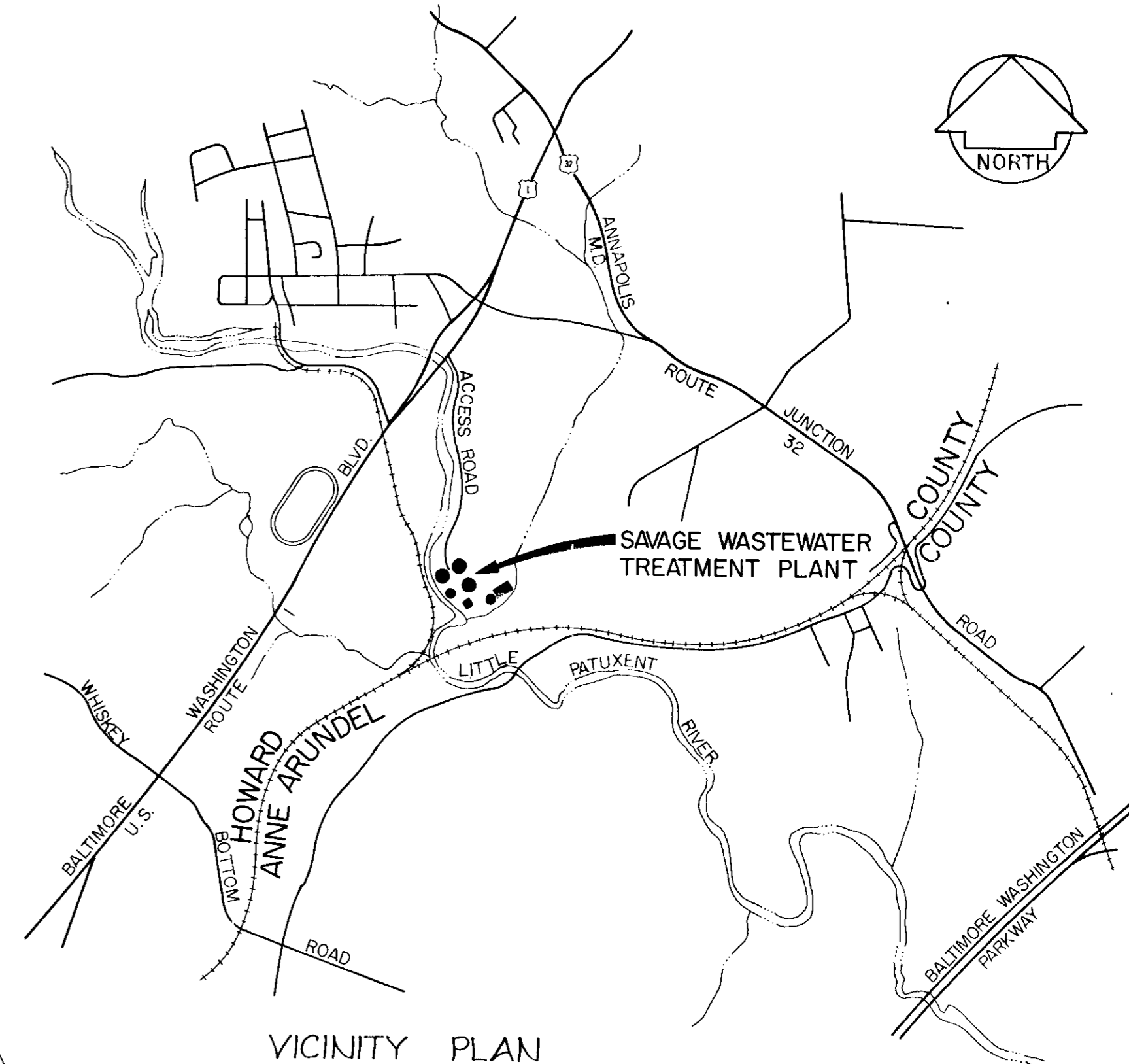


Note:  
These Sludge Beds not dimensioned shall be removed under construction performed for the last Fourth Addition to this facility.

COLIMBIA INDUSTRIAL DEVELOPMENT CORP.  
Liber 678 Folio 749  
Liber 709 Folio 421

Evergreen tree buffer line.  
See detail, sheet 5 of 5

Note:  
Existing Chlorination Basin to be removed during last phase of construction.



VICINITY PLAN

Scale: 1"=2000'

LEGEND

- Existing Roads & Structures
- Proposed Construction
- Limit of Evergreen Tree Plantings
- Limit of Existing Clearing
- Property Fence

SITE ANALYSIS

Total Area	38.01 Acres
Open Space	9 Acres
Zoned	M-2
Parking Required	22
Parking Provided	38
Office Employees	6
Plant Employees	34

GENERAL NOTES

1. All Clarifier Tanks have a diameter of 90' unless otherwise noted.
2. All Roads shown are Private Roads.
3. All Adjacent properties are Zoned M-2 unless otherwise noted.
4. Flood elevation is 141.0, based on design criteria for 100 year Storm.
5. All top of bank Elevs. are 141.0' unless otherwise noted.
6. All Roads within the plant site shall be built in accordance with the following Maryland State Highway Administration Specifications:
  - a. 10" Dense, Graded Aggregate Base Course (Crushed Stone or Slag M.S.H.A. Spec. 20.02)
  - b. Prime Coat
  - c. 3" Bituminous Concrete Base Course
  - d. 2" Bituminous Concrete Binder Course
  - e. 1 1/2" Bituminous Concrete Surface Course
7. All embankments are at 4:1 slopes unless otherwise noted.

APPROVED  
DIVISION OF LAND DEVELOPMENT

HOWARD COUNTY, MARYLAND  
APR 26 1978

Revised April 18, 1978  
Revised Mar. 23, 1978  
Revised Jan. 24, 1978

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

SITE DEVELOPMENT PLAN

FOR  
LITTLE PATUXENT WATER QUALITY  
MANAGEMENT CENTER

LIBER 423 FOLIO 516  
ELECTION DISTRICT NO.6, HOWARD COUNTY, MARYLAND

SCALE: 1"=50' DATE: NOV. 21, 1977

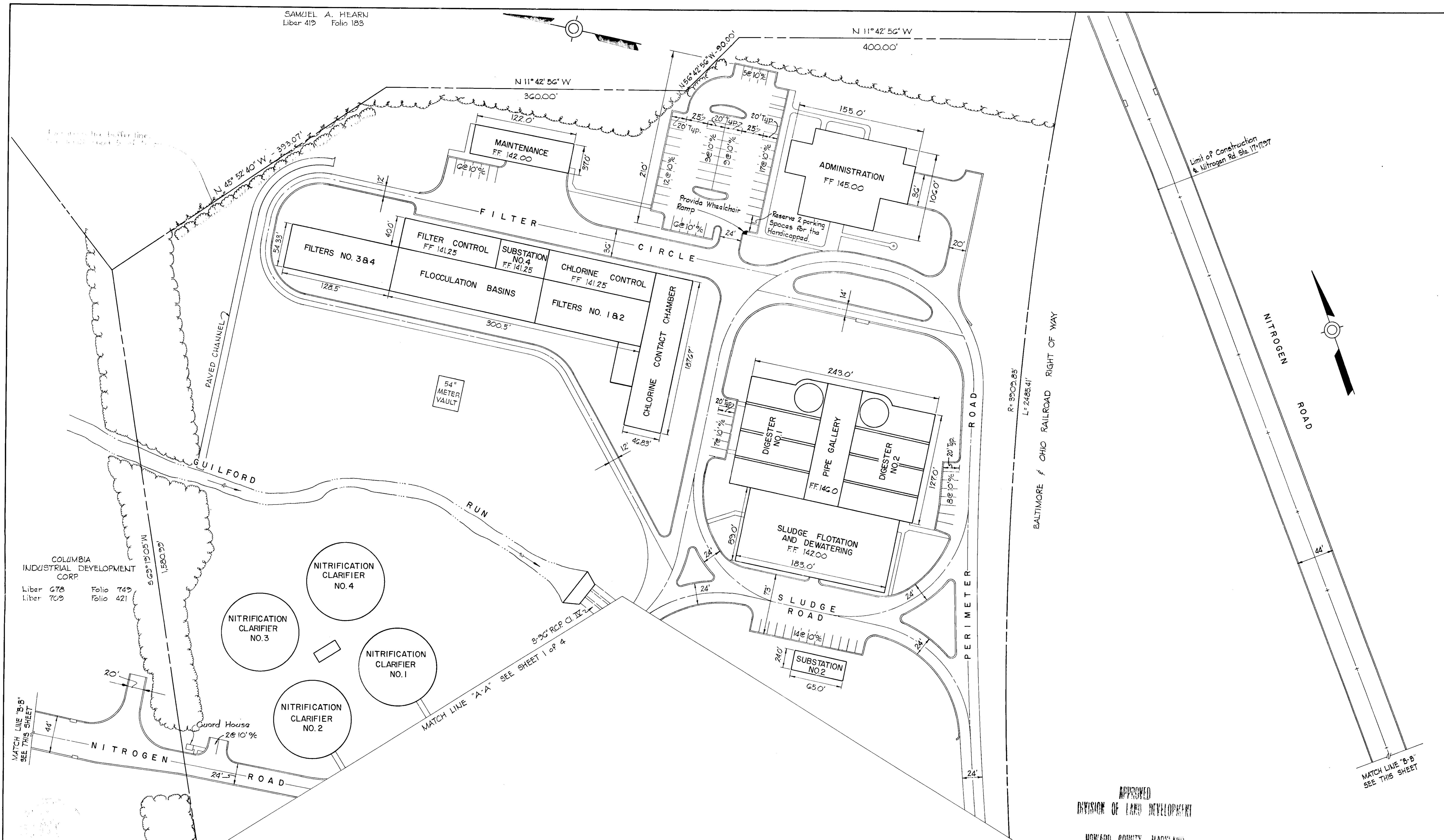
WHITMAN, REQUARDT & ASSOCIATES  
ENGINEERS  
1304 ST. PAUL ST.  
BALTIMORE, MARYLAND

OWNER:  
HOWARD COUNTY DEPARTMENT OF  
PUBLIC WORKS  
3430 COURT HOUSE DRIVE  
ELICOTT CITY, MARYLAND

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, AND  
STORM DRAINAGE SYSTEMS AND ROADS  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Richard E. Freudenberger*  
DIRECTOR DATE 1/1/78  
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC  
SEWERAGE SYSTEM  
HOWARD COUNTY HEALTH DEPARTMENT  
*Josephine Bruders*  
COUNTY HEALTH OFFICER DATE 6-12-78

APPROVED:  
HOWARD COUNTY OFFICE OF PLANNING & ZONING  
*William J. ...*  
PLANNING DIRECTOR DATE 1/1/78  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



COLUMBIA INDUSTRIAL DEVELOPMENT CORP.  
 Liber 678 Folio 749  
 Liber 709 Folio 421

MATCH LINE 'B-B'  
 SEE THIS SHEET

MATCH LINE 'B-B'  
 SEE THIS SHEET

APPROVED  
 DIVISION OF LAND DEVELOPMENT

HOWARD COUNTY, MARYLAND  
 DATE 4-26-78

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

**SITE DEVELOPMENT PLAN**  
 FOR  
**LITTLE PATUXENT WATER QUALITY MANAGEMENT CENTER**

LIBER 423 FOLIO 516  
 ELECTION DISTRICT NO.6, HOWARD COUNTY, MARYLAND

SCALE: 1"=50' DATE: NOV. 21, 1977

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS  
 1304 ST. PAUL ST.  
 BALTIMORE, MARYLAND

