

# TILLER DRIVE SEWER EXTENSION HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT No. S-6266

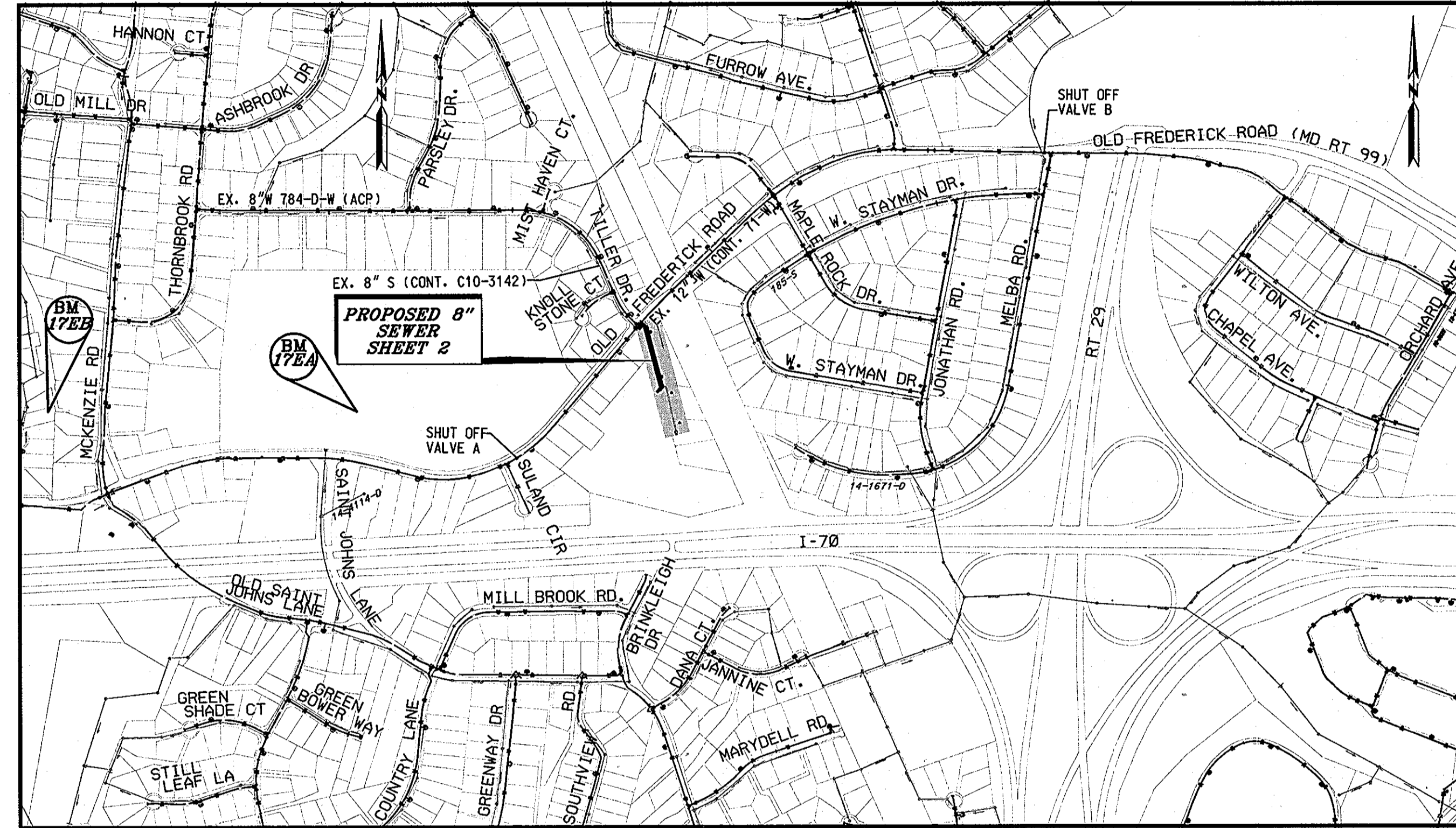
CONTRACT No. 10-4641

## GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES 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 FEBRUARY 2009 BY KCI TECHNOLOGIES, 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. 3512 AND BACO DJ886. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE REBAR & CAP AND NAILS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNELS REQUIRED. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES AS SHOWN ON THE DRAWINGS, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY 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.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATION OF THE TEST PIT. 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.
- 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  
 BG&E (CONSTRUCTION SERVICES).....410-850-4620  
 BG&E (EMERGENCY).....410-685-1400  
 BUREAU OF UTILITIES (DPW).....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 / 410-224-9210
- 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 LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE 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 ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(g) OF THE HOWARD COUNTY CODE.
- THE CONTRACTOR SHALL PROVIDE SURVEY CONSTRUCTION STAKEOUT FOR ALL NECESSARY LINES, GRADES AND ELEVATION OF THE PROPOSED FACILITIES.
- THE CONTRACTOR SHALL PROVIDE STAGING/STORAGE AREA.

## SEWER NOTES

- ALL SEWER MAINS SHALL BE D.I.P OR P.V.C UNLESS OTHERWISE NOTED.
- 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 65.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLER CANNOT BE SERVED.



VICINITY MAP

SCALE: 1"=600'

TYPE OF BUILDING:	RESIDENTIAL
NUMBER OF PARCELS:	3
NUMBER OF SEWER HOUSE CONNECTIONS:	3
NUMBER OF WATER HOUSE CONNECTIONS:	3
DRAINAGE AREA:	PATAPSCO
PRESSURE ZONE:	630
WATER TEST GRADIENT:	700

HORIZONTAL AND VERTICAL CONTROL BASED ON MARYLAND NAD83(91) (HORIZONTAL) AND NAVD88 (VERTICAL) DATUM. HOWARD COUNTY GEODETIC SURVEY CONTROL NUMBERS:

NO. 17EA	NO. 17EB
N 594357.655	N 594357.655
E 1357519.295	E 1355731.983
ELEV. 478.74	ELEV. 453.44

### DEVELOPER'S CERTIFICATION

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

*John K. Colwell* 2/2/12  
 BUREAU OF ENGINEERING  
 DEPARTMENT OF PUBLIC WORKS  
 DATE

### ENGINEER'S DESIGN 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 THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Guthua Wang* 1/30/2012  
 GUTHUA WANG  
 KCI TECHNOLOGIES  
 936 RIDGEBROOK RD  
 SPARKS, MARYLAND 21152  
 DATE

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 DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT (SCD).

