


HARRIET TUBMAN LANE SEWER EXTENSION CAPITAL PROJECT NO. S-6296 CONTRACT NO. 30-4997 HOWARD COUNTY, MARYLAND

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 EXPENSE.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON 05/19/2016 BY KCI TECHNOLOGIES, INC.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS:
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/07 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL POINTS 35F1 AND 35I2. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE 35F1 AND 35I2.
- 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 TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS REQUIRED. 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 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.
- ALL EXISTING UTILITIES SHALL BE TEST PITTED / LOCATED AS NECESSARY AND IN ADVANCE OF THE PROPOSED CONSTRUCTION, IN ORDER TO PROPERLY MAKE ALL REQUIRED UTILITY CROSSINGS AND / OR CONNECTIONS. ANY DISCREPANCIES OR UTILITY CONFLICTS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER. 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 OR IN THE SPECIFICATIONS. LOCATIONS OF OTHER EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN NOTED 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).....410-637-8713
BG&E (EMERGENCY).....410-685-0123
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(a) OF THE HOWARD COUNTY CODE.
- THE CONTRACTOR SHALL PROVIDE SURVEY CONSTRUCTION STAKEOUT FOR ALL NECESSARY LINES. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY LINES, GRADES AND ELEVATIONS, AND CUT SHEETS SHALL BE PREPARED BASED ON THE LINES AND GRADES SHOWN ON THE CONTRACT DRAWINGS.
- SPOIL FROM TRENCHING OPERATIONS SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
- THE CONTRACTOR SHALL USE THE AREA DESIGNATED ON THE PLANS AS THE STAGING / STORAGE AREA. THE WORK SHALL BE CONDUCTED UNDER STRICT ADHERENCE TO SECTION 308 - EROSION AND SEDIMENT CONTROL OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV. PRECONSTRUCTION CONTOURS SHALL BE RESTORED ONCE THE UTILITY HAS BEEN INSTALLED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND REPLACING THE EXISTING GUARDRAIL THAT IS DAMAGED OR REMOVED DURING CONSTRUCTION.

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SEWER PLAN & PROFILE
3	EROSION & SEDIMENT CONTROL PLAN AND DETAILS
4	EROSION & SEDIMENT CONTROL NOTES
5	TRAFFIC CONTROL PLAN

BILL OF MATERIALS

ITEM	UNIT	ESTIMATE	AS-BUILT	MANUFACTURER
8" PVC SEWER	L.F.	366	366	NORTH AMERICAN
48" (4' DIA.) PRECAST MANHOLE	EA.	3	3	ATLANTIC PRECAST
48" (4' DIA.) MANHOLE RISER > 6'	V.F.	10	10	ATLANTIC PRECAST
8" PVC SHC	L.F.	19	19	NORTH AMERICAN
8" PVC CLEANOUT	V.F.	7	7	NORTH AMERICAN




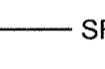

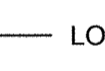














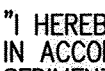
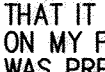



NAME OF UTILITY CONTRACTOR: UTILITIES UNLIMITED

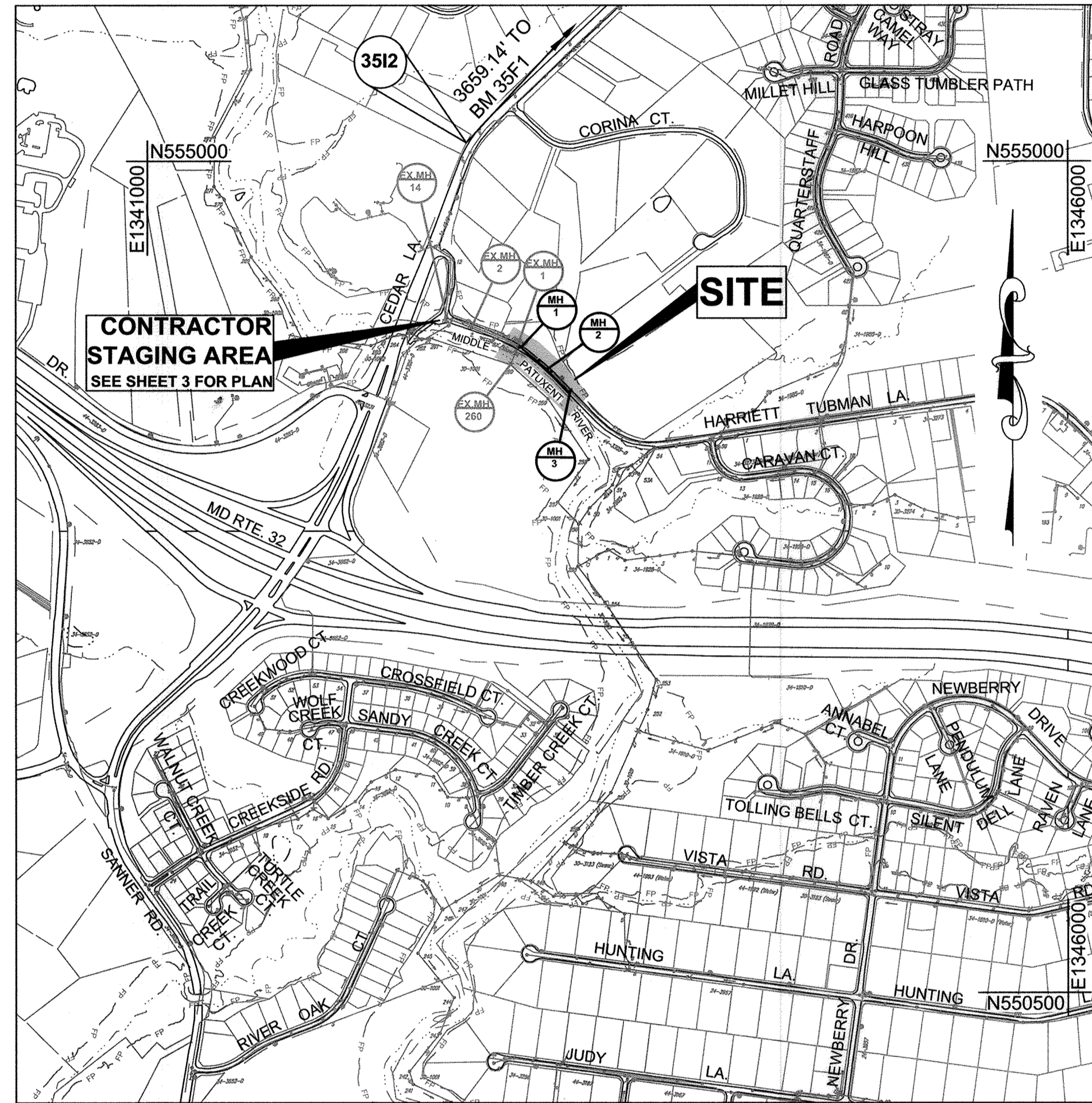
CHECKBOX	
AS-BUILT DATE	8/31/2017

SURVEY AND DRAFTING DIVISION

RESTORATION SCHEDULE		
LOCATION	DISTANCE	TYPE
HARRIET TUBMAN LANE	415'	MACADAM
	437'	