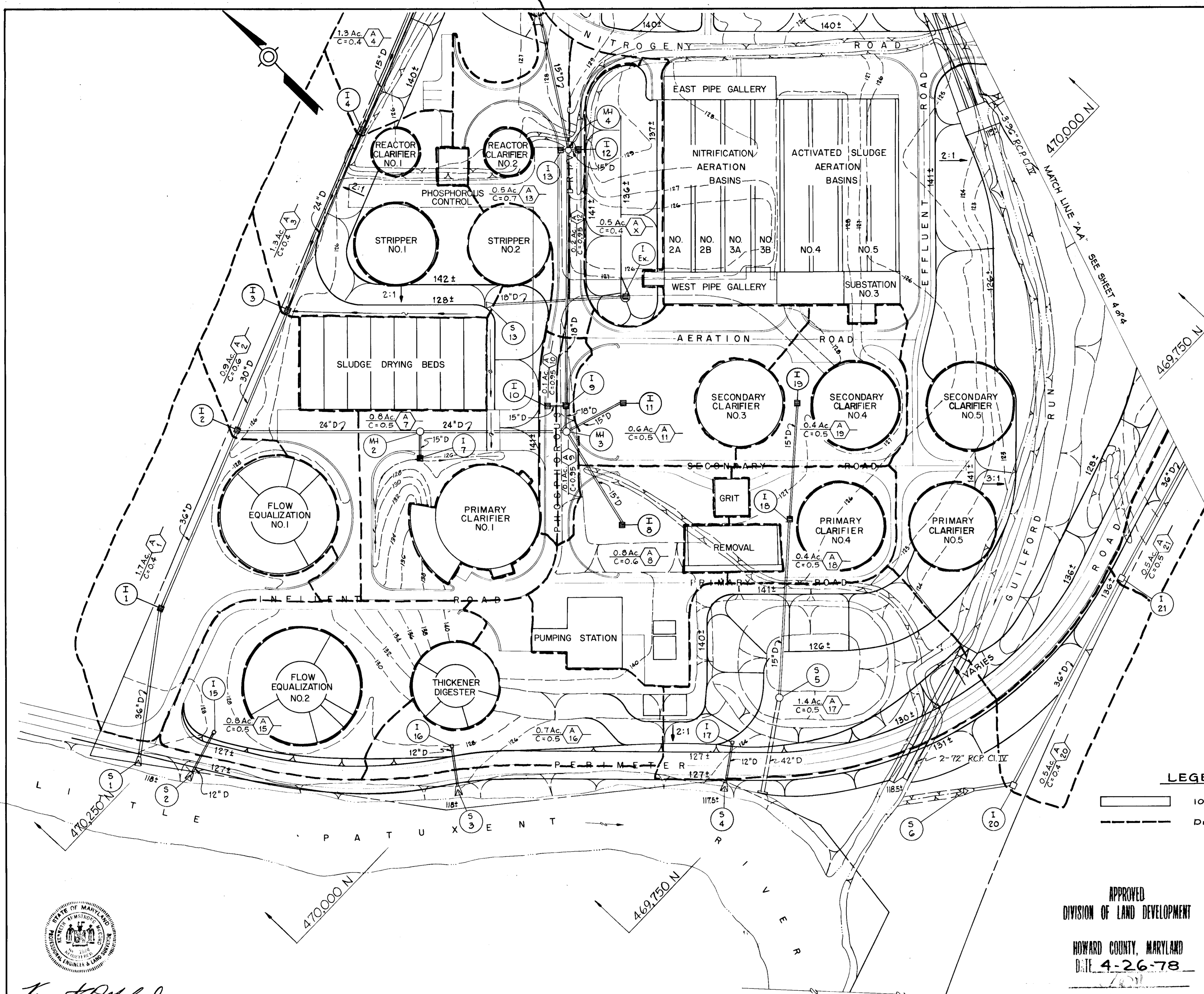
OWNER:  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 3430 COURT HOUSE DRIVE  
 ELLICOTT CITY, MARYLAND

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND ROADS  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Richard E. Freudenberger*  
 DIRECTOR DATE 6/1/78  
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEM  
 HOWARD COUNTY HEALTH DEPARTMENT  
*[Signature]*  
 COUNTY HEALTH OFFICER DATE 6-12-78

APPROVED:  
 HOWARD COUNTY OFFICE OF PLANNING & ZONING  
*[Signature]*  
 PLANNING DIRECTOR DATE 5-15-78  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE





STORM DRAIN STRUCTURE SCHEDULE					
No.	Location	Type	Top Elev.	Inv. In	Inv. Out
I-1	420 N, 25 W	"S"	129.0	119.33	119.33
I-2	341 N, 165 E	"S"	127.0	120.35	119.73
I-3	277 N, 308 E	"S"	125.5	120.05	120.05
I-4	291 N, 430 E	"S"	125.5	121.20	120.45
I-5	209' Left of Sta. 9+30 Nitrogen Rd.	"S" Comb.	140.79	143.00	143.00
I-6	209' Right of Sta. 9+30 Nitrogen Rd.	"S" Comb.	140.79	---	143.20
I-7	140 N, 125 W	"S"	127.3	---	123.55
I-8	205 S, 65 E	"S"	127.0	---	124.0
I-9	109' Right of Sta. 1495 Road B	"S" Comb.	140.99	134.67	134.52
I-10	109' Left of Sta. 1495 Road B	"S" Comb.	140.99	---	134.74
I-11	90 S, 90 E	"S"	127.0	---	124.0
I-12	109' Right of Sta. 4+70 Road B	"S" Comb.	140.99	---	136.74
I-13	109' Left of Sta. 4+70 Road B	"S" Comb.	140.99	---	136.74
I-14	109' Left of Sta. 6+65 Nitrogen Rd.	"S" Comb.	140.99	---	136.95
I-15	25' Left of Sta. 100 Perimeter Rd.	Yard "D"	124.55	119.95	119.95
I-16	20' Left of Sta. 8+60 Perimeter Rd.	Yard "D"	125.5	119.55	119.00
I-17	23' Left of Sta. 6+55 Perimeter Rd.	Yard "D"	125.8	119.11	118.86
I-18	255 S, 65 E	"S"	127	123.5	123.4
I-19	226.5 S, 195 E	"S"	132	---	129.0
I-20	53' Right of Sta. 9+10 Perimeter Rd.	"S"	124.98	---	119.31
I-21	31' Right of Sta. 11+48 Perimeter Rd.	"S"	128.19	---	120.56
I-22	43' Right of Sta. 13+97 Perimeter Rd.	"S"	128.39	122.89	121.81
I-23	43' Right of Sta. 16+50 Perimeter Rd.	"S"	128.24	---	124.14
I-24	261.67 S, 513.78 E (Grid No. 2)	"S"	140.7	---	137.7
I-25	52.67 N, 580.78 E (Grid No. 2)	"S"	137.1	---	134.1
I-26	155 N, 358.78 E (Grid No. 2)	"S" Comb.	137.4	---	135.9
I-27	70 N, 96 E (Grid No. 2)	Yard "D"	136.5	---	134.5
S-1	444.39 N, 118.19 W		122.33	---	119.00
S-2	25' Right of Sta. 1+00 Perimeter Rd.	Flored End	---	---	119.35
S-3	30' Right of Sta. 3+60 Perimeter Rd.	Flored End	---	---	119.20
S-4	27' Right of Sta. 6+55 Perimeter Rd.	Flored End	---	---	119.50
S-5	239 S, 121 W	Manhole	---	119.10	119.00
S-6	46' Right of Sta. 8+72 Perimeter Rd.	Flored End	---	---	118.92
S-7	42' Right of Sta. 18+40 Perimeter Rd.	Headwall	---	125.07	---
S-8	311.5 S, 513.78 E (Grid No. 2)	Flored End	---	---	125.5
S-9	107 S, 494.61 E (Grid No. 2)	Endwall	---	---	130.4
S-10	45 N, 593.87 E (Grid No. 2)	Flored End	---	---	134.0
S-11	155 N, 428.78 E (Grid No. 2)	Flored End	---	---	135.55
S-12	42' Right of Sta. 7+89 Perimeter Rd.	Flored End	---	---	130.00
S-13	66 N, 304 E	Flored End	129.00	---	127.50
MH-1	19' Left of Sta. 7+90 Nitrogen Rd.	Standard	142.0	136.00	124.65
MH-2	140 N, 165 E	Standard	127.2	121.45	121.35
MH-3	10' Right of Sta. 1+25 Road B	Standard	141.01	134.37	123.00
MH-4	5.5' Left of Sta. 4+70 Road B	Standard	141.29	136.20	136.20

Note: Coordinate locations noted by "Grid No. 2" pertain to the plant construction grid system that is square with due North.

**LEGEND**

- 100 Year flood plain
- Drainage area limits

Note: Consideration of the Little Patuxent River and Guilford Run was not included in the design of the drainage systems for the site. The hydraulic gradients of both tributaries are well above the discharge elevations of the two primary site drainage systems, thereby prohibiting positive storm drain flow.

APPROVED  
 DIVISION OF LAND DEVELOPMENT  
 HOWARD COUNTY, MARYLAND  
 DATE 4-26-78

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 SITE DEVELOPMENT PLAN  
 FOR  
 LITTLE PATUXENT WATER QUALITY  
 MANAGEMENT CENTER

WHITMAN, REQUARDT & ASSOCIATES  
 ENGINEERS  
 1304 ST. PAUL ST.  
 BALTIMORE, MARYLAND

OWNER:  
 HOWARD COUNTY DEPARTMENT OF  
 PUBLIC WORKS  
 3430 COURT HOUSE DRIVE  
 ELLICOTT CITY, MARYLAND

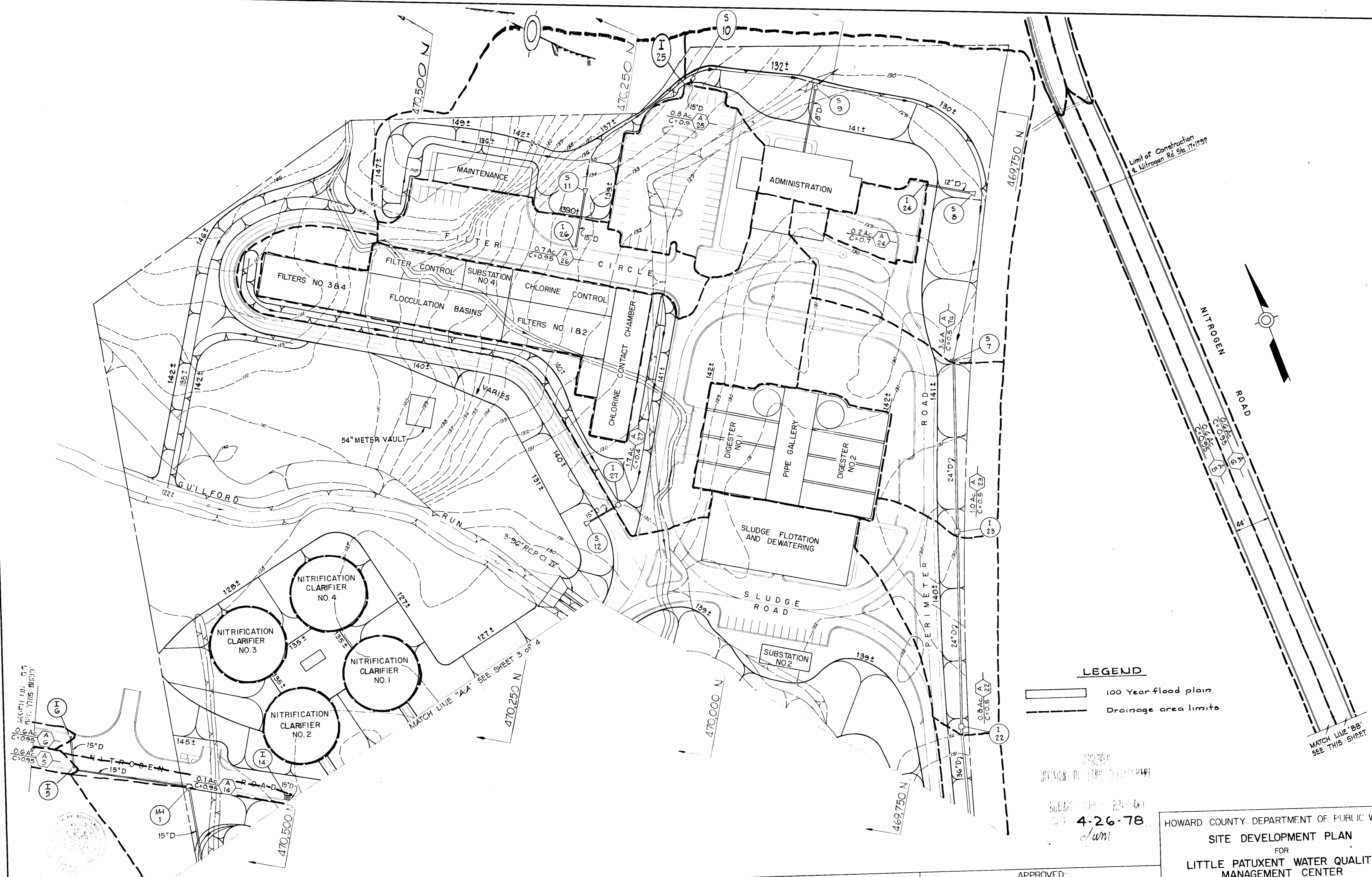
APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND  
 STORM DRAINAGE SYSTEMS AND ROADS  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Richard E. Freudenberger 6-7-78  
 DIRECTOR DATE  
 W. O. Lambert 6-7-78  
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC  
 SEWERAGE SYSTEM  
 HOWARD COUNTY HEALTH DEPARTMENT  
 Joyann Bodman 6-7-78  
 COUNTY HEALTH OFFICER DATE

APPROVED:  
 HOWARD COUNTY OFFICE OF PLANNING & ZONING  
 Donald J. Davis 6-13-78  
 PLANNING DIRECTOR DATE  
 Earl W. Mendenhall 6-13-78  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

LIBER 423 FOLIO 516  
 ELECTION DISTRICT NO. 6, HOWARD COUNTY, MARYLAND  
 SCALE: 1"=50' DATE: NOV. 21, 1977





**LEGEND**  
 [Solid line] 100 Year flood plain  
 [Dashed line] Drainage area limits

DATE: 4-26-78  
 J.M.

