SANCTUARY COURT WATER MAIN REPLACEMENT

GENERAL NOTES

- 1. APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN INTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- 2. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED IN MAY 2013 BY KCI TECHNOLOGIES, INC.
- 3. 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. 37GF AND NO. 37GI. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE REBAR & CAPS.
- 4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- 5. 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.
- 6. 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
- 7. 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 DRAWIGNS. 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.
- 8. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

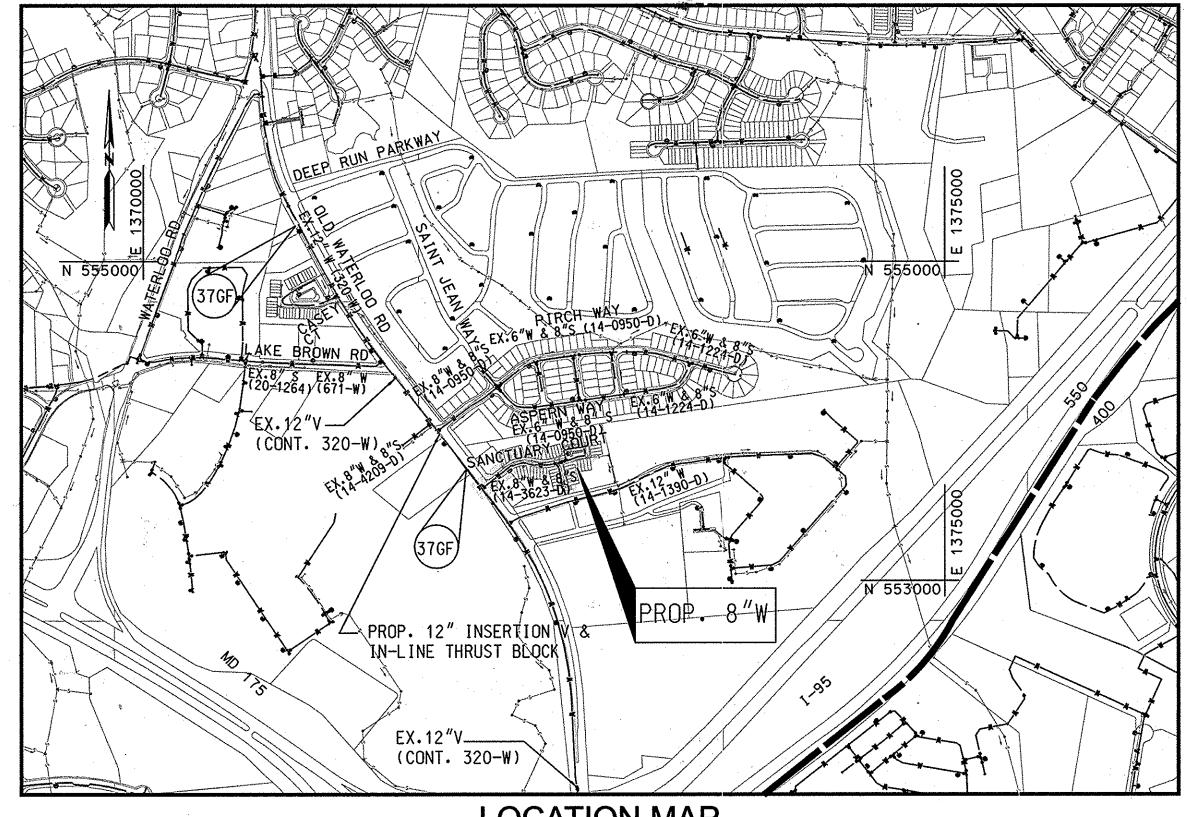
	The first of the control of the cont	and the state of t
	AT & T	1-800-252-1133
	BGE (CONTRACTOR SERVICES)	410-637-8713
	BGE (UNDERGROUND DAMAGE CONTROL)	
	BGE (EMERGENCY)	410-685-0123
	BUREAU OF UTILITIES	410-313-4900
	COLONIAL PIPELINE CO	410-795-1390
:	MISS UTILITY	1-800-257-7777
	STATE HIGHWAY ADMINISTRATION	410-531-5533
	VERIZON	1-800-743-0033
	MCI WORLDCOM	

- 9. 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.
- 10. CONTRACTOR SHALL REMOVE TREES, STUMPS, AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL
- 11. 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 HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS SECTION 18.114(A) OF HOWARD COUNTY CODE.
- 12. EXCEPT AS INDICATED ON THE PLANS, ALL PUBLIC WATER MAINS (INCLUDING HYDRANT AND BLOW-OFF LEADS) SHALL BE POLYVINYL CHLORIDE (PVC) AWWA C900 PIPE MEETING THE REQUIREMENTS OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND ALL SUBSEQUENT AMENDMENTS THERETO.
- 13. ALL PROPOSED PVC C900 WATER MAIN PIPING SHALL BE PRESSURE CLASS 305 (DR 14).
- 14. 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.
- 15. 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 C907 FOR PRESSURE CLASS 235 PVC PIPE; FABRICATED PER AWWA C900 FOR PRESSURE CLASS 305 PVC PIPE).
- 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.
- 16. PIPE RESTRAINT SHALL BE PROVIDED IN THE FOLLOWING MANNER USING SYSTEMS MANUFACTURED BY EBAA IRON INC. OR APPROVED EQUALS 1) ALL DUCTILE IRON MECHANICAL JOINT FITTINGS (INCLUDING MECHANICAL JOINT HYDRANT CONNECTIONS) SHALL BE RESTRAINED USING THE SERIES 2000 PVC MECHANICAL JOINT FITTING RESTRAINT SYSTEM, 2) 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.
 3) 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).
- 17. ALL MECHANICAL PIPE RESTRAINT SYSTEMS SHALL BE RATED FOR 305 PSI, MINIMUM.
- 18. 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.
- 19. 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
- 20. 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.
- 21. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- 21. 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
- 22. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- 23. 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.
- 24. THE CONTRACTOR SHALL LOCATE ALL WATER AND OR SEWER HOUSE CONNECTIONS, AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THESE EXISTING CONNECTIONS. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE. ALL EXISTING CONNECTIONS SHALL BE RECONNECTED UPON COMPLETION OF CONSTRUCTION IN ACCORDANCE WITH COUNTY STANDARDS. TEMPORARY SERVICE SHALL BE PROVIDED FOR ANY SERVICE THAT IS DAMAGED BY THE WORK OF THE CONTRACTOR HOMEOWNER SHALL BE IMMEDIATELY NOTIFIED OF THE LOSS OF SERVICE. NO HOUSE SHALL BE WITHOUT SERVICE OF ANY KIND, FOR MORE THAN 2 HOURS AT ANY ONE TIME.
- 25. 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.
- 26. ANY TREES OUTSIDE OF EXISTING EASEMENTS, DISTURBED BY CONSTRUCTION SHALL BE REPLACED IN KIND (3" CALIPER MINIMUM)
- 27. THE CONTRACTOR MUST FOLLOW ALL CONDITIONS AND REQUIREMENTS AS SET FORTH IN THE REQUIRED PERMITS FOR THIS PROJECT.
- 28. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AS WELL AS ANY EXISTING THRUST RESTRAINT.

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT No. W-8321 CONTRACT No. 44-4846



LOCATION MAP SCALE: 1"= 600"

HOWARD COUNTY GEODETIC SURVEY CONTROL

IL,	HUKI	ZUNIAL	ANU	AFKI	ICALD	AIUM	RAZED	Į
D	83/4	ADJUSTE	200)7 (H	ORIZO	NTAL 2)	
		(VERTIC						
	*							

		•
37GF	N	555222.17
	Ε	1370948.56
	EL	EV. 330.87

37GI N 553697.27 1372014.96 ELEV. 292.10

RESIDENTIAL

DEEP RUN

7 WHC & 24 TWIN

TYPE OF BUILDING:

NUMBER OF PARCELS:

NUMBER OF WATER HOUSE CONNECTIONS: DRAINAGE AREA:

PRESSURE ZONE: WATER TEST GRADIENT

INDEX OF SHEETS DESCRIPTION 1....TITLE SHEET 2.....PHASING PLAN AND TEMPORAY WATER PLAN 3.....PLAN & PROFILE SANCTUARY COURT 4..... WATER MAIN DETAILS 5.....SEDIMENT AND EROSION CONTROL PLAN 6.....SEDIMENT AND EROSION CONTROL NOTES & DETAILS 7.....MOT/TRÁFFIC CONTROL 8......CORROSION CONTROL APPENDIX A AS-BUILT CONTRACT 14-3623-D

RESTORATION SCHEDULE									
LOCATION	DISTANCE	TYPE							
SANCTUARY CT	913	ASPHALT							
TRANQUILL WAY	200	ASPHALT							
OLD WATERLOO RD	45	ASPHALT							

* REFER TO PERMANENT SEEDING NOTES ON SHEET 6 OF 8

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

GENERAL NOTES CONTINUED

- 29. CONTRACTOR SHALL REPLACE ALL WATER HOUSE CONNECTIONS. ALL WATER HOUSE CONNECTIONS SHALL BE MADE AT THE NEW VALVE BOX (INSIDE METERED LOCATIONS) OR NEW METER VAULTS (OUTSIDE METERED LOCATIONS). FOR TWIN HOUSE CONNECTIONS, THE METERS SHALL BE INSTALLED IN ONE METER VAULT. AS SHOWN IN DETAIL W-3.32.
- 30. EXISTING WATER MAINS, INCLUDING PIPE MATERIAL, FITTINGS, VALVES AND APPURTENANCES EXCAVATED OR REMOVED FOR THE CONSTRUCTION OF THE NEW WATER MAIN SHALL BE REMOVED FROM THE WORK SITE AND DISPOSED OF BY THE CONTRACTOR AT AN APPROPRIATE RECEIVING FACILITY (LICENSED FOR SUCH DISPOSAL) AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE DIRECTED BY THE HOWARD COUNTY PROJECT MANAGER. EXISTING WATER MAINS ABANDONED IN PLACE SHALL BE CAPPED AT EACH CUT END. VALVES ABANDONED IN PLACE SHALL HAVE VALVE BOXES REMOVED. EXISTING FIRE HYDRANTS REMOVED. AS PART OF CONSTRUCTION, SHALL BE DELIVERED TO THE
- 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
- 32. 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 ON SHEET 4. ALL THE REST OF THE CONTINUITY TEST STATIONS SHALL BE INSTALLED IN ACCORDANCE WITH HOWARD COUNTY
- 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 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.

