#### **GENERAL NOTES**

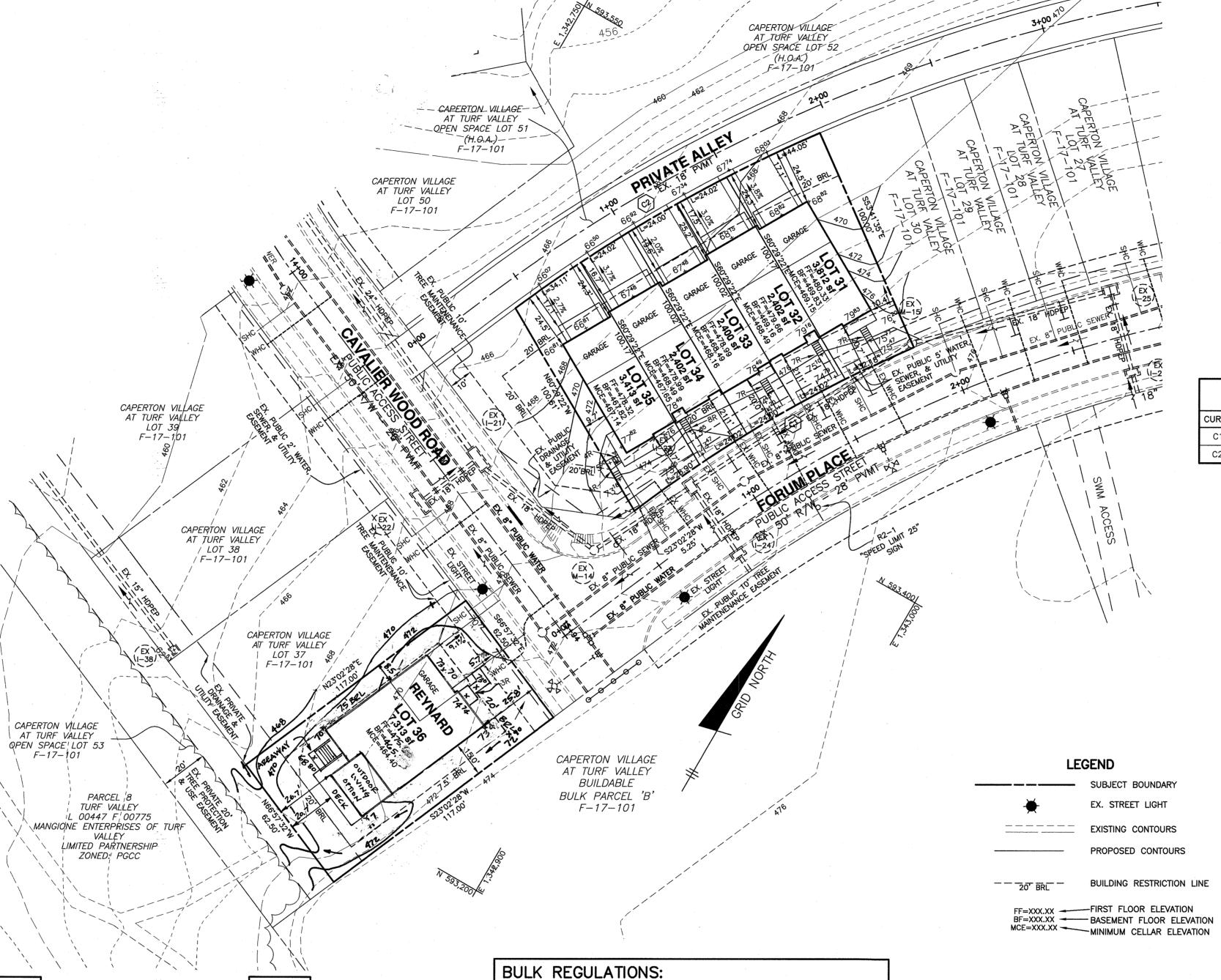
- 1. THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS ALTERNATIVE COMPLIANCES HAVE BEEN APPROVED AND NOTED BELOW.
- 2. THE SUBJECT PROPERTY IS ZONED PGCC PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- 3. THIS PROJECT IS SUBJECT TO THE 3RD AMENDED TURF VALLEY MULTI-USE SUB-DISTRICT FINAL DEVELOPMENT PLAN RECORDED AS PLAT NUMBERS 21029-21031 ON MARCH 26, 2010 AND THE AMENDED FIFTH EDITION OF THE SUBDIVISION
- 4. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NO. 16E1 AND 0012 WERE USED FOR THIS
- 5. TRACT BOUNDARY IS BASED ON A FIELD SURVEY PERFORMED BY JOHN B. MILDENBERG IN MARCH, 2006.
- 6. THE EXISTING TOPOGRAPHY SHOWN IS BASED ON THE F-17-101 ROAD CONSTRUCTION PLANS