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 SITE DEVELOPMENT PLAN  
 FOR  
 LITTLE PATUXENT WATER QUALITY  
 MANAGEMENT CENTER

LIBER 423 FOLIO 516  
 ELECTION DISTRICT NO. 6, HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 50' DATE: NOV. 21, 1977

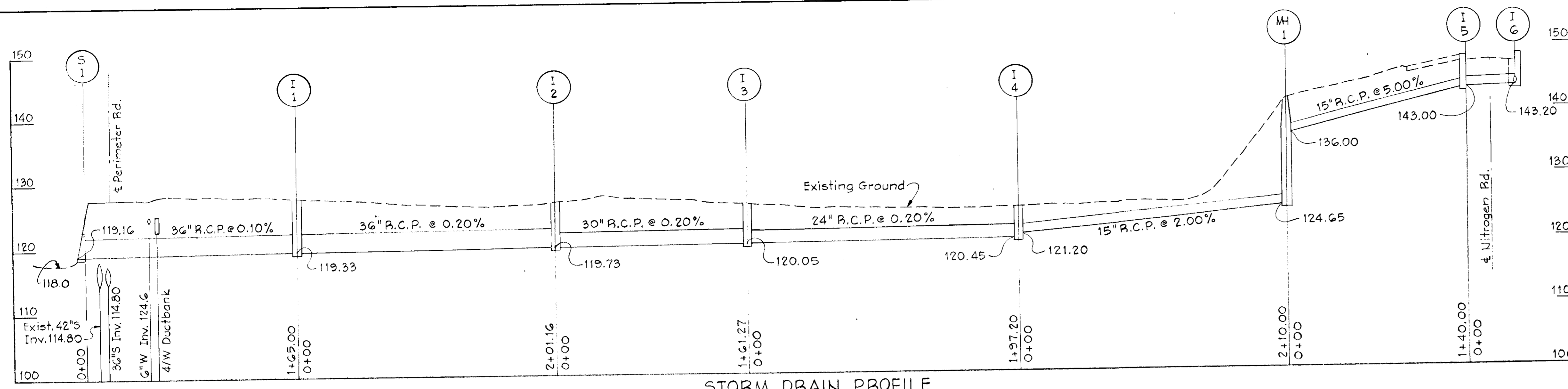
WHITMAN, REQUARDT & ASSOCIATES  
 ENGINEERS  
 1304 ST. PAUL ST.  
 BALTIMORE, MARYLAND

OWNER:  
 HOWARD COUNTY DEPARTMENT OF  
 PUBLIC WORKS  
 3430 COURT HOUSE DRIVE  
 ELLICOTT CITY, MARYLAND

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND  
 STORM DRAINAGE SYSTEMS AND ROADS  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Richard E. Breckenridge 6-7-78 DATE  
 DIRECTOR  
 W. O. Sillard 6-7-78 DATE  
 CHIEF, BUREAU OF ENGINEERING

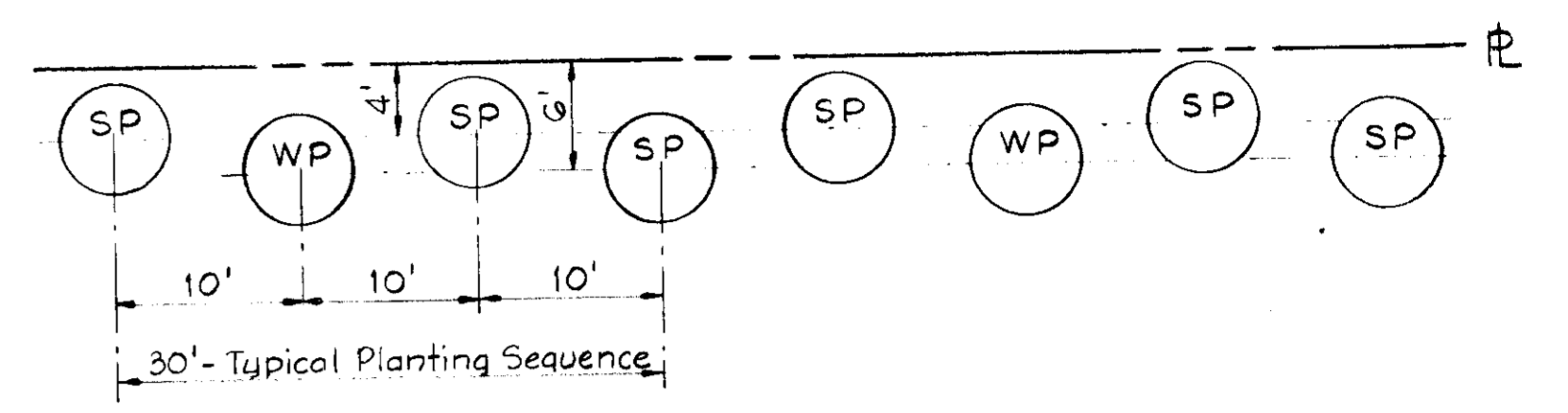
APPROVED: FOR PUBLIC WATER AND PUBLIC  
 SEWERAGE SYSTEM  
 HOWARD COUNTY HEALTH DEPARTMENT  
 Joseph W. Rogers 6-12-78 DATE  
 COUNTY HEALTH OFFICER

APPROVED:  
 HOWARD COUNTY OFFICE OF PLANNING & ZONING  
 Thomas L. Hamill 6-13-78 DATE  
 PLANNING DIRECTOR  
 John W. Mendenhall 6-13-78 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT

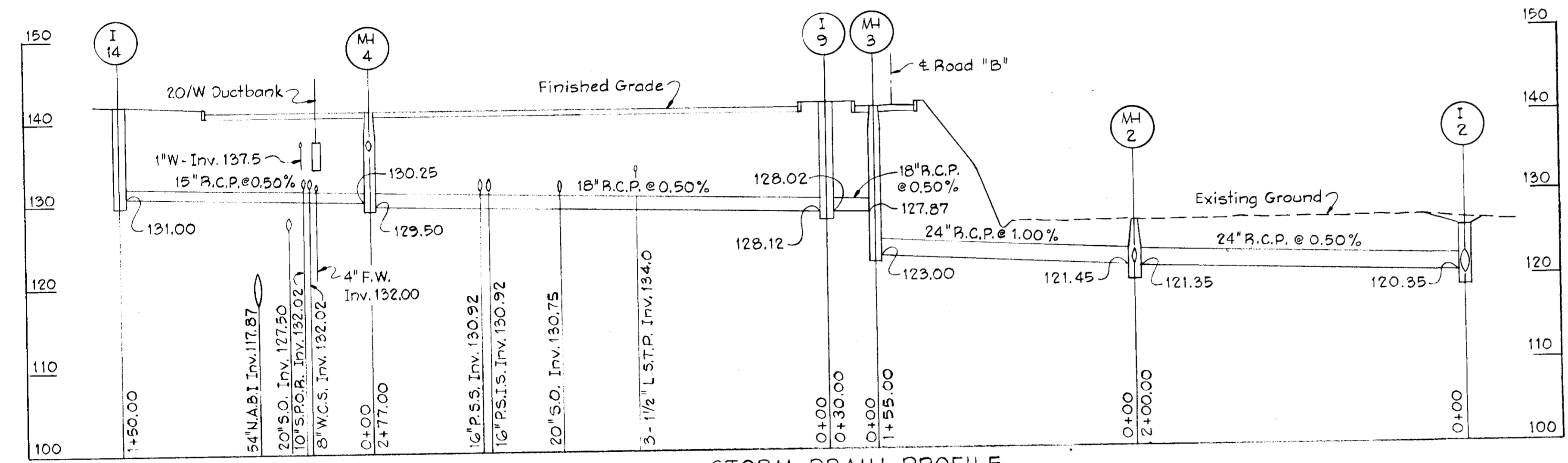


STORM DRAIN PROFILE  
Scale: Horz. 1" = 50'  
Vert. 1" = 10'

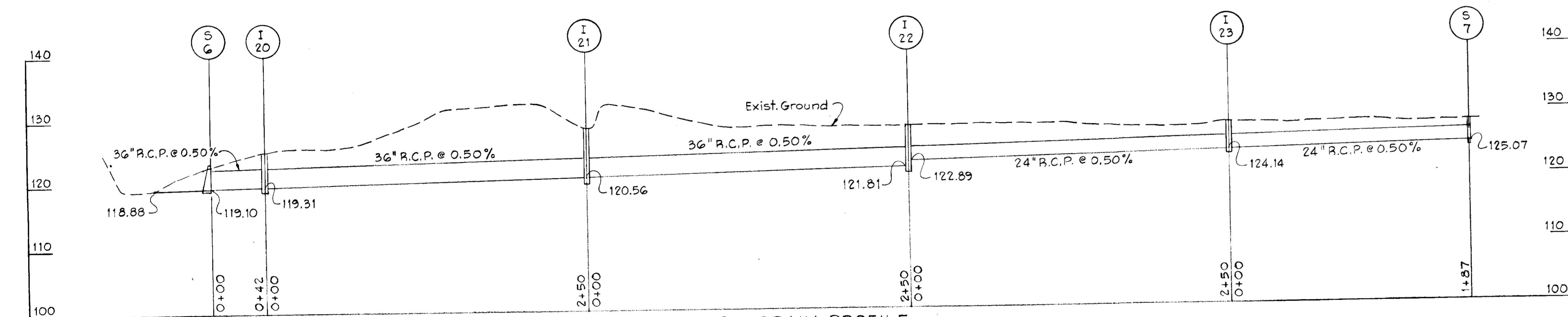
PLANT LIST			
CODE	BOTANICAL & COMMON NAME	SIZE	TOTAL QUANTITY
WP	PINUS STROBUS - WHITE PINE	10'-12'	25
SP	PINUS SYLVESTRIS - SCOTCH PINE	6'-8'	75



PLANTING CHART  
No Scale



STORM DRAIN PROFILE  
Scale: Horz. 1" = 50'  
Vert. 1" = 10'



STORM DRAIN PROFILE  
Scale: Horz. 1" = 50'  
Vert. 1" = 10'

APPROVED  
DIVISION OF LAND DEVELOPMENT

HOWARD COUNTY, MARYLAND  
DATE: 4-26-78



*Kenneth M. Melton*

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
SITE DEVELOPMENT PLAN  
FOR  
LITTLE PATUXENT WATER QUALITY  
MANAGEMENT CENTER

WHITMAN, REQUARDT & ASSOCIATES  
ENGINEERS  
1304 ST. PAUL ST  
BALTIMORE, MARYLAND

OWNER:  
HOWARD COUNTY DEPARTMENT OF  
PUBLIC WORKS  
3430 COURT HOUSE DRIVE  
ELICFIELD CITY, MARYLAND

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND  
STORM DRAINAGE SYSTEMS AND ROADS  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Richard E. Freudenberger* 6/7/78  
DIRECTOR

APPROVED: FOR PUBLIC WATER AND PUBLIC  
SEWERAGE SYSTEM  
HOWARD COUNTY HEALTH DEPARTMENT  
*Joseph W. Andrews* 6-12-78  
DIRECTOR