34. TRACER WIRES AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD

- 36. 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"
- 37. THE CONTRACTOR SHALL PROVIDE SURVEY CONSTRUCTION STAKEOUT FOR ALL NECESSARY LINES, GRADES AND ELEVATIONS OF THE PROPOSED
- 38. EXISTING WATER MAINS SHALL BE LOCATED BY THE ALIGNMENT MARKED IN THE FIELD BY HOWARD COUNTY PERSONNEL. INSTALL NEW WATER MAINS BASED ON THE ALIGNMENT AND OFFSET DIMENSION SHOWN RELATIVE TO THE EXISTING WATER MAINS. MAINTAIN REQUIRED SEPARATION FROM SANITARY AND STORM SEWER PIPING.
- 39. PIPE TRENCHING AND PAVEMENT REPLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH THE PVC PIPE TRENCH AND PERMANENT PAVING RESTORATION DETAIL AS SHOWN ON SHEET 4.
- 40. TEMPORARY PAVING PATCH FOR UTILITY TRENCH REPAIR OF HMA PAVED ROADS AND DRIVEWAYS SHALL BE IN ACCORDANCE WITH THE DETAILS SHOWN ON SHEET 4. REFILL ALL DEPRESSIONS AND SETTLEMENT (AS THEY DEVELOP) WITH THE SPECIFIED MATERIALS. PRIOR TO PLACEMENT OF THE PERMANENT PAVING SECTION, REMOVE THE TOP SIX 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 R-2.01, P-3 ON THE ROADS WITHIN SUBDIVISION AND R2.02, P-5 ON OLD WATERLOO ROAD.
- 41. WATER MAIN TEST GRADIENT: THE EXISTING STATIC PRESSURE GRADIENT FOR PROPOSED WATER MAIN SYSTEM IS 600FT.
 - WATER MAIN SHALL BE FILLED WITH WATER AND BROUGHT TO 150PSI HYDROSTATIC TEST PRESSURE AT THE LOW POINT FOR TWO HOURS
- 42. 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.
- 43. 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
- 44. 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, NEGLECT OR MISCONDUCT IN IT'S 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.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

TECHNOLOGIES

CONSTRUCTION MANAGERS 936 RIDGEBROOK ROAD Sparks, Maryland 21152 TELEPHONE: (410) 316-7800. Fax: (410) 316-7818



(OF MARYLAND, LICENSE NO. 31363 EXPIRATION DATE: 1/16/2014	_ 		:
	OF MARL	DES:	GS	
	S S HUA W	DRN:	GS	
		снк:	GW/TWW	
	10 10 31363 10 10 14	DATE	: E 2013	ML

	DES:	GS						_
						,		
	DRN:	GS						
		·		4				
Į.	CHK: GW/TWW			\$2.4				
ירו	DATE: ML		ML	Δ	AS-BUILT		10416	
	JUNE	2013	BY	NO.	REVISION		DATE	

TITLE SHEET

SANCTUARY COURT & TRANQUILL WAY WATER REPLACEMENT

CAPITAL PROJECT No. W-8321

CONTRACT No. 44-4846

HOWARD COUNTY, MARYLAND

ENGINEERS PLANNERS SCIENTISTS 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

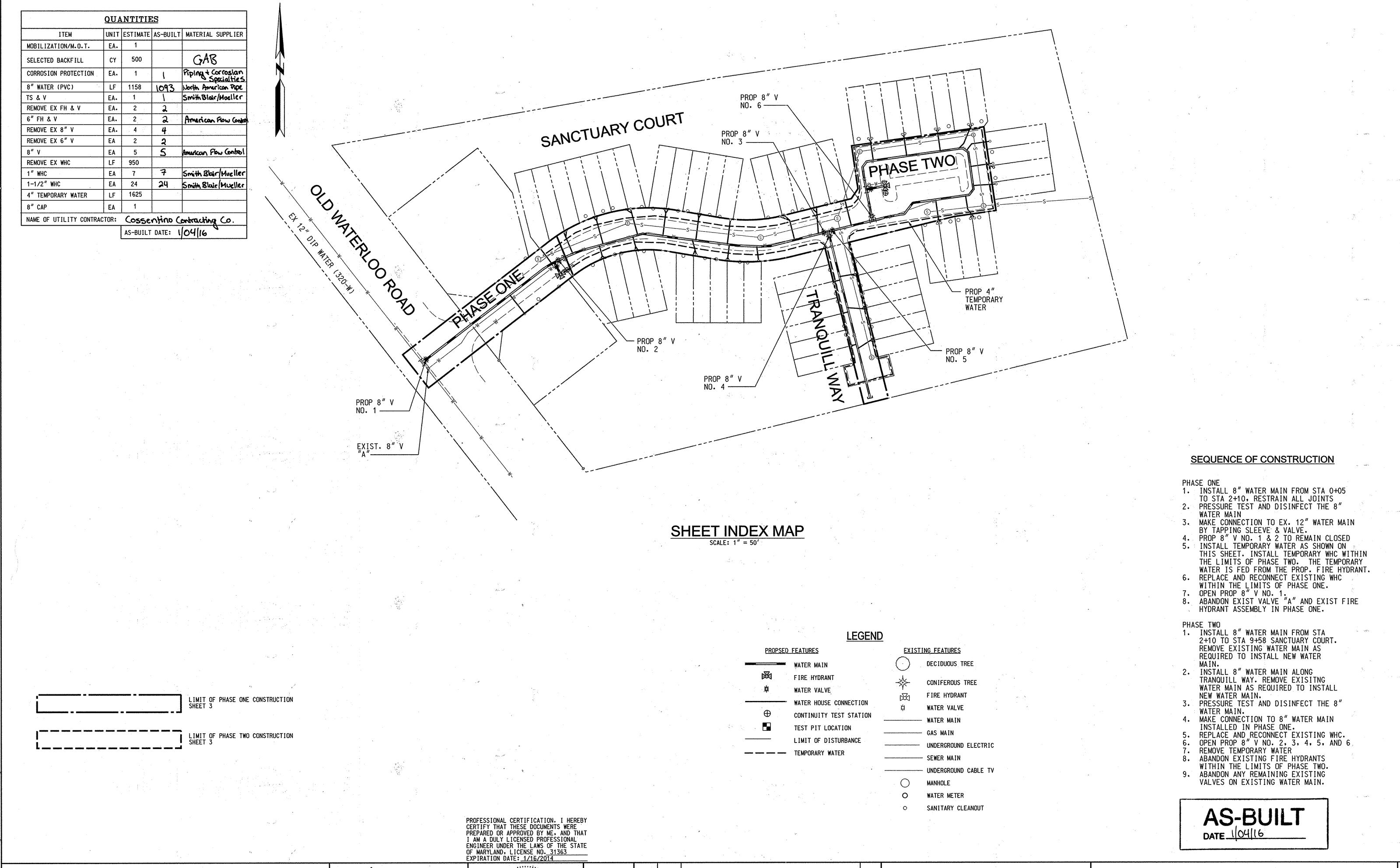
> BLOCK NO. DATE 600' SCALE MAP NO. 37

ELECTION DISTRICT NO. 1

SCALE

AS SHOWN

SHEET

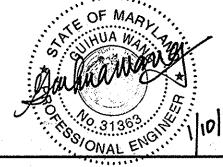


DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND



PLANNERS SCIENTISTS CONSTRUCTION MANAGERS 936 RIDGEBROOK ROAD Sparks, Maryland 21152 TELEPHONE: (410) 316-7800 Fax: (410) 316-7818



•	DES: GS						PHASING
y l	DRN: GS						
4	CHK: GW/TWW						TEMPORARY
73. 11h	DATE:	ML	Δ	AS-BUILT	10	XI [6	
	JUNE 2013	BY	NO.	REVISION	Ď,	ATE	600' SCALE MAP NO. 37

