QUANTITIES AS-BUILT QUANTITIES TYPE MANUF./SUPPLIER WATER(D.I.P. CLASS 54) S" x 8" TAPPING SLEEVE & VALVE 1 EACH 1 EACH 1 EACH SEWER (PVC C900 DR18) 363 L.F. 363 L.F. C900 NATION/ 221 LF. 221 LF 121P US PIPE SEWER (DIP CLASS 52) 5 EACH 5 EACH -NAME OF UTILITY CONTRACTOR: MITCHELL INC. SURVEY AND DRAFTING DIVISION AS—BUILT DATE: 🤊 - 7 - 1 😤

FINAL WATER AND SEWER EXTENSIONS THE WEXLEY AT 100 OFF-SITE WATER AND SEWER

PARCEL 670 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

CONTRACT NO.: 14-4994-D

NOTE: ALL JOINTS AND CONNECTIONS LOCATED WITHIN STRUCTURAL FILL AREAS SHALL BE MECHANICALLY RESTRAINED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION)

LEGEND

EXIST. WATER MAIN EXIST. SEWER MAIN EXIST. SEWER MANHOLE EXIST. STORM DRAIN

PROP. WATER MAIN PROP. SEWER MAIN PROP. STORM DRAIN

PROP. FIRE HYDRANT

PROP. VALVE

(
STRUCTURE TABLE									
NUMBER	TYPE	NORTHING	EASTING	INVERT IN	INVERT OUT	TOP ELEV.	STD. DETAIL	OWNER	REMARKS
100	48" MH	560238.7798	1372246.8832	296.98(8")		305.20	Ho.Co. STD. G-5.14	PUBLIC	
101	48" MH	560305.1666	1372360.1520	320.73(8")	306.36(8")	326.21	Ho.Co. STD. G-5.11 TYPE 'B' - DROP	PUBLIC	
102	48" MH	560472.8675	1372646.2826	327.78(8")	327.68(8")	332.93	Ho.Co. STD. G-5.11	PUBLIC	
103	48" MH	560495.7545	1372667.3514	332.28(8")	328.96(8")	336.71	Ho.Co. STD. G-5.11 TYPE 'A' - DROP	PUBLIC	
104	48" MH	560554.9788	1372721.8707	346.47(8")	346.37(8")	365.12	Ho.Co. STD. G-5.11	PUBLIC	

WATER APPURTENANCE SCHEDULE						
APPURTENANCE	WATER LINE STATION	NORTHING	EASTING			
8"x 8" TAPPING SLEEVE & VALVE	WL STA. 0+00.0	560345.5368	1372719.5689			
1/8 HORIZONTAL BEND	WL STA. 0+56.4	560401.0715	1372729.6053			
1/16 VERTICAL BEND	WL STA. 0+79.2	560417.4068	1372745.4570			
1/16 VERTICAL BEND	WL STA. 1+13.0	560441.7090	1372768.9483			
1/16 VERTICAL BEND	WL STA. 1+23.6	560449.3304	1372776.3154			
1/16 VERTICAL BEND	WL STA. 1+53.6	560470.9004	1372797.1657			

WL STA. 1+59.1 | 560474.8747 | 1372801.0074

PROPERTY OWNER: HOWARD COUNTY BOARD OF EDUCATION BELLOWS SPRING ELEM SCHOOL 10910 CLARKSVILLE PK. ELLICOTT CITY, MD 21042

LOCUST THICKET INVESTORS, LLC P.O. BOX 417 **ELLICOTT CITY, MD 21041** 410-465-4244

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE SOIL CONSERVATION DISTRICT.

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER SHOWN ON SHEET 4 OF THIS PLAN.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING. HOWARD COUNTY, MARYLAND

TITLE SHEET WATER & SEWER PLAN WATER & SEWER PROFILES PUBLIC WATER AND SEWER SEDIMENT CONTROL PLAN NOTES & DETAILS

BENCHMARK

ENGINEERS A LAND SURVEYORS A PLANNERS

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315 ▲ ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644

WWW.BEI-CIVILENGINEERING.COM

SHEET INDEX

GRAPHIC SCALE (IN FEET) 1 inch = 600 ft.

