

WASHINGTON COUNTY, MARYLAND

DIVISION OF ENGINEERING



PROFESSIONAL BOULEVARD PHASE III & IV

PROJECT NO. 10-275
CONTRACT NO. RD-PB-275-10

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DISTURBED AREA QUANTITY

THE TOTAL AREA TO BE DISTURBED SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 7.9 ACRES AND THE TOTAL AMOUNT OF EXCAVATION AND FILL SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 13,775 CU. YDS. OF EXCAVATION AND APPROXIMATELY 12,950 CU. YDS. OF FILL.

DESIGN DESIGNATION - PROFESSIONAL BOULEVARD

Control	2020	2040
Average Daily Traffic	11,500	18,750
Design Hourly Volume	1,150	1,875
Directional Distribution	50 / 50	50 / 50
% Trucks - ADT	4%	4%
% Trucks - DHV	4%	7%
Design Speed	35 M.P.H.	
Functional Classification	MINOR ARTERIAL	
Control Access	LIMITED	
Intensity of Development	COMMERCIAL	
Terrain	ROLLING	
Anticipated Posted Speed	30 M.P.H.	

ESD PRACTICES (CHAPTER 5 - STRUCTURE & NON-STRUCTURAL)

TYPE	No.	DA (ACRES) (To Structures)	IMPERVIOUS DA (ACRES) (To Structures)	RCN	ESDv (ac-ft)	WQv (ac-ft)	CPv (ac-ft)	CPv (cfs) (Discharge)	Rev (ac-ft)
N-2	1	0.17	0.07	89	0.0056				
N-2	2	0.25	0.11	89	0.0088				
N-2	3	0.21	0.09	89	0.0073				
N-3	1	1.90	0.78	79	0.0327				
M-8	1	0.64	0.40	70	0.0387	0.0758			
M-8	2	0.57	0.40	77	0.0379				
M-8	3	0.64	0.45	77	0.0542	0.0909			
M-10	1	0.38	0.38	89	0.0296				
M-10	2	0.24	0.24	89	0.0191				

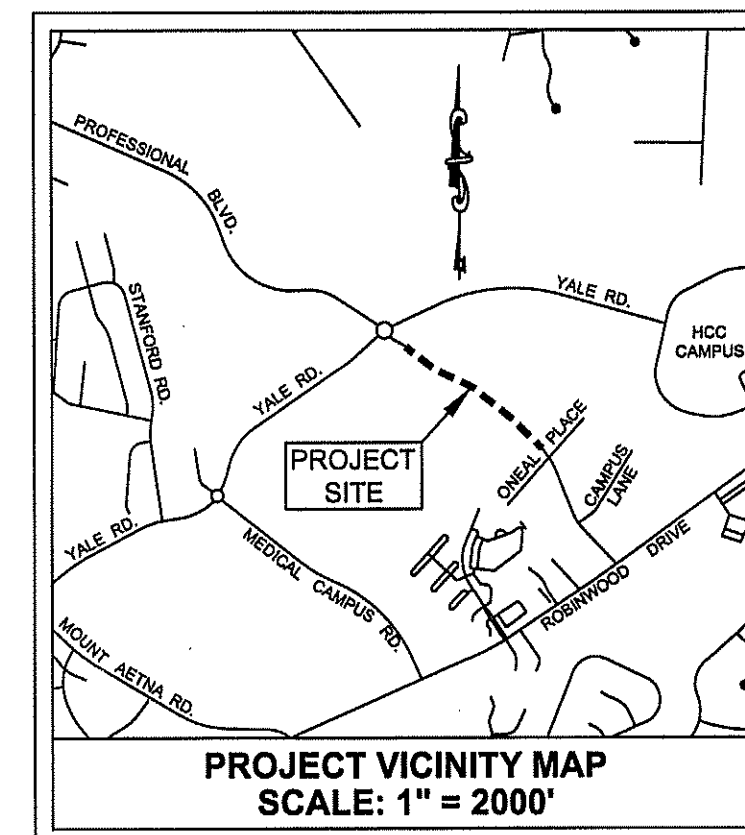
NON-ESD PRACTICES (CHAPTER 3 - STRUCTURAL PRACTICES)

TYPE	No.	DA (ACRES) (To Structures)	IMPERVIOUS DA (ACRES) (To Structures)	RCN	STORAGE @ DHW (ac-ft)	PRINCIPLE SPILLWAY TYPE	PRINCIPLE SPILLWAY SIZE (Inches)	CPv (cfs) (Discharge)	Qp10 (cfs)	Qf100 (cfs)

TOTAL DA (SITE) 7.9 ACRES
CONSTRUCTION TYPE (CIRCLE ONE) NEW REDEVELOPMENT RESTORATION

WASHINGTON COUNTY SOIL CONSERVATION DISTRICT
SOIL EROSION AND SEDIMENT CONTROL PLAN APPROVAL
BY: *[Signature]*
DATE: 2/25/2025
(PLAN IS VALID FOR TWO YEARS FROM DATE OF APPROVAL.)

THE STORMWATER MANAGEMENT PLAN SHOWN HEREON IS APPROVED.
[Signature] 2/14/25
SCOTT HOBBS, P.E.
DIRECTOR OF ENGINEERING
FOR WASHINGTON COUNTY, MD



ENGINEER / ARCHITECT DESIGN CERTIFICATION
I HEREBY CERTIFY THIS PLAN FOR SOIL EROSION AND SEDIMENT CONTROL HAS BEEN
DESIGNED IN ACCORDANCE WITH LOCAL ORDINANCES, COMAR 26.17.01.07, AND MARYLAND
STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
[Signature] 39252 2.14.25
SIGNATURE REGISTRATION NUMBER DATE

APPROVED FOR CONSTRUCTION
[Signature] 2/14/25
SCOTT HOBBS, P.E.
DIRECTOR OF ENGINEERING
FOR WASHINGTON COUNTY, MD

I / WE CERTIFY ALL / ANY PARTIES RESPONSIBLE FOR CLEARING, GRADING, CONSTRUCTION, AND / OR
DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND RESPONSIBLE PERSONNEL INVOLVED IN THE
CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE
ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SOIL EROSION AND SEDIMENT.
APPROVED FOR CONSTRUCTION.
[Signature] 2/14/25
SCOTT HOBBS, P.E.
DIRECTOR OF ENGINEERING
FOR WASHINGTON COUNTY, MD

SEAL:

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR
APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE
STATE OF MARYLAND.
LICENSE No. 39252 EXPIRATION DATE: 6.21.2026

OWNER/DEVELOPER:
BOARD OF COUNTY COMMISSIONERS
FOR WASHINGTON COUNTY, MD
AGENT: SCOTT HOBBS, P.E.,
DIRECTOR OF ENGINEERING
747 NORTHERN AVENUE
HAGERSTOWN, MARYLAND 21742
PHONE: 240-313-2460
FAX: 240-313-2401

BOARD OF COUNTY COMMISSIONERS:
John F. Barr, President
Jeffrey A. Cline, Vice President
Derek Harvey
Wayne K. Keefer
Randall E. Wagner
MICHELLE GORDON, COUNTY ADMINISTRATOR
SCOTT HOBBS, P.E., DIRECTOR OF ENGINEERING

GENERAL NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIAL PROVISIONS, THE LATEST EDITION OF THE MDSHA STANDARD SPECIFICATIONS, AND SUPPLEMENTAL SPECIFICATIONS.
- WHERE REFERENCE IS MADE TO STANDARDS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE IN HIS POSSESSION THE MARYLAND SHA BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES WITH THE LATEST UP TO DATE MSHA STANDARDS AS OF THE DATE OF ADVERTISEMENT OF THIS PROJECT.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE THE LATEST APPROVED SET OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND ANY REFERENCED MDSHA STANDARDS AS OF NOTICE TO PROCEED.
- HORIZONTAL CONTROL:**
THE COORDINATES FOR THIS PROJECT HAVE BEEN ESTABLISHED BY GPS VALUES BASED ON SURROUNDING NGS, WASHINGTON COUNTY AND CITY OF HAGERSTOWN CONTROL MONUMENTS ADJUSTED TO THE MARYLAND GRID SYSTEM, NAD 83(91).
- VERTICAL CONTROL:**
THE LOCATIONS AND ELEVATIONS BENCHMARKS ARE SHOWN ON GEOMETRIC LAYOUT PLAN. PROJECT ELEVATIONS SHOWN ARE IN U.S. SURVEY FEET AND AGREE WITH THE MARYLAND GRID SYSTEM, NAVD 88.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND PROTECTING PROPERTY MARKERS, CONTROL POINTS AND BENCHMARKS FOR THE DURATION OF THE CONTRACT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE ANY OF THESE POINTS THAT ARE DISTURBED OR DAMAGED DURING THE CONSTRUCTION PROCESS. WHERE NECESSARY, POINTS SHALL BE REPLACED UNDER THE DIRECT SUPERVISION OF A REGISTERED SURVEYOR TO THE STANDARD WITH WHICH THEY WERE ESTABLISHED.
- DEFINITION OF TERMS:**
PROPOSED RIGHT OF WAY:
DENOTES LAND BELONGING TO COUNTY OR STATE, WHICH CONTAINS THE ROADWAY AND SUPPORTING STRUCTURES.
PERPETUAL EASEMENT:
PORTIONS OF PRIVATE PROPERTY FOR WHICH THE COUNTY HAS ACQUIRED THE RIGHT TO UTILIZE FOR THE INSTALLATION AND MAINTENANCE OF UTILITIES, DRAINAGE STRUCTURES, ETC.
REVERTIBLE EASEMENT:
PORTIONS OF PRIVATE PROPERTY FOR WHICH THE COUNTY HAS ACQUIRED THE RIGHT TO CONSTRUCT AND MAINTAIN SUPPORTING SLOPES AND STRUCTURES FOR THE ROADWAY.
TEMPORARY CONSTRUCTION EASEMENT:
PORTIONS OF PRIVATE PROPERTY ON WHICH THE COUNTY HAS ACQUIRED THE RIGHT TO OCCUPY AND GRADE ON DURING THE PERIOD OF CONSTRUCTION.
- ALL INVERT ELEVATIONS ARE APPROXIMATE. INVERT ELEVATIONS OF PIPES MAY BE MODIFIED, AS DIRECTED BY THE ENGINEER, TO MEET CONDITIONS ENCOUNTERED DURING INSTALLATION OF DRAINAGE STRUCTURES. ALL PIPES SHALL BE CONSTRUCTED ON UNIFORM GRADE BETWEEN INVERT ELEVATIONS AS NOTED ON THE PLANS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE LOCATIONS AND LENGTHS OF PIPES TO BE INSTALLED SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING.
- THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS TO STORM DRAIN STRUCTURES AS NECESSARY IN ORDER TO MEET FIELD CONDITIONS AS APPROVED THE ENGINEER.
- ALL DITCHES AND CHANNELS SHALL BE CONSTRUCTED AND STABILIZED IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS SHOWN ON THE PLANS.
- THE CONTRACTOR SHALL MAKE, CHECK, AND BE RESPONSIBLE FOR ALL MEASUREMENTS AND DIMENSIONS NECESSARY FOR THE PROPER CONSTRUCTION OF ALL WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ACTUAL CONDITIONS AND PLANNING ALL CONSTRUCTION ACCORDINGLY. ALL DIMENSIONS SHOWN SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE ANY WORK COMMENCES.
- ANY DAMAGE TO ADJACENT ROADS, YARDS, STRUCTURES, FENCES, SHRUBBERY, ETC., DURING CONSTRUCTION SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE COUNTY OR THE PROPERTY OWNERS BEFORE ANY WORK COMMENCES.
- THE CONTRACTOR SHALL GRADE FOR POSITIVE DRAINAGE AT ALL ROADWAY INTERSECTIONS, ENTRANCES, PARKING LOTS, AND YARDS IN CONFORMANCE WITH THE PROPOSED DRAINAGE PATTERNS SHOWN ON THE PLANS.
- MAILBOXES SHALL BE REMOVED AND RESET BY THE CONTRACTOR AS NECESSARY TO COMPLETE THE WORK. THIS COST IS INCIDENTAL TO THE CLEARING AND GRUBBING ITEM. CONTRACTOR SHALL NOTIFY THE PROPERTY OWNERS AND THE POSTMASTER 48 HRS. PRIOR TO THE REMOVAL OF THE MAILBOXES. THE CONTRACTOR SHALL COORDINATE THE TEMPORARY RELOCATION AND FINAL PLACEMENT OF ALL EXISTING MAILBOXES WITH THE POST OFFICE IN HAGERSTOWN, MD SUCH THAT MAIL DELIVERY IS UNINTERRUPTED.
- MATERIALS SALVAGED FROM CONSTRUCTION SHALL BECOME THE CONTRACTOR'S PROPERTY UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- WORK SITE SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AT ALL TIMES. IF ACCESS MUST BE INTERRUPTED FOR SHORT PERIODS OF TIME, THE INTERRUPTION SHALL BE COORDINATED WITH THE ENGINEER AND THE PROPERTY OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF TRAFFIC THROUGHOUT THE ENTIRE PERIOD OF CONSTRUCTION BY PROVIDING A REASONABLY SMOOTH AND EVEN SURFACE SATISFACTORY FOR THE USE OF PUBLIC TRAFFIC, AND BY PROVIDING ACCESS TO ALL PUBLIC ROADS AND RESIDENTIAL AND COMMERCIAL ENTRANCES AT ALL TIMES.
- THE CONTRACTOR MUST NOT OCCUPY ANY NON-PERMITTED WETLAND AREAS.

- THE CONTRACTOR SHALL ADJUST TO PROPOSED GRADE ALL EXISTING MANHOLES, VALVE BOXES, OR OTHER UTILITIES LOCATED WITHIN THE ASPHALT OVERLAY AND FULL DEPTH ASPHALT PAVING AREAS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE ASPHALT PAY ITEMS NECESSARY TO COMPLETE THE WORK.
- THE CONTRACTOR SHALL ADJUST TO PROPOSED GRADE ALL EXISTING MANHOLES, VALVE BOXES, CLEANOUTS, OR OTHER UTILITIES LOCATED WITHIN THE CONCRETE SIDEWALK. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONCRETE SIDEWALK ITEMS NECESSARY TO COMPLETE THE WORK.
- ALL ASPHALT PAVEMENT UTILITY CUTS SHALL BE PERFORMED AND REPAIRED IN ACCORDANCE WITH WASHINGTON COUNTY STANDARDS.
- IN ANY AREA WHERE ASPHALT THAT IS TO BE REMOVED ADJOINS ASPHALT THAT IS TO REMAIN, THE ASPHALT PAVING SHALL BE SAW CUT IN ORDER TO PROVIDE A CLEAN JOINT BETWEEN THAT WHICH IS TO BE REMOVED AND THAT WHICH IS TO REMAIN.
- IN AREAS WHERE CONCRETE THAT IS TO BE REMOVED ADJOINS CONCRETE THAT IS TO REMAIN, THE CONCRETE SHALL BE SAW CUT AT THE NEAREST JOINT AND A BITUMINOUS EXPANSION JOINT PROVIDED BETWEEN NEW AND EXISTING WORK. WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARDS SET FORTH IN THE SPECIFICATIONS AND ON THE APPROVED CONSTRUCTION DRAWINGS.
- THE CONTRACTOR SHALL OBTAIN A ROADSIDE TREE PERMIT FOR ANY MAINTENANCE, TREATMENT, PLANTING, REMOVAL OR ROOT CUTTING OF TREES WITHIN THE PUBLIC RIGHT OF WAY. REPLACEMENT TREES, IF REQUIRED, WILL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. PERMIT REQUIREMENTS MAY BE OBTAINED FROM THE DEPARTMENT OF NATURAL RESOURCES-MARYLAND FOREST, PARK, AND WILDLIFE SERVICE WHOSE TELEPHONE NUMBER IS (301) 888-1638. THE CONTRACTOR SHALL ALLOW FOR THE TIME INVOLVED IN THE PROCESSING OF THE PERMIT WHEN MAKING APPLICATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT, MAINTENANCE, RELOCATION, AND OPERATION (INCLUDING UPDATING THE MESSAGE AS REQUIRED) OF THE CHANGEABLE MESSAGE BOARDS THROUGHOUT THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL ALSO PROVIDE A CONTACT AVAILABLE 24/7 FOR REPAIR AND MAINTENANCE
- CONTRACTOR SHALL NOSE DOWN LAST THREE (3) FEET OF PROPOSED CURB AND GUTTER WHEN NOT TYING INTO EXISTING CURB AND GUTTER.
- CLEARING AND GRUBBING SHALL OCCUR INSIDE THE PLATTED RIGHT OF WAY UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- UTILITIES: THE LOCATIONS OF UNDERGROUND AND AERIAL UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT TO BE CONSIDERED COMPLETE OR ACCURATE. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AT LEAST FIVE (5) DAYS PRIOR TO STATING ANY WORK SHOWN ON THESE DRAWINGS. THE CONTRACTOR MUST PROTECT, IN PLACE, ALL ACTIVE UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED ON THE PLANS.

Miss Utility 1-800-257-7777
Washington County Division of Engineering 240-313-2460
Washington County Dept. of Water Quality 240-313-2625
Washington County Soil Conservation District 301-797-6821
Potomac Edison (Allegheny Power) 301-582-5266
Columbia Gas (Hagerstown) 240-420-2026
Verizon 301-790-7135
Antietam Cable 240-420-2082
City of Hagerstown Utilities Dept. - Water & Wastewater Division 301-739-8577 (Ext. 650)
- IF DURING CONSTRUCTION THE CONTRACTOR FINDS THAT CLEARANCES BETWEEN EXISTING UTILITIES AND PROPOSED WORK IS LESS THAN THAT NOTED OR IS LESS THAN SIX INCHES, HE SHALL CONTACT THE ENGINEER FOR INSTRUCTIONS ON HOW TO PROCEED.
- THE CONTRACTOR MUST PROTECT IN PLACE ANY ACTIVE ABOVE GROUND AND OR UNDERGROUND UTILITIES FOUND UNLESS OTHER TREATMENT IS CALLED FOR. REPAIRS TO UTILITIES OR PROPERTY DAMAGE AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION. THE COUNTY OR THE PROPERTY OWNER SHALL NOT BEAR ANY COST OR RESPONSIBILITY FOR DAMAGE TO UTILITIES OR PROPERTY AS THE RESULT OF THE CONTRACTOR'S NEGLIGENCE.
- THE CONTRACTOR SHALL PROTECT AND NOT INTERRUPT EXISTING UTILITY SERVICES DURING CONSTRUCTION, UNLESS AUTHORIZED BY THE ENGINEER. THE CONTRACTOR SHALL SUPPORT EXISTING UNDERGROUND UTILITIES DURING CONSTRUCTION AND THIS SUPPORT SHALL BE INCIDENTAL TO PERTINENT PAY ITEMS. THE LOCATION OF THE UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL COORDINATE THE LOCATION OF THE ELECTRIC POWER AND TELEPHONE SERVICE CONNECTIONS NECESSARY FOR THE FIELD OFFICES AND PROJECT OPERATIONS WITH POTOMAC EDISON COMPANY AND VERIZON TELEPHONE COMPANY. ALL COSTS, MATERIALS, AND INSTALLATION OF SERVICE CONNECTIONS SHALL BE PAID FOR BY THE CONTRACTOR.
- ALL LAYOUT DIMENSIONS SHOWN ARE TO THE FACE OF CURB.

SYMBOL LEGEND		DATE

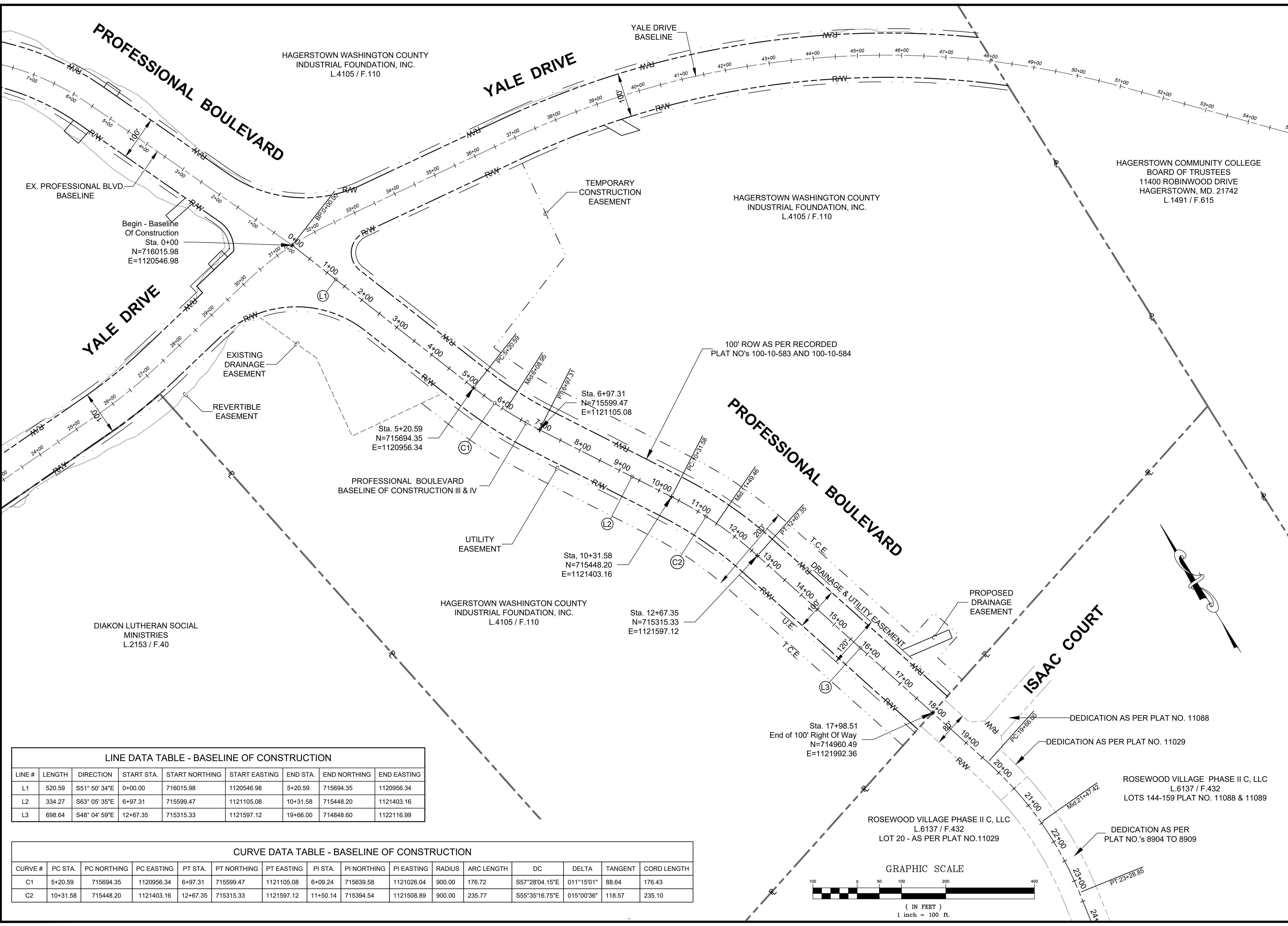
ABBREVIATIONS

AASHTO	-AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	G1	-GRADE 1	PVC	-POINT OF VERTICAL CURVATURE
ADT	-AVERAGE DAILY TRAFFIC	G2	-GRADE 2	PVI	-POINT OF VERTICAL INTERSECTION
B.C.	-BOTTOM OF CURB	H.S.D	-HEADLIGHT SIGHT DISTANCE	PVT	-POINT OF VERTICAL TANGENCY
B.F.C.	-BOTTOM FACE OF CURB	HWALL	-HEADWALL	R.	-RADIUS
B/L	-BASE LINE	INV.	-INVERT	RCP	-REINFORCED CONCRETE PIPE
-C-	-CUT	K	-RATE OF CHANGE OF GRADE	R.G.E.	-REVERTIBLE GRADING EASEMENT
C.B.	-CATCH BASIN	L	-LENGTH	R.O.W.	-RIGHT OF WAY
CL	-CENTERLINE	LOD	-LIMIT OF DISTURBANCE	S.B.	-SOUTH BOUND
C/O	-CLEANOUT	LP	-LIGHTPOLE	S.D.	-STORM DRAIN
CONC.	-CONCRETE	LVC	-LENGTH OF VERTICAL CURVE	SHLD	-SHOULDER
CORR.	-CORRECTION	MPH	-MILES PER HOUR	S.S.D.	-STOPPING SIGHT DISTANCE
CULV.	-CULVERT	MSHA	-MARYLAND STATE HIGHWAY ASSOCIATION	STA.	-STATION
Dc	-DEGREE OF CURVATURE	N.P.	-NORTH BOUND	S/W	-SIDEWALK
DE.	-DRAINAGE EASEMENT	N.T.S.	-NOT TO SCALE	T	-TANGENT
DS.	-DESIGN SPEED	PC	-POINT OF CURVATURE	T.C.	-TOP OF CURB
E	-EXTERNAL	P.D.E.	-PERPETUAL DRAINAGE EASEMENT	T.C.E.	-TEMPORARY CONSTRUCTION EASEMENT
E.B.	-EAST BOUND	P.G.E.	-PROFILE GRADE ELEVATION	T.P.	-TEST PIT
EL., ELEV.	-ELEVATION	P.G.L.	-PROFILE GRADE LINE	TYP.	-TYPICAL
ESMT.	-EASEMENT	P.I.	-POINT OF INTERSECTION	U/BOX	-UTILITY BOX
EX.	-EXISTING	P/R	-POINT OF ROTATION	U.E.	-UTILITY EASEMENT
-F-	-FILL	PROP.	-PROPOSED	V.C.	-VERTICAL CURVE
		PT.	-POINT OF TANGENCY	W.B.	-WEST BOUND

C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD, PH III & IV\CONSTRUCTION1-G-TITLE\GENERAL NOTES.DWG

DESIGNED BY: PJM	DRAWN BY: GLJ	CHECKED BY: PJM	DATE: 01-10-23	
WASHINGTON COUNTY, MARYLAND DIVISION OF ENGINEERING				 Washington County Administrative Annex, Building 747 Northern Avenue, Hagerstown, Maryland, 21742 Phone: 240-313-2460 Fax: 240-313-2401
PROFESSIONAL BOULEVARD PHASE III & IV				
LEGENDS & NOTES				
SCALE NONE				
SECTION NO. GN - 01				
SHEET NO. 02				
PROJECT NO. 10-275				

C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH. III & IV\CONSTRUCTION\2-GL-GEOMETRIC\GL-01.DWG

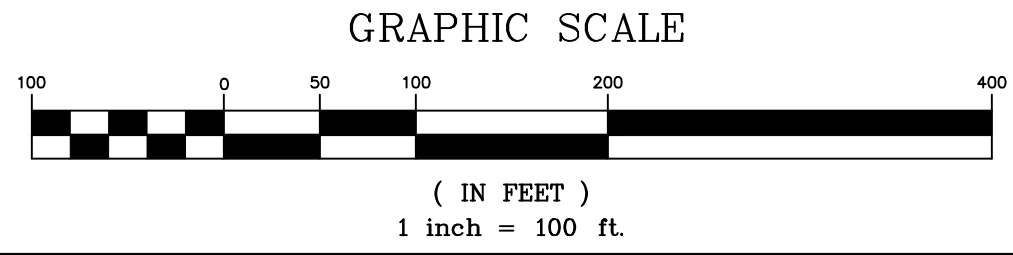


LINE DATA TABLE - BASELINE OF CONSTRUCTION

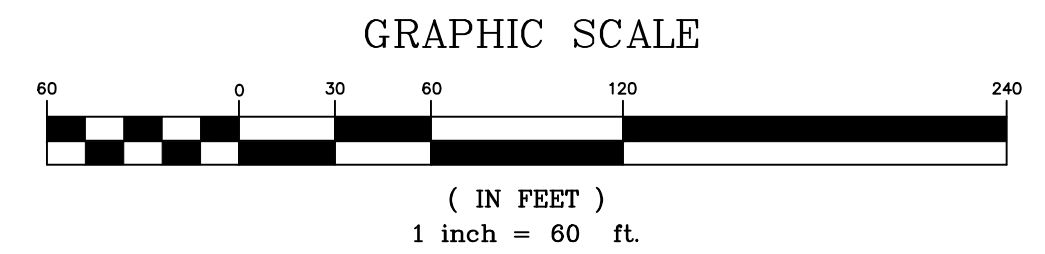
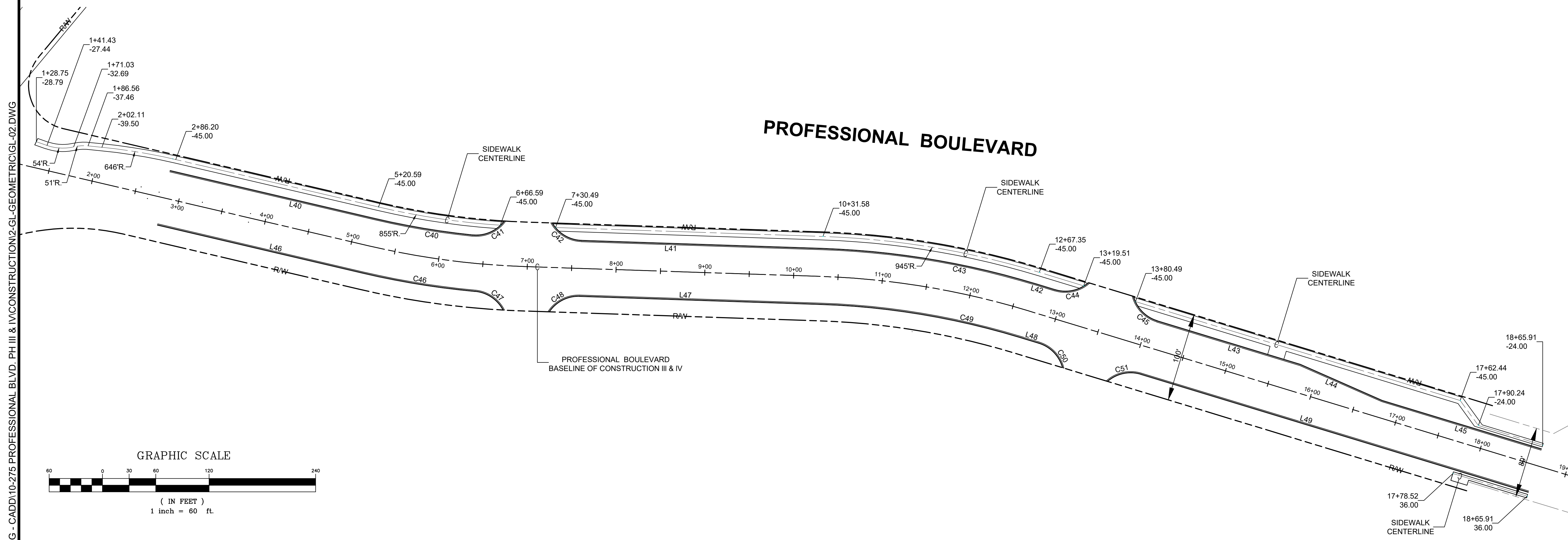
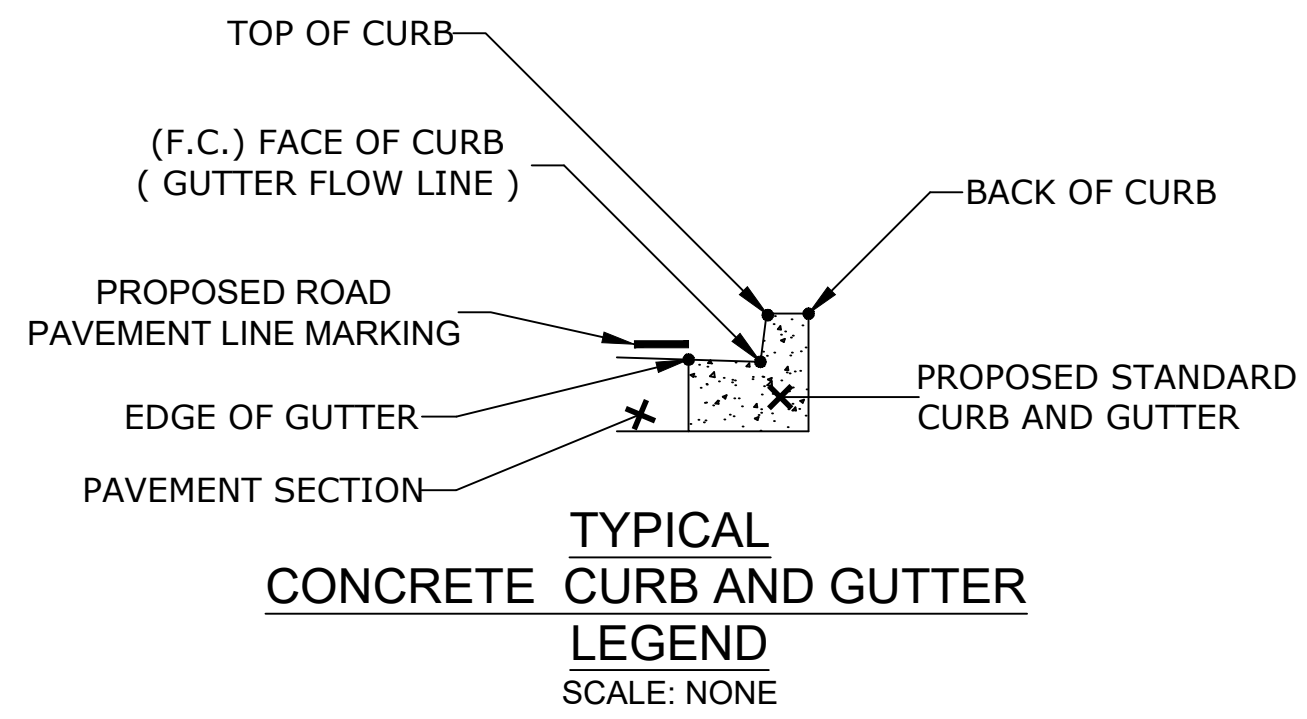
LINE #	LENGTH	DIRECTION	START STA.	START NORTHING	START EASTING	END STA.	END NORTHING	END EASTING
L1	520.59	S51° 50' 34"E	0+00.00	716015.98	1120546.98	5+20.59	715694.35	1120956.34
L2	334.27	S63° 05' 35"E	6+97.31	715599.47	1121105.08	10+31.58	715448.20	1121403.16
L3	698.64	S48° 04' 59"E	12+67.35	715315.33	1121597.12	19+66.00	714848.60	1122116.99

CURVE DATA TABLE - BASELINE OF CONSTRUCTION

CURVE #	PC STA.	PC NORTHING	PC EASTING	PT STA.	PT NORTHING	PT EASTING	PI STA.	PI NORTHING	PI EASTING	RADIUS	ARC LENGTH	DC	DELTA	TANGENT	CORD LENGTH
C1	5+20.59	715694.35	1120956.34	6+97.31	715599.47	1121105.08	6+09.24	715639.58	1121026.04	900.00	176.72	S57°28'04.15"E	011°15'01"	88.64	176.43
C2	10+31.58	715448.20	1121403.16	12+67.35	715315.33	1121597.12	11+50.14	715394.54	1121508.89	900.00	235.77	S55°35'16.75"E	015°00'36"	118.57	235.10



	DATE								
	BY								
	REVISION DESCRIPTION								
	NO.								
DESIGNED BY:	PJM	DRAWN BY:	GLJ	CHECKED BY:	PJM	DATE:	11-10-24		
WASHINGTON COUNTY, MARYLAND DIVISION OF ENGINEERING Washington County Administrative Annex, Building 747 Northern Avenue, Hagerstown, Maryland, 21742 Phone: 240-313-2460 Fax: 240-313-2401									
PROFESSIONAL BOULEVARD PHASE III & IV GEOMETRIC PLAN									
SCALE 1" = 100' SECTION NO. GL - 01 SHEET NO. 03 PROJECT NO. 10-275									



CURVE #	RADIUS	ALIGNMENT	PC STATION	PC. NORTHERN	PC EASTERN	PT STATION	PT NORTHERN	PT EASTERN
C40	869.12'	PROFESSIONAL BLVD.	5+20.59 LT.	715718.73	1120975.49	6+35.04 LT.	715656.15	1121066.48
C41	40.00'	PROFESSIONAL BLVD.	6+35.04 LT.	715656.15	1121066.48	6+71.54 LT.	715655.38	1121106.17
C42	40.00'	PROFESSIONAL BLVD.	7+25.96 LT.	715631.09	1121153.26	7+60.00 LT.	715598.74	1121175.02
C43	931.00'	PROFESSIONAL BLVD.	10+31.58 LT.	715475.84	1121417.19	12+67.35 LT.	715338.40	1121617.83
C44	40.00'	PROFESSIONAL BLVD.	12+90.00 LT.	715323.27	1121634.68	13+24.04 LT.	715314.66	1121672.71
C45	40.00'	PROFESSIONAL BLVD.	13+75.96 LT.	715279.98	1121711.34	14+10.00 LT.	715243.10	1121723.98
C46	931.00'	PROFESSIONAL BLVD.	5+20.59 RT.	715669.97	1120937.18	6+44.16 RT.	715598.14	1121042.79
C47	40.00'	PROFESSIONAL BLVD.	6+44.16 RT.	715598.14	1121042.79	6+76.06 RT.	715565.27	1121062.58
C48	40.00'	PROFESSIONAL BLVD.	7+25.96 RT.	715541.92	1121108.00	7+60.00 RT.	715543.45	1121146.96
C49	869.00'	PROFESSIONAL BLVD.	10+31.98 RT.	715420.55	1121389.14	12+67.35 RT.	715292.26	1121576.41
C50	40.00'	PROFESSIONAL BLVD.	12+90.00 RT.	715277.13	1121593.26	13+24.04 RT.	715240.25	1121605.90
C51	40.00'	PROFESSIONAL BLVD.	13+75.96 RT.	715205.57	1121644.53	14+10.00 RT.	715196.97	1121682.56

LINE	LENGTH	ALIGNMENT	START STATION	START NORTHERN	START EASTERN	END STATION	END NORTHERN	END EASTERN
L40	237.88'	PROFESSIONAL BLVD.	2+82.71 LT.	715865.69	1120788.44	5+20.59 LT.	715718.73	1120975.49
L41	271.58'	PROFESSIONAL BLVD.	7+60.00 LT.	715598.74	1121175.02	10+31.58 LT.	715475.84	1121417.19
L42	22.65'	PROFESSIONAL BLVD.	12+67.35 LT.	715338.40	1121617.83	12+90.00 LT.	715323.27	1121634.68
L43	168.50'	PROFESSIONAL BLVD.	14+10.00 LT.	715243.10	1121723.98	15+78.50 LT.	715130.54	1121849.36
L44	100.67'	PROFESSIONAL BLVD.	15+78.50 LT.	715130.54	1121849.36	16+78.45 LT.	715054.83	1121915.72
L45	187.46'	PROFESSIONAL BLVD.	16+78.45 LT.	715054.83	1121915.72	18+65.91 LT.	714929.60	1122055.21
L46	237.88'	PROFESSIONAL BLVD.	2+82.71 RT.	715816.94	1120750.13	5+20.59 RT.	715669.97	1120937.18
L47	271.58'	PROFESSIONAL BLVD.	7+60.00 RT.	715543.45	1121146.96	10+31.58 RT.	715420.55	1121389.14
L48	22.65'	PROFESSIONAL BLVD.	12+67.35 RT.	715292.26	1121576.41	12+90.00 RT.	715277.13	1121593.26
L49	455.93'	PROFESSIONAL BLVD.	14+10.00 RT.	715196.97	1121682.56	18+65.93 RT.	714892.38	1122021.82

NO.	REVISION DESCRIPTION	BY	DATE
DESIGNED BY:	PJM	CHECKED BY:	PJM
DRAWN BY:	GLJ	DATE:	11-14-24

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 250-313-2460 Fax: 240-313-2401

**PROFESSIONAL BOULEVARD
PHASE III & IV**

GEOMETRIC PLAN

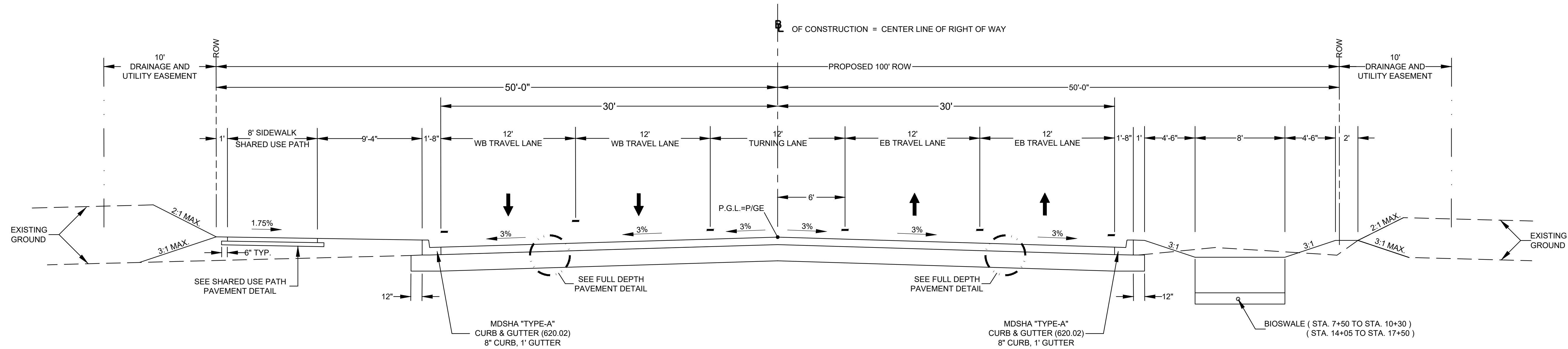
SCALE
1" = 60'

SECTION NO.
GL - 02

SHEET NO.
04

PROJECT NO.
10-275

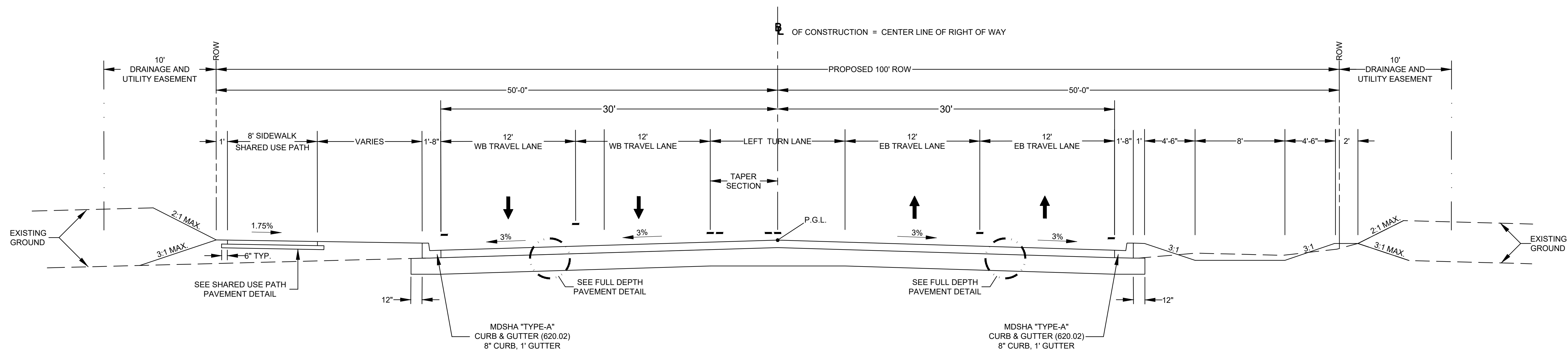
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5 - LANE SECTION WITH TURNING LANE
Sta. 3+86.75 TO Sta. 15+78.50
 SCALE: 1" = 5'

NOTES:

- GUTTER PAN SHALL SLOPE AWAY FROM MEDIAN IN ALL LOCATIONS AT 1/2" / FT.
- ALL GRASS AREAS SHALL RECEIVE 4 INCH TOPSOIL AND TURFGRASS ESTABLISHMENT.
- MARYLAND SHA TYPE "A" CURB AND GUTTER TO BE CONSTRUCTED WITH 9 INCH CONCRETE BASE, OVERALL HEIGHT = 17"



4 - LANE SECTION WITH LEFT TURN LANE
STA. 2+67.71 TO STA. 3+86.75
 SCALE: 1" = 5'

NOTES:

- GUTTER PAN SHALL SLOPE AWAY FROM MEDIAN IN ALL LOCATIONS AT 1/2" / FT.
- ALL GRASS AREAS SHALL RECEIVE 4 INCH TOPSOIL AND TURFGRASS ESTABLISHMENT.
- MARYLAND SHA TYPE "A" CURB AND GUTTER TO BE CONSTRUCTED WITH 9 INCH CONCRETE BASE, OVERALL HEIGHT = 17"

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NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: P.J.M.
 DRAWN BY: G.J.J.
 CHECKED BY: P.J.M.
 DATE: 11-14-24

WASHINGTON COUNTY, MARYLAND
 DIVISION OF ENGINEERING

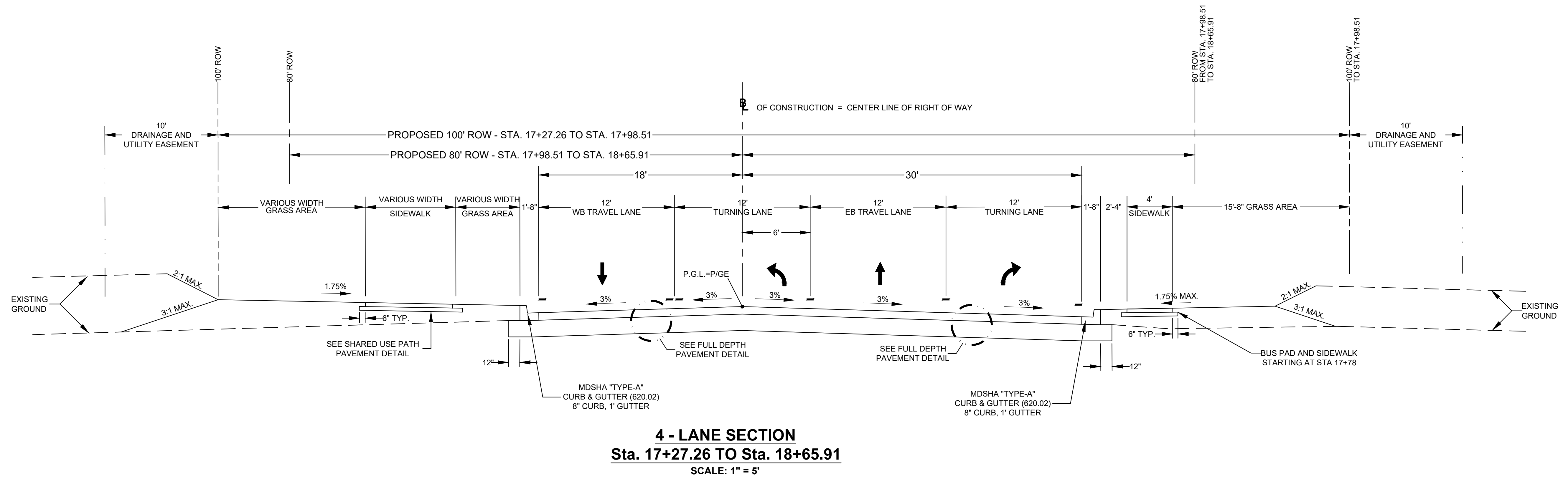
Washington County Administrative Annex, Building
 747 Northern Avenue, Hagerstown, Maryland, 21742
 Phone: 240-313-2460 Fax: 240-313-2401

PROFESSIONAL BOULEVARD
 PHASE III & IV

TYPICAL SECTIONS

SCALE AS NOTED
SECTION NO. TS - 01
SHEET NO. 05
PROJECT NO. 10-275

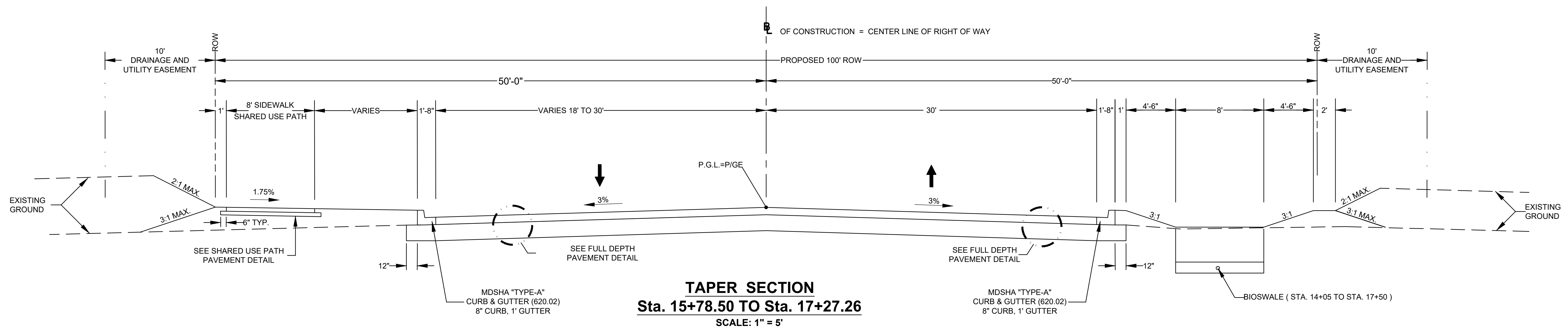
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4 - LANE SECTION
Sta. 17+27.26 TO Sta. 18+65.91
 SCALE: 1" = 5'

NOTES:

1. GUTTER PAN SHALL SLOPE AWAY FROM MEDIAN IN ALL LOCATIONS AT $\frac{1}{2}$ " / FT.
2. ALL GRASS AREAS SHALL RECEIVE 4 INCH TOPSOIL AND TURFGRASS ESTABLISHMENT.
3. MARYLAND SHA TYPE "A" CURB AND GUTTER TO BE CONSTRUCTED WITH 9 INCH CONCRETE BASE, OVERALL HEIGHT = 17"



TAPER SECTION
Sta. 15+78.50 TO Sta. 17+27.26
 SCALE: 1" = 5'

NOTES:

1. GUTTER PAN SHALL SLOPE AWAY FROM MEDIAN IN ALL LOCATIONS AT $\frac{1}{2}$ " / FT.
2. ALL GRASS AREAS SHALL RECEIVE 4 INCH TOPSOIL AND TURFGRASS ESTABLISHMENT.
3. MARYLAND SHA TYPE "A" CURB AND GUTTER TO BE CONSTRUCTED WITH 9 INCH CONCRETE BASE, OVERALL HEIGHT = 17"

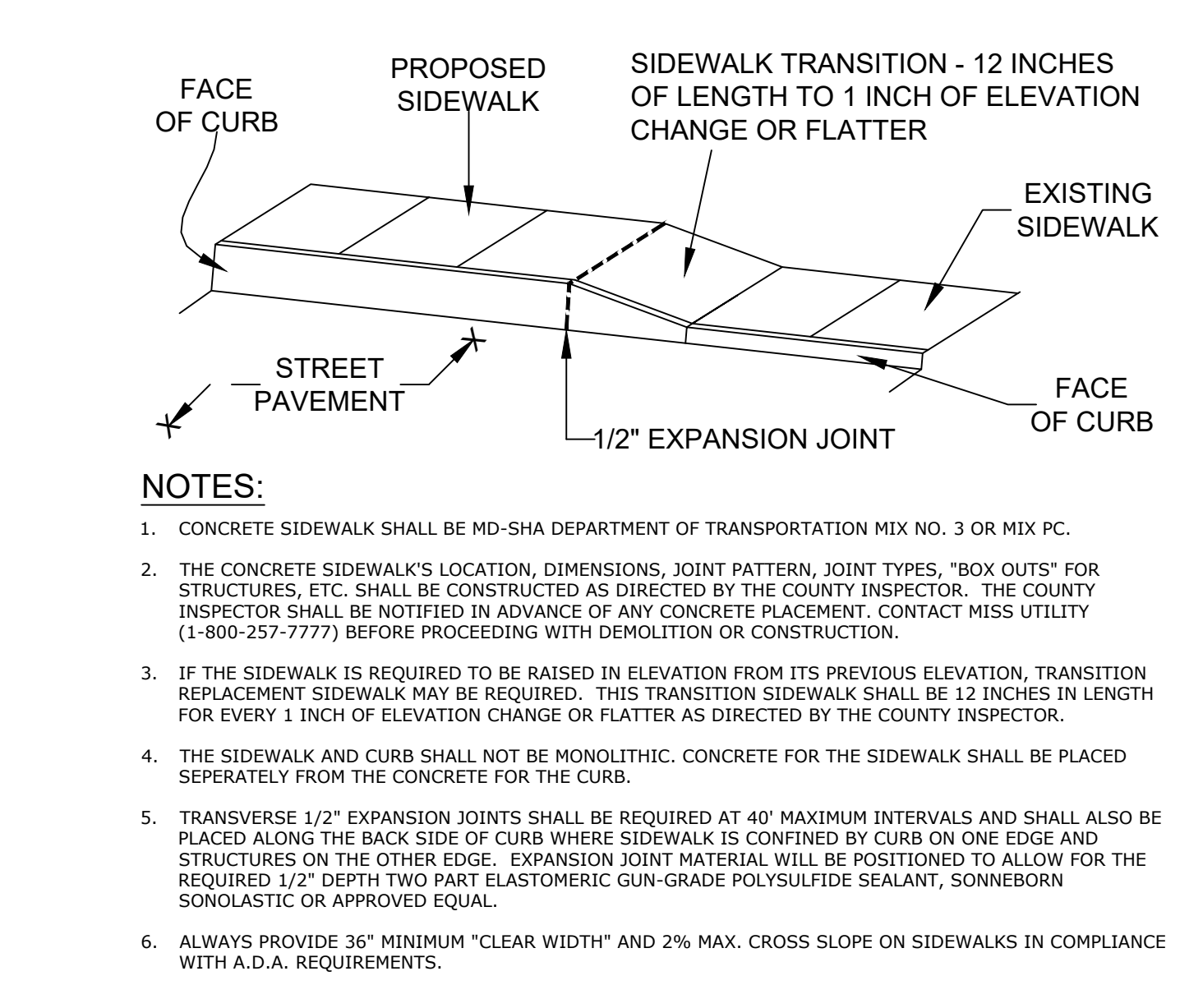
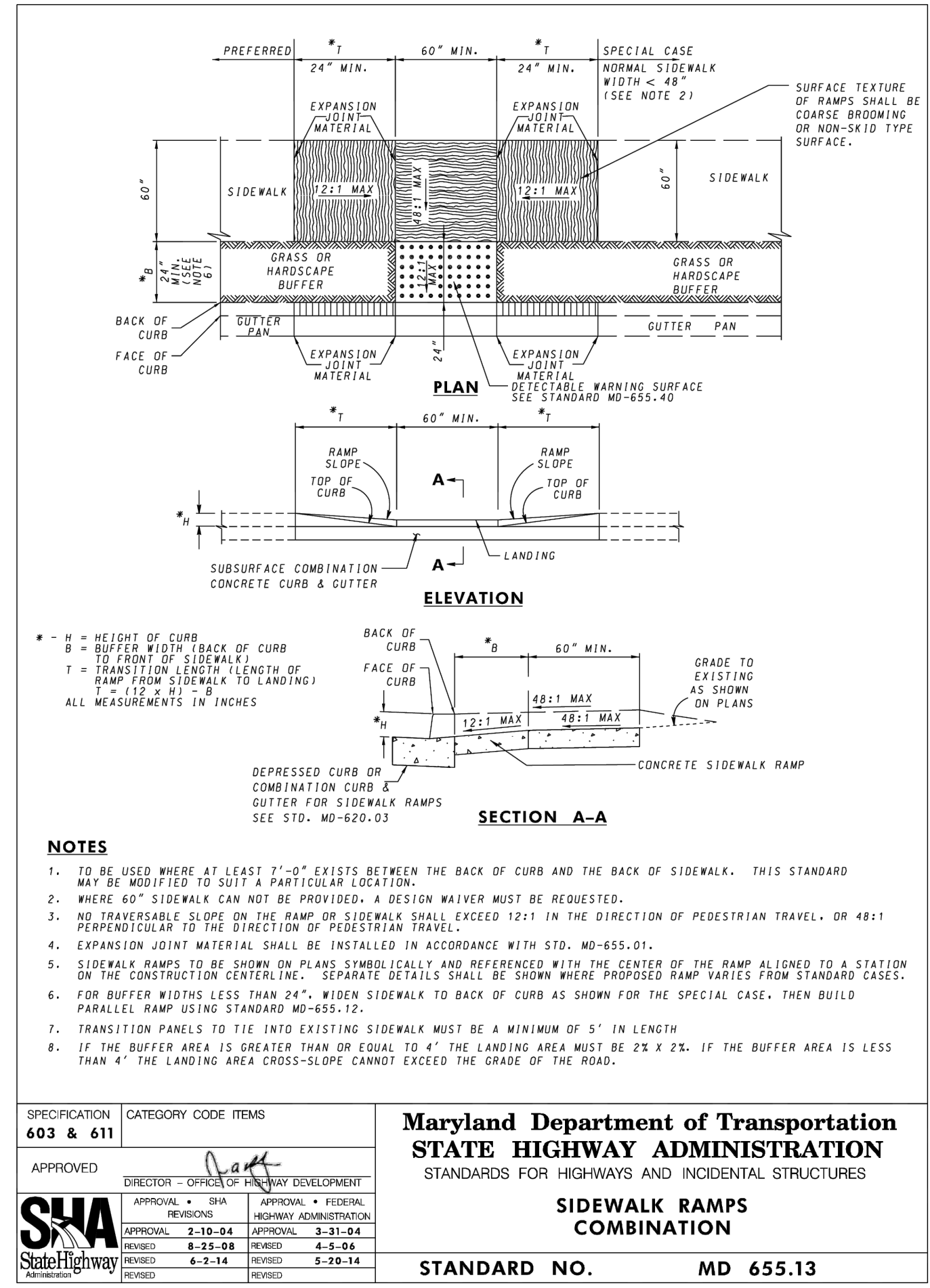
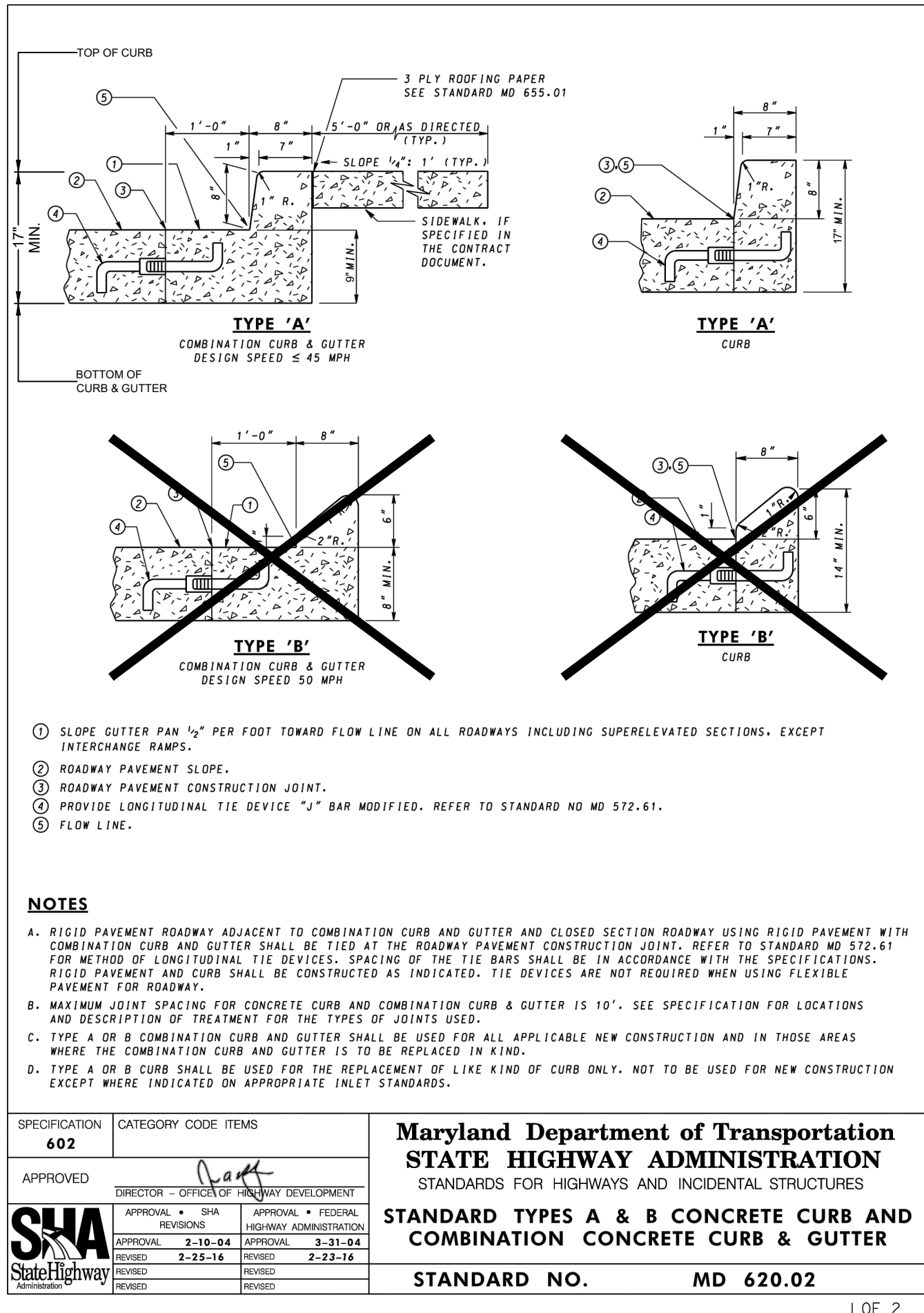
REVISION DESCRIPTION		BY	DATE

DESIGNED BY:	PJM	CHECKED BY:	PJM	DATE:	11-14-24
DRAWN BY:	GLJ				

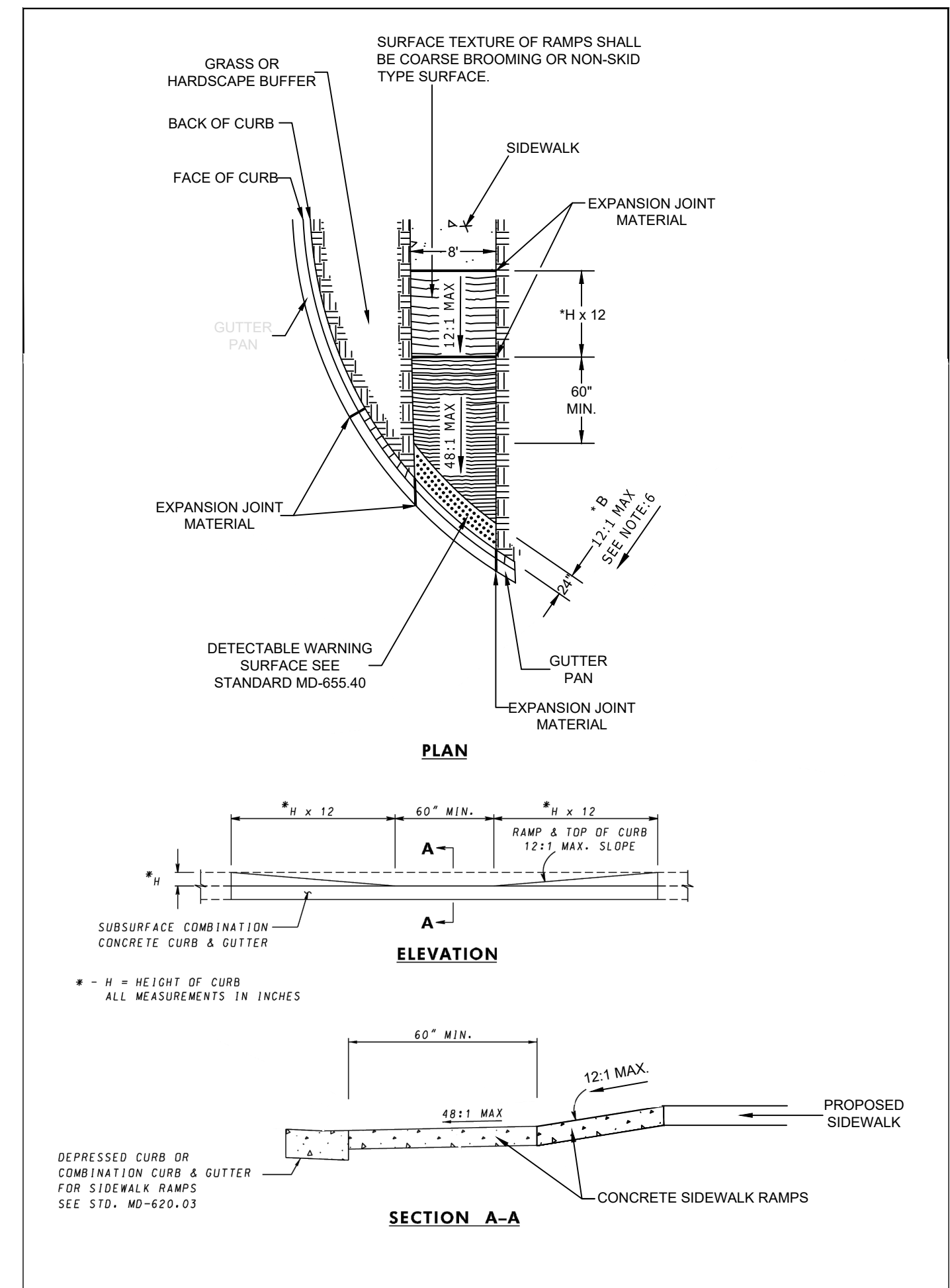
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DIVISION OF ENGINEERING		

PROFESSIONAL BOULEVARD		TYPICAL SECTIONS
PHASE III & IV		

SCALE	AS NOTED
SECTION NO.	TS - 02
SHEET NO.	06
PROJECT NO.	10-275

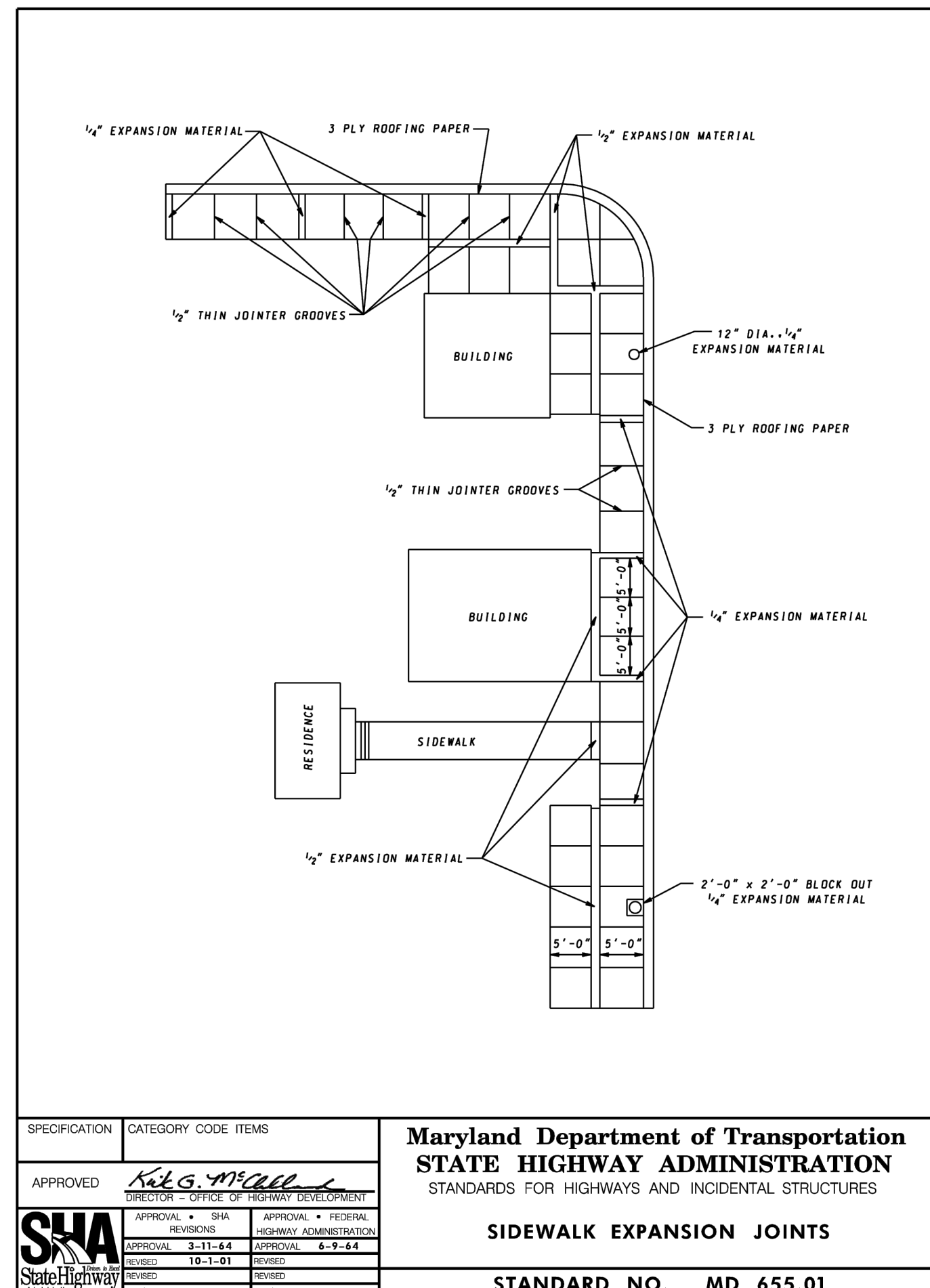
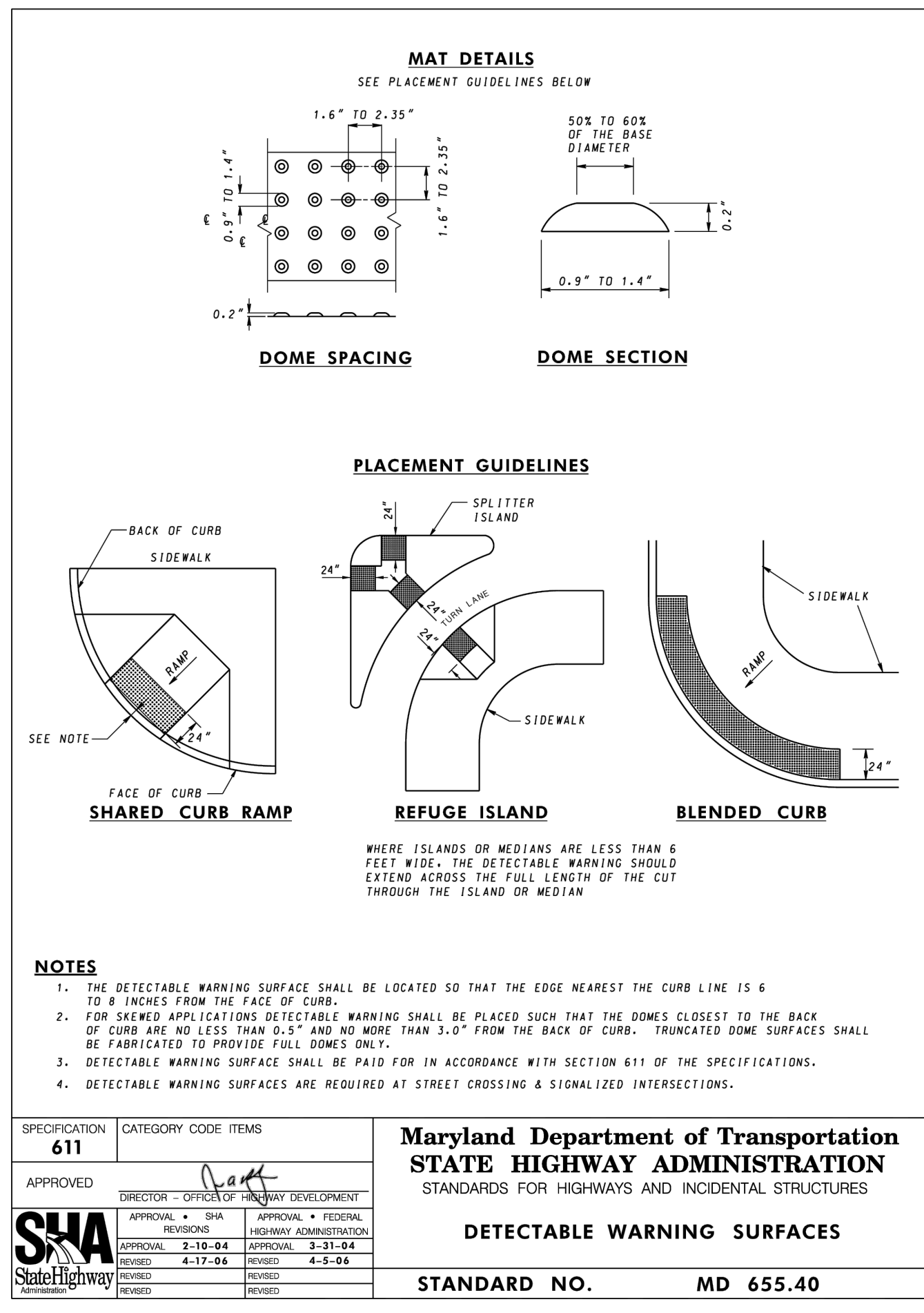


SIDEWALK TRANSITION DETAIL
SCALE: NONE



SIDEWALK RAMPS PARALLEL MODIFIED
STANDARD NO. MD 655.12

SPECIFICATION	CATEGORY CODE ITEMS	Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES SIDEWALK RAMPS PARALLEL MODIFIED STANDARD NO. MD 655.12
603 & 611		
APPROVED	DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT	



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DATE	
BY	
REVISION DESCRIPTION	
NO	
DESIGNED BY:	PJM
DRAWN BY:	GLJ
CHECKED BY:	PJM
DATE:	10-26-24

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building 747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2660 Fax: 240-313-2401

PROFESSIONAL BOULEVARD
PHASE III & IV
STANDARD CONSTRUCTION
DETAILS

SCALE
NONE

SECTION NO.
TS - 03

SHEET NO.
07

PROJECT NO.
10-275

GENERAL NOTES

Specifications: Latest SHA Specifications and Special Provisions for materials and construction. Latest AASHTO Standard Specifications for Highway Bridges for design.

Materials: Posts and rails shall conform to ASTM F-1083, Schedule 80. Fabric shall be 6 gauge, 2" PVC coated mesh conforming to 914.01.

All posts, braces, fittings and hardware shall be PVC coated. Coating shall conform to 914.03 except that nuts, bolts and washers shall also be PVC coated and touched up after installation.

All plates shall be steel conforming to ASTM A 709 Grade 36.

Anchor studs or anchor bolts shall conform to ASTM A 276, Type 430 or Type 304 stainless steel annealed, hot-finished, ultimate strength 1000 psi min., 20% min. elongation. Threads may be rolled or cut.

Epoxy grout for anchor studs in cored holes shall conform to 902.11 (d).

PVC color for all elements of fence shall be black unless otherwise noted.

Construction: All longitudinal rails shall be parallel to top of wall.

All posts shall be set normal to top of wall for roadway grades 6% or less. For grades over 6% posts shall be set plumb.

The chain link fence shall be true to line, taut, tight fit to top of wall 1/2" maximum gap and shall comply with the best practice for fence construction of this type.

Post and rails shall be permanently positioned before fabric is placed.

For post spacing see pertinent structure sheets.

