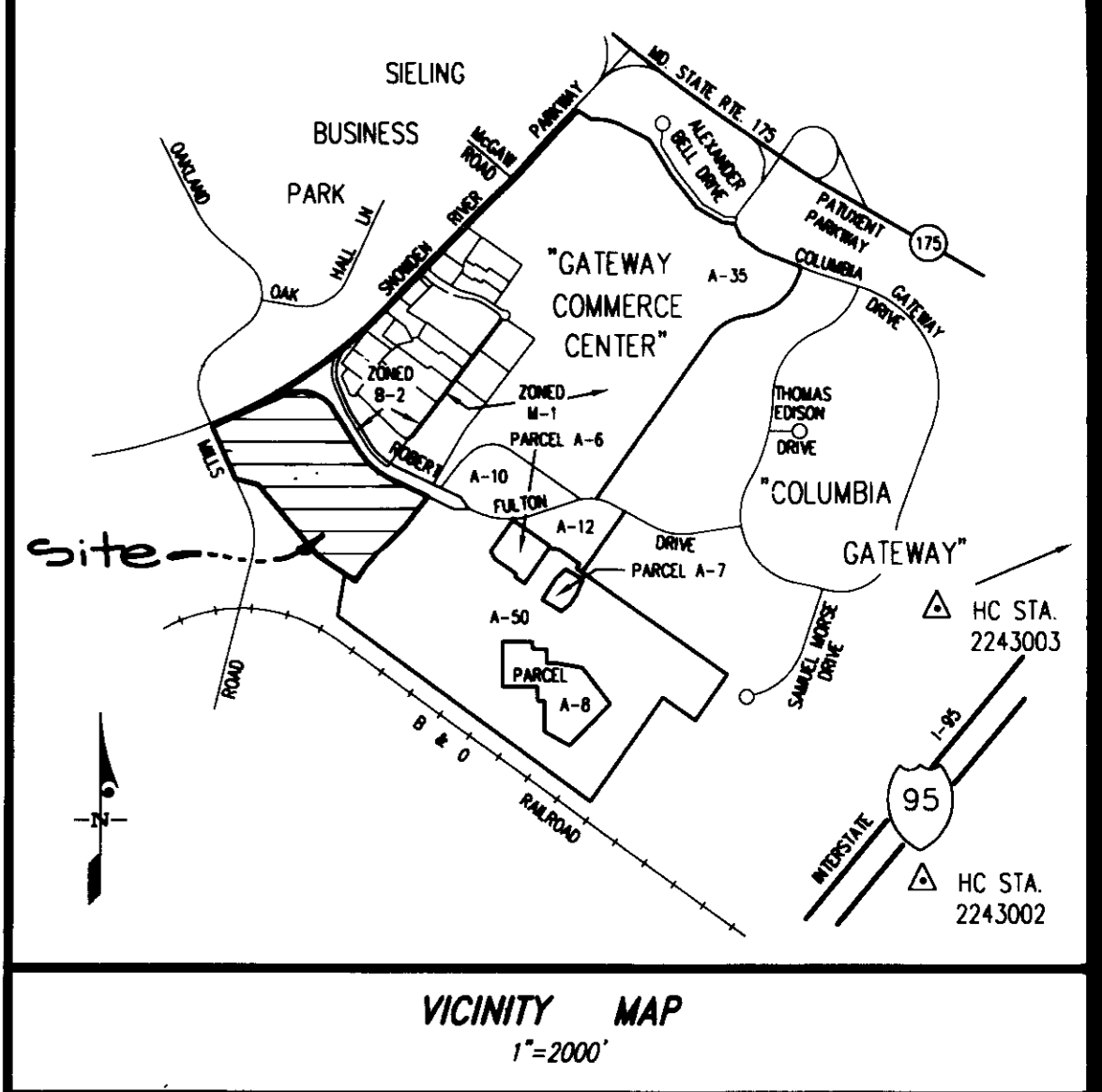


# GATEWAY COMMERCE CENTER

## SITE DEVELOPMENT PLAN FOR MASS GRADING ONLY



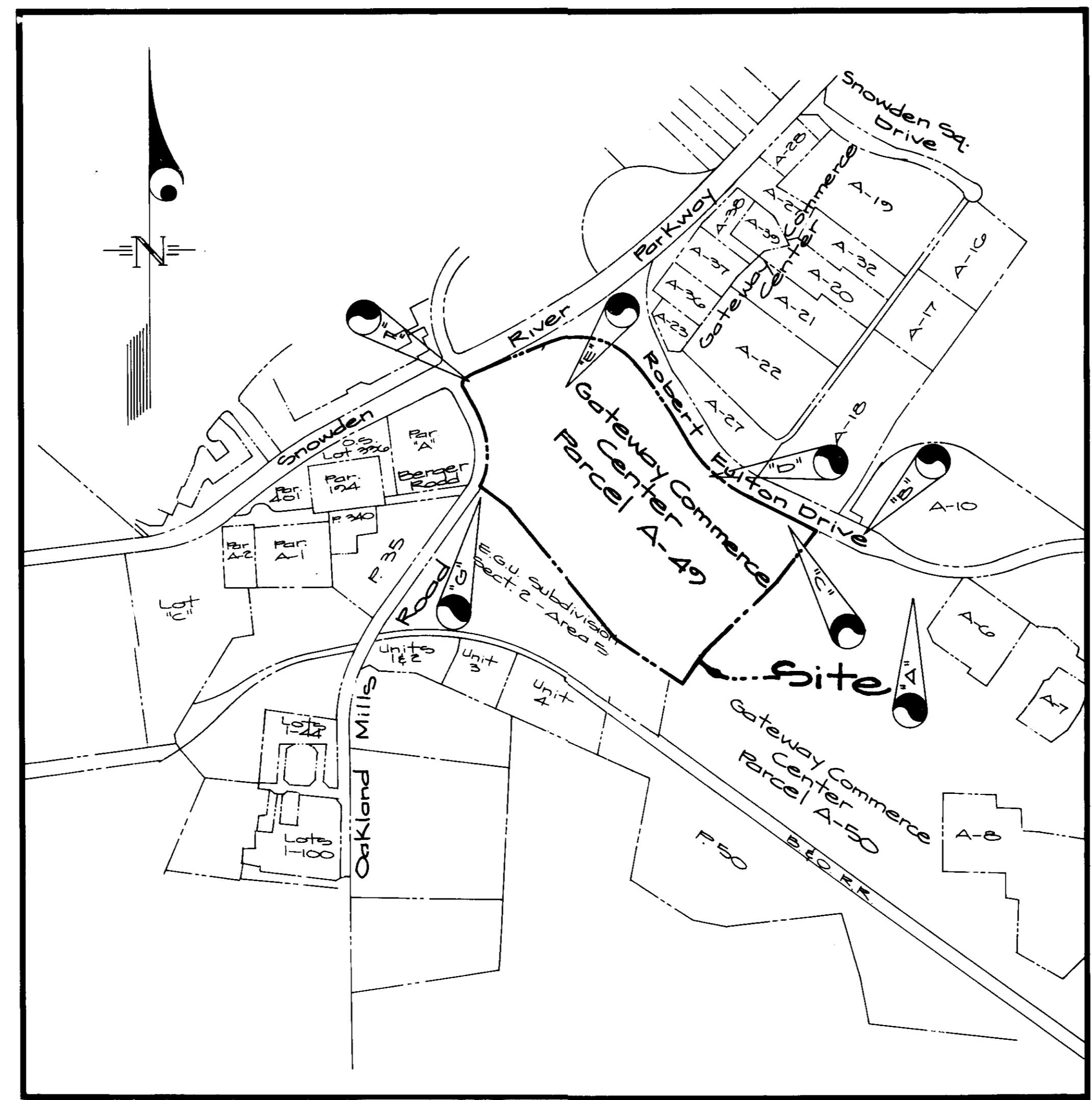
- ### Sequence of Construction
1. Obtain grading permit. (one week)
  2. Arrange pre-construction meeting with Sediment Control Inspector. (one week)
  3. Install stabilized construction entrances. Install tree protection fence. (one week)
  4. Construct sediment traps and associated temporary swales, earth dike (I) and silt fence. Construct earth dike, temporary swale and rip-rap slope protection for drainage diversion at the southwest property line. Install inlet protection for ex. inlets 3000 & 3200. (two weeks)
- ### Phase I
5. Clear site. Remove existing utilities, fences, roadways and concrete pads as indicated on plans. Remove/abandon ex. storm drain as indicated and block as applicable prior to mass grading. (one month)
  6. Grade site. (6 months)
- ### Phase II
7. Install silt fence (II). (1 week)
  8. Clear remainder of the site. Raise exist. gas meter building. (2 weeks)
  9. Install storm drain extension from existing inlet at Robert Fulton Drive. Install culverts at wetland crossing. (2 weeks) See road plans for additional details.
  10. Grade and stabilize fill areas adjacent to wetlands as indicated on plan. Install earth dike (II) and mountable berm as indicated on plans. (1 month)
- ### Phase I and II
11. Stabilize all areas with grass seed and mulch. (1 wk)
  12. When area draining to sediment controls have been stabilized and permission is granted from the Sediment Control Inspector remove sediment controls and stabilize with grass seed & mulch. (1 week)

- ### Bench Marks
- B.M. "A" x-cut in anchor bolt north side of B.G. & E. Tower Elev. = 334.18
  - B.M. "B" F.H. x-cut bonnet bolt Elev. = 332.61
  - B.M. "C" Traverse station 911 top of rebar w/cap Elev. = 351.74
  - B.M. "D" F.H. x-cut bonnet bolt Elev. = 343.31
  - B.M. "E" x-cut in anchor bolt of B.G. & E. Tower Elev. = 374.23
  - B.M. "F" x-cut on signal box slab Elev. = 368.10
  - B.M. "G" Nail in B.G. & E. pole Elev. = 367.97

- ### Sheet Index
1. Cover Sheet
  2. Composite Mass Grading and Sediment Control Plan
  3. Detail Grading Plan
  4. Detail Grading Plan
  5. Detail Grading Plan
  6. Detail Grading Plan
  7. Sediment Control Plan
  8. Sediment Control Plan
  9. Sediment Control Plan
  10. Sediment Control Plan
  11. Sediment Control Notes and Details
  12. Sediment Control Details

### Site Analysis

- 1. Area of Parcel: 54.06 Ac.
- 2. Zoning: R-A-15
- 3. This plan is for demolition, clearing and mass grading only. There are no proposed structures.



### Key Map

Scale: 1" = 600'

- ### Legend
- Ex. Contour
  - Prop. Contour
  - Ex. Treeline
  - Prop. Treeline
  - Limit of 25' Wetland Buffer
  - Limit of Wetlands
  - (T.R.) To Remain
  - (T.B.R.) To be Removed
  - (T.B.A.P.) To be Abandoned in Place
  - Ex. Paving to be Removed
  - Inlet Protection
  - Tree Protection Fence
  - Silt Fence
  - Earth Dike
  - Limit of Disturbance
  - Sediment Trap
  - Stabilized Construction Entrance
  - Mountable Berm
  - Rip-Rap Protection
  - Temporary Swale

- ### GENERAL NOTES
1. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF CONSTRUCTION INSPECTION AT (410) 313-1850 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
  2. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
  3. PROJECT BACKGROUND:  
ZB/BA REF: 10/18/93 COMPREHENSIVE ZONING PLAN (AMENDED BY ZONING BOARD CASE NO. ZB-949 M)  
TOTAL TRACT AREA: 54.06 AC.  
PRELIMINARY EQUIVALENT SKETCH PLAN (SP-95-01) WAS APPROVED ON NOV. 29, 1994
  4. SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S:  
S-84-44 S-85-55 F-88-91 F-87-96 F-85-55 VP-84-150  
WP-85-34 F-90-175 VP-85-35 VP-86-81 VP-88-17 WP-88-63  
WP-90-141 AA-91-15 ZB-93-15 S-90-210 SDP-92-49 F-92-49  
F-92-15 F-92-57 WP-92-80 WP-92-113 F-92-136  
F-92-140 WP-92-172 FDP-215 F-93-47 ZB-949M SP-95-01
  5. THESE PLANS ARE BASED UPON THE PREVIOUSLY RECORDED PLATS FOR THIS SUBDIVISION, AND RELATE TO A BOUNDARY OUTLINE PREPARED BY CENTURY ENGINEERING, INC. (AS AMENDED BY GUTSCHICK, LITTLE & WEBER, P.A. - APRIL, 1994). BEARINGS REFER TO TRUE NORTH.
  6. COORDINATES BASED ON NAD 27 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODITE CONTROL STATIONS NO. 2243002 AND NO. 2243003.
  7. WATER AND SEWER SERVICE FOR THIS PROJECT IS PUBLIC UNDER CONTRACT NO. 24-3406D.
  8. STORMWATER MANAGEMENT PROVIDED BY AN EXISTING REGIONAL FACILITY (F-92-1001 DPW).
  9. EXISTING UTILITIES WERE LOCATED FROM AVAILABLE RECORDS.
  10. THIS PLAN IS A PORTION OF THE PROPERTY THAT IS THE SUBJECT OF ZONING BOARD CASE NO. 949 IN WHICH A REQUEST TO CORRECT ERRORS ON THE ZONING MAP WAS MADE AND SUBSEQUENTLY APPROVED ON 5/9/94.
  11. W.P. 95.30 WAS GRANTED ON 10/31/94 PERMITTING GRADING ON STEEP SLOPES ALONG INTERCHANGE RAMP.
  12. THERE ARE NO 100 YEAR FLOOR PLAINS INDICATED ON THIS PLAN.
  13. A portion of this plan is the subject of jurisdictional Determination of Wetlands GENAP-SP-F-95-01336, U.S.A.C.O.E. Aol permit 1995-K4024 and wetland and buffer disturbances as necessary impacts in accordance with SP-95-01.

Approved: For Public Water & Public Sewerage Systems, Howard County Health Dept.  
County Health Officer Date

Approved: Howard County Dept. of Planning & Zoning  
Director Date  
7/12/95  
Chief Division of Land Development Date  
7/11/95

Approved: For Public Water & Public Sewerage, Storm Drainage Systems & Public Roads, Howard County Dept. of Public Works  
Director Date  
7/12/95  
Chief Bureau of Engineering M.K. Date  
7/11/95

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20866  
TELEPHONE (301)421-4024 NO. VA (301)989-2524 BALTO (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APPR.

Owner/Developer:  
GEAPE II, Inc. c/o  
The Howard Research &  
Development Corporation  
10275 Little Patuxent Pkwy.  
Columbia, Maryland 21044  
Attn: Al Edwards  
(410)992-6027

Cover Sheet  
**Gateway Commerce Center**  
Parcel A-49  
4th Election District  
Howard County, Maryland

### ADDRESS CHART

WATER CODE:	SEWER CODE:	PARCEL NO.	STREET ADDRESS
E06	4900000	A-49	

SUBDIVISION NAME: GATEWAY COMMERCE CENTER				SECTION/AREA	PARCEL
PLAT	BLOCK	ZONE	TAX MAP	ELEC. DIST.	CENSUS TRACT
11344	N/A	R-A-15	42	6	6067.03

DES.:	SCALE	ZONING	GLW FILE NO.
rot.	As Shown	R-A-15	93-038
DRN.:	DATE	TAX MAP NO.	SHEET
W.S.J.	March 1995	42	1 of 12
CHK.:	DATE	TAX MAP NO.	SHEET
rot.	March 1995	42	1 of 12

SDP-95-88



Approved: For Public Water & Public Sewerage Systems, Howard County Health Dept.  
 County Health Officer \_\_\_\_\_ Date \_\_\_\_\_

Approved: Howard County Dept. of Planning & Zoning  
 Director: *Joseph Smith* Date: 7/20/95  
 Quinn Summary Date: 7/19/95  
 Chief, Division of Land Development Code and Research Date: 7/17/95

Approved: For Public Water & Public Sewerage, Storm Drainage Systems & Public Roads, Howard County Dept. of Public Works  
 Director: *James P. Lane* Date: 7/16/95  
*John J. ...* Date: 7/16/95  
 Chief, Bureau of Engineering M.K. ...