*John K. Colwell* 2/2/12  
 HOWARD SOIL CONSERVATION DISTRICT  
 DATE

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: 1/15/2014

INDEX OF SHEETS	
SHEET No.	DESCRIPTION
1	TITLE SHEET
2	TILLER DRIVE 8" SEWER PLAN AND PROFILE
3	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

QUANTITIES				
ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
8" SEWER (PVC) SDR 35	L.F.	358	361±	J.M.EAGLE
STD. 4' DIAM. MH	EA	3	3	AMERICAST.
NAME OF UTILITY CONTRACTOR: W.F. WILSON				
CHECKBOX				
AS-BUILT DATE: 3-9-2012				
SURVEY AND DRAFTING DIVISION				

RESTORATION SCHEDULE		
LOCATION	DISTANCE	TYPE
PRIVATE ROAD	665 FT	ASPHALT
PUBLIC ROAD	60 FT	ASPHALT

## LEGEND

- TRAVERSE POINT
- DECIDUOUS TREE
- CONIFEROUS TREE
- EXISTING FIRE HYDRANT
- EXISTING VALVE
- EXISTING WATER MAIN
- EXISTING GAS MAIN
- EXISTING UNDERGROUND ELECTRIC
- EXISTING SEWER MAIN
- EXISTING MANHOLE
- SEWER MAIN
- BORING LOCATION
- LIMIT OF DISTURBANCE
- SILT FENCE
- EASEMENT
- TEMPORARY CONSTRUCTION STRIP
- SEWER HOUSE CONNECTION

**AS-BUILT**  
 DATE 3-9-2012

PLOTTED: 03:09 PM on Monday, January 30, 2012  
 BY: Guthua Wang, Division: P042, W-WW-Solid Waste GMA Emp  
 FILE: M:\2009\1012\1212\Drawings\G-001 Title.dwg

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*John K. Colwell* 2/2/12  
 DIRECTOR OF PUBLIC WORKS  
 CHIEF, BUREAU OF UTILITIES

*Domenic Butler* 2/1/12  
 CHIEF, BUREAU OF ENGINEERING

*John K. Colwell* 1/31/12  
 CHIEF, UTILITY DESIGN DIVISION

KCI TECHNOLOGIES  
 ENGINEERS  
 PLANNERS  
 SCIENTISTS  
 CONSTRUCTION MANAGERS

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

STATE OF MARYLAND  
 GUTHUA WANG  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 31363

DES: MRD			
DRN: CK			
CHK: TW			
DATE: SEPT. 2010	LFN	AS BUILT	3-9-2012
BY	NO.	REVISION	DATE

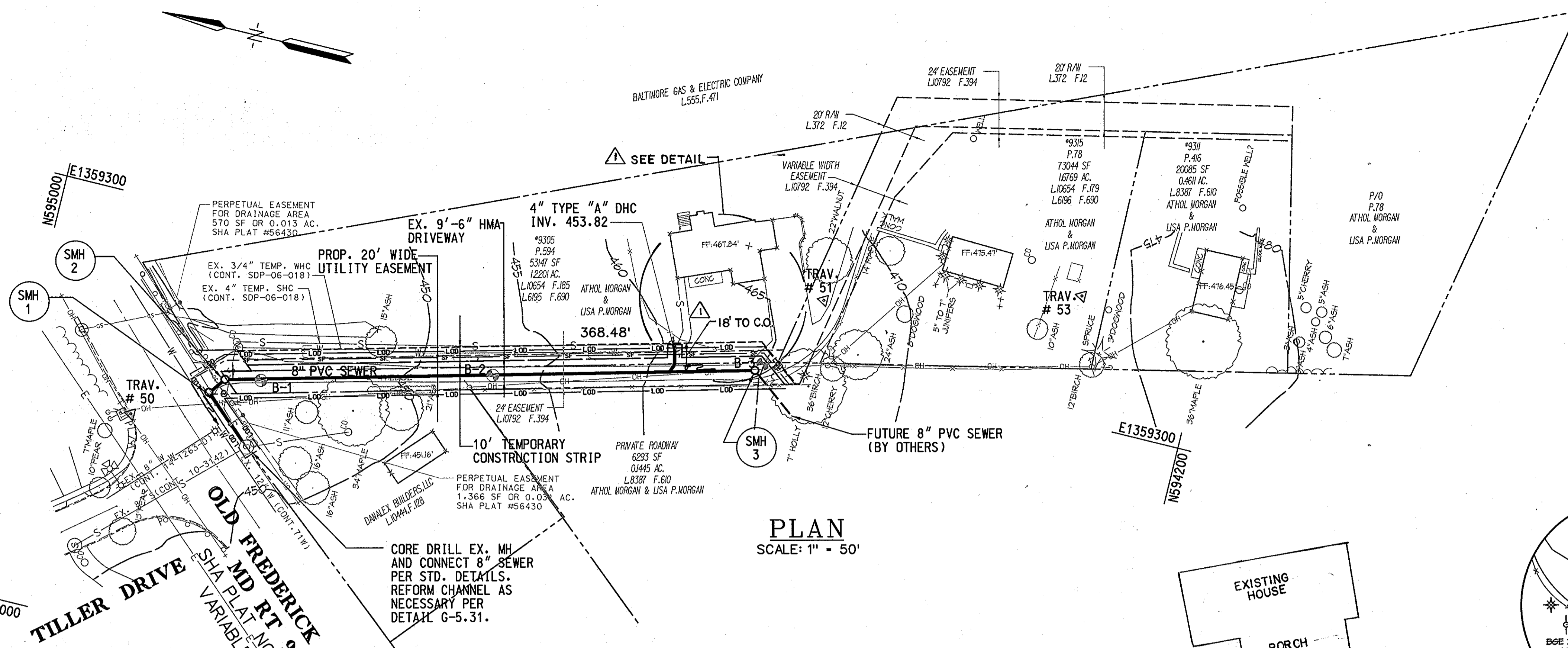
TITLE SHEET

600' SCALE MAP NO. 17 BLOCK NO. 10

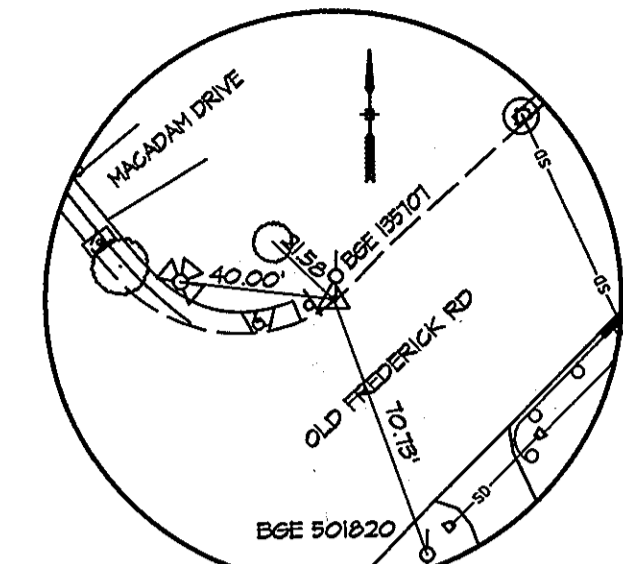
TILLER DRIVE  
 SEWER EXTENSION  
 CAPITAL PROJECT No. S-6266  
 CONTRACT No. 10-4641

ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

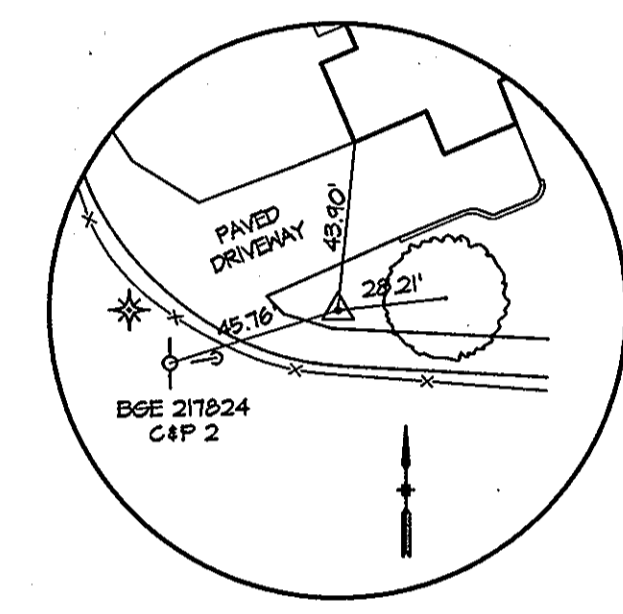
SCALE AS SHOWN  
 SHEET 1 OF 3



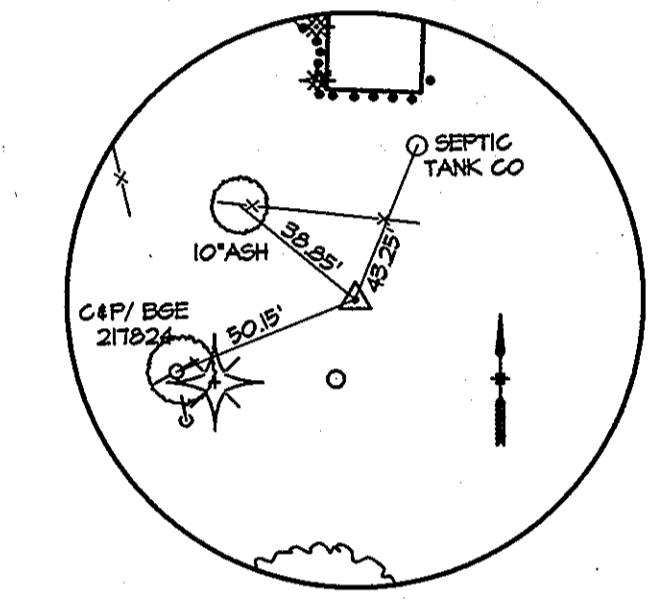
**PLAN**  
SCALE: 1" = 50'



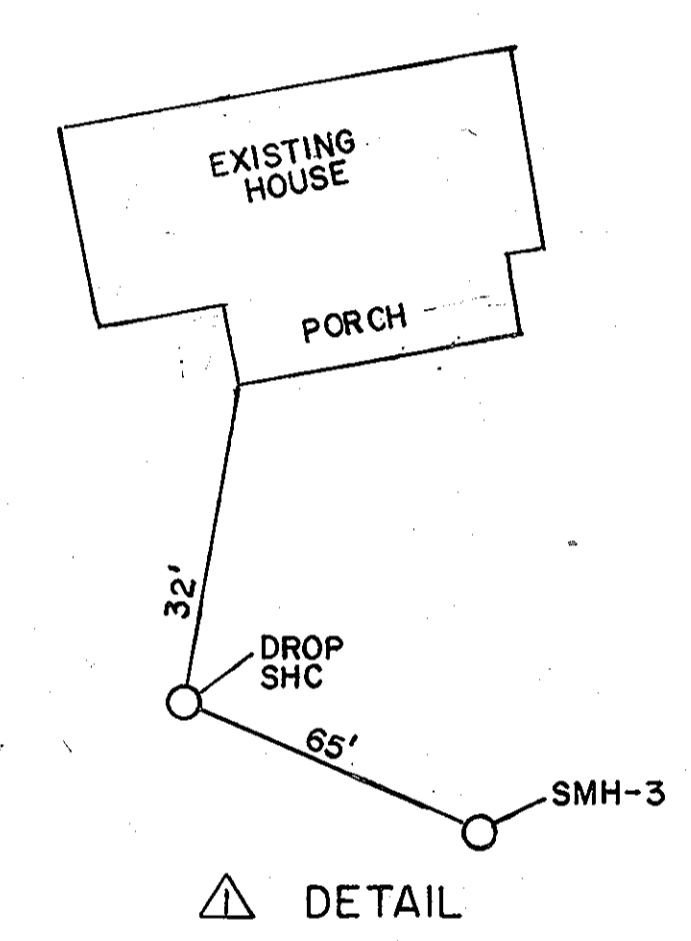
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SCALE = N.T.S.