PHASING PLAN AND TEMPORARY WATER PLAN

BLOCK NO. 21

SANCTUARY COURT & TRANQUILL WAY WATER REPLACEMENT

CAPITAL PROJECT No. W-8321

CONTRACT No. 44-4846

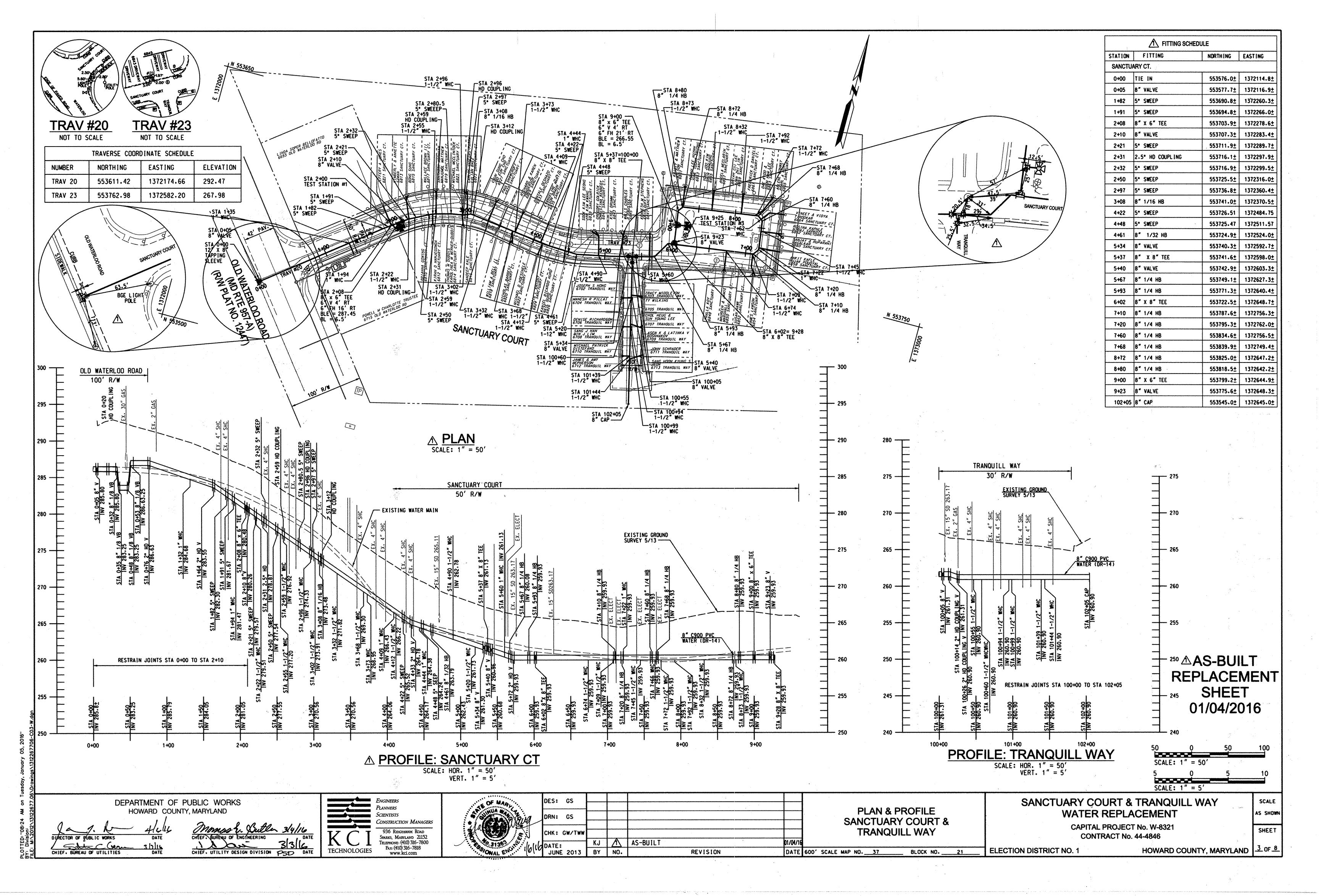
ELECTION DISTRICT NO. 1

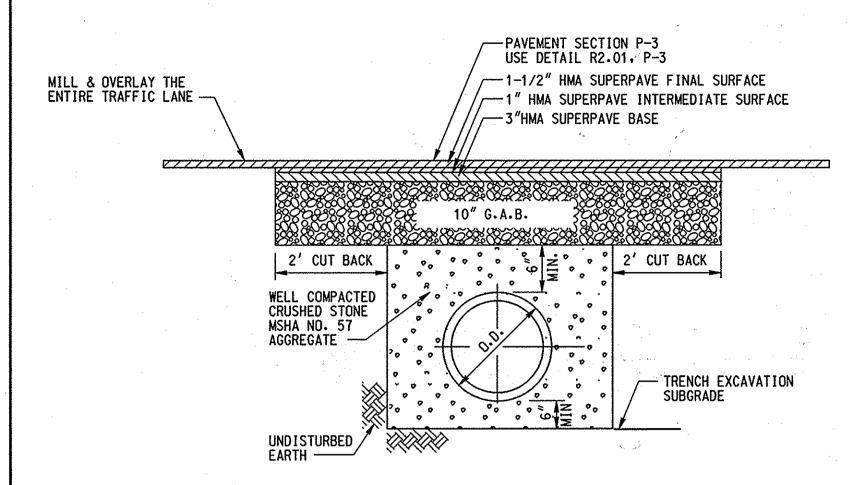
HOWARD COUNTY, MARYLAND 2 OF 8

SCALE

AS SHOWN

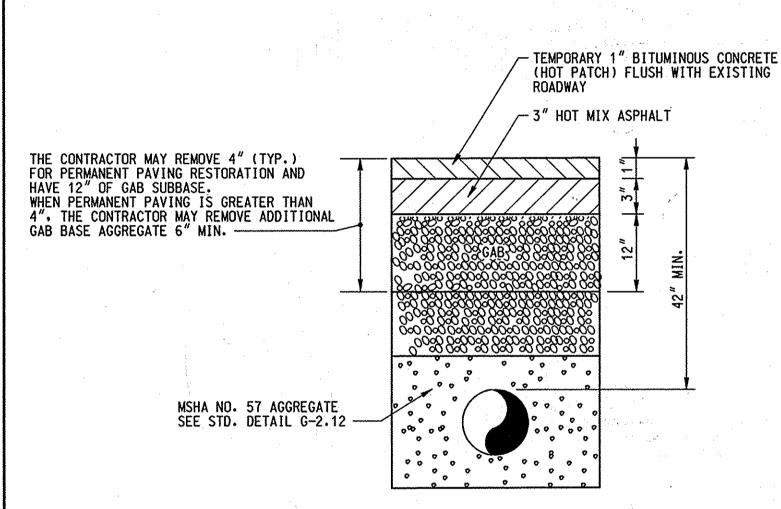
SHEET



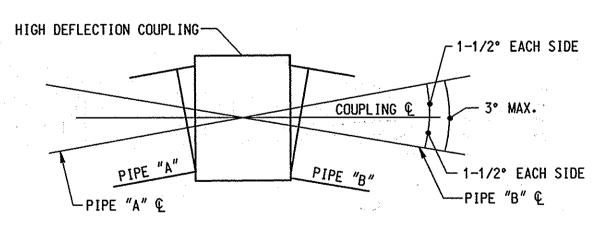


* DETAIL - PVC PIPE TRENCH AND PERMANENT PAVING RESTORATION

* BASED ON HOWARD COUNTY STANDARD DETAIL G-2.12 & G-4.01 THE PAVEMENT SHOWN IS FOR THE ROADS WITHIN THE SUBDIVISION. FOR THE PAVEMENT ON OLD WATERLOO ROAD, USE DETAIL R-2.02, P-5 IN HOWARD COUNTY STANDARD DETAIL.

