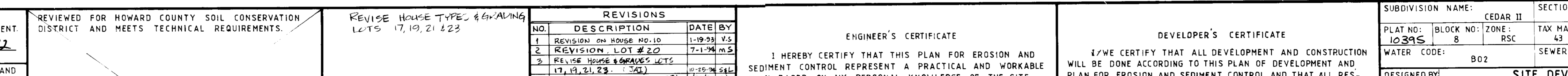
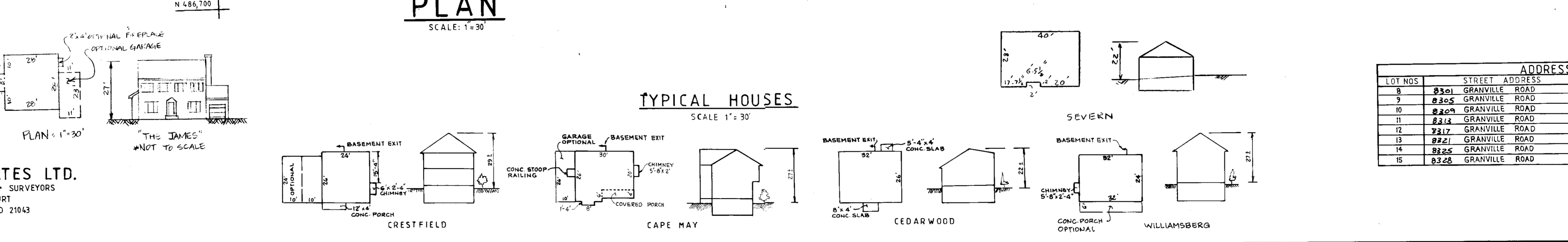
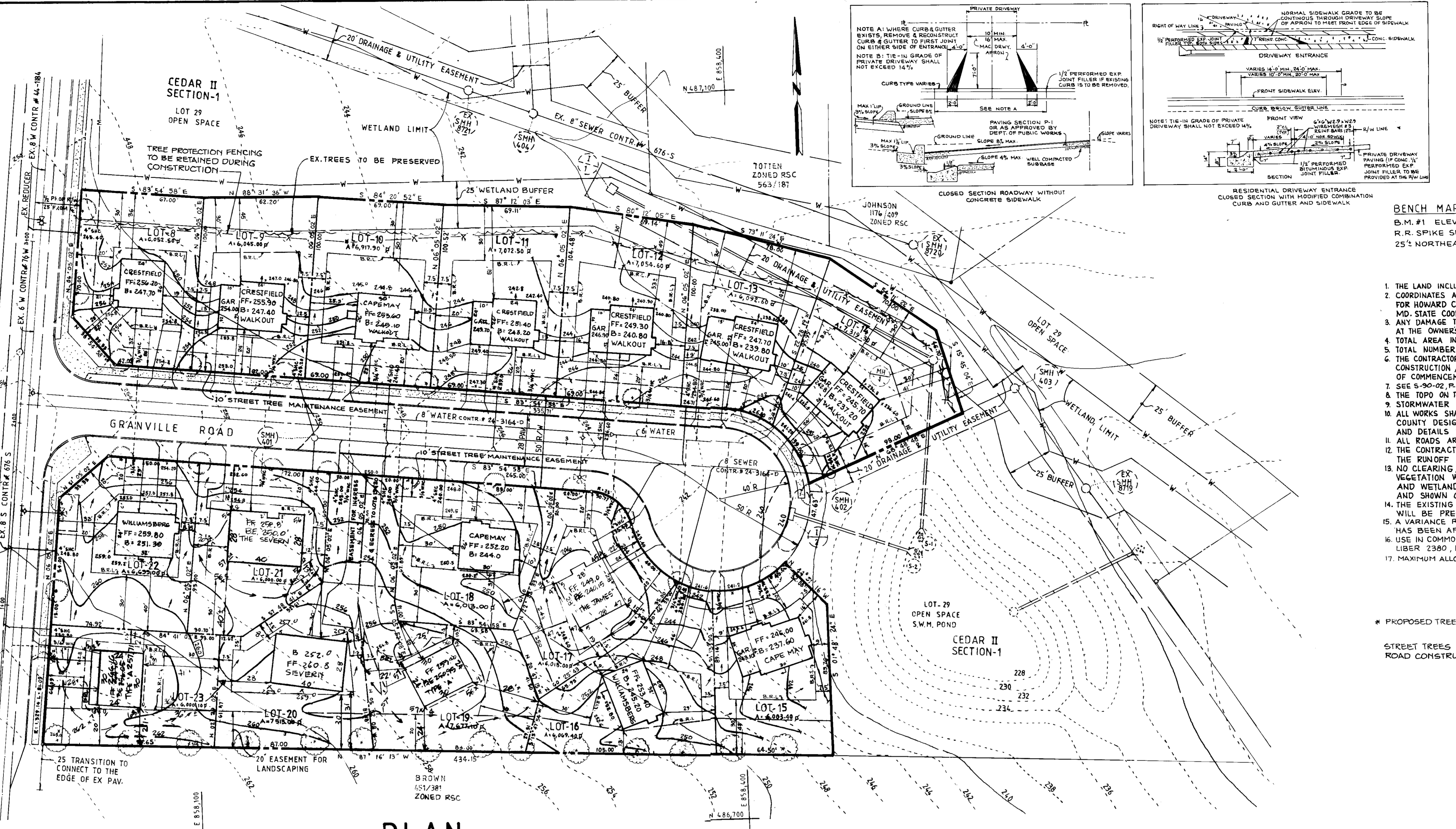
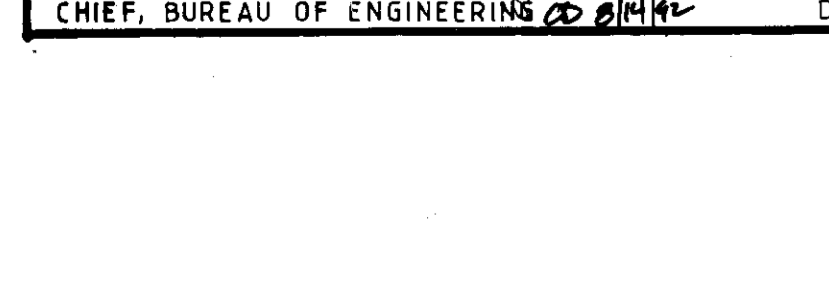
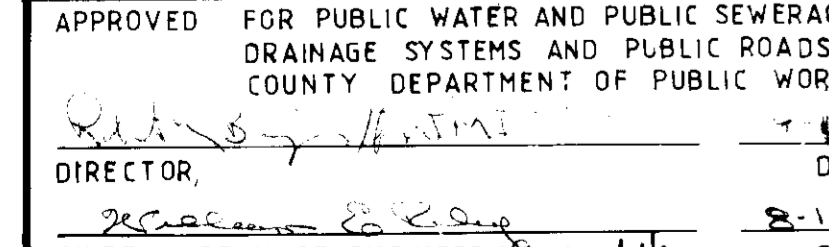
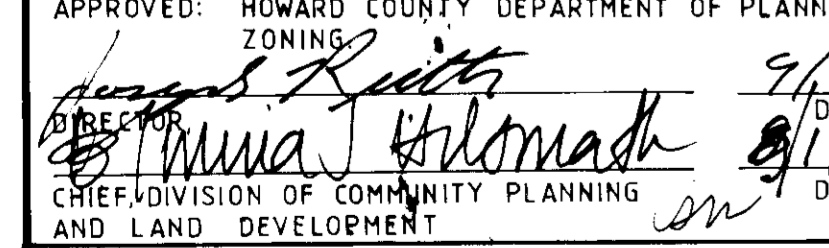
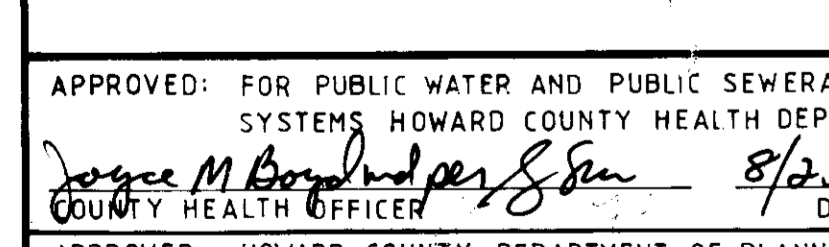
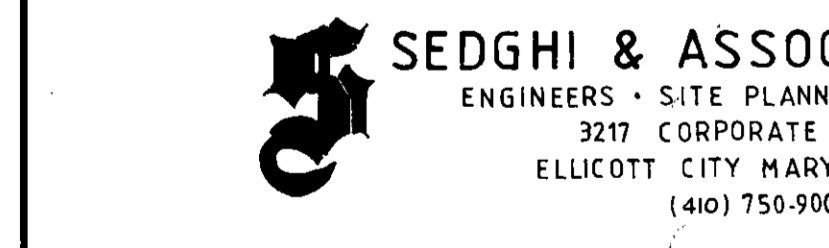
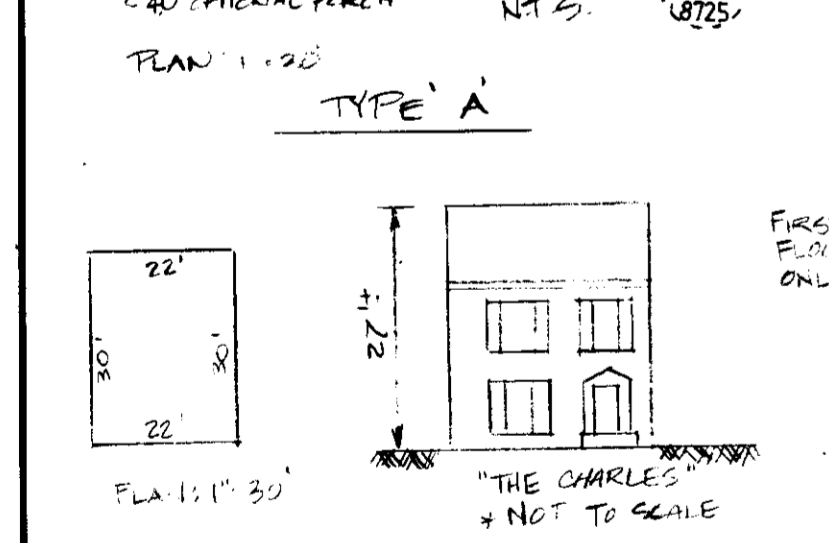
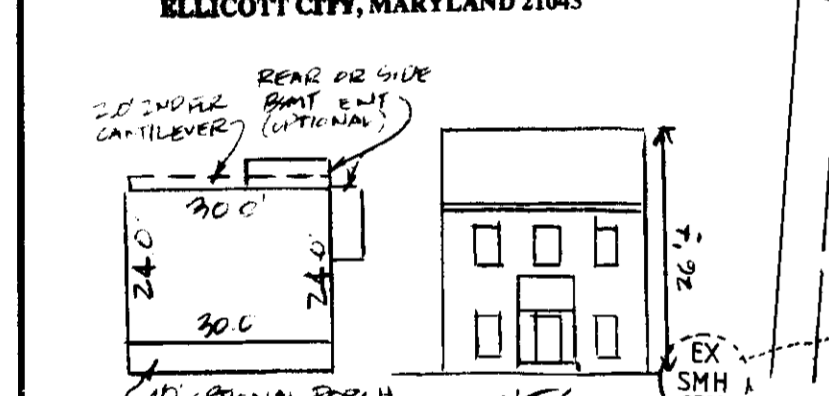
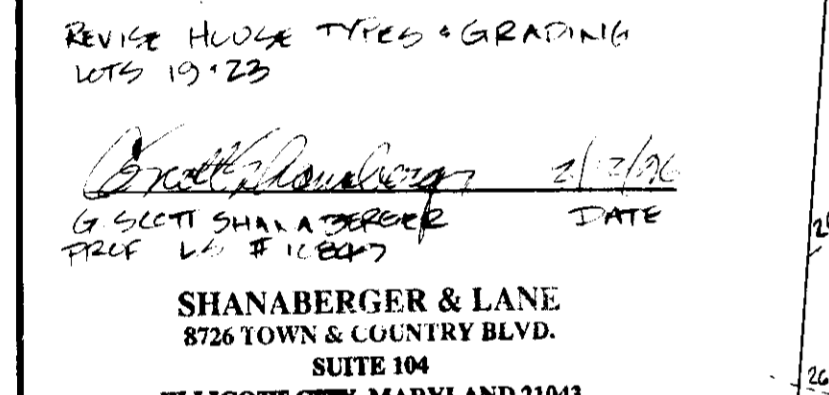


