

HOWARD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT NO. C0287

WHITEACRE ROAD  
COMPLETE STREET

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MARYLAND STATE HIGHWAY ADMINISTRATION (MSHA) STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE. THE CONTRACTOR SHALL CONTACT THE FOLLOWING UTILITIES AT LEAST 5 DAYS PRIOR TO BEGINNING ANY WORK UNDER THIS CONTRACT. FOR ADDITIONAL INFORMATION AND REQUIREMENTS WITH RESPECT TO UTILITIES, SEE SPECIAL PROVISIONS.
  - BUREAU OF UTILITIES, HOWARD COUNTY, 410-313-4900
  - BGE GAS DIVISION (410) 291-5834
  - BGE ELECTRIC DIVISION 1-800-685-0123
  - VERIZON (410) 224-9980
  - COMCAST, (410)-931-4600
  - COMCAST FIBER, (410)-427-9600
- TRAFFIC CONTROL DEVICES:
  - A) THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
  - B) ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MdMUTCD).
  - C) ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED ("QUICK PUNCH"), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM ONE FOOT CONTOUR INTERVALS PREPARED BY WHITMAN, REQUARDT & ASSOCIATES, LLP, 801 SOUTH CAROLINE STREET, BALTIMORE, MD 21231, DATED 9/9/14.
- COORDINATES SHOWN HEREON ARE IN THE MARYLAND STATE REFERENCE SYSTEM NAD '83 (ADJ 2007) AS PROJECTED FROM HOWARD COUNTY GEODETIC CONTROL STATIONS:
 

STATION	NORTHING	EASTING	ELEV.
36DB	559940.7927	1350945.5959	344.6621
36BC	563264.1145	1359585.7470	410.0129

VERTICAL CONTROL IS NAVD '88
- WATER IS PUBLIC, CONSTRUCTED UNDER CONTRACT NOS. C-268 W&S, C-394 W&S, AND 423D - W&S.
- SEWER IS PUBLIC, CONSTRUCTED UNDER CONTRACT NOS. C-268 W&S, C-394 W&S, AND 423D - W&S.
- STORMWATER MANAGEMENT WILL BE PROVIDED BY MEANS OF RAIN GARDENS WITHIN THE PUBLIC RIGHT-OF-WAY, WHICH WILL BE OWNED AND MAINTAINED BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
- THE EXISTING UTILITIES SHOWN HEREON ARE LOCATED FROM THE BEST INFORMATION AVAILABLE, BUT NO GUARANTEE IS MADE TO THEIR ACCURACY. THE APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION AND CONVENIENCE. THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES TO HIS OWN SATISFACTION AND WELL IN ADVANCE OF ANY CONSTRUCTION ACTIVITIES. ADDITIONALLY, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE.
- THERE IS NO FLOODPLAIN ON THIS SITE.
- THERE ARE NO WETLANDS ON THIS SITE.
- NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
- CLEARING SHALL BE LIMITED TO THE "LIMIT OF DISTURBANCE" AS SHOWN ON THE SEDIMENT AND EROSION CONTROL PLAN. GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE. CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS EXCEPT AS OTHERWISE DIRECTED.
- THE CONTRACTOR SHALL TAKE EXTREME CAUTION NOT TO DISTURB THE EXISTING VEGETATION OUTSIDE THE LIMITS OF CONSTRUCTION. SOIL STABILIZATION SHALL CONFORM TO "MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL," DATED 2011, PUBLISHED JOINTLY BY MDE WATER MANAGEMENT ADMINISTRATION, NATURAL RESOURCES CONSERVATION SERVICE, AND MD ASSOCIATION OF SOIL CONSERVATION DISTRICTS.
- ALL FILL IN NON-LANDSCAPED AREAS SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED AND VERIFIED IN ACCORDANCE WITH AASHTO T-180.
- ANY DAMAGE CAUSED BY THE CONTRACTOR TO EXISTING PUBLIC RIGHT-OF-WAY, EXISTING PAVING, EXISTING CURB AND GUTTER, EXISTING UTILITIES, ETC. SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

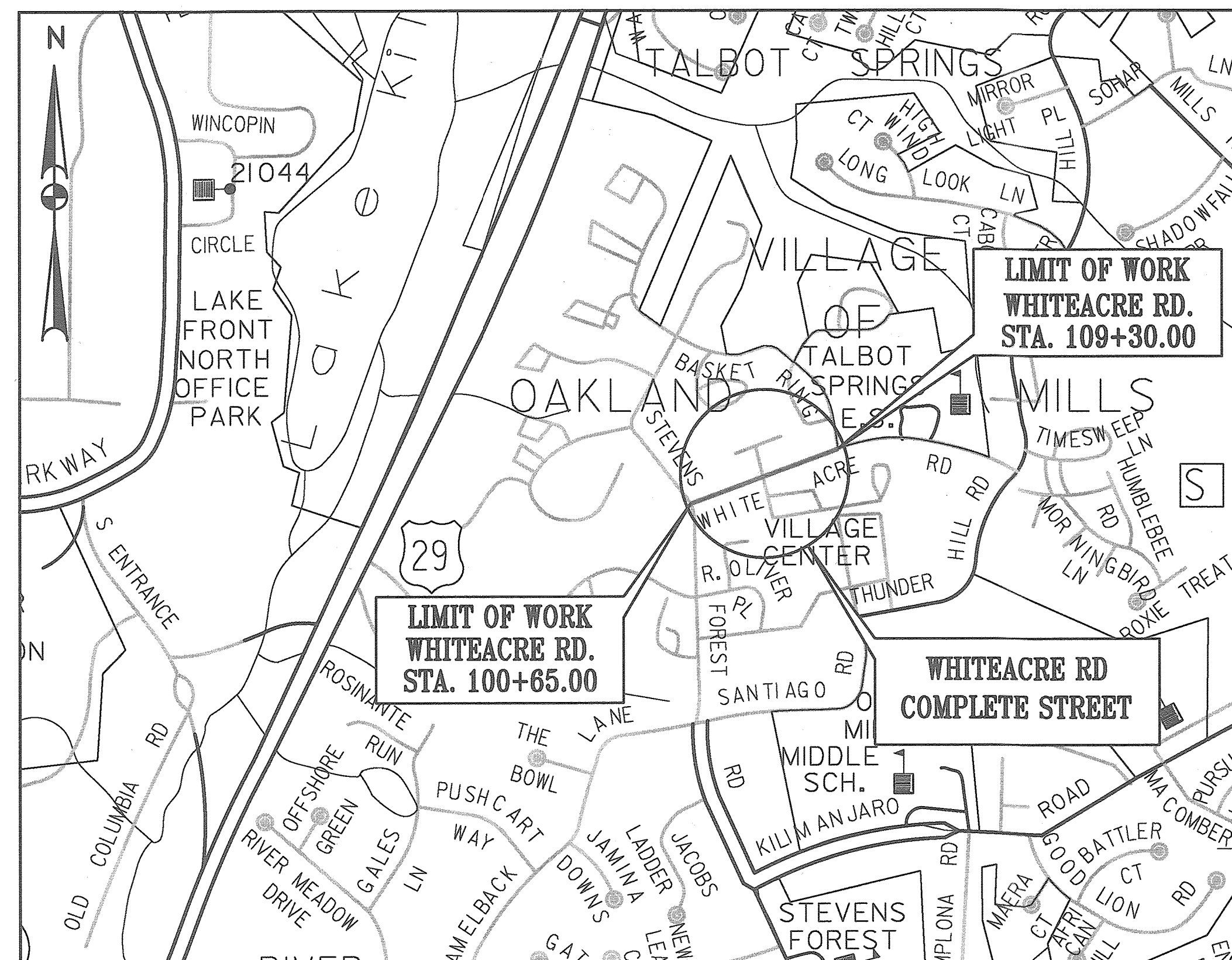
SHEET INDEX		
SHEET	DRAWING	DESCRIPTION
1	TI-01	TITLE SHEET
2	LG-01	LEGEND AND ABBREVIATIONS SHEET
3	GS-01	GEOMETRY SHEET
4	TS-01	ROADWAY TYPICAL SECTIONS AND DETAILS
5-6	PS-01 TO PS-02	ROADWAY PLANS
7-9	CL-01 TO CL-03	CURB LAYOUT AND SIDEWALK DETAILS
10	PR-01	ROADWAY PROFILE
11	SD-01	STORM DRAIN PROFILES
12-15	ES-01 TO ES-04	EROSION AND SEDIMENT CONTROL PLANS
16-17	SW-01, SW-02	STORMWATER MANAGEMENT PLANS
18	SM-01	SIGNING AND MARKING PLAN
19	MOT-01	MAINTENANCE OF TRAFFIC NOTES AND STANDARDS
20-22	TC-01 TO TC-03	MAINTENANCE OF TRAFFIC - PHASING PLANS
23	LI-01	LIGHTING PLAN
24-26	LD-01 TO LD-03	LANDSCAPE PLANS AND DETAILS
27-29	XS-01 TO XS-03	CROSS SECTIONS

**OWNERS/DEVELOPER CERTIFICATION:**  
I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.

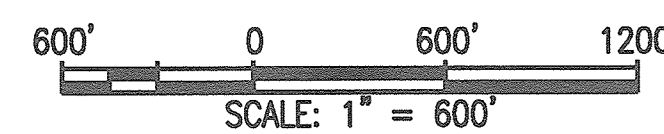
10/22/18  
OWNER'S/DEVELOPER'S SIGNATURE DATE

**DESIGN CERTIFICATION:**  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

AUGUST 14, 2018  
DESIGNER'S SIGNATURE DATE  
JASON D. COSLER MD REGISTRATION NO. 39942  
PRINTED NAME (P.E.) R.L.S. OR R.L.A. (CIRCLE ONE)



VICINITY MAP



SEDIMENT CONTROL NARRATIVE

THE PROJECT LOCATION IS ON WHITE ACRE ROAD AT THE INTERSECTION OF STEVENS FOREST ROAD AND WHITE ACRE ROAD IN HOWARD COUNTY, MD.

IN THE EXISTING CONDITIONS, WHITE ACRE ROAD HAS A CURB AND GUTTER AND EXISTING STORM DRAIN SYSTEM.

THE PROJECT PROPOSES THE UPDATE OF ROADWAY TYPICAL SECTION, INCLUDING A RAISED MEDIAN, ALONG WITH THE ADDITION OF TWO RAIN GARDENS.

THE PROPOSED SEDIMENT CONTROL STRATEGIES INCLUDE SAME-DAY STABILIZATION PRACTICES BY APPLYING TEMPORARY SEED AND MULCH AT THE END OF EACH WORK DAY, AND INLET PROTECTION AT EACH EXISTING AND PROPOSED INLET.

THE FOLLOWING ESD PRACTICES WERE EXAMINED DURING THE DESIGN

ESD TO THE MEP: THE PROJECT IS CONSIDERED REDEVELOPMENT AND IS TREATED BY TWO PROPOSED RAIN GARDENS

SITE PLANNING: THE PROPOSED DRAINAGE PATTERNS ARE TO BE CONSISTENT WITH EXISTING DRAINAGE PATTERNS.

STREAM: THERE ARE NO IMPACTS WITHIN THE PROJECT LIMITS.

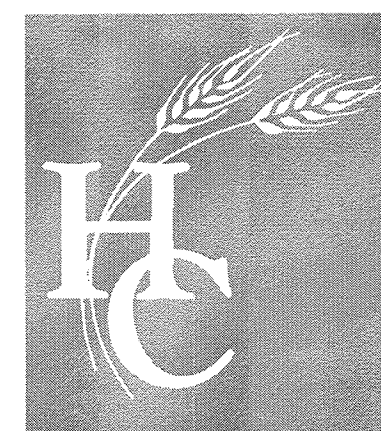
OUTFALL: THERE IS NO INCREASE IN RUNOFF DUE TO PROPOSED IMPROVEMENTS.

NATURAL RESOURCE: THE PROPOSED PROJECT WILL NOT HAVE PERMANENT AND TEMPORARY IMPACTS TO NONTIDAL WETLAND, WATERS OF THE U.S., WETLAND BUFFER, AND 100-YEAR FLOODPLAIN.

SOILS: UNDERLYING SOILS AT THE SITE COMPRISE OF G<sub>h</sub> PER HOWARD COUNTY CODE SOILS WITH SLOPES GREATER THAN 15% OR SOILS WITH K FACTOR GREATER THAN 0.35 ARE CONSIDERED HIGHLY ERODIBLE. PER HOWARD COUNTY SOIL CONSERVATION DISTRICT K FACTORS TABLE 18, G<sub>h</sub> IS CONSIDERED HIGHLY ERODIBLE ALONG THE STEEP SLOPES WITHIN THE PROJECT LIMITS.

WATERSHED IDENTIFICATION: THE SITE IS LOCATED IN THE CODE 02131105 (LITTLE PATUXENT RIVER). A TMDL IS NOT ESTABLISHED FOR SEDIMENTS WITHIN THE WATERSHED.

TIER II STREAM IDENTIFICATION: BASED ON THE WATERSHED CODE MENTIONED ABOVE, THIS SITE DOES NOT FALL WITHIN TIER II WATERS.



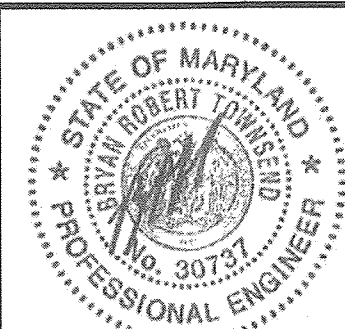
"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 30737, EXPIRATION DATE: 6/29/2020."

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

PREPARED BY :



Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, Maryland 21231



DES: DTB  
DRN: DTB  
CHK: BRT  
DATE: 10/10/18

BY NO. REVISION DATE

TITLE SHEET

ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
WHITEACRE ROAD COMPLETE STREET

ELECTION DISTRICT 6

HOWARD COUNTY, MARYLAND

DWG.  
TI-01

SCALE  
NONE

SHEET  
1 OF 29



# ABBREVIATIONS

A.A.S.H.T.O. American Association of State Highway Transportation Officials	IN ..... Inch	R.Q.D. .... Rock Quality Designation
ADT..... Average Daily Traffic	I.S.T..... Inlet Sediment Trap	R.M. .... Rootmat
AHD..... Ahead	INV..... Invert	S ..... South
APPROX..... Approximate	J.B..... Junction Box	SAN..... Sanitary Sewer
B or B/L. Baseline	K..... K Inlet	SB or S/B. Southbound
BGE..... Baltimore Gas and Electric	L..... Length	S.D..... Storm Drain
BIT..... Bituminous	L.F..... Linear Feet	S.D.D..... Surface Drain Ditch
B.C..... Bituminous Concrete	L.L..... Liquid Limit	S/E..... Super Elevation
B.M..... Bench Mark	LP..... Low Point	SF..... Silt Fence
BOT..... Bottom	L.P..... Light Pole	S.F..... Square Feet
C.C..... Center of Curve	LT..... Left	SHT..... Sheet
CATV..... Cable Television	MAC..... Macadam	S.P.P..... Structural Plate Pipe
C.B.R..... California Bearing Ratio	M.C..... Moisture Content	S.P.T..... Standard Penetration Testing
CL or C/L. Centerline	MAX..... Maximum	SSMH..... Sanitary Sewer Manhole
CL..... Class	M.D.D..... Maximum Dry Content	SSF..... Super Silt Fence
CLF..... Chainlink Fence	MOD..... Modified	STD..... Standard
CMP..... Corrugated Metal Pipe	MIN..... Minimum	STA..... Station
C.O..... Cleanout	N..... North	SO..... Single Opening
COMB..... Combination	N.B..... Northbound	S.Y..... Square Yards
CONC..... Concrete	N.E..... Northeast	SWM..... Stormwater Management
CONSTR..... Construction	N.P..... Non-Plastic	T ..... Tangent
COR..... Corner	O.C..... On Center	T ..... Telephone
CORR..... Correction	OHE..... Overhead Electric	T.C..... Top of Cover
DC..... Degree of Curve	O.M..... Optimum Moisture	T.G..... Top of Grate
D.H.V..... Design Hourly Volume	PAV'T..... Pavement	T or TL..... Traverse Line
D.I..... Drop Inlet	P.C..... Point of Curvature	T.M..... Top of Manhole
DIA..... Diameter	P.C.C..... Point of Compound Curvature	TRAV..... Traverse
DIR..... Direction	P/C..... Point of Crown	TS..... Temporary Swale
E..... East	P/GE..... Profile Grade Elevation	T.S..... Top of Slab
ELEC..... Electric	P.G.E..... Profile Ground Elevation	T.S..... Topsoil
E..... External Distance	P.G.L..... Profile Grade Line	TYP..... Typical
EA..... Each	P/GL..... Profile Ground Line	U.D..... Under Drain
E.B..... Eastbound	P/R..... Point of Rotation	U.G..... Underground
ELEV..... Elevation	P.I..... Plasticity Index	U.P..... Utility Pole
E.R.C.C.P..... Elliptical Reinforced Cement Concrete Pipe	P.I..... Point of Intersection	U.S.D.A..... United States Department of Agriculture
ES..... End Section	P.O.C..... Point On Curve	VCL..... Vertical Clearance
EX..... Existing	P.O.T..... Point On Tangent	V.C.L..... Vertical Curve Length
FT..... Feet	PROP..... Proposed	W..... Water
F or FL..... Flowline	P.R.C..... Point of Reverse Curve	W..... West
F.B.D..... Flat Bottom Ditch	PT..... Point	W.B..... Westbound
F.H..... Fire Hydrant	P.T..... Point of Tangency	WB..... Wetland Buffer
FWD..... Forward	P.V.C..... Point of Vertical Curve	W.M..... Water Meter
G..... Gas	PVC..... Polyvinyl Chloride	W.S..... Wrapped Steel
G.V..... Gas Valve	PVI..... Point of Vertical Intersection	WUS..... Waters of the United States
H.B..... Handbox	PVRT..... Point of Vertical Reverse Curve	W.V..... Water Valve
H.D.P..... High Density Polyethylene	PVT..... Point of Vertical Tangency	
HDWL..... Headwall	R..... Radius	
H.E.R.C.P..... Horizontal Elliptical Reinforced Concrete Pipe	R.F..... Rock Fragments	
HP..... High Point	RT..... Right	
	RW or R/W Right of Way	
	R.C.P..... Reinforced Cement Pipe	
	R.C.C.P..... Reinforced Cement Concrete Pipe	

## SYMBOLS / LINSTYLES LEGEND

EXISTING SIGN		BASE LINE OR SURVEY LINE	
EXISTING PIPE / CULVERT		CUT LINE	
PROPOSED STORM DRAIN PIPE		FILL LINE	
EXISTING RIGHT OF WAY LINE		CONCRETE CURB AND GUTTER	
EXISTING ROADWAY		DETECTABLE WARNING SURFACE	
EXISTING FENCE		PROPOSED TURFGRASS SOD	
EX. UTILITY POLE		PROPOSED RAIN GARDEN	
EX. UNDERGROUND ELECTRIC		PROPOSED PERENNIALS / ORNAMENTAL GRASSES	
EX. UNDERGROUND CABLE		PAVEMENT REMOVAL	
EX. UNDERGROUND GAS		PROPOSED SHADE TREE	
EX. UNDERGROUND SANITARY		EXISTING LIGHT POLE TO BE REMOVED	
EX. UNDERGROUND WATER		PROPOSED COBRA HEAD LUMINAIRE	
EX. ROADWAY LIGHTING		PROPOSED PEDESTRIAN LUMINAIRE	
EX. SANITARY MANHOLE		PROPOSED LIGHTING HANDBOX	
EX. FIRE HYDRANT			
EX. WATER METER			
EX. HANDBOX			
EX. COMMUNICATIONS BOX			
HEDGE / TREE LINE			
BUSH / TREE			
CONIFEROUS TREE			

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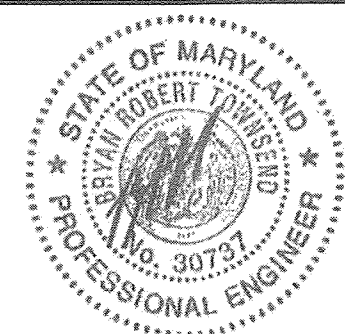
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

DIRECTOR OF PUBLIC WORKS DATE 10/16/2018  
  
 CHIEF, BUREAU OF ENGINEERING DATE 10/16/2018  
  
 CHIEF, BUREAU OF HIGHWAYS DATE 10/16/2018  
  
 CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIV. DATE 10/16/2018

PREPARED BY :



Whitman, Reardon & Associates, LLP  
801 South Carolina Street, Baltimore, Maryland 21231



DES: DTB  
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LEGEND AND ABBREVIATIONS

ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287

WHITEACRE ROAD COMPLETE STREET

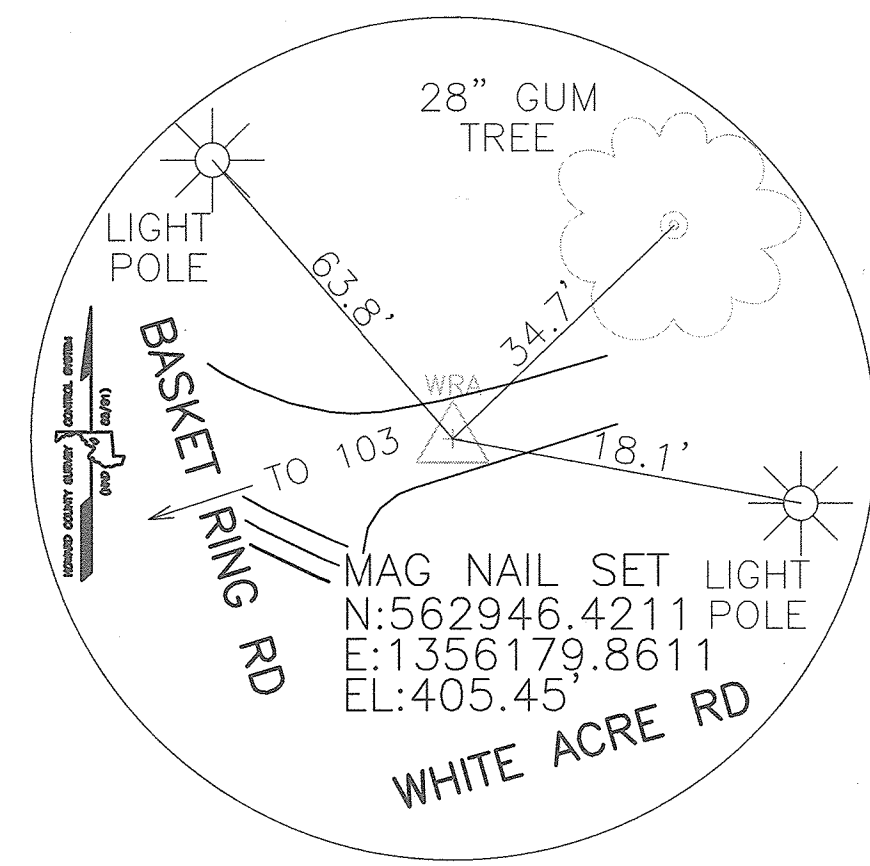
ELECTION DISTRICT 6

HOWARD COUNTY, MARYLAND

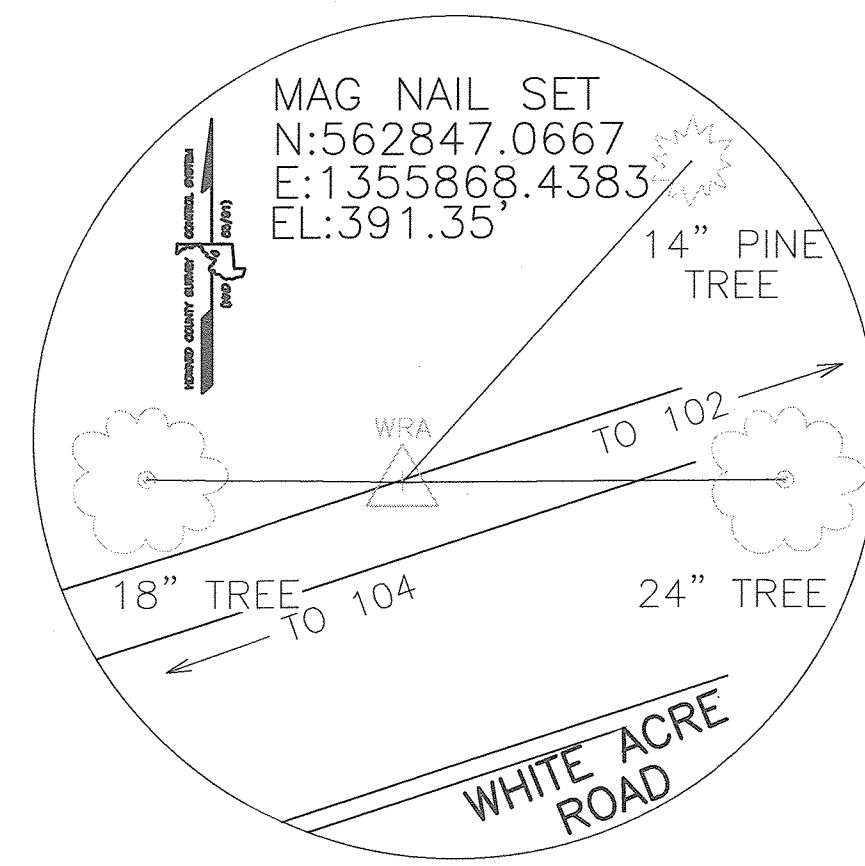
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LG-01

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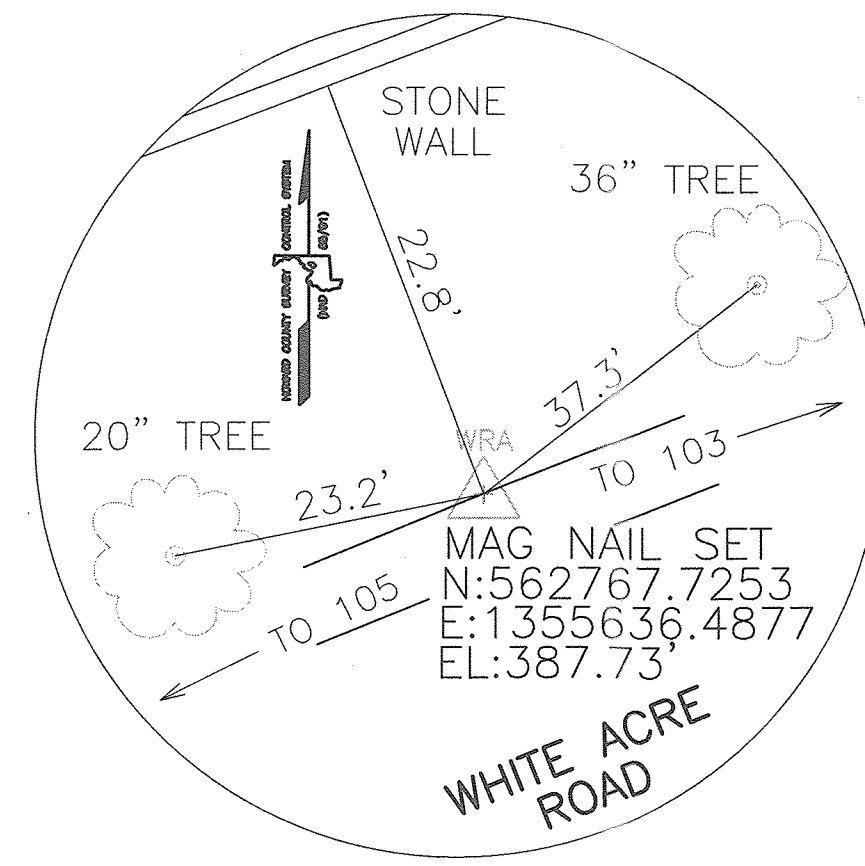
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2 OF 29



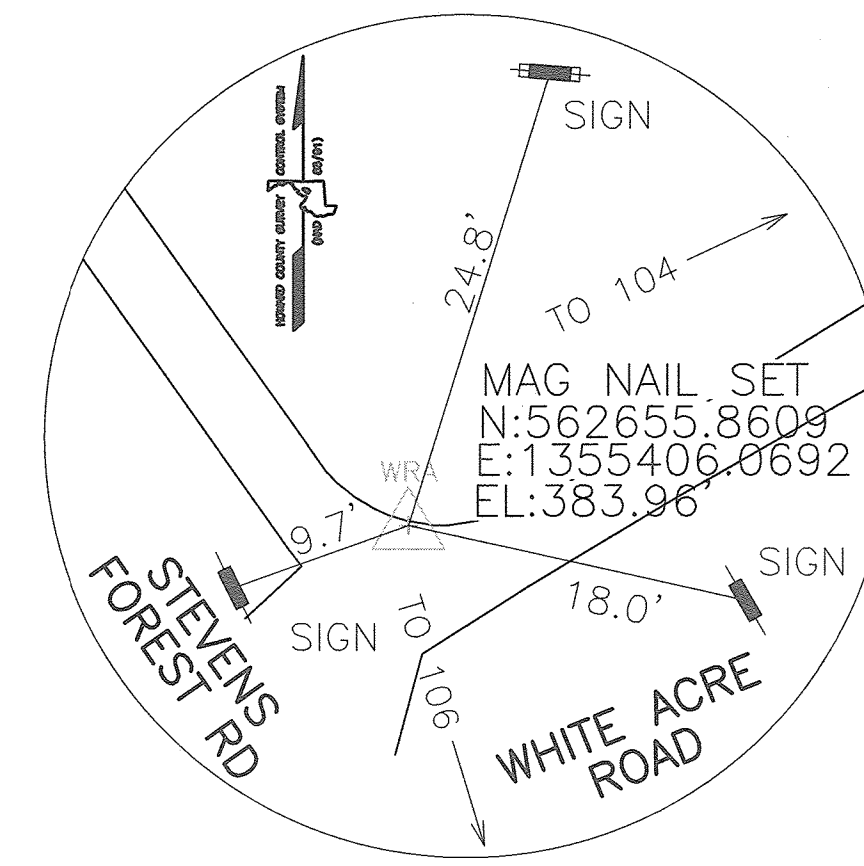
WRA 102



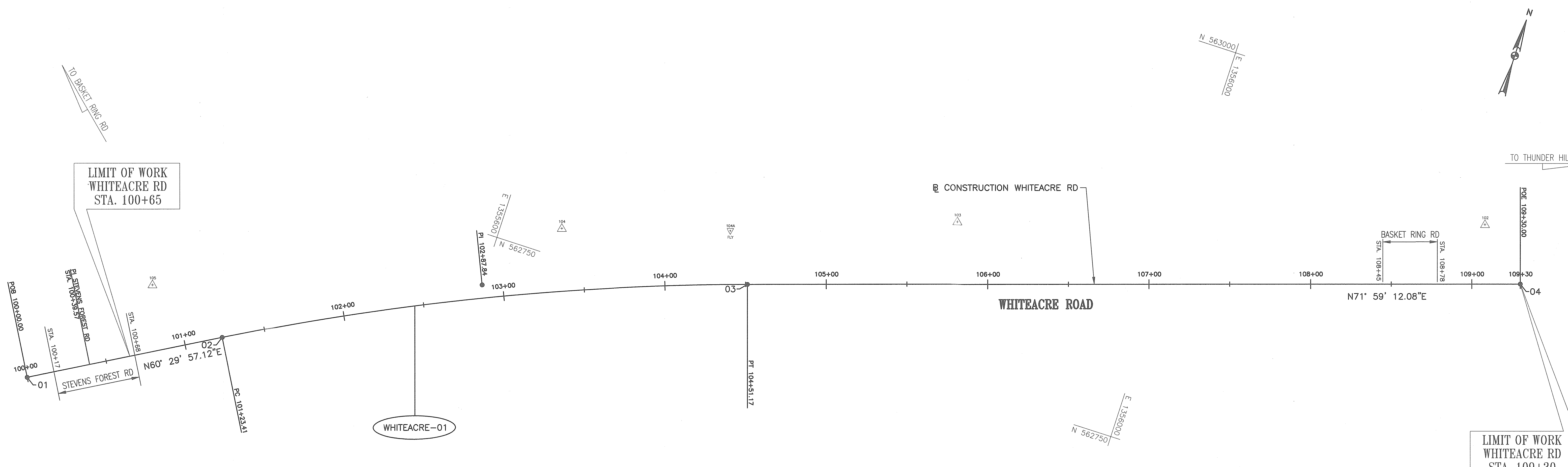
WRA 103



WRA 104



WRA 105



CURVE DATA						
CURVE	DELTA	Dc	R	L	T	E
WHITEACRE-01	11° 29' 14.95"	3° 30' 17.51"	1634.75'	327.76'	164.43'	8.25'

CONSTRUCTION CONTROL COORDINATES				
POINT	CURVE	DESCRIPTION	NORTH	EAST
B CONSTRUCTION WHITEACRE ROAD				
01	---	POB STA. 100+00.00	562577.4213	1355349.8291
02	WHITEACRE-01	PC STA. 101+23.41	562638.1931	1355457.2395
	WHITEACRE-01	PI STA. 102+87.84	562719.1645	1355600.3513
03	WHITEACRE-01	PT STA. 104+51.17	562770.0126	1355756.7220
04	---	POE STA. 109+30.00	562918.0853	1356212.0829

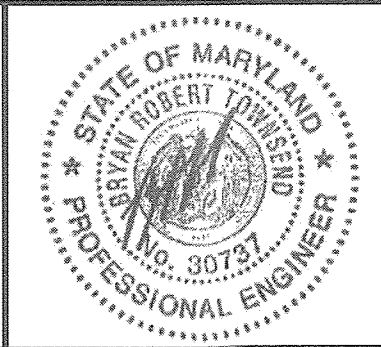
TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
102	562946.4211	1356179.8611	405.45
103	562847.0667	1355868.4383	391.35
104	562767.7253	1355636.4877	387.73
104A	562798.3329	1355736.3696	388.54
105	562655.8609	1355406.0692	383.96

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

DIRECTOR OF PUBLIC WORKS: *[Signature]* DATE: 10/16/2018  
CHIEF, BUREAU OF HIGHWAYS: *[Signature]* DATE: *[Signature]*  
CHIEF, BUREAU OF ENGINEERING: *[Signature]* DATE: 10/16/2018  
CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIV.: *[Signature]* DATE: *[Signature]*

PREPARED BY:  
**WRA**  
Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, Maryland 21231

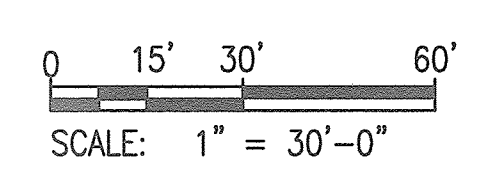


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GEOMETRY SHEET

ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
WHITEACRE ROAD COMPLETE STREET  
ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND



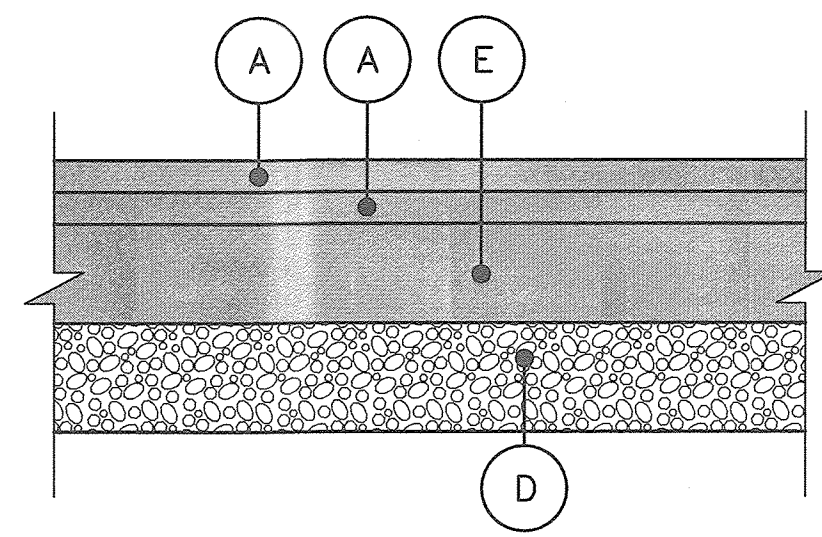
DWG. GS-01  
SCALE 1"=30'  
SHEET 3 OF 29

R:\31700-01\CDM\3170001-6501.dgn 10/10/2018



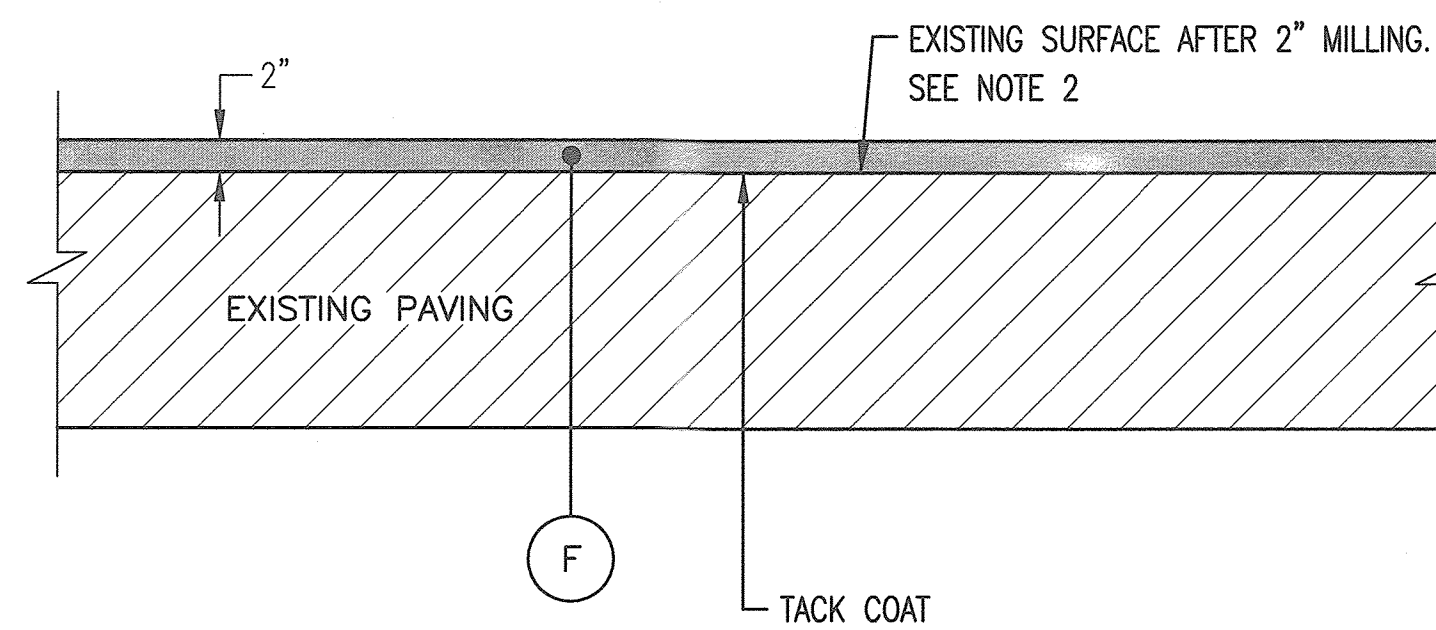
**PAVEMENT LEGEND**

- (A) 1.5" SUPERPAVE ASPHALT MIX SURFACE, 9.5 mm, PG 64S-22, LEVEL 1
- (B) FULL DEPTH SAWCUT (SEE PLAN FOR LIMITS)
- (C) 6" PORTLAND CEMENT CONCRETE PAVEMENT PATCH MIX NO. 9
- (D) 4" GRADED AGGREGATE BASE COURSE
- (E) 3.5" SUPERPAVE ASPHALT MIX BASE, 19.0 mm, PG 64S-22, LEVEL 1 (2" TO 4" LIFTS)
- (F) 2" SUPERPAVE ASPHALT MIX SURFACE, 12.5 mm, PG 64S-22, LEVEL 2