LEGEND

EXISTING	PROPOSED
 DECIDUOUS TREE	 SEWER MAIN
 CONIFEROUS TREE	 SEWER MANHOLE
 EXISTING UTILITY POLE	 SILT FENCE
 EXISTING FIRE HYDRANT	 LIMIT OF DISTURBANCE
 EXISTING VALVE	 LIMIT OF DISTURBANCE AND SILT FENCE
 EXISTING WATER MAIN	 AT GRADE INLET PROTECTION
 EXISTING SEWER MAIN	 SOIL BORING
 EXISTING STORM DRAIN	
 EXISTING OVERHEAD WIRE	
 EXISTING SEWER EASEMENT	
 PROPERTY BOUNDARY	
 MAJOR CONTOUR	
 MINOR CONTOUR	
 WETLAND LIMITS	
 WETLAND BUFFER	
 100 YR. FLOODPLAIN	
 GUARD RAIL	
 TRAVERSE POINT	



VICINITY MAP

SCALE: 1" = 600'

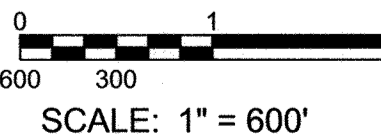
TYPE OF BUILDING:	RESIDENTIAL/COMMERCIAL
NUMBER OF PARCELS:	1
NUMBER OF SEWER HOUSE CONNECTIONS:	1
NUMBER OF WATER HOUSE CONNECTIONS:	NA
DRAINAGE AREA:	MIDDLE PATUXENT

CONTROL NOTE

THE HORIZONTAL AND VERTICAL DATUM SHOWN HEREON ARE BASED ON GPS OBSERVATIONS FROM HOWARD COUNTY GEODETIC SURVEY CONTROL POINTS.
NAD83/91(HORIZONTAL)
NAVD 88 (VERTICAL)

35F1 N 557787.367	35I2 N 555100.776
E 1345217.309	E 1342733.049
ELEV. 400.475	ELEV. 329.782

GRAPHIC SCALE



SANITARY SEWER MAIN 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 G5.52 WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED. SET TOP 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.
- DISTANCES SHOWN FOR THE SANITARY SEWER MANHOLES AND STRUCTURES IN PROFILE ARE ALONG THE CENTERLINE OF THE PIPE FROM CENTER OF MANHOLE OR STRUCTURE TO THE CENTER OF MANHOLE OR STRUCTURE. ESTIMATED QUANTITIES SHOWN ON THE BILL OF MATERIALS EXCLUDE DISTANCES WITHIN MANHOLE INTERIORS.

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 1/16/2018.

OWNER'S/DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO THE BEGINNING OF THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE."

Silvan Chai 6/12/2017
OWNERS / DEVELOPERS SIGNATURE DATE
Silvan Chai Project Manager
PRINTED NAME & TITLE

DESIGN CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Guihua Wang 8/09/2017
DESIGNER'S SIGNATURE DATE
GUIHUA WANG
PRINTED NAME
MD REGISTRATION NO. 31363
(P.E., R.L.S. OR R.L.A. (CIRCLE ONE))

HOWARD SOIL CONSERVATION DISTRICT CERTIFICATION

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
6/17-19
Guihua Wang 6/19/17
HOWARD SOIL CONSERVATION DISTRICT DATE

AS-BUILT
DATE 8-31-2017

KCI TECHNOLOGIES PROJECT NO.: 13122677.41

User: kevin.johnson
Jun 09, 2017 10:37am
M:\2012\13122677.41\Drawings\G-001 Title.dwg

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James L. Keenan 6/15/17
DIRECTOR OF PUBLIC WORKS DATE

Thomas B. Rutledge 6/12/17
CHIEF, BUREAU OF ENGINEERING DATE

Thomas B. Rutledge 6/15/17
CHIEF, BUREAU OF UTILITIES DATE

Thomas B. Rutledge 6/15/17
CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI TECHNOLOGIES

