


BOONES LANE SEWER EXTENSION CAPITAL PROJECT NO. S6698 CONTRACT NO. 20-5108 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 08/05/2019 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. 23 CA AND 24 AC. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE 23 CA AND 24 AC.
- 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.

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
8" PVC SDR35 SEWER	L.F.	105	90	NATIONAL PIPE
4" DIA PRECAST TERMINAL MANHOLE	EA.	1	1	CONTRACTORS PRECAST
4" PVC SHC	L.F.	25	22	NATIONAL PIPE
1 1/2" COPPER WHC	L.F.	26	31	CAMBRIDGE LEE
TWIN 1" METER SETTING	EA.	1	1	AY MACDONALD
NAME OF UTILITY CONTRACTOR: UTILITIES UNLIMITED				
CHECKBOX				
AS-BUILT DATE				
SURVEY AND DRAFTING DIVISION				



VICINITY MAP
SCALE: 1" = 600'

LEGEND

EXISTING

	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

PROPOSED

	SEWER MANHOLE		SEWER MAIN
	SHC WITH CLEAN-OUT		FLOW ARROW
	WATER METER		

PURPOSE STATEMENT:

IN RESPONSE TO PROPERTY OWNER REQUEST, CONTRACT NO. 20-5108 WILL PROVIDE AN 8" SEWER MAIN INCLUDING (2) 4" SEWER HOUSE CONNECTIONS AND A WATER HOUSE CONNECTION WITH TWIN METER TO SERVE 3222 & 3226 BOONES LANE.

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:	<u>RESIDENTIAL</u>
NUMBER OF PARCELS:	<u>2</u>
NUMBER OF SEWER HOUSE CONNECTIONS:	<u>2</u>
NUMBER OF WATER HOUSE CONNECTIONS:	<u>1 (TWIN)</u>
PRESSURE ZONE:	<u>N/A</u>
TEST GRADIENT:	<u>N/A</u>
TEST PRESSURE:	<u>N/A</u>
DRAINAGE AREA:	<u>MIDDLE PATUXENT</u>
TREATMENT PLANT:	<u>LPWRP</u>

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)
23 CA N 588035.645 24 AC N 587389.550
E 1348385.607 E 1351173.252
ELEV. 482.187 ELEV. 429.369

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."

Sanjay Kulkarni
OWNERS / DEVELOPERS SIGNATURE DATE 09/19

Sanjay Kulkarni, 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
DESIGNERS SIGNATURE DATE 08/05/2019

GUIHUA WANG
PRINTED NAME MD REGISTRATION NO. 31363
P.E./R.L.S. OR R.L.A. (CIRCLE ONE)

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 01/07/2020

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 1/16/2020.

GRAPHIC SCALE

SCALE: 1" = 600'

Aug 08, 2019 - 10:02am User: henci.jehosh M:\2019\181602366_18\Drawings\G-01_The Sheet.dwg

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
<i>Michael J. Lane</i> DIRECTOR OF PUBLIC WORKS DATE <u>8/19/19</u>	<i>Breanna Lee</i> CHIEF, BUREAU OF ENGINEERING DATE <u>01/19</u>
<i>Chris Bly</i> CHIEF, BUREAU OF UTILITIES DATE <u>8-9-19</u>	<i>[Signature]</i> CHIEF, UTILITY DESIGN DIVISION DATE <u>8/19/19</u> SRK

 KCI TECHNOLOGIES	ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS 936 Ridgebrook Road Sparks, MD 21152 Phone: (410) 316-7800 Fax: (410) 316-7817 www.kci.com
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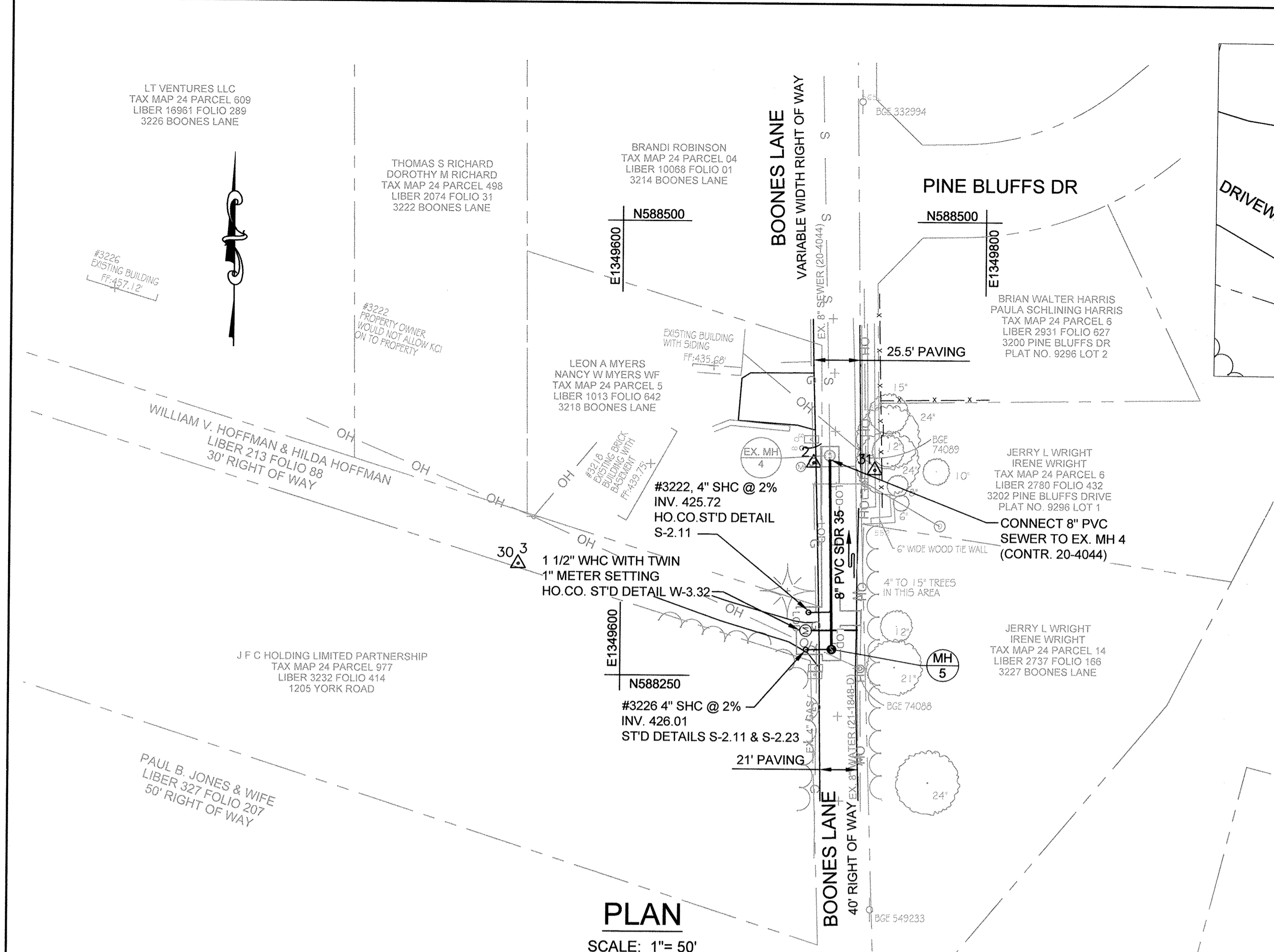
 GUIHUA WANG PROFESSIONAL ENGINEER NO. 31363 08/05/2019

