
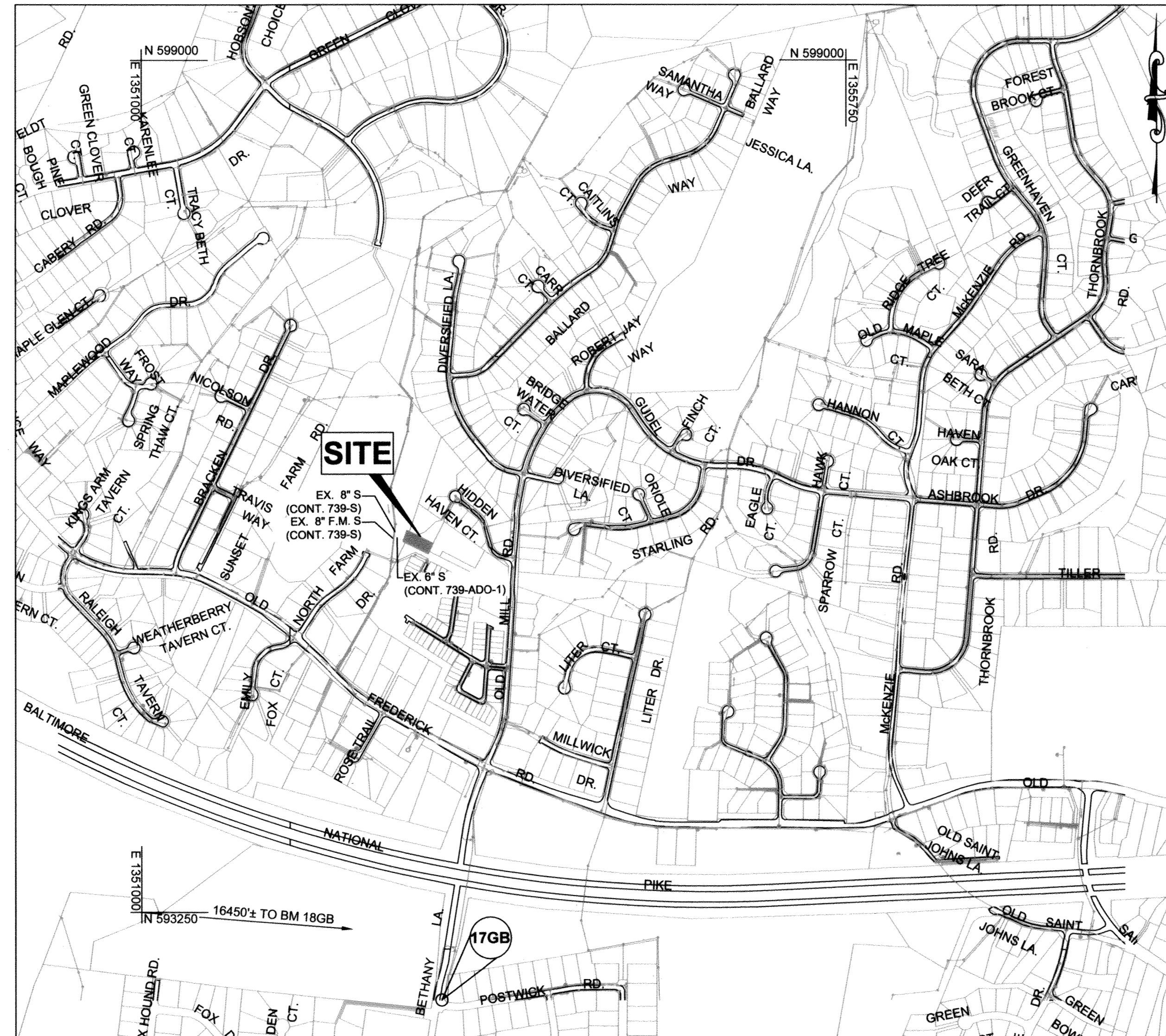


# OLD MILL ROAD SEWER EXTENSION CAPITAL PROJECT NO. S6699 CONTRACT NO. 20-5146 HOWARD COUNTY, MARYLAND

### 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 MARCH 2020 BY KCI TECHNOLOGIES, INC.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS:  
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/11 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 17 GB AND 18 GB. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE 17 GB AND 18 GB
- 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.



**VICINITY MAP**

SCALE: 1" = 600'

### SANITARY SEWER MAIN NOTES

- ALL SEWER MAINS SHALL BE 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 18" 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.

