

OLD ROXBURY ROAD ROADWAY WIDENING MD 97 TO WEST OF RIVERCREST COURT

CAPITAL PROJECT J-4239

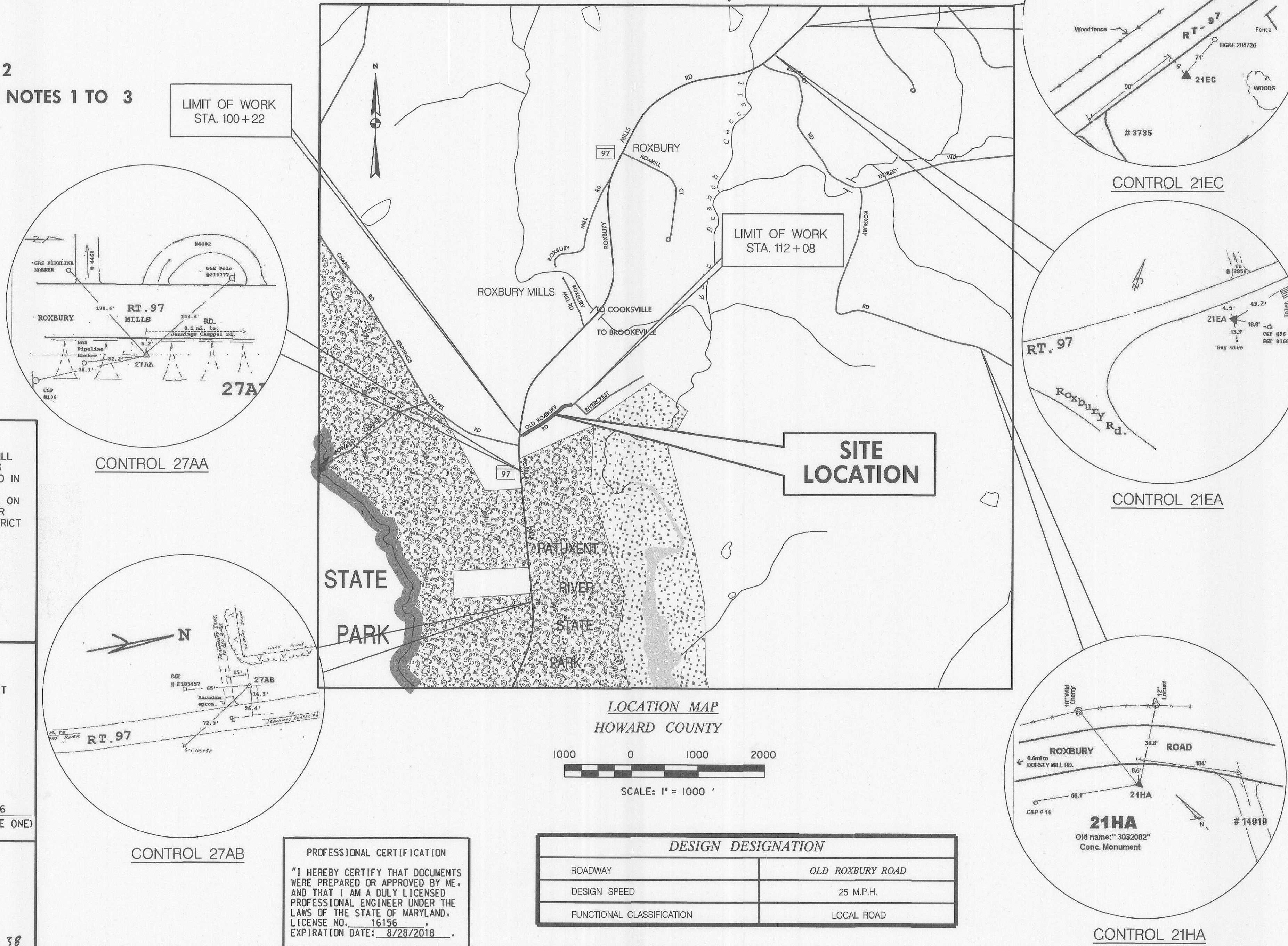
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

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GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 HOWARD COUNTY PUBLIC SCHOOLS AT 410-313-6600 AND MISS UTILITY AT 1-800-257-7777 AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK
 2. COORDINATES SHOWN HEREON ARE BASED ON THE MARYLAND STATE REFERENCE SYSTEM NAD '83/'11 AS PROJECTED BY HOWARD COUNTY PROJECT CONTROL STATIONS 17ED, FLYS, URS1, URS2, URS3, AND URS4
 - 21EA
N=582,715.157
E=1,300,496.083
ELEV=450.235
HOWARD COUNTY DISK FOUND
 - 21EC
N=583,153.978
E=1,300,951.529
ELEV=474.789
HOWARD COUNTY DISK FOUND
 - 21HA
N=578,325.136
E=1,303,578.961
ELEV=550.74
HOWARD COUNTY DISK FOUND
 - 27AA
N=576,482.308
E=1,296,714.572
ELEV=496.62
HOWARD COUNTY DISK FOUND
 - 27AB
N=574,543.018
E=1,296,849.903
ELEV=479.464
HOWARD COUNTY DISK FOUND
 - HC36
N=585,141.435
E=1,289,408.855
ELEV=536.242
HOWARD COUNTY DISK FOUND
 3. THE SYSTEM OF COORDINATES USED IS BASED ON THE FOLLOWING DATUMS AND PROJECTIONS:
HORIZONTAL: NAD83/2011
VERTICAL: NAVD88
 4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
 5. ALL WORK SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE '2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL,' ISSUED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AND THE NATURAL RESOURCES CONSERVATION SERVICE.
 6. TOPOGRAPHIC SURVEYS WERE PERFORMED BY URS CORPORATION IN FEBRUARY 2015.
 7. THE PROPERTY LINES AND EASEMENT LINES SHOWN HERE ARE BASED ON A FIELD RUN SURVEY PERFORMED BY URS CORPORATION IN FEBRUARY 2015.
 8. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND THE FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
 9. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHOD, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
 10. APPROXIMATE UTILITIES ARE SHOWN FROM AVAILABLE RECORDS AND/OR FIELD RECONNAISSANCE. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS.
- UTILITY CONTACTS:
- | | |
|------------------------------|----------------|
| AT&T | 1-800-252-1133 |
| BGE (CONSTRUCTION SERVICES) | (410) 637-8713 |
| BGE (EMERGENCY) | (410) 685-0123 |
| HOCO BUREAU OF UTILITIES | (410) 313-4900 |
| COLONIAL PIPELINE CO. | (410) 795-1390 |
| MISS UTILITY | 1-800-257-7777 |
| STATE HIGHWAY ADMINISTRATION | (410) 531-5533 |
| VERIZON | 1-800-743-0033 |
10. THE RECEIVING WATER BODY CATTAIL CREEK HAS A DESIGNATED USE III-P. IT IS NOT A TIER II DESIGNATED STREAM AND HAS AN IMPAIRMENT LISTING CATEGORY OF 2. WATERS ARE ATTAINING THE WATER QUALITY FOR THE SINGLE POLLUTANT ASSESSED.



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."

Brandon Loe 4/19/18
OWNER'S/DEVELOPER'S SIGNATURE DATE

BRANDON LOE
PRINTED NAME & TITLE

DESIGN CERTIFICATION:
"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

David T. Moriconi 3-26-18
DESIGNER'S SIGNATURE DATE

DAVID T. MORICONI
PRINTED NAME

MD REGISTRATION NO. 16156
(P.E., R.L.S., OR R.L.A. (CIRCLE ONE))

HOWARD SCD SIGNATURE BLOCK:
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Jeffrey Schmitt 4/17/18
HOWARD SOIL CONSERVATION DISTRICT DATE

EP-17-38

PROFESSIONAL CERTIFICATION
"I HEREBY CERTIFY THAT 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. 16156 EXPIRATION DATE: 8/28/2018"

DESIGN DESIGNATION	
ROADWAY	OLD ROXBURY ROAD
DESIGN SPEED	25 M.P.H.
FUNCTIONAL CLASSIFICATION	LOCAL ROAD

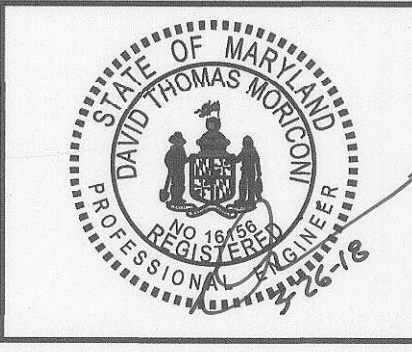
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James B. Butler 4/18/18
DIRECTOR OF PUBLIC WORKS DATE

Brandon Loe 4/19/18
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

Meekins 4/11/2018
CHIEF, BUREAU OF HIGHWAYS DATE

PREPARED BY
URS
4 NORTH PARK DRIVE
HUNT VALLEY, MARYLAND
TEL: (410) 785-7220



DES:	DMT		
DRN:	DMT		
CHK:	DTM		
DATE:	03/2018	BY NO.	
REVISION		DATE	

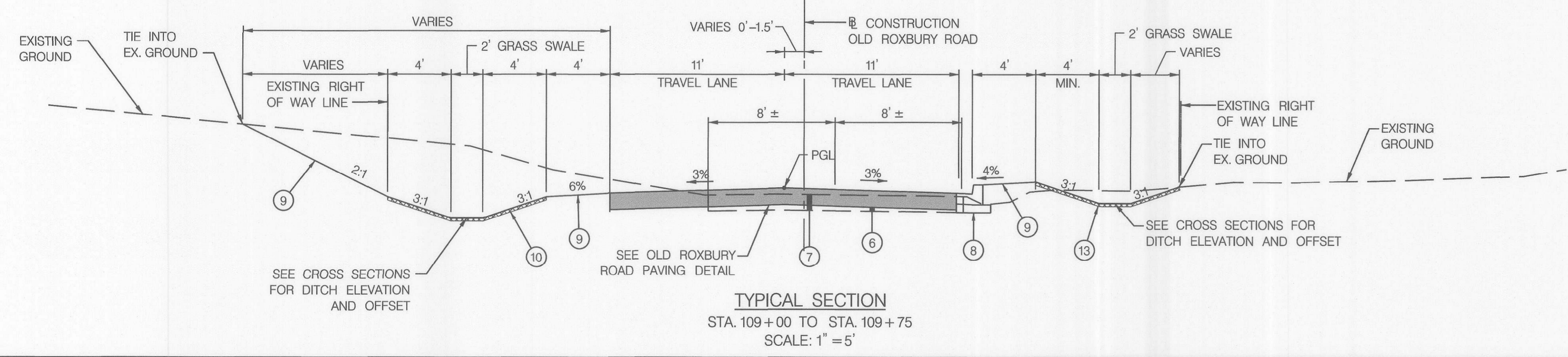
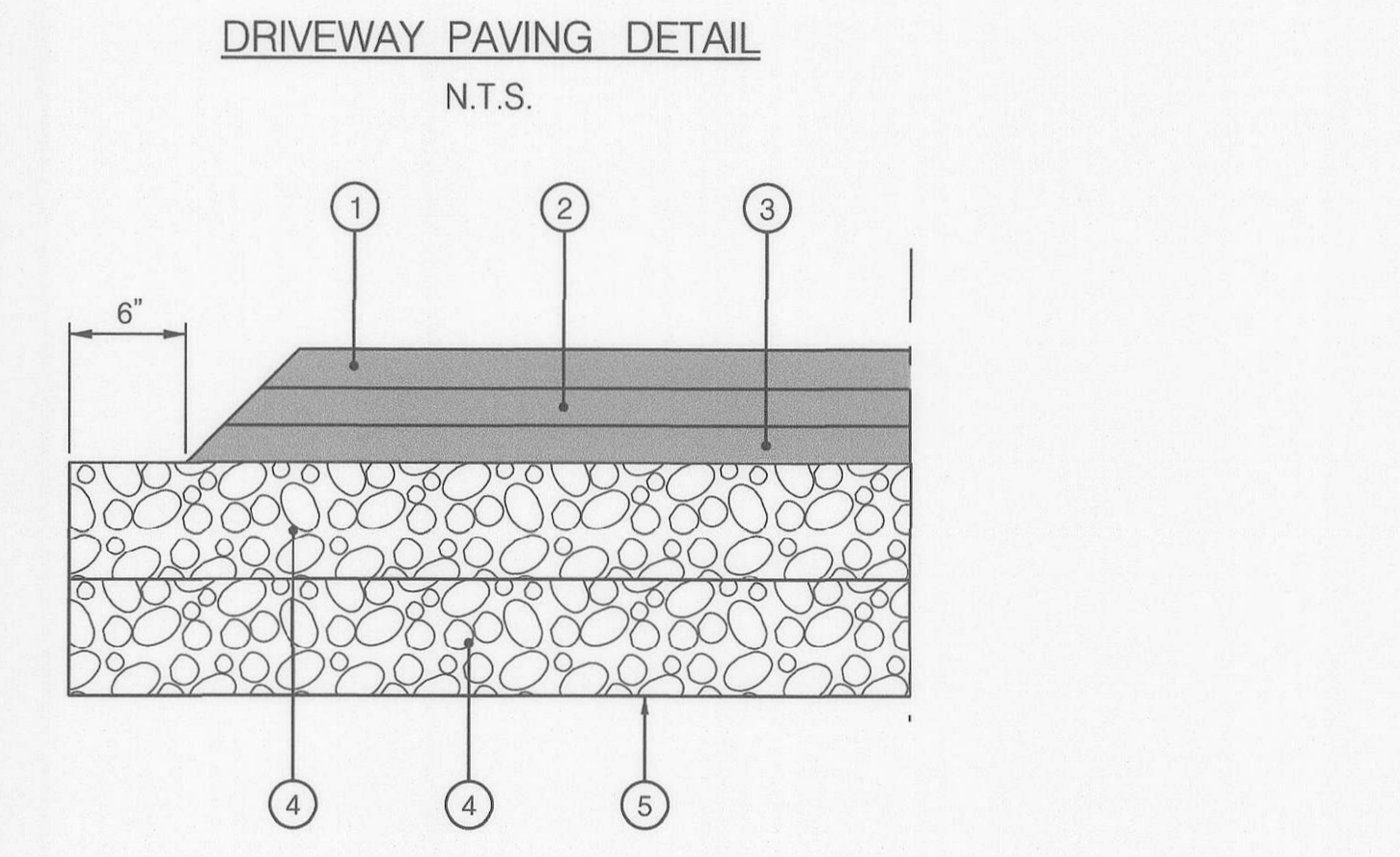
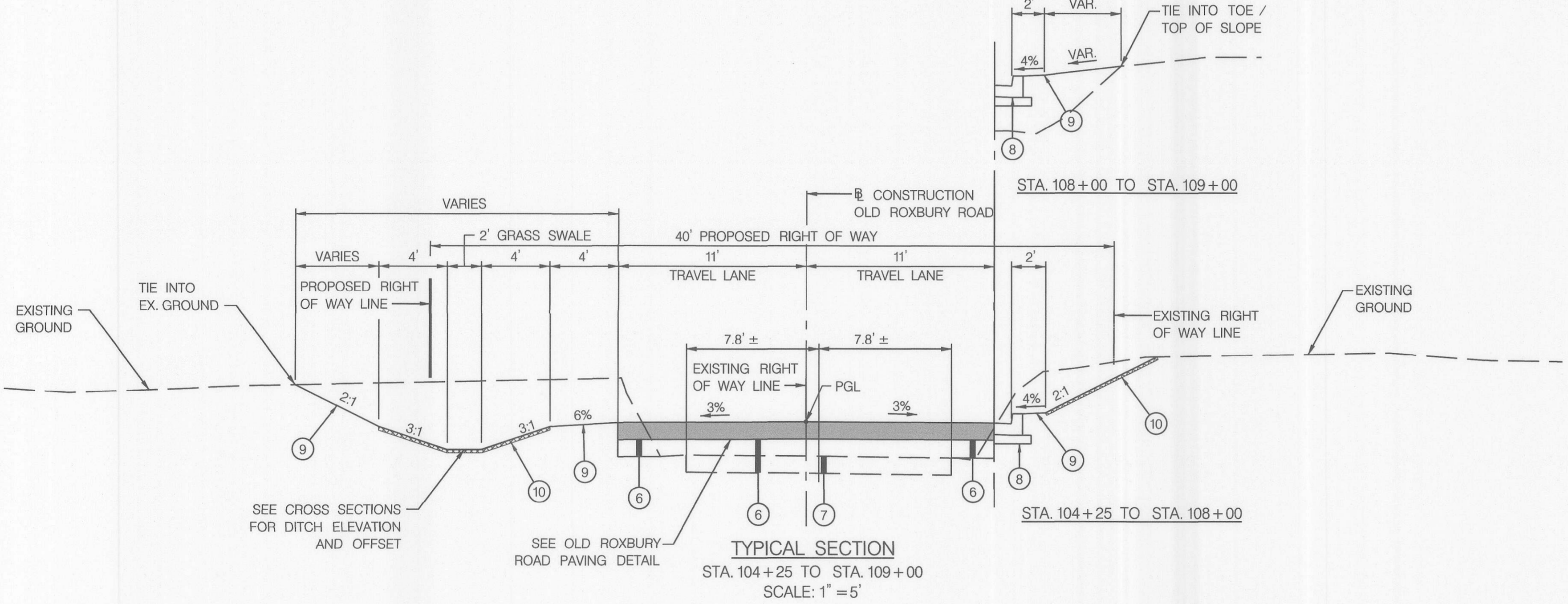
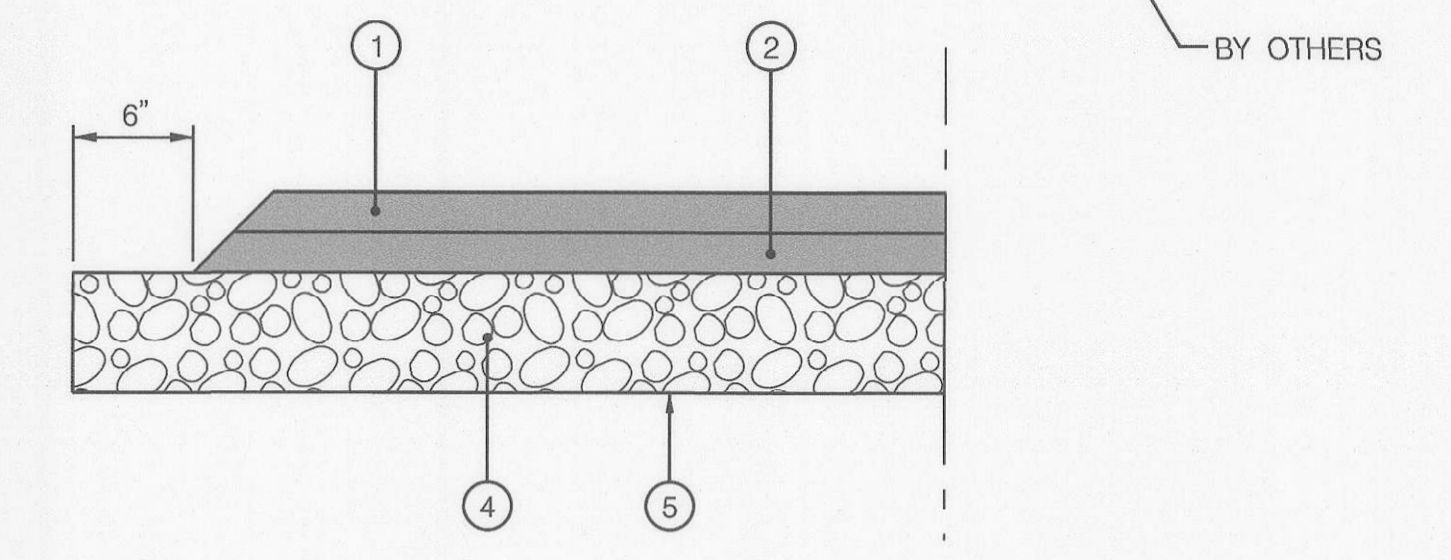
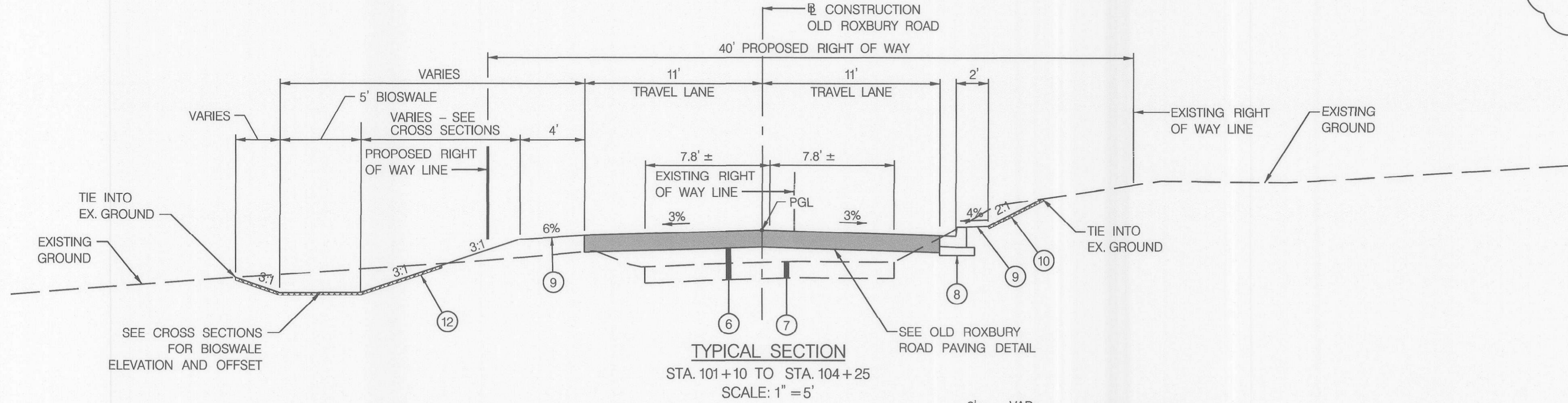
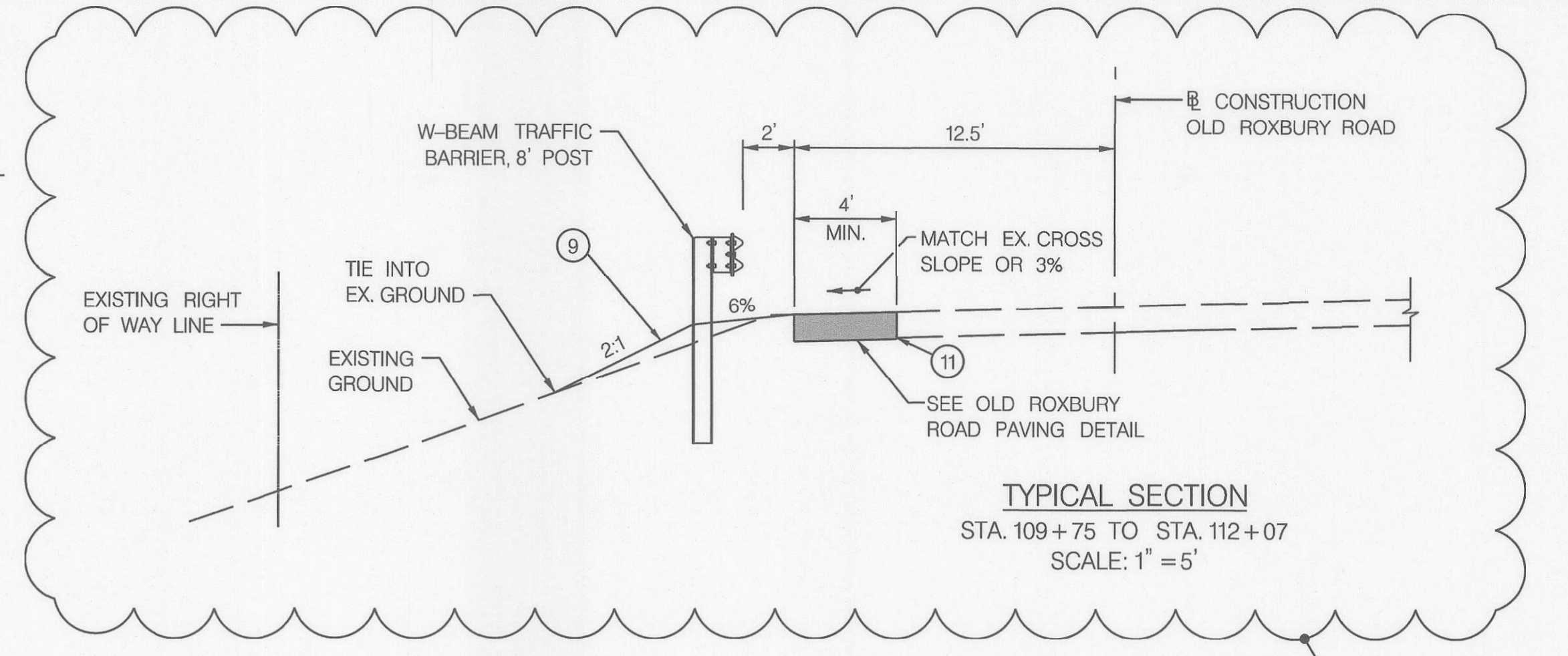
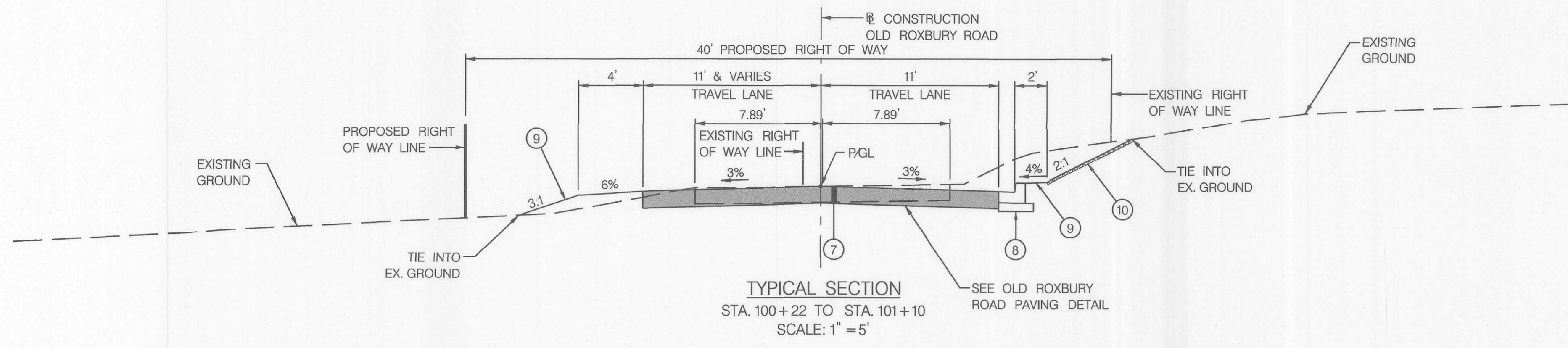
TITLE SHEET