Precoated longitudinal rails, if cut, shall have the cut end coated with PVC touch up material supplied by the manufacturer prior to erection.

If Contractor elects to place anchor studs after placing concrete wall, newly placed rebar shall be located so that coring does not damage same, all holes shall be cored (not drilled) and the diameter of the cored holes for the anchor studs shall be 1/8".

Measurement and Payment: The furnishing, fabricating, erecting, etc., of all new chain link fence on the retaining wall or culvert headwalls and wing walls, complete in place, will not be measured for payment but all costs thereof shall be included in the Contract lump sum prices for the pertinent Retaining Wall or Box Culvert items.

Any defects uncovered by the Inspection of welds on base plates and poles shall be repaired or replaced by new members at no additional cost to the Administration.

APPROVAL SEAL DATE: 01/14/2004 VERSION 1.0	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES CHAIN LINK SAFETY FENCE RETAINING WALLS AND BOX CULVERTS GENERAL NOTES DETAIL NO. SUP-FRIFW-301 SHEET 1 OF 1
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TYPICAL SECTION
Scale: 3/4" = 1'-0"

DETAIL A
Scale: 1/2" = 1'-0"

APPROVAL
SEAL
DATE: 01/14/2004
VERSION
1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

TYPE III CHAIN LINK SAFETY FENCE
RETAINING WALLS AND BOX CULVERTS

DETAIL NO. SUP-FRIFW-302 SHEET 1 OF 2

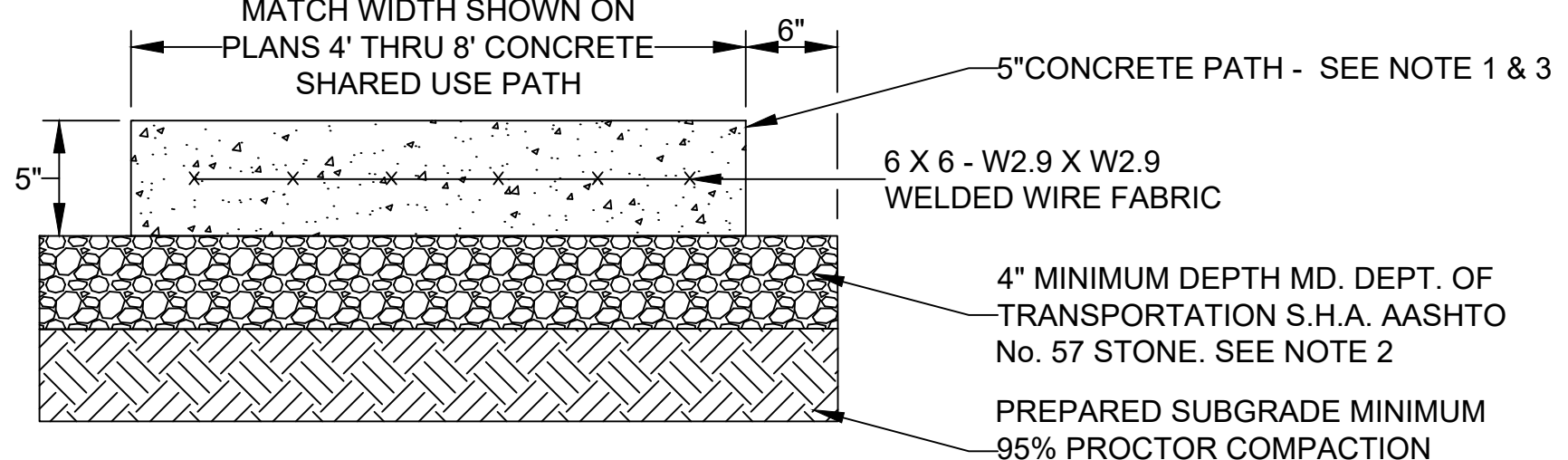
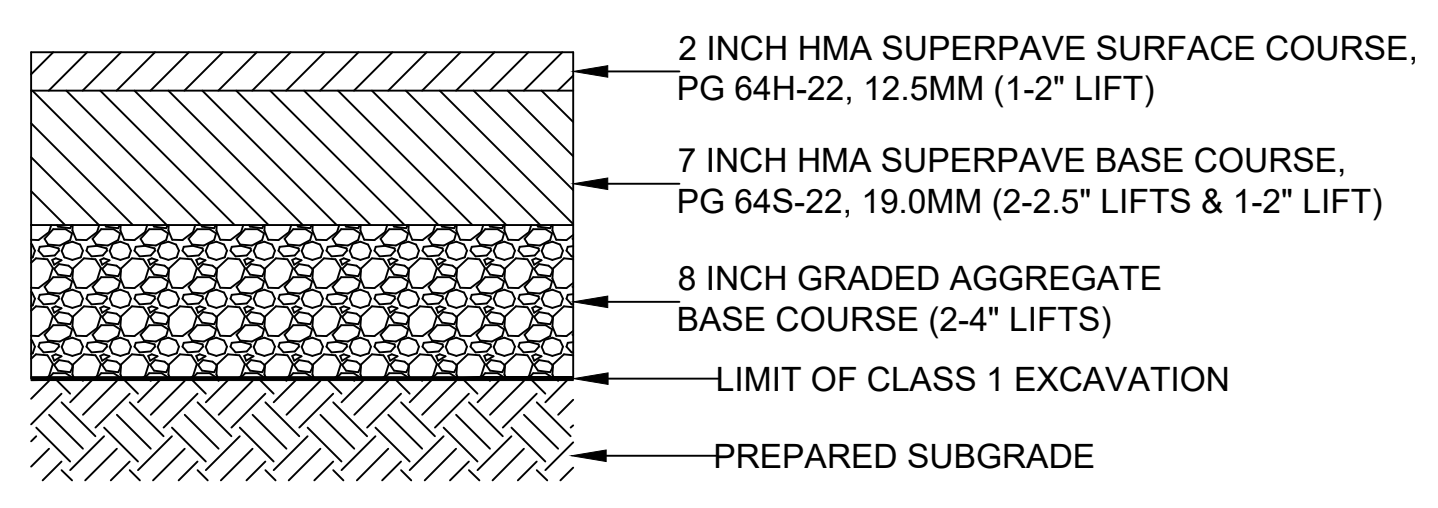
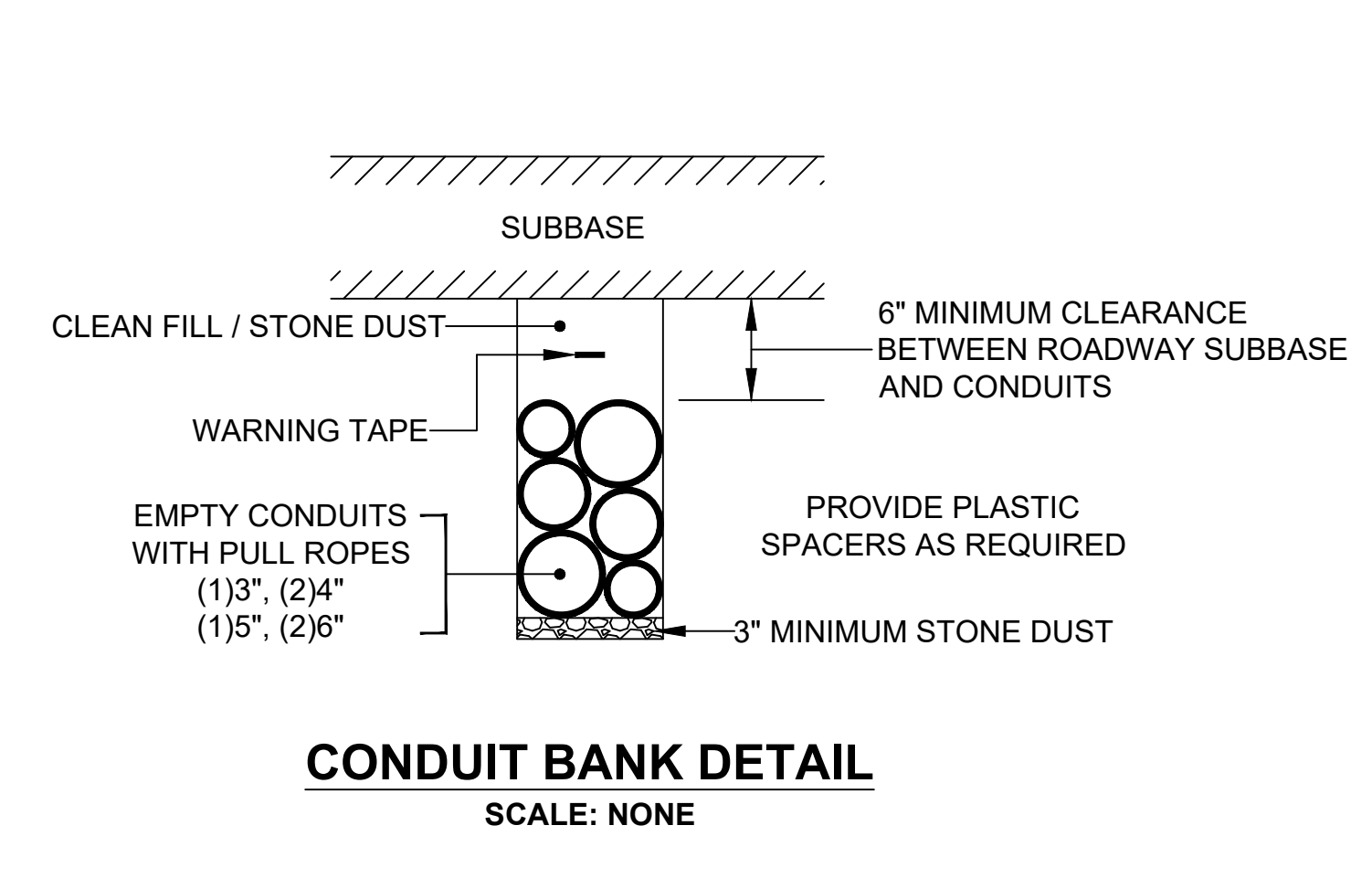
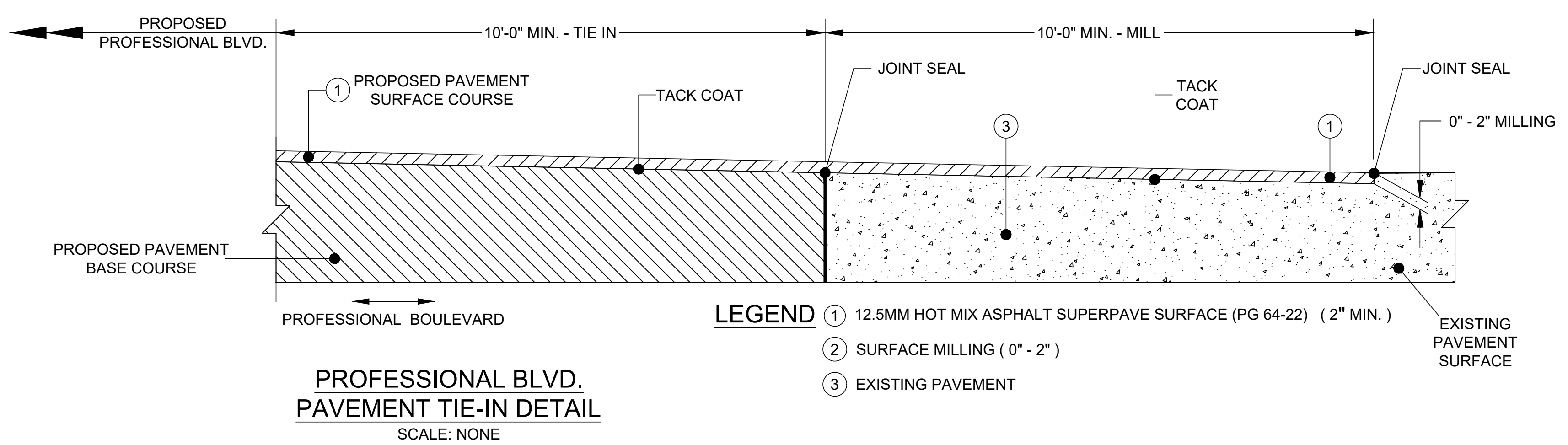
ELEVATION
Scale: 3/8" = 1'-0"

APPROVAL
SEAL
DATE: 01/14/2004
VERSION
1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

TYPE III CHAIN LINK SAFETY FENCE
RETAINING WALLS AND BOX CULVERTS

DETAIL NO. SUP-FRIFW-302 SHEET 2 OF 2



- NOTES:**
1. CONCRETE FOR SHARED USE PATH SHALL BE S.H.A. MIX No.3 WITH A 28 DAY COMPRESSIVE STRENGTH OF 3,500 P.S.I. AND 6% AIR ENTRAINMENT. ALL EXPOSED SURFACES SHALL RECEIVE LIGHT TRANSVERSE BROOM FINISH. ALL CONCRETE SIDEWALK USED FOR SHARED USE PATH SHALL BE 5" DEEP AND SHALL BE PLACED ON A BED OF 4" MINIMUM DEPTH AASHTO No. 57 STONE. TRANSVERSE 1/2" BITUMINOUS EXPANSION JOINTS SHALL BE PLACED AT INTERVALS OF 40 FEET. TOOLED TRANSVERSE JOINTS SHALL BE INSTALLED EVERY 8 FEET SO AS TO CREATE SQUARES AND EVENLY DIVIDED TO THE 40 FEET BETWEEN THE EXPANSION JOINTS.
 2. No. 57 STONE SHALL BE AGITATED, VIBRATED, OR OTHERWISE SETTLED IN PLACE.
 3. SHARED USE PATH SHALL HAVE A 1.75% MAXIMUM CROSS SLOPE TOWARDS THE ROADWAY.
 4. PRICE AND QUANTITY OF STONE BASE INCIDENTAL TO SHARED USE PATH.

DESIGNED BY:	PJM	DRAWN BY:	GLJ	CHECKED BY:	PJM	DATE:	10-26-24
NO.		REVISION DESCRIPTION					
BY							
DATE							

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

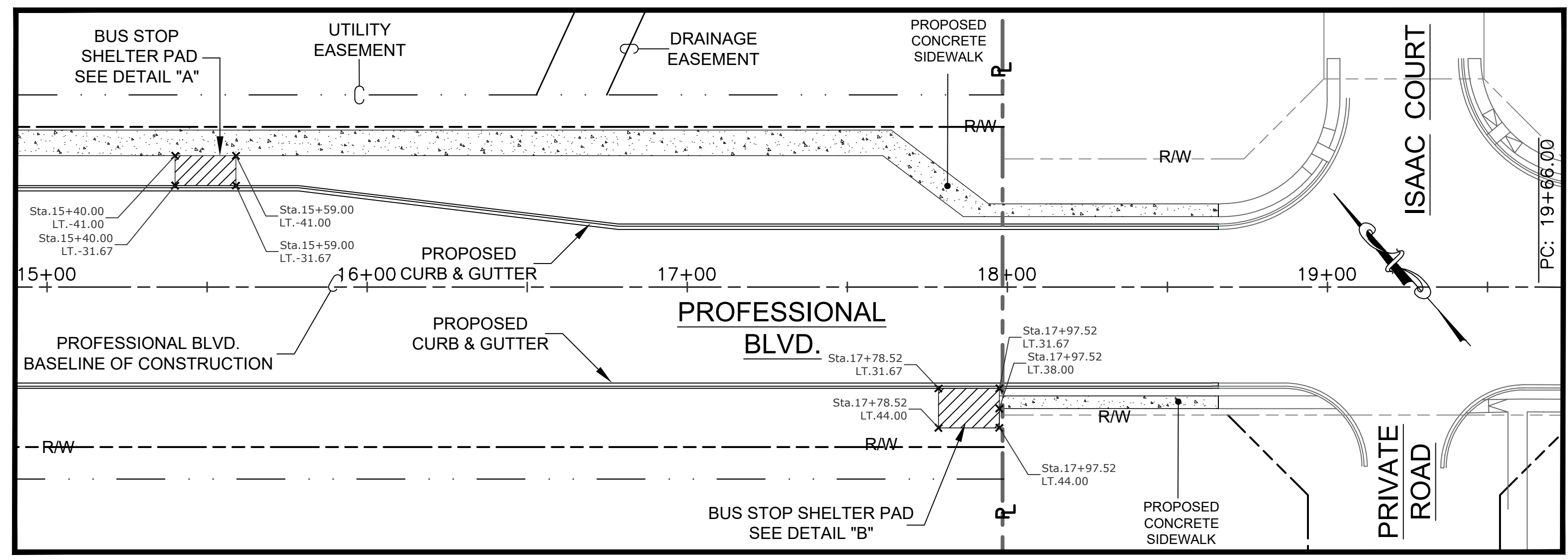
Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2460 Fax: 240-313-2401

PROFESSIONAL BOULEVARD
 PHASE III & IV
 STANDARD CONSTRUCTION
 DETAILS

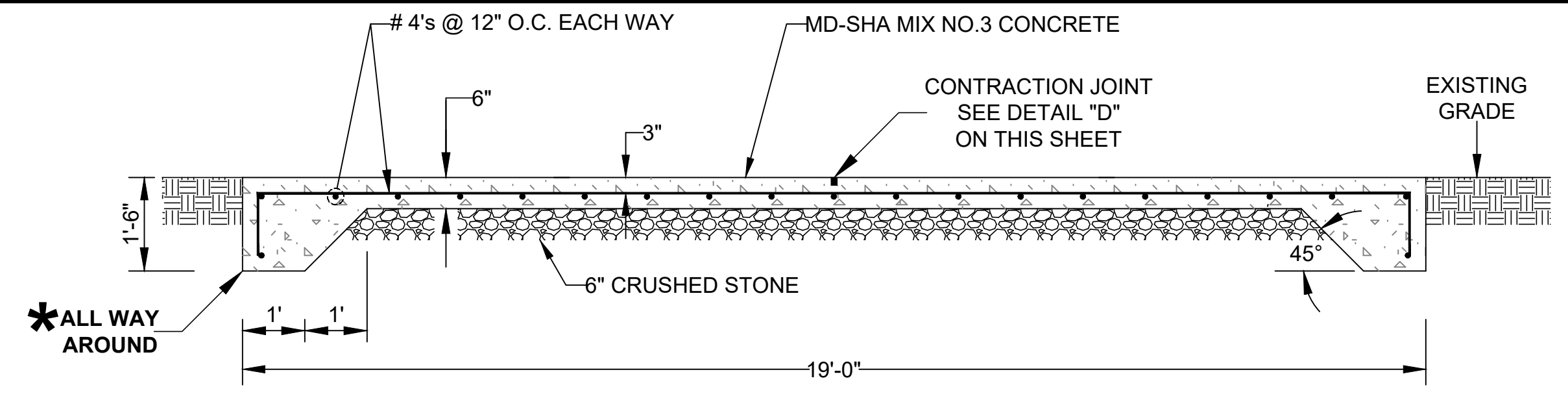
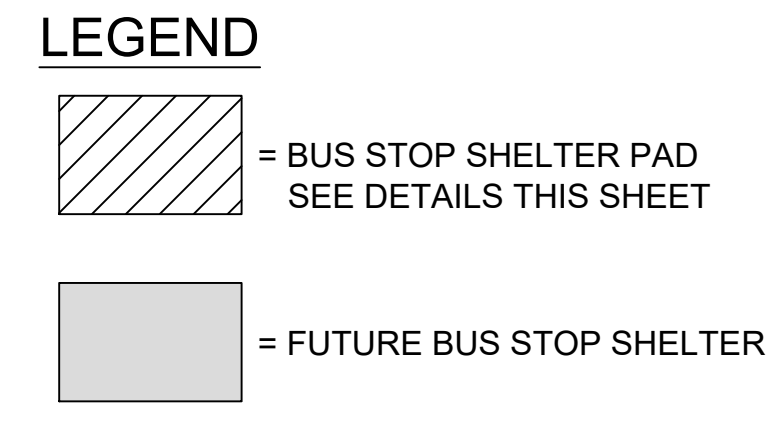
SCALE	NONE
SECTION NO.	TS - 04
SHEET NO.	08
PROJECT NO.	10-275

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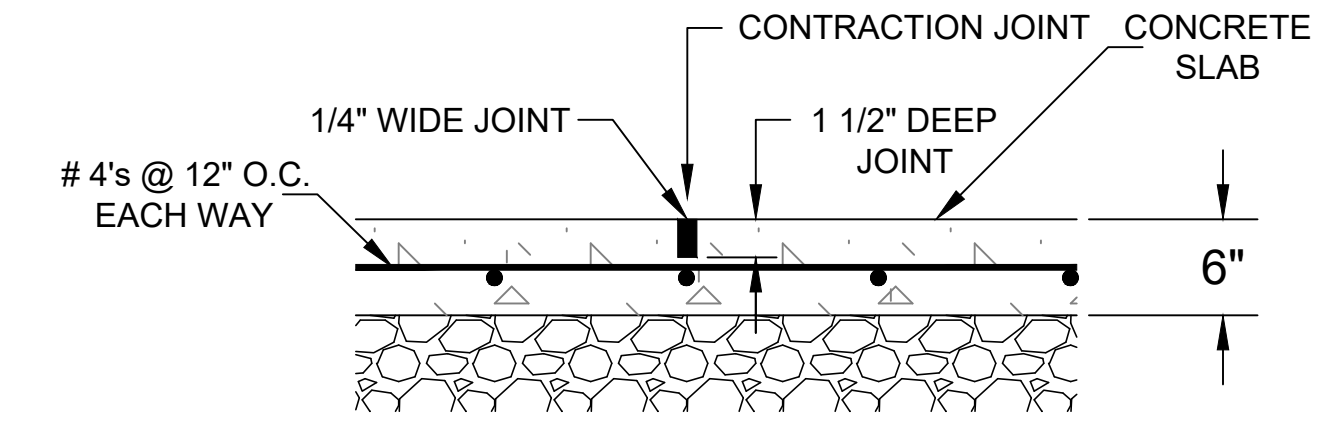
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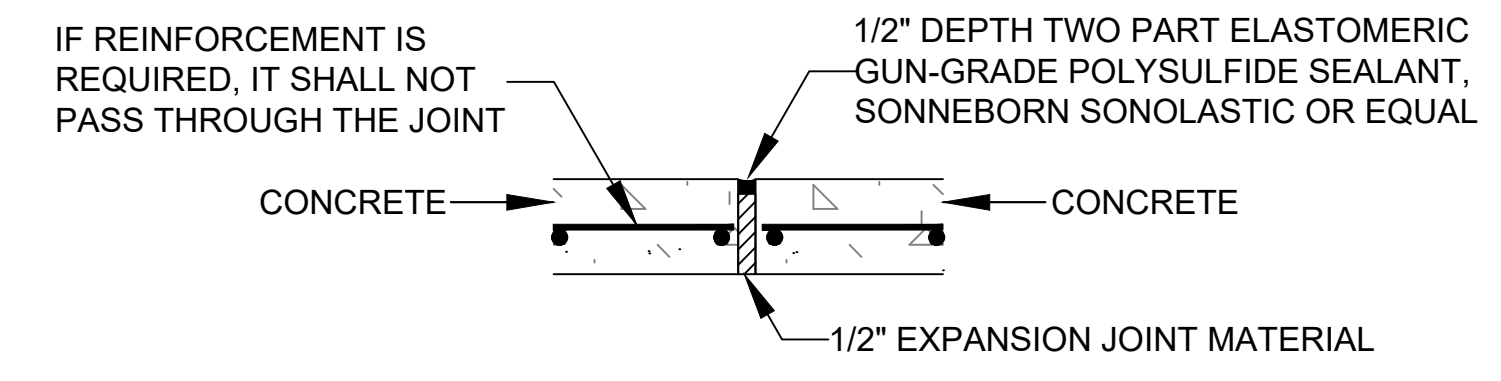
**BUS STOP SHELTER PAD
PLAN**
SCALE: 1" = 30'



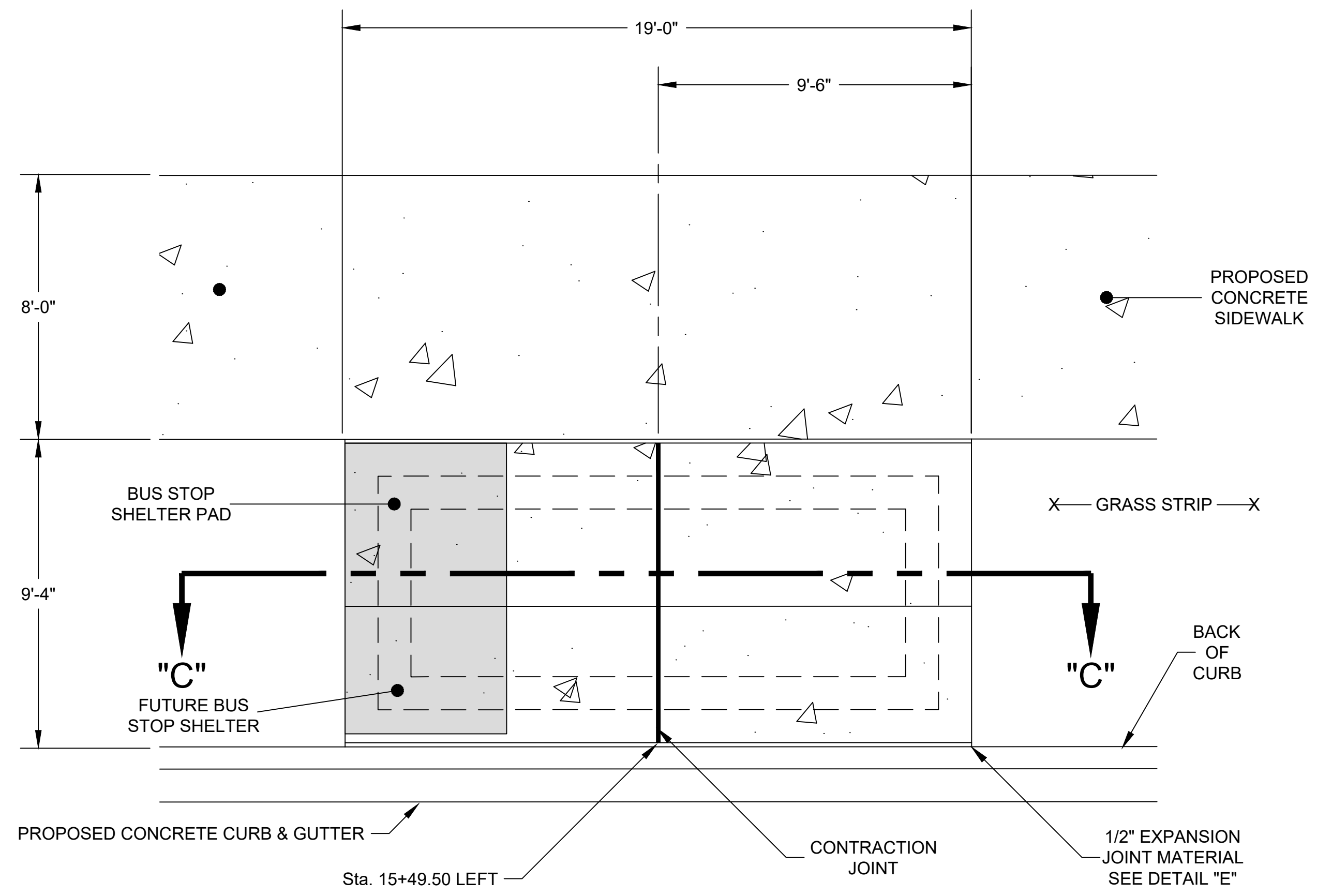
**SECTION "C" - "C"
BUS STOP SHELTER PAD**
SCALE: NONE



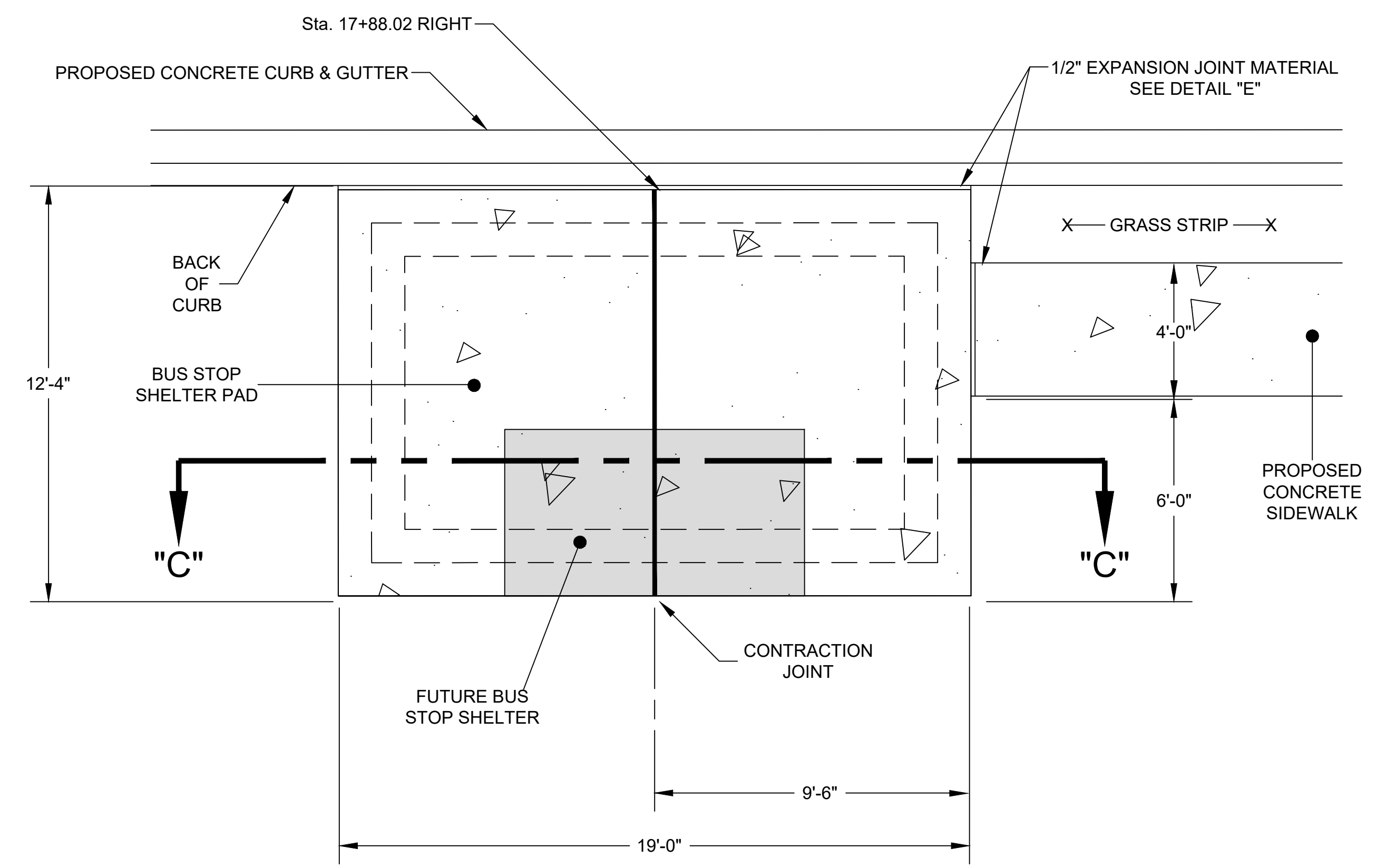
**CONTRACTION JOINT
DETAIL "D"**
SCALE: NONE



**EXPANSION JOINT
DETAIL "E"**
SCALE: NONE



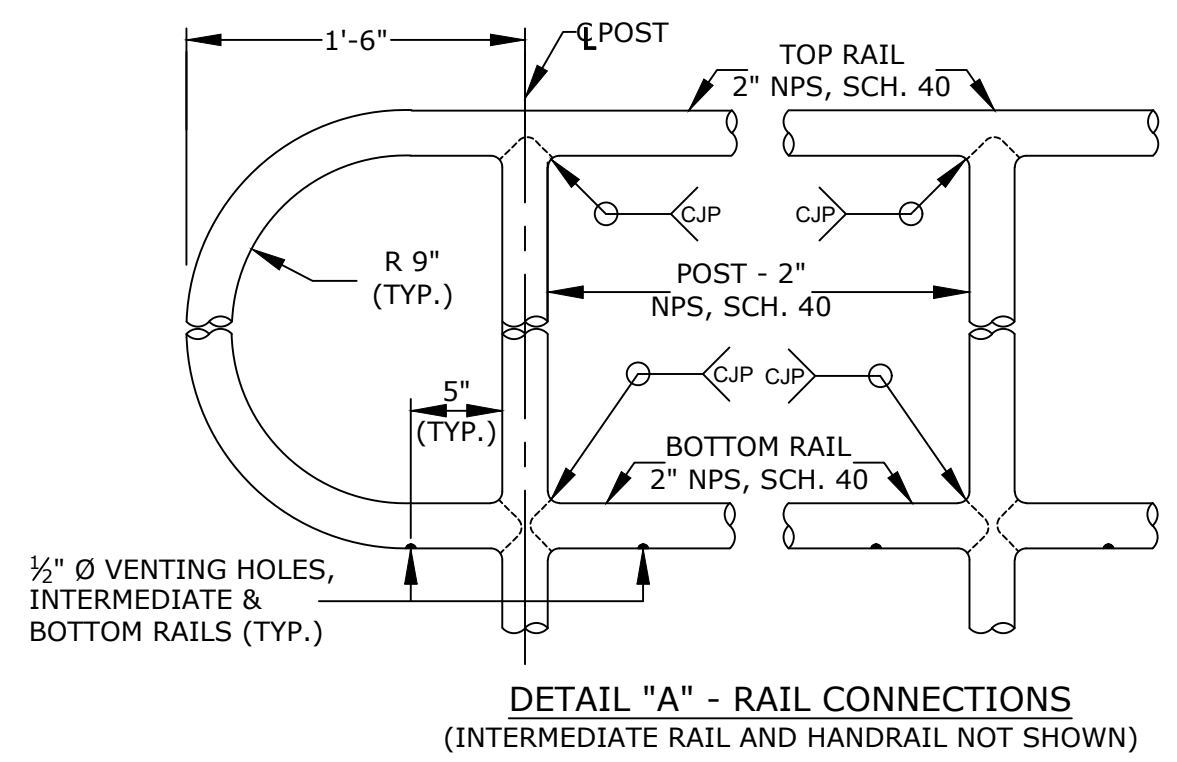
**BUS STOP SHELTER PAD
DETAIL "A" - Sta. 15+49.50 LEFT**
SCALE: NONE



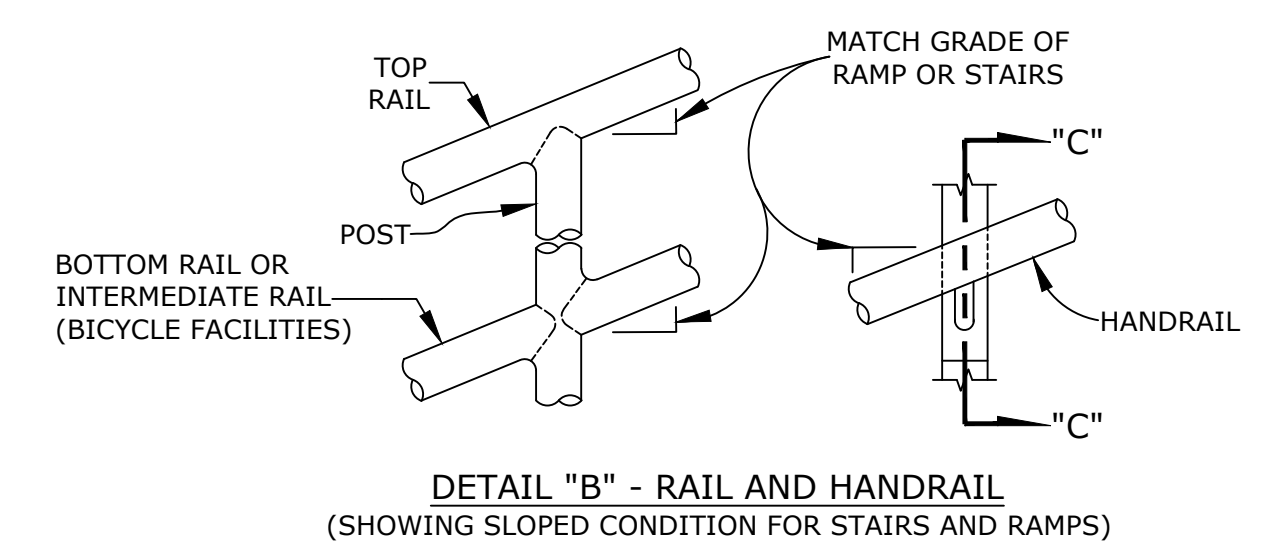
**BUS STOP SHELTER PAD
DETAIL "B" - Sta. 17+88.02 RIGHT**
SCALE: NONE

DATE					
BY					
REVISION DESCRIPTION					
NO.					
DESIGNED BY:	PJM	DATE:	10/20/24		
DRAWN BY:	GLJ	CHECKED BY:	PJM		
<p>WASHINGTON COUNTY, MARYLAND DIVISION OF ENGINEERING</p> <p>Washington County Administrative Annex, Building 747 Northern Avenue, Hagerstown, Maryland, 21742 Phone: 240-313-2660 Fax: 240-313-2401</p>					
<p>PROFESSIONAL BOULEVARD PHASE III & IV STANDARD CONSTRUCTION DETAILS (BUS STOP SHELTER PAD)</p>					
SCALE AS NOTED					
SECTION NO. TS - 05					
SHEET NO. 9					
PROJECT NO. 10-275					

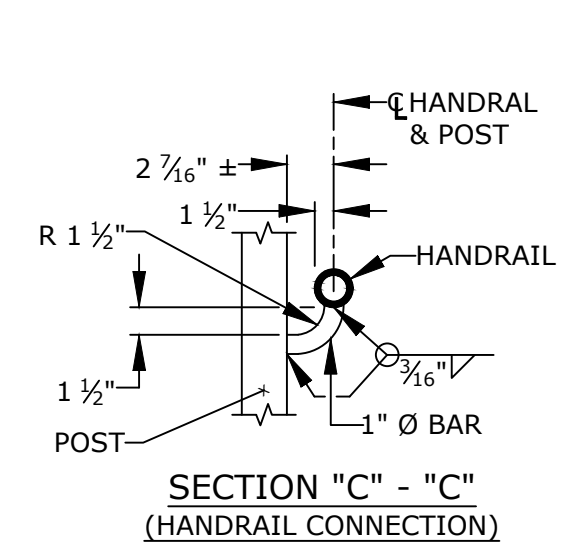
DATE	
BY	
REVISION DESCRIPTION	
NO	
DESIGNED BY:	PJM
DRAWN BY:	GLJ
CHECKED BY:	PJM
DATE:	11-14-24



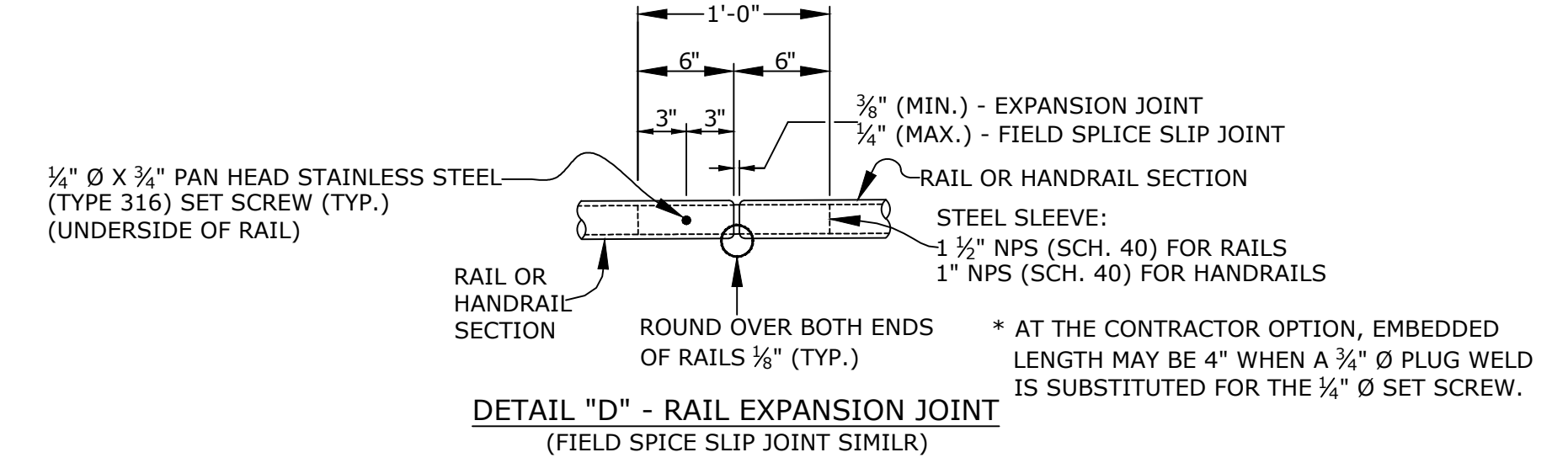
DETAIL "A" - RAIL CONNECTIONS
(INTERMEDIATE RAIL AND HANDRAIL NOT SHOWN)



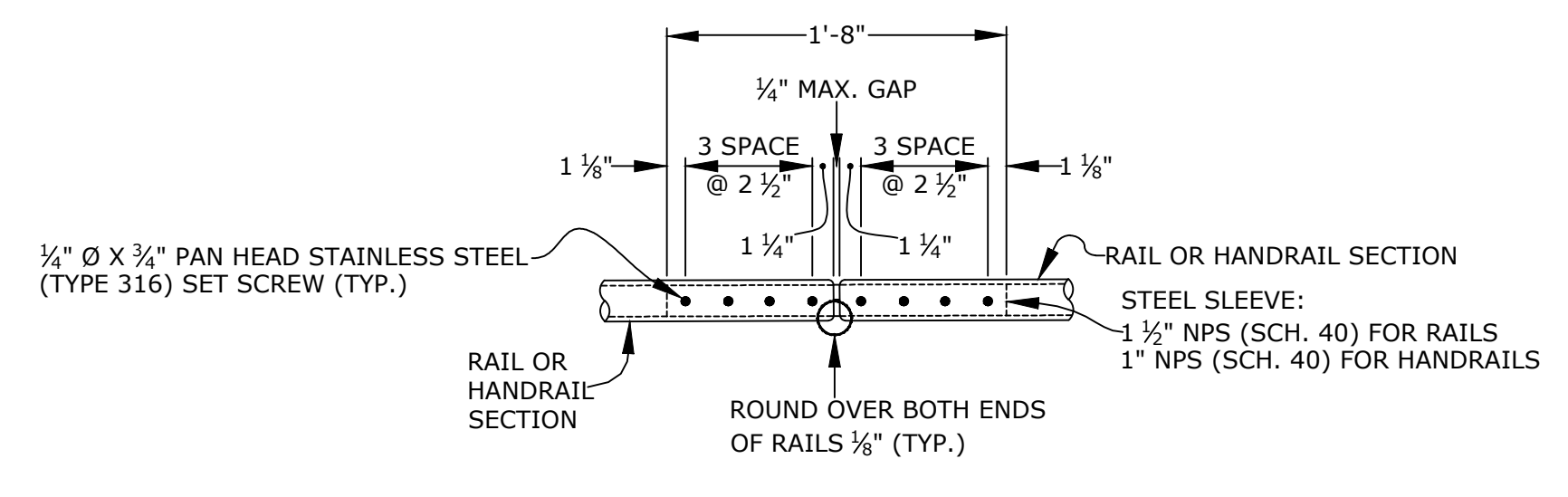
DETAIL "B" - RAIL AND HANDRAIL
(SHOWING SLOPED CONDITION FOR STAIRS AND RAMPS)



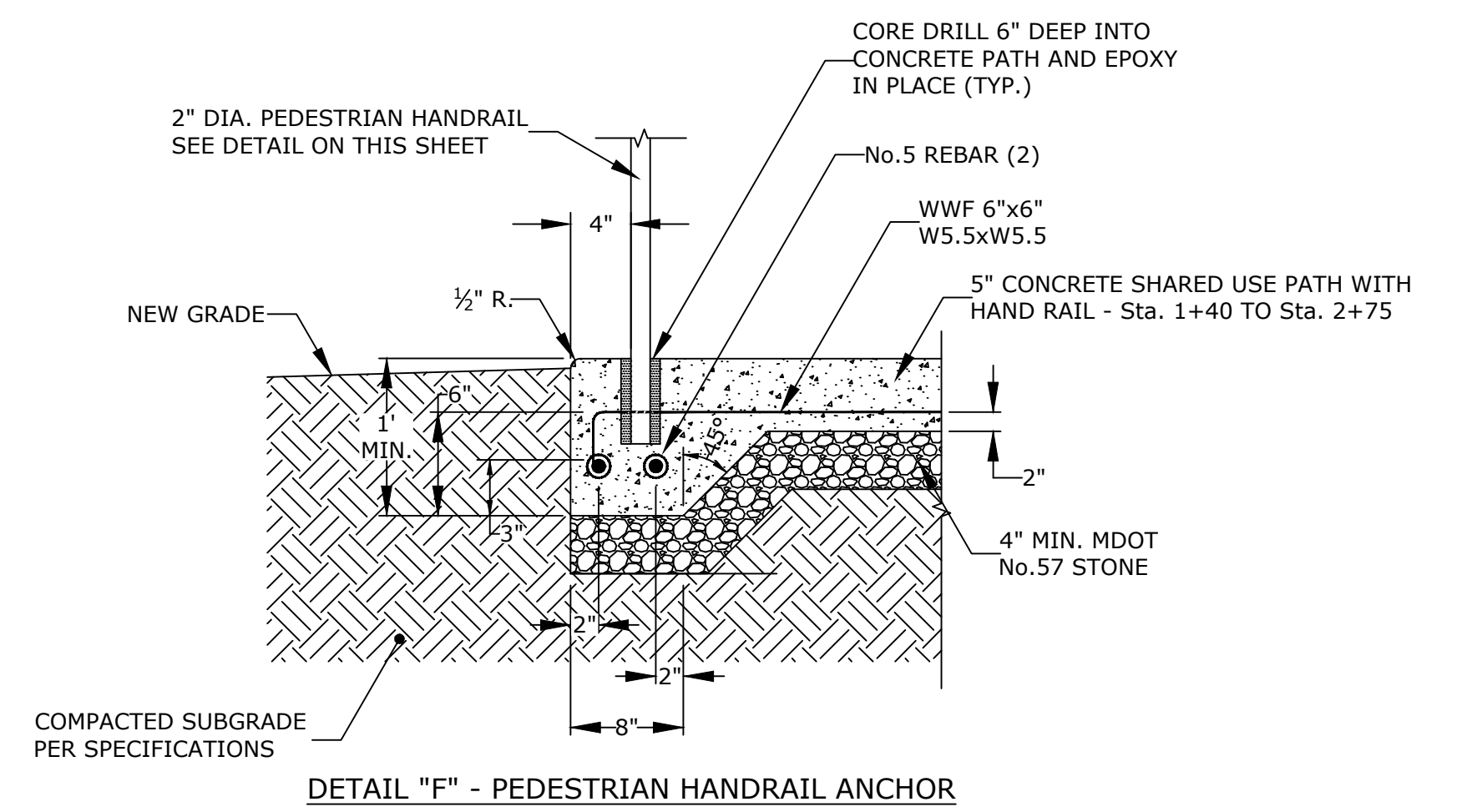
SECTION "C" - "C"
(HANDRAIL CONNECTION)



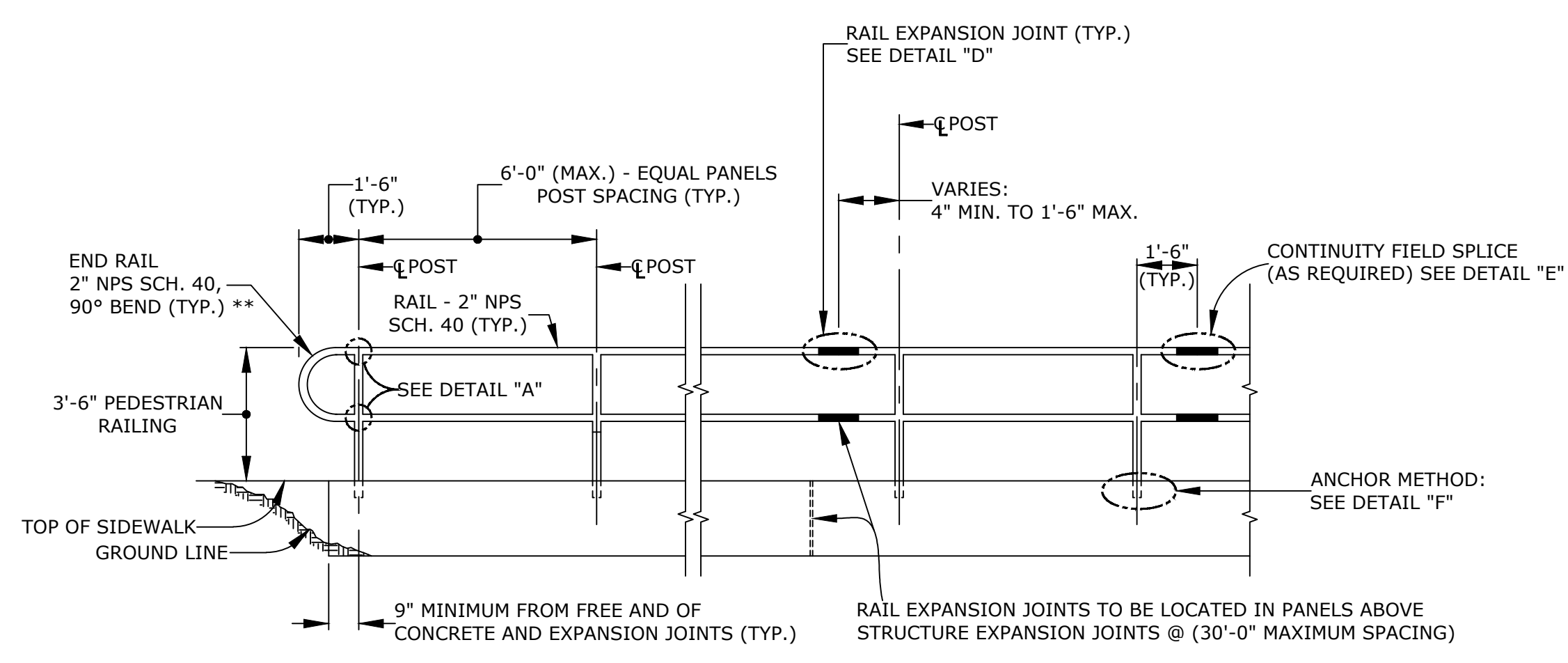
DETAIL "D" - RAIL EXPANSION JOINT
(FIELD SPICE SLIP JOINT SIMILAR)



DETAIL "E" - CONTINUITY FIELD SPLICE



DETAIL "F" - PEDESTRIAN HANDRAIL ANCHOR



ELEVATION VIEW
TYPICAL RAILING DETAILS

- NOTES:**
 ** END RAIL BEND VARIES FOR RAILINGS ON GRADES STEEPER THAN 2.4% NPS = NOMINAL PIPE SIZE
 STURCTURE EXPANSION JOINTS NOTE:
 * KEYED CONSTRUCTION JOINTS IN INDEX NO. 520 GRAVITY WALL AREA NOT CONSIDERED TO BE EXPANSION JOINTS.

- NOTES:**
- GENERAL SPECIFICATIONS:**
 1. THE MARYLAND DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS".
- DESIGN SPECIFICATIONS:**
 2. DEPARTMENT OF JUSTICE "ADA STANDARDS FOR ACCESSIBLE DESIGN", SEPTEMBER 2010 REVISIONS.
- DESIGN LIVE LOADS:**
 3. THE GUIDERAIL SHALL RESIST ON EQUIVALENT SERVICE LOADING OF 50 LBS./FT ACTING SIMULTANEOUSLY IN THE TRANSVERSE AND VERTICAL DIRECTION WHEN APPLIED AT THE HEIGHT OF THE TOP PEDESTRIAN RAIL (42").
- APPLICABILITY NOTE TO DESIGNER:**
 4. THIS INDEX IS NOT APPROVED FOR USE ON BRIDGES. THIS RAILING IS NOT APPLICABLE FOR SHIELDING DROP-OFF HAZARDS FOR VEHICULAR TRAFFIC. THIS RAILING IS APPLICABLE FOR ALL CASES WHERE A PEDESTRIAN OR BICYCLIST DROP-OFF HAZARDS DO NOT EXCEED 2'-6", PEDESTRIAN/BICYCLE RAILINGS FOR CUSTOMARY APPLICATIONS ARE PROVIDED IN INDEX NO.'s, 850 OR 860. ALSO APPLICABLE FOR SELECT USES ON SIDEWALKS WITHIN SERVICE AREAS AND SIMILAR LOCATIONS. ADEQUATE FOUNDATION SUPPORT SHALL BE PROVIDED FOR ANCHORAGE AND STABILITY AGAINST OVERTURNING. FOR UNUSUAL SITE CONDITIONS A SITE SPECIFIC RAILING IS TO BE DESIGN BY THE RESONSIBLE ENGINEER.
- ALTERNATE DESIGN:**
 5. MANUFACTURES SEEKING APPROVED OF PROPRIETARY RAILING SYSTEMS FOR INCLUSION ON THE QUALIFIED PRODUCTS LIST AS PRE-APPROVED DESIGNS MUST APPLICATION ALONG WITH DESIGN DOCUMENTATION SHOWING THE PROPRIETARY RAILING SYSTEM IS DESIGNED TO MEET THE LIVE LOAD AND GEOMETRIC REQUIREMENTS SPECIFIED HEREIN, PROVIDES A MINIMUM 50 YEAR DESIGN LIFE AND THAT DEFLECTIONS DUE TO THE DESIGN LIVE LOADS DO NOT 1 1/2" EXCEED AT MIDSPAN OF THE TOP RAIL FOR THE PEDESTRIAN GUIDERAIL AND 2 1/2" AT MIDSPAN OF THE TOP RAIL FOR THE BICYCLE GUIDERAIL. ALL FIXED JOINTS TO BE EITHER WELDED OR COMMERCIALY DESIGNED FIXED JOINT SYSTEM. EACH FIELD SECTION OF RAILING MUST BE IDENTIFIED WITH A PERMANENTLY OFFFIXED LABEL WITH THE MANUFACTURE'S NAME THE MD-SHA APPROVED NUMBER. LABELS MUST BE A MAXIMUM OF 1 1/2" BY 3" AND LOCATED AT THE BASE OR A POST WITHIN THE FIELD SECTION. PROJECT SPECIFIC SHOP DRAWINGS ARE REQUIRED FOR QPL APPROVED RAILINGS, SEE SHOP DRAWING NOTE. IN LIEU OF DESIGN CALCULATIONS, SUBMIT CERTIFIED TEST REPORTS FROM AN APPROVED INDEPENDENT TESTING AGENCY. TEST RAILING SYSTEM IN ACCORDANCE WITH ASTM E935 (TEST METHOD (A & C) USING TEST LOADS AT LEAST 175% OF THE DESIGN LOAD. TEST TEST PROPRIETARY OR NONSTANDARD ANCHORAGE SYSTEMS IN ACCORDANCE WITH ASTM E894 (FLEXURAL TEST). ANCHORAGE SYSTEMS MUST RESIST THE MINIMUM OF 175% OF THE DESIGN LOAD FOR FAILURE OF THE STEEL ANCHORS OR 220% OF THE DESIGN LOAD FOR FAILURE IN THE CONCRETE FOUNDATIONS.
- PIPE RAILING AND POST:**
 1. PIPE RAILS AND POSTS SHALL BE IN ACCORDANCE WITH ASTM A53 GRADE B FOR STANDARD WEIGHT PIPE AND ASTM A 500 GRADE B, C, OR D OR ASTM A501 FOR STRUCTURAL TUBE. BARS FOR HANDRAIL SUPPORTS SHALL BEASTM A36. POSTS AND END RAILS SHALL BE FABRICATED AND INSTALLED PLUMB ± 1" TOLERANCE WHEN MEASURE AT 3'-6" ABOVE THE FOUNDATION. CORNERS AND CHANGES IN TANGENTIAL LONGITUDINAL ALIGNMENT, MAY BE MADE CONTINUOUS WITH A 9" BEND RADIUS OR TERMINATED AT ADJOINING SECTIONS WITH A STANDARD AND HOOP WHEN HANDRAILS ARE NOT REQUIRED. FOR CHANGES IN TANGENTIAL LONGITUDINAL ALIGNMENT GREATER THAN 45°, POSTS SHALL BE POSITIONED AT A MAXIMUM DISTANCE OF 2'-0" EACH SIDE OF THE CORNER AND SHALL NOT BE LOCATED AT THE CORNER APEX. FOR CURVED LONGITUDINAL ALIGNMENTS THE TOP AND BOTTOM RAILS AND HANDRAILS SHALL BE SHOP BENT TO MATCH THE ALIGNMENT RADIUS. POST SHALL BE INSTALLED VERTICALLY AND EVENLY SPACED. RAILINGS SHALL BE INSTALLED SO THAT THEY ARE PARALLEL TO THE TOP OF THE SIDEWALK.

RAILING MEMBER DIMENSIONS TABLE			
MEMBER	DESIGNATION	OUTSIDE DIMENSION	WALL THICKNESS
POSTS	2" NPS (SCH. 40)	2.375"	0.154"
RAILS	2" NPS (SCH. 40)	2.375"	0.154"
RAIL JOINT / SPILCE SLEEVES	1 1/2" NPS (SCH. 40)	1.900"	0.145"
HANDRAILS JOINT / SPLICE SLEEVES	1" NPS (SCH. 40)	1.315"	0.133"
HANDRAILS	1 1/2" NPS (SCH. 40)	1.900"	0.145"
HANDRAIL SUPPORT BAR	1" Ø ROUND BAR	1.000"	N/A

- CORE DRILLING INTO THE CONCRETE SIDEWALK:**
 7. 3,000 PSI MINIMUM NON-SHRINK GROUT
- ANCHORING POSTS TO THE CONCRETE DRAINAGE STRUCTURE AS REQUIRED TO WITHSTAND APPLICABLE RAILING TEST:**
 8. 7 INCH X 7 INCH PLATE, 3/8 INCH THICK. TWO (2) 1/2 INCH DIAMETER ANCHOR BOLTS MINIMUM OR APPROVED SYSTEM. BASE PLATES SHALL BE IN ACCORDANCE WITH A36 OR ASTM A709 GRADE 36.
- SHIM PLATES:**
 9. SHIM PLATES BE ALUMINUM IN ACCORDANCE WITH ASTM B209, ALLOY 6051 OR 6053. SHIM PLATES SHALL BE USED FOR FOUNDATION HEIGHT ADJUSTMENTS GREATER THAN 1/4 AND LOCALIZED IRREGULARITIES GREATER THAN 1/8". FIELD TRIM SHIM PLATES WHEN NECESSARY TO MATCH THE FOUNDATION. BEVELLED SHIM PLATES MAY BE USED IN LIEU OF TRIMMED FLAT SHIM PLATES SHOWN. STACKED SHIM PLATES BE BONDED TOGETHER WITH ADHESIVE BONDING MATERIAL AND LIMITED TO A MAXIMUM TOTAL THICKNESS OF 1/2", UNLESS LONGER ANCHOR BOLTS ARE PROVIDED FOR THE EXPOSED THREAD LENGTH.
- COATINGS:**
 10. THE RAILING SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION. ALL NUTS, BOLTS, AND WASHERS SHAA BE HOT-DIP GALVANIZED.
- ANCHOR BOLTS:**
 11. ANCHOR BOLTS SHALL BE IN ACCORDANCE WITH ASTM F1554 GRADE 36, HEADLESS ANCHOR BOLTS FOR ADHESIVE ANCHORS SHALL BE THREADED FULL LENGTH. ALL ANCHOR BOLTS SHALL HAVE SINGLE SELF-LOCKING HEX NUTS. TACK WELDING OF THE NUT TO THE ANCHOR BOLT MAY BE USED IN LIEU OF SELF-LOCKING NUTS. ALL NUTS SHALL BE IN ACCORDANCE WITH ASTM A563 OR ASTM A194. FLAT WASHERS SHALL BE IN ACCORDANCE WITH ASTM F436 AND PLATE WASHER (FOR SLOTTED HOLES HOLES ONLY), SHALL BE IN ACCORDANCE WITH ASTM A36 OR ASTM A709 GRADE 36. AFTER THIS NUTS HAVE BEEN SNUG TIGHTENED, THE ANCHOR BOLT THREADS SHALL BE DISTORTED TO PREVENT REMOVAL OF THE NUTS. DISTORTED THREADS AND TACK WELDS SHALL BE COOLED WITH A GALVANIZING COMPOUND IN ACCORDANCE WITH THE SPECIFICATIONS.
- RESILIENT AND NEDPRENE PADS:**
 12. RESILIENT AND NEOPRENE PADS SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 932, EXCEPT THAT TESTING OF THE FINISHED PADS SHALL NOT BE REQUIRED. NEOPRENE PADS SHALL BE DURMETER HARDNESS 60 OR 70.
- JOINTS:**
 13. ALL FIXED JOINTS ARE TO BE WELDED ALL AROUND AND GROUND SMOOTH. EXPANSION JOINTS SHALL BE SPACED AT A MAXIMUM OF 30'-0". FIELD SPLICES SIMILAR TO THE EXPANSION JOINT DETAIL MAY BE APPROVED BY THE ENGINEER TO FACILITATE SHIPPING AND HANDLING, BUT RAILS MUST BE CONTINUOUS ACROSS A MINIMUM OF TWO POSTS. ONLY USE THE CONTINUITY FIELD SPLICE (DETAIL "E") TO MAKE THE RAILING CONTINUOUS FOR UNFORESEEN FIELD ADJUSTMENTS.
- WELDING:**
 14. ALL WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE (STEEL) ANSI/AWS D1.1 (CURRENT EDITION). WELD METAL SHALL BE E60XX OR E70XX. NONDESTRUCTIVE TESTING OF WELDS IS NOT REQUIRED.
- SHOP DRAWINGS:**
 15. COMPLETE DETAILS ADDRESSING PROJECT SPECIFIC GEOMETRY (LINE & GRADE) SHOWING POST AND EXPANSION JOINT LOCATIONS MUST BE SUBMITTED BY THE CONTRACTOR FOR THE ENGINEER'S APPROVAL PRIOR TO FABRICATION OF THE RAILING. SHOP DRAWINGS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- PAYMENT:**
 16. HAND RAIL SHALL BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR PIPE HAND RAIL (STEEL) LF. PAYMENT FOR THE GUIDE RAIL WILL BE PLAN QUANTITY MEASURED AS THE LENGTH ALONG THE CENTER LINE OF THE TOP RAIL, AND INCLUDES RAILS, POST, RAIL SPLICE ASSEMBLY, BASE PLATES, ANCHOR BOLTS, NUTS, WASHERS, RESILIENT, OR NEOPRENE PODS AND ALL INCIDENTAL MATERIALS AND LABOR REQUIRED TO COMPLTE INSTALLATION OF THE HAND RAIL.

C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH. III & IV\CONSTRUCTION\3-TS-TYPICAL SECTIONS\TS-06.DWG

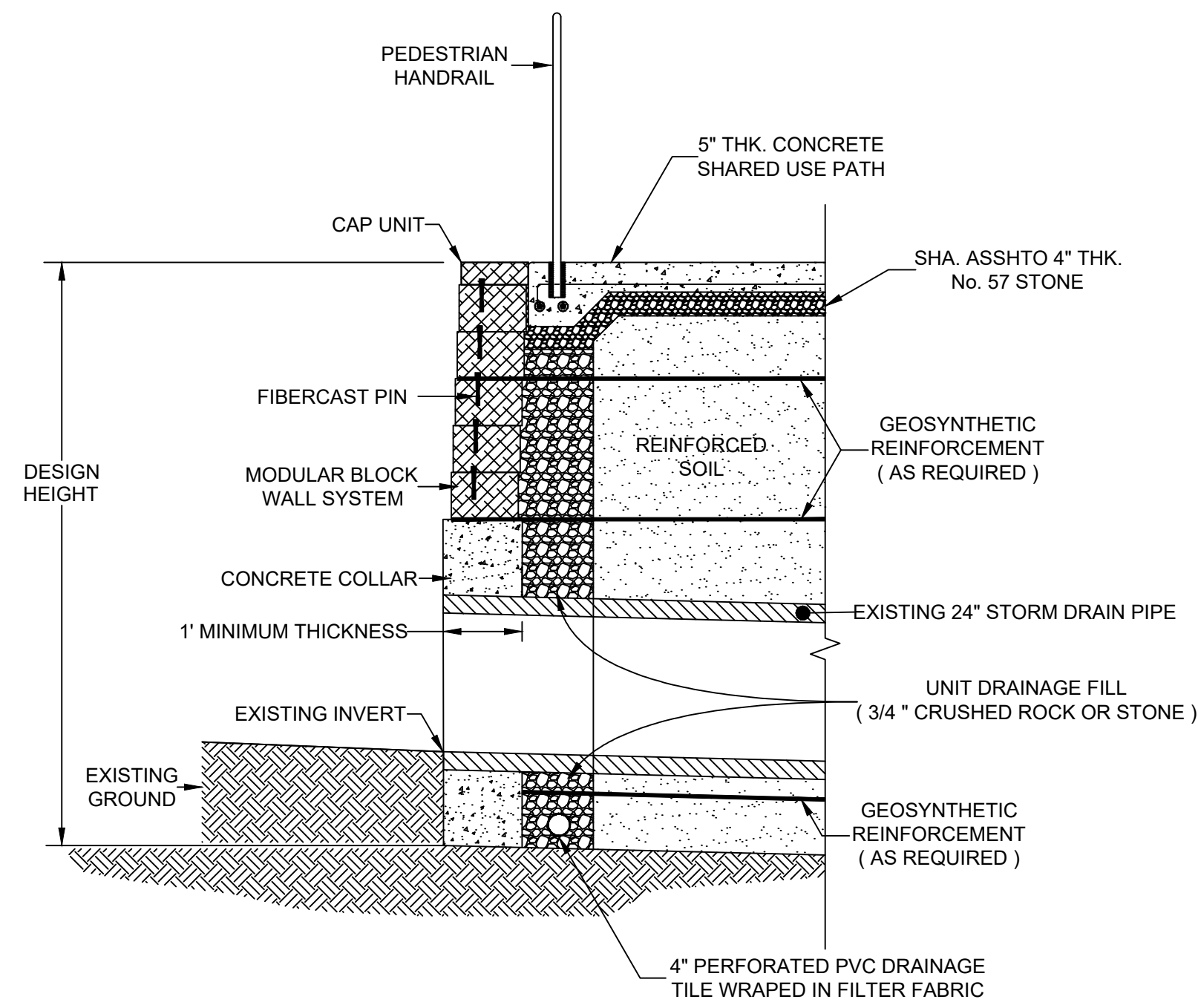
WASHINGTON COUNTY, MARYLAND
 DIVISION OF ENGINEERING
 Washington County Administrative Annex, Building
 747 Northern Avenue, Hagerstown, Maryland, 21742
 Phone: 240-313-2460 Fax: 240-313-2401

PROFESSIONAL BOULEVARD
 PHASE III & IV
 STANDARD CONSTRUCTION
 DETAILS - HANDRAIL

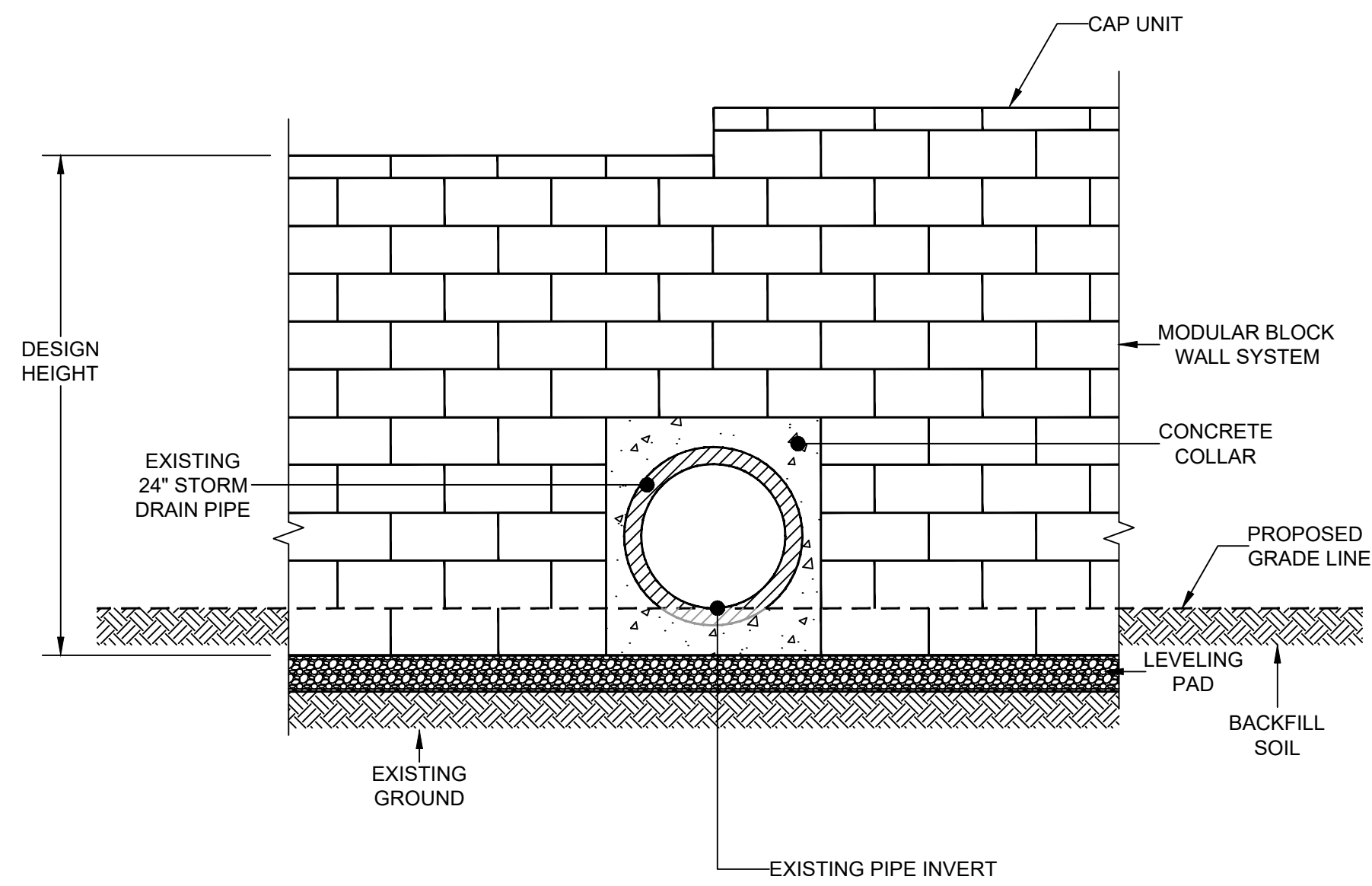
SCALE	NONE
SECTION NO.	TS-06
SHEET NO.	10
PROJECT NO.	10-275

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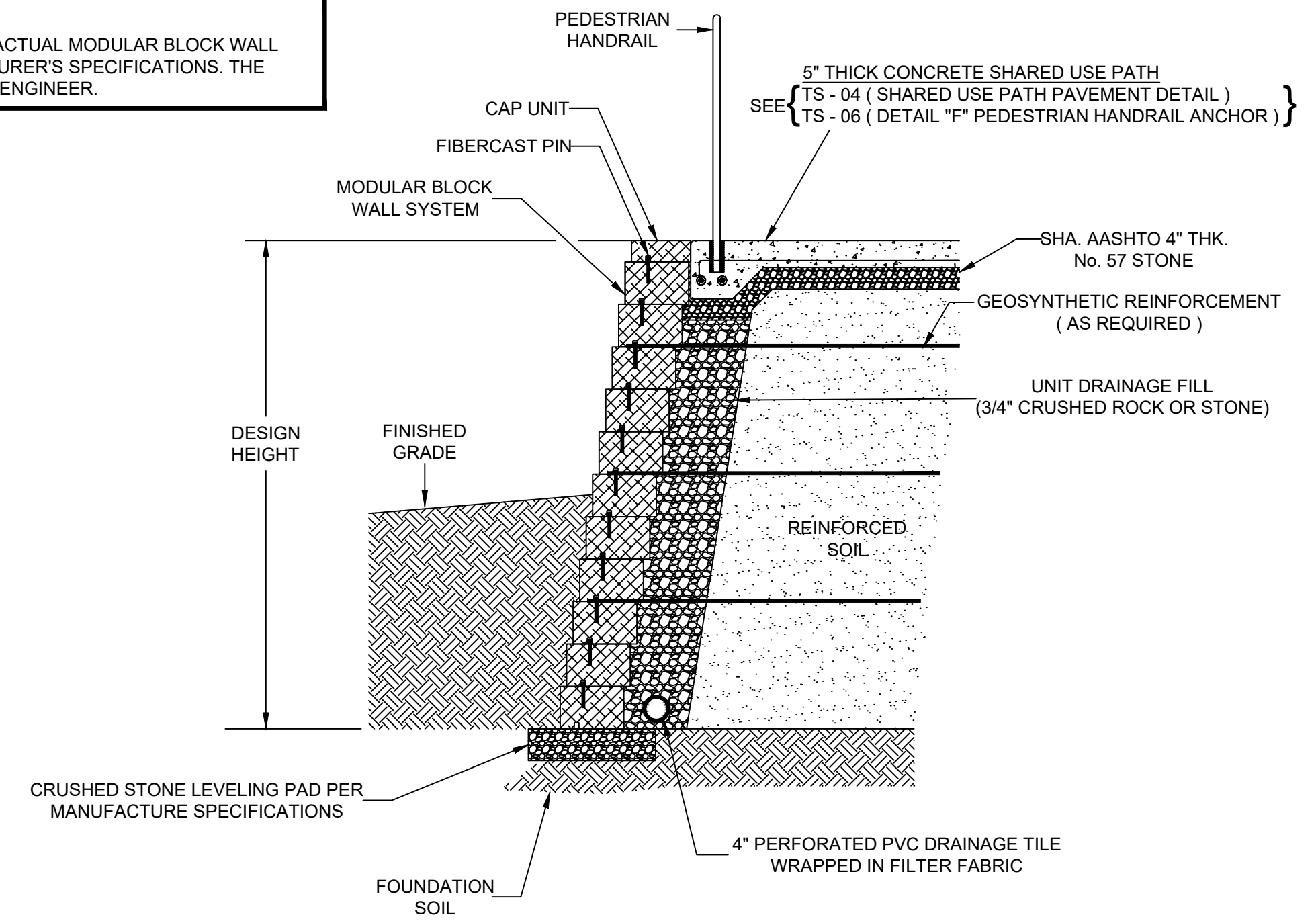
*** NOTE:**
 THESE ARE GENERIC DETAILS. THE ACTUAL MODULAR BLOCK WALL DESIGN IS TO BE PER THE MANUFACTURER'S SPECIFICATIONS. THE DRAWINGS ARE TO BE SEALED BY AN ENGINEER.



