	SHEET INDEX
SHEET NO.	DE5CRIPTION
1	TITLE SHEET
2	SITE DEVELOPMENT PLAN
3	SEDIMENT CONTROL NOTES & DETAILS
4	Notes & Details
5	WATER, SEWER, & STORM DRAINAGE NOTES & DETAILS AND HOUSE LOCATION PLAN

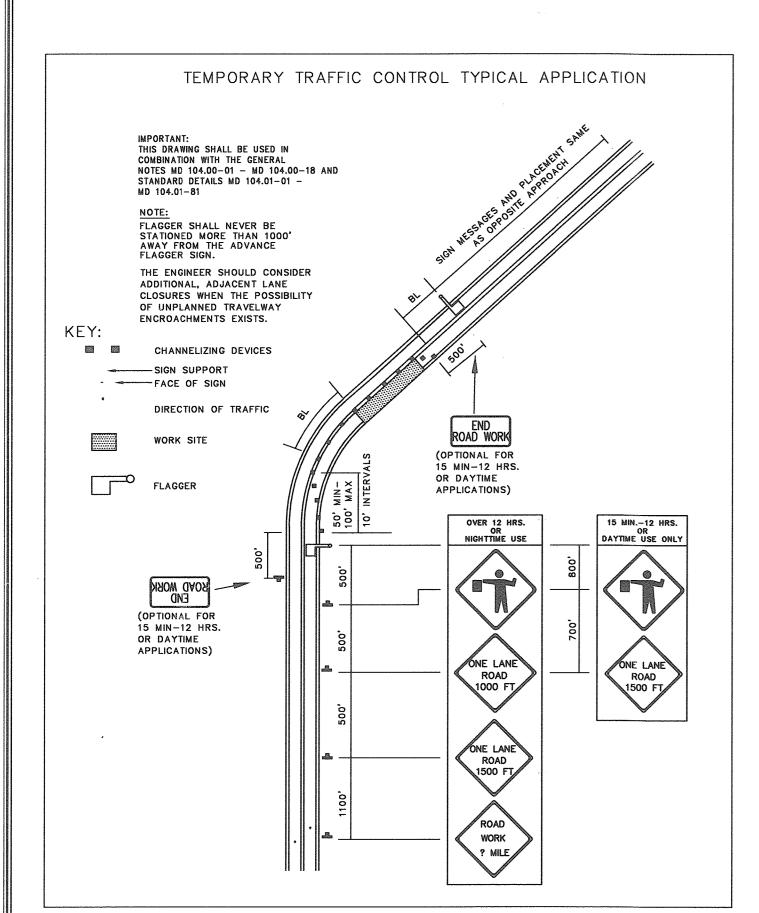
	Minimum Lo	t Size Tabul	ațion
Lo† No.	Gross Ared	Pipestem Ared	Minimum Lo† Size
39	14,404 5q. Ft.±	151 5q. F†.±	14,253 5q. Ft.±
40	14,602 5q. Ft.±	602 5q. F†.±	14,000 Sq. Ft. ±
41	14,945 5q. Ft.±	945 5q. Ft.±	14,000 5q. Ft.±

	50IL5 LEGEND	÷	
50IL	NAME	CLA55	K FACTOR
GfB	Gladstone-Urban land complex, 0 to 8 percent slopes	A	0.28
GbB	Gladstone-Urban land complex, 3 to 8 percent slopes	A	0.28
GbC	Gladstone-Urban land complex, 8 to 15 percent slopes	A	0.28
Soil Map	: 17 (Clarksville, NE)		

The state of the s		STORMWA	TER MAN	AGEMENT SUMMARY
	AREA ID.	E5DV REQUIRED CU.FT.	E5Dv PROVIDED CU.FT.	REMARK5
OCCUPATION OF THE PERSONS	SITE	2,260	2,620	DRY WELLS (M-5) AND MICRO-BIORETENTION (M-6)
and a second	TOTAL	2,260	2,620	

GROSS AREA = 1.66 ACRES LOD = 1.74 ACRES RCN = 38TARGET Pe = 1.4"

	STORMWATER	MANAGEMENT	PRACTICE5	
LOT No.	ADDRE55	DRYWELLS M-5 (NUMBER)	MICRO-BIORETENTION M-6 (NUMBER)	GRASS SWALE M-0 (NUMBER)
37	11848 TALL TIMBER DRIVE	4	_	-
38	11852 TALL TIMBER DRIVE	. 4	_	-
39	11856 TALL TIMBER DRIVE	3	1	_
40	11860 TALL TIMBER DRIVE	3	1	
41	11864 TALL TIMBER DRIVE	4	_	-



SITE DEVELOPMENT PLAN TROTTER WOODS, SECTION 2

LOTS 36 THRU 41,

TAX MAP No. 35 GRID No. 8 PARCEL NOS. 21 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SITE ANALYSIS DATA CHART

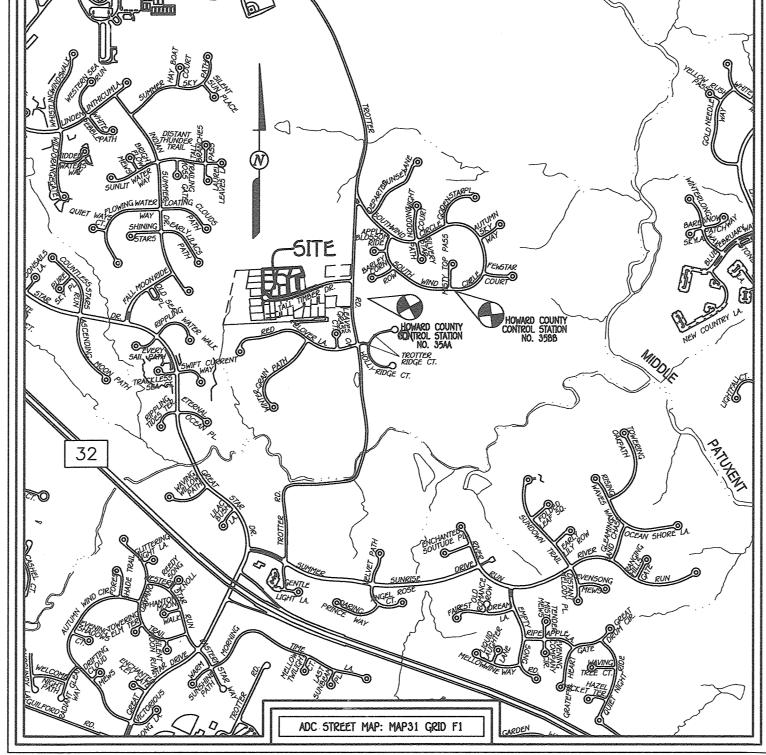
A. TOTAL AREA OF THIS SUBMISSION = 72,370 SQ.FT. OR 1.66 AC. ±. LIMIT OF DISTURBED AREA = 75,617 SQ.FT. OR 1.74 Ac. 2 PRESENT ZONING DESIGNATION = R-20

(PER 10/06/2013 COMPREHENSIVE ZONING PLAN) PROPOSED USE: RESIDENTIAL PREVIOUS HOWARD COUNTY FILES: F-01-119; PLAT 4917, F-03-96; PLAT 5590; 5-97-02; P-98-01; F-98-099; PLAT 13449; 5DP-00-032, ECP-15-072,

ECP-16-047, 5DP-15-062, F-17-031 TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 0.00 AC G. TOTAL AREA OF STEEP SLOPES: MODERATE STEEP SLOPES: 15%-24.9% = 0.00 AC±

STEEP SLOPES: 25% OR GREATER = 0.00 AC± TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.00 AC. TOTAL AREA OF STREAM (INCLUDING BUFFER) = 0.00 AC. TOTAL AREA OF EXISTING FOREST = 1.13 AC± TOTAL GREEN OPEN AREA = 1.25 AC±

TOTAL IMPERVIOUS AREA = 0.41 AC± TOTAL AREA OF ERODIBLE SOILS = 0.00 AC. P. TOTAL AREA OF ROAD DEDICATION = 0.00 AC.