SCALE MAP NO. 21 BLOCK NO. 19

OLD ROXBURY ROAD
ROADWAY WIDENING
MD 97 TO WEST OF RIVERCREST COURT

5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 19



- LEGEND**
- ① 2.0" HMA SUPERPAVE FINAL SURFACE 12.5 MM PG 64-22, LEVEL 2
 - ② 2.0" HMA SUPERPAVE INTERMEDIATE SURFACE 12.5 MM, PG 64-22, LEVEL 2
 - ③ 4.0" HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 2
 - ④ 4.0" GRADED AGGREGATE BASE
 - ⑤ TOP OF SUBGRADE, LIMIT OF CLASS 1 EXCAVATION
 - ⑥ COMPACTED VARIABLE DEPTH GRADED AGGREGATE BASE (2" MIN.)
 - ⑦ EXISTING PAVEMENT TO BE REMOVED
 - ⑧ 7" COMBINATION CURB AND GUTTER - HOWARD COUNTY DETAIL R-3.01
 - ⑨ FOR SLOPES 3:1 OR FLATTER USE 4" TOPSOIL, SEED & MULCH, 2:1 OR STEEPER USE 2" TOPSOIL, SEED & MULCH
 - ⑩ TURF GRASS ESTABLISHMENT WITH TYPE A SOIL STABILIZATION MATTING
 - ⑪ FULL DEPTH SAW CUT
 - ⑫ BIORETENTION MEADOW ESTABLISHMENT WITH TYPE D SOIL STABILIZATION MATTING
 - ⑬ TURF GRASS ESTABLISHMENT WITH TYPE B SOIL STABILIZATION MATTING

- NOTES:**
1. OPEN ROADWAY TYPICAL SECTION IS BASED ON HOWARD COUNTY DETAIL R-1.01.
 2. CLOSED ROADWAY TYPICAL SECTION IS BASED ON HOWARD COUNTY DETAIL R-1.02. (AND AS MODIFIED TO MINIMIZE IMPACTS).
 3. THE EXISTING PAVEMENT SECTION VARIES.

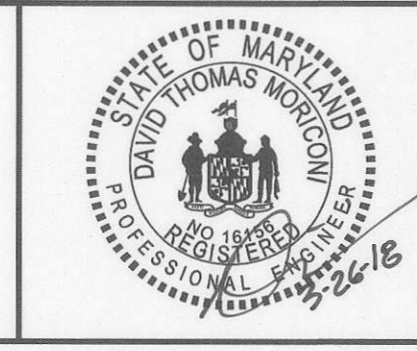
PROFESSIONAL CERTIFICATION
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DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature] 4/11/18
 DIRECTOR OF PUBLIC WORKS DATE

[Signature] 4/10/2018
 CHIEF, BUREAU OF HIGHWAYS DATE

PREPARED BY
URS
 4 NORTH PARK DRIVE
 HUNT VALLEY, MARYLAND
 TEL: (410) 785-7220



DES: DMT			
DRN: DMT			
CHK: DTM			
DATE: 03/2018	BY NO.	REVISION	DATE

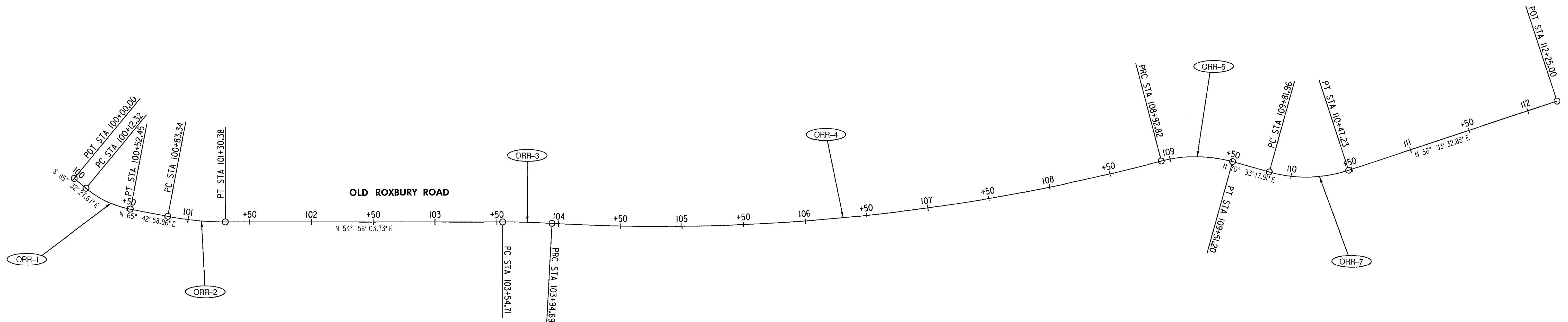
TYPICAL SECTIONS AND DETAILS

SCALE MAP NO. _____ BLOCK NO. _____

OLD ROXBURY ROAD ROADWAY WIDENING
 MD 97 TO WEST OF RIVERCREST COURT

5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 2 OF 19



CONSTRUCTION CONTROL COORDINATES					
CURVE	POINT NO.	STATION	NORTHING	EASTING	BEARING
B/L OLD ROXBURY ROAD					
ORR-1	PT	100+00.00	577,021.6726	1,296,677.7243	S 85° 32' 27.67\" E
	PC	100+12.32	577,020.7146	1,296,690.0092	S 85° 32' 27.67\" E
	PI	100+32.82	577,019.1210	1,296,710.4450	
	PT	100+52.45	577,027.5508	1,296,729.1292	N 65° 42' 58.96\" E
ORR-2	PC	100+83.34	577,040.2517	1,296,757.2801	N 65° 42' 58.96\" E
	PI	101+06.93	577,049.9542	1,296,778.7851	
	PT	101+30.38	577,063.5083	1,296,798.0953	N 54° 56' 03.73\" E
ORR-3	PC	103+54.71	577,192.3885	1,296,981.7072	N 54° 56' 03.73\" E
	PI	103+74.71	577,203.8753	1,296,998.0721	
	PT	103+94.69	577,214.4739	1,297,015.0259	N 57° 59' 18.61\" E
ORR-4	PC	103+94.69	577,214.4739	1,297,015.0259	N 57° 59' 18.61\" E
	PI	106+45.79	577,347.5783	1,297,227.9423	
	PT	108+92.82	577,539.5060	1,297,389.8494	N 40° 09' 01.55\" E
ORR-5	PC	108+92.82	577,539.5060	1,297,389.8494	N 40° 09' 01.55\" E
	PI	109+22.71	577,562.3533	1,297,409.1230	
	PT	109+51.20	577,572.3041	1,297,437.3091	N 70° 33' 17.91\" E
ORR-6	PC	109+81.96	577,582.5458	1,297,466.3193	N 70° 33' 17.91\" E
	PI	110+15.59	577,593.7400	1,297,498.0273	
	PT	110+47.23	577,620.7499	1,297,518.0567	N 36° 33' 32.88\" E
	POE	112+25.00	577,763.5436	1,297,623.9467	N 36° 33' 32.88\" E

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
ORR-1	28° 44' 33.37\" LT	71' 37' 11.01\"	80.00	20.50	40.13	2.58
ORR-2	10° 46' 55.23\" LT	22' 55' 05.92\"	250.00	23.59	47.05	1.11
ORR-3	3° 03' 14.88\" RT	7' 38' 21.97\"	750.00	19.99	39.98	0.27
ORR-4	17° 50' 17.05\" LT	3' 34' 51.55\"	1,600.00	251.10	498.13	19.58
ORR-5	30° 24' 16.35\"	52' 05' 13.46\"	110.00	29.89	58.37	3.99
ORR-6	33° 59' 45.02\"	52' 05' 13.46\"	110.00	33.63	65.27	5.02

MAINTENANCE OF TRAFFIC NOTES

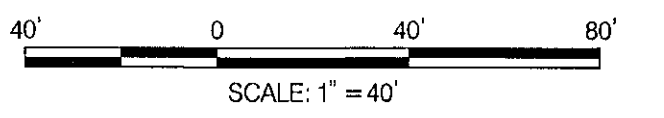
CONSTRUCTION STAGING

1. THE CONTRACTOR SHALL COORDINATE TIME OF CONSTRUCTION WITH THE PROPERTY OWNERS AND HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
2. CONSTRUCTION OF THE PROPOSED CURB AND GUTTER AND FULL DEPTH PAVEMENT SECTIONS SHALL BE PERFORMED UNDER A FLAGGING OPERATION AS PER MD SHA STD. 104.02-10.

TRAFFIC CONTROL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION'S WORK ZONE TRAFFIC CONTROL TYPICALS, THE MD MUTCD AND SUBSEQUENT REVISIONS ADOPTED BY THE STATE OF MARYLAND.
2. ALL EXISTING SIGNS AND PAVEMENT MARKINGS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION.
3. PORTABLE VARIABLE MESSAGE SIGN(S) (PVMS) MESSAGES SHALL BE AS DIRECTED BY THE HOWARD COUNTY INSPECTOR. ALL PROPOSED PVMSs SHALL BE PLACED ACCORDING TO STD. MD. 104.01-22, OR AS DIRECTED BY THE COUNTY.
4. ADVANCE WARNING SIGNS SHALL BE INSTALLED AT A MINIMUM SPACING OF 200 FEET TO AN EXISTING SIGN, UNLESS OTHERWISE DIRECTED BY THE HOWARD COUNTY INSPECTOR.
5. EXCAVATIONS IN AREAS WHERE THE WORK BUFFER IS LESS THAN ONE LANE SHALL BE BACKFILLED WITH GAB FOR MOT PRIOR TO THE END OF THE WORK DAY IN CONFORMANCE WITH SHA STD. MD. 104.01-28.
6. NO WORK IS TO BEGIN UNTIL ALL ADVANCE WARNING SIGNS AND CHANNELIZATION DEVICES ARE IN PLACE AND OPERATIONAL.
7. THE CONTRACTOR SHALL USE STEEL PLATES TO COVER ANY AND ALL OPEN TRENCHES AT THE END OF THE WORK DAY OR WHEN ALL LANES OF TRAFFIC ARE TO BE OPENED TO TRAFFIC.
8. FOR OFF-PEAK HOUR WORK ZONES, TYPICAL APPLICATIONS FROM CATEGORY I OF THE MSHA BOOK OF STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES IN ADDITION TO THOSE CITED ON THESE PLANS MAY BE REQUIRED.
9. TYPICAL APPLICATIONS TO BE USED FOR OFF-PEAK HOUR WORK MAY BE MODIFIED AS REQUIRED BASED ON FIELD CONDITIONS.
10. NOTE THAT THE CONTRACTOR SHALL USE STAGED CONSTRUCTION TO COMPLETE THE WORK. UNDER STAGED CONSTRUCTION, THE CONTRACTOR SHALL ONLY SET UP LANE CLOSURES FOR WORK THAT WILL BE COMPLETED, OR SUFFICIENTLY COMPLETED IN ORDER TO REMOVE THE LANE CLOSURE PRIOR TO THE BEGINNING OF THE PEAK PERIOD, SUCH AS ONE BLOCK OR BETWEEN DRIVEWAYS. UPON COMPLETION OF ONE BLOCK OR MEDIAN SECTION, THE LANE CLOSURE MAY BE ESTABLISHED FOR THE NEXT SECTION OR BLOCK.

PROFESSIONAL CERTIFICATION
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 LICENSE NO. 16156
 EXPIRATION DATE: 8/28/2018



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

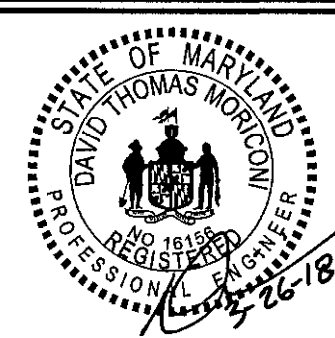
[Signature] 4/1/18
 DIRECTOR OF PUBLIC WORKS DATE

[Signature] 4/1/18
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

[Signature] 4/1/18
 CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 4/1/2018
 CHIEF, BUREAU OF HIGHWAYS DATE

PREPARED BY
URS
 4 NORTH PARK DRIVE
 HUNT VALLEY, MARYLAND
 TEL: (410) 785-7220



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DRN: DMT			
CHK: DTM			
DATE: 03/2018	BY	NO.	REVISION

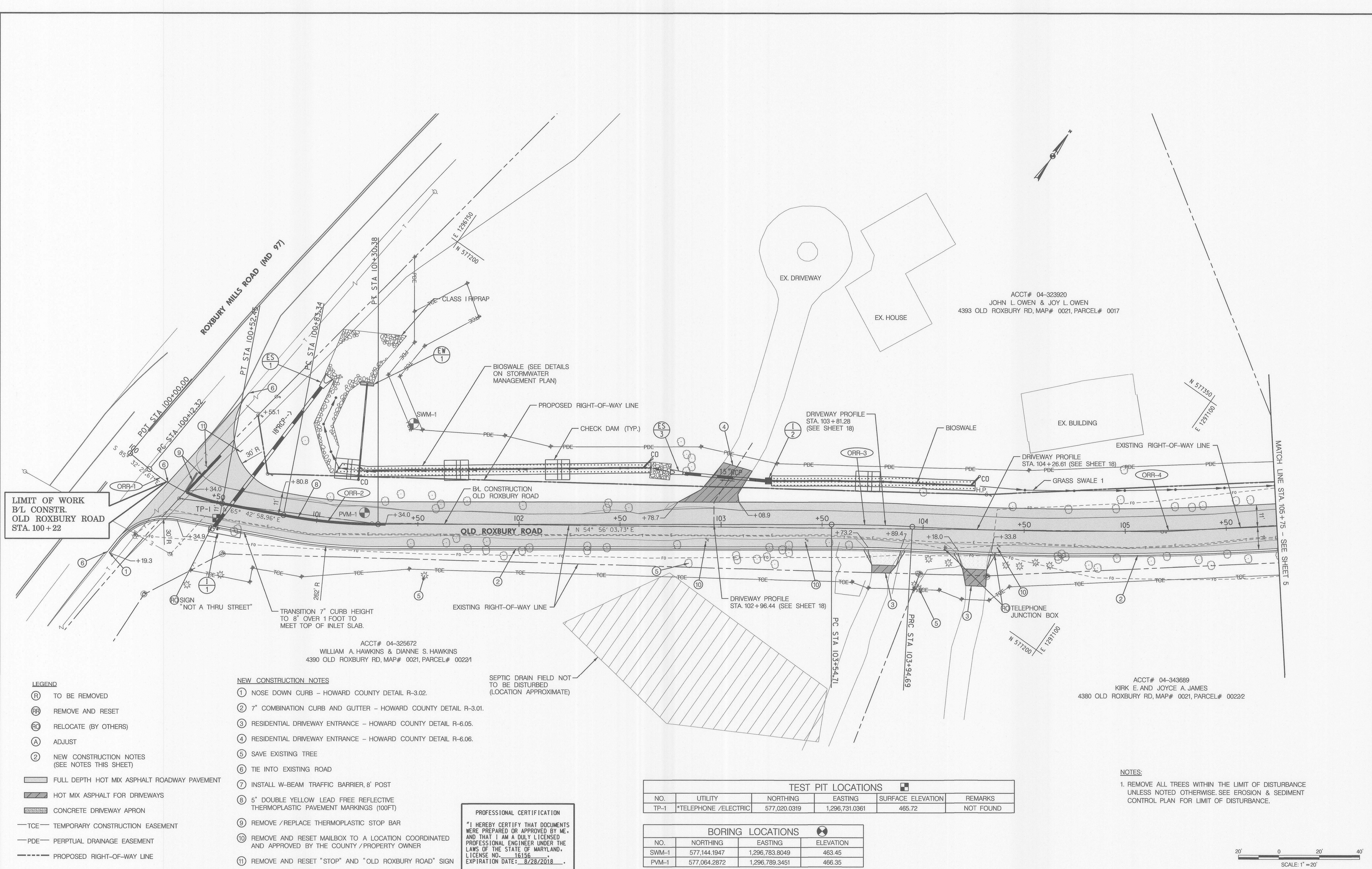
GEOMETRY PLAN

SCALE MAP NO. _____ BLOCK NO. _____

OLD ROXBURY ROAD
 ROADWAY WIDENING
 MD 97 TO WEST OF RIVERCREST COURT

5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE
 1" = 40'
 SHEET
 3 OF 19



LIMIT OF WORK
B/L CONSTR.
OLD ROXBURY ROAD
STA. 100 + 22

ACCT# 04-323920
JOHN L. OWEN & JOY L. OWEN
4393 OLD ROXBURY RD, MAP# 0021, PARCEL# 0017

ACCT# 04-325672
WILLIAM A. HAWKINS & DIANNE S. HAWKINS
4390 OLD ROXBURY RD, MAP# 0021, PARCEL# 00221

ACCT# 04-343689
KIRK E. AND JOYCE A. JAMES
4380 OLD ROXBURY RD, MAP# 0021, PARCEL# 00222

- LEGEND**
- (R) TO BE REMOVED
 - (FR) REMOVE AND RESET
 - (RC) RELOCATE (BY OTHERS)
 - (A) ADJUST
 - (2) NEW CONSTRUCTION NOTES (SEE NOTES THIS SHEET)
 - [Pattern] FULL DEPTH HOT MIX ASPHALT ROADWAY PAVEMENT
 - [Pattern] HOT MIX ASPHALT FOR DRIVEWAYS
 - [Pattern] CONCRETE DRIVEWAY APRON
 - TCE--- TEMPORARY CONSTRUCTION EASEMENT
 - PDE--- PERPTUAL DRAINAGE EASEMENT
 - Dashed--- PROPOSED RIGHT-OF-WAY LINE

- NEW CONSTRUCTION NOTES**
- 1 NOSE DOWN CURB - HOWARD COUNTY DETAIL R-3.02.
 - 2 7" COMBINATION CURB AND GUTTER - HOWARD COUNTY DETAIL R-3.01.
 - 3 RESIDENTIAL DRIVEWAY ENTRANCE - HOWARD COUNTY DETAIL R-6.05.
 - 4 RESIDENTIAL DRIVEWAY ENTRANCE - HOWARD COUNTY DETAIL R-6.06.
 - 5 SAVE EXISTING TREE
 - 6 TIE INTO EXISTING ROAD
 - 7 INSTALL W-BEAM TRAFFIC BARRIER, 8' POST
 - 8 5" DOUBLE YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (100FT)
 - 9 REMOVE /REPLACE THERMOPLASTIC STOP BAR
 - 10 REMOVE AND RESET MAILBOX TO A LOCATION COORDINATED AND APPROVED BY THE COUNTY /PROPERTY OWNER
 - 11 REMOVE AND RESET "STOP" AND "OLD ROXBURY ROAD" SIGN

SEPTIC DRAIN FIELD NOT TO BE DISTURBED (LOCATION APPROXIMATE)

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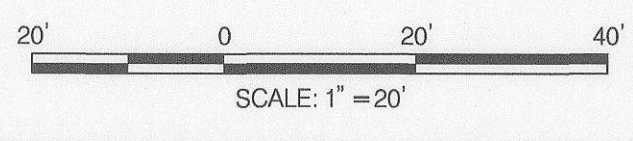
TEST PIT LOCATIONS

NO.	UTILITY	NORTHING	EASTING	SURFACE ELEVATION	REMARKS
TP-1	*TELEPHONE /ELECTRIC	577,020.0319	1,296,731.0361	465.72	NOT FOUND

BORING LOCATIONS

NO.	NORTHING	EASTING	ELEVATION
SWM-1	577,144.1947	1,296,783.8049	463.45
PVM-1	577,064.2872	1,296,789.3451	466.35

NOTES:
1. REMOVE ALL TREES WITHIN THE LIMIT OF DISTURBANCE UNLESS NOTED OTHERWISE. SEE EROSION & SEDIMENT CONTROL PLAN FOR LIMIT OF DISTURBANCE.



