OSAGE
FIRST PLAT
PRYOR ROAD & HIGHWAY 150 PUBLIC ROADWAY IMPROVEMENTS

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

AS BUILT
Date Surveyed: 09-19-2023
I hereby certify that the conditions shown are correct and the sewers are acceptably located within existing easements or right of ways.

James Patrick Gallagher, P.E.

Application Number: PL2020089

LEGEND

CTL	SURVEY CONTROL POINT	TS	TRAFFIC SIGNAL BOX
	SURVEY BENCHMARK	TM	TRAFFIC SIGNAL MANHOLE
TBM	SURVEY TEMPORARY BEMCHMARK		TRAFFIC SIGNAL POLE W/ ARM
GM	GAS METER		TRAFFIC SIGNAL POLE
GAR	GAS RISER	TC	TRAFFIC SIGNAL CONTROL BOX
	GAS MANHOLE	TS	TRAFFIC SIGNAL PEDESTAL
GR	GAS REGULATOR	E	ELECTRIC MANHOLE
TVP	TELEVISION PEDESTAL	EM	ELECTRIC METER
F	FIBER BOX	ER	ELECTRIC RISER
	FIBER PEDESTAL	E	ELECTRIC BOX
C	CABLE BOX		ELECTRIC CABINET
CV	CABLE VAULT	J	ELECTRIC JUNCTION BOX
TP	TELEPHONE PEDESTAL	SPH	SPRINKLER HEAD
	STORM MANHOLE	SCV	SPRINKLER CONTROL VALVE
	STORM GRATE		WATER METER PIT
S	SANITARY MANHOLE		FIRE HYDRANT
YL	YARD LIGHT	WM	WATER METER
LTP	LIGHT POLE	WV	WATER VALVE
	POWER POLE	FP	FLAG POLE
LPPP	POWER POLE W/ LIGHT		SIGN
	GUY WIRE		BOLLARD
	STUMP		WOOD POST
BU	BUSH		STEEL POST
	EVERGREEN TREE	COL	COLUMN
	DECIDUOUS TREE		BORE HOLE

	SECTION LINE
PL	PROPERTY LINE
	CENTER LINE
	PROPOSED ROW LINE
	EXISTING ROW LINE
	UTILITY EASEMENT
1371	EXISTING CONTOUR
1371	EXISTING CONTOUR
1371	PROPOSED MINOR CONTOUR
1371	PROPOSED MAJOR CONTOUR
TEL	EXISTING TELEPHONE LINE
	EXISTING SANITARY LINE
	EXISTING STORM LINE
G	EXISTING GAS LINE
W	EXISTING WATER LINE
X	EXISTING CHAIN LINK FENCE
P-OH	EXISTING OVERHEAD ELECTRIC
P	EXISTING PIPE LINE
	GRADING LIMITS
	TEMPORARY CONSTRUCTION EASEMENT
	PROPOSED UTILITY OVERHEAD EASEMENT
	PROPOSED SIDEWALK EASEMENT
	PROPOSED PERMANENT DRAINAGE EASEMENT
X	PROPOSED CHAIN LINK FENCE
	PROPOSED WOOD PRIVACY FENCE
	EXISTING TREELINE

ABBREVIATION TABLE

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
U.O.H.E.	UTILITY OVERHEAD EASEMENT
P.D.E.	PERMANENT DRAINAGE EASEMENT
P.S.E.	PERMANENT SIDEWALK EASEMENT
P.U.E.	PERMANENT UTILITY EASEMENT
PROP.	PROPOSED
EXIST.	EXISTING
TYP.	TYPICAL
CONST.	CONSTRUCT
TBM	TEMPORARY BENCMARK
C.P.	CONTROL POINT
D.N.D.	DO NOT DISTURB
U.I.P.	USE IN PLACE
ADJ.	ADJUST
EL.	ELEVATION
ESMT.	EASEMENT
BK.CB.	BACK OF CURB
BK.SWK.	BACK OF SIDEWALK

NTS

LOCATION MAP

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

PRYOR ROAD
COMMERCIAL COLLECTOR = 35 MPH

INDEX OF SHEETS

REVIEWED BY:

CITY OF LEE'S SUMMIT — DATE

OLSSON HAS BEEN RETAINED TO PROVIDE AS-BUILT DRAWINGS FOR THIS PROJECT.

7/28/2020
JAMES P. GALLAGHER, P.E. — DATE
CIVIL ENGINEER
MO# 2018010499

MISSOURI ONE CALL SYSTEM
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!!

AT&T
RON GIPFERT
500 E. 8TH STREET, ROOM 1146
KANSAS CITY, MISSOURI 64106
PHONE: (816) 275-1550
EMAIL: RG7910@ATT.COM

EVERGY
JEFF R. WILLIAMS, ENGINEER - CENTRAL DESIGN
401 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081
PHONE: (816) 347-4310
EMAIL: JEFF.WILLIAMS@KCPL.COM

CONSOLIDATED COMMUNICATIONS
JOHN CASTILOW
14859 W. 95TH STREET
LENEXA, KS 66215
PHONE: (913) 322-9785
EMAIL: JOHN.CASTILOW@CONSOLIDATED.COM

GOOGLE FIBER
LAUREN MARCUCCI
4049 PENNSYLVANIA AVENUE SUITE 300
KANSAS CITY, MO 64111
PHONE: (913) 663-1900
EMAIL: LMARCUCCI@GOOGLE.COM

LEE'S SUMMIT R-7 SCHOOL DISTRICT
KINZIE WOODERSON
301 NE TUDOR ROAD
LEE'S SUMMIT, MO 64086
PHONE: (816) 986-1050
EMAIL: KINZIE.WOODERSON@LSR7.NET

LEE'S SUMMIT WATER UTILITIES
JOSH ROACH
1200 SE HAMBLEN ROAD
LEE'S SUMMIT, MO 64081
PHONE: (816) 969-1940
EMAIL: JOSH.ROACH@CITYOFLS.NET

SPIRE GAS
CHRIS GUNDERSON
3025 SE CLOVER DRIVE
LEE'S SUMMIT, MO 64082
PHONE: (816) 266-1501
EMAIL: CHRISTOPHER.GUNDERSON@SPIREENERGY.COM

CHARTER/SPECTRUM CABLE
TROY PREWITT
8221 W. 119TH STREET
OVERLAND PARK, KS 66213
PHONE: (816) 401-3573
EMAIL: TROY.PREWITT@CHARTER.COM

☐ NOT FOR CONSTRUCTION
☒ REVIEWED FOR CONSTRUCTION

olsson
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Missouri Certificate of Authority #001592
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TEL 816.361.1177 www.olsson.com

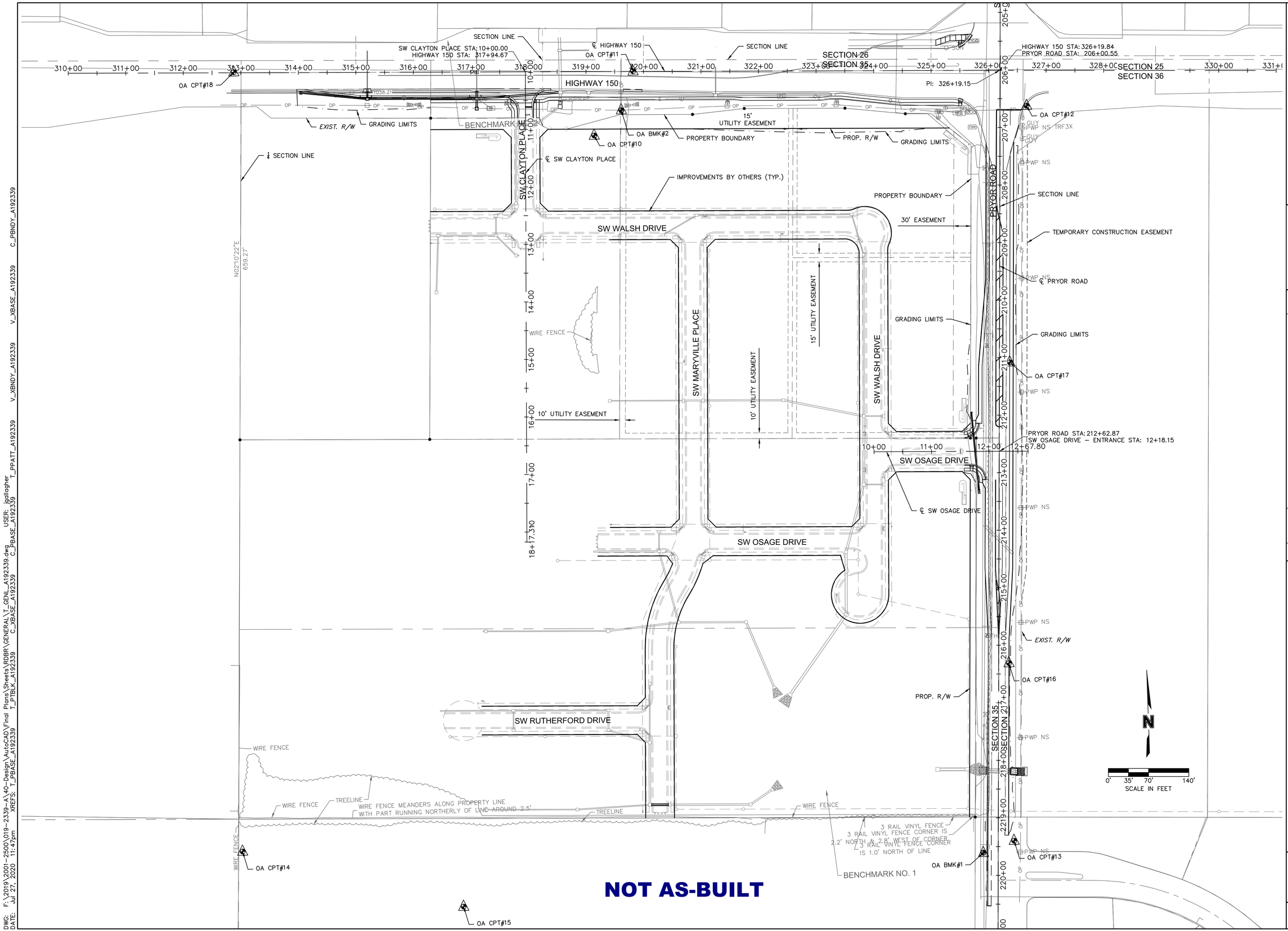
REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	2020.08.29	REVISIONS PER CITY COMMENTS	

REVISIONS

TITLE SHEET
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_TTL_A192339
date: 2020.07.09

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\GENERAL\T_TTL_A192339.dwg USER: jgallagher
DATE: Jul 27, 2020 11:46pm XREFS: T_PTBLK_A192339



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DATE: Jul 27, 2020 11:47pm XREFS: T_PBASE_A192339 T_PTBLK_A192339 C_XBASE_A192339 C_PBASE_A192339 T_PPATT_A192339 V_XBNDY_A192339 V_XBASE_A192339 C_PBNDY_A192339

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REVISIONS

GENERAL LAYOUT

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_GENL_A192339
date:	2020.07.09

SHEET
2 of 63

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

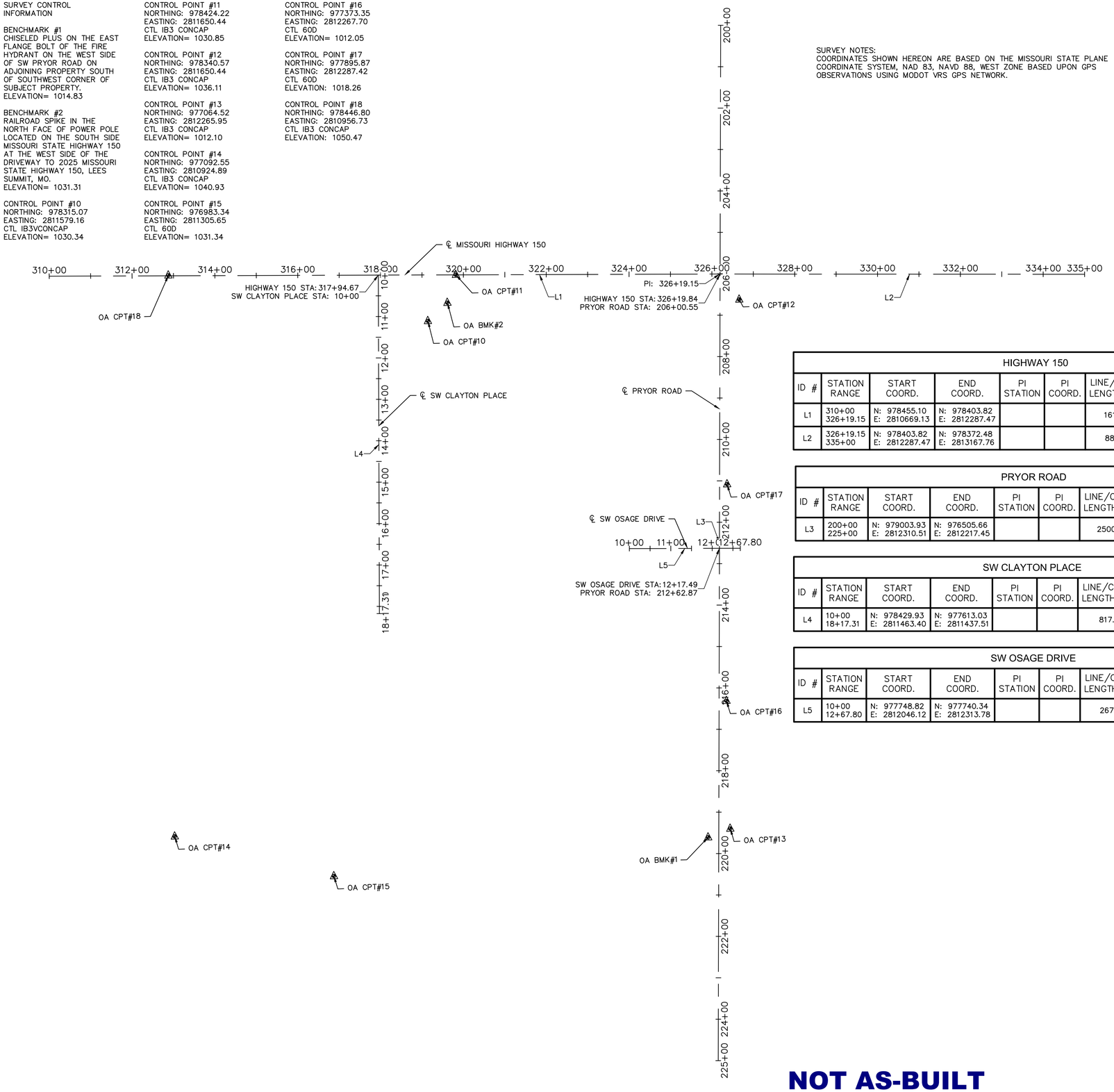
CONTROL POINT #15
NORTHING: 976983.34
EASTING: 2811305.65
CTL 60D
ELEVATION= 1031.34

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 88, 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+00 225+00	N: 979003.93 E: 2812310.51	N: 976505.66 E: 2812217.45			2500.00	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	

NOT AS-BUILT

N

0' 60' 120' 240'
SCALE IN FEET

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REVISIONS

ALIGNMENT DATA & SURVEY CONTROL

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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DATE: Jul 27, 2020 11:48pm XREFS: T_PTBLK_A192339

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.

MISSOURI ONE CALL SYSTEM

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).
17. ALL EXISTING FENCING, DRIVEWAYS, SIDEWALKS AND OTHER ITEMS WITHIN THE CONSTRUCTION LIMITS DAMAGED OR REMOVED BY THE CONTRACTOR, SHALL BE REPLACED WITH NEW MATERIALS. ALL FENCE REPLACEMENT SHOULD BE RELOCATED TO THE PROPERTY LINES UNLESS THE EXISTING FENCE WAS LOCATED INSIDE THE PROPERTY LINES, THEN THE FENCE SHOULD BE REPLACED IN ITS ORIGINAL LOCATION. FENCE CORNERS OF FENCES TO BE RELOCATED AT THE ORIGINAL LOCATIONS SHALL BE REFERENCE OUT BY THE CONTRACTOR BEFORE REMOVAL. REMOVALS SHALL BE AS SHOWN ON THESE PLANS, OR APPROVED BY THE CITY PRIOR TO REMOVAL. REMOVALS NOT PRE-APPROVED WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
18. REMOVAL OF EXISTING STORM DRAINAGE STRUCTURES AND OTHER EXISTING PHYSICAL FEATURES OF THE EXISTING ROADWAY SHALL BE CONSIDERED INCIDENTAL AND REMOVED AS A SUBSIDIARY ITEM TO REMOVAL OF EXISTING STRUCTURES. ALL WASTE SHALL BE TRANSPORTED TO A CITY APPROVED DUMP SITE FOR DISPOSAL.
19. ALL EXISTING WATER VALVES, METERS, FIRE HYDRANTS AND BLOW-OFF ASSEMBLIES WITHIN THE LIMITS OF THE PROPOSED PAVEMENT SHALL BE RELOCATED OR ADJUSTED TO GRADE BY THE CONTRACTOR. WATER METERS SHALL BE RELOCATED SO THAT THEY ARE WITHIN THE PUBLIC RIGHT-OF -WAY, APPROXIMATELY ONE FOOT FROM RIGHT-OF WAY LINE. WATER SERVICE LINES AFFECTED BY METER RELOCATION AND/OR THE WATER MAIN RELOCATIONS SHOWN IN THESE PLANS SHALL BE RECONNECTED BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY RESIDENTS OF ANY WATER SERVICE INTERRUPTIONS 48 HOURS PRIOR TO INTERRUPTING THE SERVICE. ANY SERVICE INTERRUPTIONS MUST BE RESTORED THE SAME DAY.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS AND SURVEY MONUMENTS WHICH HAVE BEEN DAMAGED OR DESTROYED BY THIS CONSTRUCTION OPERATION INCLUDING THOSE BURIED WITH EMBANKMENT OR REMOVED DURING EXCAVATION. SUCH IRONS AND MONUMENTS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR. REPLACEMENT OF PROPERTY IRONS AND MONUMENTS SHALL BE SUBSIDIARY TO OTHER BID ITEMS.
21. THE TOP 6" OF ALL DISTURBED AREAS THAT ARE TO BE SEEDED OR SODDED SHALL BE OF MATERIAL SUITABLE FOR SUSTAINING GRASS. THE GRADED SURFACE SHALL BE MADE FREE OF ROCK, CONCRETE, BRICK, OR FRAGMENTS THEREOF, OR RUBBISH AND SHALL BE FINISHED TO THE LINES, GRADES, AND CROSS-SECTION INDICATED ON THE PLANS.
22. ALL EXISTING TRAFFIC CONTROL SIGNS REMOVED SHALL BE SALVAGED AND DELIVERED TO THE CITY OF LEES SUMMIT, MISSOURI MAINTENANCE YARD.
23. ALL WATERLINE MAINS, SANITARY SEWER MAINS AND STORM WATER DRAINAGE CROSSINGS UNDER PROPOSED STREET PAVEMENTS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF THE ASPHALT SURFACE OR BASE COURSES.
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 PRIOR TO CONSTRUCTION OF ANY PORTION OF STORM SEWER, UNDERDRAINS, CONDUIT, AND ANY OTHER SUBSURFACE ELEMENTS OF THE PROJECT. THIS SURVEY INFORMATION SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW. THE CONTRACTOR SHALL NOT BEGIN CONSTRUCTION ON ANY SUBSURFACE ELEMENT ON THE PROJECT WITHOUT THE APPROVAL OF THE ENGINEER. THIS ITEM SHALL BE SUBSIDIARY TO OTHER BID ITEMS.
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. KCMMB 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 MODOT RIGHT OF WAY.
36. ANY WORK PERFORMED WITHIN MODOT RIGHT OF WAY SHALL CONFORM TO MODOT STANDARDS AND SPECIFICATIONS. IN ADDITION, THE CONTRACTOR SHALL PROVIDE MATERIALS CERTIFICATION AND COMPACTION TESTING THAT COMPLIES WITH MODOT 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 MODOT FOR A TIME AND LOCATION TO DELIVER THOSE ITEMS.

BEST MANAGEMENT PRACTICES:

1. PRIOR TO LAND DISTURBANCE ACTIVITIES, THE CONTRACTOR SHALL:

   A. PRIOR TO BEGINNING EXCAVATION, 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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GENERAL NOTES & SUMMARY OF QUANTITIES

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_GENN_A192339
date: 2020.07.09

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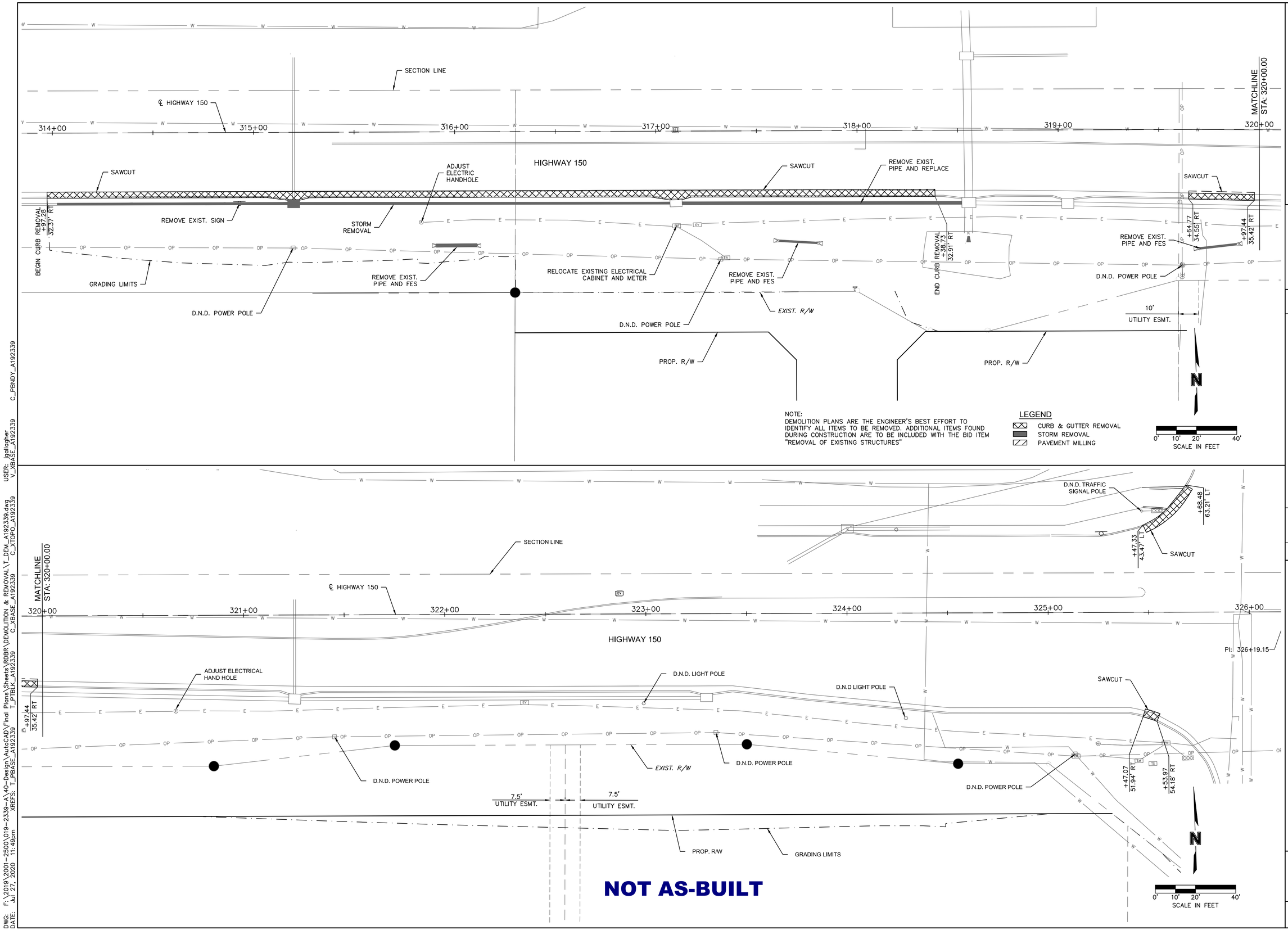

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DEMOLITION & REMOVALS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

drawn by:	AKU
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approved by:	JPG
QA/QC by:	RBC
project no.:	A19-2339
drawing no.:	T_DEM_A192339
date:	2020.07.09

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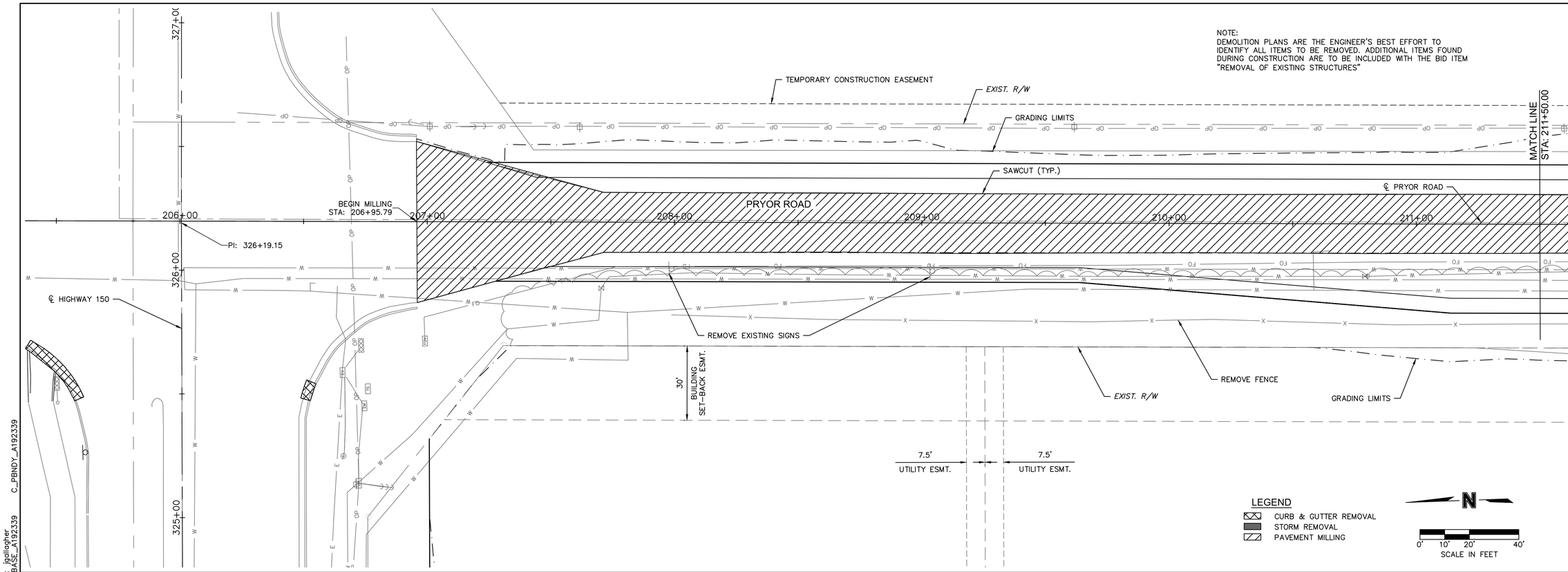
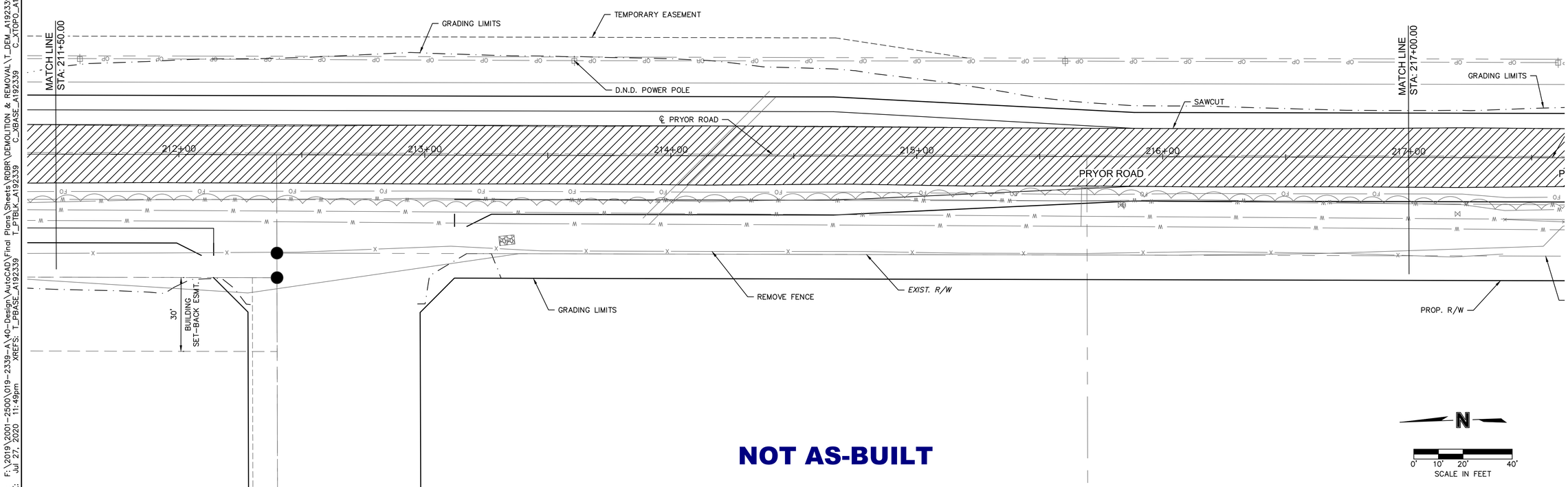
USER: jgallagher

NOTE:
DEMOLITION PLANS ARE THE ENGINEER'S BEST EFFORT TO IDENTIFY ALL ITEMS TO BE REMOVED. ADDITIONAL ITEMS FOUND DURING CONSTRUCTION ARE TO BE INCLUDED WITH THE BID ITEM "REMOVAL OF EXISTING STRUCTURES"





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DEMOLITION & REMOVALS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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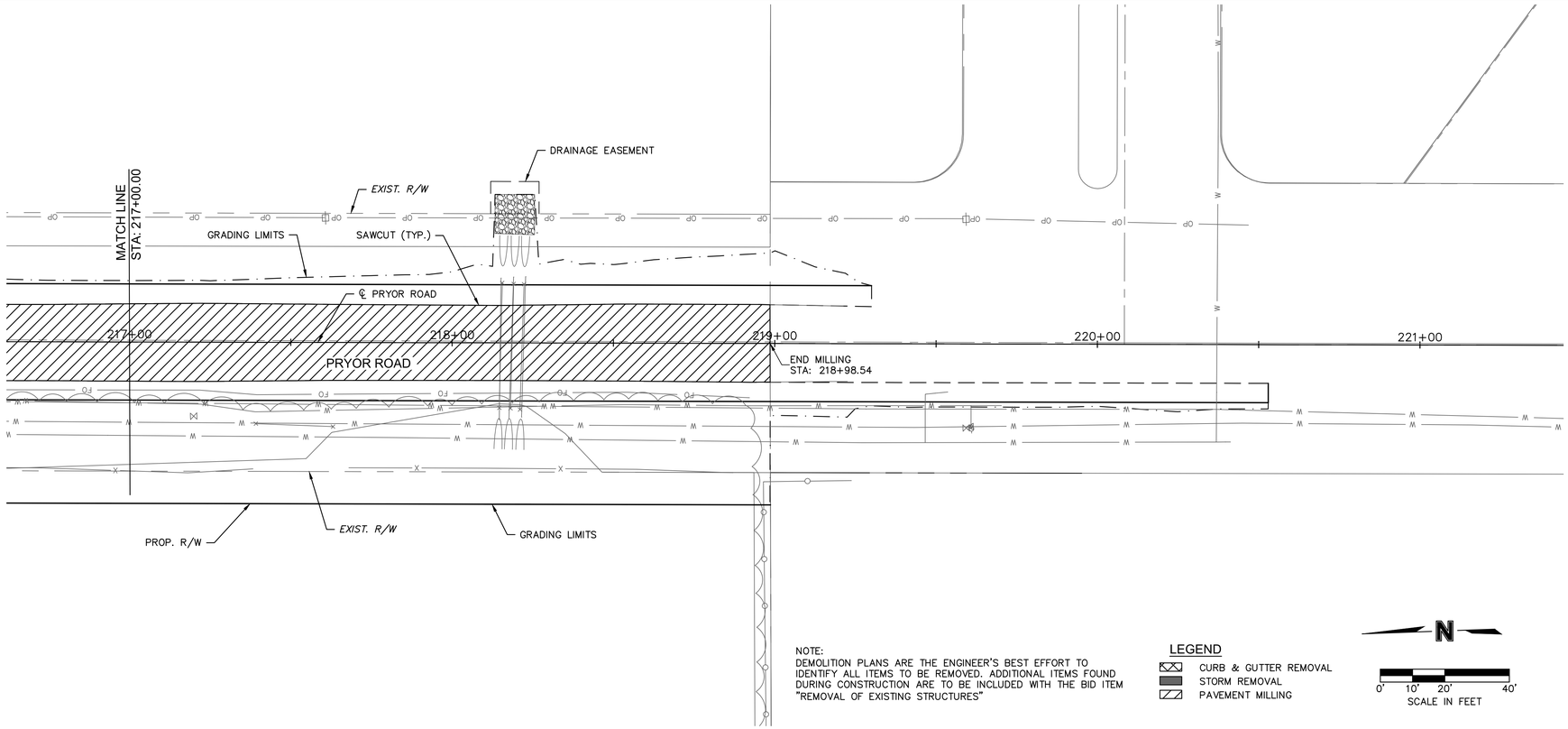

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LEGEND
- CURB & GUTTER REMOVAL
- STORM REMOVAL
- PAVEMENT MILLING

N

0' 10' 20' 40'
SCALE IN FEET

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DEMOLITION & REMOVALS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

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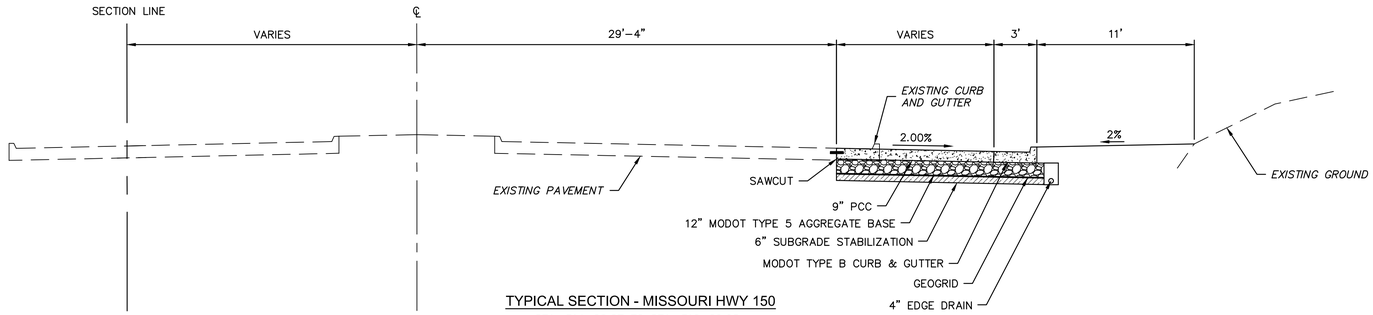

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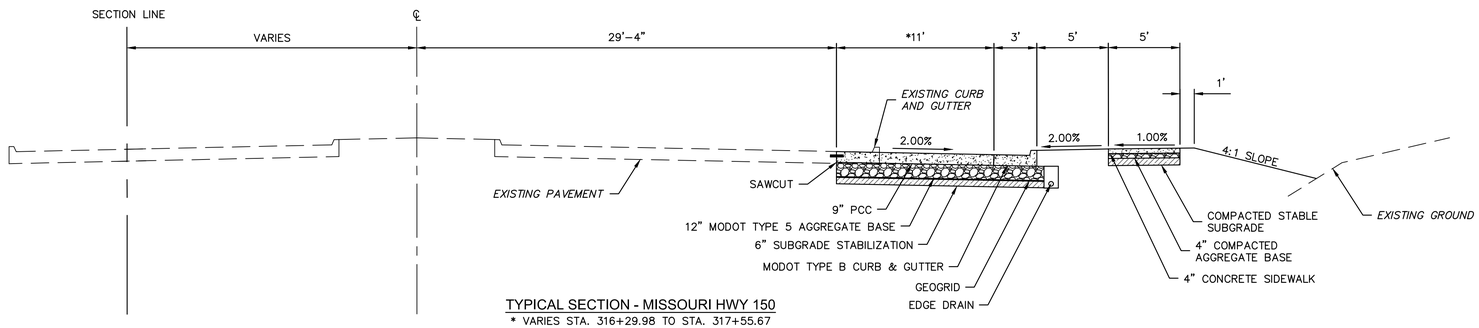
STA. 314+06.27 TO STA. 316+29.98



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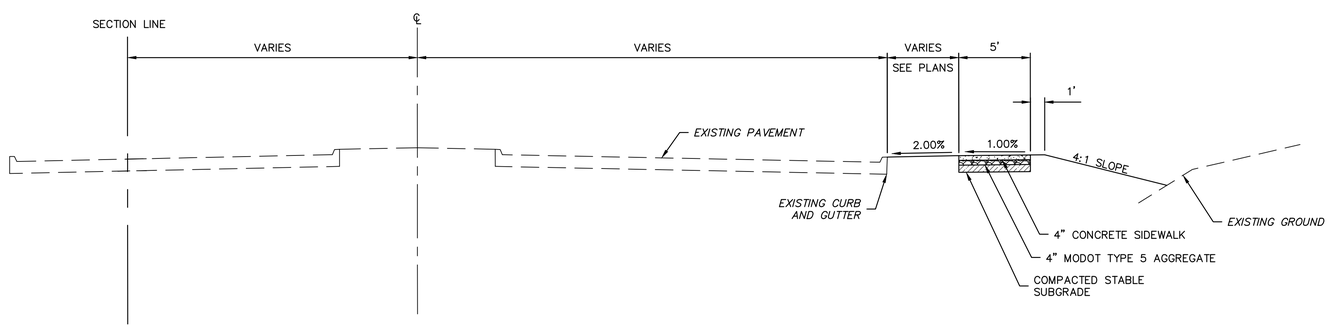
* VARIES STA. 316+29.98 TO STA. 317+55.67



TYPICAL SECTION - MISSOURI HWY 150

STA. 318+38.67 TO STA. 325+52.12

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TYPICAL SECTIONS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

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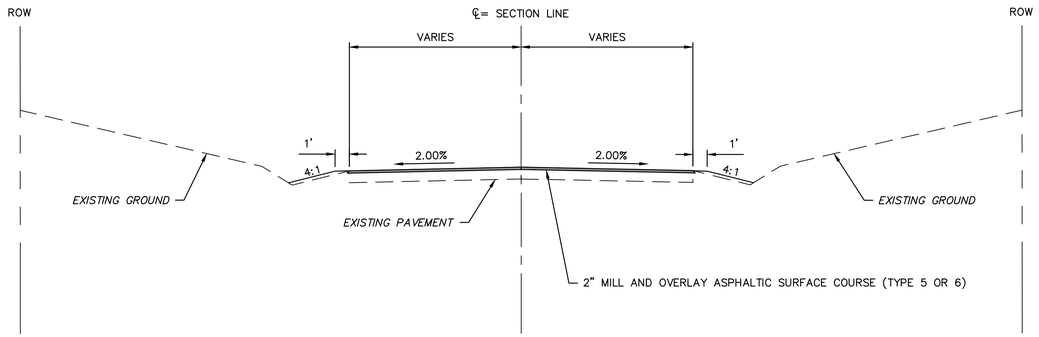
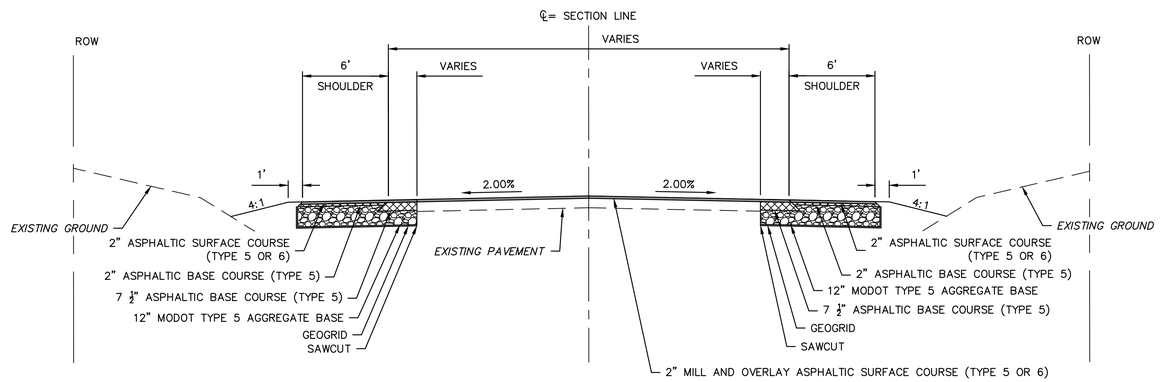


