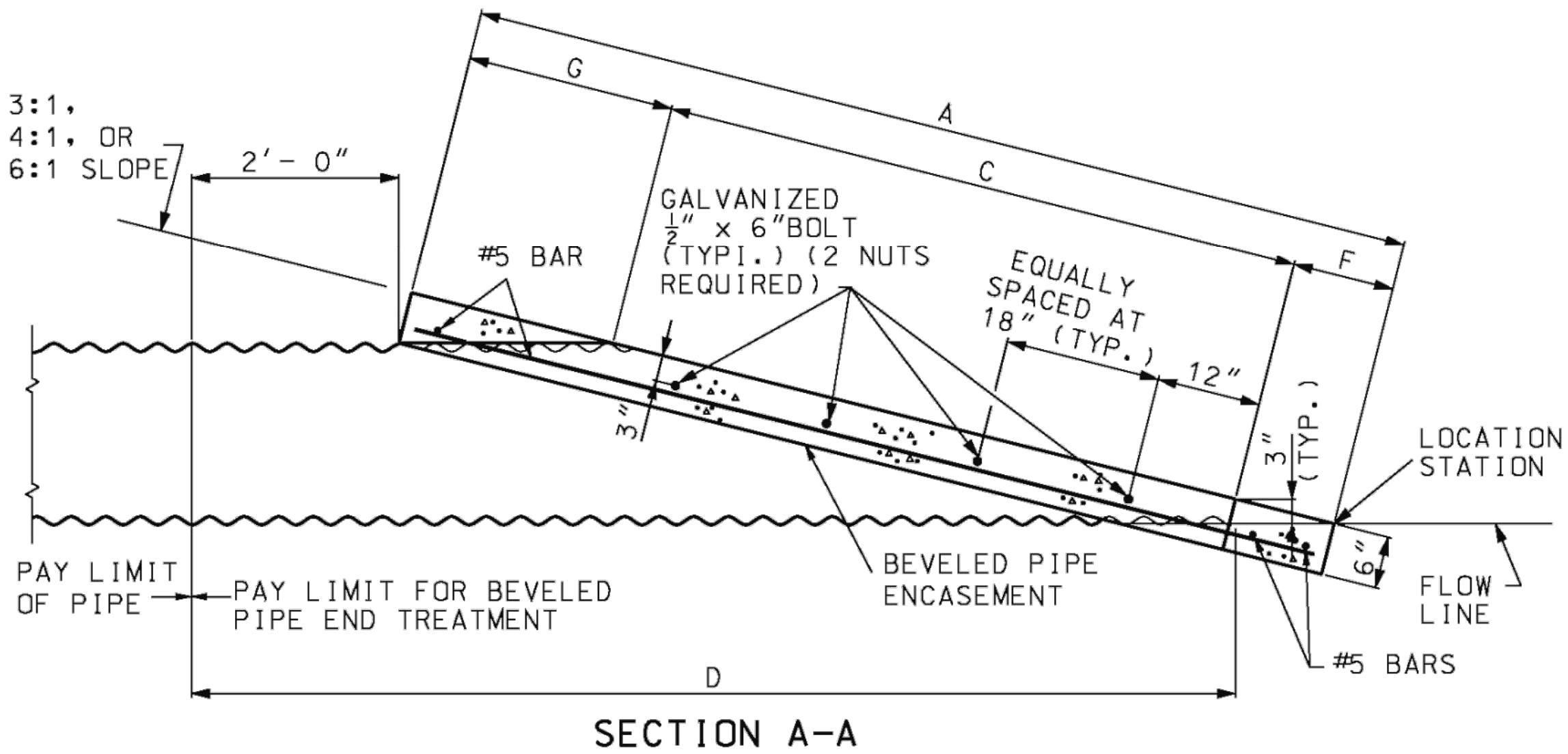
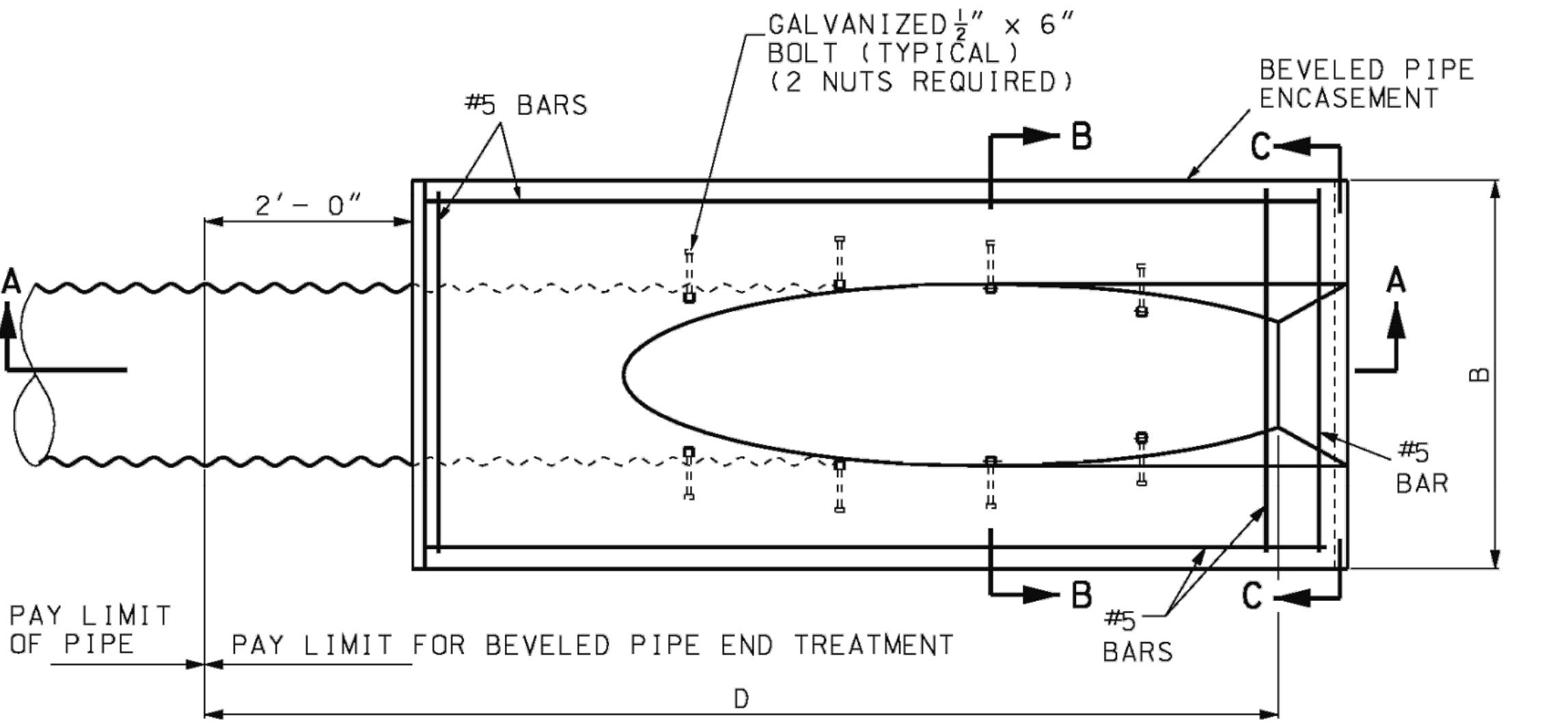
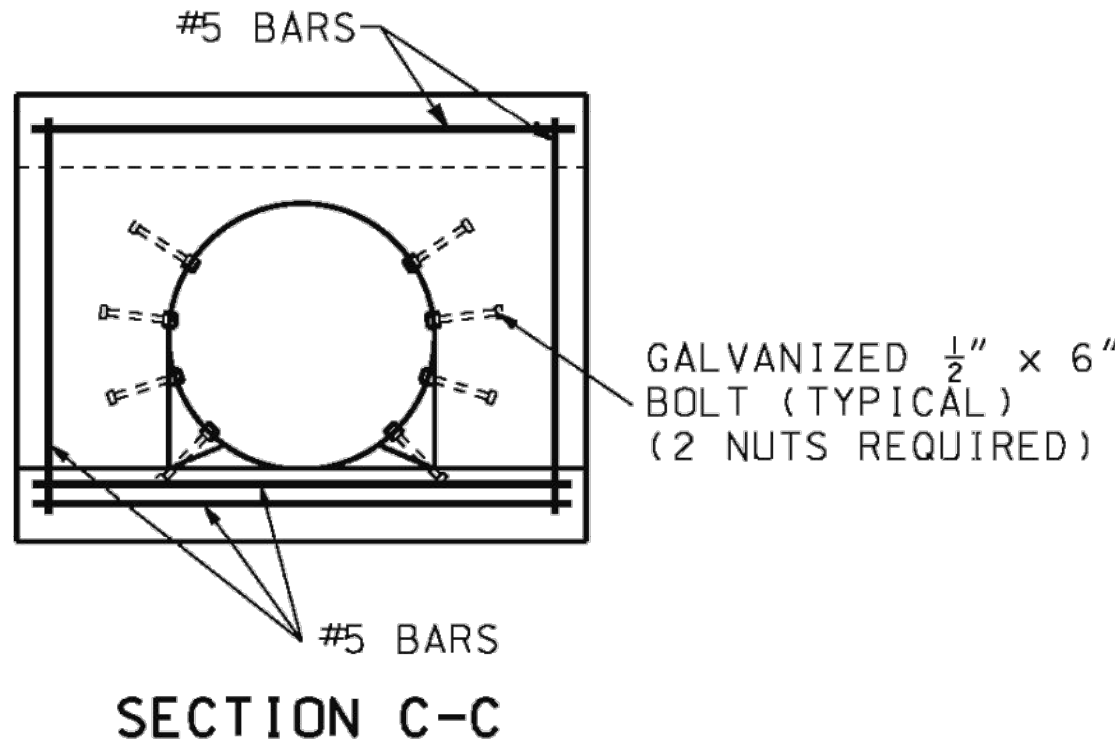
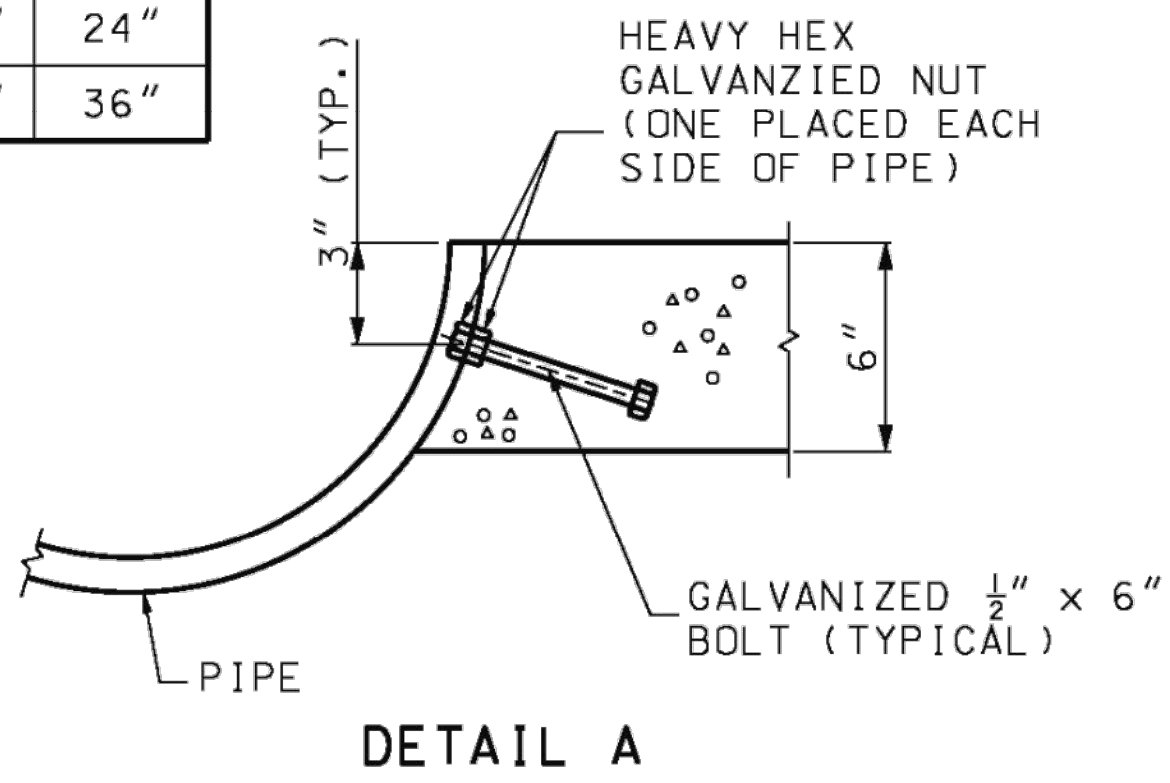
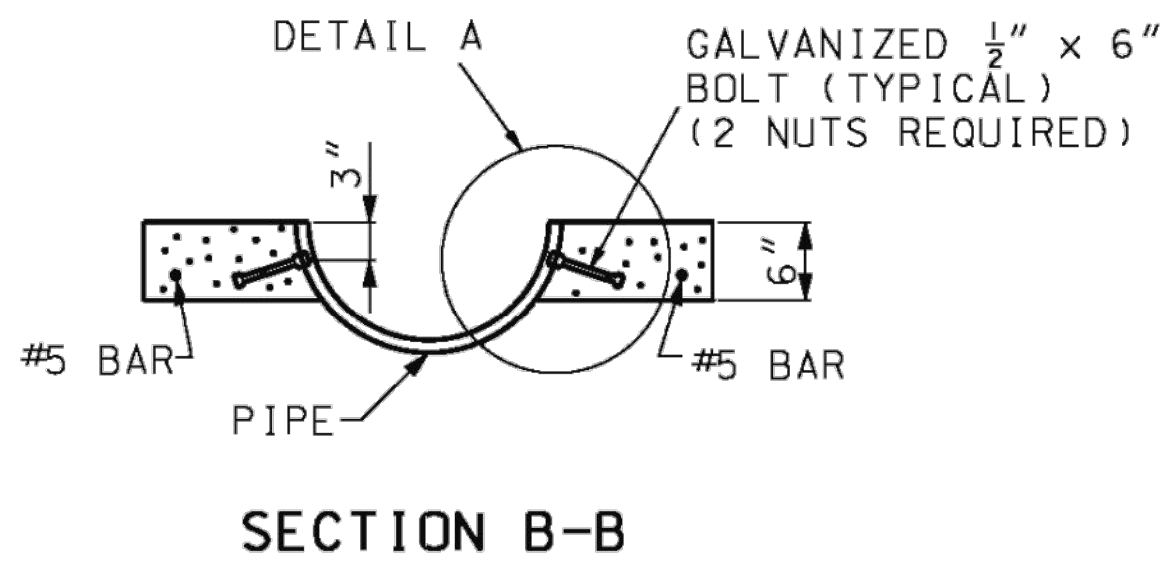
HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

drawn by: AKU
checked by: JPC
approved by: JPC
QA/QC by: RBC
project no.: A19-2333
drawing no.: T DTL A192333
date: 2020.06.18

DWG: F:\2019\2001-2500\019-2339-A140-Design\AutoCAD\Final Plans\Sheet\STANDARD DETAILS\T_DTL_A192339.dwg
DATE: Jun 16, 2020 12:46pm
USER: asoavedra
XREFS: T_PTBK-A192339

BEVELED PIPE ENCASEMENT DETAILS								
PIPE DIAMETER	SLOPE	A	B	C	D	E	F	G
15"	3:1	5'-5½"	3'-3"	3'-2"	6'-7"	1	9½"	18"
	4:1	7'-2"		4'-1½"	8'-1¼"	2	12½"	24"
	6:1	10'-7¼"		6'-1"	11'-1½"	3	18¼"	36"
18"	3:1	6'-3"	3'-6"	3'-11½"	7'-4"	2	9½"	18"
	4:1	8'-2¼"		5'-1¾"	9'-1"	3	12½"	24"
	6:1	12'-1½"		7'-7¼"	12'-7½"	4	18¼"	36"
21"	3:1	7'-½"	3'-9"	4'-9"	8'-1"	3	9½"	18"
	4:1	9'-2¾"		6'-2¼"	10'-1¼"	3	12½"	24"
	6:1	13'-7¾"		9'-1½"	14'-1½"	5	18¼"	36"
24"	3:1	7'-10"	4'-0"	5'-6½"	8'-10"	3	9½"	18"
	4:1	10'-3"		7'-2½"	11'-1"	4	12½"	24"
	6:1	15'-2"		10'-7¾"	15'-7½"	6	18¼"	36"
27"	3:1	8'-7½"	4'-3"	6'-4"	9'-7"	4	9½"	18"
	4:1	11'-3½"		8'-3"	12'-1¼"	5	12½"	24"
	6:1	16'-8¼"		12'-2"	17'-1½"	7	18¼"	36"
30"	3:1	9'-5"	4'-6"	7'-1½"	10'-4"	4	9½"	18"
	4:1	12'-3¾"		9'-3¼"	13'-1"	6	12½"	24"
	6:1	18'-2½"		13'-8¼"	18'-7½"	8	18¼"	36"
33"	3:1	10'-2¼"	4'-9"	7'-10¾"	11'-¾"	5	9½"	18"
	4:1	13'-4¼"		10'-3¾"	14'-1¼"	6	12½"	24"
	6:1	19'-8¾"		15'-2½"	20'-1½"	9	18¼"	36"
36"	3:1	10'-11¾"	5'-0"	8'-8¼"	11'-10"	5	9½"	18"
	4:1	14'-4½"		11'-4"	15'-1"	7	12½"	24"
	6:1	21'-3"		16'-8¾"	21'-7½"	10	18¼"	36"
42"	3:1	12'-6¾"	5'-6"	10'-3¼"	13'-4"	6	9½"	18"
	4:1	16'-5¼"		13'-4¾"	17'-1¼"	8	12½"	24"
	6:1	24'-3½"		19'-9¼"	24'-7½"	13	18¼"	36"
48"	3:1	14'-1¾"	6'-0"	11'-10¼"	14'-10"	7	9½"	18"
	4:1	18'-6"		15'-5½"	19'-1¼"	10	12½"	24"
	6:1	27'-4"		22'-9¾"	27'-7½"	15	18¼"	36"
54"	3:1	15'-8¾"	6'-6"	13'-5¼"	16'-4"	8	9½"	18"
	4:1	20'-6¾"		17'-6¼"	21'-1¼"	11	12½"	24"
	6:1	30'-4½"		25'-10¼"	30'-7½"	17	18¼"	36"
60"	3:1	17'-3¾"	7'-0"	15'-¼"	17'-10"	9	9½"	18"
	4:1	22'-7½"		19'-7"	23'-1¼"	12	12½"	24"
	6:1	33'-5"		28'-10¾"	33'-7½"	19	18¼"	36"



GENERAL NOTES:

CONCRETE USED IN CONSTRUCTION OF THE BEVELED PIPE ENCASEMENT SHALL BE CLASS B CONCRETE OR AN APPROVED COMMERCIAL MIX MEETING REQUIREMENTS OF SECTION 501 OF THE STANDARD SPECIFICATIONS.

REINFORCING STEEL USED IN CONSTRUCTION OF THE BEVELED PIPE ENCASEMENT SHALL MEET THE REQUIREMENTS OF SECTION 1036 OF THE STANDARD SPECIFICATIONS.

BEVELED PIPE ENCASEMENT MAY BE USED WITH EITHER POLYETHYLENE OR CORRUGATED METALLIC COATED STEEL PIPE.

THE PRICE BID PER EACH FOR "BEVELED PIPE END TREATMENT" SHALL BE CONSIDERED FULL COMPENSATION FOR FURNISHING ALL MATERIALS AND INSTALLATION OF THE BEVELED PIPE SECTION AND BEVELED PIPE ENCASEMENT AS SHOWN OR AS DIRECTED BY THE ENGINEER.

THE ½" x 6" BOLT AND NUTS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 (ASTM A153) SPECIFICATIONS. LOW CARBON STEEL ANCHOR BOLTS SHALL MEET ASTM A307.

BEVELED PIPE SHALL BE DRILLED AT LOCATIONS SHOWN ON PLANS FOR PLACEMENT OF ½" x 6" GALVANIZED BOLTS. THE ½" x 6" GALVANIZED BOLTS SHALL BE "DOUBLE NUTTED" AS SHOWN AND PLACED IN THE VALLEY OF PIPE CORRUGATIONS.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION			
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)			
BEVELED PIPE END TREATMENT FOR HIGHWAYS			
DATE EFFECTIVE: 07/01/2004 DATE PREPARED: 12/16/2008		SHEET NO. 1 OF 2	
732.05C			

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STATE OF MISSOURI
JAMES PATRICK GALLAGHER
NUMBER PE-2018010499
6/17/2020
PROFESSIONAL ENGINEER

JAMES PATRICK GALLAGHER
PE-2018010499

BY

REVISIONS DESCRIPTION

DATE

REV. NO.

CULVERT DETAILS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

2020

LEE'S SUMMIT, MO

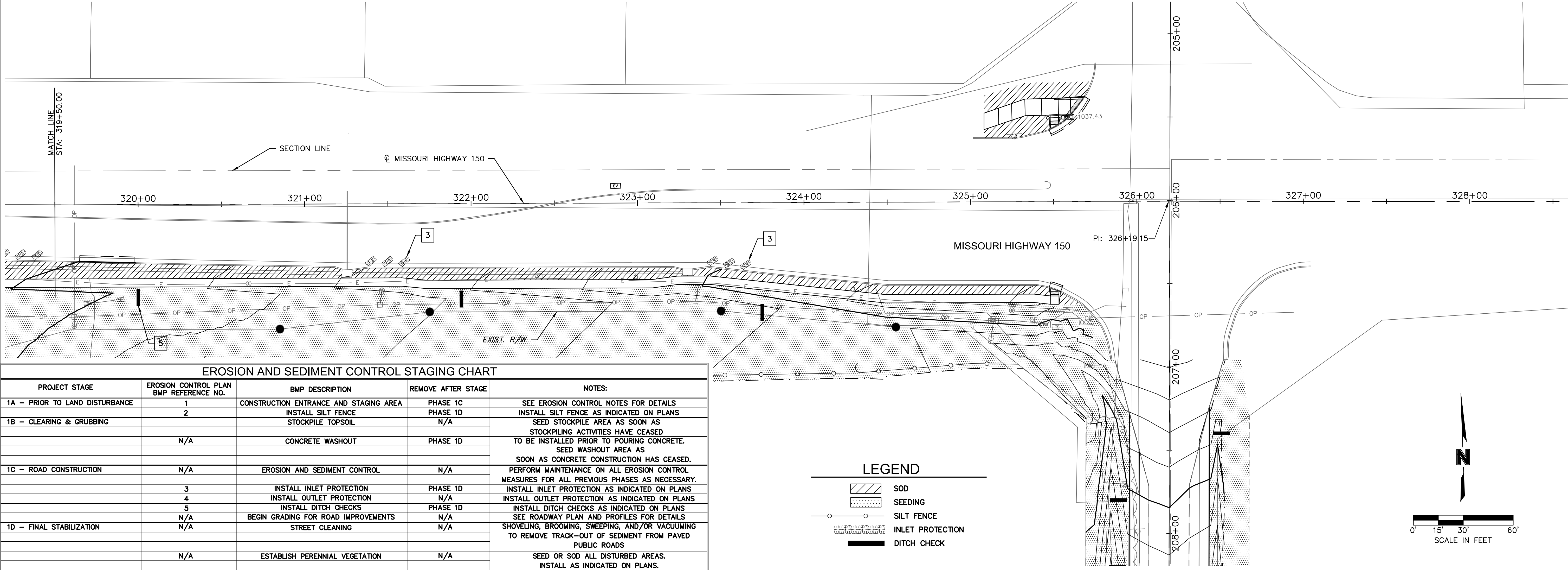
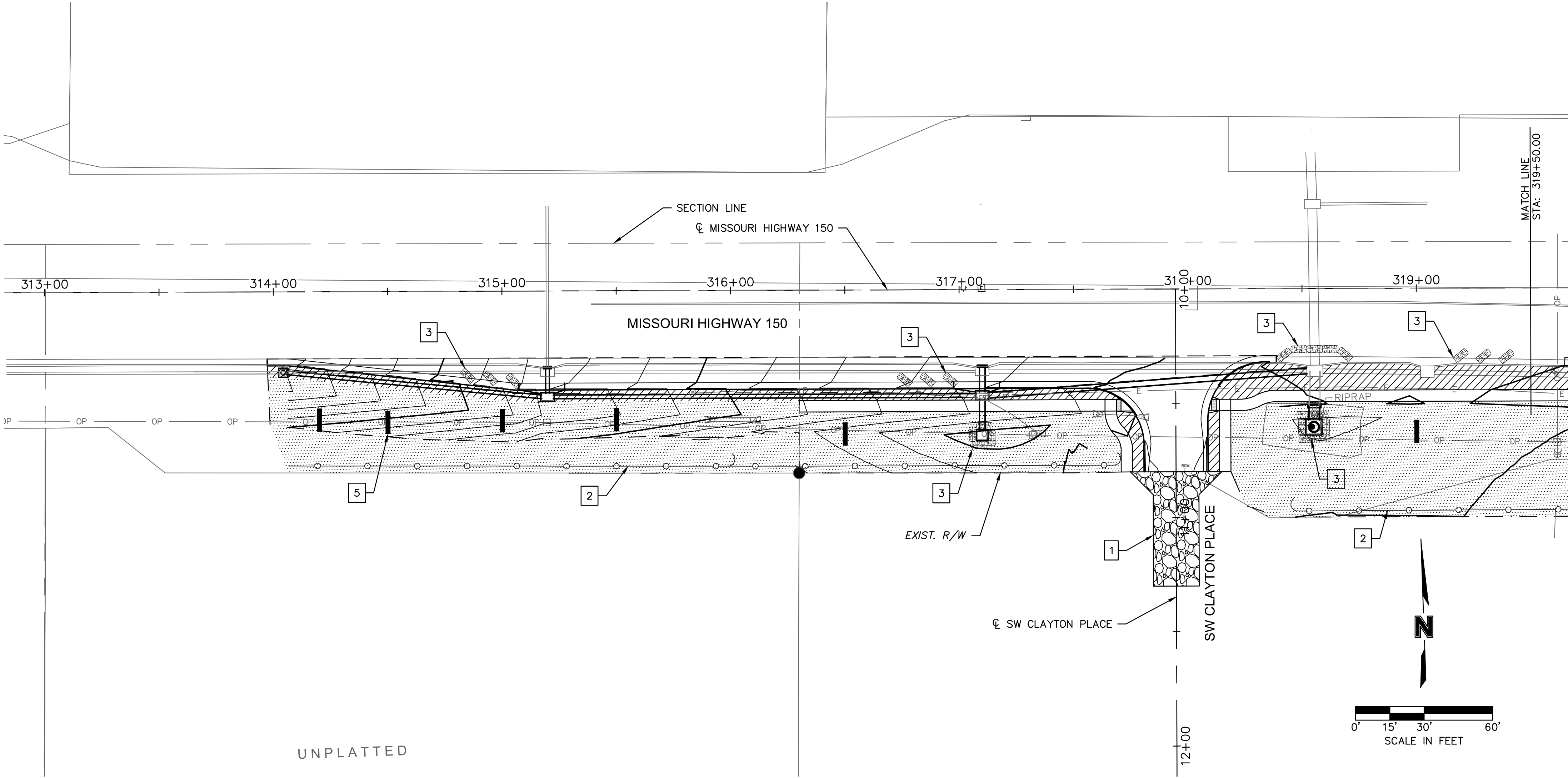
drawn by: AKU
checked by: JPG
approved by: JPG
QA/QC by: RBC
project no.: A19-2339
drawing no.: T_DTL_A192339
date: 2020.06.16

SHEET 33 of 62

DWG: F:\2019\2001-2500\019-2339-A140-Design\AutoCAD\Find Plans\Sheets\BDR\EROSION_CONTROL\T_ERC_A192339.dwg USER: asacoveda
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EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL EROSION & SEDIMENT CONTROL MEASURES AND PRACTICES THROUGHOUT THE PROJECT INCLUDING ANY AND ALL FINES ASSOCIATED WITH EROSION CONTROL VIOLATIONS.
2. EROSION CONTROL IS THE CONTRACTOR'S RESPONSIBILITY. THIS PLAN SHOULD BE USED AS A GUIDE AND REPRESENTS THE MINIMUM EROSION CONTROL DEVICES REQUIRED.
3. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON SITE INSPECTION.
4. CONTRACTOR IS RESPONSIBLE FOR INSPECTING AND REPAIRING ALL EROSION AND SEDIMENT CONTROL DEVICES AFTER EACH RAINFALL EVENT.
5. THE CONTRACTOR SHALL PROVIDE ANY FURTHER EROSION CONTROL MEASURES IN ADDITION TO THOSE LISTED TO ENSURE THAT SILT WILL NOT LEAVE THE PROJECT CONFINES.
6. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED WITH A HEALTHY STAND OF PERMANENT VEGETATION.
7. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SILT FROM SITE IF NOT REUSABLE ON-SITE AND ASSURING PLAN ALIGNMENT AND GRADE IN ALL DITCHES AT COMPLETION OF CONSTRUCTION.
8. THE CONTRACTOR SHALL ENSURE THAT ALL DRAINAGE STRUCTURES, FLUMES, PIPES, ETC. ARE CLEANED OUT AND WORKING PROPERLY AT TIME OF ACCEPTANCE.
9. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY STABILIZATION AS REQUIRED.
10. THE CONTRACTOR SHALL PROVIDE A TEMPORARY CONSTRUCTION ENTRANCE/EXIT FOR VEHICULAR TRAFFIC AT LOCATION SHOWN.
11. ALL EROSION CONTROL DEVICES SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS AND DESIGN CRITERIA OF THE ENGINEERING DIVISION, DEPARTMENT OF PUBLIC WORKS, CITY OF SPRINGFIELD, MISSOURI.
12. REFERENCE DETAILS THIS SHEET FOR TYPICAL EROSION CONTROL DEVICE INSTALLATION.
13. THE CONTRACTOR WILL BE REQUIRED TO CLEAN THE STREETS OF DEPOSITED MUD AS FREQUENTLY AS NEEDED AS DETERMINED BY THE ENGINEER TO KEEP THEM USABLE AND TO CONTROL DUST.
14. PRIOR TO GRADING ACTIVITIES, CONTRACTOR MUST HAVE TEMPORARY BMP'S INSPECTED BY THE CITY.
15. AREAS STRIPPED OF VEGETATION THAT ARE LEFT EXPOSED FOR MORE THAN 14 DAYS SHALL BE TEMPORARILY SEEDED OR MULCHED TO PREVENT EROSION. IF MULCHED, CONTRACTOR SHALL CRIMP THE MULCH INTO THE EXPOSED GROUND.
16. THE CONTRACTOR SHALL PROTECT ALL STORM SEWER STRUCTURES WITH COMPOST FILTER SOCK IN LIEU OF GRAVEL FILTER BAGS UNTIL GRASS IS ESTABLISHED.
17. ALL DISTURBED AREAS NOT RECEIVING OTHER PERMANENT STABILIZATION SUCH AS PAVEMENT, ROOFS, SOD, ETC., SHALL BE SODDED OR SEEDED AND MULCHED, ACCORDING TO THE STANDARD SPECIFICATIONS AND DESIGN CRITERIA OF THE ENGINEERING DIVISION, DEPARTMENT OF PUBLIC WORKS, CITY OF LEE'S SUMMIT, MISSOURI.
18. CONTRACTOR IS RESPONSIBLE FOR PHASED INSTALLATION OF EROSION CONTROL BMP'S IN ORDER TO PREVENT SEDIMENT FROM BREACHING THE LIMITS OF DISTURBANCE.



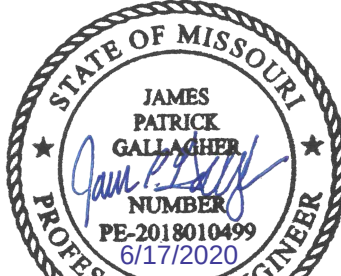
EROSION AND SEDIMENT CONTROL STAGING CHART

PROJECT STAGE	EROSION CONTROL PLAN BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
1A - PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE AND STAGING AREA	PHASE 1C	SEE EROSION CONTROL NOTES FOR DETAILS
1B - CLEARING & GRUBBING	2	INSTALL SILT FENCE	PHASE 1D	INSTALL SILT FENCE AS INDICATED ON PLANS
		STOCKPILE TOPSOIL	N/A	SEED STOCKPILE AREA AS SOON AS STOCKPILING ACTIVITIES HAVE CEASED
	N/A	CONCRETE WASHOUT	PHASE 1D	TO BE INSTALLED PRIOR TO POURING CONCRETE. SEED WASHOUT AREA AS SOON AS CONCRETE CONSTRUCTION HAS CEASED.
1C - ROAD CONSTRUCTION	N/A	EROSION AND SEDIMENT CONTROL	N/A	PERFORM MAINTENANCE ON ALL EROSION CONTROL MEASURES FOR ALL PREVIOUS PHASES AS NECESSARY.
	3	INSTALL INLET PROTECTION	PHASE 1D	INSTALL INLET PROTECTION AS INDICATED ON PLANS
	4	INSTALL OUTLET PROTECTION	N/A	INSTALL OUTLET PROTECTION AS INDICATED ON PLANS
	5	INSTALL DITCH CHECKS	PHASE 1D	INSTALL DITCH CHECKS AS INDICATED ON PLANS
	N/A	BEGIN GRADING FOR ROAD IMPROVEMENTS	N/A	SEE ROADWAY PLAN AND PROFILES FOR DETAILS
1D - FINAL STABILIZATION	N/A	STREET CLEANING	N/A	SHOVELING, BROOMING, SWEEPING, AND/OR VACUUMING TO REMOVE TRACK-OUT OF SEDIMENT FROM PAVED PUBLIC ROADS
	N/A	ESTABLISH PERENNIAL VEGETATION	N/A	SEED OR SOD ALL DISTURBED AREAS. INSTALL AS INDICATED ON PLANS.

LEGEND

- SOD
- SEEDING
- SILT FENCE
- INLET PROTECTION
- DITCH CHECK

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JAMES PATRICK GALLAGHER
PE-2018010499

REV. NO.	DATE	REVISIONS DESCRIPTION

EROSION CONTROL PLAN

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

drawn by: AKU
checked by: JFG
approved by: JFG
QA/QC by: RBC
project no.: A19-2339
drawing no.: T_ERC_A192339
date: 2020.06.16

SHEET

34 of 62

This plan view illustrates the proposed reconstruction of Pryor Road, showing stationing from 205+00 to 213+00. The road is shown with a centerline and existing right-of-way (R/W) boundaries. A temporary construction easement is indicated. The road crosses Missouri Highway 150, which is shown with its own stationing (325+00 to 327+00). A section line is shown at station 212+00. The plan also shows existing infrastructure, including a bridge over a stream (station 1037+4.7) and a bridge over a road (station 1037+4.7). A match line is shown at station 213+50.00. A north arrow and a scale bar (0' to 60') are provided.