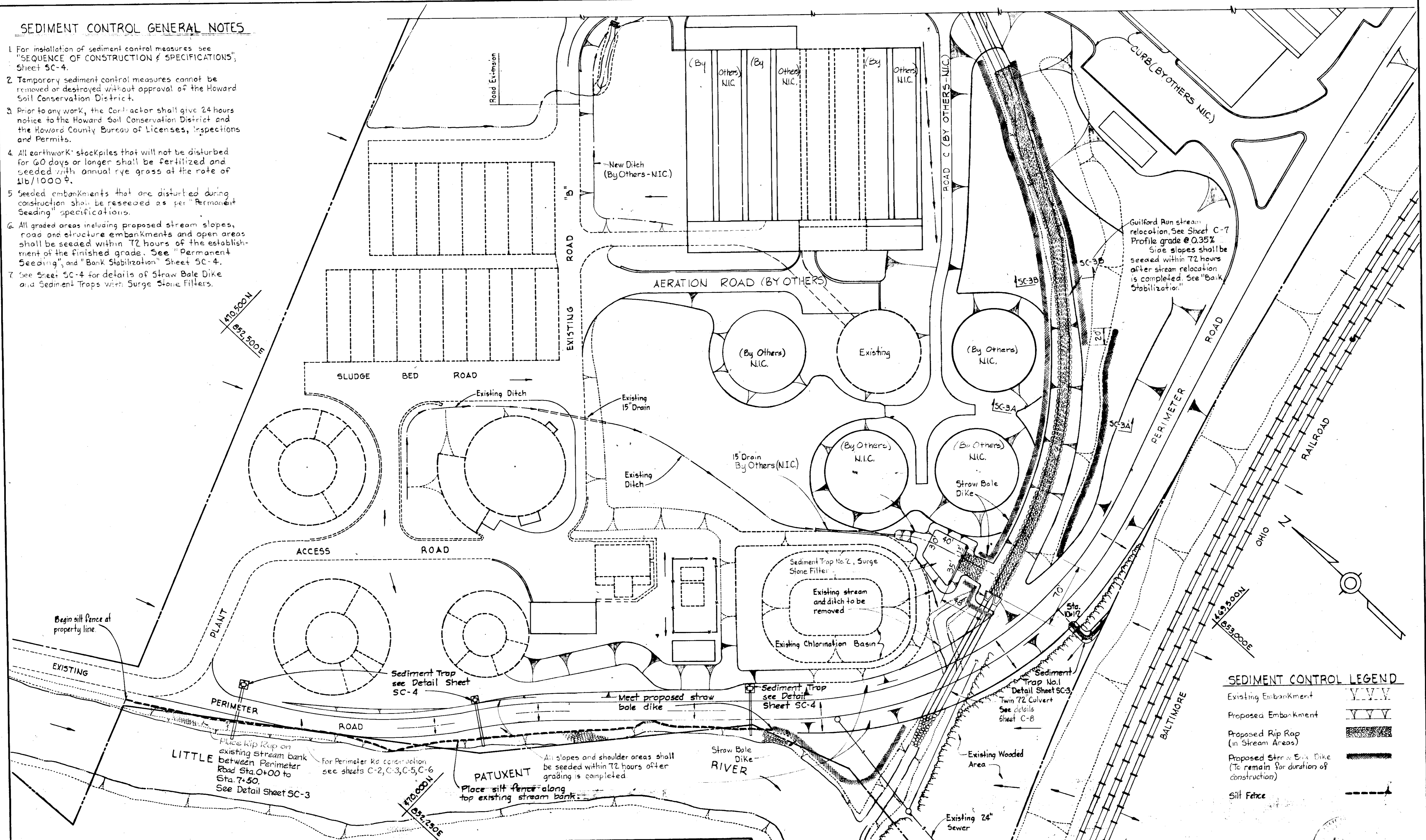
APPROVED:  
HOWARD COUNTY OFFICE OF PLANNING & ZONING  
PLANNING DIRECTOR  
DATE: 6/12/78

LIBR. 425 ED. 10-50  
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND  
AS SHOWN DATE: 6/12/78



**SEDIMENT CONTROL GENERAL NOTES**

1. For installation of sediment control measures see "SEQUENCE OF CONSTRUCTION & SPECIFICATIONS", Sheet SC-4.
2. Temporary sediment control measures cannot be removed or destroyed without approval of the Howard Soil Conservation District.
3. Prior to any work, the Contractor shall give 24 hours notice to the Howard Soil Conservation District and the Howard County Bureau of Licenses, Inspections and Permits.
4. All earthwork stockpiles that will not be disturbed for 60 days or longer shall be fertilized and seeded with annual rye grass at the rate of 1lb/1000 sq.
5. Seeded embankments that are disturbed during construction shall be reseeded as per "Permanent Seeding" specifications.
6. All graded areas including proposed stream slopes, road and structure embankments and open areas shall be seeded within 72 hours of the establishment of the finished grade. See "Permanent Seeding", and "Bank Stabilization" Sheet SC-4.
7. See Sheet SC-4 for details of Straw Bale Dike and Sediment Traps with Surge Stone Filters.



**SEDIMENT CONTROL LEGEND**

Existing Embankment	---V---V---
Proposed Embankment	---VV---VV---
Proposed Rip Rap (in Stream Areas)	---X---X---
Proposed Straw Bale Dike (To remain for duration of construction)	---S---S---
Silt Fence	---D---D---

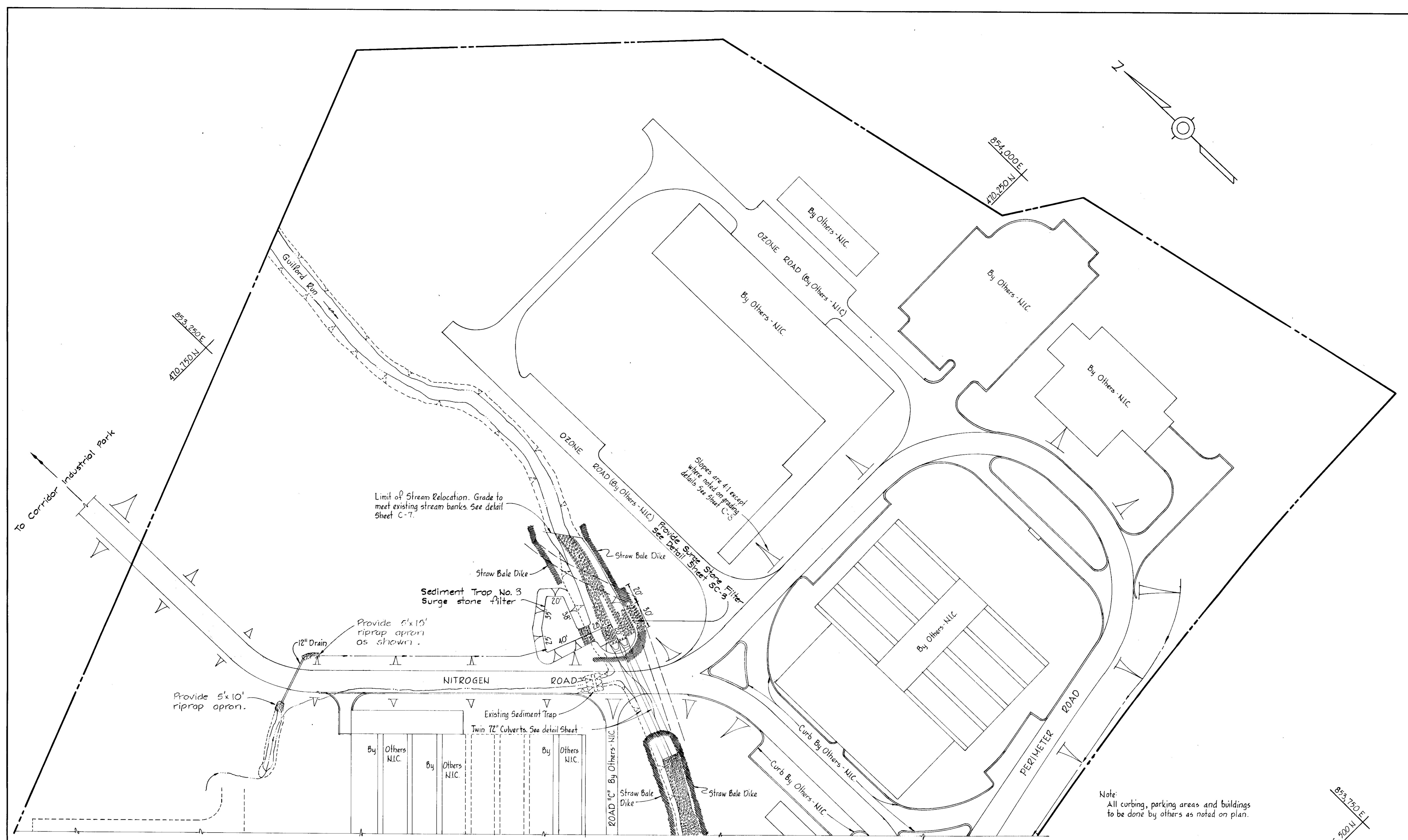
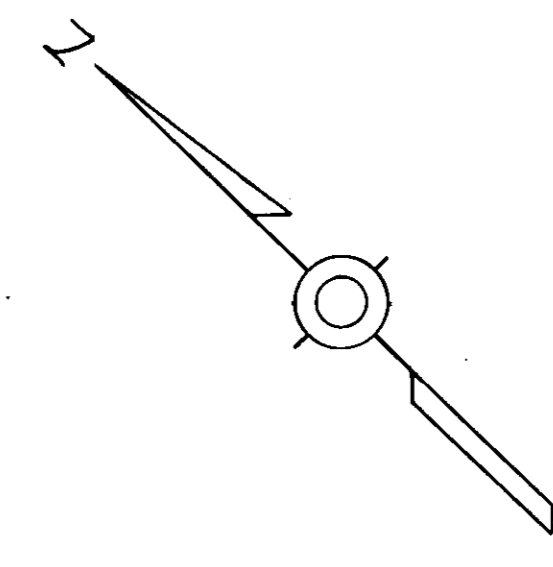
<p><b>CERTIFICATION BY THE DEVELOPER</b></p> <p>"I certify that all development and or construction will be done according to this plan of development and plan for Erosion and Sediment Control, and I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as one deemed necessary. Deviations from this plan will not be made unless authorized by the Howard Soil Conservation District."</p> <p><i>Signature of Developer</i> Date: <b>3-19-75</b></p>	<p><b>CERTIFICATION BY THE ENGINEER</b></p> <p>"I certify that this plan for Erosion and Sediment Control represents a practical and workable plan based upon my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."</p> <p><i>Signature of Engineer</i> Date: <b>3-19-75</b></p>	<p>Reviewed for Howard Soil Conservation District and meets technical requirements.</p> <p><i>Signature</i> Date: <b>7/20/77</b></p> <p>U.S. Soil Conservation Service</p>	<p>THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.</p> <p><i>Signature</i> Date: <b>2-20-77</b></p> <p>APPROVED DATE</p> <p>Howard Soil Conservation District</p>
--	---	--	---

<p><b>WHITMAN, REQUARDT &amp; ASSOCIATES</b> ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND</p>	<p><b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND DATE: <b>3/20/75</b> CHIEF BUREAU OF ENGINEERING</p>	<p><b>CONTRACT NO. 504-S</b></p>	<p><b>SOIL CONSERVATION PLAN</b></p>	<p><b>SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4</b></p>	<p><b>DRAWING NO. 16 OF 19</b></p>	<p><b>SCALE 1"=50'</b></p>
--	---	----------------------------------	--------------------------------------	--	------------------------------------	----------------------------

W. O. 7132-2

SHEET SC-1

SDP 78-55



853,220 E  
470,720 N

854,000 E  
470,720 N

853,700 E  
470,500 N

Note:  
All curbing, parking areas and buildings  
to be done by others as noted on plan.

Designed for Howard S.C.D.  
Name  
and meet Technical Requirements  
C. Wayne Ray Date 7/20/77  
Signature  
S.C.D. Staff - Inspection Service

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

Approved John M. Moore Date 2-20-77  
Howard S.C.D.



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE _____ CHIEF BUREAU OF ENGINEERING	CONTRACT NO. <u>504-S</u>	SOIL CONSERVATION PLAN	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO.4	DRAWING NO. <u>17</u> OF <u>19</u>	SCALE <u>1" = 50'</u>
---	--	---------------------------	---------------------------	--	--	--------------------------

