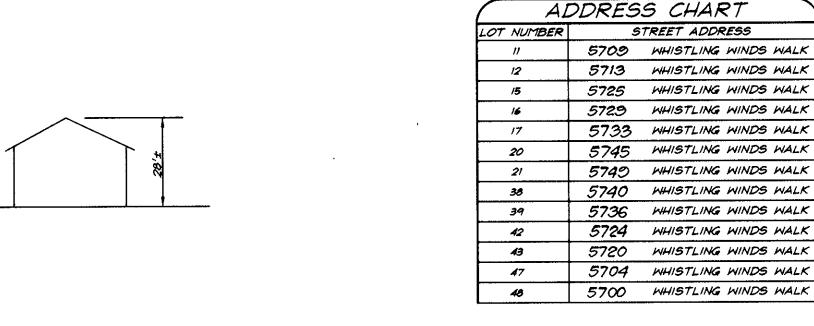


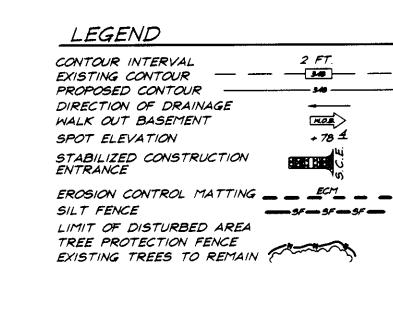
1666.34 SF = 5554.47 SF 0.3 = Min. Lot Size w/all Options

GARRISON

w/Opt. 10'x16' Dack

w/Opt. 10'x16' Deck





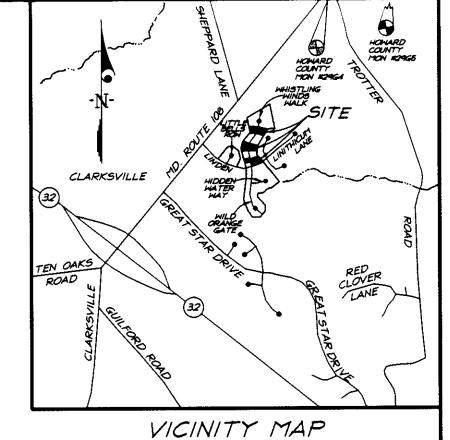
SHEET INDEX

DESCRIPTION ---

SITE DEVELOPMENT PLAN

SEDIMENT AND EROSION CONTROL PLAN

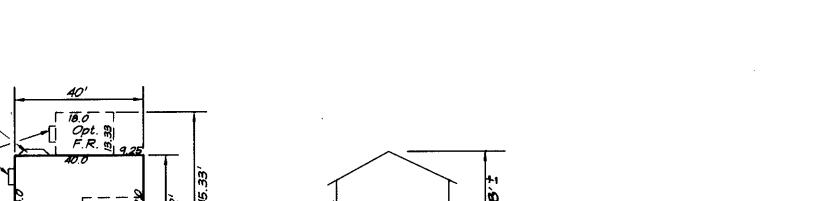
SEDIMENT AND EROSION CONTROL DETAILS

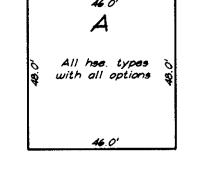


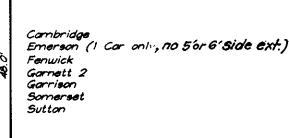
Scale : 1"=2000'

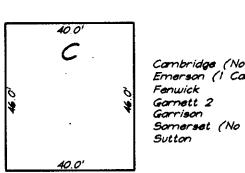
BENCHMARKS: Howard County Monument 29G4 Intersection of MD. Route 108 and Trotter Road

Howard County Monument 29G5 an additional 2,544'± Northeasterly along MD. Route 108 away from Site

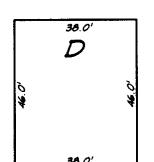








Combridge (No 4' F.R Ext. or 2' Mbr. Ext.) Emerson (1 Car only, no 5' or 6' Side ext.) Somerset (No 4' F.R. Ext.) Sutton



Cambridge (No options) Somerset (No. opt. 4' F.R. Ext.)

