



GEODETIC SURVEY CONTROLS

Sta. 28HB	N 567,548.737	E 1,320,551.664	El.: 556.082 (feet)
Sta. 28EA	N 572,158.964	E 1,319,400.683	El.: 484.995 (feet)

LEGEND

Existing 1' Contour	-----302
Proposed 2' Contour	-----
Proposed 1' Contour	-----
Right-of-Way Line	-----
Silt Fence	-----SF
Super Silt Fence	-----SSF
Super Diversion Fence	-----SDF
Limit of Disturbance	-----LOD
SWM Drainage Divide	-----
Existing Spot Elevation	302.3
Proposed Spot Elevation	+82.53
Direction of Flow	----->
Existing Trees to Remain	-----
Prop. 61'x36' Building	-----
Stabilized Construction Entrance	-----SCE
Prop. New Paving (was pervious before)	-----
Prop. Conc. Pad	-----
Prop. Uncompacted Gravel	-----
Ex. Uncompacted Gravel	-----
Prop. full replacement paving over existing.	-----
Existing Paving to be resurfaced.	-----

OWNER/APPLICANT (PARCEL 78)
 BALTIMORE GAS AND ELECTRIC COMPANY
 SPRING GARDENS COMPLEX
 1699 LEADENHALL STREET
 BALTIMORE, MARYLAND 21230
 ATTN: GREG KAPPLER (410) 470-6445

OWNER (PARCEL 79)
 ATLANTIC SEABORD CORP.
 C/O COLUMBIA GAS TRANSMISSION
 P.O. BOX 1273
 CHARLESTON, WV 25325-1273

SHEET INDEX

SHEET	TITLE
1 of 4	Proposed Conditions Plan
2 of 4	Notes & Details
3 of 4	Existing Conditions Plan
4 of 4	Stormwater Management Plan

ENVIRONMENTAL CONCEPT PLAN
 PROPOSED CONDITIONS
 BGE LINDEN CHURCH
 GAS GATE STATION
 TAX MAP 28, PARCEL 78&79
 5TH ELEC. DIST., HO. CO. MD

SHEET 1 OF 4

GAS TRANSMISSION SUBSTATION

SCALE	1" = 30'
DWG NO.	D
REV	

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
GgC	Glennel loam, 8 to 15 percent slopes	B (K=0.28)

- GENERAL NOTES**
- The subject property is zoned RR-DEO per the 10/6/13 Comprehensive Zoning Plan.
 - Total area of property = 2.911 ac.
 - Private water and sewer will be used within this site.
 - There are no floodplains, historic structures or cemeteries on-site.
 - This property is subject to the Amended 5th edition of the Howard County Subdivision and Land Development Regulations.
 - Field run topographic survey prepared by FSH Associates in March, 2014. Field run topographic survey prepared by CNA Engineers in January, 2010.
 - Forest stand delineation prepared by Exploration Research Inc.
 - The lots shown herein comply with the minimum ownership, width and lot area as required by the Maryland State Department of the Environment.
 - Paving, structures and concrete pads designated "TBR" are to be removed.
 - No wetlands exist on site.
 - The Gas Gate Station has been approved under BA case 191C.

- SITE ANALYSIS DATA**
- Total area of site = 2.911 ac.
 - No wetlands exist on site.
 - No 100-year floodplain exists on site.
 - No forest exist on site.
 - No areas of 15-24.9% slopes exist on site.
 - No 25% slopes or greater exist on site.
 - Limits of disturbance = 1.421 ac.±
 - Proposed impervious area = 0.144 ac.±
 - Erodible soils (K ≥ 0.35) = 0.0 ac.±

ADDRESS CHART

PARCELS	STREET
78 & 79	13055 Greenberry Lane

PERMIT INFORMATION CHART

Subdivision Name:	Section/Area	Lot/Parcel No.
BGE Linden Church Gas Gate Station	N/A	P. 78 & 79
Dead / Flat	Grid	Zoning
287/39	9	RR-DEO
287/43		
	Tax Map No.	Elect. District
	28	5th
	Census Tract	
	605104	

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. #22418, Expiration Date: 07/29/2015.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Ch. Chidman 7-25-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION SR DATE

Ket. S. Lewis 7-23-14
 CHIEF, DIVISION OF LAND DEVELOPMENT DM DATE

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

The process of preparing the soils to sustain adequate vegetative stabilization. Where vegetative stabilization is to be established, the soil must be prepared to receive the seed and fertilizer. Considerations include: soil texture, soil structure, soil pH, soil nutrients, soil moisture, soil temperature, soil erosion, and soil compaction.

