

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Vegetative stabilization is used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

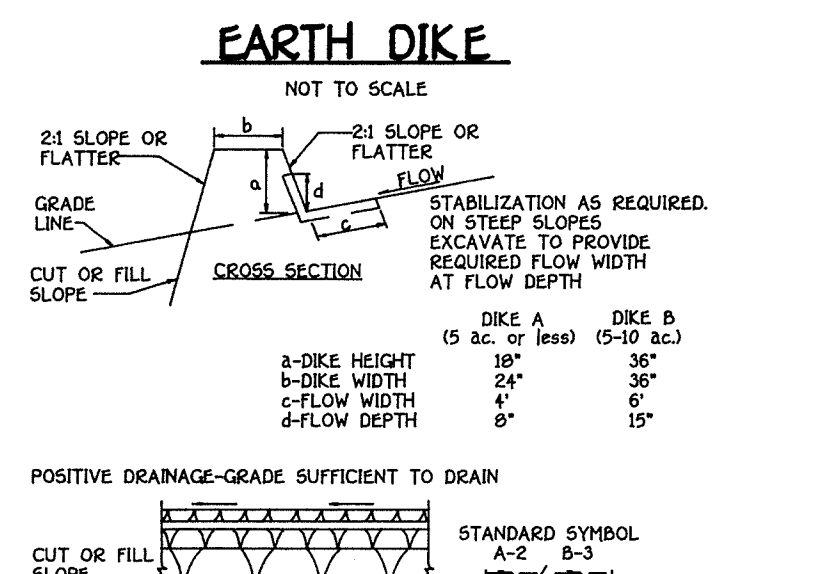
DEFINITION
Vegetative stabilization is the use of plants to stabilize soil on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES
This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dunes, cut and fill slopes and other areas at final grade former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY
Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff. Infiltration, evaporation, transpiration, percolation and groundwater recharge. Vegetation cover time will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seeding preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

- A. Site Preparation**
 1. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
 2. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
 3. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
- B. Soil Amendments (Fertilizer and Lime Specifications)**
 1. Soil tests must be performed to determine the exact ratio and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.
 2. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Fertilizers shall be suitable for application by hand or by machine. Fertilizers shall be delivered to the site fully bagged according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the producer.
 3. Lime materials shall be ground limestone (hydrated or burnt lime) but shall not be substituted with dolomite. The top 3-5" of soil shall be amended with a minimum of 20 lbs. of lime per acre. The lime shall be applied in a uniform manner and shall be applied to the top 3-5" of soil by diking or other suitable means.
- C. Seeded Preparation**
 1. Seeded Preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable light equipment such as disc harrows or chisel plows. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Seeded areas greater than 30' should be treated in 10' irregular contour with ridges running parallel to the contour of the slope.
 2. Apply fertilizer and lime as prescribed on the plans.
 3. Incorporate lime and fertilizer into the top 3-5" of soil by diking or other suitable means.



SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (319-9959).
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 MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - a. 7 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, 3:1 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
 - b. 14 CALENDAR DAYS FOR ALL OTHER DISTURBED AREAS ON THE PROJECT SITE.
4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, FOR PERMANENT SEEDING (SEC. 50, 50D (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 50), TEMPORARY SEEDING WITH MULCH ALONE (CAN BE DONE WHEN RECOVERED SEEDING DATES DO NOT ALLOW FOR SEED GERMINATION AND ESTABLISHMENT OF STABILIZATION).
5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
6. SITE ANALYSIS:

TOTAL AREA OF SITE	0.32 ACRES
AREA DISTURBED	0.15 ACRES
AREA TO BE ROOFED OR PAVED	0.07 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.10 ACRES
TOTAL CUT	266 CU.YDS.
TOTAL FILL	266 CU.YDS.
OFFSITE WASTE/BOROW AREA LOCATION	— CU.YDS.
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 CONTROLS MUST BE PROVIDED, IF DEMAID NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
9. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL BY THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERMETER SEDIMENT AND SEDIMENT CONTROL STRUCTURES. APPROVAL SHALL BE REQUESTED UPON COMPLETION OF GRADING, OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
10. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. INSTALL SEDIMENT CONTROLS AS SHOWN ON PLAN (1 DAY)
3. CLEAR AND GRUB TO LIMITS OF DISTURBANCE AND MASS GRADE TO SUB-BASE. (1 DAY)
4. GRADATION OF DISTURBED AREAS. (40 DAYS)
5. FINE GRADE SITES AND INSTALL PERMANENT SEEDING. (3 DAYS)
6. REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE DEMOLISHED AND PERMANENTLY GRADATED BY E/S CONTROL INSPECTOR. (1 DAY)

PERMANENT SEEDING NOTES

ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

SEEDING PREPARATION
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS:
APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1,000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (4 LBS./1,000 SQ.FT.) BEFORE SEEDING HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT THE TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREA-FORM FERTILIZER (9 LBS./1,000 SQ.FT.) AND 500 LBS. PER ACRE 015 LBS./1,000 SQ.FT.) OF 10-20-20 FERTILIZER.