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22					

Professional Certification. I hereby certify tha

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. 28376, Expiration Date: 01-01-19

NUMBER OF UNITS: _____ N/A DRAINAGE AREA:_____ PATAPSCO TREATMENT PLANT:____ PATAPSCO WWTP CITY OF BALTIMORE WATER ZONE:___ TEST GRADIENT:_____700_

LOCATION MAP

SCALE: 1" = 600'

2 PROJECT NAME CHANGE

SITE CONSTRUCTION & SEDIMENT CONTROL DETAILS

REVISIONS

AND NOTES ABBED PER THE BOARD OF EDUCATION 11/13/17

NUMBER OF SHC'S: N/A

NUMBER OF WHC'S: N/A

AS-BUILT

## DESIGN MANUAL WAIVER

A DESIGN MANUAL WAIVER REQUEST WAS SUBMITTED 3-17-17 TO THE 10' MINIMUM SEPARATION BETWEEN A UTILITY EASEMENT AND A PERMANENT STRUCTURE. DURING THE REVIEW PROCESS FOR THE WAIVER, A REDESIGN WAS SUBMITTED WITH THE ALIGNMENT SHOWN ON THIS PLAN. DPW DETERMINED IN A LETTER DATED APRIL 10, 2017 THAT NO WAIVER WAS NECESSARY FOR THIS ALIGNMENT.

### MDE PERMIT

DATE 600 SCALE MAP #37

MOE LETTER OF AUTHORIZATION 16-NT-3362/201662030 ISSUED AUG. 2, 2017 AUTHOPIZES WORK WITHIN THE FLOODPLAIN AND ESTABLISHES BEST MANAGEMENT PRACTICES FOR THE CONSTRUCTION ACTIVITIES.

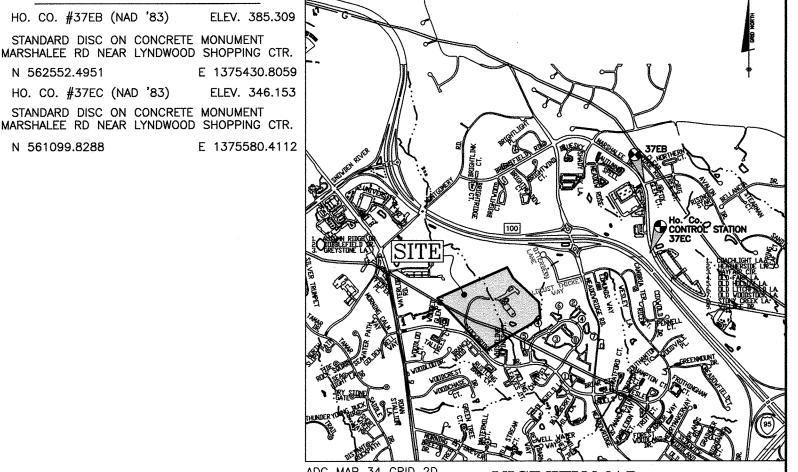
HO. CO. #37EB (NAD '83)

STANDARD DISC ON CONCRETE MONUMENT

STANDARD DISC ON CONCRETE MONUMENT

MARSHALEE RD NEAR LYNDWOOD SHOPPING CTR.

ELEV. 385.309



#### **GENERAL NOTES**

- TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL
- ROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 37EB AND 37EC. ALL VERTICAL CONTROLS ARE BASED
- CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE
- 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. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFOR STARTING WORK SHOWN ON THESE PLANS:

-MICAL,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1 000 202 1100
BG&E (CONSTRUCTION SERVICES)	410–637–8713
BG&E (EMERGENCY)	410-685-0123
HO. CO. DPW — BÚREAU OF UTILITIES	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

OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS

THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS

1. ALL WATER MAINS TO BE DIP CLASS 54 UNLESS OTHERWISE NOTED.

PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.

- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- 6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL D.I.P. AND P.V.C. WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
- FOR PVC WATER MAINS, ALL RECORDS FOR THE QUANTITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF MATERIAL FOR USE. TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORD RECEIVED.
- UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, SEVENTEEN (17) POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. TWELVE (12) POUND ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE
- PROPER ASSEMBLY OF GASKETED P.V.C. PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GAKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTION LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED P.V.C. PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION INTO THE SPIGOT BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF THE
- 11. ALL CHANGES IN HORIZONTAL AND VERTICAL DIRECTION OF P.V.C. WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS, OR HIGH-DEFLECTION (HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF P.V.C. PIPE JOINTS IS PERMITTED. WHERE HIGH-DEFLECTION (HD) COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20-FOOT LONG) ON EITHER SIDE OF THE HIGH-DEFLECTION (HD) COUPLINGS OR 5-DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE THE #57 STONE ON BOTH SIDES OF THE HIGH-DEFLECTION (HD) COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING
- P.V.C. HIGH-DEFLECTION (HD) COUPLINGS SHALL BE LIMITED TO A TOTAL DEFLECTION OF 3-DEGREES (1-1/2) DEGREES ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM OF 200-PSI MEETING THE REQUIREMENTS OF AWWA-C900 SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. P.V.C. HIGH-DEFLECTION (HD) COUPLINGS SHALL BE CERTAIN-TEED P.V.C. HIGH-DEFLECTION (HD) COUPLINGS OR EQUAL.
- 5-DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225-PSI, DR-18 MEETING THE REQUIREMENTS OF AWWA-C900, AND SHALL BE MULTI-FITTING (IPEX) BLUE BRUTE DR-18 OR EQUAL.
- WHEN P.V.C. HIGH-DEFLECTION (HD) COUPLINGS OR P.V.C 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA-C900 P.V.C. PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE P.V.C. SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION (HD) COUPLINGS AND 5-DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS

### PART 3 - SEWER

- 1. ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- 2. ALL MANHOLES SHALL BE 4' 0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G-5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED
- GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

## **FINAL** TITLE SHEET

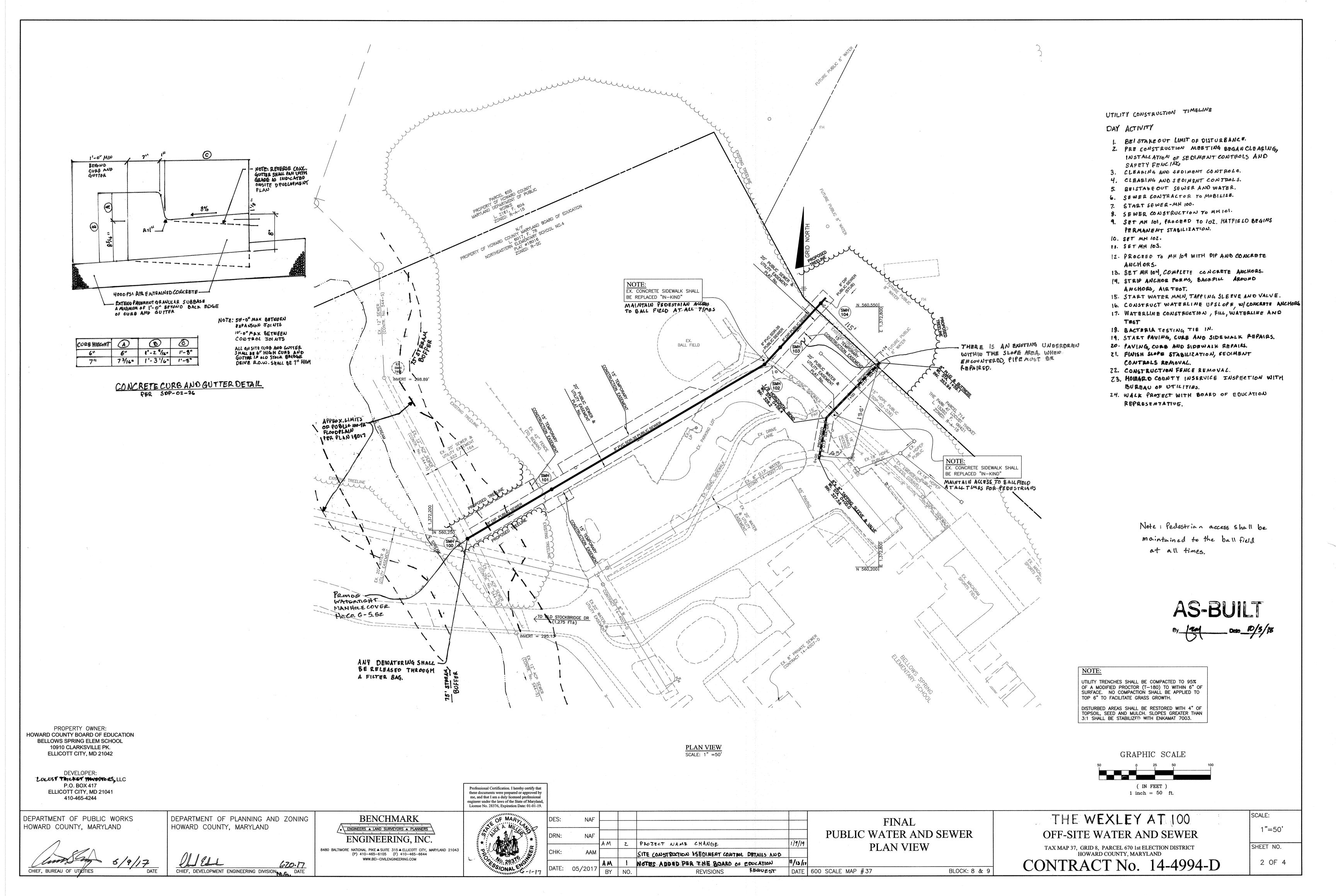
THE WEXLEY AT 100 **OFF-SITE WATER AND SEWER** 