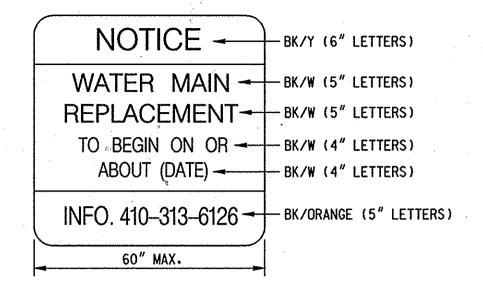






NOTE: THE MAXIMUM ALLOWED DEFLECTION AT THE HIGH DEFLECTION COUPLING IS 3° · 1-1/2° EACH SIDE MAXIMUM

HIGH DEFLECTION COUPLING **INSTALLATION** FOR HORIZONTAL AND **VERTICAL DEFLECTION** NOT TO SCALE

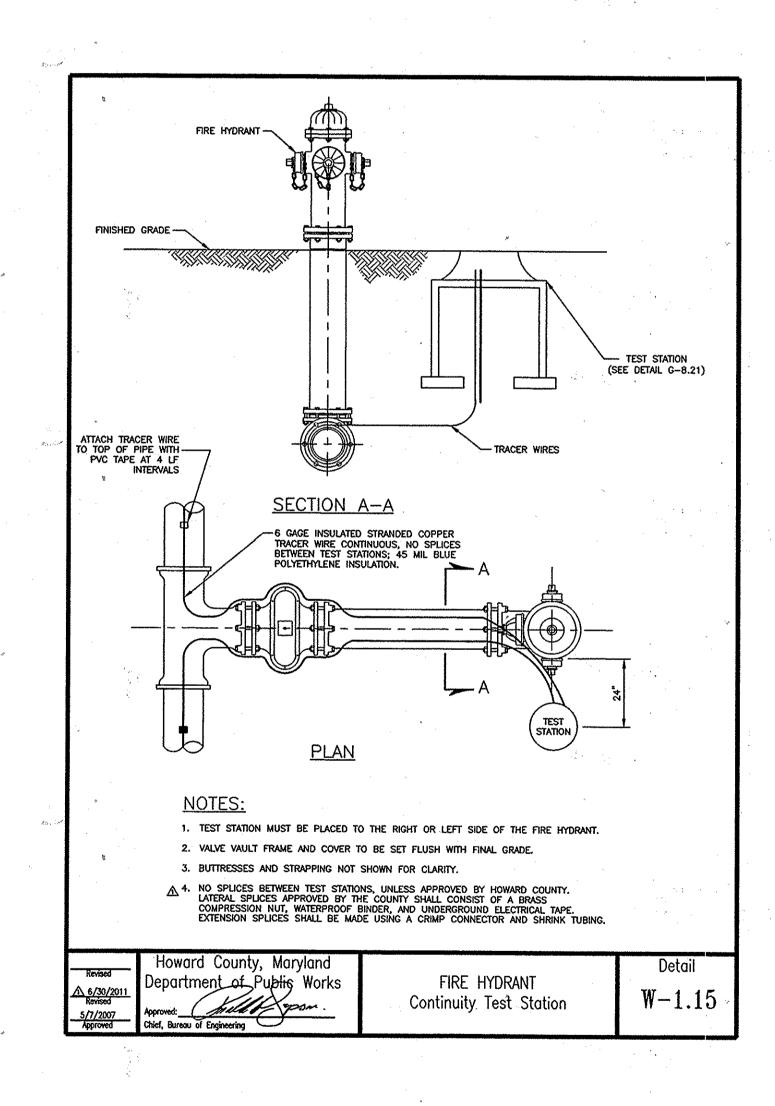


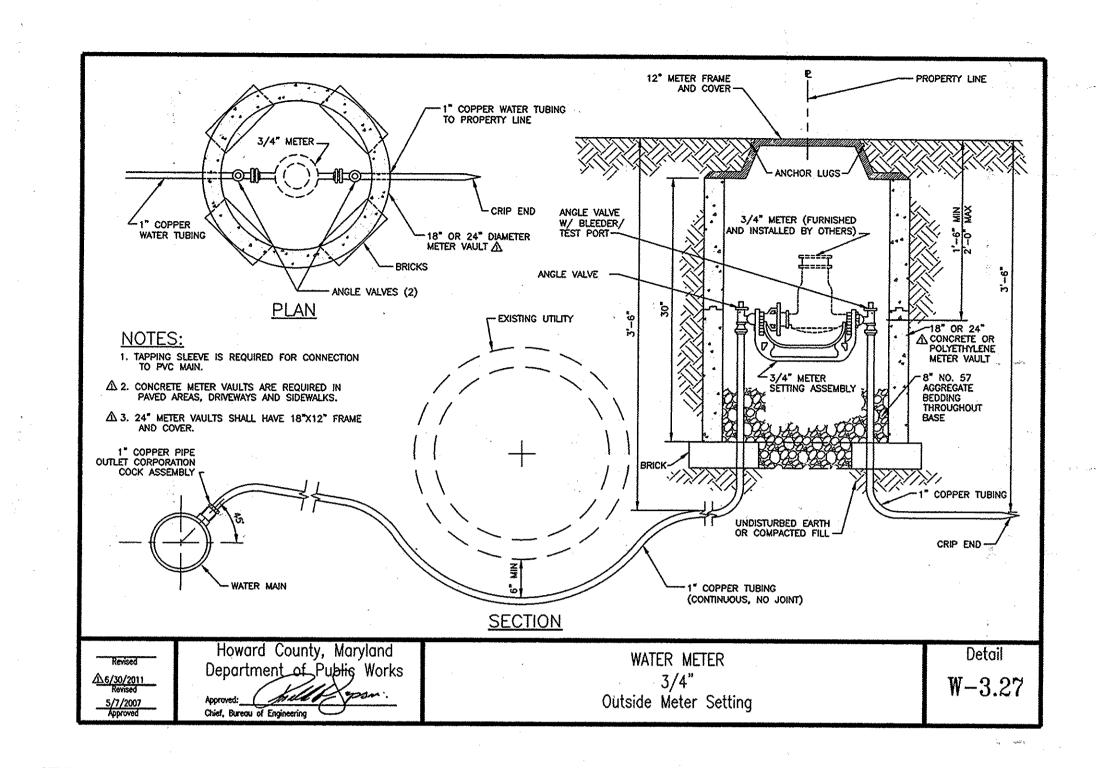
NOTICE - BK/Y (6" LETTERS) WATER MAIN - BK/W (5" LETTERS) REPLACEMENT BK/W (5" LETTERS) WORK HAS - BK/W (4" LETTERS) BEGUN - BK/W (4" LETTERS) INFO. 410-313-6126 - BK/ORANGE (5" LETTERS) 60" MAX.

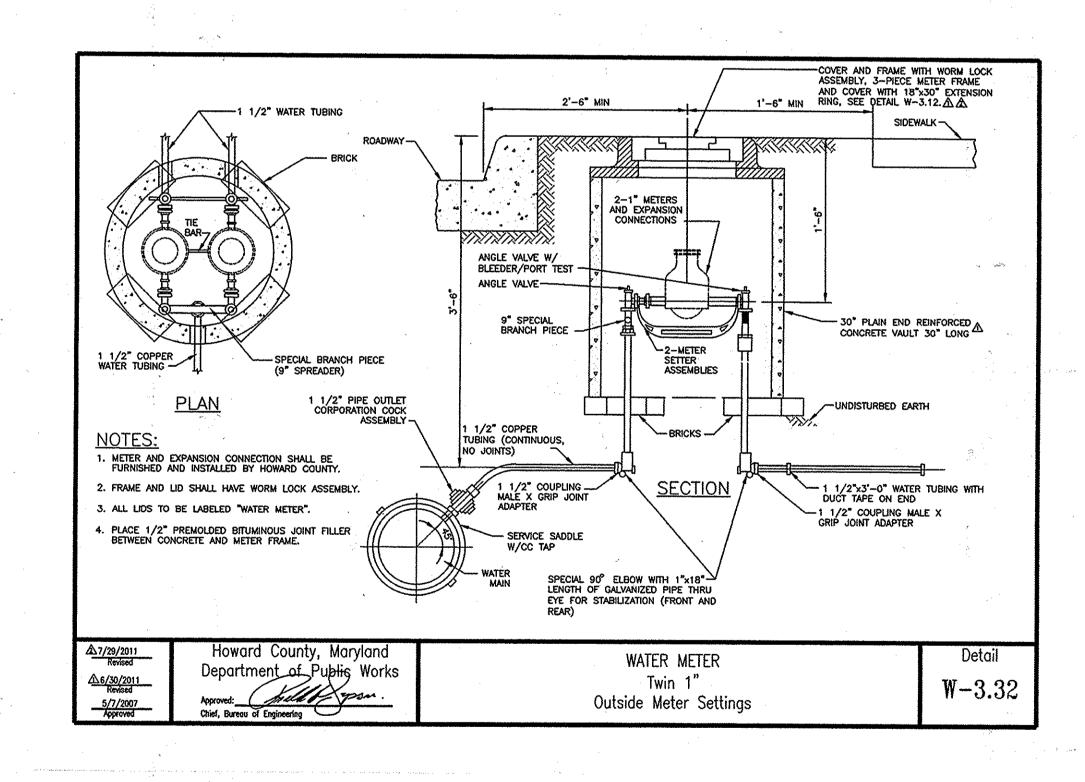
NOTE: LOCATE THESE SIGNS AT EACH ENTRANCE TO THE WORK SITE

NOTICE SIGN WORK TO BEGIN NOT TO SCALE

NOTICE SIGN WORK HAS BEGUN NOT TO SCALE



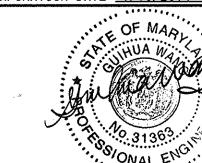




PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME. AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31363 EXPIRATION DATE: 1/16/2014 AS-BUILT

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

CONSTRUCTION MANAGERS 936 RIDGEBROOK ROAD Sparks, Maryland 21152 TELEPHONE: (410) 316-7800 Fax: (410) 316-7818



74, i.	DES: GS						
NOW !	DRN: GS		·		· ·		WATE
	CHK: GW/TWW						DE
NOIN /10/14	DATE:	ML	Δ	AS-BUILT		104/16	
NO. IN	JUNE 2013	BY	.NO.	REVISION	~	DATE	600' SCALE MAP NO. <u>37</u>

WATER MAIN **DETAILS**

BLOCK NO.

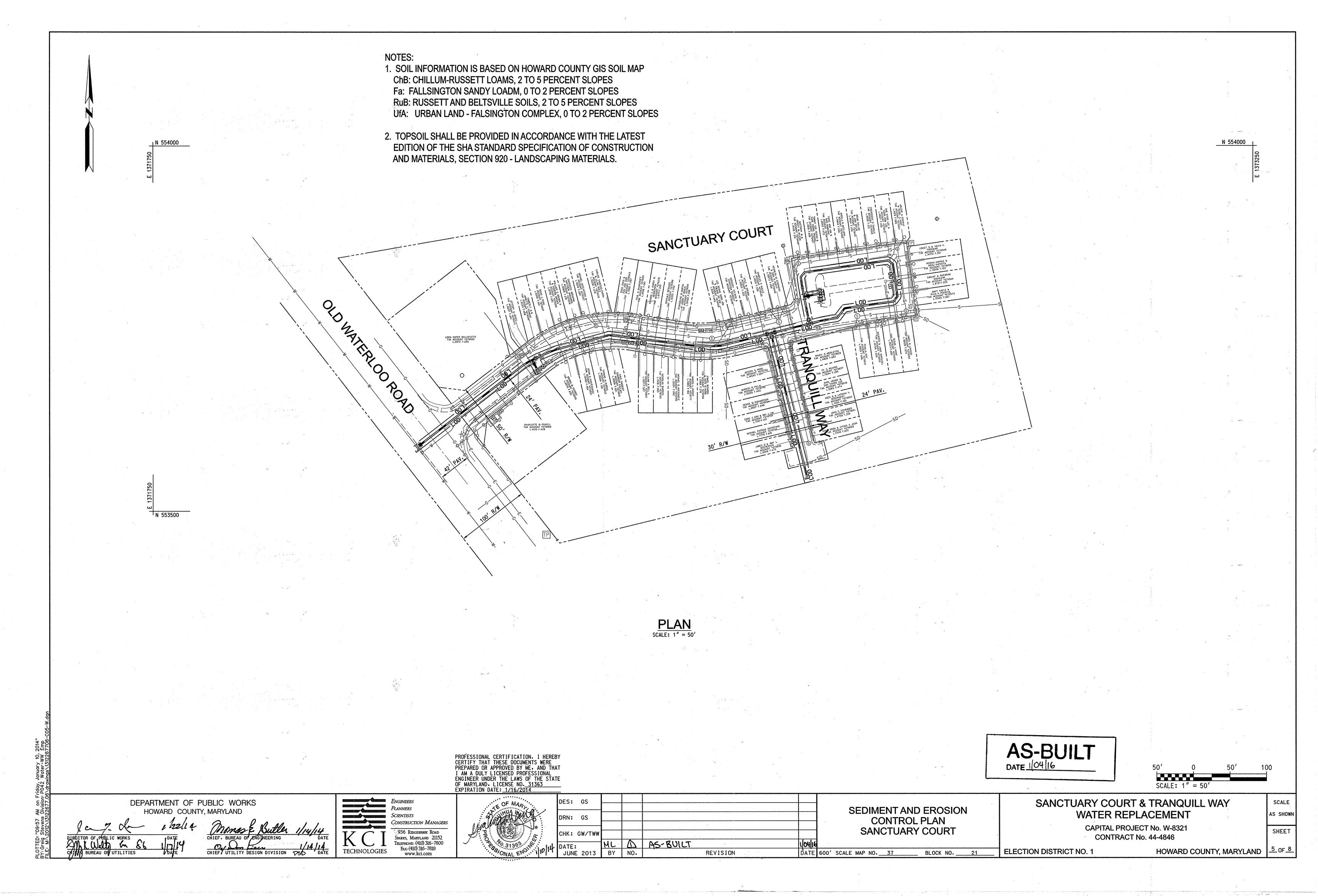
SANCTUARY COURT & TRANQUILL WAY WATER REPLACEMENT

