THE VILLAGE AT DISCOVERY PARK COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

SECTION 30, TOWNSHIP 48 NORTH, RANGE 31 WEST

CITY OF LEE'S SUMMIT
JACKSON COUNTY, MISSOURI

PROJECT TEAM CONTACT LIST
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PROJECT LOCATION



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LEGEND

CTL	SURVEY CONTROL POINT		TRAFFIC SIGNAL BOX
	SURVEY BENCHMARK		TRAFFIC SIGNAL MANHOLE
TBM	SURVEY TEMPORARY BEMCHMARK		TRAFFIC SIGNAL POLE W/ ARM
GM	GAS METER		TRAFFIC SIGNAL POLE
GAR	GAS RISER		TRAFFIC SIGNAL CONTROL BOX
	GAS MANHOLE	TS	TRAFFIC SIGNAL PEDESTAL
GR	GAS REGULATOR		ELECTRIC MANHOLE
TVP	TELEVISION PEDESTAL	EM	ELECTRIC METER
	FIBER BOX	ER	ELECTRIC RISER
	FIBER PEDESTAL		ELECTRIC BOX
	CABLE BOX		ELECTRIC CABINET
CV	CABLE VAULT		ELECTRIC JUNCTION BOX
TP	TELEPHONE PEDESTAL	SPH	SPRINKLER HEAD
	STORM MANHOLE	SCV	SPRINKLER CONTROL VALVE
	STORM GRATE		WATER METER PIT
	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
BU	STUMP		WOOD POST
	BUSH		STEEL POST
	EVERGREEN TREE	COL	COLUMN
	DECIDUOUS TREE		BORE HOLE

NOT TO SCALE

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

ASPHALT
CONCRETE SIDEWALK
CONCRETE MEDIAN STRIP
FULL DEPTH CONCRETE

DESIGN DESIGNATION

COLBERN ROAD
DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH
DOUGLAS STREET
DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH

STREET CLASSIFICATION

COLBERN ROAD = MAJOR ARTERIAL
DOUGLAS STREET = MAJOR ARTERIAL

LENGTH OF PROJECT

COLBERN ROAD
BEGINNING OF PROJECT = 90+10.77
END OF PROJECT = 102+67.49
PROJECT LENGTH = 1256.72 FT. (0.24 MI.)
DOUGLAS STREET
BEGINNING OF PROJECT = 200+00.00
END OF PROJECT = 213+52.96
PROJECT LENGTH = 1352.96 FT. (0.26 MI.)

LOCATION MAP

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

UTILITY EMERGENCY CONTACTS DURING CONSTRUCTION

AT&T – DISTRIBUTION
TIM BUSHART
816-803-2608

SPIRE
PEGGY BURNS-YOCUM
816-969-2218

LUMEN TECHNOLOGIES
SANDRA MUNOZ-CABUYA
913-748-2602

LEE'S SUMMIT WATER UTILITY
JOSH ROACH
816-969-1940

EVERGY
BRANDON TIESING
816-245-3659

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!!

PREPARED & SUBMITTED BY:

OLSSON
1301 BURLINGTON STREET
NORTH KANSAS CITY, MO 64116

JAMES P. GALLAGHER, P.E. — 9/28/2023 DATE

I CERTIFY THESE PLANS WERE PREPARED BY ME OR UNDER MY IMMEDIATE PERSONAL SUPERVISION.

REVIEWED BY:

CITY OF LEE'S SUMMIT, MISSOURI

DATE

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STATE OF MISSOURI
JAMES PATRICK GALLAGHER
NUMBER PE-2010010499
PROFESSIONAL ENGINEER
9/28/2023

REVISIONS DESCRIPTION | DATE | REV. NO.

TITLE SHEET

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS
LEE'S SUMMIT, MISSOURI
2023

drawn by: BJW
checked by: KLW
approved by: JPG
QA/QC by: JJW
project no.: 021-04643
drawing no.: T_TTL01_D02104643
date: 7/14/2023

SHEET 1 OF 86

DWG: F:\2021\04501-05000\021-04643-D\40-Design\AutoCAD\Final Plans\Sheets\RDWY\T_TTL01_D02104643.dwg
DATE: Sep 28, 2023 4:04am
XREFS: T_PTBLK_D02104643 T_PBASE_D02104643 C_FROAD_D02104643
USER: kwilliams2

DWG: F:\2021\04501-05000\021-04643-D\4D-Design\AutoCAD\Final Plans\Sheets\RDWY\T_GEN01_D02104643.dwg USER: kwilliams2
DATE: Sep 28, 2023 4:06am XREFS: C_PBNDY_D2104643 C_PBASE_D2104643 C_FROAD_D2104643 T_PTBLK_D02104643
C_XALTA_B2104643 T_PBASE_D02104643 T_PSTRM_D02104643

PROPERTY BOUNDARY

PROPERTY BOUNDARY

EXIST. R/W

EXIST. SANITARY SEWER EASEMENT

PROP. ROADWAY EASEMENT

PROP. R/W

℄ TRAILSEDGE BLVD

℄ ALURA WAY

℄ LAKESIDE COURT

℄ DOUGLAS STREET

℄ DISCOVERY AVENUE

℄ COLBERN ROAD

IMPROVEMENTS BY OTHERS (TYP.)

TRAILSEDGE BLVD

ALURA WAY

LAKESIDE COURT

DOUGLAS STREET

DISCOVERY AVENUE

COLBERN ROAD

PC: 36+70.16

PT: 38+44.54

PI: 40+00

PI: 10+95.69

PT: 45+18.78

PC: 43+85.24

PT: 33+64.85

PRC: 32+53.46

PC: 31+99

CPT #50

PT: 95+76.37

PC: 88+75.46

PT: 83+89.55

PI: 14+66.40

DOUGLAS STREET STA: 204+45.70
LAKESIDE COURT STA: 22+96.48

TRAILSEDGE BOULEVARD STA: 30+02.54
COLBERN ROAD STA: 93+39.60

DISCOVERY AVENUE STA: 14+98.84
COLBERN ROAD STA: 99+07.86

COLBERN ROAD STA: 105+90.42
DOUGLAS STREET STA: 214+21.11

SHEET 13

SHEET 14

SHEET 15

SHEET 16

SHEET 17

SHEET 18

0' 50' 100' 200'
SCALE IN FEET

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STATE OF MISSOURI
JAMES WALTER GALLAGHER
NUMBER PE-2018010499
PROFESSIONAL ENGINEER
9/18/2023

REV. NO.	DATE	REVISIONS DESCRIPTION
		REVISIONS

GENERAL LAYOUT

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

2023

drawn by: BJW
checked by: KLW
approved by: JPG
QA/QC by: JJW
project no.: 021-04643
drawing no.T_GEN01_D02104643
date: 7/14/2023

SHEET
2 OF 86

Olsson Control Information:
Control Point #50
½" imbedded cap on the north side of NW Colbern Road. It is in the 1st field entrance west of NE Douglas Street.
Project Coordinates
N – 1012389.819
E – 2822108.784
Leveled Elev. = 990.810

Control Point #51
Set ½" imedded cap on the SW corner of Colbern Road and Main Street.
Project Coordinates
N – 1011606.604
E – 2817819.852
Leveled Elev. = 933.299

Control Point #52
Set ½" imbedded cap on the south side of Main Street where Main Street turns east on the south side of I–470.
N – 1009320.343
E – 2818811.269
Leveled Elev. = 930.892

Control Point #53
Set ½" imbedded cap on the east side of Douglas Street just south of the I–470 interchange. In the NW corner of the parking lot to the old Outback.
N – 1011007.340
E – 2823445.284
Leveled Elev. = 988.436

Control Point #54
Set ½" imbedded cap on the south side of the NE Douglas Street where it bends back north. At the SE corner of The Cure Church Lee's Summit.
N – 1014987.406
E – 2823402.976
Leveled Elev. = 930.478

Control Point #55
Set ½" imbedded cap on the east side of Douglas at the driveway for house 2545.
N – 1015699.81
E – 2821686.038
Leveled Elev. = 935.054

COLBERN ROAD

NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
C1	PC=	79+41.74	1011913.6889	2820768.5448	447.81'	N78°19'22"E	12°49'44"	224.85'	2000.00'
	PI=	81+66.59	1011934.3124	2820992.4440					
	PT=	83+89.55	1012004.1358	2821206.1749					
L1		83+89.55	1012004.1358	2821206.1749	485.90'	N71°54'30"E			
		88+75.46	1012155.0268	2821668.0554					
C2	PC=	88+75.46	1012155.0268	2821668.0554	700.91'	N81°56'54"E	20°04'47"	354.09'	2000.00'
	PI=	92+29.54	1012264.9841	2822004.6372					
	PT=	95+76.37	1012252.7006	2822358.5115					
L2		95+76.37	1012252.7006	2822358.5115	1576.28'	S88°00'43"E			
		111+52.65	1012198.0183	2823933.8401					

LAKESIDE CT

NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L6		20+00.00	1013200.1060	2823102.5947	296.48'	S88°32'29"E			
		22+96.48	1013192.5593	2823398.9795					

DOUGLAS STREET

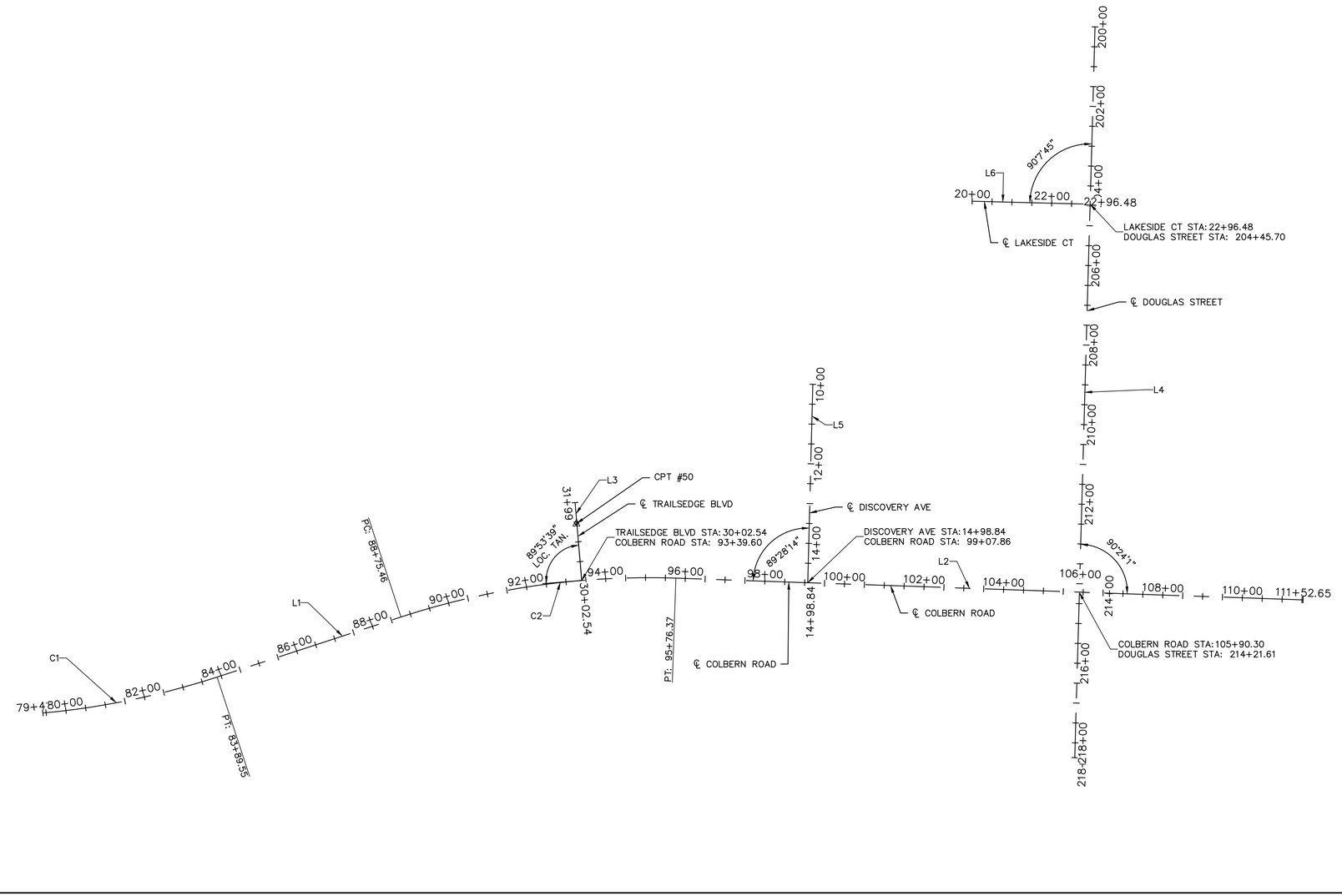
NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L4		200+00.00	1013638.0866	2823411.3299	1837.20'	S1°35'16"W			
		218+37.20	1011801.5907	2823360.4207					

TRAILSEDGE BLVD

NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L3		30+02.54	1012246.9048	2822121.9488	196.46'	N4°54'03"W			
		31+99.00	1012442.6423	2822105.1649					

DISCOVERY AVE

NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L5		10+00.00	1012739.8841	2822702.5032	498.84'	S1°27'31"W			
		14+98.84	1012241.2008	2822689.8055					



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STATE OF MISSOURI
JAMES WILLIAM GALLAGHER
NUMBER PE-2010010499
PROFESSIONAL ENGINEER
9/18/2023

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

ALIGNMENT DATA & SURVEY CONTROL

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

2023

drawn by: BJW
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project no.: 021-04643
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date: 7/14/2023

DWG: F:\2021\04501-05000\021-04643-D\40-Design\AutoCAD\Final Plans\Sheets\RDWY\T_LAY01_D02104643.dwg USER: kwilliams2
DATE: Sep 28, 2023 4:06am XREFS: C_XALTA_B2104643 T_PTBLK_D02104643

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.
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. 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.
36. 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	LS	1
2	CLEARING AND GRUBBING	LS	1
3	DEMOLITION AND REMOVALS	LS	1
4	CONTRACTOR SURVEYING AND STAKING	LS	1
5	UNCLASSIFIED EXCAVATION	CY	2525
6	COMPACTING EMBANKMENT	CY	6812
7	EMBANKMENT (BORROW)	CY	4287
8	AGGREGATE BASE COURSE TYPE 5 (4")	SQYD	1330
9	AGGREGATE BASE COURSE TYPE 5 (6")	SQYD	3651
10	GEOGRID	SQYD	3651
11	ASPHALTIC CONCRETE SURFACE (2")	SQYD	964
12	PORTLAND CEMENT CONCRETE PAVEMENT (9")	SQYD	1705
13	PORTLAND CEMENT CONCRETE PAVEMENT (10")	SQYD	953
14	COLORED CONCRETE PAVEMENT (9")	SQYD	30
15	COLORED CONCRETE PAVEMENT (12")	SQYD	17
16	COLORED AND STAMPED CONCRETE PAVEMENT (9")	SQYD	60
17	COLORED AND STAMPED CONCRETE PAVEMENT (12")	SQYD	44
18	CONCRETE SIDEWALK (4")	SF	11439
19	CONRETE SIDEWALK RAMP (6")	SF	553
20	DETECTABLE WARNING SURFACE	SF	146
21	CURB AND GUTTER (TYPE CG-1)	LNFT	2929
22	CONCRETE MEDIAN (4")	SQYD	122
23	CONCRETE MEDIAN STRIP (6")	SQYD	42
24	15" RCP	LF	458.5
25	4'X3' CURB INLET	EACH	2
26	6'X3' CURB INLET	EACH	2
27	8'X3' CURB INLET	EACH	3
28	JUNCTION BOX CONVERSION	EACH	2
29	CONNECTION TO EXISTING CURB INLET	EACH	2
30	CONNECTION TO EXISTING RCB	EACH	2
31	SEEDING AND SODDING	LS	1
32	TEMPORARY EROSION CONTROL	LS	1
33	PAVEMENT MARKING AND SIGNING	LS	1
34	TRAFFIC CONTROL	LS	1
35	STREET LIGHTING MODIFICATION	LS	1
36	TRAFFIC SIGNAL MODIFICATION	LS	1

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STATE OF MISSOURI
JAMES WILLIAM GALLAGHER
NUMBER PE-2010010499
7/14/2023
PROFESSIONAL ENGINEER

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

GENERAL NOTES AND SUMMARY OF QUANTITIES

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS
LEE'S SUMMIT, MISSOURI

2023

drawn by: BJW
checked by: KLW
approved by: JPG
QA/QC by: JJW
project no.: 021-04643
drawing no.: T_QTY01_D02104643
date: 7/14/2023

SHEET 4 OF 86

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USER: kwilliams2

IMPROVEMENTS BY OTHERS (TYP.)

EXIST. GAS EASEMENT

GRADING LIMITS

MATCHLINE 93+00.00

+71 44.02' LT

+73.74 34.00' LT

SAWCUT

CURB REMOVAL

℄ COLBERN ROAD

93+00

92+00

91+00

90+00

89+00

88+00

COLBERN ROAD

CURB REMOVAL

SAWCUT

+10.77 8.00' RT

PC: 88+75.46

EXIST. WATERLINE (TYP.)

EXIST. R/W

PROP R/W
SEE COLBERN ROAD
RECONSTRUCTION PLANS

EXIST. GAS EASEMENT

NOTE:
DEMOLITION PLANS ARE THE ENGINEER'S BEST EFFORT TO IDENTIFY ALL ITEMS TO BE REMOVED. ADDITIONAL ITEMS FOUND DURING CONSTRUCTION SHALL BE CONSIDERED SUBSIDIARY TO THE BID ITEM "REMOVAL OF IMPROVEMENTS"

SEE PUBLIC WATER MAIN EXTENSION PLANS FOR LIMITS OF WATERLINE ABANDONMENT

LEGEND

SIDEWALK REMOVAL

PAVEMENT REMOVAL

CURB AND GUTTER REMOVAL

N

0' 10' 20' 40'
SCALE IN FEET

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DEMOLITION & REMOVALS
COLBERN ROAD

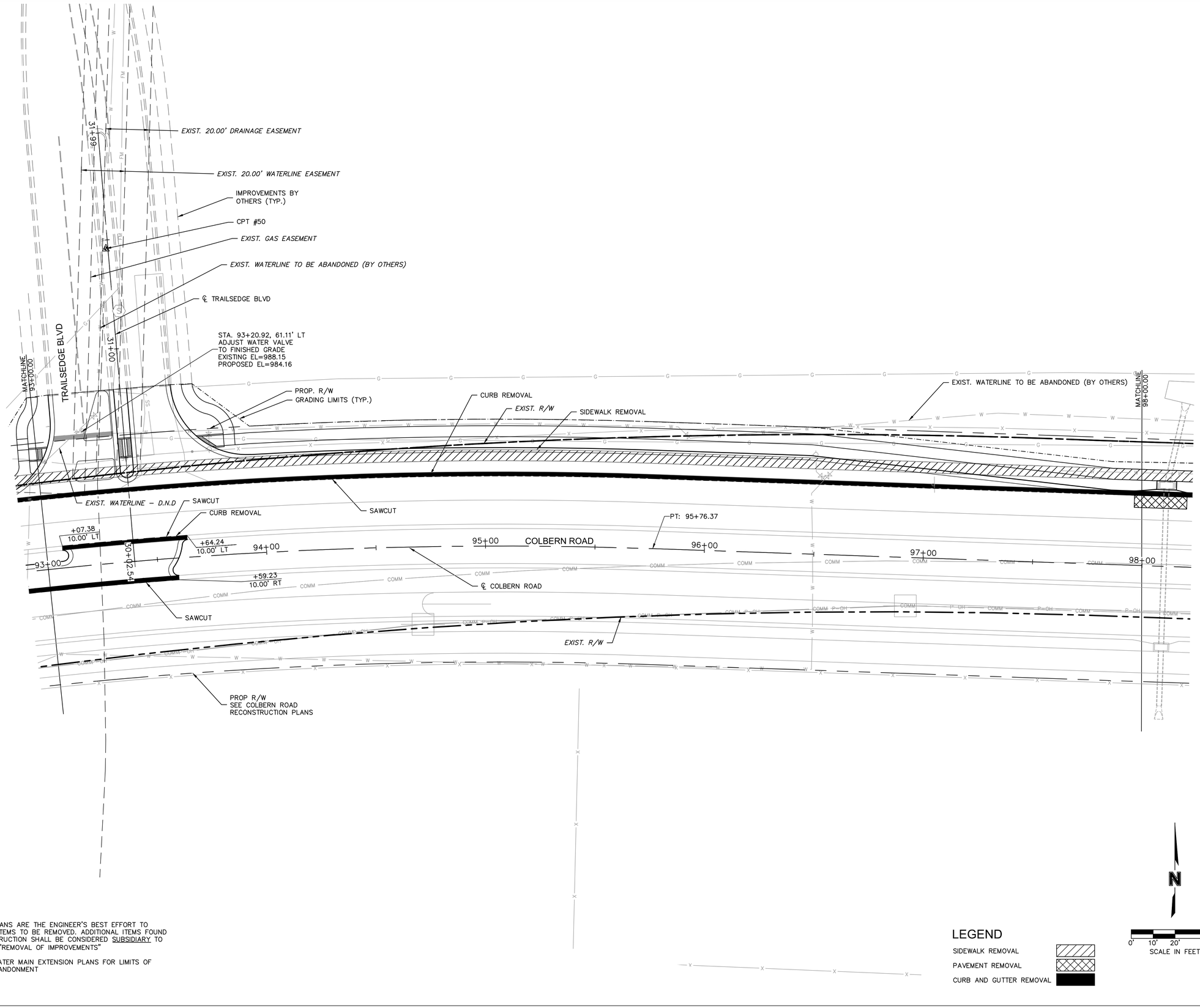
THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

2023

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COLBERN ROAD

THE VILLAGE AT DISCOVERY PARK
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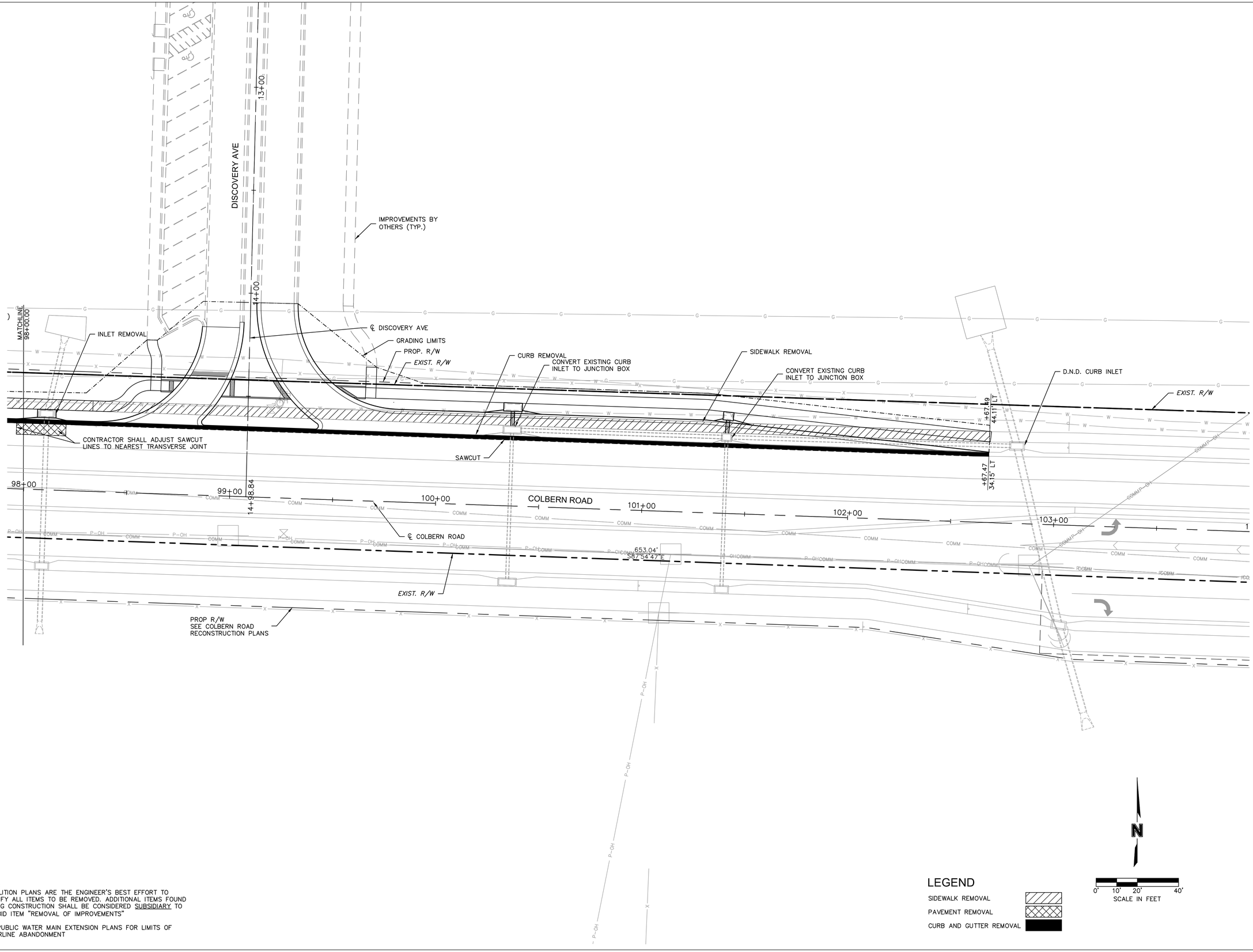
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- SIDEWALK REMOVAL
- PAVEMENT REMOVAL
- CURB AND GUTTER REMOVAL

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DEMOLITION & REMOVALS
COLBERN ROAD

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

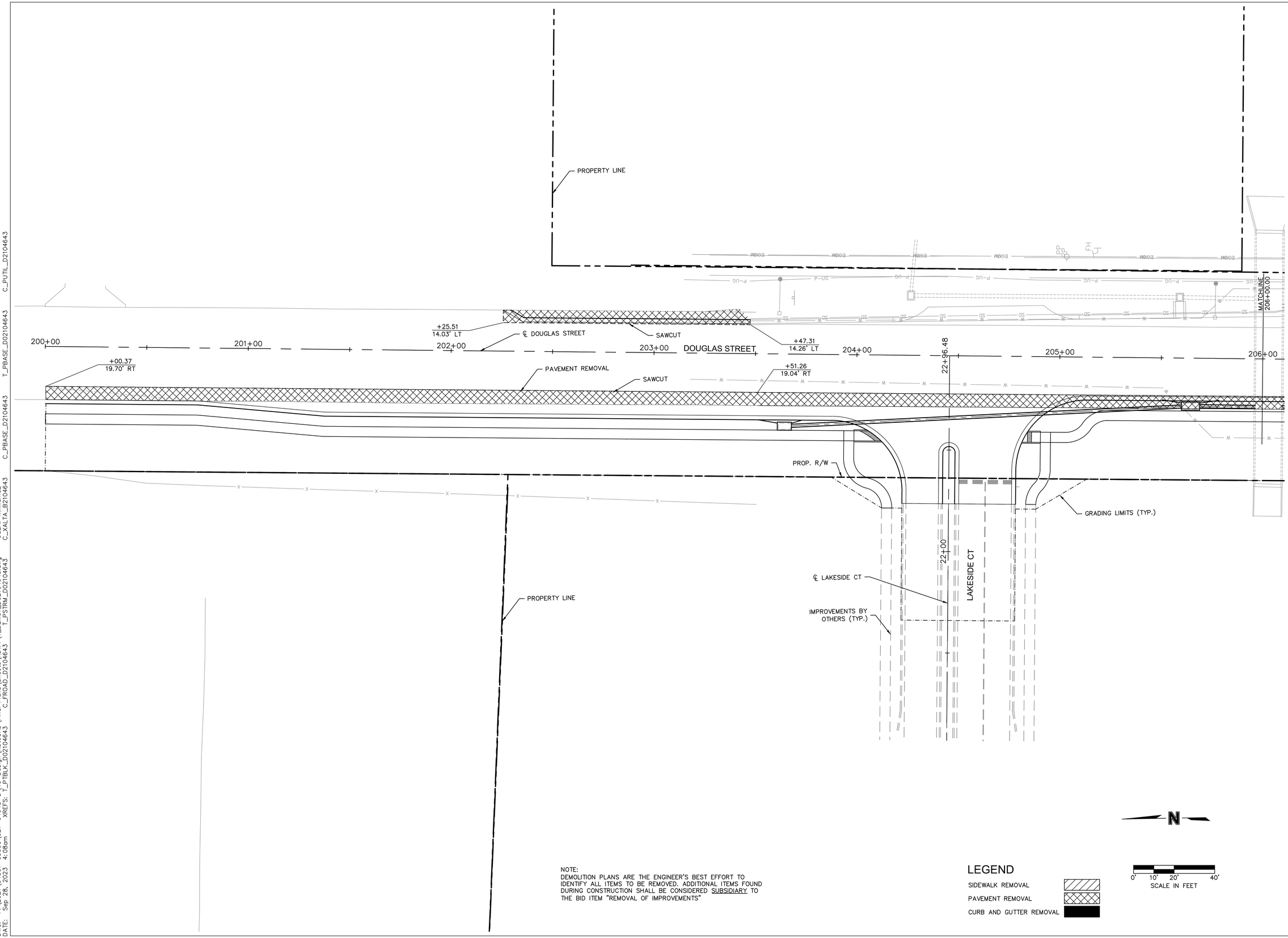
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DEMOLITION & REMOVALS
DOUGLAS STREET

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

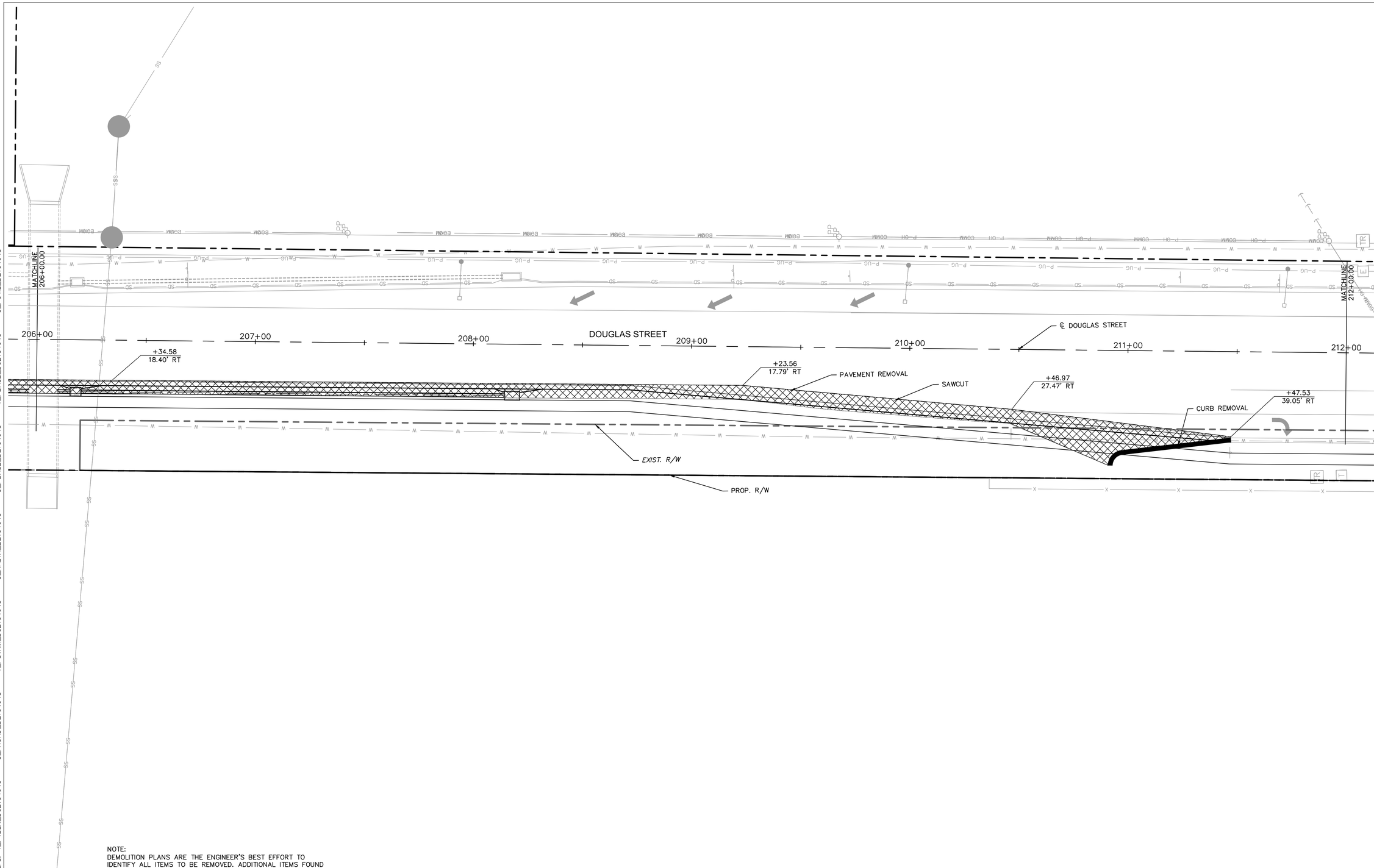
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LEGEND

SIDEWALK REMOVAL

PAVEMENT REMOVAL

CURB AND GUTTER REMOVAL

N

0' 10' 20' 40'
SCALE IN FEET

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DOUGLAS STREET

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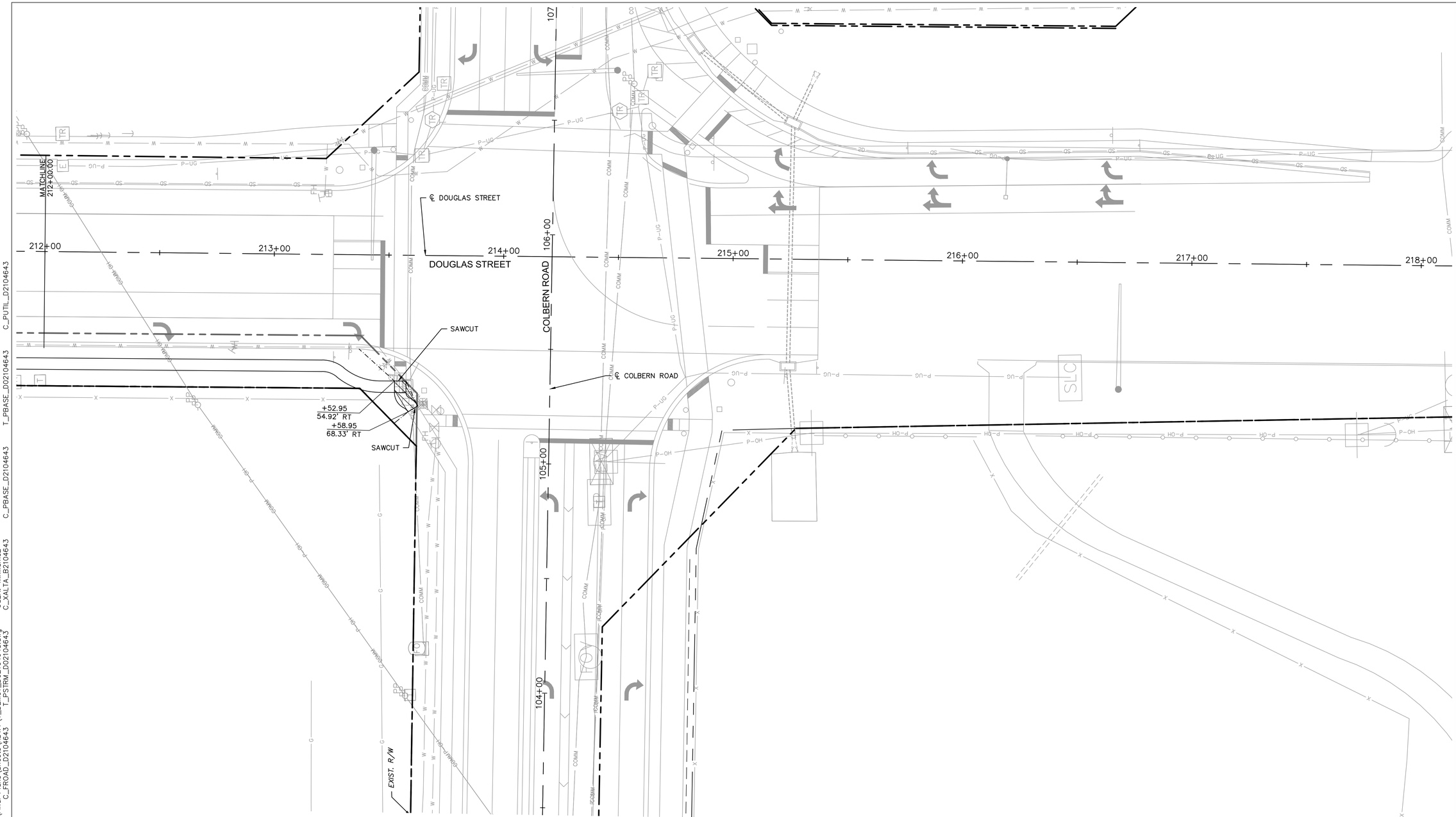
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LEGEND

- SIDEWALK REMOVAL
- PAVEMENT REMOVAL
- CURB AND GUTTER REMOVAL

N

0' 10' 20' 40'
SCALE IN FEET

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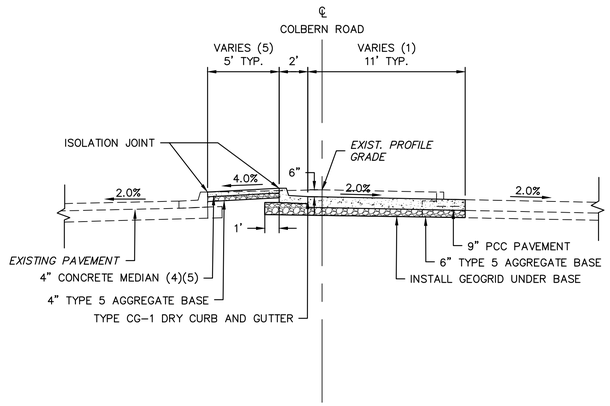
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TYPICAL SECTION - COLBERN ROAD

STA. 90+10.77 TO STA. 93+64.24

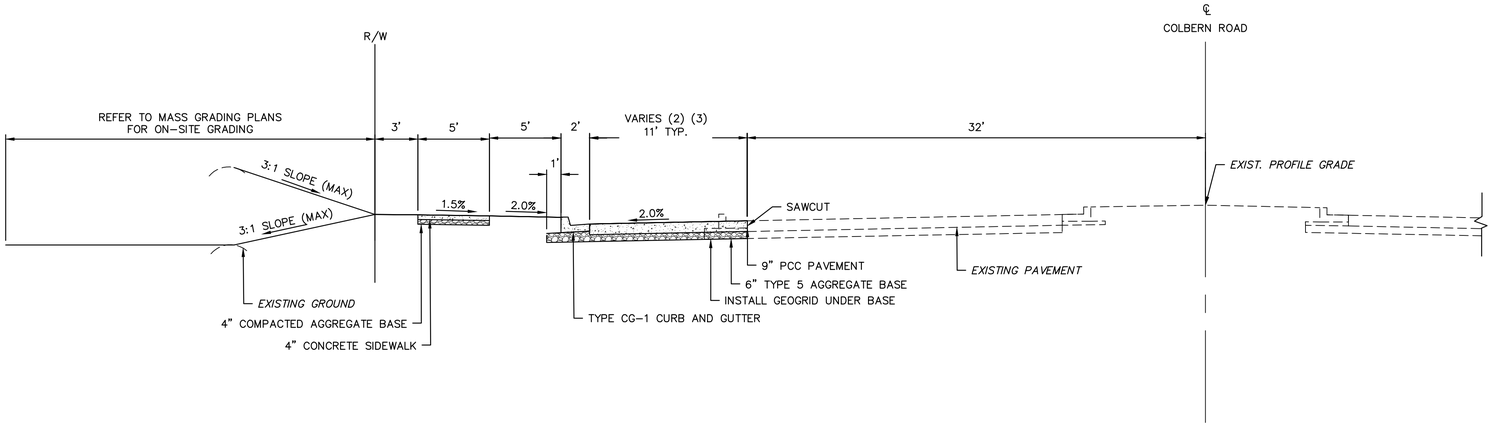
NOTES:
(1) WIDTH VARIES 0 FEET TO 11 FEET FROM STATION 90+10.77 TO STATION 90+91.60, RESPECTIVELY.

(2) WIDTH VARIES 11 FEET TO 0 FEET FROM STATION 96+47.55 TO STATION 97+84.65, RESPECTIVELY.

(3) WIDTH VARIES 11 FEET TO 0 FEET FROM STATION 101+30.07 TO STATION 102+67.55, RESPECTIVELY.

(4) CONSTRUCT 4" CONCRETE MEDIAN FROM STATION 90+91.60 TO STATION 93+09.84.

(5) CONSTRUCT GRASS MEDIAN FROM STATION 90+10.77 TO STATION 90+91.60. WIDTH VARIES 16 FEET TO 5 FEET FROM STATION 90+10.77 TO STATION 90+91.60, RESPECTIVELY.



TYPICAL SECTION - COLBERN ROAD

STA. 93+95.23 TO STA. 97+84.65
STA. 99+80.11 TO STA. 102+67.55

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STATE OF MISSOURI
JAMES WALTER GALLAGHER
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PROFESSIONAL ENGINEER
7/14/2023

REVISIONS

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TYPICAL SECTIONS

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

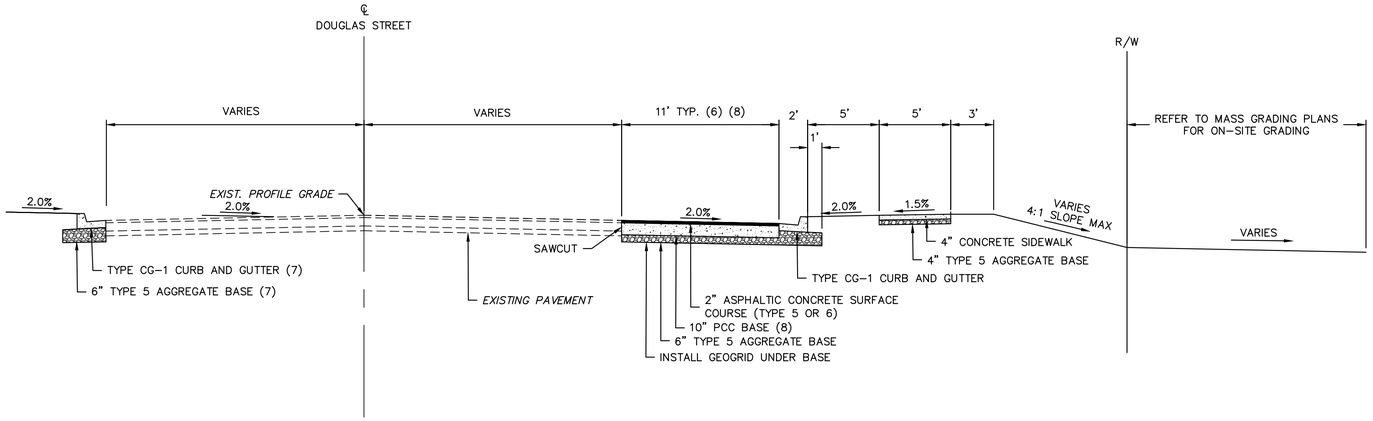
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11 OF 86

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TYPICAL SECTION - DOUGLAS STREET

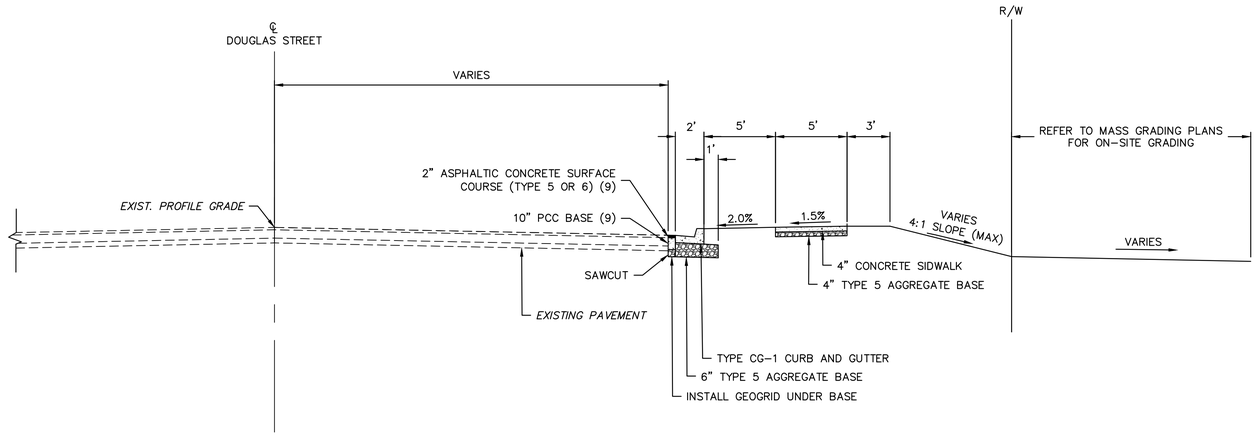
STA. 200+00.38 TO STA. 203+87.77

NOTES:
(6) WIDTH VARIES 6 FEET TO 11 FEET FROM STATION 200+77.21 TO STATION 201+37.80, RESPECTIVELY.

(7) CONSTRUCT TYPE CG-1 CURB AND GUTTER FROM STATION 202+25.50 TO STATION 203+47.30.

(8) PCC BASE SHALL MEET TYPICAL PAVEMENT JOINT REQUIREMENTS SPECIFIED BY THE CITY OF LEE'S SUMMIT, MISSOURI. SEE STANDARD DETAILS

(9) WIDTH VARIES 0.5 FEET TO 4.5 FEET FROM STATION 208+72.41 TO STATION 211+47.42



TYPICAL SECTION - DOUGLAS STREET

STA. 205+13.75 TO STA. 211+47.42

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9/28/2023

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TYPICAL SECTIONS

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

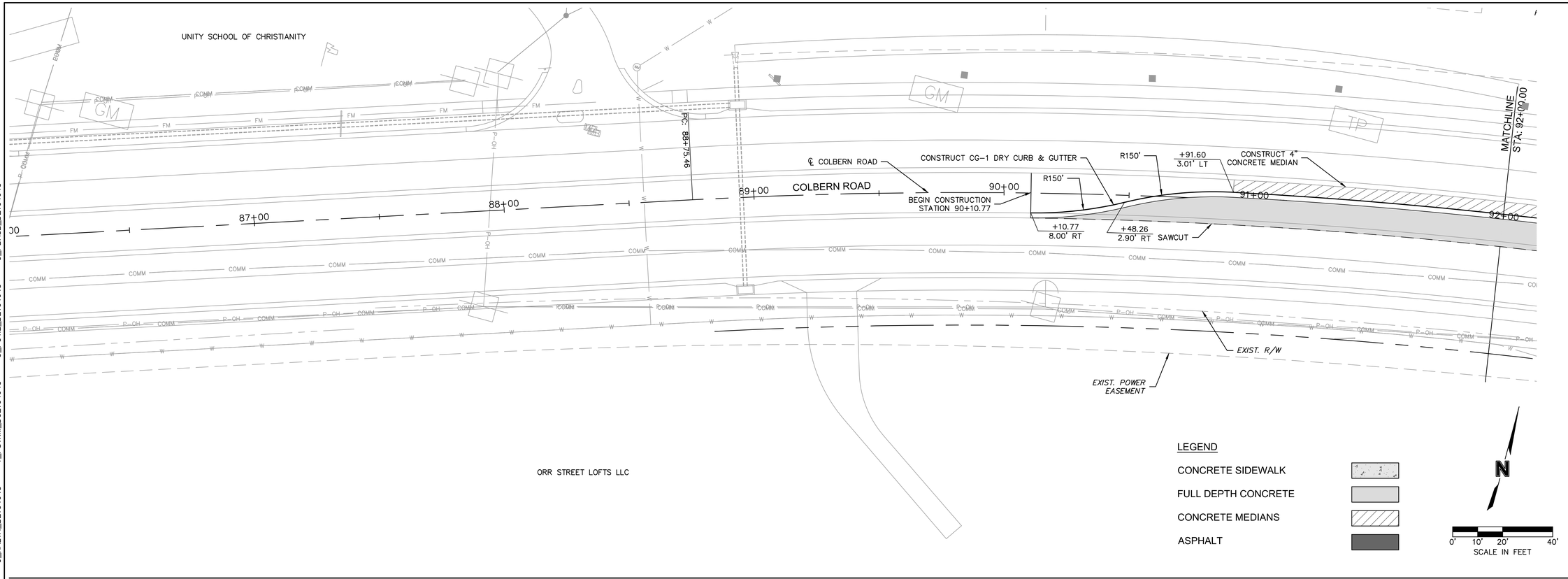
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2023

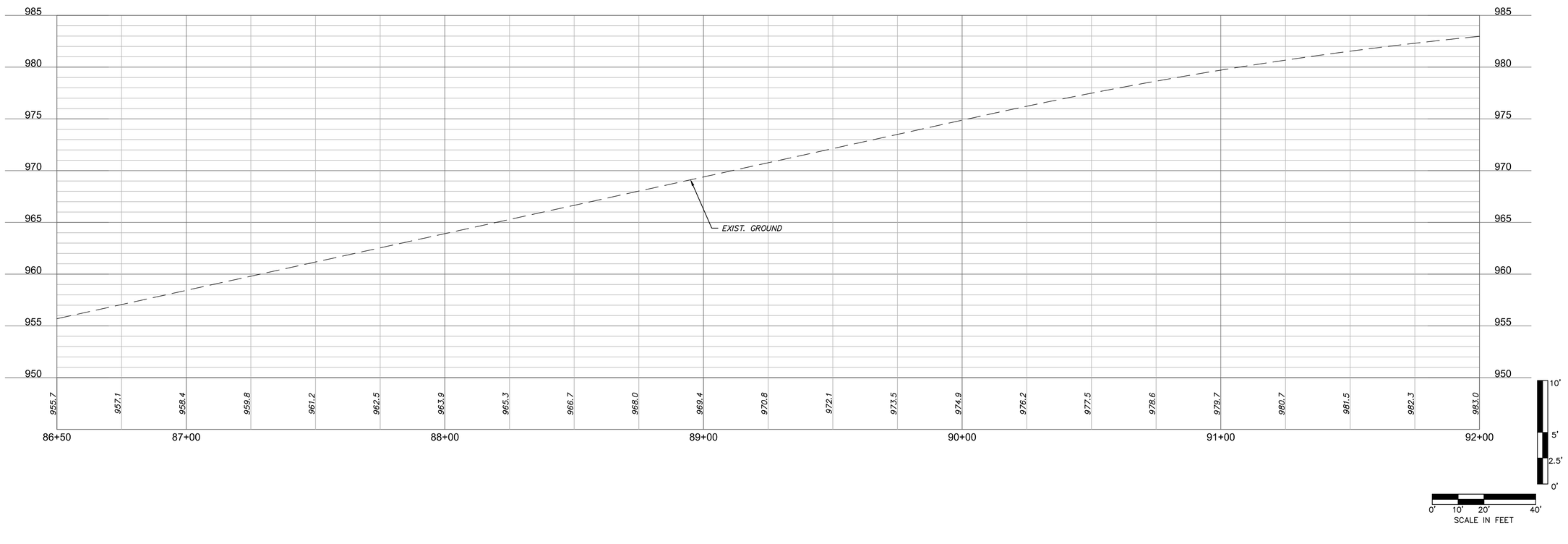
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approved by: JPS
QA/QC by: JJW
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drawing no.: T_TYP01_D02104643
date: 7/14/2023

SHEET
12 OF 86

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PLAN & PROFILE
COLBERN ROAD

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

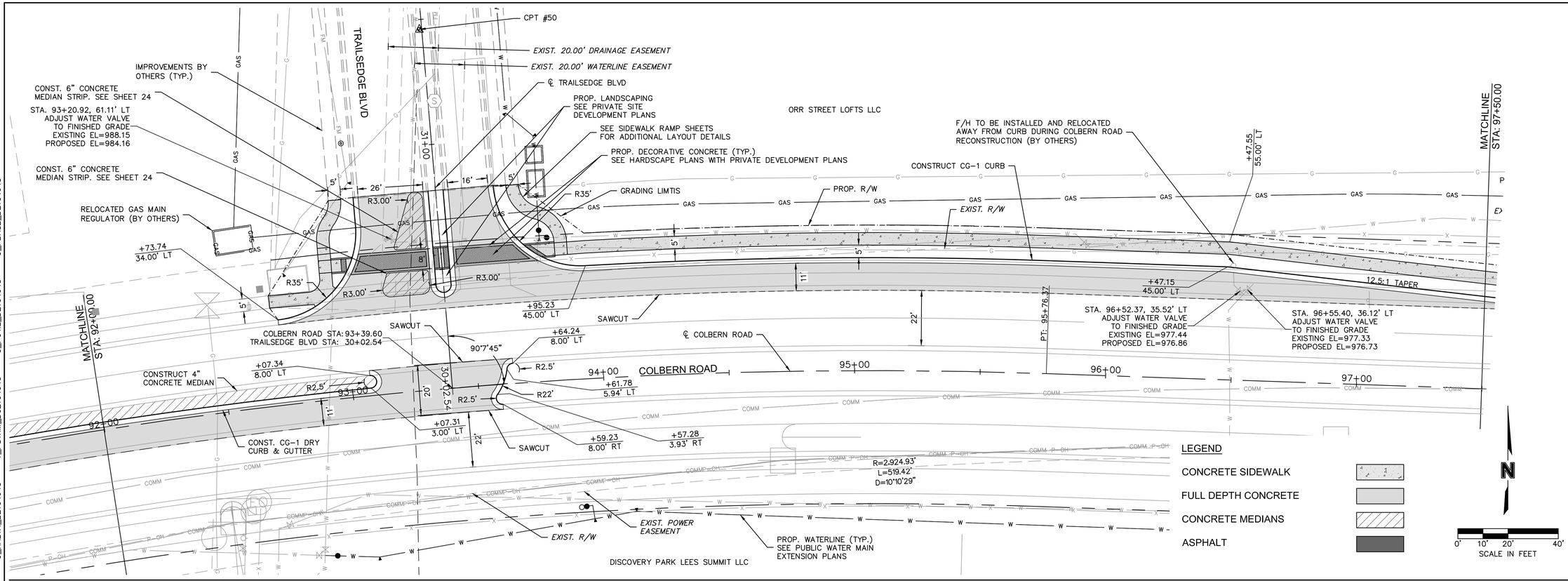
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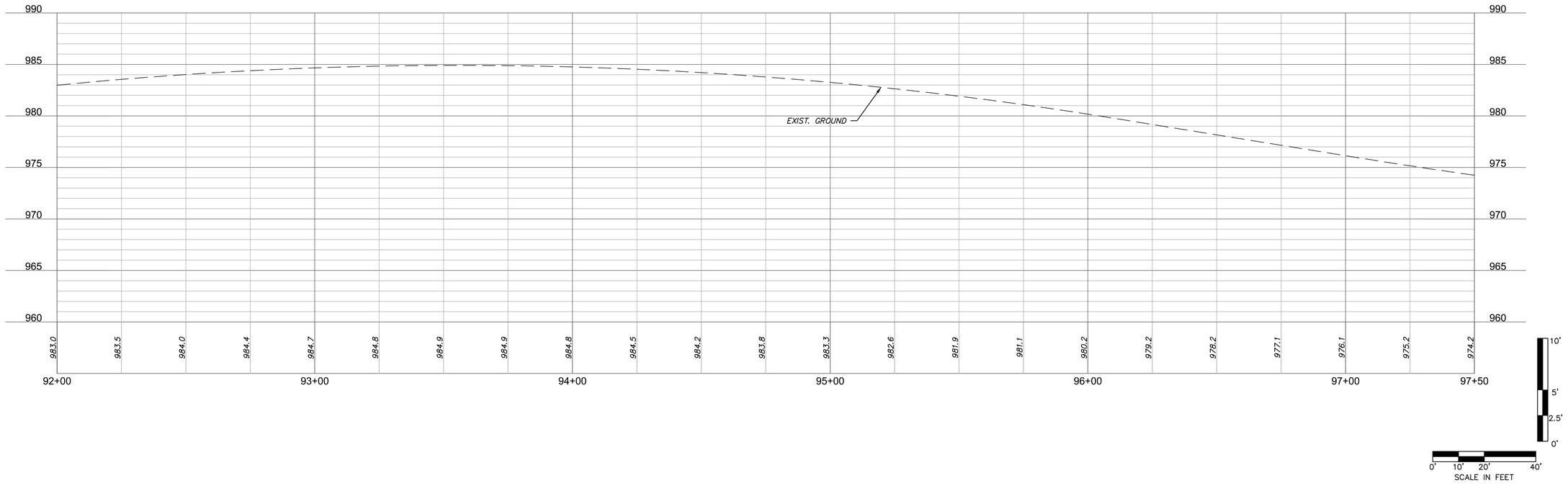
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13 OF 86