TYPE OF BUILDING: RESIDENTIAL  
 NUMBER OF PARCELS: 1  
 NUMBER OF SEWER HOUSE CONNECTIONS: 1  
 NUMBER OF WATER HOUSE CONNECTIONS: 0  
 PRESSURE ZONE: N/A  
 TEST GRADIENT: N/A  
 TEST PRESSURE: N/A  
 DRAINAGE AREA: LITTLE PATUXENT  
 TREATMENT PLANT: LPWRP

**CONTROL NOTE**  
 THE HORIZONTAL AND VERTICAL DATUM SHOWN HEREON ARE BASED ON GPS OBSERVATIONS FROM HOWARD COUNTY GEODETIC SURVEY CONTROL POINTS.  
 NAD 1983 / 2011 (HORIZONTAL)  
 NAVD 1988 (VERTICAL)  
 17 GB N 591921.311 E 1367395.975 ELEV. 439.295  
 17 GB N 592656.774 E 1353019.981 ELEV. 441.515

### 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."

OWNERS / DEVELOPER'S SIGNATURE: [Signature] DATE: 7/21/2020  
 PRINTED NAME & TITLE: SANJAY KULKARNI, PROJECT MANAGER

### 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."

DESIGNERS SIGNATURE: [Signature] DATE: 03/23/2020  
 PRINTED NAME: GUIHUA WANG  
 M.D. REGISTRATION NO. 31363  
 P.E./R.L.S. OR R.L.A. (CIRCLE ONE)


**PURPOSE STATEMENT:**  
 IN RESPONSE TO PROPERTY OWNER REQUEST, CONTRACT NO. XX-XXXX WILL PROVIDE AN 8" SEWER EXTENSION FOR 4" SEWER HOUSE CONNECTION TO SERVE 9934 OLD MILL ROAD.

**NOTE:**  
 THE WORK SITE SHALL BE CONTROLLED IN ACCORDANCE WITH THE HOWARD SOIL CONSERVATION DISTRICT "STANDARD EROSION AND SEDIMENT CONTROL PLAN FOR MINOR EARTH DISTURBANCE" AND ADHERE TO THE LIMITATIONS, CONDITIONS AND REQUIREMENTS THEREIN. A COPY OF THE STANDARD PLAN SHALL BE ON-SITE FOR REFERENCE DURING WORKING HOURS.





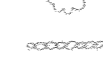

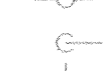


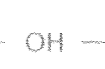

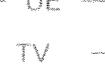









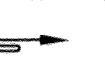







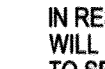



**AS-BUILT**  
DATE: 02/05/2021

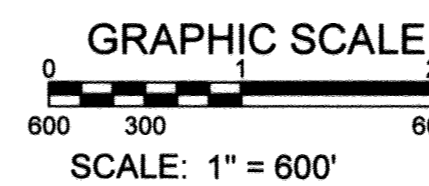
INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SEWER PLAN AND PROFILE
3	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
4	EROSION AND SEDIMENT CONTROL NOTES

### QUANTITIES

ITEM	UNIT	ESTIMATE	AS-BUILT	MANUFACTURER
6" PVC SDR35 SEWER	L.F.	162	163'	JR EAGLE 6" SDR 35 SEWER 
6" DIA PVC LAMPHOLE	EA	1	1	PRISM
NAME OF UTILITY CONTRACTOR: <u>UTILITIES UNLIMITED INC.</u>				
CHECKBOX				
AS-BUILT DATE				
SURVEY AND DRAFTING DIVISION				

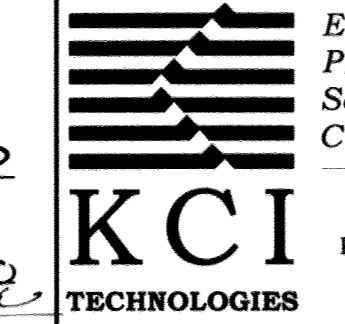
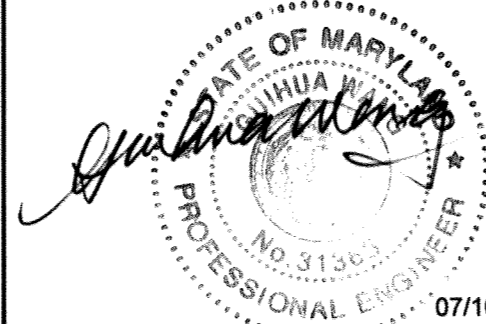
### LEGEND

EXISTING		PROPOSED	
	DECIDUOUS TREE		FIRE HYDRANT
	CONIFEROUS TREE		WATER VALVE
	BUSH		SEWER MANHOLE
	HEDGE		STORM DRAIN MANHOLE
	UTILITY POLE		WATER MAIN
	GUY		SEWER MAIN
	LIGHT POST		STORM DRAIN
	MAIL BOX		OVERHEAD WIRE
	TELECOM PEDISTAL		UNDERGROUND ELECTRIC
	WATER WELL		CABLE TV
	WATER METER / CURB STOP		FENCE
	SEWER CLEAN-OUT		PROPERTY BOUNDARY
	SIGN		MAJOR CONTOUR
	TRAVERSE POINT		MINOR CONTOUR
	SEWER MANHOLE		SEWER MAIN
	SHC WITH CLEAN-OUT		FLOW ARROW
	WATER METER		