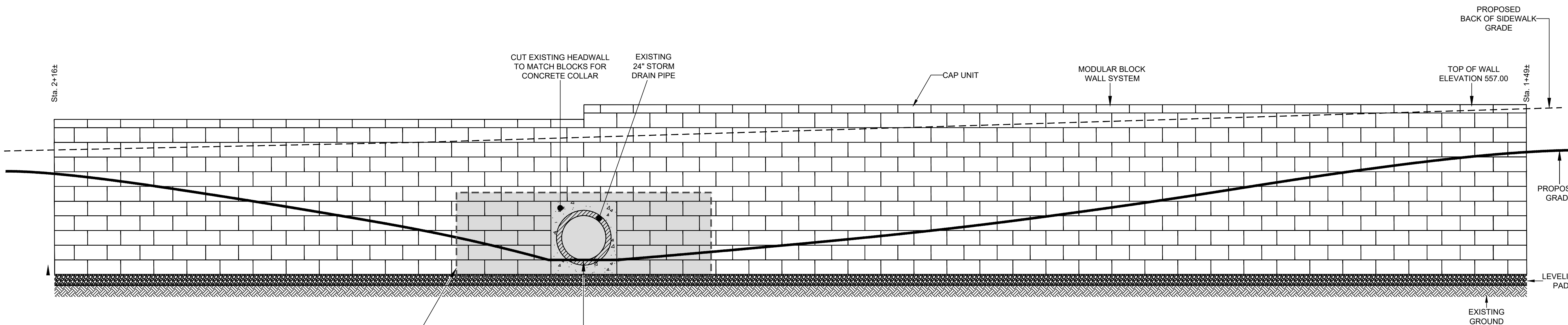
EXISTING PIPE INLET CONCRETE COLLAR WITH SHARE USE PATH SECTION VIEW
 SCALE: NONE



EXISTING PIPE INLET CONCRETE COLLAR FRONT VIEW
 SCALE: NONE



TYPICAL GRAVITY WALL SECTION WITH SHARE USE PATH
 SCALE: NONE



PROPOSED RETAINING WALL PROFILE LOOKING SOUTH
 SCALE: NONE

NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: P.J.M.
 DRAWN BY: G.L.J.
 CHECKED BY: P.J.M.
 DATE: 11-14-24

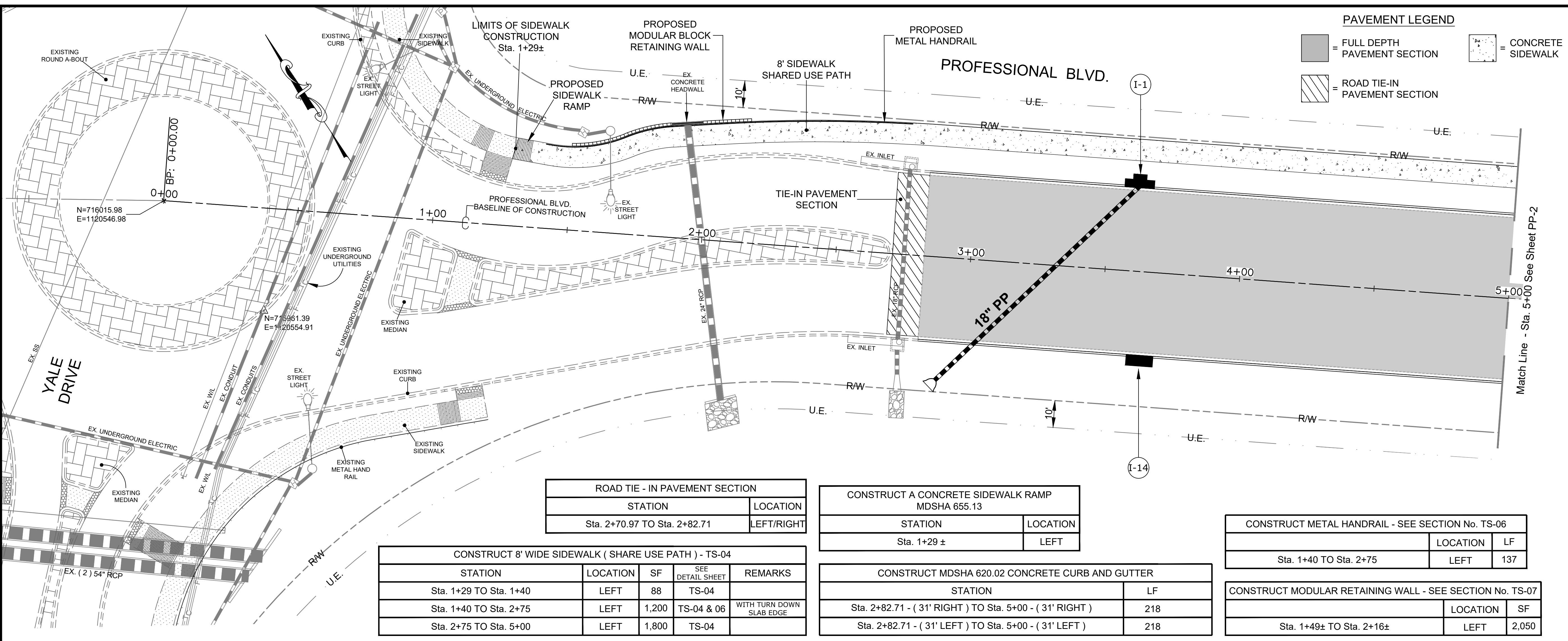
WASHINGTON COUNTY, MARYLAND
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 747 Northern Avenue, Hagerstown, Maryland, 21742
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PROFESSIONAL BOULEVARD
 PHASE III & IV
 STANDARD CONSTRUCTION
 DETAILS - RETAINING WALL

SCALE NONE
SECTION NO. TS-07
SHEET NO. 11
PROJECT NO. 10-275

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PAVEMENT LEGEND

	FULL DEPTH PAVEMENT SECTION		CONCRETE SIDEWALK
	ROAD TIE-IN PAVEMENT SECTION		

ROAD TIE - IN PAVEMENT SECTION

STATION	LOCATION
Sta. 2+70.97 TO Sta. 2+82.71	LEFT/RIGHT

CONSTRUCT A CONCRETE SIDEWALK RAMP
MDSHA 655.13

STATION	LOCATION
Sta. 1+29 ±	LEFT

CONSTRUCT METAL HANDRAIL - SEE SECTION No. TS-06

STATION	LOCATION	LF
Sta. 1+40 TO Sta. 2+75	LEFT	137

CONSTRUCT 8' WIDE SIDEWALK (SHARE USE PATH) - TS-04

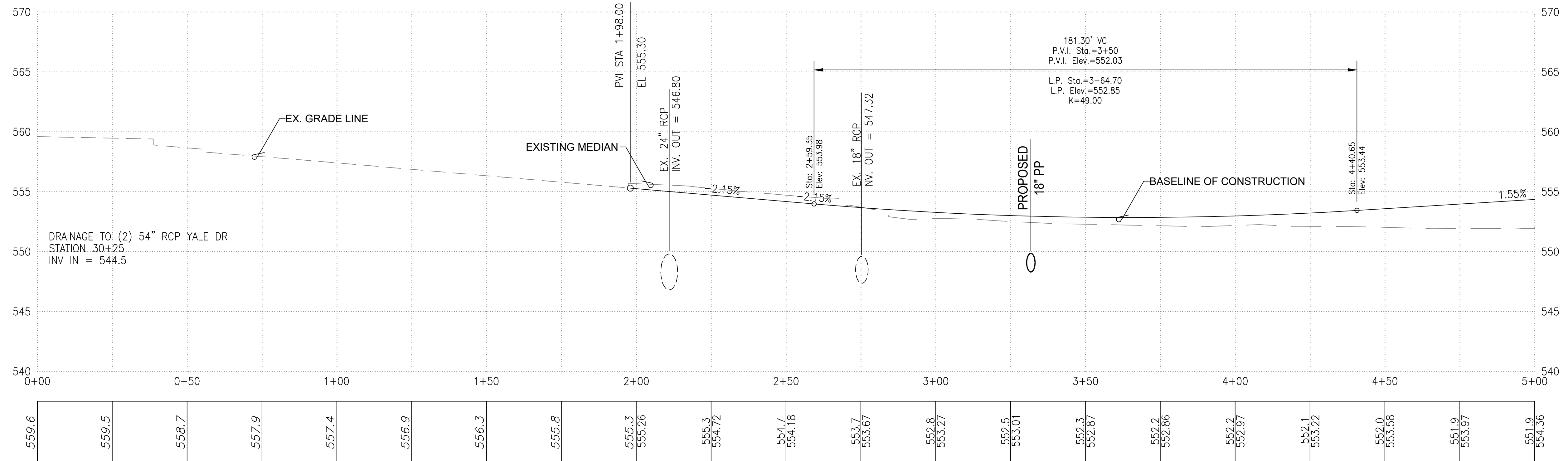
STATION	LOCATION	SF	SEE DETAIL SHEET	REMARKS
Sta. 1+29 TO Sta. 1+40	LEFT	88	TS-04	
Sta. 1+40 TO Sta. 2+75	LEFT	1,200	TS-04 & 06	WITH TURN DOWN SLAB EDGE
Sta. 2+75 TO Sta. 5+00	LEFT	1,800	TS-04	

CONSTRUCT MDSHA 620.02 CONCRETE CURB AND GUTTER

STATION	LF
Sta. 2+82.71 - (31' RIGHT) TO Sta. 5+00 - (31' RIGHT)	218
Sta. 2+82.71 - (31' LEFT) TO Sta. 5+00 - (31' LEFT)	218

CONSTRUCT MODULAR RETAINING WALL - SEE SECTION No. TS-07

STATION	LOCATION	SF
Sta. 1+49± TO Sta. 2+16±	LEFT	2,050



Sta. 0+00 to Sta. 5+00

	NO.	REVISION DESCRIPTION	BY	DATE
DESIGNED BY:	PJM			
DRAWN BY:	KU / GLJ			
CHECKED BY:	PJM			
DATE:	11-14-24			

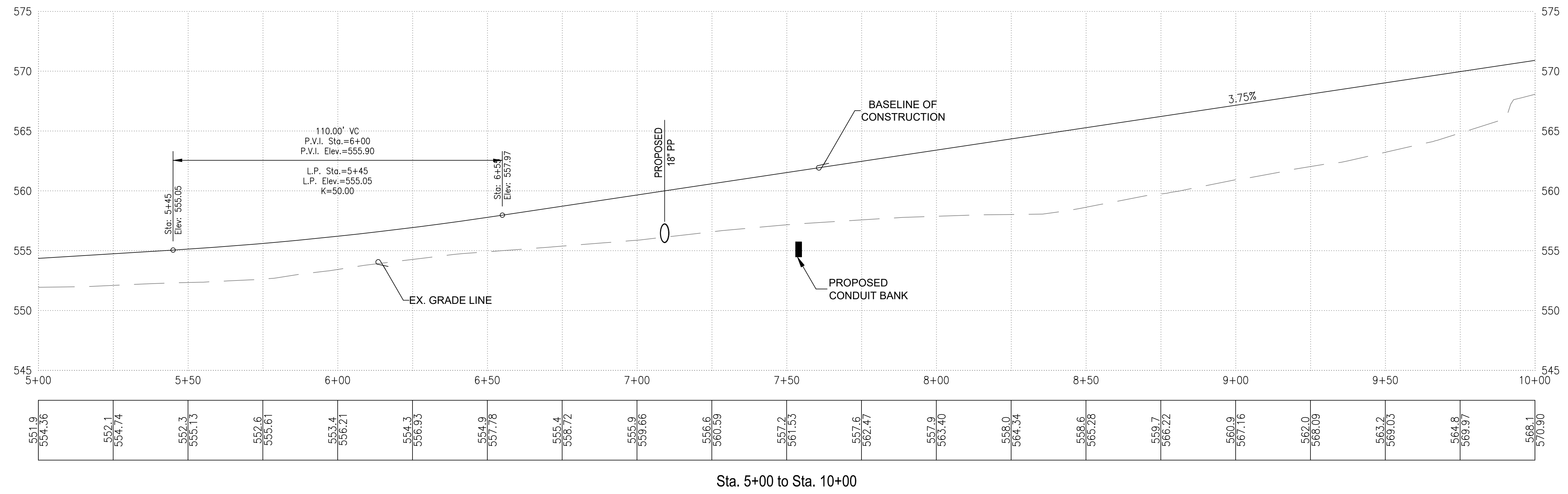
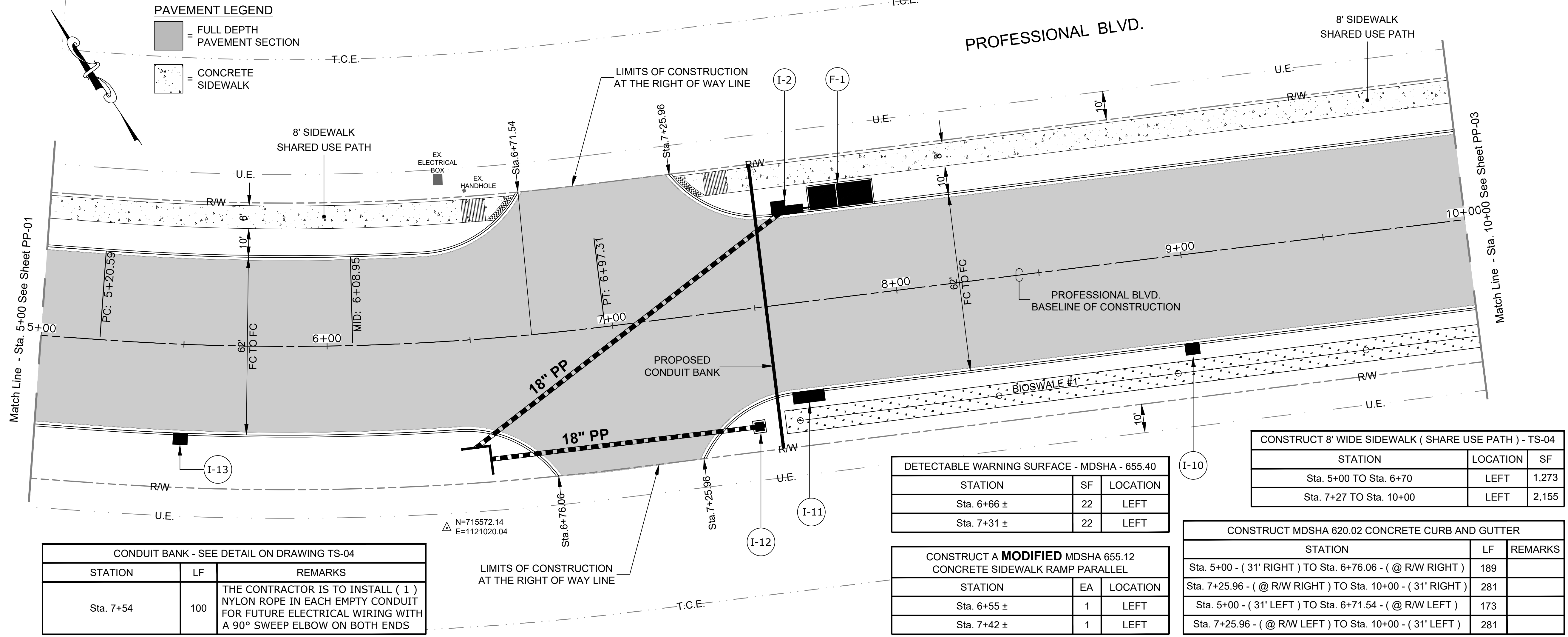
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PROFESSIONAL BOULEVARD
PHASE III & IV
ROADWAY PLAN AND PROFILE
YALE DRIVE TO Station 5+00

SCALE	H. 1"=20'
SECTION NO.	PP - 01
SHEET NO.	12
PROJECT NO.	10-275

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NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: P.J.M.
DRAWN BY: K.U./G.L.J.
CHECKED BY: P.J.M.
DATE: 11-14-24

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SCALE
H. 1"=20'
V. 1"=4'

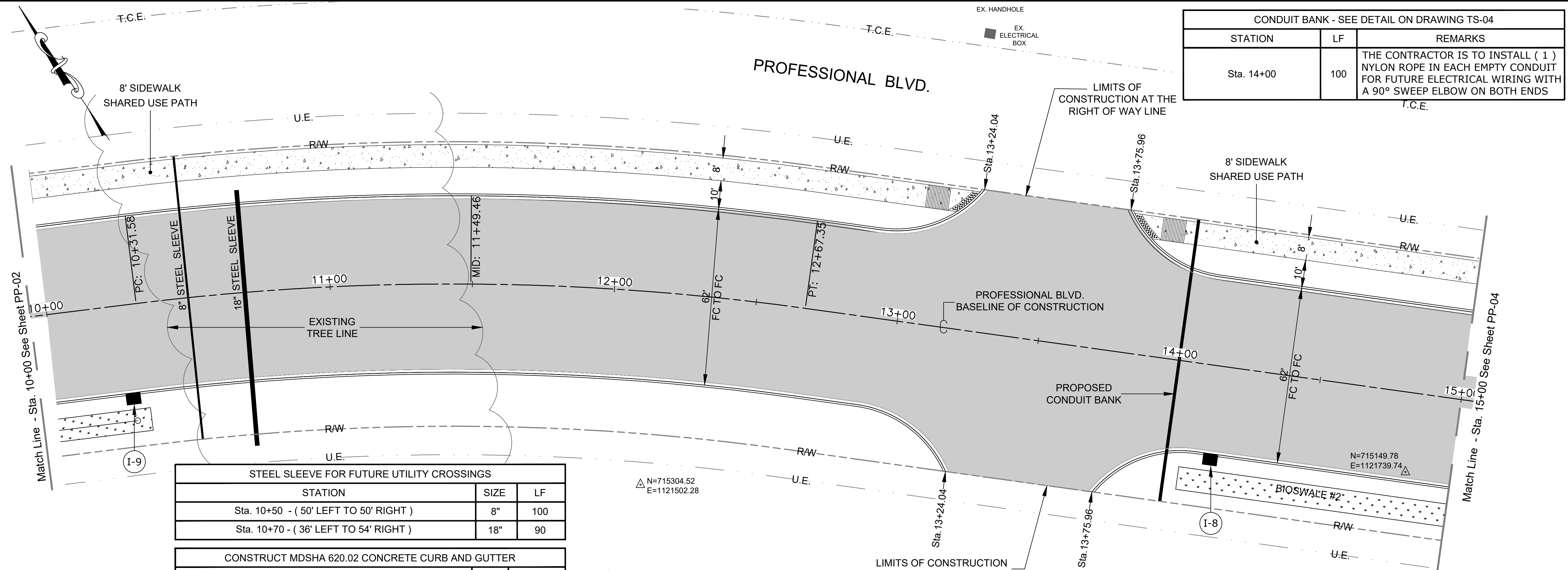
SECTION NO.
PP - 02

SHEET NO.
13

PROJECT NO.
10-275

PROFESSIONAL BOULEVARD
PHASE III & IV
ROADWAY PLAN AND PROFILE
Station 5+00 To Station 10+00

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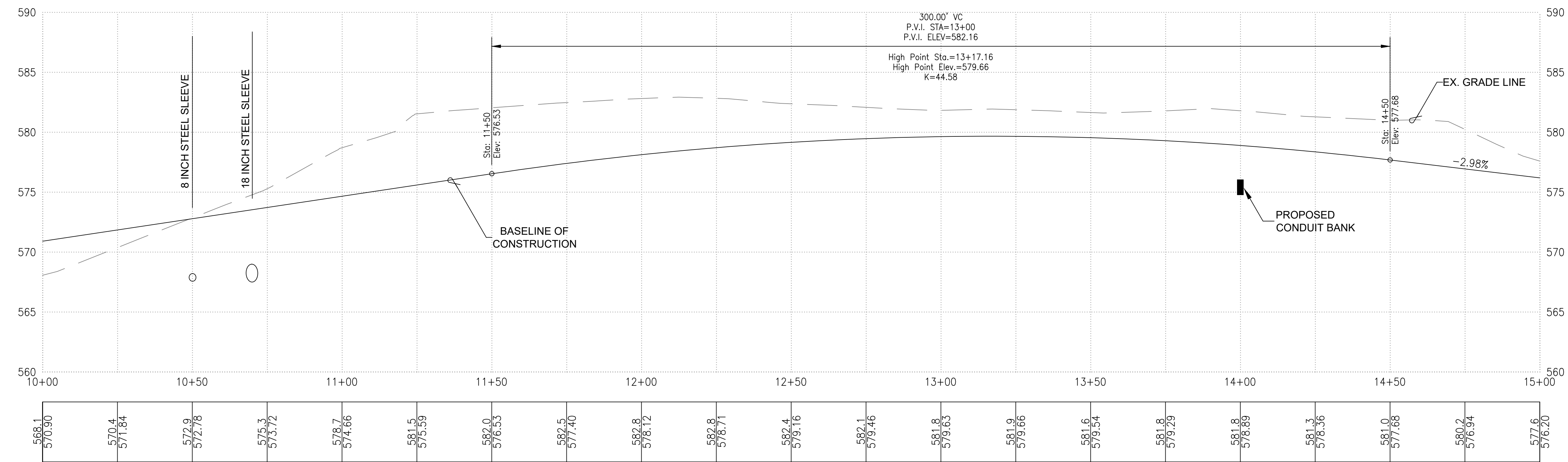
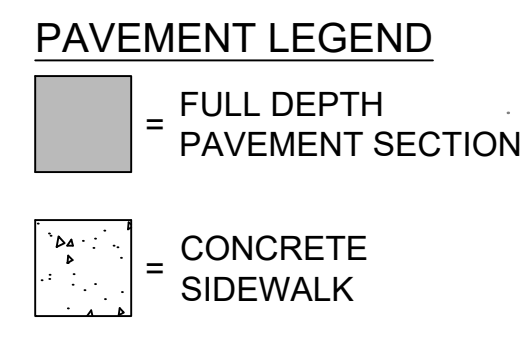
STEEL SLEEVE FOR FUTURE UTILITY CROSSINGS		
STATION	SIZE	LF
Sta. 10+50 - (50' LEFT TO 50' RIGHT)	8"	100
Sta. 10+70 - (36' LEFT TO 54' RIGHT)	18"	90

CONSTRUCT MDSHA 620.02 CONCRETE CURB AND GUTTER		
STATION	LF	REMARKS
Sta. 10+00 - (31' RIGHT) TO Sta. 13+24.04 - (@ R/W RIGHT)	322	
Sta. 13+75.96 - (@ R/W RIGHT) TO Sta. 15+00 - (31' RIGHT)	131	
Sta. 10+00 - (31' LEFT) TO Sta. 13+24.04 - (@ R/W LEFT)	339	
Sta. 13+75.96 - (@ R/W LEFT) TO Sta. 15+00 - (31' LEFT)	131	

CONSTRUCT 8' WIDE SIDEWALK (SHARE USE PATH) - TS-04		
STATION	LOCATION	SF
Sta. 10+00 TO Sta. 13+23	LEFT	2,650
Sta. 13+77 TO Sta. 15+00	LEFT	956

DETECTABLE WARNING SURFACE - MDSHA - 655.40		
STATION	SF	LOCATION
Sta. 13+19 ±	22	LEFT
Sta. 13+81 ±	22	LEFT

CONSTRUCT A MODIFIED MDSHA 655.12 CONCRETE SIDEWALK RAMP PARALLEL		
STATION	EA	LOCATION
Sta. 13+08 ±	1	LEFT
Sta. 13+92 ±	1	LEFT



Sta. 10+00 to Sta. 15+00

DATE	
BY	
REVISION DESCRIPTION	
NO.	
DESIGNED BY:	PJM
DRAWN BY:	GLJ
CHECKED BY:	PJM
DATE:	11-14-24

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DIVISION OF ENGINEERING

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PROFESSIONAL BOULEVARD
PHASE III & IV
ROADWAY PLAN AND PROFILE
Station 10+00 To Station 15+00

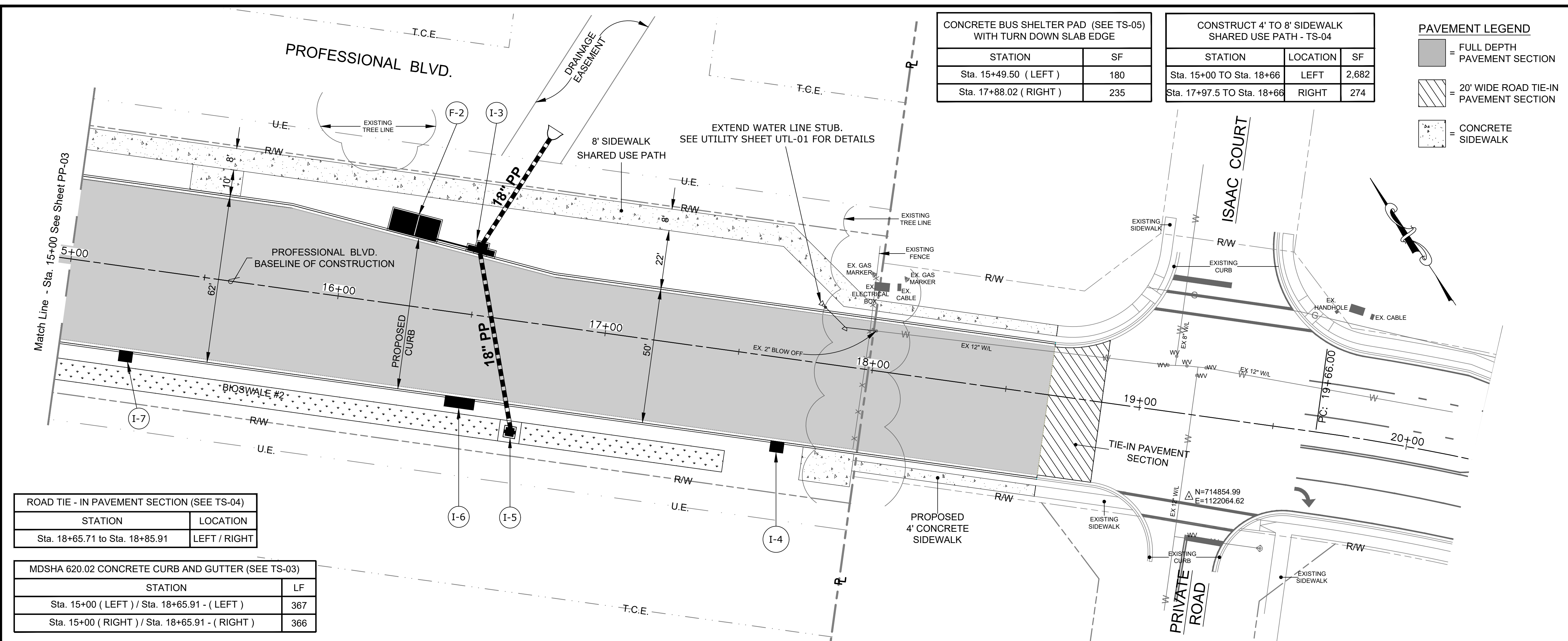
SCALE
H. 1"=20'
V. 1"=15'

SECTION NO.
PP - 03

SHEET NO.
14

PROJECT NO.
10-275

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STATION	SF
Sta. 15+49.50 (LEFT)	180
Sta. 17+88.02 (RIGHT)	235

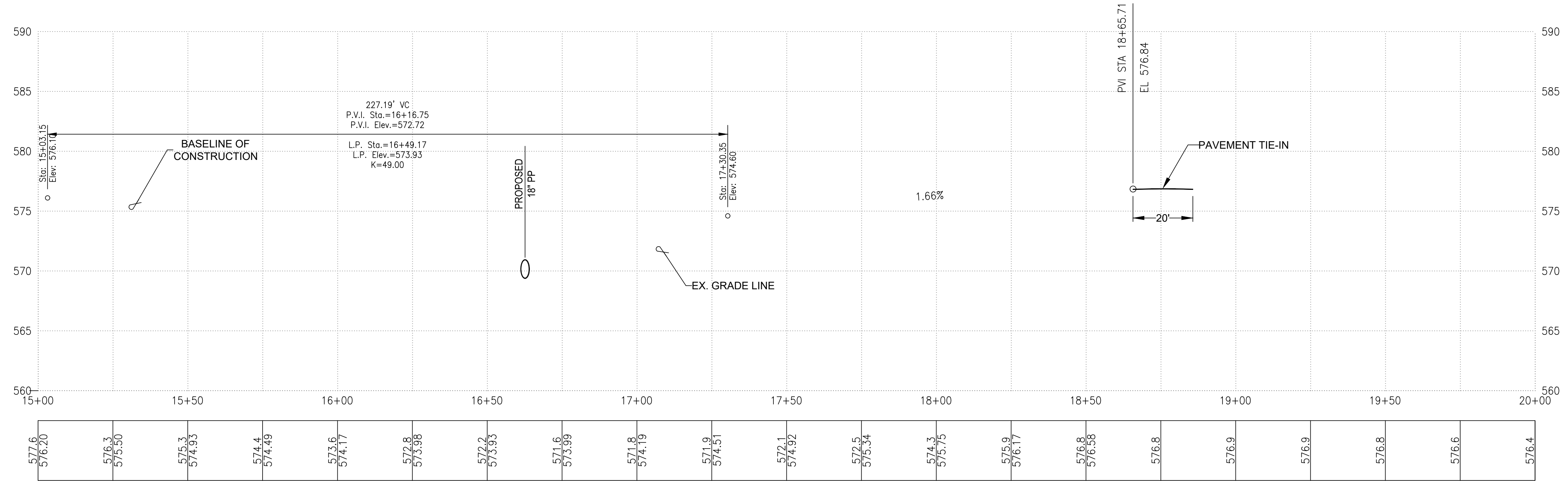
STATION	LOCATION	SF
Sta. 15+00 TO Sta. 18+66	LEFT	2,682
Sta. 17+97.5 TO Sta. 18+66	RIGHT	274

PAVEMENT LEGEND

- [Solid Grey Box] = FULL DEPTH PAVEMENT SECTION
- [Hatched Box] = 20' WIDE ROAD TIE-IN PAVEMENT SECTION
- [Dotted Box] = CONCRETE SIDEWALK

ROAD TIE - IN PAVEMENT SECTION (SEE TS-04)	
STATION	LOCATION
Sta. 18+65.71 TO Sta. 18+85.91	LEFT / RIGHT

MDSHA 620.02 CONCRETE CURB AND GUTTER (SEE TS-03)	
STATION	LF
Sta. 15+00 (LEFT) / Sta. 18+65.91 - (LEFT)	367
Sta. 15+00 (RIGHT) / Sta. 18+65.91 - (RIGHT)	366



Sta. 15+00 to 20+00

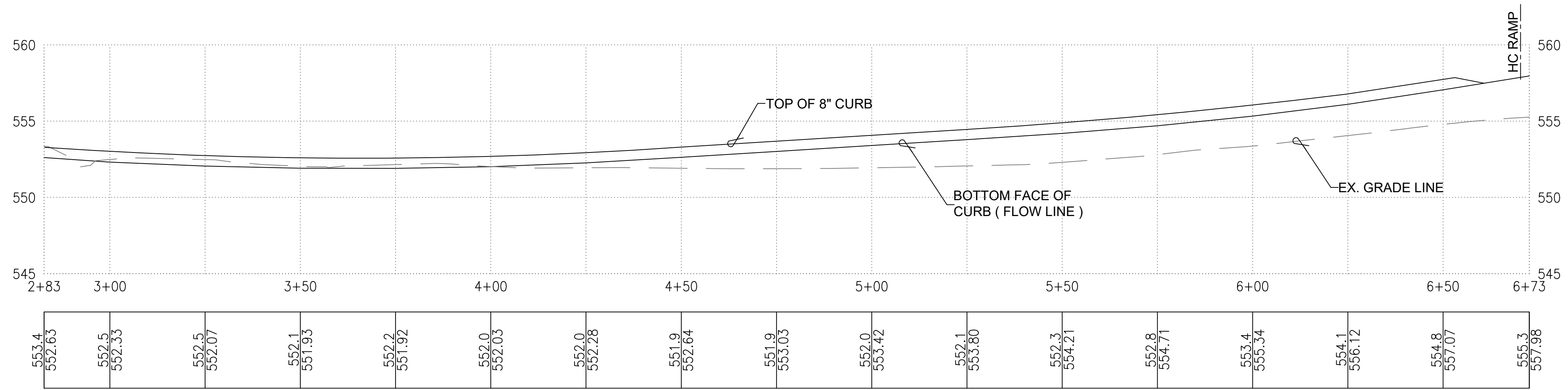
DESIGNED BY:	DATE:
DRAWN BY:	BY:
CHECKED BY:	REVISION DESCRIPTION:
DATE:	NO:

WASHINGTON COUNTY, MARYLAND
 DIVISION OF ENGINEERING
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**PROFESSIONAL BOULEVARD
 PHASE III & IV
 ROADWAY PLAN AND PROFILE
 Station 15+00 To Station 20+00**

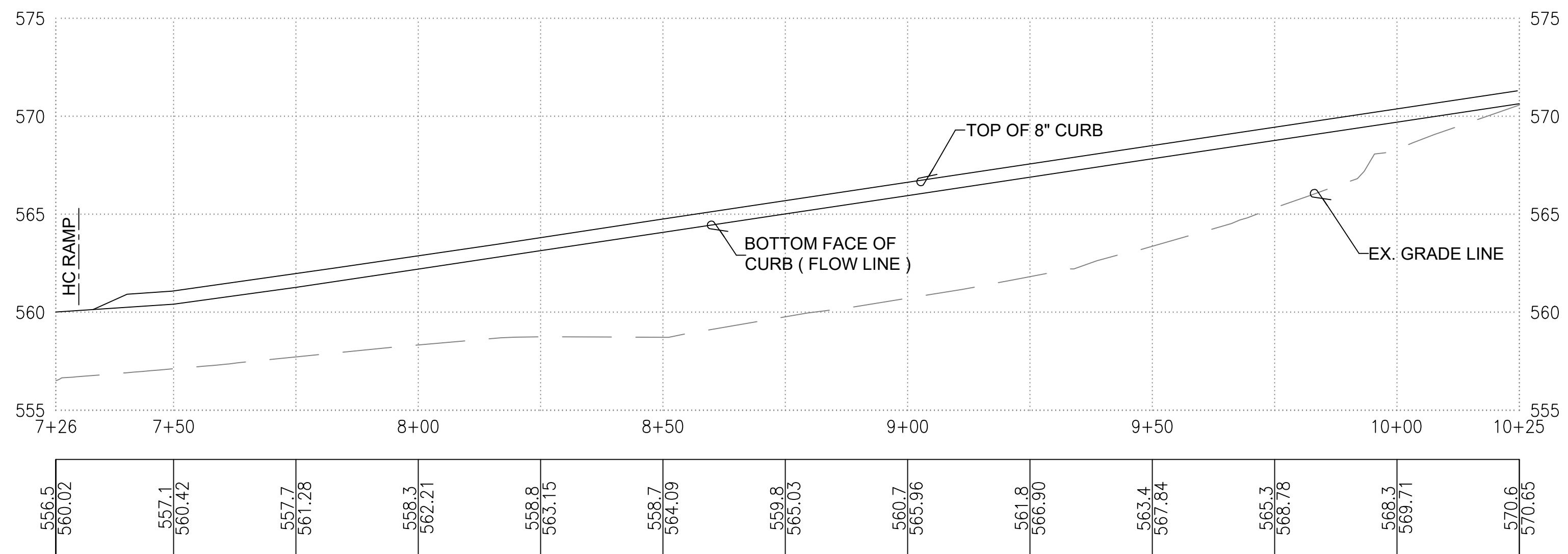
SCALE	H. 1"=20'
V. 1"=15'	
SECTION NO.	PP - 04
SHEET NO.	15
PROJECT NO.	10-275

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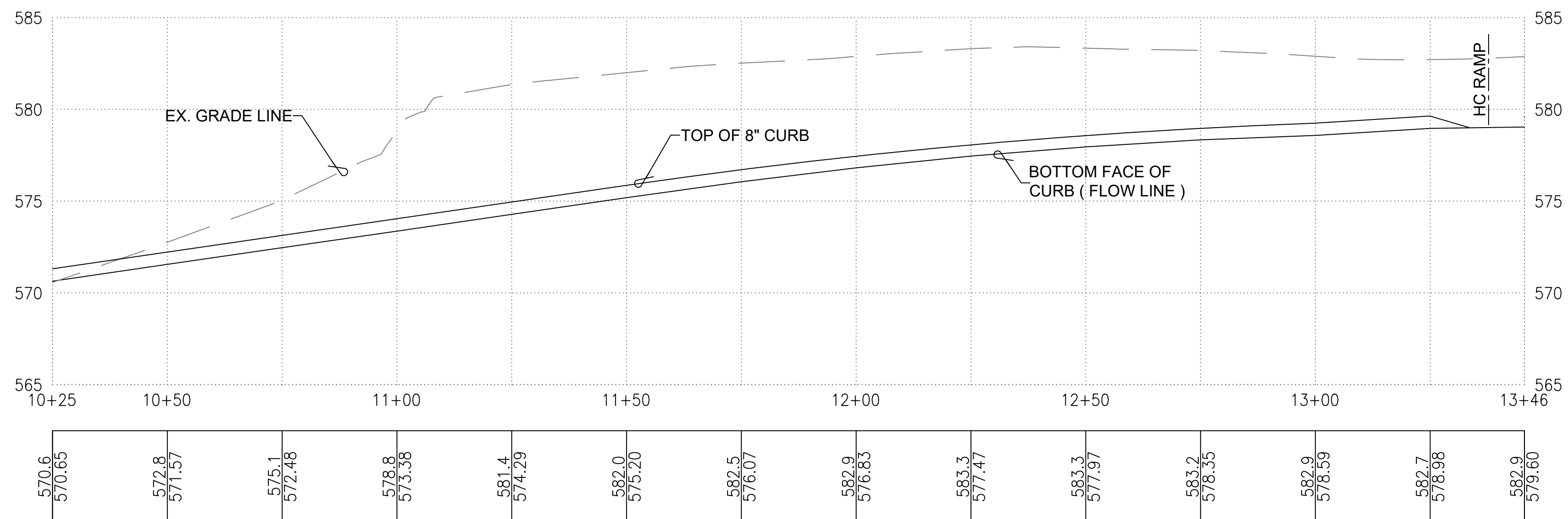
FACE OF CURB #1 NORTH

CURB PROFILE Sta.	=	BASELINE OF CONSTRUCTION Sta.
2+82.71 - LEFT	=	2+82.71 - LEFT
6+72.64 - LEFT	=	6+71.54 - LEFT

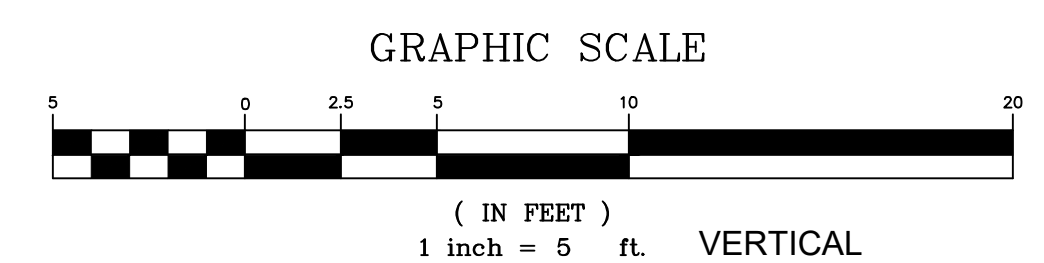
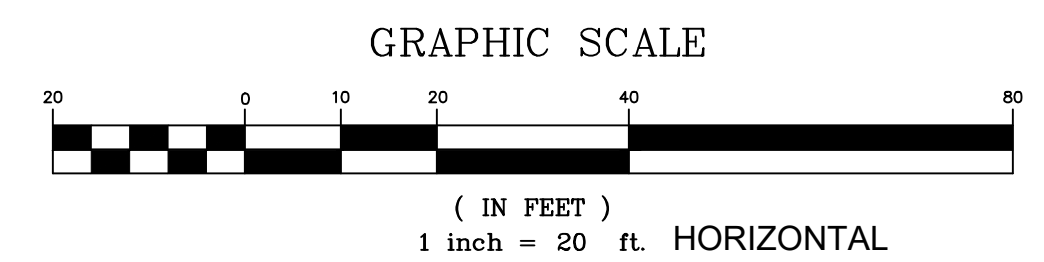


FACE OF CURB #2 NORTH

CURB PROFILE Sta.	=	BASELINE OF CONSTRUCTION Sta.
7+25.96 - LEFT	=	7+25.96 - LEFT
13+45.53 - LEFT	=	13+24.04 - LEFT



FACE OF CURB #2 NORTH (continued)



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DRAWN BY:	GLJ
CHECKED BY:	PJM
DATE:	11-15-24

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PROFESSIONAL BOULEVARD
PHASE III & IV
FACE OF CURB PROFILE
NORTH SIDE

NO.	REVISION DESCRIPTION	BY	DATE

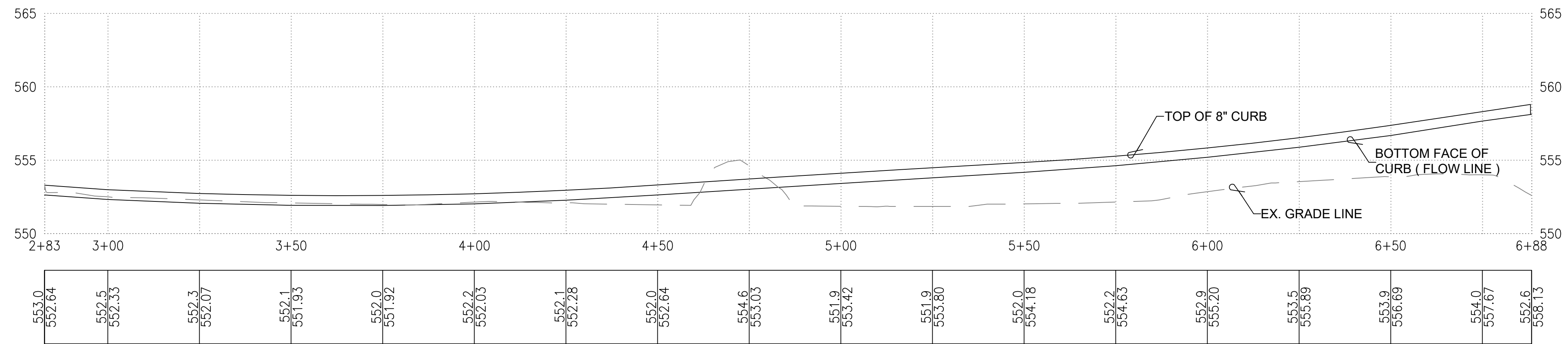
SCALE
H - 1"=20'
V - 1"=5'

SECTION NO.
PP - 05

SHEET NO.
16

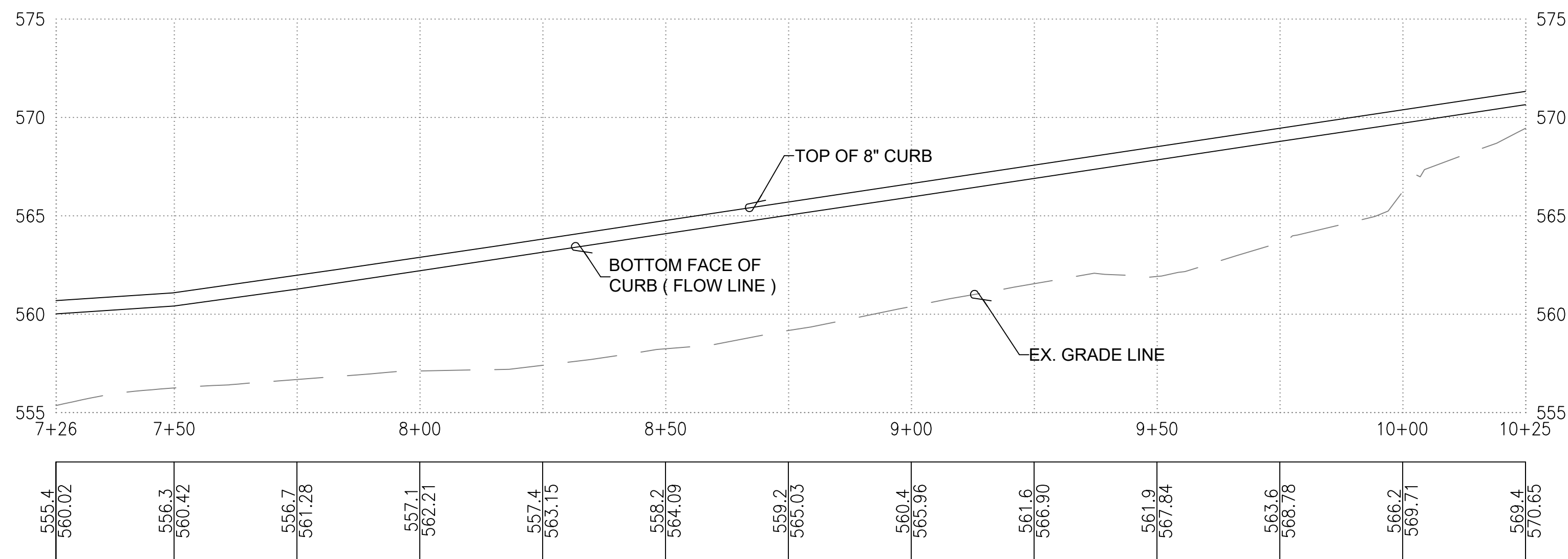
PROJECT NO.
10-275

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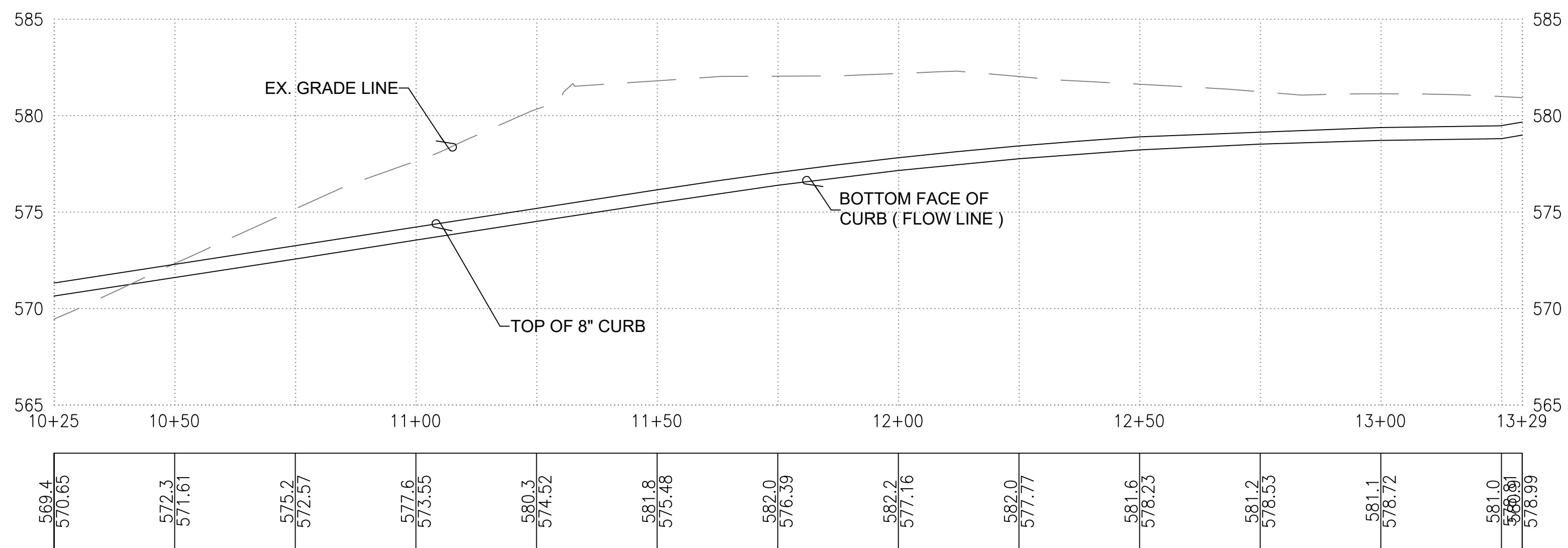
FACE OF CURB #1 SOUTH

CURB PROFILE Sta.	=	BASELINE OF CONSTRUCTION Sta.
2+82.71 - RIGHT	=	2+82.71 - RIGHT
6+88.43 - RIGHT	=	6+76.06 - RIGHT

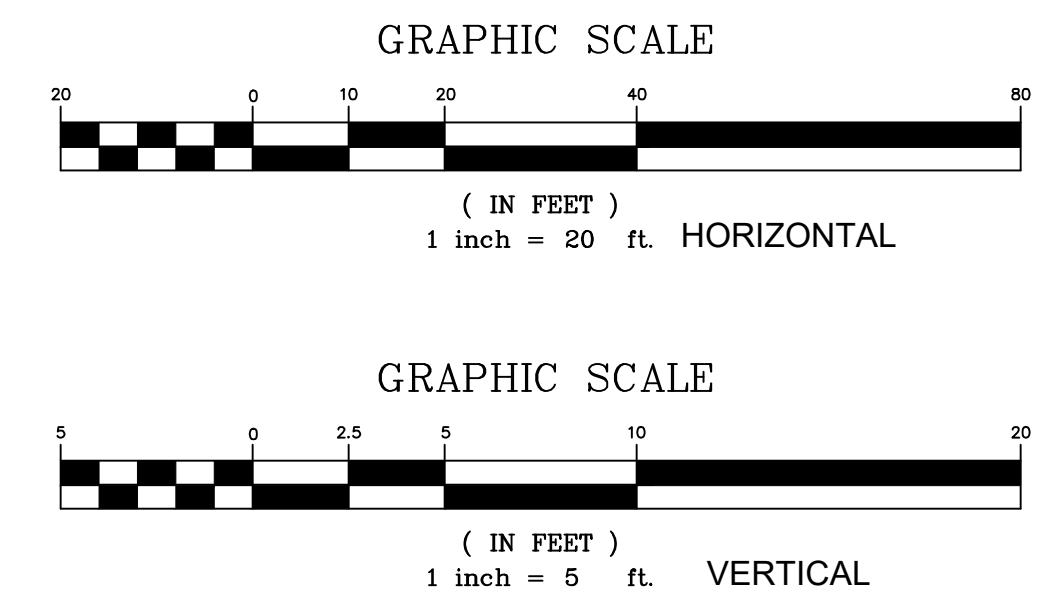


FACE OF CURB #2 SOUTH

CURB PROFILE Sta.	=	BASELINE OF CONSTRUCTION Sta.
7+25.96 - RIGHT	=	7+25.96 - RIGHT
13+29.29 - RIGHT	=	13+24.04 - RIGHT



FACE OF CURB #2 SOUTH (continued)



NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: PJM
DRAWN BY: GLJ
CHECKED BY: PJM
DATE: 11-15-24

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PROFESSIONAL BOULEVARD
PHASE III & IV
FACE OF CURB PROFILE
SOUTH SIDE

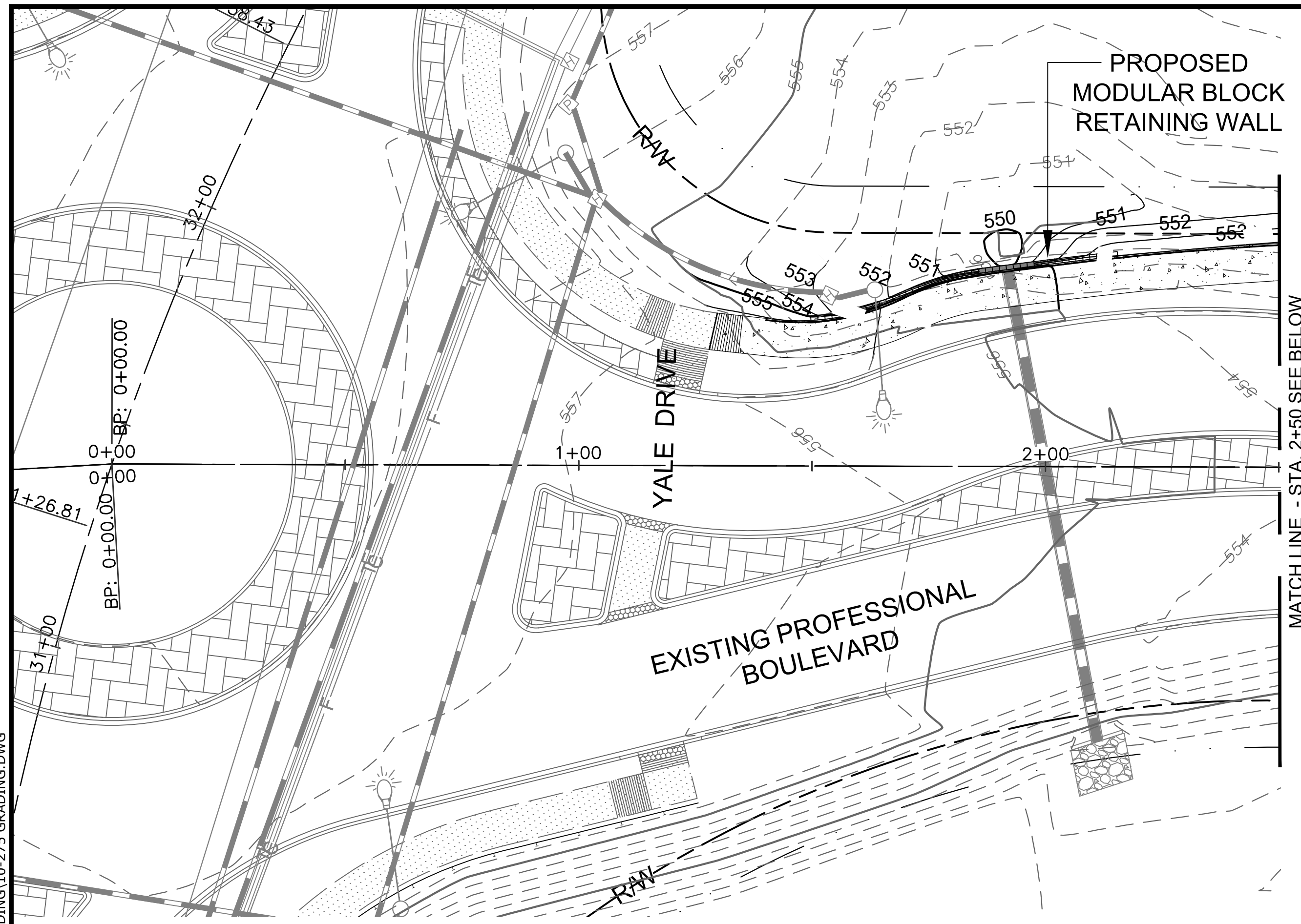
SCALE
H - 1"=20'
V - 1"=5'

SECTION NO.
PP - 06







SHEET NO.
17

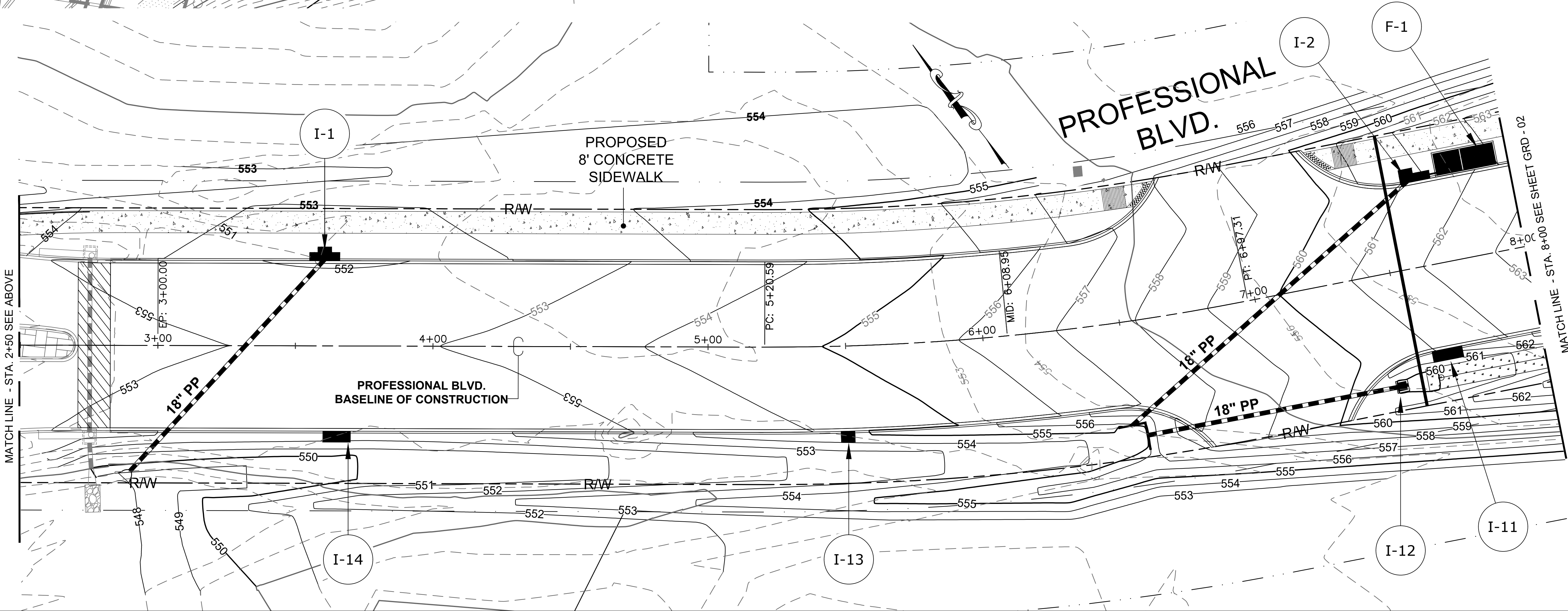
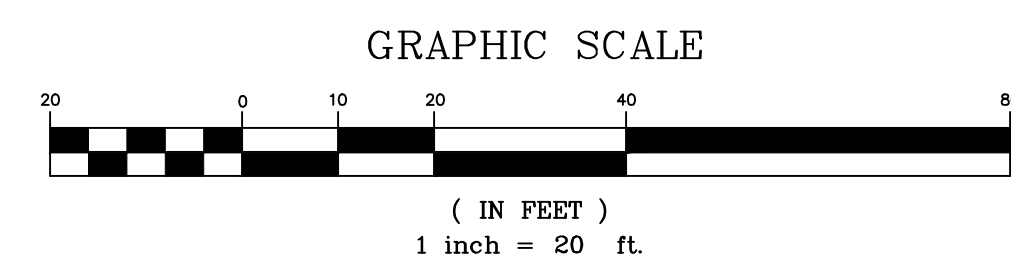
PROJECT NO.
10-275

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LEGEND

-  = CONCRETE SIDEWALK
-  = 2" DEPTH TIE IN
- EXISTING CONTOURS**
 -  = 550 MAJOR
 -  = 549 MINOR
- PROPOSED CONTOURS**
 -  = 550 MAJOR
 -  = 549 MINOR



REVISION DESCRIPTION		NO.	BY	DATE

DESIGNED BY:	PJM	CHECKED BY:	PJM
DRAWN BY:	GLJ	DATE:	11-01-24

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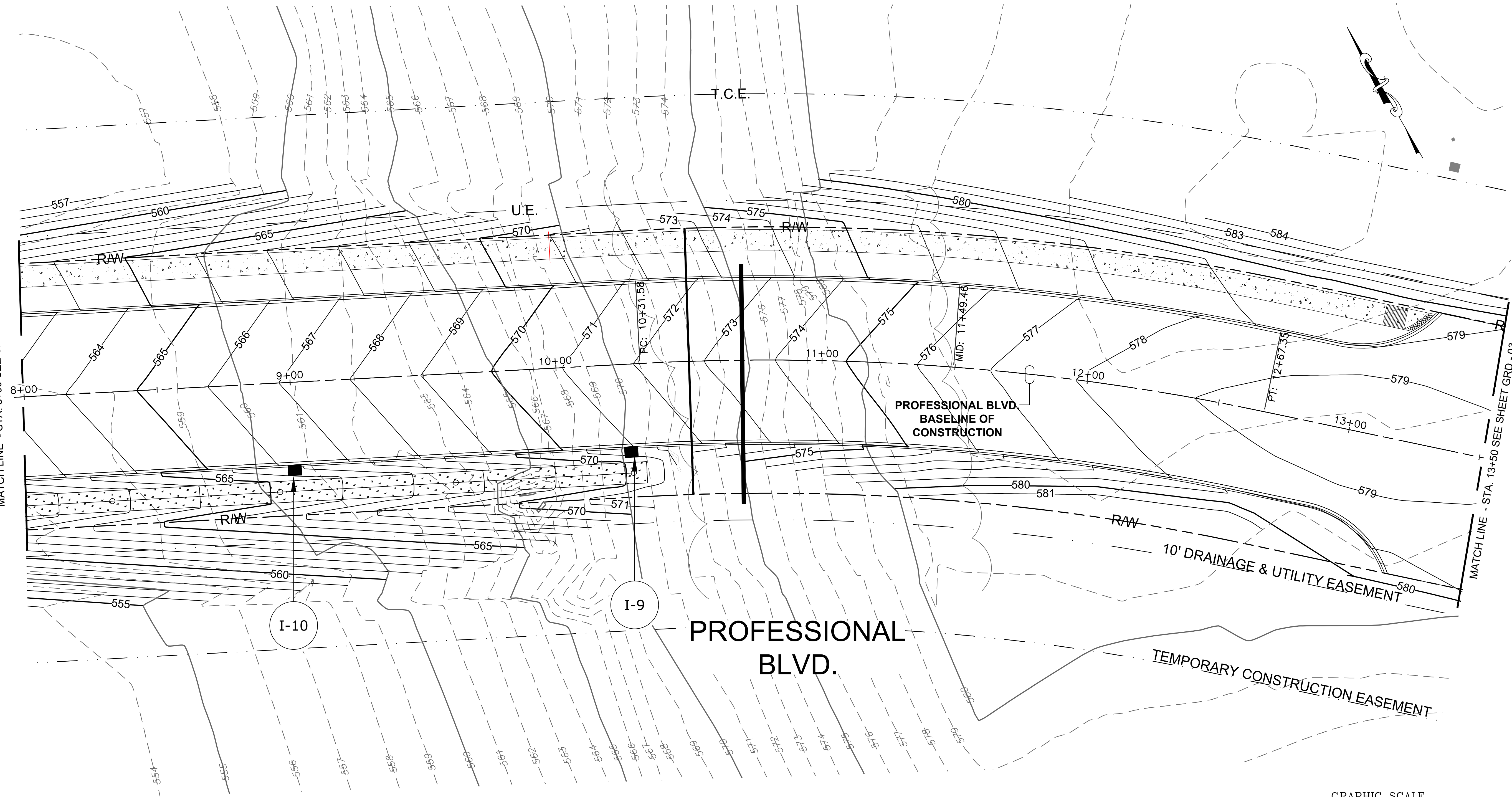
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Phone: 240-313-2460 Fax: 240-313-2401

**PROFESSIONAL BOULEVARD
PHASE III & IV
GRADING PLAN**


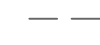



SCALE	1" = 20'
SECTION NO.	GRD - 01
SHEET NO.	19
PROJECT NO.	10-275

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MATCH LINE - STA. 8+00 SEE SHEET GRD - 01



LEGEND

-  CONCRETE SIDEWALK
- EXISTING CONTOURS
 -  MAJOR
 -  MINOR
- PROPOSED CONTOURS
 -  MAJOR
 -  MINOR

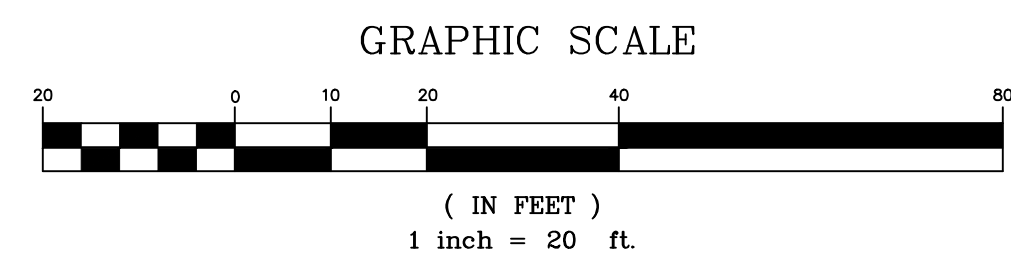
NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: P.J.M.
 DRAWN BY: G.J.J.
 CHECKED BY: P.J.M.
 DATE: 11-01-24

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**PROFESSIONAL BOULEVARD
 PHASE III & IV
 GRADING PLAN**



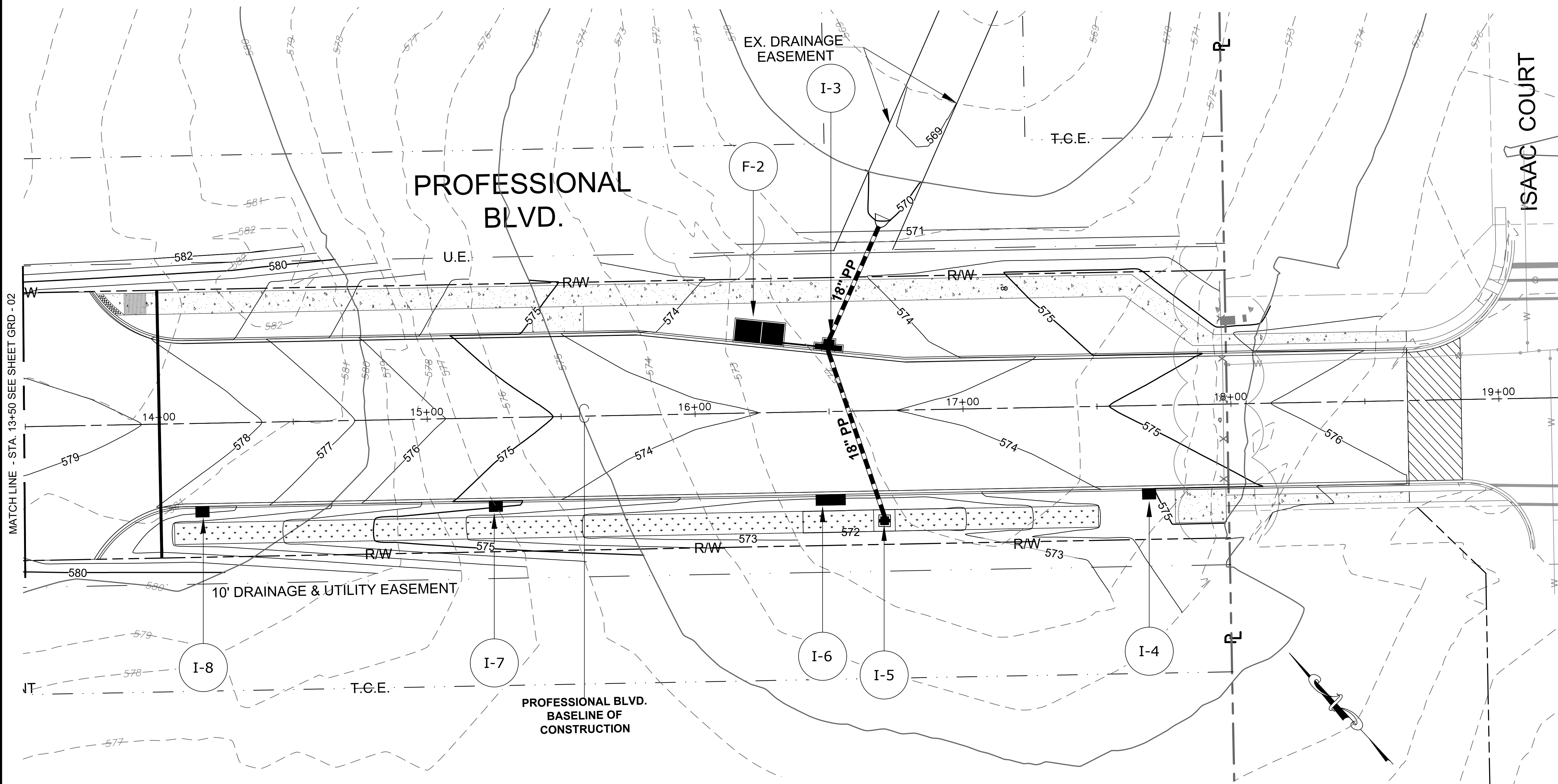
SCALE
 1" = 20'

SECTION NO.
 GRD - 02

SHEET NO.
 20

PROJECT NO.
 10-275

C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\5-GRD-GRADING\10-275 GRADING.DWG



LEGEND

- CONCRETE SIDEWALK
- 2" DEPTH TIE IN
- EXISTING CONTOURS
 - 550 MAJOR
 - 549 MINOR
- PROPOSED CONTOURS
 - 550 MAJOR
 - 549 MINOR

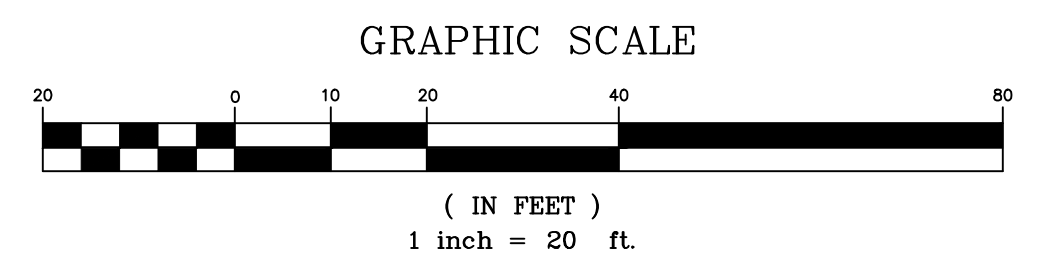
NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: P.J.M.
 DRAWN BY: G.J.J.
 CHECKED BY: P.J.M.
 DATE: 11-01-24

WASHINGTON COUNTY, MARYLAND
 DIVISION OF ENGINEERING

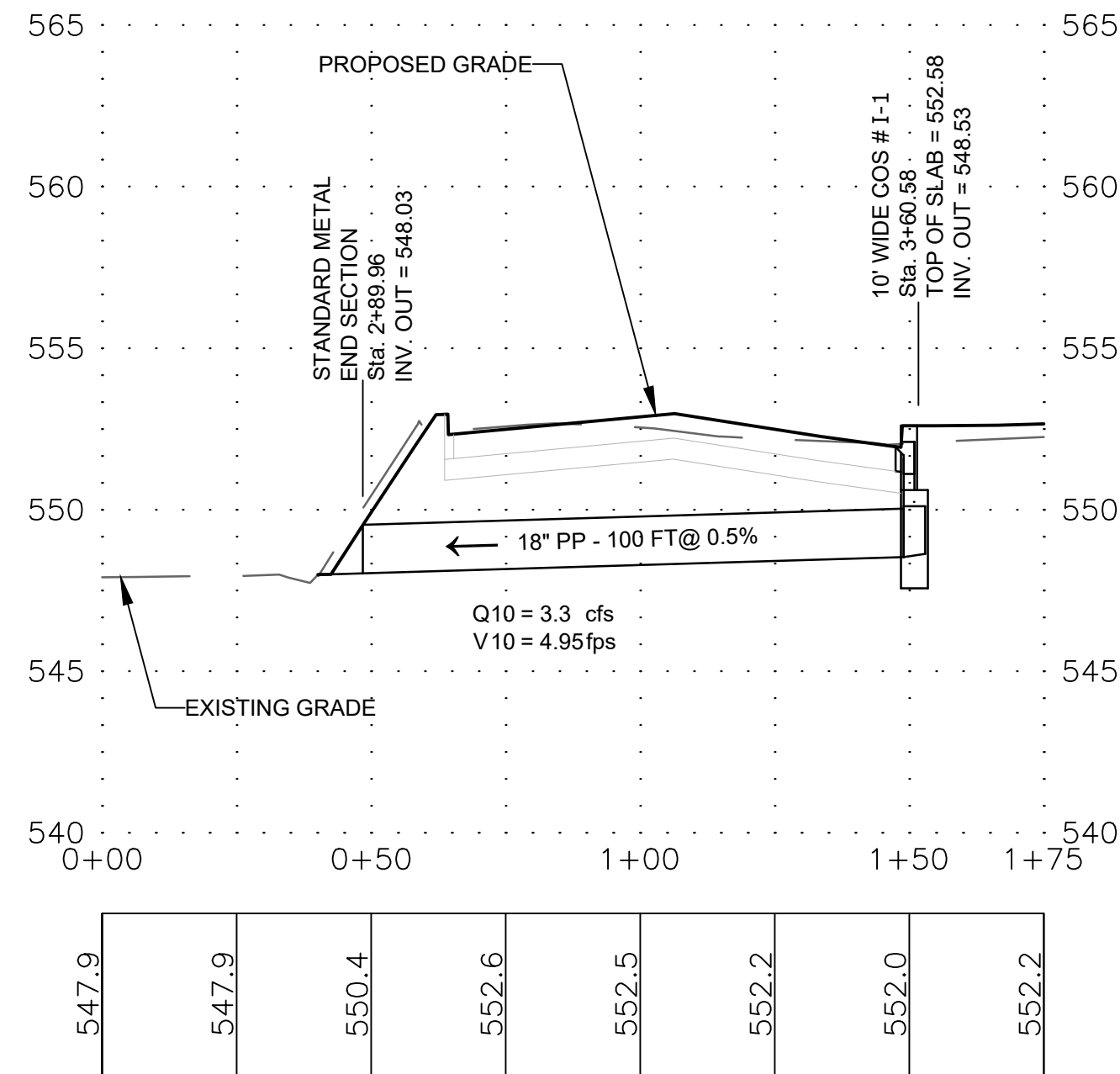
Washington County Administrative Annex, Building
 747 Northern Avenue, Hagerstown, Maryland, 21742
 Phone: 250-313-2860 Fax: 240-313-2401

**PROFESSIONAL BOULEVARD
 PHASE III & IV
 GRADING PLAN**

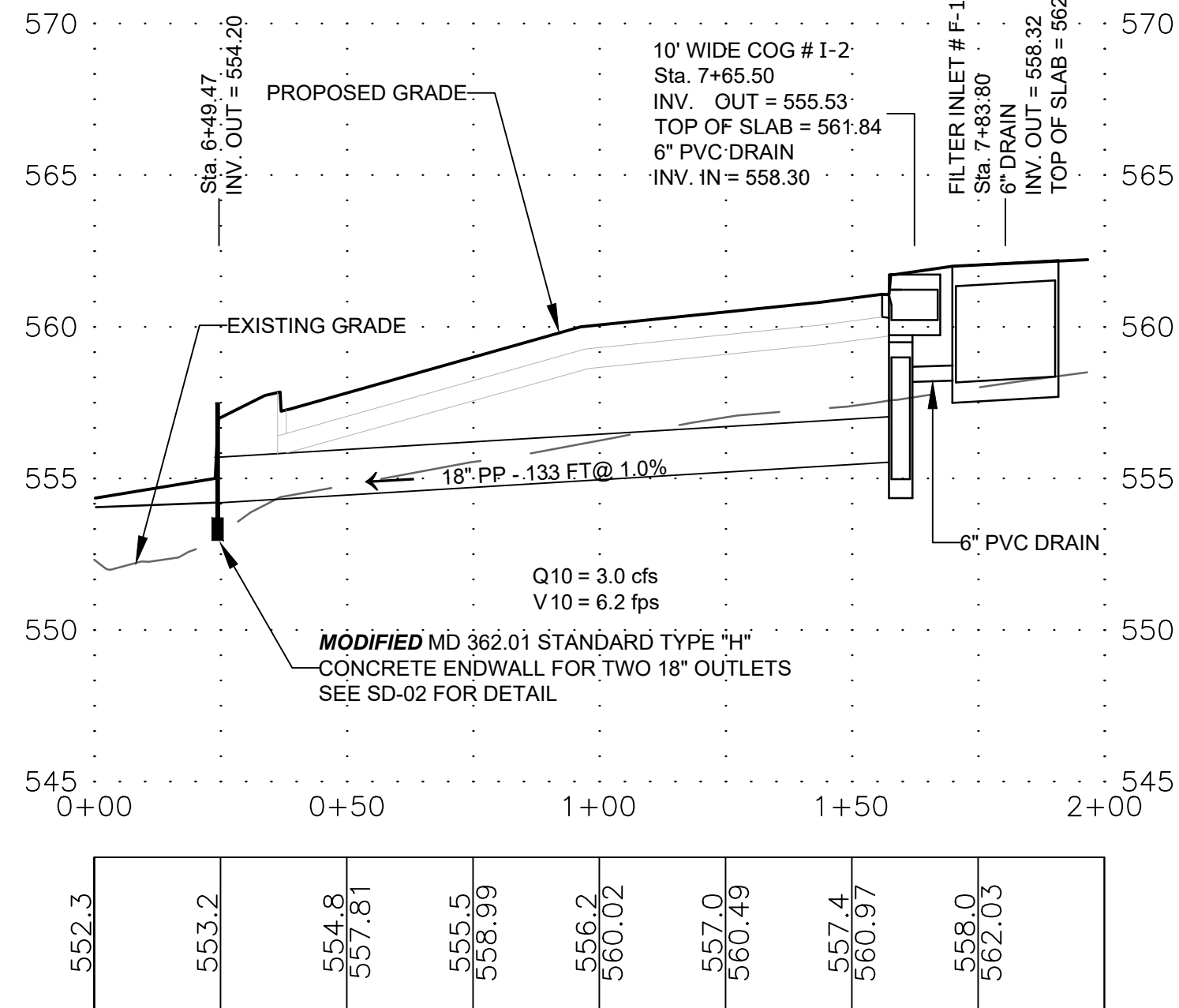


SCALE 1" = 20'
SECTION NO. GRD - 03
SHEET NO. 21
PROJECT NO. 10-275

C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\7-SD-STORM DRAIN\10-275 STORM DRAIN.DWG

