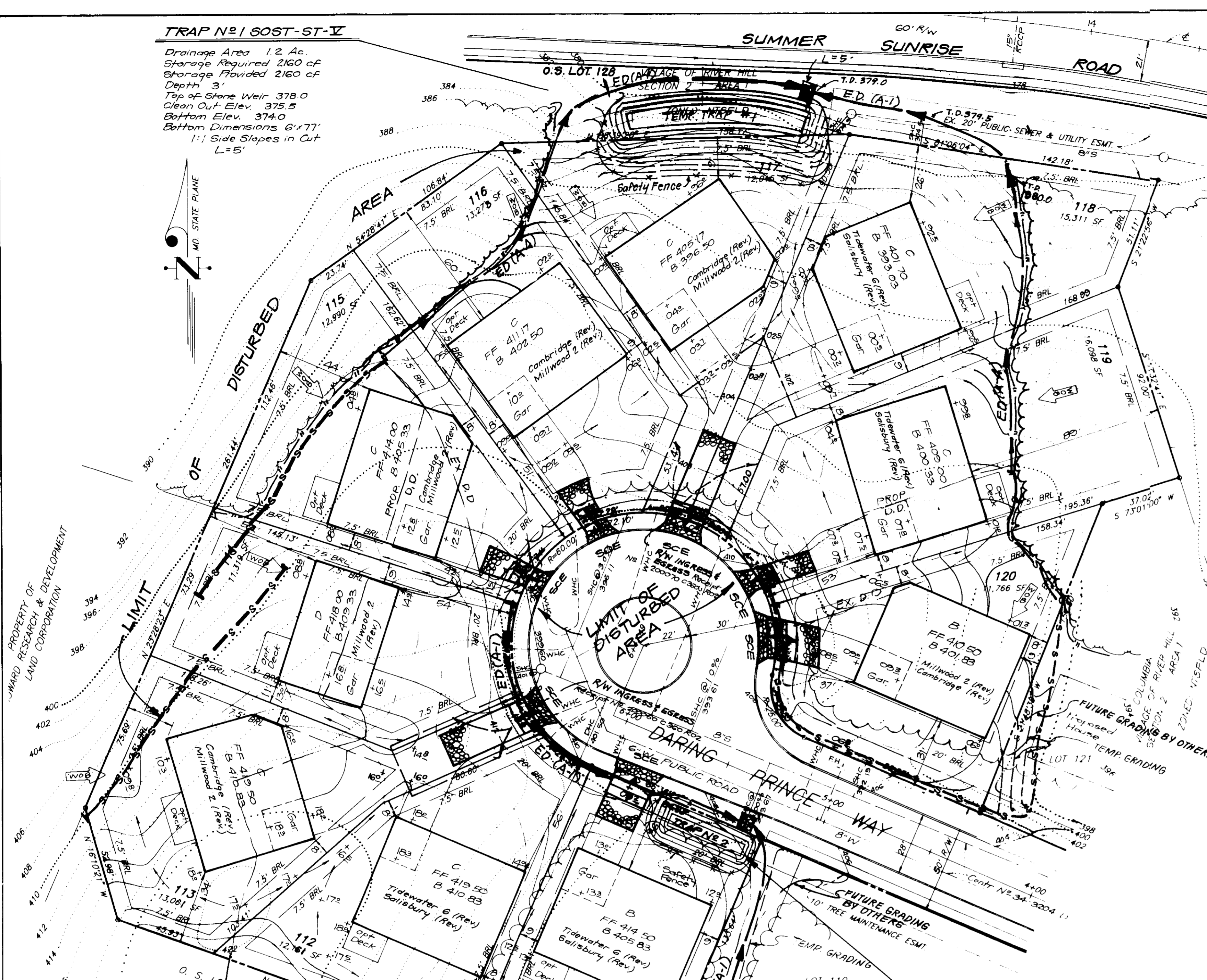


TRAP #1 SOST-ST-V

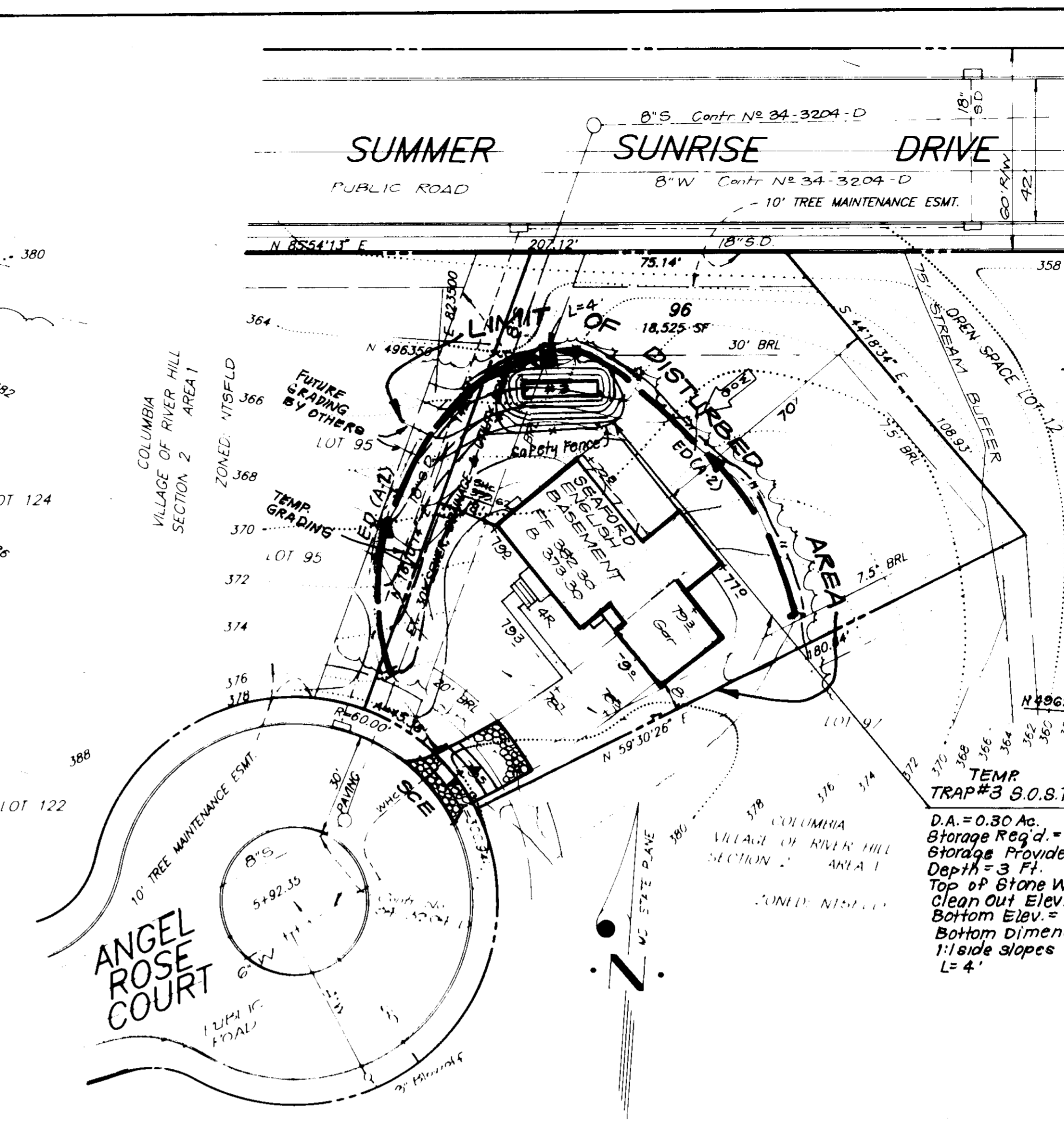
Drainage Area 1.2 Ac.
Storage Required 2160 cf
Storage Provided 2160 cf
Depth 3'
Top of Stone Weir 378.0
Clean Out Elev. 375.5
Bottom Elev. 374.0
Bottom Dimensions 6'x77'
1:1 Side Slopes in Cut
L=5'



PROPERTY OF HOWARD RESEARCH & DEVELOPMENT CORPORATION

TRAP #2 SOST ST-V

Drainage Area 0.6 Ac.
Storage Required 1080 cf
Storage Provided 1080 cf
Depth 2 Ft
Top of Stone Weir 407.0
Clean Out Elev. 404.5
Bottom Elev. 403.0
Bottom Dimensions 6'x36'
1:1 Side Slopes in Cut
L=4'

