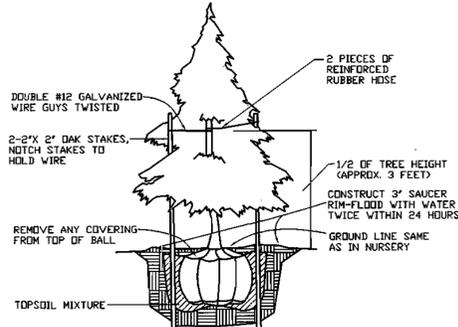


PLANTING SPECIFICATIONS

Plants, related material and operations shall meet the detailed description as given on the plans and as described herein. All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald, injurious diseases, insect pest eggs, borers and all forms of insect infestations or objectionable infestations. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug, no heeled-in plants from cold storage will be accepted. Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Area", hereinafter "Landscape Guidelines" approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects, latest edition, including all updates. Contractor shall be required to quarantine all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material. Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor. Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line. Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of completion of site construction. Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications. Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence. All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans. Positive drainage shall be maintained in planting beds 2 percent slope. Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of evergreen fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines. Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its compatibility to the specific ground cover to be treated. All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded. This plan is intended for landscape use only; see other plan sheets for more information on grading, sediment control, layout, etc.

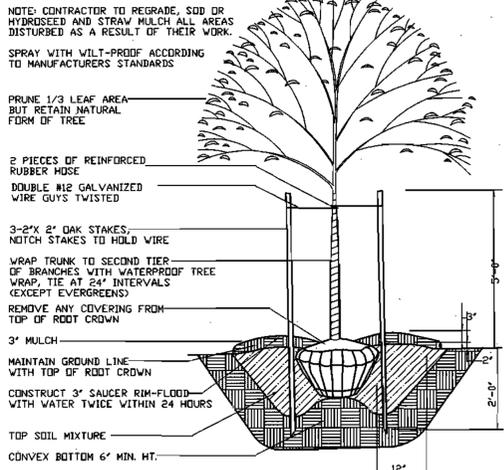


EVERGREEN PLANTING DETAIL
NOT TO SCALE

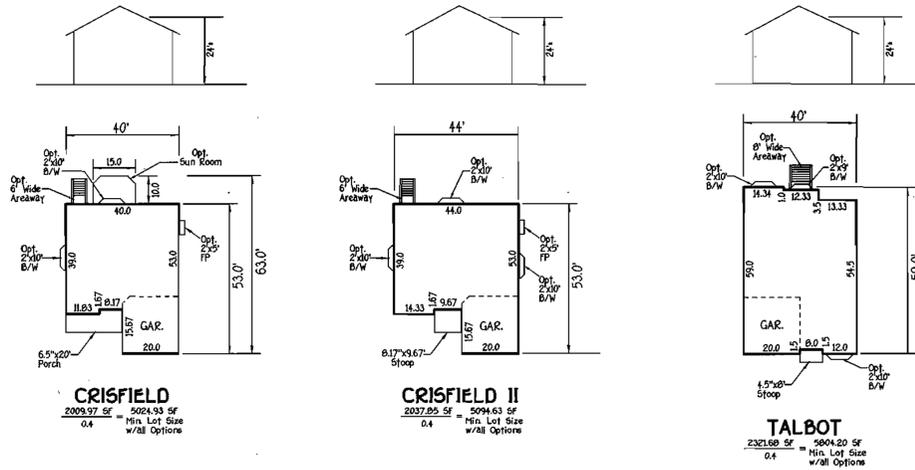
MODIFIED SCHEDULE C LANDSCAPE CHART									
LOT NO.	LOT CLASSIFICATION	INTERNAL LANDSCAPING (# OF SHADE TREES)	TYPE B REQUIRED		SHADE TREE CREDIT *	REMAINING SHADE TREE OBLIGATION	TOTAL TREES REQUIRED		TOTAL TREES
			SHADE	EVERGREEN			SHADE	EVERGREEN	
LOTS 910,50, 99,101 & 102	NON-WOODED	5 TREES PER LOT	N/A	N/A	0	0	30	0	
LOTS 49,50 & 101	NON-WOODED	4 TREES PER LOT	N/A	N/A	0	0	12	0	
LOT 97 CORNER	NON-WOODED	4 TREES	2	2	3	1	3	2	
TOTAL TREES							45	2	

* THIS NUMBER REFLECTS THE MATHEMATICAL CONVERSION OF EVERGREEN TREES TO SHADE TREES (2:1) FOR THE PURPOSE OF MEETING THE INTERNAL PER LOT SHADE TREE OBLIGATION.

SCHEDULE A PERIMETER LANDSCAPE EDGE									
LOT NO.	PERIMETER	CATEGORY (PROPERTIES/ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	NUMBER OF PLANTS REQUIRED		TOTAL TREES		
					SHADE TREES	EVERGREEN TREES		SHADE	EVERGREEN
97	P-1	ADJACENT TO ROADWAY	B	98.33'	2	2	4		



TREE PLANTING DETAIL
NOT TO SCALE



SURETY AMOUNT FOR THIS PLAN IS IN THE AMOUNT OF \$13,000.00
1. LANDSCAPING SURETY FOR LOTS 910,50,99,101 & 102 IS \$150,000 PER LOT.
2. LANDSCAPING SURETY FOR LOTS 49,50 & 101 IS \$120,000 PER LOT.
3. LANDSCAPING SURETY FOR LOT 97 IS \$120,000 PER LOT.
4. STREET TREES ARE NOT INCLUDED IN MODIFIED SCHEDULE C LANDSCAPE CALCULATIONS.
5. TYPE "B" BUFFER OR PERIMETER LANDSCAPE BUFFER WILL BE CREDITED TOWARDS THE LANDSCAPE REQUIREMENTS.
6. LANDSCAPING CAN NOT BE PLANTED IN PUBLIC EASEMENTS.
7. FINAL PLANTING TYPE AND LOCATION IS SUBJECT TO APPROVAL BY THE ARCHITECTURAL COMMITTEE.
8. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTING HERETIM LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH HOWARD COUNTY LANDSCAPE MANUAL.
9. THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, PLANT MATERIALS, BERRY FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION AND WHEN NECESSARY, REPAIRED OR REPLACED.
10. SIZES OF PLANT MATERIALS MUST CONFORM TO THE REQUIREMENTS OF THE LANDSCAPE MANUAL, CHAPTER IV AND APPENDIX C.