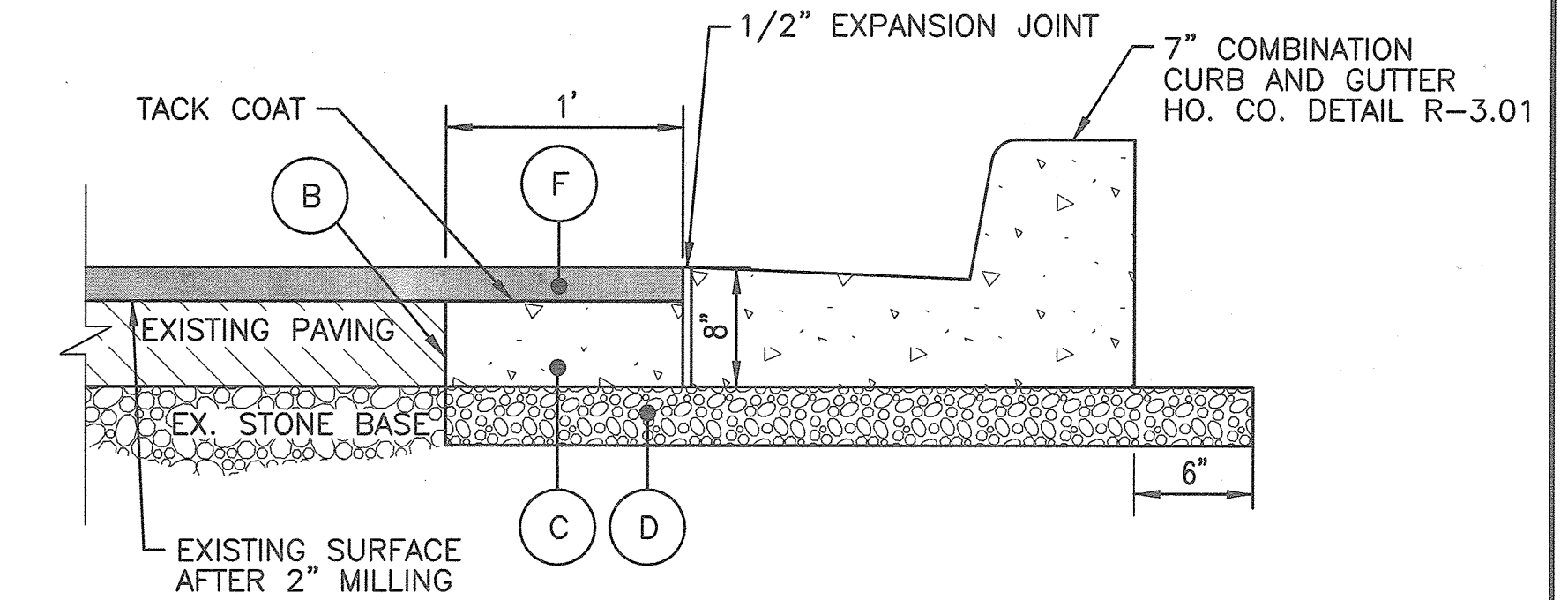
**FULL-DEPTH PAVEMENT SECTION**

NOT TO SCALE



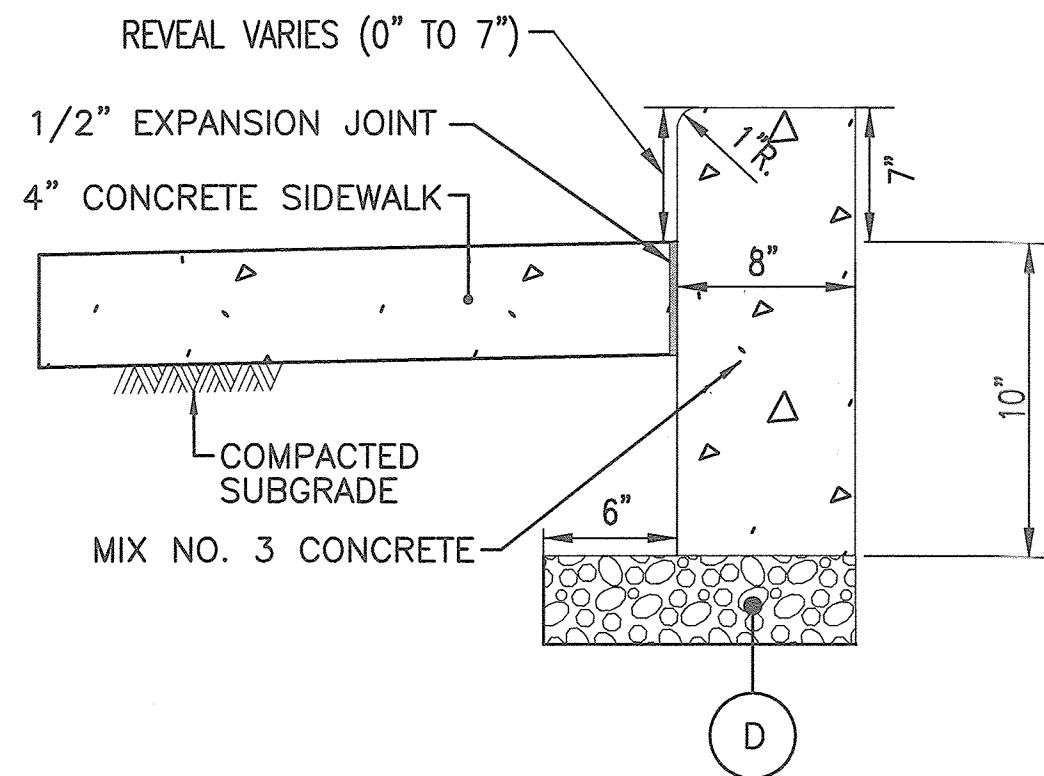
**MILL AND OVERLAY - PAVEMENT SECTION**

NOT TO SCALE



**CURB PATCH DETAIL**

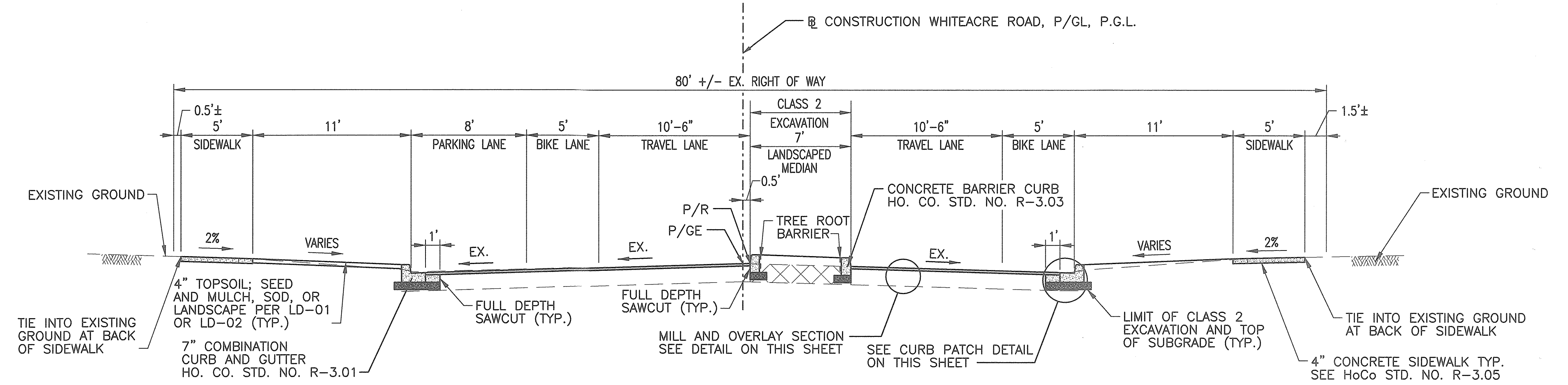
NOT TO SCALE



**RETAINING CURB DETAIL**

NOT TO SCALE

SEE ROADWAY PLANS FOR PROPOSED CURB LOCATIONS

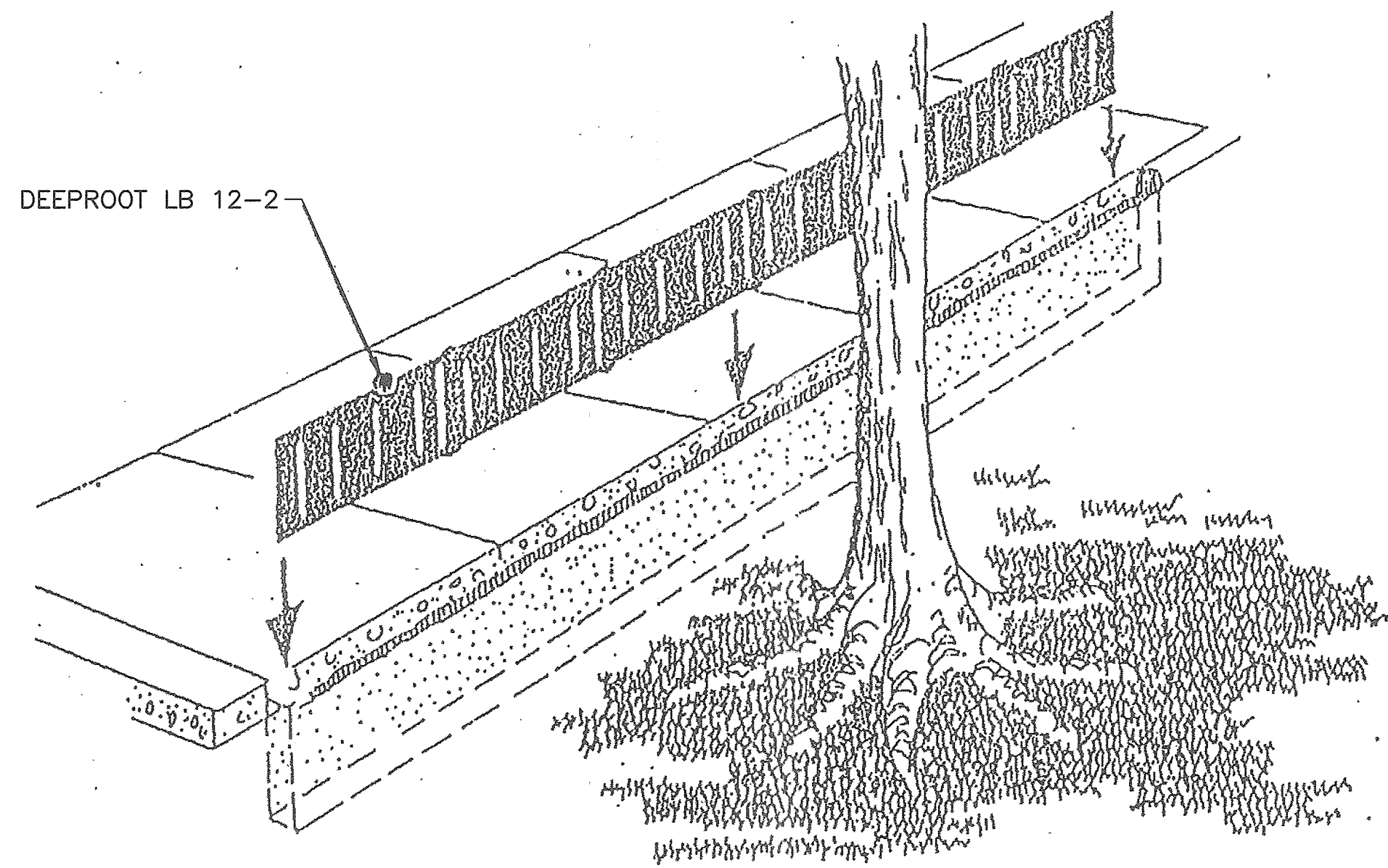


**WHITEACRE ROAD TYPICAL SECTION**

STA. 101+47 TO STA. 104+51  
STA. 105+81 TO STA. 107+57

**NOTES:**

1. WEDGE AND LEVEL SHALL BE USED FOR MILL AND OVERLAY SECTIONS ONLY AS DIRECTED BY ENGINEER. FOR WEDGE/LEVELING REQUIRING THE PLACEMENT OF UP TO 2" OF MATERIAL, USE THE FOLLOWING: -VARIABLE DEPTH SUPERPAVE ASPHALT MIX 9.5 mm FOR WEDGE/LEVEL, PG 64S-22, LEVEL 2 (1" MIN/2" MAX LIFT THICKNESS)
2. CONTRACTOR SHALL SEAL ANY CRACKS/JOINTS REVEALED ON EXISTING PAVEMENT AFTER MILLING
3. SEE CURB LAYOUT DRAWINGS FOR FLOWLINE ELEVATIONS
4. FOR UTILITY / PIPE TRENCH ROADWAY REPAVING, SEE Ho. Co. STD. NO. G-4.01

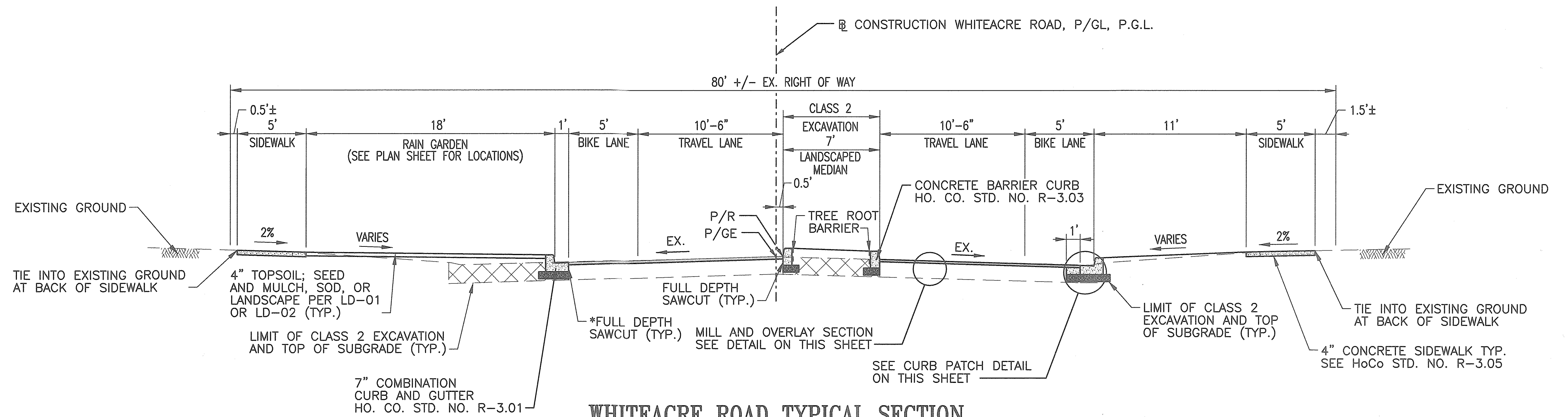


**TREE ROOT BARRIER DETAIL**

NOT TO SCALE

**NOTES:**

1. THE BARRIER CAN BE TRIMMED TO A DEPTH OF EIGHT (8) INCHES AS PART OF THE CONCRETE FORM AND SHALL BE EXTENDED TO A MINIMUM OF FOUR (4) FEET IN EACH DIRECTION PAST THE TREE. THE BARRIER SHALL BE LEFT IN PLACE EVEN WITH THE GROUND OR SIDEWALK AFTER BACKFILLING. FOLLOW MANUFACTURER RECOMMENDATION FOR INSTALLATION. MATERIAL INFORMATION: 1-800-458-7668



**WHITEACRE ROAD TYPICAL SECTION**

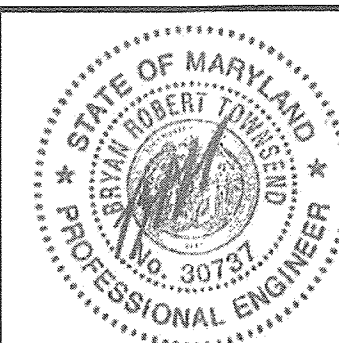
STA. 100+65 TO STA. 101+47  
STA. 104+51 TO STA. 105+81  
STA. 107+57 TO STA. 108+50

"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. 30737, EXPIRATION DATE: 6/29/2020."

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

Director of Public Works: *James B. Butler* DATE: 10/10/18  
Chief, Bureau of Engineering: *James B. Butler* DATE: 10/10/18  
Chief, Bureau of Highways: *David* DATE: 10/10/18  
Chief, Transportation & Special Projects Div.: *Bradley* DATE: 10/10/18

PREPARED BY:  
**WRA**  
Whitman, Reardon & Associates, LLP  
801 South Caroline Street, Baltimore, Maryland 21231



DES:	DTB			
DRN:	AAT			
CHK:	BRT			
DATE:	10/10/18	BY:	NO.	
		REVISION		DATE

ROADWAY TYPICAL SECTIONS  
AND DETAILS

ADC MAP NO. 4935 GRID NO. E6

ELECTION DISTRICT 6

CAPITAL PROJECT NO. C0287  
WHITEACRE ROAD COMPLETE STREET

HOWARD COUNTY, MARYLAND

DWG.  
TS-01  
SCALE  
1"=5'  
SHEET  
4 OF 29

R:\31700-01\1\CD\31700011-PS01.dgn 10/10/2018



**LEGEND**

- FULL-DEPTH PVMT/PATCH
- WEDGE/MILL AND OVERLAY
- PROPOSED SIDEWALK
- PAVEMENT REMOVAL
- PROPOSED RAIN GARDEN
- EXISTING TREE TO BE REMOVED

**\*\*DRAINAGE STRUCTURE SCHEDULE**

STRUCTURE NO.	STATION	OFFSET	TYPE	REMARKS
*I-6	103+89	23.0' RT	SHA 10" COG W/4'X4' VAULT (MD 374.51)	@ WHITEACRE ***INV.=381.70
I-7	101+92	23.0' LT	SHA STD. PRECAST TYPE S DGT (MD 374.70)	@ WHITEACRE
*I-8	101+25	21.6' LT	SHA PRECAST YARD INLET (MD 381.02)	@ WHITEACRE
*I-9	101+20	23.0' RT	SHA 5" COG W/4'X4' VAULT (MD 374.51)	@ WHITEACRE ***INV.=378.98
*I-10	102+40	23.0' RT	SHA 10" COG W/6'X6' VAULT (MD 374.51)	@ WHITEACRE ***INV.=380.27
*MH-7	101+91	25.8' RT	SHA 48" DIA. PRECAST MANHOLE (MD 384.01)	@ WHITEACRE

\*-CONNECT TO EXISTING STORM DRAIN  
 \*\*-ALL DRAINAGE STRUCTURE ACCESS COVERS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD D-3.91  
 \*\*\*-REPRESENTS LOWEST EXISTING PIPE INVERT IN PROPOSED DRAINAGE STRUCTURE

**\*7" CONCRETE COMBINATION CURB AND GUTTER HoCo STD. NO. R-3.01**

STATION	LF	OFFSET
WHITEACRE 100+67 TO 101+41	99'	VARIES LT.
WHITEACRE 101+40 TO 104+50	314'	VARIES LT.
WHITEACRE 100+73 TO 104+50	373'	VARIES RT.

**\*7" CONCRETE CURB ONLY HoCo STD. NO. R-3.03**

STATION	LF	OFFSET
WHITEACRE 100+72 TO 104+50	380'	0.50' RT.
WHITEACRE 100+72 TO 104+50	378'	7.50' RT.

\*SEE DWG CL-01 THRU CL-03 FOR CURB GEOMETRY

**CURVE DATA**

CURVE	DELTA	Dc	R	L	T	E
WHITEACRE-01	11° 29' 14.95"	3° 30' 17.51"	1634.75'	327.76'	164.43'	8.25'

**CONSTRUCTION CONTROL COORDINATES**

POINT	CURVE	DESCRIPTION	NORTH	EAST
@ CONSTRUCTION WHITEACRE ROAD				
01	---	POB STA. 100+00.00	562577.4213	1355349.8291
02	WHITEACRE-01	PC STA. 101+23.41	562638.1931	1355457.2395
	WHITEACRE-01	PI STA. 102+87.84	562719.1645	1355600.3513

**4" CONCRETE SIDEWALK HoCo STD. NO. R-3.05**

STATION TO STATION	REMARKS	SF
WHITEACRE 100+67 TO 104+50	LEFT	2108
WHITEACRE 100+74 TO 104+50	RIGHT	1893
WHITEACRE 100+80 TO 100+85	MEDIAN	28

**PIPE SCHEDULE**

FROM	TO	SIZE	TYPE	LENGTH	INV. IN	INV. OUT
I-7	MH-7	15"	RCP	44'	381.18	379.96

- SPECIAL NOTES**
- CONTRACTOR IS ADVISED TO USE EXTREME CAUTION IN EXCAVATIONS NEAR THE EXISTING CAST IRON WATER MAIN.
  - CONTRACTOR TO COORDINATE INSTALLATION OF LIGHTING CONDUIT WITH COUNTY ENGINEER BEFORE REPLACEMENT OF SIDEWALK ALONG NORTH SIDE OF WHITEACRE ROAD.

**LIMIT OF WORK  
STA. 100+65  
WHITEACRE RD**

TRANSITION PROPOSED 7" CURB & GUTTER TO EXISTING MODIFIED CURB AND GUTTER SEE HoCo STD DETAIL NO. R-3.02

RAIN GARDEN #1 SEE SW-01.

NOSE DOWN END OF CONCRETE MEDIAN PER HoCo STD DETAIL NO. R-3.04

SEE CURB PATCH DETAIL ON DWG. TS-01 (TYP)

**DETECTABLE WARNING SURFACE HoCo STD. NO. R-4.07**

STATION	OFFSET	SF
100+69	36.46' LT.	11
100+82	20.41' LT.	12
100+82	1.17' RT.	10
100+82	6.83' RT.	10
100+82	28.38' RT.	11

**\*SIDEWALK RAMP**

STATION	OFFSET	**RETAINING CURB LF
100+69	36.46' LT.	16'
100+82	20.41' LT.	17'
100+82	28.38' RT.	15'

\*SEE DWG CL-01 THRU CL-03 FOR RAMP DETAILS  
 \*\*SEE DWG TS-01 FOR RETAINING CURB DETAILS

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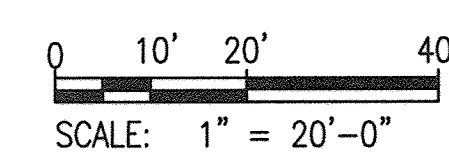
ROAD	CLASSIFICATION	DESIGN SPEED	POSTED SPEED	DESIGN VEHICLE
WHITEACRE RD	MINOR COLLECTOR	35 MPH	25 MPH	BUS-40

**MONOLITHIC CONCRETE MEDIAN HoCo STD. NO. R-3.04**

STATION TO STATION	REMARKS	SF
WHITEACRE 100+73 TO 100+79	NOSE DOWN END	30

**TEST HOLE RESULTS**

TH NUMBER	BASELINE STATION	OFFSET	NORTH	EAST	ELEV.	DEPTH/UTILITY
1	101+23	26.4' RT	562615.2277	1355470.2332	385.33	NOT FOUND
2B	101+95	29.3' LT	562698.5100	1355506.7200	381.52	3.79'/12" WATER
2A	101+25	30.2' LT	562665.2234	1355443.6947	380.47	5.26'/12" WATER
3	103+87	26.3' RT	562724.2633	1355705.2481	384.93	3.35'/2X2" PL CONDUIT



RA 317260-011\CADD\31726001-FS01.dgn 10/10/2018

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND.

Director of Public Works: *[Signature]* 10/16/2018  
 Chief, Bureau of Highways: *[Signature]* 10/16/2018

Chief, Bureau of Engineering: *[Signature]*  
 Chief, Transportation & Special Projects Div.: *[Signature]*

PREPARED BY:

**WRA**  
 Whitman, Requardt & Associates, LLP  
 801 South Caroline Street, Baltimore, Maryland 21231

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 License No. 30737

DES:	DTB
DRN:	DTB
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BY:	NO.
REVISION	
DATE	

ROADWAY PLAN

ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
 WHITEACRE ROAD COMPLETE STREET

ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

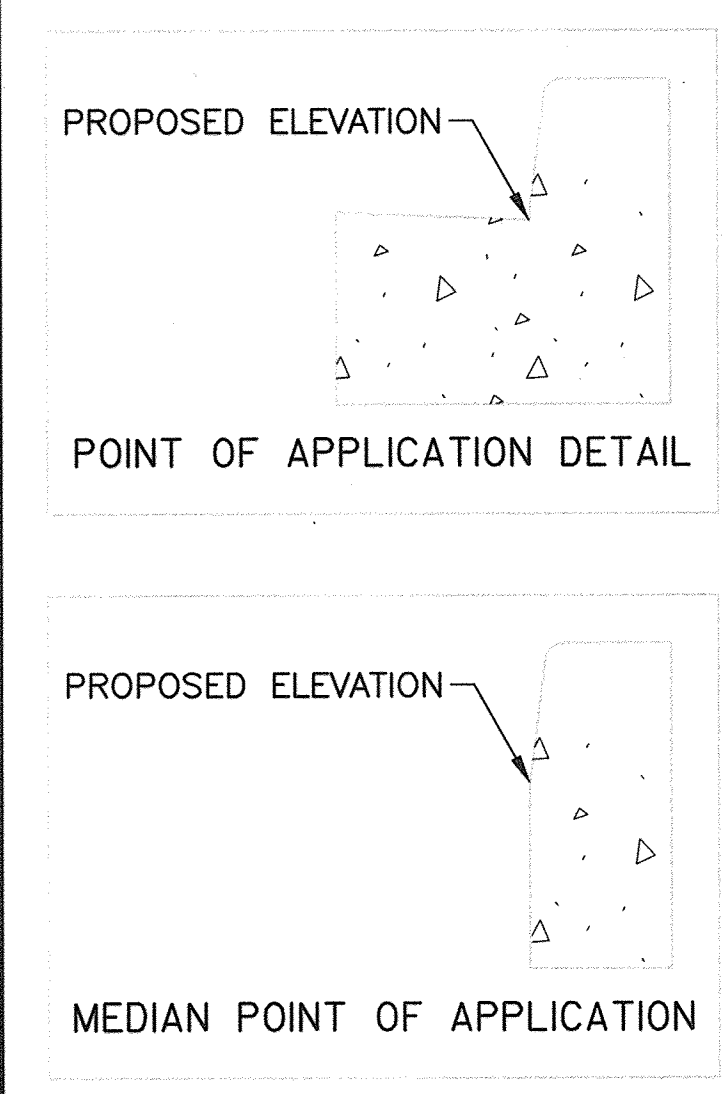
DWG. PS-01  
 SCALE 1"=20'  
 SHEET 5 OF 29

MATCH LINE STA. 104+50 - SEE DWG. PS-02







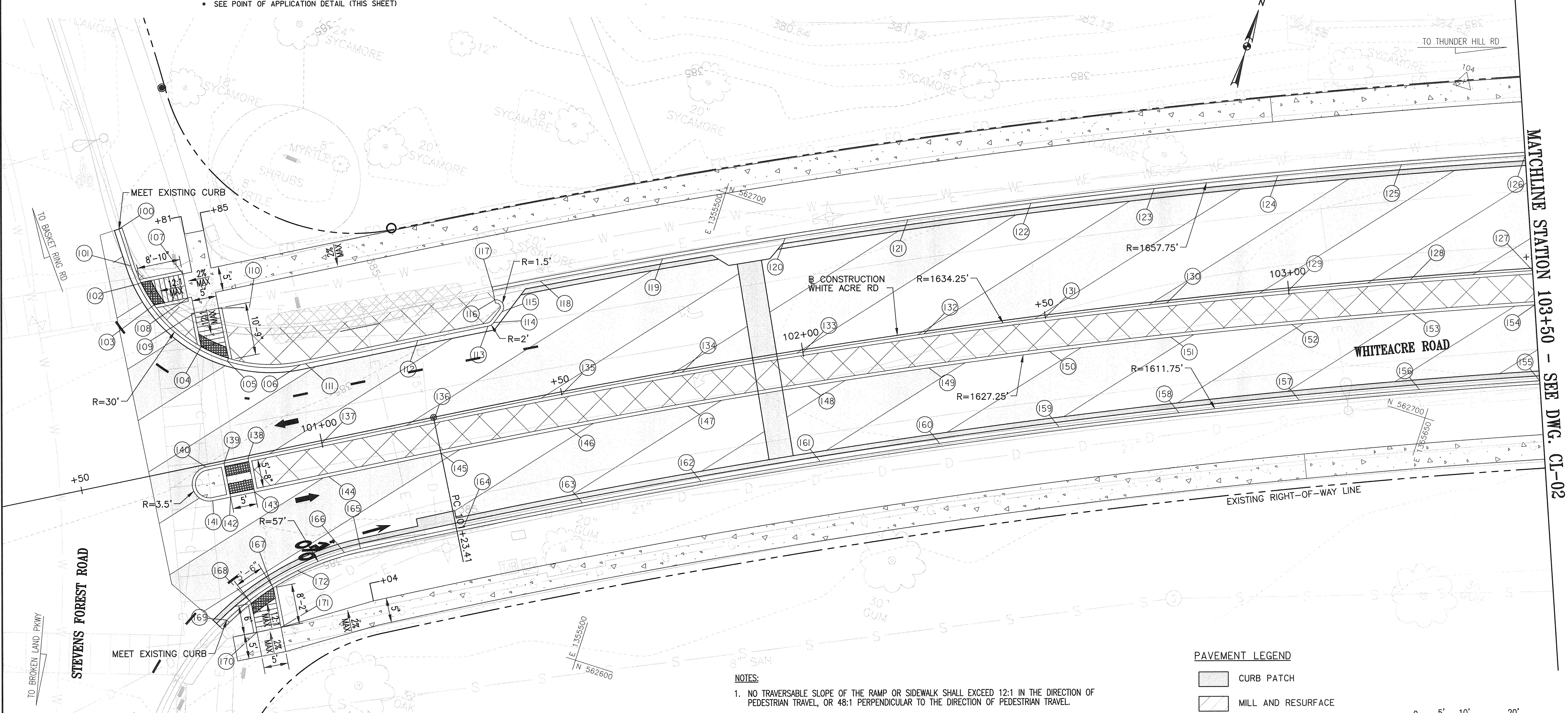


WHITEACRE ROAD						
POINT NUMBER	BASELINE STATION	OFFSET	NORTH	EAST	ELEV.*	DESCRIPTION
100	100+68.22	-50.60	562655.0504	1355384.2876	382.48	POT
101	100+69.08	-42.74	562648.6360	1355388.9034	382.98	PC
102	100+69.77	-38.84	562645.5816	1355391.4233	383.51	POC
103	100+71.52	-33.73	562641.9969	1355395.4720	383.62	POC
104	100+79.82	-23.72	562637.3721	1355407.6196	384.35	POC
105	100+84.47	-19.70	562636.1614	1355413.6428	384.45	POC
106	100+98.90	-16.00	562640.0484	1355428.0270	384.65	PT
107	100+79.13	-39.00	562650.3329	1355399.4976	384.10	RAMP
108	100+79.13	-34.00	562645.9811	1355401.9598	384.20	RAMP
109	100+79.89	-30.72	562643.4976	1355404.2316	384.37	RAMP
110	100+84.89	-30.67	562645.9175	1355408.6069	384.47	RAMP
111	101+00.00	-16.00	562640.5904	1355428.9850	384.67	POT
112	101+23.41	-16.00	562652.1186	1355449.3606	384.93	PC
113	101+37.90	-16.00	562659.2651	1355462.1231	385.12	PCC
114	101+39.21	-16.51	562660.3534	1355463.0412	385.13	PT
115	101+41.29	-18.38	562663.0073	1355463.9708	385.06	PC
116	101+40.28	-21.00	562664.8063	1355461.8122	384.87	PT
117	101+50.00	-23.00	562666.5478	1355460.8269	384.80	POC
118	101+50.00	-23.00	562671.2974	1355469.4880	385.00	POC
119	101+75.00	-23.00	562683.2499	1355491.8448	385.38	POC
120	102+00.00	-23.00	562694.8599	1355514.3818	385.64	POC
121	102+25.00	-23.00	562706.1231	1355537.0936	385.87	POC
122	102+50.00	-23.00	562717.0384	1355559.9751	386.12	POC
123	102+75.00	-23.00	562727.6019	1355583.0210	386.44	POC
124	103+00.00	-23.00	562737.8123	1355606.2254	386.59	POC
125	103+25.00	-23.00	562747.6646	1355629.5800	386.76	POC

\* SEE POINT OF APPLICATION DETAIL (THIS SHEET)

WHITEACRE ROAD						
POINT NUMBER	BASELINE STATION	OFFSET	NORTH	EAST	ELEV.*	DESCRIPTION
126	103+50.00	-23.00	562757.1620	1355653.0893	387.05	POC
127	103+50.00	0.50	562735.3061	1355661.7247	387.61	POC
128	103+25.00	0.50	562725.9432	1355638.5484	387.37	POC
129	103+00.00	0.50	562716.2306	1355615.5251	387.13	POC
130	102+75.00	0.50	562706.1648	1355592.6492	386.89	POC
131	102+50.00	0.50	562695.7513	1355569.9304	386.66	POC
132	102+25.00	0.50	562684.9906	1355547.3731	386.41	POC
133	102+00.00	0.50	562673.8871	1355524.9834	386.18	POC
134	101+75.00	0.50	562662.4417	1355502.7267	385.94	POC
135	101+50.00	0.50	562650.6587	1355480.7260	385.71	POC
136	101+23.41	0.50	562637.7579	1355457.4858	385.44	PC
137	101+00.00	0.50	562626.2267	1355437.1102	385.24	POT
138	100+84.59	0.50	562618.6392	1355423.6945	385.09	POT
139	100+79.59	0.50	562618.1769	1355419.3426	385.04	POT
140	100+75.81	0.50	562614.3176	1355416.0565	385.00	PC
141	100+75.81	7.50	562608.2252	1355419.5035	385.07	PT
142	100+79.52	7.50	562610.0511	1355422.7307	385.08	POT
143	100+84.52	7.50	562612.5134	1355427.0827	385.11	POT
144	101+00.00	7.50	562620.1372	1355440.5573	385.22	POT
145	101+23.41	7.50	562631.6655	1355460.9329	385.39	PC
146	101+50.00	7.50	562644.5110	1355484.0735	385.60	POC
147	101+75.00	7.50	562656.2438	1355506.0194	385.85	POC
148	102+00.00	7.50	562667.6399	1355528.1413	386.10	POC
149	102+25.00	7.50	562678.6962	1355550.4358	386.37	POC
150	102+50.00	7.50	562689.4104	1355572.8958	386.61	POC
151	102+75.00	7.50	562699.7797	1355595.5180	386.83	POC

WHITEACRE ROAD						
POINT NUMBER	BASELINE STATION	OFFSET	NORTH	EAST	ELEV.*	DESCRIPTION
152	103+00.00	7.50	562709.8021	1355618.2952	387.08	POC
153	103+25.00	7.50	562719.4732	1355641.2203	387.31	POC
154	103+50.00	7.50	562728.7958	1355664.2969	387.46	POC
155	103+50.00	23.00	562714.3802	1355669.9926	387.05	POC
156	103+25.00	23.00	562705.1464	1355647.1357	386.76	POC
157	103+00.00	23.00	562695.5674	1355624.4290	386.56	POC
158	102+75.00	23.00	562685.6403	1355601.8685	386.51	POC
159	102+50.00	23.00	562675.3700	1355579.4621	386.32	POC
160	102+25.00	23.00	562664.7576	1355557.2157	386.01	POC
161	102+00.00	23.00	562653.8069	1355535.1339	385.70	POC
162	101+75.00	23.00	562642.5192	1355513.2224	385.54	POC
163	101+50.00	23.00	562630.8983	1355491.4858	385.41	POC
164	101+25.00	23.00	562618.9458	1355469.9298	384.75	POC
165	101+03.37	23.13	562608.1929	1355451.1862	384.76	PCC
166	101+00.00	23.27	562606.4144	1355448.3222	384.79	POC
167	100+84.09	26.74	562595.5565	1355436.1892	384.90	POC
168	100+79.02	28.94	562591.1476	1355432.8488	384.96	POC
169	100+73.71	31.88	562585.9707	1355429.6838	385.06	POC
170	100+79.25	35.53	562585.5250	1355436.2960	385.46	RAMP TOP
171	100+84.25	35.57	562587.9450	1355440.6714	385.40	RAMP TOP
172	100+89.88	24.92	562599.9954	1355440.3262	384.84	POC

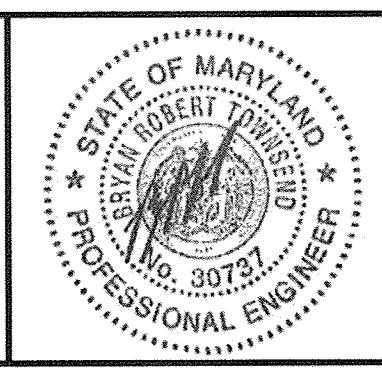


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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *James G. Bull* DATE: 10/10/2018  
 Chief, Bureau of Highways: *James G. Bull* DATE: 10/16/2018  
 Chief, Bureau of Engineering: *James G. Bull* DATE: 10/16/2018  
 Chief, Transportation & Special Projects Div.: *James G. Bull* DATE: 10/16/2018

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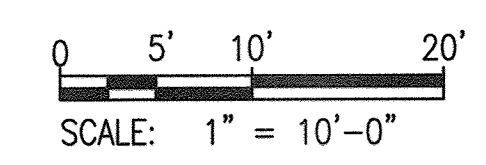
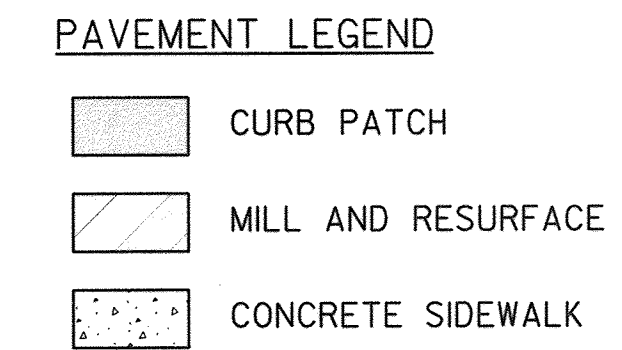


DES:	DTB				
DRN:	DTB				
CHK:	BRT				
DATE:	10/10/18				
BY:	NO.	REVISION	DATE	ADC MAP NO.	4935
				GRID NO.	E6

CURB LAYOUT AND SIDEWALK DETAILS

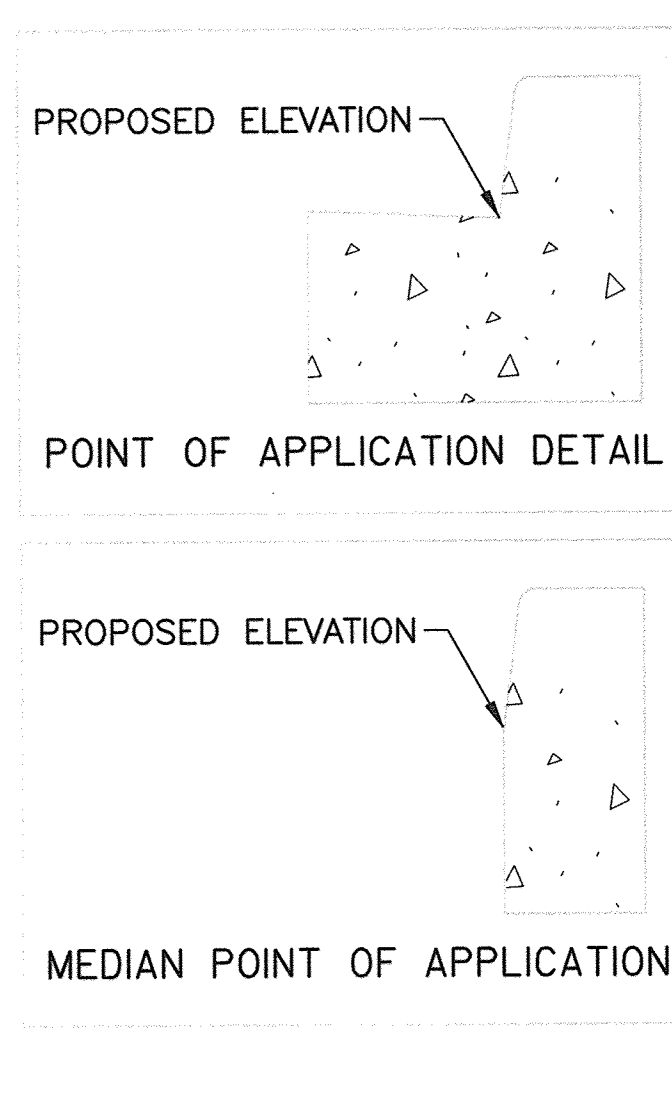
CAPITAL PROJECT NO. C0287  
 WHITEACRE ROAD COMPLETE STREET  
 ELECTION DISTRICT 6  
 HOWARD COUNTY, MARYLAND

- NOTES:
- NO TRAVERSABLE SLOPE OF THE RAMP OR SIDEWALK SHALL EXCEED 12:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL, OR 48:1 PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.
  - SIDEWALK RAMP SHALL BE INCLUDED IN BID PRICE FOR CONCRETE SIDEWALK. DEPRESSED CURB AND CURB TRANSITION SHALL BE INCLUDED IN BID PRICE FOR CURB AND GUTTER ADJACENT TO SIDEWALK RAMP.



DWG. CL-01  
 SCALE AS SHOWN  
 SHEET 7 OF 29



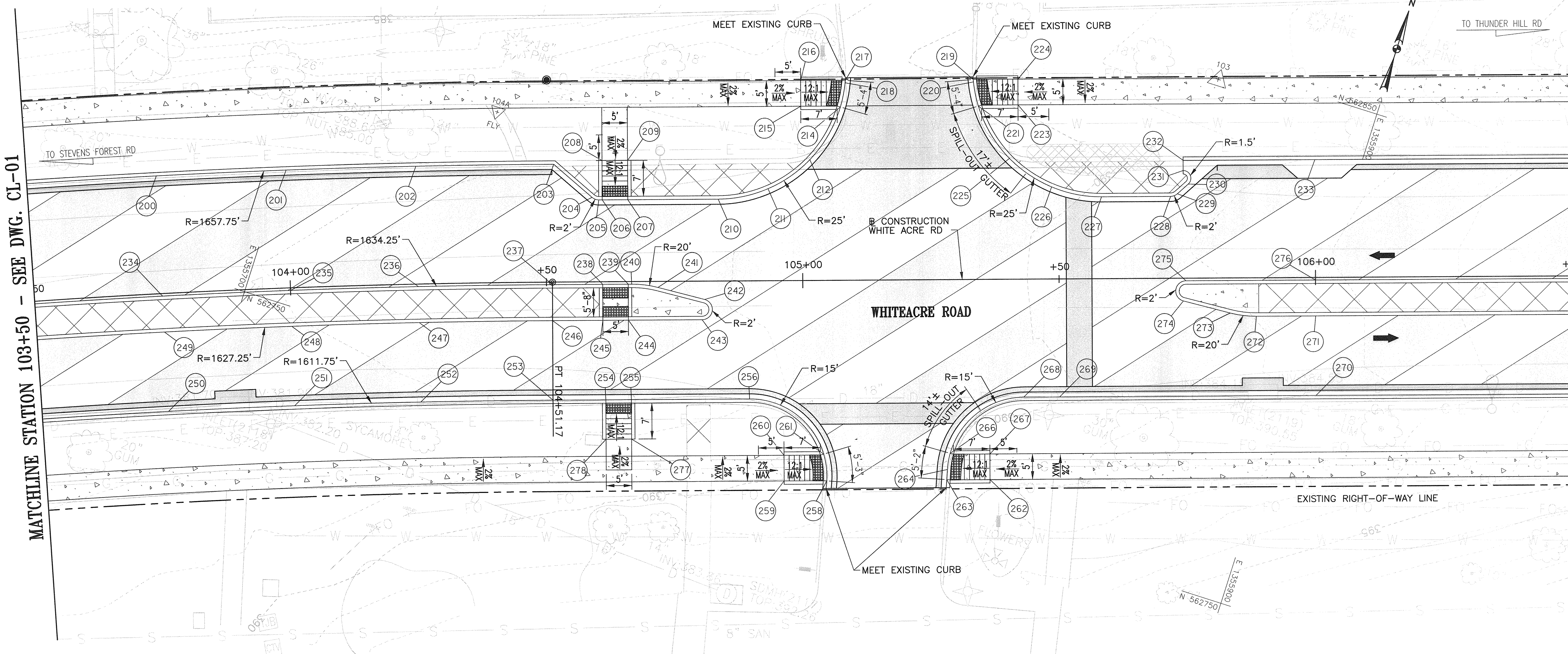


WHITEACRE ROAD						
POINT NUMBER	BASELINE STATION	OFFSET	NORTH	EAST	ELEV.*	DESCRIPTION
200	103+75.00	-23.00	562766.2968	1355676.7377	387.38	POC
201	104+00.00	-23.00	562775.0696	1355700.5231	387.52	POC
202	104+25.00	-23.00	562783.4770	1355724.4399	387.72	POC
203	104+51.54	-23.00	562792.0015	1355749.9669	388.11	PT
204	104+58.98	-16.49	562788.1142	1355759.0486	388.39	PC
205	104+60.30	-16.01	562788.0625	1355760.4496	388.42	PT
206	104+60.96	-16.01	562788.2644	1355761.0862	388.43	POT
207	104+65.96	-16.00	562789.8033	1355765.8433	388.49	POT
208	104+60.96	-24.67	562796.4993	1355758.4082	388.93	POT
209	104+65.96	-24.67	562798.0455	1355763.1631	388.99	POT
210	104+83.58	-16.00	562795.2547	1355782.5991	388.69	PC
211	104+93.32	-17.97	562800.1396	1355791.2483	388.77	POC
212	105+01.52	-23.58	562808.0088	1355797.3104	388.81	POC
214	105+07.53	-33.81	562819.5917	1355799.8630	389.39	POC
215	104+98.79	-34.00	562817.0728	1355791.4962	389.51	
216	104+98.79	-39.00	562821.8277	1355789.9501	389.59	
217	105+08.51	-39.00	562824.8326	1355799.1908	389.50	POT
218	105+08.46	-38.51	562824.3538	1355799.2953	389.49	PT
219	105+33.45	-39.00	562832.5443	1355822.9062	389.88	POT
220	105+33.50	-38.51	562832.0957	1355823.1034	389.86	PC
**221	105+34.43	-33.81	562827.9104	1355825.4451	389.75	POC
223	105+43.16	-34.00	562830.7942	1355833.6932	390.25	
224	105+43.16	-39.00	562835.5492	1355832.1470	390.30	
**225	105+40.44	-23.58	562820.0441	1355834.3221	389.50	POC

\* SEE POINT OF APPLICATION DETAIL (THIS SHEET)  
 \*\* REVERSE GUTTER SPAN SLOPE

WHITEACRE ROAD						
POINT NUMBER	BASELINE STATION	OFFSET	NORTH	EAST	ELEV.*	DESCRIPTION
226	105+48.64	-17.97	562817.2455	1355843.8532	389.78	POC
227	105+58.37	-16.00	562818.3816	1355853.7218	390.12	PT
228	105+71.83	-16.00	562822.5463	1355866.5228	390.56	PC
229	105+73.15	-16.49	562823.4204	1355867.6242	390.60	PT
230	105+75.30	-18.37	562825.8678	1355869.0832	390.58	PC
231	105+74.31	-21.00	562828.0624	1355867.3309	390.48	PT
232	105+74.31	-23.00	562829.9644	1355866.7124	390.41	POT
233	106+00.00	-23.00	562837.9094	1355891.1455	391.19	POT
234	103+75.00	0.50	562744.3116	1355685.0382	387.82	POC
235	104+00.00	0.50	562752.9598	1355708.4860	388.08	POC
236	104+25.00	0.50	562761.2480	1355732.0638	388.30	POC
237	104+51.17	0.50	562769.5371	1355756.8767	388.56	PT
238	104+60.96	0.50	562772.5659	1355766.1908	388.67	POT
239	104+65.96	0.50	562774.1121	1355770.9457	388.72	PC
240	104+66.63	0.51	562774.3041	1355770.9457	388.73	PT
241	104+71.73	1.17	562775.2559	1355776.6340	388.76	PC
242	104+80.85	3.57	562775.7992	1355786.0493	388.84	PT
243	104+80.34	7.50	562771.9004	1355786.7807	388.94	PT
244	104+65.96	7.50	562767.4552	1355773.1104	388.71	POT
245	104+60.96	7.50	562765.9090	1355768.3555	388.65	POT
246	104+51.17	7.50	562762.8802	1355759.0413	388.53	PT
247	104+25.00	7.50	562754.6267	1355734.3347	388.23	POC
248	104+00.00	7.50	562746.3740	1355710.8579	387.95	POC
249	103+75.00	7.50	562737.7626	1355687.5103	387.64	POC
250	103+75.00	23.00	562723.2615	1355692.9846	387.13	POC
251	104+00.00	23.00	562731.7909	1355716.1101	387.46	POC

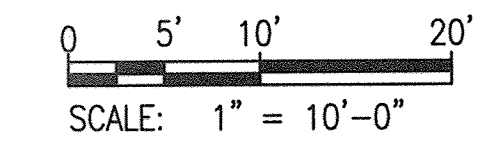
WHITEACRE ROAD						
POINT NUMBER	BASELINE STATION	OFFSET	NORTH	EAST	ELEV.*	DESCRIPTION
252	104+25.00	23.00	562739.9649	1355739.3629	387.87	POC
253	104+51.17	23.00	562748.1400	1355763.8345	388.17	PT
254	104+60.96	23.00	562751.1687	1355773.1487	388.26	POT
255	104+65.96	23.00	562752.7149	1355777.9056	388.30	POT
256	104+89.51	23.01	562759.9912	1355800.2974	388.63	PC
258	105+04.47	39.05	562749.3636	1355819.4881	390.08	POC
259	104+95.18	39.00	562746.5328	1355810.6322	390.13	
260	104+95.18	34.00	562751.2877	1355809.0861	390.05	
261	105+03.91	33.81	562754.1668	1355817.3379	389.98	POC
262	105+37.32	39.00	562759.5665	1355850.7142	390.67	
263	105+27.89	38.95	562756.6925	1355841.7299	390.18	POT
264	105+28.02	36.99	562758.6058	1355841.2479	390.15	PC
**266	105+28.59	33.81	562761.7965	1355840.8010	390.07	POC
267	105+37.32	34.00	562764.3215	1355849.1680	390.57	
268	105+42.99	23.01	562776.5200	1355851.1587	389.63	PT
269	105+50.00	23.00	562778.7022	1355857.8212	389.84	POT
270	106+00.00	23.00	562794.1641	1355905.3704	391.07	POT
271	106+00.00	7.50	562808.9044	1355900.5772	391.44	POT
272	105+88.44	7.50	562805.3325	1355889.5806	391.02	PC
273	105+83.35	6.83	562804.3888	1355884.5349	390.92	PT
274	105+74.22	4.43	562803.8479	1355875.1122	390.74	PC
275	105+74.73	0.50	562807.7468	1355874.3812	390.93	PT
276	106+00.00	0.50	562815.5613	1355898.4126	391.82	POT
277	104+65.96	31.67	562744.4727	1355780.5837	388.80	
278	104+60.96	31.67	562742.9265	1355775.8288	388.76	



PAVEMENT LEGEND

	CURB PATCH
	MILL AND RESURFACE
	CONCRETE SIDEWALK

- NOTES:
- NO TRAVERSABLE SLOPE OF THE RAMP OR SIDEWALK SHALL EXCEED 12:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL, OR 48:1 PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.
  - SIDEWALK RAMP SHALL BE INCLUDED IN BID PRICE FOR CONCRETE SIDEWALK. DEPRESSED CURB AND CURB TRANSITION SHALL BE INCLUDED IN BID PRICE FOR CURB AND GUTTER ADJACENT TO SIDEWALK RAMP.