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USER: kwilliams2





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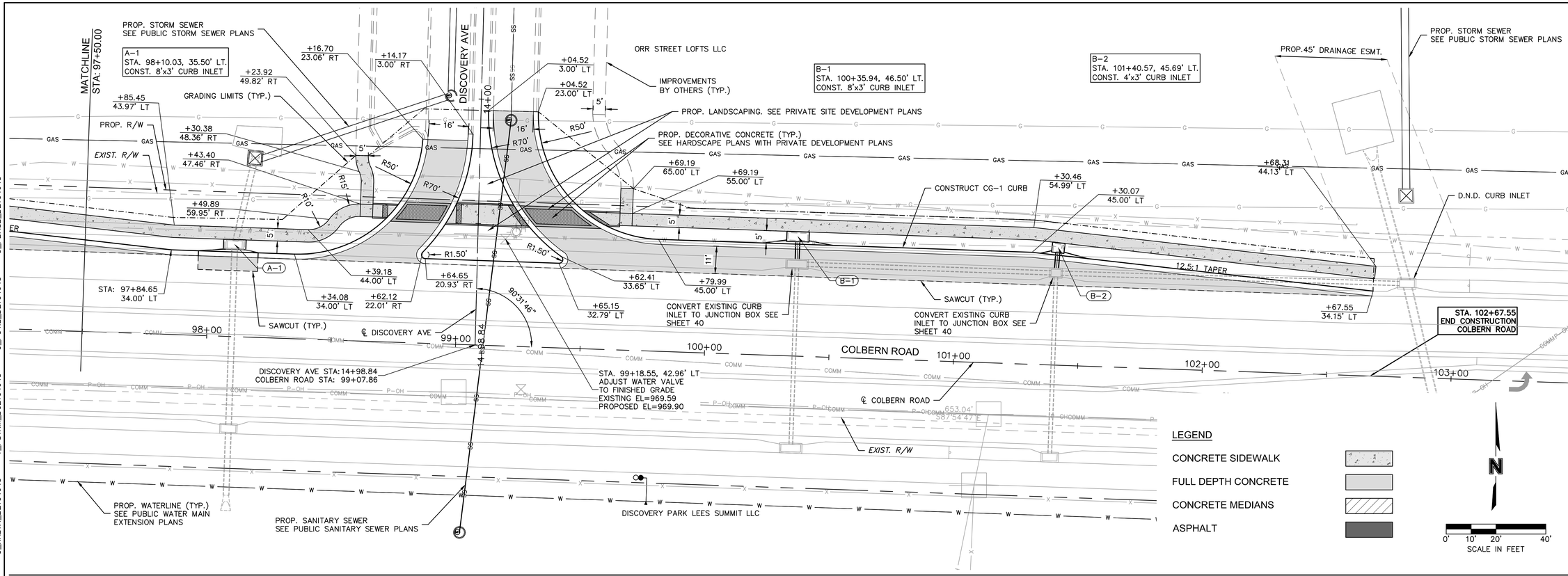
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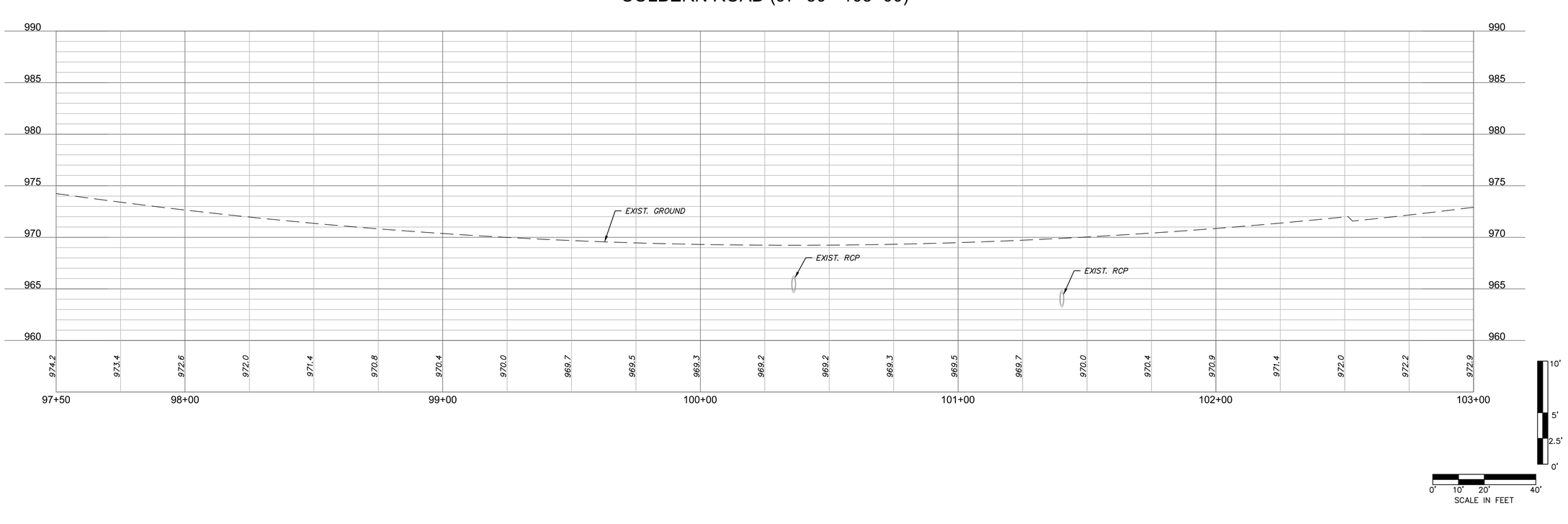
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drawing no.T_RPP01_D02104643
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PLAN & PROFILE
COLBERN ROAD

THE VILLAGE AT DISCOVERY PARK
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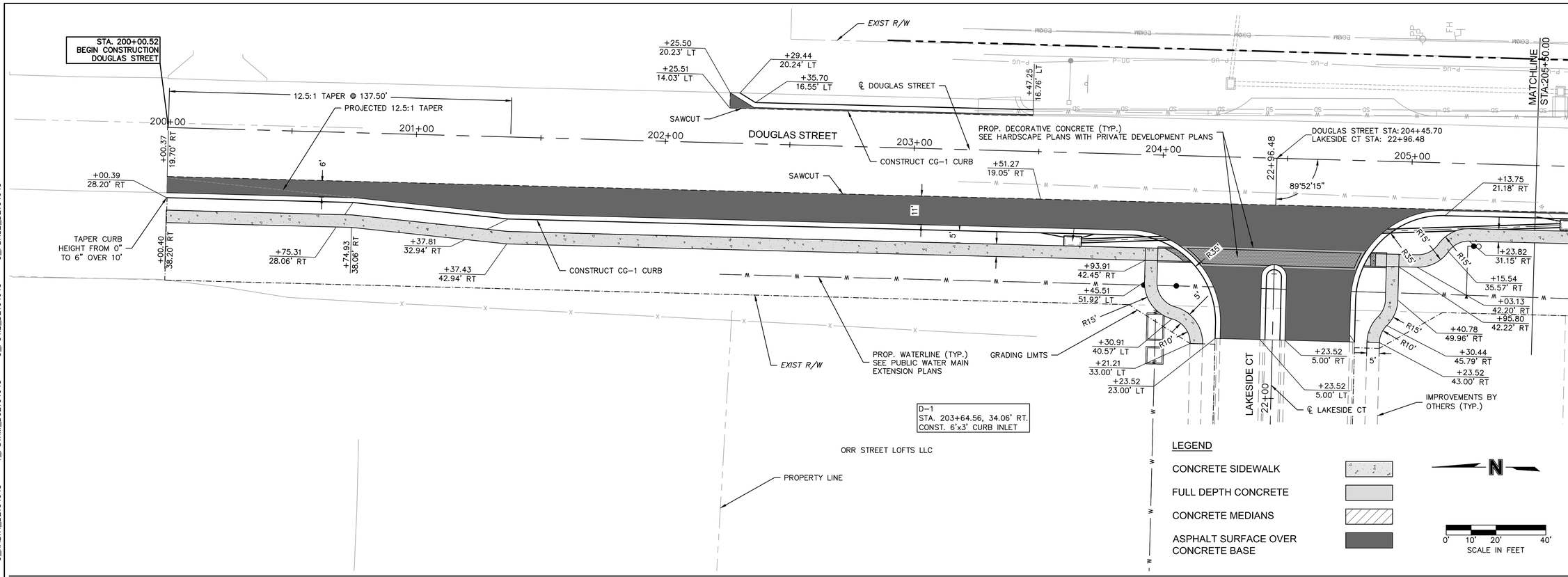
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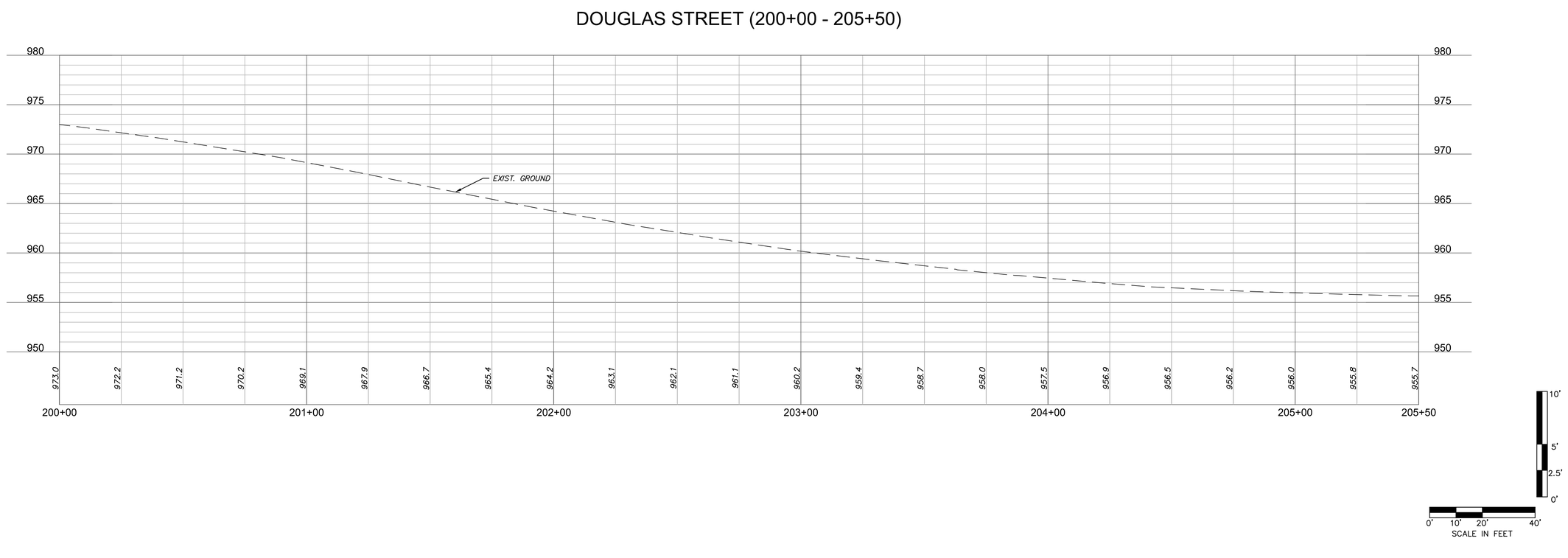
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DOUGLAS STREET

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

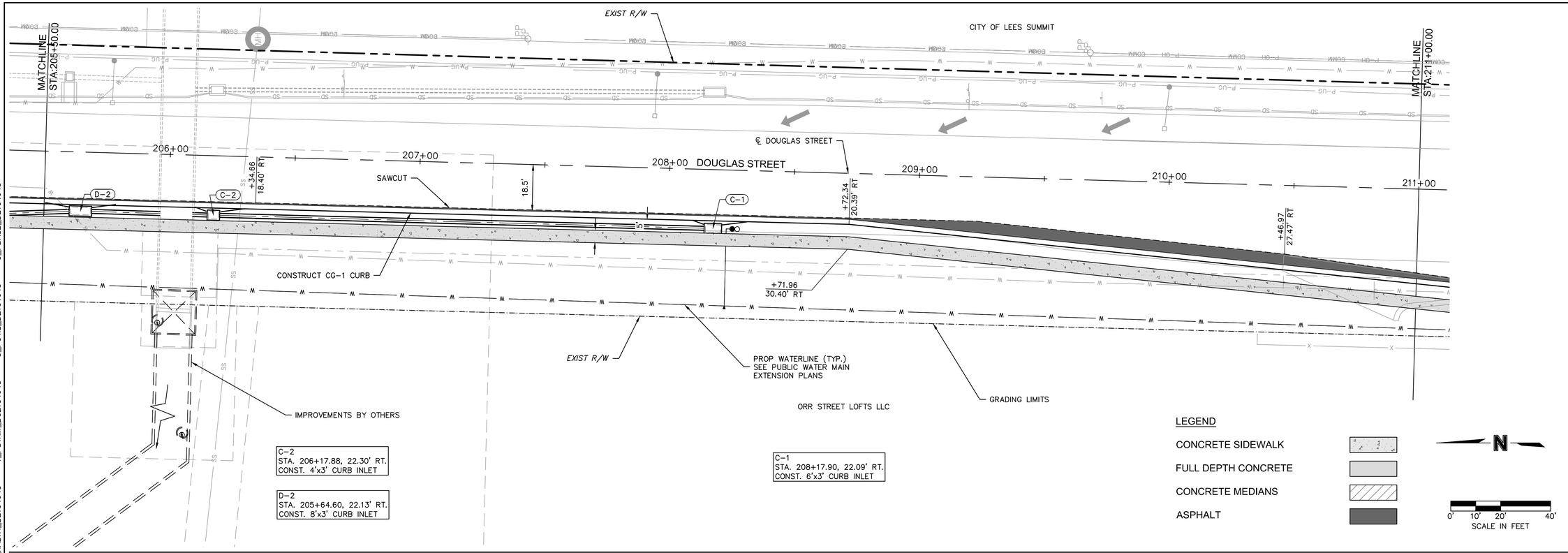
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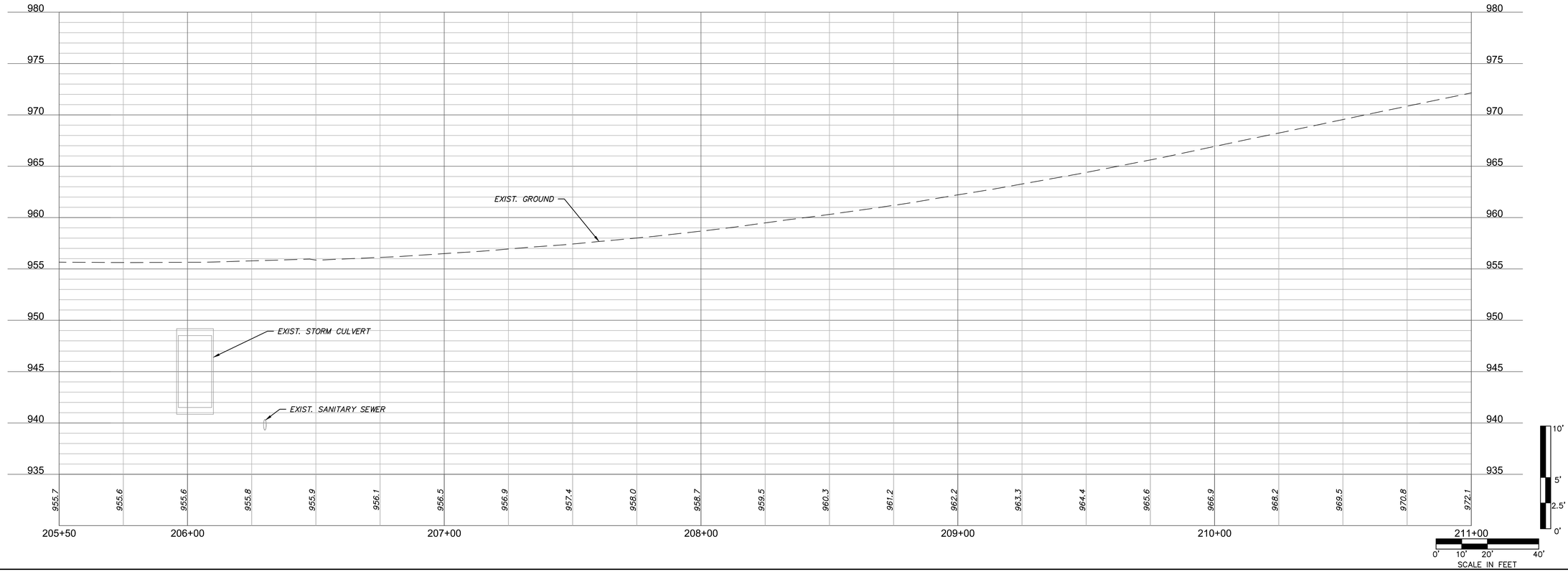
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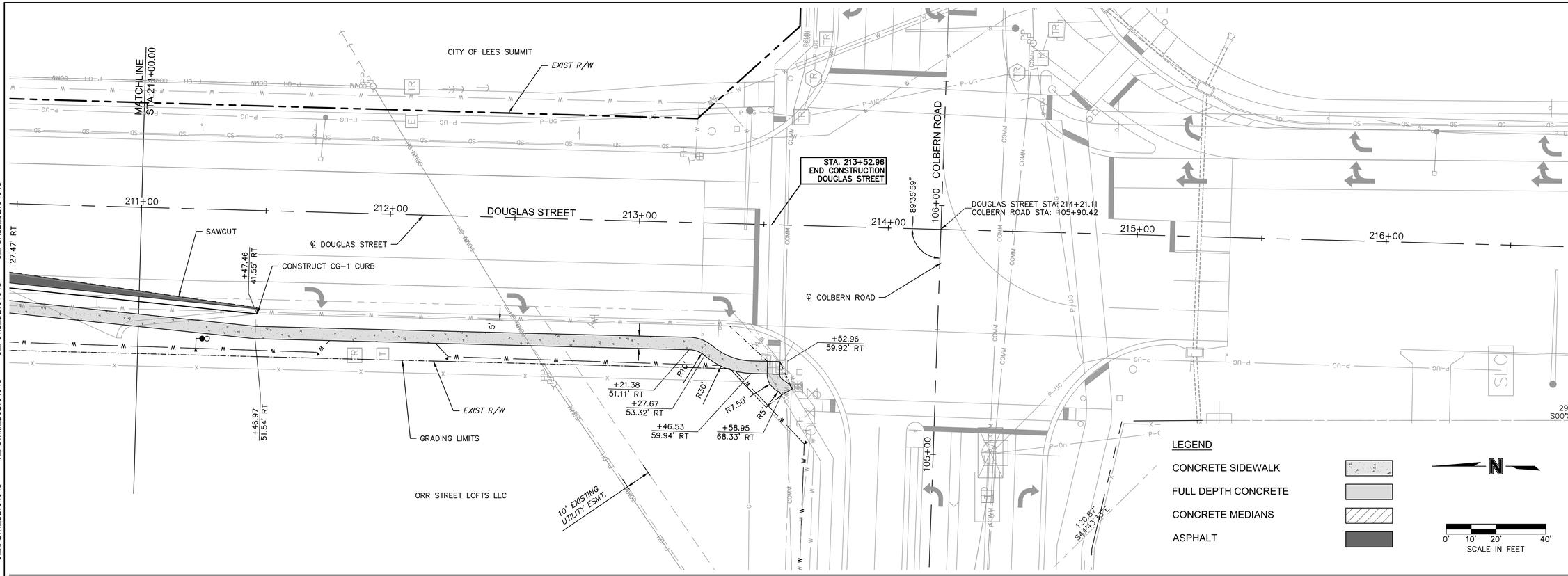
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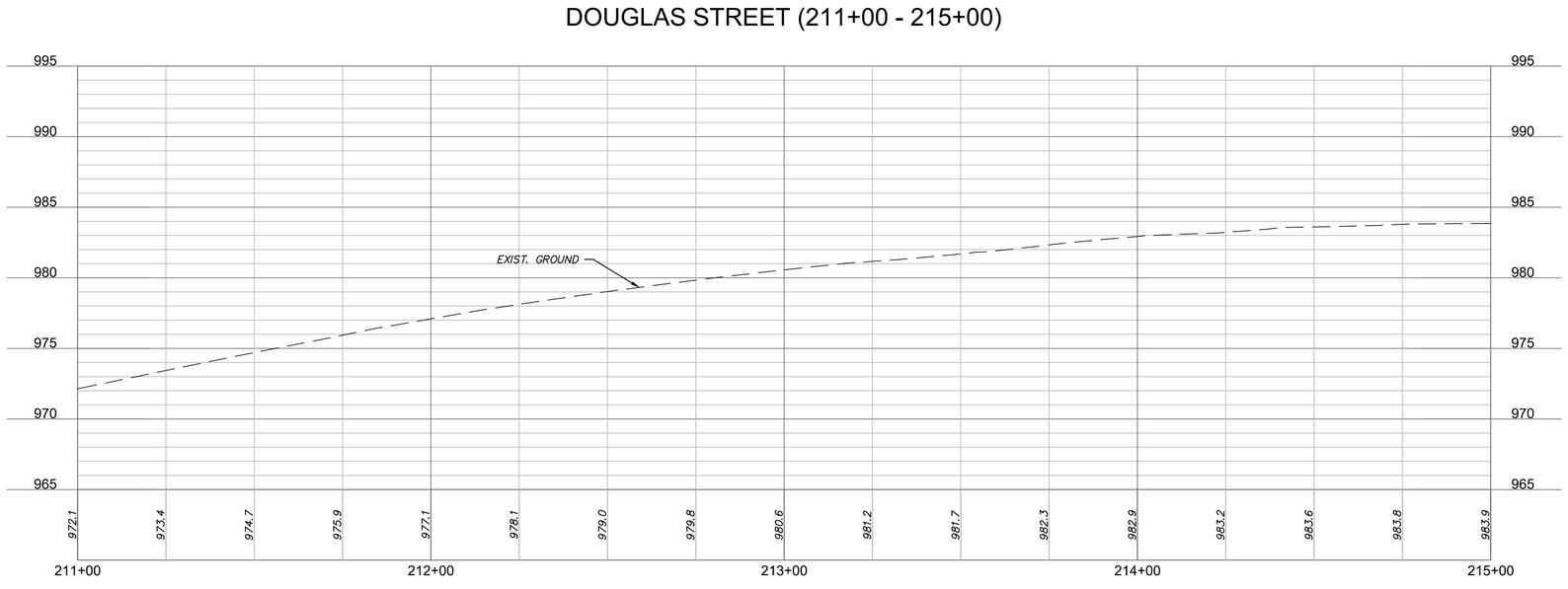
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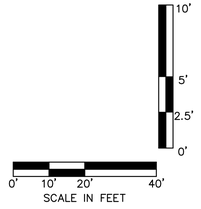
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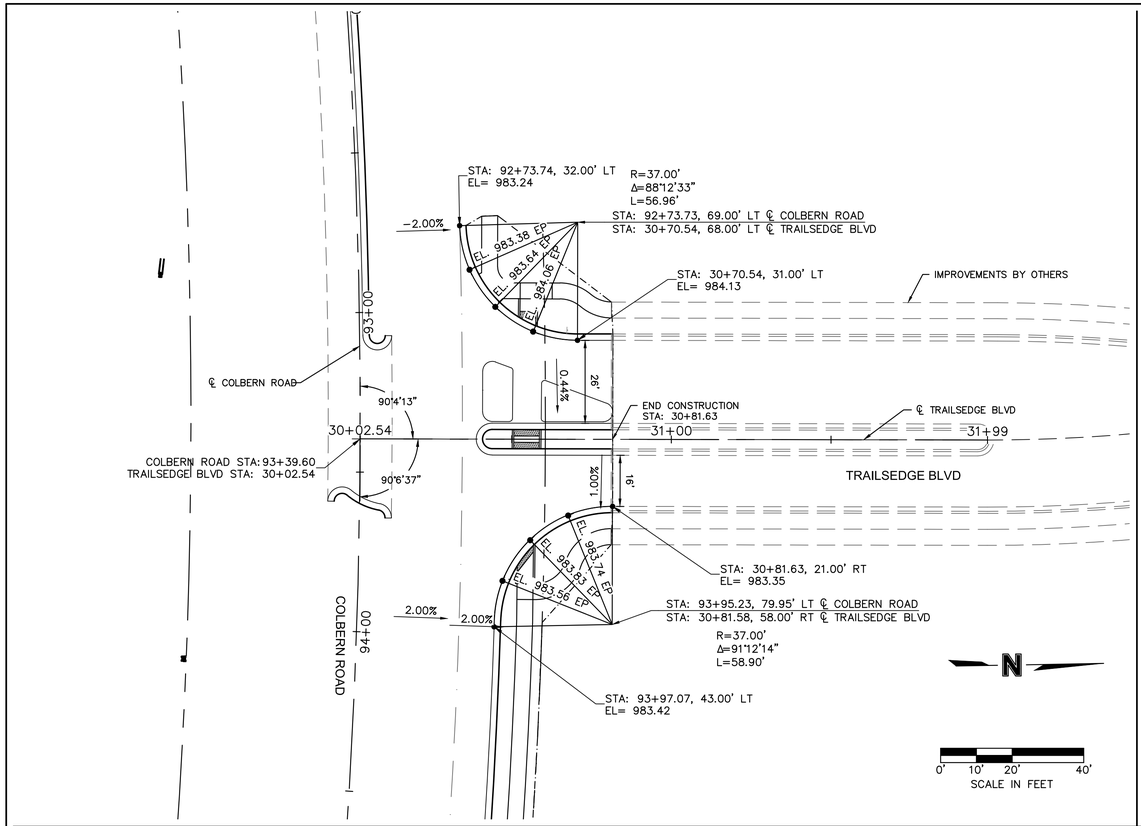
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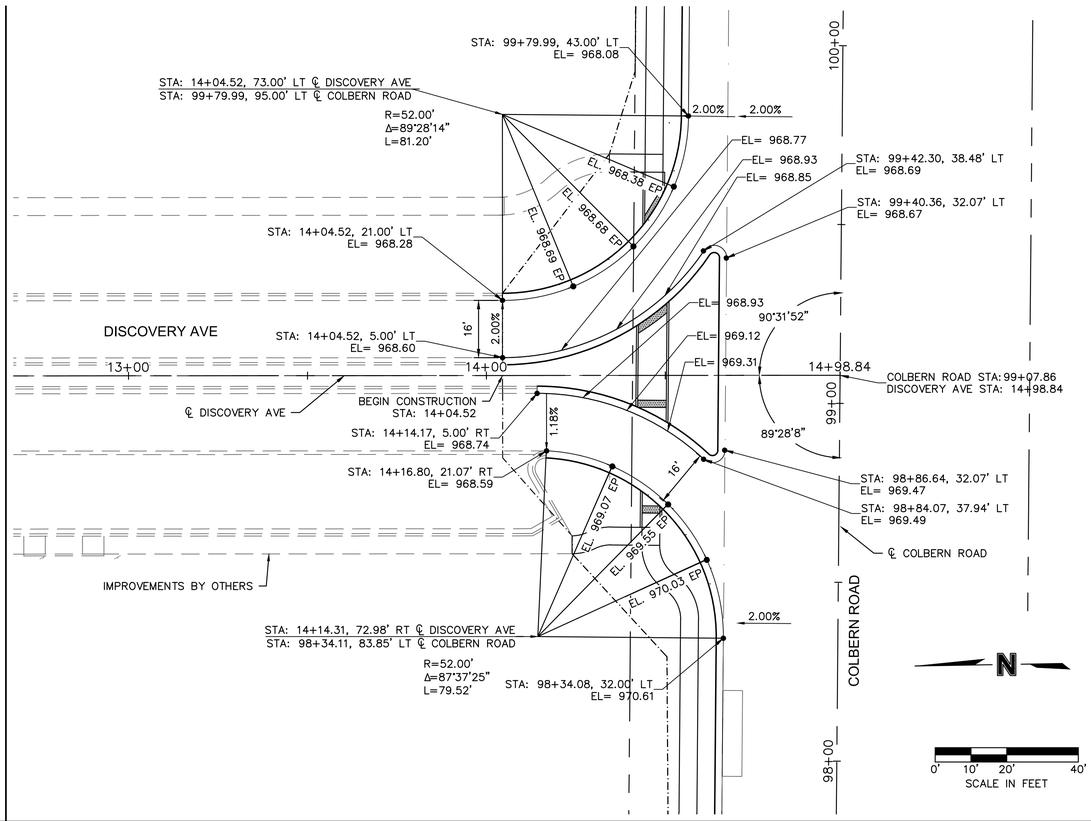
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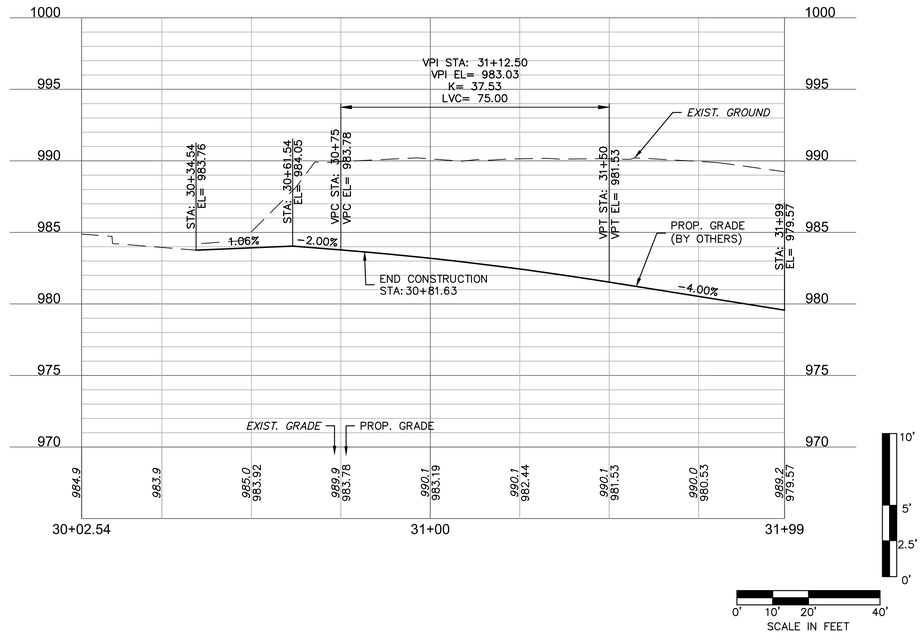
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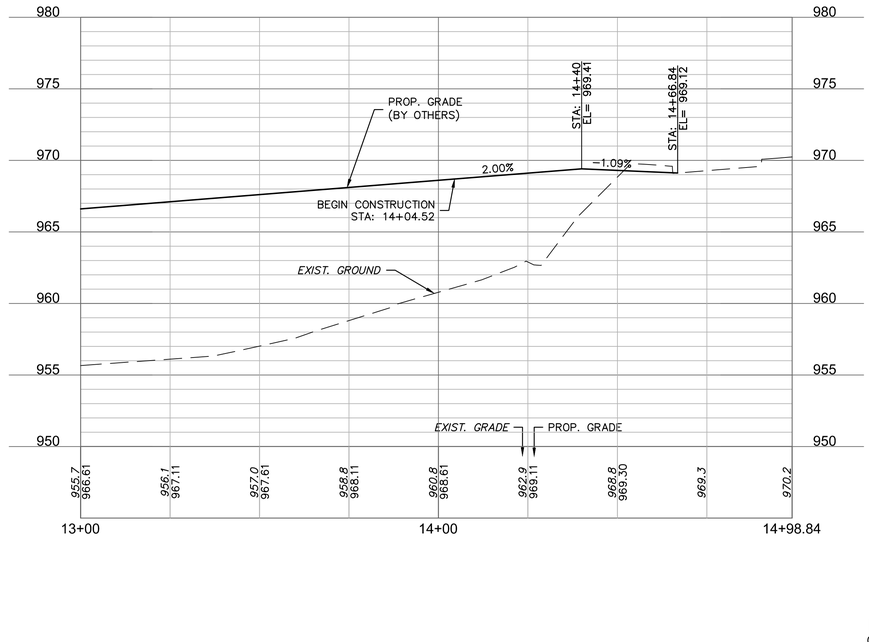




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DISCOVERY AVE (13+00 - 14+98.84)



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DRIVE LAYOUTS

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

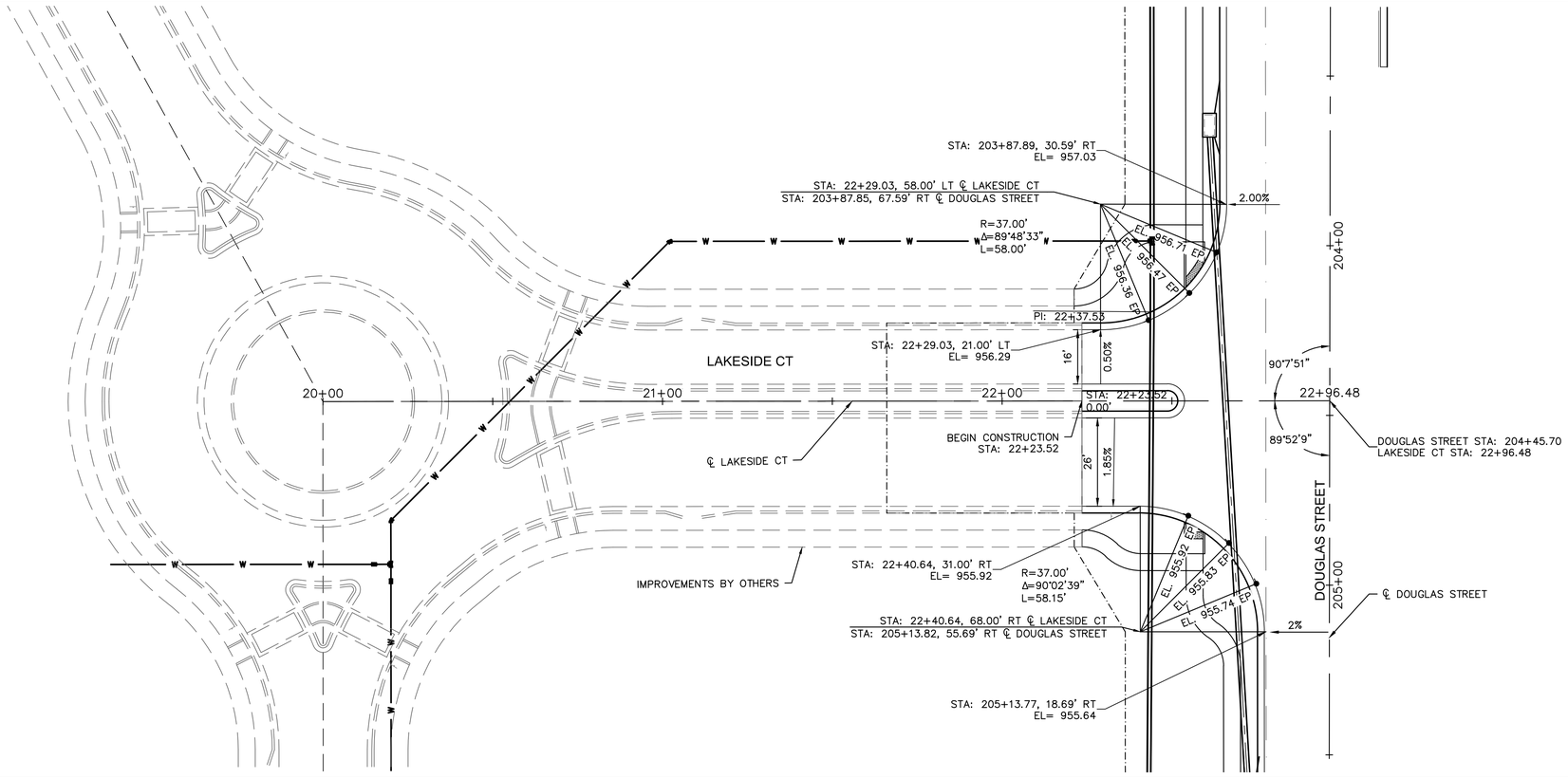
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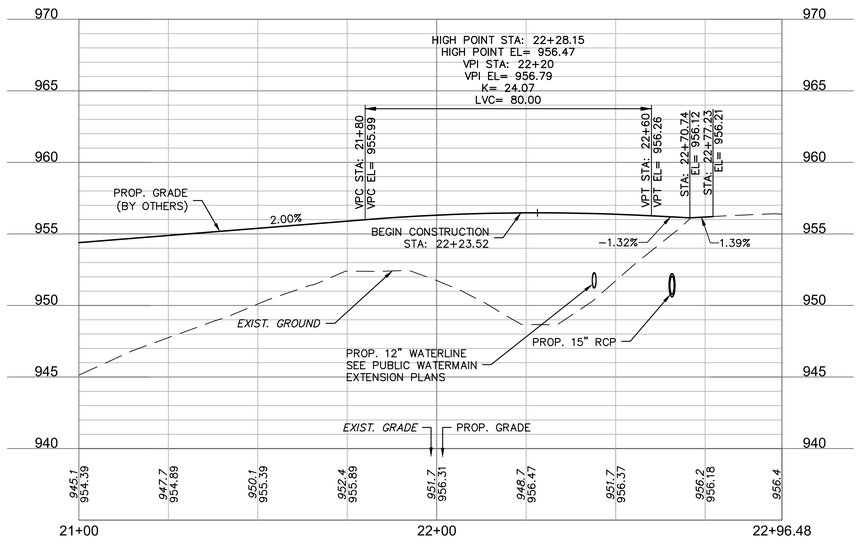
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LAKESIDE CT (21+00 - 22+96.48)



10'
5'
2.5'
0'
0' 10' 20' 40'
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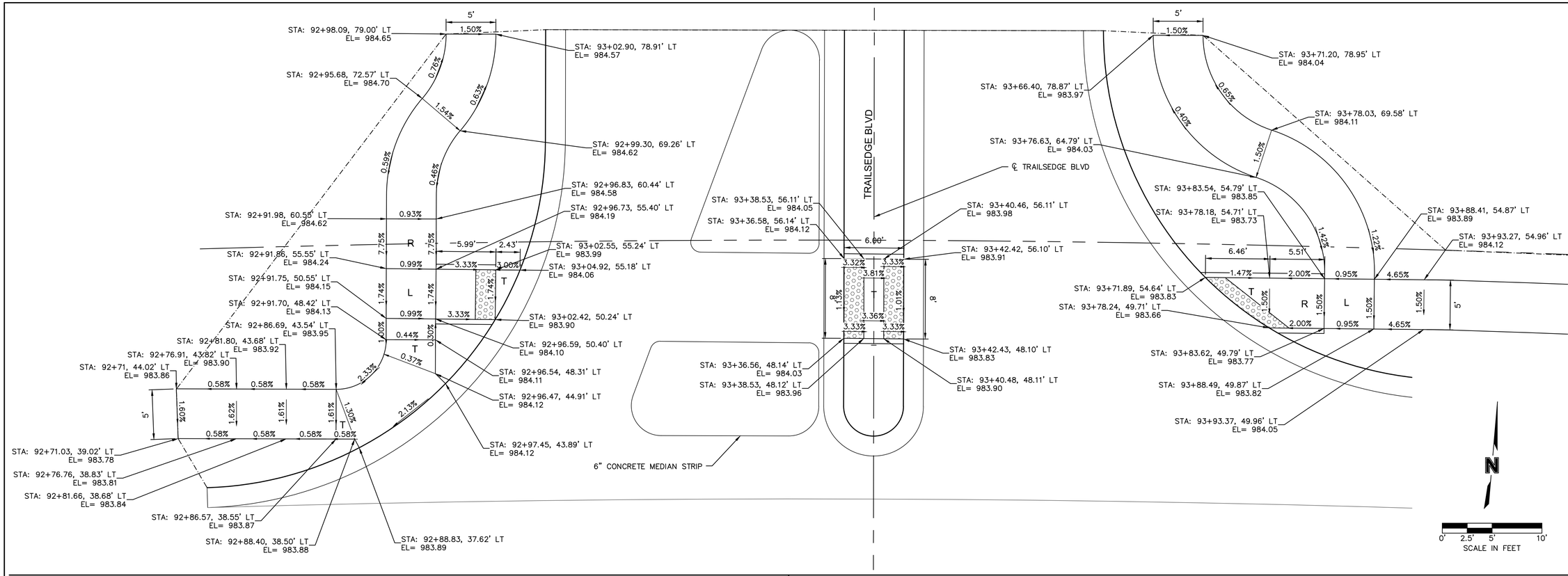
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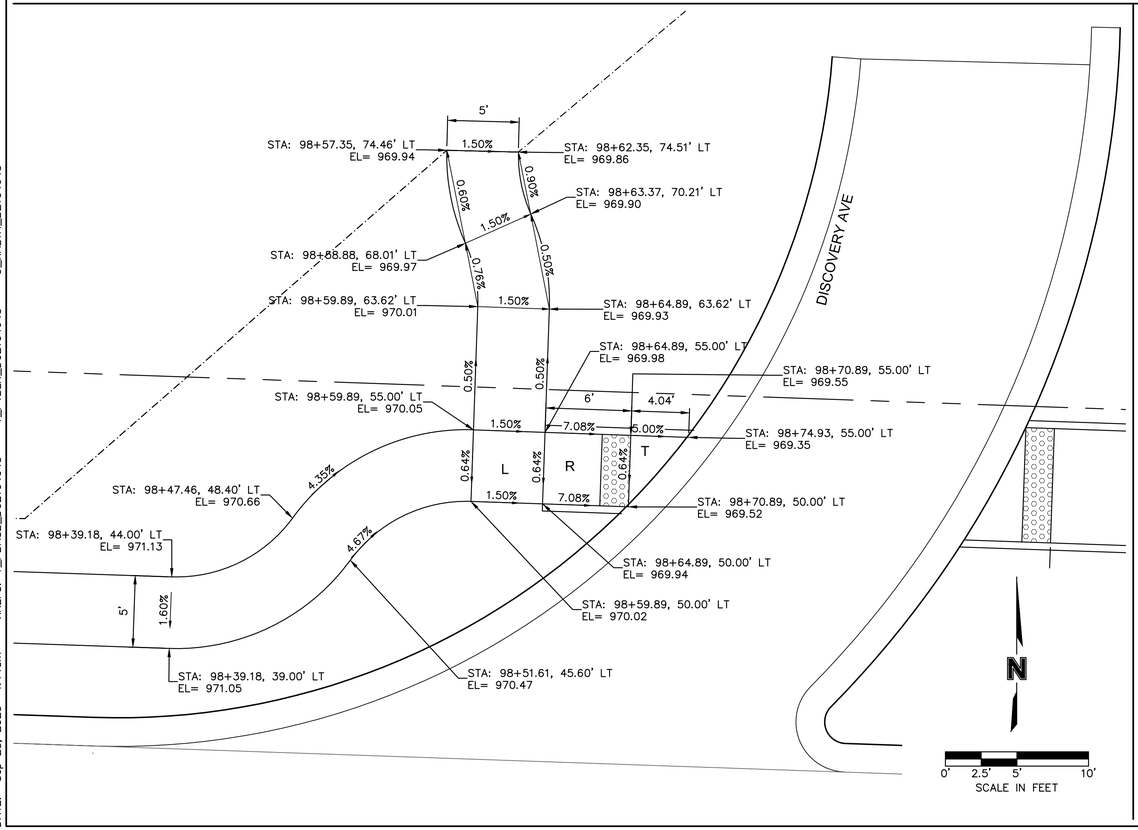
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COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS
LEE'S SUMMIT, MISSOURI
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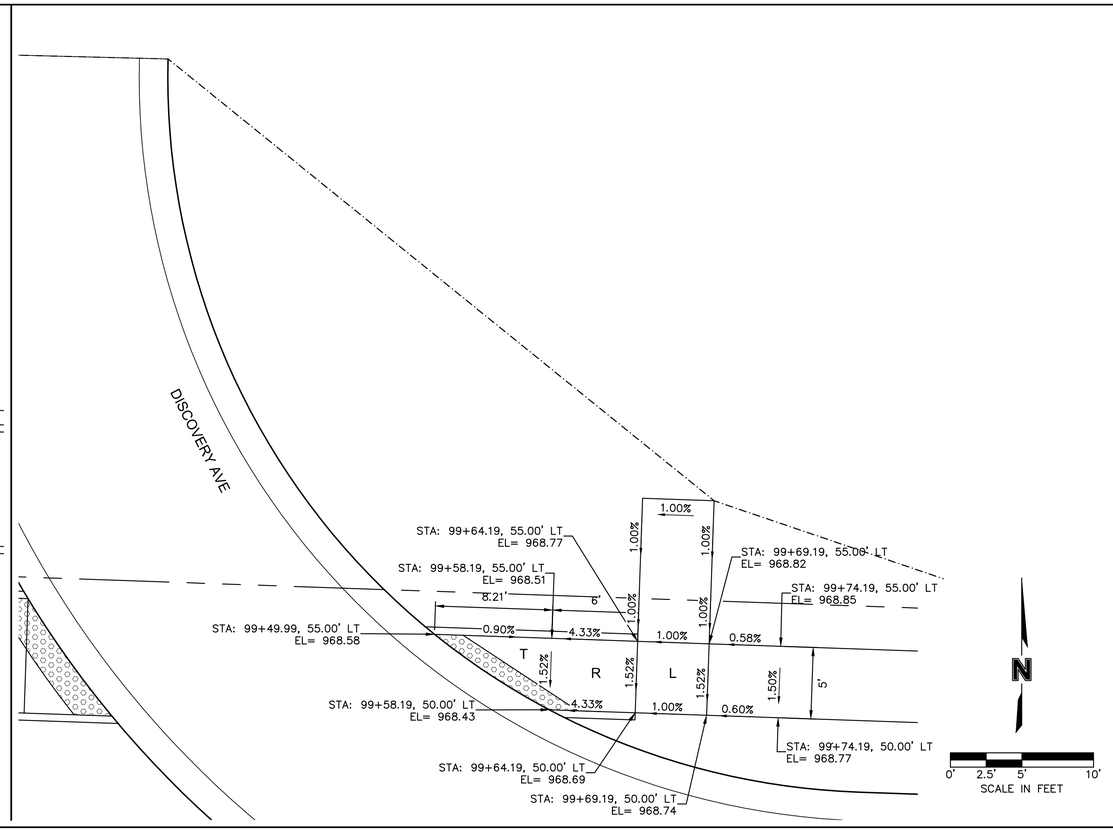
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SIDEWALK RAMP LAYOUTS

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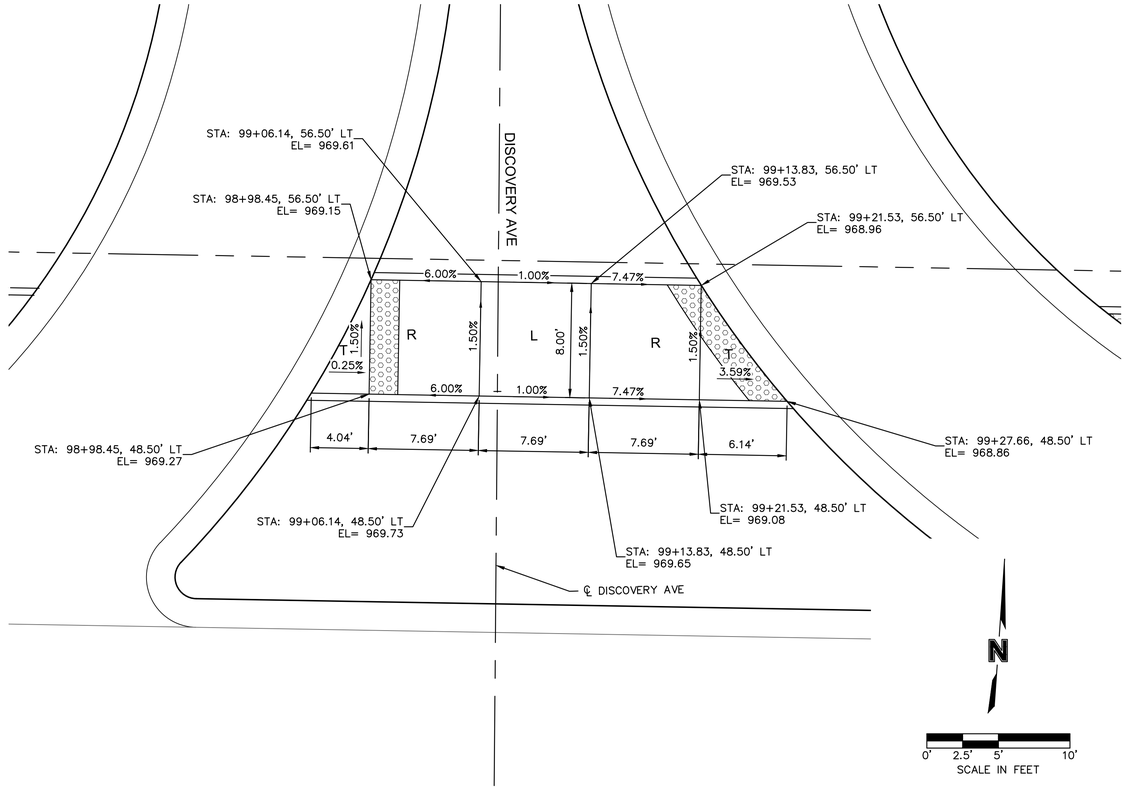
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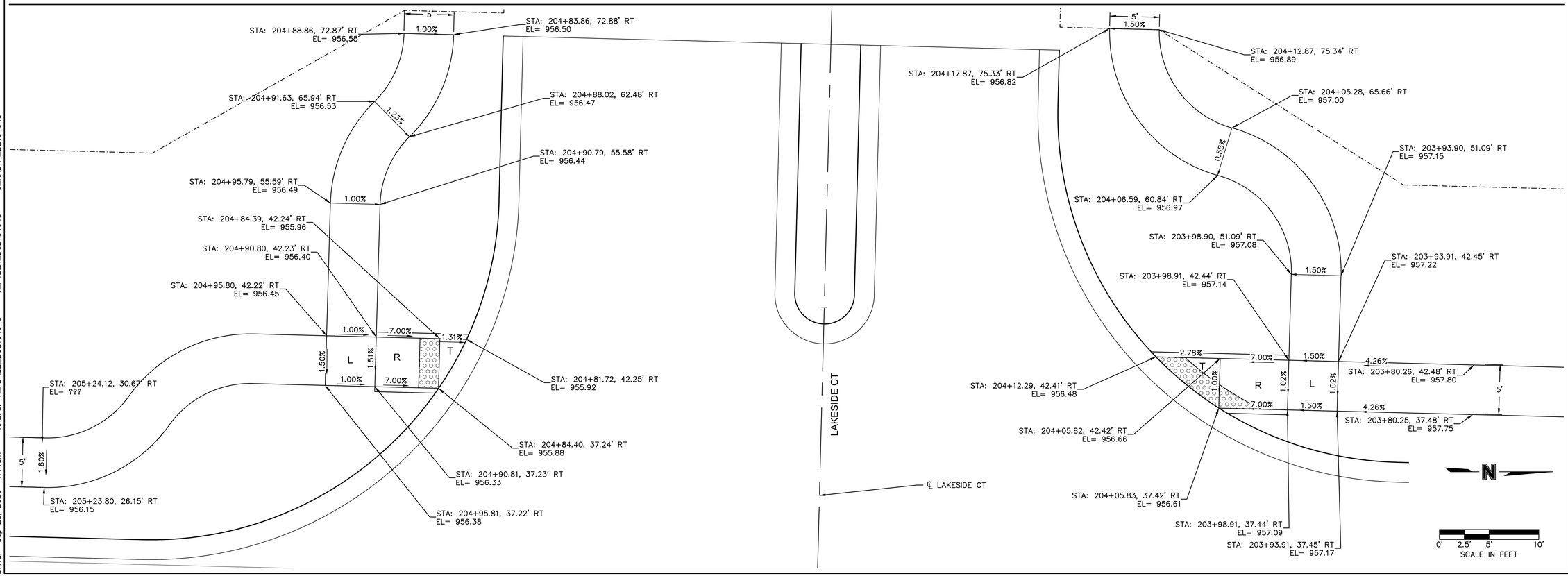
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SIDEWALK RAMP LAYOUTS

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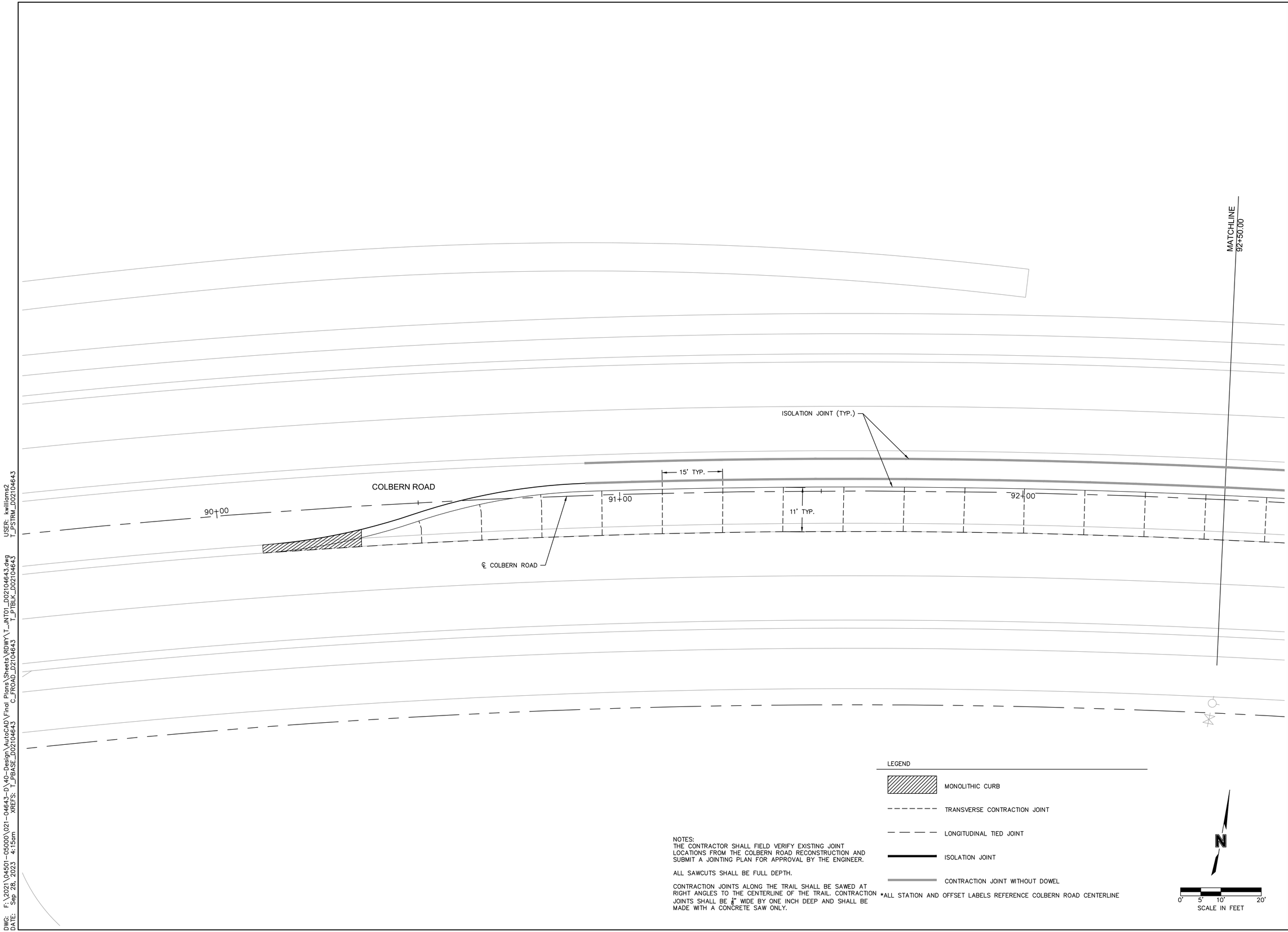
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USER: kwilliams2



LEGEND

- MONOLITHIC CURB
- TRANSVERSE CONTRACTION JOINT
- LONGITUDINAL TIED JOINT
- ISOLATION JOINT
- CONTRACTION JOINT WITHOUT DOWEL

*ALL STATION AND OFFSET LABELS REFERENCE COLBERN ROAD CENTERLINE

NOTES:
THE CONTRACTOR SHALL FIELD VERIFY EXISTING JOINT LOCATIONS FROM THE COLBERN ROAD RECONSTRUCTION AND 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.

N

0' 5' 10' 20'
SCALE IN FEET

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CONCRETE JOINTING PLANS

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

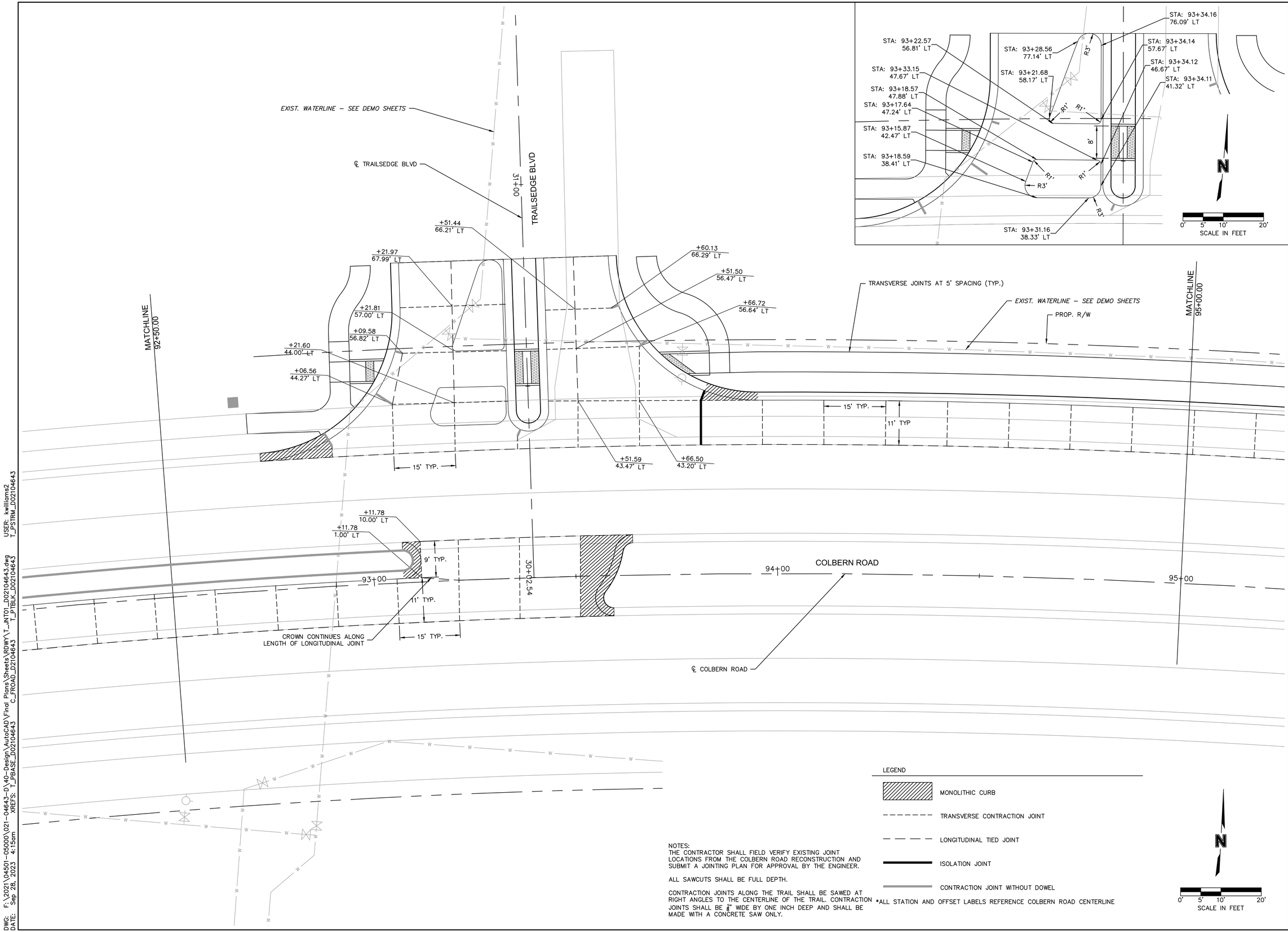
LEE'S SUMMIT, MISSOURI

2023

drawn by:	BJW
checked by:	KLW
approved by:	JPG
QA/QC by:	JJW
project no.:	021-04643
drawing no.:	T_JNT01_D02104643
date:	7/14/2023

SHEET
23 OF 86

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XREFS: T_PBASE_D02104643 C_FROAD_D2104643 T_PTBLK_D02104643
USER: kwilliams2 T_PSTRM_D02104643



NOTES:
THE CONTRACTOR SHALL FIELD VERIFY EXISTING JOINT LOCATIONS FROM THE COLBERN ROAD RECONSTRUCTION AND 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 ⅛" WIDE BY ONE INCH DEEP AND SHALL BE MADE WITH A CONCRETE SAW ONLY.

