

TEN MILLS ROAD ROUTINE SEWER EXTENSION

CAPITAL PROJECT NO.:S6698

CONTRACT NO.:20-4910

HOWARD COUNTY, MARYLAND

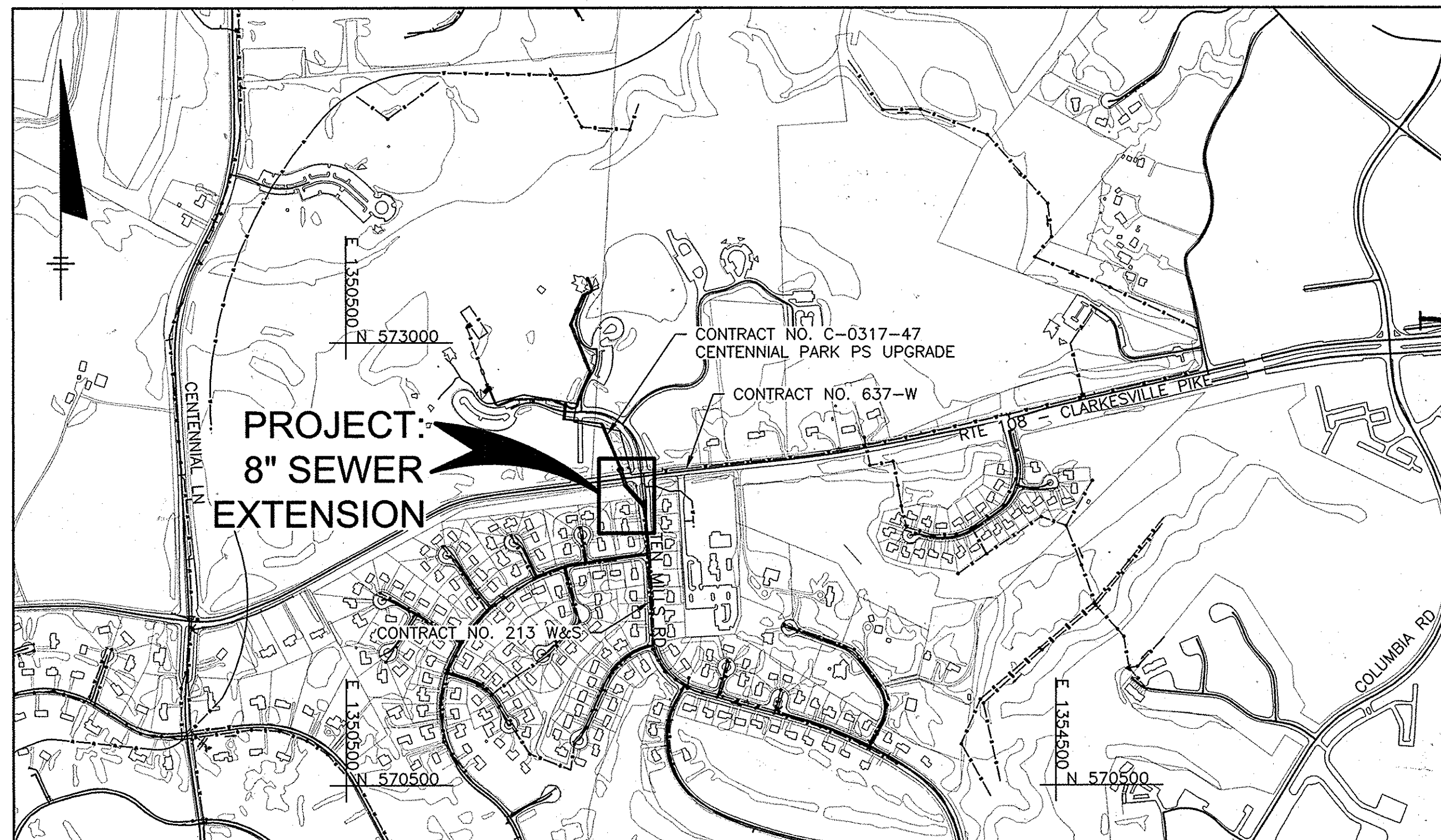
DEPARTMENT OF PUBLIC WORKS

INDEX OF DRAWINGS	
DRAWING NO.	TITLE
1	COVER SHEET, GENERAL NOTES, LEGEND, AND ABBREVIATIONS
2	SITE PLAN/EROSION AND SEDIMENT CONTROL PLAN/SEWER PROFILE
3	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

QUANTITIES					
ITEM	BID AMOUNT	UNIT	AS-BUILT AMOUNT	MATERIAL	SUPPLIER
8" PVC SDR 35	245	LF			JM EAGLE OPS CO.
24" STEEL CASING	74	LF			
TRANSITION SEWER MANHOLE (SMH2)	.5	VF			
SEWER MANHOLE (SMH1)	10	VF			