SEEDING:
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 100 LBS. PER ACRE (2X LBS./1,000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 90 LBS./ACRE (4 LBS./1,000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (20 LBS./1,000 SQ.FT.) OF WHEAT. LOWEST SEEDING DURING THE PERIOD OF FEBRUARY 16 THROUGH FEBRUARY 28, PROJECT SITE BY OPTION (1) - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING OPTION (2) - USE 500 SQ. OPTION (3) - SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEEDING.

MULCHING:
APPLY 1 TO 2 TONS PER ACRE (10 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 500 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF UNPULVERIZED ASPHALT ON FLAT AREAS ON SLOPES 6 FEET OR HIGHER USE 348 GALLONS PER ACRE (3 GAL./1,000 SQ.FT.) FOR ANCHORING.

MAINTENANCE:
INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.
* FOR PUBLIC PONDS SUBSTITUTE CHEMUNG CROWWEATCH AT 15 LBS./ACRE AND KENTUCKY 31 TALL FESCUE AT 40 LBS./ACRE AS THE SEEDING REQUIREMENT. OPTIMUM SEEDING DATE FOR THIS MIXTURE IS MARCH 1 TO APRIL 30.

TEMPORARY SEEDING NOTES

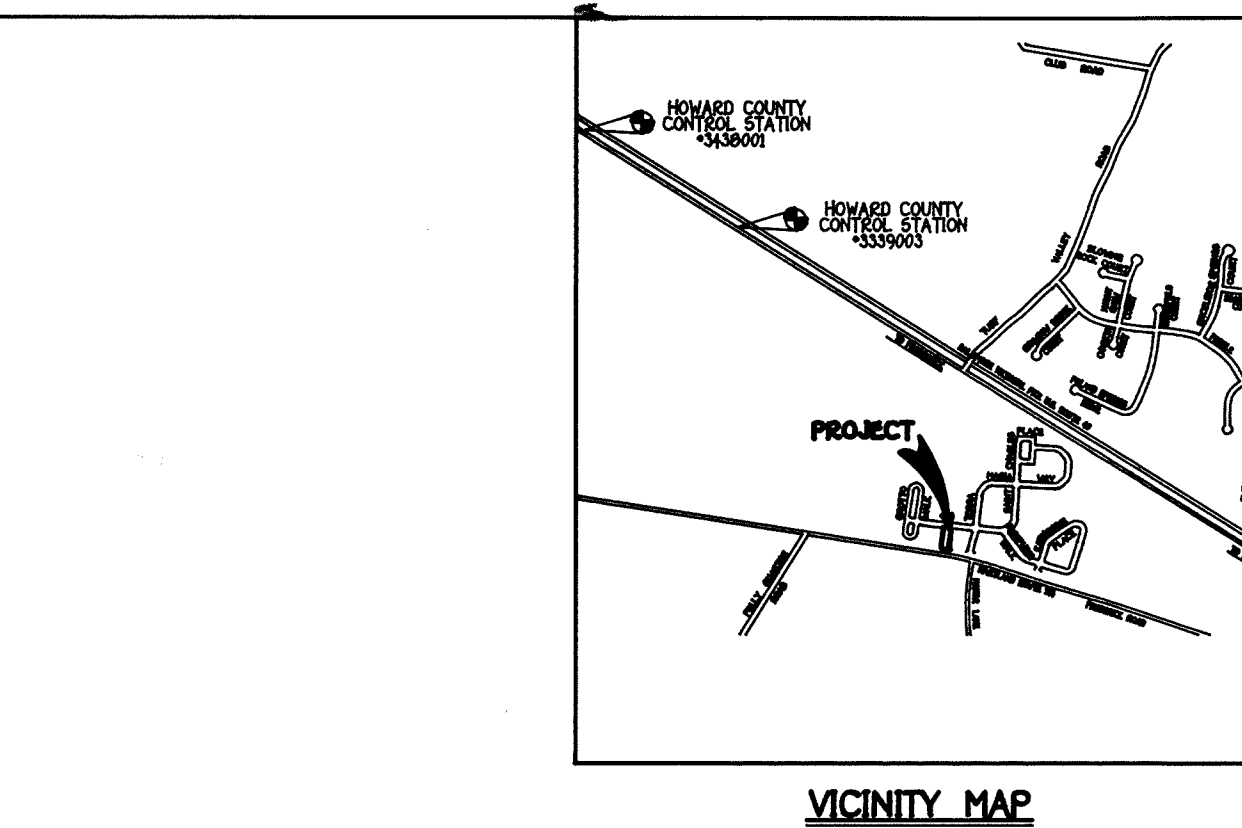
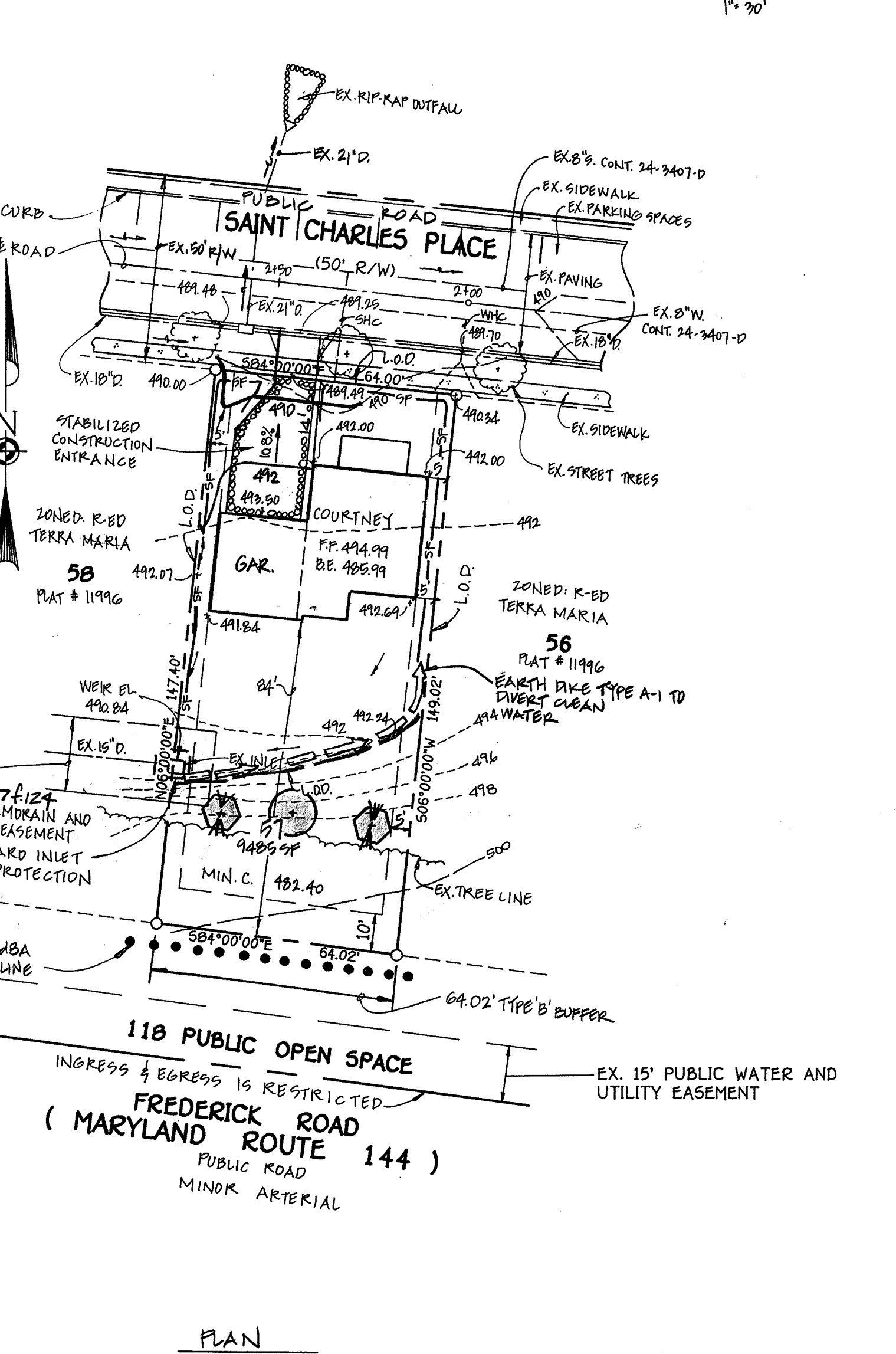
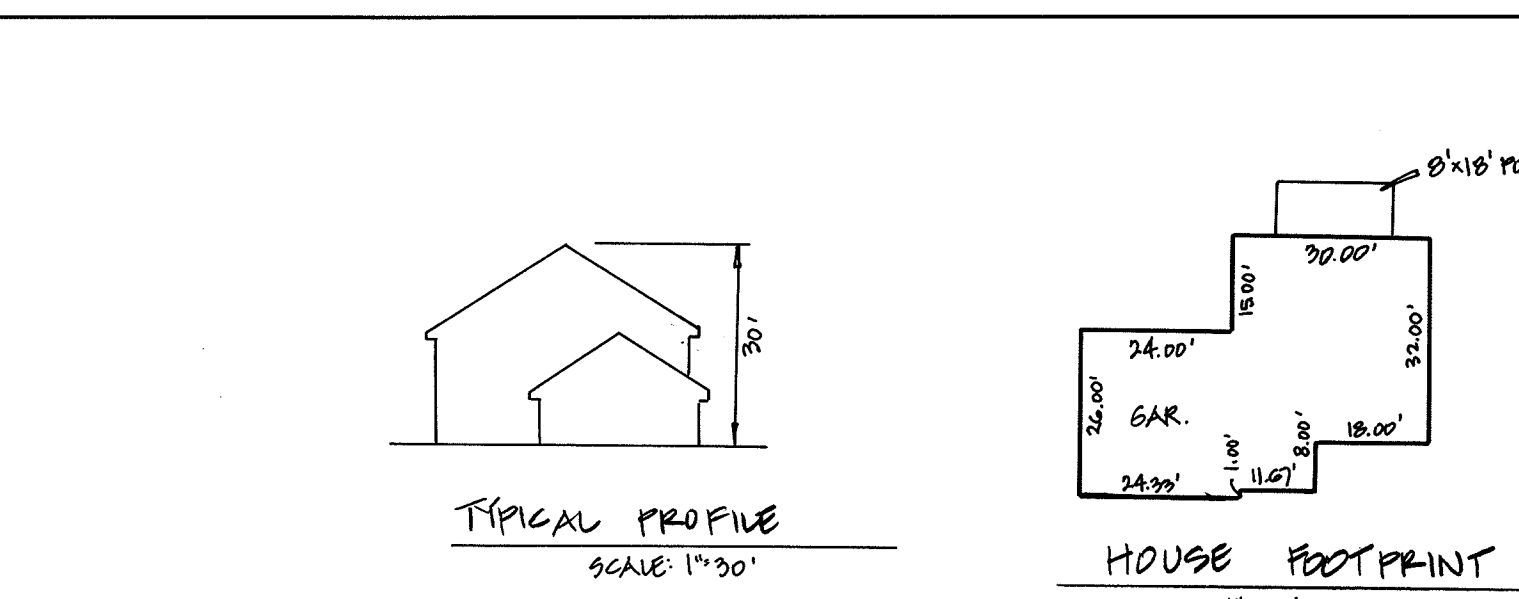
APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDING PREPARATION:
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS:
APPLY 500 LBS. PER ACRE 10-10-10 FERTILIZER (4 LBS./1,000 SQ.FT.)