LEGEND

- MONOLITHIC CURB
- TRANSVERSE CONTRACTION JOINT
- LONGITUDINAL TIED JOINT
- ISOLATION JOINT
- CONTRACTION JOINT WITHOUT DOWEL

*ALL STATION AND OFFSET LABELS REFERENCE COLBERN ROAD CENTERLINE

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

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Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.381.1177
www.olsson.com

STATE OF MISSOURI
JAMES WALTER GALLAGHER
NUMBER PE-2018010499
PROFESSIONAL ENGINEER
7/14/2023

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

CONCRETE JOINTING PLANS
COLBERN ROAD

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

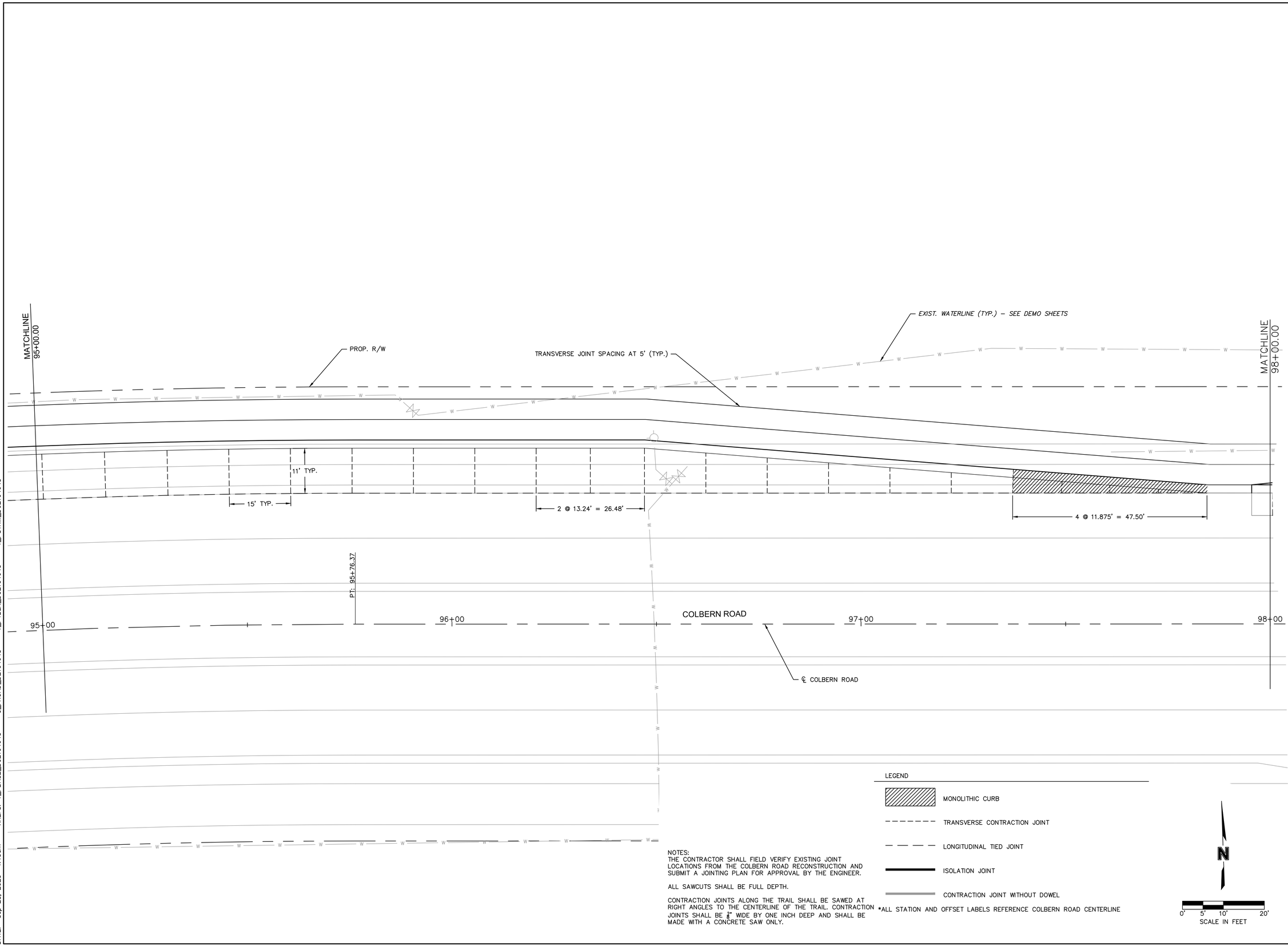
LEE'S SUMMIT, MISSOURI

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24 OF 86

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CONCRETE JOINTING PLANS
COLBERN ROAD

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

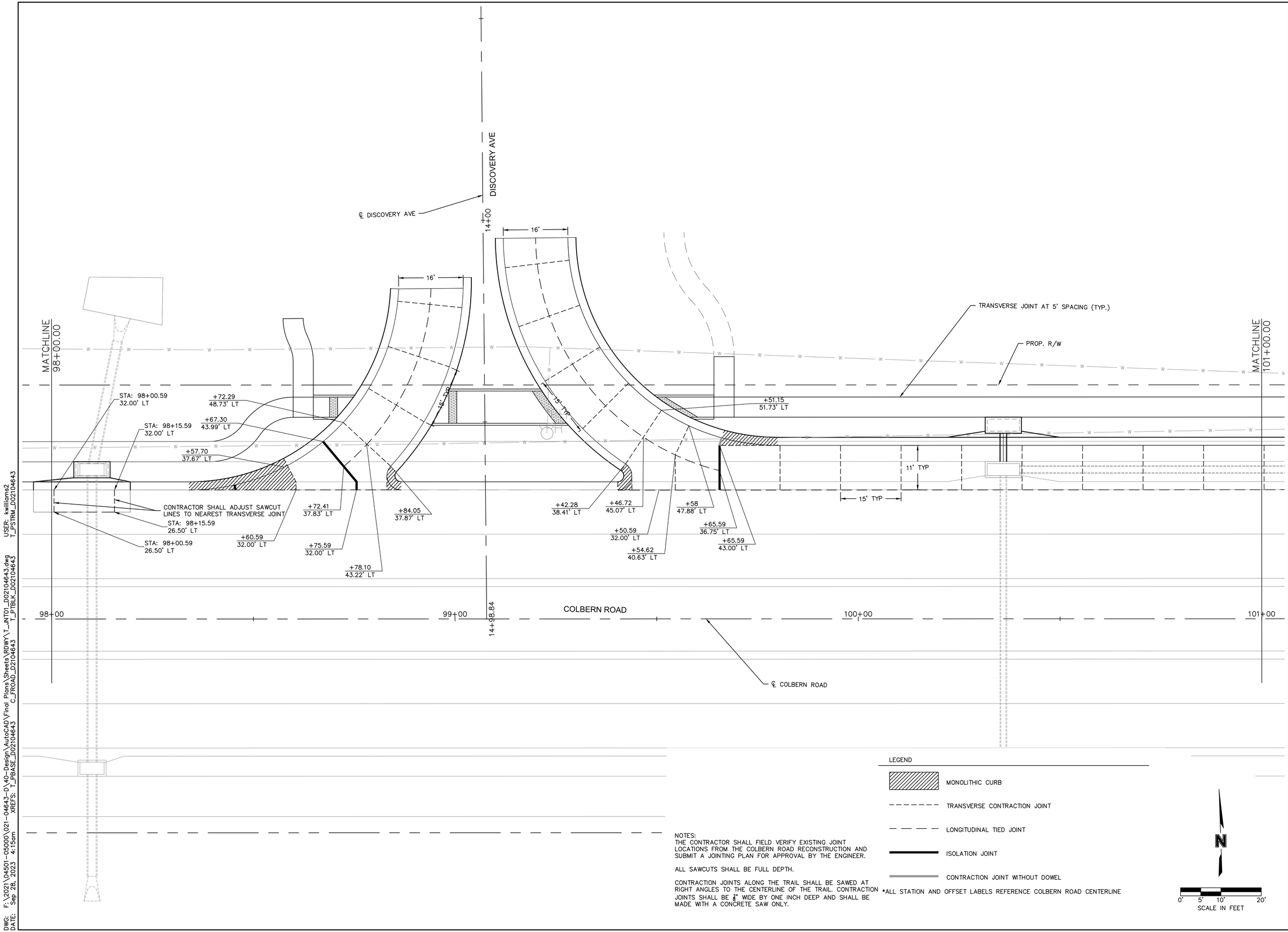
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25 OF 86

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N

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STATE OF MISSOURI
JAMES WILLIAM GALLAGHER
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7/14/2023

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CONCRETE JOINTING PLANS
COLBERN ROAD

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

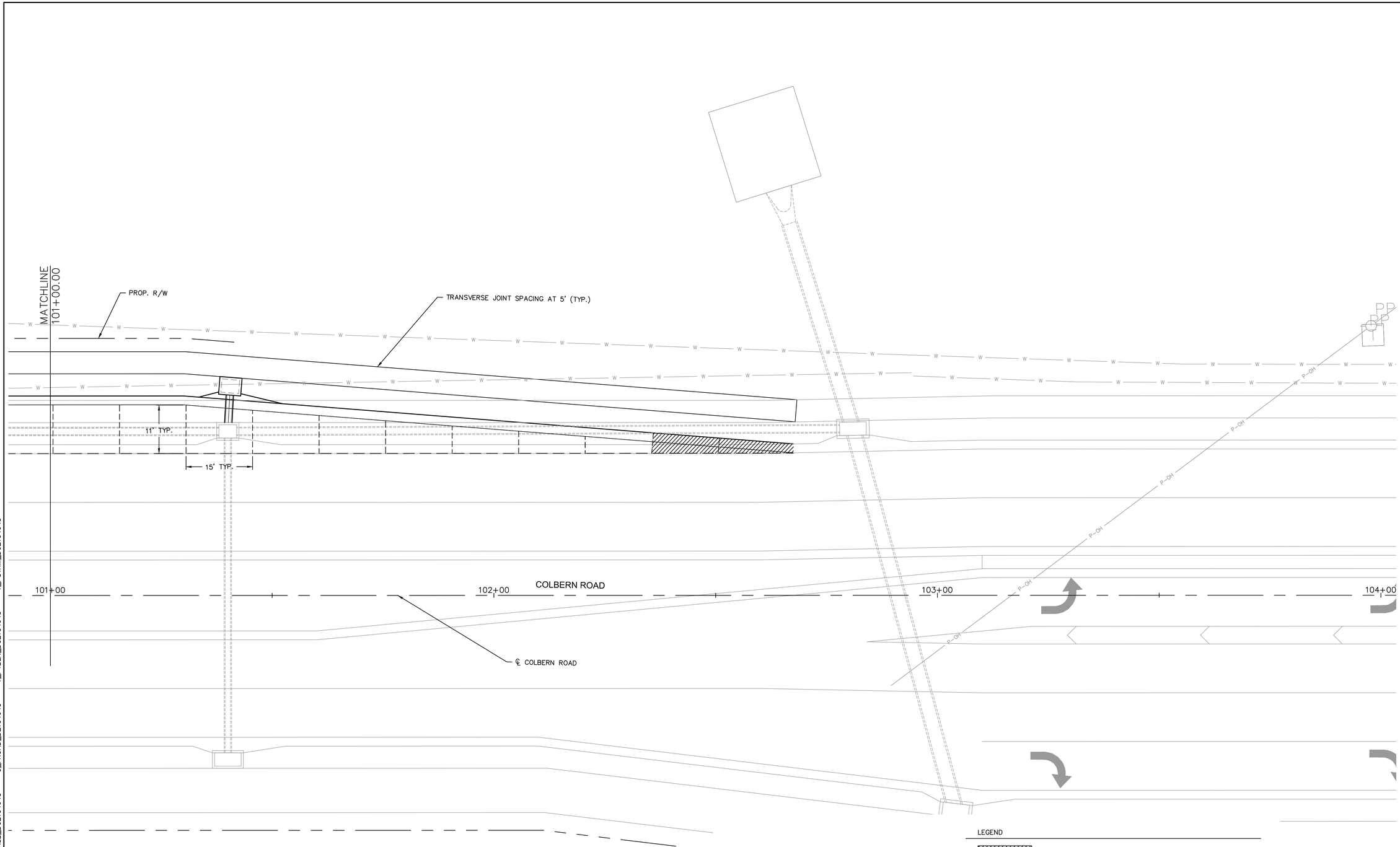
LEE'S SUMMIT, MISSOURI

2023

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26 OF 86

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STATE OF MISSOURI
JAMES WILLIAM GALLAGHER
NUMBER PE-2018010499
9/18/2023
PROFESSIONAL ENGINEER

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		REVISIONS

CONCRETE JOINTING PLANS
COLBERN ROAD

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

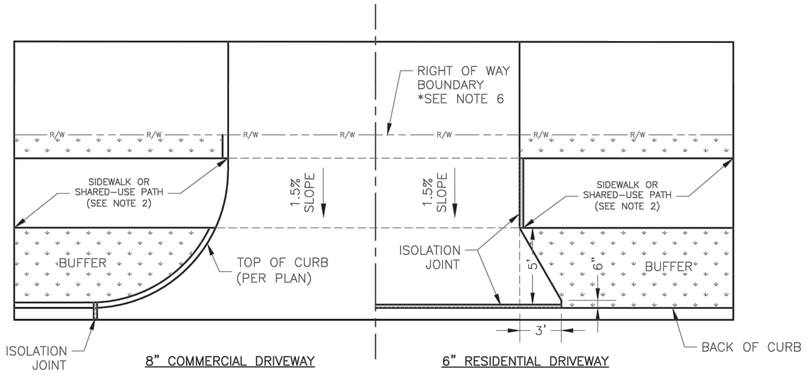
LEE'S SUMMIT, MISSOURI

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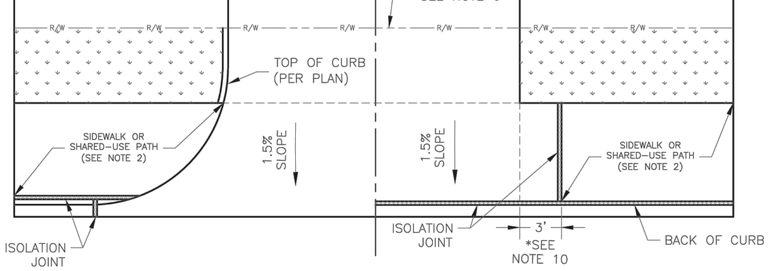
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27 OF 86

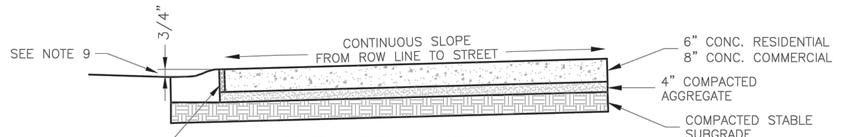
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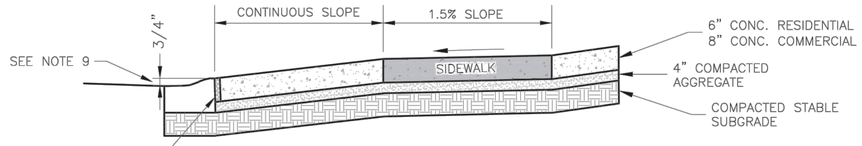
DRIVEWAY WITH BUFFER
NOT TO SCALE



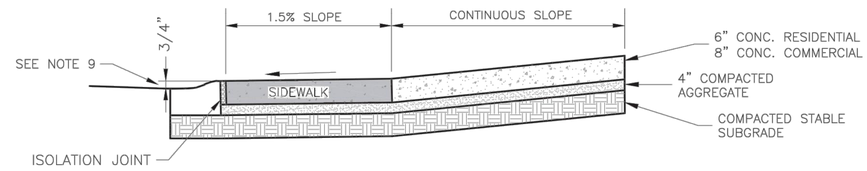
DRIVEWAY WITHOUT BUFFER
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(NO SIDEWALK OR SHARED–USE PATH)
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED–USE PATH WITH BUFFER)
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED–USE PATH WITHOUT BUFFER)
NOT TO SCALE

GENERAL NOTES

1. SUBGRADE SHALL BE STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. ALL DRIVE APPROACHES SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG) FOR SLOPE REQUIREMENTS WHEN SIDEWALK IS REQUIRED (SEE ADA RAMP RETROFIT DETAIL GEN–3B, SIDEWALK/SHARED USE PATH RAMP AT DRIVEWAY DETAIL).
3. JOINT AT BACK OF CURB LINE SHALL BE AN ISOLATION JOINT FOR RESIDENTIAL DRIVEWAYS.
4. KCMMB 4K CONCRETE MIX IS REQUIRED FOR ALL CURBS.
5. COMMERCIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, SHALL BE KCMMB 4K CONCRETE MIX.
6. RESIDENTIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, KCMMB 4K CONCRETE MIX IS RECOMMENDED. OTHER CONCRETE MIXES NEED TO BE APPROVED BY CITY INSPECTOR.
7. A JOINT MUST BE INSTALLED AT THE RIGHT OF WAY BOUNDARY FOR PROPERTY DELINEATION.
8. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.
9. ¾" FROM TOP OF CURB TO FLOWLINE AT DRIVEWAY (TYPE CG–1 CURB ONLY). MUST MAINTAIN ORIGINAL FLOWLINE OF CURB.
10. SIDEWALK ADJOINING CURB SHALL BE 6" THICK, EXTENDING 3' FROM THE DRIVEWAY.
11. THE MAXIMUM WIDTH OF A RESIDENTIAL DRIVEWAY IS 36 FEET WITHIN THE RIGHT OF WAY.

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

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

Sheet Name: DRIVEWAY DETAIL

Drawn By: MJF
Checked By: DL
Date: 05/2021
Proj. #:

GEN-1

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STATE OF MISSOURI
JAMES MICHAEL GALLAGHER
NUMBER PE-2010010499
PROFESSIONAL ENGINEER
9/28/2023

REVISIONS

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STANDARD DETAILS

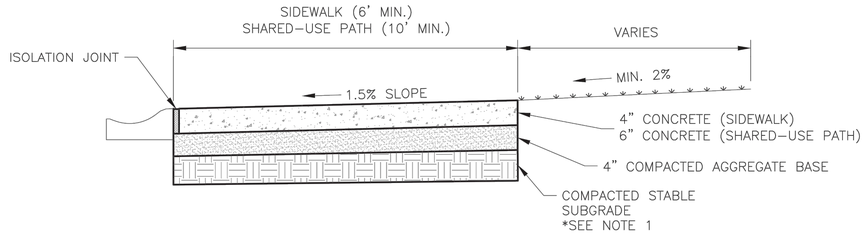
THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS
LEE'S SUMMIT, MISSOURI

2023

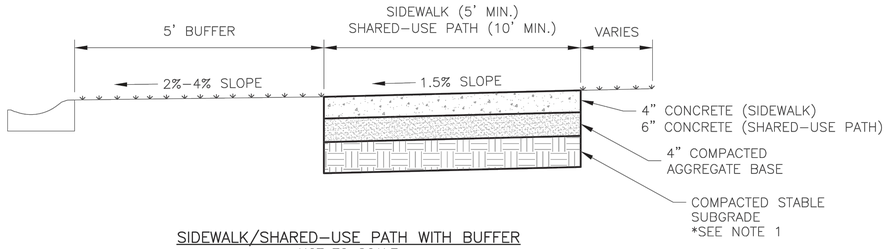
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SHEET 28 OF 86

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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.
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 100 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

SIDEWALK/SHARED-USE PATH DETAIL

Date: 05/2021
Drawn By: MJF
Checked By: DL

GEN-2

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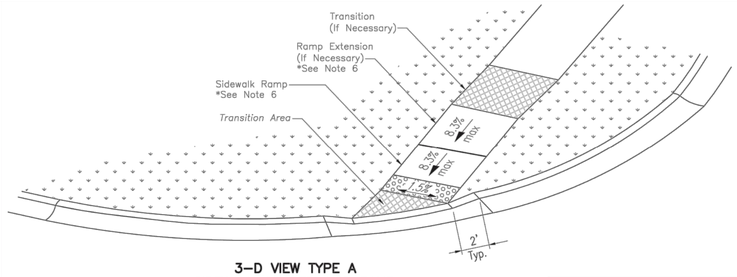
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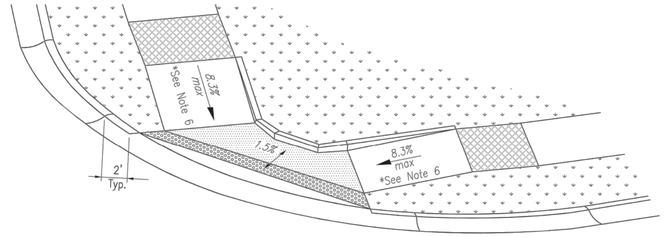
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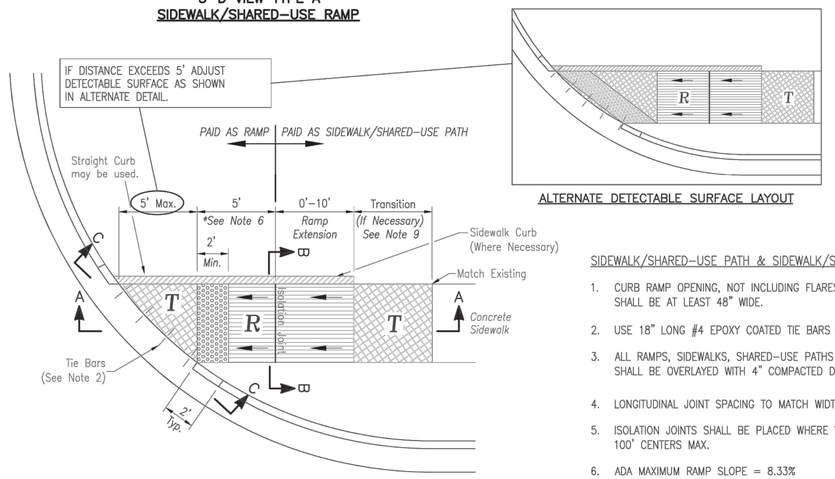
3–D VIEW TYPE A
SIDEWALK/SHARED–USE RAMP

LEGEND

- R — SIDEWALK RAMP
- TS — TURNING SPACE
- DETECTABLE WARNING SURFACE
- T — TRANSITION



3–D VIEW TYPE B
SIDEWALK/SHARED–USE RAMP



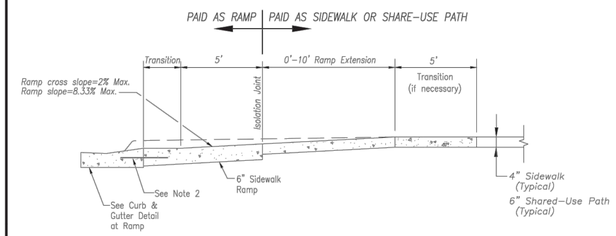
ALTERNATE DETECTABLE SURFACE LAYOUT

TYPE A SIDEWALK/SHARED–USE RAMP
Not to Scale

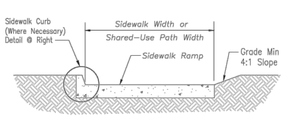
SIDEWALK/SHARED–USE PATH & SIDEWALK/SHARED–USE RAMP NOTES:

1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED–USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 100' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33%
   ADA MAXIMUM CROSS SLOPE = 2.0%
   *ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
7. TURNING SPACES SHALL BE 1.5%, ±0.5%, SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).

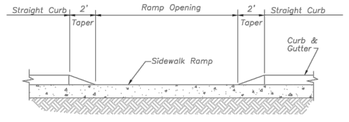
TYPE B SIDEWALK/SHARED–USE RAMP
Not to Scale



SECTION A–A

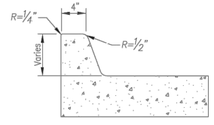


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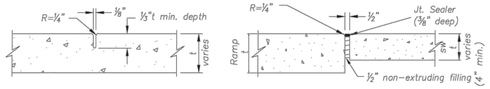


SECTION C–C

TYPE A & B SIDEWALK RAMP
Not to Scale



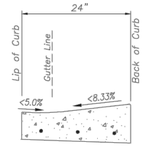
SIDEWALK CURB DETAIL
Not to Scale



CONTRACTION JOINT

ISOLATION JOINT

JOINT DETAILS
Not to Scale



CURB & GUTTER DETAIL AT RAMP
Not to Scale

GEN-3A

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:
ADA RAMP RETROFIT DETAIL

Drawn By: MJF
Checked By: DL
Date: 05/2021
Proj. #:

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STATE OF MISSOURI
JAMES MICHAEL GALLAGHER
NUMBER PE-2010010499
9/14/2023
PROFESSIONAL ENGINEER

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

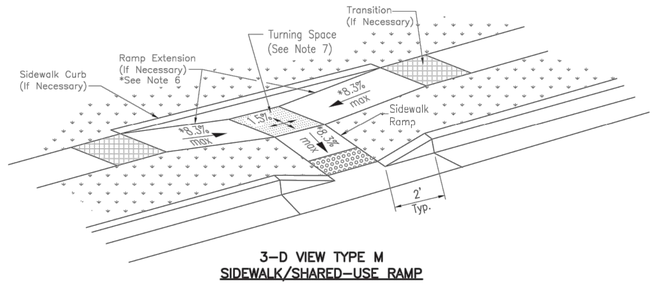
STANDARD DETAILS

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS
LEE'S SUMMIT, MISSOURI
2023

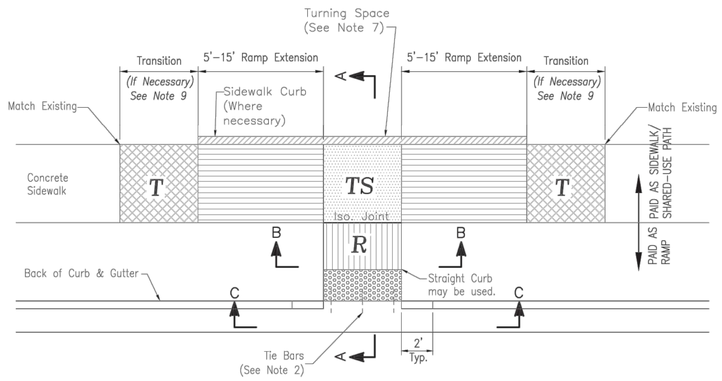
drawn by: BJW
checked by: KLW
approved by: JPG
QA/QC by: JJW
project no.: 021-04643
drawing no.: T_DET01_02104643
date: 7/14/2023

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30 OF 86

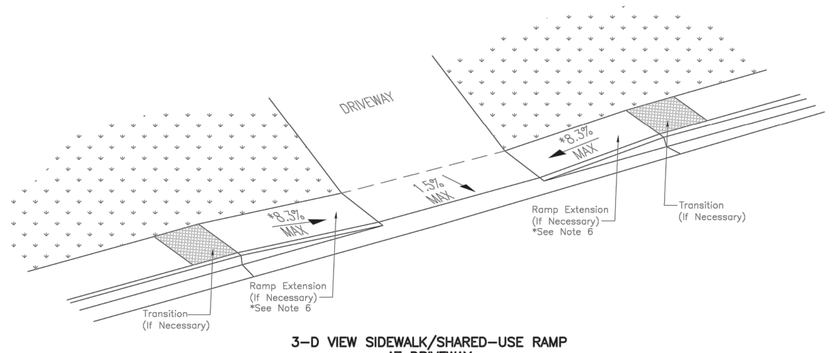
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DATE: Sep 28, 2023 4:15am XREFS: T_PTBLK_D02104643



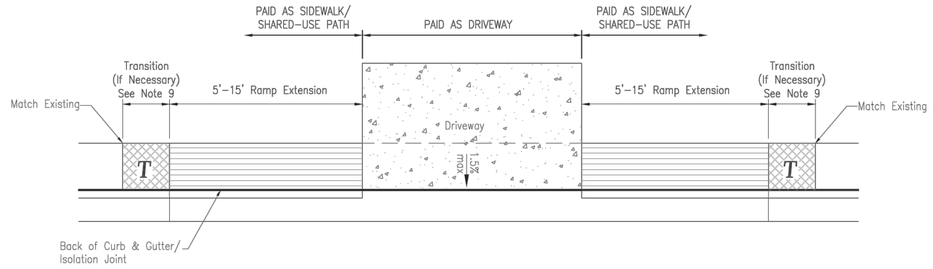
3-D VIEW TYPE M
SIDEWALK/SHARED-USE RAMP



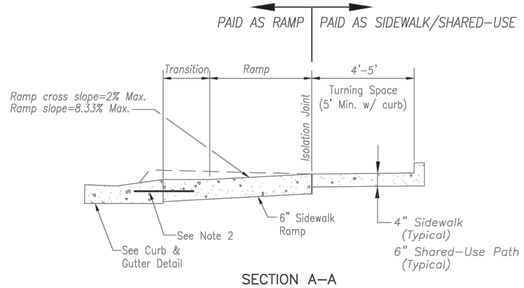
TYPE M SIDEWALK/SHARED-USE RAMP
Not to Scale



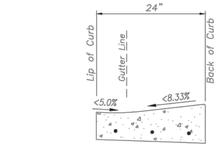
3-D VIEW SIDEWALK/SHARED-USE RAMP
AT DRIVEWAY



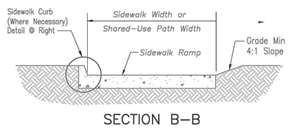
SIDEWALK/SHARED USE RAMP
AT DRIVEWAY WITH ADJOINING CURB



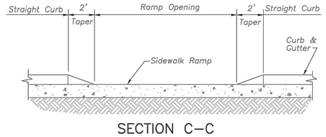
SECTION A-A



CURB & GUTTER DETAIL AT RAMP
Not to Scale

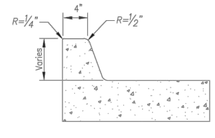


SECTION B-B



SECTION C-C

TYPE M SIDEWALK RAMP
Not to Scale



SIDEWALK CURB DETAIL
Not to Scale

LEGEND

- R — SIDEWALK RAMP
- TS — TURNING SPACE
- DETECTABLE WARNING SURFACE
- T — TRANSITION

SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:

1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 100' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33%
   ADA MAXIMUM CROSS SLOPE = 2.0%
   *ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
7. TURNING SPACES SHALL BE 1.5%, ±0.5%, SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).

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

Sheet Name: ADA RAMP RETROFIT DETAIL

Drawn By: MJF
Checked By: DL
Date: 05/2021
Proj. #:

GEN-3B

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9/18/2023

REVISIONS

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STANDARD DETAILS

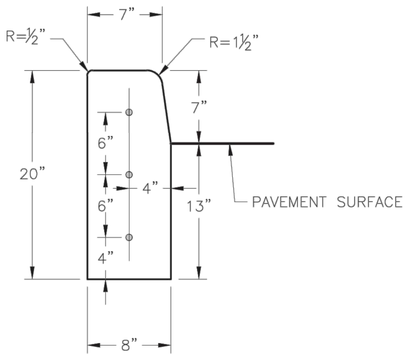
THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS
LEE'S SUMMIT, MISSOURI

2023

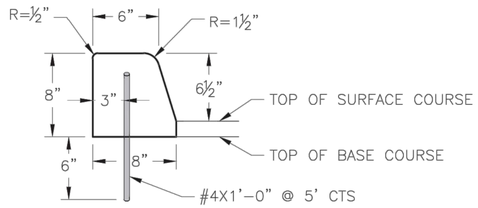
drawn by: BJW
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approved by: JPG
QA/QC by: JJW
project no.: 021-04643
drawing no.: T_DET01_02104643
date: 7/14/2023

SHEET
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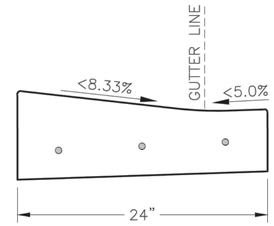
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DATE: Sep 28, 2023 4:15am XREFS: T_PTBLK_D02104643



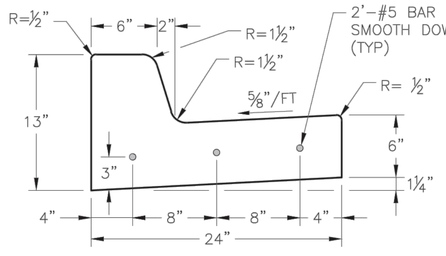
STRAIGHT CURB
(TYPE C–1)



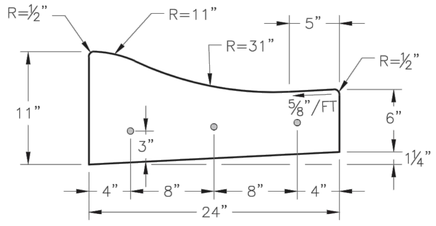
DOWELLED CURB
(TYPE DC)



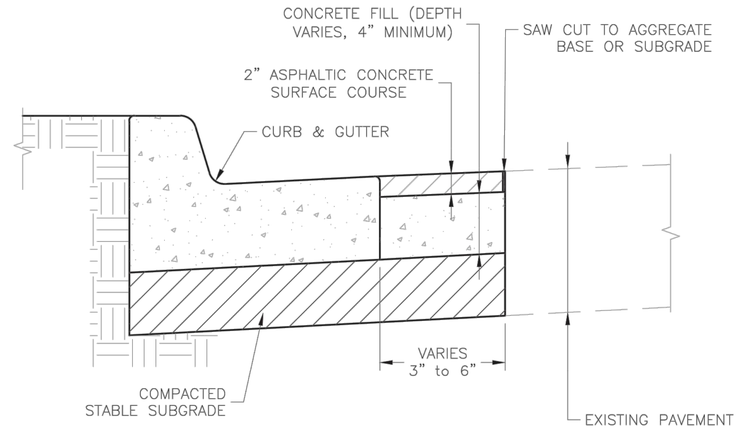
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



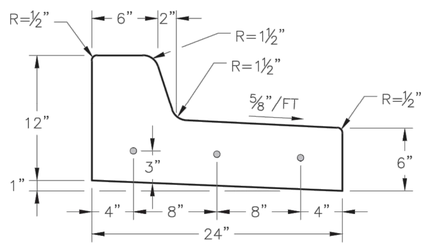
STRAIGHT BACK CURB &
GUTTER
(TYPE CG–1)



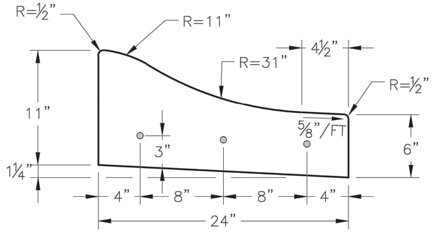
ROLL BACK CURB &
GUTTER
(TYPE CG–2)



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 APPROXIMATELY 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.
8. ALL DOWELS & TIE BARS SHALL BE EPOXY COATED.

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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: 05/2021
Proj. #:

GEN-4

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STATE OF MISSOURI
JAMES MICHAEL GALLAGHER
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9/28/2023

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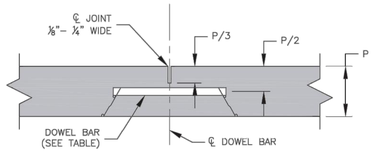
THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS
LEE'S SUMMIT, MISSOURI

2023

drawn by: BJW
checked by: KLW
approved by: JPG
QA/QC by: JJW
project no.: 021-04643
drawing no.: T_DET01_02104643
date: 7/14/2023

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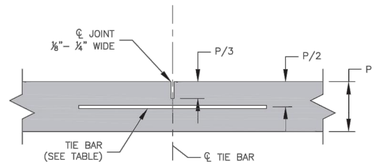
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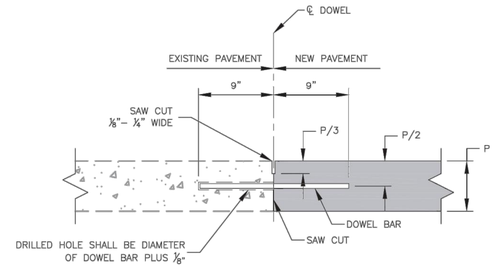
NOTE:

TRANSVERSE CONTRACTION JOINTS FOR CONCRETE PAVEMENT OR BASE WIDENING SHALL MATCH EXISTING JOINTS.

1 TRANSVERSE CONTRACTION JOINT



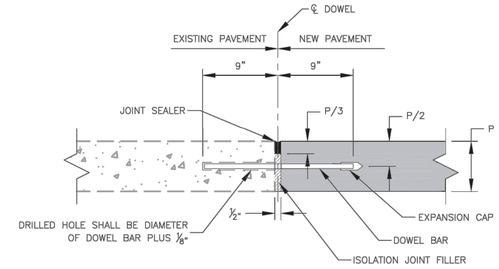
2 LONG. CONTRACTION/CONSTRUCTION JOINT



NOTES:

- DOWEL BARS SHALL BE SMOOTH REINFORCING BARS.
- DOWEL BARS SHALL BE BONDED INTO THE EXISTING PAVEMENT.
- BONDING FOR DOWEL BARS SHALL BE EPOXY OR POLYESTER BONDING AGENTS.
- THE PORTION OF THE DOWEL OUTSIDE THE HOLE SHALL BE COATED WITH AN APPROVED LUBRICANT.

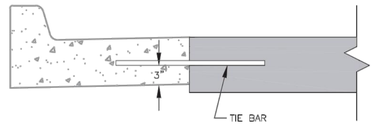
3 TRANSVERSE CONSTRUCTION JOINT



NOTES:

- DOWEL BARS SHALL BE SMOOTH REINFORCING BARS.
- DOWEL BARS SHALL BE BONDED INTO THE EXISTING PAVEMENT.
- BONDING FOR DOWEL BARS SHALL BE EPOXY OR POLYESTER BONDING AGENTS.
- THE PORTION OF THE DOWEL OUTSIDE THE HOLE SHALL BE COATED WITH AN APPROVED LUBRICANT.

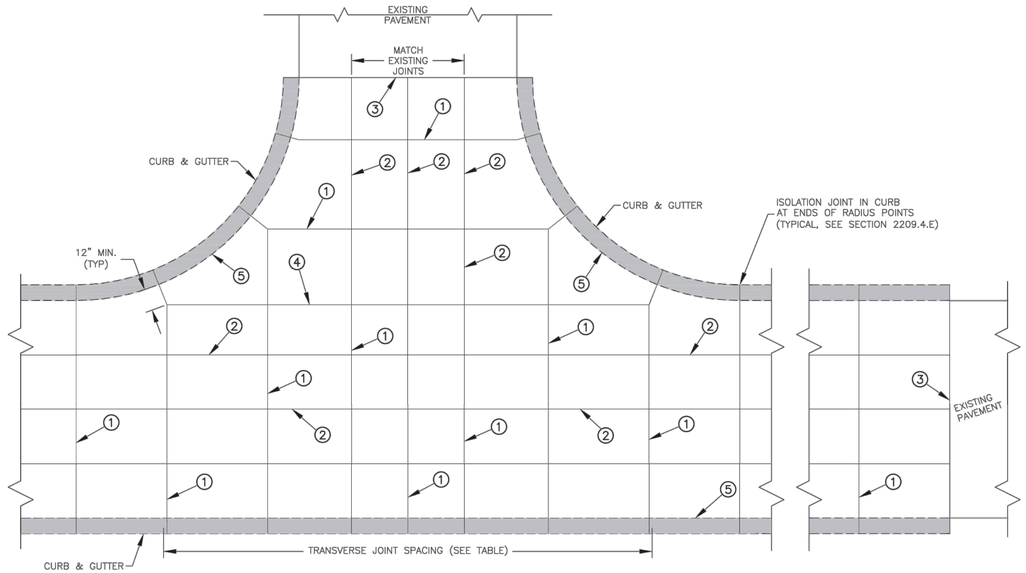
4 TRANSVERSE ISOLATION JOINT



NOTE:

- JOINT NOT NEEDED IF CURB & GUTTER IS MONOLITHICALLY POURED.

5 LONG. CONSTRUCTION JOINT (CURB & GUTTER)



JOINT SPACING/INTERSECTION DETAIL

TABLE						
PCCP THICKNESS (P)	DOWEL SIZE	TIE BAR SIZE	DOWEL SPACING	TIE BAR SPACING	MAX. TRAN. SPACING	MAX. LONG. SPACING
6"	N/A	#5 x 30"	N/A	30" CTRS.	12'	12'
7"	1" x 18"	#5 x 30"	12" CTRS.	30" CTRS.	14'	14'
8"	1 ¼" x 18"	#5 x 30"	12" CTRS.	30" CTRS.	15'	14'
≥9"	1 ½" x 18"	#5 x 30"	12" CTRS.	30" CTRS.	15'	15'

GENERAL NOTES:

- THE FINAL POSITION OF ALL DOWELS AND TIE BARS SHALL BE PERPENDICULAR TO THE PLANE OF THE JOINT AND PARALLEL TO THE SURFACE OF THE PAVEMENT AND PARALLEL TO EACH OTHER.
- ALL DOWELS & TIE BARS SHALL BE EPOXY COATED.
- DOWEL BARS SHALL BE PLACED AT 9 INCHES FROM LONGITUDINAL JOINTS.
- TIE BARS SHALL BE PLACED AT 12 INCHES FROM TRANSVERSE JOINTS.
- PANEL LENGTH TO WIDTH RATIO SHALL NOT EXCEED 1.5 TO 1.
- DOWEL BASKET SHIPPING WIRE SHALL NOT BE CUT.
- CONTRACTOR SHALL SUBMIT PROJECT SPECIFIC JOINTING PLAN AT LEAST TWO WEEKS BEFORE PAVING OPERATIONS.
- IN ACCORDANCE WITH 2208.4.D, ALL JOINTS SHALL BE SEALED, INCLUDING CURB & GUTTER.

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

Sheet Name: TYPICAL PAVEMENT JOINT DETAILS

Drawn By: MJF
Checked By: GMB
Date: 05/2021
Proj. #:

GEN-9

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STATE OF MISSOURI
JAMES MICHAEL GALLAGHER
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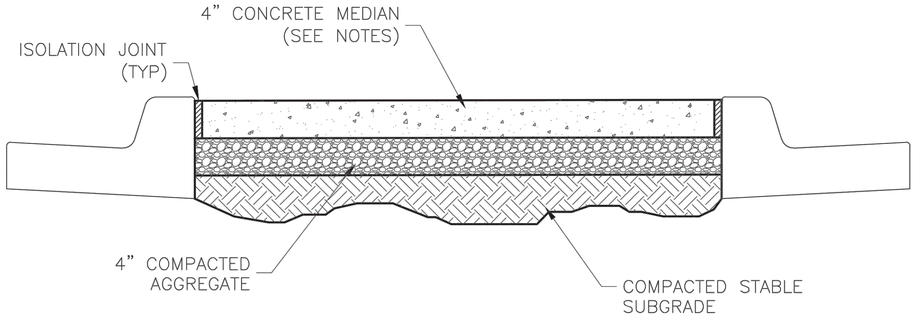
REVISIONS
REV. NO. | DATE | REVISIONS DESCRIPTION

STANDARD DETAILS
THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS
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2023

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checked by: KLW
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drawing no.: T_DET01_02104643
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SHEET
33 OF 86

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GENERAL NOTES

1. SUBGRADE SHALL BE STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. JOINT AT BACK OF CURB LINE SHALL BE AN ISOLATION JOINT.
3. KCMMB 4K CONCRETE MIX WITH BRICK DARK RED COLOR IS REQUIRED FOR ALL MEDIANS.
4. ALL MEDIANS SHALL HAVE THE RUNNING BOND PATTERN STAMPED INTO THE CONCRETE.
5. CLEAR CURING COMPOUND SHALL BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

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MEDIAN REPLACEMENT DETAIL

Date: 05/2021
Drawn By: MJF
Checked By: MP

GEN-10

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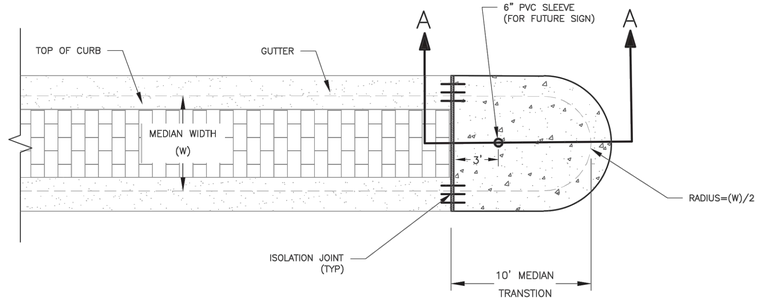
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COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

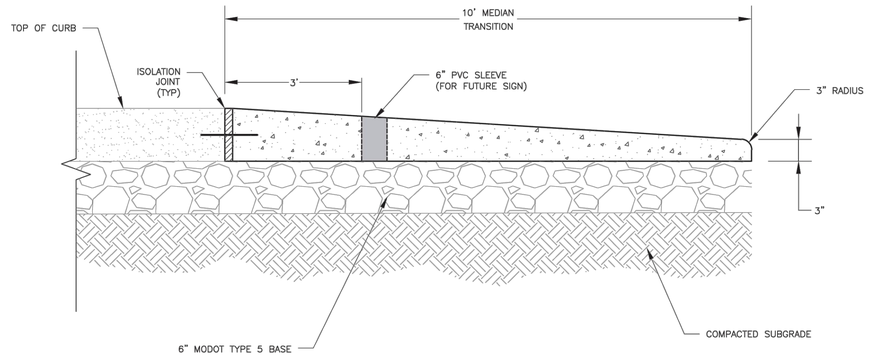
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drawn by: BJW
checked by: KLW
approved by: JPS
QA/QC by: JJW
project no.: 021-04643
drawing no.: T_DET01_02104643
date: 7/14/2023

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MEDIAN TRANSITION
PLAN VIEW



MEDIAN TRANSITION
SECTION A–A

NOTES:

1. ¾" ISOLATION JOINT WITH 3 (2'–#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT THE CONNECTION OF THE CURB. THESE DOWEL BARS SHALL BE EPOXY COATED, GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. ALL MEDIAN TRANSITIONS SHALL BE POURED MONOLITHICALLY USING KCMMB 4K CONCRETE.
3. SUBGRADE SHALL BE STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 6" COMPACTED, DENSE GRADED AGGREGATE BASE.
4. WHITE CURING COMPOUND SHALL 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

MEDIAN TRANSITION DETAIL

Date: 05/2021
Drawn By: MJF
Checked By: MP

GEN-11

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STATE OF MISSOURI
JAMES MICHAEL GALLAGHER
NUMBER PE-2018010499
PROFESSIONAL ENGINEER
7/14/2023

REVISIONS

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STANDARD DETAILS

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

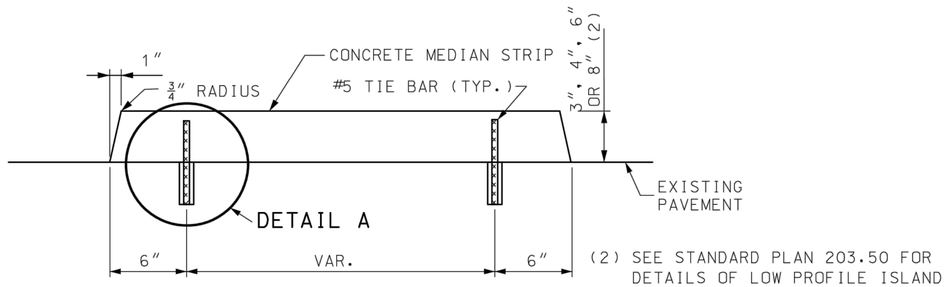
LEE'S SUMMIT, MISSOURI

2023

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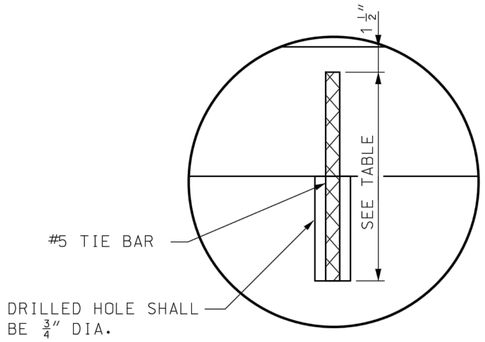
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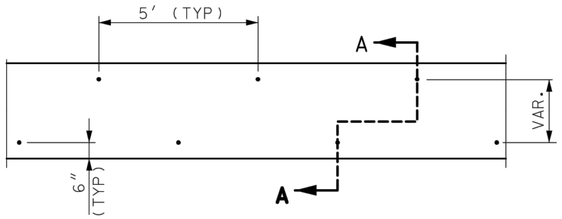
(2) SEE STANDARD PLAN 203.50 FOR DETAILS OF LOW PROFILE ISLAND

SECTION A–A
CONCRETE MEDIAN STRIP

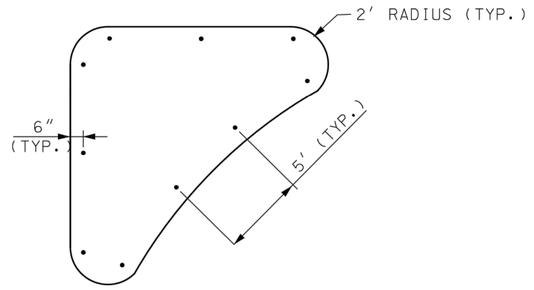


DETAIL A

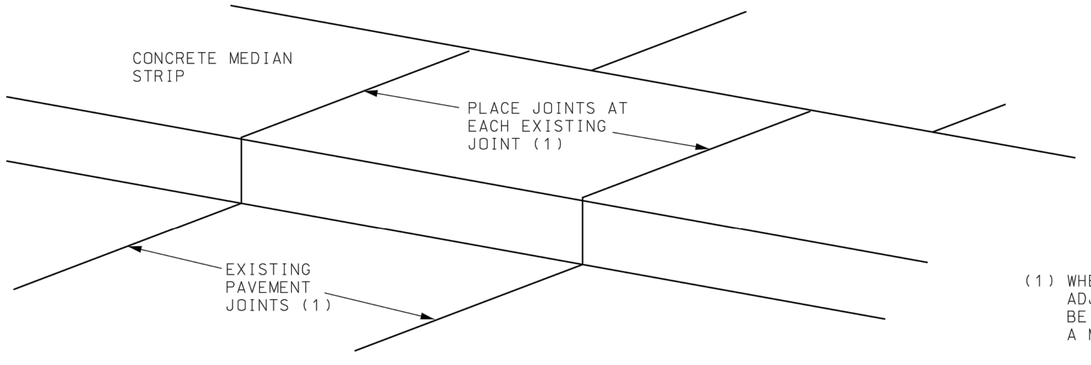
MEDIAN HEIGHT	BAR LENGTH
3″	8″
4″	9″
6″	11″
8″	13″



TIE BAR LOCATIONS FOR CONCRETE MEDIAN STRIP



TIE BAR LOCATIONS FOR CONCRETE MEDIAN STRIP (ISLAND)



CONCRETE MEDIAN STRIP JOINT LOCATION

(1) WHEN THERE ARE NO VISIBLE JOINTS IN THE ADJACENT PAVEMENT. THE JOINT SPACING WILL BE EQUAL TO THE MEDIAN STRIP WIDTH, WITH A MINIMUM SPACING OF 10′.

GENERAL NOTES:

TIE BARS SHALL BE EPOXY COATED, DEFORMED REINFORCING BARS MEETING THE REQUIREMENTS OF SECTION 710 AND 1057.

BONDING FOR TIE BARS SHALL BE EPOXY OR POLYESTER BONDING AGENTS AS SPECIFIED IN SECTION 1039.

THE FACE OF THE MEDIAN MAY BE CONSTRUCTED WITHOUT BATTER WHEN CONSTRUCTED ON A RADIUS OF 6′ OR LESS.

WHEN CONCRETE MEDIANS ARE CONSTRUCTED DIRECTLY BENEATH GUARDRAIL, THE MEDIAN HEIGHT WILL BE 4″.