VICINITY MAP SCALE: 1" = 1200'

BI	ENCHMARK INFORMATION
B.M.#1	- HOWARD COUNTY CONTROL STATION #35AA - HORIZONTAL - NAD '03) (LOCATED BEHIND #6523 BARLEY CORN ROAD, EAST OF TROTTER ROAD) N 560,767.601 E 1,335,403.897 ELEVATION = 430.957 - VERTICAL - (NAVD '00)
B.M.#2	- HOWARD COUNTY CONTROL STATION #3588 - HORIZONTAL - (NAD '03) (LOCATED AT SOUTH SIDE OF SOUTH WIND CIR. NEAR THE INTERSECTION OF MISTY TOP PATH) N 560,760.257 E 1,336,537.207 ELEVATION = 394.271 - VERTICAL - (NAVD '00)

a. Anno anno anno anno anno anno anno anno	ADDRESS CHART
LOT #	STREET ADDRESS
37	11848 TALL TIMBER DRIVE
38	11052 TALL TIMBER DRIVE
39	11056 TALL TIMBER DRIVE
40	11060 TALL TIMBER DRIVE
41	11864 TALL TIMBER DRIVE

GENERAL NOTES

- 1. SUBJECT PROPERTY ZONED R-20 PER 10/06/13 COMPREHENSIVE ZONING PLAN.
 2. COORDINATES BASED ON NAD '83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC
 - CONTROL STATIONS NO. 35BB AND NO. 35BB. 5TA. 35BB N 560,790.404, E 1,336,537.287,
- 5TA. 35DB N 557,696.140, E 1,333,974.615, ELEV.= 400.941 3. THIS PLAN IS BASED ON A BOUNDARY SURVEY PERFORMED ON OR ABOUT JULY 23, 2015 BY FISHER, COLLINS & CARTER. INC. AND ALSO BASED ON PLATS ENTITLED "TROTTER WOODS, SECTION 1, LOTS 1 THRU 32 AND BULK PARCEL "A" RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND AS PLAT NOS. 13449 THRU 13452.
- 4. B.R.L. DENOTES BUILDING RESTRICTION LINE 5. • DENOTES IRON PIN SET CAPPED "F.C.C. 106".
- DENOTES IRON PIPE OR IRON BAR FOUND. O DENOTES ANGULAR CHANGE IN BEARING OF BOUNDARY OR RIGHTS-OF-WAY.
- DENOTES CONCRETE MONUMENT SET WITH ALUMINUM PLATE "F.C.C. 106". 9. Ø DENOTES CONCRETE MONUMENT OR STONE FOUND.
- 10. ALL AREAS ARE MORE OR LESS (\pm) . 11. DISTANCES SHOWN ARE BASED ON SURFACE MEASUREMENT AND NOT REDUCED TO NAD '83 GRID MEASUREMENT. 12. FOR FLAG OR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE
- JUNCTION OF FLAG OR PIPE STEM AND ROAD RIGHT-OF-WAY LINE ONLY AND NOT ONTO THE FLAG OR PIPE STEM LOT 13. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO
 - ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS: A). WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE); B). SURFACE - SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING.
 - (1 1/2" MINIMUM); C). GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS;
 - D). STRUCTURES (CULVERTS/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (H25-LOADING);
 - E). DRAINAGE ELEMENTS CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER SURFACE; F). STRUCTURE CLEARANCE - MINIMUM 12 FEET;
 - G). MAINTENANCE SUFFICIENT TO ENSURE ALL WEATHER USE. 14. PROPERTY SUBJECT TO PRIOR DEPARTMENT OF PLANNING AND ZONING FILE NO'S: 5-97-02, F-01-119, F-03-96.
- F-98-99, P-98-01, ECP-15-072 AND ECP-16-047, 5DP-15-062, F-17-031.
- 15. NO CEMETERIES EXIST ON THIS SITE BASED ON A VISUAL SITE VISIT AND BASED ON AN EXAMINATION OF THE HOWARD COUNTY CEMETERY INVENTORY MAP.
- 16. SITE IS NOT ADJACENT TO A SCENIC ROAD. 17. A PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON OCTOBER 14, 2015.
- 18. NO NOISE STUDY IS REQUIRED BECAUSE THE PROJECT DOES NOT FALL WITHIN THE GUIDELINES OF DESIGN MANUAL,
- VOLUME III, ROADS, BRIDGES SECTION 5.2.F.2. 19. THE WETLAND AND FOREST STAND DELINEATION LETTER OF FINDINGS DATED MARCH 11. 2016 PREPARED BY
- ECO-SCIENCE PROFESSIONALS, INC. DETERMINED THAT THERE ARE NO WETLANDS AND STREAM AND THEIR RESPECTIVE BUFFERS LOCATED WITHIN THE LIMITS OF THIS PLAT.
- 20. THE LOTS CREATED BY THIS SUBDIVISION PLAN ARE SUBJECT TO A FEE OR A ASSESSMENT TO COVER OR DEFRAY ALL OR PART OF THE DEVELOPERS COST OF THE INSTALLATION OF THE WATER AND SEWER FACILITIES, PURSUANT TO THE HOWARD COUNTY CODE SECTION 10.112. THIS FEE OR ASSESSMENT, WHICH RUNS WITH THE LAND, IS A CONTRACTUAL OBLIGATION BETWEEN THE DEVELOPER AND EACH OWNER OF THIS PROPERTY AND IS NOT IN ANY WAY A FEE
- OR ASSESSMENT OF HOWARD COUNTY. 21. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND PUBLIC SEWER WILL BE UTILIZED FOR THIS PROJECT, CONT.# 34-3643-D.
- 22. THIS PLAN IS IN COMPLIANCE WITH THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL 45-2003 AND THE 10/06/13 COMPREHENSIVE ZONING PLAN. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF
- SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION, OR BUILDING/GRADING PERMIT. 23. THIS PROJECT IS IN COMPLIANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS ALTERNATIVE COMPLIANCE HAS
- BEEN APPROVED. 24. THE TRAFFIC STUDY DATED OCTOBER 5, 2016 FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP AND APPROVED
- ON OCTOBER 24, 2016 UNDER F-17-031 25. ARTICLES OF INCORPORATION FOR TROTTER WOODS HOMEOWNERS ASSOCIATION, INC. ARE RECORDED AT LIBER 4532, FOLIO
- 168 OF THE HOWARD COUNTY LAND RECORDS. 26. DECLARATION OF COVENANTS AND RESTRICTIONS FOR THE HOMEOWNERS ASSOCIATION WAS RECORDED SIMULTANEOUSLY WITH
- 27. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.1228 OF THE
- 20. PUBLIC WATER AND SEWER ALLOCATIONS WILL BE GRANTED AT TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
- 29. THE FOREST CONSERVATION OBLIGATION FOR THIS FINAL PLAT FOR TROTTERS WOODS, SECTION 2 WAS INCLUDED WITH THE DEVELOPERS AGREEMENT FOR TROTTER WOODS, SECTION 1, F-90-99.
- 30. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- 31. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- 32. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION
- 33. THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD RUN TOPOGRAPHIC SURVEY PERFORMED BY FISHER, COLLINS & CARTER INC. ON OR ABOUT JULY 23, 2015 AND SUPPLEMENTED WITH HOWARD COUNTY GIS DATA.
- 34. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1000 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- 35. SOIL BORINGS WERE EXCAVATED WITHIN 50 FEET OF THE PROPOSED STORMWATER MANAGEMENT DEVICES 36. STORMWATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II,
- REVISED 2009. NON-STRUCTURAL PRACTICES IN ACCORDANCE WITH CHAPTER 5 ARE BEING UTILIZED. ALL DRYWELLS (M-5), MICRO-BIORETENTION FACILITIES (M-6) AND GRASS SWALES (M-8) ARE PRIVATELY OWNED AND MAINTAINED. DECLARATION OF COVENANTS HAVE BEEN RECORDED ALONG WITH THE FINAL PLAT. F-17-031. 37. TRAFFIC CONTROL DEVICES, MARKING AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL
- OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF AND ASPHALT. 38. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A
- 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (12 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL. PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVINIZED STEEL POST CAP SHALL BE MOUNTED ON TOP
- 39. PRIVATE RANGE OF ADDRESS SIGN ASSEMBLIES FOR THE TWO USE-IN-COMMON DRIVEWAYS SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS, AT THE DEVELOPERS / OWNERS EXPENSE. CONTACT HOWARD
- COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES. 40. ALL FUTURE RESIDENTIAL DRIVEWAYS ENTRANCES ADJACENT TO TALL TIMBER DRIVE SHALL BE CONSTRUCTED WITH A HOWARD
- COUNTY APRON (DETAIL R-6.05) 41. LANDSCAPING FOR LOTS 37 THRU 41 WAS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL UNDER F-17-031. THE AMOUNT OF \$2,400 WAS BONDED AS PART OF THE DPW
- 42. TRASH AND RECYCLABLE COLLECTION WILL BE AT TALL TIMBER DRIVE WITHIN 5' OF THE COUNTY ROADWAY. TRASH /
- REFUSE COLLECTION PAD WILL BE MAINTAINED BY THE PROPERTY OWNERS (IF AN HOA) IS NOT PROPOSED. THE MAINTENANCE OF THIS COLLECTION AREA SHOULD BE REFERENCED IN THE PRIVATE USE-IN-COMMON ACCESS AGREEMENT 43. IN ACCORDANCE WITH SECTION 128 (0)(a)(1)(e) OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD
- 44. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS
 - BEFORE STARTING WORK SHOWN ON THESE PLANS: STATE HIGHWAY ADMINISTRATION 410.531.5533 BGE (CONTRACTOR SERVICES) 410.850.4620 410.787.9068
 - BGE (UNDERGROUND DAMAGE CONTROL) MISS UTILITY COLONIAL PIPELINE COMPANY
 - HOWARD COUNTY DEPT. OF PUBLIC WORKS, BUREAU OF UTILITIES HOWARD COUNTY HEALTH DEPARTMENT
 - 1.800.252.1133 1.800.743.0033 / 410.224.9210 45. ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S
- 46. EXISTING UTILITIES ARE BASED ON FIELD LOCATION AND SUPPLEMENTED WITH COUNTY AVAILABLE INFORMATION. 47. SHC ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE.