GENERAL	NOTES:

SHEET No.

I AND 2

3

- Subject property is zoned: NTSFLD per 10-18-93 Comprehensive Zoning Plan.
- 2. The total area included in this submission is: 2.36 Acres.
- 3. The total number of lots included in this submission is: 13 4. Improvement to property: Single Family Detached
- 5. The maximum lot coverage permitted is: 30%
- 6. Department of Planning and Zoning reference file numbers :
- 5-93-21;P-95-12;F-96-102;F-98-122.
- 7. Utilities shown as existing are taken from approved Water and Sewer plans Contract #34-3586-D, approved Road Construction plans F-96-102, and actual field survey.
- 8. Any damage to county owned rights-of-way shall be corrected at the developer's expense.
- 9. All roadways are public and existing.
- 10. The existing topography was field run by Clark, Finefrock
- and Sackett, Inc., on Feb., 1999 11. The coordinates shown hereon are based upon the Howard
- County Geodetic Control which is based upon the Maryland State Plane Coordinate System - Howard County Monuments Numbers : 29G4 \$ 29G5
- 12. The contractor shall notify the Department of Public Works/ Division of Construction Inspection at (410) 313-1880 at least twenty-four (24) hours prior to the start of work.
- 13. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- 14. For driveway entrance details, refer to Ho. Co. Design Manual Volume IV details R.6.03 \$ R.6.05.
- 15. In accordance with FDP-Phase 222 A Part I bay windows or chimneys not more than 10 feet in width may project not more than 4 feet into any setbacks; porches and decks may project not more than 3 feet into
- the front or rear setbacks. Exterior stairways may not project into any setbacks.

 16. Stormwater Management is provided per : F-96-102.
- 17. SHC Elevations shown are at the Property lines.
- 18. Quantity Stormwater Management for Section 4, Area 5 is provided by three facilities; the refurbished SWM Pond #1 South of Linden Linthicum Lane (F-96-89), The culvert at Great Star Drive (F-96-110) and SWM Pond #4 in Section 4, Area 4 (F-96-130). Quality Management for this section will be provided by three facilities: A forebay North of SWM Pond #1(F-96-89), a shallow marsh facility at the end of Wild Orange Gate and an Extended Detention Facility within Pond #4 (F-96-130). The subdivision is located in the Patuxent River Area Sub-Basin and is a Class I Watershed.

OWNER / DEVELOPER

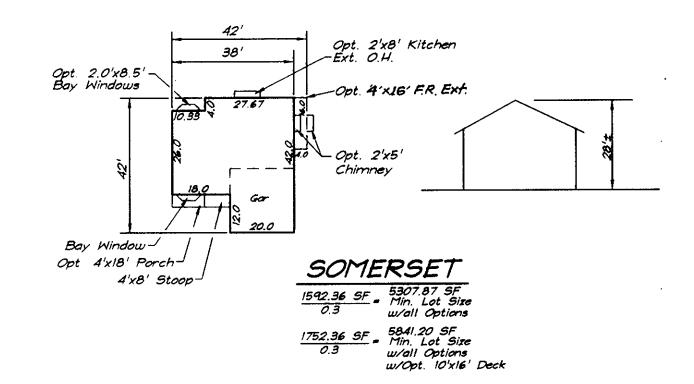
THE HOWARD RESEARCH AND DEVELOPMENT CORP. 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044

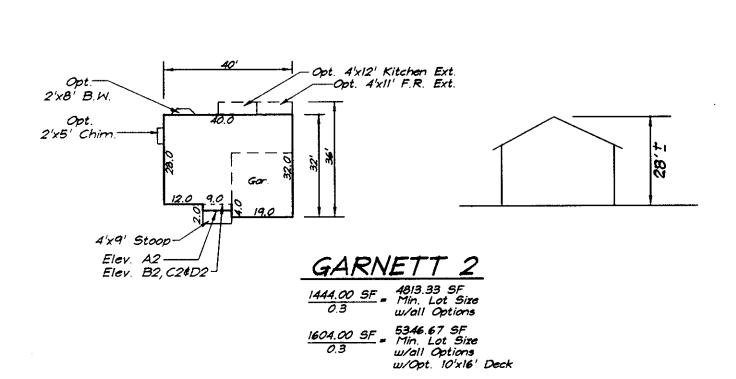
SUBDIVISION N	IAME COLU GE OF RIVI	·— · · ·	SECTION/AREA 4/5	LOTS/PARCELS	38,39,42,43,47 \$ 48
PLAT NO.	BLOCK NO.	ZONE	TAX MAP NO.	ELECTION DIST.	CENSUS TRACT
PLAT NO. 12856 12856	1	NTSFLD	35	5TH	6055
WATER CODE			SEWER CODE		
1-12		<i>6652500</i>			

