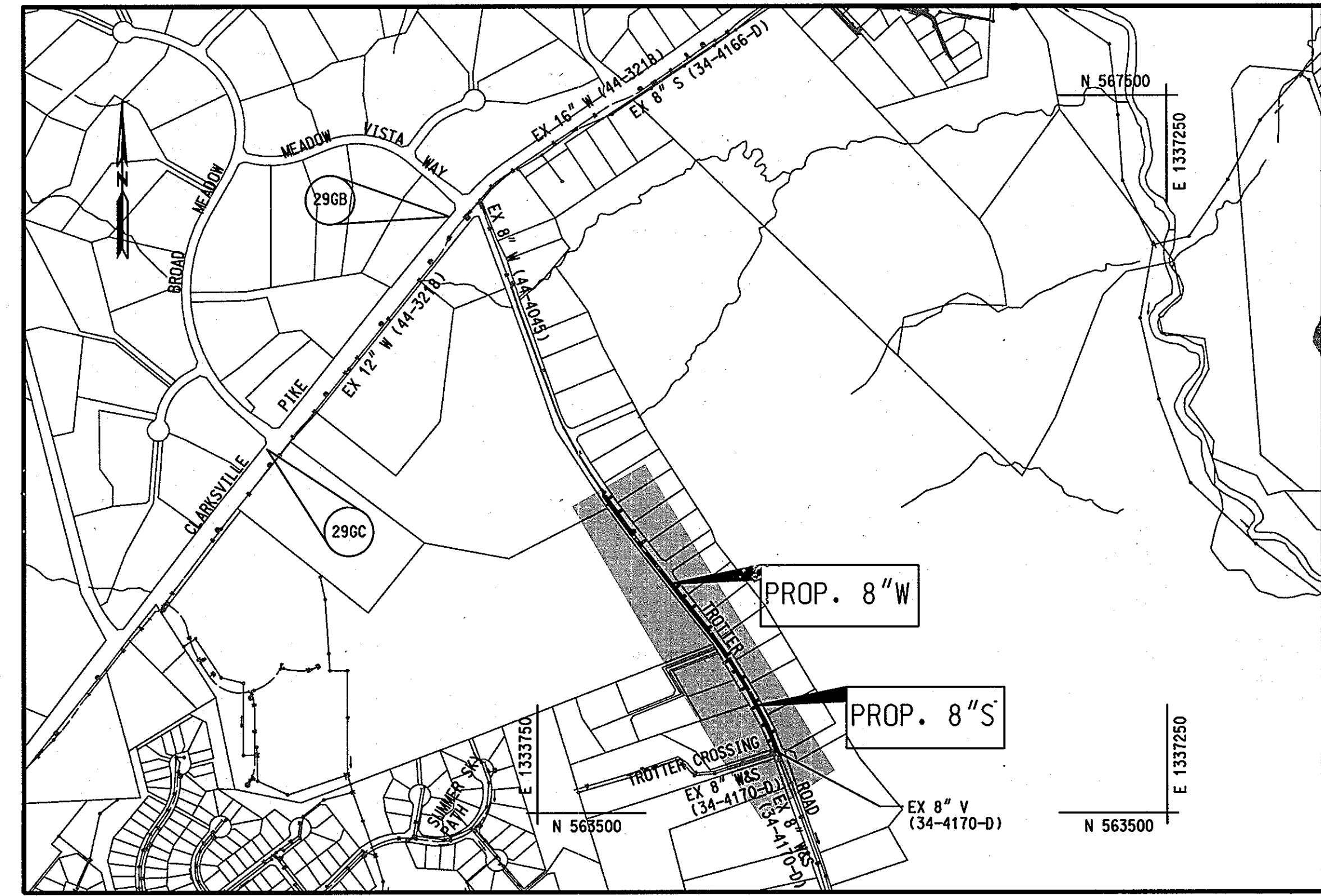


GENERAL NOTES

- 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 FEB 2013 BY KCI TECHNOLOGIES, INC.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/ADJUSTED 2007 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 296B AND NO. 296C. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE REBAR & CAPS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- UNLESS OTHERWISE SHOWN, SPECIFIED, OR DIRECTED, CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL UTILITY 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 THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEYS 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.
- WHEN TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL 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 (CONTRACTOR SERVICES).....410-637-8713
 - BGE (UNDERGROUND DAMAGE CONTROL).....410-787-9068
 - BGE (EMERGENCY).....410-685-0123
 - 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.....1-800-743-6033
 - MCI WORLDWIDE.....1-800-624-9675
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE TEMPORARY CONSTRUCTION EASEMENT/STRIP ARE NOT TO BE REMOVED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS, AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT RICE BID FOR 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 MAINS OR GUY CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS SECTION 18-114(A) OF HOWARD COUNTY CODE.
- EXCEPT AS INDICATED ON THE PLANS, ALL PUBLIC WATER MAINS (INCLUDING HYDRANT AND BLOW-OFF LEADS) SHALL BE POLYVINYL CHLORIDE (PVC) MAIN C900 PIPE MEETING THE REQUIREMENTS OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND ALL SUBSEQUENT AMENDMENTS THERETO.
- ALL PROPOSED PVC C900 WATER MAIN PIPING SHALL BE PRESSURE CLASS 150 (DR 18).
- ALL HYDRANTS, MAINLINE GATE VALVES, WATER SERVICE VALVE AND PIPING, AND SIMILAR (FOR BOTH PERMANENT AND TEMPORARY INSTALLATIONS) SHALL BE RATED FOR A MINIMUM OPERATING PRESSURE OF 250 PSI.
- FIVE (5) DEGREE BENDS SHALL BE ACCOMPLISHED USING SWEEPS, WHICH ALONG WITH HIGH DEFLECTION COUPLINGS, SHALL BE THE PVC PUSH-ON TYPE WITH RUBBER GASKETED JOINTS APPROPRIATE FOR PVC C900 WATER MAIN PIPE (INJECTION MOLDED PER AWWA C907S FOR PRESSURE CLASS 150 PVC PIPE; FABRICATED PER AWWA C900 FOR PRESSURE CLASS 200 PVC PIPE).
- TEES, CROSSES, CAPS, BENDS GREATER THAN 5 DEGREES, AND SIMILAR FITTINGS THAT REQUIRE RESTRAINED JOINTS SHALL BE DUCTILE IRON MECHANICAL JOINT (AWWA C153) FITTINGS APPROPRIATE FOR PVC C900 WATER MAIN PIPE. ALL DUCTILE IRON FITTINGS SHALL BE DOUBLE CEMENT LINED IN ACCORDANCE WITH AWWA/ANSI C104/A21.4.
- PIPE RESTRAINT SHALL BE PROVIDED IN THE FOLLOWING MANNER USING SYSTEMS MANUFACTURED BY EBAA IRON INC. OR APPROVED EQUAL:
 - ALL DUCTILE IRON MECHANICAL JOINT FITTINGS (INCLUDING MECHANICAL JOINT HYDRANT CONNECTIONS) SHALL BE RESTRAINED USING THE SERIES 2000 PVC MECHANICAL JOINT FITTING RESTRAINT SYSTEM.
 - ALL FIVE (5) DEGREE SWEEPS SHALL BE RESTRAINED (BUT ONLY WHEN LOCATED WITHIN THE RESTRAINED JOINT LIMITS NOTED ON THE PROFILES) USING THE SERIES 1500 PVC FITTING HARNESSING SYSTEM.
 - HIGH DEFLECTION COUPLINGS AND PUSH-ON BELL OR SPIGOT PIPE JOINTS SHALL BE RESTRAINED (BUT ONLY WHEN LOCATED WITHIN THE RESTRAINED JOINT LIMITS NOTED ON THE PROFILES) USING THE SERIES 1500 PVC HARNESSING SYSTEM. BEND HARNESSING RODS TO MATCH THE ANGLE AT HIGH DEFLECTION COUPLINGS.
- HIGH DEFLECTION COUPLINGS ARE LIMITED TO A MAXIMUM DEFLECTION OF 3 DEGREES AND DO NOT REQUIRE RESTRAINT (UNLESS LOCATED WITHIN RESTRAINED JOINT LIMITS NOTED ON THE PROFILES). ONLY BENDS OF 5 DEGREES OR GREATER REQUIRE RESTRAINT.
- ALL MECHANICAL PIPE RESTRAINT SYSTEMS SHALL BE RATED FOR 200 PSI, MINIMUM.
- INSTALL CONCRETE ANCHOR COLLARS WHERE SHOWN, SPECIFIED OR DIRECTED, AND WHEN SUFFICIENT ROOM EXISTS (AS DETERMINED BY THE ENGINEER), INSTALL CONCRETE BUTTRESSING AT ALL TEES, CAPS, HORIZONTAL AND VERTICAL BENDS, AND HYDRANT INSTALLATIONS SHOWN WITH OR WITHOUT HARNESSING RESTRAINT UNLESS RESTRAINED JOINTS ARE SPECIFIED ON THE PROFILES. REMOVE PIPING THAT IS TO BE ABANDONED AS NEEDED TO PREVENT CONFLICT WITH THE INSTALLATION OF CONCRETE BUTTRESSING.
- MAINLINE VALVES SHALL BE STRAPPED TO ADJACENT TEES OR CROSSES PER HOWARD CO. STD. DET W-2.13. MAINLINE VALVES WHICH ARE NOT SHOWN ADJACENT TO TEES OR CROSSES SHALL BE ANCHORED TO A CONCRETE BLOCK IN ACCORDANCE WITH HOWARD CO. STD. DETAIL W-5.01. VALVES ON HYDRANT LEADS SHALL BE RESTRAINED USING THE SERIES 2000 PVC M.J. FITTING RESTRAINT SYSTEM BY EBAA IRON, INC. OR APPROVED EQUAL.
- ALL WATER HOUSE CONNECTIONS SHALL BE COPPER MEETING THE REQUIREMENTS OF AND CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATION SHOWN ON THE DRAWINGS (TO THE NEAREST 6" INCREMENT THAT PLACES THE HYDRANT BOTTOM AT OR ABOVE GRADE). 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.
- ALL TIE-INS TO EXISTING WATER MAINS SHALL BE COORDINATED WITH THE HOWARD COUNTY BUREAU OF UTILITIES AT LEAST 10 WORKING DAYS PRIOR TO SCHEDULING WORK. A DETAILED PLAN FOR THE SHUTDOWN OF EXISTING WATER MAINS SHALL BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE COUNTY.
- EXISTING STORM DRAINS DISTURBED BY THE CONSTRUCTION SHALL BE REPLACED IN KIND AT THE SAME LINE AND GRADE AS THE EXISTING STORM DRAINS. STORM DRAIN REPLACEMENT SHALL BE INCIDENTAL TO THE WORK OF THE CONTRACT.
- ANY TREES OUTSIDE OF EXISTING EASEMENTS, DISTURBED BY CONSTRUCTION SHALL BE REPLACED IN KIND (3" CALIPER MINIMUM). THE CONTRACTOR MUST FOLLOW ALL CONDITIONS AND REQUIREMENTS AS SET FORTH IN THE REQUIRED PERMITS FOR THIS PROJECT.
- TRACER WIRES AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
- FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 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 IPE 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 STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.

TROTTER ROAD WATER AND SEWER HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

**CAPITAL PROJECT No. S-6698
CONTRACT No. 34-4805**



VICINITY MAP
SCALE: 1" = 600'

TYPE OF BUILDING:	RESIDENTIAL
NUMBER OF PARCELS:	15
NUMBER OF WATER HOUSE CONNECTIONS:	15
NUMBER OF SEWER HOUSE CONNECTIONS:	15
DRAINAGE AREA:	MIDDLE PATUXENT
PRESSURE ZONE:	630
WATER TEST GRADIENT:	780

HOWARD COUNTY GEODETIC SURVEY CONTROL

THE HORIZONTAL AND VERTICAL DATUM BASED ON NAD 83/ADJUSTED 2007 (HORIZONTAL) NAVD 88 (VERTICAL)

296B N 566826.17 E 1333285.85 ELEV. 455.97	296C N 565530.81 E 1332248.70 ELEV. 490.72
--	--

LEGEND

	PROPOSED FEATURES: WATER MAIN		EXISTING FEATURES: DECIDUOUS TREE
	FIRE HYDRANT		CONIFEROUS TREE
	WATER VALVE		FIRE HYDRANT
	WATER HOUSE CONNECTION		WATER VALVE
	CONTINUITY TEST STATION		WATER MAIN
	TEST PIT LOCATION		GAS MAIN
	CORROSION TEST STATION		UNDERGROUND ELECTRIC
	LIMIT OF DISTURBANCE		SEWER MAIN
	SILT FENCE		UNDERGROUND CABLE TV
	SEWER MAIN		MANHOLE
	SEWER MANHOLE		WATER METER
			SANITARY CLEANOUT

RESTORATION SCHEDULE		
LOCATION	DISTANCE	TYPE
TROTTER ROAD	1745'	ASPHALT

* REFER TO PERMANENT SEEDING NOTES ON SHEET XX OF XX

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.