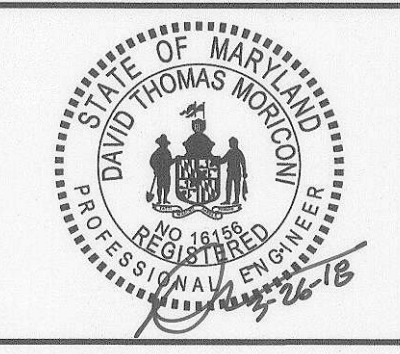
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 4/19/18
Date: 4/19/18

Chief, Bureau of Engineering: *[Signature]* 4/10/2018
Date: 4/10/2018

Chief, Transportation and Special Projects Division: *[Signature]* 4/19/18
Date: 4/19/18

PREPARED BY
URS
4 NORTH PARK DRIVE
HUNT VALLEY, MARYLAND
TEL: (410) 785-7220



DES:	DMT			
DRN:	DMT			
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DATE:				

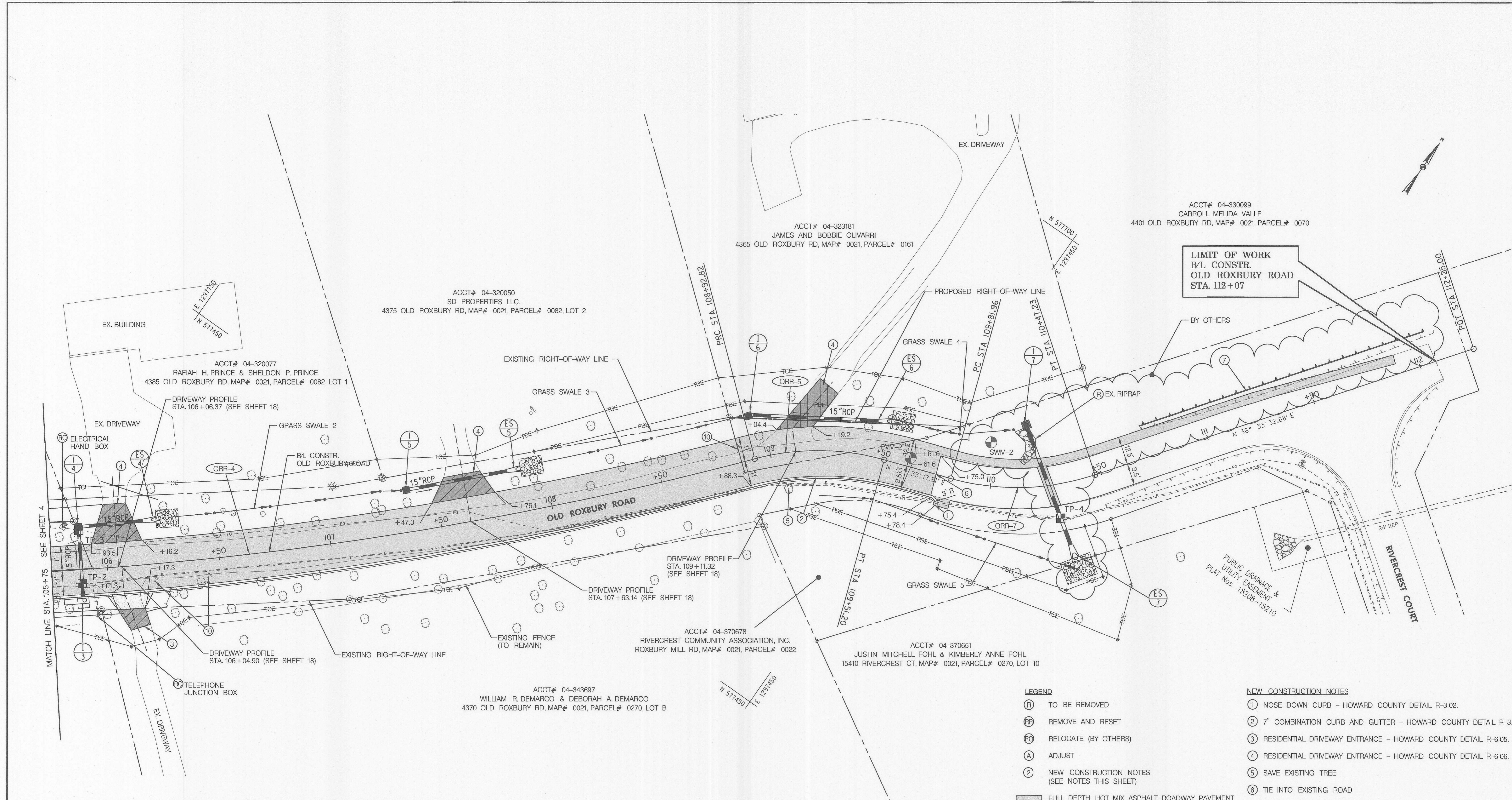
ROADWAY PLAN - 1

SCALE MAP NO. _____ BLOCK NO. _____

**OLD ROXBURY ROAD
ROADWAY WIDENING
MD 97 TO WEST OF RIVERCREST COURT**

5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE: 1" = 20'
SHEET 4 OF 19



**LIMIT OF WORK
B/L CONSTR.
OLD ROXBURY ROAD
STA. 112+07**

MATCH LINE STA. 105+75 - SEE SHEET 4

TEST PIT LOCATIONS					
NO.	UTILITY	NORTHING	EASTING	SURFACE ELEVATION	REMARKS
TP-2	*TELEPHONE /ELECTRIC	577,322.0138	1,297,176.4700	469.76	NOT FOUND
TP-3	FIBER OPTIC	577,340.4020	1,297,161.5991	472.91	NOT FOUND
TP-4	*TELEPHONE /ELECTRIC FIBER OPTIC	577,596.1624	1,297,516.6980	442.79	NOT FOUND

BORING LOCATIONS			
NO.	NORTHING	EASTING	ELEVATION
SWM-2	577,606.0130	1,297,471.9094	443.77
PVM-2	577,579.7533	1,297,446.4723	445.01

PROFESSIONAL CERTIFICATION
 "I HEREBY CERTIFY THAT 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. 16158
 EXPIRATION DATE: 8/28/2018

LEGEND

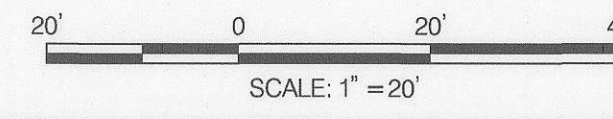
- (R) TO BE REMOVED
- (RR) REMOVE AND RESET
- (RC) RELOCATE (BY OTHERS)
- (A) ADJUST
- (2) NEW CONSTRUCTION NOTES (SEE NOTES THIS SHEET)
- [Hatched Box] FULL DEPTH HOT MIX ASPHALT ROADWAY PAVEMENT
- [Hatched Box] HOT MIX ASPHALT FOR DRIVEWAYS
- [Hatched Box] CONCRETE DRIVEWAY APRON
- TCE- TEMPORARY CONSTRUCTION EASEMENT
- PDE- PERPTUAL DRAINAGE EASEMENT
- - - PROPOSED RIGHT-OF-WAY LINE

NEW CONSTRUCTION NOTES

- 1 NOSE DOWN CURB - HOWARD COUNTY DETAIL R-3.02.
- 2 7" COMBINATION CURB AND GUTTER - HOWARD COUNTY DETAIL R-3.01.
- 3 RESIDENTIAL DRIVEWAY ENTRANCE - HOWARD COUNTY DETAIL R-6.05.
- 4 RESIDENTIAL DRIVEWAY ENTRANCE - HOWARD COUNTY DETAIL R-6.06.
- 5 SAVE EXISTING TREE
- 6 TIE INTO EXISTING ROAD
- 7 INSTALL W-BEAM TRAFFIC BARRIER, 8' POST
- 8 5" DOUBLE YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (100FT)
- 9 REMOVE /REPLACE THERMOPLASTIC STOP BAR
- 10 REMOVE AND RESET MAILBOX TO A LOCATION COORDINATED AND APPROVED BY THE COUNTY /PROPERTY OWNER

NOTES:

1. REMOVE ALL TREES WITHIN THE LIMIT OF DISTURBANCE UNLESS NOTED OTHERWISE.



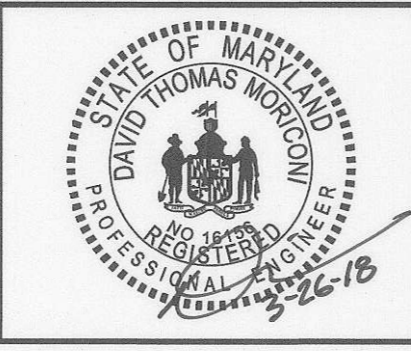
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John J. ... 4/1/18
DIRECTOR OF PUBLIC WORKS DATE

Thomas ... 4/1/18
CHIEF, BUREAU OF ENGINEERING DATE

Thomas ... 4/1/2018
CHIEF, BUREAU OF HIGHWAYS DATE

PREPARED BY
URS
4 NORTH PARK DRIVE
HUNT VALLEY, MARYLAND
TEL: (410) 785-7220



DES:	DMT		
DRN:	DMT		
CHK:	DTM		
DATE:	03/2018	BY NO.	
		REVISION	
		DATE	

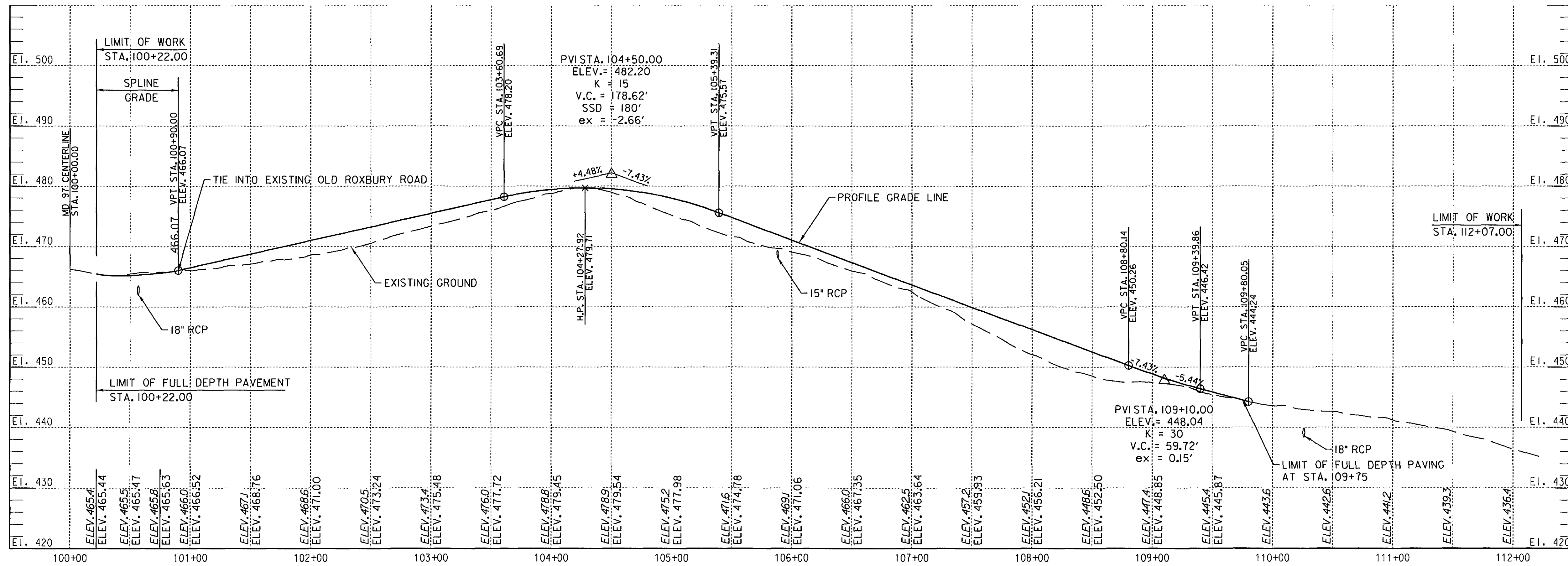
ROADWAY PLAN - 2

SCALE MAP NO. _____ BLOCK NO. _____

**OLD ROXBURY ROAD
ROADWAY WIDENING
MD 97 TO WEST OF RIVERCREST COURT**

5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE 1" = 20'
SHEET 5 OF 19



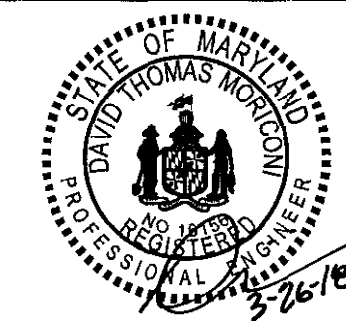
OLD ROXBURY ROAD PROFILE
 SCALE: 1" = 50' HORIZ./1" = 10' VERT.

PROFESSIONAL CERTIFICATION
 "I HEREBY CERTIFY THAT 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. 18156, EXPIRATION DATE: 8/28/2018."

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 4/1/18
 Chief, Bureau of Engineering: *[Signature]* 4/1/18
 Chief, Transportation and Special Projects Division: *[Signature]* 4/1/18

PREPARED BY
URS
 4 NORTH PARK DRIVE
 HUNT VALLEY, MARYLAND
 TEL: (410) 785-7220



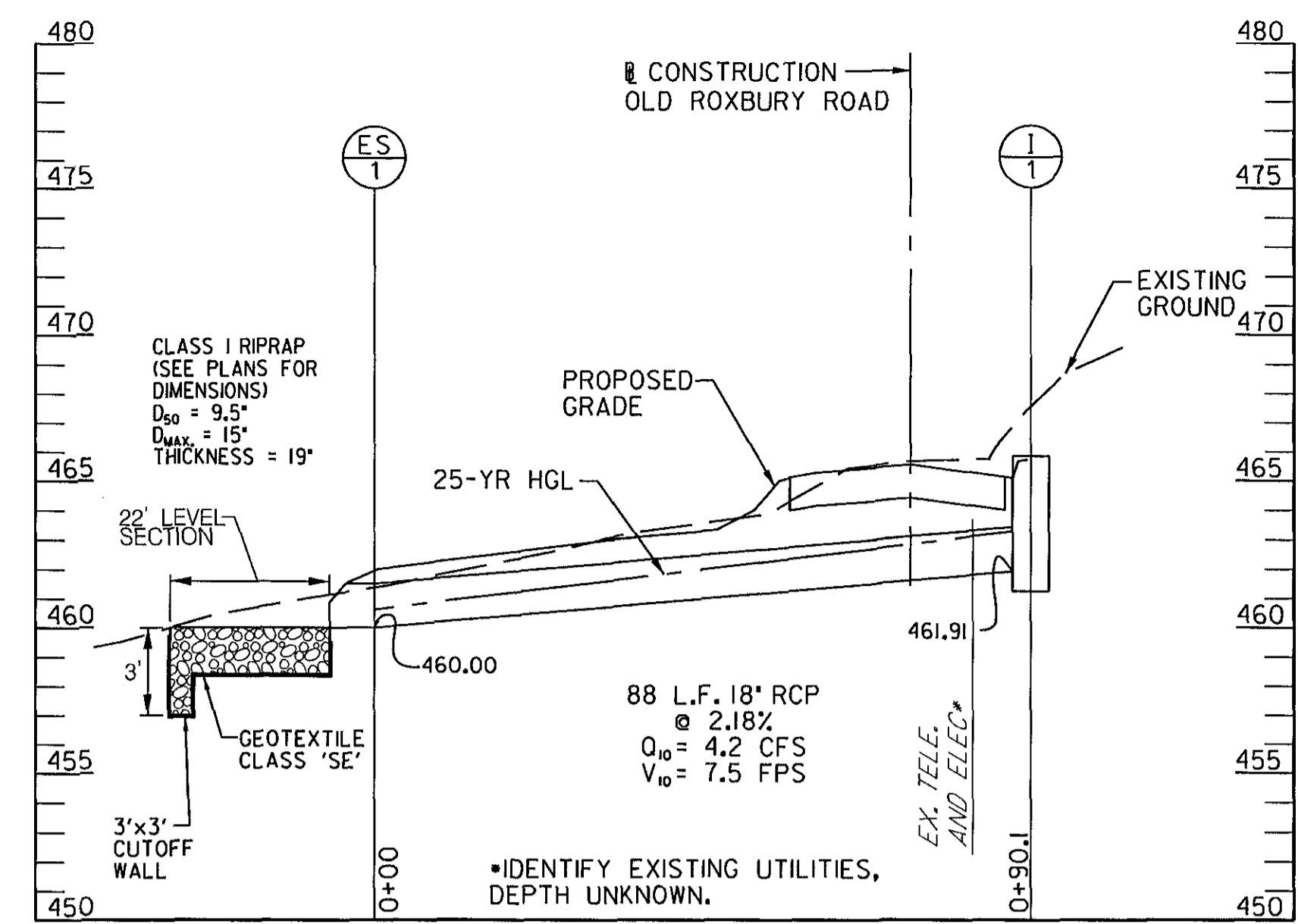
DES:	DMT		
DRN:	DMT		
CHK:	DTM		
DATE:	03/2018	BY:	NO.
		REVISION	DATE

ROADWAY PROFILE

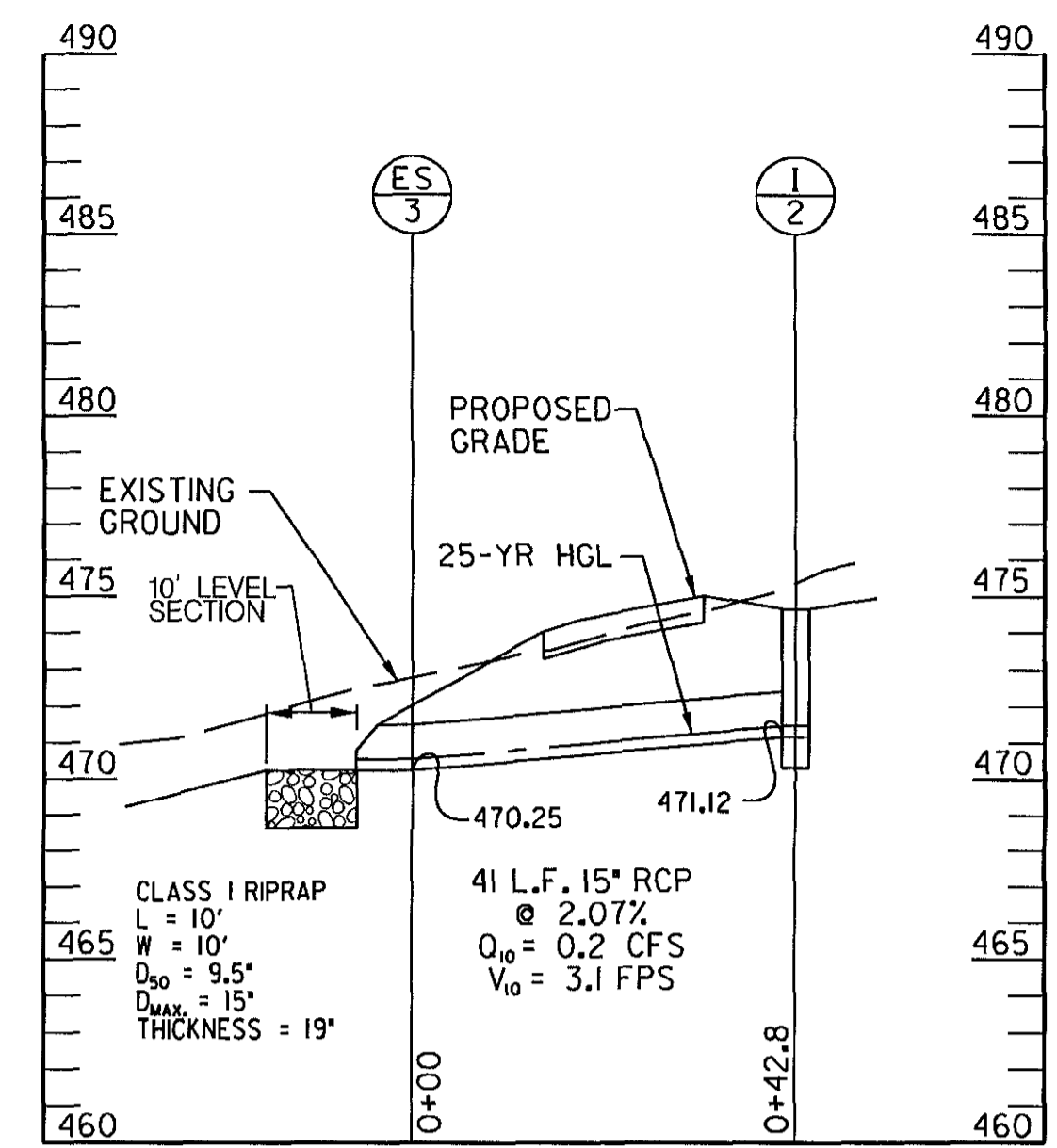
SCALE MAP NO. _____ BLOCK NO. _____

OLD ROXBURY ROAD
 ROADWAY WIDENING
 MD 97 TO WEST OF RIVERCREST COURT
 5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