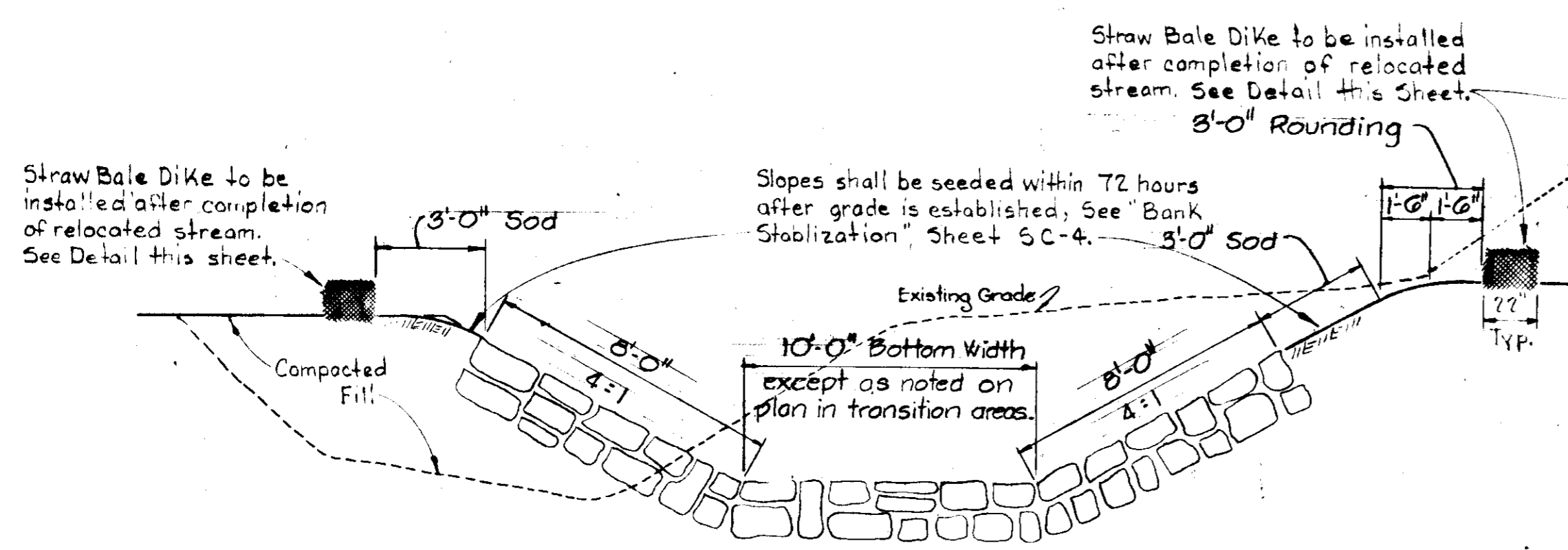
W. O. 7132-2

SHEET SC-2

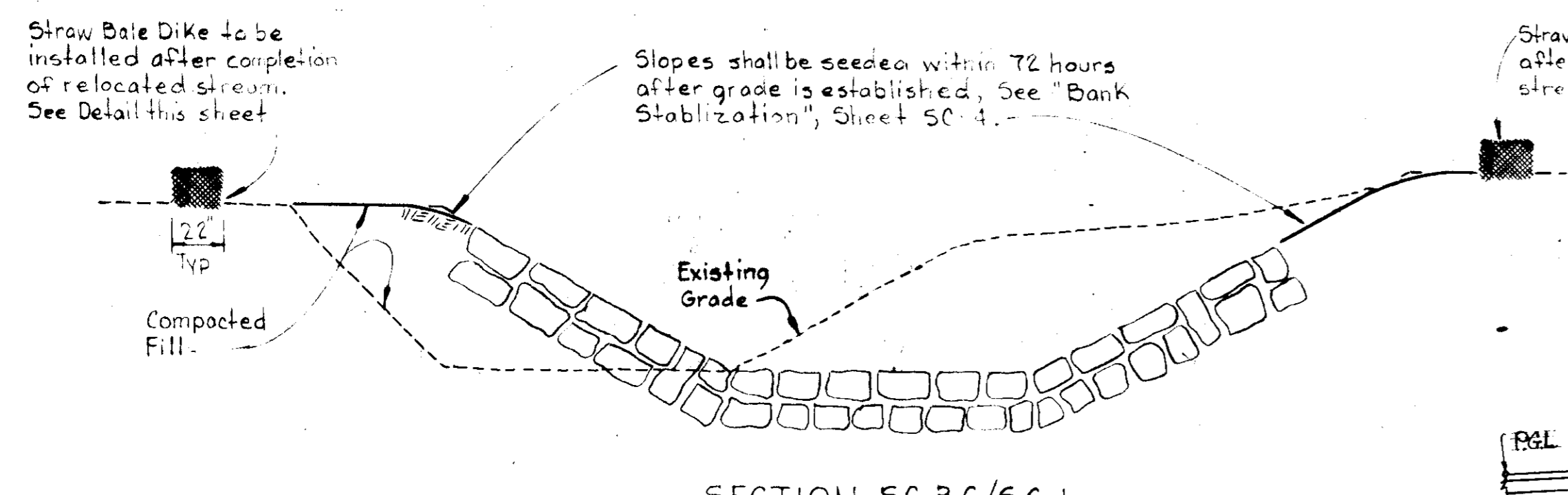
SDP 78-55

BRUNING 44-510 33872

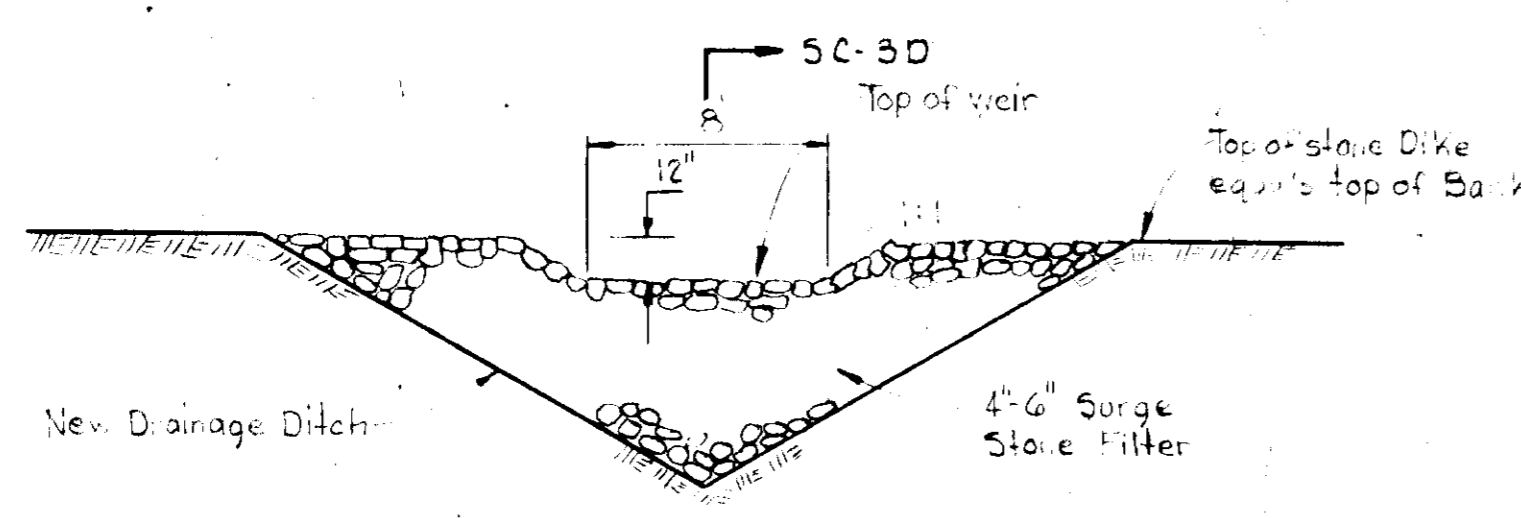




SECTION SC-3A, SC-3B/SC-1

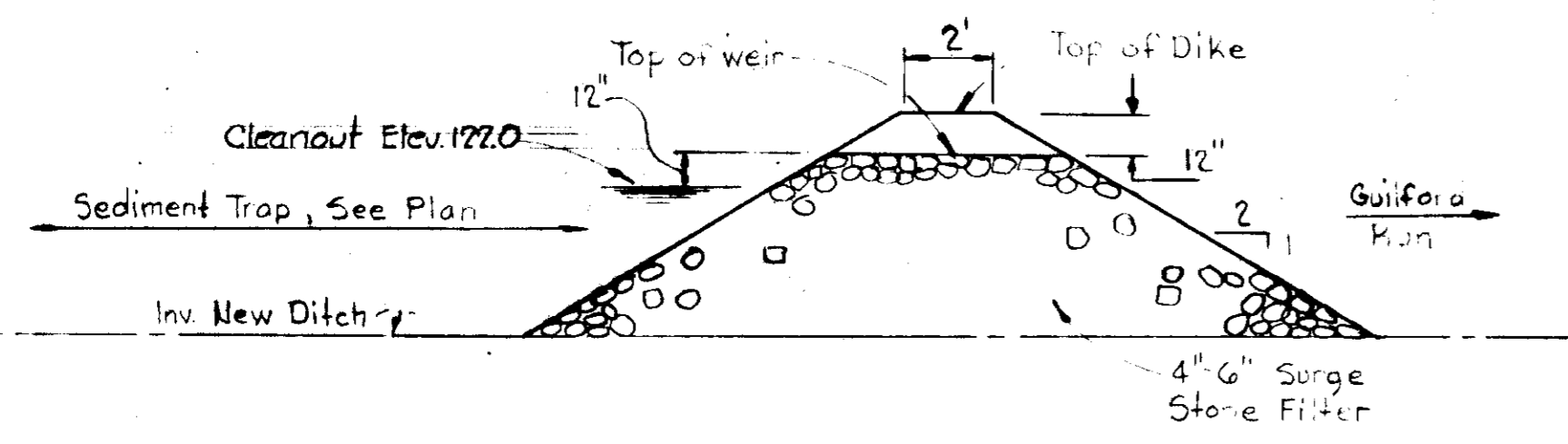


SECTION SC-3C/SC-1

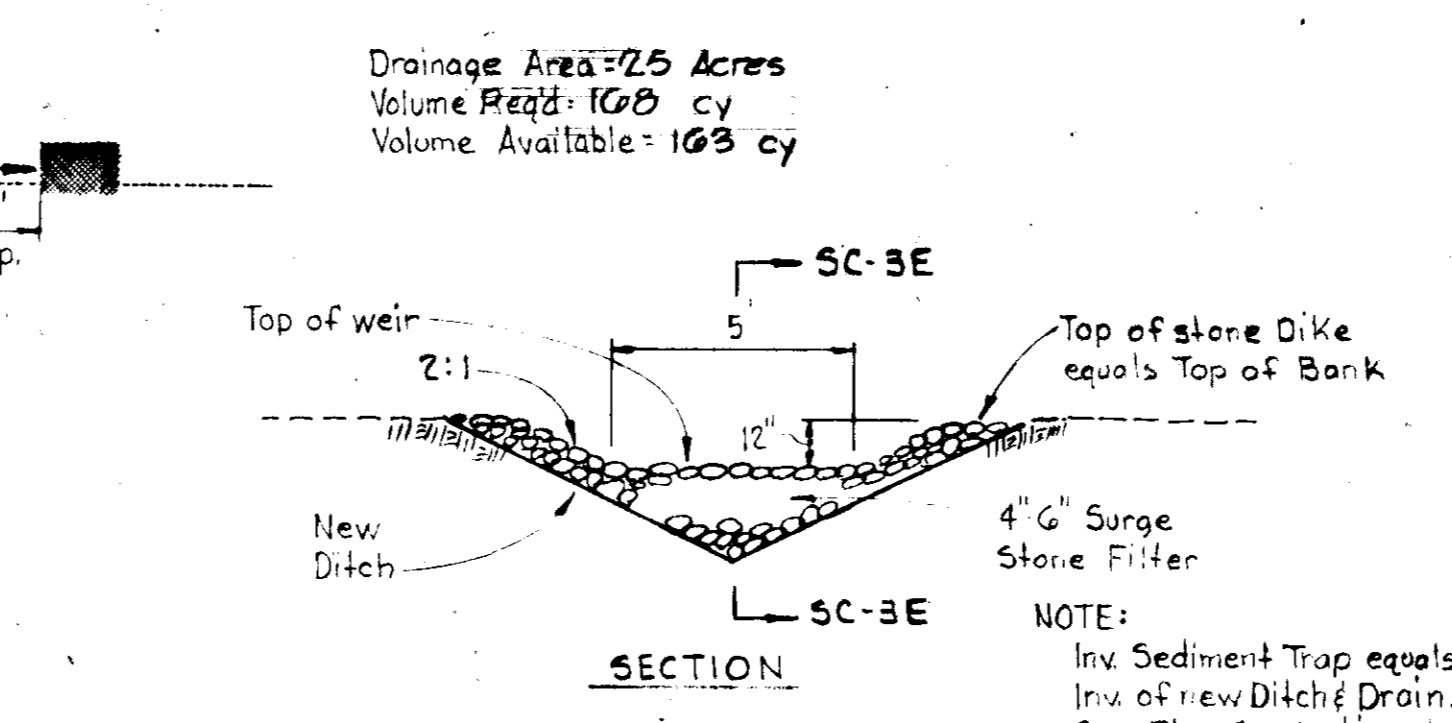


SECTION SC-3D  
Drainage Area = 3.4 Acres  
Volume Req'd = 228 cy  
Volume Available = 207 cy

NOTE:  
Inv. of Sediment Trap equals  
Inv. of new Ditch. See  
Plan for Sediment Trap  
Dimensions.

