

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS Definition - The process of preparing the soils to sustain adequate vegetative stabilization.

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

Purpose - To provide a suitable soil medium for vegetative growth.

Criteria
A. Soil Preparation

- Temporary Stabilization

 a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted 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 . 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 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. iv. Soil contains 1.5 percent minimum organic matter by weight.
 v. Soil contains sufficient pore space to permit adequate root penetration.
 b. Application of amendments or topsoil is required if on-site soils do not meet the
- 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. 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 permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.
- B. Topsoiling
 1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation.

 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 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.
 - 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. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients. The original soil to be vegetated contains material toxic to plant growth. 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.

 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 ieu of natural topsi
 - 6. Topsoil Application a. Erosion and sediment control practices must be maintained when applying topsoil b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation "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) Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.

 2. 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 I. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means. . Where the subsoil is either highly acidic or composed of heavy clays, spread ground imestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prices

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING Definition - The application of seed and mulch to establish vegetative cover Purpose - To protect disturbed soils from erosion during and at the end of construction Conditions Where Practice Applies - To the surface of all perimeter controls, slopes, and any

Criteria A. Seeding
1. Specifications

to the <u>placement of topsoil.</u>

disturbed area not under active grading.

a. All seed must meet the requirements of the Maryland State Seed Law. All seed 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 effective.
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. 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 Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.

. 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; P205 (phosphorous), 200 pounds per acre; K20 (potassium), 200 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 Mix seed and fertilizer on site and seed immediately and without

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 processed into a uniform fibrous physical state.

i. WCFM is to be dyed green or contain a green dye in the package that will

provide an appropriate color to facilitate visual inspection of the uniformly

spread slurry.

ii. WCFM, including dye, must contain no germination or growth inhibiting factors. '
iii. WCFM materials are to be manufactured and processed in such a manner in water that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
iv. WCFM material must not contain elements or compounds at concentration

levels that will be phyto-toxic.
v. MCFM 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

2. Application 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 at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a naximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

3. Anchoring
a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed loss by wind or water) the size of the area and erosion hazard: 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 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 iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited. iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

Definition - To stabilize disturbed soils with vegetation for up to 6 months Purpose - To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies – Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

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 2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.

3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

Definition - To stabilize disturbed soils with permanent vegetation.

Purpose - To use long-lived perennial grasses and legumes to establish permanent ground cover Conditions Where Practice Applies - Exposed soils where ground cover is needed for 6 months or

A. Seed Mixtures

a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed 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 ½ pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary. 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

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 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: 1½ to 3 pounds per 1000 square feet.

Notes: Select turfgrass varieties from those listed in the most current Univ. of Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland" Choose certified material. Certified material is the best guarantee of cultivar

c. Ideal Times of Seeding for Turf Grass Mixtures
Western MD: March 15 to June 1, August 1 to October

(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% 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 (½ 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.

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

General Specifications

a. Class of turfgrass 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 of ¾ inch, plus or minus ¼ 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. 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. Soc not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.

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

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. 3. 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 prevent wilting. b. After the first week, sod watering is required as necessary to maintain adequate

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.

PERMANENT SEEDING NOTES

Scope: Planting permanent, long lived vegetative cover on graded and/or cleared areas and areas that have been in temporary vegetation for more than 6 months.

Standards: The following notes shall conform to Section B-4 of the "2011 MARYLAND" STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" published jointly by the Maryland Department of Environment - Water Management Administration, the National Resource Conservation Service and the Maryland Association of Soil Conservation Districts.

The seed bed shall be prepared by loosening the soil to a depth of 3 to 5 inches and incorporating the lime and fertilizer into this loosened layer of soil. See section B-4-2.

For sites over 5 ac. soil tests will be performed. Soil tests will be conducted by the University of Maryland or a recognized commercial laboratory. Minimum soil conditions shall meet the requirements of section B-4-2-A-2-a, otherwise soil amendments or topsoil will need to be applied. Topsoiling may occur when soil conditions meet the minimum requirements as stated in section B-4-2-B. Soil amendments must meet the requirements as set forth in section B-4-2-C and must be applied as indicated by the soils tests.

For sites of 5 ac. or less of disturbance, the following fertilizer and lime rates shall apply. Fertilizer shall consist of a mixture of 10-20-20 and be applied at the following rates: N = 45 lb. per acre (1 lb. per 1000 sq.ft.) P205 = 90 lb. per acre (2 lb. per 1000 sq.ft.) K20 = 90 lb. per acre (2 lb. per 1000 sq.ft.) Lime shall be applied at a rate of 2 tons per acre (90 lb. per 1000 sq.ft.)