- Soil Preparation
 - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
 - Soil pH between 6.0 and 7.0.
 - Soluble salts less than 500 parts per million (ppm).
 - Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if loess will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
 - Soil contains 1.5 percent minimum organic matter by weight.
 - Soil contains sufficient pore space to permit adequate root penetration.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

The application of seed and mulch to establish vegetative cover. To protect disturbed soils from erosion during and at the end of construction. To the surface of all perimeter contours, slopes, and any disturbed area not under active grading.

- Seeding
 - All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to retesting by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
 - Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding rate must be applied when the ground thaws.
 - Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until use. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
 - Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

B-4-4 STANDARDS AND SPECIFICATIONS FOR PERMANENT VEGETATION

To stabilize disturbed soils with permanent vegetation. To use long-lived perennial grasses and legumes to establish permanent ground cover on exposed soils. Conditions Where Practice Applies: Disturbed soils where ground cover is needed for 6 months or more.

- Seeds
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition. This Summary is not to be used as a substitute for the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shoreline, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be included in the Permanent Seeding Summary. The summary is to be placed on the plan.
 - For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
 - 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.
 - Turfgrass Mixtures
 - Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
 - Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Kentucky Bluegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 90 to 100 percent, Certified Kentucky Bluegrass Cultivars 10 to 10 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
 - Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue Cultivars 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

Temporary Seeding Summary

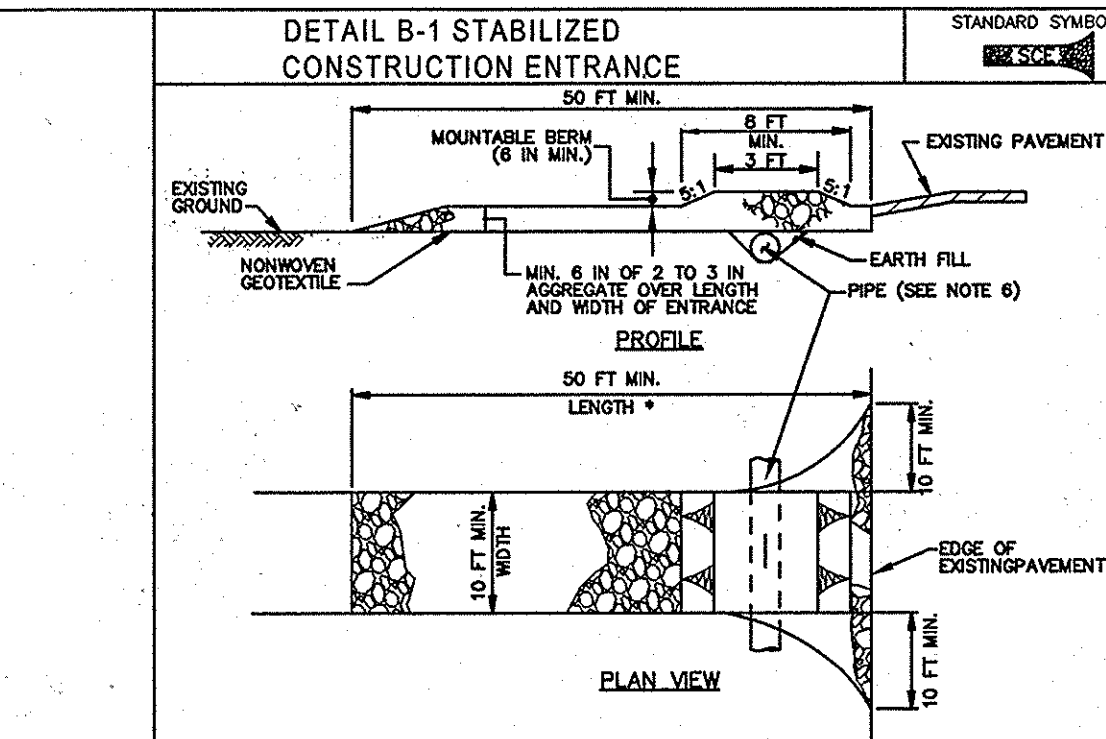
Hardiness Zone (From Figure B.3) - 7A		Fertilizer Rate (10-20-20)		Lime Rate	
No.	Species	Application Rate (lb/1000)	Seeding Dates	Seeding Depth	Seeding Rate
1	Annual Ryegrass	40	2/15-4/30	1/2"	435 lb/oc (10.0 lb/1000sq)
2	Perennial Ryegrass	40	2/15-4/30	1/2"	435 lb/oc (10.0 lb/1000sq)
3	Perennial Ryegrass	30	5/1-8/14	1/2"	2 tons/oc (90 lb/1000sq)