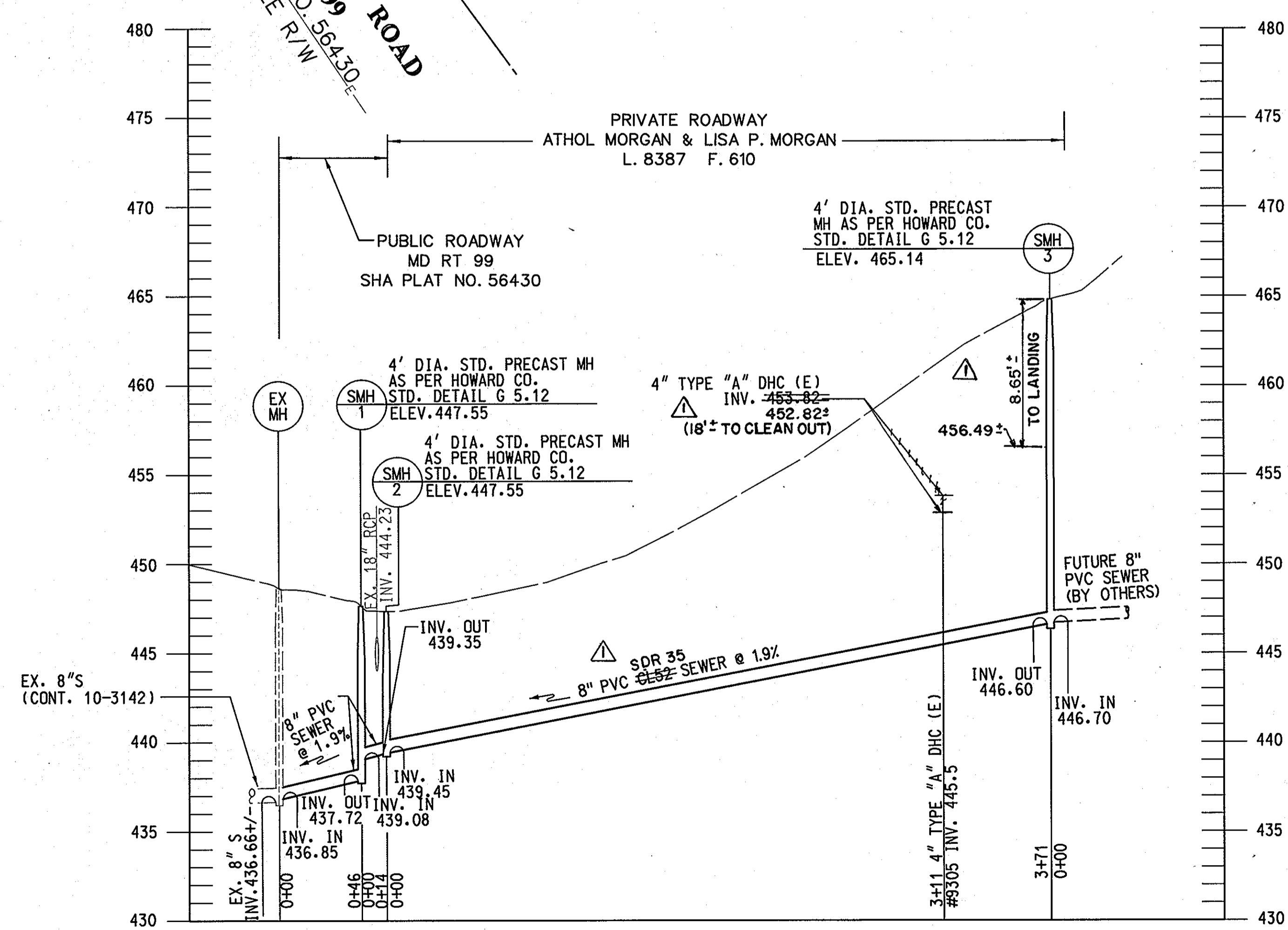
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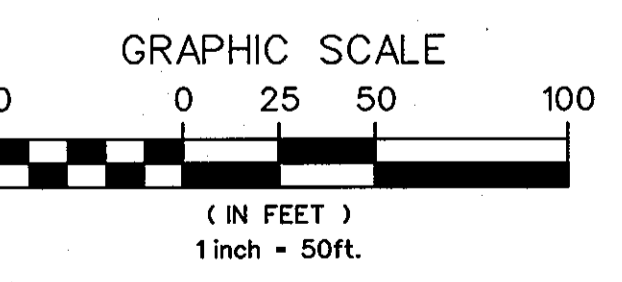
**TRAV. #53**  
SCALE = N.T.S.



**DETAIL**



**PROFILE**  
SCALE: HORIZONTAL 1" = 50'  
VERTICAL 1" = 5'



GRAPHIC SCALE  
(IN FEET)  
1 inch = 50ft.

TRAVERSE COORDINATE SCHEDULE				
NUMBER	DISCRIPTION	NORTHING	EASTING	ELEVATION
TRAV.#50	REBAR & CAP	594916.75	1359148.60	448.30
TRAV.#51	REBAR & CAP	594465.27	1359341.63	467.54
TRAV.#53	REBAR & CAP	594290.66	1359387.65	474.23

SANITARY SEWER STAKEOUT COORDINATES SCHEDULE		
NAME	NORTHING	EASTING
SMH 1	594867.30	1359176.33
SMH 2	594858.53	1359187.80
SMH 3	594500.29	1359282.37

**AS-BUILT**  
DATE 3-9-2012

PLOTTED: 01:55 PM on Monday, January 30, 2012  
 BY: Gailia Wang, Division: P042 - W-WW-Solid Waste GMA Emp  
 FILE: M:\2007\0107278 D:\Drawings\10-4641-03-03-10.dwg

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS  
 DATE 2/1/12

CHIEF, BUREAU OF ENGINEERING  
 DATE 2/1/12

CHIEF, UTILITY DESIGN DIVISION  
 DATE 1/31/12

ENGINEERS  
PLANNERS  
SCIENTISTS  
CONSTRUCTION MANAGERS

**KCI**  
 TECHNOLOGIES  
 936 RIDGEBROOK ROAD  
 SPARKS, MARYLAND 21152  
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 WWW.KCI.COM

STATE OF MARYLAND  
  
 GAILIA WANG  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 31363  
 EXPIRATION DATE: 1/16/2014