Seed type, turfgrass or sod application shall meet the requirements in section B-4-5. Seed tags shall be made available to the inspector to verify the type and application rate of seed used. Mulch type and its application will meet the requirements in section B-4-3 a, b and c, and will be applied along with seed or immediately after seeding

Seeding mixtures shall be selected from or will be equal to those on Table B-3.

Permanent Seeding Summary

2 Millet 30 5/1-8/14 1/4 - 1/2 in. (1.0 1b/1000 1b/1000 (90 LB/10 SF)		HARDINESS ZONE (from Figure B.3): FERTILIZER RATE Seed Mixture (from Table B.1): (10-20-20)							LIME RATE	
Ryegrass 40 8/15-11/30 1/4 - 1/2 in. 45 pounds 90 lb/ac 90 lb/ac 2 TONS/ Poxtail 30 5/1-8/14 1/4 - 1/2 in. (1.0 1b/1000 1b/1000 1b/1000 S.f.) S.f. S	NO.	NO. SPECIES APPLICATION SEEDING SEEDING DEPTHS				N	P20s	K20		
2 Millet 30 5/1-8/14 1/4 - 1/2 in. (1.0 1b/1000 1b/1000 (90 LB/10 SF)	1	L _ '	40		1/4 - 1/2 in.					
s.f.)	2	1 '	30	5/1-8/14	1/4 - 1/2 in.	(1.0	16/1000	16/1000	(90 LB/1000	

TEMPORARY SEEDING NOTES

Scope: Planting short term (no more than 6 Months) vegetation to temporarily stabilize any areas where soil disturbance has occurred, until the area can be permanently stabilized with vegetative or non-vegetative practices

standards: The following notes shall conform to Section B-4 of the©2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" published jointly by the Maryland Department of Environment - Water Management Administration, the National Resource Conservation Service and the Maryland Association of Soil Conservation Districts

The seed bed shall be prepared by loosening the soil to a depth of 3 to 5 inches and ncorporating the lime and fertilizer into this loosened layer of soil. See section B-4-2

For temporary stabilization, fertilizer shall consist of a mixture of 10-20-20 and be applied at a rate of 436 lb. per acre (10 lb. per 1000 sq. ft.) and will meet the requirements in section B-4-2. Lime shall be applied at a rate of 2 tons per acre (90 lb. per sq. ft.) and shall meet the requirements in section B-4-2 and B-4-4

Seed type and application shall meet the requirements in section B-4-3 Seed tags shall be made available to the inspector to verify the type and rate of seed used. Mulch type and its application will meet the requirements in section B-4-3 a, b and c and will be applied along with the seed or immediately after seeding

Seeding mixtures shall be selected from or will be equal to those on Table B.1 (page B.20).

HARDINESS ZONE (from Figure B.3): Seed Mixture (from Table B.1):					FERTILIZER RATE	LIME RATE	
10.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	(10-20-20)		
	Tall Fescue 85%	125	3/1 to 5/15 8/15 to 11/15	1 2	424 7446	0. TOUG (A.C.	
1	Perennial Ryegrass 10%	15	3/1 to 5/15 8/15 to 11/15	1 "	436 LB/AC (10 LB/1000 SF)	2 TONS/AC (90 LB/1000 SF)	
	Kentucky Bluegrass 5%	10	3/1 to 5/15 8/15 to 11/15	1 2			

Sequence of Construction

- 1. Obtain a Grading Permit. (1 day)
- 2. Notify "Miss Utility" at least 48 hours before beginning any work at 1-800-257-7777 Notify Howard County Department of Inspections, Licenses and Permits, Sediment Control Division at 410-313-1855 at least 24 hours before starting any work. (2 days)
- 3. Install SCE and silt fence at locations shown on plan. (3 days)
- 4. Grade site, construct SMM facilities (see sequence of construction for 10 YR Facility on Sheet 5 of 5) and complete house construction. (6 months)
- 5. With all disturbed areas stabilized, and with permission from the sediment control inspector, remove sediment control devices. (1 week)
- 6. Notify Howard County Office of Inspections and Permits for a final inspection of the completed site. (2 days)

SEDIMENT CONTROL NOTES

- 1. 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 48 HOUR 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 <u>BEFORE PROCEEDING</u> WITH ANY OTHER EARTH DISTURBANCE OR GRADING,
- c. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT,
- d. 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.

- 2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
- 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 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).
- 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:

DETAIL E-1

EMBED GEOTEXTILE.
MIN. OF 8 IN VERTICALLY
INTO THE GROUND. BACKFILL
AND COMPACT THE SOIL ON
BOTH SIDES OF GEOTEXTILE.