MATCH LINE
STA: 213+50.00

TEMPORARY CONSTRUCTION EASEMENT

CL PRYOR ROAD

EXIST. R/W

214+00 215+00 216+00 217+00 218+00 219+00 220+00

PRYOR ROAD

2

4

5

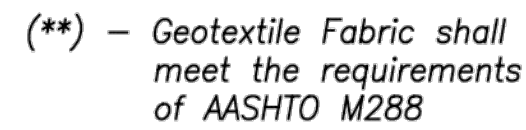
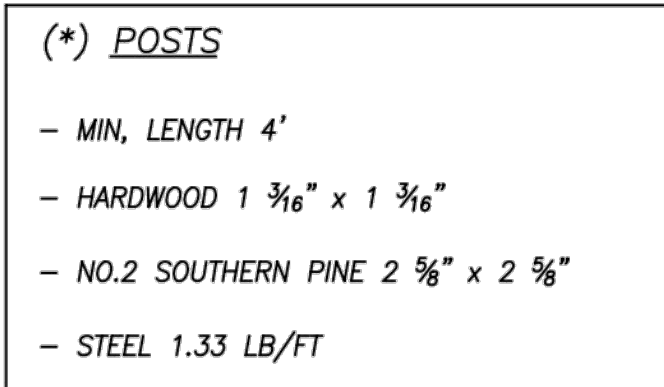
EXIST. R/W

N

0' 15' 30' 60'

SCALE IN FEET

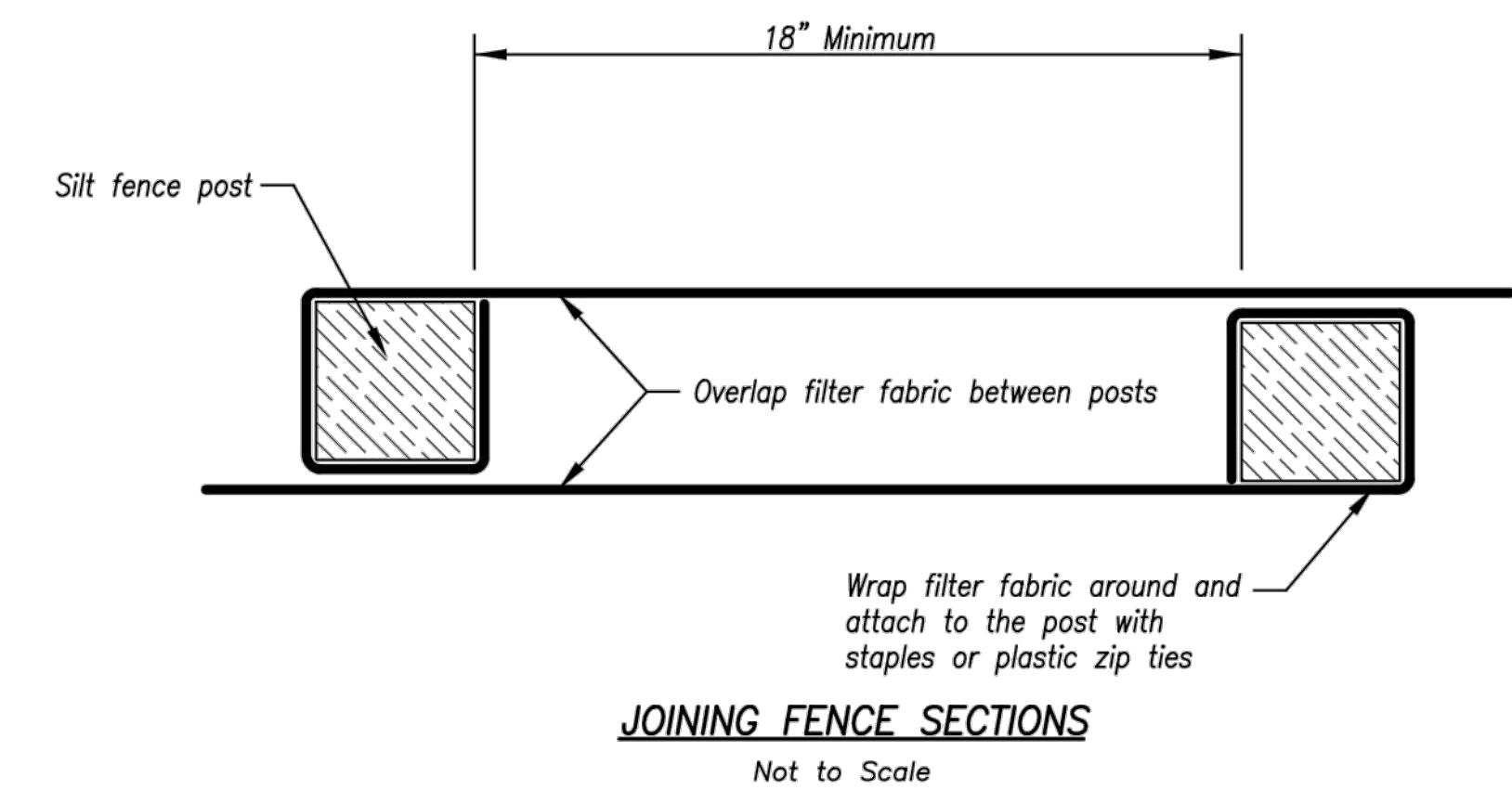
PROJECT STAGE	EROSION CONTROL PLAN BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
1A – PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE AND STAGING AREA	PHASE 1C	SEE EROSION CONTROL NOTES FOR DETAILS
	2	INSTALL SILT FENCE	PHASE 1D	INSTALL SILT FENCE AS INDICATED ON PLANS
1B – CLEARING & GRUBBING		STOCKPILE TOPSOIL	N/A	SEED STOCKPILE AREA AS SOON AS STOCKPILING ACTIVITIES HAVE CEASED
	N/A	CONCRETE WASHOUT	PHASE 1D	TO BE INSTALLED PRIOR TO POURING CONCRETE. SEED WASHOUT AREA AS SOON AS CONCRETE CONSTRUCTION HAS CEASED.
1C – ROAD CONSTRUCTION	N/A	EROSION AND SEDIMENT CONTROL	N/A	PERFORM MAINTENANCE ON ALL EROSION CONTROL MEASURES FOR ALL PREVIOUS PHASES AS NECESSARY.
	3	INSTALL INLET PROTECTION	PHASE 1D	INSTALL INLET PROTECTION AS INDICATED ON PLANS
	4	INSTALL OUTLET PROTECTION	N/A	INSTALL OUTLET PROTECTION AS INDICATED ON PLANS
	5	INSTALL DITCH CHECKS	PHASE 1D	INSTALL DITCH CHECKS AS INDICATED ON PLANS
	N/A	BEGIN GRADING FOR ROAD IMPROVEMENTS	N/A	SEE ROADWAY PLAN AND PROFILES FOR DETAILS
1D – FINAL STABILIZATION	N/A	STREET CLEANING	N/A	SHOVELING, BROOMING, SWEEPING, AND/OR VACUUMING TO REMOVE TRACK-OUT OF SEDIMENT FROM PAVED PUBLIC ROADS
	N/A	ESTABLISH PERENNIAL VEGETATION	N/A	SEED OR SOD ALL DISTURBED AREAS. INSTALL AS INDICATED ON PLANS.



Not to Scale



Not to Scale

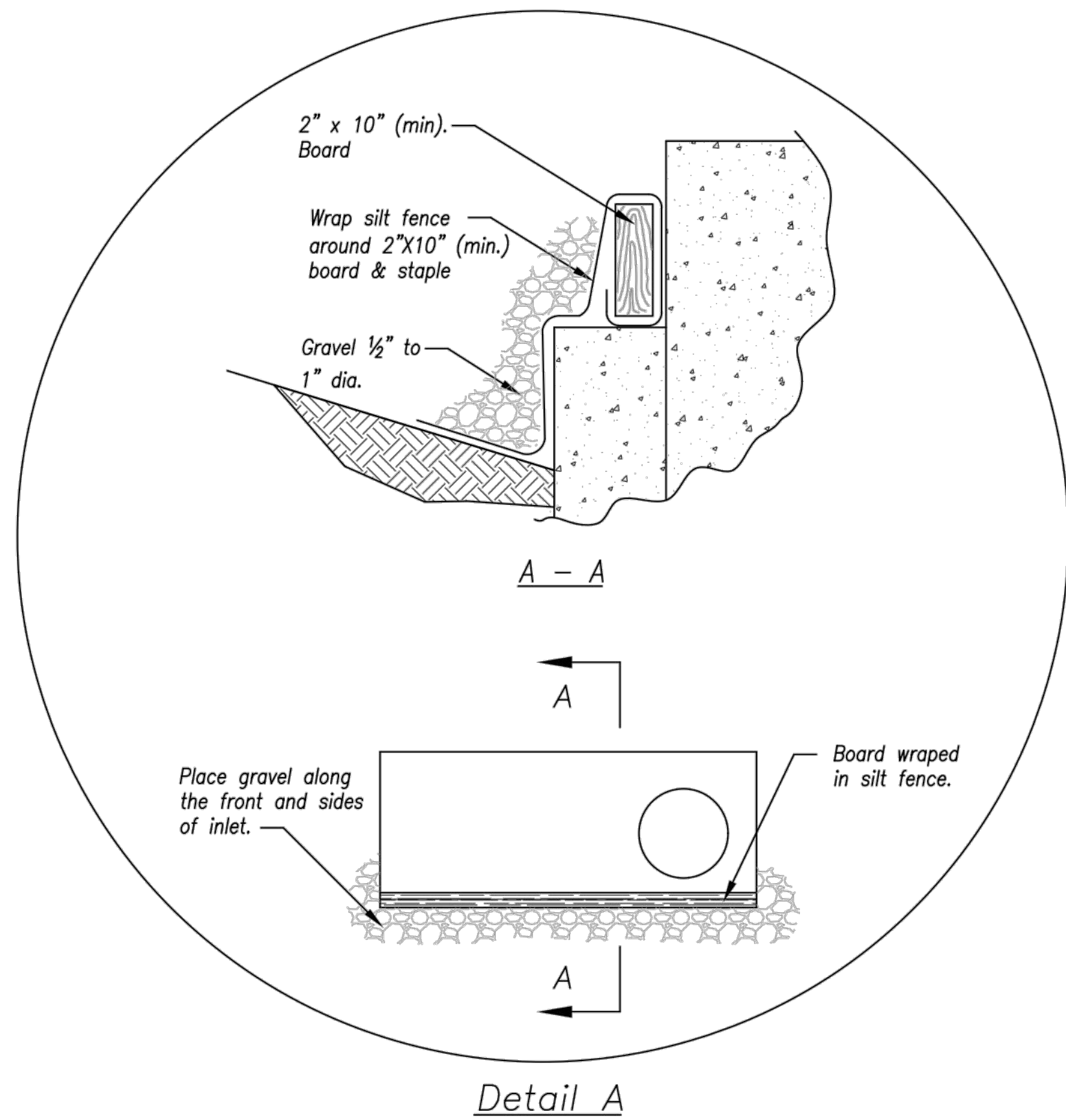
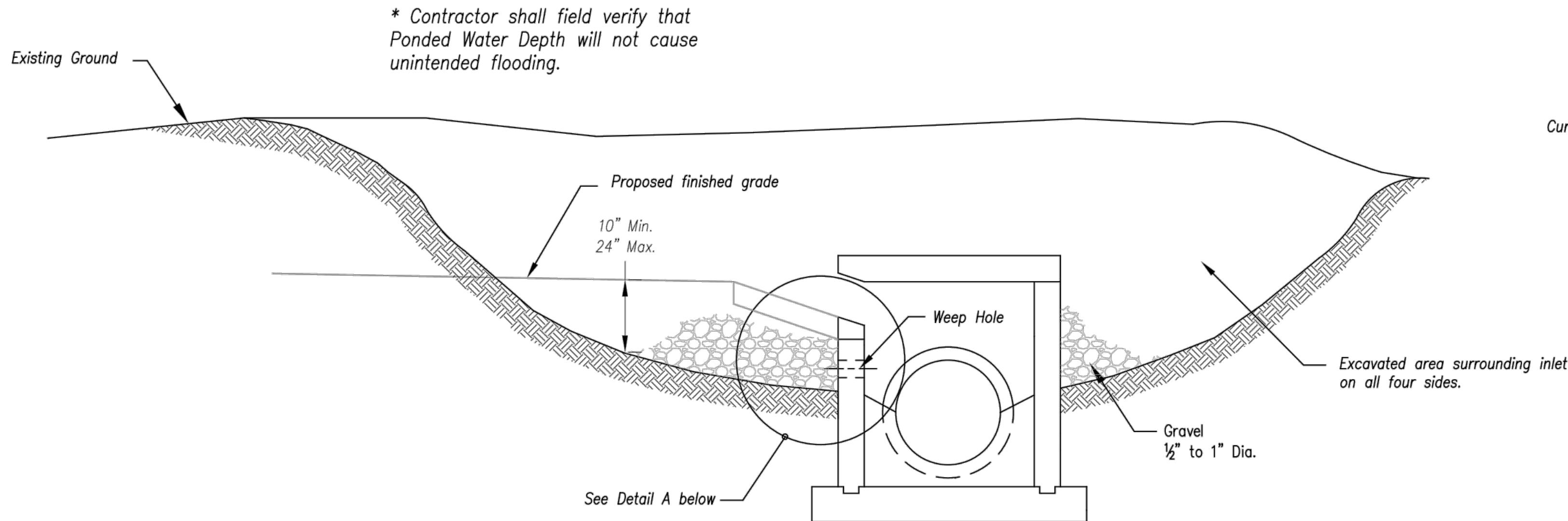


1. In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
2. Long perimeter runs of silt fence must be limited to 100'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
3. Long slopes should be broken up with intermediate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

1. Remove and dispose of sediment deposits when the deposit approaches $\frac{1}{3}$ the height of silt fence.
2. Repair as necessary to maintain function and structure.

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

DWG: F:\2019\2001-2500\019-2339-A140-Design\AutoCAD\Final Plans\Sheets\BDB\EROSION_CONTROL\T_ERC_A192339.dwg USER: asacaveda
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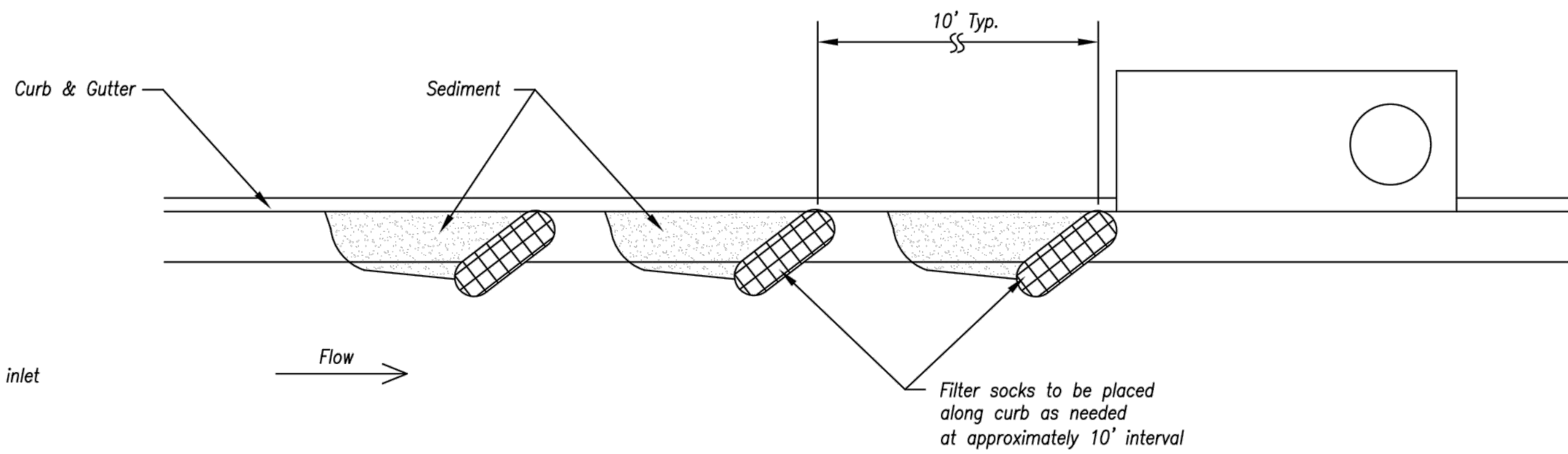
EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)

Notes:

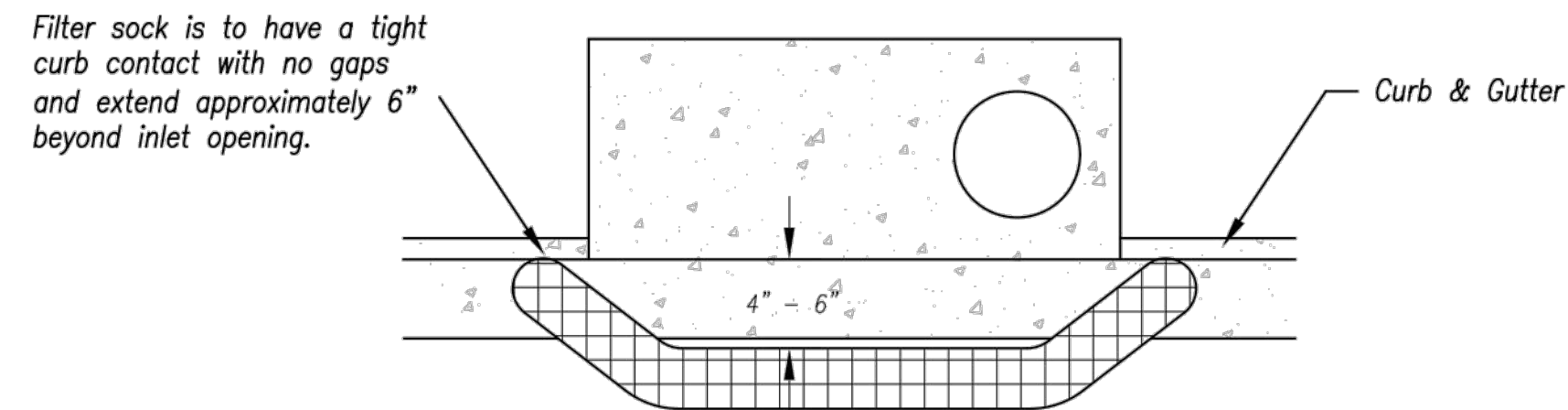
1. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2" X 10" (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Early Stage Curb Inlet).
2. When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

Maintenance:

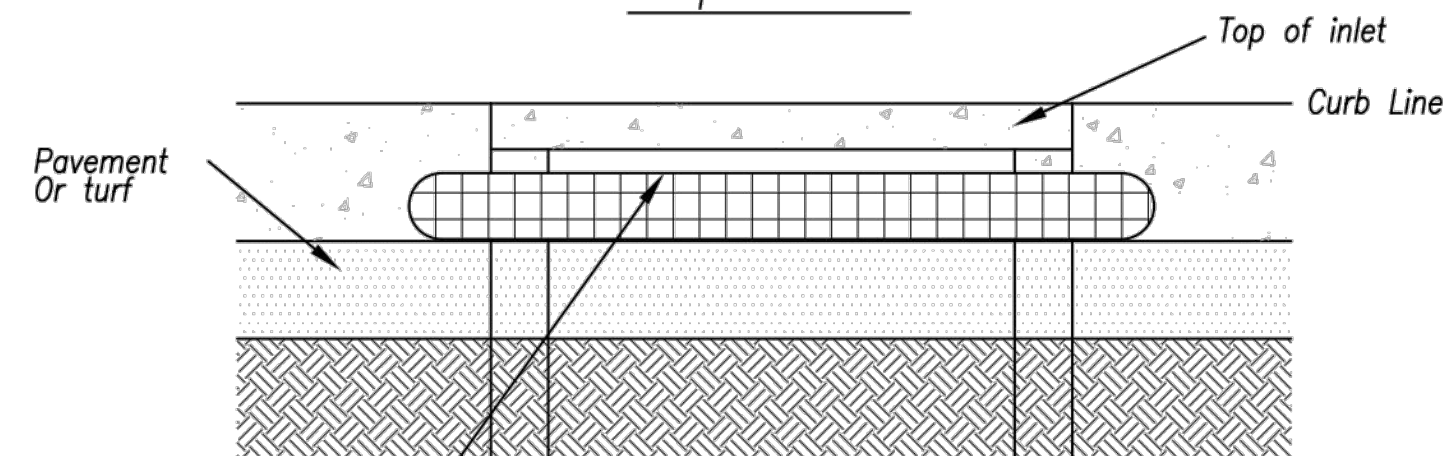
1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.



On Grade Curb Inlet Protection



Top View



Front View

Sump Inlet Sediment Filter

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

AMERICAN PUBLIC WORKS ASSOCIATION

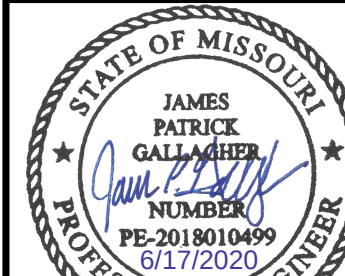


KANSAS CITY
METRO CHAPTER

CURB INLET PROTECTION

STANDARD DRAWING
NUMBER ESC-06
ADOPTED:
10/24/2016

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



JAMES PATRICK GALLAGHER
PE-2018010499

BY

REVISIONS DESCRIPTION

DATE

REV. NO.

2020

EROSION CONTROL DETAILS

HIGHWAY 150 & PRYOR ROAD

ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

REVISIONS

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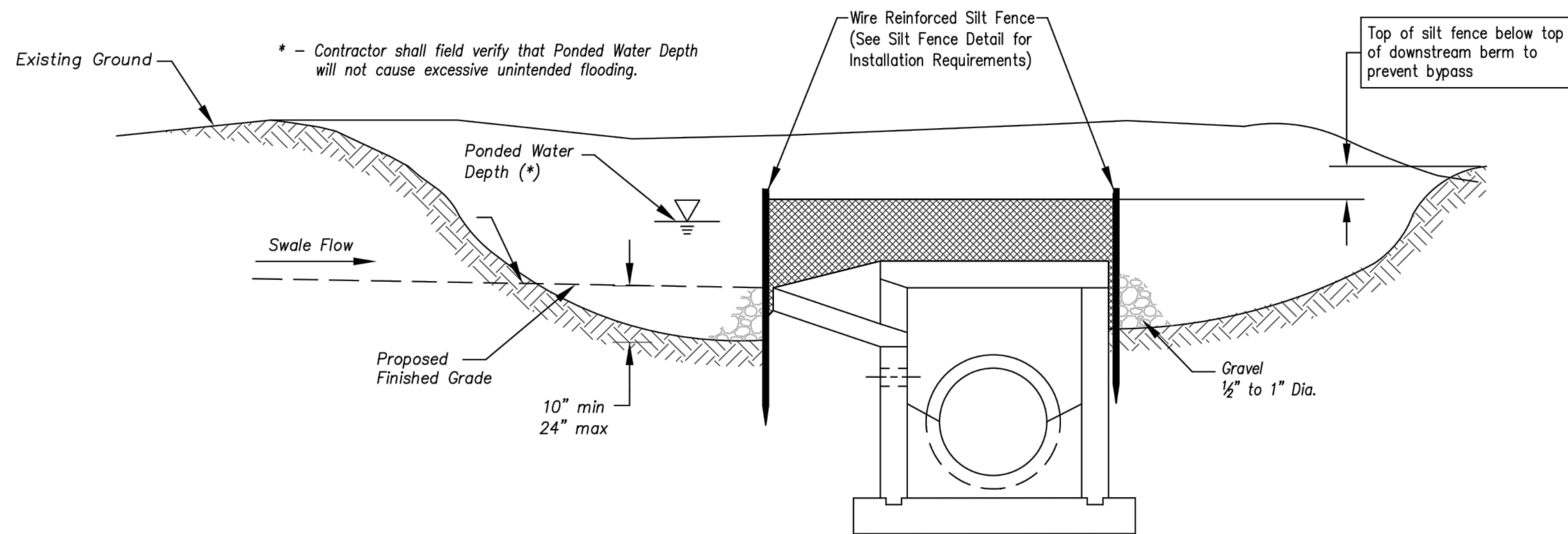
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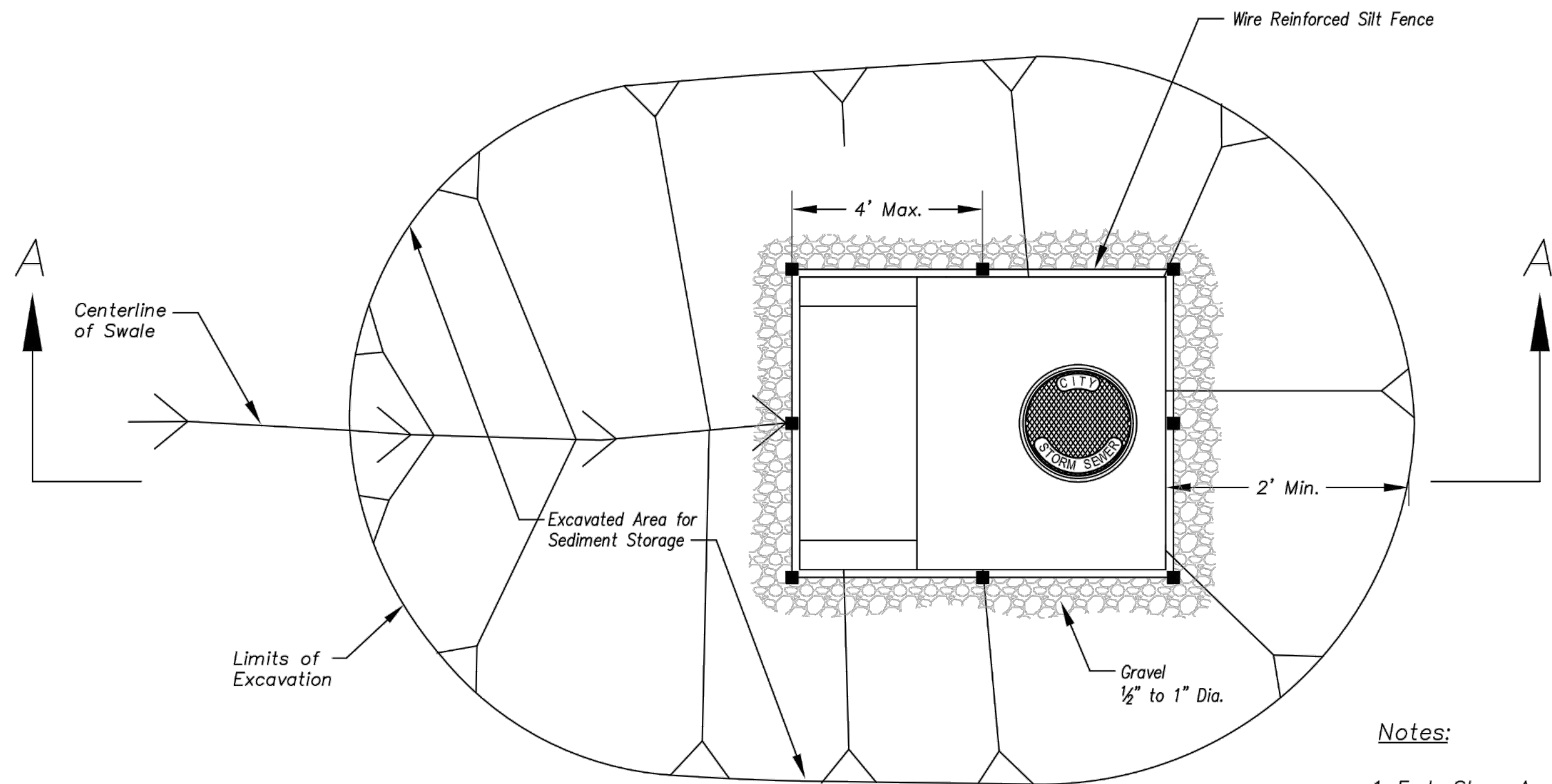
2020

2020

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DATE: Jun 16, 2020 12:46pm XREFS: T_PBASE_A192339 T_PBLK_A192339 T_PSTRM_A192339



Section A-A
Not to Scale



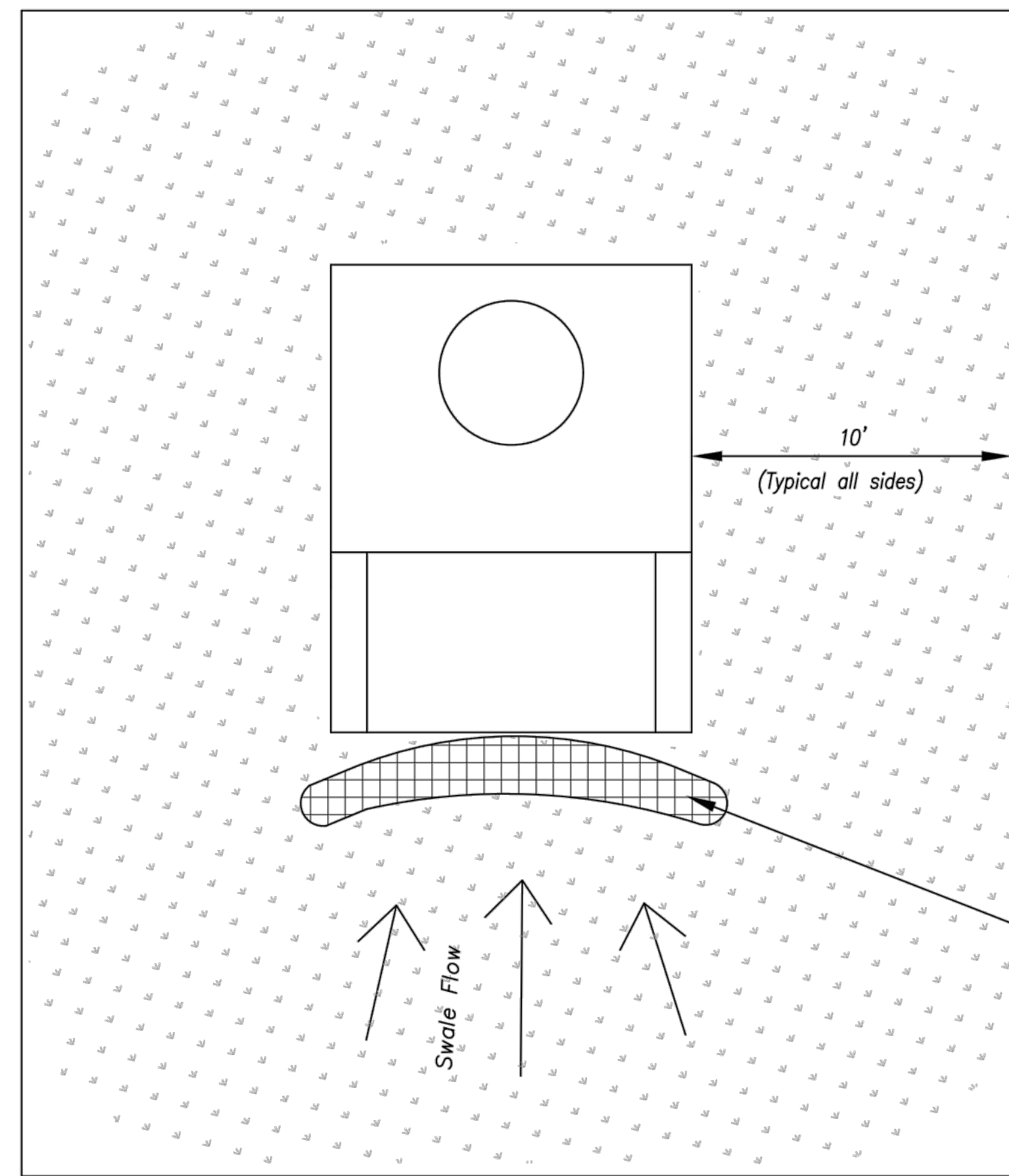
Plan
Not to Scale

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

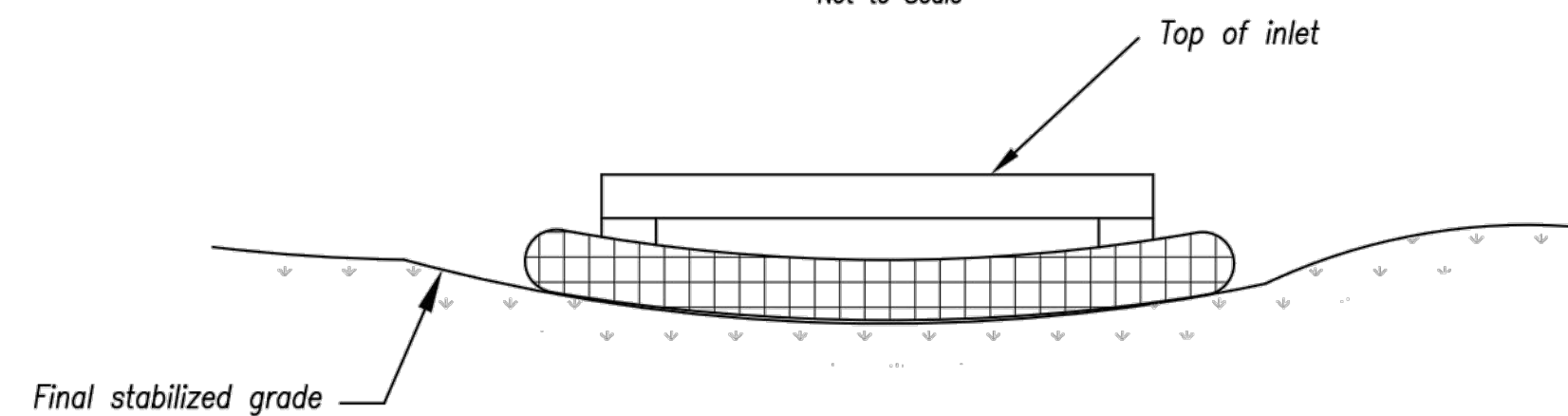
Notes:

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

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



Plan
Not to Scale



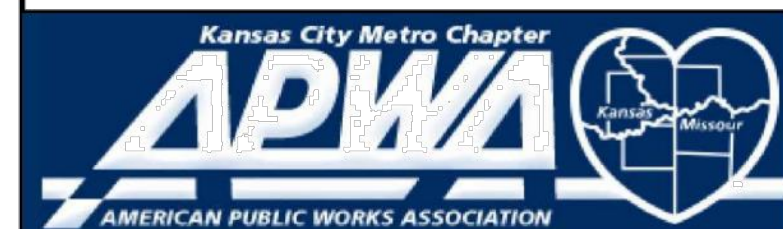
Front View

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

Maintenance:

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

AMERICAN PUBLIC WORKS ASSOCIATION



KANSAS CITY
METRO CHAPTER

AREA INLET AND
JUNCTION BOX PROTECTION

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

drawn by: AKU
checked by: JPG
approved by: RBC
QA/QC by: RBC
project no.: A19-2339
drawing no.: T_ERC_A192339
date: 2020.06.16

SHEET
39 of 62

EROSION CONTROL DETAILS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

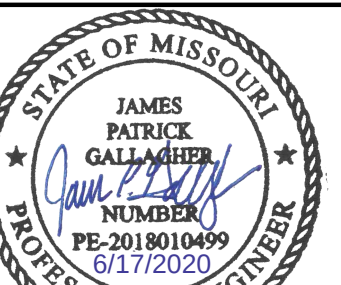
LEE'S SUMMIT, MO

2020

REVISIONS

BY

JAMES PATRICK GALLAGHER
PE-2018010499



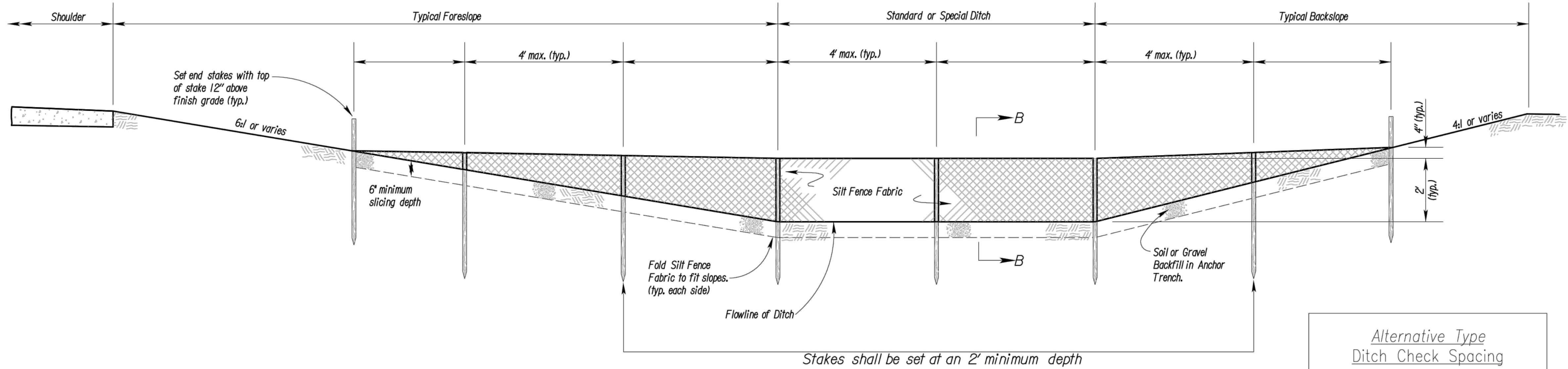
olsson

Olsson - Civil Engineering
1301 Burlington Street
North Kansas City, MO 64116
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www.olson.com

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Find Plans\Sheets\BDR\EROSION_CONTROL\T_ERC_A192339.dwg USER: asacaveda
DATE: Jun 16, 2020 12:47pm XREFS: T_PBASE_A192339 T_PBLK_A192339 T_PSTRM_A192339 C_XBASE_A192339

Notes for Silt Fence Ditch Check:

- Stakes shall be 4' (min.) long and one of the following materials:
 - Hardwood - 1 3/16" x 1 3/16";
 - Southern Pine (No. 2) - 2 5/8" x 2 5/8";
 - Steel U, T, L, or C Section - .95 lbs. per 1'-0";
 - Synthetic - same strength as wood stakes.
- Cross pieces shall be of same material as stakes.
- Attach fence fabric securely on 6" centers (max.).
- Use of high flow material is acceptable.
- Refer to plan sheets to estimate the length of silt fence required.
- Use support fencing when tributary area is greater than 2.4 acres or when ditch gradient is greater than 2 percent.
- Silt fence sliced in to a 6" minimum depth.
- Elevation at tie in points shall be a minimum of 4" higher than the center.

