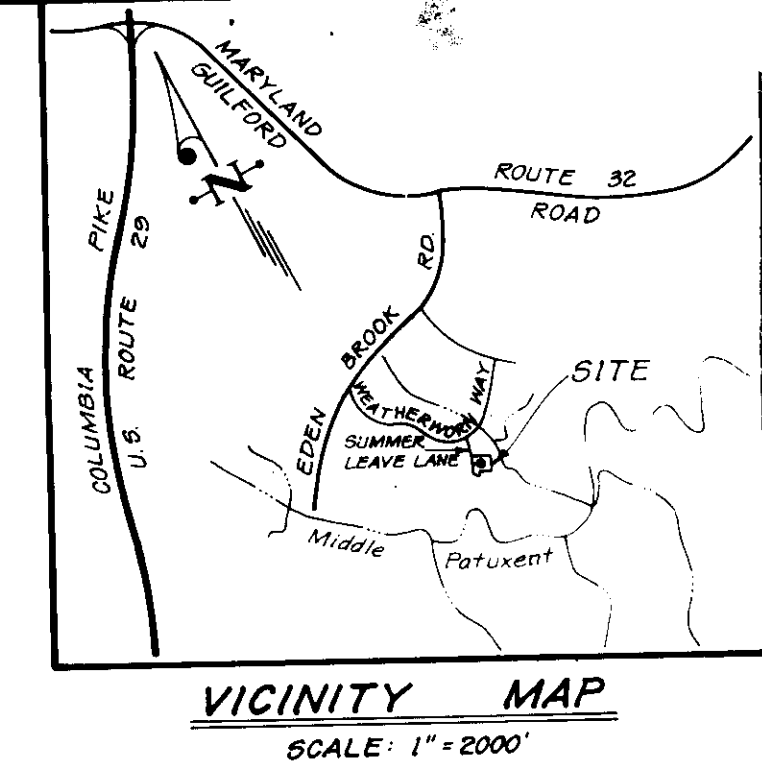


LEGEND

- 1. Contour Interval 2 Ft.
- 2. Existing Contour
- 3. Proposed Contour
- 4. Spot Elevation
- 5. Direction of Drainage
- 6. Ex. Trees to be Retained
- 7. Walk Out Basement



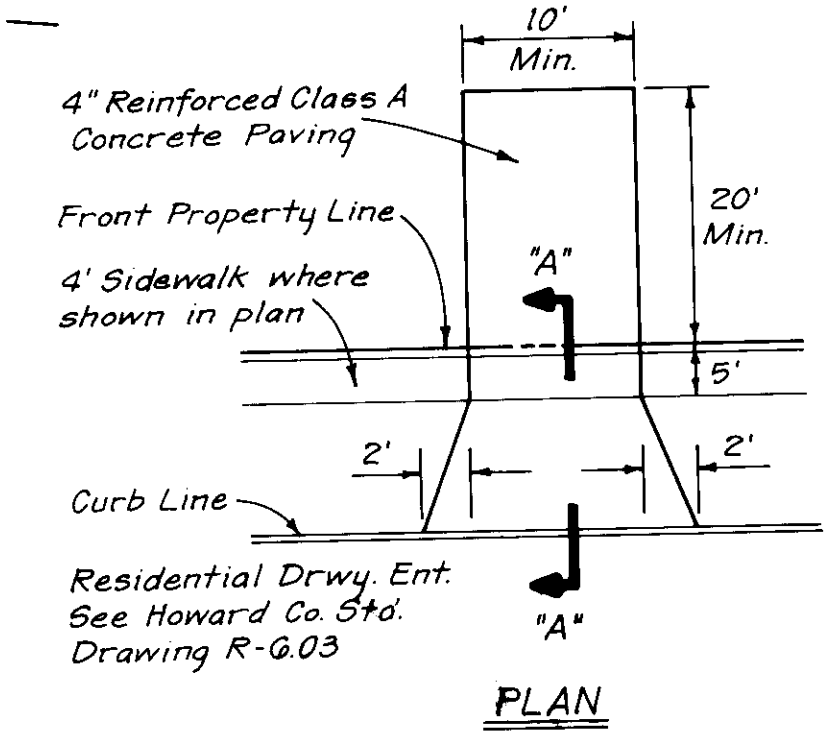
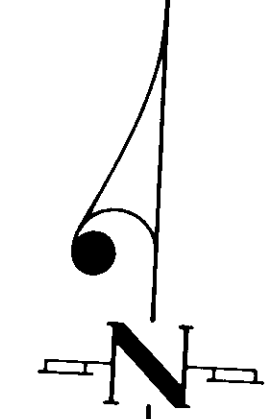
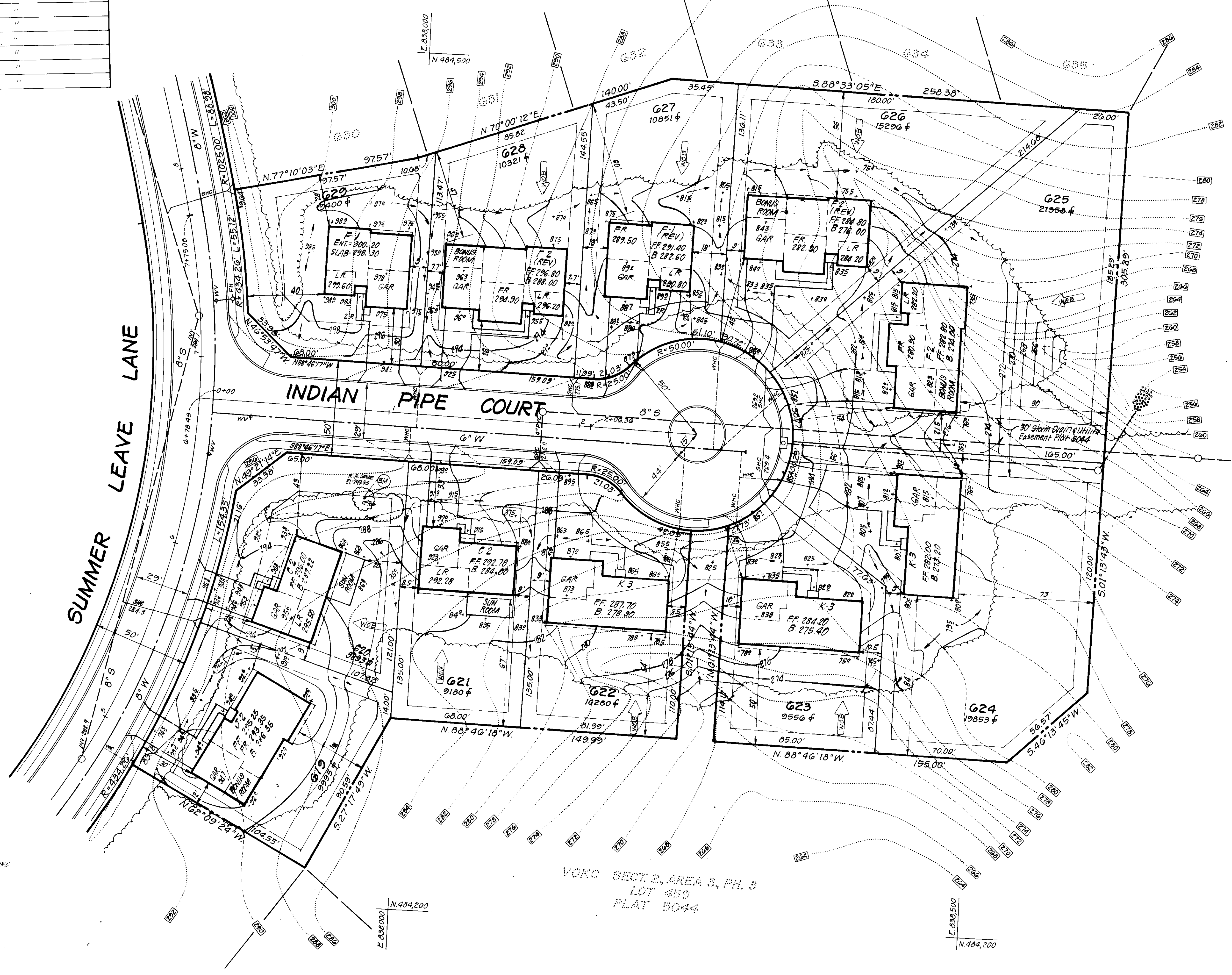
GENERAL NOTES