HOWARD SOIL CONSERVATION DISTRICT CERTIFICATION

THIS PLAN IS APPROVED THE SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Robertson 6/18/13
HOWARD SOIL CONSERVATION DISTRICT DATE APPROVED

GENERAL NOTES CONTINUED

- PVC WATER MAINS SHALL BE ALLOWED TO CHANGE VERTICAL OR HORIZONTAL DIRECTION ONLY AT PVC HIGH DEFLECTION (HD) COUPLINGS. 5-DEGREE SWEEPS OR STANDARD BENDS. DEFLECTIONS MADE AT STANDARD PIPE JOINTS AND/OR PIPE LENGTHS BENT TO ACHIEVE CURVATURE OF THE WATER MAIN WILL NOT BE ALLOWED UNDER ANY CIRCUMSTANCES.
- IF ANY FIRE HYDRANT WILL BE PLACED OUT OF SERVICE IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE HOWARD COUNTY FIRE DEPARTMENT (HCFD) DURING CONSTRUCTION CONCERNING FIRE HYDRANTS THAT ARE OUT OF SERVICE. FIRE HYDRANTS THAT ARE OUT OF SERVICE SHALL BE CLEARLY SIGNED "OUT OF SERVICE".
- CONTINUITY TEST STATIONS SHALL BE PLACED ADJACENT TO EACH FIRE HYDRANT. REFER TO THE FIRE HYDRANT CONTINUITY TEST STATIONS DETAIL W-1.15.
- THE CONTRACTOR SHALL PROVIDE SURVEY CONSTRUCTION STAKEOUT FOR ALL NECESSARY LINES, GRADES AND ELEVATIONS OF THE PROPOSED FACILITIES.
- PIPE TRENCHING AND PAVEMENT REPLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS INCLUDING STANDARD DETAIL G-2.12, "PIPE TRENCH PLASTIC AND COPPER" AND STANDARD DETAIL G-4.01, "UTILITY TRENCH ROADWAY REPAVING", RESPECTIVELY.
- TEMPORARY PAVING PATCH FOR UTILITY TRENCH REPAIR OF HMA PAVED ROADS AND DRIVEWAYS SHALL BE IN ACCORDANCE WITH THE DETAILS SHOWN ON THE CONTRACT DRAWING, REFILL ALL DEPRESSIONS AND SETTLEMENT (AS THEY DEVELOP) WITH THE SPECIFIED MATERIALS. PRIOR TO PLACEMENT OF THE PERMANENT PAVING SECTION, REMOVE THE TOP SIX (6) INCHES OF MATERIAL, SCARIFY, RECOMPACT, AND TACK COAT THE REMAINING 12-INCH MINIMUM NO. 57 AGGREGATE SUB-BASE, AND REPAVE THE UTILITY TRENCH (AND WHERE REQUIRED, THE REMAINING PORTION OF THE TRAVEL LANE) ALL IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL G-4.01. THE HMA MATERIALS SHALL MEET THE TYPICAL SUPERPAVE MIX SPECIFIED IN HOWARD COUNTY STANDARD DETAIL R2-02, P-5 ON TROTTER ROAD.
- WATER MAIN TEST GRADIENT:
THE EXISTING STATIC PRESSURE GRADIENT FOR PROPOSED WATER MAIN SYSTEM IS 630FT.
WATER MAIN SHALL BE FILLED WITH WATER AND BROUGHT TO 150PSI HYDROSTATIC TEST PRESSURE AT THE LOW POINT FOR TWO HOURS.
- IN ACCORDANCE WITH 10 STATE STANDARDS REQUIREMENTS - ALL CROSSINGS OF THE NEW WATER MAIN WITH EXISTING SANITARY OR STORM SEWER PIPING (RESULTING IN LESS THAN 18" OF SEPARATION) SHALL BE ACCOMPLISHED BY CENTERING A FULL LENGTH OF THE NEW WATER MAIN PIPING AT THE CROSSING TO MAXIMIZE THE DISTANCE OF ANY WATER MAIN JOINT FROM THE CROSSING.
- THE CONTRACTOR SHALL NOT ENTER UPON PUBLIC OR PRIVATE PROPERTY (OUTSIDE OF THE RIGHT-OF-WAY OR CONSTRUCTION STRIP) FOR ANY PURPOSE WITHOUT OBTAINING PERMISSION AND IT SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL PUBLIC AND PRIVATE PROPERTY, TREES, MONUMENTS, SIGNS AND MARKERS AND FENCES THEREON, AND SHALL USE EVERY PRECAUTION NECESSARY TO PREVENT DAMAGE OR INJURY THERETO.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE OR INJURY TO PROPERTY OF ANY CHARACTER DURING THE PROSECUTION OF THE WORK, RESULTING FROM ANY ACT, OMISSION, NEGLIGENCE OR MISCONDUCT IN ITS MANNER OR METHOD OF EXECUTING SAID WORK, OR AT ANY TIME DUE TO DEFECTIVE WORK OR MATERIALS, AND SAID RESPONSIBILITY SHALL NOT BE RELEASED UNTIL THE WORK SHALL HAVE BEEN COMPLETED AND ACCEPTED.
- ALL SEWER MAINS SHALL BE DIP OR PVC UNLESS OTHERWISE NOTED.
- ALL MANHOLE SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- HOUSES WITH THE SYMBOL "C.N.S" INDICATES THAT THE CELLAR CANNOT BE SERVED.
- THE CONTRACTOR SHALL PERFORM FULL TRENCH COMPACTION IN THE INSTALLATION OF ALL WATER AND SEWER MAINS ON THIS PROJECT.

ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
MOBILIZATION/M.O.T.	EA.	1	NA	
8" WATER (PVC C-900)	L.F.	1763	1745	J.M. EAGLE
CORROSION PROTECTION SYSTEM	L.S.	1	1	PIPING & CORROSION SUPPLY
FIRE HYDRANT & 6" V (RSGV)	EA.	3	3	MUELLER CO.
8" V (RSGV)	EA.	2	2	MUELLER CO.
± WATER HOUSE CONNECTION 1 1/2"	L.F.	469	377	CAMBRIDGE LEE
8" SEWER MAIN (PVC)	L.F.	1718	1702	J.M. EAGLE
4" DIA. PRECAST M.H.	EA.	7	7	CONCRETE PIPE & PRECAST
4" SEWER HOUSE CONNECTION	L.F.	411	357	J.M. EAGLE
NAME OF UTILITY CONTRACTOR: W.F. WILSON & SONS				
AS-BUILT DATE:				

OWNER'S/DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THE PLAN AND THAT A RESPONSIBLE PERSON INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE, BEFORE BEGINNING THE PROJECT, A CERTIFICATION OF TRAINING AT A PROGRAM APPROVED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR THE CONTROL OF SEDIMENT AND EROSION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Wes Clark 6/18/2013
BUREAU OF ENGINEERING DATE
DEPARTMENT OF PUBLIC WORKS

ENGINEER'S CERTIFICATION

"I/WE 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 IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Guohua Wang 6/17/2013
GUOAHUA WANG DATE
KCI TECHNOLOGIES, INC.
936 RIDGEBROOK ROAD
SPARKS, MD 21152

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	TROTTER ROAD WATER MAIN PLAN AND PROFILE
3	TROTTER ROAD WATER MAIN PLAN AND PROFILE
4	TROTTER ROAD SEWER MAIN PLAN AND PROFILE
5	TROTTER ROAD SEWER MAIN PLAN AND PROFILE
6	SEDIMENT AND EROSION CONTROL PLAN TROTTER ROAD
7	SEDIMENT AND EROSION CONTROL PLAN TROTTER ROAD
8	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
9	TRAFFIC CONTROL PLAN

AS-BUILT
DATE 11-13

EP-12-013

PLOTTED: 10:14 PM on Thursday, June 13, 2013 BY: Craig Stevens, Division: PO42, Water-WW File: \\P:\GIS\2013\Projects\2013\12\13\121317841-CO-WS.dwg

**DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND**

<i>[Signature]</i> 6/18/13 DIRECTOR OF PUBLIC WORKS DATE	<i>[Signature]</i> 6/18/13 CHIEF, BUREAU OF ENGINEERING DATE
<i>[Signature]</i> 6/18/13 CHIEF, BUREAU OF UTILITIES DATE	<i>[Signature]</i> 6/18/13 CHIEF, UTILITY DESIGN DIVISION DATE

**ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS**

KCI TECHNOLOGIES

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM

STATE OF MARYLAND

PROFESSIONAL ENGINEER

[Signature] 6/17/2013
EXPIRATION DATE: 1/16/2014

DES:	GS	DATE:	6/11/2013
DRN:	GS	BY:	NO.
CHK:	GW/TWW	NO.	REVISION
CS	1	AS-BUILT	11-13
DATE:	6/11/2013	DATE:	6/11/2013

TITLE SHEET

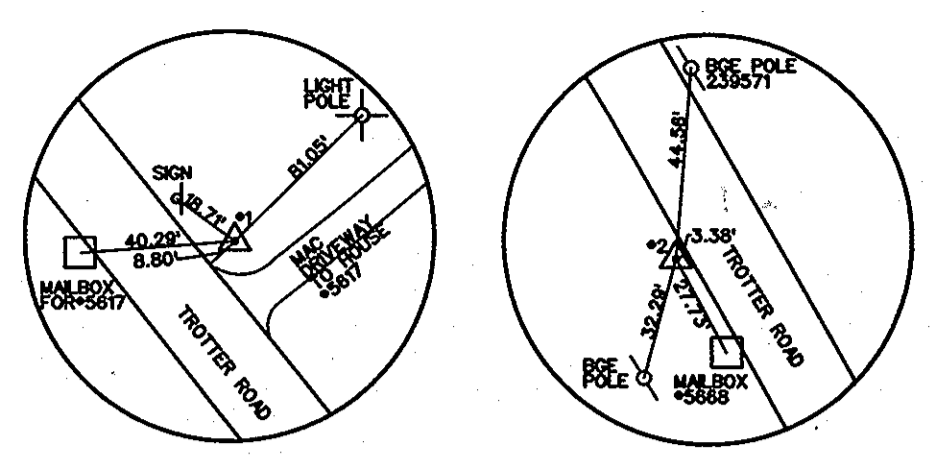
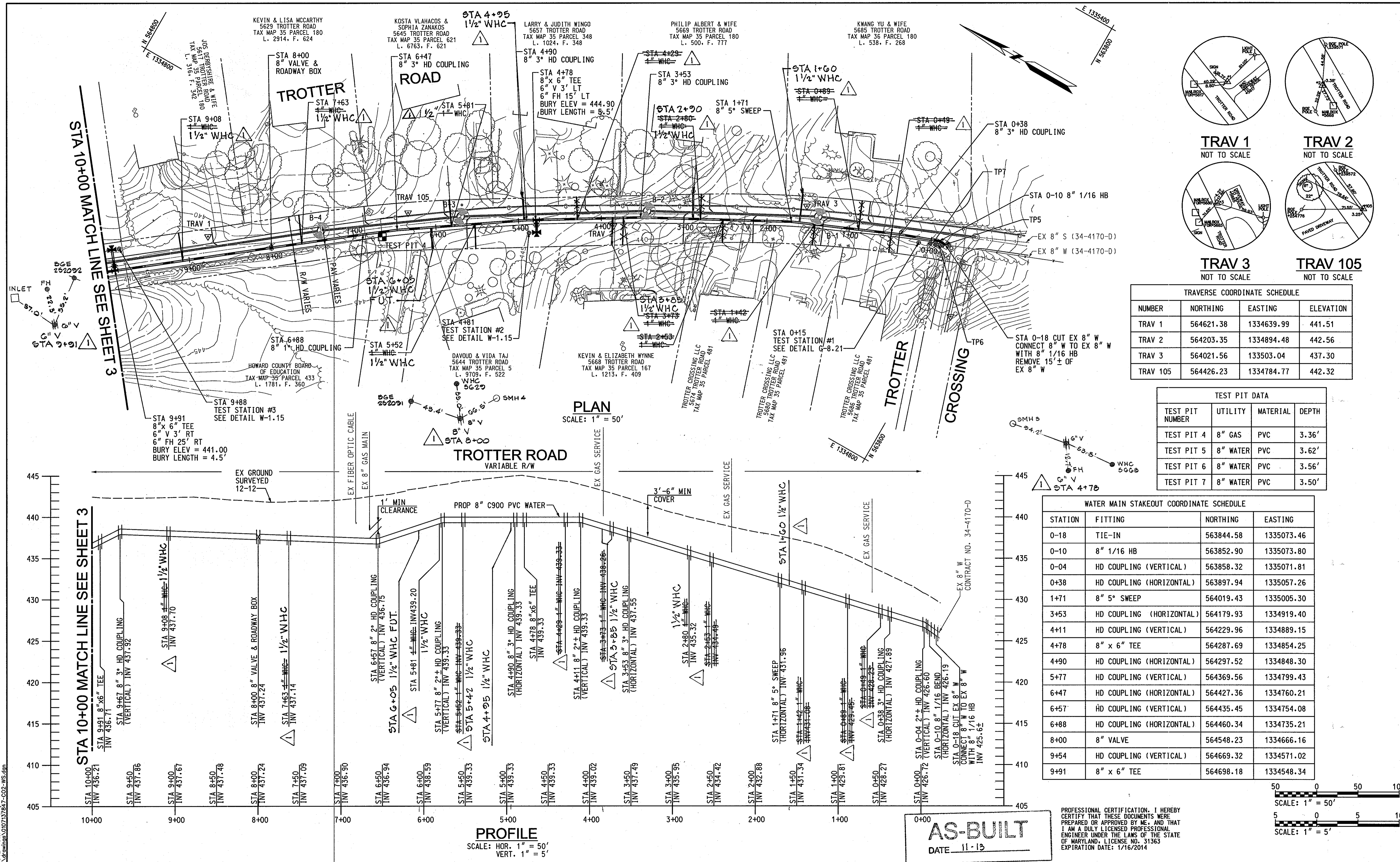
600' SCALE MAP NO. 29 & 35 BLOCK NO. 12 & 20 & 2

**TROTTER ROAD
WATER & SEWER MAIN EXTENSION**

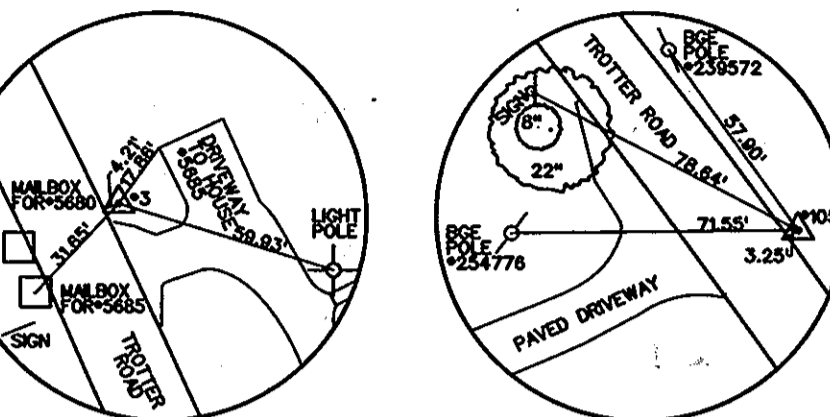
CAPITAL PROJECT No. S-6698
CONTRACT No. 34-4805

ELECTION DISTRICT NO. 5

SCALE AS SHOWN SHEET 1 OF 9



TRAV 1 NOT TO SCALE
TRAV 2 NOT TO SCALE

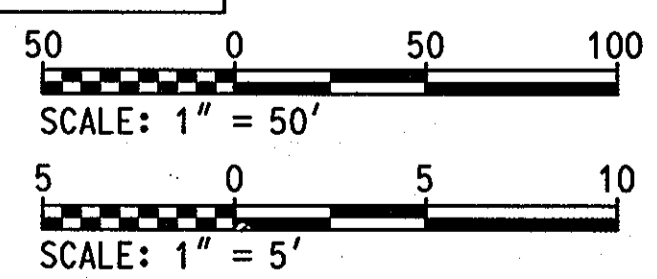


TRAV 3 NOT TO SCALE
TRAV 105 NOT TO SCALE

TRAVERSE COORDINATE SCHEDULE			
NUMBER	NORTHING	EASTING	ELEVATION
TRAV 1	564621.38	1334639.99	441.51
TRAV 2	564203.35	1334894.48	442.56
TRAV 3	564021.56	133503.04	437.30
TRAV 105	564426.23	1334784.77	442.32

TEST PIT DATA			
TEST PIT NUMBER	UTILITY	MATERIAL	DEPTH
TEST PIT 4	8" GAS	PVC	3.36'
TEST PIT 5	8" WATER	PVC	3.62'
TEST PIT 6	8" WATER	PVC	3.56'
TEST PIT 7	8" WATER	PVC	3.50'