STEP 3

U.S. DEPARTMENT OF AGRICULTURE

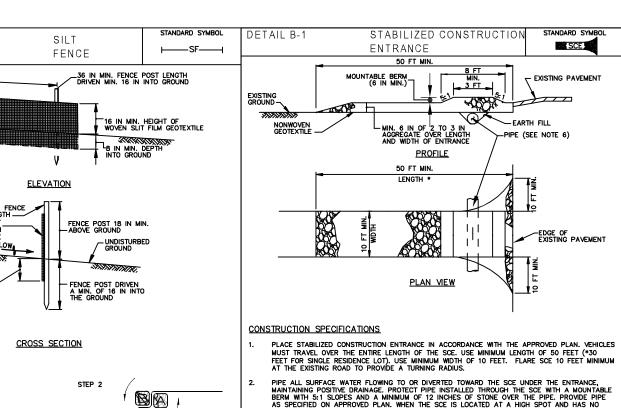
TOTAL AREA OF SITE 14,171 sq.ft. AREA DISTURBED 10,614 sq.ft. AREA TO BE ROOFED OR PAVED: 5,031 sq,ft. AREA TO BE VEGETATIVELY STABILIZED: 5,583 sq,ft. TOTAL CUT: 5 CU.YDS. TOTAL FILL: 5 CU.YDS. OFFSITE WASTE/BORROW AREA LOCATION: N/A

* THE NUMBERS SHOWN ARE FOR REVIEWING AGENCIES ONLY CONTRACTOR TO VERIFY QUANTITIES 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 AND SHOULD INCLUDE:
- INSPECTION DATE INSPECTION 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) 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 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,
- 9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, 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 ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES. 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 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME. 12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED 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 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 USE IV MARCH 1 - MAY 31 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



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 (WITHOUT 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.

FENCE SECTIONS (TOP VIEW) MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

SILT FENCE CONSTRUCTION SPECIFICATIONS USE WOOD POSTS $1\frac{1}{4}$ X $1\frac{1}{4}$ \pm $\frac{1}{46}$ Inch (Minimum) square cut of sound quality hardwood, an alternative to wooden post use standard "t" or "u" section steel posts weighing not less than 1 point per limited for USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET

---STAPLE

STAPLE -

USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS TH REQUIREMENTS IN SECTION H-1 MATERIALS.

JOINING TWO ADJACENT SILT

EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.

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

U.S. DEPARTMENT OF AGRICULTURE
URAL RESOURCES CONSERVATION SERVICE
2011 MARYLAND DEPARTMENT OF ENVIRONME
WATER MANAGEMENT ADMINISTRATION

DATA SOURCES:

IS ACTIVE

EXISTING BOUNDARY SHOWN PER BOUNDARY BURVEY BY EXACTA LAND SURVEYORS, LLC DATED 2/10/21. TOPOGRAPHY SHOWN PER FIELD RUN TOPOGRAPHY PERFORMED BY DDC. INC. IN AUGUST 2021 AND SUPPLEMENTED WITH HOWARD

Planners

Surveyors

Engineers

Landscape Architects

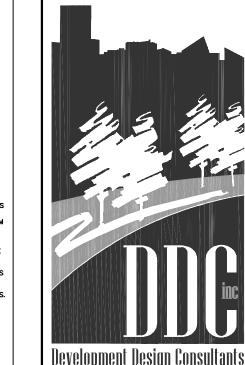
192 East Main Street

410.386.0560

410.386.0564 (Fax)

DDC@DDCinc.us

Westminster, MD 21157



DEVELOPER: SHARON SALKIN CANNON 3394 LOOKINGLASS LANF OLUMBIA, MD 21045

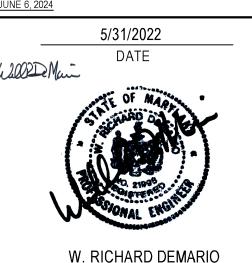
SITE ADDRESS 5626A OAKLAND MILLS ROAD

COLUMBIA, MARYLAND 21045

OWNER:

MILL HAVEN LOT 9 SITE DEVELOPMENT PLAN

GRADING, SEC NOTES \$ 6th Election District Howard County, Maryland



PROFESSIONAL ENGINEER NO. 21998

SSIONAL CERTIFICATION

OF CERTIFY THAT THESE DOCUMENTS WERE PREPARED

OR APPROVED BY ME, AND THAT LAM A DULY LICENSE

OFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE

F MARYLAND, LICENSE NO. 21998 EXPIRATION DATE

REVISIONS DESCRIPTION OF CHANGES DRN. REV. DAT CO. FILE #: F-17-105, ECP-17-039 DES. BY TAX ACC. #: 06-600824 DRN. BY: RM/LJ0 TAX MAP: 3 | CHK. BY: WRD BLOCK / GRID: 4 | DATE 5/31/2 21021. PARCEL #: DDC JOB#: R-12 | SHEET NUMBER: ZONE / USE: 3 of 1" = 20 DWG. SCALE:

