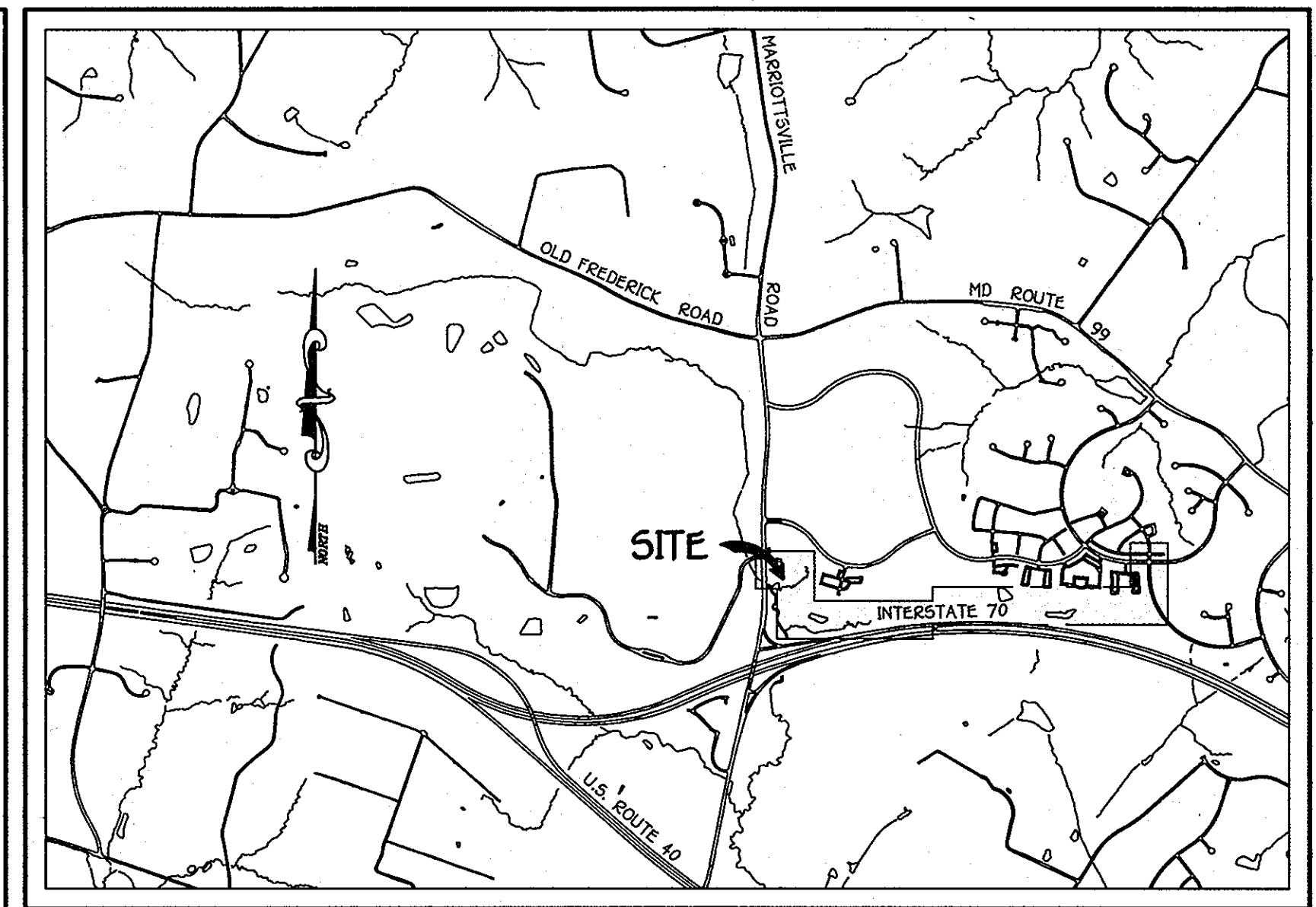
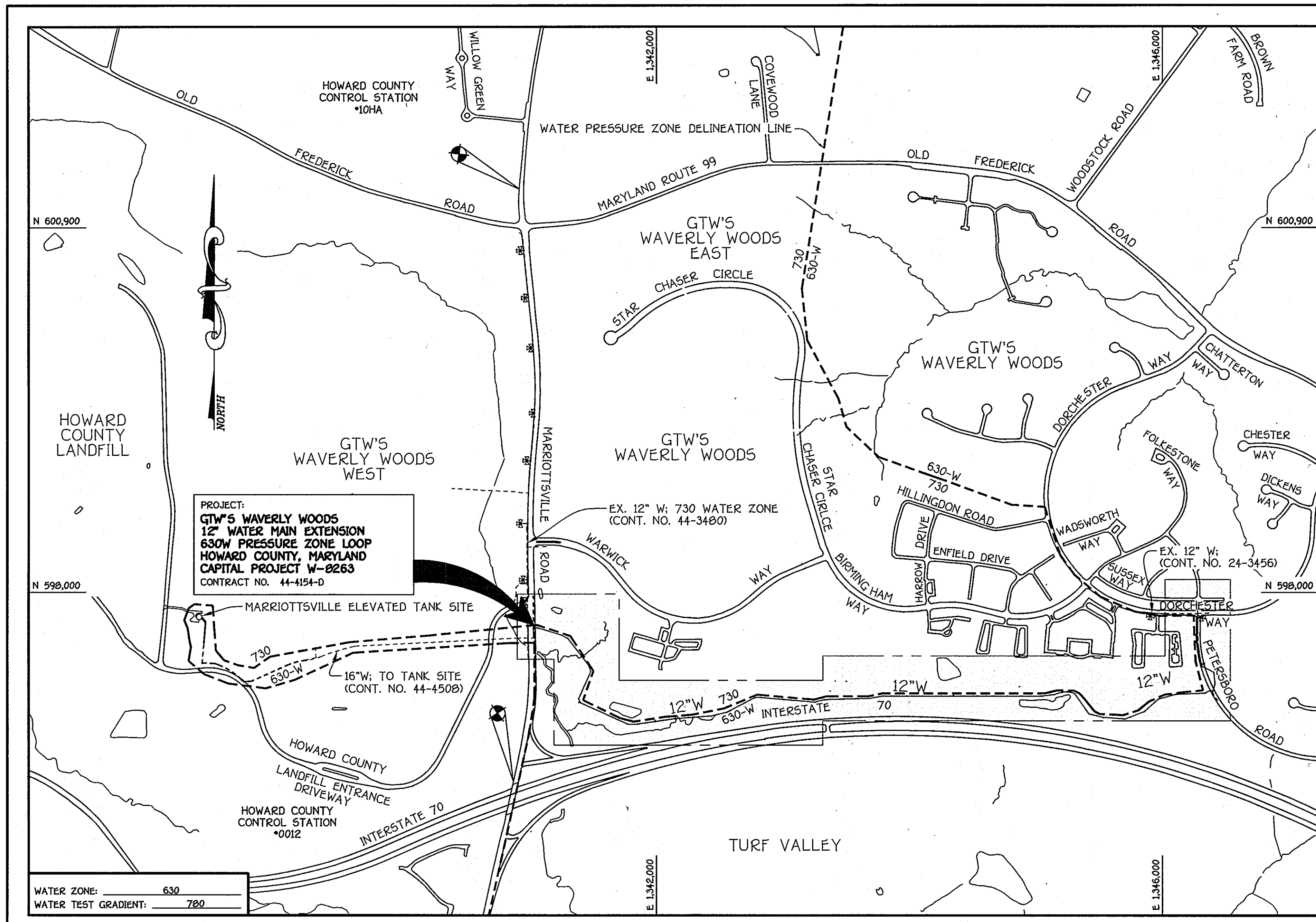


QUANTITIES					
ITEM	ESTIMATED	AS-BUILT		SUPPLIER	
		QUANTITIES	TYPE		
12" WATER	6,833 L.F.	6,833 L.F.	DR-18 C-900	BRS	
4" WATER	30 L.F.	30 L.F.	DR-18 C-900	BRS	
12"x4" TEE	3 EACH	3 EACH	MJ	BRS	
12"x9" REDUCER	2 EACH	2 EACH	MJ	BRS	
1/8 H.B.	8 EACH	8 EACH	EC	BRS	
1/16 H.B.	12 EACH	12 EACH	EC	BRS	
1/32 H.B.	16 EACH	16 EACH	EC	BRS	
4" VALVE	3 EACH	3 EACH	GATE	BRS	
12" VALVE	7 EACH	7 EACH	GATE	BRS	
AIR RELEASE MANKOLE	3 EACH	3 EACH	12" BLANS OFF	BRS	
CONTINUITY TEST STATION	16 EACH	16 EACH	12"	BRS	
2" H.B.	1 EACH	1 EACH	EC	BRS	
4" H.B.	2 EACH	2 EACH	EC	BRS	
BLOW-OFF ASSEMBLY	3 EACH	3 EACH	2" SERIES 36	BRS	
12" K12 FEE	1 EACH	1 EACH	MJ	BRS	

BENCHMARK INFORMATION

B.M.#1 - HOWARD COUNTY CONTROL STATION #0012
 (LOCATED ALONG THE WEST SIDE OF MARRIOTTVILLE ROAD; JUST NORTH OF INTERSTATE 70)
 N 595,502.7604 - HORIZONTAL = (NAD '83)
 E 1,340,864.3654 - HORIZONTAL = (NAD '83)
 ELEVATION = 406.909 - VERTICAL = (NGVD '29)

B.M.#2 - HOWARD COUNTY CONTROL STATION #10HA
 (LOCATED ALONG THE WEST SIDE OF MARRIOTTVILLE ROAD, JUST NORTH OF OLD FREDERICK ROAD, APPROX. 21' WEST OF THE CENTERLINE OF ROAD)
 N 601,206.59 - HORIZONTAL = (NAD '83)
 E 1,340,912.325 - HORIZONTAL = (NAD '83)
 ELEVATION = 403.888 - VERTICAL = (NGVD '29)



LOCATION MAP
 SCALE: 1" = 200'

GENERAL NOTES

- PART A
- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
 - TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON OR ABOUT JULY, 2005 & 2010 BY FISHER, COLLINS & CARTER, INC.
 - HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/91" AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 10HA & NO. 0012. ALL VERTICAL CONTROLS ARE AS INDICATED IN THE BENCHMARK INFORMATION. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF THE ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
 - FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
 - WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL (P) AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
 - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - AT&T 1-800-252-1133
 - BGE (CONSTRUCTION SERVICES) 410-637-0713
 - BGE (EMERGENCY) 410-695-0123
 - BUREAU OF UTILITIES 410-313-4900
 - COLONIAL PIPELINE CO. 410-793-9090
 - MISS UTILITY 1-800-257-7777
 - STATE HIGHWAY ADMINISTRATION 410-531-5533
 - VERIZON 1-800-743-0033
 - TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
 - CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CONSTRUCTION OF THE MAIN.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.11(h) OF THE HOWARD COUNTY CODE.

- PART B: WATER MAIN GENERAL NOTES
- ALL WATER MAINS SHALL BE ~~D.I.P.~~ **PVC C-900** UNLESS OTHERWISE NOTED.
 - TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TEES SHALL BE STAPPED TO TEES IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
 - FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
 - FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 51 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.
 - UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SEVENTEEN (17) POUND SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL TEES USED WITH PVC MAINS SHALL BE DUCTILE IRON.
 - ALL DWELLING UNITS SHALL HAVE A 1-1/2" WATER HOUSE CONNECTION WITH A 1" OUTSIDE METER SETTING; STD. DET. W-3.2B.

- PART C: SEWER MAIN GENERAL NOTES
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. AS SPECIFIED ON PLANS.
 - ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
 - FORCE MAINS SHALL BE D.I.P. ONLY.
 - MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
 - MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52 WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-0" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

VICINITY MAP
 SCALE: 1" = 600'

TYPE OF BUILDING:	N/A
NUMBER OF UNITS:	N/A
NO. OF WATER HOUSE CONNECTIONS:	N/A
NO. OF SEWER HOUSE CONNECTIONS:	N/A
DRAINAGE AREA:	LITTLE PATUXENT
TREATMENT PLANT:	LITTLE PATUXENT WATER RECLAMATION CENTER SAVAGE MD

PROJECT: GTW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT W-8263
 CONTRACT NO. 44-4154-D

MARRIOTTVILLE ELEVATED TANK SITE
 16" W. TO TANK SITE (CONT. NO. 44-4508)
 EX. 12" W. 730 WATER ZONE (CONT. NO. 44-3480)
 WATER ZONE: 630
 WATER TEST GRADIENT: 780

SHEET INDEX

SHEET NO.	TITLE
1	TITLE SHEET
2	WATER MAIN EXTENSION PLAN, PROFILES & CHART
3	WATER MAIN EXTENSION PLAN
4	WATER MAIN EXTENSION PLAN
5	WATER MAIN EXTENSION PROFILE & CHART
6	WATER MAIN EXTENSION PROFILE & CHART
7	WATER MAIN EXTENSION PROFILE & CHART
8	WATER MAIN EXTENSION PROFILE & CHART
9	WETLAND DELINEATION/WETLAND IMPACT PLAN
10	WETLAND DELINEATION/WETLAND IMPACT PLAN
11	WETLAND DELINEATION: DETAILS & SPECIFICATIONS
12	EROSION CONTROL STAGING AREA PLAN
13	EROSION & SEDIMENT CONTROL PLAN
14	EROSION & SEDIMENT CONTROL PLAN
15	EROSION & SEDIMENT CONTROL PLAN
16	EROSION & SEDIMENT: NOTES & DETAILS
17	WORK ZONE TRAFFIC CONTROL PLAN
18	WORK ZONE TRAFFIC CONTROL: NOTES & DETAILS
19	TRAFFIC CONTROL PLAN

MPE LETTER OF AUTHORIZATION NO. 11-NT-00977/2011-00127

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

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. 12043 EXPIRATION DATE IS 7/26/14.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10275 BALTIMORE NATIONAL Pkz
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2922

DESIGNED BY: B.C.R.
 DRAWN BY: B.C.R.
 CHECKED BY: P.W.K.
 DATE: 12/09/10
 BY NO. 8-9-12
 ADD LETTER OF AUTHORIZATION NO. & SHEET INDEX PER MPE COMMENT 1/29/12
 REVISION

WATER MAIN EXTENSION TITLE SHEET
 600' SCALE MAP NO. 16 BLOCK NO. 5
 F.C.C. WORK ORDER NO. 542
 FILE NAME: WATER MAIN EXTENSION TITLE SHEET

GTW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 CAPITAL PROJECT W-8263
 CONTRACT NO. 44-4154-D
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

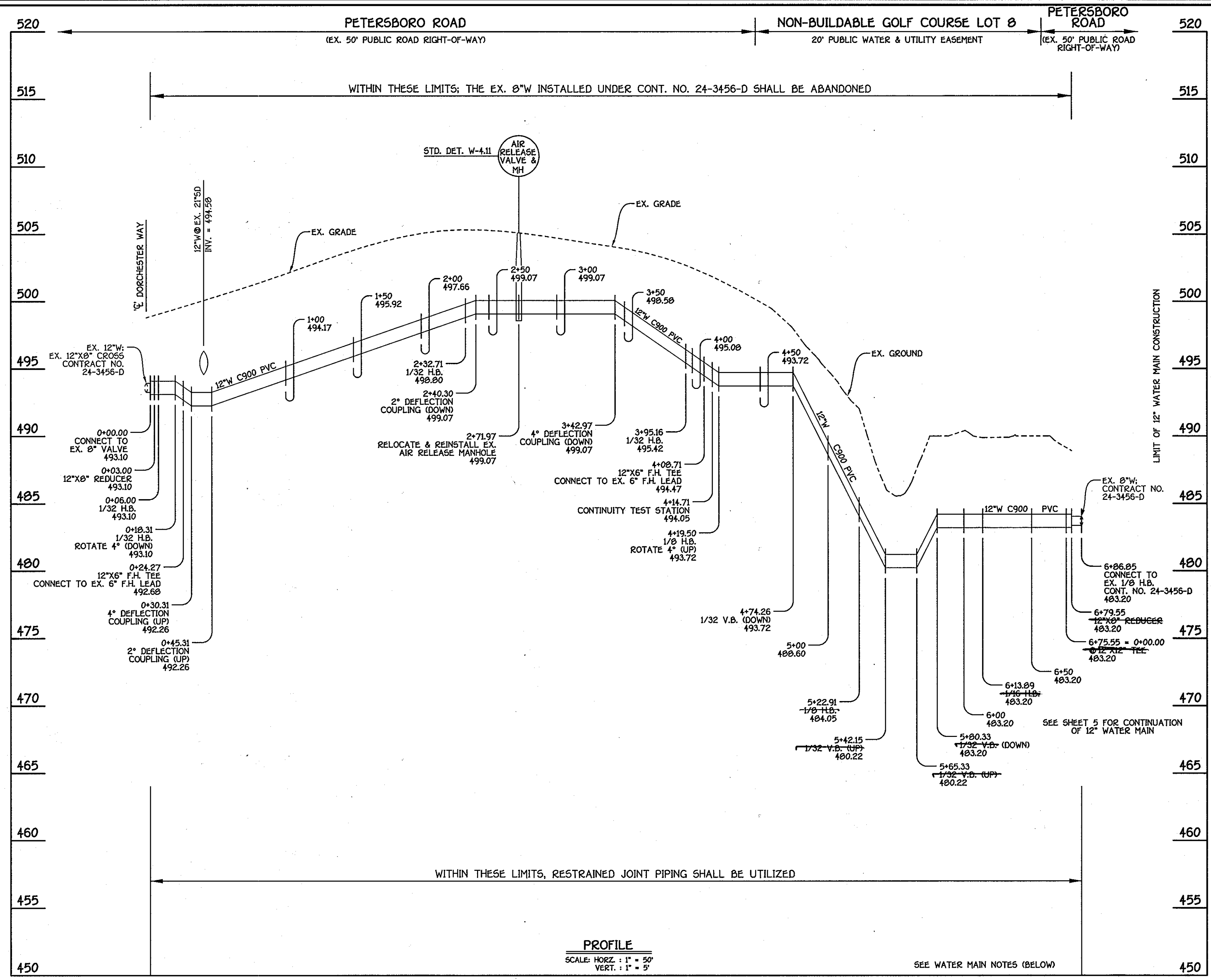
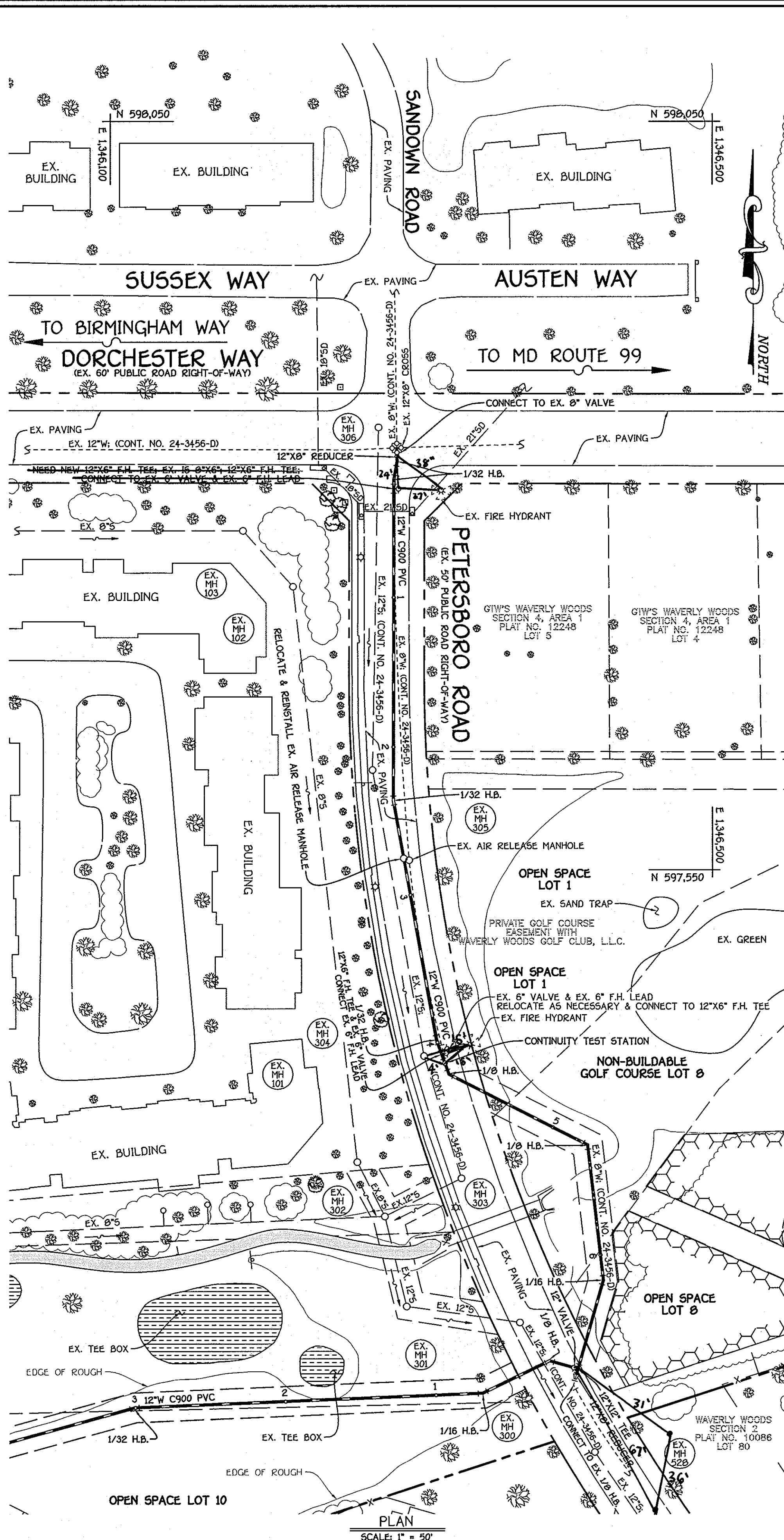
SCALE AS SHOWN
 SHEET 1 of 12

APPROVED: *Paul W. Kriebel* 12/13/10
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: *John R. Roberts* 12/13/10
 DATE

APPROVED: *William C. Brown* 12/17/10
 DATE

K:\S056P001\542.dwg 630 Water Main Loop.dwg, 12/9/2010 12:21:11 PM



12" WATER MAIN EXTENSION: PETERSBORO ROAD

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN EXTENSION			
0+00.00	CONNECT TO EX. 8" VALVE	597828.93	1346290.61
0+03.00	12"x8" REDUCER	597825.93	1346290.65
0+06.00	1/32 H.B.	597822.93	1346290.69
0+18.31	1/32 H.B.	597810.81	1346280.56
0+24.27	12"x6" F.H. TEE	597804.85	1346280.55
2+32.71	1/32 H.B.	597595.41	1346280.05
2+71.97	AIR RELEASE MANHOLE	597587.76	1346294.97
3+95.16	1/32 H.B.	597435.51	1346316.70
4+08.71	12"x6" F.H. TEE	597426.60	1346320.27
4+14.71	CONTINUITY TEST STATION	597420.95	1346322.31
4+19.50	1/8 H.B.	597413.81	1346324.96
5+22.91	1/8 H.B.	597366.35	1346416.94
6+13.89	1/16 H.B.	597275.97	1346427.33
6+75.55	12"x12" TEE	597216.65	1346410.49
6+79.55	12"x8" REDUCER	597212.80	1346409.40
6+86.85	CONNECT TO EX. 1/8 H.B.	597205.78	1346407.41

- WATER MAIN NOTES:**
1. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
 2. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
 3. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

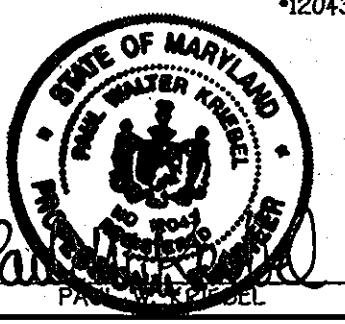
NOTE:
SEE SHEETS 17 & 18 FOR WORK ZONE TRAFFIC CONTROL. PLAN NOTES & DETAILS TO PROVIDE FOR A TEMPORARY CLOSURE OF A PORTION OF PETERSBORO ROAD FOR INSTALLATION OF A PUBLIC WATER MAIN.

CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 12/10/10

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
DATE: 12/17/10

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. 12043 EXPIRATION DATE IS 7/31/14.
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PKWY
ELICOTT CITY, MARYLAND 21042
(410) 461-2992

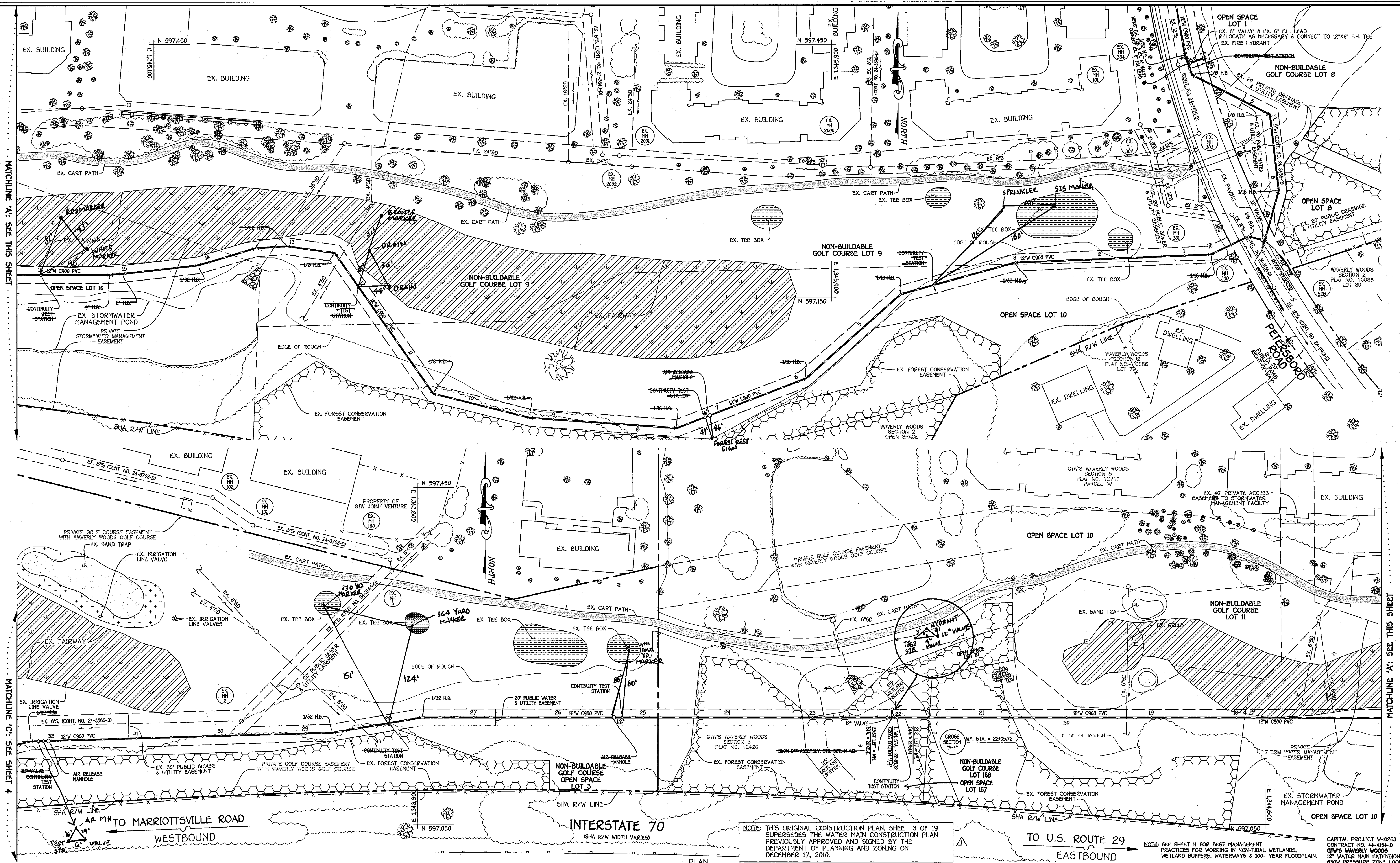


DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: KCI 2 AS-BUILT
DATE: DECEMBER, 2010
BY: NO. REVISION

WATER MAIN EXTENSION
PLAN, PROFILE & CHART
60' SCALE MAP NO. 15 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542
FILE NAME: WATER MAIN EXTENSION TITLE SHEET

GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 10



NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 3 OF 19 SUPERSEDES THE WATER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 17, 2010.

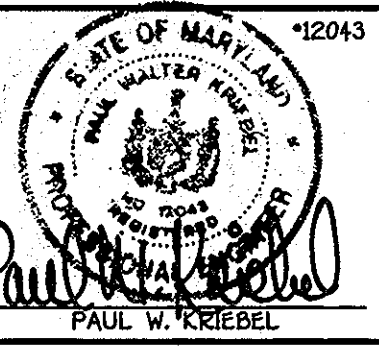
NOTE: SEE SHEET 11 FOR BEST MANAGEMENT PRACTICES FOR WORKING IN NON-TIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS & 100-YEAR FLOODPLAIN.

CAPITAL PROJECT W-0263
CONTRACT NO. 44-4154-D
GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
SILVER CREEK
2/1/13
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
PAUL W. KRUEBEL
2/1/13
DATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 12043 EXPIRATION DATE IS 7/26/14.
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
410-461-2225

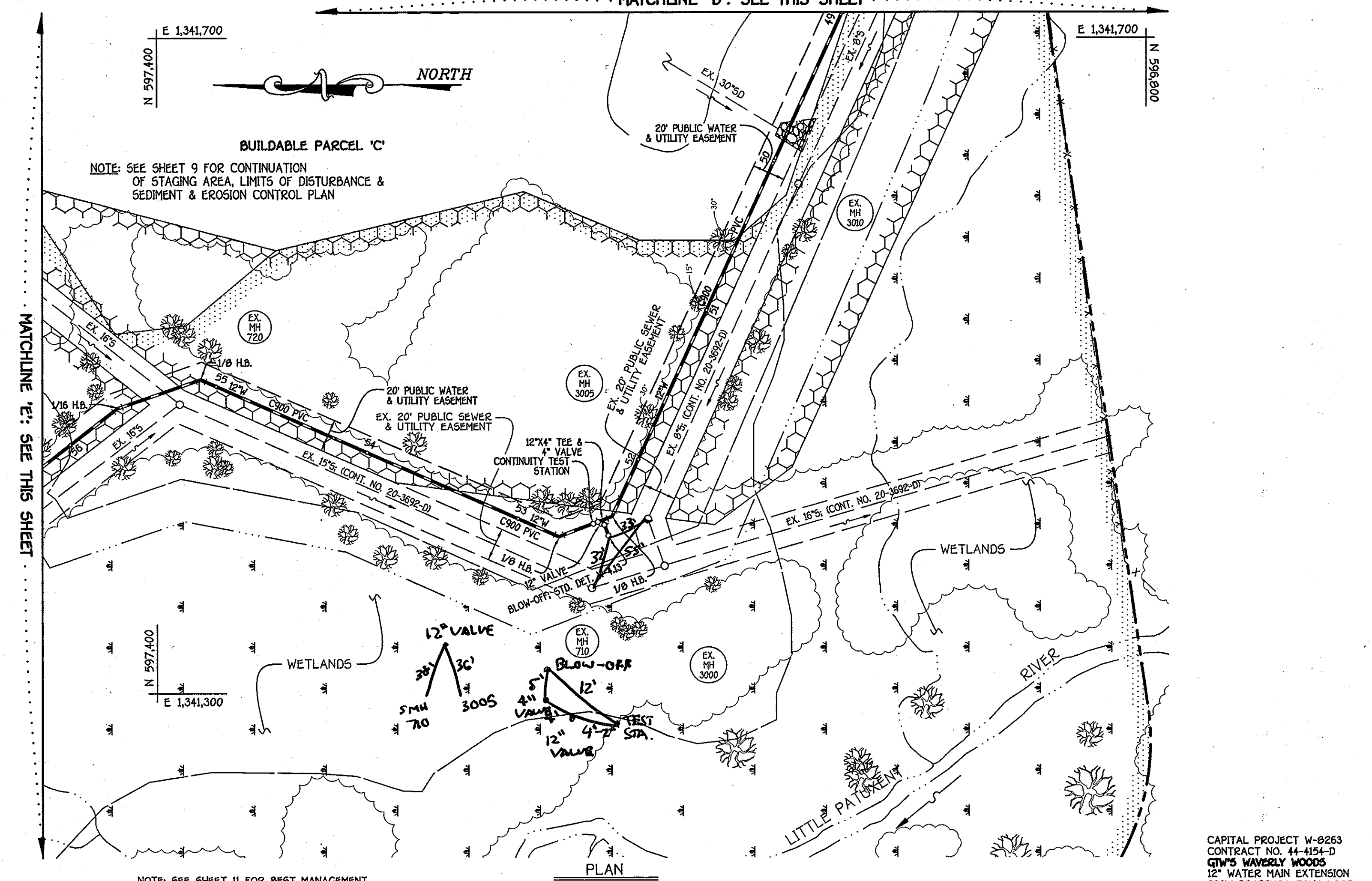
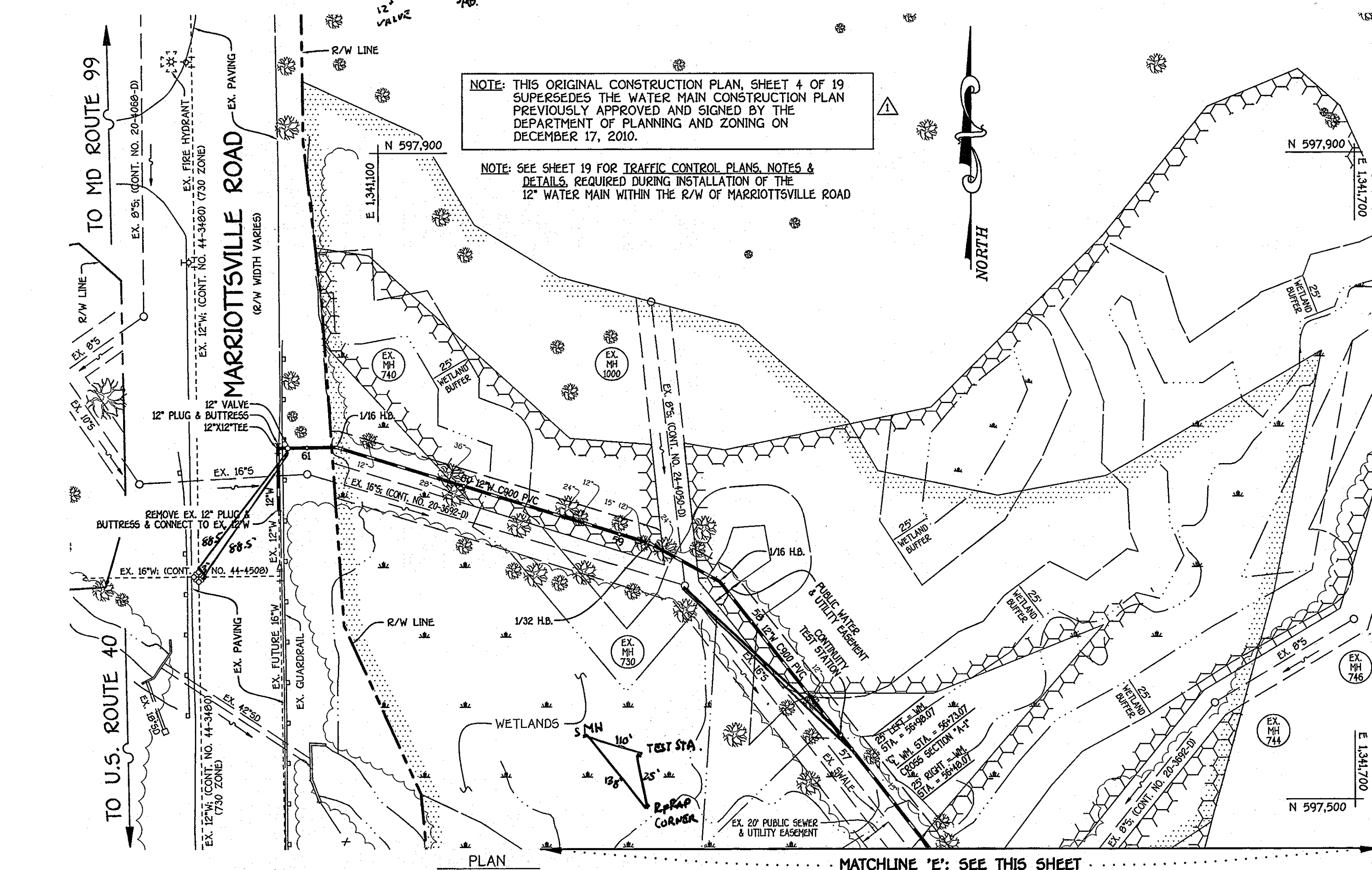
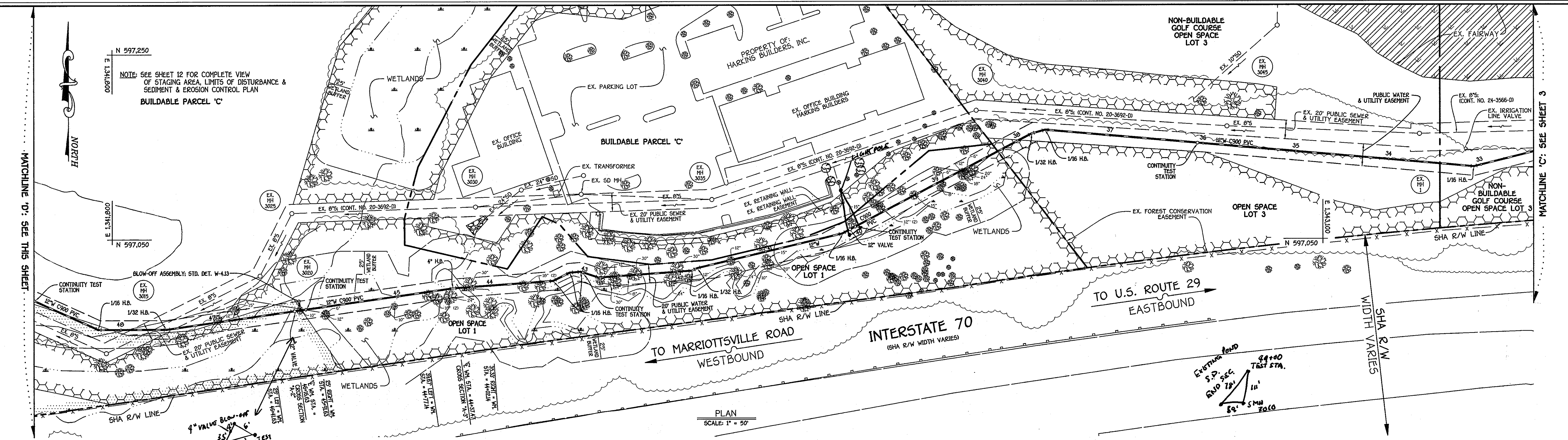


DESIGNED BY:	B.C.R.
DRAWN BY:	B.C.R.
CHECKED BY:	KC 2 AS-BUILT
DATE:	JANUARY, 2013
BY NO.	8-9-13
REVISION	REPLACEMENT SHEET: REVISED TO ADDRESS MDE COMMENTS

WATER MAIN EXTENSION PLAN
600' SCALE MAP NO. 16 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542
FILE NAME: WATER MAIN EXTENSION SHEET

SCALE AS SHOWN
SHEET 3 OF 19

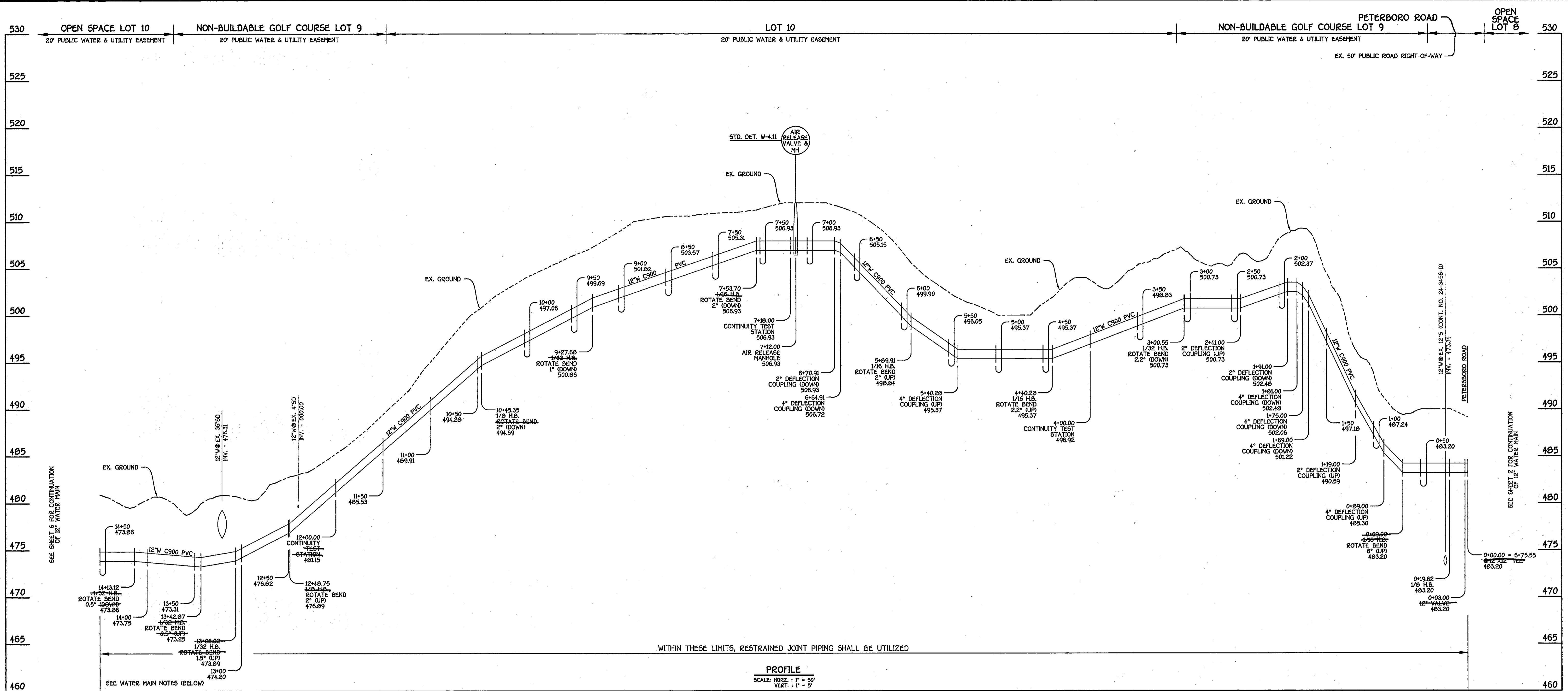
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K:\SPS\0201052123\0201052123\Water Main Loop - 01 - 09 - 19 - 16 (redline 1).dwg (NEW) PLAN SHEET 4 - 1/23/2013 3:12:17 PM 1:1

CAPITAL PROJECT W-8263
 CONTRACT NO. 44-4154-D
 GW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 HOWARD COUNTY, MARYLAND

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> CHIEF, BUREAU OF UTILITIES</p>	<p>DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION</p>	<p>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. 12043 EXPIRATION DATE IS 7/30/14.</p> <p>FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS</p> <p>CENTENNIAL COLLEGE OFFICE PARK - 10272 BALDROCK NATIONAL Pkz ELICOTT CITY, MARYLAND 21054 (410) 461-2255</p> <p>PAUL W. KRIEDEL</p>	<p>DESIGNED BY : B.C.R.</p> <p>DRAWN BY : B.C.R.</p> <p>CHECKED BY : KCT</p> <p>DATE : JANUARY, 2013</p>	<p>AS BUILT</p> <p>REPLACEMENT SHEET: REVISED TO ADDRESS MDE COMMENTS</p>	<p>600' SCALE MAP NO. 16</p> <p>F.C.C. WORK ORDER NO. 542</p> <p>FILE NAME : WATER MAIN EXTENSION SHEET</p>	<p>WATER MAIN EXTENSION PLAN</p>	<p>GW'S WAVERLY WOODS 12" WATER MAIN EXTENSION 630W PRESSURE ZONE LOOP CAPITAL PROJECT W-8263 CONTRACT NO. 44-4154-D THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND</p>	<p>SCALE AS SHOWN</p> <p>SHEET 4 OF 19</p>
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WITHIN THESE LIMITS, RESTRAINED JOINT PIPING SHALL BE UTILIZED

PROFILE
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

12" WATER MAIN EXTENSION: PETERSBORO ROAD TO MARRIOTTSVILLE ROAD

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN EXTENSION			
0+00.00	12"x12" TEE	597216.65	1346410.49
0+03.00	12" VALVE	597217.47	1346407.61
0+19.62	1/8" H.B.	597222.00	1346391.62
0+69.00	1/16" H.B.	597200.38	1346347.22
3+00.55	1/32" H.B.	597190.71	134615.88
4+00.00	CONTINUITY TEST STATION	597164.10	1346020.05
4+40.28	1/16" H.B.	597153.32	1345981.24
5+89.91	1/16" H.B.	597053.4	1345869.65
7+12.00	AIR RELEASE MANHOLE	597009.45	1345755.04
7+18.00	CONTINUITY TEST STATION	597007.28	1345750.25
7+53.70	1/16" H.B.	596994.36	1345716.96
9+27.68	1/32" H.B.	597006.65	1345543.42
10+45.35	1/8" H.B.	597035.15	1345429.33
12+00.00	CONTINUITY TEST STATION	597162.37	1345340.96
12+48.75	1/8" H.B.	597202.38	1345313.11
13+06.02	1/32" H.B.	597210.70	1345256.45
13+42.87	1/32" H.B.	597208.21	1345219.69
14+13.12	1/32" H.B.	597187.92	1345152.42

NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 5 OF 19 SUPERSEDES THE WATER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 17, 2010.

- WATER MAIN NOTES:**
1. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
 2. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
 3. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Signature 2/1/13
DATE

Signature 2/1/13
DATE

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. 12043 EXPIRATION DATE IS 7/25/14.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE BLVD CITY, MARYLAND 21042
(410) 461 - 2225

PAUL W. KRIEBEL

DESIGNED BY: B.C.R.

DRAWN BY: B.C.R.

CHECKED BY: *Signature*

DATE: JANUARY, 2013

BY NO. **ASB/JLT**

REPLACEMENT SHEET: REVISED TO ADDRESS MDE COMMENTS

WATER MAIN EXTENSION PROFILE & CHART

600' SCALE MAP NO. 15 BLOCK NO. 5

F.C.C. WORK ORDER NO. 542

FILE NAME: WATER MAIN EXTENSION SHEET

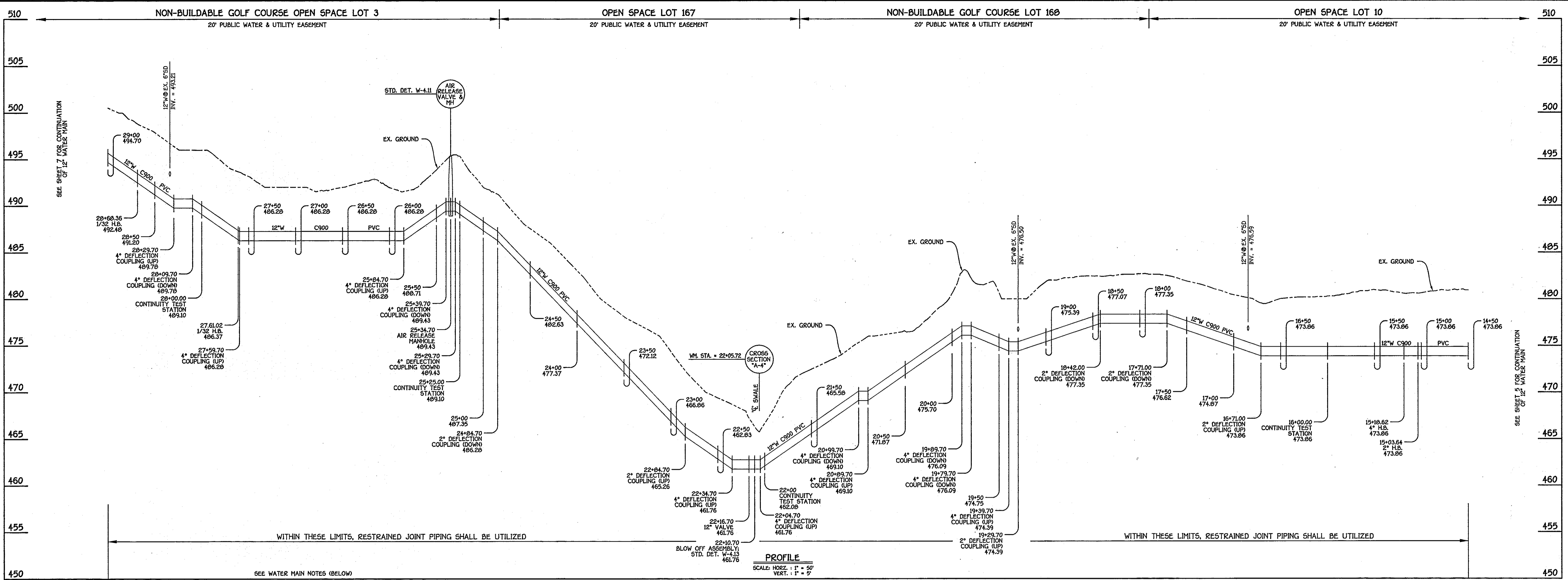
GTW'S WAVERLY WOODS

12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 5 of 19

CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
HOWARD COUNTY, MARYLAND



12" WATER MAIN EXTENSION: PETERSBORO ROAD TO MARRIOTTSVILLE ROAD

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN EXTENSION			
15+03.64	2" H.B.	597177.81	1345082.47
15+18.62	4" H.B.	597176.69	1345047.53
16+00.00	CONTINUITY TEST STATION	597176.69	1344966.15
22+00.00	CONTINUITY TEST STATION	597176.69	1344366.15
22+10.70	BLOW OFF ASSEMBLY	597176.69	1344360.15
22+16.70	12" VALVE	597176.69	1344354.15
25+25.00	CONTINUITY TEST STATION	597176.69	1344041.15
25+34.70	AIR RELEASE MANHOLE	597176.69	1344031.45
27+61.02	1/32 H.B.	597176.69	1343805.13
28+00.00	CABLE TEST STATION	597170.05	1343766.72
28+68.35	1/32 H.B.	597158.42	1343699.36

- WATER MAIN NOTES:**
- ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
 - DEFLECTION COUPLINGS SHALL BE CERTAIN-TIED PVC HIGH DEFLECTION COUPLINGS.
 - ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 6 OF 19 SUPERSEDES THE WATER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 17, 2010.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Shawn C. Green
2/1/13
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Michael J. Quinn
2/1/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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. 12043 EXPIRATION DATE IS 7/8/14.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE BLUICOTT CITY, MARYLAND 20814
410 461 - 2255

Paul W. Kriebel
PAUL W. KRIEBEL

DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: P.W.K.
DATE: JANUARY, 2013