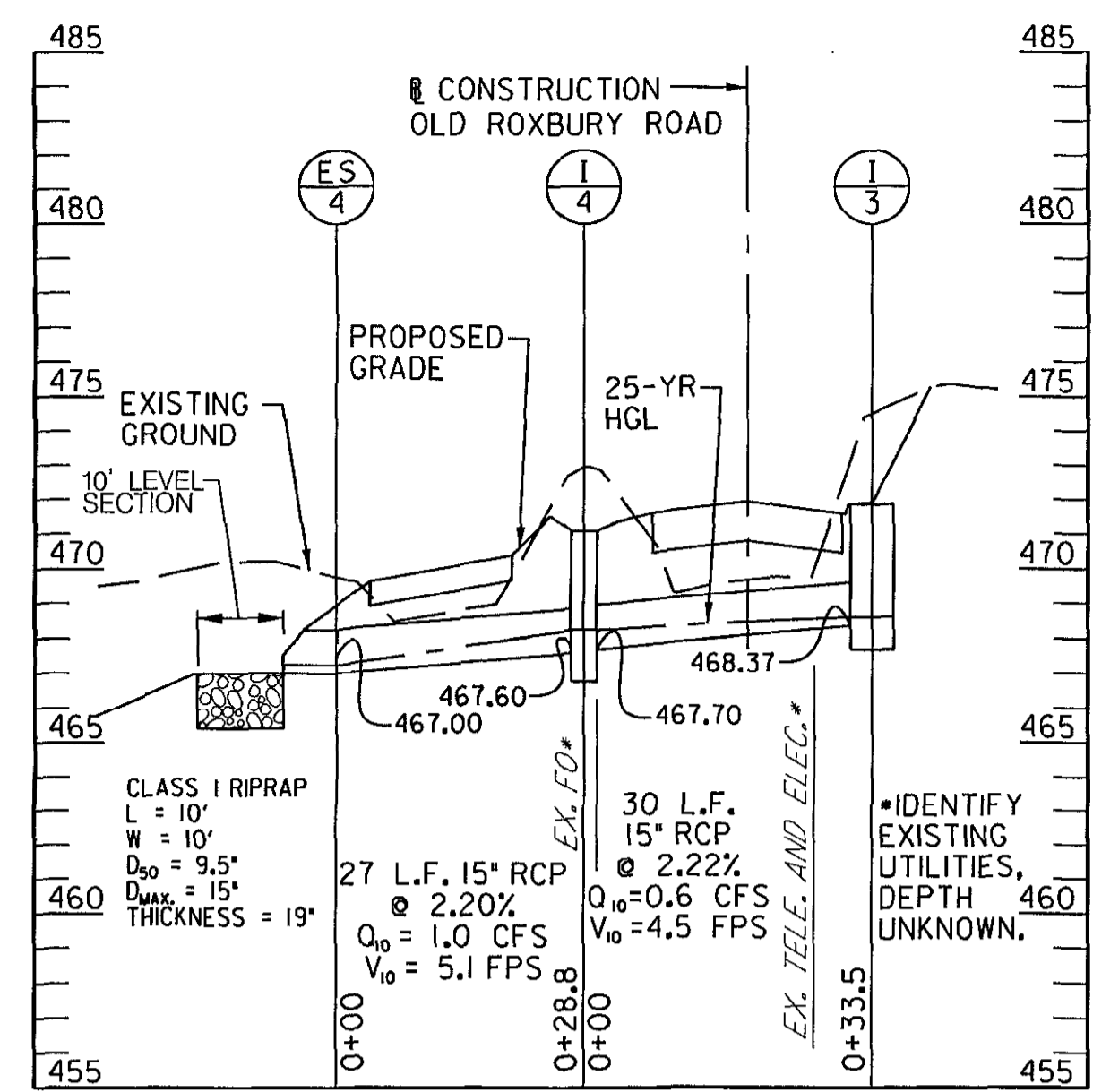
SCALE AS SHOWN
 SHEET 6 OF 19



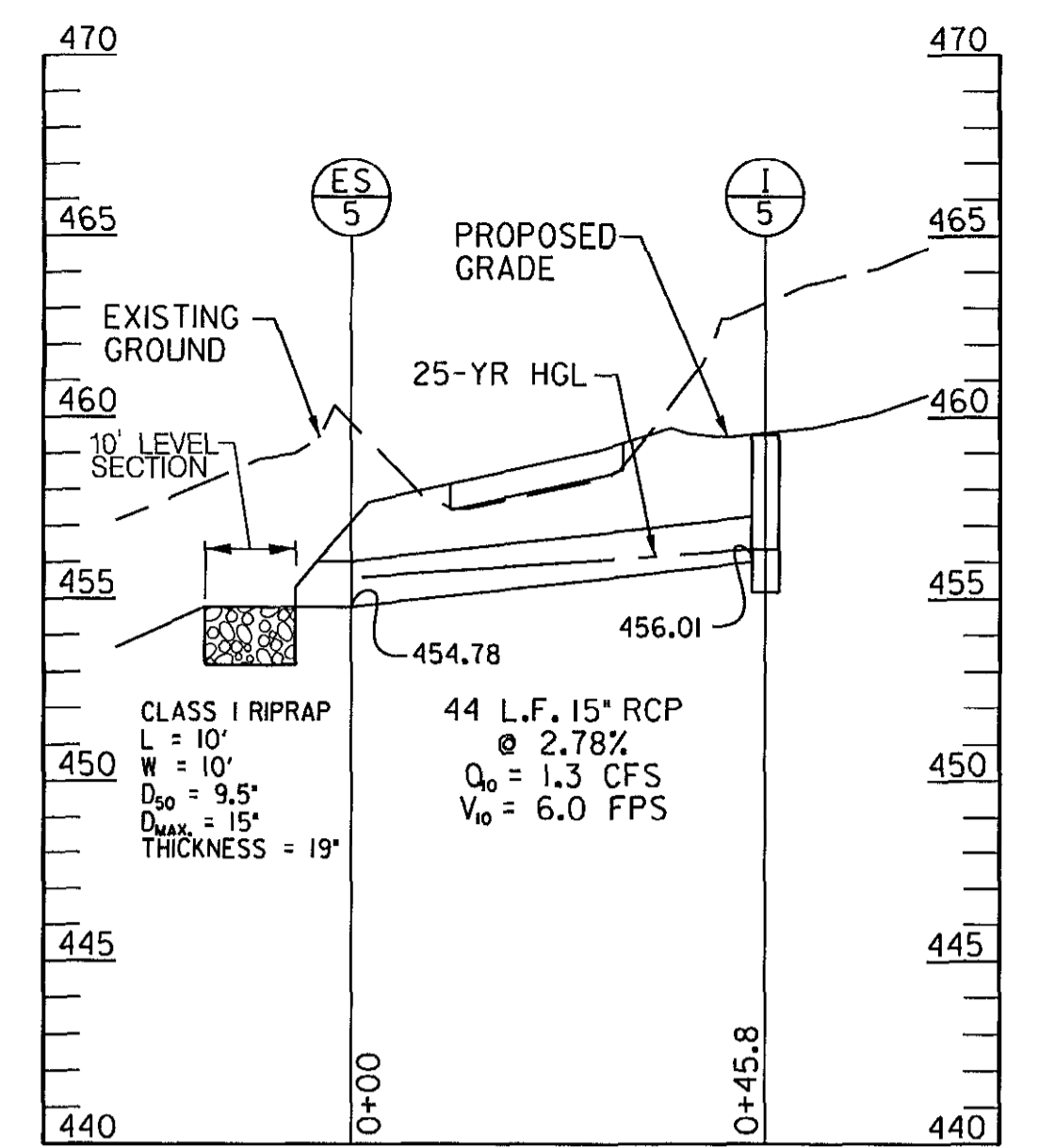
I-1 TO ES-1



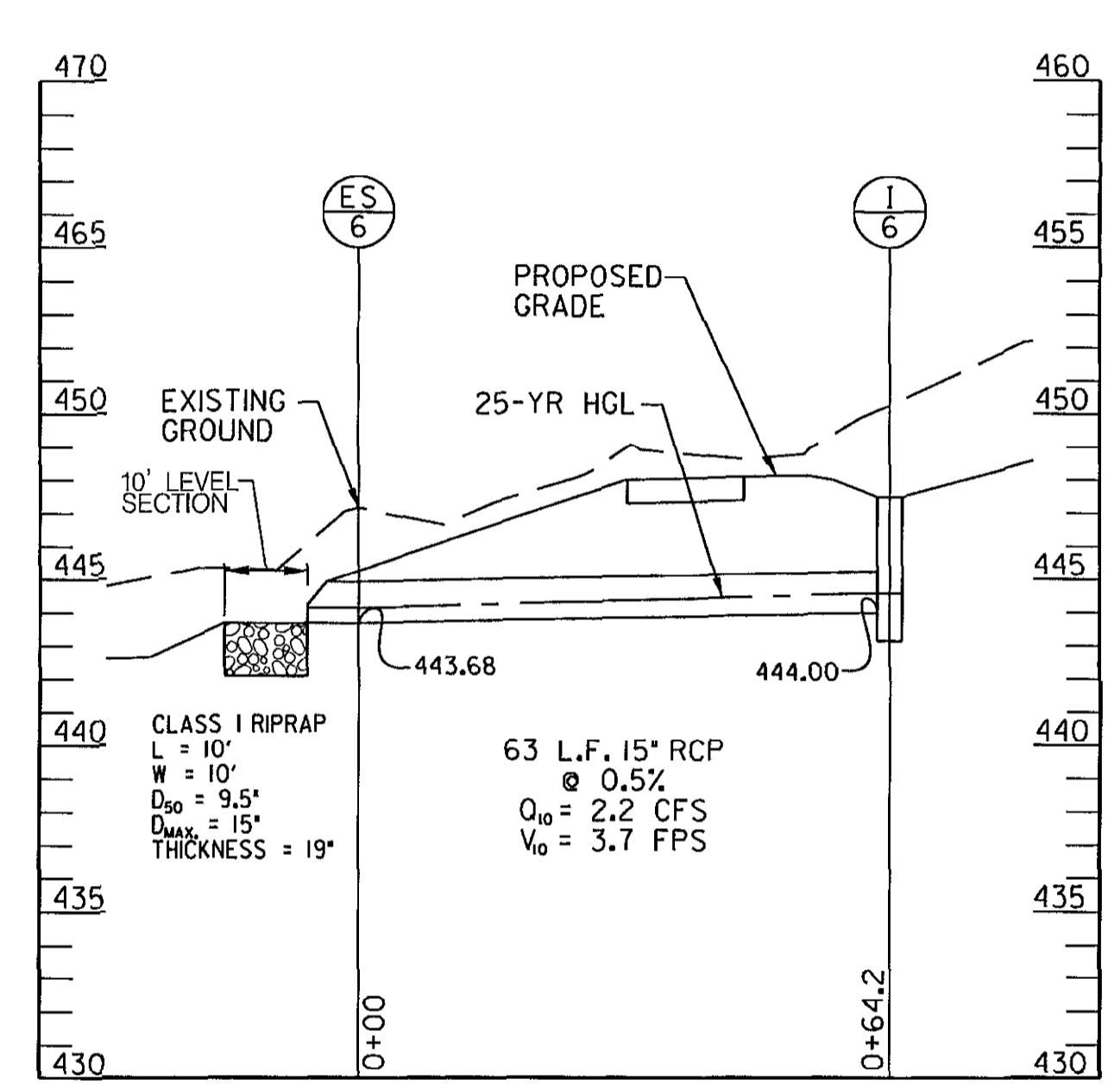
ES-3 TO I-2



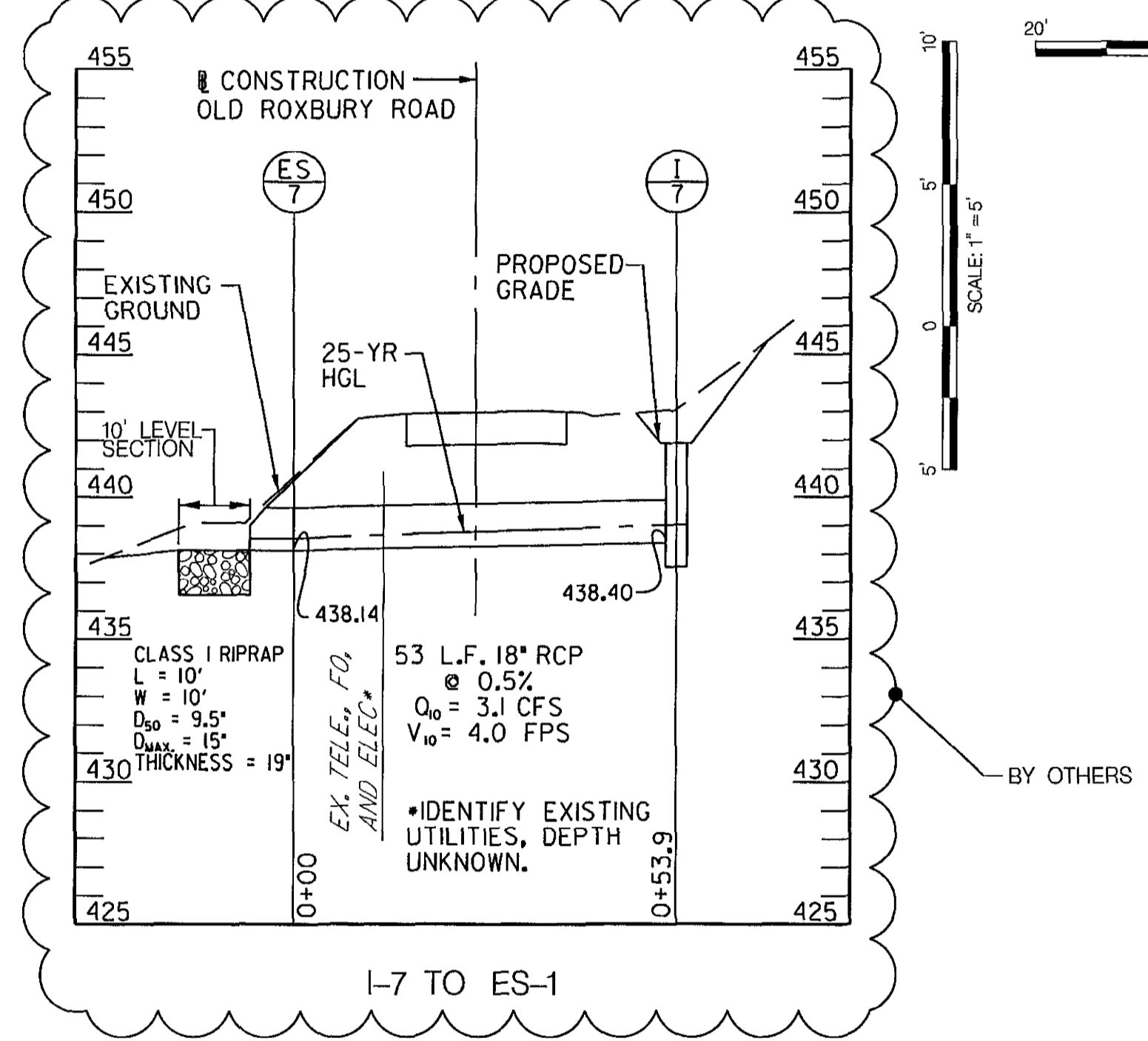
ES-4 TO I-3



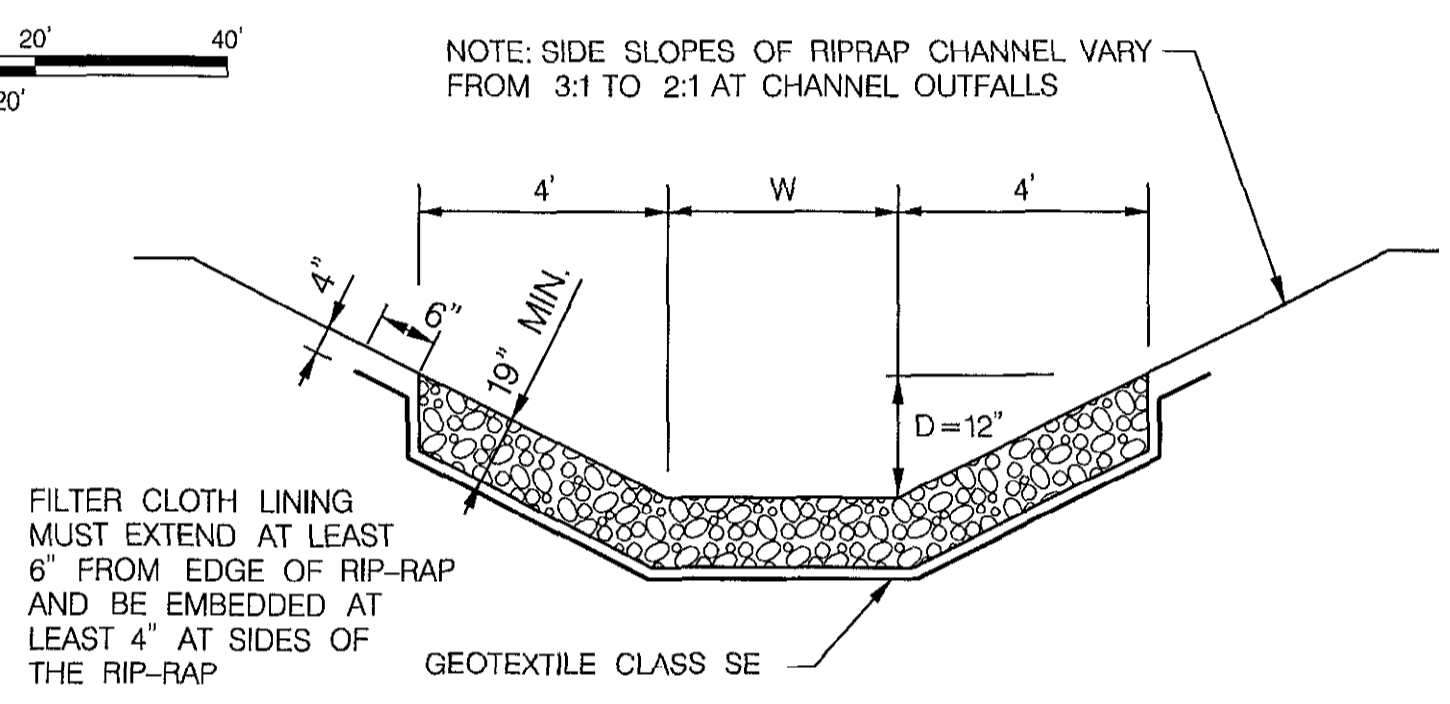
ES-5 TO I-5



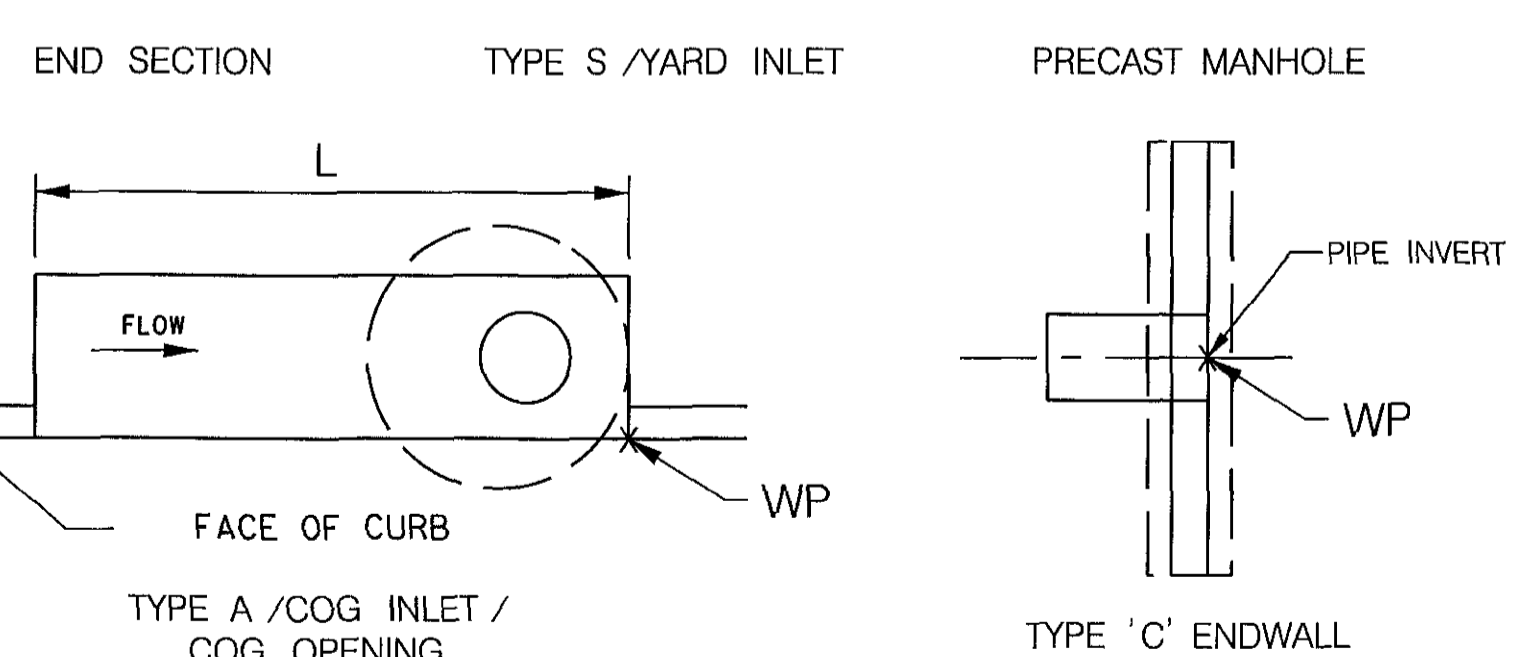
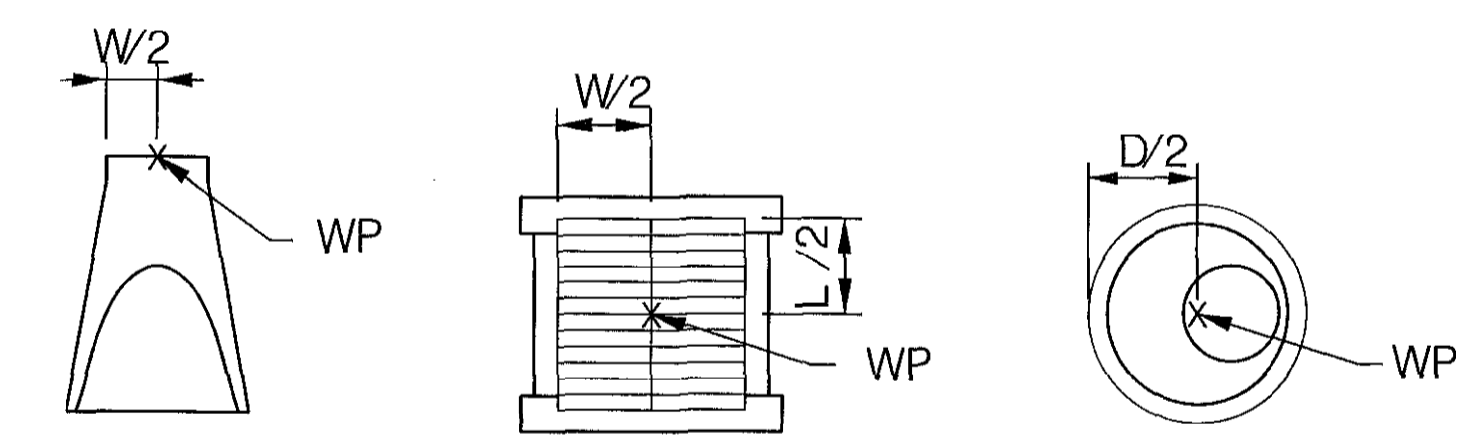
ES-6 TO I-6



I-7 TO ES-1



SECTION VIEW - RIPRAP SWALE
CLASS I RIPRAP OUTFALL PROTECTION DETAIL
NOT TO SCALE



NOTE: WORK POINT LOCATIONS FOR STRUCTURES ARE SHOWN IN THE DIAGRAMS ABOVE. THE TOP ELEVATIONS OF THE STRUCTURES ARE GIVEN AT THE WORK POINTS. FOR CURB INLETS, THE TOP ELEVATIONS ARE GIVEN AT THE TOP OF CURB.

PROFESSIONAL CERTIFICATION
"I HEREBY CERTIFY THAT 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. 16156 EXPIRATION DATE: 8/28/2018."