APPROVED: **DEPARTMENT OF PLANNING AND ZONING** 6/23/2022 (HdD) Edmondson CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 6/23/2022 CHIEF, DIVISION OFEBANDAZIENELOPMEN DocuSigned by 6/23/2022 Amy Gonan DIRECTOR 5B4D5DD9470C4D4

BY THE DEVELOPER I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND FROSION CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTRO OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

EVELOPER

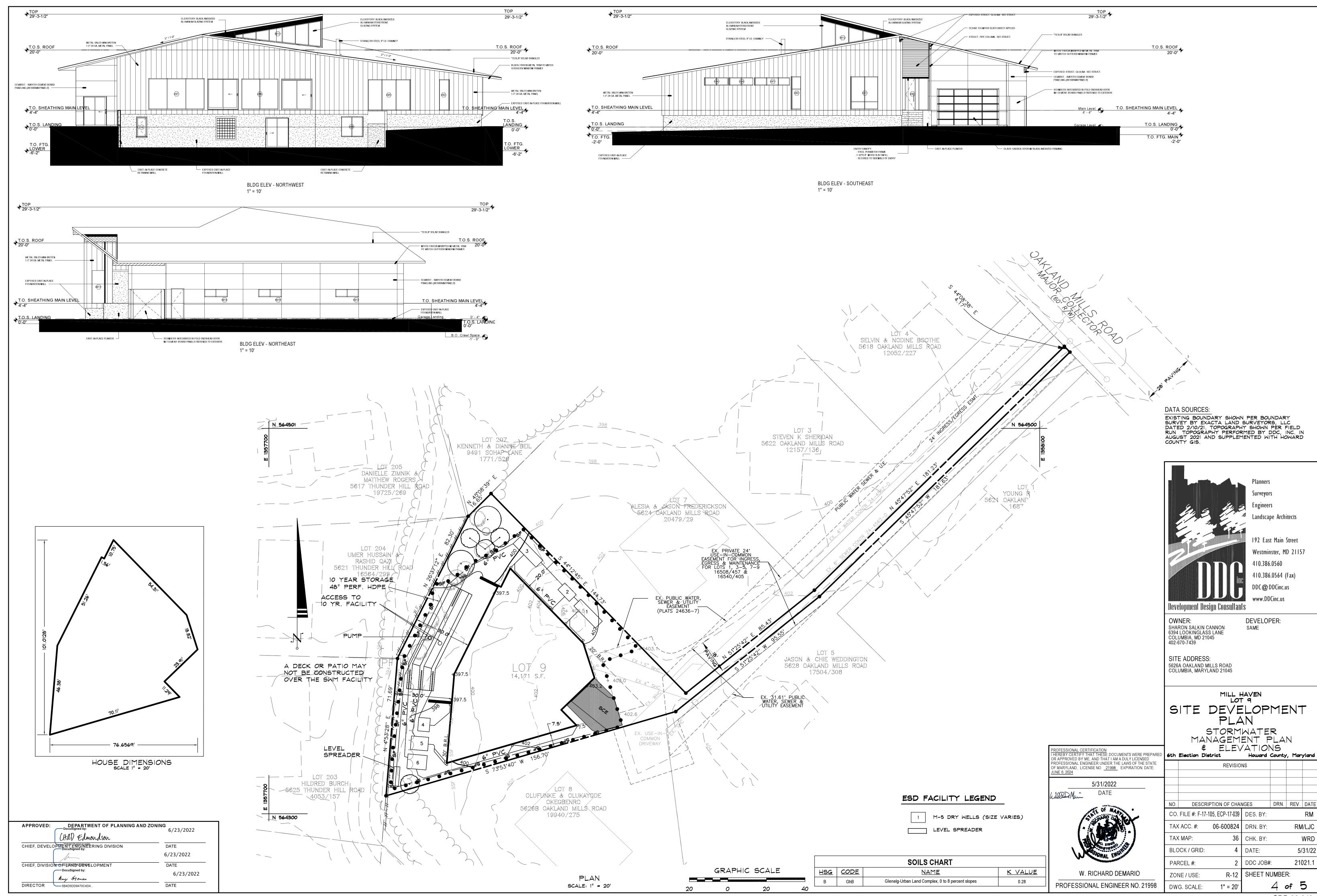
CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