Please Note That Lots 37 THRU 41 In This Subdivision Is Subject To The Moderate Income Housing Unit (M.I.H.U.) Fee-In-Lieu Requirement That Is To Be Calculated And Paid To The Department Of Inspections Licenses And Permits At The Time Of Building Permit Issuance By The Permit Applicant.

1.800.787.9068

410.795.1390

410.313.4900

410.313.2640

OWNERS TYSON TALL TIMBER INC. 11850 TALL TIMBER DRIVE CLARK5VILLE MD 21029-1213 410-370-9406 BUILDER VIKING CUSTOM HOMES CARY CUMBERLAND 12800 FREDERICK ROAD WEST FRIENDSHIP, MD 21794 410-977-2188 FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS nial square office park – 10272 baltimore national pik ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055 DATE

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

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. 38386, EXPIRATION

30/18 PROFESSIONAL CERTIFICATION

CONTROL AND THAT ANY 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 AND EROSION BEFORE BEGINNING THE PROJECT, I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

BUILDER/DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, FOR SEDIMENT AND EROSION

ENGINEER'S CERTIFICATE "I/WE CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS

APPROVED: DEPARTMENT OF PLANNING AND ZONING 9-17-18 Division of Land Development 4.10.18 Chief, Development Engineering Division PARCEL NO. SECTION TROTTER WOODS ZONE TAX/ZONE ELEC. DIST. CENSUS TR. 24731 & R-20 35 605505 24732

TITLE SHEET

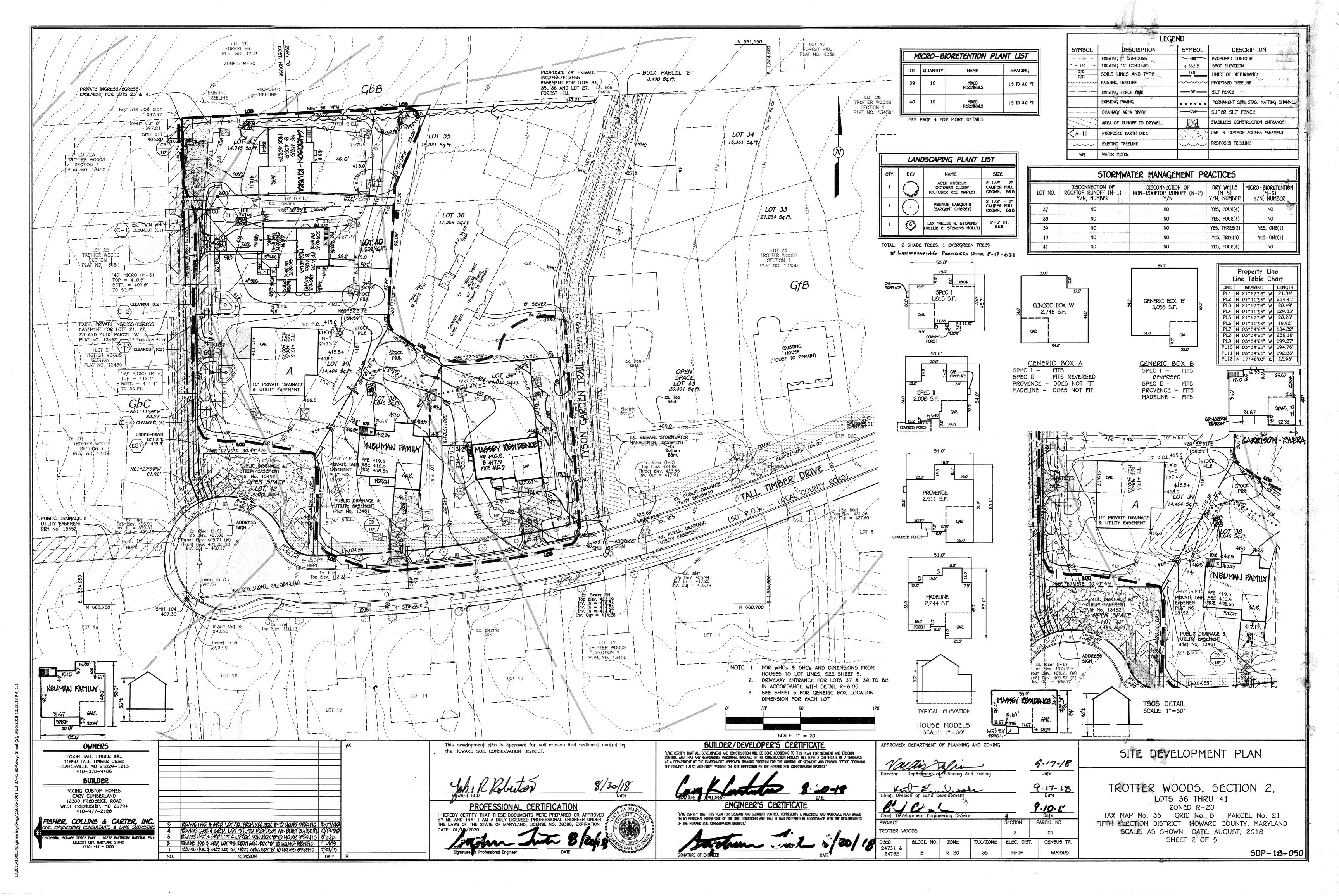
TROTTER WOODS, SECTION 2,

LOTS 36 THRU 41 ZONED R-20

TAX MAP No. 35 GRID No. 8 PARCEL No. 21 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: AUGUST, 2018

SHEET 1 OF 5

50P-18-050



A. Soil Preparation

b. Apply fertilizer and lime as prescribed on the plans.

 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 on 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 to the contour of the slope.

c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means. 2. Permanent Stabilization

a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are i. Soil pH between 6.0 and 7.0

ii. Soluble salts less than 500 parts per million (ppm). iii. 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 lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.

. Application of amendments or topsoil is required if on—site soils do not meet the above conditions c. 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 test. to smooth the surface, remove large objects like stones and branches, and ready the 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.

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.

2. 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.

3. 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.

c. The original soil to be vegetated contains material toxic to plant growth.

iv. Soil contains 1.5 percent minimum organic matter by weight.

v. Soil contains sufficient pore space to permit adequate root penetration.

d. The soil is so acidic that treatment with limestone is not feasible

4. Areas having slopes steeper than 2:1 require special consideration and design.

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 of contrasting textured subsoils and must contain less than 5 percent by volume of cinders b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.

c. 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.

Erosion and sediment control practices must be maintained when applying topsoil.

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.

Topsoil 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.

C. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer or 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

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 to the applicable laws and must bear the name, trade name or trademark and warranty of the produce 3. Lime materials myst be ground limestone (hydrated or byrnt lime may be sybstituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to

such fineness that at least 50 percent will pass through a #100 mesh sieve and 90 to 100 percent will pass through a #20 mesh sieve. 4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking o

5. 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 topsoil.

18-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

The application of seed and mulch to establish vegetative cover

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

Conditions Where Practice Applies

a. All seed must meet the requirement 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

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 cook as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less

d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

a. Dry Seeding: This includes use of conventional drop or broadcast spreaders. 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

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

c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).

i. 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; P O (phosphorus), 200 pounds per acre; K O (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.

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 Marvland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired. b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical

WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate 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 nomogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture growth of the grass seedlings.

 iv. WCFM material must not contain elements or compounds at concentration levels that will by 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

 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 rate to 2.5 tons per acre. c. Wood cellulose fiber used as mulch must be applied to a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of

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 the size of the area and erosion hazard: 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.

. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of 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 iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4-15 feet wide and 300 to 3,000 feet long.

TEMPORARY SEEDING NOTES (B-4-4)

To stabilize disturbed soils with vegetation for up to 6 months

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

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.

		remporary seeding	Summary		
Hardiness Zon Seed Mixture	e (from Figure B. (from Table B.1):	Fertilizer Rate (10—20—20)	Lime Rate		
5pecies	Application Rate (lb/ac)	Seeding Dates	Seeding Dep†hs		
BARLEY	96	3/1 - 5/15.	1"	436 b/ac	2 †ons/àc
OATS	72	8/15 - 10/15	1"	(10 lb/ 1000 sf)	(90 lb/ 1000 sf)
RYE	112		1"		

PERMANENT SEEDING NOTES (B-4-5) A. Seed Mixtures

Figure 8.3) and based on the site condition or purpose found on Table 8.2. 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 Guide, Section 342 - Critical Area Planting.

c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency. d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary

Turfgrāss Mixtures

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will

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 Permanent Seeding Summary. The summary is to be placed on the plan.

i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. 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 total mixture by weight. ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary 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 35 percent of the

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 be blended.

Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3

Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line c. Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter The resulting seedbed must be in such condition that future moving of grasses will pose no difficulty. 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 especially true when

seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary

		1 0,	manen occurs c	Jannai I				
		e (from Figure B. (from Table B.3):			Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P ₂ O ₅	K ₂ 0	
8	TALL FESCUE	100	Mar. 1-May 15 Aug. 15-Oct. 15	1/4-1/2 in.	45 lbs. per acre	90 lb/ac (2 lb/	(2 lb/	(90 lb/
		1			(1.0 lb/	1000 sf)	1000 sf)	1000 sf)

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

 General Specifications a. Class of turforass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector b. Sod must be machine cut at a uniform soil thickness to % inch, plus or minus % 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. .. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when

suspended vertically with a firm grasp on the upper 10 percent of the section. l. Sod must not be harvested or transplanted when moisture content (excessively dry of 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

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 of otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil

d. 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 to prevent wilting.

After the first week, sod watering is required as necessary to maintain adequate moisture conten 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 unless otherwise specified. B-4-0 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

<u>Definition</u>

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

Conditions Where Practice Applies Stockpile areas are utilized when it is necessary to salvage and store soil for later use

4. Access the stockpile area from the upgrade side.

. 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

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/sediment control practice must be used to intercept the 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section 8-4 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. HOWARD SOIL CONSERVATION DISTRICT (HSCD)

STANDARD SEDIMENT CONTROL NOTES A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 40 hour notice to CID must be given at the following stages: . Prior to the start of earth disturbance

b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading, Prior to the start of another phase of construction or opening of another grading unit.

1. Prior to the removal or modification of sediment control practices. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.

Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15 of c and/or fill. Stockpiles (Sec. B-4-0) in excess of 20 ft. must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6). All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their remova

has been obtained from the CID. Site Analysis: Total Area of Site: Area Disturbed: _ 1.74 Acres Area to be roofed or paved: Area to be vegetatively stabilized:

Offsite waste/borrow area location: N/A.

Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the

aspection type (routine, pre-storm event, during rain event)

Name and title of inspector Weather information (current conditions as well as time and amount of last recorded precipitation)

Evidence of sediment discharges Identification of plan deficiencies tentification of sediment controls that require maintenance

Identification of missing or improperly installed sediment controls Compliance status regarding the sequence of construction and stabilization requirements Photographs
Monitoring/sampling
Maintenance and/or corrective action performed

Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.

Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the H5CD prior to proceeding with construction. Minor revisions may allowed by the CID per the list of H5CD-approved field changes.

Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the H5CD. Unless otherwise specified and approved by the H5CD, no more than 30 acres cumulatively may be disturbed at a given time.

Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washable exceptive.

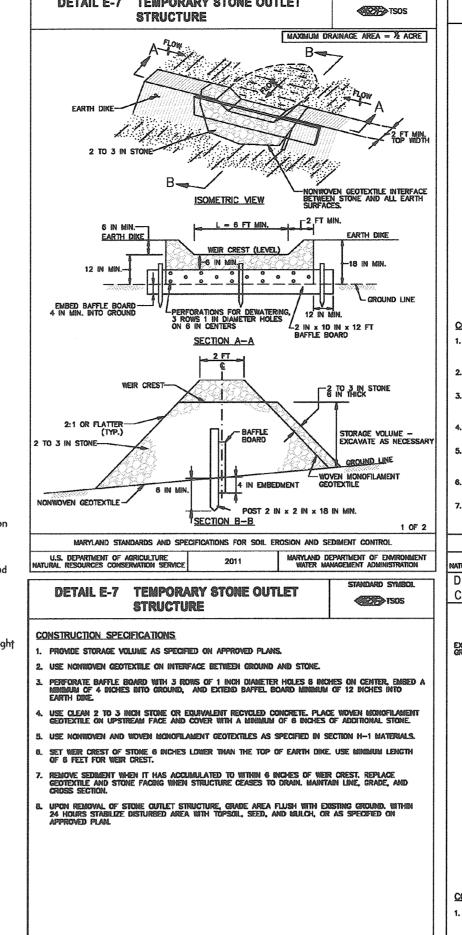
Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).

washout structure.

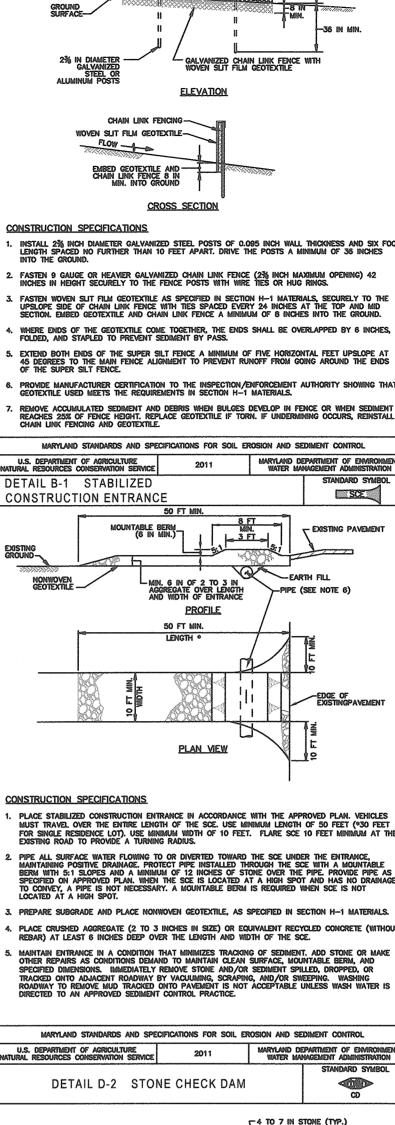
13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade. 14. All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25 minimum intervals, with lower ends curled

uphill by 2 in elevation. 15. Stream channels must not be disturbed during the following restricted time periods (inclusive): Use I and IP March 1 - June 15 Use III and IIIP October 1 - April 30

16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.



MARY AND STANDARDS AND SECRECATIONS FOR SCIL FERSION AND STEMENT CONTROL



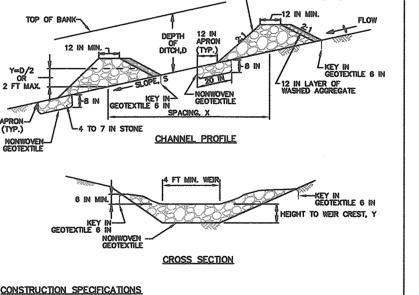
DETAIL E-3

SUPER SILT FENCE

STANDARD SYMPOL

DETAIL E-1

PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITH REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.



PREPARE SWALES IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS DESCRIBED IN SECTION C-2, STANDARDS AND SPECIFICATIONS FOR TEMPORARY SWALE, OR AS SPECIFIED ON PLAN. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND SIDES OF THE DAM PRIOR TO PLACEMENT OF STONE. CONSTRUCT THE CHECK DAM WITH WASHED 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) WITH SIDE SLOPES OF 2:1 OR FLATTER AND A MINIMUM TOP WIDTH OF 12 INCHES, PLACE THE STONE SO THAT TO COMPLETELY COVERS THE WIDTH OF THE CHANNEL AND CHANNEL BANKS, FORM THE WEIR SO THAT TOP OF THE OUTLET CREST IS APPROXIMATELY 6 INCHES LOWER THAN THE OUTER EDGES. LINE THE UPSTREAM FACE OF THE DAM WITH A 1 FOOT THICK LAYER OF WASHED AGGREGATE (% TO 1½ INCH).

REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE-HALF OF THE HEIGHT OF THE WERR CREST. MAINTAIN LINE, GRADE, AND CROSS SECTION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

> 9-17-18 Date 9-17-18 9.10.18

> > Date

PARCEL NO.

21

CENSUS TR.

605505

A INTO GROUND ELEVATION FENCE POST 18 IN MIN.
- ABOVE GROUND CROSS SECTION JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW) CONSTRUCTION SPECIFICATIONS USE WOOD POSTS 1% x 1% \pm 1% INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS A ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.

SILT FENCE

STANDARD SYMBOL

├──-SF------

_36 IN MIN. FENCE POST LENGTH DRIVEN MIN. 16 IN INTO GROUND

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011 STANDARD SYMBO PERMANENT SOIL STABILIZATIO PSSMC $- * 0.3 \text{ ib/ft}^4$ (* include shear stress)

WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.

CONSTRUCTION SPECIFICATIONS: USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SED GERMINATION AND NON-INJURIOUS TO THE SKIN, IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.

SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED ST WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM 1 FOR STAPLES MOST HAVE S 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD WOOD STAKES MUS ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHA PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHMING THE MATTING. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS, OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT. 7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.

STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION Q(1) = (0.26)(6.6)(0.12) = 0.2 CF5; Q(2) = (0.26)(6.6)(0.11) = 0.2 CF5 Q(3) = (0.25)(6.6)(0.30) = 0.5 CF5

2. VELOCITY (10 YR STORM) = 0.5 FP5 (1) & 0.5 FP5 (2) & 0.5 FP5 (3)

3. SHEER STRESS = 62.4 LB5/FT⁸ x 0.13 FT x 0.04 = 0.3 LB5/FT² (1);
62.4 LB5/FT⁸ x 0.12 FT x 0.04 = 0.3 LB5/FT² (2);
62.4 LB5/FT⁸ x 0.22 FT x 0.02 = 0.3 LB5/FT² (3)

SEQUENCE OF CONSTRUCTION

NOTIFY "MISS UTILITY" AT LEAST 40 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/ INSPECTION AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SUPER SILT FENCE, AND T505. (3 DAYS) REMOVE NECESSARY TREES. ROUGH GRADE LOTS AND INSTALL INLETS AND DRAINAGE PIPES AS SHOWN ON PLANS. (1 WEEK)
CONSTRUCT HOUSES AND DRIVEWAYS (EXCEPT FOR LOT 30), INCLUDING WIDENING OR USE-IN-COMMON DRIVEWAY, AND INSTALL WHCs AND SHCs. (6 MONTHS PER INSTALL TEMPORARY SEEDING AND PERMANENT SOIL STABILIZATION MATTING WHERE

INSTALL ROOF LEADERS & DRYWELLS UPON CONSTRUCTION OF INDMIDUAL HOUSES. FINE GRADE EACH INDIVIDUAL LOT. (1 WEEK PER LOT)
INSTALL PERMANENT SEEDING WITH CONSTRUCTION ON EACH LOT. (1 DAY PER LOT)
UPON COMPLETION OF GRADING WITHIN DRAINAGE AREA TO TSOS, REMOVE TSOS, CONSTRUCT HOUSE ON LOT 30 AND FINE GRADE. (1 WEEK)
UPON COMPLETION OF STABILIZATION ON INDIVIDUAL LOTS AND WITH APPROVAL OF E SEDIMENT CONTROL INSPECTOR, INSTALL MICRO-BIORETENTION FACILITIES ON LOTS 35, 39, & 40. (5 DAYS)
ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE

NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL AND ON A DAILY BASIS.

SEDIMENT CONTROL INSPECTOR. THE SEDIMENT CONTROL DEVICES MAY BE

SEDIMENT CONTROL NOTES & DETAILS

TROTTER WOODS, SECTION 2,

LOTS 36 THRU 41

ZONED R-20 TAX MAP No. 35 GRID No. 8 PARCEL No. 21 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: AUGUST, 2018 SHEET 3 OF 5

50P-18-050

OWNERS TYSON TALL TIMBER INC. 11050 TALL TIMBER DRIVE CLARK5VILLE MD 21029-1213 410-370-9406 BUILDER VIKING CUSTOM HOMES CARY CUMBERLAND 12800 FREDERICK ROAD WEST FRIENDSHIP, MD 21794 410-977-2188 FISHER, COLLINS & CARTER, INC CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS Inial square office park – 10272 Baltimore National Piki ELLICOTT CITY, MARYLAND 2104 (410) 461 - 2855 NO. DATE X

the HOWARD SOIL CONSERVATION DISTRICT.

PROFESSIONAL CERTIFICATION

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. 38386, EXPIRATION

This development plan is approved for soil erosion and sediment control by

8/30/18

ENGINEER'S CERTIFICATE "I/WE CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A 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 CONSERVATION DISTRICT."

BUILDER/DEVELOPER'S CERTIFICATE

CONTROL AND THAT ANY 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 AND EROSION BEFORE BEGINNING

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, FOR SEDIMENT AND EROSION

THE PROJECT, I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT

T505 DETAIL

NOT TO SCALE

Chief, Development Engineering Division SECTION TROTTER WOODS ELEC. DIST.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

2 OF 2

NOTES

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL A LANDSCAPE SURETY FOR & SHADE TREES IN THE AMOUNT OF (\$2,400.00) WILL BE POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT, UNDER F-17-031.
- 2. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR
- THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

PLANTING / SOIL SPECIFICATIONS

REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

- 1. Planting Of Nursery Stock Shall Take Place Between March 15th And April 30th Or September 15th And November 15th.
- 2. A Twelve (12) Inch Layer Of Topsoil Shall Be Spread Over All Reforestation Areas Impacted By Site Grading To Assure A Suitable Planting Area, If Applicable. Disturbed Areas Shall Be Seeded And Stabilized In Accordance With The Sediment & Erosion Control Plan For This Project. Planting Areas Not Impacted By Site Grading Shall Have No Additional Topsoil Installed.
- 3. All Bare Rood Planting Stock Shall Have Their Root System Dipped Into An Anti-Desiccant Gel Prior To Planting.
- 4. Plants Shall Be installed So That The Top Of The Root Mass is Level With The Top Of Existing Grade. BackFill In The Planting Pits Shall Consist of 3 Parts Existing Soil to 1 Part Pine Fines Or Equivalent.
- 5. Fertilizer Shall Consist Of Agriform 22-8-2, Or Equivalent, Applied As Per Manufacturer's Specifications
- 6. A Two (2) Inch Layer Of Hardwood Mulch Shall Be Placed Over The Root Area Of All Plantings. See Planting Detail.
- 7. Plant Material Shall Be Transported To The Site In A Tarped Or Covered Truck. Plants Shall Be Kept Moist Prior To Planting.
- 8. All Non-Organic Debris Associated With The Planting Operation Shall Be Removed From The Site By The Contractor.

MAINTENANCE OF PLANTINGS

- 1. Maintenance Of Plantings Shall Last For A Period Of 26 Months.
- 2. All Plant Material Shall Be Generally Watered Twice A Month During The 1st Growing Season. Watering May Be More Or Less Frequent Depending On Weather Conditions.
- 3. During The 2nd Growing Season, Plant Material Shall Be Watered Once A Month From May To September, As Needed.
- 4. Invasive Exotics And Noxious Weeds Shall Be Removed From The Reforestation Area(s). Old Field Successional Species Shall Be
- 5. Plants Shall Be Examined A Minimum Of Two (2) Times During The Growing Season For Serious Plant Pests And Diseases With The
- 6. Dead Branched Shall Be Pruned From The Plantings.