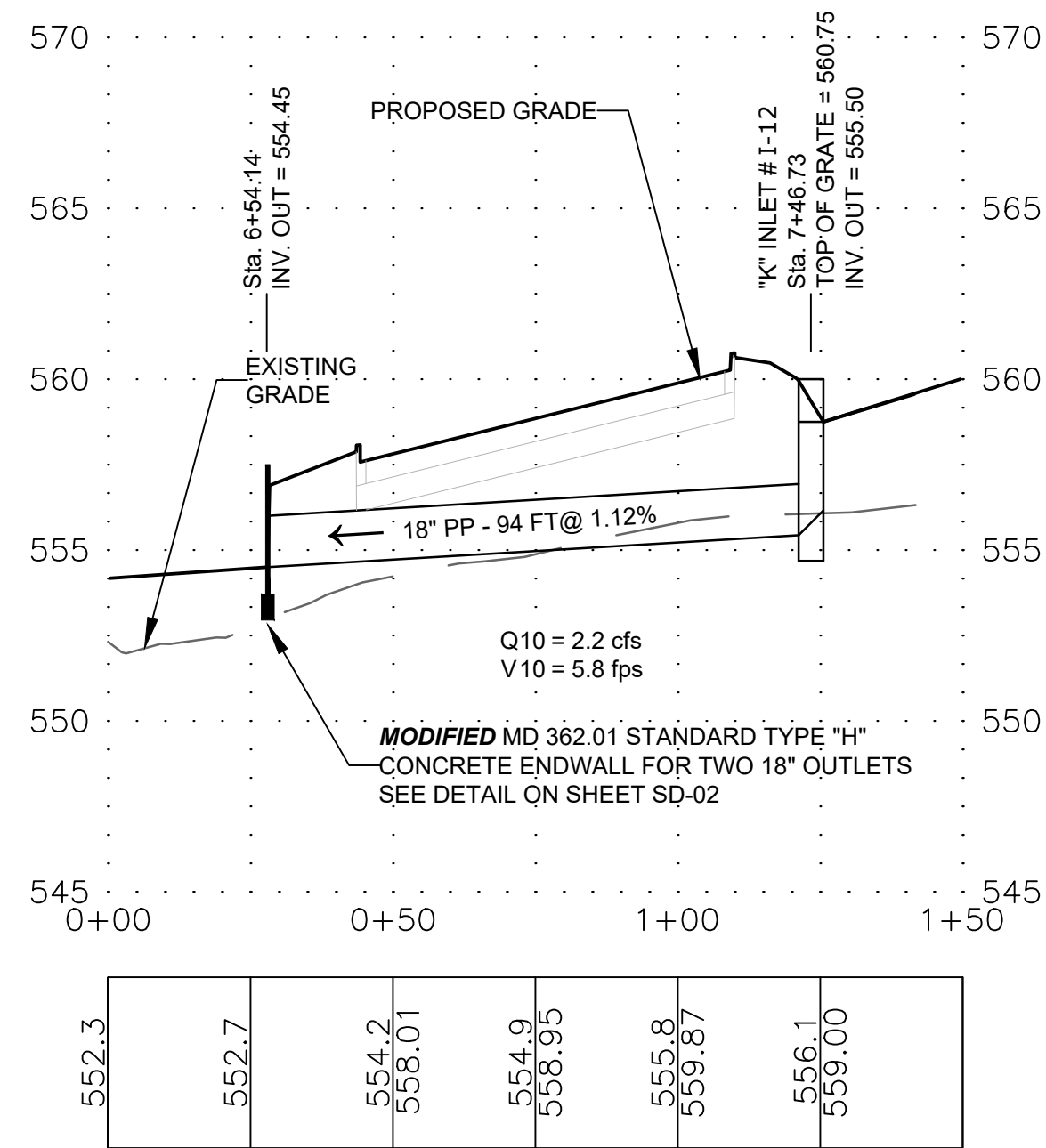


PROFILE VIEW OF SD1

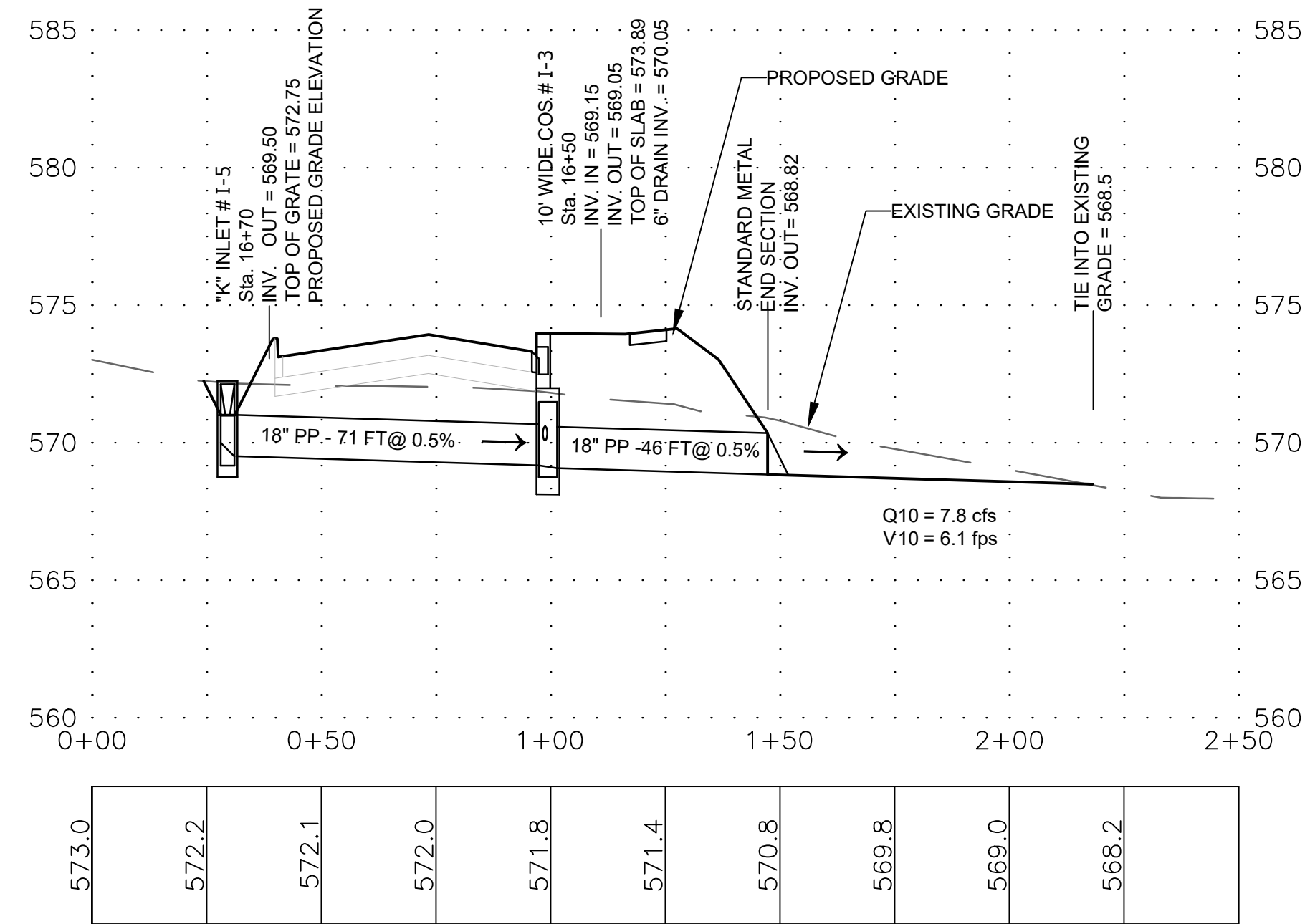


PROFILE VIEW OF SD2

SCALE
HORIZONTAL 1" = 30'
VERTICAL 1" = 5'



PROFILE VIEW OF SD ENTRANCE



PROFILE VIEW OF SD FOR DA2

TABLE 1 - COG INLET (MD-374.51) SCHEDULE

INLET NO.	STATION (PROFESSIONAL BLVD.)	OFFSET (FT)	L (FT)	T (FT)	THROAT ELEV	INV. OUT	SLAB ELEV	PIPE DIA. (IN)	REMARKS
2	7+65.50	31 LT.	11	10	561.01	555.53	561.84	18	

TABLE 2 - COS INLET (MD-374.61) SCHEDULE

INLET NO.	STATION (PROFESSIONAL BLVD.)	OFFSET (FT)	L (FT)	T (FT)	THROAT ELEV	INV. OUT	SLAB ELEV	PIPE DIA. (IN)	REMARKS
1	3+60.58	31 LT.	11	10	551.75	548.53	552.58	18	
3	16+50.00	22.42 LT.	11	10	573.06	569.05	573.89	18	6" PVC @ 570.05 (F-2)

TABLE 3 - COG / COS OPENING (MD-374.68) SCHEDULE

INLET NO.	STATION (PROFESSIONAL BLVD.)	OFFSET (FT)	L (FT)	T (FT)	THROAT ELEV.	SLAB ELEV.	REMARKS
4	17+68.82	31 RT.	6	5	574.25	575.08	
6	16+50.00	31 RT.	11	10	572.83	573.66	
7	15+25.00	31 RT.	6	5	574.40	575.23	
8	14+15.00	31 RT.	6	5	577.46	578.29	
9	10+26.60	31 RT.	6	5	571.00	571.83	
10	9+00.00	31 RT.	6	5	566.05	566.88	
11	7+65.00	31 RT.	11	10	560.99	561.82	
13	5+50.00	31 RT.	6	5	554.03	554.86	
14	3+65.06	31 RT.	11	10	551.75	552.58	

TABLE 4 - K INLET (MD-378.03) SCHEDULE

INLET NO.	STATION (PROFESSIONAL BLVD.)	OFFSET (FT)	L (FT)	T (FT)	SWALE INV.	INV. OUT	TOP OF GRATE	PIPE DIA. (IN)	REMARKS
5	16+70	39.59 RT.	4.3	3.0	571.50	569.50	572.75	18	
12	7+46.73	41.24 RT.	4.3	3.0	569.50	555.50	560.75	18	

TABLE 5 - FILTER INLET SCHEDULE (DETAILS ON SWM-02)

INLET NO.	STATION (PROFESSIONAL BLVD.)	OFFSET (FT)	L (FT)	W (FT)	THROAT ELEV	INV. OUT	SLAB ELEV	PIPE DIA. (IN)	REMARKS
F - 1	7+83.80	31.00 LT.	20	8	561.87	558.70	562.53	6	
F - 2	16+24.81	25.44 LT.	19	6	573.19	570.06	573.89	6	

TABLE 6 - PIPE SCHEDULE

PIPE SIZE (IN)	TYPE	LENGTH (FT)	REMARKS
6"	SOLID PVC UNDERDRAIN	23	FROM FILTER INLET TO COG/COS
6"	SOLID PVC UNDERDRAIN	9	BIO-SWALE CLEAN OUTS (SWM-01)
6"	PERF. PVC UNDERDRAIN	275	BIO-SWALE UNDERDRAIN (SWM-01)
18"	POLYPROPYLENE PIPE	444	HP STORM OR EQUAL

TABLE 7 - END STRUCTURE SCHEDULE

STRUCTURE NO.	STATION (PROFESSIONAL BLVD.)	OFFSET (FT)	STANDARD	TYPE	INVERT	TOP ELEV.	REMARKS
ES - 1	2+89.96	RT.	MD 370.01	END SECTION	548.03	---	
EW - 1	6+50	RT.	MD 362.01	END WALL	554.20/554.45	557.53	
ES - 2	16+24.81	LT.	MD 370.01	END SECTION	568.82	---	

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 280-313-2460 Fax: 240-313-2401



PROFESSIONAL BOULEVARD
PHASE III & IV
STORM DRAIN
PROFILES & SCHEDULE

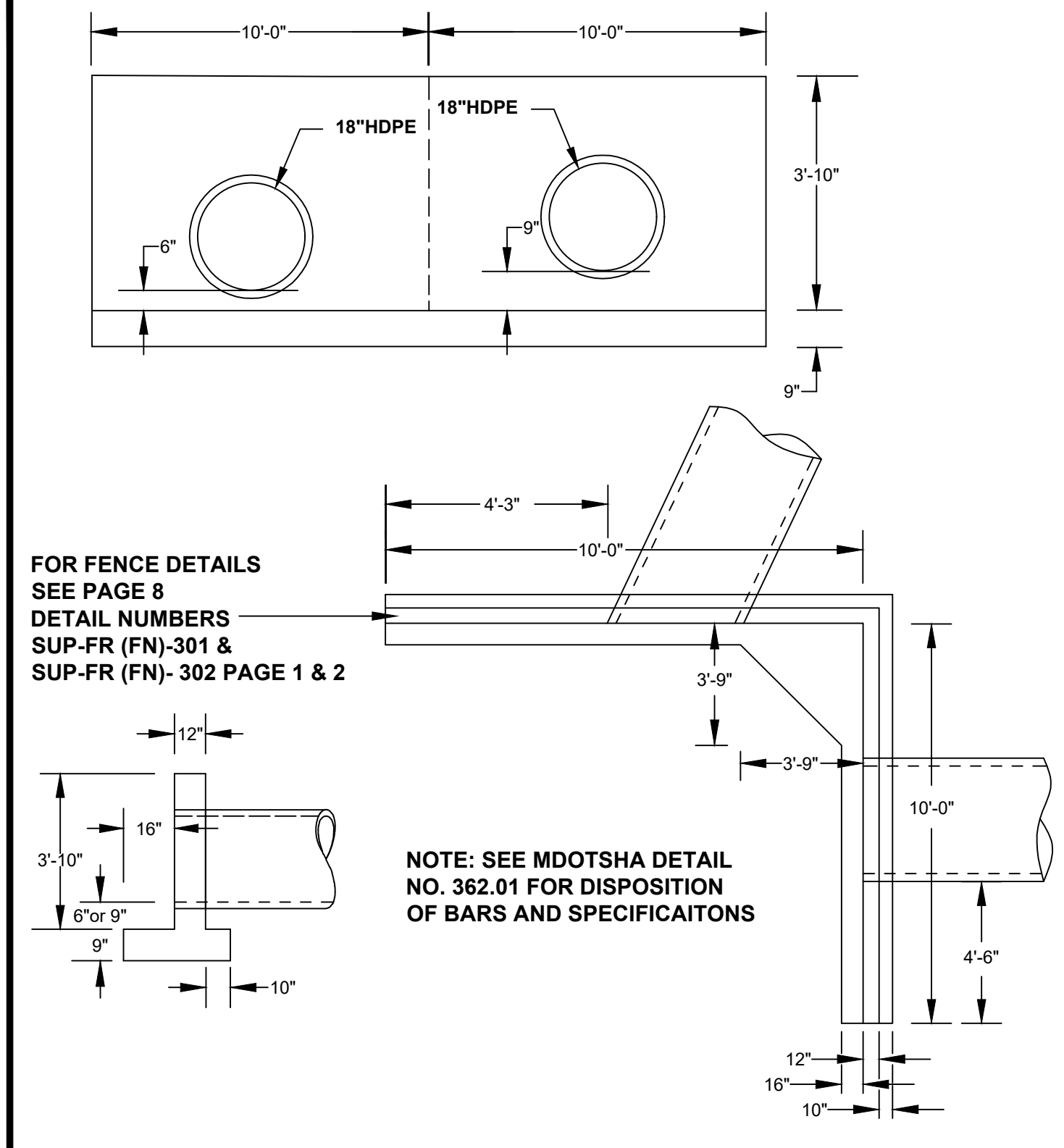
SCALE
H:1"=30' V:1"=5'

SECTION NO.
SD - 01

SHEET NO.
22

PROJECT NO.
10-275

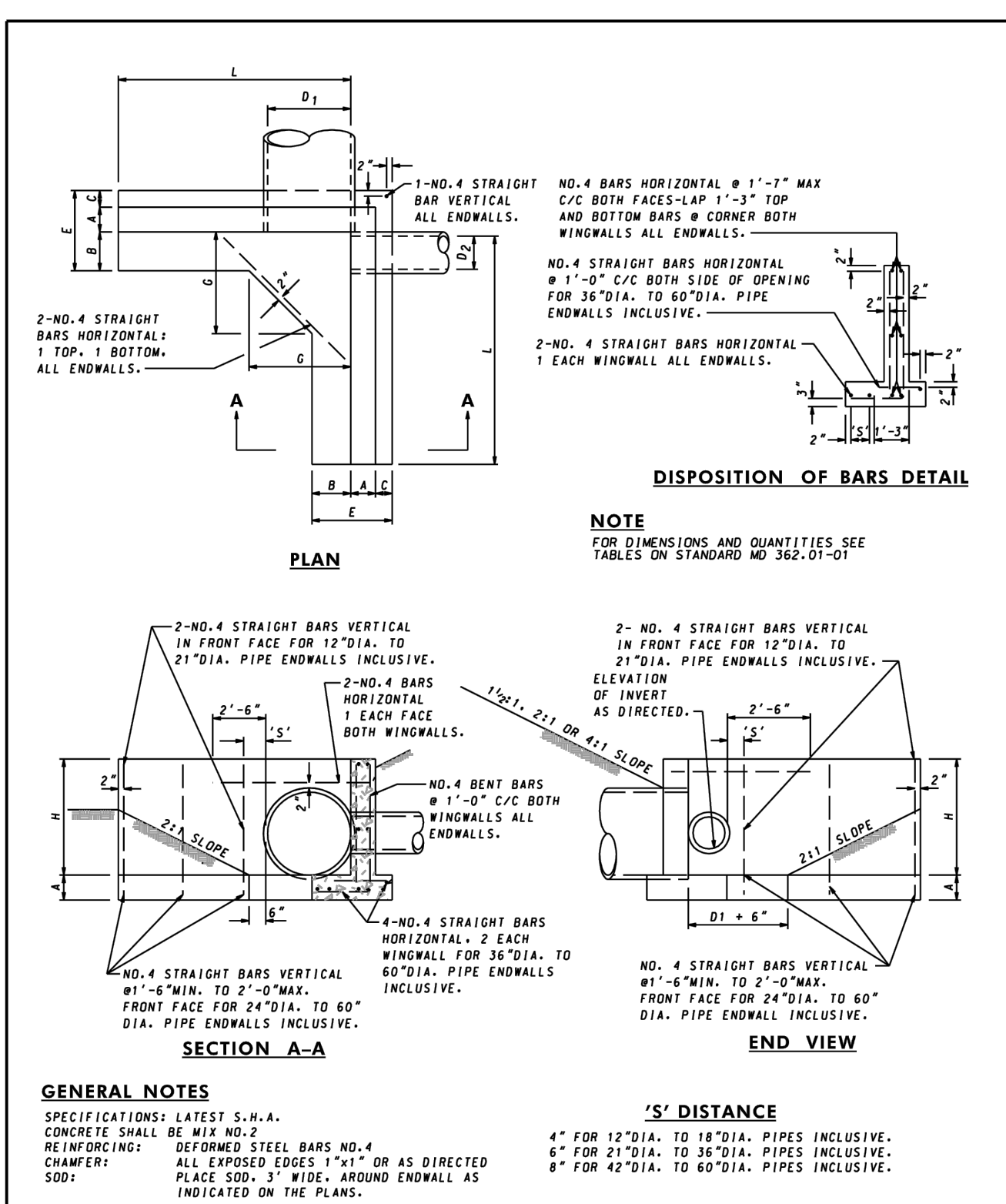
C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 STORM DRAIN\10-275 STORM DRAIN.DWG



MODIFIED TYPE "H" ENDWALL
TWO 18" HDPE PIPES
SCALE: N.T.S.

FOR FENCE DETAILS
SEE PAGE 8
DETAIL NUMBERS
SUP-FR (FN)-301 &
SUP-FR (FN)-302 PAGE 1 & 2

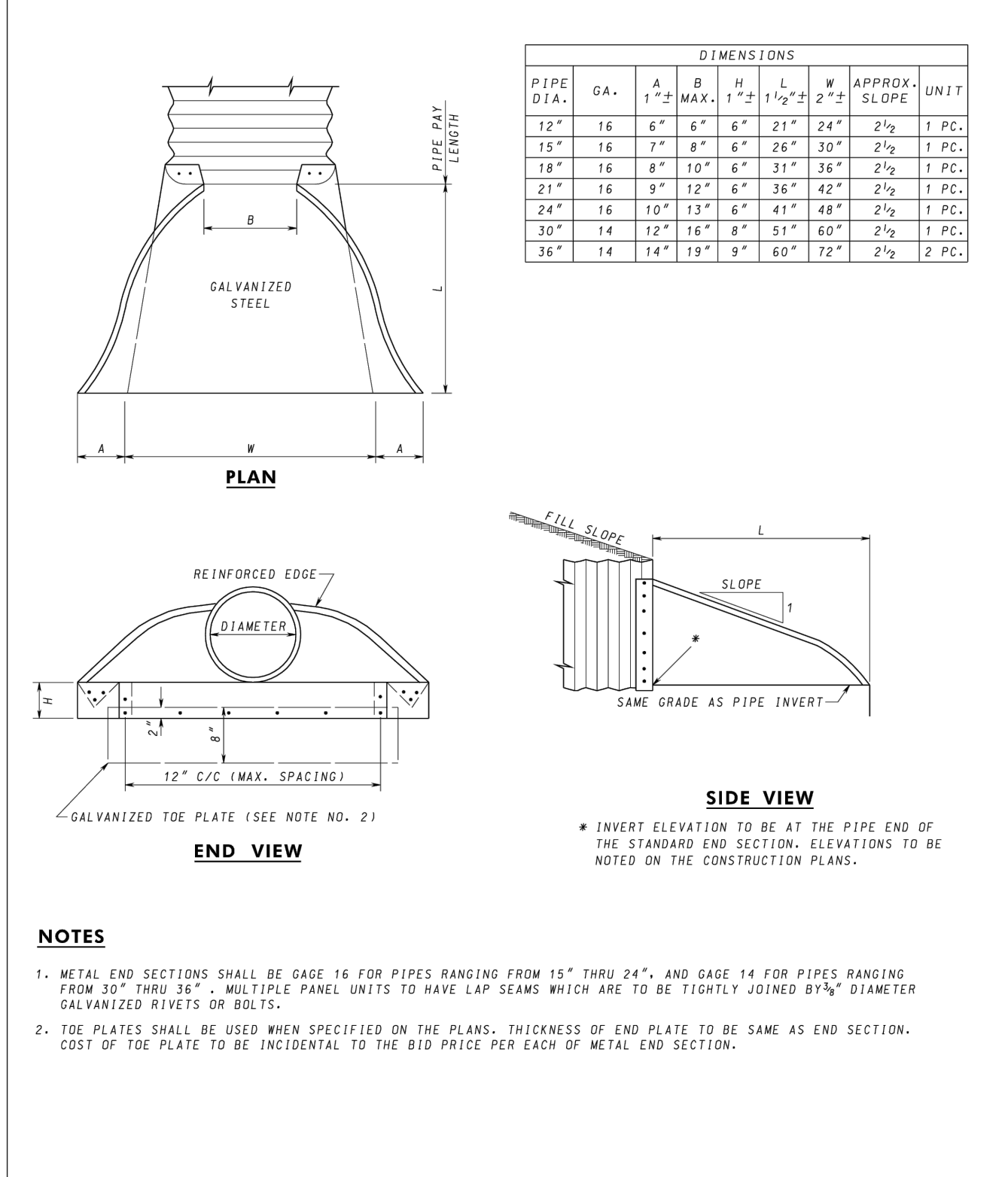
NOTE: SEE MDOTSHA DETAIL
NO. 362.01 FOR DISPOSITION
OF BARS AND SPECIFICATIONS



STANDARD TYPE H ENDWALL
METAL OR CONCRETE ROUND PIPE
STANDARD NO. MD 362.01

APPROVED: *Kel G. McCall*
DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT
APPROVAL: SHA
REVISIONS: APPROVAL: FEDERAL HIGHWAY ADMINISTRATION
APPROVAL: 8-28-88 APPROVAL: 12-12-88
REVISION: 10-1-91 REVISION: 7-27-89
REVISION: 7-1-99 REVISION: REVISION:

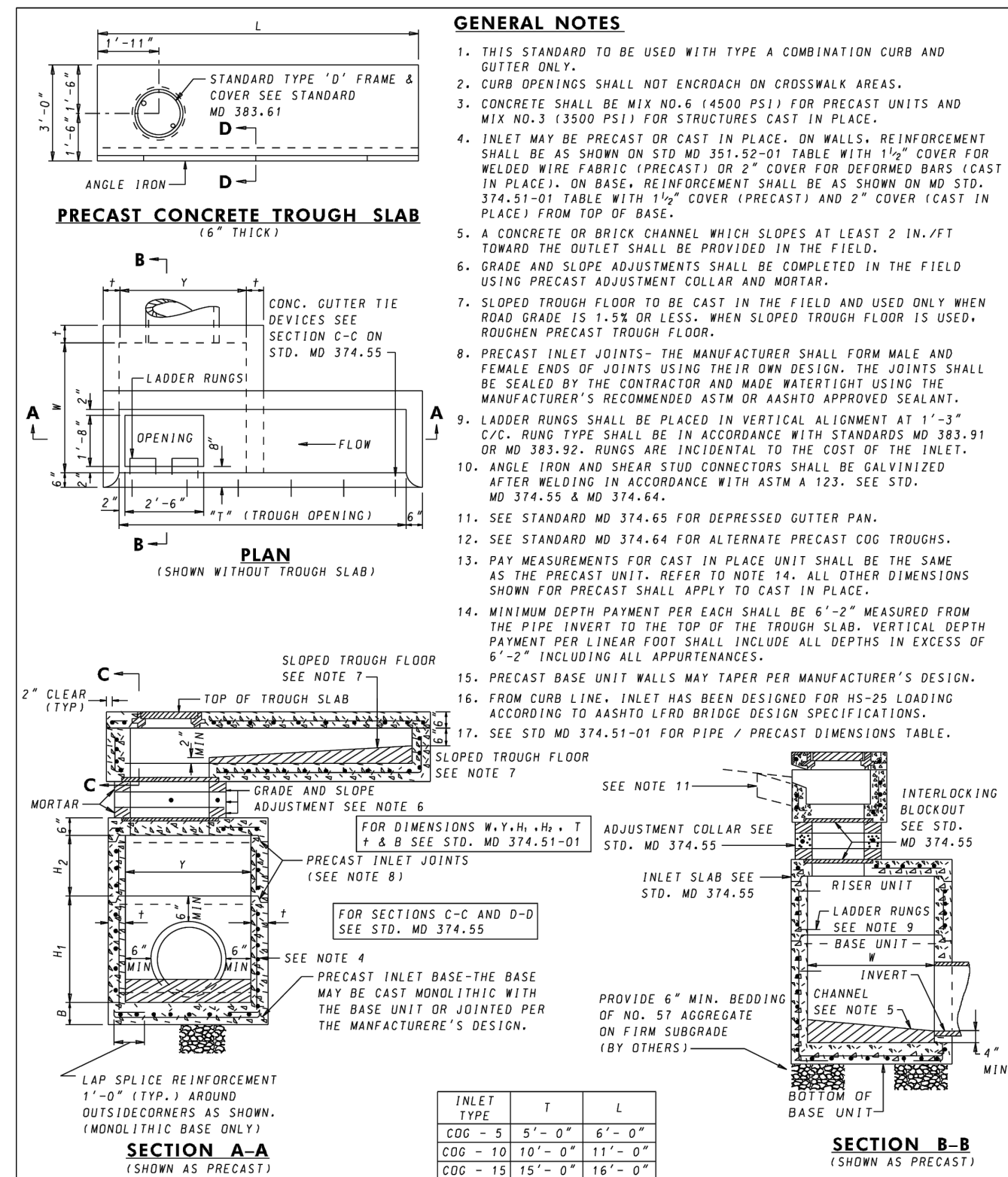
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD TYPE H ENDWALL
METAL OR CONCRETE ROUND PIPE
STANDARD NO. MD 362.01



STANDARD METAL END SECTION
ROUND METAL PIPE
STANDARD NO. MD 370.01

APPROVED: *Kel G. McCall*
DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT
APPROVAL: SHA
REVISIONS: APPROVAL: FEDERAL HIGHWAY ADMINISTRATION
APPROVAL: 8-28-88 APPROVAL: 12-12-88
REVISION: 10-1-91 REVISION: 7-27-89
REVISION: 7-1-99 REVISION: REVISION:

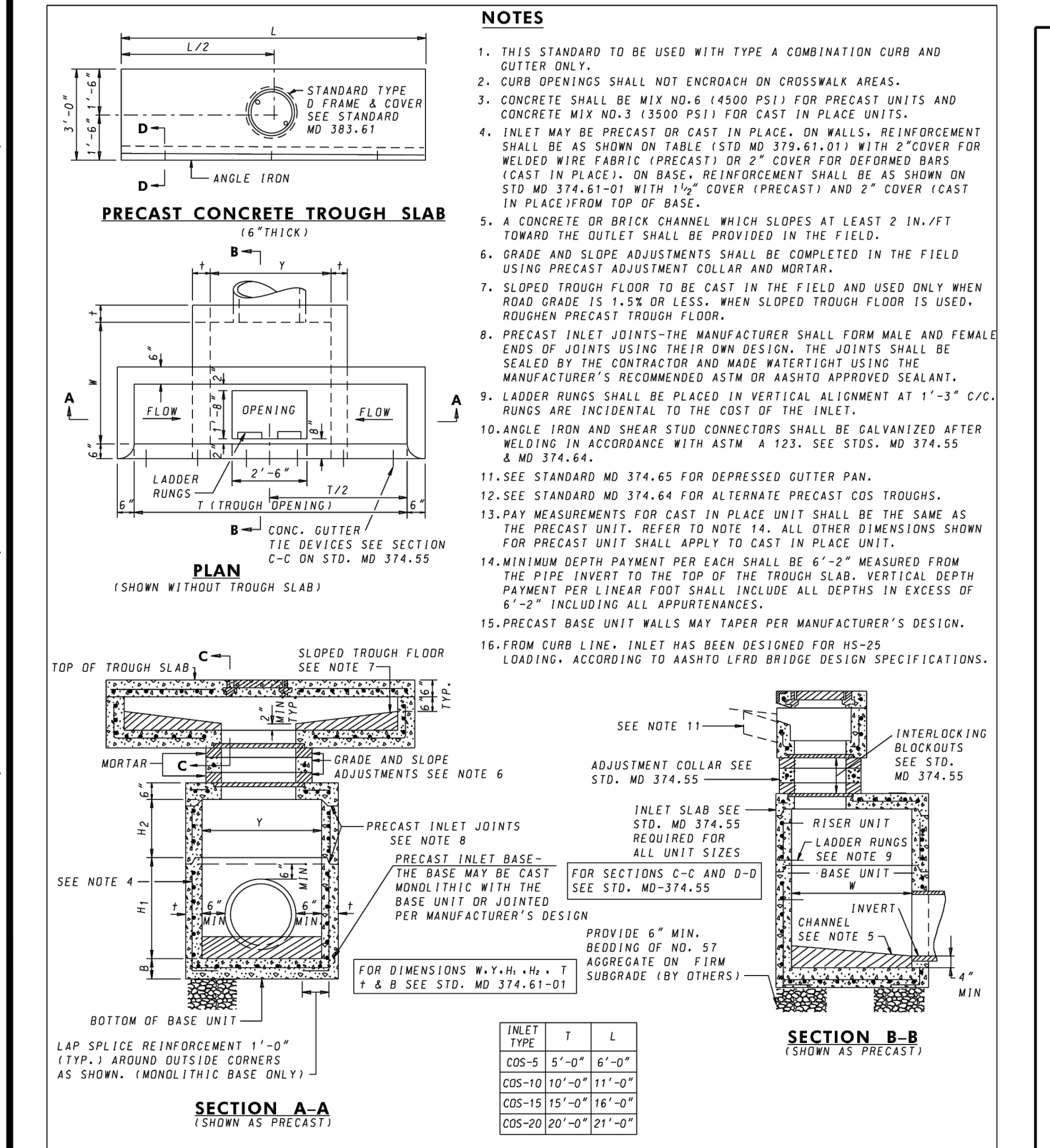
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD METAL END SECTION
ROUND METAL PIPE
STANDARD NO. MD 370.01



PRECAST OR CAST IN PLACE
SQUARE AND RECTANGULAR COG INLETS
5', 10', 15' & 20'
STANDARD NO. MD 374.51

APPROVED: *Kel G. McCall*
DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT
APPROVAL: SHA
REVISIONS: APPROVAL: FEDERAL HIGHWAY ADMINISTRATION
APPROVAL: 2-22-91 APPROVAL: 1-21-91
REVISION: 8-3-10 REVISION: 7-23-10
REVISION: 10-7-14 REVISION: 9-29-14
REVISION: REVISION:

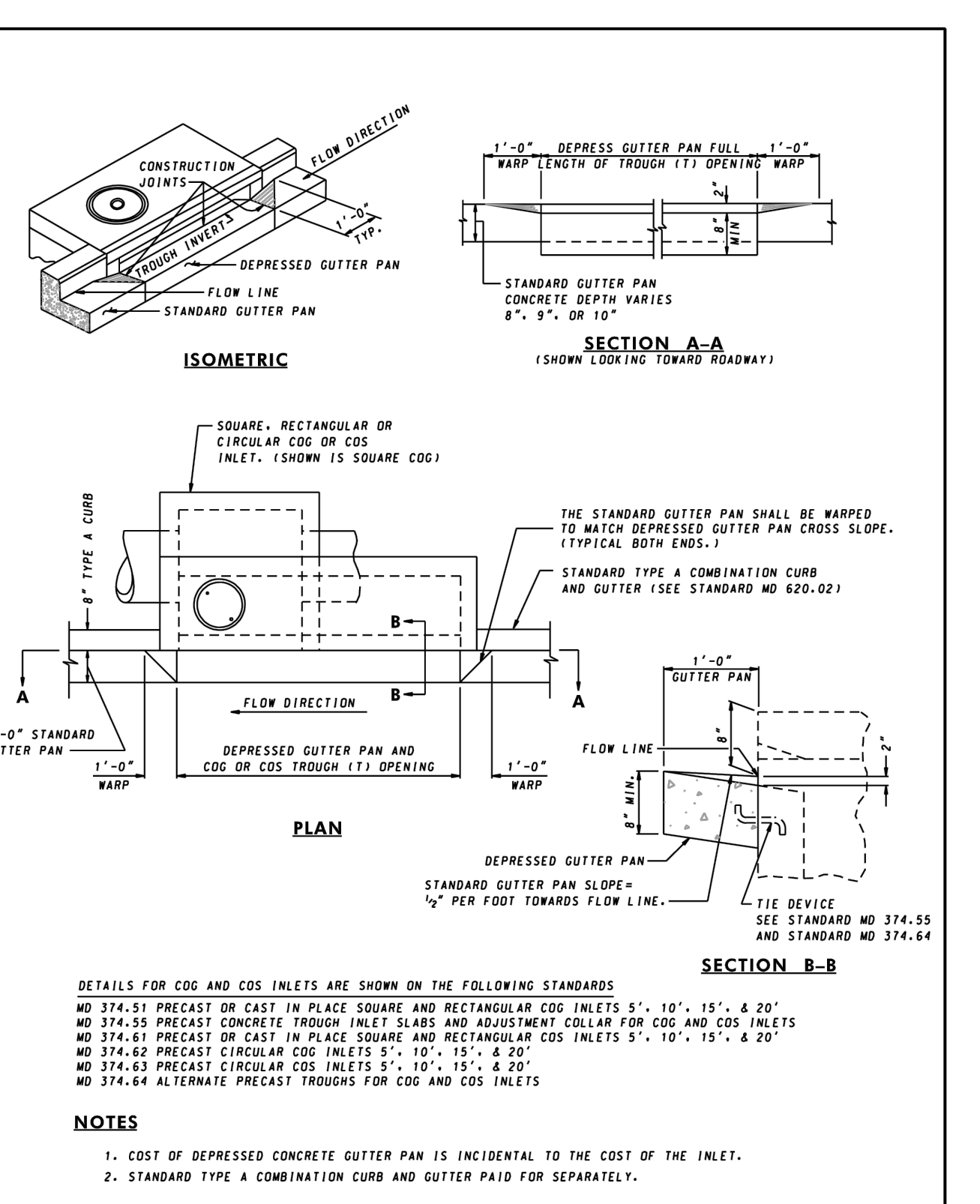
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST OR CAST IN PLACE
SQUARE AND RECTANGULAR COG INLETS
5', 10', 15' & 20'
STANDARD NO. MD 374.51



PRECAST OR CAST IN PLACE
SQUARE AND RECTANGULAR COG INLETS
5', 10', 15' & 20'
STANDARD NO. MD 374.51

APPROVED: *Kel G. McCall*
DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT
APPROVAL: SHA
REVISIONS: APPROVAL: FEDERAL HIGHWAY ADMINISTRATION
APPROVAL: 2-22-91 APPROVAL: 1-21-91
REVISION: 8-3-10 REVISION: 7-23-10
REVISION: 10-7-14 REVISION: 9-29-14
REVISION: REVISION:

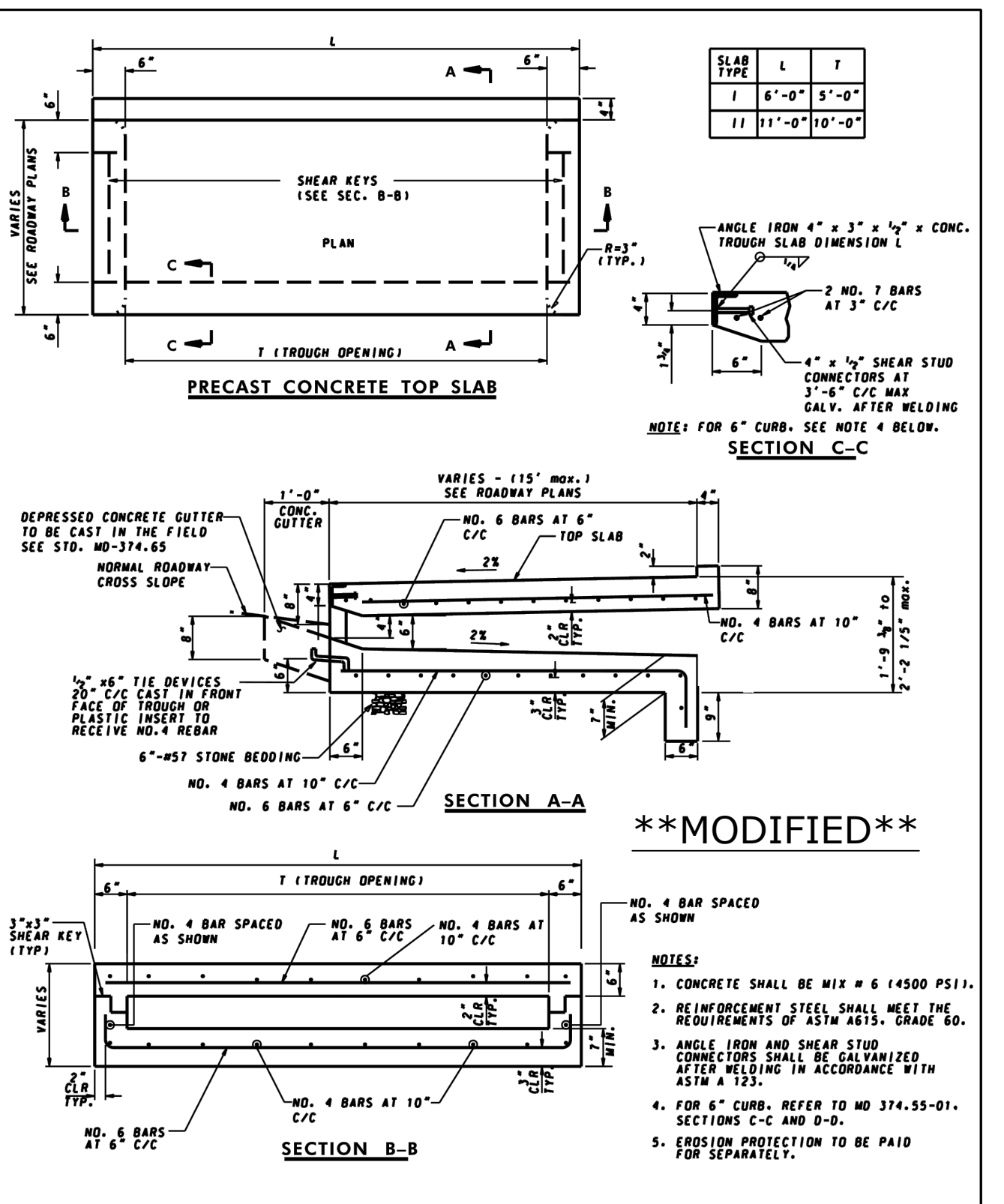
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST OR CAST IN PLACE
SQUARE AND RECTANGULAR COG INLETS
5', 10', 15' & 20'
STANDARD NO. MD 374.51



DEPRESSED CONCRETE GUTTER PAN
FOR COG AND COS INLETS
STANDARD NO. MD 374.65

APPROVED: *Kel G. McCall*
DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT
APPROVAL: SHA
REVISIONS: APPROVAL: FEDERAL HIGHWAY ADMINISTRATION
APPROVAL: 2-22-91 APPROVAL: 1-21-91
REVISION: 8-3-10 REVISION: 7-23-10
REVISION: 10-7-14 REVISION: 9-29-14
REVISION: REVISION:

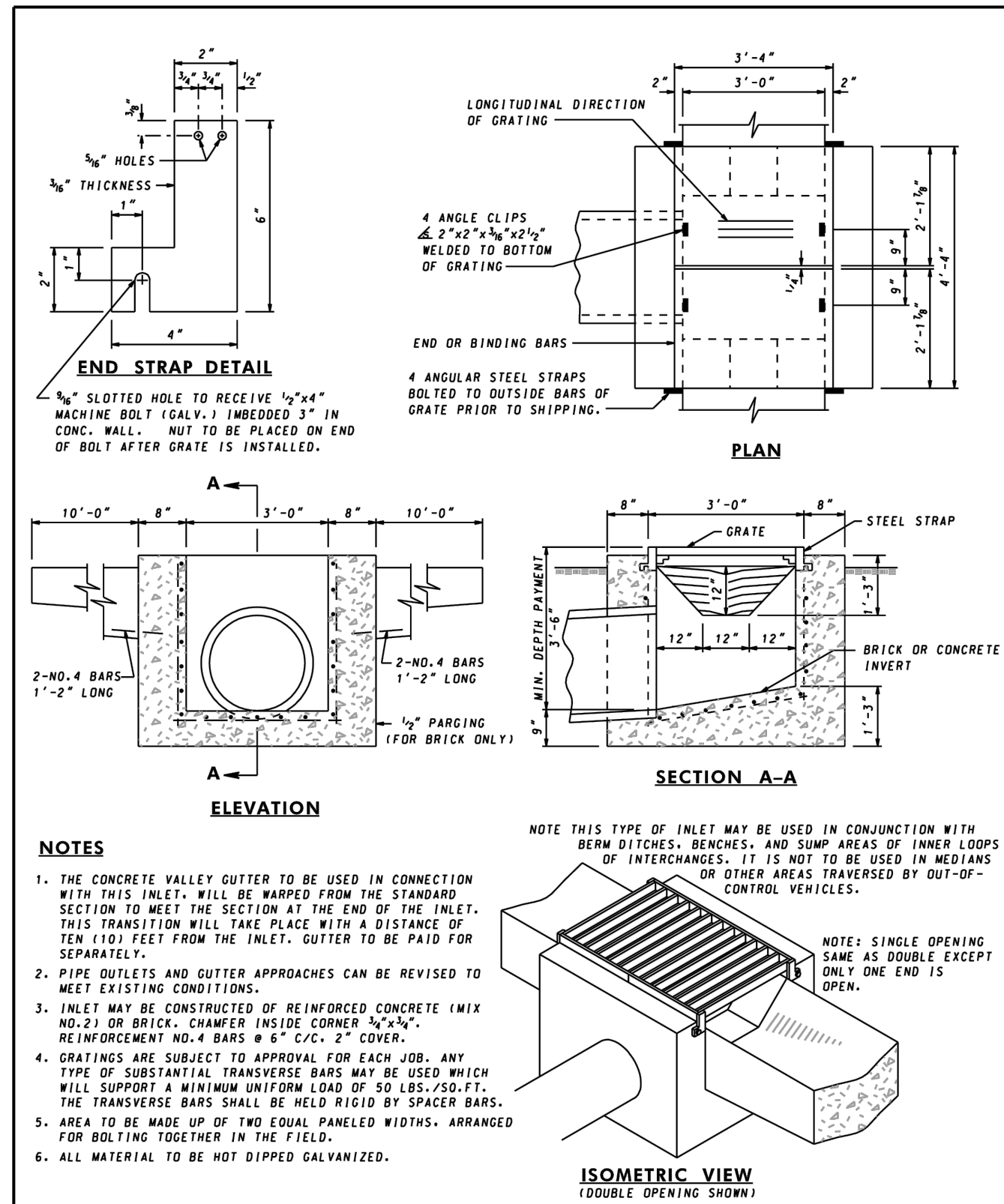
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
DEPRESSED CONCRETE GUTTER PAN
FOR COG AND COS INLETS
STANDARD NO. MD 374.65



PRECAST OR CAST-IN-PLACE
COG / COS OPENING FOR 8" CURB
5' OR 10' ONLY
STANDARD NO. MD 374.68

APPROVED: *Kel G. McCall*
DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT
APPROVAL: SHA
REVISIONS: APPROVAL: FEDERAL HIGHWAY ADMINISTRATION
APPROVAL: 12-15-01 APPROVAL: 7-13-02
REVISION: 1-9-08 REVISION: 11-24-02
REVISION: REVISION:

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST OR CAST-IN-PLACE
COG / COS OPENING FOR 8" CURB
5' OR 10' ONLY
STANDARD NO. MD 374.68



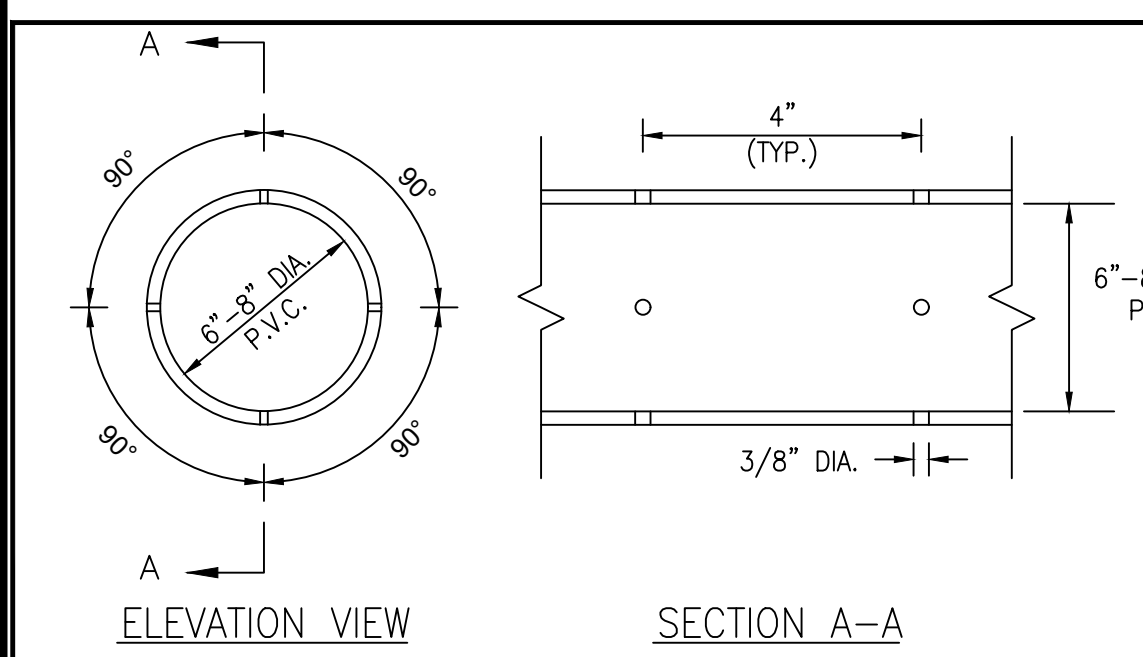
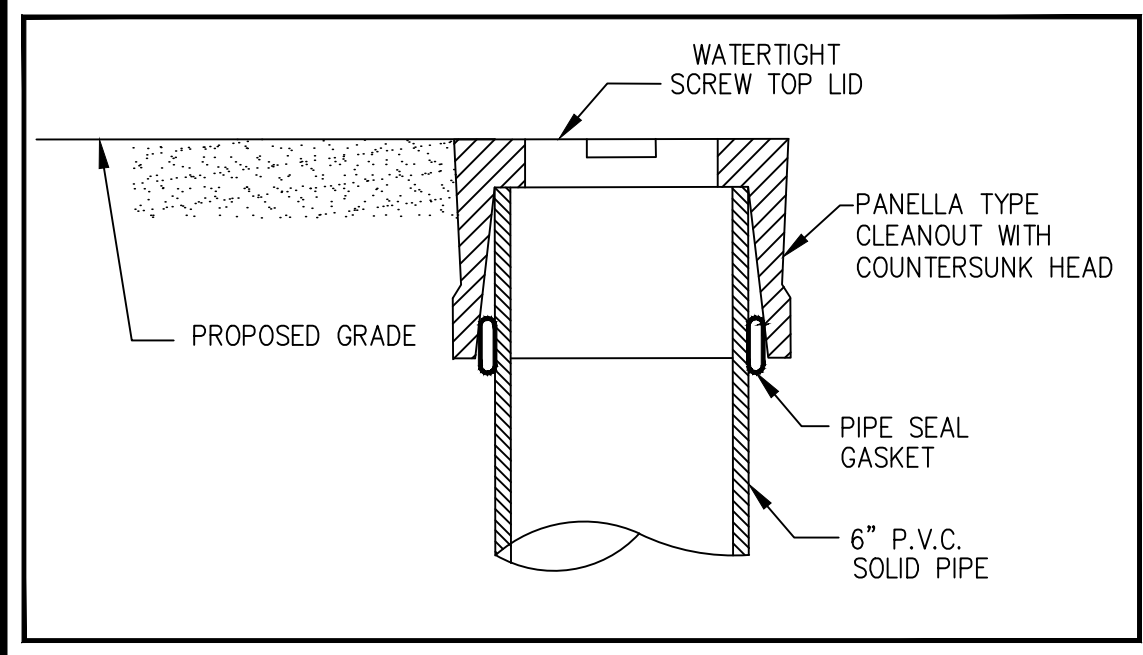
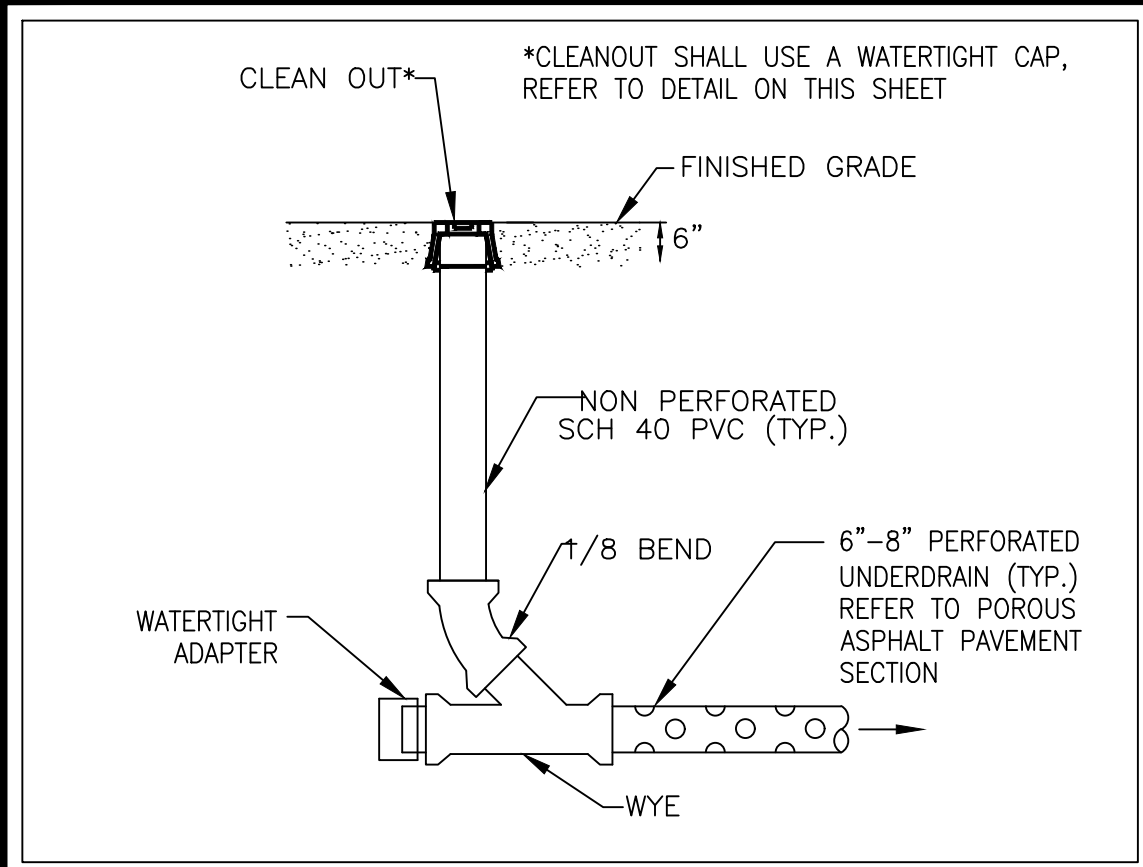
STANDARD SINGLE OR DOUBLE OPENING
TYPE K INLET OPEN-END GRATE
NON-TRAFFIC AREAS
STANDARD NO. MD 378.03

APPROVED: *Kel G. McCall*
DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT
APPROVAL: SHA
REVISIONS: APPROVAL: FEDERAL HIGHWAY ADMINISTRATION
APPROVAL: 1-23-09 APPROVAL: 2-4-09
REVISION: 10-1-01 REVISION: 4-23-07
REVISION: REVISION:

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD SINGLE OR DOUBLE OPENING
TYPE K INLET OPEN-END GRATE
NON-TRAFFIC AREAS
STANDARD NO. MD 378.03

DATE	
BY	
REVISION DESCRIPTION	
NO.	
DESIGNED BY:	PJM
DRAWN BY:	PJM/GJJ
CHECKED BY:	PJM
DATE:	10-18-24
WASHINGTON COUNTY, MARYLAND	
DIVISION OF ENGINEERING	
Washington County Administrative Annex, Building	
722	
Phone: 240-313-2460 Fax: 240-313-2401	
PROFESSIONAL BOULEVARD	
PHASE III & IV	
STORM DRAIN	
DETAILS	
SCALE	AS NOTED
SECTION NO.	SD - 02
SHEET NO.	23
PROJECT NO.	10-275

CAUSERS, GILSON, WASHINGTON COUNTY COMMISSIONERS ENGINEERING - CADD 10-275 STORM DRAIN 10-275 STORM DRAIN 10-275 STORM DRAIN - FILTER INLET.DWG

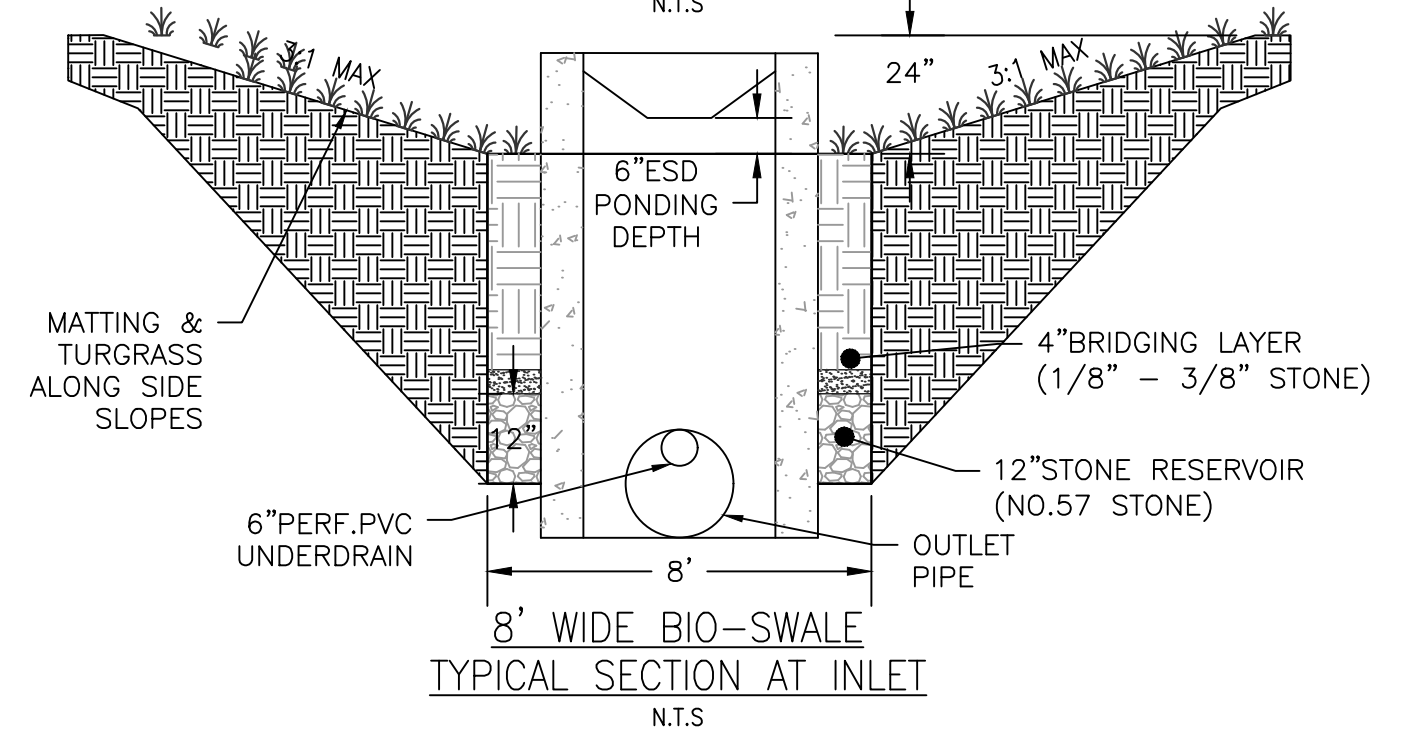
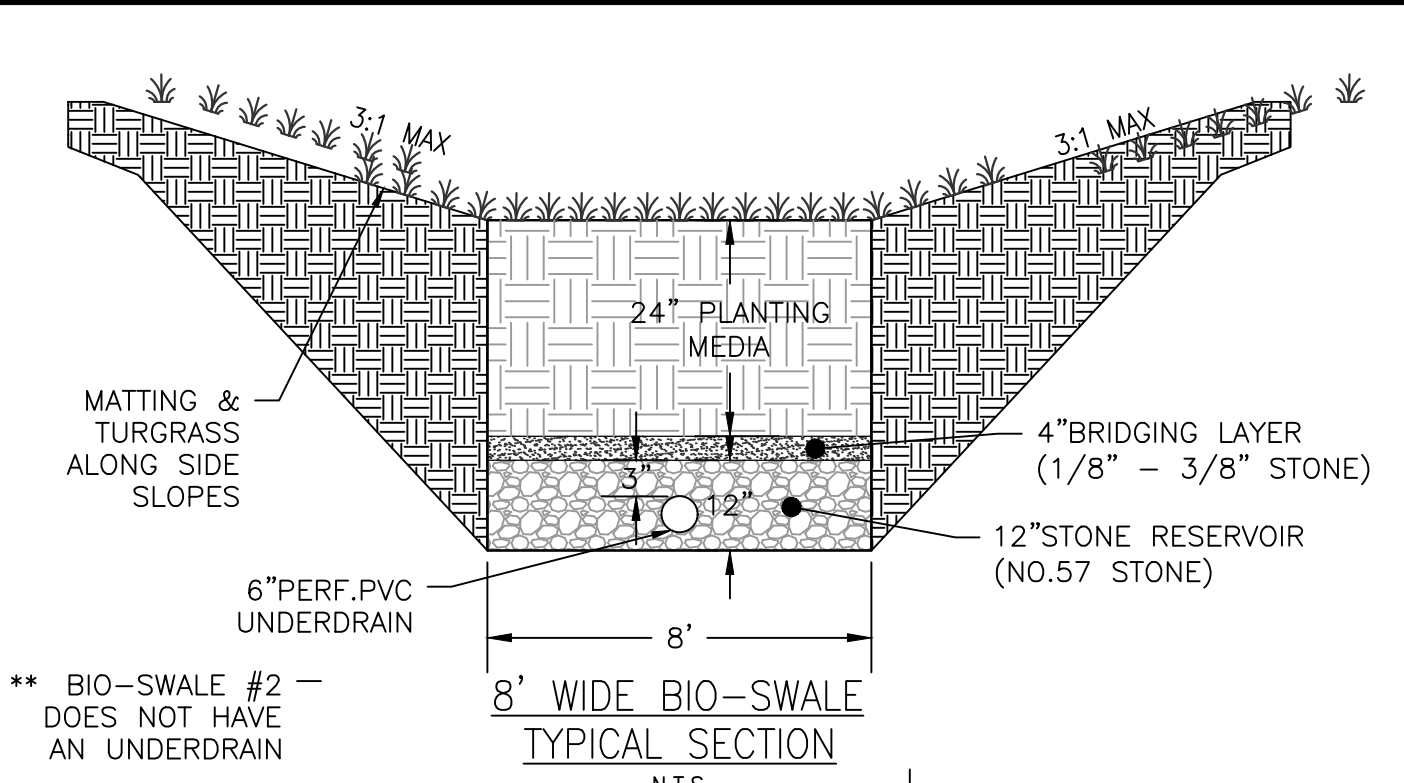


NOTICE OF REQUIRED STORMWATER MANAGEMENT INSPECTIONS BIO-SWALES FACILITIES

The following inspections are required to be performed by the Qualified Professional for the construction of any Bio-Swale Facility. Additional inspections may be needed based on professional engineering judgment. Each inspection is required at the start of each stage.

Inspection Item	BS #1 (DA-1)	BS #2 (DA-2)
EXCAVATION OF FACILITY - Prior to excavation, verify sediment and erosion control features are in place to prevent sediment inflow. Verify all flagging required in the area for sensitive area protection. Verify grading is accurately staked-out and re-staked as needed. Facility dimensions shall be verified and soils checked for infiltration. Verify contributing area is permanently stabilized. Verify that water is not present. Ensure roughening of side walls if sheared and sealed by heavy equipment. Verify that compaction of facility base is minimized.	CERTIFYING ENGINEER	
	DATE	
	COUNTY INSPECTOR	
	DATE	
PLACEMENT OF UNDERDRAINS AND OBSERVATION WELLS - Location, size and material of under drain and observation wells shall be verified prior to stone placement. Verify pipe ends capped. Verify 3" gravel cover	CERTIFYING ENGINEER	
	DATE	
	COUNTY INSPECTOR	
	DATE	
PLACEMENT OF FILTERING MEDIA - Verify bottom layer material and thickness. Verify sand and/or filter media layer material and thickness. Verify filter fabric or pea gravel used between sand layers. Verify top filter media layer.	CERTIFYING ENGINEER	
	DATE	
	COUNTY INSPECTOR	
	DATE	
STABILIZATION AND LANDSCAPING - Verify site top soiled, seeded and mulched. Verify embankment top soiled and seeded. Verify location, size, type and number of planted landscape material. Verify no more than 1/8 inch root ball exposed. Verify planting stock kept moist during on-site storage. Verify installation location, size, material type of fencing or other safety barriers.	CERTIFYING ENGINEER	
	DATE	
	COUNTY INSPECTOR	
	DATE	

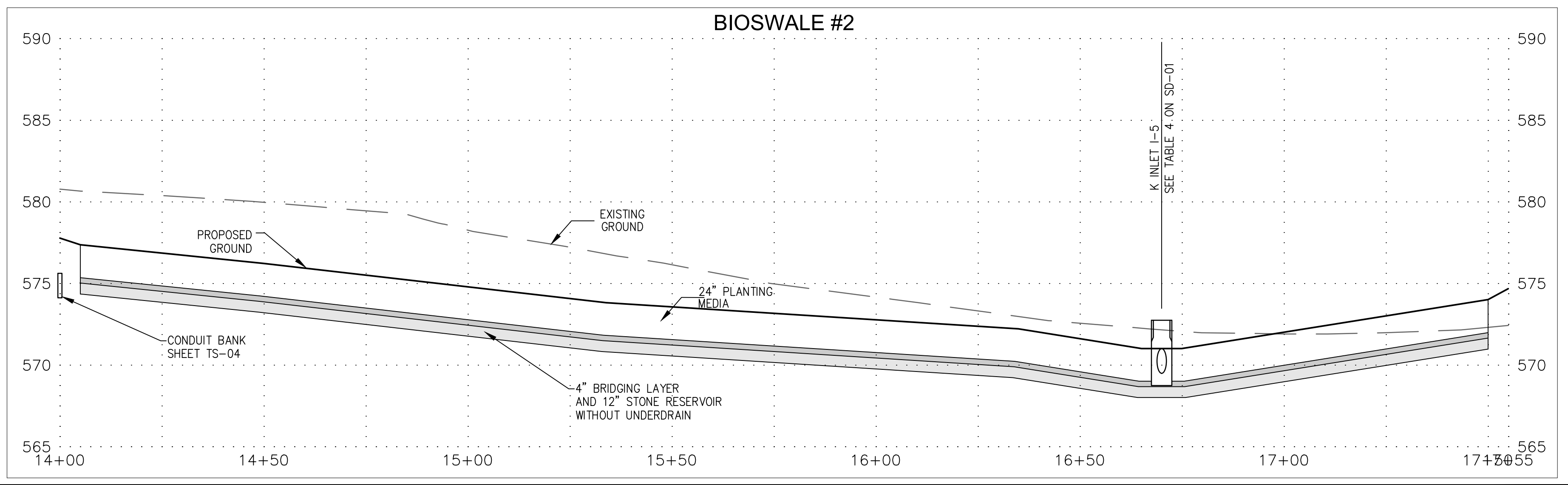
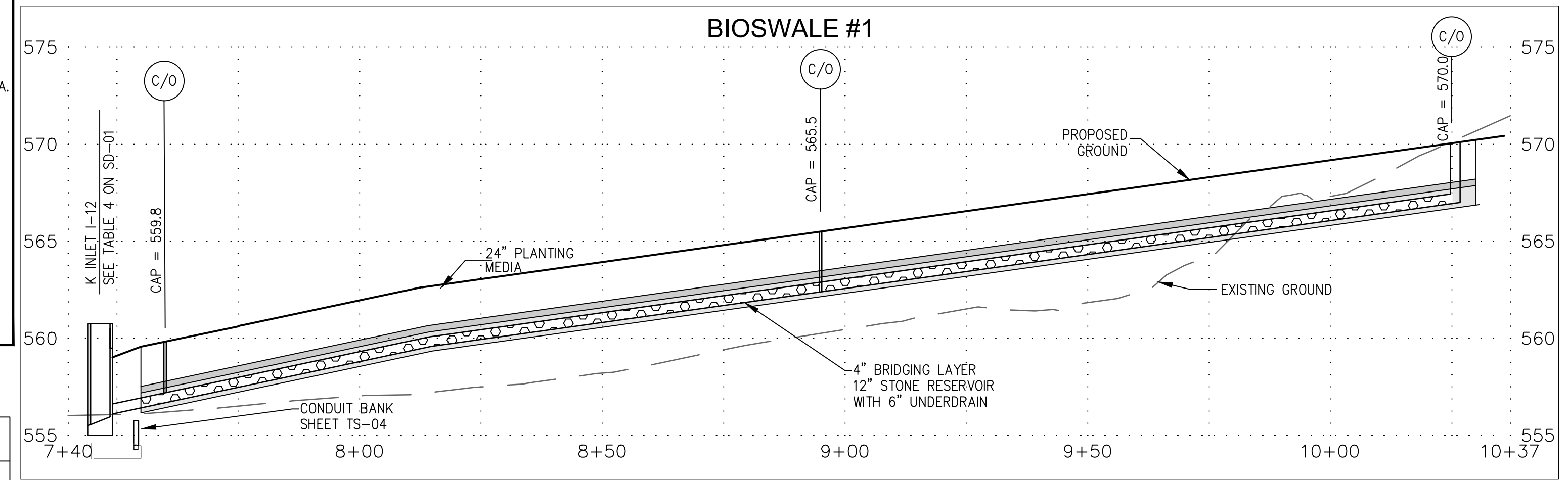
The Qualified Professional may request the presence of a County Construction Standards Inspector at least 24 hours in advance by calling 240-313-2400.



SPECIFICATIONS FOR BIO-SWALES

ALL CONSTRUCTION SHALL BE PER 2000 MARYLAND STORMWATER DESIGN MANUAL

- MATERIAL SPECIFICATIONS**
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
- PLANTING SOIL**
THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDERANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.
THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA PER SHA SPECIFICATION 920.01.05.
THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.
- COMPACTION**
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIO-SWALE PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.
COMPACTION CAN BE ALLEVATED AT THE BASE OF THE BIO-SWALE FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
PUMP ANY PONDED WATER BEFORE PREPARING BASE.
WHEN BACKFILLING THE BIO-SWALE, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIO-SWALE. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BIO-SWALE TO SUPPLY SOILS.
- PLANT MATERIAL**
RECOMMENDED PLANT MATERIAL FOR BIO-SWALE CAN BE FOUND IN 2000 MD SWM DESIGN MANUAL APPENDIX A, SECTION A.2.4.
- PEA GRAVEL BRIDGE LAYER** - ASTM D-448, No. 8 or No. 9.
- GRAVEL (UNDERDRAINS)** - AASHTO M-43, No. 57 OR No. 6
- UNDERDRAINS**
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
 - PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (F 758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID SCHEDULE 40 PVC OR SDR35 PIPE.
 - PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW.
 - GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
 - THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
 - A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED AS SHOWN ON PLANS TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
 - A 4" LAYER OF PEA GRAVEL (3" TO 8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN.
- MISCELLANEOUS**
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.



STORMWATER MANAGEMENT FACILITIES CONSTRUCTION INSPECTION REQUIREMENTS

- THE CONTRACTOR SHALL NOTIFY THE DIVISION OF ENGINEERING ("WDC") AT LEAST FIVE (5) DAYS BEFORE COMMENCING ANY WORK IN CONJUNCTION WITH THE APPROVED FINAL STORMWATER MANAGEMENT PLAN AND UPON COMPLETION OF THE PROJECT WHEN A FINAL INSPECTION WILL BE CONDUCTED.
- REGULAR INSPECTIONS SHALL BE MADE AND DOCUMENTED FOR EACH STRUCTURAL ESD PLANNING TECHNIQUE AND PRACTICE AND STRUCTURAL STORMWATER MEASURES EVERY 2 WEEKS AND AT THE REQUIRED CRITICAL INSPECTION STAGES IDENTIFIED IN THE ATTACHED CHECKLISTS AND THE WASHINGTON COUNTY SWM, GRADING, SOIL EROSION AND SEDIMENT CONTROL ORDINANCE.
- ALL NON-STRUCTURAL PRACTICES SHALL BE INSPECTED, AT A MINIMUM, UPON COMPLETION OF FINAL GRADING, THE ESTABLISHMENT OF PERMANENT STABILIZATION, AND BEFORE ISSUANCE OF USE AND OCCUPANCY PERMIT.
- INSPECTIONS SHALL BE CONDUCTED BY WDC, THE MDE (AS APPLICABLE), AND BY THE VERIFYING PROFESSIONAL. INSPECTIONS PERFORMED BY THE WDC ARE NOT TO BE CONSIDERED A SUBSTITUTE FOR THOSE INSPECTIONS REQUIRED BY THE VERIFYING PROFESSIONAL. WRITTEN INSPECTION REPORTS SHALL BE PREPARED BY THE VERIFYING PROFESSIONAL DURING CONSTRUCTION OF ESD PLANNING TECHNIQUES AND PRACTICES PLANS. COPIES OF ALL INSPECTION REPORTS SHALL BE PROVIDED TO WDC BY THE PERSON PERFORMING THE INSPECTION AND KEPT ON FILE WITH WDC.
- WRITTEN INSPECTION REPORTS ARE REQUIRED AND SHALL BE SUBMITTED IN A MANNER CONSISTENT WITH THE CONTRACT AND THIS ARTICLE AND IN A FORMAT APPROVED BY WDC, AND SHALL INCLUDE, AT A MINIMUM:
 - THE DATE AND LOCATION OF THE INSPECTION;
 - WORK OBSERVED;
 - PHOTOS;
 - TESTS PERFORMED;
 - WHETHER CONSTRUCTION WAS IN COMPLIANCE WITH THE APPROVED STORMWATER MANAGEMENT PLAN;
 - ANY VARIATIONS FROM THE APPROVED CONSTRUCTION SPECIFICATIONS;
 - ANY VIOLATIONS THAT EXIST;
 - SIGNATURE AND DATE OF VERIFYING PROFESSIONAL.
- FAILURE TO COMPLY WITH THESE INSPECTION REQUIREMENTS AND/OR OBTAIN APPROVAL FROM THE VERIFYING PROFESSIONAL OR WDC AT THE REQUIRED CONSTRUCTION STAGES WILL RESULT IN DISAPPROVAL OF THE FACILITY AND/OR DELAYS OF FINAL ACCEPTANCE.
- THE WDC, THE MDE, VERIFYING PROFESSIONAL, AND ON-SITE PERSONNEL SHALL BE NOTIFIED IN WRITING WHEN VIOLATIONS ARE OBSERVED. WRITTEN NOTIFICATION SHALL BE MADE BY THE PERSON DISCOVERING THE VIOLATION AND SHALL DESCRIBE THE NATURE OF THE VIOLATION AND THE REQUIRED CORRECTIVE ACTION. NO FURTHER WORK AFFECTED BY THE VIOLATION SHALL PROCEED UNTIL THE CORRECTIVE ACTION IS INSPECTED AND APPROVED IN WRITING BY THE VERIFYING PROFESSIONAL, THE DIVISION, MDE (AS APPLICABLE), AND THE DISTRICT (AS APPLICABLE).
- WDC MAY REQUIRE ADJUSTMENTS TO ADDRESS ITEMS OVERLOOKED OR INAPPROPRIATELY ADDRESSED BY THE PLANS. SUCH ADJUSTMENTS MAY BE REQUIRED DURING CONSTRUCTION OR AT THE FINAL INSPECTION.
- THE COUNTY MAY REQUIRE A REVISION TO THE APPROVED CONSTRUCTION DRAWINGS OR SITE PLANS BE SUBMITTED AND APPROVED BY THE WDC, THE DIVISION OF PLANNING AND COMMUNITY DEVELOPMENT (AS APPLICABLE), THE MDE (AS APPLICABLE) AND THE DISTRICT PRIOR TO CONTINUATION OF CONSTRUCTION ACTIVITY.
- NO WORK SHALL PROCEED BEYOND THE CONSTRUCTION STAGES SPECIFIED IN ATTACHED CHECKLISTS AND THE WASHINGTON COUNTY SWM, GRADING, SOIL EROSION AND SEDIMENT CONTROL ORDINANCE UNTIL WDC AND THE VERIFYING PROFESSIONAL INSPECT AND APPROVE THE WORK PREVIOUSLY COMPLETED AND THE VERIFYING PROFESSIONAL FURNISHES THE WDC WITH THE RESULTS OF THE INSPECTION REPORTS AS SOON AS POSSIBLE AFTER COMPLETION OF EACH REQUIRED INSPECTION.