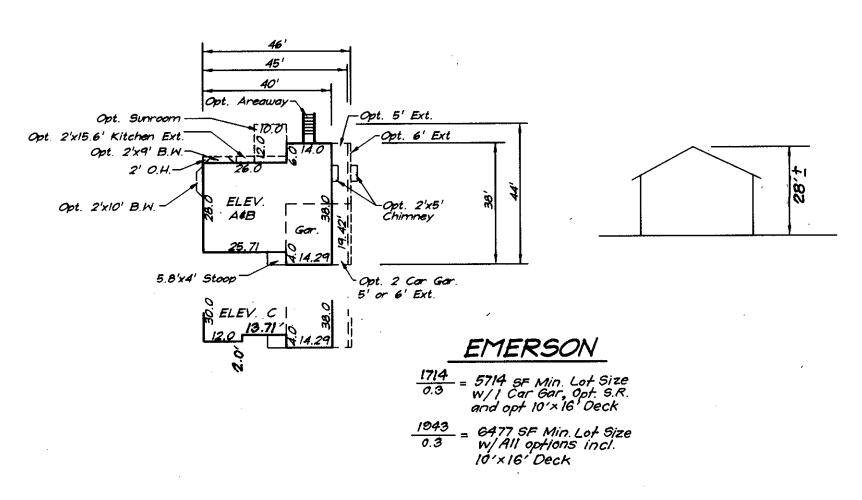


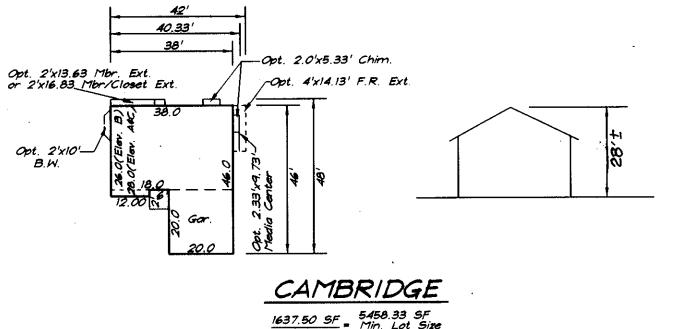
7135 MINSTREL WAY . COLUMBIA, MD 21045 . (410) 381-7500 BALT. . (301) 621-8100 WASH. DESIGNED SITE DEVELOPMENT PLAN LOTS 11, 12, 15, 16, 17, 20, 21, 38, 39, 42, 43, 47 \$ 48 . 1" = 30' COLUMBIA DRAWING DRAWN 1 of 4 BLP/ZH

VILLAGE OF RIVER HILL SECTION 4 AREA 5 JOB NO. CHECKED FIFTH (5th) ELECTION DISTRICT 99-008 HOWARD COUNTY, MARYLAND FILE NO. FOR; RYLAND GROUP, INC. 7250 Parkway Drive 99-008-x 3-1-99 Hanover, Maryland 21076