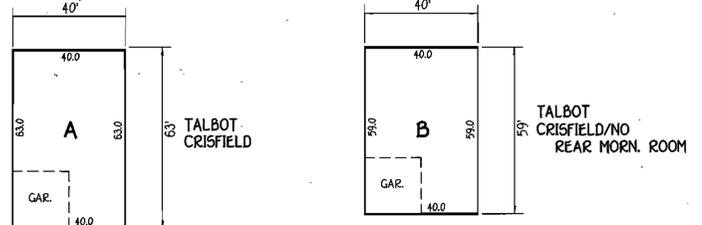
KEY PROPERTY DEVELOPMENT CRITERIA, APPROVED 7/1/99
SECTION VII RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING

THE QUANTITY AND GENERAL LOCATION OF TREES REQUIRED FOR INTERNAL LANDSCAPING ARE DETERMINED BY CRITERIA APPLIED BY THE ARCHITECTURAL COMMITTEE. THE COMMITTEE WILL CLASSIFY, DURING ARCHITECTURAL REVIEW, ALL LOTS AND PARCELS AS 1) NON-WOODED, 2) SEMI-WOODED, 3) WOODED. SUCH CLASSIFICATION SHALL TAKE INTO ACCOUNT THE EXISTING TREE COVER AND THE POTENTIAL FOR SAVING TREES IN CONNECTION WITH GRADING AND SITING. THIS CRITERIA ALSO CONSIDER THE SIZE OF THE LOT, AMOUNT OF EXISTING VEGETATION AND THE TYPE AND SITING OF RESIDENTIAL UNITS. PRIOR TO OR AFTER CONSTRUCTION, THE COMMITTEE DETERMINES THAT A BUILDER HAS VIOLATED ANY PROVISION OF TREE PRESERVATION, THE BUILDER WILL BE REQUIRED TO ADD NEW PLANT MATERIAL. SHADE TREE REQUIREMENTS ARE SPECIFIED BY THE FOLLOWING TABLE. DENSITIES REFER TO THE DENSITY OF THE INDIVIDUAL PARCEL.

SHADE TREE REQUIREMENTS

TYPE OF UNIT AND LOT SIZE	MINIMUM NUMBER OF SHADE TREES REQUIRED		
	NON WOODED	SEMI WOODED	WOODED
SMALL RESIDENTIAL LOT (4,000-7,000 SQUARE FEET) CLUSTER HOUSING	4.0/LOT	2.25/LOT	1.25/LOT
MEDIUM RESIDENTIAL LOT (7,000-13,000 SQUARE FEET) 2-4 DU./ACRE	5.0/LOT	3.0/LOT	2.0/LOT

SUBSTITUTION OF TWO FLOWERING TREES OR TWO EVERGREEN TREES FOR EACH SHADE TREE MAY BE PERMITTED FOR UP TO 50% OF THE REQUIRED NUMBER OF SHADE TREES SHOWN IN THE TABLE SUBJECT TO THE APPROVAL OF THE ARCHITECTURAL COMMITTEE. CREDIT MAY ALSO BE GIVEN FOR ANY AREAS REQUIRED TO BE PROVIDED ALONG ROADWAYS, SUBJECT TO THE APPROVAL OF THE ARCHITECTURAL COMMITTEE.



ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
9	1017 SUMMER GLOW WALK
10	1021 SUMMER GLOW WALK
49	8619 EASTERN MORNING RUN
50	8623 EASTERN MORNING RUN
97	1010 I ANCIENT SEA PATH
98	1005 ANCIENT SEA PATH
99	1009 ANCIENT SEA PATH
100	1013 ANCIENT SEA PATH
101	1017 ANCIENT SEA PATH
102	1021 ANCIENT SEA PATH

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
+362.2	SPOT ELEVATION
---	PROPOSED WALKOUT
-5' -5'	SILT FENCE
-55' -55'	SUPER SILT FENCE
ECH	EROSION CONTROL MATTING
LOD	LIMIT OF DISTURBANCE
---	FOREST CONSERVATION EASEMENT
○	EXISTING STREET TREE TAKEN FROM F-03-13

LEGEND (CONT.)	
SYMBOL	DESCRIPTION
XX	Street light provided in accordance w/F 03-013 rd const. plans

INDEX CHART	
SHEET	DESCRIPTION
SHEET 1	TITLE SHEET, HOUSE TYPES, TEMPLATES
SHEET 2	SITE DEVELOPMENT PLAN, LOTS 910,49,50 & 97-102
SHEET 3	SEDIMENT/EROSION CONTROL PLAN LOTS 910,49,50 & 97-102
SHEET 4	SEDIMENT/EROSION CONTROL NOTES & DETAILS

BUILDER/DEVELOPER'S/ CERTIFICATE

I/WE CERTIFY THAT THE REQUIRED LANDSCAPING WILL BE DONE ACCORDING TO THE PLAN, THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF NOTICE ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
Harry Bowie 9-3-03
HARRY BOWIE DATE

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.
Earl D. Collins 9-3-03
Earl D. Collins Date

BUILDER/DEVELOPER'S CERTIFICATE

I/WE certify that all development and construction will be done according to this plan, for sediment and erosion control and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.
Harry Bowie 9-3-03
Signature of Developer HARRY BOWIE Date

Reviewed for HOWARD SCD and meets Technical Requirements.
U.S.D.A. - Natural Resources Conservation Service
This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
WJC
Date

OWNER		BUILDER/DEVELOPER	
THE HOWARD RESEARCH & DEVELOPMENT CORP.	10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 410-992-6000	NU-HOMES	10630 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 410-730-2100

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chris Hamilton 09/1/03
Chief, Department of Planning and Zoning
Mark A. Wajda 10/3/03
Director - Department of Planning and Zoning

