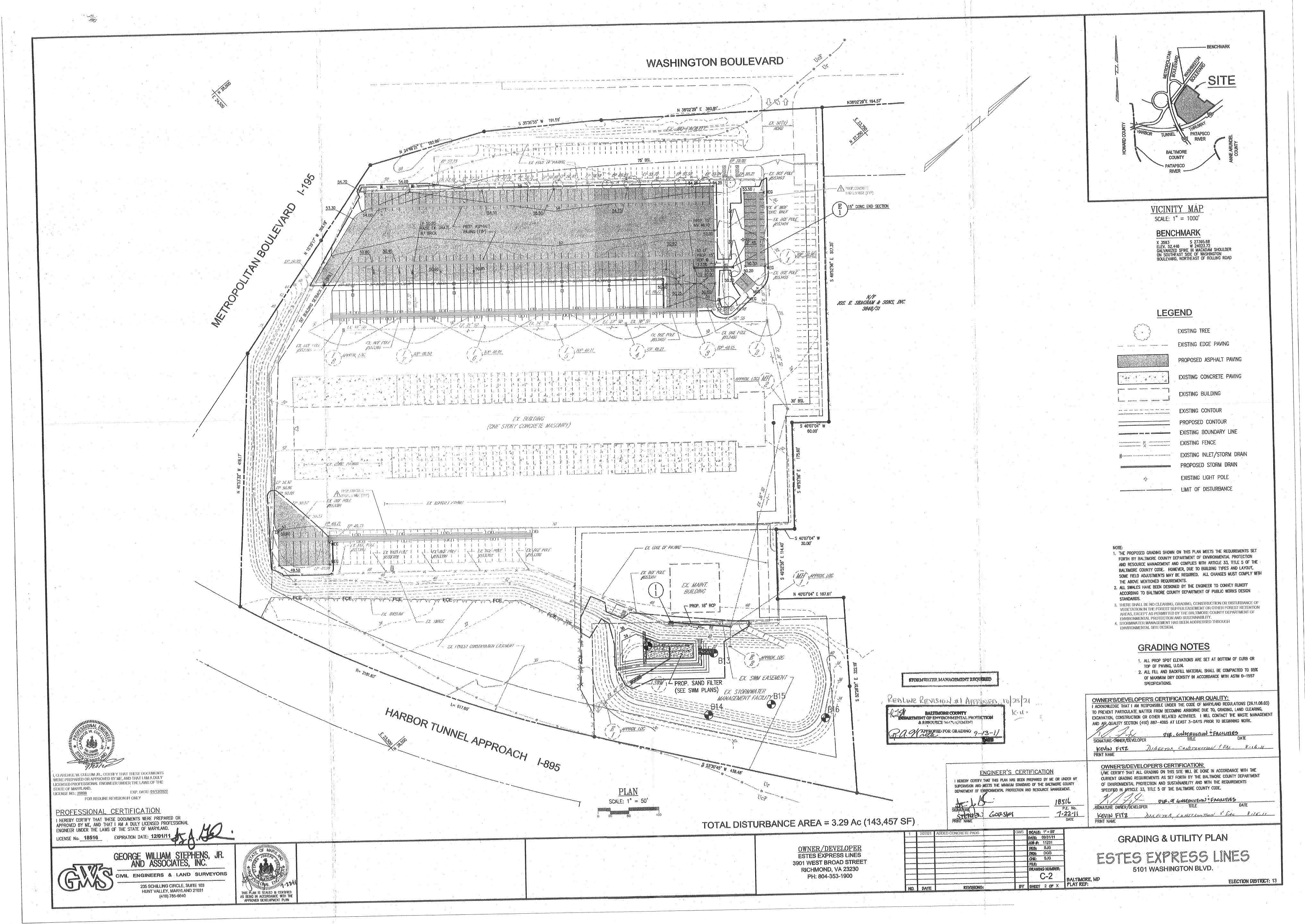
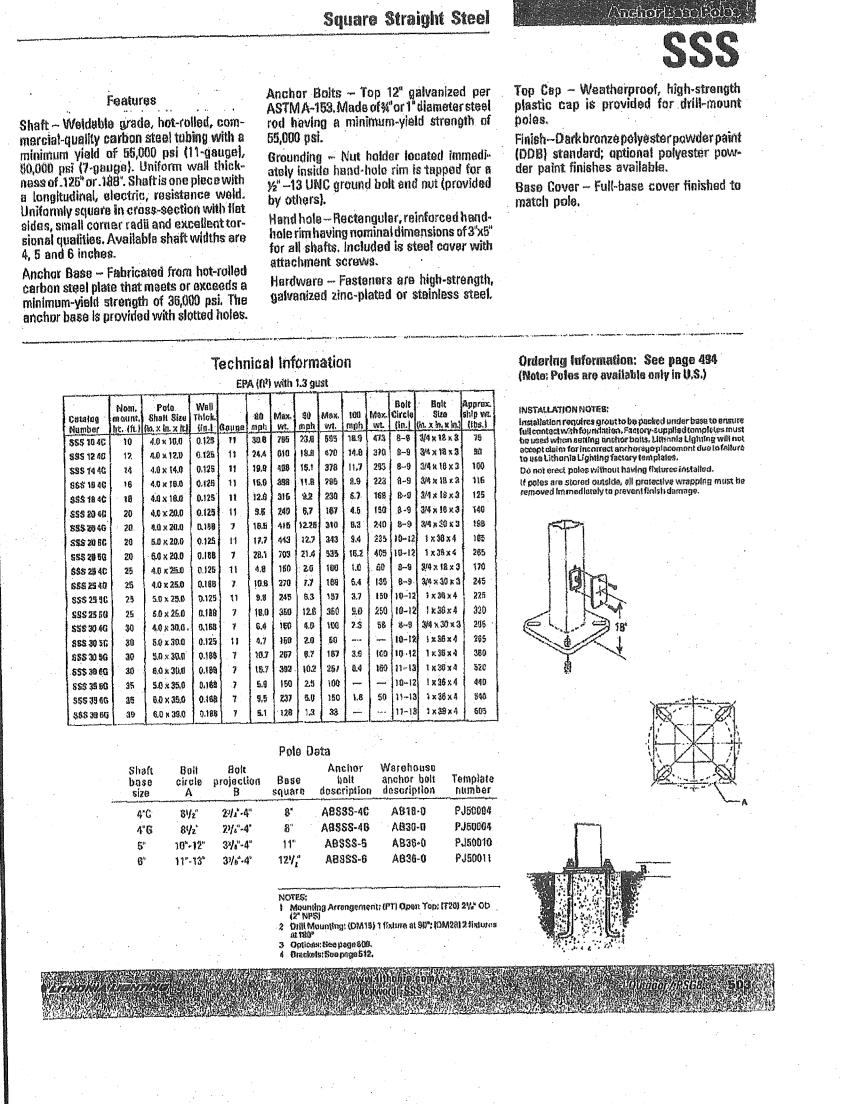
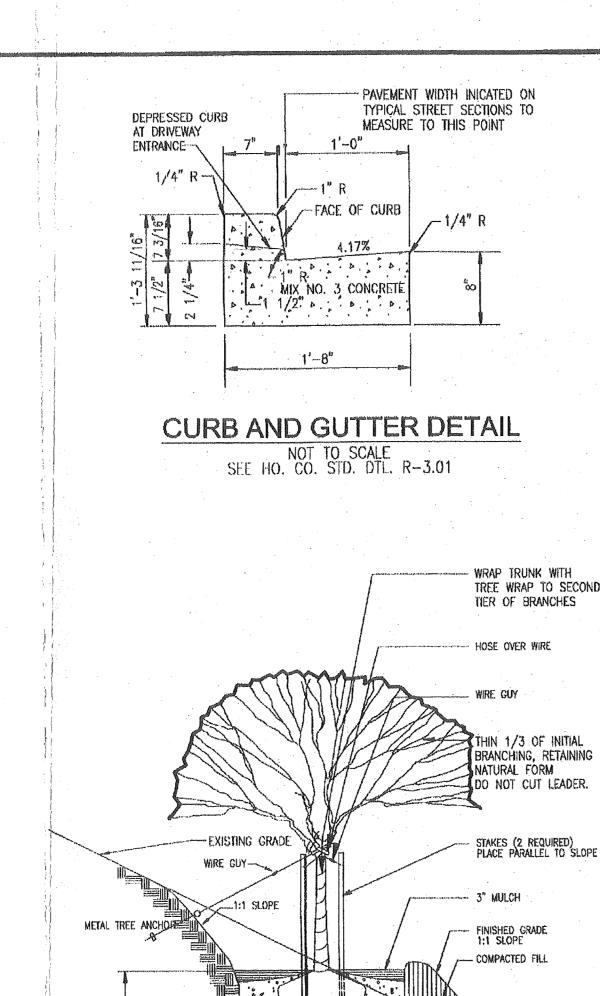