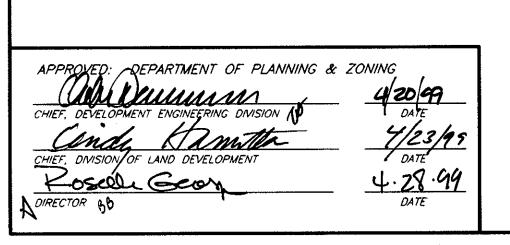




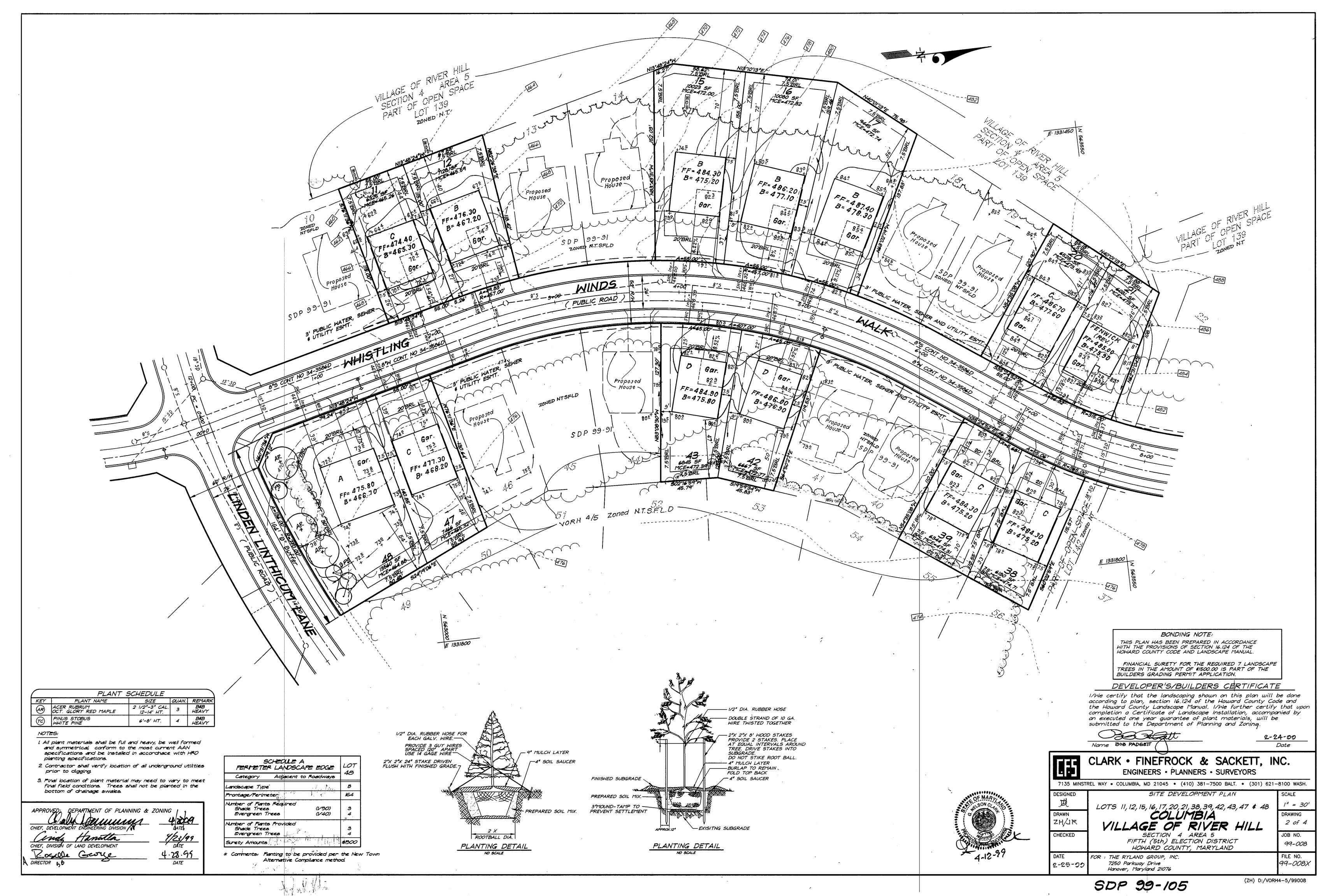
1797.50 SF 5991.67 SF 0.3 Min. Lot Size w/all Options w/Opt 10'x16' Deck