1. The land included in this plan is zoned: New Town-SFMD
2. The lots shown on this plan are covered by Final Development Plan Phase 178, Parts II & III
3. All coordinates shown hereon are based on Howard County Geodetic Control Traverse which is based upon the Maryland State Plane Coordinate System
4. The area covered is located on Tax Maps # 42
5. The total area included in this plan is 3.121 Acres
6. All roadways are public and existing.
7. Any damage to County owned rights-of-way or paving shall be corrected at the Developer's expense.
8. Total number of Lots: 11

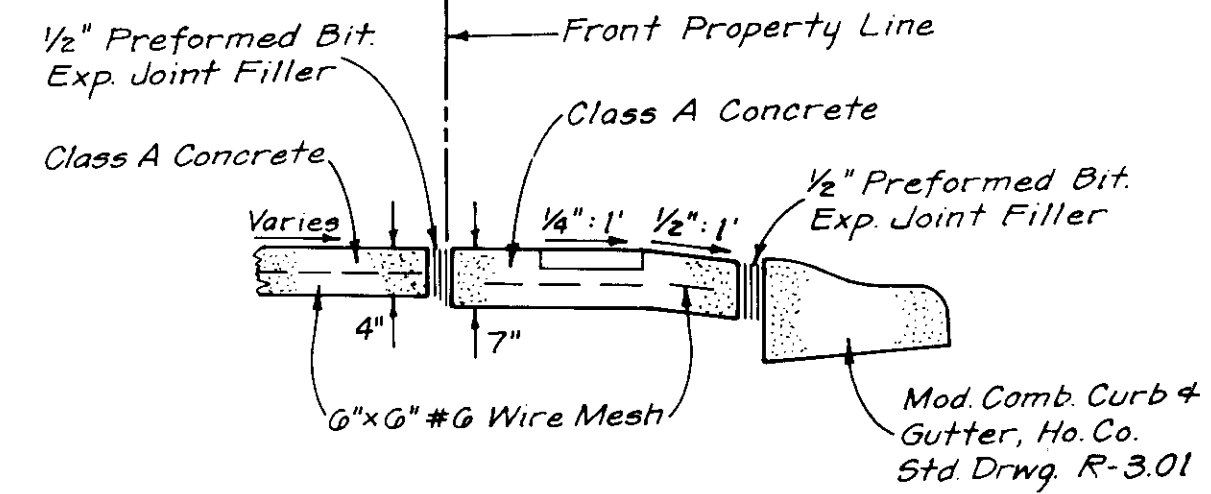
Lot No.	Street Address
G19	7531 Summer Leave Lane
G20	7527 "
G21	7508 Indian Pipe Court
G22	7512 "
G23	7516 "
G24	7520 "
G25	7521 "
G26	7517 "
G27	7513 "
G28	7509 "
G29	7505 "

VOKC - SECT 2, AREA 3, PH. 3
PLAT 5045

VOKC SECT 2, AREA 3, PH. 3
LOT 459
PLAT 5044



Note: Use Residential Driveway Entrance Ho. Co. Std. except where driveway abuts Modified Comb. Curb & Gutter.
Note: Materials and Construction shall be in accordance with the Ho. Co. Road Construction Code.