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 NOVEMBER 2014 BY HOWARD COUNTY SURVEY DIVISION.
- 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.30 BA AND NO.30 BD.
ALL VERTICAL CONTROLS ARE BASED ON NAVD '88.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5' -0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS ARE INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
AT&T.....1-800-252-1133
BGE (CONSTRUCTION SERVICES)410-637-8713
BGE (EMERGENCY)410-685-0123
BUREAU OF UTILITIES.....410-313-4900
COLONIAL PIPELINE CO410-795-1390
MISS UTILITY.....1-800-257-7777
STATE HIGHWAY ADMINISTRATION410-531-5533
VERIZON1-800-743-0033
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE LIMITS OF THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/ SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(A) OF THE HOWARD COUNTY CODE.
- 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. UNLESS OTHERWISE NOTED.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.



WATER AND SEWER CODE FOR COUNTY USE ONLY:

NO. OF WATER CONNECTIONS:	N/A
NO. OF SEWER CONNECTIONS:	1
DRAINAGE AREA:	LITTLE PATUXENT
TYPE OF BUILDING:	RESIDENTIAL
NO. OF PARCELS:	1

VICINITY MAP
SCALE: 1" = 600'

LEGEND
(PLAN AND PROFILE SHEETS)

	SIDEWALK		SPOT ELEVATION
	PAVEMENT (EDGE)		EX. SAN. SEW. MH/PUMP STATION
	GRAVEL (EDGE)		NEW SAN. SEW. MH/PUMP STATION
	CONCRETE (EDGE)		CLEAN OUT
	BUILDING		LIGHT POLE
	TREE LINE		TRAFFIC LIGHT
	CENTERLINE		PEDESTRIAN SYMBOL
	SHA THRU HIGHWAY RIGHT-OF-WAY		UTILITY POLE
	PROPERTY LINE/RIGHT-OF-WAY		TEST PIT
	MAJOR CONTOUR		
	MINOR CONTOUR		
	EXISTING WATER MAIN		
	EX. GRAVITY SEWER		
	EX. SANITARY FORCE MAIN		
	EX. GROUND WIRES		
	EX. OVERHEAD ELECTRIC LINES		
	NEW GRAVITY SEWER		
	ABANDON IN PLACE		
	LIMIT OF DISTURBANCE		
	SILT FENCE		

ABBREVIATIONS:

BGE	BALTIMORE GAS & ELECTRIC
BLDG.	BUILDING
BOT	BOTTOM
C&G	CURB AND GUTTER
CONC.	CONCRETE
CONSTR.	CONSTRUCTION
CONTR.	CONTRACT
DET OR DTL.	DETAIL
DIP	DUCTILE IRON PIPE
DR	DRIVE
E OR ELEC	ELECTRIC
EA	EACH
ESMT	EASEMENT
EX	EXISTING
FLG	FLANGE
GV	GATE VALVE
HC	HOWARD COUNTY
HDPE	HIGH DENSITY POLYETHYLENE
HORIZ	HORIZONTAL
INV	INVERT
JT	JOINT
LF	LINEAR FOOT
LOD	LIMIT OF DISTURBANCE
MD	MARYLAND
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
NO	NUMBER
PROP	PROPOSED
PVMT	PAVEMENT
R/W	RIGHT OF WAY
RD	ROAD
REQD	REQUIRED
ROW	RIGHT-OF-WAY
RSV	RESILIENT SEAT GATE VALVE
RSWV	RESILIENT WEDGE GATE VALVE
S	SEWER
SAN	SANITARY
SD	STORM DRAIN
SHA	STATE HIGHWAY ADMINISTRATION
SHT	SHEET
S.S.	STAINLESS STEEL
STD	STANDARD
TEMP	TEMPORARY
VERT	VERTICAL
W/	WITH

SURVEY INFORMATION TABLE

GEODETIC CONTROL STA.	NORTHING	EASTING	ELEV.
30 BA	573,149.06	1,357,083.25	397.17'
30 DB	572,298.14	1,353,001.82	409.15'

NOTE: GEODETIC CONTROLS INDICATED IN TABLE ABOVE ARE NOT WITHIN THE LIMITS OF THE PROJECT LOCATION MAP ABOVE. APPROXIMATE DISTANCES ARE: 30 BA (500') & 30 DB (1200') THESE GEODETIC CONTROLS WERE USED TO ESTABLISH THE GPS CONTROLS INDICATED ON THE CONTRACT DOCUMENTS.

As-Built

OWNERS/DEVELOPER 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
Kim Stein 3/23/15
Signature of Developer Date

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.