936 Ridgeway Road
Sparks, MD 21152
Phone: (410) 316-7800
Fax: (410) 316-7817
www.kci.com

STATE OF MARYLAND
GUIHUA WANG
PROFESSIONAL ENGINEER
No. 31363
6/09/2017

DES: KJ
DRN: KJ
CHK: GW

DATE: JUNE, 2017

BY: KCI
NO. AS-BUILT

REVISION

TITLE SHEET

DATE: 8-31-17

600' SCALE MAP NO. 35 BLOCK NO. 23

HARRIET TUBMAN LANE
SEWER EXTENSION

CAPITAL PROJECT No. S-6296
CONTRACT No. 30-4997

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

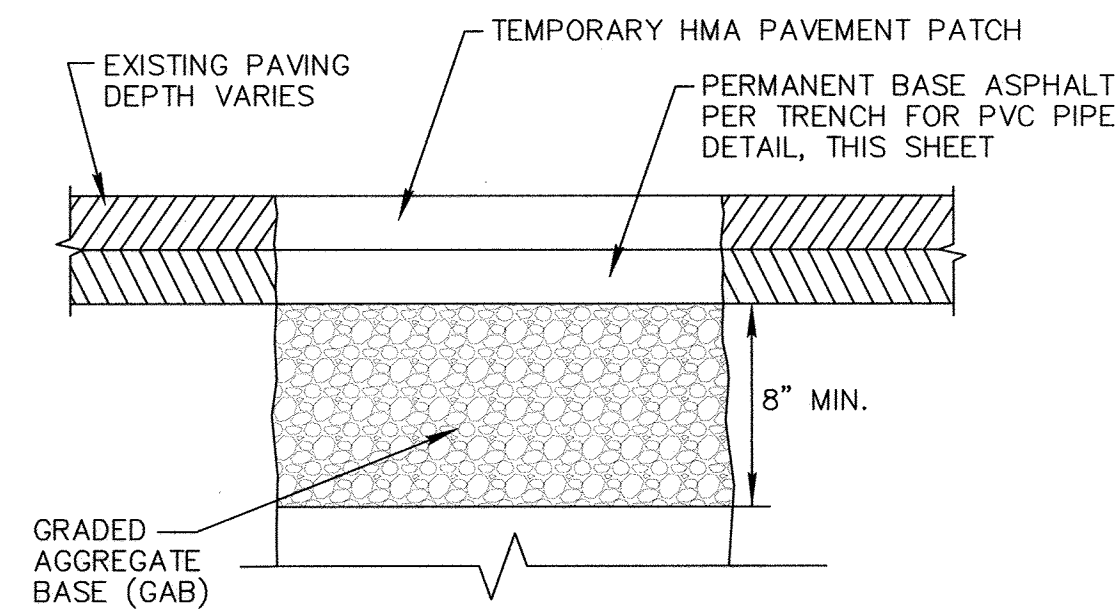
SCALE AS SHOWN
SHEET 1 OF 5

KCI TECHNOLOGIES PROJECT NO.: 13122677.41

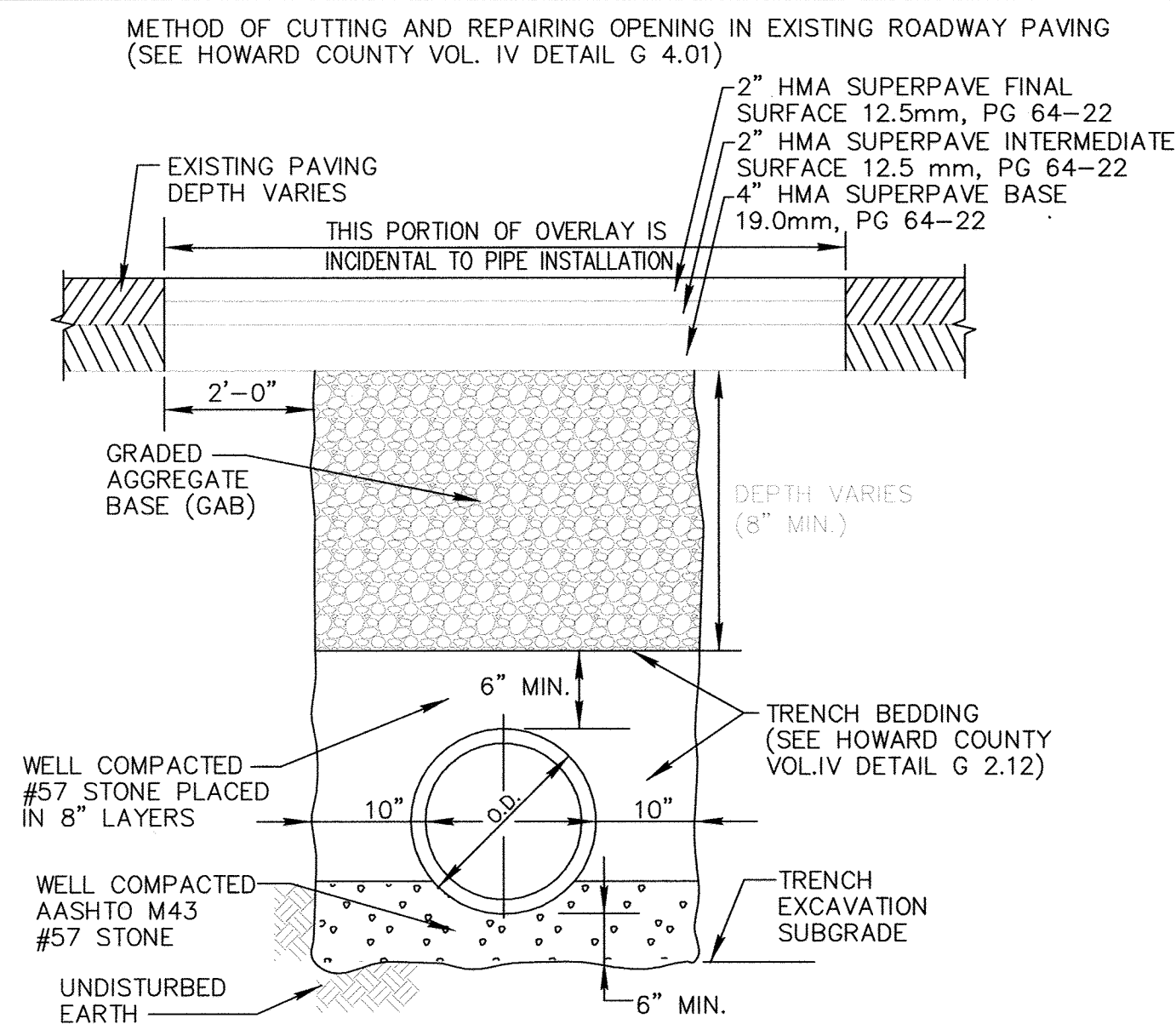
Jun 09, 2017, 10:37am User: Kevin Johnson
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MANHOLE STAKE-OUT SCHEDULE

DESCRIPTION	NORTHING	EASTING
MH-1	553985.94	1343034.69
MH-2	553873.04	1343170.08
MH-3	553752.14	1343291.52
CO #7831	553766.70	1343306.23



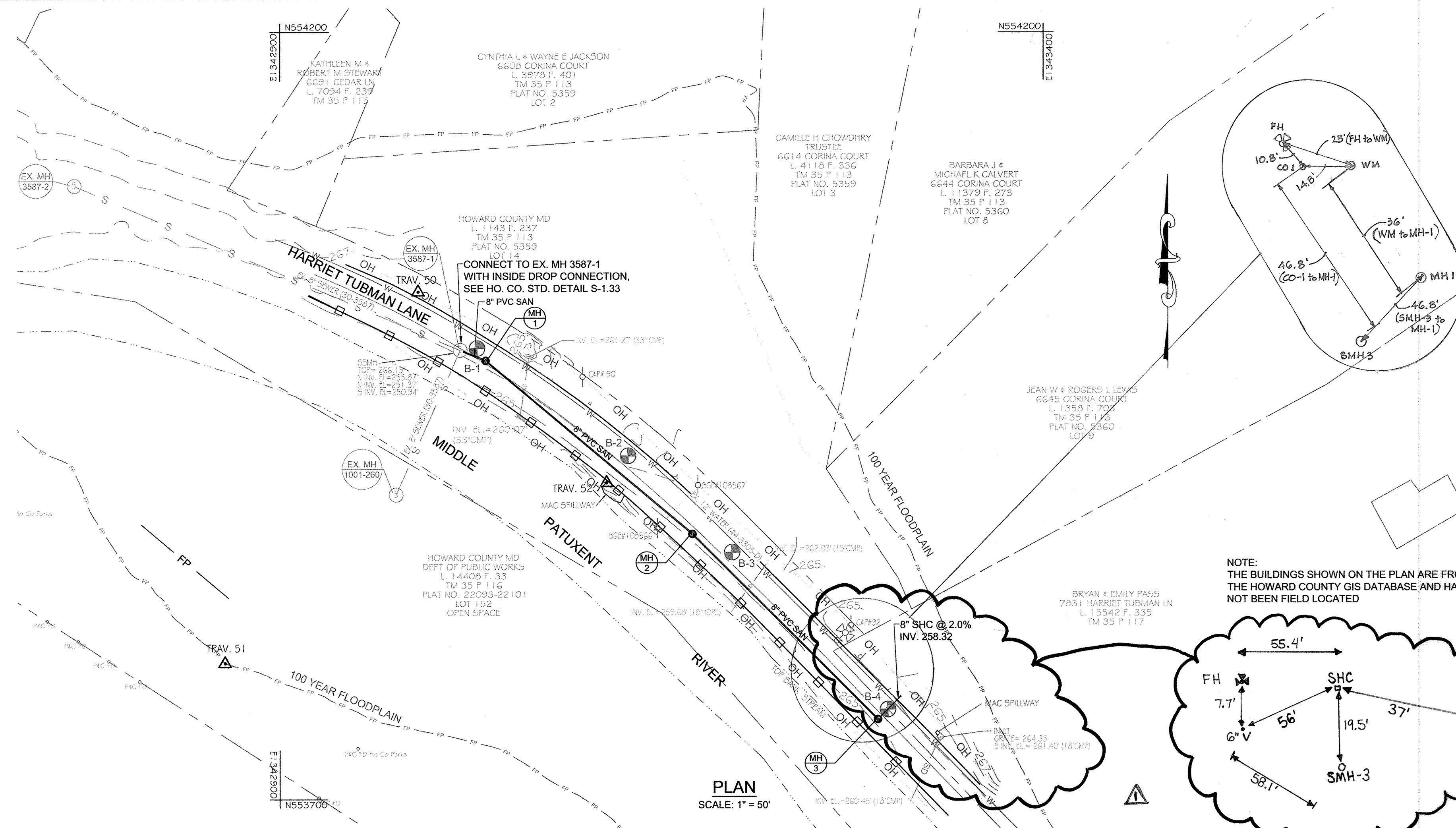
DETAIL: TEMPORARY PAVEMENT PATCH
NO SCALE