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

STATE OF MISSOURI
TRAVIS D. KOESTNER
NUMBER PE-30042
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

CONCRETE MEDIAN STRIP

DATE EFFECTIVE: 10/01/2020
DATE PREPARED: 7/21/2020

608.30A

SHEET NO. 1 OF 1

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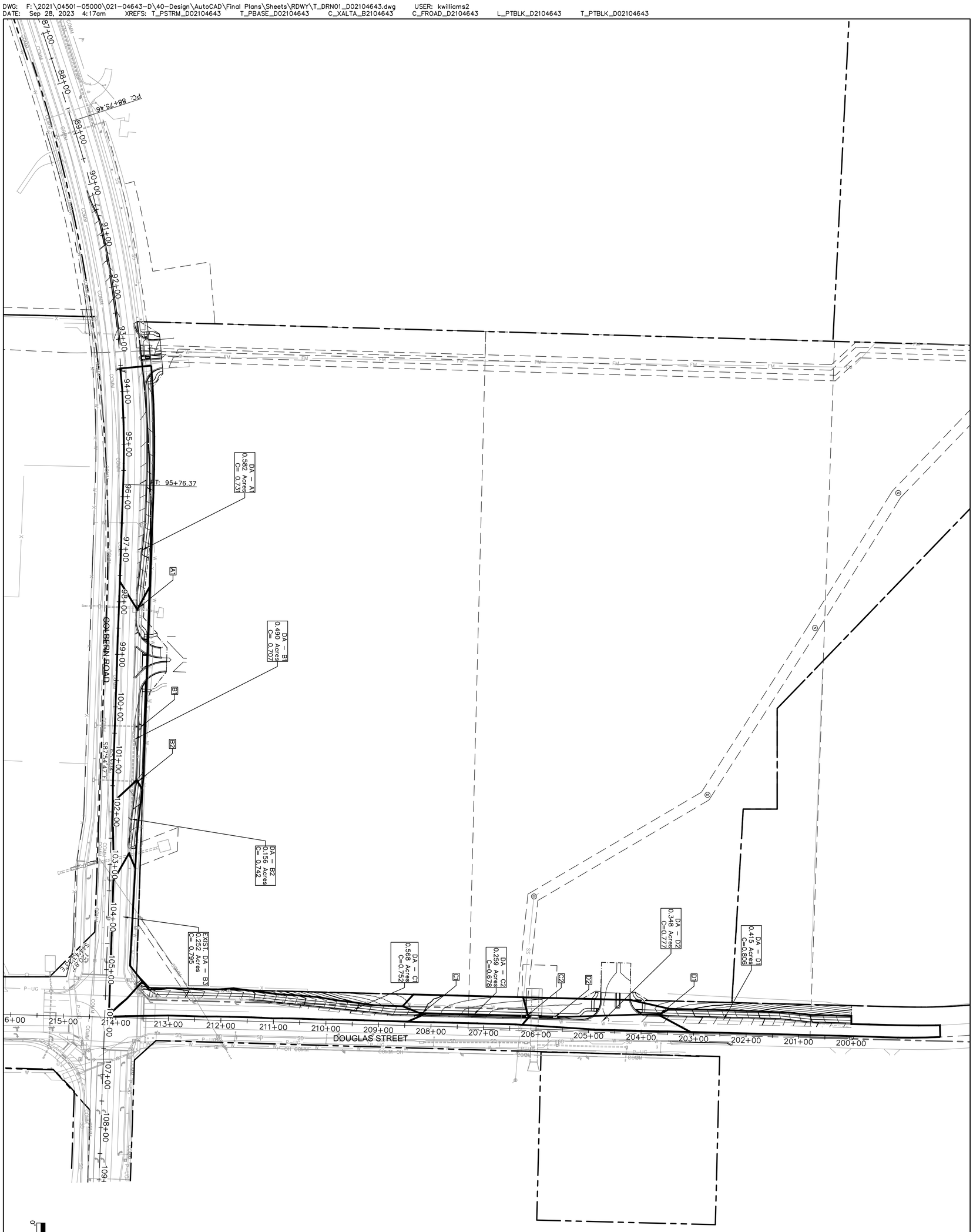
THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS
LEE'S SUMMIT, MISSOURI
2023

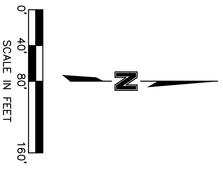
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SHEET 36 OF 86

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DRAINAGE AREA MAP

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI 2023

REV. NO.	DATE	REVISIONS DESCRIPTION

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QA/QC by: JAW
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10-YEAR STORM INLET CALCULATIONS																							
Label	Inlet	Inlet Location	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Inlet C	Inlet Drainage Area (acres)	Carryover CA (acres)	Total Inlet Tc (min)	Local Intensity (in/h)	System Intensity (in/h)	Curb Opening Length (ft)	Flow (Captured) (cfs)	Flow (Total Bypassed) (cfs)	Capture Efficiency (Calculated) (%)	Bypass Target	Bypassed CA (acres)	Spread / Top Width (ft)	Depth (Gutter) (in)	Headloss Method	Headloss Coefficient (Standard)	Headloss (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Notes
A1	CURB INLET - 8x3	On Grade	971.73	963.91	0.73	0.58	0.00	7.0	6.79	6.58	8.0	2.73	0.19	93.60	B1	0.03	7.9	2.4	Standard	0.30	0.24	965.71	965.47	
B1	CURB INLET - 8x3	In Sag	968.38	964.35	0.71	0.49	0.03	5.0	7.35	7.35	6.4	2.77	0.00	100.00		0.00	13.0	12.1	Standard	0.40	0.11	965.13	965.02	
B2	CURB INLET - 4x3	On Grade	969.07	963.37	0.74	0.16	0.01	5.0	7.35	7.35	4.0	0.89	0.00	99.80	B1	0.00	5.9	1.9	Standard	0.40	0.03	963.85	963.81	
C1	CURB INLET - 6x3	On Grade	960.00	952.00	0.75	0.57	0.00	7.0	6.79	6.79	6.0	2.28	0.64	78.10	C2	0.09	7.8	2.4	Standard	0.30	0.07	952.67	952.60	
C2	CURB INLET - 4x3	On Grade	956.16	944.00	0.50	0.26	0.09	5.0	7.35	6.64	4.0	1.49	0.17	90.00	D2	0.022	8.3	2.5	Standard	0.15	0.05	944.81	944.76	
D1	CURB INLET - 6x3	On Grade	958.06	952.00	0.81	0.42	0.00	7.2	6.74	6.74	6.0	2.00	0.27	88.00	D2	0.04	7.3	2.3	Standard	1.00	0.22	952.78	952.56	
D2	CURB INLET - 8x3	In Sag	955.93	945.00	0.68	0.35	0.06	5.0	7.35	6.59	6.4	2.21	0.00	100.00		0.00	11.2	11.6	Standard	0.30	0.10	945.91	945.80	

50-YEAR STORM PIPE CALCULATIONS																							
Label	Start Node	Stop Node	Upstream Inlet Area (acres)	Upstream Inlet C	Upstream Inlet Tc (min)	System CA (acres)	Time (Pipe Flow) (min)	System Flow Time (min)	System Rational Flow (cfs)	Invert (Start) (ft)	Invert (Stop) (ft)	Slope (Calculated) (%)	Length (Scaled) (ft)	Section Type	Material	Diameter (in)	Flow (cfs)	Velocity (ft/s)	Capacity (Full Flow) (cfs)	Flow / Capacity (Design) (%)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Energy Grade Line (In) (ft)	Energy Grade Line (Out) (ft)	Notes
P-B1	B1	Exist. Inlet B1A	0.49	0.71	5.0	0.45	0.03	5.00	5.09	964.35	964.26	1.00	11.00	Circle	Concrete	15	5.09	4.14	6.46	78.7	967.24	967.18	967.51	967.45	
P-B2	B2	Exist. Inlet B2A	0.16	0.74	5.0	0.12	0.02	5.00	1.40	963.37	963.07	3.44	10.20	Circle	Concrete	15	1.40	1.14	11.99	11.7	966.08	966.08	966.10	966.10	
P-C1	C1	C2	0.57	0.75	7.0	0.28	0.56	6.95	2.89	952.00	949.00	1.50	200.00	Circle	Concrete	15	2.89	5.95	7.91	36.6	952.68	949.52	952.96	950.07	
P-C2	C2	Exist. RCB	0.26	0.50	5.0	0.47	0.01	7.51	4.85	944.00	943.50	5.93	14.90	Circle	Concrete	15	4.85	11.30	15.73	30.8	944.89	944.95	945.31	945.20	
P-D1	D1	D2	0.42	0.81	7.2	0.25	0.58	7.16	2.60	952.00	949.00	1.50	200.40	Circle	Concrete	15	2.60	5.77	7.90	32.9	952.65	949.49	952.90	950.01	
P-D2	D2	Exist. RCB	0.35	0.68	5.0	0.66	0.05	7.74	6.74	945.00	943.50	4.69	38.40	Circle	Concrete	15	6.74	11.30	13.99	48.2	946.04	944.95	946.63	945.42	

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PROFESSIONAL ENGINEER

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STORM SEWER DRAINAGE CALCULATIONS

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

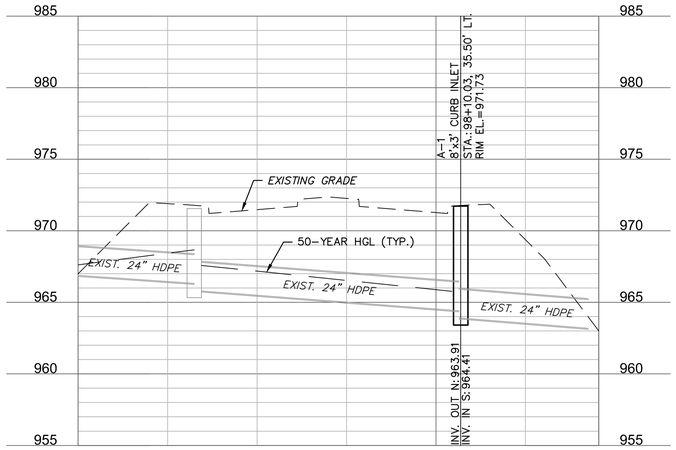
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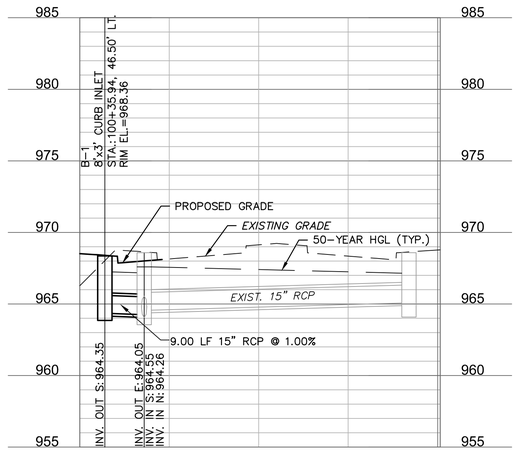
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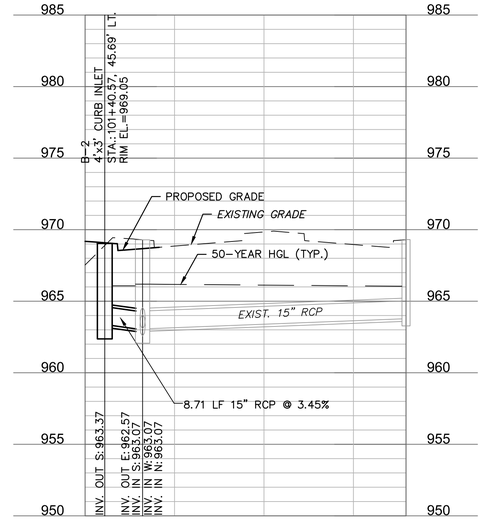
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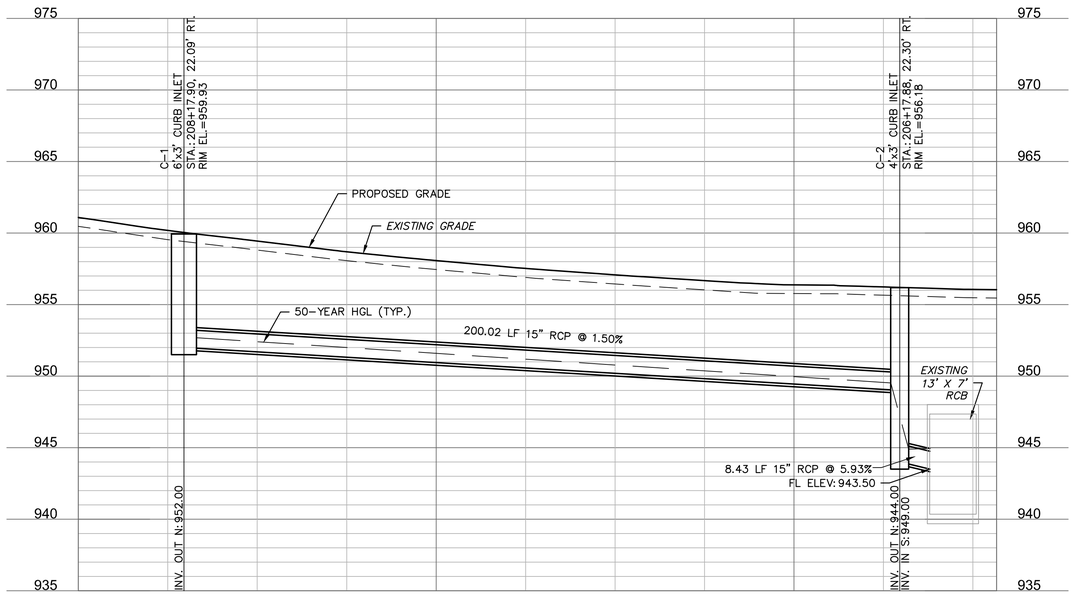
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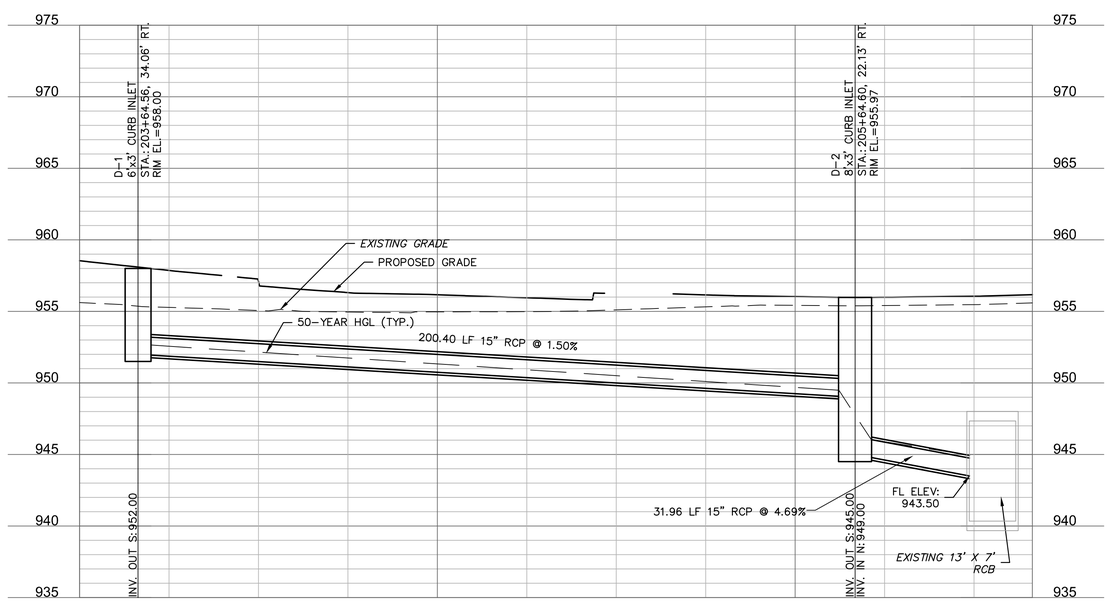
STORMLINE B2



STORMLINE C



STORMLINE D



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7/14/2023

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STORM SEWER PLAN AND PROFILE

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

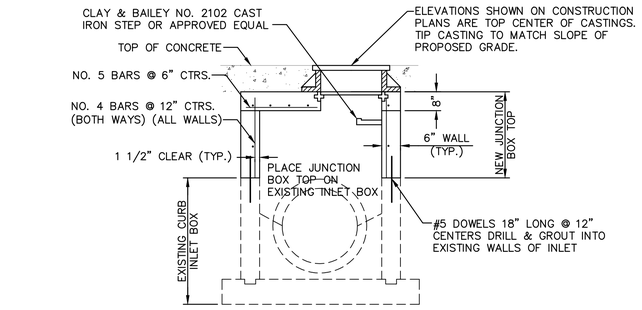
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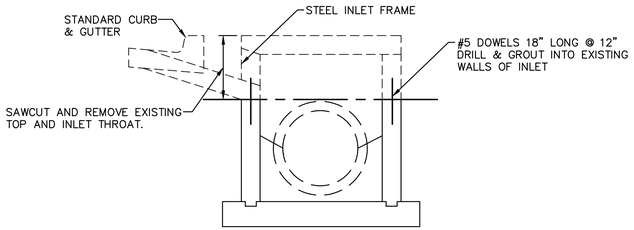
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39 OF 86

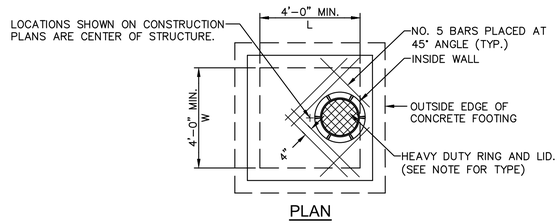
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JUNCTION BOX TOP



EXISTING CURB INLET



PLAN

JUNCTION BOX CONVERSION DETAIL

NOT TO SCALE

1. REINFORCING STEEL SHALL BE NEW BILLET, MINIMUM GRADE 40 AS PER ASTM A615, AND SHALL BE BENT COLD.
2. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. TOLERANCE OF ± 1/8" SHALL BE PERMITTED.
3. ALL LAP SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.
4. ALL REINFORCING STEEL SHALL BE SUPPORTED ON FABRICATED STEEL BAR SUPPORTS @ 3'-0" MAXIMUM SPACING.
5. FLOOR OF INLET SHALL BE SHAPED WITH INVERT TO PROVIDE SMOOTH FLOW.
6. LOCATE MH RING AND COVER OVER OUTLET. STEPS SHALL BE SPACED AT 1'-4" O.C. VERTICALLY.
7. BEVEL ALL EXPOSED EDGES WITH 3/4" CHAMFER OR 1/2" TOOLED EDGE.
8. MANHOLE RING AND COVER SHALL BE CLAY & BAILEY NO. 2007, NEENAH NO. R-1669, DEETER NO. 1320 OR GCI NO. SM2206 STD.

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STORM SEWER DETAILS

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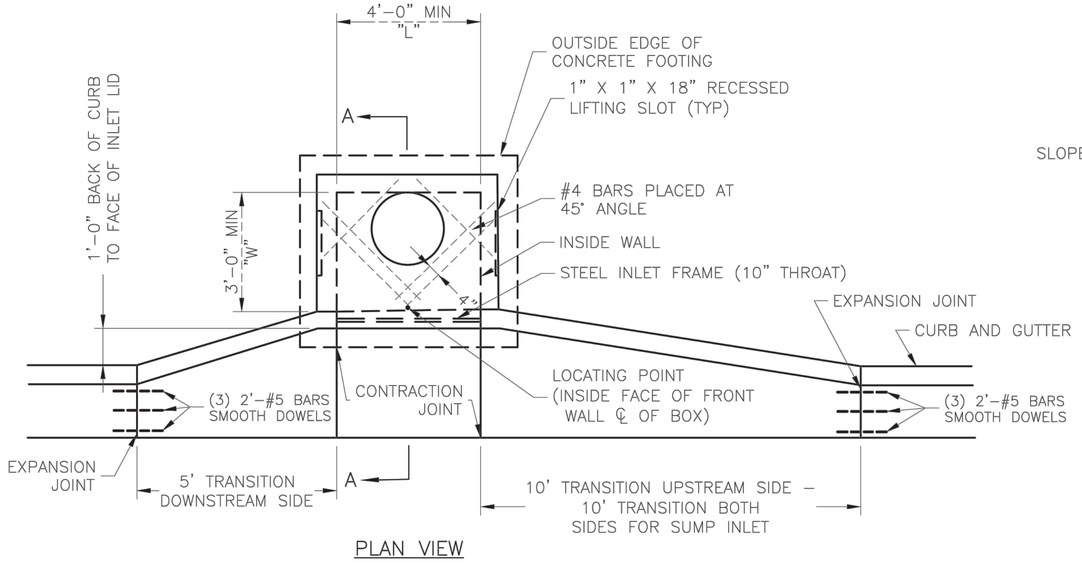
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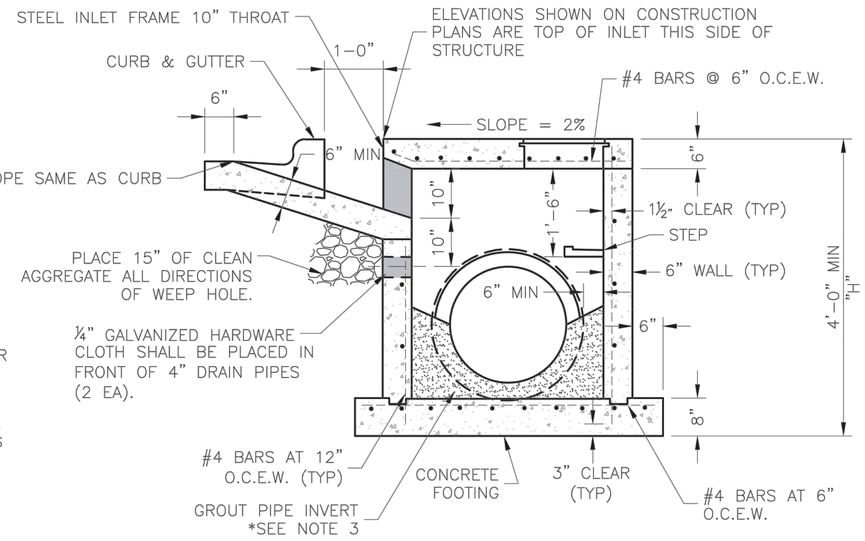
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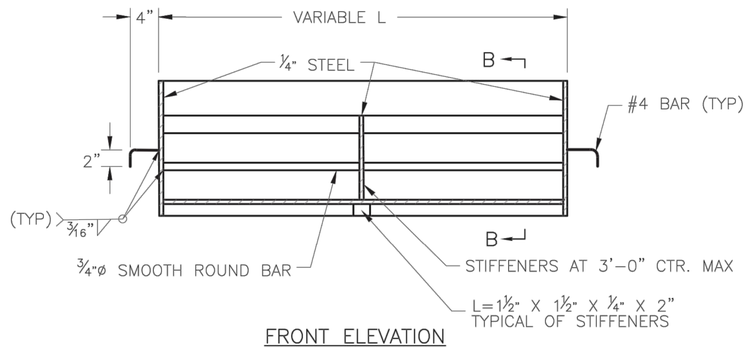
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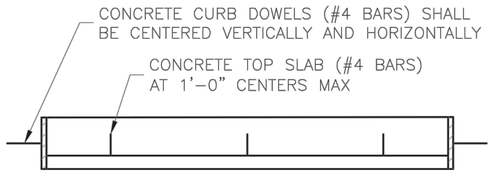
PLAN VIEW



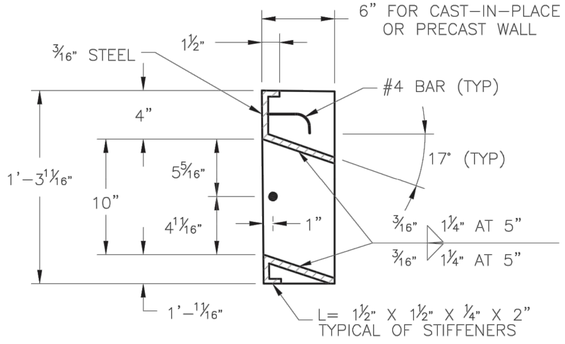
SECTION A–A



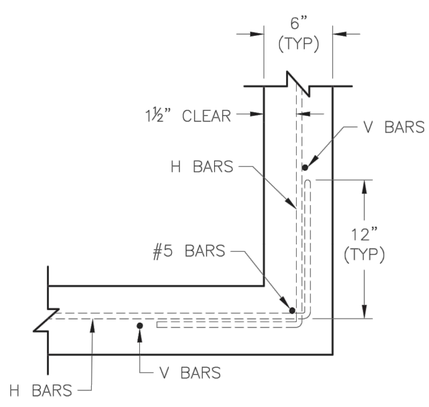
FRONT ELEVATION



PLAN VIEW



SECTION B–B



WALL CORNER DETAIL

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.

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.

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: 05/2021
Proj. #:

STM-1

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Olsson - Civil Engineering
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STATE OF MISSOURI
JAMES MICHAEL GALLAGHER
NUMBER PE-2010010499
PROFESSIONAL ENGINEER
9/18/2023

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

STORM SEWER DETAILS

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS
LEE'S SUMMIT, MISSOURI

2023

drawn by: BJW
checked by: KLW
approved by: JPG
QA/QC by: JJW
project no.: 021-04643
drawing no: T_STMD01_D02104643
date: 7/14/2023

SHEET
41 OF 86

DWG: F:\2021\04501-05000\021-04643-D\40-Design\AutoCAD\Final Plans\Sheets\RDWY\T_STMD01_D02104643.dwg USER: kwilliams2
DATE: Sep 28, 2023 4:19am XREFS: T_PTBLK_D02104643

GENERAL NOTES:

1. The contractor shall have one (1) signed copy of the plans (approved by the City of Lee's Summit) and one (1) copy of the appropriate Design and Construction Standards and Specification at the job site at all times.
2. 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 designee is notified of such intent, and all required and properly executed bonds and contract agreements are received and approved by the City. The Contractor shall notify the inspector of the exact construction schedule so that inspections of the street light installation can be made.
3. The Construction covered by these plans shall conform to all applicable standards and specifications of the Public Works Department of the City of Lee's Summit, Missouri, in current use. Specifically, but not exclusive to: Street Lighting Specification: Section 2800. Street Lighting Standard Drawings: SL-1 through SL-5.
4. All workmanship and materials shall be subject to the inspection and approval of the Public Works Department of the City of Lee's Summit, Missouri.
5. All traffic control in conjunction with the street lighting construction shall be in conformance with the Manual on Uniform Traffic Control Devices (MUTCD) and the City's Standard Drawings sheet "Typical Traffic Control for Street Lighting Construction".
6. The Contractor shall, by his own investigation, and prior to commencing work, satisfy himself as to the surface and subsurface conditions to be encountered. No additional payments will be made for excavation of rock and backfill materials.
7. Existing underground (U/G), overhead (O.H.) utilities, and drainage structures have been plotted from available information and therefore their locations must be considered approximate only. It is the responsibility of the individual Contractor to exactly locate each utility before actual construction, and be fully responsible for any and all damages, which might be occasioned by the Contrator's failure to exactly locate and preserve any and all utilities. In addition, the Contractor shall avoid disruption of services provided by the utilities and shall insure that proper clearances (overhead and underground) are maintained for the duration of construction. See cover sheet for utility company contact information.
8. The Contractor shall stake the location of all street lighting poles, power supplies, and junction or pull boxes to be installed. The Engineer or his designee shall inspect the staking prior to any excavation and/or construction. Minor relocation of equipment to avoid conflicts may be allowed with the approval of the Engineer or his designee.
9. All street light poles, conduit, junction or pull boxes, and power supplies shall be located within the City's right-of-way or general utility easements.
10. Screw-in anchor foundations have been assumed for all areas, unless otherwise noted in the plans. In the event a screw-in anchor may not be installed, then the Contractor may, at his own option, install the screw-in anchor within a pre-drilled hole, or pour a concrete foundation. No change in payment shall be made for foundation substitutions. All pre-drilled holes shall be backfilled with flowable backfill. All conduit trenches shall be backfilled with earth or AB-3 and properly compacted in accordance with the Specifications. The top 4" to 6" of backfill shall be topsoil.
11. Factory conduit bends (PVC 90-degree elbows) shall be installed into all pole bases, junction boxes, pull boxes, and power supplies. Couplings shall be used to transition between HDPE and PVC conduits.
12. Galvanized Rigid Steel (GRS) conduit is to be used if conduit is to be installed on a structure. All GRS conduits that are to be used shall be cleaned by the Contractor with a mandrel prior to installation of cable.
13. Contractor shall install a 2-1/2" PVC (Schedule 40) conduit with pull string to the base of the secondary service point. Contractor shall coordinate secondary service hook-up with the electrical utility company.
14. Bracket arms shall be oriented perpendicular to the roadway unless otherwise indicated on the plans.
15. All splices to the distribution cable shall be made with junction boxes, pull boxes, or pole bases using required connectors. Splices will only be allowed in junction or pull boxes where a circuit branches. All splices in boxes shall be protected with a waterproof resin splice kit.
16. All distribution cables in junction boxes, pull boxes, and power supplies shall be labeled with round aluminum identification tags attached to the cables with copper wire. The power supply and circuit number shall be stamped or engraved on each tag.
17. All grounding requirements and National Electric Code requirements shall be met for the street lighting installation to prevent any hazards to the public.
18. All existing street lighting equipment to be used in place (U.I.P.) unless otherwise noted. Damage to any existing street lighting equipment due to the construction shall be the responsibility of the Contractor. The equipment shall be replaced or repaired (as directed by the City) with materials equal or better than the existing material.
19. The Contractor shall be responsible for coordinating the removal of existing equipment with the respective owner(s). The Contractor shall remove, dissassemble, and deliver salvageable equipment per the instructions in the special provisions or as discussed at the pre-construction meeting. The Contractor shall be responsible for any damage or loss of salvageable equipment.
20. The Contractor shall take all precautions necessary to minimize the downtime of the existing street lighting systems to be modified.
21. All existing curb and gutter, sidewalk, pavement, drainage structures, and irrigation systems damaged during the street lighting construction shall be replaced to meet or exceed the original condition. Unless otherwise directed, grassy areas which were originally sodded shall be re-sodded. All restoration work will be at the Contractor's expense, and shall be acceptable to the Engineer or his designee.
22. Any equipment damaged during construction shall be replaced at the contractor's expense.
23. The Contractor shall be required to provide and attach street addresses and identification numbers on the power supply cabinets, provide and attach the identification and pole numbers on each street light pole as indicated in the City's Standard Drawings. The address and identification labels/stickers are subsidiary to other items, not separate payment.
24. Substantial completion of the street light system shall be defined as all components of the system fully operational. Substantial completion shall allow for testing of the system.
25. Final acceptance of the street light system shall be defined as final written approval and acceptance by the City, including completion or correction of all punch list items and the street light system fully operational for a time period of fifteen (15) days, without any problem, as noted in the Specifications. Contractor shall provide marked up as-built plans prior to final acceptance by the City.

PROJECT SPECIFICATION NOTES:

1. The center of all pole foundations within the median shall be centered in the median, unless otherwise noted in the plans.

RECAPITULATION OF QUANTITIES

BILL OF MATERIALS (1)

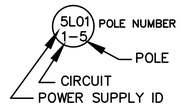
ITEM	UNIT	QUANTITY
RELOCATION OF EXISTING STREET LIGHT POLE	EACH	2
STREET LIGHT POLE (P25S)	EACH	
6' BRACKET ARMS	EACH	2
15' BRACKET ARMS	EACH	2
B40D SCREW-IN FOUNDATION	EACH	2
COBRA-HEAD LUMINAIRE w/250 WATT H.P.S. EQUIVALENT LED LAMP	EACH	
TYPE I JUNCTION BOX	EACH	
TYPE II JUNCTION BOX	EACH	1
4-CIRCUIT POWER SUPPLY ASSEMBLY	EACH	
POWER SUPPLY FOUNDATION	EACH	
3" SCHEDULE 40 P.V.C. CONDUIT (FROM CONTROL CENTER TO POWER POLE)	LN. FT.	
2" HIGH DENSITY POLYETHYLENE (HDPE) CONDUIT (GRAY)	LN. FT.	500
3-1c No. 2 DISTRIBUTION CABLE	LN. FT.	
3-1c No. 3 DISTRIBUTION CABLE	LN. FT.	540
1-1c#4 TRACER WIRE AND PULL STRING	LN. FT.	
1c No. 10 POLE AND BRACKET CABLE	LN. FT.	
BREAK-AWAY NON-FUSED CONNECTOR KITS	EACH	
BREAK-AWAY FUSED CONNECTOR KITS	EACH	

NOTES:

(1) THESE APPROXIMATE QUANTITIES WERE PREPARED SOLEY FOR THE CONTRACTOR'S CONVENIENCE. IT IS NOT GUARANTEED THAT THIS LIST OF MATERIALS CONSTITUTES ALL ITEMS REQUIRED FOR THE COMPLETION OF THE WORK.

STREET LIGHT LEGEND

- RELOCATED TWIN-HEAD ROADWAY LUMINAIRES POLE AND ASSOCIATED HARDWARE
- TYPE 2 JUNCTION BOX
- CLASS 1 PULL BOX
- PAD MOUNTED POWER SUPPLY (SHADED AREA INDICATES PHOTOCELL ORIENTATION) (NORTH OR EAST)
- STREET LIGHTING CONDUIT
- CONSTRUCTION NOTE NUMBER
- STEEL POLE
- WOOD POLE
- SIGNAL MAST ARM POLE
- SIGNAL PEDESTAL
- TRAFFIC SIGNAL CONTROLLER CABINET
- SECONDARY SERVICE POINT
- [5] BOX NUMBER
- EXISTING DUAL ARM STREET LIGHT
- STREET LIGHTING CONDUIT



WIRING DIAGRAM

olsson
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
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STATE OF MISSOURI
JOSHUA PUDLOWSKI
NUMBER PE-2009019851
PROFESSIONAL ENGINEER
9/29/23

REVISIONS

REV. NO.	REVISIONS DESCRIPTION	DATE

STREET LIGHTING PLAN
GENERAL NOTES & LEGEND

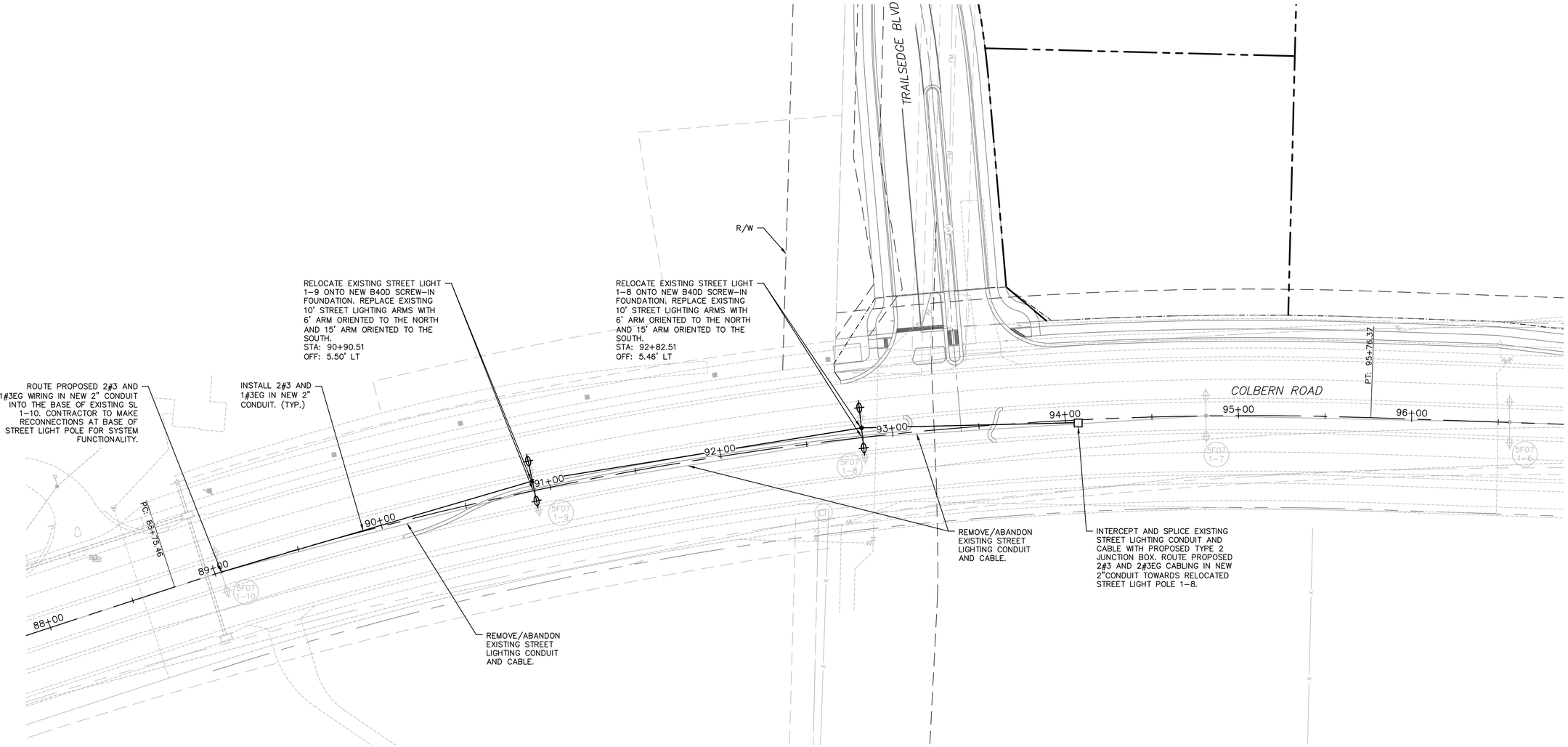
THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

2023

drawn by: SRH
checked by: JSC
approved by: JSS
QA/QC by: SLJ
project no.: 021-04643
drawing no.: F_LGT_D2104643
date: 9/27/2023

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LIGHTING POLE SCHEDULE								
POLE NO	STATION	OFFSET	POLE TYPE	BRACKET ARM LEFT	BRACKET ARM RIGHT	LED LUMINAIRE	DISTRIBUTION	BASE
1-8	92+82.51	5.46' LT	EXISTING	6'	15'	EXISTING	TYPE II	B40D
1-9	90+90.51	5.50' LT	EXISTING	6'	15'	EXISTING	TYPE II	B40D

* POLES SHALL BE INSTALLED IN CENTER OF MEDIAN
NOTE: THE CONTRACTOR SHALL COORDINATE WITH THE CITY TO OBTAIN CABINET AND POWER SUPPLY ADDRESS INFORMATION PRIOR TO INSTALLATION.

JUNCTION BOXES		
JUNCTION NUMBER	ALIGNMENT	STATION OFFSET
J1	COLBERN ROAD	94+07.32 ; 1.83' RT

N

0' 15' 30' 60'
SCALE IN FEET

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STATE OF MISSOURI
JOSHUA PUDLOWSKI
NUMBER PE-2012018951
PROFESSIONAL ENGINEER
9/29/23

REVISIONS
REV. NO. | DATE | REVISIONS DESCRIPTION

LIGHTING RELOCATION
COLBERN ROAD

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

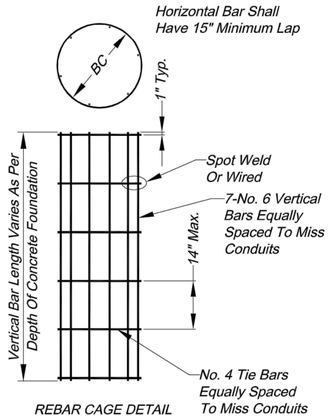
2023

drawn by: SRH
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drawing no.: F_LGT_D2104643.DWG
date: 9/27/2023

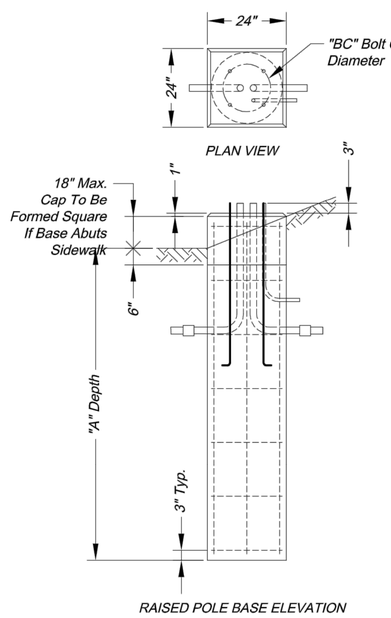
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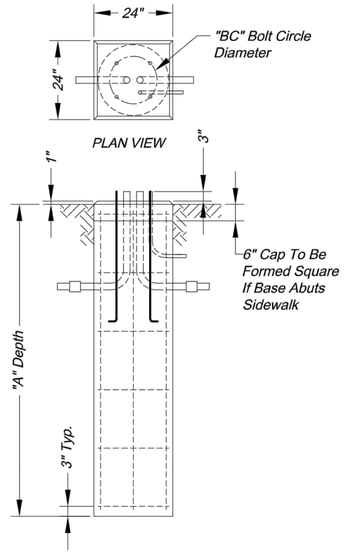
POLE TYPE	BRACKET ARM	DEPTH (A)	BOLT CIRCLE (BC)
P14	---	48"	9.5"
P30S or P30D	Single or Dual	72"	11.0"
P40S	Single	94"	11.5"
P40D	Dual	94"	14.5"



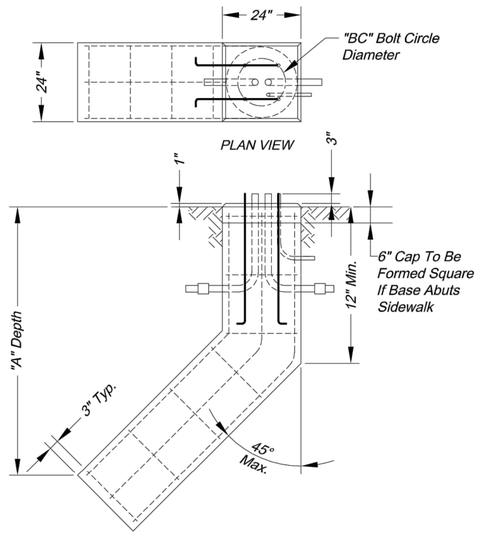
REBAR CAGE DETAIL



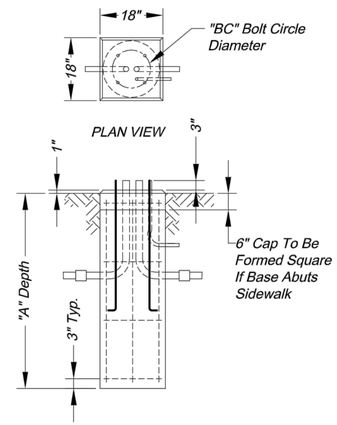
RAISED POLE BASE ELEVATION



AT-GRADE POLE BASE ELEVATION



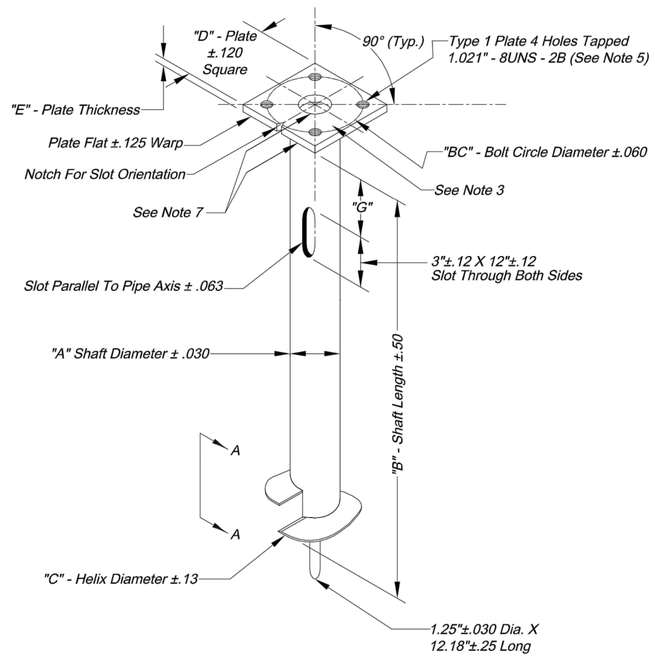
OFFSET CONCRETE BASE



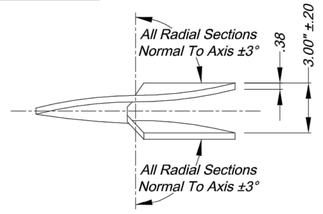
PEDESTAL POLE BASE

CONCRETE BASE DETAILS

BASE TYPE	POLE TYPE	MINIMUM TORQUE RATING (lbs. ft.)	MAXMUM TORQUE RATING (lbs. ft.)	SHAFT DIA. (A)	SHAFT LENGTH (B)	HELIX DIA. (C)	PLATE SIZE (D)	PLATE THICKNESS (E)	BOLT CIRCLE (BC)	SLOT LOCATION (G)
B14	P14	2,000	15,000	6"	48"	12"	10"	0.75"	9.5"	12"
B30	P30S & P30D	2,000	15,000	6"	60"	12"	12"	1.0"	11.0"	18"
B40S	P40S	2,000	20,000	8"	60"	14"	12"	1.0"	11.5"	18"
B40D	P40D	2,000	20,000	8"	60"	14"	15"	1.25"	14.5"	18"



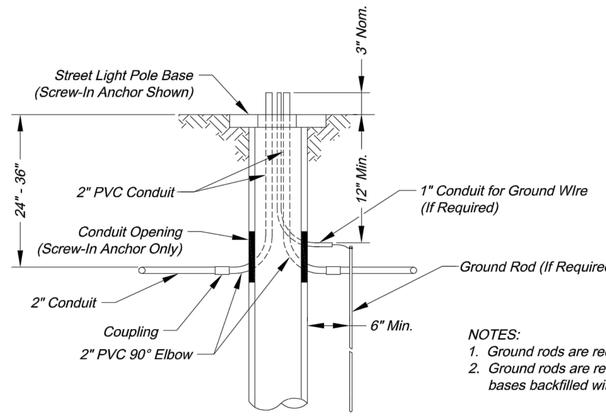
SCREW-IN ANCHOR BASE DETAILS



Helix Must Be Formed By Matching Metal Die

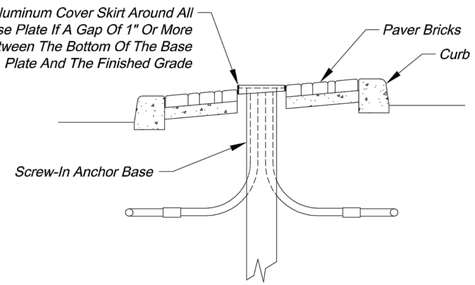
SECTION A-A

NOTES:
1. Finish: Hot dip galvanize per ASTM-A153 (latest revision).
2. Baseplate to be perpendicular to shaft axis (±1°) and hole and concentric (±.188 I.D. Fim) to shaft axis.
3. All bases shall be identified by the manufacturer's initials and the anchor type (1 or 2) permanently stamped into the top plate with 1/2" letters., the Julian date of manufacture shall be permanently stamped in 1/4" numerals.
4. Pilot point and shaft axes to be concentric (±.125 Fim) and in line (±2°).
5. Tap 1" holes on the specified bolt circle perpendicular to the baseplate. Clean and chase the threads after hot-dip galvanizing so that a bolt may be installed.
6. Preheat (room temperature 70°F), tumbleblast, handgrind, and clean baseplate, helix, and core on all weld areas.
7. Flame cut irregularities permissible:
   (1) Valleys not to exceed 3/32 in. below nominal surface level.
   (2) Peaks or positive irregularities not to exceed 1/32 in. above nominal surface level or intersections of nominal surfaces.
8. Manufacturer to have in effect industry recognized written quality control for all materials and manufacturing processes.
9. All material is to be new, unused and mill traceable meeting the following specifications:
   - Baseplate: ASTM A36-(latest revision) hot rolled steel plate (conform to AASHTO technical bul. #270).
   - Shaft: Steel pipe piles, seemless or straight welded, grade 2 per ASTM A252. Alternate material: pipe type E or S, grade B per ASTM A53.
   - Helix: ASTM A635-(latest revision) hot rolled steel plate
   - Pilot Point: ASTM A575-(latest revision) hot rolled steel
   - Bolt: ASTM A325 or Grade 5 SAE J429 - 1" diameter hot dip galvanized hex head bolt. Bolt shall include one each lock and flat washer.
10. The design and performance integrity of the foundation shall be verified by full-scale tests by qualified engineers independent of the manufacturer. Certified test reports shall be provided upon request.
11. Flame cut notch or projection will be on the base plate to indicate slot orientation.



NOTES:
1. Ground rods are required for all concrete bases.
2. Ground rods are required for screw-in anchor bases backfilled with flowable fill or concrete.

CONDUIT ENTRANCE AND GROUNDING



COVERSKIRT REQUIREMENTS

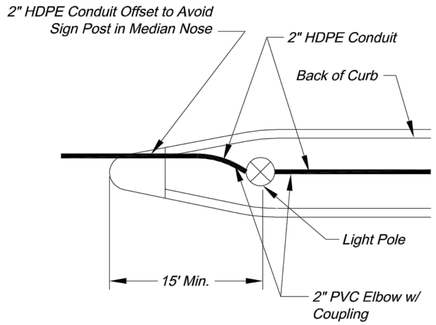
CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project: COLBERN ROAD

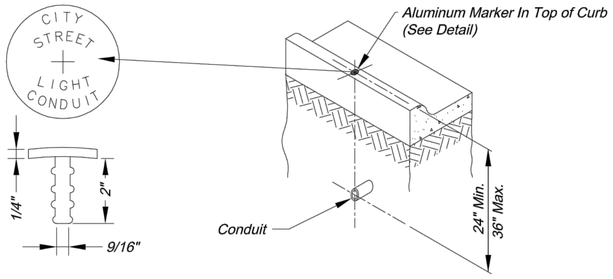
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STANDARD DRAWING SL-2

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

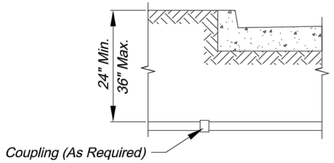


STREET LIGHT POLE IN MEDIAN

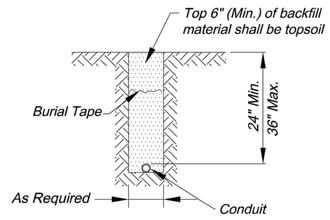


CONDUIT MARKING DETAIL

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



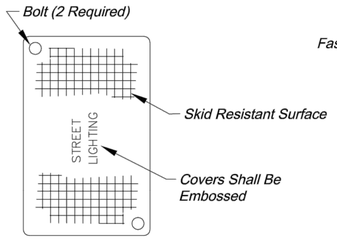
BORED CONDUIT



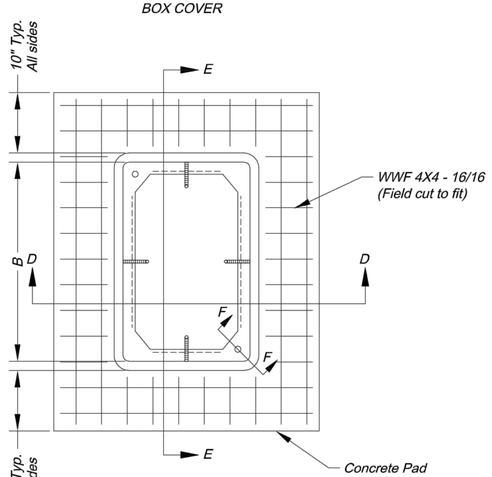
TRENCHED OR PLOWED CONDUIT

CONDUIT LOCATIONS

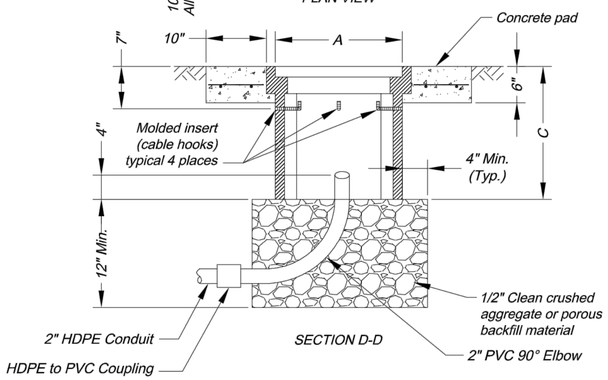
NOTES:
1. Backfill under paved surfaces shall be flowable fill.
2. The conduit shall not be covered unless inspected and approved by the City Engineer, so as to ensure proper depth, correct conduit material, and proper conduit end treatment.



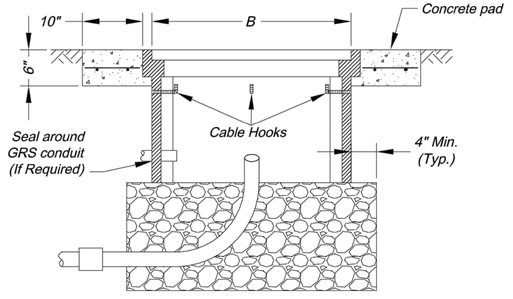
BOX COVER



PLAN VIEW

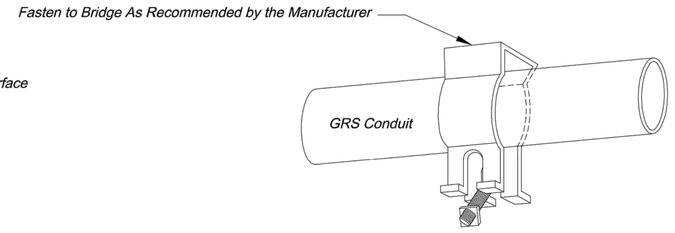


SECTION D-D

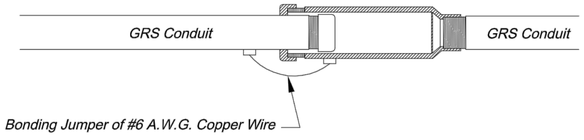


SECTION E-E

PULL OR JUNCTION BOX DETAILS



CONDUIT HANGER



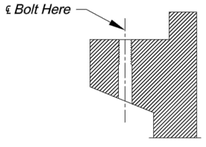
EXPANSION FITTING

GRS CONDUIT DETAILS

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

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

All dimensions shown are nominal



SECTION F-F

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

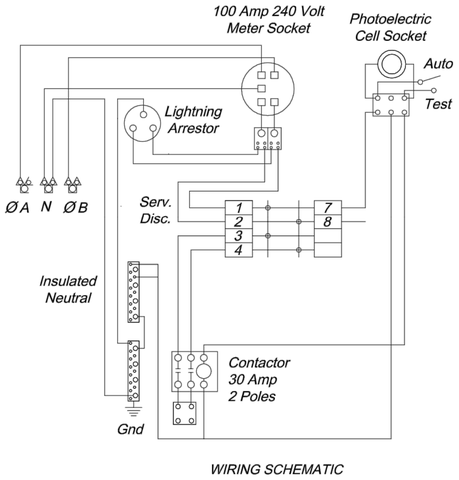
CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project: COLBERN ROAD

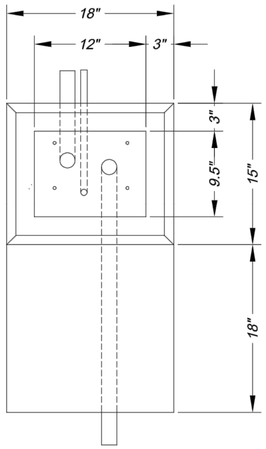
BOX AND CONDUIT DETAILS

Sheet Name: STANDARD DRAWING SL-3

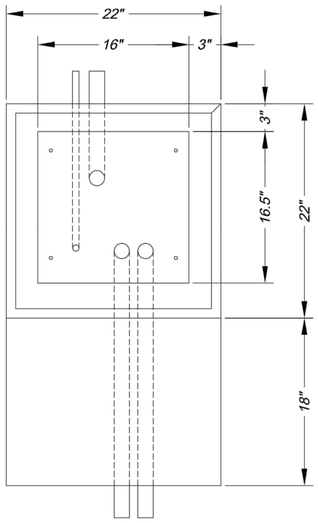
Drawn By: JH
Checked By: JW
Date: 08/21/2009



WIRING SCHEMATIC

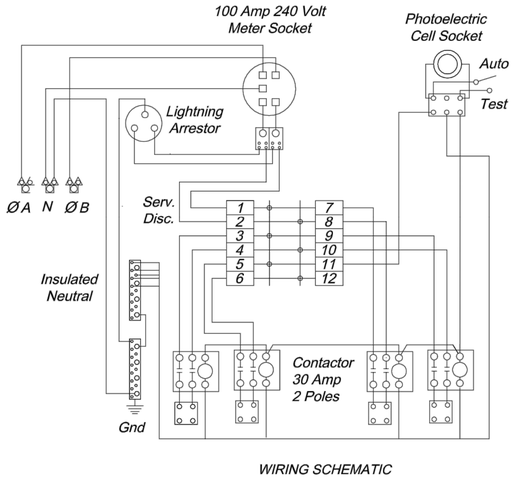


PLAN VIEW

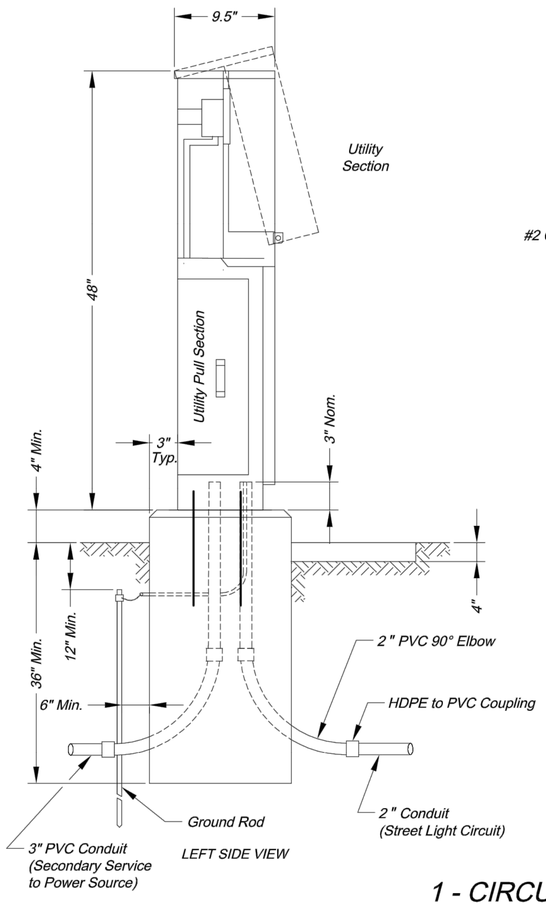


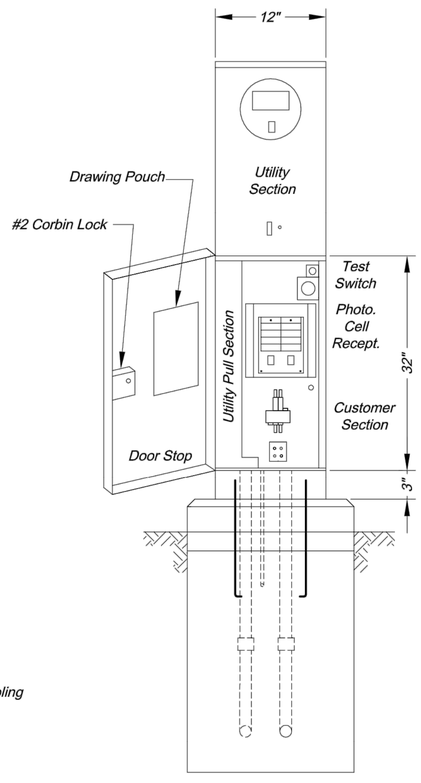
PLAN VIEW

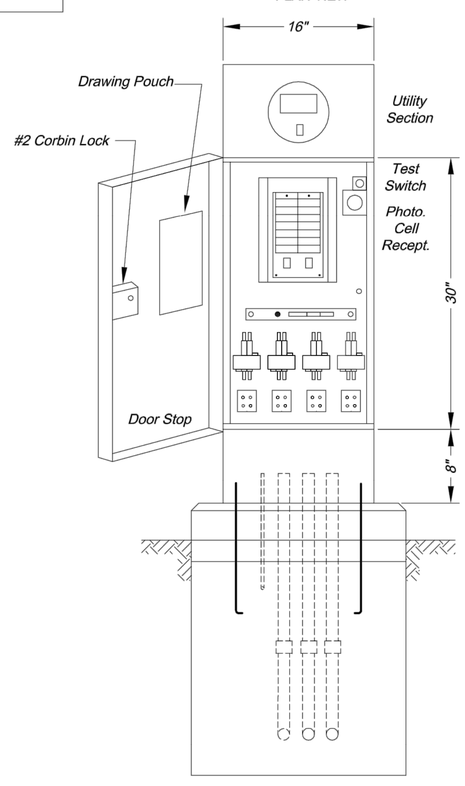
FUSED CONTACTORS
ARE NOT PERMITTED

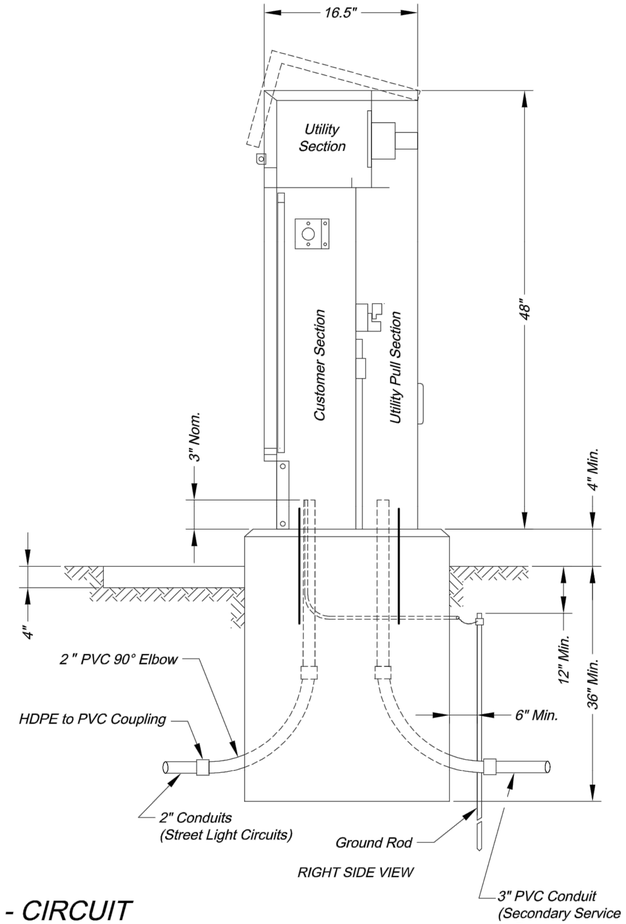


WIRING SCHEMATIC









1 - CIRCUIT POWER SUPPLY

4 - CIRCUIT POWER SUPPLY

NOTES:

1. Photoelectric cell should be oriented to the north or east.
2. Seal around joint between cabinet and base with lifetime silicone caulk.
3. All exposed edges of the base should have a 1" chamfer
4. If base is adjacent to a traffic signal controller, raised portion of base (above finished grade) should be constructed to the same height as the signal controller base.
5. The street address with the power supply number below it should be labeled on the upper portion of the cabinet facing the street. The City will supply stickers for the Contractor to install.