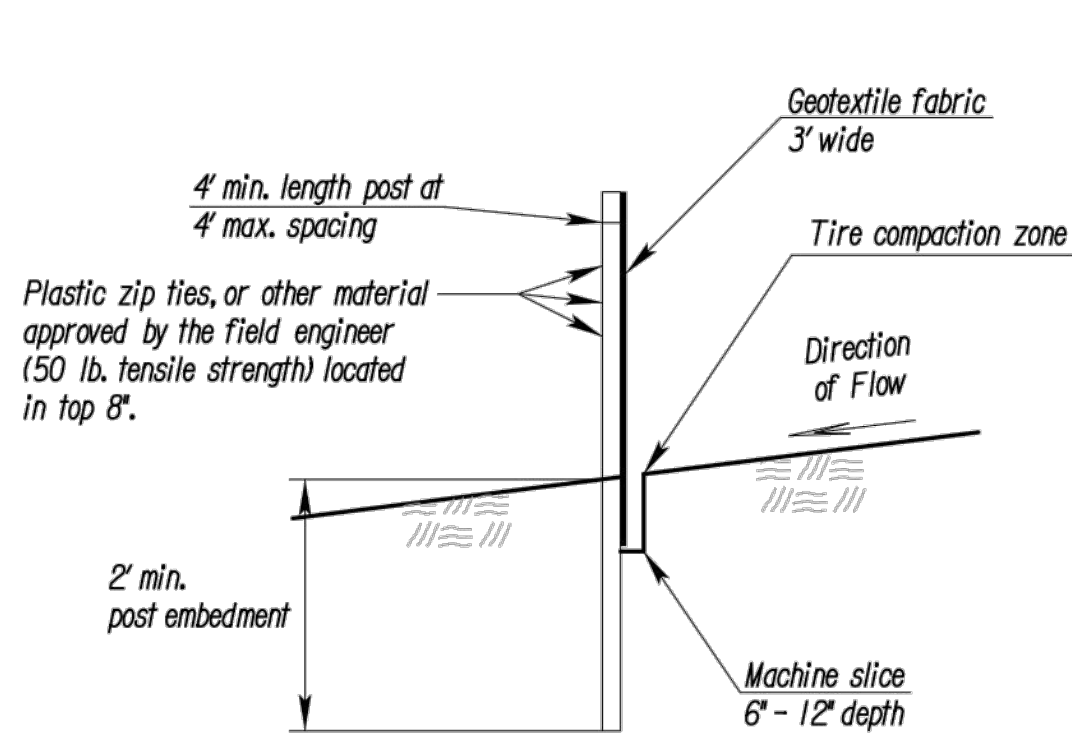


TYPICAL ELEVATION

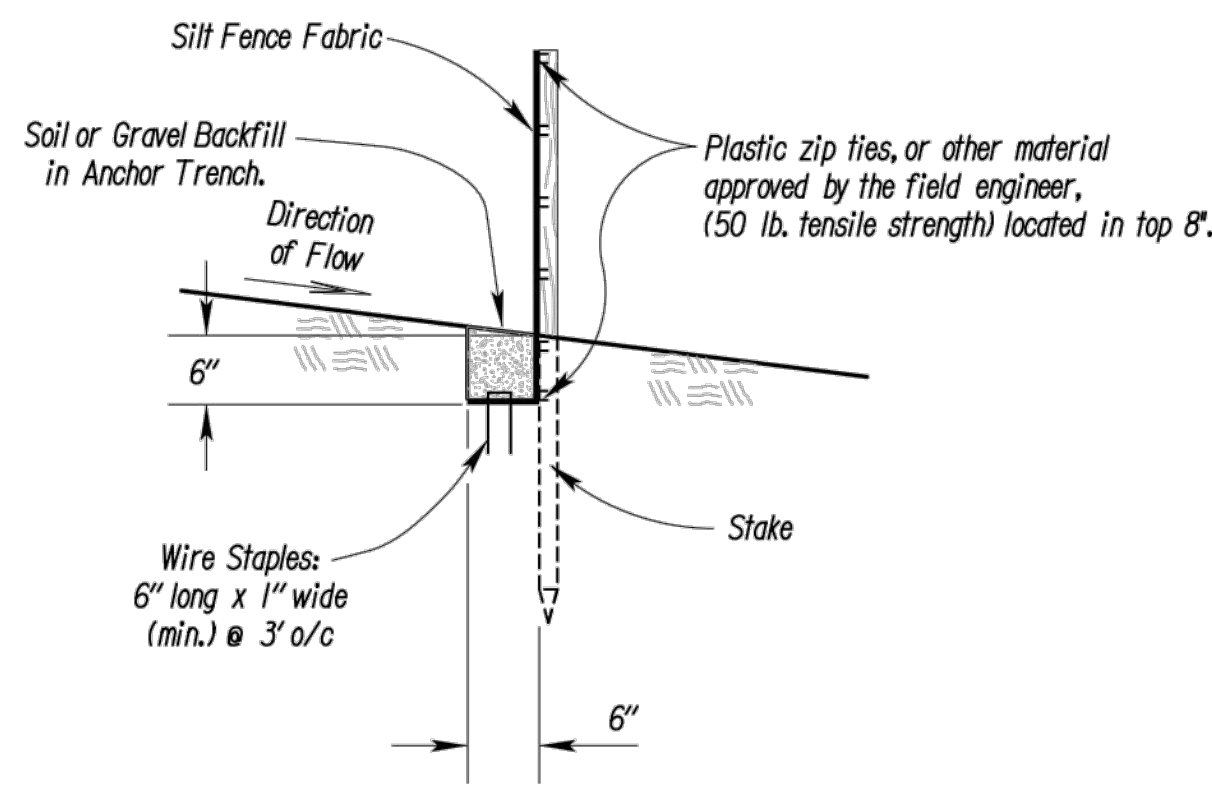
Alternative Type
Ditch Check Spacing

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

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



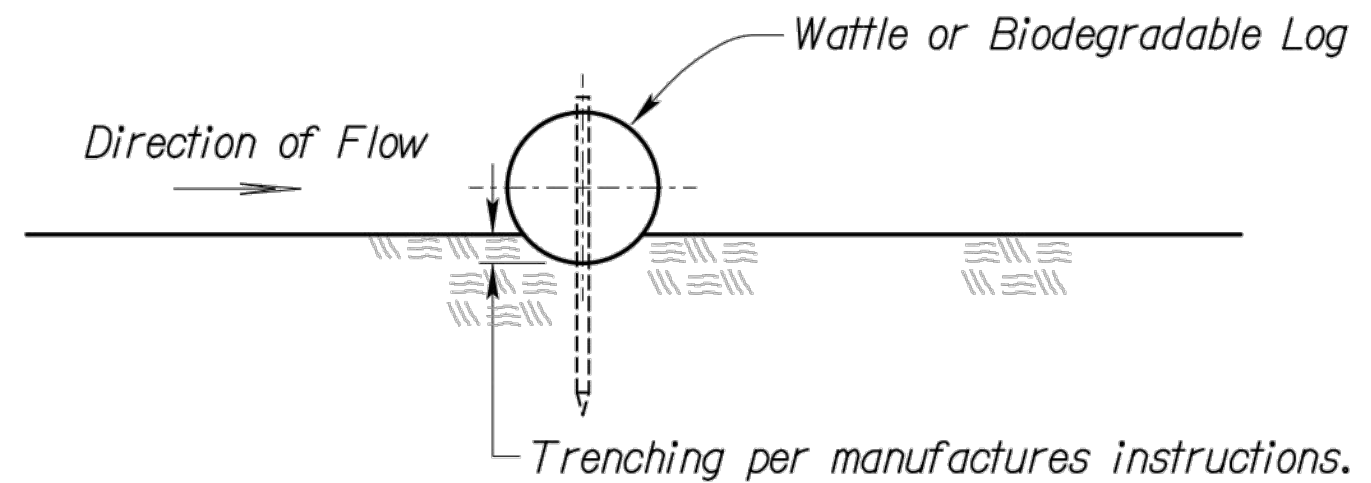
SECTION B-B



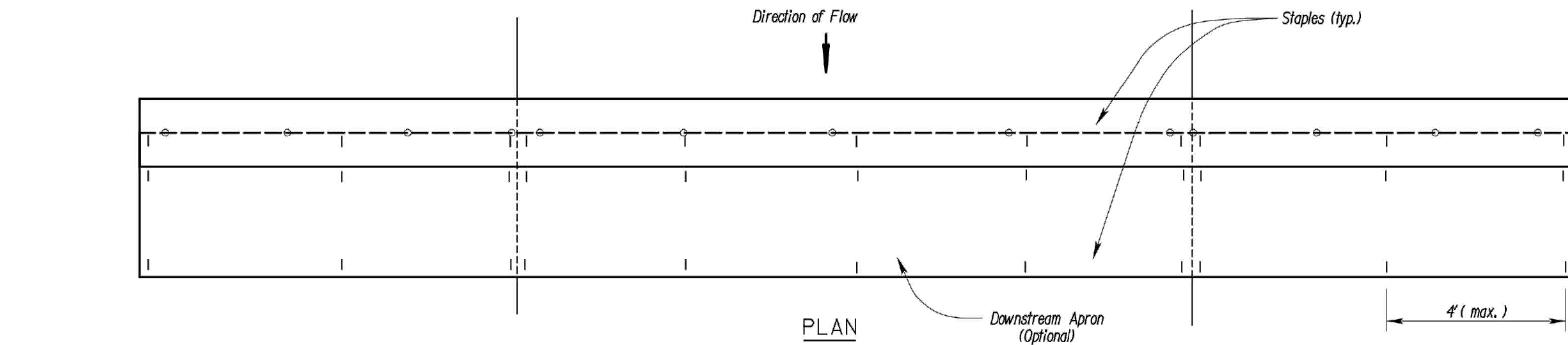
SILT FENCE DITCH CHECK
NO SCALE

Notes for Wattles and Biodegradable Log Ditch Check:

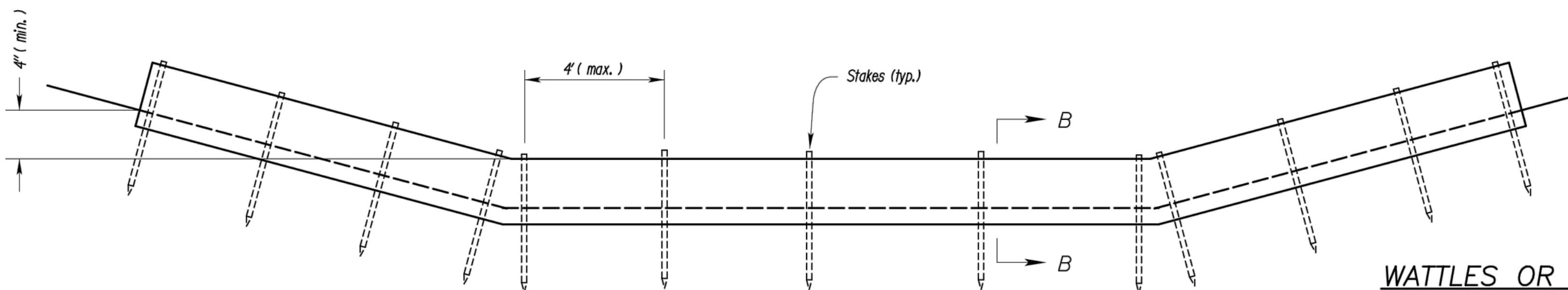
- Use as many biodegradable log sections as necessary to ensure water does not flow around end of ditch check.
- Overlap sections a minimum of 18"
- Stakes shall be per manufacturer's instructions. Length of stakes shall be a minimum of 2 times the diameter of the log or 24" minimum.
- Use Erosion Control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



SECTION B - B



PLAN



TYPICAL ELEVATION

WATTLES OR BIODEGRADABLE LOG DITCH CHECKS

OR Filter Sock Ditch Check
NO SCALE

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

AMERICAN PUBLIC WORKS ASSOCIATION



**KANSAS CITY
METRO CHAPTER**

**SILT FENCE AND WATTLE/
BIODEGRADABLE LOG
DITCH CHECKS**

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

drawn by: AKU
checked by: JPC
approved by: JPC
QA/QC by: RBC
project no.: A19-2339
drawing no.: T_ERC_A192339
date: 2020.06.16

SHEET
40 of 62

EROSION CONTROL DETAILS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

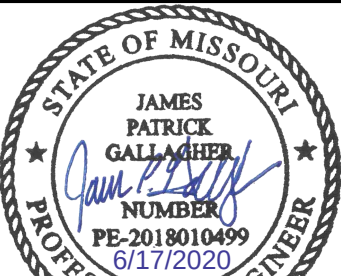
LEE'S SUMMIT, MO

2020

REV. NO. DATE REVISIONS DESCRIPTION

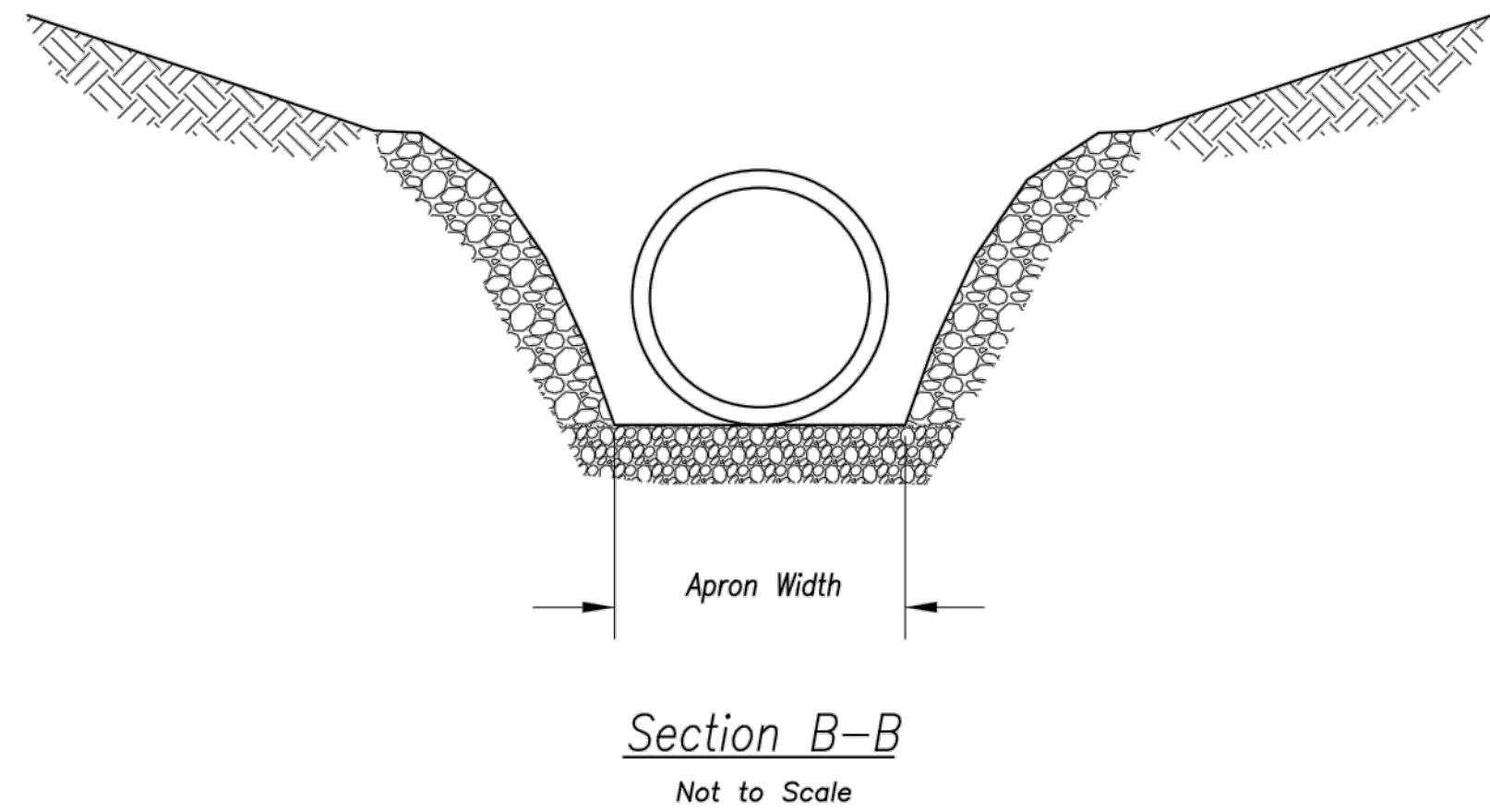
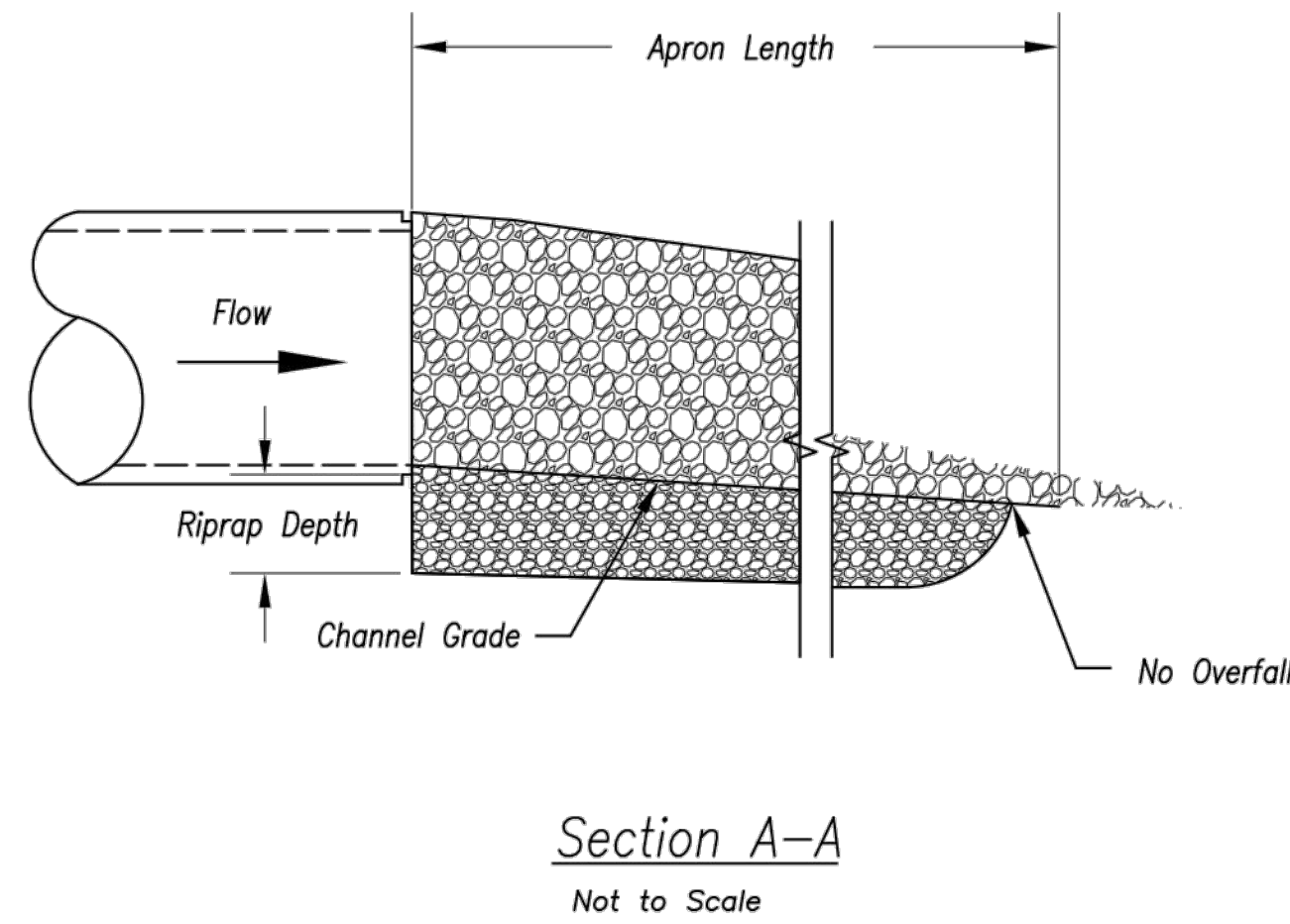
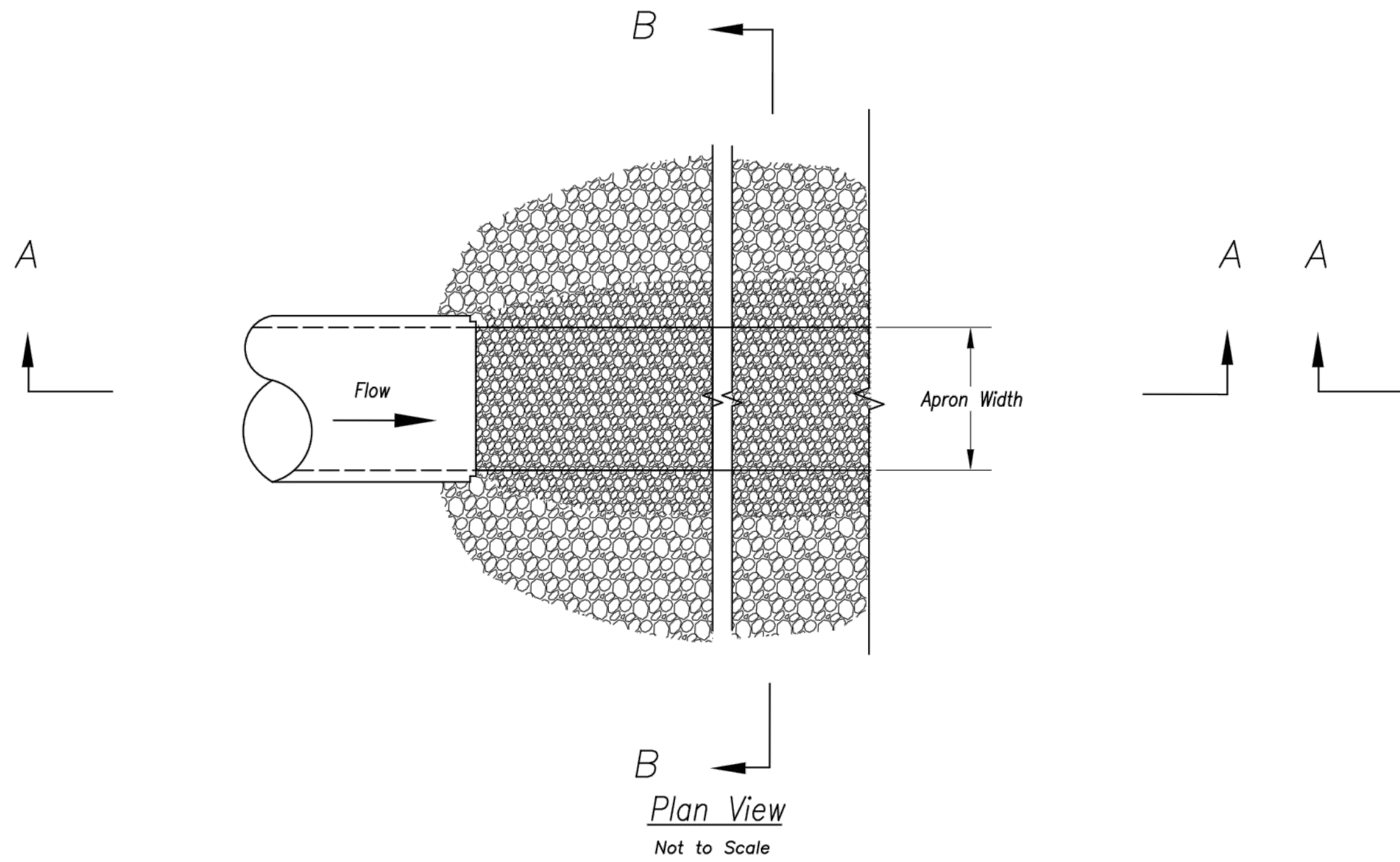
BY

JAMES PATRICK GALLAGHER
PE-2018010499

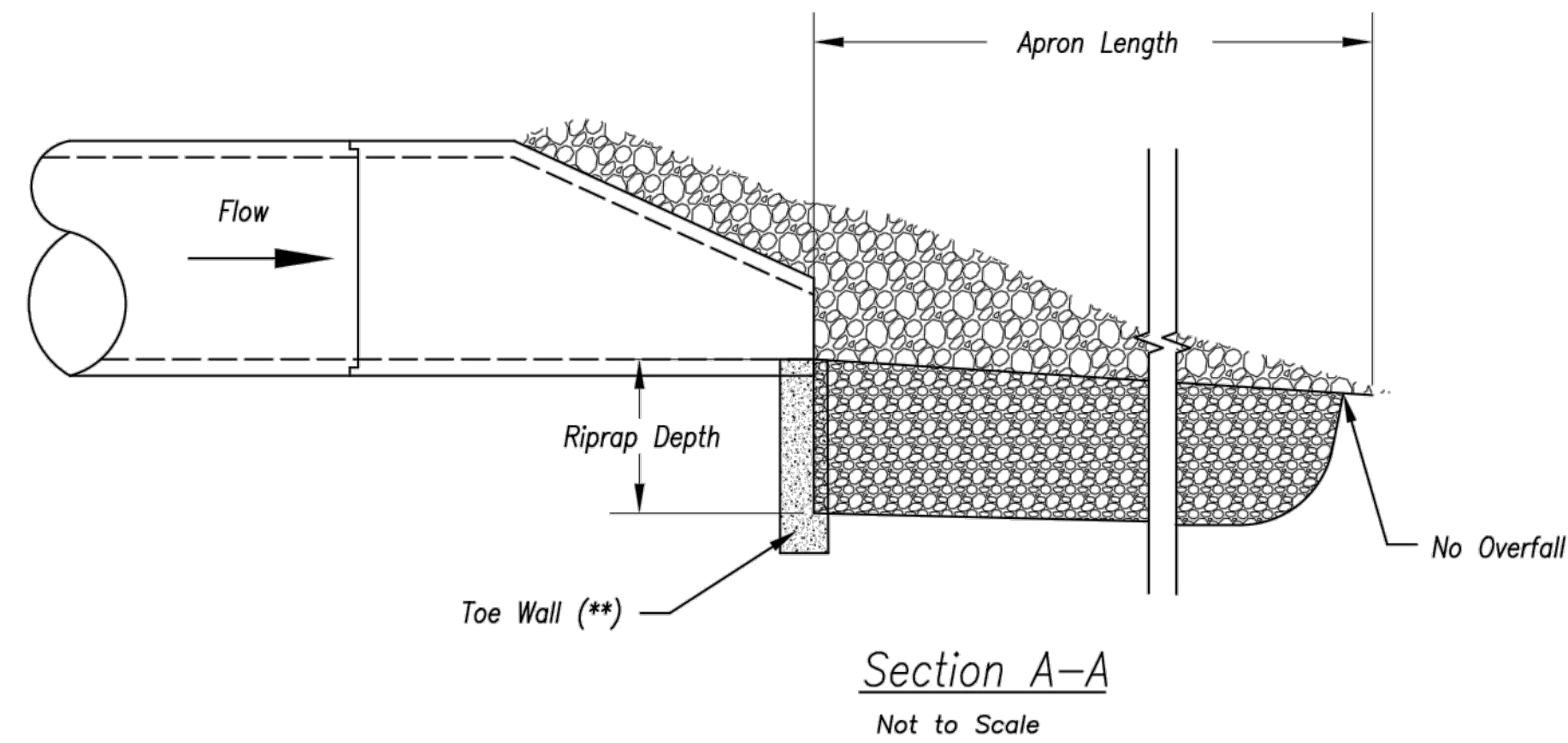
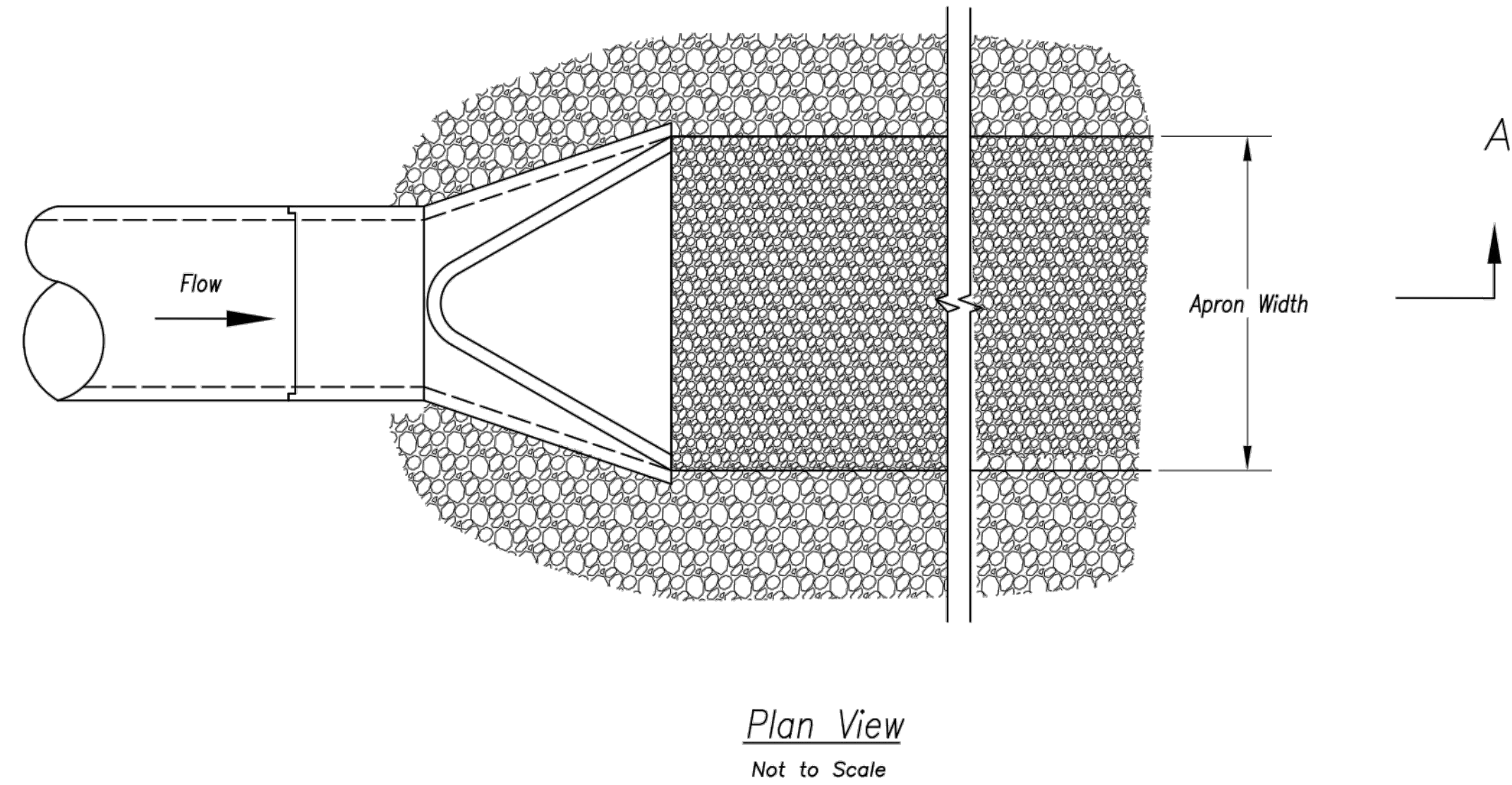


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OUTLET PROTECTION W/O END SECTION



OUTLET PROTECTION WITH END SECTION

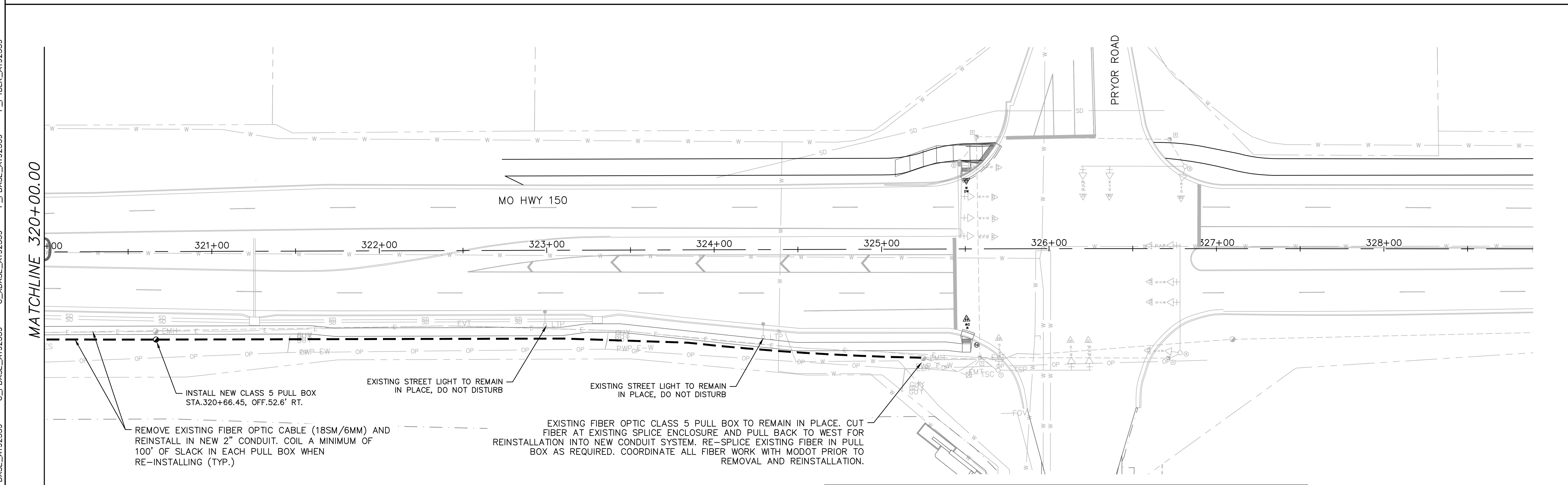
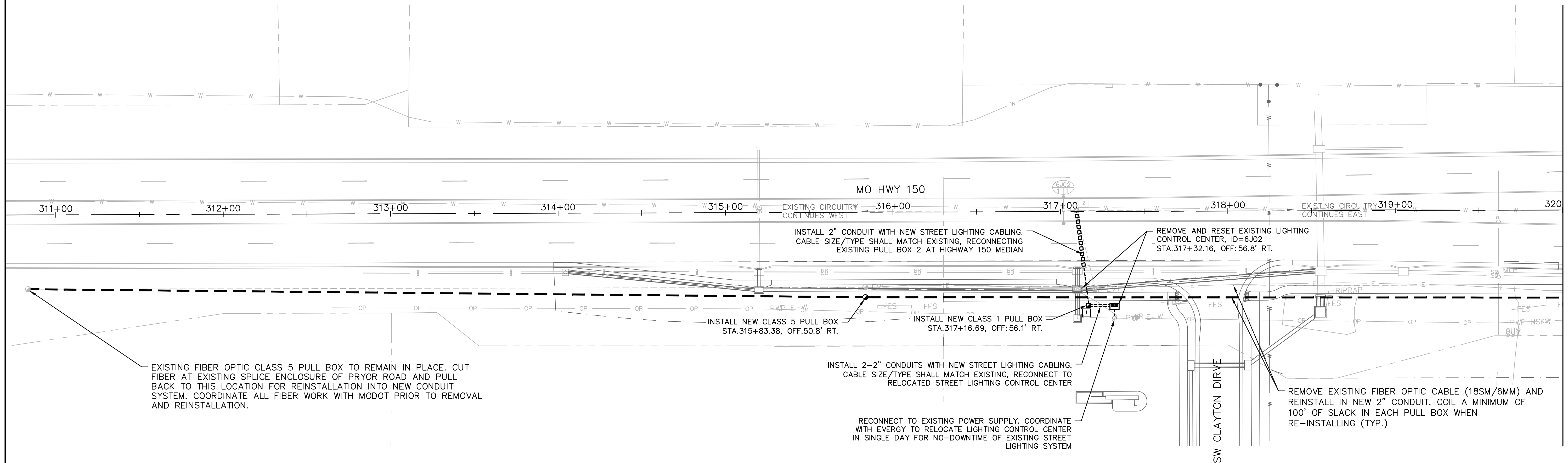
- Notes:
1. Rock all sides steeper than 3:1.
 2. Stabilize all disturbed areas downstream of outlet to the limits of disturbance.
 3. Alternative outlet protection and slope stabilization measures may be used with approval by the Engineer.
 4. Install riprap apron so that it is no higher than flowline of pipe.
 5. Reference APWA Specification 2650 for rock type, size, and placement.