REPLACEMENT SHEET: REVISED TO ADDRESS MDE COMMENTS

BY NO. REVISION DATE

**WATER MAIN EXTENSION
PROFILE & CHART**

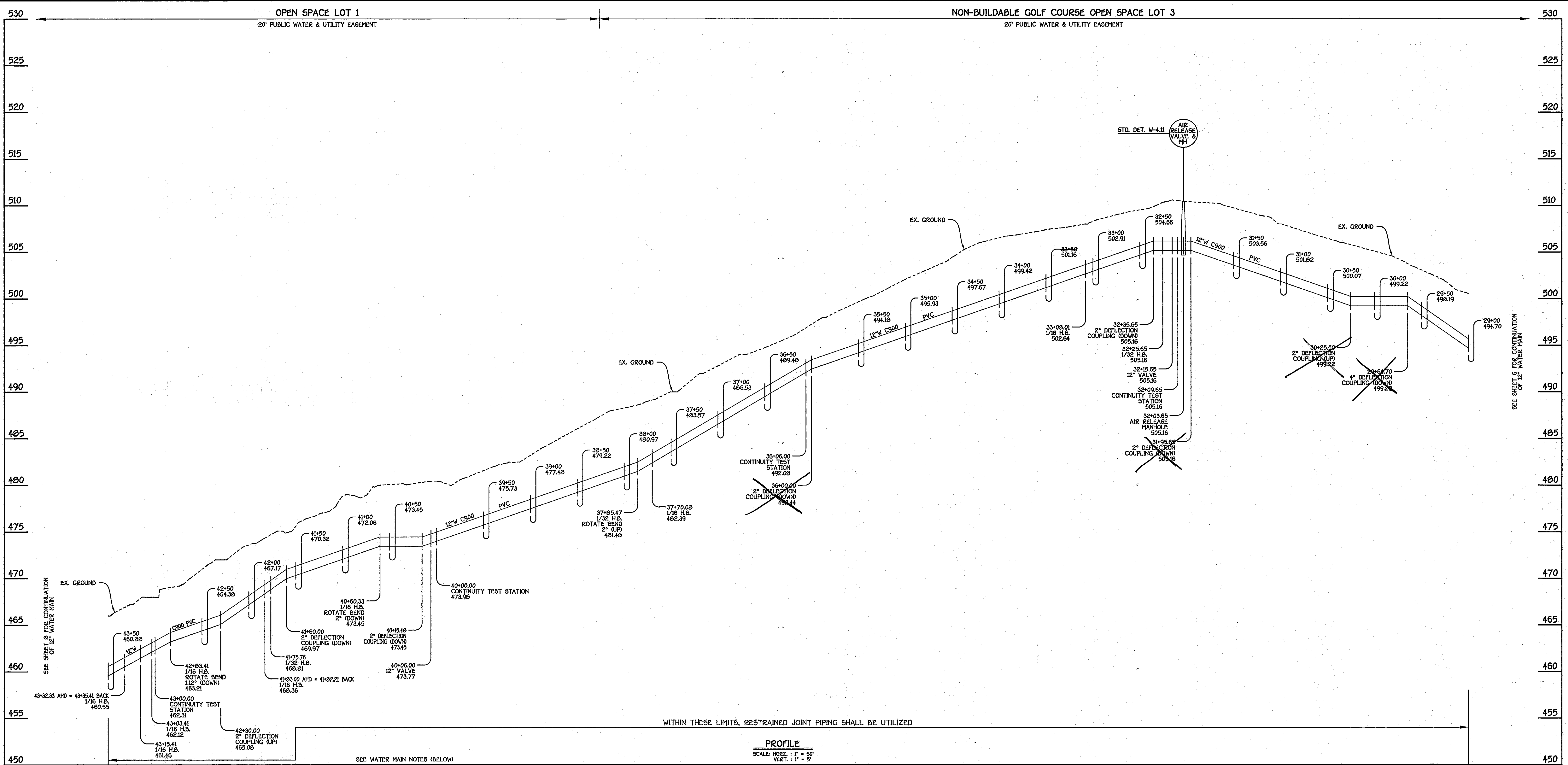
600' SCALE MAP NO. 16 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542
FILE NAME: WATER MAIN EXTENSION SHEET

GTW'S WAVERLY WOODS

12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 6 OF 19

CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
HOWARD COUNTY, MARYLAND



12" WATER MAIN EXTENSION: PETERSBORO ROAD TO MARRIOTTVILLE ROAD

- WATER MAIN NOTES:**
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 2. DEFLECTION COUPLINGS SHALL BE CERTAIN-TIED PVC HIGH DEFLECTION COUPLINGS.
 3. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN EXTENSION			
32+03.65	AIR RELEASE MANHOLE	597148.64	1343364.21
32+09.65	CONTINUITY TEST STATION	597148.45	1343358.22
32+15.65	12" VALVE	597148.28	1343352.22
32+25.65	1/32 H.B.	597148.00	1343342.22
33+08.01	1/16 H.B.	597127.84	1343262.36
36+06.00	CONTINUITY TEST STATION	597153.68	1342965.50
37+70.08	1/16 H.B.	597167.92	1342802.03
37+95.47	1/32 H.B.	597163.75	1342787.27
40+00.00	CONTINUITY TEST STATION	597063.16	1342597.74

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN EXTENSION			
40+06.00	12" VALVE	597060.35	1342592.44
40+15.48	1/16 H.B.	597055.90	1342584.06
41+75.76	1/32 H.B.	597018.73	1342428.16
43+03.41	1/16 H.B.	597015.98	1342422.32
42+03.41	1/16 H.B.	597008.61	1342322.19
43+00.00	CONTINUITY TEST STATION	597014.10	1342305.69
43+03.41	1/16 H.B.	597014.92	1342303.21
43+15.41	1/16 H.B.	597014.04	1342291.24
43+32.33	1/16 H.B.	597005.01	1342273.40

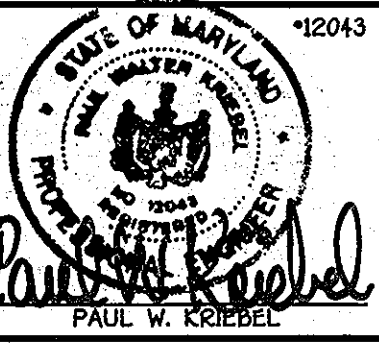
NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 7 OF 19 SUPERSEDES THE WATER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 17, 2010.

CAPITAL PROJECT W-0263
 CONTRACT NO. 44-4154-D
 GW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
Silvia C. Cleary
 CHIEF, BUREAU OF UTILITIES
 DATE: 2/1/13

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND
Paul W. Kriebel
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 2/1/13

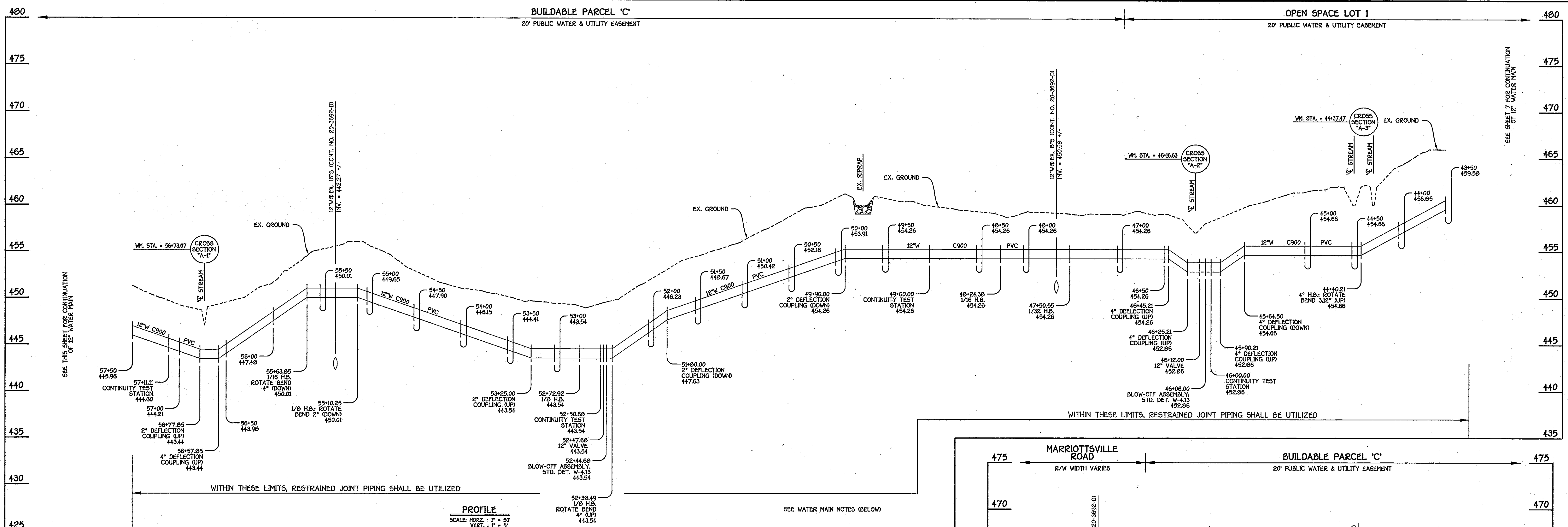
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 12043 EXPIRATION DATE IS 7/26/14.
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21043
 (410) 461-2255



DESIGNED BY: B.C.R.
 DRAWN BY: B.C.R.
 CHECKED BY: KCI 2 ASBUILT
 DATE: JANUARY, 2013
 REVISION: 875
 REPLACEMENT SHEET: REVISED TO ADDRESS MDE COMMENTS

WATER MAIN EXTENSION
 PROFILE & CHARTS
 600' SCALE MAP NO. 16 BLOCK NO. 5
 F.C.C. WORK ORDER NO. 542
 FILE NAME: WATER MAIN EXTENSION SHEET

GW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 CAPITAL PROJECT W-0263
 CONTRACT NO. 44-4154-D
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE AS SHOWN
 SHEET 7 OF 19

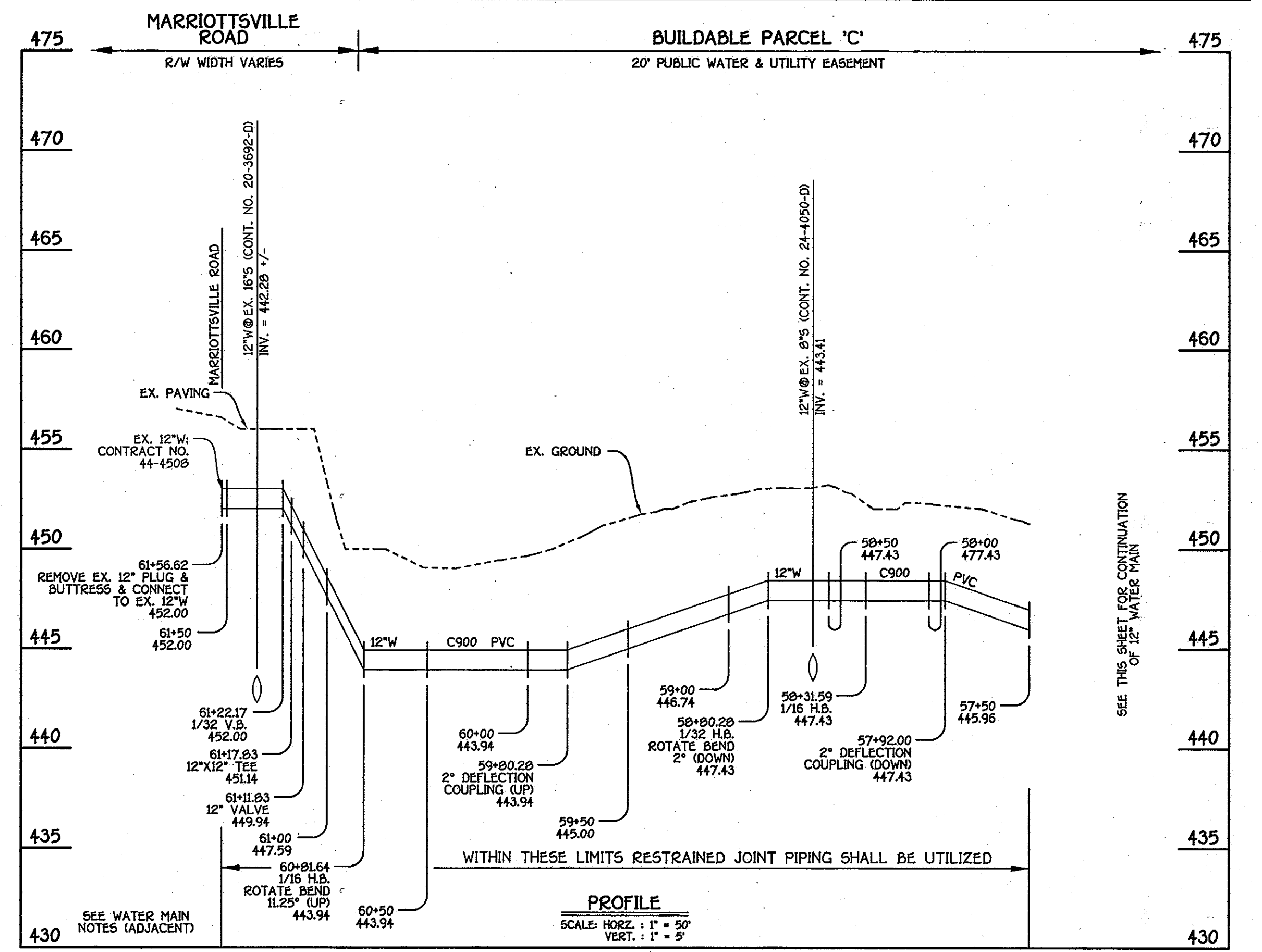


12" WATER MAIN EXTENSION: PETERSBORO ROAD TO MARRIOTTVILLE ROAD

W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN EXTENSION			
44+40.21	4" H.B.	996997.09	1342165.61
46+00.00	CONTINUITY TEST STATION	996974.33	1342007.65
46+06.00	BLOW-OFF ASSEMBLY	996973.47	1342001.72
46+12.00	12" VALVE	996972.62	1341995.78
47+50.55	1/32 H.B.	996952.00	1341898.64
48+24.38	1/16 H.B.	996952.00	1341784.81
49+00.00	CONTINUITY TEST STATION	996984.15	1341715.96
52+38.49	1/8 H.B.	997124.11	1341407.75
52+44.68	BLOW-OFF ASSEMBLY	997129.90	1341405.56
52+47.68	12" VALVE	997132.70	1341404.50
52+50.68	CONTINUITY TEST STATION	997139.51	1341403.43
52+72.92	1/8 H.B.	997156.31	1341395.54
55+10.25	1/8 H.B.	997373.36	1341491.52
55+63.85	1/16 H.B.	997424.00	1341473.97
57+11.11	CONTINUITY TEST STATION	997540.16	1341383.46
58+31.59	1/16 H.B.	997635.19	1341309.40
58+40.28	1/32 H.B.	997628.62	1341266.71
60+81.64	1/16 H.B.	997718.20	1341074.37
61+11.83	12" VALVE	997717.75	1341044.18
61+17.83	12"x12" TEE	997717.66	1341038.18
61+56.62	EX. 12" PLUG & BUTTRESS	997678.88	1341038.75

NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET B OF 19 SUPERSEDES THE WATER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 17, 2010.

- WATER MAIN NOTES:**
1. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR ANWA C900 PVC WATER PIPE INSTALLATION.
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12" WATER MAIN EXTENSION: PETERSBORO ROAD TO MARRIOTTVILLE ROAD

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

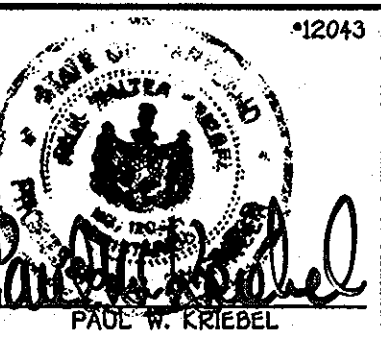
Sally Chen
2/1/13
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Mark Duman
2/1/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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LICENSE NO. 12043 EXPIRATION DATE IS 7/26/14.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 1827 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
MDP 46 - 2925



DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: P.W.K.
DATE: JANUARY, 2013

REPLACEMENT SHEET- REVISED TO ADDRESS MDE COMMENTS

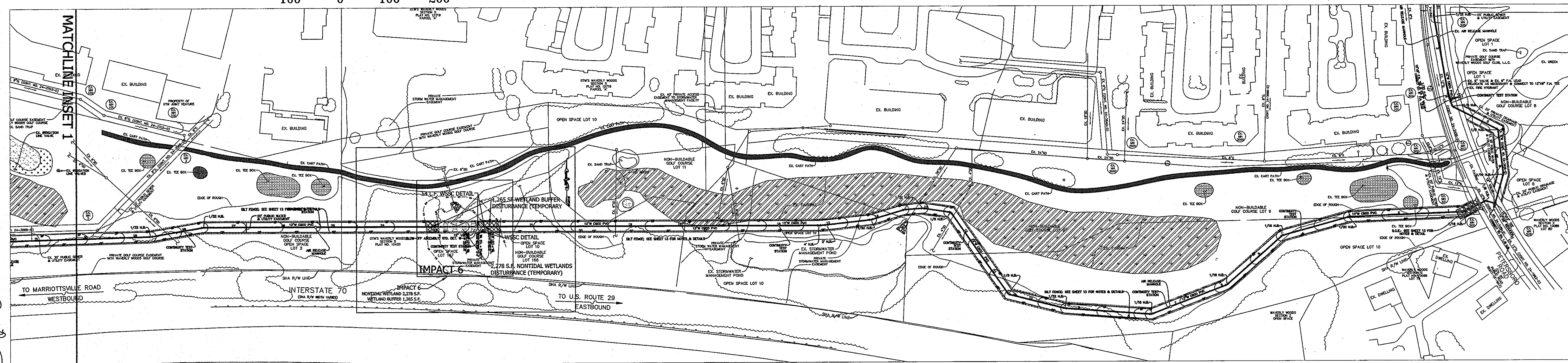
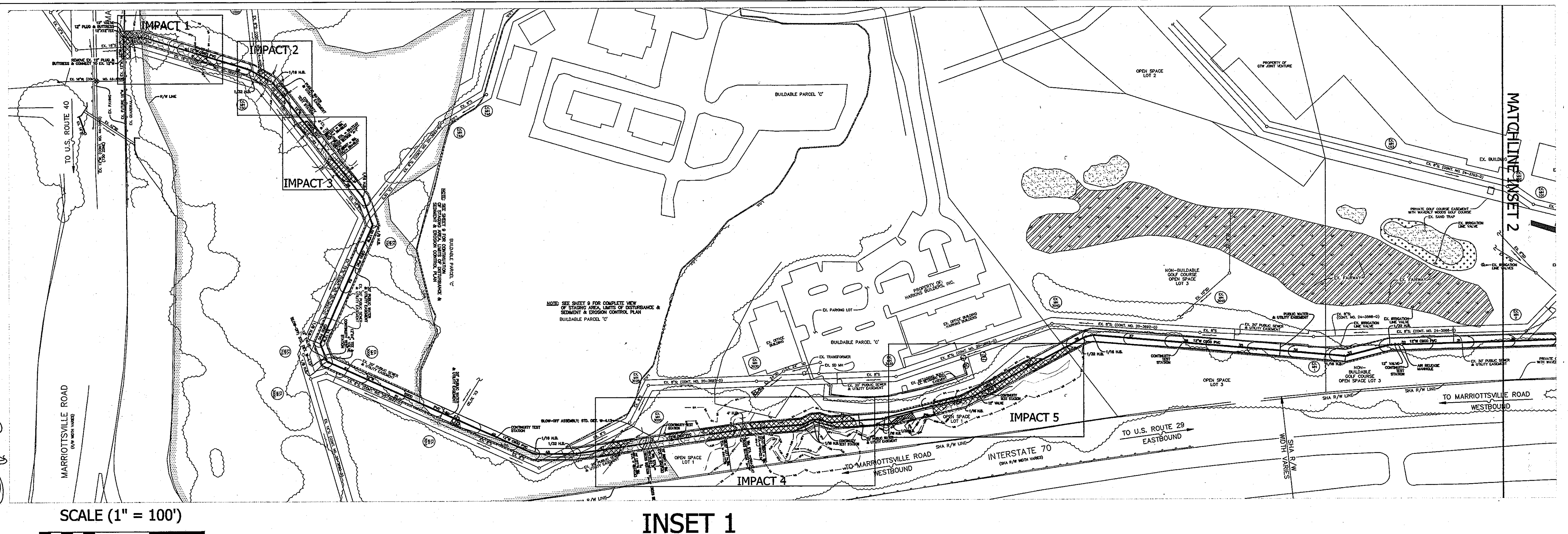
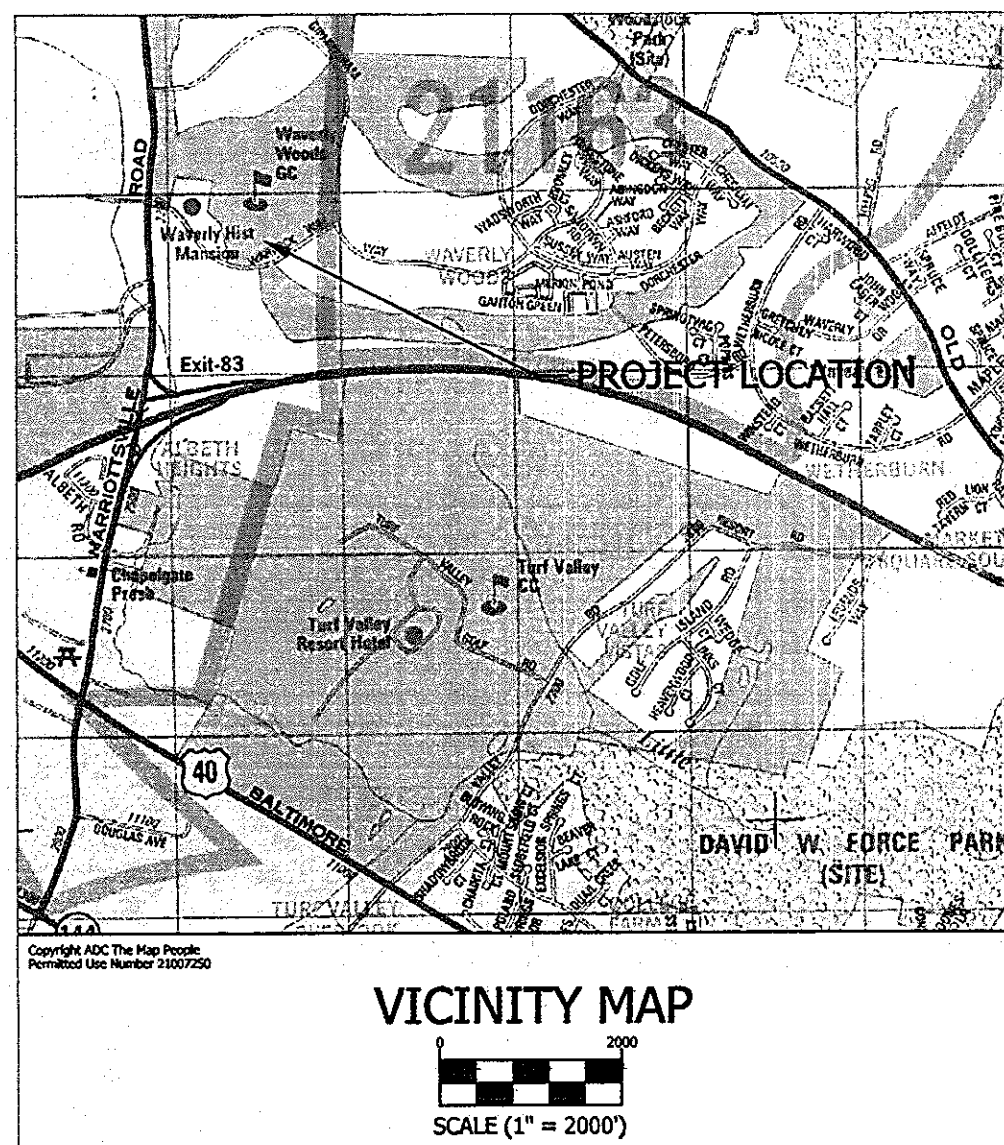
WATER MAIN EXTENSION PROFILES & CHART

60" SCALE MAP NO. 16 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542
FILE NAME: WATER MAIN EXTENSION SHEET

GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 8 OF 19

K:\SDR\02013\04\06\030 Water Main Loop - 01 - 08 - 13 - 16 (Revised 1).dwg (NEW) PROFILE SHEET 8, 1/23/2013 3:14:54 PM, 1



LEGEND

	WATERS OF THE U.S. IMPACT		WATERS OF THE U.S.
	NONTIDAL WETLAND IMPACT		NONTIDAL WETLAND
	25' WETLAND BUFFER IMPACT		25' WETLAND BUFFER

IMPACTS SUMMARY TABLE

	NONTIDAL WETLAND	WETLAND BUFFER	WATERS OF THE U.S.
IMPACT 1	2,717 S.F.	1,731 S.F.	0 L.F./ 0 S.F.
IMPACT 2	401 S.F.	1,302 S.F.	0 L.F./ 0 S.F.
IMPACT 3	1,159 S.F.	1,955 S.F.	36 L.F./ 180 S.F.
IMPACT 4	3,912 S.F.	6,273 S.F.	89 L.F./ 504 S.F.
IMPACT 5	754 S.F.	5,001 S.F.	44 L.F./ 445 S.F.
IMPACT 6	2,278 S.F.	1,265 S.F.	0 L.F./ 0 S.F.
TOTAL	11,221 S.F.	17,527 S.F.	169 L.F./ 1,129 S.F.

FLOOD PLAIN IMPACTS - 29,047 S.F.
ALL IMPACTS ARE TEMPORARY IN NATURE WITH GRADES RESTORED TO PRE-EXISTING CONDITIONS.