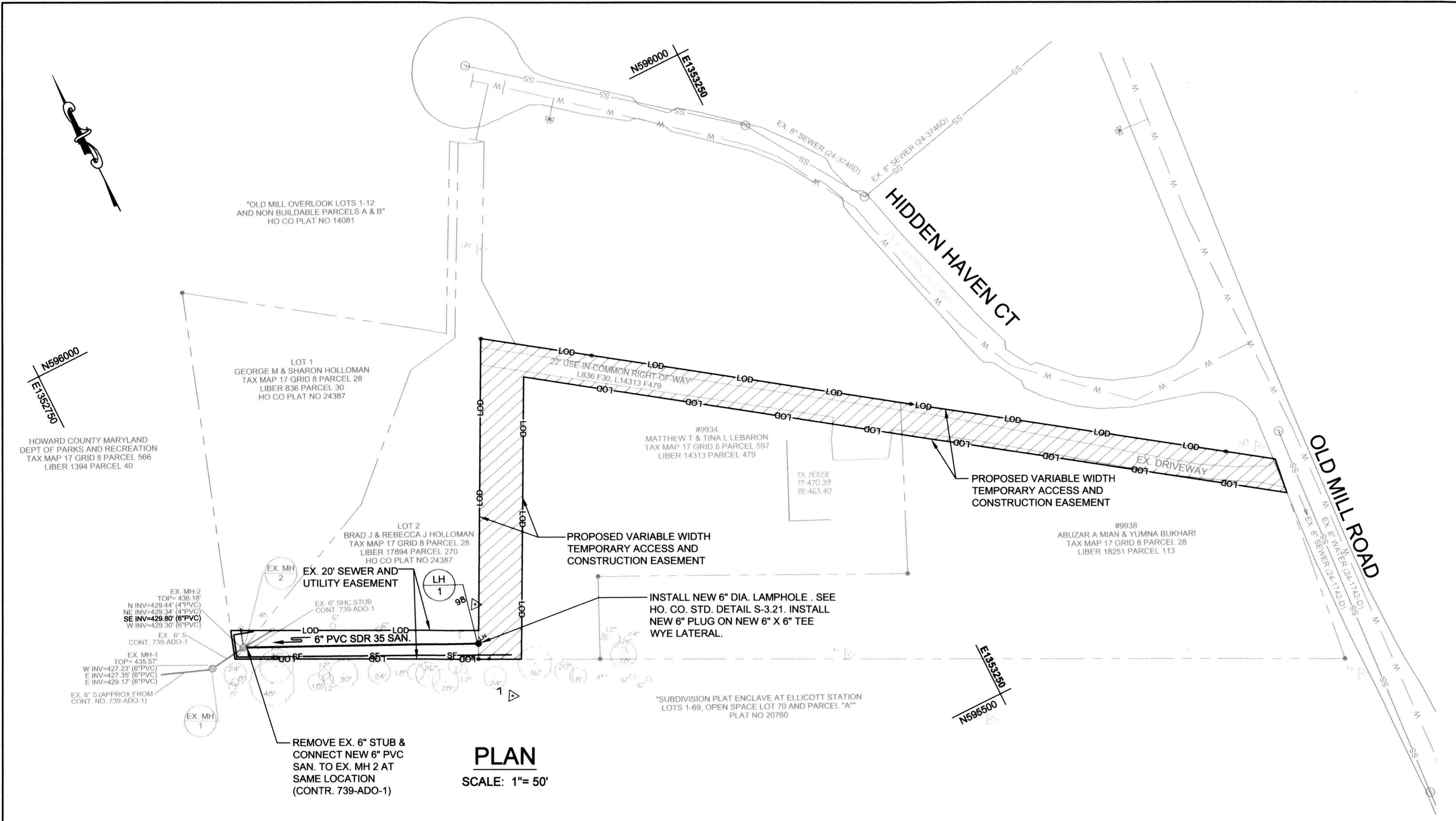


PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 31363, Expiration Date 1/16/2022.