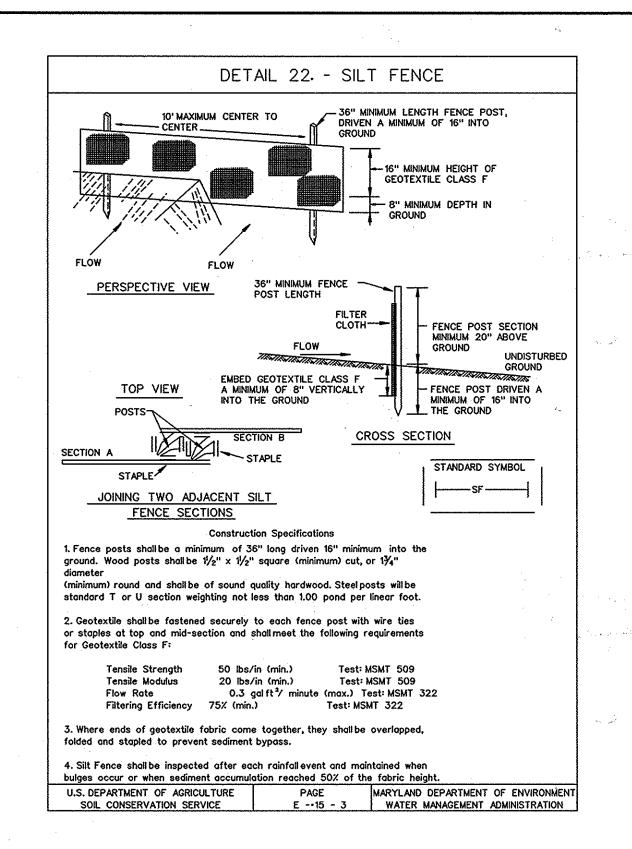
CAPITAL PROJECT No. W-8321 CONTRACT No. 44-4846

ELECTION DISTRICT NO. 1

SCALE AS SHOWN SHEET

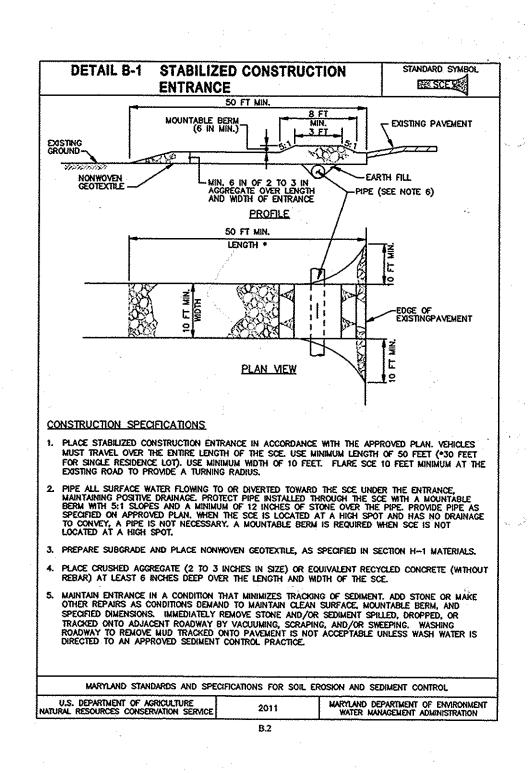
HOWARD COUNTY, MARYLAND



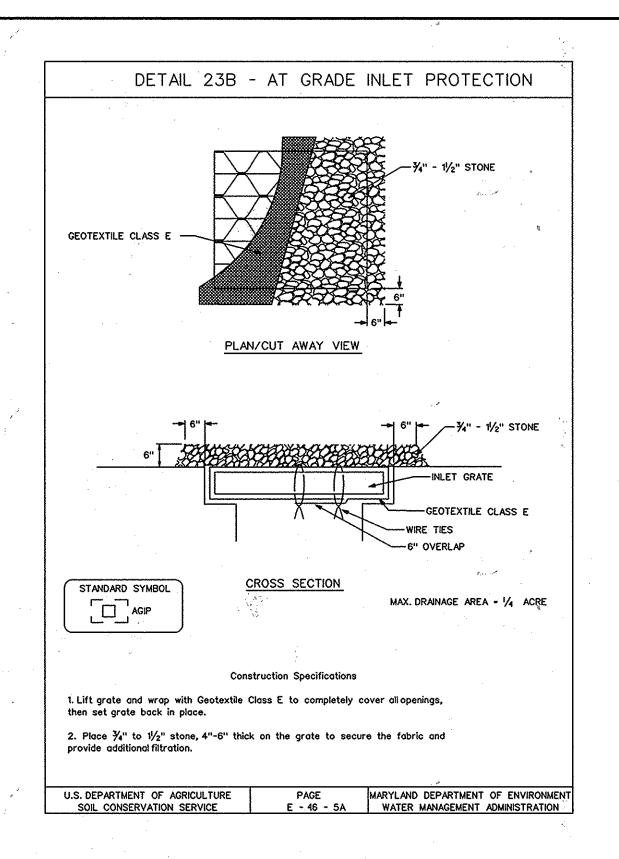


TRAFFIC MAINTENANCE

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



INSTALL STABILIZED CONSTRUCTION ENTRANCE AT THE REQUEST OF THE SEDIMENT CONTROL INSPECTOR.



TEMPORARY SEEDING SUMMARY

DETAIL 23C-CURB INLET PROTECTION (COG OR COS INLETS)

~2" X 4" ANCHORS

2" X 4" SPACER

2" X 4" WEIR

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus

4') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard

2. Place a continuous piece of Geotextile Class E the same dimensions as the wire

3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between

4. Place the assembly against the inlet throat and nail (minimum 2' lengths of

 $2" \times 4"$ to the top of the weir at spacer locations). These $2" \times 4"$ anchors shall

extend across the inlet top and be held in place by sandbags or alternate weight.

5. The assembly shall be placed so that the end spacers are a minimum "beyond

against the face of the curb on both sides of the inlet. Place clean $\frac{1}{2}$ " x $\frac{1}{2}$ "

7. This type of protection must be inspected frequently and the filter cloth

8. Assure that storm flow does not bypass the inlet by installing a temporary

stone over the wire mesh and geotextile in such a manner to prevent water from

6. Form the $\frac{1}{2}$ " x $\frac{1}{2}$ " wire mesh and the geotextile fabric to the concrete gutter and

mesh over the wire mesh and securely attach it to the 2" x 4" weir.

MAX. DRAINAGE AREA . 1/4 ACRE

the weir and the inlet face (max. 4' apart).

entering the inlet under or around the geotextile.

and stone replaced when clogged with sediment.

U.S. DEPARTMENT OF AGRICULTURE

earth or asphalt dike to direct the flow to the inlet.

both ends of the throat opening.

-2' MINIMUM LENGTH

STORM

STANDARD SYMBOL

MARYLAND DEPARTMENT OF ENVIRONMENT

E - 46 - 5B WATER MANAGEMENT ADMINISTRATION

2" X 4" WEIR

FILTER CLOTH -

	SEED MIXTURE (FROM				FERTILIZER RATE	
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEED ING DEPTHS	(10-20-20)	LIME RATE
	COOL-SEASON GRASS				·	
*	ANNUAL RYE GRASS (LOLIUM PERENNE SSP. MULTIFLORUM	40	MAR 1 TO MAY 15: AUG 1 TO SEP 30	0.5	-	*
	BARLEY (HORDEUM)	96	MAR 15 TO MAY 31: AUG 1 TO SEP 30	1.0		
	OATS (AVENA SATIVA)	72	MAR 15 TO MAY 31: AUG 1 TO SEP 30	1.0	436 IB/AC	2 TONS/AC
	WHEAT (TRITICUM AESTIVUM)	120	MAR 15 TO MAY 31; AUG 1 TO SEP 30	1.0	(10LB/1000 SF)	(90LB/1000 SF)
	CEREAL RYE (SECALE CEREALE)	112	MAR 15 TO MAY 31: AUG 1 TO OCT 30	1.0		
	WARM-SEASON GRASS					
	FOXTAIL MILLET (SETARIA ITALICA)	30	JUN 1 TO JUL 31	0.5		•
	PEARL MILLET (PENNISETUM GLAUCUM)	20	JUN 1 TO JUL 31	0.5		

1/ Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as

tested. Adjustments are usually not needed for the cool-season grasses Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Cereal tye generally should not be used as a nurse crop, unless planting will occur in very late fall beyond the seeding dates for other temporary seedings. Cereal tye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.

