

SCALE: 1"= 30'

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHEET 1 OF 4

DATE: JANUARY, 2005

R-20

SEWER CODE

7640000

FIRST

6069.02

17429 & 17430

E-15

WATER CODE

WILLIAMSBURG GROUP, LLC

5485 HARPERS FARM ROAD

COLUMBIA, MARYLAND 21044

410-997-8800

ANDREW C. & PAUL F. MINTZ

4975 ILCHESTER ROAD

ELLICOTT CITY, MARYLAND 21043

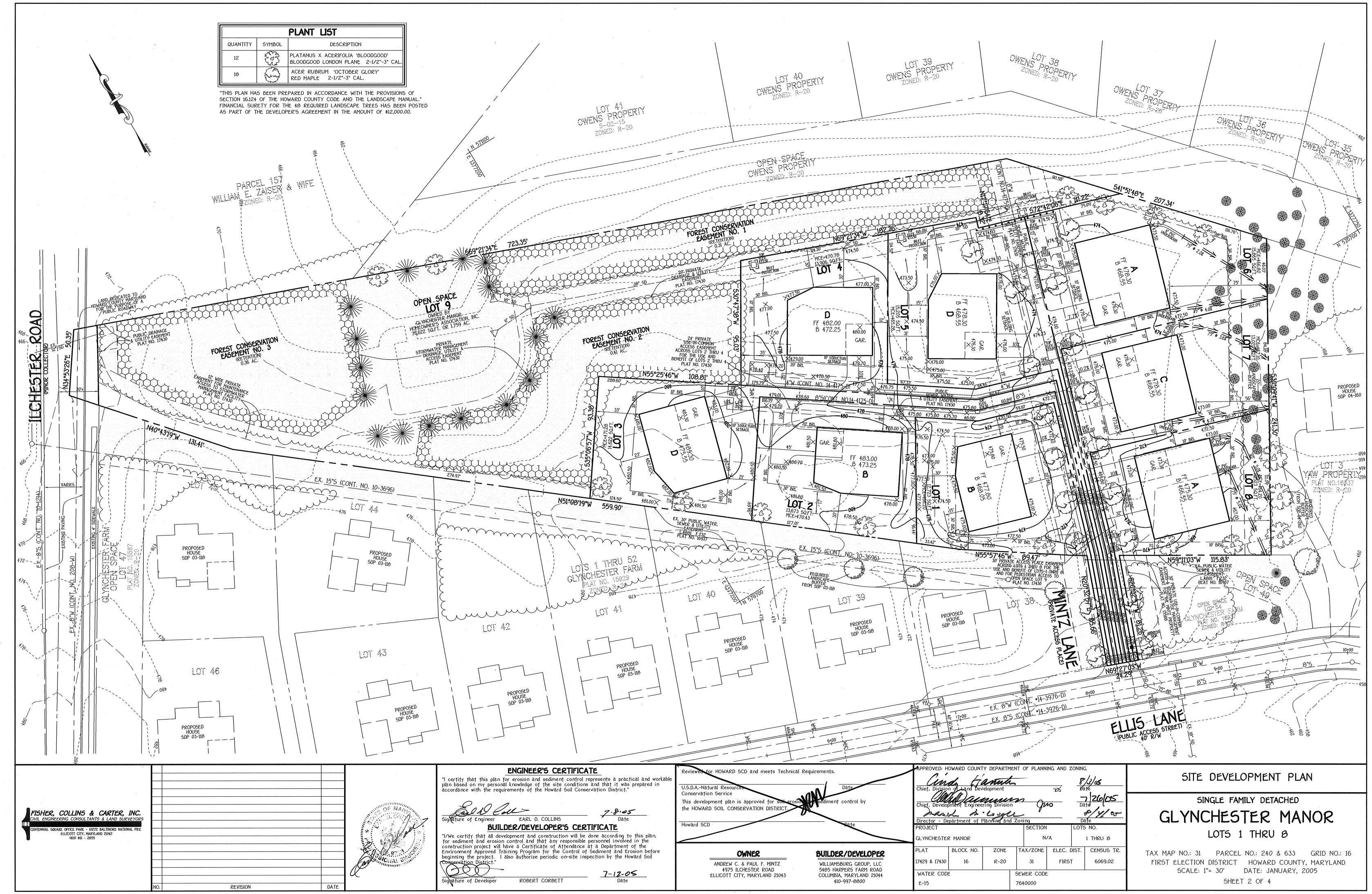
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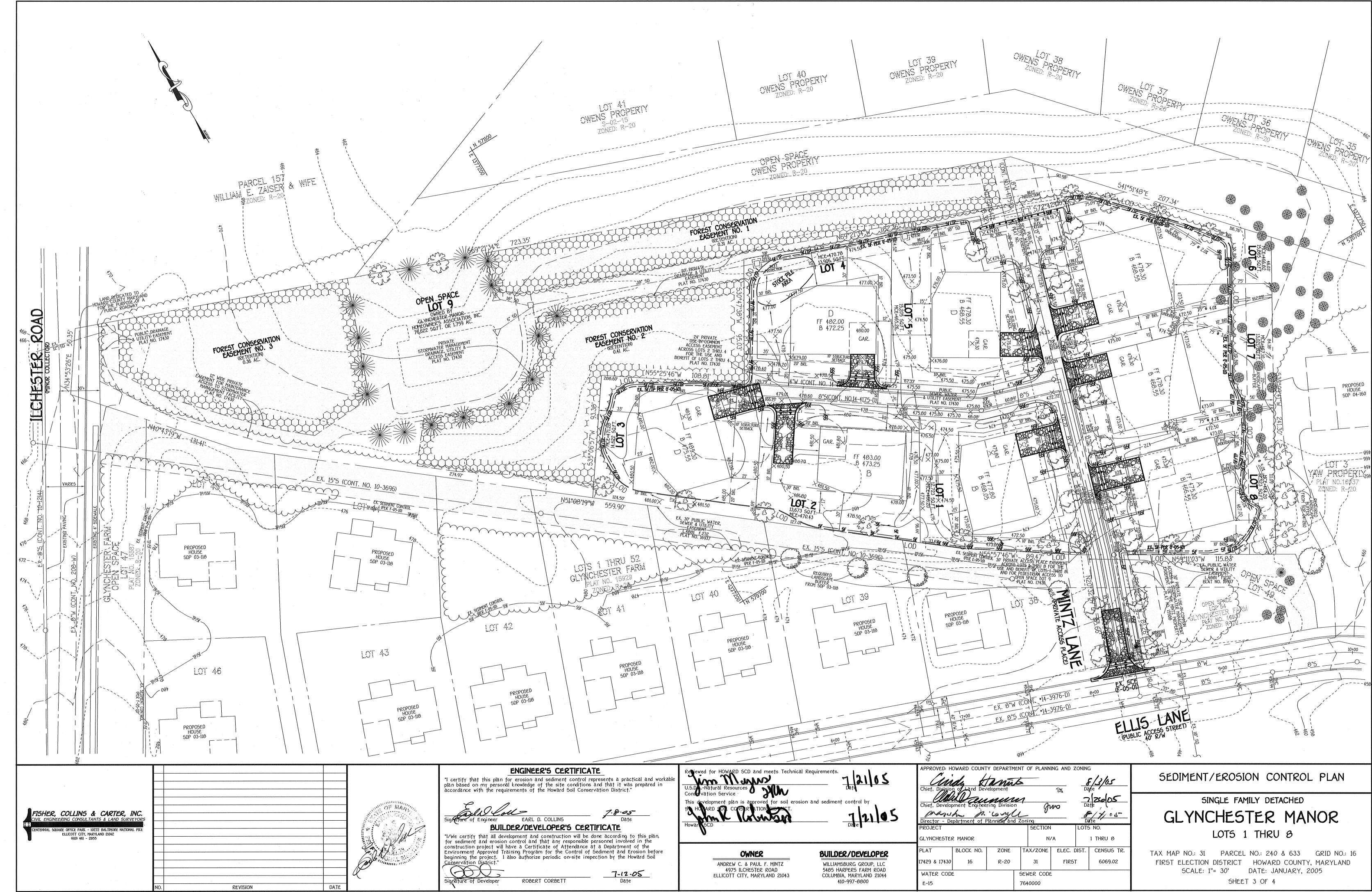
ROBERT CORBETT