PROJECT	SECTION	LOTS NO.
EMERSON	SECTION 2 PHASE 4	910,49,50 & 97-102

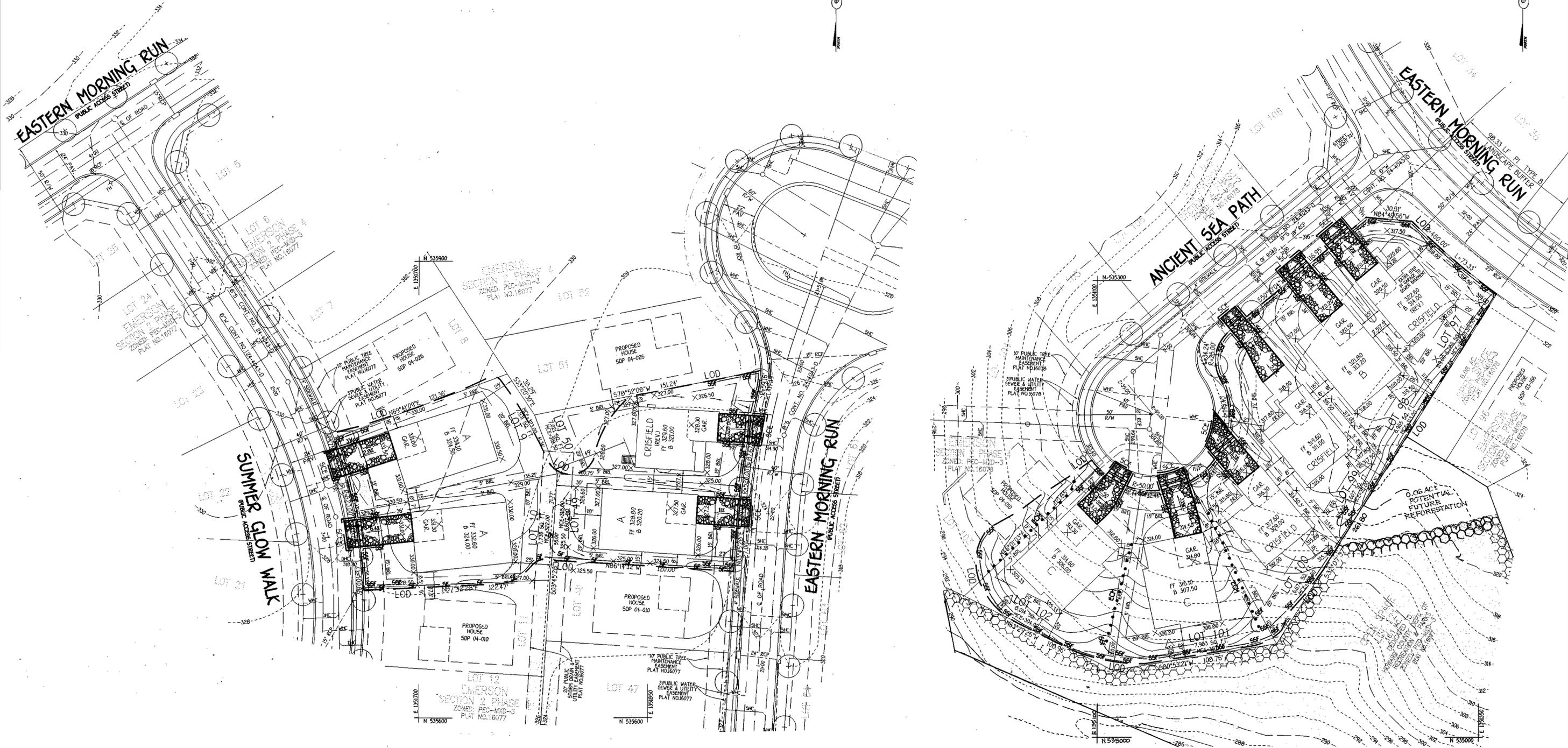
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
16077 16078	B	PEC-MXD-3	47	SIXTH	6068.02

WATER CODE	SEWER CODE
E-15	7640000

TITLE SHEET

SINGLE FAMILY DETACHED
EMERSON
SECTION 2 PHASE 4
LOTS 910,49,50 & 97-102
TAX MAP NO: 47 PARCEL NO.: 3, 462 & 837 GRID NO.: B
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' DATE: JUNE, 2003
SHEET 1 OF 4

SDP-04-04



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE
 ELKOTI CITY, MARYLAND 21042
 410-44-2959

NO.	REVISION	DATE



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.
 Signature of Engineer: *Earl D. Collins* Date: 9.3.03
 EARL D. COLLINS
DEVELOPER'S CERTIFICATE
 I/we certify that all development and construction will be done according to this plan, for sediment and erosion control and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.
 Signature of Developer: *Harry Bowie* Date: 9.3.03
 HARRY BOWIE

Reviewed for HOWARD SCD and meets Technical Requirements.
 Signature: *Jim Meyer* Date: 9/15/03
 U.S.D.A. - Natural Resources Conservation Service
 This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
 Signature: *John R. Robertson* Date: 9/15/03
 HOWARD SCD

OWNER
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-992-6000

BUILDER/DEVELOPER
 NJ HOMES
 10630 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-730-2100

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Signature: *Andra Hamilton* Date: Oct 1, 03
 Chief, Division of Development
 Signature: *Mark A. Leary* Date: 9/22/03
 Chief, Development Engineering Division
 Director - Department of Planning and Zoning

PROJECT	SECTION	LOTS NO.
EMERSON	SECTION 2 PHASE 4	9,10,49,50 & 97-102
PLAT	BLOCK NO.	ZONE
16077 16078	8	PEC-MXD-3
WATER CODE	TAX/ZONE	ELEC. DIST.
E-15	47	SIXTH
SEWER CODE	CENSUS TR.	
7640000	6068.02	

SEDIMENT/EROSION CONTROL PLAN

**SINGLE FAMILY DETACHED
 EMERSON
 SECTION 2 PHASE 4
 LOTS 9,10,49,50 & 97-102**

TAX MAP NO.: 47 PARCEL NO.: 3, 462 & 837 GRID NO.: 8
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 30' DATE: JUNE, 2003
 SHEET 3 OF 4

SDP-04-014

J:\50001 Emerson Property\dwg\Sec2\Phase4\16077 No Homes\81857 Sec.Lots.9,10,49,50 & 97-102.dwg, 8/25/2003 4:44:27 PM

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, it is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff 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 stabilization, cleared areas being left idle between construction activities, etc. For Permanent Seeding are down, drain, 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 over 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 quality by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seeded 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

- Site Preparation**
 - Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
 - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
 - Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
- 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 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 analyses.
 - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. There may be substitution for fertilizers only upon approval from the appropriate approval authority. Fertilizers shall be delivered to the site fully baled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the producer.
 - Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 90% total oxides calcium oxide plus magnesium oxide. Limestone shall be ground to such fineness that at least 50% will pass through a 100 mesh sieve and 90-100% will pass through a 20 mesh sieve.
 - Incorporate lime and fertilizer into the top 3-5" of soil by disk or other suitable means.

- Seeded Preparation**
 - Temporary Seeding**
 - Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or ripper mounted on construction equipment. After the soil is loosened it should be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - In incorporate lime and fertilizer into the top 3-5" of soil by disk or other suitable means.
 - Permanent Seeding**
 - Minimum soil conditions required for permanent vegetative establishment:
 - Soil pH shall be between 6.0 and 7.0.
 - Soil salinity shall be less than 500 parts per million (ppm).
 - The soil shall contain less than 40% clay, but enough fine grained material (200 mesh) to provide the capacity to hold a moderate amount of moisture. An exception is if loesslike soils, which are known to be erodible, are to be planted, then a silty soil (30% silt plus clay) would be acceptable.
 - Soil shall contain 1.5% minimum organic matter by weight.
 - Soil must contain sufficient pore space to permit adequate root penetration.
 - If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standards and Specifications for Topsoil.
 - Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
 - Apply soil amendments as per soil test or as indicated on the plans.
 - Soil amendments into the top 3-5" of topsoil by disk or other suitable means. Lawn areas should be rolled to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seeded preparation, loosen surface soil by digging with a heavy chain or other equipment to roughen the surface. Steep slopes should be scarified or otherwise loosened by disk leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seeding loosening may not be necessary on newly disturbed areas.