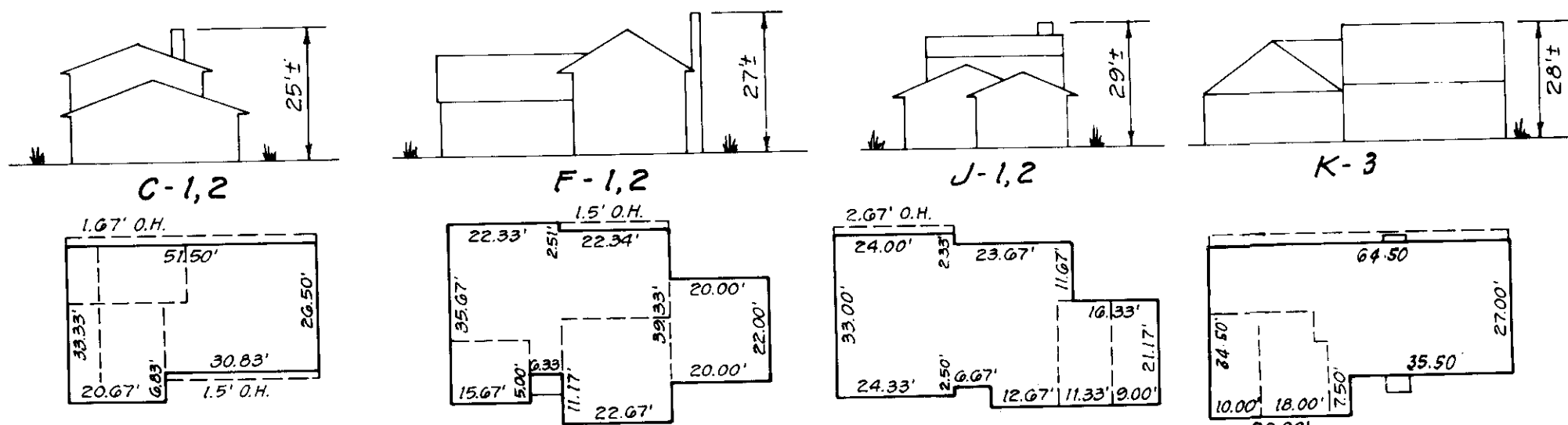
DRIVEWAY ABUTTING MODIFIED COMBINATION CURB AND GUTTER

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
 COUNTY HEALTH OFFICER: *[Signature]* DATE: 5/14/85

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING
 PLANNING DIRECTOR: *[Signature]* DATE: 5/16/85
 CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DIRECTOR: *[Signature]* DATE: 5-9-85
 CHIEF BUREAU OF ENGINEERING: *[Signature]* DATE: 5-8-85

APPROVED
 DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
 HOWARD COUNTY, MARYLAND
 DATE: 4-26-85



TYPICAL HOUSES

No Scale

SUBDIVISION NAME	COLUMBIA	V.O.K.C.	SECT./AREA	2/3 Ph 3	LOTS	G19-G29
PLAT or L/F	5945	13	ZONE	42	MAN/ELEC/DIST	6th 60G
WATER CODE	E10		SEWER CODE			G340000

CLARK • FINEFROCK & SACKETT
 ENGINEERS • PLANNERS • SURVEYORS
 11315 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 (301) 593-3400

DESIGNED: JME BAF DATE: 5/16/85
 DRAWN: KIN LAY
 CHECKED: JME BAF
 DATE: MAR., 1985

SITE DEVELOPMENT PLAN
 LOTS G19 THRU G29
COLUMBIA
 VILLAGE OF KINGS CONTRIVANCE
 SECTION 2, AREA 3, PHASE 3
 6th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

FOR: COLUMBIA BUILDERS, INC.
 3 Lakefront North, Suite 200
 Columbia, Maryland 21044