- NOTES:**
- CONTRACTOR MUST CONTACT THE CERTIFYING ENGINEER AND THE COUNTY AT LEAST 5 DAYS PRIOR TO THE START OF CONSTRUCTION OF THE STORMWATER MANAGEMENT SYSTEM TO SCHEDULE AND COORDINATE INSPECTION TIME TABLES.
 - IF ROCK IS ENCOUNTERED, UNDERCUT 18" S.W.M. FACILITY AND BACKFILL WITH CL TYPE SOIL.
 - ALL PIPE JOINTS SHALL BE WATERTIGHT. (HDPE PIPE JOINTS SHALL MEET THE 10.8 PSI WATER-TIGHT REQUIREMENTS OF ASTM D3212.)
 - ALL PROPOSED STORM DRAIN PIPES MUST BE PLACED ON 95% COMPACTED FILL ACCORDING TO AASHTO T180A STANDARDS.
 - ALL UNDERDRAIN PIPING MUST HAVE MINIMUM OF 0.5% SLOPE.
 - THE CONTRACTOR IS TO CONTACT MISS UTILITY A MINIMUM OF 2 DAYS PRIOR TO ANY DIGGING ON THE SITE. (1-800-257-7777)

SCALE:
1"=20' HORIZONTAL
1"= 5' VERTICAL

DATE	
BY	
REVISION DESCRIPTION	
NO	
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	10-18-24

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2460 Fax: 240-313-2401

PROFESSIONAL BOULEVARD
PHASE III & IV

STORM WATER MANAGEMENT
BIOSWALES

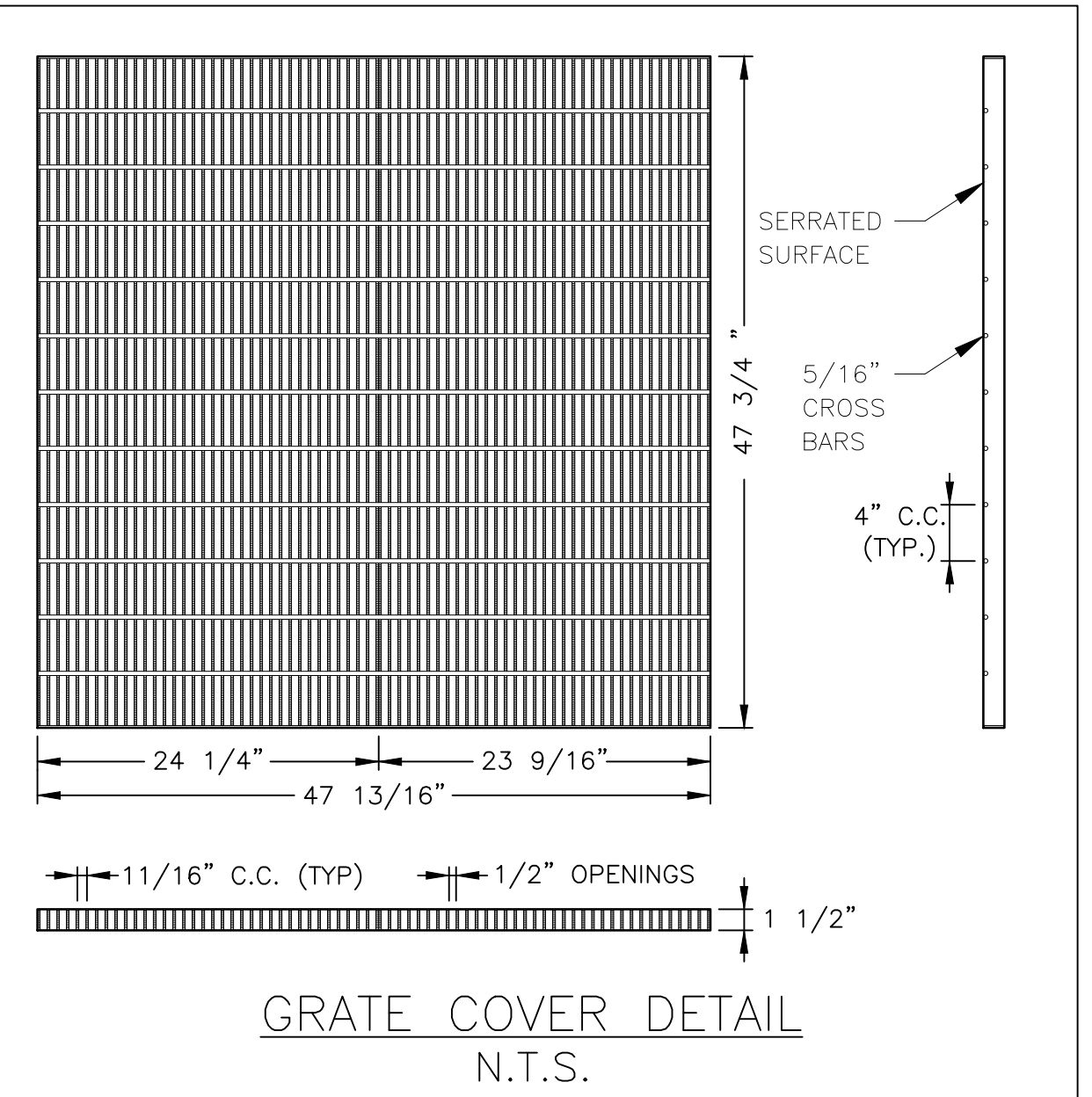
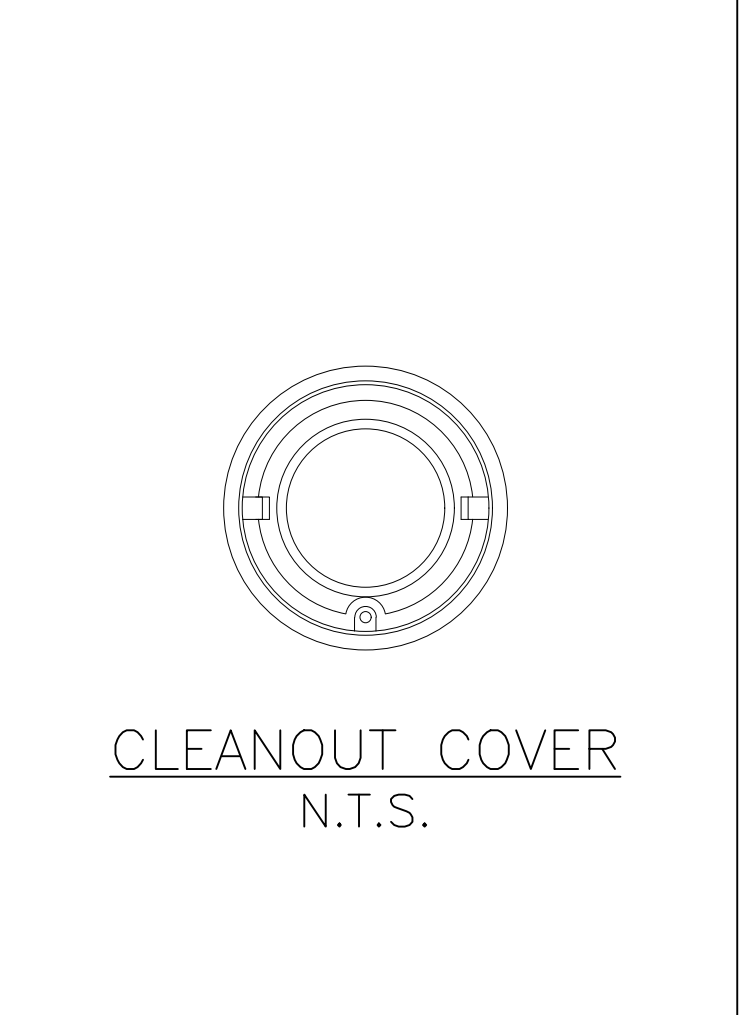
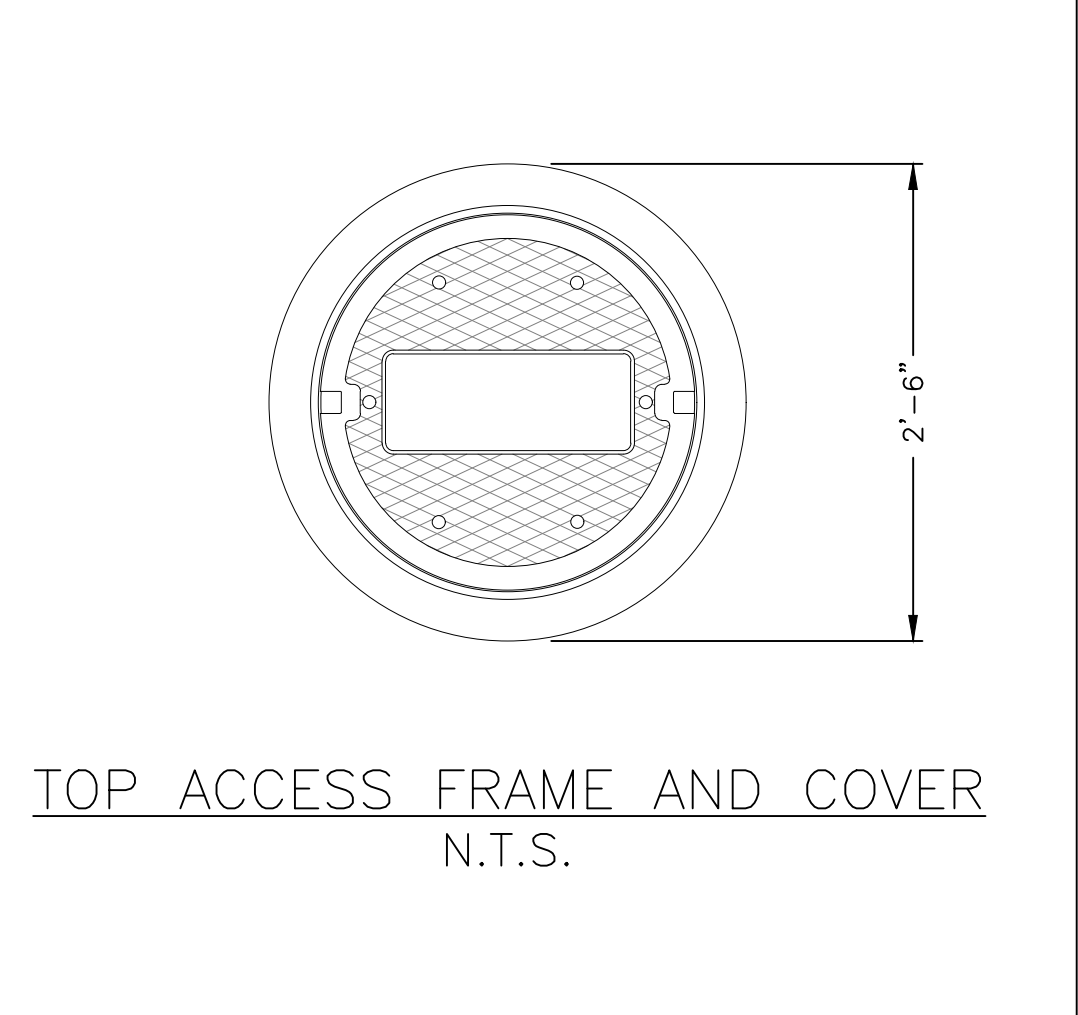
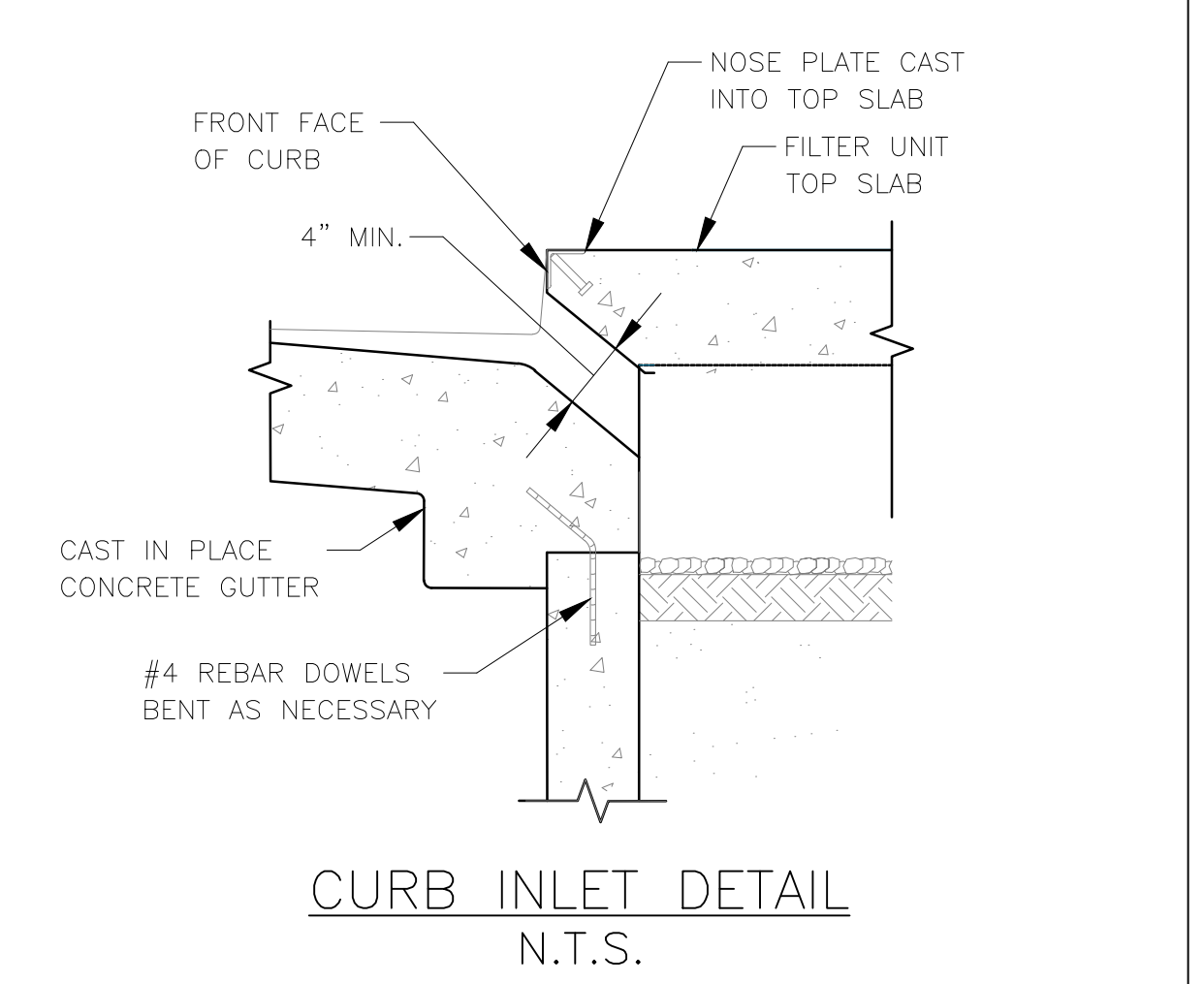
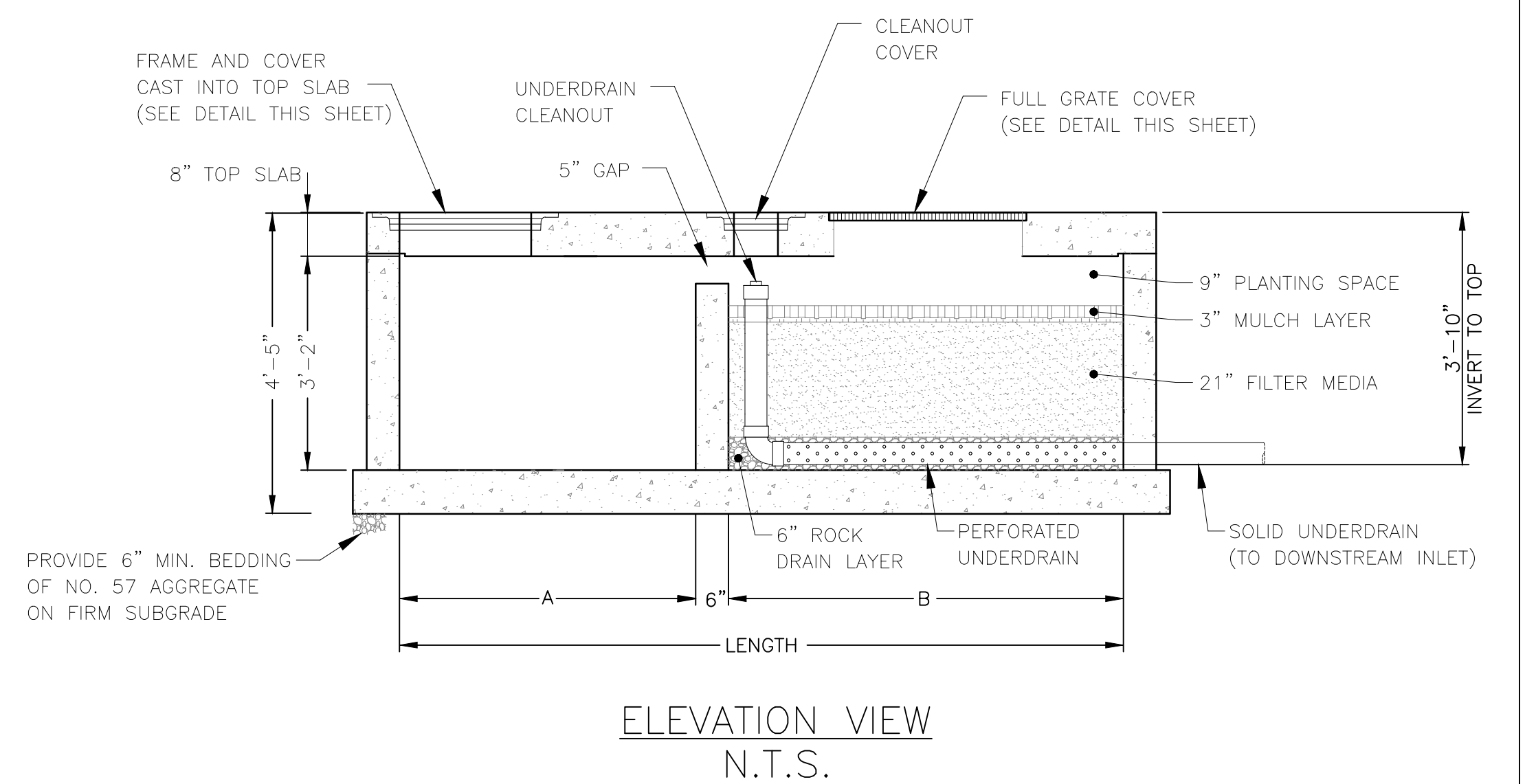
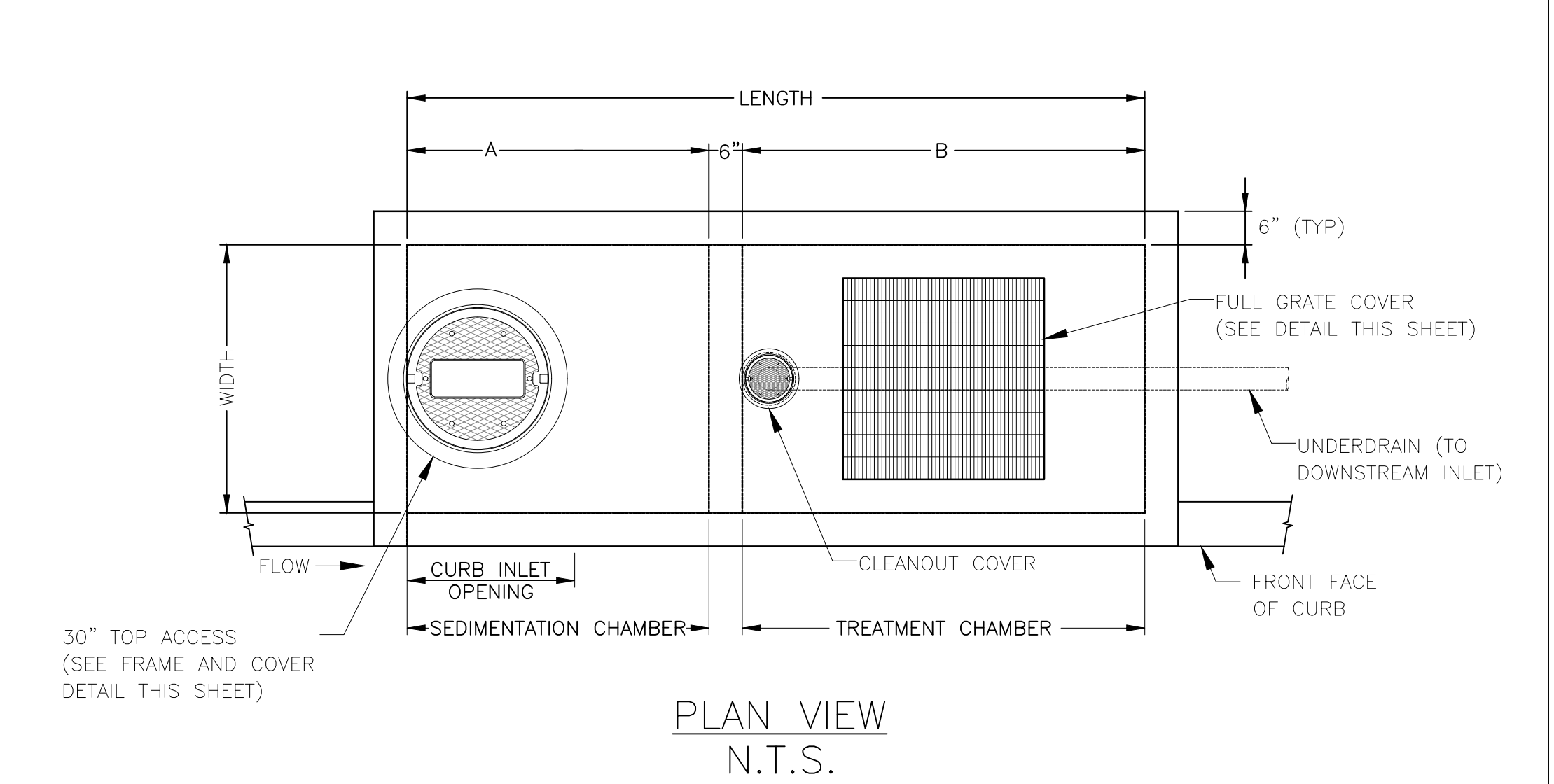
SCALE
AS NOTED

SECTION NO.
SWM - 01

SHEET NO.
24

PROJECT NO.
10-275

C:\USERS\G.IONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\7-SD-STORM DRAIN\10-275 STORM DRAIN - FILTER INLET.DWG



INSTALLATION PROCEDURE

- THE FOLLOWING PROCEDURE PROVIDES AN OVERVIEW OF RECOMMENDED INSTALLATION PRACTICES. INSTALLATION SHALL FOLLOW THE REQUIREMENTS OUTLINED IN THE FILTER INLET INSTALLATION MANUAL, PREPARED BY THE MANUFACTURER.
1. MANUFACTURER SHALL DELIVER THE FILTER UNITS TO THE SITE IN COORDINATION WITH THE CONTRACTOR. INSPECTION OF THE FILTER UNIT AND ALL PARTS CONTAINED IN OR SHIPPED OUTSIDE OF THE UNIT SHALL BE PERFORMED AT THE TIME OF DELIVERY BY THE SITE ENGINEER/INSPECTOR AND THE CONTRACTOR. ANY NONCONFORMANCE TO THE APPROVED DRAWINGS OR DAMAGE TO ANY PART OF THE SYSTEM SHALL BE DOCUMENTED ON THE FILTER UNIT SHIPPING TICKET. DAMAGE TO THE UNIT DURING AND AFTER UNLOADING SHALL BE CORRECTED AT THE EXPENSE OF THE CONTRACTOR. ANY NECESSARY REPAIRS TO THE FILTER UNIT SHALL BE MADE TO THE ACCEPTANCE OF THE ENGINEER/INSPECTOR.
 2. THE CONTRACTOR SHALL PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE FILTER VAULT. THE CONTRACTOR WILL REQUIRE SPREADER BARS AND CHAINS/CABLES/STRAPS, AS WELL AS LIFTING BLOCKS TO SAFELY AND SECURELY LIFT BOX SECTIONS AND TOP SLABS. FILTER BOXES SHALL BE LIFTED SEPARATELY FROM THE TOP SLABS.
 3. THE UNIT SHALL BE PLACED ON A COMPACTED SUB-GRADE WITH A MINIMUM 6-INCH GRAVEL BASE MATCHING THE FINAL GRADE OF THE CURB LINE IN THE AREA OF THE UNIT. THE UNIT IS TO BE PLACED SUCH THAT THE UNIT AND TOP SLAB MATCH THE GRADE OF THE CURB IN THE AREA OF THE UNIT. COMPACTED UNDISTURBED SUB-GRADE MATERIALS TO 95% OF MAXIMUM DENSITY AT +1% TO +2% OF OPTIMUM MOISTURE. UNSUITABLE MATERIAL BELOW SUB-GRADE SHALL BE REPLACED TO THE SITE ENGINEER'S APPROVAL.
 4. ONCE THE UNIT IS SET, THE INTERNAL WOODEN FORMS AND PROTECTED SILT FABRIC COVER MUST BE LEFT INTACT. THE TOP LID SHOULD BE SEALED ONTO THE BOX BACKFILLING, USING A NON-SHRINK GROUT, BUTYL RUBBER, OR SIMILAR WATERPROOF SEAL. THE BOARDS ON THE TOP OF THE LID AND BOARDS SEALED IN THE UNIT'S THROAT MUST NOT BE REMOVED. THE SUPPLIER WILL REMOVE THESE SECTIONS AT THE TIME OF ACTIVATION.
 5. OUTLET CONNECTIONS SHALL BE ALIGNED AND SEALED AT THE OUTLET CONNECTION LOCATION MARKED ON THE FILTER BOX. DO NOT USE PLUGGED COUPLINGS MARKED "USE OTHER CONNECTION".
 6. BACKFILLING SHOULD BE PERFORMED IN A CAREFUL MANNER, BRINGING THE APPROPRIATE FILL MATERIAL UP IN 6" LIFTS ON ALL SIDES. PRECAST SECTIONS SHALL BE SET IN A MANNER THAT WILL RESULT IN A WATERTIGHT JOINT. IN ALL INSTANCES, INSTALLATION OF THE FILTER UNIT SHALL CONFORM TO ASTM SPECIFICATION C891 "STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRECAST UTILITY STRUCTURES".
 7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE CURB AND GUTTER AND TRANSITION TO THE FILTER UNIT FOR PROPER FLOW INTO THE SYSTEM.
 8. THE CONTRACTOR SHALL BLOCK FILTER INLET CURB OPENINGS AFTER THE VAULT IS IN PLACE UNTIL THE SYSTEM IS ACTIVATED BY THE MANUFACTURER. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE AND COMPLETE MEASURES TO PROTECT THE FILTER UNIT FROM CONSTRUCTION-RELATED EROSION RUNOFF.
 9. ACTIVATION SHALL BE PERFORMED ONLY BY THE MANUFACTURER'S AUTHORIZED PERSONNEL. ACTIVATION CAN OCCUR ONCE THE PROJECT SITE IS FULLY STABILIZED. CALL THE MANUFACTURER TO SCHEDULE ACTIVATION.

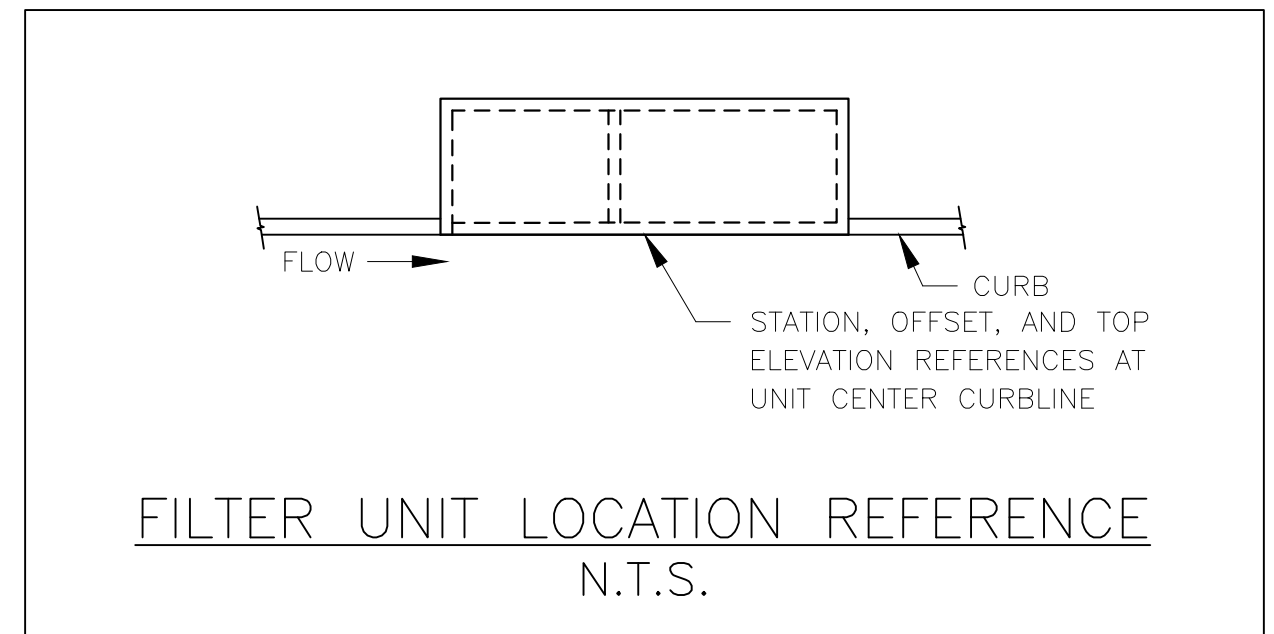
GENERAL NOTES

1. FILTER UNITS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH OF THE PERTINENT SIZE UNIT. THE PAYMENT WILL BE FULL COMPENSATION FOR ALL EXCAVATION, THE PRECAST UNIT AND MATERIALS FROM THE MANUFACTURER, AGGREGATE, GRADE AND SLOPE ADJUSTMENTS, BACKFILL AND FOR ALL MATERIAL, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. THE MANUFACTURER SHALL PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
3. FILTER INLET STRUCTURES SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM-918, AND ACI-319 LOAD FACTOR DESIGN METHOD.
4. IF THE FILTER UNIT IS STORED BEFORE INSTALLATION, THE TOP SLAB MUST BE PLACED ON THE BOX USING 2X4 WOOD PROVIDED, TO PREVENT ANY CONTAMINATION FROM THE SITE. ALL INTERNAL FITTING SUPPLIED (IF ANY) MUST BE LEFT IN PLACE AS PER THE DELIVERY.
5. THE CONTRACTOR SHALL ADHERE TO ALL JURISDICTIONAL AND/OR OSHA SAFETY RULES DURING FILTER INLET INSTALLATION AND FOR PROVIDING TEMPORARY SHORING OF THE EXCAVATION.
6. EACH UNIT SHALL BE CONSTRUCTED AT THE LOCATIONS AND ELEVATIONS ACCORDING TO THE SIZES SHOWN ON THE APPROVED DRAWINGS. ANY MODIFICATIONS TO THE ELEVATIONS OR LOCATION SHALL BE AT THE DIRECTION OF AND APPROVED BY THE ENGINEER.
7. THE CONTRACTOR SHALL PROVIDE, INSTALL, AND GROUT OUTLET PIPES. OUTLET PIPES SHALL BE PAID OR PER LINEAR FOOT OF SUB-DRAIN PIPE.
8. PLANTINGS AND MULCH SHALL BE SUPPLIED BY THE MANUFACTURER AND DELIVERED AT THE TIME OF SYSTEM ACTIVATION. UNITS SHALL BE PLANTED USING CAREX APPALACHICA (APPALACHIAN SEDGE). ANY CHANGE TO THE PLANT SELECTION SHALL BE APPROVED BY THE ENGINEER.
9. FILTER UNITS WILL BE MAINTAINED BY THE MANUFACTURER FOR 1 YEAR AFTER ACTIVATION. AFTER THE 1-YEAR MAINTENANCE PERIOD IS OVER, MAINTAINANCE SHALL BE ACCORDING TO THE MAINTENANCE PROCEDURES OUTLINED ON THIS SHEET.
10. CONTACT THE MANUFACTURER FOR ADDITIONAL DOCUMENTATION INCLUDING THE FILTER UNIT OWNER'S MANUAL, INSTALLATION MANUAL, AND OPERATIONS & MAINTENANCE MANUAL.

MAINTENANCE PROCEDURE

- THE FOLLOWING PROCEDURE PROVIDES AN OVERVIEW OF RECOMMENDED MAINTENANCE PRACTICES FOR FILTER INLET UNITS. OPERATION AND MAINTENANCE WORK SHALL ADHERE TO THE METHODS OUTLINED IN THE FILTER INLET OWNER'S MANUAL, PREPARED BY THE MANUFACTURER.
1. INSPECT THE FILTER UNIT AND SURROUNDING AREA. THE PRESENCE OF THE FOLLOWING CONDITIONS SHOULD BE NOTED ON THE MAINTENANCE REPORT AND PHOTOGRAPHED FOR DOCUMENTATION.
 - STANDING WATER
 - DAMAGE TO BOX STRUCTURE
 - DAMAGE TO GRATE
 - FLOW PREVENTED TO BYPASS
 2. REMOVE THE UNIT GRATE FOR ACCESS INTO THE FILTER BOX AND DIG OUT ANY SILT, DEBRIS, OR TRASH. NOTE THE VOLUME AND TYPE OF MATERIAL REQUIRING REMOVAL.
 3. MEASURE THE DISTANCE FROM THE TOP OF THE FILTER MEDIA LAYER TO THE BOTTOM OF THE TOP SLAB. IF THE DISTANCE IS GREATER THAN 15", ADD FILTER MEDIA (NOT TOP SOIL OR OTHER) TO A DISTANCE OF 12" TO THE TOP SLAB AND REPLACE MULCH.
 4. ADD DOUBLE SHREDDED MULCH EVENLY ACROSS THE ENTIRE UNIT TO A DEPTH OF 3". MULCH SHOULD BE APPROVED BY THE MANUFACTURER FOR USE IN THE FILTER INLET SYSTEMS.
 5. EXAMINE THE HEALTH OF THE PLANTED SURFACE AND REPLACE IF DEAD. TRIM AS NECESSARY TO REMAIN BELOW THE GRATE SURFACE. THE FOLLOWING ITEMS SHOULD BE NOTED ON THE MAINTENANCE REPORT. PROVIDE PHOTOGRAPHS OF CONDITION FOR DOCUMENTATION.
 - HEIGHT OF PLANT MATERIAL.
 - HEALTH
 - DAMAGE TO PLANTING
 - PLANTING REPLACED
 6. CLEAN AREA AROUND THE UNIT AND REMOVE ALL REFUSE TO BE DISPOSED OF APPROPRIATELY.

FILTER INLET DIMENSIONS					
STRUCTURE NO.	STATION / OFFSET	A	B	WIDTH	CURB OPENING WIDTH
F - 1	7+83.80 / 31.00' LT.	12'	9.5'	8'	5'
F - 2	16+24.81 / 25.44' LT.	9.5'	8'	6'	4'
F - 3 (EX. BOX)	-	-	-	-	-



FILTER INLET WITH SEDIMENTATION CHAMBER DETAILS
N.T.S.

DESIGNED BY:	PJM	DATE:	
DRAWN BY:	PAM/GJL	BY:	
CHECKED BY:	PJM	REVISION DESCRIPTION:	
DATE:	11-7-24	NO.	

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2460 Fax: 240-313-2401

PROFESSIONAL BOULEVARD
PHASE III & IV
FILTER INLET

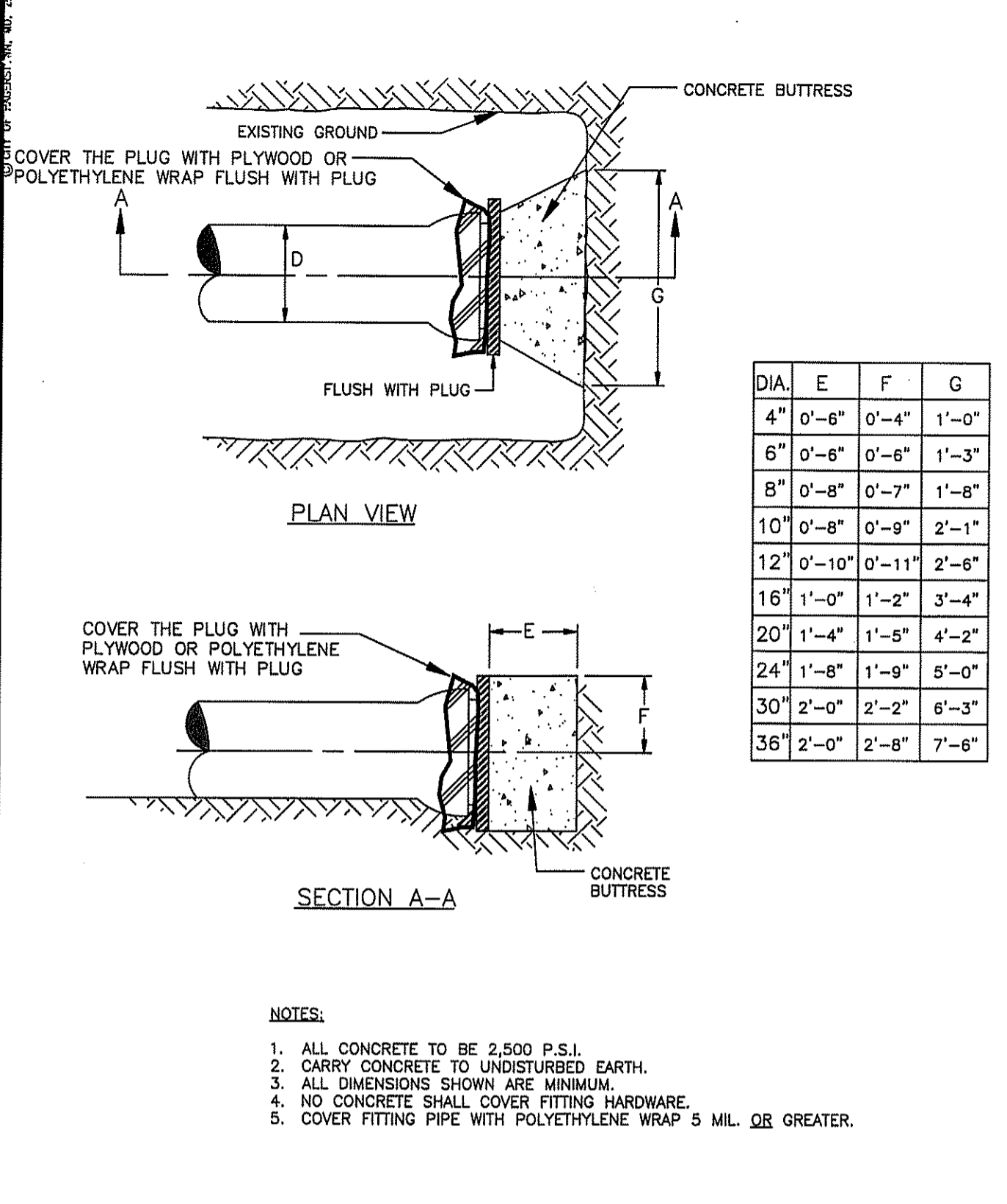
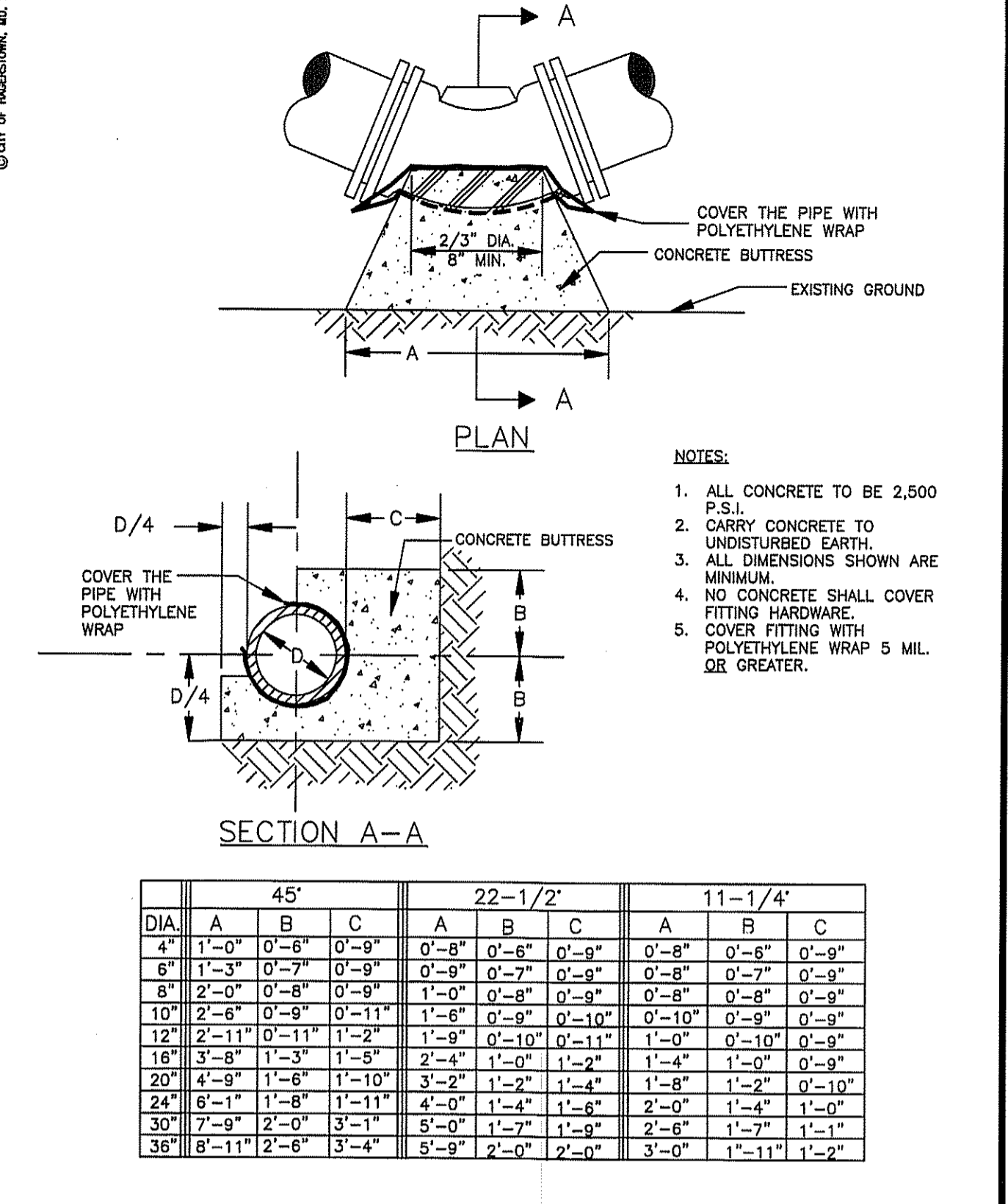
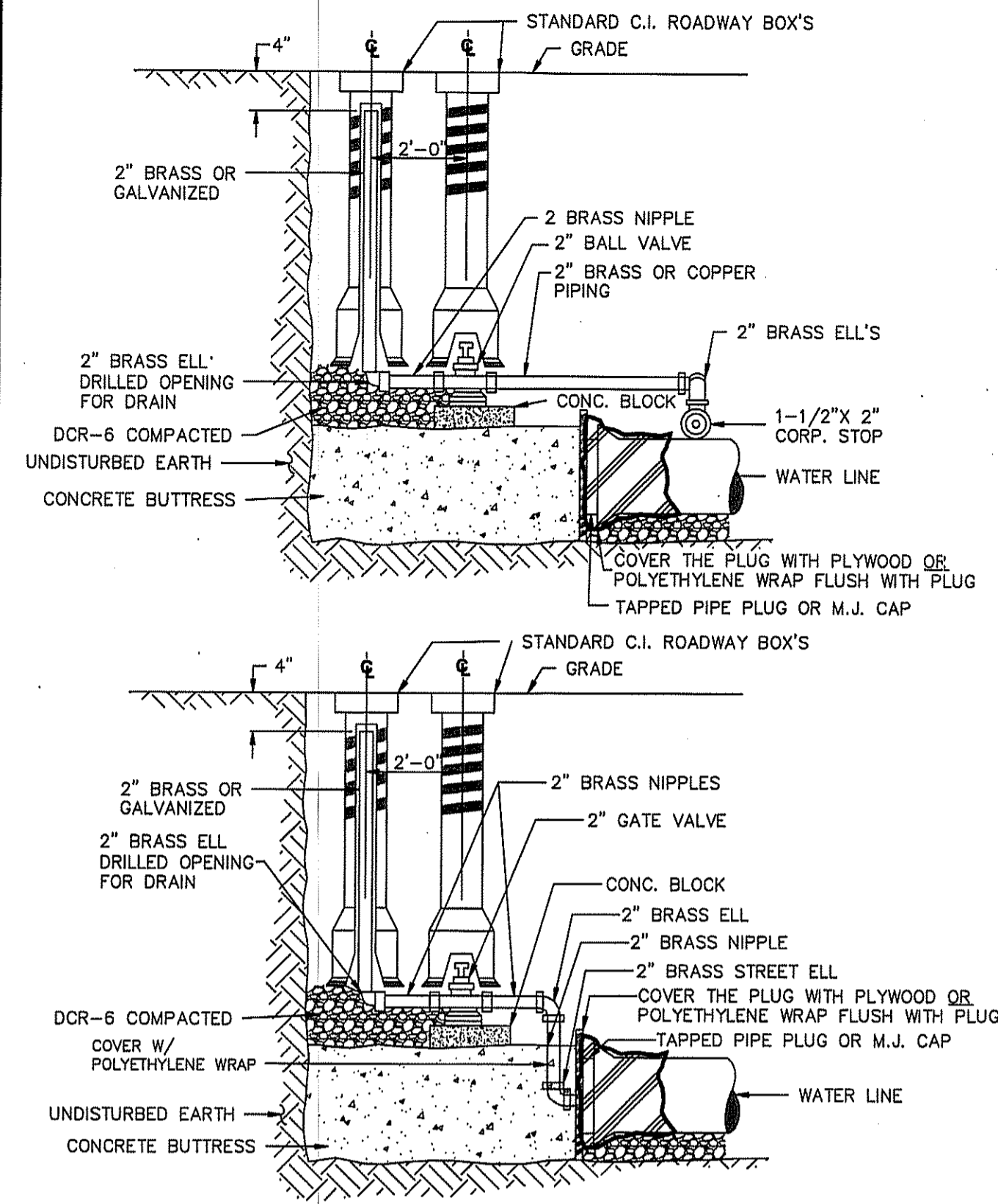
SCALE
AS NOTED

SECTION NO.
SWM - 02

SHEET NO.
25

PROJECT NO.
10-275

C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLDV. PH. III & IV\CONSTRUCTION\8-UTL-UTILITY\UTL-01.DWG Last Saved: 1/7/2025 10:05 AM



DUCTILE IRON TYTON PUSH-ON JOINTS PIPE STANDARD DIMENSIONS					
SIZE IN INCHES	LAYING LENGTH	"A" OUTSIDE DIAMETER	"D" DEPTH OF SOCKET	"F" BELL OUTSIDE DIAMETER O.D.	"G" BELL INSIDE DIAMETER I.D.
DIMENSIONS IN INCHES					
4	20'-1"	4.80	3.31	7.00	4.91
6	20'-1"	6.90	3.38	9.13	7.01
8	20'-1"	9.05	3.75	11.50	9.16
10	20'-1"	11.10	3.75	13.63	11.21
12	20'-1"	13.20	3.75	15.75	13.31
14	20'-0 1/2"	15.30	4.50	18.00	15.44
16	20'-0 1/2"	17.40	4.50	20.00	17.54
18	20'-0 1/2"	19.50	4.50	23.94	19.64
20	20'-0"	21.60	4.75	25.88	21.74
24	20'-0"	25.60	4.75	29.94	25.84
30	20'-0"	32.00	6.00	35.75	32.17
36	20'-0"	38.30	6.00	42.25	38.67
42	20'-0 1/2"	44.50	5.25	48.00	44.67
48	20'-0 1/2"	50.80	5.25	54.66	50.57
54	20'-0 1/2"	57.10	5.25	61.44	57.27

DIA.	E	F	G
4"	0'-6"	0'-4"	1'-0"
6"	0'-6"	0'-6"	1'-3"
8"	0'-8"	0'-7"	1'-8"
10"	0'-8"	0'-9"	2'-1"
12"	0'-10"	0'-11"	2'-6"
16"	1'-0"	1'-2"	3'-4"
20"	1'-4"	1'-5"	4'-2"
24"	1'-8"	1'-9"	5'-0"
30"	2'-0"	2'-2"	6'-3"
36"	2'-0"	2'-8"	7'-6"

DUCTILE IRON TYTON PUSH-ON JOINT PIPE ALLOWABLE JOINT DEFLECTION			
MAXIMUM RECOMMENDED DEFLECTION			
SIZE IN INCHES	NORMAL LAYING LENGTH FEET	"X" OFFSET PER LENGTH IN INCHES	"Y" DEFLECTO N ANGLE
4	20	21	0'-5"
6	20	21	0'-5"
8	20	21	0'-5"
10	20	21	0'-5"
12	20	21	0'-5"
14	20	17	0'-4"
16	20	17	0'-4"
18	20	12	0'-3"
20	20	12	0'-3"
24	20	12	0'-3"
30	20	12	0'-3"
36	20	12	0'-3"
42	20	8	0'-2"
48	20	8	0'-2"
54	20	6	0'-1 1/2"

CITY OF HAGERSTOWN UTILITIES DEPARTMENT-WATER DIVISION
2 INCH BLOW OFF
 ISSUE DATE: MARCH 2009
 REVISIONS
Plate W-006

CITY OF HAGERSTOWN UTILITIES DEPARTMENT-WATER DIVISION
BUTRESS FOR HORIZONTAL MECHANICAL JOINT BENDS LESS THAN 90°
 ISSUE DATE: MARCH 2009
 REVISIONS
Plate W-011

CITY OF HAGERSTOWN UTILITIES DEPARTMENT-WATER DIVISION
BUTRESS FOR PUSH-ON PLUG
 ISSUE DATE: MARCH 2009
 REVISIONS
Plate W-014

CITY OF HAGERSTOWN UTILITIES DEPARTMENT-WATER DIVISION
DUCTILE IRON TYTON JOINT PIPE AND PIPE DEFLECTION DETAILS
 ISSUE DATE: MARCH 2009
 REVISIONS
Plate W-003

CITY OF HAGERSTOWN UTILITIES DEPARTMENT-WATER DIVISION
 This approval is for the design and layout of the proposed water system improvements. All water system improvements shall be constructed to the standards in effect at the time of construction. This approval does not guarantee availability of water service. Water service is available subject to conformance with all policies and standards in effect at the time of application for service, payment of fees and approval of the water service application. The Water Division does not guarantee a specific water pressure or flow at any meter or fire hydrant. This approval is valid for a period of one year.
 (Signature) *[Signature]* (Date) **1-24-2025**

WASHINGTON COUNTY, MARYLAND
 DIVISION OF ENGINEERING
 Washington County Administrative Annex Building
 747 Northham Avenue, Hagerstown, Maryland, 21742
 Phone: 240-313-2460 Fax: 240-313-2401

DESIGNED BY: PAM
 DRAWN BY: GLJ
 CHECKED BY: PJM
 DATE: 11-01-24

REVISION DESCRIPTION
 NO. BY DATE

PROFESSIONAL BOULEVARD
 PHASE III & IV
 UTILITY PLAN
 WATER LINE EXTENSION

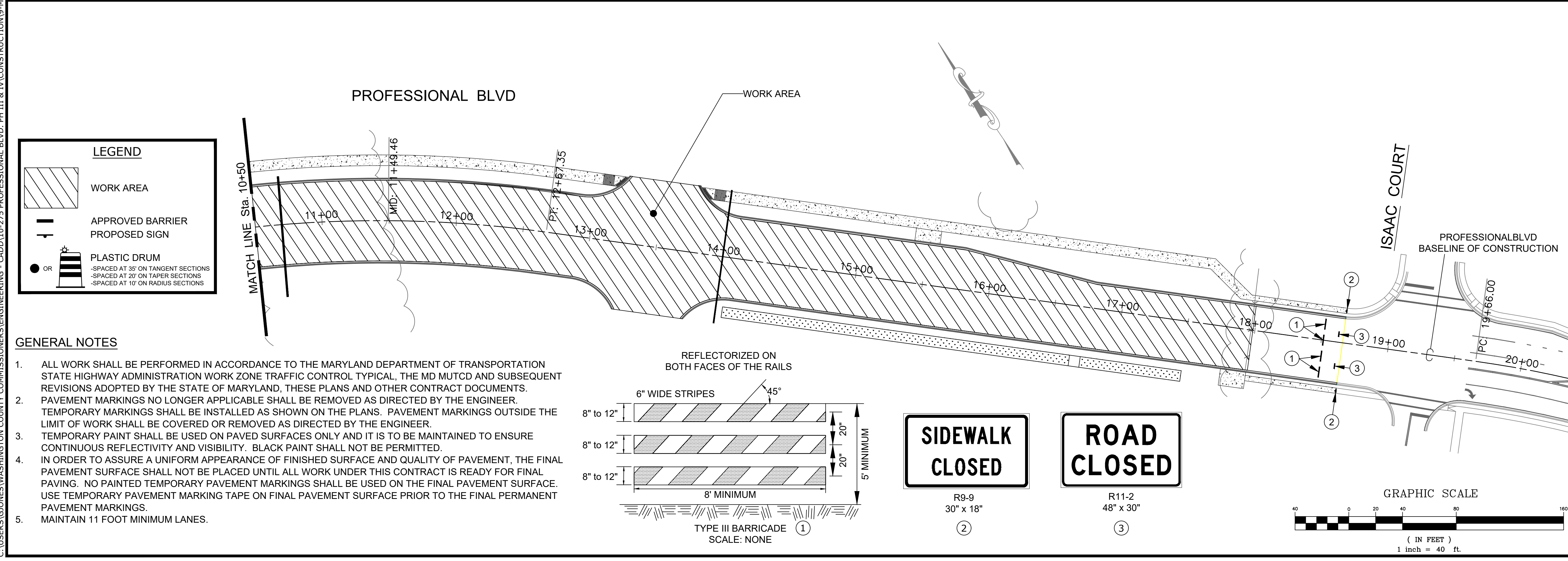
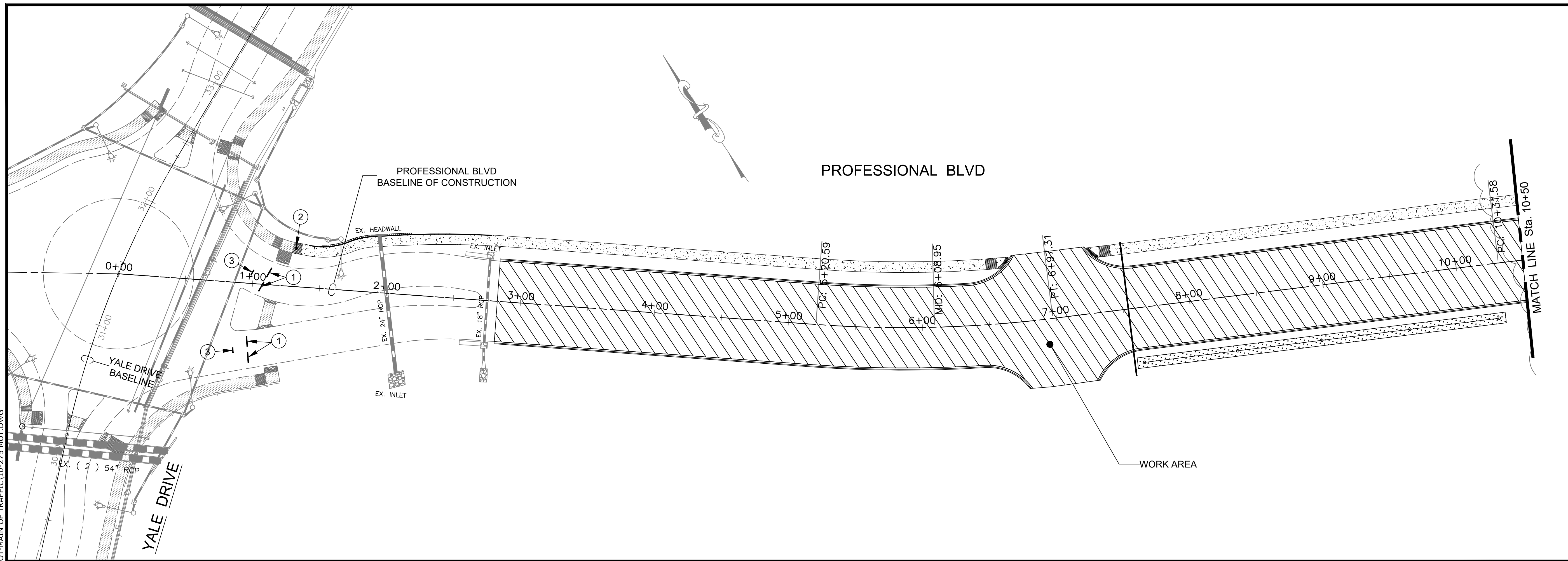
SCALE
 1" = 20'

SECTION NO.
 UTL - 01

SHEET NO.
 27

PROJECT NO.
 10-275

C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\9-MOT-MAIN OF TRAFFIC\10-275 MOT.DWG



NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: P.J.M.
DRAWN BY: G.J.J.
CHECKED BY: P.J.M.
DATE: 10-04-24

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2660 Fax: 240-313-2401

PROFESSIONAL BOULEVARD
PHASE III & IV
MAINTENANCE OF TRAFFIC

SCALE
1" = 40'

SECTION NO.
MOT - 01

SHEET NO.
28

PROJECT NO.
10-275

C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\10-PMS-P\MT MARKING & SIGN\10-275 PAVEMENT MARKINGS.DWG

CRITERIA

THE CONTRACTOR SHALL BE GOVERNED BY THE STANDARDS AND REQUIREMENTS OF THE FOLLOWING PUBLICATIONS, EXCEPT AS MODIFIED BY THE SPECIAL PROVISIONS OF THIS CONTRACT:

DESIGN

MDOT SHA - "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", 2011 EDITION AND SUBSEQUENT REVISIONS. (MDMUTCD)

A A S H T O - "HIGHWAY SAFETY DESIGN AND OPERATIONS GUIDE" -1997

A A S H T O - "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES AND TRAFFIC SIGNALS", 2001 EDITION (CATEGORY II FOR ALL OVERHEAD AND CANTILEVER SIGN STRUCTURES).

MATERIALS AND CONSTRUCTION

MDOT SHA - "STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS", MOST CURRENT EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.

MDOT SHA - "BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES", MOST CURRENT EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.

DESIGN WIND

- 100 MPH - WOOD SUPPORTS
10 YEAR RECURRENCE INTERVAL
- 100 MPH - GROUND MOUNT SIGN STEEL SUPPORTS
10 YEAR RECURRENCE INTERVAL
- 100 MPH - OVERHEAD AND CANTILEVER STRUCTURES
50 YEAR RECURRENCE INTERVAL

} ALL DISTRICTS

DESIGN STRESS

SOIL BEARING PRESSURE - S = 3,000 P.S.F. (ASSUMED)
SEE MATERIAL & CONSTRUCTION ABOVE AND SPECIAL PROVISIONS FOR DESIGN STRESSES FOR STRUCTURAL STEEL, ALUMINUM, REINFORCING STEEL AND CONCRETE.

CHAMFER

ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4" X 3/4" CHAMFER.

CLASSIFICATION OF SIGNS

SIGNS ARE DIVIDED INTO TWO (2) GENERAL CATEGORIES.

1. GUIDE SIGNS

- A) STRUCTURAL TYPES
 - OH - OVERHEAD
 - C - CANTILEVER
 - GM - GROUND MOUNT, BREAKAWAY OR NON-BREAKWAY
 - BM - BRIDGE MOUNTED

B) PANELS

- MATERIAL - EXTRUDED ALUMINUM COPY - DIRECT APPLIED
- 1) HIGH INTENSITY (NEW SIGNS AND REVISIONS TO EXISTING SIGNS)

2. STANDARD SIGNS (REGULATORY, WARNING, ETC.)

- A) STRUCTURAL TYPES
 - WOOD SUPPORTS
 - SQUARE TUBE

B) PANELS

- MATERIAL - SHEET ALUMINUM COPY - DIRECT APPLIED

IDENTIFICATION OF SIGNS AND PANELS

GUIDE SIGNS

EACH GUIDE SIGN IS IDENTIFIED BY A SIGN NUMBER ON THE PLANS AND IN THE TABULATIONS. (GM-1, GM-2, GM-3, etc)
SIGNS ON STRUCTURES ARE IDENTIFIED WITH A NUMBER AND WHERE VARIATIONS OCCUR, A LOWER CASE LETTER. (OH-1a, OH-1b, OH-1c)

STANDARD SIGNS

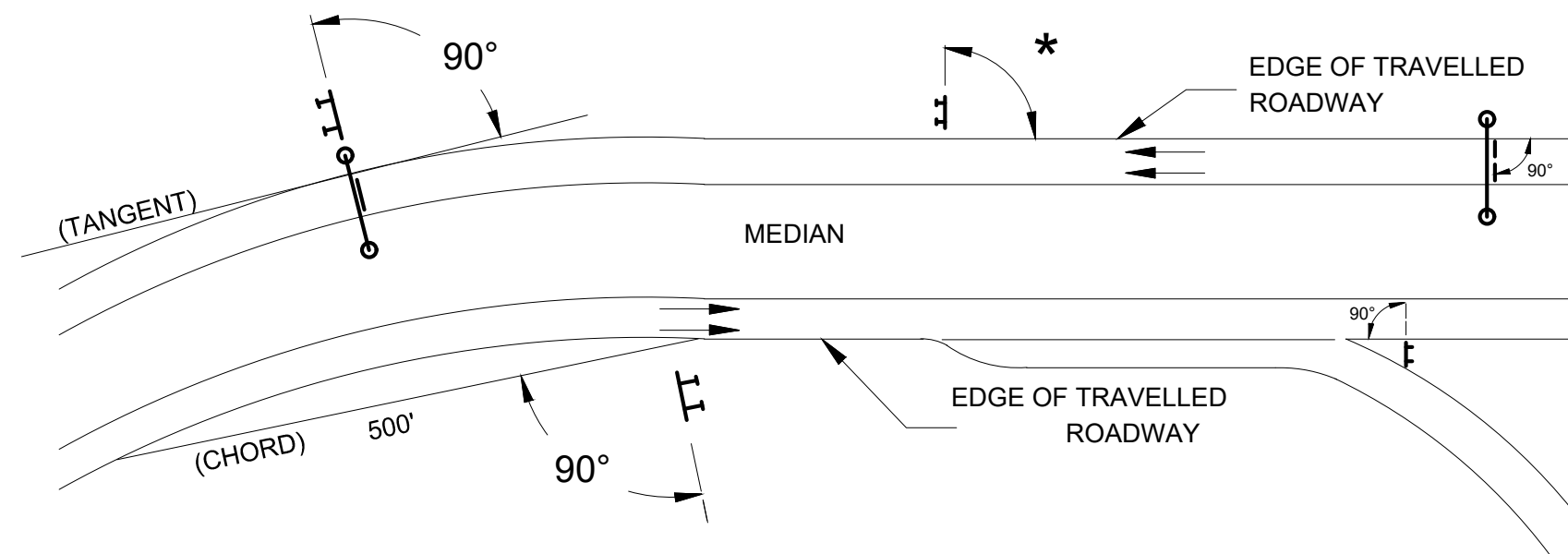
STANDARD SIGNS ARE IDENTIFIED BY PANEL NUMBERS AND ARE CLASSIFIED AS FOLLOWS
R - REGULATORY
W - WARNING
M - ROUTE MARKERS AND ACCESSORIES
D - DESTINATION AND MILEAGE PANELS
S - SCHOOL

PANELS SHALL BE DESIGNATED TO AGREE WITH MARYLAND STANDARD SIGN BOOK. EACH STANDARD SIGN IS IDENTIFIED FIRST BY THE SHEET NUMBER, THEN BY THE NUMERICAL ORDER OF THE SIGN AS IT APPEARS ON THE PLAN.
FOR EXAMPLE SHEET SN 2.1-101,102,103, ETC. SHEET SN 2.2-201,202,203,ETC.

PANEL LAYOUT AND ALPHABETS

1. GUIDE SIGN PANEL LAYOUTS ARE BASED ON THE A.A.S.H.T.O. MANUALS NOTED ABOVE.
2. STANDARD SIGN PANEL LAYOUTS ARE BASED ON THE MDMUTCD WITH SPECIFICATIONS DETAILED IN THE MARYLAND STATE HIGHWAY ADMINISTRATION PUBLICATION, "STANDARD SIGN BOOK", AVAILABLE ONLINE AT http://apps.roads.maryland.gov/businesswithsha/bizstdsspecs/desmanualstdpub/publicationonline/oofs/internet_signbook.asp

ORIENTATION OF SIGN FACES



* UNDER 30 FEET FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - 93° AWAY FROM THE ROAD TO AVOID SPECULAR REFLECTION AS INDICATED IN 813.03 OF THE MARYLAND STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

OVER 30 FEET FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - 90°

REFLECTORIZATION

BACKGROUNDS, BORDERS, TEXTS AND ALL OTHER ELEMENTS OF SIGN PANELS SHALL BE REFLECTORIZED EXCEPT WHERE NOTED. REFER TO PROJECT REQUIREMENTS FOR MORE DETAIL.

SIGN LOCATIONS

1. GUIDE SIGNS ARE LOCATED ON THE PLANS BY DIMENSION TO SURVEY STATIONS, OR WHEN NECESSARY, TO IDENTIFIABLE PHYSICAL FEATURES.
2. ALL CHANGES IN THE LOCATIONS OF SIGNS AS SHOWN ON THE PLAN SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

EXISTING UTILITIES

THE ENGINEER DOES NOT WARRANT OR GUARANTEE THE ACCURACY OR COMPLETENESS OF UTILITY INFORMATION SHOWN ON THE PLAN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROTECT ALL EXISTING FACILITIES WHICH MIGHT BE AFFECTED BY THIS WORK OR HIS OPERATION.

ROADSIDE SIGNS

1. VERTICAL ALIGNMENT
POSITION PANEL SO FACE IS PLUMB.
2. HORIZONTAL ALIGNMENT (SEE DIAGRAM ABOVE)
 - A) ON STRAIGHT ROADWAY SECTIONS, ANGLE OF SIGN FACE TO ROADWAY VARIES WITH DISTANCE FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - SEE DIAGRAM.
 - B) ON THE INSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL MAKES AN ANGLE OF 90° WITH A CHORD BETWEEN A POINT ON NEAR EDGE OF PAVEMENT AT SIGN LOCATION AND A POINT ON EDGE OF PAVEMENT 500' IN ADVANCE OF SIGN.
 - C) ON THE OUTSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL IS AT RIGHT ANGLES TO THE TANGENT OF THE CURVE AT THE SIGN LOCATION.
 - D) POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.

OVERHEAD SIGNS

1. VERTICAL ALIGNMENT
POSITION PANELS FOR ALL OVERHEAD STRUCTURES SO THAT PANEL FACE IS PLUMB.
2. OVERHEAD SIGN STRUCTURES SHALL NOT BE ERECTED WITHOUT ATTACHING LUMINAIRES, SUPPORTS, AND/OR SIGNS.
3. HORIZONTAL ALIGNMENT
 - A) POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO THE NORMAL EDGE OF ROADWAY, IF ON A STRAIGHT ROADWAY SECTION.
 - B) POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO THE TANGENT OF THE CURVE AT SIGN LOCATION, IF ON A HORIZONTAL CURVE.
 - C) POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.
4. VERTICAL CLEARANCE
 - A) OVERHEAD SIGNS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 17'-9" FROM ROADWAY TO THE BOTTOM OF LIGHT FIXTURES. ALL LIGHT FIXTURES ARE TO BE AT THE SAME ELEVATION.
 - B) IF THE CONTRACTOR CANNOT OBTAIN 17'-9" (SEE 3A) CLEARANCE, HE IS TO CEASE WORK AND CONTACT THE PROJECT ENGINEER FOR FURTHER INSTRUCTIONS. THE PROJECT ENGINEER MAY CONTACT THE TRAFFIC ENGINEERING DESIGN DIVISION FOR ASSISTANCE.
 - C) ON ALL OVERHEAD SIGNS, THE MINIMUM CLEARANCE TO BOTTOM OF DESIGN SIGN: 20'-9".

PROJECT REQUIREMENTS

ALL NEW SIGNS ON THIS PROJECT SHALL BE FABRICATED FROM SHEETING WHICH MEETS ALL OF THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER:

1. SHEETING SHALL MEET THE REQUIREMENTS OF SECTIONS 813 AND 950.03 OF MDOT SHA'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS 2017 EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.
2. LISTED ON MDOT SHA OFFICE OF TRAFFIC AND SAFETY'S QUALIFIED PRODUCTS LIST (QPL).

PROJECT REQUIREMENTS CONTINUED

3. THE FOLLOWING TYPES OF SHEETING SHALL BE USED FOR THE SPECIFIED SIGN CLASSIFICATIONS:

GENERAL NOTE: ALL COLORS SHALL BE RETROREFLECTIVE EXCEPT BLACK. BLACK TEXT, BORDERS, SYMBOLS OR ANY BLACK ELEMENTS OF ANY SIGN SHALL BE NON-REFLECTIVE. THIS APPLIES TO ALL MDOT SHA SIGNS AS SHOWN BELOW.

A) GUIDE, EXIT GORE, GENERAL INFORMATION, AND SERVICE SIGNS - FALL INTO TWO SUB CATEGORIES:

- (I). GROUND MOUNTED:
ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9).
- (II). OVERHEAD STRUCTURE SIGNS AND OVERHEAD CANTILEVER SIGNS:
ALL RETROREFLECTIVE SHEETING ELEMENTS OF ALL OVERHEAD SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE XI (11). (THIS SECTION DOES NOT APPLY TO OVERHEAD SIGNALIZED INTERSECTION SIGNING; MAST ARM OR SPAN WIRE. FOLLOW THE REQUIREMENTS FOR THE RESPECTIVE SIGN CLASSIFICATION FOR SIGNAL SIGNING.)

B) WARNING SIGNS - RETROREFLECTIVE SHEETING FOR WARNING SIGNS (FLUORESCENT YELLOW AND FLUORESCENT ORANGE) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9). REGULATORY MESSAGES WITHIN WARNING SIGNS SHALL FOLLOW THE REQUIREMENTS FOR REGULATORY SIGNS.

C) SCHOOL SIGNS - RETROREFLECTIVE SHEETING FOR SCHOOL SIGNS (FLUORESCENT YELLOW AND FLUORESCENT YELLOW-GREEN) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9). REGULATORY MESSAGES WITHIN SCHOOL SIGNS SHALL FOLLOW THE REQUIREMENTS FOR REGULATORY SIGNS.

D) REGULATORY SIGNS - FALL INTO THREE SUBCATEGORIES:

- (I). "RED" REGULATORY SIGNS; (SPECIFICALLY - STOP, YIELD, DO NOT ENTER AND WRONG WAY). ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9).
- (II). ALL R7 AND R8 SERIES PARKING RELATED SIGNS AND THEIR SUPPLEMENTAL PANELS, NO TRESPASSING SIGNS, AND SIGNS DIRECTED AT PEDESTRIANS AND BICYCLISTS ONLY. ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET THE REQUIREMENTS FOR ASTM TYPE IV (4).
- (III). ALL OTHER REGULATORY SIGNS - ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET ASTM TYPE IV (4) INCLUDING RED ELEMENTS. WARNING MESSAGES WITHIN REGULATORY SIGNS SHALL FOLLOW THE REQUIREMENTS FOR WARNING SIGNS.

E) ROUTE MARKERS (INDEPENDENT USE AND GUIDE SIGN USE)

INDEPENDENT USE: ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET BUT NOT TO EXCEED THE REQUIREMENTS FOR ASTM TYPE IV (4).

GUIDE SIGN USE: WHEN INCORPORATED IN THE BODY OF A GUIDE SIGN, ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET THE SHEETING REQUIREMENTS OF THE GUIDE SIGNS FOR WHICH THEY ARE TO BE APPLIED; GROUND MOUNT ASTM TYPE IX (9) OR OVERHEAD ASTM TYPE XI (11).

F) LOGOS AND / OR GRAPHICS - WITHIN SIGNS SHALL FOLLOW THE REQUIREMENTS FOR THE RESPECTIVE SIGN CLASSIFICATION UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER.

G) SPECIFIC SERVICE (LOGO) SIGNING - ALL COPY, DIVIDER BORDERS, LOGOS AND ARROWS SHALL BE DEMOUNTABLE ALUMINUM OVERLAYS, .032 MINIMUM TO .063 MAXIMUM. ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9). DISTANCES ON DIRECTIONAL ARROWS WHEN SPECIFIED SHALL BE BLACK. THE OVERLAYS ARE TO BE APPLIED WITH .125 ALUMINUM POP RIVETS TO THE BODY OF THE MAIN SIGN.

H) CIVIL DEFENSE SIGNS AND OTHER SIGNS - NOT SPECIFICALLY FALLING INTO ONE OF THE CATEGORIES ABOVE, SHALL FOLLOW THE GUIDELINES FOR THE SIGN CLASSIFICATION THAT MOST CLOSELY MATCHES THE COLOR(S) OF THE PROPOSED SIGN.