HOWARD SOIL CONSERVATION DISTRICT CERTIFICATION:
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT (SCD).
Howard Soil Conservation District Date

ENGINEERS DESIGN CERTIFICATION:
I 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.
Nolly De 3/19/15
Signature of Engineer - Registration Number Date

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Director of Public Works: *Jay De* 3/24/15
Chief - Bureau of Engineering: *Thomas R. Butler* 3/23/15
Chief of Utilities: *Mark Walsh* 3/23/15
Chief, Utility Design Division: *W.S.* 3/23/15

O'Brien & Gere
4201 MITCHELLVILLE ROAD
SUITE 500
BOWIE, MD 20716
PHONE: 301-731-5622

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. 18923, EXPIRATION DATE 12/08/2015

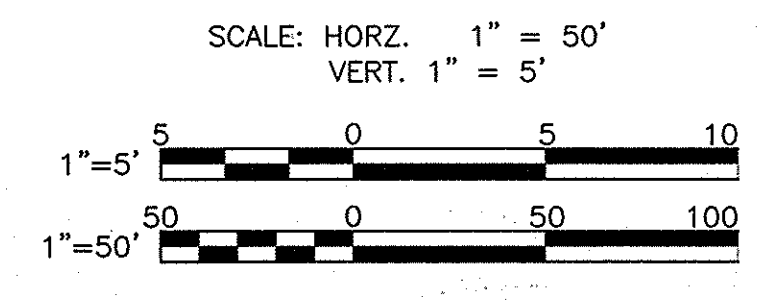
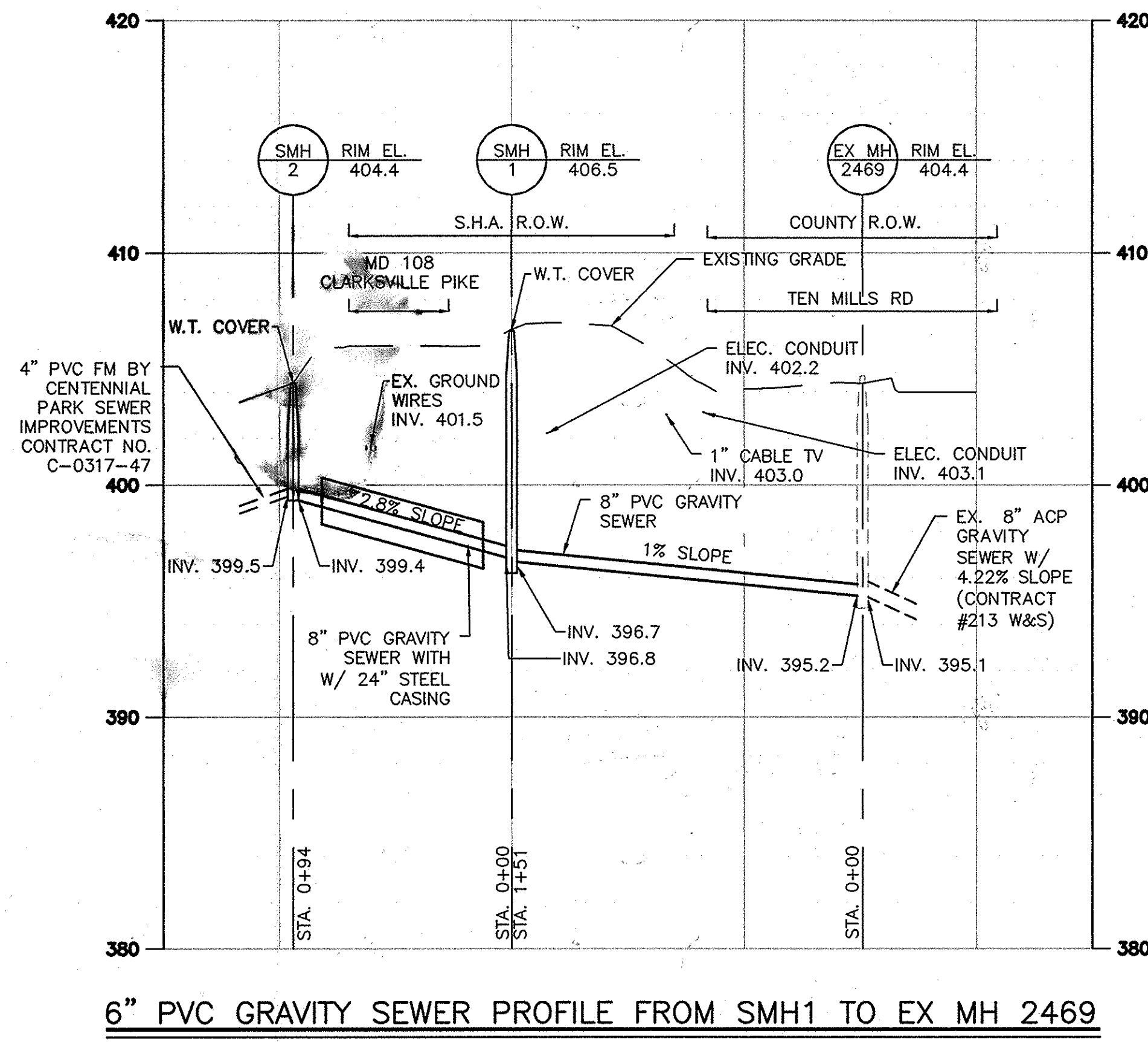
DSN. BY:	DHJ			
DRN. BY:	BKA			
CHK. BY:	RJD			
DATE:	02/15	W.S.	1	AS BUILTS
BY NO.				REVISION
DATE:				9/9/15