VA-2023-0001-TF APPROVED 9/19/23



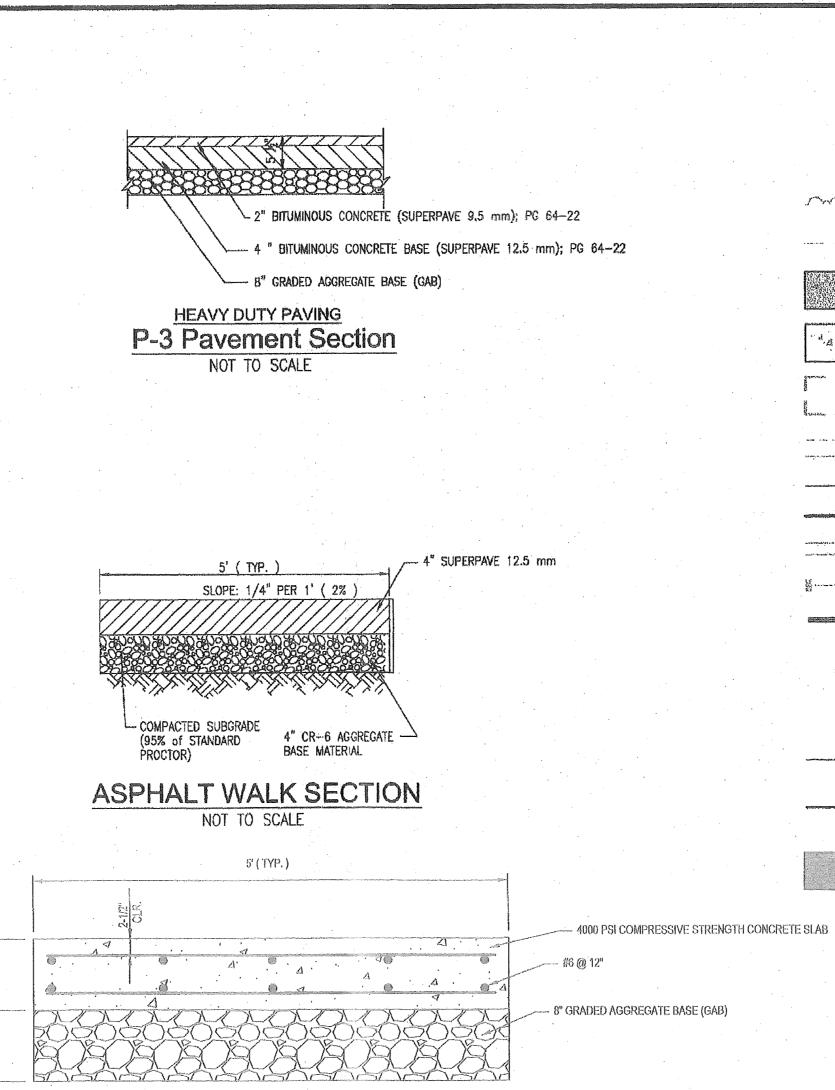




TREE PLANTING DETAIL

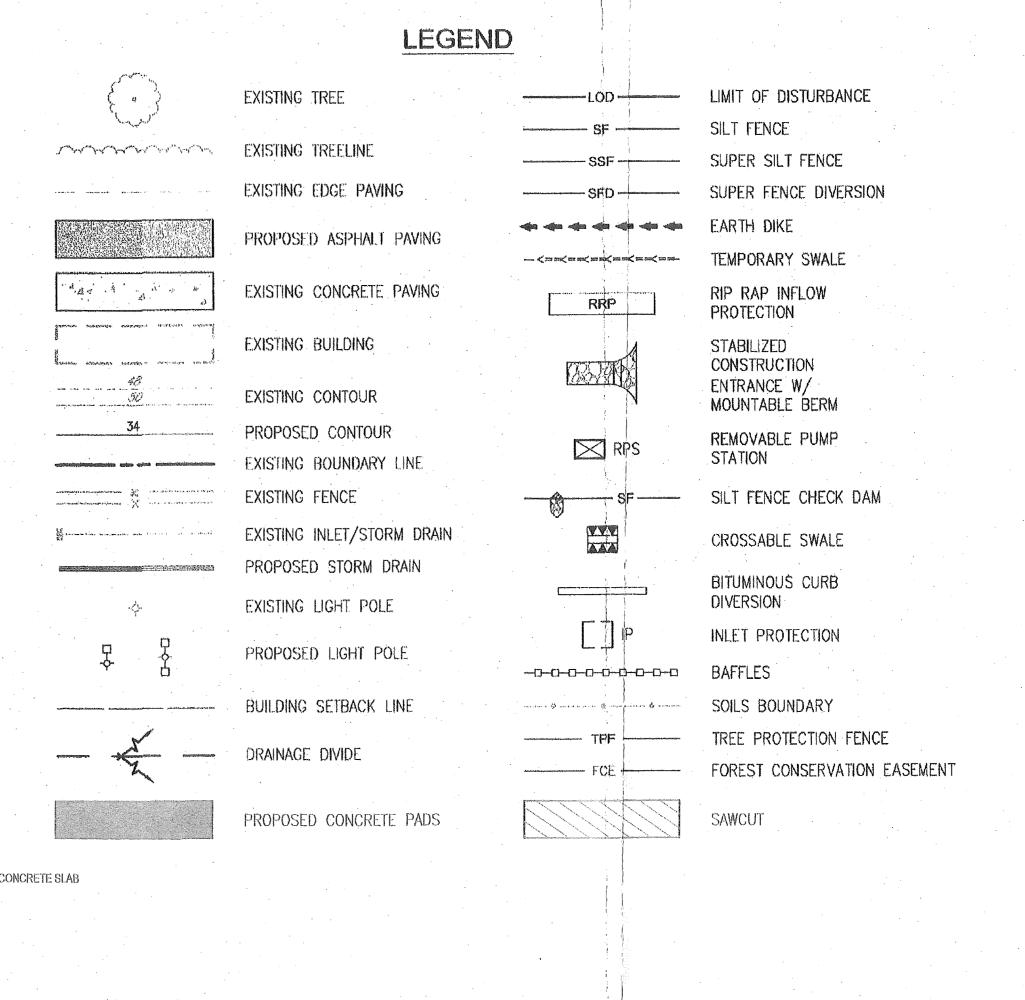
-----PLANTING SOIL

REMOVE COVERING FROM TOP 1/3 OF ROOTBALL



CONCRETE PAD DETAIL

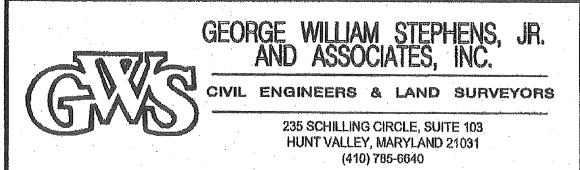
NOT TO SCALE



, CLARENCE W. CULLUM JR., 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.: 29899 EXP. DATE: 01/13/2022

FOR REDLINE REVISION #1 ONLY

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. 18516 EXPIRATION DATE: 12/01/11





OWNER/DEVELOPER **ESTES EXPRESS LINES** 3901 WEST BROAD STREET RICHMOND, VA 23230 PH: 804-353-1900

REDLINE REVISION #1 APPROVED 10/28/21 Kgu. DRN: DGG DRAWING NUMBER: C-3 BY SHEET 3 OF 3 PLAT REF:

REVISIONS:

NO. DATE

SITE NOTES, DETAILS AND LEGEND

ABBREVIATIONS

PROPOSED

EXISTING

CONCRETE

TYPICAL

LOCATION

APPROXIMATE

STORM DRAIN

TOP OF GRADE

LINEAR FEET

MAINTENANCE

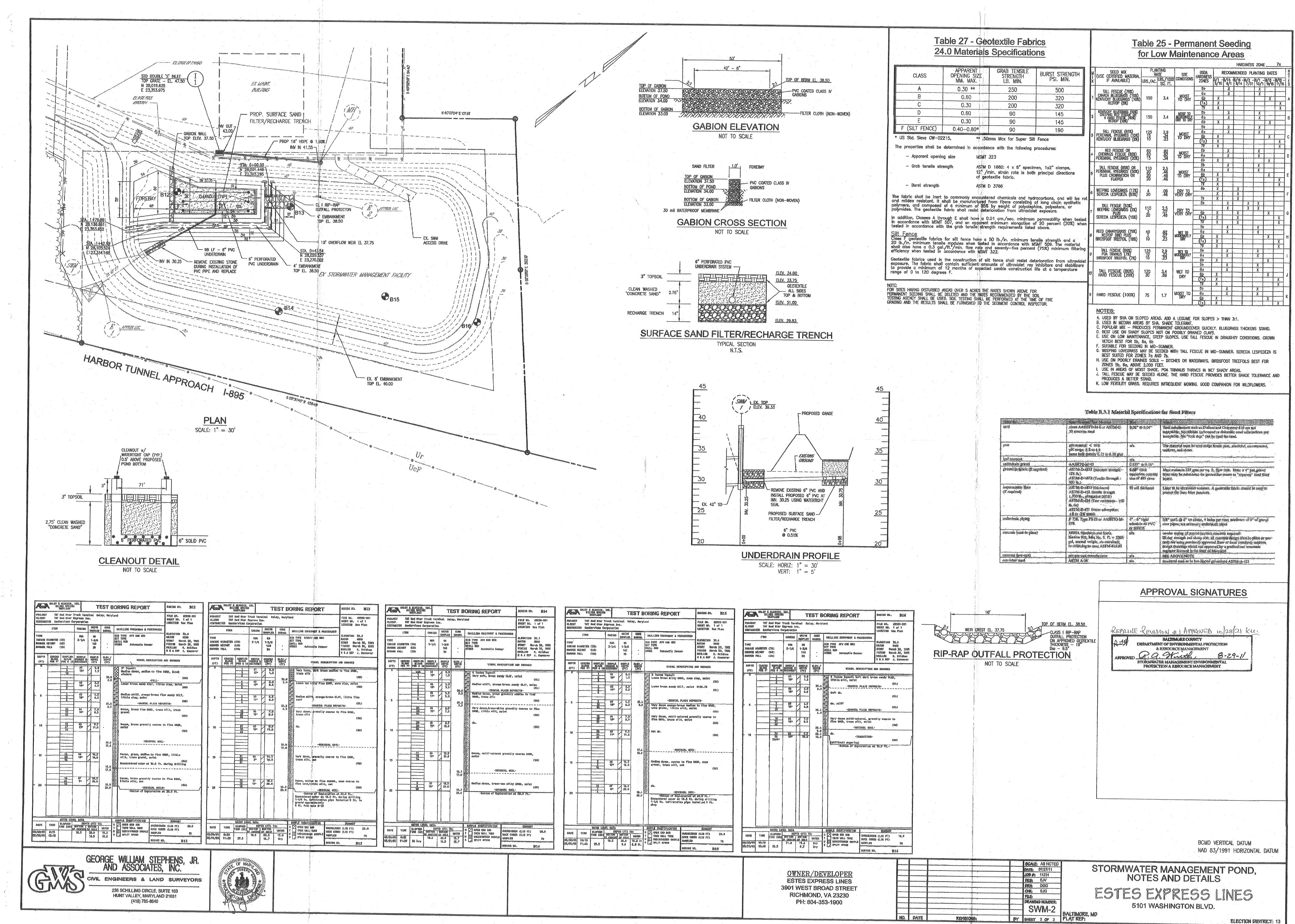
EDGE OF PAVEMENT

BUILDING SETBACK LINE

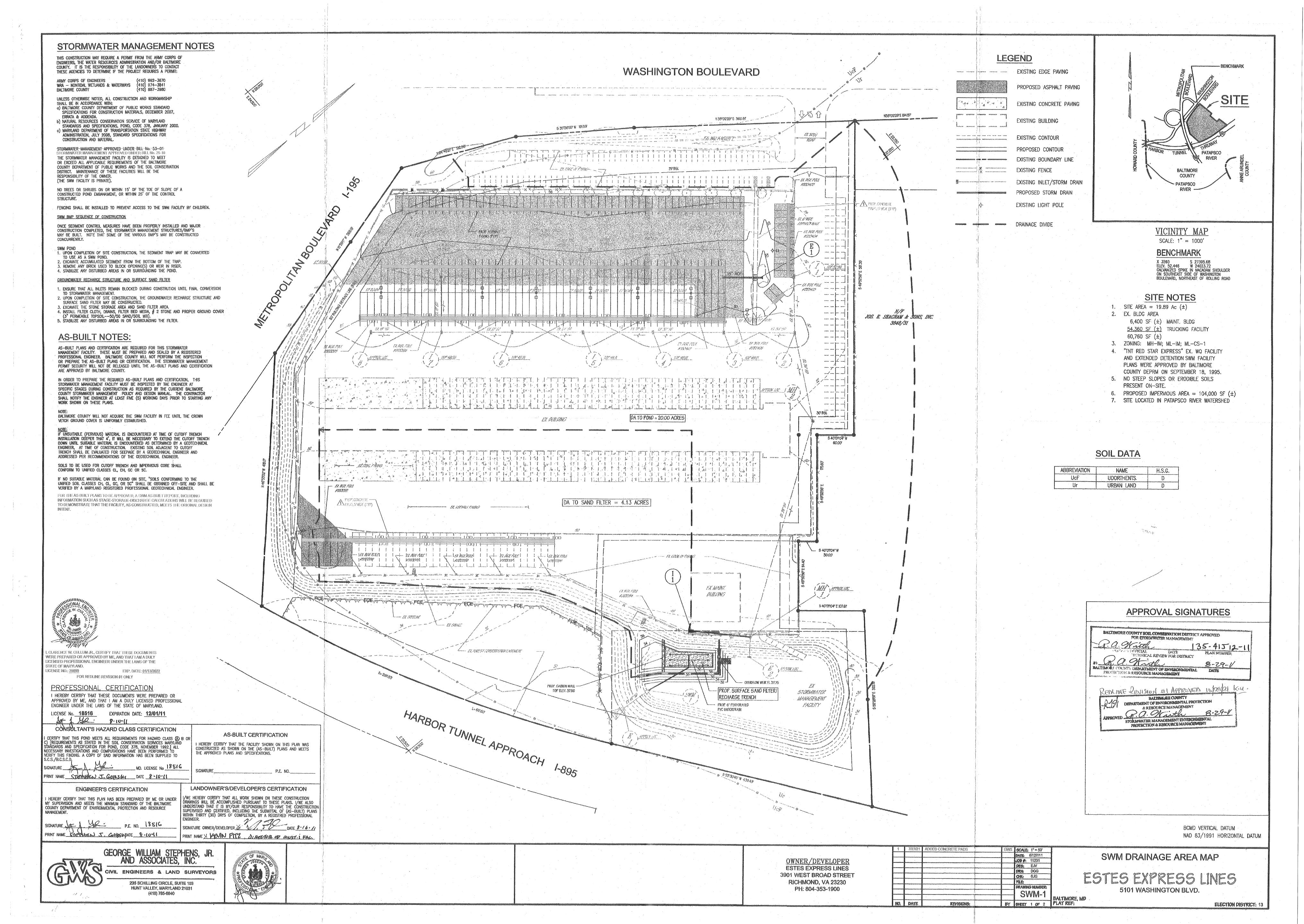
RELOCATE POLE BY OTHERS

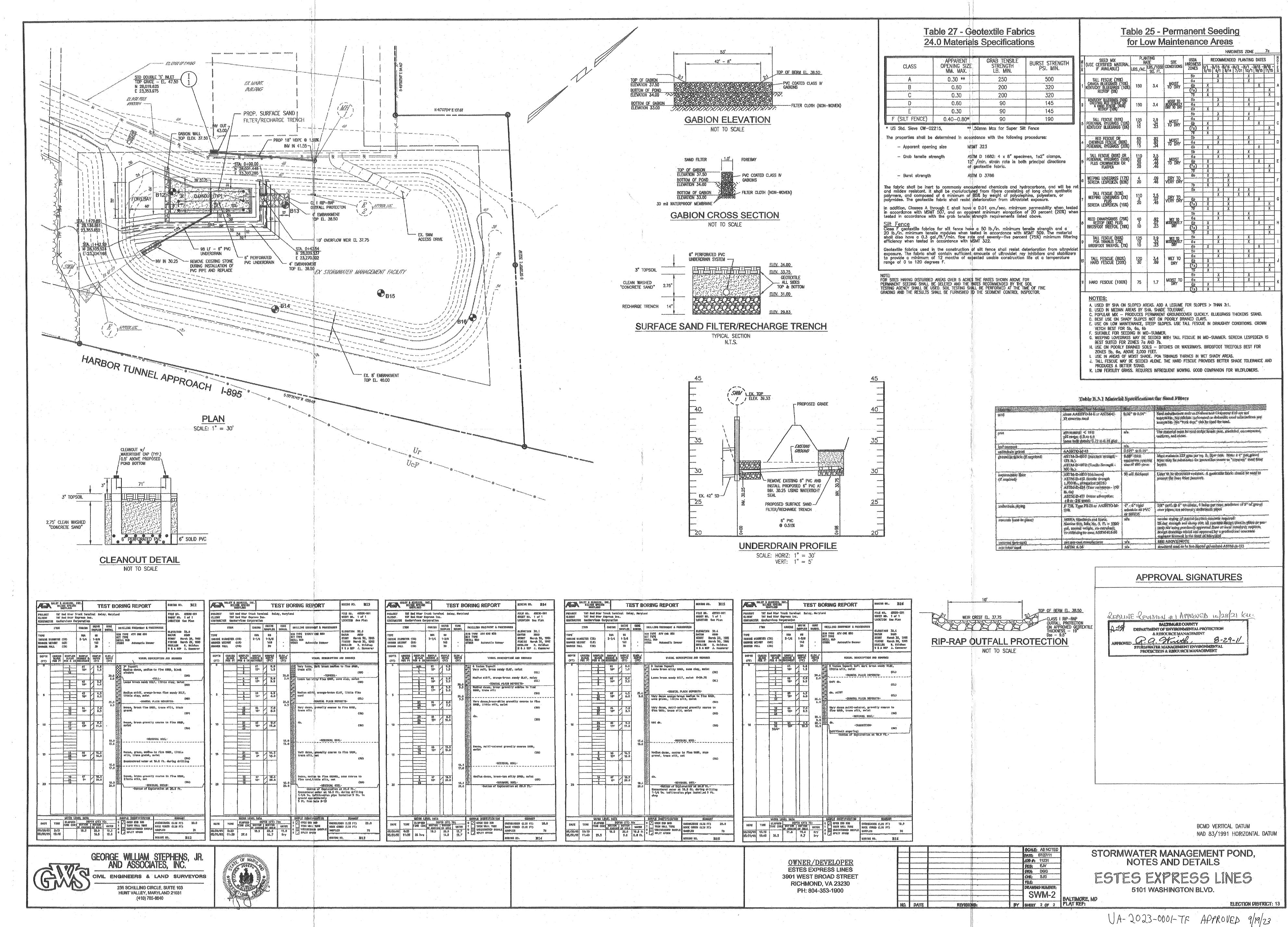
ESTES EXPRESS LINES 5101 WASHINGTON BLVD.

ELECTION DISTRICT: 13



ELECTION DISTRICT: 13





INLET PROTECTION

- THE CONTRACTOR IS REQUIRED TO INSTALL INLET PROTECTION ON
- * A. ANY INLET OUTFALLING DIRECTLY INTO A SEDIMENT TRAPPING DEVICE.
- B. INLETS ON PRIVATE OR PUBLIC PAVED ROADWAYS OPEN TO THE PUBLIC.
- 2. ALL INLET PROTECTION WILL BE INSTALLED AS DIRECTED BY THE INSPECTOR IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL". PAGE E-9 (OR AS MAY BE AMENDED).
- * STORM DRAINS TO BE FLUSHED PRIOR TO TRAPPING DEVICE

A) CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) THE TRENCH.

B) PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.

C.) ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

TEMPORARY STOCKPILE NOTE TEMPORARY STOCKPILES SHALL BE:

- 1.) LOCATED WITHIN THE LIMIT OF DISTURBANCE (LOD). 2.) DRAIN TO FUNCTIONING SEDIMENT CONTROL DEVICE. 3.) POSITIONED TO NOT IMPEDE UPON, OR IMPAIR THE FUNCTION OF SAID DEVICE.
- THESE ITEMS SHOULD BE INCORPORATED INTO ANY NOTE REFERENCING TEMPORARY

STOCKPILES, AND WHEN ACTUALLY DELINEATING THEM ON PLAN VIEWS.

ANY TRAVEL LANE CLOSED BEFORE 9:00 A.M. OR AFTER 3:30 P.M. MUST BE APPROVED BY BALTIMORE COUNTY BUREAU OF TRAFFIC ENGINEERING AND TRANSPORTATION PLANNING AT (410) 887-3554.

TRAP/BASIN FLOW DIVERSION NOTE TO PREVENT SLOPE EROSION, WITHIN SEDIMENT TRAPPING DEVICES, ADEQUATELY SIZED AND STABILIZED FLOW DIVERSION MEASURES (I.E. EARTH DIKE, TEMPORARY SWALE, PERIMETER DIKE/SWALE, SUPER FENCE DIVERSION, ETC.) SHALL BE INSTALLED AT THE UPSLOPE EXTENT INFLOW PROTECTION DEVICES. THESE MEASURES WILL BE LOCATED BY THE

DISTURBANCE THAT DO NOT DRAIN TO A SEDIMENT CONTROL MEASURE AND/OR WHERE THE INSTALLATION OF CONTROLS IS NOT FEASIBLE. (ROAD WIDENING, SIDEWALK INSTALLATION, ETC.).

CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY.

STABILIZATION SHALL BE AS FOLLOWS: 1.) FOR AREA TO BE PAVED, THE APPLICATION OF STONE BASE.

CONTRACTOR AND THEREFORE NOT SHOWN ON THE PLAN VIEW.

- 2.) FOR AREAS TO BE VEGETATIVELY STABILIZED: A.) PERMANENT SEED AND SOIL STABILIZATION MATTING OR SOD FOR ALL STEEP
- B.) PERMANENT SEED AND MULCH FOR ALL OTHER AREAS.

ANY AREAS WHICH CAN BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.