SCALE: 1" = 30'
 DRAWING: 1 OF 3
 JOB NO.: 84-04
 FILE NO.: 84-040



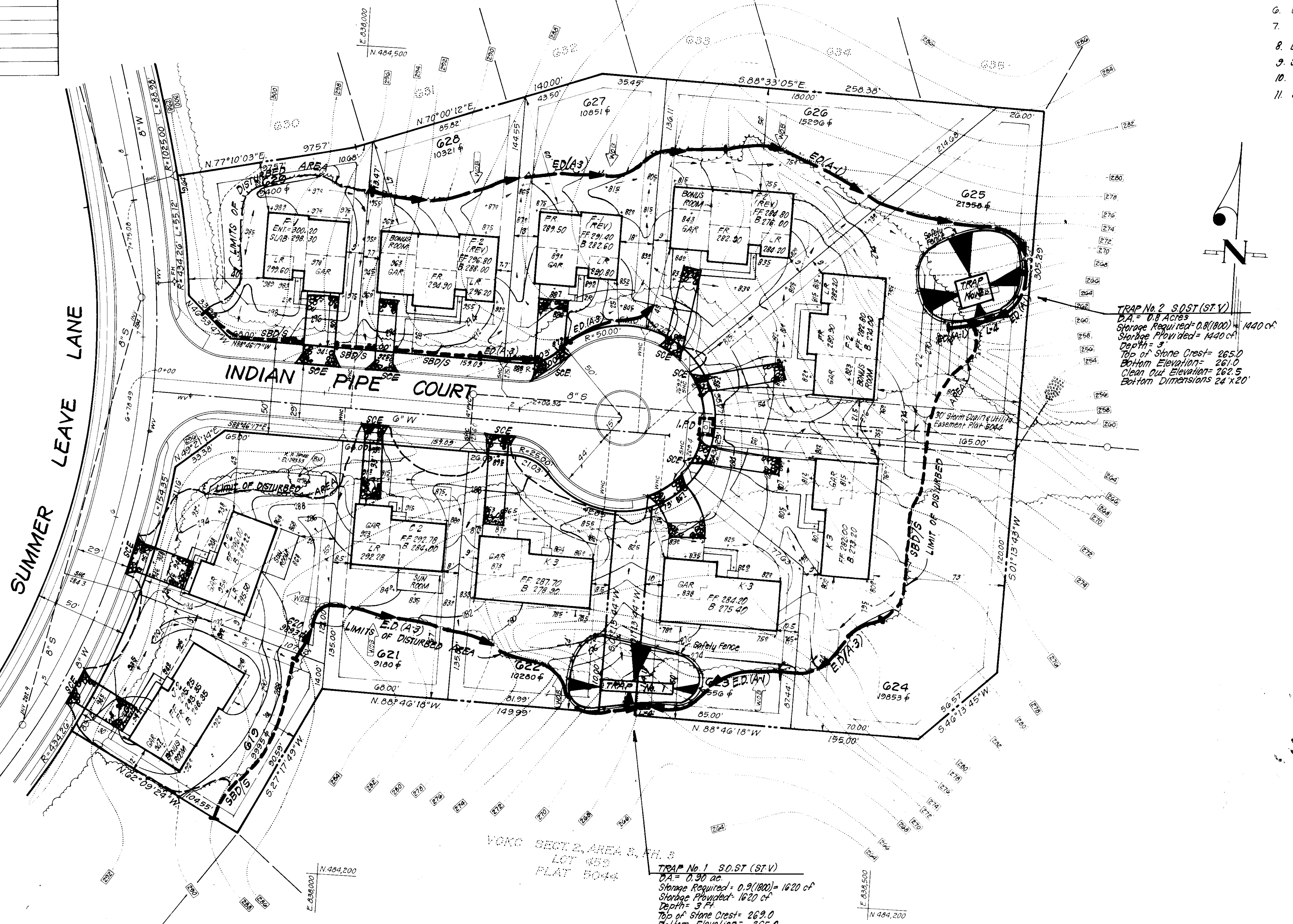
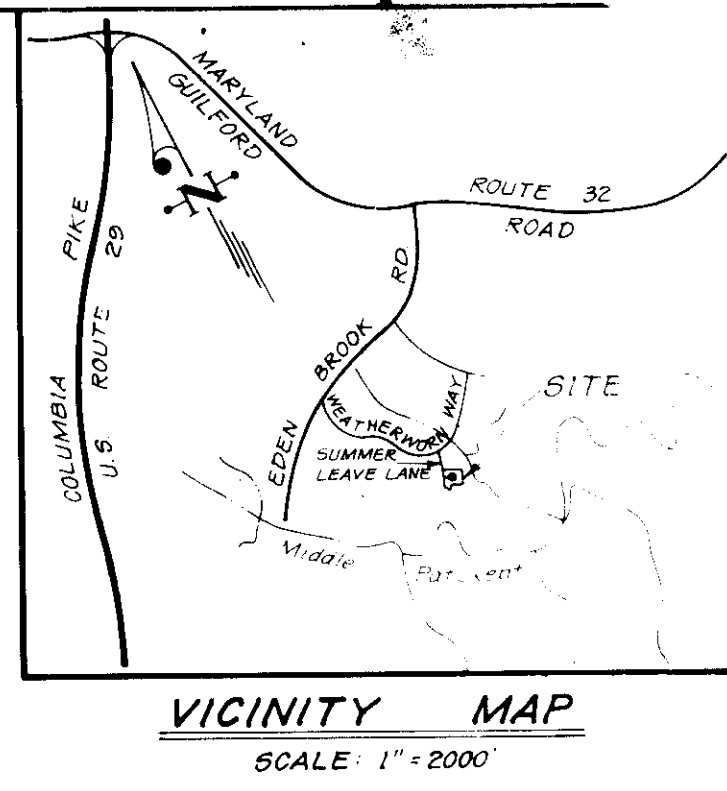
SDP-85-1670

Lot No.	Street Address
G19	
G20	
G21	
G22	
G23	
G24	
G25	
G26	
G27	
G28	
G29	

VOKC - SECT 2, AREA 3, PH. 3
 PLAT 5045

LEGEND

1. Contour Interval 2 Ft
2. Existing Contour
3. Proposed Contour
4. Spot Elevation +79±
5. Direction of Drainage
6. Ex. Trees to be Retained
7. Walk Out Basement
8. Earth Dike
9. Straw Bale Dike/Silt Fence
10. Inlet Protection Detail
11. Stone Construction Entrance



TRAP No. 2 S.O.S.T. (ST.V)
 D.A. = 0.8 ACRES
 Storage Required = 0.8(1800) = 1440 CF
 Storage Provided = 1440 CF
 Depth = 3'
 Top of Stone Crest = 265.0
 Bottom Elevation = 261.0
 Clean Out Elevation = 262.5
 Bottom Dimensions 24' x 20'

TRAP No. 1 S.O.S.T. (ST.V)
 D.A. = 0.30 AC
 Storage Required = 0.9(1800) = 1620 CF
 Storage Provided = 1620 CF
 Depth = 3'
 Top of Stone Crest = 269.0
 Bottom Elevation = 265.0
 Clean Out Elevation = 266.5
 Bottom Dimensions = 39' x 16'

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.
 HOWARD COUNTY HEALTH DEPARTMENT
 COUNTY HEALTH OFFICER *John M. Boyd* M.O./Ann 5/14/85
 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING
 PLANNING DIRECTOR *William H. ...* 5/16/85
 DATE
 CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE.
 STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DIRECTOR *James E. ...* 5-5-85
 DATE
 CHIEF BUREAU OF ENGINEERING *...* 5-8-85
 DATE

APPROVED
 DIVISION OF LAND DEVELOPMENT &
 ZONING ADMINISTRATION
 HOWARD COUNTY, MARYLAND
 DATE 4-26-85

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 erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources 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 of Developer/Builder *B. James Greenfield* 3-29-85
 Date

Reviewed for *Howard* S.C.D.
 Name
 and meets Technical Requirements
 Signature of *...* 5-6-85
 Date
 U.S. Soil Conservation Service
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 Signature of *Stephen J. ...* 5-6-85
 Date