COVER SHEET, GENERAL NOTES, LEGEND, AND ABBREVIATIONS
600' SCALE MAP NO. 29 BLOCK NO. 18

TEN MILLS ROAD
ROUTINE SEWER EXTENSION
CAPITAL PROJECT NO.: S6698
CONTRACT NO.: 20-4910
ELECTION DISTRICT 2/5
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 1 OF 3

\\RICHMONDSVR\PROJECTS\HOWARD-CO\2343\51612\CENTENNIAL-PARK\DOCS\DWG-SHEETS\51612-001.DWG

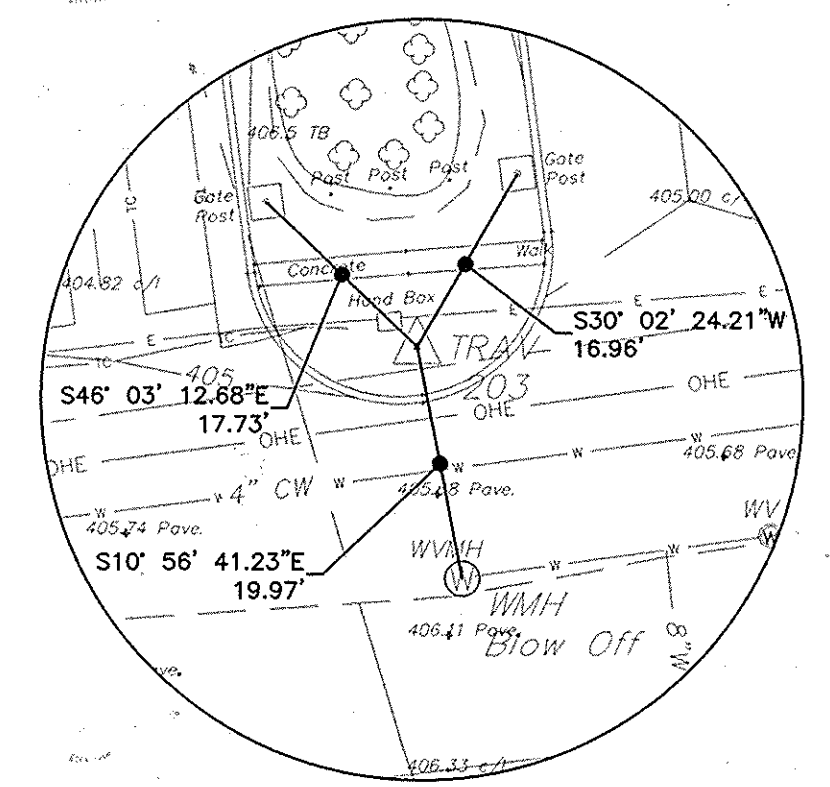
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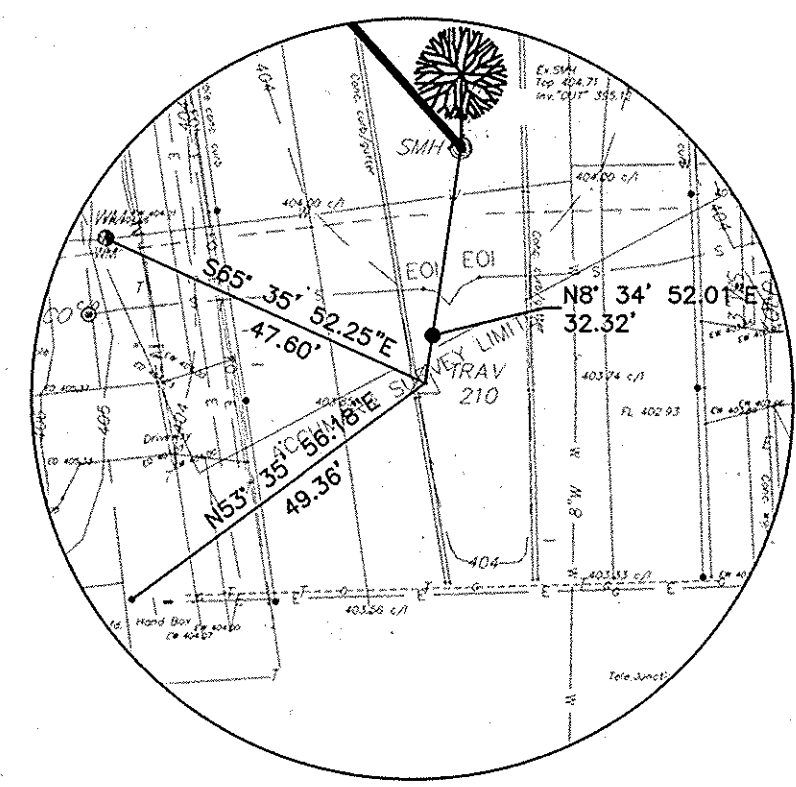
- NOTES:**
1. THE UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD RUN SURVEY INFORMATION PROVIDED BY HOWARD COUNTY AND SUPPLEMENTED BY EXISTING DRAWINGS, PLANS AND OTHER SOURCES. ALL UTILITY LOCATIONS SHOULD BE VERIFIED PRIOR TO ANY CONSTRUCTION THAT MAY RESULT IN A CHANGE IN FUNCTION AND OR RELOCATION OF SAID UTILITY.
 2. HOWARD COUNTY MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. HOWARD COUNTY FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ON THIS DRAWING.
 3. IT WILL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY SAID UTILITIES. A FIELD SURVEY WAS PERFORMED IN NOVEMBER 2014 BY THE HOWARD COUNTY SURVEY DIVISION AND IS BASED ON GEODETIC CONTROL STATIONS 30 BA AND 30 BD, BEING A PART OF THE MARYLAND STATE REFERENCE SYSTEM NAD '83/'91.