Permanent Seeding Summary

Hardiness Zone (From Figure B.3) - 7A		Fertilizer Rate (10-20-20)		Lime Rate	
No.	Species	Application Rate (lb/1000)	Seeding Dates	Seeding Depth	Seeding Rate
1	Deer Tongue	20	2/15-4/30	1/2"	145 lb/oc (36.25 lb/1000sq)
2	Sheep Fescue	20	2/15-4/30	1/2"	145 lb/oc (36.25 lb/1000sq)
3	Redtop	1	2/15-4/30	1/2"	57 lb/oc (14.25 lb/1000sq)
4	Korean Lespedeza	10	2/15-4/30	1/2"	40 lb/oc (10.0 lb/1000sq)
5	Tall Fescue	100	8/15-10/15	1/2"	2 tons/oc (90 lb/1000sq)

* For mix no. 3: For the period 6/1 to 8/14 add either 2.5 lbs/oc. Foxtail Millet or 2.5 lbs/oc. Pearl Millet and for the period 8/15 thru 11/30 add 24 lbs/oc. Oats to the permanent seed mix.
 For mix no. 8: For the period 6/1 to 8/14 add either 5.0 lbs/oc. Foxtail Millet or 5.0 lbs/oc. Pearl Millet and for the period 10/16 thru 11/30 add 24 lbs/oc. Oats to the permanent seed mix (mix no. 3).
 ** Warm-season grasses need a soil temperature of at least 50 degrees F in order to germinate. If soil temperatures are cooler than 50 degrees, or moisture is not adequate, the seeds will remain dormant until conditions are favorable. In general, planting during the latter portion of this period allows more time for weed emergence and weed control prior to planting. When selecting a planting date, consider the need for weed control vs. the likelihood of having sufficient moisture for later plantings, especially on droughty sites.

DUST CONTROL
 DEFINITION: Controlling dust blowing and movement on construction sites and roads.
 PURPOSE: To prevent blowing and movement of dust from exposed soil surfaces, reduce on- and off-site damage, health hazards, and improve traffic safety.
 CONDITIONS WHERE PRACTICE APPLIES: This practice is applicable to areas subject to dust blowing and movement where on- and off-site damage is likely without treatment.
 SPECIFICATIONS: 1. Mulches - See standards for vegetative stabilization with mulches only. Mulch should be crimped or tacked to prevent blowing. 2. Vegetative Cover - See standards for temporary vegetative cover. 3. Tillage - To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12' apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect. 4. Irrigation - This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed. At no time should the site be irrigated to the point that runoff begins to flow. 5. Barriers - Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar materials can be used to control or reduce soil blowing. Barriers placed at right angles to prevailing currents at existing trees 10 to 15 times their height is effective in controlling soil blowing. 6. Calcium Chloride - Apply at rates that will keep the surface moist and reduce dust.
 PERSONNEL TRAINING: 1. Permanent Vegetation - See standards for permanent vegetative cover and permanent stabilization with sod. Existing trees and shrubs may allow valuable protection if left in place. 2. Topsoiling - Covering with less erodible soil materials. See standards for topsoiling. 3. Stone - Cover surface with crushed stone or coarse gravel.
 REFERENCES: 1. Agriculture Handbook 346, Wind Erosion Forces in the United States and Their Use in Predicting Soil Loss. 2. Agriculture Information Bulletin 354, How to Control Wind Erosion, USDA-ARS, 410-730-115.



CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN.
- PIPE ALL SURFACE WATER FLOWING TO OR DRAINING TOWARD THE SCE UNDER THE ENTRANCE. WITHOUT REMEDIAL ACTION, PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS DRAINAGE IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
- PREPARE SUGGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.