WORKPOINT LOCATIONS
NOT TO SCALE

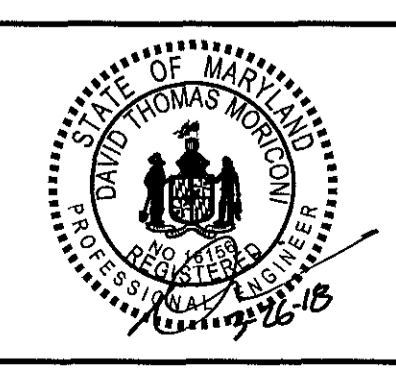
NOTES:
1. CONTRACTOR SHALL TEST PIT LOCATION OF EXISTING TELEPHONE & ELECTRIC PRIOR TO ORDERING INLETS FOR INSTALLATION. IF A CONFLICT EXISTS, NOTIFY THE COUNTY FOR A RESOLUTION.

STRUCTURE SCHEDULE								
STRUCTURE NO.	WORK POINT		STRUCTURE TYPE	HOWARD COUNTY STD. NO.	T.O.G./T.O.C. ELEVATION	INVERT ELEVATION		REMARKS
	STATION	OFFSET				IN	OUT	
I-1	100+48.85	12.09' RT.	PRECAST 15" COG INLET	MD 374.51	465.78 (T.O.C)	---	461.91	SEE NOTE BELOW
I-2	103+21.56	19.26' LT.	STD. 'S' INLET	D-4.22	474.62	471.50	471.12	
I-3	105+90.80	12.00' RT.	TYPE A-10 INLET	D-4.04	471.87	---	468.37	
I-4	105+88.15	19.04' LT.	STD. 'S' INLET	D-4.22	471.10	467.70	467.60	
I-5	107+36.98	18.83' LT.	STD. 'S' INLET	D-4.22	459.51	---	456.01	
I-6	108+94.58	19.23' LT.	STD. 'S' INLET	D-4.22	447.50	---	444.50	
I-7	110+17.49	27.72' LT.	STD. 'S' INLET	D-4.22	441.90	---	438.50	BY OTHERS
EW-1	101+22.84	69.67' LT.	TYPE 'C' END WALL	D-5.21	---	---	460.00 *	ADAPTED FOR 6" PIPE
ES-1	100+91.25	72.95' LT.	CONCRETE END SECTION	D-5.51	---	---	460.00 *	
ES-3	102+72.18	22.72' LT.	CONCRETE END SECTION	D-5.51	---	---	470.25	
ES-4	106+17.28	19.56' LT.	CONCRETE END SECTION	D-5.51	---	---	467.00	
ES-5	107+83.22	19.24' LT.	CONCRETE END SECTION	D-5.51	---	---	454.78	
ES-6	109+42.17	15.71' LT.	CONCRETE END SECTION	D-5.51	---	---	444.23	
ES-7	110+31.08	27.60' RT.	CONCRETE END SECTION	D-5.51	---	---	438.14 *	BY OTHERS

* APPROX. CONTRACTOR SHALL VERIFY ELEVATIONS PRIOR TO CONSTRUCTION.
NOTE: TRANSITION CURB HEIGHT TO 8" WITHIN 10' OF INLET I-1

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
TOR OF PUBLIC WORKS DATE 4/14/18
CHIEF, BUREAU OF ENGINEERING DATE 4/11/18
CHIEF, BUREAU OF HIGHWAYS DATE 4/10/18

PREPARED BY
URS
4 NORTH PARK DRIVE
HUNT VALLEY, MARYLAND
TEL: (410) 785-7220



DES: DMT			
DRN: DMT			
CHK: DTM			
DATE: 03/2018	BY NO.	REVISION	DATE

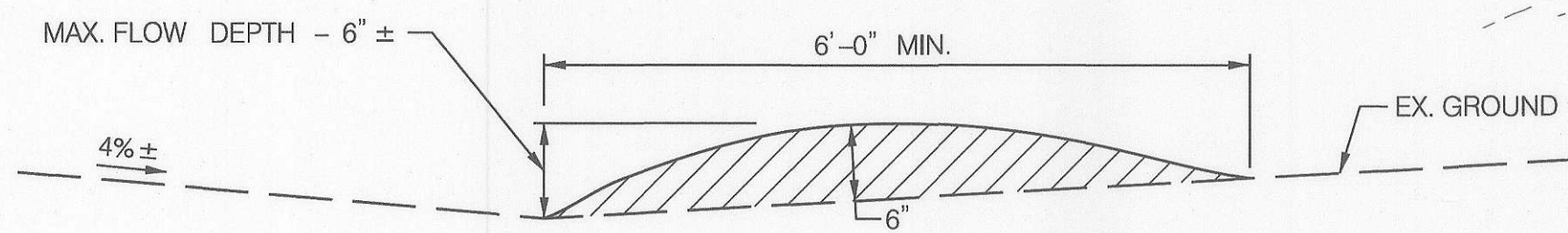
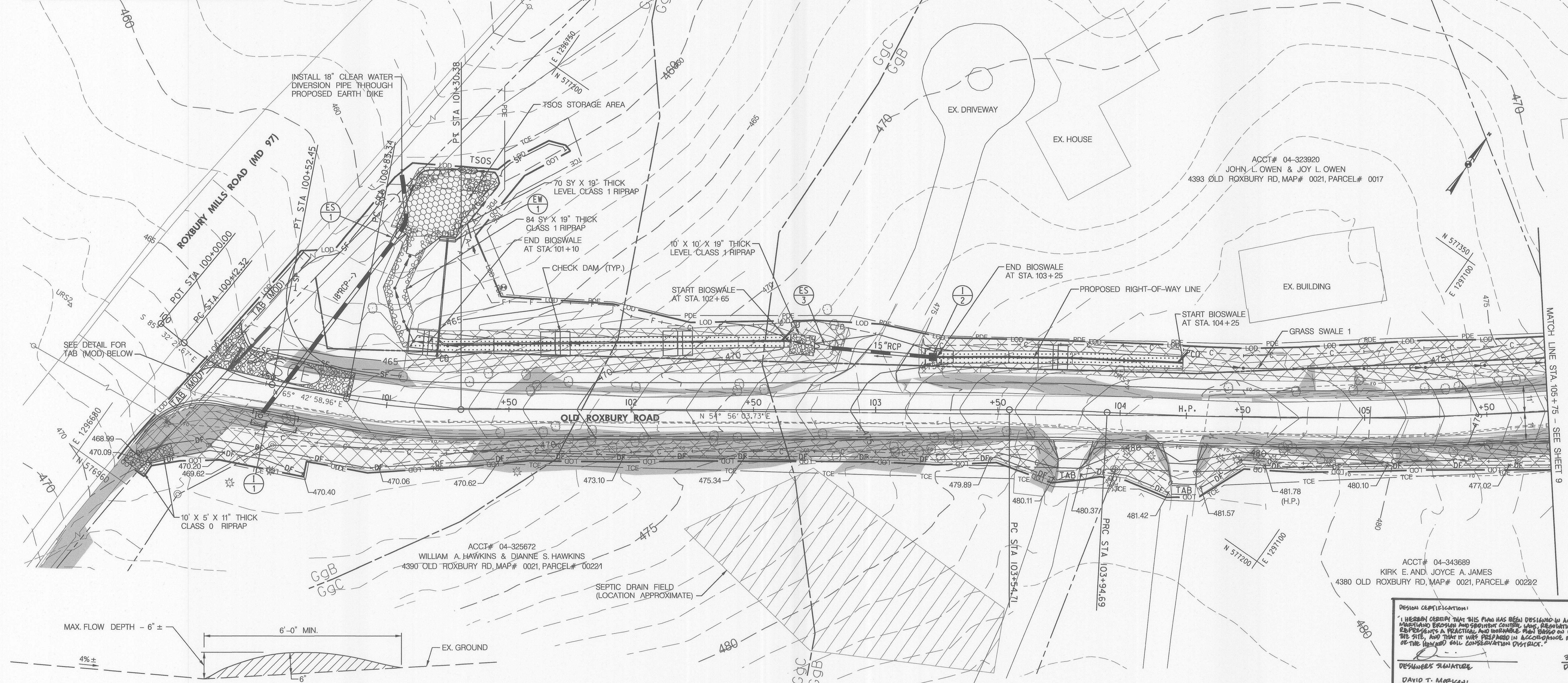
**STORM DRAIN
PROFILES & DETAILS**

SCALE MAP NO. _____ BLOCK NO. _____

OLD ROXBURY ROAD
ROADWAY WIDENING
MD 97 TO WEST OF RIVERCREST COURT
5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE
AS SHOWN
SHEET
7 OF 19

TEMPORARY STONE OUTLET STRUCTURE	
DRAINAGE AREA	0.35 AC
REQUIRED STORAGE VOLUME	620 CF
PROVIDED STORAGE VOLUME	850 CF
BOTTOM AREA (APPROX. 30FT X 28FT)	850 SF
BOTTOM ELEVATION	460.00
TOP OF WEIR ELEVATION / STORAGE ELEVATION	461.00



REFER TO DETAIL 6-5 FOR CONSTRUCTION SPECIFICATIONS. BERM DIMENSIONS HAVE BEEN MODIFIED.

MODIFIED TEMPORARY ASPHALT BERM (TAB (MOD)) NOT TO SCALE

SOILS TABLE				
MAP UNIT SYMBOL	MAP UNIT NAME	HSG	K-FACTOR	DRAINAGE CLASS
GgB	GLENELG LOAM, 3 TO 8% SLOPES	B	0.24	WELL DRAINED
GgC	GLENELG LOAM, 8 TO 15% SLOPES	B	0.24	WELL DRAINED
GmB	GLENVILLE SILT LOAM, 3 TO 8% SLOPES	C	0.37	MODERATELY WELL
MaC	MANOR LOAM, 8 TO 15% SLOPES	B	0.28	WELL DRAINED
McD	MANOR LOAM, 15 TO 25% SLOPES, VERY ROCKY	B	0.28	WELL DRAINED

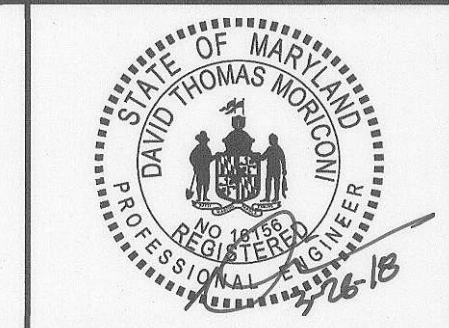
OWNER/DEVELOPER CERTIFICATION
 "I HAVE HEREBY CERTIFIED THAT ANY GRADING, BRIDGING, CONSTRUCTION OR DEVELOPMENT HAS BEEN DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTION AND MAINTENANCE CONTROLS AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AS A MAINTENANCE DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT FROM CONSTRUCTION PROJECTS. I CERTIFY THAT I AM THE SOLE RESPONSIBLE PARTY FOR THE EROSION AND SEDIMENT CONTROL PLAN AND THAT I HAVE BEEN EVALUATED BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE."
 [Signature] 4/17/18
 OWNER'S/DEVELOPER'S SIGNATURE DATE
 [Signature] 4/17/18
 PRINTED NAME & TITLE

PROFESSIONAL CERTIFICATION
 "I HEREBY CERTIFY THAT 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. 18156 EXPIRATION DATE: 8/28/2018."
 [Signature] 4/17/18
 ENGINEER'S SIGNATURE DATE

HOWARD SCD SIGNATURE BLOCK:
 THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 4/17/18
 HOWARD SOIL CONSERVATION DISTRICT DATE EP-17-38

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 [Signature] 4/17/18
 DIRECTOR OF PUBLIC WORKS DATE
 [Signature] 4/17/18
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY
URS
 4 NORTH PARK DRIVE
 HENT VALLEY, MARYLAND
 TEL: (410) 785-7220
 [Signature] 4/17/18
 CHIEF, BUREAU OF HIGHWAYS DATE



DES: DMT			
DRN: DMT			
CHK: DTM			
DATE: 03/2018	BY NO.	REVISION	DATE

LEGEND

—360—	EXISTING CONTOURS	[Symbol]	RIPRAP
—360—	PROPOSED CONTOURS	[Symbol]	SOIL STABILIZATION MATTING (SSM) (SEE TYPICALS FOR TYPE)
—LOD—	LIMIT OF DISTURBANCE (LOD)	[Symbol]	STABILIZED CONSTRUCTION ENTRANCE (SCE)
—SF—	SILT FENCE (SF)	—TCE—	TEMPORARY CONSTRUCTION EASEMENT
—SSF—	SUPER SILT FENCE (SSF)	—PDE—	PERPETUAL DRAINAGE EASEMENT
—DF—	DIVERSION FENCE (DF)	[Symbol]	STEEP SLOPES
—TAB—	TEMPORARY ASPHALT BERM (TAB)	[Symbol]	HIGHLY ERODIBLE SOILS
[Symbol]	PORTABLE SEDIMENT TANK (PST)	GgB	SOIL BOUNDARY /TYPE
[Symbol]	CURB INLET PROTECTION (CIP)	GgC	
[Symbol]	AT GRADE INLET PROTECTION (AGIP)		
[Symbol]	TEMPORARY GABION OUTLET STRUCTURE		
A-1	EARTH DIKE		

- NOTES:**
- REMOVE ALL TREES WITHIN THE LIMIT OF DISTURBANCE UNLESS NOTED OTHERWISE.
 - ALL SIDE DITCHES (EXCEPT FOR THE BIOSWALL) SHALL BE STABILIZED WITH SOIL STABILIZATION MATTING PER THE TYPICAL SECTIONS ON SHEET 2.
- STANDARD STABILIZATION NOTES:**
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
- THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER 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 OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

DESIGN CERTIFICATION:
 "I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND FEASIBLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
 [Signature] 3-16-18
 DESIGNER'S SIGNATURE DATE
 [Signature] 3-16-18
 PRINTED NAME DATE
 NO. 8619787-000-16156
 PE



DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		PREPARED BY URS 4 NORTH PARK DRIVE HENT VALLEY, MARYLAND TEL: (410) 785-7220		DES: DMT DRN: DMT CHK: DTM DATE: 03/2018		EROSION & SEDIMENT CONTROL PLAN 1		OLD ROXBURY ROAD ROADWAY WIDENING MD 97 TO WEST OF RIVERCREST COURT 5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND		SCALE 1" = 20' SHEET 8 OF 19
---	--	---	--	---	--	--	--	--	--	---------------------------------------

OWNER/DEVELOPER CERTIFICATION
 I/WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN INCLUDING PROVISIONS AND MAINTENANCE SCHEDULES, AND THAT THE BEST POSSIBLE PRACTICES WILL BE USED IN THE CONSTRUCTION PROCESS TO PREVENT SOIL EROSION AND SEDIMENTATION. I/WE WILL MAINTAIN THE EROSION AND SEDIMENT CONTROL PLAN THROUGHOUT THE PROJECT. I CERTIFY THAT THE EROSION AND SEDIMENT CONTROL PLAN HAS BEEN APPROVED BY THE HOWARD SOIL CONSERVATION DISTRICT AND IS IN EFFECT.

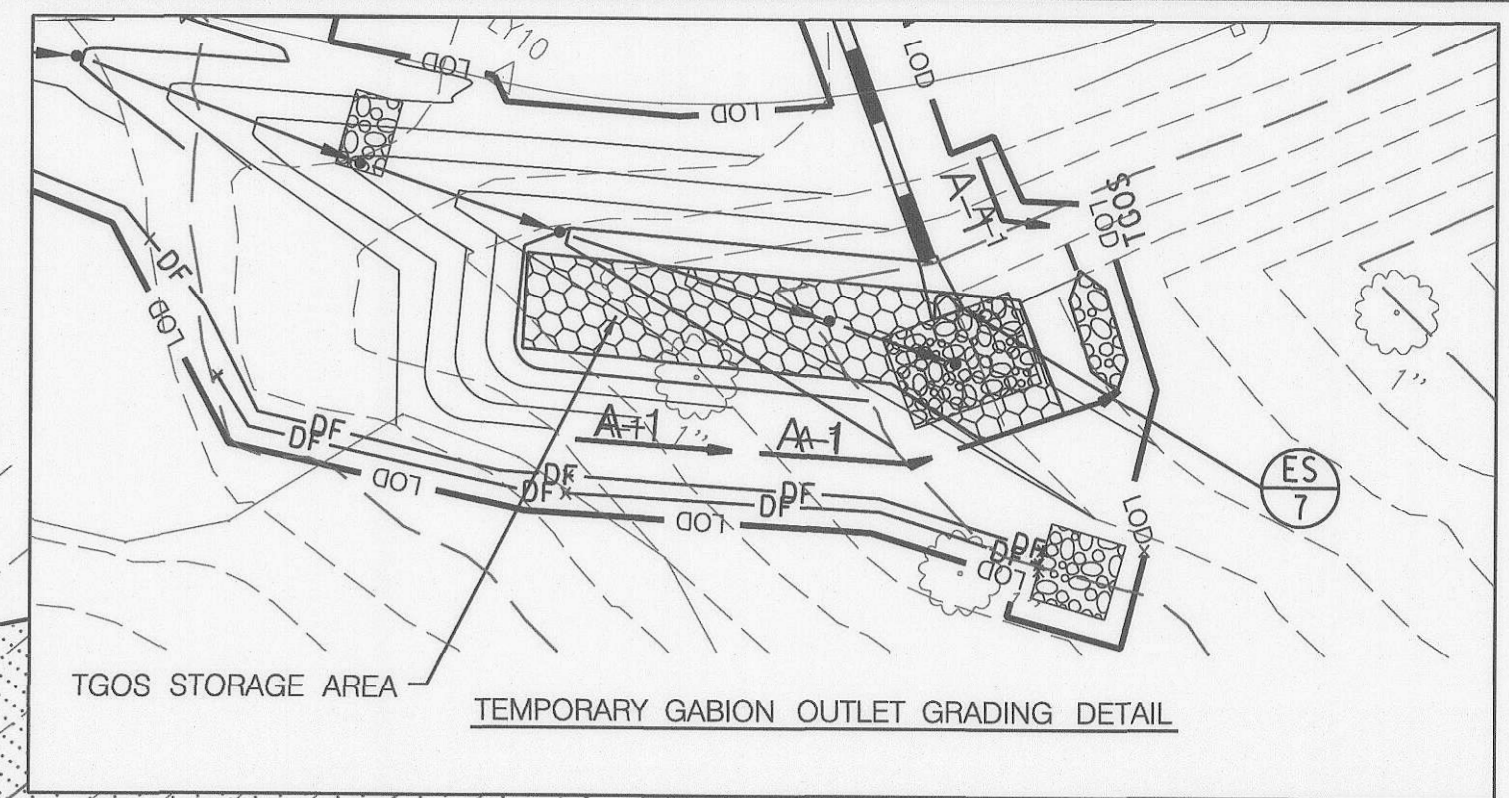
OWNER/DEVELOPER SIGNATURE _____ DATE _____
 PRINTED NAME & TITLE _____

DESIGN CERTIFICATION:
 I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT HOWARD COUNTY EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND FEASIBLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY CONSERVATION DISTRICT.

DESIGNER'S SIGNATURE _____ DATE: 3-26-18
 DAVID T. MURPHY
 PRINTED NAME: NO. 16155
 PE

TEMPORARY GABION OUTLET STRUCTURE

DRAINAGE AREA	0.9 AC
REQUIRED STORAGE VOLUME	1620 CF
PROVIDED STORAGE VOLUME	1670 CF
BOTTOM AREA (50FT X 10FT)	550 SF
BOTTOM ELEVATION	439.00
TOP OF WEIR ELEVATION / STORAGE ELEVATION	441.00



- NOTES:**
- REMOVE ALL TREES WITHIN THE LIMIT OF DISTURBANCE UNLESS NOTED OTHERWISE.
 - ALL SIDE DITCHES (EXCEPT FOR THE BIOSWALL) SHALL BE STABILIZED WITH SOIL STABILIZATION MATTING PER THE TYPICAL SECTIONS ON SHEET 2.

SOILS TABLE

MAP UNIT SYMBOL	MAP UNIT NAME	HSG	K-FACTOR	DRAINAGE CLASS
GgB	GLENELG LOAM, 3 TO 8% SLOPES	B	0.24	WELL DRAINED
GgC	GLENELG LOAM, 8 TO 15% SLOPES	B	0.24	WELL DRAINED
GmB	GLENVILLE SILT LOAM, 3 TO 8% SLOPES	C	0.37	MODERATELY WELL
MaC	MANOR LOAM, 8 TO 15% SLOPES	B	0.28	WELL DRAINED
McD	MANOR LOAM, 15 TO 25% SLOPES, VERY ROCKY	B	0.28	WELL DRAINED

ACCT# 04-370678
 RIVERCREST COMMUNITY ASSOCIATION, INC.
 ROXBURY MILL RD, MAP# 0021, PARCEL# 0022

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT 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. 16156. EXPIRATION DATE: 8/28/2018.

- STANDARD STABILIZATION NOTES**
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
- THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER 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 OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

LEGEND

—360—	EXISTING CONTOURS		RIPRAP
—360—	PROPOSED CONTOURS		SOIL STABILIZATION MATTING (SSM) (SEE TYPICALS FOR TYPE)
—LOD—	LIMIT OF DISTURBANCE (LOD)		STABILIZED CONSTRUCTION ENTRANCE (SCE)
—SF—	SILT FENCE (SF)	—TCE—	TEMPORARY CONSTRUCTION EASEMENT
—SSF—	SUPER SILT FENCE (SSF)	—PDE—	PERPETUAL DRAINAGE EASEMENT
—DF—	DIVERSION FENCE (DF)		STEEP SLOPES
—TAB—	TEMPORARY ASPHALT BERM (TAB)		HIGHLY ERODIBLE SOILS
	PORTABLE SEDIMENT TANK (PST)		SOIL BOUNDARY / TYPE
	CURB INLET PROTECTION (CIP)	GgB	
	AT GRADE INLET PROTECTION (AGIP)	GgC	
	TEMPORARY GABION OUTLET STRUCTURE		
A-1	EARTH DIKE		

SCALE: 1" = 20'

HOWARD SCD SIGNATURE BLOCK:
 THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 HOWARD SOIL CONSERVATION DISTRICT DATE: 4/17/18
 EP-17-38

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works: 4/1/18
 Chief - Transportation and Special Projects Division: 4/9/18

Prepared by: URS
 Chief, Bureau of Engineering: 4/9/18
 Chief, Bureau of Highways: 4/10/2018

DES: DMT
 DRN: DMT
 CHK: DTM
 DATE: 03/2018

BY NO. REVISION DATE SCALE MAP NO. BLOCK NO.

EROSION & SEDIMENT CONTROL PLAN 2

OLD ROXBURY ROAD ROADWAY WIDENING MD 97 TO WEST OF RIVERCREST COURT

5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE 1" = 20'

SHEET 9 OF 19

SCALE MAP NO. BLOCK NO.

PERMANENT STABILIZATION
Definition: To stabilize disturbed soils with permanent vegetation.
Purpose: To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

- 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...
b. Additional planting specifications for exceptional sites...
c. For sites having disturbed area over 5 acres...
d. For areas receiving low maintenance...
2. Turfgrass Mixtures
a. Areas where turfgrass may be desired include lawns, parks, playgrounds...

Permanent Seeding Summary

Table with 6 columns: Hardness Zone, No., Species, Application Rate (lb/acre), Seeding Dates, Seeding Depths, Fertilizer Rate (lb/acre), Lime Rate. Includes rows for Tall Fescue and Sod.