MANHOLE COORDINATE TABLE

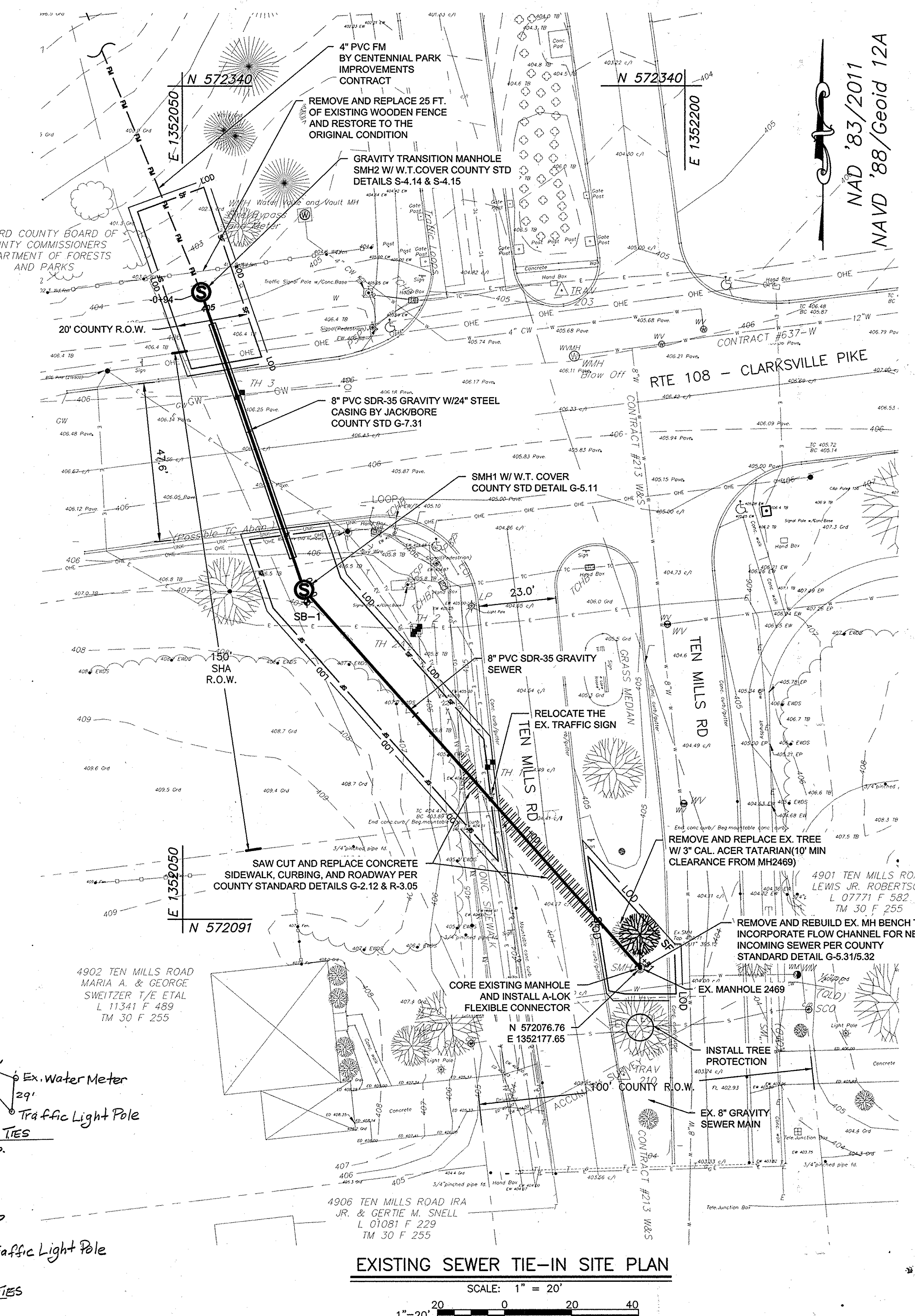
NUMBER	NORTHING	EASTING
SMH1	572189.51	1352086.24
SMH2	572278.46	1352055.62