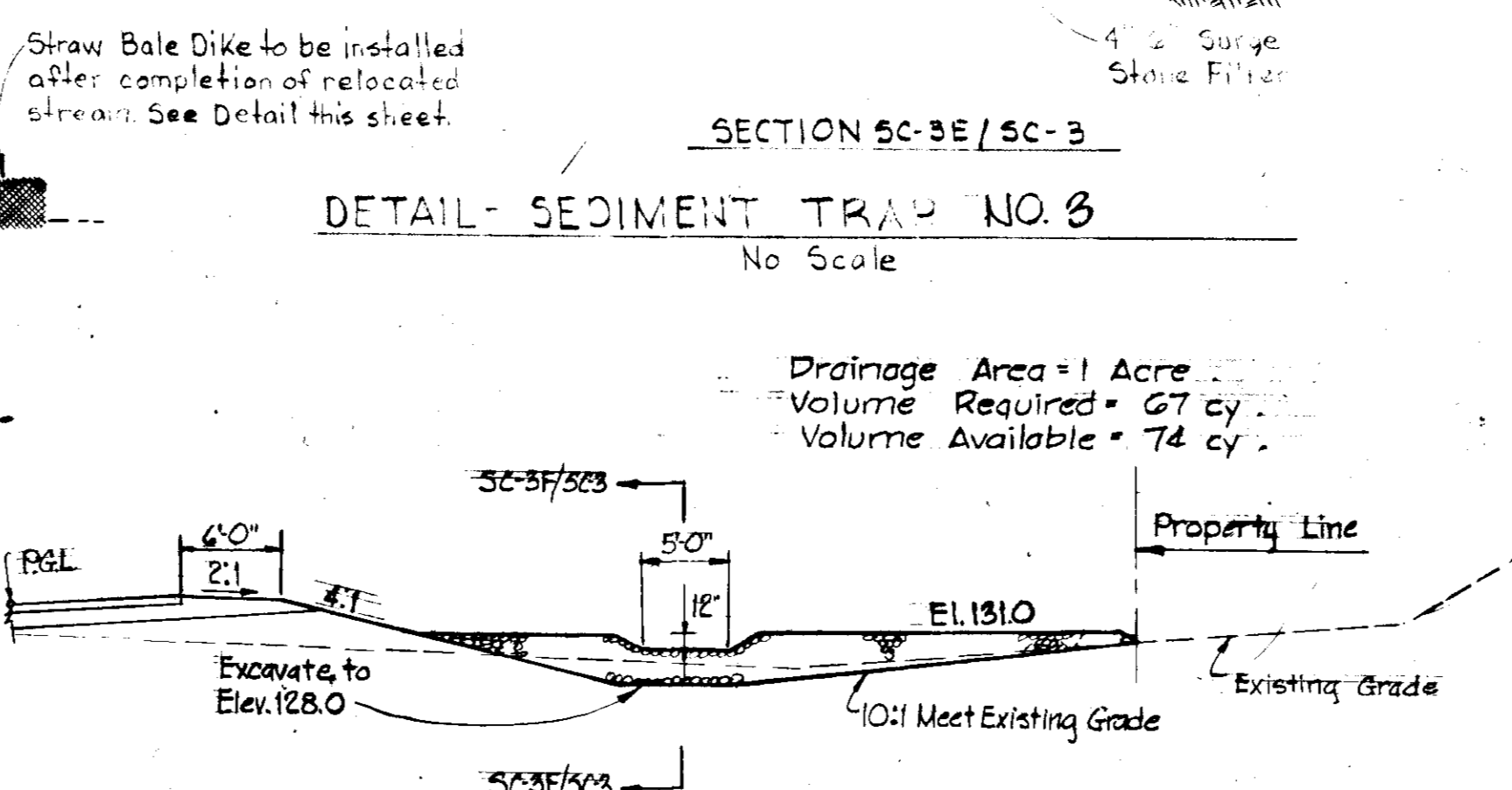


SECTION SC-3E/SC-3  
DETAIL - SEDIMENT TRAP No. 2  
No Scale



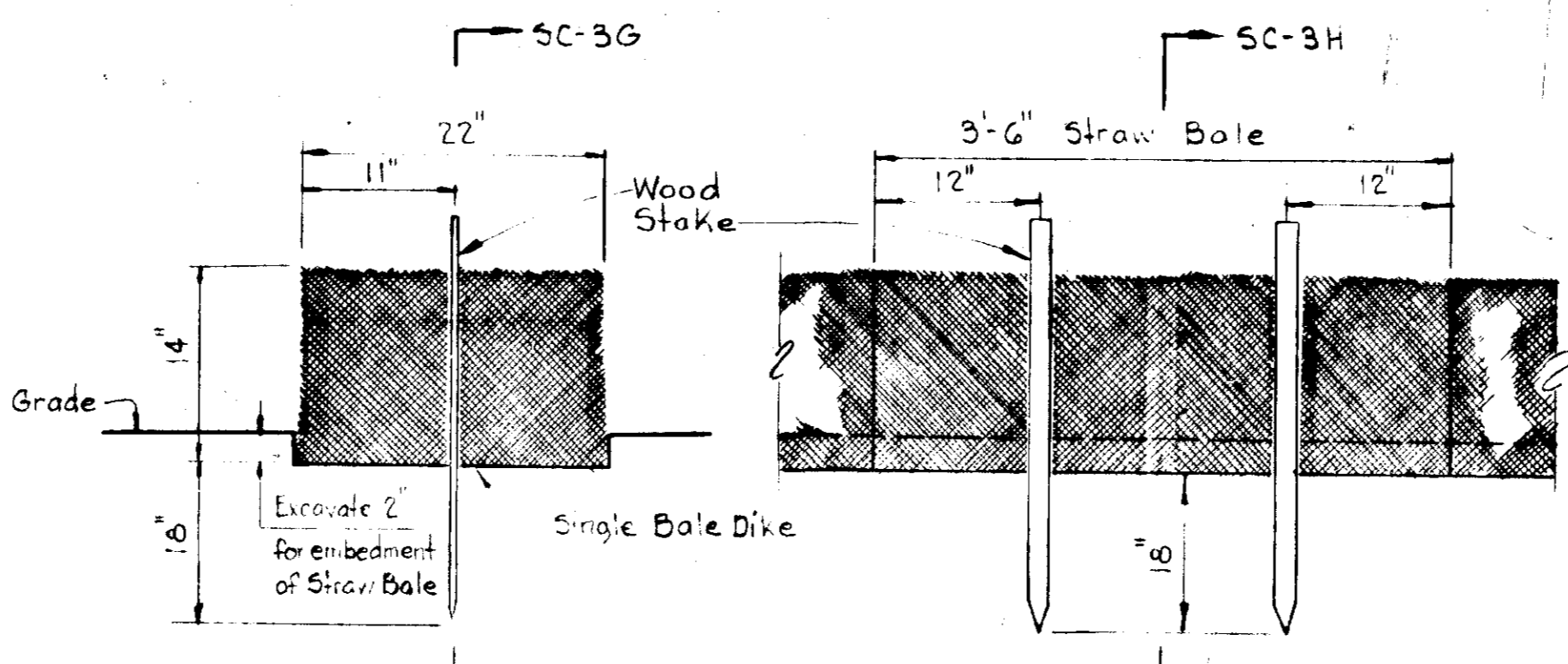
SECTION SC-3E/SC-3  
DETAIL - SEDIMENT TRAP NO. 3  
No Scale

Drainage Area = 2.5 Acres  
Volume Req'd = 100 cy  
Volume Available = 103 cy

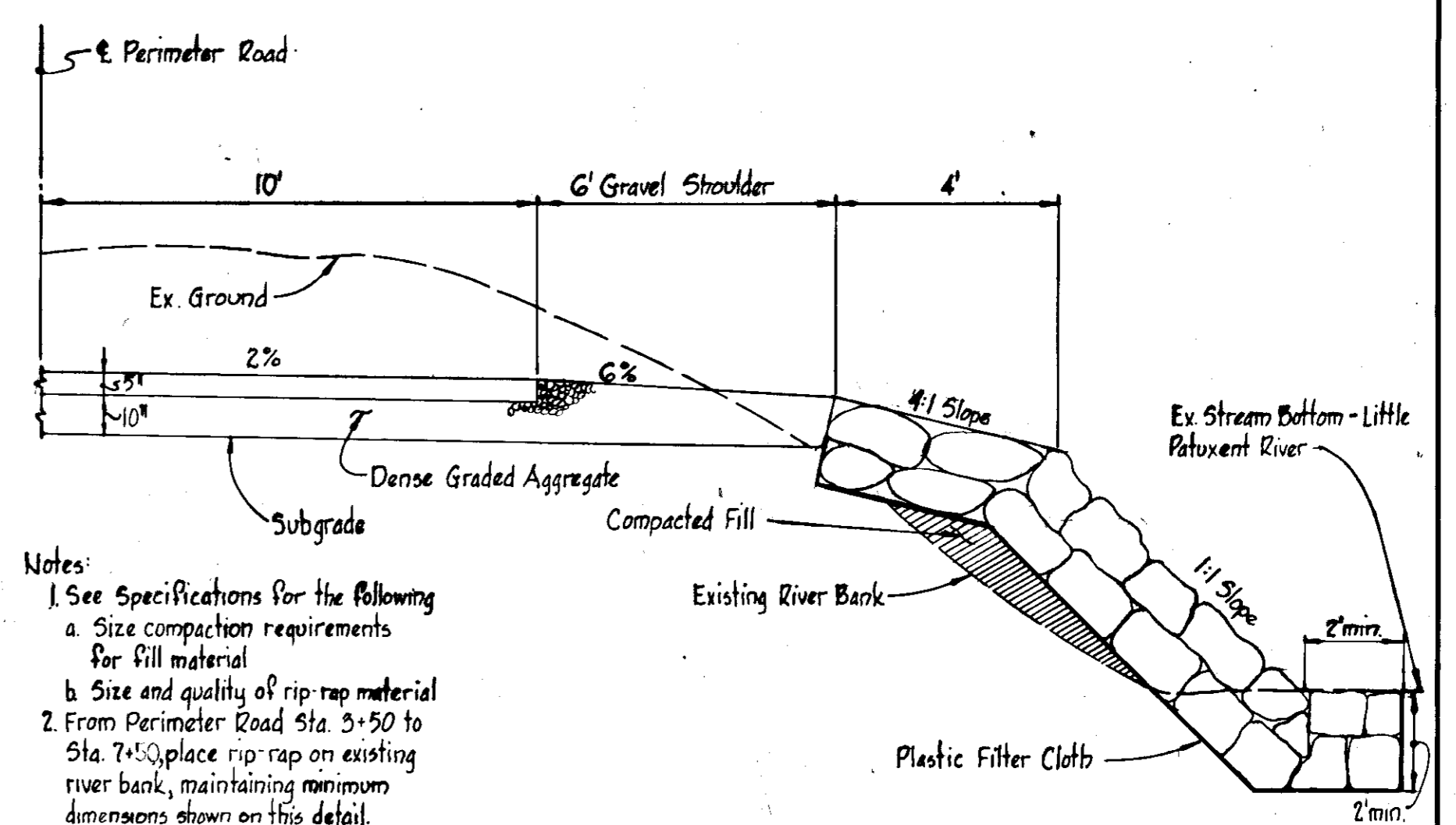


SECTION SC-3F/SC-3  
DETAIL - SEDIMENT TRAP NO. 1  
Perimeter Road @ Sta 10+12

NOTES:  
1. Each Straw Bale shall be properly embedded and  
anchored with two (2) wood stakes.  
2. Straw Bales must be banded securely with nylon or wire.