DES: MRD  
 DRN: CK  
 CHK: TW  
 DATE: SEPT. 2010  
 LFN: AS BUILT  
 BY: NO. REVISION

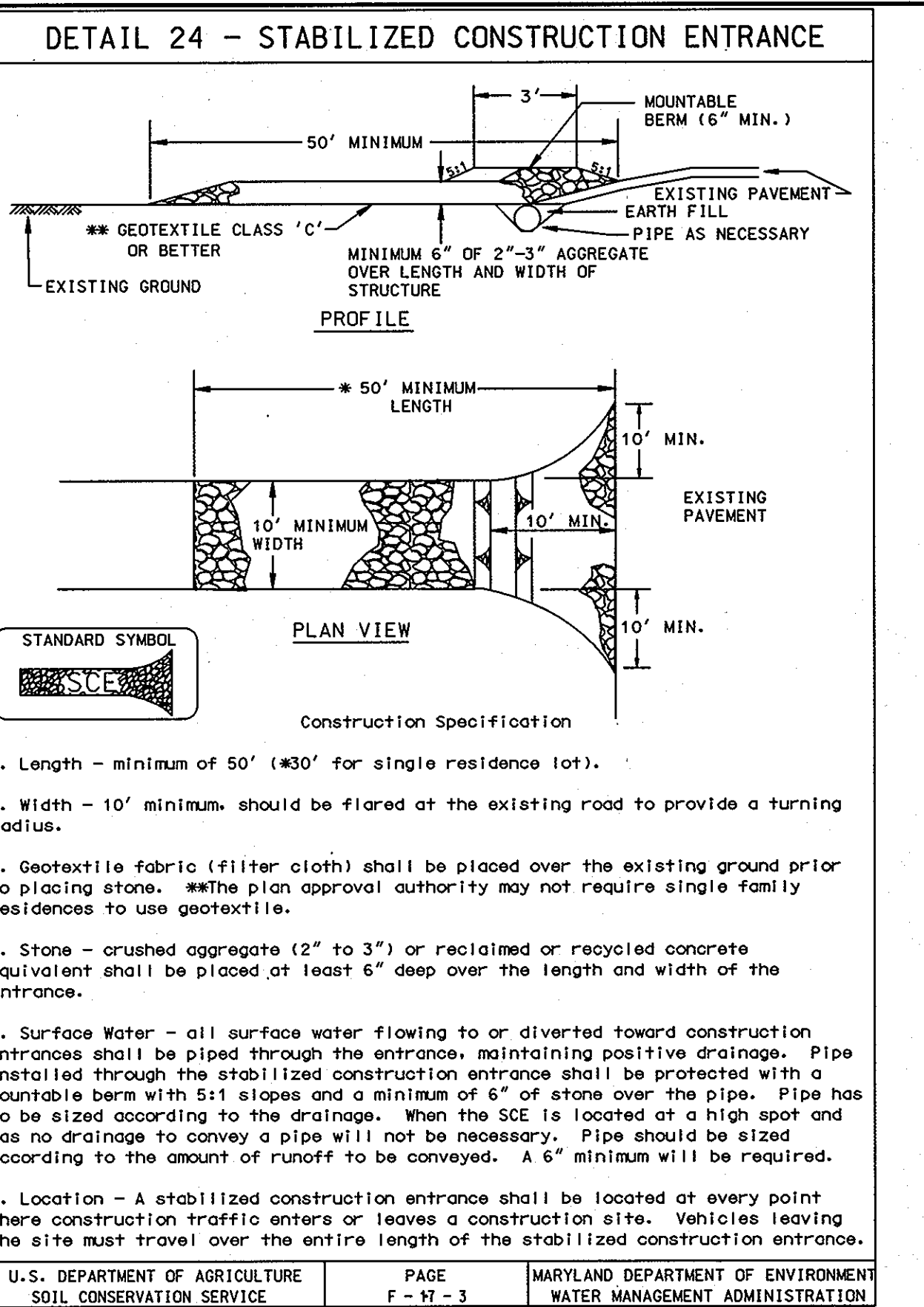