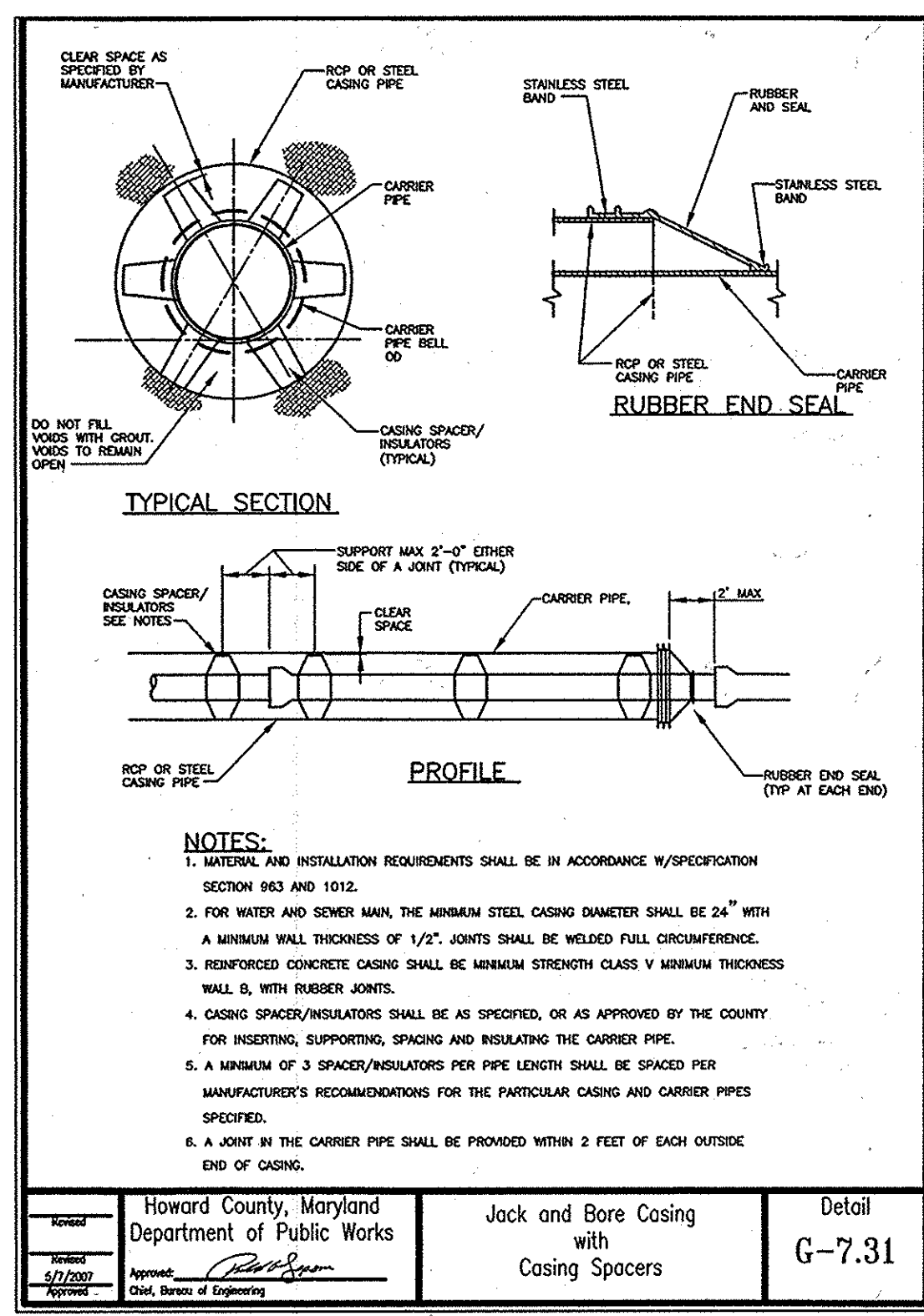
TRAVERSE POINT 203
NOT TO SCALE



TRAVERSE POINT 210
NOT TO SCALE



EXISTING SEWER TIE-IN SITE PLAN
SCALE: 1" = 20'
1"=20'



EXISTING SEWER TIE-IN SITE PLAN
SCALE: 1" = 50'
1"=50'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *3/24/15*
 Chief - Bureau of Engineering: *3/23/15*
 Chief, Bureau of Utilities: *3/23/15*

O'Brien & Gere
4201 MITCHELLVILLE ROAD
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DSN. BY:	DHJ
DRN. BY:	BKA
CHK. BY:	RJD
DATE:	02/15
BY NO.	1
REVISION	As Builts

SITE PLAN/ EROSION AND SEDIMENT CONTROL PLAN/ SEWER PROFILE

600' SCALE MAP NO. 29 BLOCK NO. 18

TEN MILLS ROAD ROUTINE SEWER EXTENSION
CONTRACT NO.: 20-4910
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ELECTION DISTRICT 2/5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 3

As-Built

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

ELEVATION

CROSS SECTION

EMBED GEOTEXTILE MIN. OF 8 IN VERTICALLY INTO THE GROUND, BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF GEOTEXTILE.

JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE

PLAN VIEW

PROFILE

CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (±30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

PLASTIC

PIPE DIA "D"	"W"	TRENCH WIDTH
4	12	28
6	11	28
8	10	28
10	9	28
12	8	28

ALL DIMENSIONS IN INCHES

NOTES:

- THE "W" DIMENSION SHALL BE USED TO CALCULATE MAXIMUM TRENCH PAY WIDTH.
- FOR TRENCHES WHERE TRENCH BOX OR TRENCH SHEETING IS NOT REQUIRED, MEASUREMENT FOR CONTINGENT BORROW MATERIALS WILL BE BASED ON THE TRENCH WIDTH SHOWN.
- FOR TRENCHES WHERE TRENCH BOX OR TRENCH SHEETING IS REQUIRED, MEASUREMENT FOR CONTINGENT BORROW MATERIALS WILL BE BASED ON THE TRENCH WIDTH SHOWN PLUS 24 INCHES.
- FOR COPPER, PVC AND HDPE PIPE, 3 INCHES OR SMALLER: PIPE EMBEDMENT ZONE MATERIAL IS FINE AGGREGATE (SAND) "W" DIMENSION IS 6 INCHES MINIMUM AND BEDDING THICKNESS UNDER PIPE IS 4" MINIMUM. FOR TRENCHES IN ROCK, MINIMUM BEDDING THICKNESS IS 6 INCHES.
- SPECIAL DESIGN IS REQUIRED AND SHALL BE SPECIFIED OR DETAILED IN THE CONTRACT DOCUMENTS FOR THE FOLLOWING PIPES:
PVC ANMA C-205 LARGER THAN 12 INCHES
PVC GRUNTY SANITARY SEWERS LARGER THAN 12 INCHES
HOPE CORRUGATED DRAIN PIPE
STREAM CROSSINGS SEE DETAILS S-3.11 AND S-3.12

Howard County, Maryland Department of Public Works

Pipe Trench Plastic & Copper

Detail G-2.12

5/7/2007 Approved: [Signature] Chief, Bureau of Engineering

HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES CONTINUED

- EARTHWORK QUANTITIES SHOWN HERE ON ARE APPROXIMATE AND ARE FOR THE REVIEWING AGENCY USE ONLY. THE CONTRACTOR MUST MAKE HIS OWN DETERMINATION OF EARTHWORK QUANTITIES.
- VOLUMETRIC DISTRIBUTIONS SHOWN HEREON ARE SUBJECT TO GEOTECHNICAL OBSERVATION, TESTING AND CONFIRMATION TO BE PERFORMED BY THE CONTRACTOR'S TESTING AGENCY DURING CONSTRUCTION.
- DIRECT DISCHARGE OF UNTREATED (FOR SEDIMENT CONTROL) WATER IS NOT ALLOWED INTO STREAM.

SEQUENCE OF CONSTRUCTION

- THE CONTRACTOR SHALL NOTIFY MD SHA (RICK SHAGOGUE AT 301-642-8121) AND THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS SEDIMENT CONTROL DIVISION AT (301-313-1855) WITHIN SEVEN (7) DAYS TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN HOWARD COUNTY AND PROJECT REPRESENTATIVES.
- WITH THE APPROVAL OF THE HOWARD COUNTY INSPECTOR, INSTALL STABILIZED CONSTRUCTION ENTRANCES (SCE'S). CLEAR AND GRUB AREA TO INSTALL SEDIMENT CONTROL MEASURES/DEVICES AT LOCATIONS WHERE WORK WILL BE EACH DAY AND AS SHOWN ON THE PLANS.
- INSTALL SEDIMENT CONTROL MEASURES INCLUDING CLEAR WATER DIVERSION, SUPER SILT FENCE AND TEMPORARY DIVERSION PIPE.
- START CLEARING AND GRUBBING FOR AND INSTALL THE SANITARY FORCE MAIN. INSTALL SANITARY FORCE MAIN LINE (SEE PLANS) THAT CAN BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH DAY, AND/OR PER HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS SEDIMENT CONTROL NOTE #11. EXCAVATED MATERIAL MUST NOT BE STOCKPILED FOR LONGER THAN FOURTEEN (14) DAYS. EXCAVATED MATERIAL MUST BE STABILIZED WITH STRAW BALES, SILT FENCE, OR OTHER EROSION AND SEDIMENT CONTROL MEASURES TO PREVENT REENTRY OF SOIL INTO STREAMS AND WETLANDS. FOLLOW MAINTENANCE OF TRAFFIC NOTES.
- COMPLETE SANITARY GRAVITY SEWER/MANHOLES INSTALLATION.
- STABILIZE REMAINING DISTURBED AREAS. WITH APPROVAL OF THE HOWARD COUNTY SCD INSPECTOR, REMOVE THE SEDIMENT CONTROL MEASURES AND STABILIZE THE AREAS ASSOCIATED WITH ESC REMOVAL ACTIVITIES.