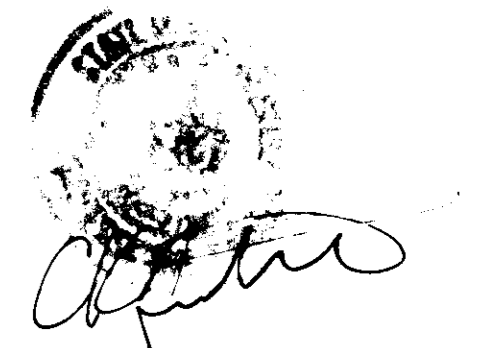
**GW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE · SUITE 250 · BURTONSVILLE OFFICE PARK · BURTONSVILLE, MD 20886  
 TELEPHONE: (301)421-4024 NO. VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APP'R.

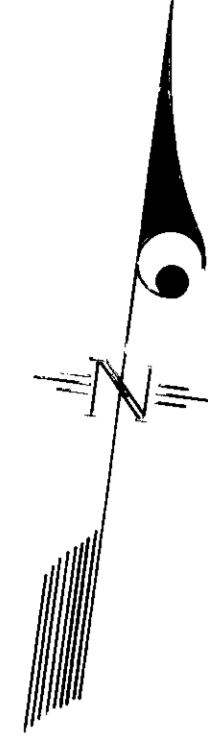
Owner/Developer  
 GEARTE Inc.  
 The Howard Research & Development Corporation  
 10275 Little Patuxent Pkwy.  
 Columbia, Maryland 21044  
 Attn: A. Edwards  
 (410)992-6027

Composite Mass Grading & Sediment Control Plan  
**Gateway Commerce Center**  
 Parcel A-49  
 6th Election District  
 Howard County, Maryland

DES: <i>W.S.J.</i>	SCALE: 1" = 100'	ZONING: R-A-1B	G.L.W. FILE NO.: 93-038
DRN: <i>W.S.J.</i>	DATE: March, 1995	TAX MAP NO.: 42	SHEET: 2 of 12
CHK: <i>W.S.J.</i>			



SDF-95-88

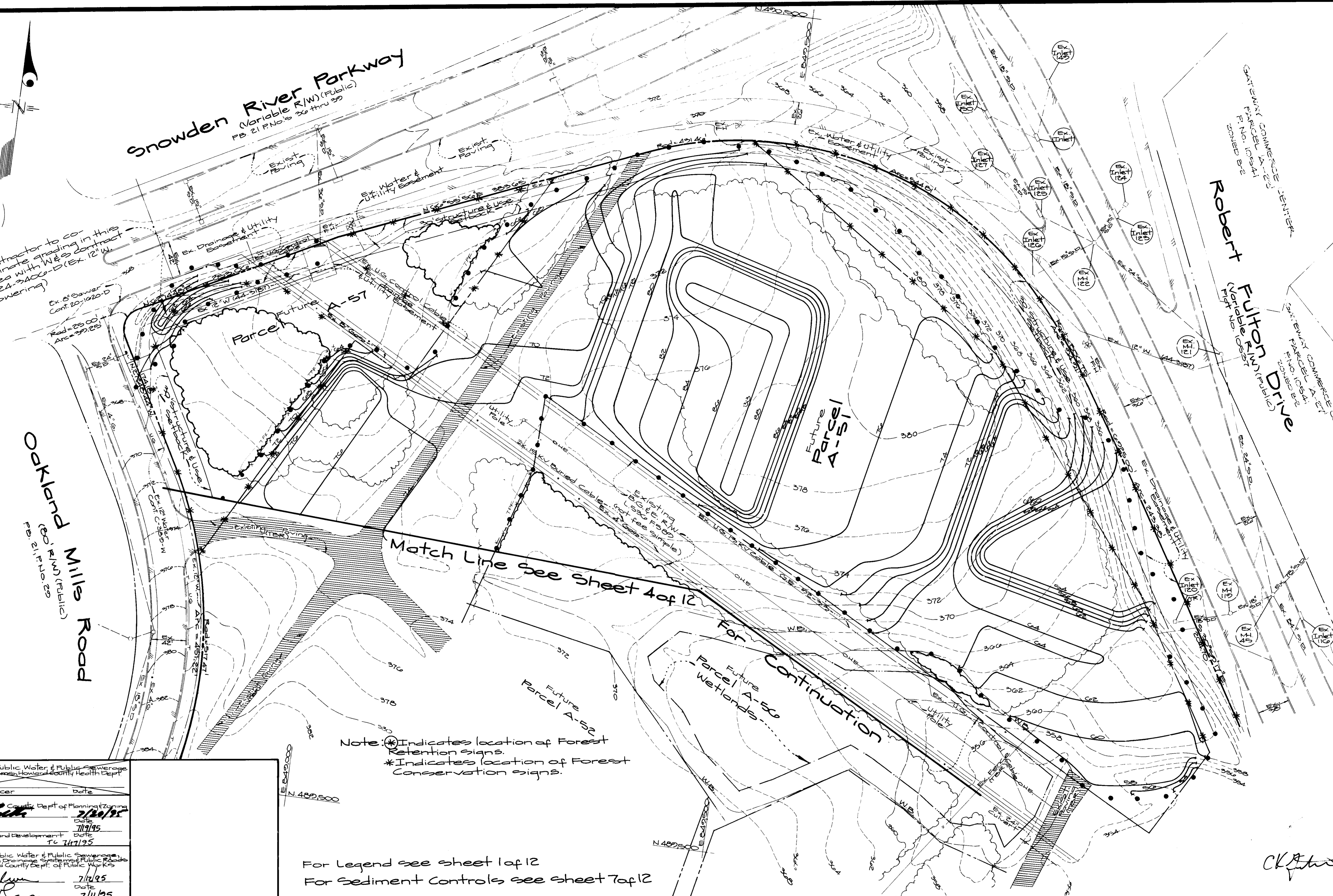


**Snowden River Parkway**  
 (Variable R/W) (Public)  
 PB 21 P.N.O.s 26 thru 29

Note: Contractor to coordinate grading in this area with W&S Contract #24-34000-D (Ex. 12' W) lowering

**Oakland Mills Road**  
 (80' R/W) (Public)  
 PB 21 P.N.O.s 29

**Robert Fulton Drive**  
 (Variable R/W) (Public)  
 PB 21 P.N.O.s 27



Note: \* Indicates location of Forest Retention signs.  
 \* Indicates location of Forest Conservation signs.

For Legend see sheet 1 of 12  
 For Sediment Controls see sheet 7 of 12

Approved For Public Water & Public Sewerage Systems, Howard County Health Dept.  
 County Health Officer \_\_\_\_\_ Date \_\_\_\_\_

Approved Howard County Dept of Planning & Zoning  
 Director *Carol Sauer* Date 7/19/95  
 Chief, Division of Land Development and Research  
 TC 7/17/95

Approved For Public Water & Public Sewerage Storm Drainage Systems, Public Roads, Howard County Dept. of Public Works  
 Director *James J. Slavin* Date 7/19/95  
 Chief Bureau of Engineering M.K. White Date 7/11/95

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20866  
 TELEPHONE (301)421-4024 NO. VA (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APPR.

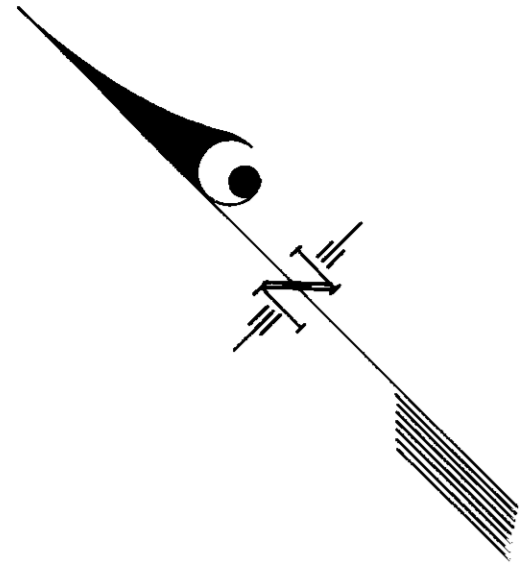
Owner/Developer  
 GEAPE II, Inc. c/o  
 The Howard Research &  
 Development Corporation  
 10275 Little Patuxent Pkwy.  
 Columbia, Maryland 21044  
 Attn: Al Edwards  
 (410) 722-6027

Mass Grading Plan  
**Gateway Commerce Center**  
 Parcel A-49  
 6th Election District  
 Howard County, Maryland

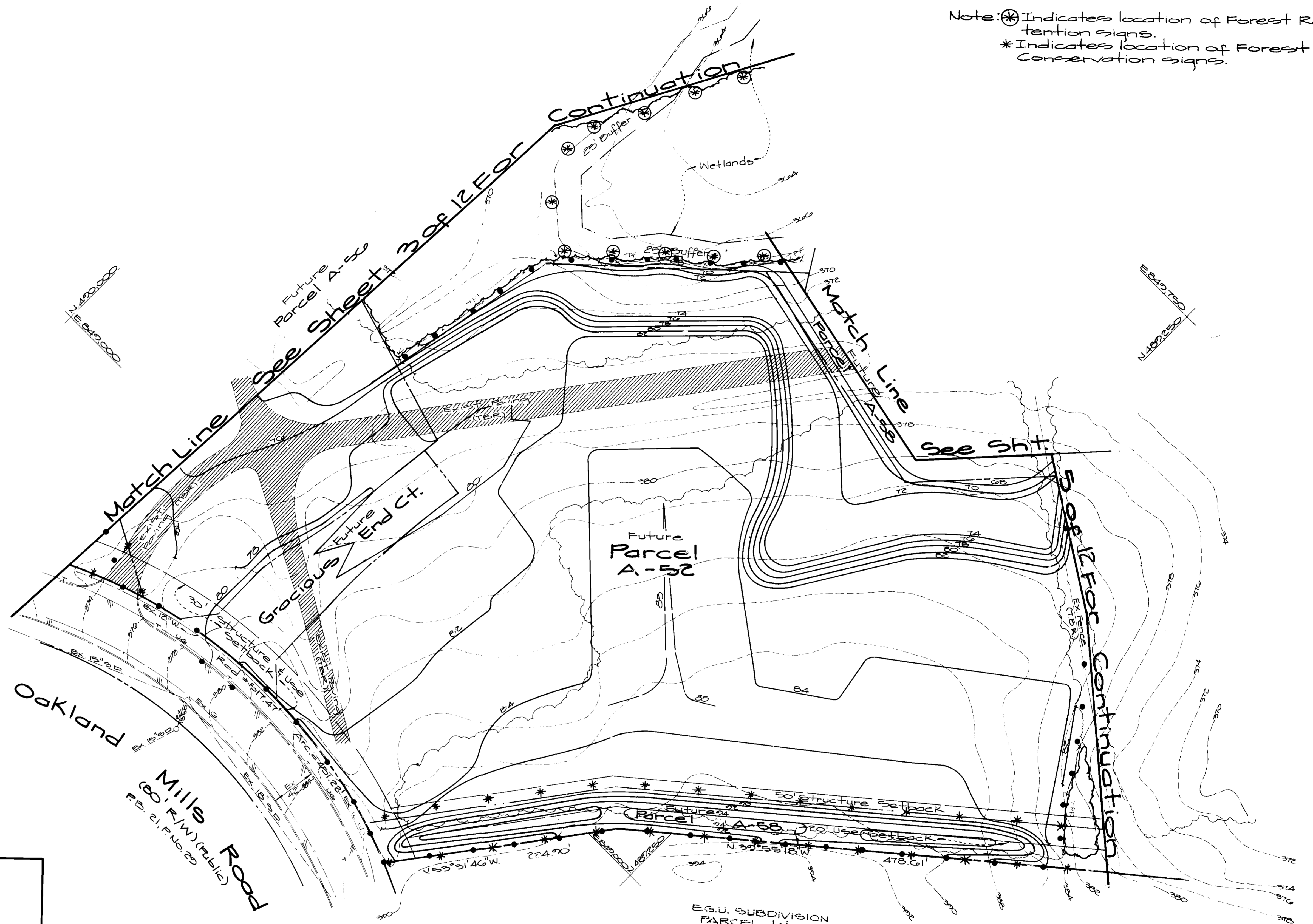
DES: <i>rot</i>	SCALE: 1"=50'	ZONING: RA-15	G.L.W. FILE NO.: 93-038
DRN: <i>W.S.J.</i>	DATE: March, 1995	TAX MAP NO.: 42	SHEET: 3 of 12
CHK: <i>rot</i>			

*CK [Signature]*

SEP 19 1995



Note: ⊗ Indicates location of Forest Retention signs.  
 \* Indicates location of Forest Conservation signs.



For legend see sheet 1 of 12  
 For sediment controls see sht. 8 of 12

*Handwritten signature/initials*

Approved For Public Water & Public Sewerage Systems, Howard County Health Dept.  
 County Health Officer \_\_\_\_\_ Date \_\_\_\_\_  
 Approved, Howard County Dept. of Planning & Zoning  
 Director \_\_\_\_\_ Date 7/1/95  
 Chief Division of Land Development, Date and Research 7/1/95  
 Approved For Public Water & Public Sewerage, Storm Drainage Systems & Public Roads, Howard County Dept. of Public Works  
 Director \_\_\_\_\_ Date 7/1/95  
 Chief Bureau of Engineering, M.K. 00 #001e

**GW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20866  
 TELEPHONE (301)421-4024 NO. VA. (301)989-2524 BALTO. (301)860-1820 FAX (301)421-4186

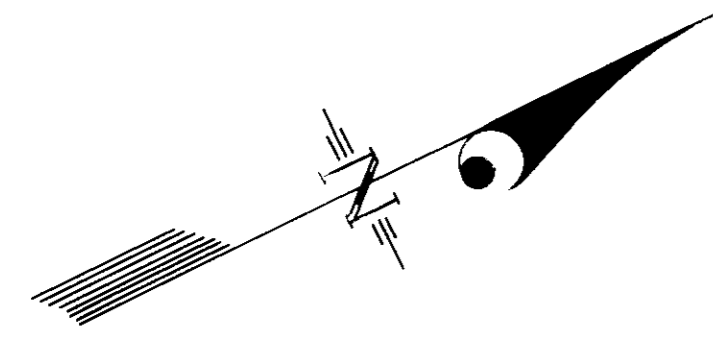
DATE	REVISION	BY	APP'R.