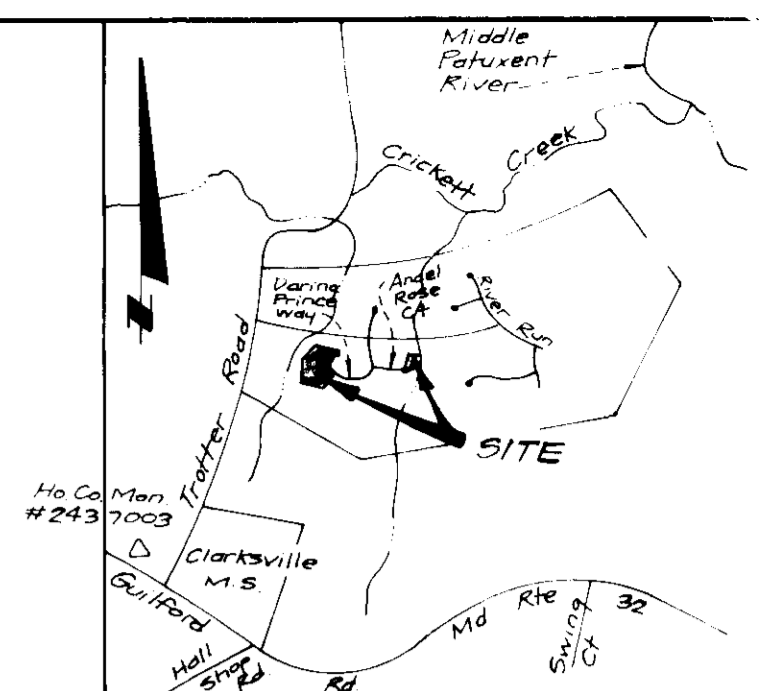


LEGEND

- CONTOUR INTERVAL
- EXISTING CONTOUR
- PROPOSED CONTOUR
- DIRECTION OF DRAINAGE
- WALK OUT BASEMENT
- EXISTING SEWER MAIN
- EXISTING WATER MAIN
- EXISTING STORM MAIN
- EXISTING TREES TO REMAIN
- TREE PROTECTION FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- Earth Dike

TEMP TRAP #3 S.O.S.T. (6T-V)

D.A. = 0.50 Ac.
Storage Req'd = 540 cf
Storage Provided = 609 cf
Depth = 3 Ft.
Top of Stone Weir 385.0
Clean Out Elev. = 382.5
Bottom Elev. = 381.0
Bottom Dimensions = 4'x23'
1:1 side slopes
L=4'



VICINITY MAP
Scale 1" = 2000'
BENCHMARK #11 Railroad Spike in place
#12 REBAR Traffic #1004, #1309, #14
#15 REBAR Traffic #1004, #1309, #14
#16 REBAR Traffic #1004, #1309, #14