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

SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (410-313-1855).
- All vegetation and structural practices are to be installed in accordance with the approved 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 redistribution, permanent or temporary stabilization must be completed within:
 - Three (3) calendar days as to the surface of all perimeter dikes, ditches, culverts, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and
 - Seven (7) calendar days as to all other disturbed or graded areas on the project site under active grading.
- All sediment structures shall be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding, sod, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall be done using recommended seeding rates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

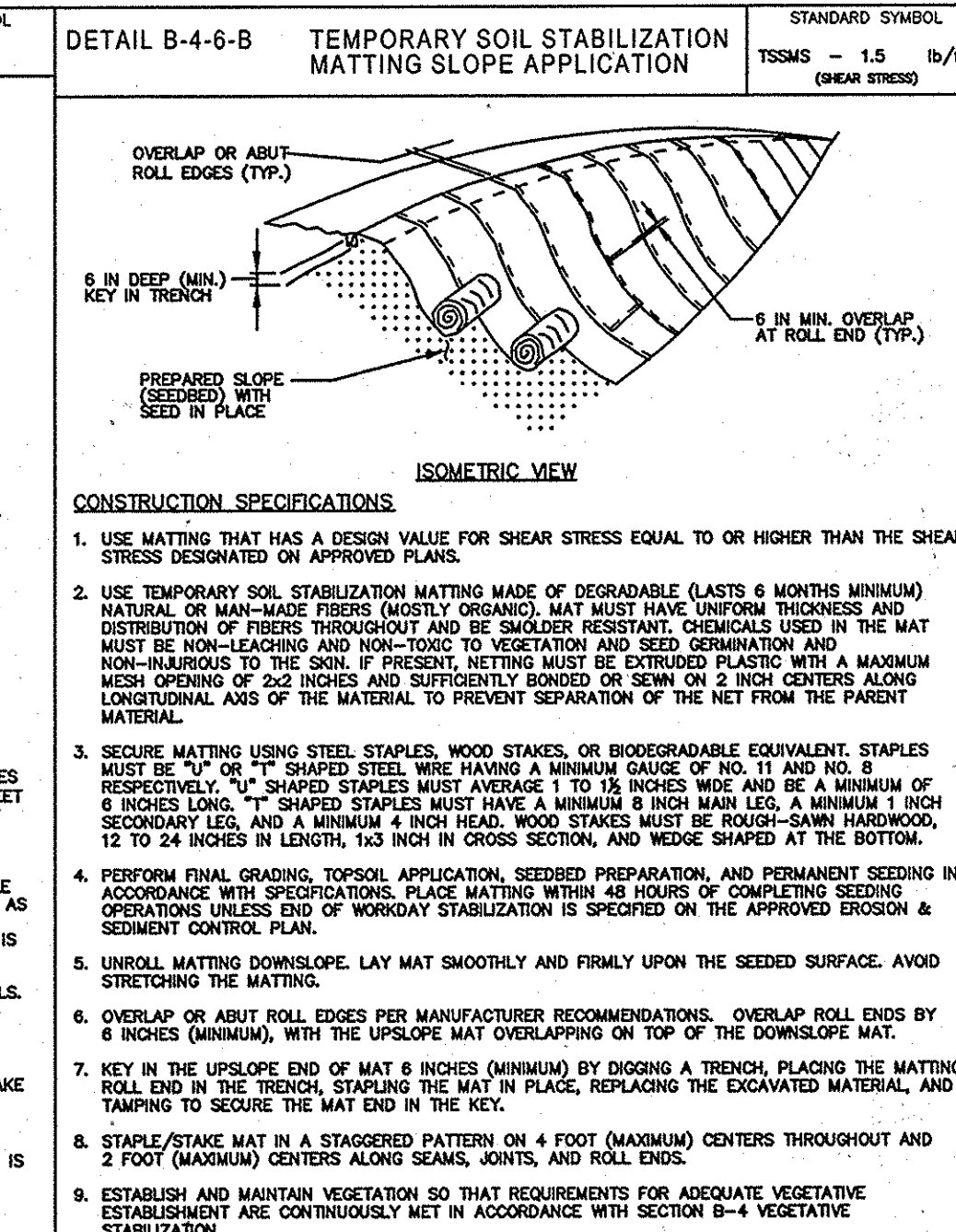
Total Area	2,911 ac ±
Area to be roofed or paved	1,124 ac ±
Area to be vegetatively stabilized	1,787 ac ±
Total Cut	5,007 cu ±
- Off-site water/borrow area location:
 - Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
 - Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
 - All sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be required upon completion of installation of erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
 - Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized within one working day, whichever is shorter.
 - Earthwork quantities are solely for the purpose of calculating fees.
 - To be determined by contractor, with pre-approval of the Sediment Control Inspector with an approved and active grading permit.