WATER MAIN STAKEOUT COORDINATE SCHEDULE			
STATION	FITTING	NORTHING	EASTING
0-18	TIE-IN	563844.58	1335073.46
0-10	8" 1/16 HB	563852.90	1335073.80
0-04	HD COUPLING (VERTICAL)	563858.32	1335071.81
0+38	HD COUPLING (HORIZONTAL)	563897.94	1335057.26
1+71	8" 5" SWEEP	564019.43	1335005.30
3+53	HD COUPLING (HORIZONTAL)	564179.93	1334919.40
4+11	HD COUPLING (VERTICAL)	564229.96	1334889.15
4+78	8" x 6" TEE	564287.69	1334854.25
4+90	HD COUPLING (HORIZONTAL)	564297.52	1334848.30
5+77	HD COUPLING (VERTICAL)	564369.56	1334799.43
6+47	HD COUPLING (HORIZONTAL)	564427.36	1334760.21
6+57	HD COUPLING (VERTICAL)	564435.45	1334754.08
6+88	HD COUPLING (HORIZONTAL)	564460.34	1334735.21
8+00	8" VALVE	564548.23	1334666.16
9+54	HD COUPLING (VERTICAL)	564669.32	1334571.02
9+91	8" x 6" TEE	564698.18	1334548.34



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31363 EXPIRATION DATE: 1/16/2014

AS-BUILT
DATE 11-13

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

STA 10+00 MATCH LINE SEE SHEET 3

STA 10+00 MATCH LINE SEE SHEET 3

PLOTTED: 10:14 PM on Thursday, June 13, 2013
BY: Craig Stevens Division: P042 Water-WW
FILE: M:\P042\10171218-4\Drawings\10171218-4-C02-W5.dwg

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] DATE 6/13/13
DIRECTOR OF PUBLIC WORKS

[Signature] DATE 6/13/13
CHIEF, BUREAU OF UTILITIES

[Signature] DATE 6/13/13
CHIEF, BUREAU OF ENGINEERING

[Signature] DATE 6/13/13
CHIEF, UTILITY DESIGN DIVISION

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI
TECHNOLOGIES

936 RIDGEBROOK ROAD
SHARPS, MARYLAND 21152
TELEPHONE (410) 316-7800
FAX (410) 316-7818
www.kci.com

STATE OF MARYLAND
Professional Engineer
No. 31363
11/13/2013

DES:	GS				
DRN:	GS				
CHK:	GW/TWW				
DATE:	6/11/2013	BY:	NO.		
REVISION:	AS-BUILT	DATE:	11-13		

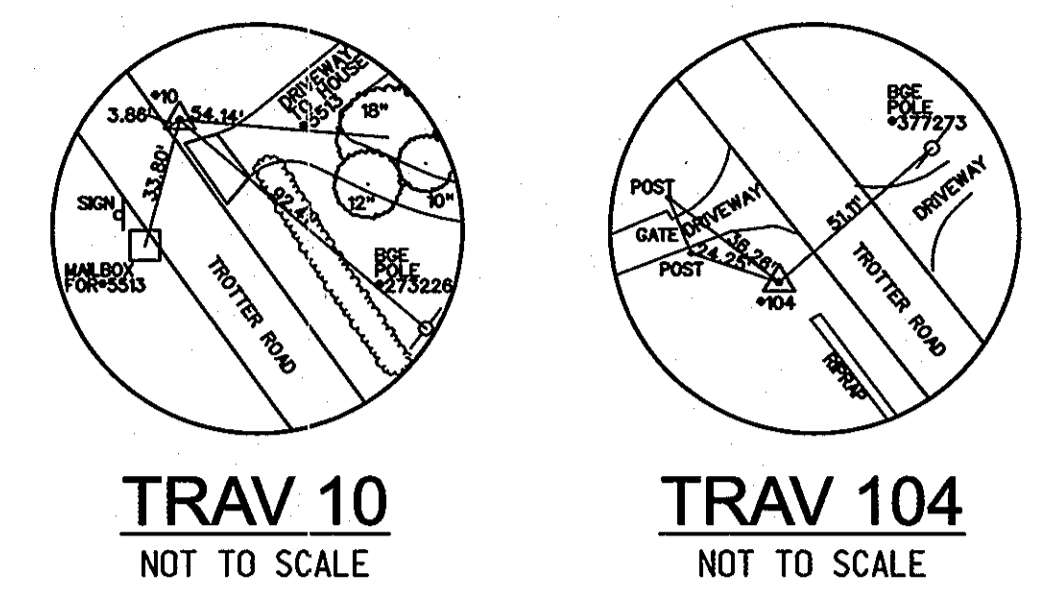
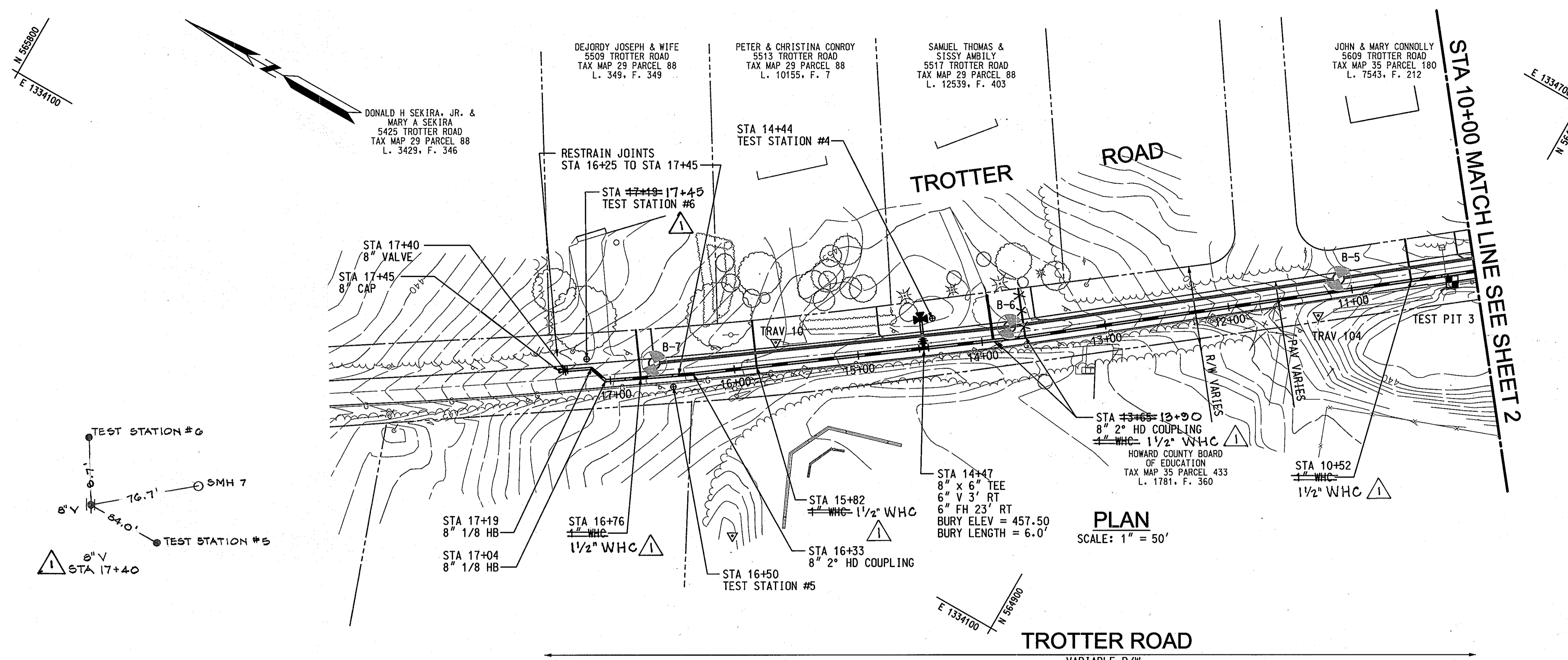
**8" WATER MAIN
PLAN & PROFILE
STA. 0+00 TO STA. 10+00**

600' SCALE MAP NO. 29 & 35 BLOCK NO. 20 & 2
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

**TROTTER ROAD
WATER & SEWER MAIN EXTENSION**

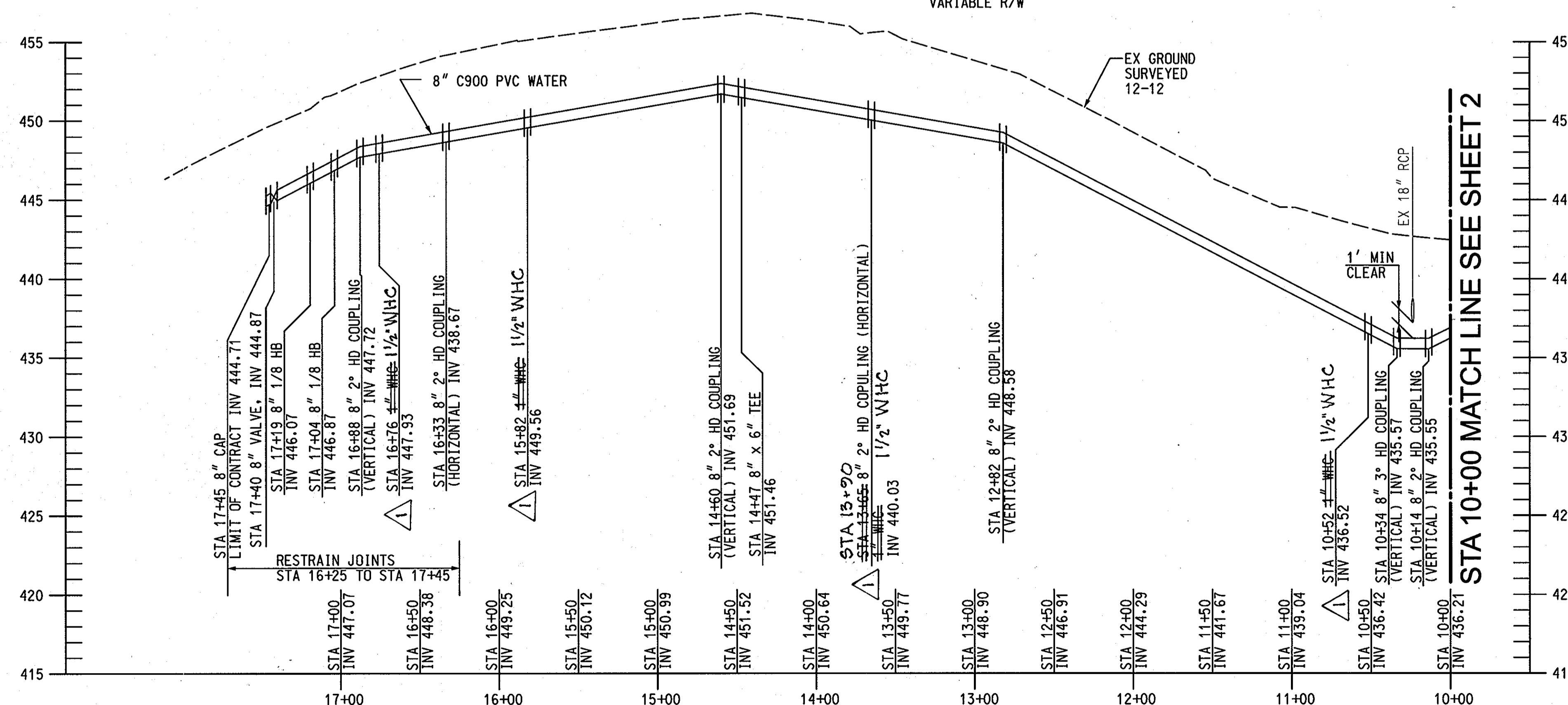
CAPITAL PROJECT No. S-6698
CONTRACT No. 34-4805

SCALE AS SHOWN
SHEET 2 OF 9



TRAVERSE COORDINATE SCHEDULE			
NUMBER	NORTHING	EASTING	ELEVATION
TRAV 10	565164.22	1334213.83	454.89
TRAV 104	564797.01	1334448.95	445.50

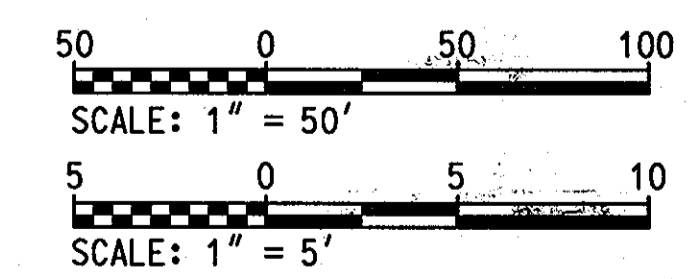
TEST PIT DATA			
TEST PIT NUMBER	UTILITY	MATERIAL	DEPTH
TEST PIT 3	8" GAS	PVC	2.06'



WATER MAIN STAKEOUT COORDINATE SCHEDULE			
STATION	FITTING	NORTHING	EASTING
10+14	HD COUPLING VERTICAL	564716.53	1334533.92
10+34	HD COUPLING VERTICAL	564732.26	1334521.56
12+82	HD COUPLING VERTICAL	564927.23	1334368.37
13+65	HD COUPLING (HORIZONTAL)	564992.50	1334317.09
14+47	8" x 6" TEE	565058.65	1334268.75
14+60	HD COUPLING (VERTICAL)	565069.24	1334261.02
16+33	HD COUPLING (HORIZONTAL)	565209.11	1334158.81
16+88	HD COUPLING (VERTICAL)	565254.43	1334128.06
17+04	8" 1/8 HB	565267.35	1334119.29
17+19	8" 1/8 HB	565282.17	1334122.13
17+40	8" VALVE	565299.64	1334110.28
17+45	8" CAP	565303.78	1334107.47

AS-BUILT
DATE 11-13

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31363 EXPIRATION DATE: 1/16/2014



PLOTTED: 10:15 PM on Thursday, June 13, 2013
BY: Craig Stevens
FILE: M:\2007\00171278-4-Programs\01712784-003-MS.dwg

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Jay Johnson 6/13/13
DIRECTOR OF PUBLIC WORKS DATE

Marcus S. Butler 6/13/13
CHIEF, BUREAU OF ENGINEERING DATE

Chris Chen 6/13/13
CHIEF, BUREAU OF UTILITIES DATE

Chris Chen 6/13/13
CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI
TECHNOLOGIES

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM

STATE OF MARYLAND
COURT OF PUBLIC WORKS
PROFESSIONAL ENGINEER
NO. 31363
6/11/2013

DES:	GS				
DRN:	GS				
CHK:	GW/TWW				
DATE:	6/11/2013				
BY:	NO.				
REVISION:					
DATE:					