"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. 30737, EXPIRATION DATE: 6/29/2020."

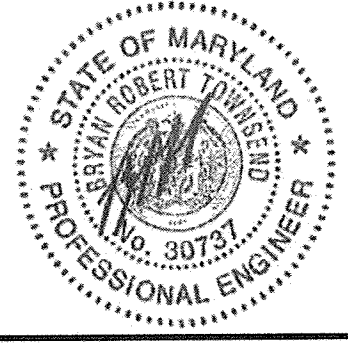
DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

10/10/2018  
 Director of Public Works  
 Thomas & Bullen

10/16/2018  
 Chief, Bureau of Highways  
 [Signature]

10/19/18  
 Chief, Transportation & Special Projects Div.  
 [Signature]

PREPARED BY:  
**WRA**  
 Whitman, Reardon & Associates, LLP  
 801 South Caroline Street, Baltimore, Maryland 21231



DES:	DTB				
DRN:	DTB				
CHK:	BRT				
DATE:	10/10/18				
BY:	NO.	REVISION	DATE		

CURB LAYOUT  
 AND SIDEWALK DETAILS

ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
 WHITEACRE ROAD COMPLETE STREET

ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

DWG.  
 CL-02


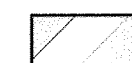
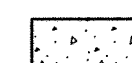
SCALE  
 AS SHOWN

SHEET  
 8 OF 29

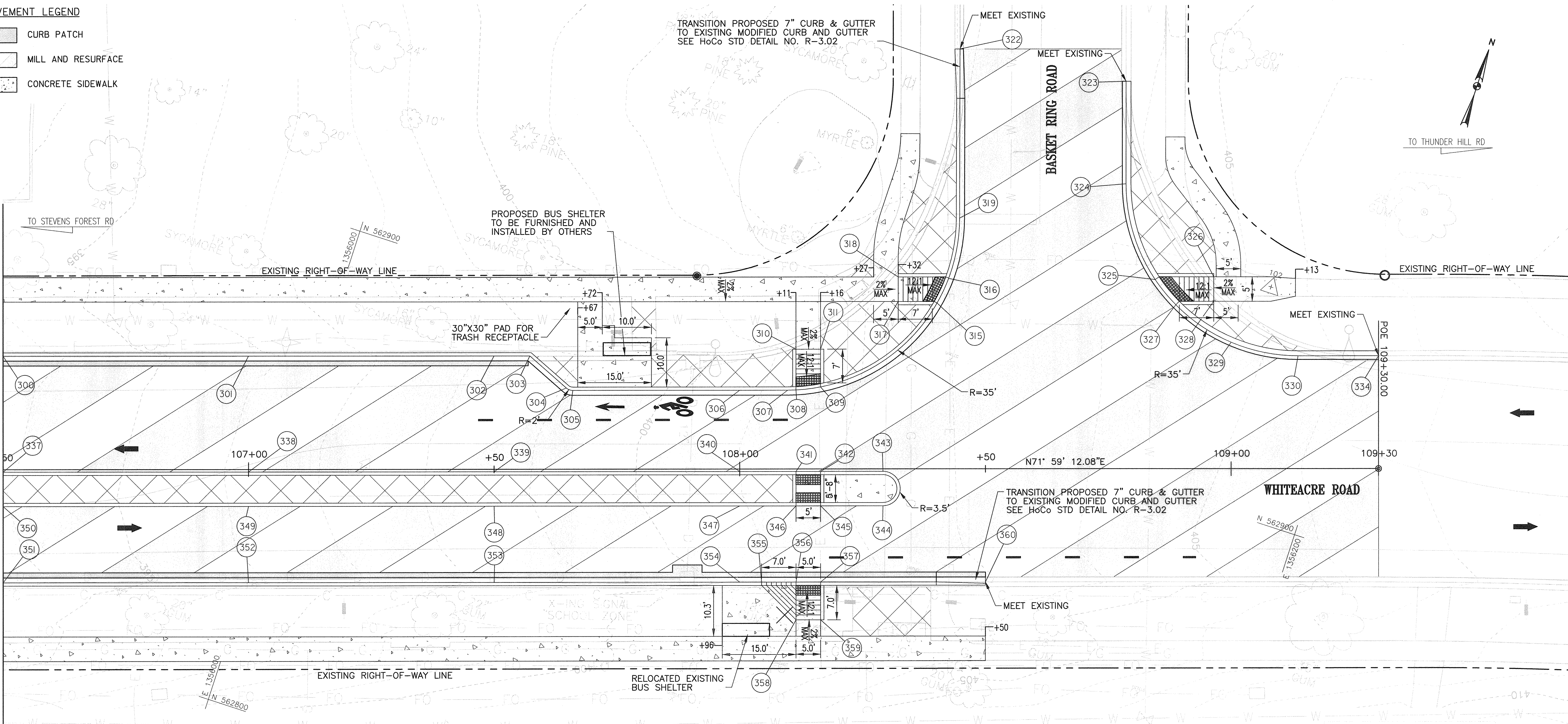
M:\31760-011\CADD\31760011-C002.dwg  
 10/10/2018



PAVEMENT LEGEND

-  CURB PATCH
-  MILL AND RESURFACE
-  CONCRETE SIDEWALK

MATCHLINE STATION 106+50 - SEE DWG. CL-02



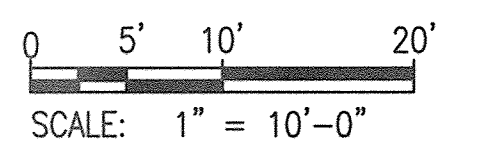
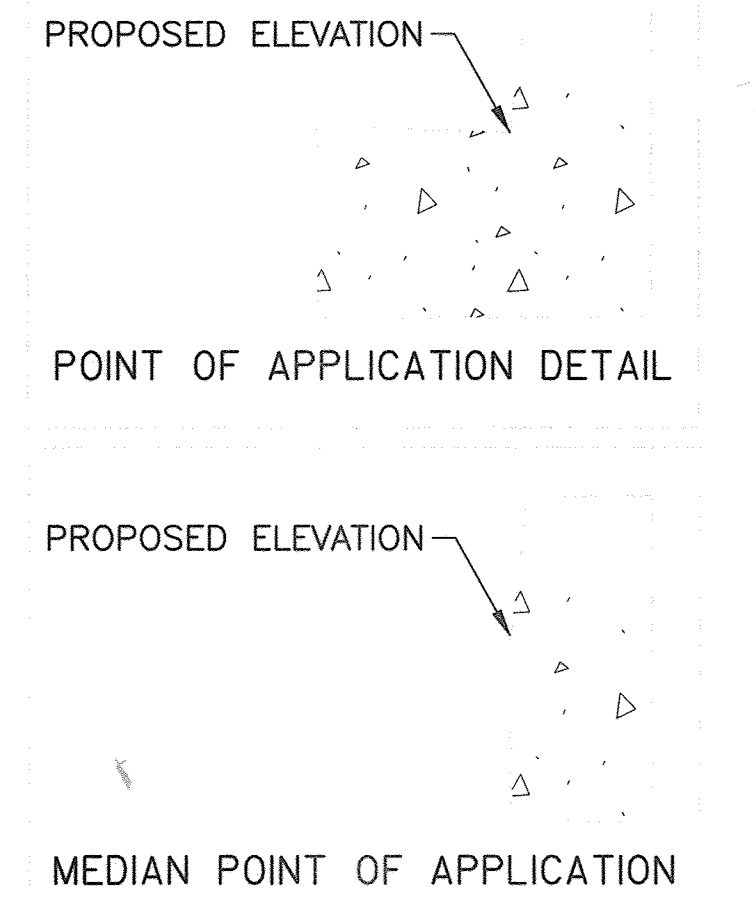
WHITEACRE ROAD						
POINT NUMBER	BASELINE STATION	OFFSET	NORTH	EAST	ELEV.*	DESCRIPTION
300	106+50.00	-23.00	562853.3713	1355938.6947	393.40	POT
301	107+00.00	-23.00	562868.8332	1355986.2439	395.71	POT
302	107+50.00	-23.00	562884.2951	1356033.7932	398.17	POT
303	107+57.00	-22.93	562886.3923	1356040.4720	398.46	POT
304	107+64.73	-16.49	562882.6636	1356049.8119	399.00	PC
305	107+66.05	-16.00	562882.6005	1356051.2170	399.11	PT
306	108+00.00	-16.00	562893.1001	1356083.5071	400.67	POT
307	108+09.76	-16.00	562896.1184	1356092.7889	401.23	PC
308	108+11.46	-16.04	562896.6838	1356094.3940	401.38	POC
309	108+16.46	-16.65	562898.8064	1356098.9615	401.58	POC
310	108+11.46	-24.33	562904.5636	1356091.8316	401.96	RAMP
311	108+16.46	-24.33	562906.1098	1356096.5866	402.06	RAMP
315	108+40.17	-33.67	562922.3254	1356116.2425	402.78	POC
316	108+42.55	-38.77	562927.9100	1356116.9337	402.80	POC
317	108+32.26	-34.00	562920.1949	1356108.6228	403.35	RAMP
318	108+32.26	-39.00	562924.9498	1356107.0766	403.37	RAMP
319	108+44.76	-50.93	562940.1613	1356115.2711	403.00	PT
322	108+44.83	-85.33	562972.8921	1356104.6983	402.86	POT
323	108+78.61	-78.77	562977.1034	1356138.8511	403.55	POT
324	108+78.62	-57.89	562957.2528	1356145.3213	403.67	PC
325	108+78.98	-52.96	562952.6673	1356147.1840	403.91	POC

WHITEACRE ROAD						
POINT NUMBER	BASELINE STATION	OFFSET	NORTH	EAST	ELEV.*	DESCRIPTION
326	108+96.46	-39.00	562944.8011	1356168.1242	404.48	RAMP
327	108+88.75	-33.30	562936.9927	1356162.5551	404.20	POC
328	108+96.46	-34.00	562940.0462	1356169.6704	404.58	RAMP
329	109+00.00	-25.70	562933.2269	1356175.6130	404.73	POC
330	109+13.62	-22.90	562934.8149	1356189.4216	405.36	PT
334	109+30.00	-22.90	562939.8793	1356204.9960	406.31	POT
337	106+50.00	0.50	562831.0232	1355945.9618	393.92	POT
338	107+00.00	0.50	562846.4851	1355993.5110	396.28	POT
339	107+50.00	0.50	562861.9470	1356041.0603	398.64	POT
340	108+00.00	0.50	562877.4089	1356088.6095	400.99	POT
341	108+11.46	0.50	562880.9532	1356099.5092	401.60	POT
342	108+16.46	0.50	562882.4994	1356104.2641	401.80	POT
343	108+31.66	0.50	562887.1993	1356118.7177	402.43	PC
344	108+31.66	7.50	562880.5425	1356120.8823	402.30	PT
345	108+16.46	7.50	562875.8425	1356106.4288	401.70	POT
346	108+11.46	7.50	562874.2963	1356101.6739	401.50	POT
347	108+00.00	7.50	562870.7520	1356090.7742	400.92	POT
348	107+50.00	7.50	562855.2901	1356043.2249	398.64	POT
349	107+00.00	7.50	562839.8282	1355995.6757	396.18	POT
350	106+50.00	7.50	562824.3663	1355948.1265	393.95	POT
351	106+50.00	23.00	562809.6260	1355952.9197	393.56	POT

WHITEACRE ROAD						
POINT NUMBER	BASELINE STATION	OFFSET	NORTH	EAST	ELEV.*	DESCRIPTION
352	107+00.00	23.00	562825.0879	1356000.4689	395.83	POT
353	107+50.00	23.00	562840.5498	1356048.0181	398.21	POT
354	108+00.00	23.00	562856.0117	1356095.5674	400.48	POT
355	108+04.46	23.00	562857.3920	1356099.8120	400.72	POT
356	108+11.46	23.00	562859.5566	1356106.4689	401.09	POT
357	108+16.46	23.01	562861.0900	1356111.2156	401.26	POT
358	108+11.46	30.67	562852.2654	1356108.8398	401.59	RAMP
359	108+16.46	30.67	562853.8116	1356113.5948	401.69	RAMP
360	108+50.00	23.00	562871.4728	1356143.1139	402.89	POT

NOTES:

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- SIDEWALK RAMP SHALL BE INCLUDED IN BID PRICE FOR CONCRETE SIDEWALK. DEPRESSED CURB AND CURB TRANSITION SHALL BE INCLUDED IN BID PRICE FOR CURB AND GUTTER ADJACENT TO SIDEWALK RAMP.

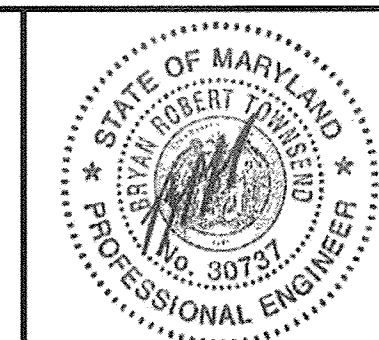


\*PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 30737, EXPIRATION DATE: 6/29/2020.\*

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

Director of Public Works: *[Signature]* 10/16/2018  
 Chief, Bureau of Highways: *[Signature]* 10/16/2018  
 Chief, Bureau of Engineering: *[Signature]* 10/16/2018  
 Chief, Transportation & Special Projects Div.: *[Signature]* 10/16/2018

PREPARED BY:  
  
**Whitman, Reardon & Associates, LLP**  
 801 South Caroline Street, Baltimore, Maryland 21231



DES:	DTB			
DRN:	DTB			
CHK:	BRT			
DATE:	10/10/18			
BY:	NO.	REVISION	DATE	

CURB LAYOUT  
AND SIDEWALK DETAILS

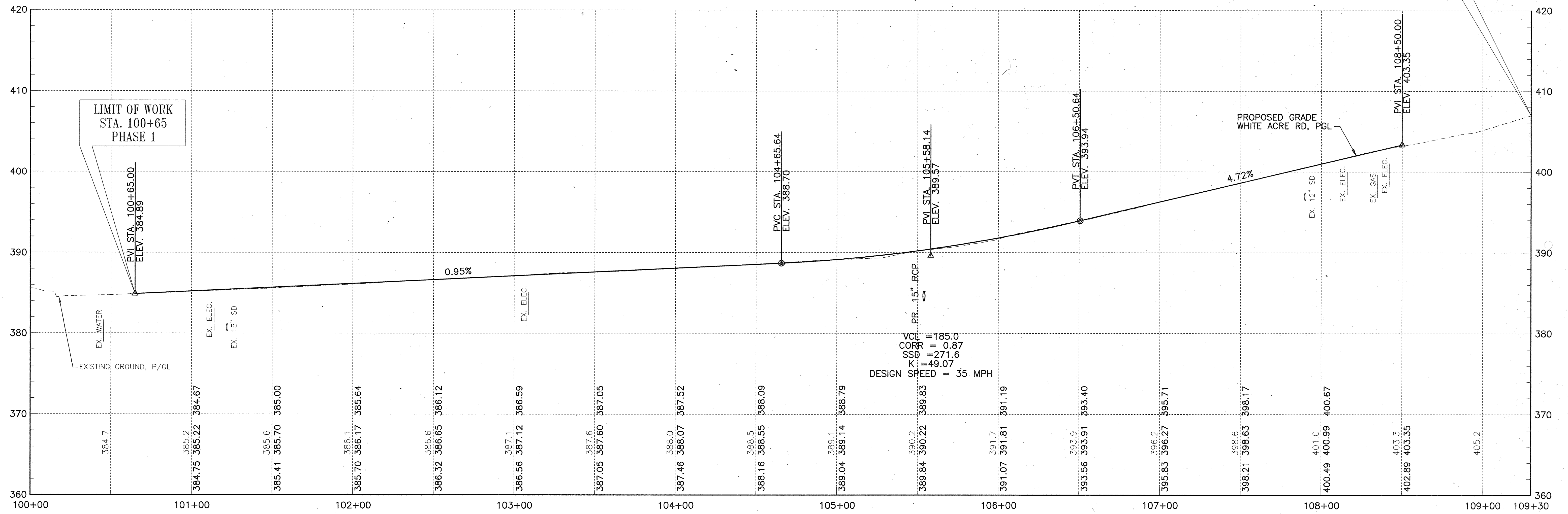
CAPITAL PROJECT NO. C0287  
WHITEACRE ROAD COMPLETE STREET

ELECTION DISTRICT 6

HOWARD COUNTY, MARYLAND

DWG.  
CL-03  
SCALE  
AS SHOWN  
SHEET  
9 OF 29





NOTE: EXISTING UTILITIES SHOWN AT HORIZONTAL LOCATION ONLY. CONTRACTOR SHALL VERIFY DEPTH OF UTILITIES.

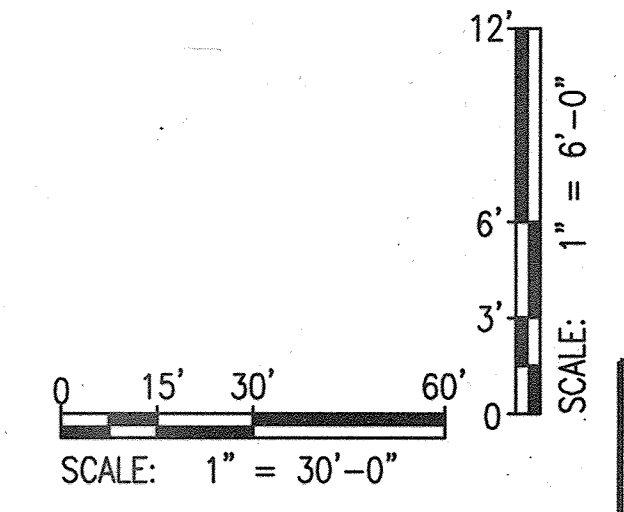
**WHITE ACRE ROAD**

SCALE:  
H: 1" = 30'  
V: 1" = 6'

**PROFILE LEGEND**

- XX,XX ← LEFT FLOWLINE ELEVATION
- XX,XX ← PROFILE GRADE ELEVATION
- XX,XX ← RIGHT FLOWLINE ELEVATION

PROFILE EXISTING GROUND ELEVATION → X,X



R:\31760-011\CADD\31760011-PR01.dgn 10/2/2018

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

*[Signature]* 10/14/2018  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 10/14/18  
CHIEF, BUREAU OF HIGHWAYS DATE

*[Signature]* 10/14/18  
CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIV. DATE

PREPARED BY:

**WRA**

**Whitman, Requardt & Associates, LLP**  
801 South Caroline Street, Baltimore, Maryland 21231



DES:	DTB		
DRN:	DTB		
CHK:	BRT		
DATE:	10/02/18		
BY:		NO.	
		REVISION	
		DATE	

ROADWAY PROFILE

ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
WHITEACRE ROAD COMPLETE STREET

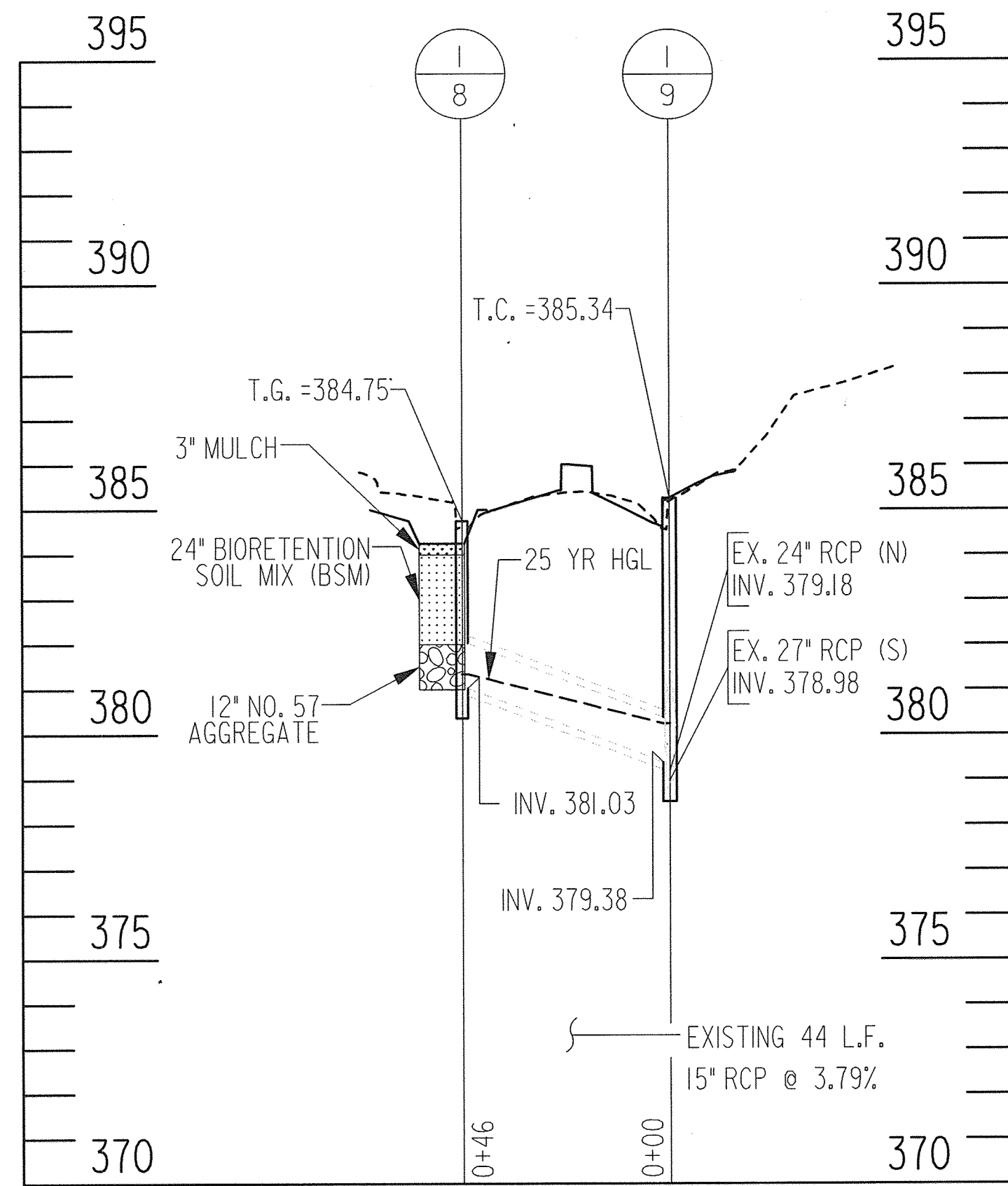
ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

DWG.  
PR-01

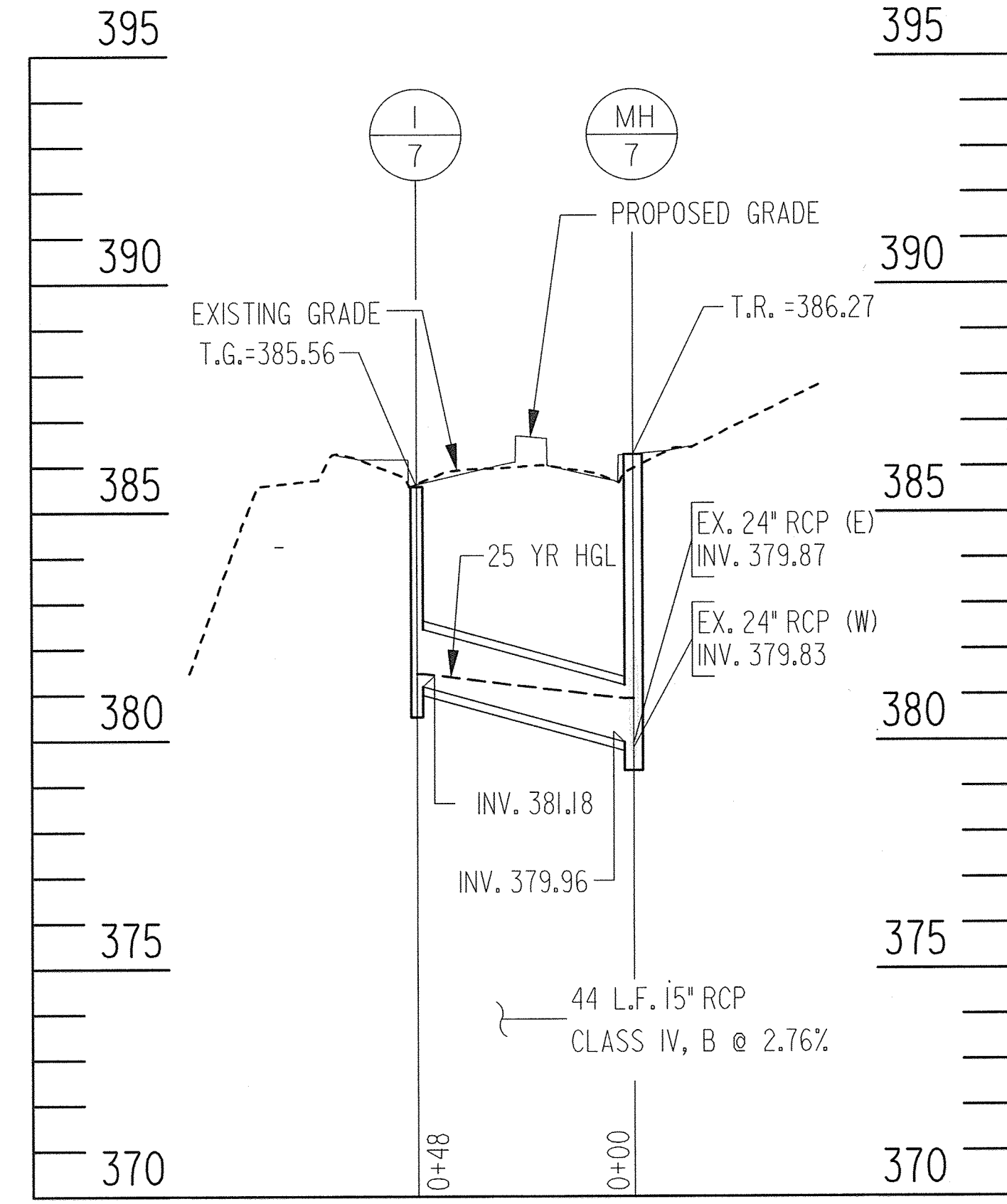
SCALE  
AS SHOWN

SHEET  
10 OF 29

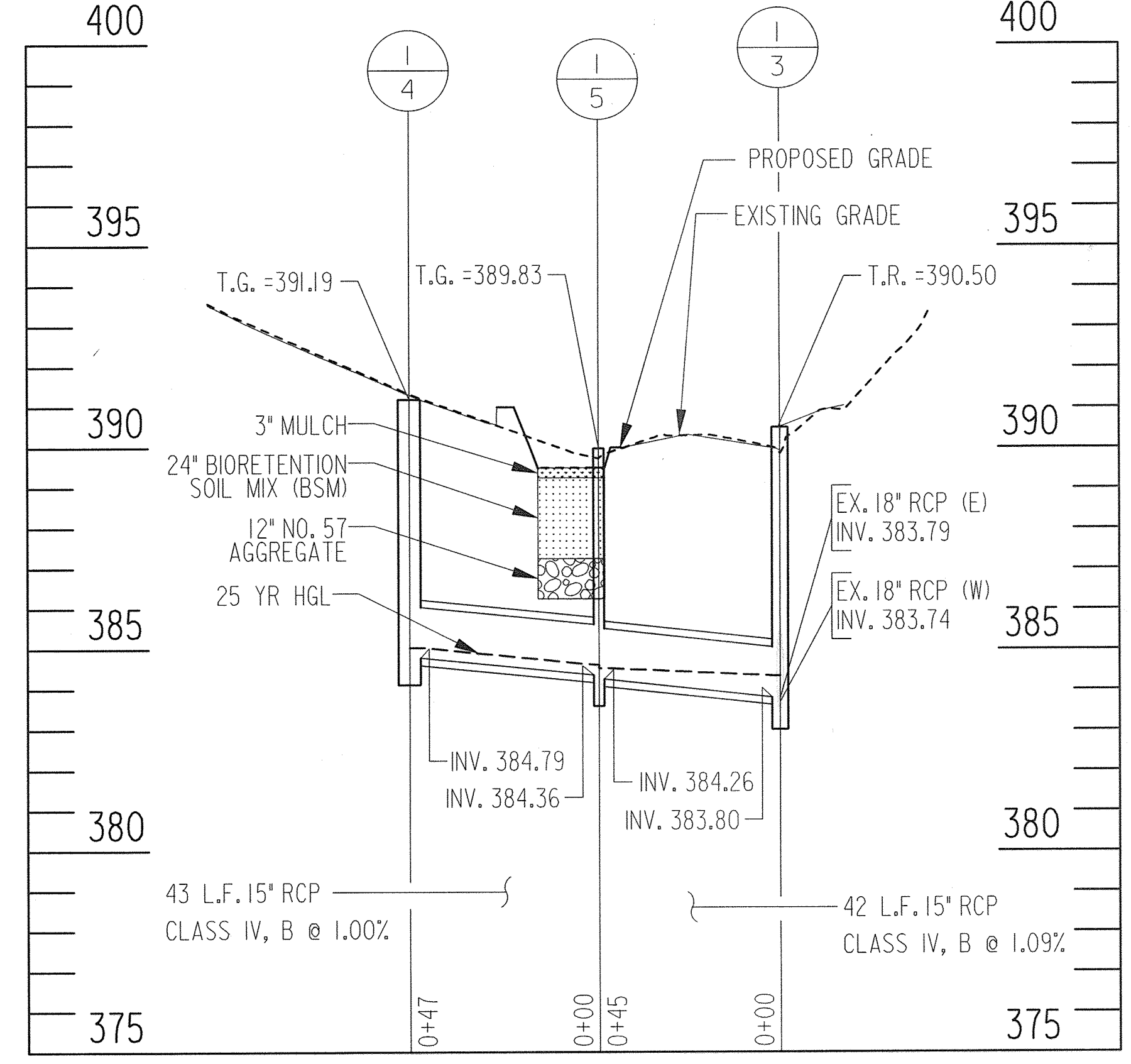




STA. 101+25 LT. TO STA. 101+20 RT. WHITE ACRE ROAD  
(PS-01)



STA. 101+93 LT. TO STA. 101+91 RT. WHITE ACRE ROAD  
(PS-01)



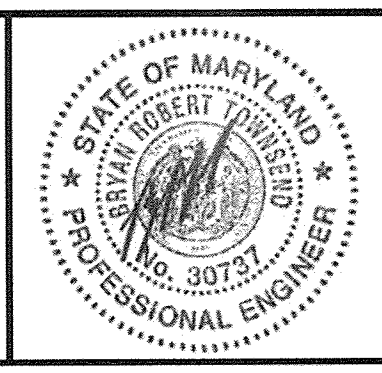
STA. 106+02 LT. TO STA. 105+54 RT. WHITE ACRE ROAD  
(PS-02)

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 10/27/2018

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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND.  
 Director of Public Works: *[Signature]* 10/22/18  
 Chief, Bureau of Highways: *[Signature]* 10/22/18  
 Chief, Bureau of Engineering: *[Signature]* 10/22/18  
 Chief, Transportation & Special Projects Div.: *[Signature]* 10/22/18

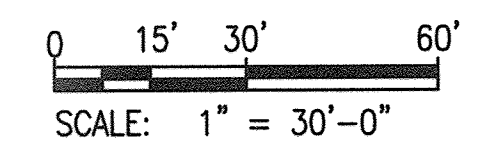
PREPARED BY:  
**WRA**  
**Whitman, Reardon & Associates, LLP**  
 801 South Caroline Street, Baltimore, Maryland 21231



DES:	KDV			
DRN:	KDV			
CHK:	JDC			
DATE:	10/02/18	BY:	NO.	REVISION

STORM DRAIN PROFILES  
 ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
 WHITEACRE ROAD COMPLETE STREET  
 ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND



DWG. SD-01  
 SCALE 1"=30'  
 SHEET 11 OF 29



**STANDARD SEDIMENT CONTROL NOTES**

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:

- A. PRIOR TO THE START OF EACH DISTURBANCE,
- B. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
- C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT,
- D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.

4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH 15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).

5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID.

6. SITE ANALYSIS:  
 TOTAL AREA OF SITE 0.68 ACRES  
 AREA DISTURBED 0.68 ACRES  
 AREA TO BE ROOFED OR PAVED 0.05 ACRES  
 AREA TO BE VEGETATIVELY STABILIZED 0.48 ACRES  
 TOTAL CUT 480 CU. YDS.  
 TOTAL FILL 150 CU. YDS.  
 OFF-SITE WASTE/BORROW ARE LOCATION SITE WITH AN ACTIVE GRADING PERMIT

7. ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:

- INSPECTION DATE
- INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
- NAME AND TITLE OF INSPECTOR
- WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
- BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
- EVIDENCE OF SEDIMENT DISCHARGES
- IDENTIFICATION OF PLAN DEFICIENCIES
- IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
- IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
- COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
- PHOTOGRAPHS
- MONITORING/SAMPLING
- MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
- OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).

9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.

10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.

11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN IN ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. 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 CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.

13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.

14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.

15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):  
 - USE I AND II MARCH 1 - JUNE 15  
 - USE II AND III OCTOBER 1 - APRIL 30  
 - USE IV MARCH 1 - MAY 31

16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

**SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS**

THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE  
 TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.  
 CONDITIONS WHERE PRACTICE APPLIES  
 WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.  
 CRITERIA

**A. SOIL PREPARATION**

**1. TEMPORARY STABILIZATION**

- a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROW OR CHISEL PLOWS OR RIPPER MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
- b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
- c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

**2. PERMANENT STABILIZATION**

- a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
  - i. SOIL PH BETWEEN 6.0 AND 7.0.
  - ii. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM)
  - iii. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.

iv. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.

v. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IS ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.

c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.

d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE. REMOVE LARGE OBJECTS LINES TONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

**B. TOPSOILING**

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:  
 a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.

b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.

5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:

a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDELS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2 INCHES IN DIAMETER.

b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

**6. TOPSOIL APPLICATION**

a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.

b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

**C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)**

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATIONS RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.

2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME AND WARRANTY OF THE PRODUCER.

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WITH HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

**SEEDING AND MULCHING**

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER. PURPOSE

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

**A. SEEDING**

**1. SPECIFICATIONS**

a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.

b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.

c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTES: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.

d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

**2. APPLICATION**

a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.

ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.

b. DRILL OF CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

i. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.

ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).

i. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P<sub>2</sub>O<sub>5</sub> (PHOSPHOROUS), 200 POUNDS PER ACRE; K<sub>2</sub>O (POTASSIUM), 200 POUNDS PER ACRE.

ii. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNED OR HYDRATED LIME WHEN HYDROSEEDING.

iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.

iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

**B. MULCHING**

**1. MULCH MATERIALS (IN ORDER OF PREFERENCE)**

a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARELY AND REASONABLE BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.

b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

i. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.

ii. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.

iii. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.

iv. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.

v. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, H RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

**2. APPLICATION**

a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.

b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.

c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

**3. ANCHORING**

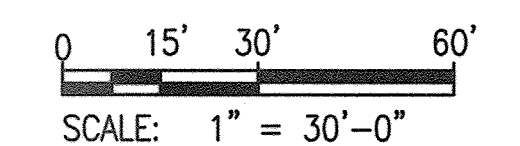
a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:

i. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY, IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.

ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

iii. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.

iv. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

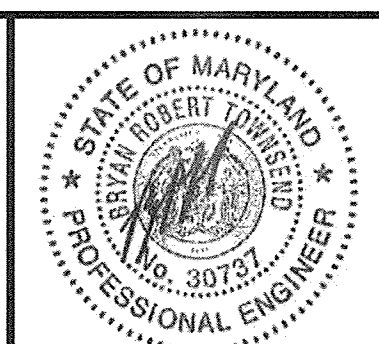


"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 30737, EXPIRATION DATE: 6/29/2020."

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND.

*Lauren J. Blahut* 10/16/2018  
 DIRECTOR OF PUBLIC WORKS DATE  
*Bradley J. Smith* 10/22/18  
 CHIEF, BUREAU OF ENGINEERING DATE  
*Bradley J. Smith* 10/16/18  
 CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIV. DATE

PREPARED BY:  
  
**Whitman, Requardt & Associates, LLP**  
 801 South Caroline Street, Baltimore, Maryland 21231



DES:	KDV			
DRN:	KDV			
CHK:	JDC			
DATE:	08/13/18			
	BY	NO.	REVISION	DATE

EROSION AND SEDIMENT CONTROL PLAN

CAPITAL PROJECT NO. C0287  
 WHITEACRE ROAD COMPLETE STREET  
 ELECTION DISTRICT 6  
 HOWARD COUNTY, MARYLAND

DWG.  
 ES-01  
 SCALE  
 1"=30'  
 SHEET  
 12 of 29



**TEMPORARY STABILIZATION**

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.  
PURPOSE

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS, FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.  
CRITERIA

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.b AND MAINTAIN UNTIL THE NEXT SEASON.

TEMPORARY SEEDING SUMMARY

Hardness Zone (from Figure B.3): 6b					Fertilizer Rate (10-20-20)		Lime Rate
Seed Mixture (from Table B.1): OATS							
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths			
	OATS	72	3/15-5/31; 8/1-10/15	1 IN	436 lb/ac (10 lb/1000 sf)		2 tons/ac (90 lb/1000 sf)
	FOXTAIL MILLET	30	5/16-7/31	0.5 IN			

**PERMANENT STABILIZATION**

TO STABILIZED DISTURBED SOILS WITH PERMANENT VEGETATION.  
PURPOSE

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.  
CRITERIA

**A. SEED MIXTURES**  
1. GENERAL USE

a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.

c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.

d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

**2. TURFGRASS MIXTURES**

a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.

b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

- KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN II. THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS
- SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATES: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.

KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.

NOTES:  
SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, 'TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND'

CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.

**c. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES**

WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)

CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)

SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)

d. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.

e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

**B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2d) GRADE OR FLATTER).**

**1. GENERAL SPECIFICATIONS**

a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.

b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.

c. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.

d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.

e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

**2. SOD INSTALLATION**

a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.

b. LAY THE FIRST ROW OF SOB IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.

c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.

d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.