DES: KJF			
DRN: KJF			
CHK: SK			
DATE: AUG. 2019			
BY: KJ		REVISION	DATE: 1/7/20

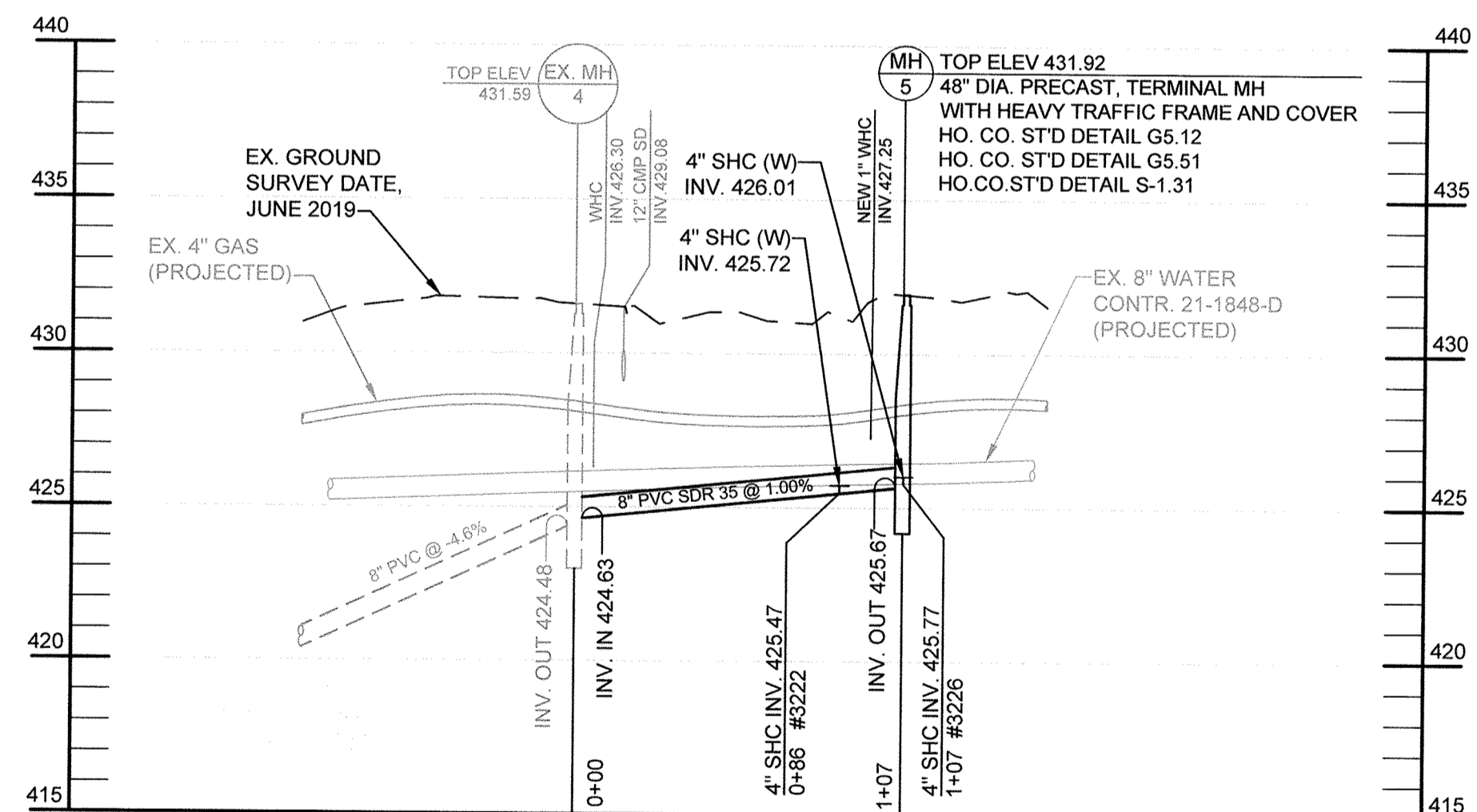
TITLE SHEET	
600' SCALE MAP NO. <u>24</u>	BLOCK NO. <u>1</u>