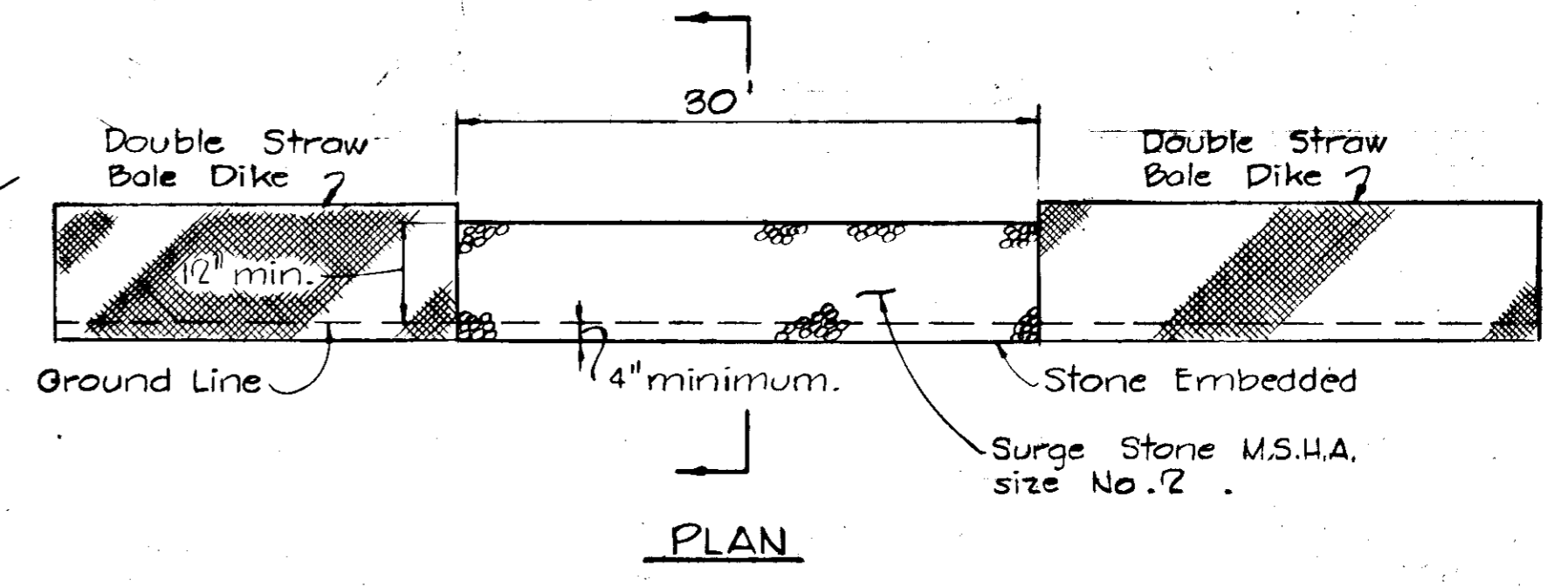


SECTION SC-3G/SC-3  
SECTION SC-3H/SC-3  
DETAIL - STRAW BALE DIKE  
No Scale

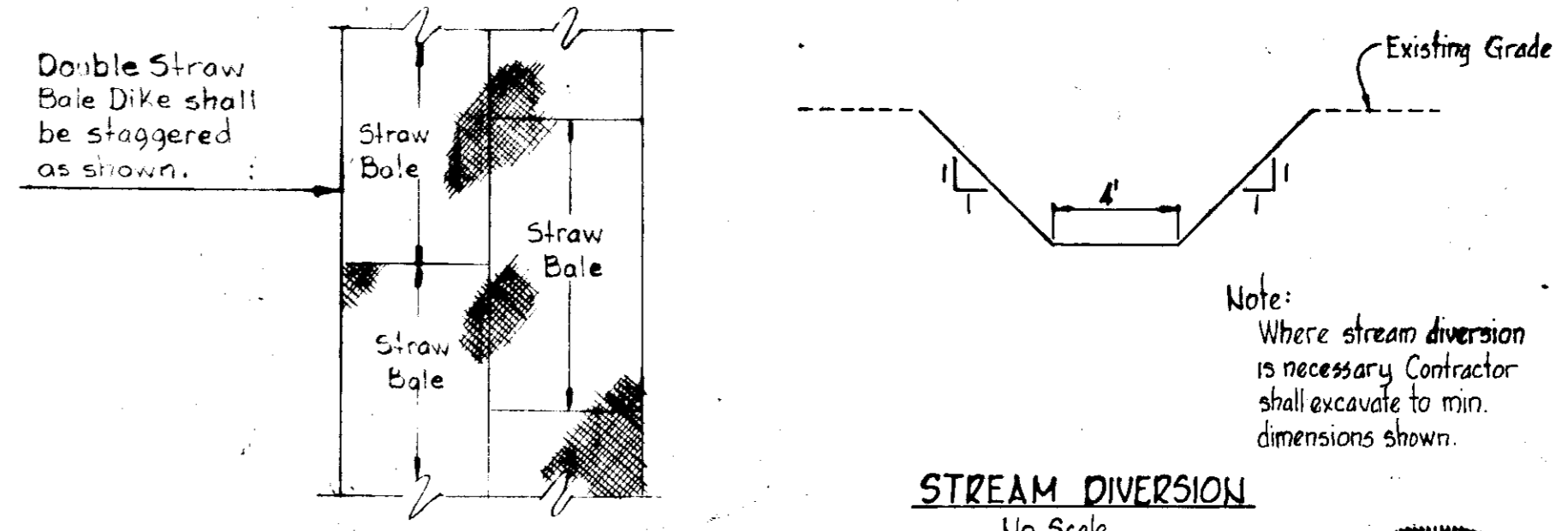


Notes:  
1. See Specifications for the following  
a. Size compaction requirements  
for fill material  
b. Size and quality of rip rap material  
2. From Perimeter Road Sta. 3+50 to  
Sta. 7+50 place rip rap on existing  
river bank, maintaining minimum  
dimensions shown on this detail.  
Slope will vary with existing conditions.

DETAIL - RIVER BANK RIP RAP  
(Perimeter Road Sta. 0+00 to Sta. 7+50)  
No Scale



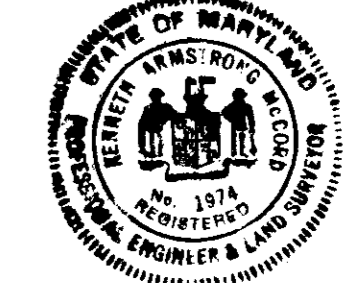
PLAN  
SECTION -  
DETAIL - SURGE STONE FILTER  
No Scale



STREAM DIVERSION  
No Scale

Reviewed for Howard S.C.D.  
and most Technical 7/29/77  
Signature  
U.S. Soil Conservation Service

DEVELOPMENT PLAN IS APPROVED  
FOR SOIL EROSION AND SEDIMENT  
CONTROL BY THE HOWARD SOIL  
CONSERVATION DISTRICT.  
Approved John Mays Date 7-20-77  
Howard S.C.D.

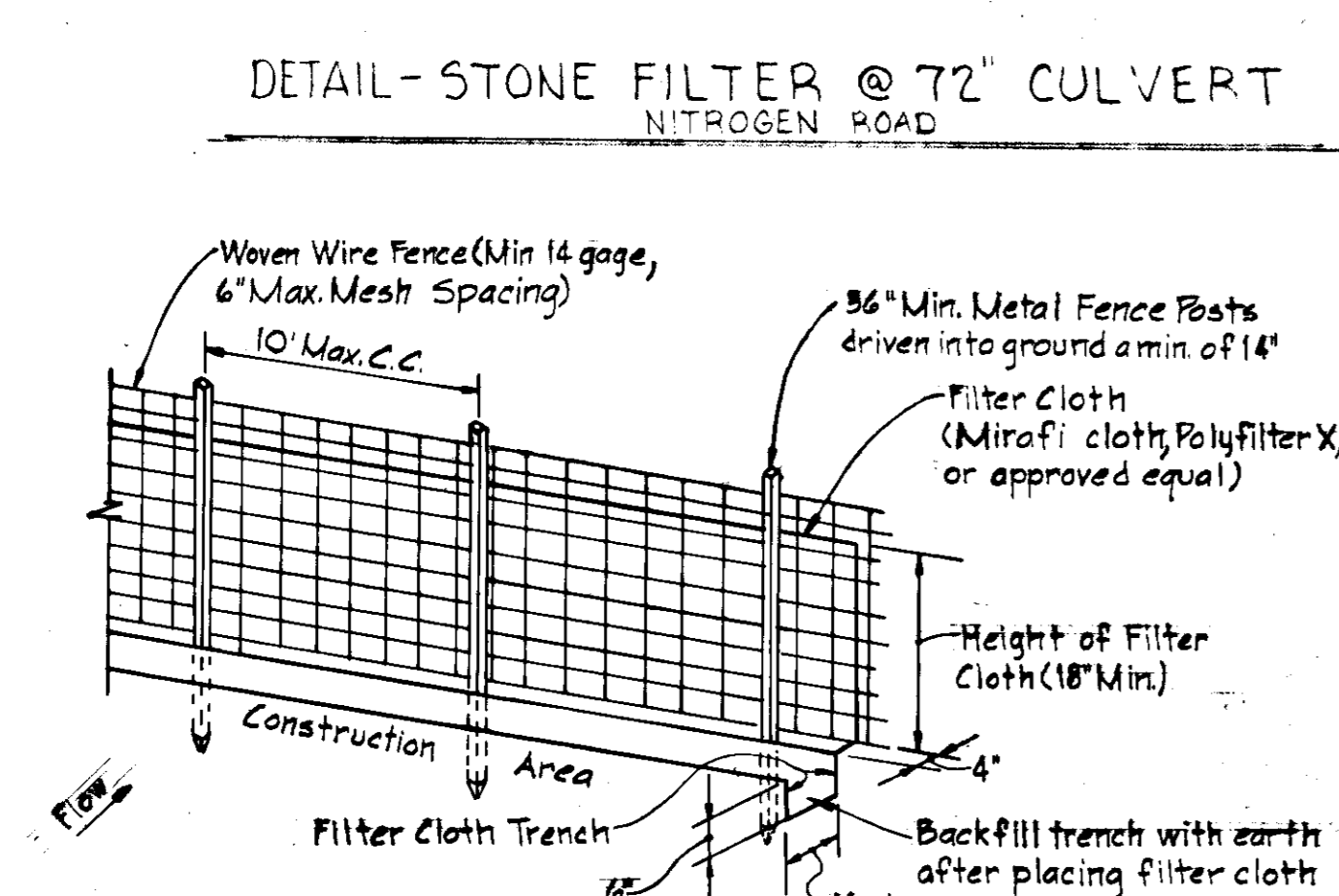
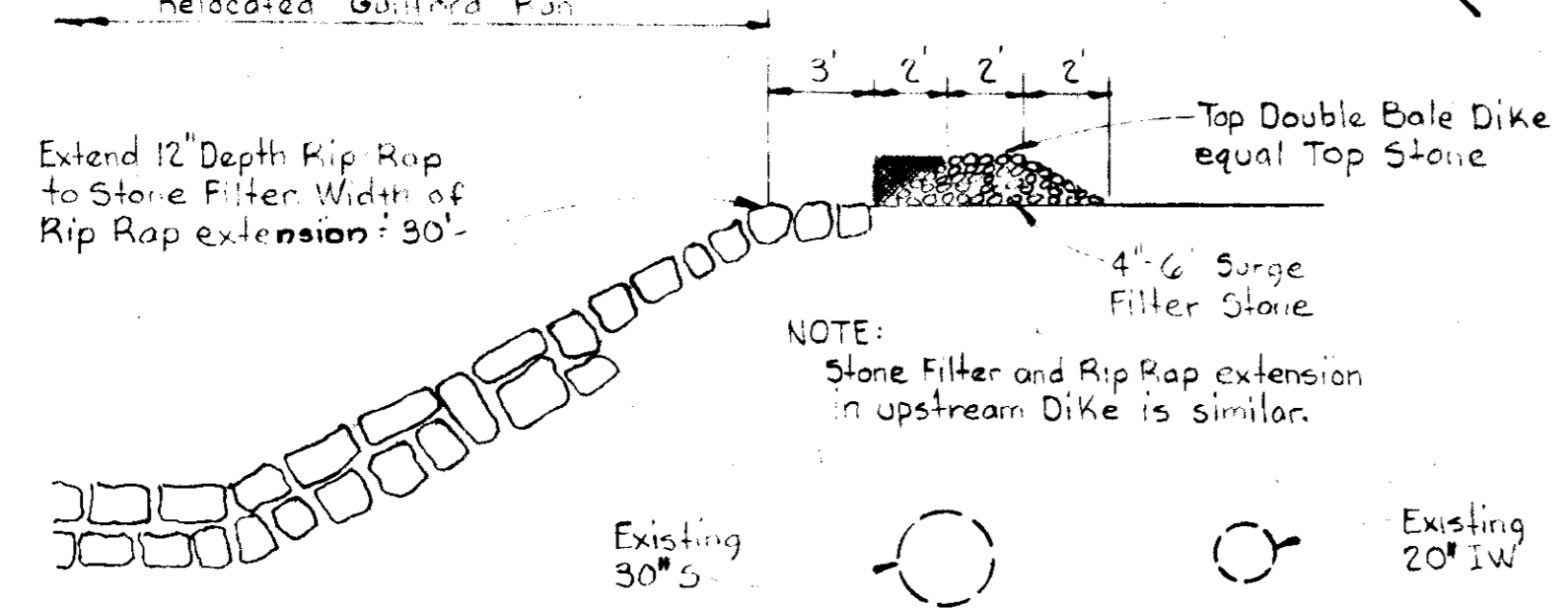
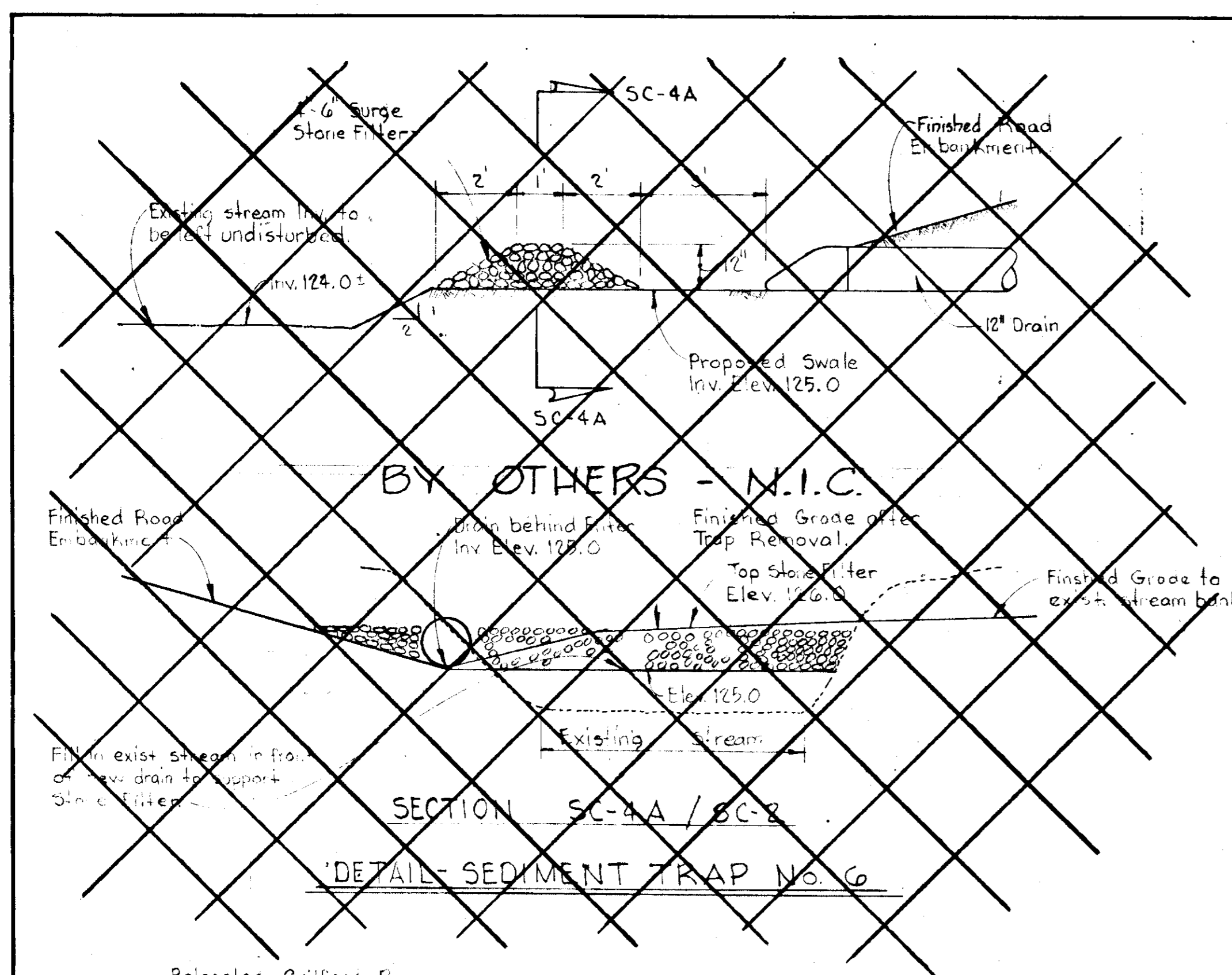