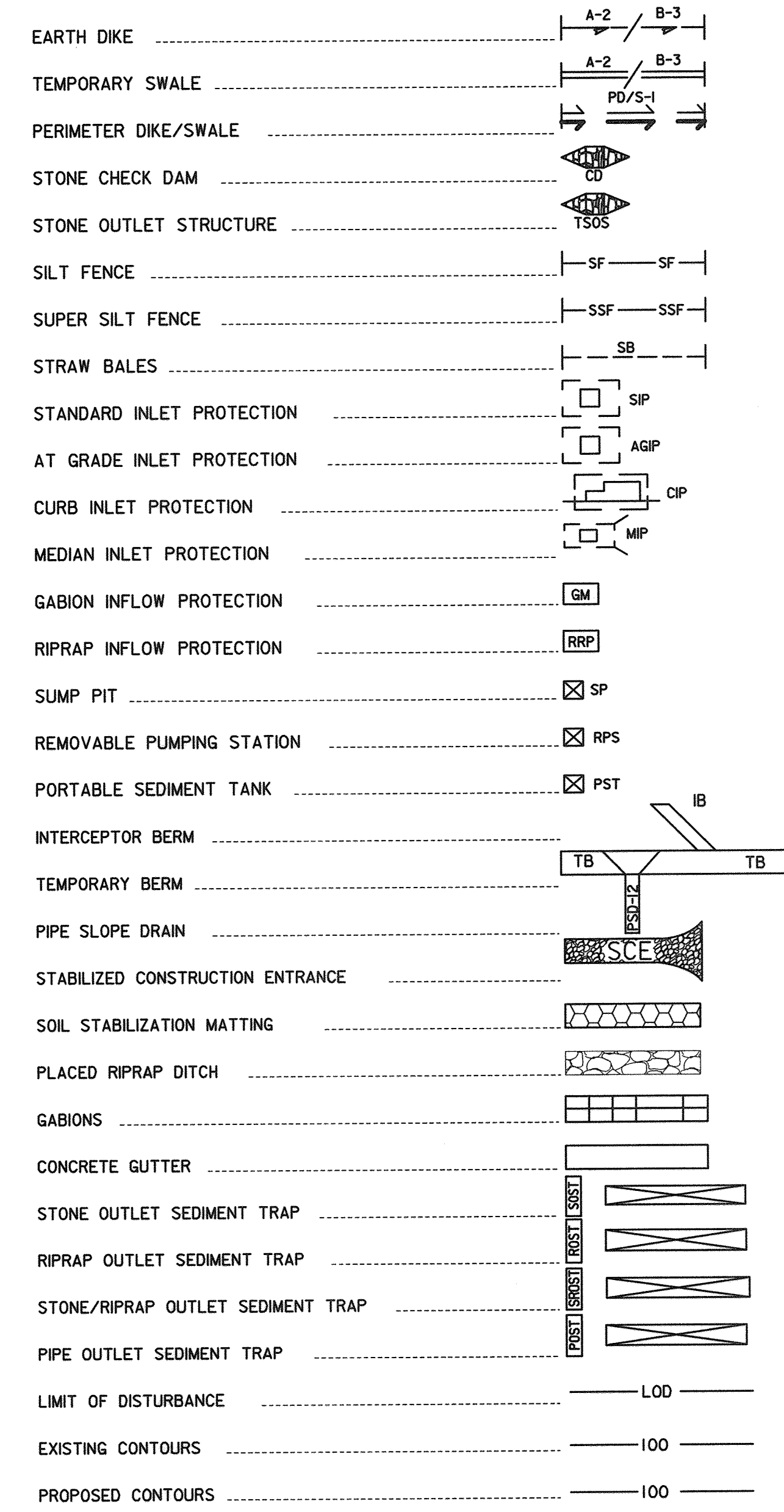
**3. SOD MAINTENANCE**

a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.

b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.

c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

**STANDARD SYMBOLS**



PERMANENT SEEDING SUMMARY

Hardness Zone (from Figure B.3): 6b					Fertilizer Rate (10-20-20)			Lime Rate
Seed Mixture (from Table B.3): 4								
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	
4	CREeping RED FESCUE	20	3/15-5/31; 8/1-10/15	1/4-1/2 In	45 pounds per acre (1.0 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	
	DEER-TONGUE	15	3/15-5/31; 8/1-10/15	1/4-1/2 In				
	VR. WILD RYE	5	3/15-5/31; 8/1-10/15	1/4-1/2 In				

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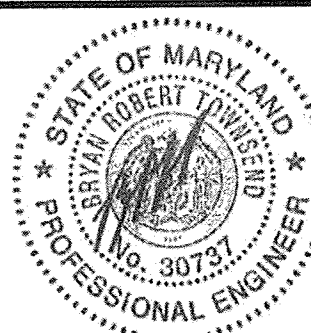
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

Director of Public Works: *[Signature]* 10/12/18  
Chief, Bureau of Engineering: *[Signature]* 10/12/18  
Chief, Bureau of Highways: *[Signature]* 10/16/2018  
Chief, Transportation & Special Projects Div.: *[Signature]* 10/16/18

PREPARED BY :



Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, Maryland 21231



DES: KDV			
DRN: KDV			
CHK: JDC			
DATE: 08/13/18	BY	NO.	REVISION

EROSION AND SEDIMENT CONTROL PLAN

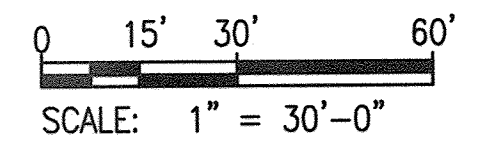
ADC MAP NO. 49.35 GRID NO. E6

CAPITAL PROJECT NO. C0287

WHITEACRE ROAD COMPLETE STREET

ELECTION DISTRICT 6

HOWARD COUNTY, MARYLAND

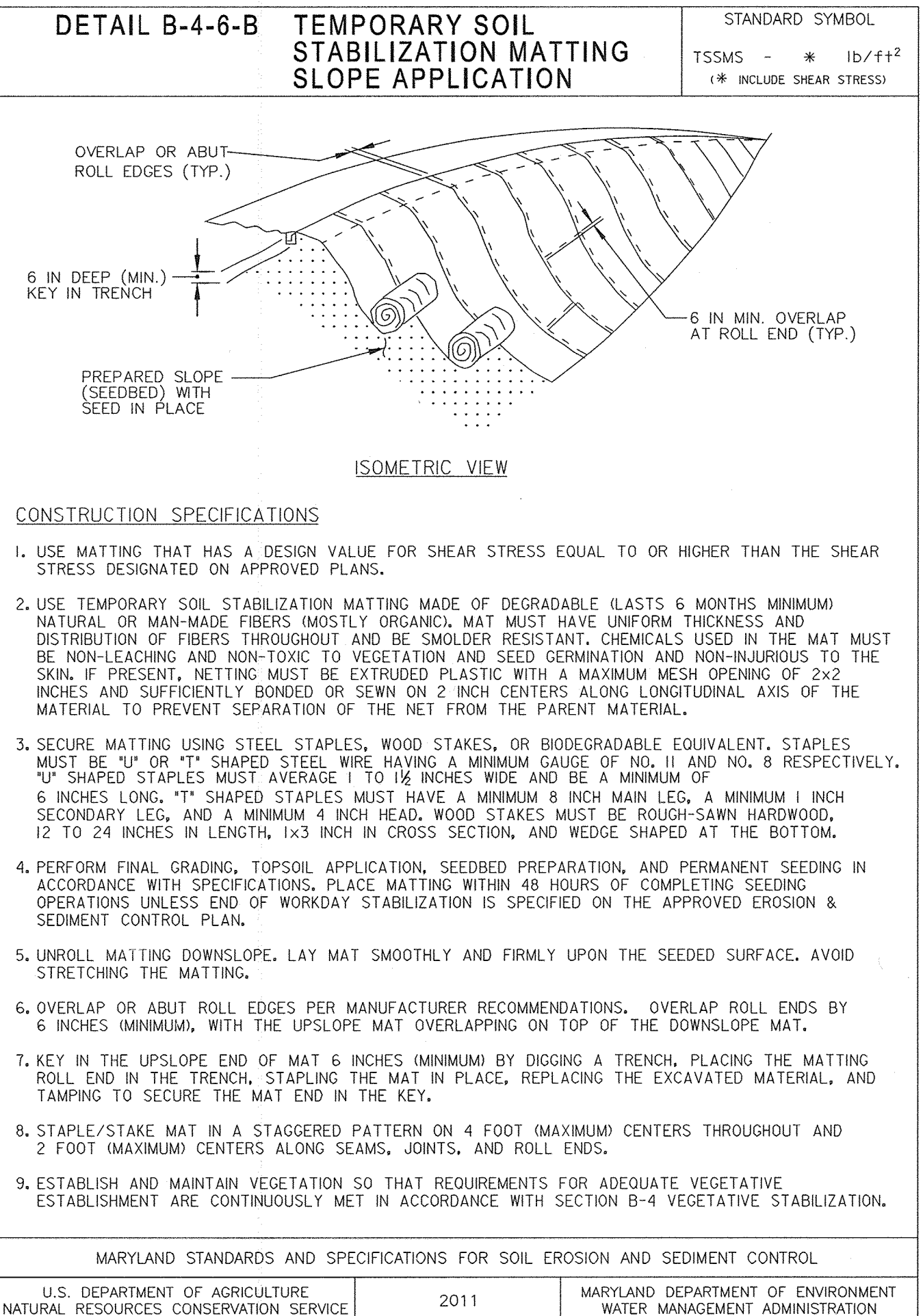
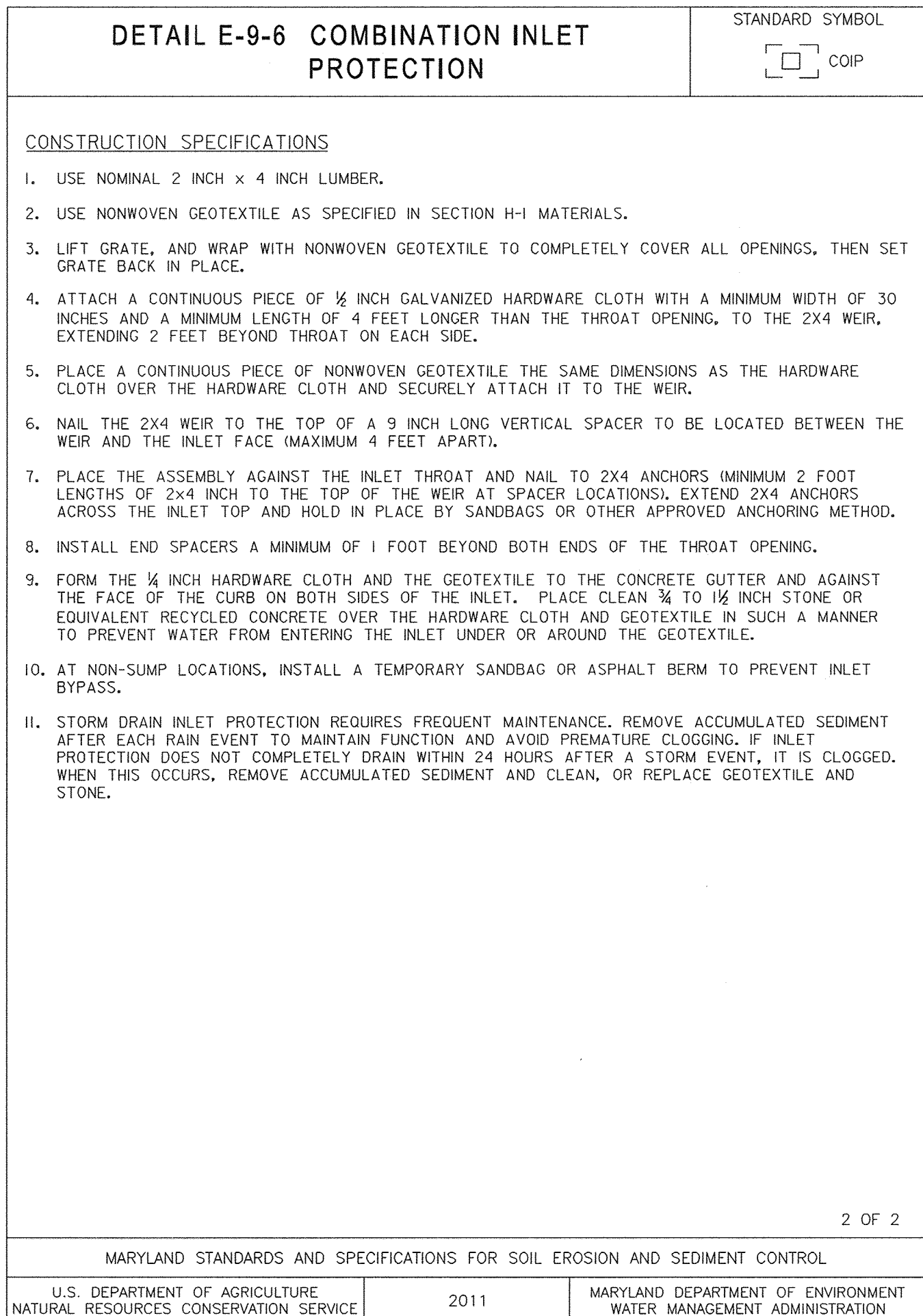
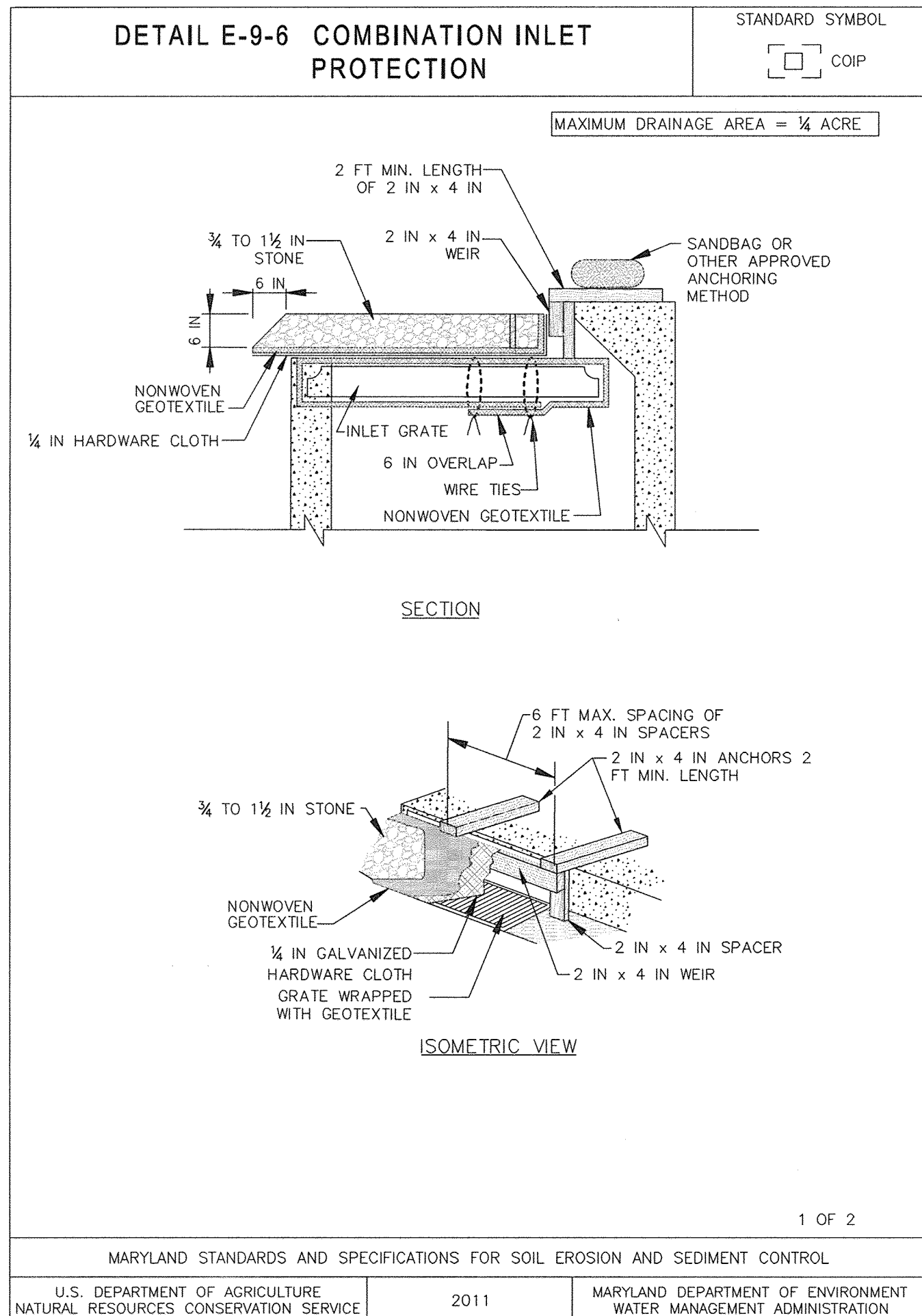
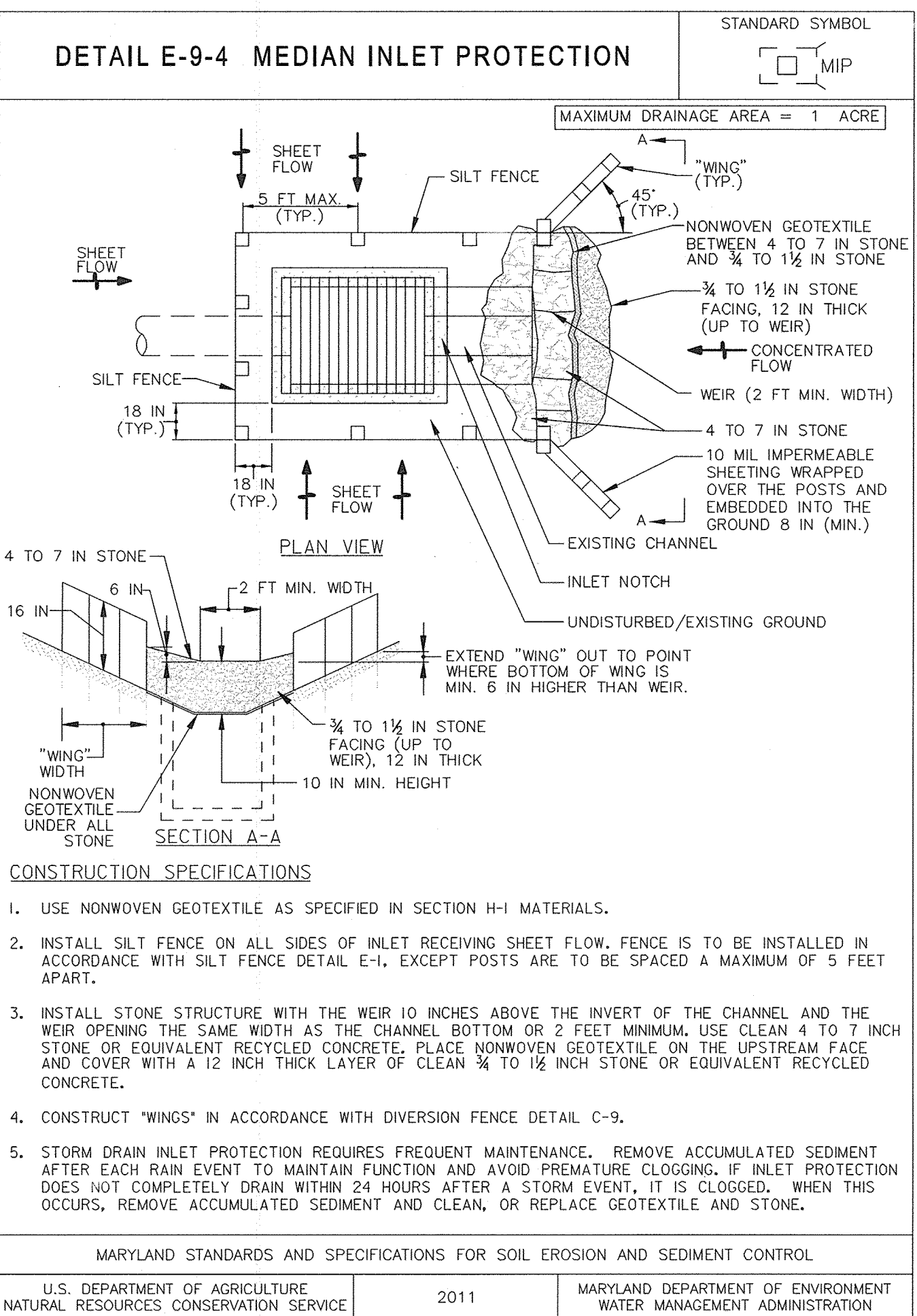
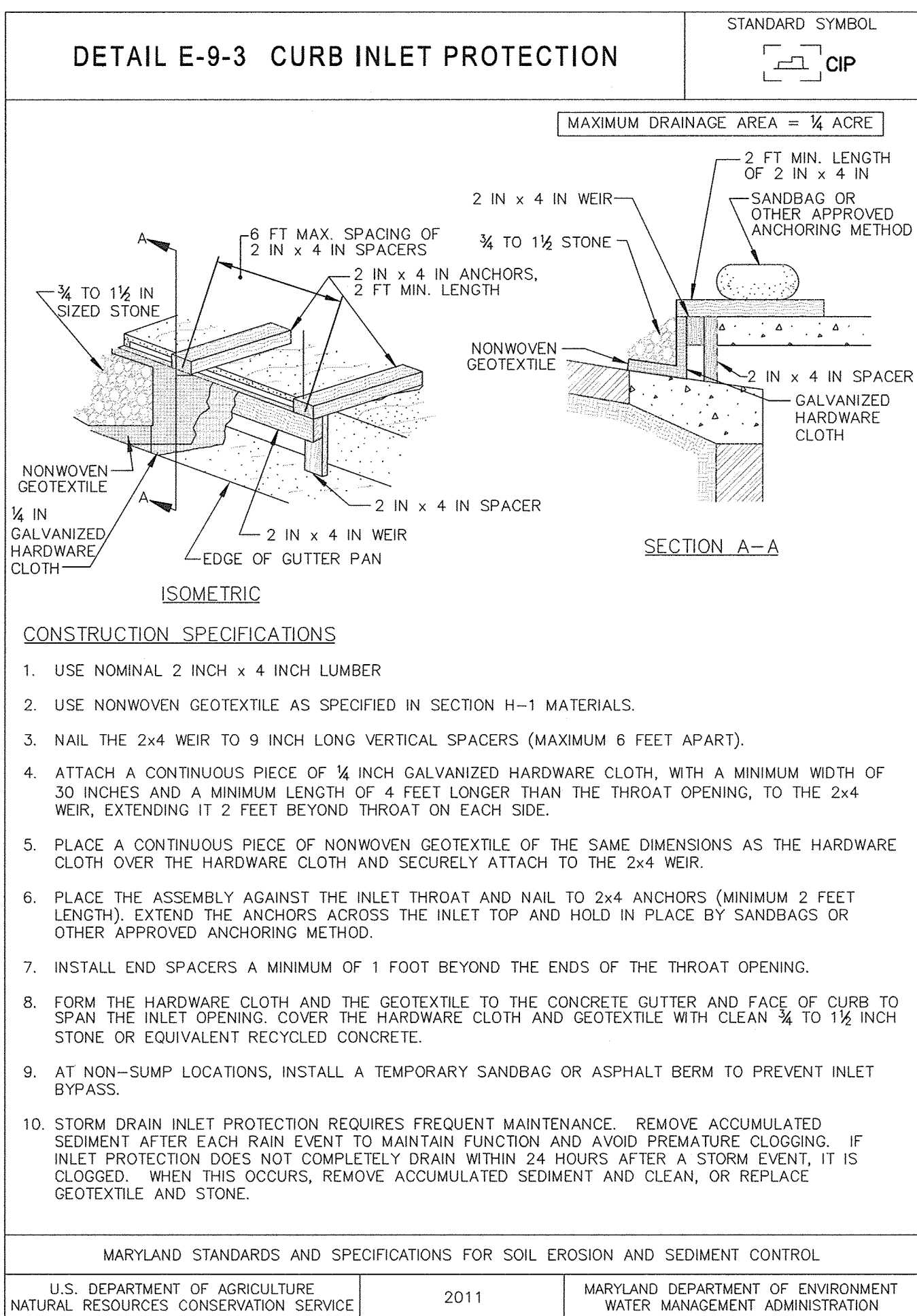
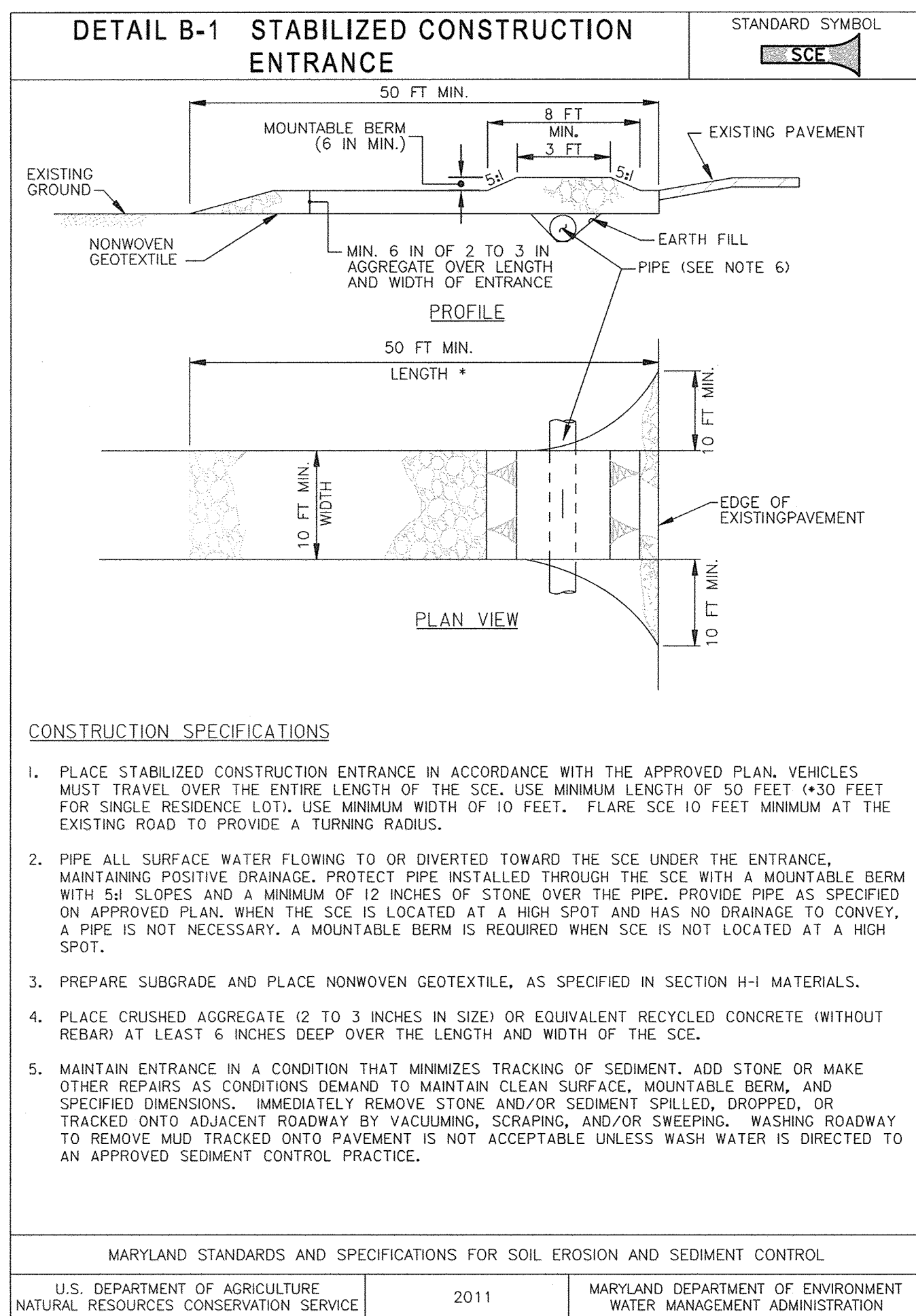


DWG. ES-02

SCALE 1"=30'

SHEET 13 OF 29





## SEQUENCE OF CONSTRUCTION

- GENERAL**
- OBTAIN GRADING PERMIT. AS CONSTRUCTION PROCEEDS, EROSION AND SEDIMENT CONTROL DEVICES SHALL BE MAINTAINED AT ALL TIMES.
  - WHERE "IMMEDIATE STABILIZATION" IS INDICATED ON THE PLANS, THE AREA DISTURBED DURING CONSTRUCTION SHALL BE STABILIZED BY THE END OF EACH WORKDAY WITH SOIL STABILIZATION MATTING OR SOD WHERE NOTED ON THE LANDSCAPE PLANS.
  - NO DISTURBED AREA SHALL BE LEFT OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE WITH THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR.
  - THE CONTRACTOR SHALL NOT DISCHARGE SEDIMENT LADEN WATER WITHOUT FIRST PASSING IT THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE.
  - SEE LANDSCAPE PLANS FOR TREE PRESERVATION AREAS.
- CONSTRUCTION STAGE 1**
- IMPLEMENT STAGE 1 TRAFFIC CONTROLS. (1 DAY)
  - WITH THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB FOR, AND INSTALL EROSION AND SEDIMENT CONTROL DEVICES, INCLUDING STABILIZED CONSTRUCTION ENTRANCES, AND INLET PROTECTION FOR THE EAST BOUND DIRECTION AS SHOWN ON DRAWING ES-04. CONCURRENTLY INSTALL STORM DRAIN SYSTEM COMPONENTS ALONG EAST BOUND ROADWAY. (1 DAY)
  - WITH THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR, PROCEED WITH ROADWAY CONSTRUCTION IN ACCORDANCE WITH MOT AND ROADWAY PLANS. (1 MONTH)
  - AFTER CONSTRUCTION IS COMPLETE AND ALL DISTURBED AREAS HAVE BEEN STABILIZED, AND WITH THE PERMISSION OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, STAGE 1 EROSION AND SEDIMENT CONTROL DEVICES MAY BE REMOVED. FINAL STABILIZATION SHALL BE PROVIDED ON ALL AREAS DISTURBED BY THE REMOVAL OF EROSION AND SEDIMENT CONTROL DEVICES. (1 DAY)
- CONSTRUCTION STAGE 2**
- IMPLEMENT STAGE 2 TRAFFIC CONTROLS. (1 DAY)
  - WITH THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB FOR, AND INSTALL EROSION AND SEDIMENT CONTROL DEVICES, INCLUDING STABILIZED CONSTRUCTION ENTRANCE, AND INLET PROTECTION, IN THE WEST BOUND DIRECTION AS SHOWN ON DRAWING ES-04. CONCURRENTLY COMPLETE STORM DRAIN SYSTEM EXTENSION AND INSTALL INLET PROTECTIONS ON PROPOSED INLETS. (1 DAY)
  - WITH THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR, PERFORM CONSTRUCTION IN ACCORDANCE WITH MOT AND ROADWAY PLANS. (1 WEEK)
  - AFTER CONSTRUCTION IS COMPLETE AND ALL DISTURBED AREAS HAVE BEEN STABILIZED, AND WITH THE PERMISSION OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, STAGE 2 EROSION AND SEDIMENT CONTROL DEVICES MAY BE REMOVED. FINAL STABILIZATION SHALL BE PROVIDED ON ALL AREAS DISTURBED BY THE REMOVAL OF EROSION AND SEDIMENT CONTROL DEVICES. (1 DAY)
- CONSTRUCTION STAGE 3**
- IMPLEMENT STAGE 3 TRAFFIC CONTROLS. (1 DAY)
  - WITH THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR, COMPLETE MEDIAN RECONSTRUCTION AND STABILIZE AREA IMMEDIATELY AS WORK PROGRESSES. (7 DAY)
  - WITH THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR, PERFORM CONSTRUCTION IN ACCORDANCE WITH MOT AND ROADWAY PLANS. CONCURRENTLY COMPLETE RAIN GARDEN INSTALLATION. (2 WEEKS)
  - AFTER CONSTRUCTION IS COMPLETE AND ALL DISTURBED AREAS HAVE BEEN STABILIZED, AND WITH THE PERMISSION OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, ANY REMAINING EROSION AND SEDIMENT CONTROL DEVICES MAY BE REMOVED. FINAL STABILIZATION SHALL BE PROVIDED ON ALL AREAS DISTURBED BY THE REMOVAL OF EROSION AND SEDIMENT CONTROL DEVICES. (1 DAY)

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

*James E. DeBlase* 10/16/2018  
DIRECTOR OF PUBLIC WORKS DATE

*David* 10/16/2018  
CHIEF, BUREAU OF HIGHWAYS DATE

*James E. DeBlase* 10/16/2018  
CHIEF, BUREAU OF ENGINEERING DATE

*David* 10/16/2018  
CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIV. DATE

PREPARED BY:

**WRA**  
Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, Maryland 21231

STATE OF MARYLAND  
STATE ROBERT J. WELLS  
PROFESSIONAL ENGINEER  
NO. 30737

DESIGNER:	KDV
DRAWN BY:	KDV
CHECKED BY:	JDC
DATE:	08/13/18
BY:	NO.
REVISION:	DATE:

EROSION AND SEDIMENT CONTROL PLAN

CAPITAL PROJECT NO. C0287  
WHITEACRE ROAD COMPLETE STREET

ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

ADC MAP NO. 4935 GRID NO. F6

DWG. ES-03  
SCALE 1"=30'  
SHEET 14 of 29



CURB INLET PROTECTION (CIP)				
NO.	STATION	OFFSET	D.A. (AC.)	REMARKS
CIP 1-1	101+21	25' RT.	0.54	WHITE ACRE RD
CIP 1-3	102+39	25' RT.	0.73	WHITE ACRE RD
CIP 1-5	103+88	25' RT.	0.51	WHITE ACRE RD
CIP 1-6	105+54	25' RT.	0.95	WHITE ACRE RD
CIP 1-8	107+91	23' RT.	1.38	WHITE ACRE RD
CIP 1-9	107+91	18' LT.	0.27	WHITE ACRE RD

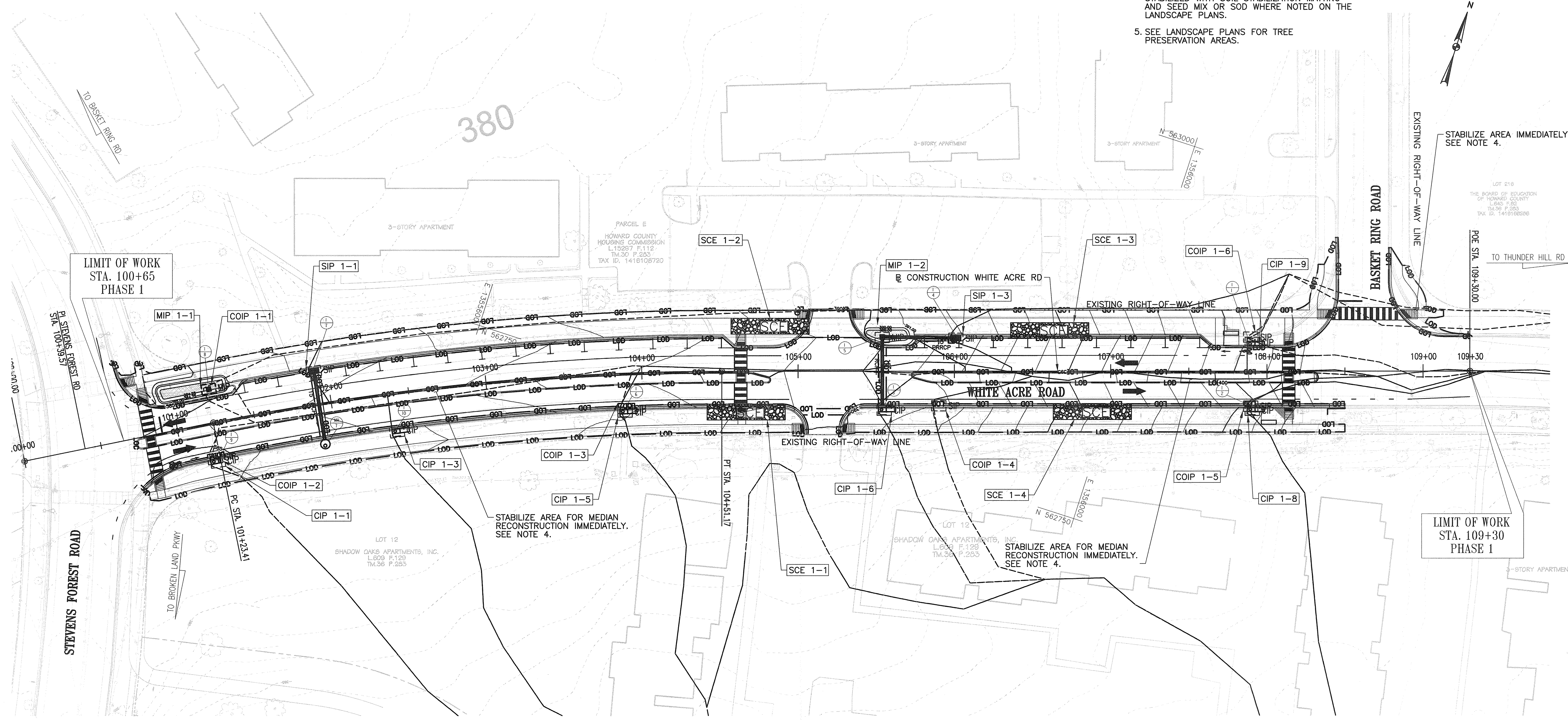
COMBINATION INLET PROTECTION (COIP)*				
NO.	STATION	OFFSET	D.A. (AC.)	REMARKS
COIP 1-1	101+25	21' LT.	0.63	WHITE ACRE RD
COIP 1-2	101+20	23' RT.	1.25	WHITE ACRE RD
COIP 1-3	103+88	23' RT.	0.63	WHITE ACRE RD
COIP 1-4	105+90	22' RT.	0.86	WHITE ACRE RD
COIP 1-5	107+90	23' RT.	1.36	WHITE ACRE RD
COIP 1-6	107+90	22' LT.	0.28	WHITE ACRE RD

MEDIAN INLET PROTECTION (MIP)				
NO.	STATION	OFFSET	D.A. (AC.)	REMARKS
MIP 1-1	101+19	23' LT.	0.08	WHITE ACRE RD
MIP 1-2	105+54	26' LT.	0.05	WHITE ACRE RD

STANDARD INLET PROTECTION (SIP)				
NO.	STATION	OFFSET	D.A. (AC.)	REMARKS
SIP 1-1	101+92	23' LT.	0.35	WHITE ACRE RD
SIP 1-3	106+02	23' LT.	0.18	WHITE ACRE RD

STABILIZED CONSTRUCTION ENTRANCE (SCE)			
NO.	STATION, OFFSET	TONS	REMARKS
SCE 1-1	104+57, 26' RT.	60	WHITE ACRE
SCE 1-2	104+83, 29' LT.	60	WHITE ACRE
SCE 1-3	106+66, 25' LT.	60	WHITE ACRE
SCE 1-4	106+92, 26' RT.	60	WHITE ACRE

- NOTES:
- NO STOCKPILING ALLOWED.
  - NO WASTE/BORROW AREA PROVIDED.
  - ALL SOILS WITHIN THE PROJECT LIMITS ARE CLASSIFIED AS "GLENELG-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES" AND ARE NOT RATED FOR SOIL EROSION FACTOR 'K' FOR EITHER ROCK OR WHOLE SOIL CONDITIONS.
  - ALL VEGETATED AREAS SHALL BE PERMANENTLY STABILIZED WITH SOIL STABILIZATION MATTING AND SEED MIX OR SOD WHERE NOTED ON THE LANDSCAPE PLANS.
  - SEE LANDSCAPE PLANS FOR TREE PRESERVATION AREAS.