BOONES LANE SEWER EXTENSION	
CAPITAL PROJECT No. S6698 CONTRACT No. 20-5108	
ELECTION DISTRICT NO. <u>2</u>	HOWARD COUNTY, MARYLAND
SCALE AS SHOWN	SHEET <u>1</u> OF <u>4</u>

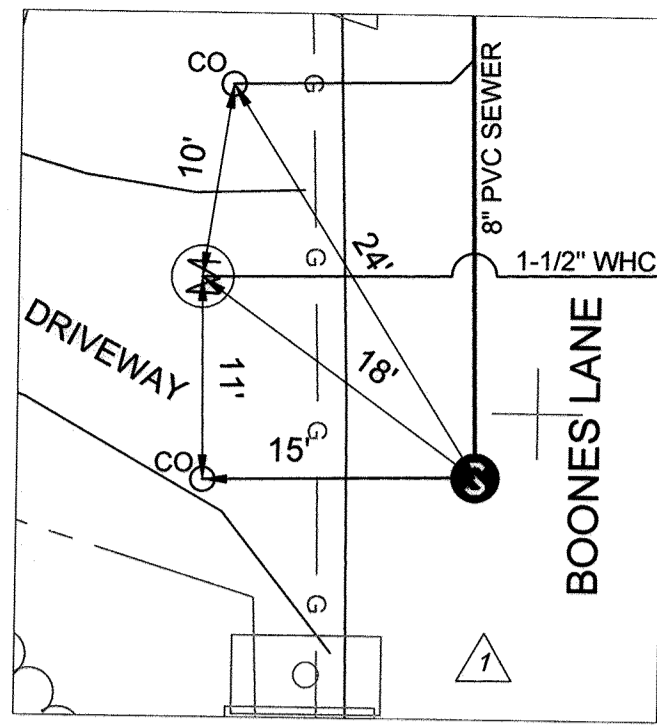
KCI TECHNOLOGIES PROJECT No.: 131802366.18



PLAN
SCALE: 1"= 50'



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



STRUCTURE SCHEDULE

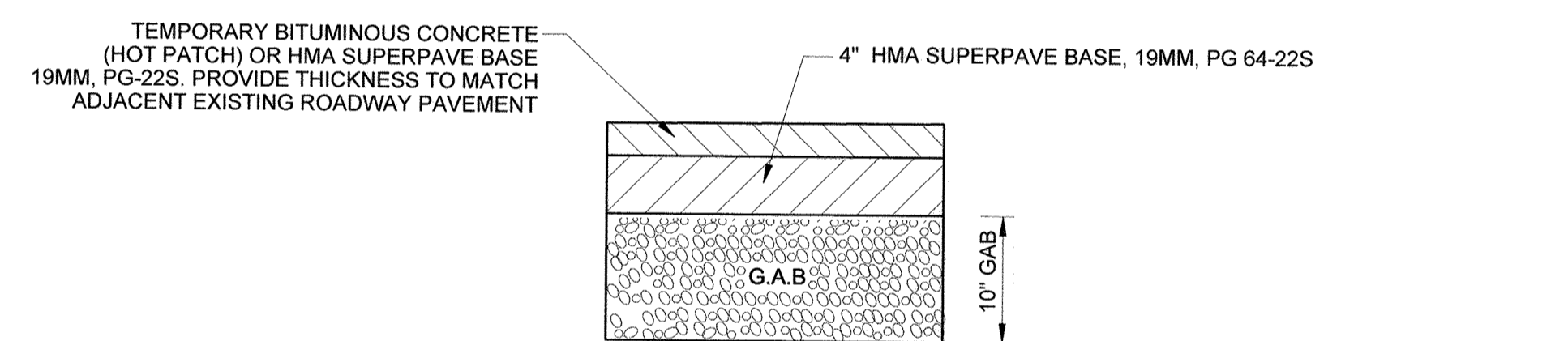
DESCRIPTION	NORTHING	EASTING
EX. MH 4	588371.37	1349714.74
MH 5	588264.79	1349716.56