GREATER THAT ARE MORE THAN 20,000 SF OF CONTIGUOUS AREA LOCATED ON THIS SITE

- 7. THE EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN TAKEN FROM THE F-17-101 ROAD CONSTRUCTION PLANS AND
- 8. THERE ARE NO WETLANDS, STREAMS, THEIR REQUIRED BUFFERS, 100 YEAR-FLOODPLAINS, OR STEEP SLOPES 25% OR
- 9. THE WETLAND LIMITS FOR TURF VALLEY ARE BASED ON A STUDY CONDUCTED BY EXPLORATION RESEARCH, INC. AND VERIFIED BY ECO-SCIENCE PROFESSIONALS, INC. ON MAY 26, 2016. THE LIMITS SHOWN ARE IN ACCORDANCE WITH THOSE SHOWN ON
- THE 4TH AMENDMENT TO THE TURF VALLEY COMPREHENSIVE SKETCH PLAN (S-86-13, PB 368) APPROVED JULY 28, 2006. 10. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERIES, BURIAL GROUNDS OR HISTORIC STRUCTURES LOCATED ON
- 11. A NOISE STUDY IS NOT REQUIRED FOR THIS DEVELOPMENT AS NONE OF THE PROPOSED LOTS ARE WITHIN 500 FEET OF THE
- 12. THE TRAFFIC STUDY WAS PREPARED BY TRAFFIC GROUP ON JANUARY 7, 2005. A SUPPLEMENTAL LETTER FOR TURF VALLEY CLUBHOUSE, PHASE 1, S-08-001, FOR 128 UNITS WAS PREPARED ON NOVEMBER 1, 2007 AND A SUPPLEMENTAL LETTER FOR THE TURF VALLEY CLUBHOUSE, PHASE 2, S-11-00, FOR 53 UNITS WAS PREPARED ON MAY 27, 2011 VERIFYING COMPLIANCE WITH THE 2005 STUDY. THE TRAFFIC STUDY WAS APPROVED UNDER S-08-001 AND S-11-003. "CAPERTON VILLAGE AT TURF VALLEY" WAS FORMERLY REFERRED TO AS "TURF VALLEY CLUBHOUSE".
- 13. THIS SITE IS WITHIN THE METROPOLITAN DISTRICT.
- 14. WATER & SEWER IS PUBLIC. THE CONTRACT NO. IS 14-4977-D. THE DRAINAGE AREA IS THE LITTLE PATUXENT. THIS SUBDIVISION IS SUBJECT TO SECTION 18.122B OF THE HOWARD COUNTY CODE. PUBLIC WATER AND SEWER SERVICE HAS BEEN GRANTED UNDER THESE TERMS AND PROVISIONS, THEREOF, EFFECTIVE IBD, ON WHICH DATE DEVELOPER AGREEMENT NUMBER F-17-057/14-4977-D WAS FILED AND ACCEPTED.
- 15. THIS PROJECT IS EXEMPT FROM THE HOWARD COUNTY FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202(b)(1)(iv) OF THE HOWARD COUNTY CODE SINCE IT IS A PLANNED UNIT DEVELOPMENT WHICH HAD PRELIMINARY DEVELOPMENT PLAN APPROVAL AND 50% OR MORE OF THE LAND AS RECORDED AND SUBSTANTIALLY DEVELOPED BEFORE DECEMBER 131, 1992.
- 16. LANDSCAPING IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL VIA A CERTIFIED LANDSCAPE PLAN AS PART OF THIS PLAN SET. FINANCIAL SURETY IN THE AMOUNT OF \$2,850.00 (7 SHADE TREES AT \$300 PER TREE AND 5 EVERGREEN TREES AT \$150 PER TREE) FOR THE REQUIRED PERIMETER AND INTERNAL RESIDENTIAL LANDSCAPE OBLIGATIONS SHALL BE POSTED AS PART OF THE GRADING PERMIT.
- 17. STORMWATER MANAGEMENT FOR THESE LOTS WAS PROVIDED UNDER F-17-101.
- 18. THIS PROJECT IS EXEMPT FROM THE MODERATE INCOME HOUSING UNIT REQUIREMENT (COUNCIL BILL 35-2013) SINCE IT IS
- 19. 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.
- 20. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK
- 21. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
- B) SURFACE 6" OF CRUSHER RUN BASE WITH TAR AND CHIP COATING (1.5" MIN) C) GEOMETRY - MAX 15% GRADE, MAX 10% GRADE CHANGE & MIN. 45' TURNING RADIUS.
- ) STRUCTURES (CULVERTS/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOAD) E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER
- F) STRUCTURE CLEARANCES MINIMUM 12 FEET G) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE
- 22. APPLICABLE PREVIOUS HOWARD COUNTY FILE REFERENCES:
- S-86-013, S-08-001, S-11-003, SDP-13-038, F-14-096, SP-16-010, F-17-101, CONTRACT #14-4977-D
- 23. PUBLIC TRASH PICKUP FOR LOTS 31-35 SHALL BE PROVIDED WITHIN THE PRIVATE ALLEY THROUGH AN ARRANGEMENT WITH THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENVIRONMENTAL SERVICES. PICKUP WILL OCCUR ONCE ALL CONSTRUCTION HAS BEEN COMPLETED. A DAMAGE WAIVER HAS BEEN ATTACHED TO THE HOA AGREEMENT FOR THE PUBLIC TRASH SERVICE.
- 24. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, WINDOW WELLS, ORIELS, VESTIBULES, BALCONIES AND CHIMNEYS MAY ENCROACH 4 FEET INTO ANY SETBACK OR REQUIRED DISTANCE BETWEEN BUILDINGS PROVIDED THE FEATURE HAS A MAXIMUM WIDTH OF 16 FEET. EXTERIOR STAIRWAYS OR RAMPS, ABOVE OR BELOW GROUND LEVEL (EXCLUDING THOSE ATTACHED TO A PORCH OR DECK) MAY ENCROACH 10 FEET INTO A FRONT SETBACK OR A SETBACK FROM A PROJECT BOUNDARY, 16 FEET INTO A REAR SETBACK, 4 FEET INTO A SIDE SETBACK OR REQUIRED DISTANCE BETWEEN BUILDINGS. OPEN OR ENCLOSED PORCHES OR DECKS AND THE STAIRWAYS OR RAMPS ATTACHED THERETO MAY ENCROACH 10 FEET INTO A FRONT OR REAR SETBACK, SETBACK FROM A PROJECT BOUNDARY OR A
- 25. REFER TO HO. CO. STD. DETAIL R-6.03 FOR DRIVEWAY APRONS FOR SINGLE FAMILY DETACHED LOTS.
- 26. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- 27. SEWER HOUSE CONNECTION (SHC) INVERTS SHOWN ARE LOCATED AT THE PROPERTY (OR EASEMENT) LINE,