4. THE FOLLOWING MINIMUM THICKNESS SHALL BE USED FOR THE APPROPRIATE WIDTH OF SHEET ALUMINUM BLANKS:

LONGEST DIMENSION	MINIMUM THICKNESS
UP TO 12"	0.040"
GREATER THAN 12" TO 24"	0.063"
GREATER THAN 24" TO 36"	0.080"
GREATER THAN 36" TO 48"	0.100"
OVER 48"	0.125"

NO	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: PJM
DRAWN BY: GLJ
CHECKED BY: PJM
DATE: 10-06-24

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2460 Fax: 240-313-2401



**PROFESSIONAL BOULEVARD
PHASE III & IV
PAVEMENT MARKING & SIGNAGE NOTES**

SCALE
NONE

SECTION NO.
PMS - 01

SHEET NO.
29

PROJECT NO.
10-275

SQUARE FOOT AREAS OF SYMBOLS AND ARROWS		
SYMBOL	DESCRIPTION	AREA (SQ. FT.)
[Symbol]	THROUGH LANE-USE	12.5
[Symbol]	TURN LANE-USE (LEFT OR RIGHT)	15.5
[Symbol]	TURN AND THROUGH LANE-USE (LEFT OR RIGHT)	25.5
[Symbol]	LEFT AND RIGHT TURN LANE-USE	27.0
[Symbol]	ALL DIRECTIONS LANE-USE	38.5
[Symbol]	LANE-REDUCTION (LEFT OR RIGHT)	42.0
[Symbol]	FREEWAY, EXPRESSWAY AND RAMP ARROW	24.4
[Symbol]	WRONG WAY ARROW	23.8
[Symbol]	HOV LANE	13.5
[Symbol]	ACCESSIBILITY SYMBOL (BLUE BACKGROUND)	
	40"x40" (STANDARD)	11.5
	48"x48" (SPECIAL)	16.0
[Symbol]	RAILROAD-CROSSING	64.7 (TOTAL)
	8" (6' HIGH)	3.6 (EACH)
	x" (20' HIGH)	57.5
[Symbol]	YIELD AHEAD TRIANGLE	
	POSTED SPEED LIMIT 45 MPH OR GREATER	43.0
	POSTED SPEED LIMIT LESS THAN 45 MPH	34.0
[Symbol]	SHARKS TEETH	
	12"x18"	0.75
	POSTED SPEED LIMIT LESS THAN 45 MPH 24"x36"	3.0
	POSTED SPEED LIMIT 45 MPH OR GREATER	
[Symbol]	BIKE LANE DETECTOR	1.0
[Symbol]	SHARED LANE (BIKE AND MOTOR VEHICLE)	9.0
[Symbol]	BIKE LANE ARROW	5.0
[Symbol]	BIKE LANE (STANDARD)	5.0
[Symbol]	BIKE LANE (ALTERNATE NOT FOR USE ON STATE ROADWAYS)	6.0

SQUARE FOOT AREAS OF LEGENDS		
LEGEND	SIZE/DESCRIPTION	AREA (SQ. FT.)
HEAD LANE LEFT	8' HIGH	29.0
LANE LEFT	8' HIGH (STANDARD)	22.3
ONLY PED RIGHT	8' HIGH	18.2
LANE RIGHT	8' HIGH	20.8
PED RIGHT	8' HIGH	17.3
SCHOOL	8' HIGH (STANDARD)	32.3
	10' HIGH (ACROSS TWO LANES)	94.0
SLOW STOP	8' HIGH	22.8
TURNING YIELD	8' HIGH	20.8
	8' HIGH	22.8
	8' HIGH	20.3
	8' HIGH	22.3

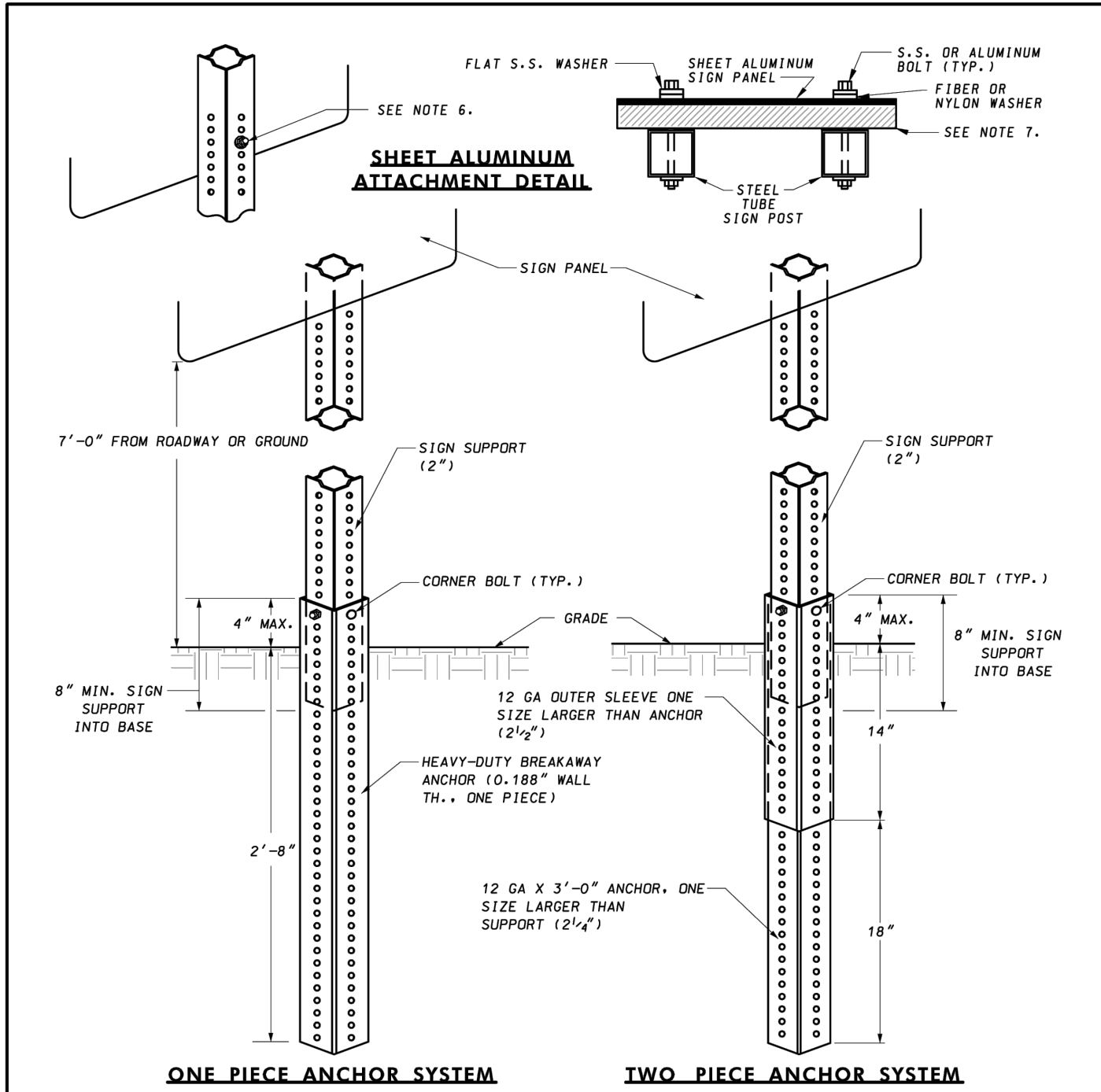
SQUARE FOOT AREAS OF NUMBERS		
SIZE	NUMBER	AREA
SMALL (6 FT.)	1 2 3 4 5 6 7 8 9 0	1.5 3.3 3.3 2.9 3.5 3.5 2.2 3.8 3.5 3.4
LARGE (8 FT.)	1 2 3 4 5 6 7 8 9 0	2.6 5.8 5.8 5.1 6.1 6.2 3.8 6.7 6.2 6.0

SQUARE FOOT AREAS OF LETTERS		
SIZE	LETTER	AREA
SMALL (6 FT.)	A B C D E F G H I J K	3.1 4.0 2.7 3.4 3.3 2.6 3.3 3.4 1.5 2.1 3.1
LARGE (8 FT.)	A B C D E F G H I J K	5.5 7.1 4.8 6.1 5.9 4.7 5.8 6.0 2.6 3.7 5.7

LETTER	AREA
L	2.2
M	4.2
N	4.0
O	3.4
P	3.0
Q	3.6
R	3.6
S	3.2
T	2.2
U	3.2
V	2.7
W	4.2
X	2.7
Y	2.2
Z	2.9
3	3.8
4	7.4
5	6.0
6	5.3
7	6.3
8	5.7
9	3.8
0	4.8
1	7.3
2	4.8
3	3.9
4	5.1

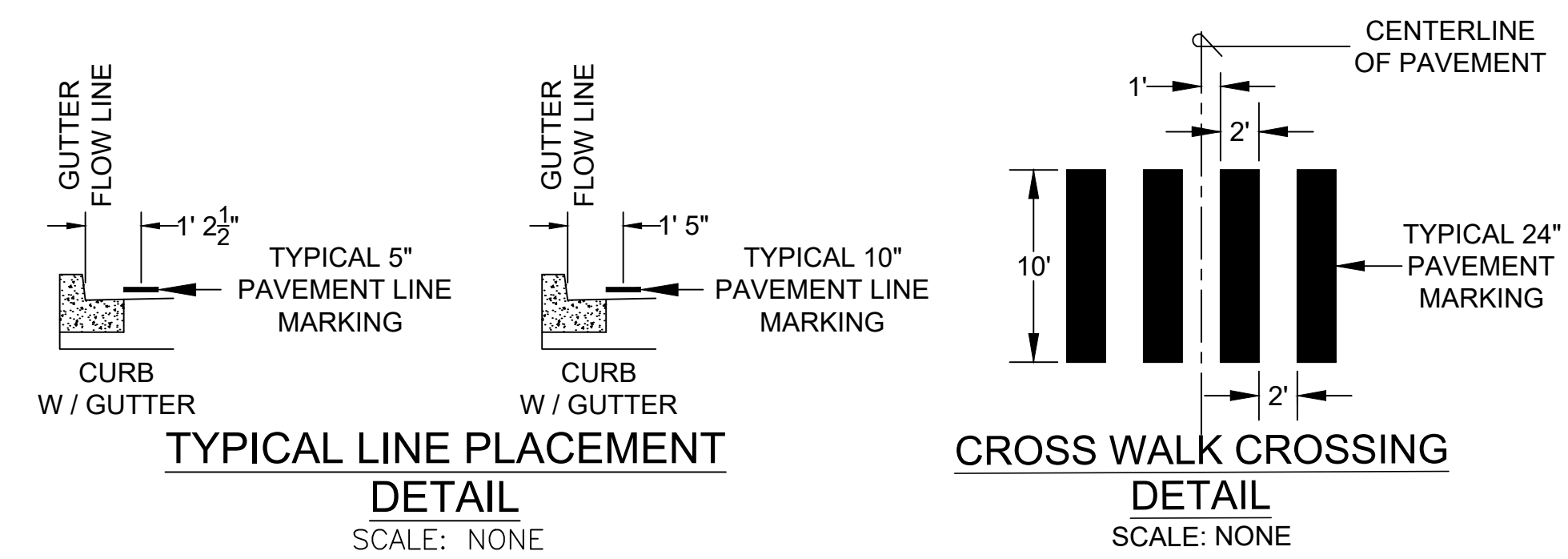
NOTE: REFER TO THE MOST RECENT VERSION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE FHWA STANDARD HIGHWAY SIGNING MANUAL FOR DIMENSIONS OF ALL PAVEMENT MARKING LETTERS, SYMBOLS, ARROWS, AND NUMBERS.

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
 STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
SQUARE FOOT AREAS OF PAVEMENT MARKING LETTERS, SYMBOLS, ARROWS AND NUMBERS
STANDARD NO. MD 550.01



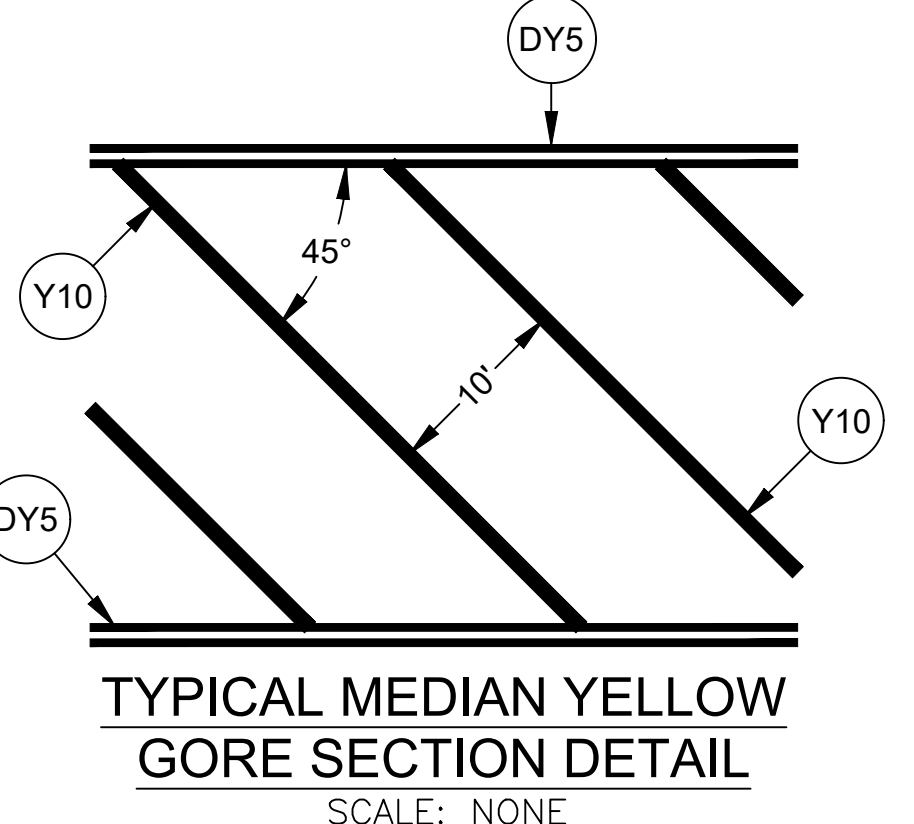
- NOTES:**
- INSTALLATION SHALL BE PERFORMED PER MANUFACTURER'S RECOMMENDATIONS.
 - CORNER BOLTS AND HARDWARE SHALL BE AS APPROVED BY AASHTO AND PER MANUFACTURER'S RECOMMENDATIONS.
 - THE INSTALLATION SHALL MEET THE LATEST AASHTO BREAKAWAY REQUIREMENTS.
 - SPICES SHALL NOT BE USED TO EXTEND THE HEIGHT OF A SIGN POST.
 - ONLY 2" SIGN SUPPORTS SHALL BE USED. SIGN POSTS GREATER THAN OR LESS THAN 2" ARE NOT PERMITTED.
 - FOR SHEET ALUMINUM ATTACHMENT, ALL BOLTS SHALL BE 3/8" F593 (18-8 TYPE 303-304) STAINLESS STEEL OR ANODIZED ALUMINUM HEX HEAD BOLT WITH WASHERS AND NUTS SPACED AT 12" MAXIMUM.
 - ALL SHEET ALUMINUM SIGNS 5' WIDE AND LARGER SHALL BE BRACED WITH TWO HORIZONTAL 2"x4" TREATED WOOD OR EQUAL, ATTACHED TO THE SUPPORTS. THE BOLT LENGTHS SHALL BE COORDINATED.

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
 STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
BREAKAWAY TUBULAR STEEL SIGN SUPPORTS
STANDARD NO. MD 802.04



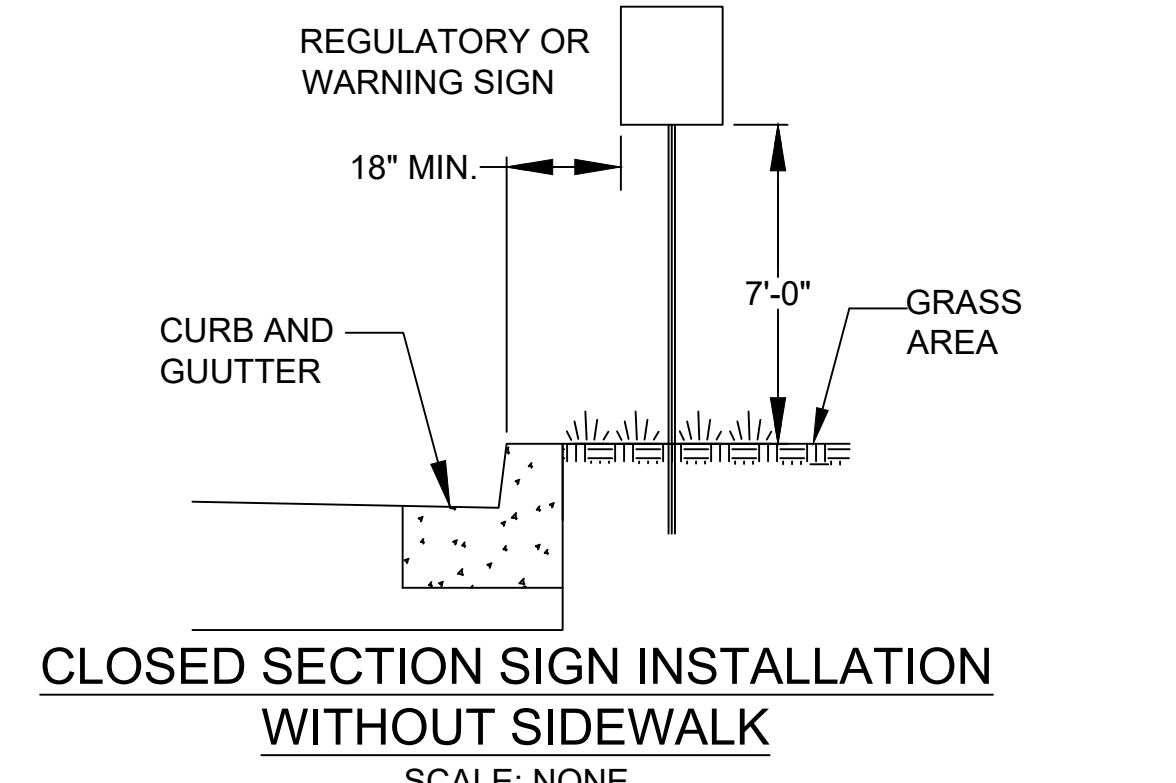
TYPICAL LINE PLACEMENT DETAIL
 SCALE: NONE

CROSS WALK CROSSING DETAIL
 SCALE: NONE

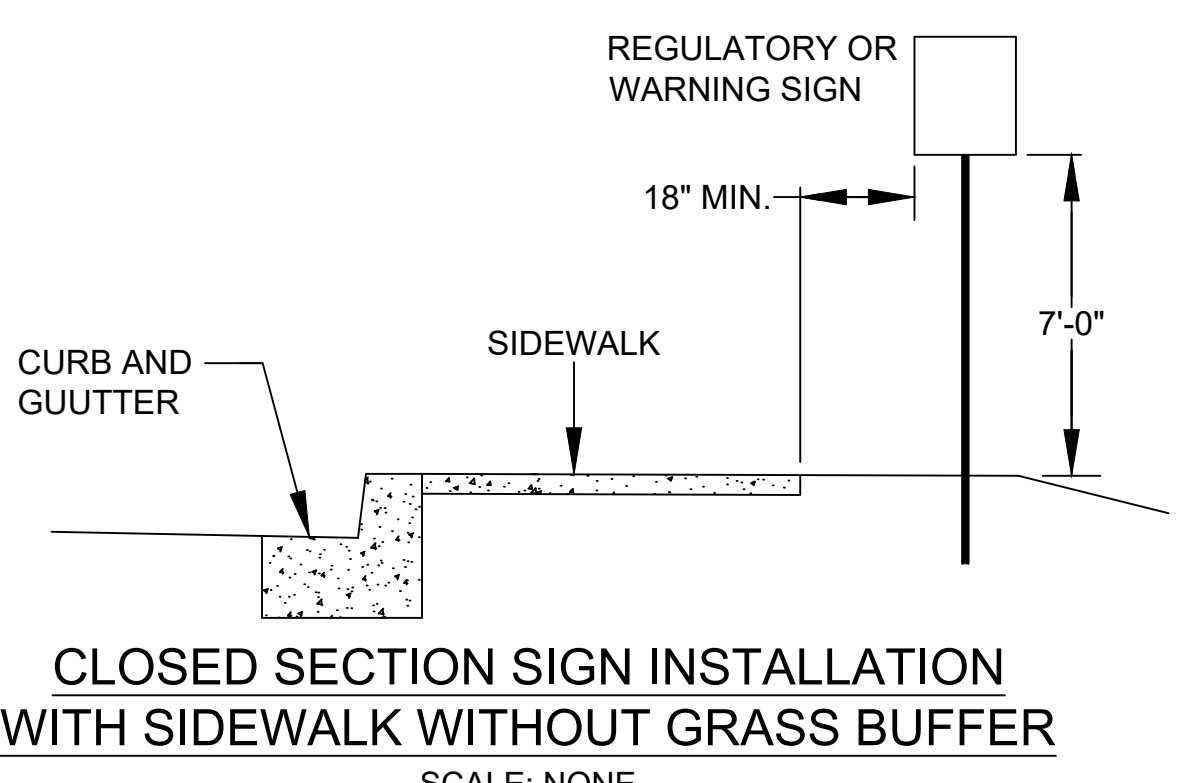


TYPICAL MEDIAN YELLOW GORE SECTION DETAIL
 SCALE: NONE

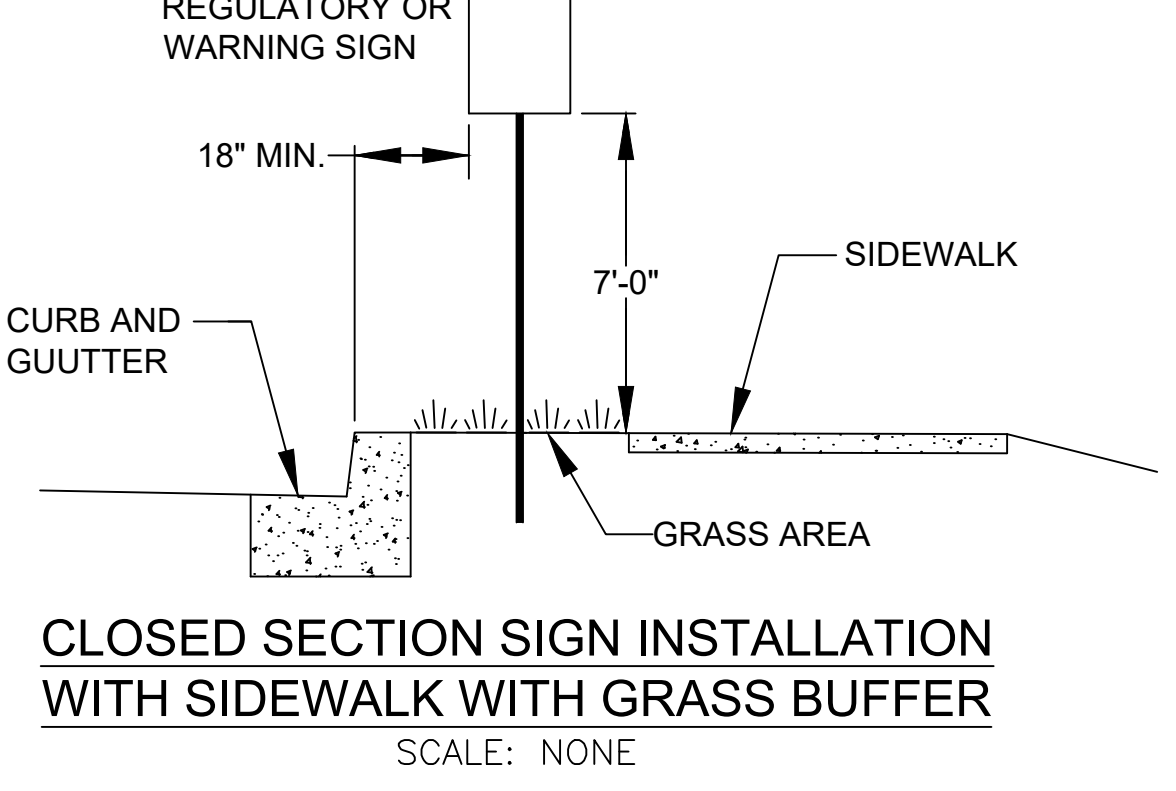
Y10 10" SINGLE YELLOW LINE
 DY5 5" DOUBLE YELLOW LINE



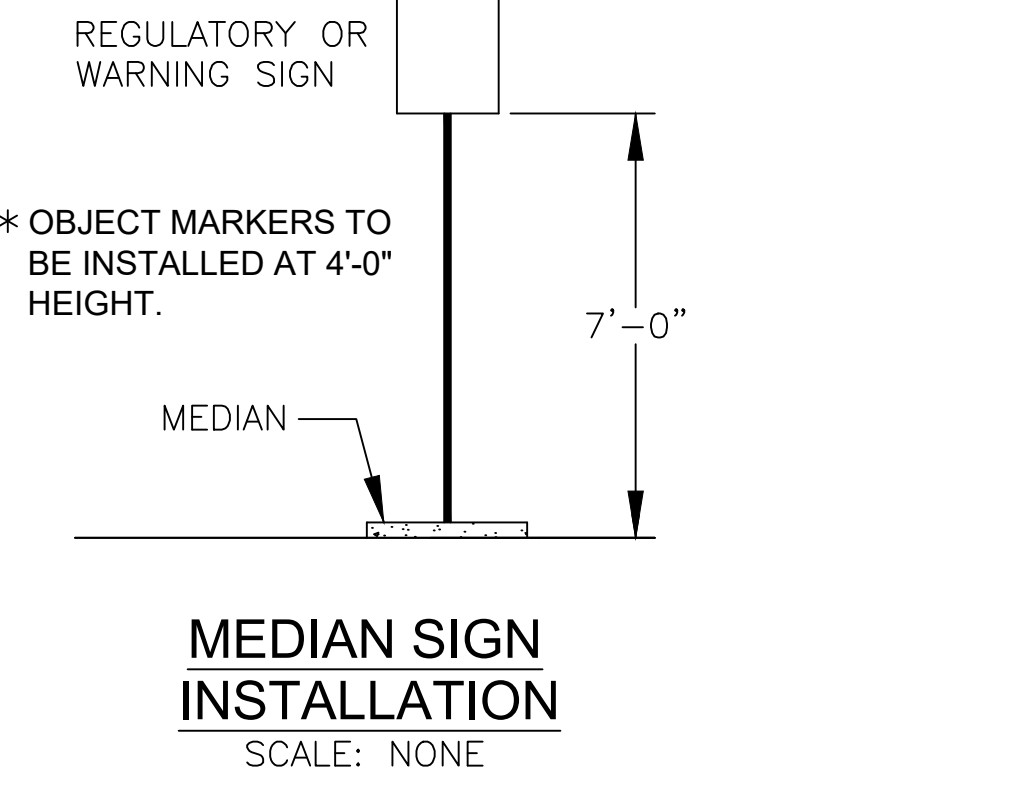
CLOSED SECTION SIGN INSTALLATION WITHOUT SIDEWALK
 SCALE: NONE



CLOSED SECTION SIGN INSTALLATION WITH SIDEWALK WITHOUT GRASS BUFFER
 SCALE: NONE

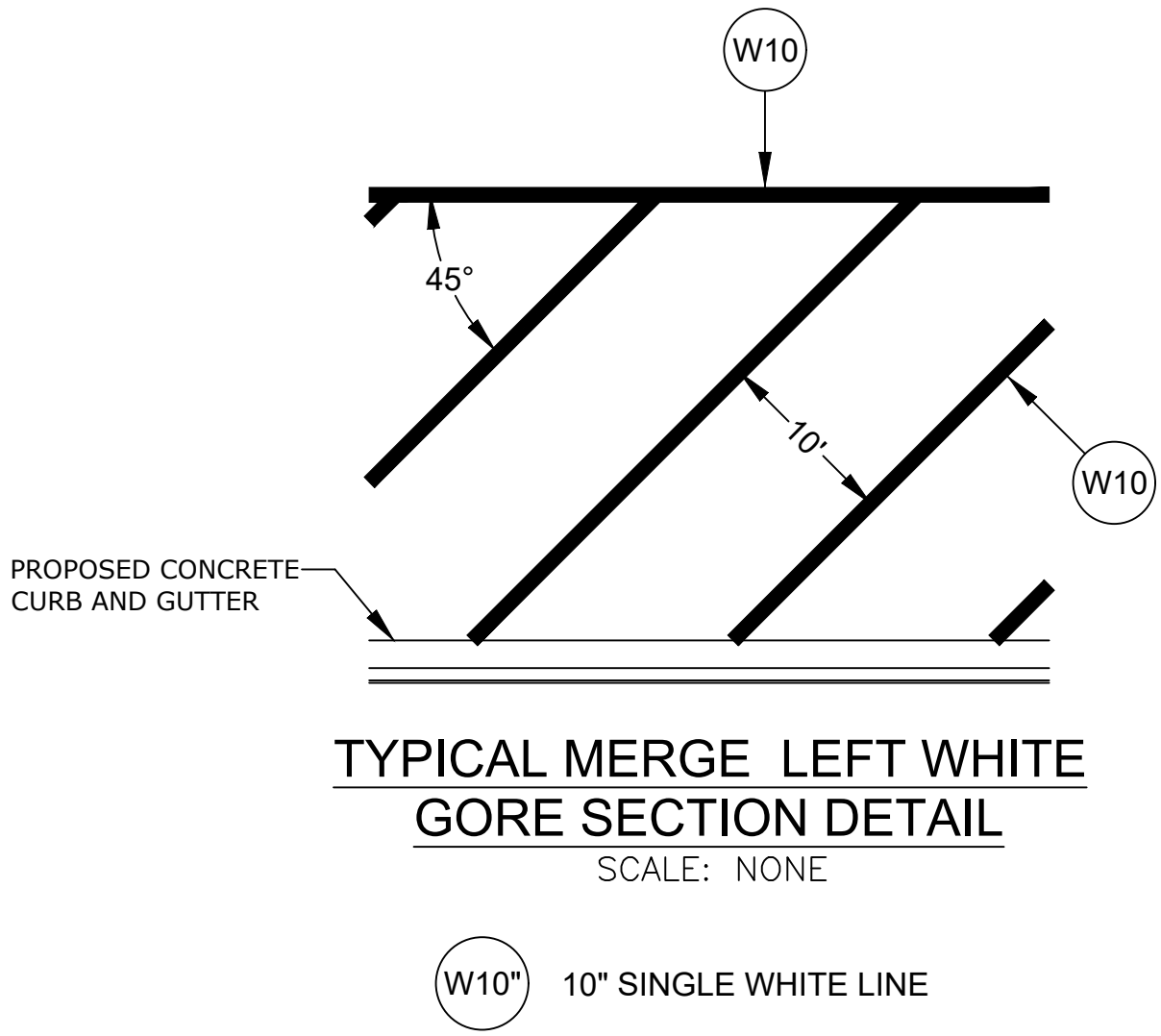


CLOSED SECTION SIGN INSTALLATION WITH SIDEWALK WITH GRASS BUFFER
 SCALE: NONE



MEDIAN SIGN INSTALLATION
 SCALE: NONE

* OBJECT MARKERS TO BE INSTALLED AT 4'-0" HEIGHT.



TYPICAL MERGE LEFT WHITE GORE SECTION DETAIL
 SCALE: NONE

W10 10" SINGLE WHITE LINE

DESIGNED BY:	DATE:
DRAWN BY:	REVISION DESCRIPTION:
CHECKED BY:	NO.
P.J.M.	
G.L.J.	
P.J.M.	
P.J.M.	
DATE:	
10-06-24	

WASHINGTON COUNTY, MARYLAND
 DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
 747 Northern Avenue, Hagerstown, Maryland, 21742
 Phone: 240-313-2460 Fax: 240-313-2401

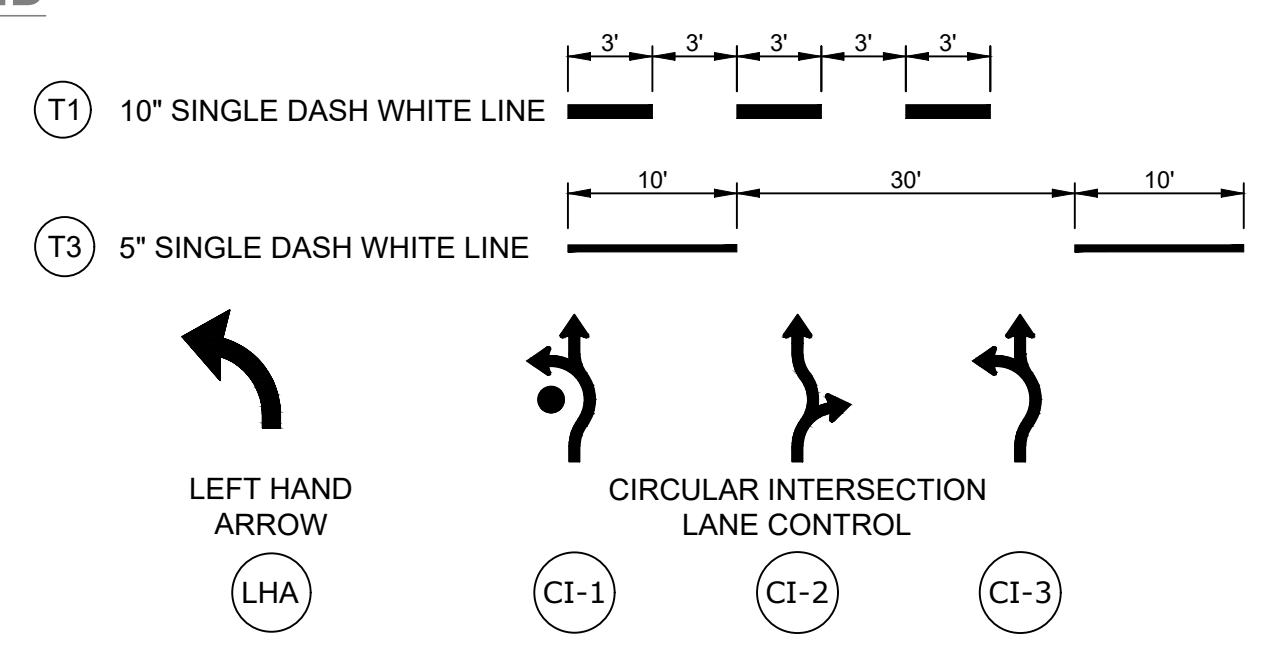
PROFESSIONAL BOULEVARD
PHASE III & IV

PAVEMENT MARKING & SIGNAGE NOTES

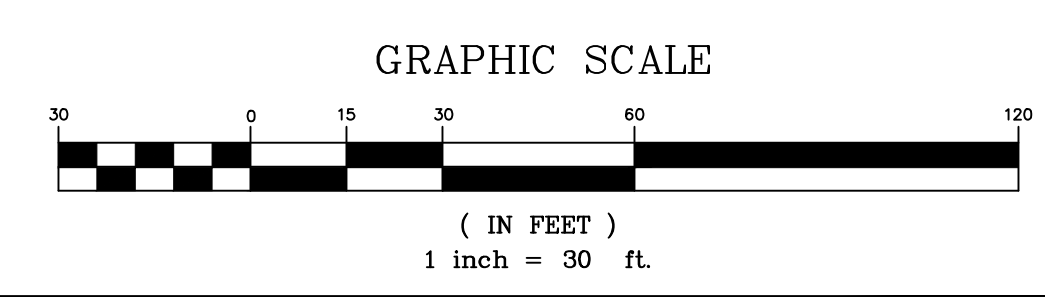
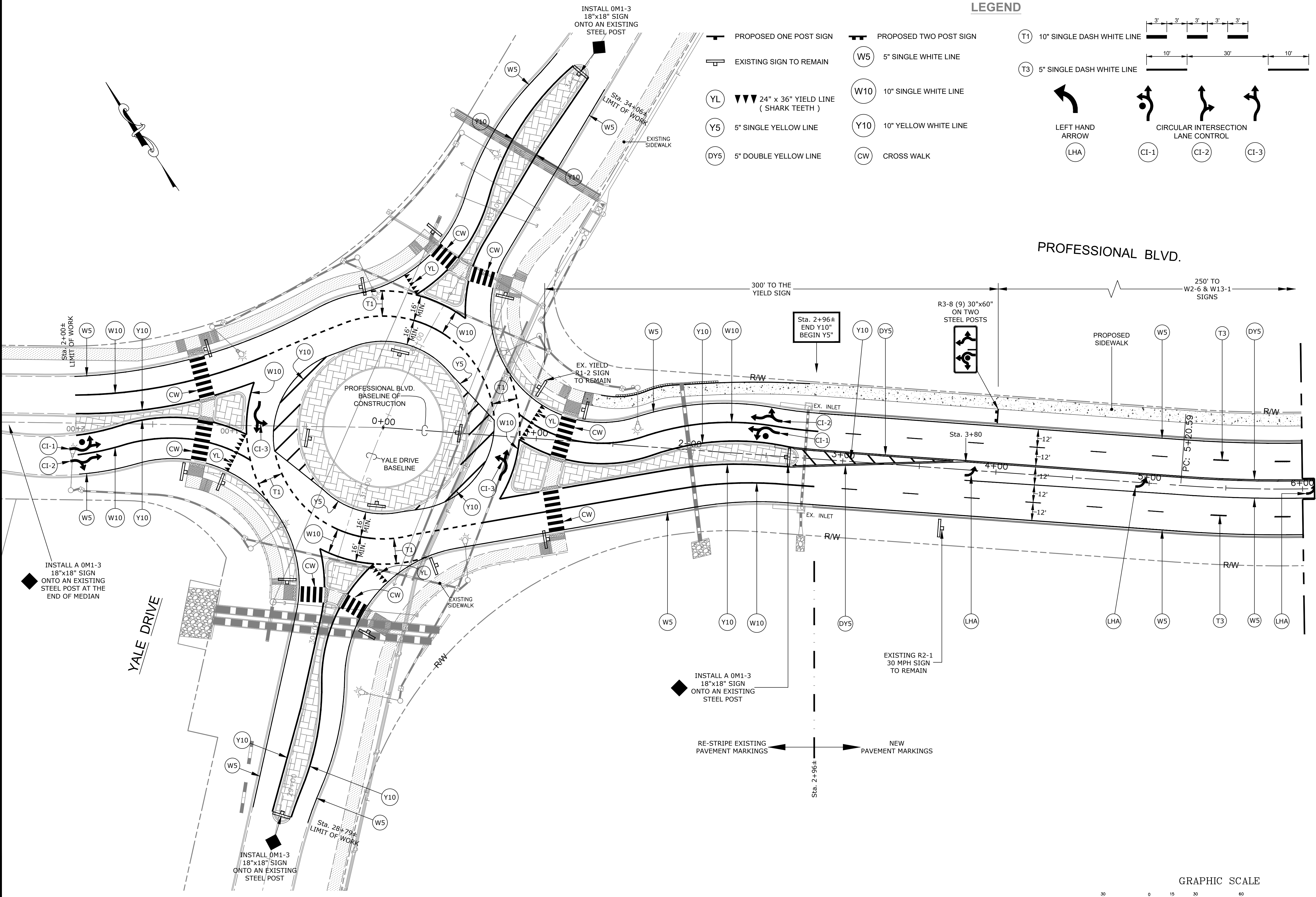
SCALE: NONE
 SECTION NO.: PMS - 02
 SHEET NO.: 30
 PROJECT NO.: 10-275

LEGEND

- PROPOSED ONE POST SIGN
- EXISTING SIGN TO REMAIN
- YL 24" x 36" YIELD LINE (SHARK TEETH)
- Y5 5" SINGLE YELLOW LINE
- DY5 5" DOUBLE YELLOW LINE
- PROPOSED TWO POST SIGN
- W5 5" SINGLE WHITE LINE
- W10 10" SINGLE WHITE LINE
- Y10 10" YELLOW WHITE LINE
- CW CROSS WALK



C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\10-PMS-P\WT MARKING & SIGN\10-275 PAVEMENT MARKINGS.DWG



MATCH LINE - STA. 6+00 - SEE SHEET PMS - 04

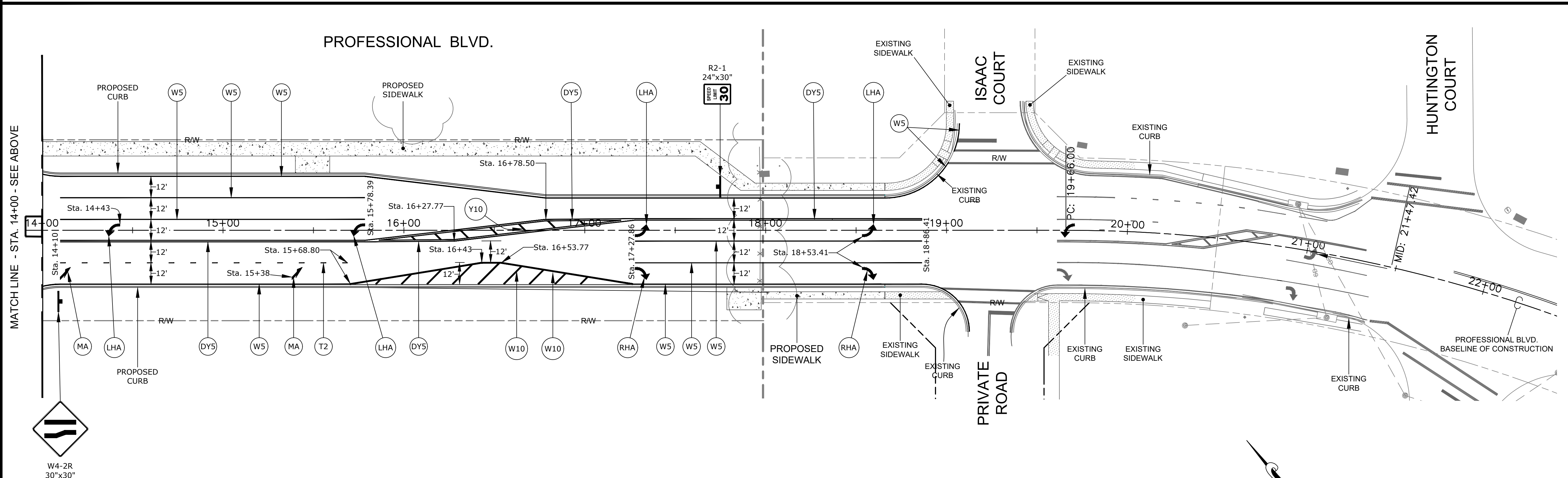
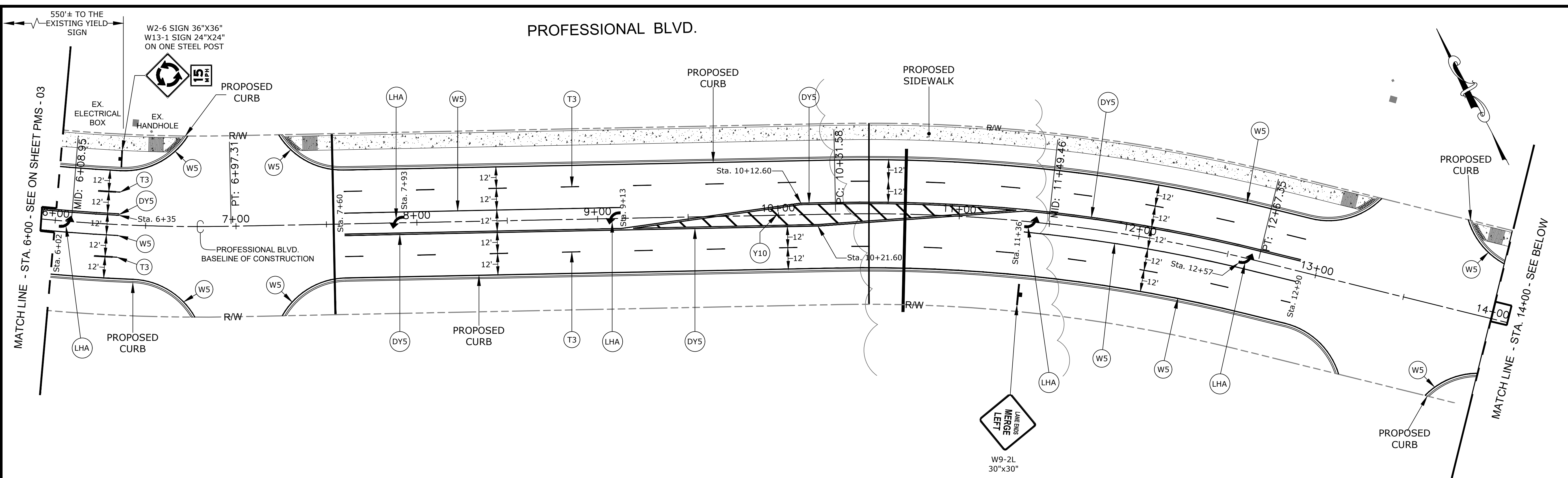
DESIGNED BY:		DRAWN BY:		CHECKED BY:		DATE:
NO.		NO.		NO.		DATE:
REVISION DESCRIPTION						

WASHINGTON COUNTY, MARYLAND
 DIVISION OF ENGINEERING
 Washington County Administrative Annex, Building
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 Phone: 280-313-2660 Fax: 240-313-2401

**PROFESSIONAL BOULEVARD
 PHASE III & IV
 PAVEMENT MARKINGS &
 SIGNAGE PLAN
 YALE DRIVE TO Station 12+50**

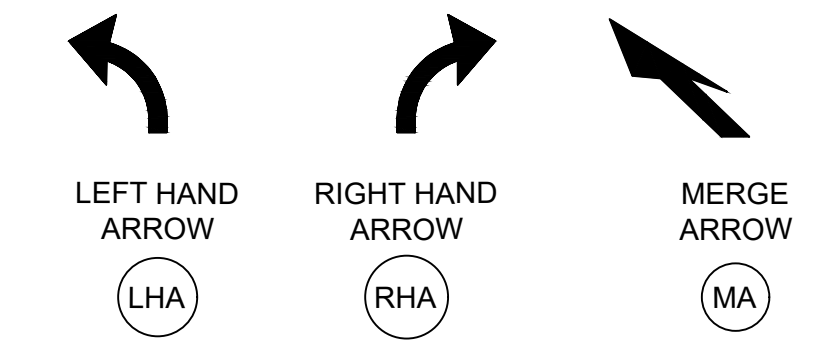
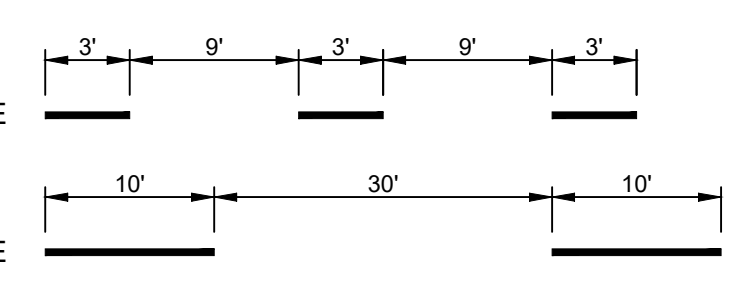
SCALE: 1" = 30'
 SECTION NO.: PMS - 03
 SHEET NO.: 31
 PROJECT NO.: 10-275

C:\USERS\GIGNES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\10-PMS-P\MT MARKING & SIGN\10-275 PAVEMENT MARKINGS.DWG

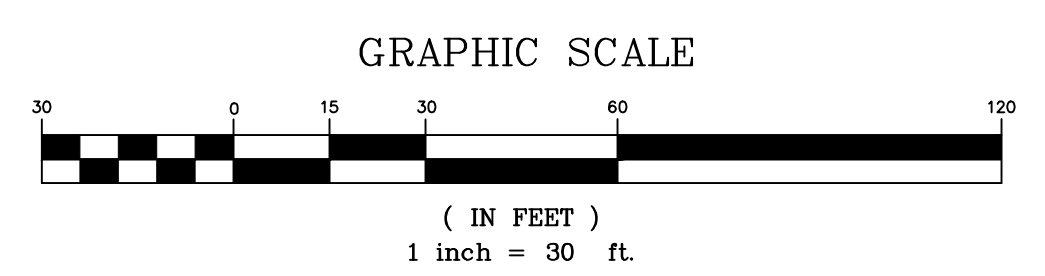


- PROPOSED ONE POST SIGN
- W5 5' SINGLE WHITE LINE
- DY5 5' DOUBLE YELLOW LINE
- W10 10' SINGLE WHITE LINE
- Y10 10' YELLOW WHITE LINE
- T2 5' SINGLE DASH WHITE LINE
- T3 5' SINGLE DASH WHITE LINE

LEGEND



* ALL EXISTING PAVEMENT MARKINGS TO REMAIN



NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY:	PJM
DRAWN BY:	GLJ
CHECKED BY:	PJM
DATE:	10-08-24

WASHINGTON COUNTY, MARYLAND
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PROFESSIONAL BOULEVARD
PHASE III & IV
PAVEMENT MARKINGS &
SIGNAGE PALN
YALE DRIVE TO Station 12+50

SCALE	1" = 30'
SECTION NO.	PMS - 04
SHEET NO.	32
PROJECT NO.	10-275

LEGEND

- CONCRETE SIDEWALK
- 2" TIE IN
- EXISTING CONTOURS
 - 550 MAJOR
 - 549 MINOR
- PROPOSED CONTOURS
 - 550 MAJOR
 - 549 MINOR
- TEMPORARY STABILIZATION MATTING
- BIOSWALE

STABILIZED CONSTRUCTION ENTRANCE		
QTY (EA)	STATION	LOCATION
1	Sta. 3+00	LEFT

CLASS O RIPRAP (SLOPE & CHANNEL PROTECTION)					
		D ₅₀ =4"		D ₁₀₀ =7"	
STATION	LOCATION	APRON DIMENSIONS	Q10	V10	DEPTH
Sta. 2+76*	RIGHT	La=10' W=8' Th=12" (9 SY)	3.3 cfs	4.95 fps	7.3 in
Sta. 6+47	RIGHT	La=15' W=12' Th=12" (20 SY)	5.2 cfs	6.71 fps	5.7 in

* NOTE: EXTEND RIPRAP TO EXISTING PIPE OUTFALL AND REFRESH EXISTING RIPRAP

** NOTE: EXTRA PROTECTION REQUIRED FOR DA > 0.25 ACRES, INSTALL 12" FILTER LOG IN FRONT OF CIP

		INLET PROTECTION				
QTY (EA)	INLET NO.	STATION	TYPE	DA (ac)	LOCATION	
1 **	I-1	Sta. 3+60	CIP	0.58	LEFT	
1	I-14	Sta. 3+65	CIP	0.20	RIGHT	
1	I-13	Sta. 5+50	CIP	0.10	RIGHT	
1	I-12	Sta. 7+45	SIP-B	0.40	RIGHT	
1 **	I-2	Sta. 7+65	CIP	0.63	LEFT	
1	I-11	Sta. 7+65	CIP	0.10	RIGHT	

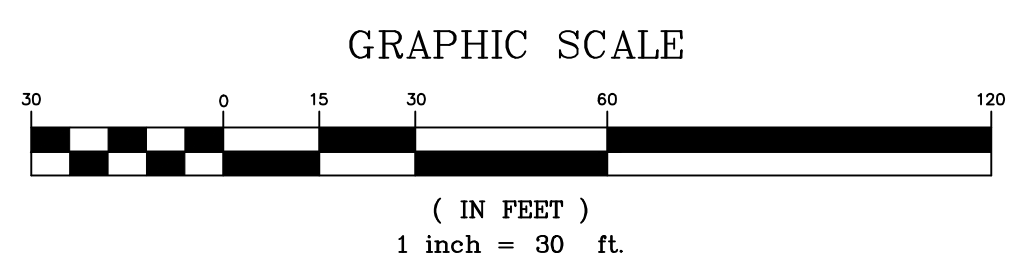
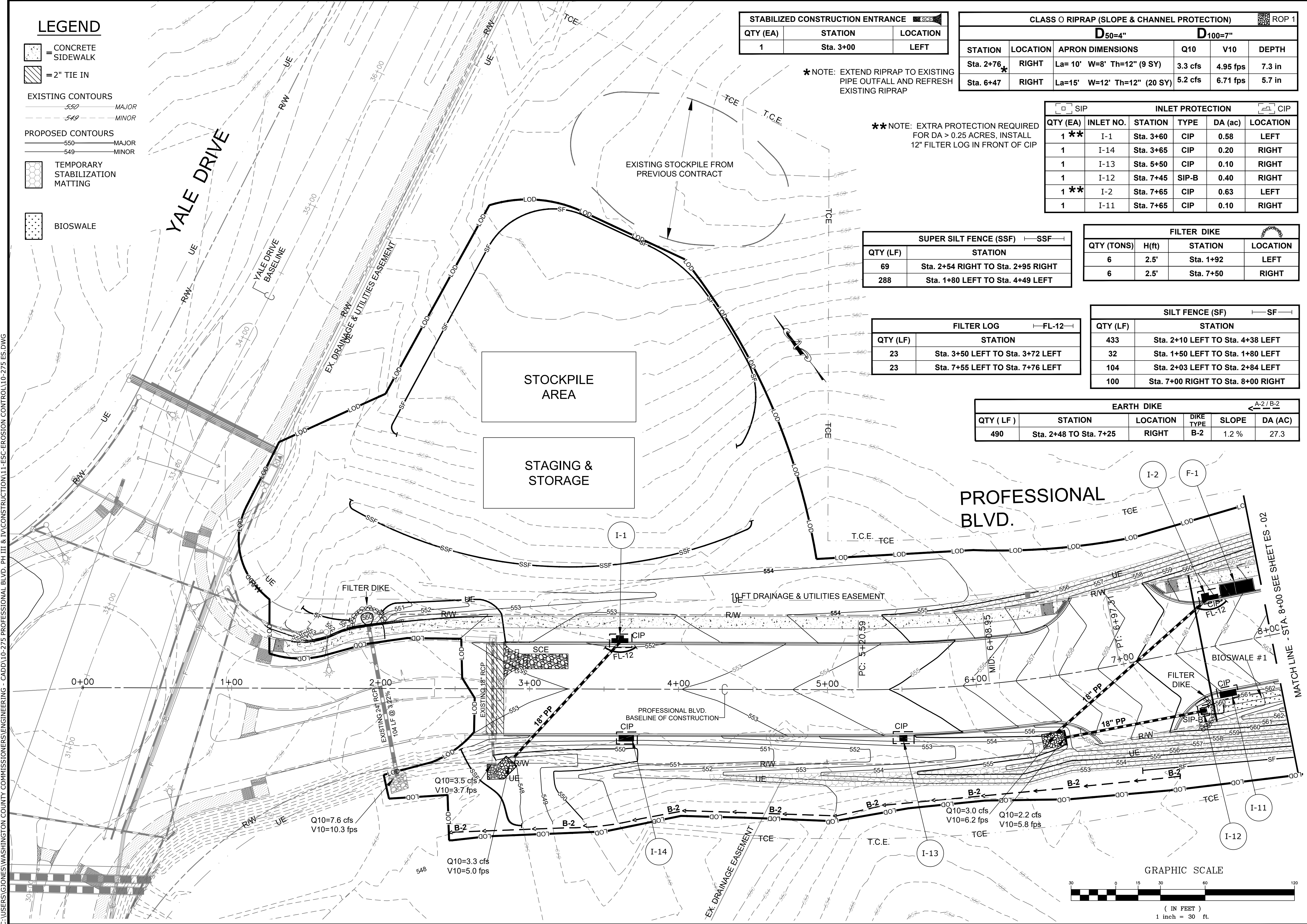
		SUPER SILT FENCE (SSF)	
QTY (LF)	STATION		
69	Sta. 2+54 RIGHT TO Sta. 2+95 RIGHT		
288	Sta. 1+80 LEFT TO Sta. 4+49 LEFT		

FILTER DIKE			
QTY (TONS)	H(ft)	STATION	LOCATION
6	2.5'	Sta. 1+92	LEFT
6	2.5'	Sta. 7+50	RIGHT

		FILTER LOG	
QTY (LF)	STATION		
23	Sta. 3+50 LEFT TO Sta. 3+72 LEFT		
23	Sta. 7+55 LEFT TO Sta. 7+76 LEFT		

		SILT FENCE (SF)	
QTY (LF)	STATION		
433	Sta. 2+10 LEFT TO Sta. 4+38 LEFT		
32	Sta. 1+50 LEFT TO Sta. 1+80 LEFT		
104	Sta. 2+03 LEFT TO Sta. 2+84 LEFT		
100	Sta. 7+00 RIGHT TO Sta. 8+00 RIGHT		

EARTH DIKE					
QTY (LF)	STATION	LOCATION	DIKE TYPE	SLOPE	DA (AC)
490	Sta. 2+48 TO Sta. 7+25	RIGHT	B-2	1.2 %	27.3



NO.	REVISION DESCRIPTION	DATE

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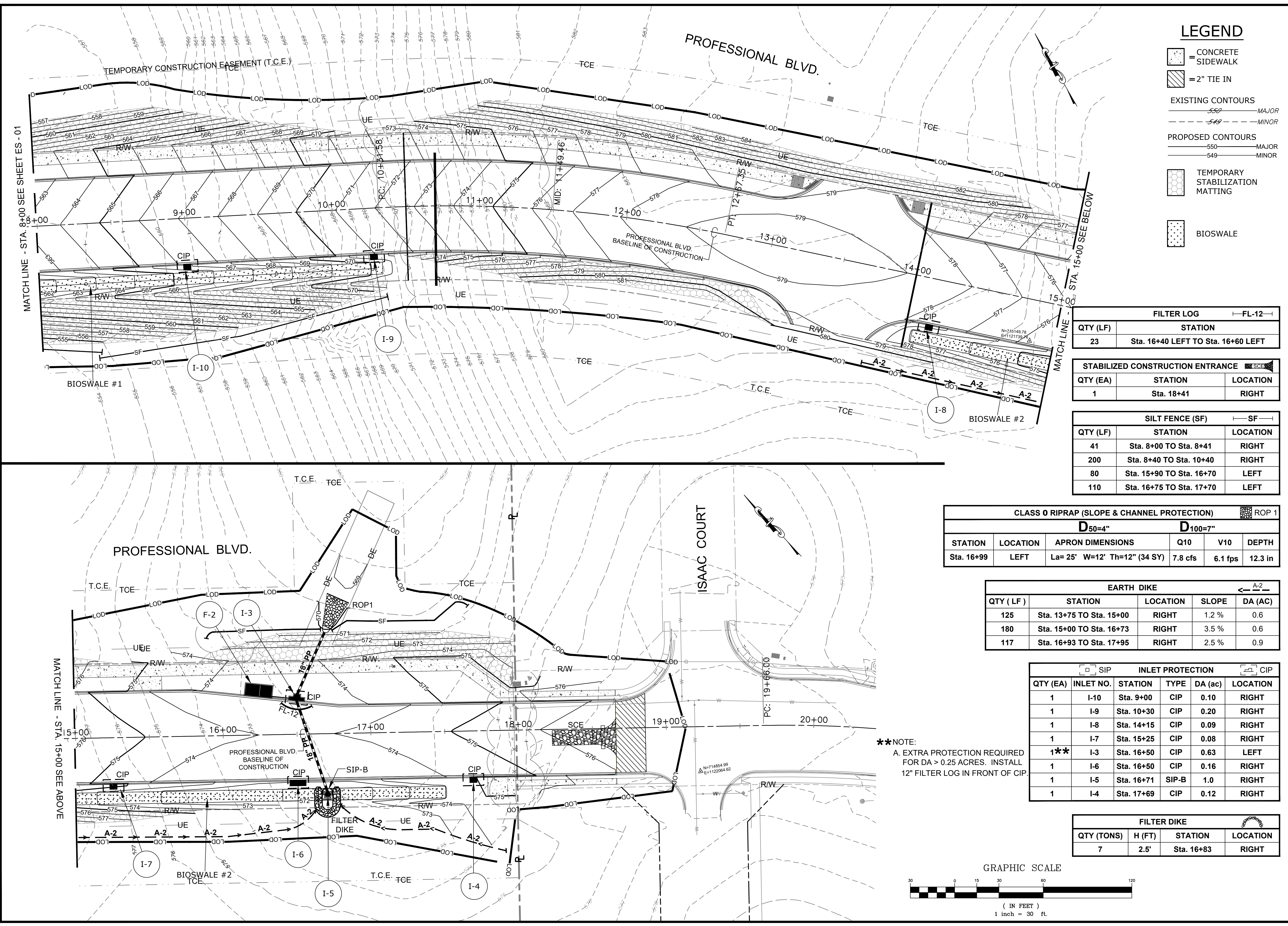
DESIGNED BY: P.J.M.
 DRAWN BY: C.L.J./P.J.M.
 CHECKED BY: P.J.M.
 DATE: 2-5-25

**PROFESSIONAL BOULEVARD
 PHASE III & IV
 EROSION & SEDIMENT
 CONTROL**

SCALE
 1" = 30'
 SECTION NO.
 ES - 01
 SHEET NO.
 33
 PROJECT NO.
 10-275

C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\1-ESC-EROSION CONTROL\10-275 ES.DWG

C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\11-ESC-EROSION CONTROL\10-275 ES.DWG



LEGEND

- CONCRETE SIDEWALK
- 2" TIE IN
- EXISTING CONTOURS
 - 550 MAJOR
 - 549 MINOR
- PROPOSED CONTOURS
 - 550 MAJOR
 - 549 MINOR
- TEMPORARY STABILIZATION MATTING
- BIOSWALE

FILTER LOG		
QTY (LF)	STATION	
23	Sta. 16+40 LEFT TO Sta. 16+60 LEFT	

STABILIZED CONSTRUCTION ENTRANCE		
QTY (EA)	STATION	LOCATION
1	Sta. 18+41	RIGHT

SILT FENCE (SF)		
QTY (LF)	STATION	LOCATION
41	Sta. 8+00 TO Sta. 8+41	RIGHT
200	Sta. 8+40 TO Sta. 10+40	RIGHT
80	Sta. 15+90 TO Sta. 16+70	LEFT
110	Sta. 16+75 TO Sta. 17+70	LEFT

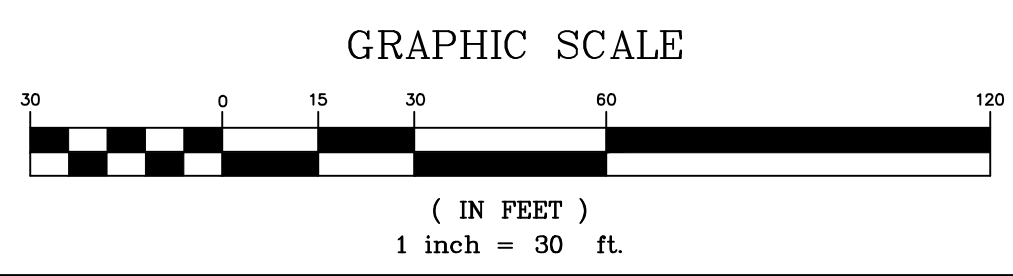
CLASS 0 RIPRAP (SLOPE & CHANNEL PROTECTION)					
		D ₅₀ =4"	D ₁₀₀ =7"		
STATION	LOCATION	APRON DIMENSIONS	Q10	V10	DEPTH
Sta. 16+99	LEFT	La= 25' W=12' Th=12" (34 SY)	7.8 cfs	6.1 fps	12.3 in

EARTH DIKE					
QTY (LF)	STATION	LOCATION	SLOPE	DA (AC)	
125	Sta. 13+75 TO Sta. 15+00	RIGHT	1.2 %	0.6	
180	Sta. 15+00 TO Sta. 16+73	RIGHT	3.5 %	0.6	
117	Sta. 16+93 TO Sta. 17+95	RIGHT	2.5 %	0.9	

INLET PROTECTION					
QTY (EA)	INLET NO.	STATION	TYPE	DA (ac)	LOCATION
1	I-10	Sta. 9+00	CIP	0.10	RIGHT
1	I-9	Sta. 10+30	CIP	0.20	RIGHT
1	I-8	Sta. 14+15	CIP	0.09	RIGHT
1	I-7	Sta. 15+25	CIP	0.08	RIGHT
1**	I-3	Sta. 16+50	CIP	0.63	LEFT
1	I-6	Sta. 16+50	CIP	0.16	RIGHT
1	I-5	Sta. 16+71	SIP-B	1.0	RIGHT
1	I-4	Sta. 17+69	CIP	0.12	RIGHT

FILTER DIKE			
QTY (TONS)	H (FT)	STATION	LOCATION
7	2.5'	Sta. 16+83	RIGHT

****NOTE:**
A. EXTRA PROTECTION REQUIRED FOR DA > 0.25 ACRES. INSTALL 12" FILTER LOG IN FRONT OF CIP.



DATE		BY		REVISION DESCRIPTION		NO.	
WASHINGTON COUNTY, MARYLAND DIVISION OF ENGINEERING							
PROFESSIONAL BOULEVARD PHASE III & IV EROSION & SEDIMENT CONTROL							
SCALE 1" = 30' SECTION NO. ES - 02 SHEET NO. 34 PROJECT NO. 10-275							

SOIL EROSION, SEDIMENT CONTROL & SEEDING NOTES

1. ALL SOIL EROSION/SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AND THE PROVISIONS OF THE APPROVED PLAN.
2. ALL GRADING AND STABILIZATION SHALL COMPLY WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", "SECTION B - GRADING AND STABILIZATION" AND THE PROVISIONS OF THE APPROVED PLAN.
3. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES (BMP'S) ARE TO BE CONSTRUCTED AND/OR INSTALLED PRIOR TO OR AT THE INITIATION OF GRADING IN ACCORDANCE WITH "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND THE APPROVED PLAN.
4. A GRADING UNIT IS THE MAXIMUM CONTIGUOUS AREA ALLOWED TO BE GRADED AT A GIVEN TIME AND IS LIMITED TO 20 ACRES. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY AND/OR THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT (APPROVAL AUTHORITY). UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
5. FOR INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, TEMPORARY OR PERMANENT STABILIZATION MUST BE COMPLETED WITHIN:
 - a. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1 HORIZONTAL TO VERTICAL (3:1)
 - b. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
6. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITHIN THE 7 DAY STABILIZATION REQUIREMENT, AS WELL AS, STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION (AS APPLICABLE).
7. ALL CONSTRUCTED CHANNELS AND SWALES SHALL HAVE SPECIFIED TREATMENT INSTALLED TO THE DESIGN FLOW DEPTH COMPLETED DOWNSTREAM TO UPSTREAM AS CONSTRUCTION PROGRESSES. AN INSTALLATION DETAIL SHALL BE SHOWN ON THE PLANS.
8. ALL STORM DRAIN AND SANITARY SEWER LINES NOT IN PAVED AREAS ARE TO BE MULCHED AND SEEDED WITHIN 3 DAYS OF INITIAL BACKFILL UNLESS OTHERWISE SPECIFIED ON PLANS.
9. ELECTRIC POWER, TELEPHONE, AND GAS LINES ARE TO BE COMPACTED, SEEDED, AND MULCHED WITHIN 3 DAYS AFTER INITIAL BACKFILL UNLESS OTHERWISE SPECIFIED ON PLANS.
10. NO SLOPE SHALL BE GREATER THAN 2:1.
11. AS REQUIRED BY SECTION B, OF THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, "ADEQUATE VEGETATIVE STABILIZATION", IS DEFINED AS 95 PERCENT GROUND COVER. THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT REQUIRES THE PROJECT ADHERE TO THIS FOR SCHEDULING OF THE FINAL SITE CLOSEOUT REVIEW, AND/OR RELEASE OF THE SITE FOR SOIL EROSION AND SEDIMENT CONTROL.

FOR SITES 1.0 ACRE OR MORE, THE FOLLOWING ARE REQUIRED:

1. MARYLAND DEPARTMENT OF THE ENVIRONMENT, GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH A CONSTRUCTION ACTIVITY, NPDES PERMIT NUMBER MDRC, STATE DISCHARGE PERMIT NUMBER 20CP, OR AN INDIVIDUAL PERMIT.
2. THE MARYLAND DEPARTMENT OF THE ENVIRONMENT: (GENERAL/INDIVIDUAL PERMIT - NOTICE OF INTENT- NOI) APPLICATION AND PERMIT SHALL BE POSTED AND/OR AVAILABLE ON-SITE AT ALL TIMES.
3. DURING CONSTRUCTION, ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES (BMP'S) SHALL BE INSPECTED AND RECORDED ON THE "STANDARD INSPECTION FORM", "GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY" PER THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (GENERAL/INDIVIDUAL PERMIT - NOTICE OF INTENT - NOI).
4. FOLLOWING CONSTRUCTION AND RELEASE OF THE SIGHT FOR SOIL EROSION AND SEDIMENT CONTROL BY THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT, I.E., ALL PORTIONS OF A SITE HAVE BEEN PERMANENTLY STABILIZED, AND ALL STORMWATER DISCHARGES FROM CONSTRUCTION SITES THAT ARE AUTHORIZED BY THE PERMIT ARE ELIMINATED, THE AUTHORIZED PERMITTEE SHALL SUBMIT THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, GENERAL/INDIVIDUAL PERMIT - NOTICE OF TERMINATION-NOT.

TEMPORARY SEEDING SUMMARY						
HARDINESS ZONE (FIGURE B.3): 6a & 6b						
SEED MIXTURE (TABLE B.1)						
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)	LIME RATE
1	Barley	96	Zone 6a: Mar 15-May 31 / Aug 1-Sept 30 Zone 6b: Mar 01-May 15 / Aug 1-Oct 15	1"	436 lb/ac. (10 lb/1000 s.f.)	2 tons/ac. (90 lb/1000 s.f.)

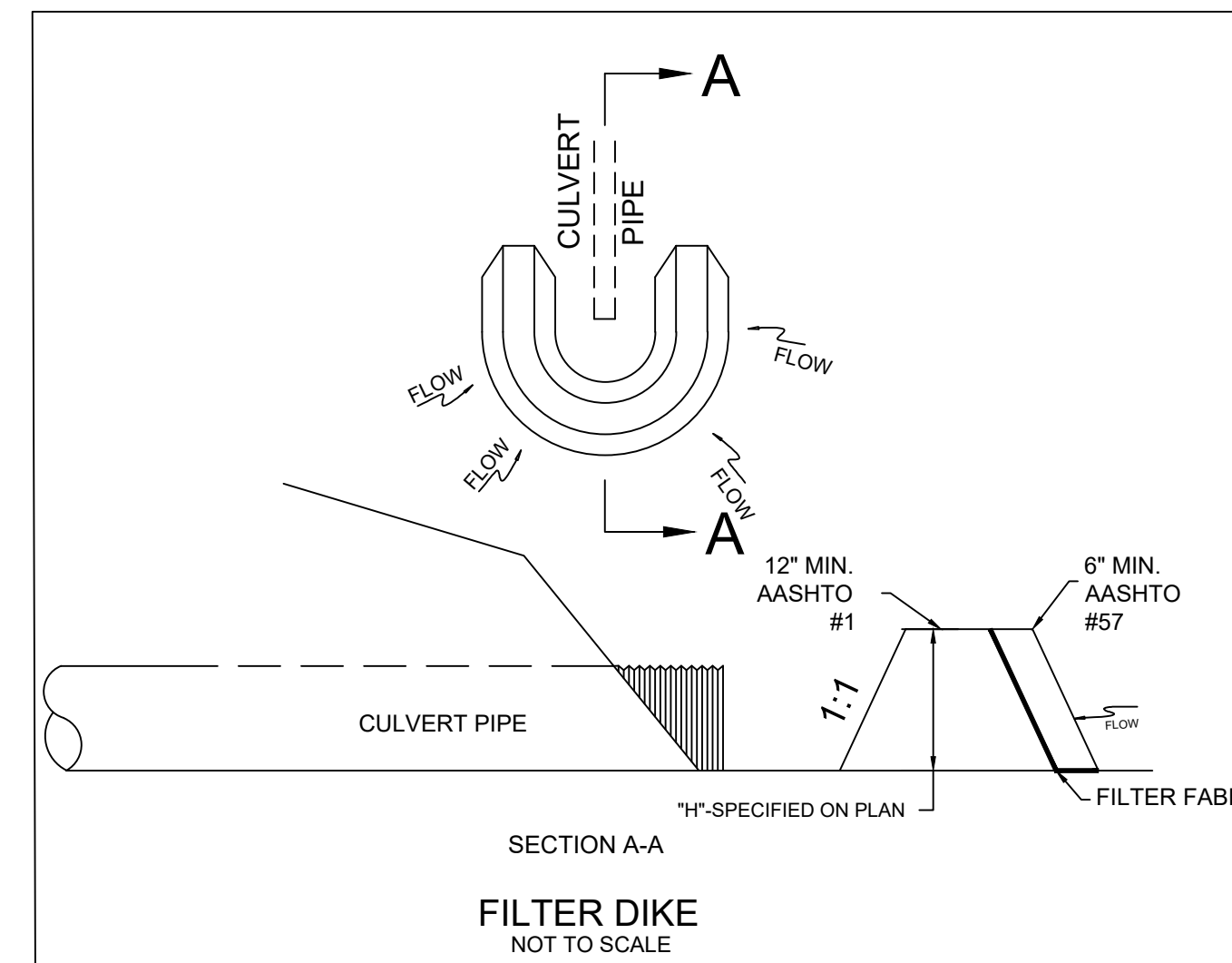
PERMANENT SEEDING SUMMARY								
HARDINESS ZONE (FIGURE B.3): 6a & 6b								
SEED MIXTURE (TABLE B.1)								
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTH	FERTILIZER RATE (10-20-20)			LIME RATE
					N	P205	K20	
6	Tall Fescue	40	Zone 6a: Mar 15-May 31 / Jun 1-Jun 15 Zone 6b: Mar 1-May 15 / Aug 15-Oct 15	1/4"-1/2"	45 lb/ac. (1 lb/1000 s.f.)	90 lb/ac. (2 lb/1000 s.f.)	90 lb/ac. (2 lb/1000 s.f.)	2 tons/ac. (90 lb/1000 s.f.)
	Perennial Ryegrass	25						
	White Clover	5						

GENERAL SEQUENCE OF CONSTRUCTION

1. CONTRACTOR TO CONTACT WASHINGTON COUNTY DIVISION OF ENGINEERING (240)313-2460 AND THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT (301)797-6821 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF ANY EARTHWORK TO SCHEDULE A PRE-CONSTRUCTION MEETING.
2. THE CONTRACTOR IS TO NOTIFY MISS UTILITY AT 1-800-257-7777 A MINIMUM OF 3 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
3. INSTALL TRAFFIC CONTROL DEVICES PER THE MOT PLAN.
4. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
5. INSTALL PERIMETER CONTROLS PRIOR TO CLEARING AND GRUBBING TO INCLUDE SILT FENCE, EARTH DIKES, AND FILTER DIKES AT THE EXISTING PIPES.
6. ESTABLISH STAGING / STORAGE AREA (GEOTEXTILE AND 6" OF GRAVEL OR MULCH IS REQUIRED FOR STAGING AREA). INSTALL SUPER SILT FENCE ON DOWNHILL SIDE OF THE STAGE / STORAGE AND FUTURE STOCKPILE AREAS.
7. BEGIN EARTHWORK TO SUBGRADE ELEVATIONS.
8. ALL MATERIAL ENTERING OR EXITING THE SITE MUST BE FROM AND TAKEN TO A LOCATION THAT HAS A CURRENT, APPROVED SOIL EROSION CONTROL PLAN.
9. INSTALL UTILITIES AND EMPTY CONDUIT BANK AS SHOWN ON THE PLAN AND PROFILE SHEETS. INSTALL STORM DRAINS AND INLETS. PROVIDE INLET PROTECTION AS THEY ARE BROUGHT TO GRADE.
10. SAW CUT THE ROAD AND MILL AT THE TIE IN POINTS.
11. AFTER GRADED AGGREGATE BASE IS PLACED, CONSTRUCT CONCRETE CURB AND GUTTER. INSTALL RETAINING WALL AND CONCRETE SIDEWALK.
12. NOTIFY THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT AT 301-797-6821 AND THE WASHINGTON COUNTY DIVISION OF ENGINEERING 240-313-2460 AT LEAST (5) DAYS PRIOR TO THE CONSTRUCTION OF WATER QUALITY PRACTICES TO SCHEDULE AN INTERIM INSPECTION.
13. INSTALL BIOSWALES AND GRASS SWALE.
14. BEGIN PAVING AND STRIPING.
15. CONTACT SOIL CONSERVATION DISTRICT ONCE AREA IS STABILIZED FOR APPROVAL TO REMOVE SEC MEASURES AND ACTIVATE FILTER INLETS. VEGETATION MUST MEET THE 95% OVERALL STABILIZATION REQUIREMENT PER THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL PRIOR TO SCHEDULING THE MEETING.
16. STABILIZE AREAS OF SOIL EROSION AND SEDIMENT CONTROL REMOVAL.