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220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
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Project: COLBERN ROAD

POWER SUPPLY DETAILS

Sheet Name: STANDARD DRAWING SL-4

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

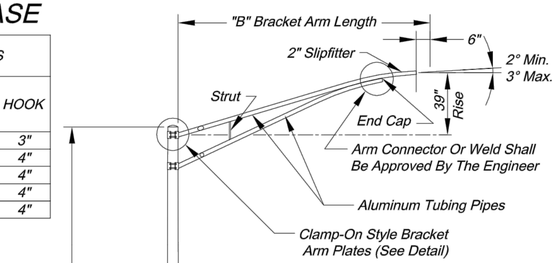
STREET LIGHT POLE, BRACKET ARM, AND BREAK-AWAY BASE

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

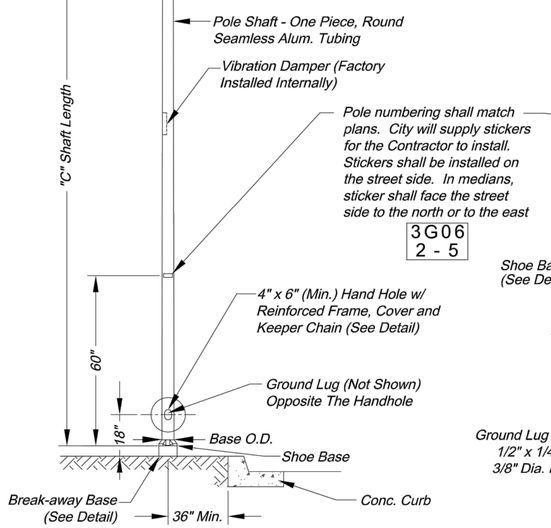
NOTES:
1. All poles, arms, and miscellaneous equipment shall conform to these details and as specified by the latest city standard specifications.
2. Pole shaft shall have a satin ground finish.
3. All hardware (bolts, nuts, washers but not including anchor bolts) not otherwise specifically designated in the specifications or details shall be 300-series stainless steel conforming to ASTM A193 or A194.
4. Anchor bolts shall be used with concrete bases. Anchor bolts shall be steel with 50,000 PSI minimum yield; top 10" min. galvanized; including 8 nuts and 8 flat washers galvanized to ASTM A153 standards. Galvanized hex head bolts (see pole foundation sheet) shall be used with screw-in anchor bases. 4 bolts, 4 nuts and 8 flat washers to provided with each anchor.
5. All welding is to be done with 4043 weld wire. All arms and shafts are to be heat-treated to T6 temper after welding.
6. Anchor bolts shall project above the concrete base as per manufacturer's recommended practices, 2 ½ " to 3".
7. The aluminum street light pole assembly, including anchorage and luminaire, shall comply with the latest city standard specifications and the American Association of State Highway and Transportation Officials (AASHTO) load wind loading.
8. All poles and arms shall be clearly identified by the manufacturer's name, abbreviation, or symbol engraved on the shaft, shoe base, hand hole, or other means such as to be readily visible after installation.

MATERIAL DATA

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

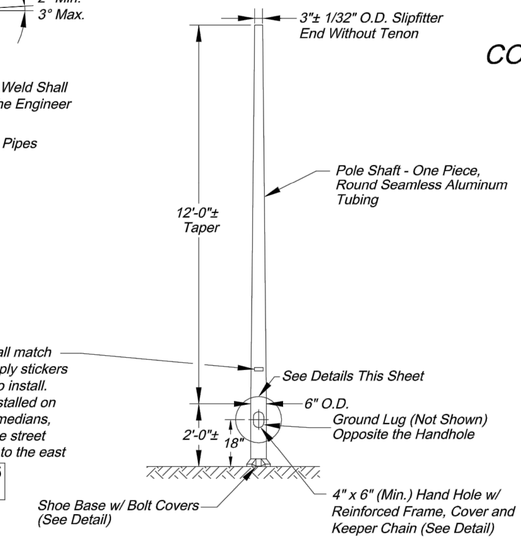


BRACKET ARM



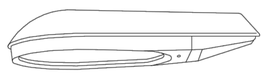
POLE ELEVATION

(See tables for dimensions and materials)



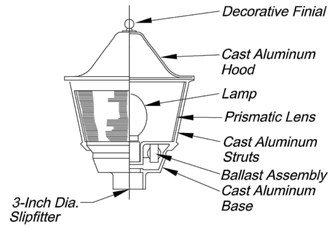
PEDESTAL POLE ELEVATION

(See tables for dimensions and materials)



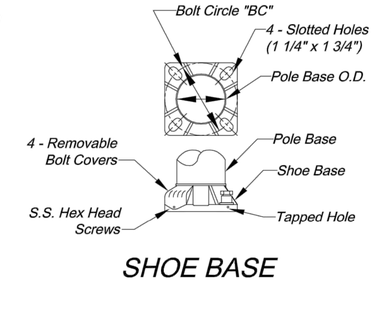
COBRA HEAD STYLE LUMINAIRE

150, 250, or 400 Watt HPS

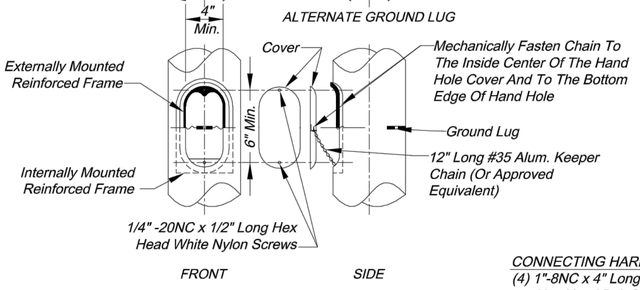


POST TOP LUMINAIRE

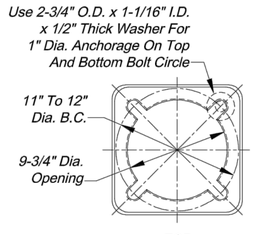
150 Watt HPS

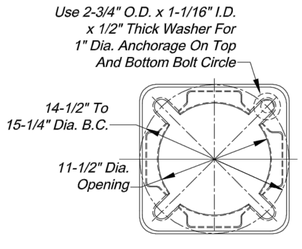


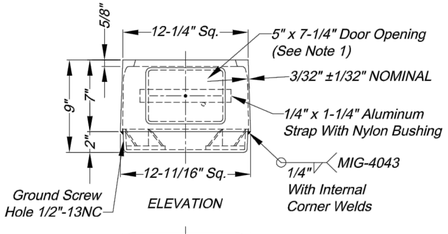
SHOE BASE

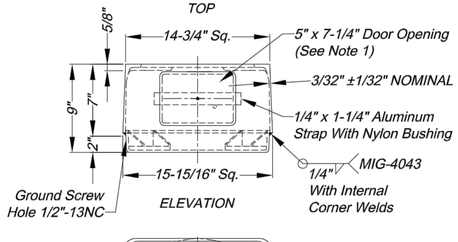


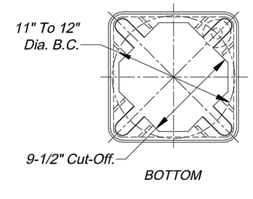
HAND HOLE



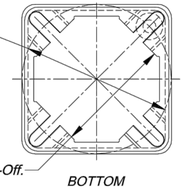






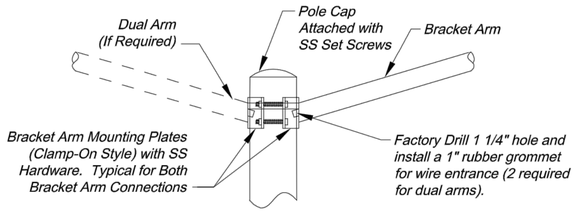


NOTES:
1. Door shall be on the same side of the pole as the hand hole.
2. Base Conforms to Breakaway Criteria Of AASHTO Standard Specifications For Structural Supports For Highway Signs, Luminaires And Traffic Signals (1994).



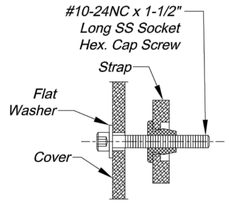
11" BREAK-AWAY BASE

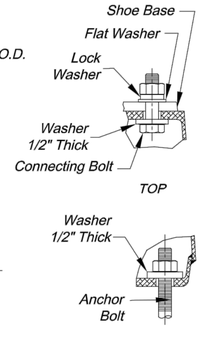
15" BREAK-AWAY BASE



BRACKET ARM MOUNTING

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





BREAK-AWAY BASE ANCHORAGE

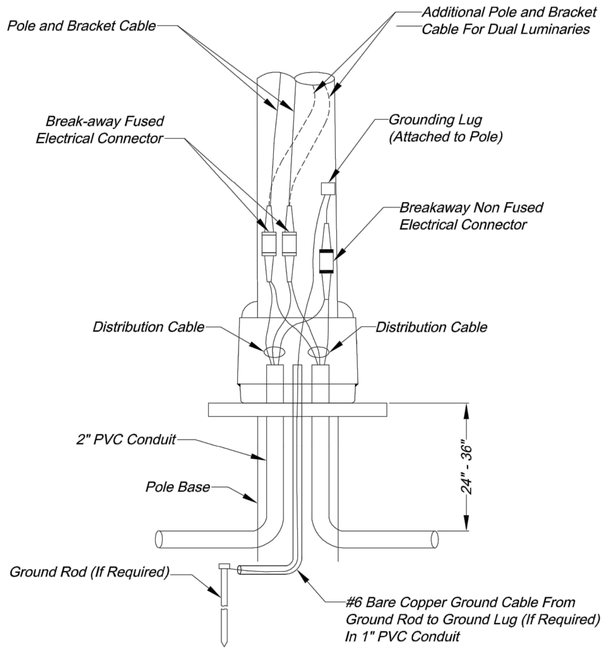
CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
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220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project: COLBERN ROAD

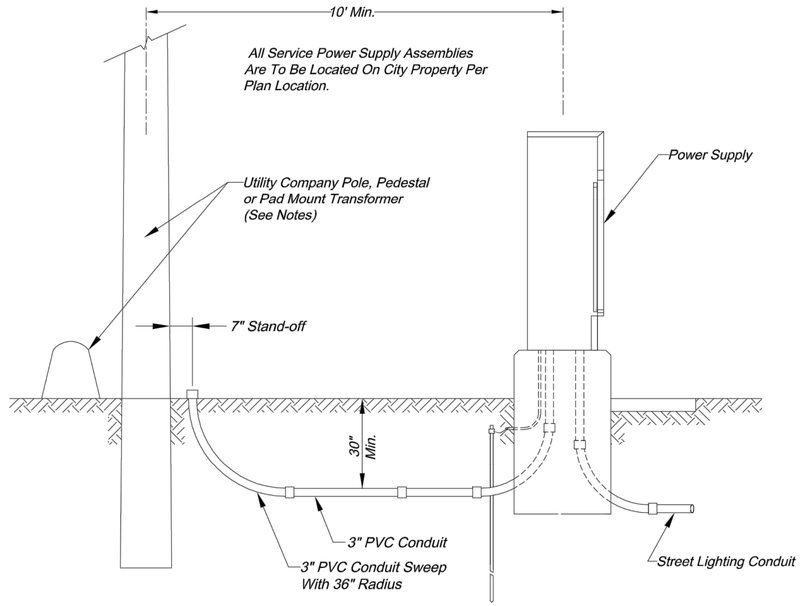
Sheet Name: POLE AND LUMINAIRE DETAILS

STANDARD DRAWING SL-1

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

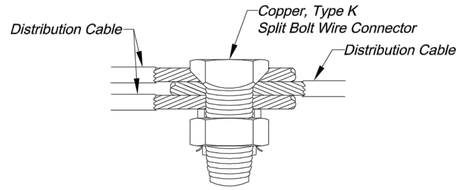


POLE WIRING DETAILS



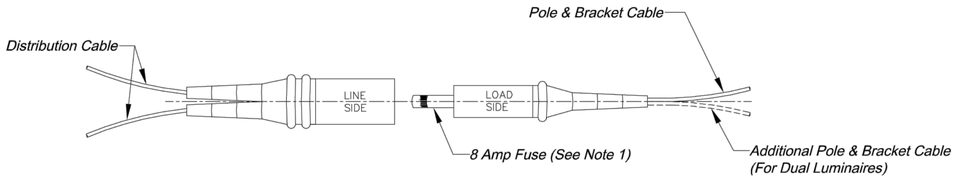
SECONDARY SERVICE CONNECTION DETAILS

NOTES:
1. Contractor shall install a conduit stub 24" to 6" above ground at utility poles. Conduit shall be stubbed to the side of the pole that will allow a direct run up the pole to the transformer without crossing other utility lines or cables. The end of the conduit shall be capped.
2. Contractor shall install conduit in a trench to within 24" of pedestals or pad mount transformers and leave a 36" x 36" x 36" access hole in the ground. Contractor shall keep open trench covered and promptly backfill access hole when service is completed.

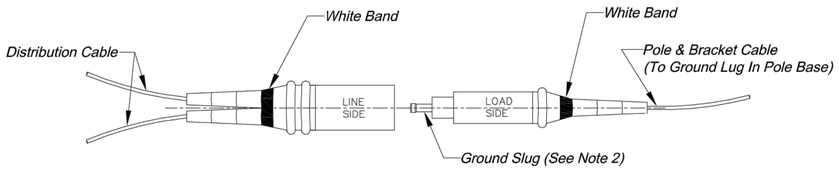


SPLICE KIT DETAILS

NOTES:
1. To be used only in junction or pull boxes where circuits branch or "tee".
2. All splices shall be protected with a resin splice kit (not shown) installed in accordance with the manufacturer's recommendations.

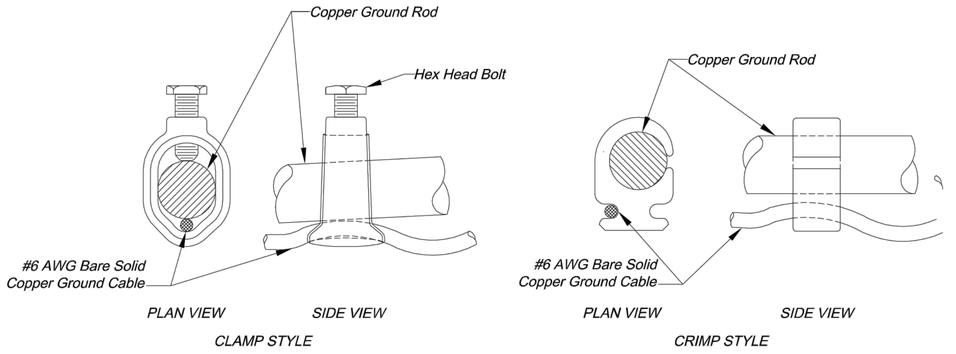


BREAK-AWAY FUSED ELECTRICAL CONNECTORS



BREAK-AWAY NON FUSED ELECTRICAL CONNECTOR

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



GROUND ROD CONNECTION DETAILS

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

Project: COLBERN ROAD

ELECTRICAL DETAILS

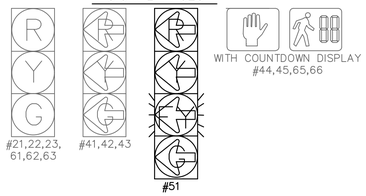
Sheet Name: STANDARD DRAWING SL-5

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

FLASHING YELLOW IMPLEMENTATION DETAILS:

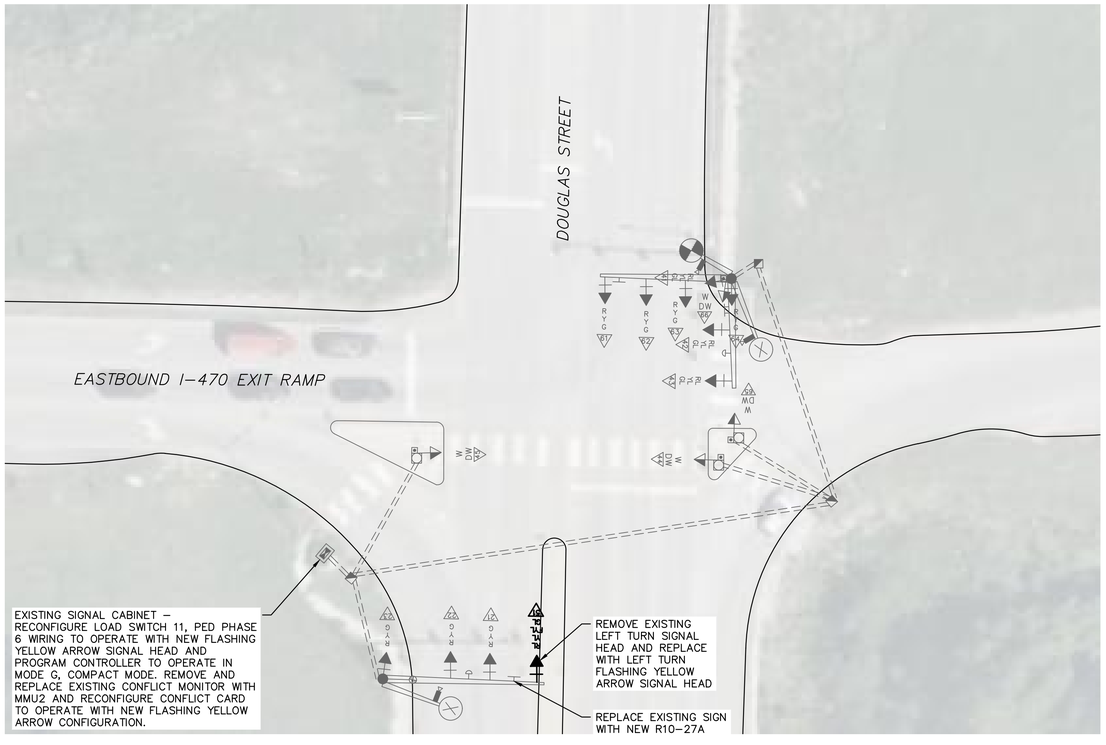
1. CONFIGURE FOR FLASHING YELLOW ARROW MODE "G" USING THE PEDESTRIAN YELLOW OUTPUT OF THE PEDESTRIAN LOAD SWITCHES.
2. ANY AND ALL REQUIRED CABINET MODULES OR COMPONENTS TO MAKE THE FLASHING ARROW FUNCTION PROPERLY SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. THIS INCLUDES, BUT IS NOT LIMITED TO, SUCH THINGS AS LOAD SWITCHES, DETECTOR CARDS, AND LOAD RESISTORS.
3. IN ORDER TO TEST THE FLASHING ARROW CONFIGURATION, A "MMU2" SHALL ALSO BE SUPPLIED IN THE CABINET. THE MMU2 SHALL HAVE COMMUNICATION ABILITY WITH AN ETHERNET PORT TO ALLOW FOR REMOTE MONITORING.
4. THE FOLLOWING PERSON SHALL BE CONTACTED TO OBTAIN THE REQUIRED CONTROLLER TIMING AND DATA CHANGES AT LEAST ONE WEEK IN ADVANCE OF THE DESIRED IMPLEMENTATION:
   ALEJANDRO MARTINEZ
   SENIOR TRAFFIC STUDIES SPECIALIST
   PHONE: 816-607-2038
   CELL PHONE: 816-835-5607
   EMAIL: ALEJANDRO.MARTINEZ@MODOT.MO.GOV
5. THE CONTRACTOR SHALL FOLLOW THE APPROPRIATE CONFLICT MONITOR MANUAL TO PROPERLY CONFIGURE AND IMPLEMENT THE FLASHING YELLOW ARROW AND ENSURE THE TRAFFIC SIGNALS/PHASES ARE SAFELY MONITORED.

SIGNAL FACES



TRAFFIC SIGNALS LEGEND

CONTROLLER	PUSH BUTTON DETECTOR		CONDUIT MEDIAN
JUNCTION BOX	PREFORMED PULL BOX TYPE 1		CONDUIT PUSHED
POWER SOURCE	PREFORMED PULL BOX TYPE 2		CONDUIT BRIDGE
POWER SUPPLY	CONCRETE PULL BOX TYPE 1		CONDUIT EXISTING
WOOD POST	CONCRETE PULL BOX TYPE 2		CONDUIT TRENCHED
SIGNAL HEAD (OPT LIM CONV)	ITS PULL BOX TYPE 2		SPAN WIRE
SIGNAL HEAD (OPT LIM)	ITS PULL BOX TYPE 5		MAST ARM - TYPE A BASE
SIGNAL HEAD (PEDESTRIAN)	SIGNS		MAST ARM - TYPE C BASE
SIGNAL HEAD (STANDARD)	VIDEO DETECTION		MAST ARM - TYPE F BASE
SIGNAL HEAD (FUTURE)	RADAR DETECTOR		TYPE C BASE
	VIDEO DETECTION ZONE		PREFORMED PULL BOX TYPE 5
	FUTURE VIDEO DETECTION ZONE		CCTV CAMERA



R	RED BALL
Y	YELLOW BALL
G	GREEN BALL
RL	RED LEFT ARROW
YL	YELLOW LEFT ARROW
FYL	FLASHING YELLOW LEFT ARROW
GL	GREEN LEFT ARROW
YR†	YELLOW RIGHT ARROW
GR†	GREEN RIGHT ARROW
S	STRAIGHT GREEN ARROW
W	PEDESTRIAN INDICATIONS SHALL BE
DW	LED COUNTDOWN TYPE.

ALL 12" LENS WITH TUNNEL VISOR

TRAFFIC SIGNAL INDICATIONS

FACE NUMBER	INDICATIONS* 12" LENS CONVENTIONAL RL	YL	FYL	GL	VISORS* 12" LENS	PED.	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
51	1	1	1	1	4					1							1											1							
						TOTAL																						1							

* NOTE: ALL SIGNAL INDICATIONS, VISORS, AND BRACKET ARMS SHALL BE INCLUDED IN THE LUMP SUM BID ITEM "TRAFFIC SIGNAL MODIFICATION"

L29 PHASE 2 PED	L10 PHASE 4 PED W FDW	LS11 PHASE 6 PED W **FYA** FDW	LS12 PHASE 8	L13 OLA	LS14 OLB	LS15 OL C	LS16 OL D
LS1 PHASE 1	LS2 PHASE 2 R Y G	LS3 PHASE 3	LS4 PHASE 4 R Y G	LS5 PHASE 5 **RL** **YL** **GL**	LS6 PHASE 6 R Y G	LS7 PHASE 7	LS8 PHASE 8

GENERAL NOTES:

1. ALL TRAFFIC SIGNAL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE MISSOURI SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, SECTION 902 (TRAFFIC SIGNALS) UNLESS OTHERWISE NOTED.

2. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH CITY STAFF TO MINIMIZE DOWNTIME OF SIGNAL OPERATIONS AND TIME-FRAME OF CONSTRUCTION. ALL MATERIALS AND WORK DEPICTED IN THIS PLAN SHALL BE BID UNDER THE LUMP SUM ITEM "TRAFFIC SIGNAL MODIFICATION" AND CONSTITUTE ALL MATERIALS AND EQUIPMENT REQUIRED TO PERFORM THE WORK SHOWN IN THE PLAN SHEET PROVIDED.

DOUGLAS STREET & I-470 EASTBOUND RAMPS

N

0' 10' 20' 40'
SCALE IN FEET

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

STATE OF MISSOURI
JOSHUA PUDLOWSKI
NUMBER PE-2009019951
PROFESSIONAL ENGINEER
9/29/23

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

TRAFFIC SIGNAL MODIFICATION PLAN
DOUGLAS STREET & I-470 EASTBOUND RAMPS

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

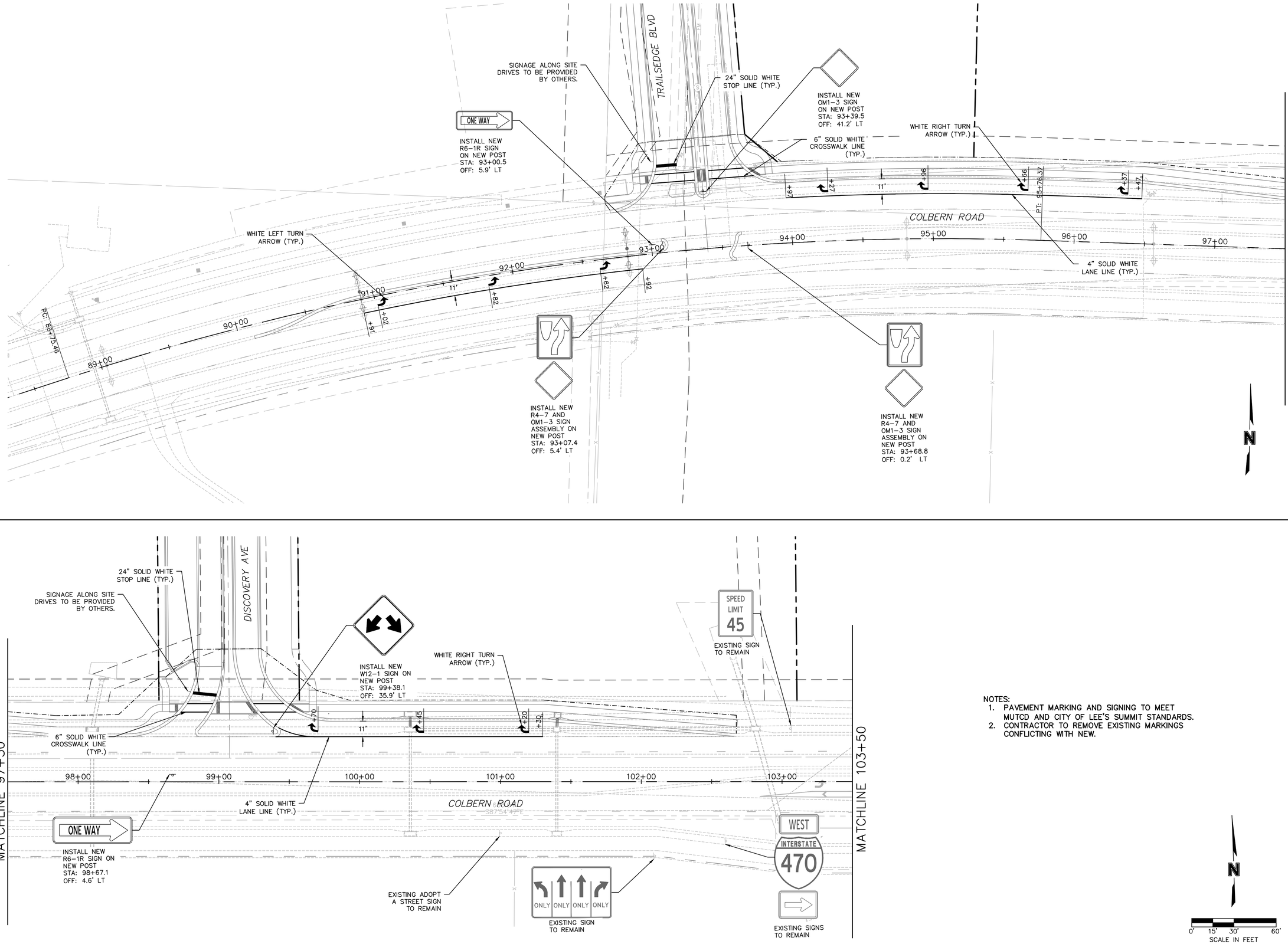
2023

drawn by:	SRH
checked by:	JSC
approved by:	JSS
QA/QC by:	SLJ
project no.:	021-04643
drawing no.:	F TRS D2104643.DWG
date:	9/27/2023

SHEET
49 OF 86

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NOTES:
1. PAVEMENT MARKING AND SIGNING TO MEET MUTCD AND CITY OF LEE'S SUMMIT STANDARDS.
2. CONTRACTOR TO REMOVE EXISTING MARKINGS CONFLICTING WITH NEW.

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9/29/23

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REV. NO.	DATE	REVISIONS DESCRIPTION

PAVEMENT MARKING AND SIGNING PLAN
COLBERN ROAD

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

2023

LEE'S SUMMIT, MISSOURI

drawn by:	SRH
checked by:	JSC
approved by:	JSS
QA/QC by:	SLJ
project no.:	021-04643
drawing no.:	F SAS D2104643
date:	9/27/2023

SHEET
50 OF 86

MATCHLINE 103+50

COLBERN ROAD

104+00

105+00

106+00

107+00

108+00

DOUGLAS STREET

S00°00'00"E
297.72'

217+00

216+00

215+00

214+00

213+00

212+00

211+00

210+00

209+00

RIGHT LANE MUST TURN RIGHT
EXISTING SIGN TO REMAIN

EXISTING SIGNS TO REMAIN

N44°43'33"E
120.87'

NO TURN ON RED
EXISTING SIGN TO REMAIN

RIGHT LANE MUST TURN RIGHT
EXISTING SIGN TO REMAIN

JCT
INTERSTATE
470
REMOVE AND RESET EXISTING M1-1 AND M2-1 SIGNS ON NEW POST
STA: 210+47.3
OFF: 32.9' RT

MATCH TO EXISTING PAVEMENT MARKINGS

4" DOUBLE YELLOW CENTER LINE (TYP.)

12" SOLID YELLOW DIAGONAL LINE (TYP.)

4" BROKEN WHITE LANE LINE (TYP.)

+25

11'

+71

+09

45'

12'

+57

+43

MATCHLINE 208+50

RIGHT LANE MUST TURN RIGHT
EXISTING SIGN TO REMAIN

TO
SOUTH
291
EXISTING SIGNS TO REMAIN

RIGHT LANE ENDS
EXISTING SIGN TO REMAIN

SPEED LIMIT 45
EXISTING SIGN TO REMAIN

LANE ENDS MERGE LEFT
EXISTING SIGN TO REMAIN

EXISTING SIGN TO REMAIN

CENTER LANE ONLY
REMOVE AND RESET EXISTING R3-9B SIGN ON NEW POST
PROPOSED STA: 203+68.26
PROPOSED OFF: 27.78' LT

TO
WEST
INTERSTATE
470
EXISTING SIGNS TO REMAIN

NOTES:
1. PAVEMENT MARKING AND SIGNING TO MEET MUTCD AND CITY OF LEE'S SUMMIT STANDARDS.
2. CONTRACTOR TO REMOVE EXISTING MARKINGS CONFLICTING WITH NEW.

N

0' 15' 30' 60'
SCALE IN FEET

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North Kansas City, MO 64116
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STATE OF MISSOURI
JOSHUA PUDLOWSKI
NUMBER PE-2009019951
PROFESSIONAL ENGINEER
9/29/23

REV. NO.	DATE	REVISIONS DESCRIPTION
		REVISIONS

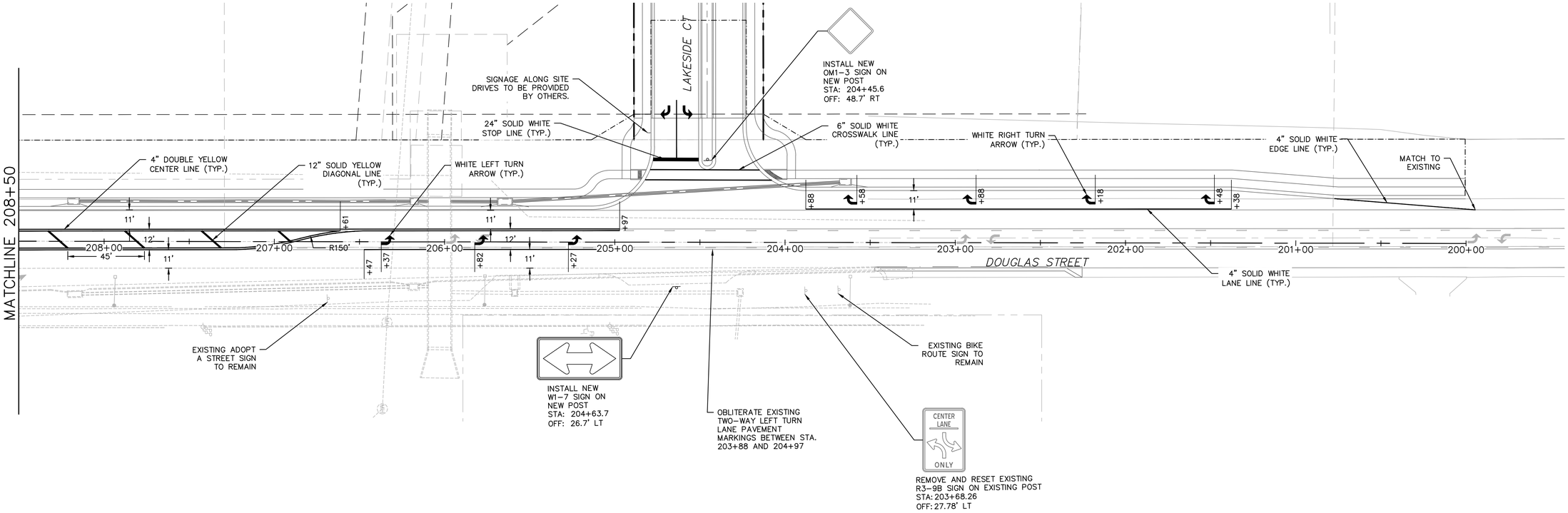
PAVEMENT MARKING AND SIGNING PLAN
DOUGLAS STREET

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS
LEE'S SUMMIT, MISSOURI
2023

drawn by:	SRH
checked by:	JSC
approved by:	JSS
QA/QC by:	SLJ
project no.:	021-04643
drawing no.:	F SAS D2104643.DWG
date:	9/27/2023

SHEET
51 OF 86

DWG: F:\2021\04501-05000\021-04643-D\40-Design\AutoCAD\Final Plans\Sheets\TFTC\PAVEMENT MARKING AND SIGNING\F_SAS_D2104643.dwg USER: kwilliams2
DATE: Sep 27, 2023 4:55pm XREFS: T_PSTRM_D02104643 C_PBASE_D2104643 C_PBNDY_D2104643 C_XALTA_B2104643 F_PBASE_D2104643
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PAVEMENT MARKING	WHITE								YELLOW				SYMBOLS	
Width	4"	4"	4"	6"	24"	4"	6"	24"	4"	12"	4"	12"		
Line Type	Solid Edge Line	Solid Lane Line	Broken Lane Line	Solid Crosswalk Line	Solid Stop Bar	TOTAL	TOTAL	TOTAL	Double Center Line	Solid Diagonal Line	TOTAL	TOTAL	Left Turn Arrow	Right Turn Arrow
Colbern Road (89+00 - 97+50)	0	450	0	87	15	450	87	15	0	0	0	0	3	4
Colbern Road (97+50 - 103+50)	0	215	0	87	17	215	87	17	0	0	0	0	0	3
Colbern Road (103+50 - 108+00)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Douglas Street (217+00 - 208+50)	0	0	55	0	0	55	0	0	404	59	404	59	0	0
Douglas Street (208+50 - 200+00)	83	435	0	139	27	518	139	27	545	57	545	57	4	5
MULTIPLIERS	1	1	0.25	1	1	1	1	1	2	1	1	1		
TOTALS	**83**	**1100**	**14**	**313**	**59**	**1238**	**313**	**59**	**1898**	**116**	**949**	**116**	**7**	**12**

SIGNING	NEW					REMOVE AND RESET			POST
MUTCD Designation	R6-1R	OM1-3	R4-7	W12-1	W1-7	M1-1	M2-1	R3-9B	
Sign Name	One-Way	Object Marker	Median	Double Down	Directional	Junction	Interstate 470	TWLTL	
Colbern Road (89+00 - 97+50)	1	3	2	0	0	0	0	0	4
Colbern Road (97+50 - 103+50)	2	0	0	1	0	0	0	0	2
Colbern Road (103+50 - 108+00)	0	0	0	0	0	0	0	0	0
Douglas Street (217+00 - 208+50)	0	0	0	0	0	1	1	1	1
Douglas Street (208+50 - 200+00)	0	0	0	0	1	0	0	0	2
SIGN SIZE	6.75	2.25	5.00	9.00	8.00	1.00	2.00	1.00	1.00
TOTALS	**20**	**7**	**10**	**9**	**8**	**1**	**2**	**1**	**9**

NOTES:
1. PAVEMENT MARKING AND SIGNING TO MEET MUTCD AND CITY OF LEE'S SUMMIT STANDARDS.
2. CONTRACTOR TO REMOVE EXISTING MARKINGS CONFLICTING WITH NEW.

N

0' 15' 30' 60'
SCALE IN FEET

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1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
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STATE OF MISSOURI
JOSHUA PUDLOWSKI
NUMBER PE-2009019951
PROFESSIONAL ENGINEER
9/29/23

REVISIONS
REV. NO. | DATE | REVISIONS DESCRIPTION

PAVEMENT MARKING AND SIGNING PLAN
DOUGLAS STREET

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

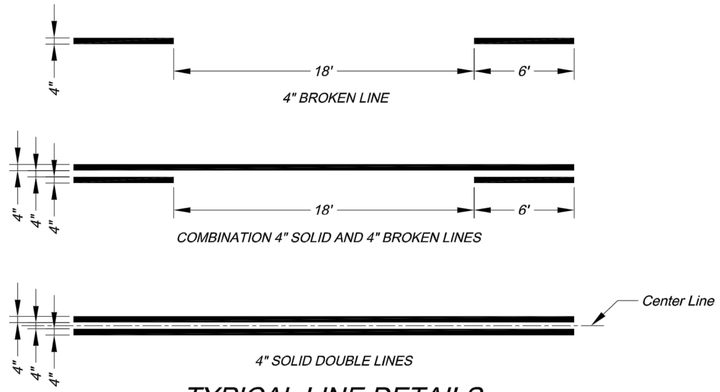
2023

LEE'S SUMMIT, MISSOURI

drawn by: SRH
checked by: JSC
approved by: JSS
QA/QC by: SLJ
project no.: 021-04643
drawing no.: F_SAS_D2104643.DWG
date: 9/27/2023

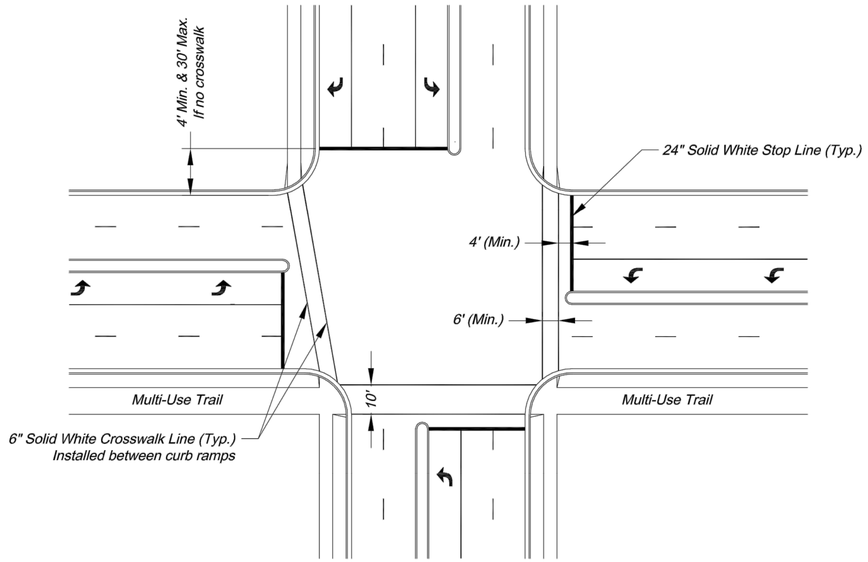
SHEET
52 OF 86

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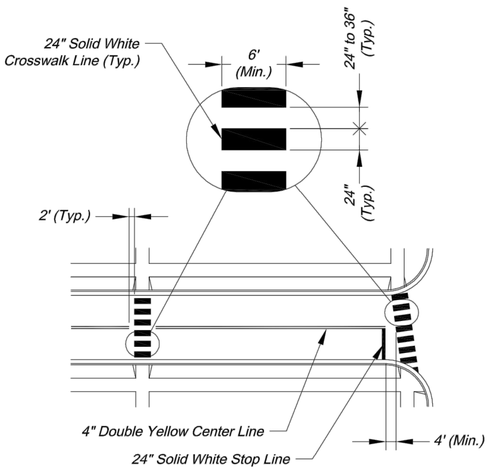
TYPICAL LINE DETAILS

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

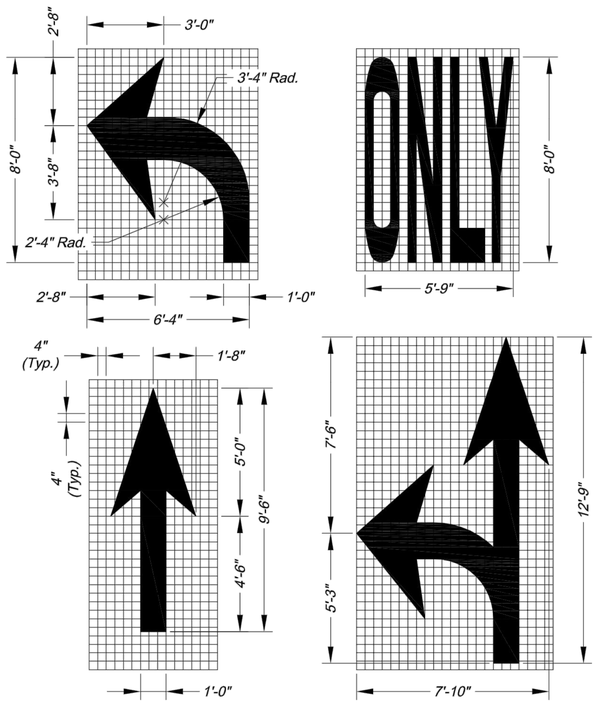


TYPICAL INTERSECTION MARKINGS

NOTES:
1. Transverse crosswalk lines shall be installed such that the distance between lines is at least 6 or 10 feet.
2. Stop lines are required at signalized intersections, on multi-lane stop controlled approaches, or in front of crosswalks at controlled intersections.

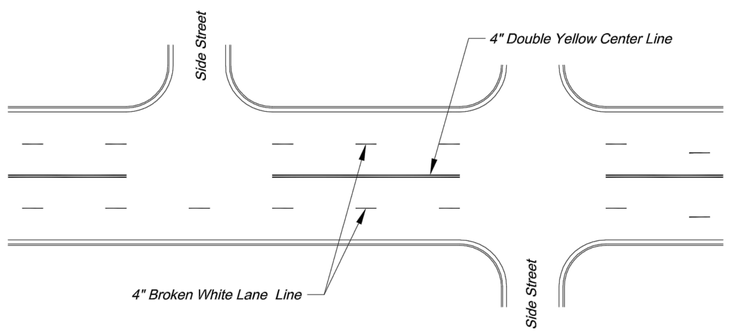


TYPICAL MIDBLOCK OR SCHOOL CROSS WALK

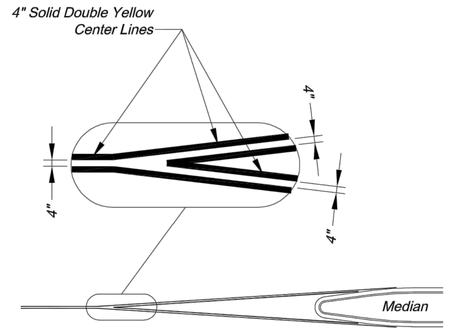


ARROW AND SYMBOL DETAILS

NOTES:
1. All arrow and symbol markings shall be white, and shall be centered in their respective traffic lanes.
2. Right-turn and combination right-turn/straight arrows are reverse of arrows shown.



TYPICAL MARKINGS FOR FOUR-LANE UNDIVIDED ROADWAY



TYPICAL MEDIAN NOSE CENTER LINE DETAIL

PAVEMENT MARKING GENERAL NOTES:
1. All pavement markings shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
2. All words and symbols shall conform to the latest edition of Standard Alphabets for Highway Signs and Pavement Markings printed by the U.S. Department of Transportation, Federal Highway Administration.
3. Pavement markings, either temporary or permanent are required at all times if the roadway is open to traffic.
4. All pavement markings that conflict with the desired markings shall be completely removed. Removals shall not leave the road surface scarred with an image that misleads traffic. Any excess damage or scarring of pavement shall be repaired at the Contractor's expense.
5. The proposed permanent markings shall be laid out by the Contractor in advance of the marking installation. Markings shall not be applied until the layout has been approved by the City Traffic Engineer.
6. Center lines shall be marked on all undivided arterial streets, and any other undivided street with more than two lanes and/or a speed limit of 30 mph or more.
7. Edge lines shall be marked on all non-curbed streets.

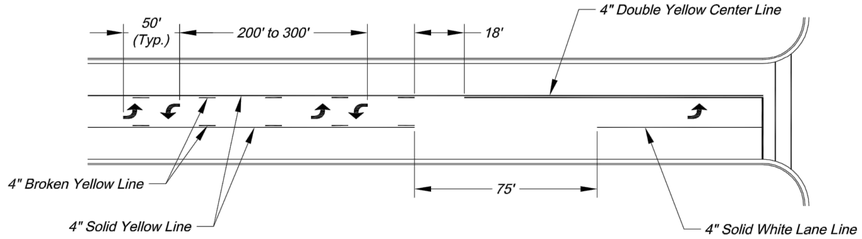
CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project: COLBERN ROAD AND DOUGLAS STREET

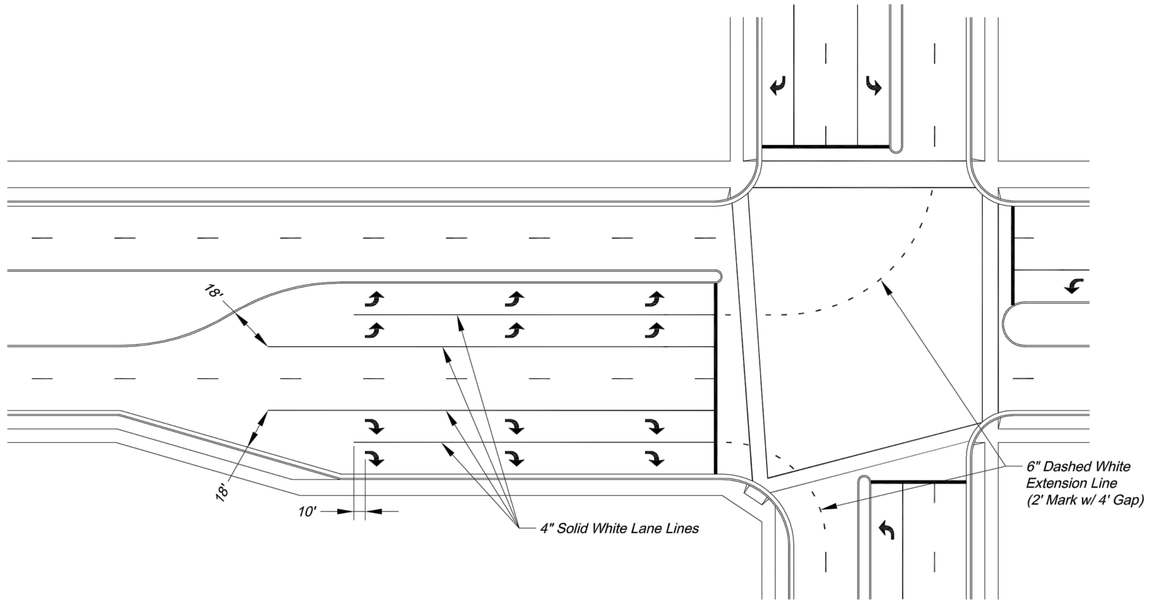
ROADWAY MARKING DETAILS

Sheet Name: STANDARD DRAWING PM-1

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

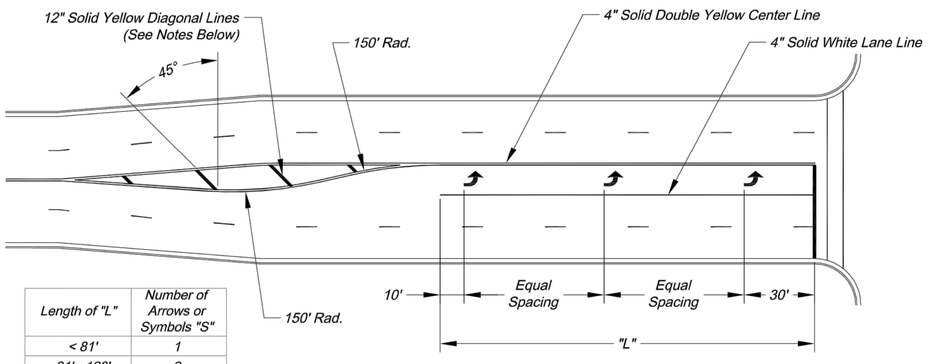


TYPICAL MARKINGS FOR TWO-WAY LEFT-TURN LANE



TYPICAL DUAL TURN LANE MARKINGS

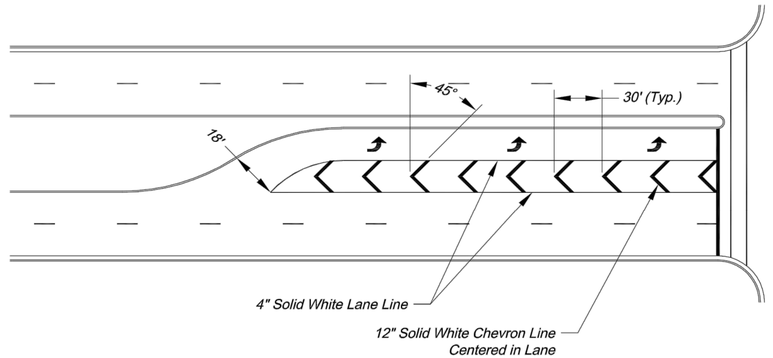
NOTE:
1. Dashed extension lines shall not extend through crosswalks.



Length of "L"	Number of Arrows or Symbols "S"
< 81'	1
81' - 120'	2
121' - 200'	3
201' - 280'	4
281' - 360'	5
361' - 440'	6

TYPICAL TURN LANE MARKINGS

NOTES:
1. Diagonal lines are required between centerlines if the width of the area between the center lines is greater than 12' and/or the length of the area between center lines is greater than 250'.
2. Diagonal lines should be spaced at 5' increments, equal to the posted speed limit.
3. Equal Spacing is calculated as (L - 40) / (S - 1).
4. When a through lane of traffic terminates as a mandatory turn lane, Arrow and "ONLY" symbols should be marked in the turn lane, in alternating order. The first and last symbols should be Arrows.



TYPICAL STRIPED OUT TURN LANE MARKINGS

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

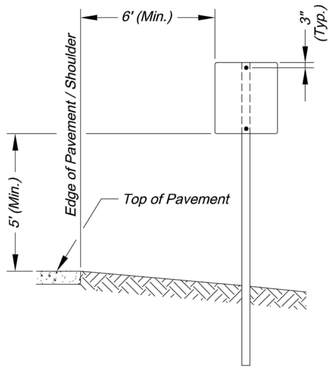
Project: COLBERN ROAD AND DOUGLAS STREET

INTERSECTION MARKING DETAILS

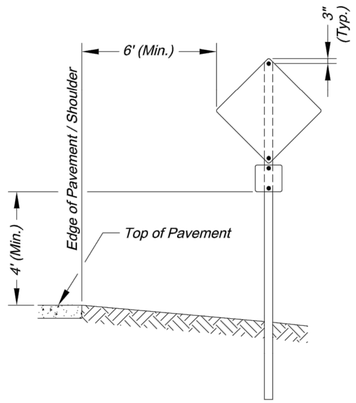
Sheet Name: STANDARD DRAWING PM-2

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

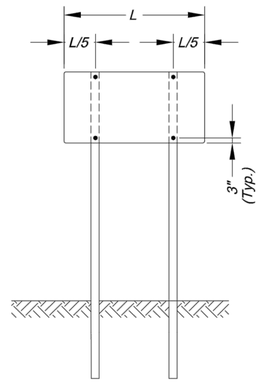
2 OF 2



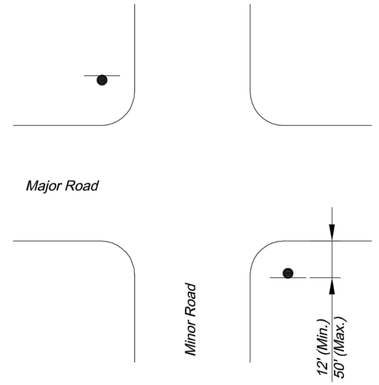
SIGN INSTALLATION FOR NON-CURBED STREET



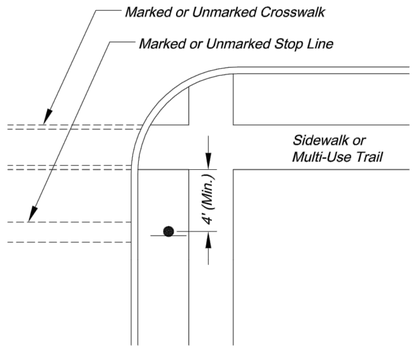
SIGN INSTALLATION WITH AUXILARY SIGN FOR NON-CURBED STREET



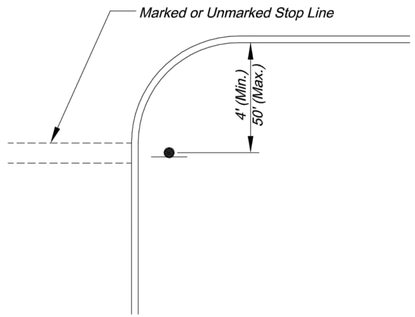
SIGN INSTALLATION WITH TWO SIGN POSTS



NON-CURBED INTERSECTION INSTALLATION

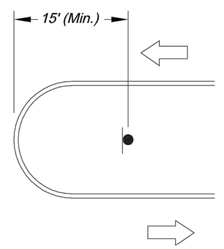


INTERSECTION WITH SIDEWALK / MULTI-USE TRAIL INSTALLATION

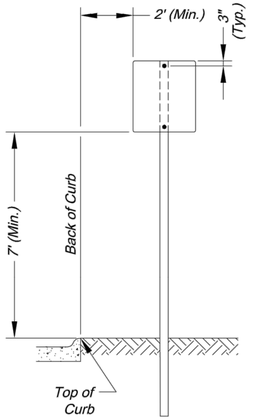


CURBED INTERSECTION INSTALLATION

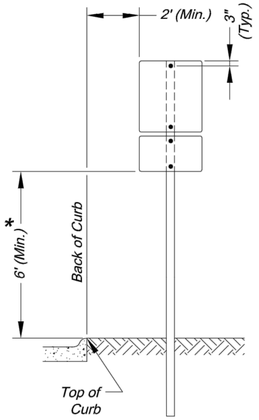
CONTROL SIGN LOCATION



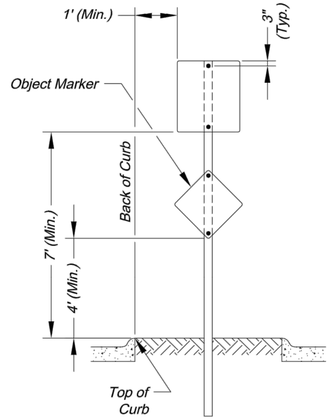
TYPICAL MEDIAN SIGN LOCATION



SIGN INSTALLATION FOR CURBED STREET



SIGN INSTALLATION WITH AUXILARY SIGN FOR CURBED STREET



SIGN INSTALLATION FOR RAISED MEDIANS

SIGN MOUNTING DETAILS

* *The height to the bottom of a sign when it is located in a pedestrian walkway or extends into a walkway shall be a minimum of 80 inches above the walkway.*

NOTE:
1. *Generally, the sign mounting height should not be more than 1' greater than the minimum mounting height.*

MEDIAN SIGN LOCATION

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

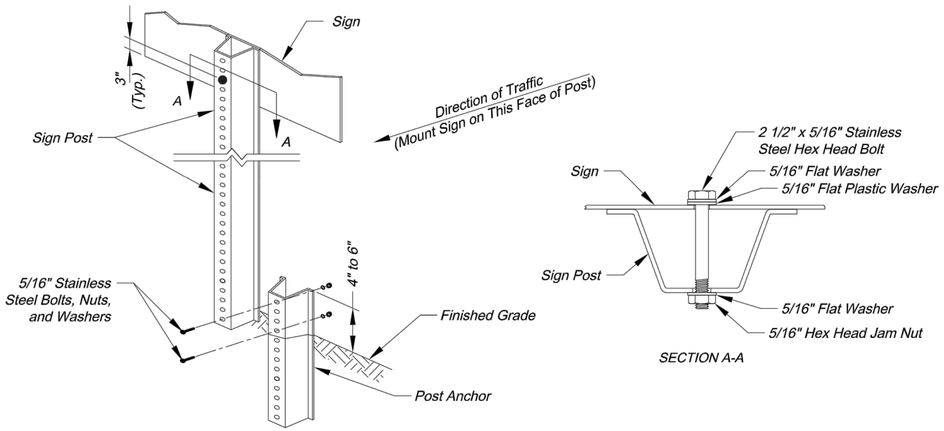
CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project: COLBERN ROAD AND DOUGLAS STREET

SIGN MOUNTING DETAILS

Sheet Name: STANDARD DRAWING SN-1

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



SECTION A-A

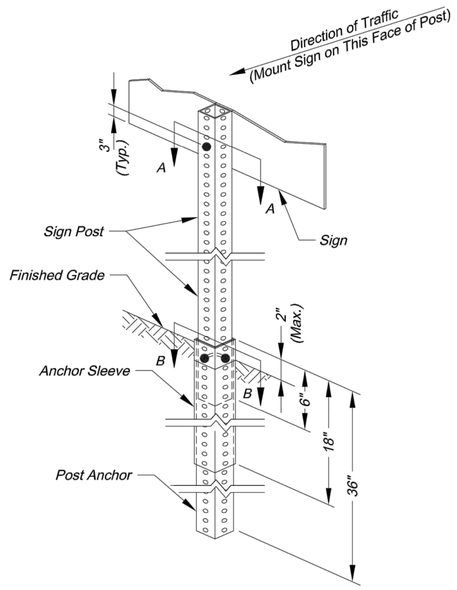
U-STEEL POST DETAILS

U-STEEL POST NOTES:

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

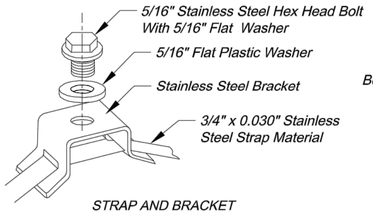
PERMANENT SIGNING GENERAL NOTES:

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

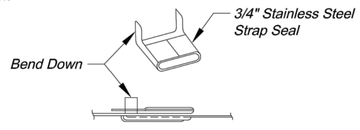


SQUARE STEEL POST INSTALLATION SEQUENCE:

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



STRAP AND BRACKET INSTALLATION

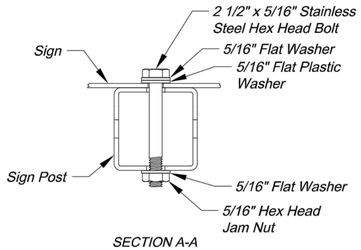


ENDS OF STRAP CLAMPED IN SEAL

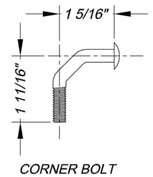
STRAP TYPE SIGN SUPPORT DETAILS

METAL POLE SIGN MOUNTING NOTES:

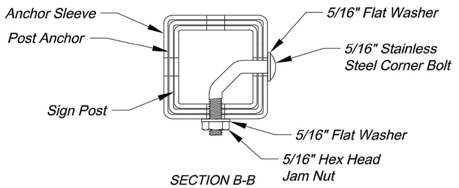
1. *Signs on metal poles shall be attached with two brackets and stainless steel bands.*
2. *Holes in sign for attachment to the mounting brackets shall be offset a minimum of 2 inches from the edge of the sign.*
3. *Holes in sign shall be located such that the sign is level.*
4. *All strap, bracket,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



SECTION A-A



CORNER BOLT



SECTION B-B

SQUARE STEEL POST DETAILS

SQUARE STEEL POST NOTES:

1. *Square steel sign posts and break-away anchor shall consist of the following materials:*
   - *Sign Post - 14 Ga. 2" x 2" Square Steel Post*
   - *Post Anchor - 12 Ga. 2 ¼" x 2 ¼" x 36" Square Steel Post*
   - *Anchor Sleeve - 12 Ga. 2 ½" x 2 ½" x 18" Square Steel Post*
2. *14 Gauge posts must meet a certified minimum yield strength of 60,000 psi.*
3. *In all installations the first hole above the finished grade line on the sign post, anchor, and anchor sleeve must be in line for the insertion of the corner bolt.*
4. *The maximum area for one sign post is 9.0 square feet. A sign or combination of signs with an area greater than 9.0 square feet will require two posts. Also, signs with a width greater than 36" (not including 36" x 36" diamond shaped signs) will require two posts.*

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Project: COLBERN ROAD AND DOUGLAS STREET

SIGN POST DETAILS

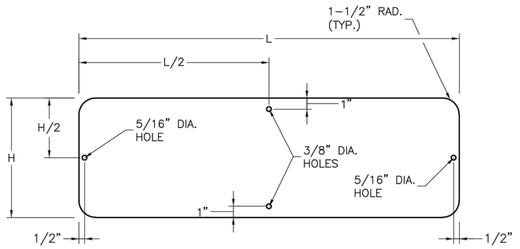
Sheet Name: STANDARD DRAWING SN-2

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

STANDARD ABBREVIATION LISTS

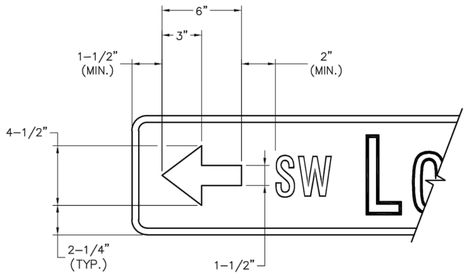
NAMED STREETS	
AVENUE	Ave
BOULEVARD	Blvd
CIRCLE	Cir
CREEK	Cr
COURT	Ct
CROSSING	Xing
DRIVE	Dr
HIGHWAY	Hwy
LANE	Ln
PARKWAY	Pkwy
PLACE	Pl
ROAD	Rd
STREET	St
TERRACE	Ter
TRAIL	Trl
WAY	Way

NUMBERED STREETS	
FIRST	ST
SECOND	ND
THIRD	RD
FOURTH TO TENTH	TH

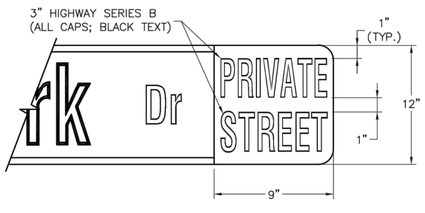


STREET NAME SIGN BLANK DETAILS

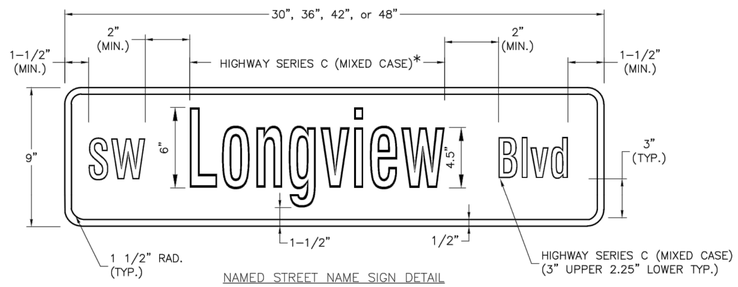
FOR MOUNTING ON SQUARE STEEL POSTS



ARROW DETAIL



PRIVATE STREET TAG DETAIL

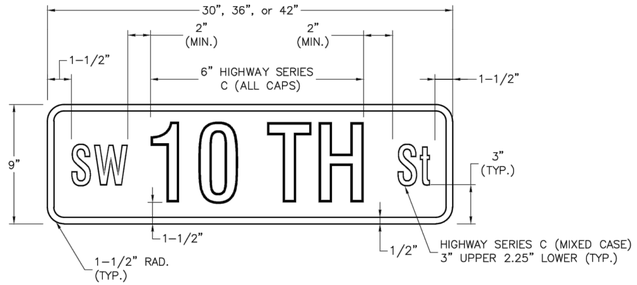


NAMED STREET NAME SIGN DETAIL

* USE HIGHWAY SERIES B (MIXED CASE) IN LIEU OF SERIES C IF NECESSARY TO FIT TEXT ON A 36" SIGN BLANK.