BUILDING

FOUNDATION

FILTER FABRIC

Table B.4. Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration Specification Plantings see Appendix A; Table A.4

1			I branding - to the character
Planting soil [2' to 4' deep]	loamy sand 60-65% compost 35-40% or sandy loam 30% coarse sand 30% compost 40%		USDA soil types loamy sand or sandy loam; clay content <5%
Organic Content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum
Pea gravel diaphragm	pea gravel: ASTM-D-440	No. 0 or No. 9 (1/6 to 3/6)	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Grāvel (underdrāins and infiltration berms)	AASHTO M-43	No. 57 or No. Aggregāte (3/8° to 3/4°)	
Underdrain piping	F 750, Type P5 20 or AASHTO M-270	4" †o 6" rigid schedule 40 PVC or 5DR35	Slotted or perforated pipe; 3/8" pert. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f = 3500 psi at 20 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n.ā	on-site testing of poured-in-place concrete required: 20 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved 5tate or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland — design to include meeting ACI Code 350.R/09; vertical loading [H-10 or H-20]: allowable horizontal loading (Nased on soil

0.02" to 0.04"

AASHTO-M-6 or ASTM-C-33

Size

Notes

plantings are site-specific

H-201; allowable horizontal loading (based on soil pressures); and analysis of potential cracking

Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be

		DRY WELL	_ CHART	-	
LOT NO.	DRYWELL NO.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT
	BLD (RR)	1100 5Q. FT.	86 C.F.	144 C.F.	100%*
37	BLD (RL)	716 5Q. FT.	48 C.F.	144 C.F.	100%*
37	BLD (FL)	1220 5Q. FT.	57 C.F.	144 C.F.	100%*
	DRIVEWAY	900 5Q. FT.	96 C.F.	116 C.F.	100%*
	BLD (RR)	1100 5Q. FT.	96 C.F.	144 C.F.	100%*
38	BLD (RL)	716 5Q. FT.	48 C.F.	144 C.F.	100%*
30	BLD (FL)	1220 5Q. FT.	57 C.F.	144 C.F.	100%*
	DRIVEWAY	900 5Q. FT.	<i>8</i> 6 C.F.	116 C.F.	100%*
	BLD (FR)	1190 5Q.FT.	57 C.F.	144 C.F.	100%*
39	BLD (RR)	1149 5Q. FT.	48 C.F.	144 C.F.	100%*
09	BLD (RL)	966 5Q. FT.	96 C.F.	144 C.F.	100%*
				N/A	
	BLD (RR)	1100 5Q. FT.	96 C.F.	144 C.F.	100%*
40	BLD (RL)	716 5Q. FT.	48 C.F.	144 C.F.	100%*
10	BLD (FL)	1220 5Q. FT.	57 C.F.	144 C.F.	100%*
				N/A	
	BLD (RR)	1100 5Q. FT.	86 C.F.	144 C.F.	100%*
41	BLD (RL)	716 5Q. FT.	48 C.F.	144 C.F.	100%*
7.1	BLD (FL)	1228 5Q. FT.	57 C.F.	144 C.F.	100%*
	DRIVEWAY	1000 5Q. FT.	95 C.F.	116 C.F.	100%*

- * AREAS BASED ON HOUSE BOX. ACTUAL HOUSE WILL HAVE LESS
- AREA OF TREATMENT EXCEEDS THAT REQUIRED *NOTE: ALL ROOF DRYWELLS = 9'x 8'x 5' (LxWxD) = 144 C.F. ** ALL DRIVEWAY DRYWELLS = 8'x 7'x 5' (LxWxD) = 116 C.F.

STONE CHANNEL

PERTAIN TO LOTS

34, 37, 38 & 41

ROOF AREA TO EACH DRYWELL.

PERF. P.V.C. PIPE W/CAP. PERF. _AREA 5 TIMES

- OBSERVATION WELL

4-6 INCH PERFORATED

PVC PIPE ON CONCRETE FOOTPLATE

12" SAND, ROTOTILL 1'-0" BELOW TRENCH

TRENCH MAY NOT BE

INSTALLED IN FILL.

(F=FRONT, R=REAR / L=LEFT, R=RIGHT)

GUTTER DRAIN FILTER DETAIL

NOT TO SCALE

STORMWATER NOTES

- 1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE
- 2. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 5Q. FT. OR LESS. 3. DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5%. THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.

STONE!

-CAP WITH LOCK

STONE ASTM

D-448 SIZE

CONCRETE -FOOT PLATE

PERF. P.V.C. PIPE W/CAP. PERF. AREA 5 TIMES

OBSERVATION WELL

4-6 INCH PERFORATED

(NON- WOVEN) M5HA CL. "C"

12" SAND, ROTOTILL 1'-0" BELOW TRENCH

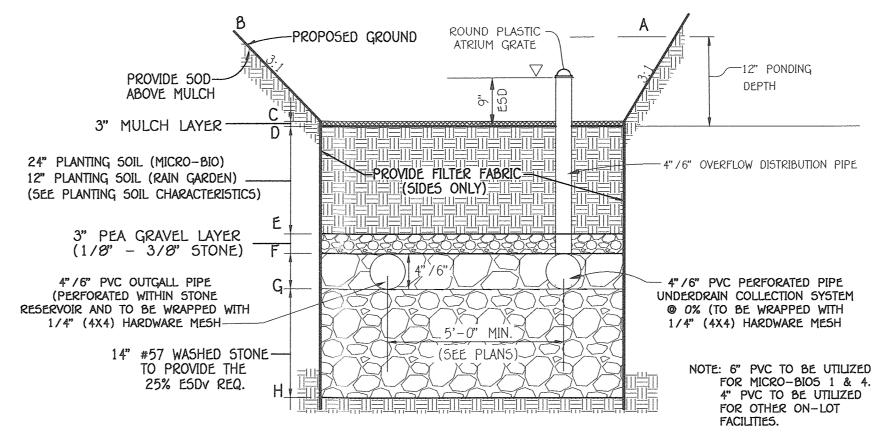
TRENCH MAY NOT BE

INSTALLED IN FILL

PVC PIPE ON CONCRETE

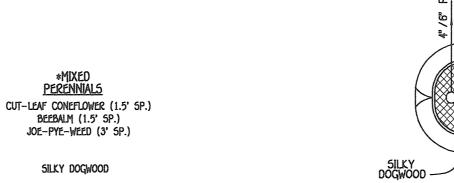
OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

- A. THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- B. THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
- C. THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS. D. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO
- (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- E. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- F. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED. THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

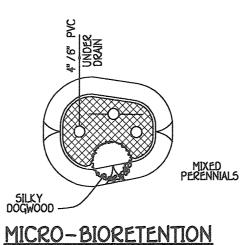


MICRO BIO-RETENTION SECTION WITH 6" OVERFLOW DISTRIBUTION PIPE

NO SCALE

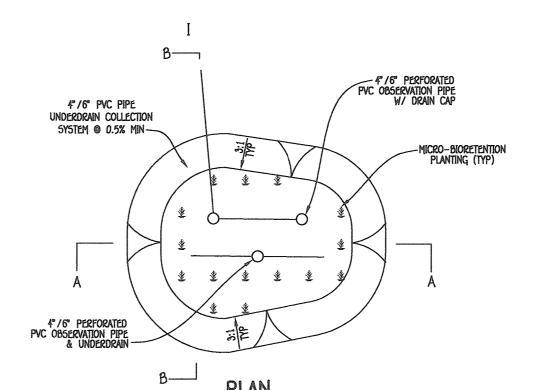


* SEE PLANT MATERIAL CHARTS FOR QUANTITIES AND SPACING AT LEAST 50% OF THE SURFACE AREA OF THE MICRO-BIORETENTIC



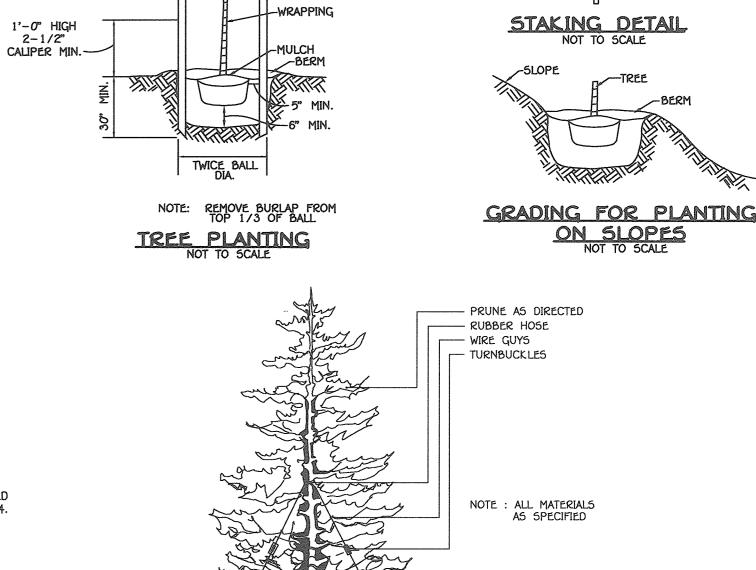
PLANTING DETAIL

NOT TO SCALE



	MICRO-E	SIORENTION	VOLUME	CHART	
LOT NO.	MICRO-BIO NO.	TOTAL DRAIN. AREA	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT
39	'39'	1,691 5Q. FT.	83 C.F.	148 C.F.	100%
40	'40'	0,722 5Q. FT.	131 C.F.	148 C.F.	100%