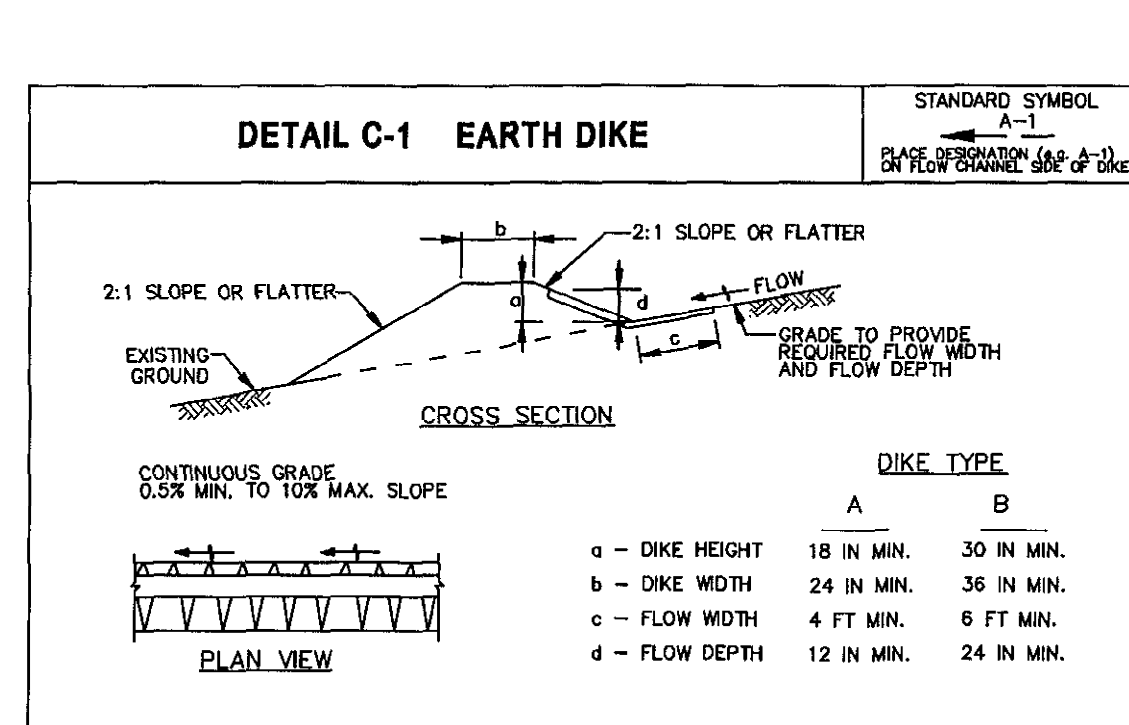
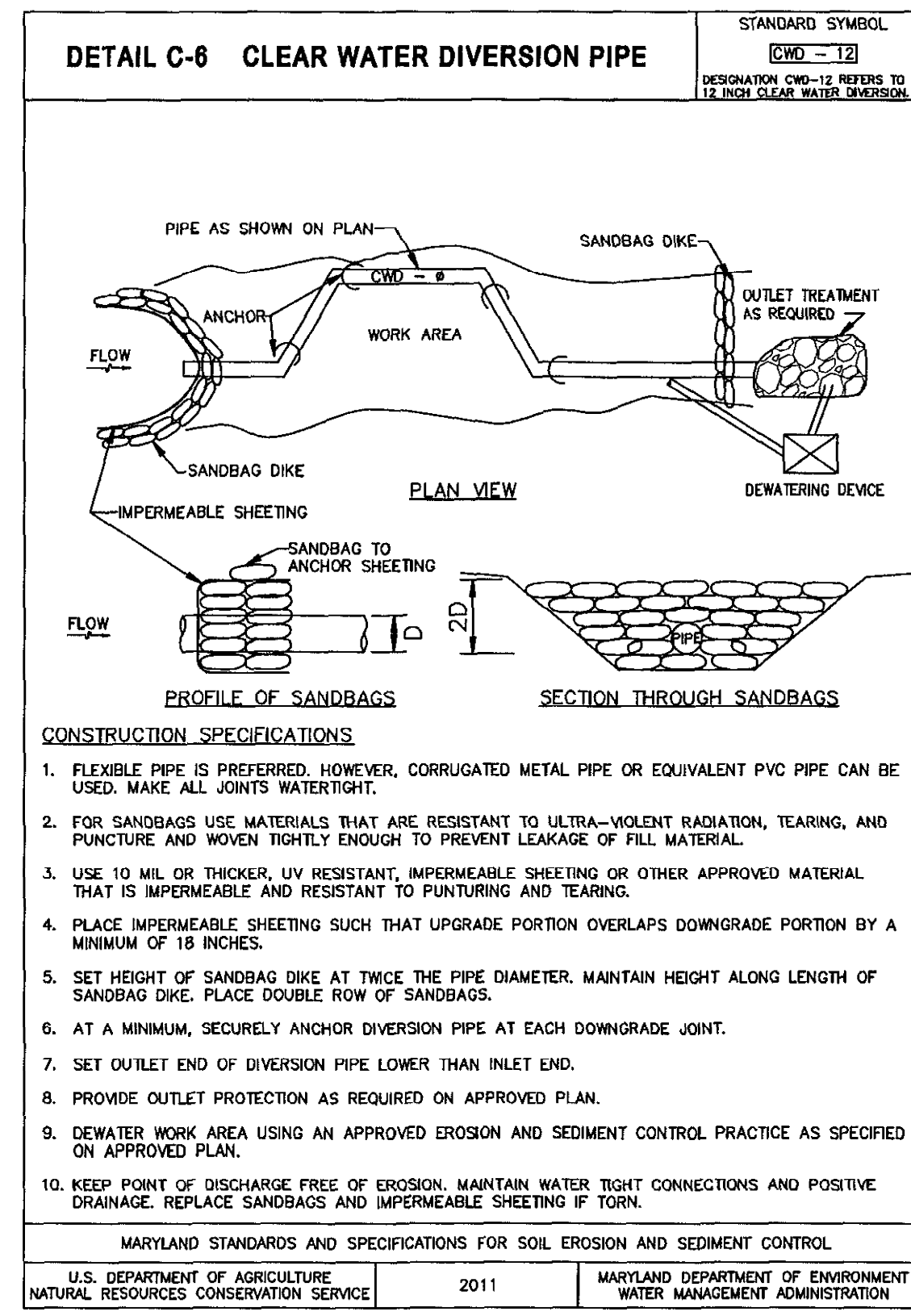
- Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).
1. General Specifications
a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
b. Sod must be machine cut at a uniform soil thickness of 1 1/2 inch, plus or minus 1/8 inch...

WARD SCD SIGNATURE BLOCK: IS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature and date block for Ward Soil Conservation District, dated 4/19/18.

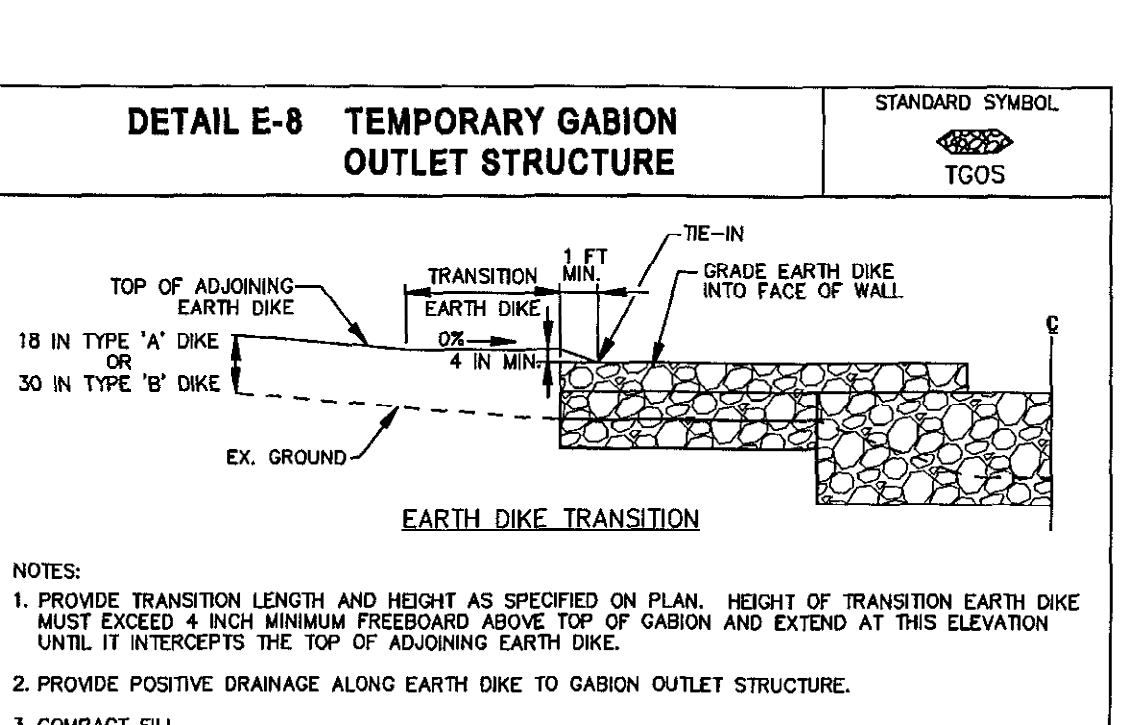
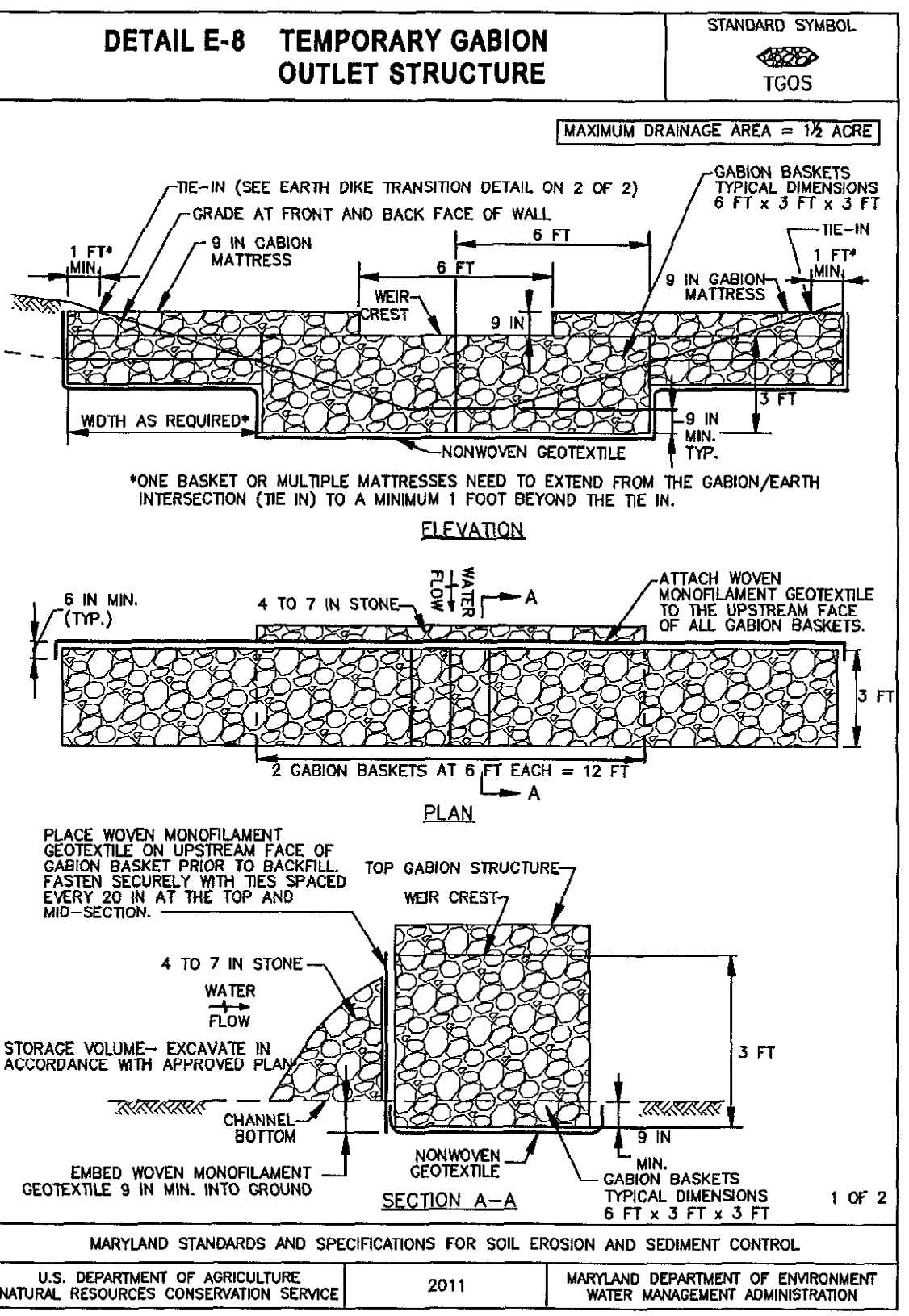
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND. Signature and date for Chief, Bureau of Engineering, dated 4/19/18.

Signature and date for Chief, Bureau of Highways, dated 4/10/2018.



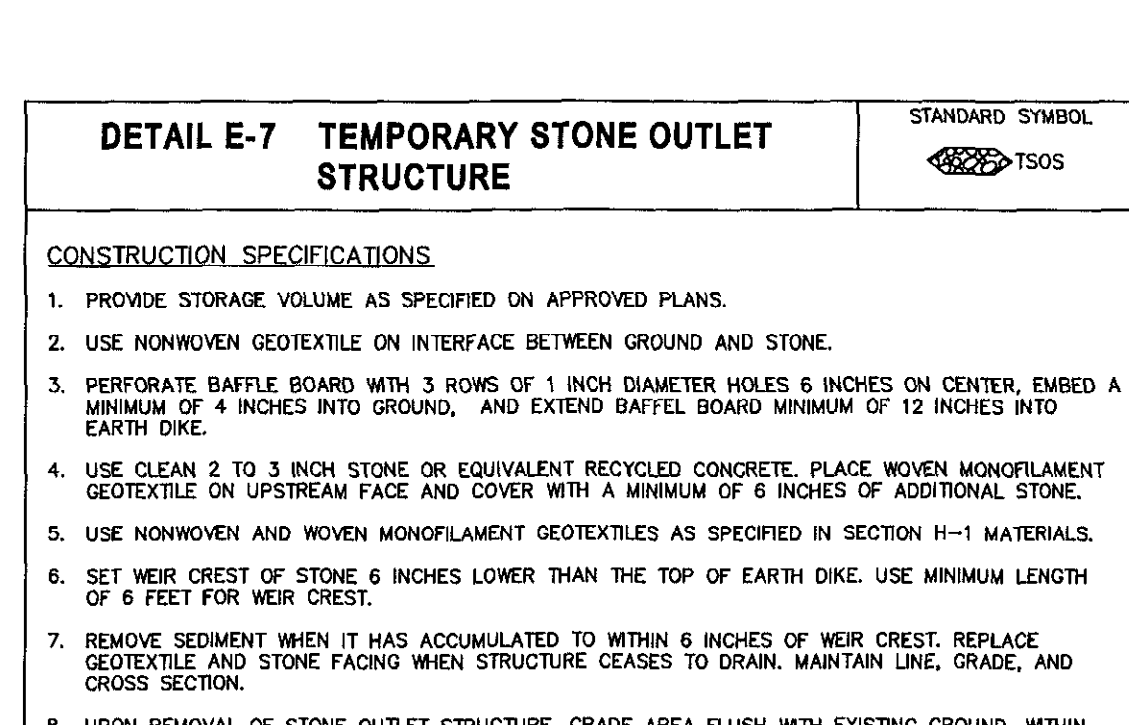
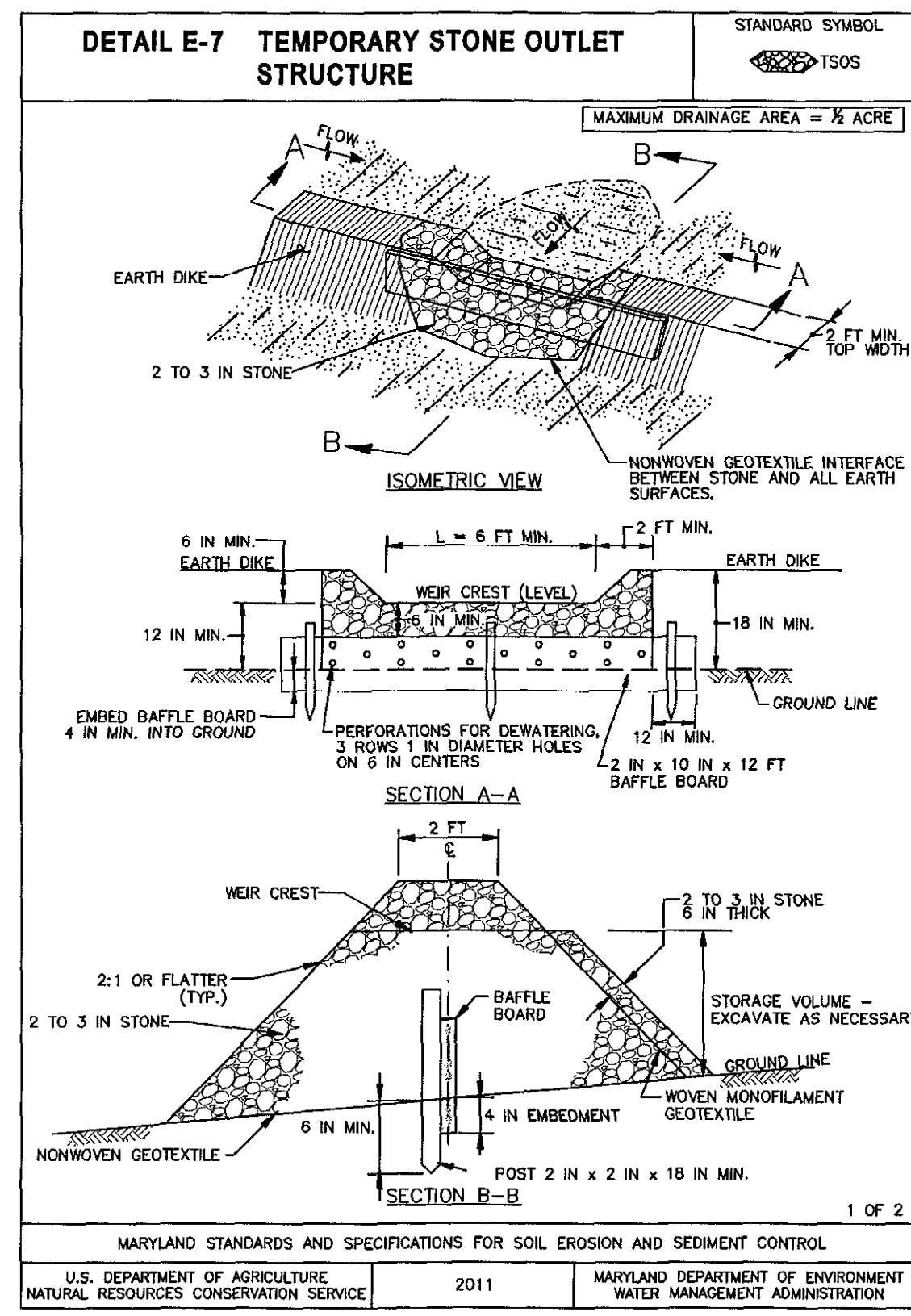
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011.

- 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.
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 1/2 of the grass leaf must be removed by the initial cutting or subsequent cuttings.



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

- 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...



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

DESIGN CERTIFICATION: I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS...

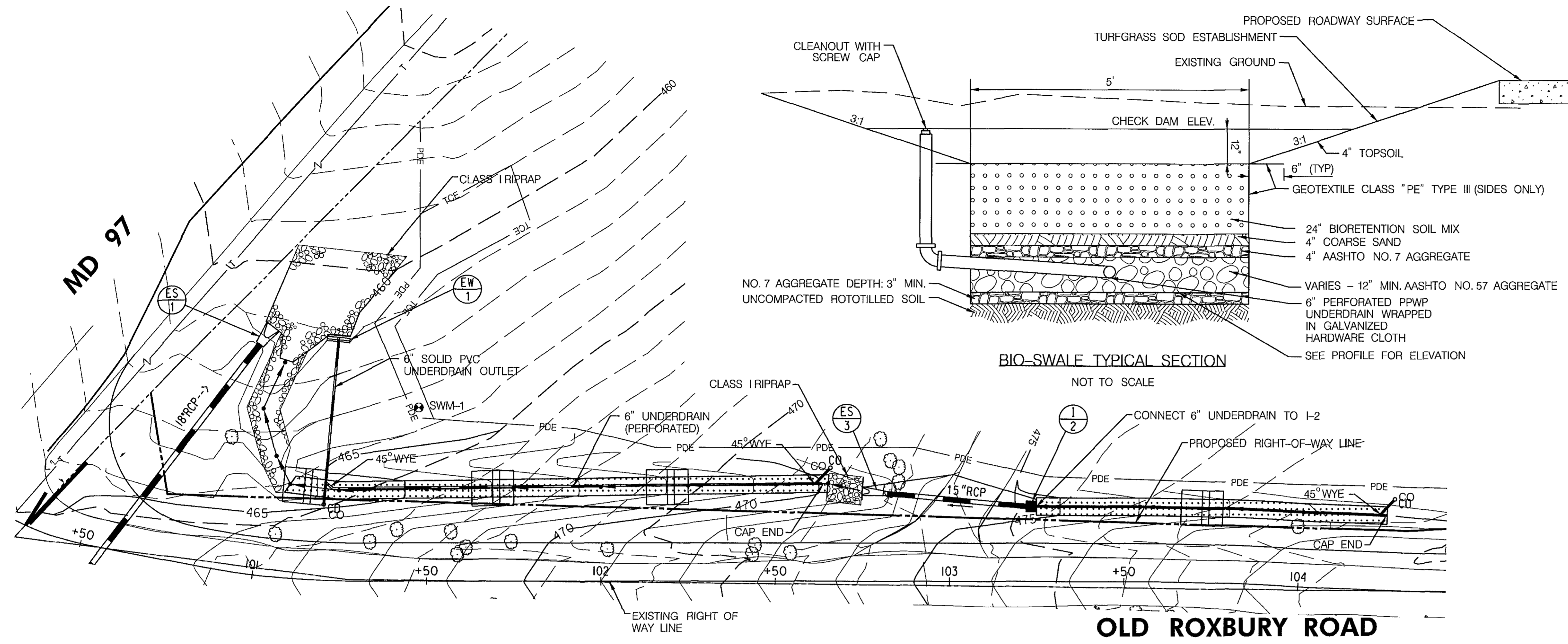
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16156 EXPIRATION DATE: 8/28/2018

Table for revision control with columns: DES, DRN, CHK, DATE, BY, NO., REVISION, DATE.