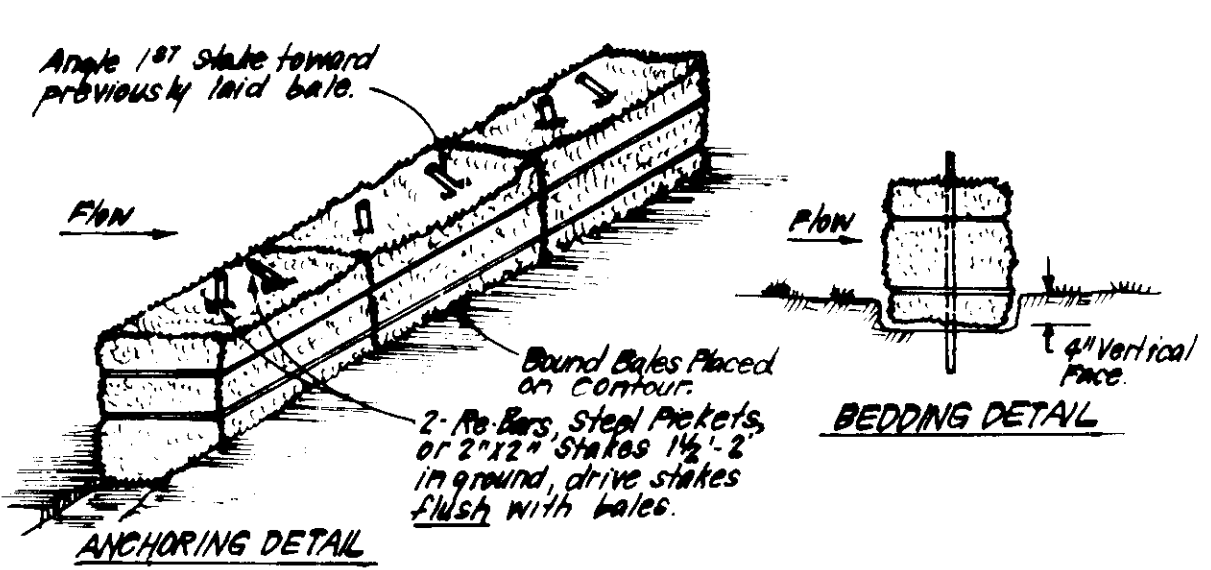
ENGINEER'S CERTIFICATE
 I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District
 Signature of *G. Nelson Clark* 4-1-85
 Date

CLARK · FINEFROCK & SACKETT
 ENGINEERS · PLANNERS · SURVEYORS
 11317 LOCKWOOD DRIVE SILVER SPRING, MARYLAND 20904 (301) 593-3400

SEDIMENT & EROSION CONTROL PLAN
 LOTS G19 THRU G29
COLUMBIA
 VILLAGE OF KINGS CONTRIVANCE
 SECTION 2, AREA 3, PHASE 3
 6th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 FOR: COLUMBIA BUILDERS, INC.
 3 Lakefront North, Suite 200
 Columbia, Maryland 21044

DESIGNED <i>JME</i> BAF	SCALE 1" = 30'
DRAWN <i>KLA</i> LAJ	DRAWING 20F3
CHECKED <i>JME</i> BAF	JOB NO. 84-040
DATE MAR, 1985	FILE NO. 84-040SE

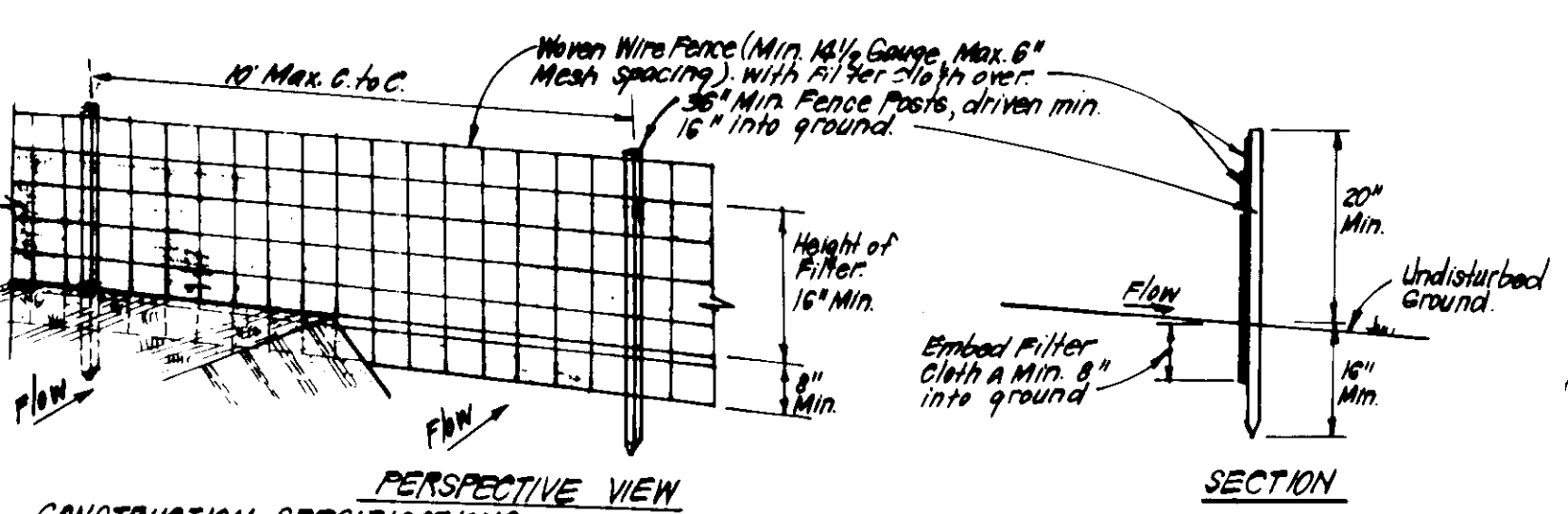
SUBDIVISION NAME	VOKC	SECT/AREA	LOTS
COLUMBIA	VOKC	2/3 Ph 3	G19-G29
PLAT or L/P	BLOCK#	ZONE	TAX/ZONE MAP/ELEC/DIST
5945	N 7	SPMD	414.42 6th
WATER CODE	SEWER CODE		
E16	634.000		



CONSTRUCTION SPECIFICATIONS:

- Bales shall be placed at the top of a slope or on the contour and in a row with ends tightly abutting the adjacent bales.
- Each bale shall be embedded in the soil a min. of 4" and placed so the bindings are horizontal.
- Bales shall be securely anchored in place by either 2 stakes or re-bars driven thru the bale. The 1st stake in each bale shall be driven toward the previously laid bale at an angle to force the bales together. Stakes shall be driven flush with the bale.
- Inspection shall be frequent and repair/replacement shall be made promptly as needed.
- Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.