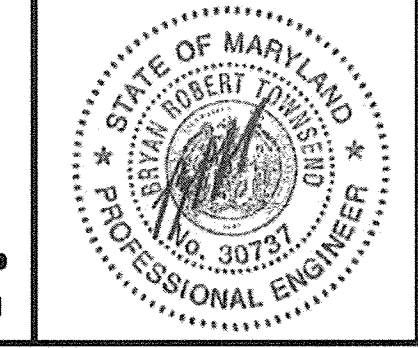


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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND.  
 Director of Public Works: *[Signature]* 10/16/2018  
 Chief, Bureau of Highways: *[Signature]* 10/19/2018  
 Chief, Bureau of Engineering: *[Signature]*  
 Chief, Transportation & Special Projects Div.: *[Signature]*

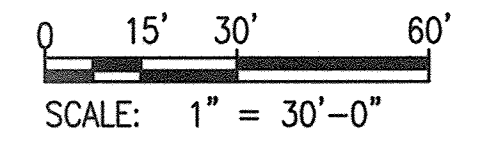
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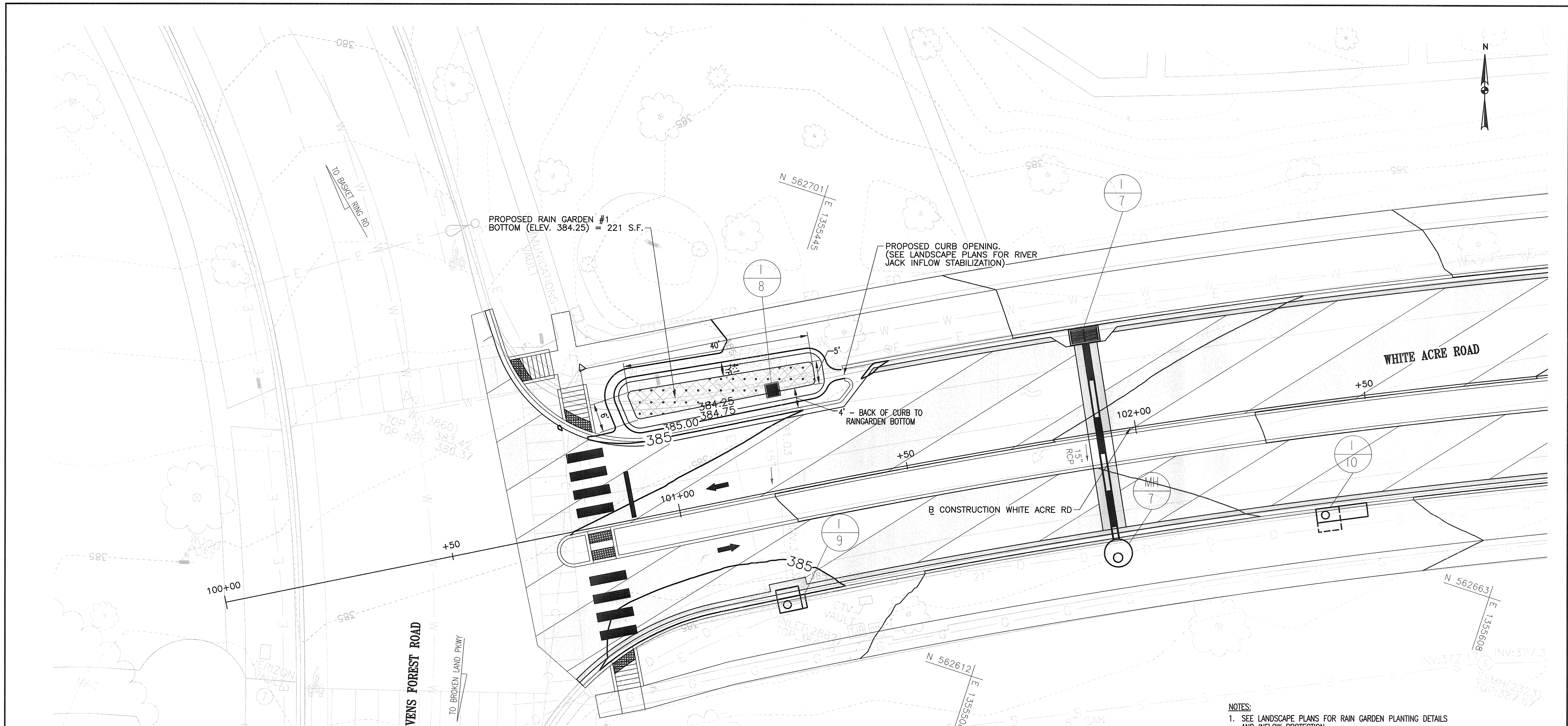
EROSION AND SEDIMENT CONTROL PLAN  
 ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
 WHITEACRE ROAD COMPLETE STREET  
 ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

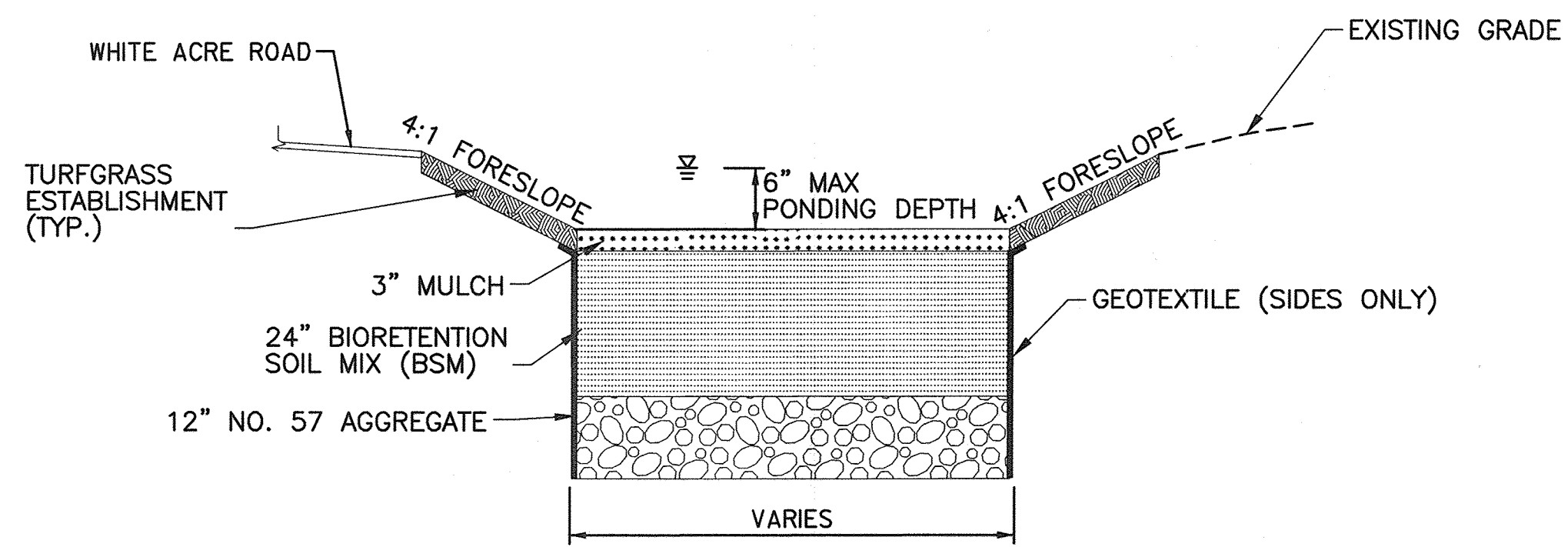


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 15 OF 29





**RAIN GARDEN 1**  
PLAN VIEW

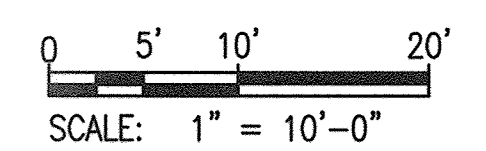


**RAIN GARDEN TYPICAL SECTION**

**NOTES:**  
1. SEE LANDSCAPE PLANS FOR RAIN GARDEN PLANTING DETAILS AND INFLOW PROTECTION.

**STORMWATER MAINTENANCE SCHEDULE**

PRACTICE	FREQUENCY OF INSPECTION	PREVENTIVE MAINTENANCE	MAINTENANCE REQUIREMENTS
RAIN GARDENS	SEASONALLY (AND AFTER A MAJOR STORM)	IF SPECIFIC PLANTS ARE NOT SURVIVING, REPLACE WITH MORE APPROPRIATE SPECIES.	IRRIGATE DURING PROLONGED DRY PERIODS.
			REMOVE ANY DEAD OR DYING VEGETATION AND REVEGETATE.
			PRUNE VEGETATION OCCASIONALLY.
			REMOVE ACCUMULATED SEDIMENT FROM SURFACE OF BED AS NEEDED.
			IF WATER PONDS FOR MORE THAN 48 HOURS, REMOVE AND REPLACE THE TOP FEW INCHES OF PLANTING SOIL.



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HOWARD COUNTY, MARYLAND.

*James E. Smith* 10/16/2018  
DIRECTOR OF PUBLIC WORKS DATE

*David* 10/16/2018  
CHIEF, BUREAU OF HIGHWAYS DATE

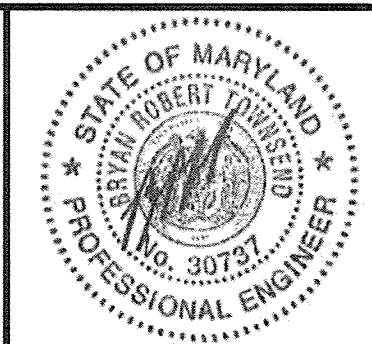
*Thomas E. Smith* 10/16/2018  
CHIEF, BUREAU OF ENGINEERING DATE

*Bradley* 10/16/2018  
CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIV. DATE

PREPARED BY:

**WRA**

**Whitman, Reardon & Associates, LLP**  
801 South Caroline Street, Baltimore, Maryland 21231



DES: KDV  
DRN: KDV  
CHK: JDC  
DATE: 10/02/18

BY	NO.	REVISION	DATE

STORMWATER MANAGEMENT PLAN

ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
WHITEACRE ROAD COMPLETE STREET

ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

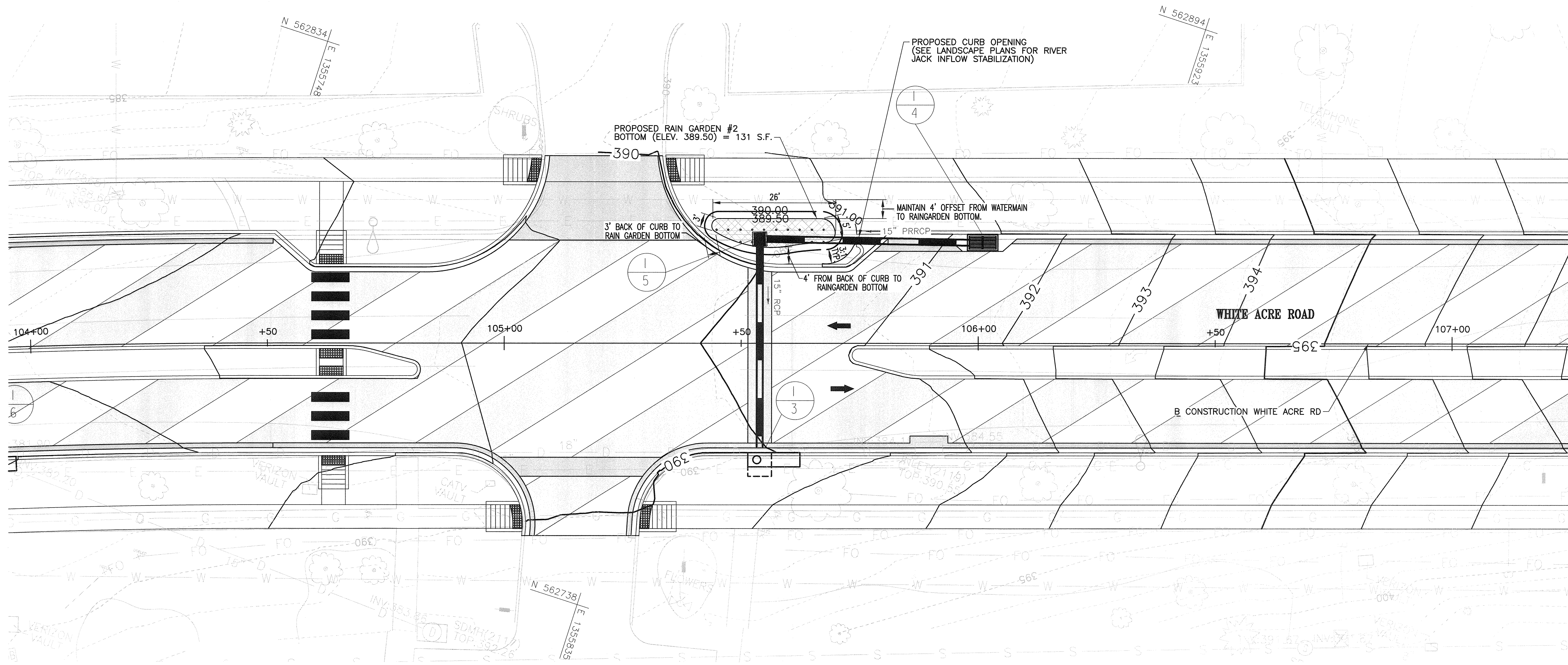
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16 of 29

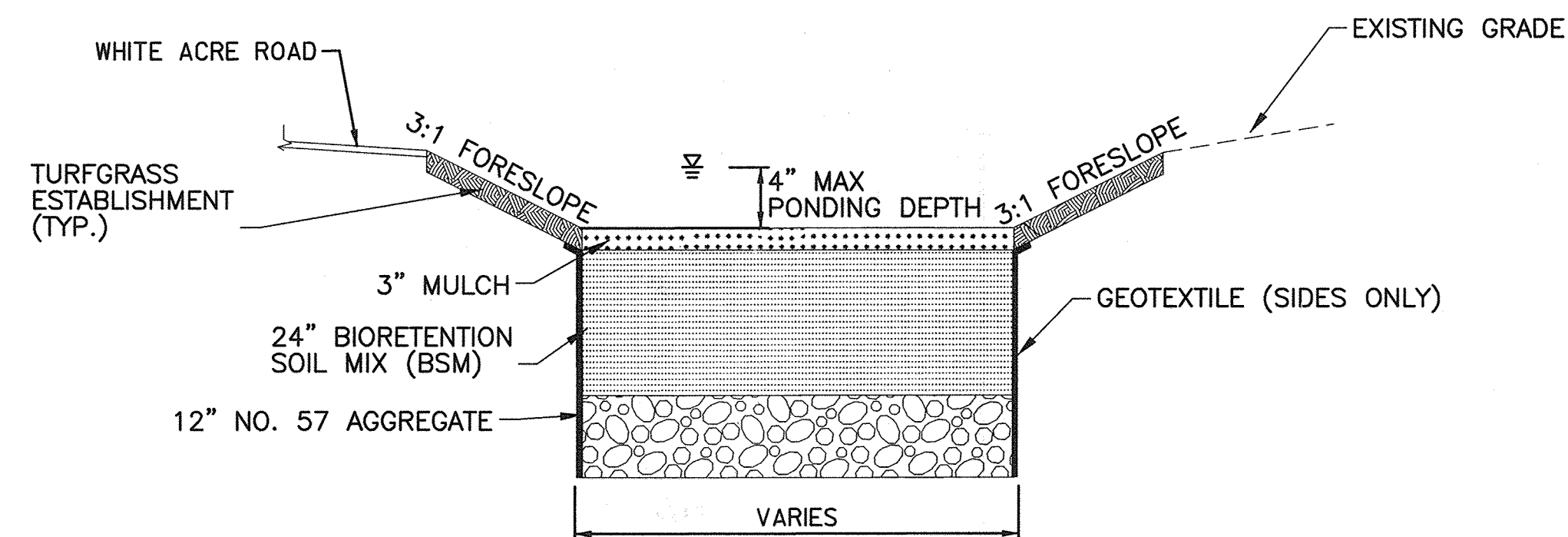
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10/2/2018





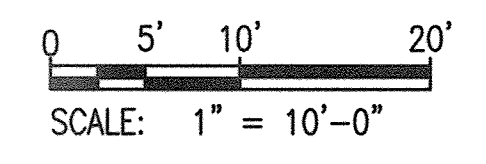
NOTES:  
1. SEE LANDSCAPE PLANS FOR RAIN GARDEN PLANTING DETAILS AND INFLOW PROTECTION.

**RAIN GARDEN 2**  
PLAN VIEW



**RAIN GARDEN TYPICAL SECTION**

STORMWATER MAINTENANCE SCHEDULE			
PRACTICE	FREQUENCY OF INSPECTION	PREVENTIVE MAINTENANCE	MAINTENANCE REQUIREMENTS
RAIN GARDENS	SEASONALLY (AND AFTER A MAJOR STORM)	IF SPECIFIC PLANTS ARE NOT SURVIVING, REPLACE WITH MORE APPROPRIATE SPECIES.	IRRIGATE DURING PROLONGED DRY PERIODS.
			REMOVE ANY DEAD OR DYING VEGETATION AND REVEGETATE.
			PRUNE VEGETATION OCCASIONALLY.
			REMOVE ACCUMULATED SEDIMENT FROM SURFACE OF BED AS NEEDED.
			IF WATER PONDS FOR MORE THAN 48 HOURS, REMOVE AND REPLACE THE TOP FEW INCHES OF PLANTING SOIL.



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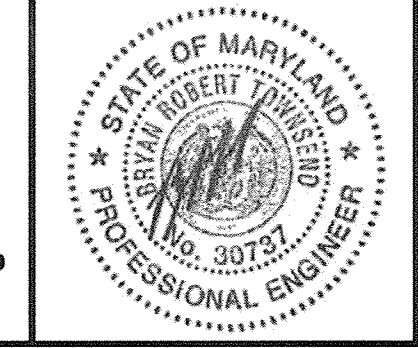
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

Director of Public Works: *James M. White* DATE: 10/16/2018  
 Chief, Bureau of Highways: *David* DATE: 10/16/2018

Chief, Bureau of Engineering: *Morgan & Suttler 10/22/18* DATE: 10/22/2018  
 Chief, Transportation & Special Projects Div.: *Bradley* DATE: 10/14/18

PREPARED BY:  
**WRA**  
Whitman, Reardon & Associates, LLP  
801 South Caroline Street, Baltimore, Maryland 21231



DES:	KDV		
DRN:	KDV		
CHK:	JDC		
DATE:	10/02/18		
BY:	NO.	REVISION	DATE

STORMWATER MANAGEMENT PLAN

ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
WHITEACRE ROAD COMPLETE STREET

ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

SCALE  
1"=10'

SHEET  
17 OF 29

R:\31760-011\CADD\31760011-SW02.dgn 10/2/2018



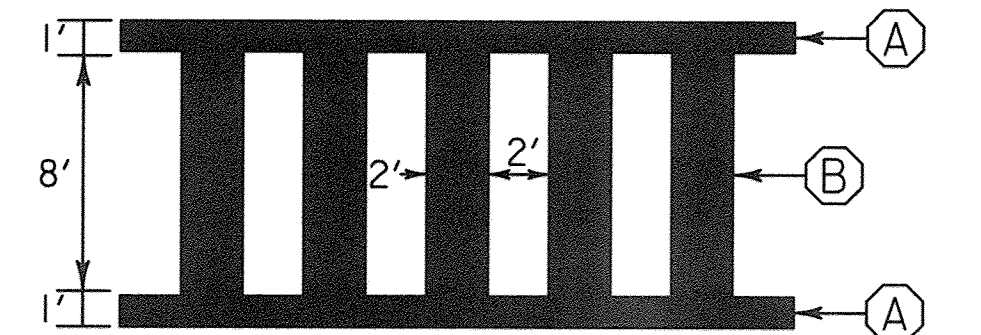
**SIGN LEGEND**

- EXISTING GROUND MOUNTED SIGN AND SUPPORT(S)
- ◊ PROPOSED GROUND MOUNTED SIGN AND SUPPORT(S)
- \* NEW SIGN TO BE INSTALLED ON EXISTING POST
- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- ➔ TRAFFIC FLOW ARROW

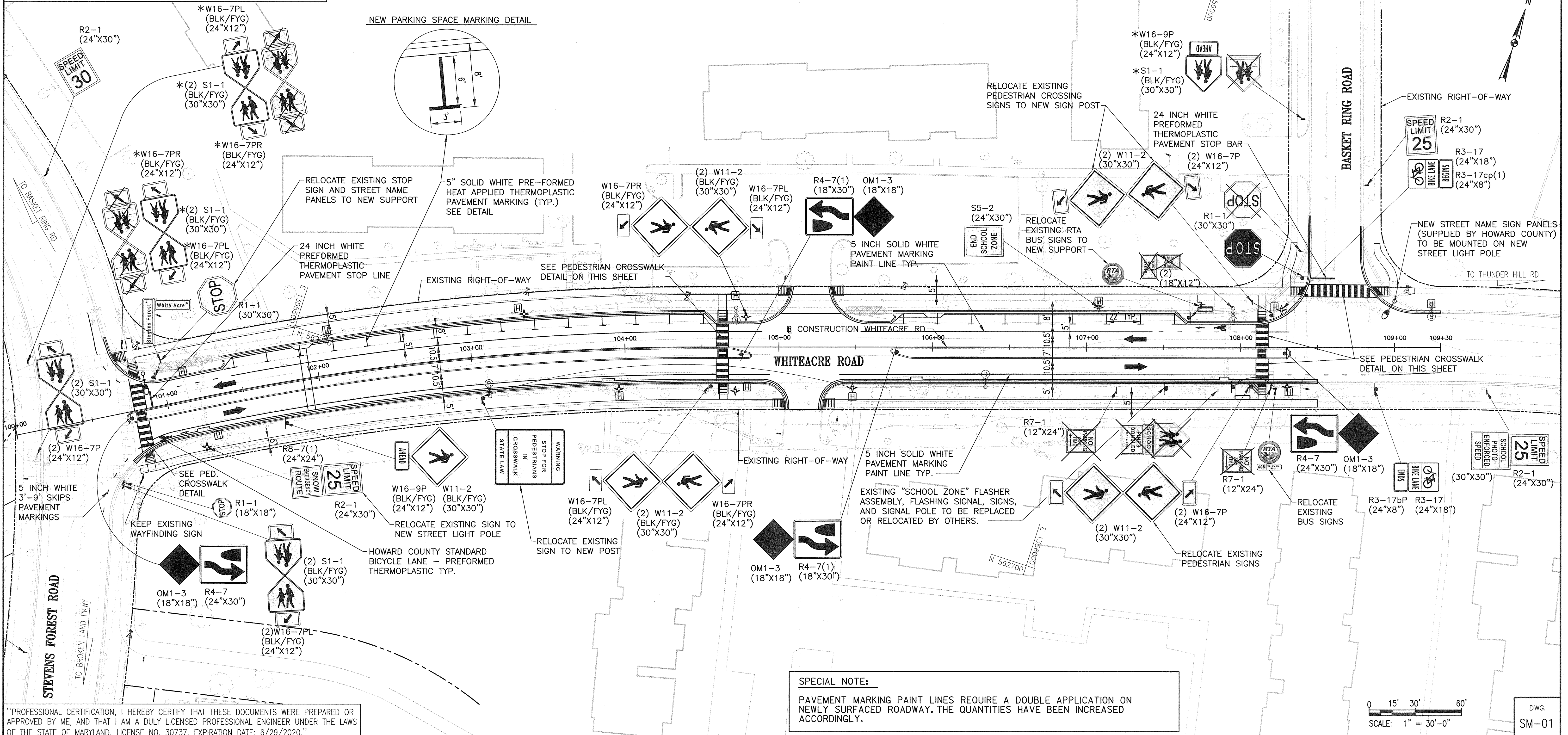
**GENERAL NOTES:**

1. ALL SIGNS ON HOWARD COUNTY PLANS SHALL BE FABRICATED OF ASTM TYPE IV RETROREFLECTIVE SHEETING LEGENDS AND BACKGROUNDS, EXCEPT WHERE FLOURESCENT YELLOW-GREEN IS SPECIFIED, WHICH SHALL BE ASTM TYPE IX/XI. ALL BLACK LEGEND SHALL BE NON-REFLECTIVE BLACK.
2. ANY EXISTING PAVEMENT MARKINGS IN CONFLICT WITH PROPOSED MARKINGS SHALL BE REMOVED BY GRINDING AS DIRECTED BY THE ENGINEER.
3. R4-7 KEEP RIGHT (SYMBOL) SIGNS SHALL BE INSTALLED AT 15 DEGREE ANGLE, AS SHOWN, WITH LINE OF MAJOR STREET TRAFFIC TO BE MORE VISIBLE TO LEFT-TURNING MOTORISTS FROM SIDE STREETS/ENTRANCES AND SETBACK FROM MEDIAN A MINIMUM OF 6 FT.
4. ALL SIGN LOCATIONS ALONG HOWARD COUNTY ROADWAYS AS SHOWN ON THESE PLANS ARE APPROXIMATE AND MUST BE APPROVED IN THE FIELD BY HOWARD COUNTY TRAFFIC DIVISION PRIOR TO THE INSTALLATION OF ANY SIGNS. ALL PAVEMENT MARKING LOCATIONS AS SHOWN ON THESE PLANS SHALL BE LAID-OUT IN THE FIELD BY THE HOWARD COUNTY TRAFFIC DIVISION PRIOR TO THE INSTALLATION OF ANY MARKINGS. CONTACT NUMBER: 410-313-5752.
5. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN HOWARD COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED ("QUICK PUNCH" TYPE), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
6. ALL OBJECT MARKERS SHALL BE MOUNTED 3'-0" FROM THE CENTER OF THE OBJECT MARKER, MEASURED VERTICALLY, TO THE ELEVATION OF THE NEAR EDGE OF THE TRAVELED WAY.
7. FOR TEMPORARY IMPACTS TO BUS ROUTES/BUS STOPS AND RELOCATION OF EXISTING RTA BUS STOP SIGNS, CONTACT ANDREW JOHNSON (ASSISTANT GENERAL MANAGER OF OPERATIONS) AT 301-300-9006
8. HOWARD COUNTY WILL SUPPLY ALL STREET NAME SIGN PANELS

**PREFORMED THERMOPLASTIC PEDESTRIAN CROSSWALK DETAIL**



- (A) 12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
- (B) 24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES



**SPECIAL NOTE:**  
PAVEMENT MARKING PAINT LINES REQUIRE A DOUBLE APPLICATION ON NEWLY SURFACED ROADWAY. THE QUANTITIES HAVE BEEN INCREASED ACCORDINGLY.

"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. 30737, EXPIRATION DATE: 6/29/2020."

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.  
10/16/2018  
10/16/2018

PREPARED BY:  
**WRA**  
Whitman, Reardon & Associates, LLP  
801 South Caroline Street, Baltimore, Maryland 21231

STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
30737

DES:	DTB				
DRN:	AAT				
CHK:	JMM				
DATE:	10/10/18				
BY:		NO.		REVISION	

SIGNING AND MARKING PLAN  
ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
WHITEACRE ROAD COMPLETE STREET  
ELECTION DISTRICT 6  
HOWARD COUNTY, MARYLAND

DWG.  
SM-01  
SCALE  
1"=30'  
SHEET  
18 OF 29



**WORK ZONE TRAFFIC CONTROL PLAN GENERAL NOTES / WORK RESTRICTIONS**

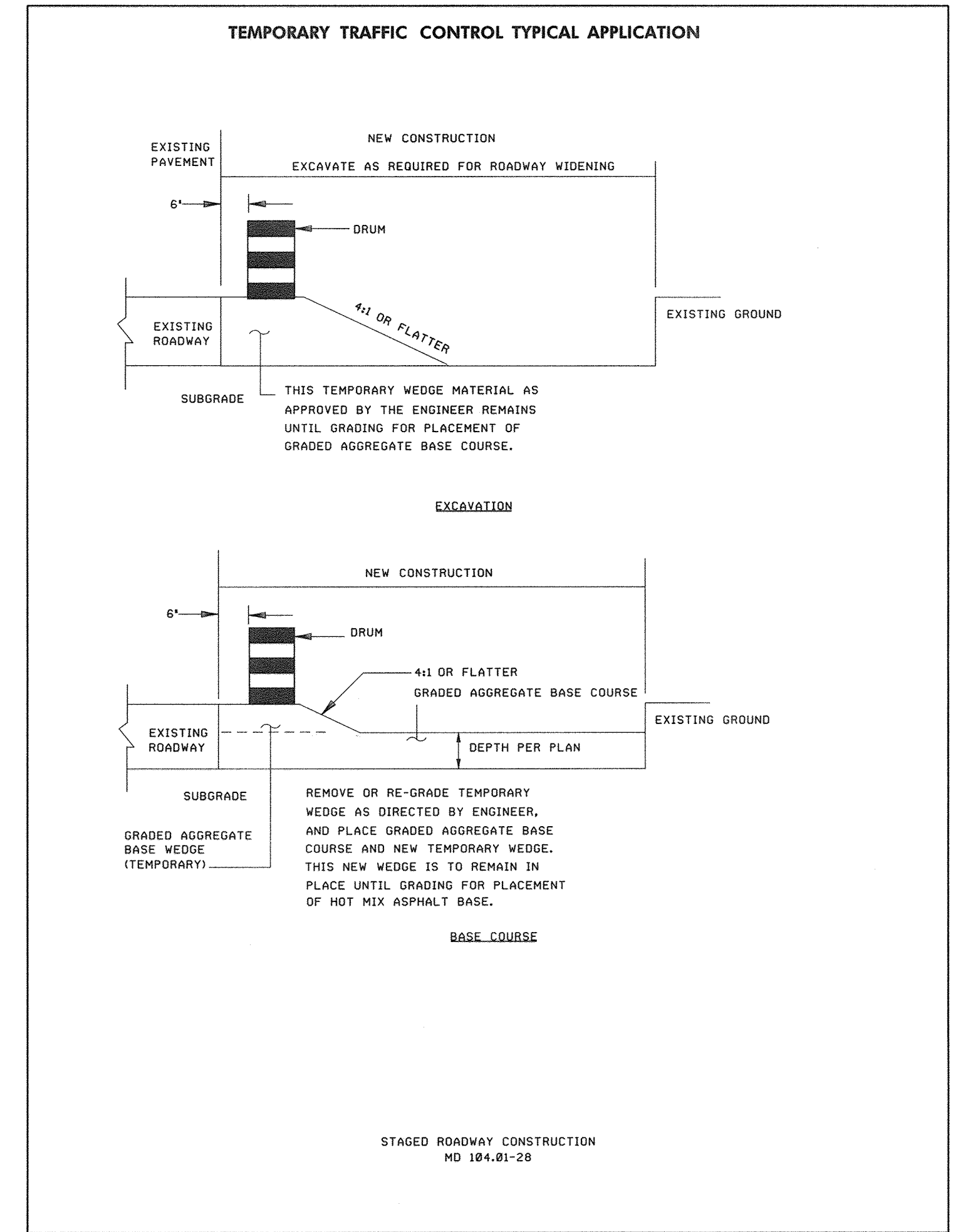
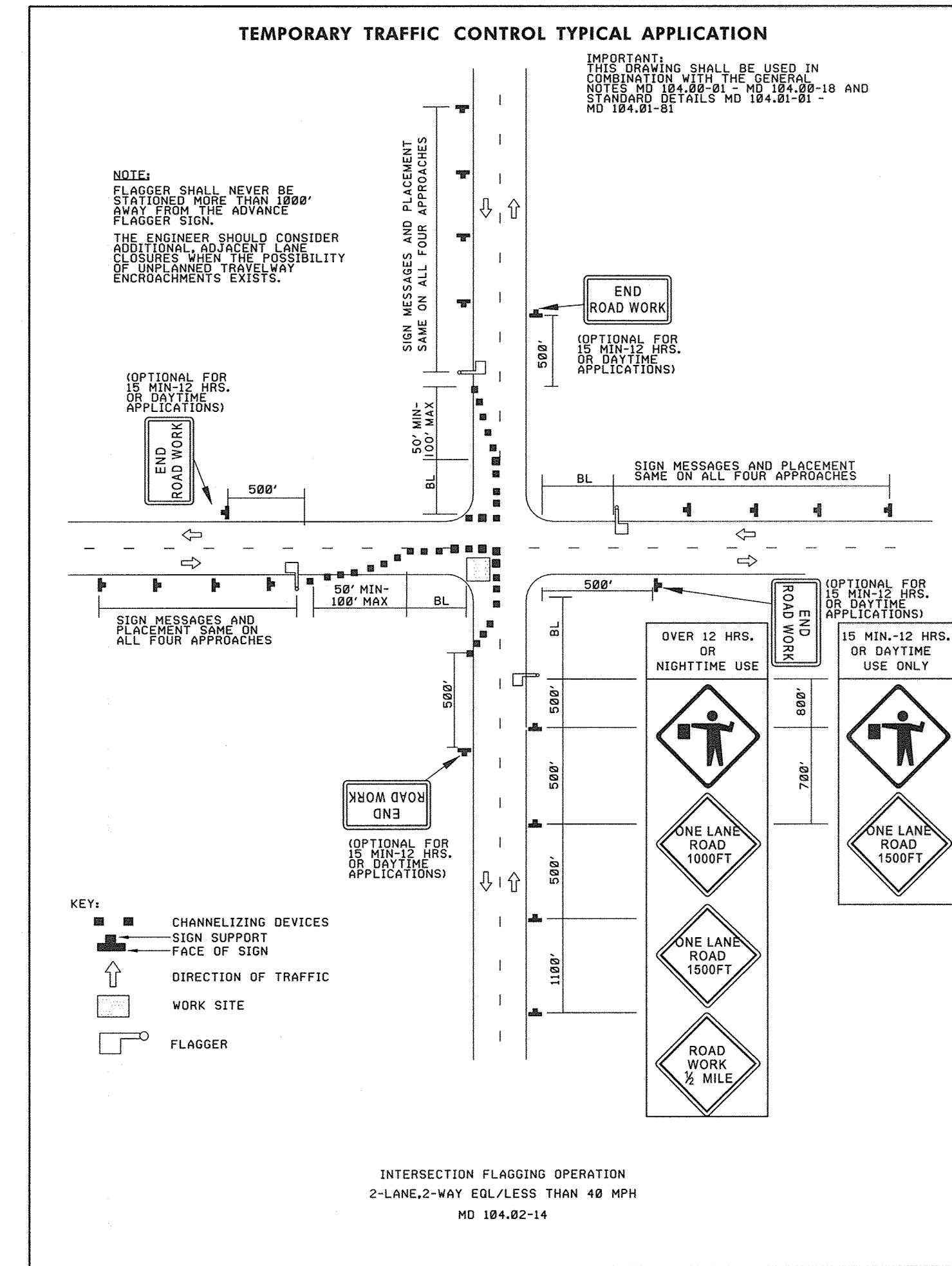
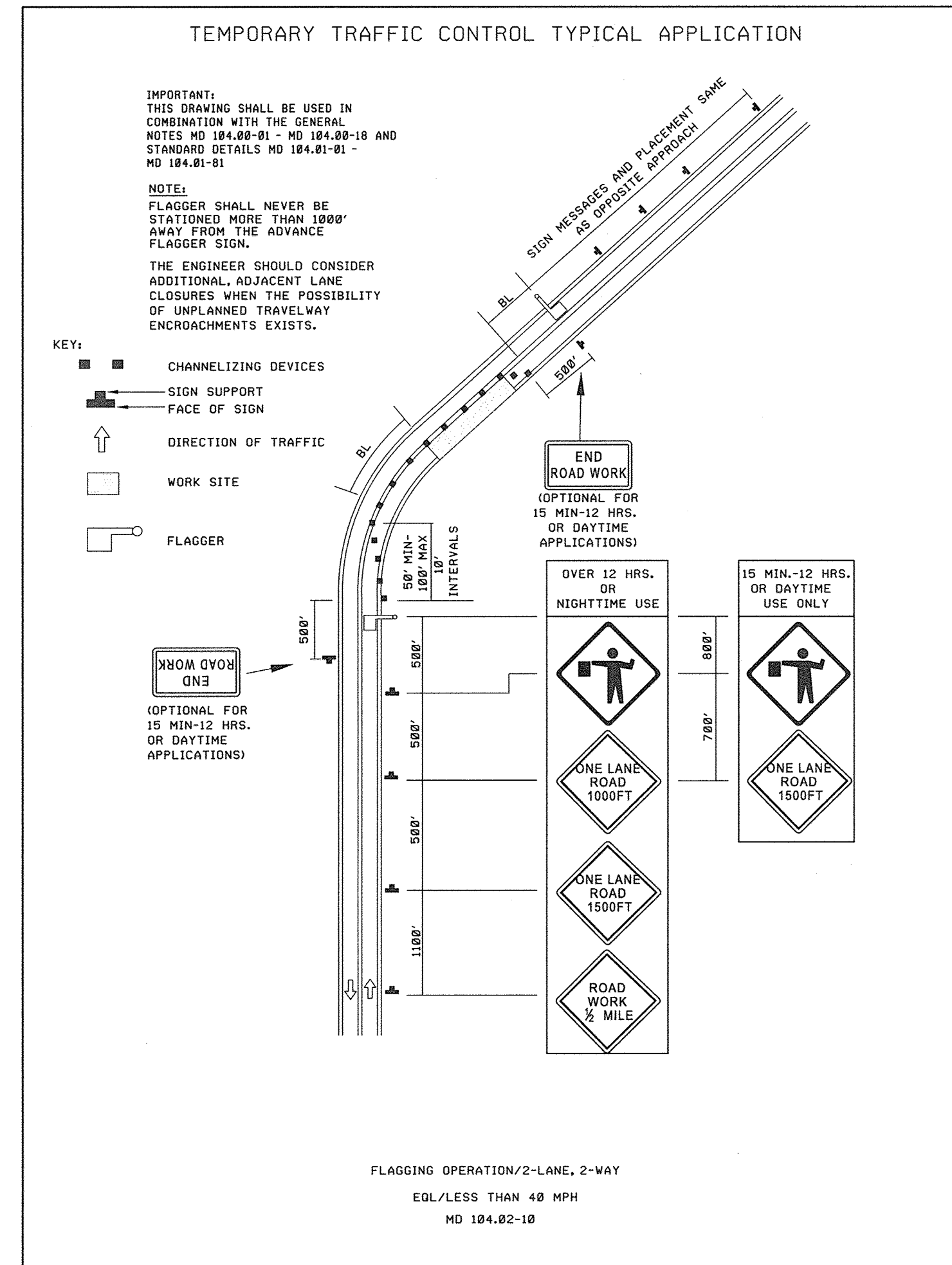
- ALL WORK SHALL BE CONDUCTED IN ACCORDANCE WITH THE LATEST VERSION OF THE MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION'S (MDOT SHA) BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES AND MSHA'S MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MDMUTCD).
- EXISTING TRAFFIC SIGNS IN CONFLICT WITH THE WORK ZONE TRAFFIC CONTROL PLANS SHALL BE COVERED. TEMPORARY TRAFFIC SIGNS SHALL BE INSTALLED ONLY AS NECESSARY FOR EACH INDIVIDUAL PHASE OF CONSTRUCTION, WITH SIGNS RELOCATED AS APPLICABLE BETWEEN SEPARATE STAGES.
- ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THE CURRENT TRAFFIC CONTROL PHASE SHALL BE REMOVED, AS DIRECTED BY THE ENGINEER.
- CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND MATERIAL FROM THE TRAVELED PORTION OF THE ROADWAY. ALSO, EQUIPMENT AND MATERIALS SHOULD NOT BE STORED IN SUCH A MANNER AS TO OBSTRUCT SIGHT DISTANCE AT ANY INTERSECTING ROAD.
- WHEN FLAGGING IS NECESSARY DURING THE SAWCUTTING PROCESS, REFERENCE MD STD. 104.02-10 AND MD STD. 104.02-14.
- ALL OPEN EXCAVATIONS AND TRENCHES SHALL BE PLATED AT THE END OF EACH WORK DAY WITH W8-8(4) (36"x36") "STEEL PLATES" SIGNS DISPLAYED IN ADVANCE AND ALL EDGES OF PLATES SHALL HAVE COLD PATCH APPLIED.
- DROP-OFFS ADJACENT TO TRAVEL LANES IN EXCESS OF 2.5 INCHES SHALL BE CORRECTED AT THE END OF THE WORK DAY IN ACCORDANCE WITH SHA STD. MD 104.00-14 (PARAGRAPH 14) AND STD. NO. MD 104.01-28.
- WHEN HOWARD COUNTY PUBLIC SCHOOLS ARE IN SESSION, WORK SHALL ONLY BE PERMITTED DURING THE HOURS OF 9:00 AM TO 3:00 PM. WHEN SCHOOLS ARE NOT IN SESSION, WORK IS PERMITTED FROM 8:00 AM TO 4:00 PM.
- MAINTAIN ACCESS TO THE VERONA APARTMENTS AND SHADOW OAK CONDOMINIUM DRIVEWAYS AT ALL TIMES. STAGE CONSTRUCTION ACTIVITIES AND/OR MAINTAIN TRAFFIC WITH FLAGGING AS PER STD. NO. MD 104.02-14.
- MAINTAIN PEDESTRIAN ACCESS TO BUS STOPS AT ALL TIMES. FOR TEMPORARY IMPACTS TO BUS ROUTES /BUS STOPS AND RELOCATION OF EXISTING RTA BUS STOP SIGNS, CONTACT ANDREW JOHNSON (ASSISTANT GENERAL MANAGER OF OPERATIONS) AT 301-300-9006
- PEDESTRIAN ACCESS TO ALL PROPERTIES MUST BE MAINTAINED THROUGHOUT CONSTRUCTION. CRUSHER RUN CR-6 AND HMA FOR MAINTENANCE OF TRAFFIC SHALL BE UTILIZED TO MAINTAIN PEDESTRIAN ACCESS TO PROPERTIES. WORK SHALL BE SEQUENCED TO MINIMIZE DISRUPTION TO PROPERTY OWNERS.
- THE CONTRACTOR SHALL MAINTAIN A MINIMUM FOUR FOOT (4') WIDE PEDESTRIAN FOOTWAY OR IMPLEMENT AN APPROPRIATE PEDESTRIAN DETOUR WHILE ACTIVELY WORKING IN THE SIDEWALK AREA IN ACCORDANCE WITH ADA GUIDELINES AND APPROPRIATE MDT SHA STANDARDS.

**MAINTENANCE OF TRAFFIC ACTIVITIES**

- STAGE 1**
- INSTALL TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THE PLANS. PROHIBIT PARKING ALONG SOUTH SIDE OF ROAD (ALL HOURS) AND NORTH SIDE OF ROAD (WORKING HOURS).
  - INSTALL TRAFFIC CONTROL DRUMS AS SHOWN ON THE PLANS DURING WORKING HOURS.
  - DURING NON-WORKING HOURS, SLIDE DRUMS TO EDGE OF WORK AREA AND MAINTAIN TWO-WAY TRAFFIC WITHIN EXISTING CONFIGURATION/MARKINGS.
- STAGE 2**
- REMOVE THE TRAFFIC CONTROL DEVICES UTILIZED IN STAGE 1 THAT ARE NOT APPLICABLE TO STAGE 2.
  - INSTALL TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THE PLANS. PROHIBIT PARKING ALONG BOTH SIDES OF ROAD (ALL HOURS).
  - INSTALL TRAFFIC CONTROL DRUMS AS SHOWN ON THE PLANS DURING WORKING HOURS.
  - DURING NON-WORKING HOURS, SLIDE DRUMS TO EDGE OF WORK AREA AND MAINTAIN TWO-WAY TRAFFIC WITHIN EXISTING CONFIGURATION/MARKINGS.
- STAGE 3**
- REMOVE THE TRAFFIC CONTROL DEVICES UTILIZED IN STAGE 2 THAT ARE NOT APPLICABLE TO STAGE 3.
  - INSTALL TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THE PLANS. PROHIBIT PARKING ALONG SOUTH SIDE OF WHITE ACRE ROAD (ALL HOURS).
  - INSTALL TRAFFIC CONTROL DRUMS AS SHOWN ON THE PLANS.
- WORKING HOURS:**  
 -MAINTAIN TWO-WAY TRAFFIC AT INTERSECTION BUMP-OUT WORK AREAS PER MSHA STD NO. MD 104.02-10.  
 -ALONG TANGENT SECTIONS, MAINTAIN TRAFFIC ALONGSIDE OF ROAD BEING WORKED ON BY SHIFTING TRAFFIC LEFT PER THE "LANE SHIFT LEFT" SIDE/PORTION OF MSHA STD NO. MD 104.02-06.
- NON-WORKING HOURS:**  
 -MAINTAIN TWO-WAY TRAFFIC PER MSHA STD NO. MD 104.02-02

**CONSTRUCTION ACTIVITIES**

- STAGE 1**
- SAWCUT 1' OFF OF PROPOSED EDGE OF GUTTER PAN ALONG SOUTH SIDE OF WHITEACRE RD.
  - REMOVE EXISTING CURB AND GUTTER ALONG SOUTH SIDE OF WHITEACRE RD.
  - INSTALL NEW STORM DRAIN INLETS ALONG SOUTH CURB LINE
  - CONSTRUCT NEW CURB AND GUTTER AND PATCH PAVEMENT AS SHOWN ON TS-01.
  - CONSTRUCT 4 INCH SIDEWALK AND RAMPS ALONG SOUTH SIDE OF WHITEACRE RD.
- STAGE 2**
- SAWCUT 1' OFF OF PROPOSED EDGE OF GUTTER PAN ALONG NORTH SIDE OF WHITEACRE RD.
  - WHERE BUMP-OUTS ARE PROPOSED, SAW CUT ALONG EDGE OF GUTTER PAN.
  - REMOVE EXISTING CURB AND GUTTER ALONG NORTH SIDE.
  - REMOVE EXISTING PAVEMENT WHERE BUMP-OUTS ARE TO BE CONSTRUCTED.
  - CONSTRUCT NEW CURB AND GUTTER AND PATCH PAVEMENT AS SHOWN ON TS-01.
  - INSTALL NEW STORM DRAINS AND INLETS
  - INSTALL LIGHTING CONDUIT AND HANDBOXES ALONG THE NORTH SIDE OF WHITEACRE RD.
  - CONSTRUCT RAIN GARDENS IN BUMP-OUT AREAS
  - CONSTRUCT 4 INCH SIDEWALK AND RAMPS ALONG NORTH SIDE OF WHITEACRE RD.
- STAGE 3**
- SAWCUT ALONG FLOW LINE FOR PROPOSED MEDIANS.
  - REMOVE EXISTING PAVEMENT WHERE MEDIANS ARE TO BE CONSTRUCTED.
  - CONSTRUCT MEDIAN CURB.
  - CONSTRUCT 4 INCH SIDEWALK AND RAMPS THRU MEDIAN (HoCo. STD NO. R-4.06).
  - MILL AND OVERLAY PAVEMENT AS SHOWN ON PLANS.
  - INSTALL PERMANENT SIGNING, MARKINGS, AND LANDSCAPING.

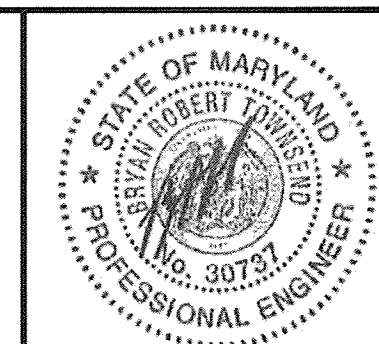


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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND.