- Seed Specifications**
 - All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this plan.
 - Seed lots shall be made available to the inspector to inspect the seed and rate of seed used.
 - Inoculant** - The inoculant for free-living legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on 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°F will cause weaning bacteria and make the inoculant less effective.
- Methods of Seeding**
 - Hydroseeding** - Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
 - If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen maximum of 100 lbs. per acre total of soluble nitrogen; P2O5 (phosphorous) 200 lbs/acre; K2O (potassium) 200 lbs/acre.
 - 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 lime or hydrated lime when hydroseeding.
 - Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
 - Dry Seeding** - This includes use of conventional drop or broadcast spreaders.
 - Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 205 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
 - Where practical, seed should be applied in two directions perpendicular to each other.
 - Apply the seeding rate in each direction.
 - Drill or Cultipacker Seeding** - Mechanized seeders that apply and cover seed with soil.
 - Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4" of soil covering. Seeded mix shall be firm after planting.
 - Where practical, seed should be applied in two directions perpendicular to each other.
 - Apply half the seeding rate in each direction.

- Mulch Specifications (in order of preference)**
 - Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be moist, moldy, clumped, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
 - Wood Cellulose Fiber Mulch (WCFM)
 - WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - WCFM shall be dried green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
 - WCFM included dye shall contain no germination or growth inhibiting factors.
 - WCFM materials shall 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 shall form a better-lie ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - WCFM material shall contain no elements or compounds at concentration levels that will be phytotoxic.
 - WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 6.0 to 8.5, ash content of less than 10% and water holding capacity of 90% minimum.

Note: Only sterile straw mulch should be used in areas where any species of grass is desired.

- Mulching Seeded Areas** - Mulch shall be applied to all seeded areas immediately after seeding.
 - If grading is completed outside of the seeding season, mulch shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
 - When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
 - Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1500 lbs. per acre. The wood cellulose fiber shall be mixed with water and the moisture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
- Securing Straw Mulch (Mulch Anchoring)** - Mulch anchoring shall be performed immediately following application to minimize loss by wind or water. This may be done by one of the following methods listed by preference, depending upon size of area and erosion hazard:
 - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to steeper slopes where equipment can operate safely. If used on steep slopes, the fiber binder should be used on the contour if possible.
 - Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the moisture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Application of liquid binders should be heavier at the edges where wind catches mulch such as in valleys and crest of banks. The remainder of binders should be applied uniform after binder application. Synthetic binders - such as Acrylic DLE (Agro-Tack), DCA-70 (Petrolac), Terra Tex II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
 - Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.
- Incremental Stabilization - Cut Slopes**
 - All cut slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in 15' increments not to exceed 15'.
 - Construction sequence (refer to Figure 3 below):
 - Excavate and stabilize all temporary access, side ditches, or berms that will be used to convey runoff from the excavation.
 - Perform Phase 1 excavation, dress, and stabilize.
 - Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
 - Perform final phase excavation, dress 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 of completing the operation of the seeding season will necessitate the application of temporary stabilization.

- Incremental Stabilization of Embankments - Fill Slopes**
 - Embankments shall be constructed in lifts as prescribed on the plans.
 - Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15' or when the grading operation ceases as prescribed in the plans.
 - At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
 - Construction sequence: Refer to Figure 4 below.
 - Excavate and stabilize all temporary access, side ditches, or berms that will be used to divert runoff around the fill. Construct slope lifts as shown in Figure 5, unless other methods shown on the plans address this area.
 - Phase 1: embankment, dress and stabilize.
 - Phase 2: embankment, dress and stabilize.
 - Phase 3: final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.

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

SEDIMENT CONTROL NOTES

- 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.
- 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 THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 30 DAYS.
- CULVERTS, DRAINS FOR ALL PERMITS, STRUCTURES, STRUCTURES, DICES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, BY 14 DAYS.
- AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE, ALL SEDIMENT TRAPPING DEVICES MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 11, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL SEDIMENT TRAPPING DEVICES MUST BE FENCED AND WARNING SIGNS POSTED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 50, 500 (SEC. 5A), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 50). TEMPORARY SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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 HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	1603 ACRES
AREA 1 TO BE ROOFED OR PAVED	1294 ACRES
AREA 1 TO BE VEGETATIVELY STABILIZED	0570 ACRES
TOTAL CUT	? CUBIC YDS.
TOTAL FILL	? CUBIC YDS.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seeded Preparation - Loosen upper three inches of soil by rolling, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments - In lieu of soil test recommendations, use one of the following schedules:

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaformaldehyde (9 lbs. per 1000 sq.ft.).
 - Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.
- Seeding** - For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:

- 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
 - Use seed.
 - Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.
- Mulching** - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding.
- Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.
- Maintenance** - Inspect all seeded areas and make needed repairs, replacements and reseedings.

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT 7 DAYS
- INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS SHOWN ON PLAN 7 DAYS
- CLEAR AND CLIMB TO LIMITS OF DISTURBANCE 4 DAYS
- INSTALL TEMPORARY SEEDING 2 DAYS
- CONSTRUCT TIDINGS 60 DAYS
- FINE GRADE SITE AND INSTALL PERMANENT SEEDING AND LANDSCAPE 14 DAYS
- REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED AND PERMITS ARE GRANTED BY ERS CONTROL INSPECTOR 7 DAYS

STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, medium to high salinity, and/or unacceptable soil gradation.

Conditions Where Practice Applies

- This practice 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.
 - 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.

For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

- Topsoil salvaged from the existing site may be used provided that it meets the standards 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 in cooperation with Maryland Agricultural Experimental Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silty loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Rock fragments, gravel shall not be more than 3% of the total weight and shall contain less than 5% by volume of cinders, stones, shells, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
 - Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, or other noxious weeds.
 - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over deepened areas and worked into the soil in conformance with tillage operations as described in the following procedures:
 - For sites having disturbed areas over 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
 - For sites having disturbed areas over 5 acres:
 - On soil meeting topsoil specifications, obtain test results regarding fertilizer and lime amendments required to bring the soil into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - Organic content of topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No acid or seed shall 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 phytotoxic materials.

Note: 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

- When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Drain Dikes, Slope Silt Fence and Sediment Traps and Basins.
- Grades on the areas to be topsoiled, which have been previously established, shall be maintained, about 6" - 8" higher in elevation.
- Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seedbed can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
- Topsoil shall not be placed while 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 seeded preparation.

Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as follows:

- Composted sludge shall be applied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
- Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If the compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
- Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
- Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Seeding, HD-VIA, Pub. Oct. 1997, Extension Service, University of Maryland and Virginia Polytechnic Institute. Revised 1973.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

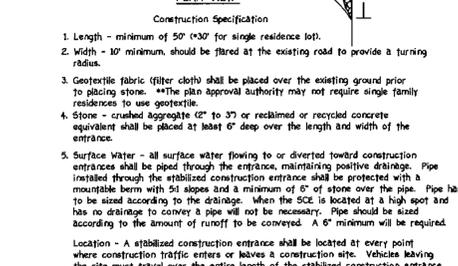
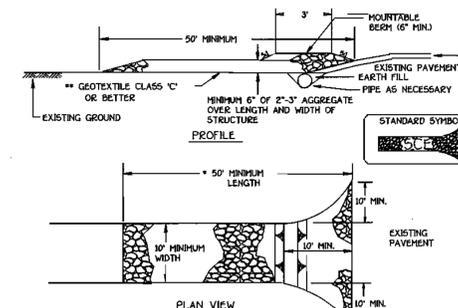
Seeded Preparation - Loosen upper three inches of soil by rolling, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments - In lieu of soil test recommendations, use one of the following schedules:

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaformaldehyde (9 lbs. per 1000 sq.ft.).
 - Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.
- Seeding** - For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:

- 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
 - Use seed.
 - Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.
- Mulching** - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding.
- Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.
- Maintenance** - Inspect all seeded areas and make needed repairs, replacements and reseedings.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.



STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

Slope	Slope Steepness	Slope Length (Minimum)	Silt Fence Length (Minimum)
0 - 10%	0 - 10L	Unlimited	Unlimited
10 - 20%	10L - 20L	200 feet	1500 feet
20 - 33%	20 - 33L	100 feet	1000 feet
33 - 50%	33 - 50L	100 feet	500 feet
50% +	50L +	50 feet	250 feet

DESIGN CRITERIA

Design Criteria	Test Method	Test Method
Tensile Strength	50 lbs/in (min)	Test MSMT 509
Tensile Modulus	20 lbs/in (min)	Test MSMT 509
Flow Rate	0.3 gpm / (minute max)	Test MSMT 322
Filtering Efficiency	75% (min)	Test MSMT 322

CONSTRUCTION SPECIFICATIONS

- Fence shall be a minimum of 36" long driven 18" minimum into the ground. Wood posts shall be 1 1/2" x 2" square (minimum cut), or 1 3/4" diameter (minimum round) and shall be of sound quality hardwood. Steel posts shall be standard T or U section weighing not less than 1.00 pound per linear foot.
- Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

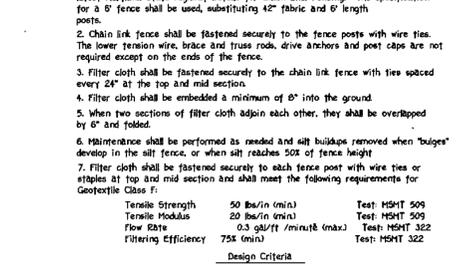
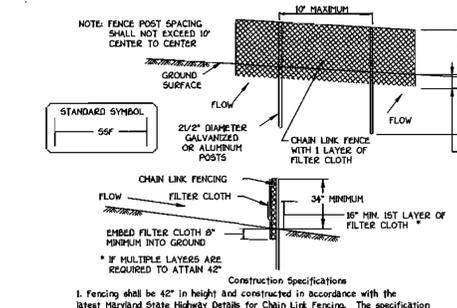
Tensile Strength	50 lbs/in (min)	Test MSMT 509
Tensile Modulus	20 lbs/in (min)	Test MSMT 509
Flow Rate	0.3 gpm / (minute max)	Test MSMT 322
Filtering Efficiency	75% (min)	Test MSMT 322
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Silt fence shall be inspected after each rainfall event and maintained when needed or when sediment accumulation reached 50% of the fabric height.

SILT FENCE

NOT TO SCALE

Slope Steepness	(Minimum)	(Maximum)	Silt Fence Length
Filterer than 50%	unlimited	unlimited	unlimited
50% to 10%	125 feet	1000 feet	750 feet
10% to 5%	100 feet	500 feet	500 feet
5% to 3%	60 feet	250 feet	250 feet
3% to 2%	40 feet	125 feet	125 feet
2% and steeper	20 feet	20 feet	20 feet

Note: In areas of less than 2% slope and sandy soils USDA general classification system, soil class A maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.



SUPER SILT FENCE

NOT TO SCALE

Slope Steepness	(Minimum)	(Maximum)	Silt Fence Length
Filterer than 50%	unlimited	unlimited	unlimited
50% to 10%	125 feet	1000 feet	750 feet
10% to 5%	100 feet	500 feet	500 feet
5% to 3%	60 feet	250 feet	250 feet
3% to 2%	40 feet	125 feet	125 feet
2% and steeper	20 feet	20 feet	20 feet

Note: In areas of less than 2% slope and sandy soils USDA general classification system, soil class A maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

CONSTRUCTION SPECIFICATIONS

- Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamping firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
- Staple the 4" overlap in the channel center using an 18" spacing between staples.
- Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
- Staples shall be placed 2' apart with 4 rows for each strip. 2 outer rows, and

PLANTING SPECIFICATIONS

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein. All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug, no holding in plants from cold storage will be accepted. Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Guidelines for Baltimore-Washington Metropolitan Areas", hereinafter "Landscape Guidelines" approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects, latest edition, including all addenda.

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line.

Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of completion of site construction.

Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications.

Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence.

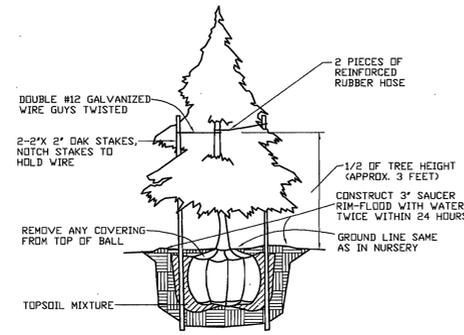
All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

Positive drainage shall be maintained in planting beds 2 percent slope.

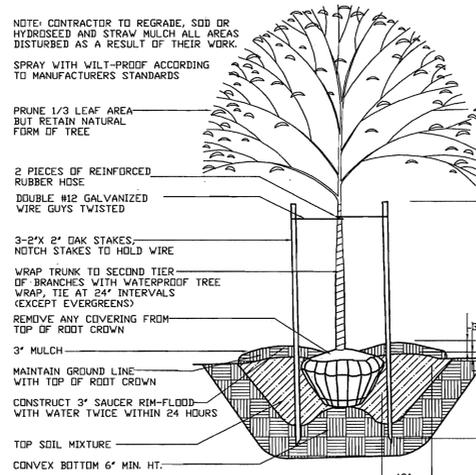
Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific ground cover to be treated.

All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded. This plan is intended for landscape use only; see other plan sheets for more information on grading, sediment control, layout, etc.