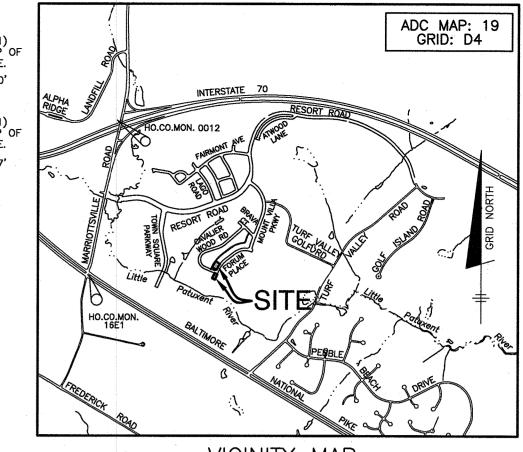
# RESIDENTIAL SITE DEVELOPMENT PLAN CAPERTON VILLAGE AT TURF VALLEY

LOTS 31 thru 36



**BENCHMARKS** NAD'83 HORIZONTAL HO. CO. #16E1 (AKA: 3438001) A 3ft DEEP COLUMN OF CONCRETE. N 593250.960' E 1340192.70'

> HO. CO. #0012 (AKA: 3439001) STAMPED BRASS DISK SET ON TOP O A 3ft DEEP COLUMN OF CONCRETE. N 596502.760' E 1340864.37' **ELEVATION: 486.298'**



SHEET INDEX							
SHEET	TITLE						
1	SITE DEVELOPMENT AND GRADING PLAN						
2	SEDIMENT AND EROSION CONTROL PLAN AND LANDSCAPE PLAN						
3	SEDIMENT & EROSION CONTROL NOTES AND DETAILS						

	ADDRESS CHART
LOT	STREET ADDRESS
31	3070 FORUM PLACE
32	3072 FORUM PLACE
33	3074 FORUM PLACE
34	3076 FORUM PLACE
35	3078 FORUM PLACE
36	3103 CAVALIER WOOD ROAD

CURVE TABLE								
CURVE	RADIUS	ARC LENGTH	DELTA	TANGENT	CHORD DIRECTION	CHORD LENGTH		
C1	575.00'	133.13'	13'15'57"	66.87	S29*40'27"W	132.84'		
C2	675.00'	150.20'	12°44'57"	75.41'	S29'55'57"W	149.89'		

### SITE ANALYSIS DATA CHART

A.) TOTAL PROJECT AREA	0.50 acres
B.) AREA OF PLAN SUBMISSION	0.50 acres
C.) LIMIT OF DISTURBED AREA	0.62 acres
D.) PRESENT ZONING:	PGCC (MULTI-USE SUBDISTRICT)
E.) PROPOSED USE OF SITE:	RESIDENTIAL SINGLE FAMILY ATTACHED
F.) TOTAL NUMBER OF UNITS ALLOWED AS SHOWN ON FINAL PLAT(S)	
G.) TOTAL NUMBER OF UNITS PROPOSE	ED6
H.) NUMBER OF PARKING SPACES REQ HO. CO. ZONING REGS AND/OR FE	UIRED BY OP CRITERIA 15 (6 LOTS x 2.5)
I.) NUMBER OF PARKING SPACES PROV (INCLUDES HANDICAPPED SPACES)	IDED ONSITE  18 (1 PER GARAGE AND 2 PER D/W)
J.) OPEN SPACE ON-SITE	N/A (PROVIDED UNDER F-17-101)
K.) AREA OF RECREATIONAL OPEN SPA AREA OF RECREATIONAL OPEN SPA	

L.) APPLICABLE DPZ FILE REFERENCES: \_\_\_\_\_\_ SEE GENERAL NOTE 22

10.1.2019 REVISE GRADES ON LOT 36 PER ASBUILT CONDITIONS 4.5.2019 REVISE HOUSE FOOTPRINT FOR LOT 36 DATE **BENCHMARK** 

 ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS ENGINEERING, INC.