Signature of Developer.

REVISION

DATE





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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, 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 O(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, dams, 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 supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seedbed 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

Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins. ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually

necessary for temporary seeding. iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres. B. Soil Amendments (Fertilizer and Lime Specifications)

i. 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.

ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.

iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% 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 98-100% will pass through a •20

iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means. Seedbed Preparation Temporary Seeding

a. Seedbed 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 rippers mounted on construction equipment. After the soil is loosened it should not 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. b. Apply fertilizer and lime as prescribed on the plans.

In corporate lime and fertilizer into the top 3-5° of soil by disking or other suitable means.

a. Minimum soil conditions required for permanent vegetative establishment:
 1. Soil pH shall be between 6.0 and 7.0.

Soluble salts shall be less than 500 parts per million (ppm). 3. The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedezas is to be planted, then a sandy 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 6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.

b. 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 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 included on the plans. d. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked 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 seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer 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. Seedbed loosening may not be necessary on

i. 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

mmediately preceding the date of sowing such material on this job. Note: Seed tags shall be made available to the inspector to verify type and rate of seed used. ii. Inoculant - The inoculant for treating 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°-80° F. can weaken 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

a. 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;

P205 (phosphorous); 200 lbs/ac; K20 (potassium): 200 lbs/ac. b. Lime - use only ground agricultural limestone, (Up to 3 tons per acre may be applied b hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one ime. Do not use burnt or hydrated lime when hydroseed

Seed and fertilizer shall be mixed on site and seeding shall be done immediately and ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

 a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the emporary or Permanent Seeding Summaries or Tables 265 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 half the seeding rate in each direction.

iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting. Where practical, seed should be applied in two directions perpendicular to each other.

F. 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 musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.

ii. Wood Cellulose Fiber Mulch (WCFM) a. WCFM shall consist of specially prepared wood cellulose processed into a uniform

fibrous physical state.

WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry. WCFM, including 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 agitatio and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having

moisture absorption and percolation properties and shall cover and hold grass see 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 phytol-toxic.

WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum. Note: Only sterile straw mulch should be used in areas where one species of grass is desired

Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.

i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed n this section and maintained until the seeding season returns and seeding can be performed in

accordance with these specifications. ii. 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.

iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture 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 mulch

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 flatter slopes where equipment can operate safely. It used on sloping

land, this practice 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 mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons

iii. 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 area should be appear uniform after binder application. Synthetic binders – such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the

iv. 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.

1. Incremental Stabilization - Cut Slopes i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.

ii. Construction sequence (Refer to Figure 3 below):

a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation. Perform Phase 1 excavation, dress, and stabilize.

c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as

necessary.
d. Perform final phase excavation, dress and stabilize. Overseed previously seeded

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 int he operation of completing the operation out 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.

iii. 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

à sediment trapping device. iv. Construction sequence: Refer to Figure 4 (below).

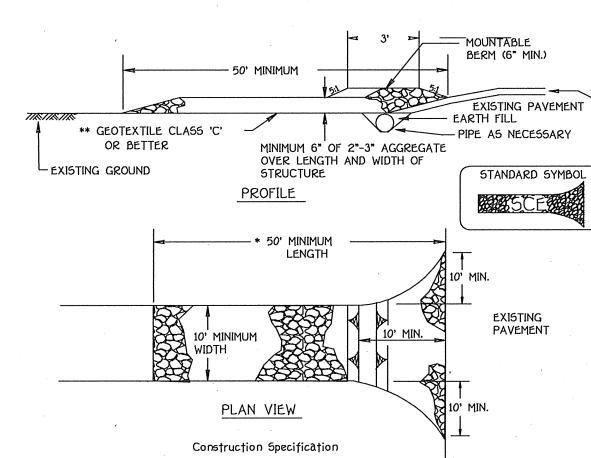
Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area. Place Phase 1 embankment, dress and stabilize. Place Phase 2 embankment, dress and stabilize.

Place final phase embankment, dress and stabilize. Overseed previously seeded

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

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT 7 DAYS 2. INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS SHOWN ON PLAN 7 DAYS 4 DAYS 3. CLEAR AND GRUB TO LIMITS OF DISTURBANCE 4. INSTALL TEMPORARY SEEDING 2 DAYS 60 DAYS 5. CONSTRUCT BUILDINGS 6. FINE GRADE SITE AND INSTALL PERMANENT SEEDING AND LANDSCAPE 14 DAYS 7. REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED AND PERMISSION IS GRANTED BY E/S CONTROL INSPECTOR.



1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius. 3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family

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 the entrance. 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.

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 construction entrance.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES 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 MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.

3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES. DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED APEAS ON THE PROJECT SITE

SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, 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 STANDARDS AND SPECIFICATIONS FOR SOIL FROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN

4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING

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.

ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER

2.56 ACRES

7) SITE ANALYSIS: TOTAL AREA OF SITE AREA DISTURBED

2.56 ACRES AREA TO BE ROOFED OR PAVED 0.600 ACRES AREA TO BE VEGETATIVELY STABILIZED 1.174 ACRES ,290 CU.YDS. TOTAL CUT TOTAL FILL 8.057 CU.YOS OFFSITE WASTE/BORROW AREA LOCATION 0 CU.YDS

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 CONTROLS MUST BE PROVIDED, IF DEEMED

NECESSARY BY THE HOWARD COUNTY 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 FARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGHTS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

PERMANENT SEEDING NOTES

Apply to graded or cleared greas 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

upper three inches of soil.

as possible in the spring.

2) Use sod.

per 1000 sq.ft.) for anchoring.

replacements and reseedings.

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

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

1) 2 tons per acre of well-anchored mulch straw and seed as soon

3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000

Anchor mulch immediately after application using mulch anchoring tool

or 218 gal. per acre (5 gal. per 1000 sg.ft.) of emulsified asphalt on

flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal.