STREET NAME SIGN FACE DETAILS

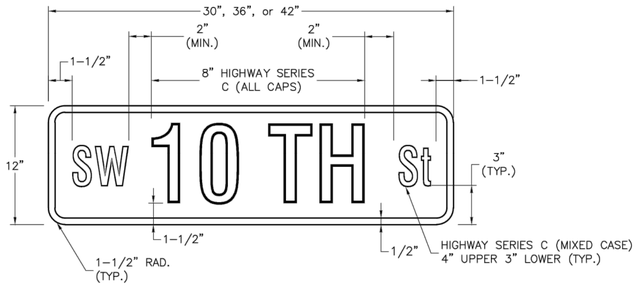
POST MOUNTED 2–LANE ALL SPEEDS AND MULTI–LANE UNDER 40 MPH



NUMBERED STREET NAME SIGN DETAIL

STREET NAME SIGN FACE DETAILS

POST MOUNTED 2–LANE ALL SPEEDS AND MULTI–LANE UNDER 40 MPH



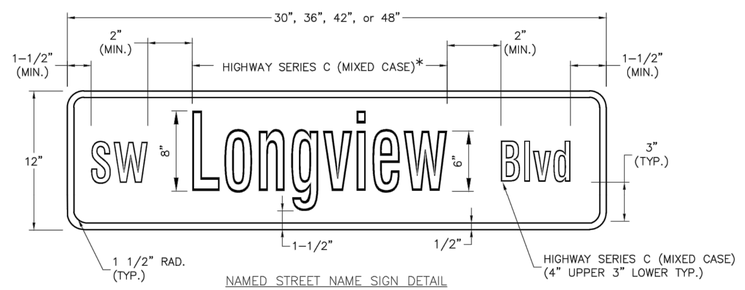
NUMBERED STREET NAME SIGN DETAIL

STREET NAME SIGN FACE DETAILS

POST MOUNTED MULTI–LANE GREATER THAN 40 MPH

NOTES:

1. FOR ALL STREET NAME SIGNS, THE LEGEND SHALL BE WHITE AND THE BACKGROUND SHALL BE GREEN.
2. ARROWS SHALL BE ADDED TO STREET NAME SIGNS WHERE THE NAME OF A STREET CHANGES AT AN INTERSECTION. STREET NAME SIGNS WITH ARROWS ARE TO BE INSTALLED ON EACH SIDE OF THE INTERSECTION TO INDICATE THE CHANGE IN NAMES. ARROWS SHALL BE WHITE.
3. THE "PRIVATE STREET" TAG SHOULD BE ADDED TO THE END OF STREET NAME SIGNS TO INDICATE WHERE A STREET THAT IS OUTSIDE THE RIGHT–OF–WAY INTERSECTS A PUBLIC STREET. THE BACKGROUND FOR THE "PRIVATE STREET" TAG SHALL BE YELLOW.
4. MULTI–LANE IS DEFINED AS HAVING 2 LANES OR MORE IN EACH DIRECTION, EXCLUDING TURN LANES.
5. OVERHEAD SIGN DETAILS MAY BE FOUND ON THE SIGNAL HEAD MOUNTING DETAIL.

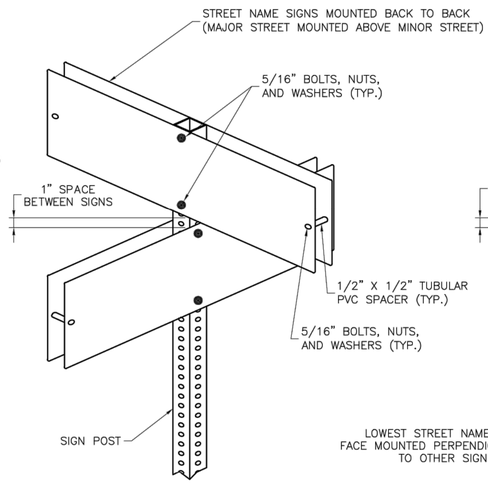


NAMED STREET NAME SIGN DETAIL

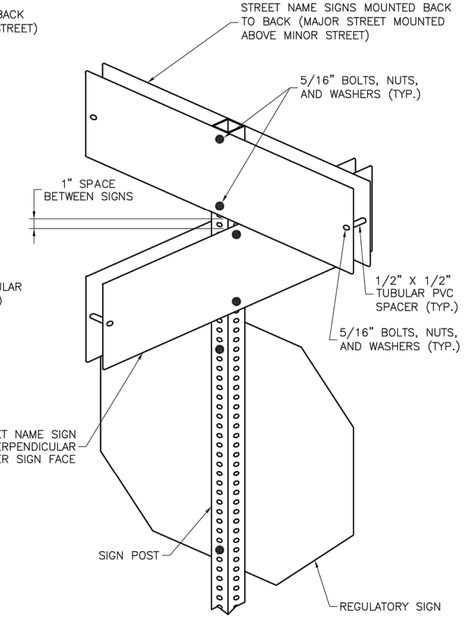
* USE HIGHWAY SERIES B (MIXED CASE) IN LIEU OF SERIES C IF NECESSARY TO FIT TEXT ON A 36" SIGN BLANK.

STREET NAME SIGN FACE DETAILS

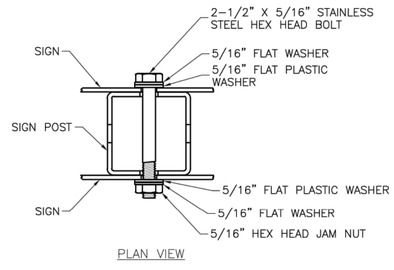
POST MOUNTED MULTI–LANE GREATER THAN 40 MPH



SIGNS INSTALLED SEPARATELY



SIGNS INSTALLED WITH OTHER SIGNS



PLAN VIEW

SQUARE STEEL POST MOUNTING DETAILS

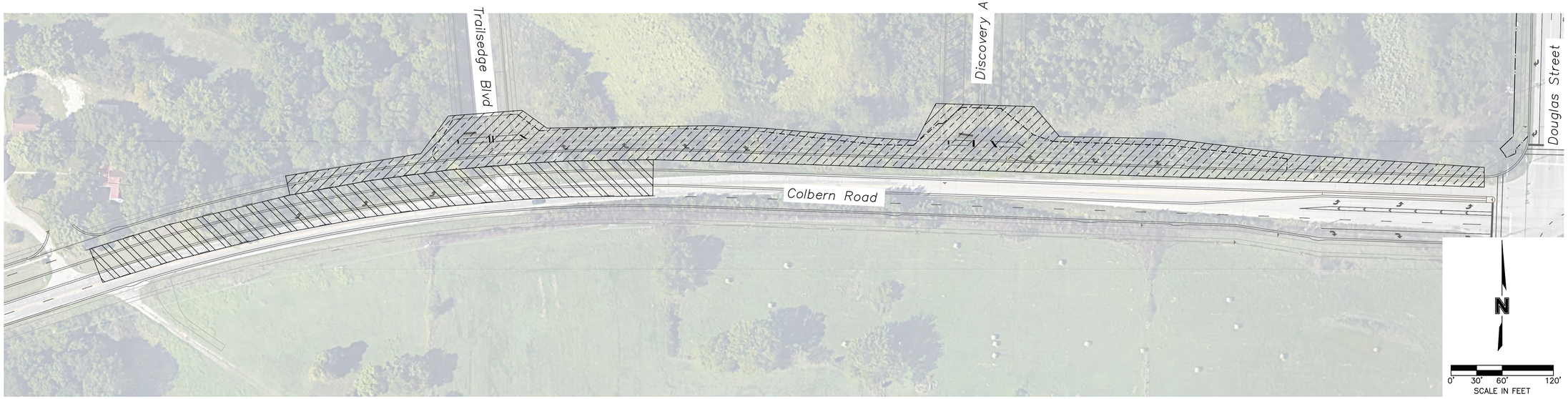
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Project: COLBERN ROAD AND DOUGLAS STREET

STREET NAME SIGN DETAILS

Sheet Name: STANDARD DRAWING SN–3

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





CONSTRUCTION SEQUENCING:

COLBERN ROAD AND DOUGLAS STREET CONSTRICTION TO BE COMPLETED IN TWO PHASES

PHASE 1 – TURN LANE AND DRIVEWAY CONSTRUCTION
PHASE 2 – MEDIAN MODIFICATION

PHASE 1 NOTES:

COLBERN ROAD – COLBERN ROAD TO REMAIN OPEN DURING PHASE 1 CONSTRUCTION. THE OUTSIDE MOST WESTBOUND THROUGH LANE IS TO BE TEMPORARILY CLOSED. ONE LANE WESTBOUND TO REMAIN OPEN TO THROUGH TRAFFIC.

DOUGLAS STREET – DOUGLAS STREET TO REMAIN OPEN DURING PHASE 1 CONSTRUCTION. THE SOUTHBOUND THROUGH LANE IS TO BE TEMPORARILY CLOSED. THE TWO–WAY LEFT–TURN LANE IS TO BE UTILIZED FOR SOUTHBOUND THROUGH TRAFFIC.

PHASE 2 NOTES:

COLBERN ROAD – COLBERN ROAD TO REMAIN OPEN DURING PHASE 2 CONSTRUCTION. THE INSIDE MOST EASTBOUND AND WESTBOUND THROUGH LANES ARE TO BE TEMPORARILY CLOSED. ONE LANE EACH DIRECTION TO REMAIN OPEN TO THROUGH TRAFFIC.

DOUGLAS STREET – DOUGLAS STREET TO REMAIN OPEN DURING PHASE 2 CONSTRUCTION IN BOTH DIRECTIONS WITH TEMPORARY TRAFFIC CONTROL IN PLACE FOR STRIPING OPERATIONS.

PHASING LEGEND

PHASE 1 WORK AREA
PHASE 2 WORK AREA

GENERAL NOTES:

1. CONTRACTOR SHALL FOLLOW CITY OF LEE'S SUMMIT STANDARDS AND SPECIFICATIONS FOR THIS AND ALL OTHER TEMPORARY TRAFFIC CONTROL MEASURES UTILIZED FOR ALL WORK LISTED IN THESE PLANS.
2. SEE SHEET 59 FOR ADDITIONAL CITY OF LEE'S SUMMIT REQUIREMENTS AND TYPICAL TEMPORARY TRAFFIC CONTROL APPLICATIONS AS NEEDED FOR THE REMAINING CONSTRUCTION ITEMS, WHICH INCLUDES BUT IS NOT LIMITED TO PAVEMENT MARKING AND TRAFFIC CONTROL INSTALLATION.
3. CONTRACTOR TO MAINTAIN MINIMUM 11' LANES WITHIN THE WORK ZONE AREA THROUGHOUT CONSTRUCTION.
4. CONSTRUCTION TO TAKE PLACE DURING NON–PEAK HOUR PERIODS. CONES ARE TO BE PUSHED BACK AND RESTRICTED LANES ARE TO BE REOPENED DURING PEAK HOUR AND NON–CONSTRUCTION PERIODS.

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North Kansas City, MO 64116
TEL 816.361.1177
www.olsson.com

STATE OF MISSOURI
JOSHUA PUDLOWSKI
NUMBER PE-2009019951
PROFESSIONAL ENGINEER
9/29/23

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

TRAFFIC CONTROL PLAN

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

2023

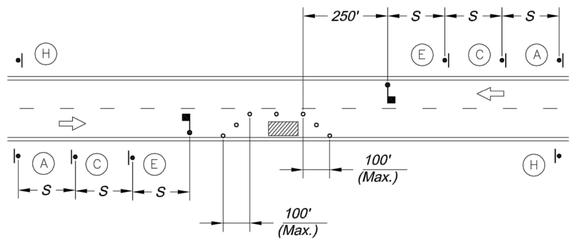
drawn by:	SRH
checked by:	JSC
approved by:	JSS
QA/QC by:	SLJ
project no.:	021-04643
drawing no.:	F TR 021640365
date:	9/27/2023

SHEET
58 OF 86

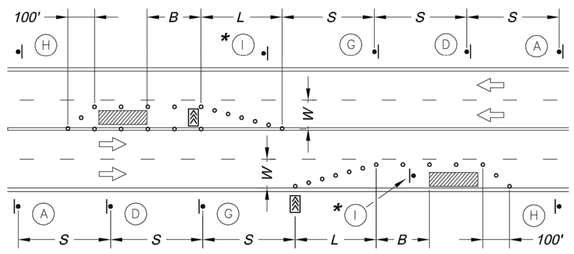
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DATE: Sep 27, 2023 4:55pm XREFS: F_PTBLK_D02104643 C_PBASE_D2104643 T_PBASE_D02104643 F_SASBASE_D2104643 C_FROAD_D2104643

SYMBOL LEGEND

- Work Area
- Sign
- Barricade
- Direction of Travel
- Channelizer
- Arrow Panel
- Flagger

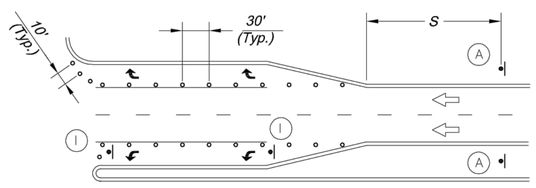


LANE CLOSURE - TWO LANE STREET



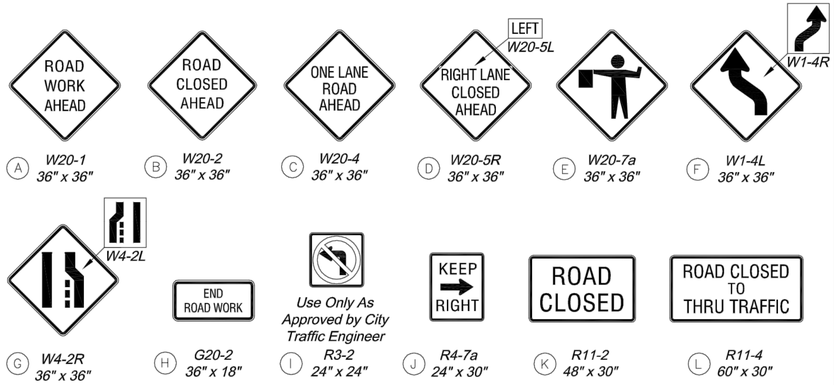
LANE CLOSURE - FOUR LANE STREET

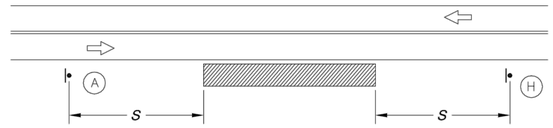
* Install Signs Every 200 Feet Throughout the Closed Lane or As Needed



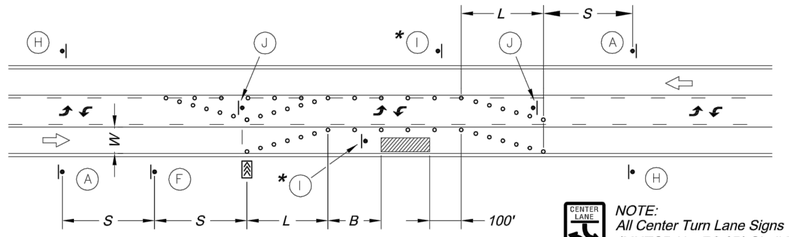
TURN LANE CLOSURE

SIGN LEGEND





TYPICAL SIGNING FOR WORK ADJACENT TO THE STREET



NOTE:
All Center Turn Lane Signs (MUTCD No. R3-9B) Shall Be Covered During Lane Closure

R3-9b

LANE CLOSURE - THREE LANE STREET

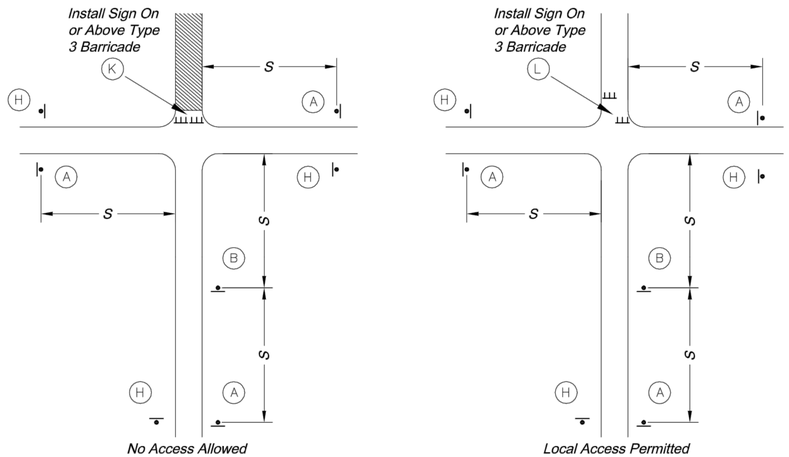
* Install Signs Every 200 Feet Throughout the Closed Lane or As Needed

Sign Spacing "S"	
Speed Limit (mph)	Spacing (Feet)
25	100
30 - 35	250
≥ 40	350

Taper Dimensions (Feet)				
Speed Limit (mph)	Minimum Taper Length "L", per Lane Width "W"			Minimum Number of Channelizers
	10	11	12	
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

Guidelines for Length of Longitudinal Buffer Space "B"	
Speed Limit (mph)	Length (Feet)
25	35
30	55
35	85
40	120
45	170

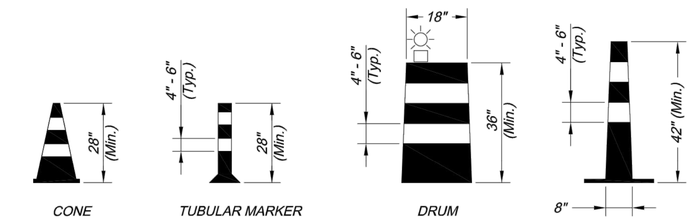
Maximum Channelizer Spacing		
Speed Limit (mph)	Within Taper (Feet)	Outside Taper (Feet)
25	25	50
30	30	60
35	35	70
40	40	80
45	45	90



TYPICAL STREET CLOSURE

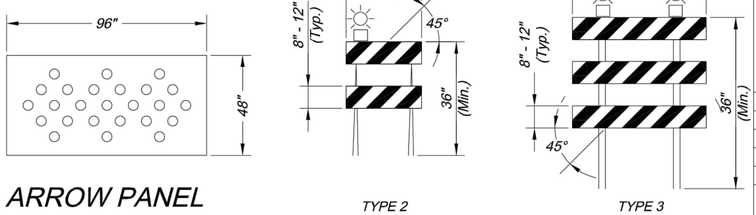
GENERAL NOTES:

1. All signs, barricades, channelizers, markings and other traffic control devices shall conform to the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
2. All traffic control devices shall be standard in size, shape, color, and message, in good condition, and retro-reflectorized. All signs shall be securely mounted with height and lateral location as described in the MUTCD.
3. Warning lights shall be used on barricades in place at night and on warning signs which alert drivers about a change in alignment, traffic control, lane closure, or road closure.
4. Flaggers shall be used where indicated on the plans, where construction vehicles interact with normal traffic, or where construction activities impose a restriction on traffic, as directed by the City Traffic Engineer. Where flaggers are used, advance signing shall be erected as shown in the details or as specified in the MUTCD. Flaggers shall meet the requirements in the MUTCD in regard to character, training, attire, and behavior.
5. Trim-lines are the City's preferred channelizing device. Cones may not be used at nighttime.
6. Traffic control devices not in use or not applicable shall be either covered or removed from the work area.
7. The Contractor shall use barricades, street plates, or fencing as needed to effectively shield pedestrian and vehicular traffic from exposed objects, excavations, and construction activities.
8. Access shall be maintained to all driveways and side streets unless noted otherwise on the plans.
9. No street shall be closed without the approval of the City Traffic Engineer. The Contractor shall notify the City Traffic Engineer at least 7 days in advance of any street closure. If a detour route around the closure is to be provided, all detour signing shall be as shown on a plan approved by the City Traffic Engineer.
10. Construction vehicles parked along streets shall be located within the work area (traffic control) or where otherwise normally permitted. Construction materials, including traffic control and vehicles shall not restrict sight distance for vehicles exiting at streets or drives.
11. Construction materials shall be kept off of sidewalks, consolidated in one location within City right-of-way, and removed daily unless otherwise approved by the Inspector. Dirt, mud, and other construction debris on streets and sidewalks shall be removed immediately.
12. The Contractor shall not perform any work that will restrict vehicular traffic in any way between the hours of 7:00 a.m. and 9:00 a.m. or 4:00 p.m. and 6:00 p.m. Monday through Friday unless otherwise indicated in the specifications.
13. All travel lanes should be at least 11 feet wide unless otherwise authorized by the City Traffic Engineer. A "Narrow Lanes" sign shall be installed in advance of a lane width reduction to less than 11 feet.
14. All edge drop-offs of more than 2 inches and less than 4 inches should be protected by a wedge or barrier and all edge drop-offs greater than 4 inches shall have edge protection (see Traffic Control Specifications for edge treatment requirements).
15. The "Workers" symbolic sign (MUTCD No. W21-1a) may be used instead of the "Road Work Ahead" sign for work with a duration of 12 hours or less. The "End Road Work" sign is not required to be installed after the "Workers" sign.
16. No traffic signal shall be altered or modified in any way without a plan approved by the City Traffic Engineer.
17. 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.
18. The traffic control requirements shown on these plans are minimum requirements only and do not attempt to address in depth the variety of situations that may occur once construction has started. In no way do the requirements shown on these plans relieve the Contractor of his responsibility for selecting the proper traffic control devices and implementation procedures that will assure the safety of drivers, pedestrians, and workers at all times.
19. Should the contractor fail to enforce the traffic control plan or fail to clean, replace or otherwise maintain the traffic control devices when directed to do so by the City Traffic Engineer or representative, the City may take one or more of the following actions:
    - A) Employ another agency to correct deficiencies in traffic control devices and deduct the cost from the Contractor's pay estimate,
    - B) Stop the work until deficiencies are corrected,
    - C) Suspend all pay estimates until deficiencies are corrected, or
    - D) Place the Contractor in default.



CHANNELIZERS

NOTE: White Bands On Barricades and Channelizers Shall Be Made From High Intensity Sheeting Material.



ARROW PANEL

TYPE 2

TYPE 3

BARRICADES

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

Project: COLBERN ROAD AND DOUGLAS STREET

TRAFFIC CONTROL DETAILS

Sheet Name: STANDARD DRAWING TC-1

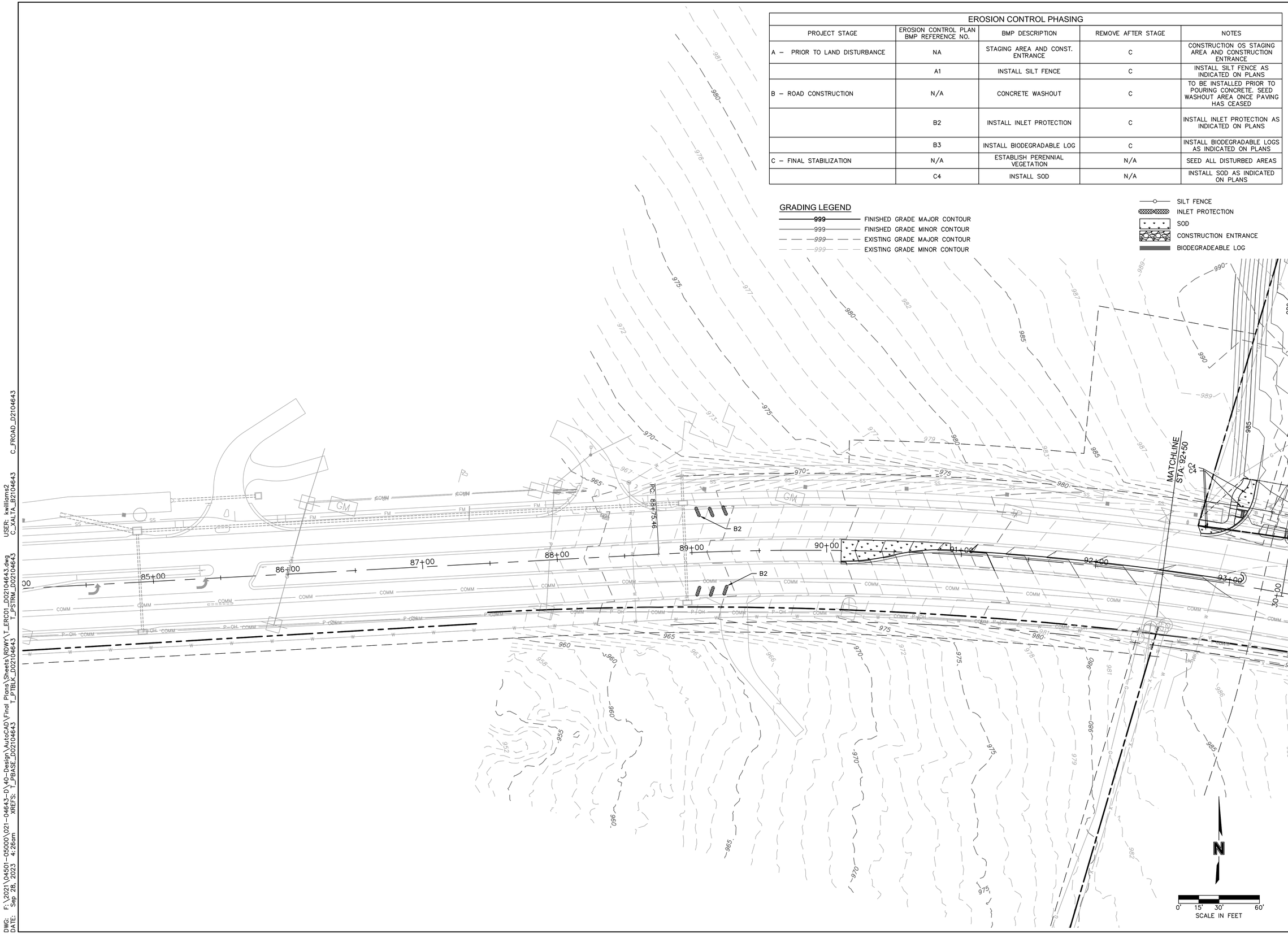
Drawn By: JJW
Checked By: MP
Date: 12-10-2008
Project No.: X

EROSION CONTROL PHASING				
PROJECT STAGE	EROSION CONTROL PLAN BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES
A – PRIOR TO LAND DISTURBANCE	NA	STAGING AREA AND CONST. ENTRANCE	C	CONSTRUCTION OS STAGING AREA AND CONSTRUCTION ENTRANCE
	A1	INSTALL SILT FENCE	C	INSTALL SILT FENCE AS INDICATED ON PLANS
B – ROAD CONSTRUCTION	N/A	CONCRETE WASHOUT	C	TO BE INSTALLED PRIOR TO POURING CONCRETE. SEED WASHOUT AREA ONCE PAVING HAS CEASED
	B2	INSTALL INLET PROTECTION	C	INSTALL INLET PROTECTION AS INDICATED ON PLANS
	B3	INSTALL BIODEGRADABLE LOG	C	INSTALL BIODEGRADABLE LOGS AS INDICATED ON PLANS
C – FINAL STABILIZATION	N/A	ESTABLISH PERENNIAL VEGETATION	N/A	SEED ALL DISTURBED AREAS
	C4	INSTALL SOD	N/A	INSTALL SOD AS INDICATED ON PLANS

GRADING LEGEND

- 999 FINISHED GRADE MAJOR CONTOUR
- 999 FINISHED GRADE MINOR CONTOUR
- 999 EXISTING GRADE MAJOR CONTOUR
- 999 EXISTING GRADE MINOR CONTOUR

- SILT FENCE
- INLET PROTECTION
- SOD
- CONSTRUCTION ENTRANCE
- BIODEGRADEABLE LOG



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STATE OF MISSOURI
JAMES WALTER GALLAGHER
NUMBER PE-2018010499
PROFESSIONAL ENGINEER
7/14/2023

REV. NO.	DATE	REVISIONS DESCRIPTION

REVISIONS

EROSION CONTROL PLANS

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

2023

drawn by: BJW
checked by: KLW
approved by: JPG
QA/QC by: JJW
project no.: 021-04643
drawing no.T_ERC01_D02104643
date: 7/14/2023

SHEET
60 OF 86

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- BIODEGRADEABLE LOG

MATCHLINE STA: 92+50

MATCHLINE STA: 101+00

℄ TRAILSEDGE BLVD

℄ COLBERN ROAD

℄ DISCOVERY AVENUE

PT: 33+84.85

PRC: 32+53.46

PRC: 31+99

PT: 95+71.71

PT: 101+66.40

653.04'
S87°04'47"E

SCALE IN FEET

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COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

2023

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checked by: KLW
approved by: JPG
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drawing no.T_ERC01_D02104643
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61 OF 86

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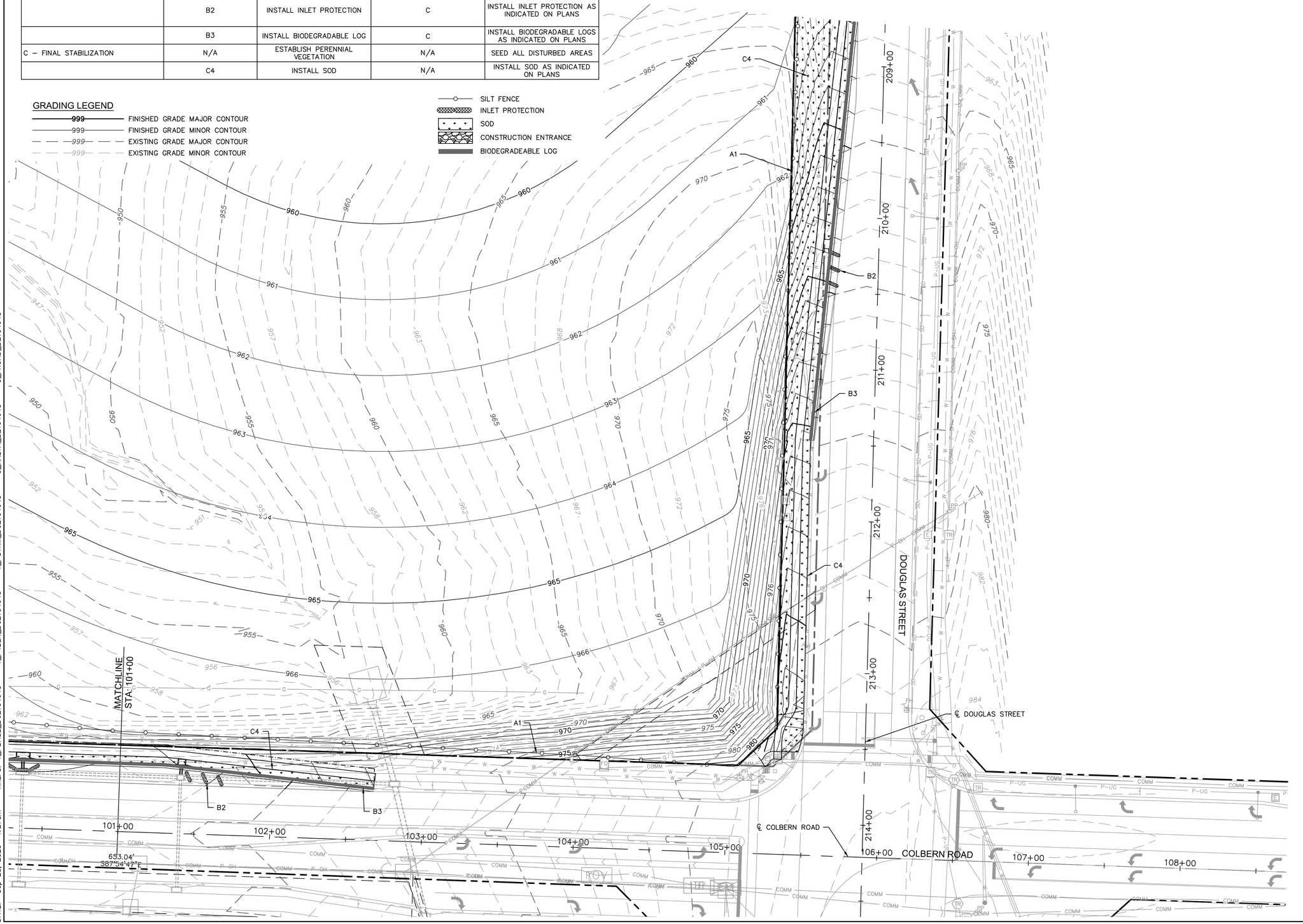
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N

0' 15' 30' 60'
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JAMES WALTER GALLAGHER
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9/18/2023
PROFESSIONAL ENGINEER

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COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

2023

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drawing no.:	T_ERC01_D02104643
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SHEET
62 OF 86

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DOUGLAS STREET
℄ DOUGLAS STREET
℄ ALURA WAY
LAKESIDE CT
PI: 22+71.06
200+00 201+00 202+00 203+00 204+00 205+00 206+00 207+00 208+00 209+00
22+99.27
21+00
20+00
C4 B2 B3 A1

0' 15' 30' 60'
SCALE IN FEET

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9/18/2023

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COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

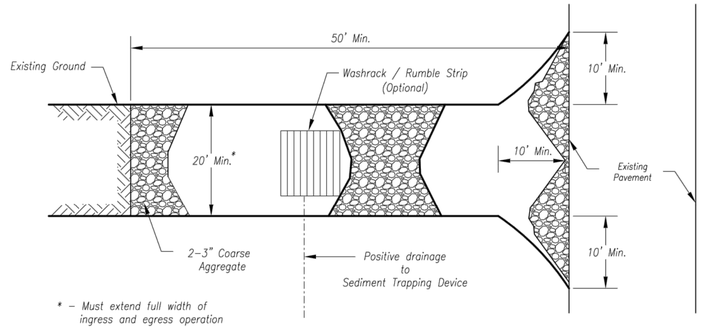
LEE'S SUMMIT, MISSOURI

2023

drawn by:	BJW
checked by:	KLW
approved by:	JPG
QA/QC by:	JJW
project no.:	021-04643
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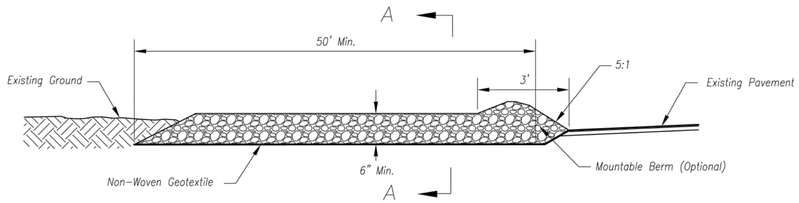
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63 OF 86

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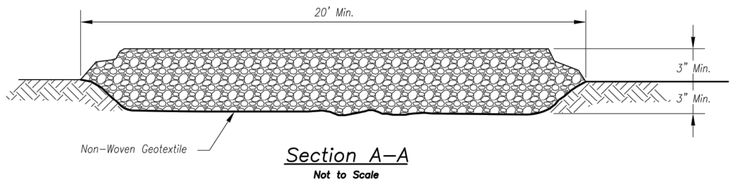
Plan View

Not to Scale



Side Elevation

Not to Scale



Section A-A

Not to Scale

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.

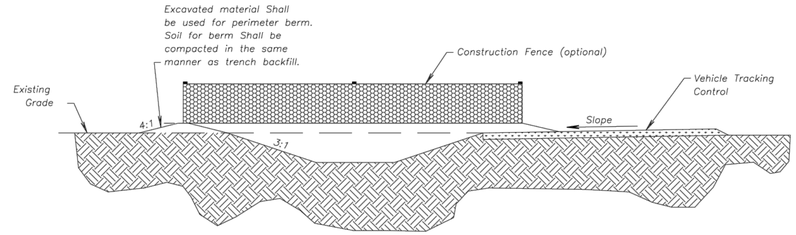
Notes for Construction Entrance:

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



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

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1301 Burlington Street, Suite 244
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STATE OF MISSOURI
JAMES WALTER GALLAGHER
NUMBER PE-2018010499
9/18/2023
PROFESSIONAL ENGINEER

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

EROSION CONTROL DETAILS

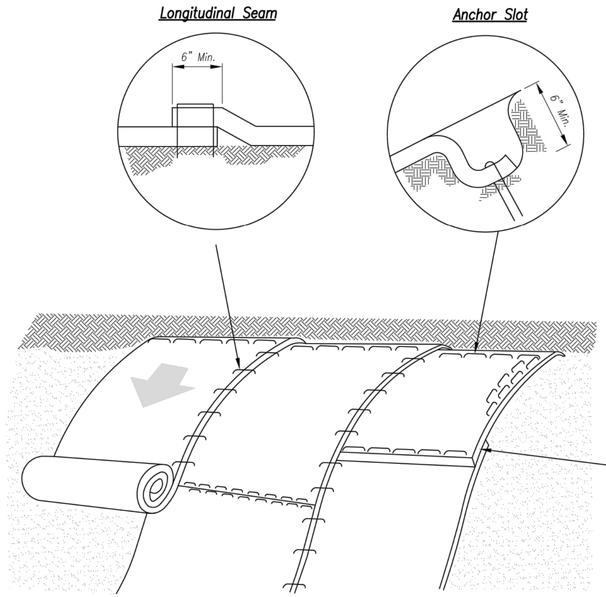
THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

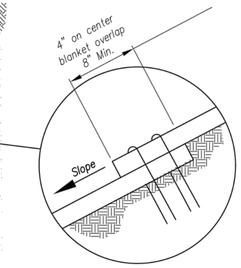
LEE'S SUMMIT, MISSOURI

2023

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Splice Seam

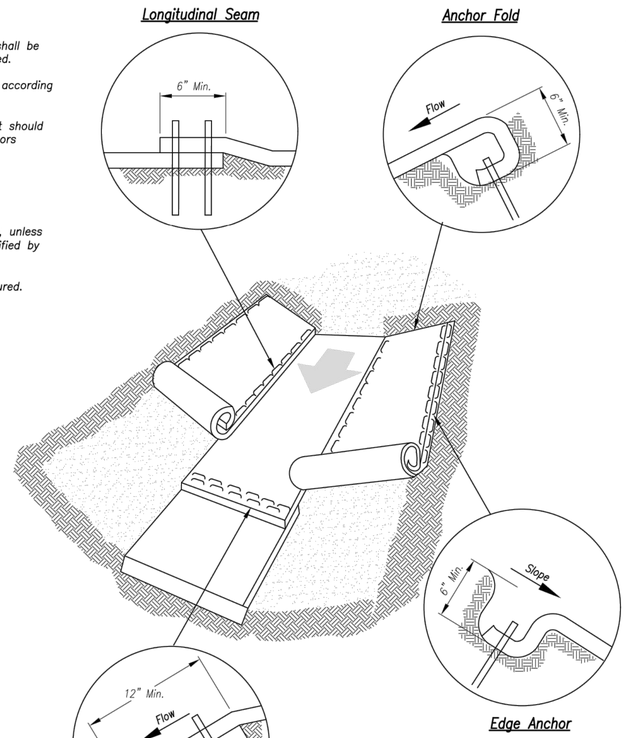
Installation on Slopes

General Notes:

1. *APWA Specifications 2150 and Design Guidance 5100 shall be referenced to select type of blanket or mat to be used.*
2. *Typical anchors and pattern/spacing shall be installed according to the manufacturers instructions.*
3. *LONGITUDINAL SEAMS: The edges of the blanket or mat should overlap each other a minimum of 6 inches, with anchors catching the edges of both blankets.*

Maintenance:

1. *Torn or degraded product shall be repaired or replaced, unless such degradation is within the functional longevity specified by the manufacturer.*
2. *Edges or seams that are loose or frayed shall be secured.*

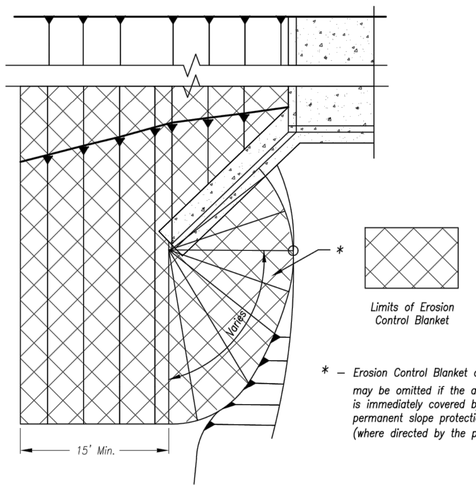


Edge Anchor

Splice Seam

Notes for Installation in Channels:

1. *Erosion Control Blankets and TRMs shall be laid in the direction of the flow, with the first course at the centerline of channel, where applicable. In order for the mat to be in contact with the soil, lay the mat loosely, avoiding stretching.*
2. *ANCHOR FOLD: The top of the mat should be folded under, buried and secured with wood or other approved anchors placed 6 inches apart. The top edge of the mat should be buried in a slot 6 inches wide x 6 inches deep, anchored in the bottom of the slot, backfilled, and the mat folded over the top as shown in detail.*
3. *SPLICE SEAM: When splices are necessary, overlap end a minimum of 12 inches in direction of water flow. Stagger splice seams.*
4. *CHECK SLOTS: Establish check slots transverse to slope every 30 feet. The slots should be 6 inches wide x 6 inches deep. The mat shall be cut to a length 12 inches beyond the slot. The top of the downstream mat shall be slotted in, secured and buried similar to the edge anchor fold. The upstream mat shall then cover the slot and be anchored as shown.*
5. *EDGE ANCHORS: Lay outside edge of mat into trench at top of the slope and anchor.*
6. *TERMINUS: The bottom edge of the mat shall be anchored.*



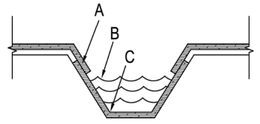
Partial Box Culvert Plan
Not to Scale

* – Erosion Control Blanket or TRM may be omitted if the area is immediately covered by permanent slope protection (where directed by the plans)

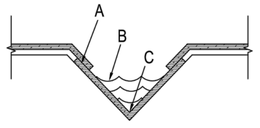
Installation Around Culvert Slope

Notes for Installation on Slopes:

1. *Erosion Control Blankets and TRMs shall be laid in the direction of the slope. In order for blanket to be in contact with the soil, lay blanket loosely, avoiding stretching.*
2. *ANCHOR SLOTS: The top of the blanket should be "slotted in" at the top of the slope and anchored in place with anchors 6 inches apart. The slots should be 6 inches wide x 6 inches deep with the blanket anchored in the bottom of the slot, then backfilled, tamped and seeded.*
3. *SPLICE SEAM: When splices are necessary, overlap end a minimum of 8 inches in direction of water flow. Stagger splice seams.*
4. *TERMINAL FOLD: The bottom edge of the blanket shall be turned under a minimum of 4 inches, then anchored in place with anchors 9 inches apart.*



Trapezoidal Channel



V Channel

Critical Points:

A – *Overlaps and seams;*

B – *Projected water line;*

C – *Channel bottom / side slope vertices;*

Installation in Channels

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

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KANSAS CITY METRO CHAPTER

EROSION CONTROL BLANKETS AND TURF REINFORMENT MATS

STANDARD DRAWING NUMBER ESC-02

ADOPTED: 10/24/2016

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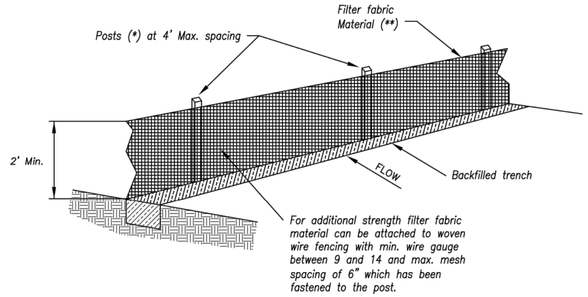
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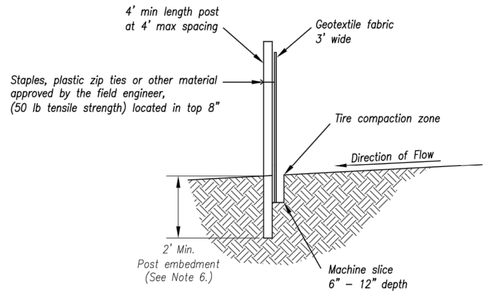
THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS
LEE'S SUMMIT, MISSOURI
2023

drawn by: BJW
checked by: KLW
approved by: JPG
QA/QC by: JJW
project no.: 021-04643
drawing no.: ERCD01_D02104643
date: 7/14/2023

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65 OF 86

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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 ½ the height of silt fence.
2. Repair as necessary to maintain function and structure.

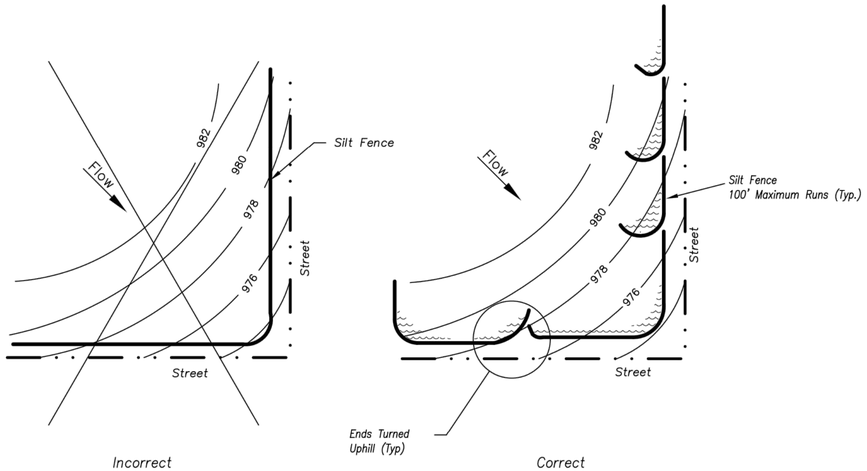
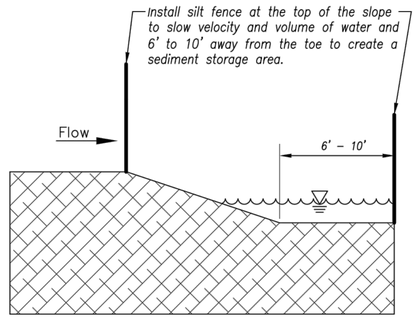
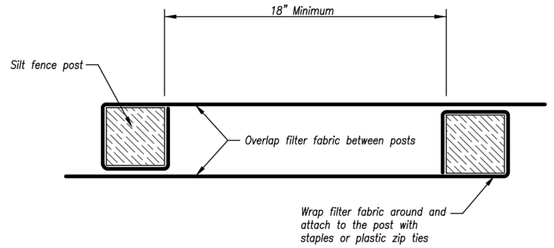


Figure A

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

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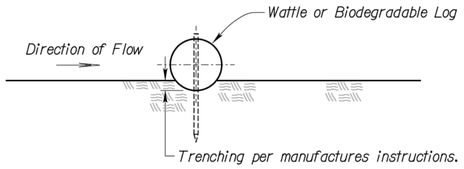
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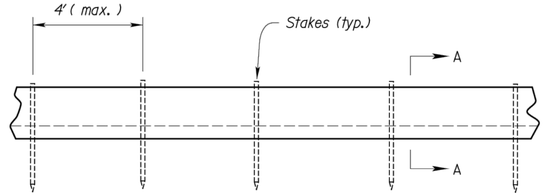
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approved by: JPS
QA/QC by: JJW
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drawing no.: T_ERCD01_D02104643
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Section A–A



Typical Elevation

WATTLES AND BIODEGRADABLE LOG

Notes for Wattles and Biodegradable Log Slope Protection:

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

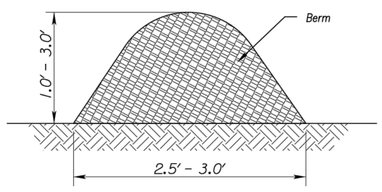


Figure 1
(Perimeter Control)

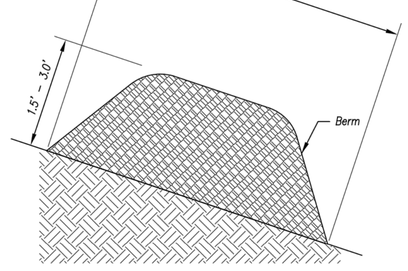


Figure 2
(Steep Slopes)

Notes for Mulch and Compost Filter Beam:

1. The sediment control berm shall be placed uncompacted in a windrow at locations shown on the plans or as directed by the engineer.
2. Parallel to the base of the slope, or around the perimeter of other affected areas, construct a 1 to 3 foot high by 2.5 to 3 foot wide berm (see Figure 1). For maximum water treatment ability or for steep slopes, construct a 1.5 to 3 foot high trapezoidal berm that is a minimum of 4 feet wide at the base (see Figure 2). In extreme conditions, or where specified by the engineer, a second berm shall be constructed at the top of the slope. Engineer will specify berm requirements.
3. If berm is to be left as permanent or part of the natural landscape, the compost berm may be seeded during application for permanent vegetation.
4. Do not use compost or wood mulch berms in any runoff channels or concentrated flow areas.
5. Wood mulch shall consist of tree and shrub debris resulting from clearing and grubbing and shall be ground by the mechanical means such as a chipper, hammermill, tub grinder or other approved method. Mulch sizing varies with a maximum width of 2" and a maximum length of 10".

Maintenance for Mulch and Compost Filter Beam:

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

MULCH OR COMPOST FILTER BERMS

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

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KANSAS CITY METRO CHAPTER

WATTLES/BIODEGRADABLE LOG AND MULCH/COMPOST FILTER BERM

STANDARD DRAWING NUMBER ESC-04

ADOPTED: 10/24/2016

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EROSION CONTROL DETAILS

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COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

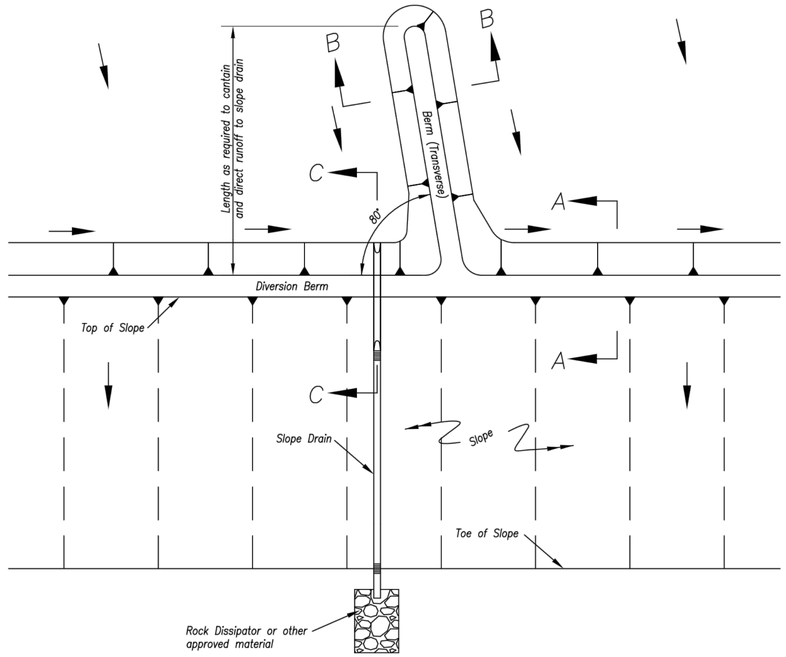
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TYPICAL PLAN VIEW OF DIVERSION BERM AND SLOPE DRAIN

Notes for Diversion Berm:

1. Slope drains are optional, but may be required by the engineer if the berm is at the top of a steep slope.
2. Diversion berms must be installed as a first step in the land-disturbing activity and must be functional prior to upslope land disturbance.
3. The berm should be adequately compacted to prevent failure.
4. Temporary or permanent seeding and mulch shall be applied to the berm immediately following its construction.
5. Place the berm so to minimize damages by construction operations and traffic.
6. The berm must discharge to a temporary sediment trap or stabilized area.
7. All trees, brush, stumps, obstructions and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of diversion.
8. The diversion shall be excavated or shaped to line, grade and cross-section as required to meet the criteria specified herein, free of irregularities which will impede flow.
9. Fills shall be compacted as needed to prevent unequal settlement that would cause damage in the completed diversion. Fill shall be composed of soil which is free from excessive organic debris, rocks or other objectionable materials.