Owner/Developer  
 GEAPE II, Inc. c/o  
 The Howard Research &  
 Development Corporation  
 10275 Little Patuxent Pkwy.  
 Columbia, Maryland 21044  
 Attn: 241 Edwards  
 (410) 992-6027

Mass Grading Plan  
**Gateway Commerce Center**  
 Parcel A-49  
 6th Election District  
 Howard County, Maryland

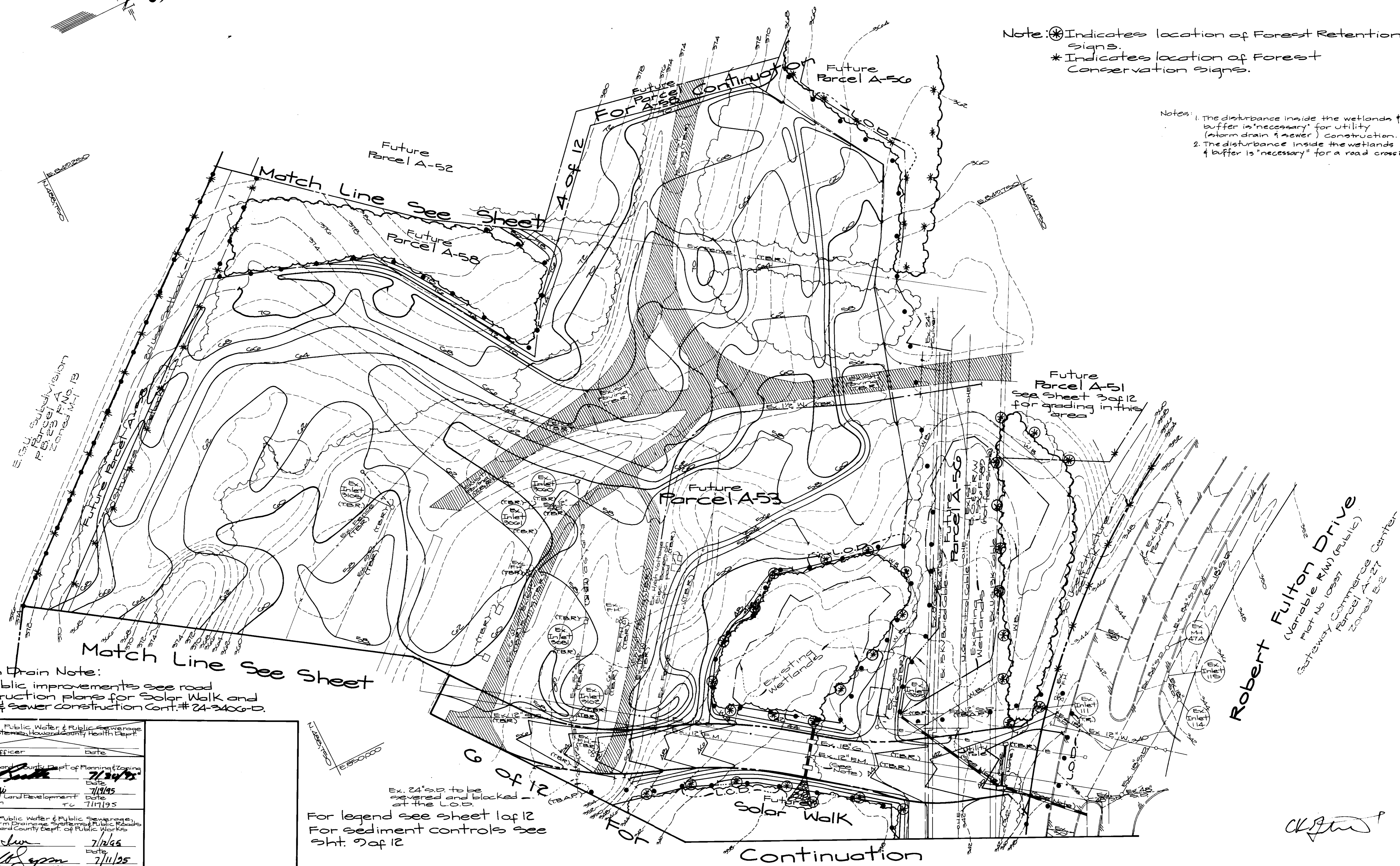
DES.	SCALE	ZONING	G.L.W. FILE NO.
3/1	1"=50'	R-A-15	93-038
DRN.	DATE	TAX MAP NO.	SHEET
W.S.J.	March 1995	42	4 of 12
CHK.	3/1		

See SDR 95-88



Note: ⊛ Indicates location of Forest Retention Signs.  
 \* Indicates location of Forest Conservation Signs.

Notes:  
 1. The disturbance inside the wetlands & buffer is "necessary" for utility (storm drain & sewer) construction.  
 2. The disturbance inside the wetlands & buffer is "necessary" for a road crossing



Storm Drain Note:  
 For public improvements see road construction plans for Solar Walk and Water & sewer construction Cont. # 24-3406-D.

Match Line See Sheet

Ex. 24' S.D. to be covered and blocked at the L.O.B.  
 For legend see sheet 1 of 12  
 For sediment controls see sheet 9 of 12

Approved: For Public Water & Public Sewerage Systems, Howard County Health Dept.  
 County Health Officer \_\_\_\_\_ Date \_\_\_\_\_  
 Approved: Howard County Dept. of Planning & Zoning  
 Director \_\_\_\_\_ Date 7/24/95  
 Chief Division of Land Development and Research \_\_\_\_\_ Date 7/19/95  
 Approved: For Public Water & Public Sewerage, Storm Drainage, Systems & Public Roads, Howard County Dept. of Public Works  
 Director \_\_\_\_\_ Date 7/12/95  
 Chief Bureau of Engineering M.K. \_\_\_\_\_ Date 7/11/95

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20886  
 TELEPHONE: (301)421-4024 NO. VA. (301)989-2524 BALTO. (301)860-1820 FAX: (301)421-4186

DATE	REVISION	BY	APPR.

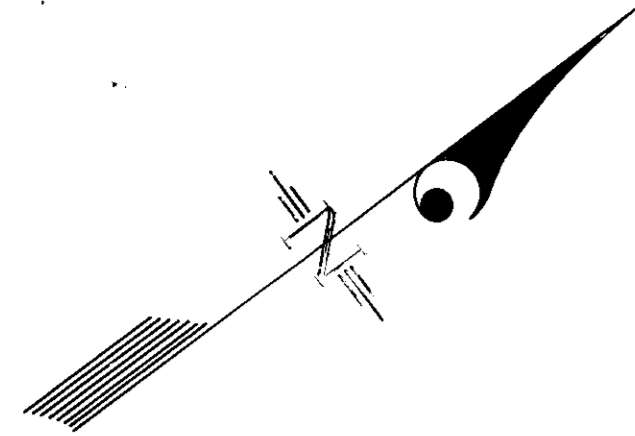
Owner/Developer:  
 GEAPE II, Inc.  
 The Howard Research & Development Corporation  
 10275 Little Patuxent Pkwy  
 Columbia, Maryland 21044  
 Attn: Al Edwards  
 (410) 992-6027

Mass Grading Plan  
**Gateway Commerce Center**  
 Parcel A-49  
 6th Election District  
 Howard County, Maryland

DES: <b>mt.</b>	SCALE: 1" = 50'	ZONING: R-A-15	G.L.W. FILE NO.: 03-038
DRN: <b>W.S.J.</b>	DATE: April, 1995	TAX MAP NO.: 42	SHEET: 5 of 12
CHK: <b>mt.</b>			

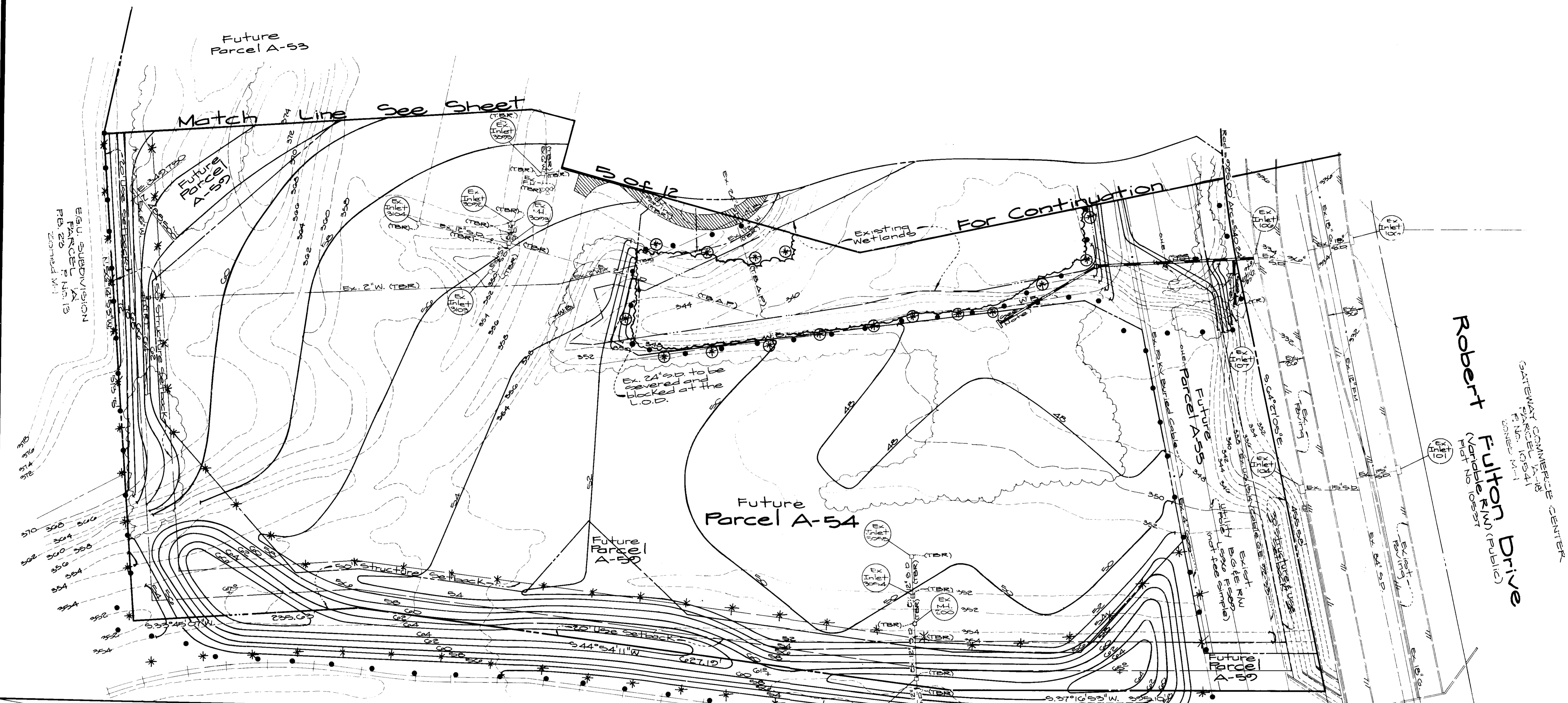
Robert Fulton Drive  
 (Variable R/W) (Public)  
 Plat No. 10387  
 Gateway Commerce Center  
 Parcel A-27  
 Zoned B-2

SDP 195-88



E 240.150  
N 480.555

Note: ⊗ Indicates location of Forest Retention signs.  
\* Indicates location of Forest Conservation signs.



Robert Fulton Drive  
Variable R/W (Public)  
Not to be used  
GATEWAY COMMERCE CENTER  
PARCEL A-41  
P.N. 10341  
Zoned M-1

Approved: For Public Water & Public Sewerage Systems, Howard County Health Dept.  
County Health Officer \_\_\_\_\_ Date \_\_\_\_\_  
Approved: Howard County Dept. of Planning & Zoning  
*James H. Smith* 7/14/95  
Director  
Approved: For Public Water & Public Sewerage, Storm Drainage Systems & Public Roads, Howard County Dept. of Public Works  
*James P. Slus* 7/11/95  
Director  
*Paul Egan* 7/11/95  
Chief, Bureau of Engineering, M.K. 001/01/95

Storm Drain Note:  
For public improvements see road construction plans for Solar Walk and water & sewer construction Cont. #24-3406-B

Note: The disturbance inside the wetlands & buffer at Robert Fulton Drive is "necessary" for utility (storm drain) installation.  
For legend see sheet 1 of 12  
For sediment controls see sht. 10 of 12

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20886  
TELEPHONE (301)421-4024 NO VA (301)989-2524 BALTO (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APPR.

Owner/Developer  
GEAPS II, Inc. c/o  
The Howard Research & Development Corporation  
10275 Little Patuxent Pkwy.  
Columbia, Maryland 21044  
Attn: A.I. Edwards  
(410)992-6027

Mass Grading Plan  
**Gateway Commerce Center**  
Parcel A-40  
6th Election District  
Howard County, Maryland

DES. DT.	SCALE	ZONING	G.L.W. FILE NO.
DRN. W.S.J.	1"=50'	R-A-15	93-038
CHK. DT.	DATE	TAX MAP NO.	SHEET
March, 1995	42	6 of 12	

SDP-9588

**Sediment Trap No. 1A**  
 Rip-Rap Outlet Sediment Trap  
 Drainage Area = 1.4 AC (Pre-Development) (Post-Development) 3.3 AC  
 Storage Required = 3 (1800) = 5,400 cu. ft.  
 Storage Depth = 3 feet  
 Cleanout Elevation = 351.0  
 Outlet Elevation = 354.0  
 Bottom Elevation = 350.0  
 Side Slopes = 2:1  
 Surface Area @ Elevation 353.0 (LOS) = 3,225 sq. ft.  
 Surface Area @ Elevation 350.0 (bottom) = 1,425 sq. ft.  
 Volume Provided = 3,225 + 1,425 x 3 = 7,080  
 Outlet Length = 12'  
 Embankment Elevation = 357.25  
 \*LOS = Limit of Storage

**Developer/Builder Certificate**  
 "I/We certify that all development and/or construction will be done according to this plan and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize permitting on-site inspection by the HSCB."  
 Signature of Developer/Builder: *Al Edwards*  
 Date: 3-16-95

**Engineer's Certificate**  
 "I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."  
 Signature: *Al Edwards*  
 Date: 3-15-95

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements.  
 Signature: *Patricia Engler*  
 Date: 6/27/95  
 US Natural Resources Conservation Service  
 This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.  
 Signature: *John Blanton*  
 Date: 6/27/95

**Sediment Trap No. 1B**  
 Rip-Rap Outlet Sediment Trap  
 Drainage Area = 2.1 AC (Pre-Development) (Post-Development) 10 AC  
 Storage Required = 2.1 (1800) = 3,780 cu. ft.  
 Storage Depth = 3 feet  
 Cleanout Elevation = 353.5  
 Outlet Elevation = 356.0  
 Bottom Elevation = 352.0  
 Side Slopes = 2:1  
 Surface Area @ Elevation 355.0 (LOS) = 1,824 sq. ft.  
 Surface Area @ Elevation 352.0 (bottom) = 748 sq. ft.  
 Volume Provided = 1,824 + 748 x 3 = 3,258 cu. ft.  
 Outlet Length = 8'  
 Embankment Elevation = 359.25  
 \*LOS = Limit of Storage

**Developer/Builder Certificate**  
 Note: Contractor to coordinate this area with the contractor for the 24-3400-D (24-3400-D) (24-3400-D) (24-3400-D)  
 Signature of Developer/Builder: *Al Edwards*  
 Date: 3-16-95

24" Temporary Flexible Plastic Pipe  
 Remove Ex. Headwall & Provide Water-tight Connection  
 Ex. of Sewer Cont. 20-1922-D  
 Road = 25' 00" Arc = 390.25'  
 Oakland Mills Road  
 1824' 12" (24-3400-D)  
 Future Parcel A-51  
 Future Parcel A-52  
 Future Parcel A-53  
 Future Parcel A-54  
 Future Parcel A-55  
 Future Parcel A-56  
 Future Parcel A-57  
 Future Parcel A-58  
 Future Parcel A-59  
 Future Parcel A-60  
 Future Parcel A-61  
 Future Parcel A-62  
 Future Parcel A-63  
 Future Parcel A-64  
 Future Parcel A-65  
 Future Parcel A-66  
 Future Parcel A-67  
 Future Parcel A-68  
 Future Parcel A-69  
 Future Parcel A-70

Phase I  
 Match Line See Sheet 8 of 12  
 Undisturbed  
 Sediment Trap No. 1A  
 Sediment Trap No. 1B  
 Sediment Trap No. 1C  
 Sediment Trap No. 1D  
 Sediment Trap No. 1E  
 Sediment Trap No. 1F  
 Sediment Trap No. 1G  
 Sediment Trap No. 1H  
 Sediment Trap No. 1I  
 Sediment Trap No. 1J  
 Sediment Trap No. 1K  
 Sediment Trap No. 1L  
 Sediment Trap No. 1M  
 Sediment Trap No. 1N  
 Sediment Trap No. 1O  
 Sediment Trap No. 1P  
 Sediment Trap No. 1Q  
 Sediment Trap No. 1R  
 Sediment Trap No. 1S  
 Sediment Trap No. 1T  
 Sediment Trap No. 1U  
 Sediment Trap No. 1V  
 Sediment Trap No. 1W  
 Sediment Trap No. 1X  
 Sediment Trap No. 1Y  
 Sediment Trap No. 1Z

Note: Contractor shall control dust blowing & movement during construction see sheet 12 of 12.  
 Future Parcel A-52  
 Future Parcel A-53  
 Future Parcel A-54  
 Future Parcel A-55  
 Future Parcel A-56  
 Future Parcel A-57  
 Future Parcel A-58  
 Future Parcel A-59  
 Future Parcel A-60  
 Future Parcel A-61  
 Future Parcel A-62  
 Future Parcel A-63  
 Future Parcel A-64  
 Future Parcel A-65  
 Future Parcel A-66  
 Future Parcel A-67  
 Future Parcel A-68  
 Future Parcel A-69  
 Future Parcel A-70