NOTE: FENCE POST SPACING

SHALL NOT EXCEED 10

TINTINTINTIN

GROUND/

SURFACE

CENTER TO CENTER

by 6" and folded.

Geotextile Class F:

Tensile Strength

Tensile Modulus

Maintenance: Inspect all seeded areas and make needed repairs.

sq.ft.) of unrotted small grain straw immediately after seeding.

with 2 tons per acre well anchored straw

Seeding: For periods March 1 thru April 30 and from August 15 thru 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. November 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For upper three inches of soil. At time of seeding, apply 400 lbs. the period November 16 thru February 28, protect site by applying 2 per acre 30-0-0 ureaform fertilizer (9 lbs. per 1000 sq.ft.). tons per acre of well anchored straw mulch and seed as soon as 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs.

possible in the spring, or use sod. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool Seeding: For the period March 1 thru April 30 and from August 1 or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed

10' MAXIMUM

per 1000 sq.ft.) for anchoring.

lbs. per 1000 sq.ft.).

TEMPORARY SEEDING NOTES

short-term vegetative cover is needed.

Apply to graded or cleared areas likely to be redisturbed where a

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 (14

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

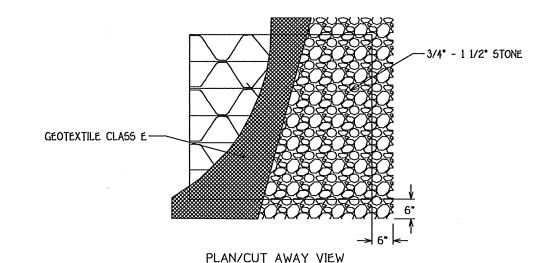
34" MINIMUM

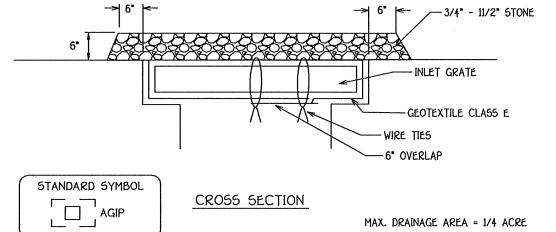
STANDARD SYMBO

- 55F ---

11878711

36" MINIMUN





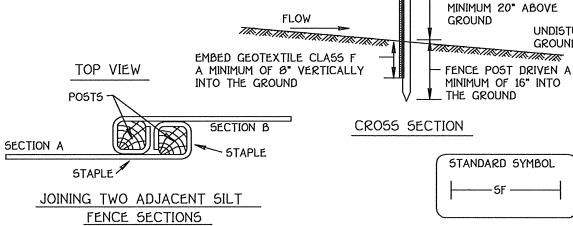
Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place. 2. Place 3/4" to 11/2" stone, 4"-6" thick on the grate to secure the fabric and

provide additional filtration

AT GRADE INLET PROTECTION NOT TO SCALE

- 36" MINIMUM LENGTH FENCE POST, 10' MAXIMUM CENTER TO DRIVEN A MINIMUM OF 16" INTO CENTER. GROUND -16" MINIMUM HEIGHT OF GEOTEXTILE CLASS F - 8" MINIMUM DEPTH IN GROUND FLOW 36" MINIMUM FENCE PERSPECTIVE VIEW POST LENGTH FILTER CLOTH: - FENCE POST SECTION FLOW GROUND



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot. 2. 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 Test: MSMT 509

Tensile Modulus 20 lbs/in (min.) Test: MSMT 509 Test: MSMT 322 Flow Rate 0.3 gal ft / minute (max.)4 75% (min.) Test: MSMT 322

3. 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 reached 50% of the fabric height.

(Maximum) (Maximum) Silt Fence Length Slope Lengtl Slope Steepness Flatter than 50: unlimited unlimited 1,000 feet 50:1 to 10:1 125 feet 10:1 to 5:1 100 feet 750 feet

60 feet

40 feet

500 feet

250 feet

Silt Fence Design Criteria

20 feet 125 feet 2:1 and steeper 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

> SILT FENCE NOT TO SCALE

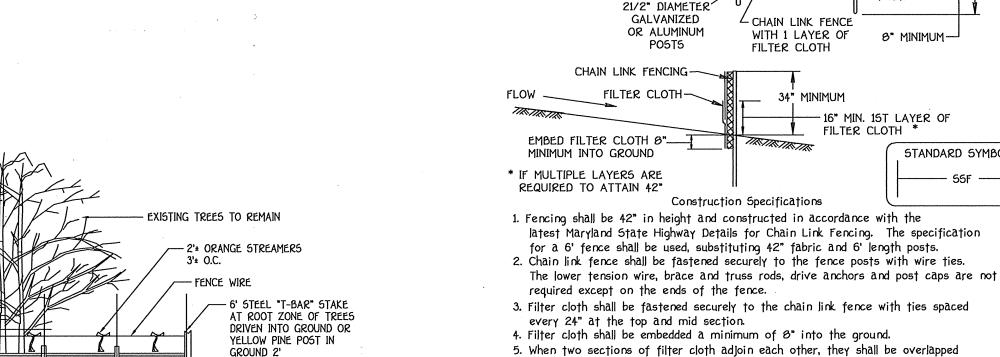
- existing trees to remain · 2'± ORANGE STREAMERS GROUND 2' SILT FENCE (SEE NOTES) -EXISTING GRADE