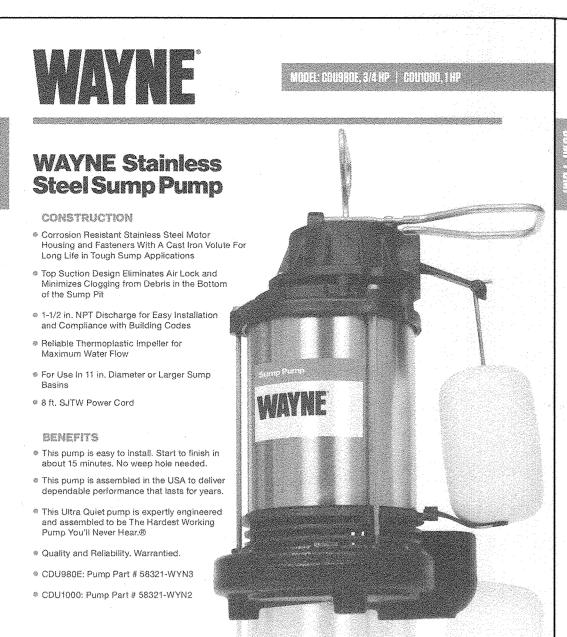
2002De Mari

SEDIMENT CONTROL BY THE HOWARD SOIL AND CONSERVATION 6/23/2022 Olexander Bratchie HOWARD SOIL CONSERVATION DISTRIC

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND

SDP-22-049





WAYNESTAINLESS STEELSUMPPUMP

DEL: COUSEDE, 3/4 HP | COUTOOD, 1 HP

PUMP SNAPSHOT ♦ HP - CDU980E, 3/4 HP | CDU1000, 1 HP Construction - Stainless Steel & Cast Iron Bottom

Switch Type - Integrated Vertical Float Switch Motor - 120V PSC Oil-Filled Impeller - Centrifugal Intake - Top Suction

Discharge - 1 1/2 in. Submersible - Fully Submersible CDU980E UPC - 040066214744 **CDU1000 UPC** - 040066214836

PUMP SPECIFICATIONS Length - 10 1/2 in.

Height - 11 In. Weight - 22 Lbs. Power Cord - 8 Ft.

Width - 9 In.

PERFORMANCE CDU980E - 3/4 HP - Max Flow 92 GPM: 85 GPM @ 5' CDU1000 - 1 HP - Max Flow 102 GPM: 94 GPM @ 5"

FLOW RATE: GALLONS PER MINUTE Gal/Min @0 Max Flow 92 85 77 68 58 COUIDOO-1HP SPM & 5' SPM & 10' DPM & 15' SPM & 20'

Gal/Min @0 Max Flow 102 94 85 76 64 **5 YEAR LIMITED WARRANTY** Assembled in USA with Foreign and Domestic Parts 9 in. ON level. 4 in. OFF level.

0 10 26 30 A0 50 60 79 86 90 100

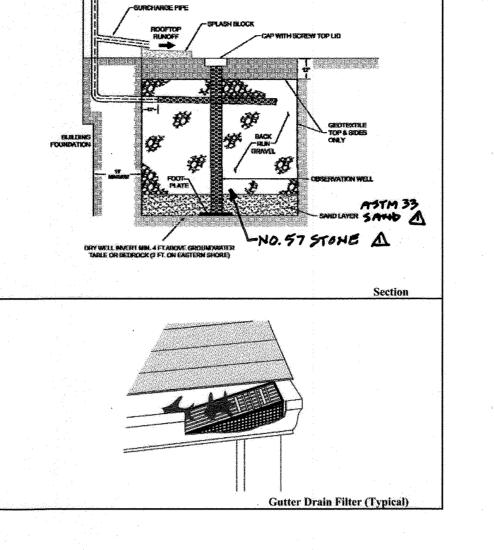
ACCESS TO 10

YR STORAGE

*BRICK OR BLOCK MORTARED -

TOGETHER IS ACCEPTABLE 1





5.93

....Nonstructural and Micro-Scale Practices

Chapter 5. Environmental Site Design.....

Figure 5.13 Dry Well

A WAYNE CDU 980E, 3/4 HP SUBMERSIBLE PUMP WITH AUTOMATIC SWITCH (OR EQUIVELANT) SHALL BE INSTALLED ON A CMU IN THE 48" 10 YEAR STORAGE PIPE NEAR THE MIDDLE OF THE 10 YR FACILITY. THE OUTFLOW OF THE PUMP SHALL ALWAYS HAVE A POSITIVE SLOPE UNTIL IT ENTERS THE LEVEL SPREADER.