SEQUENCE OF OPERATIONS

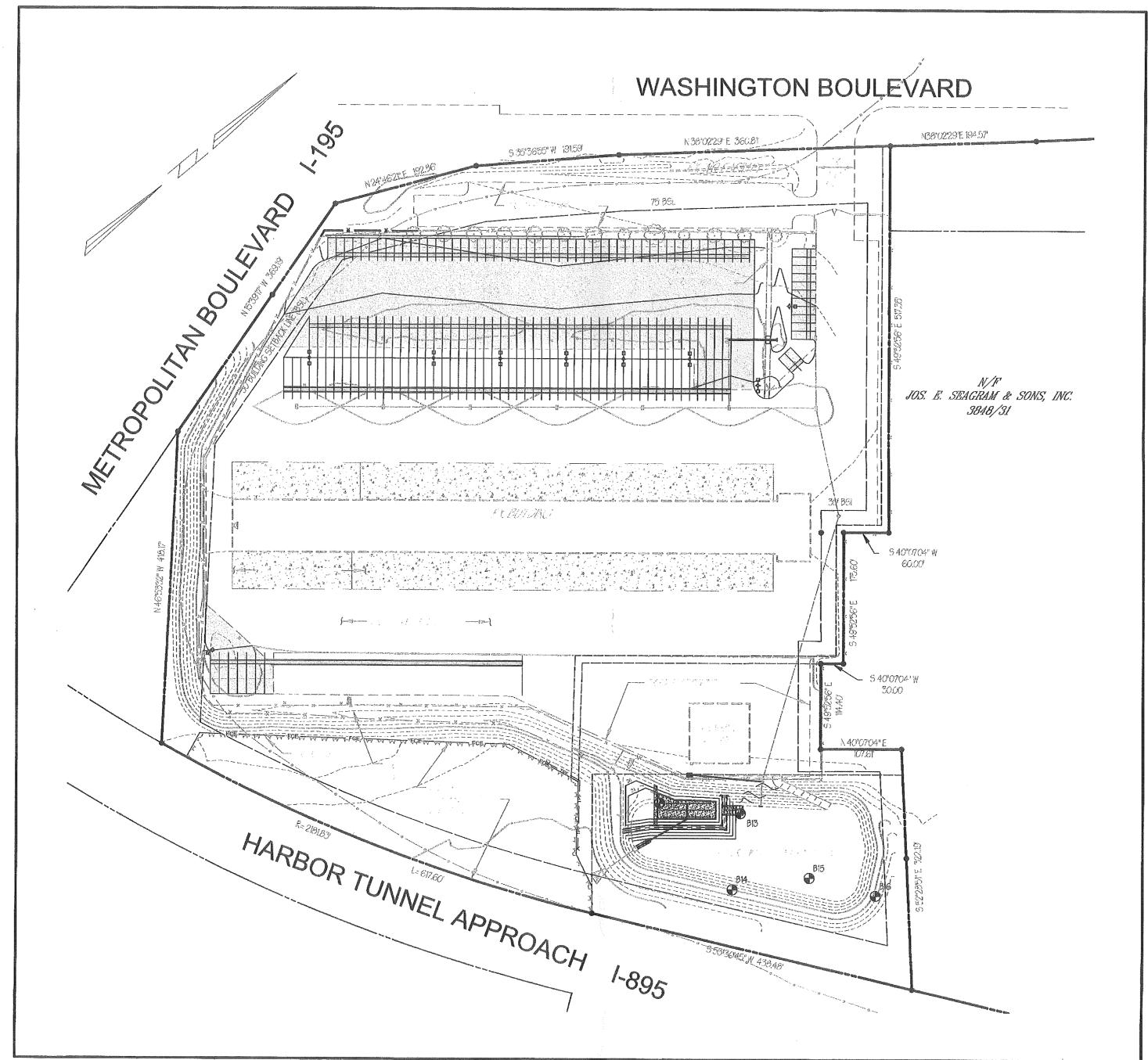
SLOPES, CHANNELS OR SWALES,

- NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL 410-887-3226 AT LEAST 48 HOURS PRIOR TO BEGINNING WORK.
- IF APPLICABLE, ORANGE HIGH VISIBILITY SAFETY FENCE SHALL BE MANUALLY INSTALLED ALONG THE LIMIT OF DISTURBANCE WHERE THE LIMIT IS WITHIN 50 FEET OF THE FOREST BUFFER/CONSERVATION EASEMENT. THIS SHALL BE COMPLETED BY AND INSPECTED AT THE
- . CLEAR AND GRUB FOR SEDIMENT & EROSION CONTROL MEASURES OR DEVICES FOR PROPOSED PARKING ONLY.
- INSTALL ALL SEDIMENT & EROSION CONTROL MEASURES AND DEVICES FOR PROPOSED PARKING
- LOT CONSTRUCTION. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT
- CONTROL UPON COMPLETION OF SAID INSTALLATION. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT
- CONTROL AND THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF SITE. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR CLEAR AND GRUB FOR GRADING
- OPERATIONS OF PARKING AREAS. SEE PLAN VIEW FOR AREAS REQUIRING DAILY STABILIZATION. COORDINATE WITH BGE TO RELOCATE EXISTING POLES. BEGIN GRADING OPERATIONS OF
- PROPOSED SITE AND STORM DRAIN SYSTEMS. MAINTAIN SILT FENCE, SUPER SILT FENCE AND INLET PROTECTION EACH DAY AND AFTER EACH RAINFALL, MAINTENANCE SHALL INCLUDE, BUT NOT LIMITED TO, REMOVAL OF ALL ACCUMULATED SEDIMENT.
- 9. INSTALL STONE SUBBASE, CURB AND GUTTER. 10. PROCEED WITH FINAL PAVING OPERATIONS.
- 11. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE PARKING AREA SEDIMENT CONTROLS, STABILIZE WITH PERMANENT SEED AND MULCH.
- 12. INSTALL EARTH DIKE AND GABION "INFLOW" PROTECTION DIVERSION, STABILIZED CONSTRUCTION
- ENTRANCE AND SUPER SILT FENCE IN EXISTING SWM FACILITY. IF NECESSARY, A DEWATERING DEVICE SHALL BE USED TO DEWATER THE POND IN ORDER TO PERFORM THIS WORK. 13. WITH INSPECTORS APPROVAL, COMMENCE WITH INSTALLATION OF SURFACE SAND FILTER. INSTALL UNDERDRAIN, PLANTING SOIL MEDIA, GABIONS AND STABILIZE WITH PERMANENT SEED
- AND MULCH ANY SUPER SILT FENCE DAMAGED OR REMOVED DURING SAND FILTER CONSTRUCTION SHALL BE REPAIRED OR REPLACED IMMEDIATELY. AFTER THE WATER QUALITY FACILITIES ARE CONSTRUCTED, NOTIFY THE ENGINEER IN CHARGE SO THAT THEY MAY COMPLETE THE AS-BUILT SURVEY AND STUDY AND SUBMIT TO THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY WITHIN 30 DAYS OF

COMPLETION OF CONVERSION. ANY ACCUMULATED SEDIMENT SHALL BE CLEANED OUT AND THE

15. UPON COMPLETION AND STABILIZATION OF SITE WITH ESTABLISHED VEGETATION AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL MEASURES AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.

EROSION & SEDIMENT CONTROL PLANS ESTES EXPRESS LINES



OVERALL SITE PLAN

SCALE: 1" = 100'

TUNNEL BALTIMORE COUNTY

SCALE: 1" = 500'

BENCHMARK GALVANIZED SPIKE IN MACADAM SHOULDER BOULEVARD, NORTHEAST OF ROLLING ROAD

- 1. THE PROPOSED GRADING SHOWN ON THIS PLAN MEETS THE REQUIREMENTS SET FORTH BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY AND COMPLIES WITH ARTICLE 33, TITLE 5 OF THE BALTIMORE COUNTY CODE. HOWEVER, QUE TO BUILDING TYPES AND LAYOUT, SOME FIELD ADJUSTMENTS MAY BE REQUIRED. ALL CHANGES MUST COMPLY WITH
- 2. ALL SWALES HAVE BEEN DESIGNATED BY THE ENGINEER TO CONVEY RUNOFF ACCORDING TO BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS DESIGN STANDARDS.
- 3. WHEN APPLICABLE, LABEL FOREST BUFFER AS "FOREST BUFFER EASEMENT" AND REFLECT AS SUCH IN NOTES,
- 4. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST BUFFER EASEMENT OR FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT.
- 5. ANY EXCESS MATERIAL SHALL BE TAKEN TO A SITE WITH AN OPEN GRADING PERMIT AND AN APPROVED SEDIMENT CONTROL PLAN,
- 6. ANY AREA NEEDED FOR TEMPORARY STOCKPILE WILL BE LOCATED WITHIN THE LIMITS OF DISTURBANCE AND UPSTREAM FROM A SEDIMENT CONTROL MEASURE, BUT LOCATED SUCH AS NOT TO IMPEDE UPON THE MEASURE OR ALTER ANY DRAINAGE DIVIDES.
- 7. ANY FOREST BUFFER EASEMENT SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF BALTIMORE COUNTY AND WHICH RESTRICTS DISTURBANCE AND USE OF THESE AREAS.
- 8. HIGH VISIBILITY FENCE MUST BE INSTALLED AT THE LIMIT OF DISTURBANCE WHERE THE LIMIT OF DISTURBANCE IS WITHIN 50 FEET OF THE FOREST BUFFER EASEMENT, FOREST CONSERVATION EASEMENT, WETLANDS & FLOOD PLAIN.

SHEET INDEX

ESC 2 ESC 3

TITLE SHEET PROPOSED SEDIMENT CONTROL PLAN SEDIMENT CONTROL NOTES AND MAA SEEDING SPECIFICATIONS SEDIMENT CONTROL DETAILS

PROFESSIONAL CERTIFICATION I, CLARENCE W. CULLUM JR., 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. 29899 EXPIRATION DATE: 01/13/2022

4692 MILLENNIUM DRIVE, SUITE 100 BELCAMP, MARYLAND 21017 (410) 297-2340



PRINT NAME

CONSULTANT'S CERTIFICATION CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT AND THE CURRENT STATE MARYLAND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, I HAVE REVIEWED THIS EROSION ANDSEDIMENT CONTROL PLAN WITHT THE OWNER/ DEVELOPER. CLARENCE W. CULLUM JR.

MD LICENSE NUMBER

I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THIS CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE ALSO CERTIFY THAT THE SITE WILL BE INSPECTED AT THE END OF EACH WORKING DAY, AND THAT ANY NEEDED MAINTENANCE WILL BE COMPLETED SO AS TO INSURE THAT ALL SEDIMENT CONTROL PRACTICES ARE LEFT IN OPERATIONAL CONDITION, I/WE AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON SITE EVALUATION BY THE BALTIMORE COUNTY SOIL CONSERVATION. DISTRICT BOARD OF SUPERVISORS OR THEIR AUTHORIZED AGENTS. SIGNATURE OWNER/DEVELOPER

OWNER/DEVELOPER **ESTES EXPRESS LINES** 3901 WEST BROAD STREET RICHMOND, VA 23230 PH: 804-353-1900

DRAWING NUMBER BALTIMORE, MD PLAT REF: NO. DATE Y SHEET 1 OF 4

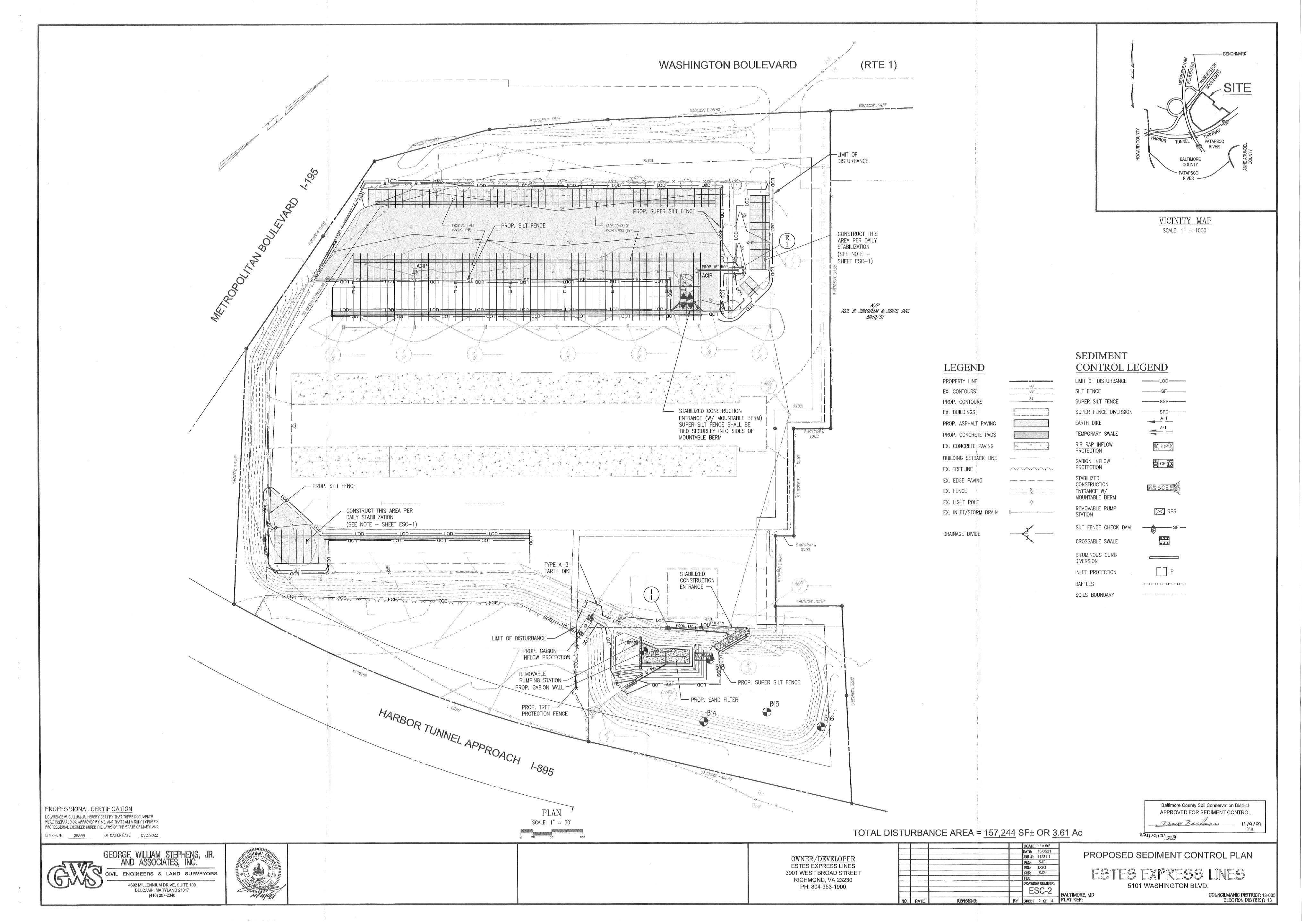
APPROVED FOR SEDIMENT CONTROL 11/9/21 Dave Backman 145-4121213-11 DISTRICT OFFICIAL Technical Review for the District by: This plan approval will expire three (3) years from the approval date. R-2 11/9/21 Recertification + update to 2012 standard