LOT AREA TABLE					
LOT NO.	GROSS AREA, S.F.	CREATED SLOPE GREATER, S.F.	CREATED SLOPE 15% OR GREATER, S.F.	PIPE STEM AREA, S.F.	FLOOD PLAN NET AREA, S.F.
8	6,052.5	360			6,052.50
9	6,045.0	875			6,045.00
10	6,917.9	400			6,917.90
11	7,072.5	450			7,072.50
12	7,054.6	345			7,054.60
13	6,092.6	875			6,092.60
14	7,319.3	400			7,319.30
15	6,003.4	575			6,003.40
16	6,069.4	1,250			6,069.40
17	6,018.0	440			6,018.00
18	6,013.0	600			6,013.00
19	7,671.1	400	1,600.0		6,071.10
20	7,513.0	150	1,200.0		6,313.00
21	6,000.0	200			6,000.00
22	6,699.0	300			6,699.00
23	6,000.0	100			6,000.00

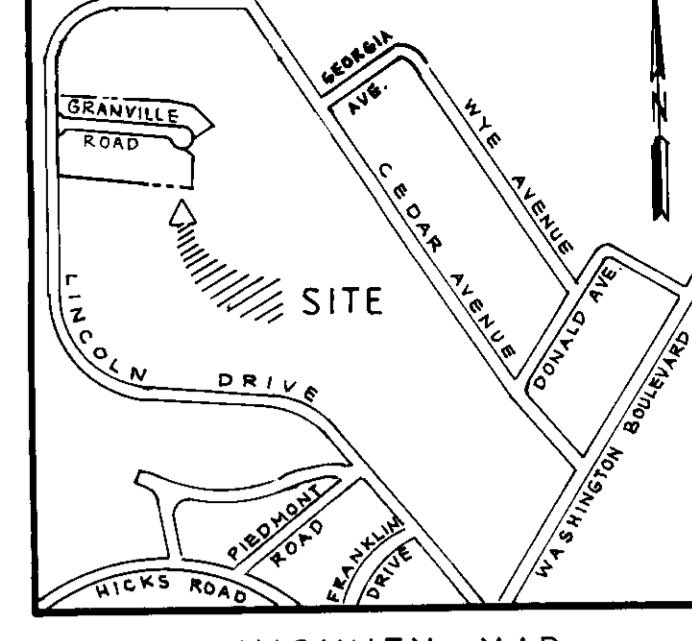
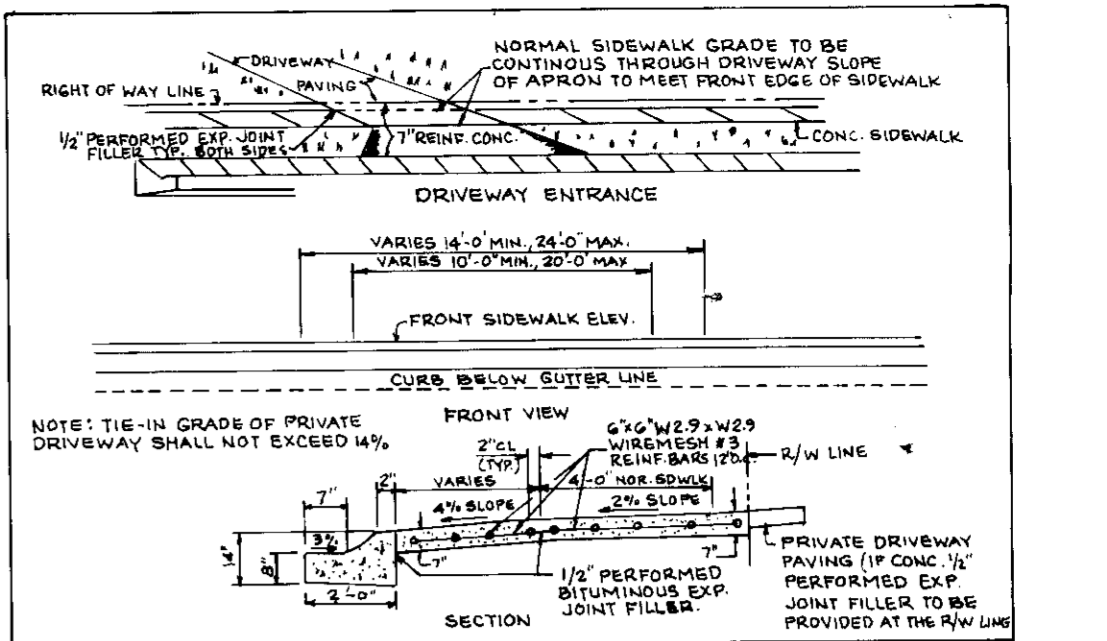
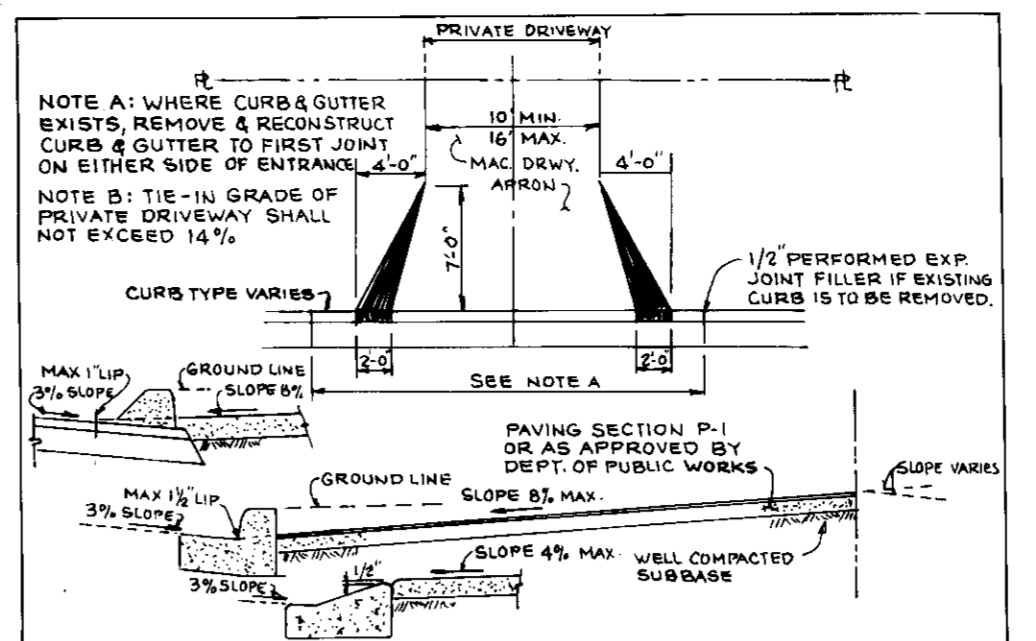
REVISIONS:
 1. REVISE HOUSE TYPES & GRADING LOTS 17, 19, 21 & 23
 2. REVISE HOUSE TYPES & GRADING LOTS 17, 19, 21 & 23
 3. REVISE HOUSE TYPES & GRADING LOTS 17, 19, 21 & 23

SHANBERGER & LANE
 ENGINEERS • SITE PLANNERS • SURVEYORS
 3217 CORPORATE COURT
 ELLICOTT CITY, MARYLAND 21043
 (410) 750-9003



APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT COUNTY HEALTH OFFICER: <u>Joseph M. Bowland</u> DATE: <u>8/25/92</u>	REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS. U.S. SOIL CONSERVATION SERVICE DATE: <u>8/25/92</u> THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. HOWARD COUNTY SOIL CONSERVATION DISTRICT DATE: <u>8-17-92</u>	REVISE HOUSE TYPES & GRADING LOTS 17, 19, 21 & 23 SHANBERGER & LANE ENGINEERS • SITE PLANNERS • SURVEYORS 3217 CORPORATE COURT ELLICOTT CITY, MARYLAND 21043 (410) 750-9003	<table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE BY</th> </tr> </thead> <tbody> <tr><td>1</td><td>REVISION ON HOUSE NO. 10</td><td>1-19-93 V.S.</td></tr> <tr><td>2</td><td>REVISION LOT #20</td><td>7-1-94 M.S.</td></tr> <tr><td>3</td><td>REVISE HOUSE & GRADING LOTS 17, 19, 21, 23</td><td>10-25-94 S.E.L.</td></tr> <tr><td>4</td><td>REVISE HOUSE TYPES & GRADING LOTS 17, 19, 21, 23</td><td>11/24/94 S.A.L.</td></tr> <tr><td>5</td><td>REVISE HOUSE TYPES & GRADING LOTS 17, 19, 21, 23</td><td>11/24/94 S.A.L.</td></tr> <tr><td>6</td><td>REVISE HOUSE TYPES & GRADING LOTS 17, 19, 21, 23</td><td>11/24/94 S.A.L.</td></tr> <tr><td>7</td><td>REVISE HOUSE TYPES & GRADING LOTS 17, 19, 21, 23</td><td>7/15/94 V.M.</td></tr> </tbody> </table>	NO.	DESCRIPTION	DATE BY	1	REVISION ON HOUSE NO. 10	1-19-93 V.S.	2	REVISION LOT #20	7-1-94 M.S.	3	REVISE HOUSE & GRADING LOTS 17, 19, 21, 23	10-25-94 S.E.L.	4	REVISE HOUSE TYPES & GRADING LOTS 17, 19, 21, 23	11/24/94 S.A.L.	5	REVISE HOUSE TYPES & GRADING LOTS 17, 19, 21, 23	11/24/94 S.A.L.	6	REVISE HOUSE TYPES & GRADING LOTS 17, 19, 21, 23	11/24/94 S.A.L.	7	REVISE HOUSE TYPES & GRADING LOTS 17, 19, 21, 23	7/15/94 V.M.	ENGINEER'S CERTIFICATE I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENT 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 SOILS CONSERVATION DISTRICT. SIGNATURE OF ENGINEER: <u>[Signature]</u> DATE: <u>6-29-92</u>	DEVELOPER'S CERTIFICATE I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF 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 DEEMED NECESSARY. SIGNATURE OF DEVELOPER: <u>[Signature]</u> DATE: <u>6-29-92</u>	SUBDIVISION NAME: CEDAR II SECTION: 2 PARCEL: LOTS 8-23 PLAT NO.: 1039S BLOCK NO.: 8 ZONE: RSC TAX MAP: 43 ELEC. DIST. (CENSUS TR.): 6TH CENSUS TR. 6069.01 WATER CODE: B02 SEWER CODE: 3330000 DESIGNED BY: V.S. SITE DEVELOPMENT PLAN CEDAR II SECTION - 2 DRAWN BY: V.S. LOTS 8 TO 23 CHECKED BY: M.S. TAX MAP 43, PARCEL 337 & 452 6TH ELECTION DISTRICT HOWARD COUNTY, MD. SCALE: 1"=30', RECORDING REF: #1039S DATE: 5-26-92 DEVELOPER: THAMES INVESTMENT GROUP LTD 3701 COURT HOUSE DR. ELLICOTT CITY, MD. 21043
NO.	DESCRIPTION	DATE BY																												
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2	REVISION LOT #20	7-1-94 M.S.																												
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7	REVISE HOUSE TYPES & GRADING LOTS 17, 19, 21, 23	7/15/94 V.M.																												

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DIRECTOR: [Signature] DATE: 8-17-92
 CHIEF, BUREAU OF ENGINEERING: [Signature] DATE: 8/25/92



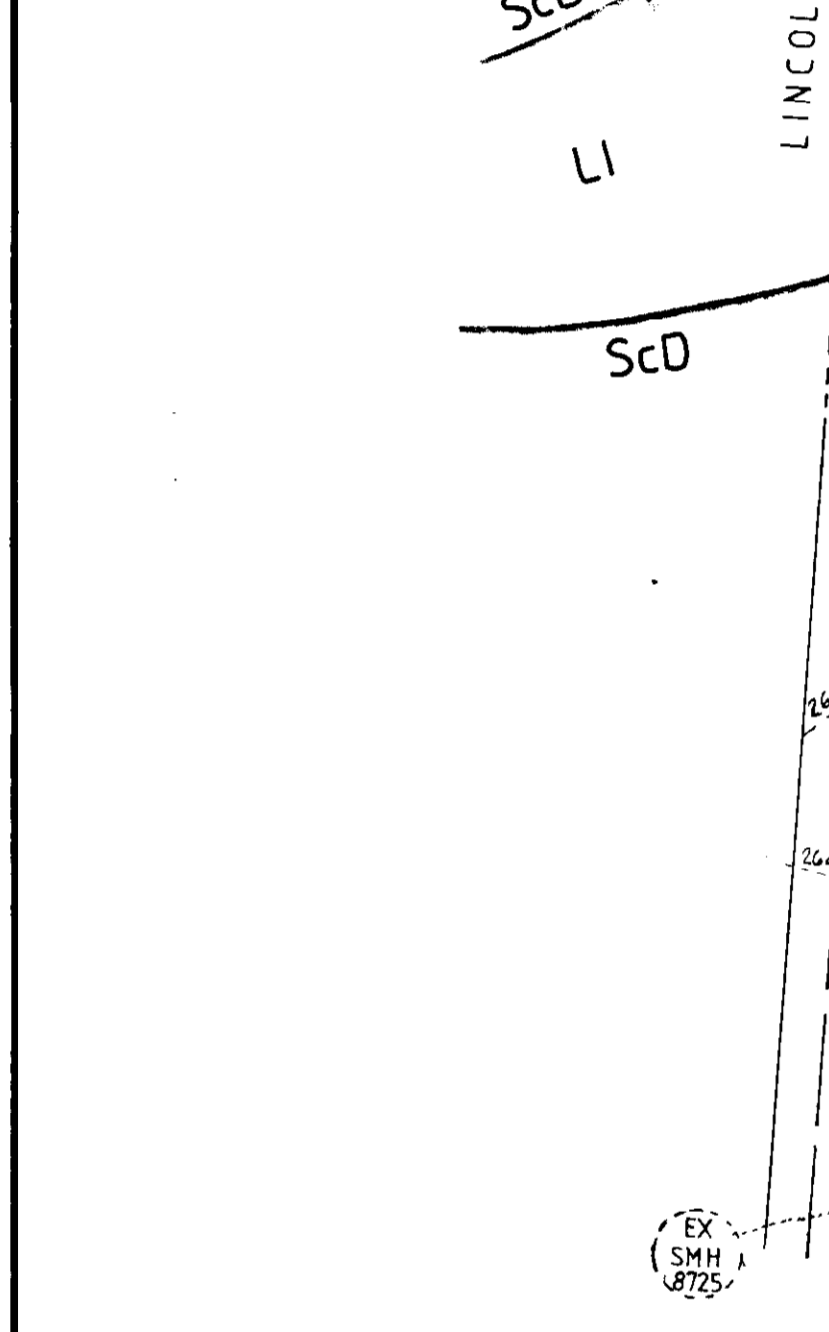
BENCH MARKS:
 B.M. #1 ELEV. 272.61
 R.R. SPIKE SET IN C&P #15 25' NORTHEAST OF P.I. #LD-2
 B.M. #2 ELEV. 252.39
 X-CUT ON RD. FLANGE EX. FH 160' SOUTHWEST OF P.I. #LD-1

- GENERAL NOTES
1. THE LAND INCLUDED IS ZONED RSC.
 2. COORDINATES ARE BASED UPON TRAVERSE CONTROLS ESTABLISHED FOR HOWARD COUNTY, AND WHICH CONTROLS WERE TIED TO THE MD. STATE COORDINATE SYSTEM CONTROL STA. 2244005 & 2244003.
 3. ANY DAMAGE TO COUNTY OWNED RIGHT-OF-WAY TO BE CORRECTED AT THE OWNERS EXPENSE.
 4. TOTAL AREA INCLUDED: 2.40 AC.
 5. TOTAL NUMBER OF LOTS: 16
 6. THE CONTRACTOR OR DEVELOPER SHALL CONTACT HOWARD COUNTY CONSTRUCTION / INSPECTION DIVISION, 24 HOURS IN ADVANCE OF COMMENCEMENT OF WORK AT 792-7272.
 7. SEE S-90-02, P.90-27, F-90-171, W.P.90-138, W.P.91-162, F-92-28 & S.P.91-21
 8. THE TOPO ON THIS PLAN IS BASED FROM FIELD RUN TOPOS.
 9. STORMWATER MANAGEMENT HAS BEEN PROVIDED UNDER F-90-118
 10. ALL WORKS SHALL BE DONE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARDS, SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1989 AMENDMENTS.
 11. ALL ROADS ARE PUBLIC AND EXISTING.
 12. THE CONTRACTOR SHALL PROVIDE A POSITIVE SLOPE TO DIVERT THE RUNOFF INTO I-1.
 13. NO CLEARING, GRADING OR REMOVAL OF THE EXISTING VEGETATION WILL BE DONE ON THE WETLANDS, FLOOD PLAN AND WETLAND BUFFERS UNLESS OTHERWISE ALLOWED AND SHOWN ON THE PLAN.
 14. THE EXISTING TREES IN THE WETLAND AND BUFFER AREAS WILL BE PRESERVED.
 15. A VARIANCE REQUEST TO DISTURB THE 25' WETLAND BUFFER HAS BEEN APPROVED W.P. 90-138.
 16. USE IN COMMON EASEMENT RECORDATION REFERENCE LIBER 2380, FOLIO 0193 DATED 8-26-91 FOR LOTS 19 & 20.
 17. MAXIMUM ALLOWABLE COVERAGE: 40%