TYPICAL INFILTRATION TRENCH DETAIL
 Not to Scale

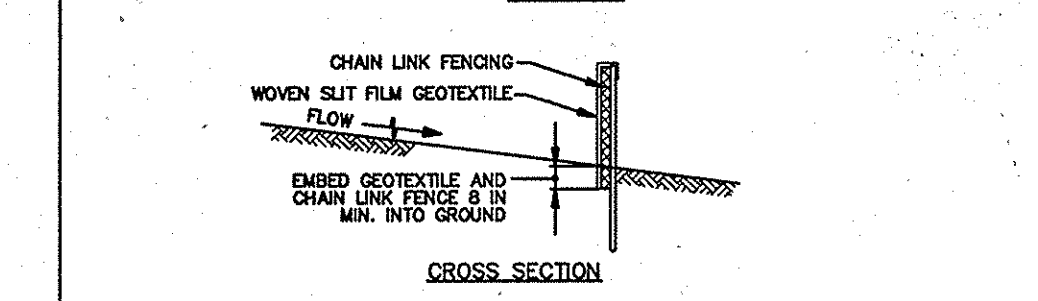
OWNER/APPLICANT (PARCEL 78)
 BALTIMORE GAS AND ELECTRIC COMPANY
 SPRING GARDENS COMPLEX
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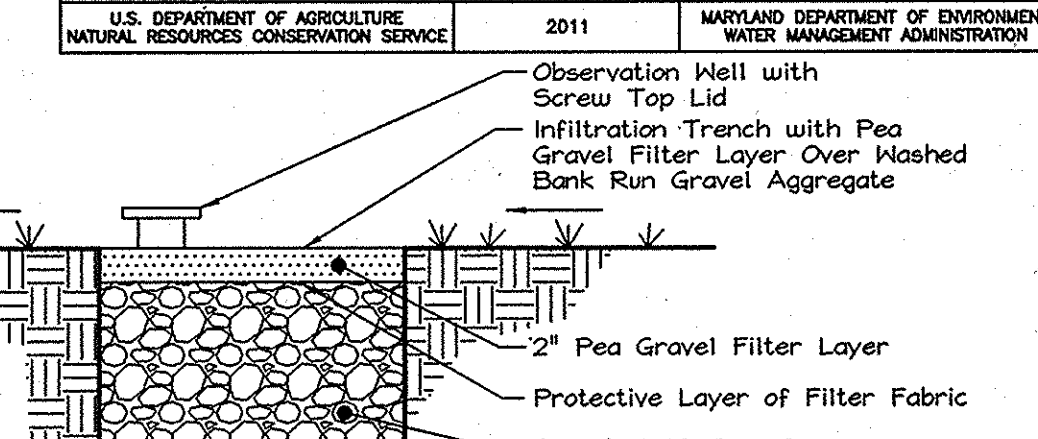
CONSTRUCTION SPECIFICATIONS

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SUFFICIENTLY RESISTANT TO WEAR AND TEAR. MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SOIL. GEOTEXTILE AND MAT MUST BE NON-TOXIC TO THE SOIL. IN PRESENT, NETTING MUST BE EXTENDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2.0 INCHES. MAT MUST BE INSTALLED OVER A 2 INCH CURBED ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT PREPARATION OF THE NET FROM THE PARENT MATERIAL.
- SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WITH A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1.5 INCHES MINIMUM AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAPLES MUST BE PROVIDED WITH A MINIMUM 12 TO 24 INCHES LENGTH, 1/2 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDING PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS DRAINAGE IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
- UNROLL MATTING DOWN SLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDING SURFACE. AVOID STRICTURING THE MATTING.
- SECURE OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UP SLOPE MAT OVERLAPPING ON TOP OF THE DOWN SLOPE MAT.
- KEY IN THE UPSLOPE END OF MAT 8 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING 8 INCHES INTO THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MINIMUM) CENTERS THROUGHOUT AND 2 FOOT (MINIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- ESTABLISH AND MAINTAIN VEGETATION SO THAT PERMANENTLY ADEQUATE VEGETATIVE PROTECTION AREAS ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4.2 VEGETATIVE STABILIZATION.