STANDARD UTILITY NOTES

1. CONTRACTOR TO ONLY OPEN UP LENGTH OF TRENCH THAT CAN BE CONSTRUCTED AND BACKFILLED IN ONE WORKING DAY IN PAVED AREAS.
2. CONTRACTOR TO PLACE EXCAVATED MATERIALS IN A DUMP TRUCK AND HAULED TO AN APPROVED LOCATION TO WASTED MATERIALS TO PAVED AREAS.
3. CONTRACTOR TO BACKFILL TRENCH WITH APPROVED MATERIALS AND STABILIZE DISTURBED AREAS THE SAME WORKING DAY.
4. IN AREAS WHERE THE CONSTRUCTION TAKES TO PLACE OUTSIDE OF THE EXISTING ROADBED, CONTRACTOR TO INSTALL SILT FENCE ALONG THE DOWNHILL SIDE OF THE TRENCH BEFORE BEGINNING CONSTRUCTION AND PLACE EXCAVATED MATERIAL FROM THE TRENCH ON THE UPHILL SIDE.
5. IF DEWATERING OF THE TRENCH IS REQUIRED, CONTRACTOR TO PUMP WATER TO A FILTER BAG TO DEWATER.
6. CONTRACTOR TO SWEEP STREETS OF ANY DEBRIS OR SEDIMENTS CAUSED BY CONSTRUCTION OPERATIONS AND DISPOSE OF AT AN APPROVED LOCATION.
7. CONTRACTOR TO STABILIZE ALL DISTURBED AREAS WITH SEED & MULCH OR APPROPRIATE STREET REPAIR.



DETAIL C-1 EARTH DIKE

STANDARD SYMBOL A-1

PLACE DESIGNATION SEE OF DIKE ON FLOW CHANNEL

CROSS SECTION

2:1 SLOPE OR FLATTER

EXISTING GROUND

2:1 SLOPE OR FLATTER

GRADE TO PROVIDE REQUIRED FLOW WIDTH AND FLOW DEPTH

PLAN VIEW

CONTINUOUS GRADE 0.5% MIN. TO 10% MAX. SLOPE

DIKE TYPE	A		B	
	a - DIKE HEIGHT	b - DIKE WIDTH	c - FLOW WIDTH	d - FLOW DEPTH
A	18 IN. MIN.	24 IN. MIN.	4 FT. MIN.	12 IN. MIN.
B	30 IN. MIN.	36 IN. MIN.	6 FT. MIN.	24 IN. MIN.

FLOW CHANNEL STABILIZATION

A-1 SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)

A-2/B-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.

A-3/B-3 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.
2. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. COMPACT FILL.
4. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
8. UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\1-ESC-EROSION CONTROL\10-275 ES.DWG

NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: PJM
DRAWN BY: CLJ
CHECKED BY: PJM
DATE: 2-5-25

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2460 Fax: 240-313-2401

PROFESSIONAL BOULEVARD
PHASE III & IV
EROSION & SEDIMENT
CONTROL NOTES

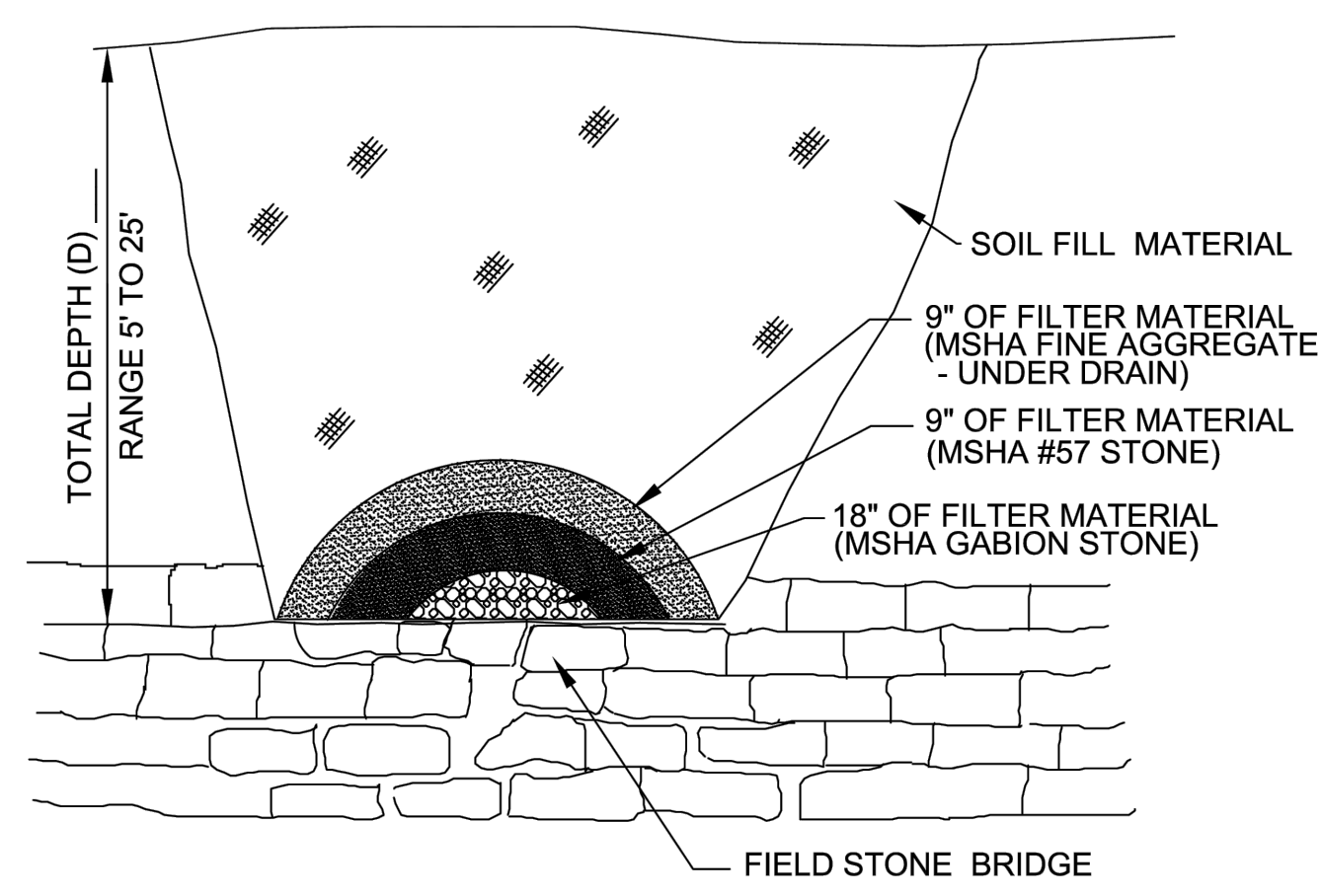
SCALE
NONE

SECTION NO.
ES - 03

SHEET NO.
35

PROJECT NO.
10-275

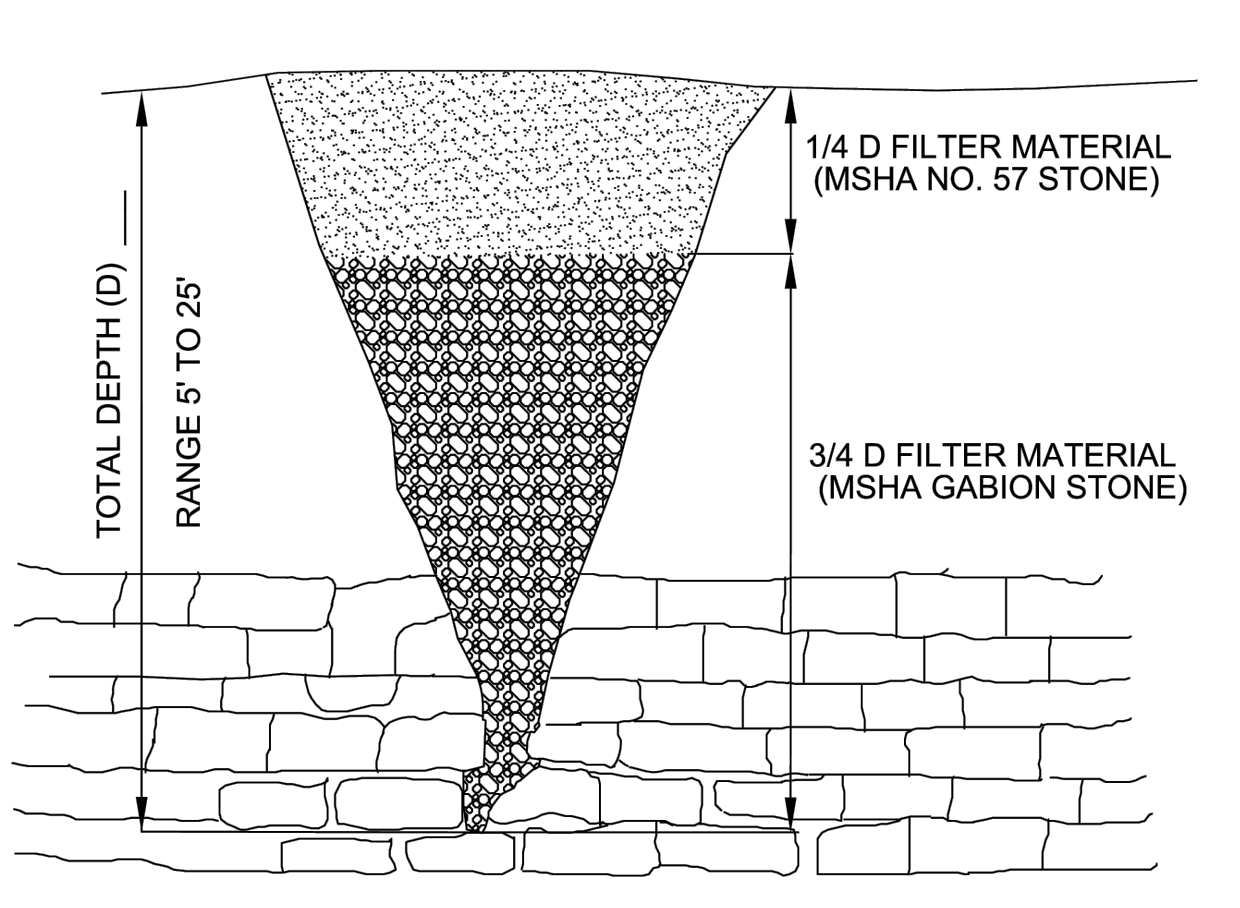
MARYLAND STANDARDS FOR AGRICULTURAL BMPs
DETAIL 527-A - SINKHOLE TREATMENT



NOTE:
A NONWOVEN GEOTEXTILE MEETING MSHA CLASS SE
MAY BE SUBSTITUTED FOR THE MSHA #57 STONE
AND MSHA FINE AGGREGATE.

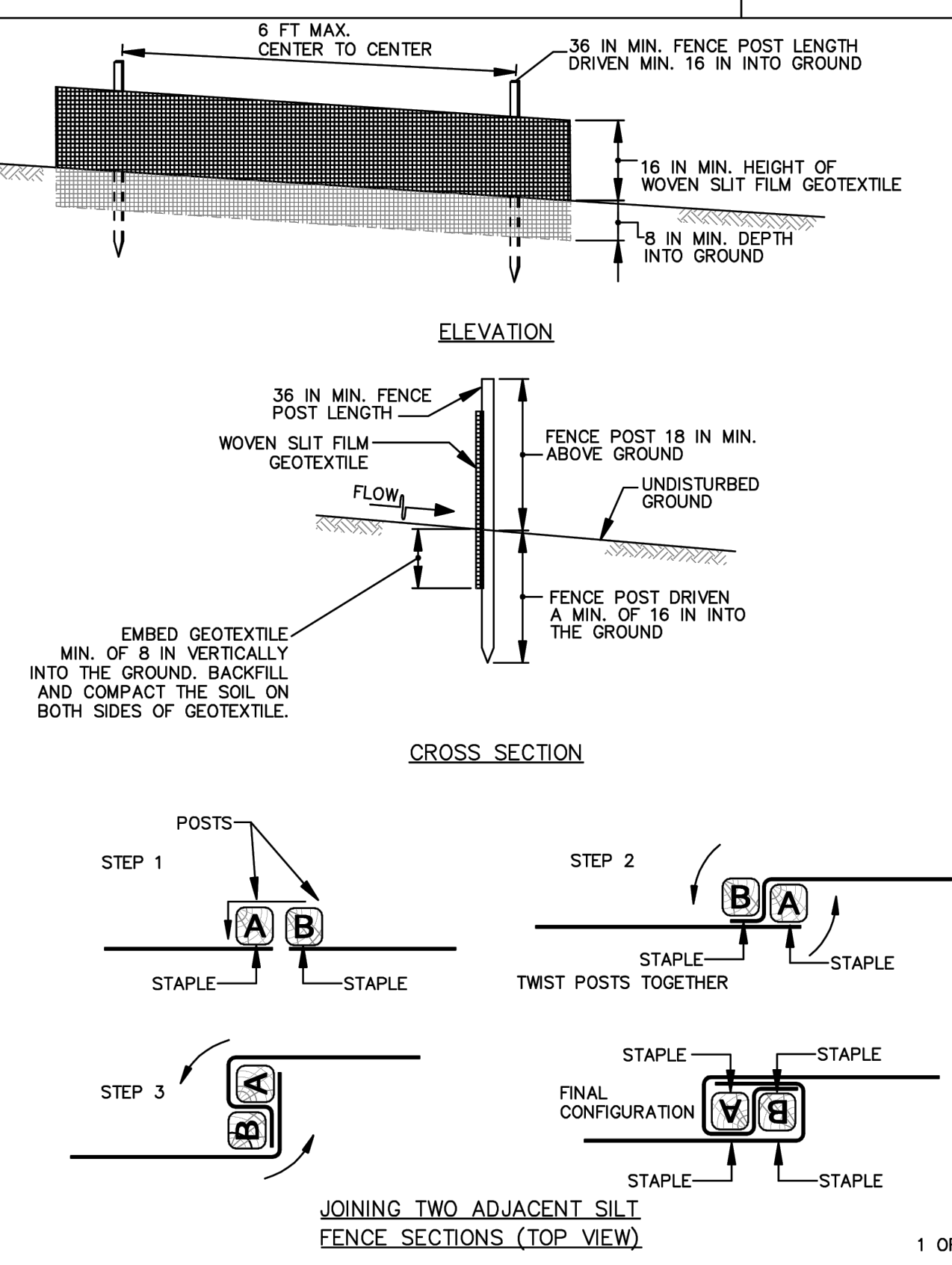
SINKHOLE TREATMENT
(DRAINAGE AREA LESS THAN 5 ACRES)
527-A-INV FILTER.DWG
NTS

MARYLAND STANDARDS FOR AGRICULTURAL BMPs
DETAIL 527-B - SINKHOLE TREATMENT



SINKHOLE TREATMENT
(DRAINAGE AREA 5-15 ACRES)
527-B-INV FILTER.DWG
NTS

DETAIL E-1 SILT FENCE

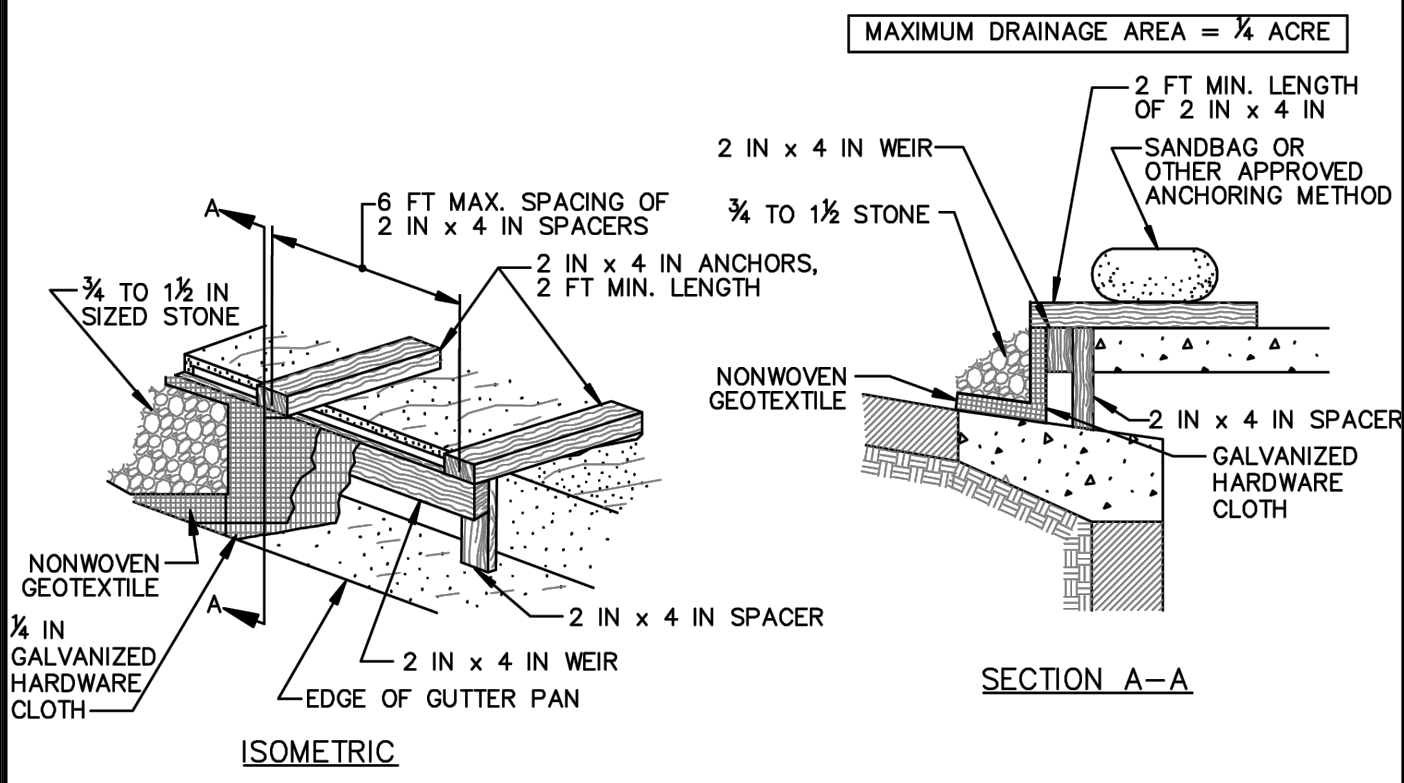


DETAIL E-1 SILT FENCE

- CONSTRUCTION SPECIFICATIONS**
- USE WOOD POSTS 1 3/4 x 1 3/4 x 1/2 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
 - USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
 - USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
 - PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
 - EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
 - WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
 - EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
 - REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

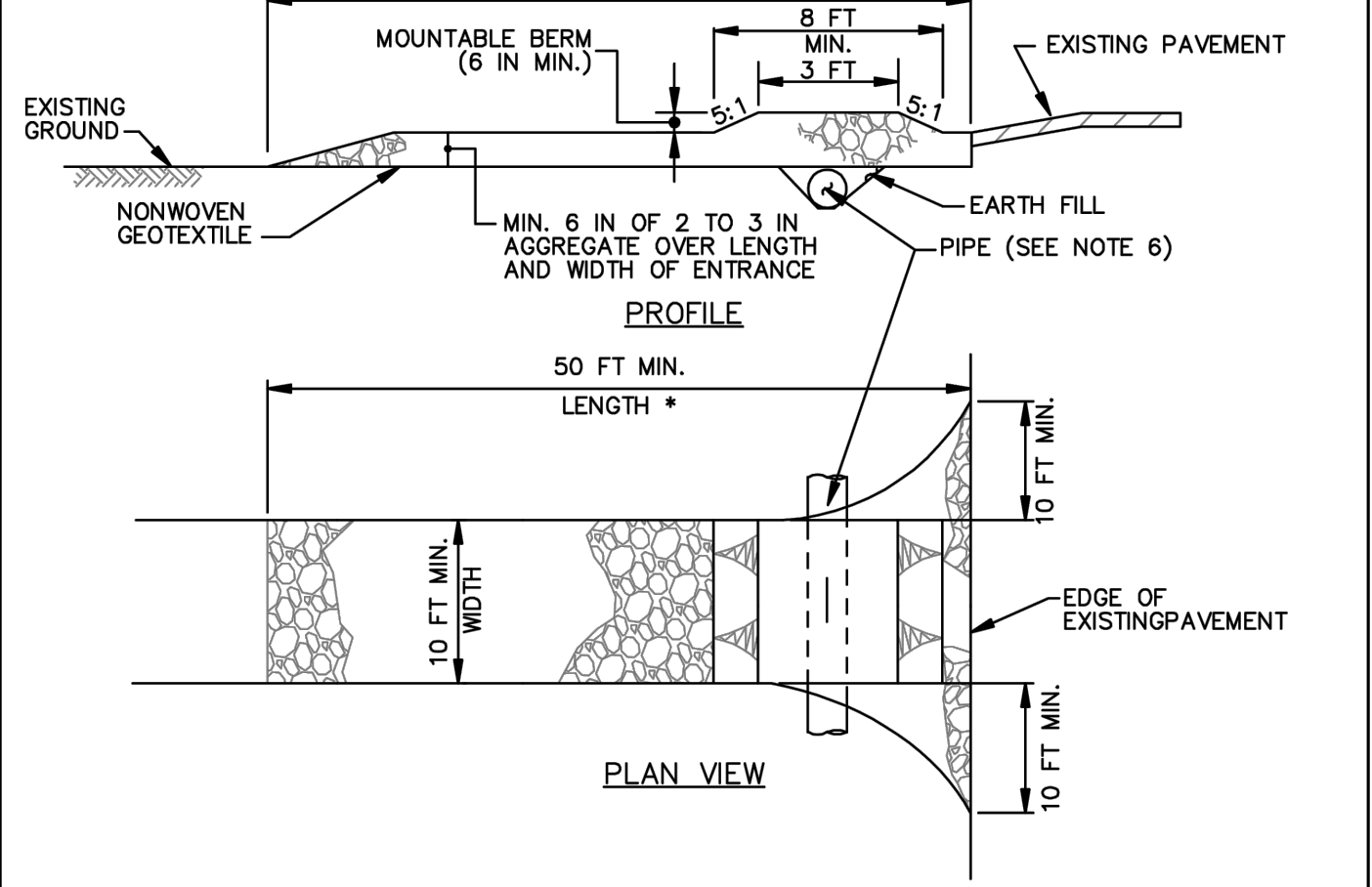
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE MARYLAND	527-A-INV FILTER.DWG 10/08	MARYLAND DEPARTMENT OF AGRICULTURE MARYLAND SOIL CONSERVATION DISTRICTS	U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE MARYLAND	527-B-INV FILTER.DWG 10/08	MARYLAND DEPARTMENT OF AGRICULTURE MARYLAND SOIL CONSERVATION DISTRICTS	MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011	U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011	U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL E-9-3 CURB INLET PROTECTION



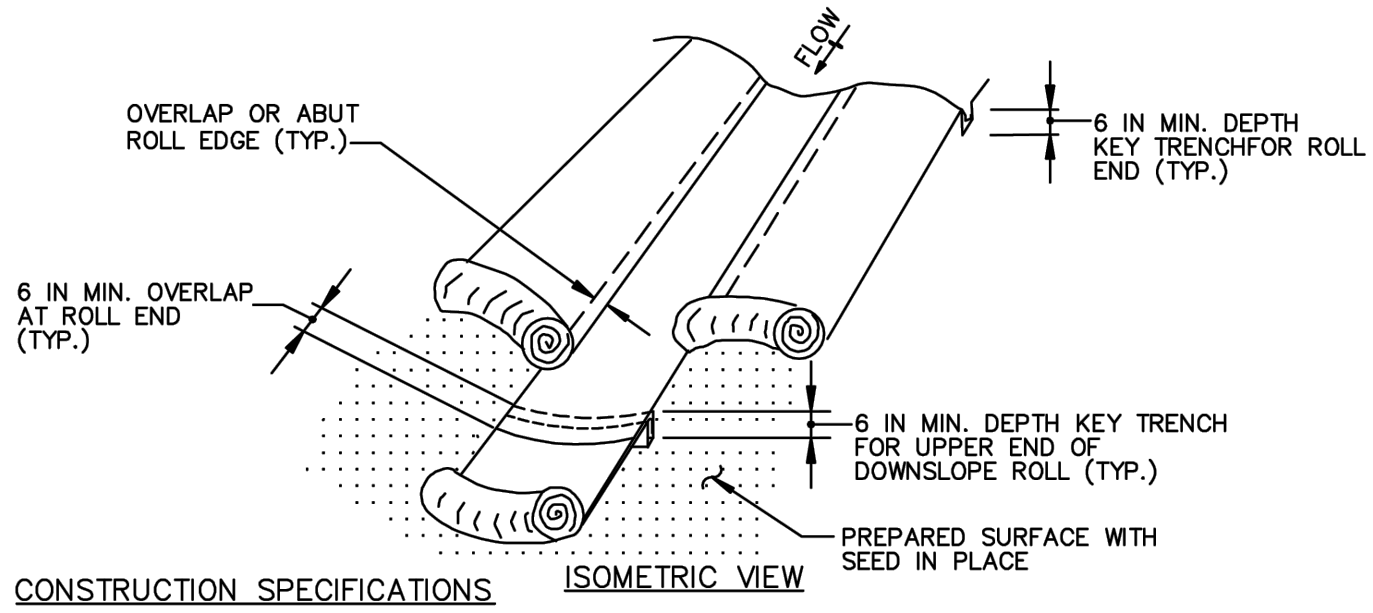
- CONSTRUCTION SPECIFICATIONS**
- USE NOMINAL 2 INCH x 4 INCH LUMBER
 - USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
 - NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
 - ATTACH A CONTINUOUS PIECE OF 1/4 INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
 - PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
 - PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
 - INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
 - FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
 - AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
 - STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE



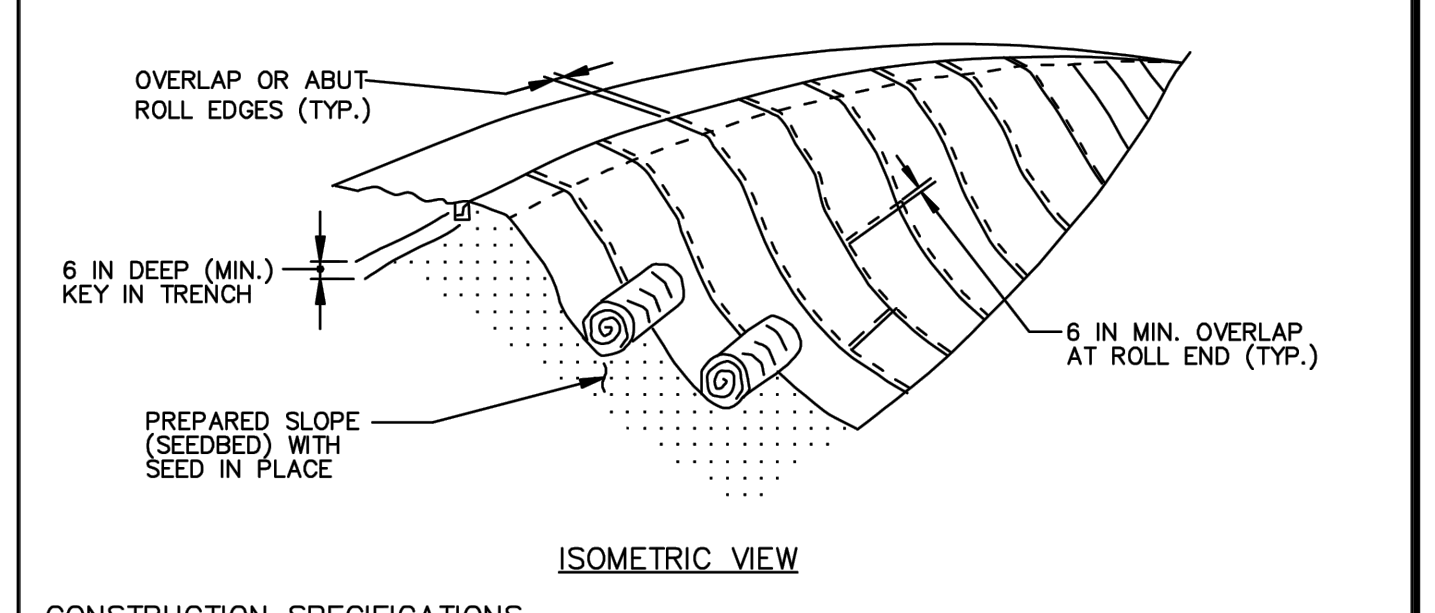
- CONSTRUCTION SPECIFICATIONS**
- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*50 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
 - PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
 - PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
 - PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
 - MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION



- CONSTRUCTION SPECIFICATIONS**
- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
 - USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
 - SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
 - PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
 - UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDBED SURFACE. AVOID STRETCHING THE MATTING.
 - KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.
 - OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
 - STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
 - ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION



- CONSTRUCTION SPECIFICATIONS**
- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
 - USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
 - SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
 - PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
 - UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDBED SURFACE. AVOID STRETCHING THE MATTING.
 - OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
 - KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
 - STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
 - ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\11-ESC-EROSION CONTROL\10-275 ES.DWG

DATE								
BY								
REVISION DESCRIPTION								
NO								
DESIGNED BY:	PJM							
DRAWN BY:	GLJ							
CHECKED BY:	PJM							
DATE:	11-07-24							

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2460 Fax: 240-313-2401

PROFESSIONAL BOULEVARD
PHASE III & IV
EROSION & SEDIMENT
CONTROL DETAILS

SCALE
NONE

SECTION NO.
ES - 04

SHEET NO.
36

PROJECT NO.
10-275

C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\11-ESC-EROSION CONTROL\10-275 ES.DWG

DETAIL E-3 SUPER SILT FENCE	STANDARD SYMBOL SSF
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CONSTRUCTION SPECIFICATIONS

- INSTALL 2 3/4 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 3/4 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	

DETAIL E-6 FILTER LOG	STANDARD SYMBOL FL-18 DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG
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CONSTRUCTION SPECIFICATIONS

- PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
- FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
- INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
- FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
- STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
- USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
- WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
- REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF 1/2 THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLOGGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	

DETAIL E-6 FILTER LOG	STANDARD SYMBOL FL-18 DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG
------------------------------	---

CONSTRUCTION SPECIFICATIONS

- PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
- FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
- INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
- FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
- STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
- USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
- WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
- REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF 1/2 THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLOGGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	

DETAIL E-9-1 STANDARD INLET PROTECTION	STANDARD SYMBOL SIP
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TYPE A MAXIMUM DRAINAGE AREA = 1/4 ACRE
TYPE B MAXIMUM DRAINAGE AREA = 1 ACRE

CONSTRUCTION SPECIFICATIONS

- USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
- FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH 1/2 INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.
- FOR TYPE B, USE 2 3/4 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
- BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	

DETAIL E-9-1 STANDARD INLET PROTECTION	STANDARD SYMBOL SIP
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CONSTRUCTION SPECIFICATIONS

- USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
- FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH 1/2 INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.
- FOR TYPE B, USE 2 3/4 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
- BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	

DETAIL D-4-1-A ROCK OUTLET PROTECTION I	STANDARD SYMBOL ROP1
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DISCHARGE TO SEMI CONFINED CHANNEL SECTION

RIPRAP	
CLASS	THICKNESS (T)
I	18 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

- RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
- PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (3/8 TO 1 1/2 INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF THE RIPRAP.
- CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE STONE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
- WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
- CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLOGGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	

DATE		BY		REVISION DESCRIPTION		NO		DESIGNED BY:		DRAWN BY:		CHECKED BY:		DATE:	

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

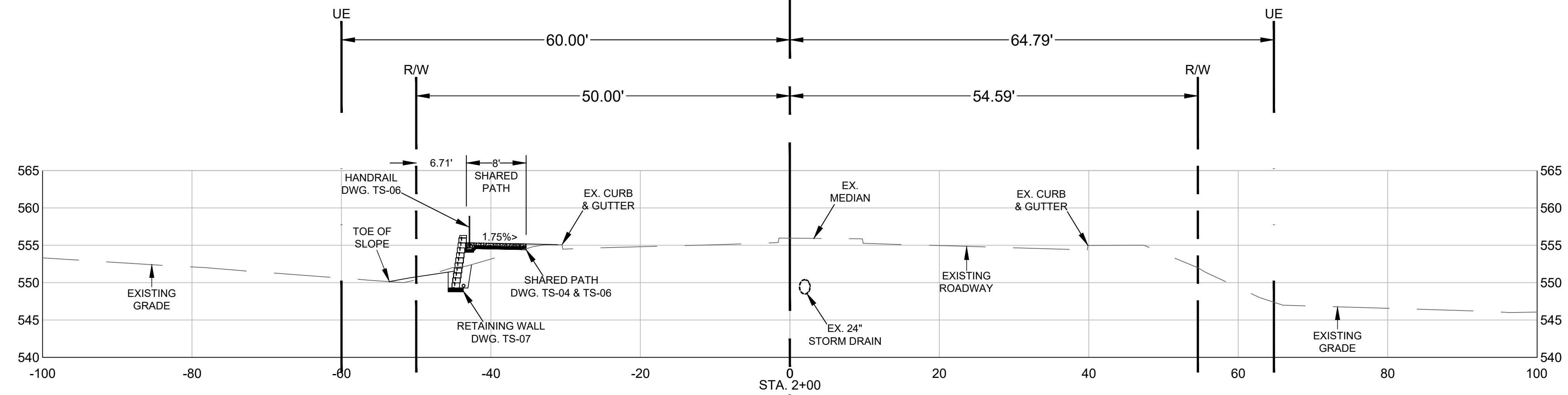
PROFESSIONAL BOULEVARD
PHASE III & IV

EROSION & SEDIMENT
CONTROL DETAILS

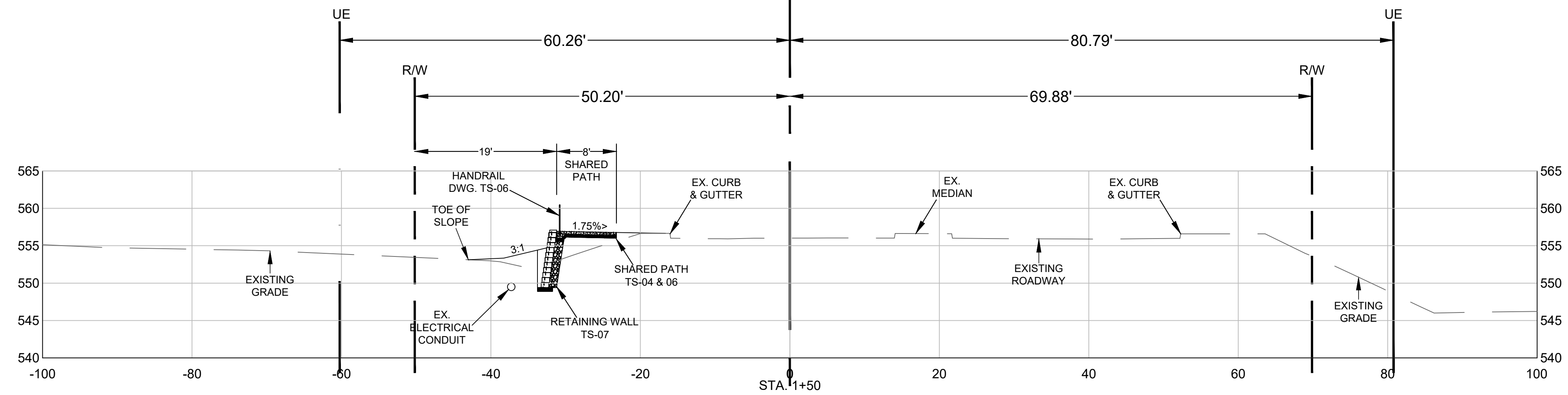
Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2460 Fax: 240-313-2401

SCALE	NONE
SECTION NO.	ES - 05
SHEET NO.	37
PROJECT NO.	10-275

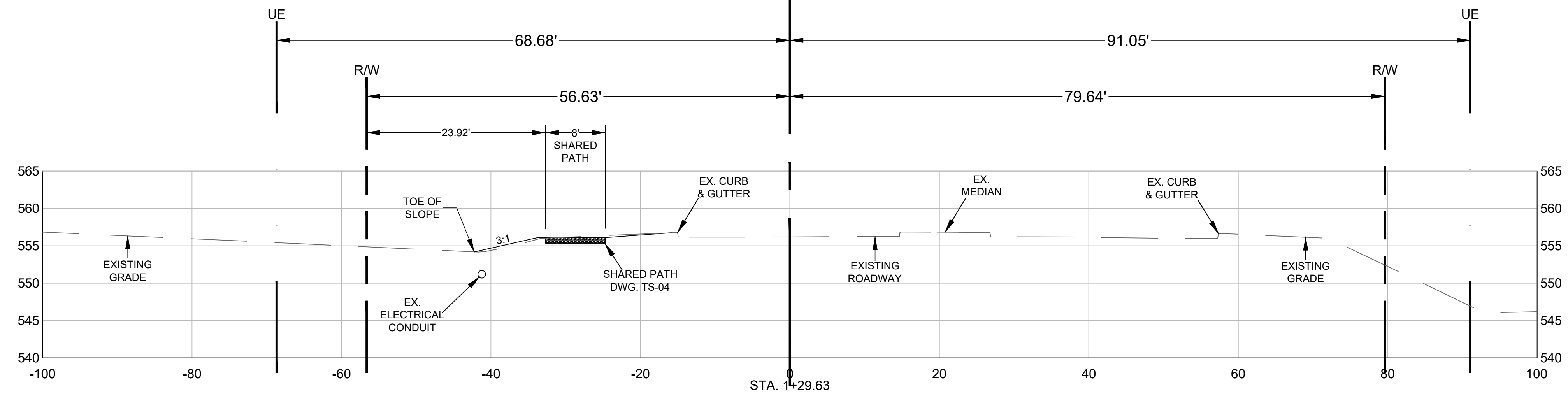
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CUT = 29.23 SQ. FT.
FILL = 35.89 SQ. FT.



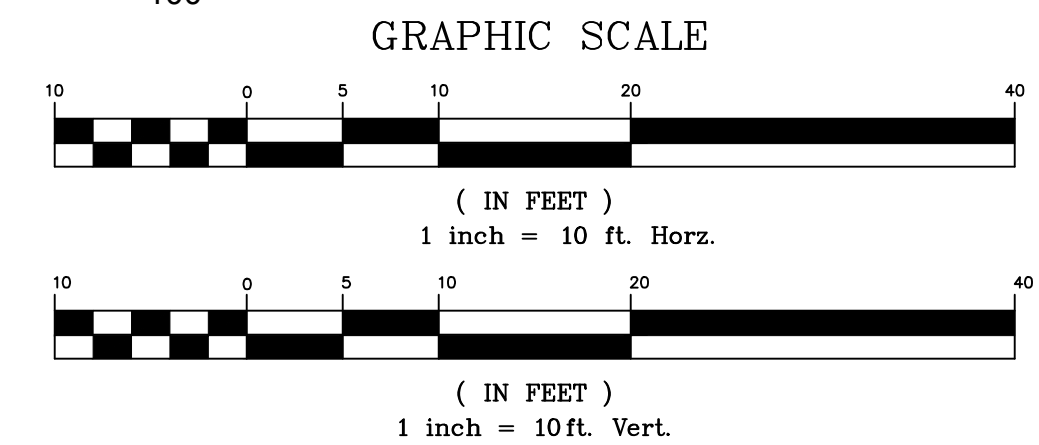
CUT = 35.27 SQ. FT.
FILL = 51.04 SQ. FT.



CUT = 26.71 SQ. FT.
FILL = 21.37 SQ. FT.

CENTERLINE OF CONSTRUCTION
EQUALS
BASELINE OF CONSTRUCTION

LEGEND:
R/W = RIGHT OF WAY
UE = UTILITY EASEMENT
TCE = TEMPORARY CONSTRUCTION EASEMENT



NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: P.J.M.
DRAWN BY: G.J.J.
CHECKED BY: P.J.M.
DATE: 12/13/24

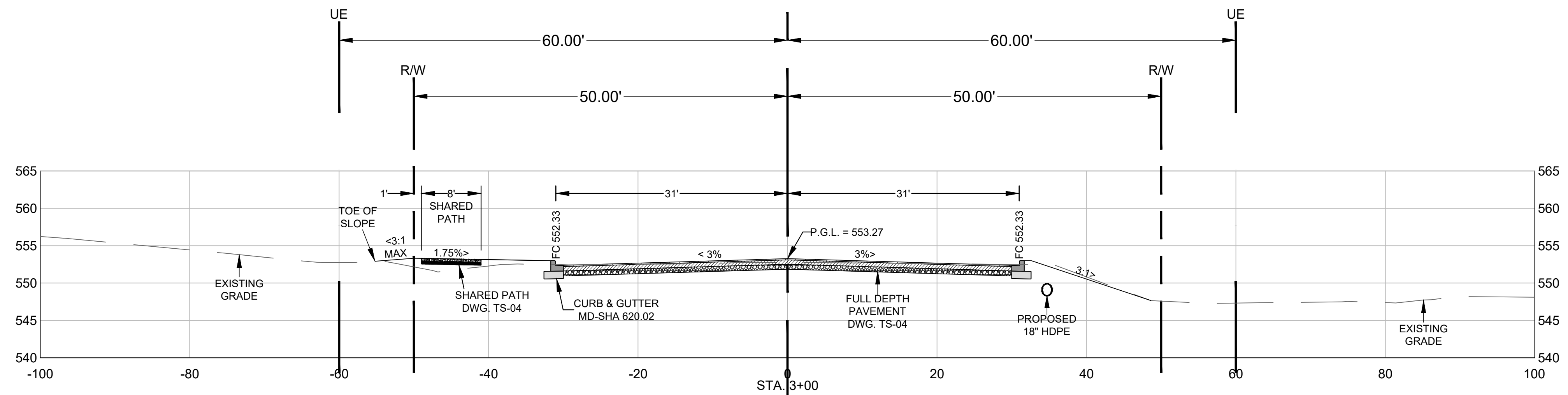
WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2460 Fax: 240-313-2401

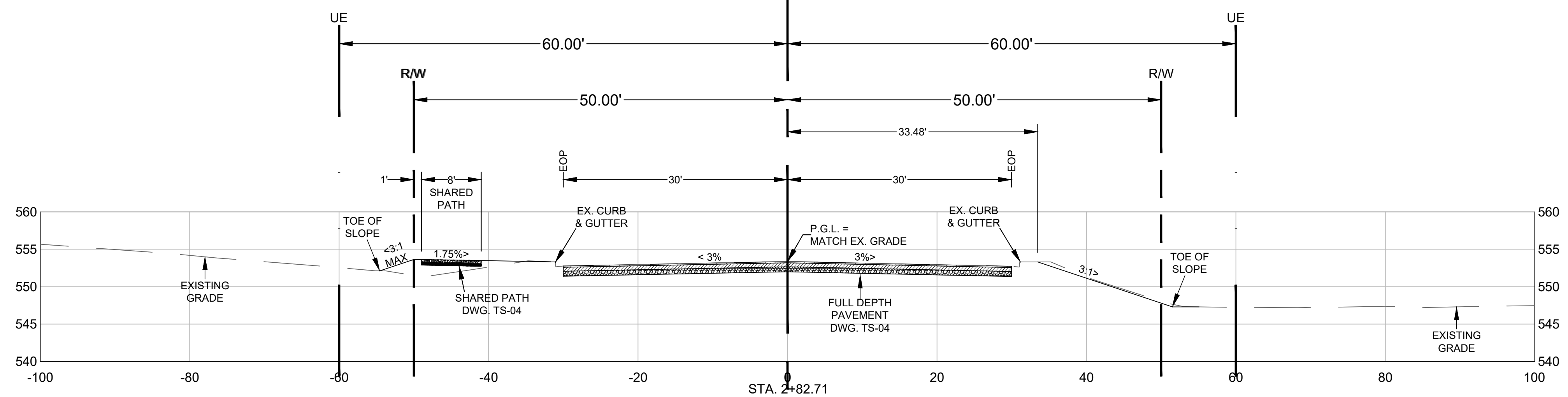
**PROFESSIONAL BOULEVARD
PHASE III & IV
CROSS SECTIONS
Sta. 1+29.63 to Sta. 2+00**

SCALE
SECTION NO. XS-01
SHEET NO. 38
PROJECT NO. 10-275

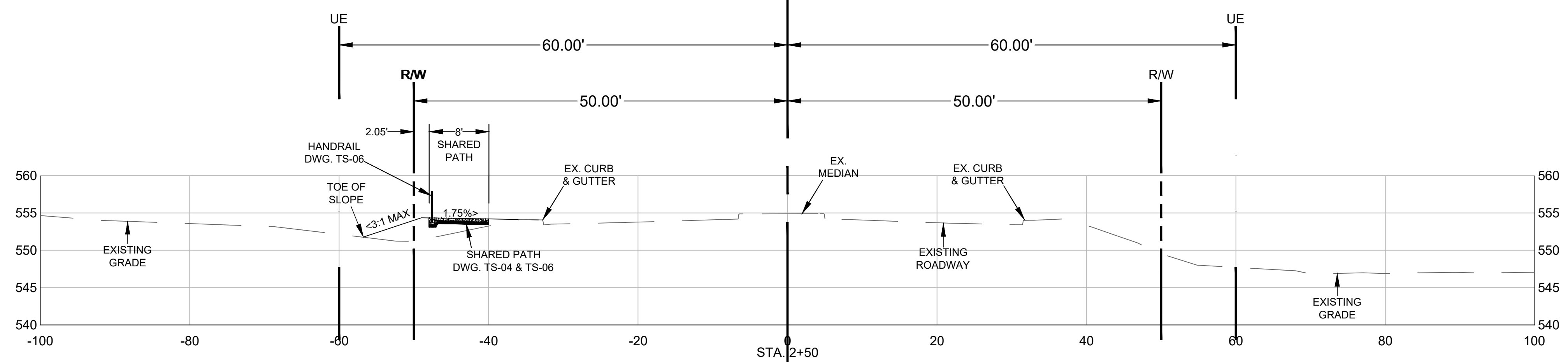
C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\13-XS-ROAD X-SECTIONS\10-275 XS.DWG



CUT = 123.18 SQ. FT.
FILL = 53.84 SQ. FT.



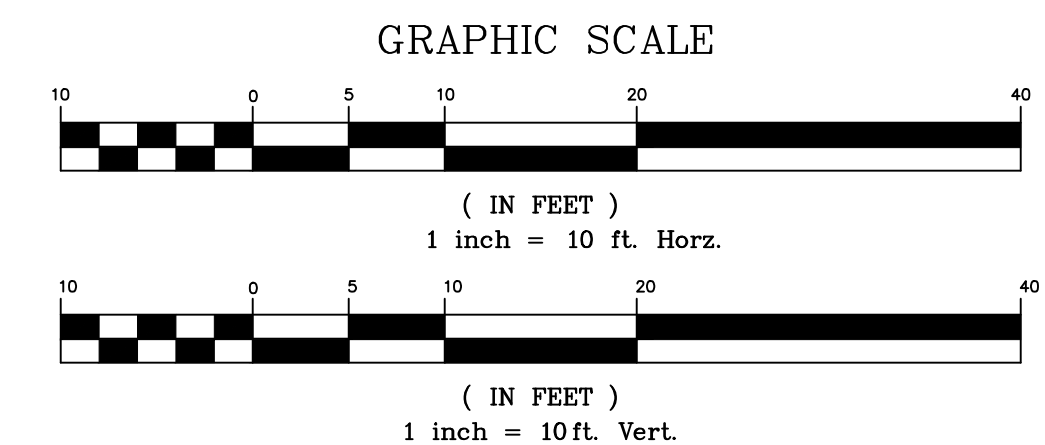
CUT = 128.17 SQ. FT.
FILL = 58.15 SQ. FT.



CUT = 23.72 SQ. FT.
FILL = 49.83 SQ. FT.

CENTERLINE OF CONSTRUCTION
EQUALS
BASELINE OF CONSTRUCTION

LEGEND:
R/W = RIGHT OF WAY
UE = UTILITY EASEMENT
TCE = TEMPORARY CONSTRUCTION EASEMENT



NO.	REVISION DESCRIPTION	BY	DATE

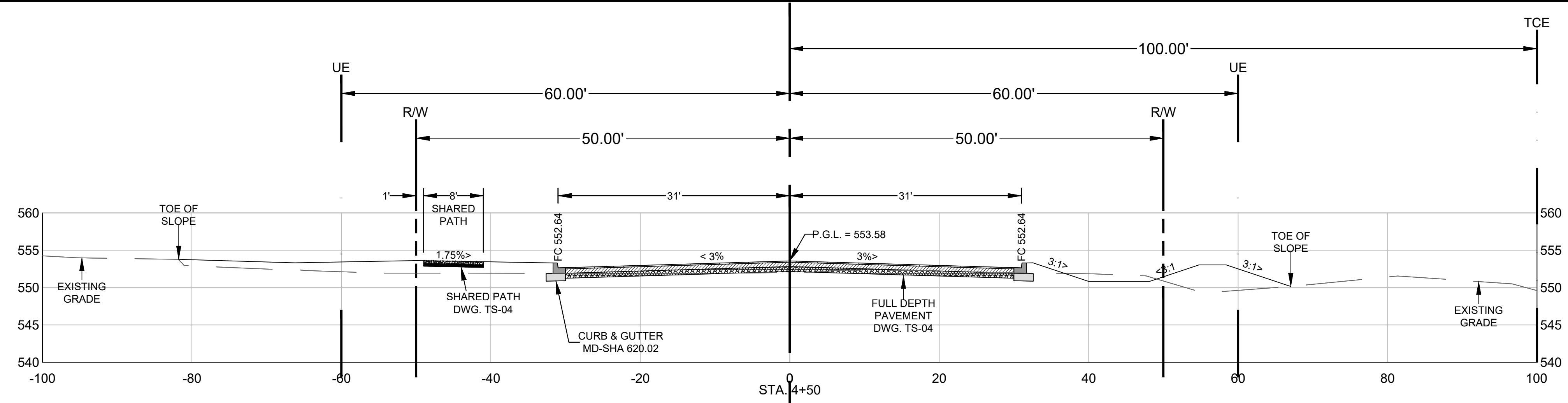
DESIGNED BY:	DRAWN BY:	CHECKED BY:	DATE:
PJM	GLJ	PJM	12/13/24

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING
Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2660 Fax: 240-313-2401

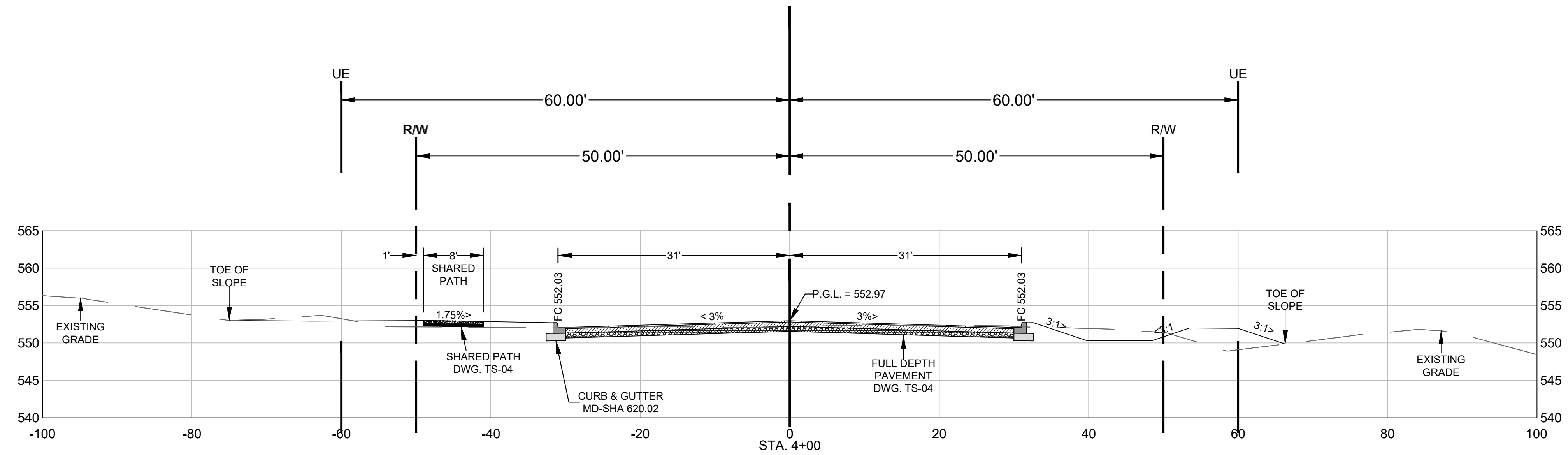


PROFESSIONAL BOULEVARD
PHASE III & IV
CROSS SECTIONS
Sta. 2+50 to Sta. 3+00

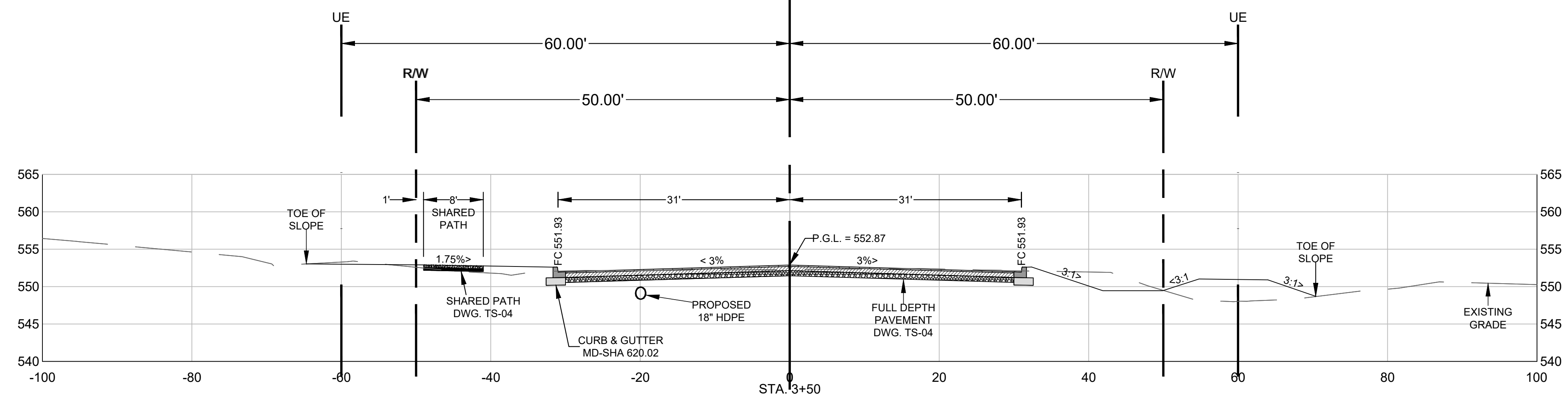
SCALE
SECTION NO. XS-02
SHEET NO. 39
PROJECT NO. 10-275



CUT = 121.43 SQ. FT.
FILL = 186.32 SQ. FT.



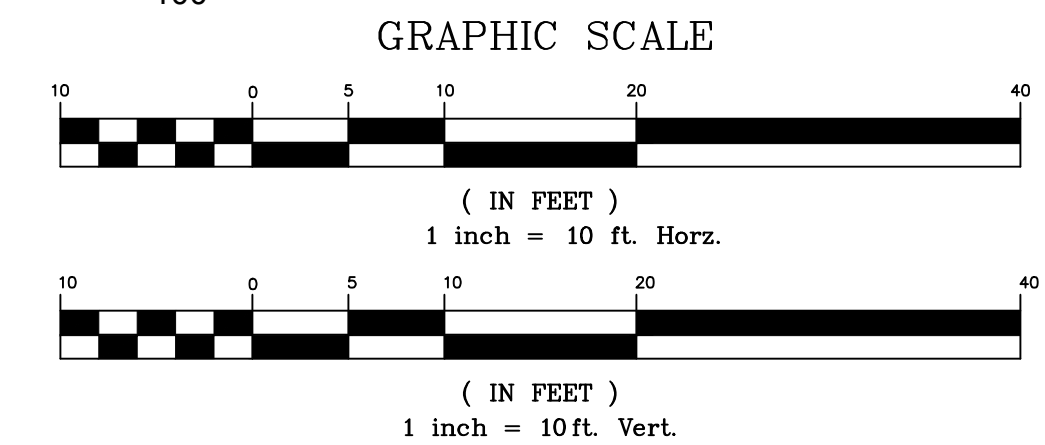
CUT = 141.19 SQ. FT.
FILL = 84.65 SQ. FT.



CUT = 148.83 SQ. FT.
FILL = 95.41 SQ. FT.

CENTERLINE OF CONSTRUCTION
EQUALS
BASELINE OF CONSTRUCTION

LEGEND:
R/W = RIGHT OF WAY
UE = UTILITY EASEMENT
TCE = TEMPORARY CONSTRUCTION EASEMENT



REVISION DESCRIPTION		DATE
NO.	BY	DATE

DESIGNED BY:	PJM
DRAWN BY:	CLJ
CHECKED BY:	PJM
DATE:	12.13.24

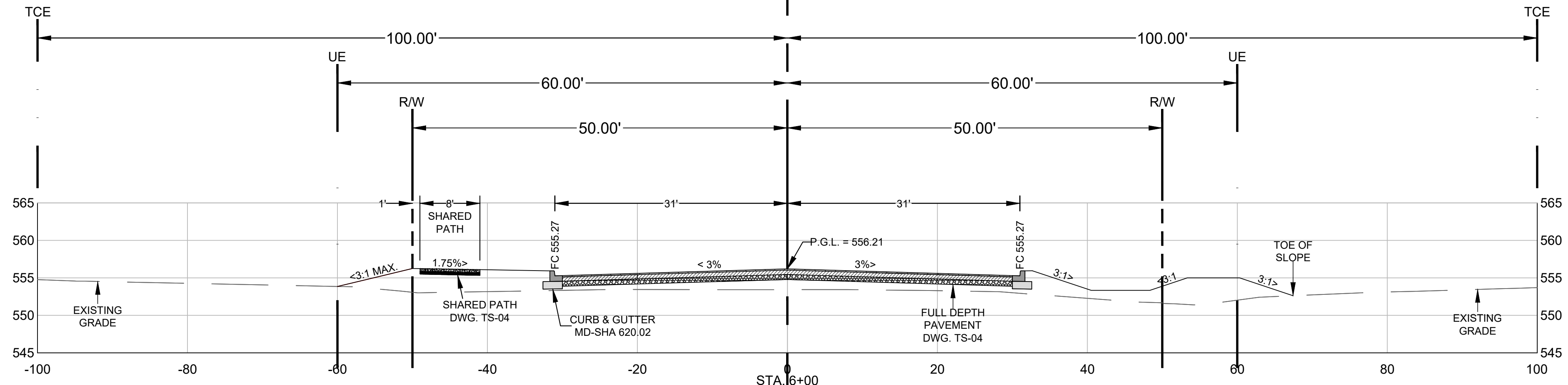
WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2660 Fax: 240-313-2401

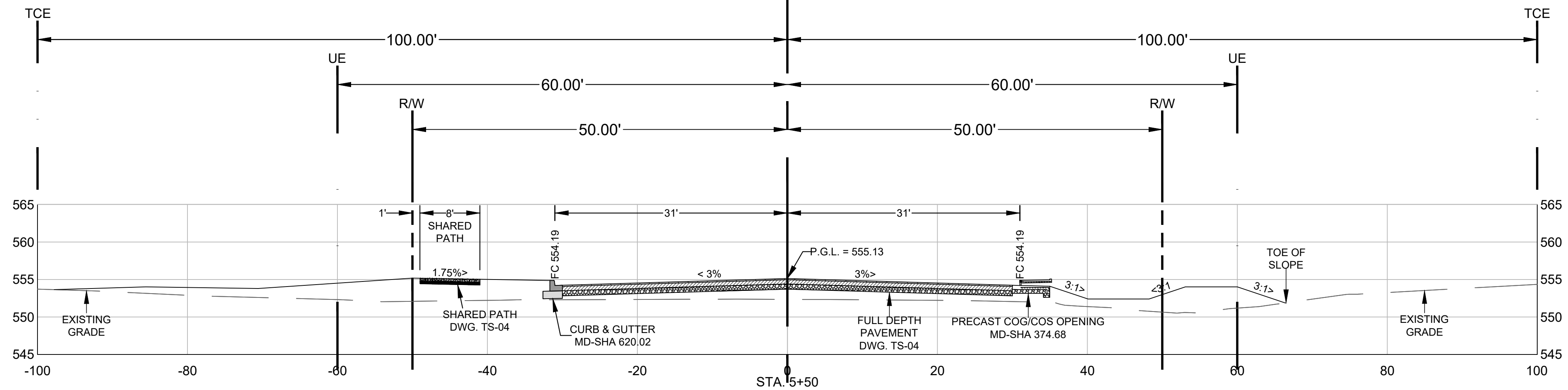
**PROFESSIONAL BOULEVARD
PHASE III & IV
CROSS SECTIONS
Sta. 3+50 to Sta. 4+50**

SCALE	
SECTION NO.	XS -03
SHEET NO.	40
PROJECT NO.	10-275

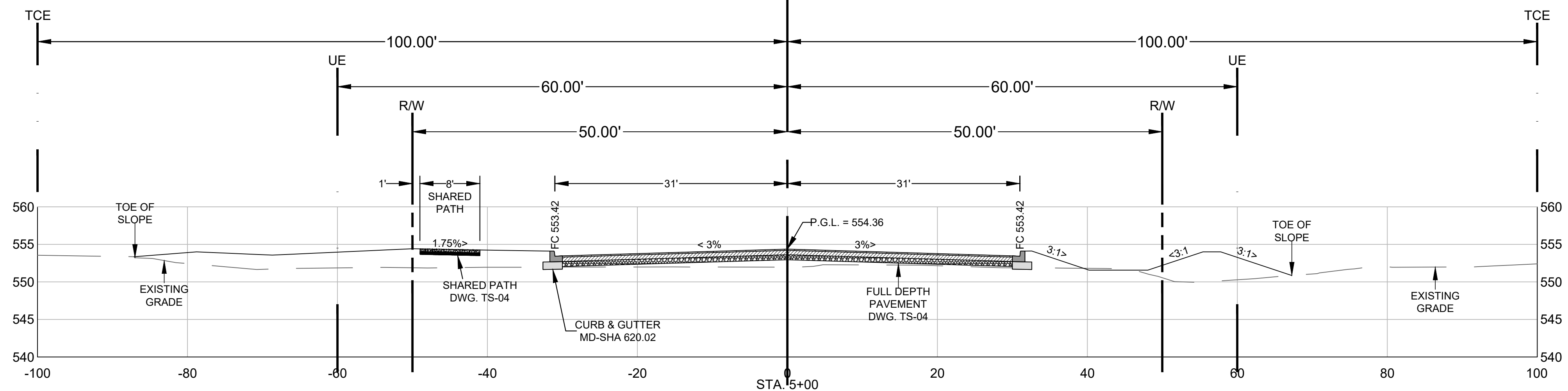
C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\13-XS-ROAD X-SECTIONS\10-275 XS.DWG



CUT = 120.68 SQ. FT.
FILL = 317.35 SQ. FT.



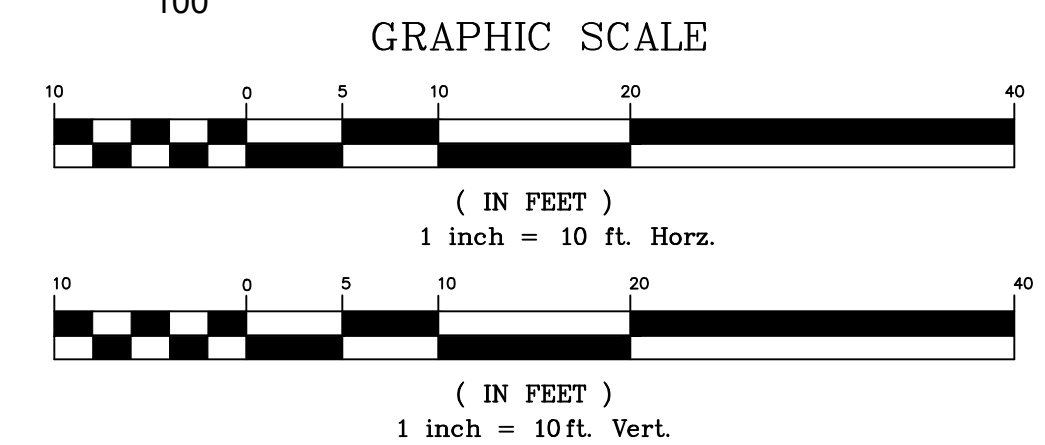
CUT = 120.42 SQ. FT.
FILL = 358.61 SQ. FT.



CUT = 120.83 SQ. FT.
FILL = 301.14 SQ. FT.

CENTERLINE OF CONSTRUCTION
EQUALS
BASELINE OF CONSTRUCTION

LEGEND:
R/W = RIGHT OF WAY
UE = UTILITY EASEMENT
TCE = TEMPORARY CONSTRUCTION EASEMENT



NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: P.J.M.
DRAWN BY: G.L.J.
CHECKED BY: P.J.M.
DATE: 12.13.24

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
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PROFESSIONAL BOULEVARD
PHASE III & IV
CROSS SECTIONS
Sta. 5+00 to Sta. 6+00

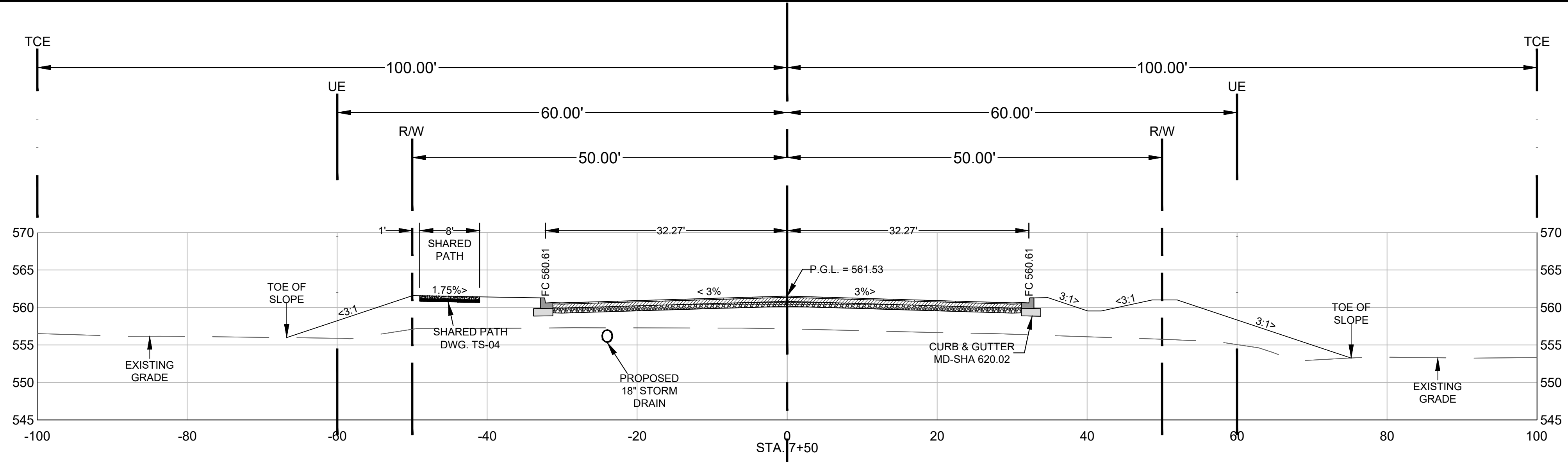
SCALE

SECTION NO.
XS-04

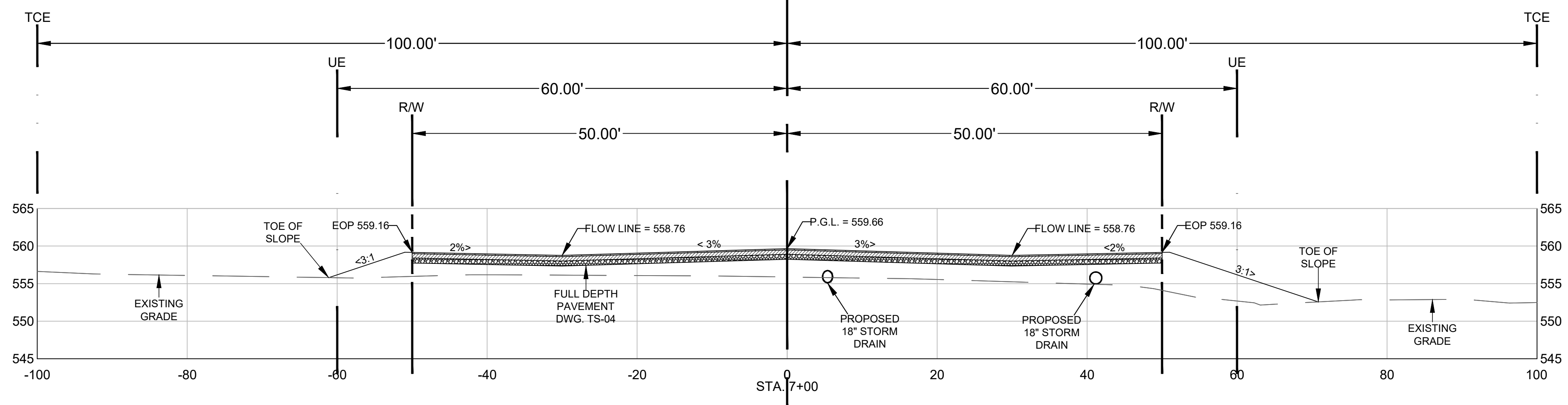
SHEET NO.
41

PROJECT NO.
10-275

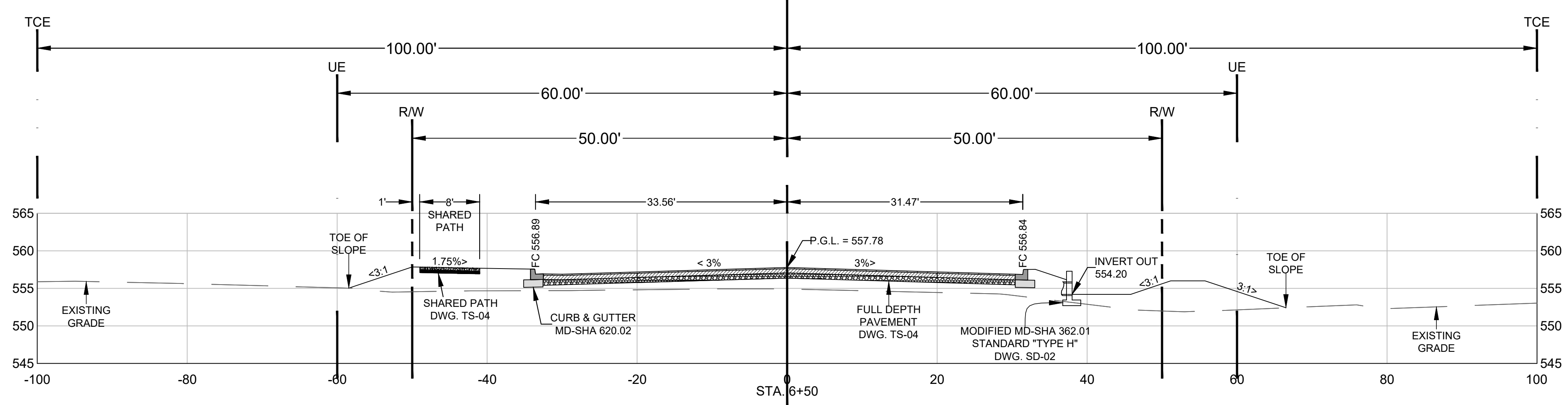
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CUT = 121.27 SQ. FT.
FILL = 553.73 SQ. FT.



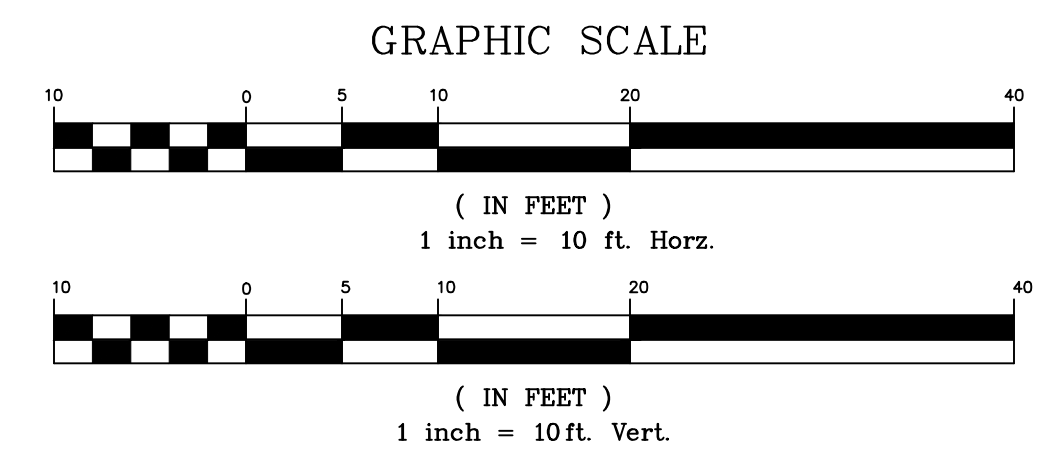
CUT = 121.51 SQ. FT.
FILL = 408.05 SQ. FT.



CUT = 119.16 SQ. FT.
FILL = 338.31 SQ. FT.