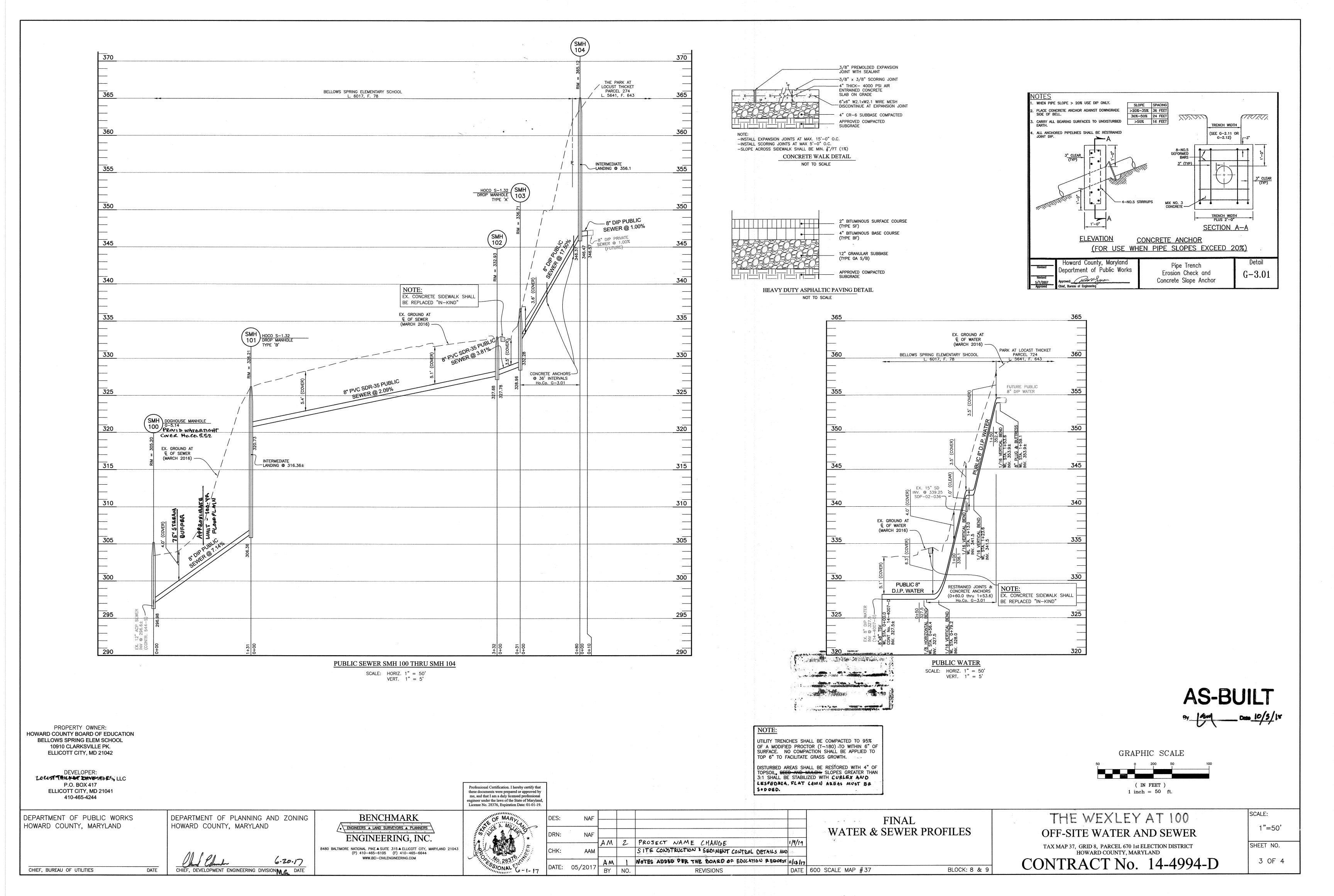
TAX MAP 37, GRID 8, PARCEL 670 1st ELECTION DISTRICT

SHEET NO.