WAYNE* + 101 Production Drive + Harrison, Ohio 45030 | 800.237.0987 + CS@stconsumer brands.com + www.waynegumps.com | @2018 Scott Fetzer Company

NOTE: SWITCH ON PUMP SHOULD BE DESIGNED TO EMPTY THE STORAGE PIPES BETWEEN STORMS

DESIGN NARRATIVE

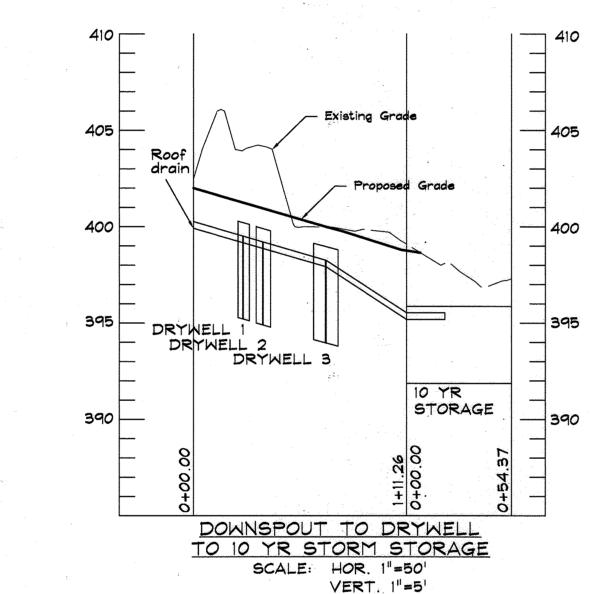
THE PARCEL HAS BEEN INVESTIGATED AND NO WETLANDS OR FOREST RETENTION / REFORESTATION AREAS OF INTEREST WERE FOUND.

- THE NATURAL FLOW PATTERNS ARE MAINTAINED. THE SITE IS WITHIN A RESIDENTIAL AREA AND THE USE IN COMMON DRIVEWAY IS EXISTING. STORM WATER MANAGEMENT FOR THE USE IN COMMON
- DRIVEWAY WAS PROVIDED BY SDP-17-105. NONE OF THE FILTERING PRACTICES WILL BE INSTALLED PRIOR TO THE
- DRAINAGE AREA BEING STABILIZED. THE HYDROLOGY HAS BEEN DEVELOPED BASED ON THE PROPOSED IMPROVEMENTS. THE ESD PRACTICES TO BE UTILIZED WILL BE DRYWELLS (M-5). THE FACILITIES HAVE BEEN SIZED TO TREAT 100% OF THE NEW
- IMPERVIOUS AREAS. DRY WELLS (M-5) WILL BE CONNECTED TO THE PROPOSED HOUSE VIA 6 INCH ROOF DRAINS. THE DRY WELLS PROVIDE AN EFFICIENT OPTION FOR TREATING ROOF RUNOFF ONSITE. PRETREATMENT FOR THE DRY WELLS WILL BE
- PROVIDED BY A GUTTER DRAIN FILTER IN ORDER TO BLOCK SEDIMENT, LEAVES, OR OTHER DEBRIS FROM ENTERING THE SYSTEM. THE DRYWELLS ARE CONNECTED TO THE UNDERGROUND STORAGE VIA 6" PVC. WHERE THE PIPES ENTER THE STONE FOR THE FACILITY THEY WILL EXTEND FOR 20 FT AND THOSE 20FT SHALL BE PERFORATED OR SLOTTED. THE FACILITY IS DESIGNED TO CAPTURE AND STORE THE 10 YR STORM
- EVENT UNTIL IT CAN INFILTRATE. A WAYNE CDU 980E, 3/4 HP SUBMERSIBLE PUMP WITH AUTOMATIC SWITCH (OR EQUIVELANT) SHALL BE INSTALLED ON A CMU IN THE 48" 10 YEAR STORAGE PIPE NEAR THE MIDDLE OF THE 10 YR FACILITY. THE OUTFLOW OF THE PUMP SHALL ALWAYS HAVE A POSITIVE SLOPE UNTIL IT ENTERS THE
- LEVEL SPREADER. THE LEVEL SPREADER SHALL BE 10 FT LONG, 3 FT WIDE, AND 2.6 FT DEEP A 6" PERFORATED PIPE WILL BE INSTALLED IN THE UPPER THIRD OF THE
- STONE AND RUN THE LENGTH OF THE LEVEL SPREADER.
 THERE WILL BE NO REQUEST FOR DESIGN MANUAL WAIVERS FOR THE STORM
- WATER DESIGN. THE ESD VOLUME CAN BE FULLY COLLECTED AND TREATED WITHIN THE PROPOSED FACILITIES. SINCE ESDY GOALS ARE MET, NO ADDITIONAL SWM PRACTICES ARE REQUIRED.