Baltimore County Soil Conservation District

EROSION AND SEDIMENT CONTROL TITLE SHEET

5101 WASHINGTON BLVD.

COUNCILMANIC DISTRICT: 13-00 **ELECTION DISTRICT: 13**



MAA SEEDING SPECIFICATIONS BALTIMORE COUNTY GENERAL E.S.C. NOTES: . REFER TO "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT SECTION 329201X SEEDING c. A granular or pellet form suitable for application by blower equipment. CONTROL" FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED Date of test, Temporary Cover of Annual Rye/Redtop | March 1 to April 30 and August 1 to November 30, inclusive Balloonvine (Cardiospermum halicacabum), Quackgrass (Elytrigia repens), Sicklepod Lot number, (Senna obtusifolia), Sorghum (Sorghum spp.), Canada Thistle (Cirsium arvense), Application 2. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, MINOR FIELD ADJUSTMENTS CAN AND The results of tests as to name, percentages of purity and of germination, The rate of application will be based on results of soil tests performed by the University Include MAA Landscaping Reference "Approved Installation Methods" in the Contract Plumeless Thistle (Carduus spp.-includes musk thistle and curled thistle), and Serrated (lbs of PLS/acre) May 1 to July 31, inclusive. Rate of application should be 13.6 lbs. Temporary Cover of Warm-Season WILL BE MADE TO INSURE THE CONTROL OF ANY SEDIMENT, CHANGES IN SEDIMENT CONTROL Percentage of weed content for the seed furnished. of Maryland Soil Testing Laboratory. By law, persons applying fertilizer to State-owned Tussock (Nassella trichotoma). Documents when using this specification. PRACTICES REQUIRE PRIOR APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE BALTIMORE Grasses (Little Bluestem only) land shall follow the recommendations of the University of Maryland as set forth in the and, in the case of a mixture, the proportions of each kind of seed. 75% Hard Fescue COUNTY SOIL CONSERVATION DISTRICT "Plant Nutrient Recommendations Based on Soil Tests for Turf Maintenance" and the A. APPROVED SPECIES. The following table contains species that are approved by 20% Chewings Fescue 3. AT THE END OF EACH WORKING DAY, ALL SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AND PART 1 - GENERAL "Plant Nutrient Recommendations Based on Soil Tests for Sod Production" (see attached Seed shall be furnished in standard containers with the seed name, lot number, net MAA for use in seed mixtures. Purity requirements and germination requirements 5% Kentucky Bluegrass Seeding seasons are based on typical years and can be subject to variation, which may be LEFT IN OPERATIONAL CONDITION. Reference, "Approved Installation Methods"). Application of the fertilizer shall be in a weight, percentages of purity, germination rate and hard seed, and percentage of 4. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY 1.1 GENERAL. This item provides specifications for seeding of areas as designated on the modified by the MAA Engineer based on seasonal trends. maximum weed seed content clearly marked. All seed containers shall be tagged with a manner that is consistent with the recommendations of the University of Maryland STABILIZATION MUST BE COMPLETED WITHIN: A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE Supplemental Seed Contract Drawings or as directed by the MAA Engineer. The species, mixtures, and Cooperative Extension. MDA supervised mix program seed tag. OF ALL PERIMETER CONTROLS. DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES If the time required to complete any of the operations necessary under this item, within APPROVED PLANT SPECIES methods of application provided in this item have been designed to reduce the STEEPER THAN THREE HORIZONTAL TO ONE VERTICAL (3:1), AND B.) SEVEN (7) CALENDAR DAYS MAA SEED MIXTURES the specified planting season or any authorized extensions thereof, extends beyond the attractiveness of airport grounds to wildlife. Only MAA-approved species, mixtures, and . MIXTURES AND APPLICATION RATES. Only seed mixtures and application rates Per Maryland's Lawn Fertilizer law, which took effect October 1, 2013, lawn care AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE Contract period, then such time will be charged against the Contract time, and liquidated rates of application provided in this item may be used to establish vegetation. All Pure Live Seed professionals hired to apply fertilizer to lawns must be certified by MDA or work under described in this item may be used unless otherwise approved by the MAA Engineer. Factor damages will be enforced with respect to this portion of work. activities associated with seeding including soil preparation, seed application, . ANY CHANGE TO THE GRADING PROPOSED ON THIS PLAN REQUIRES RE-SUBMISSION TO BALTIMORE the direct supervision of an individual who is certified. The following fertilizer Seed mixtures shall meet criteria detailed in Paragraph 903-2.1.2. Seed mixtures have Seed Mixture No. 3 - Wetland areas and their associated buffer zones (Application rate = Certified Turf-Type Tall fertilization, and maintenance shall also conform to these approved standards. COUNTY SOIL CONSERVATION DISTRICT FOR APPROVAL. been formulated to minimize the attractiveness of areas to wildlife of common landscape restrictions apply: 131 lbs PLS/acre) 2.2 LIME. Lime shall consist of ground limestone and contain at least 85 percent total DUST CONTROL WILL BE PROVIDED FOR ALL DISTURBED AREAS. REFER TO "2011 MARYLAND scenarios. The appropriate seed mixture for application will be designated based on (Festuca orundinacea) PART 2 - PRODUCTS carbonates. Lime shall be ground to a fineness so that at least 90 percent will pass STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PG. H.22, FOR Certified Kentucky environmental conditions and may vary from site to site. All planting rates listed are in FERTILIZER RESTRICTIONS Rate of through a No. 20 mesh sieve and 50 percent will pass through a No. 100 mesh sieve. ACCEPTABLE METHODS AND SPECIFICATIONS FOR DUST CONTROL pounds of Pure Live Seed (PLS) per acre. Application 2.1 SEED. All seed shall comply with the Maryland Seed Law (Agricultural Article of the Dolomitic lime or a high magnesium lime shall contain at least 10 percent magnesium . ANY VARIATIONS FROM THE SEQUENCE OF OPERATIONS STATED ON THIS PLAN REQUIRES THE Poa pratensis) Everyone must follow University of Maryland fertilizer recommendations. (lbs of PLS/acre) 1.39 oxide. Lime shall be applied by approved methods detailed in Section 903-3.3 of this APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE BALTIMORE COUNTY SOIL Annotated Code of Maryland). Only MAA-approved species, mixtures, and rates of wl Bluegrass (Poa A single fertilizer application may not exceed 0.9 pound total nitrogen per Seed mixtures, application scenarios, and rates for permanent cool-season grasses are as CONSERVATION DISTRICT PRIOR TO THE INITIATION OF THE CHANGE. application provided in this item may be used to establish vegetation. Seed will be item. The rate of application will be based on results of soil tests. 1.13 1,000 sq ft which can include no more than 0.7 pound of soluble nitrogen per 60% Creeping Bent Grass FXCFSS CUT OR BORROW MATERIAL SHALL GO TO. OR COME FROM, RESPECTIVELY. A SITE WITH AN sampled and tested by an inspector from the Turf and Seed Section, Maryland 30% Fowl Bluegrass OPEN GRADING PERMIT AND APPROVED SEDIMENT CONTROL PLAN. 2.3 FERTILIZER Department of Agriculture (MDA), Annapolis, Maryland. All lawn and turf seed and 1.13 Visit extension.umd.edu/hgic for seasonal and yearly nitrogen. Chewings Red Fescue a. Seed Mixture No. 1 - relatively flat areas (grade less than 4:1) subject to normal 9. THE FOLLOWING ITEM MAY BE USED AS APPLICABLE: REFER TO "MARYLAND'S GUIDELINES TO 10% Switchgrass mixtures shall be free from the following state-listed restricted noxious weeds: (Festuca rubra commuta recommendations. WATERWAY CONSTRUCTION" BY THE WATER MANAGEMENT ADMINISTRATION OF THE MARYLAND conditions and regular moving (Application rate = 234 lbs PLS/acre); Section 2.3 is reproduced verbatim from the Maryland Department of Agriculture's Fertilizer Law Annual Ryegrass Lawn care pros should consult the Maryland Professional Lawn Care Manual. DEPARTMENT OF THE ENVIRONMENT, REVISED NOVEMBER 2000, FOR STANDARD DETAILS AND b. Seed Mixture No. 2 - sloped areas (grade greater than 4:1) not subject to regular Supplemental Seed (Lolium multiflorum) Corn Cockle (Agrostemma githago), DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN FOR WATERWAY CONSTRUCTION. Phosphorus may only be applied when a soil test indicates that it is needed or mowing (Application rate = 115 lbs PLS/acre); and erennial Ryegrass Bentgrass (Agrostis spp.)¹, 10. PUMPING SEDIMENT-LADEN WATER INTO WATERS OF THE STATE IS STRICTLY PROHIBITED, ANY when a lawn is being established, patched or renovated. c. Seed Mixture No. 3 - wetlands and their associated buffer zones (Application rate = (Lolium perenne) Fertilizer shall be standard commercial fertilizer (supplied separately or in mixtures) and Redtop (Agrostis gigantea) 1 PORTABLE DEWATERING DEVICE MUST BE LOCATED WITHIN THE LIMIT OF DISTURBANCE. Fertilizer may not be used to de-ice walkways and driveways. creeping Bentgrass 131 lbs PLS/acre). meet the requirements of applicable state and federal laws (O-F-241) as well as standards Wild Onion (Allium canadense), (Agrostis stolonifera) It is against the law to apply fertilizer to sidewalks or other impervious D. SEEDING SEASONS. Application of seed and seed mixtures shall occur within a of the Association of Official Agricultural Chemists. Nitrogen-Phosphorus-Potassium 1.39 Wild Garlic (Allium vineale), witchgrass (Panicum surfaces. Fertilizer that lands on these surfaces must be swept back onto the Seed Mixture No. 1: Relatively flat areas regularly mowed and exposed to normal specified seeding season unless otherwise approved by the MAA Engineer. No seed or (N-P-K) concentrations shall be determined from analysis of soil samples. Methods of STANDARD STABILIZATION NOTE: Bindweed (Calstegia spp.), grass or cleaned up. conditions (Application rate = 234 lbs PLS/acre) seed mixtures are to be applied on frozen ground or when the temperature is at or below Dodder (Cuscuta spp.), fertilizer application shall conform to standards described in Section 903-3.3 of this item. No fertilizer applications within 10 to 15 feet of waterways. 35 degrees Fahrenheit (7.2 degrees Centigrade). Under these conditions, a layer of mulch Fertilizer shall be furnished in standard containers that are clearly labeled with name, Bermuda Grass (Cynodon dactylon) (Andropogon scoparius) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR Do not fertilize lawns if heavy rain is predicted or the ground is frozen. The percentage weight of pure seed present shall be free of any agriculture seeds, inert matter, and other seeds Rate of should be applied in accordance with Item 905, Mulching, to stabilize the site, and weight, and guaranteed analysis of the contents (percentage of total nitrogen, available Orchardgrass (Dactylis glomerata), Do not apply lawn fertilizer between November 15 and March 1. TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN: Application permanent seeding should occur in the subsequent seeding season. Seed application may listinguishable by their appearance. Tall Fescue (Festuca arundinacea) 1 phosphoric acid, and water-soluble potash). Mixed fertilizers shall not contain any The percentage of germination shall be actual sprouts and shall not include hard seeds unless specifically permitted by the Enhanced efficiency controlled release products may be applied at no more (lbs of PLS/acre) occur during the seeding season dates listed below. Seeding performed after October 20 hydrated lime or cyanamide compounds. Fertilizers failing to meet the specified analysis A) THREE (3) CALLENDAR DAYS AS TO THE AS TO THE SURFACE OF ALL Meadow Fescue (Festuca pratensis) 1 than 2.5 pounds per year, with a maximum monthly release rate of 0.7 pound should be a temporary cover of annual ryegrass and followed by overseeding of the may be approved by the MAA Engineer, providing sufficient materials are applied to PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES Velvetgrass (Holcus lanatus), 85% Certified Turf-Type Tall Fescue of N per 1,000 sq ft. 192 appropriate seed mixture during the spring seeding season. Annual Bluegrass (Poa annua), conform with the specified nutrients per unit of measure without additional cost to MAA. STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); B. PURITY. All seed shall be free of all state-designated noxious weeds listed in 10% Certified Kentucky Bluegrass Rough Bluegrass (Poa trivialis)1 FOR LAWN CARE PROFESSIONALS ONLY Paragraph 2.1.1 and conform to MAA specifications. To ensure compliance, MAA 5% Perennial Ryegrass The fertilizers may be supplied in the following forms: Timothy (Phleum pratense), and - From November 16 through December 1 only water soluble nitrogen may be requires sampling and testing of seed by the Turf and Seed Section, Maryland Johnson Grass (Sorgum halepense). B) EVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS Department of Agriculture (MDA). The Contractor shall furnish the MAA Engineer with applied to lawns at a maximum rate of 0.5 pound per 1,000 sq ft. Supplemental Seed a. A dry, free-flowing fertilizer suitable for application by a common fertilizer Natural organic or organic products containing phosphorus may not exceed ON THE PROJECT SITE NOT UNDER ACTIVE GRADING. duplicate signed copies of a statement by the Turf and Seed Section certifying that each Restricted noxious-weed seed may not exceed 0.5 percent by weight of any seed mixture. 