SEWER HOUSE CONNECTION SCHEDULE

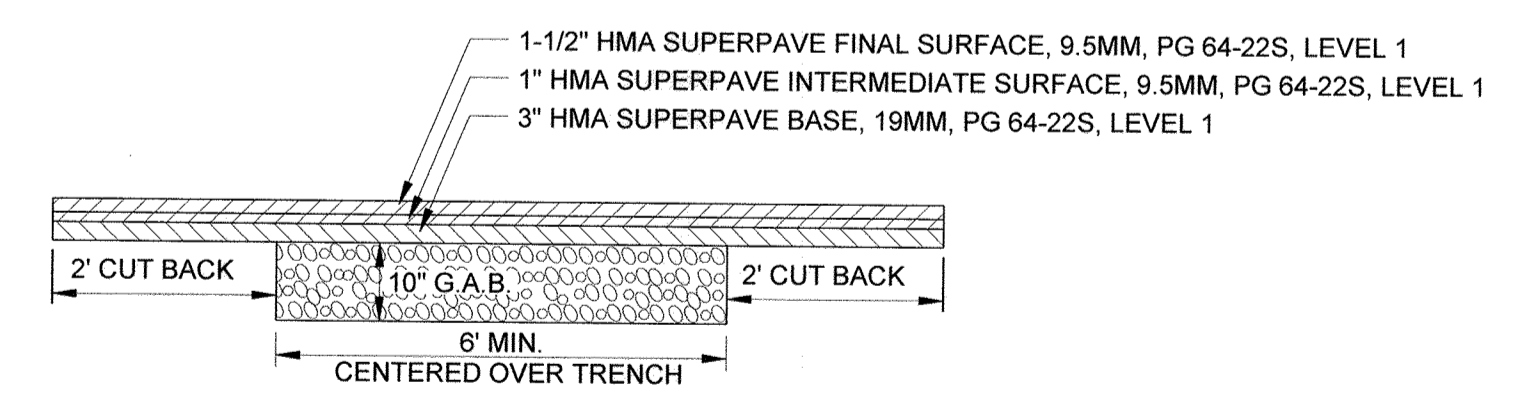
SERVICE ADDRESS	BUILDING TYPE	SHC TYPE	PROP. SHC SIZE	SHC SLOPE	MINIMUM CELLAR ELEV. (FT.)	APPROX. LENGTH OF PROP. SHC (LF.)
3222 BOONES LANE	RESIDENTIAL	SHC	4"	2%	432.30	12.5
3226 BOONES LANE	RESIDENTIAL	SHC	4"	2%	435.00	12.5

BOONES LANE SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE

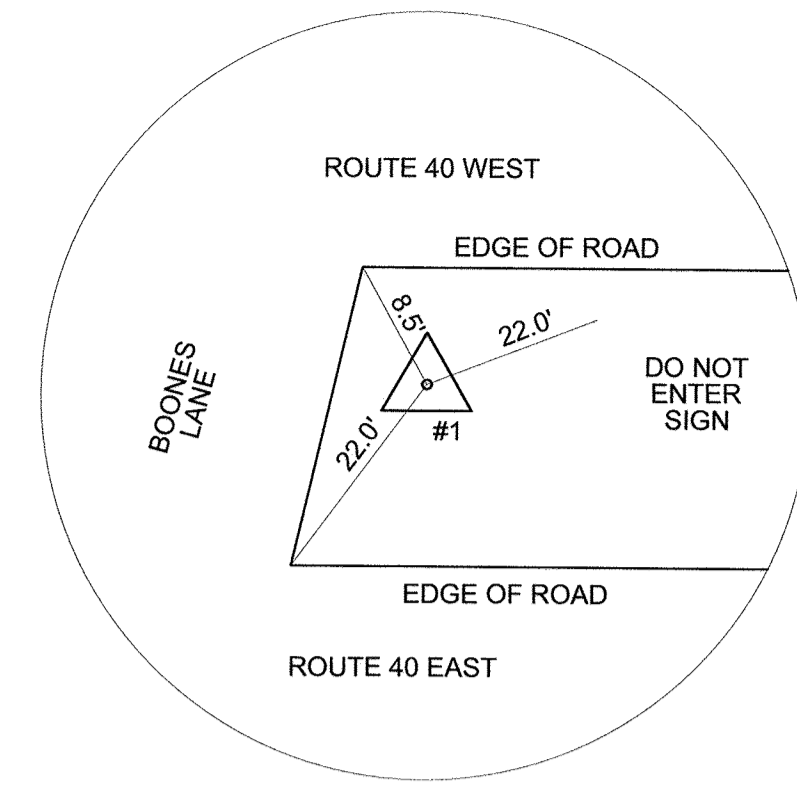
ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
	MH 5 TO EX. MH 4	
3222 BOONES LANE		
3226 BOONES LANE		



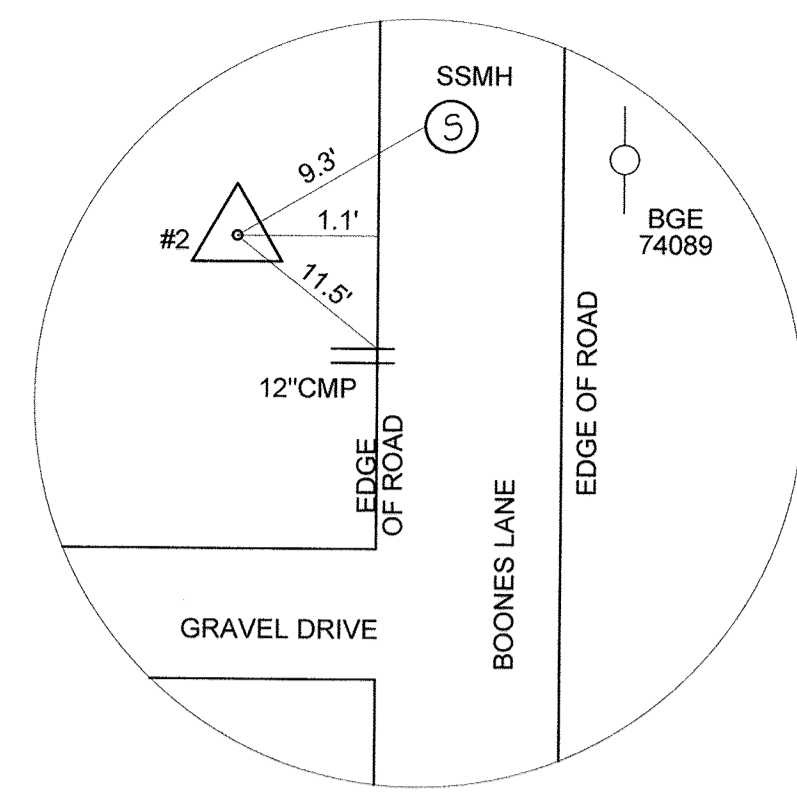
DETAIL 1 - TEMPORARY UTILITY TRENCH PAVING RESTORATION
NOT TO SCALE
FOR TRENCH DETAIL REFER TO HOWARD COUNTY STANDARD DETAIL G-2.12