2/ For sandy soils, plant seeds at twice the depth listed above. 3/ The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone

HOWARD SOIL CONSRVATION DISTRICT STANDARD 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 (313-1855).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL
- EROSION AND SEDIMENT CONTROL and revisions thereto. 3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 3 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all

slopes greater than 3:1, b) 7 days as to all other disturbed or graded areas on the project site.

- All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- 5. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

Acres

Acres

Acres

Cu. Yds.

Cu. Yds.

Site Analysis: Total Area of Site 0.28 Area Disturbed Area to be roofed or paved Area to be vegetatively stabilized Total Cut Total Fill Offsite waste/borrow are location CONTRACTOR COORDINATE

- Any sediment control practice that is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- 8. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- 9. 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.
- 10. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each workday, whichever is shorter.
- 11. Any changes or revisions to the sequence of construction must be reviewed and approved by the plan approval authority prior to proceeding with construction.
- 12. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has be stabilized and approved by the enforcement authority. Unless otherwise specified and approved by the approval authority, no more than 30 acres cumulatively may be disturbed at a given time.

Rev. 4/2013

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN GRADING PERMIT
- 2. REQUEST PRE-CONSTRUCTION MEETING ON-SITE WITH REPRESENTATVIE OF HOWARD COUNTY SOIL CONSERVATION.
- 3. LAYOUT ALIGNMENT AT SITE. (2 DAYS)
- 4. CLEAR AND GRUB AS NEEDED FOR THE INSTALLATIN OF THE SEDIMENT CONTROL DEVICES AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR. INSTALL AND STABILIZE SEDIMENT CONTROL DEVICES IF NECESSARY.
- 5. INSTALL TRAFFIC CONTROL SIGNS IN ACCORDANCE WITH THE TRAFFIC
- EXCAVATE TRENCH TO THE GRADE SPECIFIED ON THE WATER MAIN PROFILES.
 INSTALL WATER MAIN AND STABILIZE OR BACKFILL TRENCH. SEE DETAIL ON
 SHEET 4 OF 8 FOR TYPICAL TRENCH DETAIL. DURING THE COURSE OF CONSTRUCTION.
 TRENCHES FOR THE CONSTRUCTION OF THE NEW WATERR 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 THE TEMPORARY SEEDING SUMMARY SHOWN ON THIS SHEET AT THE END OF EACH WORK DAY. ALL DISTURBED PAVING AREAS WITHIN THE EXISTING ROAD SHALL BE TEMPORARILY PATCHED, SEE TEMPORARY PAVING DETAIL ON SHEET 4 OF 8 AT THE FIRST FACEL WORK INC. THE END OF EACH WORKING DAY.
- PERMANENTLY STABILIZE ALL DISTURBED VEGETATED AREAS IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION SHOWN

THE ESTIMATED CONSTRUCTION TIME FOR THE WATER MAIN IS 30 DAYS.

- PERMANENTLY REPAIR ALL DISTURBED PAVING AREAS IN ACCORDANCE WITH THE DETAIL ON SHEET 4 OF 8.
- 9. CLEAN UP CONSTRUCTION SITE. (1 DAY)
- 10. REMOVE SEDIMENT CONTROL DEVICES AFTER PERMISSION IS GRANTED BY THE SEDIEMNT CONTROL INSPECTOR.
- 11. STABILIZE OF AREAS THAT ARE DISTURBED BY REMOVAL OF SEDIMENT

B-4-5 STANDARDS AND SPECIFICATIONS

FOR PERMANENT STABILIZATION

To stabilize disturbed soils with permanent vegetation.

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for 6 months or more

Seed Mixture

General Use

- a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
- b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
- c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
- d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.

- a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
- b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
- i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
- ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
- iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
- iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1½ to 3 pounds per 1000 square feet.

Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section. provides a reliable means of consumer protection and assures a pure genetic line

c. Ideal Times of Seeding for Turf Grass Mixtures

Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)

Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)

Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15

(Hardiness Zones: 7a, 7b)

- d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 11/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
- c. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

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.



HOWARD SOIL CONSERVATION

DISTRICT CERTIFICATION

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

GUIHUA WANG KCI TECHNOLOGIES, INC. 936 RIDGEBROOK ROAD

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.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

ENGINEERS Planners : SCIENTISTS CONSTRUCTION MANAGERS ₹936 RIDGEBROOK ROAD Sparks, Maryland 21152 TELEPHONE: (410) 316-7800 Fax: (410) 316-7818



PROFESSIONAL CERTIFICATION. I HEREBY

PREPARED OR APPROVED BY ME. AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE

CERTIFY THAT THESE DOCUMENTS WERE

OF MARYLAND, LICENSE NO. 31363 EXPIRATION DATE: 1/16/2014

DES: GS				•
DRN: GS				
CHK: GW/TWW				
DATE:	ML		AS-BUILT	
JUNE 2013	BY	NO.		REVISIO

SEDIMENT AND EROSION CONTROL **NOTES AND DETAILS**

BLOCK NO.