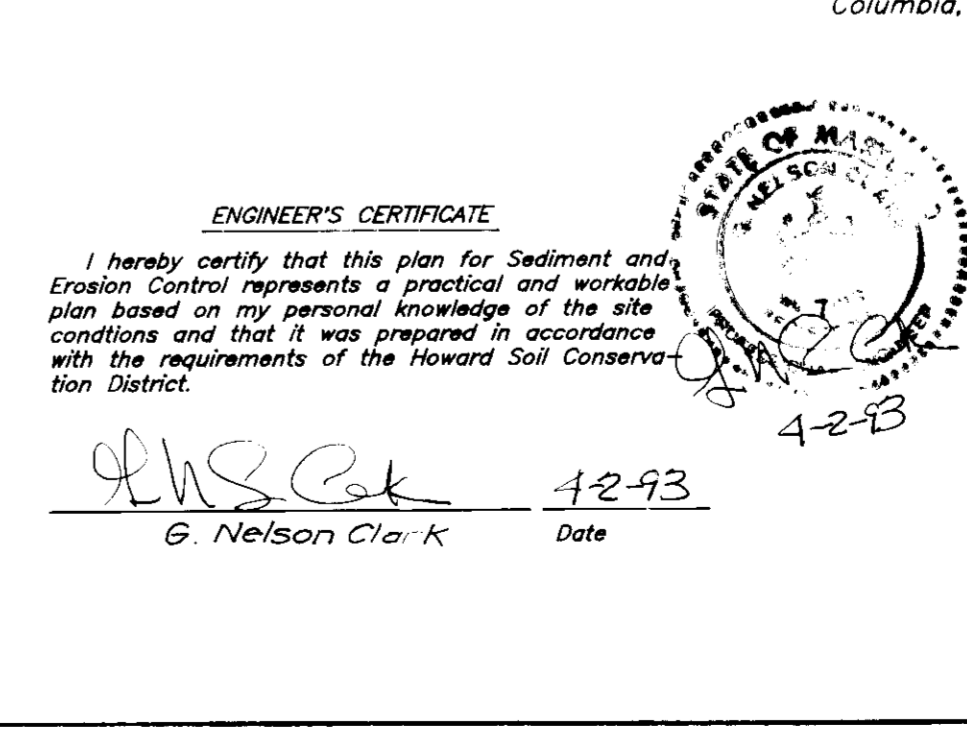
APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT	<i>[Signature]</i> 7/14/93 COUNTY HEALTH OFFICER DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	<i>[Signature]</i> 7/16/93 DATE
APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	<i>[Signature]</i> 7/13/93 DATE
APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	<i>[Signature]</i> 6/30/93 DATE

Reviewed for HOWARD S.C.D. Name
and meets Technical Requirements
[Signature] 7/16/93
US Soil Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] Approved

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 necessary."
[Signature] 3-31-93
Signature Date

ENGINEER'S CERTIFICATE
I hereby certify that this plan for Sediment and Erosion Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.
[Signature] 4-2-93
G. Nelson Clark Date



CLARK • FINEFROCK & SACKETT, INC. ENGINEERS • PLANNERS • SURVEYORS		SCALE 1" = 30'
DESIGNED KIWM	SEDIMENT & EROSION CONTROL PLAN LOT 96 AND LOTS 111 THRU 120	DRAWING 2003
CHECKED KIWM		JOB NO. 93-059
DATE April 1993	COLUMBIA VILLAGE OF RIVER HILL SECTION 2 AREA 1 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	FILE NO. 93-0505E

SDP - 93 - 91

SEDIMENT AND EROSION 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. (S19-1810)
 - 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 SPECS. FOR SOIL EROSION AND SEDIMENT CONTROL.
 - Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within a) 2 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 perimeters 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 permanent seedings (Sec.51) sod (Sec.54), temporary seeding (Sec.50) and mulching (Sec.52). Temporary stabilization with mulch alone can only be done when recommended 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:	3.396 AC
Area Disturbed:	2.88 AC
Area to be vegetatively stabilized:	1.10 AC
Total Cut:	4227 CY
Total Fill:	11,262 CY
Off-site Waste/Borrow Area Location:	
 - 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. 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 made.
 - If houses are to be constructed on an "as sold" basis, at random, Single Family Sediment Control, as shown below, shall be implemented.
 - All pipes to be blocked at the end of each day (see detail this sheet).
 - The total amount of silt fence = 615 LF
- *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.

PERMANENT SEEDING NOTES

APPLY TO GRADED 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, 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:
 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/100 sq ft), before seeding, and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft), after 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 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 disc into upper three inches of soil.

SEEDING: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60lbs 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 well anchored straw mulch and seed as soon as possible in the spring, or use sod. Option (2) 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 unrattled small grain straw immediately after seeding. Anchor mulch immediately after application using an 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 reseeding.

TEMPORARY SEEDING NOTES

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

SOIL AMENDMENTS: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft).