SEEDING:
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH NOVEMBER 15, SEED WITH 1 BUSHEL PER ACRE ANNUAL RYE (32 LBS./ACRE OF WHEATING LOVEGRASS (7 LBS./1,000 SQ.FT.) FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE 500.

MULCHING:
APPLY 1 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 288 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF UNPULVERIZED ASPHALT ON FLAT AREAS ON SLOPES 6 FEET OR HIGHER USE 348 GALLONS PER ACRE (3 GAL./1,000 SQ.FT.) FOR ANCHORING.



GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE THE CONSTRUCTION INSPECTION DIVISION AT (410) 313-1890 AT LEAST (5) FIVE WORKING DAYS PRIOR TO THE START OF WORK.
2. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
3. THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: F93-65 , F93-115, WP-92-14, 594-02, P94-24, F93-99 AND P93-291.
4. BOUNDARY AND TOPOGRAPHIC SURVEY PERFORMED BY: FISHER COLLINS AND CARTER INC. ON OR ABOUT JANUARY 1992.
5. HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON HOWARD COUNTY GEODETIC CONTROL STATIONS:
HOWARD COUNTY MONUMENT 3438001 N 532052146 E 827774234
HOWARD COUNTY MONUMENT 3339003 N 531651959 E 829105468
6. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
7. THIS PLAN IS FOR HOUSE SITING AND LOT GRADING ONLY. IMPROVEMENTS SHOWN WITHIN THE RIGHT-OF-WAYS OF THIS S.D.P. ARE NOT USED FOR CONSTRUCTION. FOR CONSTRUCTION SEE APPROVED ROAD CONSTRUCTION PLANS F-99-99 AND/OR APPROVED WATER AND SEWER PLANS CONTRACT NO. 24-3407-D.
8. CONTRACTOR WILL CHECK SEWER HOUSE CONNECTION ELEVATION AT EASEMENT LINE PRIOR TO CONSTRUCTION.
9. STORMWATER MANAGEMENT OBLIGATIONS ARE FULFILLED UNDER F-99-99.
10. THIS PLAN IS SUBJECT TO WAIVER PETITION NO. WP 92-14. THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, WHICH RESTRICTS GRADING AND REMOVAL OF VEGETATIVE COVER FROM WETLANDS AND STREAM BUFFER.
11. SITE ANALYSIS DATA:
A. TOTAL PRODUCT AREA: 0.22 AC.
B. AREA OF PLAIN SUBMISSION: 0.22 AC.
C. LIMIT OF DISTURBED AREA: 0.22 AC.
D. PRESENT ZONING: R-ED
E. PROPOSED USE FOR SITE AND STRUCTURES: SINGLE FAMILY ATTACHED D.U.
F. TOTAL NUMBER OF UNITS ALLOWED: 1
G. TOTAL NUMBER OF UNITS PROPOSED: 1
H. NUMBER OF PARKING SPACES REQUIRED: 2
I. NUMBER OF PARKING SPACES PROVIDED: 2
J. OPEN SPACE REQUIREMENTS ARE PROVIDED UNDER F93-99.
12. THIS SITE WILL UTILIZE EX. PUBLIC WATER & SEWER.
13. GARAGES SHALL BE USED FOR PARKING PURPOSES ONLY IN ACCORDANCE WITH SECTION 139-D.2.2. OF THE ZONING REGULATIONS.
14. NO WETLANDS EXIST ON SITE.
15. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE AMOUNT OF \$3000.00 TO BE POSTED WITH THE GRADING PERMIT.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL OFFICE: 10772 BALTIMORE NATIONAL PkE
ELICOTT CITY, MARYLAND 21042
410-468-2955

STATE OF MARYLAND
PROFESSIONAL ENGINEER

APPROVED PLANNING BOARD OF HOWARD COUNTY

DATE: 1 July 1999

Signature: [Signature]

ENGINEER'S CERTIFICATE

I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Reviewed for HOWARD SCD and meets Technical Requirements.

Signature: [Signature] Date: 7/12/99

Signature: [Signature] Date: 7/12/99

DEVELOPER'S CERTIFICATE

I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

Signature: [Signature] Date: 4-16-99

Signature: [Signature] Date: 4-16-99

OWNER

JOHN COURTNEY
10320 HICKORY RIDGE ROAD SUITE#B18
COLUMBIA, MARYLAND 21044

ADDRESS CHART

LOT #	STREET CHART
57	3112 SAINT CHARLES PLACE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature: [Signature] Date: 7/15/99

Signature: [Signature] Date: 7/14/99

Signature: [Signature] Date: 7/16/99

PROJECT	SECTION/AREA	LOT NO.
TERRA MARIA		57
PLAT	BLOCK NO.	ZONE
11996		R-ED
TAX	ELEC. DIST.	CENSUS TR.
16	2ND	6023.01
WATER CODE	SEWER CODE	
J01, H07		919 2000

SITE DEVELOPMENT PLAN

LOT 57
TERRA MARIA
LOTS 3-118, PARCELS A,B,C,D & E
(A RESUBDIVISION OF LOT 2, PLAT NO. 10804 AND PROPERTY OF TERRA MARIA L.L.C., INC.)

ZONING: R-ED
TAX MAP No: 16 PARCEL No: 114

SECOND ELECTION DISTRICT: HOWARD COUNTY, MARYLAND
DATE: MARCH, 1999

S.D.P. 99-144