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. 22390, Expiration Date: 6-30-2019

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

RESIDENTIAL - SINGLE FAMILY ATTACHED & DETACHED CAPERTON VILLAGE AT TURF VALLEY

MANGIONE ENTERPRISES OF TURF VALLEY, LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

BUILDER: TOLL BROTHERS, INC. 7164 COLUMBIA GATEWAY DRIVE, SUITE 230

LOTS 31 trhu 36 TAX MAP: 16 - GRID: 19 - PARCEL: P/O 8

AS SHOWN

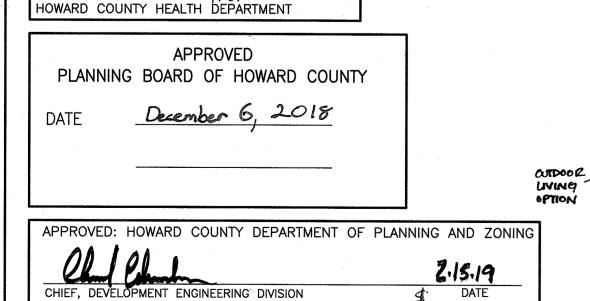
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND **ZONED: PGCC** 

SITE DEVELOPMENT AND GRADING PLAN DATE: DECEMBER 18, 2018 | BEI PROJECT NO. 2912

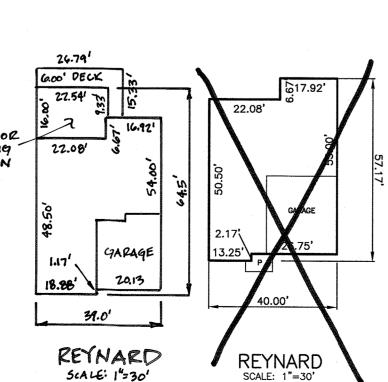
COLUMBIA, MARYLAND 21046 410-381-2363 SCALE:

SDP-19-012

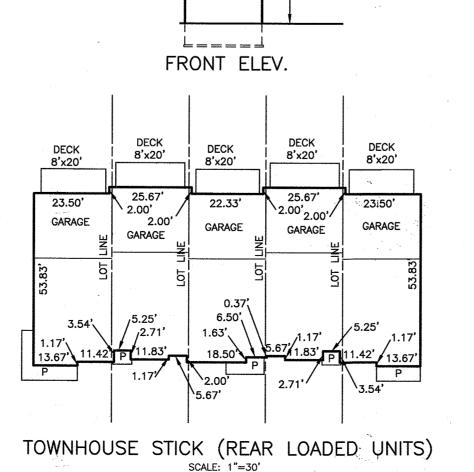
or 3



3.5.19



FRONT ELEV.



MAXIMUM DENSITY FOR TOTAL PGCC DISTRICT IS 2.0 DWELLING UNITS PER ACRE. MAXIMUM UNITS PER STRUCTURE: SINGLE GAMILY ATTACHED: 8 UNITS MAXIMUM BUILDING LENGTH FOR RESIDENTIAL STRUCTURE: 120 FEET (PLANNING BOARD MAY APPROVE GREATER LENGTH UP TO 300 FEET) MINIMUM LOT SIZE REQUIREMENTS: SINGLE FAMILY DETACHED: 6,000 SF MINIMUM LOT WIDTH AT BUILDING RESTRICTION LINE: SINGLE FAMILY DETACHED: 50 FT MINIMUM SETBACK REQUIREMENTS: FROM ARTERIAL ROADS: RESIDENTIAL STRUCTURES\_\_\_\_\_50 FEE FROM COLLECTORS AND LOCAL STREETS: 30 FEET FROM A 60 FT. ROW 20 FEET FROM A 50 FT. ROW RESIDENTIAL STRUCTURES \_ ACCESSORY USES FROM NON-PGGC ADJACENT PROPERTIES: FROM RESIDENTIAL DISTRICTS\_\_\_\_ 75 FEET FROM ALL OTHER DISTRICTS\_\_\_\_ 30 FEET FROM LOT LINES WITHIN PGCC MULTI-USE SUBDISTRICT SINGLE FAMILY DETACHED - SIDE \_\_\_\_\_ ZERO LOT LINE AND ALL OTHER USES - SIDE \_\_\_\_\_ O FEET A MINIMUM OF 10 FEET MUST BE PROVIDED BETWEEN STRUCTURES RESIDENTIAL — REAR \_\_\_\_\_\_\_\_20 FEET MINIMUM DISTANCE BETWEEN ATTACHED DWELLING UNITS FACE TO SIDE/REAR\_