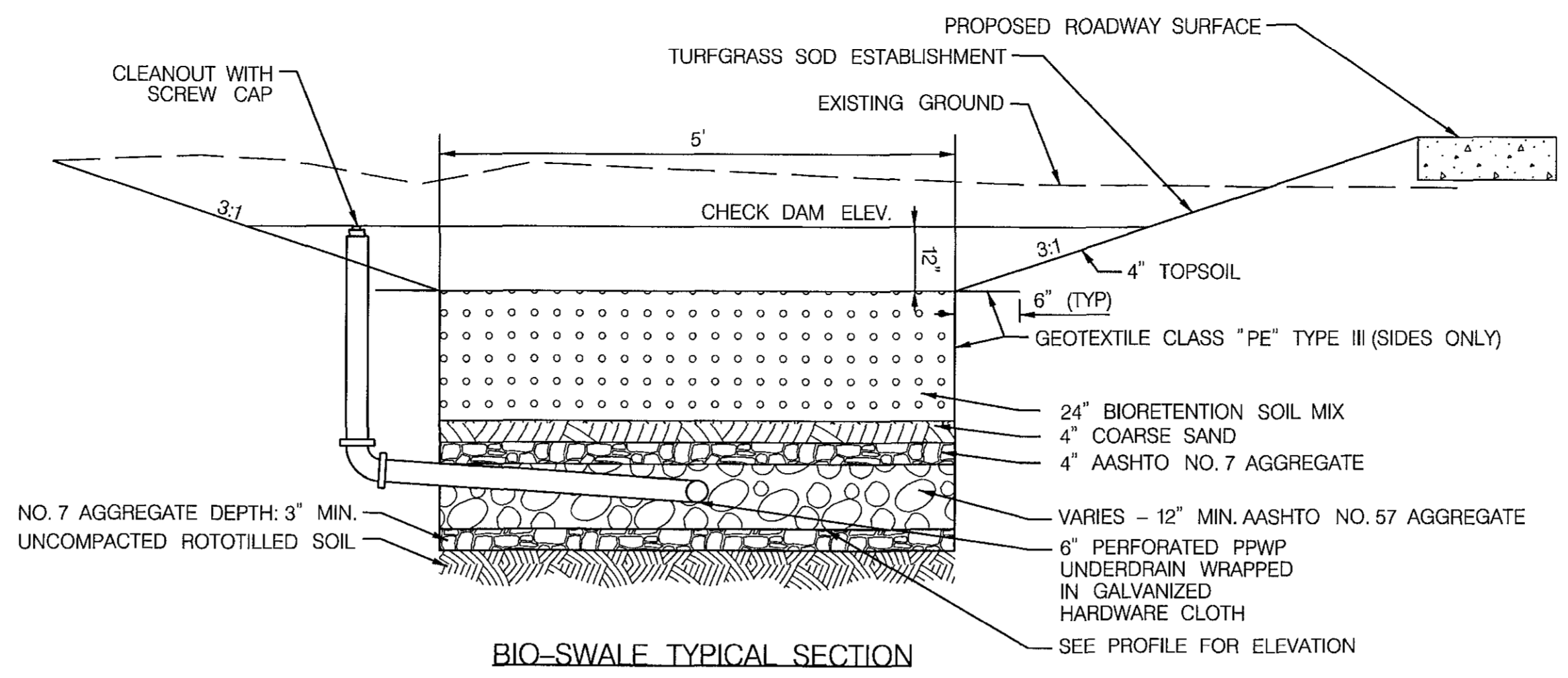
OWNER'S/DEVELOPER'S SIGNATURE and DATE. PRINTED NAME & TITLE. DESIGNER'S SIGNATURE and DATE (3-26-18). PRINTED NAME: DAVID T. MORICONI.

EROSION AND SEDIMENT CONTROL DETAILS AND NOTES - 3. SCALE MAP NO. BLOCK NO.

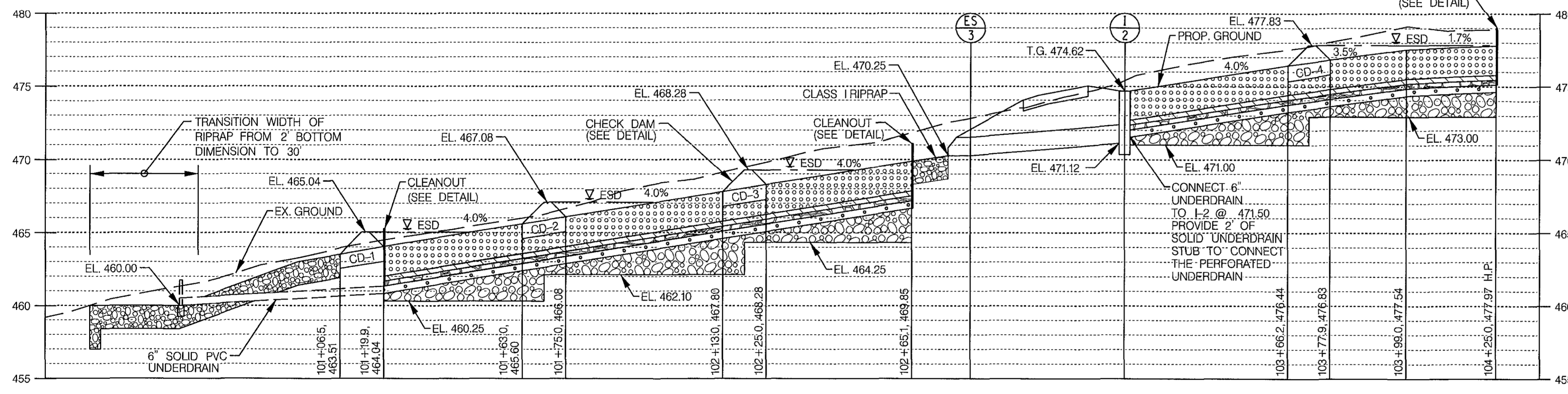
OLD ROXBURY ROAD ROADWAY WIDENING MD 97 TO WEST OF RIVERCREST COURT. SHEET 12 OF 19. 5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND.



BIOSWALE - PLAN
SCALE: 1" = 20'



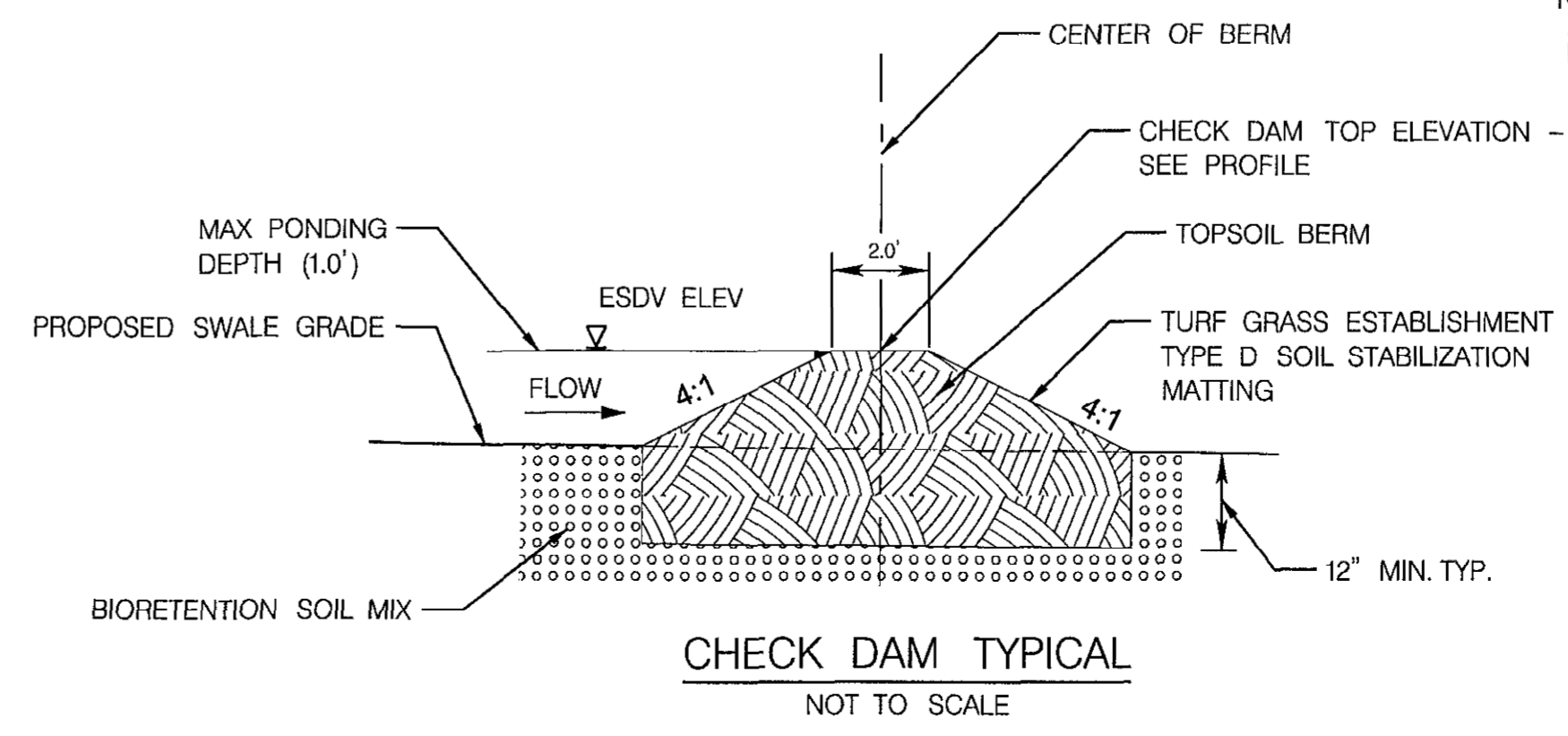
BIO-SWALE TYPICAL SECTION
NOT TO SCALE



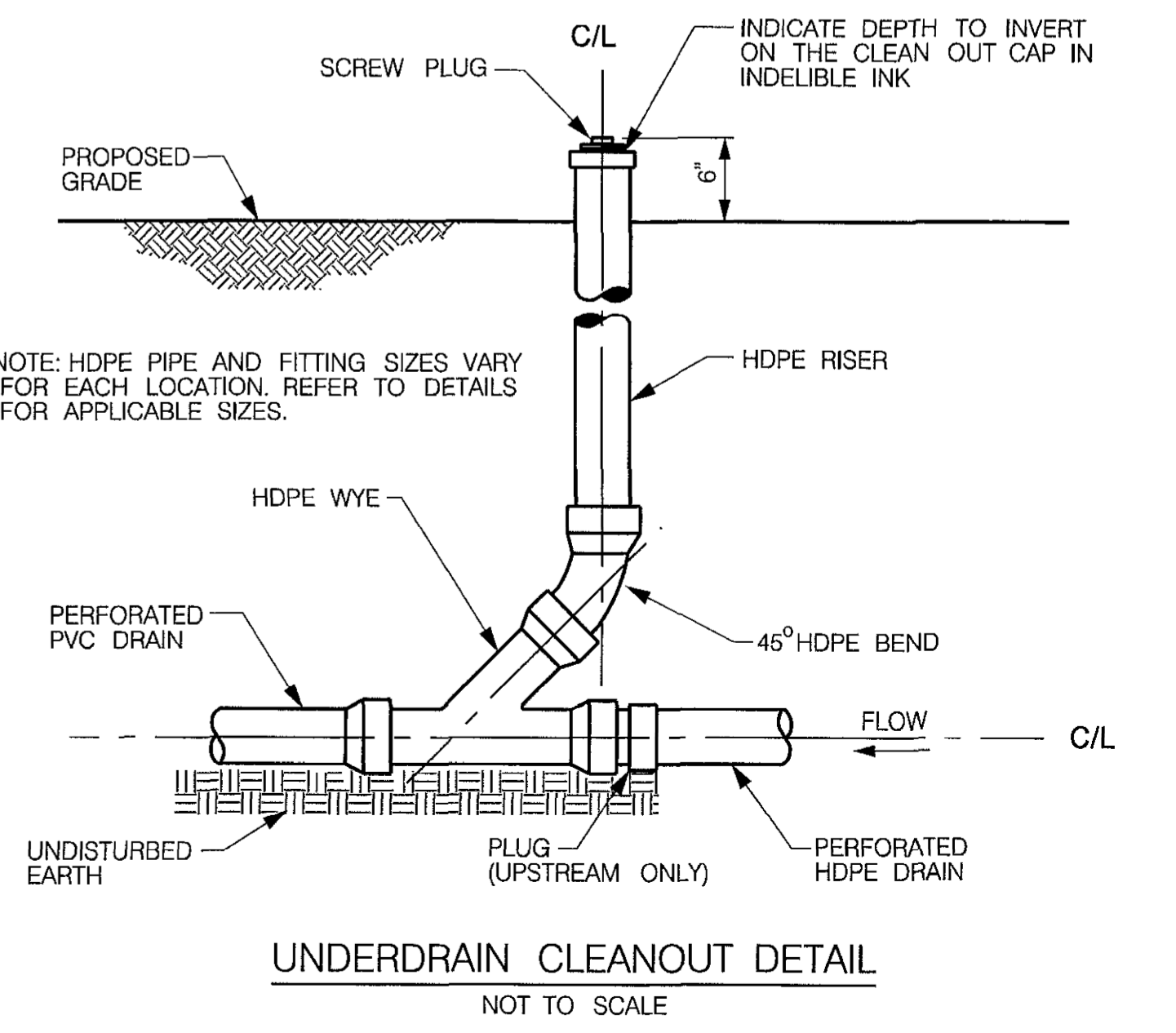
BIOSWALE - PROFILE
SCALE: HOR: 1" = 20' VER: 1" = 5'

BORING LOCATIONS			
NO.	NORTHING	EASTING	ELEVATION
SWM-1	577,144.1947	1,296,783.8049	463.45

PROFESSIONAL CERTIFICATION
"I HEREBY CERTIFY THAT 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. 18156. EXPIRATION DATE: 8/28/2018."



CHECK DAM TYPICAL
NOT TO SCALE



UNDERDRAIN CLEANOUT DETAIL
NOT TO SCALE

As-Built Inspection Tabulations/Checklist for BMP Number:

Name _____ Date _____

M-8 BIO-SWALES MDE TABULATIONS

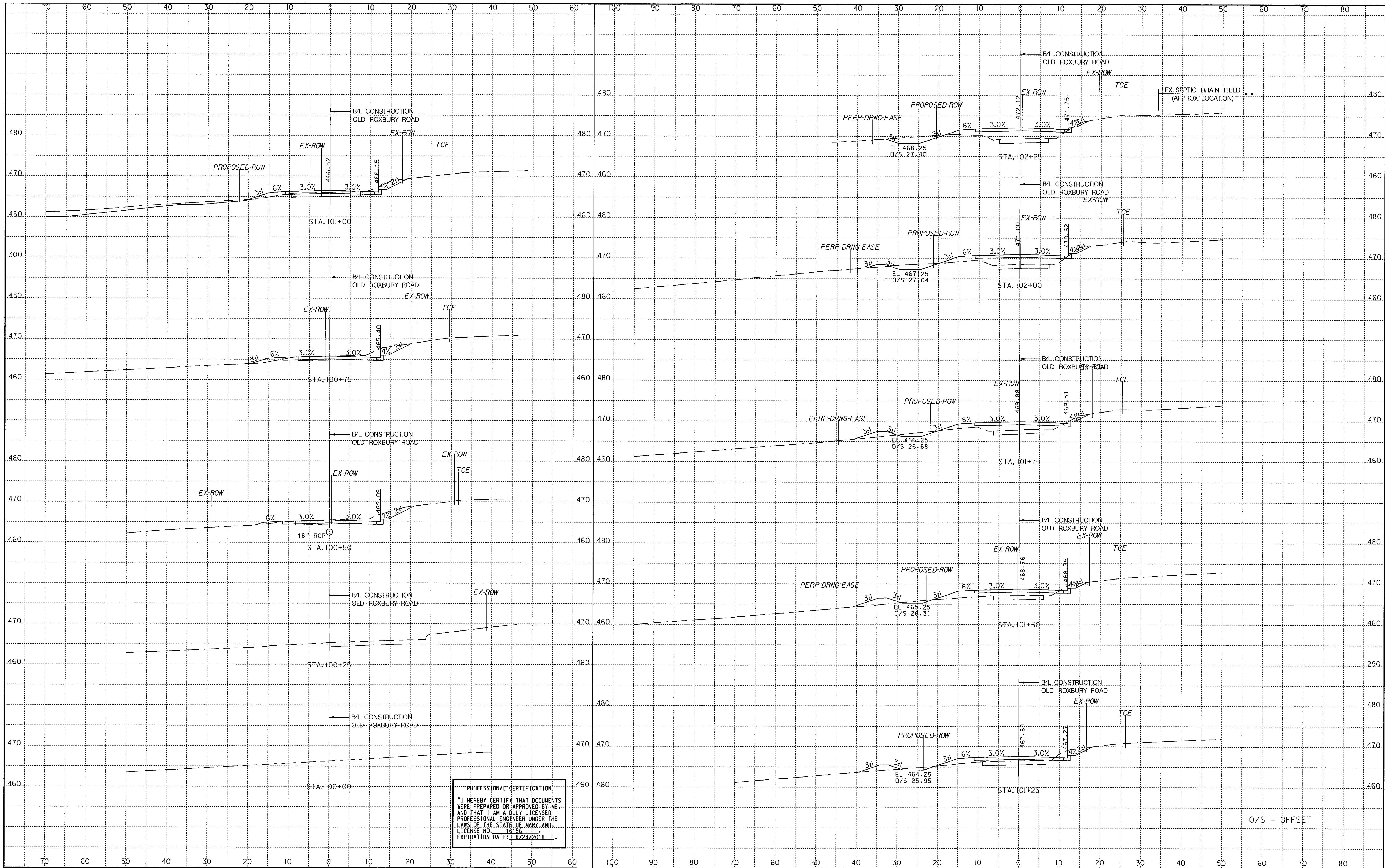
ACTIVITY	DESIGNED	AS-BUILT	DIFFERENCE	INSPECTOR INITIALS	ACCEPTANCE DATE
As-Built Survey	N/A				
Bottom width	5'				
Left side slope (ft/ft)	3:1				
Right side slope (ft/ft)	3:1				
Length	260'				
Number of Check Dams/Weirs	4				
10-Year Freeboard	2'				
Maximum Channel slope (ft/ft)	0.04				
Underdrain Pipe Diameter	6"				
Thickness of Filter Media	24"				
Composition of Filter Media	BSM				

BIOSWALES CONSTRUCTION CHECKLIST

ACTIVITY	ON SITE INSPECTION DATE	INSPECTOR INITIALS	ACCEPTANCE DATE
Excavated to proper size and location			
Underdrain system and/or observation well installed according to plans			
Placement of geotextiles and filter fabric according to plans			
Placement of gravel diaphragm, weirs, and/or check dams			
Appurtenant conveyance systems (diversion structures, pre-filters, filters, inlet, outlets, orifices and flow distribution structures) installed according to plan			
Placement of and backfill of underdrain system			
Composition of filter media			

AB Inspector required to perform inspection on site for these steps as required by COMAR 26.17.02.10
The As-Built Inspector is to verify the construction activities while activity is performed as listed above.

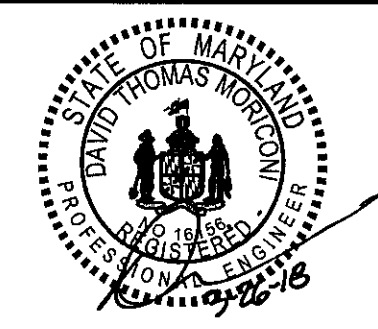
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>[Signature]</i> 4/1/18 Chief, Transportation and Special Projects Division: <i>[Signature]</i> 4/1/18	PREPARED BY URS 4 NORTH PARK DRIVE HUNT VALLEY, MARYLAND TEL: (410) 785-7220		DES: DMT			STORMWATER MANAGEMENT PLAN	OLD ROXBURY ROAD ROADWAY WIDENING MD 97 TO WEST OF RIVERCREST COURT 5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND	SCALE
			DRN: DMT					AS SHOWN
			CHK: DTM					SHEET
			DATE: 03/2018	BY: ND.	REVISION	DATE	SCALE MAP NO. _____ BLOCK NO. _____	13 OF 19



PROFESSIONAL CERTIFICATION
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DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *[Signature]* 4/1/18
 Chief, Bureau of Engineering: *[Signature]* 4/1/18
 Chief, Transportation and Special Projects Division: *[Signature]* 4/1/18
 Chief, Bureau of Highways: *[Signature]* 4/1/18

PREPARED BY
URS
 4 NORTH PARK DRIVE
 HUNT VALLEY, MARYLAND
 TEL: (410) 785-7220

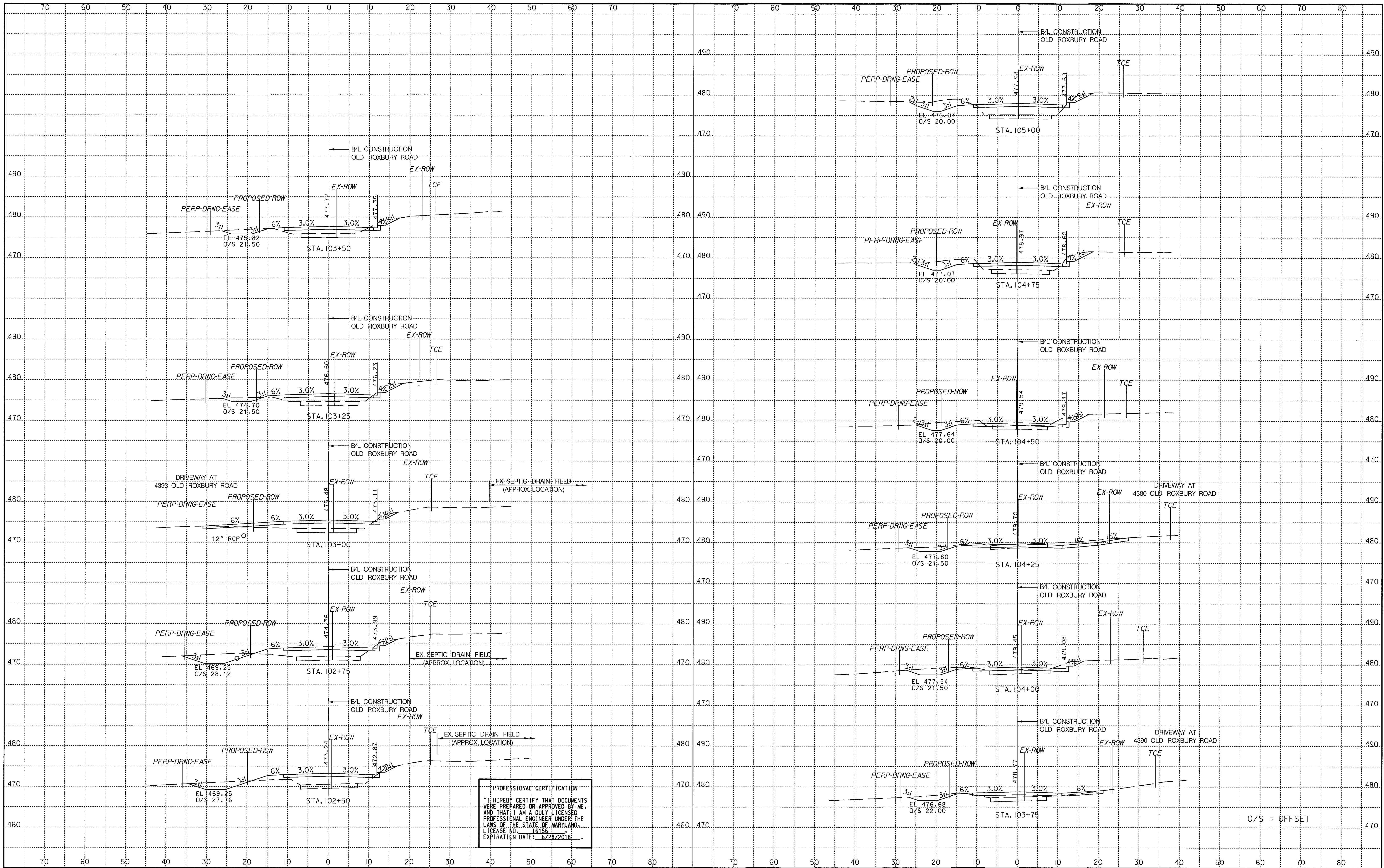


DES:	DMT		
DRN:	DMT		
CHK:	DTM		
DATE:	02/2018	BY NO.	
		REVISION	
		DATE	

CROSS SECTIONS
 SCALE MAP NO. _____ BLOCK NO. _____

**OLD ROXBURY ROAD
 ROADWAY WIDENING
 MD 97 TO WEST OF RIVERCREST COURT**
 5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE
 1" = 10'
 SHEET
 14 OF 19