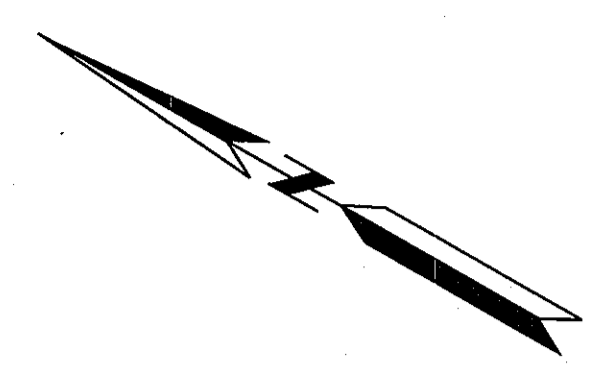
**8" WATER MAIN
PLAN & PROFILE
STA. 10+00 TO STA. 21+00**

600' SCALE MAP NO. 29 & 35 BLOCK NO. 20 & 2

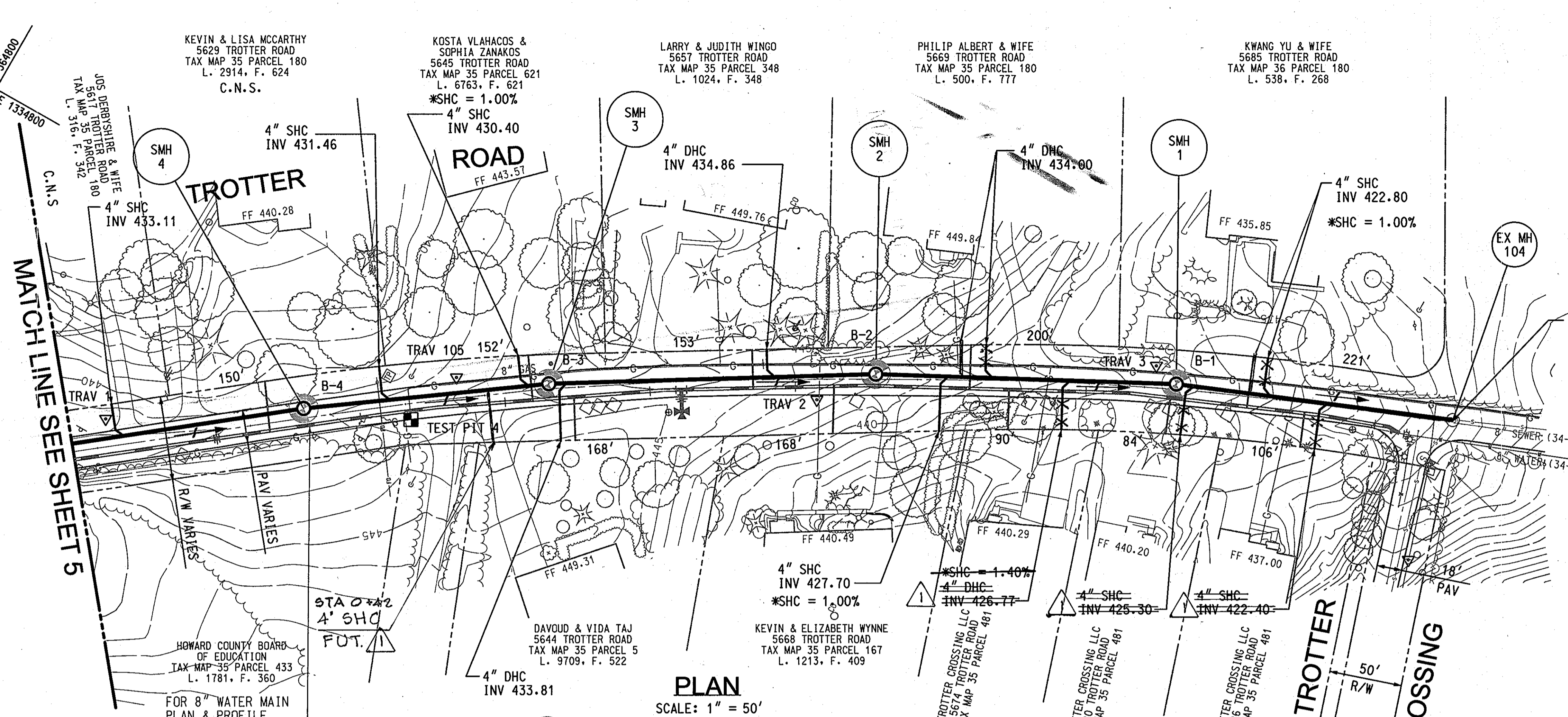
**TROTTER ROAD
WATER & SEWER MAIN EXTENSION**

CAPITAL PROJECT No. S-6698
CONTRACT No. 34-4805

ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND



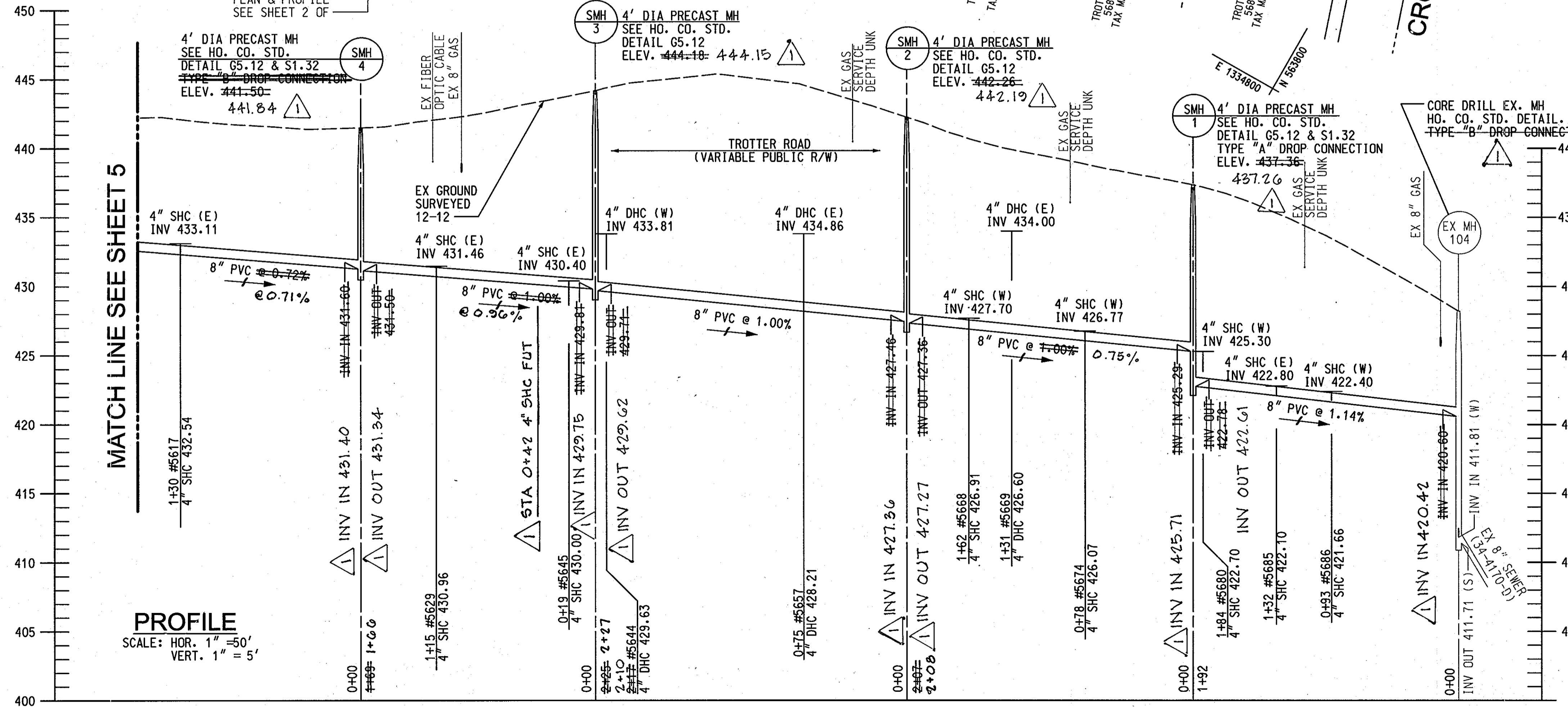
TRAVERSE COORDINATE SCHEDULE			
NUMBER	NORTHING	EASTING	ELEVATION
TRAV 1	564621.38	1334639.99	441.51
TRAV 2	564203.35	1334894.48	442.56
TRAV 3	564021.56	133503.04	437.30
TRAV 105	564426.23	1334784.77	442.32



SANITARY SEWER AS-BUILT COORDINATES		
NAME	NORTHING	EASTING
SMH 1	563994.78	1335027.46
SMH 2	564177.21	1334929.88
SMH 3	564370.49	1334809.74
SMH 4	564506.45	1334714.53

SANITARY SEWER STAKEOUT COORDINATES SCHEDULE		
NAME	NORTHING	EASTING
SMH 1	563994.33	1335026.90
SMH 2	564177.02	1334930.14
SMH 3	564368.92	1334812.53
SMH 4	564506.72	1334713.94

TEST PIT DATA			
TEST PIT NUMBER	UTILITY	MATERIAL	DEPTH
TEST PIT 4	8" GAS	PVC	3.36'

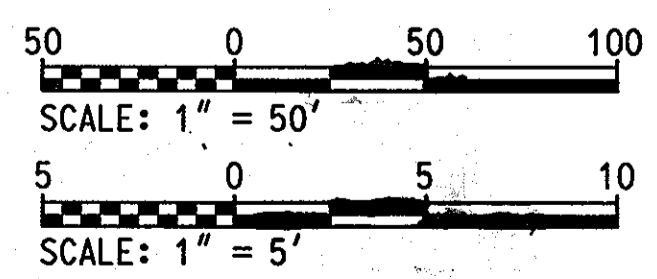


- NOTE:
- ALL SEWER HOUSE CONNECTIONS ARE AT 2% GRADE IN THE PUBLIC RIGHT-OF-WAY AND AT 2% GRADE ON PRIVATE PROPERTY UNLESS OTHERWISE SHOWN.
 - *SHC = SLOPE OF SHC ON PRIVATE PROPERTY.

AS-BUILT
DATE 11-13

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31363 EXPIRATION DATE: 1/16/2014

NOTE: MANHOLE COVER TO MEET EXISTING GRADE



PLOTTED: 10:15 PM on Thursday, June 13, 2013
BY: Craig Stevens Division: P042 Water-IW Emp
FILE: \\A:\2012\012728-4\Drawings\01272842-C04-IWS.dwg

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Jayden Chiles
DIRECTOR OF PUBLIC WORKS DATE

Thomas J. Butler
CHIEF, BUREAU OF ENGINEERING DATE

Debra K. ...
CHIEF, BUREAU OF UTILITIES DATE

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PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

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FAX: (410) 316-7818
WWW.KCI.COM

STATE OF MARYLAND
GUYANA WILSON
PROFESSIONAL ENGINEER
NO. 31363
6/17/2013

DES:	GS				
DRN:	GS				
CHK:	GW/TWW				
DATE:	6/11/2013				
BY:	NO.				
REVISION:	1	AS-BUILT			
DATE:	11-13				

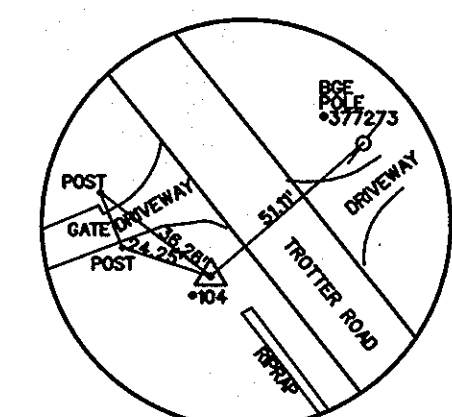
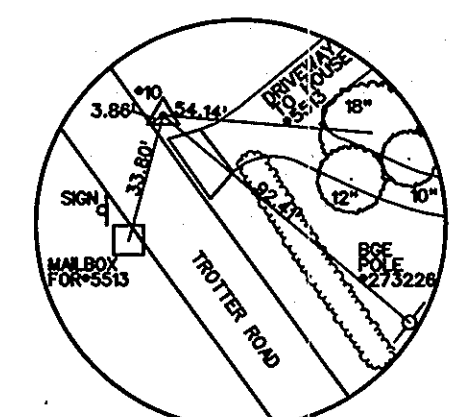
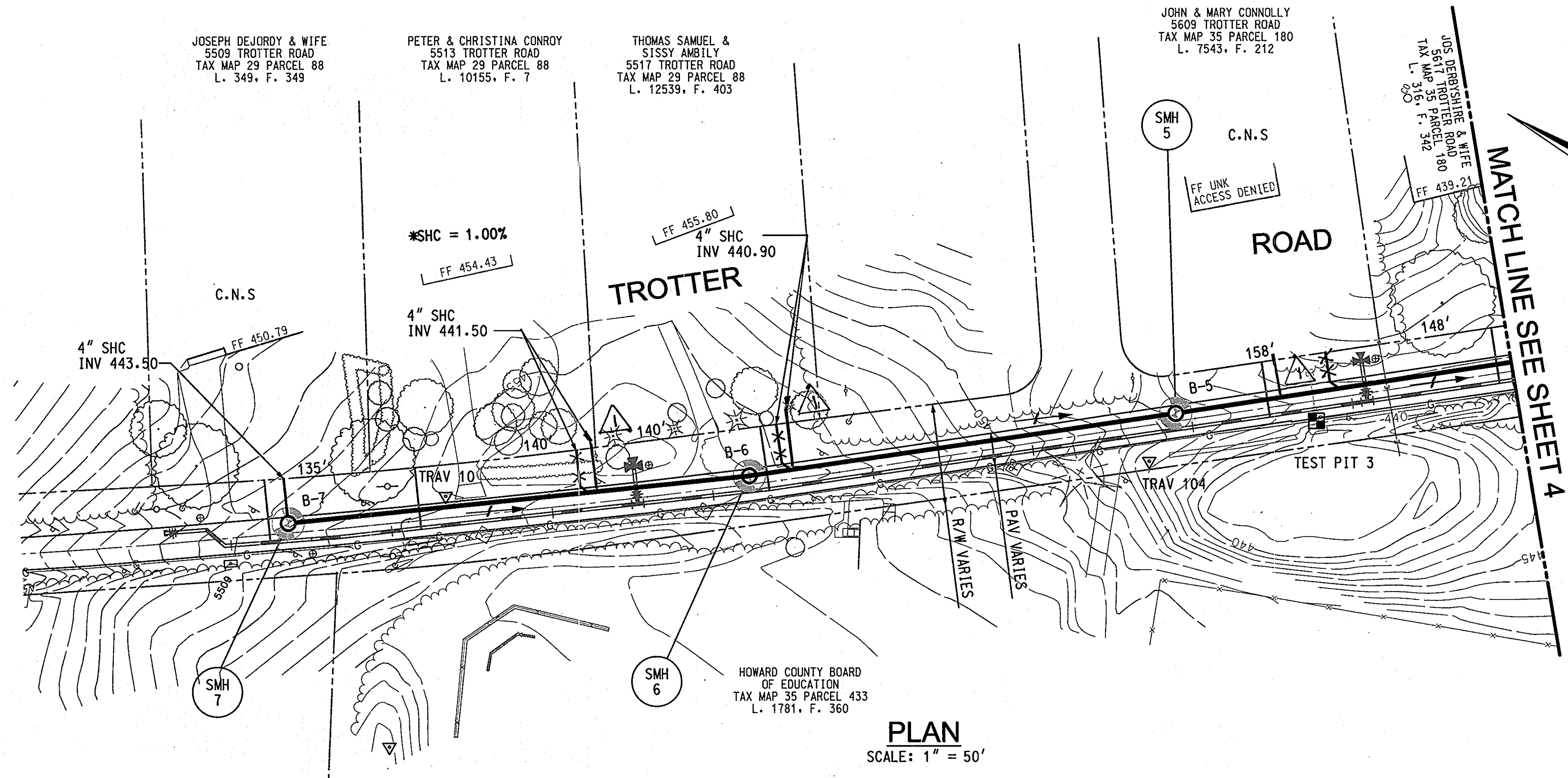
**8" SEWER MAIN
PLAN AND PROFILE**