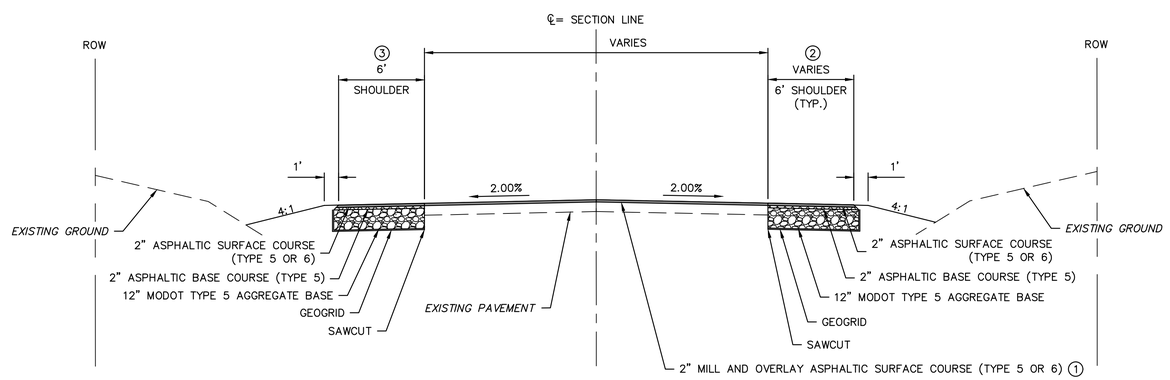
TYPICAL SECTION - PRYOR ROAD

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. 220+53.00

① END MILL AND OVERLAY AT STATION 218+98.63

② END RIGHT SHOULDER WIDENING AT STATION 220+53.00

③ END LEFT SHOULDER WIDENING AT STATION 219+29.98

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TYPICAL SECTIONS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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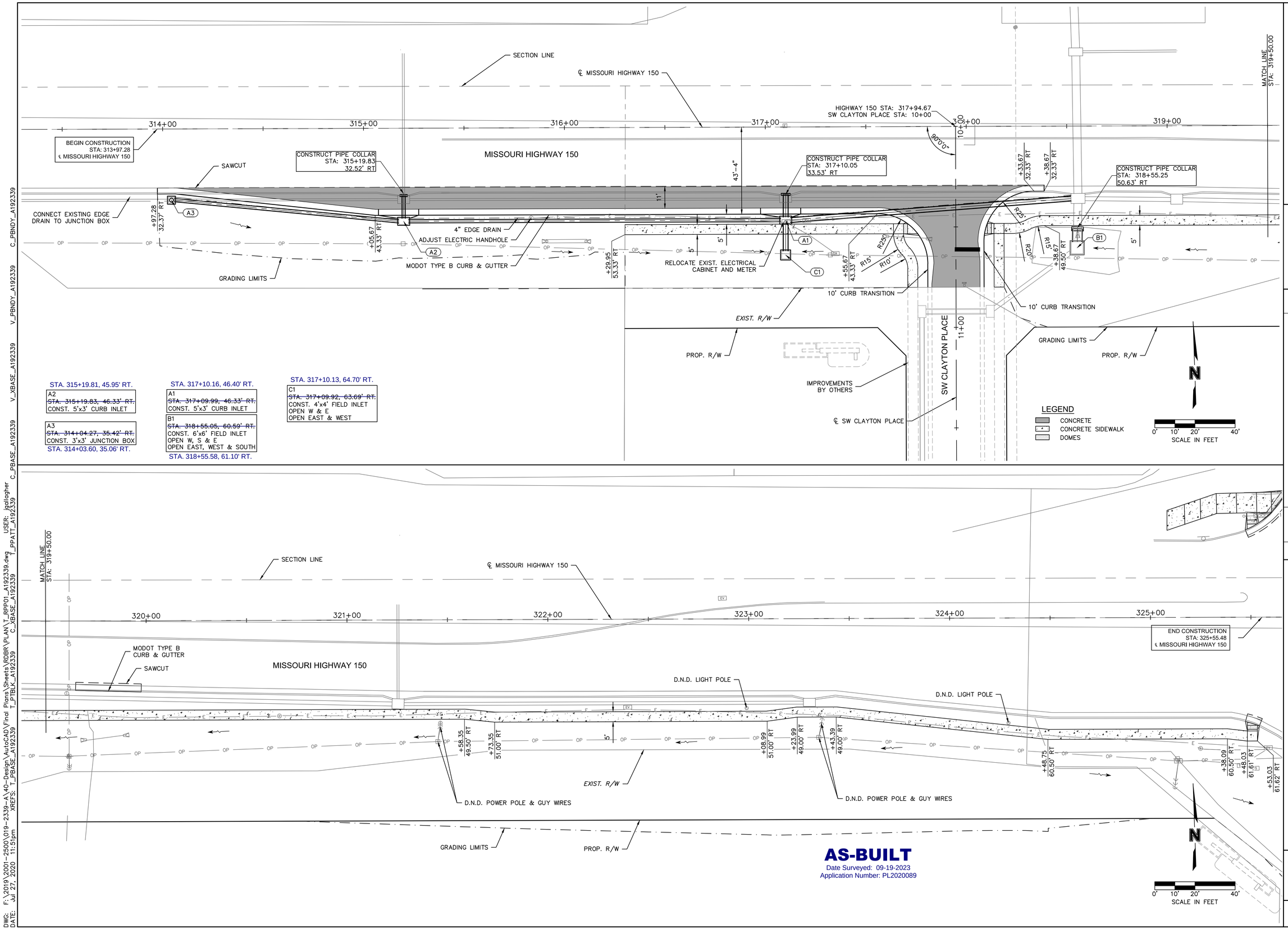

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Date Surveyed: 09-19-2023
Application Number: PL2020089

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PLANS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

2020

LEE'S SUMMIT, MO

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QA/QC by:	RBC
project no.:	A19-2339
drawing no.:	T_RPP01_A192339
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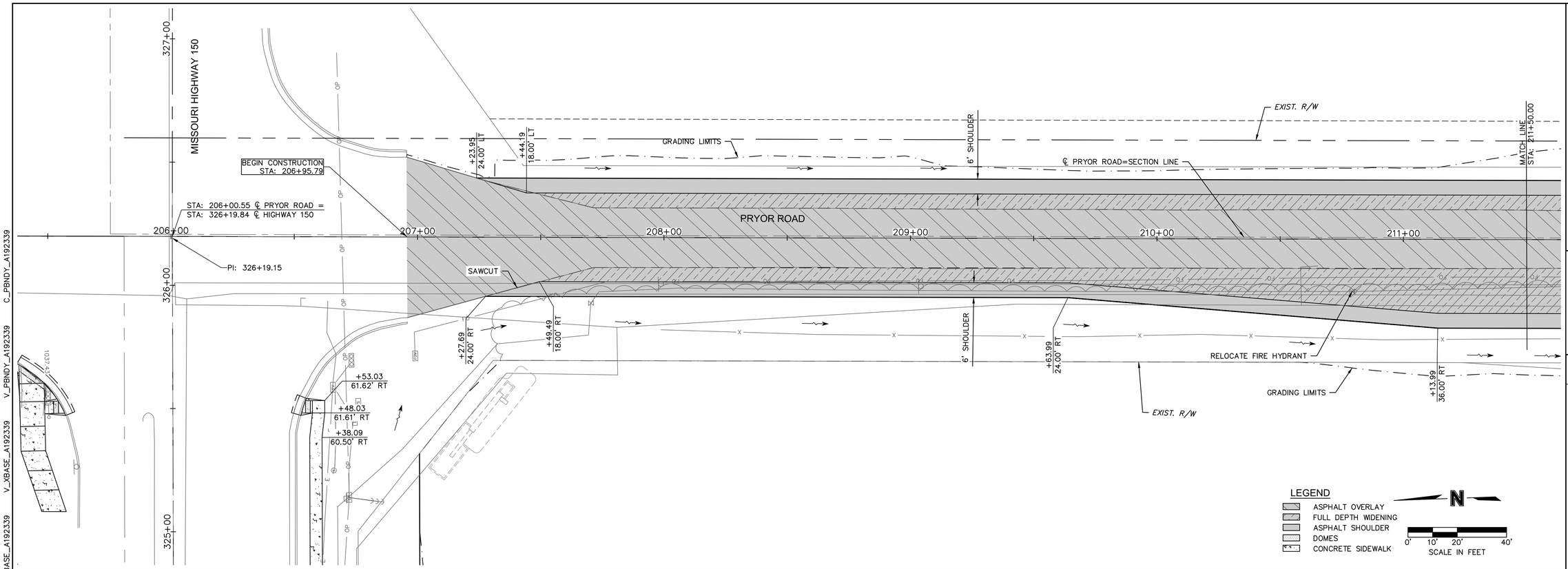

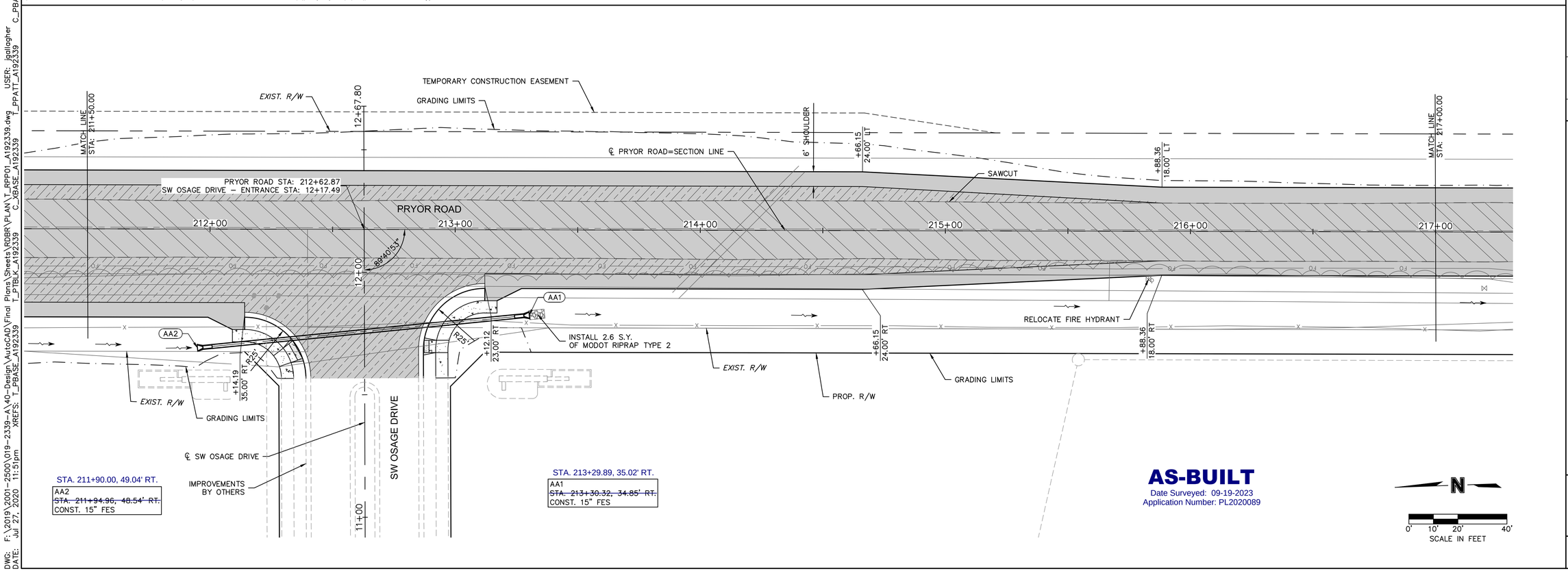

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PLANS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

2020

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SHEET
11 of 63

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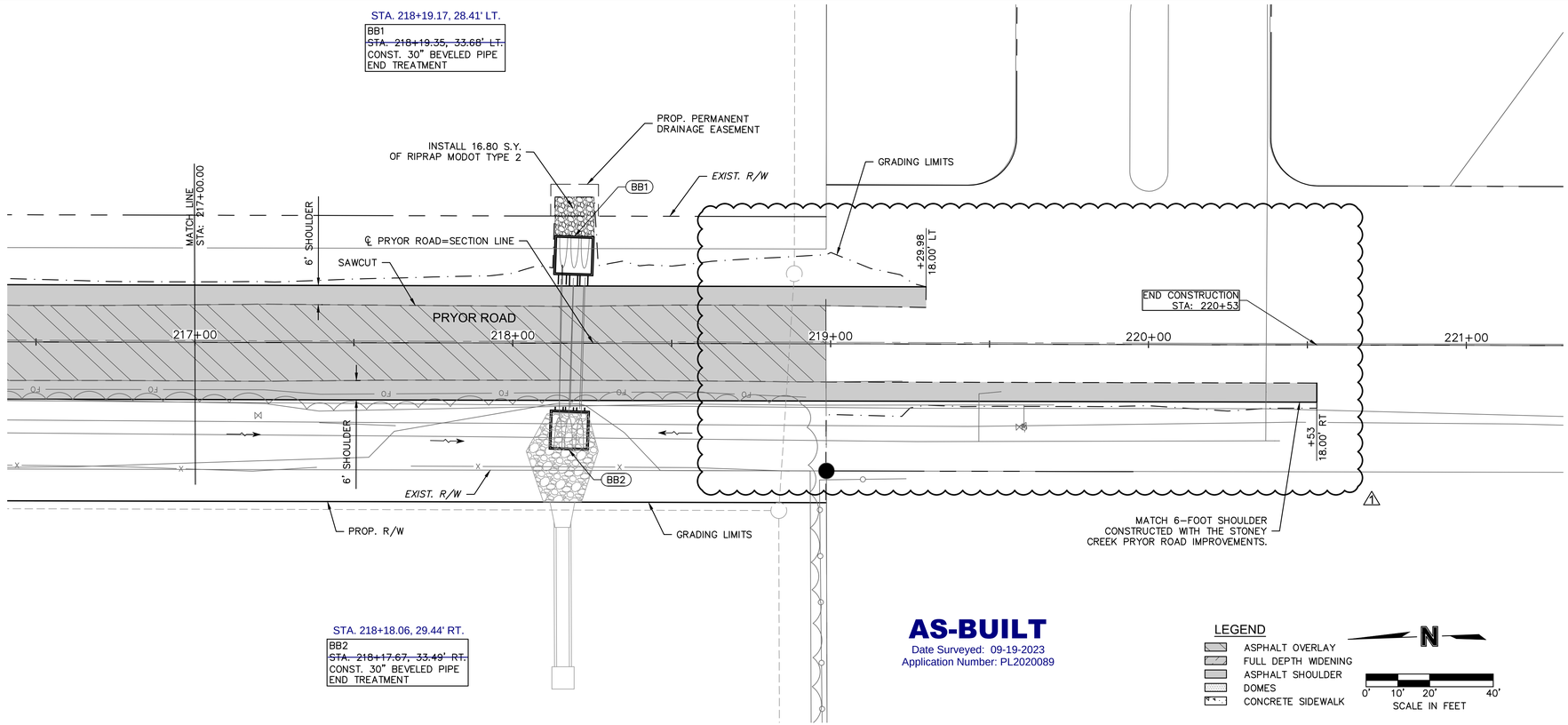

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12 of 63

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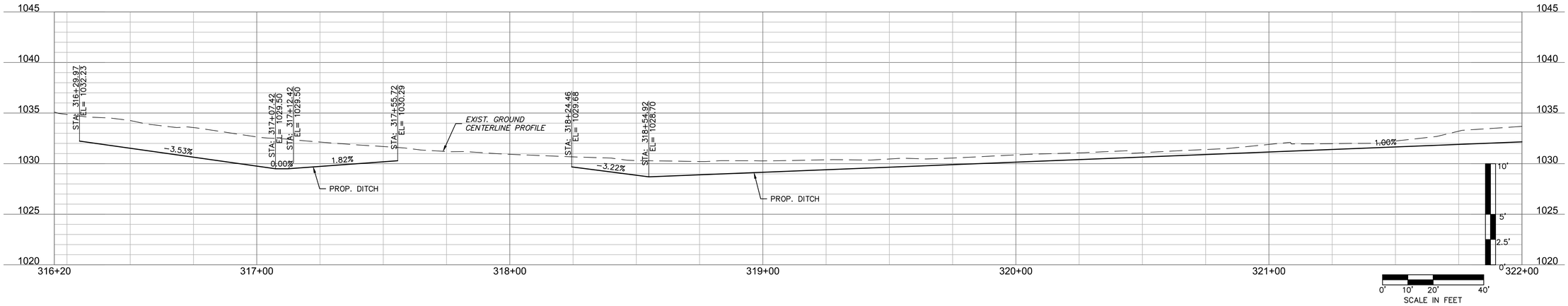
HIGHWAY 150 (DITCH PROFILES)



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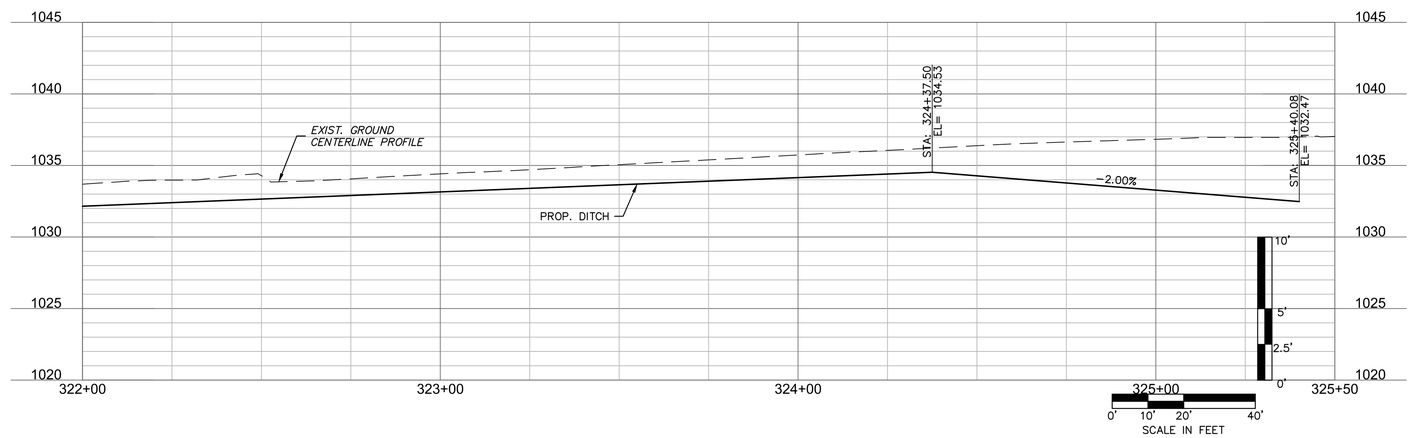

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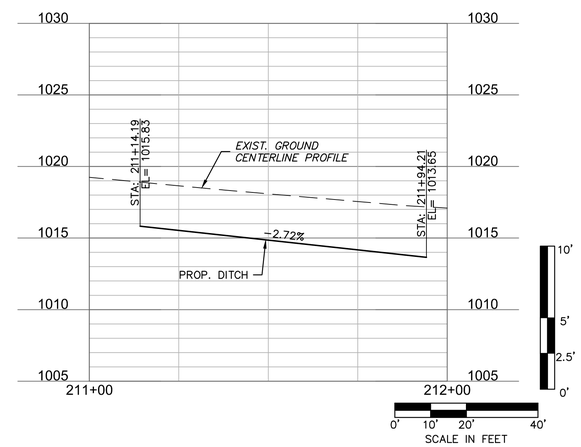

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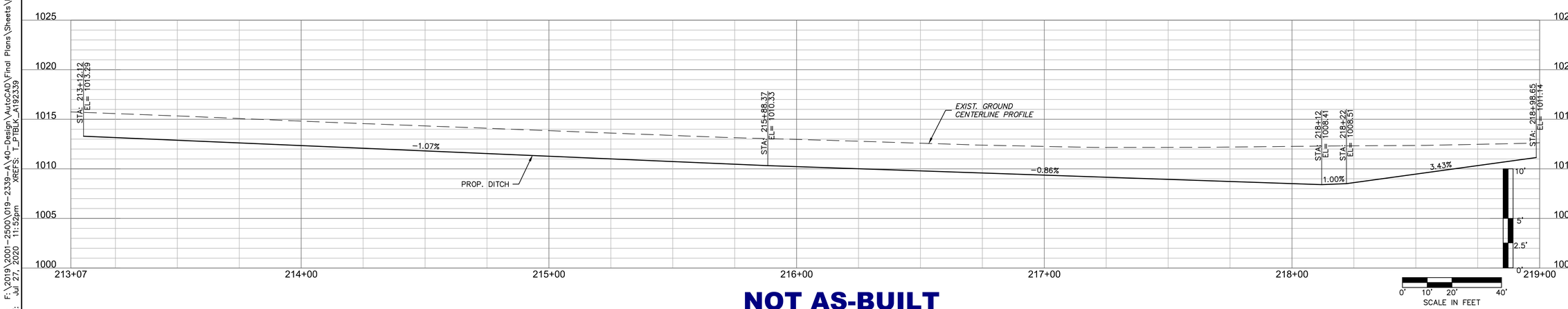

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DITCH PROFILES

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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drawing no. DITCH_PROF_A192339
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SHEET
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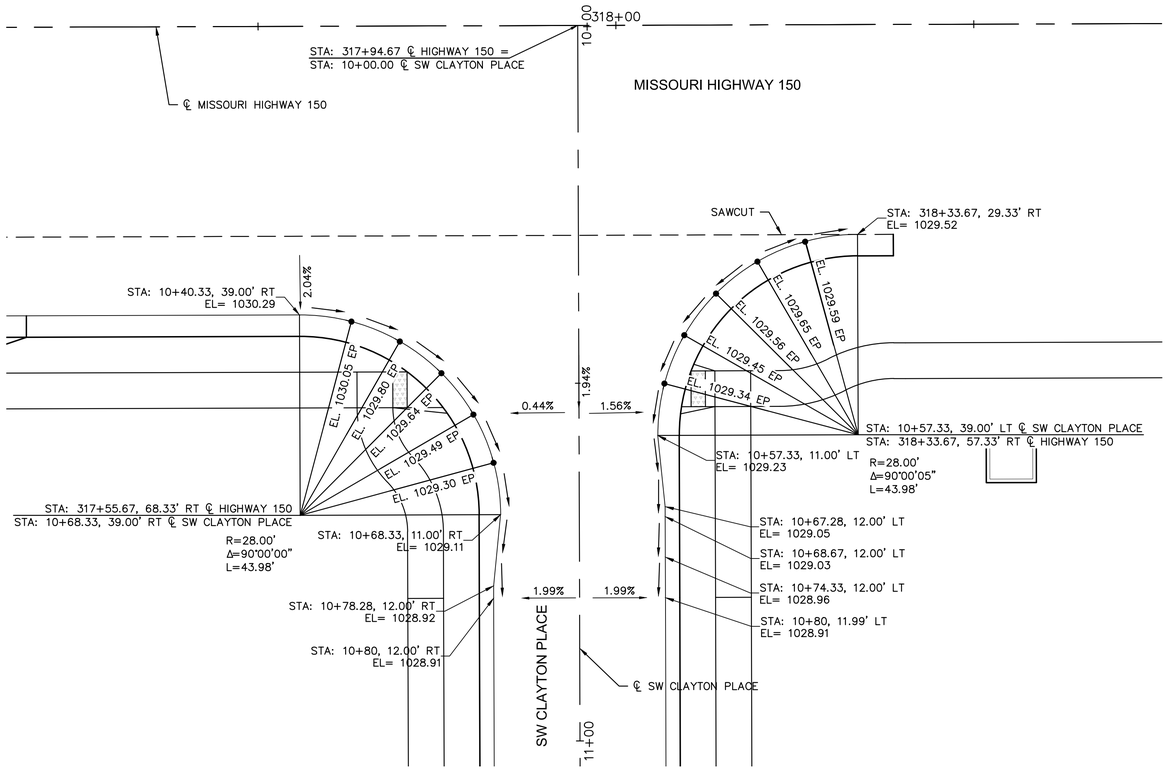
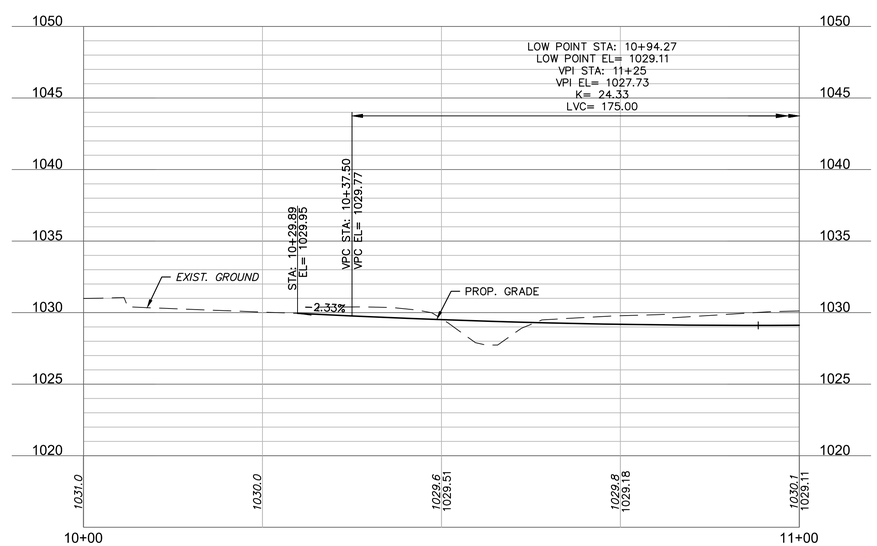


SW CLAYTON PLACE (10+00 - 11+00)



NOT AS-BUILT

0' 5' 10' 20'
SCALE IN FEET

10'
5'
2.5'
0'

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REVISIONS

INTERSECTION LAYOUTS

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_INT01_A192339
date:	2020.07.09

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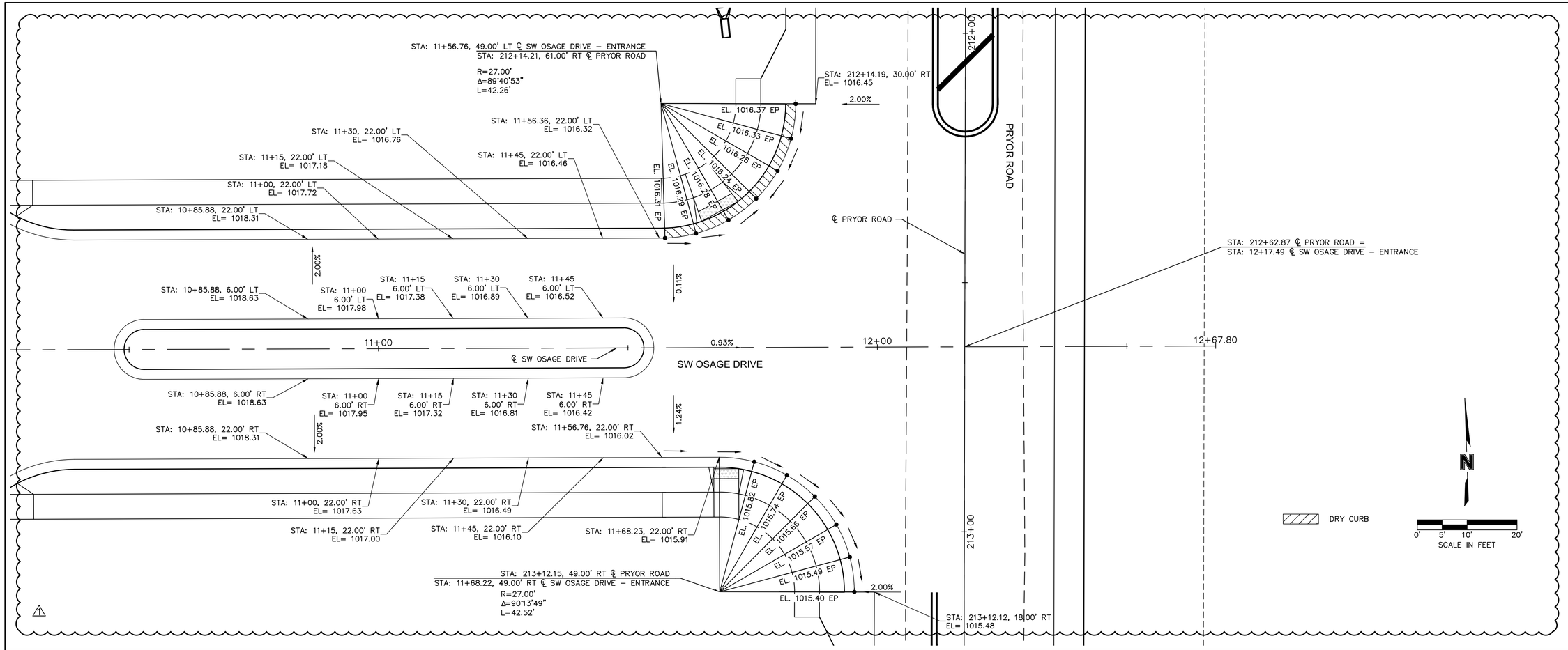
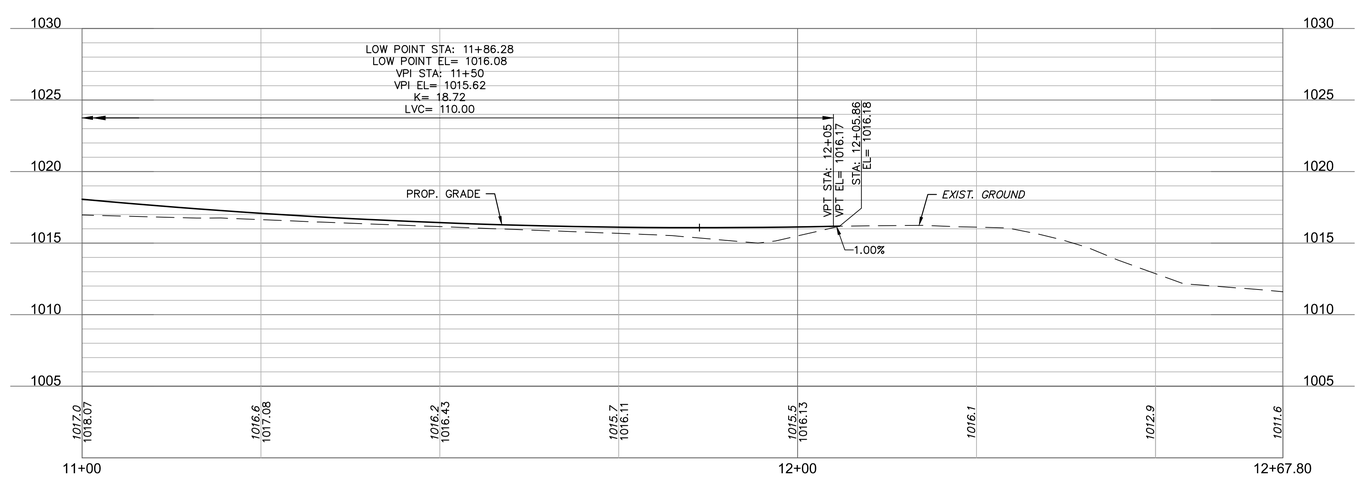


SW OSAGE DRIVE - ENTRANCE (11+00 - 12+67.80)



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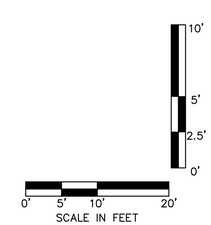

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HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

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drawing no.:	T_INT01_A192339
date:	2020.07.09

SHEET
15 of 63

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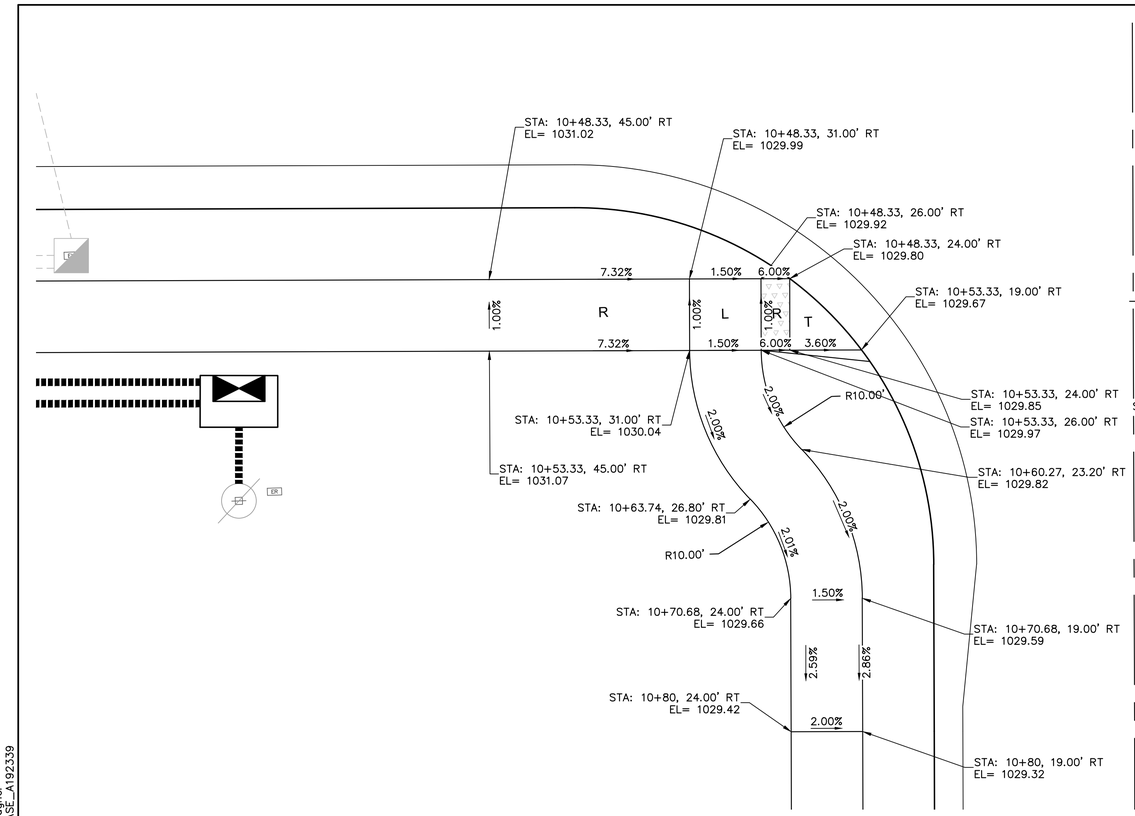

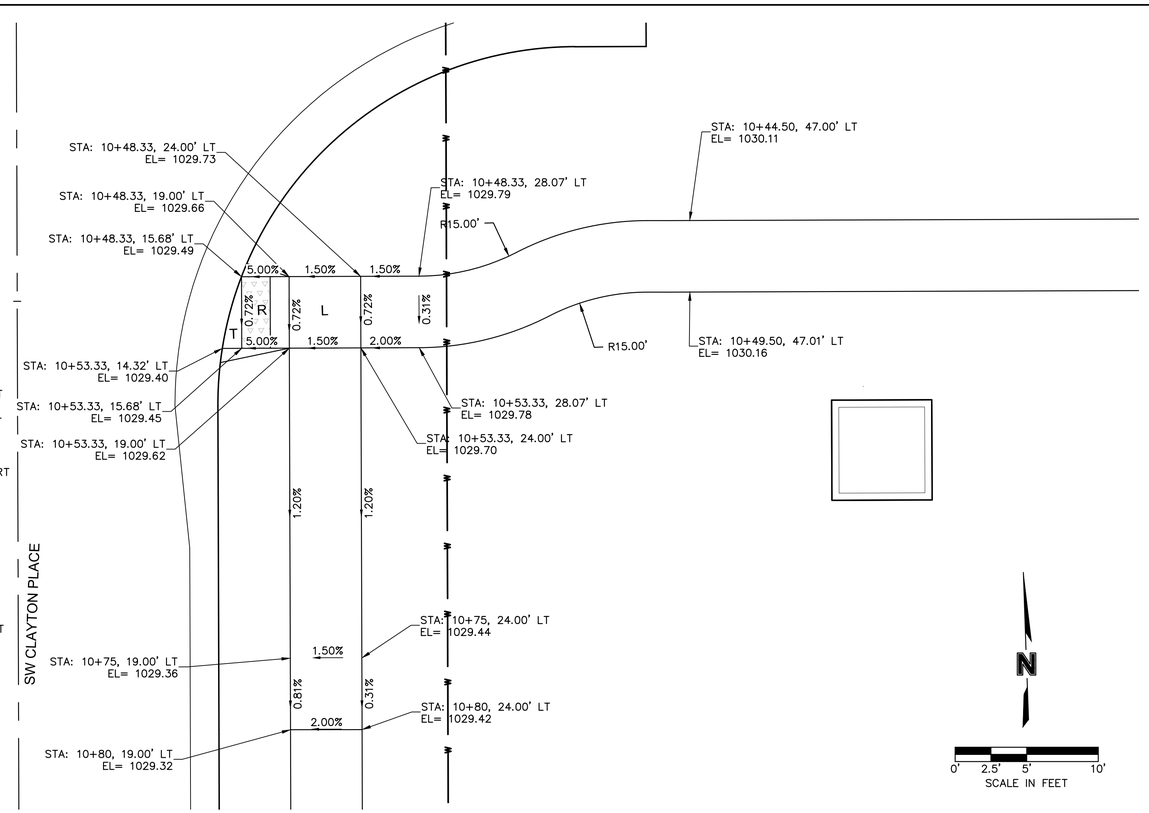

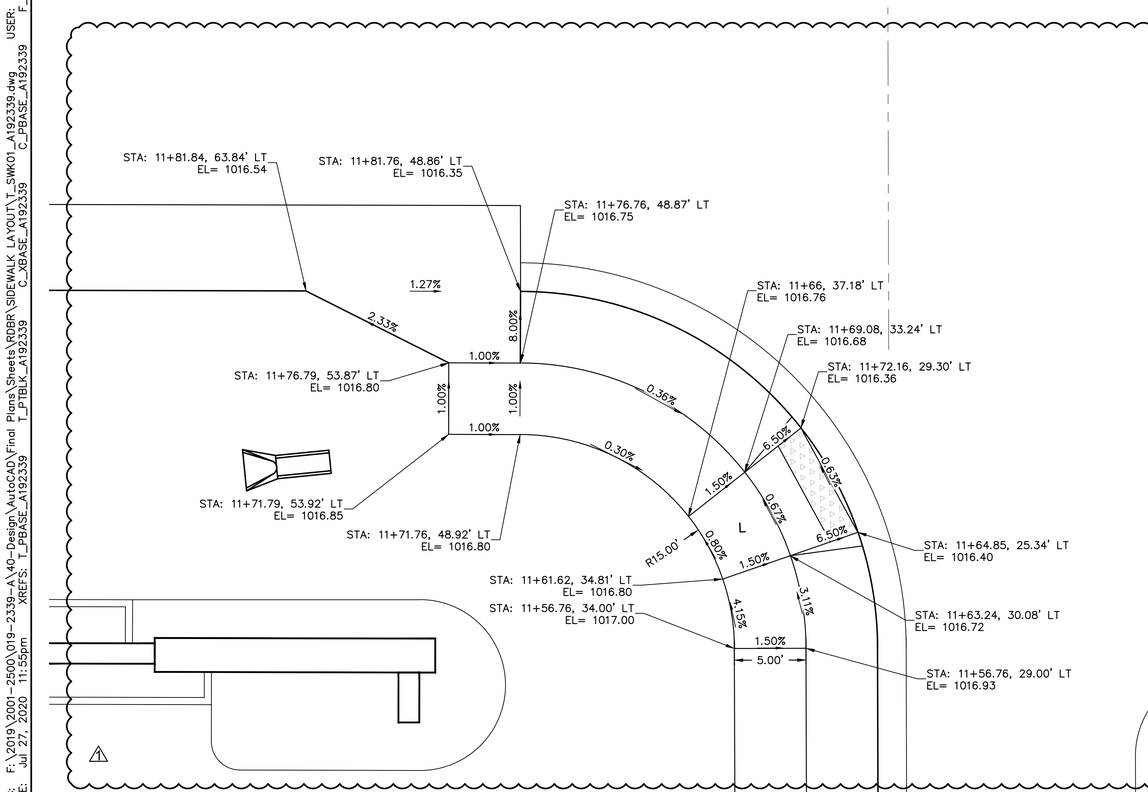

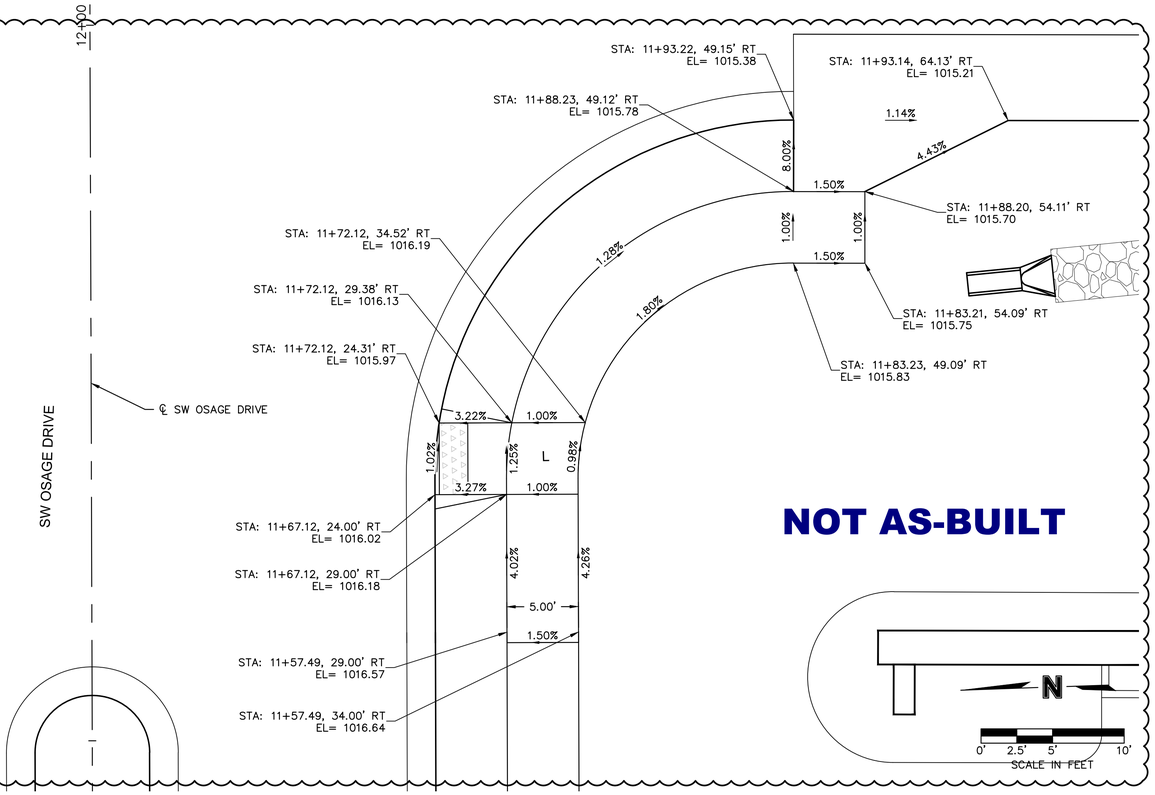

SW OSAGE DRIVE

℄ SW OSAGE DRIVE

12+00

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SIDEWALK RAMP LAYOUTS

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_SWK01_A192339
date: 2020.07.09