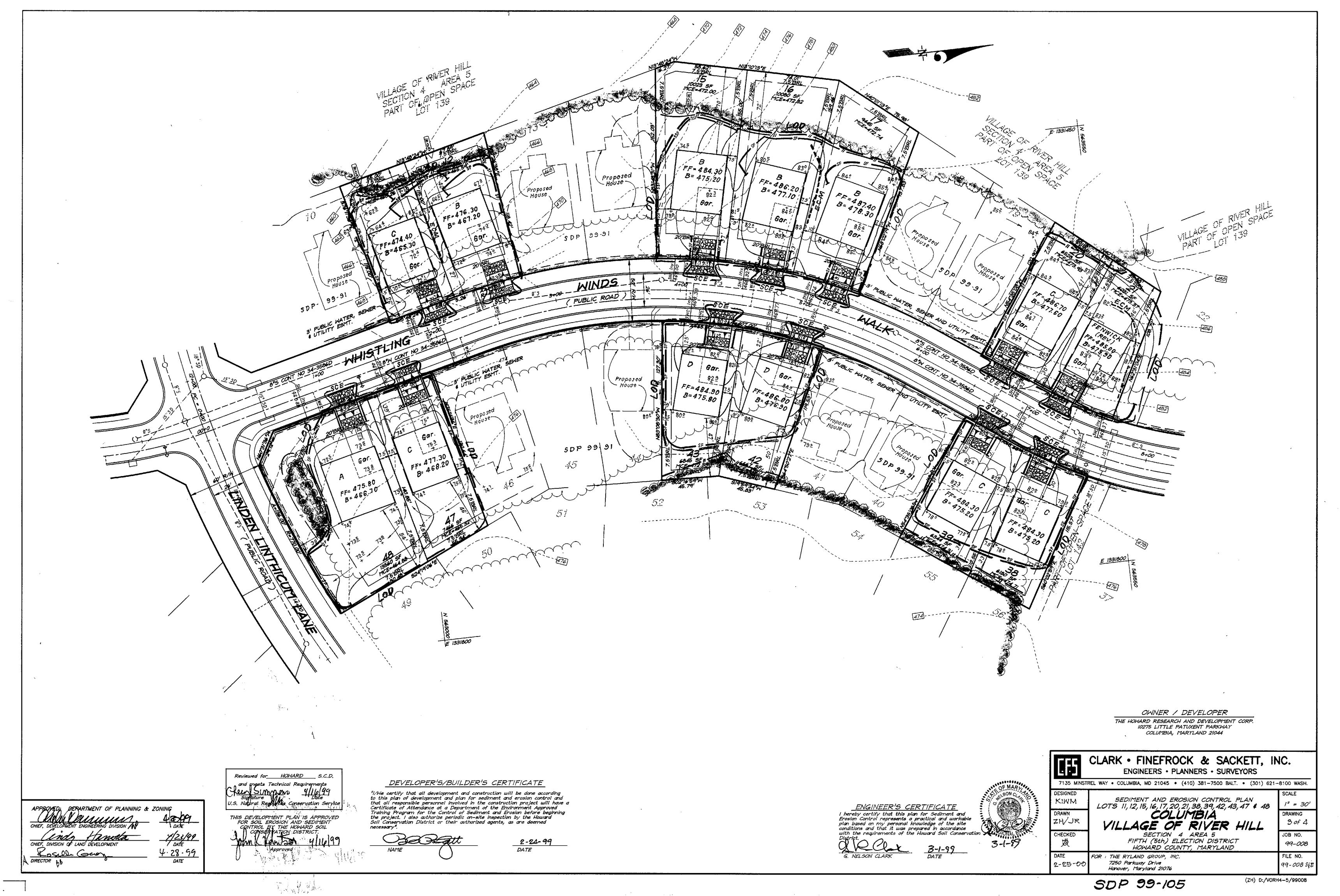
SPECIAL NOTES:

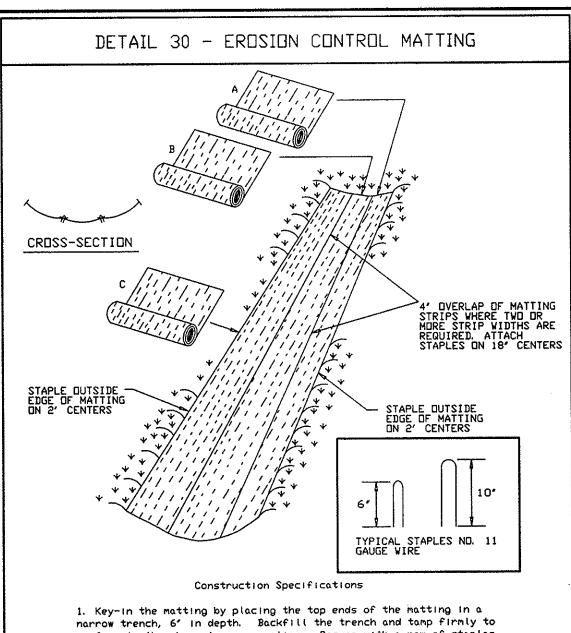
This plan is for house siting and lot grading only. Improvements shown within the rights-of-way on this S.D.P. are not to be used for construction. For construction, see approved Road Construction Plans F-96-102 and/or approved Water and Sewer Plans Contract #34-3586-D.











conform to the channel cross-section. Secure with a row of staples about 4' down slope from the trench. Spacing between staples is 6'.

2. Staple the 4' overlap in the channel center using an 18' spacing between staples. 3. Before stapling the outer edges of the matting, make sure the

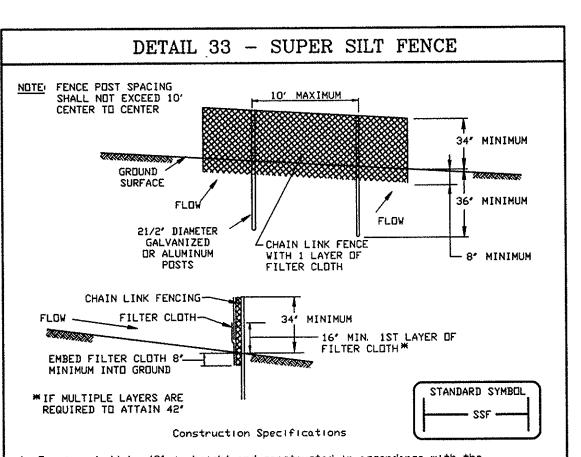
matting is smooth and in firm contact with the soil. 4. Staples shall be placed 2' apart with 4 rows for each strip, 2

outer rows, and 2 alternating rows down the center. 5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4', shiplap fashion. Reinforce the overlap with a double row of staples spaced 6' apart in a staggered pattern on either side.

6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION SOIL CONSERVATION SERVICE



. Fencing shall be 42' in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42' fabric and 6' length

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

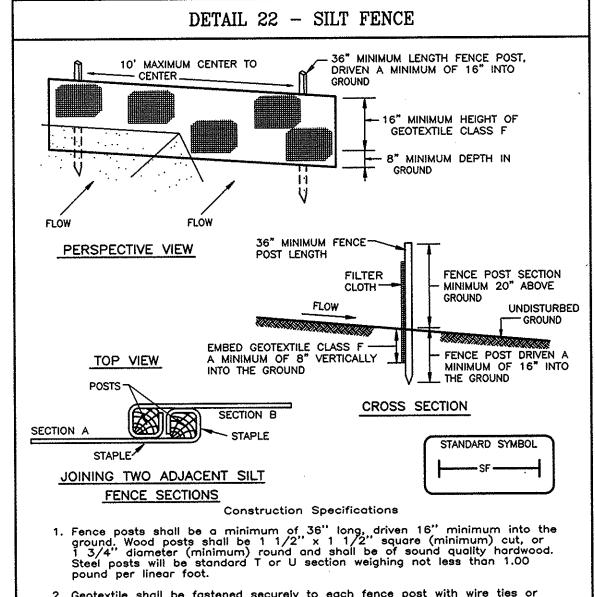
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8' into the ground.

5. When two sections of filter cloth adjoin each other, they shall be overlapped

6. Maintenance shall be performed as needed and silt buildups removed when 'bulges' develop in the silt fence, or when silt reaches 50% of fence height 7. Filter cloth 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 Fi Test: MSMT 509 50 lbs/in (min.) Tensile Strength Testi MSMT 509 Tensile Modulus 20 lbs/in (min.)