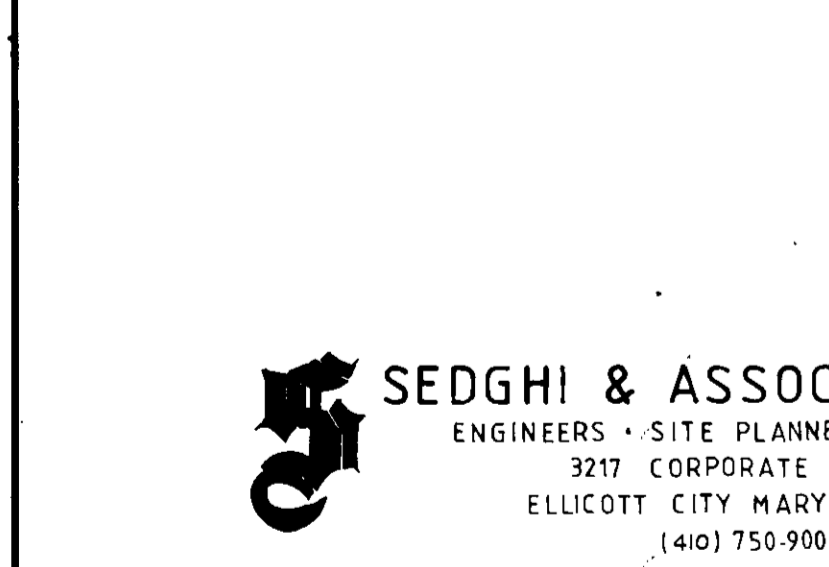
* PROPOSED TREES UNDER THIS PLAN
 STREET TREES PLANTED UNDER ROAD CONSTRUCTION PLANS

LOT AREA TABLE				
LOT NO.	CREATED SHEET	CREATED SHEET	PIPE STEM AREA, S.F.	FLOOD PLANE NET AREA, S.F.
8	6052.5	360	---	6,052.50
9	6045.0	875	---	6,045.00
10	6917.7	400	---	6,917.70
11	7072.5	450	---	7,072.50
12	7054.6	345	---	7,054.60
13	6092.4	875	---	6,092.40
14	7319.3	400	---	7,319.30
15	6093.4	575	---	6,093.40
16	6067.4	1,250	---	6,067.40
17	6018.0	440	---	6,018.00
18	6018.0	600	---	6,018.00
19	7677.1	400	1,600.0	6,077.10
20	7513.0	150	1,200.0	6,313.00
21	6,000.0	200	---	6,000.00
22	6,699.0	300	---	6,699.00
23	6,000.1	100	---	6,000.10

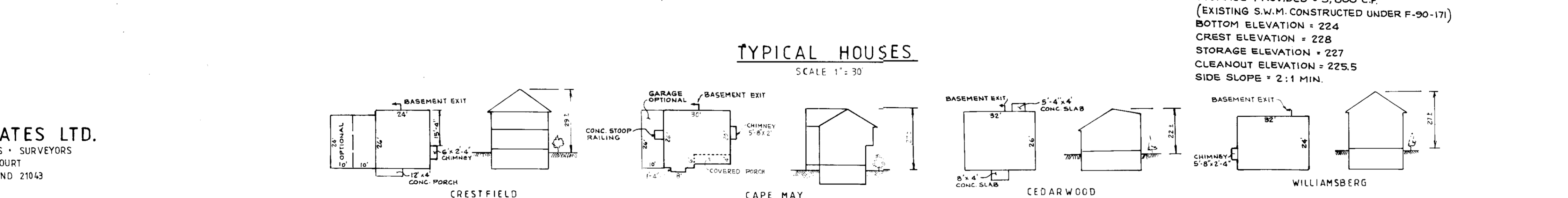
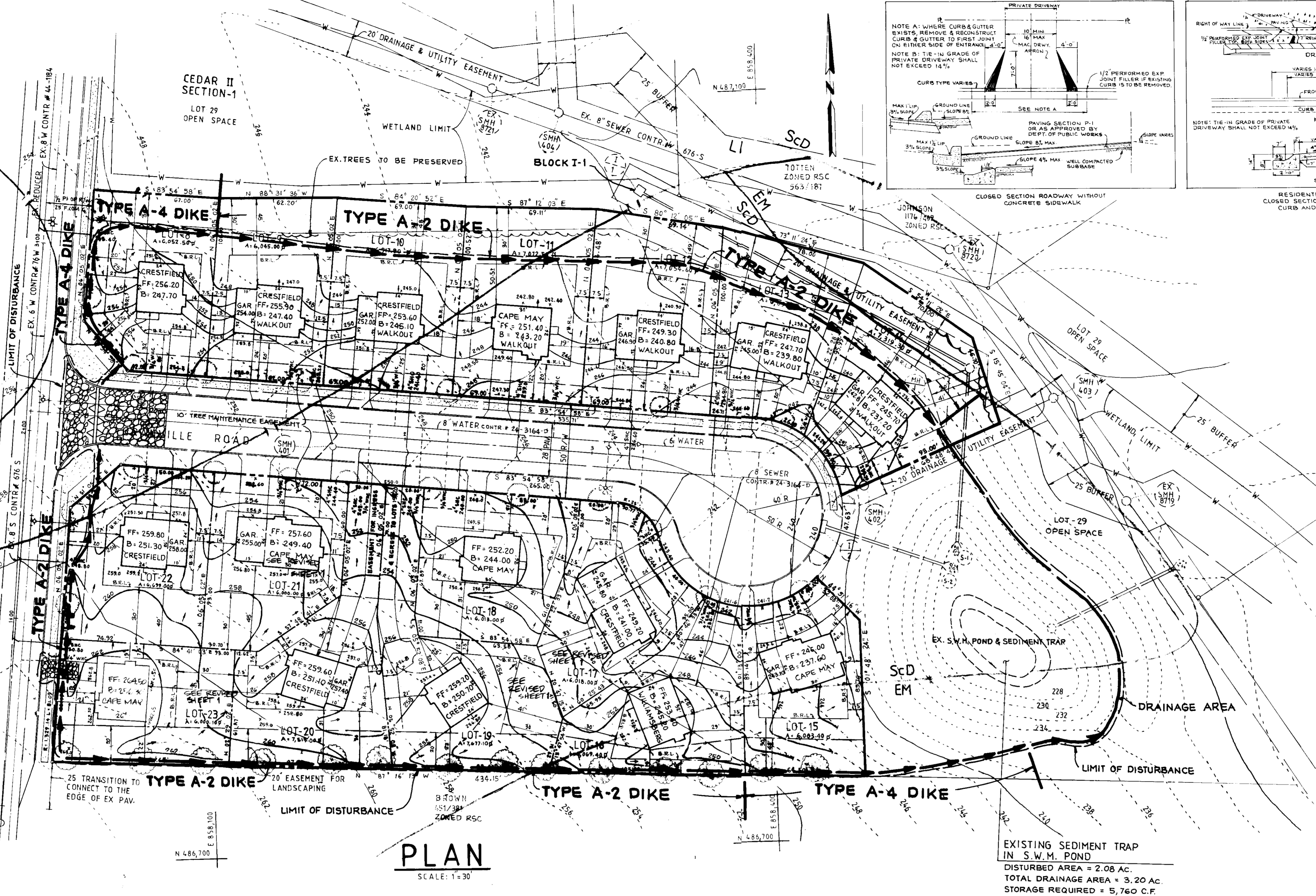
- SEDIMENT AND EROSION CONTROL LEGEND**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - x 245.50 SPOT ELEVATION
 - S SILT FENCE
 - STABILIZED CONST. ENTRANCE
 - DIKE
 - MOUNTABLE BERM
 - LIMIT OF DISTURBANCE
 - DRAINAGE AREA



PLAN
SCALE: 1"=30'



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APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT.
George M. Boyd per *8/25/92*
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Joseph R. Kutt 9/1/92
Shirley M. Johnson 9/1/92
DIRECTOR DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
R. J. ... 8-17-92
DIRECTOR DATE
CHIEF, BUREAU OF ENGINEERING

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
James M. ... 8/2/92
DATE
HOWARD COUNTY SOIL CONSERVATION DISTRICT

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Shuff W. ... 8-2-92
DATE

REVISIONS		
NO.	DESCRIPTION	DATE BY
3	REVISE SHEET 1 OF 3 LOTS 17, 19, 21, 23	8/2/92

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENT 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 SOILS CONSERVATION DISTRICT.

Mike Sedghi
SIGNATURE OF ENGINEER
C-29-92
DATE

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ONSITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS DEEMED NECESSARY.