SHEET
16 of 63

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\SIDEWALK LAYOUT\T_SWK01_A192339.dwg USER: jgallagher
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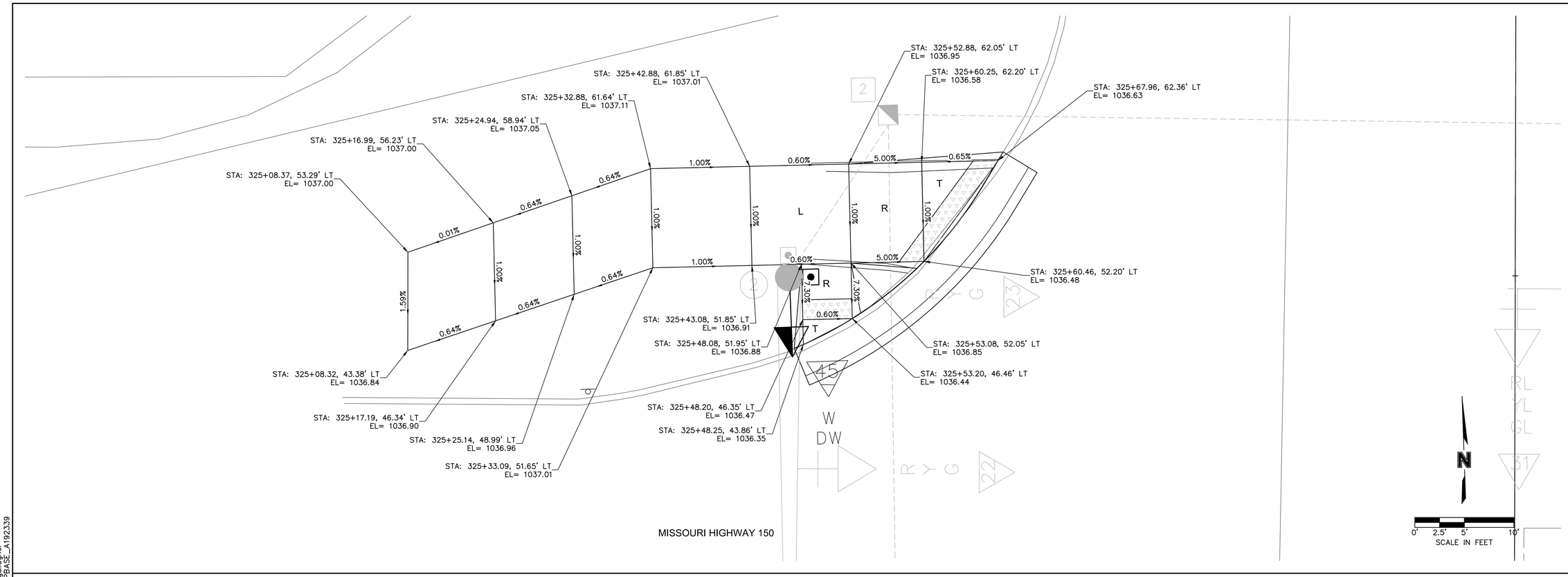

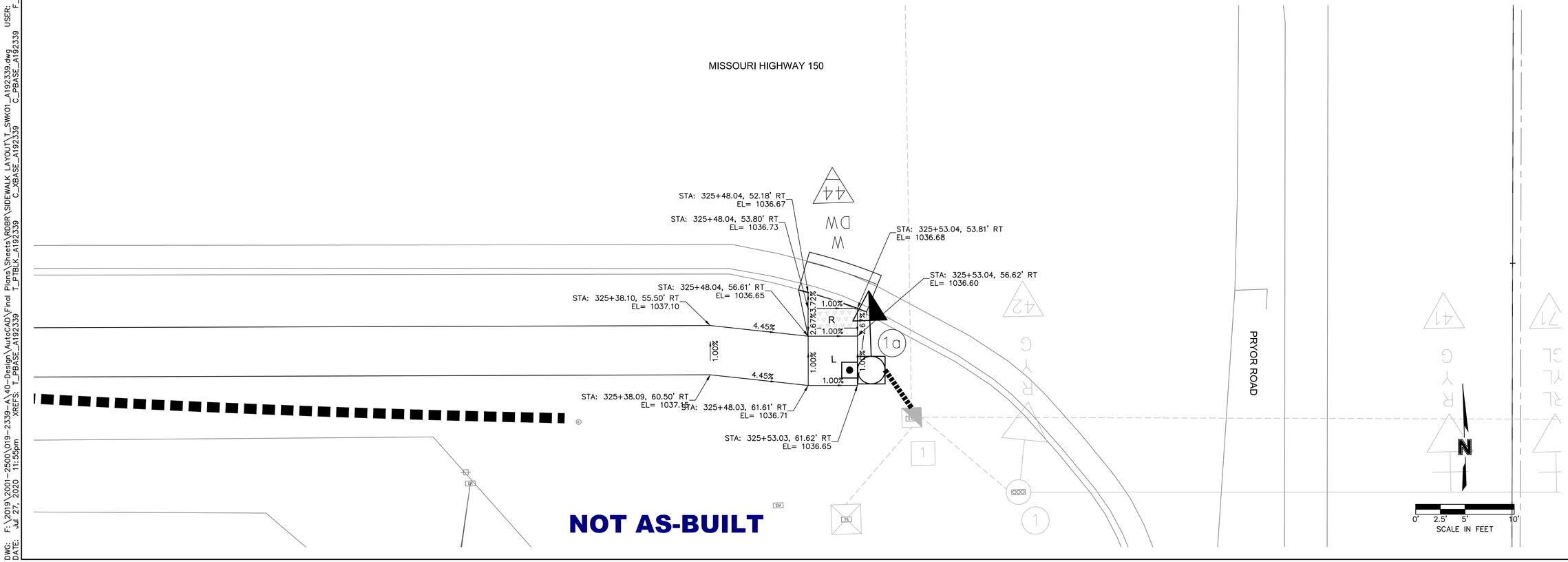

NOT AS-BUILT

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SIDEWALK RAMP LAYOUTS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

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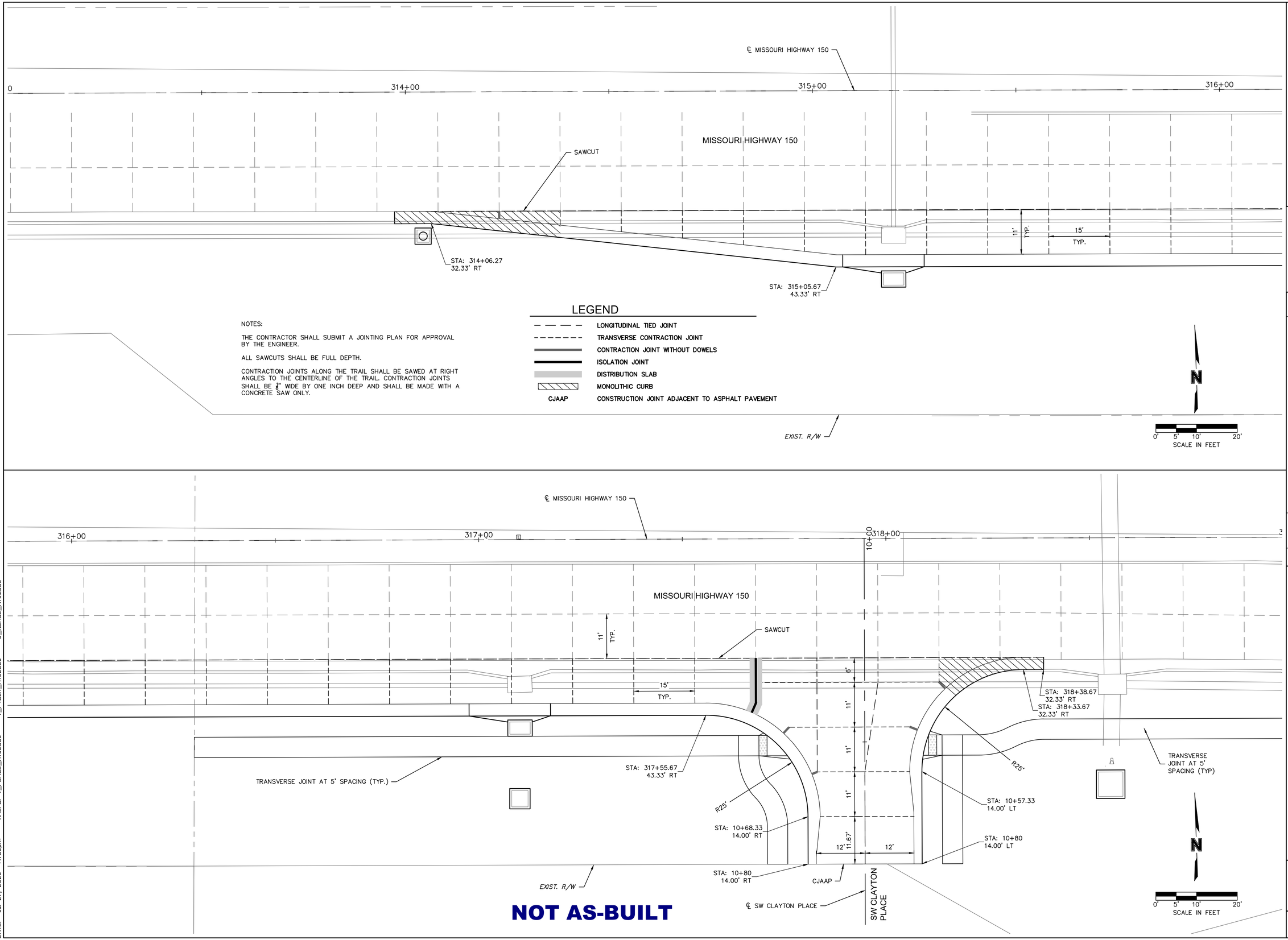

NOT AS-BUILT

NOTES:

THE CONTRACTOR SHALL SUBMIT A JOINTING PLAN FOR APPROVAL BY THE ENGINEER.

ALL SAWCUTS SHALL BE FULL DEPTH.

CONTRACTION JOINTS ALONG THE TRAIL SHALL BE SAWED AT RIGHT ANGLES TO THE CENTERLINE OF THE TRAIL. CONTRACTION JOINTS SHALL BE $\frac{1}{8}$" WIDE BY ONE INCH DEEP AND SHALL BE MADE WITH A CONCRETE SAW ONLY.

LEGEND

— — — —	LONGITUDINAL TIED JOINT
- - - - - -	TRANSVERSE CONTRACTION JOINT
	CONTRACTION JOINT WITHOUT DOWELS
	ISOLATION JOINT
	DISTRIBUTION SLAB
	MONOLITHIC CURB
CJAAP	CONSTRUCTION JOINT ADJACENT TO ASPHALT PAVEMENT

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CONCRETE JOINTING LAYOUT

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

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project no.:	A19-2339
drawing no.:	T_JNT_A192339
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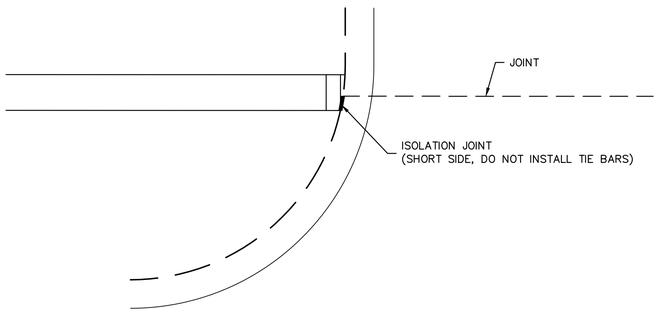
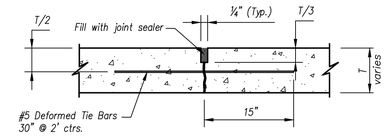
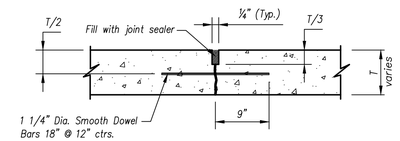


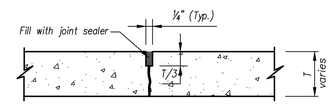
CONCRETE JOINT ADJACENT
TO SIDEWALK RAMP
*APPLIES TO ALL LOCATIONS THAT A
JOINT INTERSECTS WITH A SIDEWALK RAMP



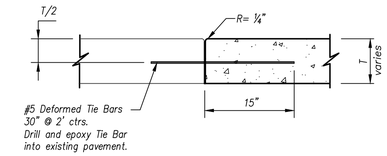
Logitudinal Tied Joint



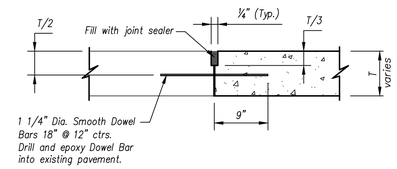
Transverse Contraction Joint



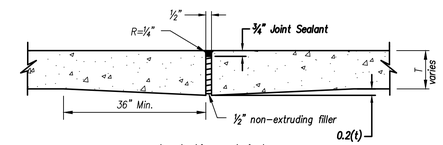
Contraction Joint Without Dowels



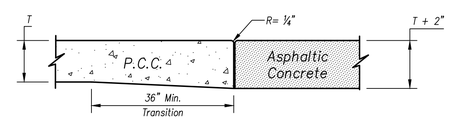
Longitudinal Construction Joint



Transverse Construction Joint



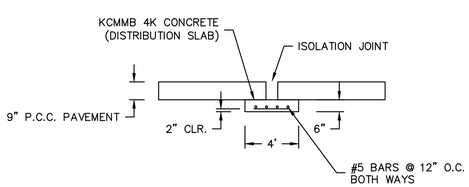
Isolation Joint



Construction Joint Adjacent to Asphalt Pavement

Joint Details

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



DISTRIBUTION SLAB DETAIL

NOT AS-BUILT

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CONCRETE JOINTING DETAILS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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checked by:	JPG
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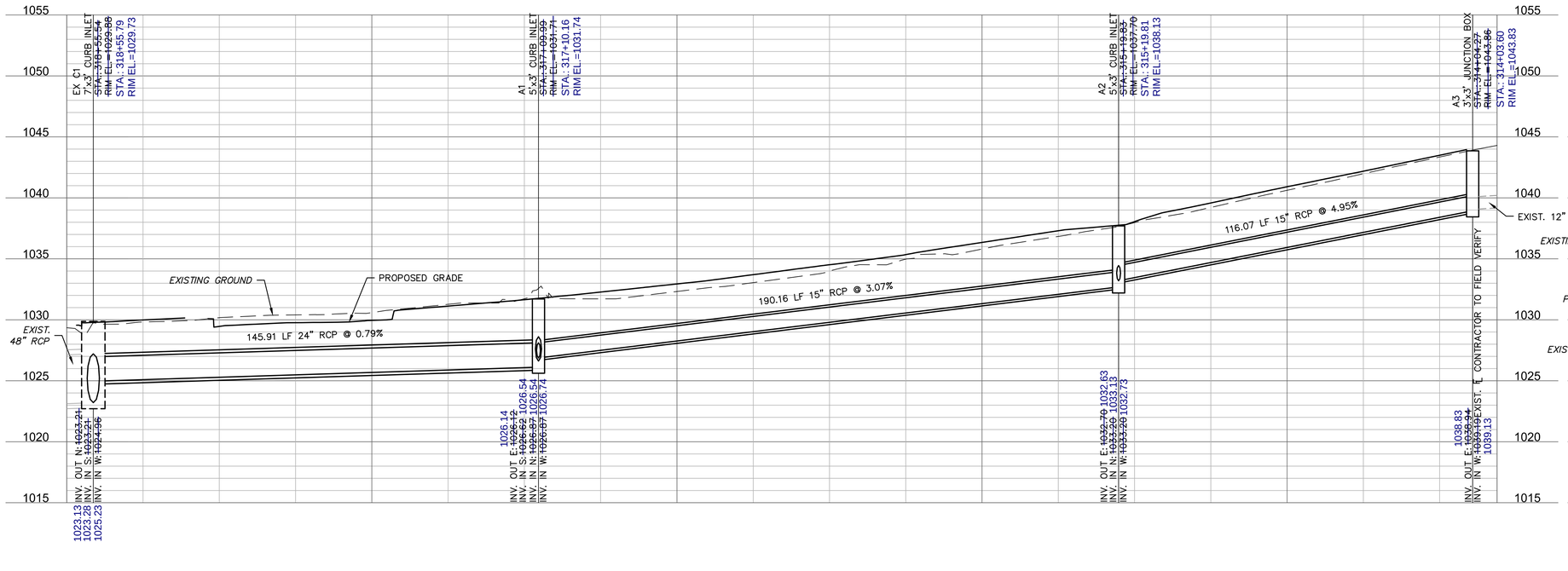
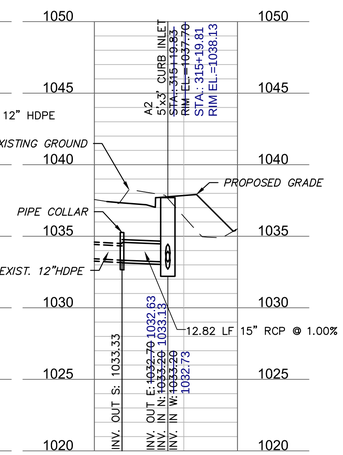
QA/QC by:	RBC
project no.:	A19-2339
drawing no.:	T_JNT_A192339
date:	2020.07.09

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\JOINTING LAYOUT\T_JNT_A192339.dwg USER: jgallagher
DATE: Jul 27, 2020 11:56pm XREFS: T_PBASE_A192339 T_PTBLK_A192339 C_XBASE_A192339

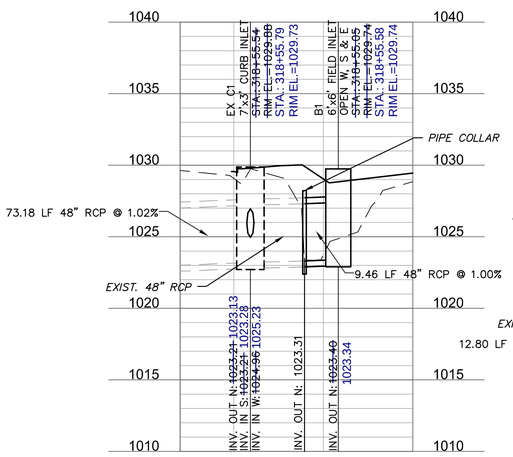
STORM LINE A



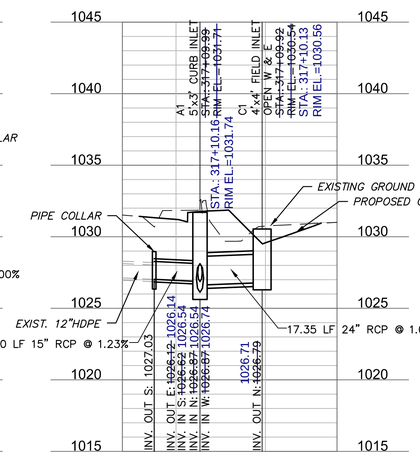
STORM LINE D



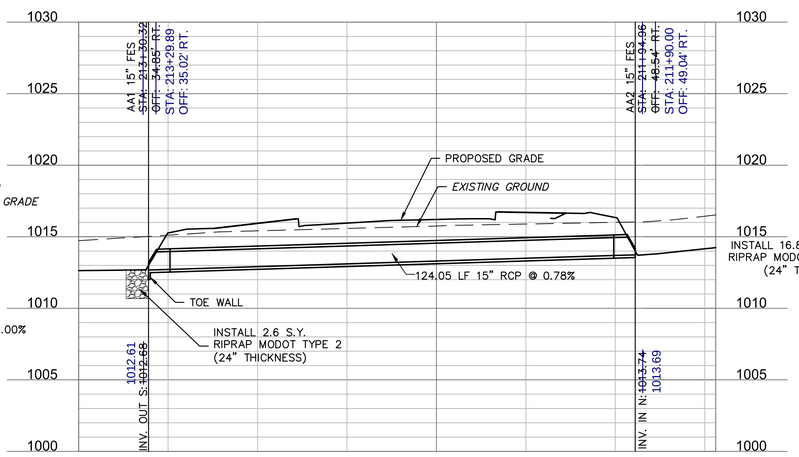
STORM LINE B



STORM LINE C

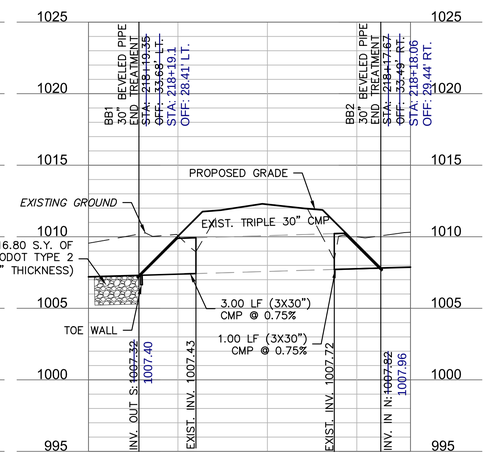


CULVERT CROSSING



CONTRACTOR TO FIELD VERIFY EXISTING FLOWLINES

TRIPLE CULVERT CROSSING



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

AS-BUILT
Date Surveyed: 09-19-2023
Application Number: PL2020089

10' 5' 2.5' 0'
0' 10' 20' 40'
SCALE IN FEET

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STORM SEWER PROFILES

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

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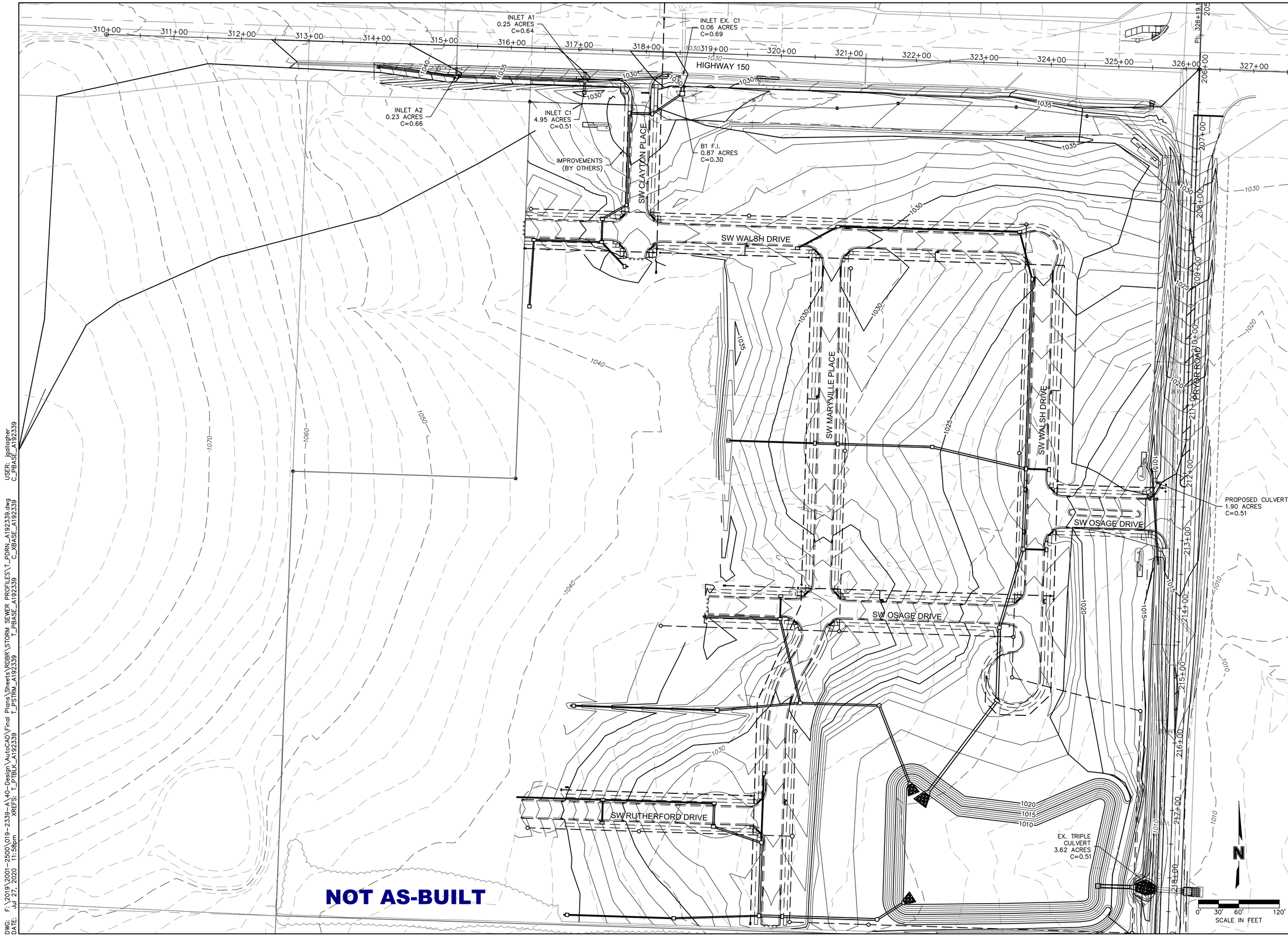
QA/QC by:	RBC
project no.:	A19-2339
drawing no.:	T_STM_A192339
date:	2020.07.09

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\STORM SEWER PROFILES\T_STM_A192339.dwg USER: jgallagher
DATE: Jul 27, 2020 11:57pm XREFS: T_PSTRM_A192339 T_PTBLK_A192339



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USER: jgallagher C_PBASE_A192339

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DRAINAGE MAP

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

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QA/QC by:	RBC
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drawing no.:	T_PDRN_A192339
date:	2020.07.09

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
A1	0.250	6.00	0.64	3.28	5.00	8.90	2.10	8.97	20.17	29.63	24.00	145.90	0.013	1026.12	1024.96	0.795	146.90	9.43	0.40	2.59	1031.71	1029.40	1026.82	2.31	C.I.
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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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	2020.06.29	REVISIONS PER CITY COMMENTS	

REVISIONS

STORM SEWER CALCULATIONS

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_PDRN_A192339
date: 2020.07.09

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\STORM SEWER PROFILES\T_PDRN_A192339.dwg USER: jgallagher
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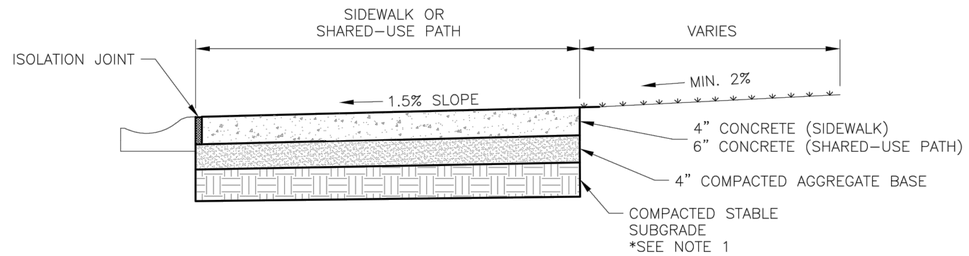
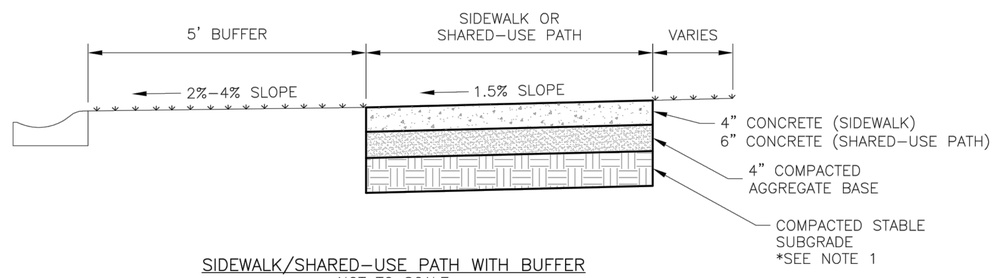


SIDEWALK/SHARED–USE PATH WITHOUT BUFFER
NOT TO SCALE



SIDEWALK/SHARED–USE PATH WITH BUFFER
NOT TO SCALE

GENERAL NOTES:

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.

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

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

SIDEWALK/SHARED-USE PATH DETAIL

GEN-2

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1	2020.06.29	REVISIONS PER CITY COMMENTS	

REVISIONS

STANDARD 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_DTL_A192339
date: 2020.07.09

DWG: F:\2019\2001–2500\019–2339–A\40–Design\AutoCAD\Final Plans\Sheets\RDBR\STANDARD DETAILS\T_DTL_A192339.dwg USER: jgallagher
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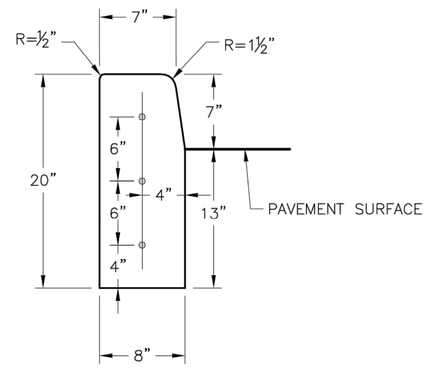
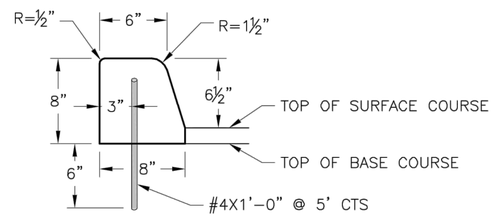
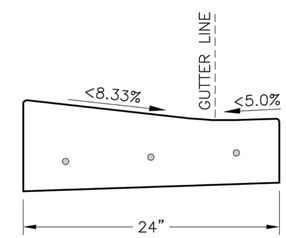


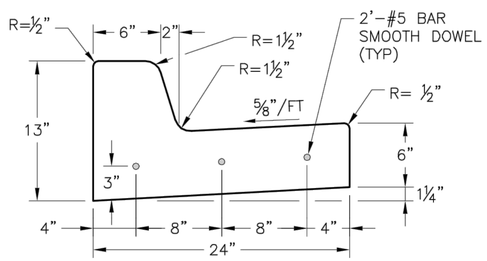
STRAIGHT CURB
(TYPE C-1)



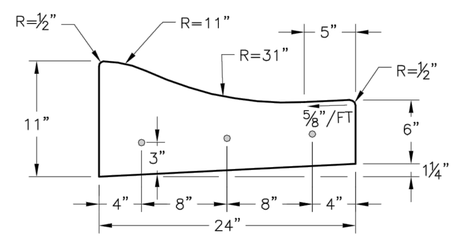
DOWELLED CURB
(TYPE DC)



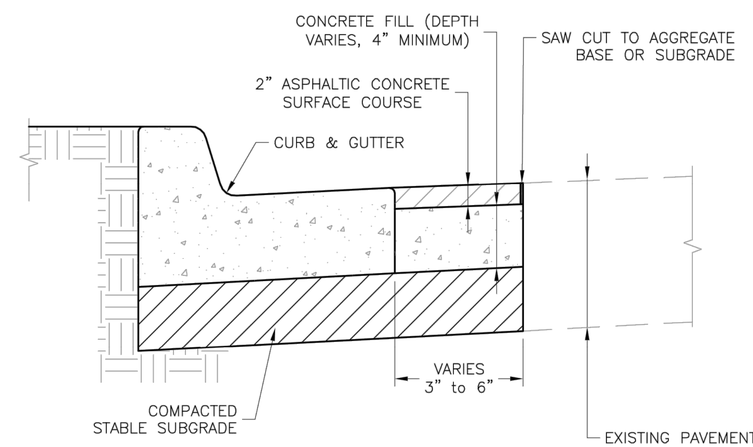
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



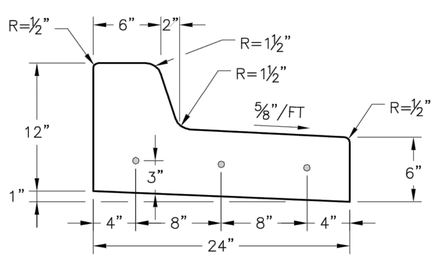
STRAIGHT BACK CURB &
GUTTER
(TYPE CG-1)



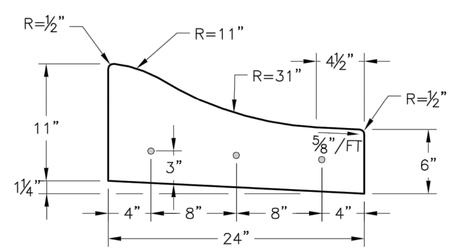
ROLL BACK CURB &
GUTTER
(TYPE CG-2)



CURB REPLACEMENT DETAIL



STRAIGHT BACK DRY CURB &
GUTTER
(TYPE CG-1 DRY)



ROLL BACK DRY CURB &
GUTTER
(TYPE CG-2 DRY)

GENERAL NOTES

1. ¾" ISOLATION JOINTS WITH 3 (2'-#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. CONCRETE FILL SHALL HAVE UNIFORM AND SMOOTH FINISH
4. KCMMB 4K CONCRETE SHALL BE USED FOR ALL CURB.
5. ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 2205.2.
6. CURBS FOR NEW STREETS SHALL BE BUILT ON ASPHALT OR AGGREGATE BASE AS SHOWN IN TYPICAL SECTION DETAIL.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

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

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

Sheet Name: CURB & GUTTER DETAIL

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

GEN-4

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	2020.06.29	REVISIONS PER CITY COMMENTS	

REVISIONS

STANDARD 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: 2020.07.09

SHEET
24 of 63

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DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\STANDARD DETAILS\T_DTL_A192339.dwg USER: jgallagher
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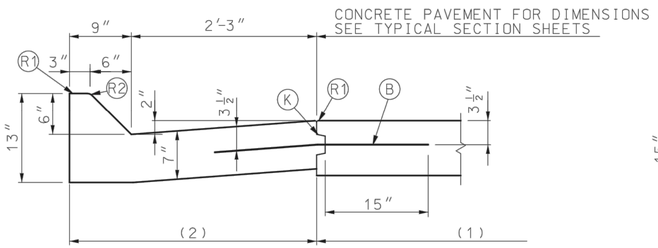

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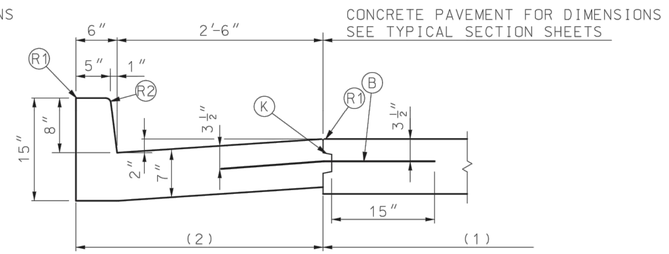
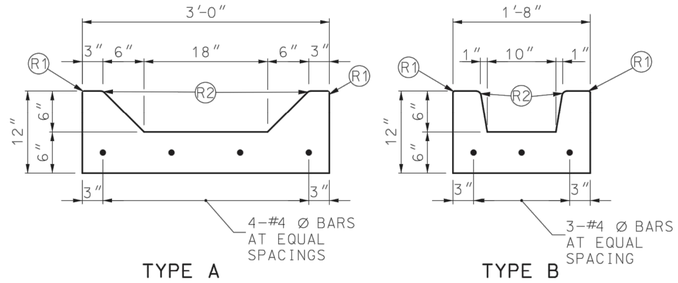


TYPE B
(BARRIER)

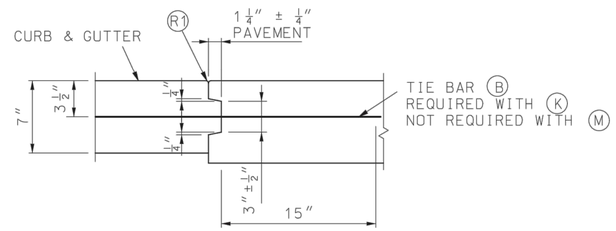
CURB & GUTTER



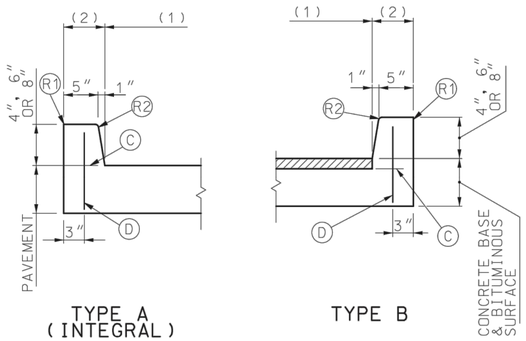
TYPE A

TYPE B

GUTTERS

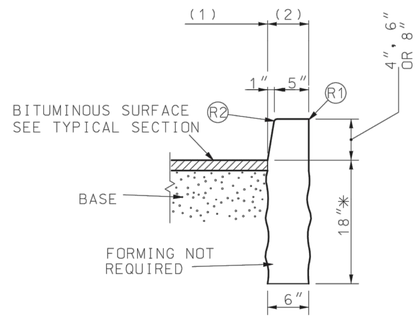


THRU TONGUE & GROOVE JOINT



TYPE A
(INTEGRAL)

TYPE B



TYPE S
(SEPARATED)

✳ DEPTH MAY BE REDUCED IF KEYED 6″ IN ROCK

BARRIER CURBS

LEGEND

(B) TIE BARS - 30″ X #5 Ø AT 30″ CTRS.

(C) PERMISSIBLE CONSTRUCTION JOINT. IF CONSTRUCTED IN THIS MANNER TIE BARS MUST BE USED.

(D) #4 Ø TIE BAR AT 24″ CENTERS LENGTH OF THE TIE BARS EQUALS THICKNESS OF PAVEMENT PLUS HEIGHT OF CURB, LESS 3 INCHES.

(K) TONGUE & GROOVE JOINT WITH TIE BAR - SEE DETAIL.

(P) TOP OF PAVEMENT OR CONCRETE BASE.

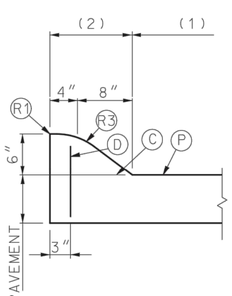
(R1) ROUND TO 1/4″ RADIUS. (EXCEPT FOR SAWED JOINTS)

(R2) ROUND TO 3/4″ RADIUS.

(R3) CONSTRUCT TO 9″ RADIUS

(1)PAY LIMIT FOR PAVEMENT

(2)PAY LIMIT FOR CURB, OR CURB & GUTTER.



TYPE M
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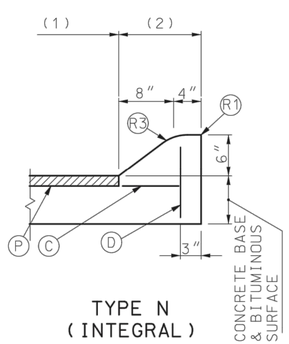
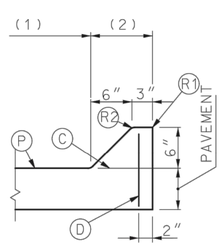
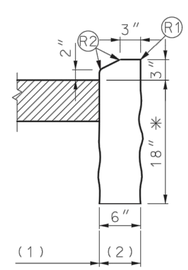


TYPE N
(INTEGRAL)



TYPE O
(INTEGRAL)

MOUNTABLE CURBS



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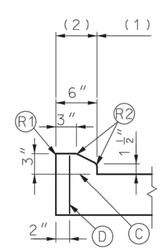

TYPE E
(INTEGRAL)

BEGINNING AND ENDINGS OF INTROCUCED LOW PROFILE CURBS SHALL UTILIZE CURB HEIGHT RUNOUT FORM 0 INCH TO 3 INCHES IN 5 FEET PAYMENT. LENGTH SHALL INCLUDE TAPERS.

✳ DEPTH MAY BE REDUCED IF KEYED 6″ IN ROCK.

LOW PROFILE CURB

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

STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

CONCRETE CURB, CURB AND GUTTER AND GUTTER

DATE EFFECTIVE: 07/01/2018
DATE PREPARED: 5/3/2018

609.00P

SHEET NO.
2 OF 2

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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REVISIONS

STANDARD DETAILS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

drawn by: AKU
checked by: JPG
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project no.: A19-2339
drawing no.: T_DTL_A192339
date: 2020.07.09

SHEET
25 of 63

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DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\STANDARD DETAILS\T_DTL_A192339.dwg USER: jgallagher
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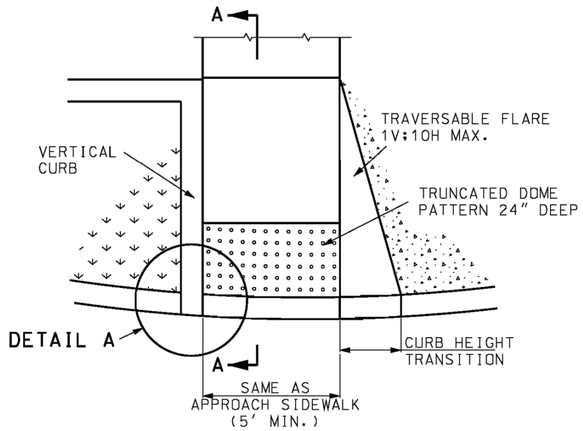
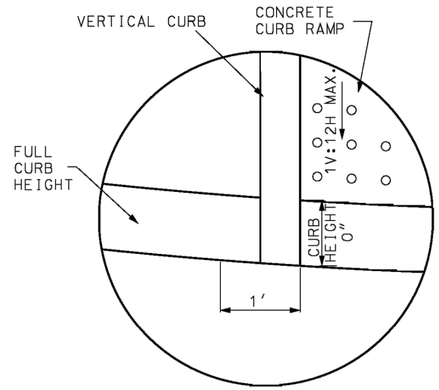
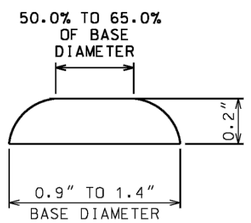


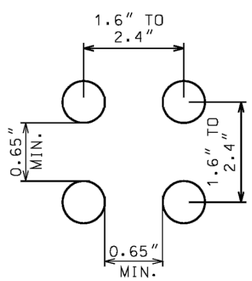
CURB RAMP DETAIL



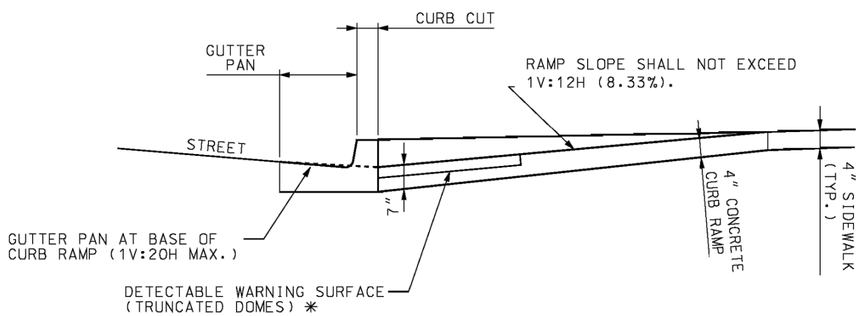
DETAIL A



TRUNCATED DOMES CROSS SECTION



TRUNCATED DOMES SPACING



SECTION A-A

✳ SOME DETECTABLE WARNING PRODUCTS REQUIRE A CONCRETE BORDER FOR PROPER INSTALLATION. THE CONCRETE BORDER SHALL NOT EXCEED 2 INCH PER SIDE.

GENERAL NOTES:

ALL AREAS OF THE PEDESTRIAN ACCESS ROUTE MUST BE COMPLIANT WITH THE AMERICANS WITH DISABLILITES ACT - GUIDELINES FOR ACCESSIBLE PUBLIC RIGHTS OF WAY". EXCEPTIONS MUST BE APPROVED BY THE ENGINEER. ALL OTHER AREAS OF NON-COMPLIANCE SHALL BE REMOVED AND CORRECTED AT THE CONTRACTOR'S EXPENSE.

THE SURFACES OF PEDESTRIAN ACCESS ROUTES AND ELEMENTS, AND SPACES REQUIRED TO CONNECT TO PEDESTRIAN ACCESS ROUTES, SHALL BE FIRM, STABLE, SLIP RESISTANT, AND SHALL NOT POND WATER.