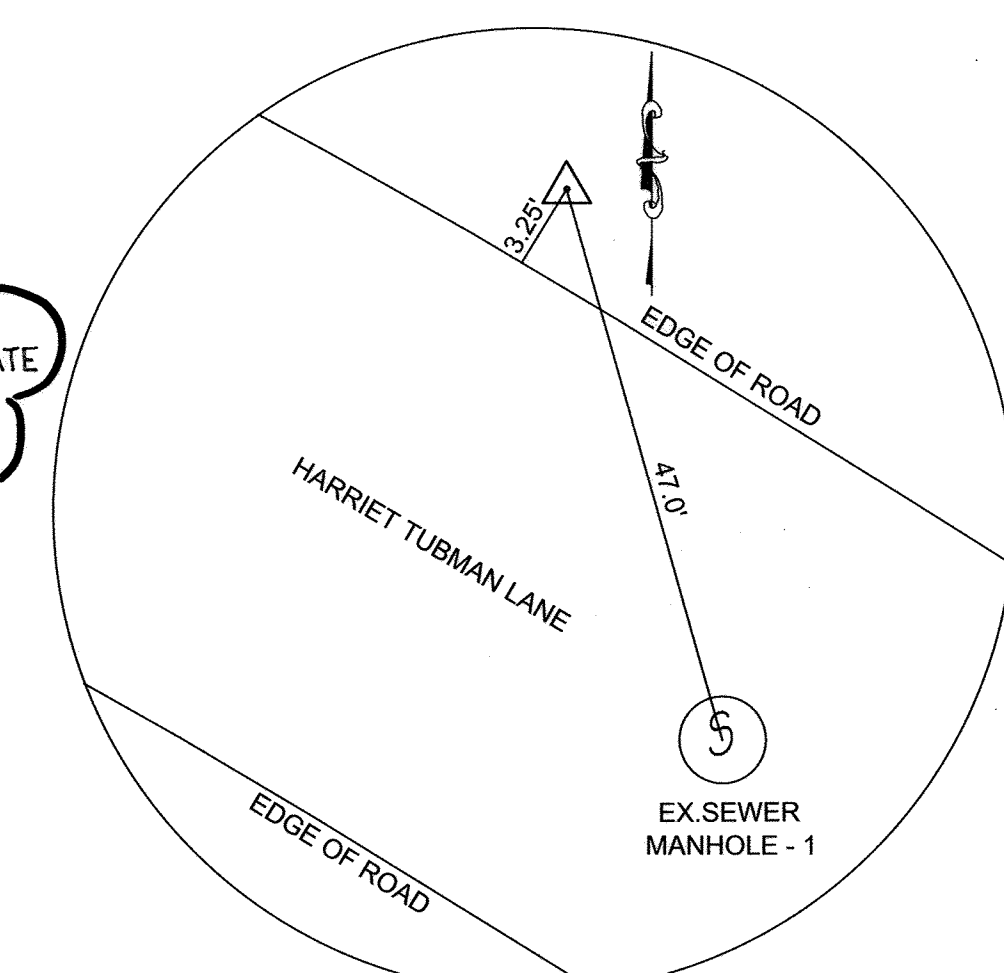
DETAIL: TRENCH FOR PVC PIPE
NO SCALE
*BASED ON HOWARD COUNTY STANDARD DETAIL G.2.12

NOTES:

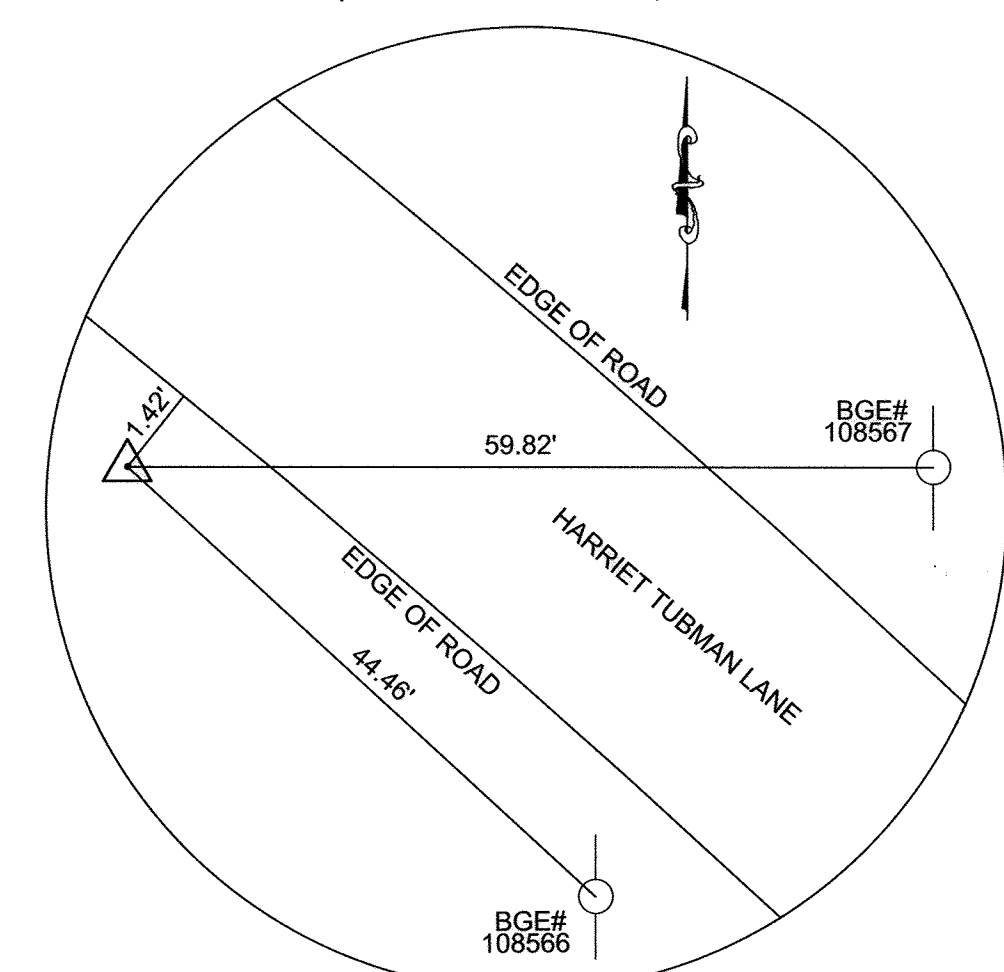
- UTILITY CONSTRUCTION SECTION 1000
- BACKFILLING SECTION 1000.03.07
- MILL AND OVERLAY SHALL COVER THE PERMANENT TRENCH REPAIR. MILL AND OVERLAY THE ENTIRE LANE WIDTH, EXTEND THE MILL AND OVERLAY LIMIT 25' BEYOND BOTH EX. MANHOLE 1 AND MANHOLE 3.
- THE CONTRACTOR SHALL FURNISH PERMANENT PAVEMENT MARKINGS IN ACCORDANCE WITH MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATION SECTION 550 AND SECTION 951. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR THIS ITEM, THE COST SHALL BE INCLUDED.