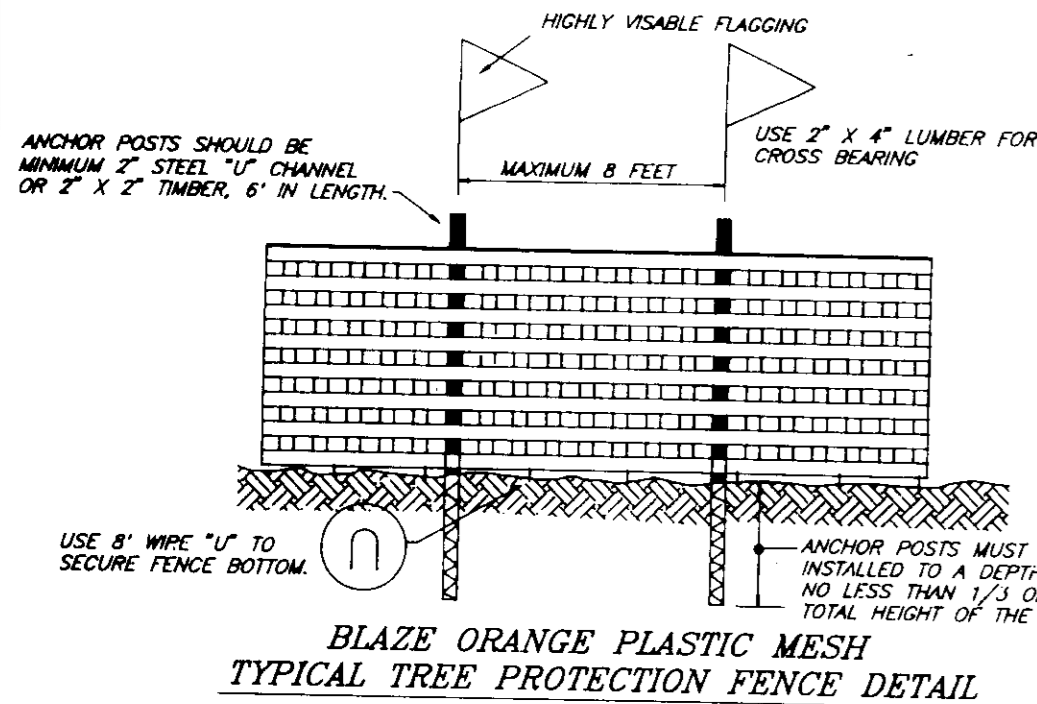
SEEDING: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual ryegrass (3.2 lbs./1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, 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 unrattled small grain straw immediately after seeding. Anchor mulch immediately after application using an flat areas. On slopes 8 feet or higher, use 348 gallons 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.