SIDEWALK, RAMP AND LANDING CROSS SLOPES SHALL BE 1.00% TO FACILITATE DRAINAGE (2.00% MAX.).

THE CROSS SLOPE OF THE CONTINUOUS PEDESTRIAN ACCESS ROUTE THROUGH ENTRANCES, ALLEYS, AND SIDEROAD CONNECTIONS WITH STOP OR YIELD CONTROL SHALL BE 1.00% TO FACILITATE DRAINAGE (2.00% MAX.).

WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN PEDESTRIAN STREET CROSSINGS WITHOUT YIELD OR STOP CONTROL, THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE 5.00% MAXIMUM.

WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN MIDBLOCK PEDESTRIAN STREET CROSSINGS, THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE.

30"x 48" CLEAR SPACE SHALL BE PROVIDED CENTERED ON THE PEDESTRIAN PUSH BUTTON.

BEYOND THE BOTTOM GRADE BREAK OF A CURB RAMP, A CLEAR SPACE 4'MINIMUM BY 4'MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE.

SIDE FLARES OF CURB RAMPS, IN THE PATH OF PEDESTRIAN TRAVEL (TRAVERSABLE), SHALL NOT EXCEED A SLOPE OF 1V:10H. SIDE FLARES OUTSIDE THE PEDESTRIAN PATH (NONTRAVERSABLE) MAY BE VERTICAL.

TRANSITION FROM SIDEWALK OR CURB RAMP TO GUTTER TO ROADWAY SHALL BE FLUSH.

DETECTABLE WARNING SURFACES (TRUNCATED DOMES) SHALL BE PREFORMED AND INSTALLED AS PER MANUFACTURER'S RECOMENDATIONS. STAMPED CONCRETE WILL NOT BE ACCEPTED.

THE DETECTABLE WARNING SURFACE SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. TRUNCATED DOMES SHALL SPAN THE FULL WIDTH OF THE RAMP OR LANDING 24" DEEP.

DETECTABLE WARNING SURFACES SHALL BE ALIGNED PERPENDICULAR OR RADIAL TO THE BREAK BETWEEN THE RAMP, LANDING OR BLENDED TRANSITION, AND THE STREET.

WHERE THE BOTTOM GRADE BREAK OF A CURB RAMP IS LESS THAN 5' FROM THE BACK OF CURB, DETECTABLE WARNINGS SHALL BE LOCATED ON THE RAMP SURFACE AT THE BACK OF THE CURB. WHERE THE GRADE BREAK IS GREATER THAN 5' FROM THE BACK OF CURB, THE DETECTABLE WARNING SHALL BE LOCATED ON THE LOWER LANDING.

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

CURB RAMPS

DATE EFFECTIVE:	04/01/2015	608.50	SHEET NO.
DATE PREPARED:	5/29/2015		1 of 4

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	2020.06.29	REVISIONS PER CITY COMMENTS	

REVISIONS

STANDARD DETAILS

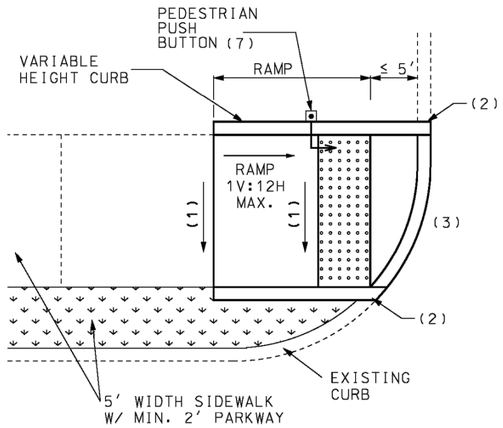
HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

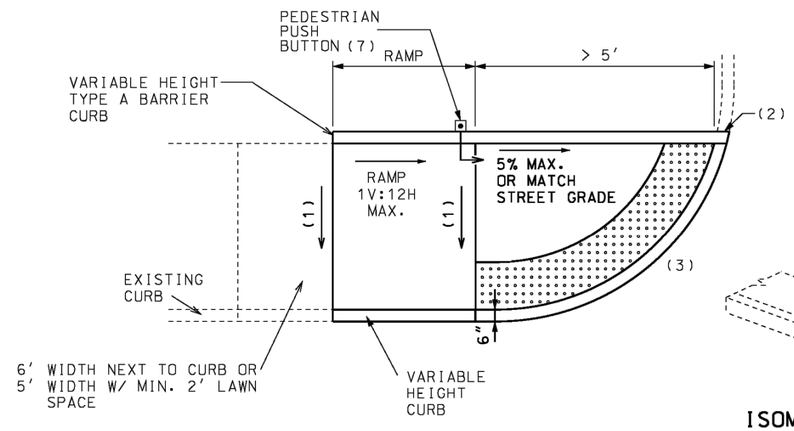
2020

drawn by: AKU
checked by: JPG
approved by: JPG
QA/QC by: RBC
project no.: A19-2339
drawing no.: T_DTL_A192339
date: 2020.07.09

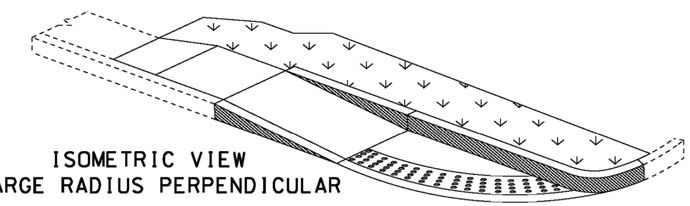
DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\STANDARD DETAILS\T_DTL_A192339.dwg USER: jgallagher
DATE: Jul 27, 2020 11:59pm XREFS: T_PTBLK_A192339



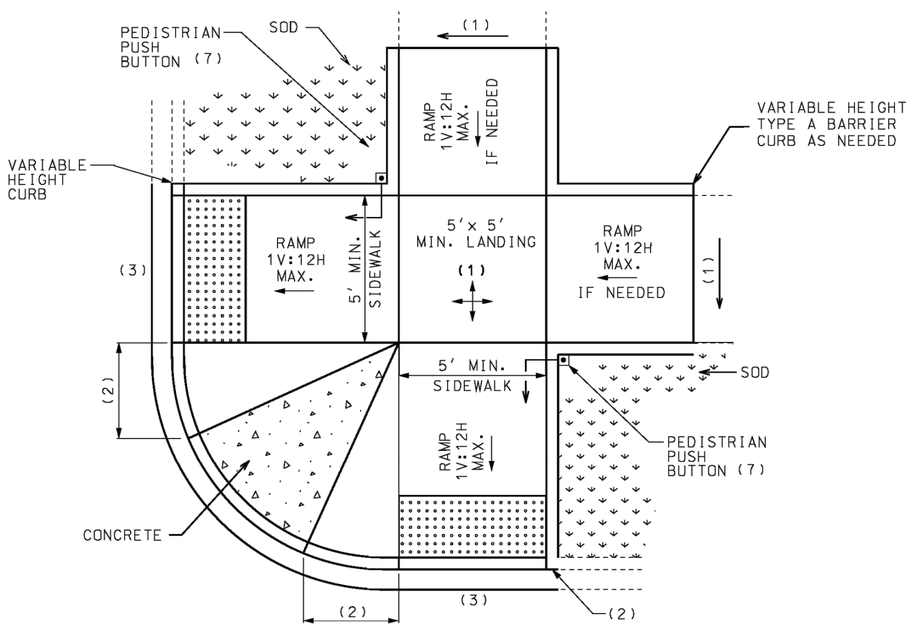
SMALL RADIUS PERPENDICULAR



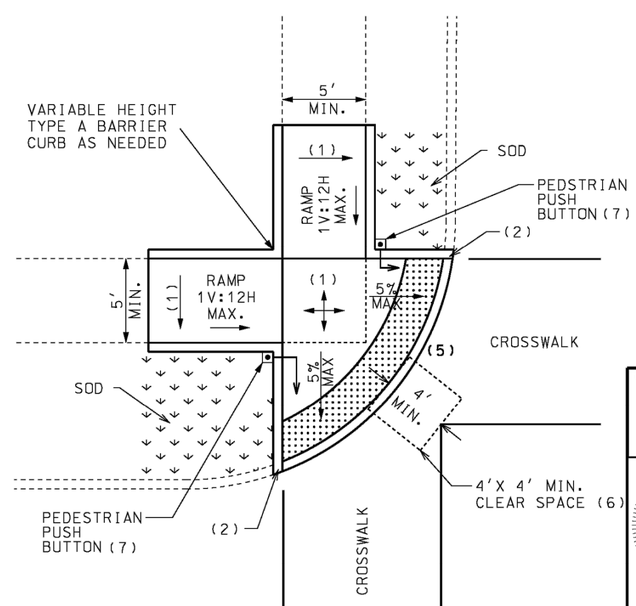
LARGE RADIUS PERPENDICULAR



ISOMETRIC VIEW
LARGE RADIUS PERPENDICULAR



DUAL PERPENDICULAR



BLENDED TRANSITION

GENERAL NOTES:

(1) 1.0% MINIMUM, 2.0% MAXIMUM.
(2) VERTICAL OR 1' FLARE. IF TRAVERSABLE USE A MAX. 1V:10H FLARE MEASURED PARALLEL TO THE CURB LINE.
(3) ENSURE THAT THE INSIDE EDGE OF CURVED RAMPS MAINTAIN AN 8.3% (1V:12H) MAXIMUM SLOPE.
(4) HEIGHT VARIES TO MEET EXISTING GROUND.
(5) THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE FOOT OF CURB RAMP RUNS, BLENDED TRANSITIONS, AND TURNING SPACES SHALL BE 5% MAXIMUM.
(6) BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE 4'X 4' MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE.
(7) THE FACE OF PEDESTRIAN PUSH BUTTONS SHALL BE 0" OFFSET FOR FRONT APPROACH AND 10" MAX. FOR SIDE APPROACH TO THE CURB FACE.

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STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

CURB RAMPS

DATE EFFECTIVE:	04/01/2015	608.50	SHEET NO. 3 of 4
DATE PREPARED:	2/20/2015		

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REVISIONS

STANDARD 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_DTL_A192339
date: 2020.07.09

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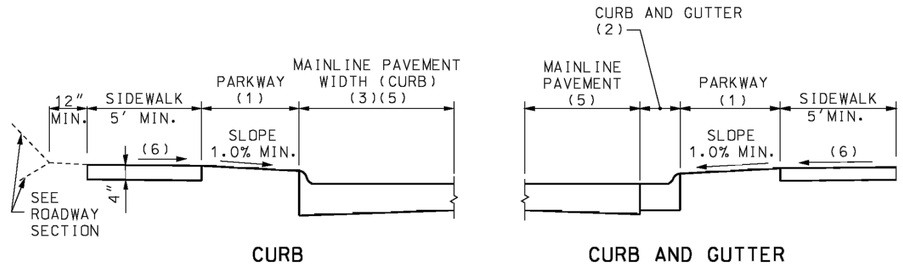
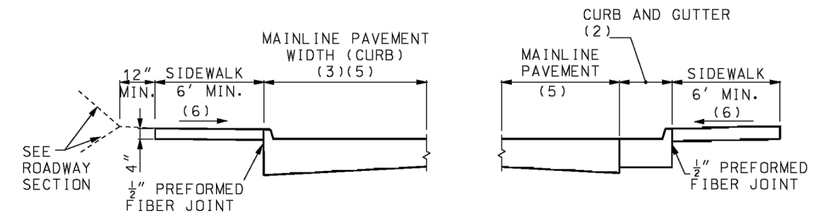


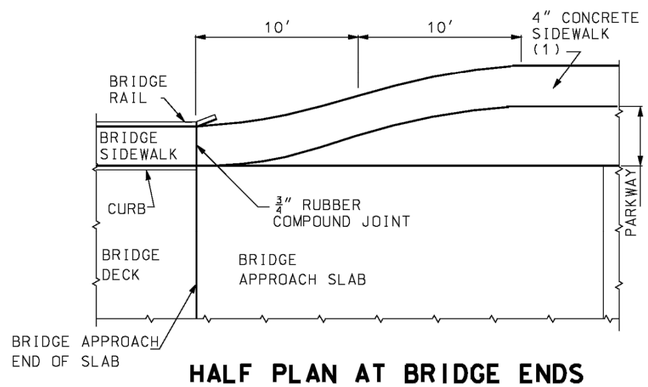
CURB CURB AND GUTTER

TYPICAL SIDEWALK WITH PARKWAY 2' OR MORE

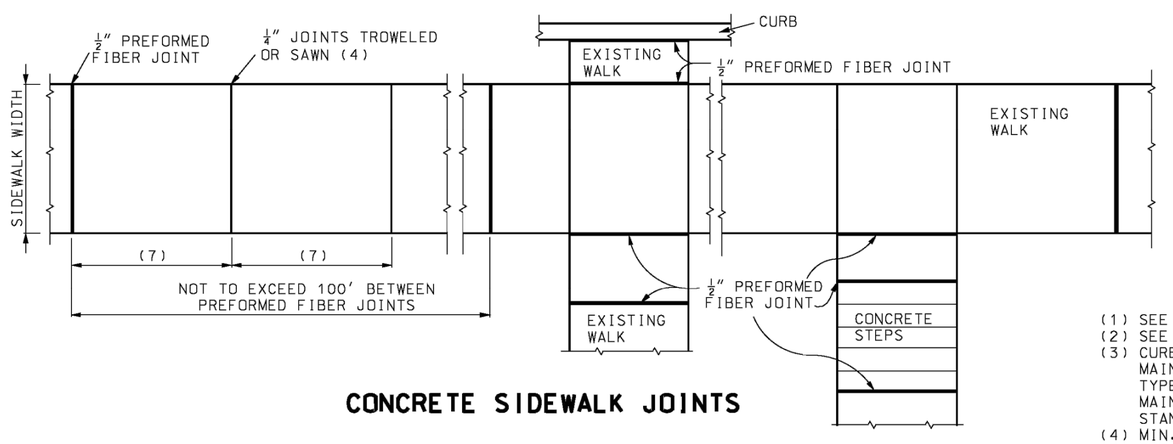


CURB CURB AND GUTTER

TYPICAL SIDEWALK WITH NO PARKWAY



HALF PLAN AT BRIDGE ENDS



CONCRETE SIDEWALK JOINTS

(1) SEE PLANS FOR WIDTH
(2) SEE STANDARD 608.00
(3) CURB TO BE MONOLITHIC WITH PCC MAINLINE PAVEMENT. CURB TO BE TYPE S WITH ASPHALT CONCRETE MAINLINE PAVEMENT. SEE STANDARD PLAN 609.00.
(4) MIN. ½" DEPTH JOINT.
(5) SEE TYPICAL PAVEMENT SECTION
(6) SLOPE 1.0% (2.0% MAX.)
(7) SPACING EQUAL TO WIDTH OF WALK

GENERAL NOTES:

ALL AREAS OF THE PEDESTRIAN ACCESS ROUTE MUST BE COMPLIANT WITH THE AMERICANS WITH DISABLILITES ACT - GUIDELINES FOR ACCESSIBLE PUBLIC RIGHTS OF WAY. EXCEPTIONS MUST BE APPROVED BY THE ENGINEER. ALL OTHER AREAS OF NON-COMPLIANCE SHALL BE REMOVED AND CORRECTED AT THE CONTRACTOR'S EXPENSE.

THE SURFACES OF PEDESTRIAN ACCESS ROUTES AND ELEMENTS, AND SPACES REQUIRED TO CONNECT TO PEDESTRIAN ACCESS ROUTES, SHALL BE FIRM, STABLE, SLIP RESISTANT, AND SHALL NOT POND WATER.

WHERE SIDEWALKS ARE LESS THAN 5 FT., 5 FT. X 5 FT. PASSING SPACES EVERY 200 FT. SHALL BE PROVIDED AND ARE PERMITTED TO OVERLAP PEDESTRIAN ACCESS ROUTES.

THE CROSS SLOPE OF THE CONTINUOUS PEDESTRIAN ACCESS ROUTE THROUGH ENTRANCES, ALLEYS, AND SIDEROAD CONNECTIONS WITH STOP OR YIELD CONTROL SHALL BE 1.00% TO FACILITATE DRAINAGE (2.00% MAX.).

WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN PEDESTRIAN STREET CROSSINGS WITHOUT YIELD OR STOP CONTROL, THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE 5.00% MAXIMUM.

WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN MIDBLOCK PEDESTRIAN STREET CROSSINGS, THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE.

STORMWATER INLETS, SIGNS, POSTS, MANHOLE COVERS, PULL BOXES AND OTHER ACCESS LIDS SHOULD BE AVOIDED WITHIN THE SIDEWALK. IF SUCH A LOCATION IS NECESSARY, THE FEATURE MUST MEET ADA STANDARDS.

THE RUNNING GRADE OF A SIDEWALK SHALL NOT EXCEED 5.0% UNLESS IT IS MATCHING THE GRADE OF THE ADJACENT ROADWAY.

PEDESTRIAN ACCESS ROUTE SHALL CONTINUE ACROSS RESIDENTIAL AND COMMERCIAL ENTRANCES, ALLEYS, AND SIDEROAD CONNECTIONS.

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STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
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CONCRETE SIDEWALK

DATE EFFECTIVE: 04/01/2015
DATE PREPARED: 2/20/2015

608.10P

SHEET NO. 1 OF 1

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STANDARD 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_DTL_A192339
date: 2020.07.09

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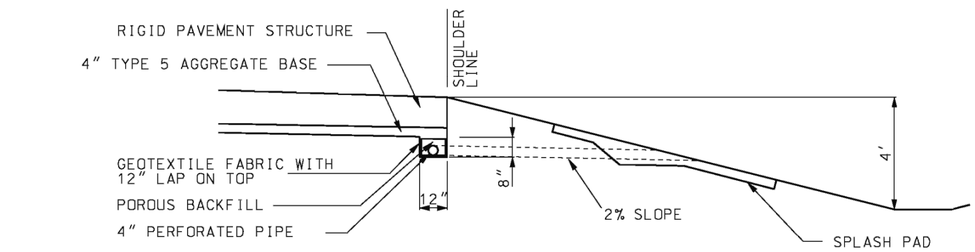
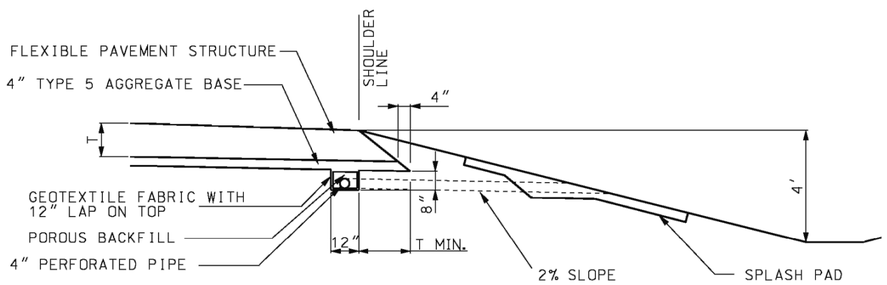
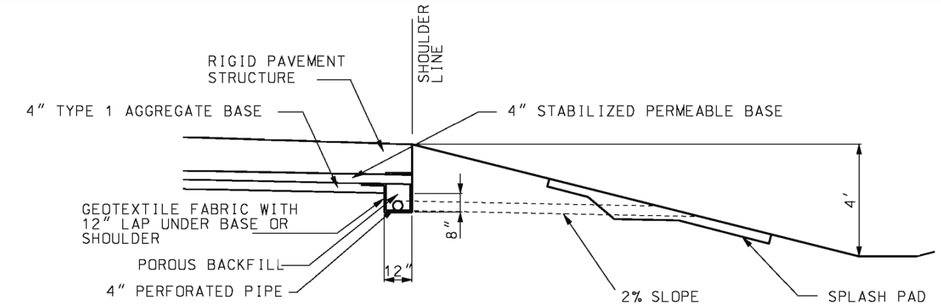
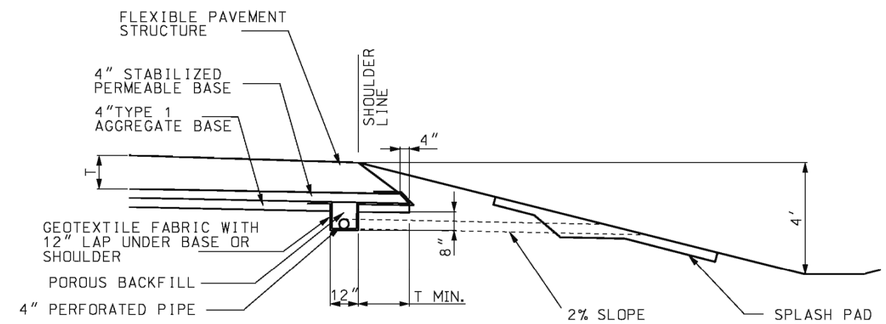


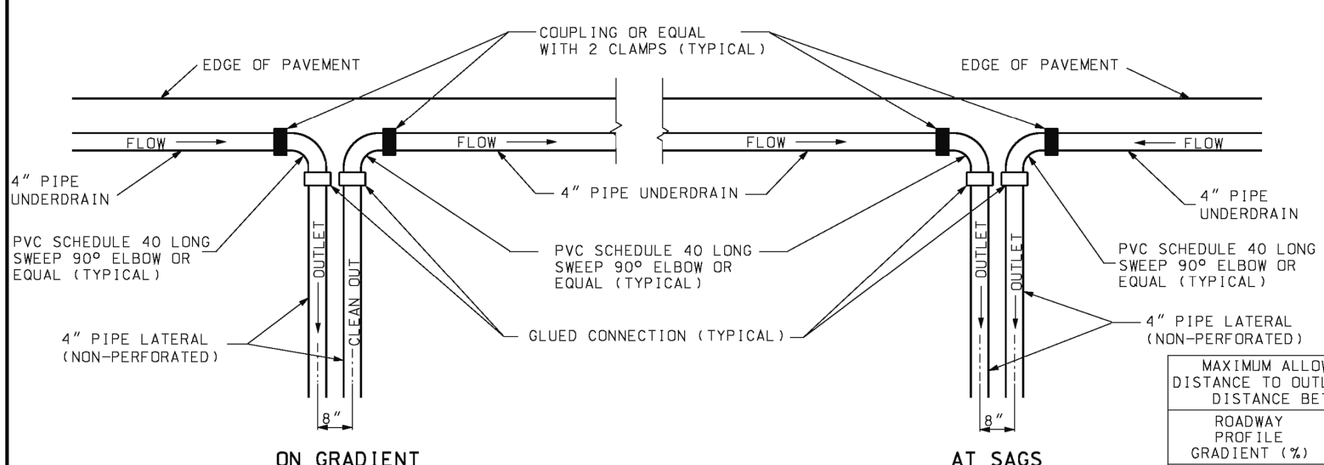


MEDIUM DUTY





HEAVY DUTY



ON GRADIENT

AT SAGS

DETAIL OF PIPE AGGREGATE DRAIN OUTLETS

MAXIMUM ALLOWABLE DRAINAGE DISTANCE TO OUTLET OR SEPARATION DISTANCE BETWEEN OUTLETS	
ROADWAY PROFILE GRADIENT (%)	DISTANCE
≤ 1	250 FT.
> 1 AND ≤ 2	375 FT.
> 2	500 FT.

GENERAL NOTES:

ON SUPERELEVATED CURVES PLACE LONGITUDINAL UNDERDRAIN ON LOW SIDE ONLY.

CONSTRUCT OUTLETS AT LOW POINT OF SAG CURVE.

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STATE OF MISSOURI
KATHRYN PHILLIPS HARVEY
NUMBER PE-25751
PROFESSIONAL ENGINEER
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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

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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STANDARD DETAILS

HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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SHEET 29 of 63

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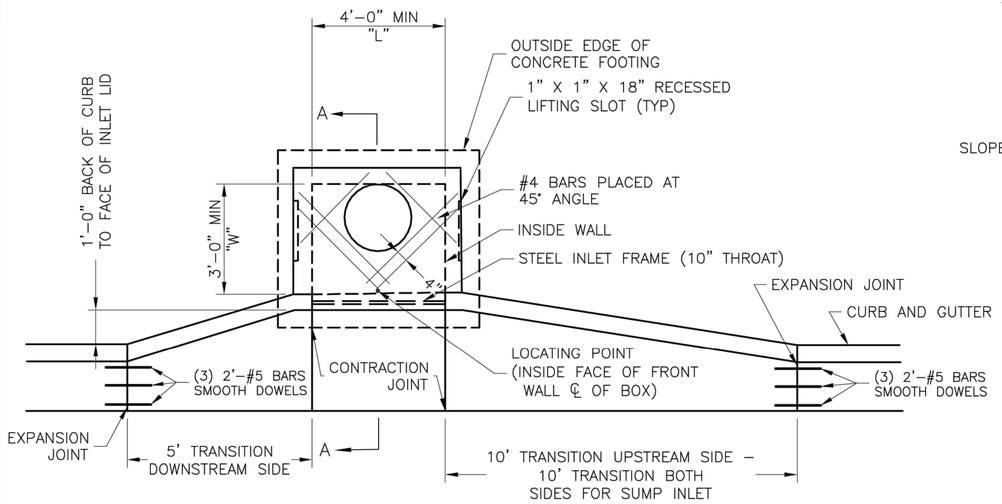
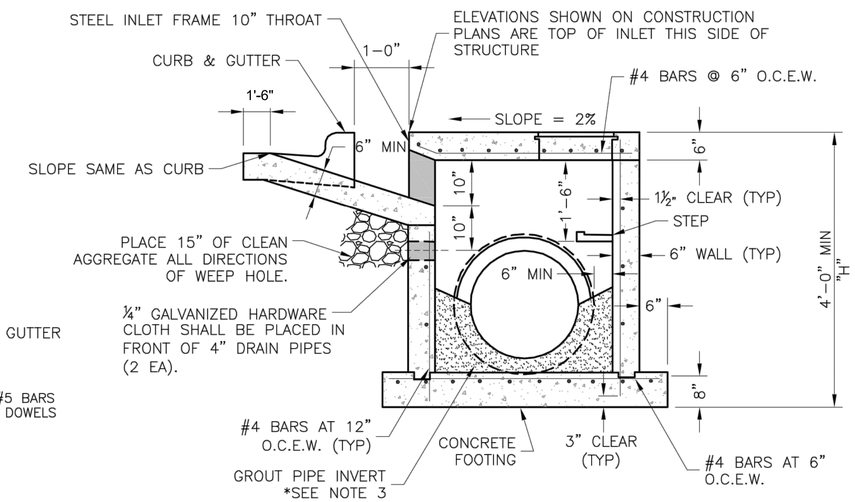
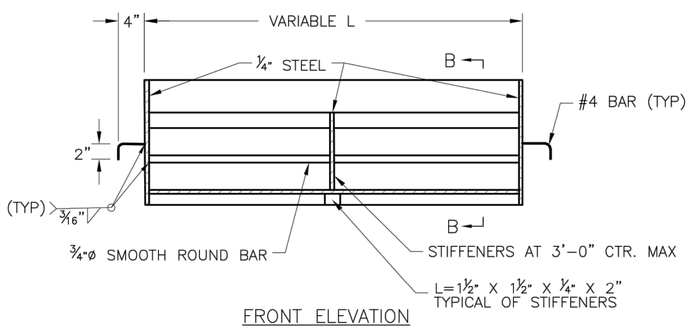


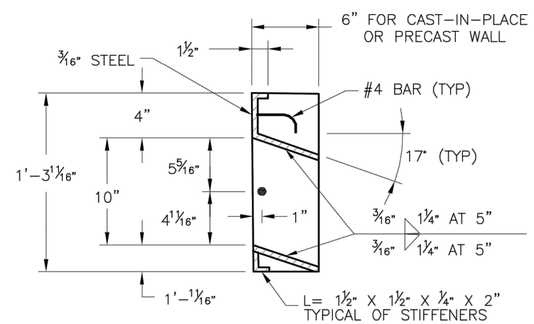
PLAN VIEW



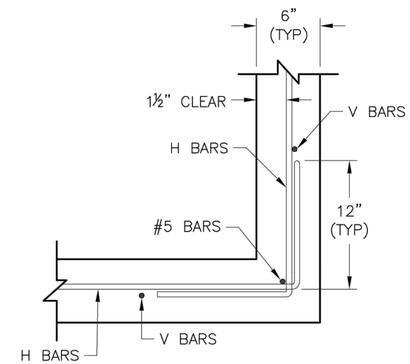
SECTION A–A



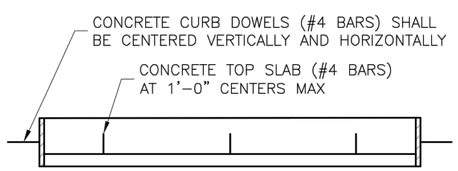
FRONT ELEVATION



SECTION B–B



WALL CORNER DETAIL



PLAN VIEW

STEEL FRAME NOTES:

1. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
2. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
3. THE ENTIRE FRAME SHALL BE PAINTED A SINGLE COAT OF CHEM–PRIME #37H–78 PRIMER (GRAY) OR EQUAL.

GENERAL NOTES:

1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. LOCATE MH RING AND COVER ON BLANK WALL IF POSSIBLE.
5. STEPS SHALL BE SPACED AT 1'–4" O.C. VERTICALLY ON BLANK WALL IF POSSIBLE.
6. BEVEL ALL EXPOSED EDGES WITH ¾"CHAMFER OR ½" TOOLED EDGE.
7. ON–GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON–SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. LIFTING RINGS SHALL BE REMOVED AND SEALED WITH NON–SHRINKABLE GROUT
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

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

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

Sheet Name: CURB INLET DETAIL

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

STM-1

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REVISIONS

STORM SEWER DETAILS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO 2020

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SHEET
30 of 63

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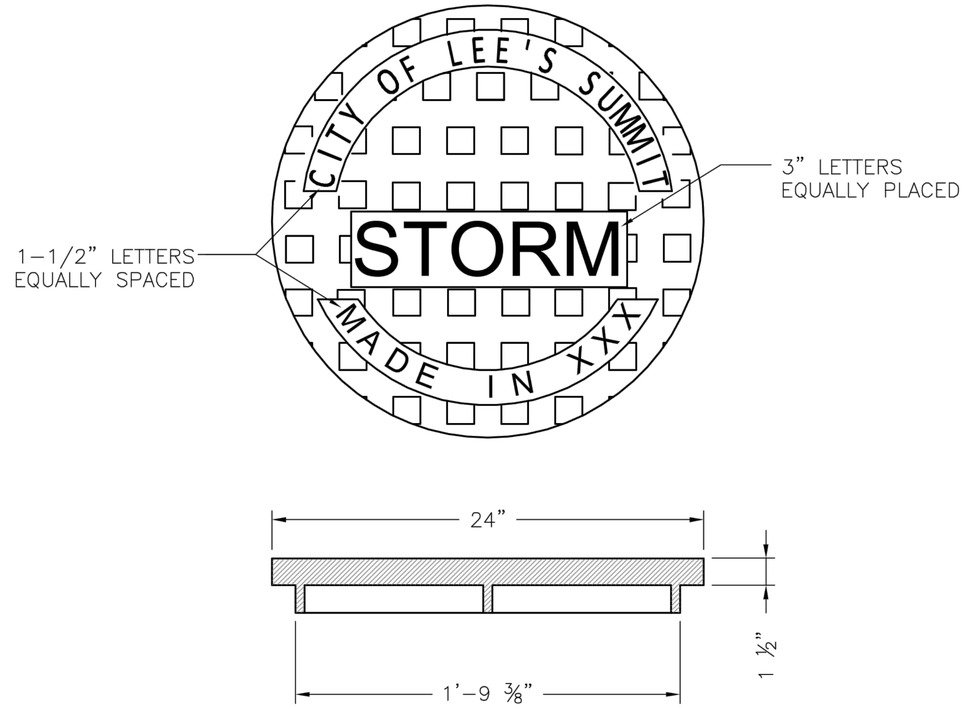

STANDARD 24" MANHOLE COVER
MINIMUM WEIGHT = 160 LB
NOTE: PICK HOLES NOT SHOWN

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

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

STORM MANHOLE COVER DETAIL

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

STM-6

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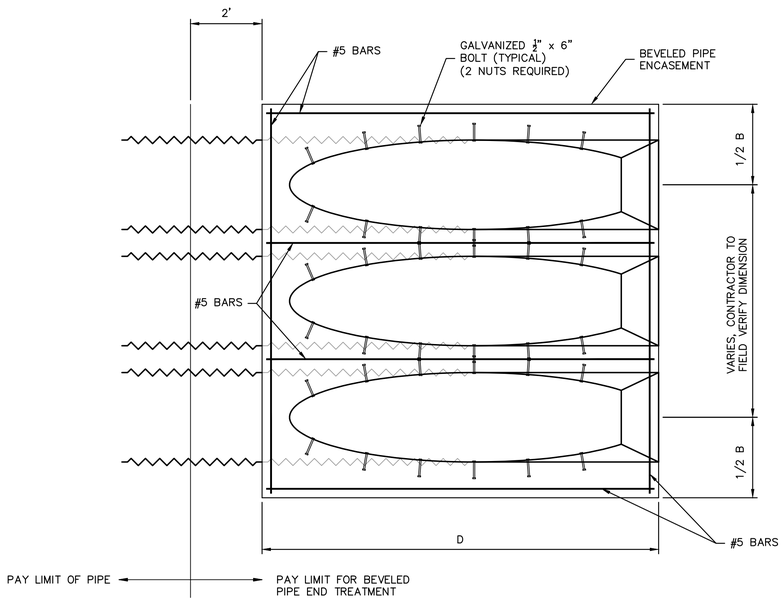

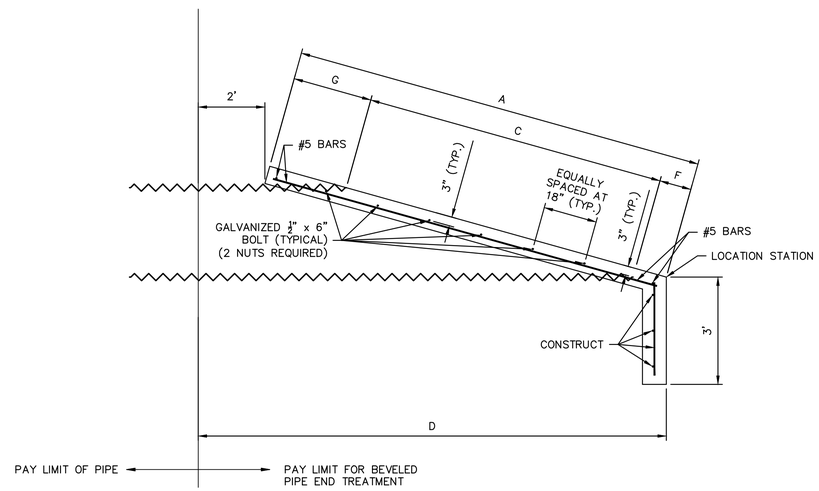

BEVELED PIPE END TREATMENT DETAIL

NOT TO SCALE

SEE SHEET 33 FOR ADDITIONAL INFORMATION.

NOT AS-BUILT

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CULVERT DETAILS

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

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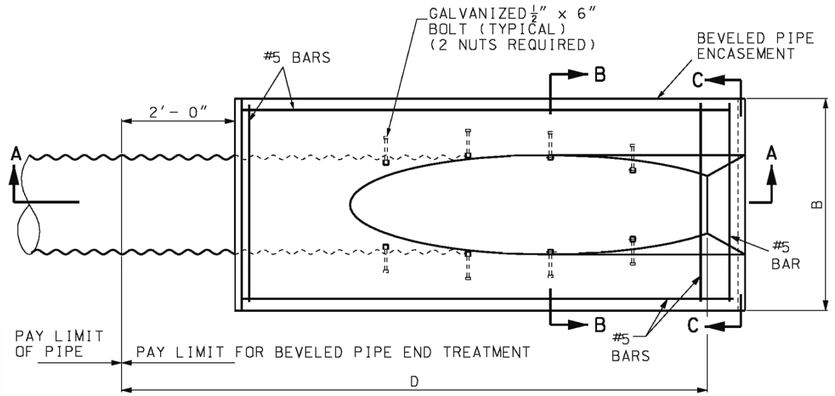
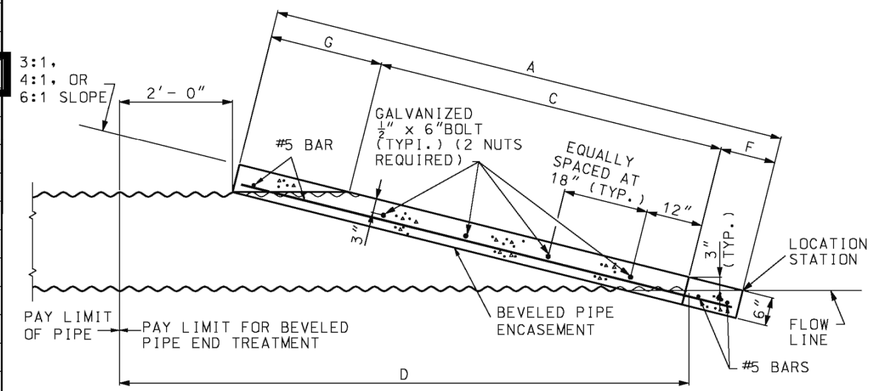
BEVELED PIPE ENCASEMENT DETAILS

PIPE DIAMETER	SLOPE	A	B	C	D	E	F	G
15″	3:1	5′-5 1/2″	3′-3″	3′-2″	6′-7″	1	9 1/2″	18″
	4:1	7′-2″		4′-1 1/2″	8′-1 1/4″	2	12 1/2″	24″
	6:1	10′-7 1/4″		6′-1″	11′-1 1/2″	3	18 1/4″	36″
18″	3:1	6′-3″	3′-6″	3′-11 1/2″	7′-4″	2	9 1/2″	18″
	4:1	8′-2 1/4″		5′-1 3/4″	9′-1″	3	12 1/2″	24″
	6:1	12′-1 1/2″		7′-7 1/4″	12′-7 1/2″	4	18 1/4″	36″
21″	3:1	7′-1/2″	3′-9″	4′-9″	8′-1″	3	9 1/2″	18″
	4:1	9′-2 3/4″		6′-2 1/4″	10′-1 1/4″	3	12 1/2″	24″
	6:1	13′-7 3/4″		9′-1 1/2″	14′-1 1/2″	5	18 1/4″	36″
24″	3:1	7′-10″	4′-0″	5′-6 1/2″	8′-10″	3	9 1/2″	18″
	4:1	10′-3″		7′-2 1/2″	11′-1″	4	12 1/2″	24″
	6:1	15′-2″		10′-7 3/4″	15′-7 1/2″	6	18 1/4″	36″
27″	3:1	8′-7 1/2″	4′-3″	6′-4″	9′-7″	4	9 1/2″	18″
	4:1	11′-3 1/2″		8′-3″	12′-1 1/4″	5	12 1/2″	24″
	6:1	16′-8 1/4″		12′-2″	17′-1 1/2″	7	18 1/4″	36″
30″	3:1	9′-5″	4′-6″	7′-1 1/2″	10′-4″	4	9 1/2″	18″
	4:1	12′-3 3/4″		9′-3 1/4″	13′-1″	6	12 1/2″	24″
	6:1	18′-2 1/2″		13′-8 1/4″	18′-7 1/2″	8	18 1/4″	36″
33″	3:1	10′-2 1/4″	4′-9″	7′-10 3/4″	11′-3/4″	5	9 1/2″	18″
	4:1	13′-4 1/4″		10′-3 3/4″	14′-1 1/4″	6	12 1/2″	24″
	6:1	19′-8 3/4″		15′-2 1/2″	20′-1 1/2″	9	18 1/4″	36″
36″	3:1	10′-11 3/4″	5′-0″	8′-8 1/4″	11′-10″	5	9 1/2″	18″
	4:1	14′-4 1/2″		11′-4″	15′-1″	7	12 1/2″	24″
	6:1	21′-3″		16′-8 3/4″	21′-7 1/2″	10	18 1/4″	36″
42″	3:1	12′-6 3/4″	5′-6″	10′-3 1/4″	13′-4″	6	9 1/2″	18″
	4:1	16′-5 1/4″		13′-4 3/4″	17′-1 1/4″	8	12 1/2″	24″
	6:1	24′-3 1/2″		19′-9 1/4″	24′-7 1/2″	13	18 1/4″	36″
48″	3:1	14′-1 3/4″	6′-0″	11′-10 1/4″	14′-10″	7	9 1/2″	18″
	4:1	18′-6″		15′-5 1/2″	19′-1 1/4″	10	12 1/2″	24″
	6:1	27′-4″		22′-9 3/4″	27′-7 1/2″	15	18 1/4″	36″
54″	3:1	15′-8 3/4″	6′-6″	13′-5 1/4″	16′-4″	8	9 1/2″	18″
	4:1	20′-6 3/4″		17′-6 1/4″	21′-1 1/4″	11	12 1/2″	24″
	6:1	30′-4 1/2″		25′-10 1/4″	30′-7 1/2″	17	18 1/4″	36″
60″	3:1	17′-3 3/4″	7′-0″	15′-1/4″	17′-10″	9	9 1/2″	18″
	4:1	22′-7 1/2″		19′-7″	23′-1 1/4″	12	12 1/2″	24″
	6:1	33′-5″		28′-10 3/4″	33′-7 1/2″	19	18 1/4″	36″



PLAN VIEW FOR HIGHWAYS



SECTION A-A

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.

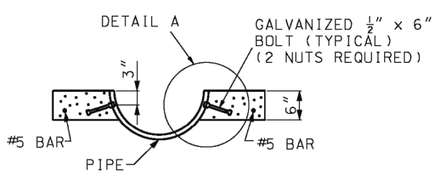
REINFORCING STEEL USED IN CONSTRUCTION OF THE BEVELED PIPE ENCASEMENT SHALL MEET THE REQUIREMENTS OF SECTION 1036 OF THE STANDARD SPECIFICATIONS.

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

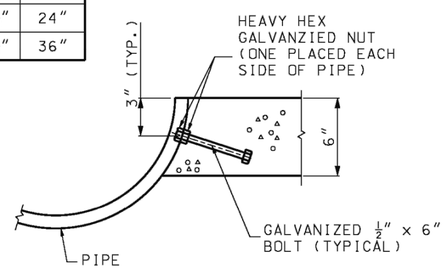
THE PRICE BID PER EACH FOR "BEVELED PIPE END TREATMENT" SHALL BE CONSIDERED FULL COMPENSATION FOR FURNISHING ALL MATERIALS AND INSTALLATION OF THE BEVELED PIPE SECTION AND BEVELED PIPE ENCASEMENT AS SHOWN OR AS DIRECTED BY THE ENGINEER.

THE 1/2″ 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.