KCI TECHNOLOGIES PROJECT NO.: 131802366.29

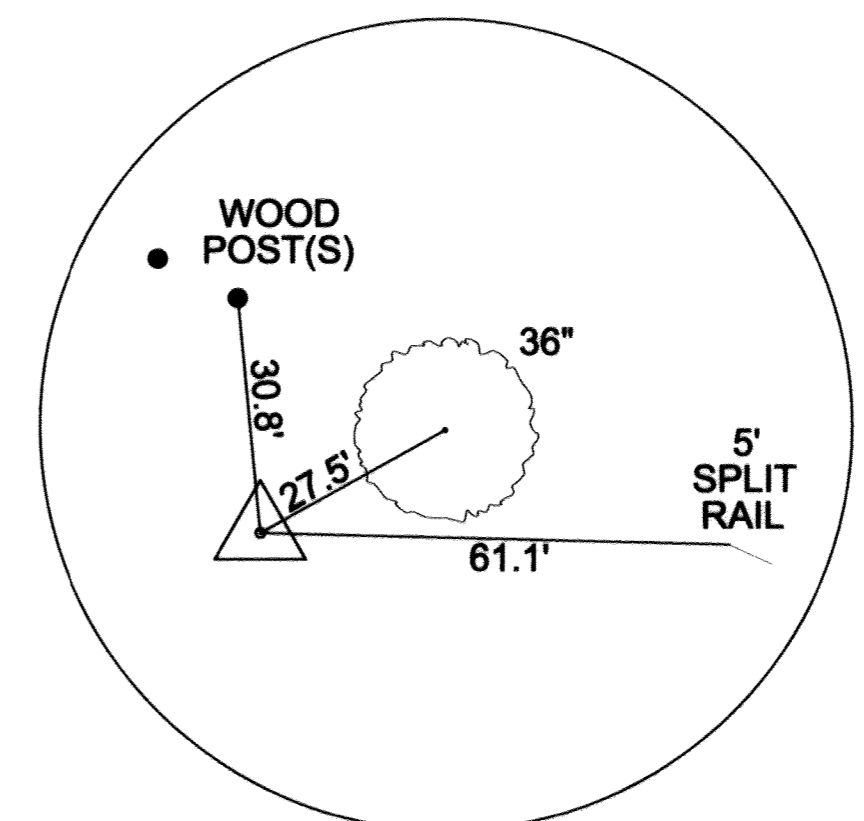
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Chief, Bureau of Utilities DATE: <u>7/21/2020</u> Chief, Utility Design Division DATE: <u>7/21/2020</u>	 ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS 936 Ridgeway Road Sparks, MD 21152 Phone: (410) 316-7800 Fax: (410) 316-7817 www.kci.com	 PROFESSIONAL ENGINEER DATE: <u>07/10/2020</u>	DES: JR DRN: JR CHK: KJ DATE: <u>JUNE 1, 2020</u> BY NO. <u>KJ</u>	AS-BUILT, RECORD DRAWING REVISION DATE: <u>2/5/21</u>	TITLE SHEET CAPITAL PROJECT NO. S6699 CONTRACT NO. 20-5146 ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND	SCALE: AS SHOWN SHEET: 1 OF 4
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KCI TECHNOLOGIES PROJECT NO.: 131.802.366.29

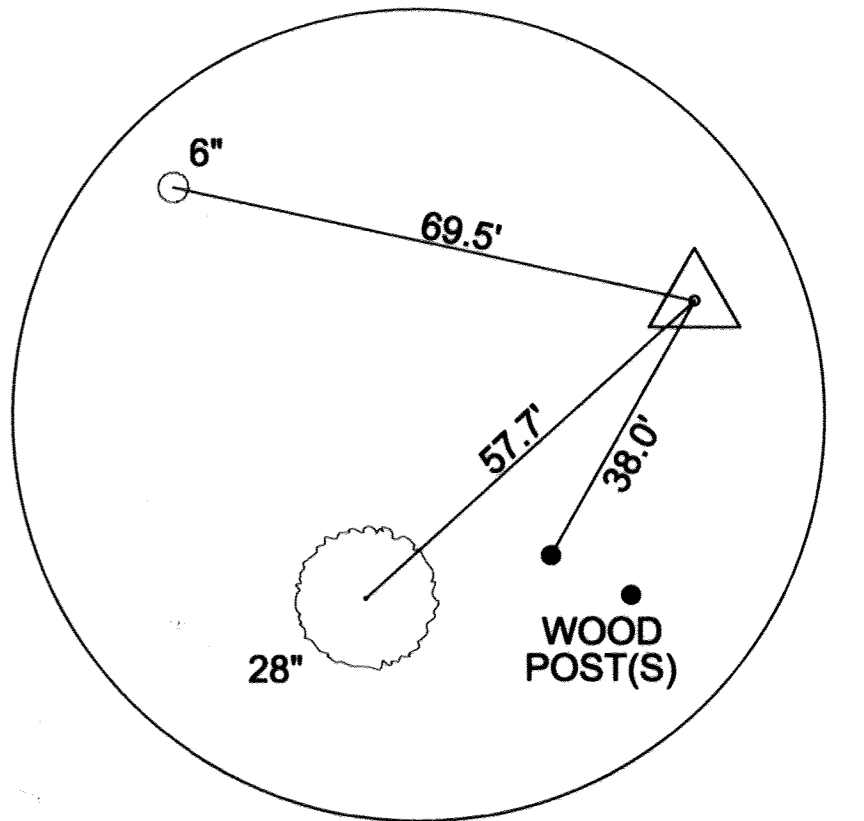


**PLAN**

SCALE: 1"= 50'