CONTRACT No. 14-4994-D

1 OF 4





## 8-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION Using vegetation as cover to protect exposed soil from erosion To promote the establishment of vegetation on exposed soil Conditions Where Practice Applies On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.

Effects on Water Quality and Quantity

Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas. Planting vegetation in disturbed areas will have a effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

Adequate Vegetative Establishment

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings

within the planting season. Adequate vegetative stabilization requires 95 percent groundcover. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding.

If an area has between 40 and 94 percent groundcover, over—seed and fertilize using half of the

A. Seeding

### rates originally specified. Maintenance fertilizer rates for permanent seeding are shown in Table B.6. 8-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION <u>Definition</u> Establishment of vegetative cover on cut and fill slopes. Purpose To provide timely vegetative cover on cut and fill slopes as work progresses

A. Incremental Stabilization — Cut Slopes 1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses 2. Construction sequence example (Refer to Figure B.1):

Conditions Where Practice Applies

Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around b. Perform Phase 1 excavation, prepare seedbed, and stabilize.

c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as necessary. Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization

B. Incremental stabilization — fill slopes
1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height, prepare seedbed and apply seed and mulch on all slopes as the work progresses.

Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans. t the end of each day, install temporary water conveyance practice(s), as necessary, to intercept urface runoff and convey it down the slope in a non-erosive manner. Construction sequence example (refer to figure b.2):

a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. construct silt fence on low side of fill unless other methods shown on the plans address this b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner . Place phase 1 fill, prepare seedbed, and stabilize

d. Place phase 2 fill, prepare seedbed, and stabilize.
e. Place final phase fill, prepare seedbed, and stabilize. overseed previously seeded areas as Note: once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization. figure b.

#### STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS 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

 Soil Preparation
 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, such as disc harrows or chisel plows or rippers mounted construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel b. Apply fertilizer and lime as prescribed on the plans.
c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable

Permanent Stabilization a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions i. Soluble salts less than 500 parts per million (ppm).

ii. 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 love-grass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be iv. Soil contains 1.5 percent minimum organic matter by weight . Soil contains sufficient pore space to permit adequate root penetration

Application of amendments or topsoil is required if on—site soils do not meet the above . Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.

d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil lawn areas to smooth the surface, remove large objects like stones and branches, and ready the

e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas. 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. Soils of concern have low

moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS. Topsoiling is limited to areas having 2:1 or flatter slopes where: a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients. . The original soil to be vegetated contains material toxic to plant growth

d. The soil is so acidic that treatment with limestone is not feasible. Areas having slopes steeper than 2:1 require special consideration and design.

Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:

a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter. b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass,Johnso grass, nut sedge, poison ivy, thistle, or others as specified. . Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and

approved by the appropriate approval authority, may be used in lieu of natural topsoil. Topsoil Application b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.

opsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation. Soil Amendments (Fertilizer and Lime Specifications)

Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by

DEVELOPER:

John UC. / Workt SA

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT

appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be around to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve. time and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.

Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of

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

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. 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. 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. b.Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen.

The appropriate seeding mixture must be applied when the ground thaws.

c. 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 used. Temperatures above 75 to O dearees Fahrenheit can weaken bacteria and make the inoculant less effective. 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

phyto-toxic materials. Application d. Dry Seeding: This includes use of conventional drop or broadcast spreaders. i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1,
Permanent Seeding Table B.3, or site—specific seeding summaries. ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact. b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each

c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer). If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P205 (phosphorous), 200 pounds per acre: K20 (potassium). 200 pounds per acre. ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.

iii. Mix seed and fertilizer on site and seed immediately and without interruption.

iv. When hydroseeding do not incorporate seed into the soil 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. Note: Use only sterile straw mulch in greas where one species of grass is desired

b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state. i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.

ii.WCFM, including dye, must contain no germination or growth inhibiting factors.

iii.WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend

with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter—like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.

iv.WCFM material must not contain elements or compounds at concentration levels that will be phyto—toxic.

v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

a. Apply mulch to all seeded areas immediately after seeding.

b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application 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 Anchoring

a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon 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. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour. ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight wood cellulose fiber per 100 gallons of water. iii Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited. iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet

8-4-5 STANDARDS AND SPECIFICATION FOR PERMANENT STABILIZATION 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. Seed Mixtures

a. 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 or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.