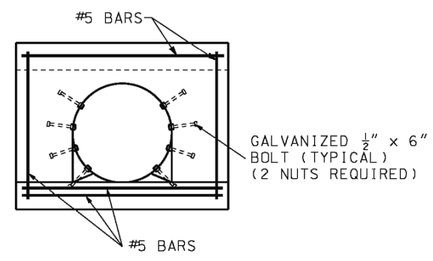
BEVELED PIPE SHALL BE DRILLED AT LOCATIONS SHOWN ON PLANS FOR PLACEMENT OF 1/2″ x 6″ GALVANIZED BOLTS. THE 1/2″ x 6″ GALVANIZED BOLTS SHALL BE "DOUBLE NUTTED" AS SHOWN AND PLACED IN THE VALLEY OF PIPE CORRUGATIONS.



SECTION B-B



DETAIL A



SECTION C-C

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

STATE OF MISSOURI — KATHRYN PHILLIPS HARVEY — NUMBER PE-23751 — PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

BEVELED PIPE END TREATMENT FOR HIGHWAYS

DATE EFFECTIVE: 07/01/2004
DATE PREPARED: 12/16/2008

732.05C

SHEET NO. 1 OF 2

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TEL 816.361.1177 www.olsson.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	2020.06.29	REVISIONS PER CITY COMMENTS	

REVISIONS

CULVERT DETAILS

HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

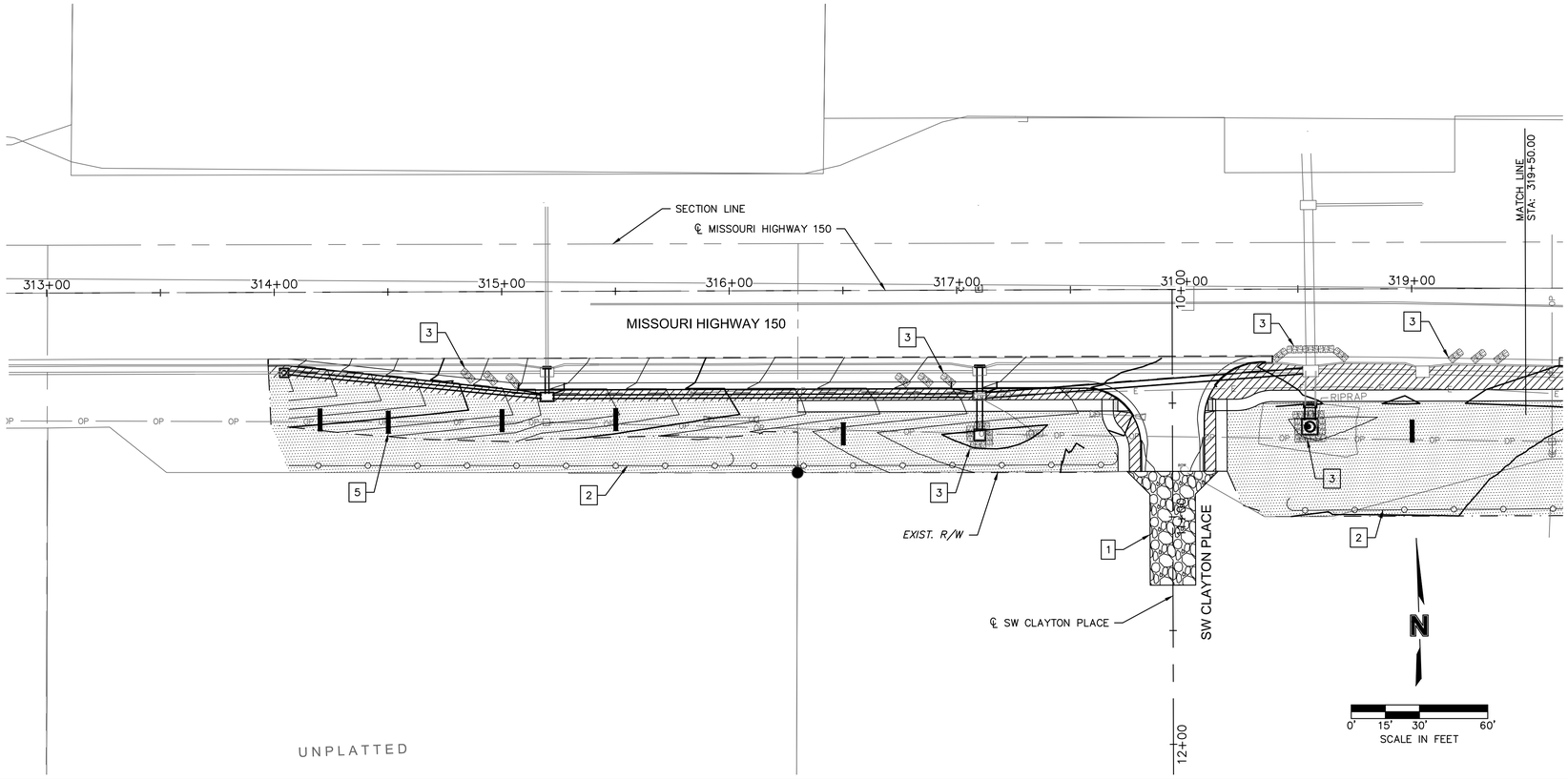
drawn by: AKU
checked by: JPG
approved by: JPG
QA/QC by: RBC
project no.: A19-2339
drawing no.: T_DTL_A192339
date: 2020.07.09

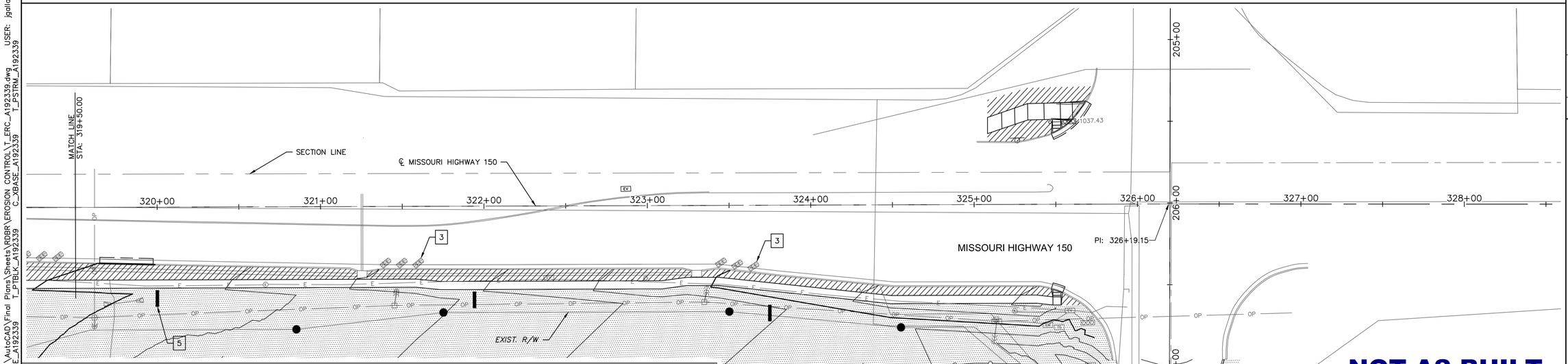
SHEET 33 of 63

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\STANDARD DETAILS\T_DTL_A192339.dwg USER: jgallagher
DATE: Jul 27, 2020 11:59pm XREFS: T_PTBLK_A192339

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.





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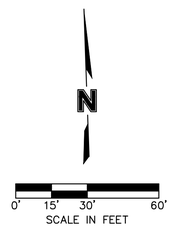

EROSION AND SEDIMENT CONTROL STAGING CHART

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
	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.

LEGEND

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

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Missouri Certificate of Authority #001592
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North Kansas City, MO 64116
TEL 816.361.1177
www.olsson.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	2020.06.29	REVISIONS PER CITY COMMENTS	

REVISIONS

EROSION CONTROL PLAN

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_ERC_A192339
date:	2020.07.09

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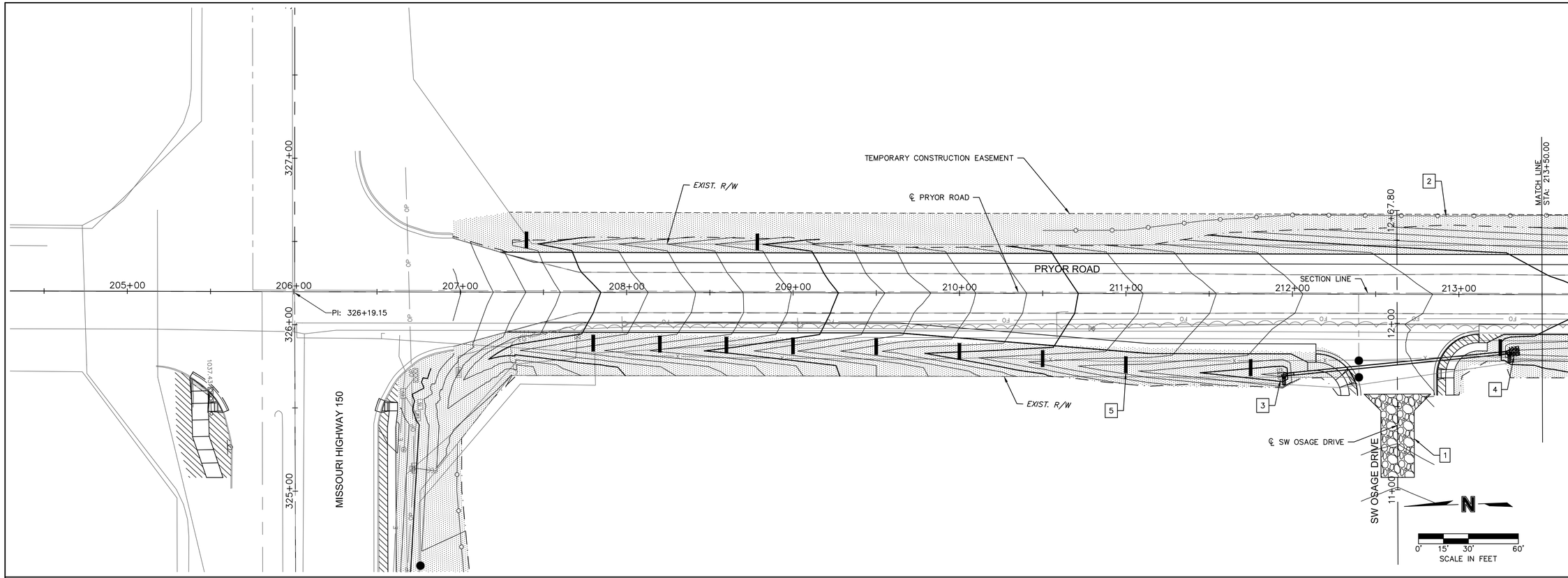
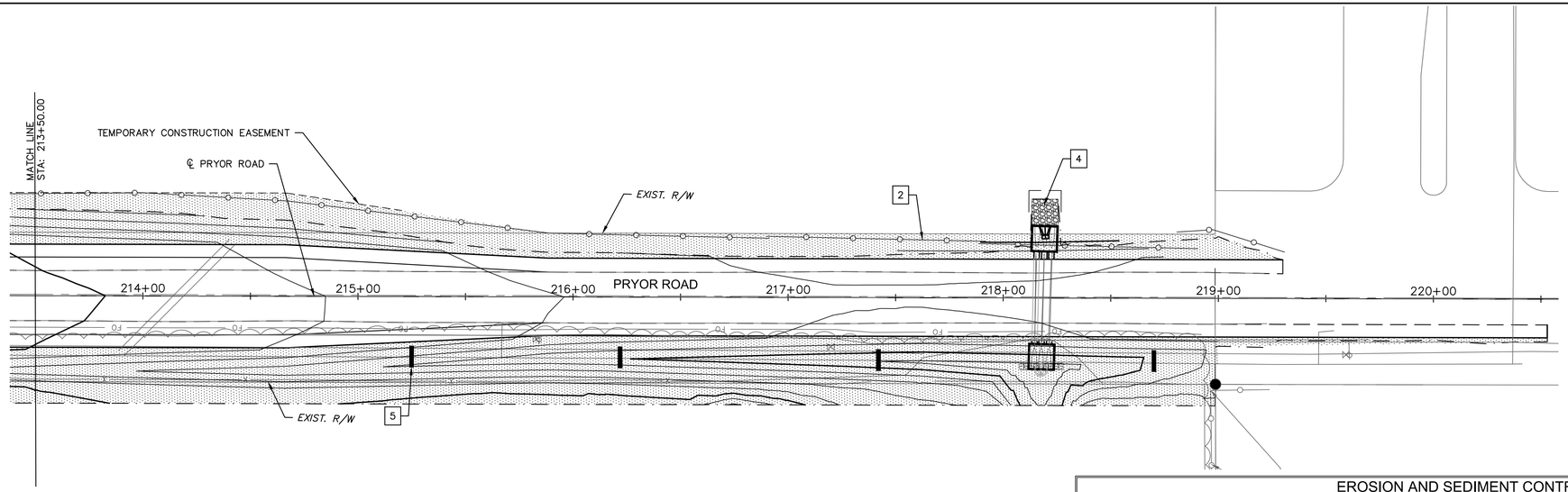
DATE: Jul 28, 2020 12:00am XREFS: T_PBASE_A192339 T_PTBLK_A192339 C_XBASE_A192339 T_PSTRM_A192339





NOT AS-BUILT

LEGEND

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

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
	2	INSTALL SILT FENCE	PHASE 1D	INSTALL SILT FENCE AS INDICATED ON PLANS
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	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 SEMINT FROM PAVED PUBLIC ROADS
	N/A	ESTABLISH PERENNIAL VEGETATION	N/A	SEED OR SOD ALL DISTURBED AREAS. INSTALL AS INDICATED ON PLANS.

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TEL 816.361.1177 www.olsson.com

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EROSION CONTROL PLAN

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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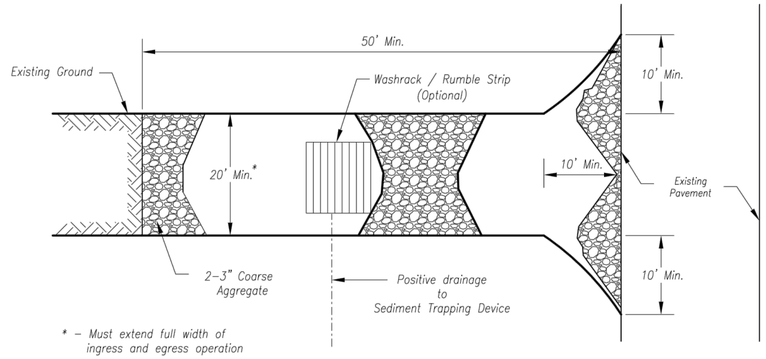
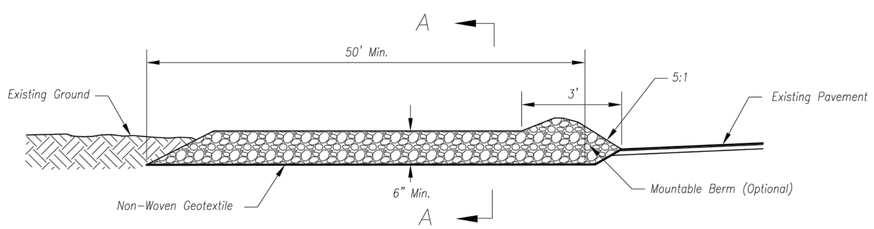


Plan View

Not to Scale



Side Elevation

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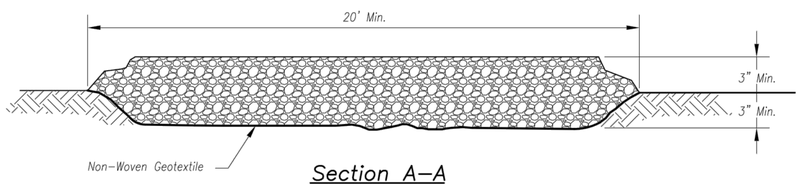


Section A-A

Not to Scale

Notes for Construction Entrance:

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

Maintenance for Construction Entrance:

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

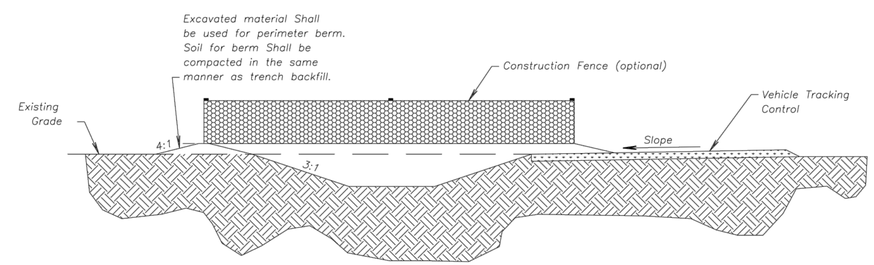
CONSTRUCTION ENTRANCE

Notes for Concrete Washout:

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

Maintenance for Concrete Washout:

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



CONCRETE WASHOUT

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

AMERICAN PUBLIC WORKS ASSOCIATION

Kansas City Metro Chapter APWA AMERICAN PUBLIC WORKS ASSOCIATION

KANSAS CITY METRO CHAPTER

CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT

STANDARD DRAWING NUMBER ESC-01

ADOPTED: 10/24/2016

NOT AS-BUILT

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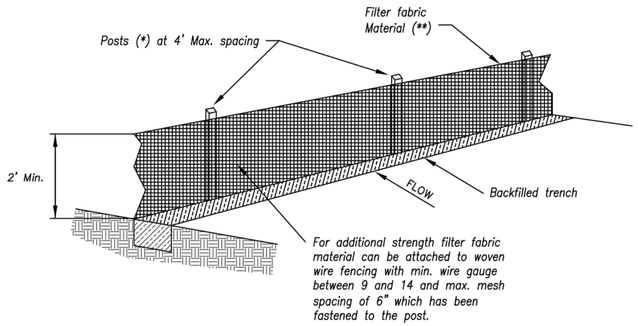
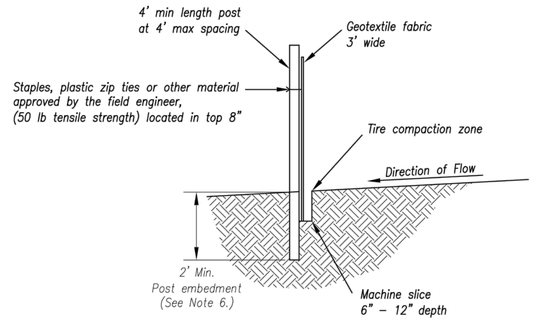




(*) POSTS

- MIN. LENGTH 4'
- HARDWOOD 1 3/16" x 1 3/16"
- NO.2 SOUTHERN PINE 2 5/8" x 2 5/8"
- STEEL 1.33 LB/FT

(**) – Geotextile Fabric shall meet the requirements of AASHTO M288

SILT FENCE DETAILS

Not to Scale

Notes:

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.

Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches ⅓ the height of silt fence.
2. Repair as necessary to maintain function and structure.

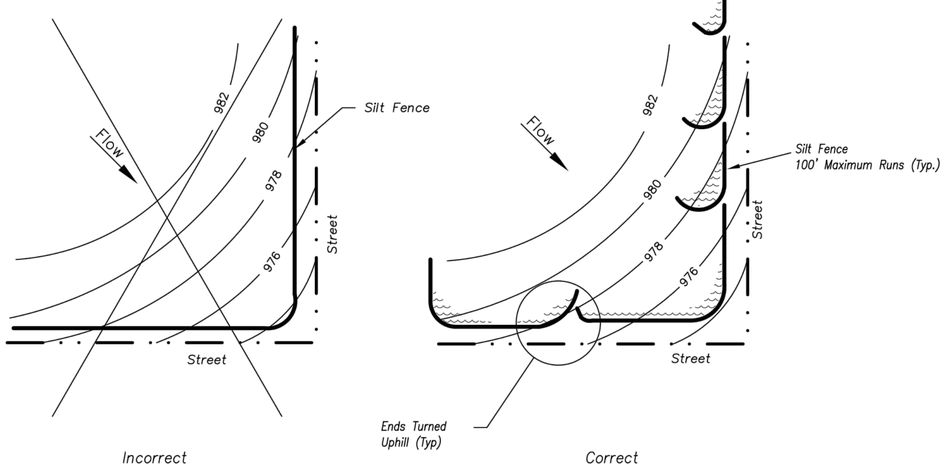
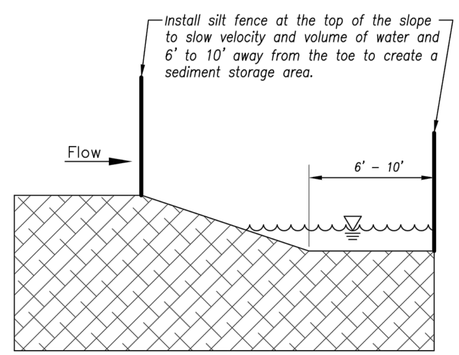
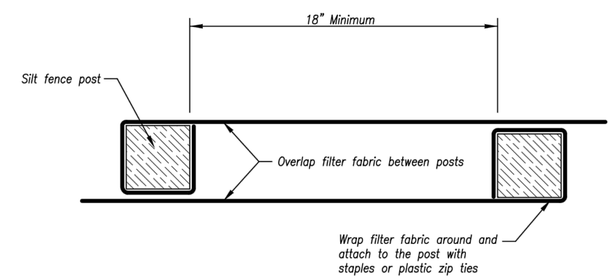


Figure A

SILT FENCE LAYOUT

Not to Scale





JOINING FENCE SECTIONS

Not to Scale

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

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KANSAS CITY METRO CHAPTER

SILT FENCE

STANDARD DRAWING NUMBER ESC-03

ADOPTED: 10/24/2016

NOT AS-BUILT

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EROSION CONTROL 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_ERC_A192339
date: 2020.07.09

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\EROSION CONTROL\T_ERC_A192339.dwg USER: jgallagher
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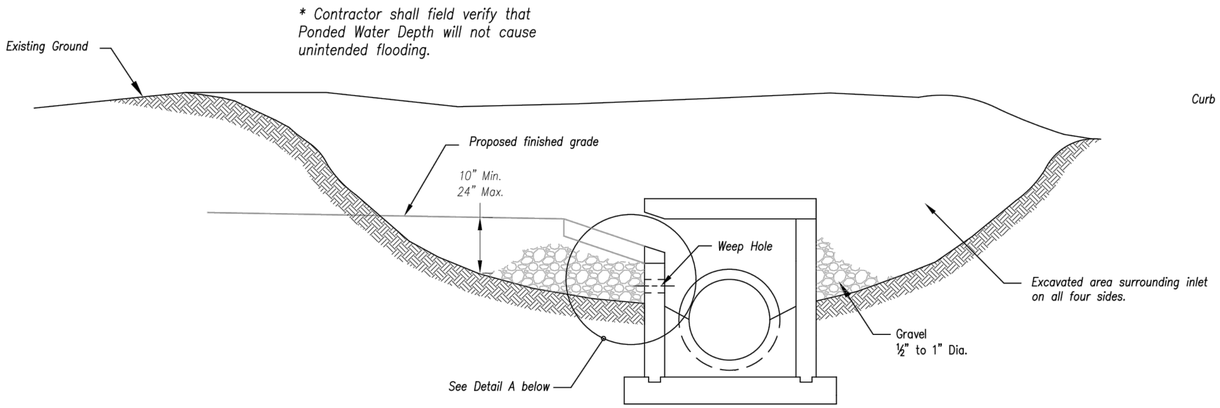
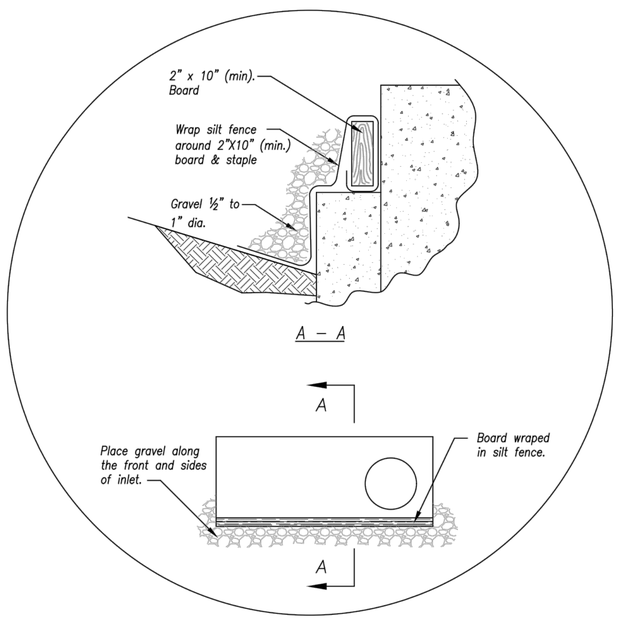
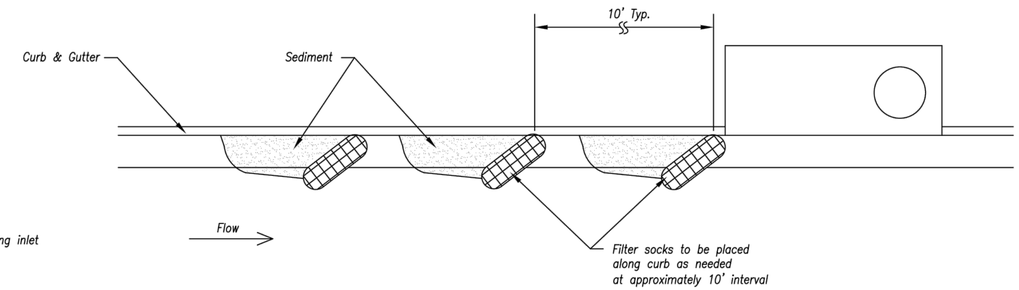


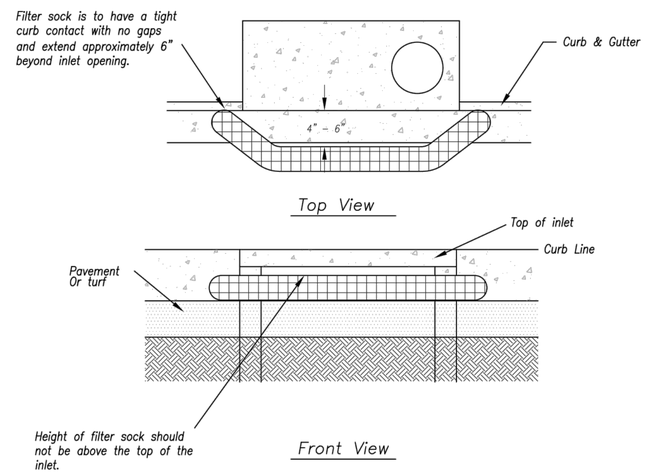


Detail A

EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)



On Grade Curb Inlet Protection



Sump Inlet Sediment Filter

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.

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

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

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KANSAS CITY METRO CHAPTER

CURB INLET PROTECTION

STANDARD DRAWING NUMBER ESC-06

ADOPTED: 10/24/2016

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EROSION CONTROL DETAILS

HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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checked by:	JPG
approved by:	JPG
QA/QC by:	RBC
project no.:	A19-2339
drawing no.:	T_ERC_A192339
date:	2020.07.09

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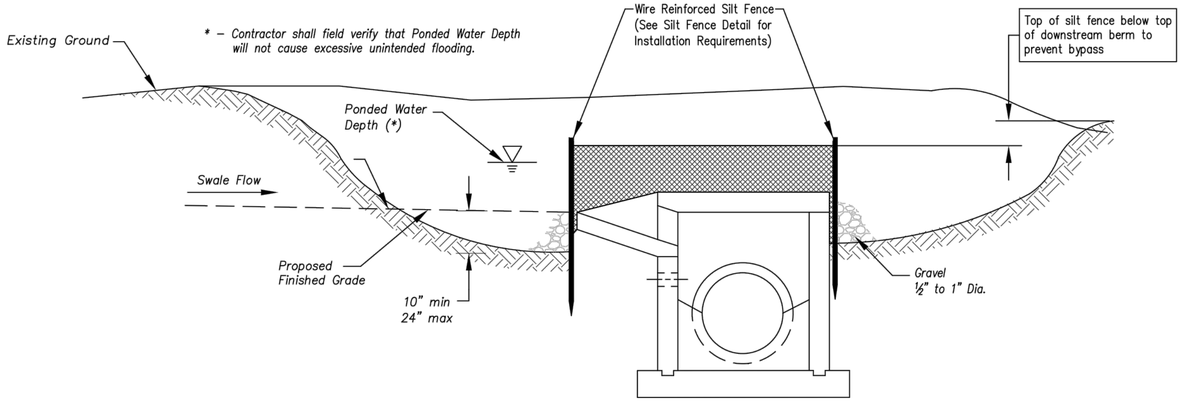
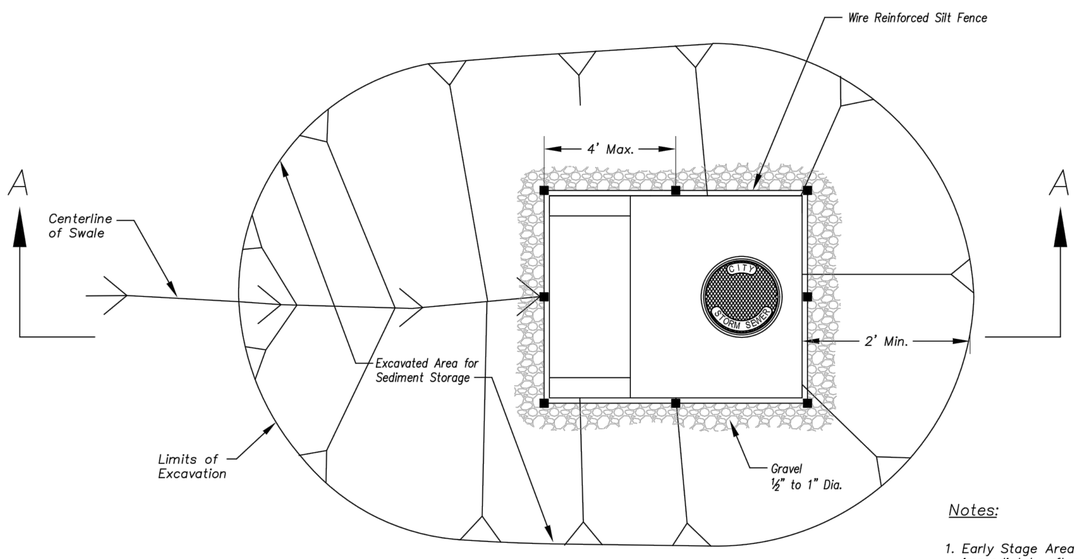


Section A–A

Not to Scale

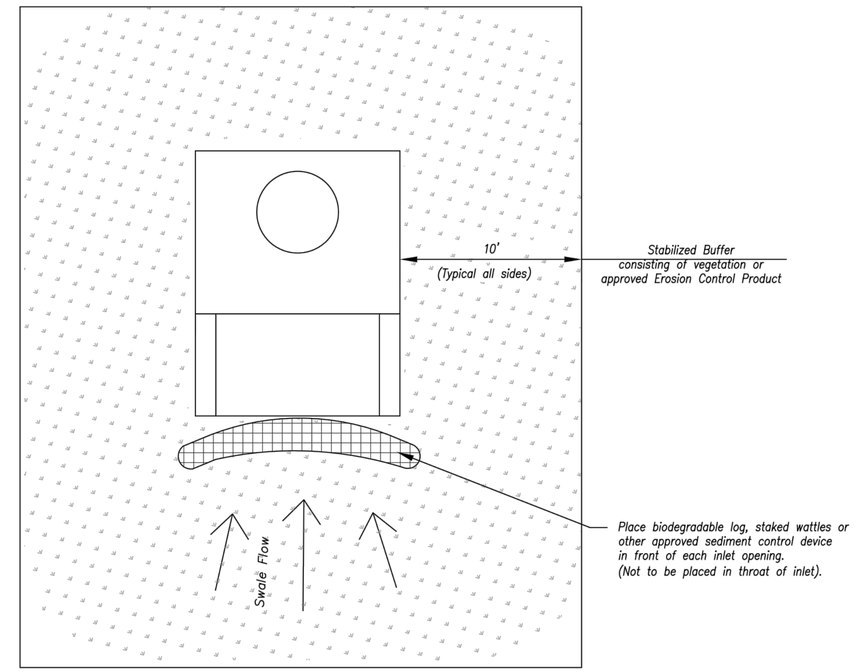


Plan

Not to Scale

EARLY STAGE AREA INLET

(All open boxes and inlets not at final grade)



Plan

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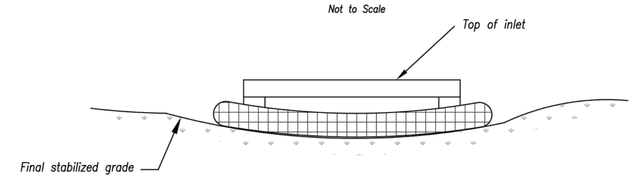

Front View

LATE STAGE AREA INLET

(Area inlets at final grade and existing inlets)

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.

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.

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

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KANSAS CITY METRO CHAPTER

AREA INLET AND JUNCTION BOX PROTECTION

STANDARD DRAWING NUMBER ESC-07

ADOPTED: 10/24/2016

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HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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QA/QC by:	RBC
project no.:	A19-2339
drawing no.:	T_ERC_A192339
date:	2020.07.09

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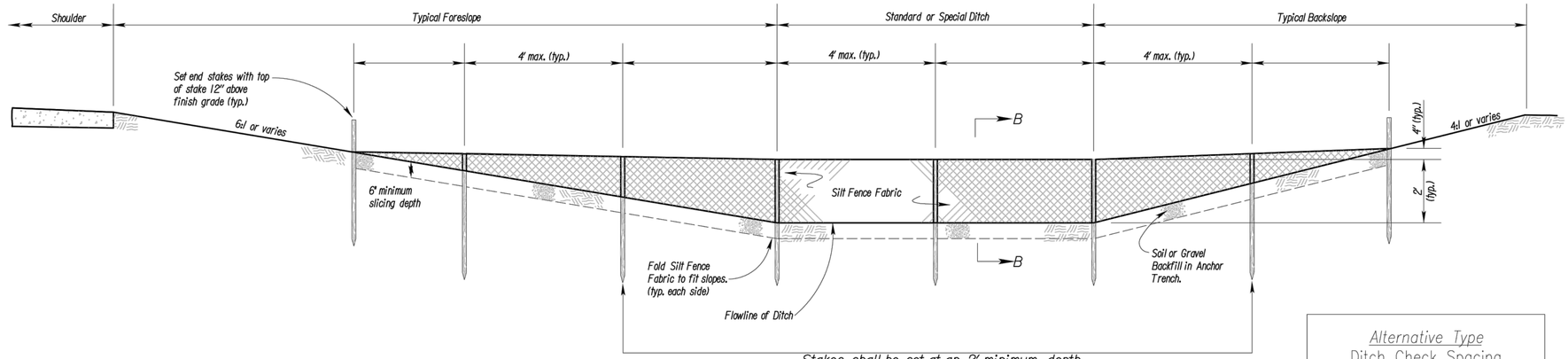
Notes for Silt Fence Ditch Check:

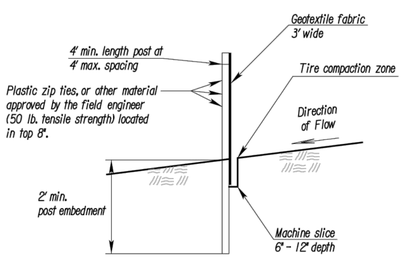
1. Stakes shall be 4' (min.) long and one of the following materials:
   a. Hardwood – 1 3/16" x 1 3/16";
   b. Southern Pine (No. 2) – 2 5/8" x 2 5/8";
   c. Steel U, T, L, or C Section – .95 lbs. per 1'-0";
   d. Synthetic – same strength as wood stakes.
2. Cross pieces shall be of same material as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



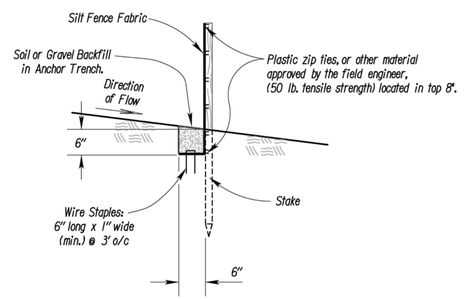
Stakes shall be set at an 2' minimum depth

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.	

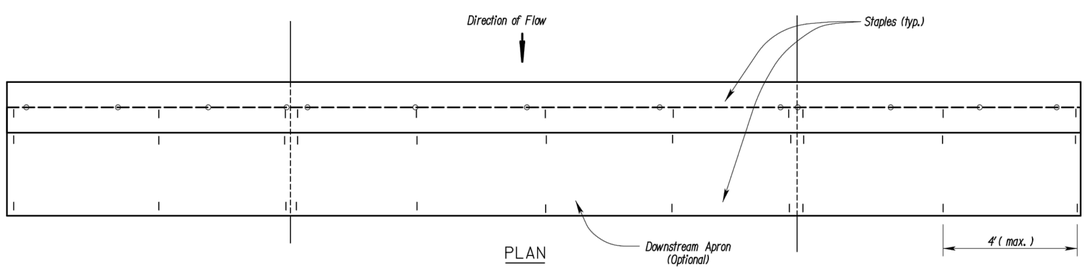


SECTION B-B

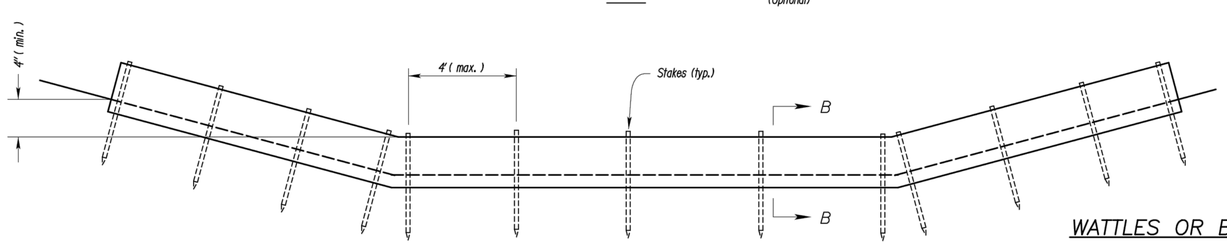


SILT FENCE DITCH CHECK

NO SCALE



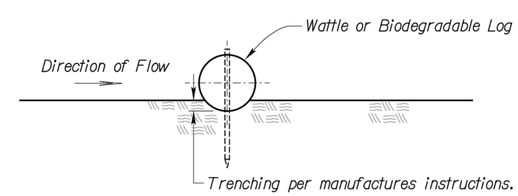
PLAN



TYPICAL ELEVATION

Notes for Wattles and Biodegradable Log Ditch Check:

1. Use as many biodegradable log sections as necessary to ensure water does not flow around end of ditch check.
2. Overlap sections a minimum of 18"
3. 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.
4. Use Erosion Control (Class 1) (Type C) as the downstream apron when directed by the Engineer.
5. 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

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.

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KANSAS CITY METRO CHAPTER

SILT FENCE AND WATTLE/ BIODEGRADABLE LOG DITCH CHECKS

STANDARD DRAWING NUMBER ESC-09

ADOPTED: 10/24/2016

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EROSION CONTROL 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_ERC_A192339
date: 2020.07.09

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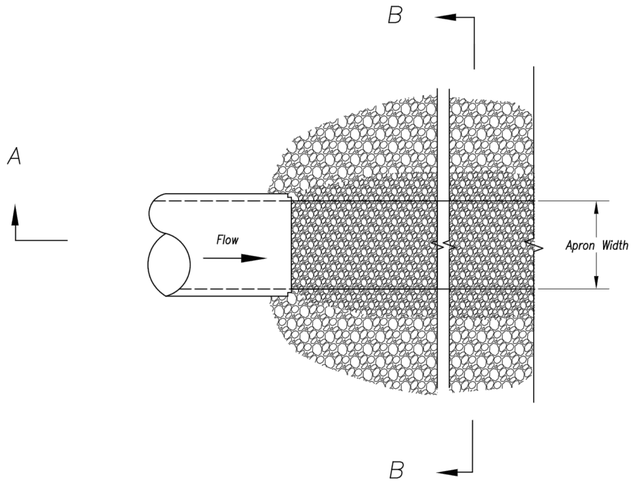
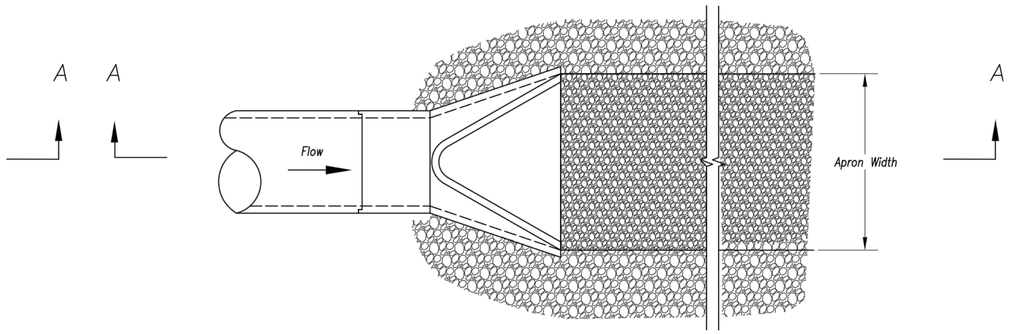


Plan View
Not to Scale



Plan View
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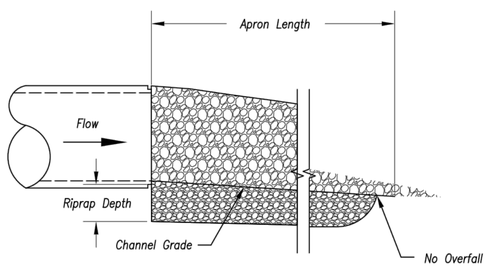

Section A–A
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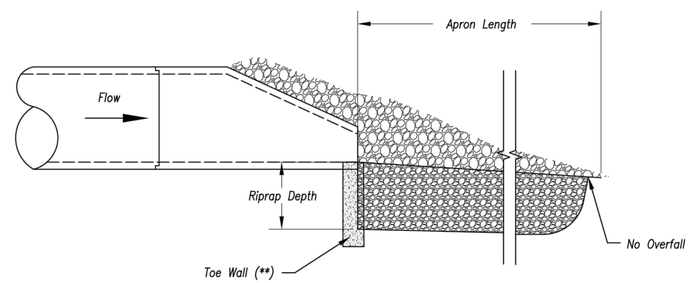
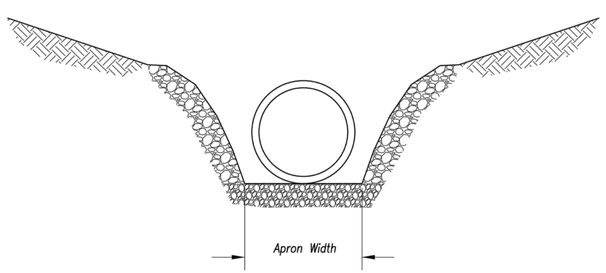


Section A–A
Not to Scale

OUTLET PROTECTION WITH END SECTION



Section B–B
Not to Scale

OUTLET PROTECTION W/O 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.