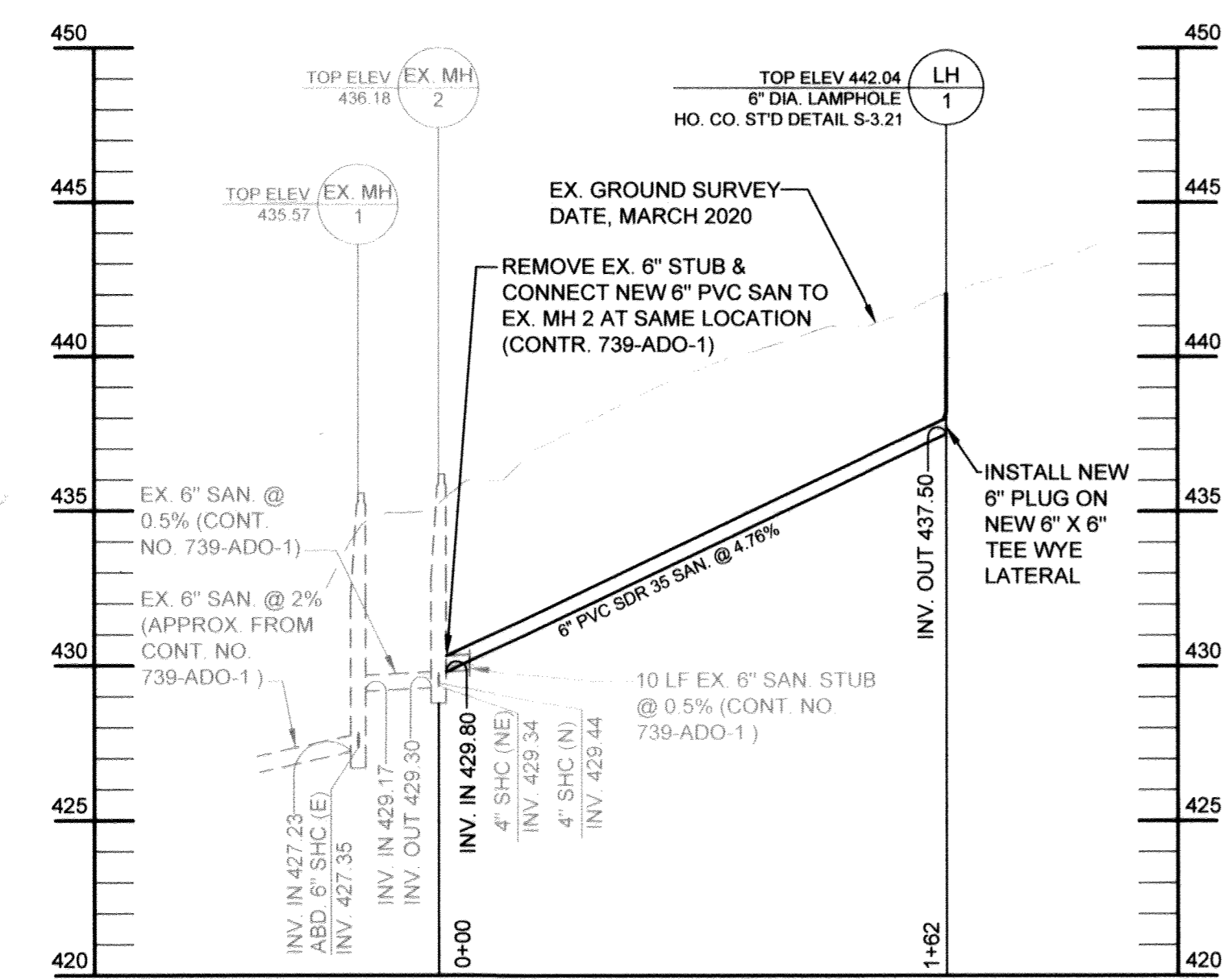


KCI TRAVERSE #7  
REBAR AND CAP  
N 595652.10788  
E 1352945.28755  
EL 442.80



KCI TRAVERSE #98  
REBAR AND CAP  
N 595720.96524  
E 352950.62503  
EL 442.03

STRUCTURE SCHEDULE		
DESCRIPTION	NORTHING	EASTING
EX. MH 2	595766.75	1352782.64
LH 1	595696.49	1352940.41

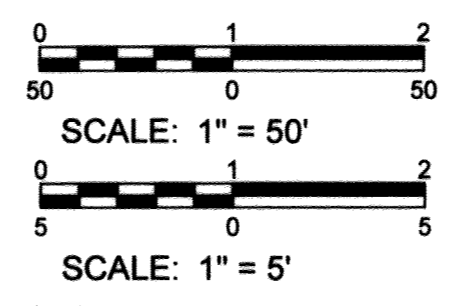
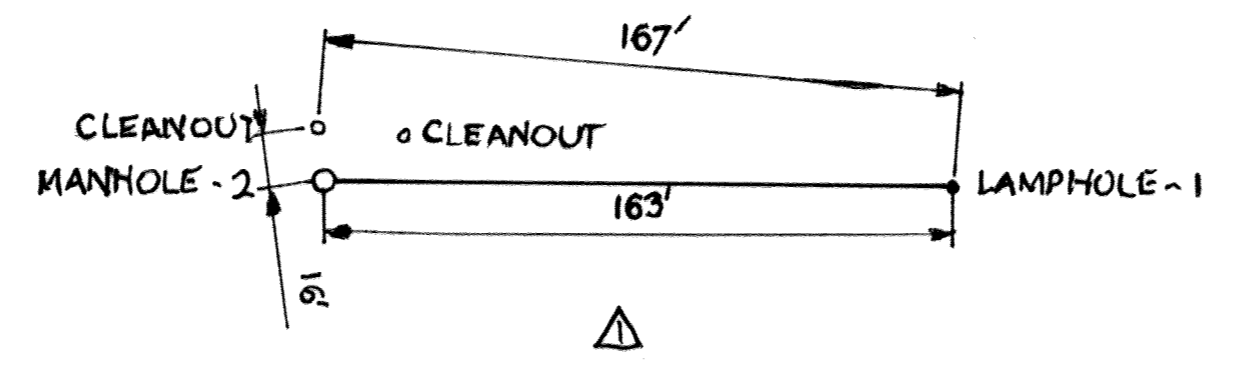


**PROFILE**

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

**NOTE:**

- CONTRACTOR SHALL REPAIR ANY DAMAGE DONE TO THE ACCESS ROAD/EXISTING DRIVEWAY, LAWN OR ANY OTHER STRUCTURE DURING THE CONSTRUCTION OF SEWER EXTENSION AT NO ADDITIONAL COST.
- CONTRACTOR SHALL UTILIZE HDPE OR HARDWOOD MATTING TO PROTECT THE ACCESS ROAD/EXISTING DRIVEWAY FROM DAMAGE DURING CONSTRUCTION.



**AS-BUILT**  
DATE 02/05/2021

JUL 14, 2020 10:23am User: kci\mason\kci.ctb Plot Path: C:\Users\kci\OneDrive\Documents\131.802.366.29\131.802.366.29.dwg

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 7/27/2020  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 7-21-2020  
CHIEF, BUREAU OF UTILITIES DATE

*[Signature]* 7/21/20  
CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 7/21/20  
CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS  
PLANNERS  
SCIENTISTS  
CONSTRUCTION MANAGERS

**KCI TECHNOLOGIES**

936 Ridgebrook Road  
Shawles, MD 21152  
PHONE: (410) 316-7800  
FAX: (410) 316-7817  
www.kci.com

STATE OF MARYLAND  
GUYA WALKER  
Professional Engineer  
No. 31393  
Expiration Date 1/18/2022