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

AMERICAN PUBLIC WORKS ASSOCIATION Kansas City Metro Chapter	
KANSAS CITY METRO CHAPTER	
OUTLET PROTECTION	STANDARD DRAWING NUMBER ESC-14 ADOPTED: 10/24/2016

olsson Olsson - Civil Engineering Professional Engineer 1301 Burlington Street North Kansas City, MO 64116 TEL 816.361.1177 www.olson.com	
JAMES PATRICK GALLAGHER PE-2018010499	
BY	
REVISIONS DESCRIPTION	
DATE	
REV. NO.	
EROSION CONTROL DETAILS	
HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS	
LEE'S SUMMIT, MO	
2020	
SHEET 41 of 62	

drawn by: AKU
checked by: JPG
approved by: RBC
QA/QC by: RBC
project no.: A19-2339
drawing no.: T_ERC_A192339
date: 2020.06.16



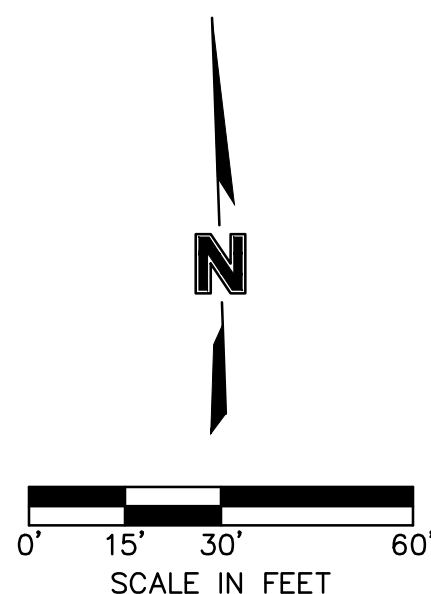
LIGHTING AND INTERCONNECT LEGEND			
	CONTROLLER		PREFORMED PULL BOX CLASS 1
	CONTROLLER (EXISTING)		EXISTING CLASS 5 PULL BOX
	EXISTING POWER SOURCE		PROPOSED CLASS 5 PULL BOX
			CONDUIT PUSHED
			CONDUIT EXISTING
			CONDUIT TRENCHED
			EXISTING 250W HPS W/45' MOUNTING HEIGHT TYPE AT POLE
			TWIN ARM 250W HPS LUMINAIRES W/45' MOUNTING HEIGHT TYPE AT POLE

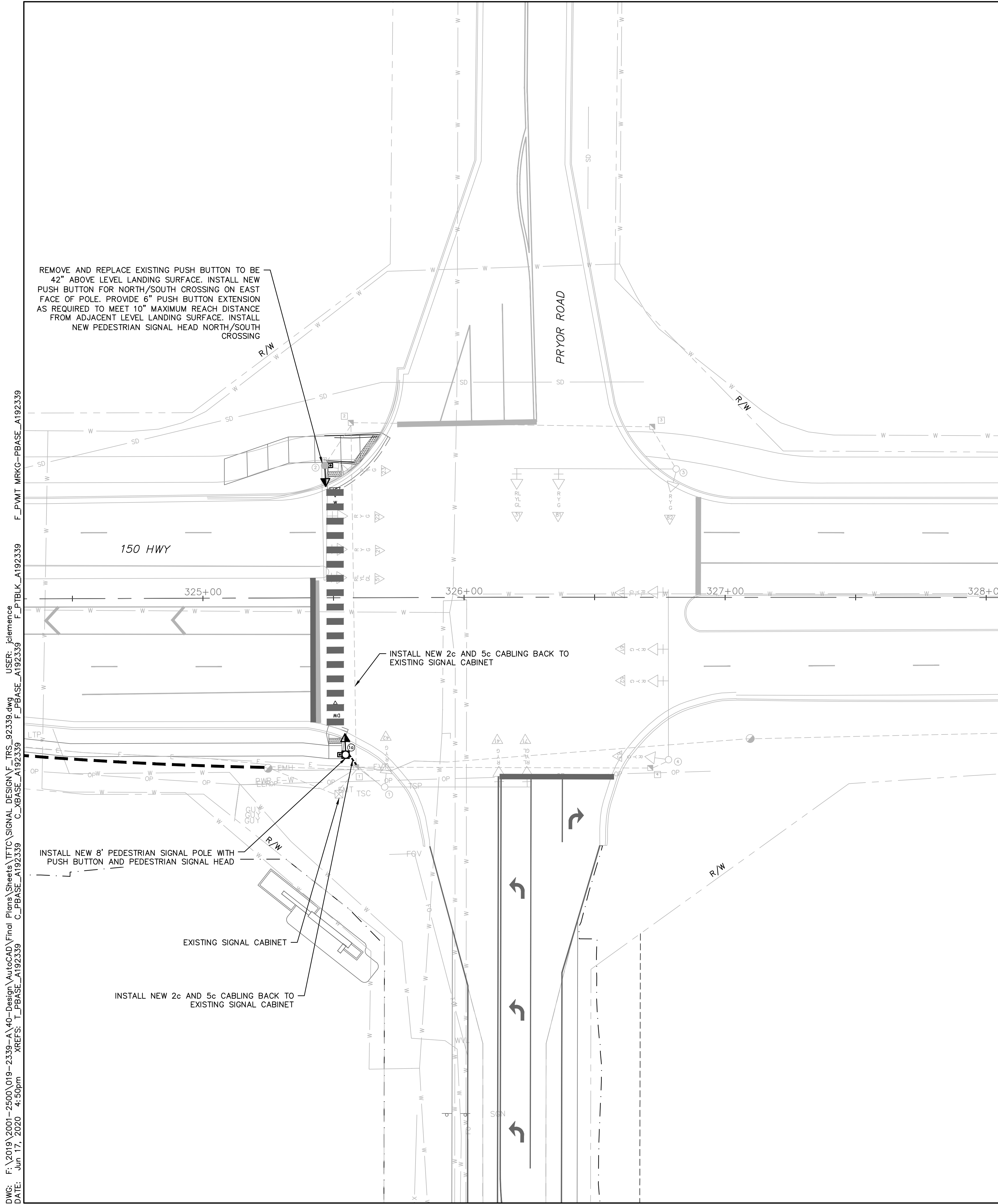
LIGHTING MODIFICATION SUMMARY OF QUANTITIES*			
ITEM	ITEM DESCRIPTION	UNITS	QUANTITY
1.	REMOVE AND RESET EXISTING CONTROL CENTER	LUMP SUM	1
2.	SUPPLY AND INSTALL CLASS I PULL BOX	EACH	10
3.	INSTALL 2" LIGHTING CONDUIT WITH CABLE	LF	110'

*NOTE: FOR INFORMATION PURPOSE ONLY, STREET LIGHTING SHALL BE BID AS LUMP SUM.

INTERCONNECT MODIFICATION SUMMARY OF QUANTITIES*			
ITEM	ITEM DESCRIPTION	UNITS	QUANTITY
1.	REMOVE AND RE-SPLICE EXISTING FIBER OPTIC CABLE IN EXISTING PULL BOX	LUMP SUM	1
2.	SUPPLY AND INSTALL CLASS 5 PULL BOX	EACH	2
3.	INSTALL 2" INTERCONNECT CONDUIT AND RELOCATE 24CT CABLE	LF	1,500'

*NOTE: FOR INFORMATION PURPOSE ONLY, SIGNAL INTERCONNECT SHALL BE BID AS LUMP SUM





TRAFFIC SIGNALS LEGEND			
	CONTROLLER		PUSH BUTTON DETECTOR
	CONTROLLER (EXISTING)		PREFORMED PULL BOX TYPE 1
	JUNCTION BOX		PREFORMED PULL BOX TYPE 2
	POWER SOURCE		PULL BOX TYPE 1
	POWER SUPPLY		PULL BOX TYPE 2
	WOOD POST		ITS PULL BOX TYPE 2
	SIGNAL HEAD (OPT LIM CONV)		ITS PULL BOX TYPE 5
	SIGNAL HEAD (OPT LIM)		VIDEO DETECTOR
	SIGNAL HEAD (PEDESTRIAN)		EXISTING DETECTOR
	SIGNAL HEAD (STANDARD)		15' ARM 400W H.P.S.L.
	BIKE SIGNAL HEAD (STANDARD)		VIDEO DETECTION ZONE
			RADAR DETECTION ZONE
			CCTV CAMERA
			EXISTING CCTV CAMERA
			RADAR DETECTOR
			EXISTING RADAR DETECTOR
	CONDUIT MEDIAN		CONDUIT PUSHED
	CONDUIT BRIDGE		CONDUIT EXISTING
	CONDUIT TRENCHED		TYPE C BASE
			TYPE C MAST ARM A BASE
			EXISTING TYPE C BASE
			EXISTING TYPE C MAST ARM A BASE
			EXISTING SIGNAL HEAD (STANDARD)
			EXISTING SIGNAL HEAD (PEDESTRIAN)
			EXISTING PULL BOX TYPE 1
			WIRELESS DEVICE
			EXISTING WIRELESS DEVICE

- R

RED BALL
- Y

YELLOW BALL
- G

GREEN BALL
- RL

RED LEFT ARROW
- YL

YELLOW LEFT ARROW
- GL

GREEN LEFT ARROW
- YRt

YELLOW RIGHT ARROW
- GRt

GREEN RIGHT ARROW
- S

STRAIGHT GREEN ARROW
- S*45

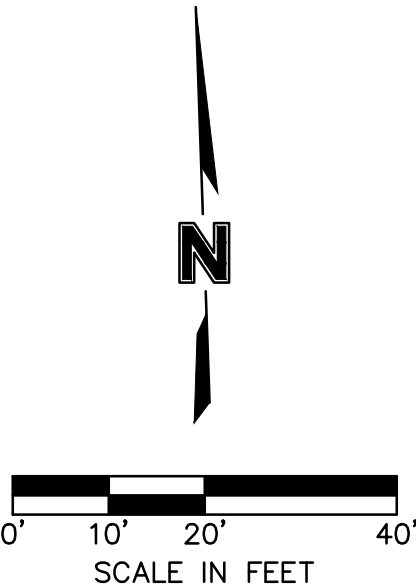
STRAIGHT GREEN ARROW MOUNTED AT 45° ANGLE
- W

PEDESTRIAN INDICATIONS SHALL BE LED
- DW

COUNTDOWN TYPE.

ALL 12" LENS WITH
TUNNEL VISOR

150 HIGHWAY & PRYOR ROAD



olsson

Olsson - Civil Engineering

Missouri Professional Engineer #001592

1301 Burlington Street

North Kansas City, MO 64116

TEL 816.361.1177

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BY	
REVISIONS DESCRIPTION	
DATE	
REV. NO.	

TRAFFIC SIGNAL PLAN

150 HWY & PRYOR ROAD

HIGHWAY 150 & PRYOR ROAD

ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

drawn by: JRC

checked by: JSS

approved by: JSS

QA/QC by: JSS

project no.: A19-2339

drawing no.: 43

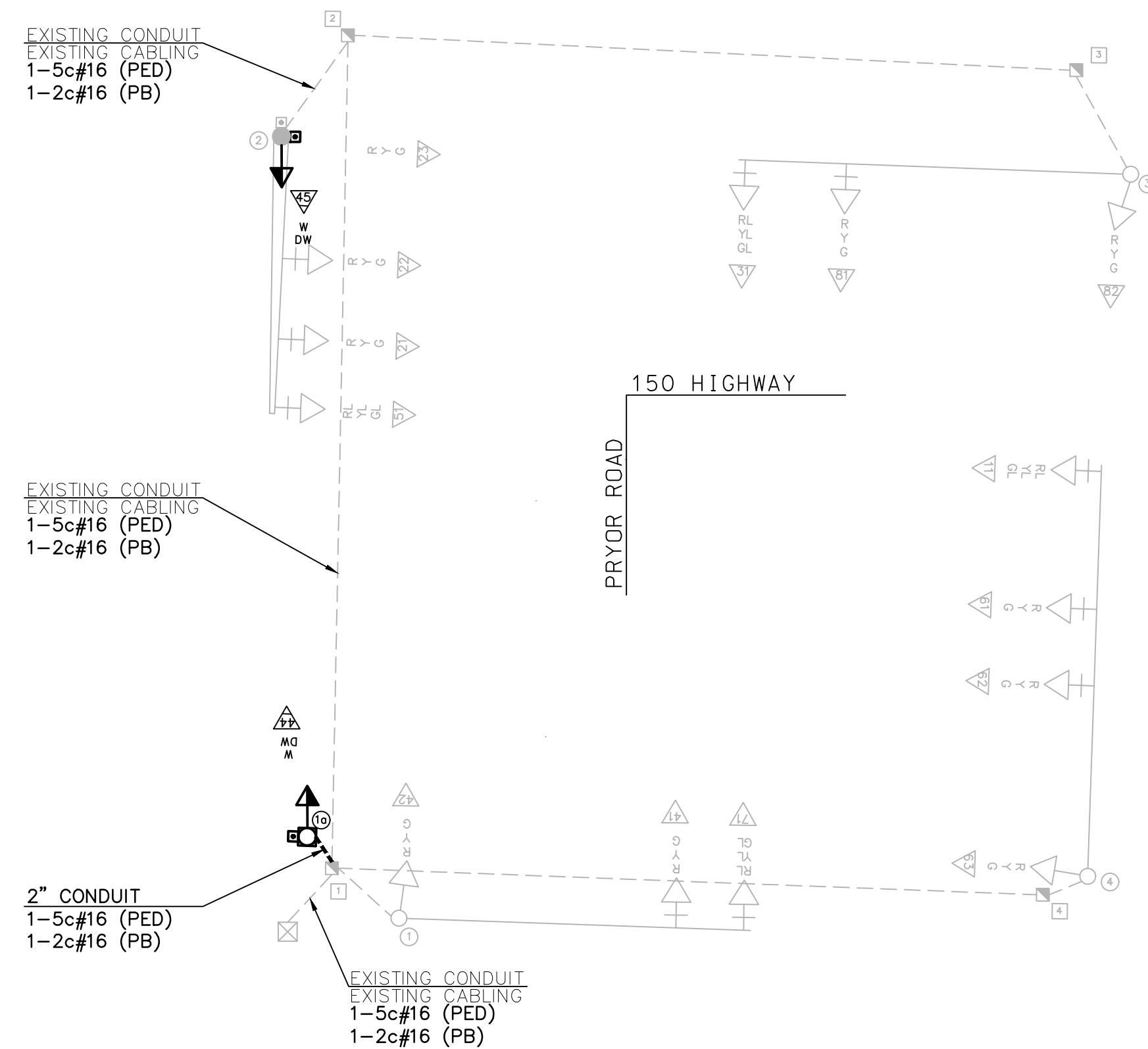
date: 2.12.2020

SHEET

43 of 62

2020

REVISIONS



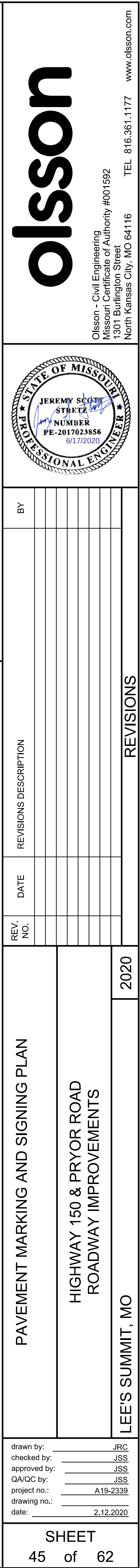
WIRING DIAGRAM

[illegible][illegible]

REMARKS
ALL LENGTHS AND SPACINGS ARE IN FEET UNLESS OTHERWISE INDICATED.
* ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
** SEE STANDARD PLANS 902.10 AND 902.30 FOR CONCRETE REQUIREMENTS ON BASES.
*** USE D3-16 FOR ONE LINE. USE D3-18 FOR TWO LINE.
SIGNAL STRUCTURES WHICH WILL EXCEED THE DIMENSION LIMITS SHOWN ON STANDARD PLAN SHEETS IN SECTION 902 AND ANY OTHER INSTALLATION WHERE THE DETAILS OF CONSTRUCTION ARE NOT FURNISHED IN THE CONTRACT PLANS, SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION, AND LATEST INTERIMS. THE STRUCTURE SHALL BE DESIGNED AS IMPORTANCE CATEGORY I FOR FATIGUE WITH A 50-YEAR DESIGN LIFE. THE CONTRACTOR SHALL SUBMIT A SET OF SHOP DETAIL DRAWINGS INCLUDING WELD PROCEDURE SPECIFICATIONS AND DESIGN COMPUTATIONS FOR MODOT RECORDS AND REFERENCE. THE SUBMITTED DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED IN ACCORDANCE WITH THE LAWS RELATING TO ARCHITECTS AND PROFESSIONAL ENGINEERS (CHAPTER 327, RSMO.), AND SHALL INCLUDE A TITLE BLOCK OR SUMMARY SHEET WHICH LISTS AND CERTIFIES THAT THE PRODUCT MEETS ALL OF THE SPECIFIED DESIGN CRITERIA.

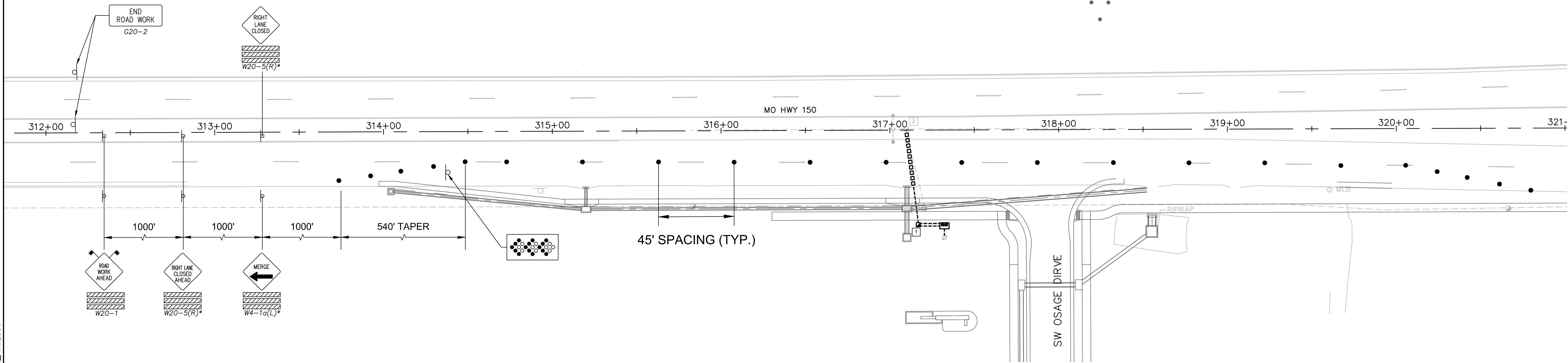
LEGEND
T - TOP MOUNT
S - SIDE MOUNT
C - SPANWIRE MOUNT
B - MAST ARM MOUNT

CONDUIT (WITH #14 TRACER WIRE)																CABLE										
FROM	TO	CENTER TO CENTER DISTANCE	LOOP DET.	TRENCH			PUSHED			MEDIAN			ON STRUCTURE		REMARKS	FROM	TO	CENTER TO CENTER DISTANCE	POWER		CONTROL				SYSTEM GROUND	
			1"	2"	3"	4"		2"	3"	4"	2"	3"	4"	2"					3"				2c	#16	5c	#16
PB	1A	5'		6'												CB	44	20'					44'			34'
																CB	PB45	20'			43'					
																CB	45	165'			195'				185'	
																CB	PB44	165'			194'					
SUBTOTALS				6'												SUBTOTALS					237'	239'			219'	
TOTALS				6'												TOTALS					237'	239'			219'	

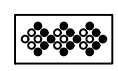


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USER: jferrance
C:\BASE_A192339
F:\BASE_A192339
T:\BASE_A192339
F:\PTBLK_A192339

GENERAL NOTES:
1.) CONTRACTOR SHALL OBTAIN ALL NECESSARY TEMPORARY TRAFFIC CONTROL PERMITS FROM MODOT AND THE CITY OF LEE'S SUMMIT. FOR CITY PER MITTING, A REGISTERED USER MUST SUBMIT AN APPLICATION TO THE PUBLIC WORKS DEPARTMENT BY PROVIDING A COMPLETED APPLICATION AND TRAFFIC CONTROL PLAN SHEETS TO PUBLICWORKS@CITYOFLS.NET



LEGEND



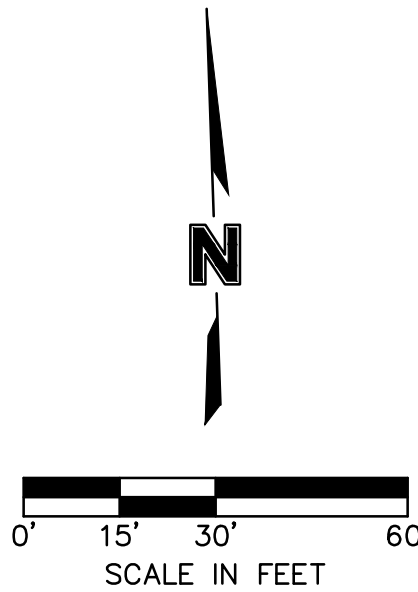
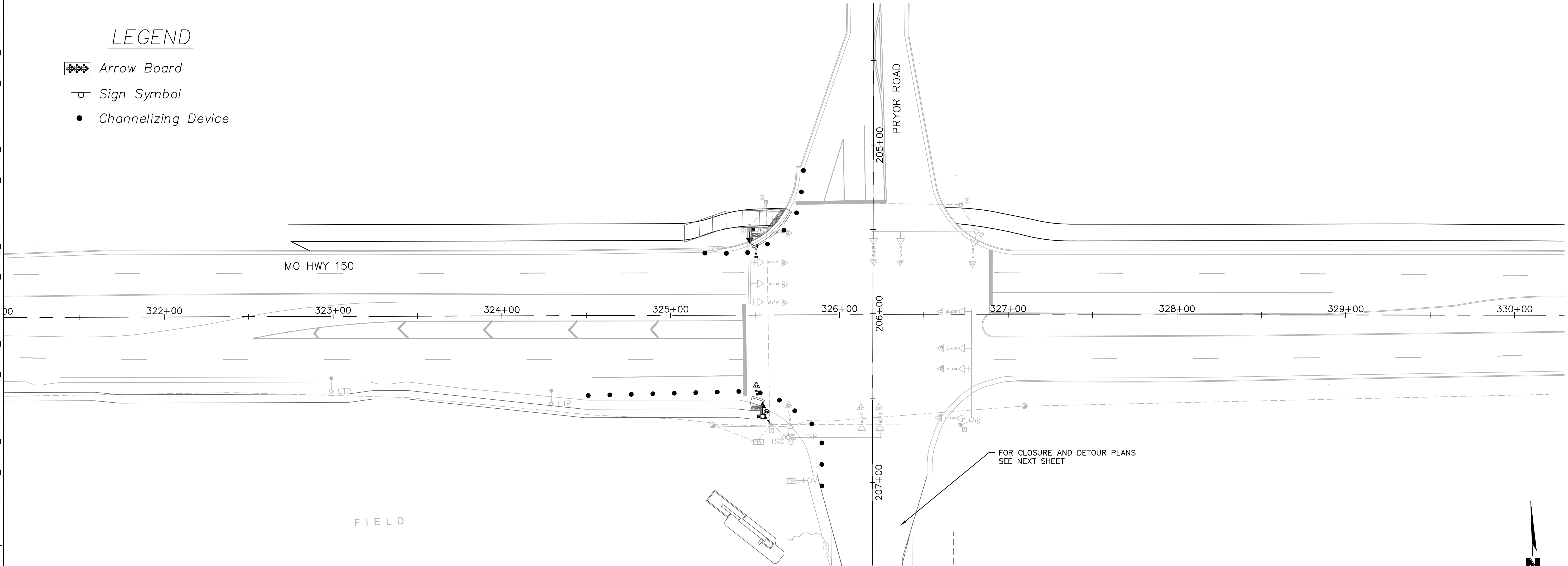
Arrow Board



Sign Symbol



Channelizing Device



drawn by: JRC
checked by: JSS
approved by: JSS
QA/QC by: JSS
project no.: A19-2339
drawing no.:
date: 2.12.2020

SHEET
47 of 62

TRAFFIC CONTROL PLAN

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

REV. NO. DATE REVISIONS DESCRIPTION

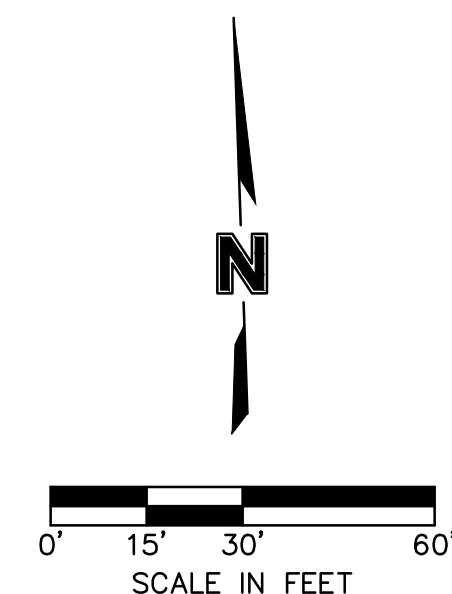
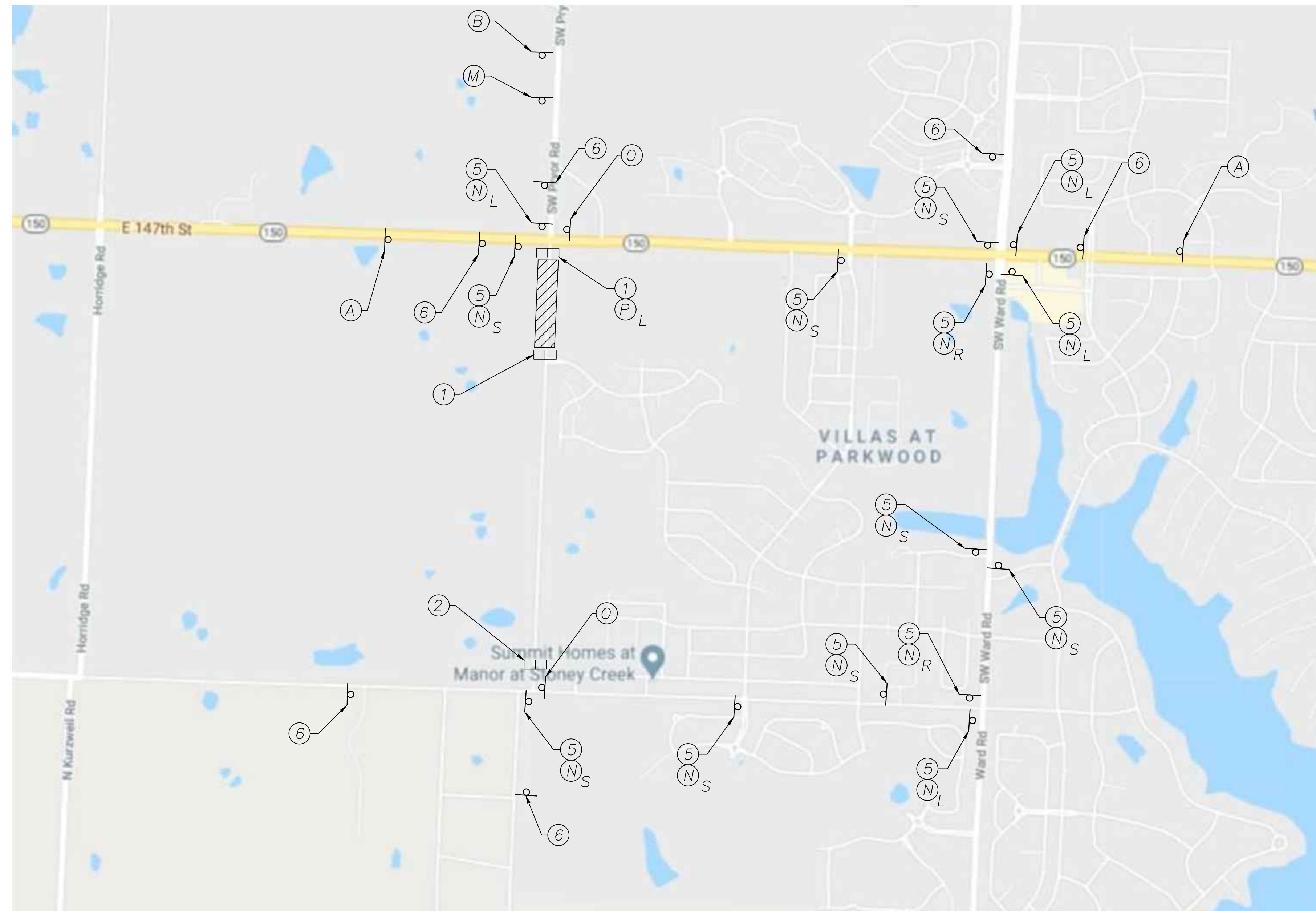
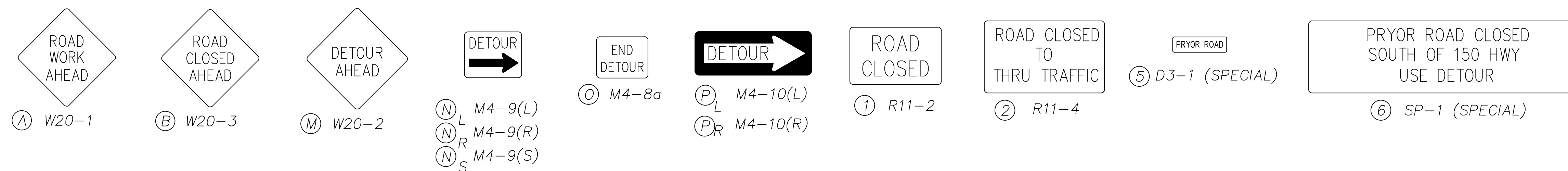
BY

REVISIONS



olsson

Olsson - Civil Engineering
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
www.olson.com