2120 HIGH POINT ROAD • FOREST HILL, MARYLAND 21050
(410) 420 2600 • FAX (410) 420 6983 • WWW.ECOTONEINC.COM

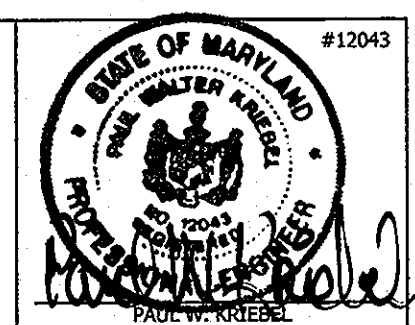
WAVERLY WOODS
WATER MAIN EXTENSION
LETTER OF AUTHORIZATION NO. 11-NT-0037 / 2011-60127
HOWARD COUNTY, MARYLAND

WETLAND DELINEATION / WETLAND IMPACT PLAN

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Silva C. Green
2/1/13
CHIEF, BUREAU OF UTILITIES

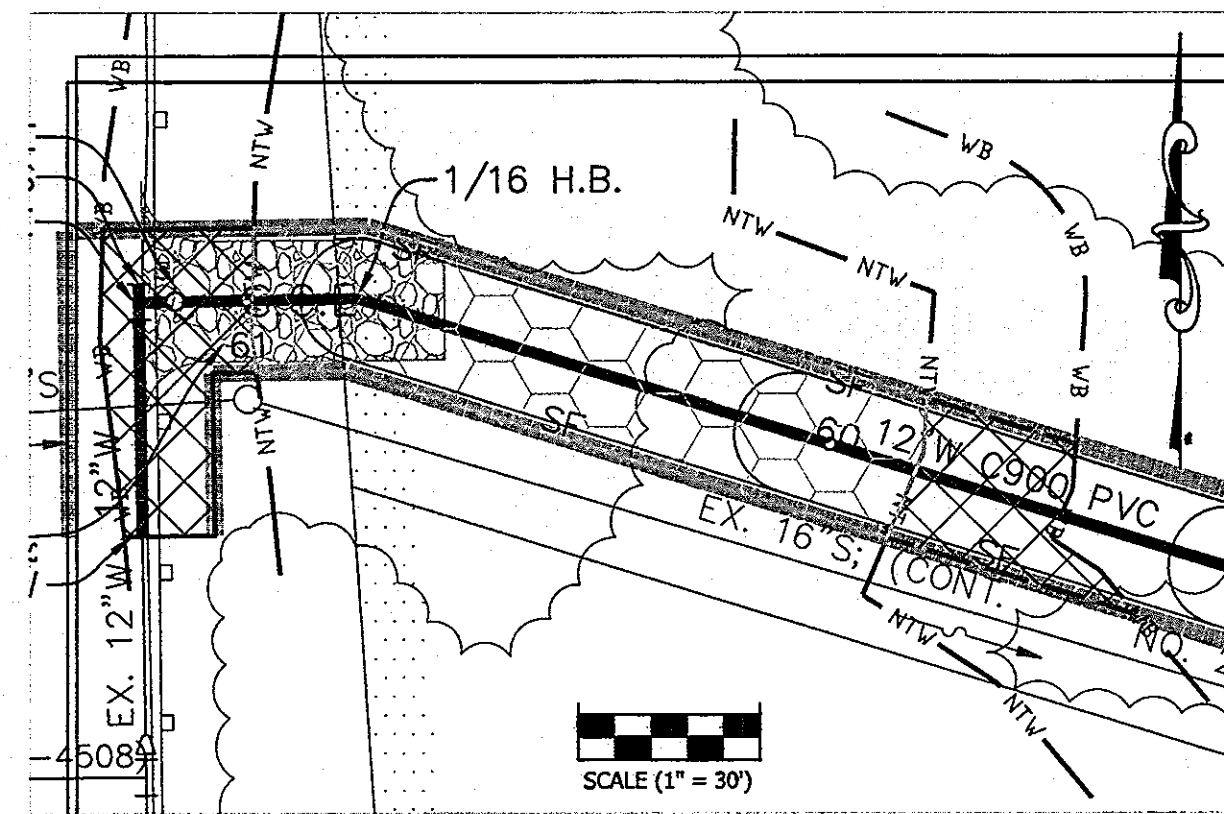
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
William J. ...
2/1/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 12043 EXPIRATION DATE IS 7/31/14.



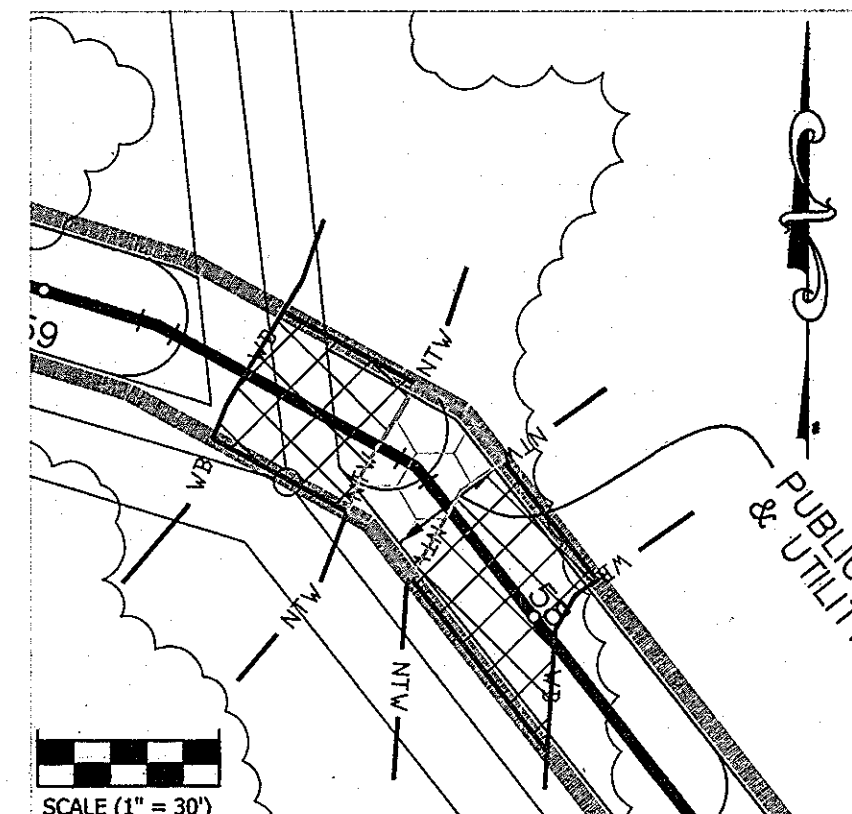
1 NEW SHEET: ADDED TO ADDRESS MDE COMMENTS

PROJECT # 1142 DRAWN BY: TAH DATE: JANUARY 2013 Sheet 9 of 19



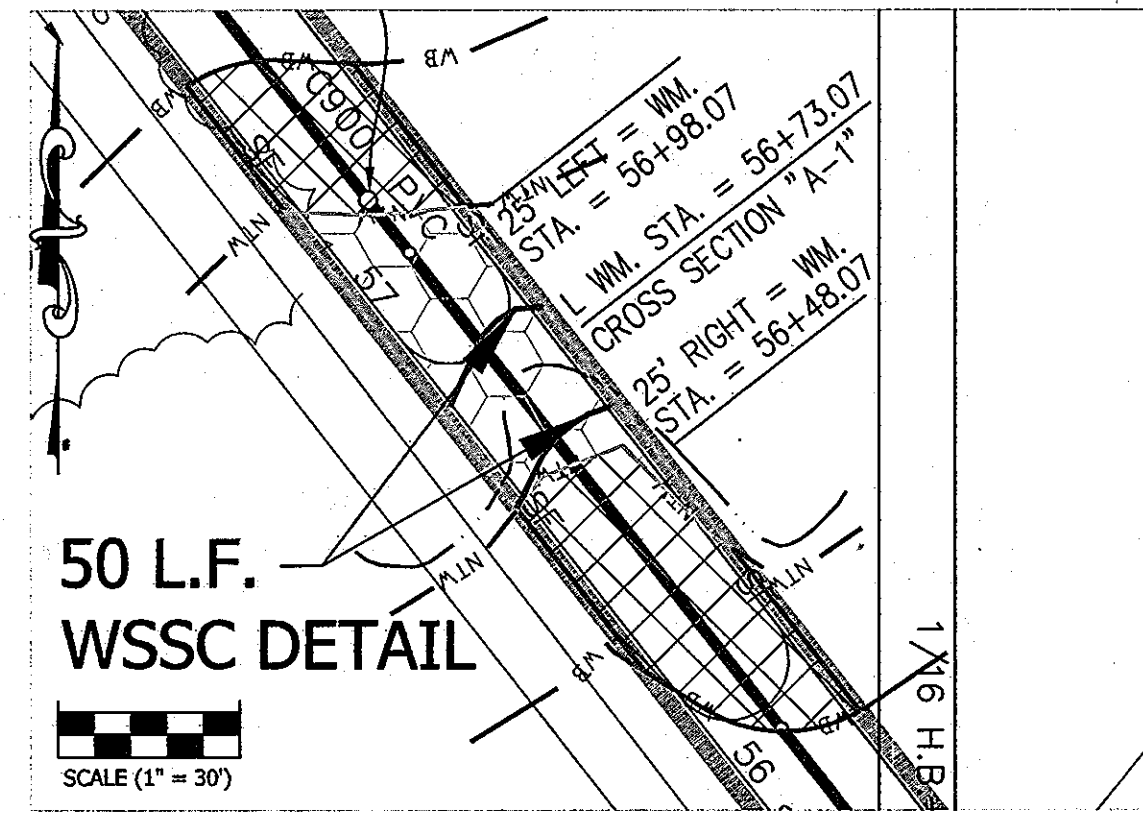
IMPACT 1

NONTIDAL WETLAND (TEMPORARY) 2,717 S.F.
WETLAND BUFFER (TEMPORARY) 1,731 S.F.



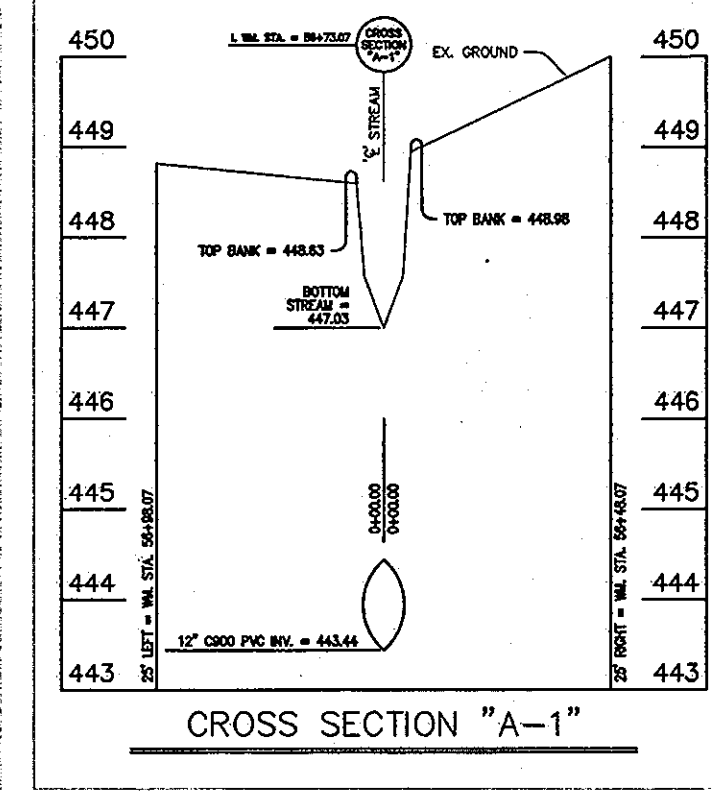
IMPACT 2

NONTIDAL WETLAND (TEMPORARY) 401 S.F.
WETLAND BUFFER (TEMPORARY) 1,302 S.F.



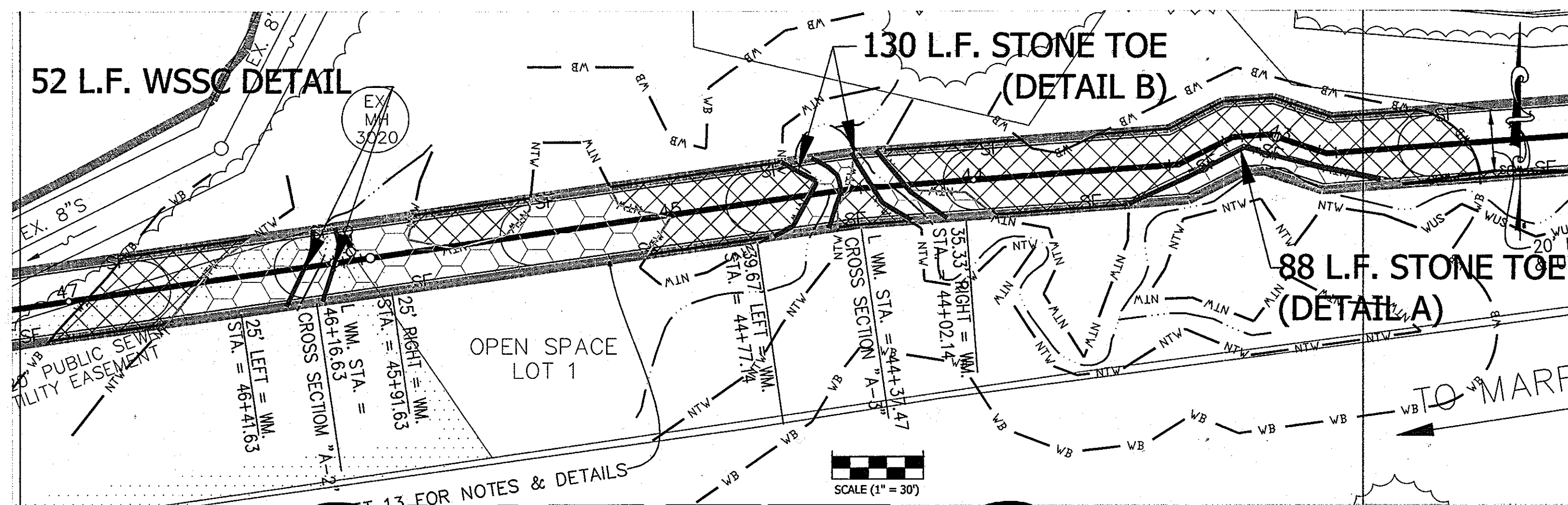
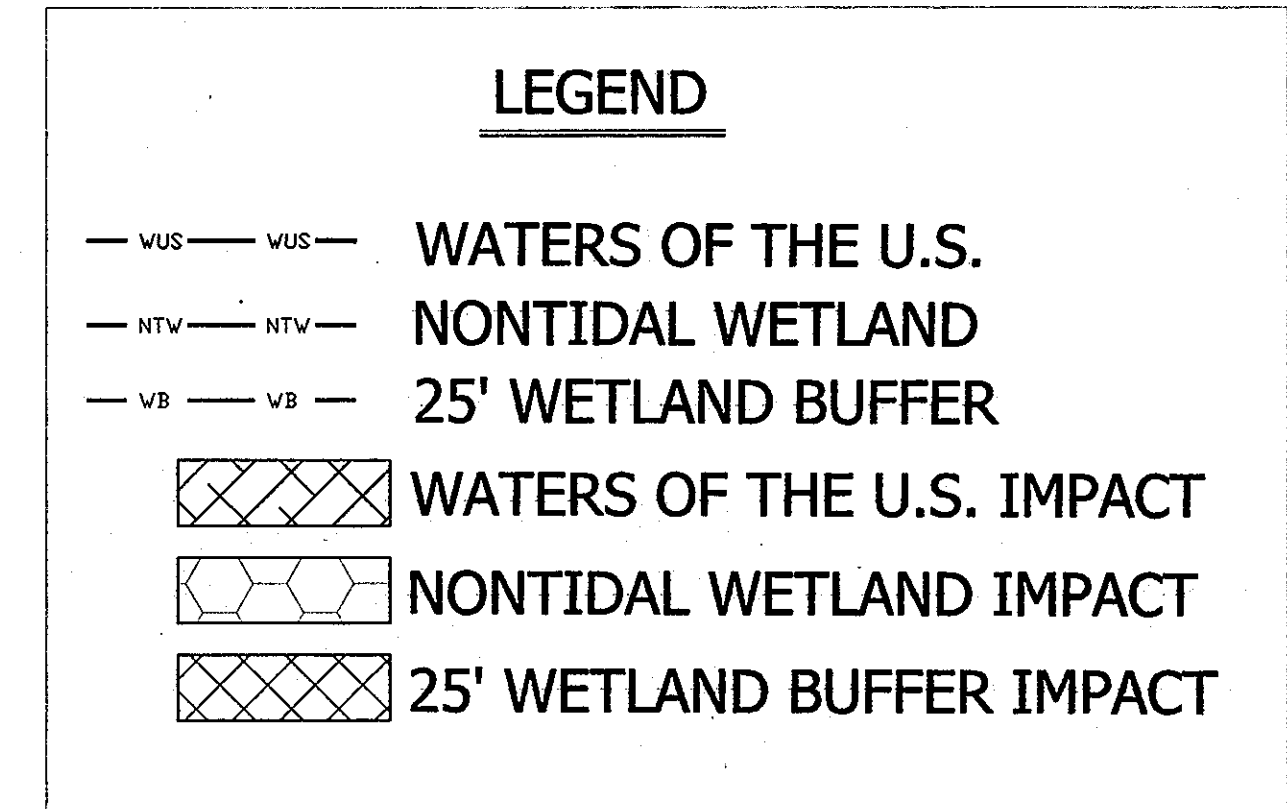
IMPACT 3

NONTIDAL WETLAND (TEMPORARY) 1,159 S.F.
WETLAND BUFFER (TEMPORARY) 1,955 S.F.
WATERS OF THE U.S. (TEMPORARY) 180 S.F./ 36 L.F.



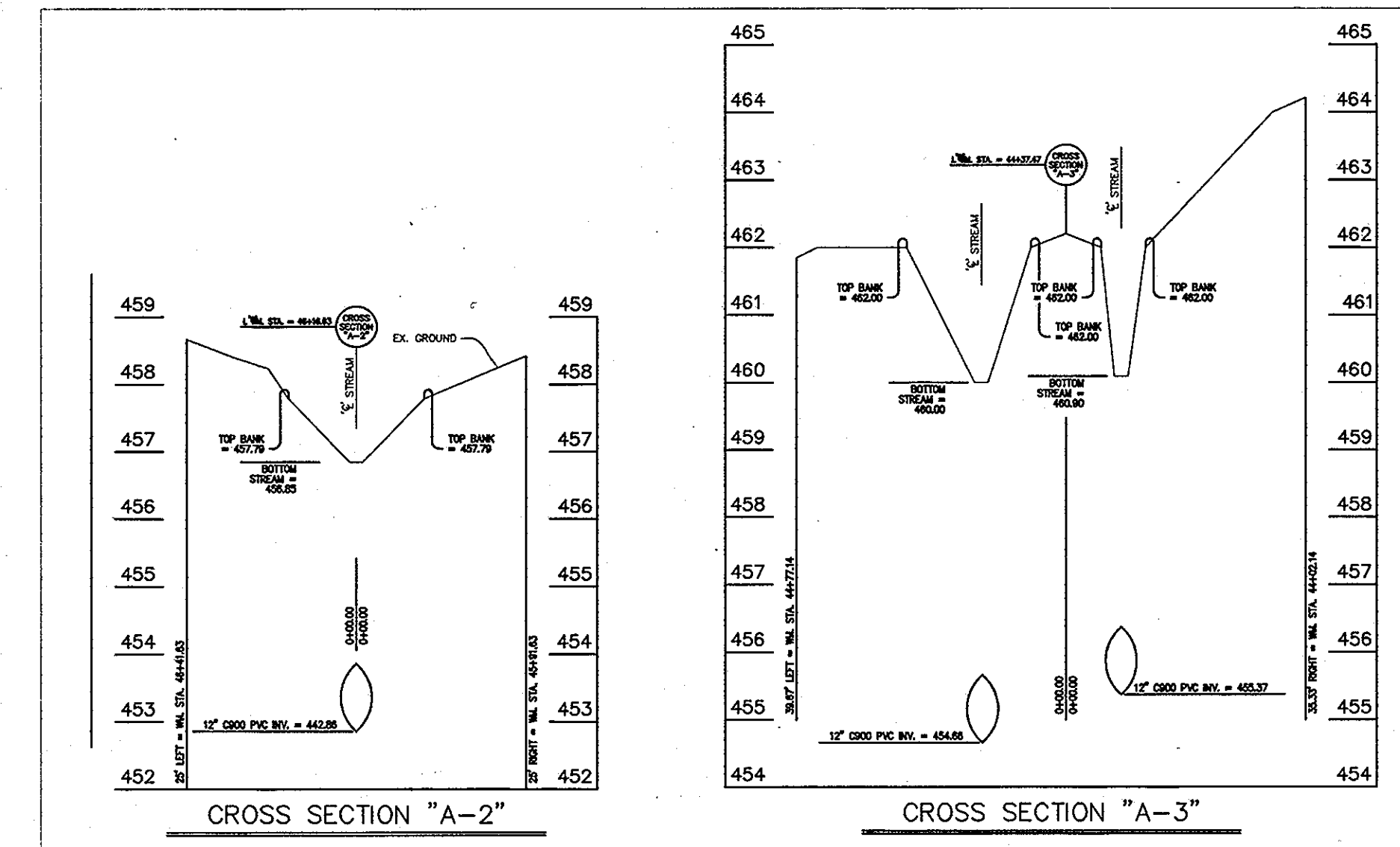
IMPACT 3 CROSS SECTION

VERTICAL SCALE: 1" = 2'
HORIZONTAL SCALE: 1" = 5'



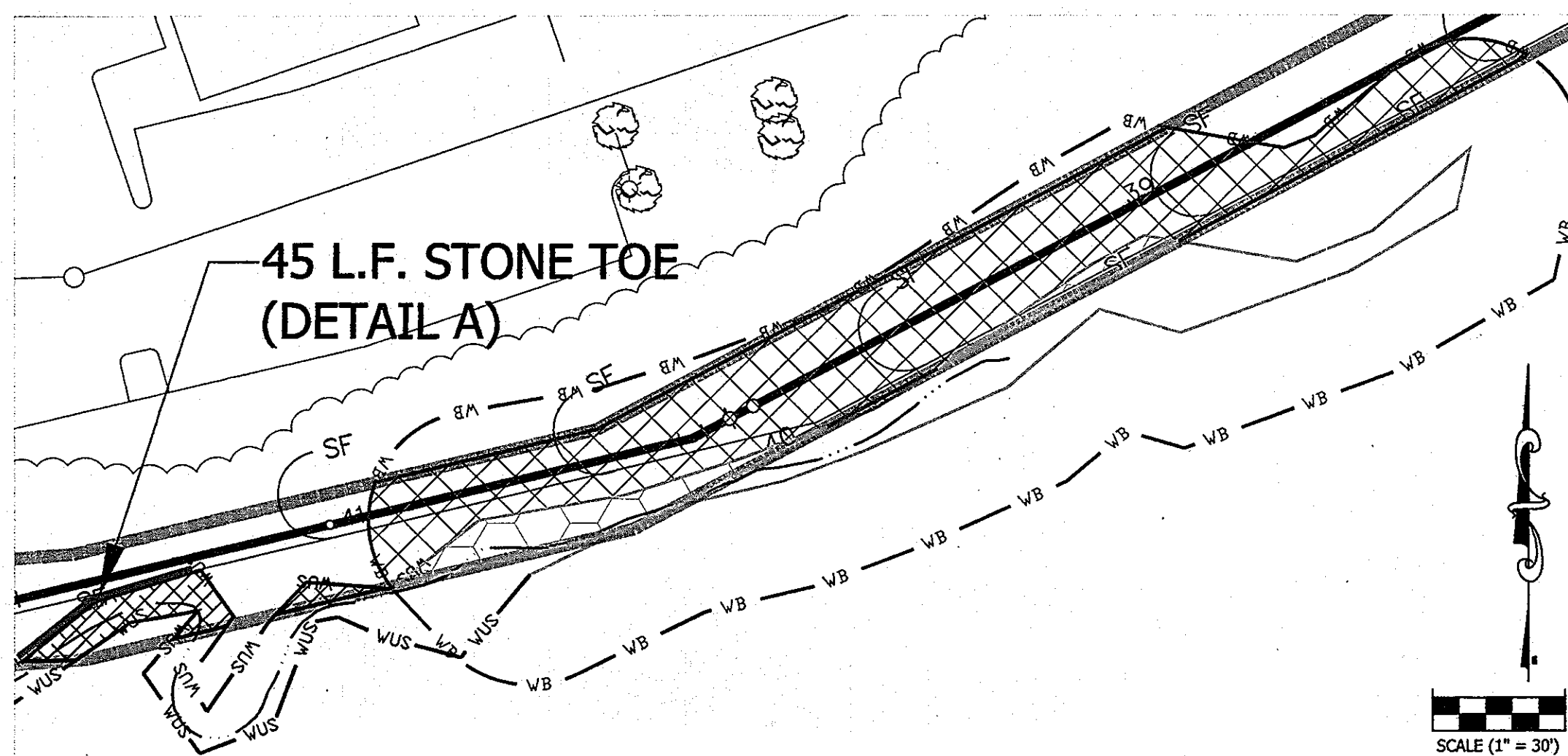
IMPACT 4

NONTIDAL WETLAND (TEMPORARY) 3,912 S.F.
WETLAND BUFFER (TEMPORARY) 6,273 S.F.
WATERS OF THE U.S. (TEMPORARY) 504 S.F./ 89 L.F.