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KANSAS CITY METRO CHAPTER

OUTLET PROTECTION

STANDARD DRAWING NUMBER ESC-14

ADOPTED: 10/24/2016

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EROSION CONTROL DETAILS

HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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approved by:	JPG
QA/QC by:	RBC
project no.:	A19-2339
drawing no.:	T_ERC_A192339
date:	2020.07.09

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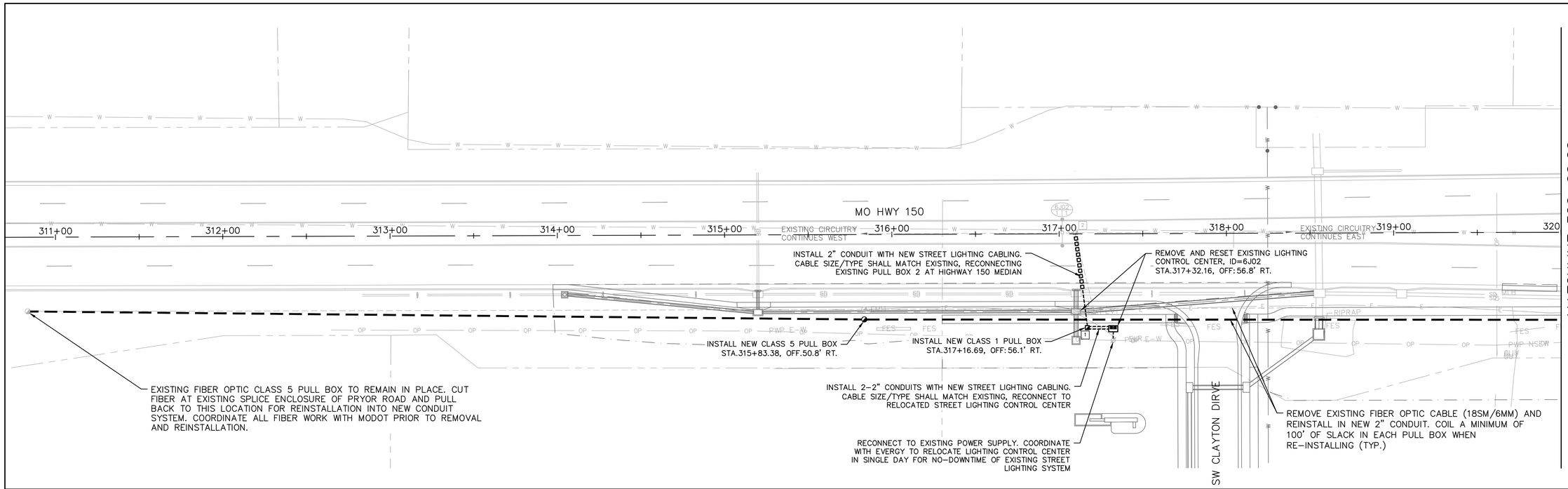

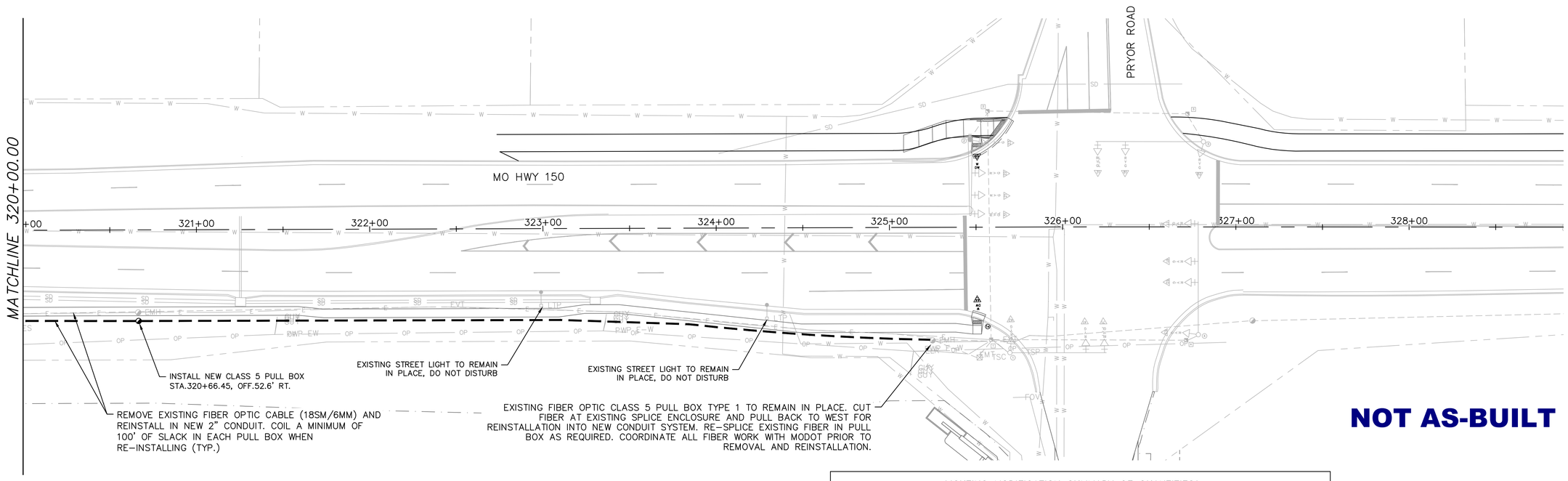

NOT AS-BUILT

LIGHTING AND INTERCONNECT LEGEND

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

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	1
3.	INSTALL 2" LIGHTING CONDUIT WITH CABLE (LIKE KIND)	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

N

0' 15' 30' 60'
SCALE IN FEET

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LIGHTING PLANS AND INTERCONNECT PLANS
150 HIGHWAY

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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

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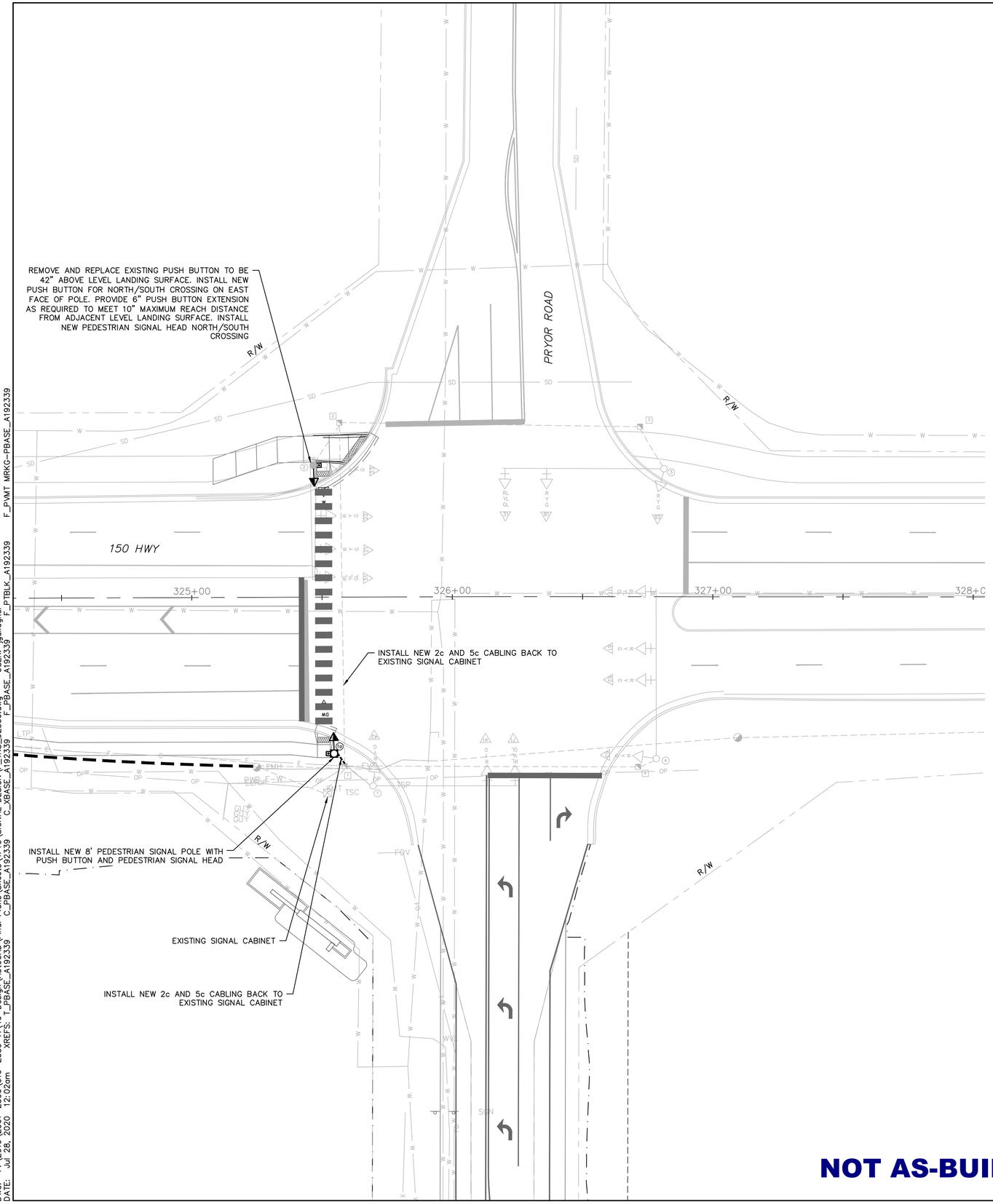

TRAFFIC SIGNALS LEGEND

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

R	RED BALL
Y	YELLOW BALL
G	GREEN BALL
RL	RED LEFT ARROW
YL	YELLOW LEFT ARROW
GL	GREEN LEFT ARROW
YR†	YELLOW RIGHT ARROW
GR†	GREEN RIGHT ARROW
S	STRAIGHT GREEN ARROW
S✱45	STRAIGHT GREEN ARROW MOUNTED AT 45° ANGLE

ALL 12" LENS WITH TUNNEL VISOR

W	PEDESTRIAN INDICATIONS SHALL BE LED
DW	COUNTDOWN TYPE.

150 HIGHWAY & PRYOR ROAD

NOT AS-BUILT

N

0' 10' 20' 40'
SCALE IN FEET

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

TRAFFIC SIGNAL PLAN
150 HWY & PRYOR ROAD

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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

SHEET
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DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\TFTC\SIGNAL DESIGN\F_TRS_92339.dwg USER: jgallagher
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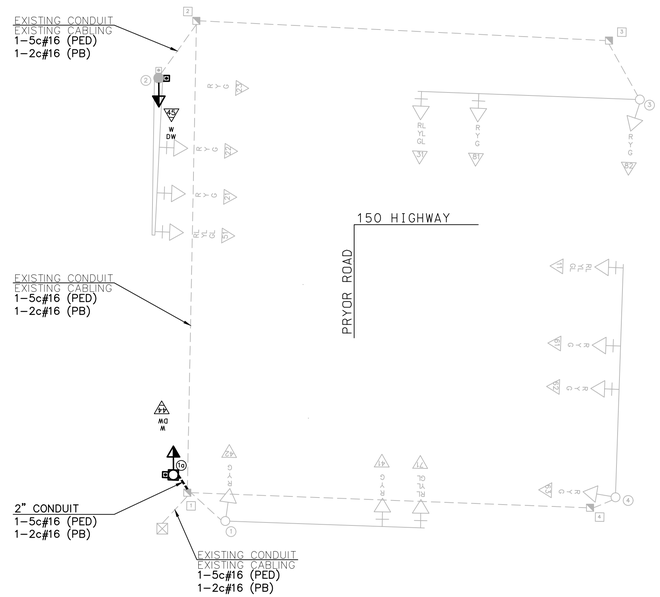

WIRING DIAGRAM

POST NUMBER	PULL BOX NUMBER	LOCATION APPROACH	LOCATION STATION	LOCATION OFFSET	BASE A 9	BASE A 9.5	BASE A 10	BASE A 10.5	BASE A 11	BASE A 12	BASE F 9	BASE F 9.5	BASE F 10	BASE F 10.5	BASE F 11	BASE F 12	BASE C	CONCRETE** (CU. YDS.)	PULL BOX PREFORMED CLASS 1	PREFORMED CLASS 2	PREFORMED CLASS 3	PREFORMED CLASS 5	CONCRETE STANDARD	CONCRETE DOUBLE, TYPE A	CONCRETE DOUBLE, TYPE B	DRAIN TYPE* I	DRAIN TYPE* II A	DRAIN TYPE* II B	DRAIN TYPE* II C	TOP MOUNT POST 8 FT.	TOP MOUNT POST 15 FT.
·	·	·	CONTROLLER	(AS REQ'D)															·	·	·	·	·	·	·	·					
1A			325+54.43	60.1' RT.													1	.44												1	
																	SUBTOTAL	.44												1	
																	TOTAL	.44												1	

SIGNAL HEADS

SPAN NUMBER	POST NUMBER	FACE NUMBER	LUMINAIRE 150W SODIUM	INDICATIONS * 12" LENS CONVENTIONAL R	Y	YL	YR†	FY	FYR	G	S	L	R†	12" LENS OPTICAL LIMITING R	Y	YL	YR†	YL	YR†	G	S	L	R†	VISORS * 12" LENS	PED.	LOUVERS * A	B	C	D	E	F	BACKPLATE* LENSES 1	2	3	4	5	RETROREFLECTIVE BACKPLATE* LENSES 1	2	3	4	5	BRACKET* TYPE I	II	III	ONE-FACE SECTION 1- T	S	C	B	3- T	S	C	B	4- T	S	C	B	5- T	S	C	B
·	·	·		·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
·	1A	44												1												1																		1				1															
·	2	45												1												1																		1				1															
SUBTOTAL																										SUBTOTAL OPTICALLY LIMITED																					·																			
TOTAL																										SUBTOTAL CONVENTIONAL																					·	2																		
																										SUBTOTAL COMBINATION OL & CONV																					·																			
																										TOTAL OPTICALLY LIMITED																					·																			
																										TOTAL CONVENTIONAL																					·	2																		
																										TOTAL COMBINATION OL & CONV																					·																			

150 HIGHWAY & PRYOR ROAD
INTERSECTION

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) FROM	TO	CENTER TO CENTER DISTANCE	LOOP DET. 1"	TRENCH 2"	TRENCH 3"	TRENCH 4"		PUSHED 2"	PUSHED 3"	PUSHED 4"	MEDIAN 2"	MEDIAN 3"	MEDIAN 4"	ON STRUCTURE 2"	ON STRUCTURE 3"		REMARKS	CABLE FROM	TO	CENTER TO CENTER DISTANCE	POWER		CONTROL 2c #16	CONTROL 5c #16	CONTROL 7c #16	CONTROL 3c #16	SYSTEM GROUND SOLID 1c#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'

NOT AS-BUILT

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Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177 www.olsson.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

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TRAFFIC SIGNAL PLAN
150 HWY & PRYOR ROAD

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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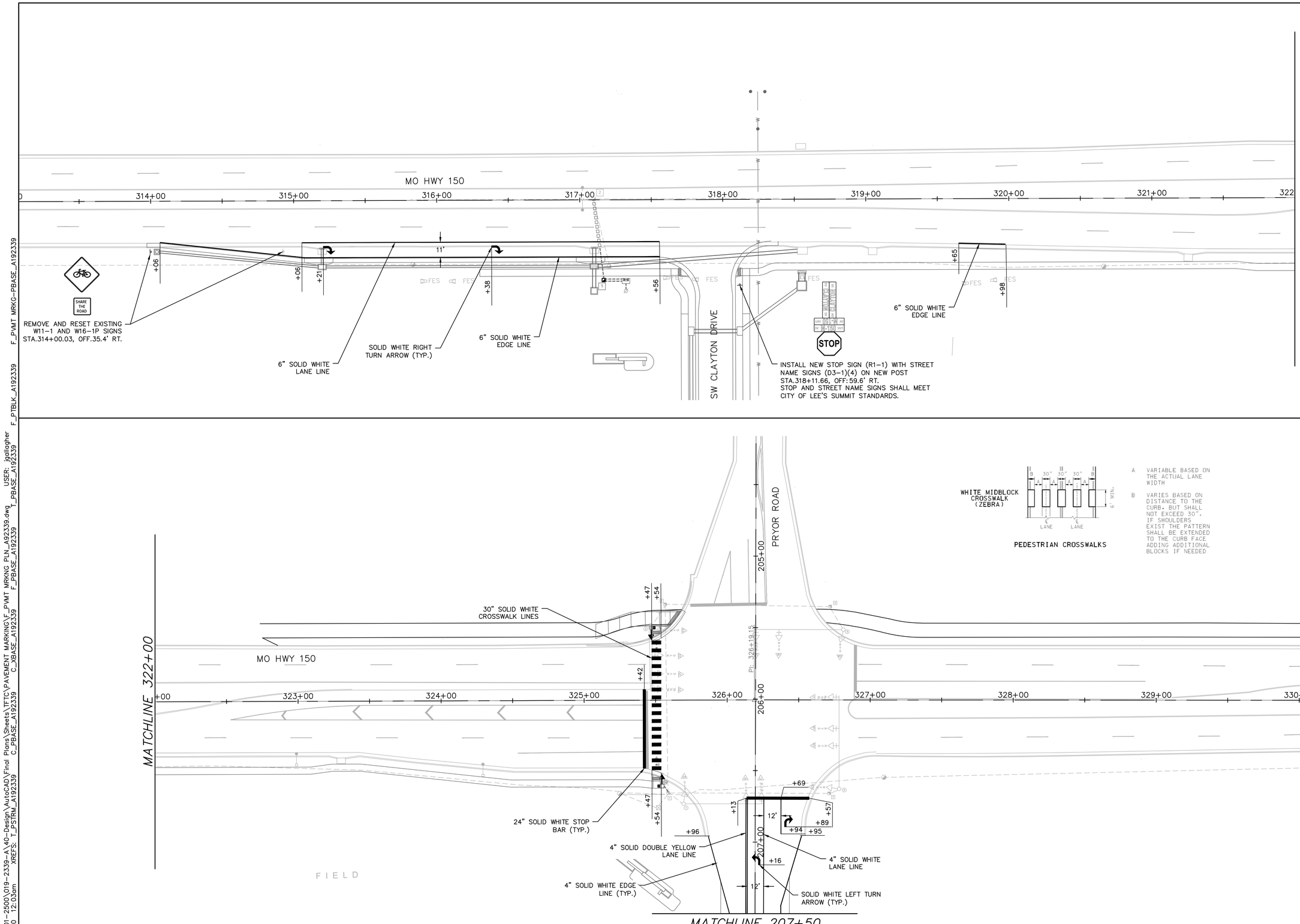

GENERAL NOTES:

1.) ALL PAVEMENT MARKING ON MODOT RIGHT OF WAY SHALL CONFORM TO MODOT STANDARDS AND SPECIFICATIONS. ALL PAVEMENT MARKING IN CITY OF LEE'S SUMMIT RIGHT-OF-WAY SHALL CONFORM TO CITY STANDARDS AND SPECIFICATIONS.
2.) PAVEMENT MARKINGS ON CITY RIGHT-OF-WAY SHALL BE HIGH BUILD PAINT WITH EXCEPTION OF ANY SYMBOL, STOP LINE, CROSSWALK LINE, OR DIAGONAL; WHICH SHALL BE PREFORMED THERMOPLASTIC.

NOT AS-BUILT

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\TFTC\PAVEMENT MARKING\F_PVMT MRKNG PLN_A192339.dwg USER: jgallagher
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

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PAVEMENT MARKING AND SIGNING PLAN

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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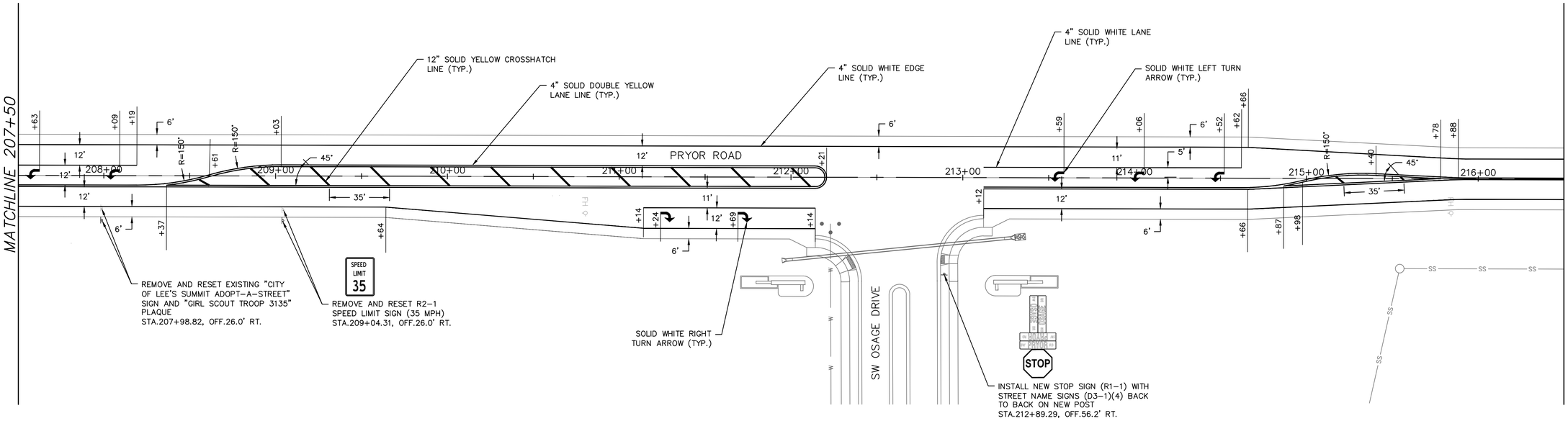
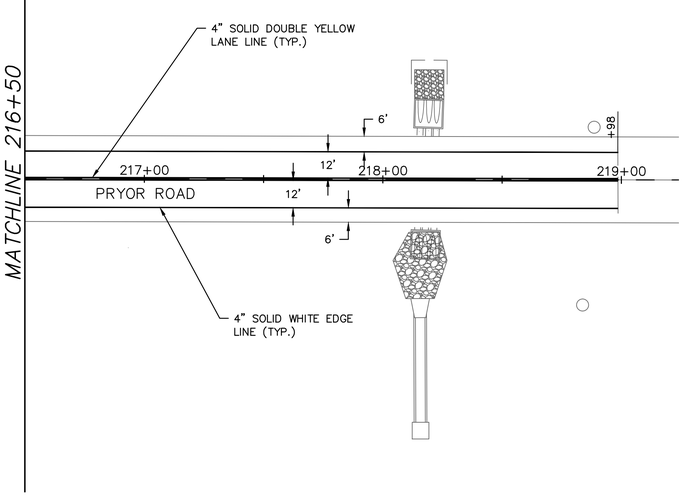
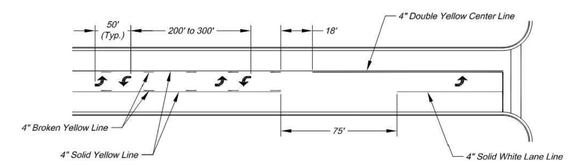




PAVEMENT MARKING QUANTITIES*		
ITEM	UNIT	QUANTITY
4" SOLID WHITE LANE LINE	L.F.	399
4" WHITE EDGE LINE	L.F.	2312
4" DOUBLE YELLOW LANE LINE	L.F.	3234
6" SOLID WHITE LANE LINE	L.F.	250
6" SOLID WHITE EDGE LINE	L.F.	383
30" SOLID WHITE CROSSWALK LINE	L.F.	102
12" SOLID DIAGONAL YELLOW	L.F.	170
24" SOLID WHITE STOP BAR	L.F.	100
SOLID WHITE RIGHT TURN ARROW	E.A.	5
SOLID WHITE LEFT TURN ARROW	E.A.	6

*NOTE: FOR INFORMATION PURPOSE ONLY, PAVEMENT MARKING SHALL BE BID AS LUMP SUM



TYPICAL MARKINGS FOR TWO-WAY LEFT-TURN LANE

SUMMARY OF SIGN QUANTITIES*							
ITEM	QUANTITY	MUTCD SIGN NUMBER	SIZE (INCHES)	AREA (SQ. FT.)	TOTAL AREA EACH SIGN (SQ. FT.)	SIGN POST (EA.)	COMMENTS
1	1	W11-1	EXISITNG	EXISITNG	EXISITNG	EXISITNG	REMOVE & RESET
2	1	W16-1P	EXISTING	EXISTING	EXISTING	–	
3	2	R1-1	36"x36"	7.5	15	2	
4	8	D3-1	48"x9"	3.5	24	–	SHARED POST
5	1	ADOPT-A-STREET	EXISITNG	EXISITNG	EXISITNG	EXISITNG	REMOVE & RESET
6	1	R2-1 (35 MPH)	EXISTING	EXISTING	EXISTING	EXISTING	REMOVE & RESET
TOTAL				11.0	39	2	3-REMOVE & RESET

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

GENERAL NOTES:

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NOT AS-BUILT

N
0' 15' 30' 60'
SCALE IN FEET

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HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

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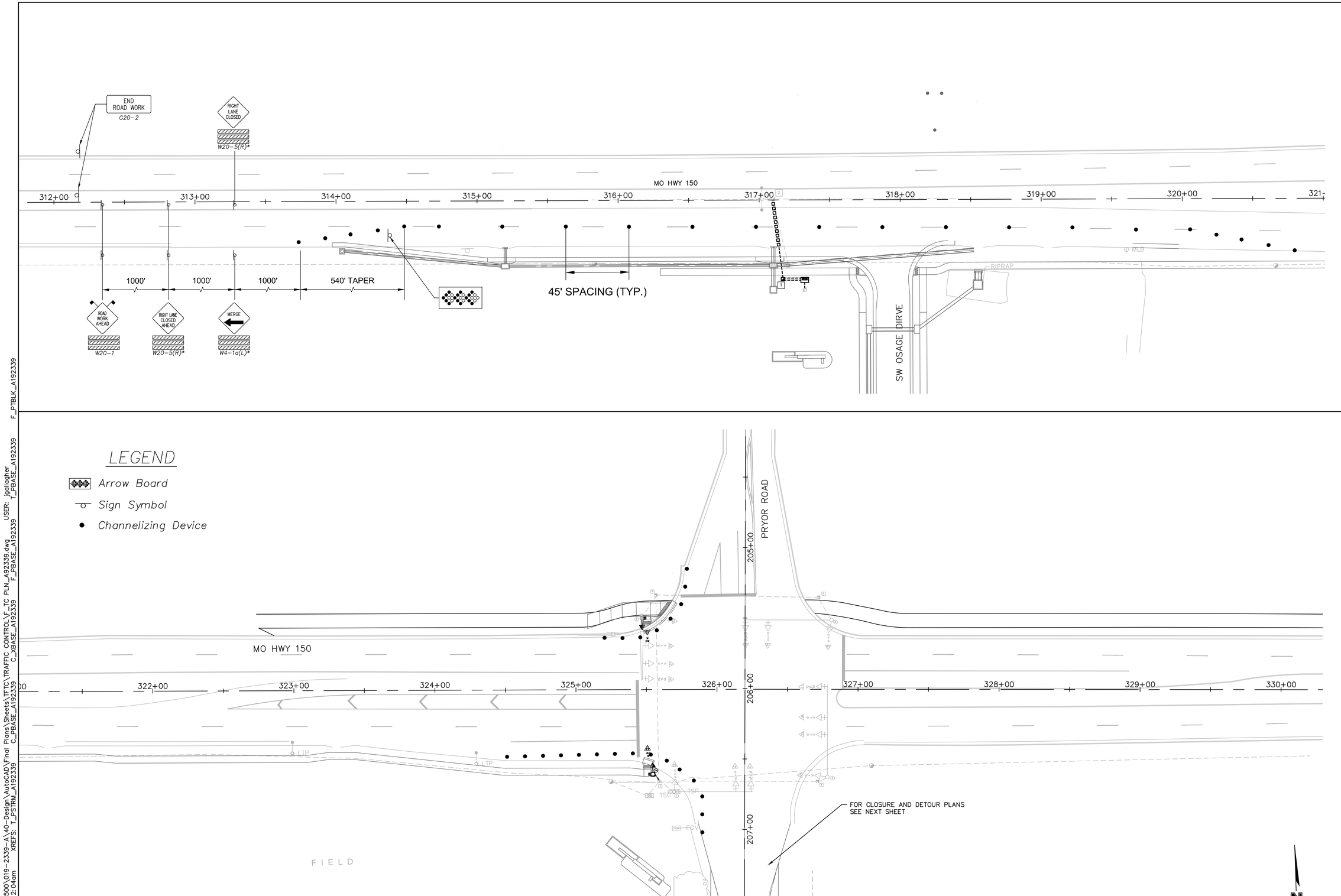

LEGEND

- Arrow Board
- Sign Symbol
- Channelizing Device

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

NOT AS-BUILT

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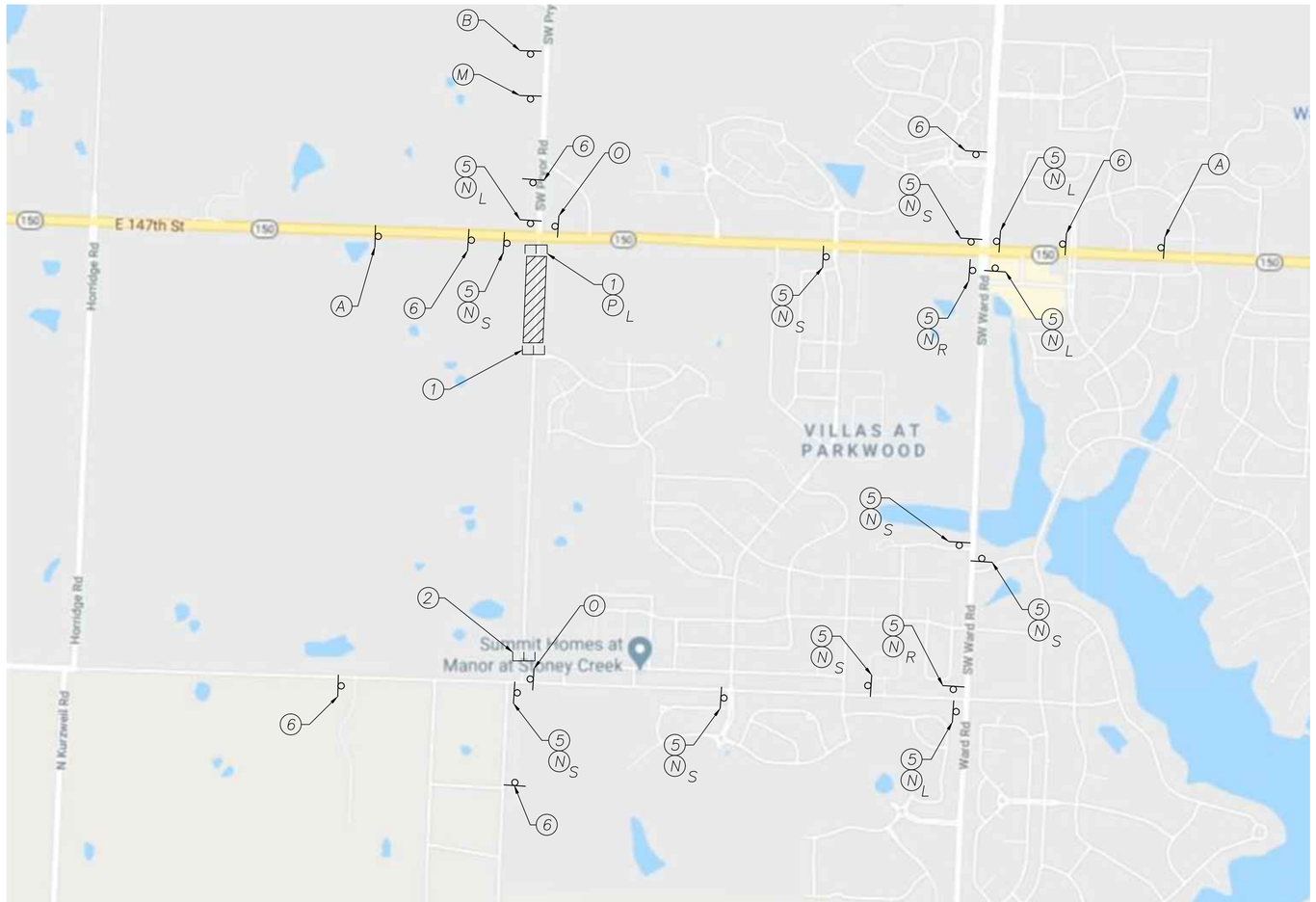

LEGEND

- WORK AREA
- SIGN
- TYPE III BARRICADE

SIGN LEGEND

Sign	Code	Description
ROAD WORK AHEAD	A	W20-1
ROAD CLOSED AHEAD	B	W20-3
DETOUR AHEAD	M	W20-2
DETOUR	N L	M4-9(L)
	N R	M4-9(R)
	N S	M4-9(S)
END DETOUR	O	M4-8a
DETOUR	P L	M4-10(L)
	P R	M4-10(R)
ROAD CLOSED	1	R11-2
ROAD CLOSED TO THRU TRAFFIC	2	R11-4
PRYOR ROAD	5	D3-1 (SPECIAL)
PRYOR ROAD CLOSED SOUTH OF 150 HWY USE DETOUR	6	SP-1 (SPECIAL)

GENERAL NOTES:
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0' 15' 30' 60'
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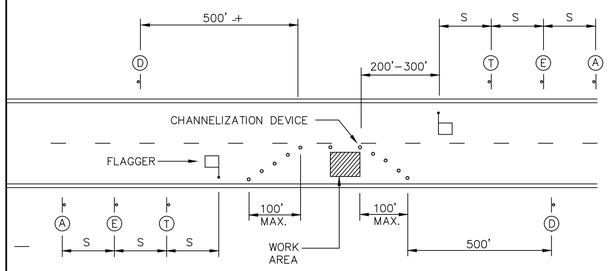
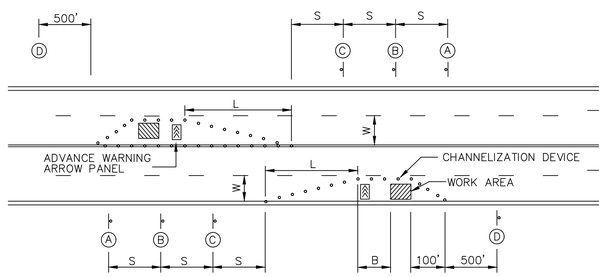
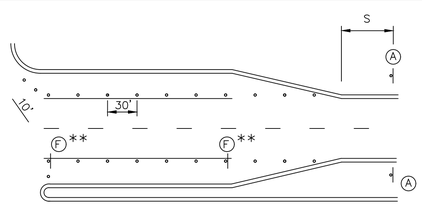


DETAIL 1: TYPICAL CLOSURE – TWO-LANE STREET

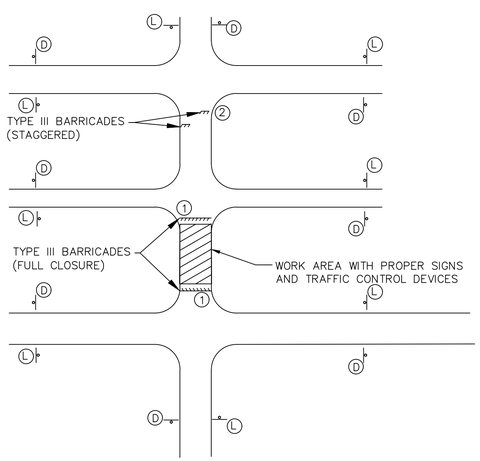


DETAIL 2: TYPICAL LANE CLOSURE – FOUR-LANE STREET



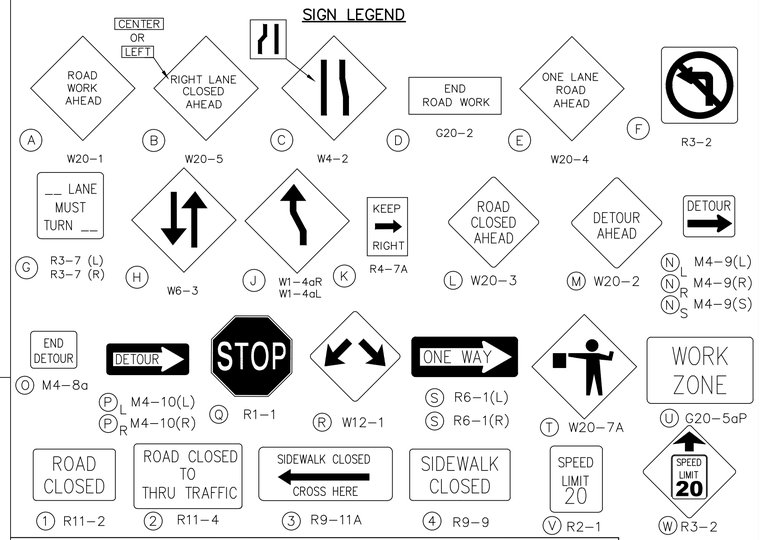
** USE ONLY AS APPROVED BY CITY TRAFFIC ENGINEER

DETAIL 3: TYPICAL RIGHT-TURN LANE AND LEFT-TURN LANE CLOSURES

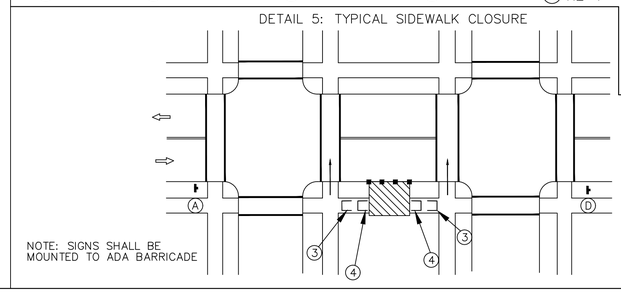


DETAIL 4: TYPICAL SIDE ROAD SIGNING FOR ROAD CLOSURE

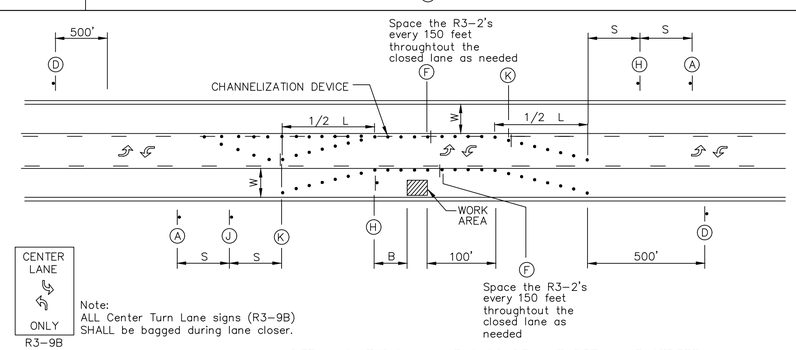
SIGN LEGEND



DETAIL 5: TYPICAL SIDEWALK CLOSURE



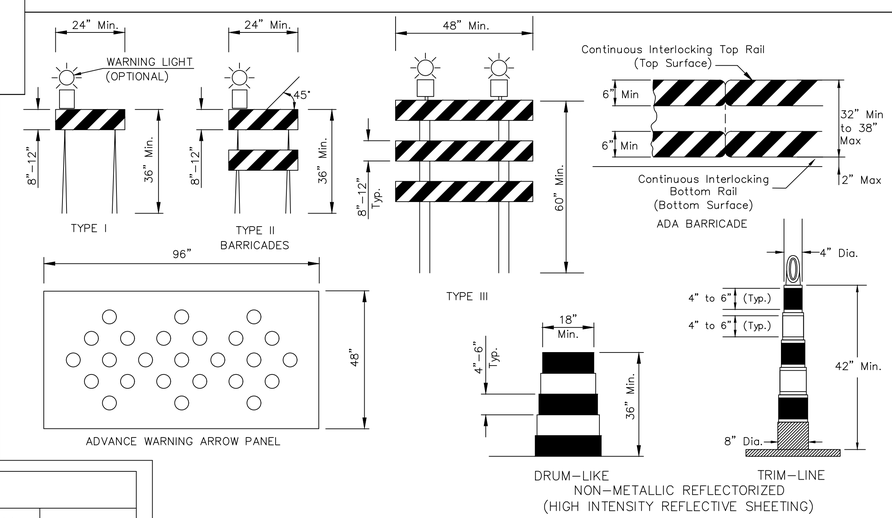
NOTE: SIGNS SHALL BE MOUNTED TO ADA BARRICADE



DETAIL 6: TYPICAL LANE CLOSURE – THREE-LANE STREET

GENERAL NOTES:

1. 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.
2. 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.
3. 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 singley 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.
4. 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.
5. 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.
6. Channelization devices used in the street shall be either drums, cones or Trimline channelizers.
7. Traffic control devices not in use or not applicable shall be either covered or removed from the work area.
8. 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.
9. Access shall be maintained to all driveways and side streets unless noted otherwise on the plans.
10. 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.
11. Dirt, mud and other construction debris on streets and sidewalks shall be removed immediately.
12. 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.
13. 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.
14. 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.
15. Construction vehicles parked along streets and construction signs shall not restrict sight distance for vehicles exiting at streets or any drives.
16. 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:
    A) Employ another agency to correct deficiencies in signing or warning devices and deduct the cost from the contractor's pay estimate
    B) Suspend all pay Estimates until deficiencies are corrected.
    C) Stop the work until deficiencies are corrected.
    D) Place the contractor in default.
17. The Contractor shall keep roadway closures due to construction activities to a minimum and provide advanced notice to affected users.
18. 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.
19. 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.