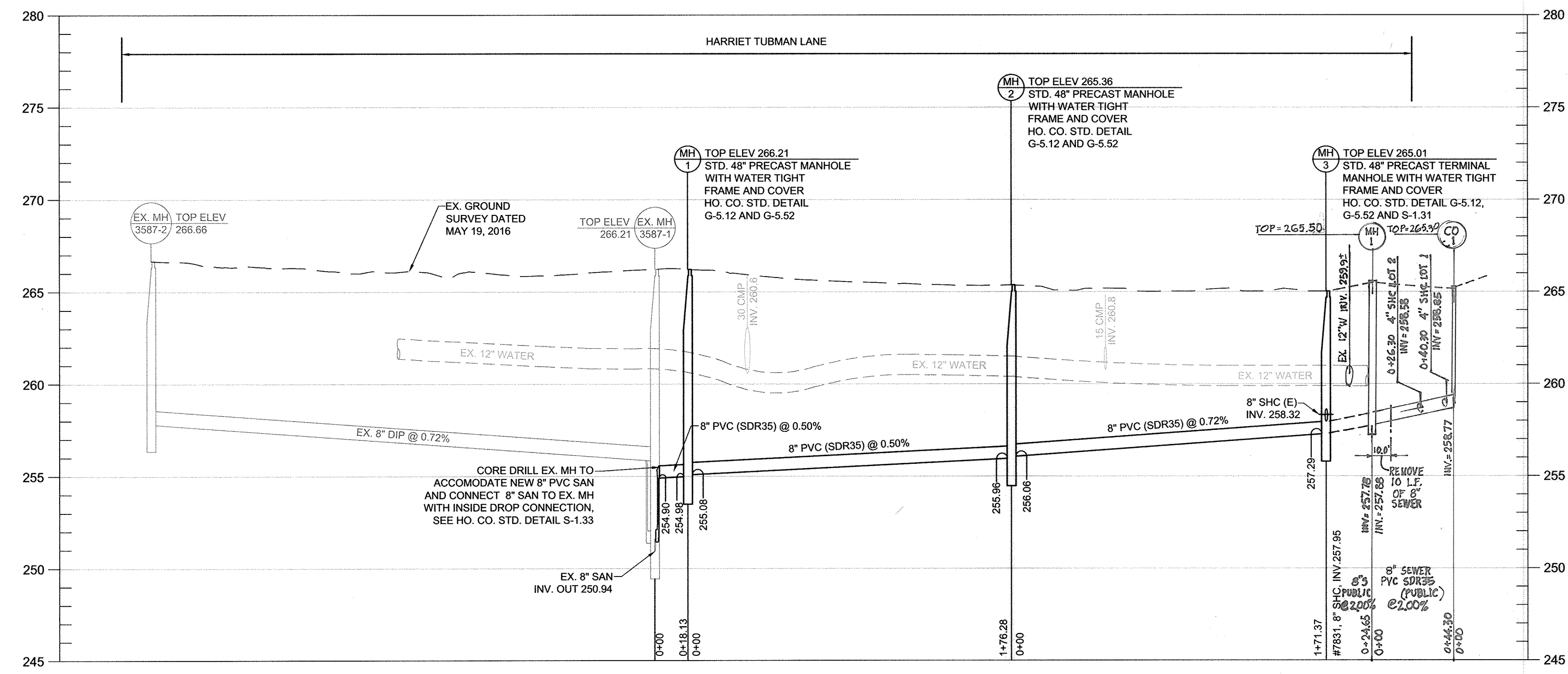
NOTE: THE BUILDINGS SHOWN ON THE PLAN ARE FROM THE HOWARD COUNTY GIS DATABASE AND HAVE NOT BEEN FIELD LOCATED



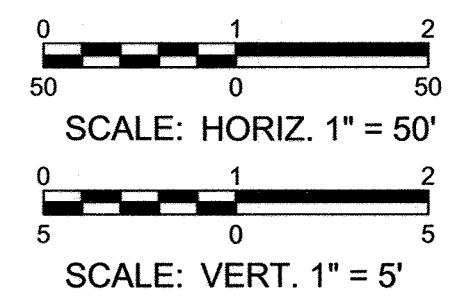
TRAVERSE #50
N 554030.6206
E 1342990.5165
EL 266.18
(NOT TO SCALE)



TRAVERSE #52
N 553906.3035
E 1343113.9071
EL 263.95
(NOT TO SCALE)



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



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 1/16/2018.

AS-BUILT
DATE 8-31-2017

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: [Signature] DATE: 6/15/17
 Chief, Bureau of Engineering: [Signature] DATE: [Signature]
 Chief, Utility Design Division: [Signature] DATE: [Signature]

KCI TECHNOLOGIES
 936 Ridgeway Road
 Sparks, MD 21152
 Phone: (410) 316-7800
 Fax: (410) 316-7817
 www.kci.com