Maintenance:

1. Berm shall be reshaped, compacted, and stabilized as necessary to maintain its function.
2. Breaches in the berm shall be repaired immediately.

Notes for Slope Drain:

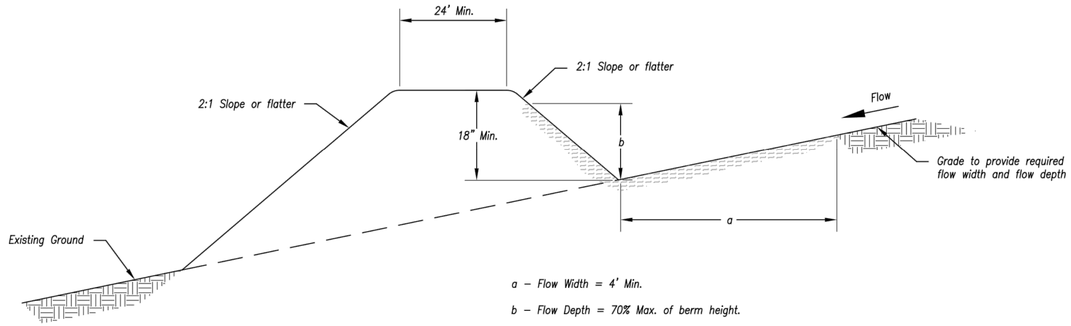
1. Slope Drain and Diversion Berm may be used on either project foreslopes or project backslopes.
2. Discharge of Slope Drains shall be into stabilized ditch or area, or into Sediment Basin.
3. Pipe shall be secured in place as approved by Engineer.

Maintenance:

1. Accumulation of any visible sediment at the inlet and outlet shall be removed promptly.
2. Outlet conditions shall be repaired if scour is observed. Leaking or damaged section of pipe shall be repaired immediately.
3. Barriers directing water to the inlet shall be monitored for continuity and effectiveness.

TYPICAL PROFILE OF DIVERSION BEAM

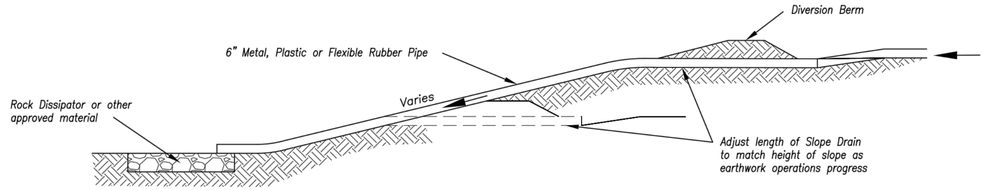
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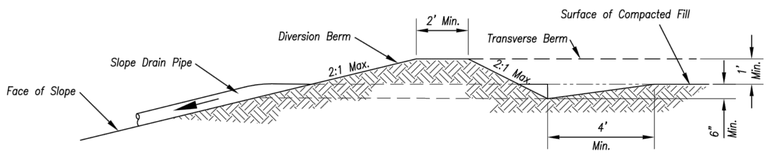


a – Flow Width = 4' Min.

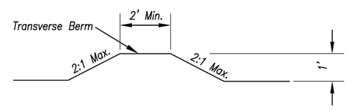
b – Flow Depth = 70% Max. of berm height.

TYPICAL PROFILE OF DIVERSION BERM





Section C–C



Section B–B

TYPICAL PROFILE OF DIVERSION BERM WITH SLOPE DRAIN

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

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KANSAS CITY METRO CHAPTER

DIVERSION BERMS AND SLOPE DRAINS

STANDARD DRAWING NUMBER ESC-05

ADOPTED: 10/24/2016

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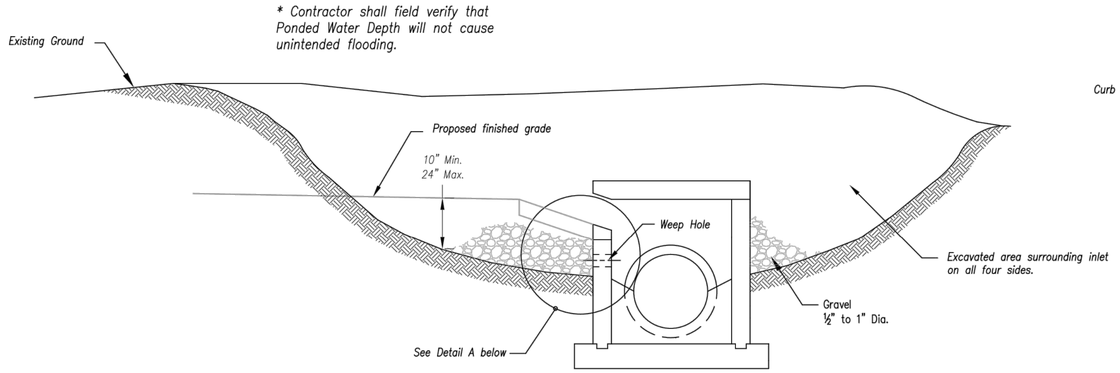
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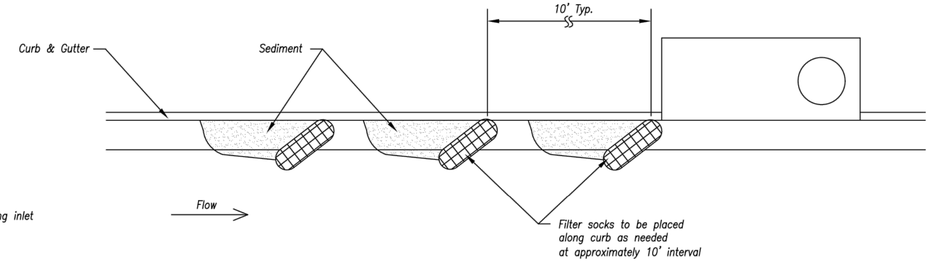
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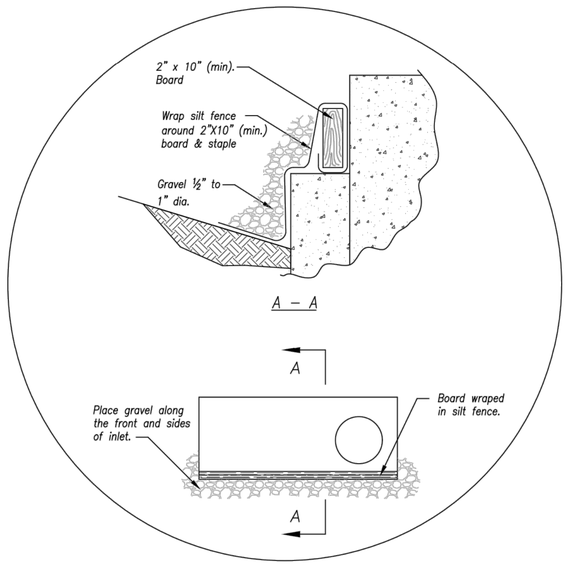
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On Grade Curb Inlet Protection



Detail A

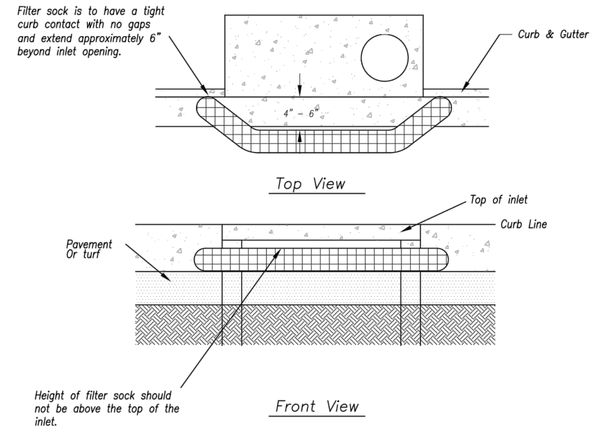
EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)

Notes:

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

Maintenance:

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



Sump Inlet Sediment Filter

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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CURB INLET PROTECTION

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

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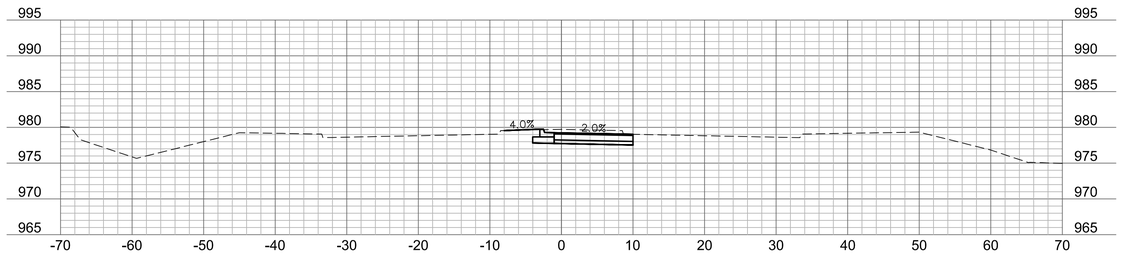
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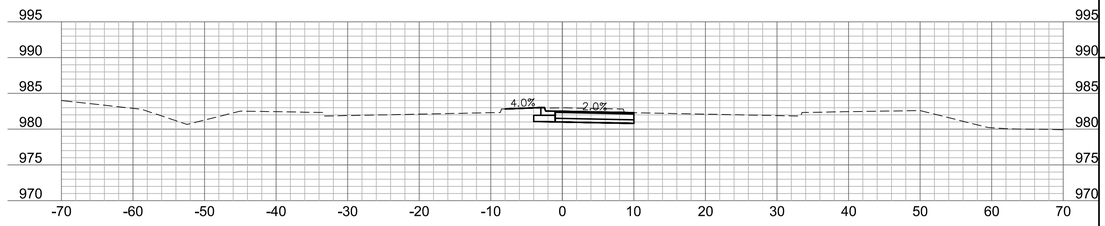
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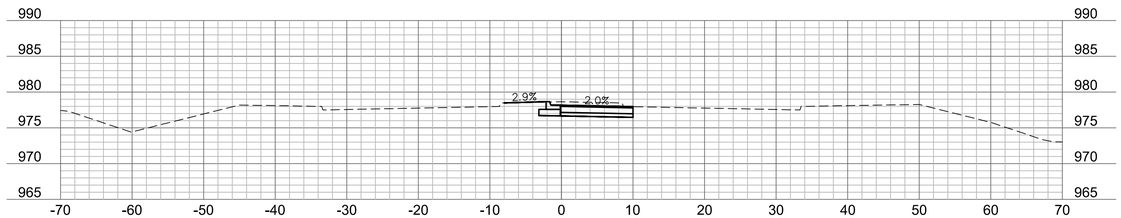
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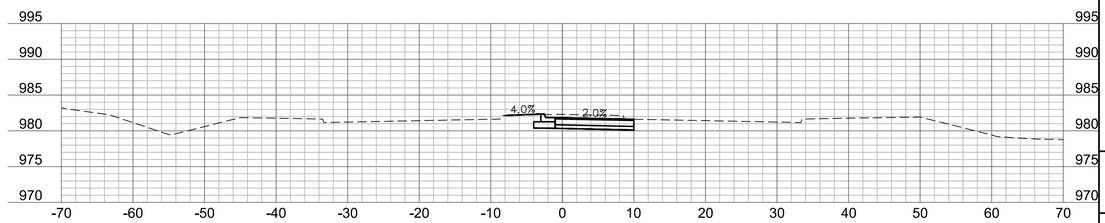
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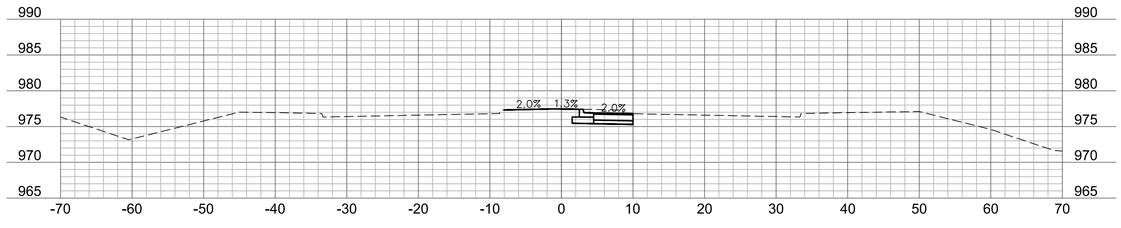
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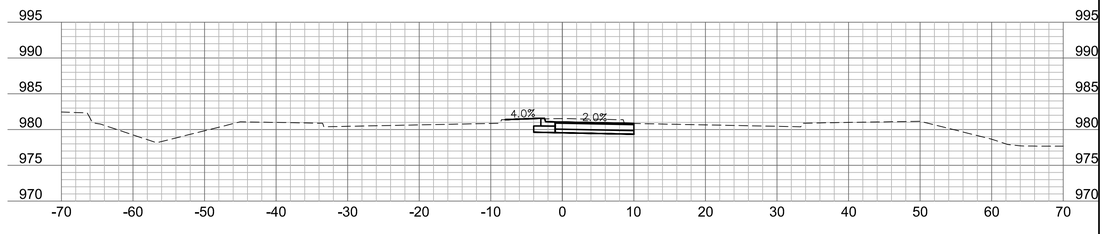
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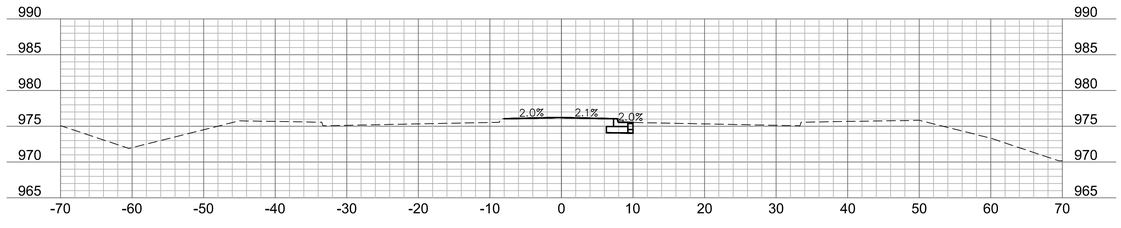
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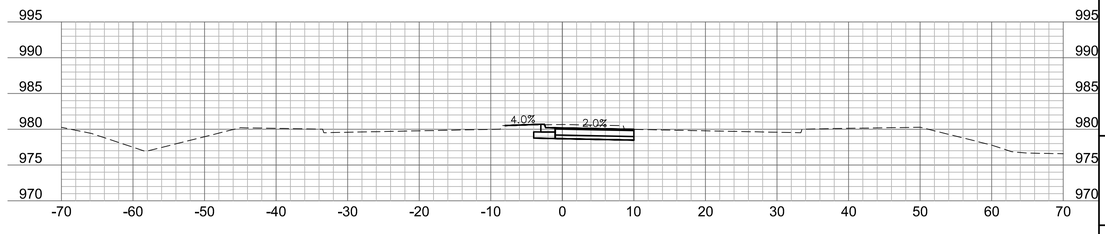
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90+25



91+25

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STATE OF MISSOURI
JAMES WILLIAM GALLAGHER
NUMBER PE-2010010499
PROFESSIONAL ENGINEER
9/14/2023

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

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COLBERN ROAD

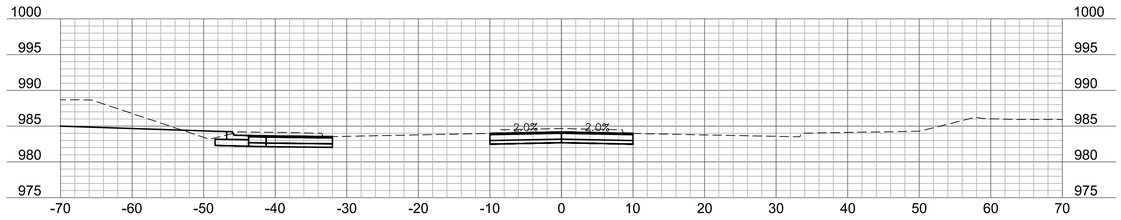
THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

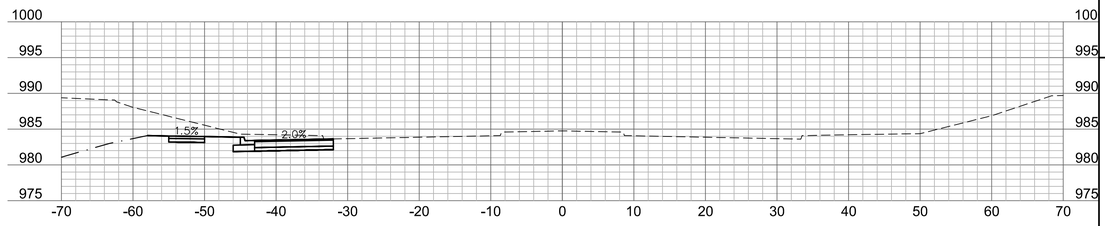
2023

drawn by:	BJW
checked by:	KLW
approved by:	JPS
QA/QC by:	JJW
project no.:	021-04643
drawing no.:	T_XSC01_D02104643
date:	7/14/2023

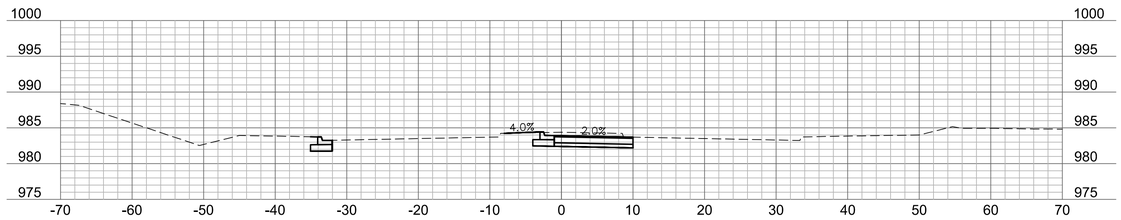
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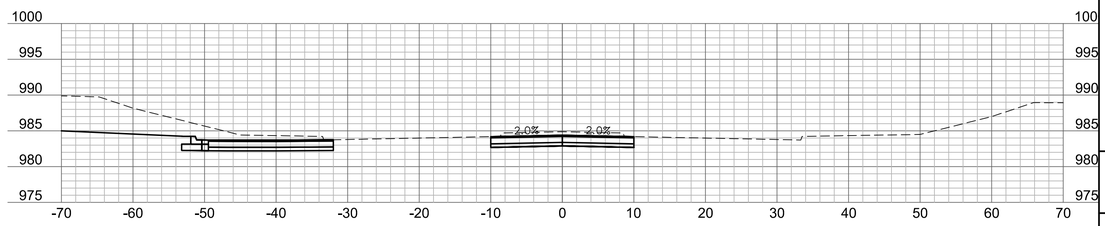
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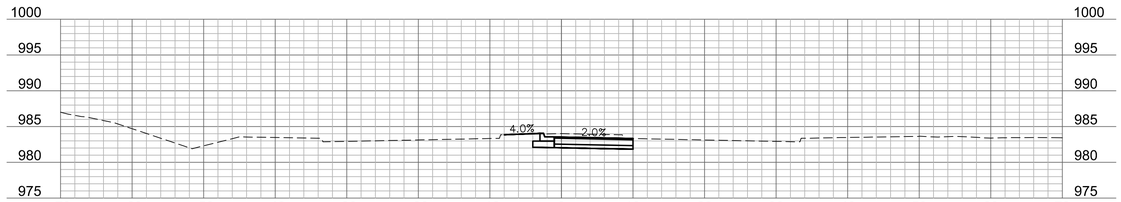
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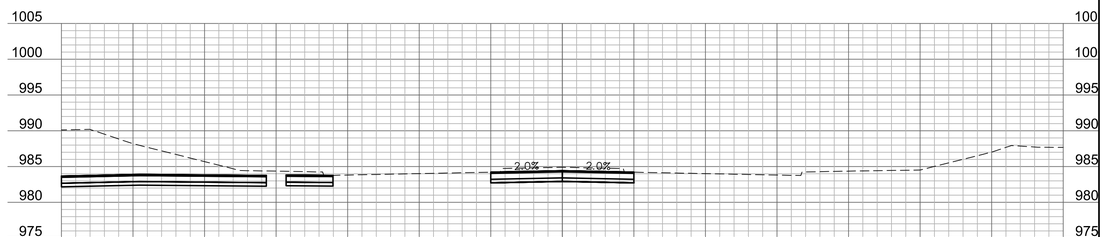
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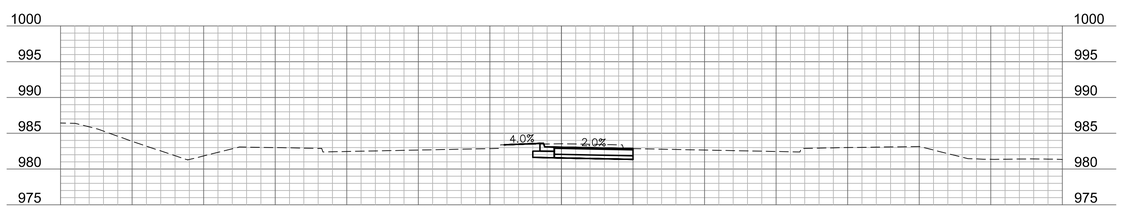
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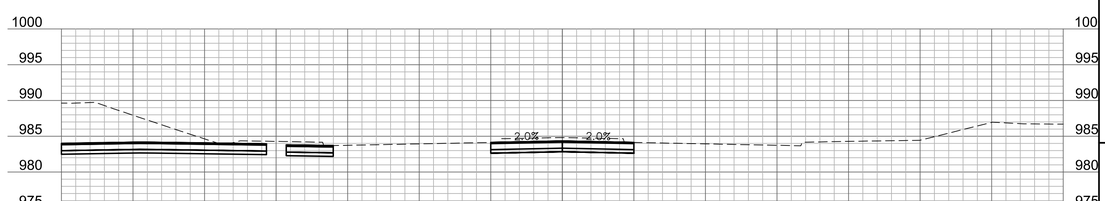
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92+25



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JAMES WILLIAM GALLAGHER
NUMBER PE-2010010499
PROFESSIONAL ENGINEER
7/14/2023

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

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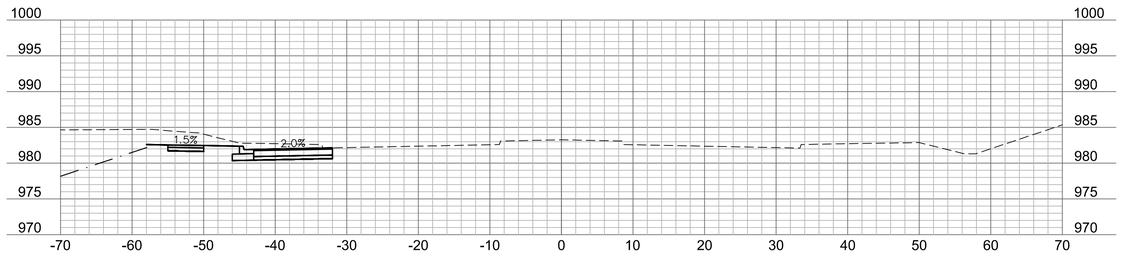
THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

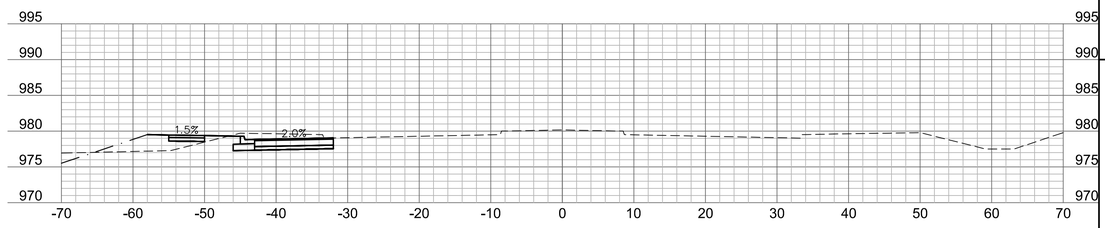
2023

drawn by:	BJW
checked by:	KLW
approved by:	JPS
QA/QC by:	JJW
project no.:	021-04643
drawing no.:	T_XSC01_D02104643
date:	7/14/2023

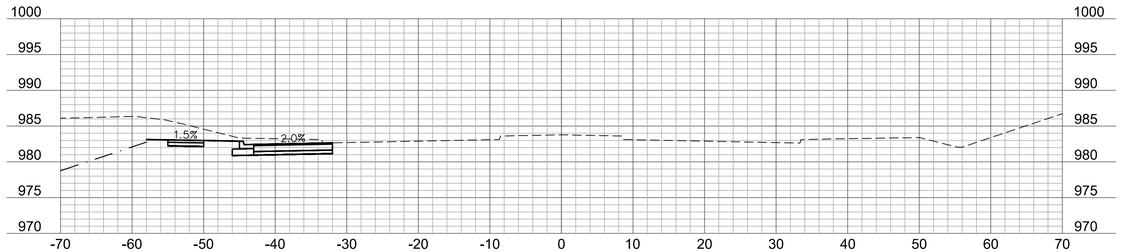
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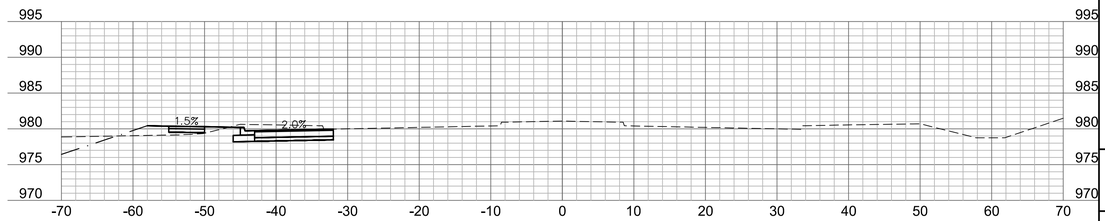
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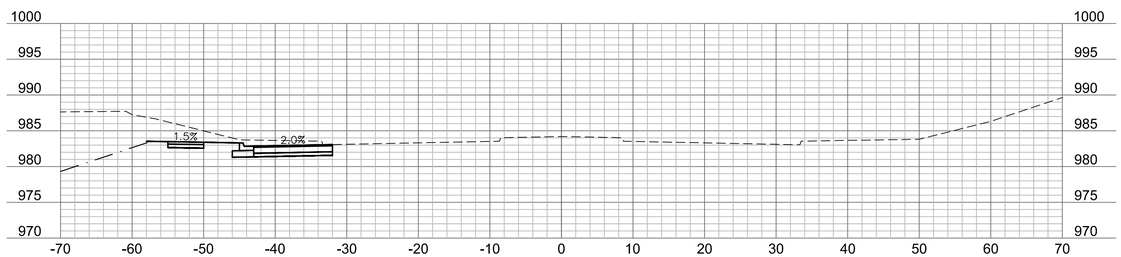
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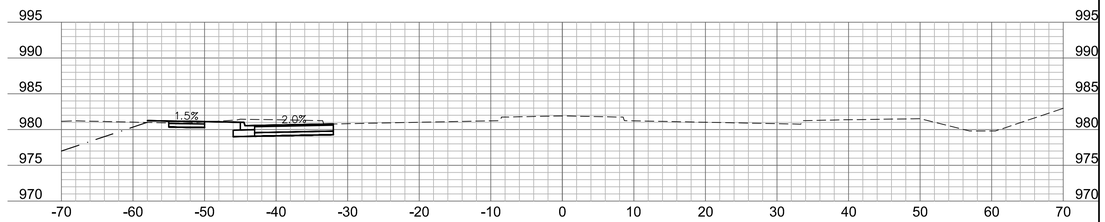
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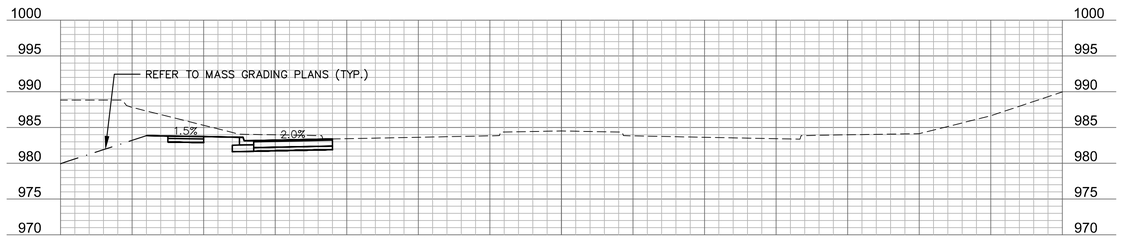
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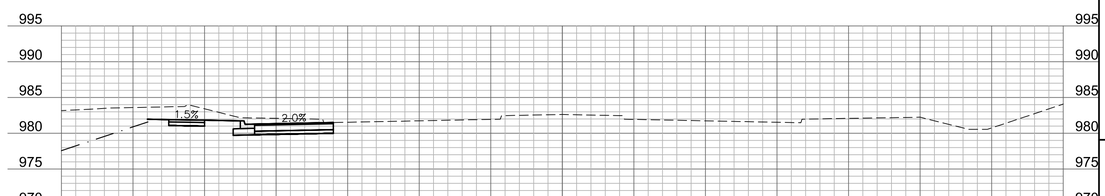
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94+25



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JAMES WILLIAM GALLAGHER
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PROFESSIONAL ENGINEER
9/18/2023

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

CROSS SECTIONS
COLBERN ROAD

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

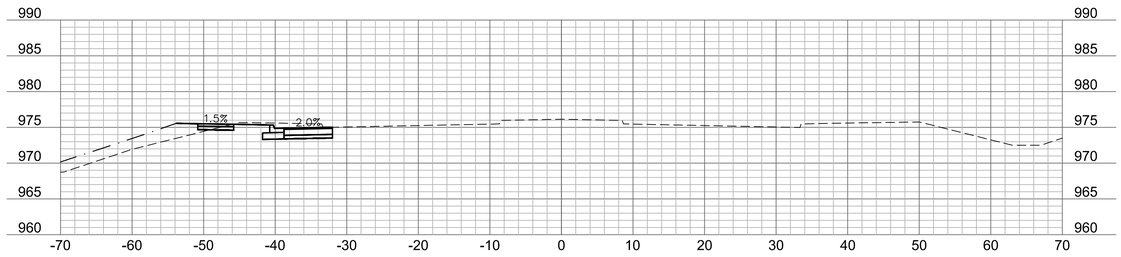
LEE'S SUMMIT, MISSOURI

2023

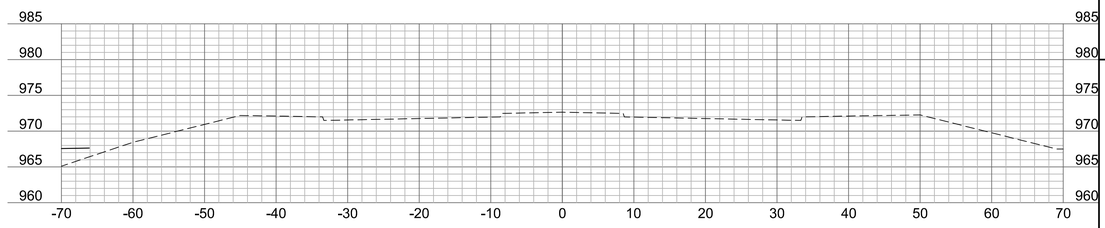
drawn by:	BJW
checked by:	KLW
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QA/QC by:	JJW
project no.:	021-04643
drawing no.:	T_XSC01_D02104643
date:	7/14/2023

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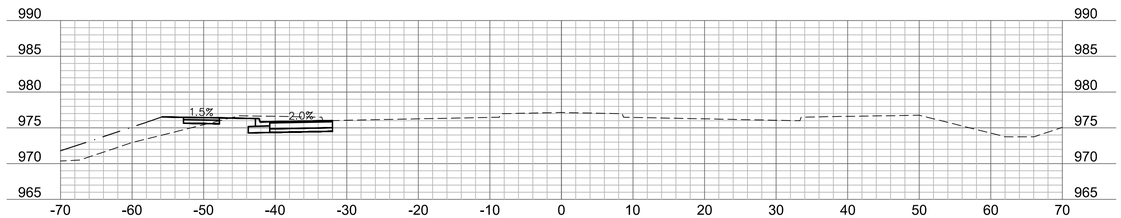
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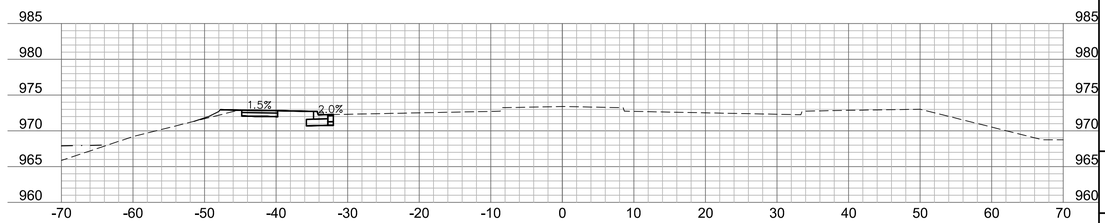
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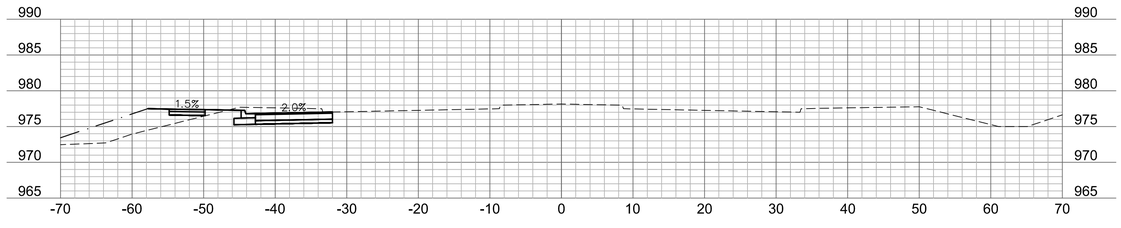
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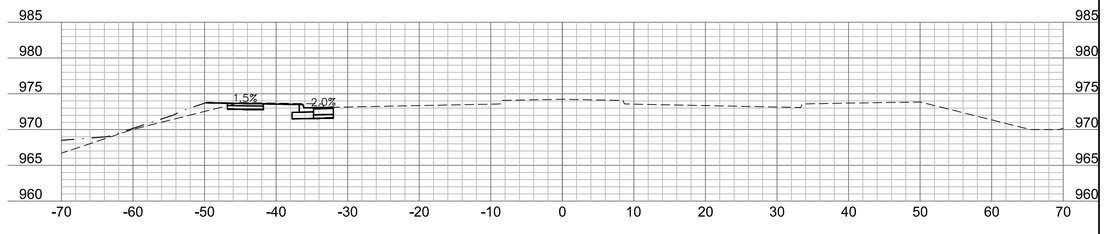
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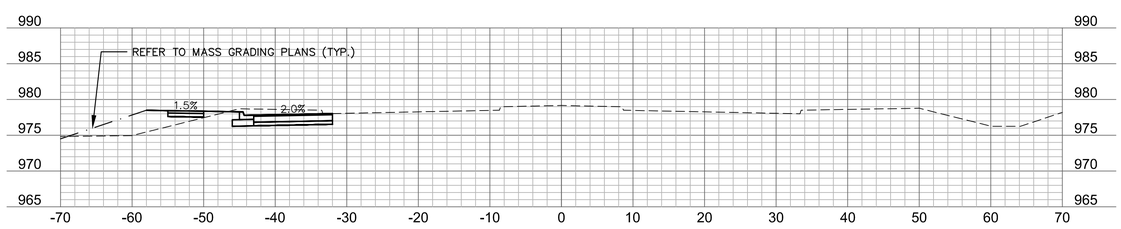
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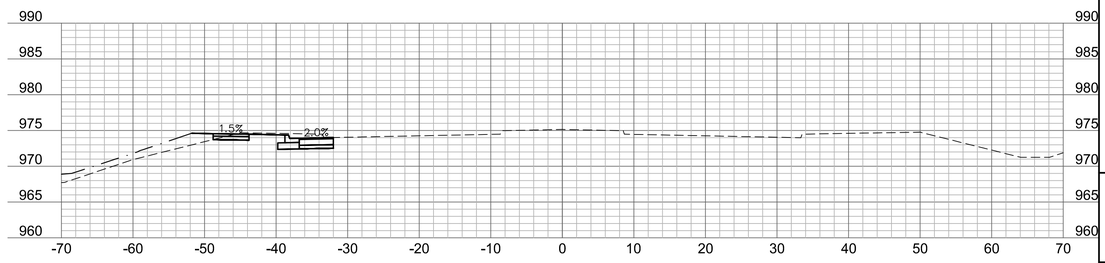
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STATE OF MISSOURI
JAMES WILLIAM GALLAGHER
NUMBER PE-2010010499
7/14/2023
PROFESSIONAL ENGINEER

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

CROSS SECTIONS
COLBERN ROAD

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

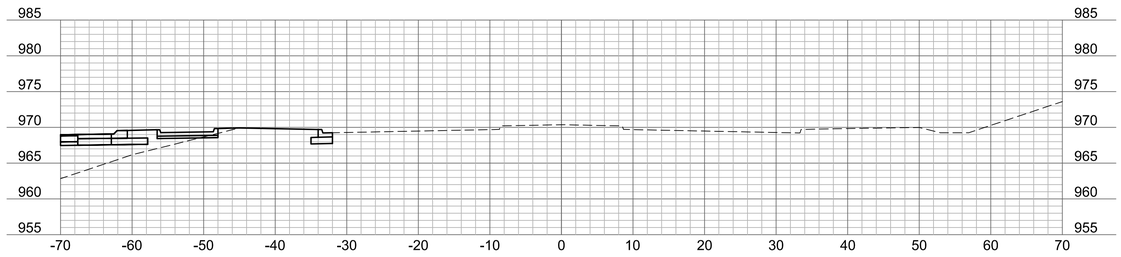
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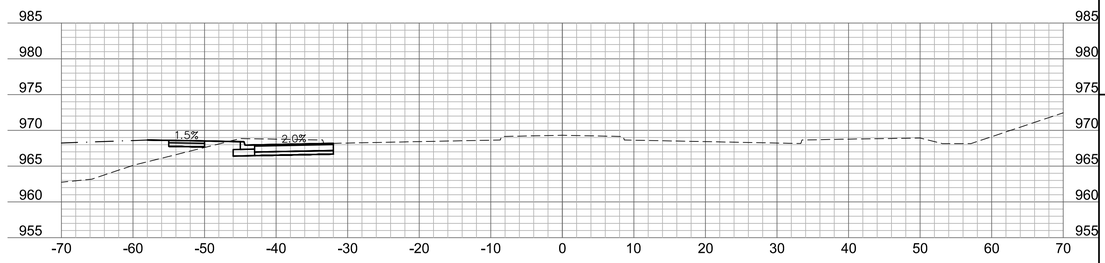
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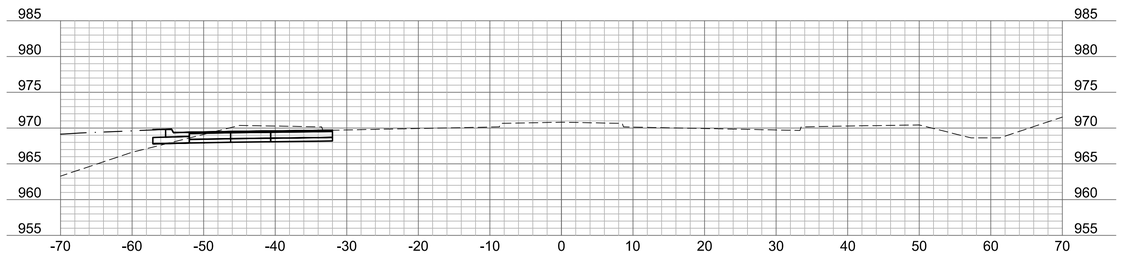
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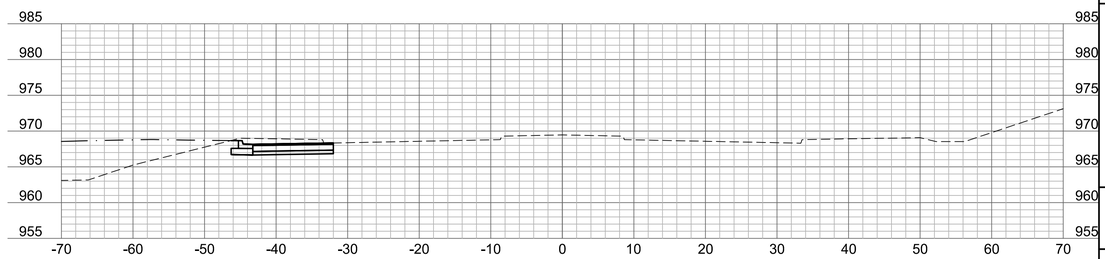
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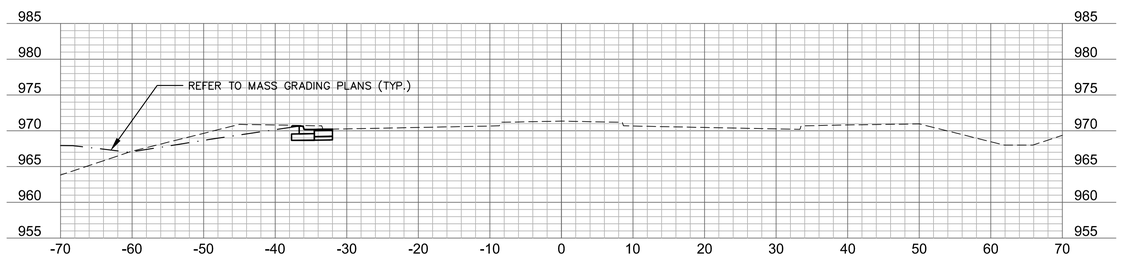
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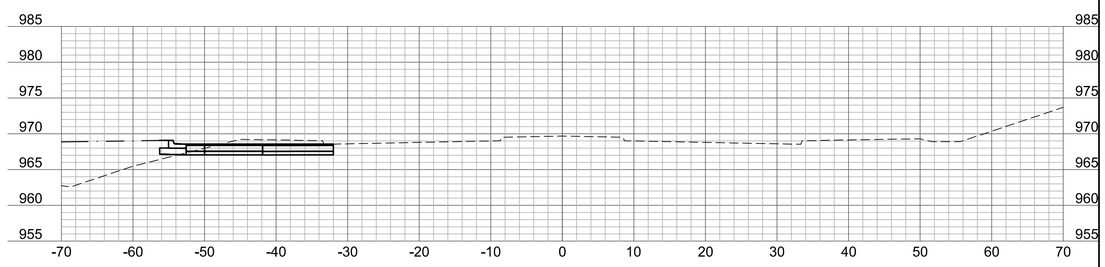
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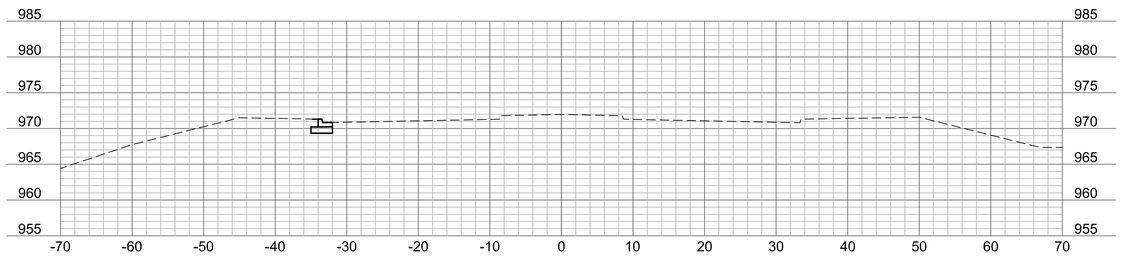
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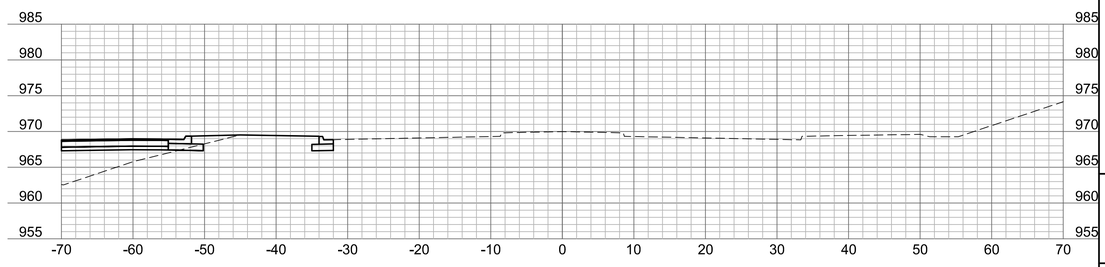
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PROFESSIONAL ENGINEER
7/14/2023

REVISIONS

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COLBERN ROAD

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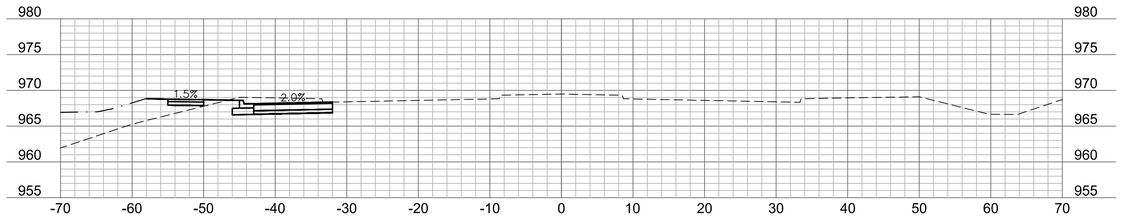
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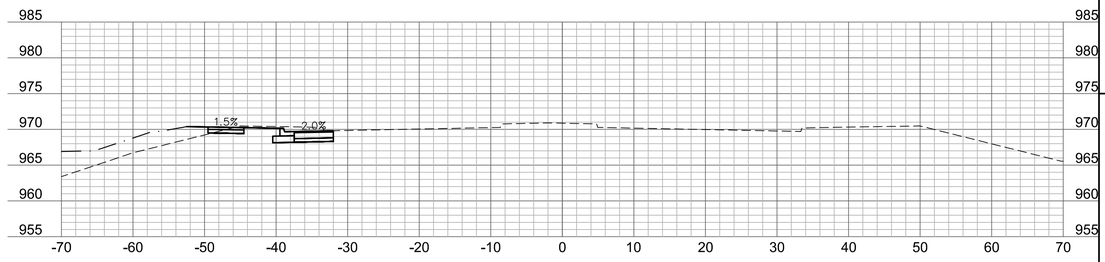
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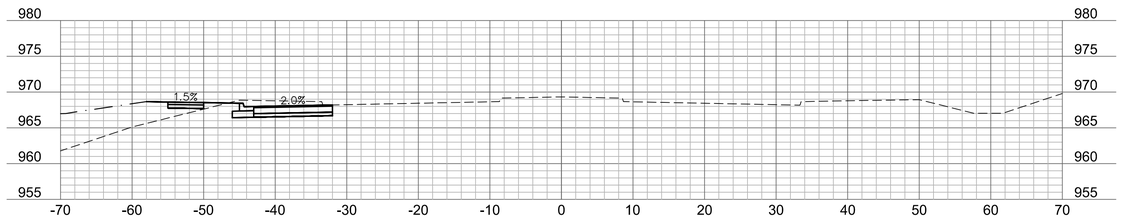
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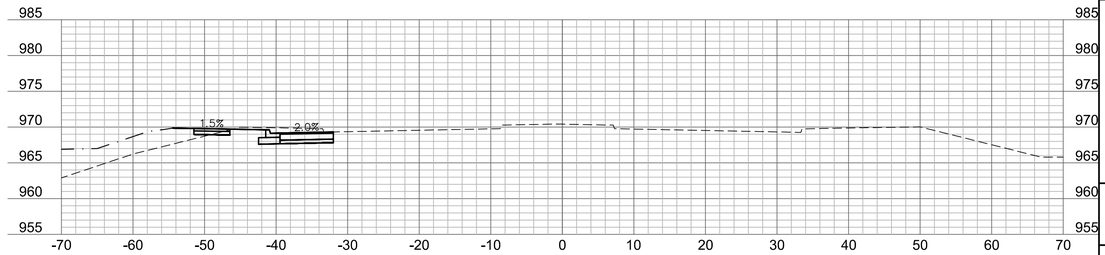
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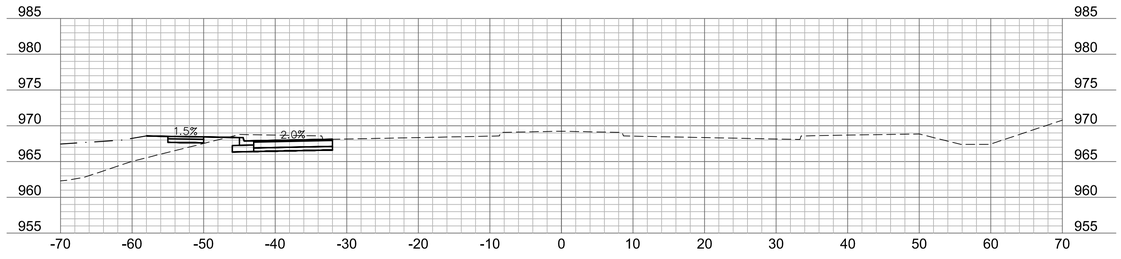
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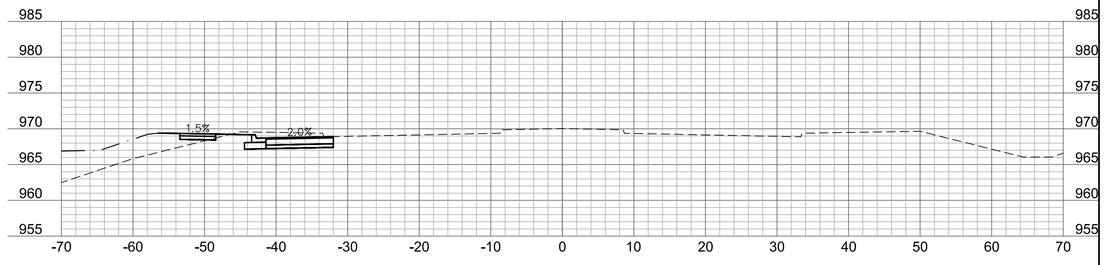
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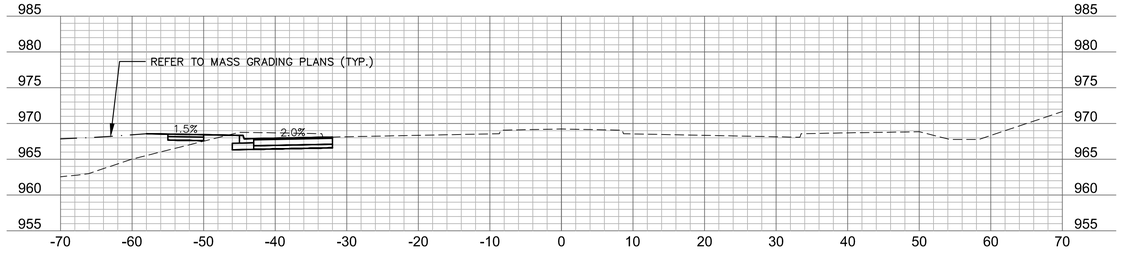
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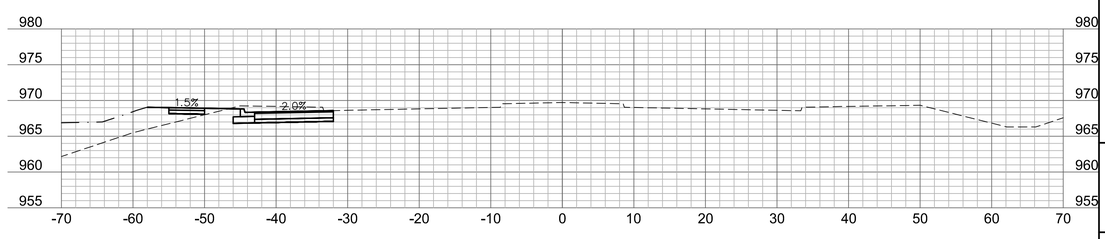
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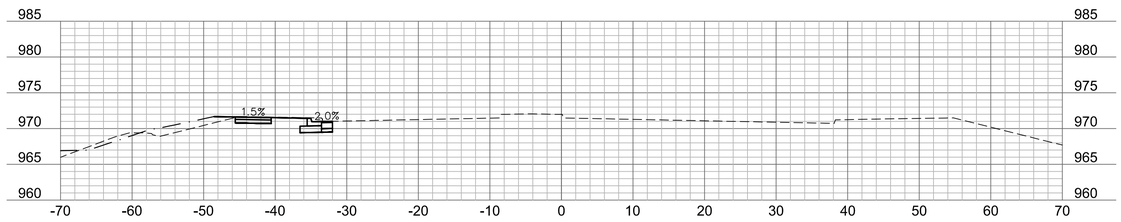
LEE'S SUMMIT, MISSOURI

2023

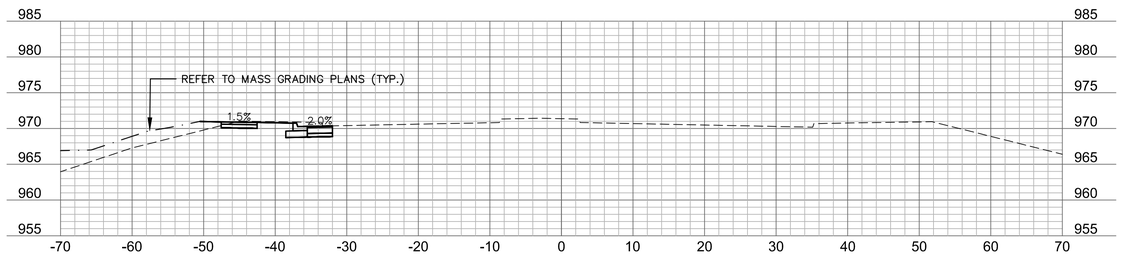
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approved by:	JPS
QA/QC by:	JJW
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drawing no.:	T_XSC01_D02104643
date:	7/14/2023

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STATE OF MISSOURI
JAMES WILLIAM GALLAGHER
NUMBER PE-2018010499
PROFESSIONAL ENGINEER
9/14/2023

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

CROSS SECTIONS
COLBERN ROAD

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

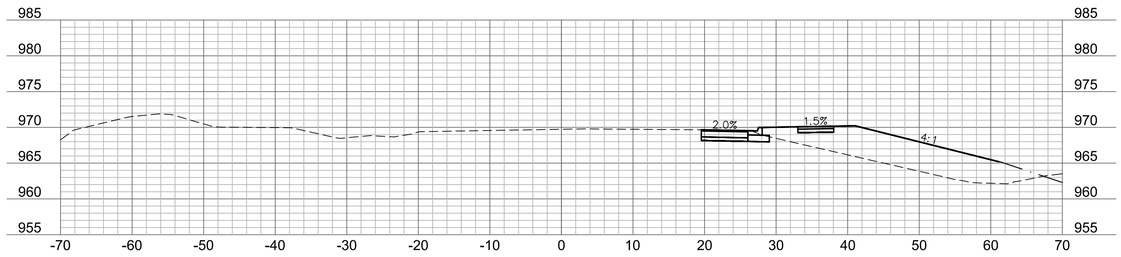
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2023

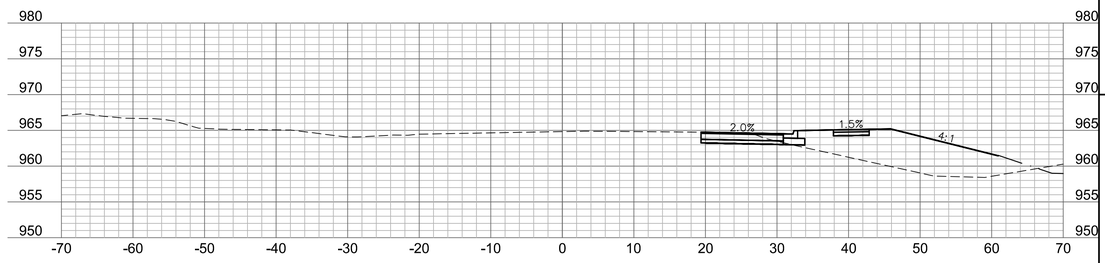
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date: 7/14/2023