EVERGREEN PLANTING DETAIL
NOT TO SCALE

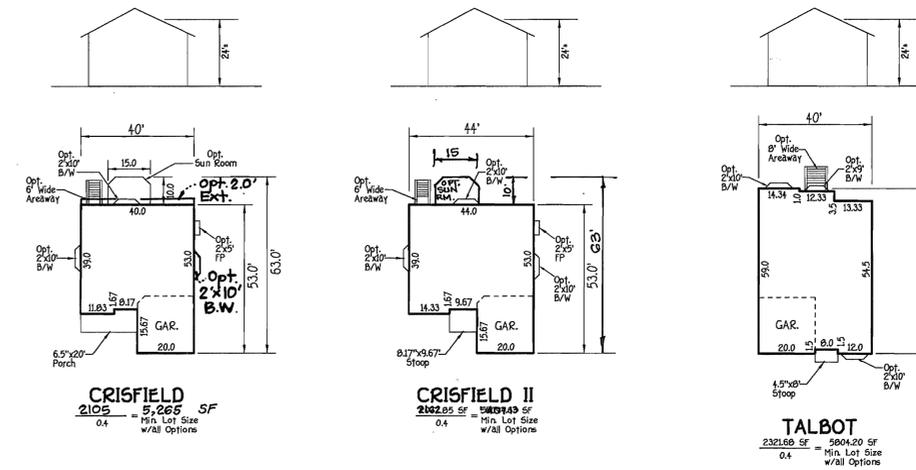


TREE PLANTING DETAIL
NOT TO SCALE

MODIFIED SCHEDULE C LANDSCAPE CHART								
LOT NO.	LOT CLASSIFICATION	INTERNAL LANDSCAPING REQUIRED (## OF SHADE TREES)	TYPE B REQUIRED		SHADE TREE CREDIT	REMAINING SHADE TREE OBLIGATION	TOTAL TREES REQUIRED	
			SHADE	EVERGREEN			SHADE	EVERGREEN
LOTS 910,50, 99,01 & 102	NON-WOODED	5 TREES PER LOT	N/A	N/A	0	0	30	0
LOTS 49,98, & 100	NON-WOODED	4 TREES PER LOT	N/A	N/A	0	0	12	0
LOT 97 CORNER	NON-WOODED	4 TREES	2	2	3	1	3	2
TOTAL TREES							45	2

* THIS NUMBER REFLECTS THE MATHEMATICAL CONVERSION OF EVERGREEN TREES TO SHADE TREES (2:1) FOR THE PURPOSE OF MEETING THE INTERNAL PER LOT SHADE TREE OBLIGATION.

SCHEDULE A PERIMETER LANDSCAPE EDGE							
LOT NO.	PERIMETER	CATEGORY (PROPERTIES/ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	NUMBER OF PLANTS REQUIRED		
					SHADE TREES	EVERGREEN TREES	TOTAL TREES
97	P-1	ADJACENT TO ROADWAY	B	98.33'	2	2	4



SURETY AMOUNT FOR THIS PLAN IS IN THE AMOUNT OF \$13,800.00

- LANDSCAPING SURETY FOR LOTS 910,50,99,01 & 102 IS \$1,500.00 PER LOT. LANDSCAPING SURETY FOR LOTS 49,98 & 100 IS \$1,200.00 PER LOT. THE LANDSCAPING SURETY FOR LOT 97 IS \$1,200.00 PER LOT.
- STREET TREES ARE NOT INCLUDED IN MODIFIED SCHEDULE C LANDSCAPE CALCULATIONS.
- TYPE "B" BUFFER OR PERIMETER LANDSCAPE BUFFER WILL BE CREDITED TOWARDS THE LANDSCAPE REQUIREMENTS.
- LANDSCAPING CAN NOT BE PLANTED IN PUBLIC EASEMENTS.
- FINAL PLANTING TYPE AND LOCATION IS SUBJECT TO APPROVAL BY THE ARCHITECTURAL COMMITTEE.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTING HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH HOWARD COUNTY LANDSCAPE MANUAL.
- THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, PLANT MATERIALS, BERRIS FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION AND WHEN NECESSARY, REPAIRED OR REPLACED.
- SIZES OF PLANT MATERIALS MUST CONFORM TO THE REQUIREMENTS OF THE LANDSCAPE MANUAL, CHAPTER IV AND APPENDIX C.

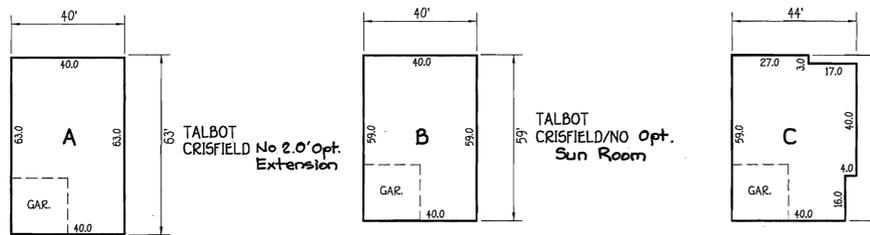
KEY PROPERTY DEVELOPMENT CRITERIA, APPROVED 7/1/99 SECTION VII RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING

THE QUANTITY AND GENERAL LOCATION OF TREES REQUIRED FOR INTERNAL LANDSCAPING ARE DETERMINED BY CRITERIA APPLIED BY THE ARCHITECTURAL COMMITTEE. THE COMMITTEE WILL CLASSIFY, DURING ARCHITECTURAL REVIEW, ALL LOTS AND PARCELS, AS 1) NON-WOODED, 2) SEMI-WOODED, 3) WOODED. SUCH CLASSIFICATION SHALL TAKE INTO ACCOUNT THE EXISTING TREE COVER AND THE POTENTIAL FOR SAVING TREES IN CONNECTION WITH GRADING AND SITING. THIS CRITERIA ALSO CONSIDER THE SIZE OF THE LOT, AMOUNT OF EXISTING VEGETATION AND THE TYPE AND SITING OF RESIDENTIAL UNITS. F. DURING OR AFTER CONSTRUCTION, THE COMMITTEE DETERMINES THAT A BUILDER HAS VIOLATED ANY PROVISION OF TREE PRESERVATION, THE BUILDER WILL BE REQUIRED TO ADD NEW PLANT MATERIAL. SHADE TREE REQUIREMENTS ARE SPECIFIED BY THE FOLLOWING TABLE. DENSITIES REFER TO THE DENSITY OF THE INDIVIDUAL PARCEL.

SHADE TREE REQUIREMENTS

TYPE OF UNIT AND LOT SIZE	MINIMUM NUMBER OF SHADE TREES REQUIRED		
	NON WOODED	SEMI WOODED	WOODED
SMALL RESIDENTIAL LOT (4,000-7,000 SQUARE FEET)	4.0/Lot	2.25/Lot	1.25/Lot
CLUSTER HOUSING			
MEDIUM RESIDENTIAL LOT (7,000-13,000 SQUARE FEET)	5.0/Lot	3.0/Lot	2.0/Lot
2-4 DU./ACRE			

SUBSTITUTION OF TWO FLOWERING TREES OR TWO EVERGREEN TREES FOR EACH SHADE TREE MAY BE PERMITTED FOR UP TO 50% OF THE REQUIRED NUMBER OF SHADE TREES SHOWN IN THE TABLE SUBJECT TO THE APPROVAL OF THE ARCHITECTURAL COMMITTEE. CREDIT MAY ALSO BE GIVEN FOR ANY AREAS REQUIRED TO BE PROVIDED ALONG ROADWAYS, SUBJECT TO THE APPROVAL OF THE ARCHITECTURAL COMMITTEE.