600' SCALE MAP NO. 29 & 35 BLOCK NO. 20 & 2
ELECTION DISTRICT NO. 5

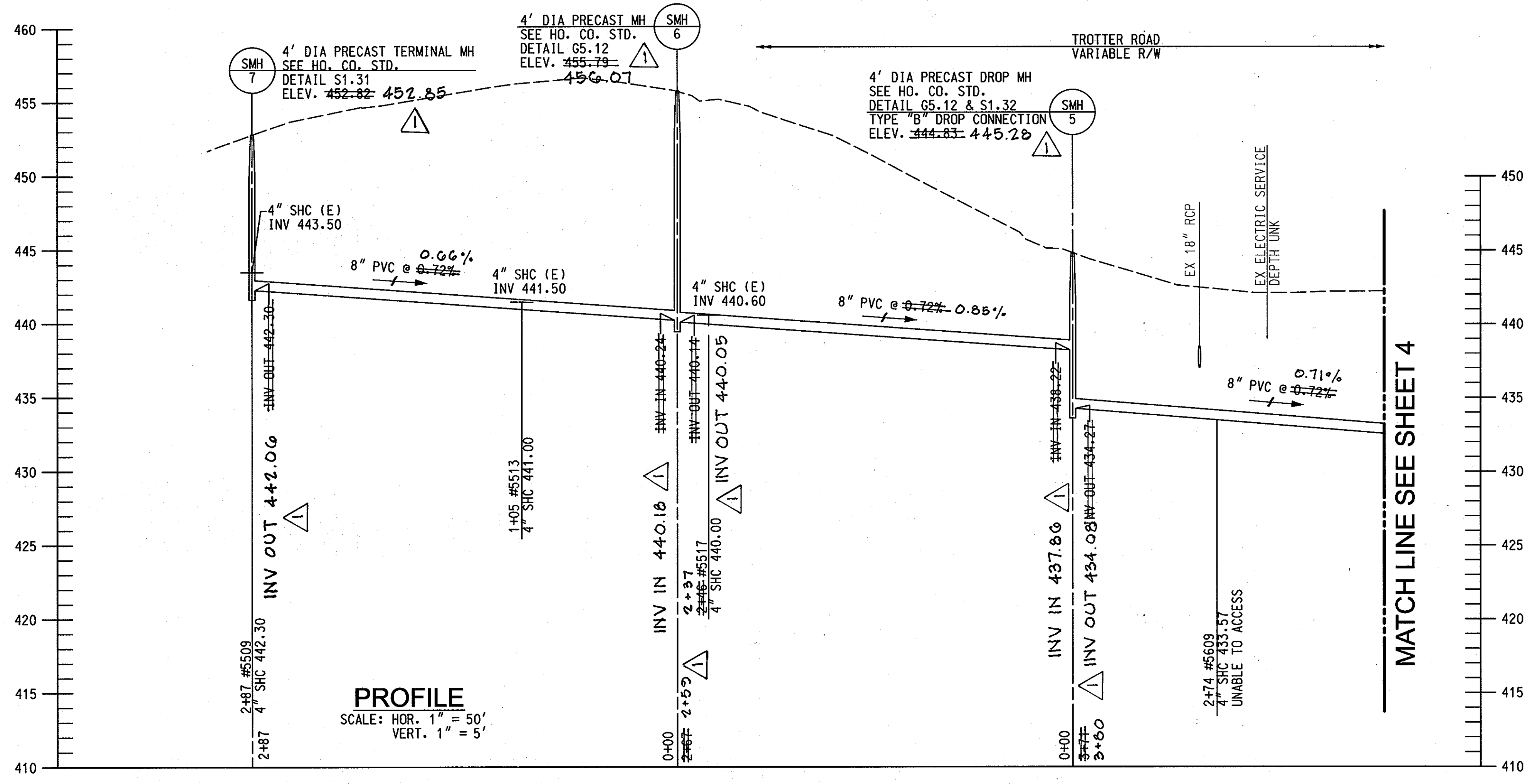
**TROTTER ROAD
WATER & SEWER MAIN EXTENSION**

CAPITAL PROJECT No. S-6698
CONTRACT No. 34-4805

HOWARD COUNTY, MARYLAND



TRAVERSE COORDINATE SCHEDULE			
NUMBER	NORTHING	EASTING	ELEVATION
TRAV 10	565164.22	1334213.83	454.89
TRAV 104	564797.01	1334448.95	445.15



NOTE:

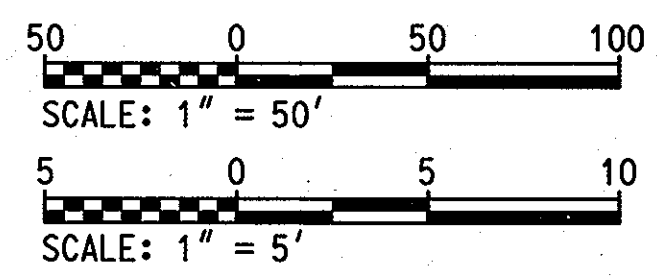
- ALL SEWER HOUSE CONNECTIONS ARE AT 2% GRADE IN THE PUBLIC RIGHT-OF-WAY AND AT 2% GRADE ON PRIVATE PROPERTY UNLESS OTHERWISE SHOWN.
- *SHC = SLOPE OF SHC ON PRIVATE PROPERTY.

NAME	NORTHING	EASTING
SMH 5	564803.01	1334470.91
SMH 6	565006.08	1334316.74
SMH 7	565240.74	1334149.78

SANITARY SEWER STAKEOUT COORDINATES SCHEDULE		
NAME	NORTHING	EASTING
SMH 5	564797.58	1334482.93
SMH 6	565007.35	1334318.11
SMH 7	565240.39	1334150.79

AS-BUILT
DATE 11-13

TEST PIT DATA			
TEST PIT NUMBER	UTILITY	MATERIAL	DEPTH
TEST PIT 3	8" GAS	PVC	2.06'



PLOTTED: 10:16 PM on Thursday, June 13, 2013
 BY: Craig Stevens Division: P042 Water-WW Emp
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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John J. ... 6/18/13
DIRECTOR OF PUBLIC WORKS DATE

Morgan ... 6/18/13
CHIEF, BUREAU OF ENGINEERING DATE

... 6/18/13
CHIEF, BUREAU OF UTILITIES DATE

... 6/18/13
CHIEF, UTILITY DESIGN DIVISION DATE

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WWW.KCI.COM

STATE OF MARYLAND
GUYANA WANG
PROFESSIONAL ENGINEER
6/17/2013

DES:	GS				
DRN:	GS				
CHK:	GW/TWW				
DATE:	6/11/2013	BY:	NO.		
REVISION:	400	DATE:	11-13		

**8" SEWER MAIN
PLAN AND PROFILE**

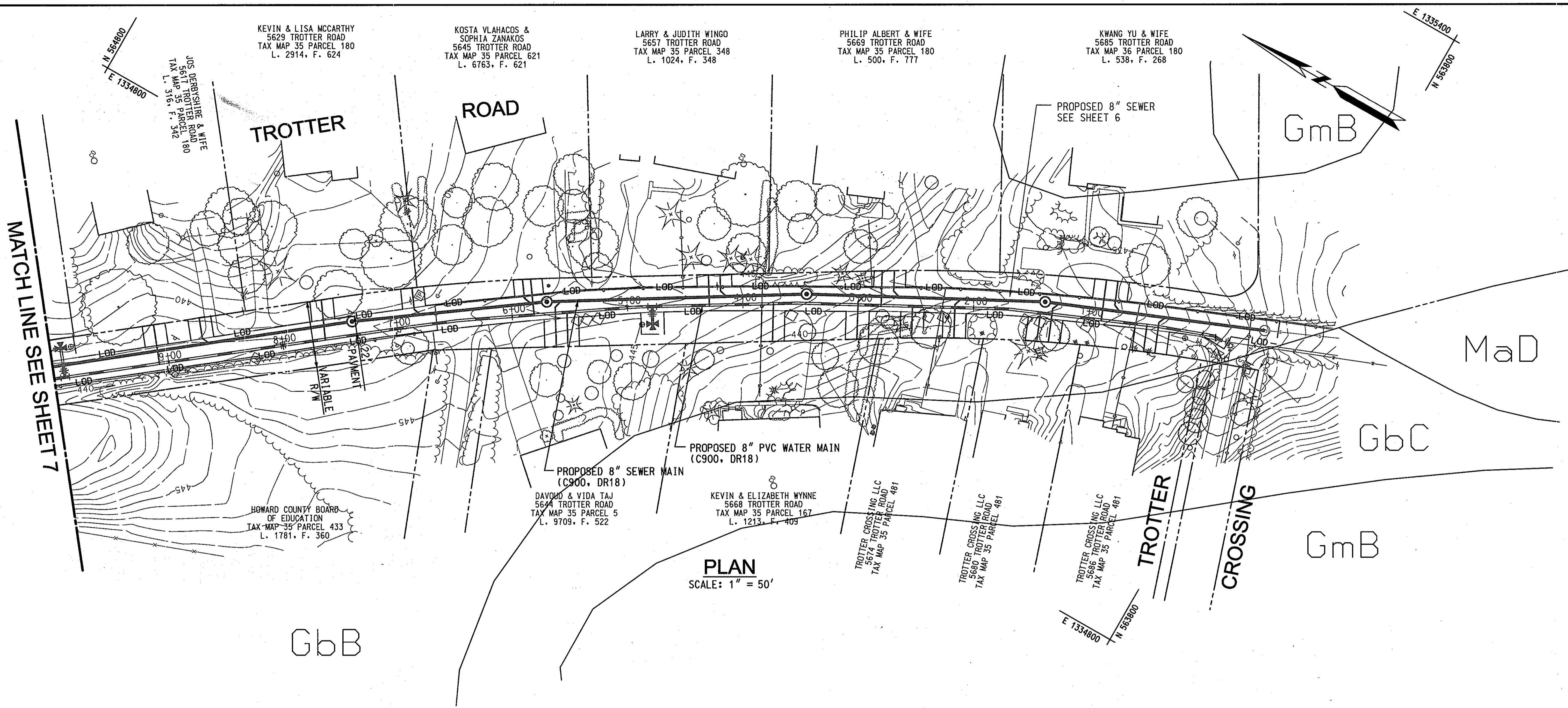
600' SCALE MAP NO. 29 & 35 BLOCK NO. 20 & 2

**TROTTER ROAD
WATER & SEWER MAIN EXTENSION**

CAPITAL PROJECT No. S-6698
CONTRACT No. 34-4805

ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE
AS SHOWN
SHEET
5 OF 9



PLAN
SCALE: 1" = 50'

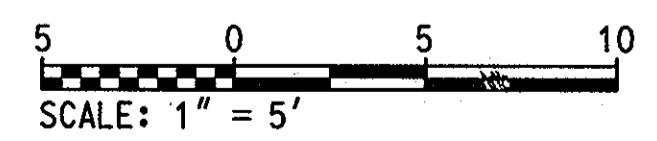
SOIL MAPPING UNIT:
 GbB: GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES
 GbC: GLADSTONE LOAM, 8 TO 15 PERCENT SLOPES
 GmB: GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES
 MaD: MANOR LOAM, 15 TO 25 PERCENT SLOPES

NOTE: IF REQUESTED BY THE SEDIMENT CONTROL INSPECTOR, THE CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION ENTRANCE. SEE DETAIL SHEET 8 OF 9

NOTE: FOR ALL TEMPORARY VEGETATIVE STABILIZATION REQUIRED DURING THE COURSE OF CONSTRUCTION ON THIS PROJECT REFER TO SECTION B-4-4 OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".

FOR ALL PERMANENT VEGETATIVE STABILIZATION REQUIRED DURING CONSTRUCTION OF THIS PROJECT OR AFTER COMPLETION OF THE UTILITY INSTALLATION REFER TO SECTION B-4-5 OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".