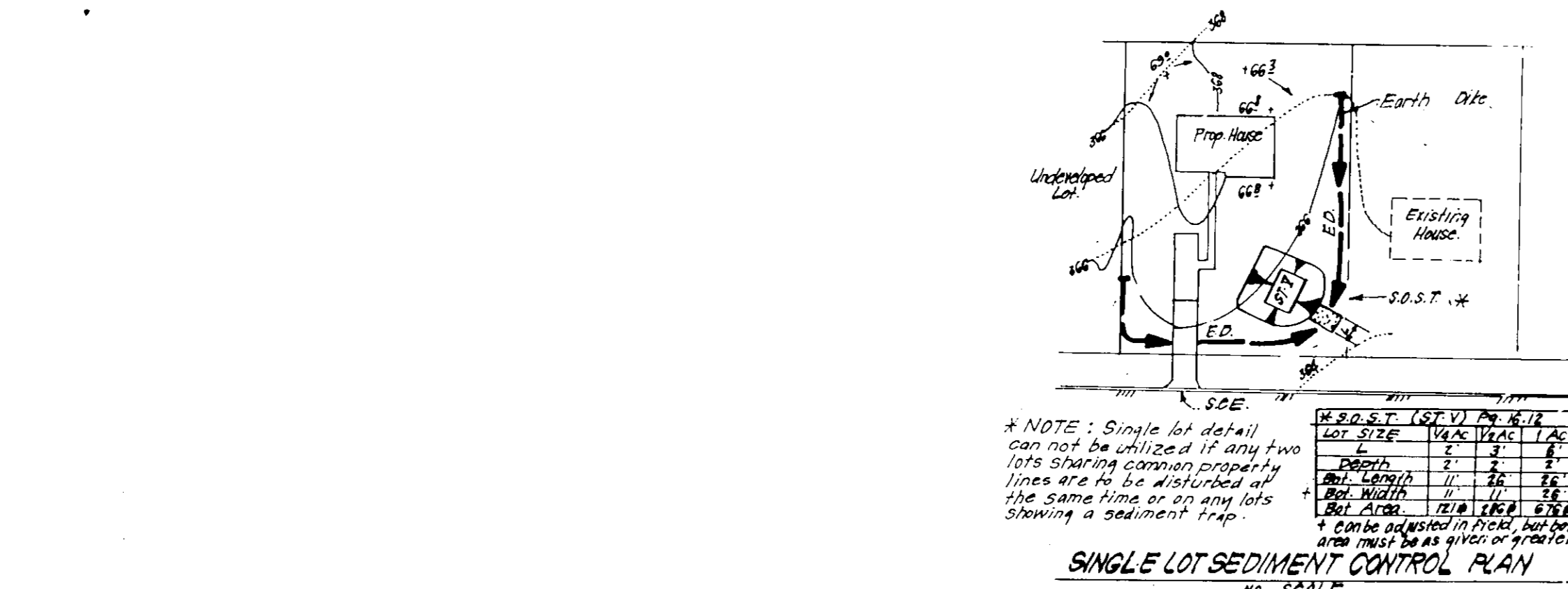
CONSTRUCTION SEQUENCE

	NO. OF DAYS
A. Obtain grading permit	7
B. Install tree protection fence	7
C. Install sediment and erosion control devices and stabilize	14
* D. Excavate for foundations, rough grade and temporarily stabilize	30
E. Construct structures, sidewalks and driveways	60
F. Final grade and stabilize in accordance with Specs. and Specs.	14
G. Upon approval of the sediment control inspector, remove sediment and erosion control devices and stabilize	7

Delay construction on Lot 117, See single lot sediment detail this sheet



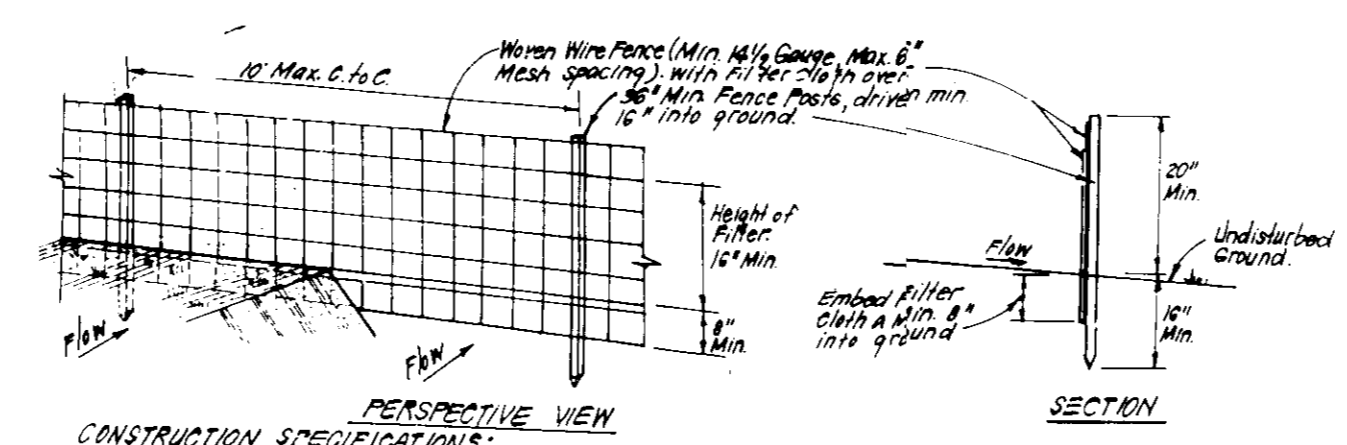
- BLAZE ORANGE PLASTIC MESH TYPICAL TREE PROTECTION FENCE DETAIL**
- NOTES:
- Forest protection device only.
 - Retention area will be set as part of the review process.
 - Boundaries of retention area should be staked and flagged prior to installing device.
 - Root damage should be avoided.
 - Protection signage may also be used.
 - Device should be maintained throughout construction.