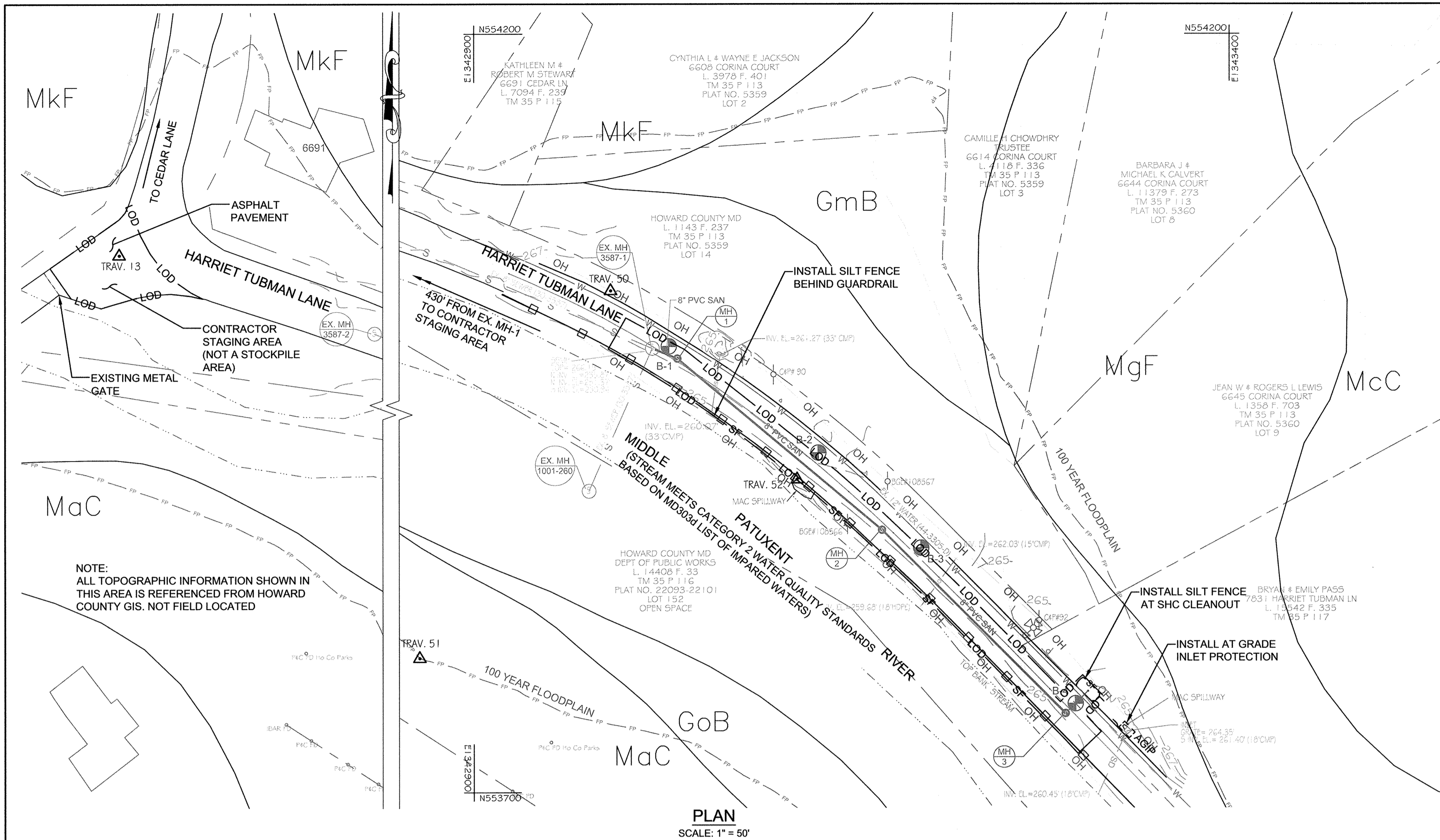
STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 License No. 31363
 6/09/2017

DES: KJ			
DRN: KJ			
CHK: GW	WRA	AS-BUILT	4-4-19
DATE: JUNE, 2017	KCI	AS-BUILT	8-31-17
BY: NO.		REVISION	DATE

SEWER PLAN & PROFILE
 600' SCALE MAP NO. 35 BLOCK NO. 23

HARRIET TUBMAN LANE SEWER EXTENSION
 CAPITAL PROJECT No. S-6296
 CONTRACT No. 30-4997
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND
 SCALE AS SHOWN
 SHEET 2 OF 5

KCI TECHNOLOGIES PROJECT NO.: 13122677.41



HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

- A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hour notice to CID must be given at the following stages:
 - Prior to the start of earth disturbance,
 - Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading,
 - Prior to the start of another phase of construction or opening of another grading unit,
 - Prior to the removal or modification of sediment control practices.
 Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.
- 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 topsoil (Sec. B-4-2), 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 applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 ft. must be benched with stable outfall. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).
- All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CID.
- Site Analysis:

Total Area of Site:	0.28	Acres
Area Disturbed:	0.05	Acres
Area to be roofed or paved:	0.046	Acres
Area to be vegetatively stabilized:	0.004	Acres
Total Cut:	330	Cu. Yds.
Total Fill:	330	Cu. Yds.
Offsite waste/borrow area location:	CONTRACTOR COORDINATE SITE WITH GRADING PERMIT	
- Any sediment control practice which 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 CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:
 - Inspection date
 - Inspection type (routine, pre-storm event, during rain event)
 - Name and title of inspector
 - Weather information (current conditions as well as time and amount of last recorded precipitation)
 - Brief description of project's status (e.g., percent complete) and/or current activities
 - Evidence of sediment discharges
 - Identification of plan deficiencies
 - Identification of sediment controls that require maintenance
 - Identification of missing or improperly installed sediment controls
 - Compliance status regarding the sequence of construction and stabilization requirements
 - Photographs
 - Monitoring/sampling
 - Maintenance and/or corrective action performed
 - Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
- Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.
- Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CID per the list of HSCD-approved field changes.
- Disturbance shall not occur outside the L.O.D. 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 HSCD. Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a given time.
- Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
- Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.
- All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25' minimum intervals, with lower ends curled uphill by 2' in elevation.
- Stream channels must not be disturbed during the following restricted time periods (inclusive):
 - Use I and IP March 1 - June 15
 - Use III and IIP October 1 - April 30
 - Use IV March 1 - May 31
- A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

LEGEND

EXISTING		PROPOSED	
	DECIDUOUS TREE		SEWER MAIN
	CONIFEROUS TREE		SEWER MANHOLE
	EXISTING UTILITY POLE		SILT FENCE
	EXISTING FIRE HYDRANT		LIMIT OF DISTURBANCE
	EXISTING VALVE		LIMIT OF DISTURBANCE AND SILT FENCE
	EXISTING WATER MAIN		AT GRADE INLET PROTECTION
	EXISTING SEWER MAIN		SOIL BORING
	EXISTING STORM DRAIN		
	EXISTING OVERHEAD WIRE		
	EXISTING SEWER EASEMENT		
	PROPERTY BOUNDARY		
	100 YR. FLOODPLAIN		
	GUARD RAIL		
	TRAVERSE POINT		
	MAJOR CONTOUR		
	MINOR CONTOUR		

**Maryland Department of the Environment
Best Management Practices for Working in Nontidal Wetlands,
the Nontidal Wetland Buffer, Waters of the State
and the 100-Year Floodplain**

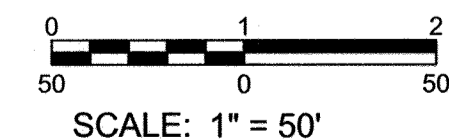
- No excess fill, construction material, or debris shall be stockpiled or stored in nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
- Place materials in a location and manner that does not adversely impact surface or subsurface water flow into or out of nontidal wetlands, 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 loss of nontidal wetlands, nontidal wetland buffers, or waterways, or permanent modification of the 100-year floodplain in excess of that lost under the originally authorized structure or fill.
- 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 (*Uniola 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 I waters: 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 waterway.
- 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.