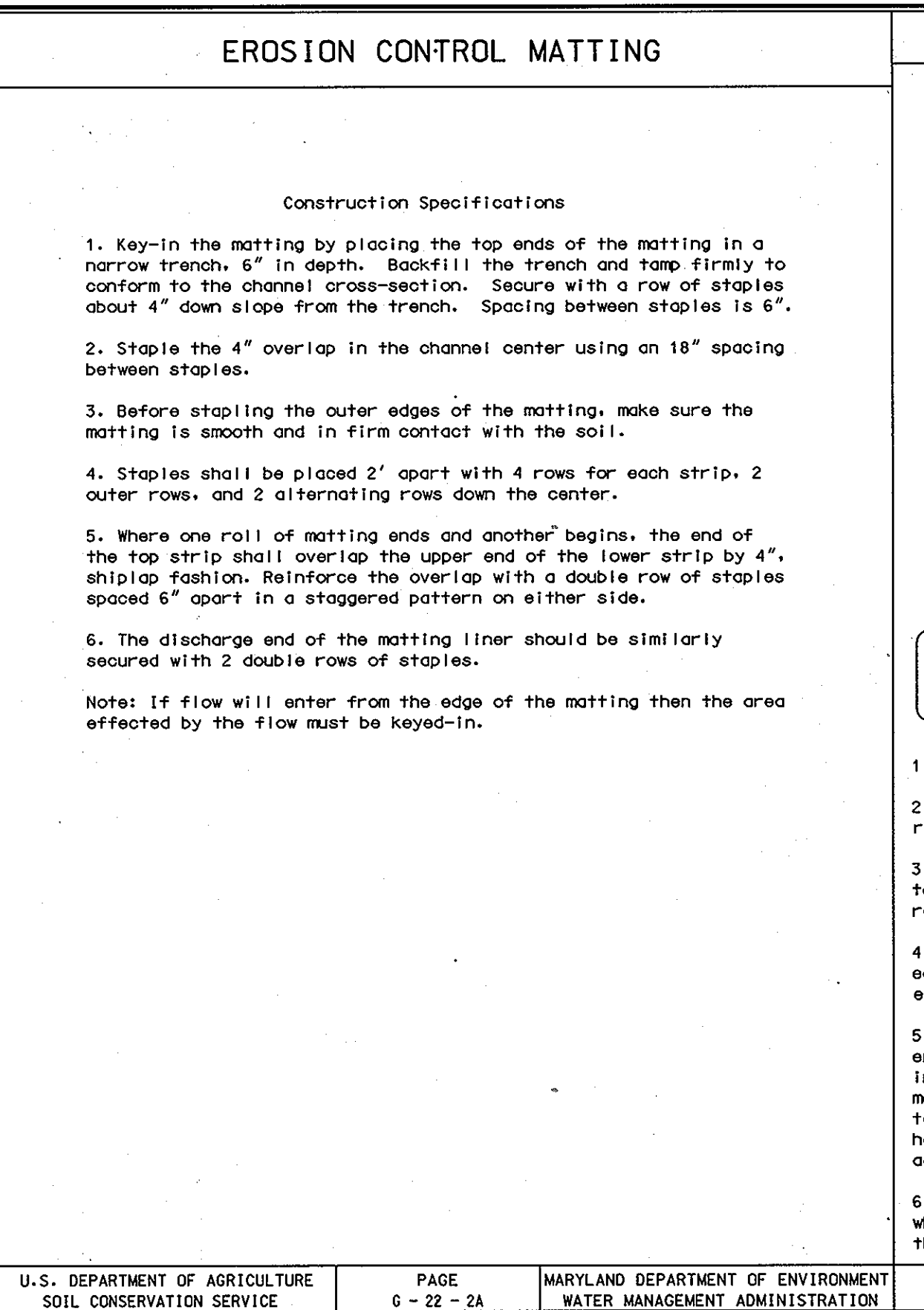
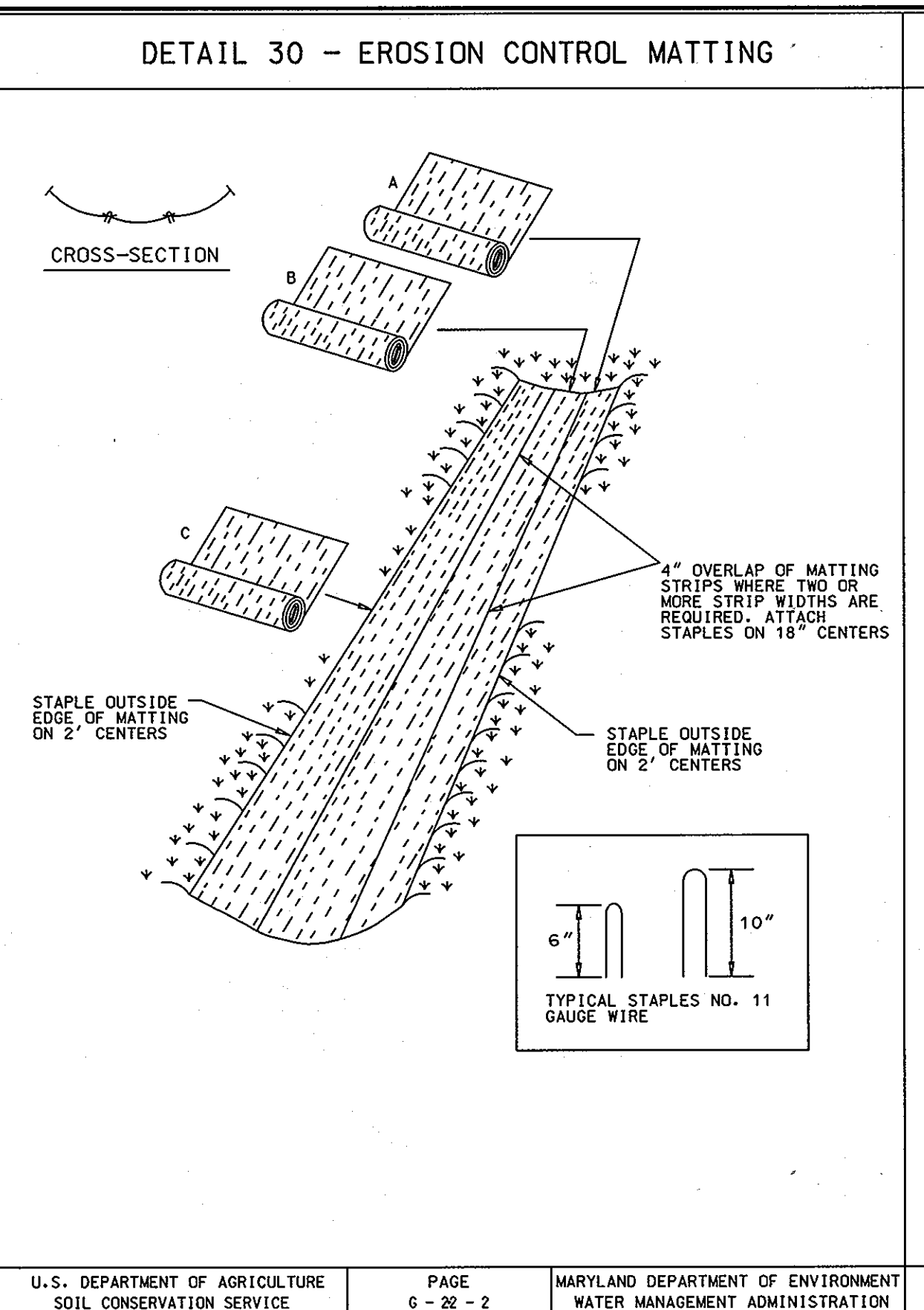
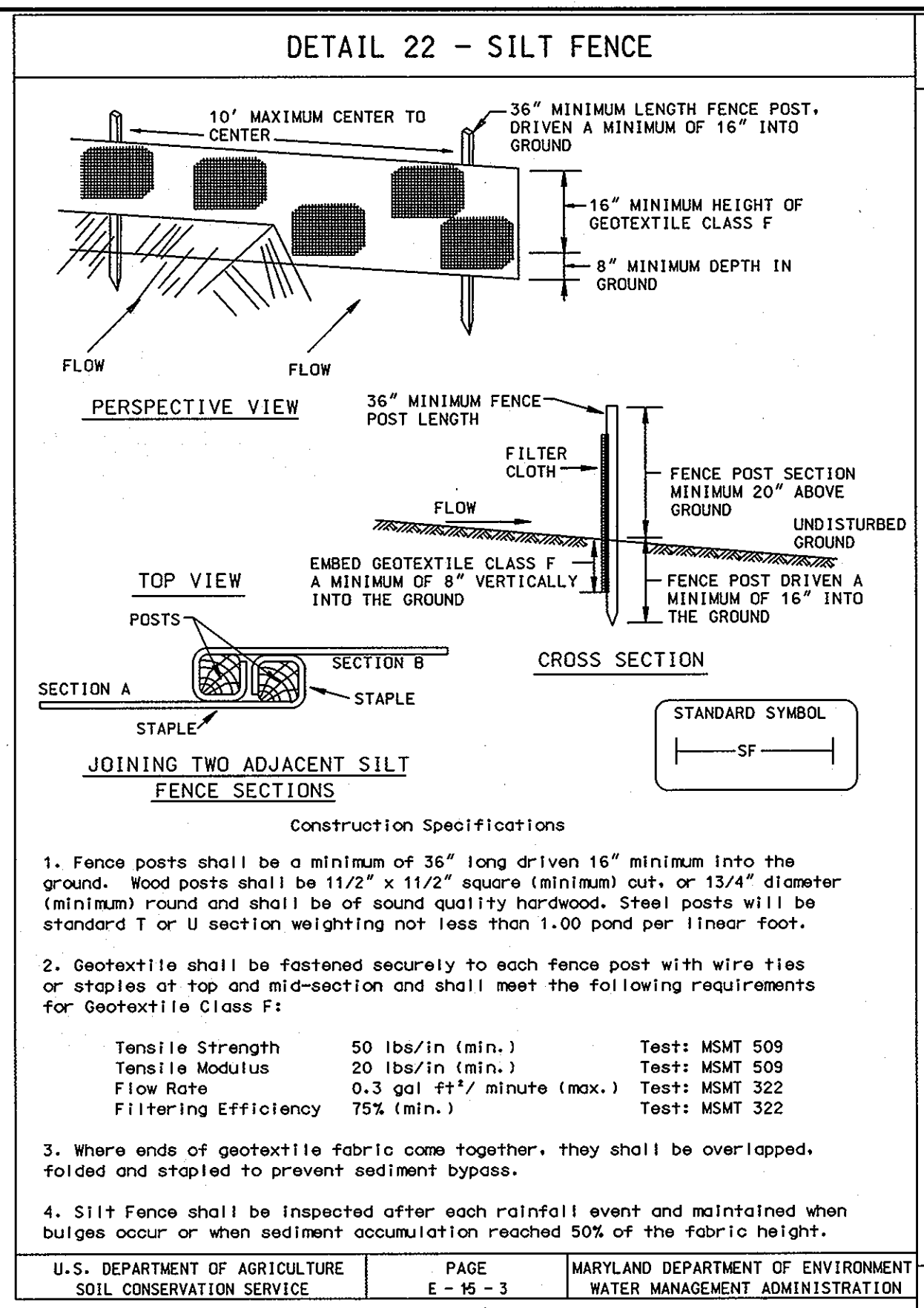
**TILLER DRIVE  
8" SEWER  
PLAN AND PROFILE**