Director of Public Works: *James E. Butler* 10/16/2018  
 Chief, Bureau of Engineering: *David* 10/16/2018  
 Chief, Bureau of Highways: *David* 10/16/2018  
 Chief, Transportation & Special Projects Div.: *David* 10/16/2018

PREPARED BY:  
**WRA**  
 Whitman, Reardon & Associates, LLP  
 801 South Caroline Street, Baltimore, Maryland 21231



DES:	DTB				
DRN:	DTB				
CHK:	JM				
DATE:	10/10/18				
BY:		NO.		REVISION	DATE

MAINTENANCE OF TRAFFIC  
 NOTES AND STANDARDS

ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
 WHITEACRE ROAD COMPLETE STREET

ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

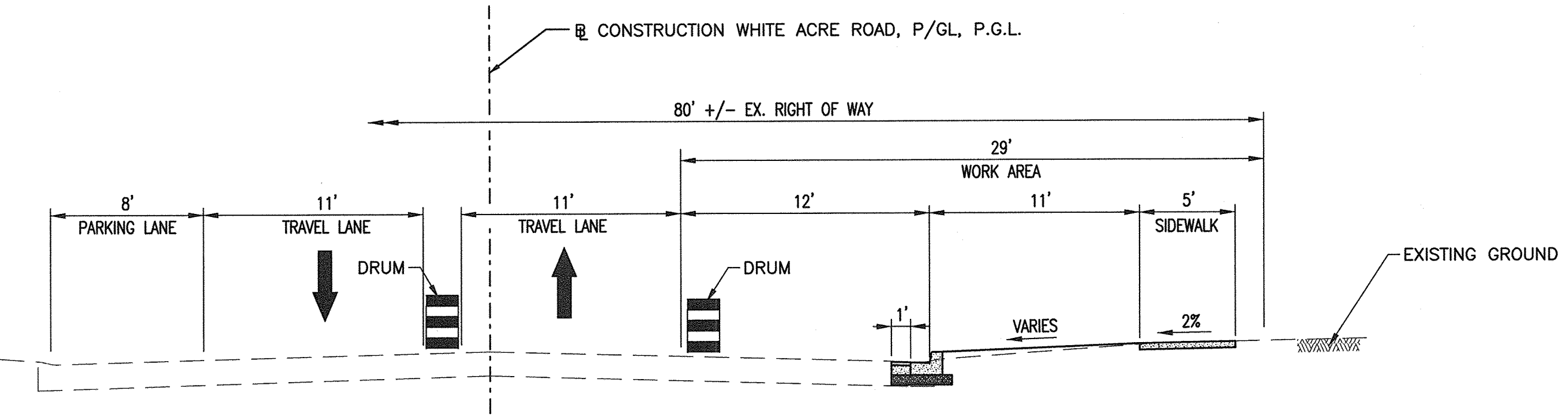
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 MOT-01

SCALE  
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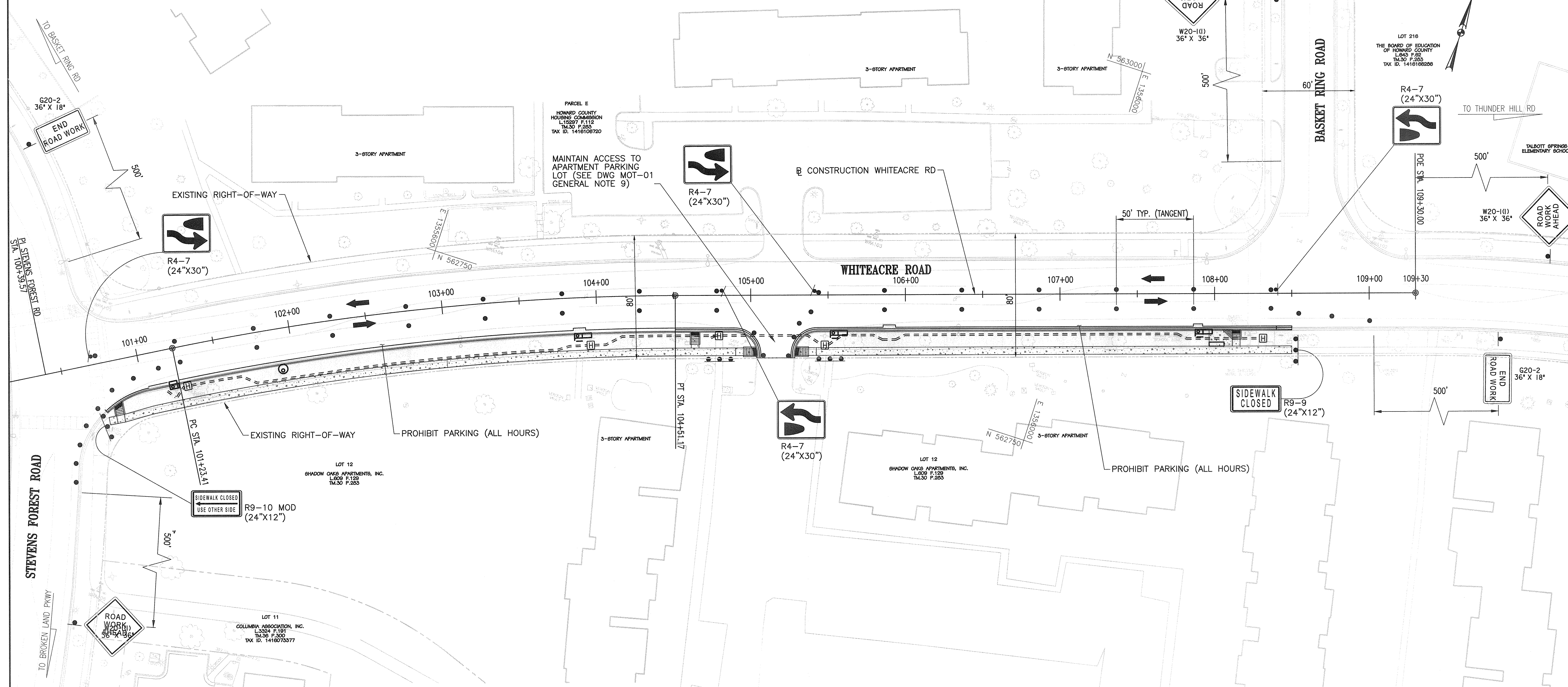
SHEET  
 19 OF 29



MOT LEGEND	
	TEMPORARY SIGN AND SUPPORT
	DRUM
	WORK AREA
	REMOVE EX. PVMT
	SIDEWALK
	TYPE III BARRICADE

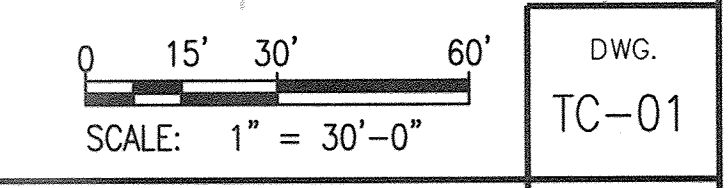


**WHITEACRE ROAD - MOT STAGE 1 (WORKING HOURS)**



- NOTES:**
- DURING NON-WORKING HOURS SLIDE DRUMS TO EDGE OF WORK AREA. MAINTAIN TWO-WAY TRAFFIC WITHIN EXISTING CONFIGURATION/MARKINGS.
  - RELOCATE BUS STOPS DURING CONSTRUCTION AND MAINTAIN PEDESTRIAN ACCESS TO BUS STOP AT ALL TIMES.

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RA:31700-011\CADD\31700011-TC01.dgn 10/10/2018

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

*James W. 10/16/2018* 10/16/2018  
DIRECTOR OF PUBLIC WORKS DATE

*David* 10/16/2018  
CHIEF, BUREAU OF HIGHWAYS DATE

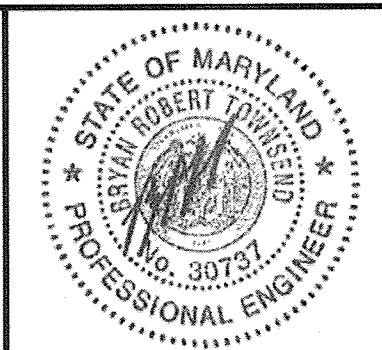
*Thomas B. 10/22/18* 10/22/18  
CHIEF, BUREAU OF ENGINEERING DATE

*Brad* 10/16/2018  
CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIV. DATE

PREPARED BY:

**WRA**

**Whitman, Requardt & Associates, LLP**  
801 South Caroline Street, Baltimore, Maryland 21231



DES:	DTB				
DRN:	DTB				
CHK:	JM				
DATE:	10/10/18	BY:	NO.	REVISION	DATE

MAINTENANCE OF TRAFFIC  
STAGE 1

ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
WHITEACRE ROAD COMPLETE STREET

ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

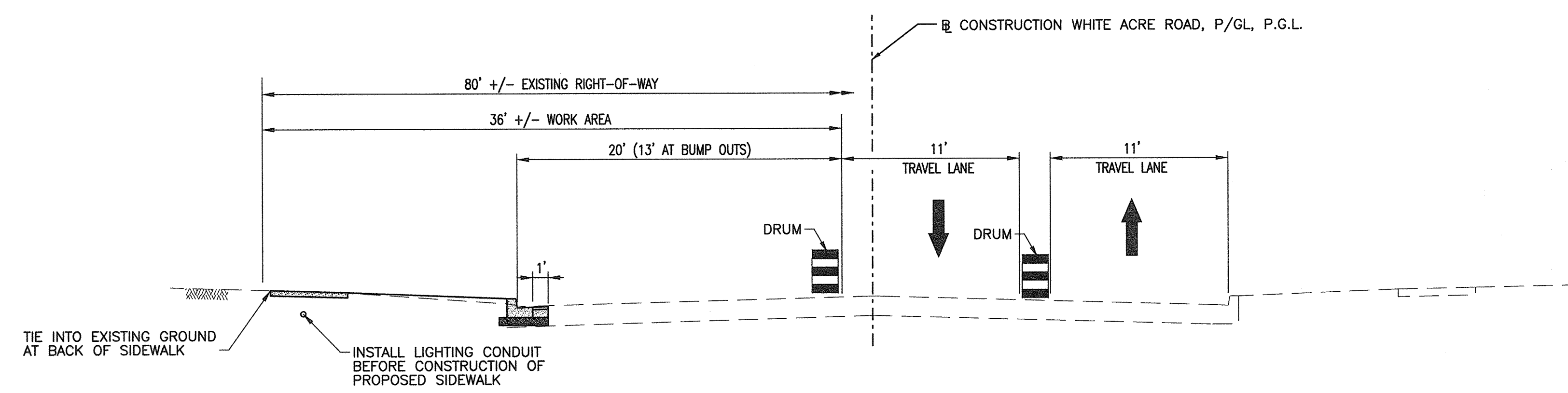
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TC-01

SCALE  
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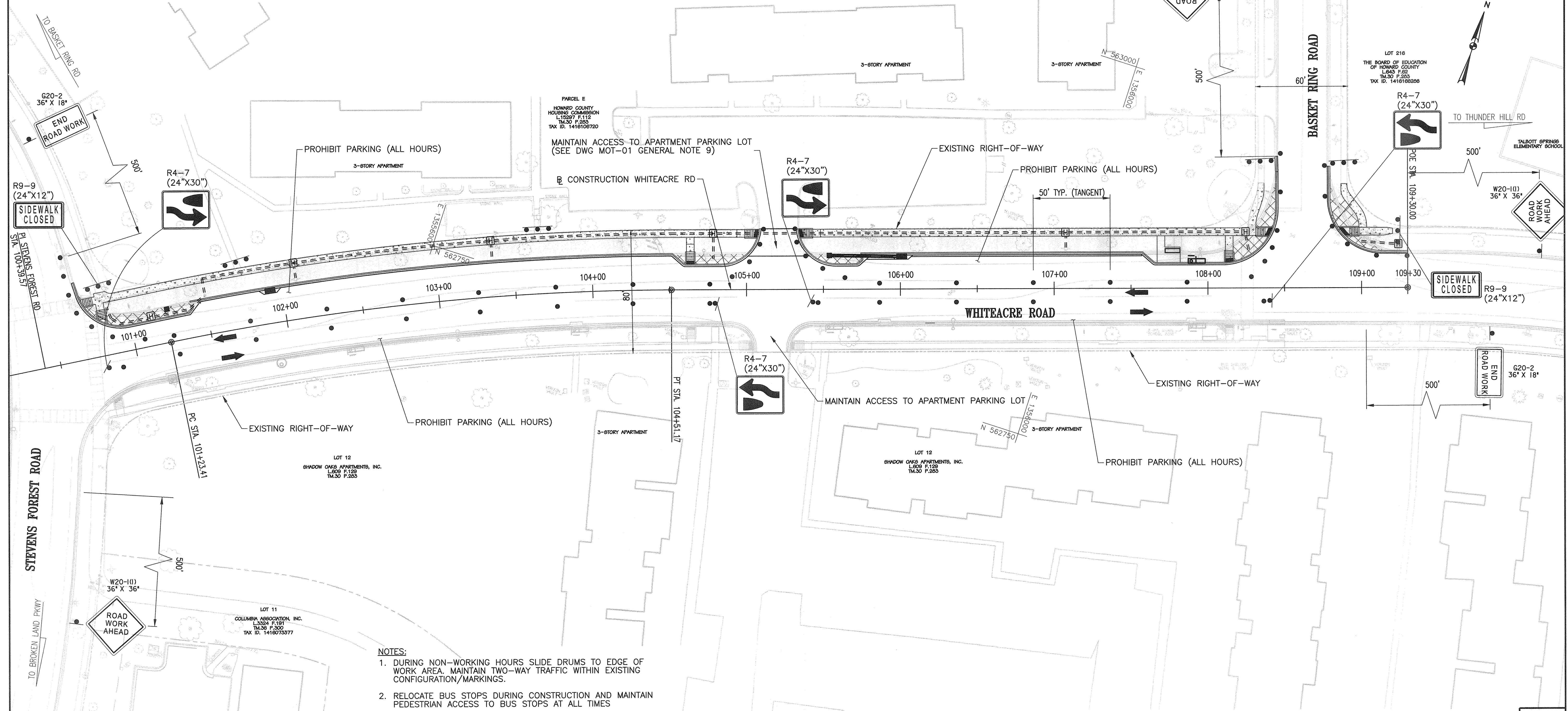
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20 OF 29



MOT LEGEND	
	TEMPORARY SIGN AND SUPPORT
	DRUM
	WORK AREA
	REMOVE EX. PVMT
	SIDEWALK
	TYPE III BARRICADE

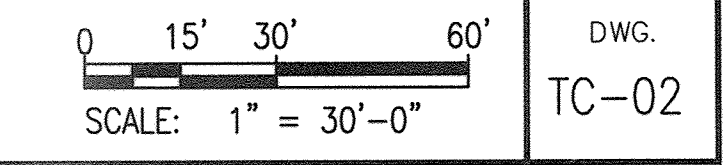


**WHITEACRE ROAD - MOT STAGE 2 (WORKING HOURS)**



- NOTES:**
1. DURING NON-WORKING HOURS SLIDE DRUMS TO EDGE OF WORK AREA. MAINTAIN TWO-WAY TRAFFIC WITHIN EXISTING CONFIGURATION/MARKINGS.
  2. RELOCATE BUS STOPS DURING CONSTRUCTION AND MAINTAIN PEDESTRIAN ACCESS TO BUS STOPS AT ALL TIMES
  3. CONTRACTOR SHALL COORDINATE LIGHTING CONDUIT INSTALLATION WITH HOWARD COUNTY ENGINEER BEFORE REPLACEMENT OF SIDEWALK ALONG NORTH SIDE OF WHITEACRE ROAD.

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

Director of Public Works: *Thomas G. Sullivan* 10/16/2018  
 Chief, Bureau of Engineering: *Thomas G. Sullivan* 10/16/2018

Chief, Bureau of Highways: *David* 10/16/2018  
 Chief, Transportation & Special Projects Div.: *David* 10/16/2018

PREPARED BY:

**Whitman, Requardt & Associates, LLP**  
801 South Caroline Street, Baltimore, Maryland 21231

DES:	DTB				
DRN:	DTB				
CHK:	JM				
DATE:	10/10/18	BY:	NO.	REVISION	DATE

MAINTENANCE OF TRAFFIC  
STAGE 2

ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
WHITEACRE ROAD COMPLETE STREET

ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

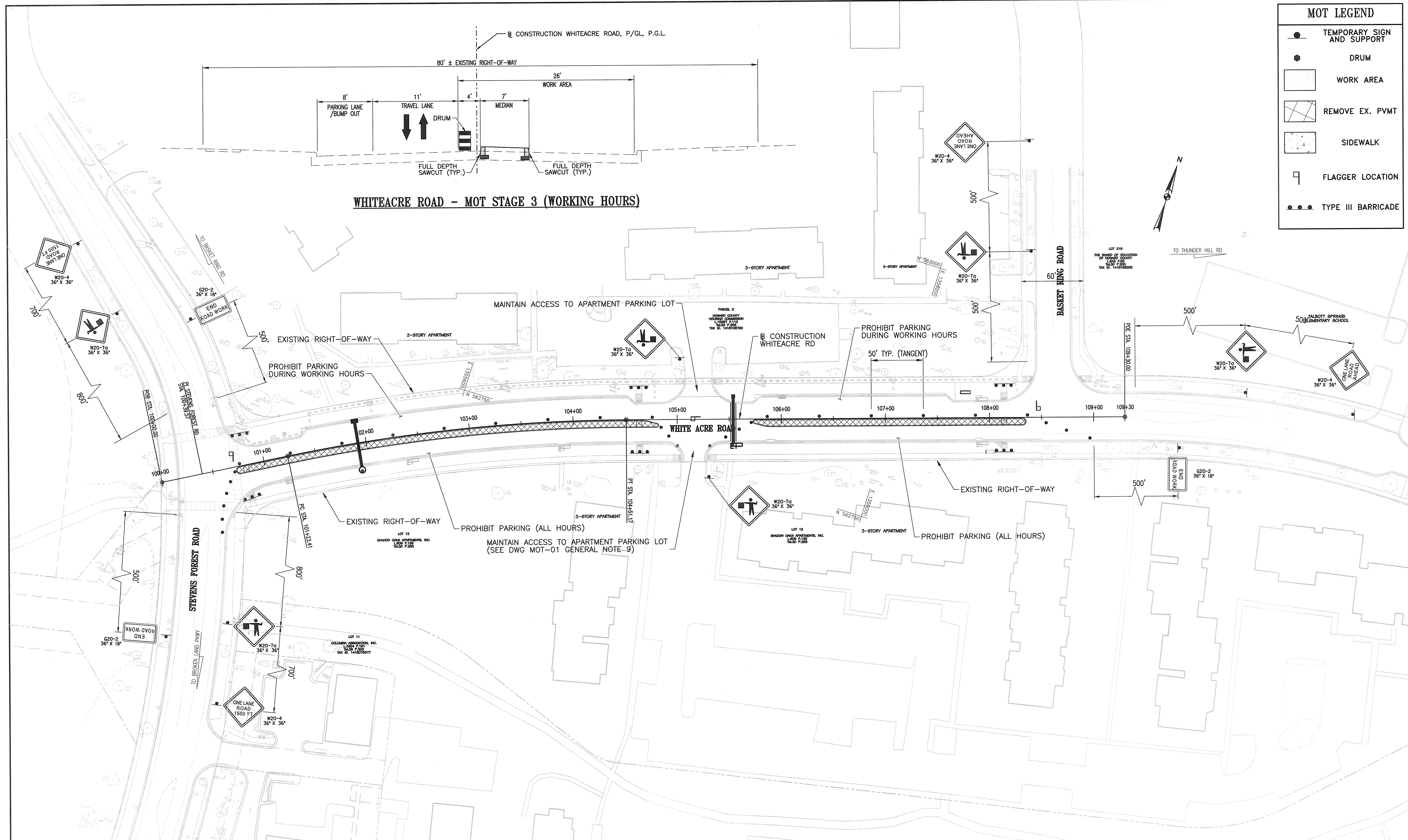
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SHEET 21 OF 29

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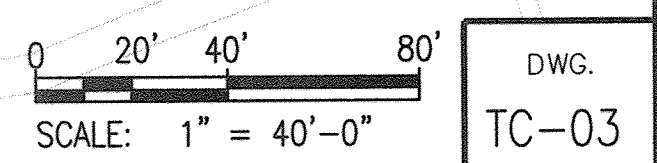


MOT LEGEND	
	TEMPORARY SIGN AND SUPPORT
	DRUM
	WORK AREA
	REMOVE EX. PVMT
	SIDEWALK
	FLAGGER LOCATION
	TYPE III BARRICADE

**WHITEACRE ROAD - MOT STAGE 3 (WORKING HOURS)**



- NOTES:**
- DURING NON-WORKING HOURS SLIDE DRUMS TO EDGE OF BOTH SIDES OF WORK AREA. MAINTAIN TWO-WAY TRAFFIC WITH MINIMUM 11' TRAVEL LANES IN ULTIMATE CONFIGURATION.

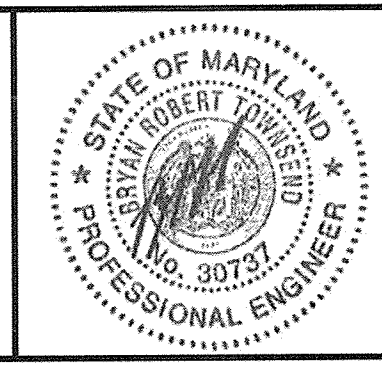


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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

Director of Public Works: *[Signature]* DATE: 10/16/2018  
 Chief, Bureau of Highways: *[Signature]* DATE: 10/16/2018  
 Chief, Bureau of Engineering: *[Signature]* DATE: 10/16/2018  
 Chief, Transportation & Special Projects Div.: *[Signature]* DATE: 10/16/2018

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MAINTENANCE OF TRAFFIC  
STAGE 3

ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
WHITEACRE ROAD COMPLETE STREET

ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

DWG. TC-03  
SCALE AS SHOWN  
SHEET 22 OF 29

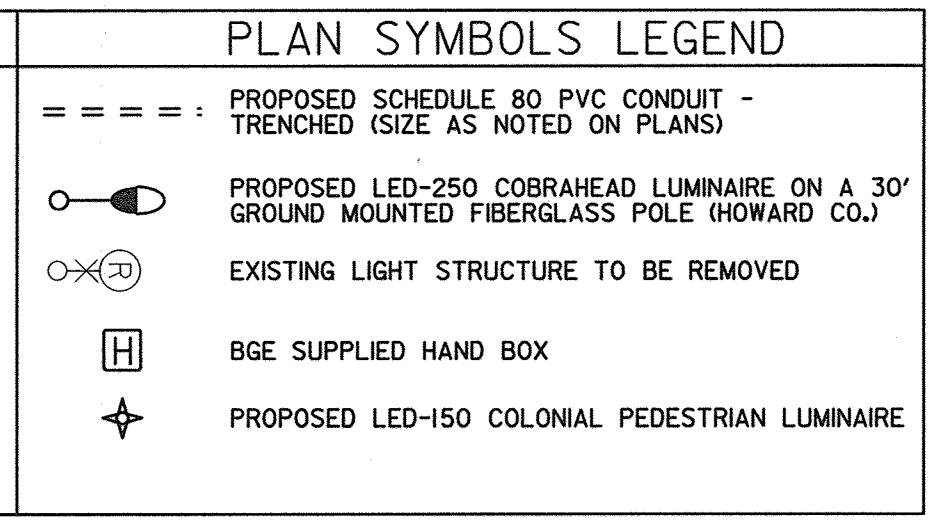
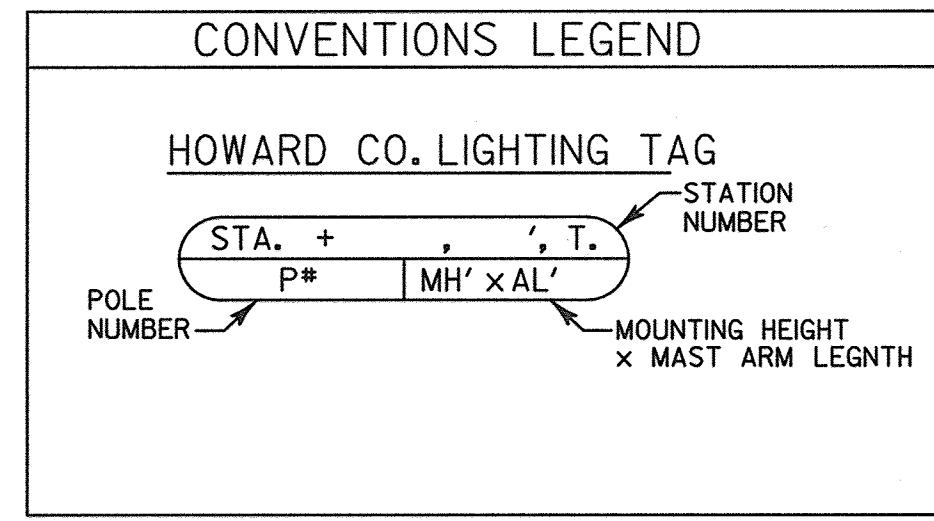
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POLE SCHEDULE - HOWARD COUNTY OWNED LIGHT POLES

POLE NUMBER	LED LAMP WATTAGE	TYPE OF POLE***	STATION & OFFSET**	REMARKS
P-101	150-W*	14' BLACK FIBERGLASS	101+19.6, 32.0' RT	
P-102	150-W*	14' BLACK FIBERGLASS	104+71.7, 28.5' RT	
P-103	250-W	30' BRONZE FIBERGLASS	109+00.0, 30.0' LT	12' LIGHTING ARM
P-104	150-W*	14' BLACK FIBERGLASS	108+30.1, 25.7' RT	
P-105	250-W	30' BRONZE FIBERGLASS	100+88.1, 22.6' LT	12' LIGHTING ARM
P-106	150-W*	14' BLACK FIBERGLASS	103+36.0, 25.4' LT	
P-107	150-W*	14' BLACK FIBERGLASS	104+78.6, 19.6' LT	
P-108	150-W*	14' BLACK FIBERGLASS	108+26.6, 24.5' LT	

\*LUMINAIRE TYPE: COLONIAL POST-TOP MOUNTED  
 \*\*POLE LOCATIONS AND OFFSETS ARE APPROXIMATE - HOWARD COUNTY TRAFFIC AND BGE WILL DETERMINE EXACT POLE LOCATIONS IN THE FIELD  
 \*\*\*LIGHT POLES AND FOUNDATIONS TO BE FURNISHED AND INSTALLED BY BGE

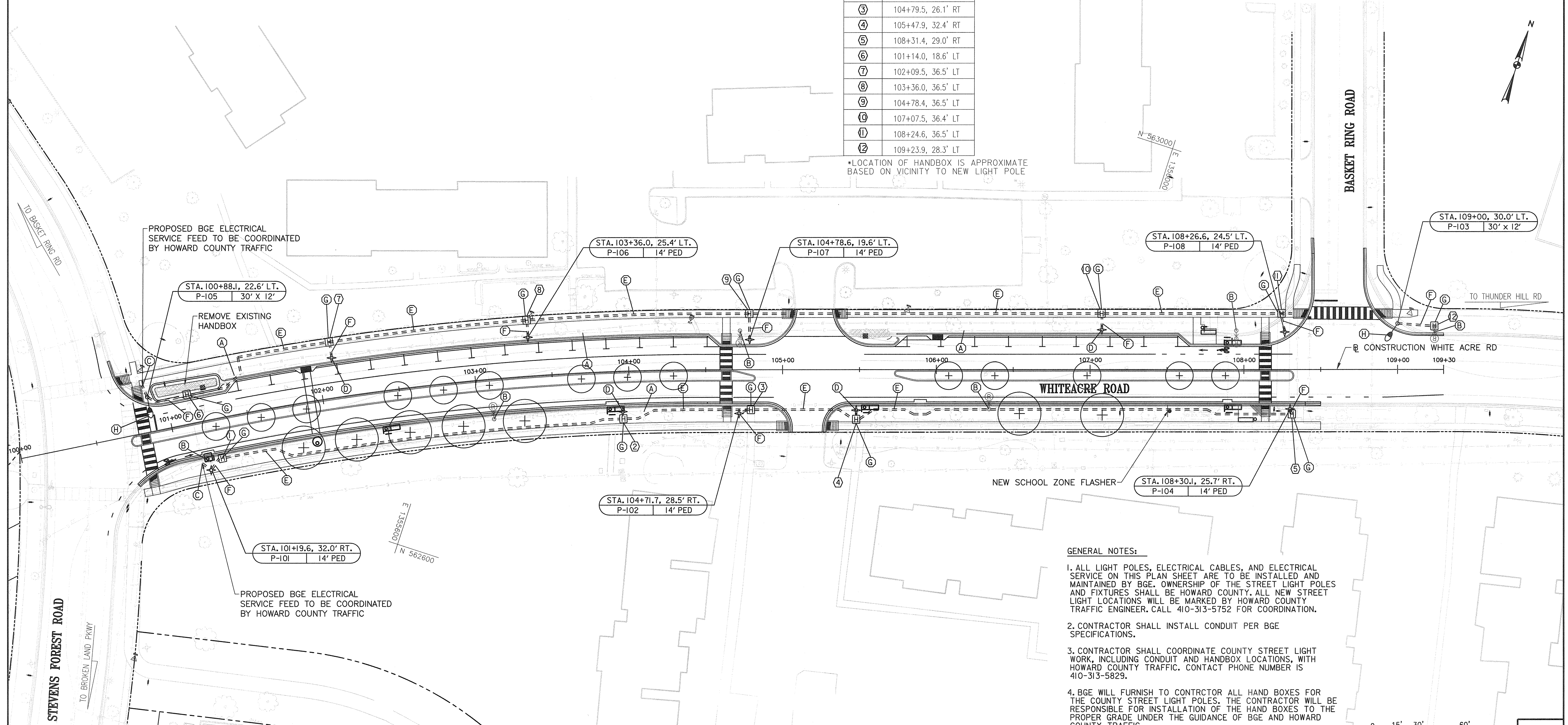


STREET LIGHT HANDBOX SCHEDULE

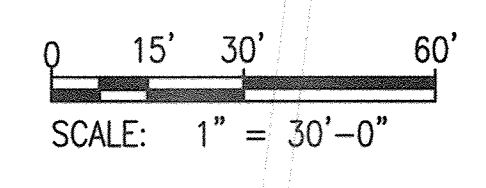
BOX NO.	*STATION AND OFFSET
1	101+28.4, 26.0' RT
2	103+95.5, 31.0' RT
3	104+79.5, 26.1' RT
4	105+47.9, 32.4' RT
5	108+31.4, 29.0' RT
6	101+14.0, 18.6' LT
7	102+09.5, 36.5' LT
8	103+36.0, 36.5' LT
9	104+78.4, 36.5' LT
10	107+07.5, 36.4' LT
11	108+24.6, 36.5' LT
12	109+23.9, 28.3' LT

\*LOCATION OF HANDBOX IS APPROXIMATE BASED ON VICINITY TO NEW LIGHT POLE

- CONSTRUCTION DETAILS:
- (A) ABANDON EXISTING DUCT CABLE/CONDUIT.
  - (B) COORDINATE REMOVAL OF EXISTING LIGHT POLE AND FOUNDATION 12 INCHES BELOW GRADE WITH HOWARD COUNTY TRAFFIC (410-313-5752) AND BGE.
  - (C) INSTALL 4 INCH SCHEDULE 80, RIGID POLYVINYL CHLORIDE CONDUIT (TRENCHED) WITH PULL STRING FOR PROPOSED UNDERGROUND ELECTRICAL SERVICE. CAP AND MARK CONDUIT 2' ABOVE GRADE FOR USE BY BGE FORCES.
  - (D) UPGRADE EXISTING LUMINAIRE TO 150W LED COLONIAL POST-TOP FIXTURE. REPLACE POLE ONLY IF NEEDED.
  - (E) INSTALL (UP TO) 4 INCH SCHEDULE 80, RIGID POLYVINYL CHLORIDE CONDUIT (TRENCHED) WITH PULL STRING FROM PROPOSED HANDHOLE TO PROPOSED HANDHOLE.
  - (F) INSTALL (UP TO) 4 INCH SCHEDULE 80, RIGID POLYVINYL CHLORIDE CONDUIT (TRENCHED) WITH PULL STRING FROM PROPOSED HANDHOLE TO PROPOSED LIGHT POLE. PROPOSED ELECTRICAL CONDUIT SHALL TIE INTO THE CONDUIT BEND AT BASE OF POLE. CONFIRM CONDUIT SIZE WITH BGE FOR COMPATIBILITY WITH SELECTED POLE.
  - (G) INSTALL BGE FURNISHED HANDBOXES.
  - (H) INSTALL NEW 250W LED COBRA HEAD MOUNTED ON A 30' BRONZE FIBERGLASS POLE WITH A 12' MAST ARM.



- GENERAL NOTES:
- ALL LIGHT POLES, ELECTRICAL CABLES, AND ELECTRICAL SERVICE ON THIS PLAN SHEET ARE TO BE INSTALLED AND MAINTAINED BY BGE. OWNERSHIP OF THE STREET LIGHT POLES AND FIXTURES SHALL BE HOWARD COUNTY. ALL NEW STREET LIGHT LOCATIONS WILL BE MARKED BY HOWARD COUNTY TRAFFIC ENGINEER. CALL 410-313-5752 FOR COORDINATION.
  - CONTRACTOR SHALL INSTALL CONDUIT PER BGE SPECIFICATIONS.
  - CONTRACTOR SHALL COORDINATE COUNTY STREET LIGHT WORK, INCLUDING CONDUIT AND HANDBOX LOCATIONS, WITH HOWARD COUNTY TRAFFIC. CONTACT PHONE NUMBER IS 410-313-5829.
  - BGE WILL FURNISH TO CONTRACTOR ALL HAND BOXES FOR THE COUNTY STREET LIGHT POLES. THE CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLATION OF THE HAND BOXES TO THE PROPER GRADE UNDER THE GUIDANCE OF BGE AND HOWARD COUNTY TRAFFIC.
  - A MINIMUM OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE



NSA31760-011\CADD\31760011-101.dgn 10/10/2018

I, 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. 30737, EXPIRATION DATE: 6/29/2020.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND.

Director of Public Works: *John A. ...* DATE: 10/14/2018  
 Chief, Bureau of Engineering: *...* DATE: 10/14/18

Chief, Bureau of Highways: *...* DATE: 10/14/2018  
 Chief, Transportation & Special Projects Div.: *...* DATE: 10/14/18

PREPARED BY:

**Whitman, Reardon & Associates, LLP**  
 801 South Caroline Street, Baltimore, Maryland 21231



DES:	DTB		
DRN:	AAT		
CHK:	JMM		
DATE:	10/10/18		
BY:		NO.	
		REVISION	
		DATE	

LIGHTING PLAN

ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
 WHITEACRE ROAD COMPLETE STREET

ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

DWG.  
 LI-01

SCALE  
 1"=30'

SHEET  
 23 OF 29



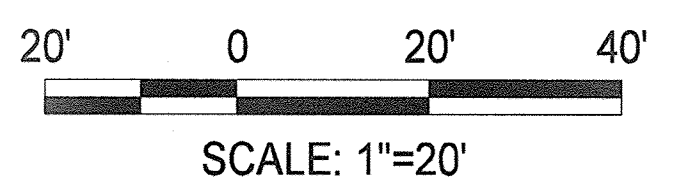
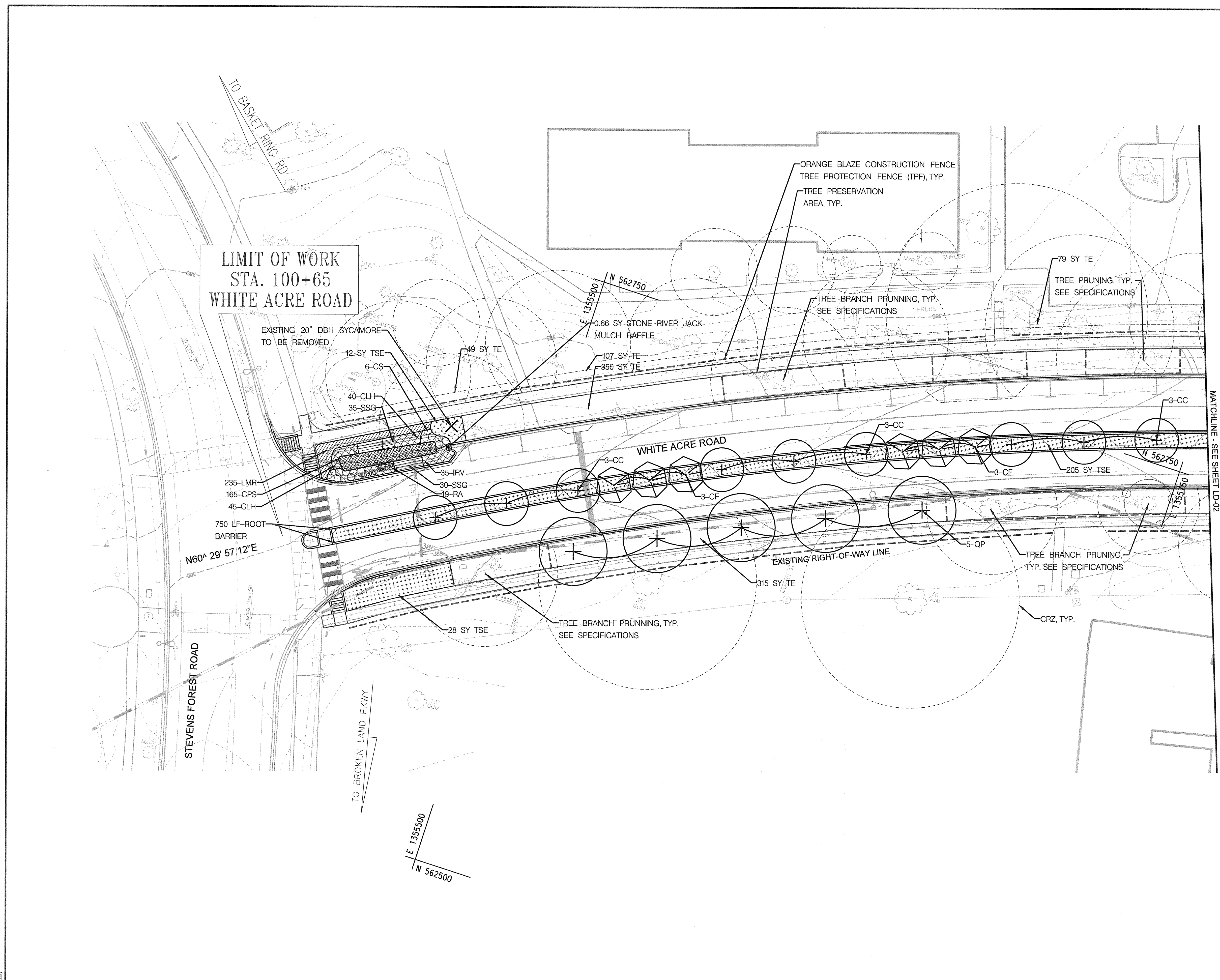
**LEGEND**

	PROPOSED SHADE TREE
	PROPOSED FLOWERING TREE
	EXISTING TREE TO REMAIN
	EXISTING TREE TO BE REMOVED
	PROPOSED PERNNIALS
	PROPOSED TURFGRASS SOD ESTABLISHMENT
	PROPOSED TREE PROTECTION

**PLANT SCHEDULE - THIS SHEET**

KEY	QTY	BOTANICAL/COMMON NAME
<b>TREES</b>		
CC	9	Carpinus caroliniana/ American hornbeam
QP	5	Quercus phellos 'Hightower'/ Hightower Willow Oak
<b>ORNAMENTAL TREES</b>		
CF	6	Cercis Canadensis 'Forest Pansy'/ Forest pansy eastern redbud
<b>SHRUBS</b>		
CS	6	Cornus sericea 'Kelsey'/ Kelsey's Dwarf Red-Osier Dogwood
RA	19	Rhus aromatica 'Gro-Low'/ Gro-Low Sumac
<b>BULBS &amp; SEASONAL FLOWERS</b>		
CLH	85	Chelone lyonii 'Hot Lips' / Pink turtlehead
CPS	165	Carex pennsylvanica/ Pennsylvania sedge
IRV	35	Iris versicolor / Wild Iris
LMR	235	Liriope muscari 'Royal Purple'/ Royal Purple Lilyturf
SSG	65	Solidago Sphacelata 'Golden Fleece'/ Dwarf Golden Fleece Goldenrod
TE	900 SY	TURFGRASS ESTABLISHMENT
TSE	245 SY	TURFGRASS SOD ESTABLISHMENT
	0.66 SY	STONE RIVER JACKS
	750 LF	ROOT BARRIER

- NOTE:**
- AREAS DISTURBED BY CONSTRUCTION WITHING THE LIMIT OF DISTURBANCE (LOD) ARE TO BE SEEDED WITH TURF SEED ESTABLISHMENT (TSE) UNLESS OTHERWISE NOTED.
  - FOR TREE ROOT PRUNING REFER TO MDOT SPECIFICATIONS CATEGORY 700 LANDSCAPING, SECTION 715.
  - A MINIMUM OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE



PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 935, EXPIRATION DATE: 3/28/2020

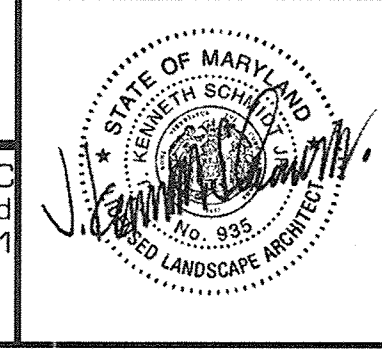
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

*Ray Han* 10/16/2018  
DIRECTOR OF PUBLIC WORKS DATE

*Brandon* 10/16/18  
CHIEF, BUREAU OF HIGHWAYS DATE

*Brandon* 10/16/18  
CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIV. DATE

PREPARED BY:  
**MAHAN RYKIEL**  
ASSOCIATES INC.  
Whitehall Mill 3300 Clipper Mill Road  
Suite 200 Baltimore, MD 21211 410.235.6001



DES: JM			
DRN: M.BLOW			
CHK: JKS			
DATE: 10/02/18	BY:	NO.:	REVISION:
			DATE:

LANDSCAPE PLAN

ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT CONTRACT NO. C0287

WHITEACRE ROAD COMPLETE STREET

ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

DWG.  
LD-01

SCALE  
1"=20'