AS-BUILT
DATE: 11-13



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31363 EXPIRATION DATE: 1/16/2014

PLOTTED: 10:17 PM on Thursday, June 13, 2013
By: Craig Stevens Division: P042 Water-WW Emp
File: \\MS-007\DD712728-4\Drawings\017127284-C06-MS.dgn

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 6/12/13
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 6/12/13
CHIEF, BUREAU OF ENGINEERING DATE

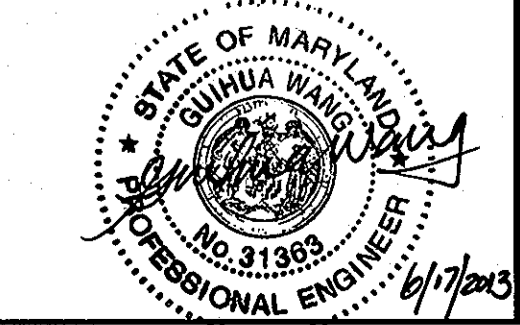
[Signature] 6/12/13
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 6/12/13
CHIEF, UTILITY DESIGN DIVISION DATE

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TELEPHONE: (410) 316-7800
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DES: GS					
DRN: GS					
CHK: GW/TWW					
DATE: 6/11/2013	BY	NO.	REVISION	DATE	

SEDIMENT AND EROSION CONTROL PLAN

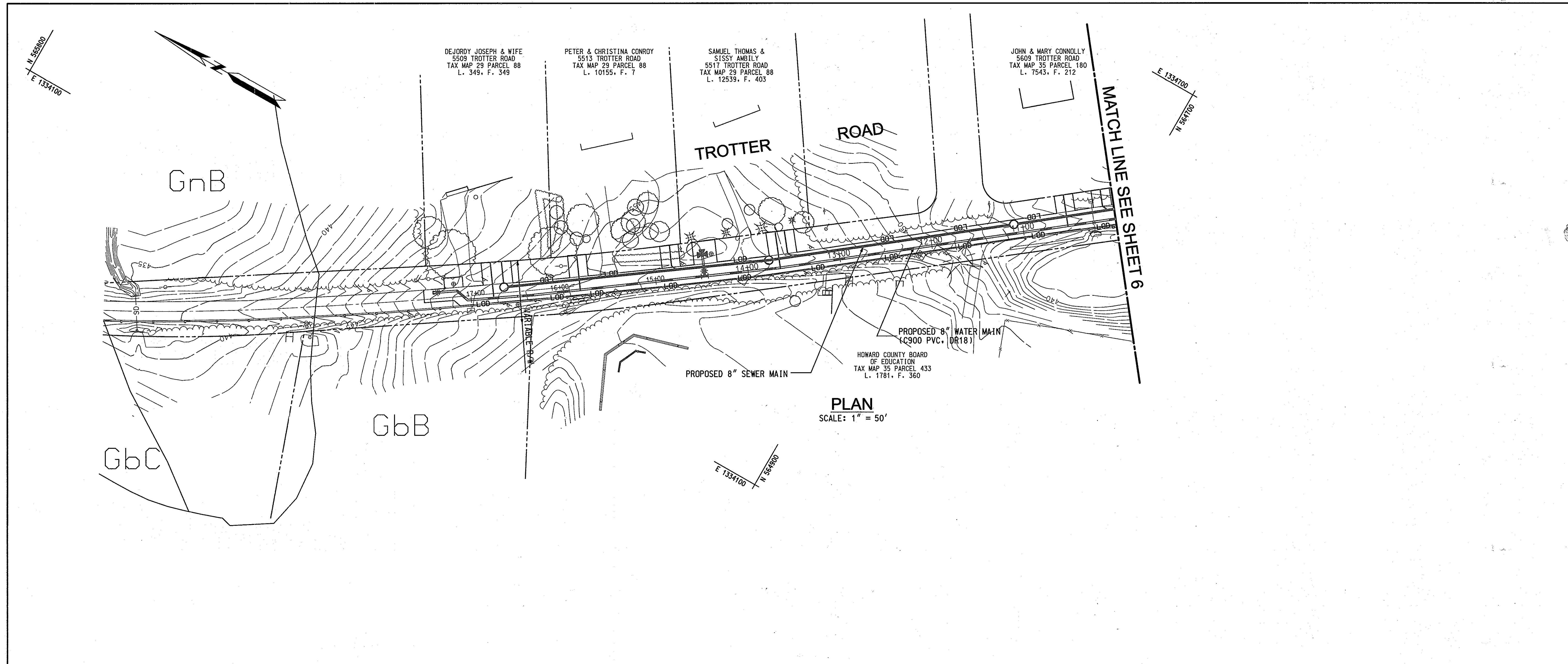
600' SCALE MAP NO. 29 & 35 BLOCK NO. 20 & 2

TROTTER ROAD WATER & SEWER MAIN EXTENSION

CAPITAL PROJECT No. S-6698
CONTRACT No. 34-4805

ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 6 OF 9

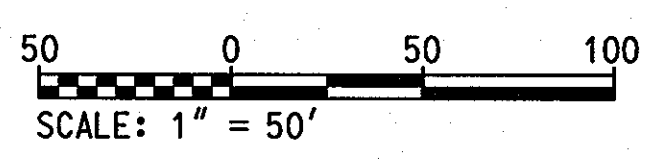


PLAN
SCALE: 1" = 50'

SOIL MAPPING UNIT:
 GbB: GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES
 GbC: GLADSTONE LOAM: 8 TO 15 PERCENT SLOPES
 GbN: GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES

NOTE: FOR ALL TEMPORARY VEGETATIVE STABILIZATION REQUIRED DURING THE COURSE OF CONSTRUCTION ON THIS PROJECT REFER TO SECTION B-4-4 OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".

FOR ALL PERMANENT VEGETATIVE STABILIZATION REQUIRED DURING CONSTRUCTION OF THIS PROJECT OR AFTER COMPLETION OF THE UTILITY INSTALLATION REFER TO SECTION B-4-5 OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".

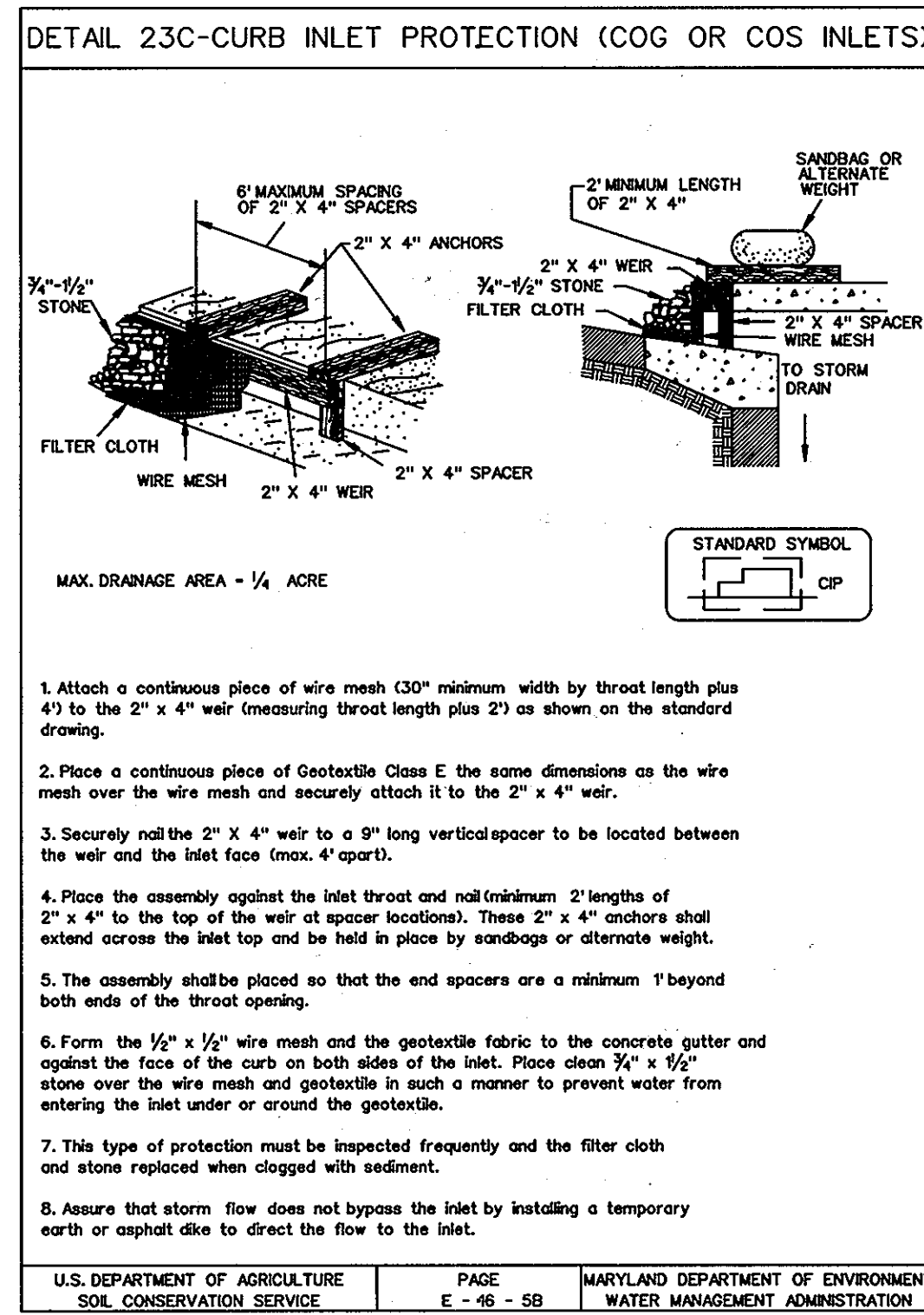
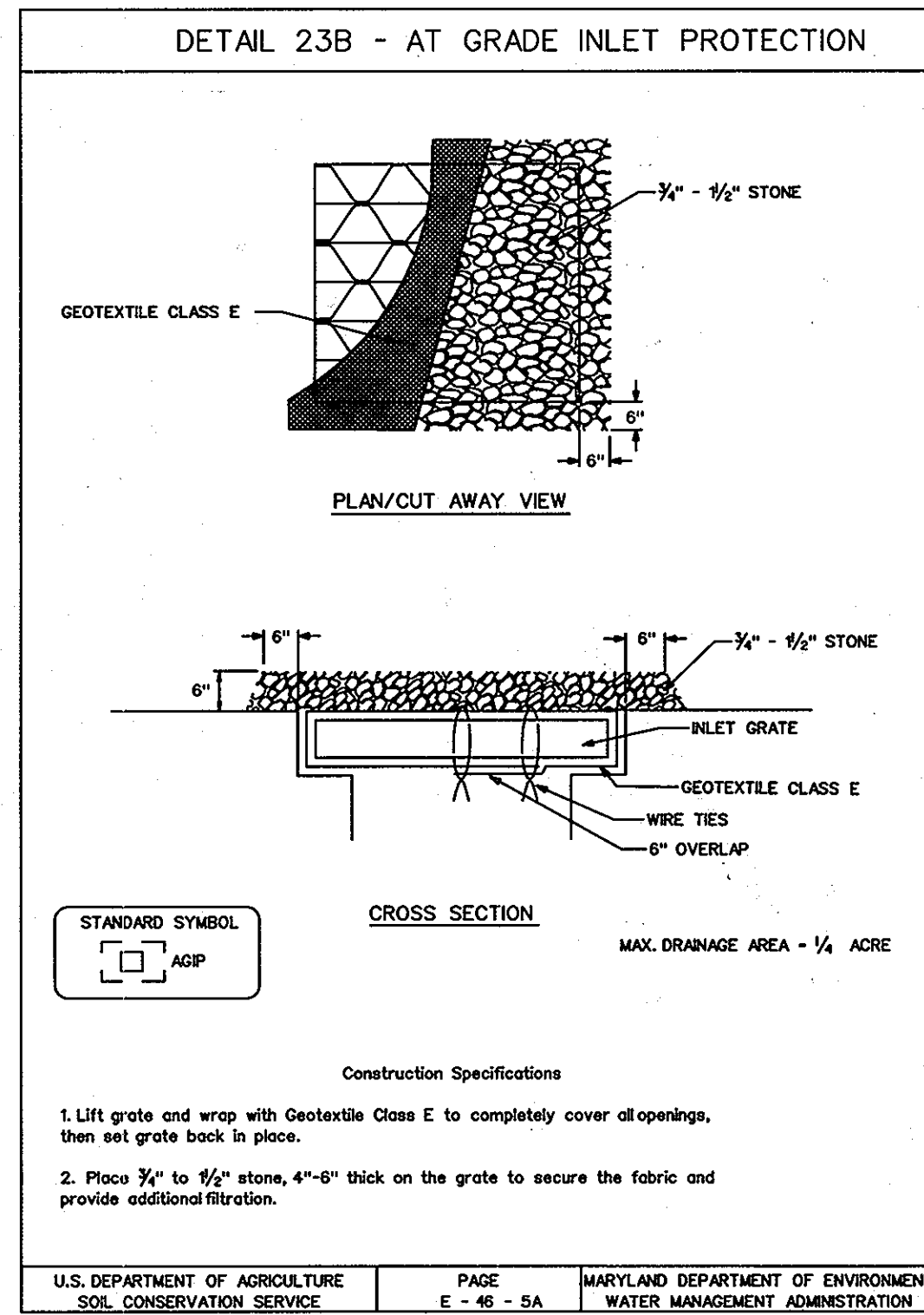
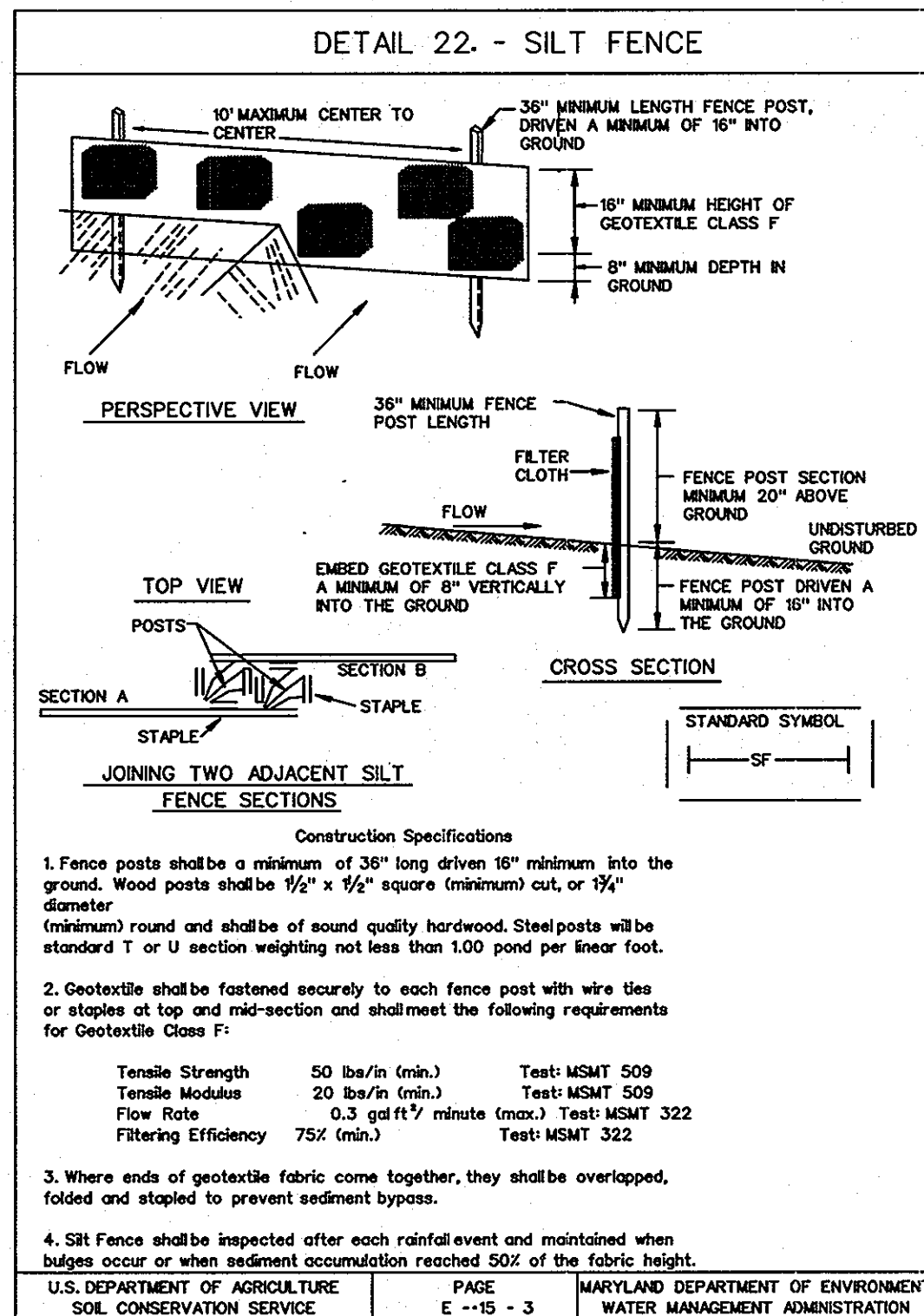