CONSTRUCTION SPECIFICATIONS

- INSTALL 2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH IN SPACED FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 6 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% NICH MAXIMUM OPENING) 48 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUNG RINGS.
- FASTEN WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH THIS SPACED EVERY 24 INCHES AT THE TOP AND ANCHORED TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING UNDER THE ENDS OF THE SUPER SILT FENCE.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEEDING BY PAGES.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING UNDER THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.



CONSTRUCTION SPECIFICATIONS

- 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 "U" OR "T" SHAPED STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
- USE 36 INCH MINIMUM POSTS DRIVEN 18 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 6 INCHES VERTICALLY INTO THE GROUND, BACKFILL AND COMPACT THIS SOIL ON BOTH SIDES OF GEOTEXTILE.
- 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 UNDER THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL FENCE.

REV.	DATE	ACCOUNT NO.	DESCRIPTION	APPROVED

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division 7-25-14
 DATE

Chief, Division of Land Development 7-23-14
 DATE

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. #22418, Expiration Date: 07/24/2015.

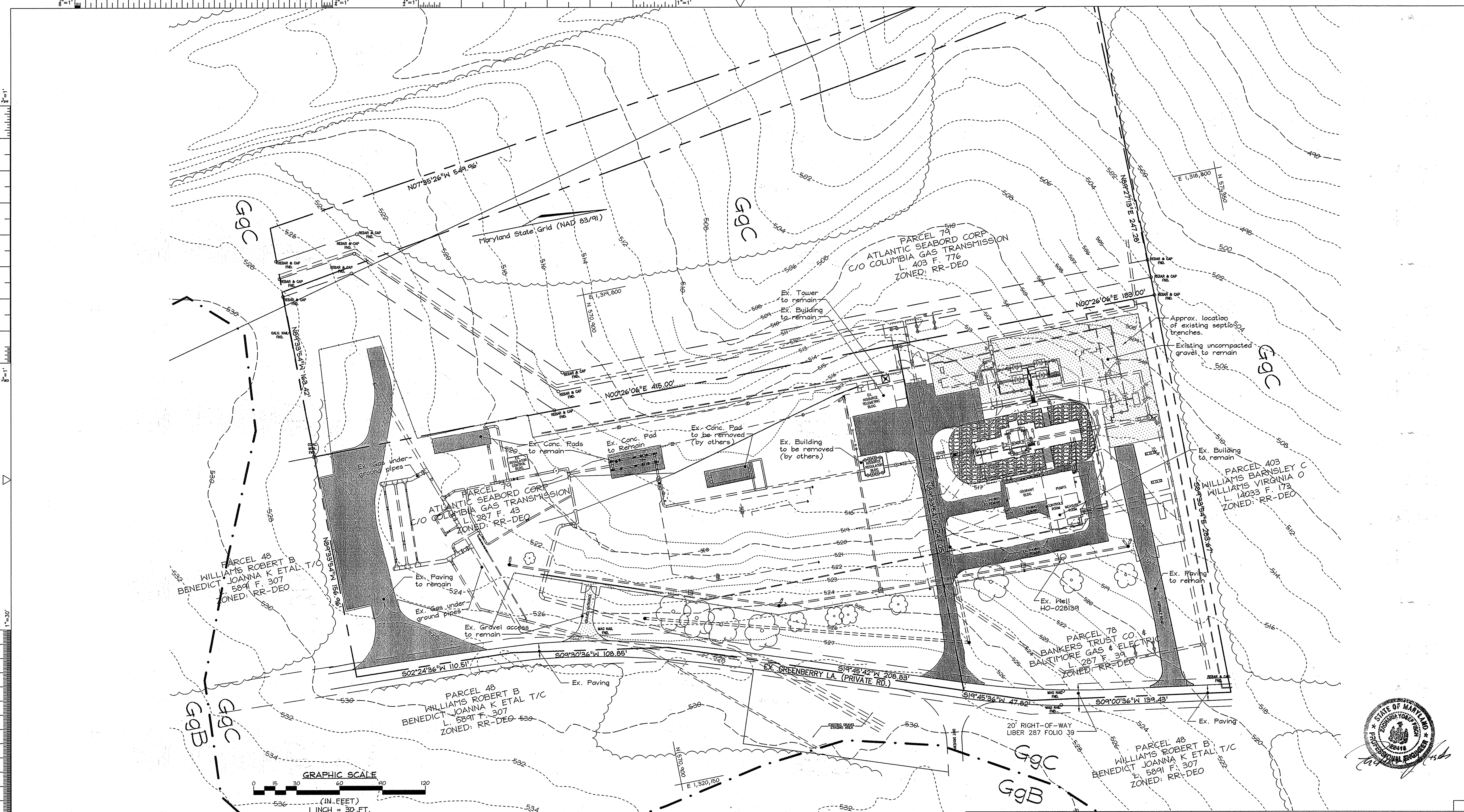
FSH Associates
 Engineers Planners Surveyors
 8338 Howard Lane, Elkridge, MD 21027
 Tel: 410-687-5200 Fax: 410-796-1562
 E-mail: info@fsh.com