Ray Bachuda
SIGNATURE OF DEVELOPER
C-29-92
DATE

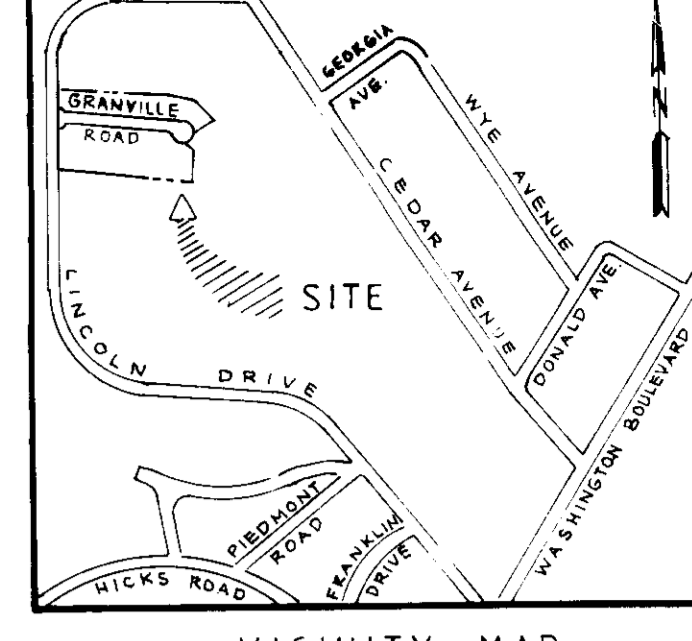
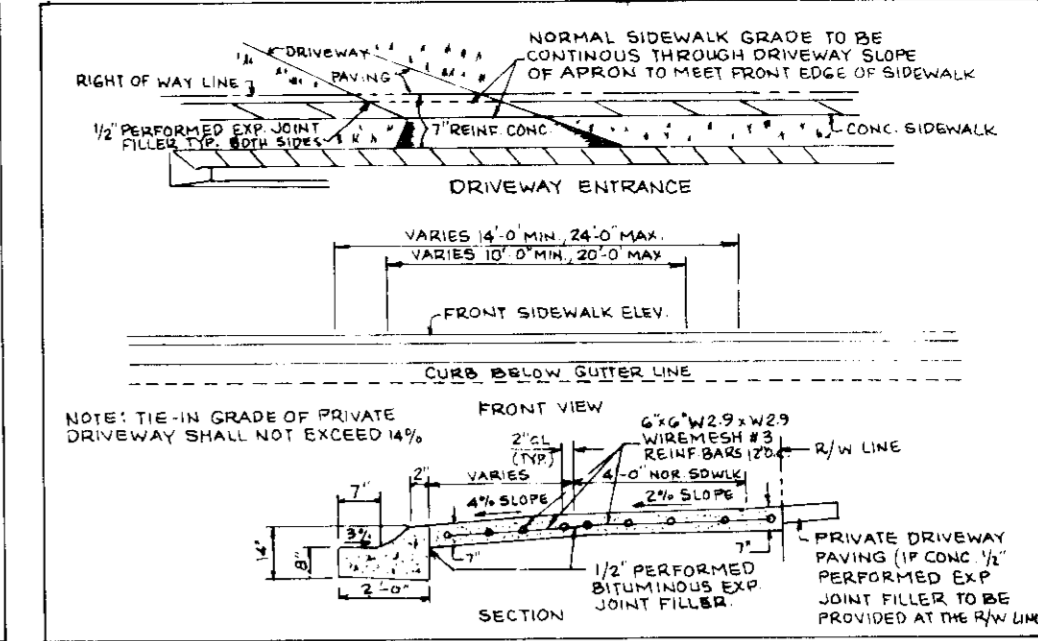
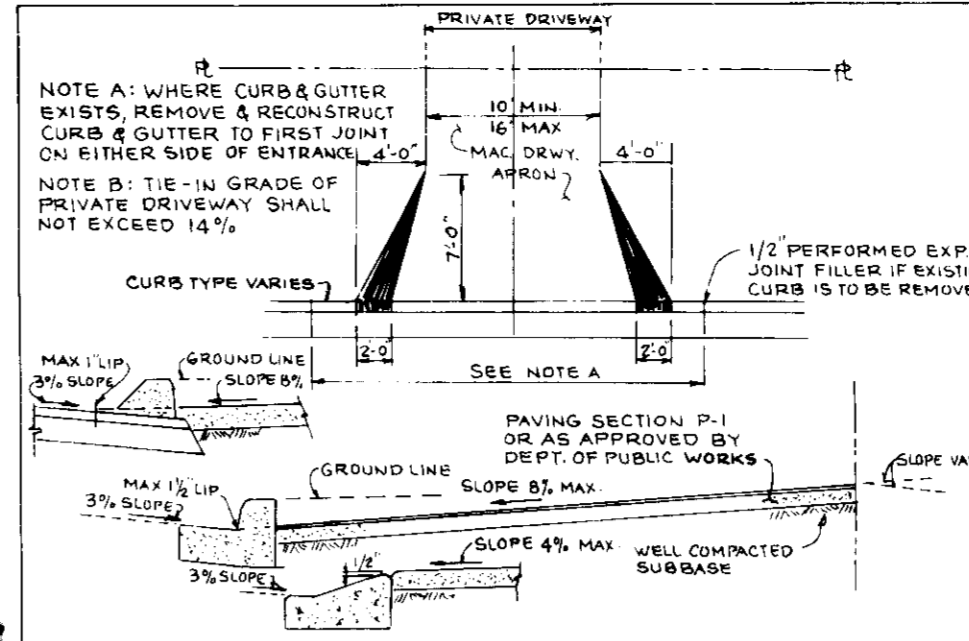
ADDRESS CHART			
LOT NOS.	STREET ADDRESS	LOT NOS.	STREET ADDRESS
8	GRANVILLE ROAD	16	GRANVILLE ROAD
9	GRANVILLE ROAD	17	GRANVILLE ROAD
10	GRANVILLE ROAD	18	GRANVILLE ROAD
11	GRANVILLE ROAD	19	GRANVILLE ROAD
12	GRANVILLE ROAD	20	GRANVILLE ROAD
13	GRANVILLE ROAD	21	GRANVILLE ROAD
14	GRANVILLE ROAD	22	GRANVILLE ROAD
15	GRANVILLE ROAD	23	LINCOLN DRIVE

HOWARD COUNTY SOIL MAP # 30

SUBDIVISION NAME: CEDAR II SECTION: 2 PARCEL: Lots 8-23
PLAT NO.: BLOCK NO.: ZONE: TAX MAP: ELEC. DIST. (CENSUS TR. 10395 43 6TH 6649.01)
WATER CODE: 802 SEWER CODE: 330000

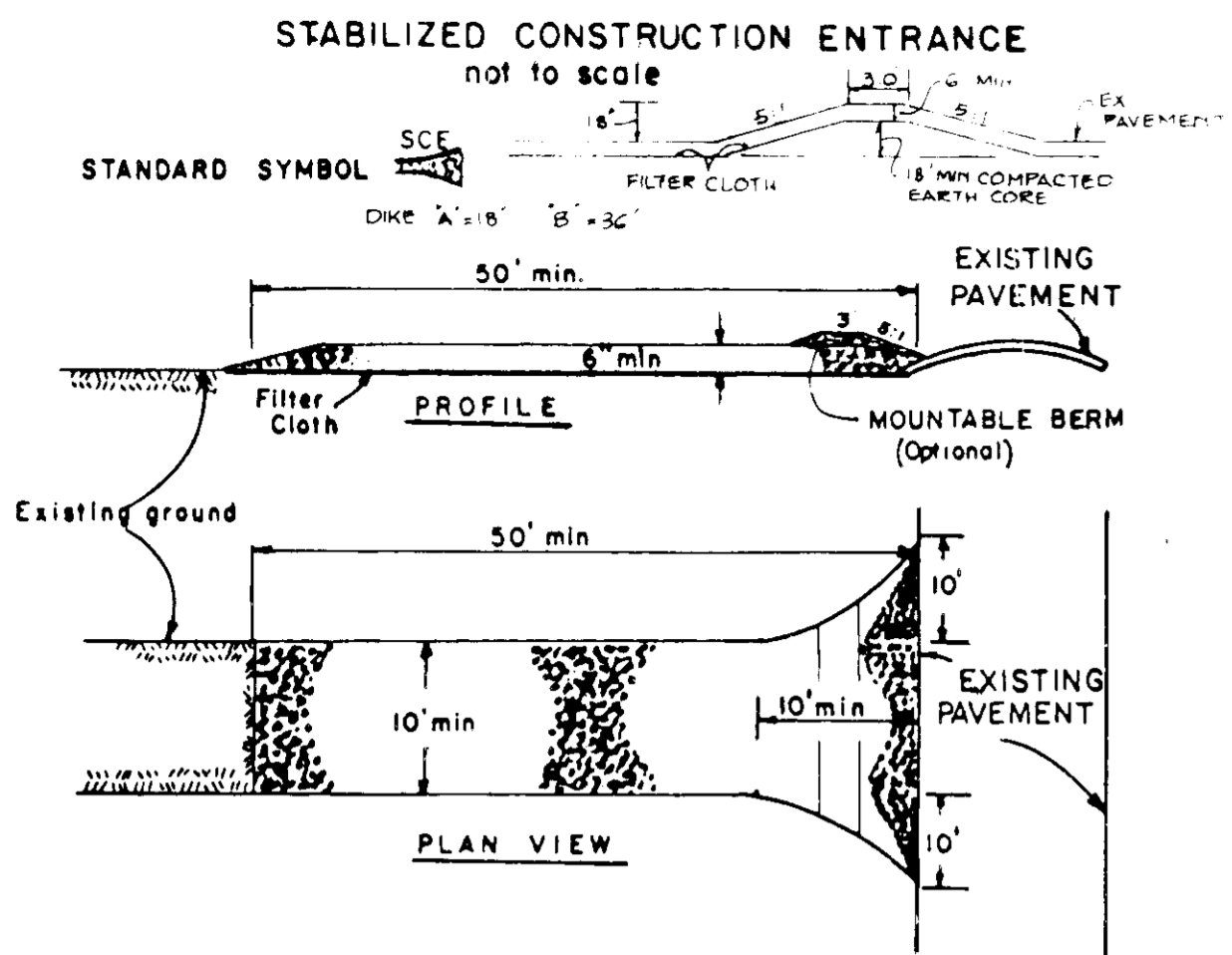
DESIGNED BY: SEDIMENT CONTROL PLAN CEDAR II SECTION 2
DRAWN BY: V.S. TAX MAP 43, PARCEL 337 & 452 6TH ELECTION DISTRICT HOWARD COUNTY, MD.
CHECKED BY: M.S. SCALE: 1"=30', RECORDING REF: #10395