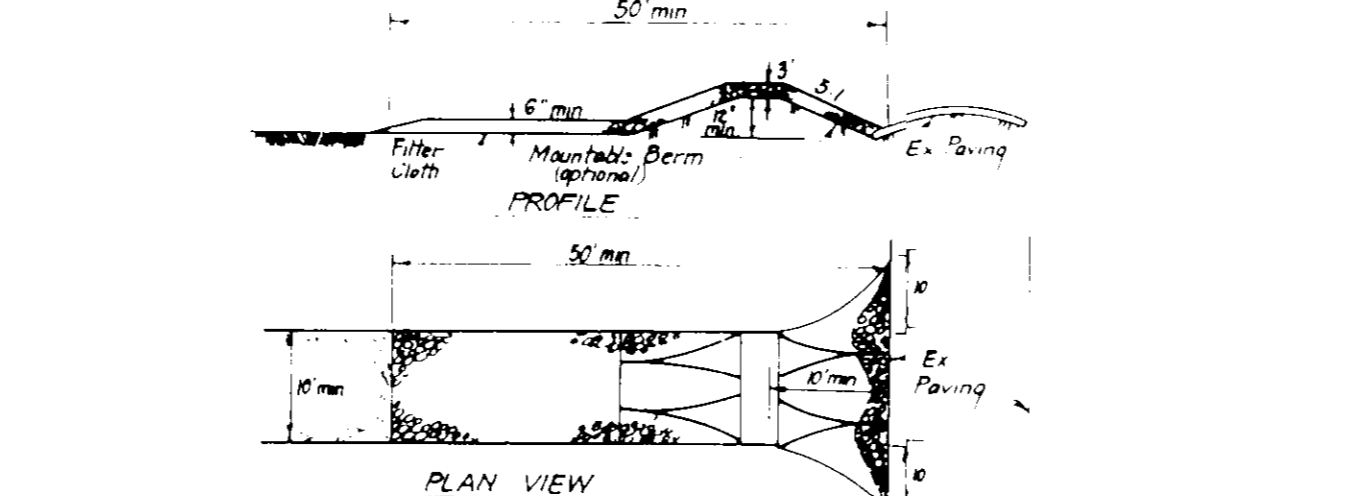
SINGLE LOT SEDIMENT CONTROL PLAN

* NOTE: Single lot detail can not be utilized if any two lots sharing common property lines are to be disturbed at the same time or on any lots showing a sediment trap.