\_\_\_15 FEET

\_\_60 FFFT

(per 3RD AMENDMENT TO THE TURF VALLEY, MULTI-USE SUBDISTRICT FDP)

ACCESSORY STRUCTURES: 15 FEET

(SEE FDP FOR EXCEPTIONS)

PROPOSED USE: SINGLE FAMILY ATTACHED AND DETACHED

PERMITTED HEIGHT: PRINCIPAL STRUCTURE: 34 FEET

SIDE TO SIDE \_\_

REAR TO REAR \_

REAR TO FACE \_

PERMITTED USES: ALL USES AS PER TURF VALLEY PGCC DISTRICT, MULTI-USE SUBDISTRICT FINAL DEVELOPMENT PLAN, THIRD AMENDMENT, PLATS 21029-21031. (46 USES OUTLINED FROM RESIDENTIAL USES TO SPECIALTY STORES)

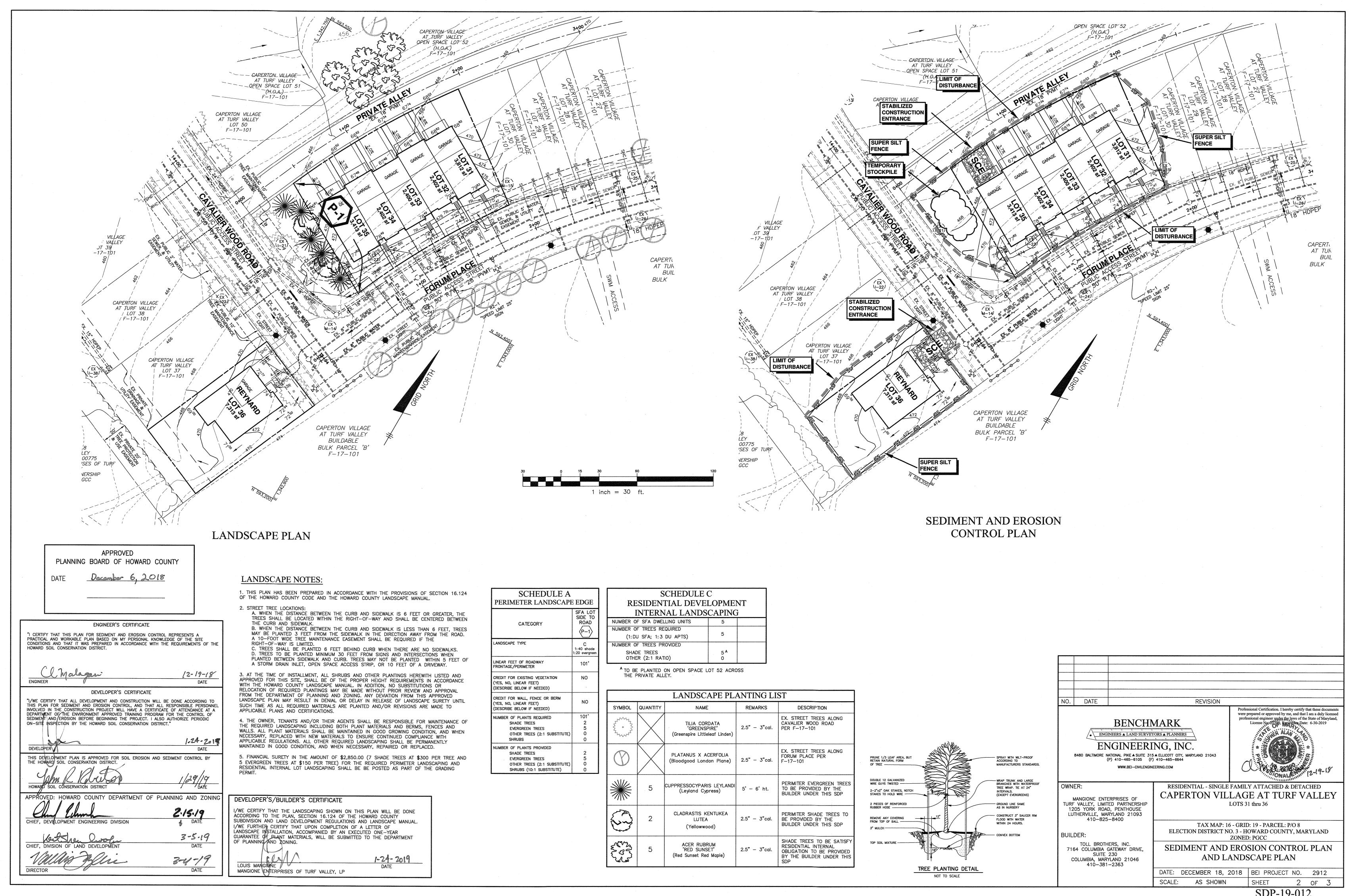
PERMIT INFORMATION CHART SUBDIVISION NAME: LOT/PARCEL # SECTION/AREA: CAPERTON VILLAGE AT PHASE LOTS 31-36 TURF VALLEY CENSUS TRACT GRID No. TAX MAP NO PGCC 24763-69 19 16 6030.00

1 inch = 30 ft.