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

*Posted speed

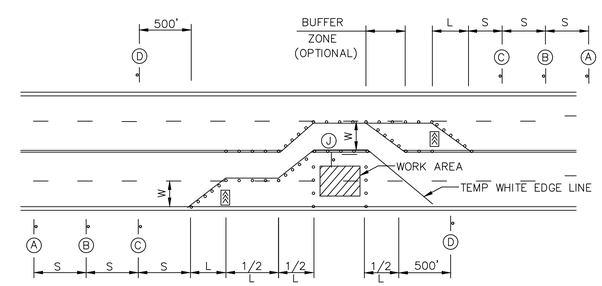
SIGN SPACING(S)	
Speed Limit M.P.H.	Spacing (Feet)
≤ 30	100
35 – 45	350
≥ 55	500

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	80	5
25	105	115	125	6
30	150	165	180	7
35	205	225	245	8
40	270	295	320	9
45	450	495	540	13
50	500	550	600	13
55	550	605	660	13

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

NOT AS-BUILT



DETAIL 7: TYPICAL LANE CLOSURE – FOUR-LANE STREET

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

TRAFFIC CONTROL DETAILS

HIGHWAY 150 & PRYOR ROAD ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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

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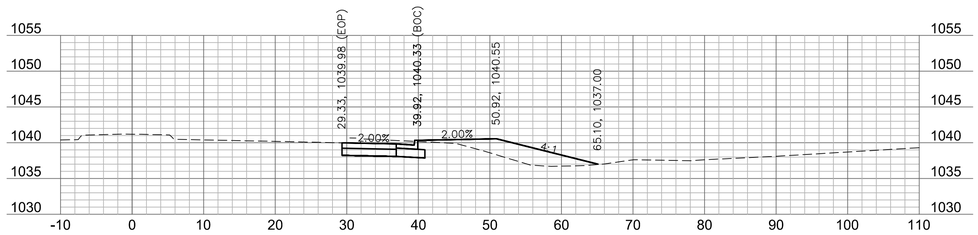

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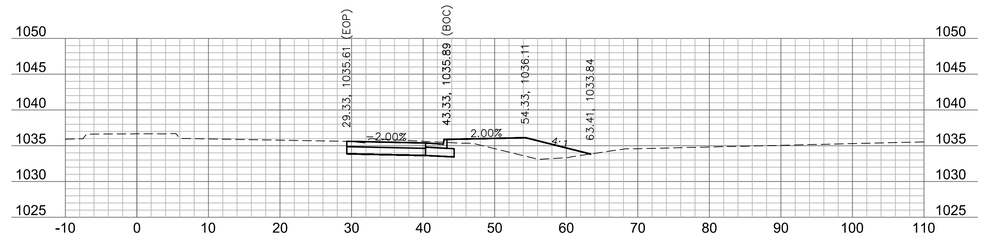

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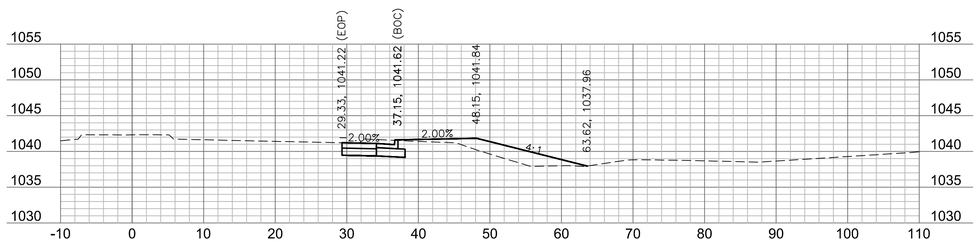

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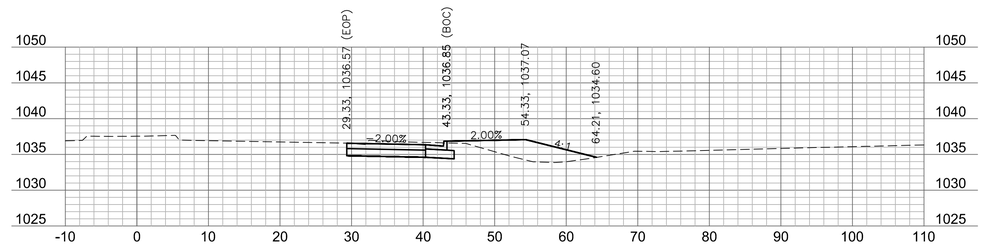

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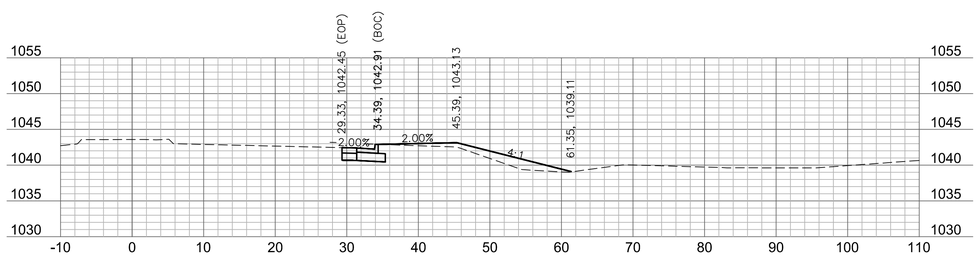

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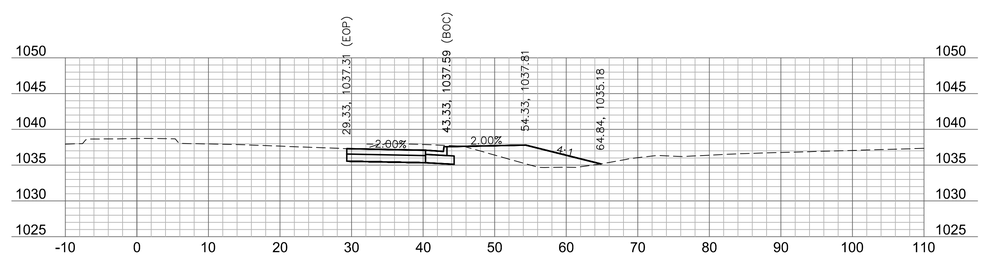

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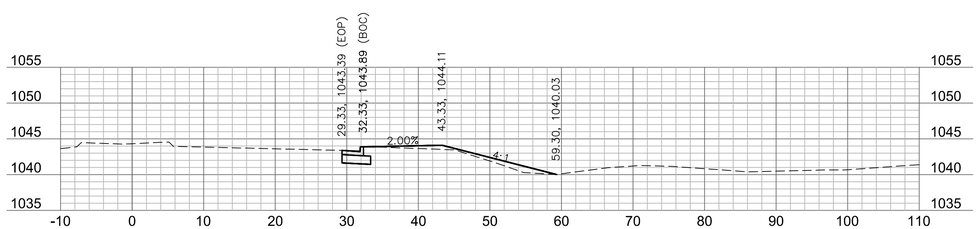

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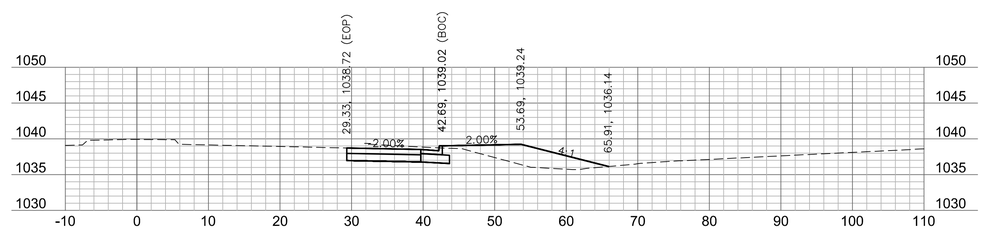

315+00

NOT AS-BUILT

0' 5' 10' 20'
SCALE IN FEET

20'
10'
5'
0'

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	2020.06.29	REVISIONS PER CITY COMMENTS	

REVISIONS

HIGHWAY 150
CROSS SECTION

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_XSC_A192339
date:	2020.07.09

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\CROSS SECTIONS\T_XSC_A192339.dwg USER: jgallagher
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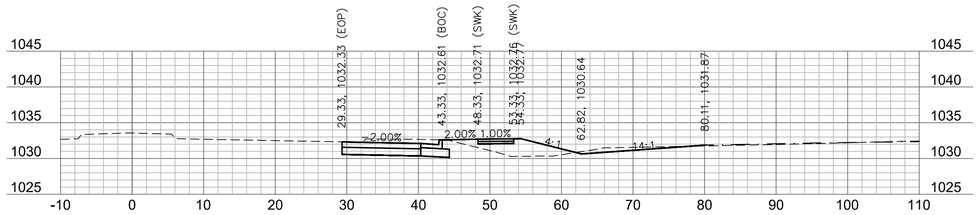

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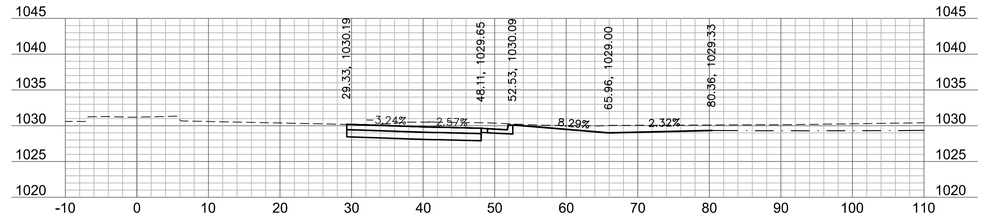

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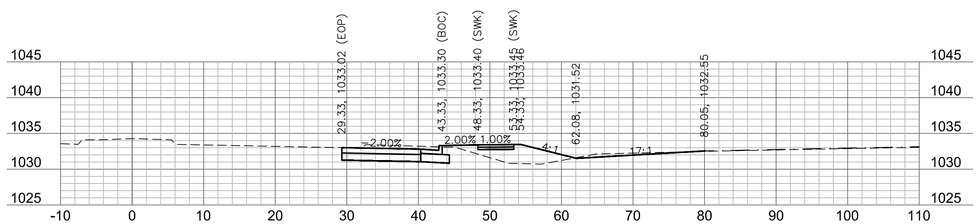

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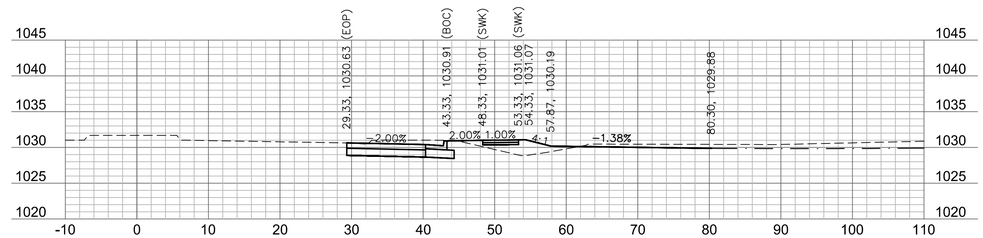

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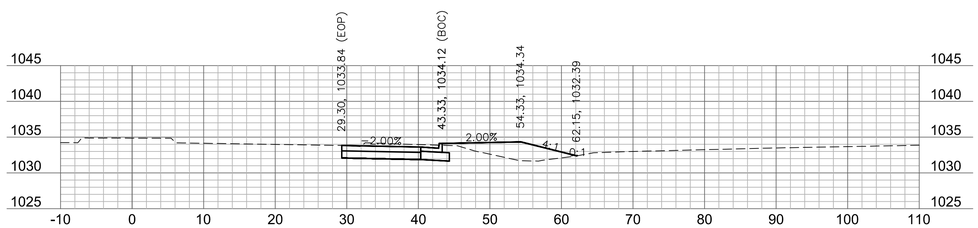

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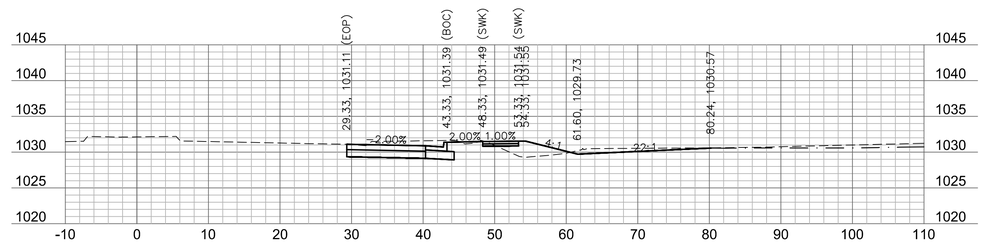

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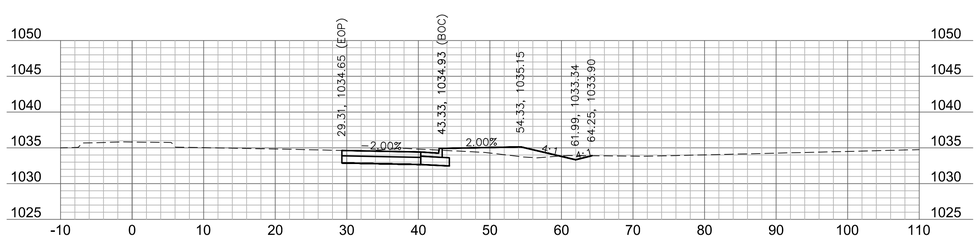

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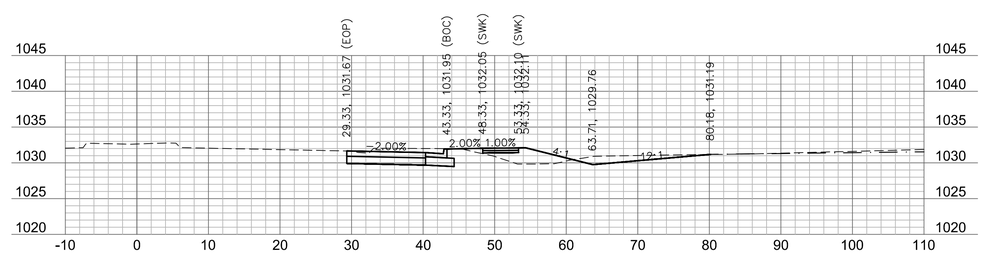

317+00

NOT AS-BUILT

0' 5' 10' 20'
SCALE IN FEET

20'
10'
5'
0'

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	2020.06.29	REVISIONS PER CITY COMMENTS	

REVISIONS

HIGHWAY 150
CROSS SECTION

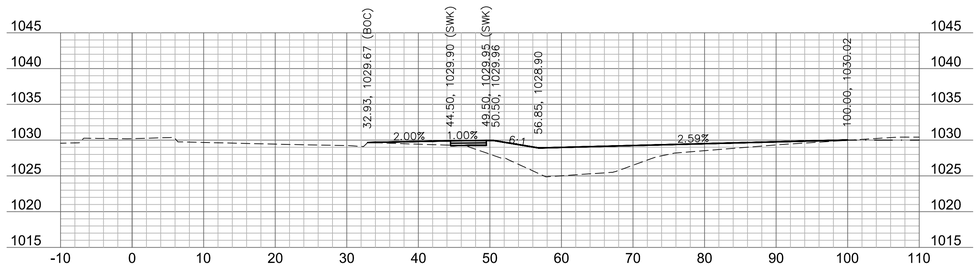
HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

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_XSC_A192339
date:	2020.07.09

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\CROSS SECTIONS\T_XSC_A192339.dwg USER: jgallagher
DATE: Jul 28, 2020 12:05am XREFS: T_PTBLK_A192339



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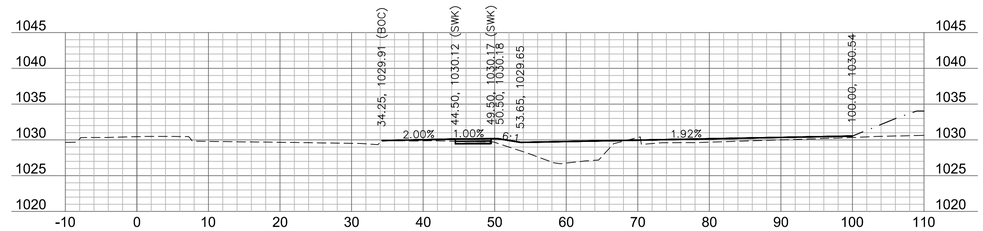

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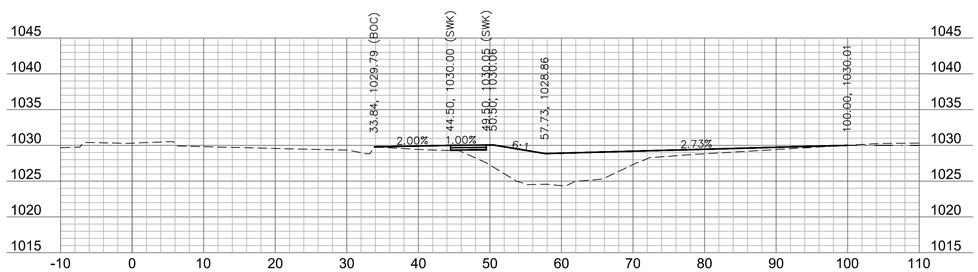

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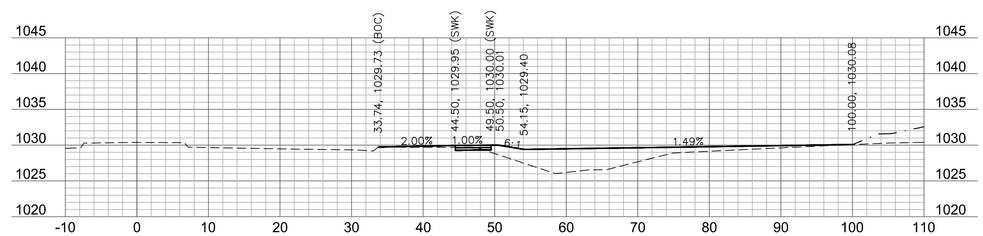

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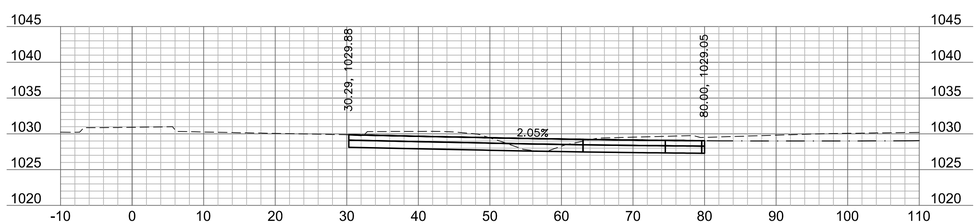

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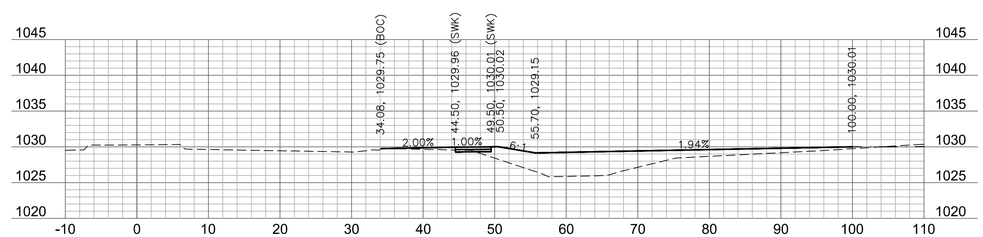

319+00

NOT AS-BUILT

0' 5' 10' 20'
SCALE IN FEET

0' 5' 10' 20'

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	2020.06.29	REVISIONS PER CITY COMMENTS	

REVISIONS

HIGHWAY 150
CROSS SECTION

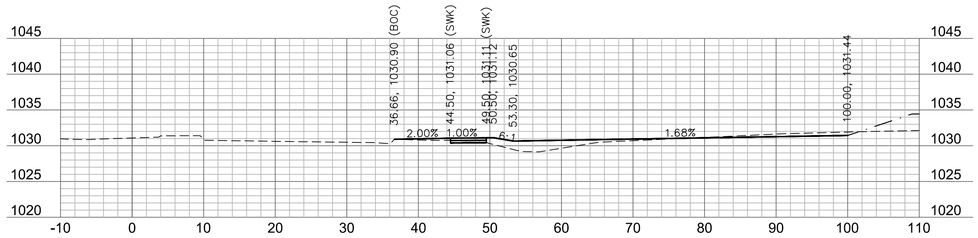
HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

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_XSC_A192339
date: 2020.07.09

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\CROSS SECTIONS\T_XSC_A192339.dwg USER: jgallagher
DATE: Jul 28, 2020 12:05am XREFS: T_PTBLK_A192339



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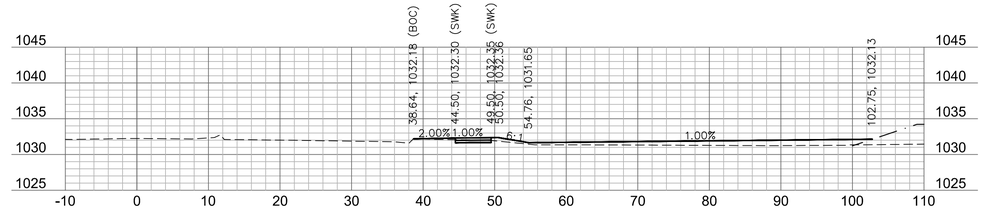

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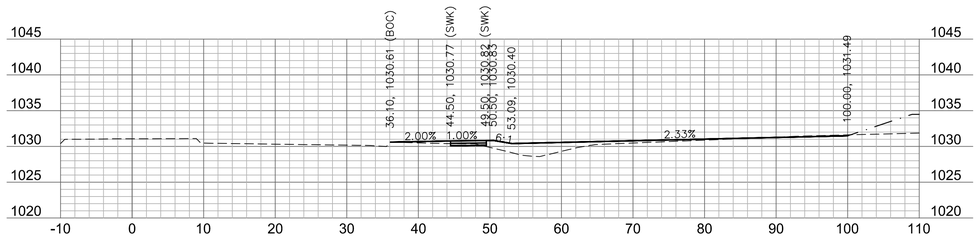

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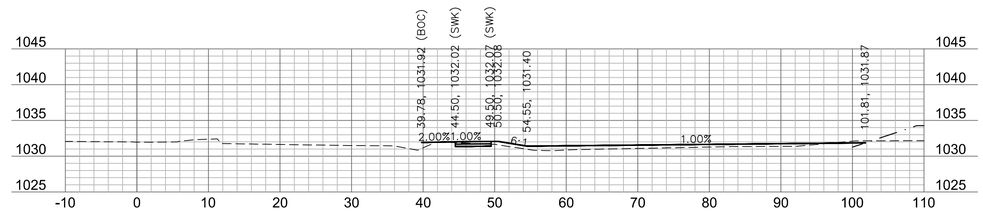

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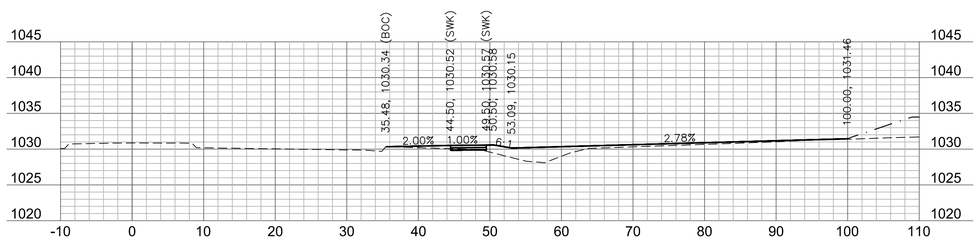

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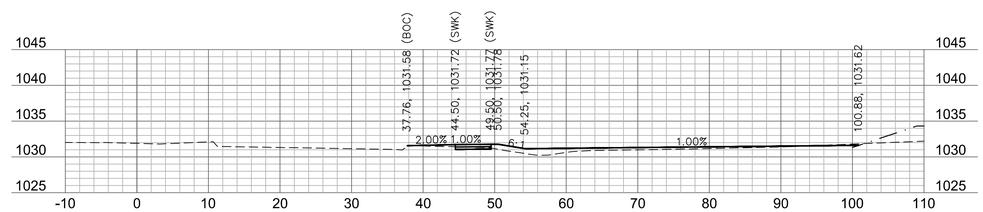

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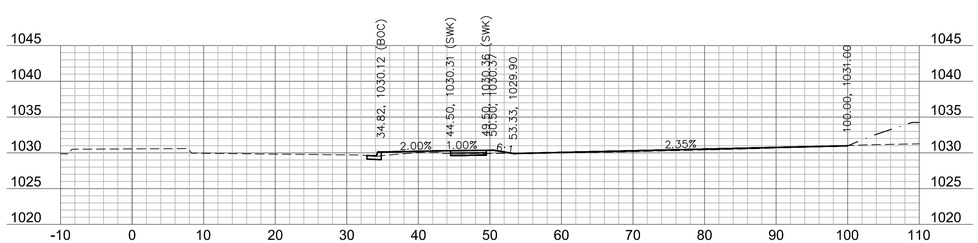

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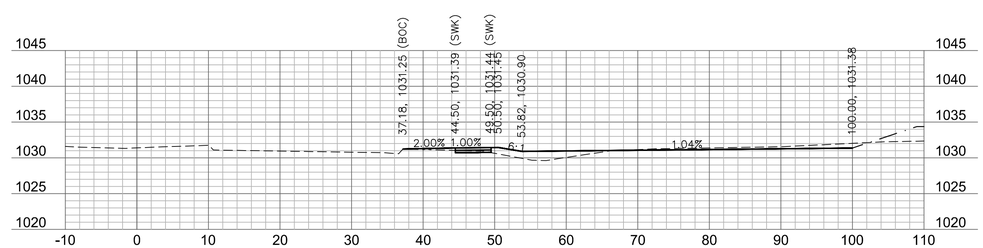

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NOT AS-BUILT

0' 5' 10' 20'
SCALE IN FEET

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Missouri Certificate of Authority #001592
1301 Burlington Street, Suite 100
North Kansas City, MO 64116 TEL 816.361.1177 www.olsson.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	2020.06.29	REVISIONS PER CITY COMMENTS	

REVISIONS

HIGHWAY 150
CROSS SECTION

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_XSC_A192339
date:	2020.07.09

SHEET
53 of 63

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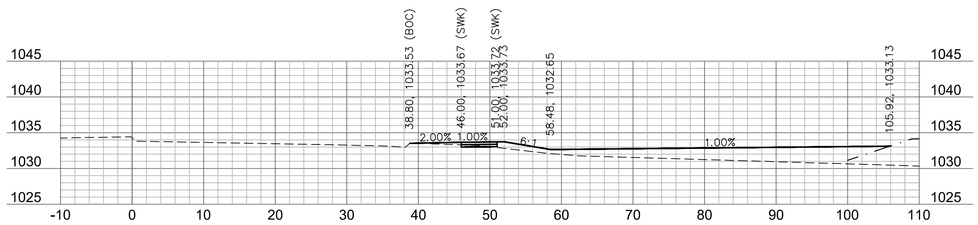
DATE: Jul 28, 2020 12:05am XREFS: T_PTBLK_A192339



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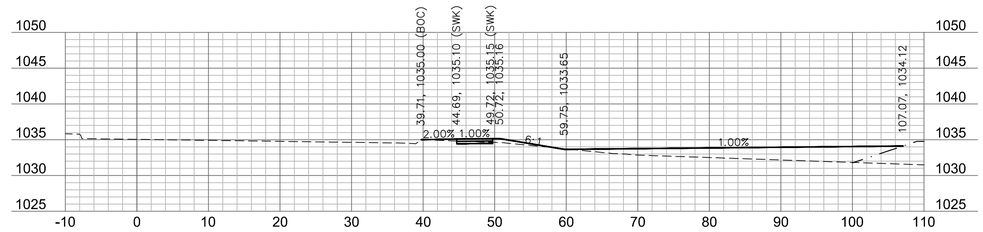

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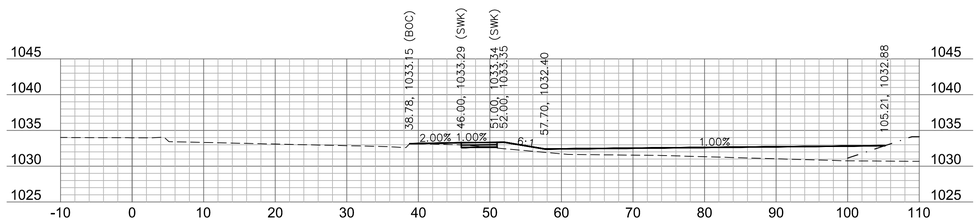

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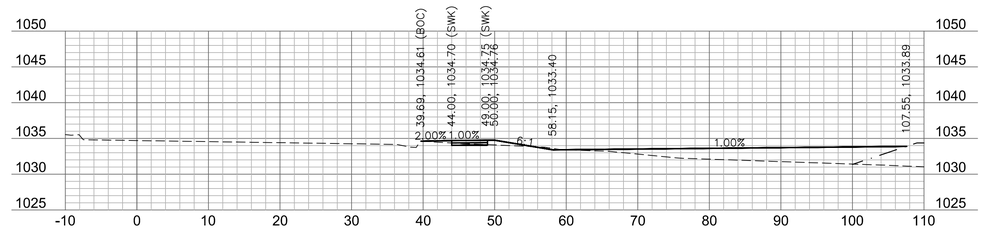

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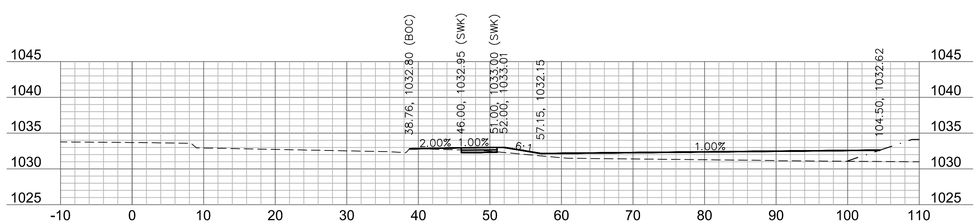

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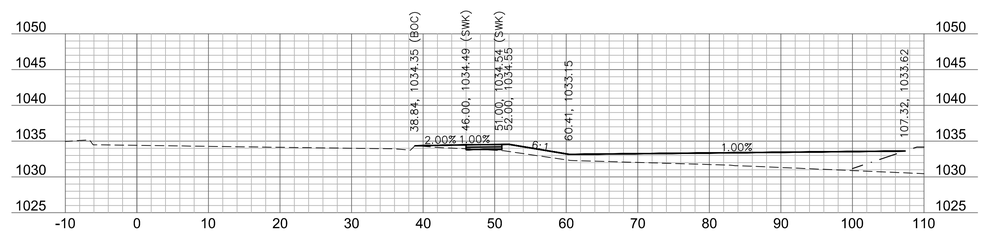

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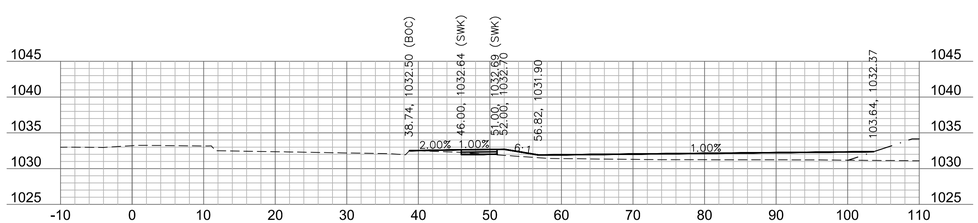

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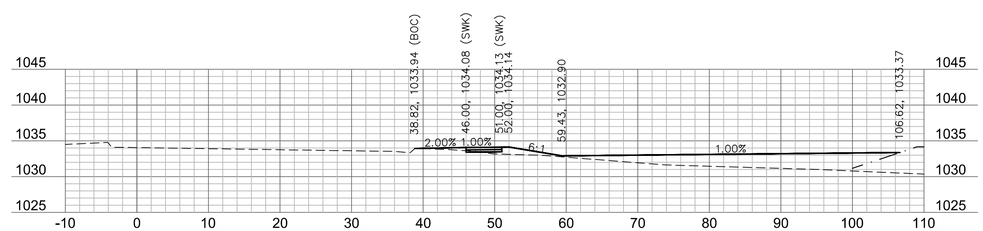

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NOT AS-BUILT

0' 5' 10' 20'
SCALE IN FEET

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1301 Burlington, Suite 104
North Kansas City, MO 64116 TEL 816.361.1177 www.olsson.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	2020.06.29	REVISIONS PER CITY COMMENTS	

REVISIONS

HIGHWAY 150
CROSS SECTION

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

2020

LEE'S SUMMIT, MO

drawn by:	AKU
checked by:	JPG
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project no.:	A19-2339
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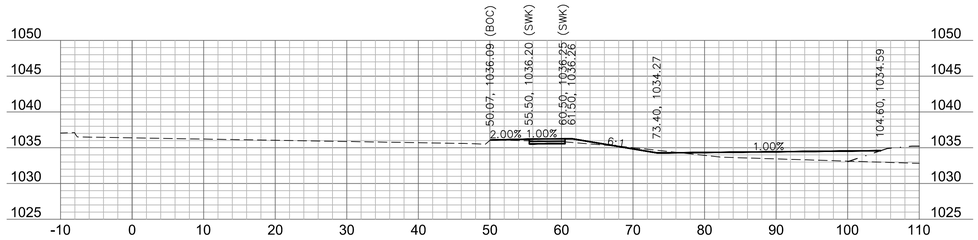
DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\CROSS SECTIONS\T_XSC_A192339.dwg USER: jgallagher
DATE: Jul 28, 2020 12:05am XREFS: T_PTBLK_A192339



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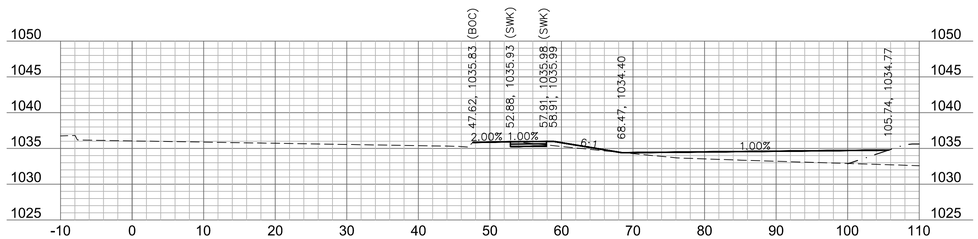

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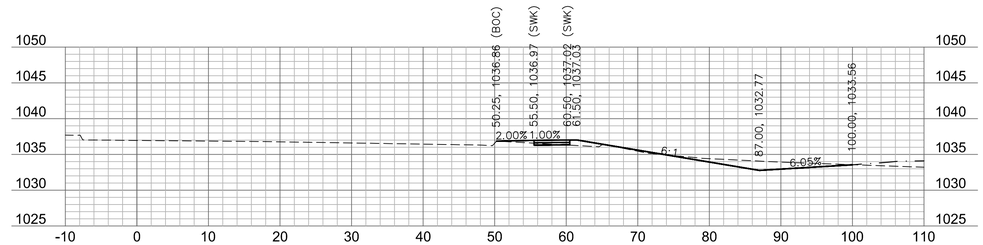

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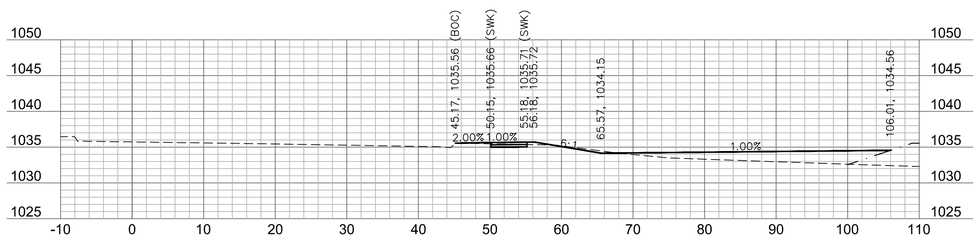

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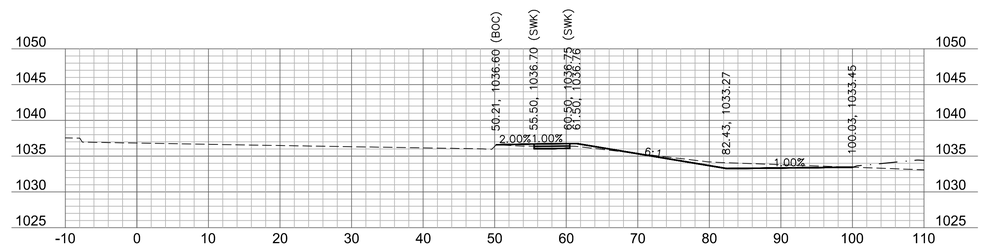

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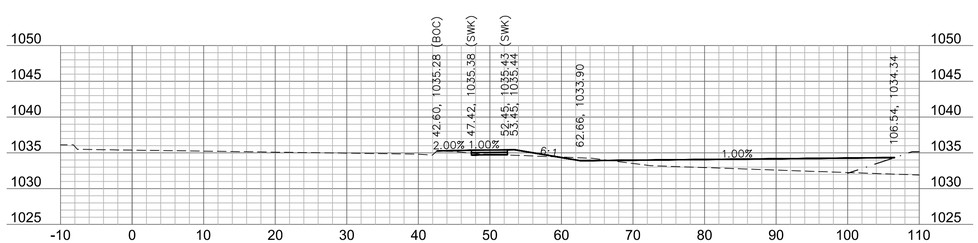

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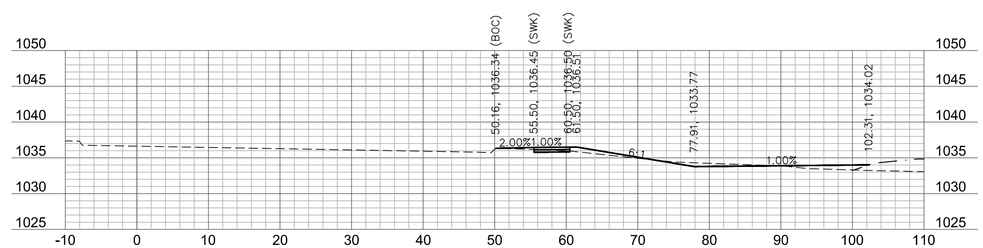

324+75

NOT AS-BUILT

0' 5' 10' 20'
SCALE IN FEET

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	2020.06.29	REVISIONS PER CITY COMMENTS	

REVISIONS

HIGHWAY 150
CROSS SECTION

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_XSC_A192339
date:	2020.07.09

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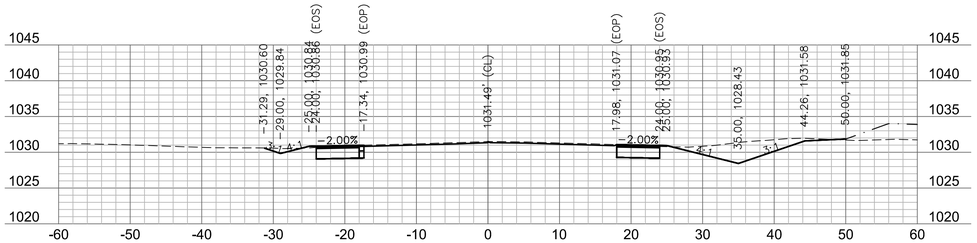
DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\CROSS SECTIONS\T_XSC_A192339.dwg USER: jgallagher
DATE: Jul 28, 2020 12:06am XREFS: T_PTBLK_A192339



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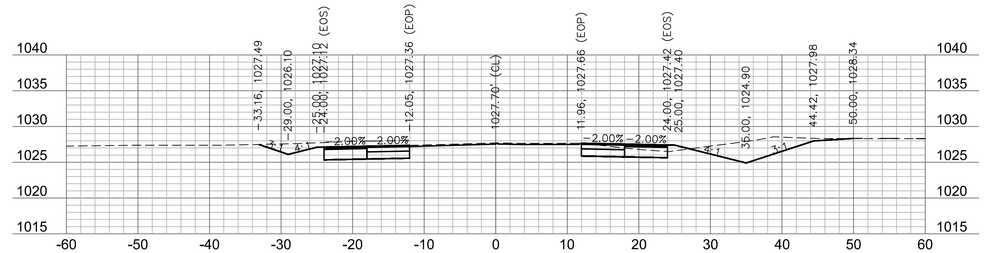

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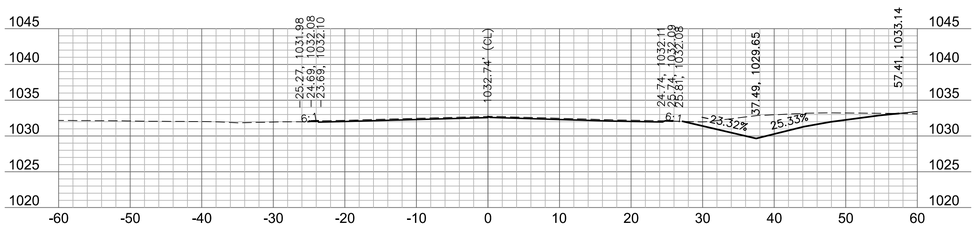

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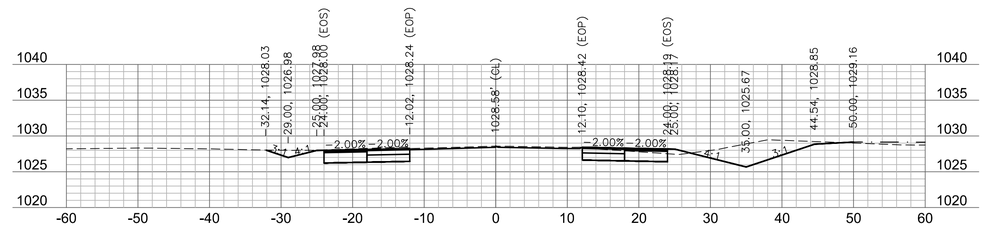

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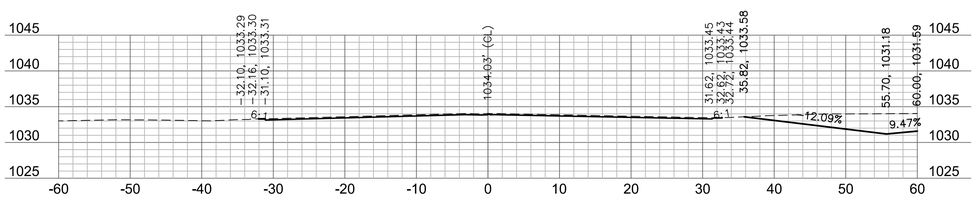

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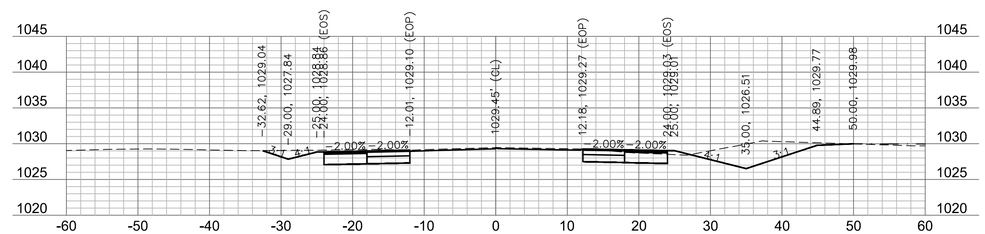

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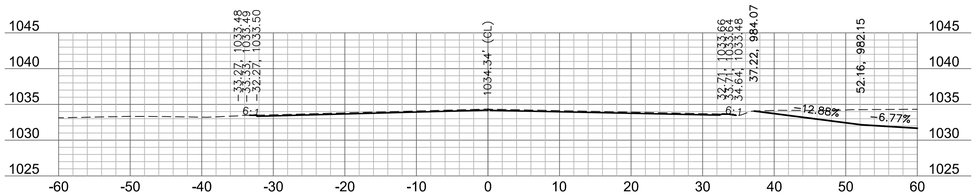