SHEET  
24 OF 29

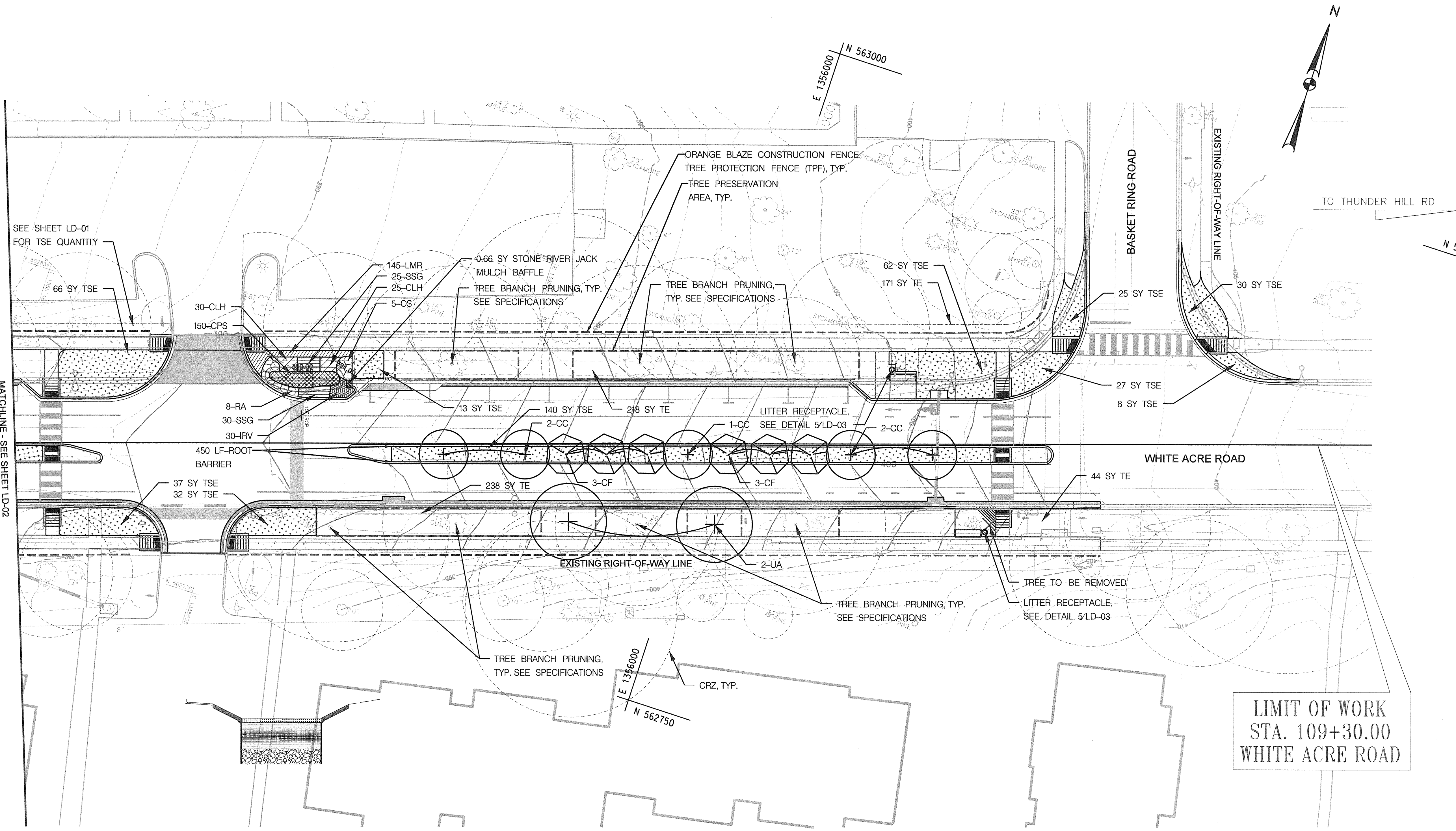


**LEGEND**

	PROPOSED SHADE TREE
	PROPOSED FLOWERING TREE
	EXISTING TREE TO REMAIN
	EXISTING TREE TO BE REMOVED
	PROPOSED PERNNIALS
	PROPOSED TURFGRASS SOD ESTABLISHMENT
	PROPOSED TREE PROTECTION

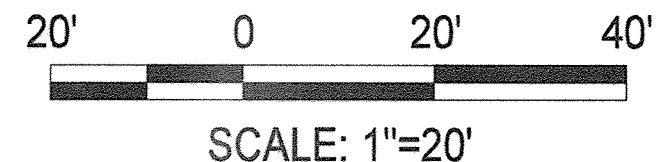
**PLANT SCHEDULE - THIS SHEET**

KEY	QTY	BOTANICAL/COMMON NAME
<b>TREES</b>		
CC	5	Carpinus caroliniana/ American hornbeam
UA	2	Ulmus americana 'Valley Forge' Valley Forge American Elm
<b>ORNAMENTAL TREES</b>		
CF	6	Cercis Canadensis 'Forest Pansy/ Forest pansy eastern redbud
<b>SHRUBS</b>		
CS	5	Cornus sericea 'Kelsey!/ Kelsey's Dwarf Red-Osier Dogwood
RA	8	Rhus aromatica 'Gro-Low/ Gro-Low Sumac
<b>BULBS &amp; SEASONAL FLOWERS</b>		
CLH	55	Chelone lyonii 'Hot Lips' / Pink turtlehead
CPS	150	Carex pennsylvanica/ Pennsylvania sedge
IRV	30	Iris versicolor / Wild Iris
LMR	145	Liriope muscari 'Royal Purple/ Royal Purple Lilyturf
SSG	55	Solidago Sphacelata 'Golden Fleece/ Dwarf Golden Fleece Goldenrod
TE	671 SY	TURFGRASS ESTABLISHMENT
TSE	440 SY	TURFGRASS SOD ESTABLISHMENT
0.66 SY		STONE RIVER JACKS
450 LF		ROOT BARRIER



**NOTE:**

- AREAS DISTURBED BY CONSTRUCTION WITHING THE LIMIT OF DISTRUBANCE (LOD) ARE TO BE SEEDED WITH TURF SEED ESTABLISHMENT (TSE) UNLESS OTHERWISE NOTED.
- FOR TREE ROOT PRUNING REFER TO MDOT SPECIFICATIONS CATEGORY 700 LANDSCAPING, SECTION 715.
- A MINIMUM OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE



PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 935, EXPIRATION DATE: 3/28/2020

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND.  
 Director of Public Works: [Signature] DATE: 10/16/2018  
 Chief, Bureau of Highways: [Signature] DATE: 10/14/18  
 Chief, Bureau of Engineering: [Signature] DATE: [ ]  
 Chief, Transportation & Special Projects Div.: [Signature] DATE: [ ]

PREPARED BY:  
**MAHAN RYKIEL**  
 ASSOCIATES INC.  
 Whitehall Mill 3300 Clipper Mill Road  
 Suite 200 Baltimore, MD 21211 410.235.6001



DES: JM				
DRN: M.BLOW				
CHK: JKS				
DATE: 10/02/18	BY	NO.	REVISION	DATE

LANDSCAPE PLAN

ADC MAP NO. 4935 GRID NO. F6

CAPITAL PROJECT CONTRACT NO. C0287

WHITEACRE ROAD COMPLETE STREET

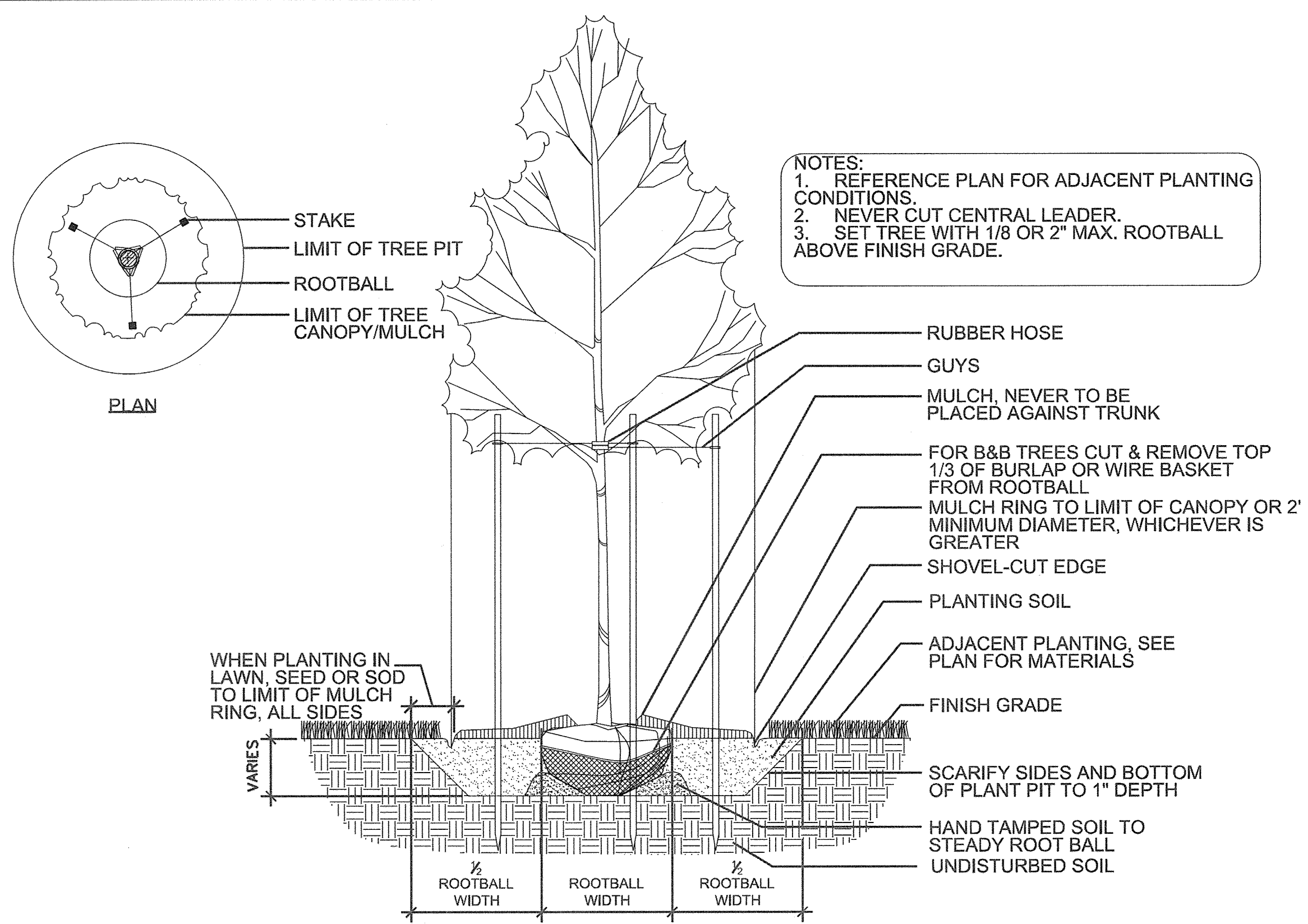
ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

DWG. LD-02

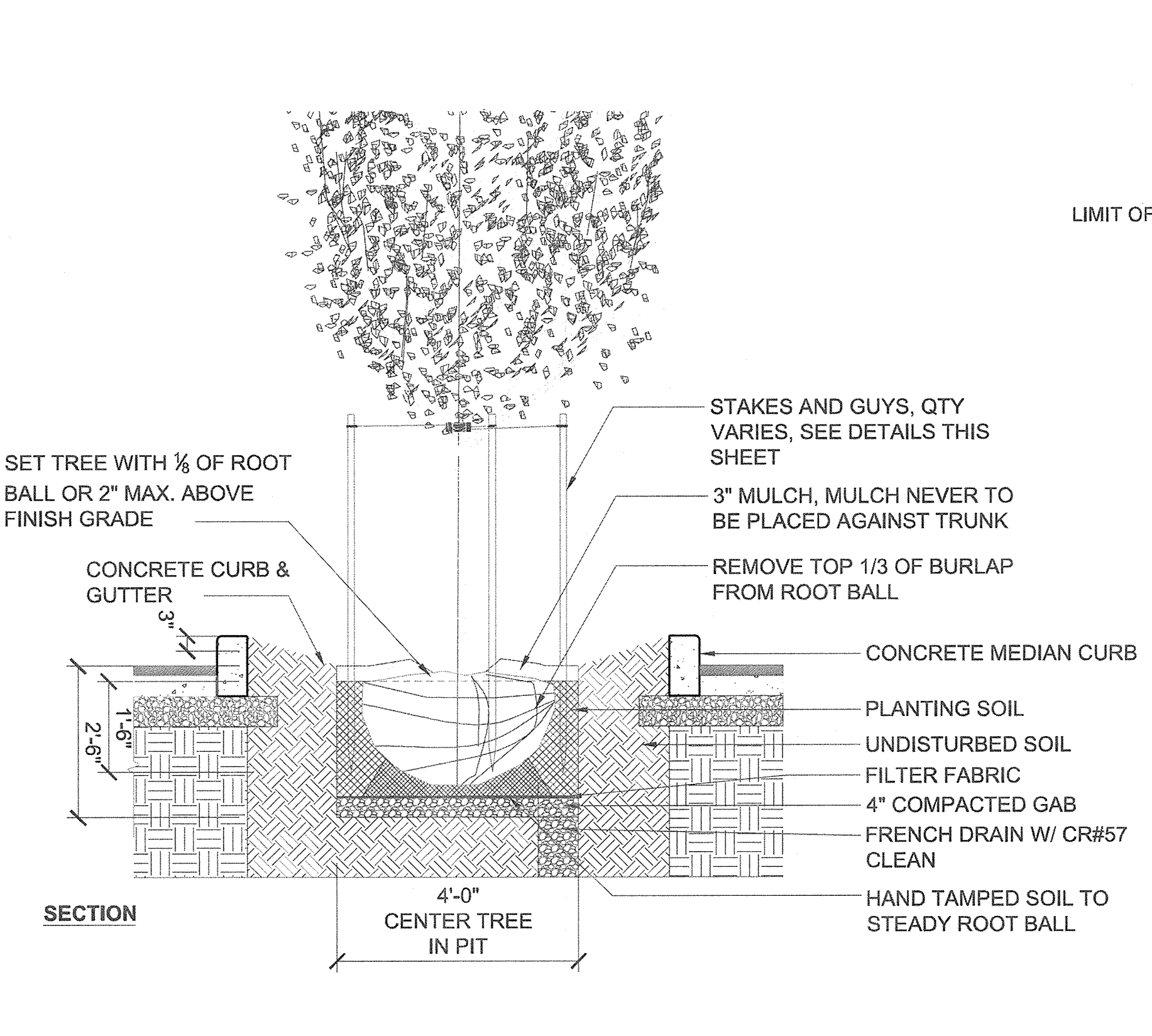
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SHEET 25 of 29

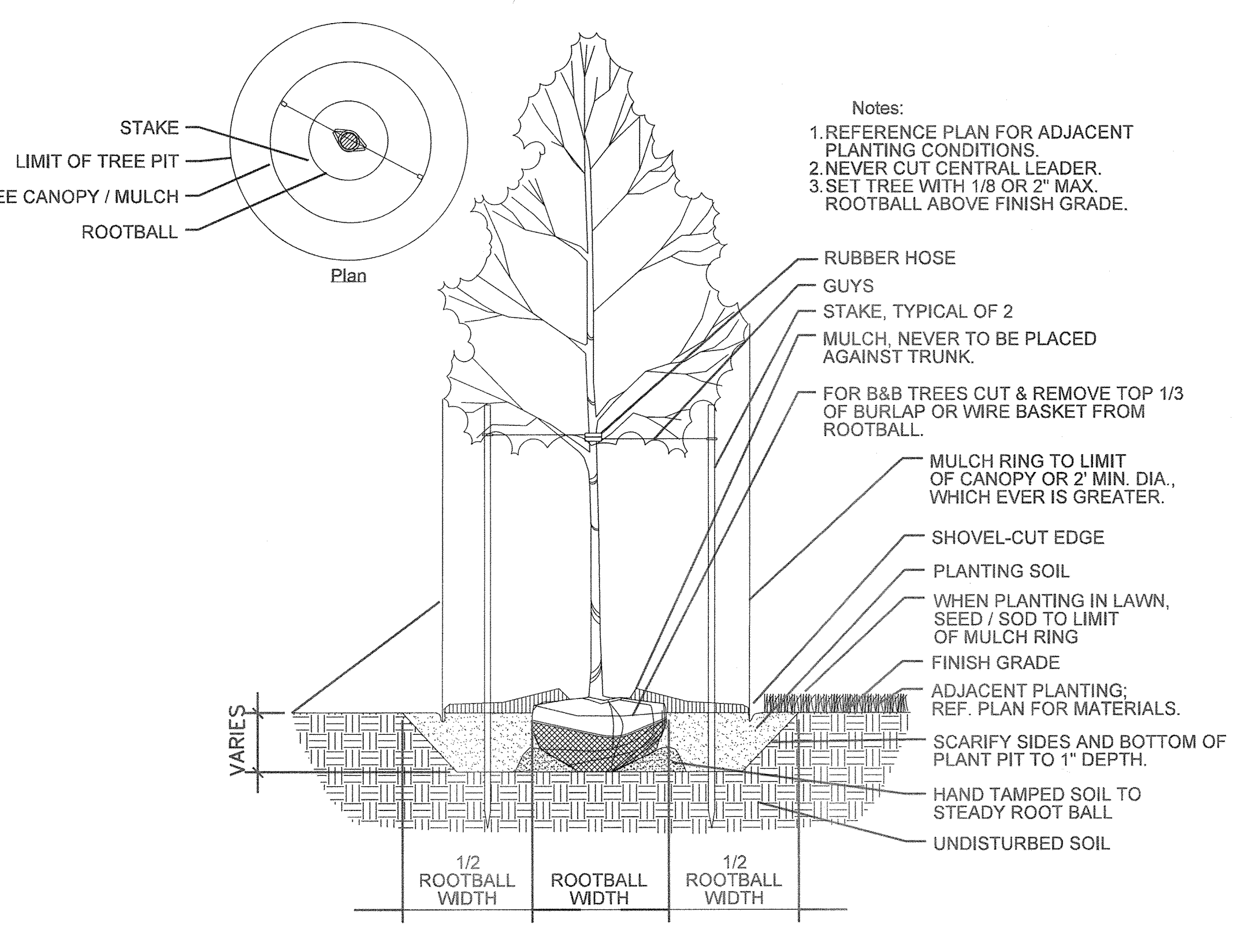




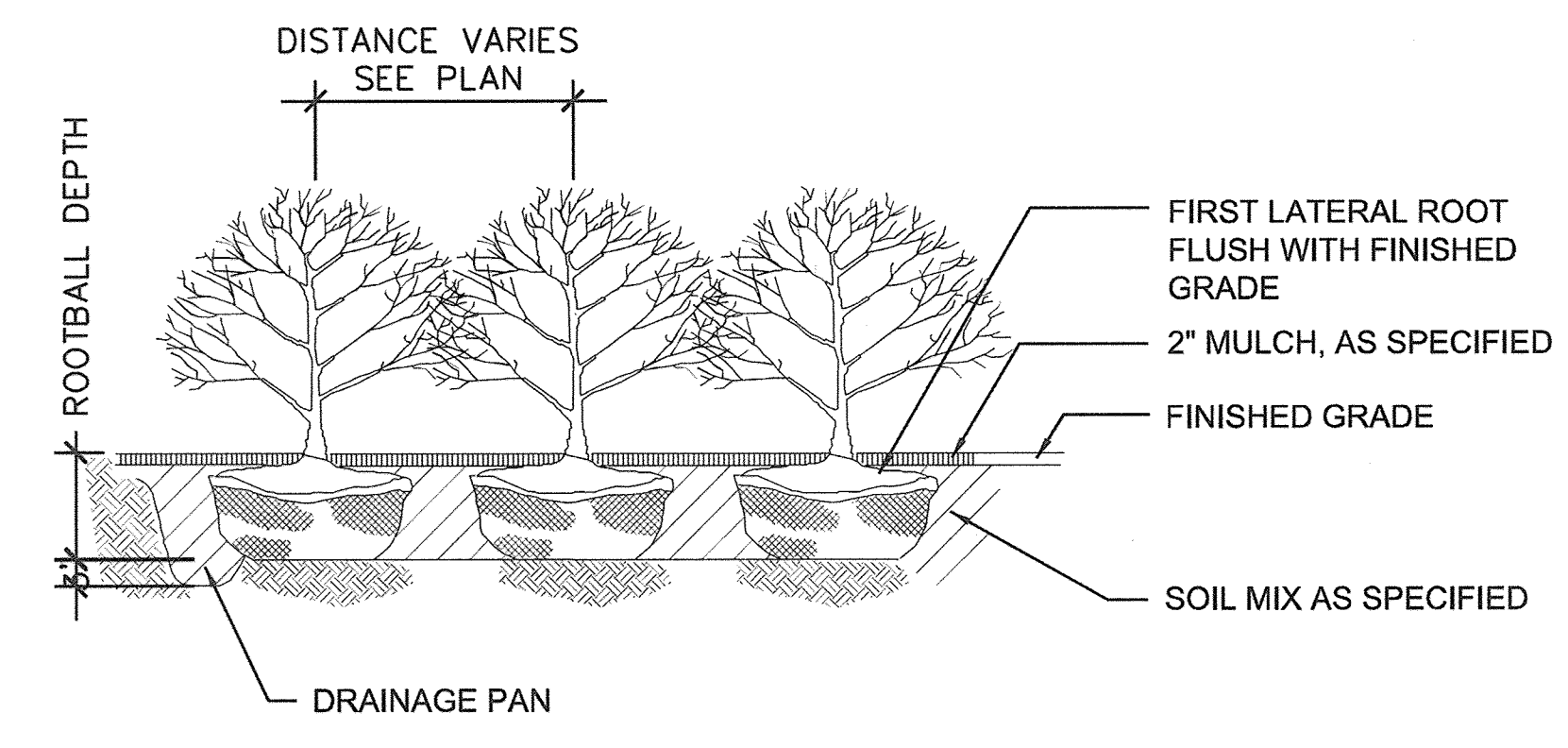
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NOT TO SCALE



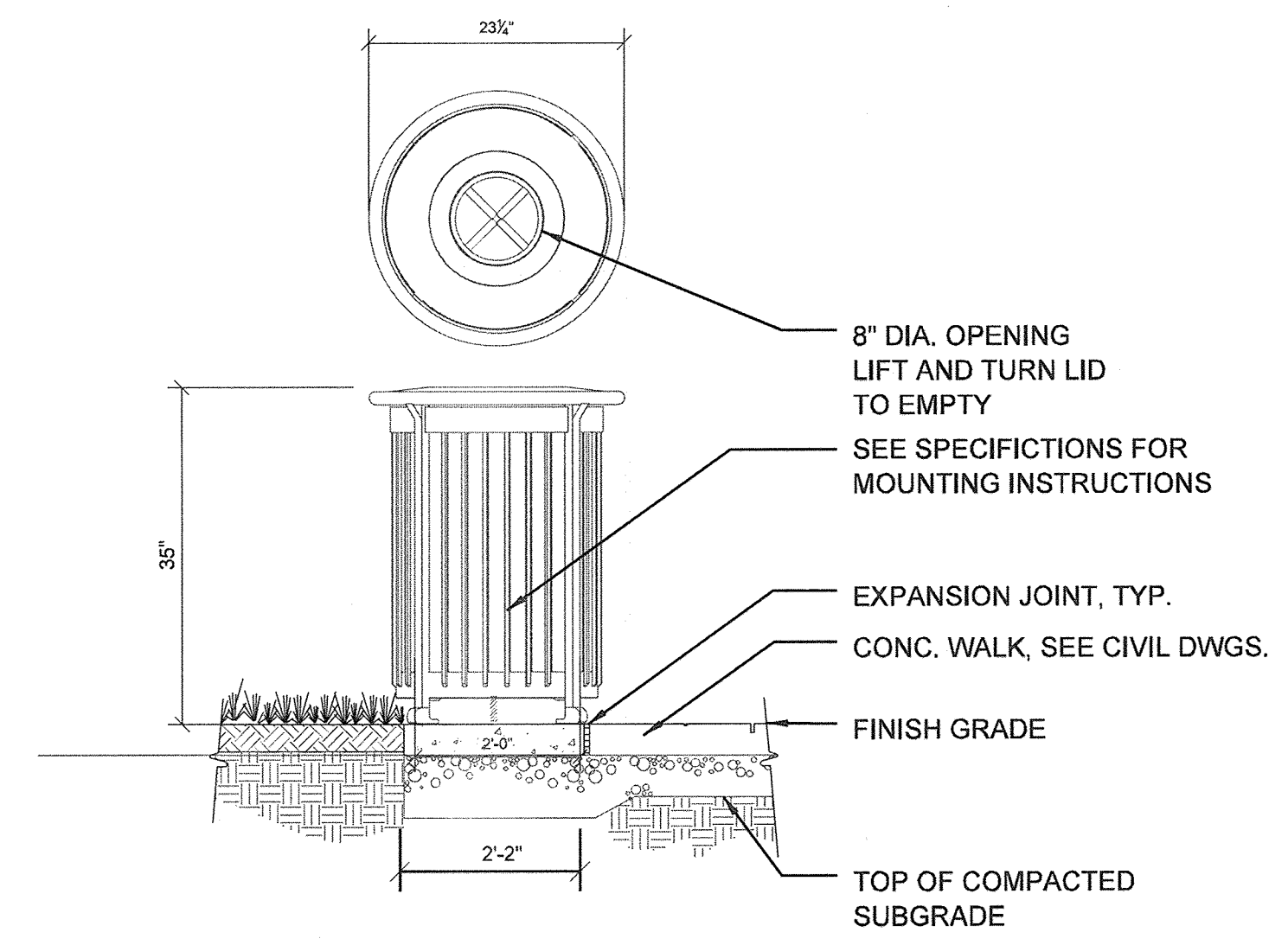
**2** DECIDUOUS MEDIAN TREE PLANTING  
NOT TO SCALE



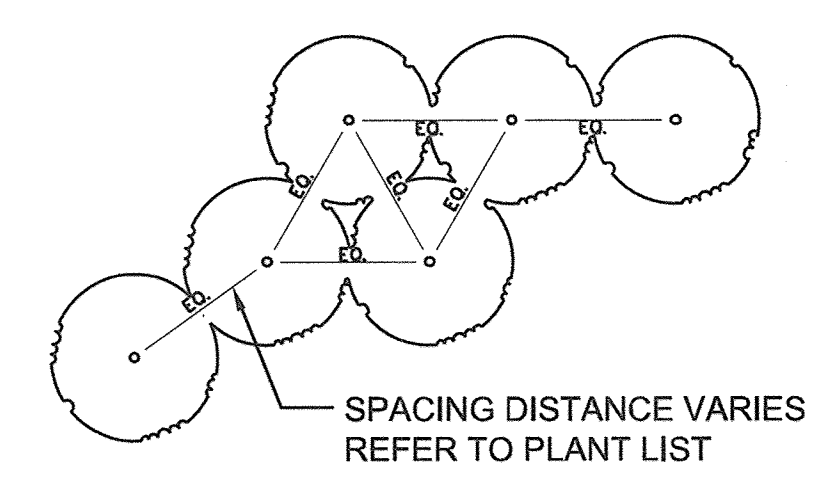
**3** ORNAMENTAL TREE PLANTING  
NOT TO SCALE



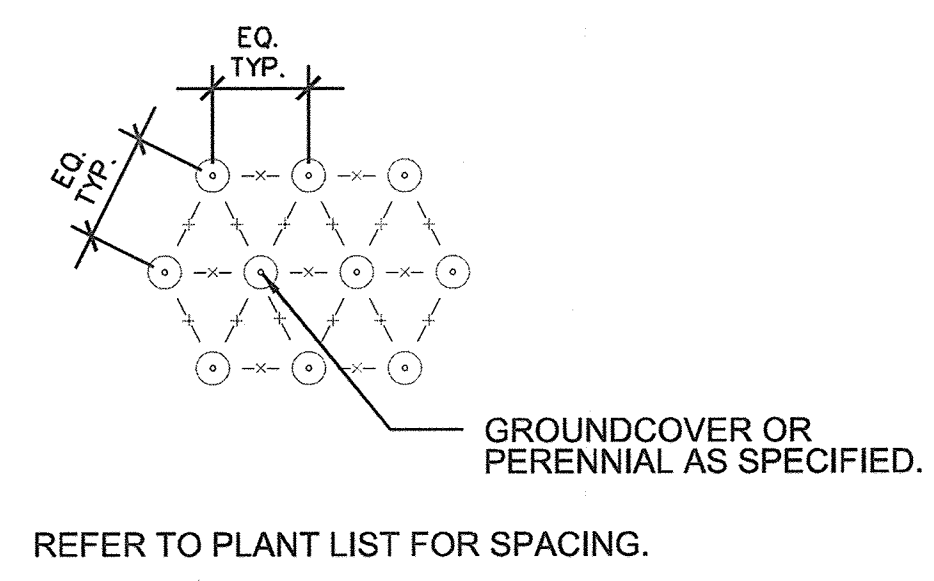
**4** SHRUB PLANTING  
NOT TO SCALE



**5** SURFACE MOUNTED LITTER / RECYCLING RECEPTACLE  
NOT TO SCALE



**6** SHRUB SPACING  
NOT TO SCALE



**7** PERENNIAL SPACING  
NOT TO SCALE

MASTER PLANTING SCHEDULE

KEY	QTY	BOTANICAL/Common Name	SIZE	B&B	REMARKS	MAINTENANCE
<b>TREES</b>						
CC	14	Carpinus caroliniana / American hornbeam	2.5" Cal.	B&B		Prune out dead wood yearly
QP	5	Quercus phellos 'Hightower' / Hightower Willow Oak	2.5" Cal.	B&B		Prune out dead wood yearly
UA	2	Ulmus americana 'Valley Forge' / Valley Forge American Elm	2.5" Cal.	B&B		Prune out dead wood yearly
<b>ORNAMENTAL TREES</b>						
CF	12	Cercis Canadensis 'Forest Pansy' / Forest pansy eastern redbud	10' HT	B&B	Multi-stem, 3-5 Stems, 5' Clear trunk	Prune out dead wood yearly
<b>SHRUBS</b>						
CS	11	Cornus sericea 'Kelsey' / Kelsey's Dwarf Red-Osier Dogwood	#5 / 24" Ht.	Cont.		Weed Periodically
RA	27	Rhus aromatica 'Gro-Low' / Gro-Low Sumac	#5 / 24" Ht.	Cont.		Weed Periodically
<b>BULBS &amp; SEASONAL FLOWERS</b>						
CLH	140	Chelone lyonii 'Hot Lips' / Pink turtlehead	#1	Cont.	Plant 18" o.c.	Prune the stem ends in spring to reduce plant height
CPS	315	Carex pensylvanica / Pennsylvania Sedge	#1	Cont.	Plant 12" o.c.	Cut foliage to the ~ 4 IN. HT. in early spring
IRV	65	Iris versicolor / Wild Iris	#1	Cont.	Plant 18" o.c.	Weeding during the first year of establishment
LMR	380	Liriope muscari 'Royal Purple' / Royal Purple Lilyturf	#1	Cont.	Plant 12" o.c.	Cut foliage to the ~ 4 IN. HT. in early spring
SSG	120	Solidago Sphacelata 'Golden Fleece' / Dwarf Golden Fleece Goldenrod	#1	Cont.	Plant 18" o.c.	Cut back in early spring to encourage rebloom (Optional)
TE	1571 SY	TURFGRASS ESTABLISHMENT				
TSE	685 SY	TURFGRASS SOD ESTABLISHMENT				
	1.33 SY	STONE RIVER JACKS	1" - 3"		GRAY TO BROWN COLOR RANGE	
	1200 LF	ROOT BARRIER				

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PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 935, EXPIRATION DATE: 3/28/2020"

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND.  
 Director of Public Works: *[Signature]* DATE: 10/16/2018  
 Chief, Bureau of Highways: *[Signature]* DATE: 10/16/2018  
 Chief, Bureau of Engineering: *[Signature]* DATE: 10/16/2018  
 Chief, Transportation & Special Projects Div.: *[Signature]* DATE: 10/16/2018

PREPARED BY:  
**MAHAN RYKIEL**  
 ASSOCIATES INC.  
 Whitehall Mill 3300 Clipper Mill Road  
 Suite 200 Baltimore, MD 21211 410.235.6001



DES: JM				
DRN: M.BLOW				
CHK: JKS				
DATE: 10/02/18	BY	NO.	REVISION	DATE

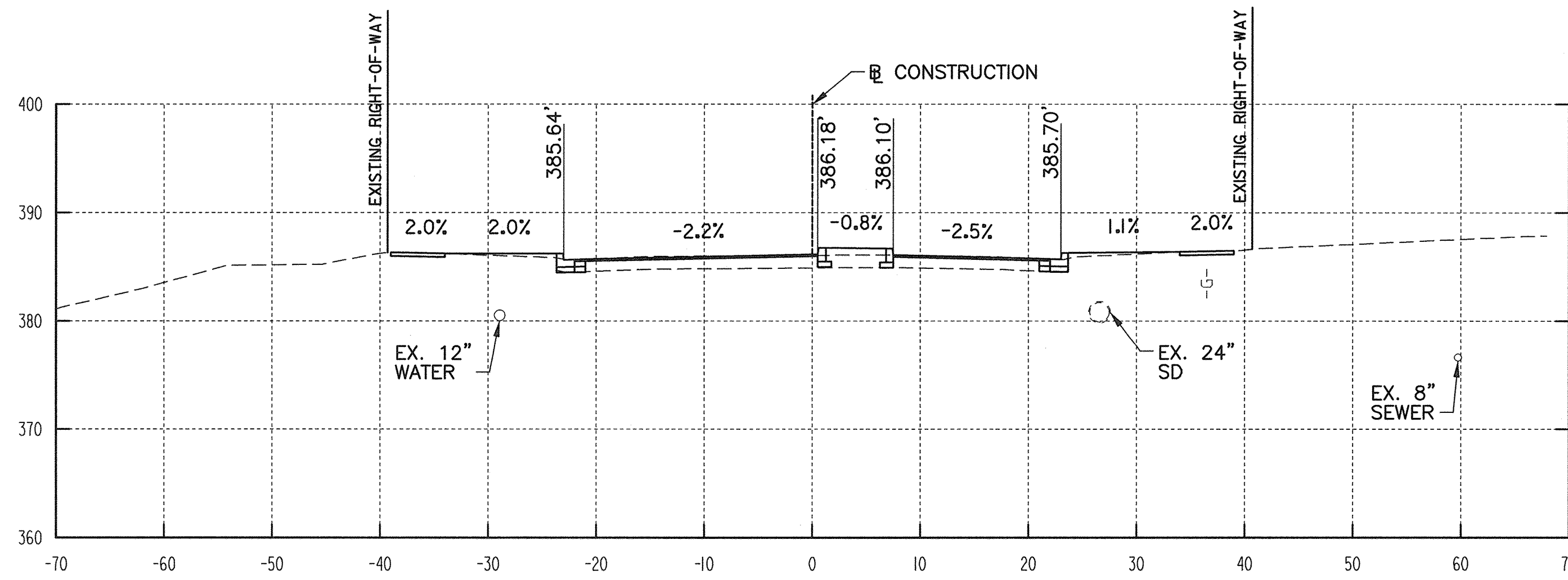
LANDSCAPE DETAILS

ADC MAP NO. 4935 GRID NO. E6

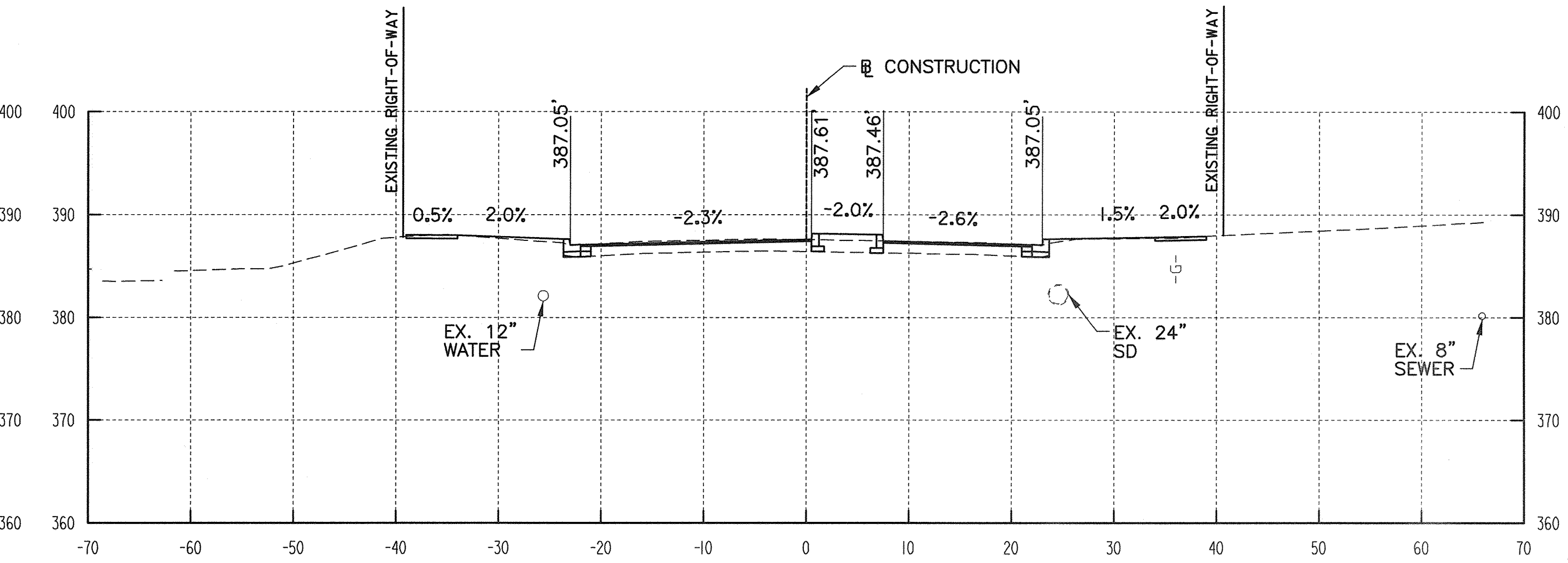
CAPITAL PROJECT CONTRACT NO. C0287  
 WHITEACRE ROAD COMPLETE STREET  
 ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

DWG.  
 LD-03  
 SCALE  
 SHEET  
 26 OF 29

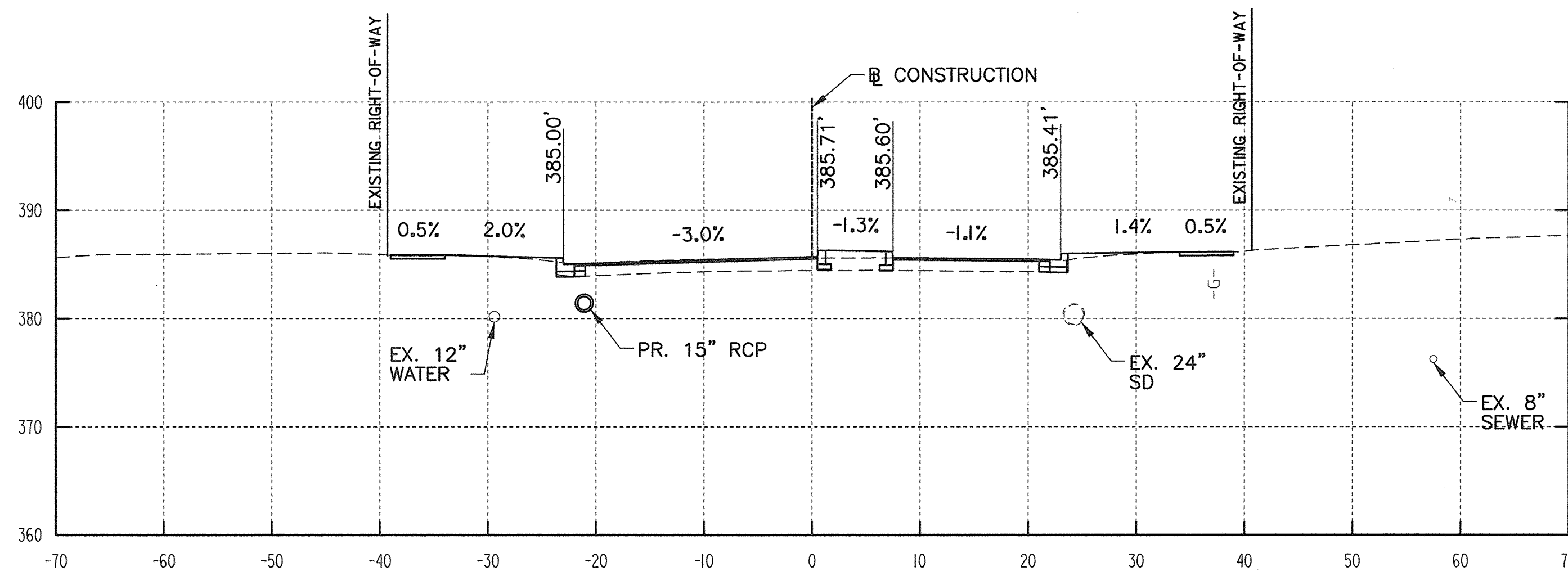




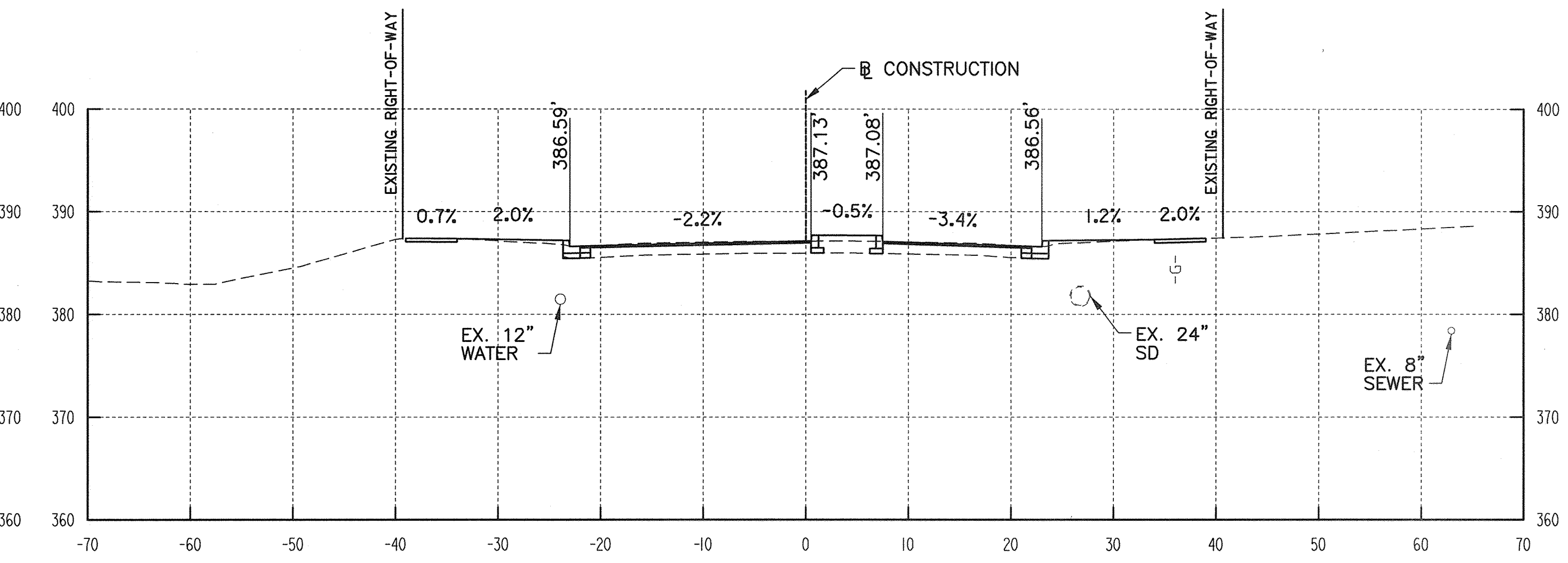
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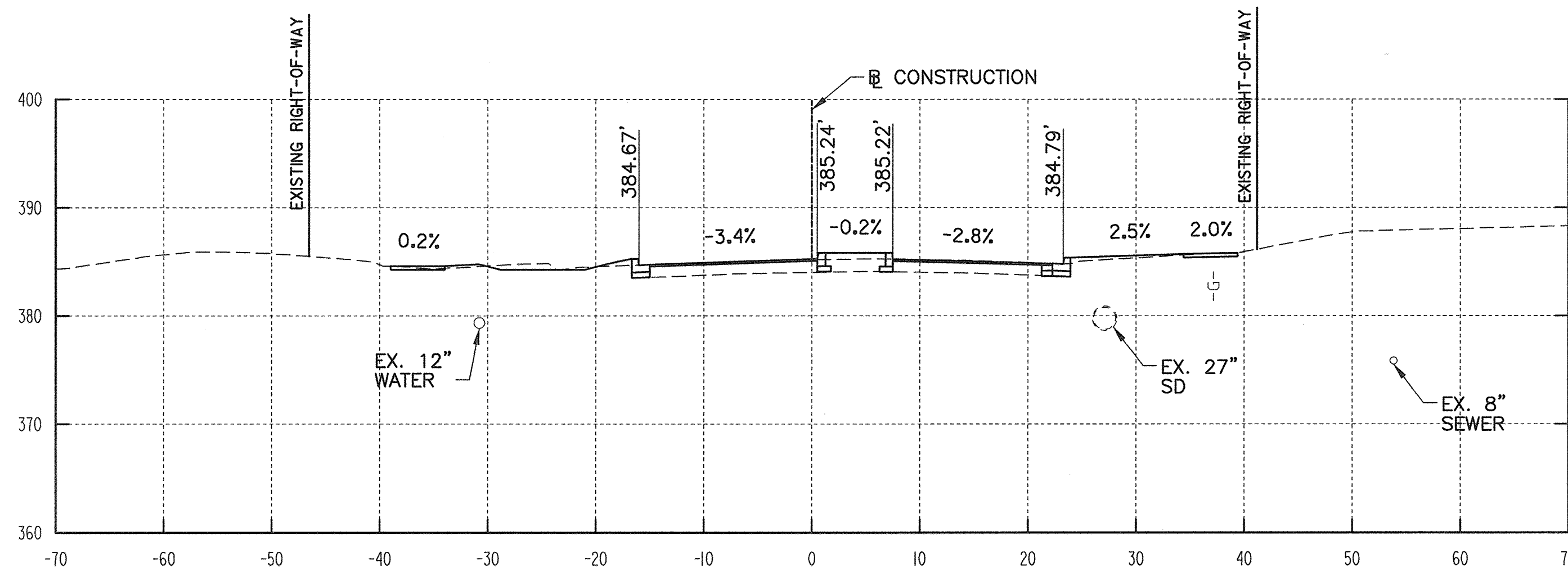
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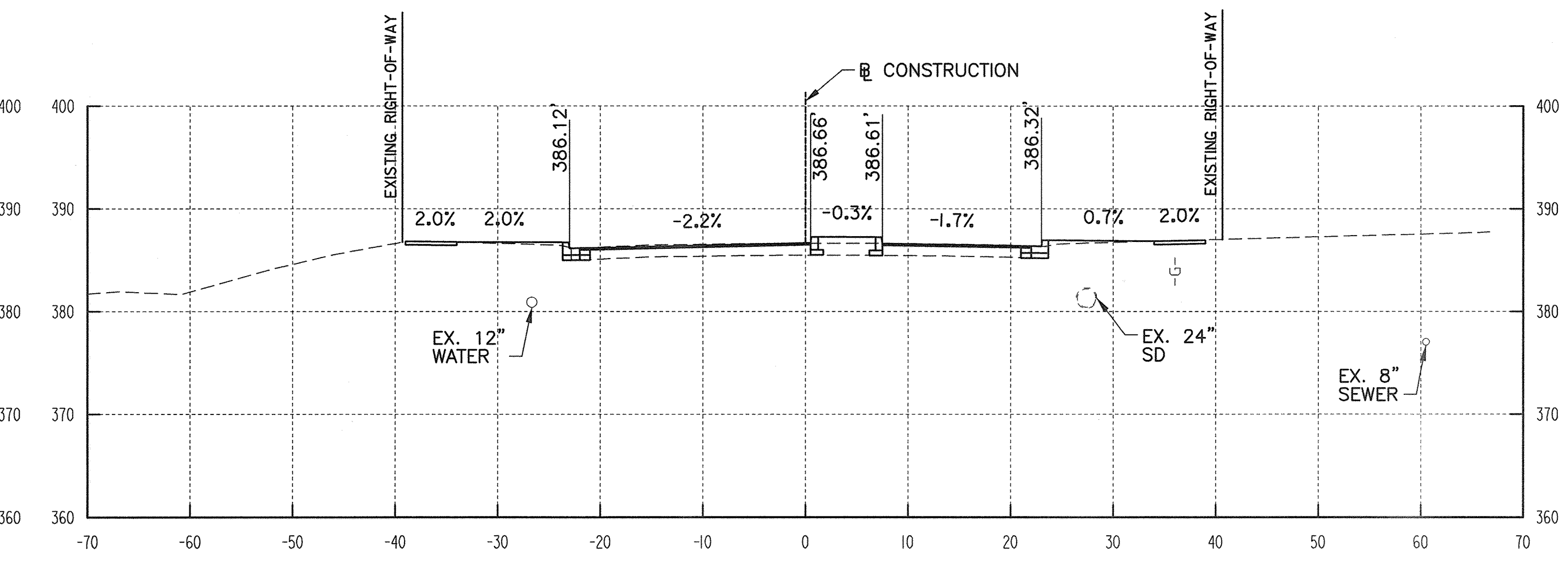
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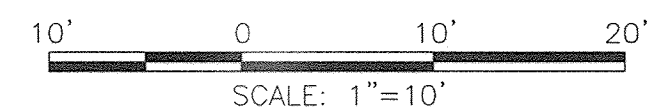
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102+50

NOTE: EXISTING UTILITIES SHOWN AT HORIZONTAL LOCATION ONLY BASED ON THE BEST AVAILABLE INFORMATION. HOWARD COUNTY FIBER, VERIZON, AND BGE UTILITIES NOT SHOWN ON CROSS SECTIONS. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF UTILITIES.