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 Guild, Section 342 — Critical Area Planting. c. For sites having disturbed areas 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 ½ 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. Turfarass Mixtures

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites thich 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. Enter selected mixture(s), application rates, and seeding dates in the PermanentSeeding mary. The summary is to be placed on the plan. Kentucky Bluegrass: Full sun Mixture: For use in areas that receive intensive managem Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the contraction of the total mixture by weight.

ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is nécessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass 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 30 percent of the total mixture by weight. iii.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 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may

iv. 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 and 60 to 70 percent. Seeding Rate: 1 % to 3 pounds per 1000 squarefeet. lotes:Select turfgrass varieties from those listed in the most current University of Marvlan 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. 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 ½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose e. If soil moisture is deficient, supply new seedings 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 not especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites

Sod: to provide quick cover on disturbed areas (2:1 grade or flatter). General Specifications
a. Class of turfgrass must be Maryland State Certified. Sod labels must be made available to the b. Sod must be machine cut at a uniform soil thickness of % inch, plus or minus 14 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable. size and shape when suspended vertically with a firm grasp on the upper 10 percent of the d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.

e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation. a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod. b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.

. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface. . Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

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. Water sod during the heat of the day After the first week, sod watering is required as necessary to maintain adequate moisture content c. Do not mow until the sod is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches

> STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABLIZATION <u>Definition</u>
>
> 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

1.Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan. 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.

> B-4-8 STANDARDS AND SPECIFICATIONS STOCKPILE AREA

A mound or pile of soil protected by appropriately designed erosion and sediment control measures. Purpose To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Stockpile areas are utilized when it is necessary to salvage and store soil for later use. Criteria

1.The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.

2.The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B—3 Land Grading.

3. Runoff from the stockpile area must drain to a suitable sediment control practice. 4.Access the stockpile area from the upgrade side.

5.Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging

concentrated flow in a non-erosive manner. 6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sedimer control practice must be used to intercept the discharge.

7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.

8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

### STANDARDS AND SPECIFICATIONS

DUST CONTROL <u>Definition</u>

Controlling the suspension of dust particles from construction activities. Purpose To prevent blowing and movement of dust from exposed soil surfaces to reduce on and off-sitedamage including health and traffic hazards.

<u>Conditions Where Practice Applies</u>

Specifications

Mulches: See Section B-4-2 Soil Preparation, Topsoiling, and Soil Amendments, Section B-4-3
Seeding and Mulching, and Section B-4-4 Temporary Stabilization. Mulch must be anchored to Vegetative Cover: See Section B-4-4 Temporary Stabilization.

Tillage: Till to roughen surface and bring clods to the surface. Begin plowing on windward side of site. Chisel—type plows spaced about 12 inches apart, spring—toothed harrows, and similar plows are examples of equipment that may produce the desired effect. Irrigation: Sprinkle site with water until the surface is moist. Repeat as needed. not be irrigated to the point that runoff occurs.

<u>Barriers:</u> Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar

Chemical Treatment: Use of chemical treatment requires approval by the appropriate plan review authority.

naterial can be used to control air currents and soil blowing.

Percentages

Areas subject to dust blowing and movement where on and off-site damage is likely without