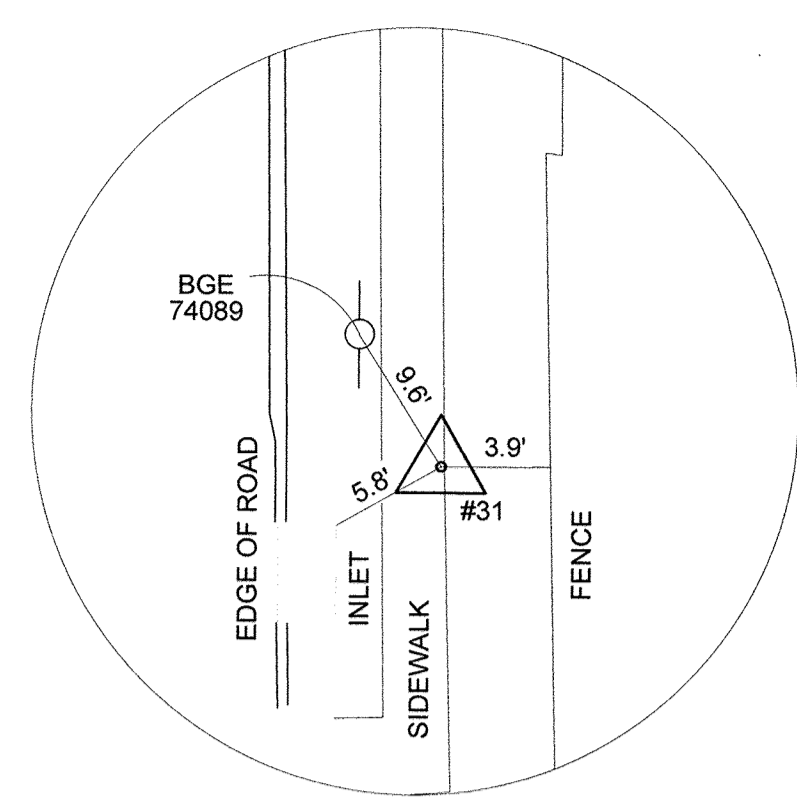
DETAIL 2 - PERMANENT UTILITY TRENCH PAVING RESTORATION
NOT TO SCALE
REFER TO HOWARD COUNTY STANDARD DETAIL G-4.01 FOR ADDITIONAL NOTES
FOR TRENCH DETAIL REFER TO HOWARD COUNTY STANDARD DETAIL G-2.12



TRAVERSE #1
REBAR & CAP
N 587685.5121
E 1349743.2612
ELEV. 451.81'



TRAVERSE #2
REBAR & CAP
N 588367.2933
E 1349705.9043
ELEV. 431.44'



TRAVERSE #31
REBAR & CAP
N 588363.4442
E 1349739.5108
ELEV. 431.25'

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

IMPORTANT: THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES MD 104.00-01 - MD 104.00-18 AND STANDARD DETAILS MD 104.01-01 - MD 104.01-01.

NOTE: FLAGGER SHALL NEVER BE STATIONED MORE THAN 1000' AWAY FROM THE ADVANCE FLAGGER SIGN.

THE ENGINEER SHOULD CONSIDER ADDITIONAL ADJACENT LANE CLOSURES WHEN THE POSSIBILITY OF UNPLANNED TRAVELWAY ENCRoACHMENTS EXISTS.

KEY:

- CHANNELIZING DEVICES
- SIGN SUPPORT
- FACE OF SIGN
- DIRECTION OF TRAFFIC
- WORK SITE
- FLAGGER

END ROAD WORK

(OPTIONAL FOR 15 MIN-12 HRS. OR DAYTIME APPLICATIONS)

ONE LANE ROAD 1000 FT.

ONE LANE ROAD 1500 FT.

ROAD WORK 1/2 MILE.

OVER 12 HRS. OR NIGHT USE

15 MIN-12 HRS. OR DAYTIME USE ONLY

SPECIFICATION	CATEGORY CODE ITEMS
104	

Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION

STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

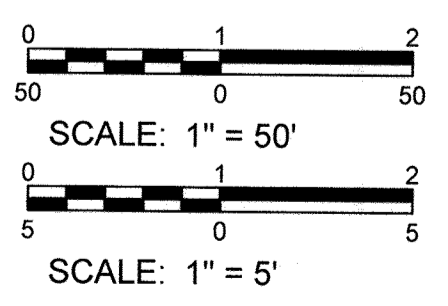
FLAGGING OPERATION 2-LANE, 2-WAY

EQLS LESS THAN 40 MPH

STANDARD NO. MD 104.02-10

NOTES: THE FLAGGING OPERATION IS LIMITED TO 9AM TO 4PM MONDAY THROUGH FRIDAY. ACCESS TO ALL STREETS AND DRIVEWAYS MUST BE MAINTAINED AT ALL TIMES. THE ENTIRE ROADWAY MUST BE COMPLETELY RESTORED AND OPEN AT THE END OF EACH WORKDAY.

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 1/16/2020.