600' SCALE MAP NO. 37

ELECTION DISTRICT NO. 1

SANCTUARY COURT & TRANQUILL WAY WATER REPLACEMENT

CÁPITAL PROJECT No. W-8321

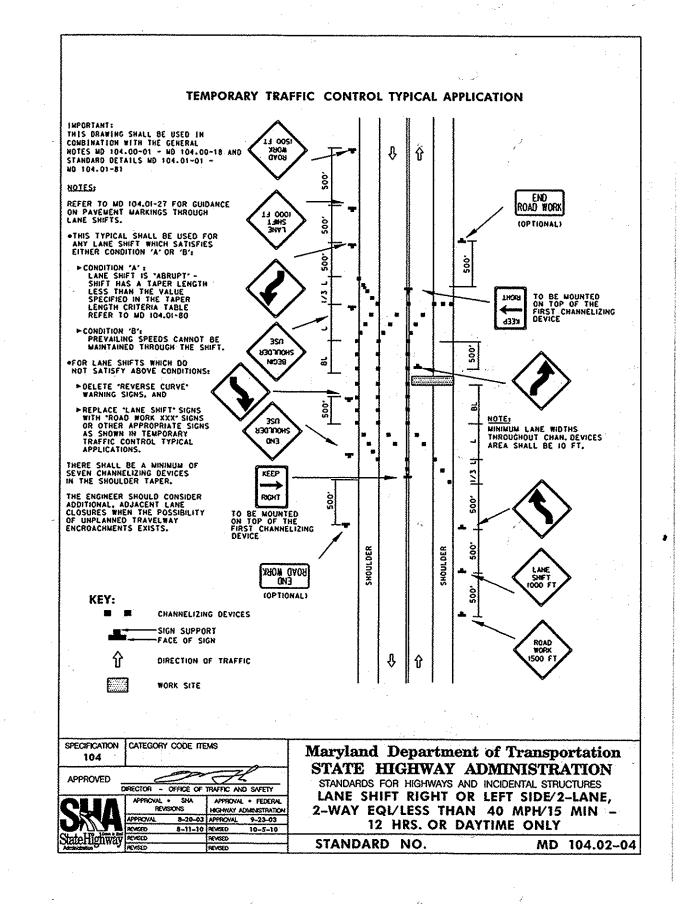
CONTRACT No. 44-4846

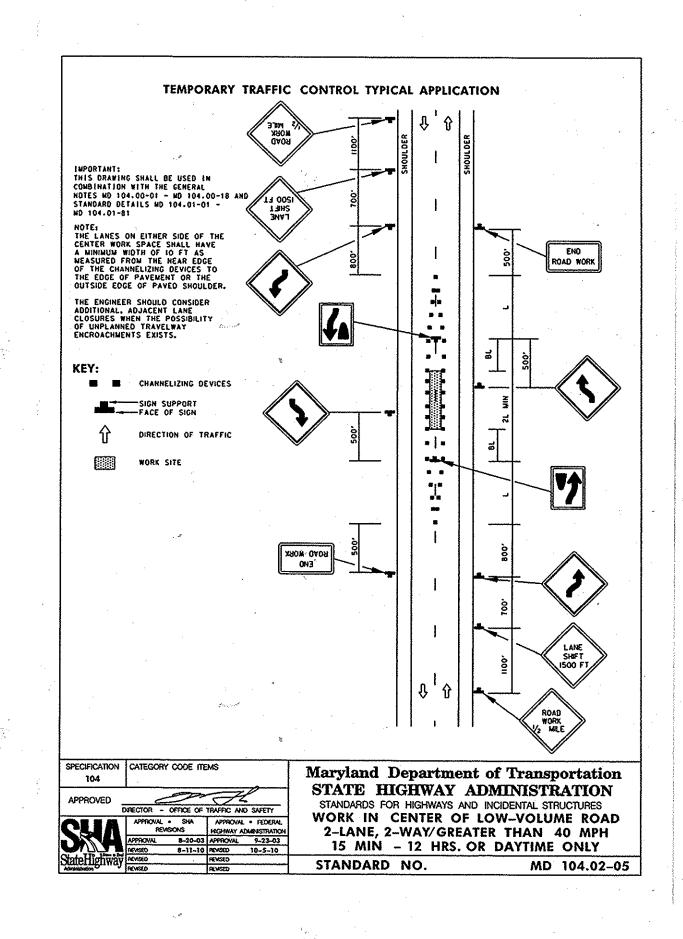
HOWARD COUNTY, MARYLAND 6 0F 8

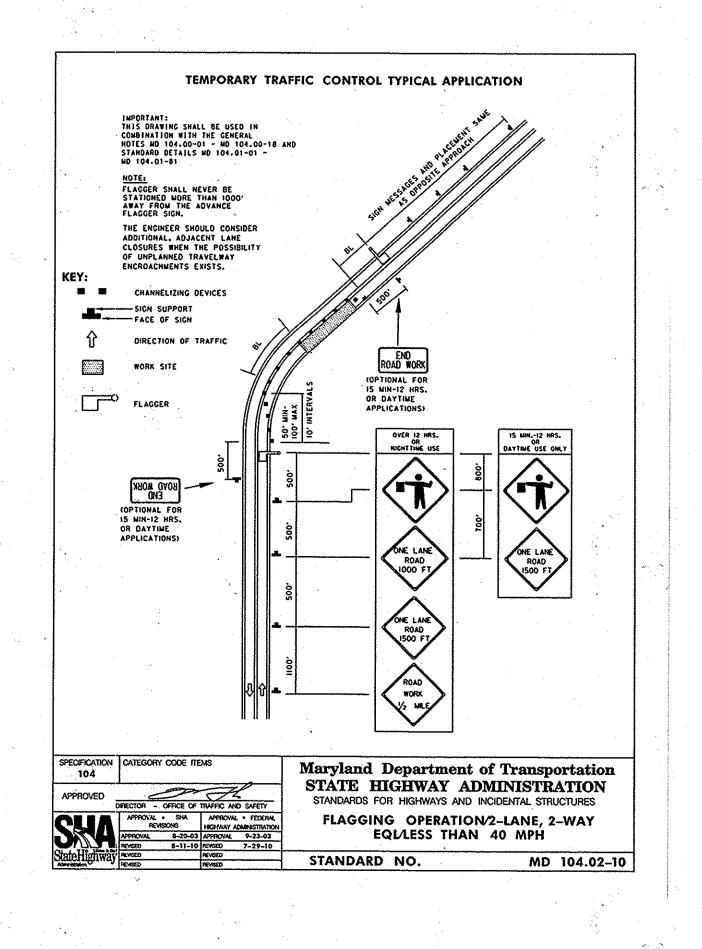
SCALE

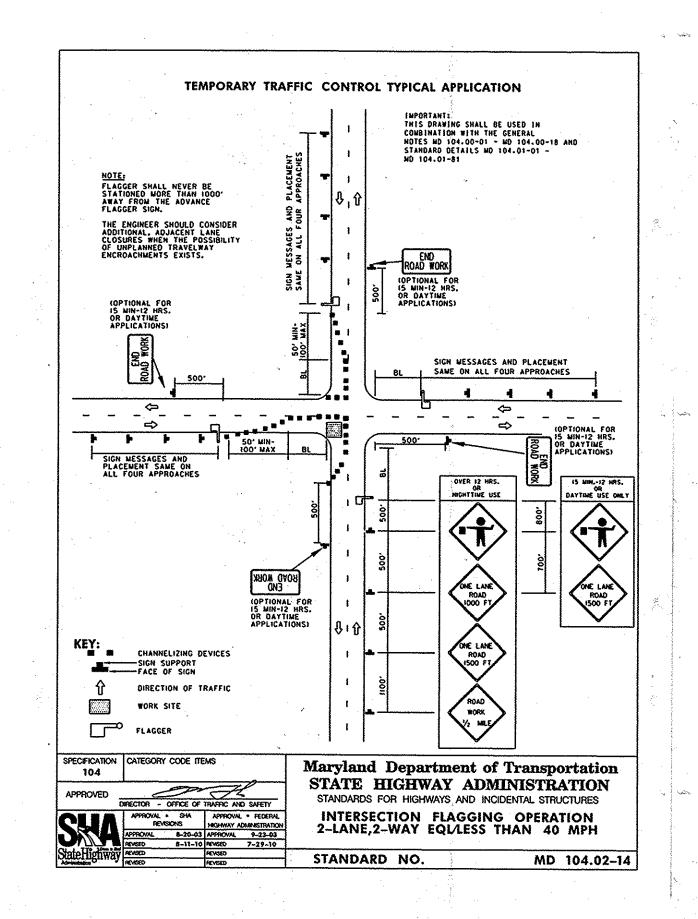
AS SHOWN

SHEET





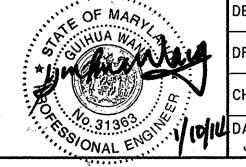




PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME. AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31363 EXPIRATION DATE: 1/16/2014

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND





1,		DES: GS					
7 °.		523. 03	*	-	:		
V	.4	DRN: GS					_
¥							
18	V	CHK: GW/TWW				<u> </u>	
K.	l while	DATE:	ML	\overline{V}	AS-BUILT	109	
<i>3</i>	1141.	DATE: JUNE 2013	BY	NO.	REVISION	DAT	ŗΙ
						7	