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/20/75 DATE	CONTRACT NO. 504-S	SOIL CONSERVATION SECTION & DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 18 OF 19	SCALE NONE
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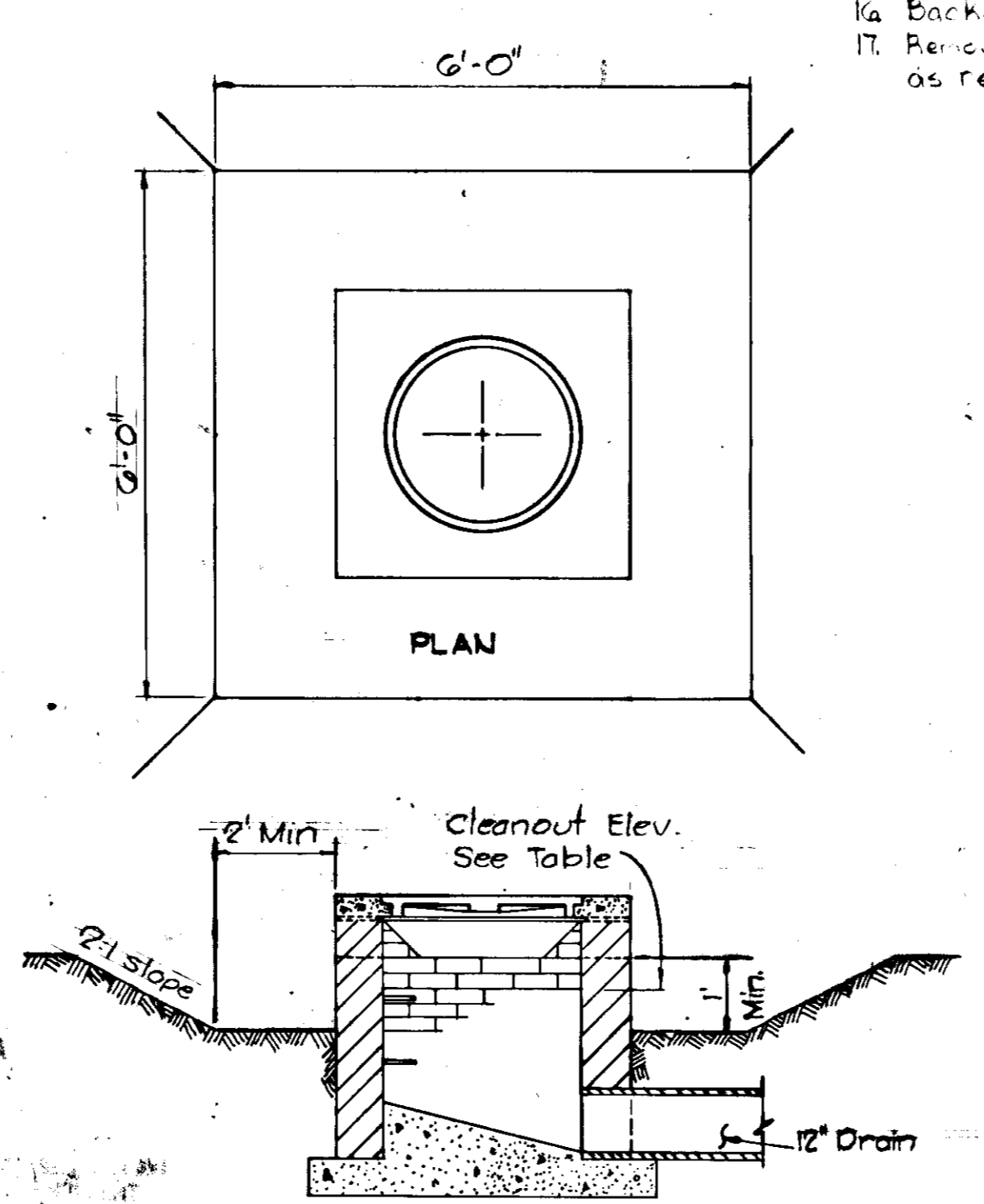
W. O. 7132-2

SDP 78-55 SHEET SC-3  
SDP 78-55 B of 9





- Notes:
1. Woven Wire fence to be fastened securely to fence posts by use of wire ties.
  2. Filter cloth to be fastened securely to woven wire fence by use of wire ties spaced every 24\"/>
  - 3. Silt fence to be placed in lieu of Straw Bales.



Inlet No	Inlet Elev.	Cleanout Elev.
1-5	125.0	124.50
1-6	124.67	124.17
1-7	123.72	123.22

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

Approved: *John M. ...* Date 7-30-77  
Howard S.C.D.

Reviewed for: *Hessara* Name  
and meets Technical Requirements  
*W. ...* Signature Date 7/26/77  
U.S. Soil Conservation Service

**PERMANENT SEEDING**

1. LIME:
  - a. 20 lbs/1000  $\phi$ , Containing not less than 10% Magnesium Oxide.
2. FERTILIZER:
  - a. 20 lbs/1000  $\phi$  (5-10-5)
  - b. 11b/1000  $\phi$ , Actual Nitrogen
 Application of Actual Nitrogen to be 30-60 days after seeding
3. SEED:
  - a. 5 lbs/1000  $\phi$
  - b. 20% Kentucky Blue Grass
  - c. 55% Creeping Red Fescue
  - d. 20% Merion Blue Grass
  - e. 5% Red Top
4. MULCH:
  - a. 1 1/2 Tons/Acre straw mulch cover with Asphalt at 480 Gallons /Acre.
5. SOIL:
  - a. Sod shall be placed under Contracts and

**BANK STABILIZATION**  
(Guilford Run)

1. LIME, SEED and MULCH:
  - a. Same as "Permanent Seeding"
2. SEED MIXTURE:
  - a. Kentucky 31" Tall Fescue (1.00 lbs/1000  $\phi$ )
  - b. Reed Canary Grass (0.33 lbs/1000  $\phi$ )

**SITE ANALYSIS**

1. Total Area	380 Ac	] See Note Below
2. Disturbed Area	6.5 Ac	
3. Area to be Vegetated	5.8 Ac	
4. Area to be Impervious	1.1 Ac	

**TEMPORARY SEEDING**

All cleared and grubbed areas to be hydroseeded with the following mixtures in one operation:  
Perennial Ryegrass - 90 lbs/Acre  
Wood Fiber Paper Mulch - 1500 lbs/Acre

Note:  
The above site analysis areas represent the effects of construction under Contract 504-S only. Construction as noted (BY-OTHERS) will require additional sediment control measures.

**SEQUENCE OF CONSTRUCTION / SPECIFICATIONS**

1. Obtain Grading Permit
2. All clearing and grubbing, temporary seeding, and relocation of Guilford Run shall be completed prior to all remaining work, including excavation of the new stream, existing stream and stream diversion; compacted backfill, grading, stabilization of the new stream, existing stream and stream diversion; the complete stabilization of the bottom and side slopes of the new stream; removal of material; the excavation, construction and backfill of the twin 72" culverts as shown. Complete stabilization of the new stream includes the Rip Rap section as specified on Sheet C-1 (504-S) and "Bank Stabilization" as specified on this sheet.
  - a. Stockpile the stream excavation away from the stream area as designated by the engineer in the field. Completed stockpiles shall be seeded as stated in the Sediment Control General Notes, Sheet SC-1. Provide straw bale dikes along the stockpile perimeter.
3. The following Sediment Control Measures shall be provided prior to any Grading work!
  - a. After completion of Guilford Run and the 72" culverts, place the straw bale dikes as shown on the plans. Place Stone Filters in Dike, see sheet SC-2. The straw bale dikes shall be maintained throughout the Construction Duration. Sediment accumulation at the Dikes shall be removed as required by the Engineer in the field. Disturbed Dikes and Dikes removed for Utility Construction shall be replaced immediately.
  - b. Remove the existing ditch adjacent to the Chlorination Basin and construct Sediment Trap No. 2 with Surge Stone Filter.
  - c. Construct Sediment Trap No. 4 with Surge Stone Filter.
  - d. Construct Storm Drain Systems (Contract 504-S).
  - e. Provide Stone Filter at inlets (by Others-N.I.C.)
4. After the above mentioned Sediment Control Measures have been completed, construct the embankment, see detail Sheet C-7 (Contract 504-S). Open areas and Perimeter Road shoulders and slopes shall be seeded within 72 hours after Finished Grade is established. See "Permanent Seeding" this sheet. Perimeter Road embankment shall be pitched toward the Plant side during Grading operations.
5. Construct Sediment Trap No. 6 with Surge Stone Filter.
6. Install utilities and construct Buildings under Contract 505-S and 501-S (to be done by others-N.I.C.)
7. Grade the Drainage Ditch and install Storm Drain (Contract 502-S N.I.C.) Provide Surge Stone Filter. Seed Ditch slopes within 72 hours after grade is established. See "Permanent Seeding".
8. Grade embankment as required under Contract 502-S (N.I.C.) and Seed slope areas within 72 hours after Finished Grade is established. See "Permanent Seeding".
9. Install Utilities and Construct Buildings under Contract 502-S.
10. Grade embankments as required under Contract 503-S (N.I.C.) and seed the slope areas within 72 hours after Finished Grade is established. See "Permanent Seeding".
11. Install Utilities and Construct Buildings under Contract 503-S (to be done by others N.I.C.)
12. All Sediment Traps shall be cleaned out and maintained throughout the Construction Duration.
13. Remove the Temporary Sediment Traps, Surge Stone Filters and Straw Bale Dikes after construction site is complete and grass has been established in the Contributing Drainage Area.
14. Re-Construct the Drainage Outfall Ditches (Sediment Trap No. 2). Stabilize Ditch bottom and slopes.
15. Complete Storm Drain Outfall (Sediment Trap No. 4). Backfill, Grade, and Seed.
16. Backfill, Grade and Seed (Sediment Trap No. 6). See "Permanent Seeding".
17. Remove Sediment from Guilford Run and the Confluence with the Potomac River as required.

WHITMAN, REQUARDT & ASSOCIATES  
ENGINEERS  
1304 ST. PAUL ST.  
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
3/20/75 DATE  
*W. ...* CHIEF BUREAU OF ENGINEERING

CONTRACT NO. 504-S

SOIL CONSERVATION  
SECTION & DETAILS

SAVAGE WASTEWATER  
TREATMENT PLANT ADDITION NO. 4

DRAWING NO. 19 OF 19  
SCALE NONE

SHEET SC-4

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SDP 78-55