**Sediment Trap No. 1C**  
 Rip-Rap Outlet Sediment Trap  
 Drainage Area = 5.0 AC (Pre-Development) (Post-Development) 4.7 AC  
 Storage Required = 5.0 (1800) = 9,000 cu. ft.  
 Storage Depth = 5 feet  
 Cleanout Elevation = 360.5  
 Outlet Elevation = 363.0  
 Bottom Elevation = 358.0  
 Side Slopes = 2:1  
 Surface Area @ Elevation 363.0 (LOS) = 2,860 sq. ft.  
 Surface Area @ Elevation 358.0 (bottom) = 1,120 sq. ft.  
 Volume Provided = 2,860 + 1,120 x 5 = 9,750 cu. ft.  
 Outlet Length = 12'  
 Embankment Elevation = 367.25  
 \*LOS = Limit of Storage

Approved For Public Water & Public Sewerage Systems, Howard County Health Dept.  
 County Health Officer: \_\_\_\_\_ Date: \_\_\_\_\_  
 Approved: Howard County Dept of Planning & Zoning  
 Director: *Al Edwards* Date: 7/11/95  
 Chief Division of Land Development, Planning and Research: *Al Edwards* Date: 7/11/95  
 Approved For Public Water & Public Sewerage, Storm Drainage Systems & Public Roads, Howard County Dept. of Public Works  
 Director: *Al Edwards* Date: 7/11/95  
 Chief Bureau of Engineering: *Al Edwards* Date: 7/11/95

**This Plan is For Sediment Control Purposes Only!!**

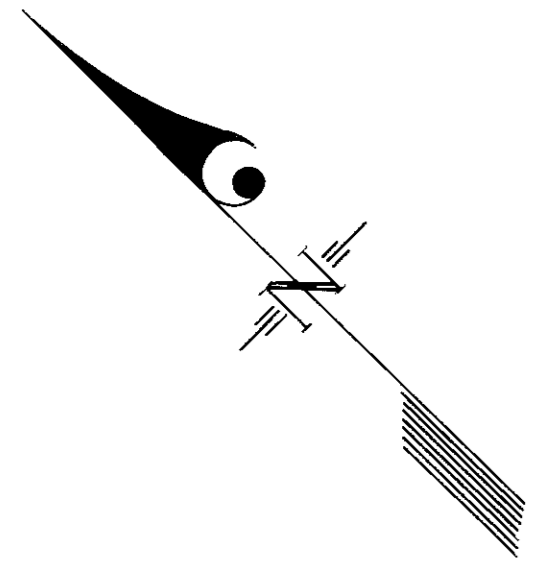
**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20886  
 TELEPHONE (301)421-4024 NO. VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

Owner/Developer: GEAPE II Inc. c/o The Howard Research & Development Corporation, 10275 Little Patuxent Pkwy., Columbia, Maryland 21044, Attn: Al Edwards (410)992-6027

Sediment Control Plan & Drainage Area Map  
**Gateway Commerce Center**  
 Parcel A-49  
 Calhoun Election District  
 Howard County, Maryland

DES: <i>rot</i>	SCALE: 1" = 50'	ZONING: R-A-15	GLW FILE NO.: 93-030
DRN: <i>W.S.J.</i>	DATE: March 1995	TAX MAP NO.: 42	SHEET: 7 of 12
CHK: <i>rot</i>			

SDP 95-88

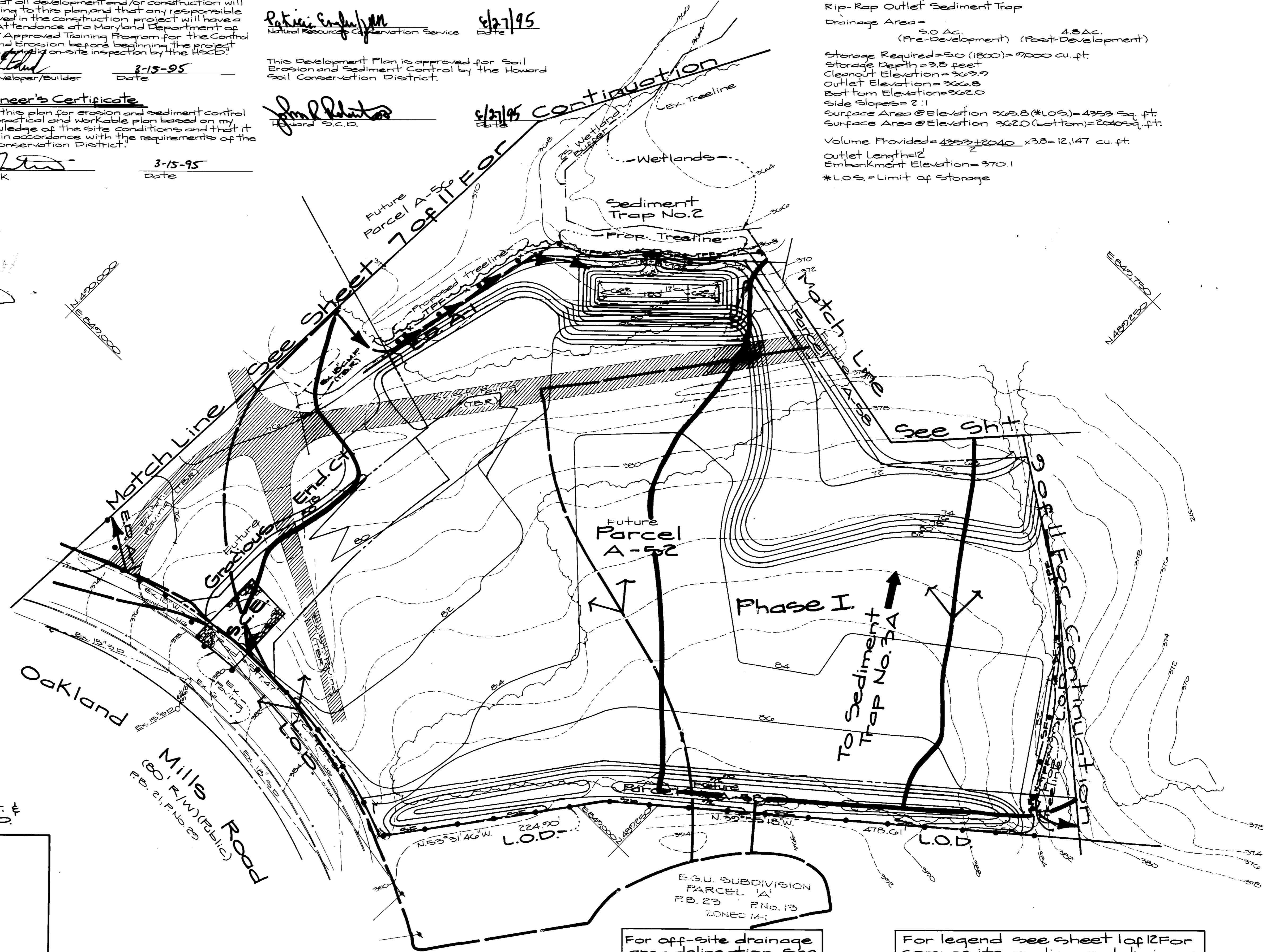


**Developer/Builder Certificate**  
 "I, We certify that all development and/or construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize the following on-site inspection by the HSCD:  
 Signature of Developer/Builder: [Signature] Date: 3-15-95

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements.  
 Patrick S. Engler, J.M. 4/27/95  
 Natural Resources Conservation Service Date  
 This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.  
 [Signature] 5/27/95  
 Howard S.C.D. Date

**Engineer's Certificate**  
 "I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."  
 [Signature] 3-15-95  
 C.K. Gutschick Date

**Sediment Trap No 2**  
 Rip-Rap Outlet Sediment Trap  
 Drainage Area = 5.0 AC. (Pre-Development) 4.5 AC. (Post-Development)  
 Storage Required = 5.0 (1800) = 9000 cu. ft.  
 Storage Depth = 3.5 feet  
 Cleanout Elevation = 363.7  
 Outlet Elevation = 362.0  
 Bottom Elevation = 362.0  
 Side Slopes = 2:1  
 Surface Area @ Elevation 365.8 (\*LOS) = 4353 sq. ft.  
 Surface Area @ Elevation 362.0 (bottom) = 2040 sq. ft.  
 Volume Provided =  $\frac{4353 - 2040}{2} \times 3.5 = 12,147$  cu. ft.  
 Outlet Length = 12  
 Embankment Elevation = 370.1  
 \*LOS = Limit of Storage



Note: Contractor shall control dust blowing and movement during construction. See sheet 12 of 12

Note: For public improvements see road construction plans for Graciously End Ct. & Water & Sewer construction Cont. # 24-2400-D

Approved: For Public Water & Public Sewerage Systems, Howard County Health Dept. County Health Officer Date
Approved: Howard County Dept. of Planning & Zoning Director Date 7/20/95
Approved: For Public Water & Public Sewerage System Drainage Systems and Public Roads, Howard County Dept. of Public Works Director Date 7/11/95

This Plan is For Sediment Control Purposes Only!

For off-site drainage area delineation - see composite plan

For legend see sheet 1 of 12 For composite grading and drainage area map see sheet 2 of 12

For grading plan see sheet 4 of 12

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20886  
 TELEPHONE (301)421-4024 NO VA (301)989-2524 BALTO (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APP'R.

Sediment Control Plan & Drainage Area Map  
**Gateway Commerce Center**  
 Parcel A-49  
 6th Election District  
 Howard County, Maryland

DES: rot.	SCALE: 1"=50'	ZONING: R-4-15	G.L.W. FILE NO.: 93-038
DRN: W.S.J.	DATE: March 1995	TAX MAP NO.: 42	SHEET: 8 of 12
CHK: hpt.			

SDP-95-88



**Developer/Builder Certificate**

"I/We certify that all development and/or construction will be done according to this plan and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland 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 HSCD."

Signature of Developer/Builder: *[Signature]* Date: 3-15-95

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements.

Patricia Engel/PAE 4/21/95  
Natural Resource Conservation Service

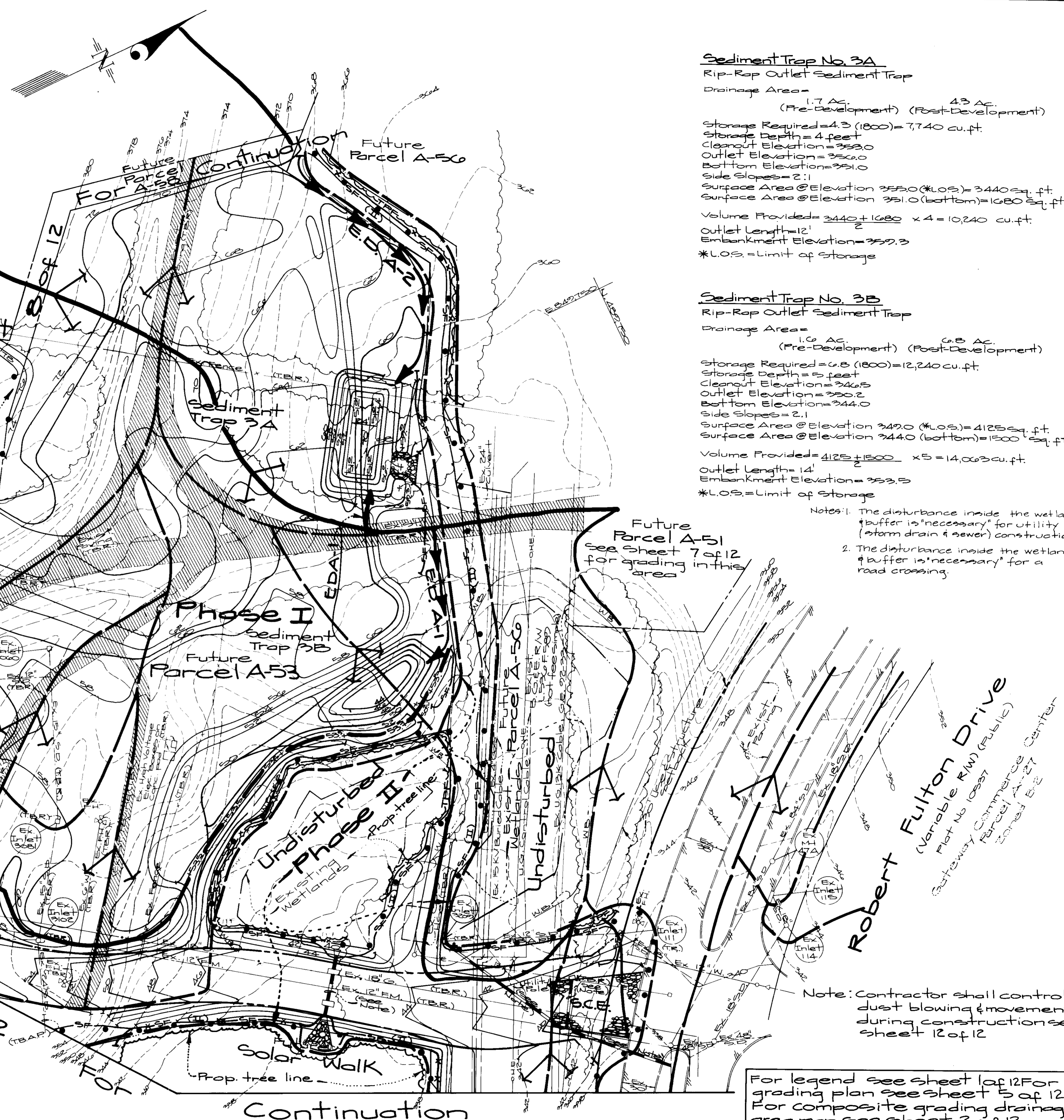
**Engineer's Certificate**

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

Signature: *[Signature]* Date: 3-15-95  
C.K. Gutschick

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

John R. Whitson 5/21/95  
Howard S.C.D.



**Sediment Trap No. 3A**  
Rip-Rap Outlet Sediment Trap  
Drainage Area = 1.7 AC. (Pre-Development) 4.3 AC. (Post-Development)  
Storage Required = 4.3 (1800) = 7,740 cu.ft.  
Storage Depth = 4 feet  
Cleanout Elevation = 353.0  
Outlet Elevation = 353.0  
Bottom Elevation = 351.0  
Side Slopes = 2:1  
Surface Area @ Elevation 353.0 (\*L.O.S.) = 3440 sq. ft.  
Surface Area @ Elevation 351.0 (bottom) = 1680 sq. ft.  
Volume Provided = 3440 ± 1680 × 4 = 10,240 cu. ft.  
Outlet Length = 12'  
Embankment Elevation = 353.3  
\*L.O.S. = Limit of Storage

**Sediment Trap No. 3B**  
Rip-Rap Outlet Sediment Trap  
Drainage Area = 1.6 AC. (Pre-Development) 6.8 AC. (Post-Development)  
Storage Required = 6.8 (1800) = 12,240 cu. ft.  
Storage Depth = 5 feet  
Cleanout Elevation = 346.5  
Outlet Elevation = 350.2  
Bottom Elevation = 344.0  
Side Slopes = 2:1  
Surface Area @ Elevation 349.0 (\*L.O.S.) = 4125 sq. ft.  
Surface Area @ Elevation 344.0 (bottom) = 1500 sq. ft.  
Volume Provided = 4125 ± 1500 × 5 = 14,063 cu. ft.  
Outlet Length = 14'  
Embankment Elevation = 353.5  
\*L.O.S. = Limit of Storage

Notes:  
1. The disturbance inside the wetlands buffer is "necessary" for utility (storm drain & sewer) construction.  
2. The disturbance inside the wetlands buffer is "necessary" for a road crossing.

Future Parcel A-51  
See sheet 7 of 12  
for grading in this area

For off-site drainage area delineation see composite plan see 5/21/95 Submittal Report Parcel A-49 Howard S.C.D.

**Storm Drain Note:**  
For public improvements see road construction plans for Solar Walk and Water & Sewer construction Cont. # 24-2400-B.

Note: Contractor shall control dust blowing & movement during construction see sheet 12 of 12

For legend see sheet 1 of 12 For grading plan see sheet 5 of 12 For composite grading drainage area map see sheet 2 of 12

This plan is for Sediment Control Purposes Only !!