APPROVED: FOR PUBLIC WATER

COUNTY HEALTH OFFICER H.O., DAT

AND PUBLIC SEWERAGE SYSTEMS



#### **B-4 STANDARDS AND SPECIFICATIONS** VEGETATIVE STABILIZATION

Using vegetation as cover to protect exposed soil from erosion

and permanent stabilization

To promote the establishment of vegetation on exposed soil. Conditions Where Practice Applies On all disturbed areas not stabilized by other methods. This specification is divided into sections on stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization

Effects on Water Quality and Quantity Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall.

reducing sediment loads and runoff to downstream areas. Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation 2.

increase organic matter content and improve the water holding capacity of the soil and subsequent plant Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances within the root zone.

Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment. Adequate Vegetative Establishment

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

1. Adequate vegetative stabilization requires 95 percent groundcover. 2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding,

4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

#### **B-4-1 STANDARDS AND SPECIFICATIONS** INCREMENTAL STABILIZATION

3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates

Establishment of vegetative cover on cut and fill slopes.

To provide timely vegetative cover on cut and fill slopes as work progresses. Conditions Where Practice Applies Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

A. Incremental Stabilization - Cut Slopes

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

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

c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously

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

B. Incremental Stabilization - Fill Slopes 1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed

Figure B.

and apply seed and mulch on all slopes as the work progresses 2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.

3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner. 4. Construction sequence example (Refer to Figure B.2): a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around

the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this area. b. At the end of each day, install temporary water conveyance practice(s), as necessary, to

intercept surface runoff and convey it down the slope in a non-erosive manner. c. Place Phase 1 fill, prepare seedbed, and stabilize.

d. Place Phase 2 fill, prepare seedbed, and stabilize e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any ne operation or completing the operation out of the seeding season will necessitate th application of temporary stabilization.

> APPROVED PLANNING BOARD OF HOWARD COUNTY

**ENGINEER'S CERTIFICATE** CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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. 12-19-18 ENGINEER DATE 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 ALL RESPONSIBLE PERSONNE 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." 1-29-2019 DATE THIS DEXELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION DIVISION OF LAND DEVELOPMENT

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

The process of preparing the soils to sustain adequate vegetative stabilization. To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies Where vegetative stabilization is to be established.

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.

suitable means. Permanent Stabilization a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil

i. Soil pH between 6.0 and 7.0. ii. Soluble salts less than 500 parts per million (ppm). An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.

v. Soil contains sufficient pore space to permit adequate root penetration. Application of amendments or topsoil is required if on-site soils do not meet the above

c. Graded areas must be maintained in a true and even grade as specified on the

of a soil test. e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas 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

unnecessary on newly disturbed areas. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The

Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by

USDA-NRCS. Topsoiling is limited to areas having 2:1 or flatter slopes where:

 The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth. plants or furnish continuing supplies of moisture and plant nutrients.

The soil is so acidic that treatment with limestone is not feasible. Areas having slopes steeper than 2:1 require special consideration and design. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:

a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter.

Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil. Topsoil Application 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.

when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation. Soil Amendments (Fertilizer and Lime Specifications) Soil tests must be performed to determine the exact ratios and application rates for both lime

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 producer. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.

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

Permanent Seeding Summary

1/4 - 1/2 in

1/4 - 1/2 in

1/4 - 1/2 in

Table B.1: Temporary Seeding for Site Stabilization

Seeding rates for the warm season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity.

for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent

seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur very late fall beyond the seeding dates for other temporary seedings.

Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed about

The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone

Mar 1 to May 15

Aug 1 to Oct 15

Mar 1 to May 15

Seeding Rate 1/ Seeding

40 1.0 0.5

96 2.2 1.0

72 1.7 1.0

120 2.8 1.0

112 2.8 1.0

30 0.7 0.5

— Depth 2/ -

lb/ac |lb/1000 ft2 | (inches) | 5b and 6a

Hardiness Zone (from Figure R.3):

Rate (lb/ac.)

60

40

Seed Misture (from Table B.3):

Fescue, Tall

Bluegrass, Kentucky

nual Ryegrass (Lolium perenne

Multiflorum

arley (Hordeum vulgan

heat (Triticum aestivu

Cereal Rye (Secale cereale)

oxtail Millet (Serataria italica)

earl Millet (Pennisetum glaucun

Oats are the recommended nurse crop for warm-season grasser

arm-Season Grasse

ats (Avena sativa)

#### **B-4-3 STANDARDS AND SPECIFICATIONS** SEEDING AND MULCHING

Definition 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 To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

1. Specifications

a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate. b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is

frozen. The appropriate seeding mixture must be applied when the ground thaws. c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 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.