A 6' TEMPORARY CHMN LINK FENCE

STOCKPILE · JOCKT 1. A pre-construction meeting must occur with the Howard County Department of Public Works, WATER Construction Inspection Division (CID), 410-3133-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hours notice to CID must be given at the following before proceeding with any other earth disturbance or grading, 2. 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 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 ( LIMITS OF DISTURBANCE calendar days as to all other disturbed areas on the project site except for those areas under 4. 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 fo 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 feet must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6). LIMITS OF 5. All sediment control structures are to remain in place, and are to be maintained in operative DISTURBANCE condition until permission for their removal has been obtained from the CID. 6. Site Analysis: -REMOVE & REPLACE PAVEMENT "IN-KIND" 65' PAVING BELLOWS SPRING ELEMENTARY SCHOOL 7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance. 8. Additional sediment control must be provided, if deemed necessary by the CID. The site and al 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 •Inspection type (routine, pre-storm event, during rain event) & UTILITY LIMITS OF EASEMENT • Weather information (current conditions as well as time and an=mount of last recorded DISTURBANCE 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 15' TEMPORARY • Identification of missing or improperly installed sediment controls SCONSTRUCTION EASEMENT • 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). 20' PUBLIC SEWER & 9. 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 work day, whichever is shorter. UTILITY EASEMENT PLAT No. 10. 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 11. 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. Worl may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the 15' TEMPORARY preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and CONSTRUCTION EASEMENT approved by the CID, no more than 30 acres cumulatively may be disturbed at a given time. 12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated EX. 42" FENCE in a sediment basin or other approved washout structure. REMAIN) 15' TEMPORARY 13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade. CONSTRUCTION EASEMENT SUPER SILT 14. 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. FENCE 15. Stream channels must not be disturbed during the following restricted time periods (inclusive • Use I and IP March 1 — June 15 TILITY EASEMENT 20%+ SLOPES • Use III and IIIP October 1 — April 30 19,465 SF) PLAN VIEW • Use IV March 1 - May 31 16. A copy of this plan, the <u>2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL</u>, and associated permits shall be on—site and available when the site is SCALE: The state of the s (IN FEET) 1 inch = 50 ft. _ACP_SEWER DETAIL E-1 SILT -----SF------FENCE 6 FT MAX. CENTER TO CENTER ___36 IN MIN. FENCE POST LENGTH DRIVEN MIN. 16 IN INTO GROUND

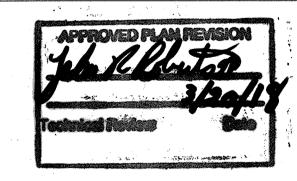
FENCE

THE LIMITS OF DISTURBANCE SHOWN IS FOR VISUAL REFERENCE ONLY, THE ACTUAL LIMITS OF DISTURBANCE SHALL BE EQUAL TO THE (SUPER) SILT FENCE

- ___ 302--- .

RECOMMENDED

SEEDING DATES



3. A MEETING SHALL BE HELD IN THE FIELD

410-313-2577.

WITH THE OFFICE OF SCHOOL PACILITIES, GROUND

TO ANY STABILIZATION ME ASURES BEING

SERVICES DIVISION, THREE WORKING DAYS PRIOR

DONE AT THE SITE. CONTACT GREG CONNOR.

#### 80-85% 3115-10/1 3 SLB 3.1 SERECIA LESPEDEZA 15-20% SEQUENCE OF CONSTRUCTION

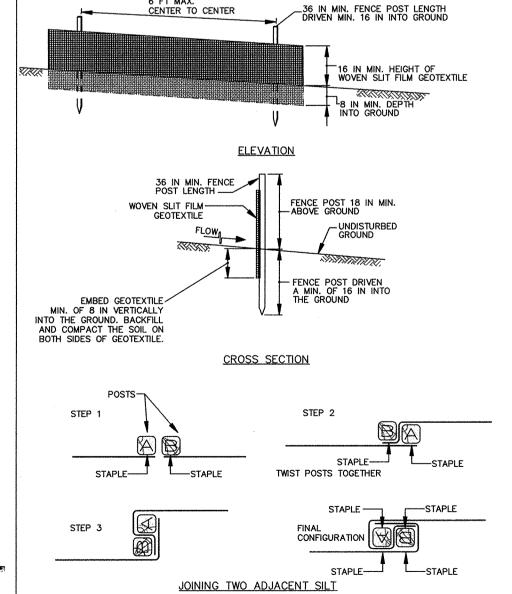
SEEDMIXPATE

LB/A LB/1,000 SOPT

. OBTAIN GRADING PERMIT AND REQUEST A PRECONSTRUCTION, MEETING WITH THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR (INSPECTOR) 48 HOURS BEFORE ANY CONSTRUCTION ACTIVITIES. (DAY 1) INSTALL ALL SEDIMENT CONTROL PRACTICES. WITH APPROVAL OF HOWARD COUNT SEDIMENT CONTROL INSPECTOR, BEGIN UTILITY

35 LB

AREA WHICH CAN BE COMPLETED DURING THAT DAY. (DAY 2-30) 4. UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES, AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDBED



CONSTRUCTION SPECIFICATIONS INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.