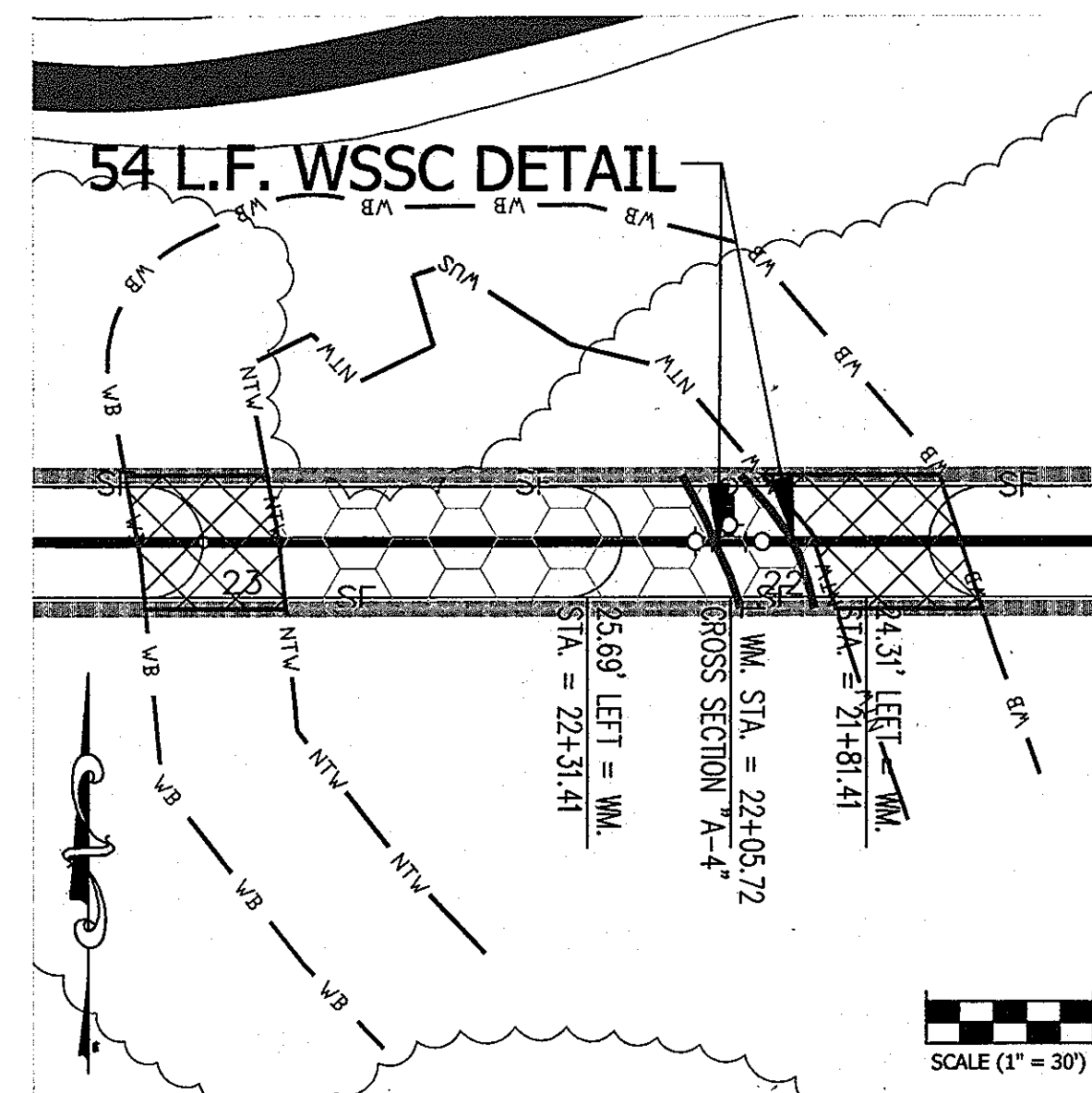
IMPACT 4 CROSS SECTIONS

VERTICAL SCALE: 1" = 2'
HORIZONTAL SCALE: 1" = 5'



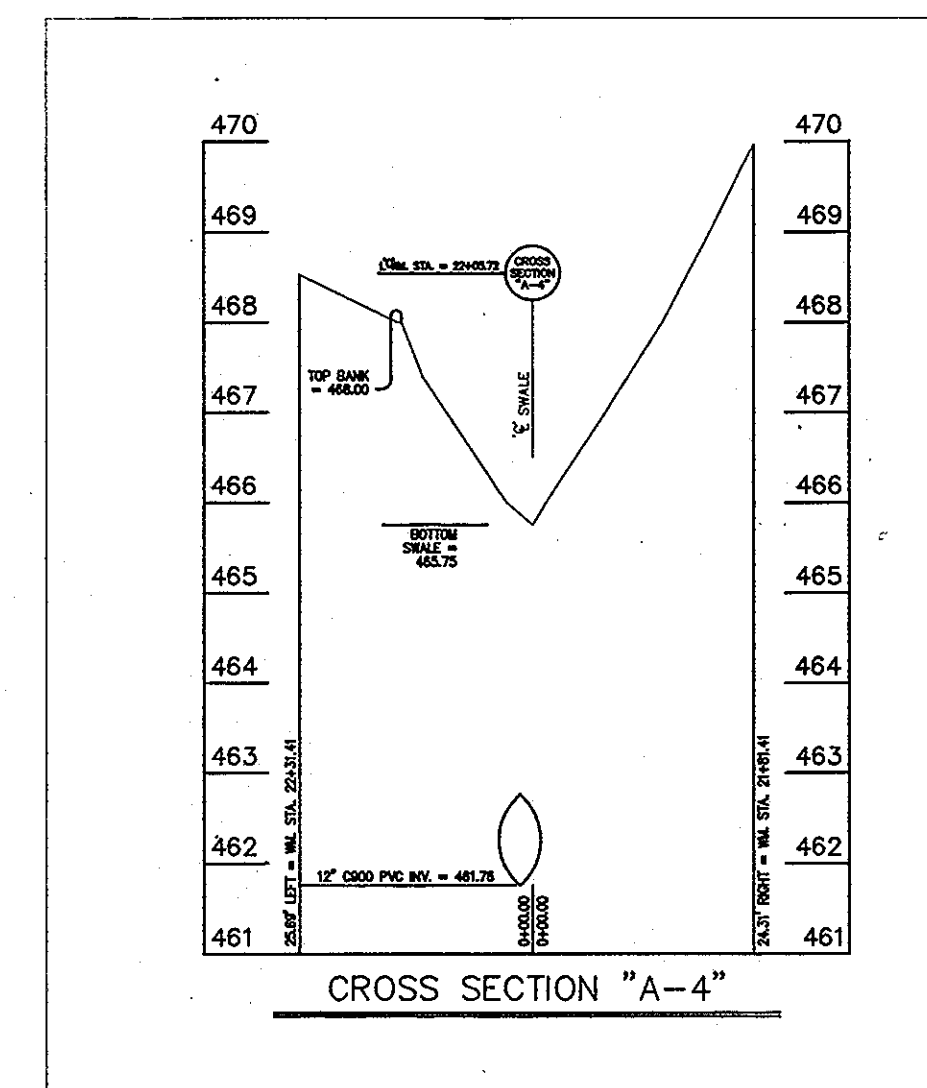
IMPACT 5

NONTIDAL WETLAND (TEMPORARY) 754 S.F.
WETLAND BUFFER (TEMPORARY) 5,001 S.F.
WATERS OF THE U.S. (TEMPORARY) 445 S.F./ 44 L.F.



IMPACT 6

NONTIDAL WETLAND (TEMPORARY) 2,278 S.F.
WETLAND BUFFER (TEMPORARY) 1,265 S.F.



IMPACT 6 CROSS SECTION

VERTICAL SCALE: 1" = 2'
HORIZONTAL SCALE: 1" = 5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

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. 12043 EXPIRATION DATE IS 7/16/14.



Chief, Bureau of Utilities
2/1/13

Chief, Development Engineering Division
2/1/13

NEW SHEET: ADDED TO ADDRESS MDE COMMENTS

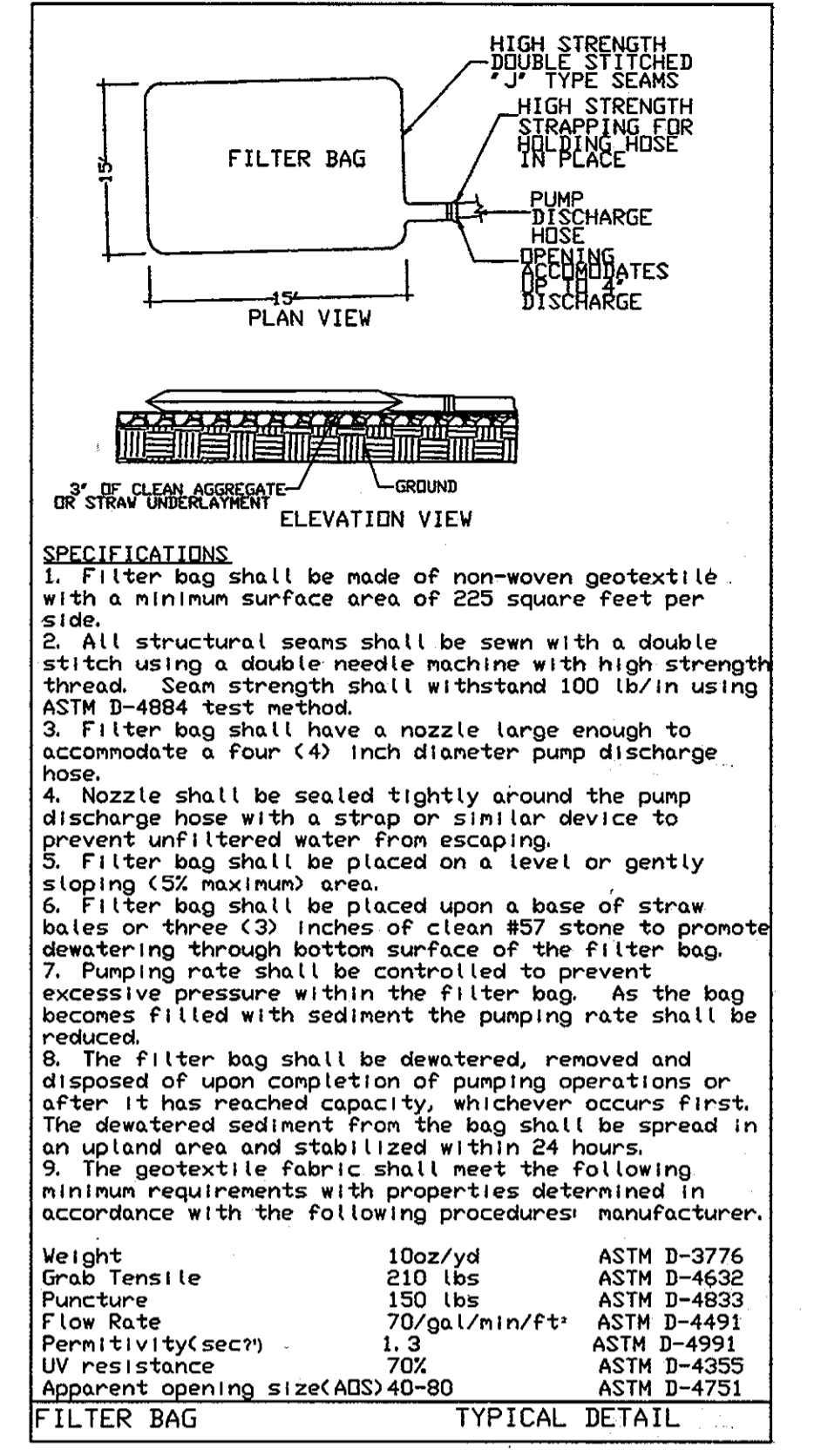
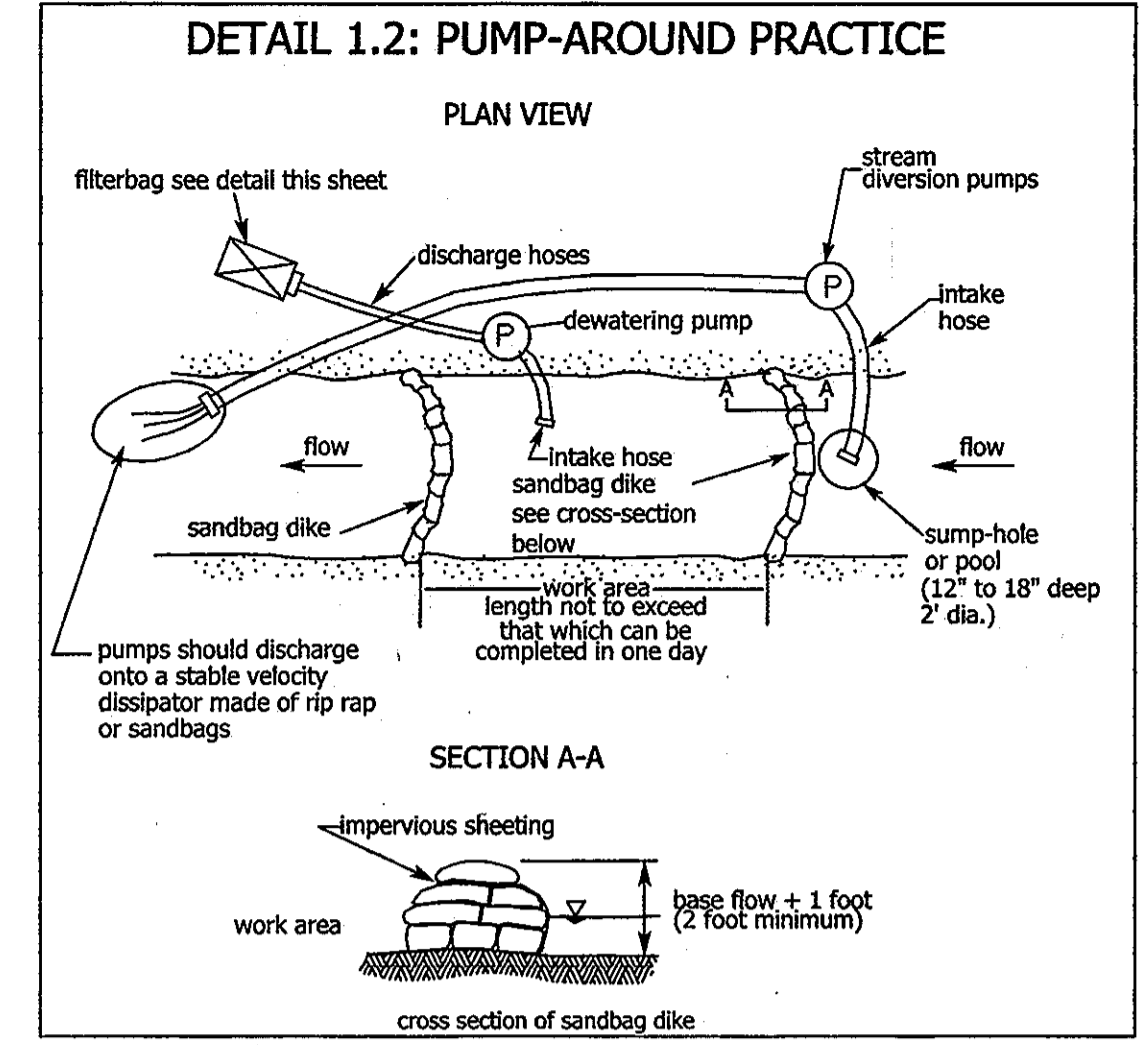
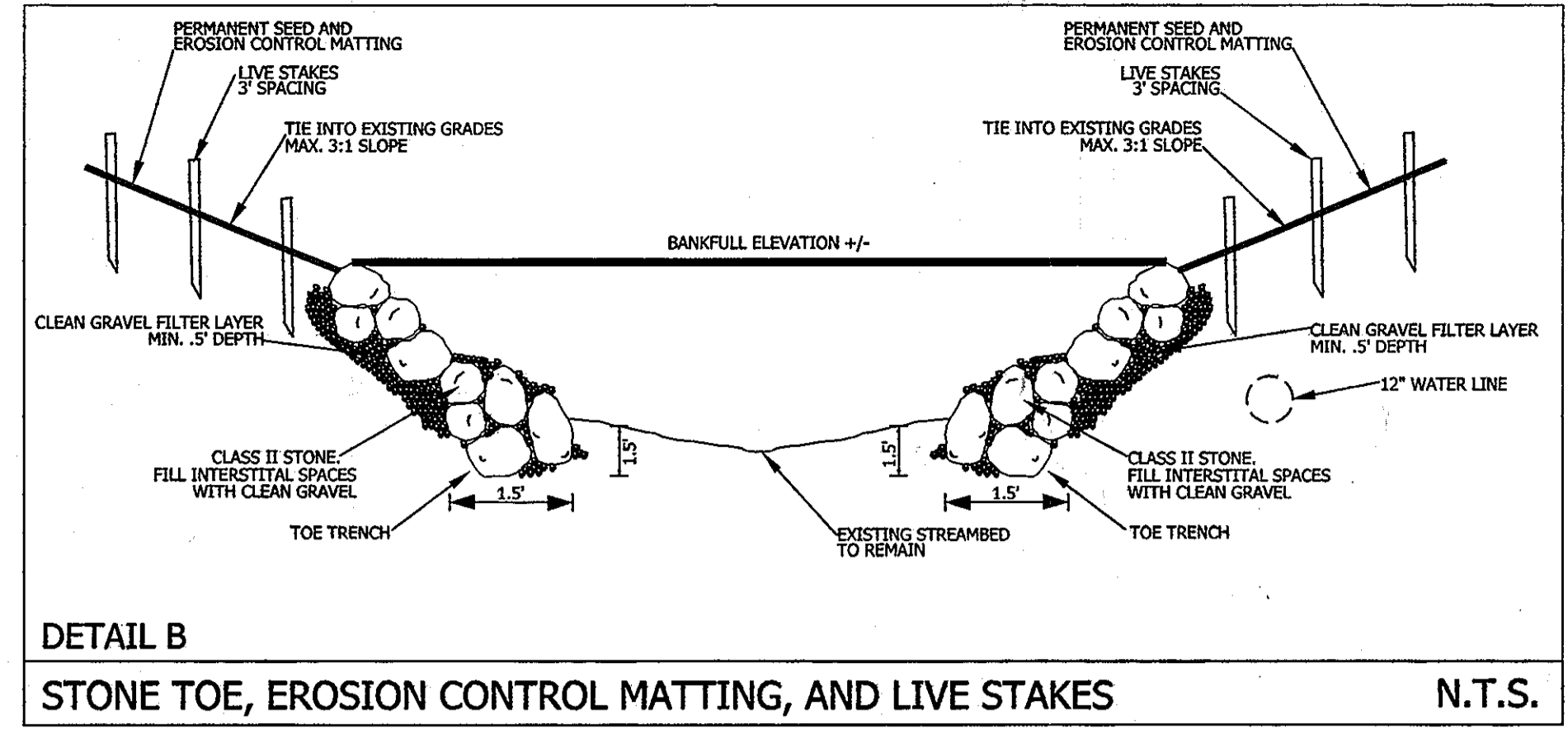
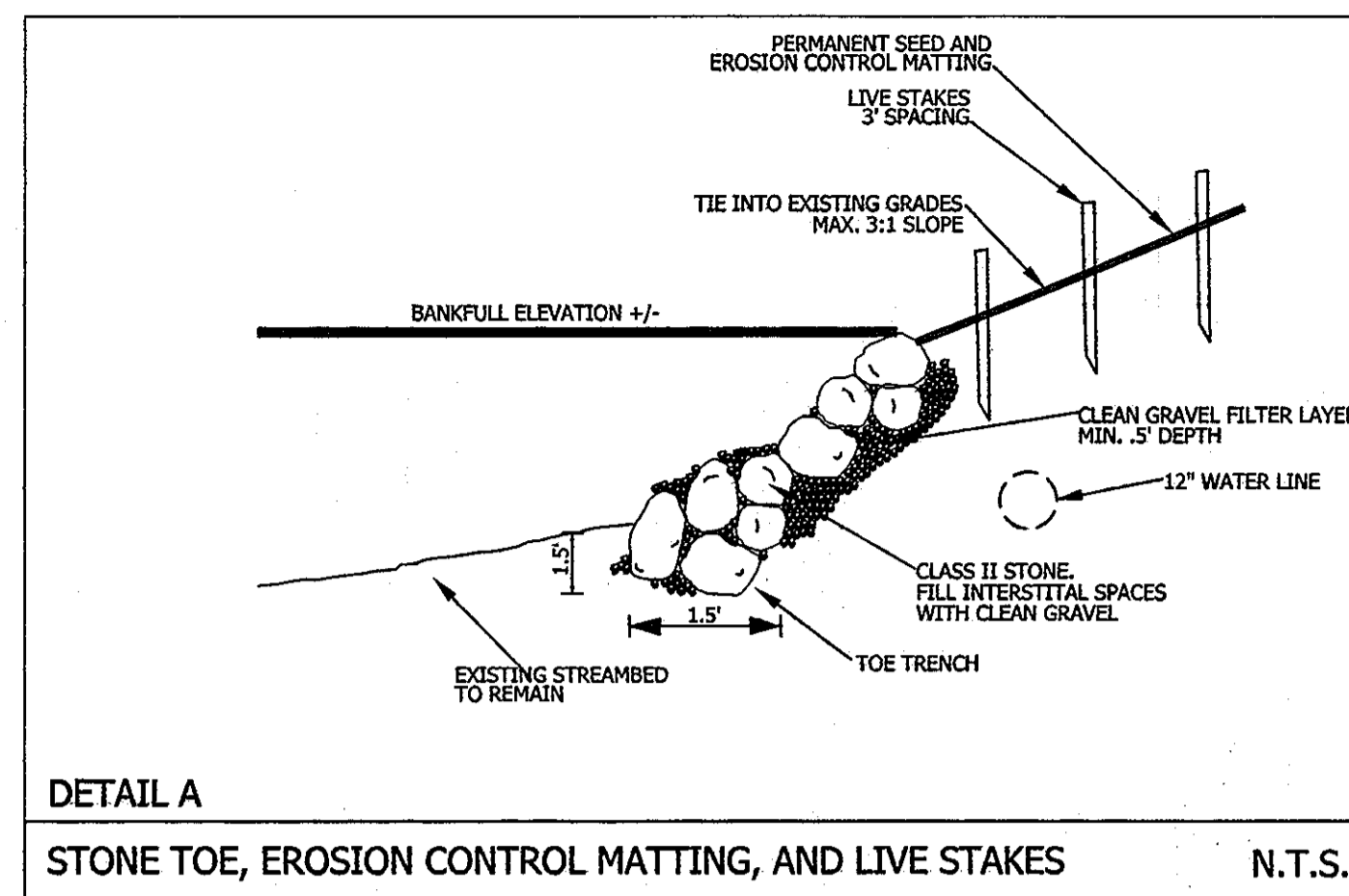


2120 HIGH POINT ROAD • FOREST HILL, MARYLAND 21050
(410) 420 2600 • FAX (410) 420 6983 • WWW.ECOTONEINC.COM

WAVERLY WOODS
WATER MAIN EXTENSION
LETTER OF AUTHORIZATION NO. 11-NT-0037 / 2011-60127
HOWARD COUNTY, MARYLAND

WETLAND DELINEATION / WETLAND IMPACT PLAN

PROJECT # 1142 DRAWN BY: TAH DATE JANUARY 2013 Sheet 10 of 19



- SPECIFICATIONS**
1. Filter bag shall be made of non-woven geotextile with a minimum surface area of 225 square feet per side.
 2. All structural seams shall be sewn with a double stitch using a double needle machine with high strength thread. Seam strength shall withstand 100 lb/in using ASTM D-4884 test method.
 3. Filter bag shall have a nozzle large enough to accommodate a four (4) inch diameter pump discharge hose.
 4. Nozzle shall be sealed tightly around the pump discharge hose with a strap or similar device to prevent unfiltered water from escaping.
 5. Filter bag shall be placed on a level or gently sloping (5% maximum) area.
 6. Filter bag shall be placed upon a base of straw bales or three (3) inches of clean #57 stone to promote dewatering through bottom surface of the filter bag.
 7. Pumping rate shall be controlled to prevent excessive pressure within the filter bag. As the bag becomes filled with sediment the pumping rate shall be reduced.
 8. The filter bag shall be dewatered, removed and disposed of upon completion of pumping operations or after it has reached capacity, whichever occurs first. The dewatered sediment from the bag shall be spread in an upland area and stabilized within 24 hours.
 9. The geotextile fabric shall meet the following minimum requirements with properties determined in accordance with the following procedures: manufacturer.
- | | | |
|----------------------------|----------------------------|-------------|
| Weight | 10oz/yd | ASTM D-3776 |
| Grab Tensile | 210 lbs | ASTM D-4632 |
| Puncture | 150 lbs | ASTM D-4833 |
| Flow Rate | 70 gal/min/ft ² | ASTM D-4491 |
| Permittivity(sec) | 1.3 | ASTM D-4991 |
| UV resistance | 70% | ASTM D-4355 |
| Apparent opening size(AOS) | 40-80 | ASTM D-4751 |
- FILTER BAG TYPICAL DETAIL

STONE TOE, EROSION CONTROL MATTING, AND LIVE STAKE INSTALLATION

- 1. DESCRIPTION**
 1. This work shall consist of placing toe protection, harvesting, transporting, installing and maintaining live stake materials, and the installation of erosion control matting to the grades specified on the grading plan.
 2. Harvesting, transporting, and installation shall take place when plants are dormant (December 1 through April 1).

- 2. MATERIALS**
Stone Toe
 1. Stone shall be Class II in size and of appropriate color (e.g., green, gray, brown/gray, dark gray, and/or dark brown in color) obtained from an approved source. Stone shall be obtained from a commercial quarry operation.
Live Stakes
 1. Live stakes shall be between one 1/2 inch and 2 inches in diameter.
 2. Stakes shall be 3 to 5 feet in length and all side branches shall be clipped flush with stem.
 3. Live stakes shall consist of the species and quantity per the "Live Stake Plant List" table found on this sheet.