600' SCALE MAP NO. 17 BLOCK NO. 10

**TILLER DRIVE  
SEWER EXTENSION**  
 CAPITAL PROJECT No. S-6266  
 CONTRACT No. 10-4641

ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 2 OF 3



**SEQUENCE OF CONSTRUCTION**

- OBTAIN GRADING PERMIT.
- LAYOUT ALIGNMENT AT SITE. (2 DAYS)
- INSTALL SEDIMENT CONTROL DEVICES AS SHOWN ON PLAN.
- EXCAVATE DITCH TO THE GRADE SPECIFIED ON THE PROFILE. INSTALL SEWER MAIN AND BACK FILL TRENCH AND STABILIZE IN KIND (30 DAYS) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO 25' OF PIPE LENGTH OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- CLEAN UP CONSTRUCTION SITE. (1 DAY)
- REMOVE SEDIMENT CONTROL DEVICES AFTER PERMISSION IS GRANTED BY THE SEDIMENT CONTROL INSPECTOR. (1 DAY)

**PERMANENT SEEDING NOTES**

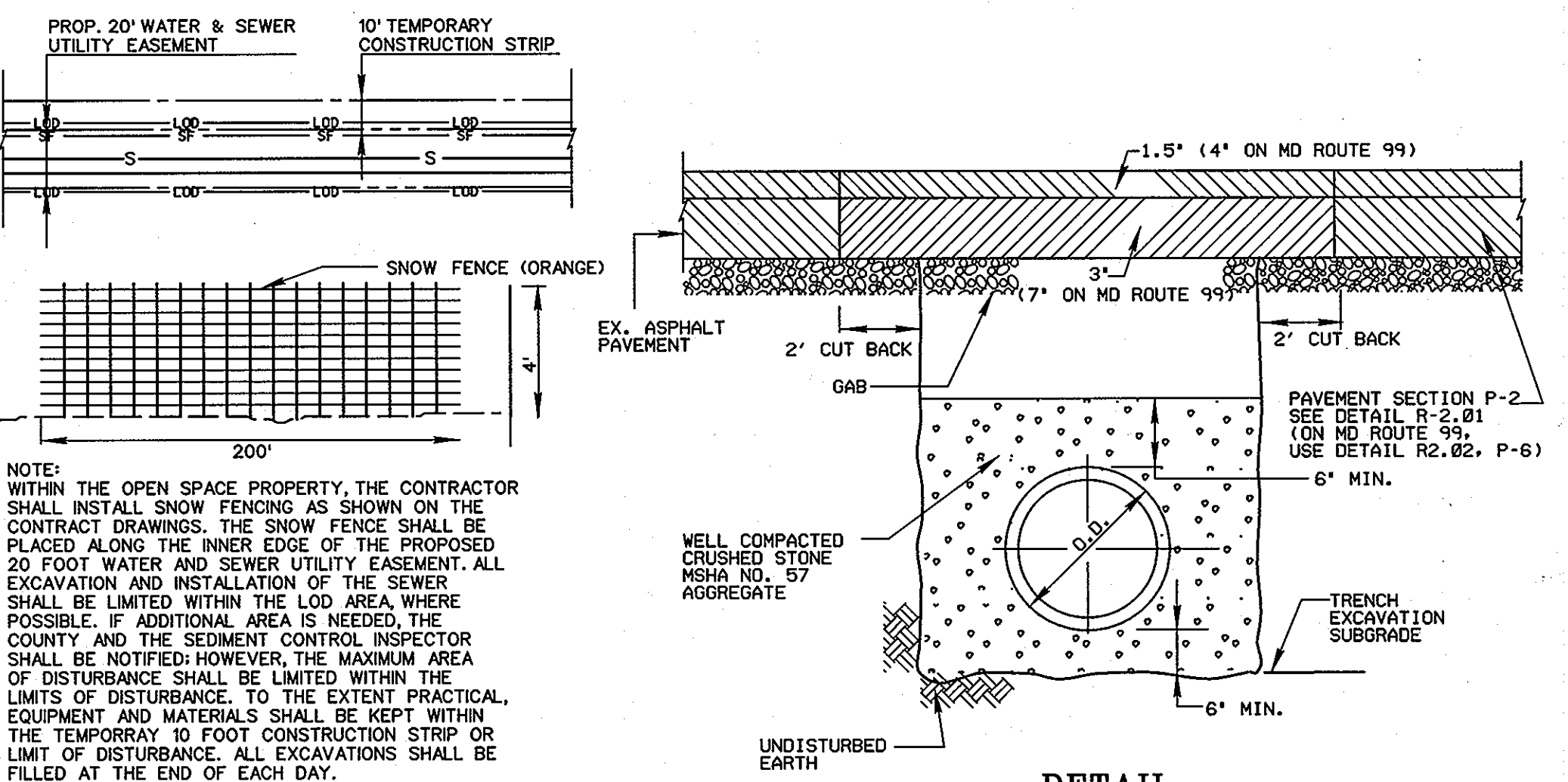
**SOIL AMENDMENTS**  
 A. GROUND AGRICULTURAL LIMESTONE (100 POUNDS OF GROUND LIMESTONE IS EQUIVALENT TO 75 POUNDS OF HYDRATED LIME OR 50 POUNDS OF BURNED LIME). THE CONTRACTOR WILL SPECIFY WHAT MATERIAL HE IS USING. LIME SHALL CONTAIN NOT LESS THAN 85% OF TOTAL CARBONATES, 50% PASS 100 MESH, 90% PASS 20 MESH.  
 B. LIME SHALL BE APPLIED SEPARATELY AND PRIOR TO THE APPLICATION OF ANY FERTILIZER OR SEED AND ONLY ON SEEDBEDS THAT HAVE PREVIOUSLY BEEN PREPARED AS PER THE SPECIFICATIONS. LIME SHALL BE INCORPORATED WITHIN 24 HRS FOLLOWING ITS APPLICATION. LIME SHALL BE WORKED INTO A DEPTH OF SIX (6) INCHES AFTER WHICH THE SEEDBED SHALL AGAIN BE PROPERLY GRADED AND DRESSED TO A SMOOTH FINISH.  
**LIMITING PROCEDURES:**  
 A. LIME SHALL BE SPREAD AT A RATE OF 1.5 TONS PER ACRE AND INCORPORATED IN A MANNER THAT ACHIEVES UNIFORM DISTRIBUTION.  
**FERTILIZATION:**  
 MUST USE A BLENDED FERTILIZER WITH A N-P-K RATIO ON THE ORDER OF 1-3-2 SUCH AS 5-25-10 BLEND. A MINIMUM OF 50% OF THE NITROGEN MUST BE A SLOW RELEASE SOURCE OF NITROGEN.  
**SEED SELECTION & RATES**  
 SEED MIXTURE FOR SPRING OR FALL SEEDING SHALL BE AS FOLLOWS:  
 HOWARD COUNTY RECREATION AND PARKS RIPARIAN SEED MIX