Test: MSMT 322 0.3 gal/ft*/minute (max.) Flow Rate Test: MSMT 322 Filtering Efficiency 75% (min.) MARYLAND DEPARTMENT OF ENVIRONMENT U.S. DEPARTMENT OF AGRICULTURE WATER MANAGEMENT ADMINISTRATION SOIL CONSERVATION SERVICE



 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: Test: MSMT 509 Tensile Strength 50 lbs/in (min.) 20 lbs/in (min.) Test: MSMT 509 Tensile Modulus 0.3 gal ft^2 /minute (max.) Test: MSMT 322

75% (min.) Test: MSMT 322 Filtering Eggeciency Where ends of geotextile fabric come together, they shall be overlapped folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reaches 50% of the fabric height.

PAGE

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE — MOUNTARI P BERM (6" MIN.) PAVEMEN - EARTH FILL ** GEOTEXTILE CLASS ---- PIPE AS NECESSARY 'C' OR BETTER MINIMUM 6" OF 2"- 3" AGGREGATE OVER LENGTH - EXISTING GROUND AND WIDTH OF STRUCTURE PROFILE 50' MINIMUM ----73000 **EXISTING** 10' MINIMUM PAVEMENT TANDARD SYMBOL PLAN VIEW SCE X Construction Specification 1. Length — minimum of 50' (* 30' for a single residence lot). Width — 10' minimum, should be flared at the existing road to provide a turning radius. . Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. ** The plan approval authority may not require single family residences to use geotextile. 4. Stone — crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of 5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey, a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required. 6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized con-U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation. II. For sites having disturbed areas under 5 acres: i. Place topsoil (if required) and apply soil amendments as specified in 20,0 Vegetative Stabilization

Purpose

To provide a suitable soil medium for vegetable growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil aradation.

Conditions Where Practice Applies This practice is limited to areas having 2:1 or flatter

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.

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

II. 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

I. Topsoil salvaged from the existing site may be used provided that 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 published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or a soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger that I and 1/2" in

Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

iii. 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 designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

ANCHOR POSTS SHOULD BE HINIMUM 2º STEEL 'U' CHANNEL OR 2º X 2º TIMBER, 6' IN LENGTH

HIGHLY VISABLE FLAGGING

Forest protection device only.
 Retention area will be set as part of the review process.
 Boundaries of retention area should be staked and flagged prior to installing device.
 Roof damage should be avoided.
 Protection signage should be used.
 Device should be maintained throughout construction.

TYPICAL TREE PROTECTION FENCE DETAIL

LAZE ORANGE PLASTIC MESH

Section 1 - Vegetative Stabilization Methods and Materials

For sites having disturbed areas over 5 acres:

to bring the soil into compliance with the following: a. pH for topsoil shall be between 6.0 and 7.5.

I. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required

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.

b. 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.

d. No sod or seed shall be placed on soil soil which

used for weed control until sufficient time has

elapsed (14 days min.) to permit dissipation of

phyto-toxic materials.

NOTE: Topsoll substitutes or amendments, as recommended by a qualified agranomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of

ii. Place topsoil (if required) and apply soil ammendments specified in 20.0 Vegetative Stabilization-Section I-Vegetative Stabilization Methods and Materials.

i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade

been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

or seeding can proceed with a minimum of additional soil

preparation and tillage. Any irregularities in the surface

corrected in order to prevent the formation of depressions

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.

iv. Topsoil shall not be place while the topsoil or

resulting from topsolling or other operations shall be

Stabilization Structures, Earth Dikes, Slope Silt Fence and

II. Grades on the areas to be topsoiled, which have

ili. 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

natural topsoil.

V. Topsoil Application

Sediment Traps and Basins

has been treated with soil sterilants or chemicals

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously

SOIL AMENDMENTS: In lieu of soil test recommendations, use one of

1) Preferred-Apply 2 tons per acre dolomitic limestone (92 lbs/ 100 sq.ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs./ 1000 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 ureaform fertilizer (9 lbs/1000 sq.ft.)

2) Acceptable-Apply 2 tons per ocre dolomatic limestone (92 lbs/ 1000 sq.ft.) and apply 1000 lbs. per acre 10-10-10- fertilizer (23 lbs./1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

SEEDING: For the periods March I thru April 30, and August I thru October 15, seed with 60 lbs. per acre (1.4 lbs/1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May I thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (.05 lbs./1000 sa.ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored

MULCHING: Apply I 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq, ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq.ft.) for anchoring.

MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES SEEDBED PREPARATION: Loosen upper three inches of soil by raking,

discing or other acceptable means before seeding, if not previously

SOIL AMENDMENTS: Apply 600 lbs. per acre 10-10-10 fertilizer

SEEDING: For periods March I thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual rye (3,2 lbs./1000 sq.ft.) For the period May I thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs./1000 sq.ft.). For the period November I thru February 20, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

MULCHING: Apply I 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq.ft.) for anchoring.

ENGINEER'S CERTIFICATE

Erosion Control represents a practical and workable

with the requirements of the Howard Soil Conservation

plan based on my personal knowledge of the site

conditions and that it was prepared in accordance

I hereby certify that this plan for Sediment and

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

SEDIMENT AND EROSION CONTROL NOTES

- I. 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 (313-1855).
- 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 1994 MARYLAND STANDARDS AND SPECS. FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- 3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control stuctures, dikes, perimeter slopes and all slopes greater than 3:1 b) 14 days as to all other disturbed or graded areas on the
- project site. 4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeters in accordance with Vol.1, Chapter 7, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 5. All disturbed areas must be stabilized within the time period specified above, in accordance with the 1994 MARYLAND STAND-ARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings, sod, temporary seeding and mulching (Sec G). Temporary stabilization with mulch alone can only be done when

recommended seeding dates do not allow for proper germination

and establishment of grasses. 6. 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.

7. SITE ANALYSIS: Total Area of Site: ____ Area Disturbed: ______ Area to be roofed or paved. <u> 1.18 Acres</u> Area to be vegetatively stabilized: 1.11 Acres Total Cut: ___ Total Fill: Offsite Waste/Borrow Area Location

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

9. Additional sediment control must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.

10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is

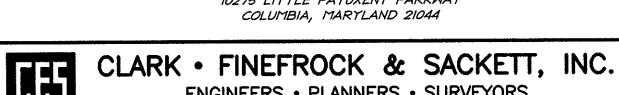
II. Trenches for the construction of utilities is limited to three pipe lenaths or that which shall be back-filled and stabilized within one working day, whichever is shorter.

12. The total amount of silt fence = ___ The total amount of super silt fence =___ 14. The total amount of earth dike = _____

* It is the responsibility of the contractor to identify the spoil/borrow site and notify and gain approval from the sediment control inspector of the site and it's grading permit number at the time of construction.

CONSTRUCTION SEQUENCE: NO. OF DAYS 3. Install sediment and erosion control devices and stabilize. 4. Excavate for foundations, rough grade and temporarily stabilize. 5. Construct structures, sidewalks and driveways. _ 6. Final grade, install Erosion Control Matting and stabilize in accordance with standards and specifications. 7. Upon approval of the sediment control inspector, remove sediment and erosion control devices and stabilize. * Delay construction of houses on lots:

OWNER / DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORP. 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044



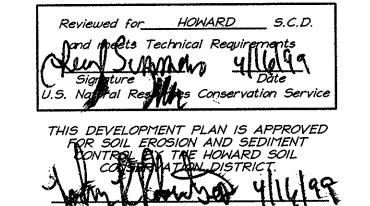
ENGINEERS • PLANNERS • SURVEYORS 7135 MINSTREL WAY . COLUMBIA, MD 21045 . (410) 381-7500 BALT. . (301) 621-8100 WASH. SEDIMENT AND EROSION CONTROL DETAILS

KIWM LOTS 11, 12, 15, 16, 17, 20, 21, 38, 39, 42, 43, 47 \$ 48 COLUMBIA DRAWING DRAWN ZH 4 of 4 VILLAGE OF RIVER HILL JOB NO. CHECKED FIFTH (5th) ELECTION DISTRICT 99-008

HOWARD COUNTY, MARYLAND

FOR; RYLAND GROUP, INC. 7250 Parkway Drive 2-25-00 Hanover, Maryland 21076

4.28.55



DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan of development and plan for sediment and erosion 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 Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed



2-24-00 DATE