BUILDER/DEVELOPER'S/ CERTIFICATE

I/WE CERTIFY THAT THE REQUIRED LANDSCAPING WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF NOTICE ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Harry Bowie
HARRY BOWIE
9-3-03
DATE

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."

Earl D. Collins
Earl D. Collins
9-3-03
Date

BUILDER/DEVELOPER'S CERTIFICATE

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

Harry Bowie
Harry Bowie
9-3-03
Date

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.-Natural Resources Conservation Service
This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

OWNER

THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUENT PARKWAY
COLUMBIA, MARYLAND 21044
410-992-6000

BUILDER/DEVELOPER

NU-HOMES
10630 LITTLE PATUENT PARKWAY
COLUMBIA, MARYLAND 21044
410-730-2100

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chris Hamilton
Chris Hamilton
9/1/03
Date
Paula D. Wynn
Paula D. Wynn
9/1/03
Date
Director - Department of Planning and Zoning

PROJECT: EMERSON SECTION 2 PHASE 4 LOTS NO. 910,49,50 & 97-102

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
16077 16078	B	PEC-MXD-3	47	SIXTH	6068.02
WATER CODE		SEWER CODE			
E-15		7640000			

LEGEND

SYMBOL	DESCRIPTION
----	EXISTING CONTOUR 2' INTERVAL
+362.2	SPOT ELEVATION
-----	PROPOSED WALKOUT
-SF - SF	SILT FENCE
-S6F - S6F	SUPER SILT FENCE
-----	EROSION CONTROL MATTING
LOD	LIMIT OF DISTURBANCE
-----	FOREST CONSERVATION EASEMENT
(O)	EXISTING STREET TREE TAKEN FROM F-03-13

LEGEND (CONT.)

SYMBOL	DESCRIPTION
XX	Street light provided in accordance w/F-03-013 rd const plans

TITLE SHEET

SINGLE FAMILY DETACHED
EMERSON
SECTION 2 PHASE 4
LOTS 910,49,50 & 97-102

TAX MAP NO: 47 PARCEL NO: 3, 462 & 837 GRID NO: B
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' DATE: JUNE, 2003

SHEET 1 OF 4

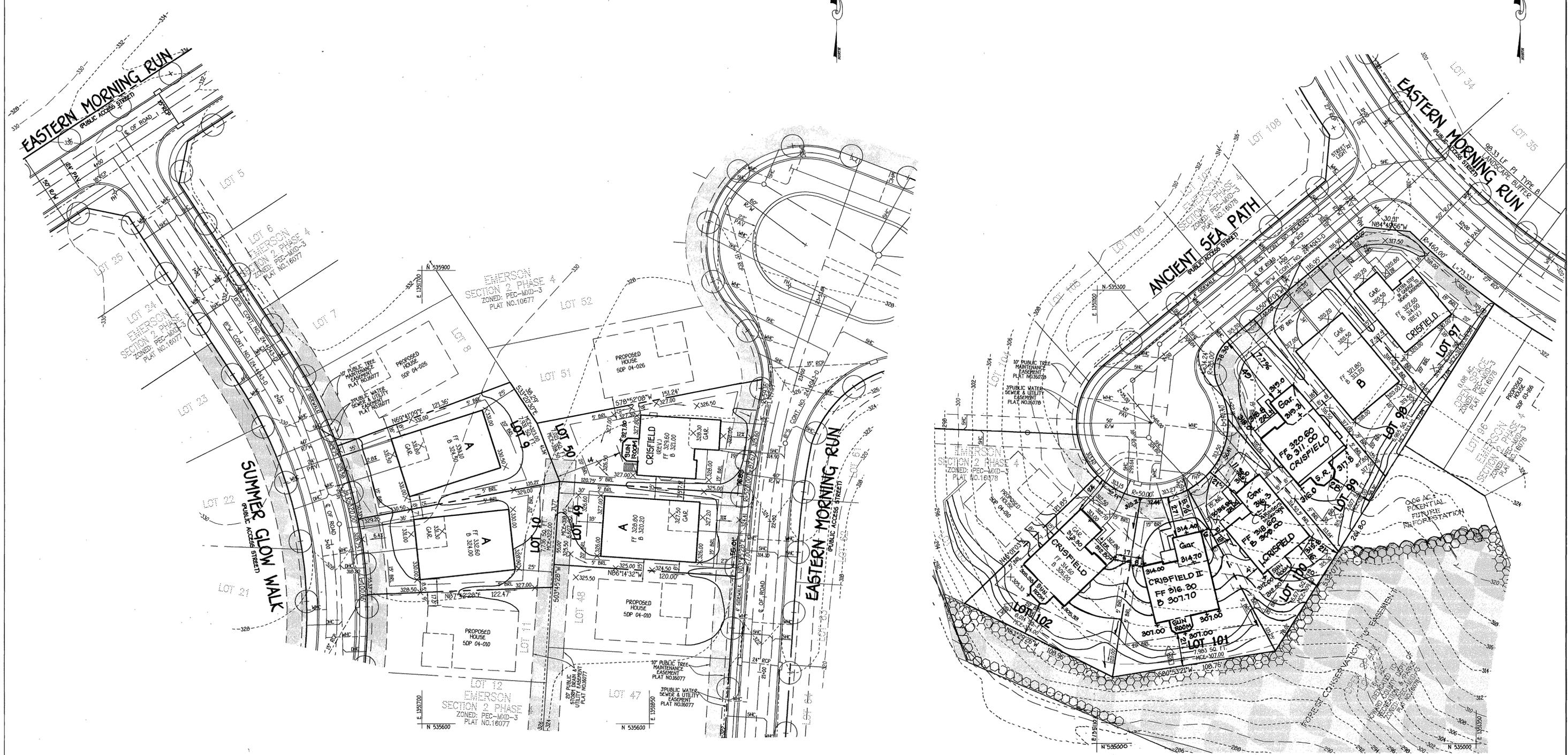
SDP-04-014

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 3822 BELT ROAD NATIONAL FIRE
BELLICO CITY, MARYLAND 21042
410-461-2995



NO.	REVISION	DATE
2	Add Opt Sun Rm. to Crisfield II Model	6/1/04
1	Add Opt 2.0' Ext. to Crisfield Model	3/10/04

J:\00001 Emerson Property\sdg\Sdp04\Phase4\61857_Nu_Homes\61857_Cover_Lots 9, 10, 49, 50 & 97-102.dwg, 6/28/2003, 4:18:55 PM



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELKORT CITY, MARYLAND 21042
 410 481 - 2995

NO.	REVISION	DATE
2	Rev. hse # 49 & 50	7-15-04
1	Add Sun Room to hse, Lot 50	
	Rev. hse type # 49, 50, 101 & 102	6/7/04



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.