DES: JR	
DRN: JR	
CHK: KJ	
DATE: JUNE 1, 2020	
BY: KJ	AS-BUILT, RECORD DRAWING
NO. 2521	
REVISION	
DATE	

**SEWER PLAN AND PROFILE**

600' SCALE MAP NO. 17 BLOCK NO. 8

**OLD MILL ROAD SEWER EXTENSION**

CAPITAL PROJECT NO. S6699  
CONTRACT NO. 20-5146

ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 2 OF 4

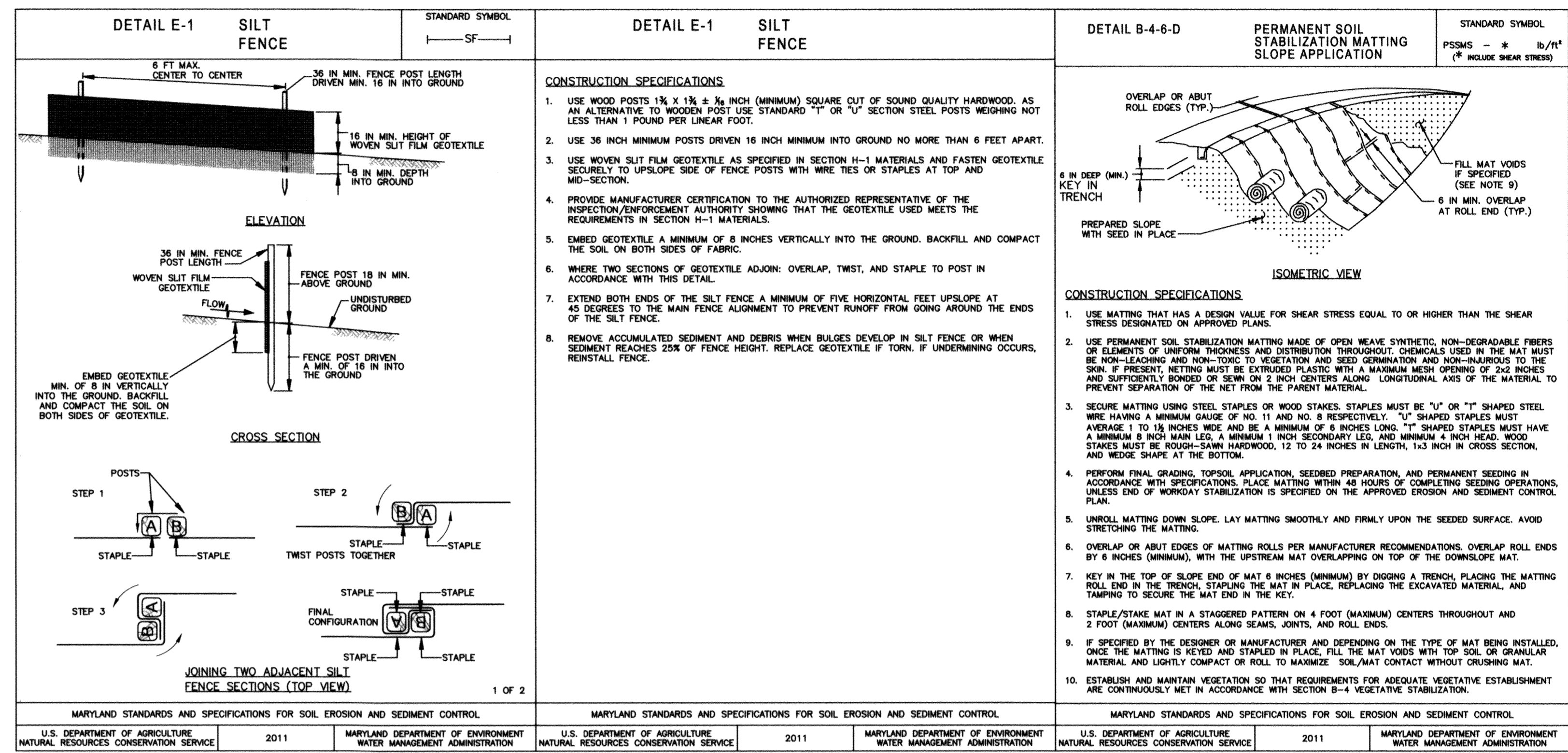
**HOWARD SOIL CONSERVATION DISTRICT (HSCD)  
STANDARD SEDIMENT CONTROL NOTES**

- 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 as 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 outlet. 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:	0.50 (21900)	Acres (±)
Area Disturbed:	0.22 (9450)	Acres (±)
Area to be roofed or paved:	0.00	Acres (±)
Area to be vegetatively stabilized:	0.22 (9450)	Acres (±)
Total Cut:	90	Cu. Yds.
Total Fill:	90	Cu. Yds.
Offsite waste/borrow area location:	CONTRACTOR COORDINATE	
- 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 IIIP 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.



**SEQUENCE OF CONSTRUCTION**

- OBTAIN GRADING PERMIT.
- LAYOUT ALIGNMENT AT SITE. (1 DAYS)
- REQUEST PRE-CONSTRUCTION MEETING ON-SITE WITH REPRESENTATIVE OF HOWARD COUNTY DPW CONSTRUCTION INSPECTION DIVISION. (1 DAY)
- IF NECESSARY, THE CONTRACTOR SHALL INSTALL SEDIMENT CONTROL DEVICES AT THE DIRECTION OF THE HOWARD DPW CID INSPECTOR. (1 DAY)
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO THE ADJACENT PROPERTIES AND MAINTAIN TRAFFIC, THROUGH PROPOSED TEMPORARY ACCESS AND CONSTRUCTION EASEMENT. CONTRACTOR SHALL UTILIZE HDPE OR HARDWOOD MATTING TO PROTECT THE ACCESS ROAD/EXISTING DRIVEWAY FROM DAMAGE DURING CONSTRUCTION.
- EXCAVATE TRENCH TO THE GRADE SHOWN ON THE PROFILE, INSTALL SEWER MAIN AND BACKFILL AND STABILIZE TRENCH (30 DAYS). TRENCHES FOR THE CONSTRUCTION OF UTILITIES ARE LIMITED TO THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY. AT THE END OF EACH WORK DAY, ALL VEGETATED AREAS DISTURBED DURING THE COURSE OF CONSTRUCTION SHALL BE TEMPORARILY STABILIZED IN ACCORDANCE WITH THE TEMPORARY SEEDING SUMMARY SHOWN ON SHEET 4 OF 4 AND THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, SECTION B-4-4.
- UPON COMPLETION OF PIPE INSTALLATION, PAVING REPAIRS (IF ANY) AND INSPECTOR'S APPROVAL, PERMANENTLY STABILIZE ALL DISTURBED VEGETATED AREAS IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION SHOWN ON SHEET 4 OF 4 AND THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, SECTION B-4-5. (1 DAY)
- CLEAN UP CONSTRUCTION SITE. (1 DAY)
- REMOVE SEDIMENT CONTROL DEVICES AFTER SEED/MULCH HAS COMPLETED VEGETATIVE ESTABLISHMENTS AND THE HOWARD COUNTY CID INSPECTOR APPROVES THE REMOVAL. (1 DAY)

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 1/16/2022.