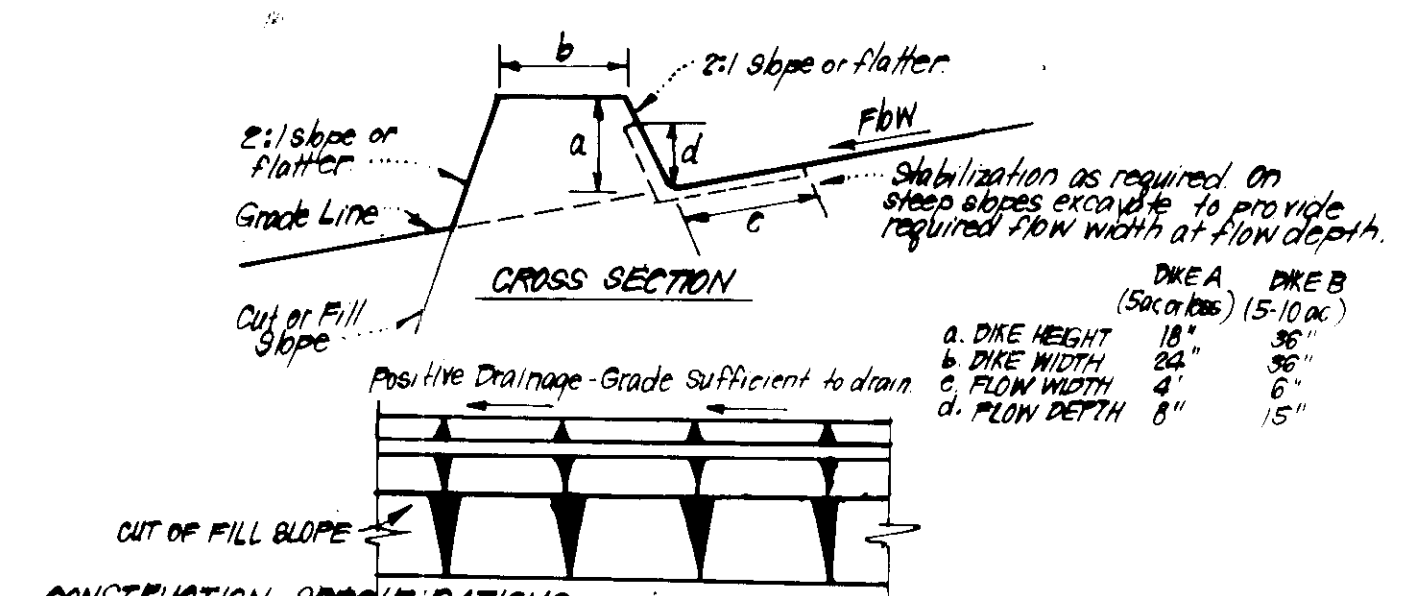
STRAW BALE DIKE DETAIL (SBD)
NO SCALE



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 wire staples every 24" at top and mid section.
- When 2 sections of filter cloth adjoin each other they shall be overlapped by 6" and secured to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap.
- Maintenance shall be performed as needed and material removed when "bulges" develop in silt fence.

SILT FENCE DETAIL (S)
NO SCALE



CONSTRUCTION SPECIFICATIONS:

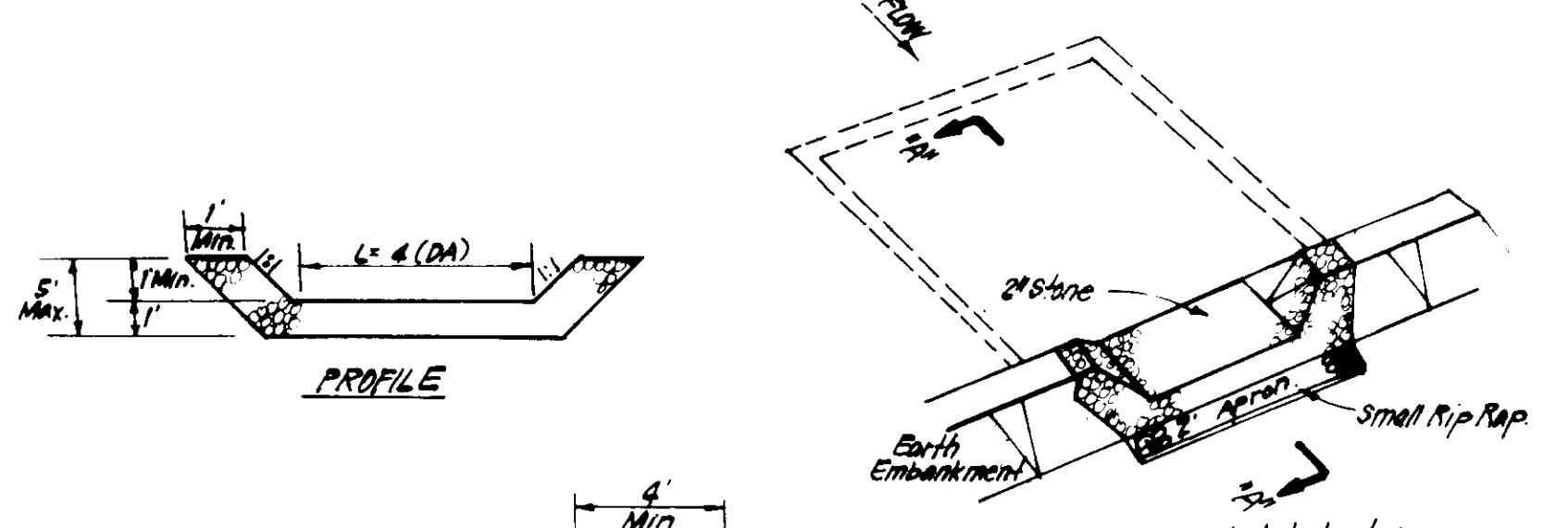
- All dikes shall be compacted by earth-moving equipment.
- All dikes shall have positive drainage to an outlet.
- Top width may be wider and side slopes may be flatter if desired, to facilitate crossing by construction traffic.
- Final location should be adjusted as needed to utilize a stabilized safe 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 chart below.