0.25 pound of phosphorus per 1,000 sq ft with an annual maximum of 0.5 Annual Ryegrass lot of seed has been laboratory tested within six months of date of delivery. This In addition, all seeds shall be free from the following listed prohibited noxious weeds: SEEDING SEASONS pound of phosphorus per 1,000 sq ft. These products may not be applied when statement shall include the following information: b. A finely ground fertilizer soluble in water, suitable for application by power Permanent Cool-Season Grasses March 1 to April 20 and August 1 to October 20, inclusive soils test at "optimum to excessive" for phosphorus levels. Seed Mixture No. 2: Sloped areas not subject to regular moving (Application rate = 115 lbs H-1 STANDARDS AND SPECIFICATIONS sprayers; or These species may be included as a labeled component of a mixture when each is present in excess of five percent PLS/acre) Name and address of laboratory, of the mixture by weight Technical Specification Technical Specification маа-со-хх-ххх Technical Specification Technical Specification Technical Specification MAA-CO-XX-XXX Technical Specification ONTRACT TITLE CONTRACT TITLE ONTRACT TITLE MATERIALS BWI Marshall Airport/Martin State Airport BWI Marshall Airport/Martin State Airport 329201X-4 BWI Marshall Airport/Martin State Airport BWI Marshall Airpon/Martin State Airport 32920137-5 a. Liming. If soil test results indicate that lime is needed, the following procedures from 20 feet to 100 feet. One shall be a close-range ribbon nozzle, one a medium-range 329201X.10 Fertilizer – per square yard MAINTENANCE OF SEEDED AREAS. The contractor shall protect seeded areas Table H.1: Geotextile Fabrics PART 3 - EXECUTION ribbon nozzle, and one a long-range jet nozzle. For ease of removal and cleaning, all will be used: following advance preparation of the seedbed, lime shall be applied against traffic or other use by warning signs or barricades, as approved by the Engineer. nozzles shall be connected to the nozzle pipe by means of quick-release couplings. In prior to the application of any fertilizer or seed and only on seedbeds that have been Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading 3.1 GENERAL. This section provides approved methods for the application of and includes order to reach areas inaccessible to the regular equipment, an extension hose at least 50 SLIT FILM MONOFILAMENT prepared as described in paragraph 903-3.2. The lime shall be uniformly spread and END OF SECTION 329201X SECTION 329202X SODDING GEOTEXTILE and resceding as directed. The Contractor shall mow, water as directed, and otherwise standards for seedbed preparation, methods of application, and equipment to be used feet in length shall be provided to which the nozzles may be connected. GEOTEXTILE GEOTEXTILE worked into the top 2 inches of soil, after which the seedbed shall be properly graded maintain seeded areas in a satisfactory condition until final inspection and acceptance of MINIMUM AVERAGE ROLL VALUE during the process. Lime and fertilizer shall be applied to seeded areas before the seed is PART I - GENERAL spread. The mixture of seed will be determined for sites based on environmental c. Mixtures. Lime shall be applied separately in the quantity specified, prior to the TEST METHOD MD CD MD CD MD CD PROPERTY fertilizing and seeding operations. Lime should be added to and mixed with water at a conditions as described in Paragraph 2.1.C. b. Fertilizing. Following advance preparations (and liming if necessary), fertilizer 1.1 DESCRIPTION Grab Tensile Strength ASTM D-4632 200 lb 200 lb 370 lb 250 lb 200 lb 200 lb When either the dry or wet application method outlined above is used for work performed concentration not to exceed 220 pounds of lime for every 100 gallons of water. After shall be spread uniformly at the specified rate to provide no less than the minimum ASTM D-4632 | 15% | 10% | 15% | 15% | 50% | 50% out of season, the Contractor will be required to establish a good stand of grass of Grab Tensile Elongation 3.2 ADVANCE PREPARATION. Areas designated for seeding shall be properly prepared lime has been applied, the tank should be emptied and rinsed with fresh water. Seed quantity stated in Paragraph 903-2.3. This item provides standards for furnishing, hauling, and placing approved live sod on prepared Trapezoidal Tear Strength ASTM D-4533 75 lb 75 lb 100 lb 60 lb 80 lb 80 lb uniform color and density to the satisfaction of the Engineer. If at the time when the and fertilizer shall be mixed together in the relative proportions specified, but the in advance of seed application. The area shall be tilled and graded prior to application of areas as indicated on site plans. Sod will only be applied to landscape areas and shall be moved contract has been otherwise completed it is not possible to make an adequate resulting concentration should not exceed 220 pounds of mixture per 100 gallons of ASTM D-6241 lime and fertilizer, and the surface area shall be cleared of any stones larger than 1 inch in c. Seeding. Seed mixtures shall be sown immediately after fertilization of the frequently. All sodding activities shall conform to these specifications at the locations shown on Puncture Strength determination of the color, density, and uniformity of such stand of grass, payment for U.S. Sieve 70 U.S. Sieve 70 water and should be applied within 30 minutes to prevent fertilizer burn of the seeds. U.S. Sieve 30 diameter, sticks, stumps, and other debris that might interfere with sowing of seed, seedbed. The fertilizer and seed shall be lightly raked to a depth of 1 inch for newly site plans or as directed by the MAA Engineer. ASTM D-4751 Apparent Opening Size² the unaccepted portions of the areas seeded out of season will be withheld until such time (0.21 mm) (0.21 mm) growth of grasses, or subsequent maintenance of grass-covered areas. Damage caused by (0,59 mm) graded and disturbed areas. as these requirements have been met. All water used shall be obtained from fresh water sources and shall be free from 0.05 sec⁻¹ 0.28 sec-1 erosion or other forces that occur after the completion of grading shall be repaired prior ASTM D-4491 to the application of fertilizer and lime. The Contractor will repair such damage, which injurious chemicals and other toxic substances harmful to plant life. Brackish water PART 2 - PRODUCTS Ultraviolet Resistance d. Rolling. After the seed has been properly covered, the seedbed shall be ASTM D-4355 70% strength 70% strength shall not be used at any time. The Contractor shall identify all sources of water to the may include filling gullies, smoothing irregularities, and repairing other incidental Retained at 500 hours immediately compacted using a cultipacker or an approved lawsroller. PART 4 - METHOD OF MEASUREMENT MAA Engineer at least two weeks prior to use. The Engineer may take samples of the damage before beginning the application of fertilizer and ground limestone, 2.1 SOD. Sod furnished by the Contractor shall have a good cover of living or growing All numeric values except apparent opening size (AOS) represent minimum average roll values (MARV). water at the source or from the tank at any time and have a laboratory test the samples grass. This includes grass that is seasonally dormant during the cold or dry seasons and B. WET APPLICATION METHOD/HYDROSEEDING MARV is calculated as the typical minus two standard deviations. MD is machine direction; CD is cross The quantity of seeding to be paid for shall be the numbers of acres (or square yard) or for chemical and saline content. The Contractor shall not use any water from any capable of renewing growth after the domant period. All sod shall be obtained from If an area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and portions thereof, measured on the ground surface, completed, and accepted. Separate areas in which the soil is reasonably fertile and contains a high percentage of loamy hard, all grass and weeds shall first be cut or otherwise satisfactorily disposed of, and the a. General. The Contractor may elect to apply seed and fertilizer as per Paragraphs c source that is disapproved by the following such tests. measurements will be made of the areas seeded with the several seed mixtures specified. soil then scarified or otherwise loosened to a depth not less than 5 inches (125 mm). topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of Values for AOS represent the average maximum opening. and d of this section in the form of an aqueous mixture by spraying over the previously No distinction will be made between "graded" areas and "undisturbed" areas in arriving All mixtures shall be constantly agitated from the time they are mixed until they are Clods shall be broken and the top 3 inches (75 mm) of soil shall be worked into a weeds or other undesirable foreign plants, large stones, roots, or other materials that prepared seedbed using methods and equipment approved by MAA. The rates of Geotextiles must be evaluated by the National Transportation Product Evaluation Program (NTPEP) and at the total acreage (or square yard) for each area seeded with specified seed mixes. No might be detrimental to the development of the sod or to future maintenance. Grass sod satisfactory condition by discing or by use of cultipackers, rollers, drags, harrows, or finally applied to the seedbed. All such mixtures shall be used within 30 minutes from application shall be as specified in Paragraphs 2.1 through 2.3. conform to the values in Table H.1. separate measurements will be made of graded and undisturbed areas for purposes of shall be Maryland-certified or approved and shall comply with the Maryland Sod Law of the time they were mixed or they shall be wasted and disposed of at a location other appropriate means. separate payments. the Annotated Code of Maryland (Agricultural Article Sections 9-101 through 9-110). b. Spraying Equipment. The spraying equipment shall have a container or water tank The geotextile must be inert to commonly encountered chemicals and hydrocarbons and must be rot and mildew acceptable to the Engineer. Each load of sod shall bear a Maryland State Approved or Certified label at the time of resistant. The geotextile must be manufactured from fibers consisting of long chain synthetic polymers and An area to be seeded shall be considered a satisfactory seedbed (without requiring equipped with a liquid level gauge capable of reading increments of 50 gallons or less delivery on the job. Sod shall be either: (1) Bluegrass sod containing not less than 80 composed of a minimum of 95 percent by weight of polyolefins or polyesters, and formed into a stable network d. Spraying. Lime shall be sprayed upon previously prepared seedbeds on which the additional treatment) if it has recently been thoroughly loosened and worked to a depth of over the entire range of the tank capacity. The liquid level gauge shall be mounted so as PART 5 - BASIS OF PAYMENT percent Kentucky bluegrass (Poa pratensis) and not more than 20 percent Red Fescue so the filaments or yarns retain their dimensional stability relative to each other, including selvages. lime, if required, shall have been worked in already. The mixtures shall be applied not less than 5 inches; the top 3 inches of soil is loose, friable, and is reasonably free from to be visible to the nozzle operator at all times. The container or tank shall also be (Festuca rubra); or (2) certified turf type-tall fescue (Festuca arundinacea) sod large clods, rocks, large roots, or other undesirable matter; appropriate amounts of using a high-pressure spray which shall always be directed upward into the air so that equipped with a mechanical power-driven agitator capable of keeping all the solids in When more than one section of geotextile is necessary, overlap the sections by at least one foot. The geotextile containing not less than 80 percent certified turf type-tall fescue (Festuca arundinacea) The quantity, determined as provided above, will be paid for at the contract unit price fertilizer and lime have been added; and, if it has been shaped to the required grade the mixtures will fall to the ground in a uniform spray. Nozzles or sprays shall never be the mixture in complete suspension at all times until used. must be pulled taut over the applied surface. Equipment must not run over exposed fabric. When placing per acre (or square yard), or fraction thereof, for seeding, which price and payment shall grass and not more than 20 percent Kentucky Bluegrass (Poa pratensis) and Red Fescue directed toward the ground in such a manner that might produce erosion or runoff. immediately prior to seeding. For slope areas steeper than 3:1 (three horizontal to one riprap on geotextile, do not exceed a one foot drop height. (Festuca rubra). Any vegetation more than 6 inches in height shall be mowed to a height be full compensation for furnishing and placing all material, including fertilizers, liming vertical), the subsoil shall be loose to a depth of 1 inch. Particular care shall be exercised to ensure that the application is made uniformly, at the The spraying equipment shall also include a pressure pump capable of delivering 100 of 3 inches or less before sod is lifted. Sod, including the soil containing the roots and if needed, and for all labor, equipment, tools, and incidentals necessary to complete the prescribed rate, and to guard against misses and overlapped areas. Predetermined gallons per minute at a pressure of 100 pounds per square inch. The pressure pump the emergent plant growth, shall be cut uniformly to a thickness not less than that work prescribed in this item. quantities of the mixture shall be used in accordance with specifications to cover After completion of tilling and grading, lime and fertilizer shall be applied within 48 assemblage shall be configured to allow the mixture to flow through the tank when not specified in Section 904-3.4. hours according to the specified rate (Paragraphs 2.2 2.3) and methods (Paragraphs 3.3.A specified sections of known areas. To checks the rate and uniformity of application, the being sprayed from the nozzle. All pump passages and pipelines shall be capable of Payment will be made under: and 3.3.B) approved by MAA. The seeding mixture shall be applied within 48 hours applicator will observe the degree of wetting of the ground or distribute test sheets of providing clearance for 5/8-inch solids. The power unit for the pump and agitator shall 2.2 LIME. Lime shall conform to standards described in Section 903, "Seeding." paper or pans over the area at intervals and observe the quantity of material deposited after application of lime and fertilizer. To firm the seeded areas, cultipacking shall occur have controls mounted so as to be accessible to the nozzle operator. A pressure gauge Seeding Mixture No. 1 -- per acre immediately after seeding. shall be connected to and mounted immediately behind the nozzle. 2.3 FERTILIZER. Fertilizers and application methods shall conform to the standards 329201X.2 Seeding Mixture No. 1 – per square yard previously described in Section 903, "Seeding." 329201X.3 On surfaces that are to be mulched as indicated by the plans or designated by the MAA Seeding Mixture No. 2 – per acre METHODS OF APPLICATION. Lime, fertilizer, and seed mixes shall be applied by The nozzle pipe shall be mounted on an elevated supporting stand in such a manner that 329201X.4 Seeding Mixture No. 2 - per square yard Engineer, seed and fertilizer applied by the spray method need not be raked into the soil either the dry or wet application methods that have been approved by MAA and are it can be rotated through 360 degrees horizontally and inclined vertically from at least 2.4 WATER. All water shall conform to the standards previously described in Paragraph 329201X.5 Seeding Mixture No. 3 - per acre or rolled. However, on surfaces on which mulch is not to be used, the raking and rolling detailed below. 20 degrees below to at least 60 degrees above the horizontal. There shall be a quick-902-2,4, "Water." 329201X.6 Seeding Mixture No. 3 - per square yard operations will be required after the soil has dried. acting, three-way control valve connecting the recirculating line to the nozzle pipe and 329201X.7 Amendments - per acre A. DRY APPLICATION METHOD 2.5 SOILS FOR REPAIR. All soils for repairs shall conform to the standards previously mounted so that the nozzle operator can control and regulate the amount of flow of 329201X.8 Amendments – per square yard described in Paragraph 901-2.3, "Soils for Repair." mixture to be supplied so that mixtures may be properly sprayed over a distance varying 329201X.9 Fertilizer – per acre MAA-CO-XX-XXX Technical Specification Technical Specification MAA-CO-XX-XXX MAA-CO-XX-XXX Technical Specification MAA-CO-XX-XXX Technical Specification Technical Specifications BWI Marshall Airport/Martin State Airport BWI Marshall Airport/Martin State Airport 329201X-8 CONTRACT TITLE 329201X-9 BWI Marshall Airport/Martin State Airport On slopes steeper than 1:2.5 and in V-shaped or flat-bottom ditches or gutters, the sod Certification showing that the fiber material conforms to the following specifications SECTION 329203X MULCHING PART 3 - EXECUTION These materials shall be incorporated into the soil to a depth of at least 2 inches by discing, adjacent stakes in straight lines and crossed diagonally over the mulch. The stakes shall shall be secured with wooden pegs at least 18 inches long and a cross-sectional area of at PART 5 - BASIS OF PAYMENT shall be provided by the manufacturer: be firmly driven nearly flush to the ground to draw the twine down tightly onto the mulch. raking, or other methods approved by the MAA Engineer. Any stones larger than I inch in least 0.75-square inch, or by other methods of securing sod approved by the MAA 3.1 GENERAL. Areas to be sodded shall be clearly indicated by site plans. Areas requiring PART 1 - GENERAL diameter, large clods, roots, and other litter brought to the surface by this operation shall Engineer. The pegs shall be driven flush with the surface of the sod. The pegs shall be of 5.1 This item will be paid for on the basis of the contract unit price per square yard for be removed. 