Approved For Public Water & Public Sewerage Specializes, Howard County Health Dept. County Health Officer	Date
Approved Howard County Dept of Planning Zoning Director Date	7/29/95
Approved For Public Water & Public Sewerage Storm Drainage Systems & Public Roads Howard County Dept. of Public Works Director	7/12/95
Chief Bureau of Engineering M.K. Gutschick	7/11/95

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 BURTONVILLE OFFICE PARK BURTONVILLE, MD 20866  
TELEPHONE (301)421-4024 NO VA (301)989-2524 BALTO (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APPR.

Sediment Control Plan & Drainage Area Map  
**Gateway Commerce Center**  
Parcel A-49  
4th Election District  
Howard County, Maryland

DES: not	SCALE: 1" = 50'	ZONING: R-A-15	GLW FILE No: 93-03B
DRN: W.S.J.	DATE: April 1995	TAX MAP No: 42	SHEET: 9 of 12
CHK: not			

SRP-95-88 S

**Developer/Builder Certificate**  
 I/We certify that all development and/or construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. It also certifies on-site inspection by the HESD.

*Whitfield* 3-15-95  
 Signature of Developer/Builder Date

**Engineer's Certificate**  
 I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

*C.K. Gutschick* 3-15-95  
 Signature Date  
 C.K. Gutschick

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements.

*Patricia Engle* 6/27/95  
 Signature Date  
 Patricia Engle, P.E.  
 U.S. Natural Resources Conservation Service

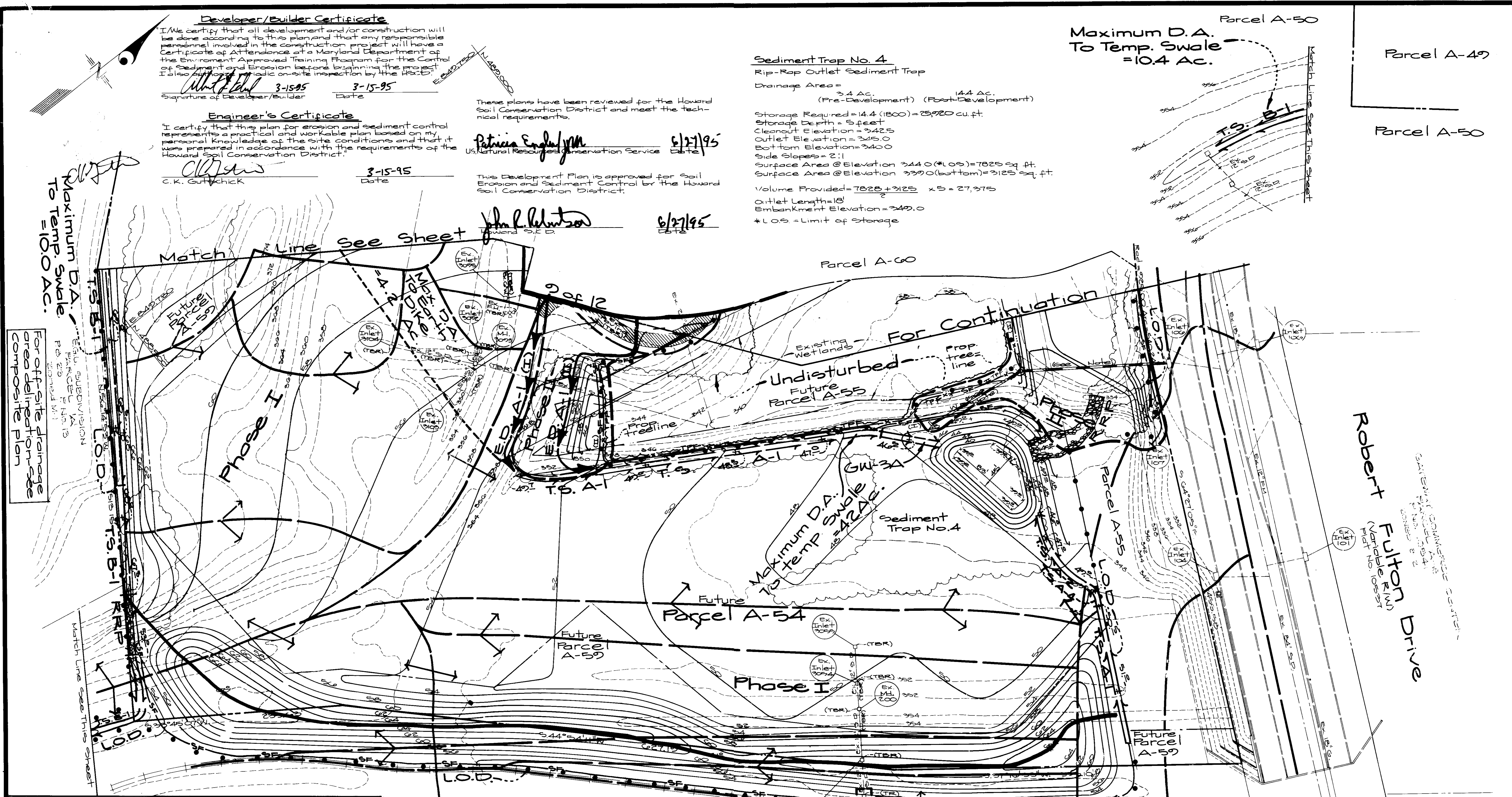
This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

*John P. Helton* 6/27/95  
 Signature Date  
 John P. Helton, P.E.  
 Howard S.C.D.

**Sediment Trap No. 4**  
 Rip-Rap Outlet Sediment Trap  
 Drainage Area = 3.4 Ac. (Pre-Development) 14.4 Ac. (Post-Development)  
 Storage Required = 14.4 (1800) = 25920 cu. ft.  
 Storage Depth = 5 feet  
 Cleanout Elevation = 342.5  
 Outlet Elevation = 345.0  
 Bottom Elevation = 340.0  
 Side Slopes = 2:1  
 Surface Area @ Elevation 344.0 (L.O.S.) = 7825 sq. ft.  
 Surface Area @ Elevation 339.0 (bottom) = 3125 sq. ft.  
 Volume Provided = 7825 + 3125 x 5 = 27,375  
 Outlet Length = 18'  
 Embankment Elevation = 349.0  
 \* L.O.S. = Limit of Storage

Parcel A-50  
 Maximum D.A. To Temp. Swale = 10.4 Ac.

Maximum D.A. To Temp. Swale = 10.0 AC.  
 For off-site drainage area delineation see Composite Plan



Approved: For Public Water & Public Sewerage Systems, Howard County Health Dept.  
 County Health Officer Date

Approved: Howard County Dept. of Planning & Zoning  
*Quinn Shumway* 7/1/95  
 Chief Division of Community Planning and Land Development Date

Approved: For Public Water & Public Sewerage, Storm Drainage Systems & Public Roads, Howard County Dept. of Public Works  
*John P. Helton* 7/1/95  
 Director Date  
*Bill Eppon* 7/1/95  
 Chief, Bureau of Engineering, M.K. Date

**Storm Drain Note:**  
 For public improvements see road construction plans for Solar Walk and water & sewer construction Cont. # 21-3400-02

**This Plan is For Sediment Control Purposes Only!**

Note: Contractor shall control dust blowing and movement during construction see sheet 12 of 12

Note: The disturbance inside the wetlands & buffer at Robert Fulton Drive, is "necessary" for utility (storm drain) installation.

For legend see sheet 1 of 12  
 For grading plan see sheet 6 of 12  
 For composite grading drainage area map see sheet 2 of 12

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20866  
 TELEPHONE (301)421-4024 NO VA (301)989-2524 BALTO (301)880-1820 FAX (301)421-4186

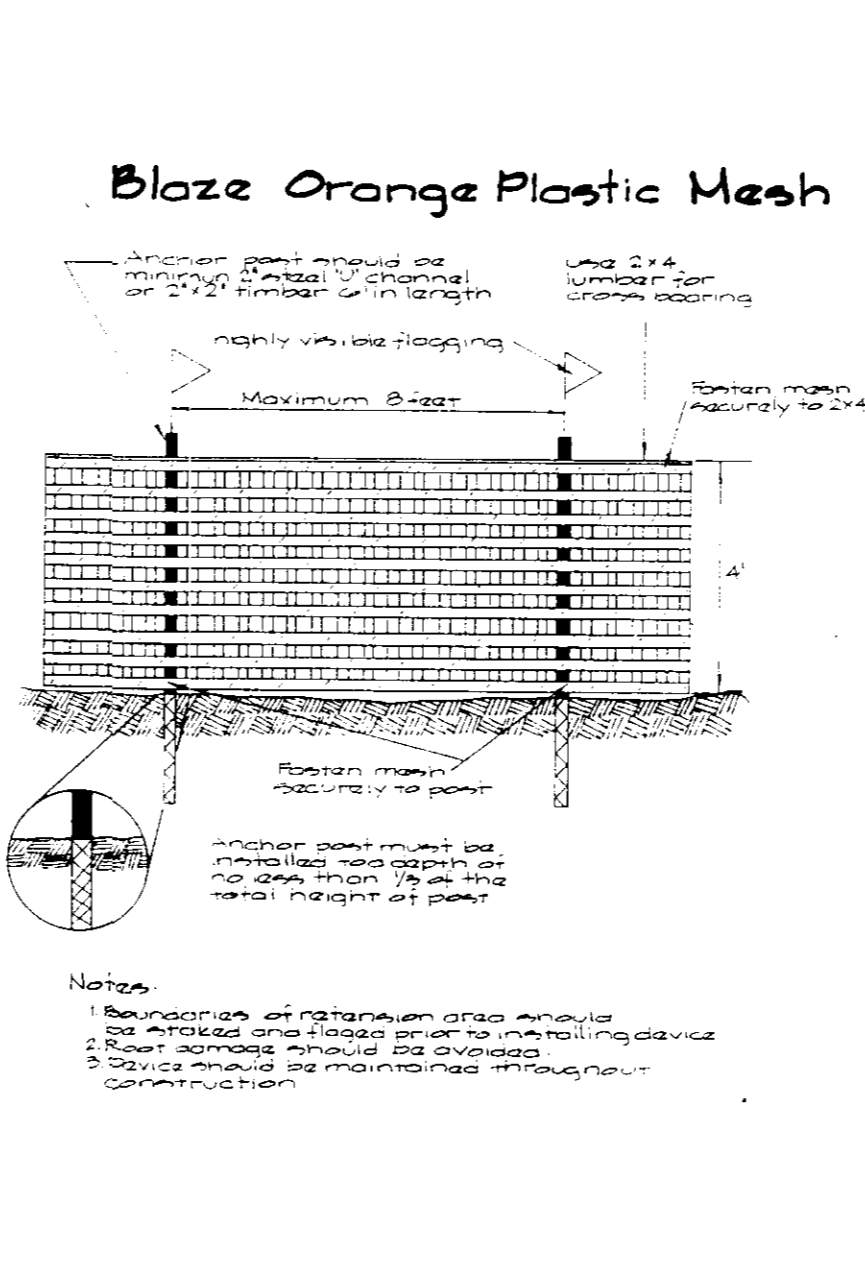
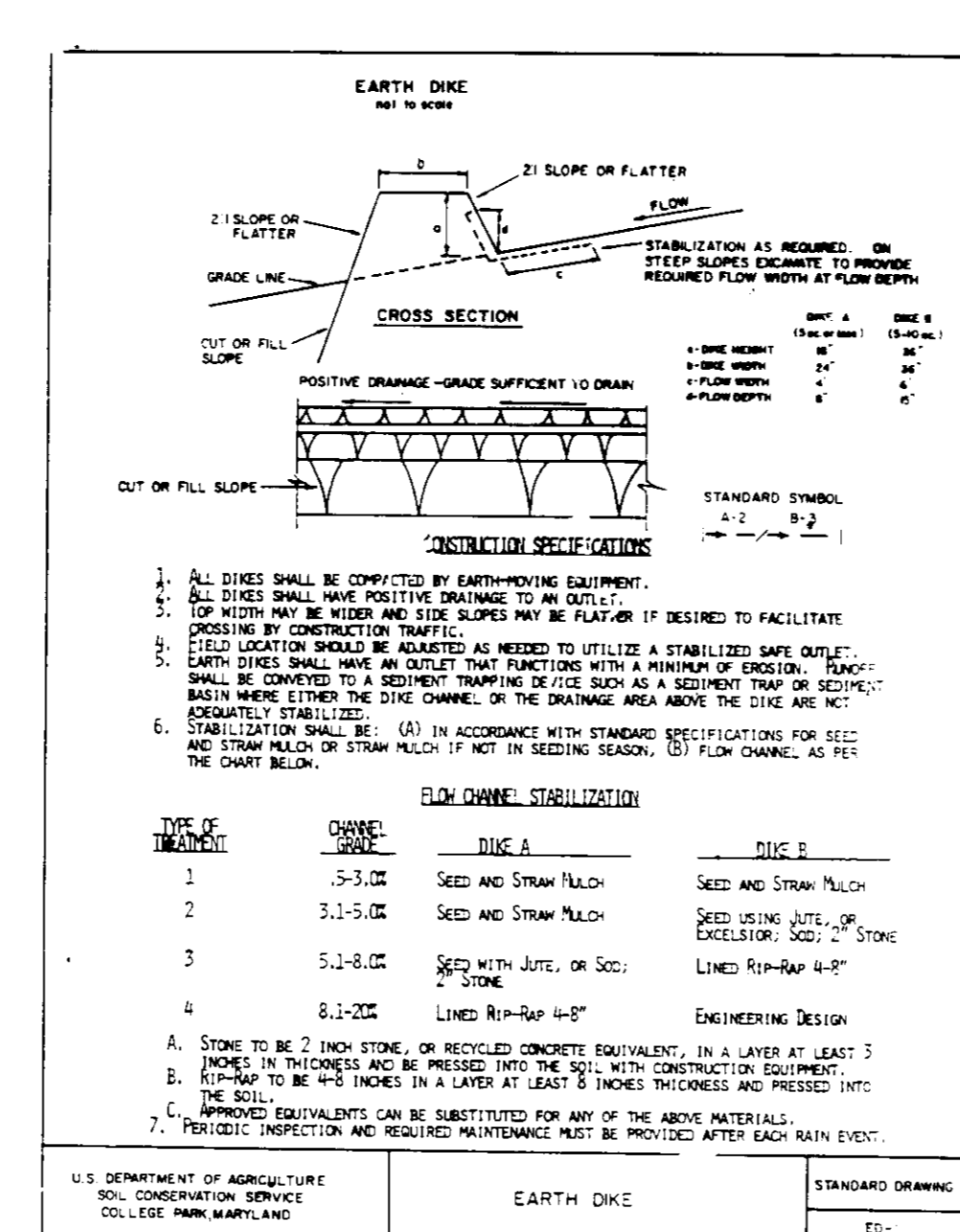
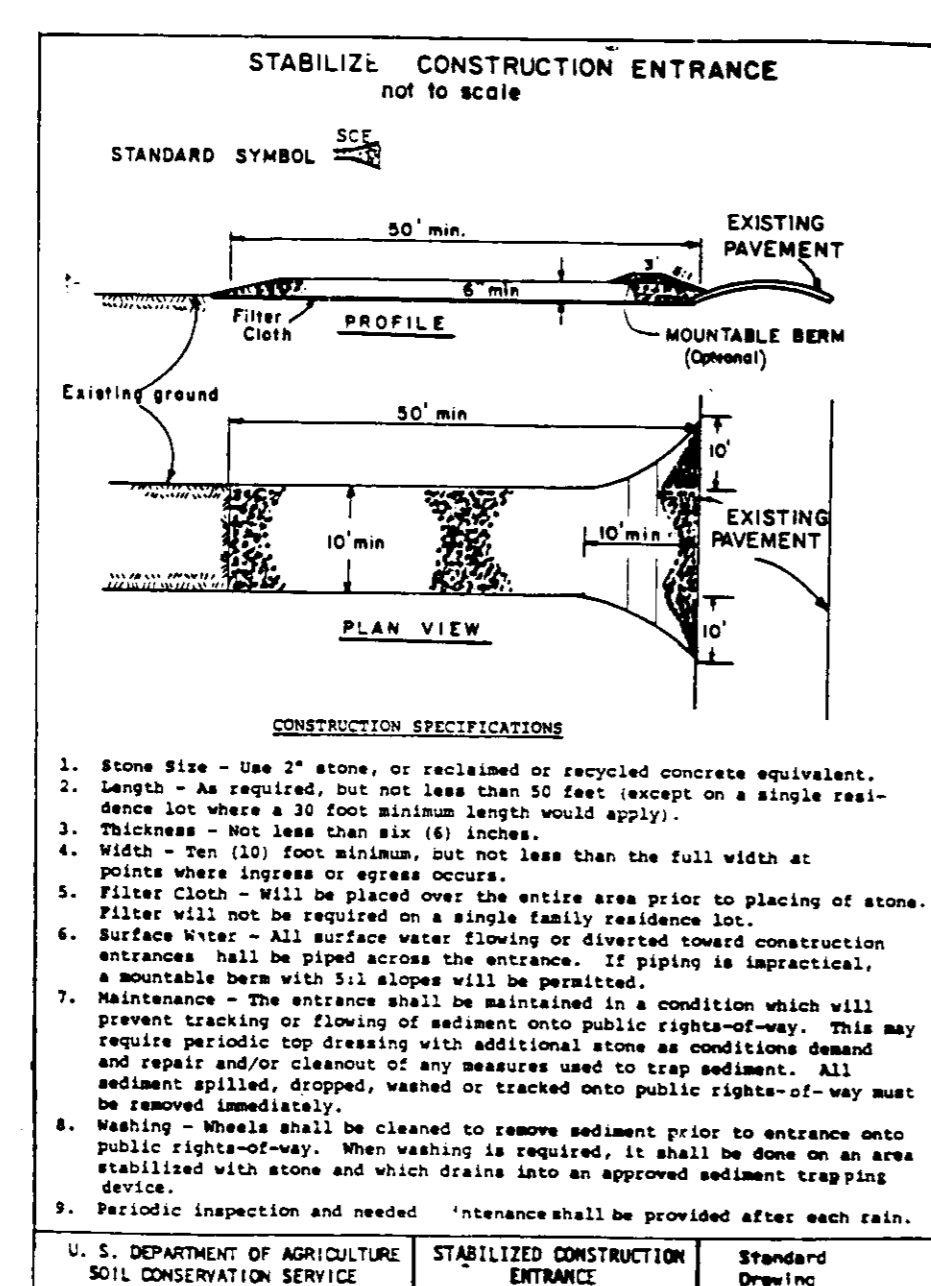
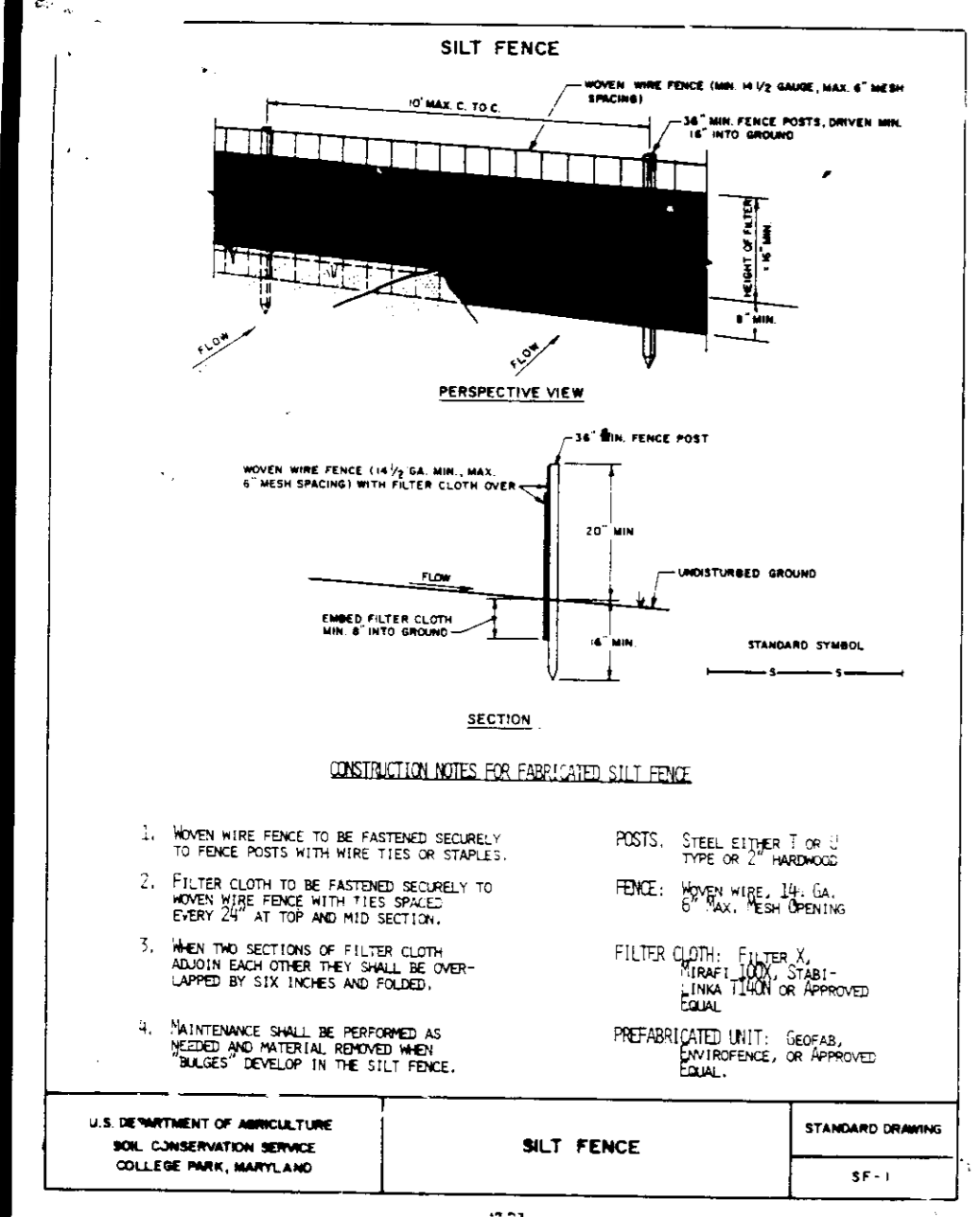
DATE	REVISION	BY	APPR.