AS-BUILT
DATE 11-13

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31363. EXPIRATION DATE: 1/16/2014

PLOTTED: 10:17 PM on Thursday, June 13, 2013
 BY: Craig Stevens Division: P042 Water-IW Emp
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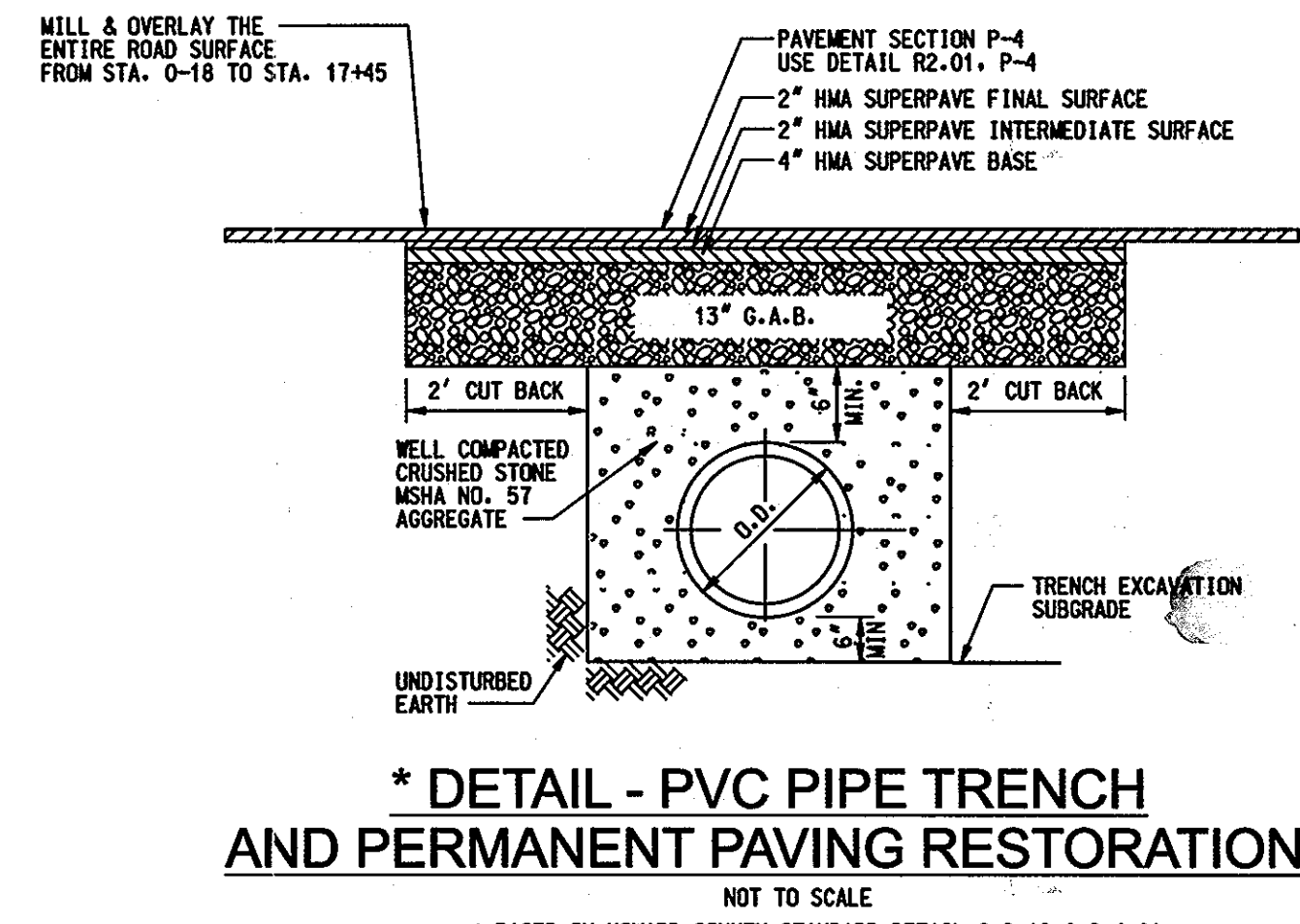
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>[Signature]</i> DATE: 6/18/13 Chief, Bureau of Utilities: <i>[Signature]</i> DATE: 6/18/13		 ENGINEERS, PLANNERS, SCIENTISTS, CONSTRUCTION MANAGERS 936 RIDGEBROOK ROAD SHARPS, MARYLAND 21152 TELEPHONE: (410) 316-7800 FAX: (410) 316-7818 www.kci.com				DES: GS DRN: GS CHK: GW/TWW DATE: 6/11/2013 BY NO. REVISION DATE		SEDIMENT AND EROSION CONTROL PLAN 600' SCALE MAP NO. 29 & 35 BLOCK NO. 20 & 2		TROTTER ROAD WATER & SEWER MAIN EXTENSION CAPITAL PROJECT No. S-6698 CONTRACT No. 34-4805 ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND		SCALE AS SHOWN SHEET 7 OF 9
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STANDARD SEDIMENT CONTROL NOTES

- 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. (319-1055).
- 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 THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
 - 14 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 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.
- 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 (SEC. 608.01) FOR PERMANENT SEEDINGS, SOIL, TEMPORARY SEEDING AND MULCHING. TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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.
- SITE ANALYSIS:

TOTAL AREA OF SITE	0.45 ACRES	
AREA DISTURBED	0.45 ACRES	0.93 ACRES
AREA TO BE ROOFED OR PAVED		N/A ACRES
AREA TO BE VEGETATIVELY STABILIZED		N/A ACRES
TOTAL CUT	N/A	CU. YDS.
TOTAL FILL	N/A	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	N/A	
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF THE DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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 CONTROLS, BUT 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.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- CONTRACTOR SHALL PLACE EXCAVATED MATERIALS ON UPHILL SIDE OF TRENCH AND PLACE SILT FENCE ON DOWNHILL SIDE OF TRENCH.

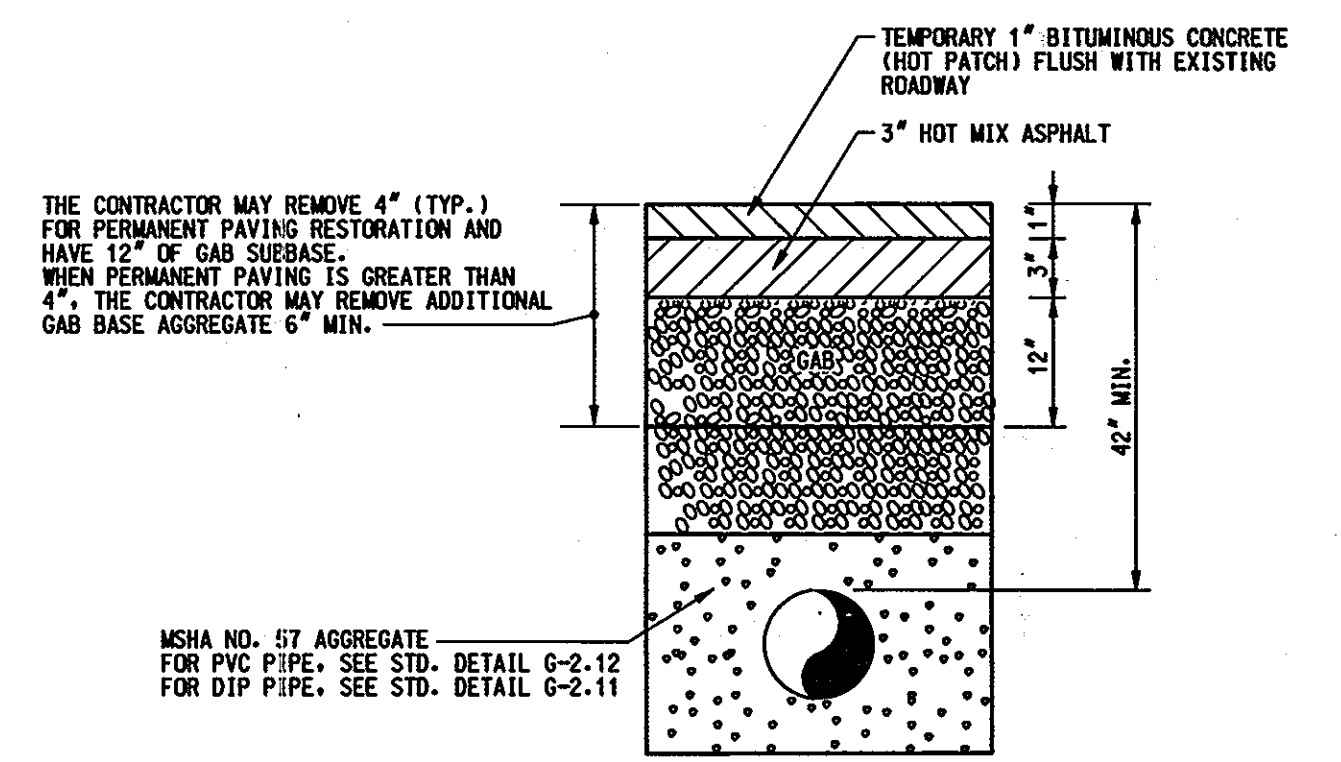


TRAFFIC MAINTENANCE

FOR TRAFFIC MAINTENANCE REQUIREMENTS SEE SPECIFICATION DOCUMENT D, PARAGRAPH 15 AND SHEET 14 "M.O.T. /TRAFFIC CONTROL"

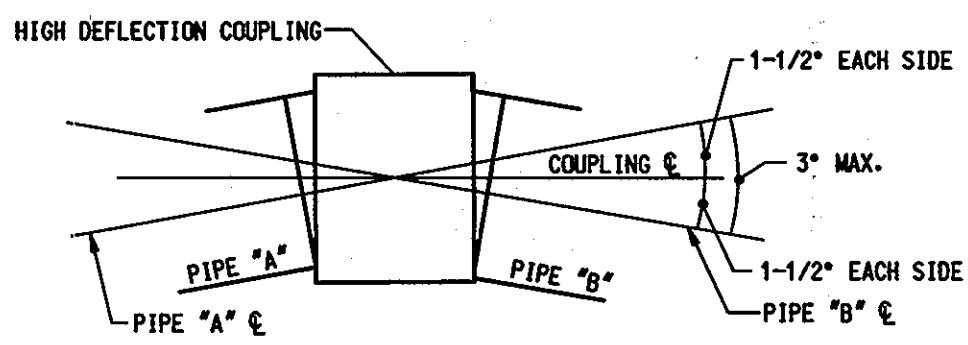
SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT
- REQUEST PRE-CONSTRUCTION MEETING ON-SITE WITH REPRESENTATIVE OF HOWARD COUNTY SOIL CONSERVATION.
- LAYOUT ALIGNMENT AT SITE. (2 DAYS)
- CLEAR AND GRUB AS NEEDED FOR THE INSTALLATION OF THE SEDIMENT CONTROL DEVICES AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR. INSTALL AND STABILIZE SEDIMENT CONTROL DEVICES IF NECESSARY.
- INSTALL TRAFFIC CONTROL SIGNS IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.
- EXCAVATE TRENCH TO THE GRADE SPECIFIED ON THE SEWER MAIN PROFILES. INSTALL SEWER MAIN AND STABILIZE OR BACKFILL TRENCH. SEE DETAIL ON SHEET 9 OF 9 FOR TYPICAL TRENCH DETAIL. DURING THE COURSE OF CONSTRUCTION, TRENCHES FOR THE CONSTRUCTION OF THE NEW SEWER MAIN SHALL BE LIMITED TO 25' OF PIPE LENGTH OR THAT WHICH CAN BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- EXCAVATE TRENCH TO THE GRADE SPECIFIED ON THE WATER MAIN PROFILES. INSTALL WATER MAIN AND STABILIZE OR BACKFILL TRENCH. SEE DETAIL ON SHEET 9 OF 9 FOR TYPICAL TRENCH DETAIL. DURING THE COURSE OF CONSTRUCTION, TRENCHES FOR THE CONSTRUCTION OF THE NEW WATER MAIN SHALL BE LIMITED TO 25' OF PIPE LENGTH OR THAT WHICH CAN BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- ALL VEGETATED AREAS DISTURBED DURING THE COURSE OF CONSTRUCTION SHALL BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SECTION B-4-4 OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" AT THE END OF EACH DAY. ALL DISTURBED PAVING AREAS WITHIN THE EXISTING ROAD SHALL BE TEMPORARILY PATCHED. SEE TEMPORARY PAVING DETAIL ON SHEET 9 OF 9 AT THE END OF EACH WORKING DAY.
- THE ESTIMATED CONSTRUCTION TIME FOR THE SEWER MAIN IS 45 DAYS.
- ALL VEGETATED AREAS DISTURBED DURING THE COURSE OF CONSTRUCTION SHALL BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SECTION B-4-4 OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" AT THE END OF EACH DAY. ALL DISTURBED PAVING AREAS WITHIN THE EXISTING ROAD SHALL BE TEMPORARILY PATCHED. SEE TEMPORARY PAVING DETAIL ON SHEET 9 OF 9 AT THE END OF EACH WORKING DAY.
- THE ESTIMATED CONSTRUCTION TIME FOR THE WATER MAIN IS 30 DAYS.
- PERMANENTLY STABILIZE ALL DISTURBED VEGETATED AREAS IN ACCORDANCE WITH SECTION B-4-5 OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".
- PERMANENTLY REPAIR ALL DISTURBED PAVING AREAS IN ACCORDANCE WITH THE DETAIL ON SHEET 9 OF 9.
- CLEAN UP CONSTRUCTION SITE. (1 DAY)
- REMOVE SEDIMENT CONTROL DEVICES AFTER PERMISSION IS GRANTED BY THE SEDIMENT CONTROL INSPECTOR.
- STABILIZE OF AREAS THAT ARE DISTURBED BY REMOVAL OF SEDIMENT CONTROL DEVICES.