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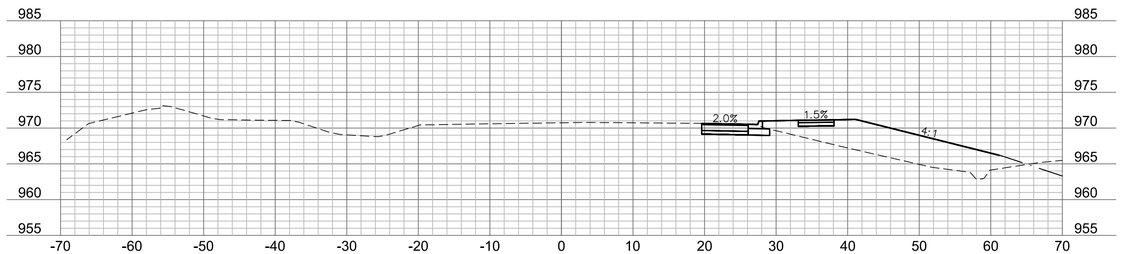
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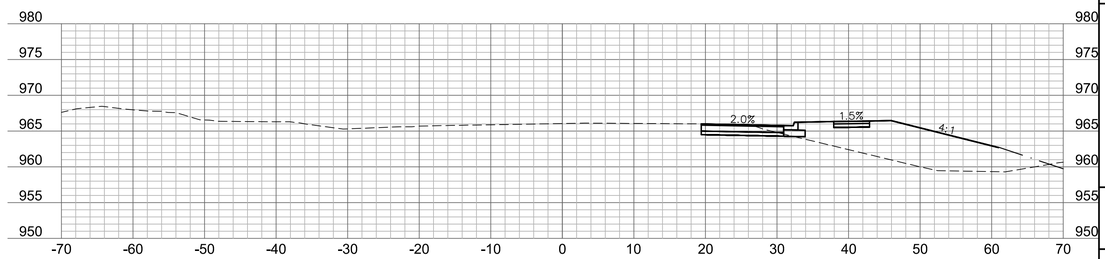
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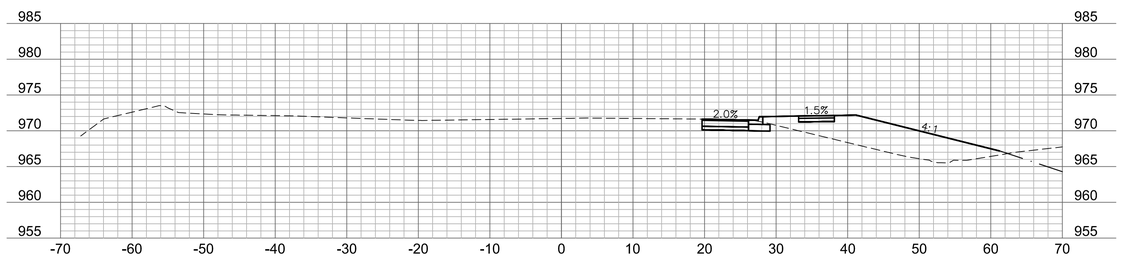
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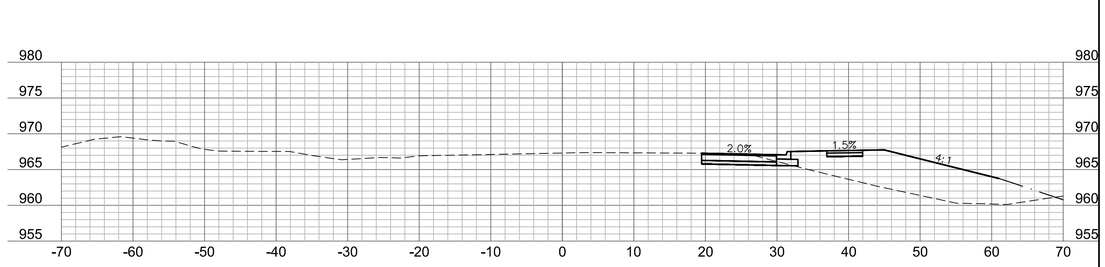
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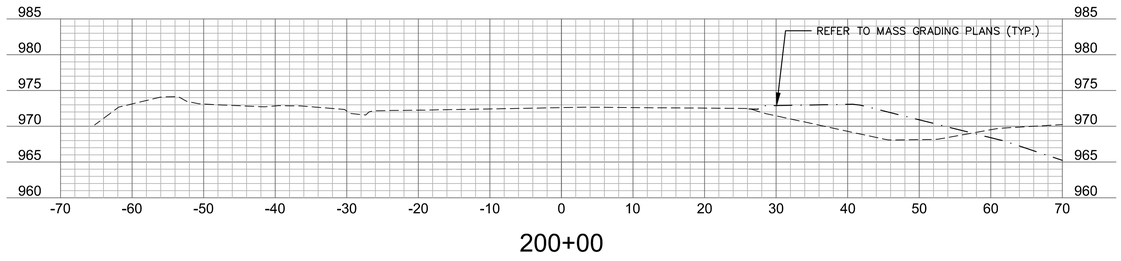
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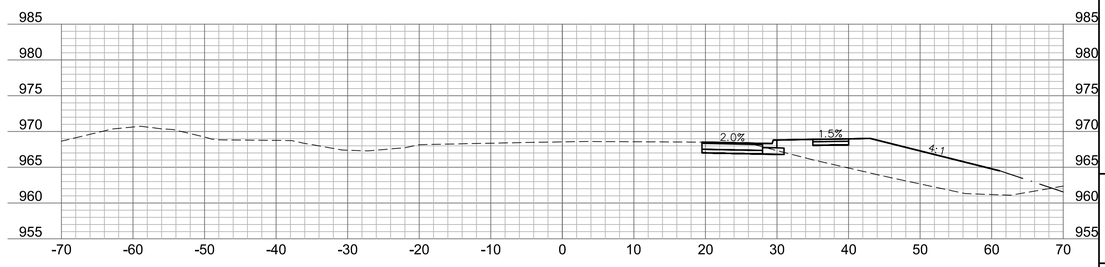
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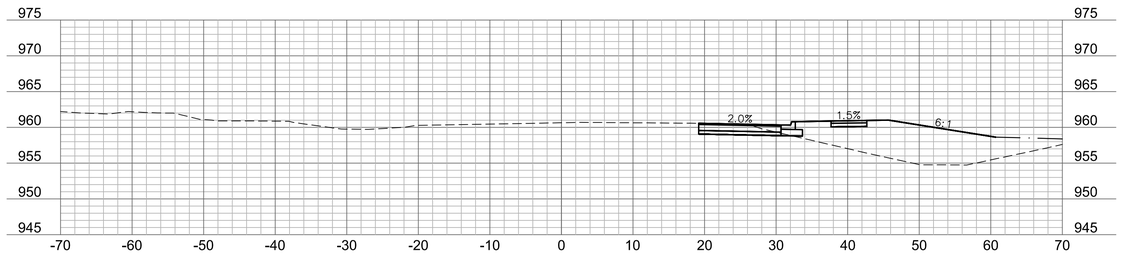
THE VILLAGE AT DISCOVERY PARK
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LEE'S SUMMIT, MISSOURI

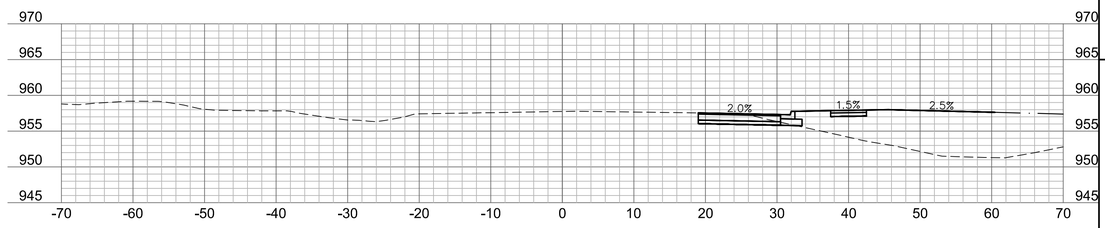
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drawn by:	BJW
checked by:	KLW
approved by:	JPS
QA/QC by:	JJW
project no.:	021-04643
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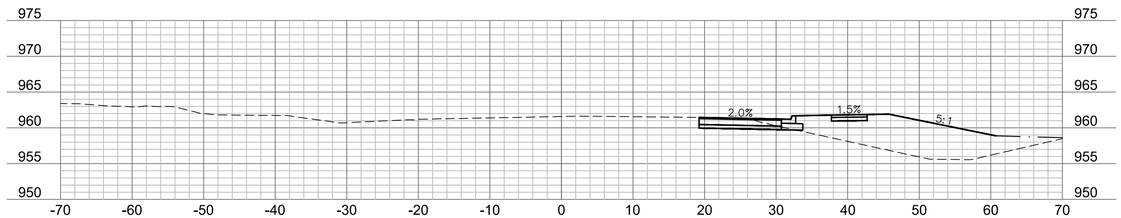
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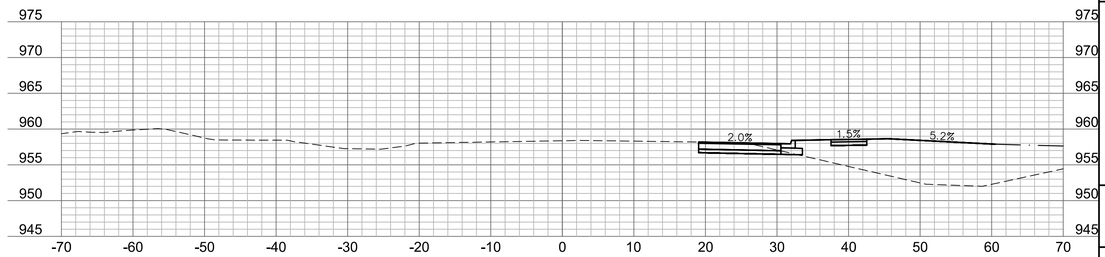
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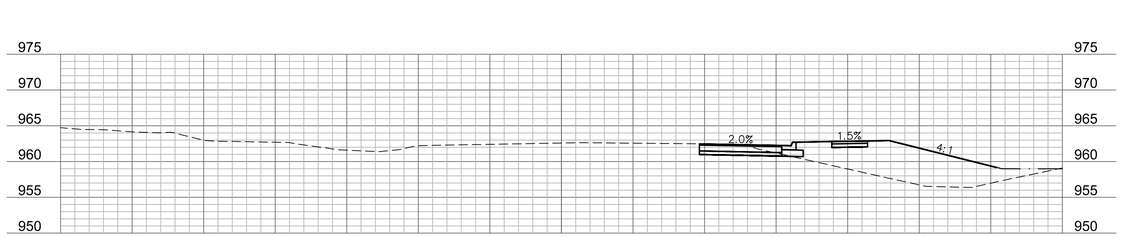
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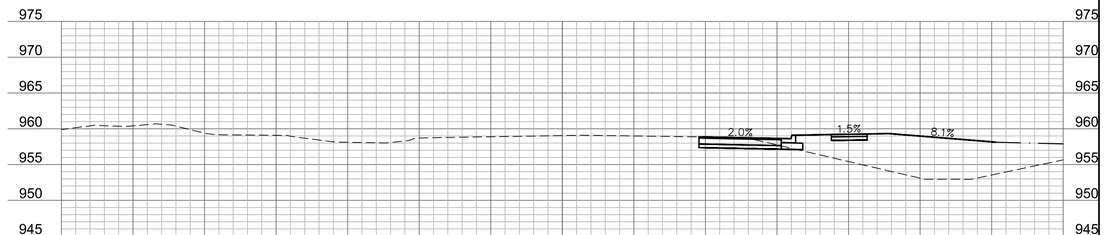
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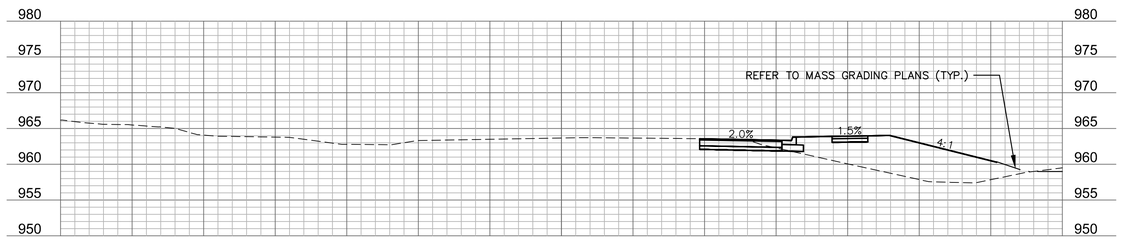
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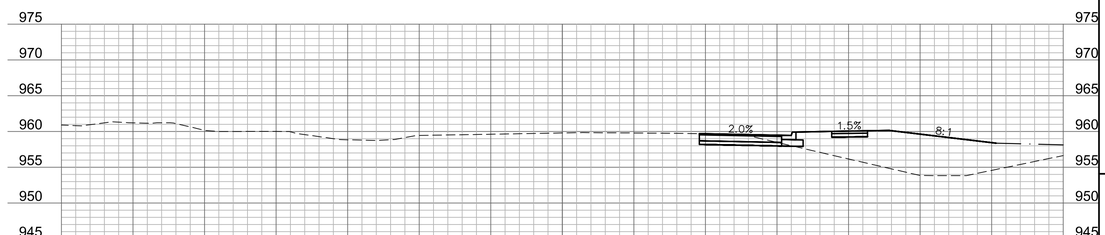
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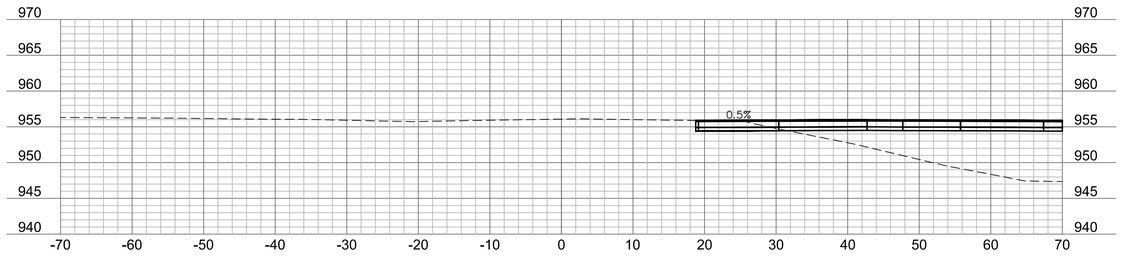
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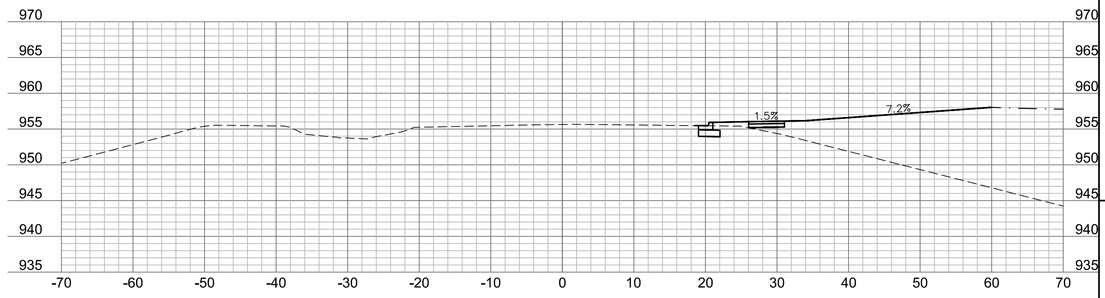
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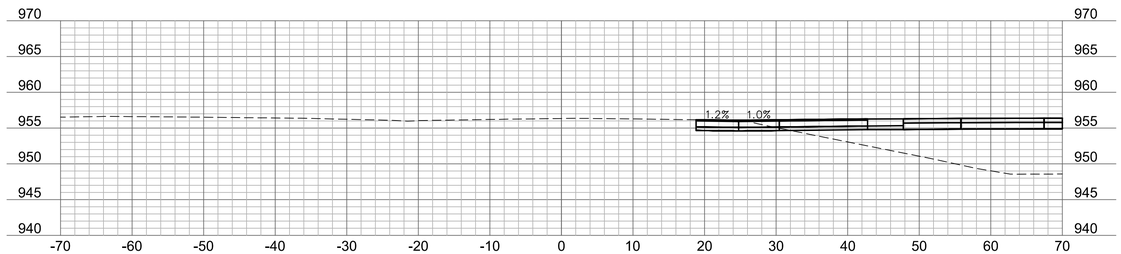
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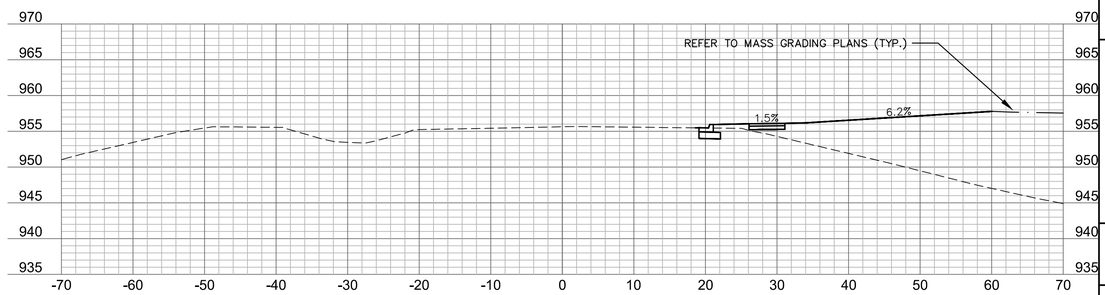
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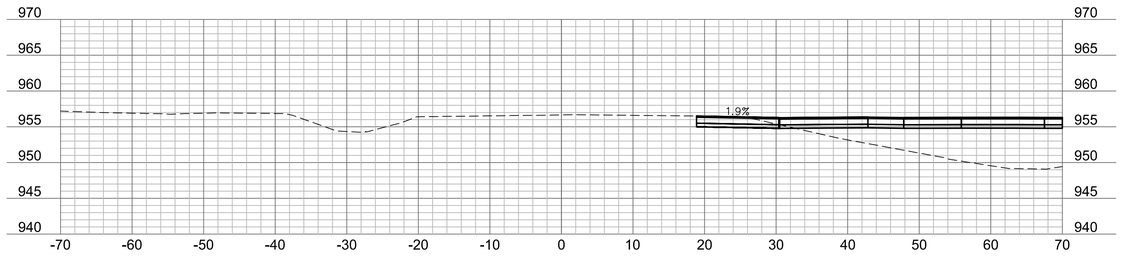
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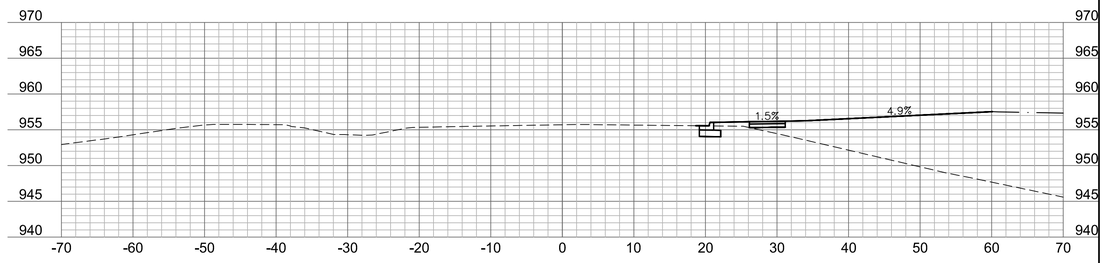
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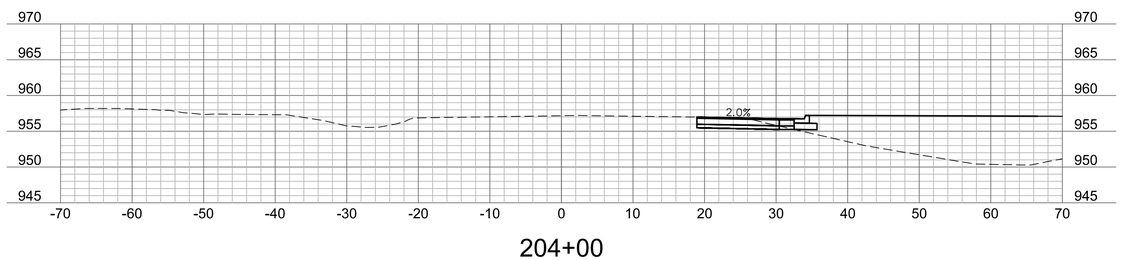
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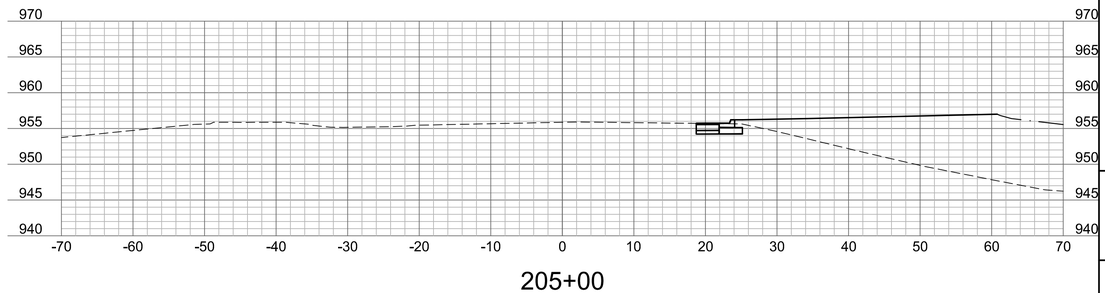
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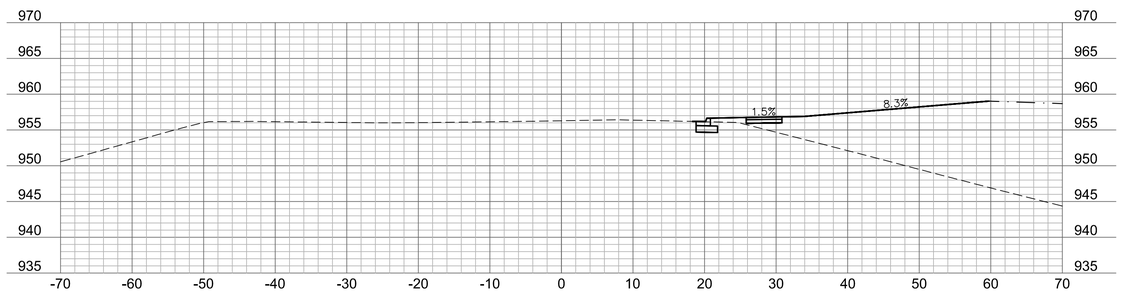
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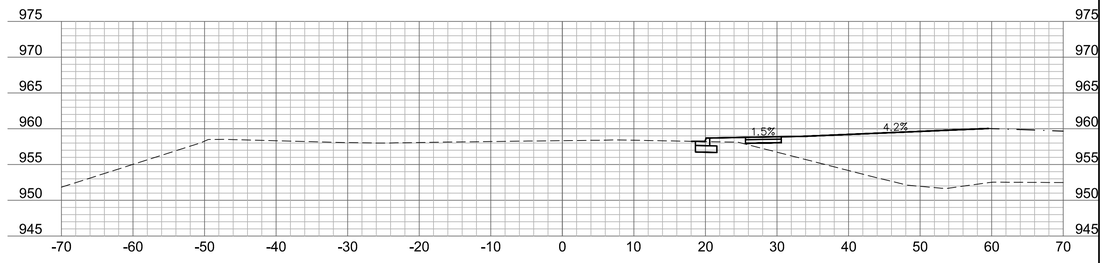
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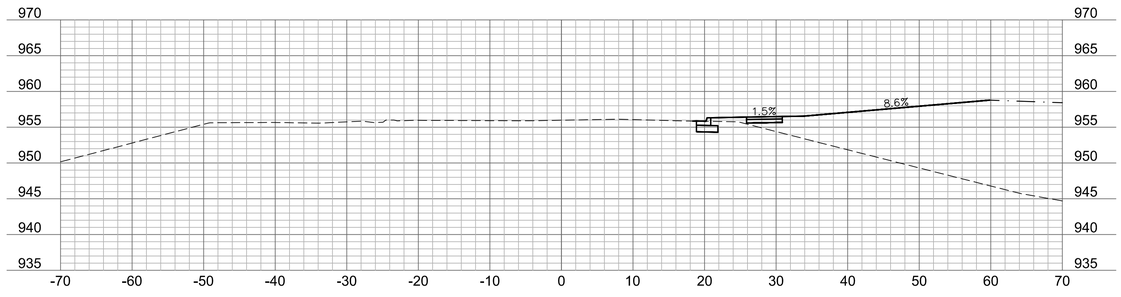
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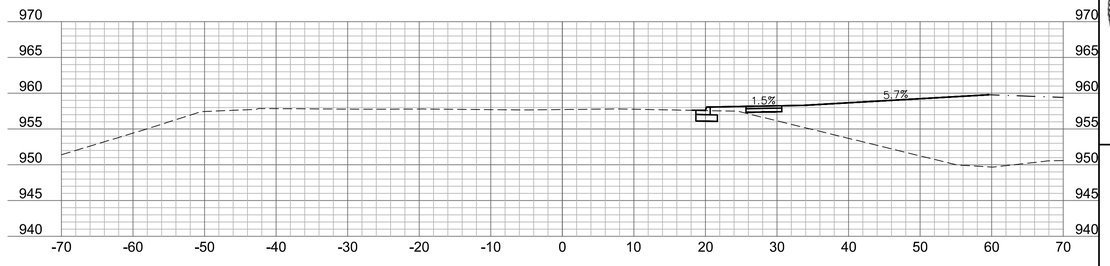
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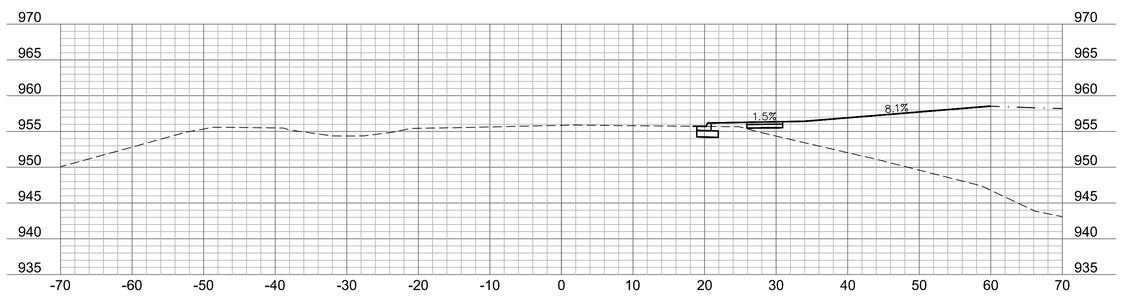
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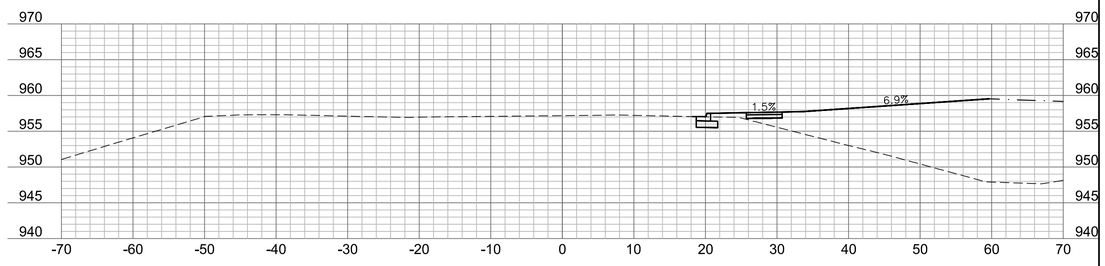
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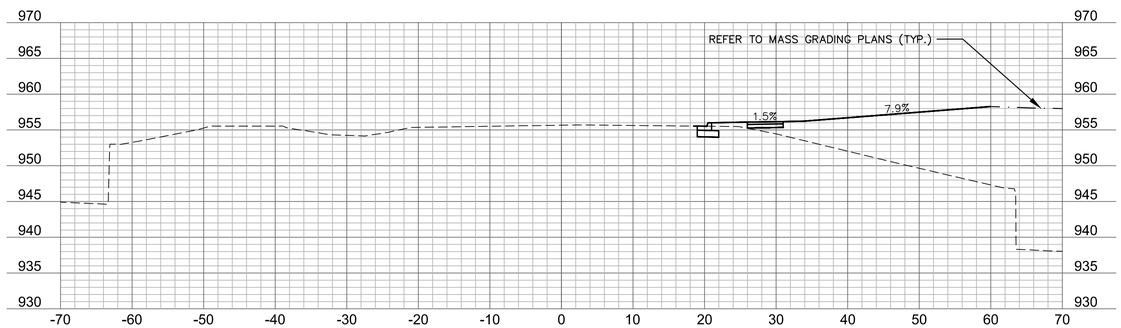
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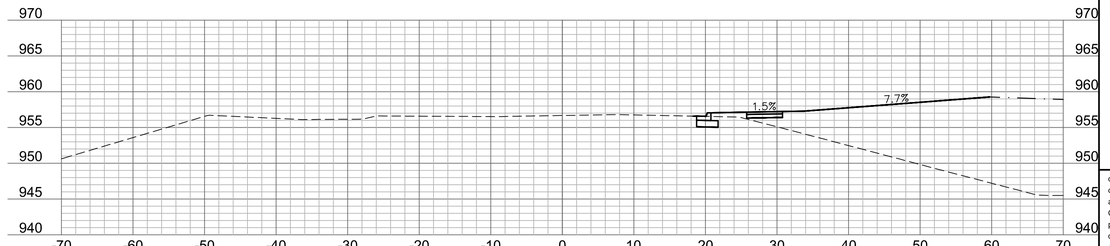
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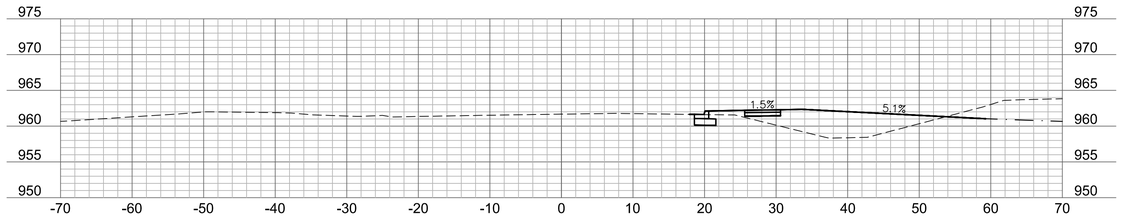
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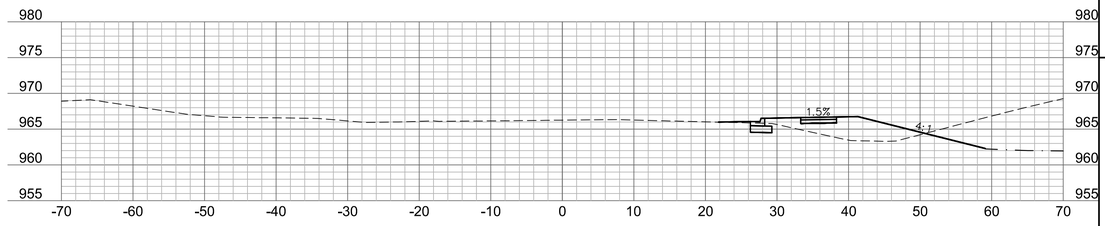
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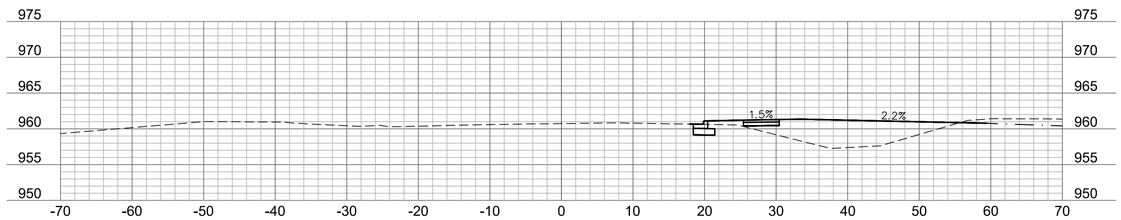
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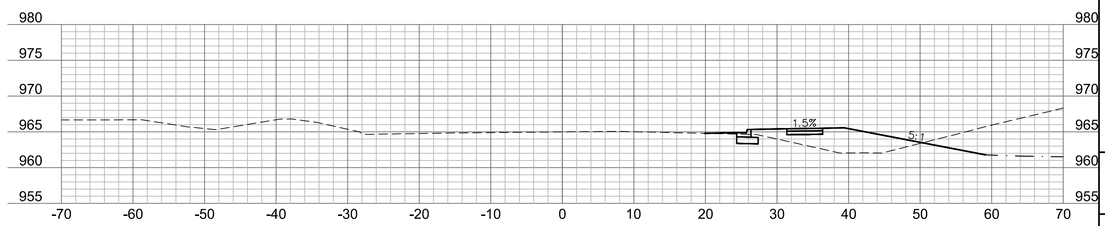
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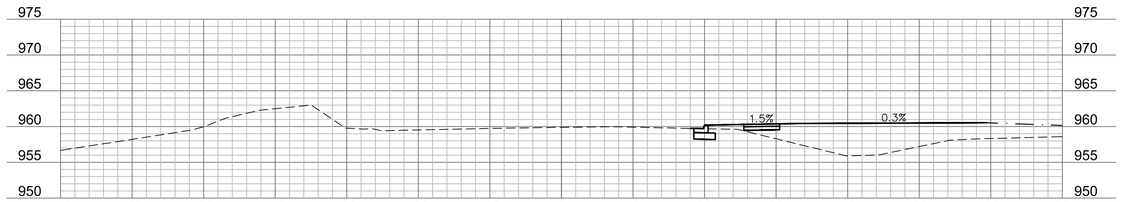
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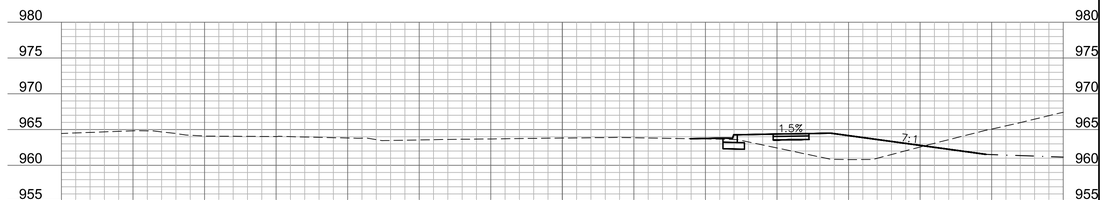
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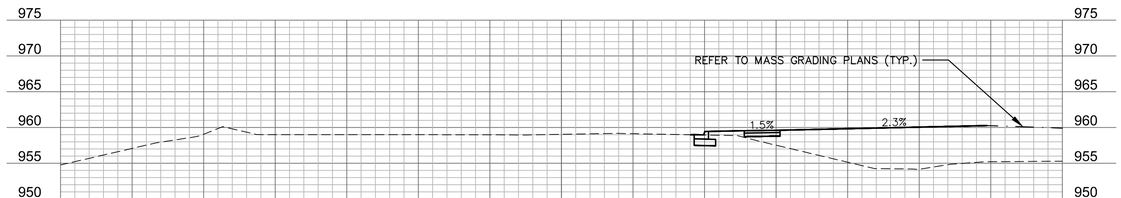
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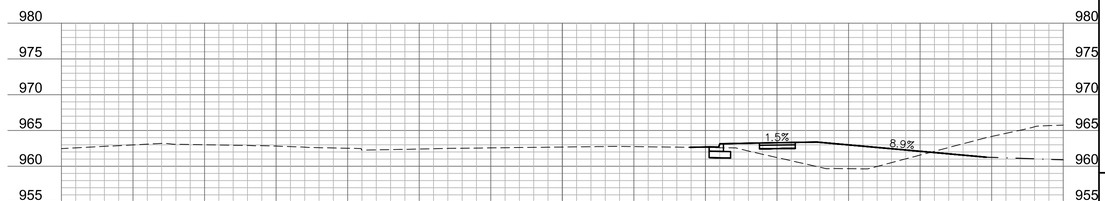
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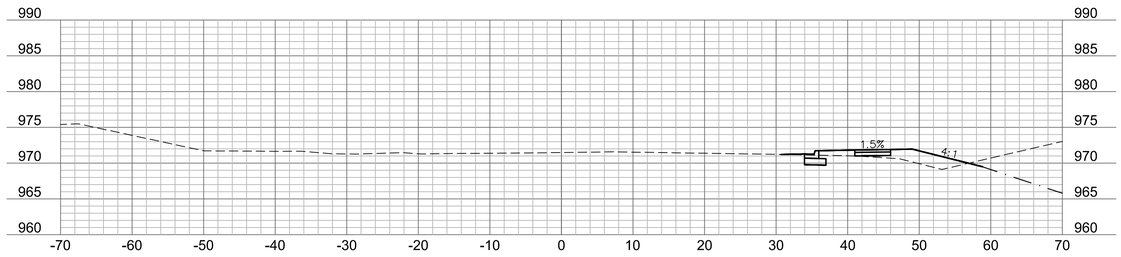
THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

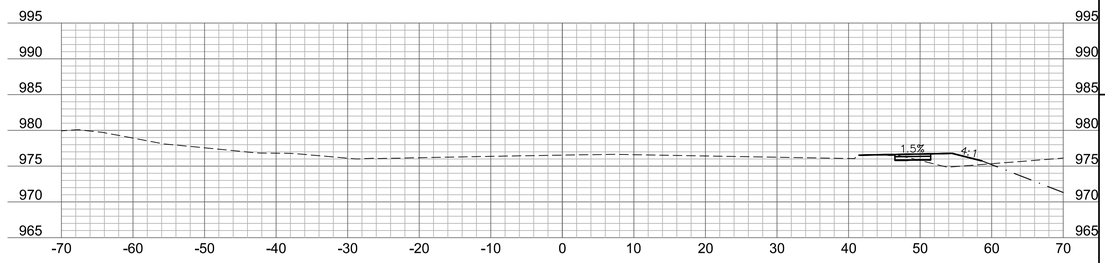
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drawn by:	BJW
checked by:	KLW
approved by:	JPS
QA/QC by:	JJW
project no.:	021-04643
drawing no.:	T_XSC01_D02104643
date:	7/14/2023

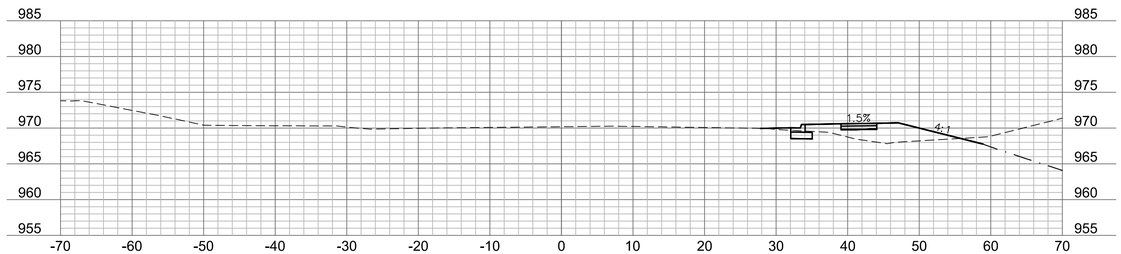
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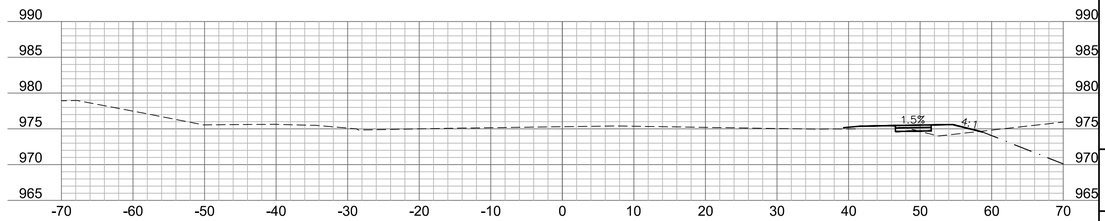
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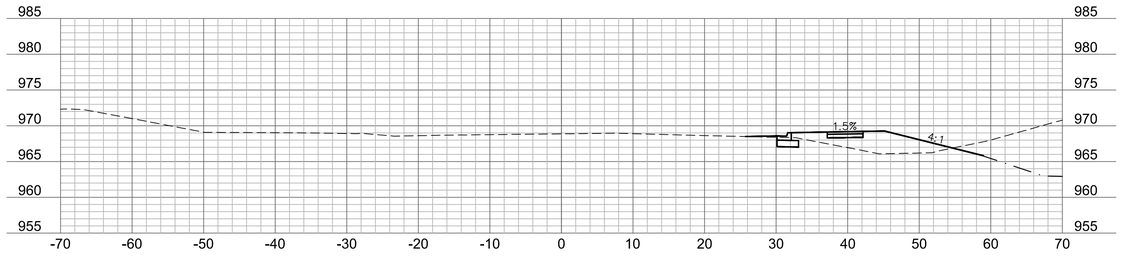
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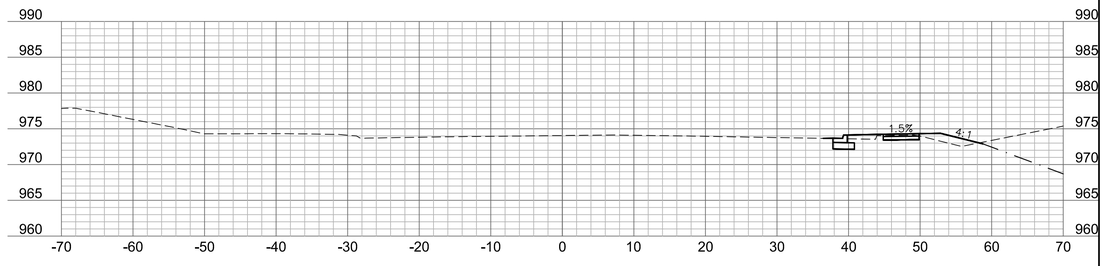
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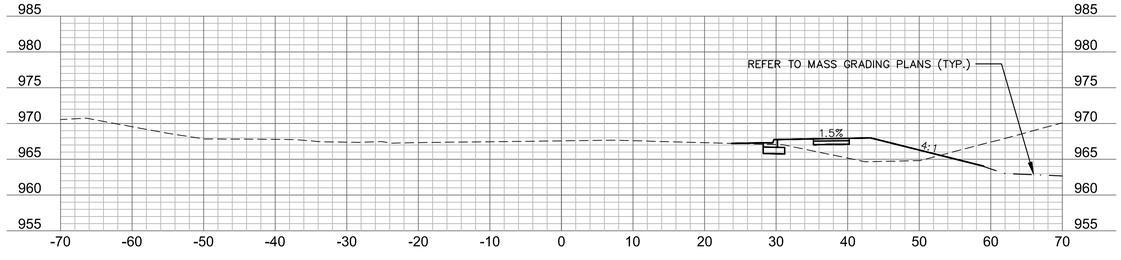
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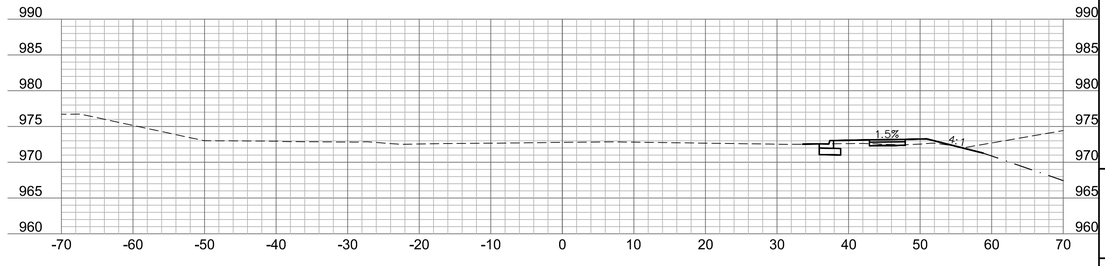
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211+25



210+00



211+00

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STATE OF MISSOURI
JAMES WILLIAM GALLAGHER
NUMBER PE-2010010499
PROFESSIONAL ENGINEER
7/14/2023

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

CROSS SECTIONS
DOUGLAS STREET

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

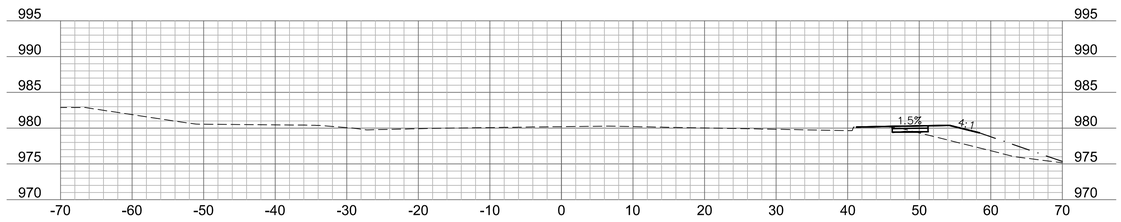
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2023

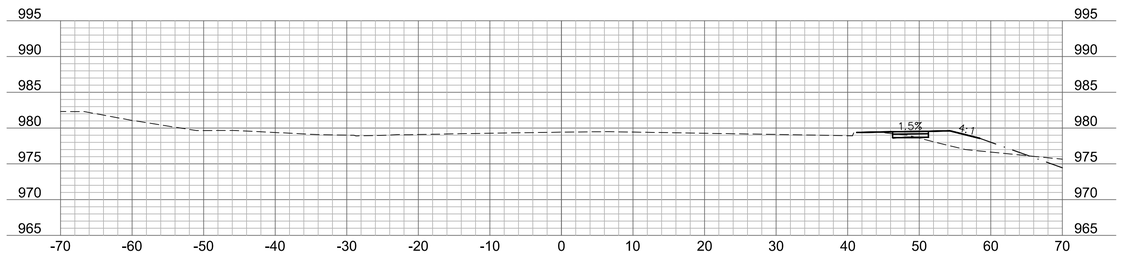
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checked by:	KLW
approved by:	JPG
QA/QC by:	JJW
project no.:	021-04643
drawing no.:	T_XSC01_D02104643
date:	7/14/2023

SHEET
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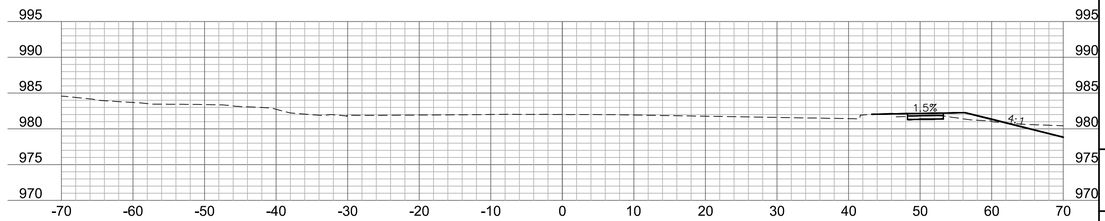
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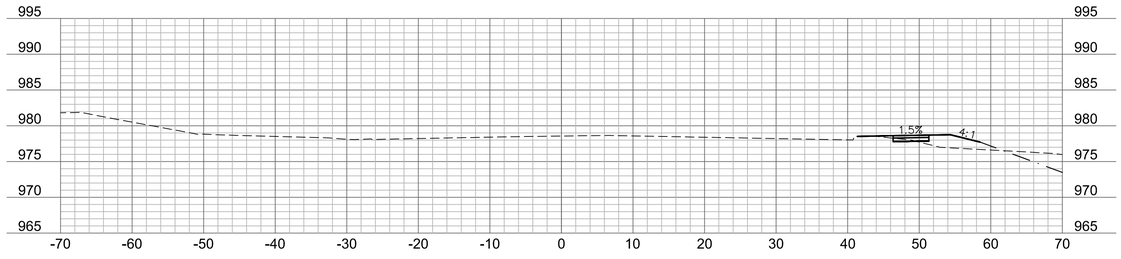
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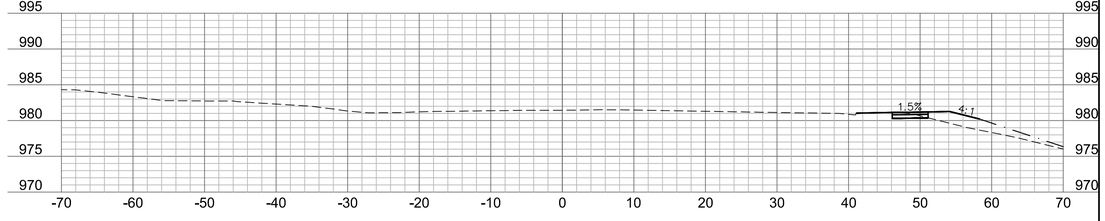
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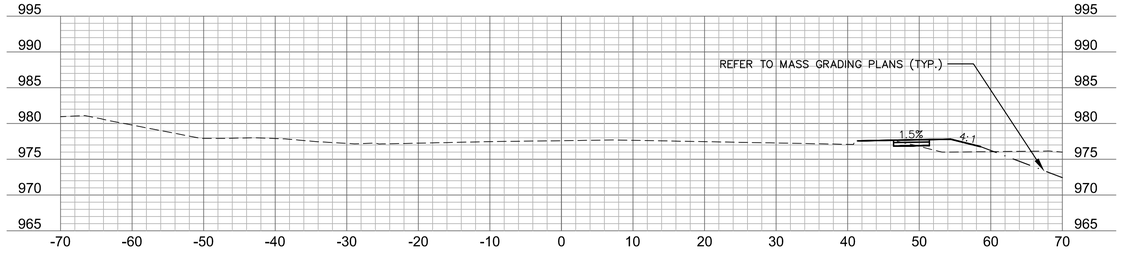
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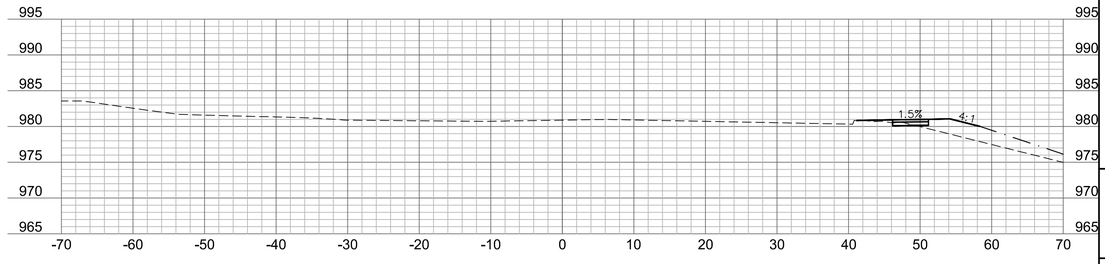
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213+25



212+00



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JAMES WILLIAM GALLAGHER
NUMBER PE-2018010499
PROFESSIONAL ENGINEER
9/18/2023

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

CROSS SECTIONS
DOUGLAS STREET

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

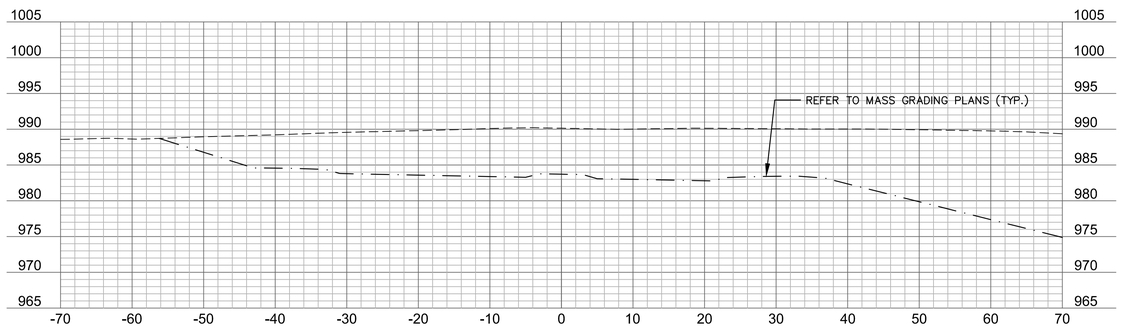
LEE'S SUMMIT, MISSOURI

2023

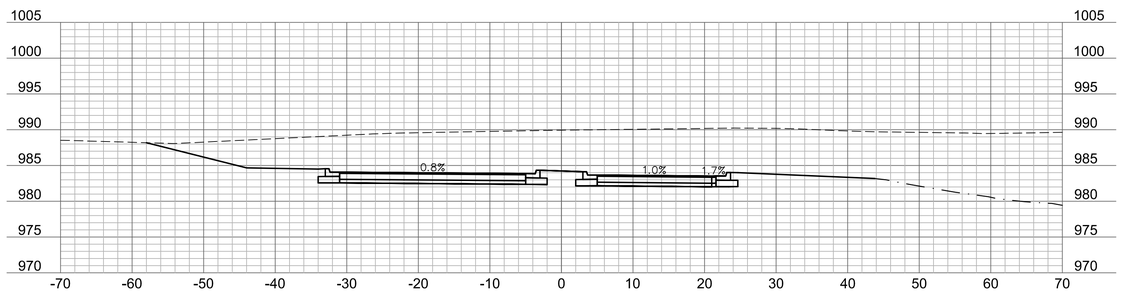
drawn by:	BJW
checked by:	KLW
approved by:	JPG
QA/QC by:	JJW
project no.:	021-04643
drawing no.:	T_XSC01_D02104643
date:	7/14/2023

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31+00



30+75

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JAMES MICHAEL GALLAGHER
NUMBER PE-2018010499
PROFESSIONAL ENGINEER
7/14/2023

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

CROSS SECTIONS
TRAILSEDGE BOULEVARD

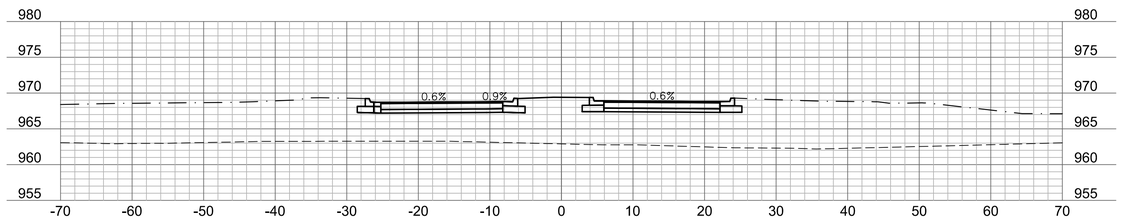
THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS
LEE'S SUMMIT, MISSOURI

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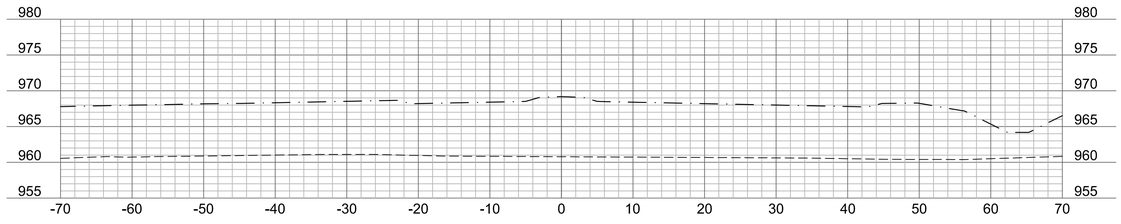
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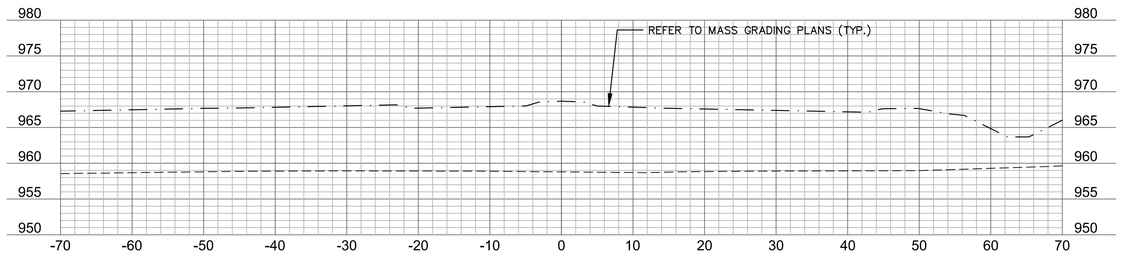
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9/28/2023

REVISIONS

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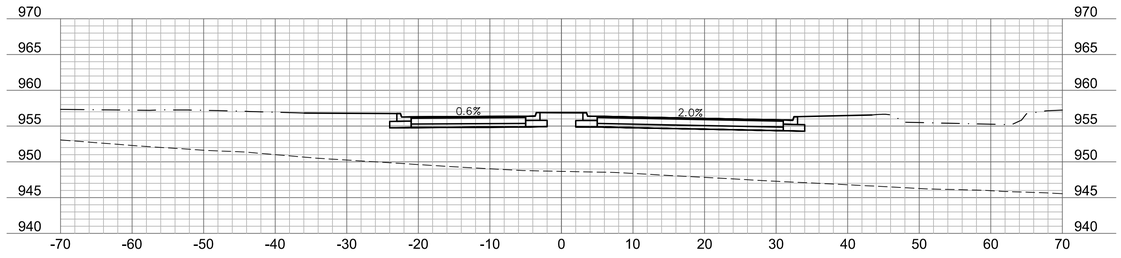
CROSS SECTIONS
DISCOVERY AVE

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

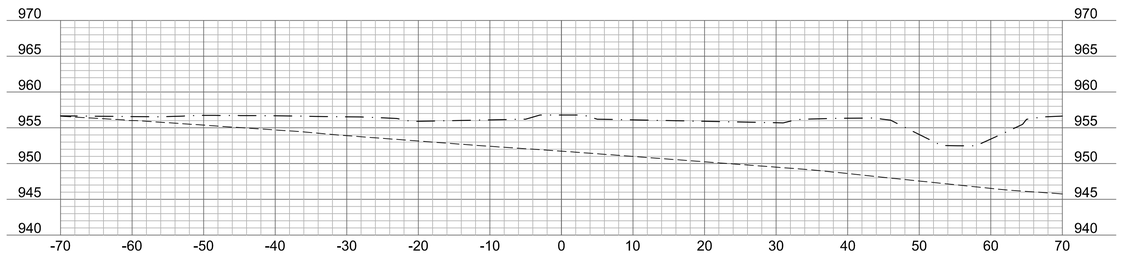
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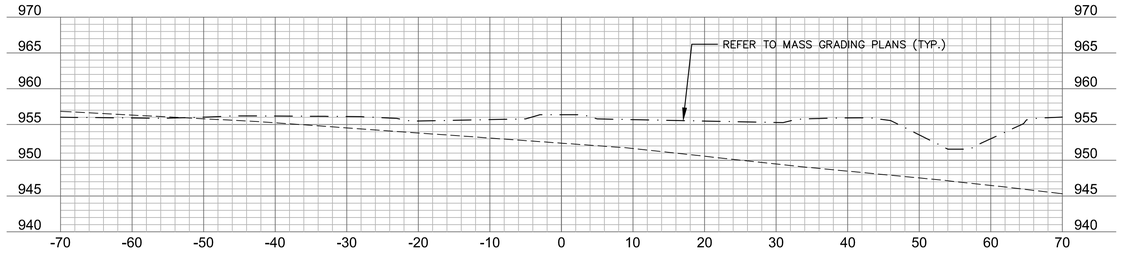
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NUMBER PE-2018010499
9/28/2023
PROFESSIONAL ENGINEER

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

CROSS SECTIONS
LAKESIDE COURT

THE VILLAGE AT DISCOVERY PARK
COLBERN ROAD AND DOUGLAS STREET PUBLIC ROAD IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

2023

drawn by: BJW
checked by: KLW
approved by: JPS
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project no.: 021-04643
drawing no.: T_XSC01_D02104643
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