Owner/Developer  
 GEAPE II Inc. c/o  
 The Howard Research & Development Corporation  
 10275 Little Patuxent Pkwy.  
 Columbia, Maryland 21044  
 Attn: 21 Edwards  
 (410)992-6000

Sediment Control Plan & Drainage Area Map  
**Gateway Commerce Center**  
 Parcel A-49  
 4th Election District  
 Howard County, Maryland

DES.	SCALE	ZONING	G.L.W. FILE NO.
W.S.J. <td>1"=50'</td> <td>R-A-15</td> <td>93-02.6</td>	1"=50'	R-A-15	93-02.6
DRN.	DATE	TAX MAP NO.	SHEET
CHK.	March 1995	42	10 of 12

SDF-9588



**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. (410) 313-1000
- 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 and 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), sod (Sec. 54), temporary seedings (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	54.1 Acres
Area Disturbed	42.1 Acres
Area to be roofed or paved	— Acres
Area to be vegetatively stabilized	42.1 Acres
Total Cut	129,000 Cu. Yds.
Total Fill	129,000 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.
- 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.

**PERMANENT SEEDING NOTES**

Apply to graded or cleared area 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 (unless previously loosened).

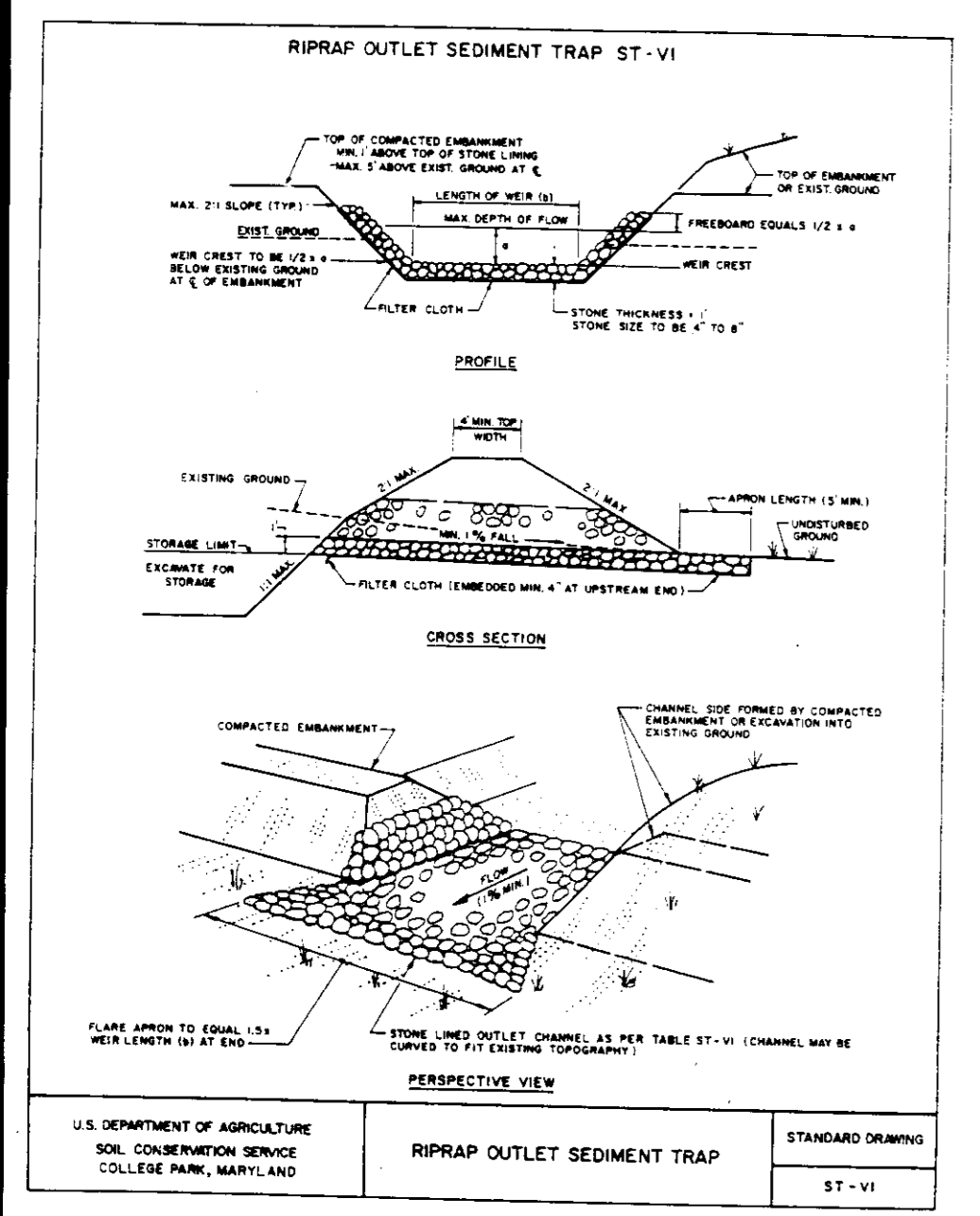
Soil Amendments: In lieu of soil test recommendations, use one of the following schedules

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square feet) 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.

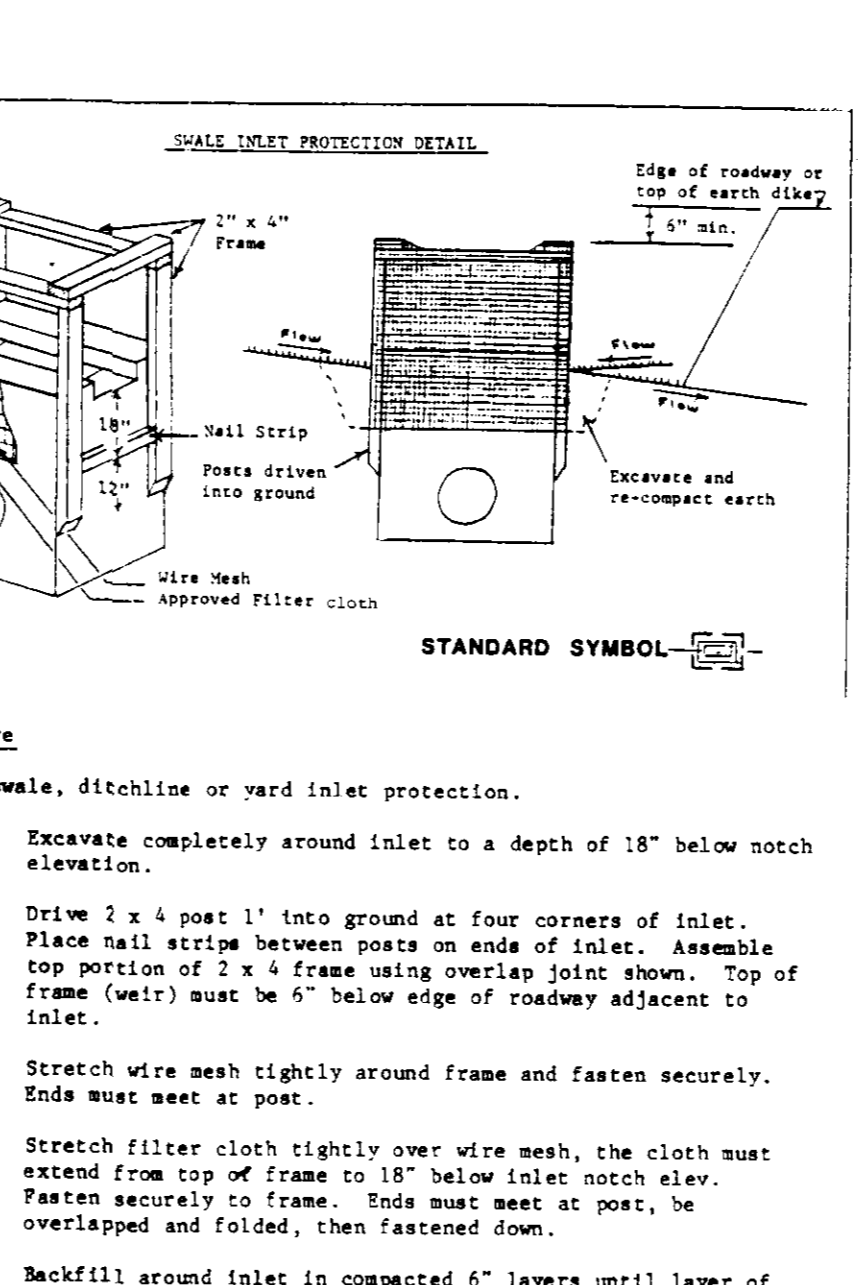
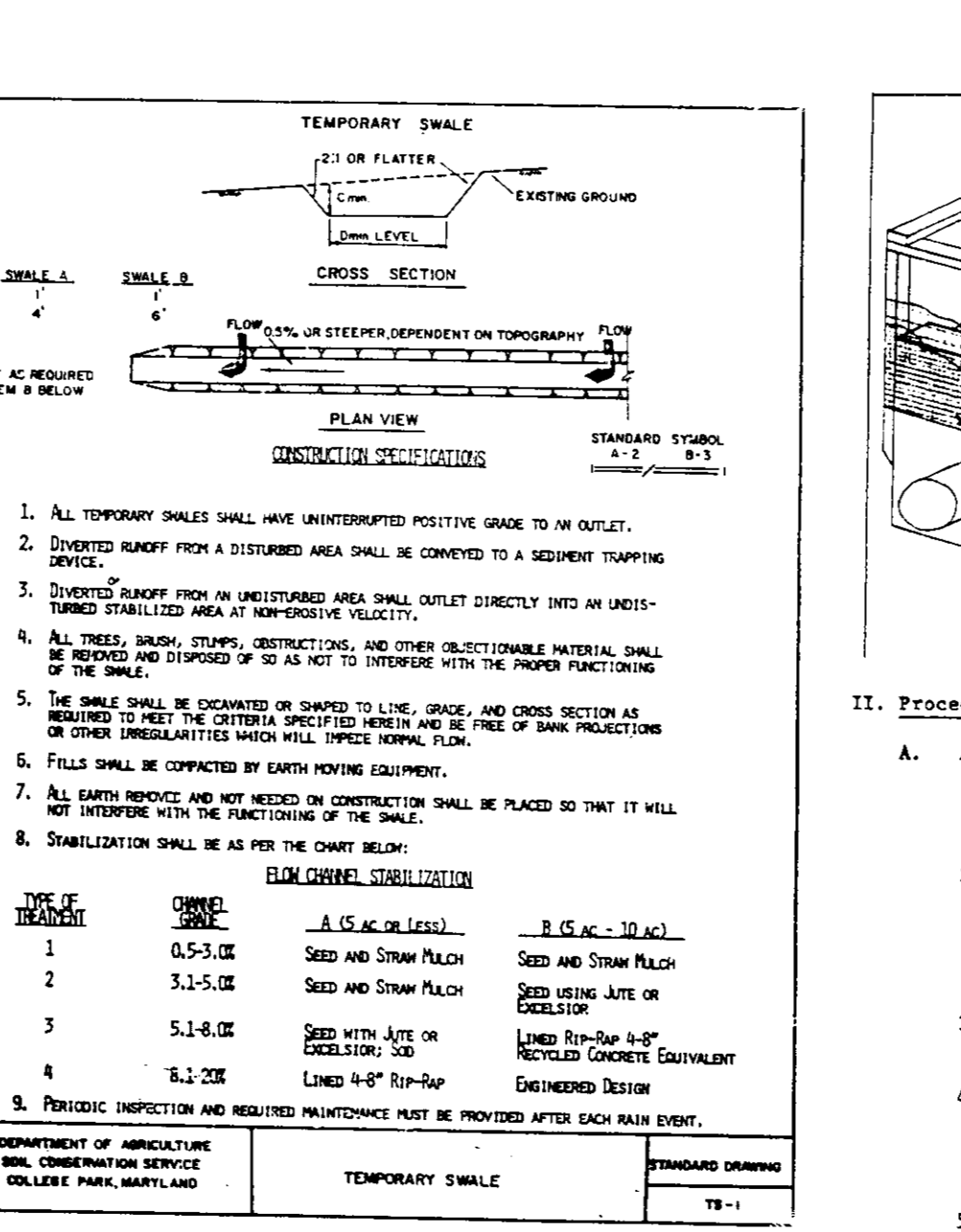
Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of rotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq ft) for anchoring.