. Silt Fence to be heeled into the soil. 2. Wire, snow fence, etc. for tree protection only.

conservation plan review process. 4. Boundaries of Retention Area should be staked and flagged prior to

installing device. 5. Avoid root damage when placing anchor posts. . Device should be properly maintained throughout construction.

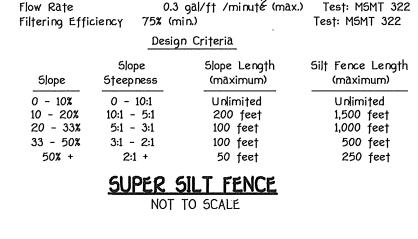
SILT FENCE AND TREE PROTECTION



3. Boundaries of Retention Area will be established as part of the forest

Protection signs are also required, see Figure C-4. 8. Locate fence outside the Crictical Root Zone.

NOT TO SCALE



6. Maintenance shall be performed as needed and silt buildups removed when "bulges"

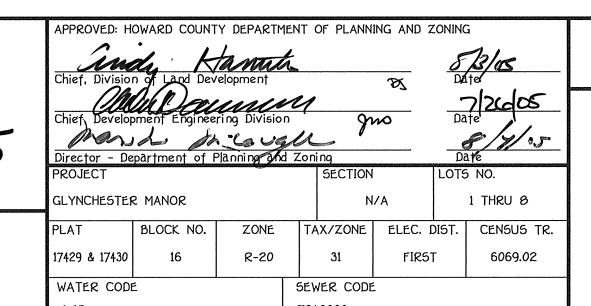
staples at top and mid section and shall meet the following requirements for

50 |bs/in (min.)

20 lbs/in (min.)

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



Test: MSMT 509

Test: MSMT 509

SEDIMENT/EROSION CONTROL NOTES & DETAILS

SINGLE FAMILY DETACHED

GLYNCHESTER MANOR LOTS 1 THRU 8

TAX MAP NO.: 31 PARCEL NO.: 240 & 633 GRID NO.: 16 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND 5CALE: 1"= 30' DATE: JANUARY, 2005

FISHER, COLLINS & CARTER, INC. ELLICOTT CITY, MARYLAND 21042

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 BUILDER/DEVELOPER'S CERTIFICATE

ROBERT CORBETT

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 peginning the project. I also authorize periodic on-site inspection by the Howard Soil