- Soil Stabilization Matting**
 1. Matting shall be woven machine spun bristle coir twine made of coir fiber obtained from fresh water cured coconut husks.
 2. Soil stabilization matting shall conform to the following specifications:
 Weight: 29 oz/sy (ASTM D 3776)
 Thickness: 0.35 in. (ASTM D 1777)
 Dry Tensile Strength: Machine Direction - 2024 lbs/sf
 Cross Direction - 1160 lbs/sf (ASTM D 4595)
 Wet Tensile Strength: Machine Direction - 1776 lbs/sf
 Cross Direction - 936 lbs/sf (ASTM D 4595)
 Open Area: 38%

- 3. CONSTRUCTION**
Stone Toe:
 1. Excavate trench at channel edge on outside bend of pool/meander such that the bottom of the stone toe protection is set at a minimum two foot below the channel invert elevation.
 2. Install class II stone with long axis oriented parallel with the stream profile and the short axis aligned vertically.
 3. Install a second row of stone on top of and slightly behind bottom boulders, ensuring that joints between the stone are staggered. Continue to bankfull elevation.
 4. Backfill stone with native material to fill interstitial spaces.

- Soil Stabilization Matting:**
 1. Seed streambank areas with permanent seed mix.
 2. Matting shall be placed within 48 hours after seeding operations have been completed. Matting shall be laid smoothly and firmly upon the seeded bed in the direction of the water flow with downslope edge keyed a minimum of 0.5 feet behind stone toe.
 3. Where more than one width of matting is required, the ends and edges of each strip shall overlap at least 1 foot for both vertical and horizontal overlaps. Overlapping shall be done with the up-slope matting overlapping the down-slope matting and the upstream matting overlapping the downstream matting.
 4. Matting shall be firmly fastened in place with staples driven vertically into the soil and flush with the surface. Staples shall be placed on 2-foot centers throughout the matting and along the edges of the matting.
 5. The contractor shall excavate a shallow trench along the up-slope, down-slope, and vertical edges of the matting at the upstream edges of the matting. The matting shall be keyed into the trench a minimum of 6 inches. Following the installation of the staples, the key trenches shall be backfilled with soil and tamped firmly.

- Live Staking:**
 1. Cuttings shall be installed two (2) feet apart using random, triangular spacing. The density of the spacing will range from two (2) to four (4) cuttings per square yard. Site variations may require spacing adjustments.
 2. The basal end of the cutting shall be cleanly cut at an angle immediately before insertion into the soil. The top of the cutting shall be cut square for tamping.
 3. Install the cuttings top side up, with any buds pointing upward. The cuttings shall be tamped into the ground for approximately four-fifths (4/5) of their length. The cuttings shall be tamped into the ground at vertical angle of ninety (90) degrees to the slope and at a horizontal angle of forty-five (45) degrees downstream. A three-eighths (3/8) of an inch iron bar can be used to make a pilot hole in compacted or rocky soils, or between imbricated rip rap boulders.
 4. Foot compact around each cutting after it has been installed. Any cuttings that split during tamping shall be pulled out and replaced.
 5. The top of the cutting shall be cut square again after installation, to remove the damaged mushroom top.
 6. See "Live Stake Plant List", this sheet for species and quantity specifications.

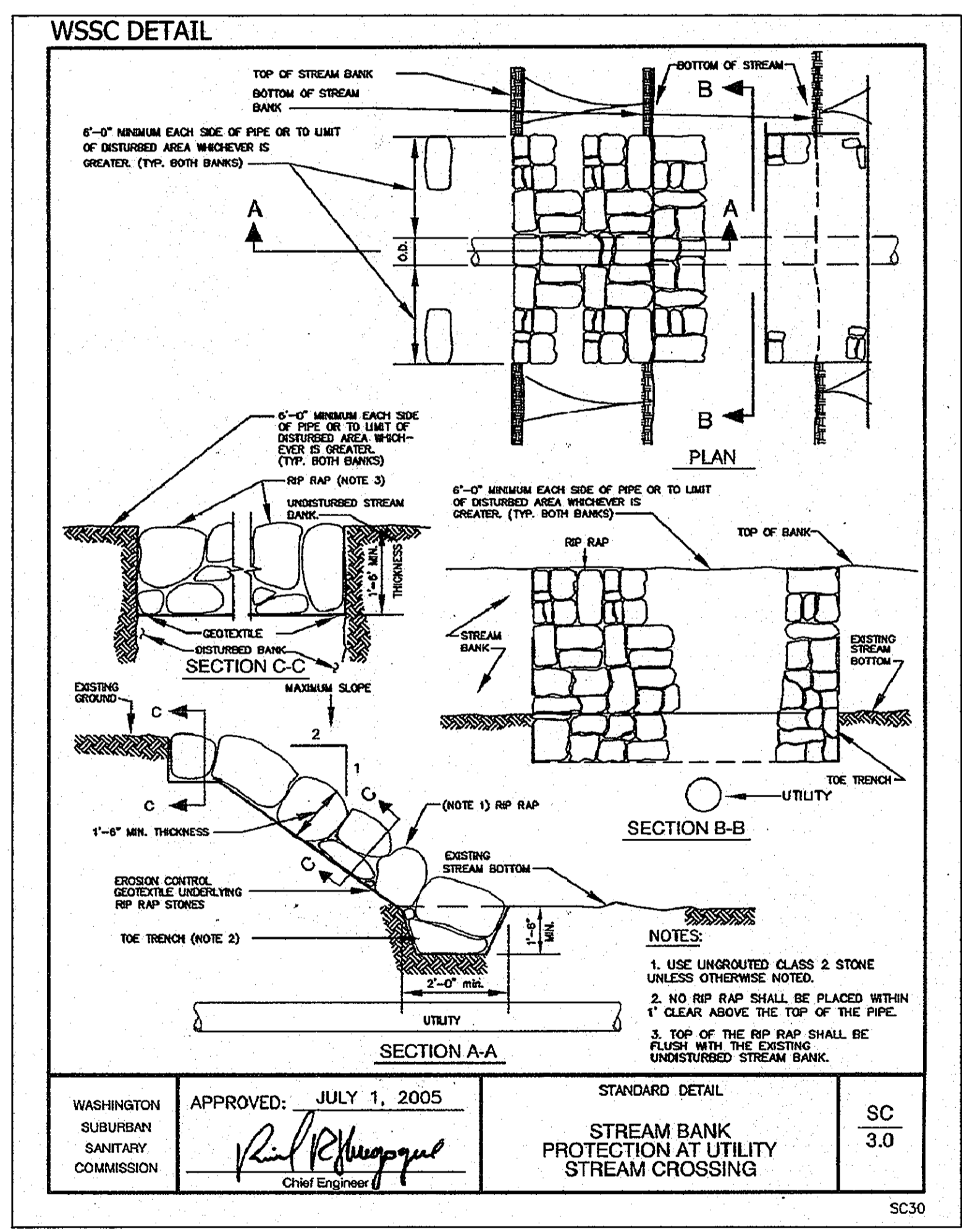
STONE SPECIFICATIONS FOR STONE TOE PROTECTION

Stone shall consist of angular flat rock with a blocky shape so that it is easily stacked, and of appropriate color (e.g., green, gray, brown/gray, dark gray, and/or dark brown in color) obtained from an approved source. Stone shall be free from laminations, weak cleavages and will not disintegrate from the action of air, salt water and in handling and placing. Granular sedimentary stone will generally be unacceptable. Concrete will not be considered as an alternative for stone. White stone is not acceptable.

1. For Step Pool and Stone Toe structures, the dimensions of all the rock will be a minimum of 3 feet and maximum of 3 feet along the long (a) axis, a minimum of 1.5 feet and maximum of 2.5 feet along the median (b) axis, a minimum of 0.75 foot and a maximum of 1.5 feet along the short (c) axis. Rock shall have a minimum density of 150 lbs/cu.ft.
2. The Contractor will locate potential sources for the rocks. The Contractor will not be granted an extension of time or extra compensation due to delay caused by sampling, testing, approval or disapproval of stone protection material under the requirements of these specifications. The Contractor shall obtain from the quarry and submit to the OWNER or its agent a certificate verifying the following:

- a. Stone Classification.
- b. Weight of Stone Being Supplied.
- c. Stone quality shall meet all of the above specifications.

Botanical Name	Common Name	Spacing	Quantity
<i>Salix interior</i>	Sandbar Willow	2' triangular	47
<i>Cornus sericea</i>	Red Osier Dogwood	2' triangular	47
<i>Cornus amomum</i>	Silky Dogwood	2' triangular	46



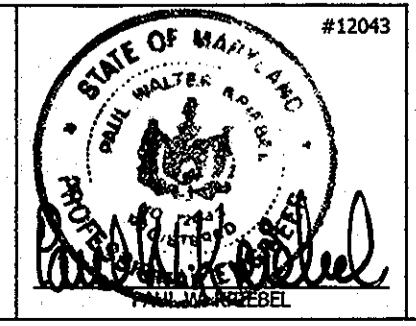
BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

1. No excess fill, construction material, or debris shall be stockpiled or stored in nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
 2. Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
 3. Do not use the excavated material as backfill if it contains waste metal products, unsightly debris, toxic material, or any other deleterious substance. If additional backfill is required, use clean material free of waste metal products, unsightly debris, toxic material, or any other deleterious substance.
 4. Place heavy equipment on mats or suitably operate the equipment to prevent damage to nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
 5. Repair and maintain any serviceable structure or fill so there is no permanent loss of nontidal wetlands, nontidal wetland buffers, or waterways, or permanent modification of the 100-year floodplain in excess of that lost under the originally authorized structure or fill.
 6. Rectify any nontidal wetlands, wetland buffers, waterways, or 100-year floodplain temporarily impacted by any construction.
 7. All stabilization in the nontidal wetland and nontidal wetland buffer shall consist of the following species: Annual Ryegrass (*Lolium multiflorum*), Millet (*Setaria italica*), Barley (*Hordeum sp.*), Oats (*Urtiola sp.*), and/or Rye (*Secale cereale*). These species will allow for the stabilization of the site while also allowing for the voluntary revegetation of natural wetland species. Other non-persistent vegetation may be acceptable, but must be approved by the Nontidal Wetlands and Waterways Division. **Kentucky 31 fescue shall not be utilized in wetland or buffer areas.** The area should be seeded and mulched to reduce erosion after construction activities have been completed.
 8. After installation has been completed, make post-construction grades and elevations the same as the original grades and elevations in temporarily impacted areas.
 9. To protect aquatic species, in-stream work is prohibited as determined by the classification of the stream:
- Use I waters: In-stream work shall not be conducted during the period March 1 through June 15, inclusive, during any year.
 Use III waters: In-stream work shall not be conducted during the period October 1 through April 30, inclusive, during any year.
 Use IV waters: In-stream work shall not be conducted during the period March 1 through May 31, inclusive, during any year.
10. Stormwater runoff from impervious surfaces shall be controlled to prevent the washing of debris into the waterway.
 11. Culverts shall be constructed and any riprap placed so as not to obstruct the movement of aquatic species, unless the purpose of the activity is to impound water.
 12. A dewatering pump will be utilized in conjunction with a dirt bag (see detail this sheet) to remove standing water in the project area during construction. The dirt bag will be placed on a vegetated area a sufficient distance from subject reach so that any sediment leaving the dirt bag has time/distance to settle out before reaching the waterway.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 [Signature] 2/1/13
 CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND
 [Signature] 2/1/13
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

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. 12043 EXPIRATION DATE 8/7/2014.



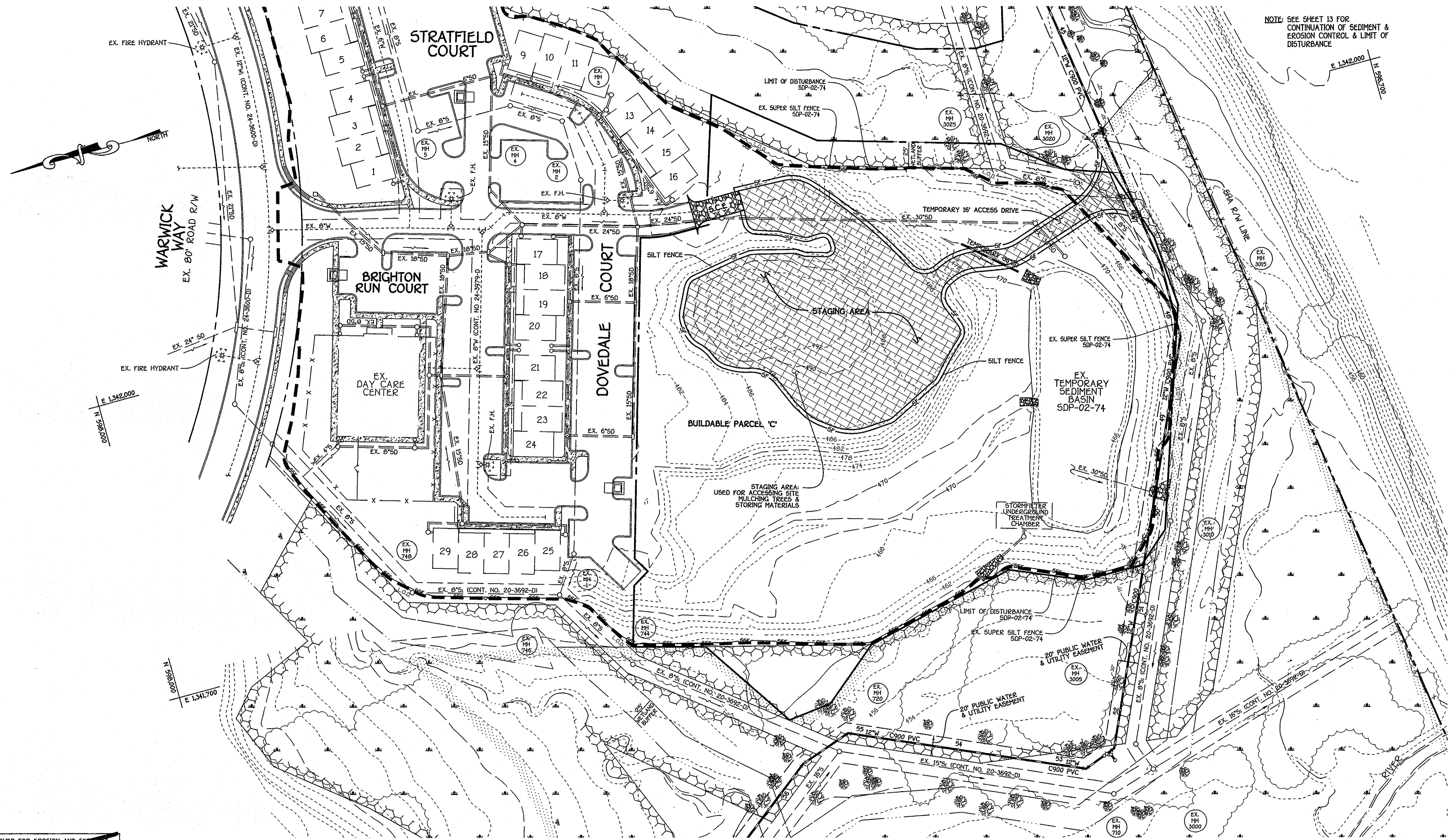
NEW SHEET: ADDED TO ADDRESS MDE COMMENTS



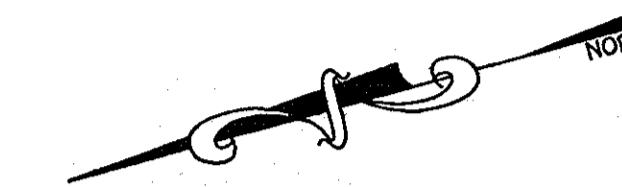
2120 HIGH POINT ROAD • FOREST HILL, MARYLAND 21050
 (410) 420 2600 • FAX (410) 420 6983 • WWW.ECOTONEINC.COM

WAVERLY WOODS
 WATER MAIN EXTENSION
 LETTER OF AUTHORIZATION NO. 11-NI-0037 / 2011-60127
 HOWARD COUNTY, MARYLAND

DETAILS AND SPECIFICATIONS			
PROJECT #	DRAWN BY:	DATE	Sheet 11 of 19
1142	TAH	JANUARY 2013	



NOTE: SEE SHEET 13 FOR CONTINUATION OF SEDIMENT & EROSION CONTROL & LIMIT OF DISTURBANCE



THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT APPROVED: HOWARD SOIL CONSERVATION DISTRICT

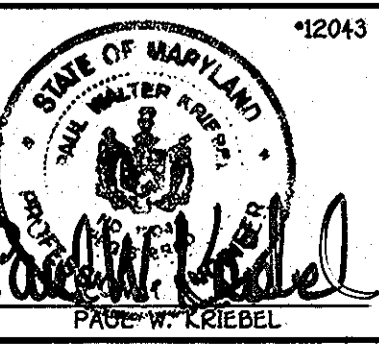
PLAN
SCALE: 1" = 50'

CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Steve Clemen
CHIEF, BUREAU OF UTILITIES
DATE: 2/1/13

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
Paul W. Kriebel
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 2/1/13

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. 12043 EXPIRATION DATE IS 7/8/14.
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PKWY
ELICOTT CITY, MARYLAND 21042
410-481-2225
PAUL W. KRIEBEL

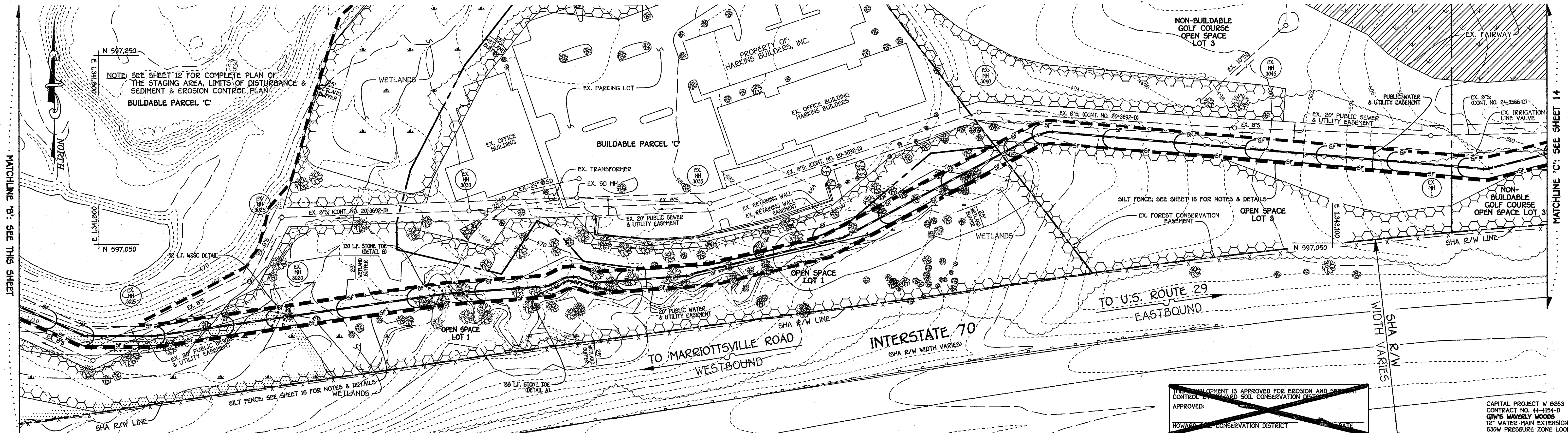
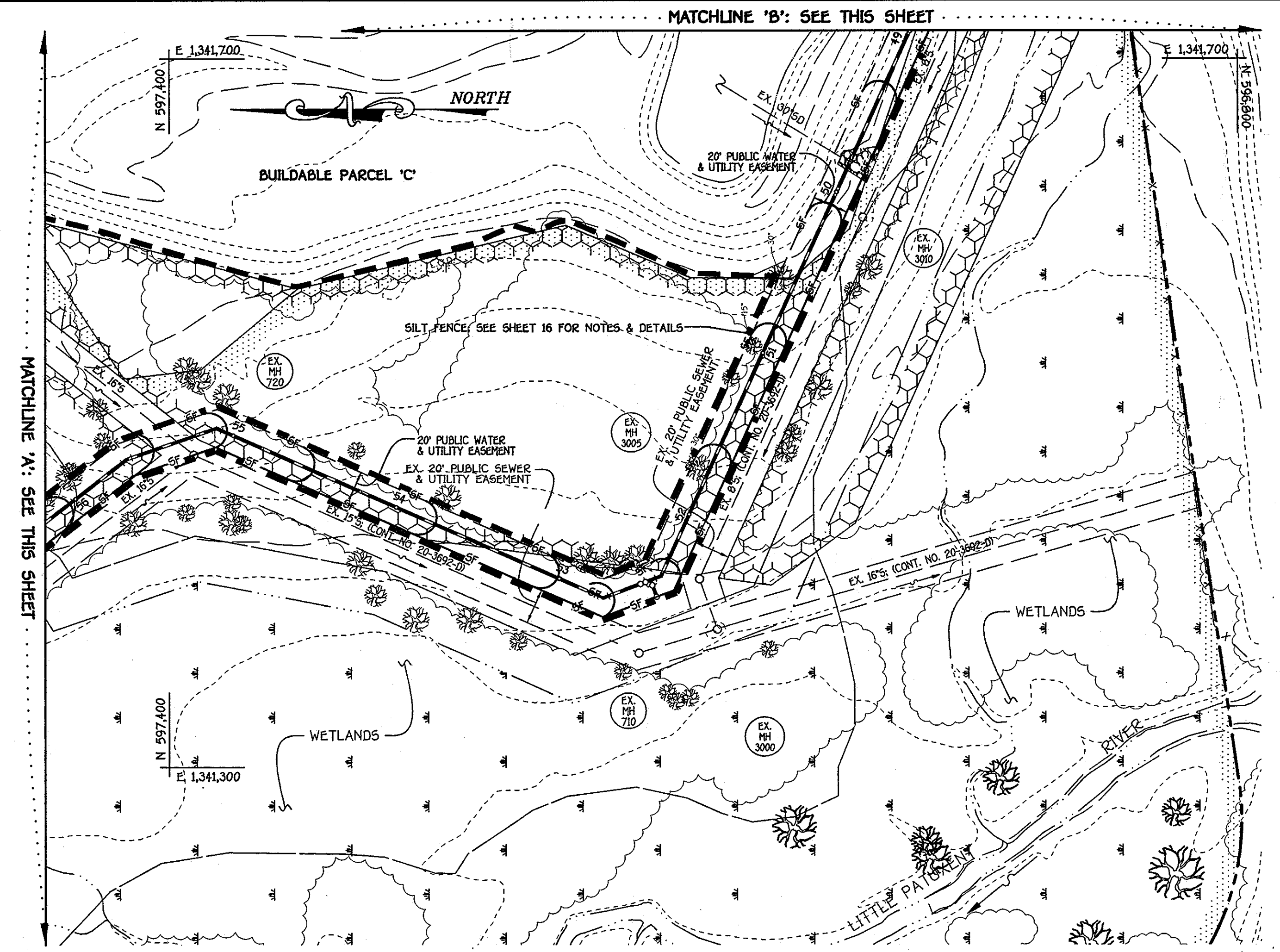
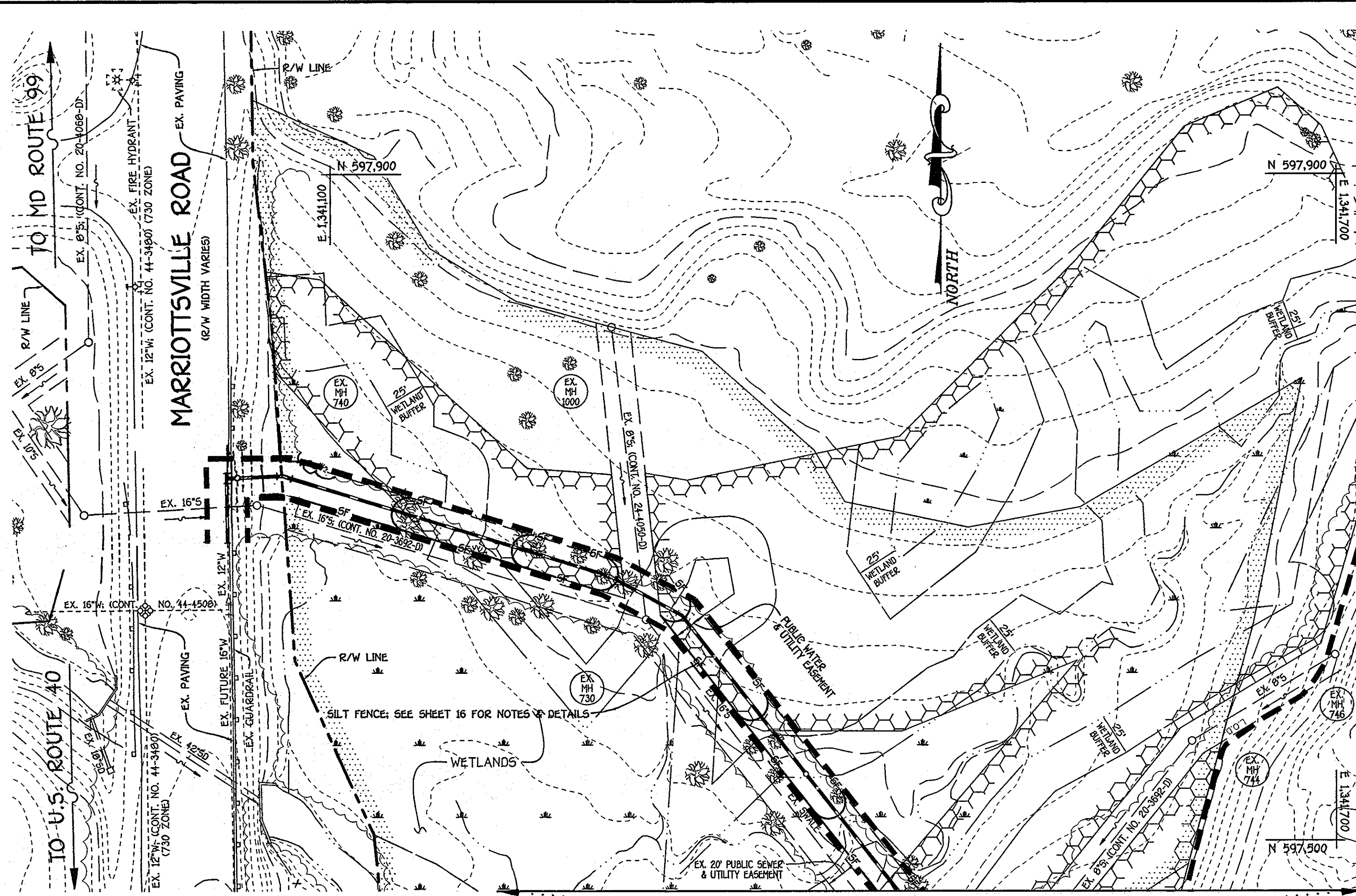