Application a. Dry Seeding: This includes use of conventional drop or broadcast spreaders. i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries. ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good

seed to soil contact. b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil. i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after

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 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; P2O5 (phosphorous), 200 pounds per acre; K2O (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

iii. Mix seed and fertilizer on site and seed immediately and without interruption iv. When hydroseeding do not incorporate seed into the soil.

B. Mulching 1. Mulch Materials (in order of preference) a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty 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

> i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.

iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting

iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic. pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and

2. Application

7ATATATATA

CONSTRUCTION SPECIFICATIONS

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

(10-20-20)

90 lb/ac

Recommended Seeding Dates by Plant Hardiness Zone 3/

Mar 1 to May 15; Aug 1 to Oct :

Mar 1 to May 15; Aug 1 to Oct 31

Mar 1 to May 15; Aug 1 to Oct 31

Mar 1 to May 15; Aug 1 to Oct 3

May 16 to Jul 31

Mar 1 to May 15; Aug 1 to Nov 15

per acre

90 lb/ac

2 lb/

P2O5

 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

water holding capacity of 90 percent minimum.

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

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

If used on sloping land, this practice should follow the contour. ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight 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 water. iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II,

Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited. iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to

STABILIZED CONSTRUCTION

PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES

MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE, USE MINIMUM LENGTH OF 50 FEET (\*30 FEE

FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.

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

SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS N

PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE

(WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.

BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE A

-PRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS

PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.

MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, ADD STONE OR MAK OVOTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND

ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS

SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHIN

DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

**ENTRANCE** 

**B-4-5 STANDARDS AND SPECIFICATIONS** 

PERMANENT STABILIZATION

To stabilize disturbed soils with permanent vegetation. Purpose To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils. Conditions Where Practice Applies

Exposed soils where ground cover is needed for 6 months or more

in the Permanent Seeding Summary.

A. Seed Mixtures 1. General Use

a Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan. b Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or

for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guild, Section 342 - Critical Area Planting. c For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil

testing agency. d For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown

2. Turfgrass Mixtures a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance. b. Select one or more of the species or mixtures listed below based on the site conditions or purpose.

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 total mixture by weight.

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended. iv.Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent, Seeding Rate: 1 ½ to 3 pounds per 1000 square feet.

Notes: 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 (Hardiness Zones: 7a. 7h)

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 ½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose 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 not especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites

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

a. Class of turfgrass must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector. b. Sod must be machine cut at a uniform soil thickness of 3/4 inch, plus or minus 1/4 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. c. 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. d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.

e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation. 2. Sod Installation a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the

subsoil immediately prior to laying the sod 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. c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints.

Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface. 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. Sod Maintenance

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 b. After the first week, sod watering is required as necessary to maintain adequate moisture content.

c. Do not mow until the sod is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless

## **B-4-4 STANDARDS AND SPECIFICATIONS**

TEMPORARY STABLIZATION

To stabilize disturbed soils with vegetation for up to 6 months.

To use fast growing vegetation that provides cover on disturbed soils. Conditions Where Practice Applies Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

. 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 For sites having soil tests performed, use and show the recommended rates by the testing agency.

Soil tests are not required for Temporary Seeding. . When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

#### **B-4-8 STANDARDS AND SPECIFICATIONS** STOCKPILE AREA

Definition 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 changes to drainage patterns.

Conditions Where Practice Applie

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

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan. 2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material

and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading. Runoff from the stockpile area must drain to a suitable sediment control practice.

Access the stockpile area from the upgrade side. 5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as

an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner. 6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment

control practice must be used to intercept the discharge. 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization. 8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile

to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting. Maintenance

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

#### H-5 STANDARDS AND SPECIFICATIONS

DUST CONTROL

Controlling the suspension of dust particles from construction activities To prevent blowing and movement of dust from exposed soil surfaces to reduce on and off-site damage including

Conditions Where Practice Applies Areas subject to dust blowing and movement where on and off-site damage is likely without treatment **Specifications** 

health and traffic hazards.

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

Tillage: Till to roughen surface and bring clods to the surface. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment that may produce the desired effect. Irrigation: Sprinkle site with water until the surface is moist. Repeat as needed. The site must

not be irrigated to the point that runoff occurs.

Barriers: Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing. Chemical Treatment: Use of chemical treatment requires approval by the appropriate plan

#### HOWARD SOIL CONSERVATION DISTRICT (HSCD) ANDARD SEDIMENT CONTROL NOTÉS

1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-3133-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hours notice to CID must be given at the following stages:

a. 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, c. Prior to the start of another phase of construction or opening of another grading

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the <u>2011 MARYLAND STANDARDS AND</u> SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.

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

3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.

4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 feet must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).