NOT TO SCALE



-TURNBUCKLE

-RUBBER HOSE

__2 x 4 STAKE

TYPICAL EVERGREEN TREE PLANTING DETAIL

- 2" MULCH

- PLANT SAUCER

REMOVE BURLAP FROM TOP

- 2"X4"X3" WOOD STAKES

- BACKFILL MATERIAL

- 1'-0" ALL SIDES

- PLACE ROOT BALL ON UNEXCAVATED OR TAMPED

NOT TO SCALE

MICRO-BIORETENTION / BIORETENTION											
BIORETENTION FILTER	DIMENSIONS (APPROX.)	MULCH AREA 5Q.FT.	Α	В	С	D	E	F	G	Н	I
LOT 39	0' x 0.6'	70 5Q.FT.	412.4	411.4	411.4	411.15	409.15	408.90	408.57	408.24	406.90
LOT 40	9' x 8.6'	70 SQ.FT.	410.8	410.8	409.8	409.55	407.55	407.30	406.97	406.91	405.30

OPERATION & MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

- A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND
- STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2. B. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT
- DISEASED TREES AND SHRUBS AND REPLACE ALL DEFICIENT STAKES AND WIRES. C. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO
- THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED. D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED GRASS SWALE (M-8)

- A. THE OPEN CHANNEL SYSTEM SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORM.
- INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERTY
- B. THE OPEN CHANNEL SHALL BE MOWED A MINIUM OF AS NEEDED DURING THE GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 6 INCHES.
- C. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS
- D. VISIBLE SIGNS OF EROSION IN THE OPEN CHANNEL SYSTEM SHALL BE REPAIRED AS SOON AS
- E. REMOVE SILT IN THE OPEN CHANNEL SYSTEM WHEN IT EXCEEDS 25% OF THE ORIGINAL WQV. F. INSPECT CHECK DAMS TWICE A YEAR FOR STRUCTURAL INTEGRITY. RESTORE CHECK DAMS TO ORIGINAL CONDITION AS APPLICABLE.

NOT	TO SCALL	•		
OWNER5				#X
TYSON TALL TIMBER INC. 11850 TALL TIMBER DRIVE CLARKSVILLE MD 21029-1213 410-370-9406				
BUILDER				
VIKING CUSTOM HOMES CARY CUMBERLAND 12000 FREDERICK ROAD WEST FRIENDSHIP, MD 21794 410-977-2100				
FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855				
	NO	REVISION	DATE	X

*THE EXACT NUMBER OF DRYWELLS
REQUIRED AND THE LENGTH AND WIDTH WILL BE DETERMINED ONCE DOWNSPOUT

DRAINAGE PATTERNS ARE DETERMINED.

-CAP WITH LOCK

STONE ASTM D-448 SIZE

D-448 SIZE #1

DRY WELL DETAIL (M-5

GROUND WATER

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

GROUND WATER 🗸

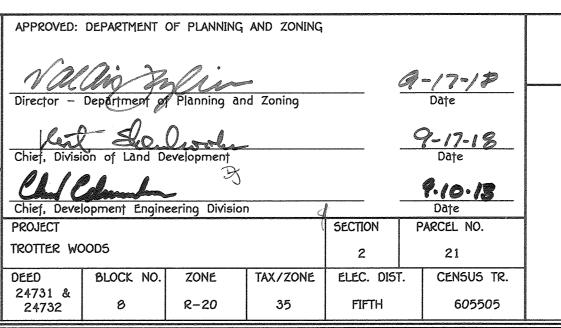
7/30//8 Dafe

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. 38386, EXPIRATION

MODIFIED DRY WELL DETAIL (M-5) NOT TO SCALE

> BUILDER/DEVELOPER'S CERTIFICATE "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, FOR SEDIMENT AND EROSION CONTROL AND THAT ANY 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 AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

ENGINEER'S CERTIFICATE "I/WE CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A 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 CONSERVATION DISTRICT."



NOTES & DETAILS

TROTTER WOODS, SECTION 2,

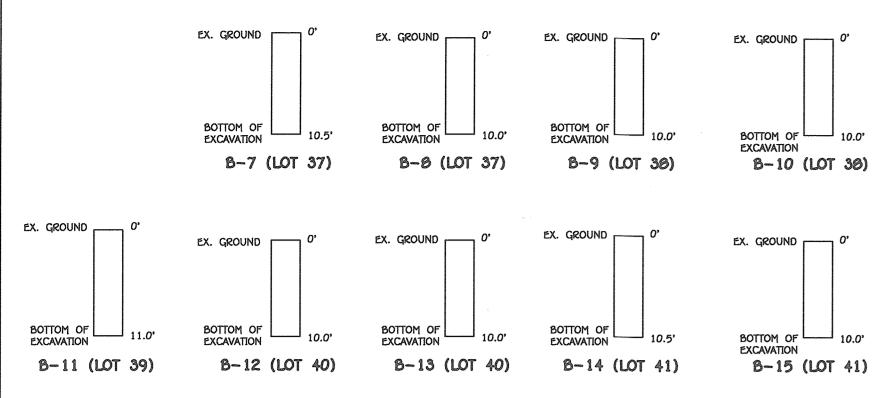
LOTS 36 THRU 41

ZONED R-20 TAX MAP No. 35 GRID No. 8 PARCEL No. 21 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: AUGUST, 2018