%	BOTANICAL NAME	COMMON NAME	TYPE	IND.
10%	AGROSTIS ALBA	REDFOP	N/A	FACV
10%	ANDROPOGON GERARDII	BIG BLUESTEM	WARM SEASON FAC	
10%	ELYMUS RIPARIUS	RIVERBANK WILD RYE	COOL SEASON FACV	
10%	ELYMUS VIRGINICUS	VIRGINIA WILD RYE	COOL SEASON FACV	
45%	LOLIUM MULTIFLORUM	ANNUAL RYEGRASS	N/A	NI
10%	PANICUM VIRGATUM	SWITCHGRASS	WARM SEASON FAC	
5%	CHAMAECRISTA FASCICULATA	PARTICIDGE PEA	LEGUME	

COMPLETE SEED MIX APPLIED AT A RATE OF 50 LBS/AC  
 SEED MIX FOR SUMMER SEEDING SHALL BE AS FOLLOWS:  
 50% LOLIUM MULTIFLORUM ANNUAL RYEGRASS  
 50% SETARIA ITALICA FOXTAIL MILLET  
 SEEDED AT 4.0 LBS. PER 1,000 SQ. FT.  
**SCHEDULE**  
 SEED SHALL BE SOWN BETWEEN MARCH 15 TO MAY 15 OR AUGUST 15 TO OCTOBER 30.

**TEMPORARY SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.  
**SEEDING PREPARATION:** LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. IF NOT PREVIOUSLY LOOSENED.  
**SOIL AMENDMENTS:** APPLY 6000 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT.).  
**SEEDING:** FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (0.97 LBS/1000 SQ FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WEL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.  
**MULCHING:** APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT.) OF UNHOTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 219 GAL PER ACRE (15 GAL/1000 SQ FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ FT.) FOR ANCHORING.  
 REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.



**DETAIL 1.3 CONSTRUCTION AREA**  
 NOT TO SCALE  
 TRENCH FOR PVC PIPE AND HIGH DENSITY POLYETHYLENE PIPE & PAVEMENT  
 NO SCALE  
 \* BASED ON HOWARD COUNTY STANDARD DETAIL G2.01

**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. (410-313-1855).
- 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 THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:  
 A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.  
 B) 14 DAYS AS TO 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. G20.0) FOR PERMANENT SEEDINGS, SOD, 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	0.30 ACRES
AREA DISTURBED	0.20 ACRES
AREA TO BE ROOFED OR PAVED	0.05 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.15 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.

**BEST MANAGEMENT PRACTICE (BMP) NOTES**

- NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100 YEAR FLOODPLAIN.
- 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.
- 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.
- 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.
- REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT MODIFICATION OF THE 100 YEAR FLOODPLAIN IN EXCESS OF THAT UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
- RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100 YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
- 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 (UNIOLEA 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.
- AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
- TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM.  
 USE 1 WATER'S IN STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
- STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAYS.
- 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.

**AS-BUILT**  
 DATE 3-9-2012

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: [Signature] DATE: 2/1/12  
 Chief, Bureau of Utilities: [Signature] DATE: 2/1/12

Chief, Bureau of Engineering: [Signature] DATE: 1/31/12  
 Chief, Utility Design Division: [Signature] DATE: 1/31/12

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  
 No. 31363

DES: MRD	
DRN: CK	
CHK: TW	
DATE: SEPT. 2010	BY: LFN
	NO. AS BUILT
	REVISION
	DATE: 3/9/2012

**EROSION AND SEDIMENT CONTROL NOTES AND DETAILS**

60' SCALE MAP NO. 17 BLOCK NO. 10

TILLER DRIVE  
 SEWER EXTENSION  
 CAPITAL PROJECT No. S-6266  
 CONTRACT No. 10-4641

ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 3 OF 3

PLOTTED: 01:57 PM on Monday, January 30, 2012  
 BY: Ching Wang, Division: P042, W-WW, Solid Waste, GMA  
 FILE: \\MXX001\010121978.DWG, PLOTNUMBER: 10-004-ESC-10.dgn