DEVELOPER
THAMES INVESTMENT GROUP LTD
3701 COURT HOUSE DR.
ELLCOTT CITY, MD. 21043

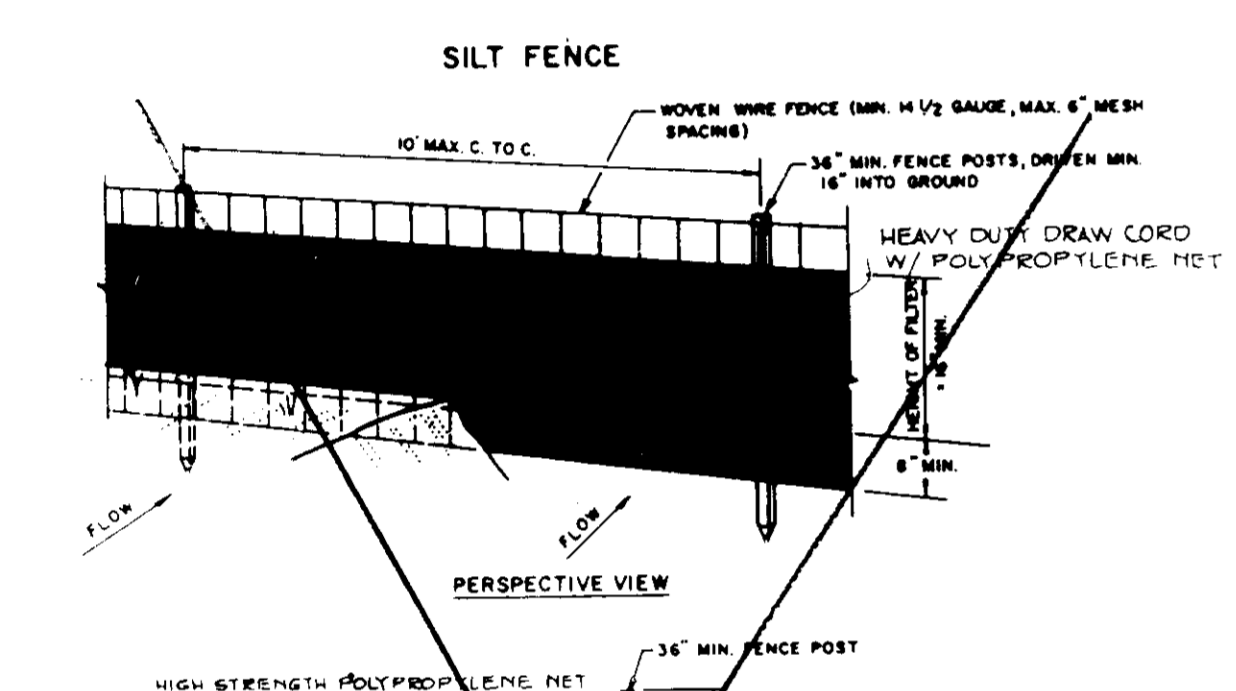


- GENERAL NOTES**
- THE LAND INCLUDED IS ZONED RSC.
 - COORDINATES ARE BASED UPON TRAVERSE CONTROLS ESTABLISHED FOR HOWARD COUNTY, AND WHICH CONTROLS WERE TIED TO THE MD. STATE COORDINATE SYSTEM CONTROL STA. 2244005 & 2244003.
 - ANY DAMAGE TO COUNTY OWNED RIGHT-OF-WAY TO BE CORRECTED AT THE OWNERS EXPENSE.
 - TOTAL AREA INCLUDED: 2.40 AC.
 - TOTAL NUMBER OF LOTS: 16
 - THE CONTRACTOR OR DEVELOPER SHALL CONTACT HOWARD COUNTY CONSTRUCTION / INSPECTION DIVISION, 24 HOURS IN ADVANCE OF COMMENCEMENT OF WORK AT 792-7272.
 - SEE S-90-02, P-90-27, F-90-171, W.P. 90-138, W.P. 91-162, F-92-28, S.D.P. 91-21 & THE TOPO ON THIS PLAN IS BASED FROM FIELD RUN TOPOS.
 - STORMWATER MANAGEMENT HAS BEEN PROVIDED UNDER F-90-171.
 - ALL WORK SHALL BE DONE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARDS, SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1989 AMENDMENTS.
 - ALL ROADS ARE PUBLIC AND EXISTING.
 - THE CONTRACTOR SHALL PROVIDE A POSITIVE SLOPE TO DIVERGENT THE RUNOFF INTO I-1.
 - NO CLEARING, GRADING OR REMOVAL OF THE EXISTING VEGETATION WILL BE DONE ON THE WETLANDS, FLOOD PLAIN AND WETLAND BUFFERS UNLESS OTHERWISE ALLOWED AND SHOWN ON THE PLAN.
 - THE EXISTING TREES IN THE WETLAND AND BUFFER AREAS WILL BE PRESERVED.
 - A VARIANCE REQUEST TO DISTURB THE 25' WETLAND BUFFER HAS BEEN APPROVED: W.P. 90-183
 - USE IN COMMON EASEMENT RECORDATION REFERENCE LIBER 2380, FOLIO 0193 DATED 8-26-91, FOR LOTS 19 & 20

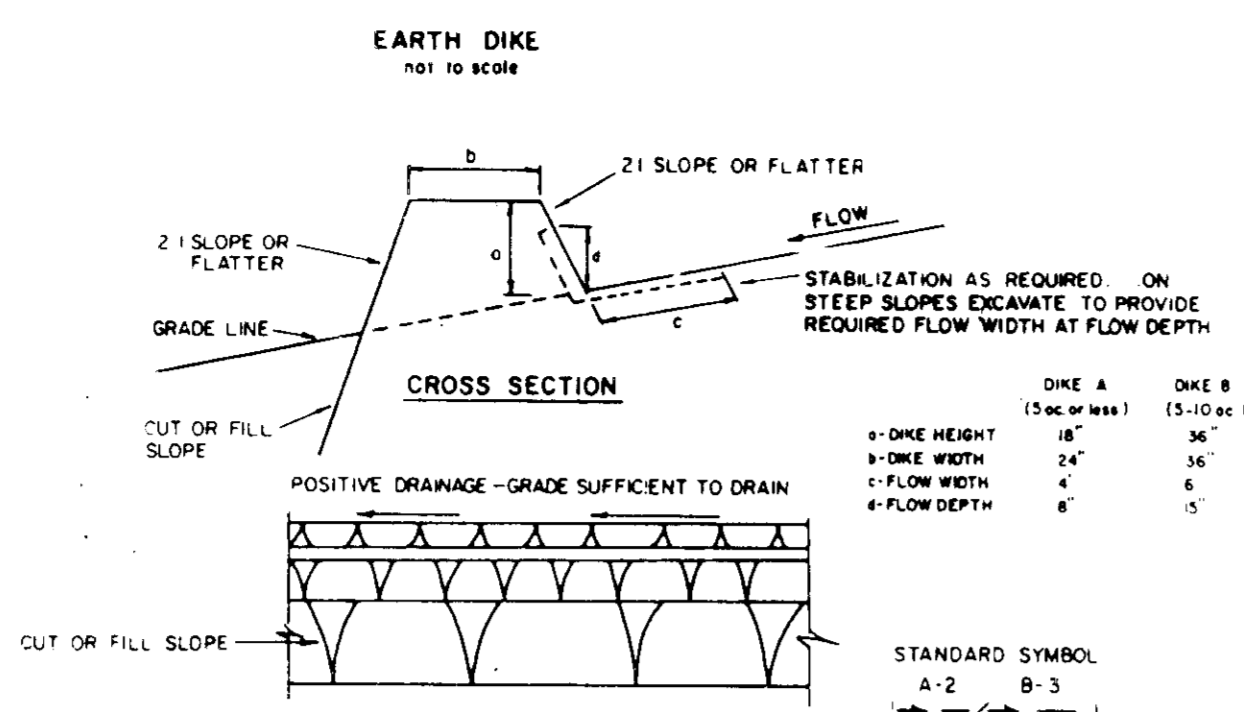
- SEQUENCE OF CONSTRUCTION**
- OBTAIN GRADING PERMIT.
 - NOTIFY HOWARD COUNTY, OFFICE OF INSPECTION AND PERMITS AT 792-7272, A MINIMUM OF 24 HOURS PRIOR TO THE START OF ANY WORK.
 - INSTALL STABILIZED CONSTRUCTION ENTRANCE.
 - INSTALL SEDIMENT AND EROSION CONTROL MEASURES.
 - BLOCK I-1.
 - REMOVE ALL THE SEDIMENT FROM THE EXISTING STORMWATER MANAGEMENT POND. REPAIR TO F-90-171 BONE & SHORNE
 - CLEAR AND ROUGH GRADE THE SITE.
 - DURING THE CONSTRUCTION AND AFTER EACH RAINFALL THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON.
 - DURING CONSTRUCTION, THE CONTRACTOR SHALL REMOVE THE SEDIMENT FROM THE SEDIMENT TRAP WHEN THE CLEANOUT ELEVATIONS HAVE BEEN REACHED.
 - CLEAN BASE COURSE ON GRANVILLE ROAD, APPLY TACK COAT TO BASE COURSE AND LAY SURFACE COURSE.
 - STABILIZE ALL OF DISTURBED AREAS.
 - WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTORS, REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES ONCE ALL THE AREAS DRAINING TO THEM ARE PERMANENTLY STABILIZED.