DESIGNED BY:	B.C.R.
DRAWN BY:	B.C.R.
CHECKED BY:	P.W.K.
DATE:	JANUARY, 2013
BY NO.	
REVISION	
DATE	

EROSION & SEDIMENT CONTROL
STAGING AREA PLAN
60' SCALE MAP NO. 16 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542
FILE NAME: WATER & SEWER MAIN EXTENSION PLAN

GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 12 OF 19

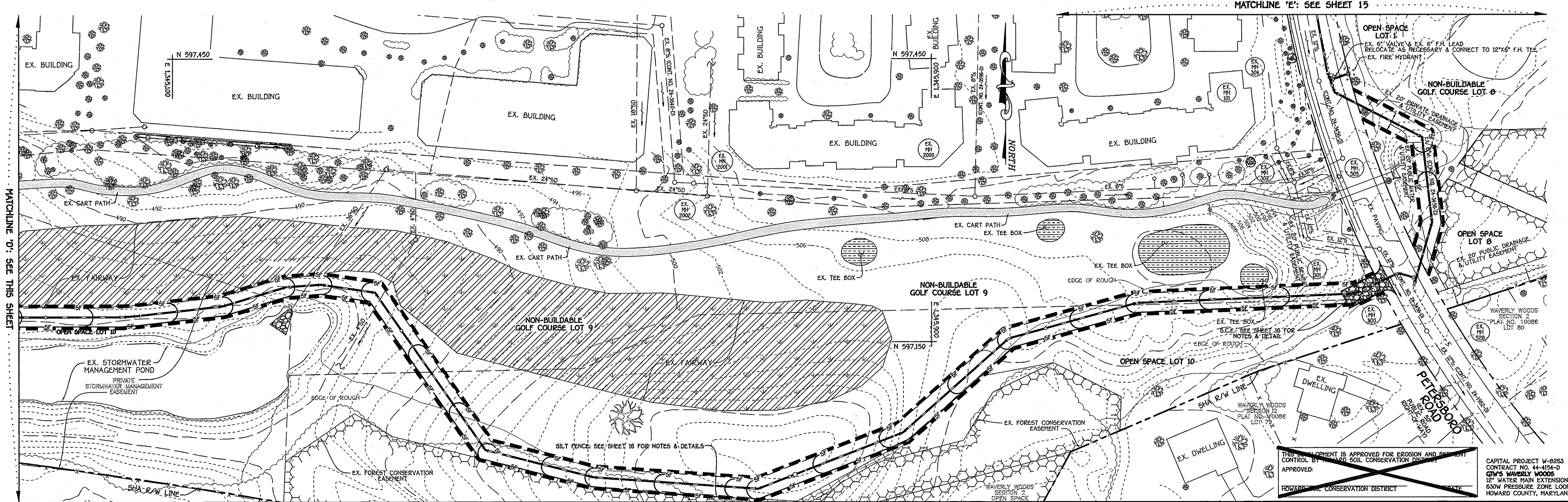
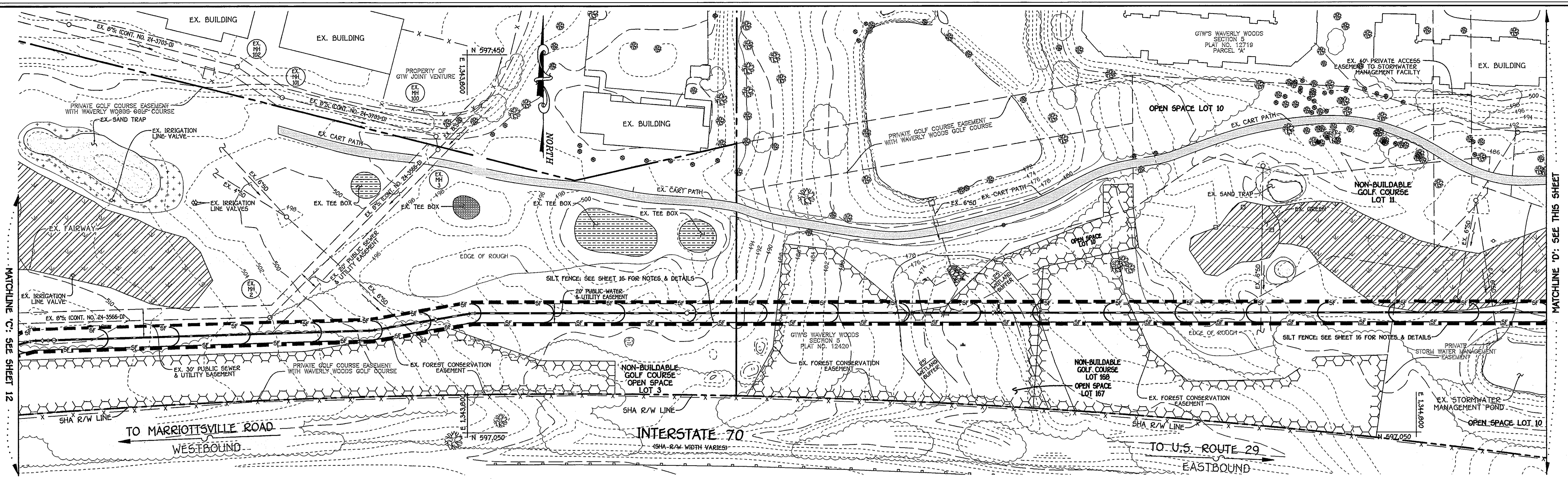


NOTE: SEE SHEET 12 FOR COMPLETE PLAN OF THE STAGING AREA, LIMITS OF DISTURBANCE & SEDIMENT & EROSION CONTROL PLAN

THE DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD COUNTY SOIL CONSERVATION DISTRICT
 APPROVED:
 HOWARD COUNTY CONSERVATION DISTRICT

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Chief, Bureau of Utilities: <i>Shirley C. Kern</i> 2/1/13		DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND Chief, Development Engineering Division: <i>Michael J. ...</i> 2/1/13		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. 12043 EXPIRATION DATE IS 7/26/14. FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PEZ ELICOTT CITY, MARYLAND 21030 (410) 461-2225 PAUL W. KRIEDEL		DESIGNED BY: B.C.R. DRAWN BY: B.C.R. CHECKED BY: P.W.K. DATE: JANUARY, 2013		EROSION & SEDIMENT CONTROL PLAN 600' SCALE MAP NO. 16 BLOCK NO. 5 F.C.C. WORK ORDER NO. 542 FILE NAME: WATER MAIN EXTENSION SHEET		GTW'S WAVERLY WOODS 12" WATER MAIN EXTENSION 630W PRESSURE ZONE LOOP CAPITAL PROJECT W-8263 CONTRACT NO. 44-4154-D 12" WATER MAIN EXTENSION 630W PRESSURE ZONE LOOP HOWARD COUNTY, MARYLAND		SCALE AS SHOWN SHEET 13 OF 19
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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Steve Clemon
2/1/13
CHIEF, BUREAU OF UTILITIES

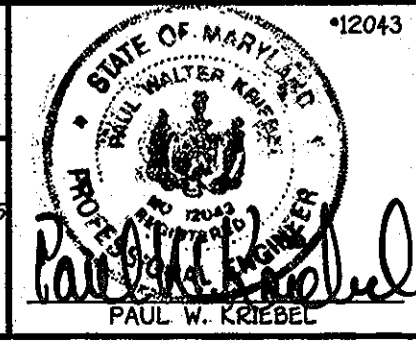
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Paul W. Kriebel
2/1/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SERVICE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELKLOTT CITY, MARYLAND 21031
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DATE:	JANUARY, 2013
BY NO.	
REVISION	
DATE	

NEW SHEET: TO ADDRESS HIDE COMMENTS

EROSION & SEDIMENT CONTROL PLAN

600' SCALE MAP NO. 16 BLOCK NO. 5

F.C.C. WORK ORDER NO. 542

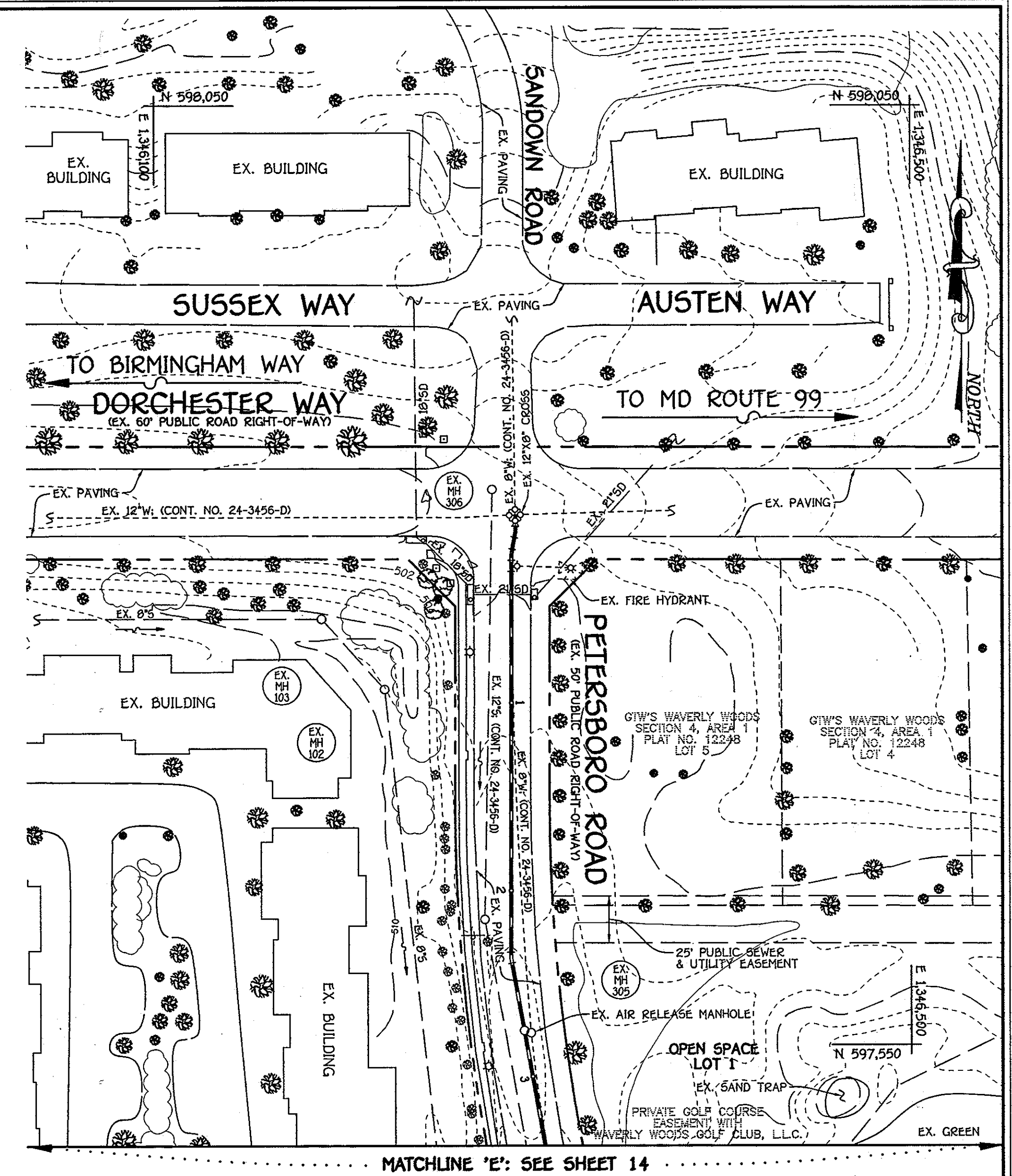
FILE NAME: WATER MAIN EXTENSION SHEET

GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 14 OF 19

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MATCHLINE 'E': SEE SHEET 14

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.
 APPROVED:
 HOWARD SOIL CONSERVATION DISTRICT

CAPITAL PROJECT W-8263
 CONTRACT NO. 44-4154-D
 GTW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

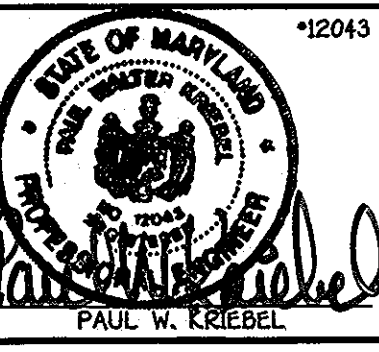
DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

William C. Green 2/1/13
 CHIEF, BUREAU OF UTILITIES DATE

William C. Green 2/1/13
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

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 ELICOTT CITY, MARYLAND 21042
 (410) 461-2399



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CHECKED BY:	P.W.K.
DATE:	JANUARY, 2013
BY	NO.
REVISION	
DATE	

NEW SHEET: TO ADDRESS MDE COMMENTS

EROSION & SEDIMENT CONTROL PLAN

60' SCALE MAP NO. 16 BLOCK NO. 5

F.C.C. WORK ORDER NO. 542

FILE NAME: WATER MAIN EXTENSION SHEET

GTW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 CAPITAL PROJECT W-8263
 CONTRACT NO. 44-4154-D
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 15 OF 19

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SECTION 20 : STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION
 USING VEGETATION AS COVER FOR BARREN SOIL TO PROTECT IT FROM FORCES THAT CAUSE EROSION.

PURPOSE
 VEGETATIVE STABILIZATION SPECIFICATIONS ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL. WHEN SOIL IS STABILIZED WITH VEGETATION, THE SOIL IS LESS LIKELY TO ERODE AND MORE LIKELY TO ALLOW INFILTRATION OF RAINFALL, THEREBY REDUCING SEDIMENT LOADS AND RUN-OFF TO DOWNSTREAM AREAS, AND IMPROVING WILDLIFE HABITAT AND VISUAL RESOURCES.

CONDITIONS WHERE PRACTICE APPLIES
 THIS PRACTICE SHALL BE USED ON DENuded AREAS AND PLANS AND MAY BE USED ON HIGHLY ERODIBLE OR CRITICALLY ERODIBLE AREAS. TEMPORARY SEEDING TO QUICKLY ESTABLISH VEGETATION COVER FOR SHORT DURATION UP TO ONE YEAR, AND PERMANENT SEEDING FOR LONG TERM VEGETATIVE COVER. EXAMPLES OF APPLICABLE AREAS FOR TEMPORARY SEEDING ARE TEMPORARY SOIL STOCKPILES, CLEARED AREAS BEING LEFT IDLE BETWEEN CONSTRUCTION PHASES, EARTH DIKES, ETC. AND FOR PERMANENT SEEDING ARE LAWNS, DAMS, CUT AND FILL SLOPES AND OTHER AREAS AT FINAL GRADE, FORMER STOCKPILE AND STAGING AREAS, ETC.

EFFECTS ON WATER QUALITY AND QUANTITY
 PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF, INFILTRATION, EVAPORATION, TRANSDUCATION, AND GROUNDWATER RECHARGE. VEGETATION, OVER TIME, WILL INCREASE ORGANIC MATTER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH. VEGETATION WILL HELP REDUCE THE MOVEMENT OF SEDIMENT, NUTRIENTS, AND OTHER CHEMICALS CARRIED BY RUNOFF TO RECEIVING WATERS. PLANTS WILL ALSO HELP PROTECT GROUNDWATER SUPPLIES BY ASSIMILATING THOSE SUBSTANCES PRESENT WITH THE ROOT ZONE.

SEDIMENT CONTROL DEVICES MUST REMAIN IN PLACE DURING GRADING, SEEDING PREPARATION, SEEDING, MULCHING AND VEGETATIVE ESTABLISHMENT TO PREVENT LARGE QUANTITIES OF SEDIMENT AND ASSOCIATED CHEMICALS AND NUTRIENTS FROM WASHING INTO SURFACE WATERS

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. SITE PREPARATION
 i. INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES (EITHER TEMPORARY OR PERMANENT) SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, WATERWAYS, OR SEDIMENT CONTROL BASINS.
 ii. PERFORM ALL GRADING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. FINAL GRADING AND SHAPING IS NOT USUALLY NECESSARY FOR TEMPORARY SEEDING.
 iii. SCHEDULE REQUIRED SOIL TESTS TO DETERMINE SOIL AMENDMENT COMPOSITION AND APPLICATION RATES FOR SITES HAVING DISTURBED AREA OVER 5 ACRES.

B. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
 i. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OVER 5 ACRES. SOIL ANALYSIS MAY BE PERFORMED BY THE UNIVERSITY OF MARYLAND OR A RECOGNIZED COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY BE USED FOR THIS PURPOSE.
 ii. FERTILIZERS SHALL BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROVED EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS SHALL ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE STATE FERTILIZER LAW AND SHALL BEAR THE NAME, TRADEMARK AND WARRANTY OF THE PRODUCER.
 iii. LIME MATERIALS SHALL BE GROUND LIMESTONE HYDRATED OR BURNT LIME MAY BE SUBSTITUTED WHICH CONTAINS AT LEAST 50% TOTAL OXIDES CALCIUM OXIDE PLUS MAGNESIUM OXIDE. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT AT LEAST 50% WILL PASS THROUGH A #100 MESH SIEVE AND 95-100% WILL PASS THROUGH A #20 MESH SIEVE.
 iv. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

C. SEEDING PREPARATION
 i. TEMPORARY SEEDING
 a. SEEDING PREPARATION SHALL CONSIST OF LOOSENING SOIL TO A DEPTH OF 3" TO 5" BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPER MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED IT SHOULD NOT BE ROLLED OR DRAGGED SMOOTH, BUT LEFT IN AN IRREGULAR CONDITION 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 3-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

ii. PERMANENT SEEDING
 a. MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT:
 1. SOIL PH SHALL BE BETWEEN 6.0 AND 7.0.
 2. SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM).
 3. THE SOIL SHALL CONTAIN LESS THAN 40% BUT ENOUGH FINE GRAINED MATERIAL (30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVEGRASS OR SPERDIA LESPEDEZAS IS TO BE PLANTED, THEN A SANDY SOIL (30% SILT PLUS CLAY) WOULD BE ACCEPTABLE.
 4. SOIL SHALL CONTAIN 15% MINIMUM ORGANIC MATTER BY WEIGHT.
 5. SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
 6. IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH SECTION 21 STANDARD AND SPECIFICATION FOR TOPSOIL.
 b. AREAS PREVIOUSLY GRADED IN CONFORMANCE WITH THE DRAWINGS SHALL BE MAINTAINED IN A TRUE AND EVEN GRADE, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3-5" TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREA AND TO CREATE HORIZONTAL EROSION CHECK SLOTS TO PREVENT TOPSOIL FROM SLIDING DOWN A SLOPE.
 c. APPLY SOIL AMENDMENTS AS PER SOIL TESTS OR AS INCLUDED ON THE PLANS.
 d. MIX SOIL AMENDMENTS INTO THE TOP 3-5" OF TOPSOIL BY DISKING OR OTHER SUITABLE MEANS. LAWN AREAS SHOULD BE RAKED TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED AND APPLICATION. WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDING PREPARATION, LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE. STEEP SLOPES (STEEPER THAN 3:1) SHOULD BE TRACKED BY A DOZER LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. THE TOP 1-3" OF SOIL SHOULD BE LOOSE AND FRAGILE. SEEDING LOOSENING MAY NOT BE NECESSARY ON NEWLY DISTURBED AREAS.

D. SEED SPECIFICATIONS
 i. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED SHALL BE SUBJECT TO RE-TESTING BY A TESTING AGENCY. ALL SEED USED SHALL HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON THIS JOB.
 ii. INOCULATION - THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES SHALL BE A PURE CULTURE OF NITROGEN-FIXING BACTERIA PROVED SPECIFIC FOR THE SPECIES. INOCULANTS SHALL NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANT AS DIRECTED ON PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75°-80° F. CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.

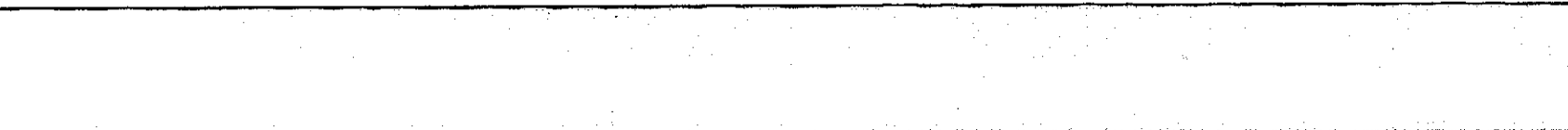
E. METHODS OF SEEDING
 i. HYDROSEEDING - APPLY SEED UNIFORMLY WITH HYDROSEEDER (BLURRY INCLUDES SEED AND FERTILIZER). BROADCAST OR DROP SEED, OR A CULTIPACKER SEEDER.
 a. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES AMOUNTS WILL NOT EXCEED THE FOLLOWING: NITROGEN: MAXIMUM 100 LBS. PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHORUS): 200 LBS/AC; K2O (POTASSIUM): 200 LBS/AC.
 b. 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 BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
 c. SEED AND FERTILIZER SHALL BE MIXED ON SITE AND SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.
 ii. DRY SEEDING - THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS
 a. SEED SPREAD DRY SHALL BE INCORPORATED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON THE TEMPORARY OR PERMANENT SEEDING SUMMARIES OR TABLES 265 OR 266. THE SEEDING AREA SHALL THEN BE ROLLED WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
 b. WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
 iii. DRILL OR CULTIPACKER SEEDING - MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
 a. CULTIPACKER SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDING MUST BE FIRM AFTER PLANTING.
 b. WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

F. MULCH SPECIFICATIONS (IN ORDER OF PREFERENCE)
 i. STRAW SHALL CONSIST OF THOROUGHLY THRESHED WHEAT, RYE OR OAT STRAW, REASONABLE BRIGHT IN COLOR, AND SHALL NOT BE MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY AND SHALL BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW.
 ii. WOOD CELLULOSE FIBER MULCH (WCFM)
 a. WCFM SHALL CONSIST OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
 b. WCFM SHALL BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION AND UNIFORM SPREAD SURVEY.
 c. WCFM, INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
 d. WCFM MATERIALS SHALL 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 SHALL FORM A BLOTTER-LIKE GROUND COVER. ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
 e. WCFM MATERIAL SHALL CONTAIN NO ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
 f. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH TO APPROXIMATELY 10 MM, DIAMETER APPROXIMATELY 1 MM, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 15% MAXIMUM AND WATER HOLDING CAPACITY OF 50% MINIMUM.

SECTION 2 - TEMPORARY SEEDING
 VEGETATION - ANNUAL GRASS OR GRAM USED TO PROVIDE COVER ON THE DISTURBED AREAS FOR UP TO 12 MONTHS. FOR LONGER DURATION OF VEGETATIVE COVER, PERMANENT SEEDING IS REQUIRED.

A. SEED MIXTURES - TEMPORARY SEEDING
 i. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 26 FROM THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE 5) 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 PLANS AND COMPLETED, THEN TABLE 26 MUST BE PUT ON THE PLANS.
 ii. FOR SITES HAVING SOIL TESTS PERFORMED, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE TESTING AGENCY SHALL BE WRITTEN IN. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

SEED MIXTURE (HARDNESS ZONE 6b) FROM TABLE 26					FERTILIZER RATE (10-10-10)	LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS		
1	BARLEY	122	3/1 - 5/15	1" - 2"	600 lb/ac	2 tons/ac
	OATS	96	8/15 - 10/15	1" - 2"	(15 lb/1000sf)	(100 lb/1000sf)
	RYE	140		1" - 2"		



STABILIZED CONSTRUCTION ENTRANCE - 2
 NOT TO SCALE

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
 2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
 3. THICKNESS - NOT LESS THAN THE SIX (6) INCHES.
 4. WIDTH - TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
 5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO ENTRANCE OF STONE. FILTER WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
 6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
 7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
 8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
 9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

SEED MIXTURE (HARDNESS ZONE 6b) FROM TABLE 25

NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20	LIME RATE
3	TALL FESCUE (80%) PERENNIAL RYE GRASS (10%) KENTUCKY BLUEGRASS (5%)	125 15 10	3/1 - 5/15 8/15 - 10/15	1" - 2"	90 lb/ac (2.0 lb/1000sf)	175 lb/ac (4 lb/1000sf)	175 lb/ac (4 lb/1000sf)	2 tons/ac (100 lb/1000sf)
10	TALL FESCUE (80%) HARD FESCUE (20%)	120 30	3/1 - 5/15 8/15 - 10/15	1" - 2"				

SEDIMENT CONTROL NOTES
 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1055).
 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 THERE TO.
 3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 30 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DICES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
 4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
 5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 53), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
 6. 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 HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 7. SITE ANALYSIS:
 TOTAL AREA OF SITE NOT APPLICABLE
 AREA DISTURBED 2.7700 ACRES
 AREA TO BE ROOFED OR PAVED 0.0000 ACRES
 AREA TO BE VEGETATIVELY STABILIZED 2.7700 ACRES
 TOTAL CUT >= N/A WATER MAIN INSTALLATION ONLY
 OFFSITE WASTE/BORROW AREA LOCATION N/A CU. YDS.
 8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
 9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL. BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING, OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
 11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THE THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

SECTION 3 - PERMANENT SEEDING
 SEEDING GRASS AND LEGUMES TO ESTABLISH GROUND COVER FOR A MINIMUM OF ONE YEAR ON DISTURBED AREAS GENERALLY RECEIVING LOW MAINTENANCE.