HOWARD SOIL CONSERVATION DISTRICT PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED. SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED --- APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 IBS/1000 SQ. FT.) AND 600 IBS/ACRE 10-10-10 FERTILIZER (14 IBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 IBS/ACRE 30-0-0 UREAFORM FERTILIZER (9 IBS/1000 SQ. FT.)
- ACCEPTABLE --- APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 IBS/1000 SQ. FT.) AND 1000 IBS/ACRE 10-10-10 FERTILIZER (23 IBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING --- FOR THE PERIODS MARCH 1 --- APRIL 30, AND AUGUST 1 --- OCTOBER 15, SEED WITH 60 IBS/ACRE (1.4 IBS/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 --- JULY 31, SEED WITH 60 IBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 IBS/ACRE (.05 IBS/1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 --- FEBRUARY 28, PROTECT SITE BY:

OPTION 1 --- TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING.

OPTION 2 --- USE SOD.

OPTION 3 --- SEER: WITH 60 IBS/ACRE KENTUCKY 30 TALL FESCUE AND MULCH WITH 2 TONS/ACRE

MULCHING --- APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 IBS/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

MAINTENANCE --- INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RE-DISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: --- LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: --- APPLY 600 IBS/ACRE 10-10-10 FERTILIZER (14 IBS/1000 SQ. FT.)

SEEDING: --- FOR PERIODS MARCH 1 --- APRIL 30 AND FROM AUGUST 15 --- OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 IBS/1000 SQ. FT.). FOR THE PERIOD MAY 1 --- AUGUST 14, SEED WITH 3 IBS/ACRE OF WEEPING LOVEGRASS (.07 IBS/1000 SQ. FT.); FOR THE PERIOD NOVEMBER 16 --- FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS/ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: --- APPLY 1-1/2 TO 2 TONS/ACRE (70 TO 90 IBS/1000 SQ. FT.) OF UNROTTED WOOD-FREE, SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 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 ADDITIONAL RATES AND METHODS NOT COVERED.

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

- USE WOOD POSTS 1 1/4 x 1 1/4 x 3/8 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "F" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
- USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
- WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
- EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL FENCE.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP

MAXIMUM DRAINAGE AREA = 1/4 ACRE

CONSTRUCTION SPECIFICATIONS

- USE NOMINAL 2 INCH x 4 INCH LUMBER
- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
- ATTACH A CONTINUOUS PIECE OF 1/2 INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
- PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
- PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET-TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
- INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
- FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
- AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

HOWARD SOIL CONSERVATION DISTRICT 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 (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 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.
- 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: 2.2 ACRES
AREA DISTURBED: 0.087 ACRES
AREA TO BE ROOFED OR PAVED: 0.023 ACRES
AREA TO BE REPAVED: 0.023 ACRES
AREA TO BE VEGETATIVELY STABILIZED: 0.064 ACRES
TOTAL CUT: 230 SQ. YD
TOTAL FILL: 230 SQ. YD
OFFSITE WASTE/BORROW ARE LOCATION: N/A
- ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL 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 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 PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
- ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
- 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 BEEN 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.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: [Signature] 3/23/15
Chief - Bureau of Engineering: [Signature] 3/23/15
Chief, Utility Design Division: [Signature] 3/23/15

O'Brien & Gere
4201 MITCHELLVILLE ROAD
SUITE 500
BOWIE, MD 20716
PHONE: 301-731-5622

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. 18523, EXPIRATION DATE 12/08/2015.

STATE OF MARYLAND
ROBERT JOHNSON
CHIEF ENGINEER

DSN. BY: DHJ
DRN. BY: BKA
CHK. BY: RJD
DATE: 02/15

BY NO. REVISION DATE

1 AS BUILT 9/9/15

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

600' SCALE MAP NO. 29 BLOCK NO. 18

TEN MILLS ROAD
ROUTINE SEWER EXTENSION
CAPITAL PROJECT NO.: S6698
CONTRACT NO.: 20-4910
ELECTION DISTRICT 2/5
HOWARD COUNTY, MARYLAND

SHEET 3 OF 3

FILE NO. 51612-008

As-Built