M.O.T. MAINTENANCE OF TRAFFIC

BLOCK NO.__

600' SCALE MAP NO. 37

SANCTUARY COURT & TRANQUILL WAY WATER REPLACEMENT

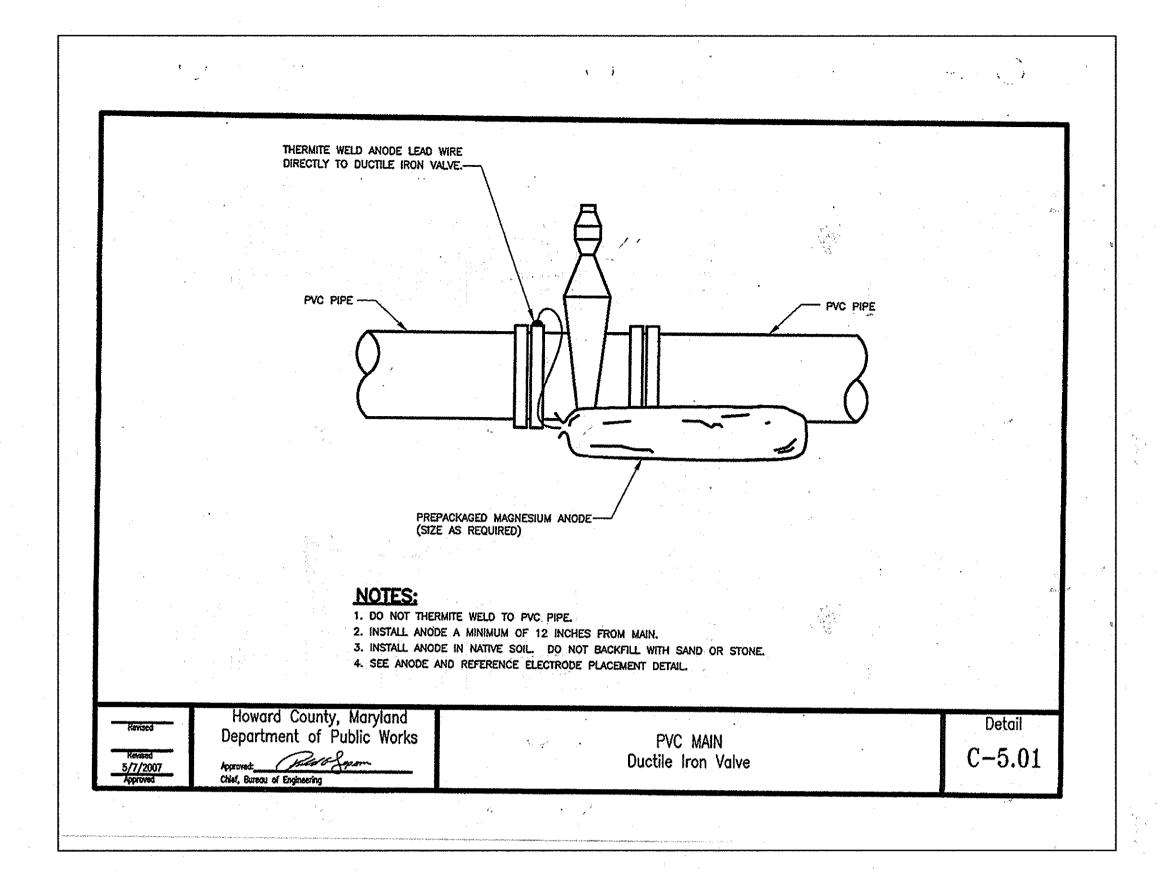
CAPITAL PROJECT No. W-8321

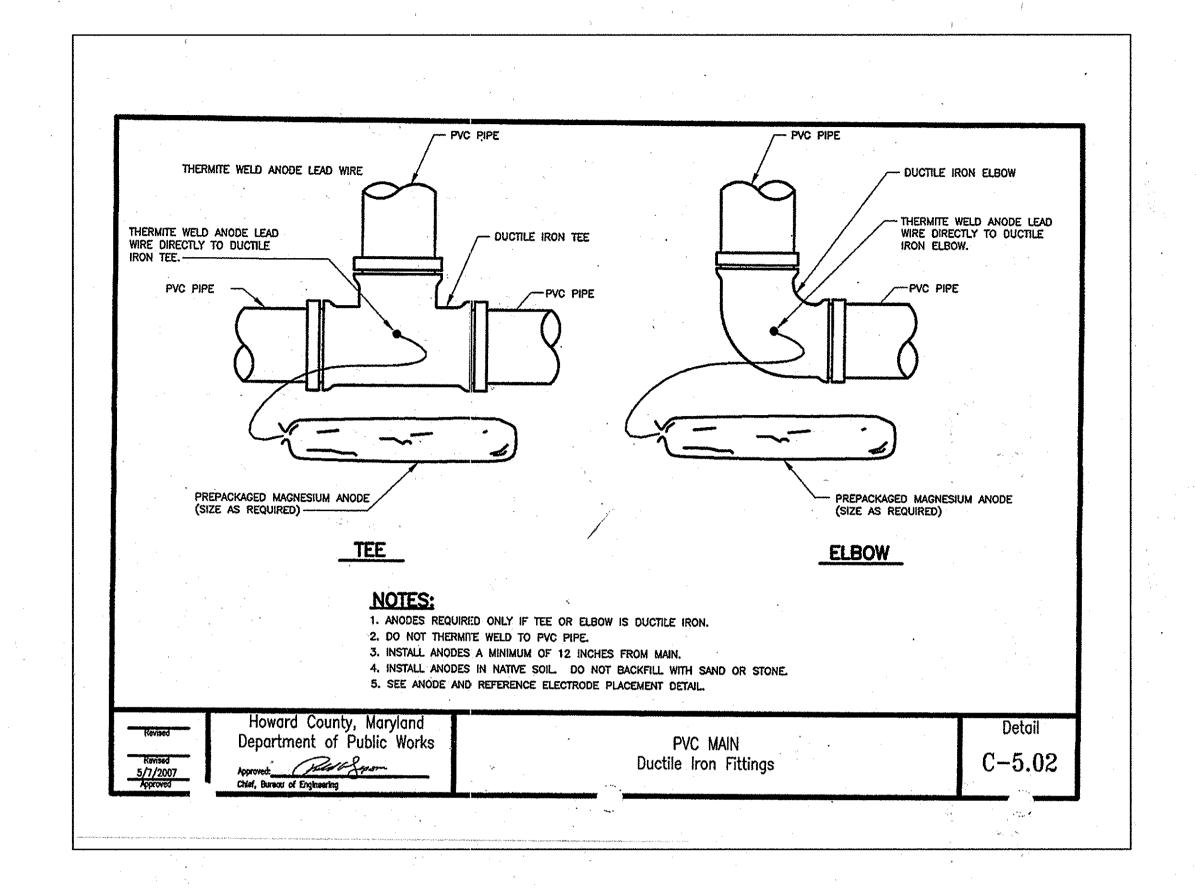
CONTRACT No. 44-4846

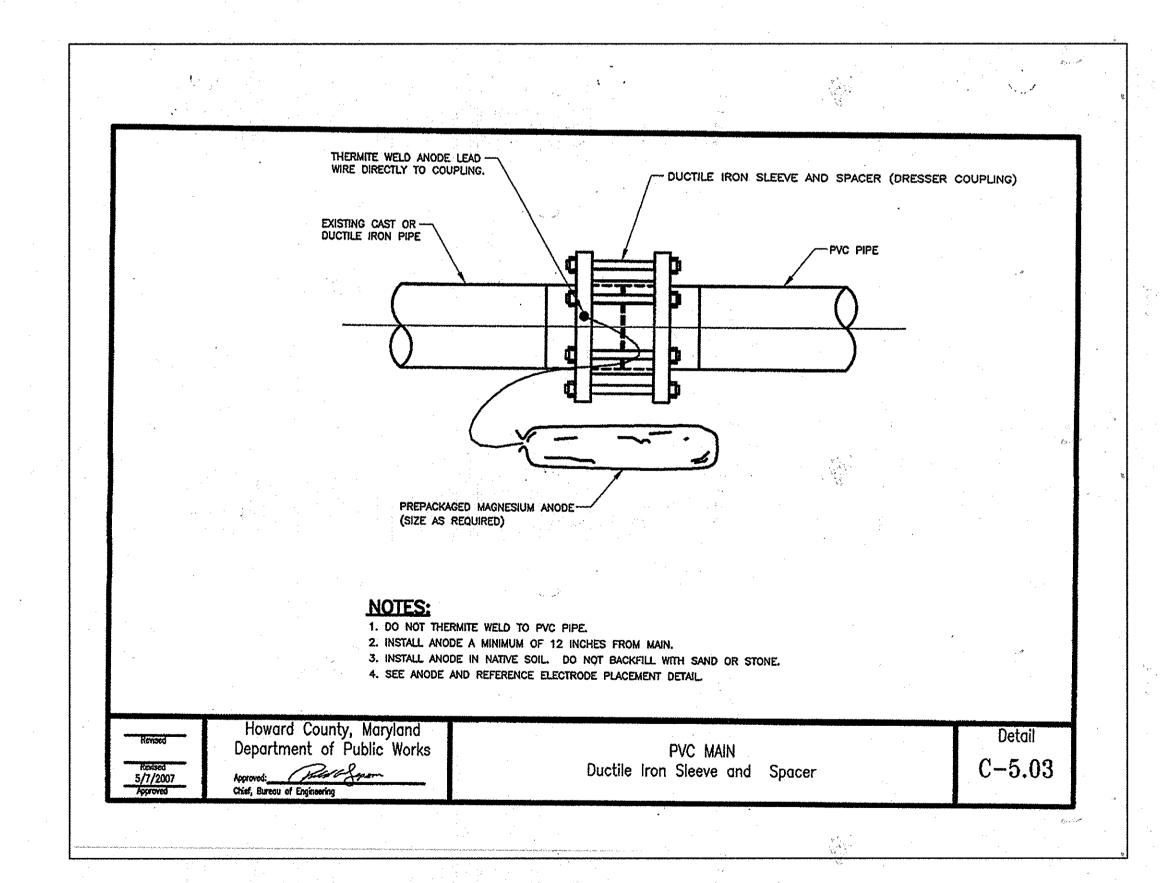
ELECTION DISTRICT NO. 1

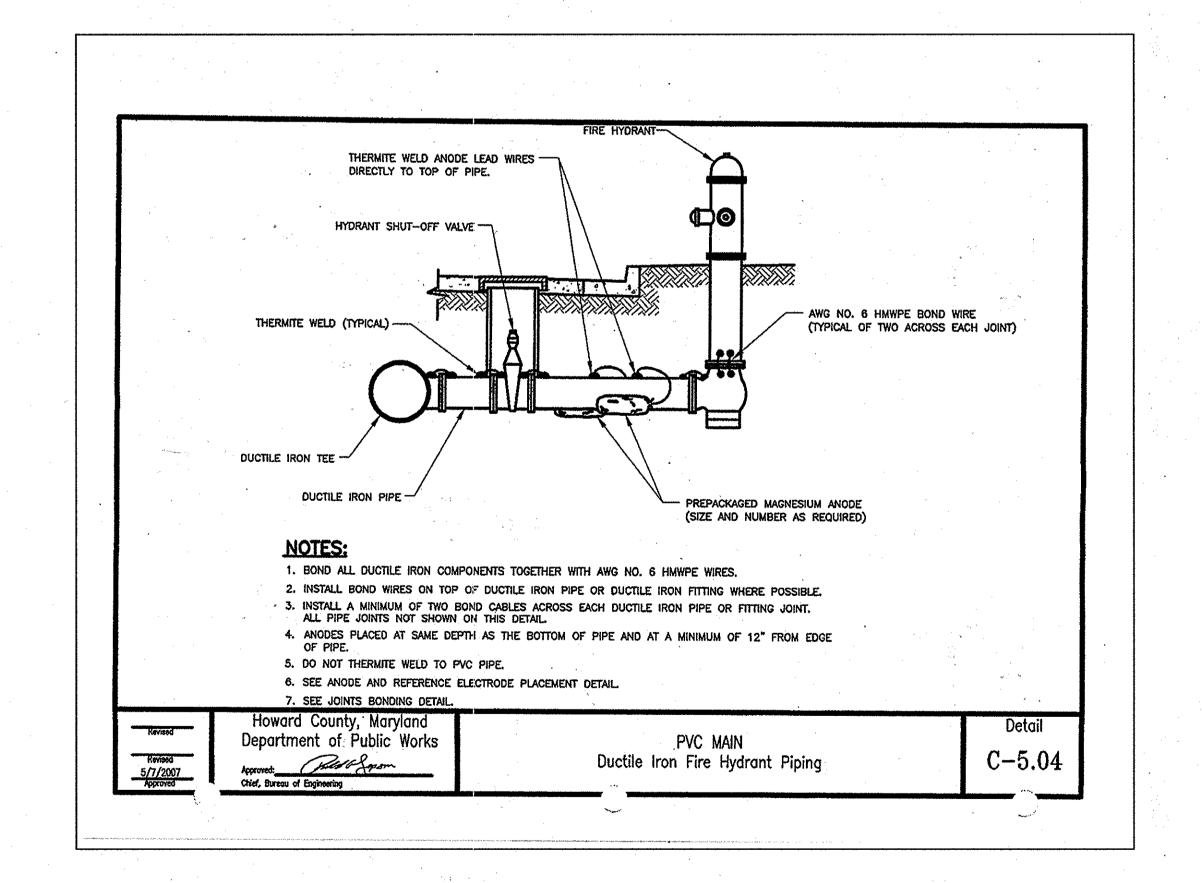
SCALE AS SHOWN SHEET

HOWARD COUNTY, MARYLAND









CORROSION CONTROL

BLOCK NO. _

AS-BUILT DATE 1/04/16

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

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS

AMULLI LA SO 1/2/19

CHIEF BUREAU OF UTILITIES DATE

CHIEF HILLIAND ENGINEERING DATE

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

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



	DES: GS											
_	DRN: GS					Ç.				-		~~!
					,	4				COF	4 H	USI
	CHK: GW/TW	٧										
. 1	DATE:	ML		AS-BUILT			1 04 16			,		
114	JUNE 2013	BY	NO.		REVISION		DATE	600′	SCALE	MAP N	0	37

SANCTUARY COURT & TRANQUILL WAY
WATER REPLACEMENT

CAPITAL PROJECT No. W-8321

CONTRACT No. 44-4846
ELECTION DISTRICT NO. 1 HOWARD COUNTY

HOWARD COUNTY, MARYLAND 8 0F 8

59 AM on Friday, January 10, 2014"

V SQLIMD IDV 00.7 7.0221017.2

ANQUILL WAY
MENT
W-8321
SHEET