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.



**CONSTRUCTION SPECIFICATIONS FOR ST-VI**

- The 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 or 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. Maximum height of embankment shall be five (5) feet, measured at centerline of embankment.
- All fill slopes shall be 2:1 or flatter; cut slopes 1:1 or flatter.
- Elevation of the top of any dike directing water into trap must equal or exceed the height of embankment.
- Storage area provided shall be figured by computing the volume available behind the outlet channel up to an elevation of one (1) foot below the level crest.
- Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Sections of fabric must overlap at least one (1) foot with section nearest the entrance placed on top. Fabric shall be embedded at least six (6) inches into existing ground at entrance of outlet channel.
- Stone used in the outlet channel shall be four (4) to eight (8) inches (rip-rap). To provide a filtering effect, a layer of filter cloth shall be embedded one (1) foot back into the upstream face of the outlet stone or a one (1) foot thick layer of two (2) inch or finer aggregate shall be placed on the upstream face of the outlet.
- 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. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The structure shall be inspected after each rain and repaired as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
- The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
- Drainage area for this practice is limited to 15 acres or less.



**II. Procedure**

- A swale, ditchline or yard inlet protection.
  - Excavate completely around inlet to a depth of 18" below notch elevation.
  - Drive 1 x 4 post 1' into ground at four corners of inlet. Place nail strips between posts on inside of inlet. Assemble top portion of 2 x 4 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 fasten 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 ditchline below it. The top of this dike is to be at least 6" higher than the top of frame (weir).
  - This structure must be inspected frequently and the filter fabric replaced when clogged.

**TEMPORARY SEEDING NOTES**

Apply to graded or cleared areas likely to be redistributed 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 (unless 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 rotted 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 feet or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

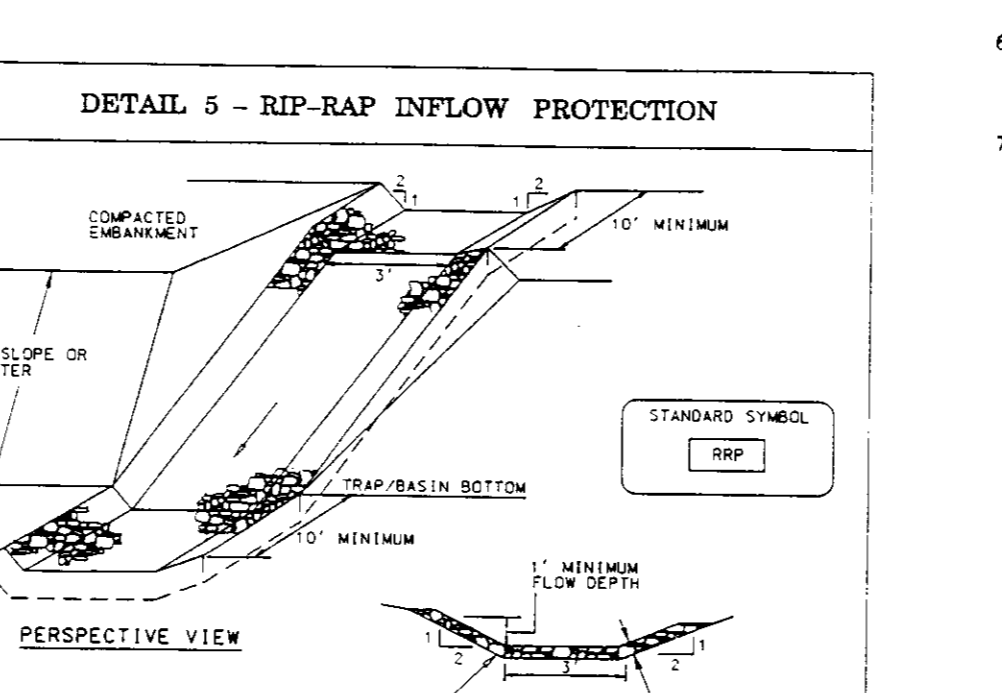
Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.



**DETAIL 5 - RIP-RAP INFLOW PROTECTION**

Construction Specifications

- Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter, side slopes and 3' (min.) bottom width. The channel shall be lined with 4" to 12" rip-rap to a depth of 18".
- Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.
- Entrance and exit sections shall be installed as shown on the detail section.
- Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
- Cation Inflow Protection may be used in lieu of Rip-rap Inflow Protection.
- Rip-rap should blend into existing ground.
- Rip-rap inflow protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.



**DEVELOPER'S CERTIFICATE**

I, the undersigned, certify that all development and/or construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland 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 HCSO.

Signature of Developer/Builder: *Albert Stahl*  
Date: 3/15/95

**ENGINEER'S CERTIFICATE**

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

Signature of Engineer: *CK Jones*  
Date: 3-15-95

**APPROVALS**

Approved For Public Water & Public Sewerage Systems, Howard County Health Dept.  
County Health Officer: *[Signature]* Date: *[Date]*

Approved Howard County Dept. of Planning & Zoning  
Date: 3/24/95

Approved: For Public Water & Public Sewerage, Howard County Dept. of Public Works  
Date: 3/12/95

Chief Bureau of Engineering, M.K. [Signature] Date: 3/11/95

**APPROVALS**

Approved For Public Water & Public Sewerage Systems, Howard County Health Dept.  
County Health Officer: *[Signature]* Date: *[Date]*

Approved Howard County Dept. of Planning & Zoning  
Date: 3/24/95

Approved: For Public Water & Public Sewerage, Howard County Dept. of Public Works  
Date: 3/12/95

Chief Bureau of Engineering, M.K. [Signature] Date: 3/11/95

**DEVELOPER'S CERTIFICATE**

I, the undersigned, certify that all development and/or construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland 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 HCSO.

Signature of Developer/Builder: *Albert Stahl*  
Date: 3/15/95

**ENGINEER'S CERTIFICATE**

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

Signature of Engineer: *CK Jones*  
Date: 3-15-95

**APPROVALS**

Approved For Public Water & Public Sewerage Systems, Howard County Health Dept.  
County Health Officer: *[Signature]* Date: *[Date]*

Approved Howard County Dept. of Planning & Zoning  
Date: 3/24/95

Approved: For Public Water & Public Sewerage, Howard County Dept. of Public Works  
Date: 3/12/95

Chief Bureau of Engineering, M.K. [Signature] Date: 3/11/95

**APPROVALS**

Approved For Public Water & Public Sewerage Systems, Howard County Health Dept.  
County Health Officer: *[Signature]* Date: *[Date]*

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**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MARYLAND 20866  
TEL: (301) 421-4024 NO. VA. (301) 989-2524 BALT. (410) 880-1820 FAX: (301) 421-4186 DESP/CH/DRN - CHK/CDT

Owner/Developer: **GEAPE II Inc. c/o The Howard Research & Development Corporation**  
10275 Little Patuxent Pkwy., Columbia, Maryland 21044  
Attn: Al Edwards (410) 992-6000

**sediment control Detail Sheet**  
**Gateway Commerce Center**  
Parcel A-49  
6th Election District  
Howard County, Maryland

SCALE	ZONING	G. L. W. FILE No.
1" = 50'	R-A-15	92-038
DATE	TAX MAP No.	SHEET
March 1995	42	11 of 12

NO.	DATE	REVISION	BY	APPR.

SPP-95-88

STANDARD AND SPECIFICATIONS FOR DUST CONTROL

Definition

Controlling dust blowing and movement on construction sites and roads.

Purpose

To prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.

Conditions Where Practice Applies

This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

SPECIFICATIONS

Temporary Methods:

- A. **Mulches** - See standards for critical area stabilization with mulches only. Chemical or wood cellulose fiber binders may be used instead of asphalt to bind mulch material.
- B. **Vegetative Cover** - See standards for temporary vegetative cover.
- C. **Spray-on Adhesives** - On mineral soils (not effective on muck soils). Keep traffic off these areas.

Water Dilution	Type of Nozzle	Apply Gallons/Ac.
Anionic asphalt emulsion 7:1	Coarse Spray	1,200
Latex emulsion 12 1/2:1	Fine Spray	235
Resin-in-water emulsion 4:1	Fine Spray	300

- D. **Tillage** - To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12' apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect.
- E. **Irrigation** - This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed.
- F. **Barriers** - Solid board fences, snow fences, burlap fences, crate walls, bales of hay and similar material can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 10 times their height are effective in controlling soil blowing.
- G. **Calcium Chloride** - Apply at rate that will keep surface moist. May need retreatment.

Permanent Methods:

- A. **Permanent Vegetation** - See standards for permanent vegetative cover, and permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place.
- B. **Topsoiling** - Covering with less erosive soil materials. See standards for topsoiling.
- C. **Stone** - Cover surface with crushed stone or coarse gravel.

References:

- 1. Agriculture Handbook 346. Wind Erosion Forces in the United States and Their use in Predicting Soil Loss.
- 2. Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA-ARS.

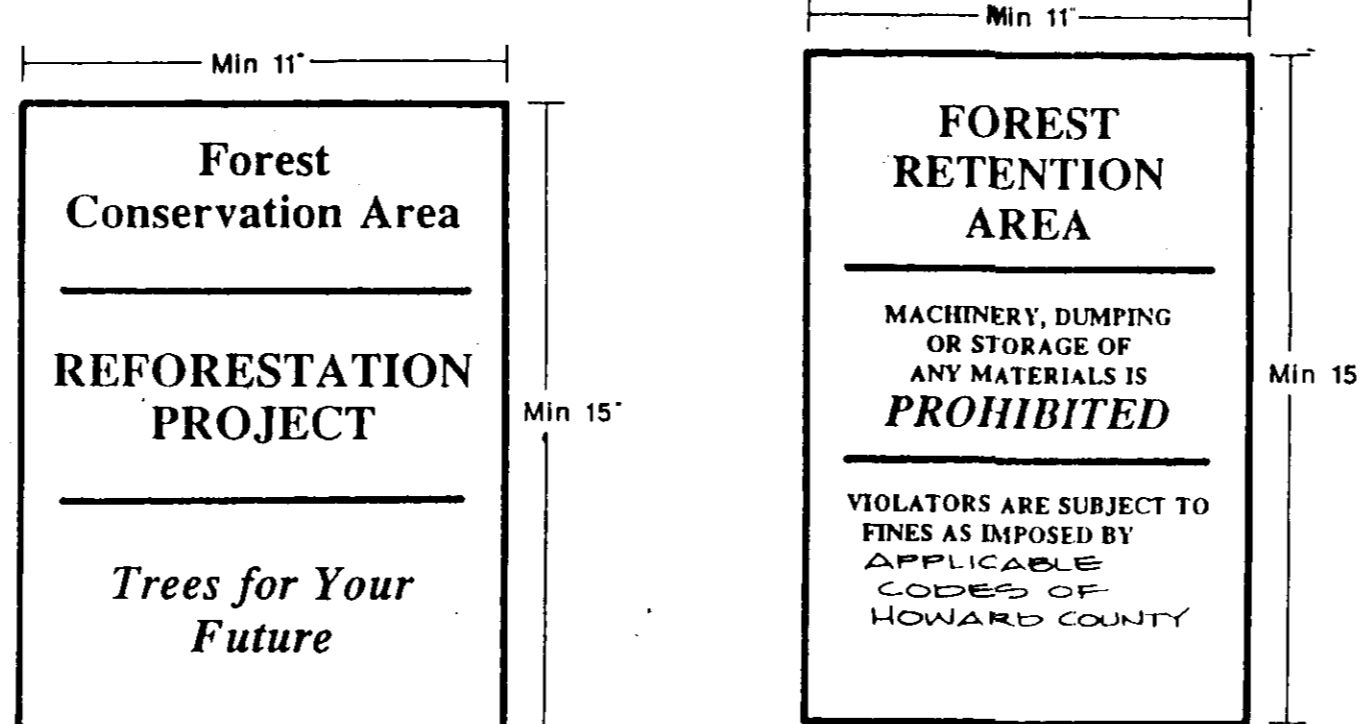
These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements.