7-12-05

OWNER

BUILDER/DEVELOPER WILLIAMSBURG GROUP, LLC 5485 HARPERS FARM ROAD COLUMBIA, MARYLAND 21044

for soil erosion and sediment control by

ANDREW C. & PAUL F. MINTZ 4975 ILCHESTER ROAD

ELLICOTT CITY, MARYLAND 21043

IOWARD SCD and meets Technical Requirements

410-997-8800 E-15

5:1 to 3:1

3:1 to 2:1

SDP 05-120

DATE

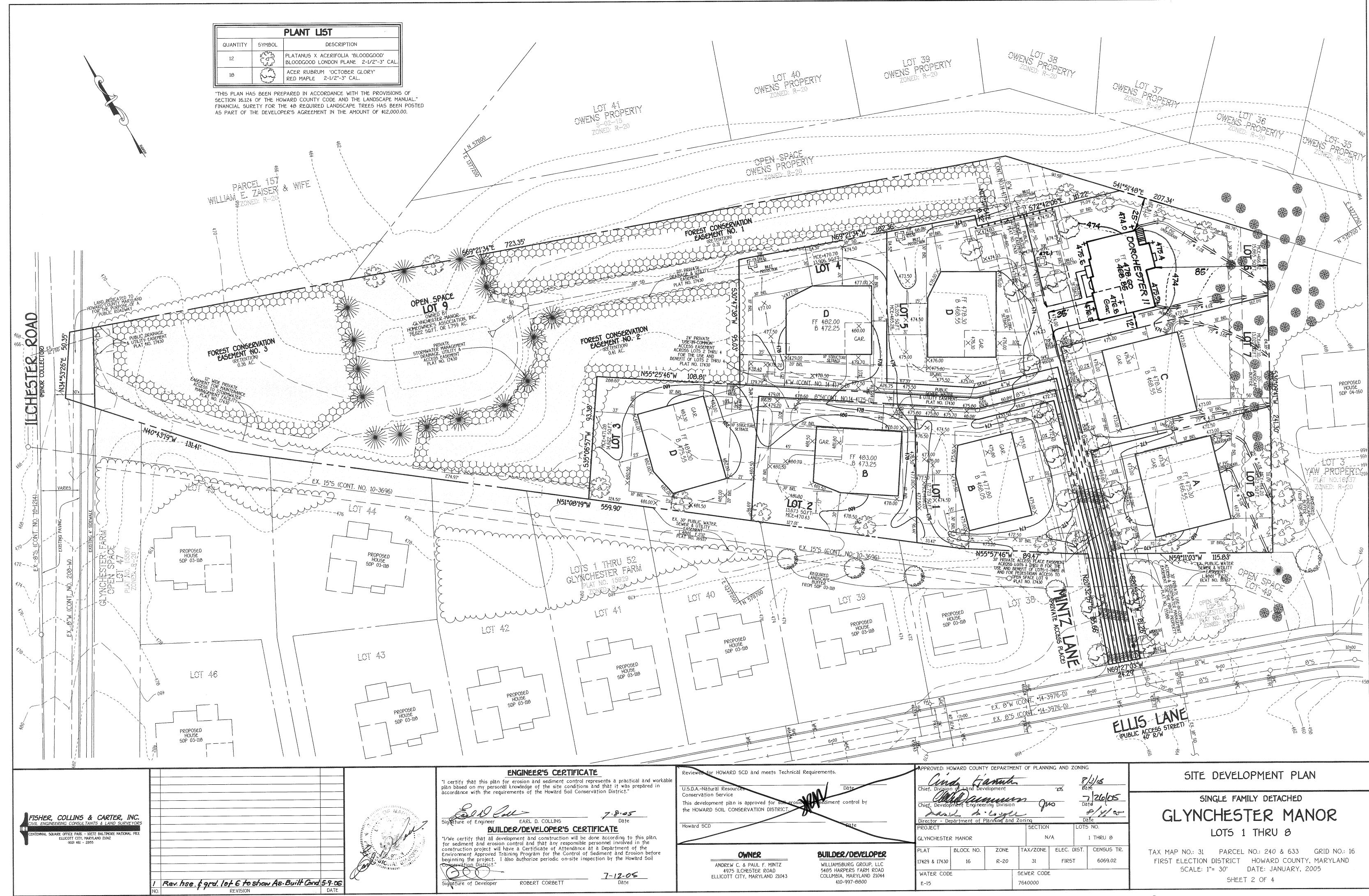
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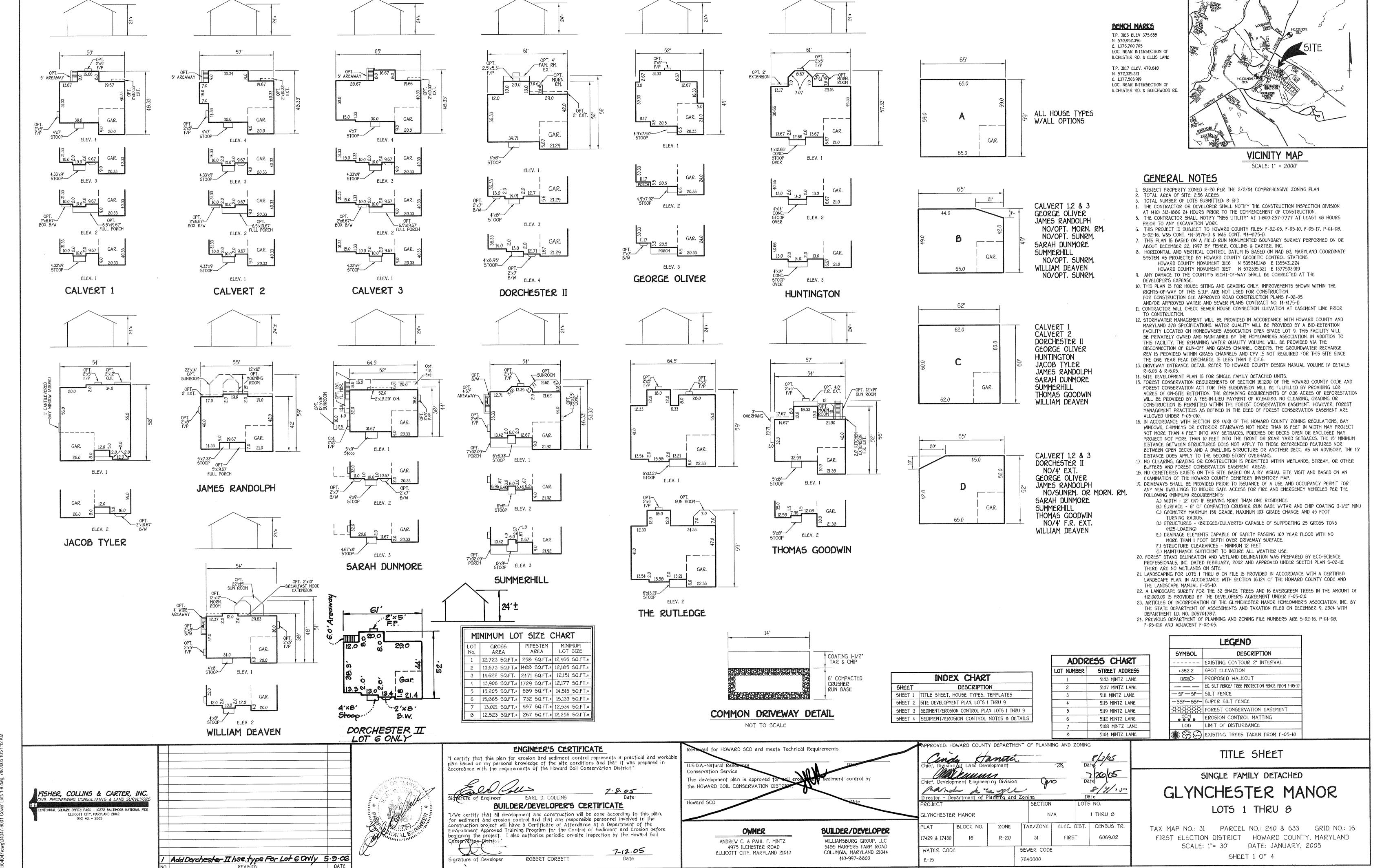
Conservation District."