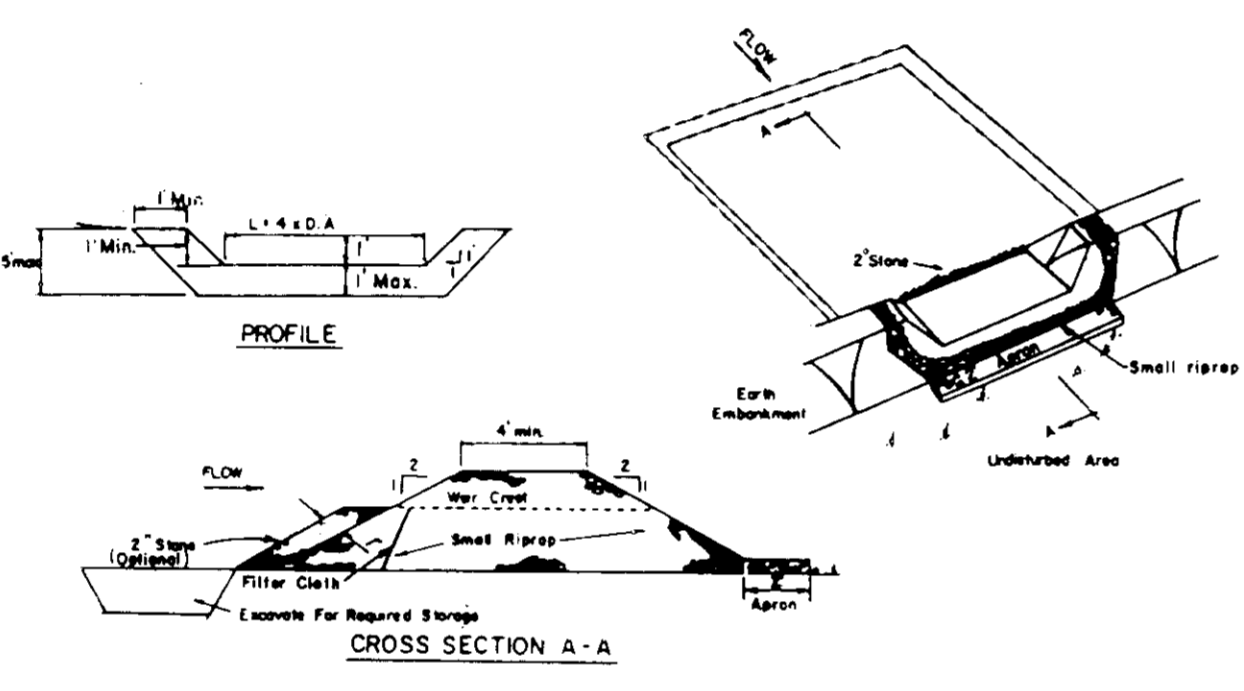
- CONSTRUCTION SPECIFICATIONS**
- Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
 - Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
 - Thickness - Not less than six (6) inches.
 - Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
 - Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
 - Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
 - Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 - Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
 - Periodic inspection and needed maintenance shall be provided after each rain.



- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**
- Woven wire fence to be fastened securely to fence posts with wire ties or staples.
 - Filter cloth to be fastened securely to woven wire fence with ties spaced every 24" at top and mid section.
 - When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.
 - Maintenance shall be performed as needed and material removed when bulges develop in the silt fence.
- CONSTRUCTION SPECIFICATIONS FOR SILT FENCE**
- Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
 - The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
 - All cut and fill slopes shall be 2:1 or flatter.
 - The stone used in the outlet shall be small riprap 4"-8" along with a 1" thickness of 2" aggregate placed on the upgrade side on the small riprap on embedded filter cloth in the riprap.
 - Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/4 the design depth of the trap.
 - The structure shall be inspected after each rain and repairs made as needed.
 - Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
 - The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.



- CONSTRUCTION SPECIFICATIONS**
- All dikes shall be compacted by earth-moving equipment.
 - All dikes shall have positive drainage to an outlet.
 - Top width may be wider and side slopes may be flatter if desired to facilitate crossing by construction traffic.
 - Field location should be adjusted as needed to utilize a stabilized safe outlet.
 - Earth dikes shall have an outlet that functions with a minimum of erosion. Runoff shall be conveyed to a sediment trapping device such as a sediment trap or sediment basin where either the dike channel or the drainage area above the dike are not adequately stabilized.
 - Stabilization shall be: (A) in accordance with standard specifications for seed and straw mulch or straw mulch if not in seeding season, (B) flow channel as per the chart below.
- | TYPE OF TREATMENT | CHANNEL GRADE | DIKE A | DIKE B |
|-------------------|---------------|-----------------------------------|---|
| 1 | 5-3.0% | SEED AND STRAW MULCH | SEED AND STRAW MULCH |
| 2 | 3.1-5.0% | SEED AND STRAW MULCH | SEED USING JUTE OR EXCELSTOR SOIL, 2" STONE |
| 3 | 5.1-8.0% | SEED WITH JUTE, OR SOIL, 2" STONE | LINED RIP-RAP 4"-8" |
| 4 | 8.1-20% | LINED RIP-RAP 4"-8" | ENGINEERING DESIGN |
- STONE OUTLET SEDIMENT TRAP**
- STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
 - RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 3 INCHES THICKNESS AND PRESSED INTO THE SOIL.
 - PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.



- GENERAL NOTES**
- Refer to 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for standard details and detailed specifications of each practice specified herein.
 - With the approval of the sediment control inspector, minor field adjustments can and will be made to insure the control of any sediment. Changes in sediment control practices require prior approval of the sediment control inspector and the County Soil Conservation District.
 - At the end of each working day, all sediment control practices will be inspected and left in operational condition.
 - Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: (a) seven calendar days as to the surface of all perimeter controls, dikes, water ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1) and (b) fourteen days as to all other disturbed or graded areas on the project site.
 - Any change to the grading proposed on this plan requires re-submission to County Soil Conservation District for approval.
 - Dust control will be provided for all disturbed areas. Refer to 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control, pp 62.01 and 62.02 for acceptable methods and specifications for dust control.
 - Any variation from the sequence of operations stated on this plan requires the approval of the sediment control inspector and the County Soil Conservation District prior to the initiation of the change.
 - Excess cut or borrow material shall go to or come from respectively a site with an approved sediment control plan. The following item may be used as applicable.
 - Refer to Maryland's Guidelines for Interagency Construction by the Water Resources Administration (WRPA), dated January 1986 for standard details and detailed specifications of each practice specified herein for interagency construction.

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 raking, disking 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/1000 square ft) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
- Acceptable** -- Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding -- For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/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 (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre of 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 straw.

Mulching -- Apply 1-1/2 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

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 raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: -- Apply 60 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft).

Seeding: -- For periods March 1 thru April 30 and from August 15 thru October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 15 thru February 28, 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 1-1/2 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 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION WITH SOD

SPECIFICATIONS

- Class of turfgrass sod shall be Maryland or Virginia State Certified, or Maryland or Virginia State approved sod.
- Sod shall be machine cut at a uniform soil thickness of 3/4 inch, plus or minus 1/4 inch, at the time of cutting. Measurement for thickness shall exclude top growth and thatch.
- Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
- Individual pieces of sod shall be cut to the suppliers width and length. Maximum allowable deviation from standard widths and lengths shall be 3/16". Broken pads and torn or uneven ends will not be acceptable.
- Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
- Sod shall be harvested, delivered and installed within a period of 36 hours. Sod not transplanted within this period shall be inspected and approved prior to its installation.

SITE PREPARATION

Fertilizer and lime application rates shall be determined by soil tests. Under unusual circumstances where there is insufficient time for a complete soil test, fertilizer and lime materials may be applied in amounts shown under B, below.

Prior to sodding, the surface shall be cleared of all trash, debris, and of all roots, brush, wire, grade stakes and other objects that would interfere with planting, fertilizing or maintenance operations.

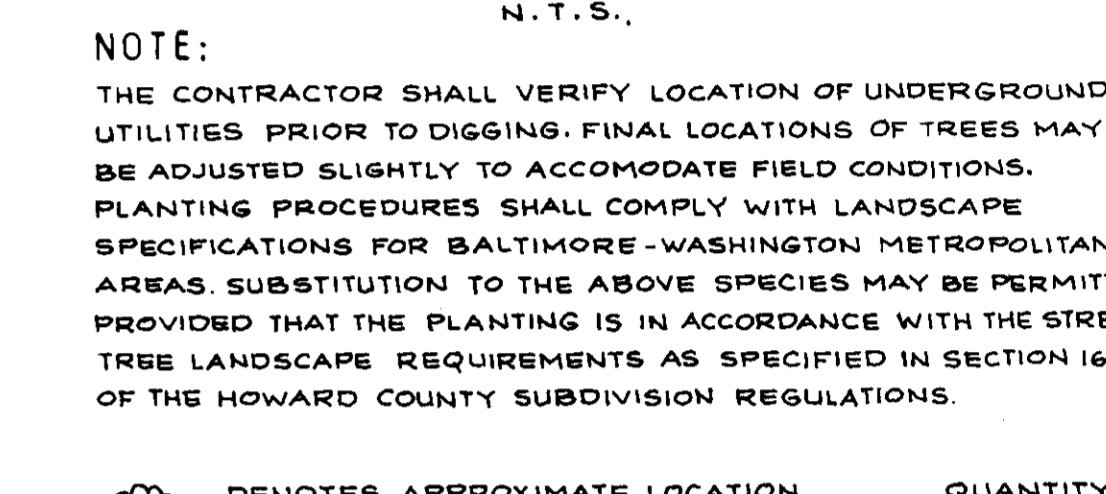
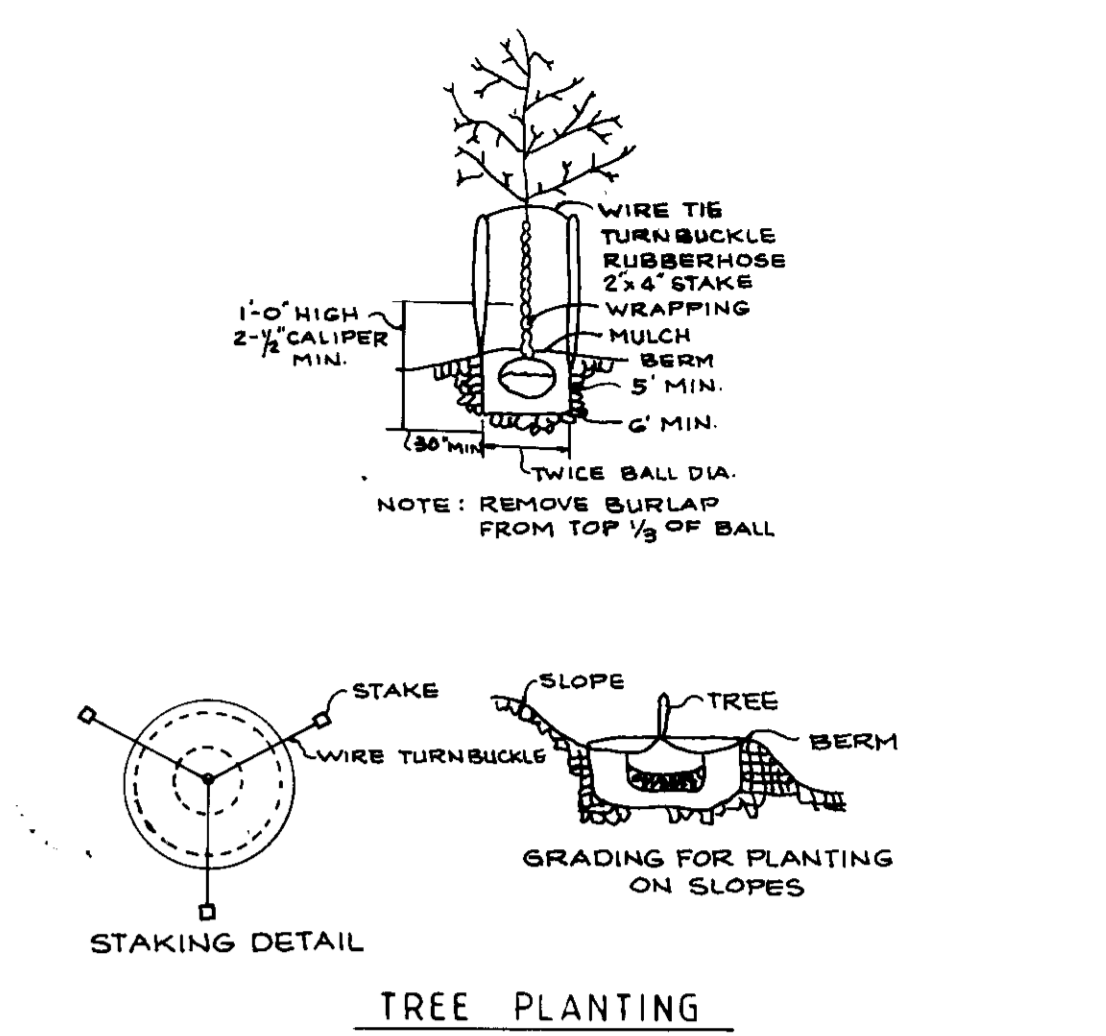
- Where the soil is acid or composed of heavy clays, ground limestone shall be spread at the rate of 2 tons/acre or 100 pounds per 1,000 square feet. In all soils, 1,000 pounds per acre or 25 pounds per 1,000 square feet of 10-10-10 fertilizer or equivalent shall be uniformly applied and mixed into the top 3 inches of soil with the required lime.
- All areas receiving sod shall be uniformly fine graded. Hard-packed earth shall be scarified prior to placement of sod.