ENVIRONMENTAL CONCEPT PLAN NOTES AND DETAILS

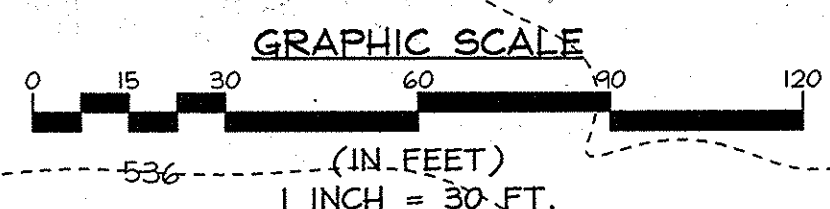
BGE LINDEN CHURCH
 GAS GATE STATION
 TAX MAP 28, PARCEL 78&79
 5TH ELEC. DIST., HO. CO. MD
 SHEET 2 OF 4

GAS TRANSMISSION SUBSTATION

SCALE NONE
 REV D
 ECP-14-078



EXISTING CONDITIONS PLAN
SCALE: 1" = 30'



LEGEND

Existing 1' Contour	-----382
Right-of-Way Line	-----
Existing Paving	[Solid Grey Box]
Existing Gravel	[Stippled Box]

OWNER/APPLICANT (PARCEL 78)
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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. 922418, Expiration Date: 07/29/2015.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad E. ... 7-25-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION, DATE

Kate ... 7-23-14
CHIEF, DIVISION OF LAND DEVELOPMENT, DATE

REV.	DATE	ACCOUNT NO.	DESCRIPTION	APPROVED	AUTOCAD
					ENGINEERING
					CIVIL FSH
					ELEC.
					PROJ. ENG.
					PROJ. MGR.
					PRIN. ENG.
					SUPV. ENG.
					DESIGN GROUP
					DESIGNED CRH2
					DRAWN CRH2
					CHECKED ZTF
					APPROVED
					DATE JULY 17, 2014

ENVIRONMENTAL CONCEPT PLAN
EXISTING CONDITIONS
BGE LINDEN CHURCH
GAS GATE STATION
TAX MAP 28, PARCEL 78&79
5TH ELEC. DIST. HO. CO. MD
SHEET 3 OF 4

GAS TRANSMISSION SUBSTATION

BGE	SCALE 1" = 30'	REV
	DWG NO. D	





SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
GgC	Glenelg loam, 8 to 15 percent slopes	B (K=0.28)

LEGEND	
Existing 1' Contour	-----382
Proposed 2' Contour	-----
Proposed 1' Contour	-----
Stabilized Construction Entrance	[Symbol]
Right-of-Way Line	-----
Silt Fence	-----SF
Super Silt Fence	-----SSF
Super Diversion Fence	-----SDF
Limit of Disturbance	-----LOD
Prop. New Paving (was pervious before)	[Symbol]
Prop. Conc. Pad	[Symbol]
Prop. Gravel	[Symbol]
Existing Gravel	[Symbol]
Prop. full replacement paving over existing	[Symbol]
Existing Paving to be resurfaced	[Symbol]