3.4 MAINTENANCE OF MULCHED AREAS. The Contractor shall care for mulched special ground surface preparation, such as tilling, and those areas in a satisfactory sufficient number and at adequate spacing to secure sod from displacement. The use of sodding. The price will provide full compensation for all labor, equipment, material, Particle Length, in. (mm) Approximately 1/2 (13) 1.1 DESCRIPTION. This item provides the Contractor with MAA-approved specifications condition that are to remain undisturbed shall also be shown on the plans. areas until final acceptance of the project. Care required may consist of providing sod staples or other means of securing the sod from displacement may be approved by the staking, and incidentals necessary to satisfactorily complete the items as specified. Particle Thickness, in. (mm) Approximately 1/16 (1.5) for mulch and the application of mulch including distribution of mulch and securing of protection against traffic or other disturbances by placement of warning signs and/or 3.4 OBTAINING AND DELIVERING SOD. The sod shall be well rooted, grown in the Minimum as stated on bag Net dry Weight Content MAA Engineer provided satisfactory results are expected. TAPPI* T 509, pH Ash Content, TAPPI* Standard T 413, % max Suitable equipment necessary for proper preparation of the ground surface and for the mulched areas. Areas to be mulched will be clearly shown on site plans or otherwise State of Maryland, and field grown for a minimum of 12 months. After inspection and barricades before or immediately after mulching has been completed. 4.0 to 8.5 Payment will be made under: designated by the MAA Engineer. handling and placing of all required materials shall be on hand, in good condition, and approval of the sod by the MAA Engineer, the sod shall be cut with approved sod cutters 3.6 WATERING. Adequate water and watering equipment shall be on hand before sodding Water Holding Capacity, % min shall be approved by the MAA Engineer before sodding operations begin. The Contractor to such a thickness that after placement on the prepared bed, but before compaction, it The Contractor may be required to repair or replace any mulching that is defective or Item 329202X.1 Sodding—per square yard. begins, and sod shall be kept moist until it has become established and its continued echnical Association of Pulp and Paper Industry PART 2 - PRODUCTS shall have a uniform attached soil thickness of at least 0.75 inch. Sod sections or strips becomes damaged before the project is finished and deemed satisfactory by the MAA shall demonstrate to the MAA Engineer, before starting the various operations, that the growth assured. In all cases, watering shall be done in a manner that will avoid erosion Item 329202X.2 Amendments - per square yard application of required materials, such as fertilizer and limestone, will be made at the shall be cut in uniform widths of at least 14 inches and in lengths of at least 18 inches, but Engineer. When, in the judgment of the MAA Engineer, defects or damage result from Fertilizer – per square yard from the application of excessive quantities and will avoid damage to the finished surface. Item 329202X.3 .. The material shall be delivered in packages of uniform net weight of 75 lbs (34 kg) or less not to lengths that might inhibit placement without breaking, tearing, or loss of soil. 2.1 TYPES OF MULCH. Acceptable mulch shall be composed of the materials listed below specified rates. poor workmanship or failure to meet the requirements of the specifications, the cost of and shall be clearly labeled with the name of the manufacturer, net weight, and a or composed of any locally available materials that are similar to those specified and Where strips are required, the sod shall be rolled or folded undamaged, with the grass the necessary repairs or replacement will be borne by the Contractor. However, once the 3.7 ESTABLISHING TURF. supplemental statement of the net weight content. 3.2 ADVANCE PREPARATION. If the area to be sodded is sparsely vegetated, weedy, facing inward. The Contractor may be required to mow high grass before cutting sod. approved by the MAA Engineer. Low-grade, shalely, soiled, partially rotted hay, straw, or Contractor has completed the mulching of an area in accordance with the provisions of END OF SECTION 329202X other materials unfit for animal consumption will not be acceptable for use as mulch. barren and unworked, or packed and hard, all existing herbaceous vegetation shall be the specifications and to the satisfaction of the Engineer, no additional work at his 3.7.1 GENERAL. The Contractor shall provide general care for the sodded areas as 2.2 INSPECTION. Within five days after acceptance of the bid, the Contractor shall provide removed. The soil shall then be scarified or otherwise loosened to a depth of at least 5 Sod shall be transplanted within 24 hours from the time of harvest unless circumstances Straw or other material that is fresh, excessively brittle, or is in such an advanced stage of expense will be required. Any subsequent repairs and/or replacements deemed necessary soon as the sod has been laid and shall continue to provide such care until final representative samples of mulch material to be used to the MAA Engineer and identify decomposition as to smother or retard the planted grass, is not acceptable. Clean, weedby the Engineer may be made by the Contractor and will be paid for as additional or extra inches (125 mm). Clods shall be pulverized, and the top 3 inches (75 mm) of soil shall be beyond the Contractor's control make storage necessary. In such cases, sod shall be inspection and acceptance of the work. the source of the material and quantities of mulch materials available. The samples worked into a satisfactory bed by discing or use of cultipackers, rollers, drags, harrows, or stacked, kept moist, protected from exposure to the air and sun, and shall be kept from free straw may be used. Mulch materials containing matured seed with the potential to provided may be used as standards with the approval of the MAA Engineer and any establish and be detrimental to the project or the surrounding area is not acceptable. freezing. Sod shall only be harvested and moved when soil moisture conditions are such other equipment approved by the MAA Engineer. The area shall then be properly graded 3.7.2 PROTECTION. All sodded areas shall be protected against traffic or other materials brought on the site that do not meet these standards may be rejected. as indicated by site plans. that favorable results can be expected. Where soil is too dry, permission to cut sod may be use by warning signs and barricades approved by the MAA Engineer. granted only after it has been sufficiently watered to moisten the soil to the depth at which a. Shredded Hardwood Bark. Shredded hardwood bark shall consist of hardwood tree PART 4 - METHOD OF MEASUREMENT After grading of areas is complete and prior to the application of fertilizer and limestone, the sod will be cut. bark that has been milled and screened to ensure a maximum 4-inch (100-mm) particle 3.7.3 MOWING. The Contractor shall mow the sodded areas with approved PART 3 - EXECUTION size, provide a uniform texture, and be free from sawdust, toxic substances, and other 4.1 Mulching will be measured in square yards on the basis of the actual surface area areas to be sodded shall be raked or otherwise cleared of stones larger than 1 inch in mowing equipment, depending upon climatic and growth conditions and the diameter, sticks, stumps, and other debris which might interfere with sodding, growth of PLACING SOD. Sodding shall only be performed during seasons when satisfactory acceptably mulched to depths of 1-, 2-, or 4-inch depths. foreign materials. 3.1 ADVANCE PREPARATION. Before spreading mulch, all large clods, stumps, stones, needs for mowing of specific areas. In the event that weeds or other results can be expected. Frozen sod shall not be used and sod shall not be placed upon grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or undesirable vegetation establishes to such an extent that, either cut or uncut, brush, roots, and other foreign material shall be removed from the area to be mulched. other causes has occurred after grading of areas and before beginning the application of b. Wood Chips. Wood chips shall be produced by a chipping machine to a size frozen soil. Sod may be transplanted during periods of drought with the approval of the they threaten to smother the sodded species, the weeds shall be mowed and the Mulch shall be applied immediately after seeding unless otherwise specified. The specified by the MAA Engineer. Chips may not have been subjected to any conditions fertilizer and ground limestone, the Contractor shall repair such damage. This may include MAA Engineer, provided the sod bed is watered to moisten the soil to a depth of at least 4 PART 5 - BASIS OF PAYMENT clippings raked and removed from the area. Spot applications of an appropriate application and spreading of mulch may be by hand methods, blower, or other mechanical filling gullies, smoothing irregularities, and repairing other incidental damage. that would shorten their useful life or cause them to lose any of their value as mulch. inches immediately prior to laying the sod. herbicide by a licensed applicator shall be approved by the MAA Engineer to methods, provided a uniform covering is obtained. 5.1 Payment will be made at the contract unit price per square yard for mulching. This price Wood chips shall be free from bark, leaves, twigs, wood shavings, sawdust, toxic remove invasive species. The appropriate herbicide shall be determined on a An area to be sodded will be considered a satisfactory seedbed without requiring The sod shall be moist and shall be placed on a bed, prepared according to Paragraphs substances, and other foreign material. will provide full compensation for furnishing all materials, for placing and anchoring the case-by-case basis, depending on the location and type of weed. APPLICATION OF MULCH. The Contractor shall evenly apply mulch materials to 904-3.2 "Advance Preparation", and 904-3.3, "Application of Fertilizer and Lime" by additional treatment if it recently has been thoroughly loosened and worked to a depth of materials, and for all labor, equipment, tools, and incidentals necessary to complete the areas indicated by site plans or otherwise designated by the MAA Engineer. Celluloscat least 5 inches as a result of grading operations and, if immediately prior to sodding, the hand. Pitchforks shall not be used to handle sod, and dumping from vehicles shall not be c. Wood Cellulose Fiber, Wood cellulose fiber shall consist of a processed wood 3.7.4 REPAIR. When the surface has become gullied or otherwise damaged during fiber or wood-pulp mulch shall be applied at the rate of 1,500 pounds (dry weight) per permitted. The sod shall be placed carefully by hand, edge to edge and with staggered product with uniform fiber characteristics. The fiber shall be capable of remaining in a top 3 inches of soil is loose, friable, reasonably free from large clods, rocks, large roots, or the period covered by this contract, the affected areas shall be repaired to reacre. Mulch may be blown on the slopes and use of cutters in the equipment for this uniform suspension under agitation in water and blending with seed, fertilizer, and other other undesirable matter, and is shaped to the required grade. For slope areas steeper than joints, in rows at right angles to the slopes, starting at the base of the area to be sodded and Payment will be made under: establish the grade and the condition of the soil and shall then be re-sodded as purpose will be pennitted to the extent that at least 95 percent of the mulch in place on working upward. The sod shall immediately be pressed firmly into contact with the sod 3:1 (three horizontal to one vertical) the subsoil shall be loosened to a depth of 1 inch. additives to form a homogeneous slurry. The fiber shall perform satisfactorily in specified in Paragraph 904-3.5, "Placing Sod", at the Contractor's expense. the slope is 6 inches or more in length. When mulch applied by the blowing methods is Item 329203X.1 Mulching – per square yard at 1-inch depth Lime and fertilizer shall be applied within 48 hours after tilling as described in 903-3.3 bed by tamping or rolling with approved equipment to provide a true and even surface, and hydraulic seeding equipment without clogging or damaging the system. The slurry shall eut, the loose depth in place shall be 1 to 2 inches. Cellulose fiber or wood-pulp mulch and 3.4. The sod shall be applied immediately after the lime and fertilizer have been ensure knitting without displacement of the sod or deformation of the surfaces of sodded Item 329203X.2 Mulching – per square yard at 2-inch depth contain a green dye to provide easy visual inspection for uniformity of application. PART 4 - METHOD OF MEASUREMENT shall be applied as an aqueous mixture by spraying at the rate of 1,500 pounds (dry worked into the soil. areas. Where the sod has been displaced during sodding operations, the workmen Item 329203X.3 Mulching - per square yard at 3-inch depth weight) per acre using spraying equipment approved by the MAA Engineer. replacing it shall work from ladders or treaded planks to prevent further displacement. 4.4 This item will be measured on the basis of the area in square yards of the surface covered 3.3 APPLICATION OF FERTILIZER AND LIME. Following ground surface Where the grades are such that the flow of water will be from paved surfaces across with sod and accepted, SECURING MULCH. Mulch shall be held in place by light discing, a thin coating of preparation, fertilizer shall be uniformly spread as described in Section 903-3.3 at a rate sodded areas, the surface of the soil in the sod after compaction shall be set approximately **END OF SECTION 329203X** topsoil, pins, stakes, wire mesh, or other methods approved by the MAA Engineer. If the 1.5 inches below the payement edge. Where the flow will be over the sodded areas and that will provide at least the minimum quantity of fertilizer required. If the use of ground "peg and string" method is used, the mulch shall be secured with stakes or wire pins limestone is specified, it shall be spread as described in Section 903-3.3, "Methods of onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after driven into the ground on 5-foot centers or less. Binder twine shall be strung between Application"; at a rate that will provide at least the minimum quantity of lime required. compaction shall be placed flush with pavement edges. Technical Specifications Technical Specifications Technical Specifications Technical Specifications CONTRACT TITLE MAA-CO-XX-XXX MAA-CO-XX-XXX Technical Specification Technical Specification BWI Marshall Airport/Martin State Airport ONTRACT TITLE BWI Marshall Airport/Martin State Airport BWI Matshall Airport/Massin State Airport BWI Marshall Airport/Martin State Airport 329202X-3 WI Marshall Airport/Martin State Airport BWI Marshall Airport/Martin State Airport 329203X-1 BWI Marshall Airport/Martin State Airport PROFESSIONAL CERTIFICATION **Baltimore County Soil Conservation District** APPROVED FOR SEDIMENT CONTROL CLARENCE W. CULLUM JR., 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, Dove Backman