TYPE OF TREATMENT	FLOW CHANNEL STABILIZATION	
	DIKE A	DIKE B
1. 0.5 - 3.0%	Seed & Straw Mulch	Seed or Straw Mulch
2. 3.1 - 5.0%	Seed & Straw Mulch	Seed, Straw Mulch, or Excelsior; Sod, 2" Stone
3. 5.1 - 8.0%	Seed, Straw Mulch or Sod; 2" Stone	Unlined Rip Rap 4" x 8" Stone
4. 8.1 - 20.0%	Unlined Rip Rap 4" x 8" Stone	Engineering Design

A. Stone to be 2" Stone, or recycled concrete equivalent, in a layer at least 3" thick and be pressed into soil with construction equipment.
B. Rip Rap to be 4" x 8" in a layer at least 8" thick, pressed into soil.
C. Approved equivalents can be substituted for any of the above materials.

7. Periodic inspection and required maintenance must be provided after each rain.

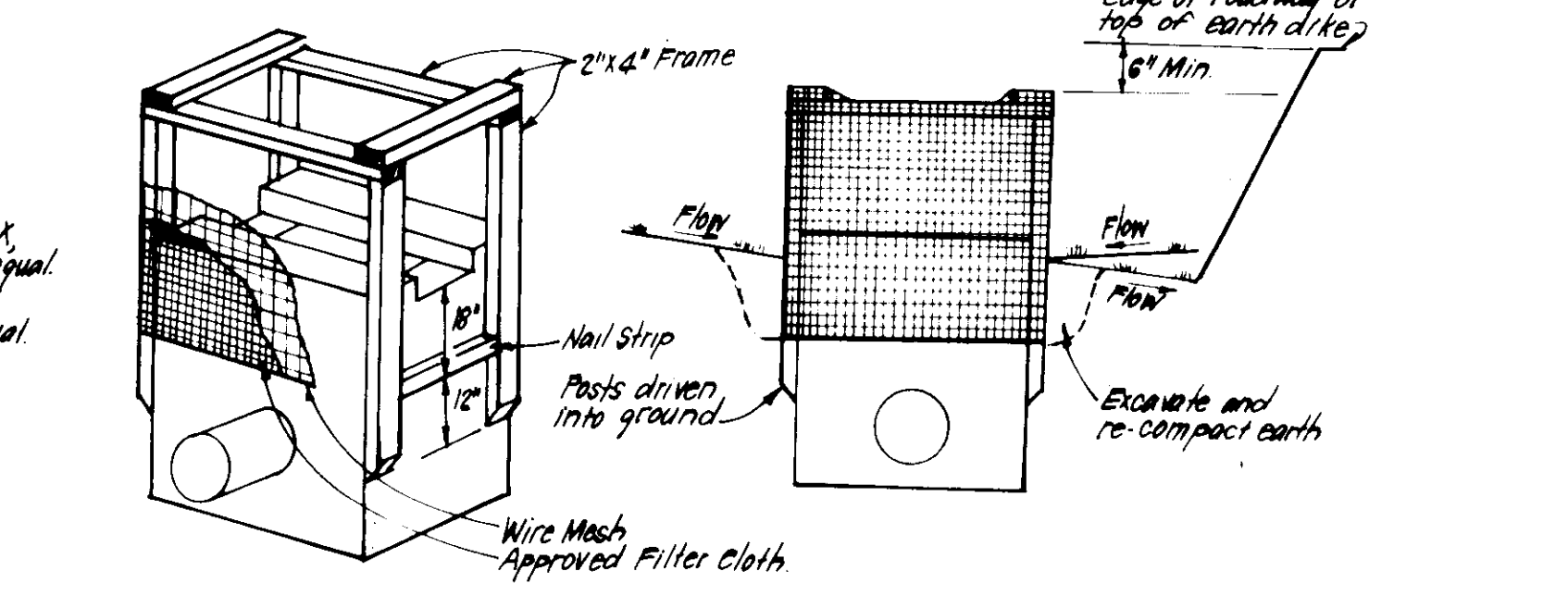
EARTH DIKE DETAIL (E.D.)
NO SCALE



CONSTRUCTION SPECIFICATIONS:

- Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The rip rap shall be compacted.
- The fill material for the embankment shall be free of roots and other woody vegetation as well as oversized 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 rip rap 4" x 8" along with 1" thickness of 2" aggregate placed on the upstream side on the small rip rap of embedded filter cloth in the rip rap.
- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 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.

STONE OUTLET SEDIMENT TRAP (S.O.S.T.) ST.V.
NO SCALE



CONSTRUCTION SPECIFICATIONS:

- Excavate completely around inlet to a depth of 18" below notch elevation.
- Drive 2x4 post 1" into ground at four corners of inlet. Place nail strips between posts around inlet. Assemble top portion of 2x4 frame using overlap joint shown. Top of frame (weir) must be 6" below edge of roadway adjacent to inlet.
- Stretch wire mesh tightly around frame and fabric securely. Ends must meet at post.
- Stretch filter cloth tightly over wire mesh, the cloth must extend from top of frame to 18" below inlet notch elev. Fasten securely to frame. Ends must meet at post, be overlapped and folded, then fastened down.
- Backfill around inlet in compacted 6" layers until layer of earth is even with notch elevation on ends and top elevation on sides.
- If the inlet is not in a low point, construct a compacted earth dike in the ditch line below it. The top of this earth dike is to be at least 6" higher than the top of frame (weir).
- The structure must be inspected frequently and filter fabric replaced when clogged.