CENTERLINE OF CONSTRUCTION
EQUALS
BASELINE OF CONSTRUCTION

LEGEND:
R/W = RIGHT OF WAY
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TCE = TEMPORARY CONSTRUCTION EASEMENT



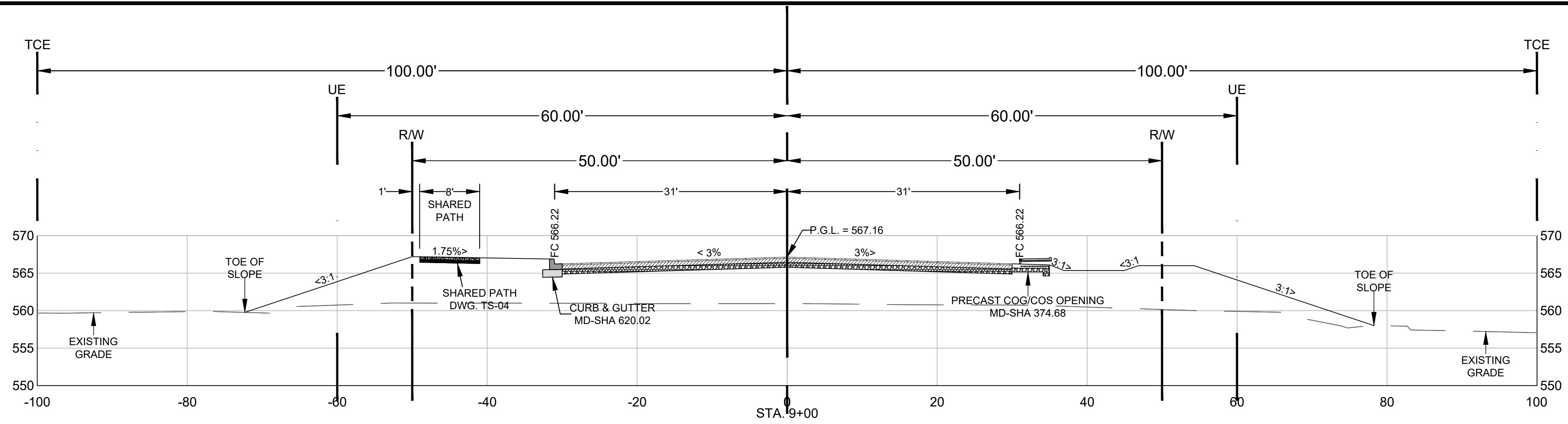
NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY:	PJM
DRAWN BY:	GLJ
CHECKED BY:	PJM
DATE:	12-13-24

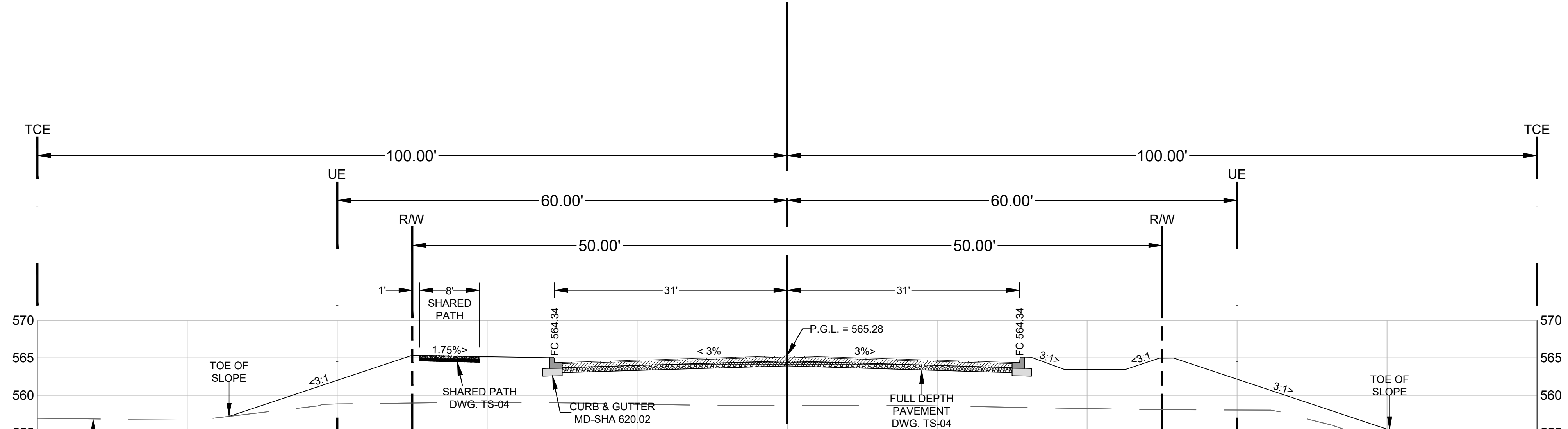
WASHINGTON COUNTY, MARYLAND	
DIVISION OF ENGINEERING	
Washington County Administrative Annex, Building	
747 Northern Avenue, Hagerstown, Maryland, 21742	
Phone: 240-313-2660 Fax: 240-313-2401	

PROFESSIONAL BOULEVARD	
PHASE III & IV	
CROSS SECTIONS	
Sta. 6+50 to Sta. 7+50	
SCALE	
SECTION NO.	XS-05
SHEET NO.	42
PROJECT NO.	10-275

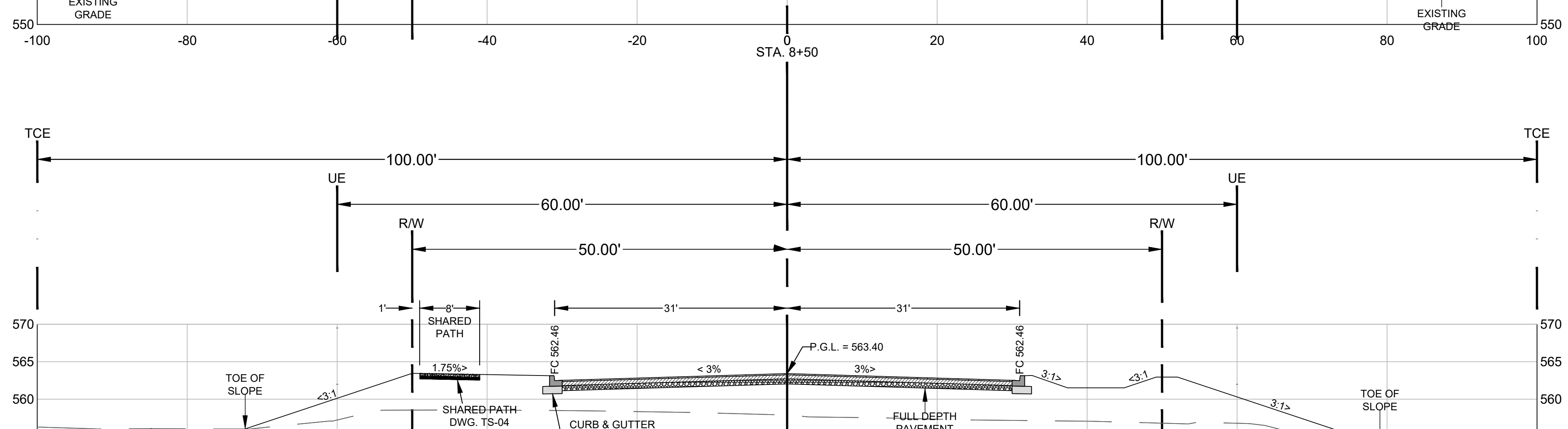
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CUT = 121.04 SQ. FT.
FILL = 754.95 SQ. FT.



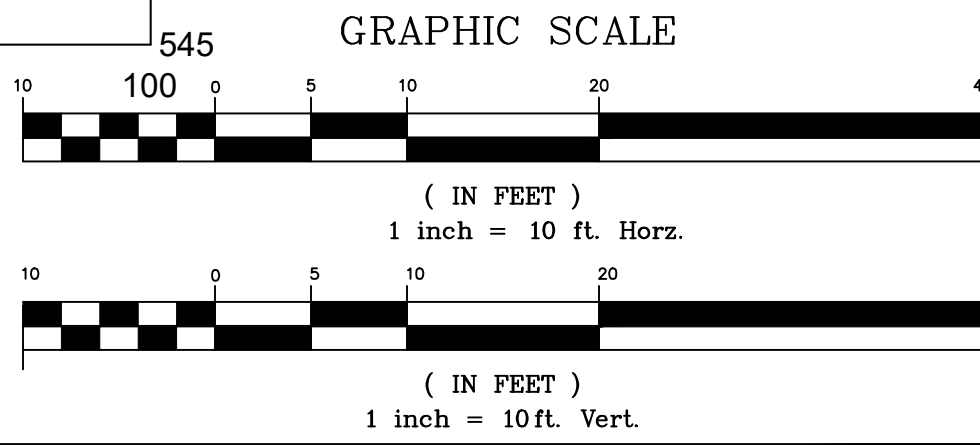
CUT = 121.34 SQ. FT.
FILL = 803.36 SQ. FT.




CUT = 120.80 SQ. FT.
FILL = 673.84 SQ. FT.

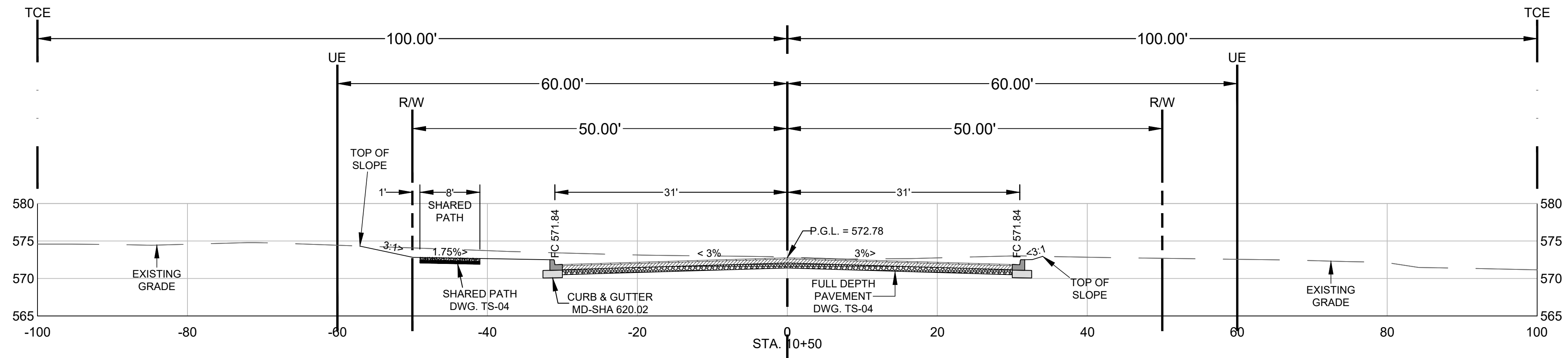
CENTERLINE OF CONSTRUCTION
EQUALS
BASELINE OF CONSTRUCTION

LEGEND:
R/W = RIGHT OF WAY
UE = UTILITY EASEMENT
TCE = TEMPORARY CONSTRUCTION EASEMENT

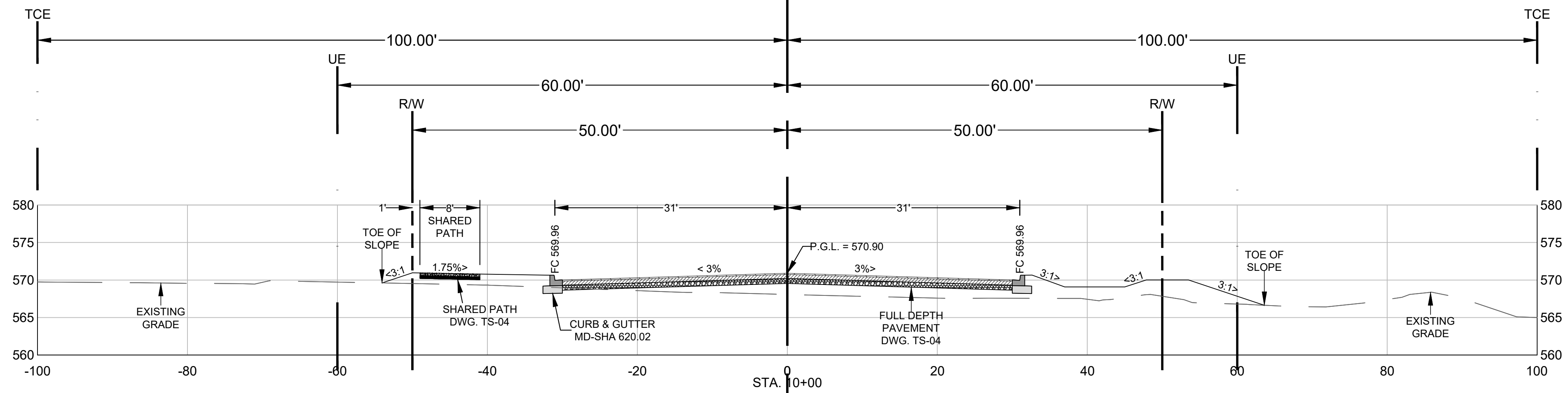


NO.	REVISION DESCRIPTION	BY	DATE
DESIGNED BY:	PJM		
DRAWN BY:	GLJ		
CHECKED BY:	PJM		
DATE:	12.13.24		
WASHINGTON COUNTY, MARYLAND DIVISION OF ENGINEERING  Washington County Administrative Annex, Building 747 Northern Avenue, Hagerstown, Maryland, 21742 Phone: 240-313-2460 Fax: 240-313-2401			
PROFESSIONAL BOULEVARD PHASE III & IV CROSS SECTIONS Sta. 8+00 to Sta. 9+00			
SCALE			
SECTION NO.	XS-06		
SHEET NO.	43		
PROJECT NO.	10-275		

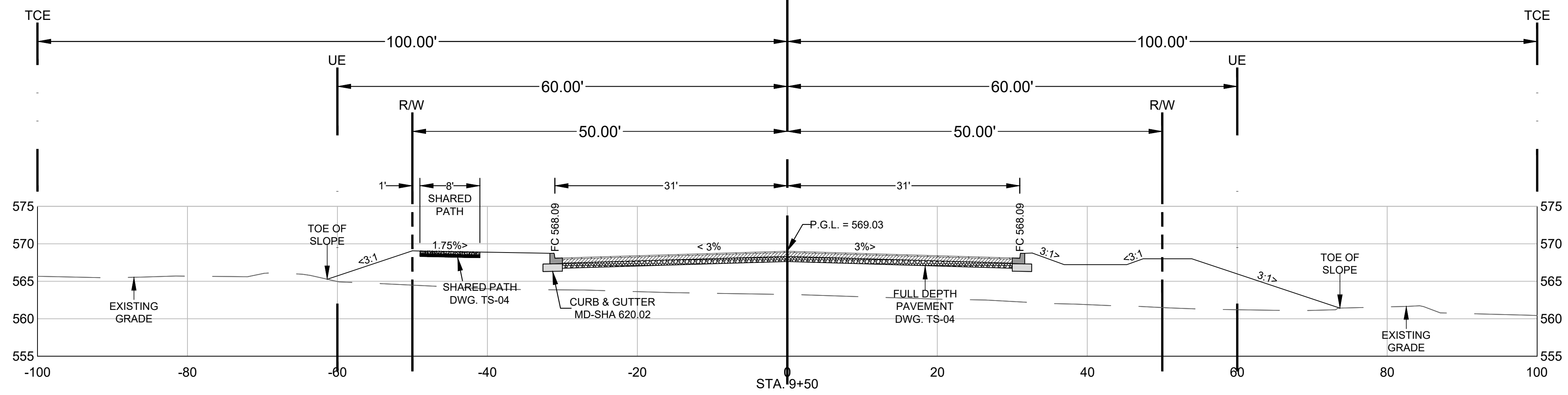
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CUT = 163.84 SQ. FT.
FILL = 2.66 SQ. FT.



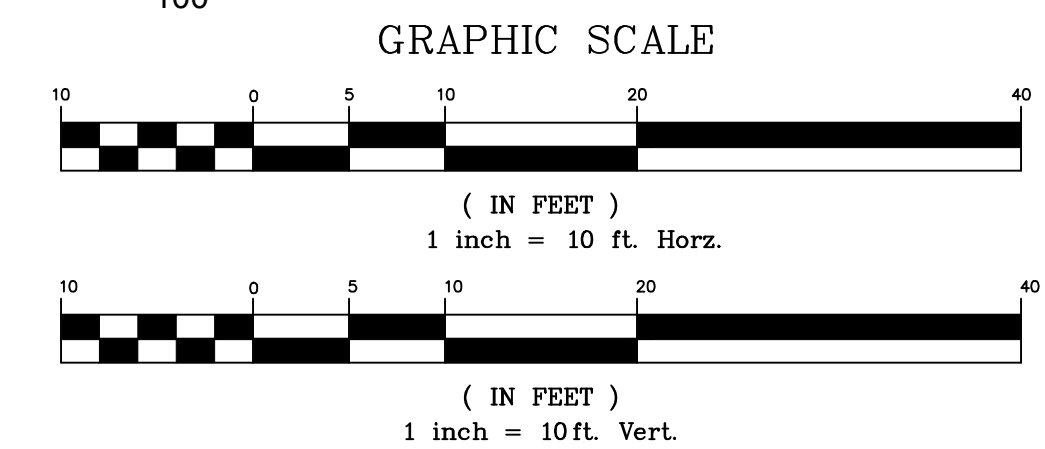
CUT = 113.91 SQ. FT.
FILL = 254.37 SQ. FT.



CUT = 121.23 SQ. FT.
FILL = 683.69 SQ. FT.

CENTERLINE OF CONSTRUCTION
EQUALS
BASELINE OF CONSTRUCTION

LEGEND:
R/W = RIGHT OF WAY
UE = UTILITY EASEMENT
TCE = TEMPORARY CONSTRUCTION EASEMENT



NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: P.J.M.
DRAWN BY: G.J.J.
CHECKED BY: P.J.M.
DATE: 12.13.24

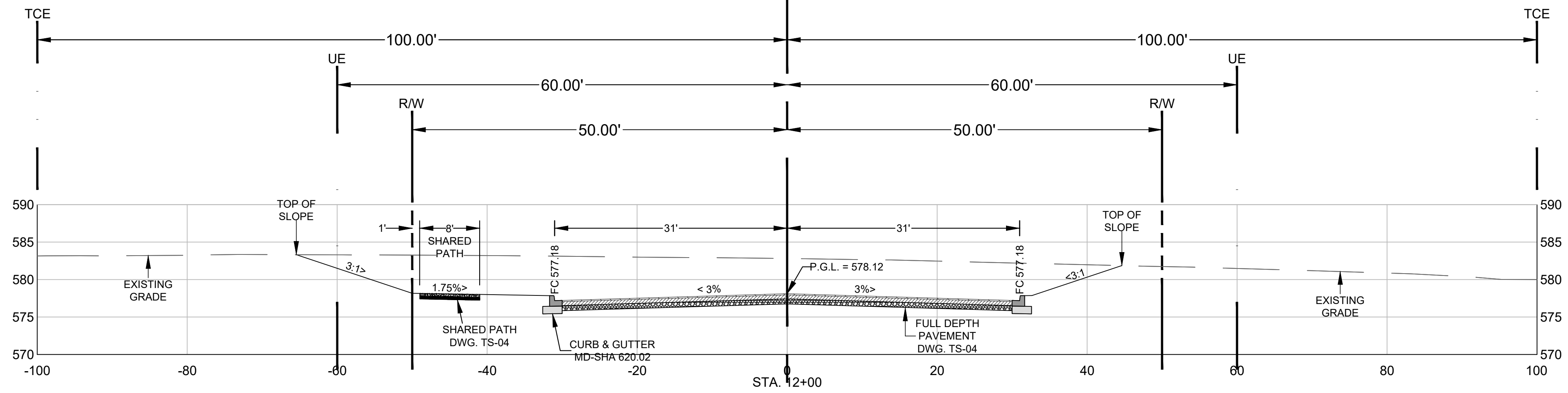
WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2460 Fax: 240-313-2401

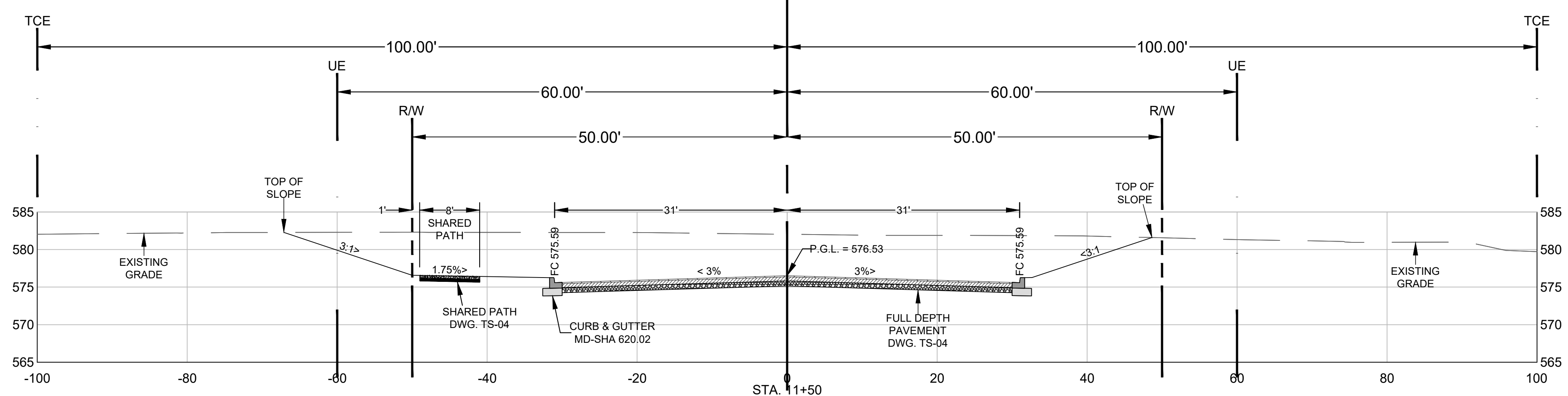
PROFESSIONAL BOULEVARD
PHASE III & IV
CROSS SECTIONS
Sta. 9+50 to Sta. 10+50

SCALE
SECTION NO. XS-07
SHEET NO. 44
PROJECT NO. 10-275

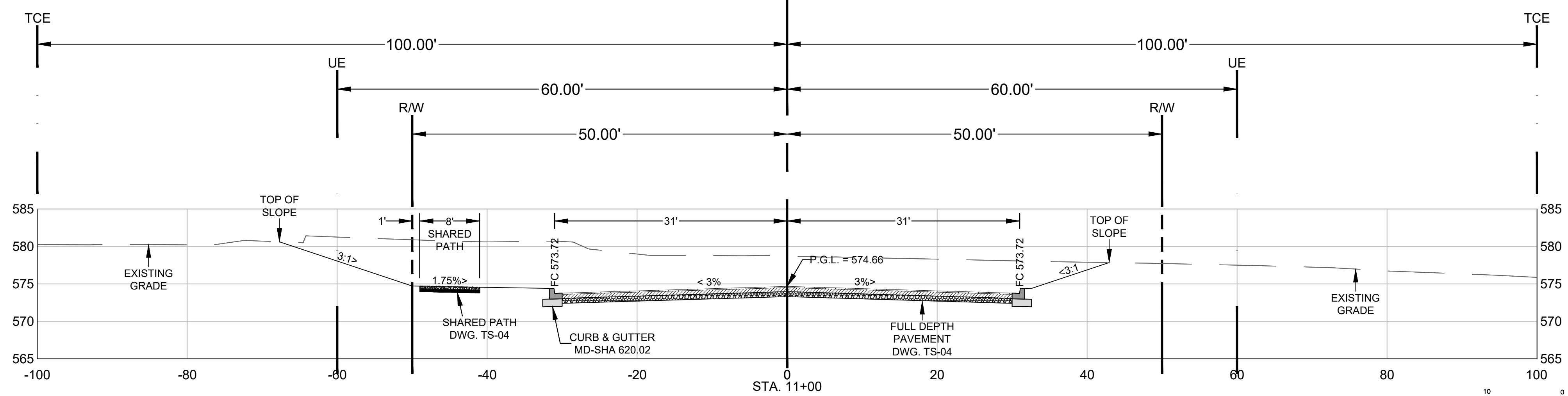
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CUT = 586.78 SQ. FT.
FILL = 2.92 SQ. FT.



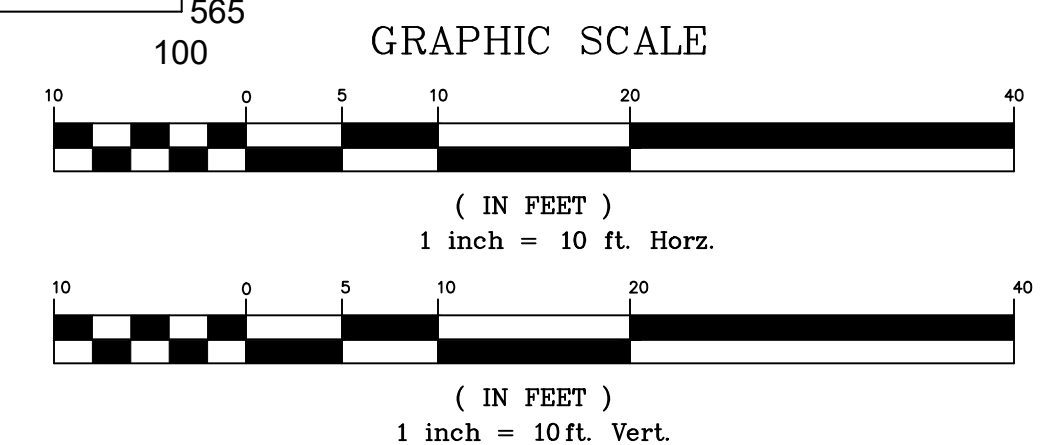
CUT = 687.16 SQ. FT.
FILL = 2.89 SQ. FT.



CUT = 584.00 SQ. FT.
FILL = 3.13 SQ. FT.

CENTERLINE OF CONSTRUCTION
EQUALS
BASELINE OF CONSTRUCTION

LEGEND:
R/W = RIGHT OF WAY
UE = UTILITY EASEMENT
TCE = TEMPORARY CONSTRUCTION EASEMENT



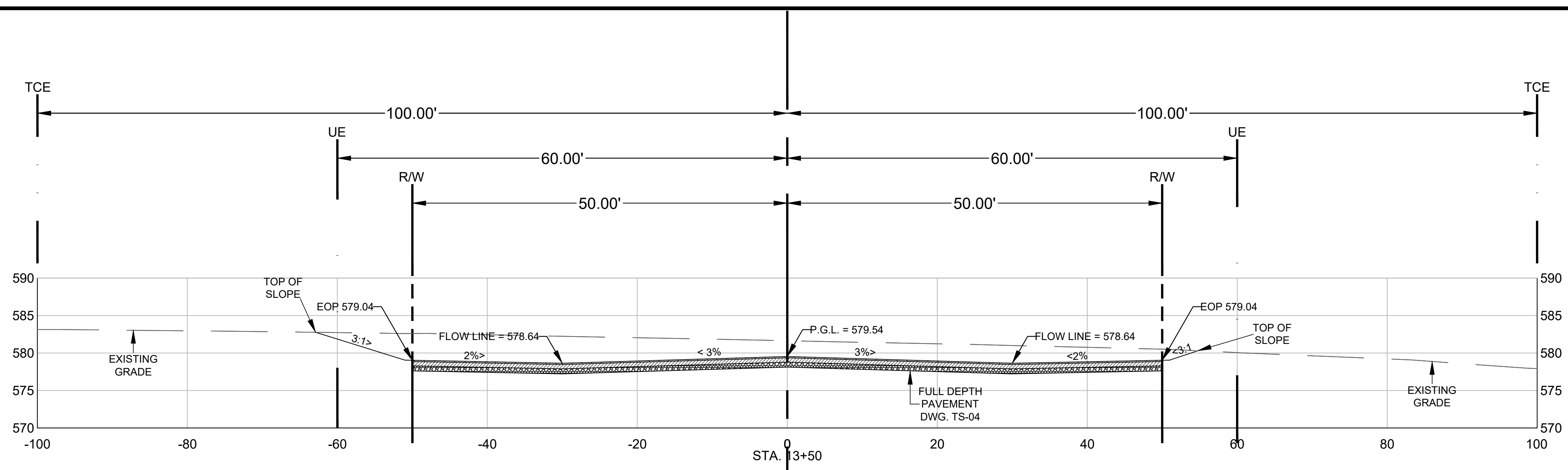
NO.	REVISION DESCRIPTION	BY	DATE

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING
Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2660 Fax: 240-313-2401

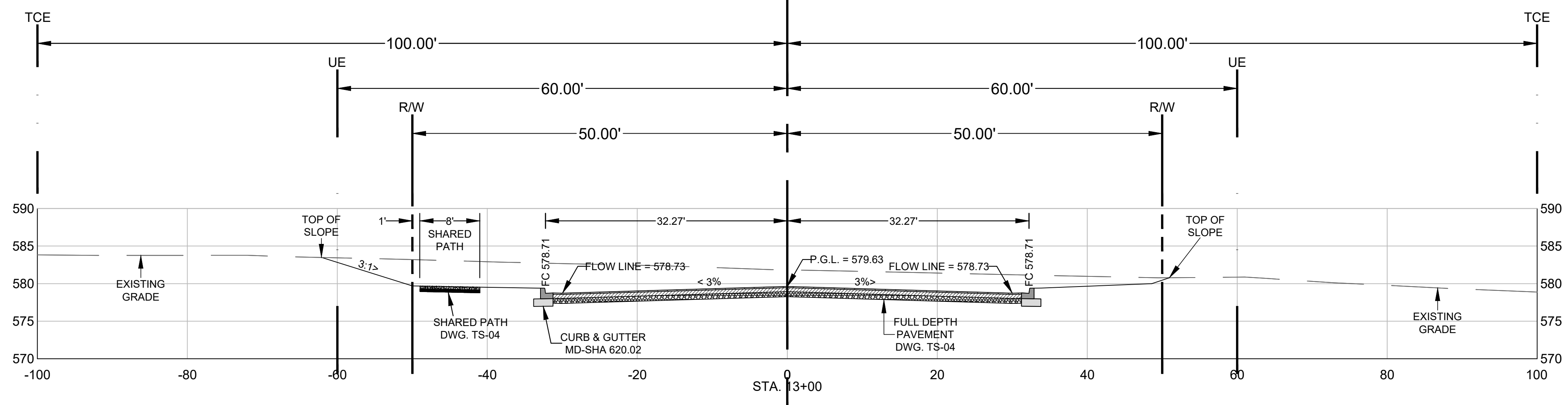
**PROFESSIONAL BOULEVARD
PHASE III & IV
CROSS SECTIONS
Sta. 11+00 to Sta. 12+00**

SCALE
SECTION NO. XS-08
SHEET NO. 45
PROJECT NO. 10-275

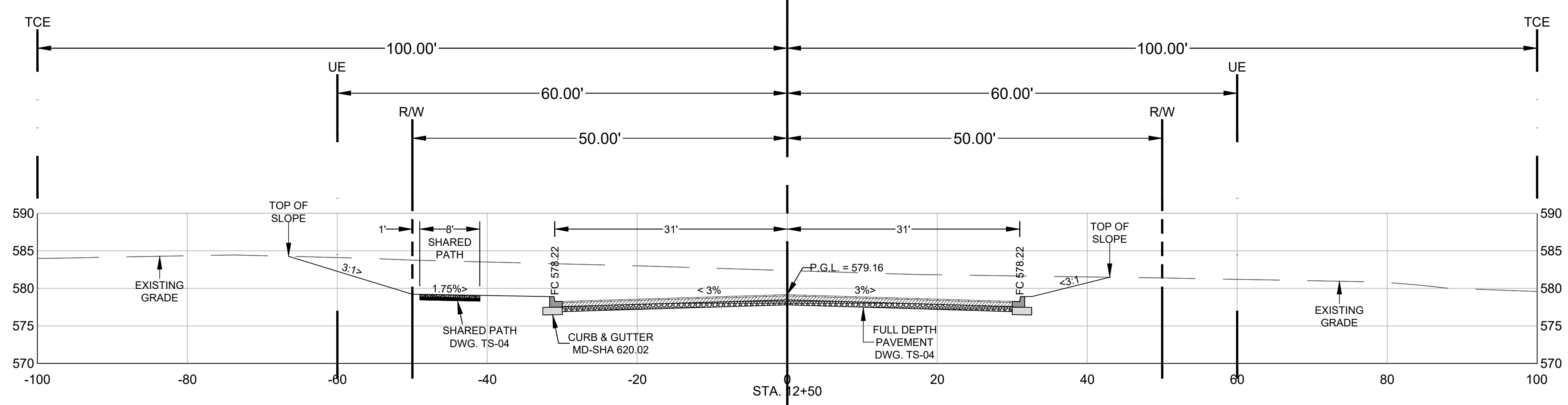
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CUT = 437.08 SQ. FT.
FILL = 3.00 SQ. FT.



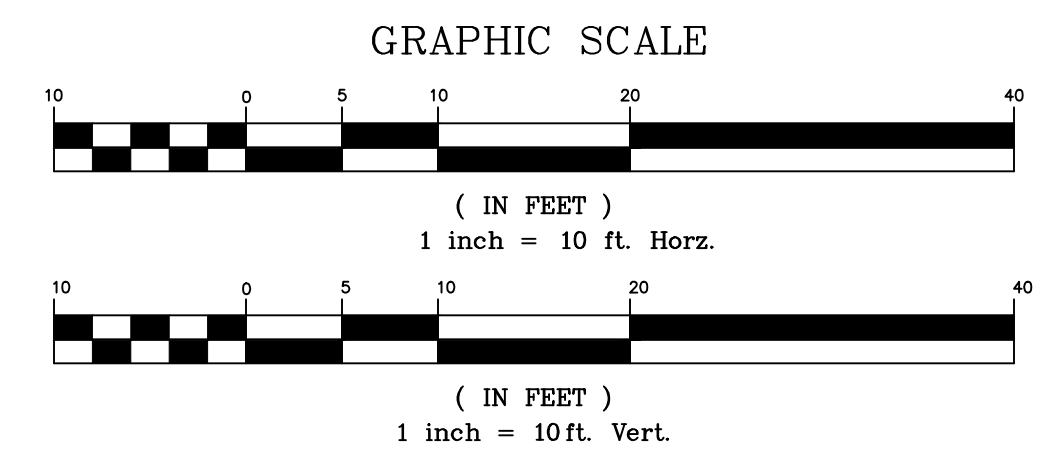
CUT = 384.76 SQ. FT.
FILL = 3.44 SQ. FT.



CUT = 471.09 SQ. FT.
FILL = 3.69 SQ. FT.

CENTERLINE OF CONSTRUCTION
EQUALS
BASELINE OF CONSTRUCTION

LEGEND:
R/W = RIGHT OF WAY
UE = UTILITY EASEMENT
TCE = TEMPORARY CONSTRUCTION EASEMENT



NO.	REVISION DESCRIPTION	BY	DATE
DESIGNED BY:			
DRAWN BY:			
CHECKED BY:			
DATE:			

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2460 Fax: 240-313-2401

**PROFESSIONAL BOULEVARD
PHASE III & IV
CROSS SECTIONS
Sta. 12+50 to Sta. 13+50**

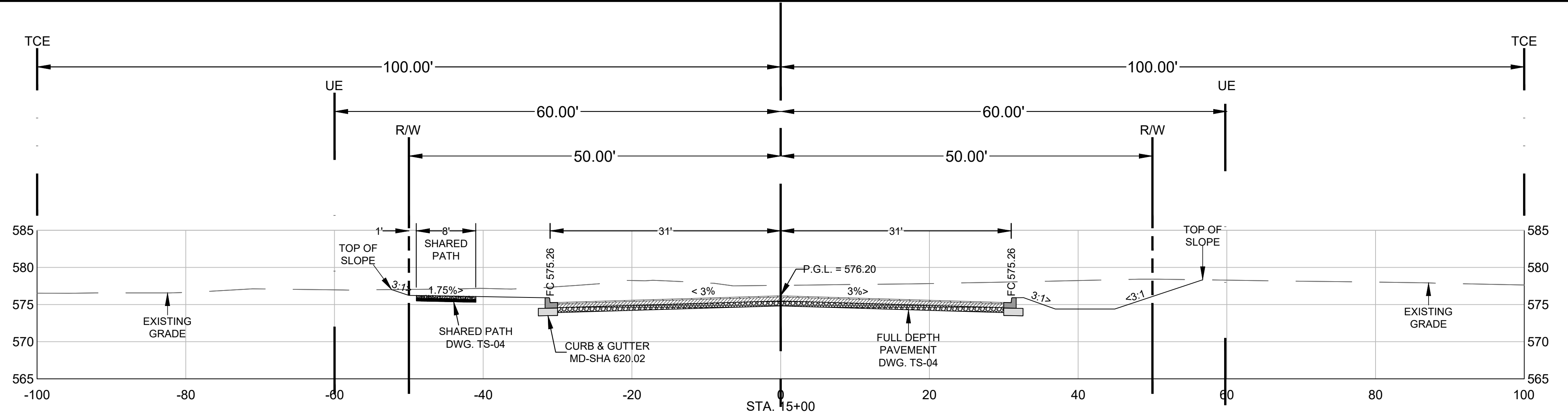
SCALE

SECTION NO.
XS-09

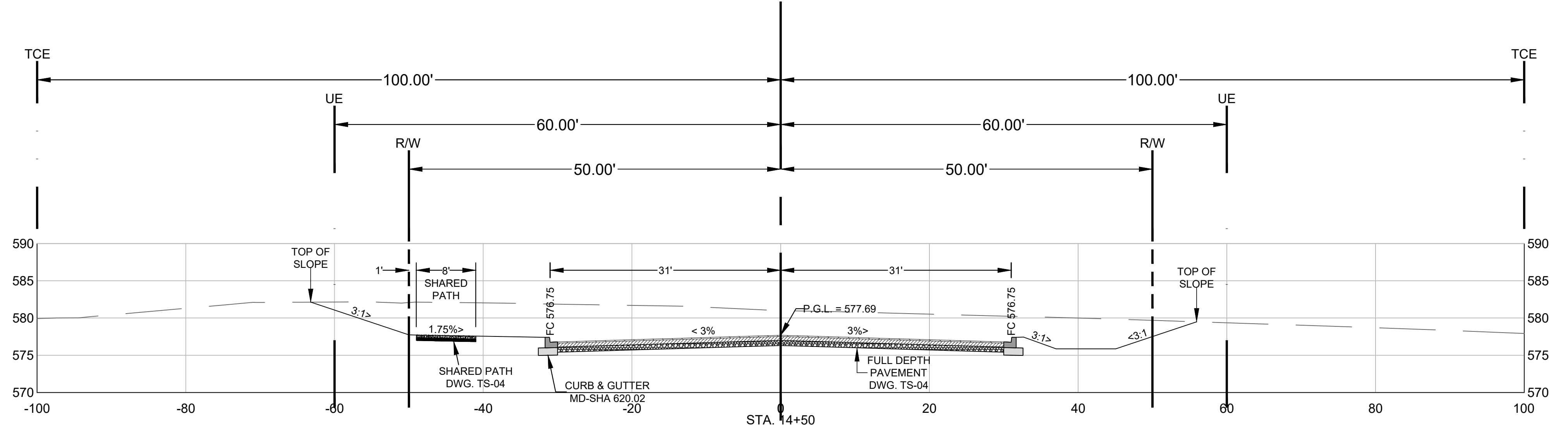
SHEET NO.
46

PROJECT NO.
10-275

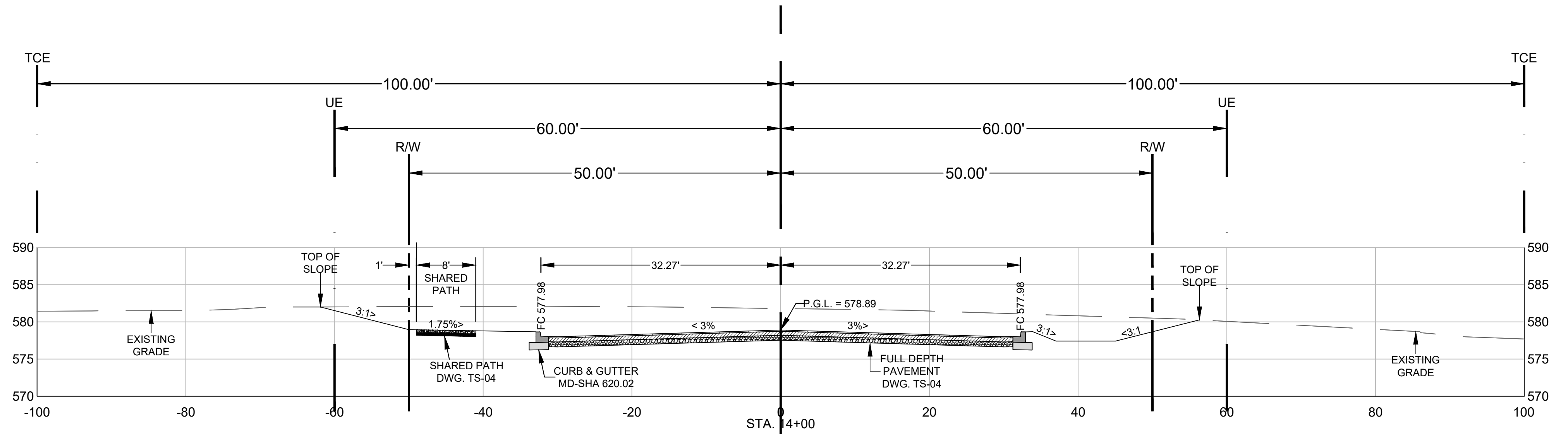
C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\13-XS-ROAD X-SECTIONS\10-275 XS.DWG



CUT = 321.62 SQ. FT.
FILL = 3.03 SQ. FT.



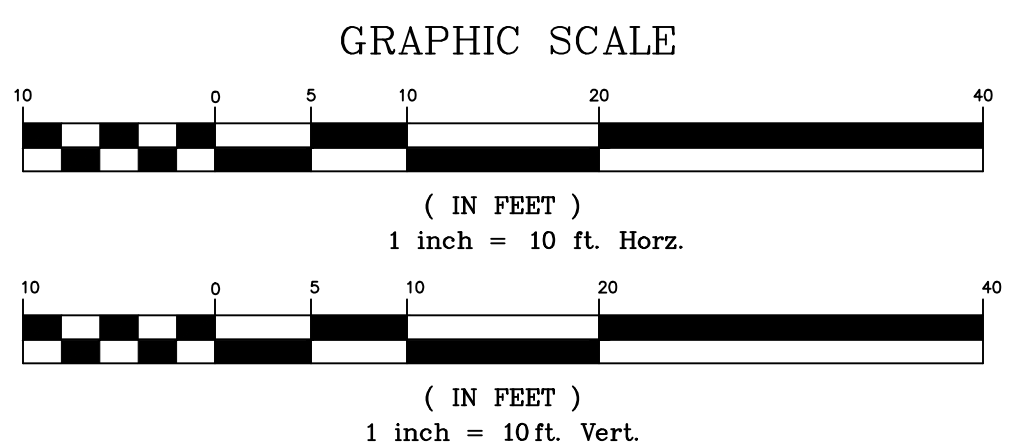
CUT = 527.95 SQ. FT.
FILL = 2.85 SQ. FT.



CUT = 451.99 SQ. FT.
FILL = 3.59 SQ. FT.

CENTERLINE OF CONSTRUCTION
EQUALS
BASELINE OF CONSTRUCTION

LEGEND:
R/W = RIGHT OF WAY
UE = UTILITY EASEMENT
TCE = TEMPORARY CONSTRUCTION EASEMENT



NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: PJM	DRAWN BY: GLJ	CHECKED BY: PJM	DATE: 12/13/24
---------------------	------------------	--------------------	-------------------

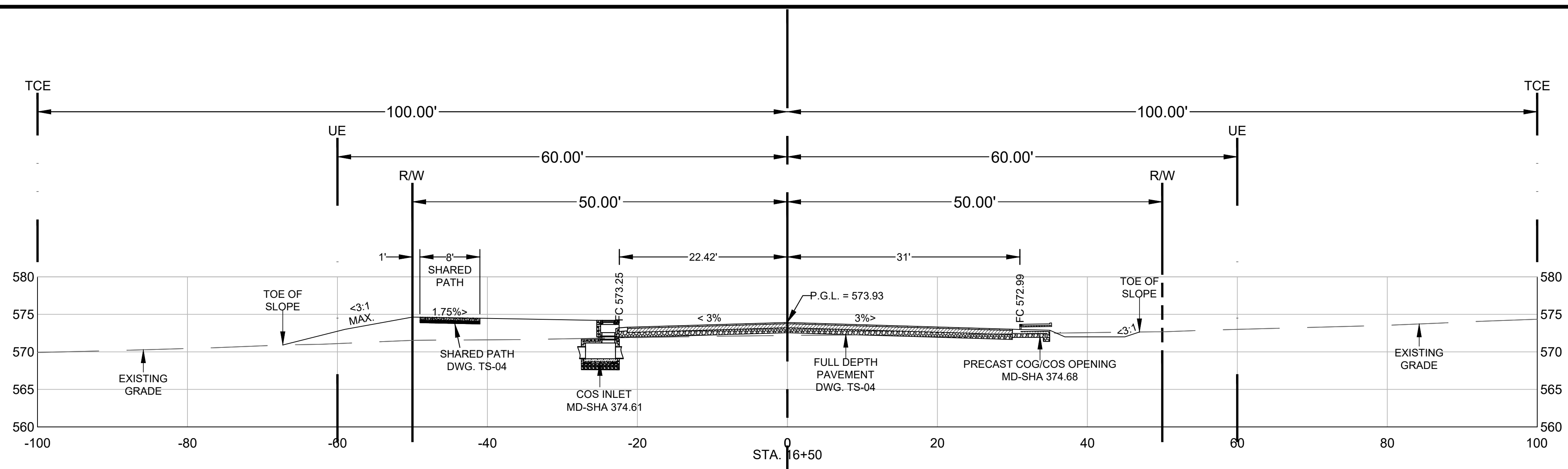
WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2460 Fax: 240-313-2401

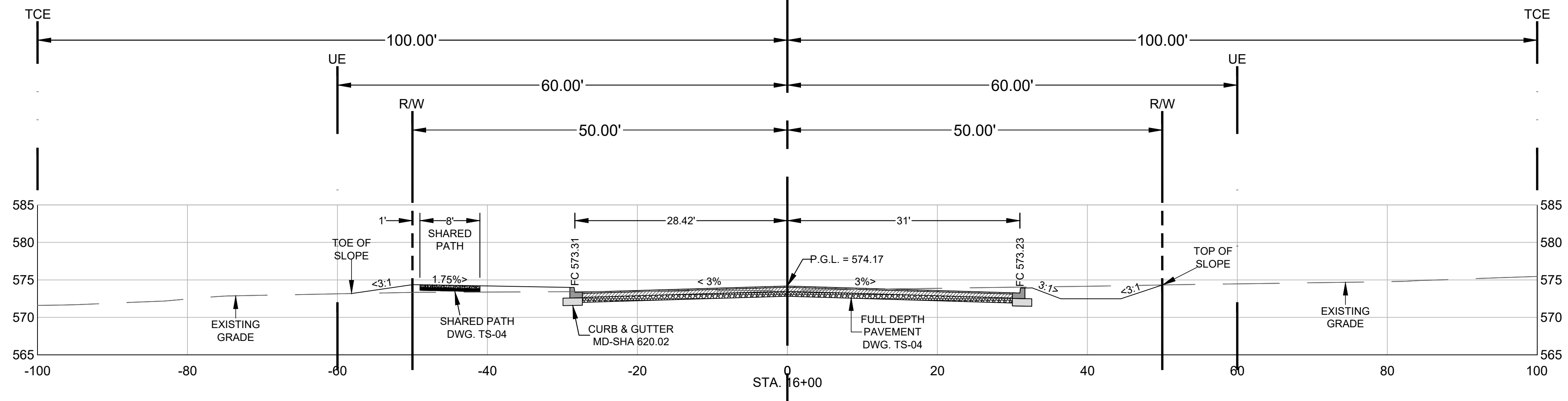
PROFESSIONAL BOULEVARD
PHASE III & IV
CROSS SECTIONS
Sta. 14+00 to Sta. 15+00

SCALE
SECTION NO. XS -10
SHEET NO. 47
PROJECT NO. 10-275

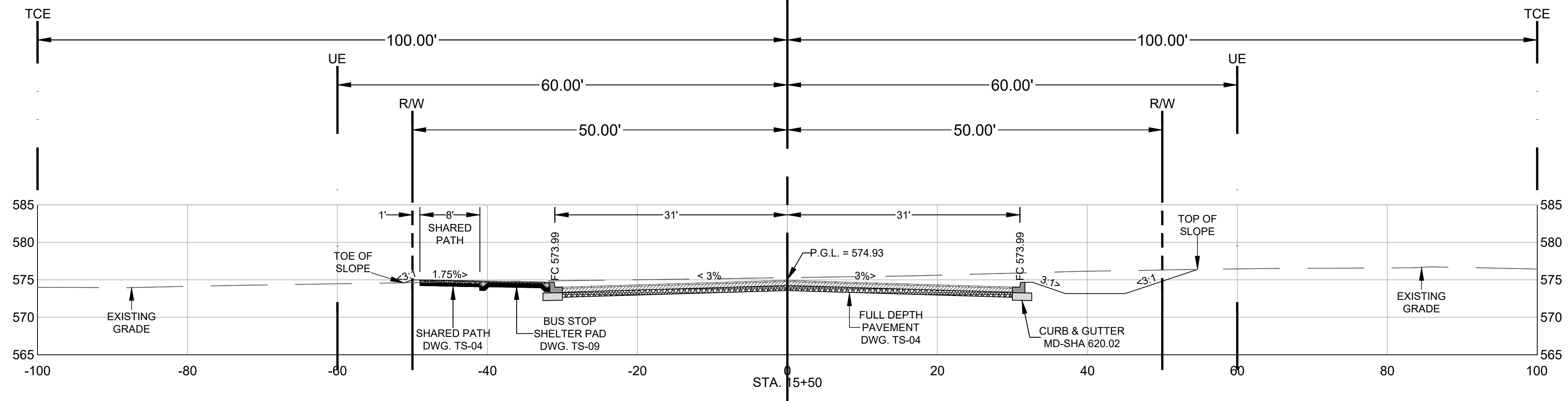
C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\13-XS-ROAD X-SECTIONS\10-275 XS.DWG



CUT = 123.61 SQ. FT.
FILL = 187.87 SQ. FT.



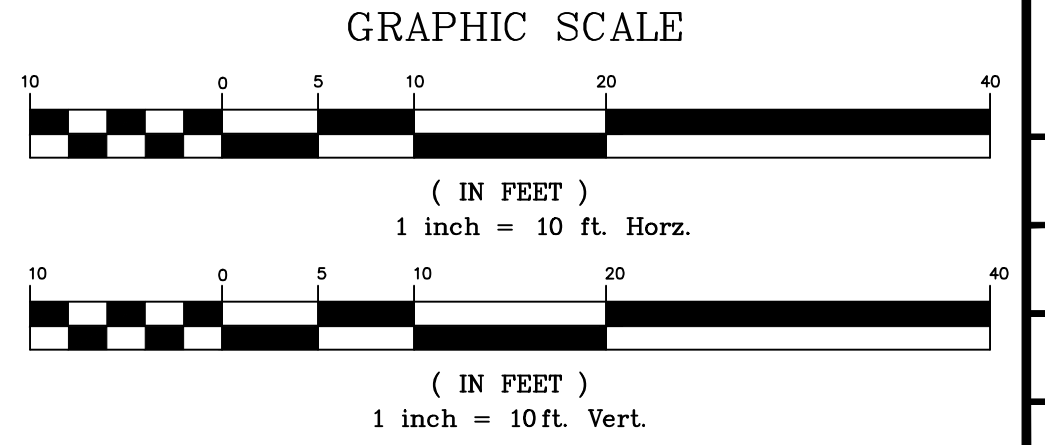
CUT = 136.41 SQ. FT.
FILL = 48.16 SQ. FT.



CUT = 214.32 SQ. FT.
FILL = 9.52 SQ. FT.

CENTERLINE OF CONSTRUCTION
EQUALS
BASELINE OF CONSTRUCTION

LEGEND:
R/W = RIGHT OF WAY
UE = UTILITY EASEMENT
TCE = TEMPORARY CONSTRUCTION EASEMENT



NO.	REVISION DESCRIPTION	DATE
DESIGNED BY:	P.J.M.	
DRAWN BY:	G.L.J.	
CHECKED BY:	P.J.M.	
DATE:	12-3-15-24	

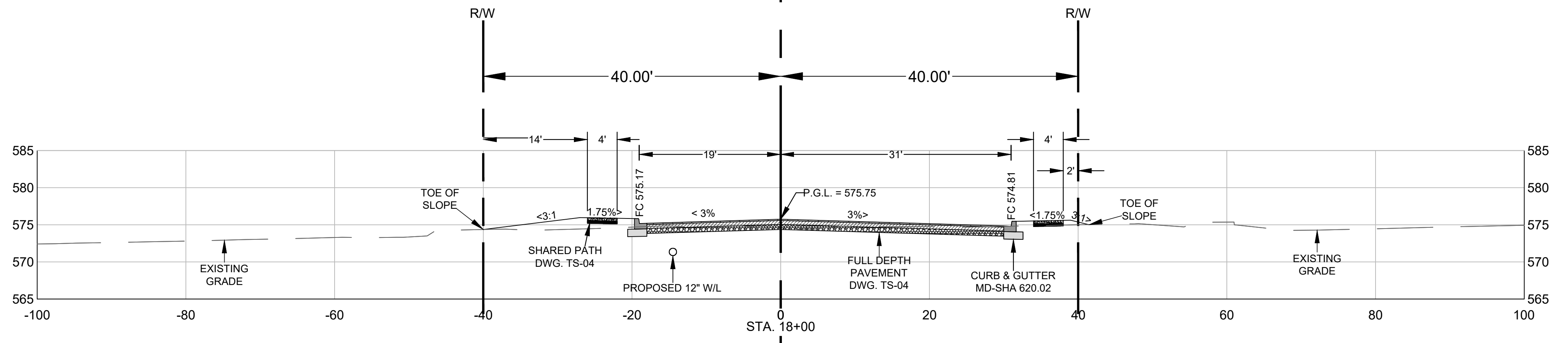
WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2460 Fax: 240-313-2401

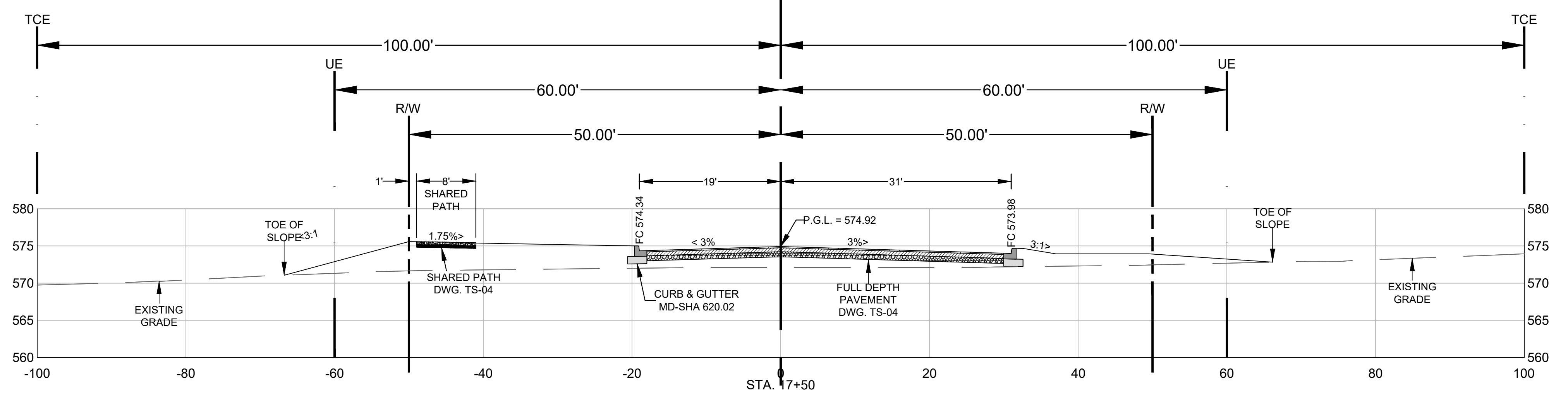
PROFESSIONAL BOULEVARD
PHASE III & IV
CROSS SECTIONS
Sta. 15+50 to Sta. 16+50

SCALE
SECTION NO. XS -11
SHEET NO. 48
PROJECT NO. 10-275

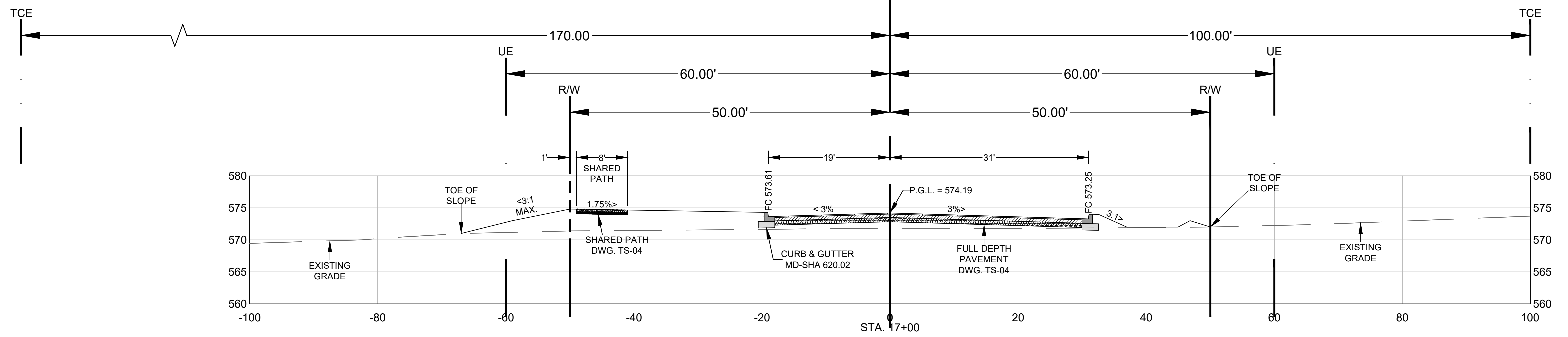
C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\13-XS-ROAD X-SECTIONS\10-275 XS.DWG



CUT = 84.25 SQ. FT.
FILL = 67.85 SQ. FT.



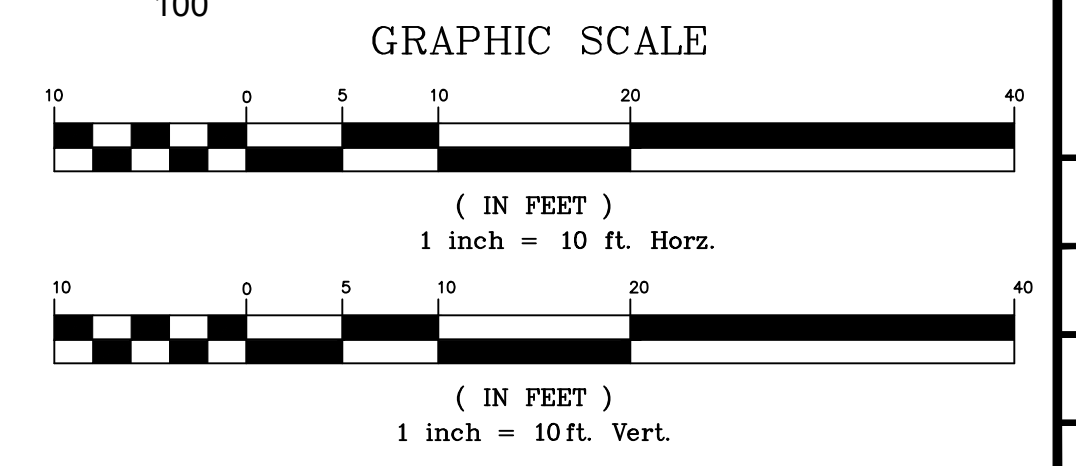
CUT = 120.11 SQ. FT.
FILL = 351.99 SQ. FT.



CUT = 110.19 SQ. FT.
FILL = 268.01 SQ. FT.

CENTERLINE OF CONSTRUCTION
EQUALS
BASELINE OF CONSTRUCTION

LEGEND:
R/W = RIGHT OF WAY
UE = UTILITY EASEMENT
TCE = TEMPORARY CONSTRUCTION EASEMENT



NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: P.J.M.
DRAWN BY: G.L.J.
CHECKED BY: P.J.M.
DATE: 12/13/24

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue, Hagerstown, Maryland, 21742
Phone: 240-313-2460 Fax: 240-313-2401

**PROFESSIONAL BOULEVARD
PHASE III & IV
CROSS SECTIONS
Sta. 17+00 to Sta. 18+00**

SCALE
SECTION NO. XS - 12
SHEET NO. 49
PROJECT NO. 10-275

C:\USERS\GJONES\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\10-275 PROFESSIONAL BLVD. PH III & IV\CONSTRUCTION\13-XS-ROAD X-SECTIONS\10-275 XS.DWG

NOTES:

- ENGINEERED/CONTROLLED FILL SHALL HAVE A MAXIMUM DRY DENSITY OF NOT LESS THAN 100 LBS/CF. SATISFACTORY SOILS FOR FILL INCLUDE GW, GP, GM, SW, SM, SC, ML, CL OR A COMBINATION OF THESE GROUP SYMBOLS FROM EXCAVATION OR BORROW WHICH CAN BE COMPACTED TO FORM STABLE EMBANKMENTS AND FILLS (BEING FREE OF ROCK OR GRAVEL LARGER THAN 6 INCHES IN ANY DIMENSION) AS ACCEPTED BY THE ENGINEER. FILL FOR PLACEMENT IN ALL AREAS SHALL CONFORM TO A LIQUID LIMIT OF 45 MAXIMUM AND A PLASTICITY INDEX OF 30 MAXIMUM OR TO THE LIMITS AS CERTIFIED BY THE GEOTECHNICAL ENGINEER. UNSATISFACTORY SOILS/MATERIALS THAT ARE NOT ACCEPTABLE FOR USE INCLUDE CH, MH, OH, OL, PT, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION, AND OTHER ORGANIC/DELETERIOUS MATTER. SOILS TREATED WITH LIME AND PLACEMENT OF GEOGRIDS/GEOTEXTILE FABRICS MAY BE USED FOR SUBGRADE REMEDIATION AS CERTIFIED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE ENGINEER.
- ALL PROPOSED FILL AND SUITABLE SUBGRADE MATERIALS SHALL BE REVIEWED AND APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A GEOTECHNICAL ENGINEERING FIRM TO MONITOR CONSTRUCTION ACTIVITIES AND PERFORM TESTING. THE COST OF GEOTECHNICAL AND TESTING SERVICES ARE INCIDENTAL TO THE PERTINENT EXCAVATION, BORROW, AND SUBGRADE ITEMS IN THE CONTRACT.
- THE EXCAVATION AND RE-USE OF EXCAVATED MATERIAL WILL BE MEASURED AND PAID FOR UNDER THE UNCLASSIFIED EXCAVATION ITEM IN THE CONTRACT. AS PART OF THE WORK, THE CONTRACTOR SHALL EXCAVATE AND SEPARATELY STOCKPILE SUITABLE FILL DURING THE PROGRESS OF THE EXCAVATION. CONTRACT QUANTITIES FOR FILL ARE BASED ON RE-USE OF ON SITE SUITABLE EXCAVATED MATERIALS AS WELL AS USE OF IMPORTED COMMON BORROW. THE CONTRACTOR SHALL UTILIZE ALL ON SITE MATERIALS PRIOR TO IMPORTING FILL ON THE PROJECT. THE CONTRACTOR SHALL ADEQUATELY PROTECT THE STOCKPILED MATERIAL THAT IS ACCEPTABLE FOR RE-USE AS FILL. STOCKPILED MATERIAL THAT IS TOO WET TO ACHIEVE PROPER COMPACTION SHALL BE LEFT TO DRAIN, DRY, AND BE AERATED BY HARROWING OR OTHER APPROVED METHODS UNTIL THE MOISTURE CONTENT IS UNIFORM AND WITHIN THE SPECIFIED LIMITS. WHERE CONDITIONS REQUIRE THE IMPORTING OF FILL, THE MATERIAL SHALL BE A SOIL-ROCK MATERIAL (DIRTY CRUSHER RUN, ETC.) FREE OF ORGANIC MATTER THAT MEETS THE REQUIREMENTS FOR SUITABLE BACKFILL AS ACCEPTED BY THE ENGINEER. IMPORTING OF FILL WILL BE MEASURED AND PAID FOR UNDER THE COMMON BORROW ITEM IN THE CONTRACT.
- BEFORE COMPACTION, EACH LAYER SHALL BE MOISTENED OR AERATED BY THE CONTRACTOR AS NECESSARY TO ACHIEVE THE REQUIRED COMPACTION. EACH LAYER SHALL BE COMPACTED TO THE REQUIRED PERCENTAGE OF MAXIMUM DRY DENSITY. FILL SHALL NOT BE PLACED ON SURFACES THAT ARE MUDDY, FROZEN, OR HAVE NOT BEEN APPROVED BY TESTING AND/OR PROOF ROLLING. FREE WATER SHALL BE PREVENTED FROM APPEARING ON THE SURFACE DURING OR SUBSEQUENT TO COMPACTION OPERATIONS.
- THE CONTRACTOR SHALL ADHERE TO MSHA SECTION 204 (EMBANKMENT AND SUBGRADE), MSHA SECTION 208 (SUBGRADE PREPARATION), AND MSHA SECTION 210 (TAMPED FILL) FOR CONSTRUCTION OF WORK.
- MAGNETICALLY DETECTABLE WARNING TAPE SHALL ADHERE TO MSHA SECTION 303 (PIPE CULVERTS) AND BE PLACED ABOVE ALL UTILITIES.
- TRENCH SIDES SHALL BE SLOPED AND/OR BRACED WITH SHORING OR PROTECTED WITH A TRENCH BOX PER OSHA REQUIREMENTS. THIS COST IS INCIDENTAL TO THE PERTINENT EXCAVATION AND BACKFILL ITEMS IN THE CONTRACT.
- UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL AS DIRECTED BY THE ENGINEER.

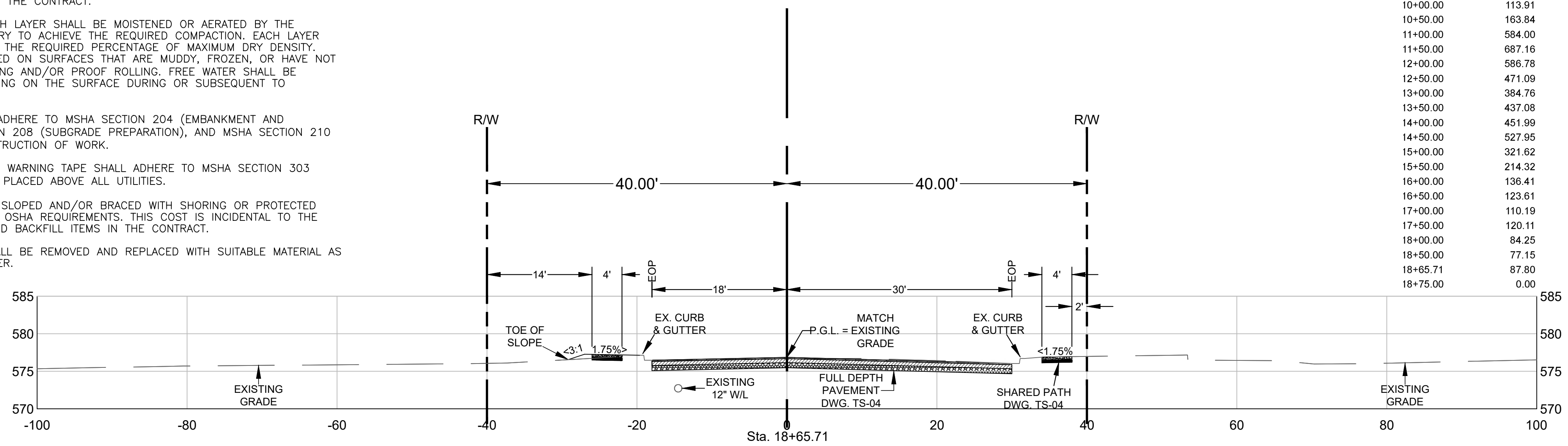
NOTES:

- CLASS 1 EXCAVATION INCLUDES UP TO ONE FOOT OF CLEARING FOR TOPSOIL WITHIN THE 120 FOOT WIDTH (RIGHT-OF-WAY AND UTILITY EASEMENT).
- PRIOR CONSTRUCTION OF YALE DRIVE INCLUDED UTILIZING COMPACTED FILL BETWEEN STATION 3+00 AND 10+00. THIS MAY REDUCE THE AMOUNT OF EXISTING TOPSOIL IN THIS SECTION OF ROADBED.
- COMMON BORROW WAS DETERMINED ASSUMING 25% OF THE CLASS 1 EXCAVATION IS REUSABLE AS FILL.

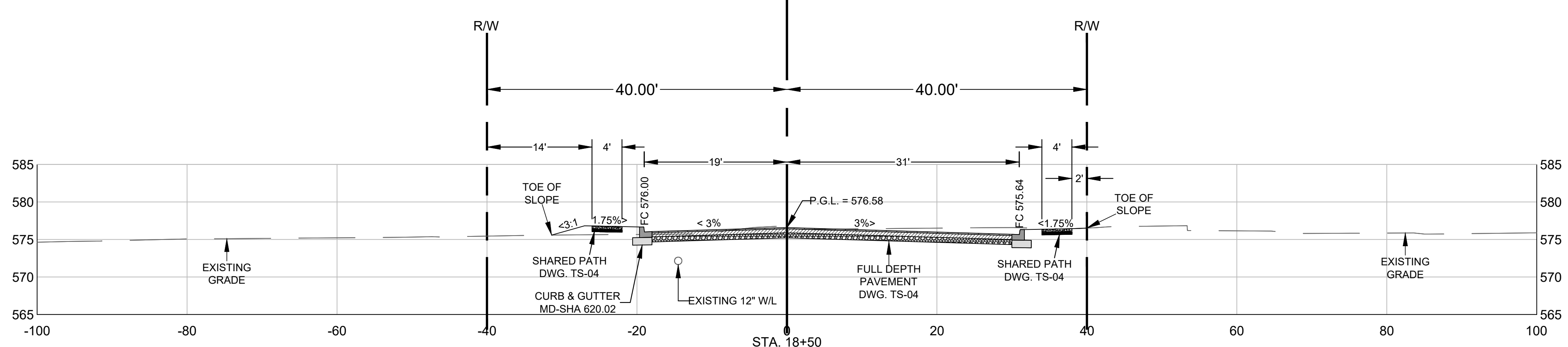
PROFESSIONAL BLVD. 3 & 4

RESULTS:
 TOTAL CUT VOLUME = 13,775 CY
 REUSABLE CUT VOLUME FOR FILL = 3,500 CY
 TOTAL FILL VOLUME = 12,950 CY
 TOPSOIL REDUCTION TO FILL = 5,100 CY
 COMMON BORROW NEEDED = 4,350 CY

Station (ft)	Cut Area (sq ft)	Fill Area (sq ft)	Cut Volume (cu yd)	Fill Vol (cu yd)
1+25.00	0.00	0.00		
1+29.63	26.71	21.37	2.3	1.8
1+50.00	35.27	51.04	23.4	27.3
2+00.00	29.23	35.89	59.7	80.5
2+50.00	23.72	49.83	49.0	79.4
2+82.71	128.17	58.15	92.0	65.4
3+00.00	123.18	53.84	80.5	35.9
3+50.00	148.83	95.41	251.9	138.2
4+00.00	141.19	84.65	268.5	166.7
4+50.00	121.43	186.32	243.2	250.9
5+00.00	120.83	301.14	224.3	451.4
5+50.00	120.42	358.61	223.4	610.9
6+00.00	120.68	317.35	223.2	625.9
6+50.00	119.16	338.31	222.1	607.1
7+00.00	121.51	408.05	222.8	691.1
7+50.00	121.27	553.73	224.8	890.5
8+00.00	120.80	673.84	224.1	1136.6
8+50.00	121.34	803.36	224.2	1367.8
9+00.00	121.04	754.95	224.4	1442.9
9+50.00	121.23	683.69	224.3	1332.1
10+00.00	113.91	254.37	217.7	868.6
10+50.00	163.84	2.66	257.2	238.0
11+00.00	584.00	3.13	692.4	5.4
11+50.00	687.16	2.89	1177.0	5.6
12+00.00	586.78	2.92	1179.6	5.4
12+50.00	471.09	3.69	979.5	6.1
13+00.00	384.76	3.44	792.5	6.6
13+50.00	437.08	3.00	761.0	6.0
14+00.00	451.99	3.59	823.2	6.1
14+50.00	527.95	2.85	907.4	6.0
15+00.00	321.62	3.03	786.6	5.4
15+50.00	214.32	9.52	496.2	11.6
16+00.00	136.41	48.16	324.8	53.4
16+50.00	123.61	187.87	240.8	218.5
17+00.00	110.19	268.01	216.5	422.1
17+50.00	120.11	351.99	213.2	574.1
18+00.00	84.25	67.85	189.2	388.7
18+50.00	77.15	24.63	149.4	85.6
18+65.71	87.80	19.11	48.0	12.7
18+75.00	0.00	0.00	15.1	3.3



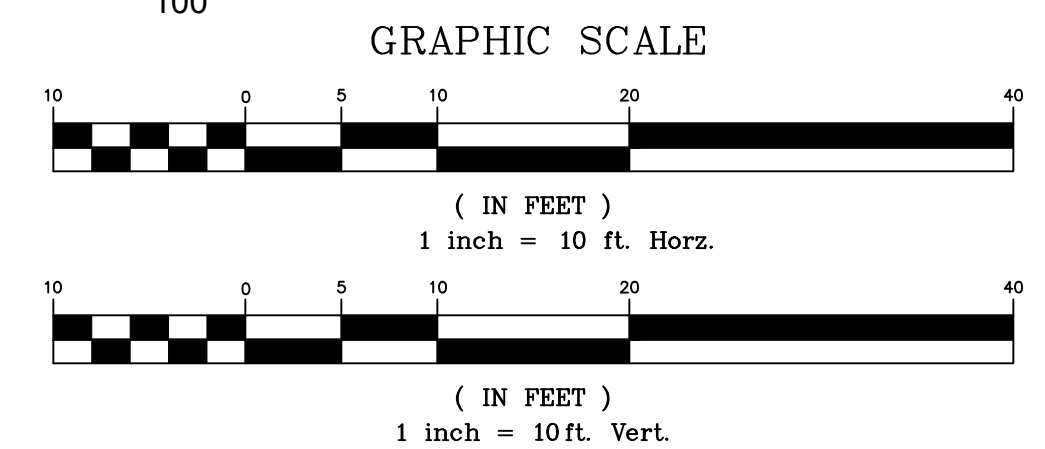
CUT = 87.81 SQ. FT.
 FILL = 19.11 SQ. FT.



CUT = 77.15 SQ. FT.
 FILL = 24.63 SQ. FT.

CENTERLINE OF CONSTRUCTION
 EQUALS
 BASELINE OF CONSTRUCTION

LEGEND:
 R/W = RIGHT OF WAY
 UE = UTILITY EASEMENT
 TCE = TEMPORARY CONSTRUCTION EASEMENT



DATE	
BY	
REVISION DESCRIPTION	
NO	
DESIGNED BY: P.J.M.	
DRAWN BY: G.J.	
CHECKED BY: P.J.M.	
DATE: 12-13-24	

WASHINGTON COUNTY, MARYLAND
 DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
 747 Northern Avenue, Hagerstown, Maryland, 21742
 Phone: 240-313-2460 Fax: 240-313-2401

PROFESSIONAL BOULEVARD
 PHASE III & IV
 CROSS SECTION
 Sta. 18+50 to Sta. 18+65.93

SCALE

SECTION NO.
 XS -13

SHEET NO.
 50

PROJECT NO.
 10-275