STORMWATER MANAGEMENT NARRATIVE

The site is an existing gas transmission gate station. The area that contains existing structures and equipment is enclosed within a fence. The area within the fence and some areas outside the fence contain a network of underground gas lines. The site within the fence must remain free of vegetation and any obstructions that may interfere with the operations of the station. Proposed is a building enclosure that will contain equipment. Also proposed are three concrete pads and some new paving. Stormwater management for the proposed building, 3 concrete pads and paving is provided by a stone infiltration trench. This is the only practical way to address stormwater management for this specific site. Loose, un-compacted gravel areas that are proposed are considered to be pervious per the design manual. The proposed infiltration stone trench has been sized based on the proposed new impervious area within the total proposed Limits-of-Disturbance for this project; of which, 1.42 ac. is considered to also be the total drainage area for this project.

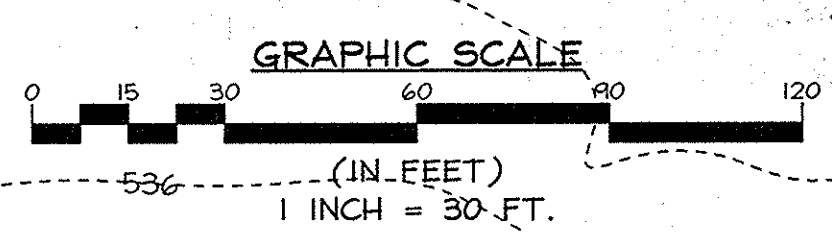
OWNER/APPLICANT (PARCEL 78)
BALTIMORE GAS AND ELECTRIC COMPANY
SPRING GARDENS COMPLEX
1699 LEADENHALL STREET
BALTIMORE, MARYLAND 21230
ATTN: GREG KAPPLER (410) 470-6445

OWNER (PARCEL 79)
ATLANTIC SEABORD CORP.
C/O COLUMBIA GAS TRANSMISSION
P.O. BOX 1273
CHARLESTON, WV 25325-1273



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. #22418, Expiration Date: 07/24/2015.

STORMWATER MANAGEMENT PLAN
SCALE: 1" = 30'



ESDv Computations

LOD Area = 61,899 sq.ft.
Hydrologic Soil Type = 'B'
Proposed Impervious Area = 6,290 sq.ft.
I = 1% Imp. = 6,290/61,899 = 10%
Rv = 0.05 + 0.009(1) = 0.14
Rv = 0.05 + 0.009 (10%) = 0.14
Target Pe = 'B' Soil Target Pe = 1.0
Target RCN for Woods in Good Condition: 53 ('B' Soil)
Target Oe = Qe = Pe x Rv
Qe = (1.0) x (0.14) = 0.14"
ESDv = (Pe/Rv)(A)/12
= (1.0/0.14)(61,899 sq.ft.)/12 = 722 cu.ft.

BMP Proposed:

Infiltration Trench (I-1)
722 cu.ft./0.4 (40% void ratio) = 1,805 cu.ft.
Utilize a 10' x 80' x 2.25' stone trench per figure 3.10 on page 3.26 of chapter 3 in the design manual.

SWM Practices Chart

Lot Address	BMP Practice
13055 Greenberry Lane (Parcel 78 & 79)	Infiltration Trench (I-1)

SWM Summary Chart

Area = 61,899 sq.ft. (LOD) = 1.42 ac.
Pe Required: 1.0"
Pe Provided: 1.0" Provided through Infiltration Trench (I-1)
Pe requirement met therefore Rv and WQv have been provided.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Clark 7-23-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Kat Shelton 7-23-14
CHIEF, DIVISION OF LAND DEVELOPMENT

REV.	DATE	ACCOUNT NO.	DESCRIPTION	APPROVED	AUTOCAD	ENVIRONMENTAL CONCEPT PLAN STORMWATER MANAGEMENT PLAN BGE LINDEN CHURCH GAS GATE STATION TAX MAP 28, PARCEL 78&79 5TH ELEC. DIST. HO. CO. MD SHEET 4 OF 4
					ENGINEERING FSH	GAS TRANSMISSION SUBSTATION
					CIVIL ELEC. PROJ. ENG. PROJ. MGR. PRIN. ENG. SUPV. ENG.	
					DESIGN GROUP CRH2 DRAWN CRH2 CHECKED ZYF APPROVED DATE JULY 17, 2014	SCALE 1" = 30' DWG NO. D REV
					BGE	