Aug 05, 2019 - 7:45am User: kci-tech-001

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 8/9/19
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 8/9/19
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 8/9/19
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 8/9/19
CHIEF, UTILITY DESIGN DIVISION DATE

KCI TECHNOLOGIES

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

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Sparks, MD 21152
PHONE: (410) 316-7800
FAX: (410) 316-7817
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STATE OF MARYLAND
[Professional Engineer Seal]
PROFESSIONAL ENGINEER
NO. 31363
08/05/2019

DES: KFJ
DRN: KFJ
CHK: SK
DATE: AUG. 2019

AS-BUILT

1/7/20

SEWER PLAN AND PROFILE

600' SCALE MAP NO. 24
BLOCK NO. 1
ELECTION DISTRICT NO. 2

BOONES LANE SEWER EXTENSION

CAPITAL PROJECT No. S6698
CONTRACT No. 20-5108

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).

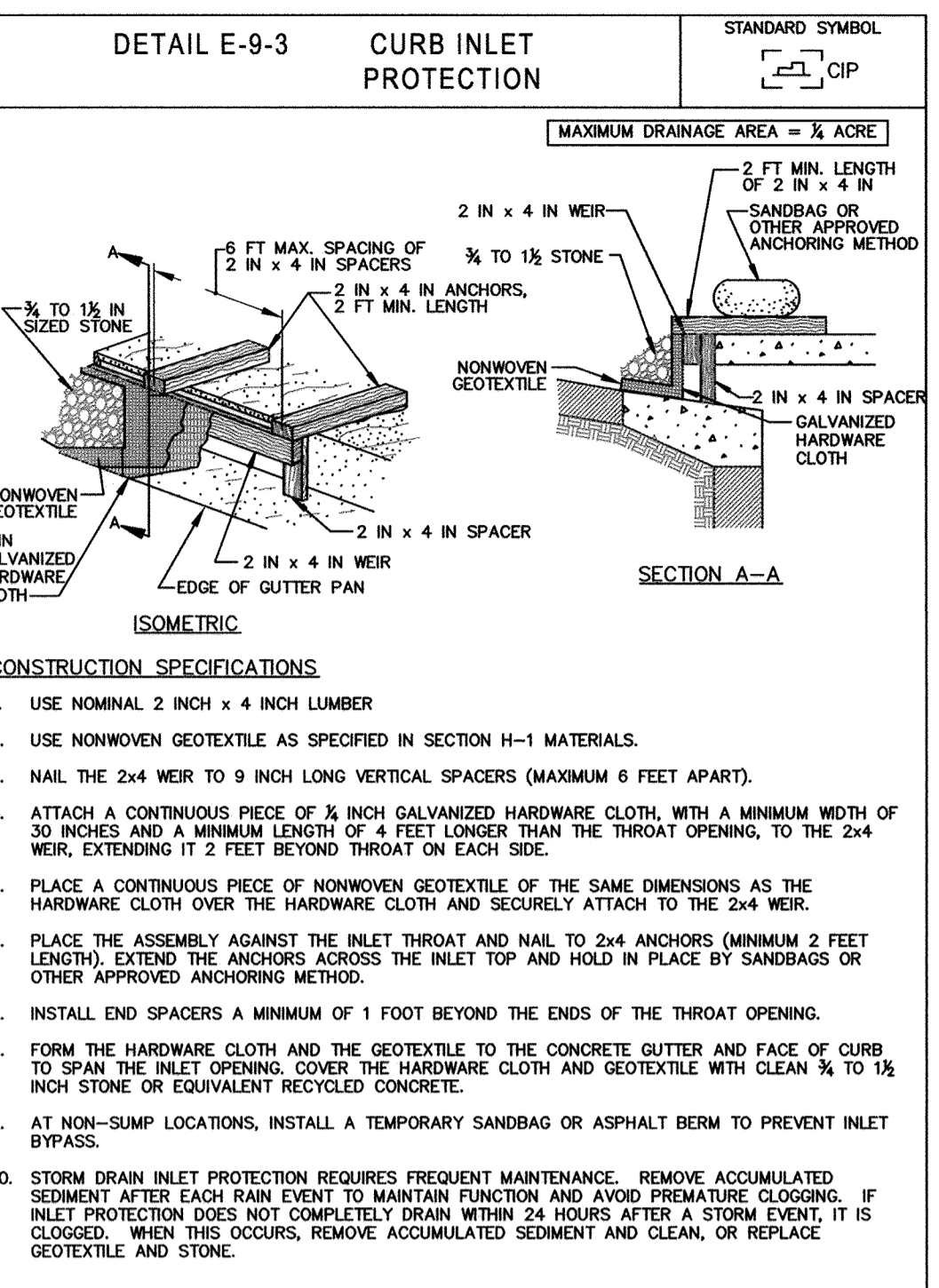
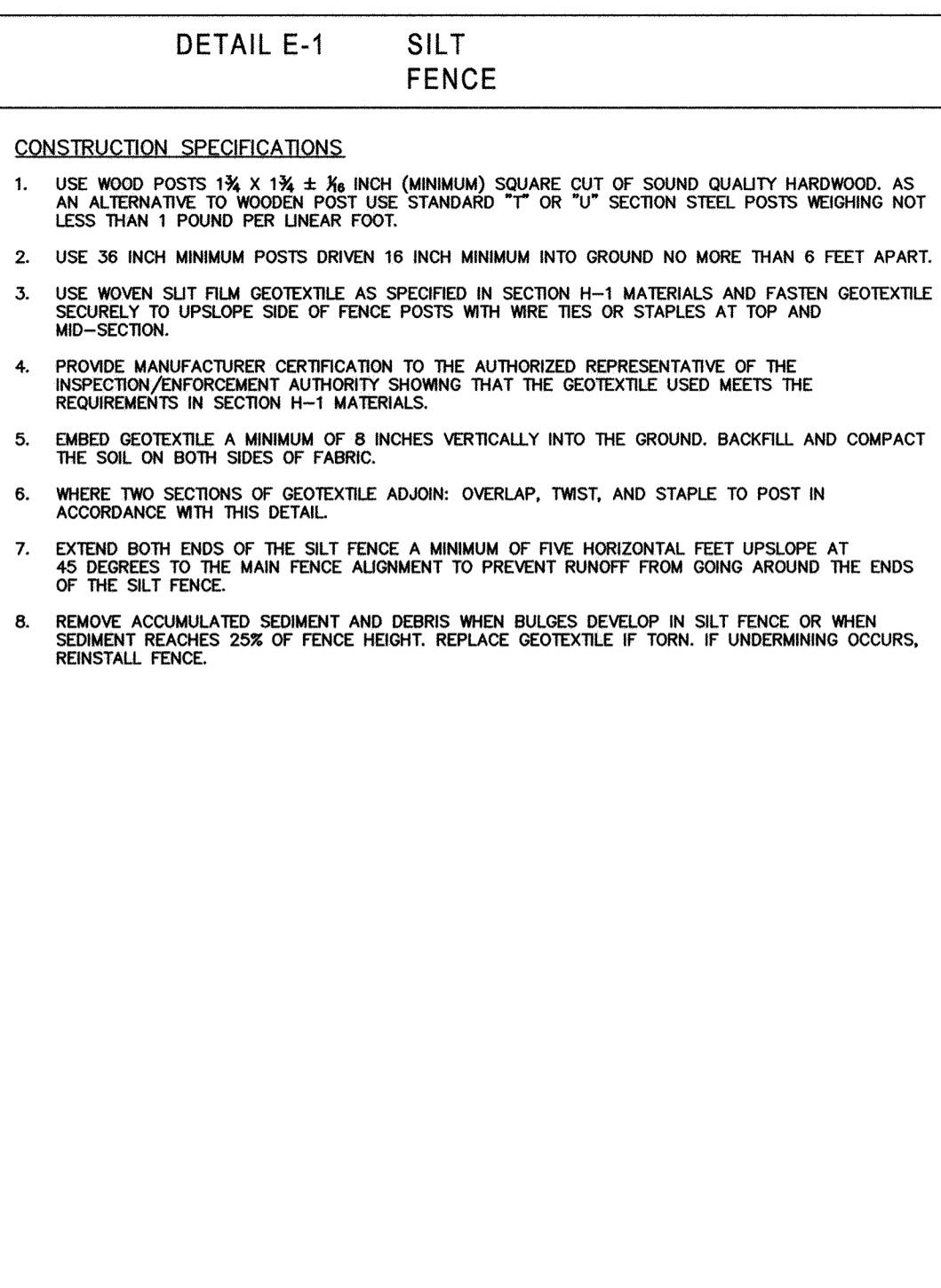
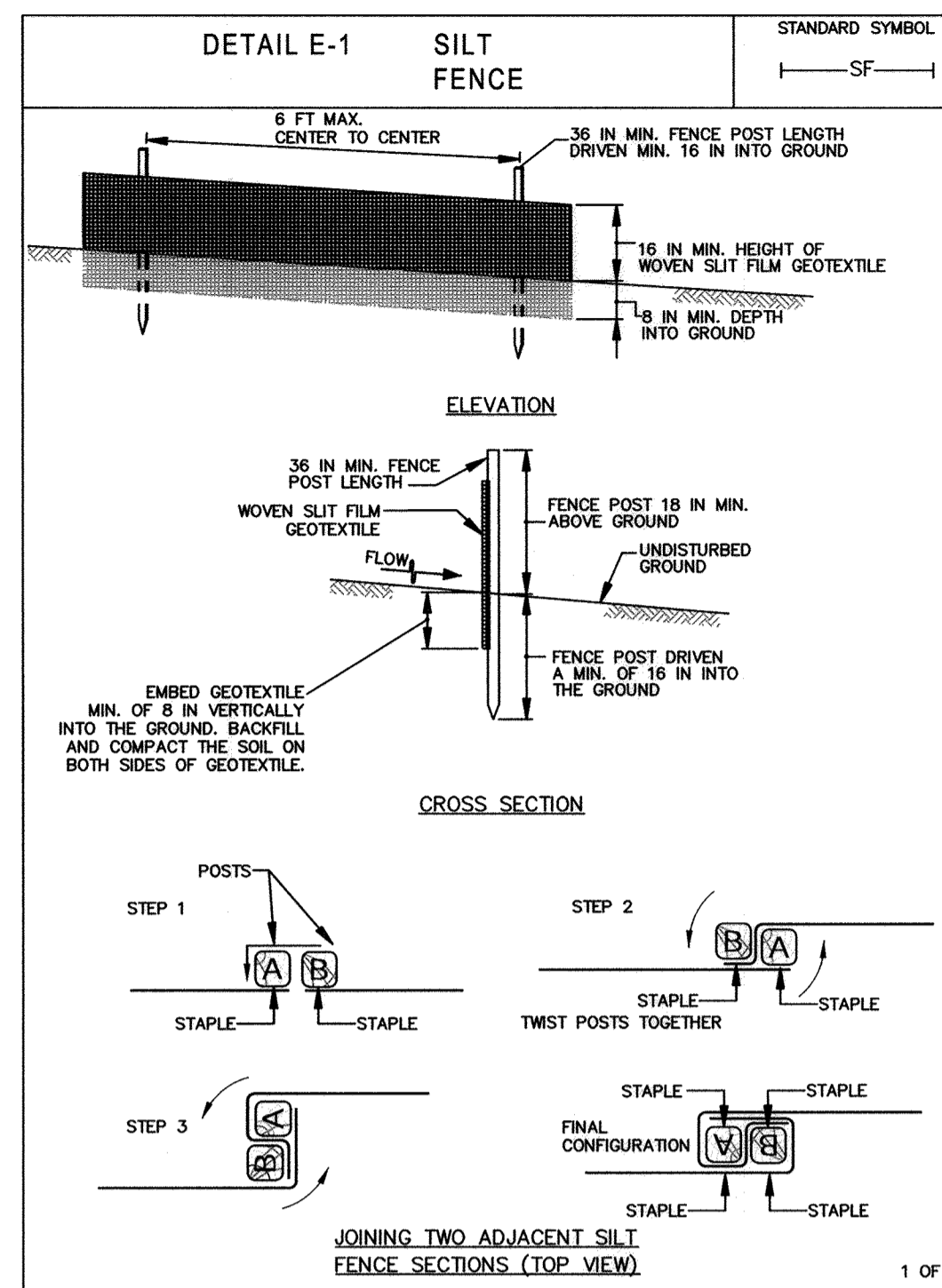
- All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CID.