*Patricia Engle*  
Natural Resources Conservation Service  
6/27/95

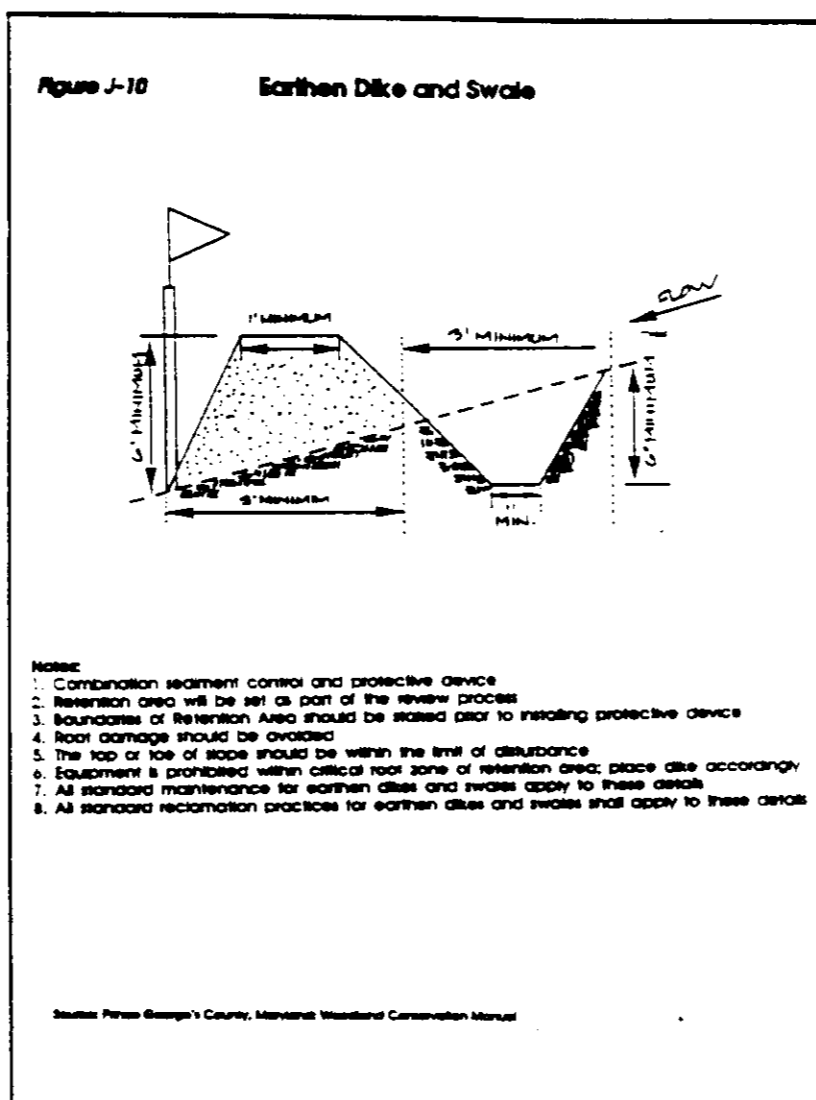
This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

*John P. Blanton*  
Howard S.C.D.  
4/27/95

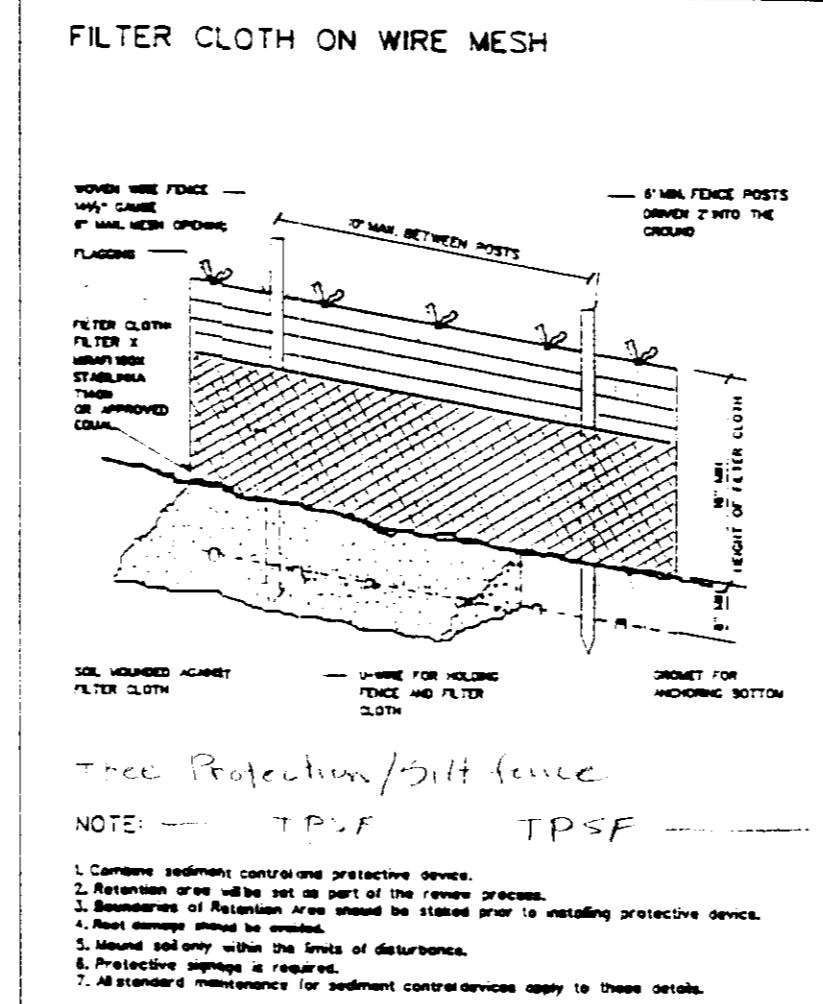
Reforestation and Afforestation Area Protection Signage



NOTES: 1. SIGN TO BE PLACED EVERY 50' ALONG EDGE OF REFORESTATION & TREE PROTECTION AREA.  
2. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.  
3. AVOID INJURY TO ROOTS WHEN PLACING POSTS FOR THE SIGNS.



TREE PROTECTION AND SEDIMENT CONTROL (3)



**Developer/Builder Certificate**  
"I certify that all development and/or construction will be done according to this plan and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also certify that periodic on-site inspection by the HSCD."  
*Albert R. Blanton*  
Signature of Developer/Builder Date 3-15-95

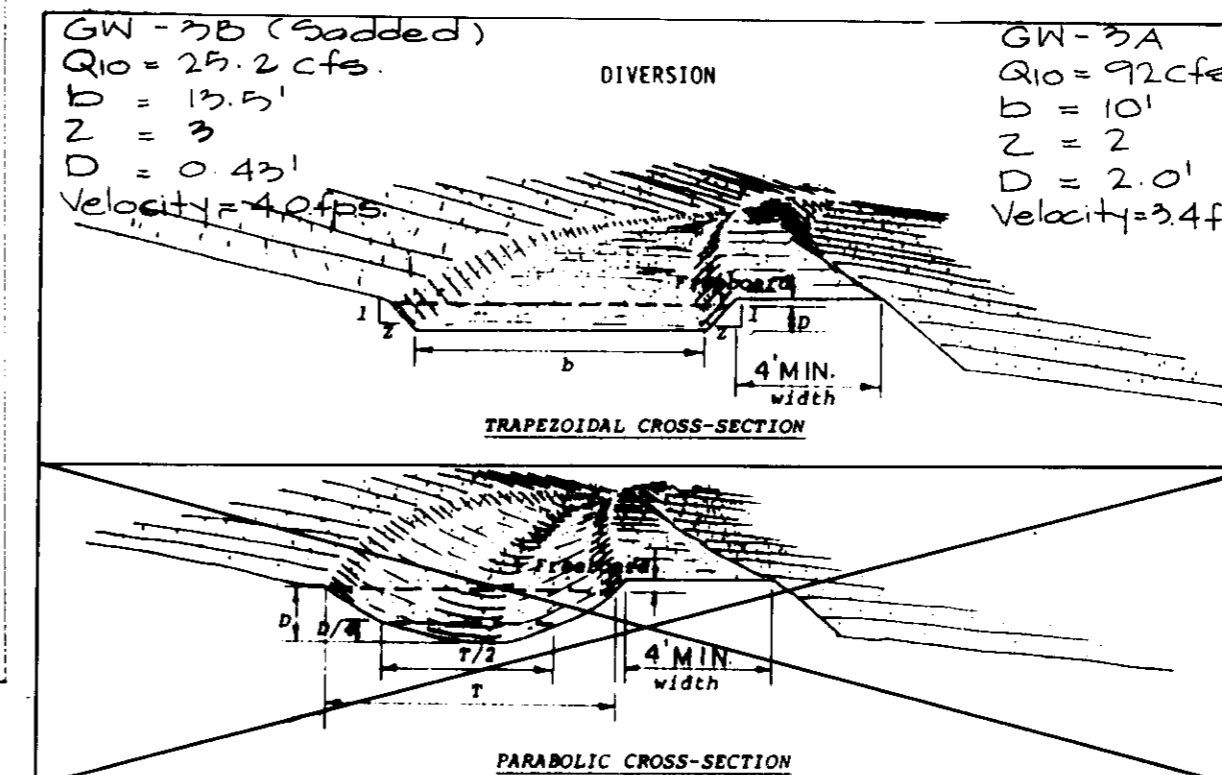
**Engineer's Certificate**  
"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."  
*C.K. Gutschick*  
Signature of Engineer Date 3-15-95



SEQUENCE OF CONSTRUCTION FOR CULVERT INSTALLATION

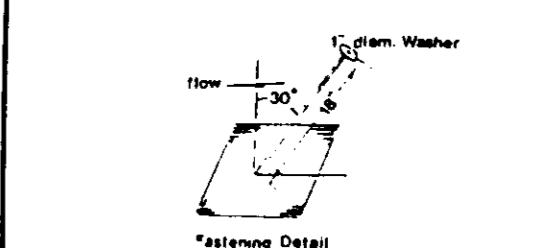
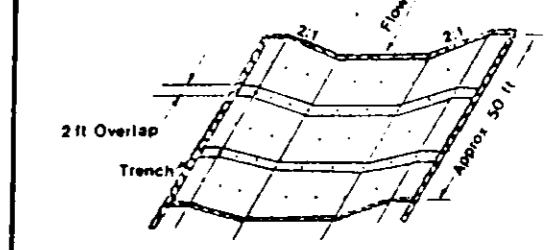
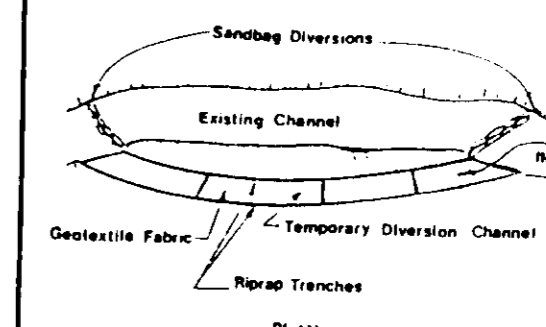
- DESCRIPTION: The following is a typical sequence of construction for a culvert installation and details the minimum requirements to be incorporated into the project. This sequence of construction should be reviewed and modified as necessary to meet your particular project.
- SEQUENCE OF CONSTRUCTION:
  - Install sediment control devices as necessary. (See Maryland Standards and Specifications for Sediment Control.)
  - Construct a diversion pipe in conjunction with WPD 2.4
  - Build dewatering basins as needed. (WPD 1.1)
  - Construct a temporary sandbag diversion upstream to divert water into the pipe or other diversion.
  - Place a sandbag dike downstream to prevent the stream from backwashing into construction area.
  - Backfill to subgrade and construct the new roadway.
  - Stabilize the disturbed slopes and stream bed with methods accepted by the Administration. (WPD 1.1 to 5.3)
  - Dewater the area, then remove the temporary stream diversion from downstream to upstream.
  - Seed and mulch any remaining disturbances.
  - Restore the dewatering basin to the original grade.
  - Clean up the construction site.
  - Seed and mulch all disturbed areas.
  - Remove any silt fences installed before construction.

WATER RESOURCES ADMINISTRATION Typical Culvert Installation Approved On 1/24/95 Chief Waterway Permits WPD 6.1

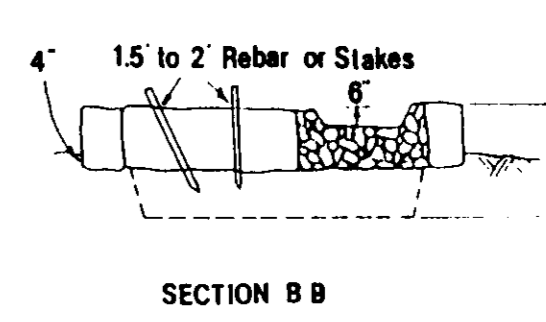
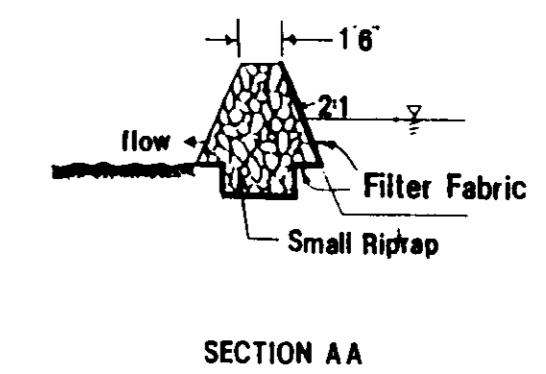
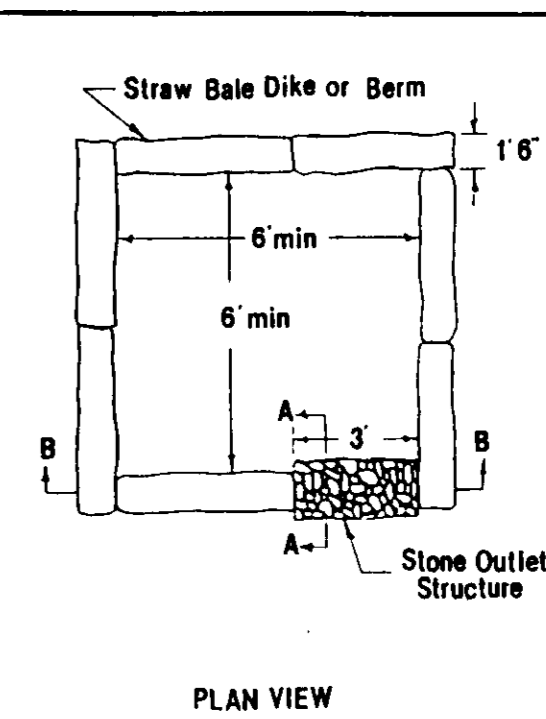


- Construction Specifications**
- All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the diversion.
  - The diversion shall be excavated or shaped to line, grade, and cross section as required to meet the criteria specified herein, and be free of irregularities which will impede normal flow.
  - Fills shall be compacted as needed to prevent unequal settlement that would cause damage in the completed diversion.
  - All earth removed and not needed in construction shall be spread or disposed of so that it will not interfere with the functioning of the diversion.
  - Stabilization shall be done according to the appropriate Standard and Specifications for Vegetative Practices.
    - For design velocities of less than 3.5 ft. per sec., seeding and mulching may be used for the establishment of the vegetation. It is recommended that, when conditions permit, temporary diversions or other means be used to prevent water from entering the diversion during the establishment of the vegetation.
    - For design velocities of more than 3.5 ft. per sec., the diversion shall be stabilized with sod.
- See the Standard and Specifications for Protective Materials.

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE DIVISION College Park, Md. Standard Symbol DIVERSION GW-3



WATER RESOURCES ADMINISTRATION Fabric-Based Channel Diversion Approved On 1/24/95 Chief Waterway Permits WPD 2.4



WATER RESOURCES ADMINISTRATION Dewatering Basins Approved On 1/24/95 Chief Waterway Permits WPD 1.1

- DESCRIPTION: The work shall consist of the construction of a dewatering basin for the purpose of receiving sediment-laden water pumped from a construction site to allow filtration before the water re-enters the waterway.
- MATERIAL SPECIFICATIONS:
  - Riprap: Riprap shall consist of 4-8 inch washed stone or gravel.
  - Filter Fabric: The filter cloth shall be a woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be inert to commonly encountered chemicals, hydrocarbons, acids, and rot resistant. No. 6 stone (AASHTO #57) may be used on the inner-face for filtering instead of fabric.
  - Strawbales: Strawbales shall meet the criteria as specified in the Maryland Standards and Specifications for Soil Erosion and Sediment Control.
- CONSTRUCTION REQUIREMENTS:
  - The contractor shall install all sediment and erosion control devices as the first order of business.
  - Excavated materials shall be stored such that sediments are prevented from entering the waterway. i.e., sediment particle controls may be necessary.
  - Excavated subsoil and topsoil shall be kept separate and replaced in their natural order.
  - Any dewatering of the construction area shall be filtered through a dewatering basin prior to entering the waterway.
  - The dewatering basin shall be excavated to a minimum depth of 3 feet.
  - Once the dewatering basin becomes filled to 1/2 of the excavated depth, accumulated sediment shall be removed and disposed of in a SCD approved disposal area outside the 100-year floodplain unless otherwise approved on the plans by the MDA.
  - Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal. All ground contours shall be returned to their original condition unless specifically approved otherwise by the Administration.

**GLW GUTSCHICK LITTLE & WEBER, PA.**  
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20886  
TELEPHONE (301)421-4024 NO VA (301)989-2524 BALTO (301)860-1820 FAX (301)421-4186

DATE	REVISION	BY	APP'R.

Sediment Control Details  
**Gateway Commerce Center**  
Parcel A-49  
with Election District  
Howard County, Maryland

DES.:	SCALE	ZONING	G.L.W. FILE NO.
DRN.:	1"=50'	R-A-15	93-038
W.S.J.:	DATE	TAX MAP NO.	SHEET
CHK.:	April 1995	42	12 of 12

SDP-95-88