NO.	DESCRIPTION	DATE
1	DESIGN	7/16/93
2	REVISION	7/16/93
3	REVISION	7/16/93

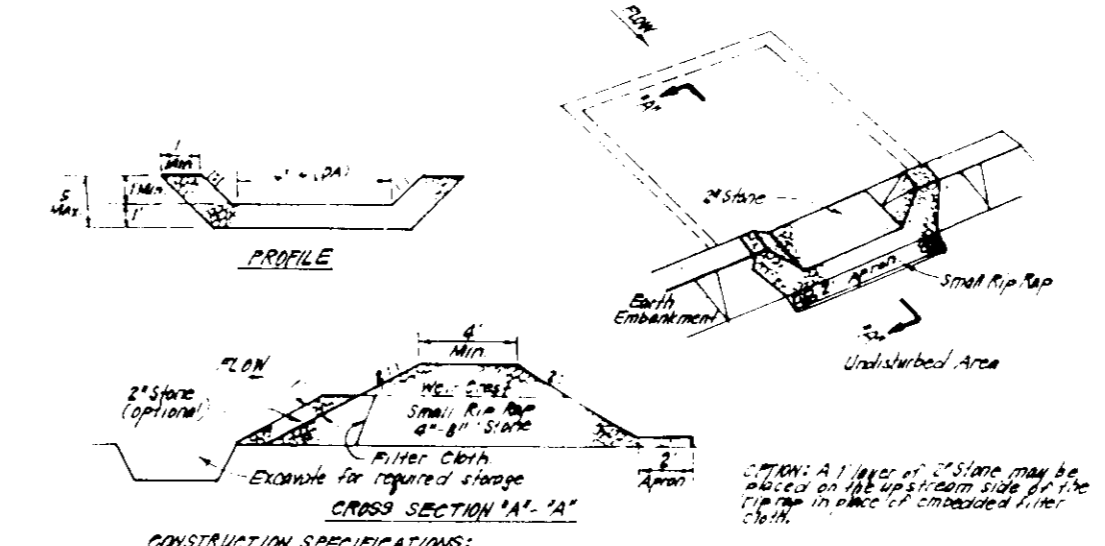


- SILT FENCE DETAIL (S)**
- CONSTRUCTION SPECIFICATIONS:**
- Woven wire fence to be fastened securely to fence posts with wire ties or staples.
 - Filter cloth to be fastened securely to woven wire fence with ties spaced every 12" at top and mid sections.
 - When 2 sections of filter cloth within each other they shall be overlapped by 6" and stapled.
 - Maintenance shall be performed as needed and material removed when "bulges" develop in silt fence.
- POSTS:** Steel, either T or U Type or 2" diameter wood.
- FENCE:** Woven wire, 14 1/2 gauge, 12" mesh spacing, with filter cloth over mesh spacing, driven min 12" into ground.
- FILTER CLOTH:** Filter Cloth, 6 mil, 6' wide, 12' long, 6' high, 12" wide, 12" high, 12" wide, 12" high.
- STONE OUTLET:** Stone Outlet, 12" high, 12" wide, 12" high, 12" wide, 12" high, 12" wide, 12" high.



- CONSTRUCTION SPECIFICATIONS:**
- Stone size: Use 2" stone, or required or recycled concrete equivalent.
 - Length: As required, but not less than 10 feet, except for a single residence lot where a 30 foot minimum length would apply.
 - Thickness: Not less than six (6) inches.
 - Width: Ten (10) feet 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 placement of stone. Filter will not be required on a single family residence lot.
 - Surface Water: All surface water flowing or generated toward construction entrances shall be piped across the entrance. If piping is impractical, amount able to pass with 5' slopes will be permitted.
 - Maintenance: The entrance shall be maintained in a condition when will prevent tracking or flowing of sediment into public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or clearing of any material which impedes the sediment control. Sediment applied, dropped, washed or tracked into public rights-of-way must be removed immediately.
 - Warning: Wheels shall be cleaned to remove sediment from tires before entering 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.

STABILIZED CONSTRUCTION ENTRANCE (SCE)



- CONSTRUCTION SPECIFICATIONS:**
- Any under embankment shall be cleared, graded and stripped of any vegetation and soil and the top shall be as shown.
 - The filter cloth shall be placed over the entire area prior to placement of stone. Filter will not be required on a single family residence lot.
 - Surface Water: All surface water flowing or generated toward construction entrances shall be piped across the entrance. If piping is impractical, amount able to pass with 5' slopes will be permitted.
 - Maintenance: The entrance shall be maintained in a condition when will prevent tracking or flowing of sediment into public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or clearing of any material which impedes the sediment control. Sediment applied, dropped, washed or tracked into public rights-of-way must be removed immediately.
 - Warning: Wheels shall be cleaned to remove sediment from tires before entering 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.

STONE OUTLET SEDIMENT TRAP (S.O.S.T.) STYLE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
 COUNTY HEALTH OFFICER: [Signature] DATE: 7/14/93

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 CHIEF DIVISION OF DEVELOPMENT AND RESEARCH
 [Signature] DATE: 7/16/93

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] DATE: 7/13/93

CHIEF BUREAU OF ENGINEERING
 [Signature] DATE: 6/30/93

Reviewed for HOWARD COUNTY and meets technical requirements
 Signature: [Signature] DATE: 4/16/93
 US Soil Conservation Service

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/We also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

Signature: [Signature] DATE: 3/31/93

ENGINEER'S CERTIFICATE

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

Signature: [Signature] DATE: 4-2-93



OWNER:
 HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 10275 Little Patuxent Parkway
 Columbia, Maryland 21044

CLARK & FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS

735 MINNREEL WAY • COLUMBIA, MD 21045 • (410) 181-7500 BALTO • (301) 621-8100 WASH

DESIGNED KIWM	SEDIMENT & EROSION CONTROL PLAN	SCALE 1" = 30'
DRAWN BAL	LOTS 96 AND 111 THRU 120	DRAWING 3 OF 3
CHECKED KIWM	COLUMBIA VILLAGE OF RIVER HILL SECTION 2 AREA 1	JOB NO 93-059
DATE 4/93	5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	FILE NO 93-059SE

FOR: NU-HOMES, INC.
 10480 Little Patuxent Pkwy.
 Columbia, Md. 21044

GDP 93-91