KCI TECHNOLOGIES PROJECT NO.: 131802366.29

As of 10/20/2020, 9:27 AM. User: jordan.002. M:\2018\131802366\29\Drawings\ES-03 Erosion Sed Cont Details.dwg

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director: <i>[Signature]</i> 7/27/2020 Chief, Bureau of Public Works: <i>[Signature]</i> 7-21-2020		Chief, Bureau of Utilities: <i>[Signature]</i> 7/21/2020 Chief, Utility Design Division: <i>[Signature]</i> 7/21/2020	
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**KCI TECHNOLOGIES**  
 ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS  
 936 Reisterstown Road  
 Sparks, MD 21152  
 Phone: (410) 316-7800  
 Fax: (410) 316-7817  
 www.kci.com

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 License No. 31363  
 Expiration Date 07/10/2020

DES: JR					
DRN: JR					
CHK: KJ					
DATE: JUNE 1, 2020	BY	NO.	REVISION	DATE	

**EROSION & SEDIMENT CONTROL NOTES AND DETAILS**

600' SCALE MAP NO. 17 BLOCK NO. 8

**OLD MILL ROAD SEWER EXTENSION**  
 CAPITAL PROJECT NO. S6699  
 CONTRACT NO. 20-5146  
 ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 3 OF 4

**AS-BUILT**  
 DATE 02/05/2021

B-4-2 STANDARDS AND SPECIFICATIONS

FOR

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition

The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose

To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies

Where vegetative stabilization is to be established.

Criteria

- A. Soil Preparation
1. Temporary Stabilization
a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment...
2. Permanent Stabilization
a. A soil test is required for any earth disturbance of 5 acres or more...
B. Topsoiling
1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation...
C. Soil Amendments (Fertilizer and Lime Specifications)
1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer...

B-4-3 STANDARDS AND SPECIFICATIONS

FOR

SEEDING AND MULCHING

Definition

The application of seed and mulch to establish vegetative cover.

Purpose

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

- A. Seeding
1. Specifications
a. All seed must meet the requirements of the Maryland State Seed Law...
2. Application
a. Dry Seeding: This includes use of conventional drop or broadcast spreaders...
B. Mulching
1. Mulch Materials (in order of preference)
a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color...
2. Application
a. Apply mulch to all seeded areas immediately after seeding...

- c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre...
3. Anchoring
a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water...
i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface...
ii. Wood cellulose fiber may be used for anchoring straw...
iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR...
iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations...

B-4-4 STANDARDS AND SPECIFICATIONS

FOR

TEMPORARY STABILIZATION

Definition

To stabilize disturbed soils with vegetation for up to 6 months.

Purpose

To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

- 1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone...
2. For sites having soil tests performed, use and show the recommended rates by the testing agency...
3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

Temporary Seeding Summary

Table with columns: No., Species, Application Rate (lb/ac), Seeding Dates, Seeding Depths, Fertilizer Rate (10-20-20), Lime Rate. Includes rows for ANNUAL RYEGRASS, BARLEY, OATS, FOXTAIL, MILLET.

NOTES:

- 1/ Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS)...
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...

B-4-5 STANDARDS AND SPECIFICATIONS

FOR

PERMANENT STABILIZATION

Definition

To stabilize disturbed soils with permanent vegetation.

Purpose

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.

Criteria

- A. Seed Mixtures
1. General Use
a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone...
b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes...

- c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency...
2. Turfgrass Mixtures
a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites...
i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management...
ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary...
iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas...
iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns...

Notes: 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...
e. If soil moisture is deficient, supply new seedlings with adequate water for plant growth...

Permanent Seeding Summary

Table with columns: No., Species, Application Rate (lb/ac), Seeding Dates, Seeding Depths, Fertilizer Rate (10-20-20), Lime Rate. Includes rows for TALL FESCUE PERENNIAL RYEGRASS, WHITE CLOVER.

- B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

- 1. General Specifications
a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector...
2. Sod Installation
a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod...
3. Sod Maintenance
a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches...

AS-BUILT
DATE 02/05/2021

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 1/16/2022.

KCI TECHNOLOGIES PROJECT NO.: 131802366.29

Jul 07, 2020, 2:25pm User: jordan.ang

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND. Includes signatures and dates for Director of Public Works and Chief, Bureau of Engineering.

KCI TECHNOLOGIES logo and contact information: 936 Ridgeway Road, Sparks, MD 21152.

Professional Engineer seal for Jordan Ang, License No. 31363, State of Maryland.

Revision table with columns: DES, DRN, CHK, DATE, BY, NO., REVISION.

EROSION & SEDIMENT CONTROL NOTES. Includes fields for 600' SCALE MAP NO., BLOCK NO., and ELECTION DISTRICT NO.

OLD MILL ROAD SEWER EXTENSION. CAPITAL PROJECT NO. S6699. CONTRACT NO. 20-5146. HOWARD COUNTY, MARYLAND.