SWALE INLET PROTECTION DETAIL

CONSTRUCTION SPECIFICATIONS:

- Stone size - Use 2" stone, or recycled or recycled concrete equivalent.
- Length - As required, but not less than 50 feet (except on a single residence at 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 inness 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 soiled, 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.

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.

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 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 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 disc 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.

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.

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

Soil Amendment: 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 25 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 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 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.

SEDIMENT CONTROL NOTES

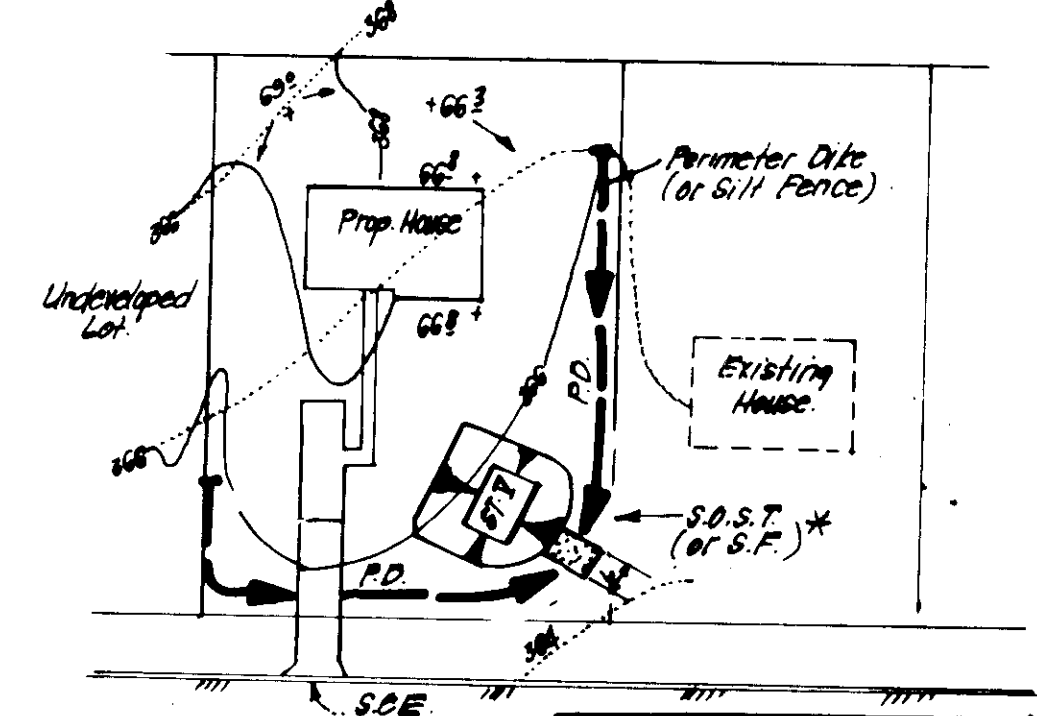
- A minimum of 14 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- Following initial soil disturbance or redisturbance, 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 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	3.121 Acres
Area Disturbed	1.417 Acres
Area to be roofed or paved	0.615 Acres
Area to be vegetatively stabilized	0.802 Acres
Total Cut	770 Cu. yds
Total Fill	7800 Cu. yds
Offsite 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.
- On all sites with disturbed areas in excess of 2 acres, approval of the installation 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-Built" basis, at random, Single Lot Sediment Control as shown below shall be implemented.
- All pipes to be blocked at the end of each day (see detail below).
- The total amount of straw bale dikes/silt fence equals 400 L.F.

CONSTRUCTION SEQUENCE:

- Obtain Grading Permit and Install Sediment and Erosion Control Devices and Stabilize Grading and Erosion Control.
- Excavate for Foundations and Rough Grade.
- Construct Structures, Sidewalks and Driveways.
- Final Grade and stabilize in accordance with Stds. & Specs.
- Upon approval of the sediment control inspector, remove sediment and erosion control and stabilize.

APPROVED
DIVISION OF LAND DEVELOPMENT &
ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE: 4-26-85



* 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.	S.O.S.T. (S.F.)	PER. DIKE	SCALE
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
14	14	14	14
15	15	15	15
16	16	16	16
17	17	17	17
18	18	18	18
19	19	19	19
20	20	20	20

SINGLE LOT SEDIMENT CONTROL PLAN
NO SCALE

STABILIZED CONSTRUCTION ENTRANCE (SCE)
NO SCALE

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 erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic site inspection by the Howard Soil Conservation District or State authorized agents, as are deemed necessary."

B. James Greenfield 5-1-85
B. JAMES GREENFIELD

ENGINEER'S CERTIFICATE

I hereby 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.

G. Nelson Clark 5-1-85
G. Nelson Clark



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
James M. Jones 5/12/85
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING
John H. Jones 5/12/85
PLANNING & ZONING OFFICER DATE

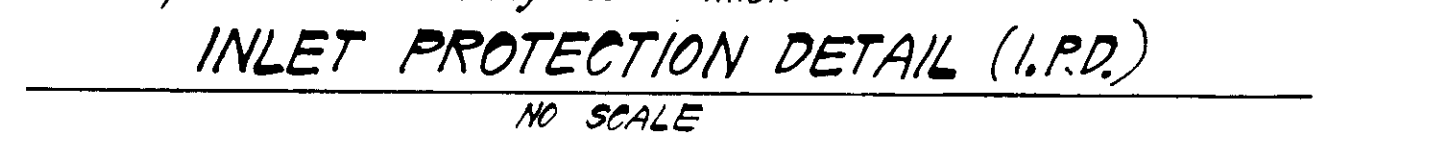
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John H. Jones 5-9-85
DIRECTOR DATE

CHIEF BUREAU OF ENGINEERING
John H. Jones 5-9-85
DATE

Reviewed for Howard S.C.D. Name and meets Technical Requirements
John H. Jones 5-6-85
Signature Date
U.S. Soil Conservation Service

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

John H. Jones 5-6-85
Approved Date



INLET PROTECTION DETAIL (I.P.D.)
NO SCALE