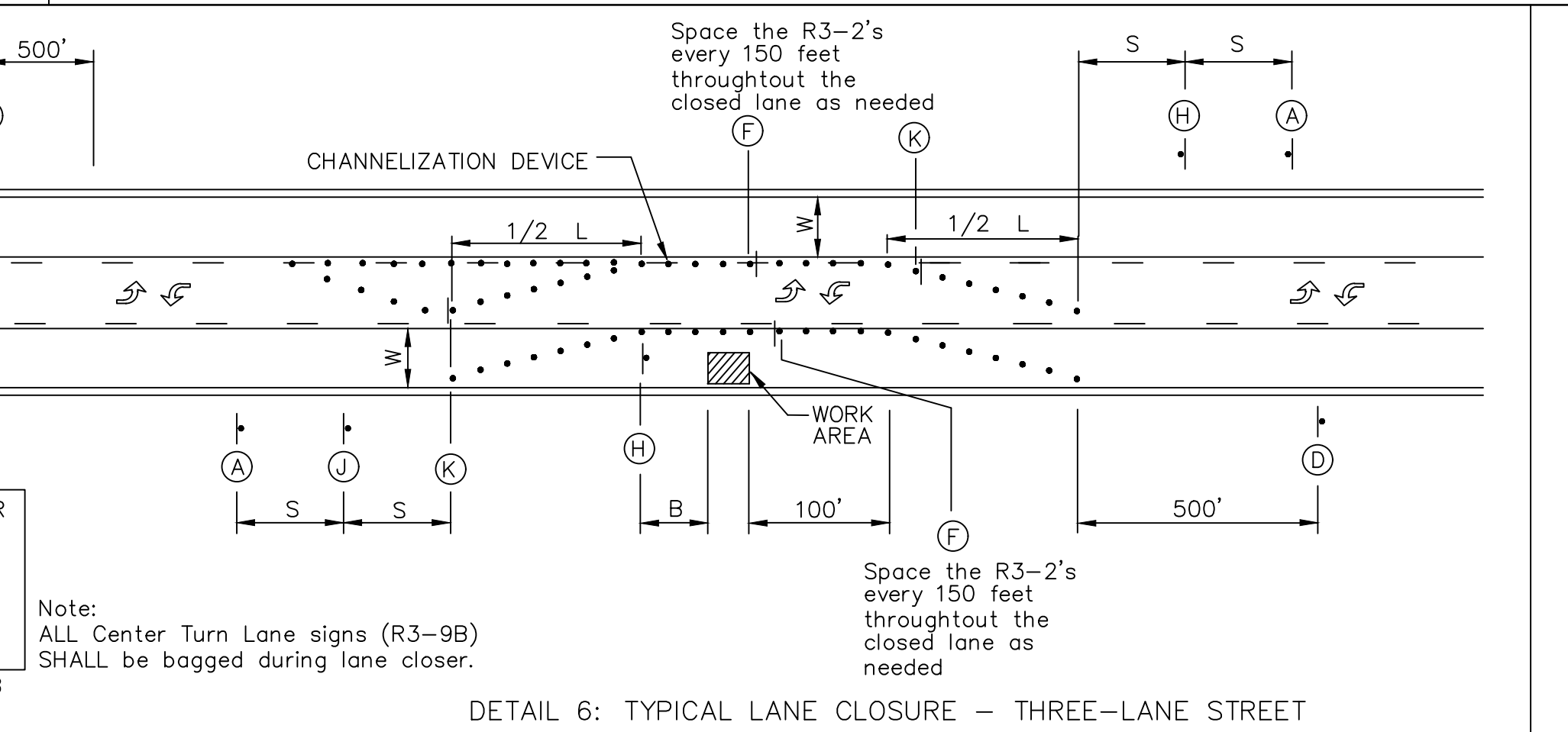
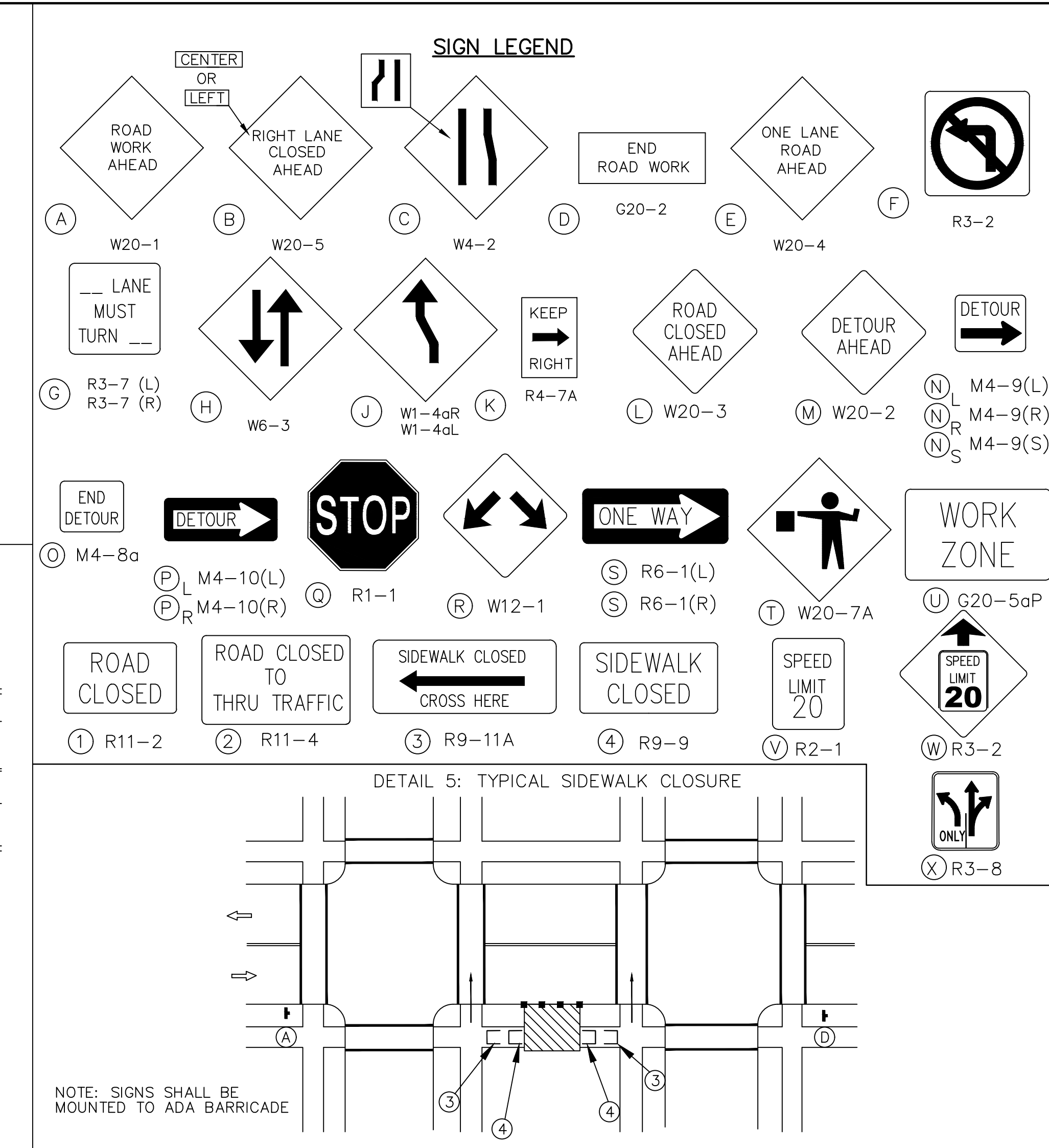
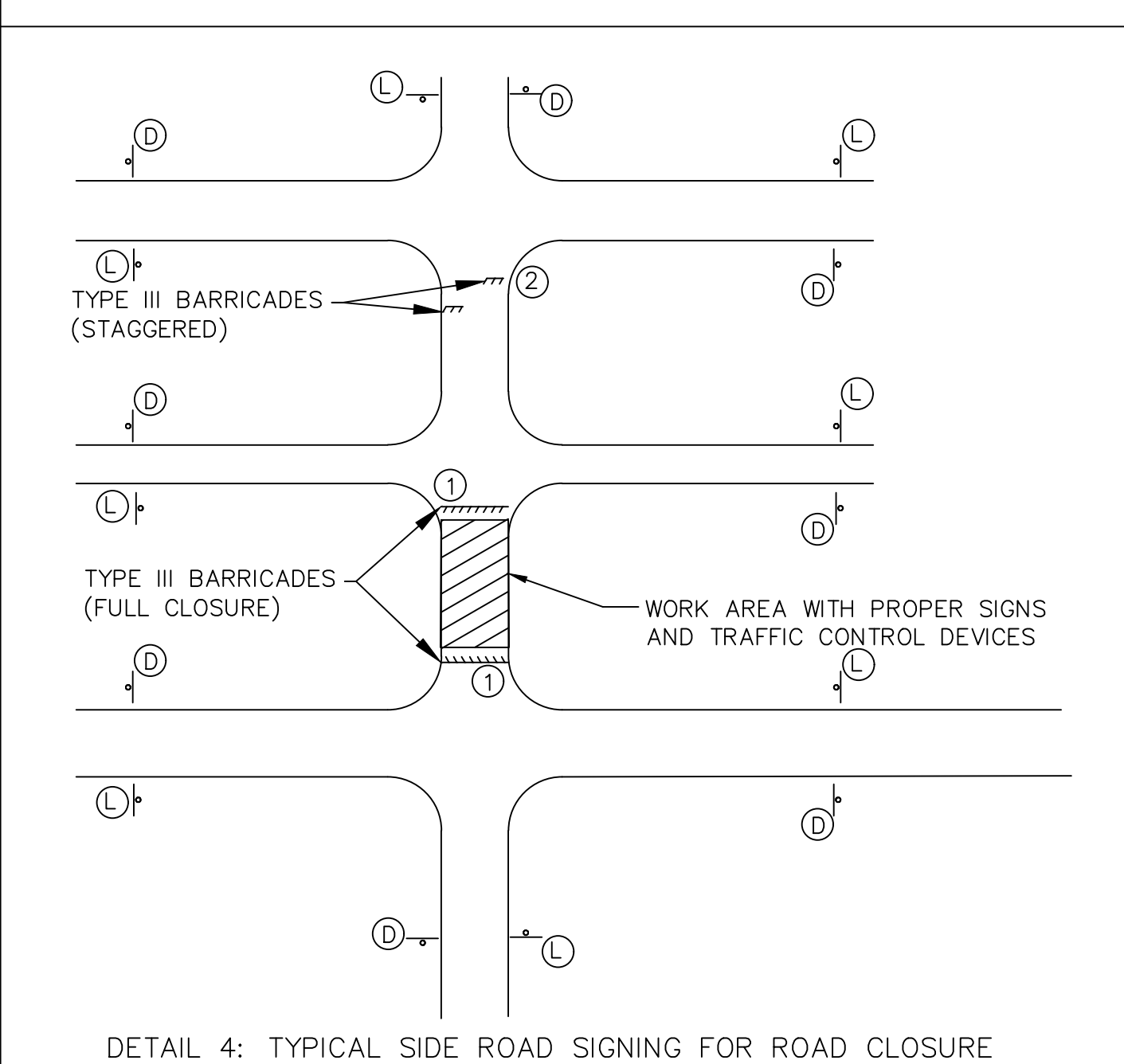
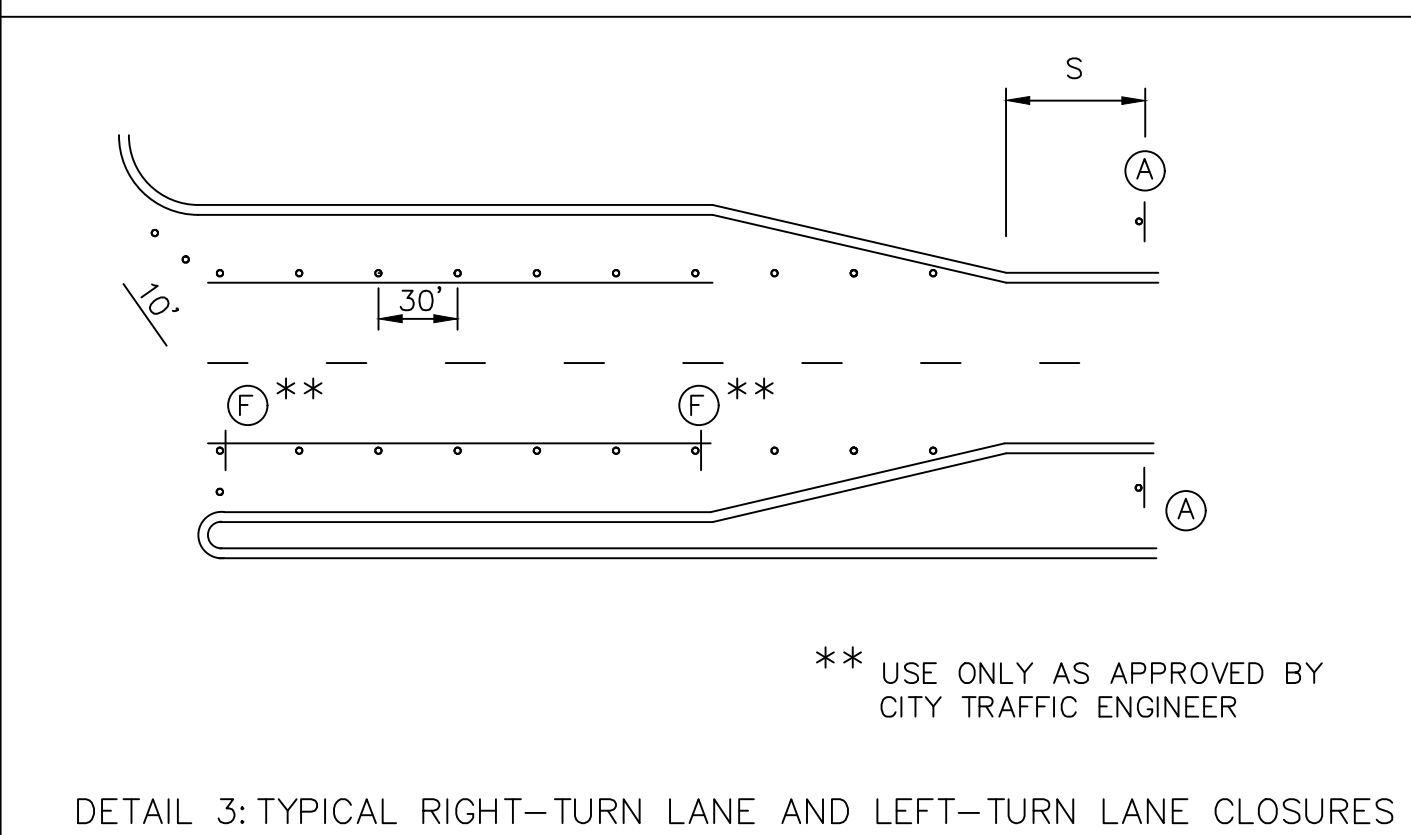
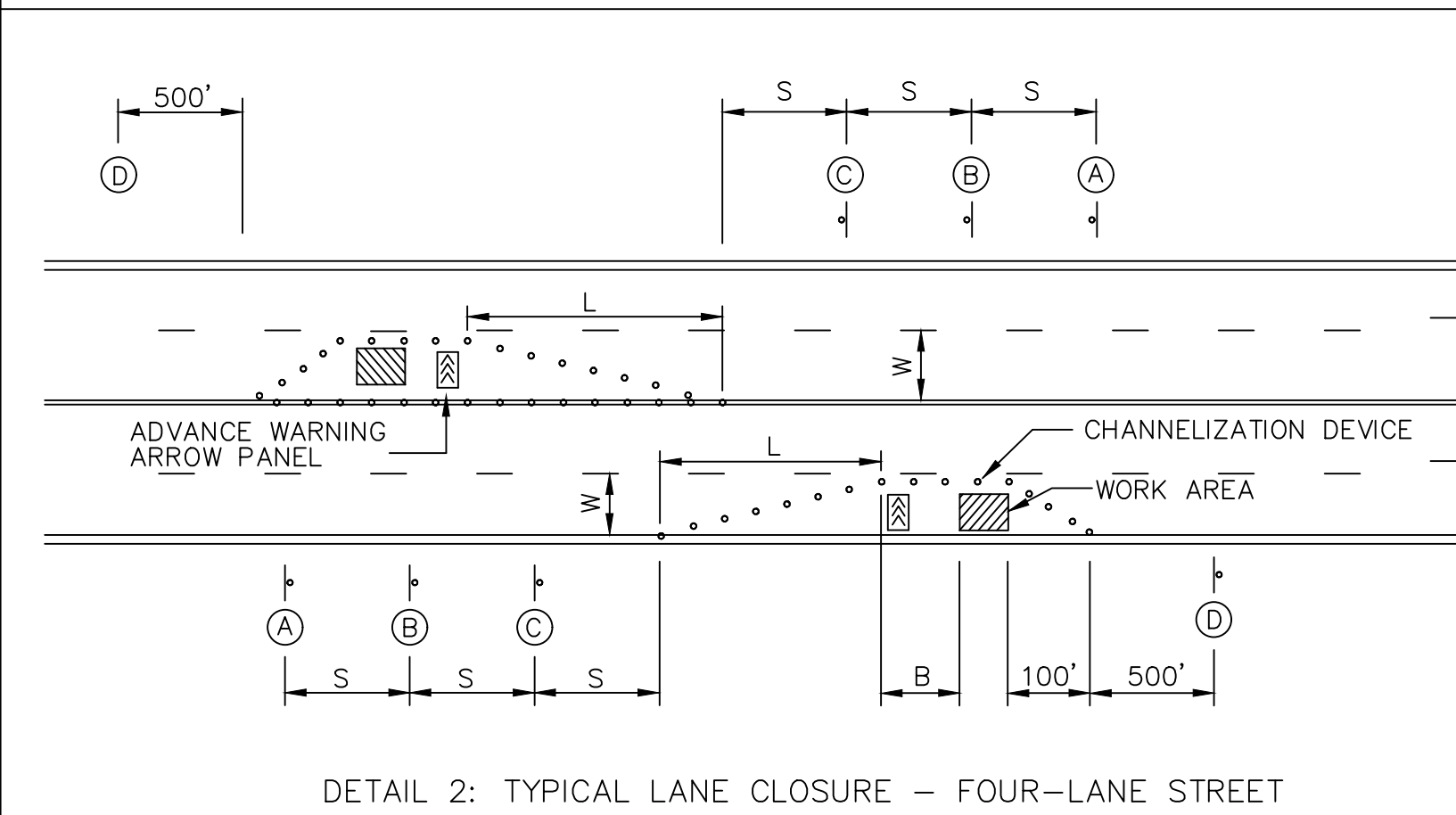
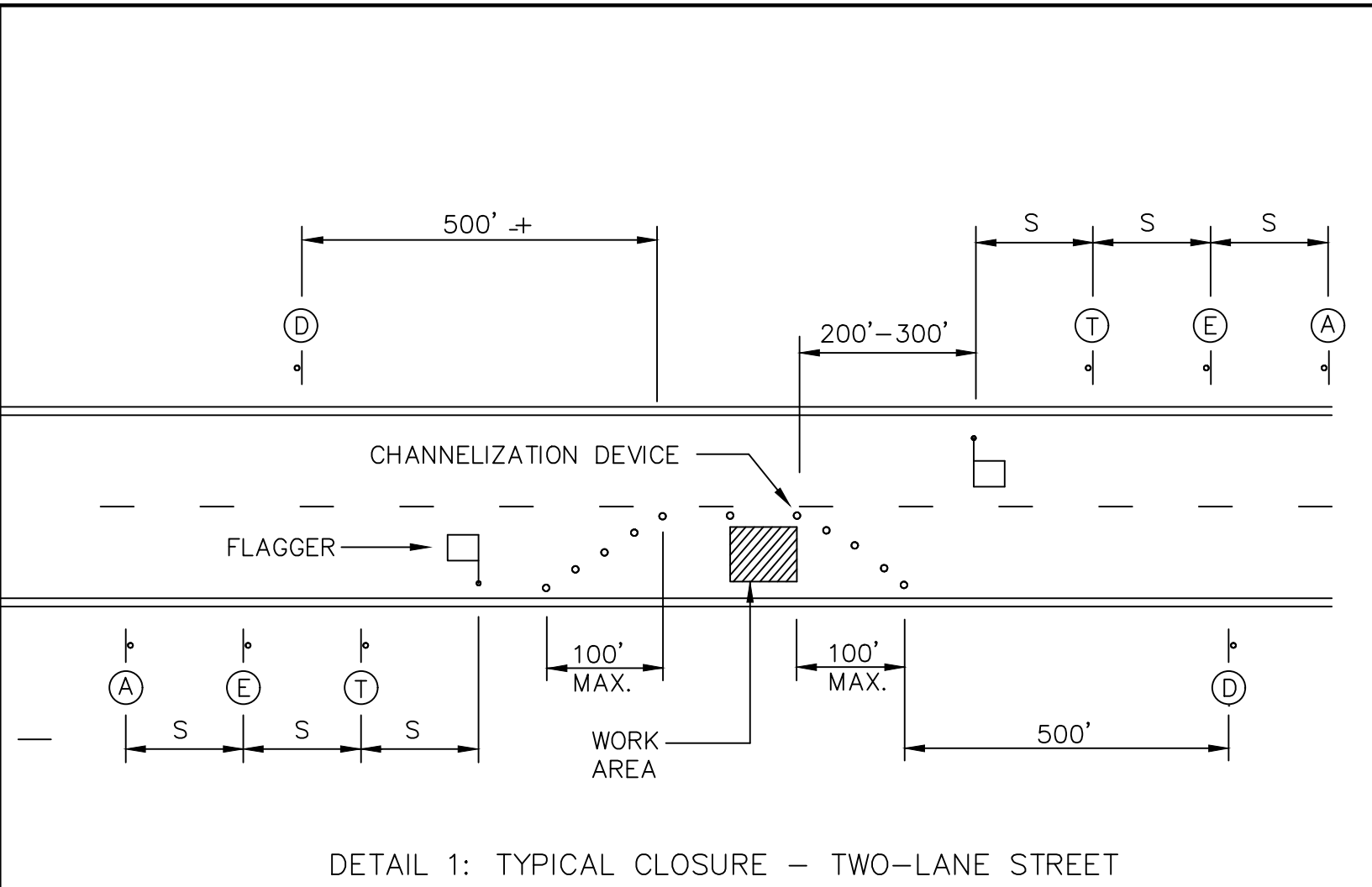


drawn by: _____ JRC checked by: _____ JSS approved by: _____ JSS QA/QC by: _____ JSS project no.: <u>A19-2339</u> drawing no.: _____ date: <u>2.12.2020</u>	TRAFFIC CONTROL PLAN		REV. NO.	DATE	REVISIONS DESCRIPTION	BY
	HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS					
	LEE'S SUMMIT, MO					
2020					REVISIONS	

SHEET

48 of 62

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Guidelines for length of longitudinal buffer space (B)	
Speed* (mph)	Length (Feet)
20	35
25	55
30	85
35	120
40	170
45	220
50	300

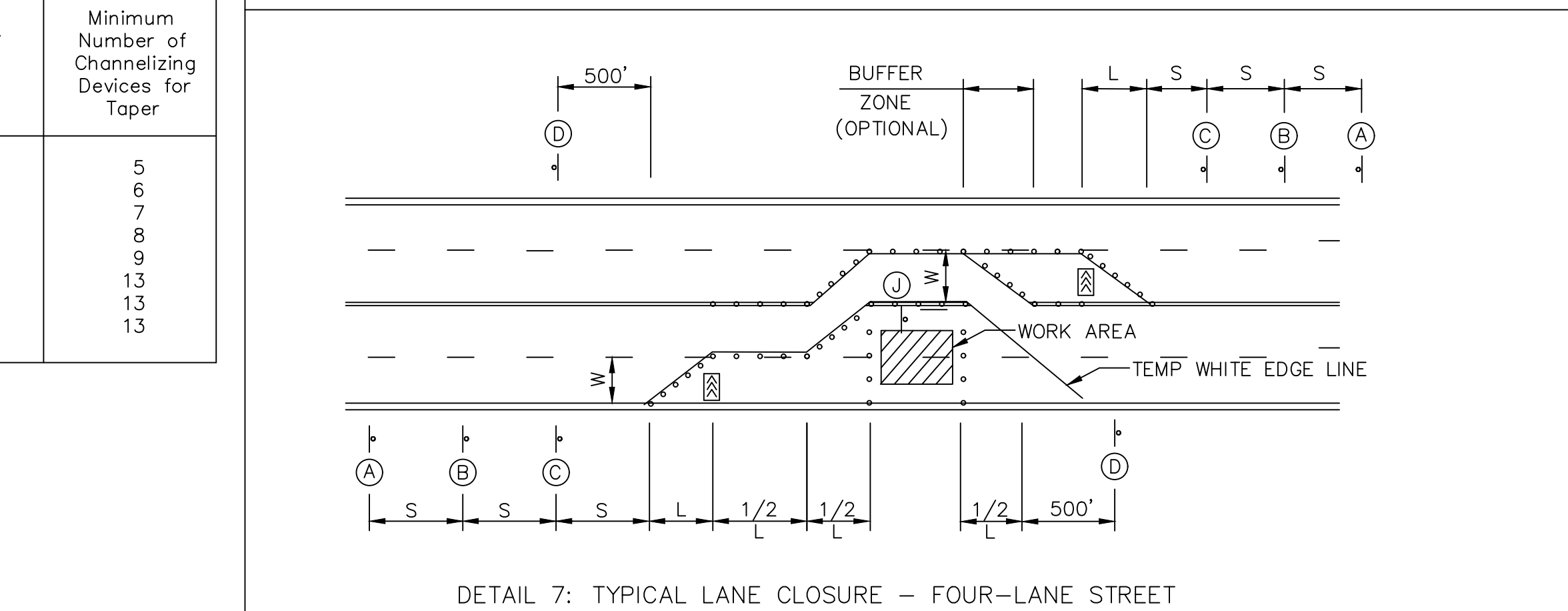
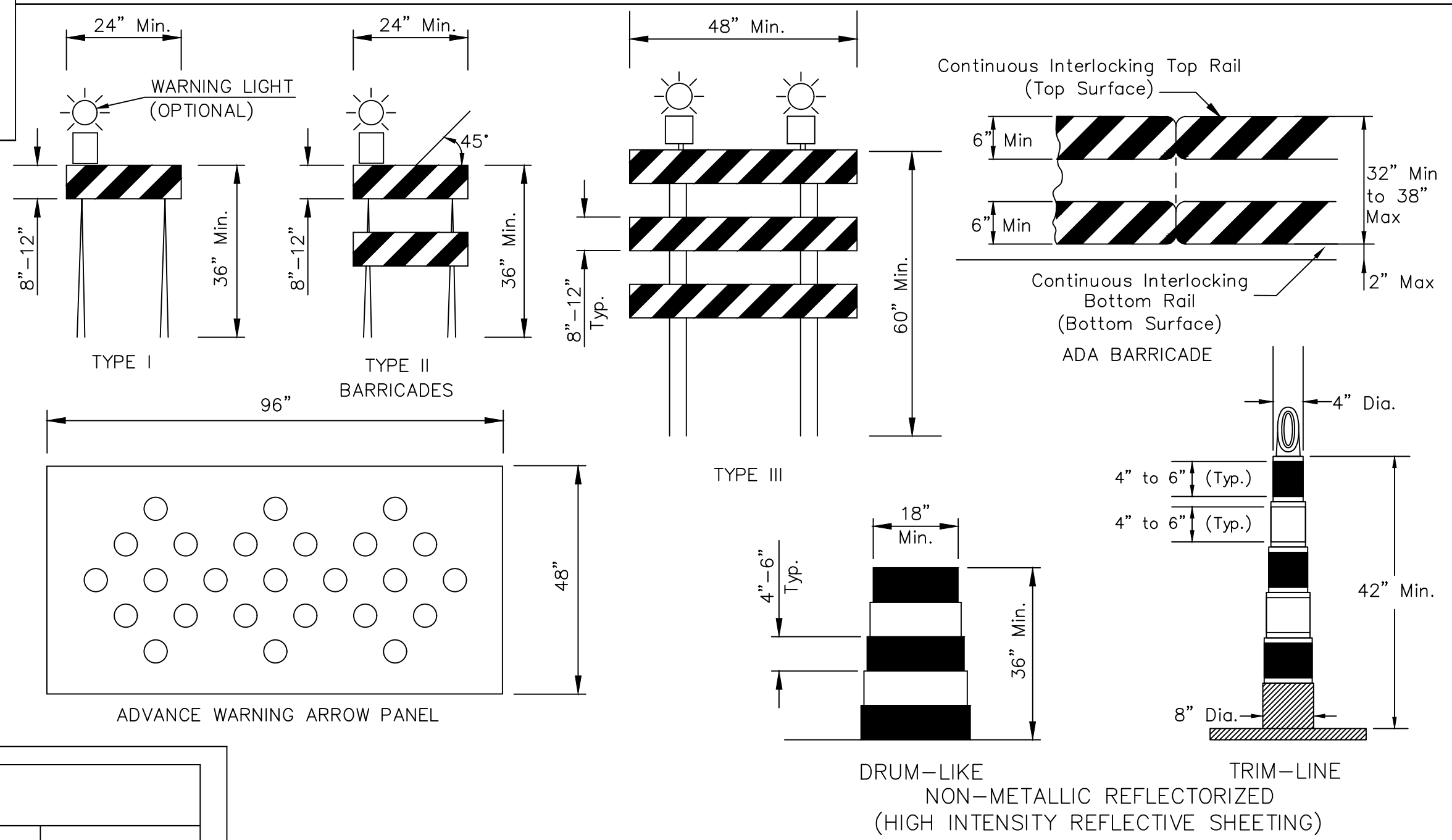
MAXIMUM CHANNELIZATION SPACING IN FEET *		
Speed Limit M.P.H.	Along Taper	After Taper
20	20	40
25	25	50
30	30	60
35	35	70
40	40	80
45	45	90
50	50	100
55	55	100

TAPER DETAIL			
Speed Limit M.P.H.	Minimum Taper Length (L)		
	Lane Width (W)		
10	11	12	Minimum Number of Channelizing Devices for Taper
20	70	75	5
25	105	115	6
30	150	165	7
35	205	225	8
40	270	295	9
45	450	495	13
50	500	550	13
55	550	605	13

* The maximum distance in feet between devices in a taper should not exceed 1.0 times the speed limit in MPH.

SIGN SPACING(S)	
Speed Limit M.P.H.	Spacing (Feet)
≤ 30	100
35 - 45	350
≥ 55	500

- GENERAL NOTES:**
- All signs, barricades, drums, markings and other traffic control devices shall conform to the Manual on Uniform Traffic Control Devices (M.U.T.C.D.), most current edition.
 - All traffic control devices shall be standard in size, shape, color and message, in good condition, and reflectorized. All signs and barricades in place at night shall be reflectorized with high intensity sheeting. All signs shall be securely mounted with height and lateral location as described in the M.U.T.C.D.
 - Warning lights should be used on all channelization devices and warning signs per M.U.T.C.D. Type A Low-Intensity Flashing Warning lights should be mounted on warning signs as well as barricades where used singly to warn users of potentially hazardous areas during nighttime hours. Type B High-Intensity Flashing warning lights should be used during day and nighttime operations to increase awareness of potentially hazardous areas. Type C Steady-Burn lights should be mounted on barricades where used in series to delineate the edge of the travel way.
 - Advance Warning Arrow Panels shall be used for all lane closures on multi-lane streets but should not be used in lieu of proper traffic control signs, barricades and channelization devices.
 - Flaggers shall be used where indicated on the plans, where construction vehicles interact with normal traffic or where construction activities impose a restriction on traffic, as directed by the Engineer in charge of construction. Where flaggers are used, advance signing shall be erected as shown above or as specified in the M.U.T.C.D. Flaggers shall meet the requirements in the M.U.T.C.D. in regard to character, training, attire and behavior.
 - Channelization devices used in the street shall be either drums, cones or Triline channelizers.
 - Traffic control devices not in use or not applicable shall be either covered or removed from the work area.
 - The Contractor shall place as many barricades as needed to effectively shield pedestrians and traffic from exposed objects, excavations and construction activities. ADA Pedestrian Barricades shall be installed around all excavations left open during non-construction times or as directed by the Engineer in charge of construction.
 - Access shall be maintained to all driveways and side streets unless noted otherwise on the plans.
 - Construction materials shall be kept off of sidewalks, consolidated in one location within City Right-Of-Way, and removed daily unless otherwise approved by the Engineer in charge of construction.
 - Dirt, mud and other construction debris on streets and sidewalks shall be removed immediately.
 - The Contractor shall not perform any work that will restrict traffic in any way between the hours of 7:00 a.m. and 8:30 a.m. or 4:30 p.m. and 6:00 p.m. unless prior approval has been given.
 - The Contractor shall be responsible for maintaining all traffic control devices on an around-the-clock basis, whether or not work is actively being pursued and any deficiencies noted shall be corrected immediately.
 - The traffic control requirements shown on these plans are minimum requirements only and do not attempt to address in depth the variety of situations that may occur once construction has started. In no way do the requirements shown on these plans relieve the contractor of his responsibility for selecting the proper traffic control devices and implementation procedures that will assure the safety of motorist, pedestrians, and workers at all times. Any additional quantities of traffic control devices necessary to complete the contract or as ordered by the Engineer shall be considered subsidiary to the contract bid price.
 - Construction vehicles parked along streets and construction signs shall not restrict sight distance for vehicles exiting at streets or any drives.
 - Should the contractor fail to enforce the traffic control plan or fail to clean, replace or otherwise maintain the traffic control devices when directed to do so by the Engineer or representative, the City/Controlling Jurisdiction may take one or more of the following actions:
 - Employ another agency to correct deficiencies in signing or warning devices and deduct the cost from the contractor's pay estimate
 - Suspend all pay Estimates until deficiencies are corrected.
 - Stop the work until deficiencies are corrected.
 - Place the contractor in default.
 - The Contractor shall keep roadway closures due to construction activities to a minimum and provide advanced notice to affected users.
 - The Contractor shall notify enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management.
 - The Contractor may, if need arises or at the request of the Engineer, place reduced speed limit signing and work zone speed limit signing in advance of all active work zone areas. Work zone speed limit reduction shall not be greater than 10 mph throughout construction areas without advanced signing in place. Contractor shall cover or replace all speed limit signs in conflict with the work zone speed limit throughout the construction area.



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STATE OF MISSOURI
JEREMY SLOPE
STREET
NUMBER
FE-2017023856
6/17/2020
PROFESSIONAL ENGINEER

BY

DATE

REV. NO.