A. SEED MIXTURES - PERMANENT SEEDING
 i. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 25 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE 5) AND ENTER THEM IN THE PERMANENT SEEDING SUMMARY BELOW, ALONG WITH APPLICATION RATES AND SEEDING DATES. SEEDING DEPTHS CAN BE ESTIMATED USING TABLE 25. THIS SUMMARY IS NOT PUT ON THE CONSTRUCTION PLANS AND COMPLETED, THEN TABLE 25 MUST BE PUT ON THE PLANS. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SUCH AS SHORELINES, STREAMBANKS, OR DUNES OR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USFS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING. FOR SPECIAL LAWN MAINTENANCE AREAS, SEE SECTIONS 4 503 Y TURFGRASS.
 ii. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY SHALL BE WRITTEN IN.
 iii. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREAFORM FERTILIZER (46-0-0) AT 3 1/2 LBS/1000 SQ. FT. (LBS/AC). IN ADDITION TO THE ABOVE SOIL AMENDMENTS SHOWN IN THE TABLE BELOW, TO BE PERFORMED AT THE TIME OF SEEDING.

SILT FENCE

SEQUENCE OF CONSTRUCTION
 1. OBTAIN THE REQUIRED GRADING PERMIT.
 2. NOTIFY MISS UTILITY 48 HOURS BEFORE ANY WORK (410-257-7777). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION DIVISION 24 HOURS BEFORE STARTING ANY WORK (410-318-1970).
 3. INSTALL THE SEDIMENT AND EROSION CONTROL DEVICES AS INDICATED ON SHEETS 9, 10 & 11.
 4. CLEAR AND GRUB AS NECESSARY, ONLY AS REQUIRED FOR EXCAVATION AND INSTALLATION OF THE WATER MAIN ONLY WITHIN THE DESIGNATED WATER AND UTILITY EASEMENTS.
 5. NOTE: THE LENGTH OF OPEN WATER MAIN TRENCH SHALL BE LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH WILL BE BACKFILLED AND STABILIZED WITHIN ONE (1) WORKING DAY, WHICHEVER IS SHORTER.
 6. CONSTRUCT THE WATER MAIN EXTENSION.
 7. STABILIZE SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET.
 8. FOLLOWING SUCCESSFUL INSTALLATION OF ALL DISTURBED AREAS, AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES.

DEVELOPER'S CERTIFICATION
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

SIGNATURE OF DEVELOPER _____ DATE _____

ENGINEER'S CERTIFICATION
 I HEREBY 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.

SIGNATURE OF ENGINEER _____ DATE _____

DESIGNED BY: B.C.R.
 DRAWN BY: B.C.R.
 CHECKED BY: P.W.K.
 DATE: JANUARY, 2013 BY NO.

EROSION & SEDIMENT CONTROL NOTES & DETAILS

60' SCALE MAP NO. 15 BLOCK NO. 5
 F.C.C. WORK ORDER NO. 542
 FILE NAME: WATER MAIN EXTENSION SHEET

GTW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 CAPITAL PROJECT W-0263
 CONTRACT NO. 44-4154-D
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 16 OF 19

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

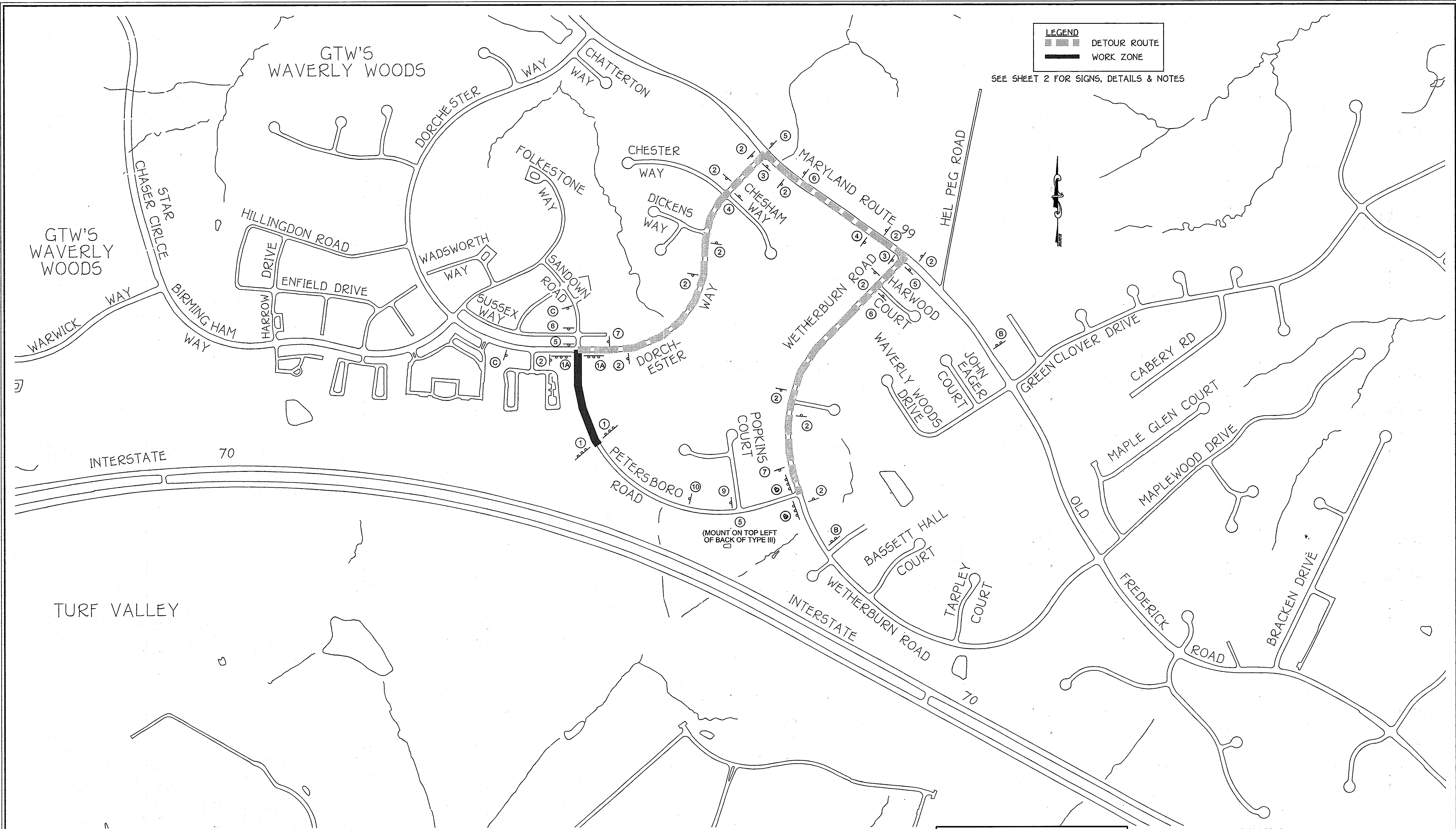
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 12043 EXPIRATION DATE IS 7/30/14.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SERVICE OFFICE: 10111 BELT ROAD, SUITE 100, BALTIMORE, MD 21286
 410-481-2292

STATE OF MARYLAND
 DEPARTMENT OF ENVIRONMENT
 12043

CAPITAL PROJECT W-0263
 CONTRACT NO. 44-4154-D
 GTW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 HOWARD COUNTY, MARYLAND



PLAN
SCALE: 1" = 300'

TEMPORARY CLOSURE OF A PORTION OF
PETERSBORO ROAD
FOR
INSTALLATION OF A PUBLIC WATER MAIN

WORK ZONE TRAFFIC CONTROL
PLAN

600' SCALE MAP NO. 16 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542
FILE NAME: WATER MAIN TRAFFIC DETOUR PLAN

DEVELOPER
WAVERLY WOODS DEVELOPMENT CORPORATION
SUITE 102
5300 DORSEY HALL DRIVE
ELLCOTT CITY, MARYLAND 21042
PHONE: 443-367-0422

GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-0263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

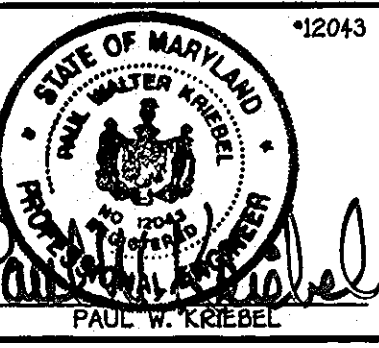
SCALE
AS
SHOWN
SHEET
17 of 19

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Shawn Cleary
2/1/13
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
Paul W. Kriebel
2/1/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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. 12043 EXPIRATION DATE IS 7/8/14.

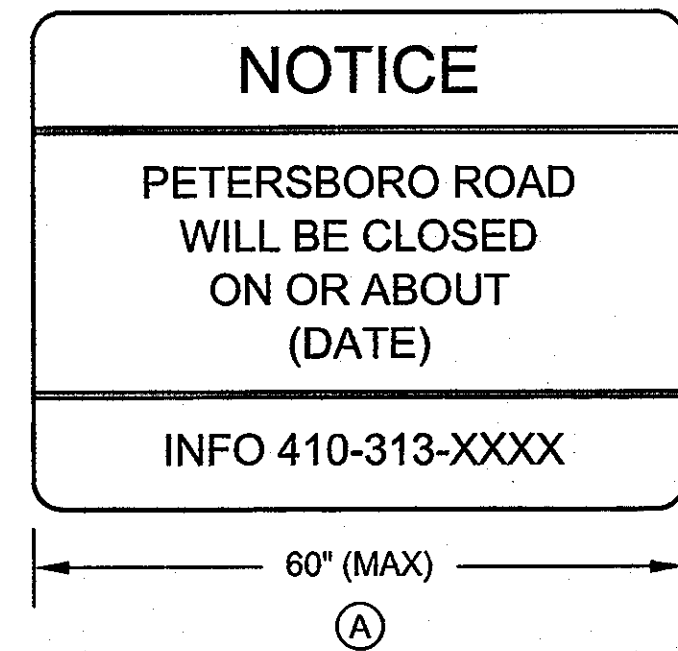
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21042
(410) 461-2225



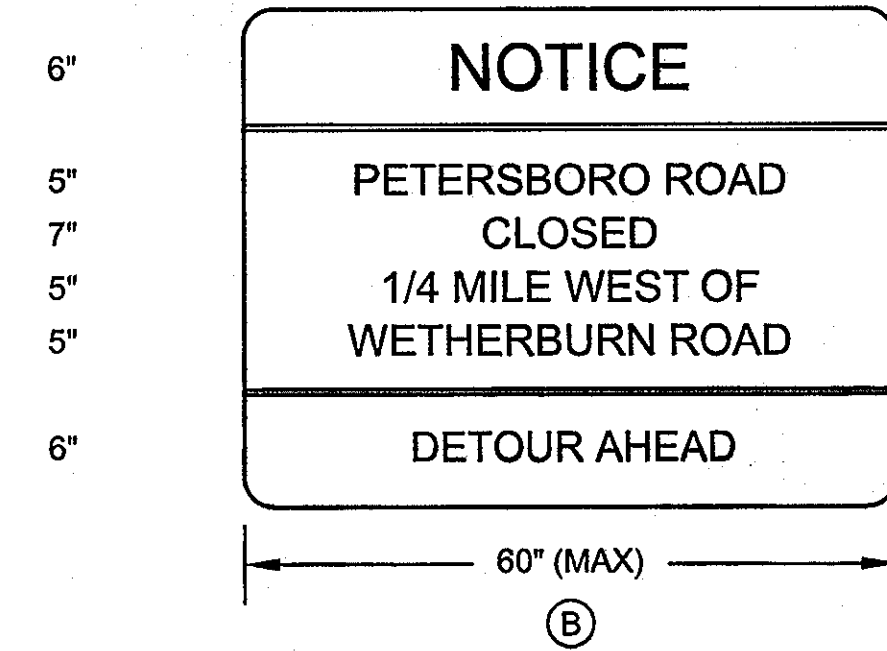
DESIGNED BY :	B.C.R.				
DRAWN BY :	B.C.R.				
CHECKED BY :	P.W.K.				
DATE :	JANUARY, 2013	BY NO.		REVISION	DATE

NEW SHEET ADDED FOR TEMP. CLOSURE PART OF PETERSBORO RD

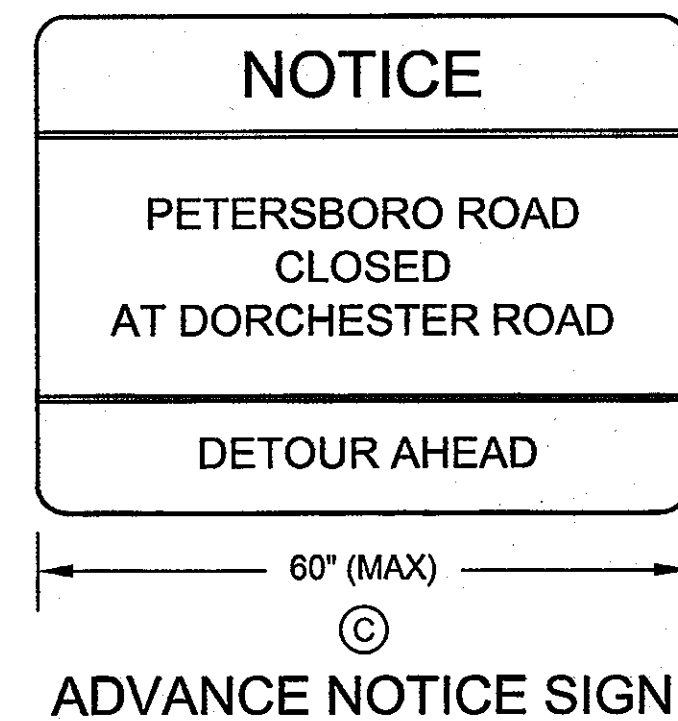
K:\GIS\PROJ\1542\Draw\Connectivity\44-4154-01630-Water Main Loop - 17 - 15-Traffic Detour Planning Plan Sheet 17, 1/23/2013 4:21:53 PM, 1:1



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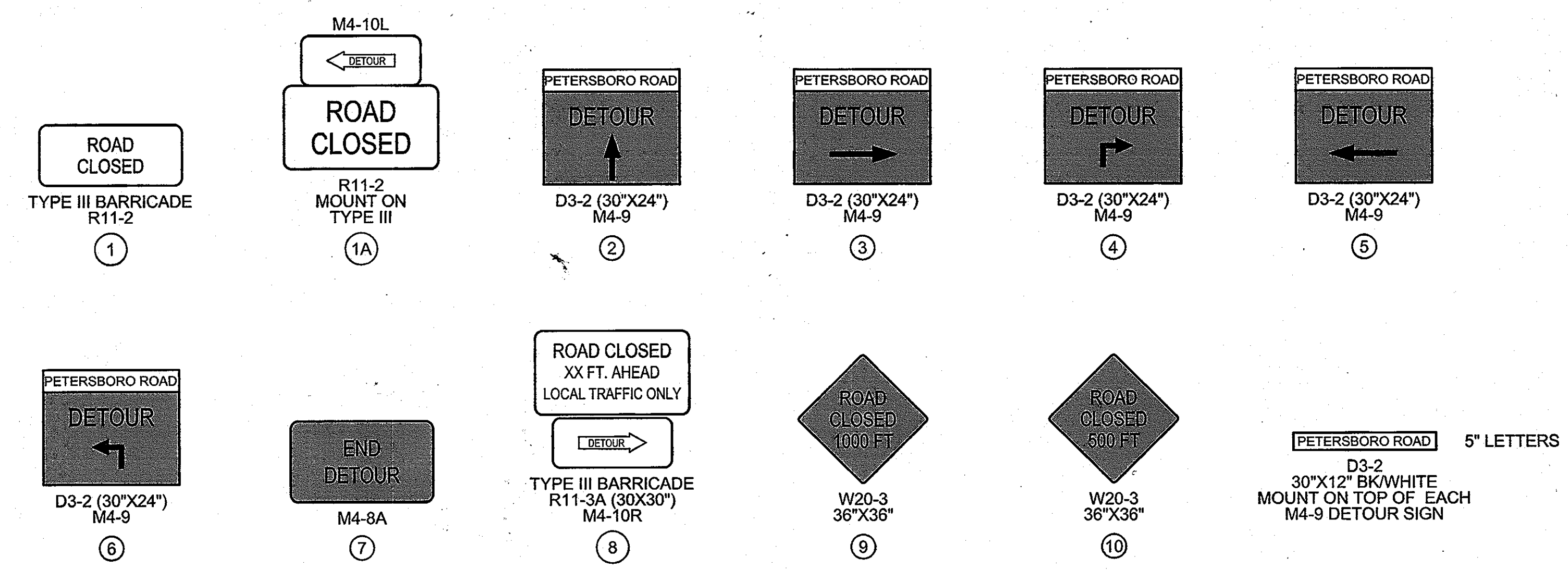


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ADVANCE NOTICE SIGN



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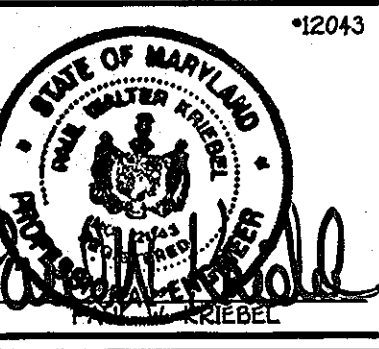
NOTES

1. CONTACT TRAFFIC ENGINEER (410-313-5752) PRIOR TO FABRICATING SIGNS.
2. ALL SIGN LOCATIONS SHALL BE APPROVED BY THE TRAFFIC DIVISION PRIOR TO INSTALLATION OF ANY SIGNS.
3. ALL DETOUR SIGNS SHALL BE COVERED WITH OPAQUE MATERIAL UNTIL DAY ROAD IS CLOSED.
4. EITHER STATIC SIGNS OR VARIABLE MESSAGE SIGNS SHALL BE PLACED 14 DAYS PRIOR TO CLOSING ROAD. MESSAGE ON EITHER SHALL BE APPROVED BY TRAFFIC ENGINEER.
5. ALL SIGN LOCATIONS SHOWN ON THE PLAN ARE APPROXIMATE, EXACT LOCATIONS TO BE DETERMINED IN THE FIELD.
6. TEN (10) TO TWELVE (12) PLASTIC DRUMS SHALL BE PROVIDED. LOCATIONS TO BE DETERMINED BY THE TRAFFIC ENGINEER IN THE FIELD.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Silvia C. Green
CHIEF, BUREAU OF UTILITIES
DATE: 2/1/13

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
Michael J. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 2/1/13

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. 12043 EXPIRATION DATE IS 7/26/14.
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE ELECTRICITY CITY, MARYLAND 21042
(410) 491 - 2255



DESIGNED BY :	B.C.R.
DRAWN BY :	B.C.R.
CHECKED BY :	P.W.K.
DATE :	JANUARY, 2013
BY NO.	
REVISION	
DATE	

NEW SHEET: ADDED FOR TEMP CLOSURE - PART OF PETERSBORO RD

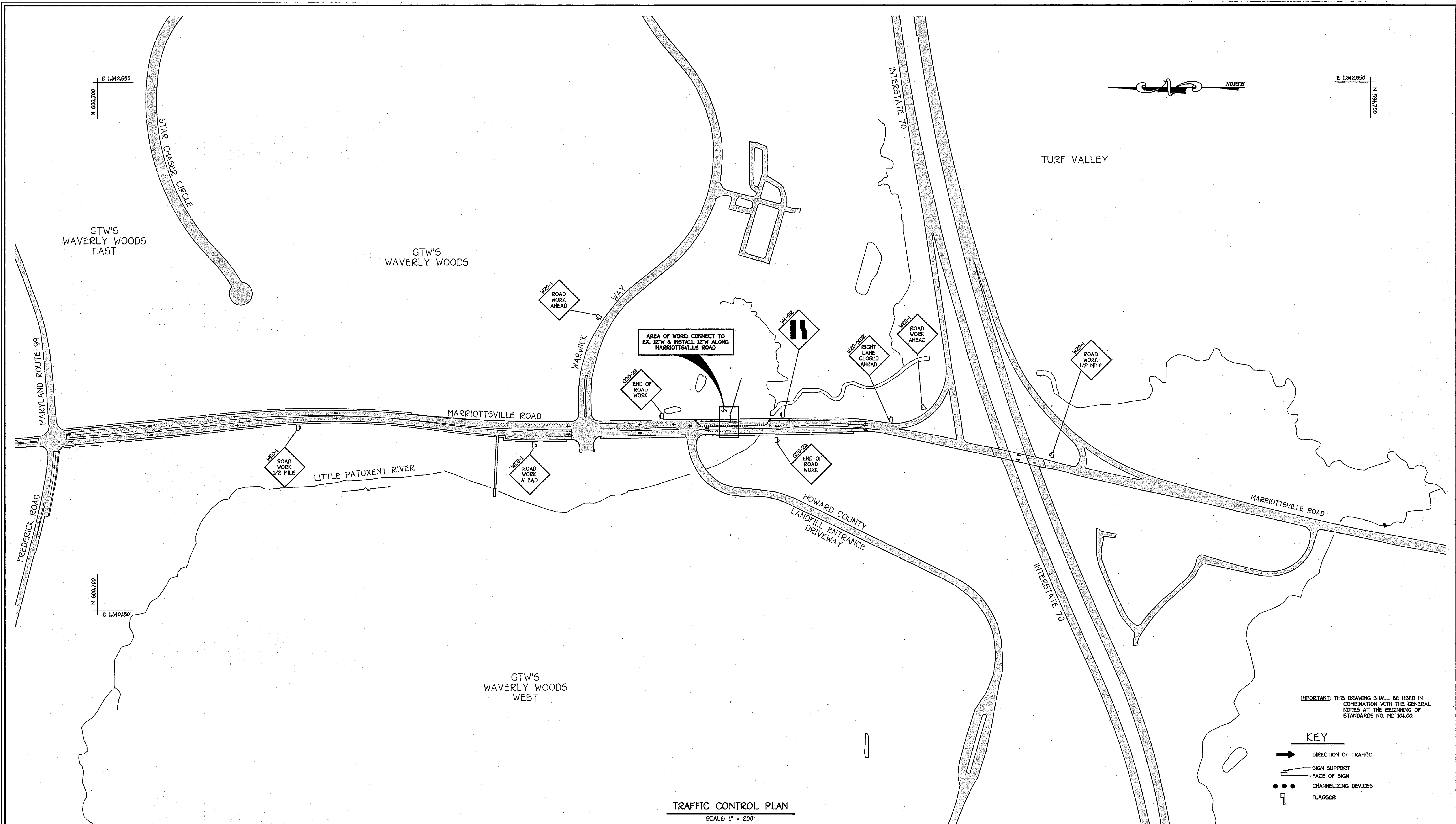
TEMPORARY CLOSURE OF A PORTION OF PETERSBORO ROAD FOR INSTALLATION OF A PUBLIC WATER MAIN
WORK ZONE TRAFFIC CONTROL NOTES AND DETAILS
60' SCALE MAP NO. 16 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542
FILE NAME : WATER MAIN TRAFFIC DETOUR PLAN

DEVELOPER
WAVERLY WOODS DEVELOPMENT CORPORATION
SUITE 102
5300 DORSEY HALL DRIVE
ELLCOTT CITY, MARYLAND 21042
PHONE: 443-357-0422

CAPITAL PROJECT W-0263
CONTRACT NO. 44-4154-D
GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 18 OF 19

K:\320682015\01501\dwg\ContractNo. 44-4154-D\630 Water Main Loop - 17 - 19 Traffic Detour Plan.dwg, Plot Sheet 18, 1/23/2013 4:22:07 PM, 1:1



TRAFFIC CONTROL PLAN
SCALE: 1" = 200'

IMPORTANT: THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES AT THE BEGINNING OF STANDARDS NO. HD 104-00.

- KEY**
- ➔ DIRECTION OF TRAFFIC
 - SIGN SUPPORT
 - FACE OF SIGN
 - CHANNELIZING DEVICES
 - ⚑ FLAGGER

**MARIOTTVILLE ROAD:
INSTALLATION OF A PUBLIC WATER MAIN**

**TRAFFIC CONTROL PLAN
NOTES AND DETAILS**

600' SCALE MAP NO. 16 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542
FILE NAME: WATER MAIN TRAFFIC DETOUR PLAN

DEVELOPER
WAVERLY WOODS DEVELOPMENT CORPORATION
SUITE 102
5300 DORSEY HALL DRIVE
ELLCOTT CITY, MARYLAND 21042
PHONE: 443-367-0422

GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-0263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 19 of 19

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Shirley Clemon 2/1/13
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
Michael J. ... 2/1/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

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. 12043 EXPIRATION DATE IS 7/26/14.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE
ELLCOTT CITY, MARYLAND 21042
410-461-2255



DESIGNED BY:	B.C.R.				
DRAWN BY:	B.C.R.				
CHECKED BY:	P.W.K.				
DATE:	JANUARY, 2013	BY	NO.	REVISION	DATE
NEW SHEET: APPROVED FOR INSTALLATION OF WATER MAIN MARIOTTVILLE RD					

K:\ISSUES\031512\dwg\Connect.No. 44-4154-d\630W Water Main Loop - 17 - 19 Traffic Detour Plan.dwg, Plan Sheet 19, 1/23/2013 4:22:58 PM, 1:1