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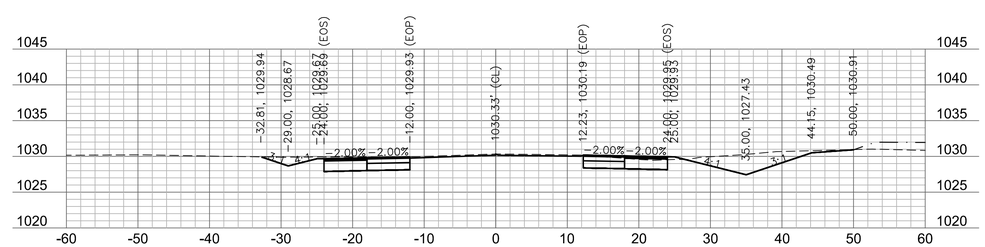

207+75

NOT AS-BUILT

SCALE IN FEET: 0' 5' 10' 20'

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REVISIONS

PRYOR ROAD
CROSS SECTION

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_XSC_A192339
date:	2020.07.09

SHEET
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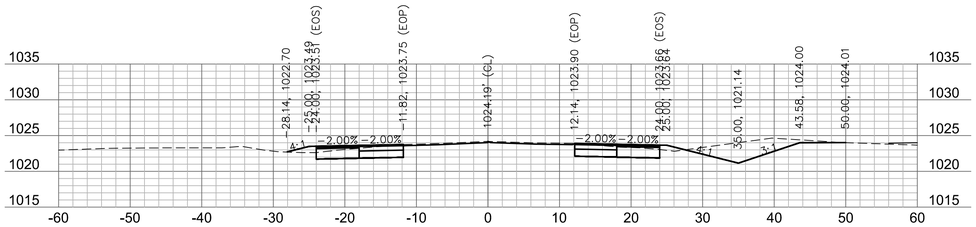
DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\CROSS SECTIONS\T_XSC_A192339.dwg USER: jgallagher
DATE: Jul 28, 2020 12:06am XREFS: T_PTBLK_A192339



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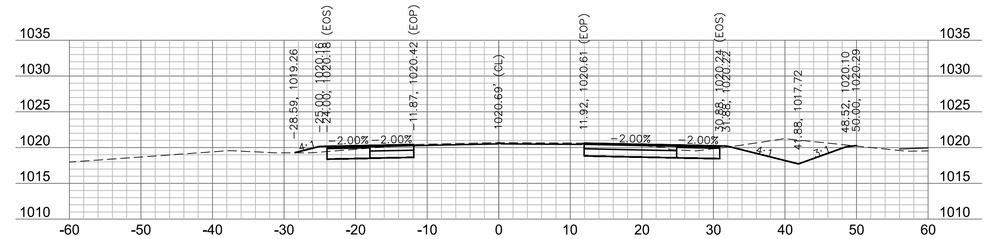

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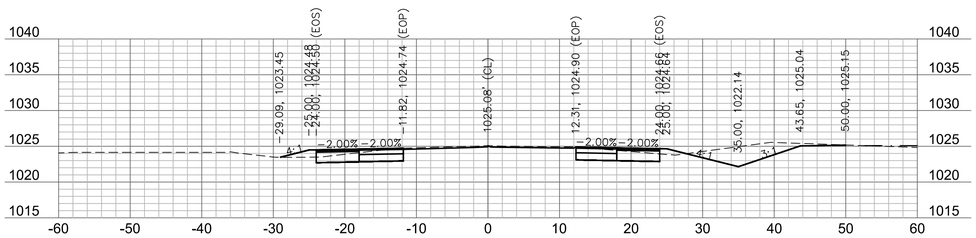

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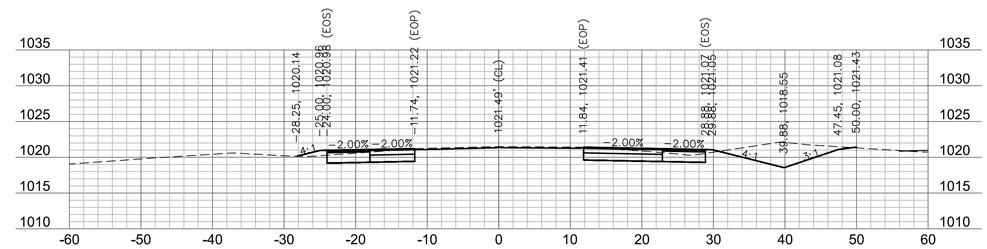

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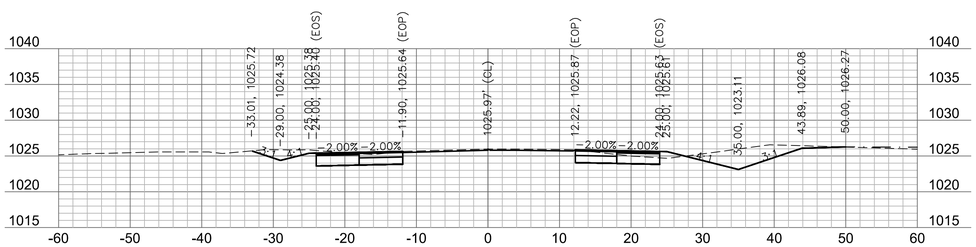

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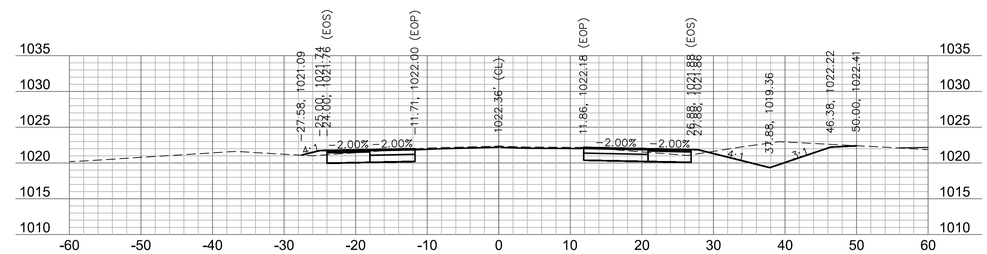

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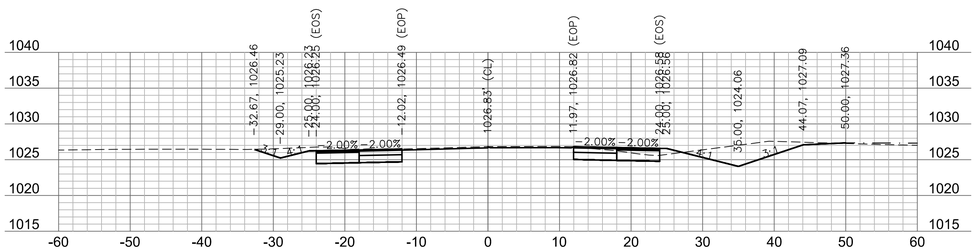

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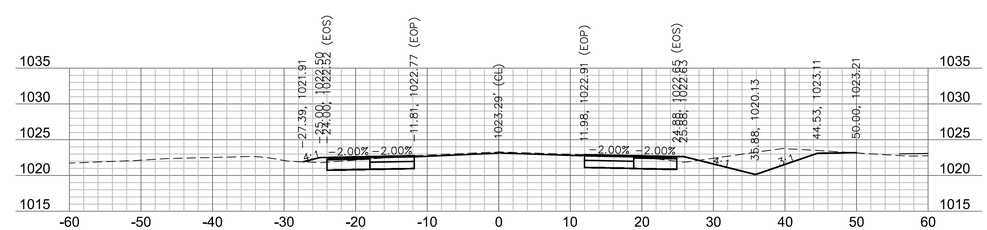

209+75

NOT AS-BUILT

0' 5' 10' 20'
SCALE IN FEET

20'
10'
5'
0'

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REVISIONS

PRYOR ROAD
CROSS SECTION

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

drawn by:	AKU
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project no.:	A19-2339
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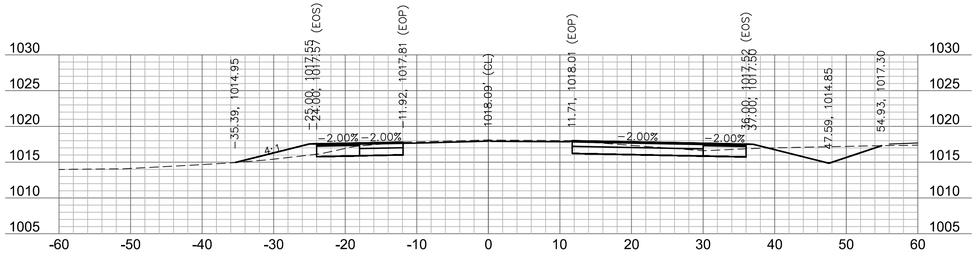

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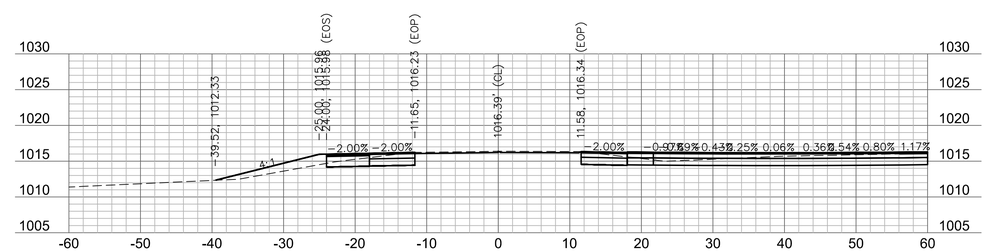

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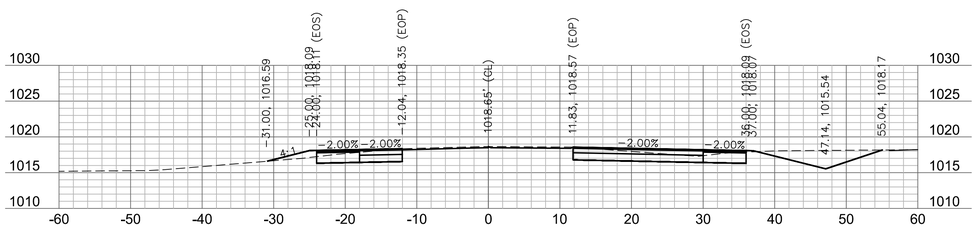

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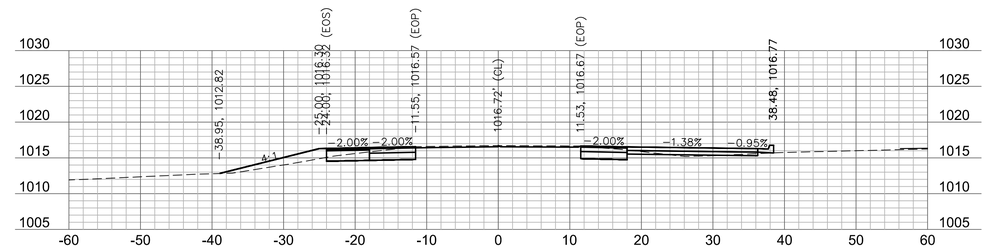

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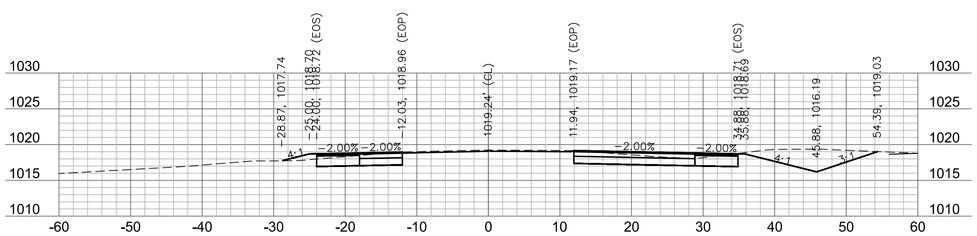

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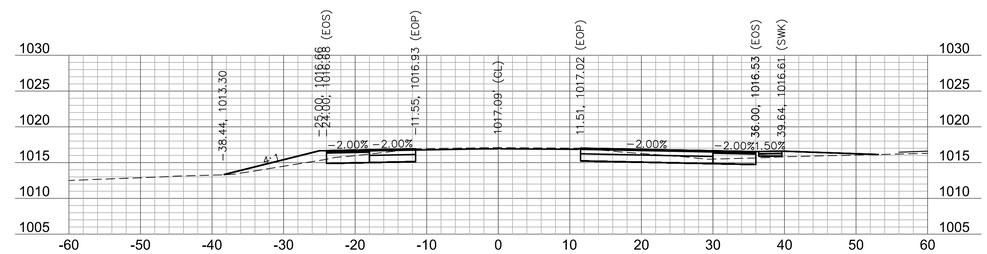

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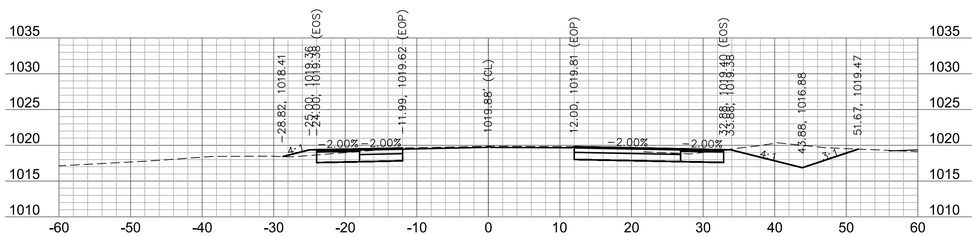

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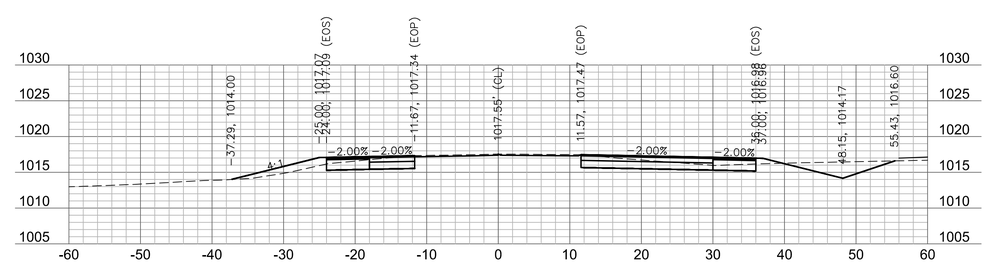

211+75

NOT AS-BUILT

0' 5' 10' 20'
SCALE IN FEET

20'
10'
5'
0'

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
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REVISIONS

HIGHWAY 150
CROSS SECTION

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

2020

LEE'S SUMMIT, MO

drawn by:	AKU
checked by:	JPG
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QA/QC by:	RBC
project no.:	A19-2339
drawing no.:	T_XSC_A192339
date:	2020.07.09

SHEET
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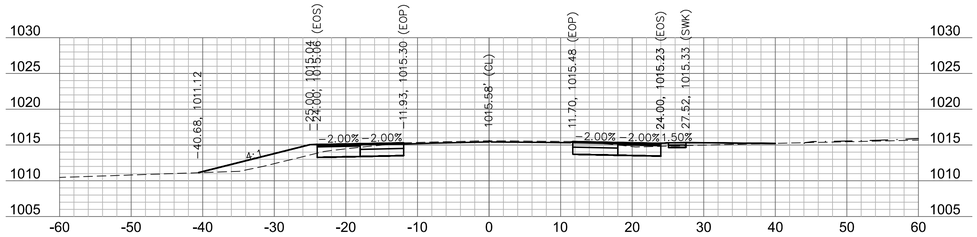
DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\CROSS SECTIONS\T_XSC_A192339.dwg USER: jgallagher
DATE: Jul 28, 2020 12:06am XREFS: T_PTBLK_A192339



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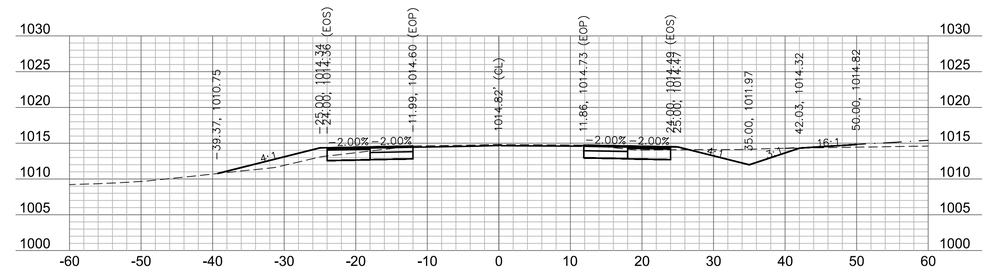

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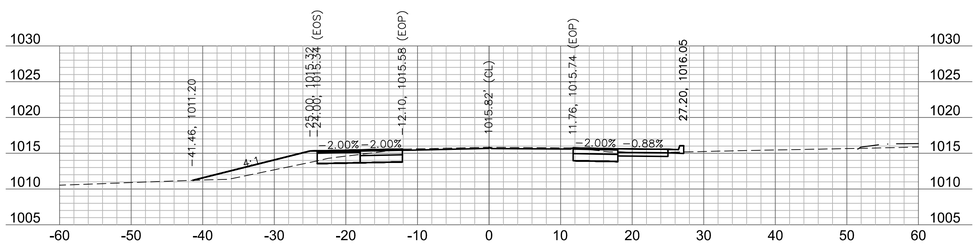

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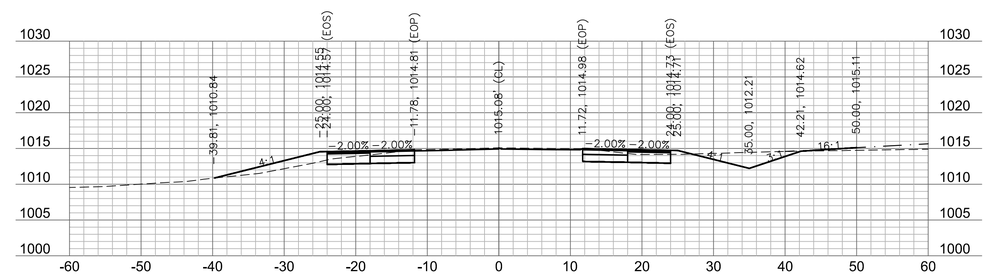

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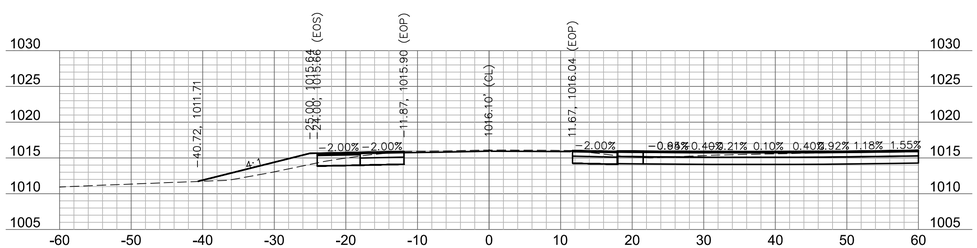

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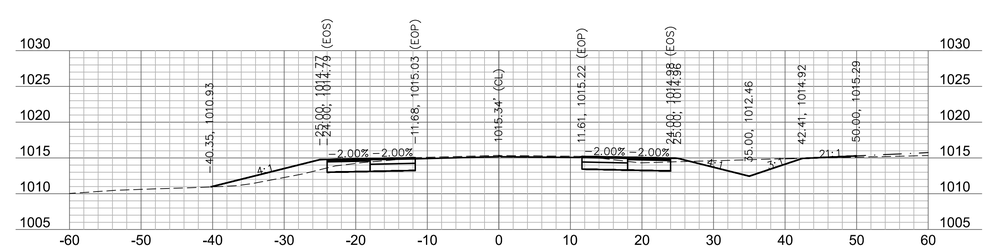

213+50

NOT AS-BUILT

SCALE IN FEET: 0' 5' 10' 20'

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PRYOR ROAD
CROSS SECTION

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

2020

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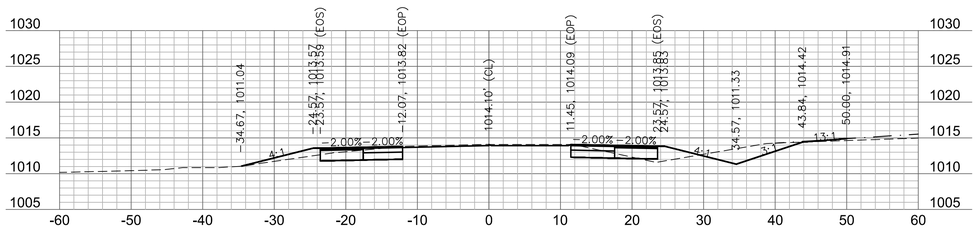

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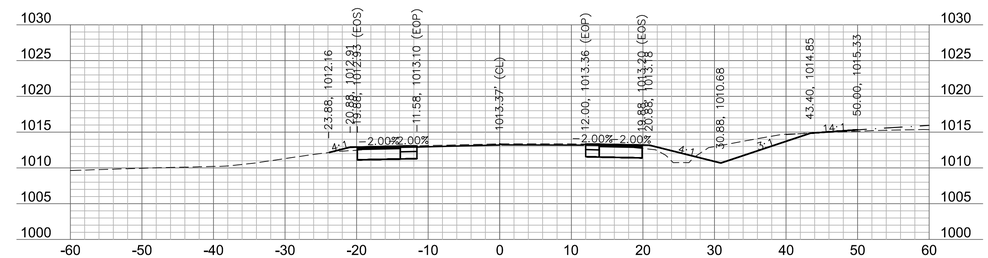

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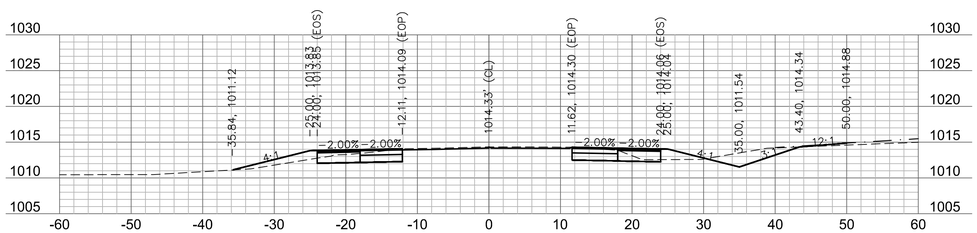

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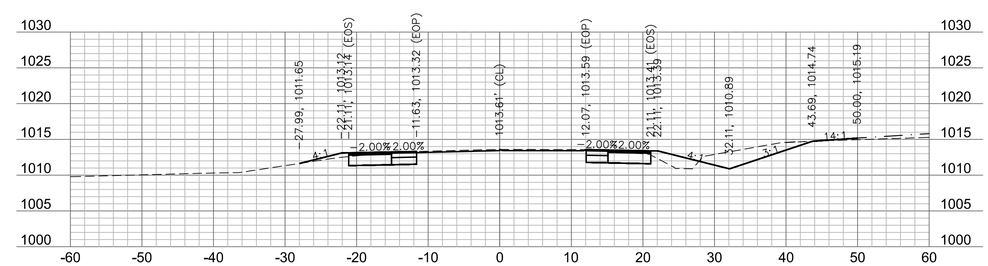

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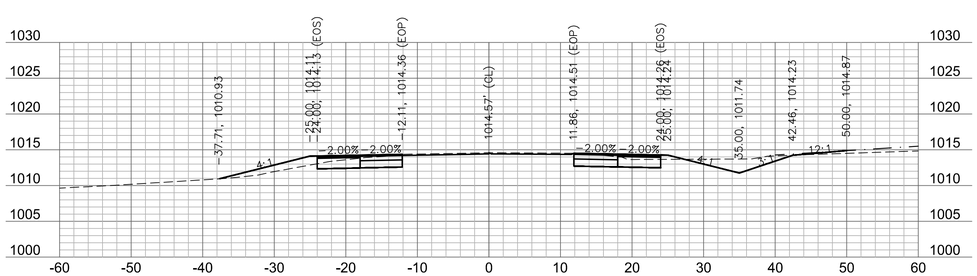

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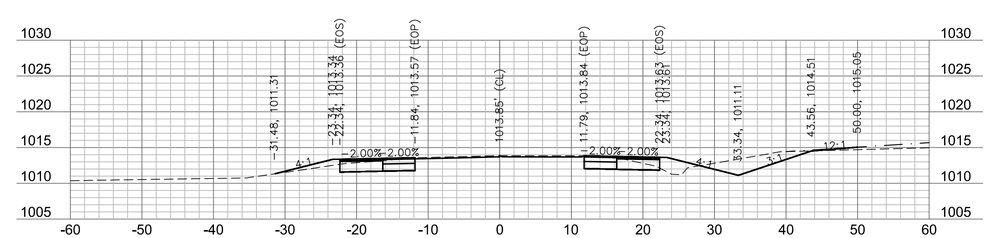

215+00

NOT AS-BUILT

0' 5' 10' 20'
SCALE IN FEET

20' 10' 5' 0'

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REVISIONS

PRYOR ROAD
CROSS SECTION

HIGHWAY 150 & PRYOR ROAD
ROADWAY IMPROVEMENTS

LEE'S SUMMIT, MO

2020

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project no.: A19-2339
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SHEET
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DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\CROSS SECTIONS\T_XSC_A192339.dwg USER: jgallagher
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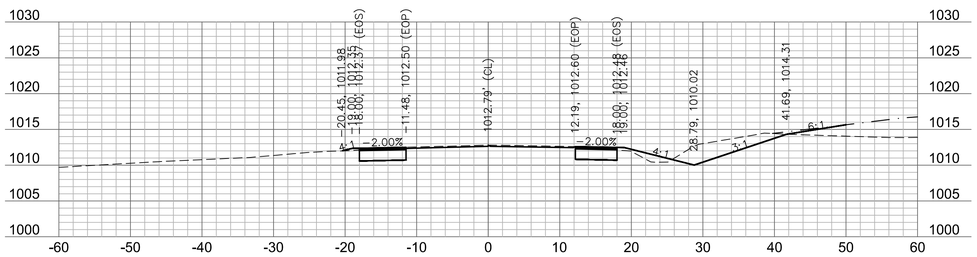

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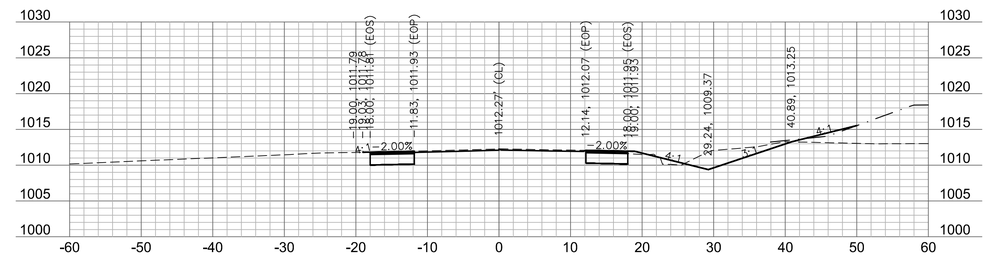

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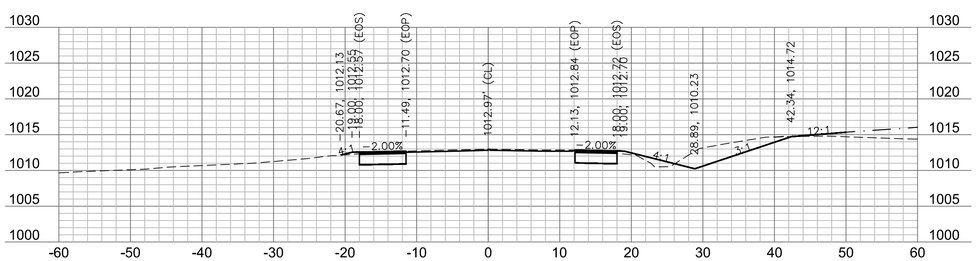

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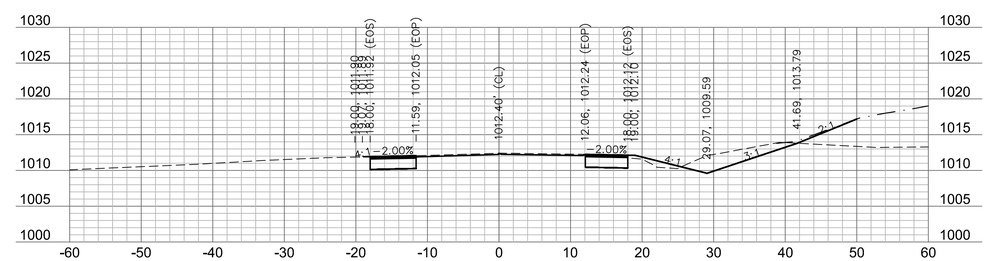

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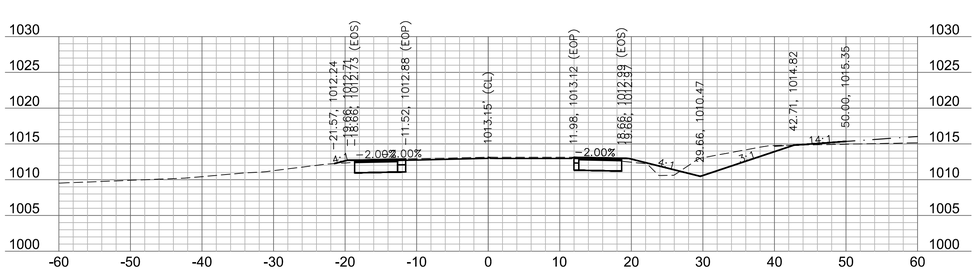

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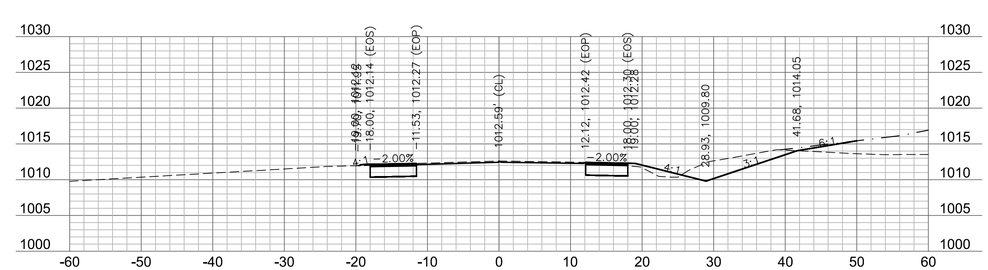

216+50

NOT AS-BUILT

0' 5' 10' 20'
SCALE IN FEET

0' 5' 10' 20'

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QA/QC by: RBC
project no.: A19-2339
drawing no.: T_XSC_A192339
date: 2020.07.09

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DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\RDBR\CROSS SECTIONS\T_XSC_A192339.dwg USER: jgallagher
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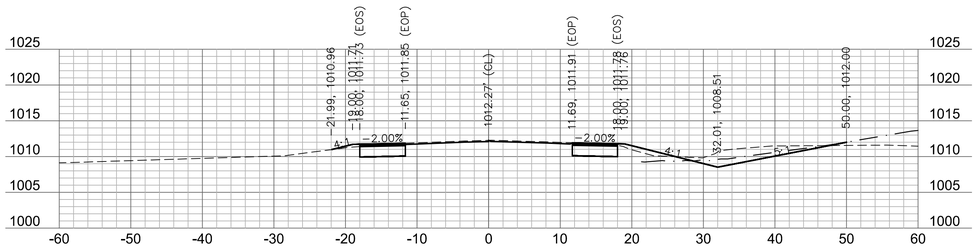

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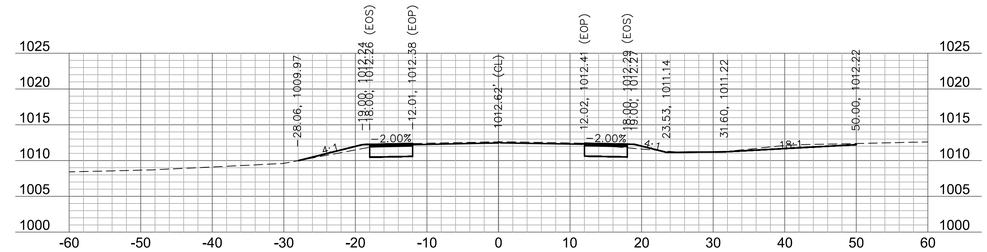

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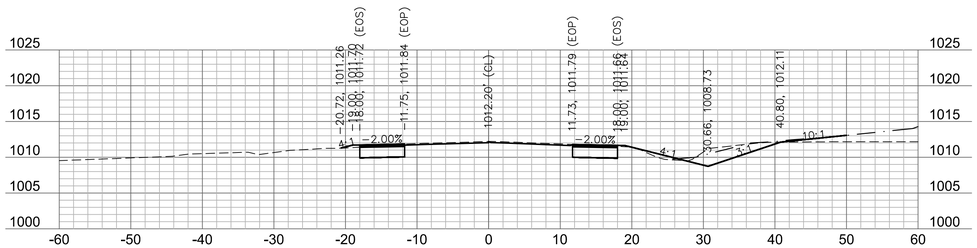

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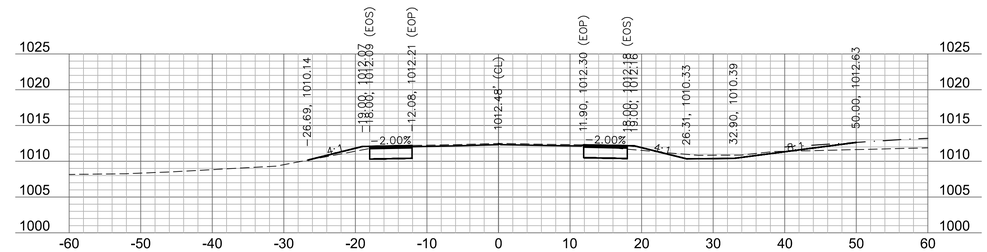

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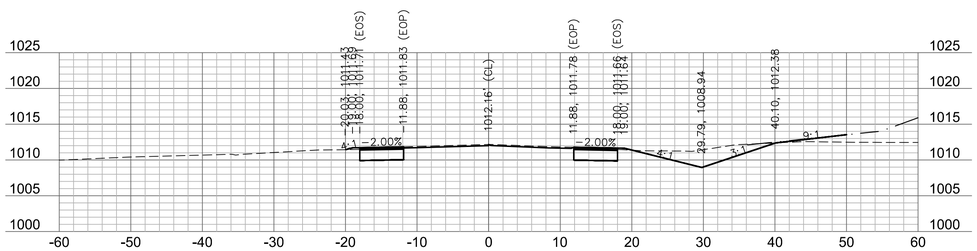

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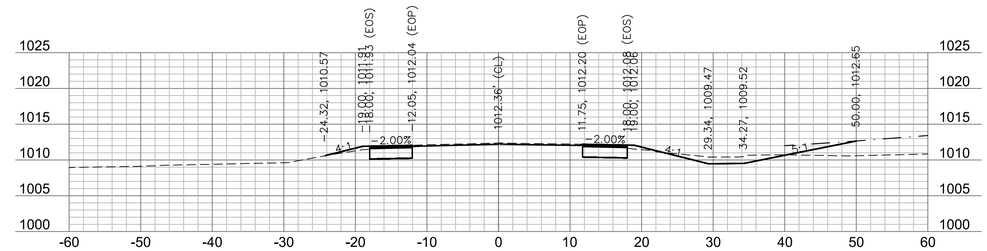

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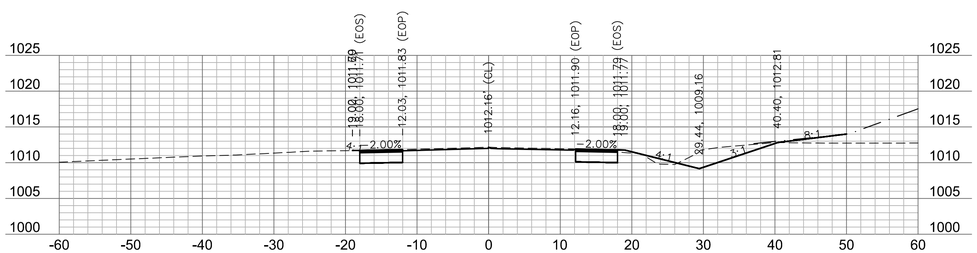

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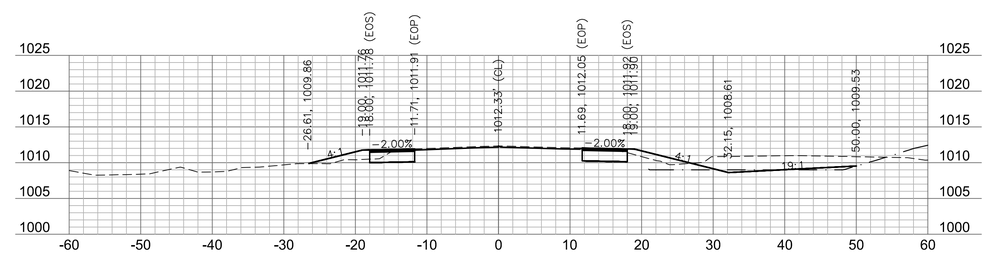

218+25

NOT AS-BUILT

0' 5' 10' 20'
SCALE IN FEET

20'
10'
5'
0'

olsson

Olsson - Civil Engineering
Missouri Certificate of Authority #001592
1301 Burlington Street, Suite 100
North Kansas City, MO 64116 TEL 816.361.1177 www.olsson.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	2020.06.29	REVISIONS PER CITY COMMENTS	

REVISIONS

PRYOR ROAD
CROSS SECTION

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
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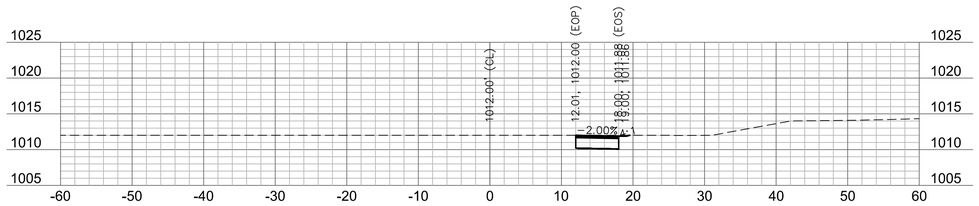

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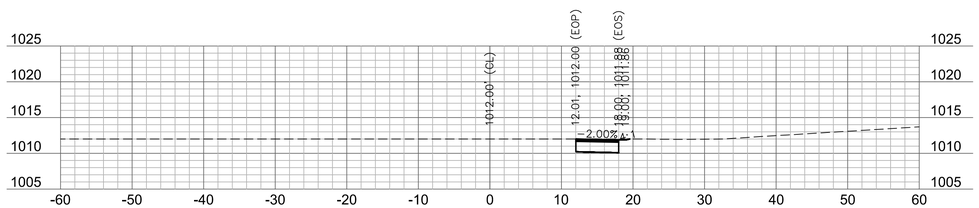

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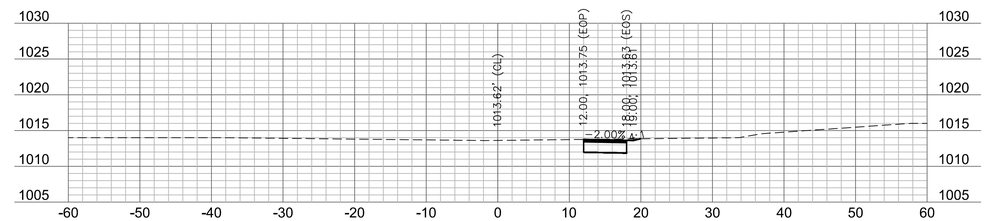

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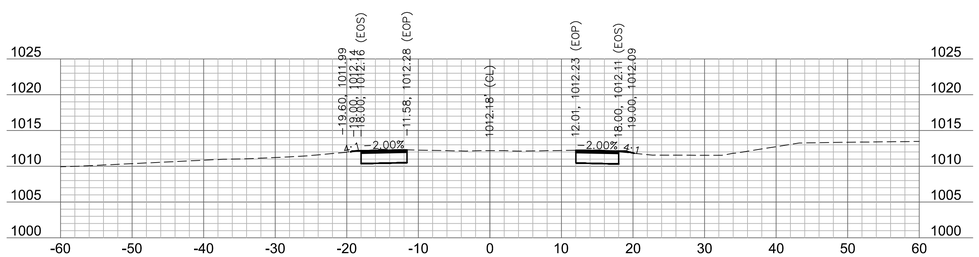

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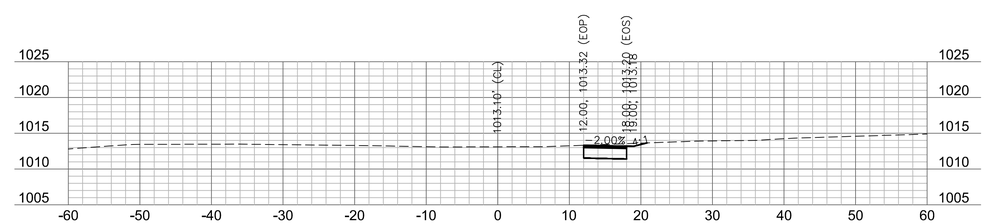

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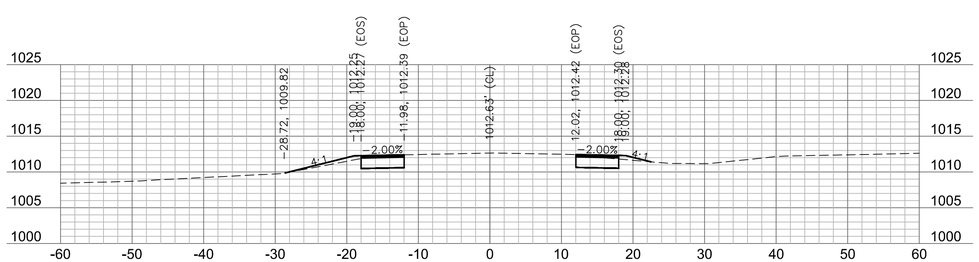

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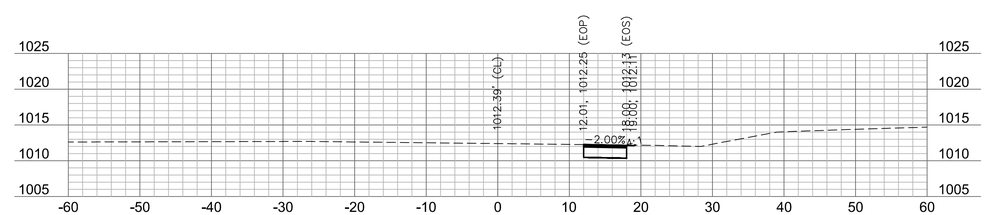

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