Earl D. Collins
 Signature of Engineer EARL D. COLLINS Date **9-3-03**

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

Harry Bowie
 Signature of Developer HARRY BOWIE Date **9-3-03**

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.-Natural Resources Conservation Service
 This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD Date

OWNER
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-992-6000

BUILDER/DEVELOPER
 NU HOMES
 10630 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-730-2100

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Cindy Hamilton
 Chief, Division of Planning and Development Date **Oct 1, 03**

Mark D. Lewis
 Director - Department of Planning and Zoning Date **9/23/03**

PROJECT: EMERSON SECTION 2 PHASE 4 LOTS NO. 9, 10, 49, 50 & 97-102

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
16077 16078	B	PEC-MXD-3	47	SIXTH	6068.02

WATER CODE: E-15 SEWER CODE: 7640000

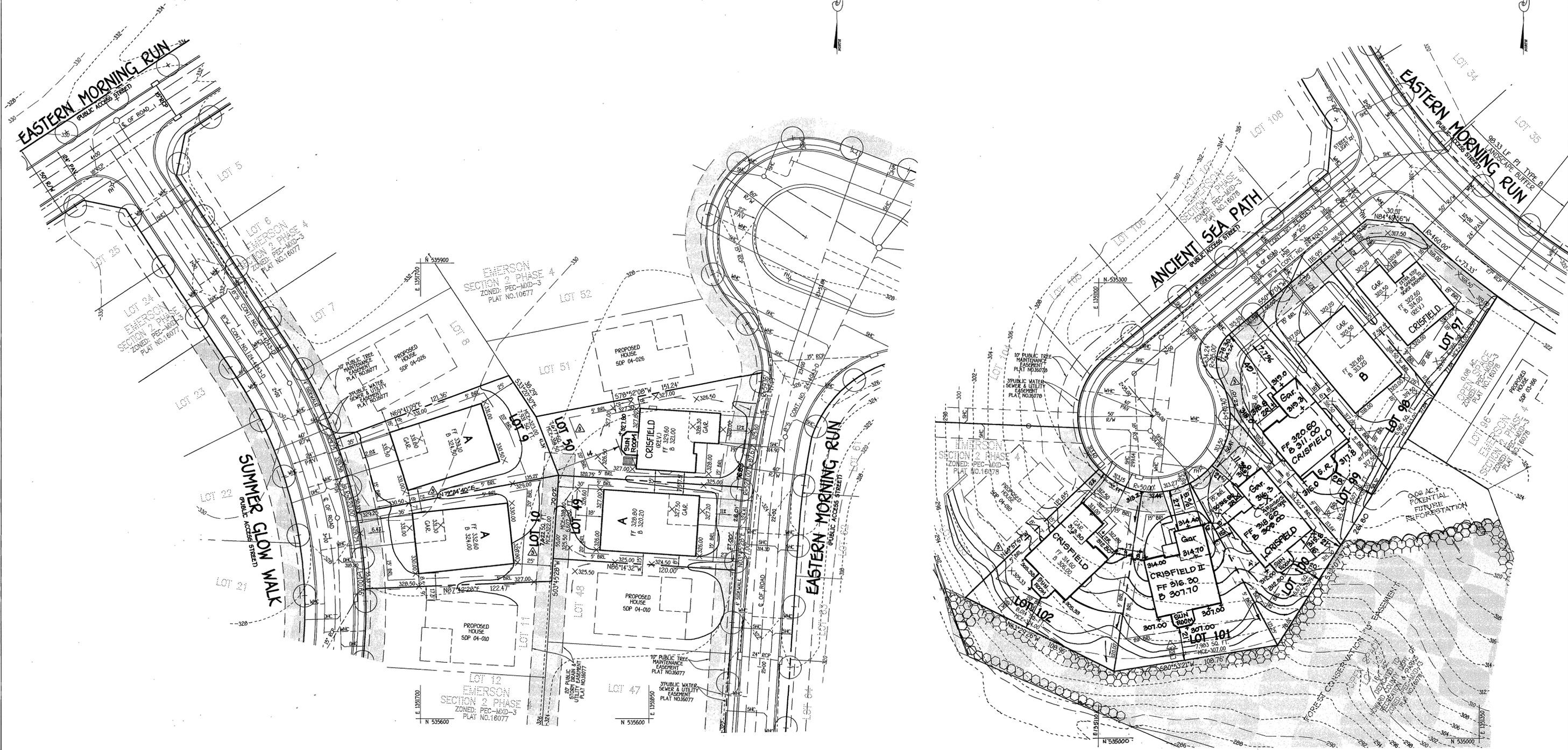
SITE DEVELOPMENT PLAN

SINGLE FAMILY DETACHED
EMERSON
 SECTION 2 PHASE 4
 LOTS 9, 10, 49, 50 & 97-102

TAX MAP NO: 47 PARCEL NO: 3, 462 & 837 GRID NO: 8
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 30' DATE: JUNE, 2003
 SHEET 2 OF 4

SDP-04-014

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FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 16272 BALTIMORE NATIONAL FREE
 ELKLOTT CITY, MARYLAND 21042
 (410) 461-2895

NO.	REVISION	DATE
3	FOR LOTS 9, 10, 49, 50, 97 & 102 REVISED LOT BEARINGS, DISTANCES & AREAS	2-24-04
2	Rev. hse. f. qrd. Lot 101	7-15-04
1	Add Sun Room to hse. Lot 50 Rev. hse. type & qrd., Lots 100, 101 & 102	6/7/04



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."
 Signature of Engineer: *Earl D. Collins* Date: 9-3-03
DEVELOPER'S CERTIFICATE
 "I/We certify that all development and construction will be done according to this plan, for sediment and erosion control and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."
 Signature of Developer: *Harry Bowie* Date: 9-3-03

Reviewed for HOWARD SCD and meets Technical Requirements.
 U.S.D.A.-Natural Resources Conservation Service
 This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
 Signature: *[Signature]* Date: _____
 HOWARD SCD Date: _____
OWNER
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-992-6000
BUILDER/DEVELOPER
 NU HOMES
 10630 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-730-2100

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Planning: *Cindy Hamilton* Date: Oct 1, 03
 Chief, Development Engineering Division: *[Signature]* Date: 9/23/03
 Director - Department of Planning and Zoning: *[Signature]* Date: 1/10/03
 PROJECT: EMERSON SECTION 2 PHASE 4 LOTS NO. 9, 10, 49, 50 & 97-102

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
16077 16078	8	PEC-MXD-3	47	SIXTH	6068.02
WATER CODE	SEWER CODE				
E-15	7640000				

SITE DEVELOPMENT PLAN
 SINGLE FAMILY DETACHED DWELLINGS
EMERSON
 SECTION 2 PHASE 4
 LOTS 9, 10, 49, 50 & 97-102
 TAX MAP NO.: 47 PARCEL NO.: 1053 GRID NO.: B
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 30' DATE: JUNE, 2003
 SHEET 2 OF 4

SDP-04-014