DETAIL E-9-2	AT-GRADE INLET PROTECTION	STANDARD SYMBOL	DETAIL E-1	SILT FENCE	STANDARD SYMBOL	DETAIL E-1	SILT FENCE	STANDARD SYMBOL
		AGIP			SF			SF
<p>CONSTRUCTION SPECIFICATIONS</p> <ol style="list-style-type: none"> USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE. PLACE CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE. 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. 			<p>CONSTRUCTION SPECIFICATIONS</p> <ol style="list-style-type: none"> USE WOOD POSTS 1 1/2 X 1 1/2 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT. USE 3/8 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART. USE WOVEN SILT FENCE 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 IDENTIFICATION 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. 			<p>CONSTRUCTION SPECIFICATIONS</p> <ol style="list-style-type: none"> USE WOOD POSTS 1 1/2 X 1 1/2 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT. USE 3/8 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART. USE WOVEN SILT FENCE 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 IDENTIFICATION 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. 		

AS-BUILT
DATE 8-31-2017

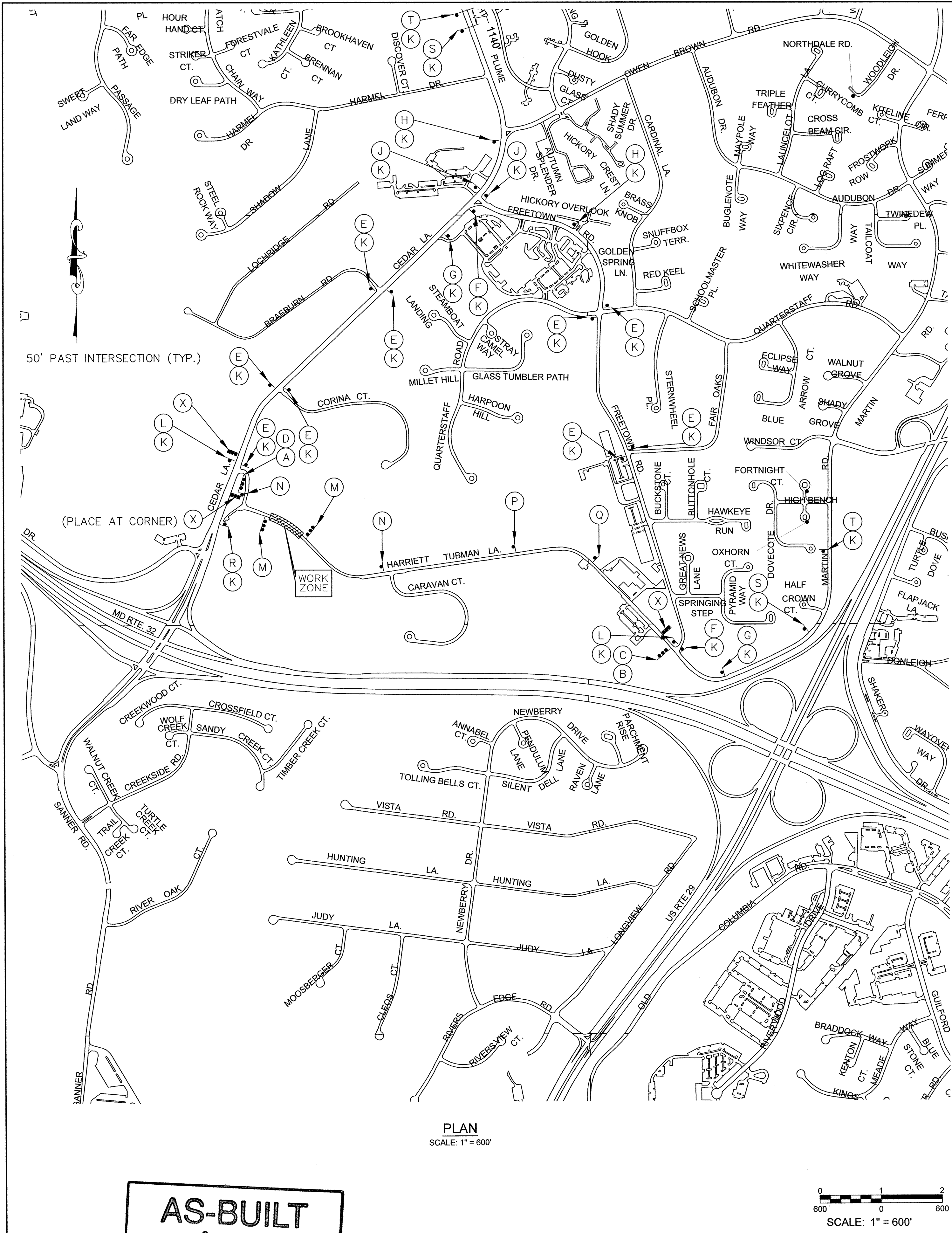
PROFESSIONAL CERTIFICATION. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 31363, Expiration Date 1/16/2018.



Jan 09, 2017 - 10:28am User: Keith Johnson File: 13122677.dwg (Drawing) - 0-00 ESC.dwg

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director: [Signature] DATE: 6/16/17 Chief, Bureau of Utilities: [Signature] DATE: 6/15/17 Chief, Utility Design Division: [Signature] DATE: 6/15/17		KCI TECHNOLOGIES 936 Ridgebrook Road Sparks, MD 21152 Phone: (410) 316-7800 Fax: (410) 316-7817 www.kci.com	STATE OF MARYLAND PROFESSIONAL ENGINEER License No. 31363 6/09/2017	DES: KJ DRN: KJ CHK: GW DATE: JUNE, 2017 BY: NO.	EROSION & SEDIMENT CONTROL PLAN AND DETAILS 60' SCALE MAP NO. 35 BLOCK NO. 23	HARRIET TUBMAN LANE SEWER EXTENSION CAPITAL PROJECT No. S-6296 CONTRACT No. 30-4997 ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 3 OF 5
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KCI TECHNOLOGIES PROJECT NO.: 13122677.41



Jan 09, 2017 1:33pm User: kwan.jackson
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SEQUENCE OF CONSTRUCTION