REVISIONS DESCRIPTION

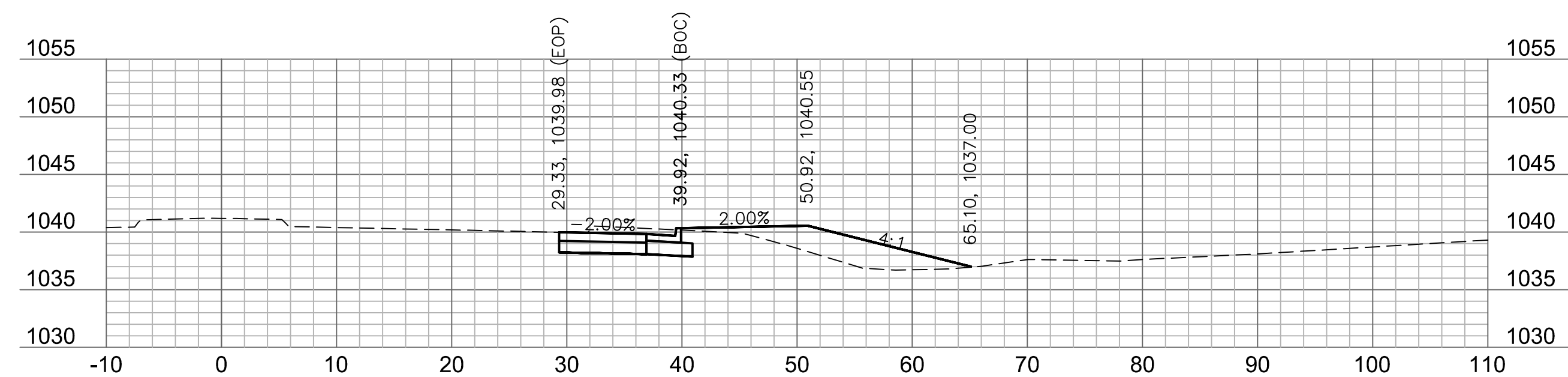
TRAFFIC CONTROL DETAILS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

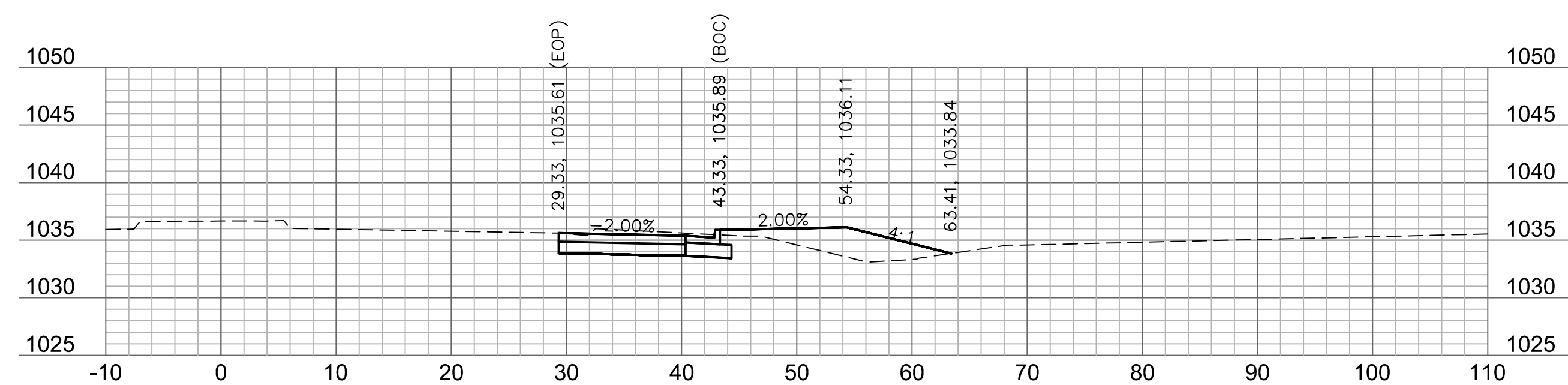
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QA/QC by: JSS
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drawing no.:
date: 2.12.2020

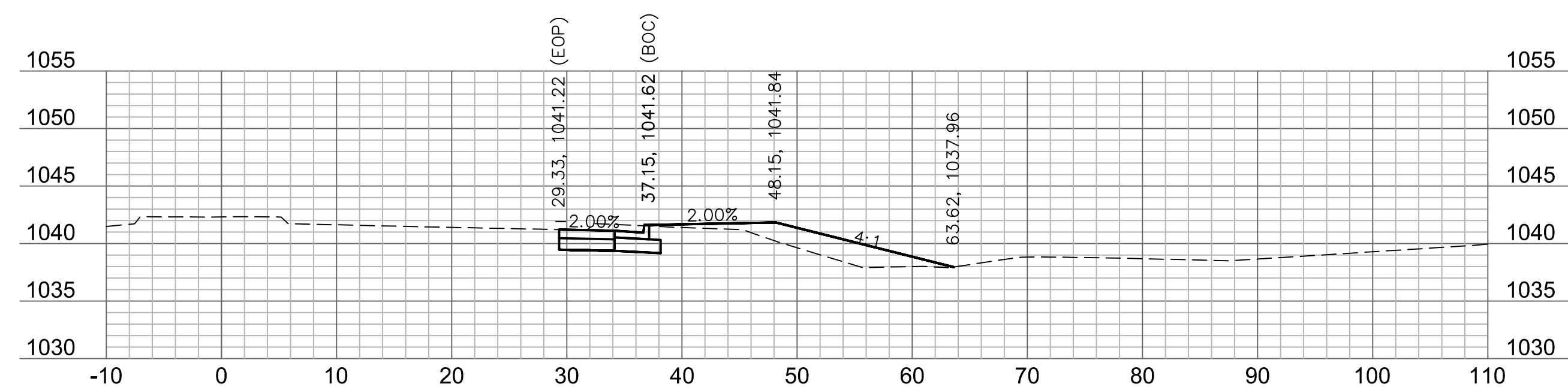
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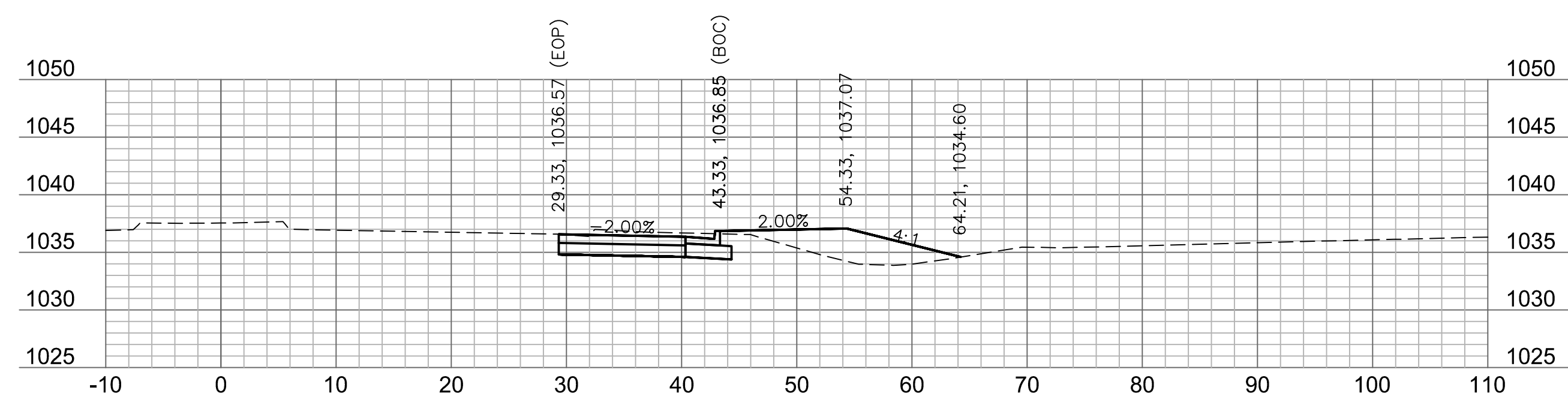
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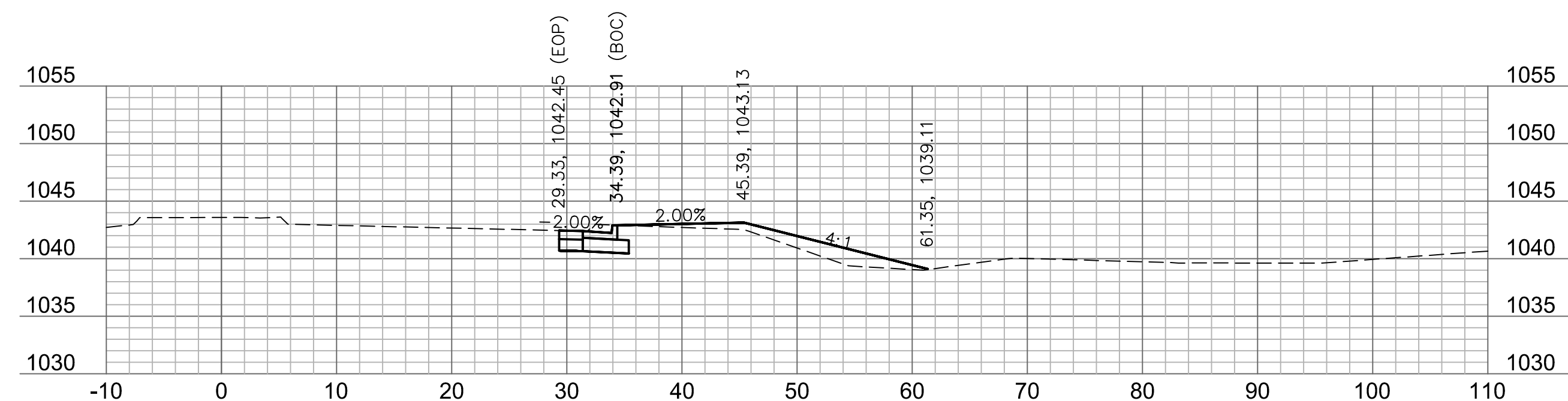
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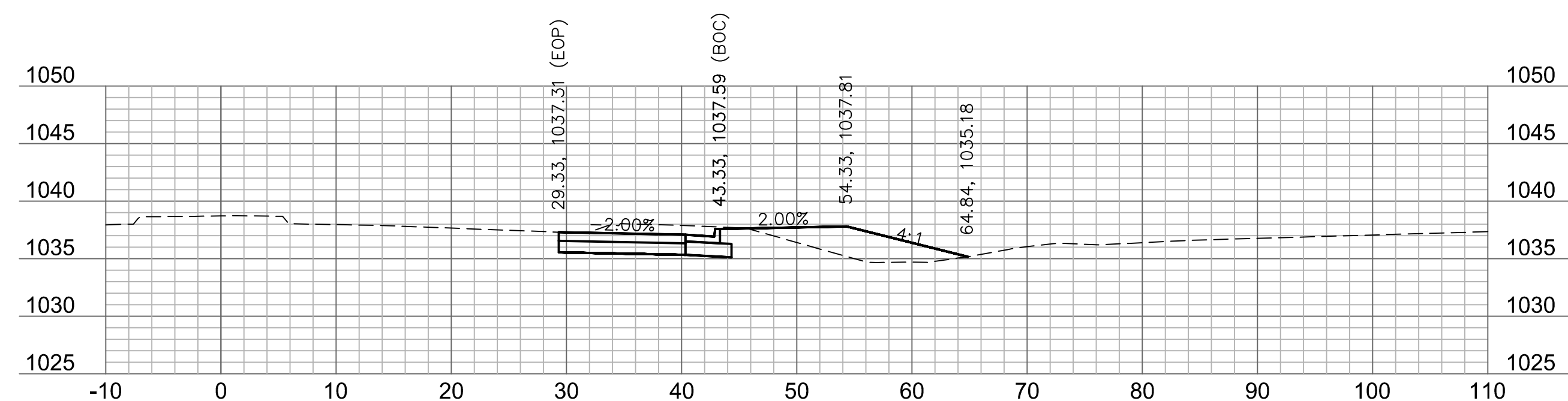
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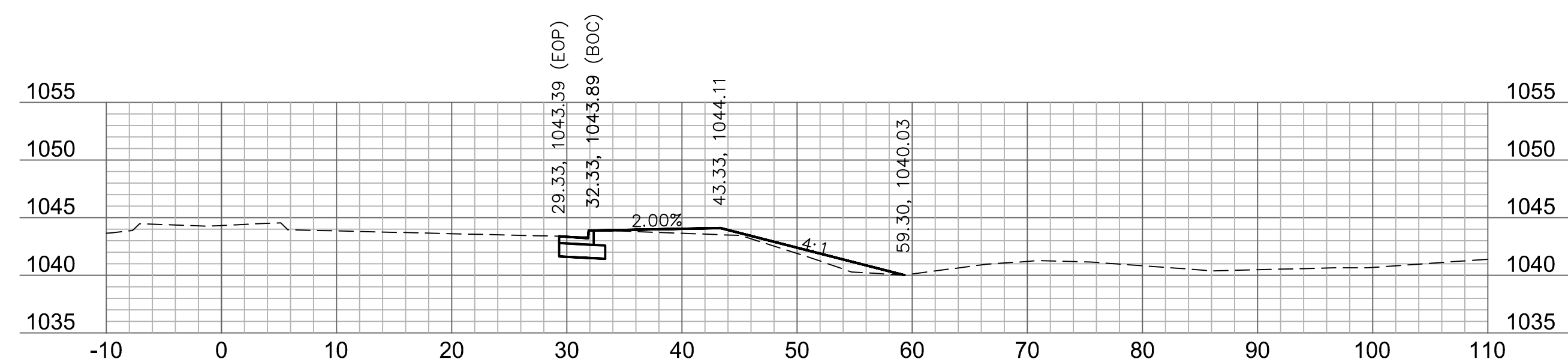
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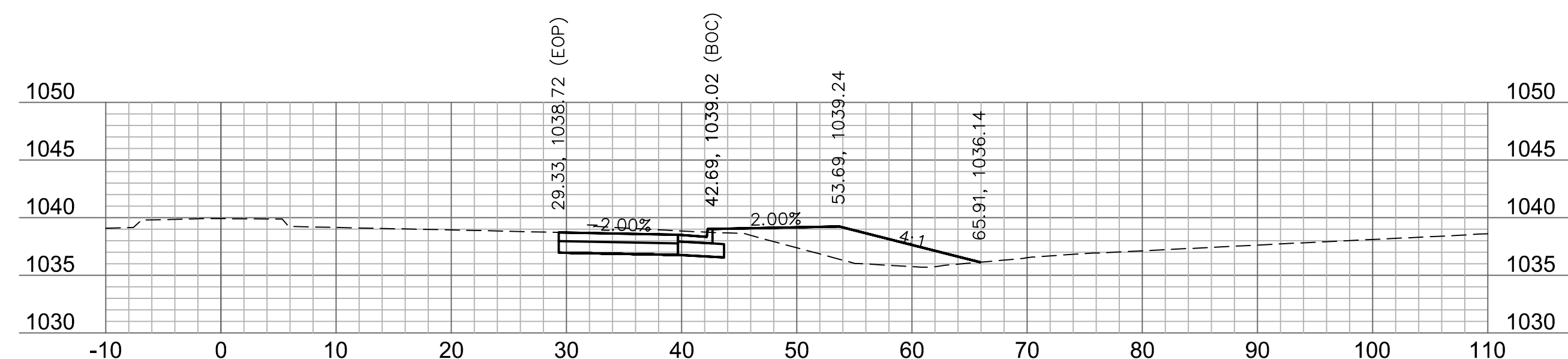
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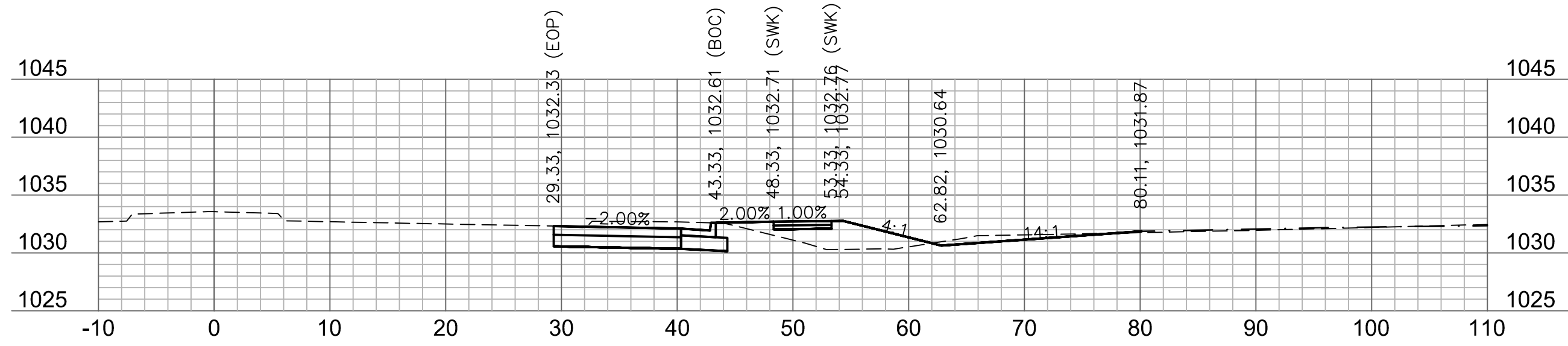
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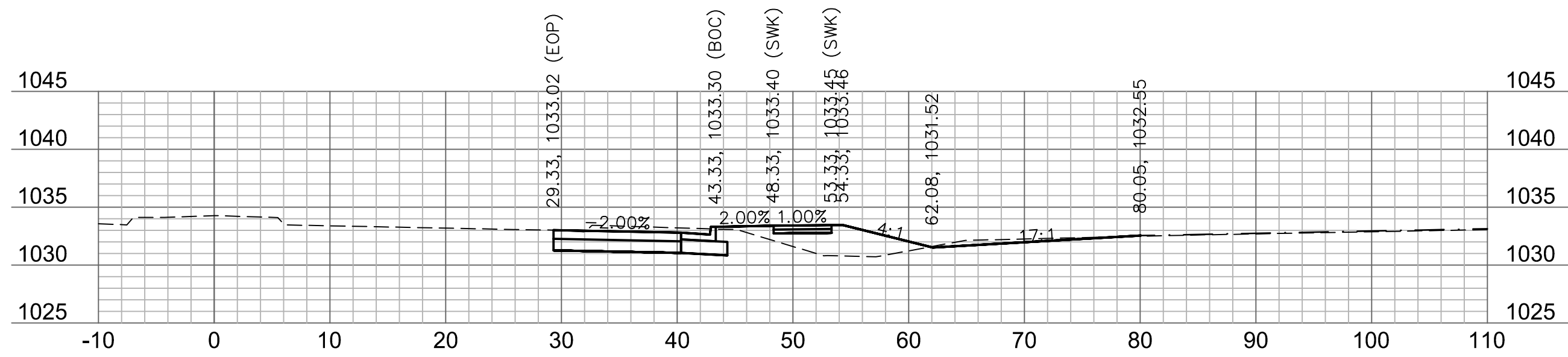
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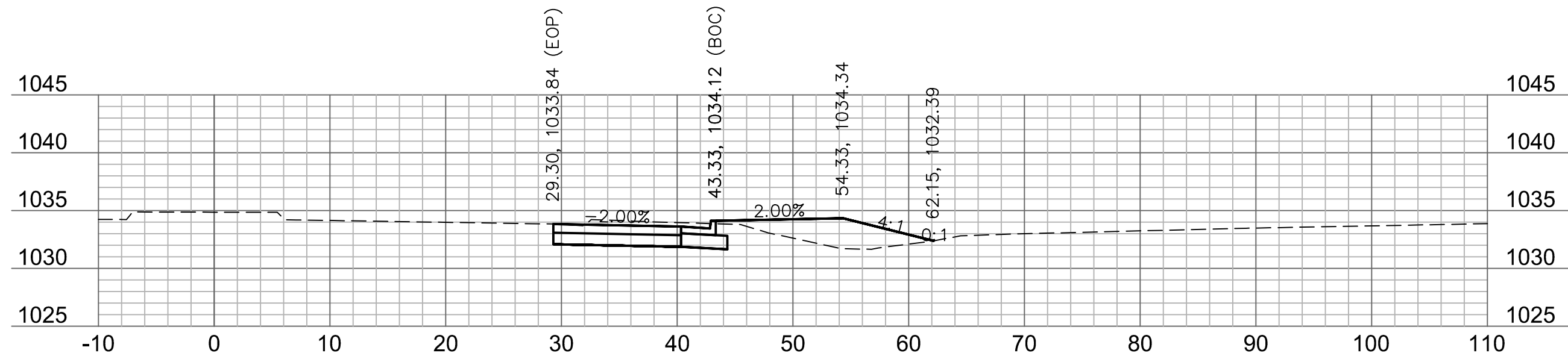
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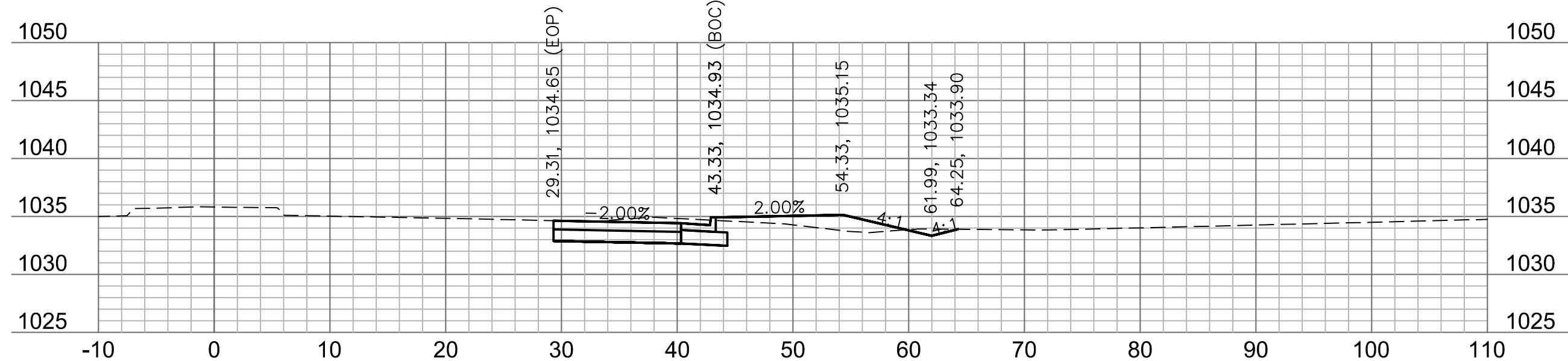
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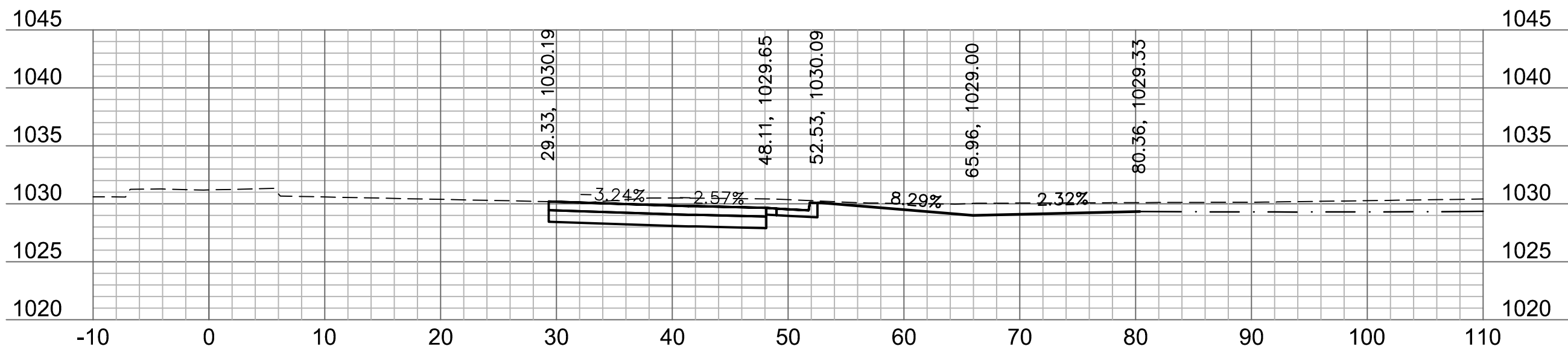
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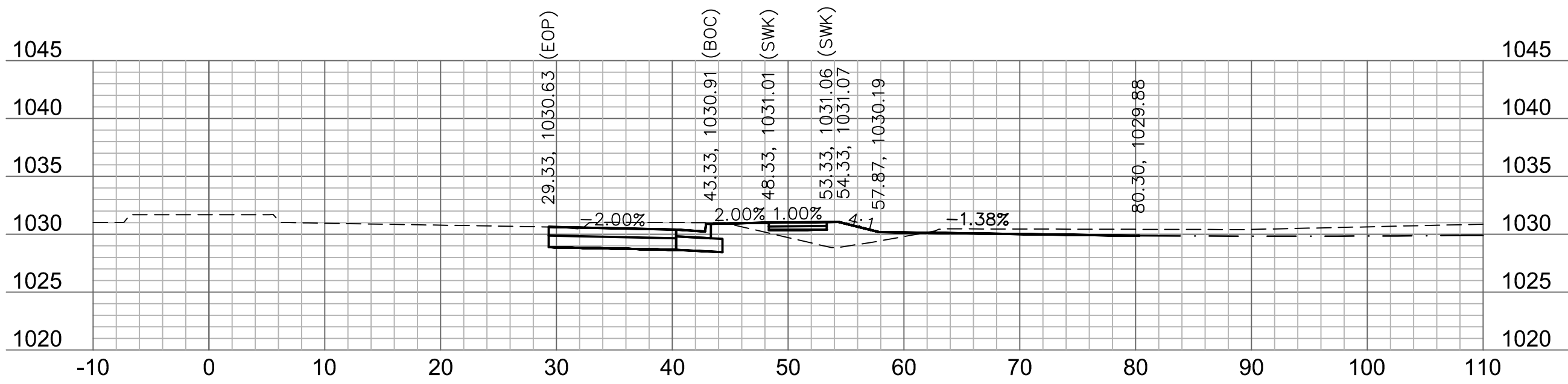
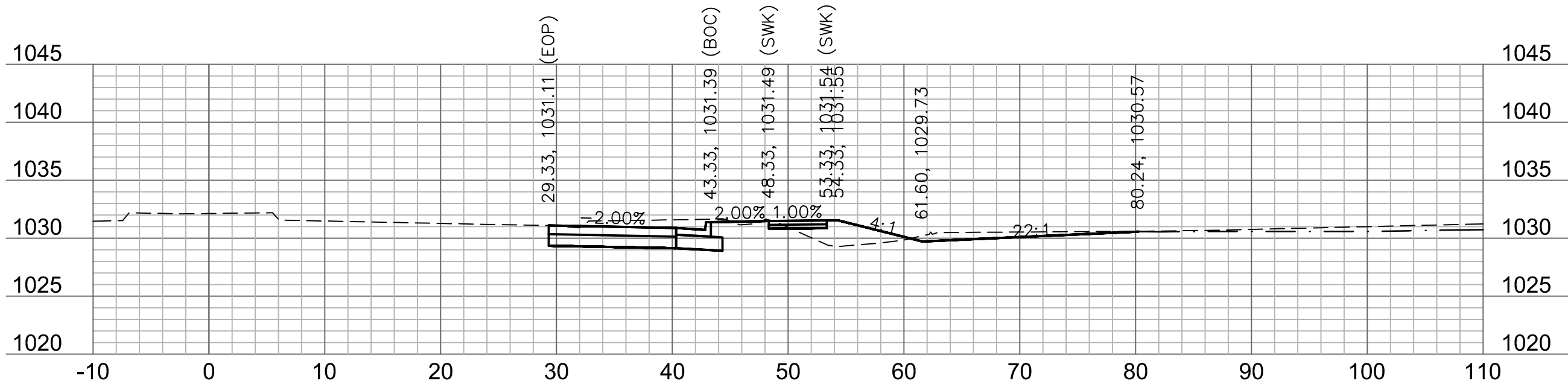
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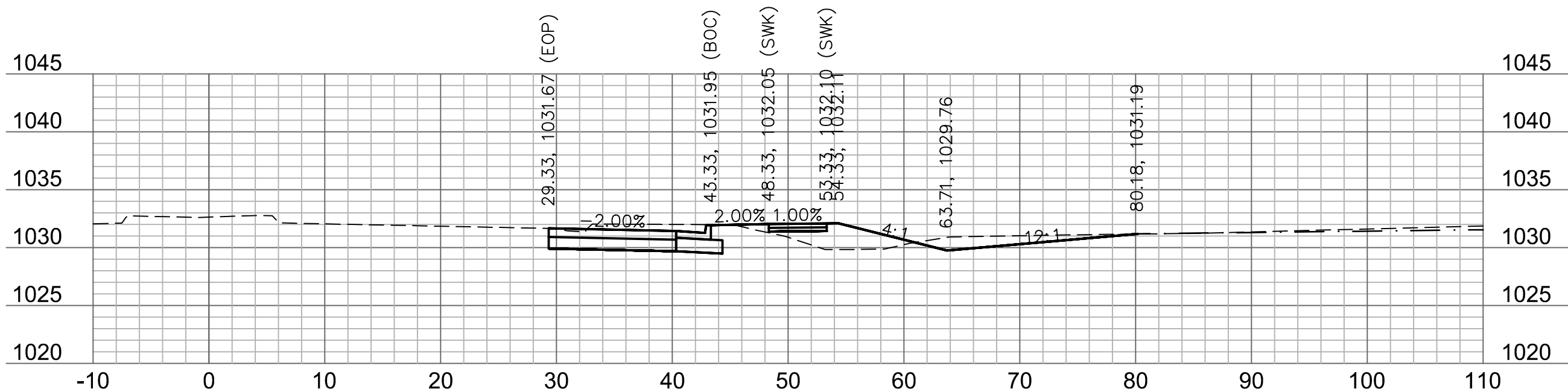
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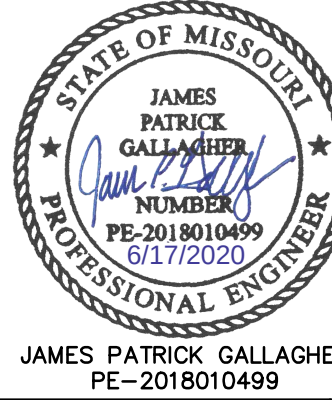
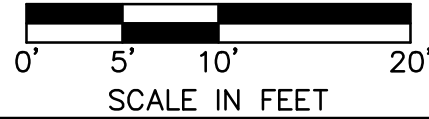
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317+00



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PE-2018010499

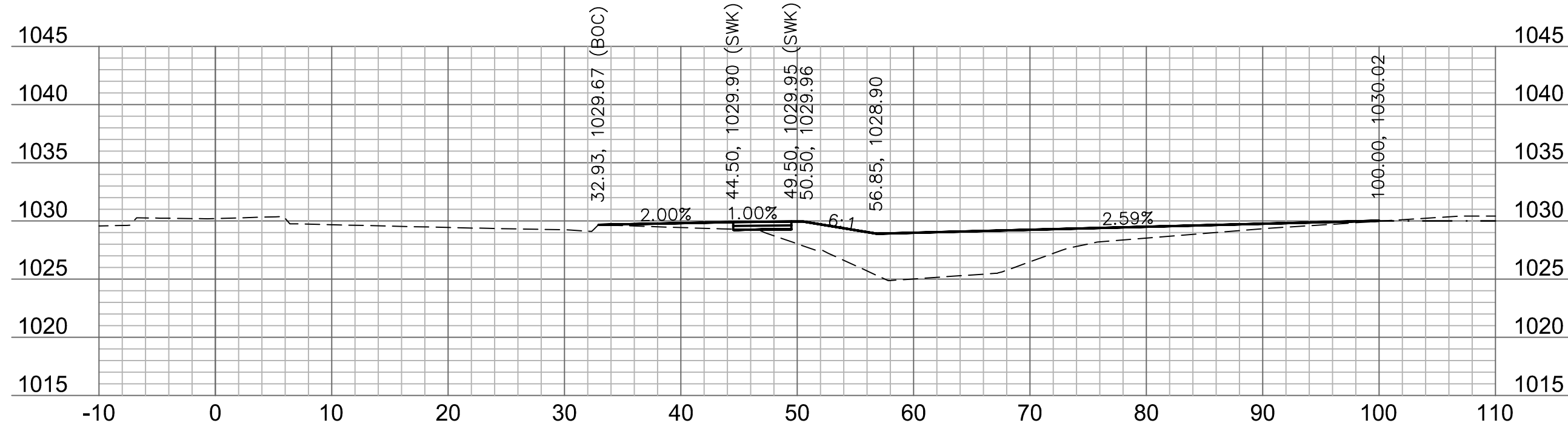
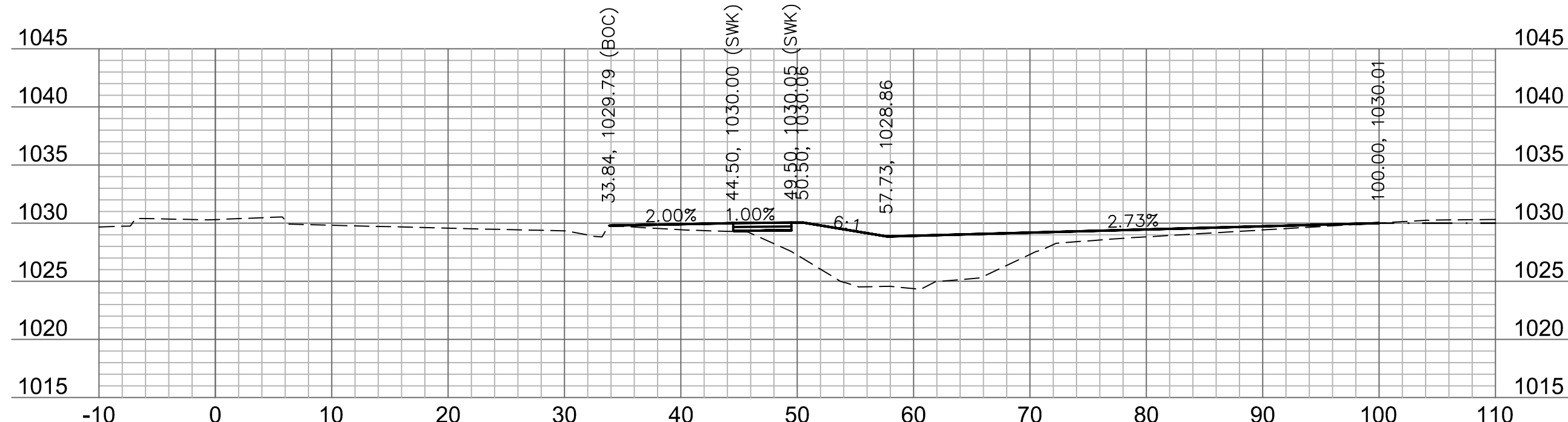
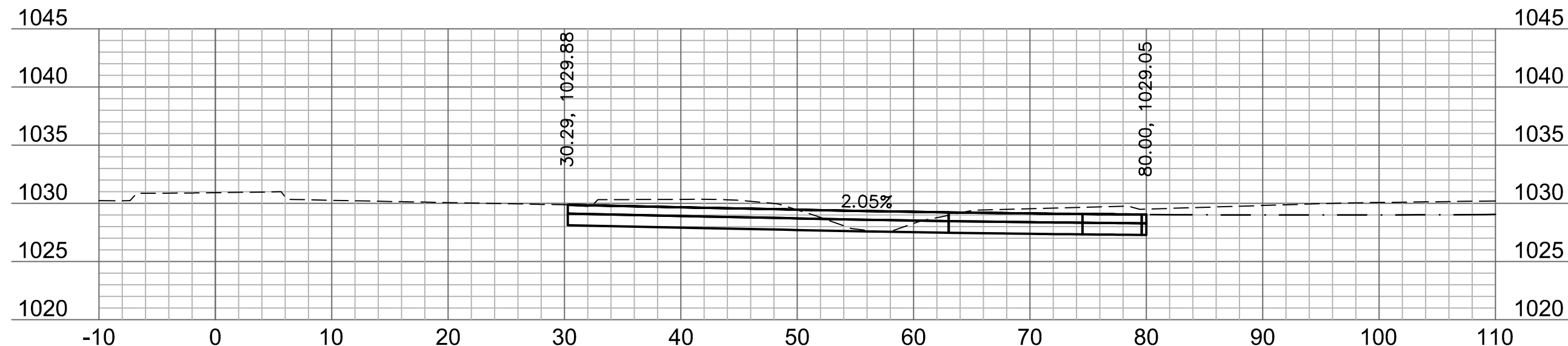
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HIGHWAY 150 CROSS SECTION	HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS
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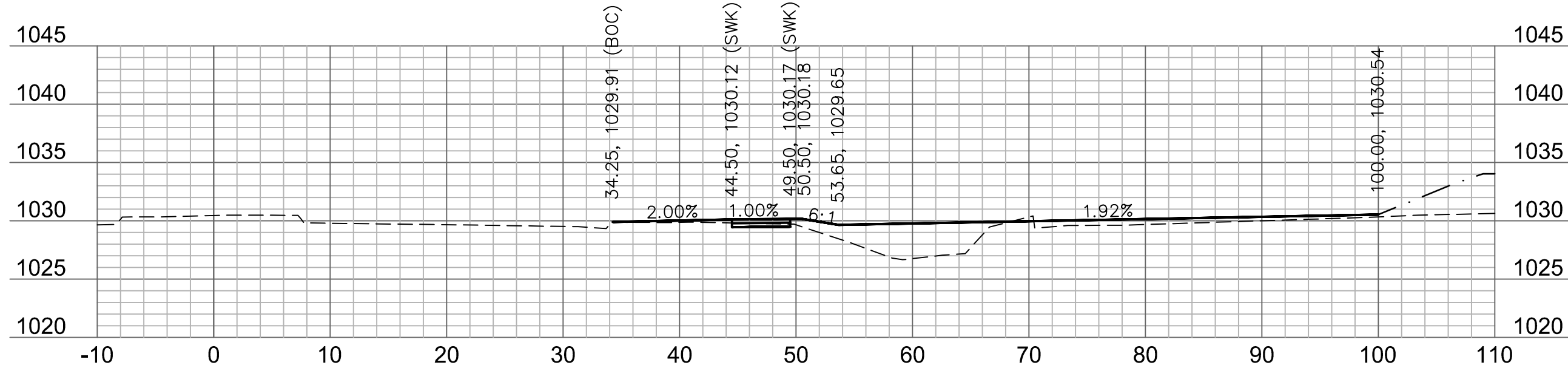
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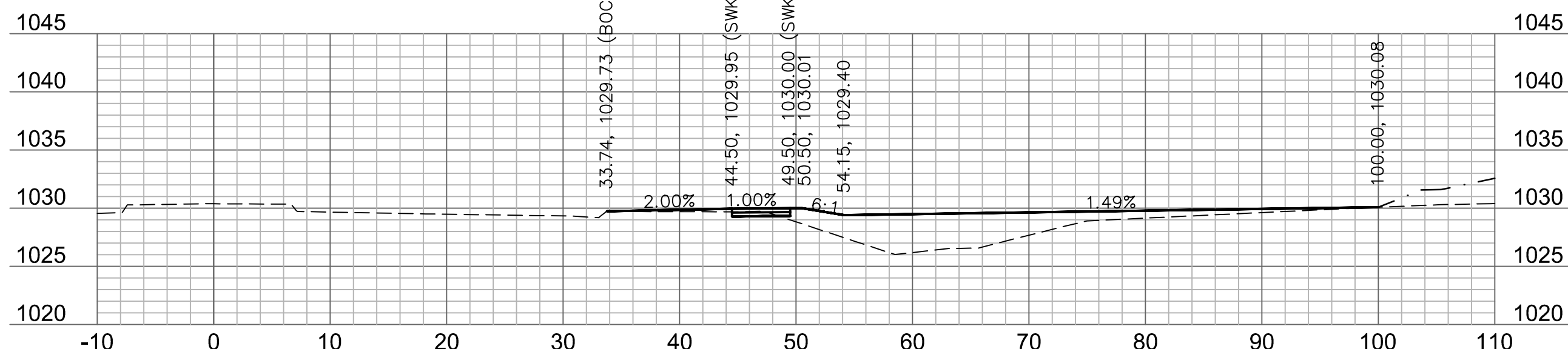
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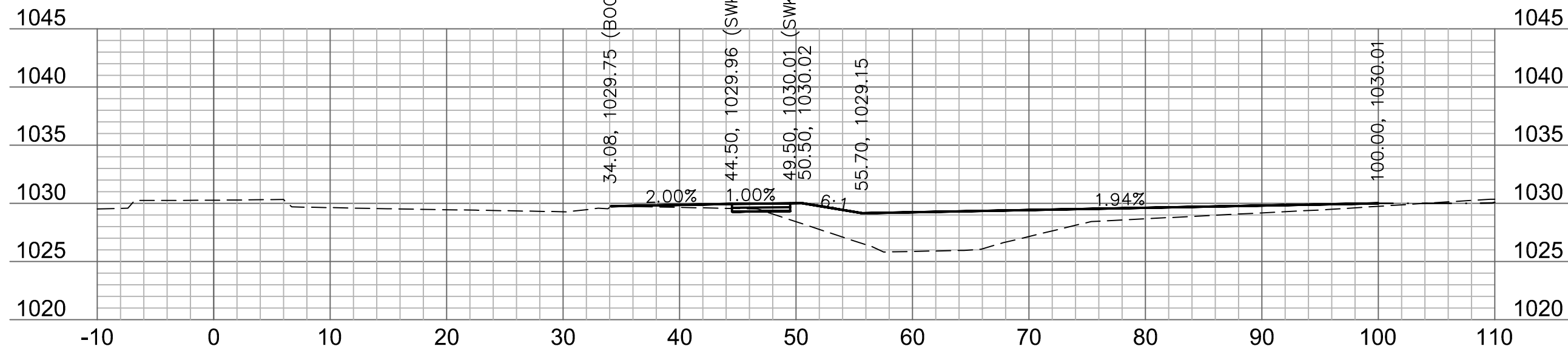
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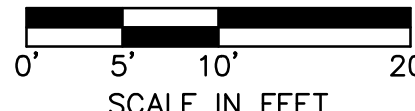
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HIGHWAY 150 CROSS SECTION HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS

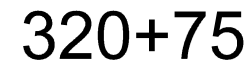
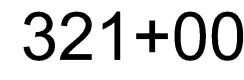
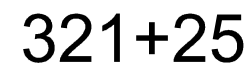
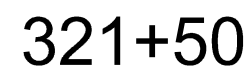
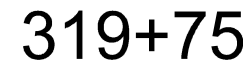
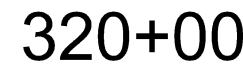
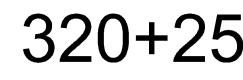
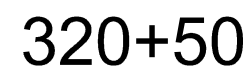
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approved by: _____
QA/QC by: _____
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drawing no.: _____
date: _____

SHEET
52 of 62

also

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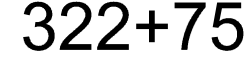
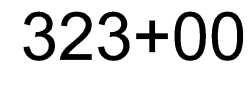
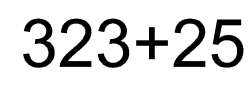
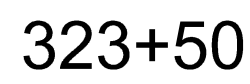
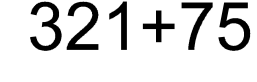
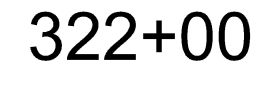
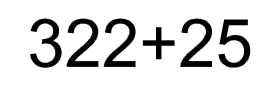
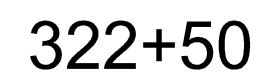
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HIGHWAY 150 CROSS SECTION	HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS
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drawing no.: T XSC A192
date: 2020.06

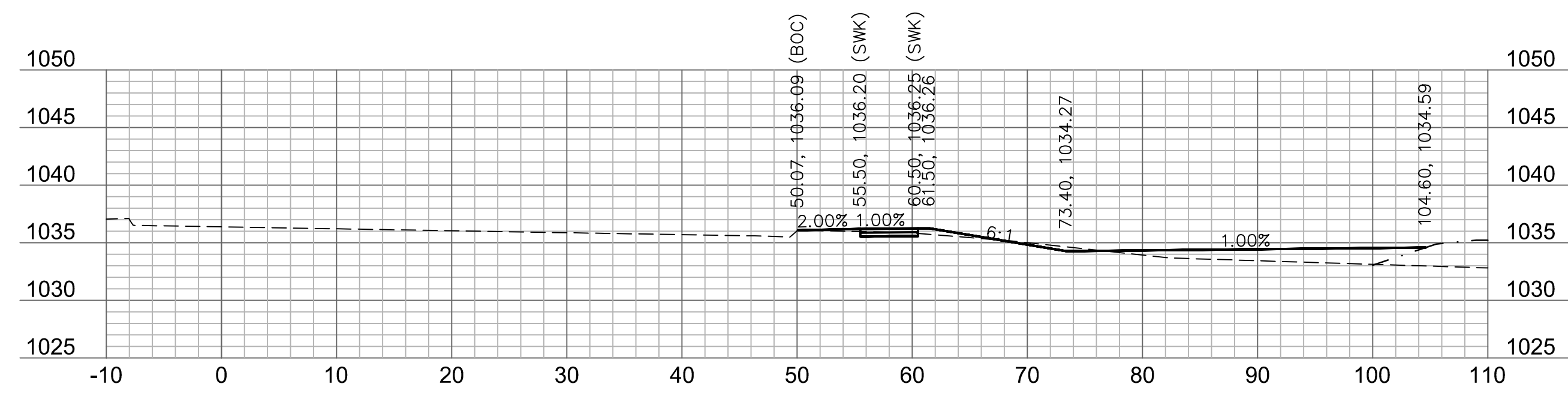
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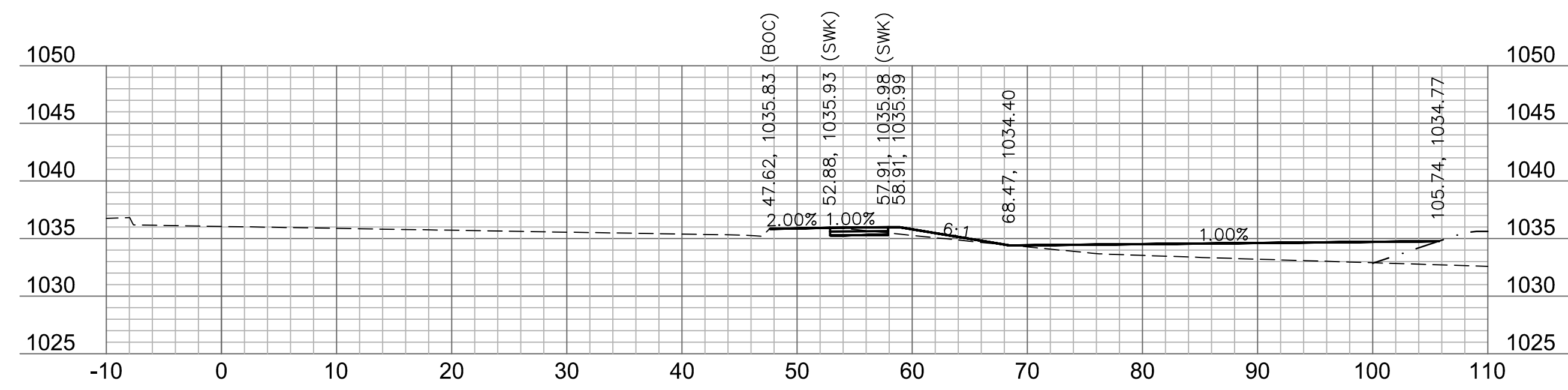
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HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS	

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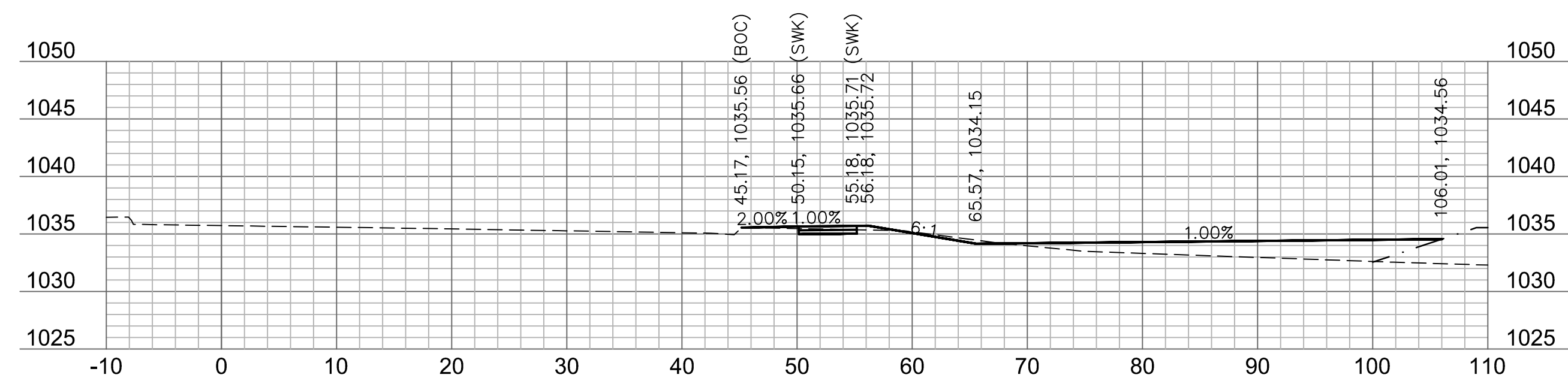
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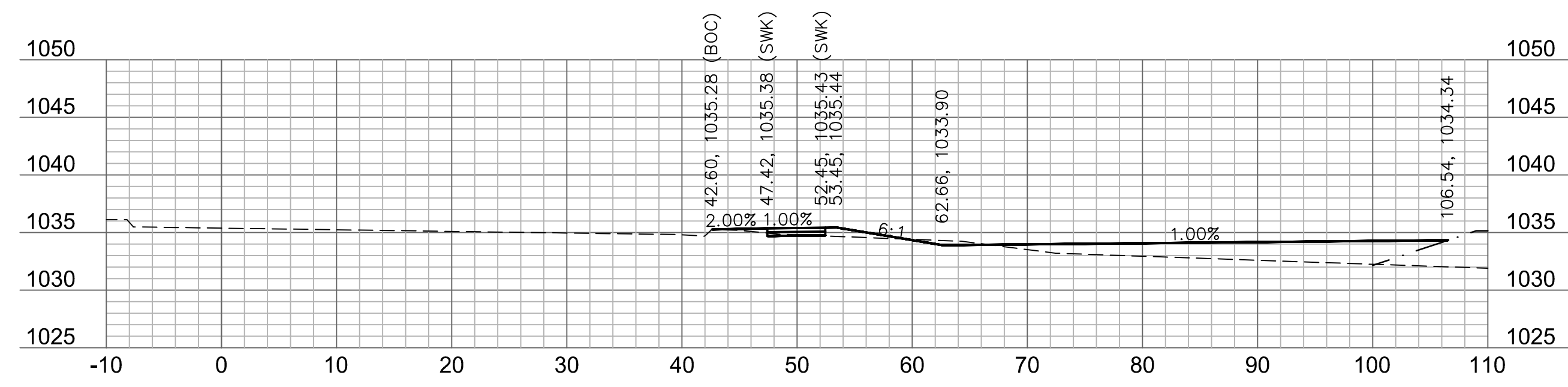
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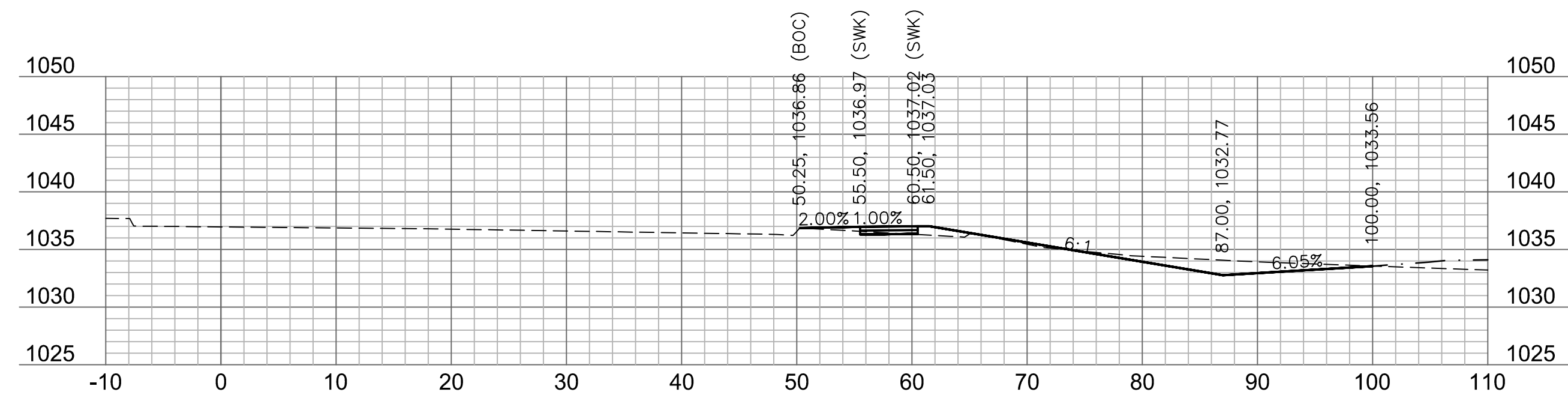
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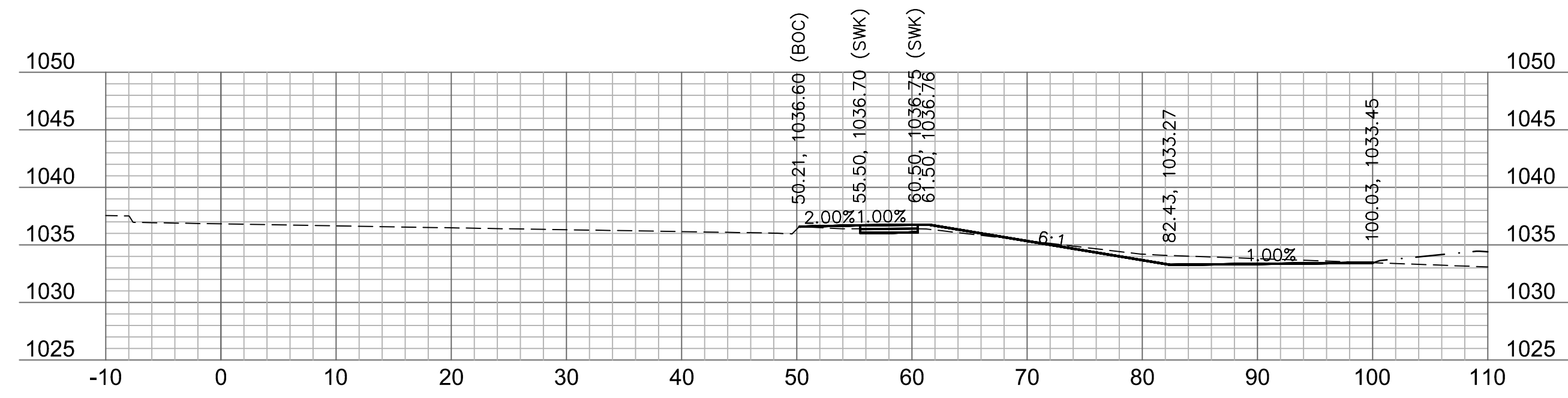
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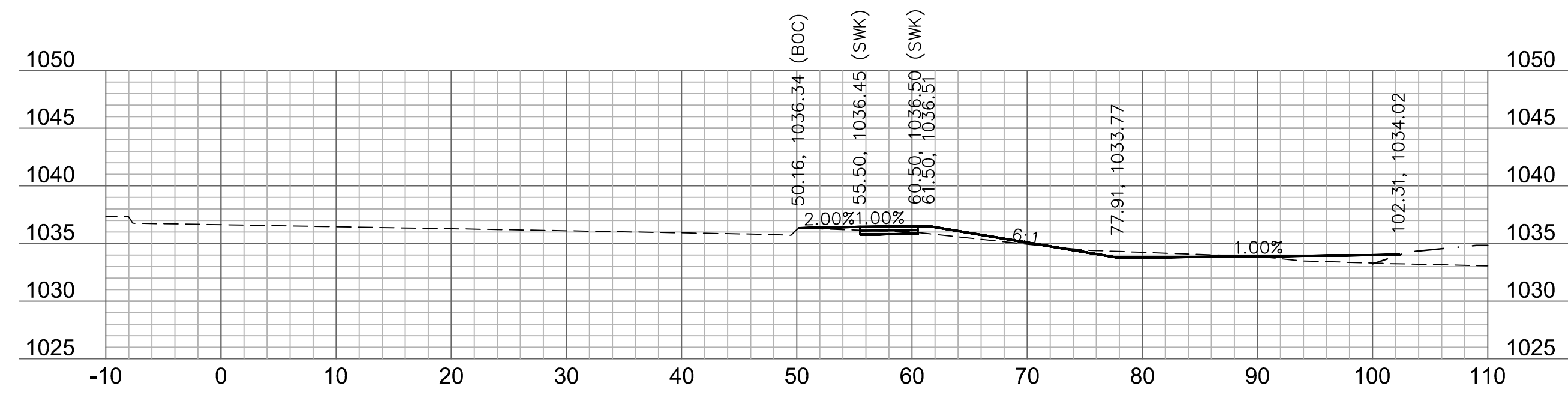
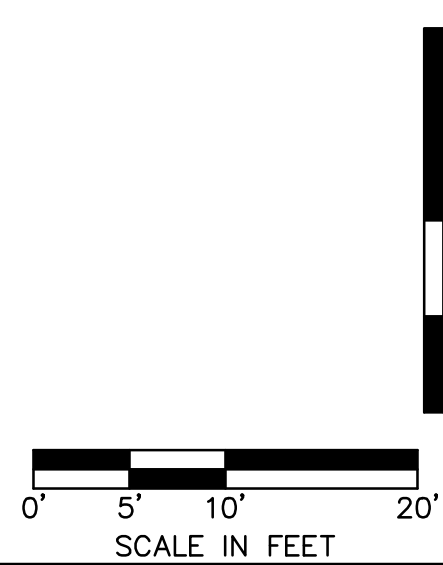
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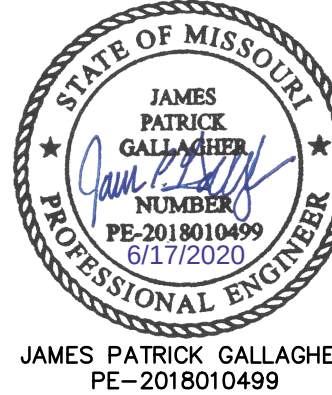
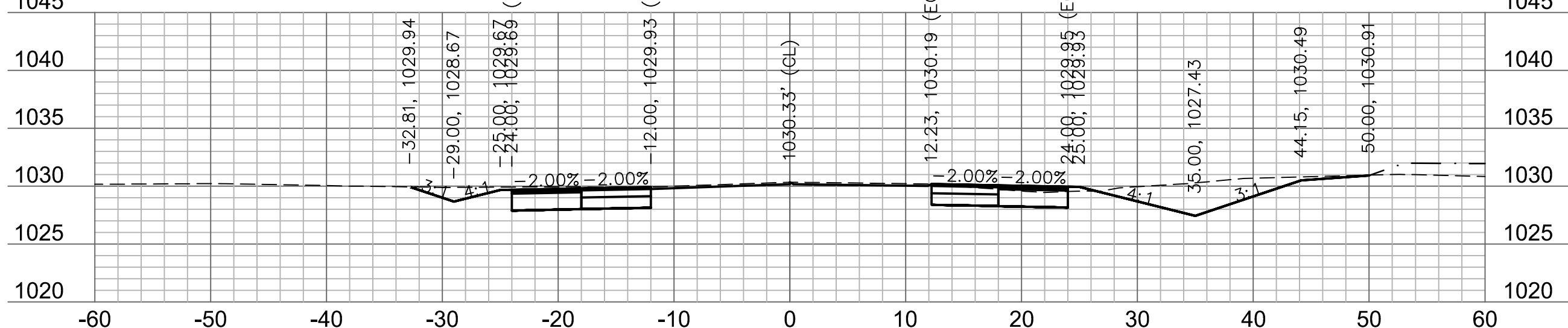
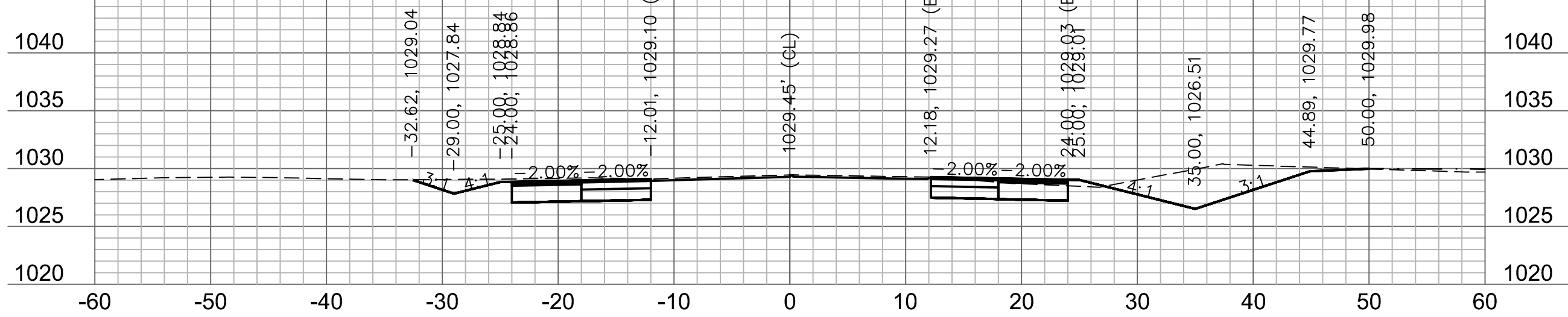
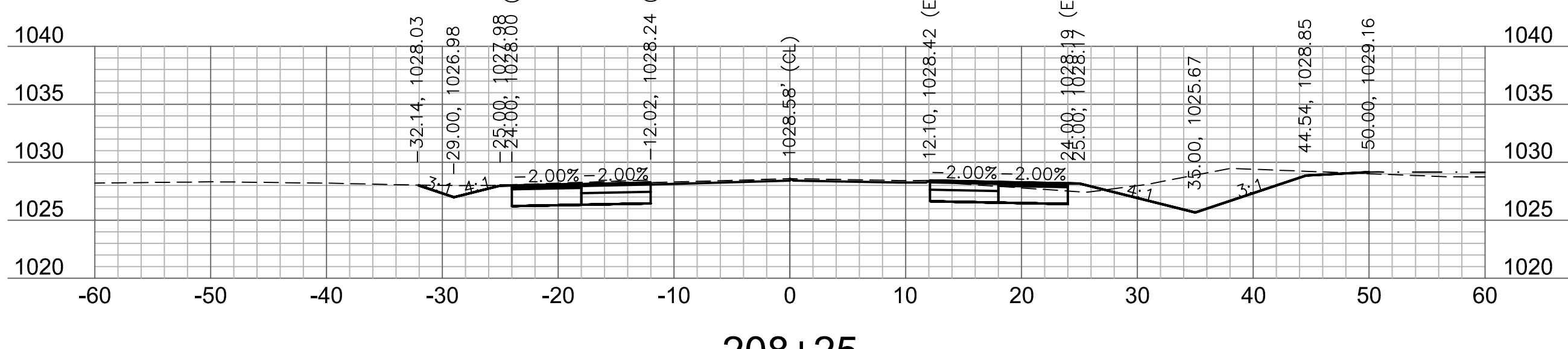
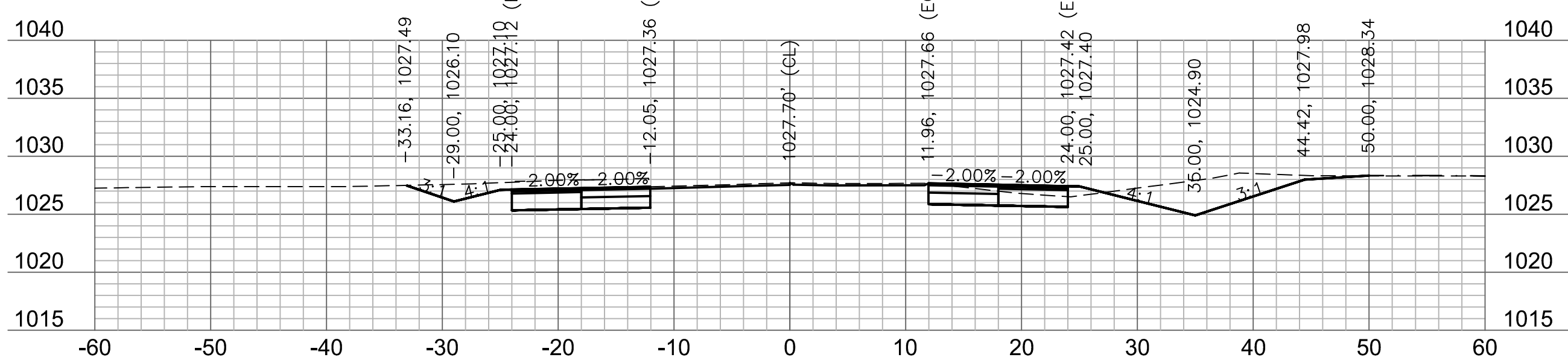
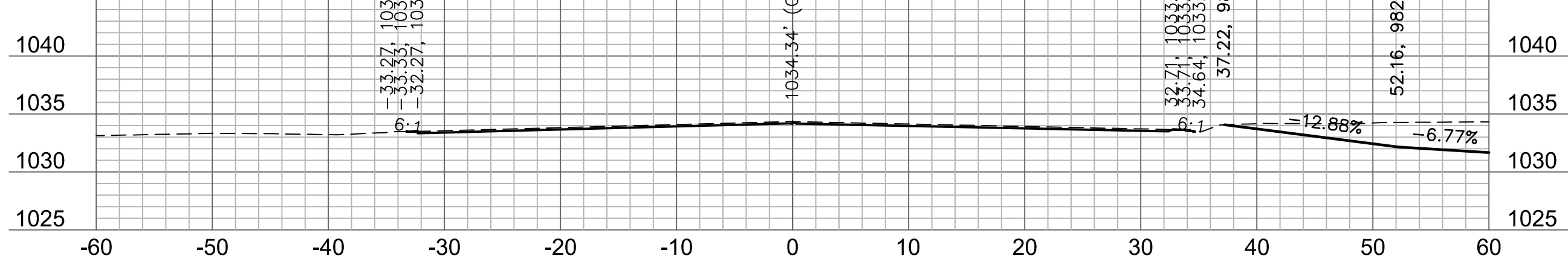
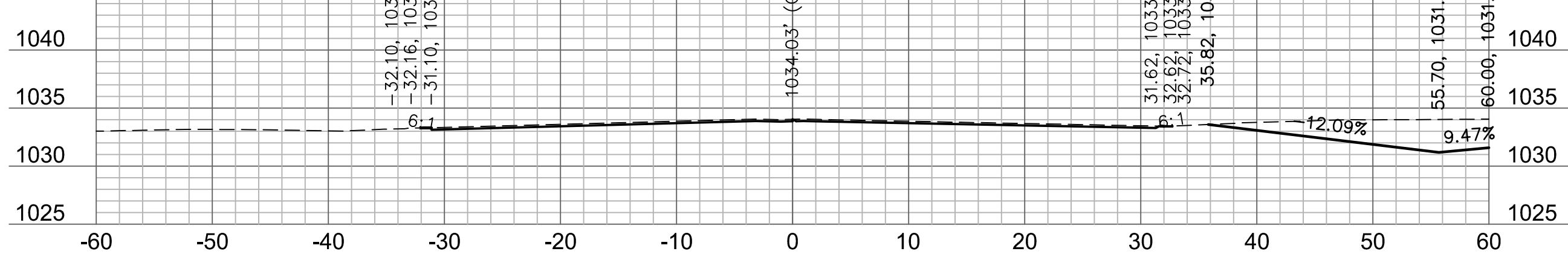
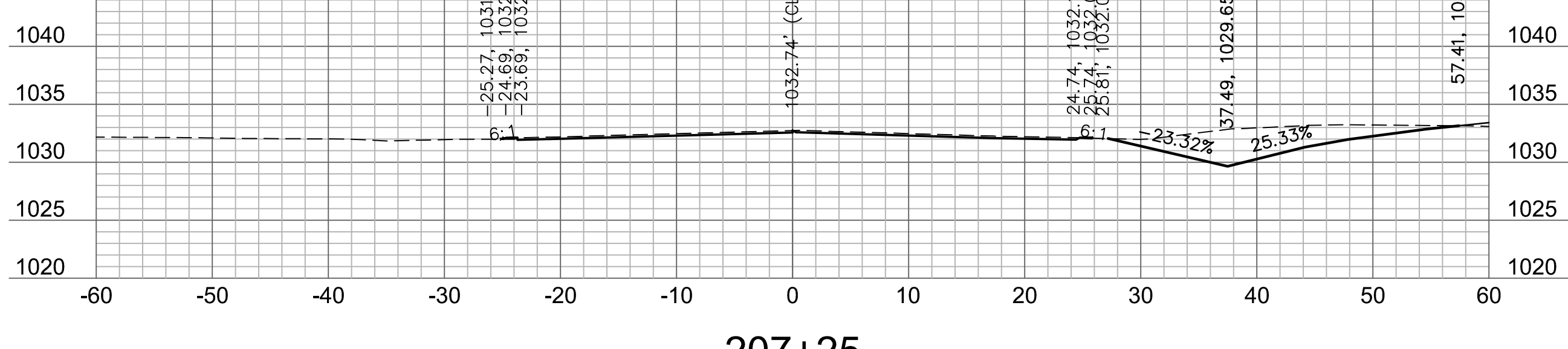
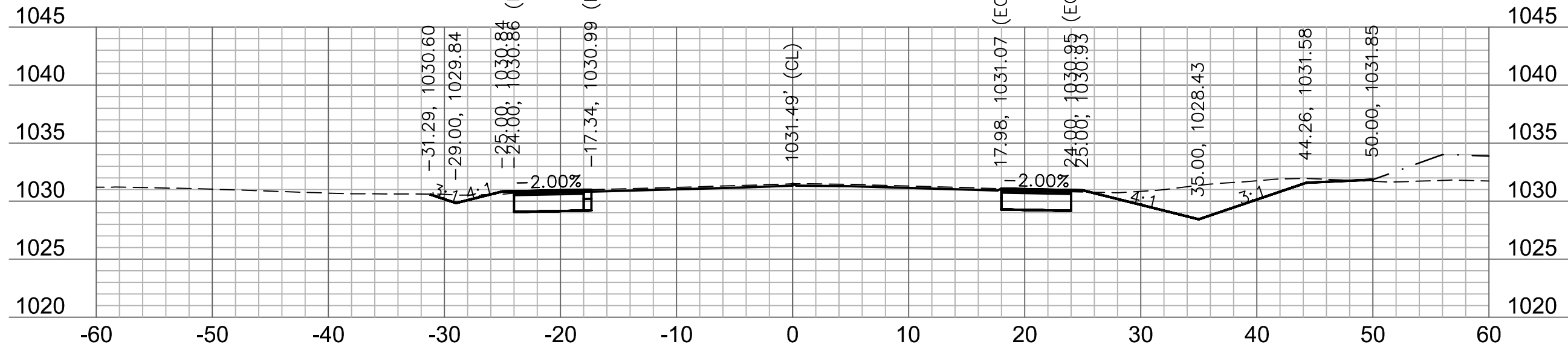


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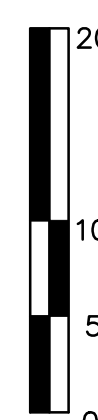
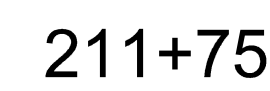
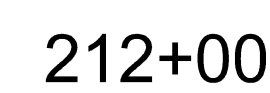
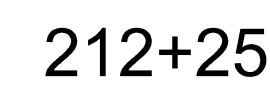
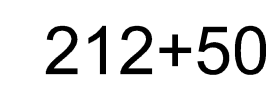
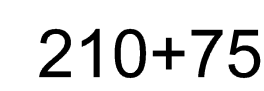
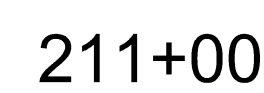
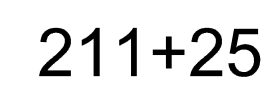
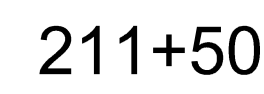
REVISIONS