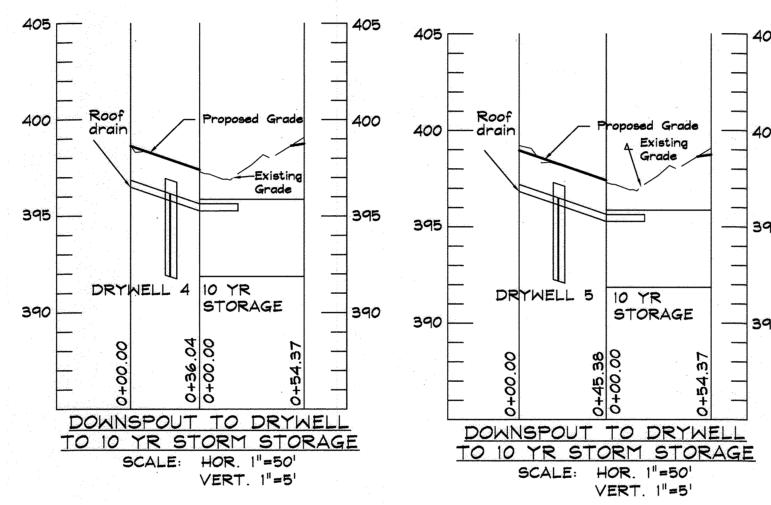
SEQUENCE OF CONSTRUCTION FOR 10 YR

- 1. CONTACT THE CERTIFYING PROFESSIONAL ENGINEER /PROFESSIONAL LAND SURVEYOR (DDC, INC.). ONCE THE CERTIFYING PROFESSIONAL HAS GIVEN HIS/HER APPROVAL IN ACCORDANCE WITH INSPECTION CHART.
- 2. EXCAVATE FOR 10 YR FACILITY, LEVEL SPREADER AND
- 3. INSTALL FILTER FABRIC ON THE SIDES.
- 4. INSTALL THE PUMP.
- 5. INSTALL 8" STONE BASE, THEN INSTALL THE 4 FT. PIPES. NEXT INSTALL THE INFLOW PIPE FOR THE PUMP TOWARDS THE MIDDLE OF THE FACILITY (5 FT LENGTH OF PERFORATED PIPE THAT IS WRAPPED IN NON-WOVEN FILTERFABRIC). ENSURE THAT THE TEE'S FOR ENTERING THE 4 FT PIPE ARE INSTALLED THEN THE NEXT STEP CAN
- 6. INSTALL THE OUTFALL PIPE IS INSTALLED TO THE LEVEL SPREADER AND THE INFLOW PIPES FROM THE DRYWELLS ARE INSTALLED, FILL THE 10 YR FACILITY WITH STONE, IN 6" LIFTS. COVER THE TOP OF THE FACILITY WITH FILTER FABRIC BEFORE BACKFILLING.
- 7. ONCE LEVEL SPREADER AND 10 YR FACILITY IS INSTALLED, SUBMIT AS-BUILT CERTIFICATION FOR BOND RELEASE.

بكيست		
	APPROVED: DEPARTMENT OF PLANNING AN (HD) Elmondson	D ZONING 6/23/2022
	CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
	Jan San San San San San San San San San S	6/23/2022
	CHIEF, DIVISION OFERAND TENELOPMENT	DATE
	DocuSigned by:	6/23/2022
	Any Glonan	0/23/2022
	DIRECTOR5B4D5DD9470C4D4	DATE



WAYNE* + 101 Production Drive + Harrison, Ohio 45030 | 800.237.0987 + CS@sfconsumerbrands.com + www.waynepumps.com | ©2018 Scott Fetzer Compan



400

390

* 36" HOLES WILL BE DRILLED IN

PIPE FOR PERFORATIONS

THE BOTTOM 3 OF THE

10 yr Storage

2' stone 4' pipe 2' stone 4' pipe 2' stone

¥ NO. 57

BASEMENT ELEV. 396.

PHREATIC | __ ELEV. 393.