1. CONSTRUCT SEWER MAIN EXTENSION FROM EX.MH-1 TO MH-3 BY CLOSING HARRIET TUBMAN LANE AND DETOURING TRAFFIC AS SHOWN.

TRAFFIC CONTROL NOTES

1. ALL STANDARD REGULATORY AND WARNING SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES USED FOR MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).
2. ALL TEMPORARY TRAFFIC SIGNS SHALL BE INSTALLED IN ACCORDANCE TO MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, MDSA BOOK OF STANDARDS, AND NCHRP 350. ALL BARRICADES MUST MEET AND HAVE BEEN TESTED UNDER THE NCHRP 350 CRASH CRITERIA.
3. ALL TEMPORARY SIGNS SHOWN ON THIS PLAN SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT EXISTING TRAFFIC CONTROL DEVICES (MINIMUM 200' SPACING).
4. ANY CORRECTIONS, MODIFICATIONS, OR ADDITIONS TO THIS PLAN MUST BE APPROVED BY THE HOWARD COUNTY DEPT. OF PUBLIC WORKS TRAFFIC DIVISION.
5. MISS UTILITY MUST BE NOTIFIED PRIOR TO PLACEMENT OF SIGNING, IF MOUNTING ON POSTS.
6. SIGN INSTALLATION SHALL NOT LAST ANY LONGER THAN 15 MINUTES PER LOCATION. IF LONGER THAN 15 MINUTES APPROPRIATE TRAFFIC CONTROL AND PERMITS MUST BE USED.
7. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL TRAFFIC CONTROL DEVICES. AT ANYTIME THE CONTRACTOR DOES NOT MAKE NECESSARY REPAIRS WITHIN 24 HOURS OF NOTIFICATION, APPROPRIATE WORK TIME REDUCTION AND/OR FINES MAY BE APPLIED.
8. THE HOWARD COUNTY TRAFFIC ENGINEER SHALL DETERMINE EXACT PLACEMENT OF THE TYPE III BARRICADES.
9. ALL DRIVEWAY ENTRANCES MUST BE MAINTAINED AT ALL TIMES.
10. THE DAILY TRENCHING OPERATION SHALL NOT EXTEND MORE THAN 30 FEET IN ADVANCE OF THE PIPE LAYING OPERATION. THE ROADWAY SHALL BE OPENED TO TWO FULL LANES AT THE END OF EACH WORK DAY.
11. IT IS ESTIMATED THAT THE ROAD CLOSURE WILL BE IN EFFECT FOR FOURTEEN (14) DAYS.
12. VARIABLE MESSAGE SIGNS "X" TO BE INSTALLED 14 DAYS PRIOR TO APPROVAL DAY OF CLOSURE.
13. ALL SIGN LOCATIONS SHALL BE MARKED AND/OR APPROVED BY HOWARD COUNTY TRAFFIC (410-313-2430) PRIOR TO THE INSTALLATION OF ANY SIGNS.
14. ALL FLAGGERS SHALL BE CERTIFIED BY THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION.
15. ALL DETOUR SIGNS SHALL BE COVERED WITH OPAQUE MATERIAL UNTIL THE ROAD IS CLOSED.
16. ROADWAY CLOSURE NOTIFICATION:
THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES AT LEAST 4 WEEKS IN ADVANCE:
HOWARD COUNTY DPW - TRAFFIC DIVISION-410-313-2430
HOWARD COUNTY PUBLIC SCHOOLS/TRANSPORTATION DIVISION-410-313-6728 (IF DURING SCHOOL TIMES)
HOWARD COUNTY TRANSIT SERVICES-240-581-5800
HOWARD COUNTY BUREAU OF ENVIRONMENTAL SERVICES-410-313-6470
HOWARD COUNTY EMERGENCY COMMUNICATIONS/911 CENTER-410-313-2300

TRAFFIC SIGNS USAGE TABLE

	SIGN	SIZE	QUANTITY	TOTAL S.F.	REMARKS		SIGN	SIZE	QUANTITY	TOTAL S.F.	REMARKS
A	DETOUR	M4-10L 48"x18" (6 S.F.) BK/O	1	6.0	MOUNT ON TYPE III BARRICADE	P	ROAD CLOSED 1500 FT	W20-3(1) 48"x48" (16 S.F.) BK/O	1	16.0	
B	DETOUR	M4-10R 48"x18" (6 S.F.) BK/O	1	6.0	MOUNT ON TYPE III BARRICADE	Q	ROAD CLOSED 1/2 MILE	W20-3(1) 48"x48" (16 S.F.) BK/O	1	16.0	
C	ROAD CLOSED 0.8 MILES AHEAD LOCAL TRAFFIC ONLY	R11-3a 60"x30" (12.5 S.F.) BK/W	1	12.5	MOUNT ON TYPE III BARRICADE	R	DETOUR 500 FT	W20-2 48"x48" (16 S.F.) BK/O	1	16.0	
D	ROAD CLOSED AHEAD LOCAL TRAFFIC ONLY	R11-3a(MOD.) 60"x30" (12.5 S.F.) BK/W	1	12.5	MOUNT ON TYPE III BARRICADE	S	DETOUR 1500 FT	W20-2 48"x48" (16 S.F.) BK/O	2	32.0	
E	DETOUR	M4-9(MOD.) 30"x24" (5 S.F.) BK/O	9	45.0		T	DETOUR 1/2 MILE	W20-2 48"x48" (16 S.F.) BK/O	2	32.0	
F	DETOUR	M4-9R 30"x24" (5 S.F.) BK/O	2	10.0	SIGN MUST BE PLACED WITHIN 50' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY	V	ONE LANE ROAD 1500 FT	W20-3(1) 48"x48" (16 S.F.) BK/O	2	32.0	SIGN NOT SHOWN ON PLAN TO BE USED DURING FLAGGING OPERATION
G	DETOUR	M4-9R(MOD.) 30"x24" (5 S.F.) BK/O	2	10.0	SIGN MUST BE PLACED WITHIN 200' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY	W		W20-7a 48"x48" (16 S.F.) BK/O	2	32.0	SIGN NOT SHOWN ON PLAN TO BE USED DURING FLAGGING OPERATION
H	DETOUR	M4-9L(MOD.) 30"x24" (5 S.F.) BK/O	2	10.0	SIGN MUST BE PLACED WITHIN 200' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY	X	VARIABLE MESSAGE SIGN	V.M.S.	3		INSTALL 14 DAYS PRIOR TO APPROVAL DAY FOR CLOSURE. * SIGN TO DISPLAY THE FOLLOWING MESSAGES: 10 DAYS BEFORE CLOSURE: HARRIET TUBMAN LANE TO BE CLOSED XX-XX FOR 3 DAYS STARTING WITH THE CLOSURE: HARRIET TUBMAN LANE CLOSED FOLLOW DETOUR
J	DETOUR	M4-9L 30"x24" (5 S.F.) BK/O	2	10.0	SIGN MUST BE PLACED WITHIN 50' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY						
K	HARRIET TUBMAN LA	M4-9(1) 30"x18" (3.75 S.F.) BK/W	24	90.0	MIN. 6 INCH LETTER SIZE. SIGN SHALL BE PLACED ABOVE ALL M4-9 SERIES SIGNS. WIDTH MAY NOT EXCEED 30 INCHES.						
L	END DETOUR	M4-8a(1) 36"x24" (6 S.F.) BK/O	2	12.0							
M	ROAD CLOSED	R11-2 48"x30" (10 S.F.) BK/W	2	20.0	MOUNT ON TYPE III BARRICADE (USE TWO TYPE III PER DIRECTION)						
N	ROAD CLOSED 800 FT	W20-3(1) 48"x48" (16 S.F.) BK/O	2	32.0							

PROFESSIONAL CERTIFICATION. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 16303, Expiration Date 12/21/2018.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John P. Glick 6/15/17
DIRECTOR OF PUBLIC WORKS DATE

Thomas E. Butler 6/15/17
CHIEF, BUREAU OF ENGINEERING DATE

Chris Slings 6/15/17
CHIEF, BUREAU OF UTILITIES DATE

John P. Glick 6/15/17
CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI TECHNOLOGIES

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www.kci.com



DES: AMH
DRN: JN
CHK: JFL
DATE: JUNE, 2017

BY NO. REVISION DATE

TRAFFIC CONTROL PLAN

600' SCALE MAP NO. 35 BLOCK NO. 23

HARRIET TUBMAN LANE SEWER EXTENSION

CAPITAL PROJECT No. S-6296
CONTRACT No. 30-4997

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 5 OF 5