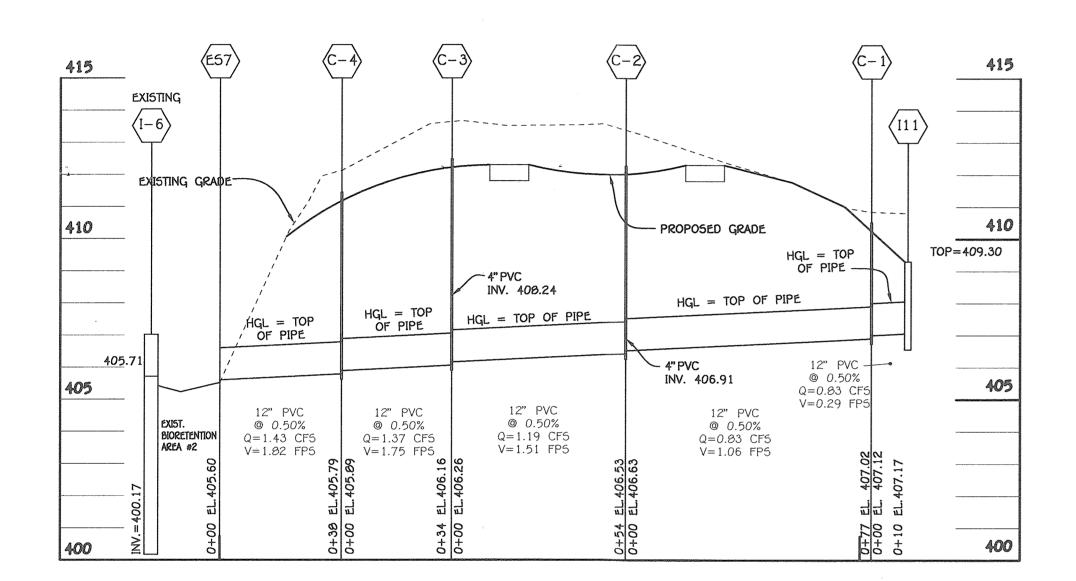
SHEET 4 OF 5

5DP-18-050

TURNBUCKLE



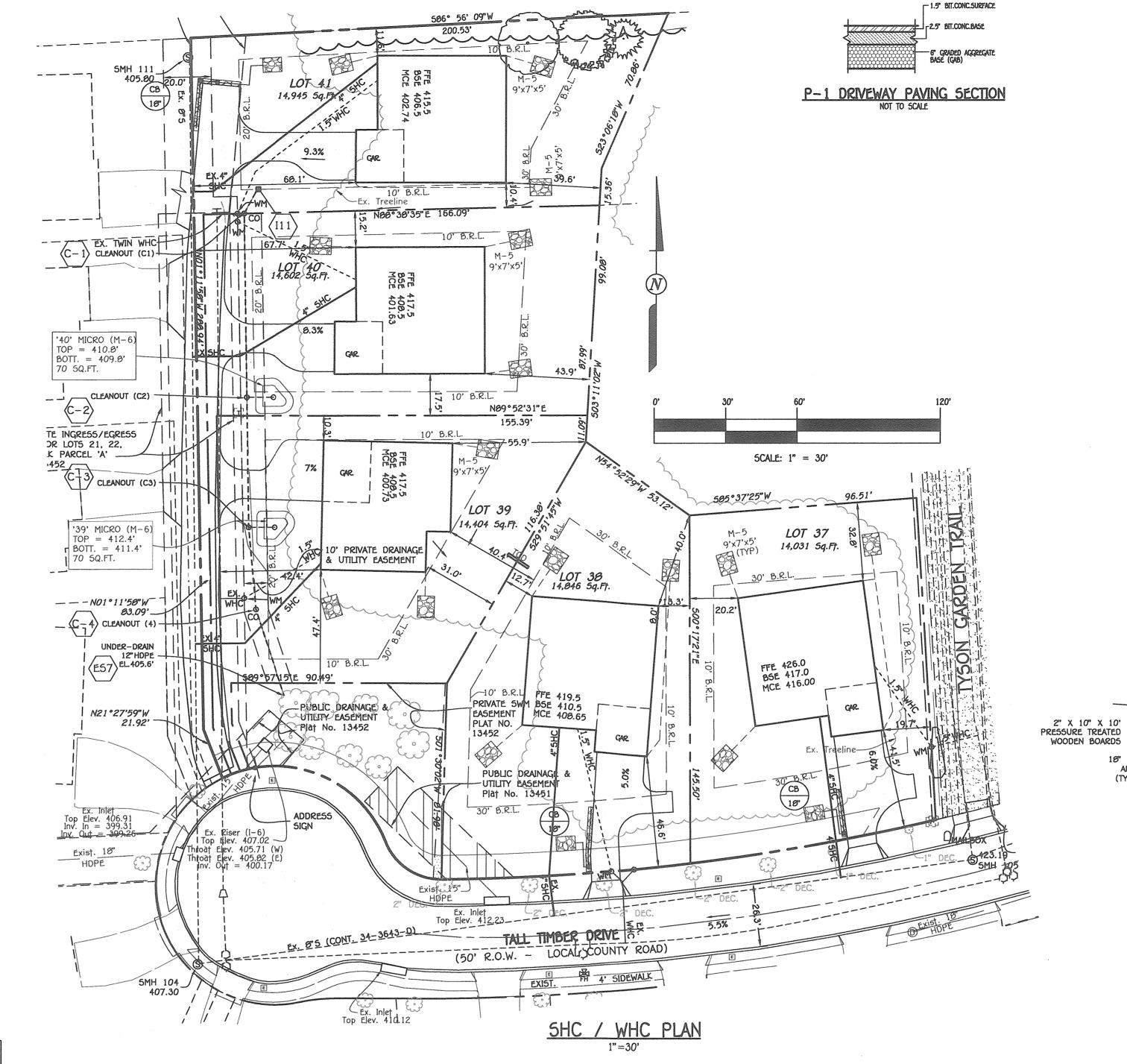
NOTE: NO ROCK OR WATER WAS ENCOUNTERED DURING SOIL EXCAVATIONS IN HOLES 1 THRU 15. PROFILES REFLECT THE DEPTHS OF THE EXCAVATIONS CONDUCTED ON MAY 20, 2015.



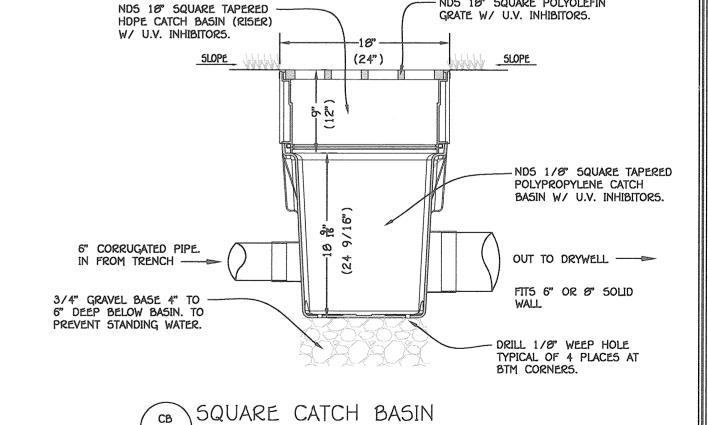
PROFILE STORM DRAIN SCALE HORZ. 1" = 30' VERT. 1" = 3"

STRUCTURE SCHEDULE							
STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	LOCATION	TYPE	REMARK5	
			en en de de la companya de la compa				
I-11	409.30		407.17	N. 561,027.5, E. 1,334,157.5	24" NDS CATCH BASIN*	MODEL 2400	
C-1	410.52	407.12	407.02	N. 561,017.4, E. 1,334,151.6	PVC CLEANOUT	6" PVC	
C-2	412.25	406.91 406.63	406.53	N. 560,940.5, E. 1,334,152.9	PVC CLEANOUT	MICROBIO. 40	
C-3	412.25	400.24 406.26	406.16	N. 560,896.2, E. 1,334,153.8	PVC CLEANOUT	MICROBIO. 39	
C-4	411.40	405.89	405.79	N. 560,051.9, E. 1,334,156.9	PVC CLEANOUT	6" PVC	
£5-7			405.60	N. 560,015.0, E. 1,334,160.9	END SECTION	. G-5.12	
EXIST. I-0	424.82	THROAT 423.55 410.00	417.19	TALL TIMBER DR STA 7+79.4, 31.6' RT	INLET TYPE 'K'	D-4.13	

NOTE: LOCATION OF YARD INLETS AND MANHOLES IS TO CENTER OF STRUCTURE. LOCATION OF END SECTION IS TO JUNCTION WITH PIPE. *MAY SUBSTITUTE EQUIVALENT TYPE STRUCTURE



politici manacana de la companion	SEWE	ER HOUSE	CONNECT	TON CHA	RT
Фиранционня	LOT	ELEVATION AT MAIN	ELEVATION AT ROW	ELEVATION AT HOUSE	MCE
Chinastotesta	37	410.89	411.30 411.20	412.34	416.00
THE PERSON NAMED IN COLUMN NAM	38	403.38	404.21 404.11	405.45	408.65
- Control of the Cont	39	395.60	396.65 396.55	397.61	400.73
Secretalises	40	396.70	397.73 397.63	398.89	401.63
A CONTRACT AND A	41	397.50	398.14 398.04	399.74	402.74



- ND5 18" SQUARE POLYOLEFIN

GRASS SWALE & TIMBER CHECK DAM DETAIL

SECTION "A-A" NOT TO SCALE

STONE

5CH 40

STONE CHANNEL PERTAIN TO LOTS

CONSTRUCTION.

STONE TRENCH

12' (SINGLE USER)

1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD

3. 4-6 INCH PERFORATED PVC PIPE PLACED IN STONE TRENCH

TYPICAL PRIVATE DRIVE CROSS SLOPE SECTION

2. **2' STONE TRENCH ON LOTS 39, 40 AND 41. DRIVEWAY MUST SLOPE TOWARDS

COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR

--- ON-SITE P-1 PAVING SECTION

APPROVED: DEPARTMENT OF PLANNING AND ZONING		WA
Valles Sallin	9-17-18	&
Director - Department of Planning and Zoning	Dațe	A CONTRACTOR OF THE CONTRACTOR
Kent Seenline	9.17-18	Management of the state of the

18" REBAR

(TYPICAL)

ATER, SEWER & STORM DRAINAGE NOTES & DETAILS AND HOUSE LOCATION PLAN

TROTTER WOODS, SECTION 2,

LOTS 36 THRU 41 ZONED R-20

TAX MAP No. 35 GRID No. 8 PARCEL No. 21 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: AUGUST, 2018 SHEET 5 OF 5

	Pent		9.17-18					
	Chief, Divisi	•	Dațe					
	- Charl		9.10.18					
D re	Chief, Deve	• ·		Date				
ıs	PROJECT		SECTION	PARCEL NO.				
	TROTTER WO)OD5	2		21			
	DEED	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST	ī.	CENSUS TR.	
	24731 & 24732	8	R-20	35	FIFTH		605505	

*PAT SOBSTITUTE EQUIVALENT T	IPE SIRU	CIORL		
OWNERS				#X
TYSON TALL TIMBER INC. 11050 TALL TIMBER DRIVE CLARKSVILLE MD 21029-1213 410-370-9406				
BUILDER				
VIKING CUSTOM HOMES CARY CUMBERLAND 12000 FREDERICK ROAD WEST FRIENDSHIP, MD 21794 410-977-2100				
FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055				
	NO.	REVISION	DATE	X

\$/30/18/ Date PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38386, EXPIRATION DATE: 01/12/2020.

This development plan is approved for soil erosion and sediment control by

the HOWARD SOIL CONSERVATION DISTRICT.

ENGINEER'S CERTIFICATE "I/WE CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A 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 CONSERVATION DISTRICT."

BUILDER/DEVELOPER'S CERTIFICATE

THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, FOR SEDIMENT AND EROSION CONTROL AND THAT ANY 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 AND EROSION BEFORE BEGINNING

5DP-18-050