DETAIL - TEMPORARY PAVING RESTORATION

NOT TO SCALE



HIGH DEFLECTION COUPLING INSTALLATION FOR HORIZONTAL AND VERTICAL DEFLECTION

NOT TO SCALE

AS-BUILT
DATE 11-13

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31363 EXPIRATION DATE: 1/16/2014

PLOTTED: 10:23:32 PM on Monday, June 17, 2013
BY: Chulian Wang, Division: P042, Water-WW, Emp. No. 10007, User: 10007, Plotter: HP DesignJet T1100, Plot: 10007-001272847-C08-185.dwg

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Jiang Chen 6/18/13
DIRECTOR OF PUBLIC WORKS DATE

Chun Chen 6/18/13
CHIEF, BUREAU OF UTILITIES DATE

Monica Smith 6/18/13
CHIEF, BUREAU OF ENGINEERING DATE

Wei Wang 6/18/13
CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI TECHNOLOGIES

936 RIDGEBROOK ROAD
SPRINGFIELD, MARYLAND 21152
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STATE OF MARYLAND
QUIQUA WASHINGTON
PROFESSIONAL ENGINEER
NO. 31363
6/17/2013

DES:	GS				
DRN:	GS				
CHK:	GW/TWW				
DATE:	6/11/2013	BY	NO.	REVISION	DATE

SEDIMENT AND EROSION CONTROL
NOTES AND DETAILS

TROTTER ROAD
WATER & SEWER MAIN EXTENSION
CAPITAL PROJECT No. S-6698
CONTRACT No. 34-4805

ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 8 OF 9

SEQUENCE OF CONSTRUCTION

1. CONSTRUCT WATER MAIN EXTENSION FROM STA. 0+00 TO STA. 17+45 USING MDSA STANDARD NO. 104.02-10 (FLAGGING OPERATION/2-LANE, 2-WAY)
2. CONSTRUCT SEWER MAIN EXTENSION FROM SMH*1 TO SMH*7 BY CLOSING TROTTER ROAD AND DETOURING TRAFFIC AS SHOWN.

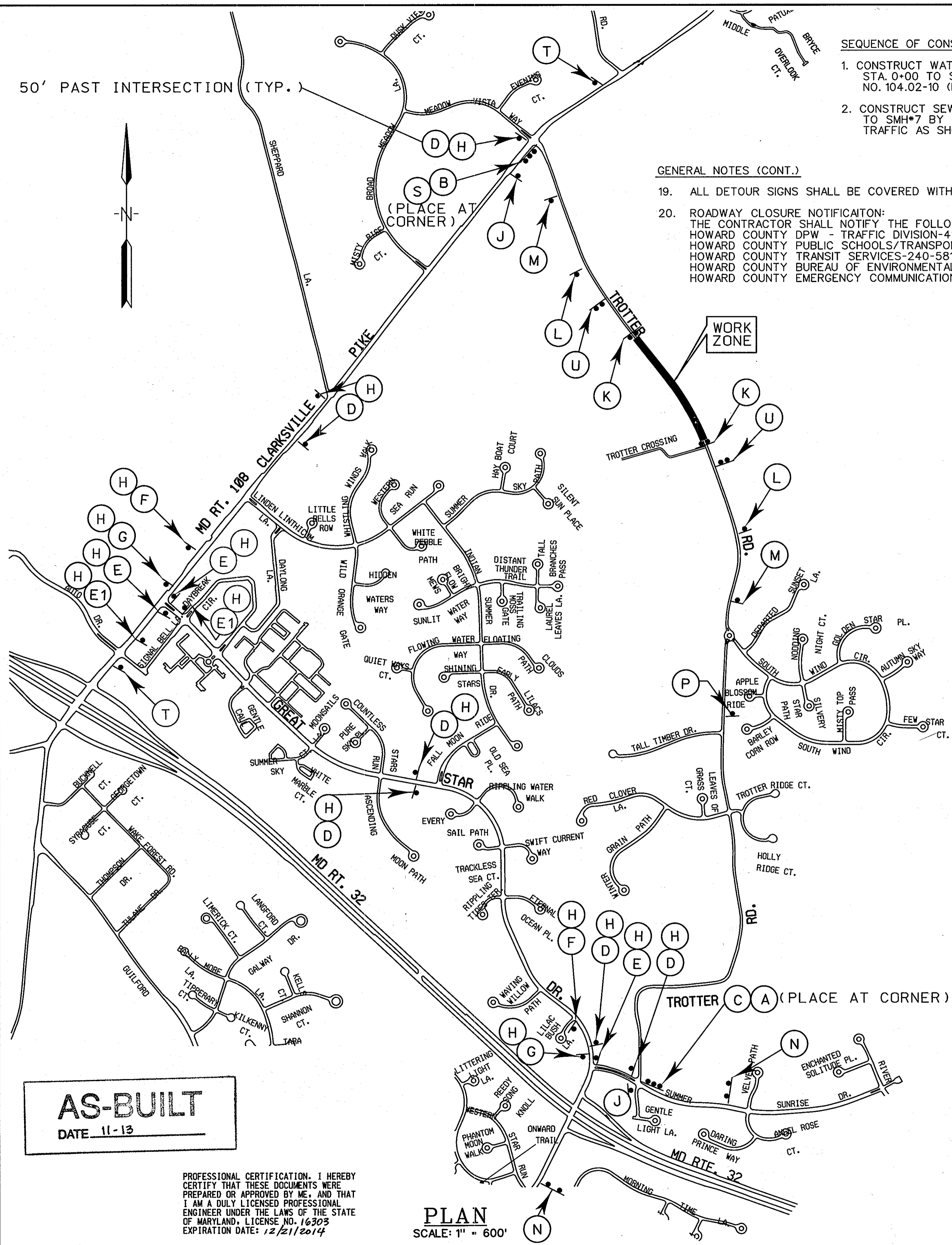
GENERAL NOTES (CONT.)

19. ALL DETOUR SIGNS SHALL BE COVERED WITH OPAQUE MATERIAL UNTIL THE ROAD IS CLOSED.
20. ROADWAY CLOSURE NOTIFICATION: THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES AT LEAST 4 WEEKS IN ADVANCE.
 HOWARD COUNTY DPW - TRAFFIC DIVISION-410-313-2430
 HOWARD COUNTY PUBLIC SCHOOLS/TRANSPORTATION DIVISION-410-313-6728 (IF DURING SCHOOL TIMES)
 HOWARD COUNTY TRANSIT SERVICES-240-581-5800
 HOWARD COUNTY BUREAU OF ENVIRONMENTAL SERVICES-410-313-6470
 HOWARD COUNTY EMERGENCY COMMUNICATIONS/911 CENTER-410-313-2300

TRAFFIC CONTROL NOTES

1. ALL STANDARD REGULATORY AND WARNING SIGNS USED FOR MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).
2. ALL TEMPORARY TRAFFIC SIGNS SHALL BE INSTALLED IN ACCORDANCE TO MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, MDSA BOOK OF STANDARDS, AND NCHRP 350.
3. ALL BARRICADES AND OTHER TRAFFIC CONTROL DEVICES MUST BE IN ACCORDANCE WITH THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).
4. ALL BARRICADES MUST MEET AND HAVE BEEN TESTED UNDER THE NCHRP 350 CRASH CRITERIA.
5. ALL DETOUR SIGNS SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT EXISTING TRAFFIC CONTROL DEVICES (MINIMUM 200' SPACING).
6. ANY CORRECTIONS, MODIFICATIONS, OR ADDITIONS TO THIS PLAN MUST BE APPROVED BY THE HOWARD COUNTY DEPT. OF PUBLIC WORKS TRAFFIC DIVISION.
7. MISS UTILITY MUST BE NOTIFIED PRIOR TO PLACEMENT OF SIGNING, IF MOUNTING ON POSTS.
8. SIGN INSTALLATION SHALL NOT LAST ANY LONGER THAN 15 MINUTES PER LOCATION. IF LONGER THAN 15 MINUTES APPROPRIATE TRAFFIC CONTROL AND PERMITS MUST BE USED.
9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL TRAFFIC CONTROL DEVICES. AT ANYTIME THE CONTRACTOR DOES NOT MAKE NECESSARY REPAIRS WITHIN 24 HOURS OF NOTIFICATION, APPROPRIATE WORK TIME REDUCTION AND/OR FINES MAY BE APPLIED.
10. THE HOWARD COUNTY TRAFFIC ENGINEER SHALL DETERMINE EXACT PLACEMENT OF THE TYPE III BARRICADES.
11. ALL SIGNS SHALL CONFORM TO CURRENT MDSA MATERIAL AND REFLECTIVITY REQUIREMENTS.
12. ALL DRIVEWAY ENTRANCES MUST BE MAINTAINED AT ALL TIMES.
13. THE DAILY TRENCHING OPERATION SHALL NOT EXTEND MORE THAN 30 FEET IN ADVANCE OF THE PIPE LAYING OPERATION. THE ROADWAY SHALL BE OPENED TO TWO FULL LANES AT THE END OF EACH WORK DAY.
14. ALL SIGNS SHALL BE COVERED OR REMOVED AT THE END OF THE WORKDAY.
15. IT IS ESTIMATED THAT THE ROAD CLOSURE WILL BE IN EFFECT FOR FORTY-FIVE (45) DAYS.
16. SIGN "U" TO BE INSTALLED 14 DAYS PRIOR TO APPROVAL DAY OF CLOSURE.
17. ALL SIGN LOCATIONS SHALL BE MARKED AND/OR APPROVED BY HOWARD COUNTY TRAFFIC (410-313-2430) PRIOR TO THE INSTALLATION OF ANY SIGNS.
18. ALL FLAGGERS SHALL BE CERTIFIED BY THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION.

50' PAST INTERSECTION (TYP.)



TRAFFIC SIGNS USAGE TABLE

SIGN	SIZE	QUANTITY	TOTAL S.F.	REMARKS	SIGN	SIZE	QUANTITY	TOTAL S.F.	REMARKS			
A	DETOUR	M4-10L 48"x18" (6 S.F.) BK/O	1	6	MOUNT ON TYPE III BARRICADE	L	ROAD CLOSED 800 FT	W20-3(1) 48"x48" (16 S.F.) BK/O	2	32.0		
B	DETOUR	M4-10R 48"x18" (6 S.F.) BK/O	1	6.0	MOUNT ON TYPE III BARRICADE	M	ROAD CLOSED 1500 FT	W20-3(1) 48"x48" (16 S.F.) BK/O	2	32.0		
C	ROAD CLOSED 1.4 MILES AHEAD LOCAL TRAFFIC ONLY	R11-3a 60"x30" (12.5 S.F.) BK/W	1	12.5	MOUNT ON TYPE III BARRICADE	N	NOTICE TROTTER ROAD CLOSED 1/4 MILE NORTH OF SUMMER SUNRISE FOLLOW DETOUR	BK/Y BK/W BK/O	R11-2(7)(MOD) 60"x48" (20 S.F.)	2	40.0	MOUNT ON TYPE III BARRICADE
D	DETOUR	M4-9(MOD.) 30"x24" (5 S.F.) BK/O	7	35.0		P	ROAD CLOSED 1/2 MILE	W20-3(1) 48"x48" (16 S.F.) BK/O	1	16.0		
E	DETOUR	M4-9R 30"x24" (5 S.F.) BK/O	3	15.0	SIGN MUST BE PLACED WITHIN 50' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY	S	ROAD CLOSED AHEAD LOCAL TRAFFIC ONLY	R11-3a(MOD.) 60"x30" (12.5 S.F.) BK/W	1	12.5		
E1	DETOUR	M4-9R(MOD.) 30"x24" (5 S.F.) BK/O	2	10.0	SIGN MUST BE PLACED WITHIN 200' TO 800' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY	Q	ONE LANE ROAD 1500 FT	W20-3(1) 48"x48" (16 S.F.) BK/O	3	48.0	SIGN NOT SHOWN ON PLAN TO BE USED DURING FLAGGING OPERATION	
F	DETOUR	M4-9L(MOD.) 30"x24" (5 S.F.) BK/O	2	10.0	SIGN MUST BE PLACED WITHIN 200' TO 800' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY	R	PEDESTRIAN	W20-7a 48"x48" (16 S.F.) BK/O	3	48.0	SIGN NOT SHOWN ON PLAN TO BE USED DURING FLAGGING OPERATION	
G	DETOUR	M4-9L 30"x24" (5 S.F.) BK/O	2	10.0	SIGN MUST BE PLACED WITHIN 50' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY	T	NOTICE TROTTER ROAD TO BE CLOSED 1/4 MILE SOUTH OF MD 108 FOLLOW DETOUR	BK/Y BK/W BK/O	R11-2(7)(MOD) 60"x48" (20 S.F.)	2	40.0	MOUNT ON TYPE III BARRICADE
H	TROTTER ROAD	M4-9(1) 30"x12"(MIN.) (2.5 S.F.) BK/W	16	40.0	MIN. 6 INCH LETTER SIZE SIGN SHALL BE PLACED ABOVE ALL M4-9 SERIES SIGNS. WIDTH MAY NOT EXCEED 30 INCHES.	U	NOTICE TROTTER ROAD TO BE CLOSED ON OR ABOUT MONTH DATE WFO CALL 410-313-2300	BK/Y BK/W BK/O	R11-2(7)(MOD) 60"x48" (20 S.F.)	2	40.0	MOUNT ON TYPE III BARRICADE
J	END DETOUR	M4-8a(1) 36"x24" (6 S.F.) BK/O	2	12.0								
K	ROAD CLOSED	R11-2 48"x30" (10 S.F.) BK/W	2	20.0	MOUNT ON TYPE III BARRICADE (USE TWO TYPE III PER DIRECTION)							

AS-BUILT
DATE 11-13

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16303 EXPIRATION DATE: 12/21/2014

PLAN
SCALE: 1" = 600'

PLOTTED: 10:18 PM on Thursday, June 13, 2013
By: Craig Stevens Division: 2042 Water-WW Emp
FILE: H:\A\2007\00712728-4-2\Drawings\07127281-C09-MS.dwg

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John A. Galt 6/13/13
DIRECTOR OF PUBLIC WORKS DATE

Matthew J. Sutter 6/13/13
CHIEF, BUREAU OF ENGINEERING DATE

Debra L. ... 6/13/13
CHIEF, BUREAU OF UTILITIES DATE

... 6/13/13
CHIEF, UTILITY DESIGN DIVISION DATE

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STATE OF MARYLAND
PROFESSIONAL ENGINEER

...
06-17-13

DES: AMH			
DRN: AMH			
CHK: JFL			
DATE: 6/11/2013	BY	NO.	
			REVISION
			DATE

TRAFFIC CONTROL PLAN

600' SCALE MAP NO. 29 & 35 BLOCK NO. 20 & 2

TROTTER ROAD WATER & SEWER MAIN EXTENSION

CAPITAL PROJECT No. S-6698
CONTRACT No. 34-4805

ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 9 OF 9