LICENSE No. 29899 EXPIRATION DATE: 01/13/2022





OWNER/DEVELOPER **ESTES EXPRESS LINES** 3901 WEST BROAD STREET RICHMOND, VA 23230 PH: 804-353-1900

DES: SJG BY SHEET 3 OF 4 PLATREF:

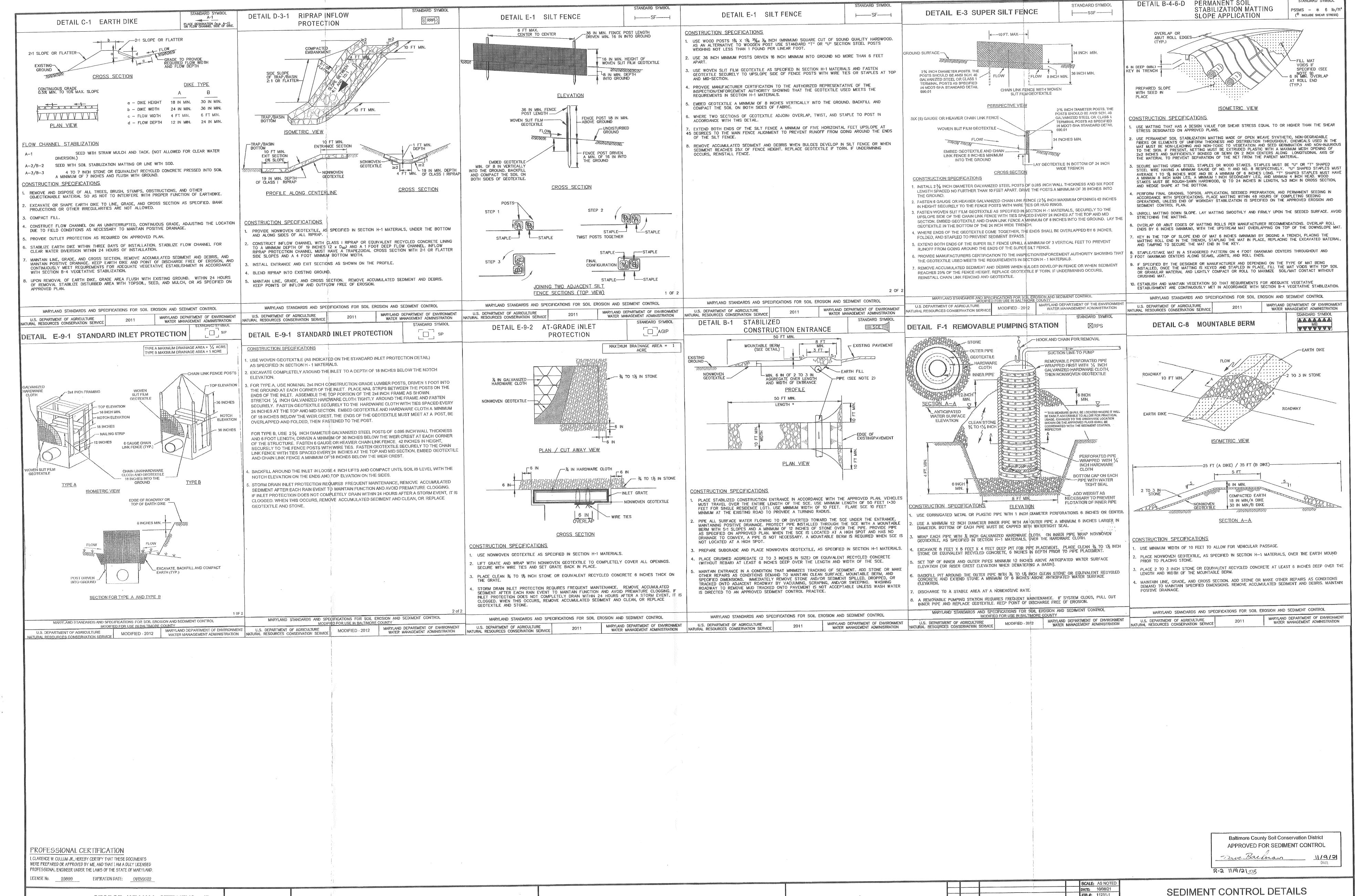
R-2 11/9/21 23 SEDIMENT CONTROL NOTES AND MAA

SEEDING SPECIFICATIONS ESTES EXPRESS LINES

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ESC-4 BY SHEET 4 OF 4 PLAT REF:

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BALTIMORE, MD

5101 WASHINGTON BLVD. **COUNCILMANIC DISTRICT: 13-005**

ELECTION DISTRICT: 13