Site Analysis:	
Total Area of Site:	0.036 Acres
Area Disturbed:	0.013 Acres
Area to be roofed or paved:	0.0127 Acres
Area to be vegetatively stabilized:	0.0003 Acres
Total Cut:	133 Cu. Yds.
Total Fill:	133 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.



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		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	2011	U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
- LAYOUT ALIGNMENT AT SITE. (2 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 THE USE OF TRAFFIC SIGNS AND FLAGGING OPERATIONS, ON BOONES LANE AT ALL TIMES.
- EXCAVATE TRENCH TO THE GRADE SHOWN ON THE PROFILE. INSTALL SEWER MAIN AND BACKFILL AND STABILIZE TRENCH AND RESURFACE WITH BITUMINOUS PAVING AS APPROPRIATE (30 DAYS). TRENCHES FOR THE CONSTRUCTION OF UTILITIES ARE LIMITED TO 3 LENGTHS OF PIPE OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER. 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. AT THE END OF EACH WORKING DAY ALL DISTURBED PAVING AREAS WITHIN THE EXISTING ROAD SHALL BE REPLACED WITH PERMANENT SUBGRADE AND BASE ASPHALT, THEN TEMPORARILY PATCHED, SEE TEMPORARY PAVING DETAIL ON SHEET 2 OF 4.
- UPON COMPLETION OF PIPE INSTALLATION, PERMANENT PAVING 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)

AS-BUILT
DATE 01/07/2020

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 1/16/2020.

KCI TECHNOLOGIES PROJECT No.: 131802366.16

Aug 05, 2019 - 7:58am User: Kevin Jackson M:\318131802366_16\Drawings\ES-03 Erosion Sed Ctrl Details.dwg

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works DATE 8/9/19 Chief, Bureau of Utilities DATE 8-9-19		Chief, Bureau of Engineering DATE 8/9/19 Chief, Utility Design Division DATE 8/9/19	
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KCI TECHNOLOGIES
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STATE OF MARYLAND
KCI TECHNOLOGIES
PROFESSIONAL ENGINEER
08/05/2019

DES: KfJ	
DRN: KfJ	
CHK: SK	
DATE: AUG. 2019	
BY NO.	REVISION
DATE	600' SCALE MAP NO. 24

EROSION & SEDIMENT CONTROL NOTES AND DETAILS

BOONES LANE SEWER EXTENSION
CAPITAL PROJECT No. S6698
CONTRACT No. 20-5108
ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND

SCALE	AS SHOWN
SHEET	3 OF 4

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...

- B. Topsoiling
1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth.
2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications...

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. All seed must be subject to re-testing by a recognized seed laboratory.
b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen.
c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria...

- 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. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty.
b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.

- c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
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 a minimum of 2 inches.

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 (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths.
2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
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 6 columns: No., Species, Application Rate (lb/acre), Seeding Dates, Seeding Depths, Fertilizer Rate (10-20-20), and 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). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.
2/ For sandy soils, plant seeds at twice the depth listed above.
3/ The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

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 (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary.
b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.

- c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
2. Turfgrass Mixtures
a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
b. Select one or more of the species or mixtures listed below based on the site conditions or purpose.

- c. Ideal Times of Seeding for Turf Grass Mixtures
Western MD: March 15 to June 1, August 1 to October 1 (Hardness Zones: 5b, 6a)
Central MD: March 1 to May 15, August 15 to October 15 (Hardness Zone: 6b)
Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardness Zones: 7a, 7b)

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

Permanent Seeding Summary

Table with 7 columns: No., Species, Application Rate (lb/acre), Seeding Dates, Seeding Depths, Fertilizer Rate (10-20-20), and 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.
b. Sod must be machine cut at a uniform soil thickness of 3/4 inch, plus or minus 1/8 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch.
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.

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 1/16/2020.

AS-BUILT DATE 01/07/2020

KCI TECHNOLOGIES PROJECT No. 131802366.1B

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

KCI TECHNOLOGIES. 936 Reisterstown Road, Sparks, MD 21152. Includes contact information and logo.

Professional Engineer Seal for KCI Technologies, License No. 31363, Expiration Date 08/05/2019.

Revision table with columns for DES, DRN, CHK, DATE, BY, NO., REVISION, and DATE. Includes entries for DRN: Kfj, CHK: SK, and DATE: AUG. 2019.

EROSION & SEDIMENT CONTROL NOTES. Includes scale information: 800' SCALE MAP NO. 24, BLOCK NO. 1.

BOONES LANE SEWER EXTENSION. CAPITAL PROJECT No. S6698, CONTRACT No. 20-5108. ELECTION DISTRICT NO. 2. HOWARD COUNTY, MARYLAND. SCALE AS SHOWN. SHEET 4 OF 4.