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

6. Site Analysis: Total Area of Site:

0.50 Acres \*CUT/FILL NUMBERS 0.62 Area Disturbed ARE FOR SEDIMENT 0.25 CONTROL PURPOSES Area to be roofed or paved: ONLY, CONTRACTOR 0.37 TO VERIFY. Area to be vegetatively stabilized: Acres

1,212 \*

\_ Cu Yds

1,212 \* Total fill \_ Cu Yds SITE WITH AN ACTIVE GRADING PERMIT Off-site waste/borrow area location:

7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance. 8. Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each

rain event. A written report by the contractor, made available upon request, is part of every

Inspection date

inspection and should include:

Total cut:

 Inspection type (routine, pre-storm event, during rain event) Name and title of inspector • Weather information (current conditions as well as time and an=mount of last recorded

• Brief description of project's status (e.g. percent complete) and/or current activities • Evidence of sediment discharges Identification of plan deficiencies • Identification of sediment controls that require maintenance

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

• Maintenance and/or corrective action performed • Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).

and shall be back filled and stabilized by the end of each work day, whichever is shorter. 10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CID per the list of HSCD-approved field changes.

9. Trenches for the construction of utilities is limited to three pipe lengths or that which can

11. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. 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 CID. Unless otherwise specified and approved by the HSCD, no more than 20 acres cumulatively may be disturbed at a given time.

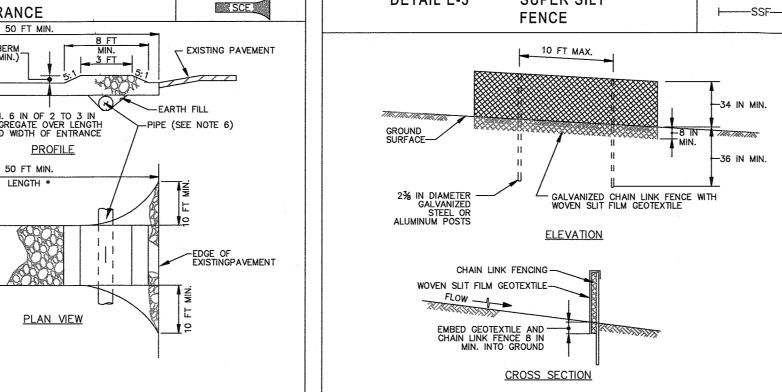
12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.

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 a

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

• Use I and IP March 1 - June 15 • Use III and IIIP October 1 - April 30 • Use IV March 1 - May 31

16. A copy of this plan, the <u>2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL</u>, and associated permits shall be on—site and available when

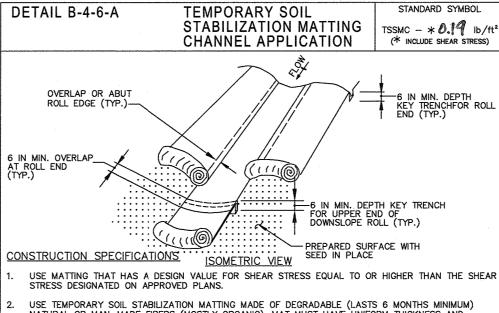


CONSTRUCTION SPECIFICATIONS INSTALL 23/4 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SI

FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE

EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS

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



NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED 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 ONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8
RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH

2 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM 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.

ECONDARY LEG. AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH—SAWN HARDWOOD

UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING. KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.

OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE

STABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMEN U.S. DEPARTMENT OF AGRICULTURE

DATE REVISION Professional Certification. I hereby certify that these document were prepared or approved by me, and that I am a duly license professional engineer under the laws of the State of Maryland License No. 22390, Expiration Date: 6-30-2019

**BENCHMARK** ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE A SUITE 315 A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM

OWNER:

BUILDER:

MANGIONE ENTERPRISES OF

TURF VALLEY, LIMITED PARTNERSHIP

1205 YORK ROAD, PENTHOUSE

LUTHERVILLE, MARYLAND 21093

410-825-8400

TOLL BROTHERS, INC.

7164 COLUMBIA GATEWAY DRIVE,

COLUMBIA, MARYLAND 21046

410-381-2363

SUITE 230

RESIDENTIAL - SINGLE FAMILY ATTACHED & DETACHED CAPERTON VILLAGE AT TURF VALLEY

TAX MAP: 16 - GRID: 19 - PARCEL: P/O 8 ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND **ZONED: PGCC** 

LOTS 31 thru 36

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS DATE: DECEMBER 18, 2018 | BEI PROJECT NO. 2912

AS SHOWN

SHEET 3 of 3 SDP-19-012

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<u>Criteria</u> Soil Preparation

Apply fertilizer and lime as prescribed on the plans. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other

conditions required for permanent vegetative establishment are: 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.

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

approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches. Apply soil amendments as specified on the approved plan or as indicated by the results

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 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

b. The soil material is so shallow that the rooting zone is not deep enough to support The original soil to be vegetated contains material toxic to plant growth.

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.

Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition.

and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for

Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of

processed into a uniform fibrous physical state.

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

the growth of the grass seedlings. v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter

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.

STANDARD SYMBOL DETAIL E-3 SUPER SILT -----SSF-------FENCE

FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.

UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.

PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.