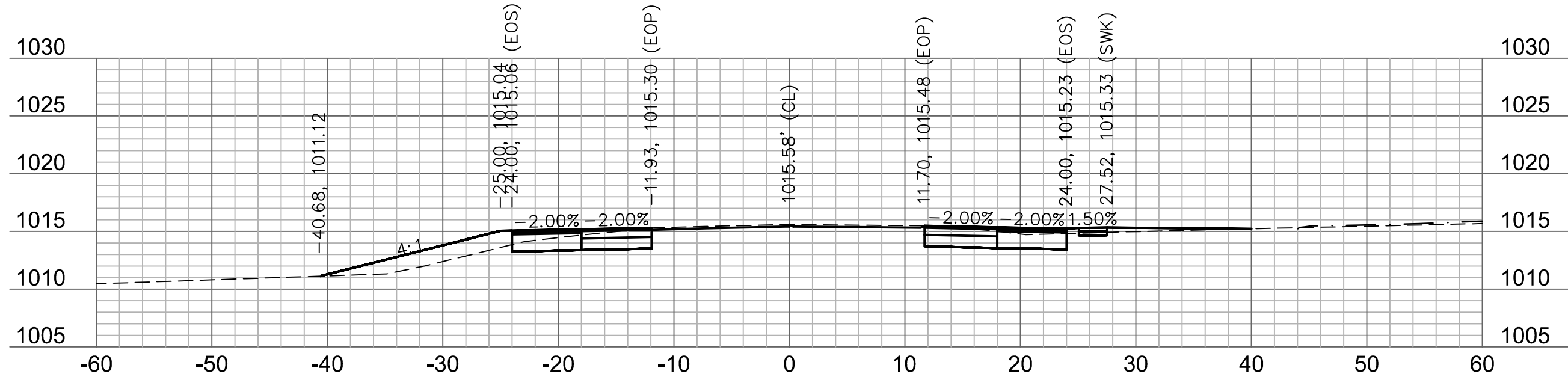
2020

PRYOR ROAD CROSS SECTION	HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS
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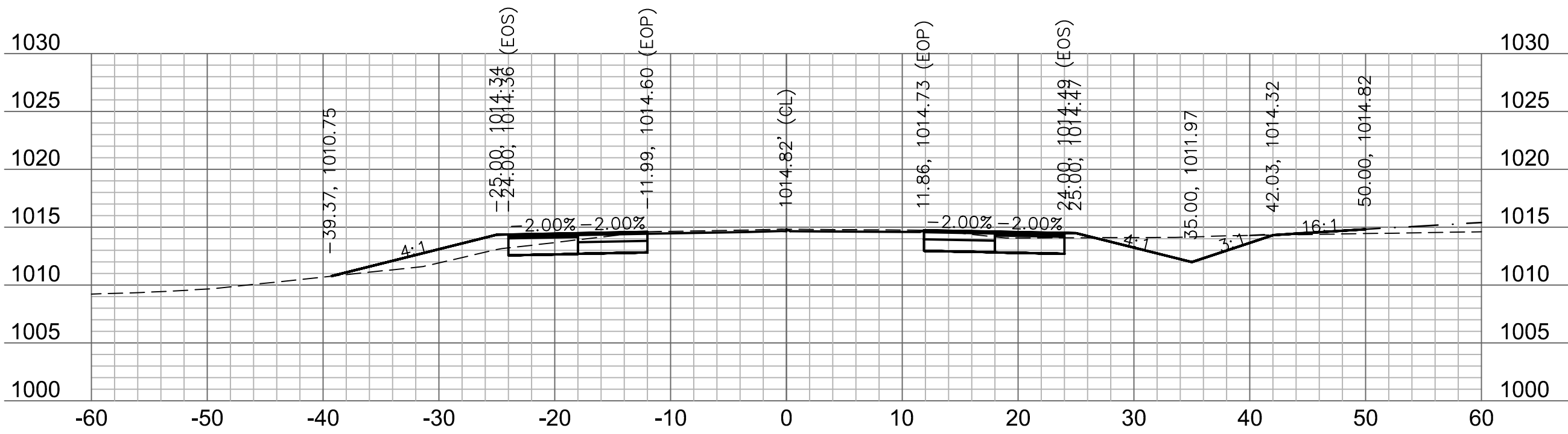
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drawing no.: _____ T_XSC_A19233
date: _____ 2020.06.1

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56 of 62

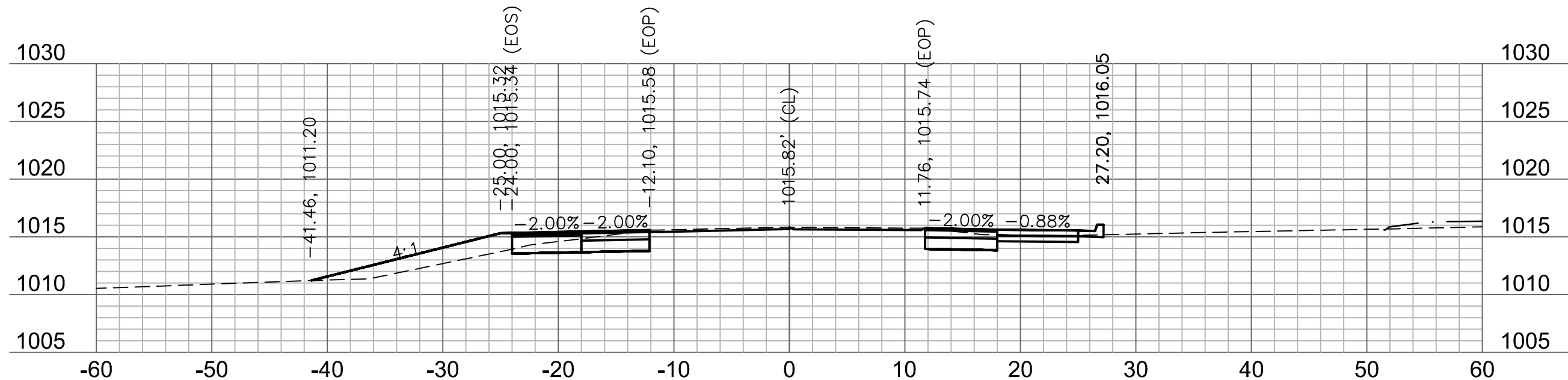
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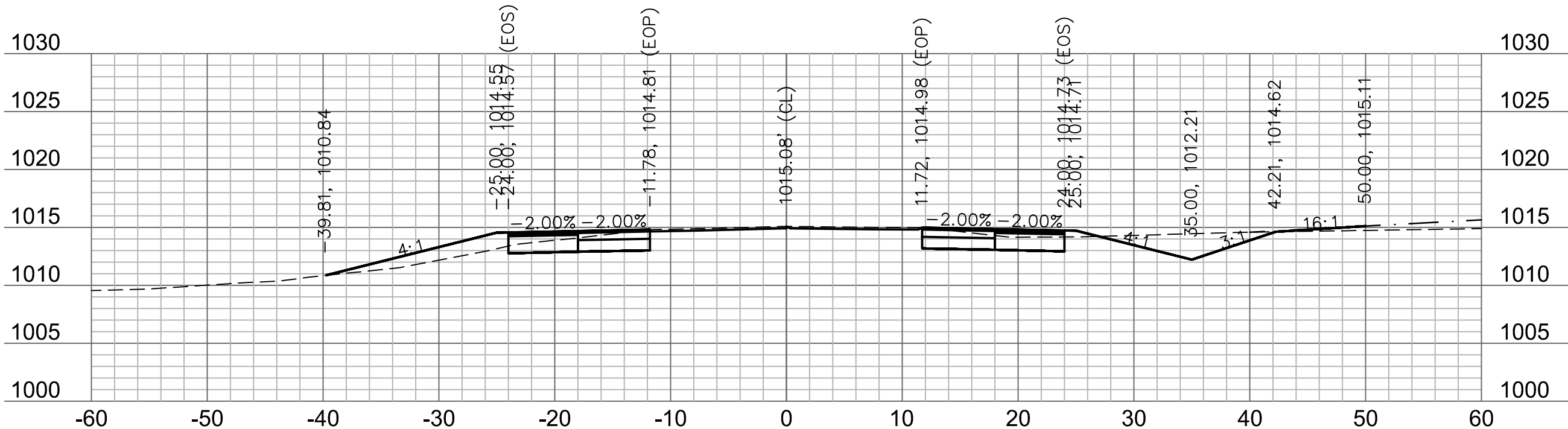
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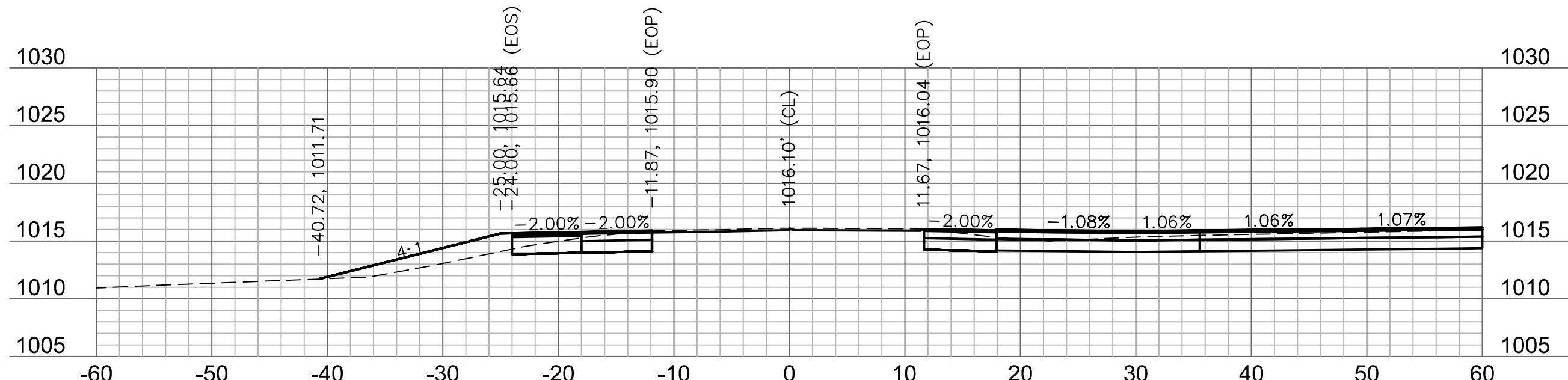
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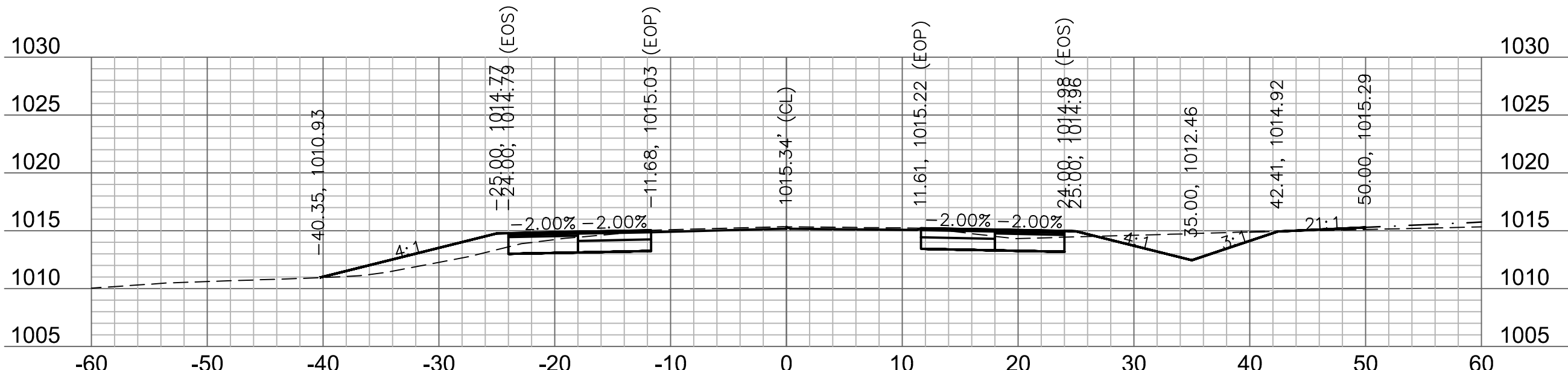
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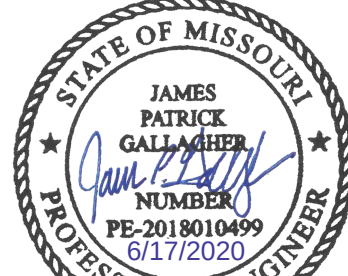
213+75



212+75



213+50



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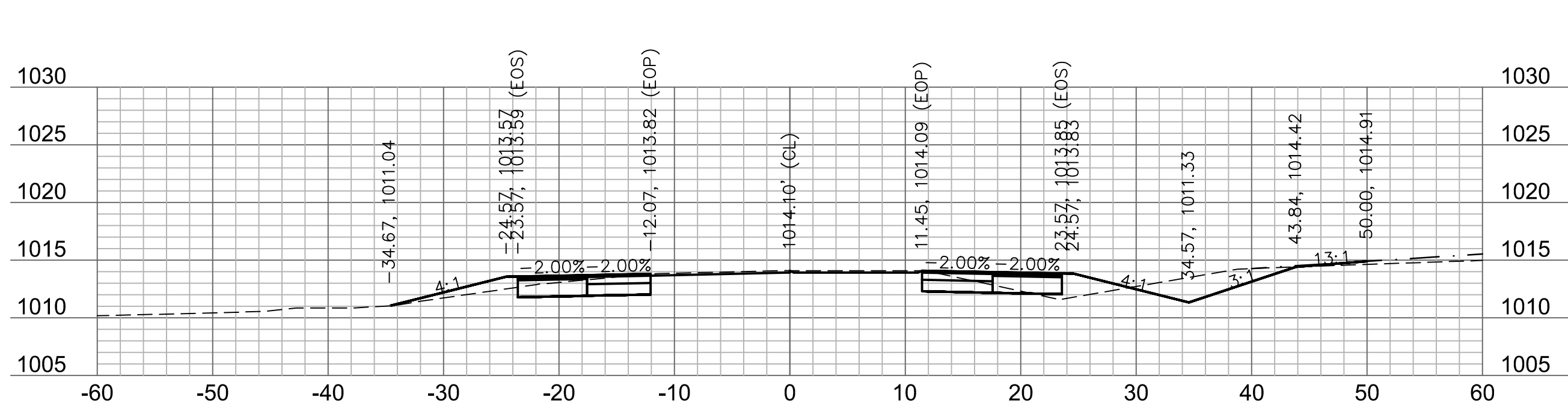
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drawn by: AKU
checked by: JPC
approved by: JPC
QA/QC by: RBC
project no.: T_XSC_A192339
drawing no.:
date: 2020.06.16

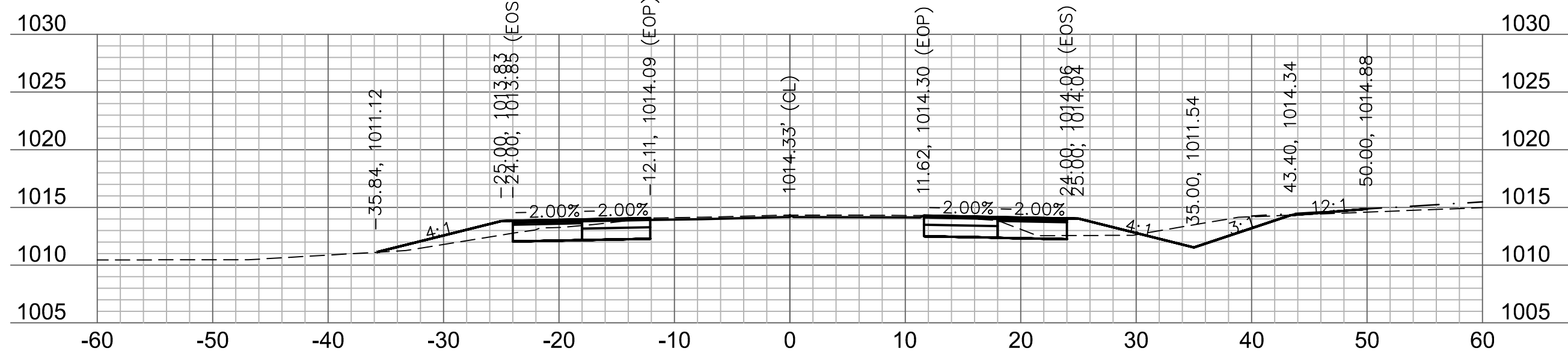
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59 of 62

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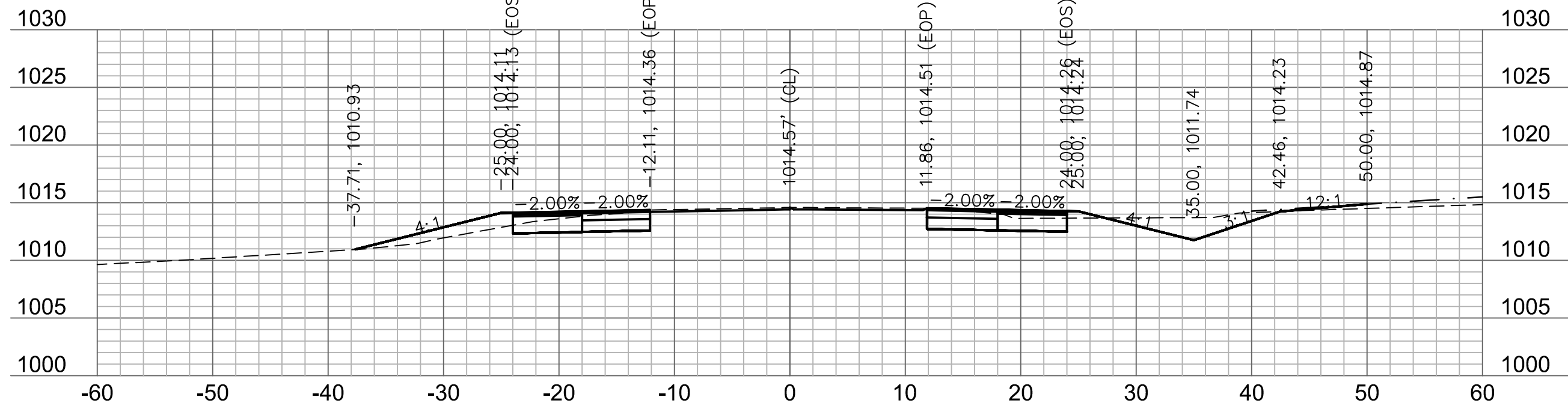
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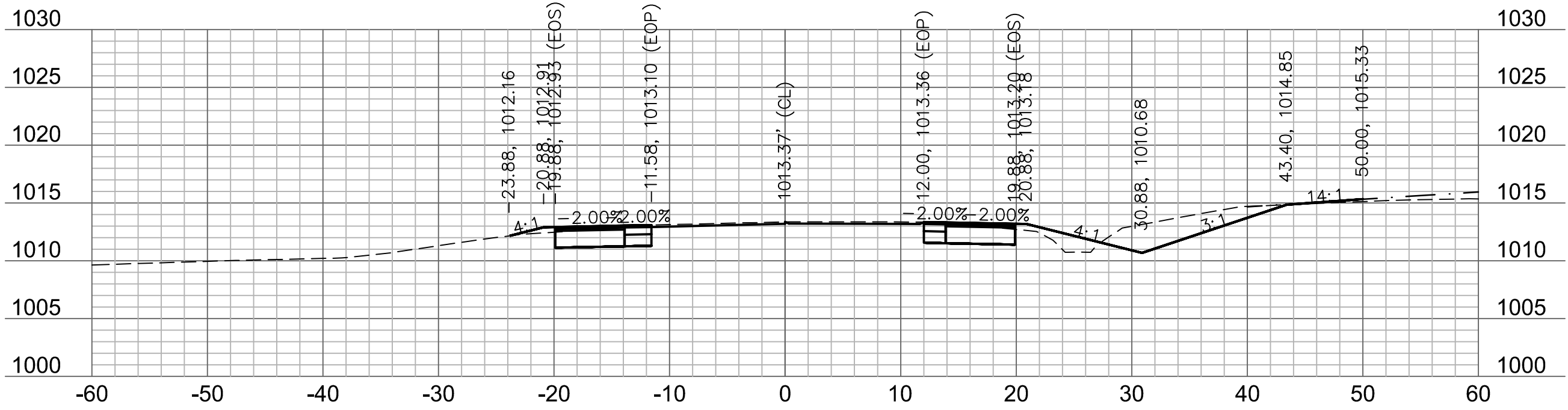
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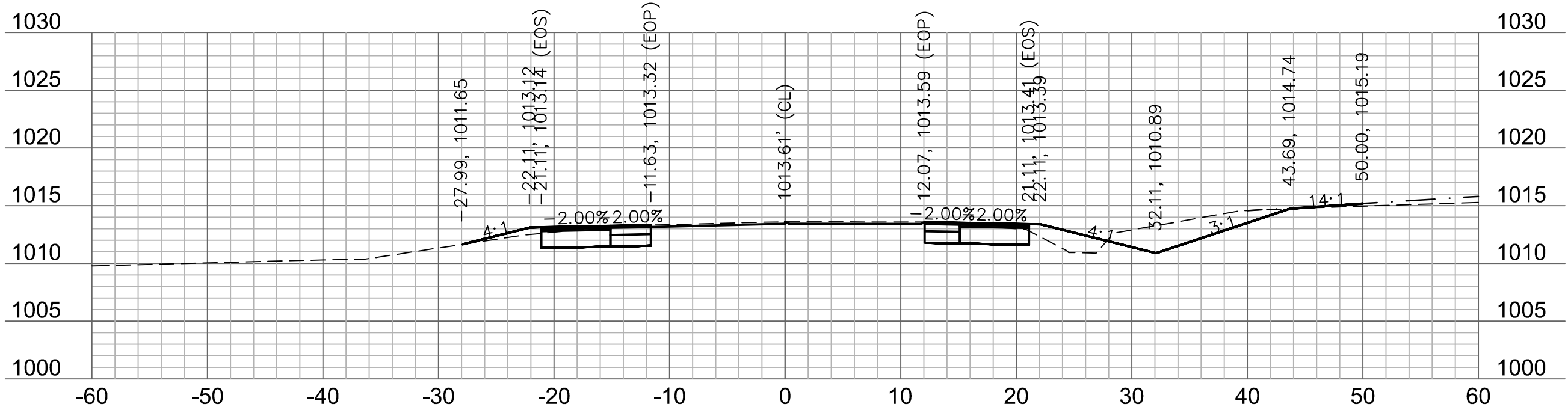
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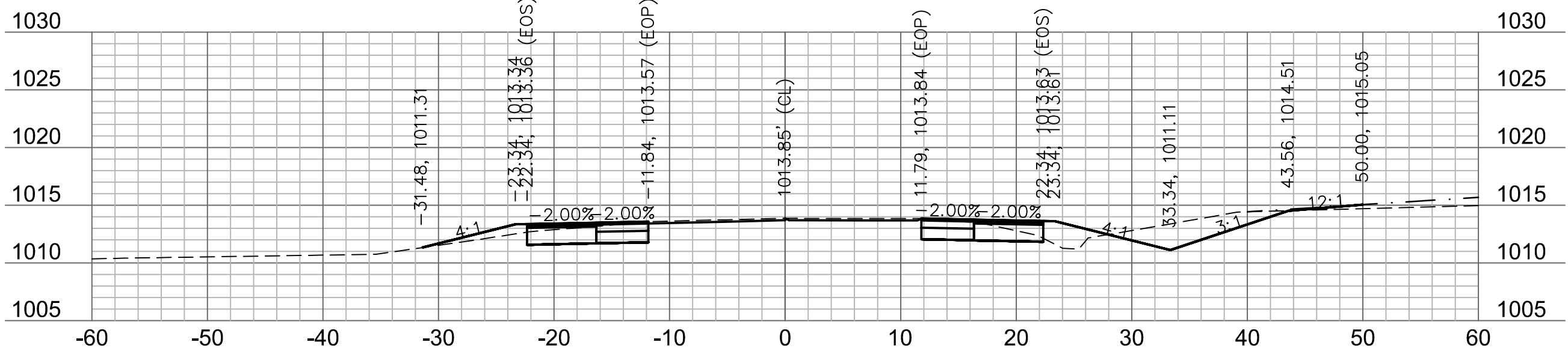
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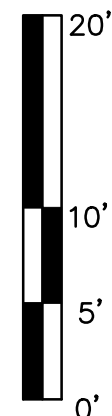
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215+00



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project no.: T_XSC_A192339
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SHEET
60 of 62

PRYOR ROAD
CROSS SECTION
HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS
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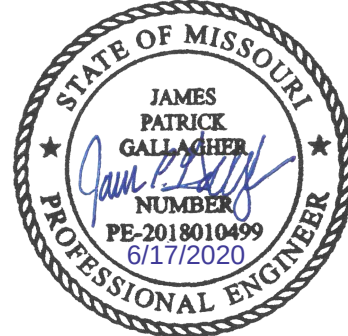
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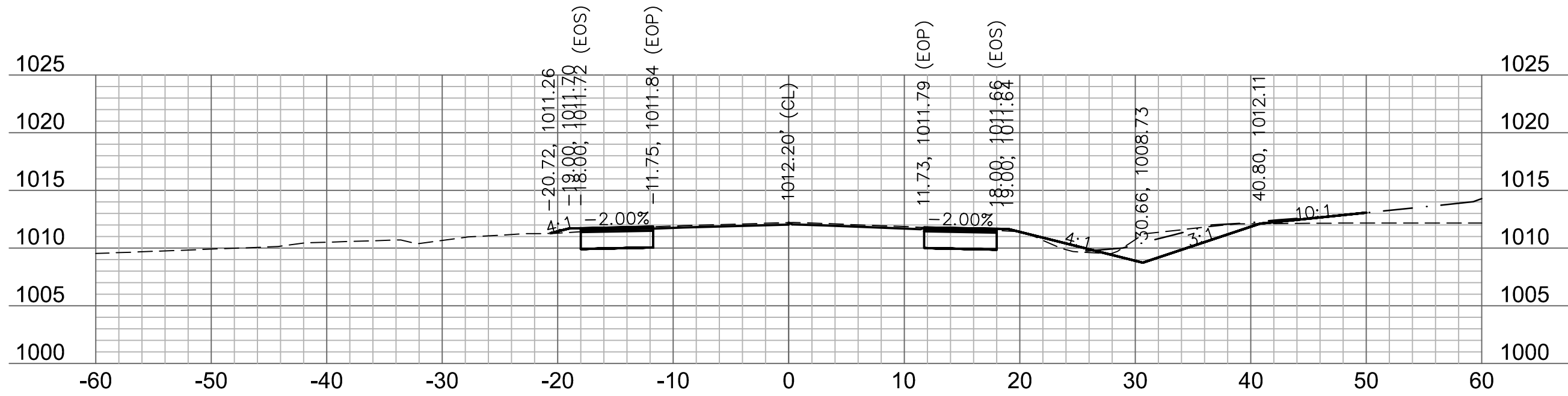
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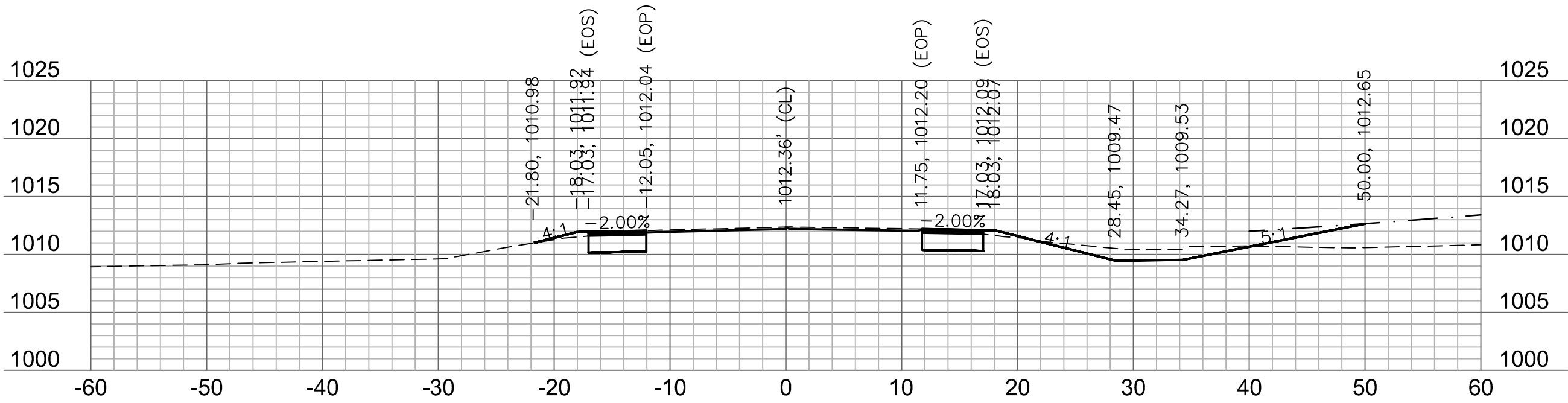
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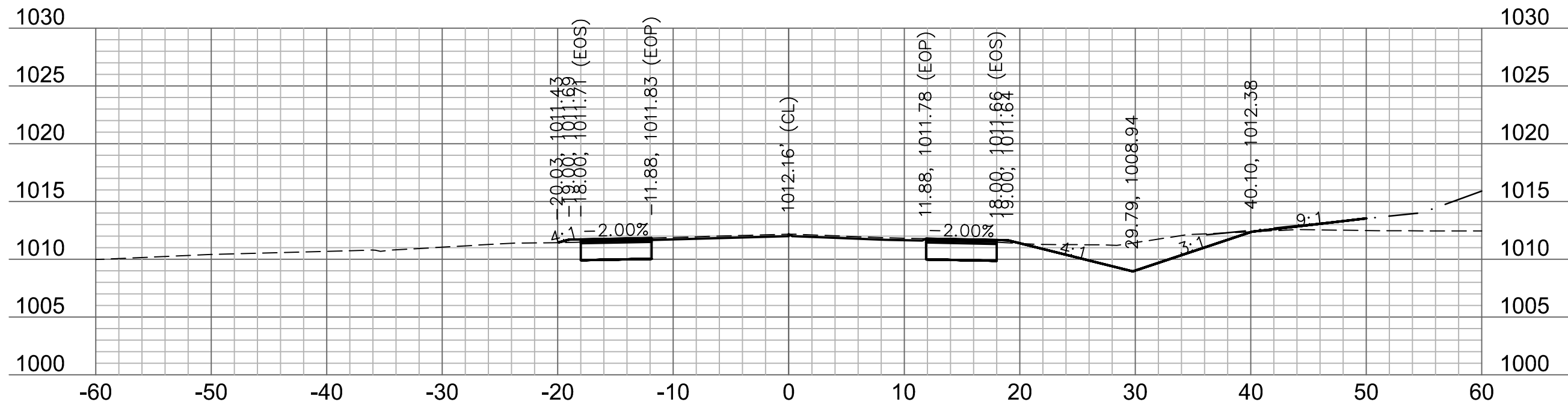
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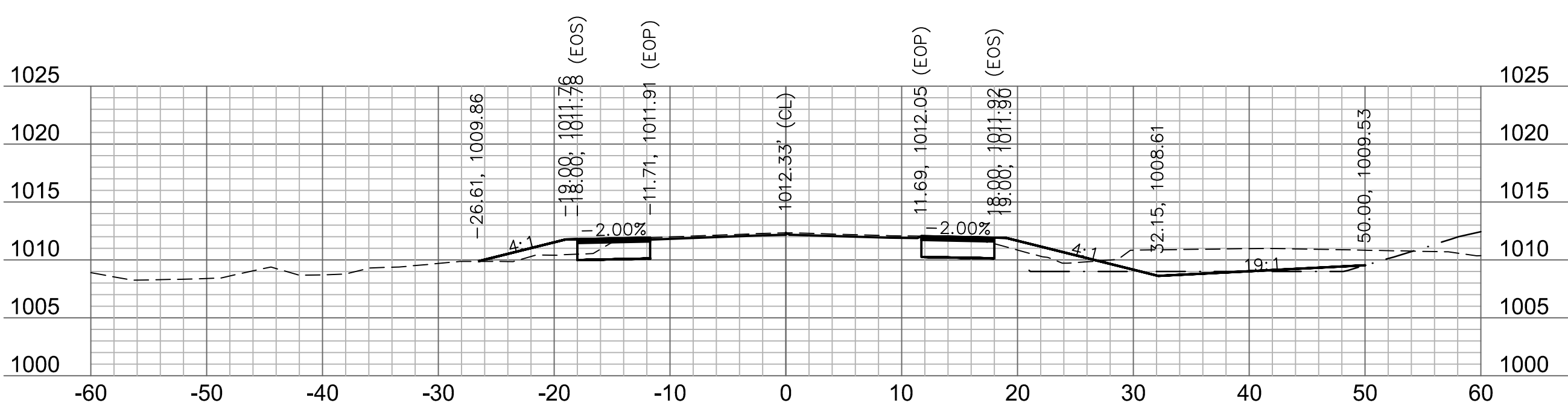
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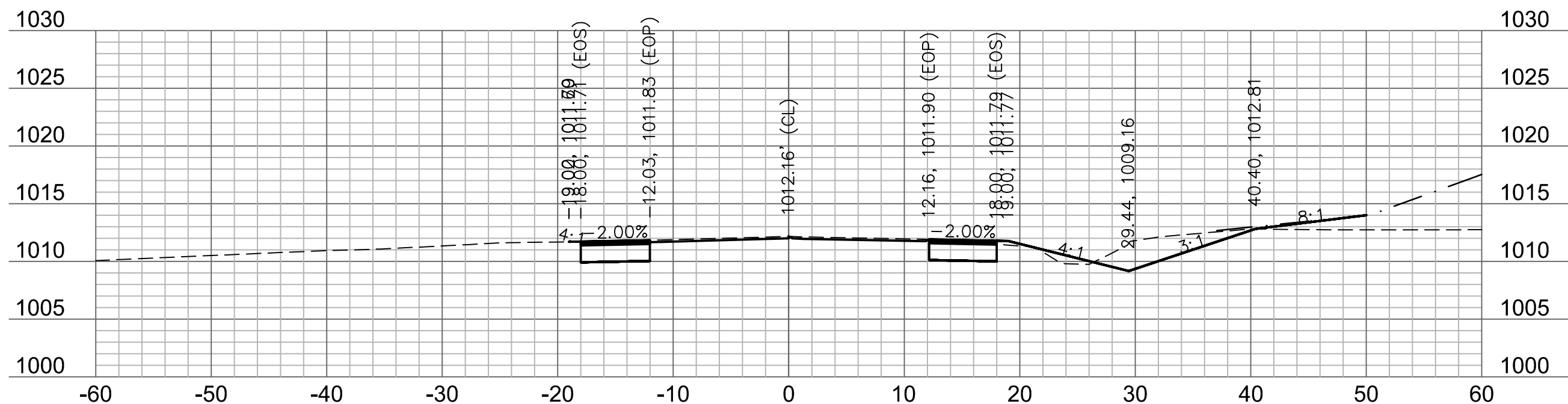
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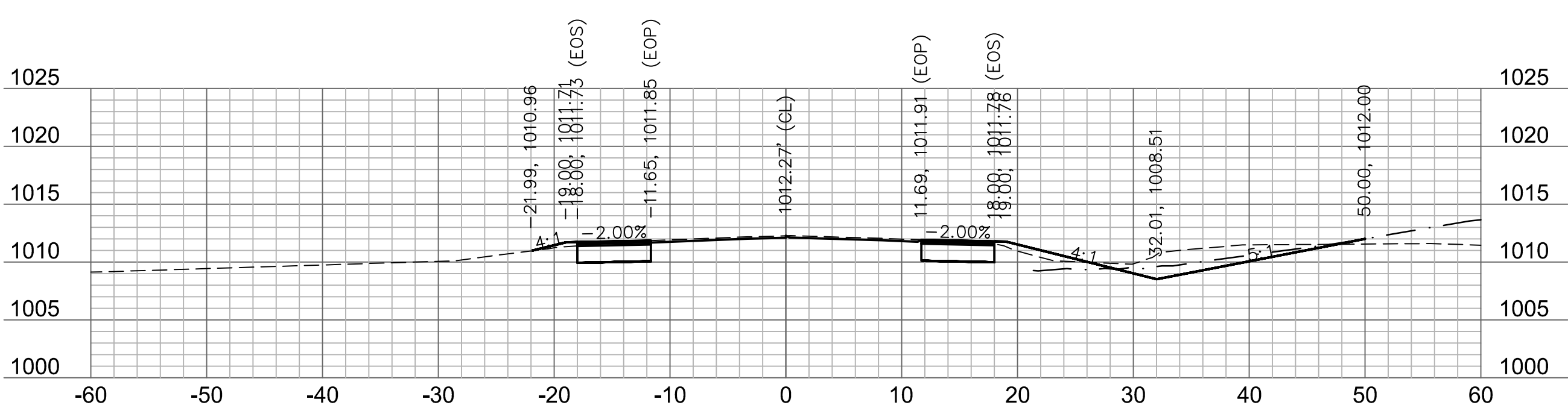
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218+25



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SHEET

62 of 62

PRYOR ROAD
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JAMES PATRICK GALLAGHER

PROFESSIONAL ENGINEER

NUMBER

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6/17/2020