PROFESSIONAL CERTIFICATION
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 AND THAT I AM A DULY LICENSED
 PROFESSIONAL ENGINEER UNDER THE
 LAWS OF THE STATE OF MARYLAND.
 LICENSE NO. 16156
 EXPIRATION DATE: 8/28/2018"

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

John J. ... 4/18/18
 DIRECTOR OF PUBLIC WORKS DATE

Thomas B. ... 4/18/18
 CHIEF - BUREAU OF ENGINEERING DATE

... 4/18/18
 CHIEF - BUREAU OF HIGHWAYS DATE

41910 DATE

PREPARED BY
URS
 4 NORTH PARK DRIVE
 HUNT VALLEY, MARYLAND
 TEL: (410) 785-7220



DES: DMT			
DRN: DMT			
CHK: DTM			
DATE: 02/2018	BY NO.	REVISION	DATE

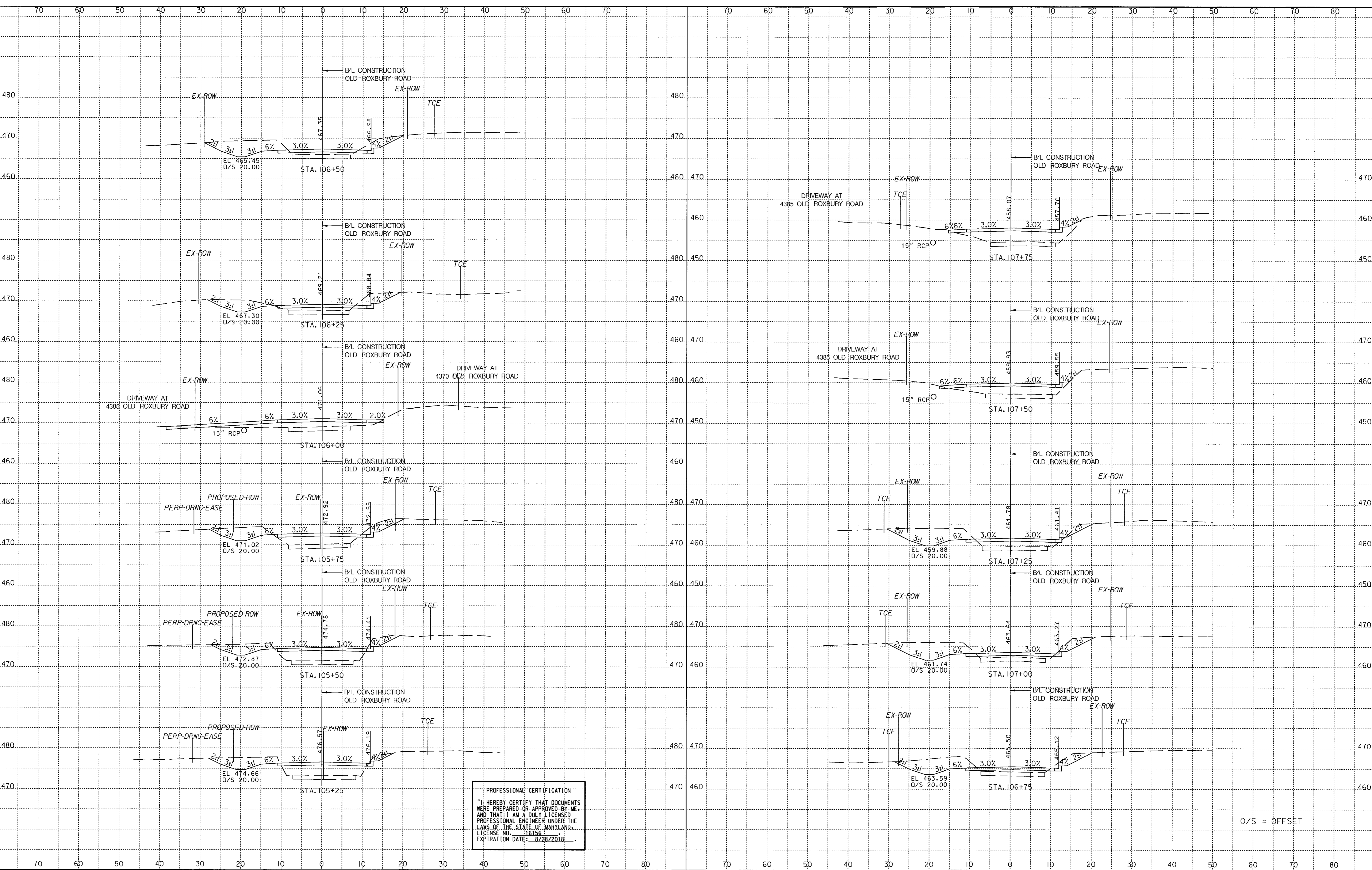
CROSS SECTIONS

SCALE MAP NO. _____ BLOCK NO. _____

OLD ROXBURY ROAD
 ROADWAY WIDENING
 MD 97 TO WEST OF RIVERCREST COURT
 5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE
 1" = 10'

SHEET
 15 OF 19

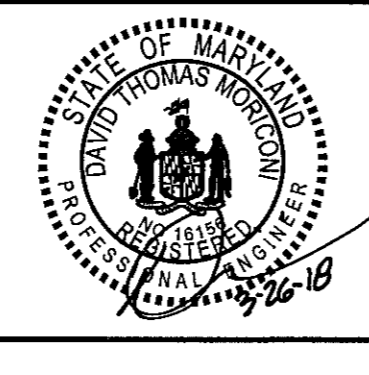


PROFESSIONAL CERTIFICATION
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O/S = OFFSET

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *Ray W. W. 4/1/18*
 Chief, Transportation and Special Projects Division: *Ray W. W. 4/1/18*
 Prepared by: *Thomas E. Butler 4/1/18*
 Chief, Bureau of Engineering: *Thomas E. Butler 4/1/18*
 Chief, Bureau of Highways: *McKenna 4/10/2018*

PREPARED BY
URS
 4 NORTH PARK DRIVE
 HUNT VALLEY, MARYLAND
 TEL: (410) 785-7220

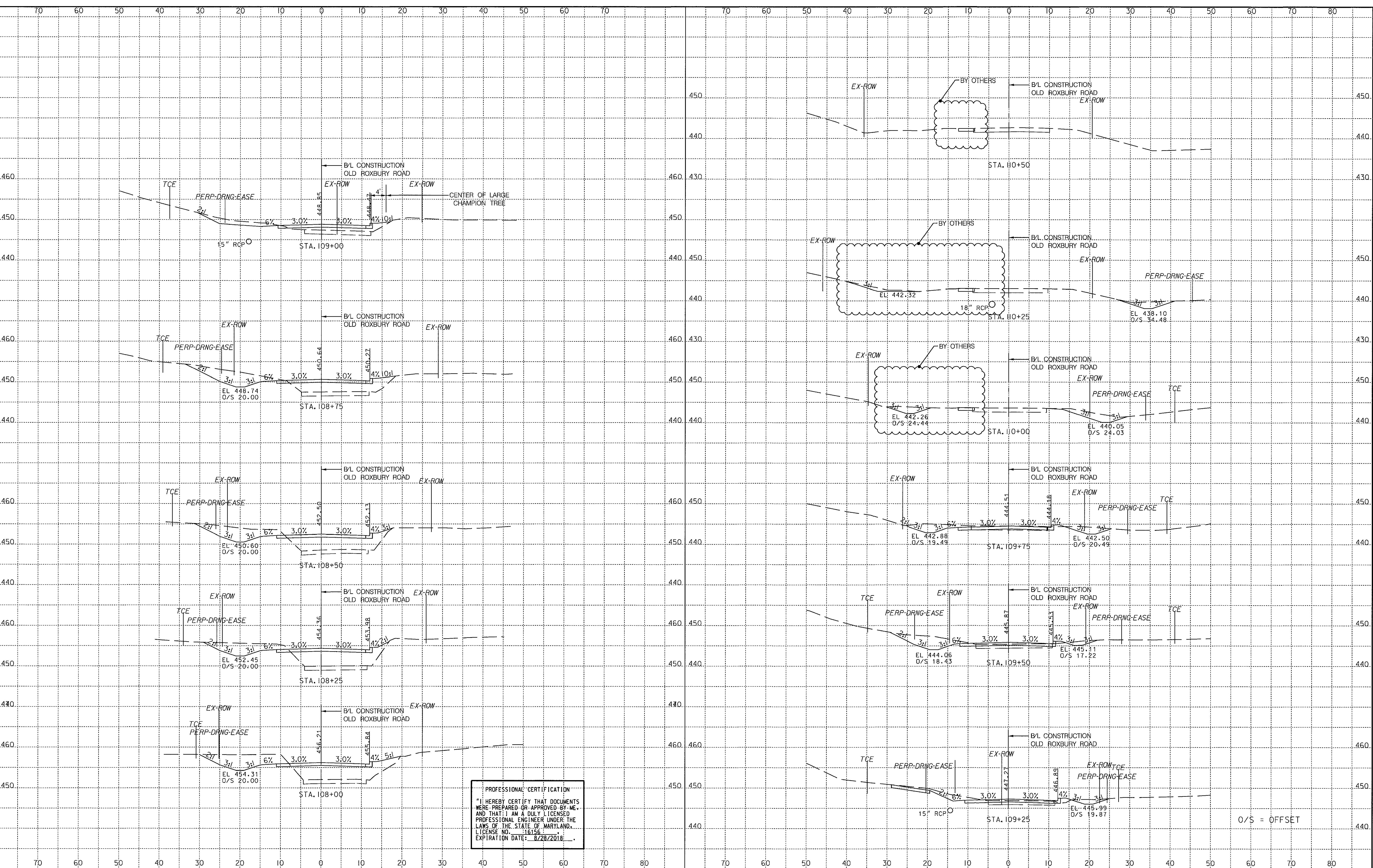


DES:	DMT			
DRN:	DMT			
CHK:	DTM			
DATE:	02/2018	BY:	NO.	REVISION
				DATE

CROSS SECTIONS
 SCALE MAP NO. _____ BLOCK NO. _____

**OLD ROXBURY ROAD
 ROADWAY WIDENING
 MD 97 TO WEST OF RIVERCREST COURT
 5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND**

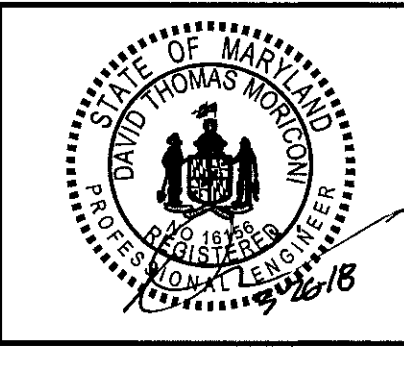
SCALE
 1" = 10'
 SHEET
 16 OF 19



PROFESSIONAL CERTIFICATION
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DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: [Signature] 4/1/18
 Chief, Bureau of Engineering: [Signature] 4/1/18
 Chief, Transportation and Special Projects Division: [Signature] 4/1/18

PREPARED BY
URS
 4 NORTH PARK DRIVE
 HUNT VALLEY, MARYLAND
 TEL: (410) 785-7220

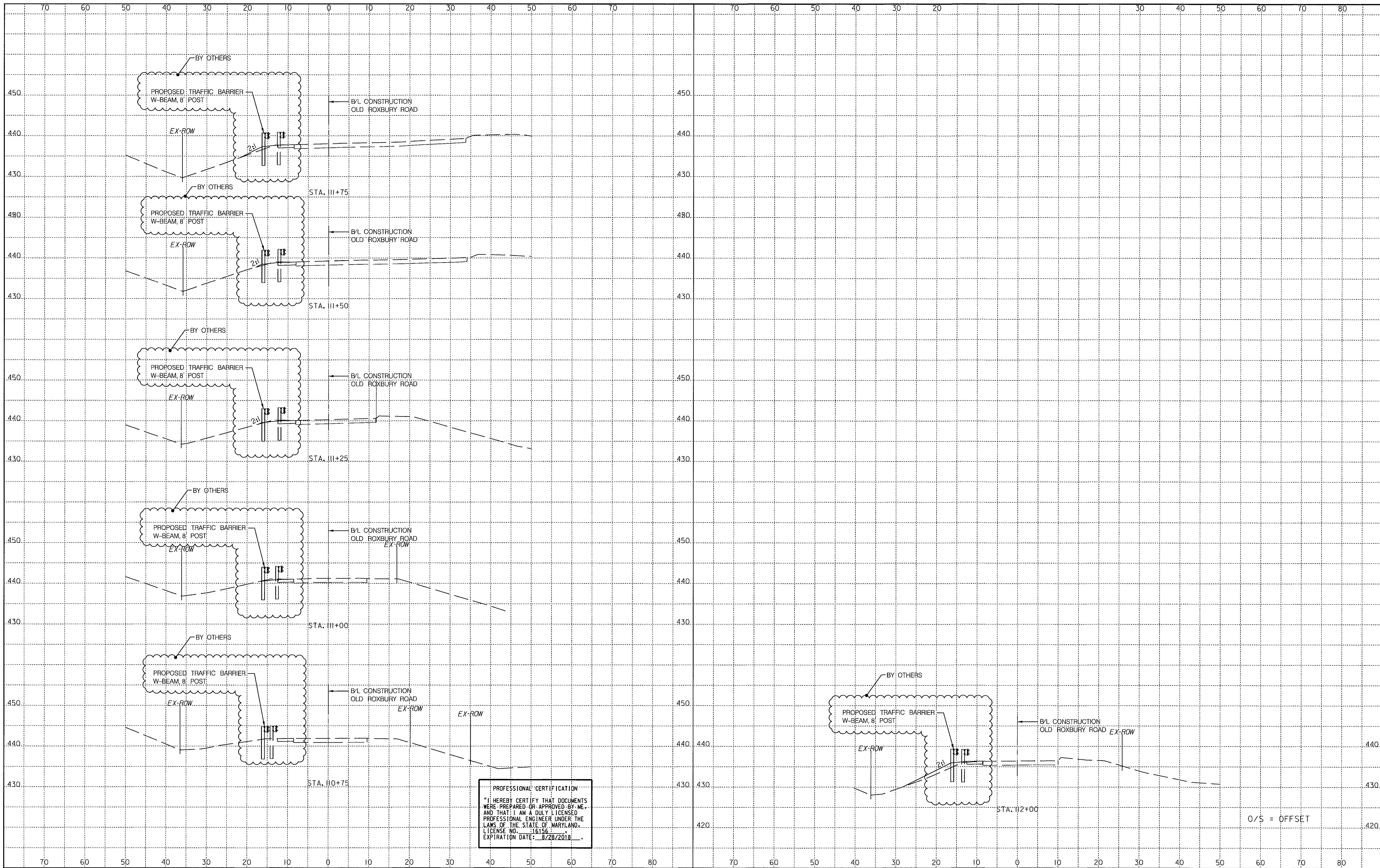


DES:	DMT		
DRN:	DMT		
CHK:	DTM		
DATE:	02/2018		
BY:	NO.	REVISION	DATE

CROSS SECTIONS
 SCALE MAP NO. _____ BLOCK NO. _____

OLD ROXBURY ROAD
 ROADWAY WIDENING
 MD 97 TO WEST OF RIVERCREST COURT
 5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE
 1" = 10'
 SHEET
 17 OF 19



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 PROFESSIONAL ENGINEER UNDER THE
 LAWS OF THE STATE OF MARYLAND.
 LICENSE NO. 16156
 EXPIRATION DATE: 8/28/2018

0/5 = OFFSET

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Ray V. ... 4/1/18
 DIRECTOR OF PUBLIC WORKS DATE

James E. ... 4/10/18
 CHIEF, BUREAU OF ENGINEERING DATE

... 4/19/18
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

... 4/10/2018
 CHIEF, BUREAU OF HIGHWAYS DATE

PREPARED BY
URS
 4 NORTH PARK DRIVE
 HUNT VALLEY, MARYLAND
 TEL: (410) 785-7220



DES:	DMT		
DRN:	DMT		
CHK:	DTM		
DATE:	02/2018		
BY:	NO.	REVISION	DATE

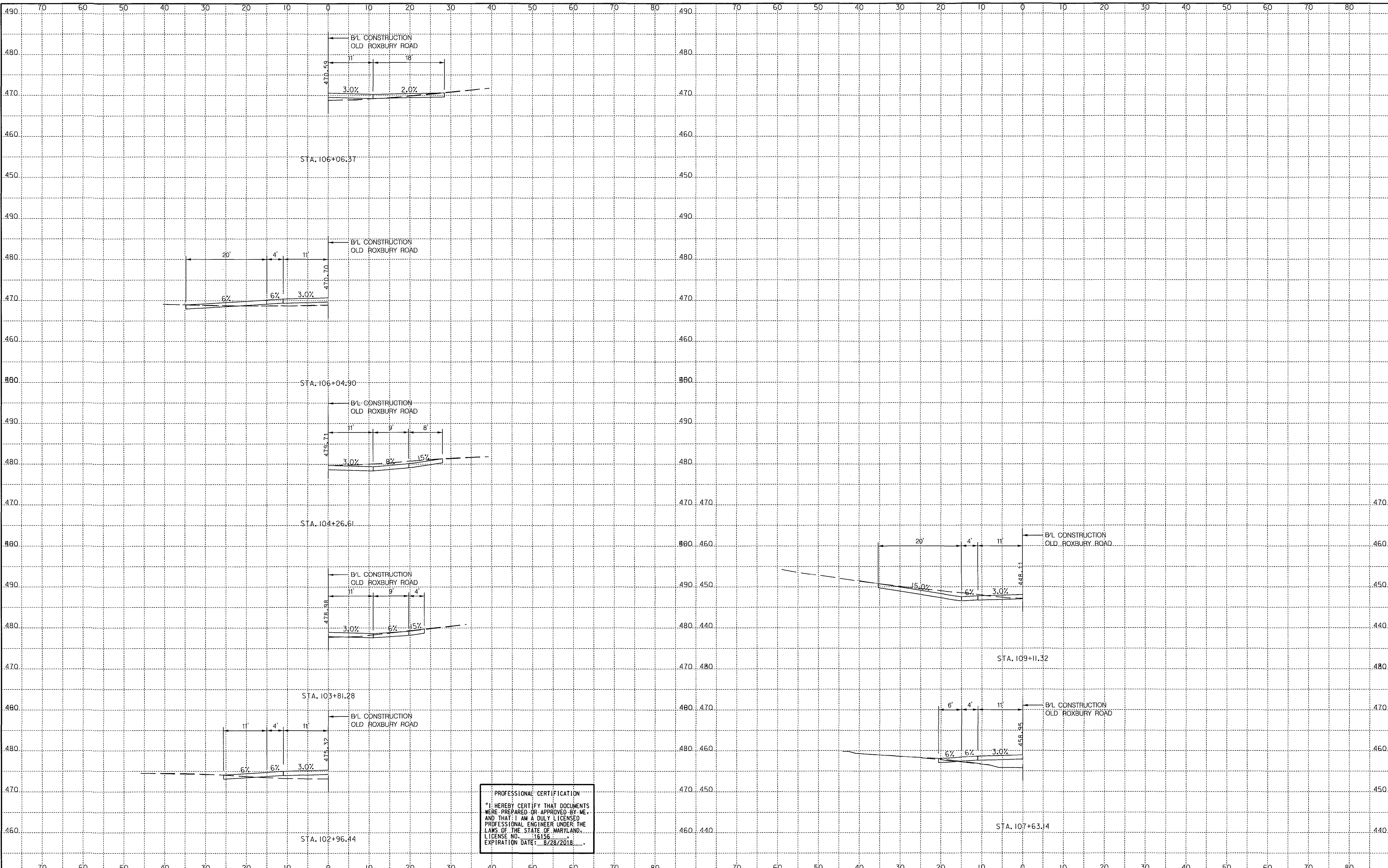
CROSS SECTIONS

SCALE MAP NO. _____ BLOCK NO. _____

OLD ROXBURY ROAD
 ROADWAY WIDENING
 MD 97 TO WEST OF RIVERCREST COURT
 5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE
 1" = 10'

SHEET
 18 OF 19



PROFESSIONAL CERTIFICATION
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 LICENSE NO. 16156
 EXPIRATION DATE: 8/28/2018"

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

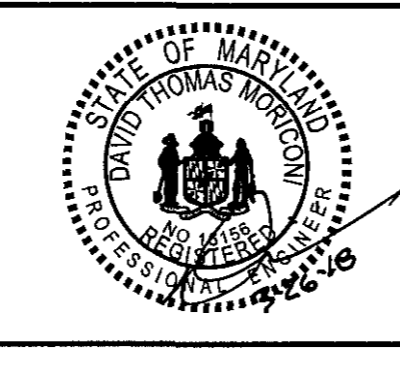
Jan P. Van Hulse 4/9/18
 DIRECTOR OF PUBLIC WORKS DATE

Thomas B. Suttler 4/10/18
 CHIEF - BUREAU OF ENGINEERING DATE

Robert D. ... 4/11/18
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

Michael ... 4/10/2018
 CHIEF, BUREAU OF HIGHWAYS DATE

PREPARED BY
URS
 4 NORTH PARK DRIVE
 HUNT VALLEY, MARYLAND
 TEL: (410) 785-7220



DES: DMT			
DRN: DMT			
CHK: DTM			
DATE: 02/2018	BY	NO.	REVISION

DRIVEWAY PROFILES

SCALE MAP NO. _____ BLOCK NO. _____

OLD ROXBURY ROAD
 ROADWAY WIDENING
 MD 97 TO WEST OF RIVERCREST COURT
 5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

SCALE
 1" = 10'

SHEET
 19 OF 19