SEDIMENT CONTROL NOTES

- A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within (a) 7 calendar days for all perimeter sediment control structures, 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.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) and (Sec. 52) temporary stabilization with mulch alone can only be done when recognized 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:

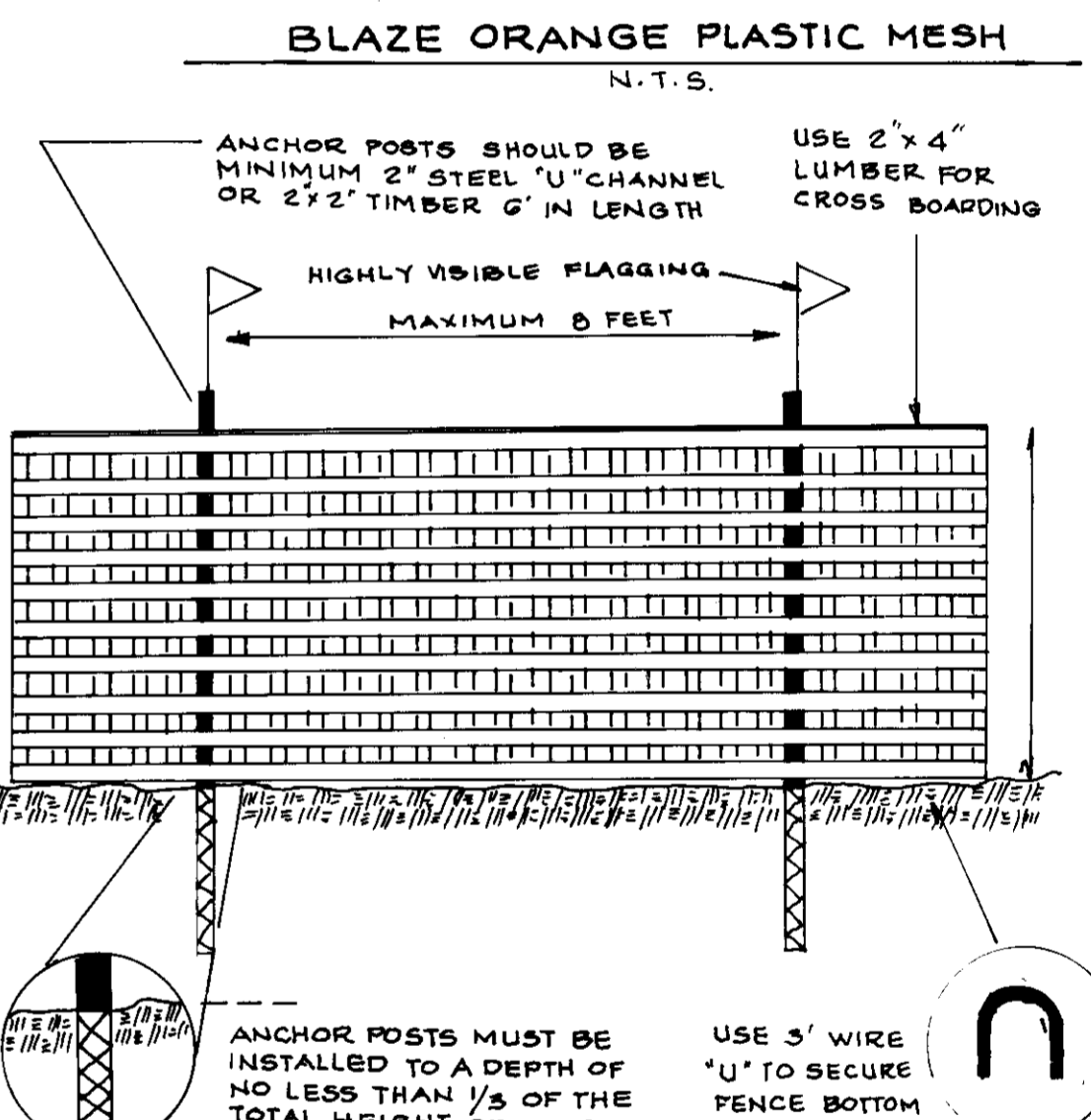
Total Area of Site	2.40	Acres
Area Disturbed	2.08	Acres
Area to be roofed or paved	0.46	Acres
Area to be vegetatively stabilized	1.62	Acres
Total Cut	1,000	Cu Yds
Total Fill	1,000	Cu Yds
Off-site waste/borrow area location	N/A	
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided if deemed necessary by the Howard County DPW sediment control inspector.
- In all cases with disturbed areas in excess of 2 acres, approval of the inspector approval shall be requested upon completion of installation of perimeter erosion and sediment control, 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 inspector agency is made.

The total amount of 1,200 dikes 1 equals 1,200 L.F.



NOTE: THE CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITIES PRIOR TO DIGGING. FINAL LOCATIONS OF TREES MAY BE ADJUSTED SLIGHTLY TO ACCOMMODATE FIELD CONDITIONS. PLANTING PROCEDURES SHALL COMPLY WITH LANDSCAPE SPECIFICATIONS FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS. SUBSTITUTION TO THE ABOVE SPECIES MAY BE PERMITTED PROVIDED THAT THE PLANTING IS IN ACCORDANCE WITH THE STREET TREE LANDSCAPE REQUIREMENTS AS SPECIFIED IN SECTION 16-151 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS.

Denotes approximate location of acer saccharum (sugar maple) 13 2 1/2 CALIPER



- NOTES:**
- Forest protection device only
 - Retention Area will 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.
 - Protective signage may be used.
 - Device should be maintained throughout construction.

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT. <i>James M. Hahn</i> 8/25/92 COUNTY HEALTH OFFICER DATE	REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS. <i>James M. Hahn</i> 8/2/92 U.S. SOIL CONSERVATION SERVICE DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING <i>Joseph J. Roberts</i> 9/1/92 DATE	THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. <i>Joseph J. Roberts</i> 9/1/92 DATE
APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. <i>Robert J. Buey</i> 8/19/92 DIRECTOR DATE	APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING <i>Joseph J. Roberts</i> 9/1/92 DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING <i>Joseph J. Roberts</i> 9/1/92 DATE	APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING <i>Joseph J. Roberts</i> 9/1/92 DATE

NUMBER	REVISION	DATE	BY

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENT 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 SOILS CONSERVATION DISTRICT.

Mike Saffell 6-29-92
SIGNATURE OF ENGINEER DATE

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ONSITE INSPECTOR BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS DEEMED NECESSARY.

Ray Rachuba 6-29-92
SIGNATURE OF DEVELOPER DATE

SEDGI & ASSOCIATES, LTD.
Civil Engineers Site Planners Surveyors
3217 Corporate Court
Ellicott City, MD 21043
(301) 750-9003

SEDIMENT CONTROL DETAIL
CEDAR II, SECTION 2
LOTS 8 TO 23
TAX MAP 43, PARCEL 337 F 452
6TH ELECTION DISTRICT
HOWARD COUNTY, MD.
DATE 5-26-92, SHEET 3 OF 3

DEVELOPER
THAMES INVESTMENT GROUP LTD.
3701 COURTHOUSE DRIVE
ELLCOTT CITY, MD 21043