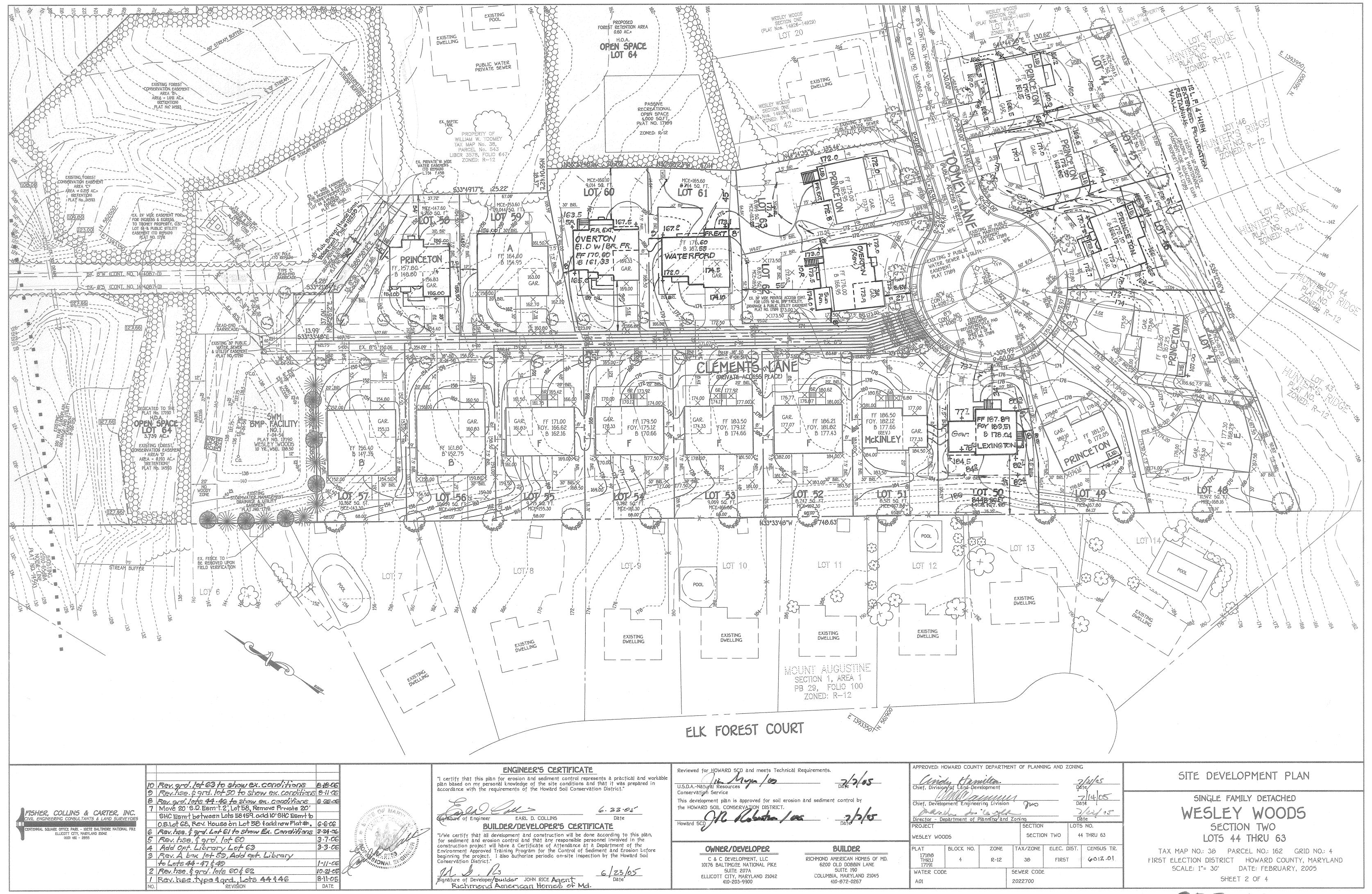
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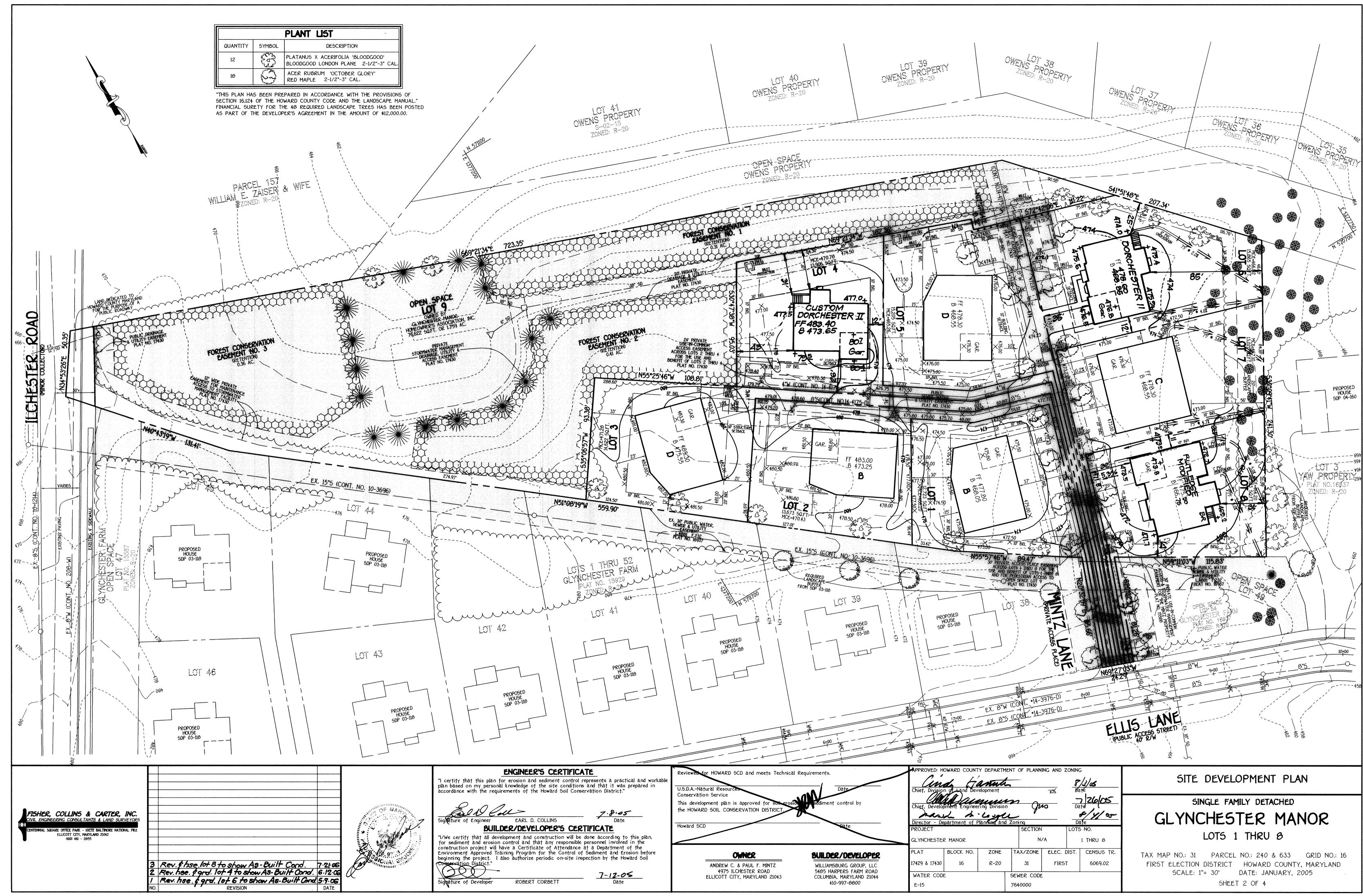
SHEET 4 OF 4







SDP 05.100



SDP 05-120