"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. 30737, EXPIRATION DATE: 6/29/2020."



DWG. XS-01

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

*Raymond E. Bull* 10/23/18  
DIRECTOR OF PUBLIC WORKS DATE

*James* 10/14/2018  
CHIEF, BUREAU OF HIGHWAYS DATE

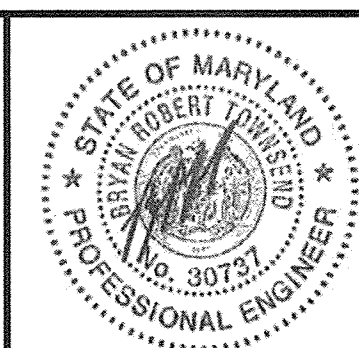
*Robert* 10/19/2018  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert* 10/19/2018  
CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIV. DATE

PREPARED BY:

**WRA**

**Whitman, Reardon & Associates, LLP**  
801 South Caroline Street, Baltimore, Maryland 21231



DES:	DTB			
DRN:	DTB			
CHK:	BRT			
DATE:	10/02/18			
BY:		NO.		
		REVISION		
		DATE		

CROSS SECTIONS  
WHITE ACRE ROAD

ADC MAP NO. 4935 GRID NO. F6

CAPITAL PROJECT NO. C0287  
WHITEACRE ROAD COMPLETE STREET

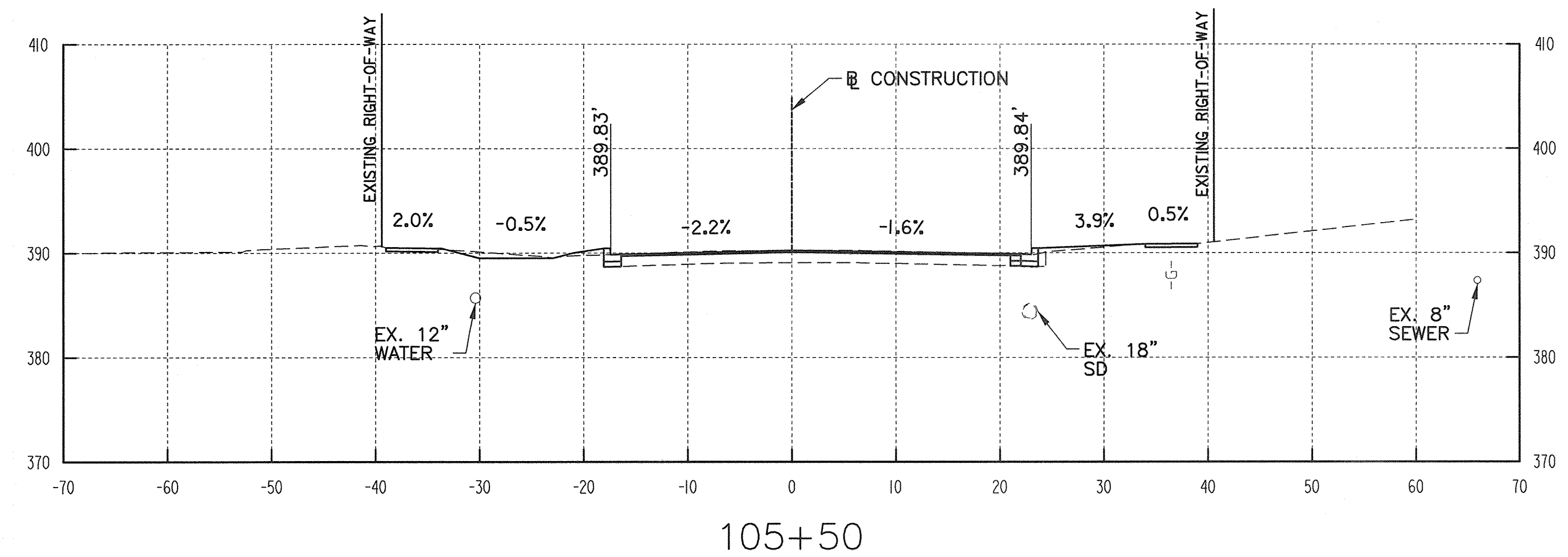
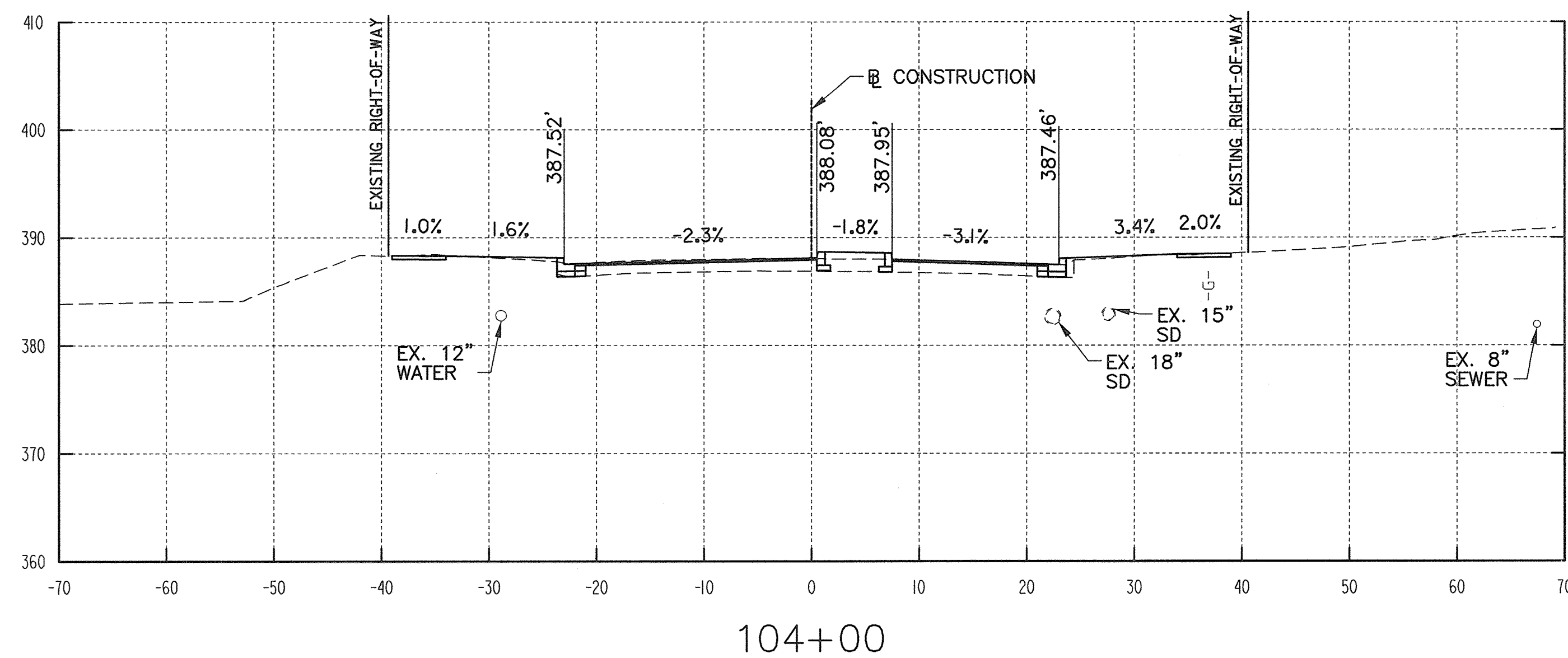
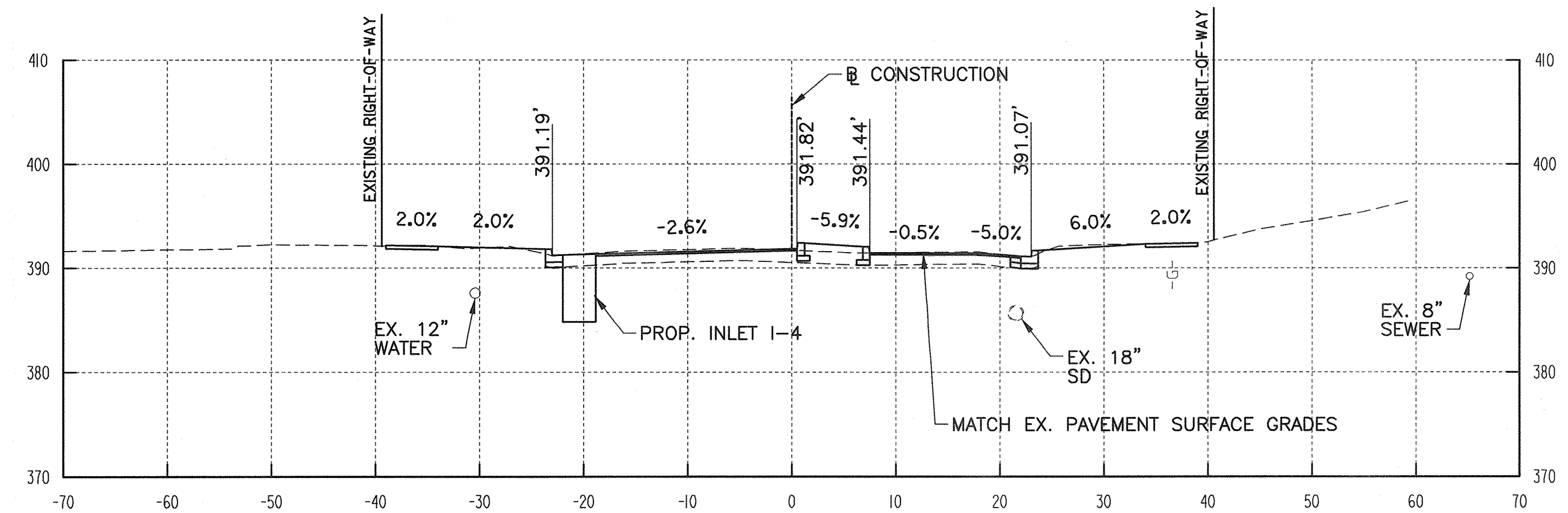
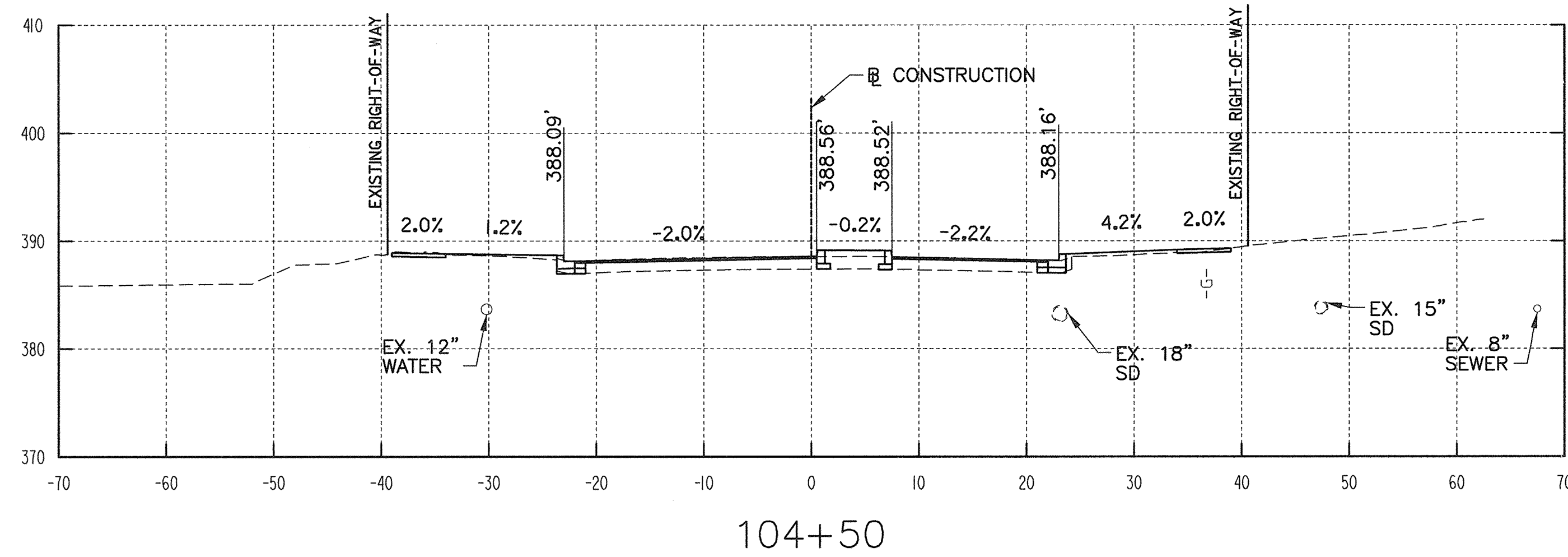
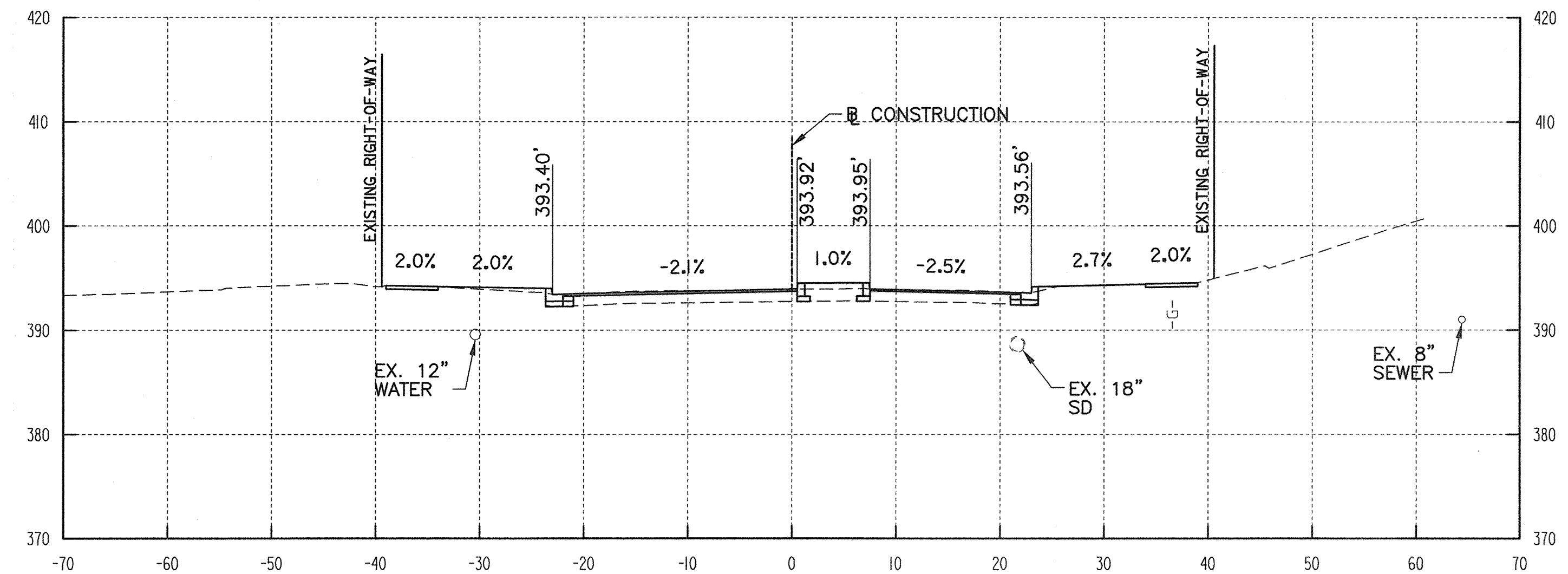
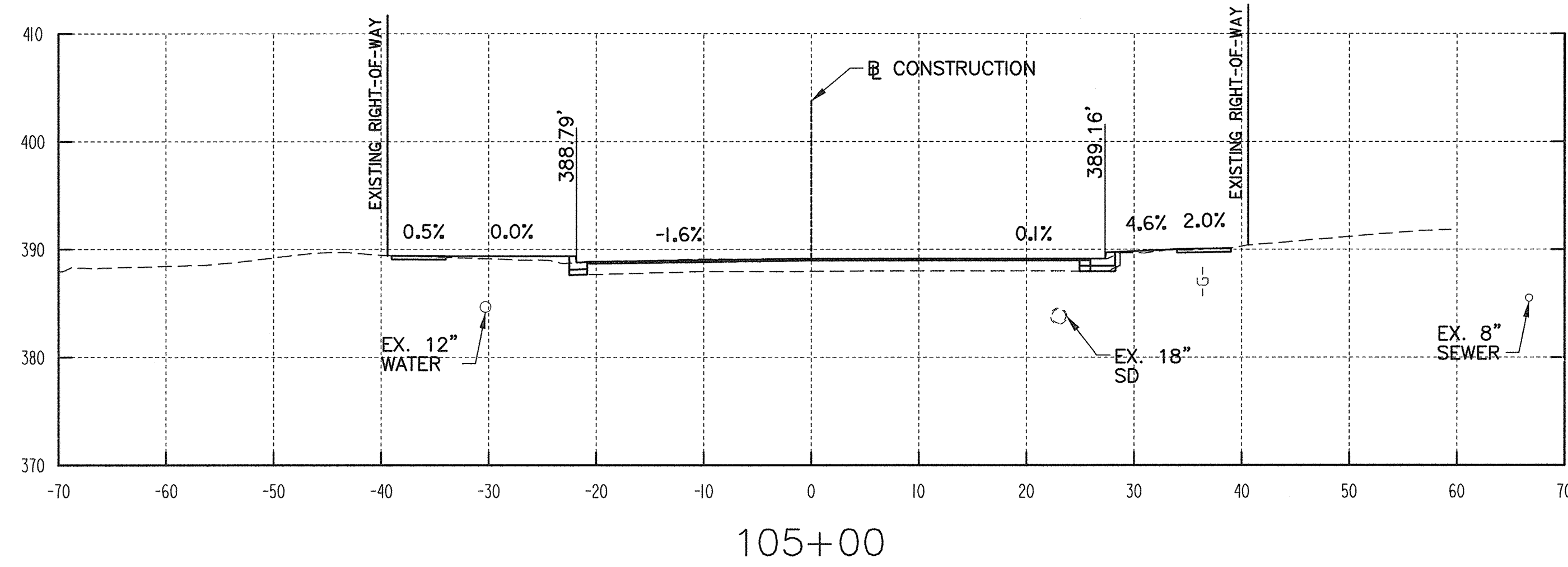
ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 27 OF 29

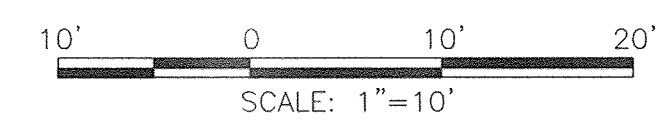
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NOTE: EXISTING UTILITIES SHOWN AT HORIZONTAL LOCATION ONLY BASED ON THE BEST AVAILABLE INFORMATION.  
 HOWARD COUNTY FIBER, VERIZON, AND BGE UTILITIES NOT SHOWN ON CROSS SECTIONS.  
 CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF UTILITIES.

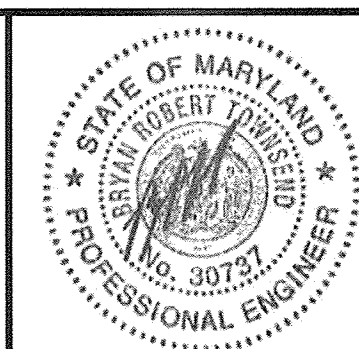
"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 30737, EXPIRATION DATE: 6/29/2020."



DWG.  
XS-02

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND.  
 Director of Public Works: *Raymond E. Smith* 10/16/2018  
 Chief, Bureau of Engineering: *Raymond E. Smith* 10/22/18  
 Chief, Bureau of Highways: *James* 10/16/2018  
 Chief, Transportation & Special Projects Div.: *Bradford Jones* 10/14/18

PREPARED BY:  
**WRA**  
 Whitman, Reardon & Associates, LLP  
 801 South Caroline Street, Baltimore, Maryland 21231



DES:	DTB		
DRN:	DTB		
CHK:	BRT		
DATE:	10/02/18		
BY:	NO.	REVISION	DATE

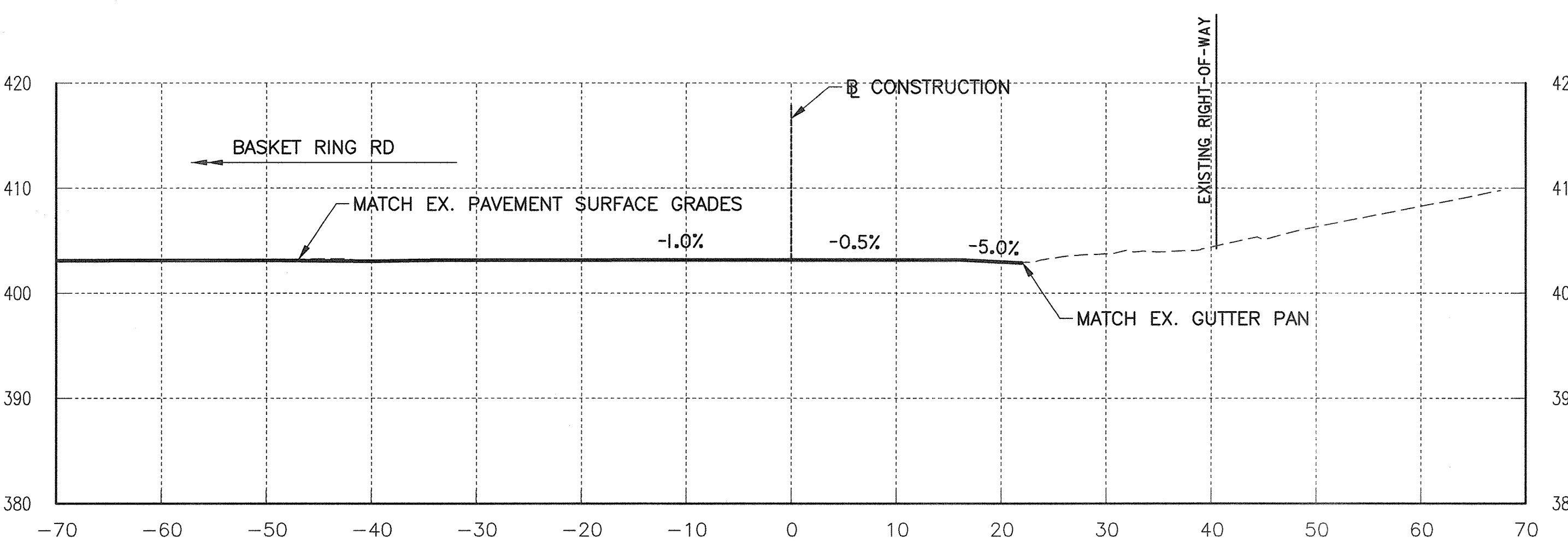
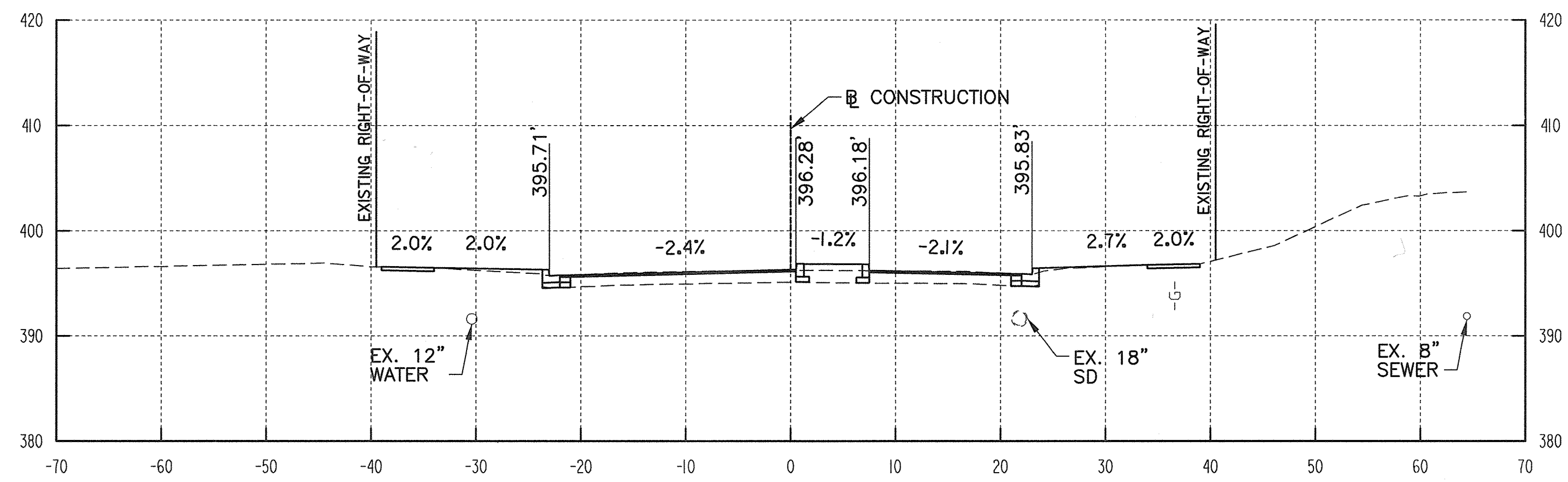
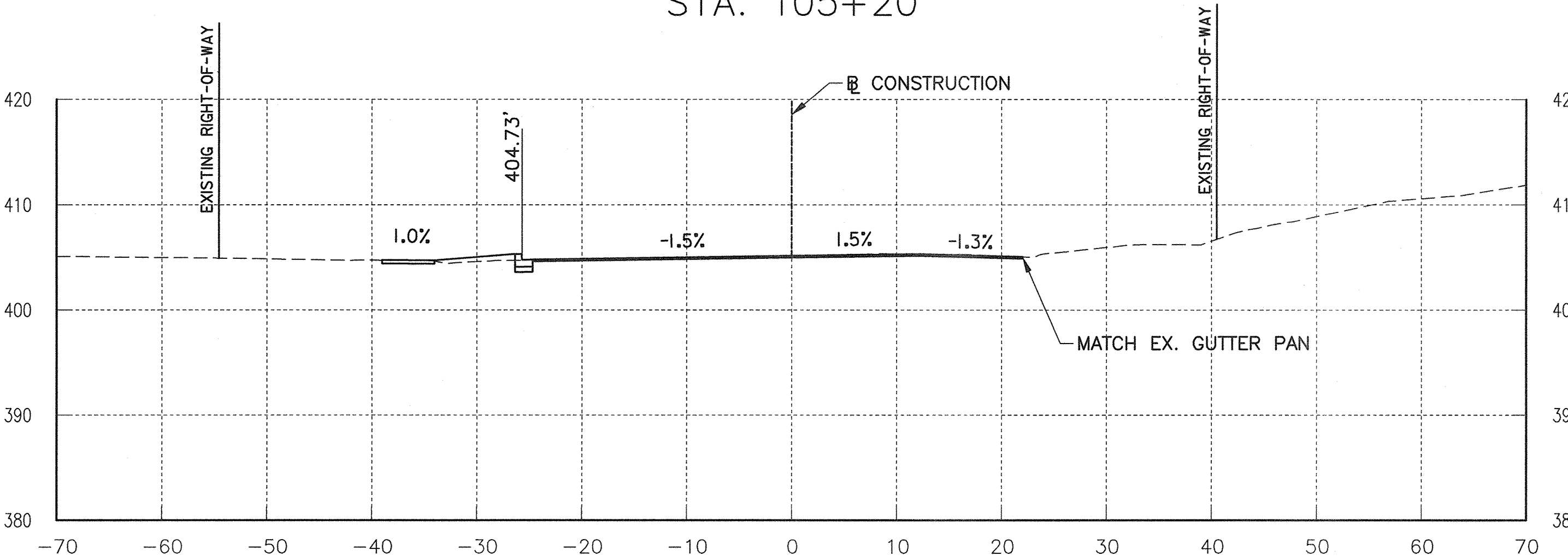
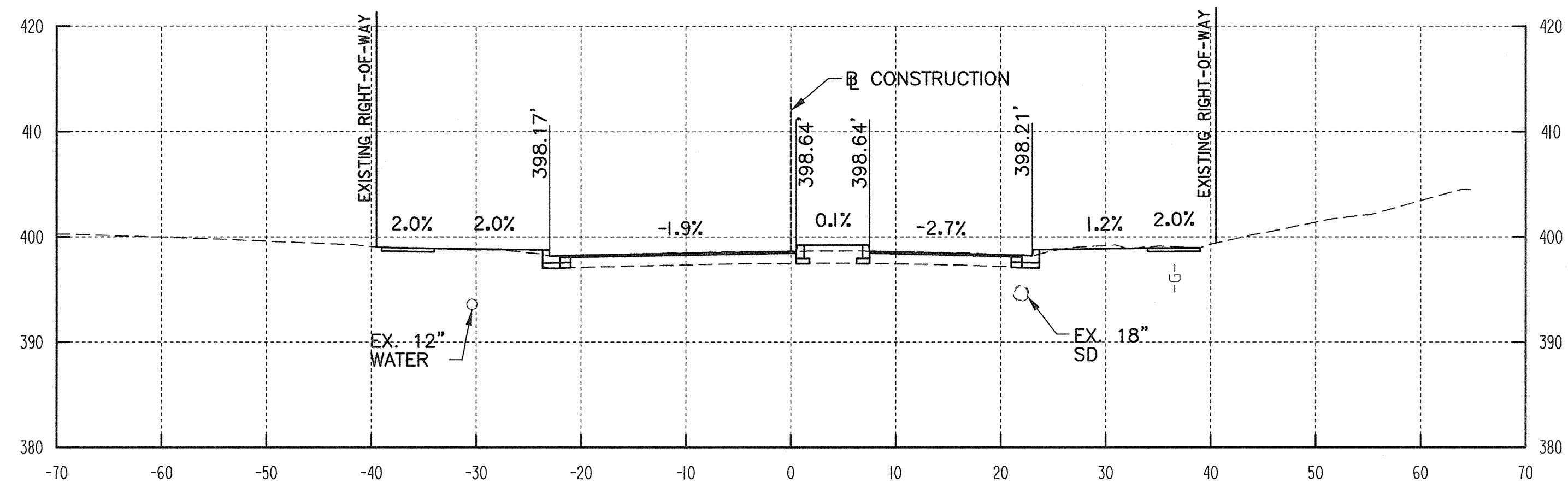
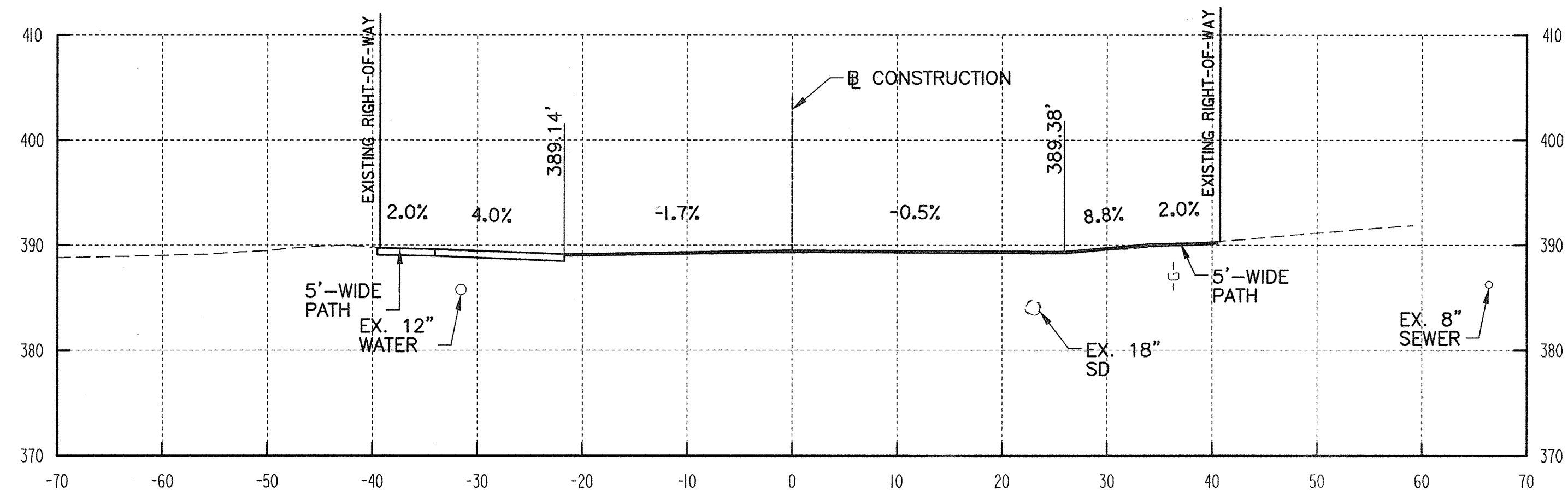
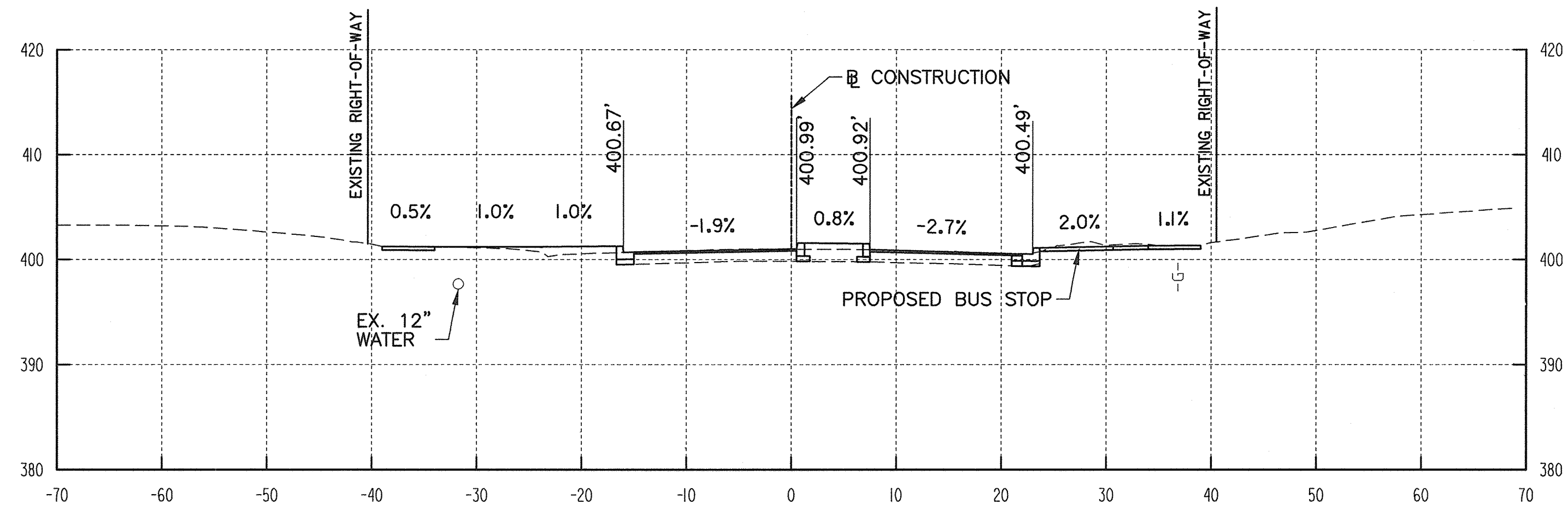
CROSS SECTIONS  
 WHITE ACRE ROAD  
 ADC MAP NO. 4935 GRID NO. E6

CAPITAL PROJECT NO. C0287  
 WHITEACRE ROAD COMPLETE STREET  
 ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND

SCALE  
 AS SHOWN  
 SHEET  
 28 OF 29

NA:31760-011\CADD\Highways\B31760011-R001.dgn  
 10/2/2018





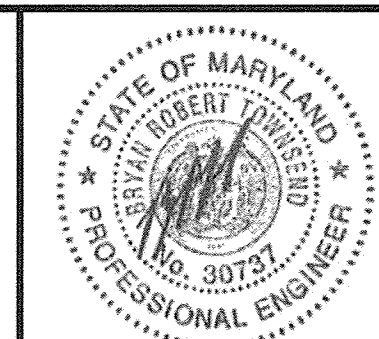
NOTE: EXISTING UTILITIES SHOWN AT HORIZONTAL LOCATION ONLY BASED ON THE BEST AVAILABLE INFORMATION.  
HOWARD COUNTY FIBER, VERIZON, AND BGE UTILITIES NOT SHOWN ON CROSS SECTIONS.  
CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF UTILITIES.

"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. 30737, EXPIRATION DATE: 6/29/2020."

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

Director of Public Works: *[Signature]* 10/16/18  
 Chief, Bureau of Highways: *[Signature]* 10/16/18  
 Chief, Bureau of Engineering: *[Signature]* 10/22/18  
 Chief, Transportation & Special Projects Div.: *[Signature]* 10/19/18

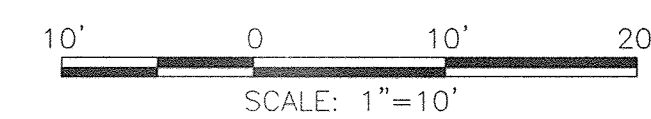
PREPARED BY:  
**WRA**  
 Whitman, Requardt & Associates, LLP  
 801 South Caroline Street, Baltimore, Maryland 21231



DES:	DTB		
DRN:	DTB		
CHK:	BRT		
DATE:	10/02/18		
BY:		NO.	
REVISION			
DATE			

CROSS SECTIONS  
WHITE ACRE ROAD  
 ADC MAP NO. 4935 GRID NO. F6

CAPITAL PROJECT NO. C0287  
 WHITEACRE ROAD COMPLETE STREET  
 ELECTION DISTRICT 6 HOWARD COUNTY, MARYLAND



DWG.  
XS-03

SCALE  
AS SHOWN

SHEET  
29 OF 29

N:\31760-011\CADD\Highway\B31760011-B301.dgn  
 10/2/2018