0+00+00

PHREATIC LINE FOR

SCALE: HOR. 1"=50"

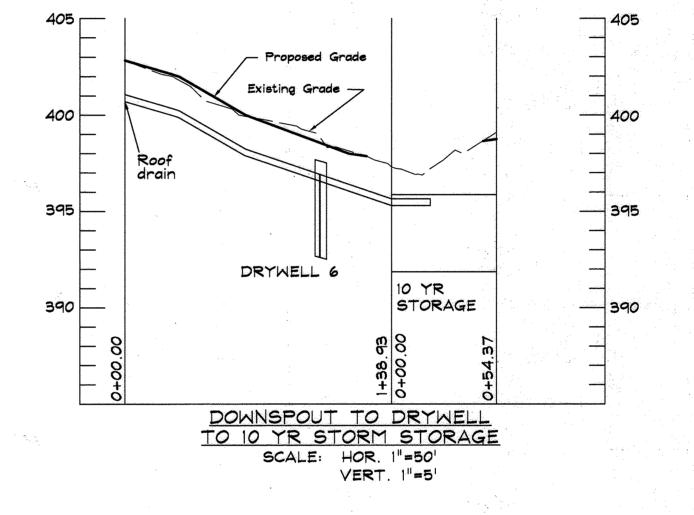
VERT. 1"=5"

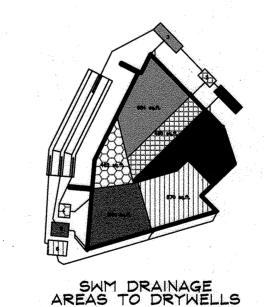
GRAPHIC SCALE

HSG CODE

10 YR STORM EVENT

Supp.1





K VALU

0.28

SOILS CHART

NAME

Glenelg-Urban Land Complex, 0 to 8 percent slopes

SITE ADDRESS: 5626A OAKLAND MILLS ROAD COLUMBIA, MARYLAND 21045 MILL HAVEN SITE DEVELOPMENT

STORM WATER MANAGEMENT NOTES AND DETAILS PROFESSIONAL CERTIFICATION
HEREBY CERTIFY THAT THESE DOCUMENTS WERE uard County, Maryland OR APPROVED BY ME, AND THAT I AM A DULY LICE

Develonment Desian Consultants

SHARON SALKIN CANNON 6394 LOOKINGLASS LANE COLUMBIA, MD 21045 402-670-7439

OWNER:

PROFESSIONAL ENGINEER UNDER THE LAWS OF OF MARYLAND, LICENSE NO. 21998 EXPIRATION JUNE 6, 2024 5/31/2022

	COMAL ENGINE	ВІ
		Р
E	W. RICHARD DEMARIO	Z
	PROFESSIONAL ENGINEER NO. 21998	D

		NOTES	AN.	D
E PREPARED NSED	6th	Election District		How
HE STATE N DATE:			REVISIO	NS
	J			
	Δ	UPPATED IO Y	R 5101	PAGE
	NO.	DESCRIPTION		
	CO.	FILE #: F-17-105, ECF	P-17-039	DES. I
	TAX	ACC. #: 06-6	00824	DRN.
	TAX	(MAP:	36	СНК. І
	BLOCK / GRID: 4			DATE:
	PARCEL#: 2			DDC J

Δ	UPPATED 10 YR STOP		450	RAM	2/23
NO.	DESCRIPTION OF CHAI	NGES	DRN.	REV.	DATE
CO.	FILE #: F-17-105, ECP-17-039	DES. BY:			RM
TAX	(ACC. #: 06-600824	DRN. BY:	ه د میماند	RN	I/LJC
TAX	KMAP: 36	CHK. BY:			WRD
BLC	OCK / GRID: 4	DATE:		5/	31/22
PAF	RCEL#: 2	DDC JOB#		210	021.1
ZOI	NE / USE: R-12	SHEET N	JMBE	R:	
DW	G. SCALE: 1" = 20'		5	of !	5

LOT 9

ENVIRONMENTAL SITE DESIGN SUMMARY TABLE

*DRYWELLS MUST BE 10' FROM HOUSE

EXISTING BOUNDARY SHOWN PER BOUNDARY

SURVEY BY EXACTA LAND SURVEYORS, LLC
DATED 2/10/21. TOPOGRAPHY SHOWN PER FIELD
RUN TOPOGRAPHY PERFORMED BY DDC, INC. IN
AUGUST 2021 AND SUPPLEMENTED WITH HOWARD
COUNTY GIS.

DRYWELLS

TOTAL

DATA SOURCES:

DRYWELL 1 5'X16'X5'

DRYWELL 2 5'X8.5'X5'

DRYWELL 3 5'XI7'X5'

DRYWELL 4 7'X6'X5'

DRYWELL 5 7'XIO'X5'

DRYWELL 1 7.5'X10'X5'

PROVIDED. REQUIRED

ESD VOL ESD VOL

160 CF

85 CF

168 CF

79 CF

140 CF

148 CF

780 CF

160 CF

90 CF

173 CF

84 CF

140 CF

150 CF

797 CF

Surveyors

Landscape Architects

192 East Main Street

410.386.0560

DEVELOPER:

410.386.0564 (Fax)

Westminster, MD 21157

SDP-22-049