CROSS SECTION

CHAIN LINK FENCING -

WOVEN SLIT FILM GEOTEXTILE

EMBED GEOTEXTILE AND CHAIN LINK FENCE 8 IN MIN. INTO GROUND

FASTEN WOVEN SLIT FILM GECTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.

SUPER SILT

GALVANIZED CHAIN LINK FENCE WITH WOVEN SLIT FILM GEOTEXTILE

FENCE

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

b. Upon completion of the installation of perimeter erosion and sediment controls. but

. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is

0.99 Acres (LOD)

SITE WITH AN ACTIVE GRADING PERMIT

* CUT/FILL NUMBERS

TO VERIFY.

ARE FOR SEDIMENT

ONLY, CONTRACTOR

CONTROL PURPOSES

0.99 Acres

0.00 Acres

0.90 Acres

160 * (

166 * Cu Yds

d. Prior to the removal or modification of sediment control practices

Prior to the start of another phase of construction or opening of another grading

a. Prior to the start of earth disturbance,

Total Area of Site:

Area to be roofed or paved:

Area to be vegetatively stabilized:

Off-site waste/borrow area location:

DD per the list of HSCD—approved field changes.

DETAIL E-3

118118118118

GROUND SURFACE—

Area Disturbed:

WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.

45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE. PROMDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING

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. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

THE WEXLEY AT 100 **OFF-SITE WATER AND SEWER** 

HOWARD COUNTY, MARYLAND CONTRACT No. 14-4994-D

MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION 1"=50' SHEET NO. 4 OF 4

#### PROPERTY OWNER: ENGINEER'S CERTIFICATE HOWARD COUNTY BOARD OF EDUCATION HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A **BELLOWS SPRING ELEM SCHOOL** PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL 10910 CLARKSVILLE PK. **ELLICOTT CITY, MD 21042** Ma le Mus LOWST THUKET INVESTORS LLL ENGINEER --- ALICE A. MILLER DEVELOPER'S CERTIFICATE P.O. BOX 417 **ELLICOTT CITY, MD 21041** "I/WE CERTIFY THAT ALL DEVELOPMENT $\S$ ND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLA 410-465-4244 OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD

HOWARD COUNTY, MARYLAND

CHIEF, DEVELOPMENT ENGINEERING DIVISION

AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT." LOCUST THEATER LL ML MENGERS Steven kraeferen DEVELOPER

6-20-17

DEPARTMENT OF PLANNING AND ZONING

**BENCHMARK** ● ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS ENGINEERING, INC

(P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM



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. 28376, Expiration Date: 01-01-19.

UTILITY TRENCHES SHALL BE COMPACTED TO 95%

TOPSOIL<del>, SEED AND MULCH.</del> SLOPES GREATER THAN

lespedeza. Flat Lawai abbas must be soode d.

3:1 SHALL BE STABILIZED WITH CUALER AND

TOP 6" TO FACILITATE GRASS GROWTH.

#### OF A MODIFIED PROCTOR (T-180) TO WITHIN 6" OF SURFACE. NO COMPACTION SHALL BE APPLIED TO DISTURBED AREAS SHALL BE RESTORED WITH 4" OF

SEED MIX SEECIES

TALL FESCUE

CONSTRUCTION. TRENCH OPENING SHALL BE LIMITED TO THE WORK

NOTES. (DAY 31-33) This project shall be completed in A

SINGLE PHASE, BEGINNING JUNE 18, 2017 AND COMPLETING JULY 20, 2017.

AM | Z | PROJECT NAME CHANGE CHK: SITE CONSTRUCTION & SEDIMENT CONTROL DETMIS AND NOTES ADDED PER THE BOARD OF EDUCATION REQUEST 11/19/17 DATE: 05/2017 BY DATE 600 SCALE MAP #37 NO. REVISIONS

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE **FINAL** PUBLIC WATER AND SEWER

SEDIMENT CONTROL PLAN NOTES & DETAILS

BLOCK: 8 & 9

FENCE SECTIONS (TOP VIEW)

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

TAX MAP 37, GRID 8, PARCEL 670 1st ELECTION DISTRICT

1 OF 2

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION