

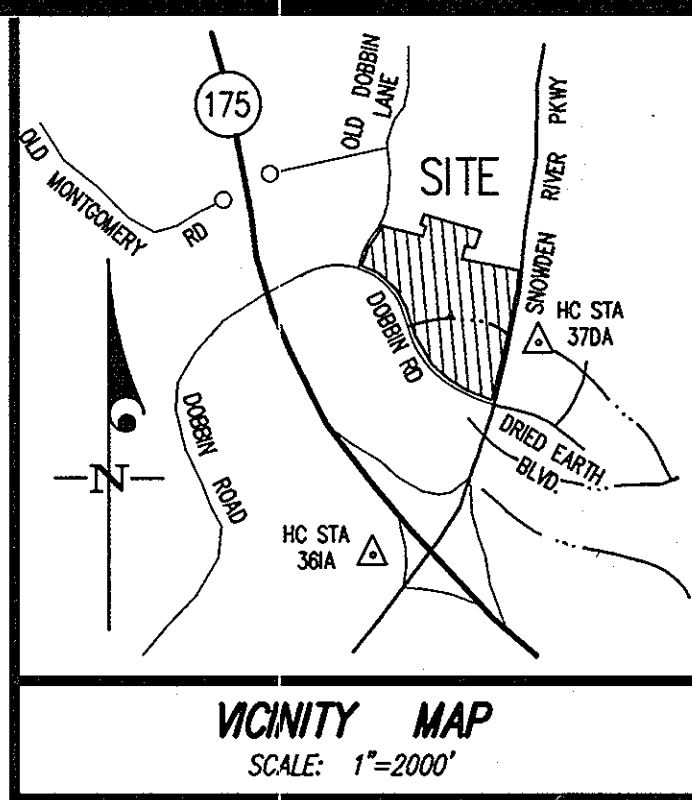
**General Notes**

- All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications if applicable.
- The contractor shall notify the Department of Public Works, Bureau of Engineering, Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- The contractor shall notify the Howard County Department of Public Works, Bureau of Utilities at (410) 313-4900 at least five (5) working days prior to starting any excavation work.
- Site area: Parcel B = 10.2514 acres  
Parcel C = 18.6192 acres  
Parcel D = 6.2801 acres  
Open Space Lot 4 = 8.9829 acres  
Open Space Lot 5 = 0.4373 acres
- All plan dimensions are to face of curb unless otherwise noted.
- Existing topography is shown per field run survey information by Gutschick, Little Weber, P.A. & by air-flow topography.
- Coordinates and bearings are based upon the MD State plane system (NAD 83).
- Water and sewer shown is public.
- Stormwater management for this site is proposed by this plan. Modifications are proposed for existing Facility No. 2 (Plat No. 12126/F36-41)
- All existing water and sewer is per Contracts 20-3474-D, 24-3463-D and 24-3413-D.
- All existing public storm drain is per F 90-59 & F 90-41
- Use trench bedding class "C" for storm drains.
- Project background: See Dept. of Planning & Zoning File Numbers: S 99-05, FDP 235, PB 337, WP 99-117, WP 00-24, WP 00-41, F-00-149.
- Recording reference: Plat Nos. 12077 & 12078
- Existing utilities are based on approved design plans for construction and field location by Gutschick, Little & Weber, P.A.
- There is no floodplain on Parcel B-D.
- There are no wetlands on Parcel B-D.
- Building setbacks and building restrictions are per FDP 235.
- Forest Stand Delineation is not required per section 16.1200 of the Subdivision Regulations.
- Note: In cases of discrepancies between the plat & the plans, the plat shall govern.

# ROUTE 175 COMMERCIAL

## SECTION 1 AREA 2

### PARCELS B-D, AND LOTS 4 & 5



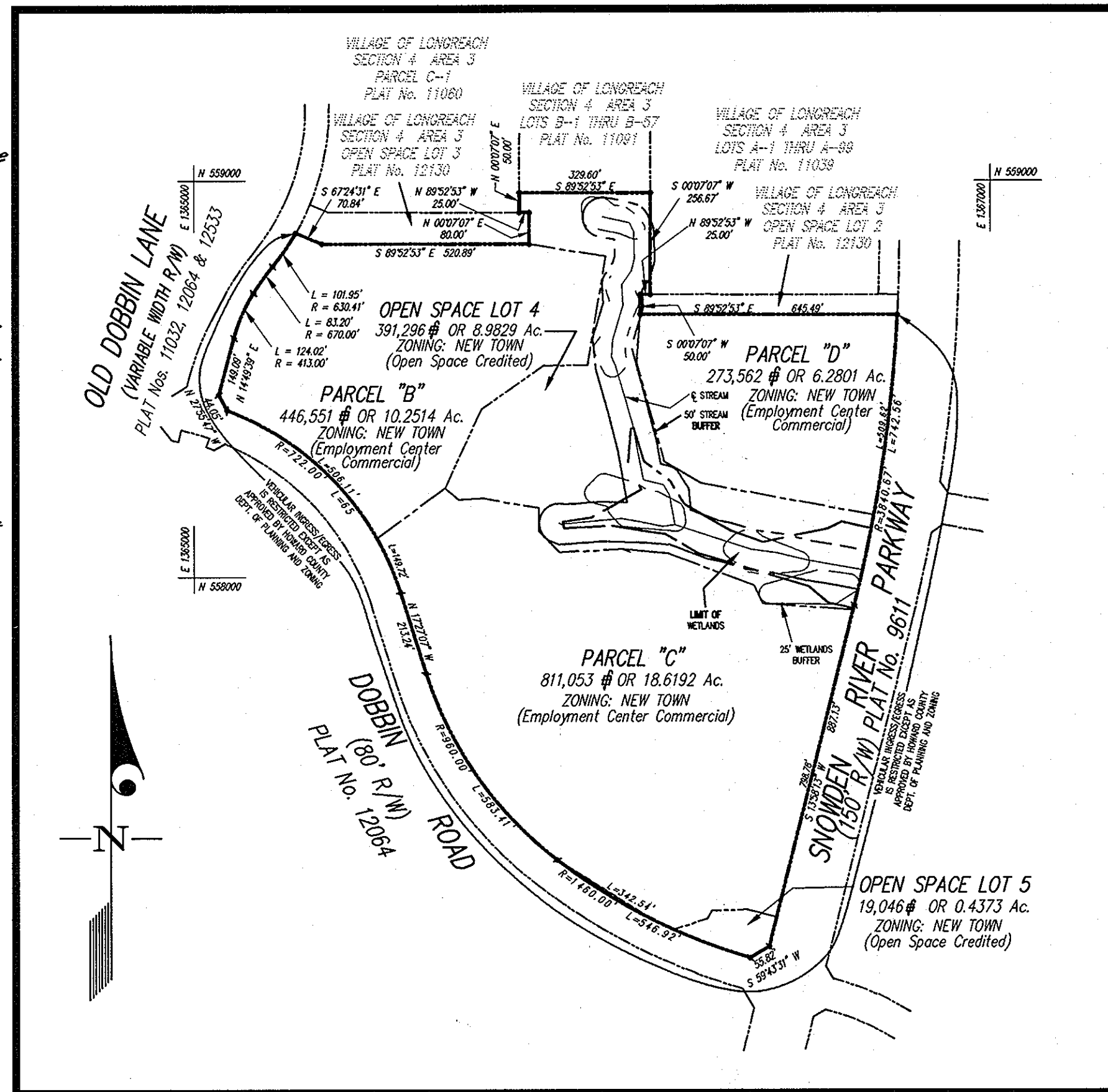
**Sheet Index**

- Cover Sheet
- Grading Plan Parcel B
- Grading Plan Parcel C and Open Space Lot 5
- Grading Plan Parcel D & SWM Plan.
- Composite Grading and Sediment Control Plan
- Sediment Control Plan Parcel-B
- Sediment Control Plan Parcel C and Open Space Lot 5
- Sediment Control Plan Parcel D
- Sediment Control Details
- Sediment Control Details
- Stormwater Management Details Pond 2
- Stormwater Management Details Pond 2
- Stormwater Management Details Pond 7
- Stormwater Management Details Pond 8
- Planting / Soils Boring Plan
- Stormwater Management / Sediment Control Notes
- Storm Drain Profiles & Schedules
- Stormwater Management Perimeter Planting Plan
- Planting Notes, Schedules and Plant List

-On July 1, 1999, WP-99-117; waiver of section 16.144 (f), was granted, to not be required to submit a preliminary plan, subject to various conditions in the approval letter.  
-On October 1, 1999, WP-00-24; waiver of section 16.144, was granted, to reactivate sketch plan 09-09-05 and grant a 45 day extension to submit the sketch plan for signature.  
-On March 23, 1999, WP-00-41; waiver of section 16.110 (f) (1), was approved to permit a private commercial driveway direct access to an arterial road, subject to various conditions in the approval letter.

**Flood Plain Table**

Point#	Bearing & Distance	Elevation
1	S 77° 02' 48" E ~ 75.77'	357.7
2	N 64° 51' 00" E ~ 42.57'	357.9
3	N 78° 15' 48" E ~ 109.33'	358.0
4	S 72° 24' 00" E ~ 23.52'	359.0
5	S 59° 58' 10" E ~ 136.91'	361.1
6	S 21° 58' 09" E ~ 68.14'	364.0
7	S 52° 45' 41" E ~ 81.11'	364.7
8	S 17° 01' 44" E ~ 87.38'	365.8
9	N 79° 00' 19" S ~ 7.15'	366.3
10	N 05° 15' 10" E ~ 93.78'	366.3
11	N 32° 14' 10" W ~ 07.59'	366.3
12	N 62° 15' 42" E ~ 143.23'	366.3
13	N 23° 42' 24" E ~ 72.77'	366.3
14	N 08° 23' 20" W ~ 15.26'	366.3
15	S 27° 32' 16" W ~ 121.86'	366.3
16	N 21° 20' 21" W ~ 134.60'	366.3
17	N 59° 20' 45" W ~ 95.94'	364.2
18	N 73° 15' 53" W ~ 289.75'	362.4
19	N 49° 08' 45" W ~ 65.24'	358.1
20	N 71° 39' 59" W ~ 64.45'	357.8
21		357.7



**KEY MAP**

SCALE: 1" = 300'

**Legend**

(Mass Grading)

- 70 Proposed Contour
- 374 Existing Contour
- Existing Treeline
- Existing Paving
- SVB Limit of 50' Stream Buffer
- 50' Stream Buffer
- 25' Wetland Buffer
- Existing Street Light
- Limit of Submission

**Legend**

(Sediment Control)

- SS Super Silt Fence
- EA A2 Earth Dike
- SCE Stabilized Construction Entrance
- TS A-1 Temporary Swale
- GM Gabion Mattress
- LOD Limit of Disturbance
- Sump Pit
- TPF Tree Protection Fence
- Phase I Grading

Lot	Address Chart
4	Street address
4	Snowden River Parkway
5	Dobbin Road
8	6751 Old Dobbin Lane
8	6752 Old Dobbin Lane
8	6753 Old Dobbin Lane
8	6754 Old Dobbin Lane
8	6755 Old Dobbin Lane
8	6756 Old Dobbin Lane
8	6757 Old Dobbin Lane
8	6758 Old Dobbin Lane
8	6759 Old Dobbin Lane
8	6760 Old Dobbin Lane
8	6761 Old Dobbin Lane
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8	6795 Old Dobbin Lane
8	6796 Old Dobbin Lane
8	6797 Old Dobbin Lane
8	6798 Old Dobbin Lane
8	6799 Old Dobbin Lane
8	6800 Old Dobbin Lane

WATER CODE: E08	SEWER CODE: S400000
SUBMISSION NAME: ROUTE 175 COMMERCIAL	
PLAT: 12077 & 12078	SECTION/AREA: 1 / 2
ZONE: NT	TAX MAP: 36
BLOCK: 13	ELEC. DIST.: 6
CENSUS TRACT: 6097.03	PARCELS: 18

**AS-BUILT** AS-BUILT SHEET 1 OF 9

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING	5/23/01
Director	Date
Chief, Division of Land Development and Research	5/23/01
Chief, Development Engineering Division	5/15/01
Chief, Development Engineering Division	Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20866  
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

DRAWINGS\95003\MAS-GRADIN\95003MCS

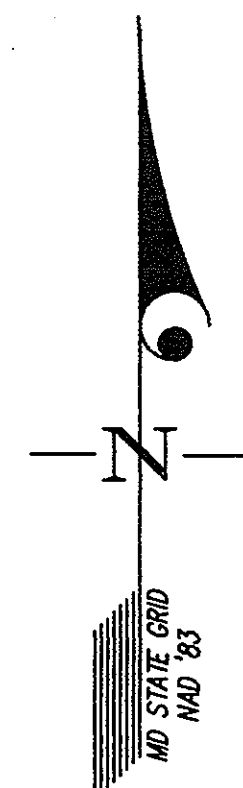
DES.	DRN.	ROS.	CHK.	DATE	REVISION	BY	APPR.

PREPARED FOR:  
THE HOWARD RESEARCH & DEVELOPMENT CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD. 21044  
ATTN: AL EDWARDS  
(410)932-6027

COVER SHEET  
**ROUTE 175 COMMERCIAL**  
SECTION 1 AREA 2  
PARCELS B-D AND LOTS 4 & 5  
PLAT No. 12077 & 12078

ELECTION DISTRICT No. 6

HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN  
DATE: 5/23/01  
ZONING: NT  
TAX MAP - GRID: 36-18  
SHEET: 1 OF 19  
SDP-01-09



E 1285000  
N 558900

E 1285000  
N 558900

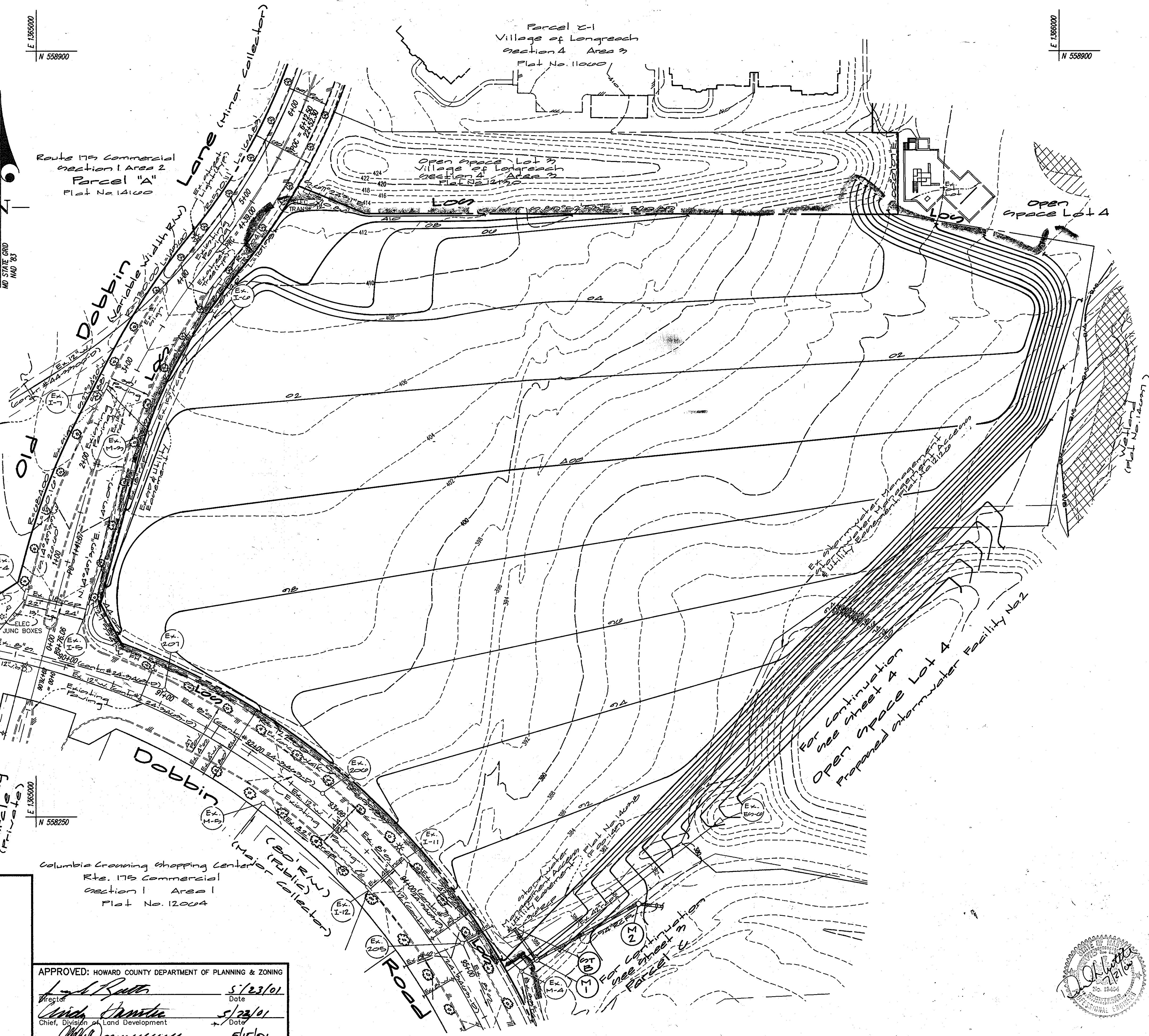
Route 175 Commercial  
Section 1 Area 2  
Parcel "A"  
Plot No. 14100

Parcel E-1  
Village of Longreach  
Section 4 Area 3  
Plot No. 11000

Open Space Lot 3  
Village of Longreach  
Section 4 Area 3  
Plot No. 12150

Open Space Lot 4

Ex. 20' water & Utility Easement



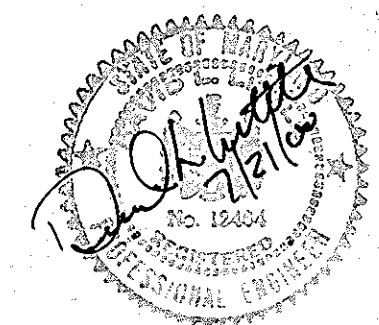
Columbia Crossing Shopping Center  
Rte. 175 Commercial  
Section 1 Area 1  
Plot No. 12004

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*[Signature]* 5/23/01  
Director Date

*[Signature]* 5/23/01  
Chief, Division of Land Development Date

*[Signature]* 5/15/01  
Chief, Development Engineering Division Date



**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20866  
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

PREPARED FOR:  
THE HOWARD RESEARCH  
AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
ATTN: AL EDWARDS  
(410) 992-6027

Parcel B, Grading Plan  
**ROUTE 175 COMMERCIAL**  
Section 1 Area 2  
Parcels B-D and Lots 4 & 5  
Plot No. 14001 & 14002

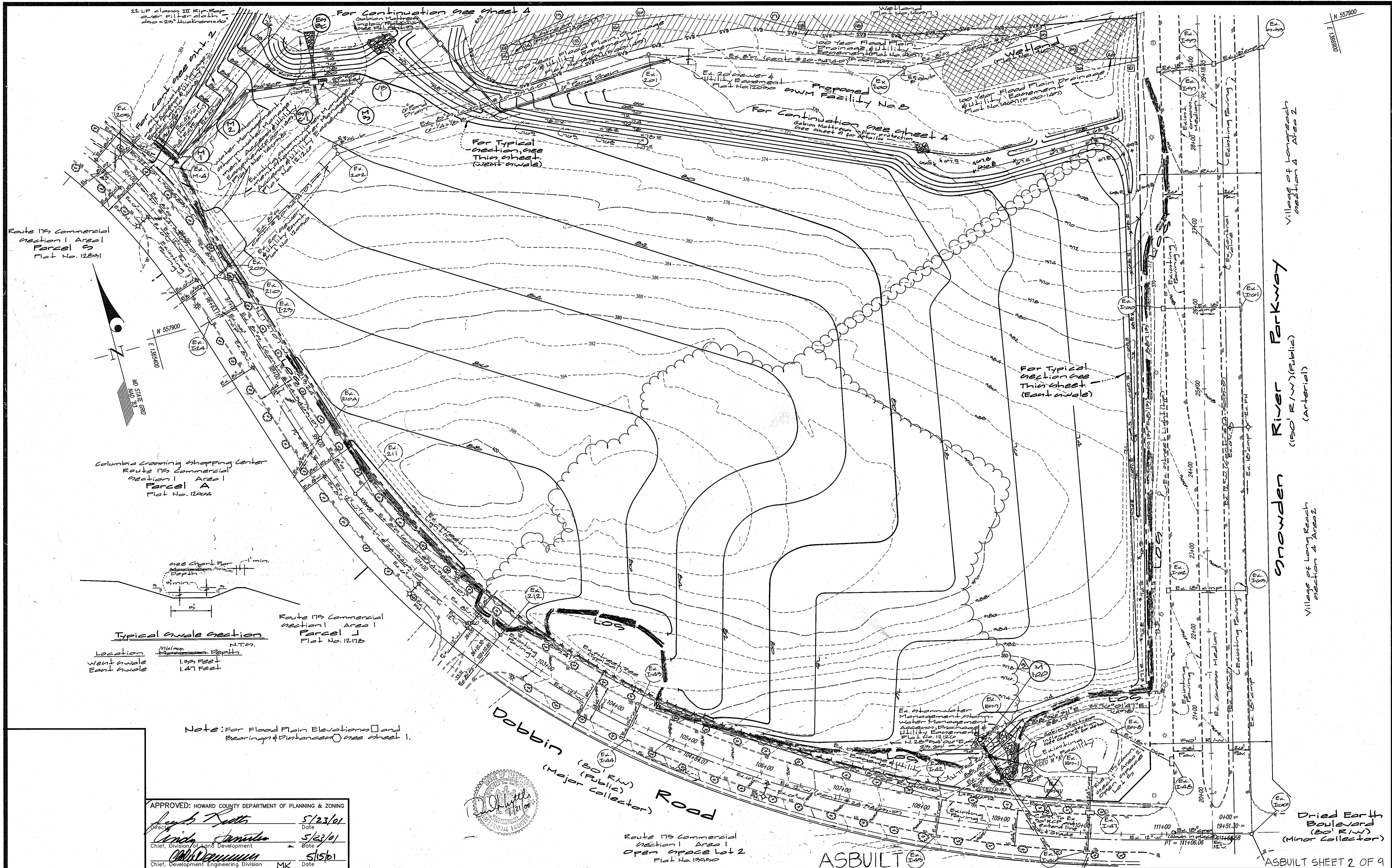
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DATE March, 2001	TAX MAP - GRID 36-12818	SHEET 2 of 19

DES.	DRN	CHK.	DATE	REVISION	BY	APP'R.

ELECTION DISTRICT No. 6

HOWARD COUNTY, MARYLAND

GDP 01-09



22 LF class III Rip Rap  
over Filter cloth  
doc = 22" thickness

For Continuation see sheet 4

For Continuation see sheet 4

For Typical section, see this sheet (East side)

For Typical section, see this sheet (West side)

Village of Long Reach  
Section 4 Area 2

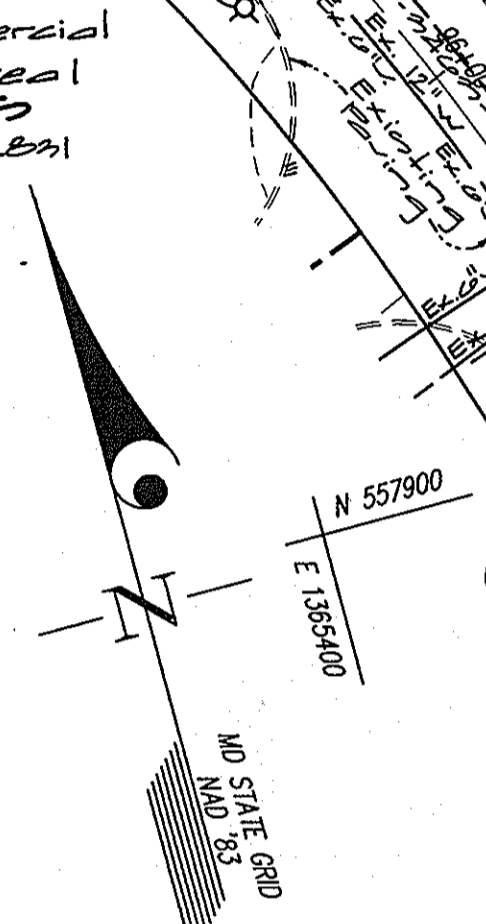
**Snowden River Parkway**  
(150' R/W) (Public) (Arterial)

Village of Long Reach  
Section 4 Area 2

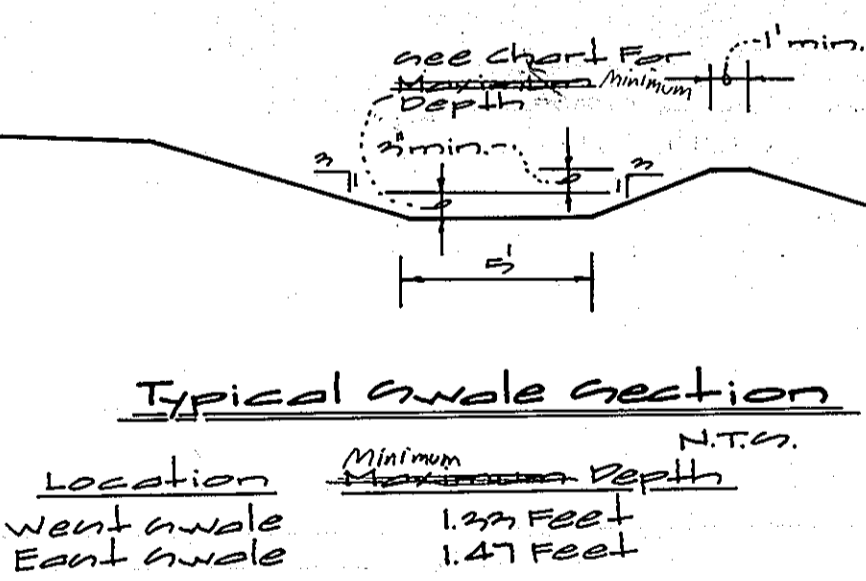
**Dobbin Road**  
(80' R/W) (Public) (Major Collector)

**Dried Earth Boulevard**  
(80' R/W) (Minor Collector)

ASBUILT SHEET 2 OF 9



Columbia Crossing Shopping Center  
Route 175 Commercial  
Section 1 Area 1  
Parcel A  
Plot No. 12224



Route 175 Commercial  
Section 1 Area 1  
Parcel J  
Plot No. 12116

Note: For Flood Plain Elevations and Bearings & Distances see sheet 1.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Scott T. Smith* 5/23/01  
Date

*Wanda Hamilton* 5/23/01  
Date  
Chief, Division of Land Development

*Mark M. ...* 5/15/01  
Date  
Chief, Development Engineering Division MK



Route 175 Commercial  
Section 1 Area 1  
Open Space Lot 2  
Plot No. 13990

ASBUILT

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20886  
TEL: 301-421-4024 BALT: 410-388-1820 DC/VA: 301-388-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.
2-2-02	Rev to add stormceptor notes & storm drain profile		

PREPARED FOR:  
THE HOWARD RESEARCH  
AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
ATTN: AL EDWARDS  
(410) 992-6027

Parcel C, Grading Plan  
**ROUTE 175 COMMERCIAL**  
Section 1 Area 2  
Parcels B and Lots 4 & 5  
Plot Nos. 14037 & 14038

ELECTION DISTRICT No. 6

HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	NT	95003
DATE	TAX MAP - GRID	SHEET
March, 2001	36-18 37-13	3 of 19

Village of Longreach  
Section 4 Area 3  
Lots A-1 thru A-99  
Plat No. 110200

**Summary Table Facility 1**

Storm Allowable Release Rate	Inflow	Discharge	Elev	Storage
2Yr	527 cfm	29,874 cfm	301.5 cfm	301.71
100Yr	N/A	49,000 cfm	40,000 cfm	304.17
10Yr	1024 cfm	19,744 cfm	200,950	1.10 Ac. ft.

**Summary Table 2**

Storm Allowable Release Rate	Inflow	Discharge	Elev	Storage
2Yr	544 cfm	109 cfm	2.0 cfm	379.16
100Yr	N/A	232 cfm	1042 cfm	376.57
10Yr	13,800 cfm	407 cfm	5.13 cfm	375.52

**Engineer's Certificate**  
I certify that this plan for pond construction, erosion & sediment control represents a practical & workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise construction & provide the Howard Soil Conservation District with an as-built plan of the pond within 30 days of completion.

*Small text signature*  
Engineer's Signature  
10/6/01  
Date



**Developer's/Builder's Certificate**  
I/We certify that all development &/or construction will be done according to these plans, & that any responsible personnel involved in the construction project have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment & Erosion before beginning the project. I, who am a registered Professional Engineer, to supervise pond construction & provide the Howard Soil Conservation District with an as-built plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

*Small text signature*  
Signature of Developer/Builder  
10/10/01  
Date

**Pond 2 Notes:**  
A. Water quantity control is provided by a hazard class A retention facility.  
B. Water quality is provided by a wet pool.  
C. This facility is to be publicly maintained.

**Pond 7 Notes:**  
A. Water quantity control is provided by a hazard class A retention facility.  
B. Water quality is provided by a privately owned structural underground facility.  
C. This facility is to be privately maintained.

**Pond 8 Notes:**  
A. Water quantity control is provided by a hazard class A retention facility.  
B. Water quality is provided by a privately owned structural underground facility for Parcel 2 and a pocket wetland for the Right of Way improvement.  
C. This facility is to be publicly maintained.

Note: For Flood Plain Elevation and bearings & distances see sheet 2.

**Summary Table Facility 2**

Storm Allowable Release Rate	Inflow	Discharge	Elev	Storage
2Yr	2,009 cfm	24,000 cfm	2.10 cfm	300.24
100Yr	N/A	71,000 cfm	60,000 cfm	300.55
10Yr	10,212 cfm	57,774 cfm	27.42 cfm	300.05

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Small text signature* 5/23/01  
*Small text signature* 5/23/01  
*Small text signature* 5/15/01  
 Chief, Development Engineering Division MK Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK  
BURTNSVILLE, MARYLAND 20866  
TEL: 301-421-4024 FAX: 301-421-4188

DATE	REVISION	BY	APPR.

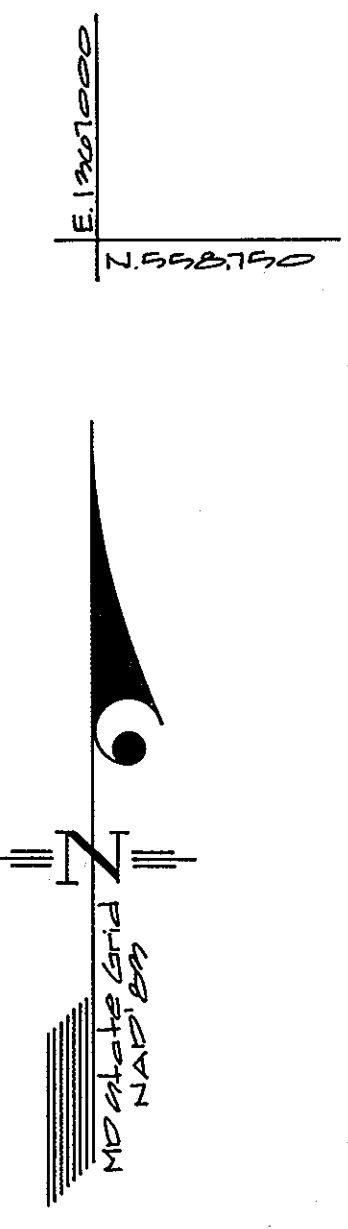
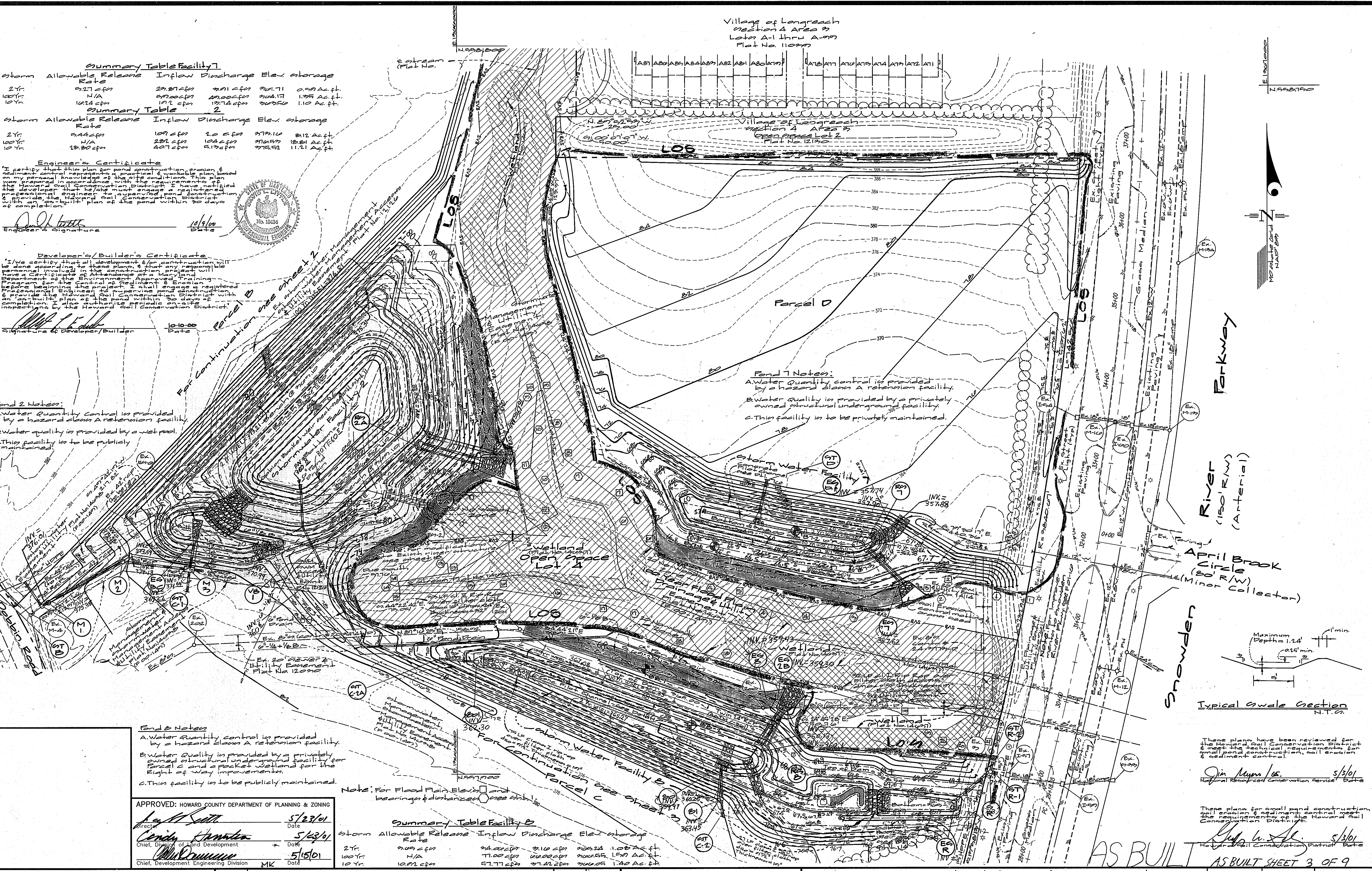
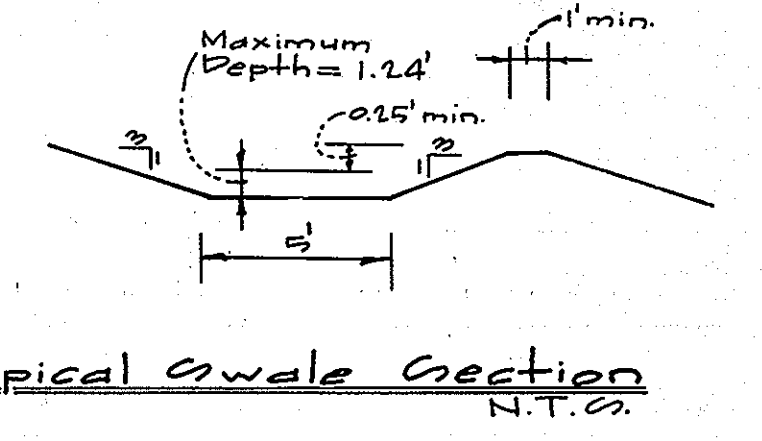
PREPARED FOR:  
The Howard Research and Development Corp.  
10215 Little Church Pl.  
Columbia, Maryland 21044  
Attn: Al Edwards  
(410) 992-0027

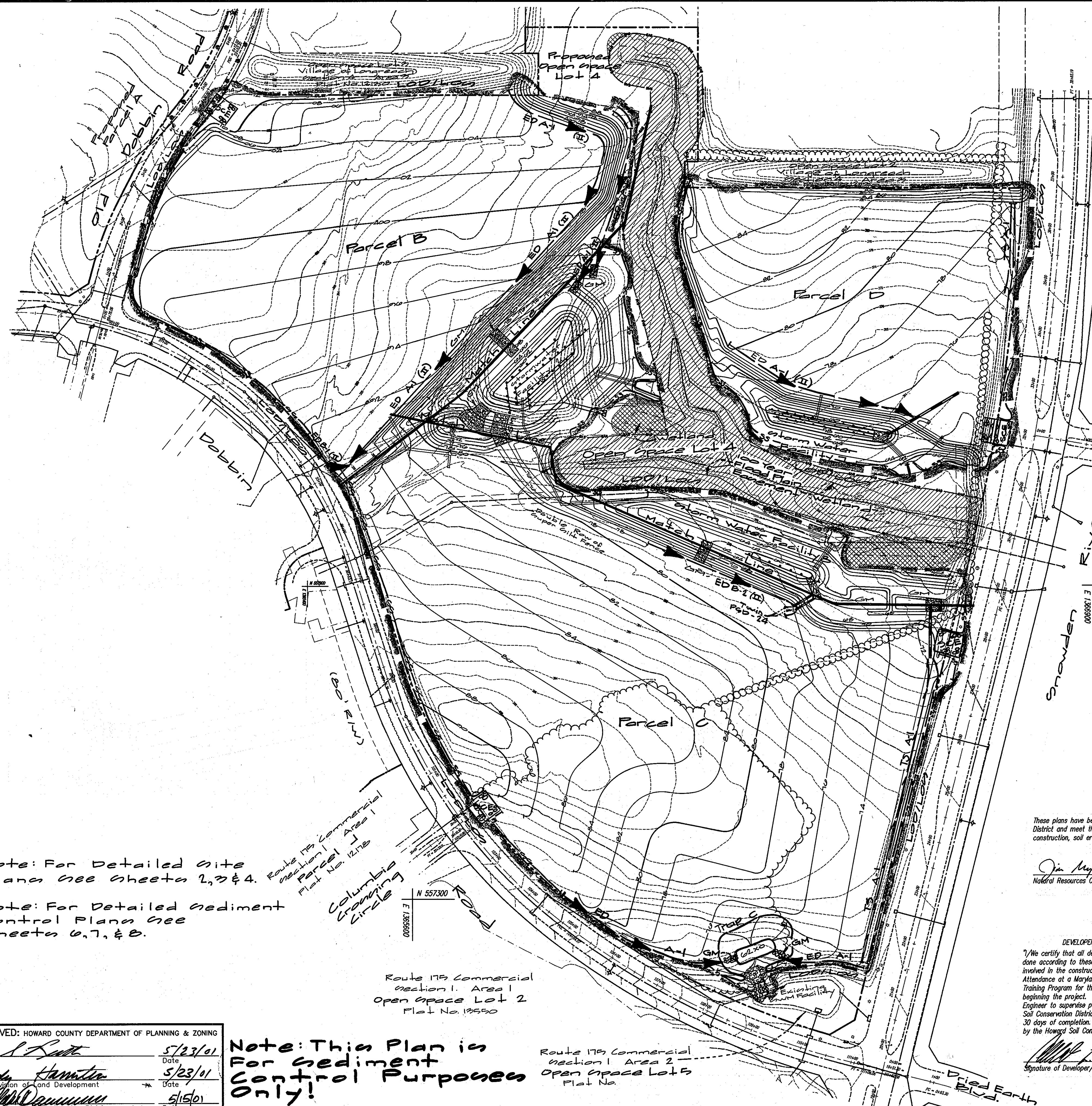
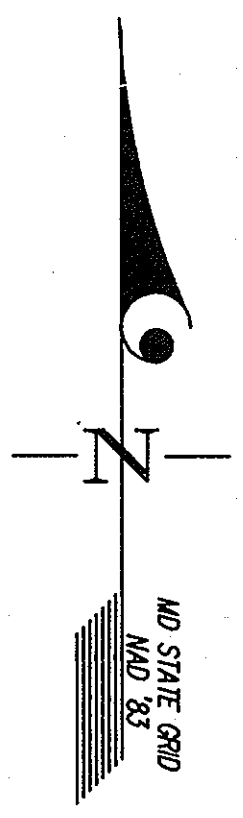
Parcel D Grading & Storm Water Management Plan  
**ROUTE 175 COMMERCIAL**  
Section 1 Area 2  
Parcels B-D and Lots 4 & 5  
Plat No. 14057 & 14058  
ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
1"=50'	NT	95003
DATE	TAX MAP - GRID	SHEET
March 2003	36-18 37-13	4 of 19

These plans have been reviewed for the Howard Soil Conservation District & meet the technical requirements for small pond construction, soil erosion & sediment control.  
*Small text signature* 5/3/01  
 Natural Resources Conservation Service Date

These plans for small pond construction, soil erosion & sediment control meet the requirements of the Howard Soil Conservation District.  
*Small text signature* 5/3/01  
 Howard Soil Conservation District Date





Note: For Detailed Site Plans see sheets 2, 3 & 4.  
 Note: For Detailed Sediment Control Plans see sheets 6, 7, & 8.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Director: *[Signature]* 5/23/01  
 Chief, Division of Land Development: *[Signature]* 5/23/01  
 Chief, Development Engineering Division: *[Signature]* 5/15/01

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

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.  
 Jim Myers/CS. 5/3/01  
 Natural Resources Conservation Service Date

These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.  
*[Signature]* 5/3/01  
 Howard Soil Conservation District Date

DEVELOPER'S/BUILDER'S CERTIFICATE  
 "I/We certify that all development and/or construction will be done according to these plans, 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 shall engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."  
*[Signature]* 10-10-00  
 Signature of Developer/Builder Date

ENGINEER'S CERTIFICATE  
 "I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."  
*[Signature]* 7/2/00  
 Engineer's Signature Date



**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 ATTN: AL EDWARDS  
 (410) 992-6027

Composite Grading/Sediment Control Plan  
**ROUTE 175 COMMERCIAL**  
 SECTION 1 AREA 2  
 PARCELS B-D AND LOTS 4 & 5  
 PLAT No. 14097 & 14098  
 ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
1"=100'	NT	95003
DATE	TAX MAP - GRID	SHEET
March, 2001	36-18 37-13	5 of 19

DRAWINGS\95003\BASE\95003B55.DWG	DES.	DRN.	CHK.	DATE	REVISION	BY	APPR.
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HOWARD COUNTY, MARYLAND

E 1265000  
N 558900

E 1265000  
N 558900

Route 175 Commercial  
Section 1 Area 2  
Parcel "A"  
Plat No. 12100

Parcel E-1  
Village of Longreach  
Section 4 Area 3  
Plat No. 11000

E 1265000  
N 558250

Columbia Crossing Shopping Center  
Rte. 175 Commercial  
Section 1 Area 1  
Plat No. 12004

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Date: 5/23/01  
Date: 5/23/01  
Date: 5/14/01

GLW GUTSCHICK LITTLE & WEBER, P.A.  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BERTHLEMSVILLE OFFICE PARK  
BERTHLEMSVILLE, MARYLAND 20869  
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE: 5/14/01 Rev. Basin 2 & 7 data

GLW BY: [Signature] APPR: [Signature]

PREPARED FOR:  
THE HOWARD RESEARCH  
AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
ATTN: AL EDWARDS  
(410) 992-6027

Parcel B, Sediment Control Plan  
ROUTE 175 COMMERCIAL  
Section 1 Area 2  
Parcels B-D and Lots 4 & 5  
Plat No's 12004 & 12005  
ELECTION DISTRICT No. 6

SCALE: 1"=50'  
ZONING: NT  
G. L. W. FILE No.: 95003  
DATE: March 2001  
TAX MAP - GRID: 36-12&18  
SHEET: 6 of 19  
HOWARD COUNTY, MARYLAND

**Sediment Basin Number 2**

Pre-development Drainage Area: 30.9 Ac.  
Post Development Drainage Area: 36.1 Ac.  
Storage Required- Wet Volume: 36.1 Ac. x 1800 c.f./Ac = 64,980 c.f.  
Storage Required- Dry Volume: 36.1 Ac. x 1800 c.f./Ac = 64,980 c.f.  
Bottom elevation: 360.00  
Drawdown orifice and permanent pool elevation: 360.00  
Riser crest elevation: 375.43  
Basin cleanout elevation: 364.79  
Design high water elevation: 375.56  
Limit of Storage Elevation: 376.50  
Side Slopes: 2:1  
Top of Embankment Elevation: 379.00  
Dry Volume Provided = 330,180 c.f. @ 375.43  
Wet Volume Provided = 140,247 c.f. @ 360.00

**Sediment Basin Number 7**

Pre-development Drainage Area: 7.15 Ac.  
Post Development Drainage Area: 7.15 Ac.  
Storage Required- Wet Volume: 7.15 Ac. x 1800 c.f./Ac = 25,740 c.f.  
Storage Required- Dry Volume: 7.15 Ac. x 1800 c.f./Ac = 25,740 c.f.  
Bottom elevation: 358.00  
Drawdown orifice and permanent pool elevation: 360.33  
Riser crest elevation: 369.54  
Basin cleanout elevation: 359.36  
Design high water elevation: 364.11  
Limit of Storage Elevation: 363.54  
Side Slopes: 2:1  
Top of Embankment Elevation: 366.00  
Dry Volume Provided = 22,948 c.f. @ 360.33  
Wet Volume Provided = 12,874 c.f. @ 360.00

**Sediment Basin Number 8**

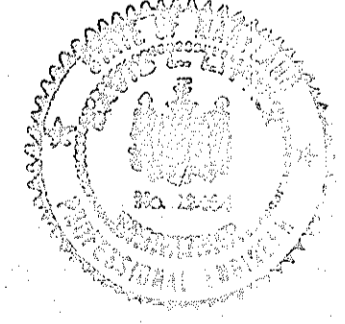
Pre-development Drainage Area: 10.2 Ac.  
Post Development Drainage Area: 11.35 Ac.  
Storage Required- Wet Volume: 11.35 Ac. x 1800 c.f./Ac = 20,430 c.f.  
Storage Required- Dry Volume: 11.35 Ac. x 1800 c.f./Ac = 20,430 c.f.  
Bottom elevation: 360.00  
Drawdown orifice and permanent pool elevation: 363.31  
Riser crest elevation: 365.20  
Basin cleanout elevation: 362.17  
Design high water elevation: 366.50  
Limit of Storage Elevation: 366.50  
Side Slopes: 2:1  
Top of Embankment Elevation: 368.50  
Dry Volume Provided = 22,948 c.f. @ 360.33  
Wet Volume Provided = 12,874 c.f. @ 360.00

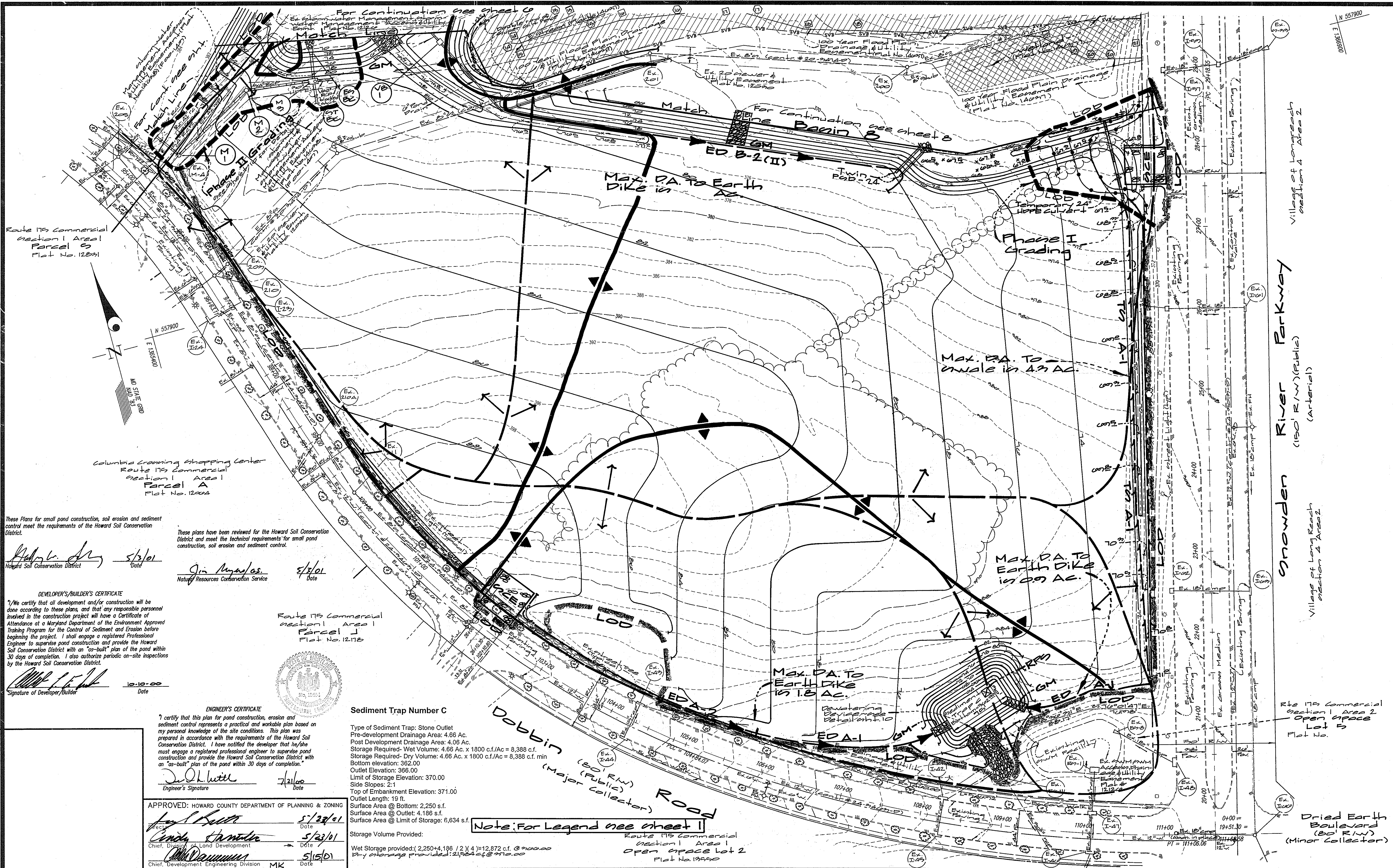
DEVELOPER'S/BUILDER'S CERTIFICATE  
"I certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

ENGINEER'S CERTIFICATE  
"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."  
Date: 7/2/00

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.  
Date: 5/3/01

These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.  
Date: 5/3/01





These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

*[Signature]* 5/3/01  
Howard Soil Conservation District Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

*[Signature]* 5/3/01  
Natural Resources Conservation Service Date

**DEVELOPER'S/BUILDER'S CERTIFICATE**

"I/we certify that all development and/or construction will be done according to these plans, 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 shall engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

*[Signature]* 10-10-00  
Signature of Developer/Builder Date

**ENGINEER'S CERTIFICATE**

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

*[Signature]* 7/21/00  
Engineer's Signature Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*[Signature]* 5/23/01 Date  
*[Signature]* 5/23/01 Date  
*[Signature]* 5/15/01 Date  
Chief, Division of Land Development  
Chief, Development Engineering Division MK

**Sediment Trap Number C**

Type of Sediment Trap: Stone Outlet  
Pre-development Drainage Area: 4.66 Ac.  
Post Development Drainage Area: 4.06 Ac.  
Storage Required- Wet Volume: 4.66 Ac. x 1800 c.f./Ac = 8,388 c.f.  
Storage Required- Dry Volume: 4.66 Ac. x 1800 c.f./Ac = 8,388 c.f. min  
Bottom elevation: 362.00  
Outlet Elevation: 366.00  
Limit of Storage Elevation: 370.00  
Side Slopes: 2:1  
Top of Embankment Elevation: 371.00  
Outlet Length: 19 ft.  
Surface Area @ Bottom: 2,250 s.f.  
Surface Area @ Outlet: 4,186 s.f.  
Surface Area @ Limit of Storage: 6,634 s.f.

Storage Volume Provided:  
Wet Storage provided: (2,250+4,186 / 2) (4) = 12,872 c.f. @ 2000.00  
Dry Storage provided: 21,964 s.f. @ 900.00

Note: For Legend see sheet 1

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK  
BURTNSVILLE, MARYLAND 20868  
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

PREPARED FOR:  
THE HOWARD RESEARCH  
AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
ATTN: AL EDWARDS  
(410) 992-6027

Parcel C, Sediment Control Plan  
**ROUTE 175 COMMERCIAL**  
Section 1 Area 2  
Parcels B and Lots 4 & 5  
Plot No. in 14007 & 14008

SCALE 1"=50'	ZONING NT	G. L. W. FILE No. 9500;
DATE March 2001	TAX MAP - GRID 36-18 37-13	SHEET 7 of 17

DES.	DRN.	CHK.	DATE	REVISION	BY	APPR.
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Village of Long Reach  
Section 4 Area 2

**Snowden River Parkway**  
(50' R/W) (Public)  
(Arterial)

Village of Long Reach  
Section 4 Area 2

Route 175 Commercial  
Section 1 Area 2  
Open Space  
Lot 5  
Plot No.

Dried Earth  
Boulevard  
(50' R/W)  
(Minor Collector)

N 557900  
E 1363400

Village of Longreach  
Section 4 Area 2  
Lots A-1 thru A-99  
Plat No. 11099

Stream (Plat No. 11099)

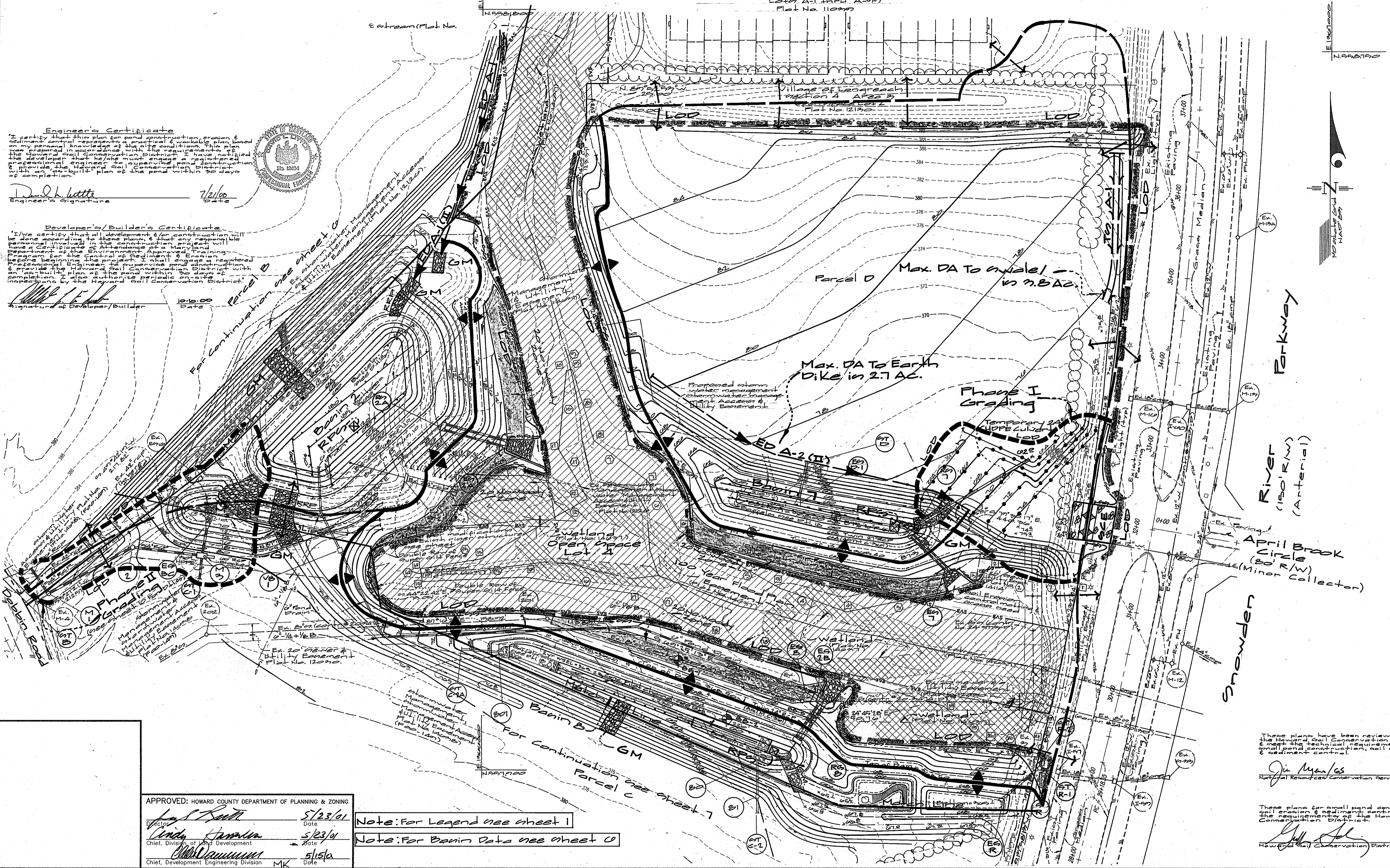
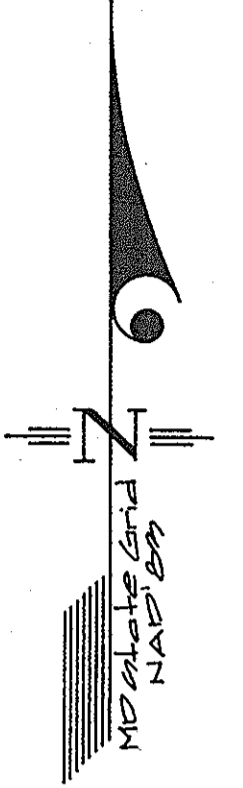
E 120000  
N 550000

**Engineer's Certificate**  
I certify that this plan for pond construction, erosion & sediment control represents a practical & workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered Professional Engineer to supervise pond construction & provide the Howard Soil Conservation District with an as-built plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

*Don H. Little*  
Engineer's Signature  
7/6/00  
Date

**Developer's/Builder's Certificate**  
I've certified that all development & construction will be done according to these plans & that any responsible persons involved in the construction project will have a Certificate in Attendance from a Maryland Department for the Environment Approved Training Program for the Control of Erosion & Sedimentation before beginning the project. I shall engage a registered Professional Engineer to supervise pond construction & provide the Howard Soil Conservation District with an as-built plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

*Walter L. Little*  
Signature of Developer/Builder  
10-16-00  
Date



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Paul Smith* 5/23/01  
Director

*Linda Hamilton* 5/23/01  
Chief, Division of Land Development

*Chris Cameron* 5/15/01  
Chief, Development Engineering Division

Note: For Legend see sheet 1

Note: For Basin Data see sheet 0

These plans have been reviewed for the Howard Soil Conservation District & meet the technical requirements for small pond construction, soil erosion & sediment control.

*Jia Myers* 5/3/01  
Natural Resources Conservation Service

These plans for small pond construction, soil erosion & sediment control meet the requirements of the Howard Soil Conservation District.

*John J. Little* 5/3/01  
Howard Soil Conservation District

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20866  
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

DATE	REVISION	BY	APP.
10-20-01	Rev. 00 added to Facility B	GLW	DFW

PREPARED FOR:  
The Howard Research and Development Corp  
10215 Little Patuxent Pkwy  
Columbia, Maryland 21044  
Attn: Al Edwards  
610mm2-0027

Parcel D Sediment Control Plan  
**ROUTE 175 COMMERCIAL**  
Section 1 Area 2  
Parcels B-D and Lots 4 & 5  
Plat No's 14027 & 14028  
ELECTION DISTRICT No. 6  
HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	NT	95003
DATE	TAX MAP - GRID	SHEET
March, 2001	36-18 37-13	B of 10

GDP 01-09



STANDARD AND SPECIFICATIONS FOR TOPSOIL DEFINITION

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

PURPOSE

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptably soil gradation.

CONDITIONS WHERE PRACTICE APPLIES

- This practice is limited to areas having 2:1 or flatter slopes where:
  - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
  - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplied of moisture and plant nutrients.
  - The original soil to be vegetated contains material toxic to plant growth.
  - The soil is so acidic that treatment with limestone is not feasible.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the respective soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.
- Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by a agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
- For sites having disturbed areas over 5 acres:
  - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
  - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

- For sites having disturbed areas under 5 acres:
  - Place topsoil (if required) and apply soil amendments as specified in 2.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
  - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
    - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
    - Organic content of topsoil shall be not less than 1.5 percent by weight.
    - Topsoil having soluble salt greater than 500 parts per mill shall not be used.
    - No sod or seed shall be placed on soil which has been with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of photo-toxic materials.

Note: Topsoil substitutions or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

- Place topsoil (if required) and apply soil amendments as specified in 2.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

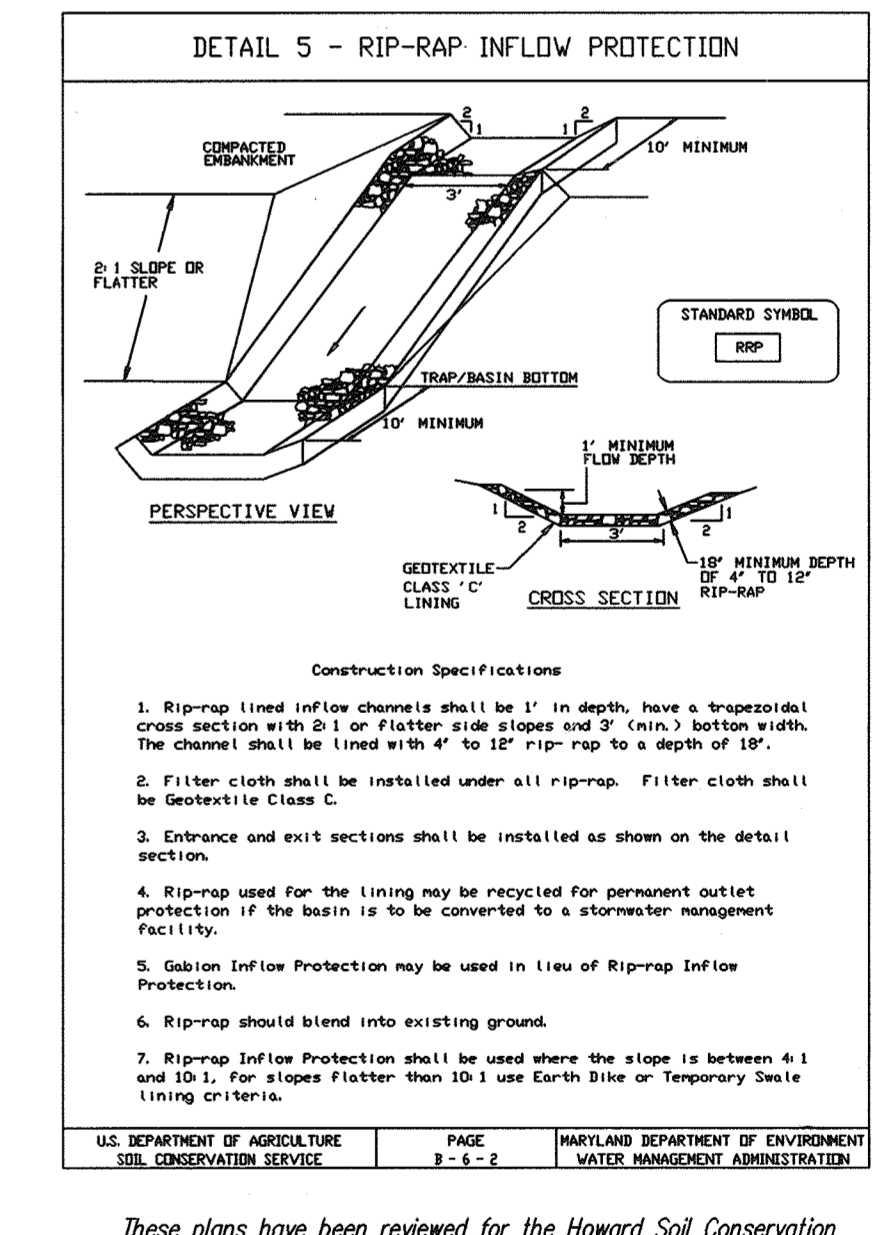
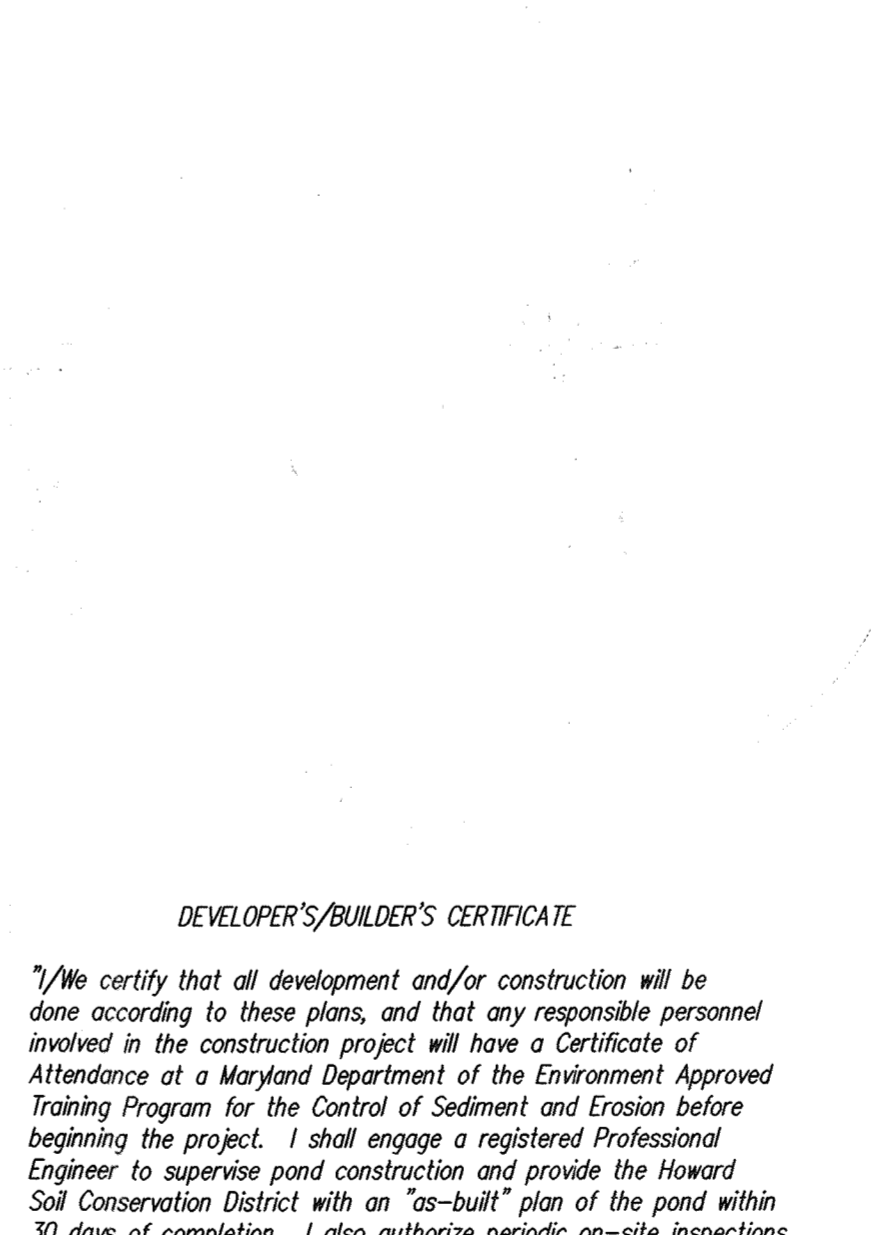
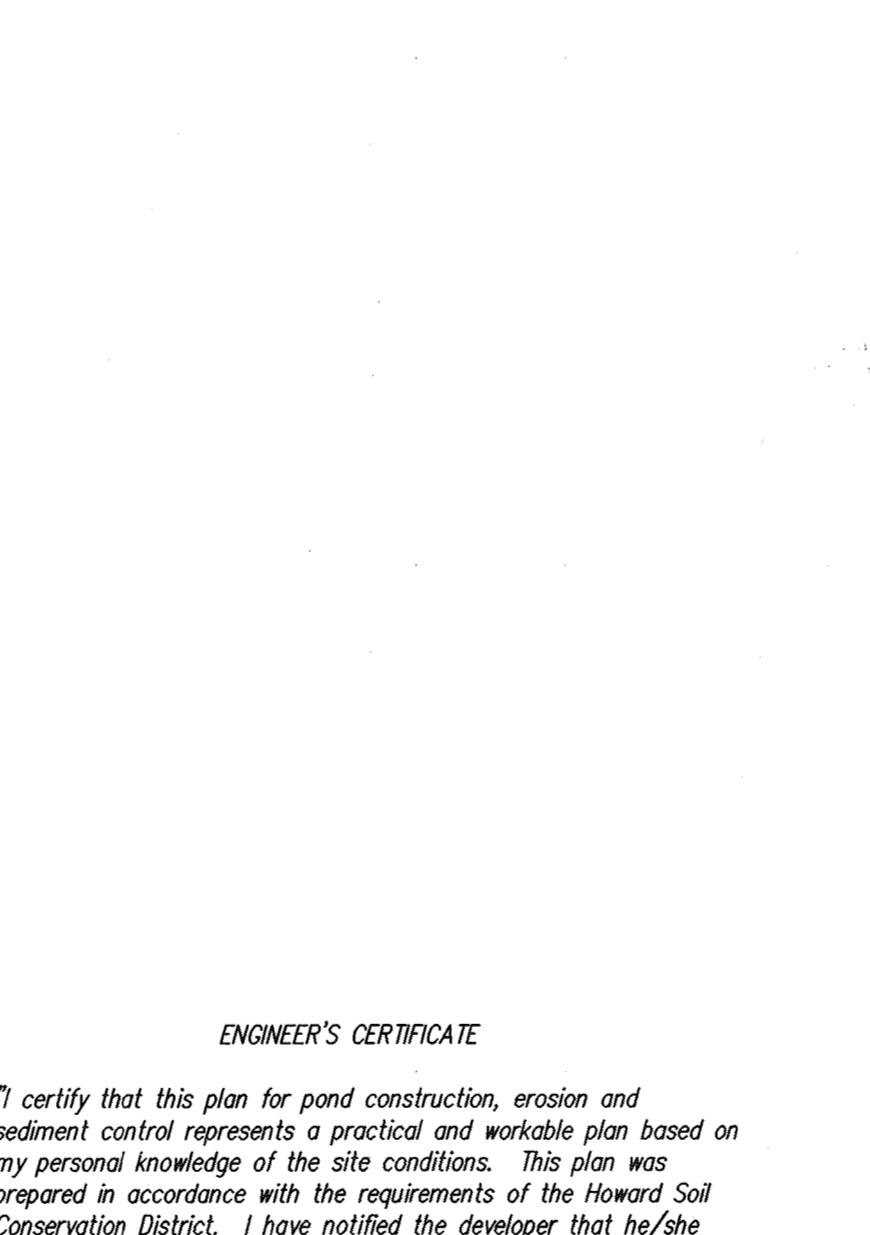
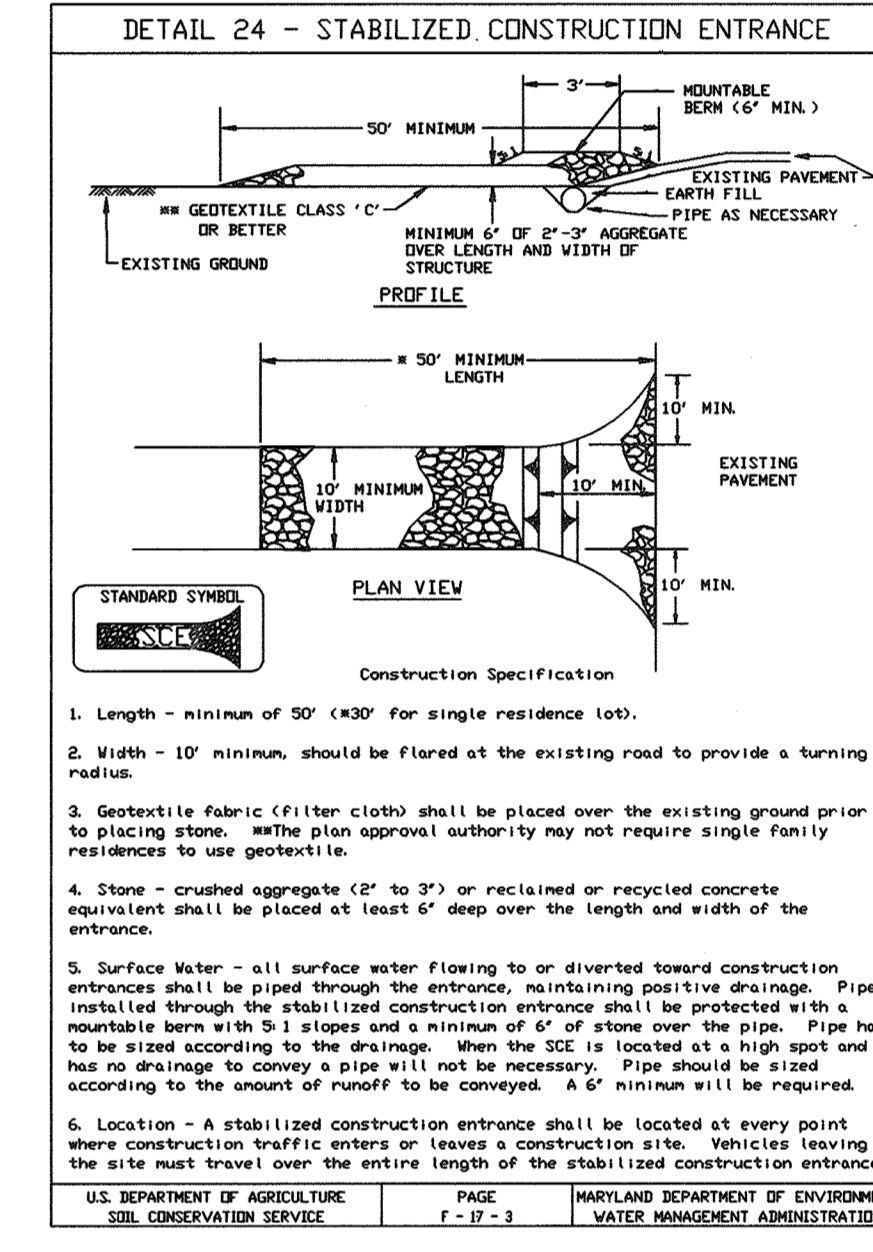
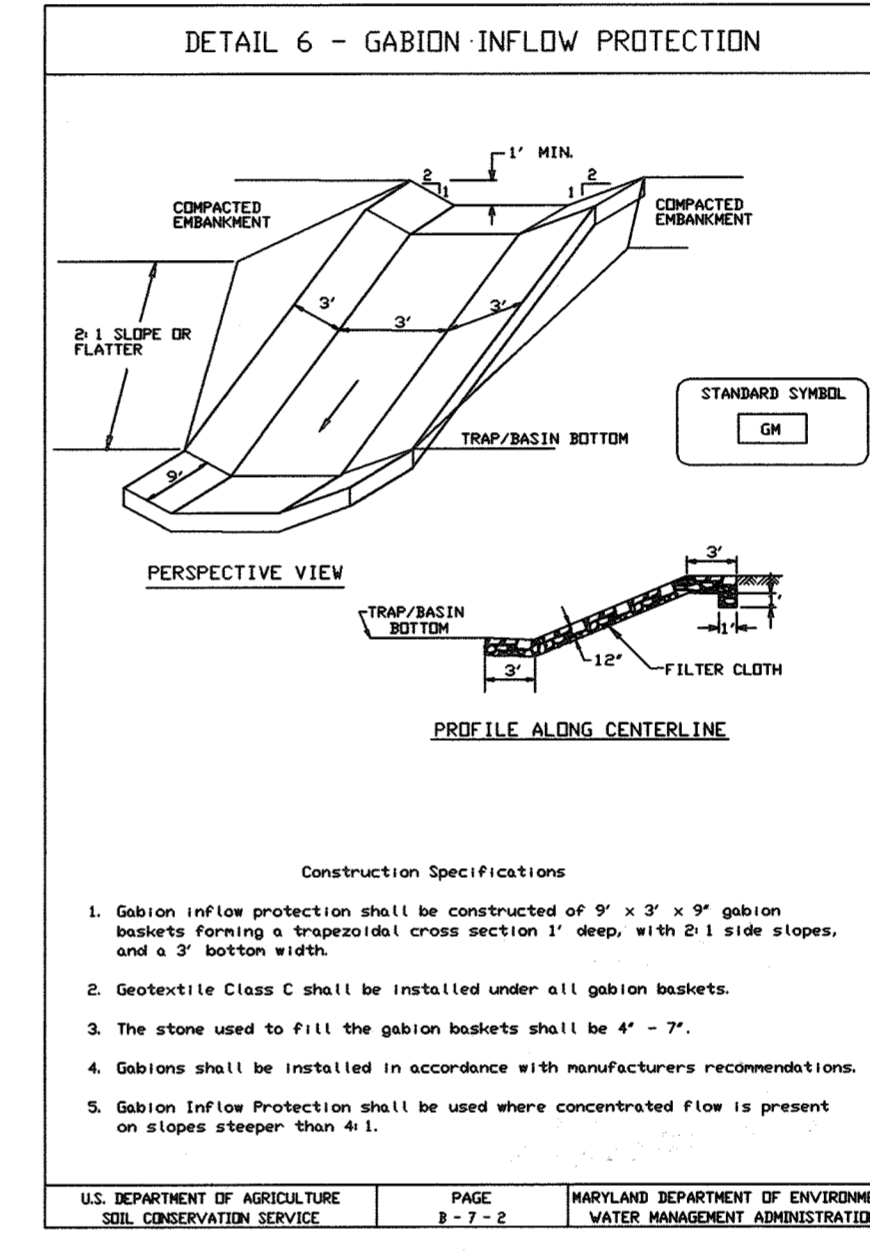
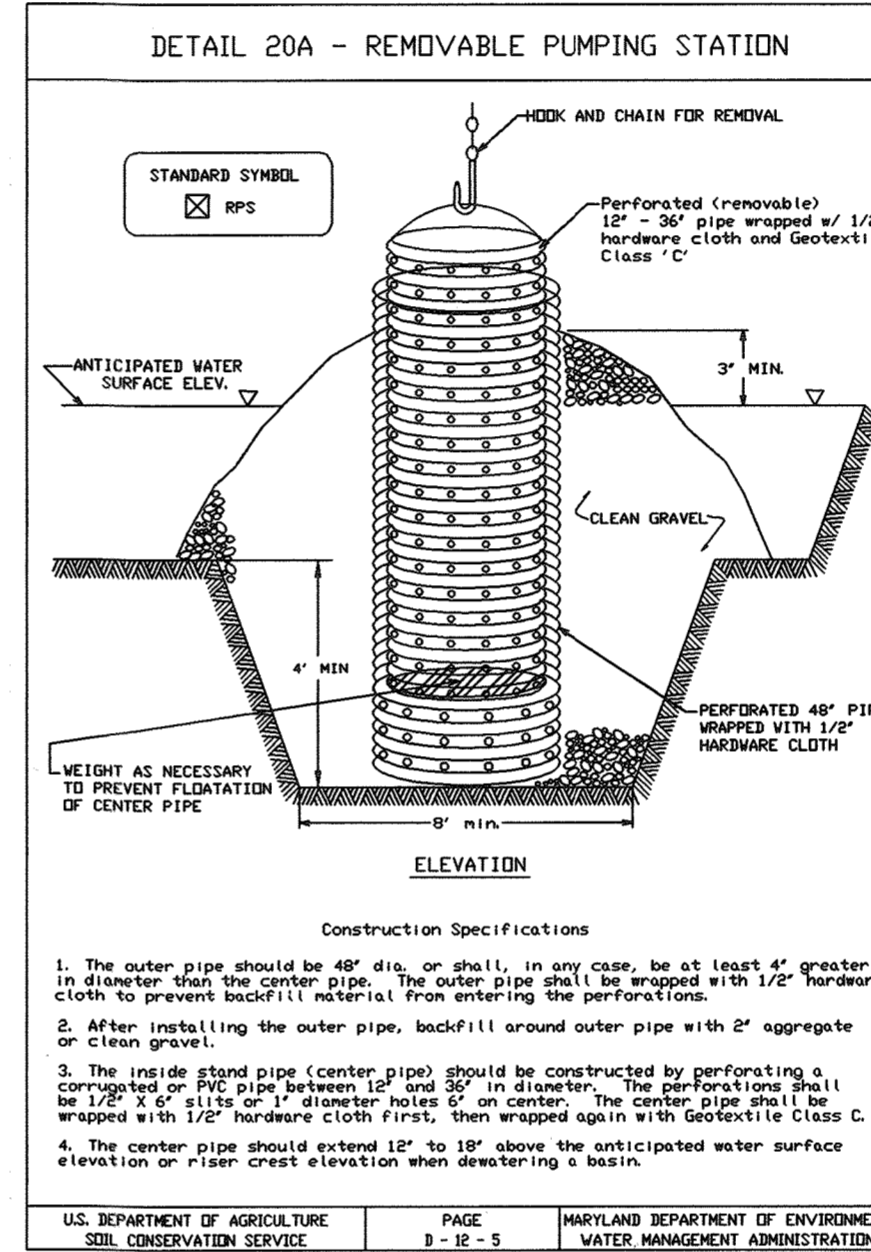
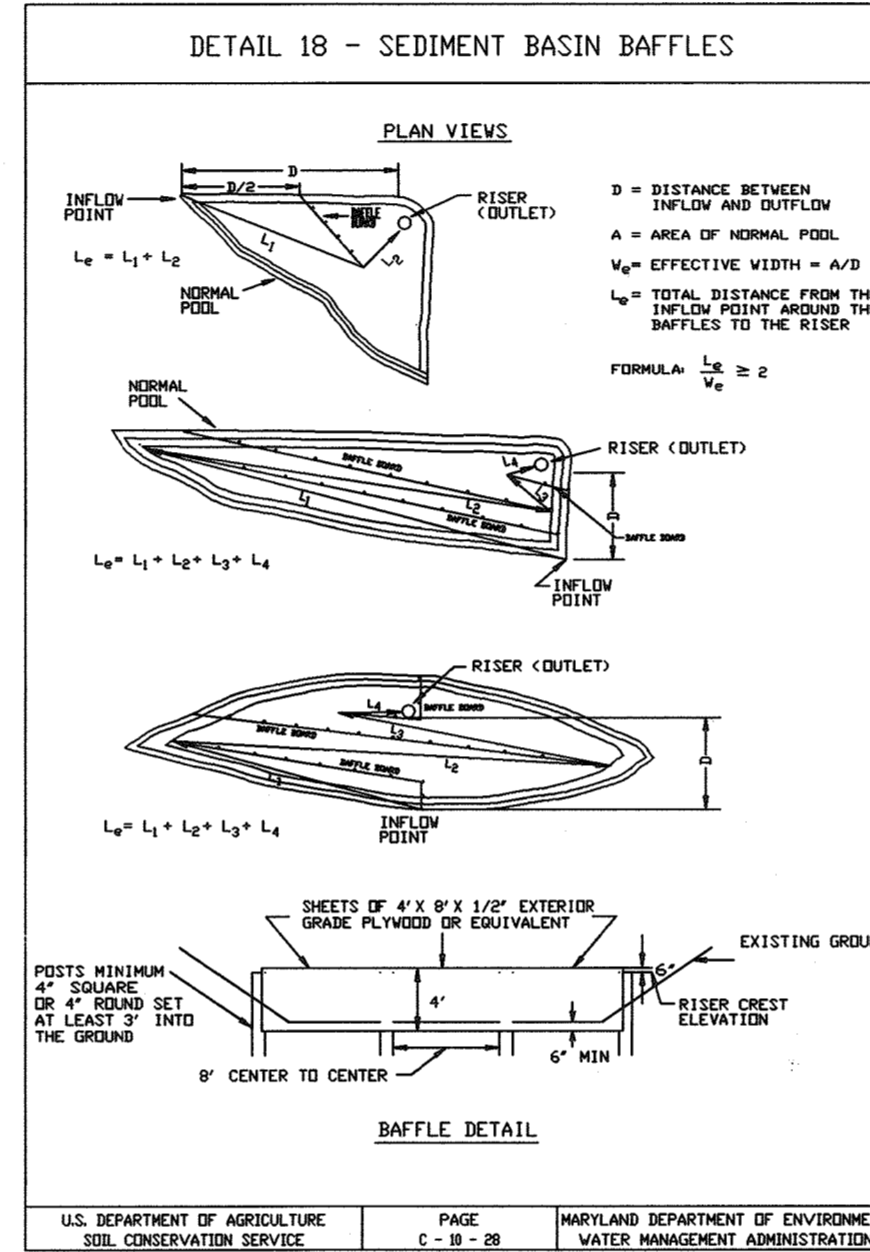
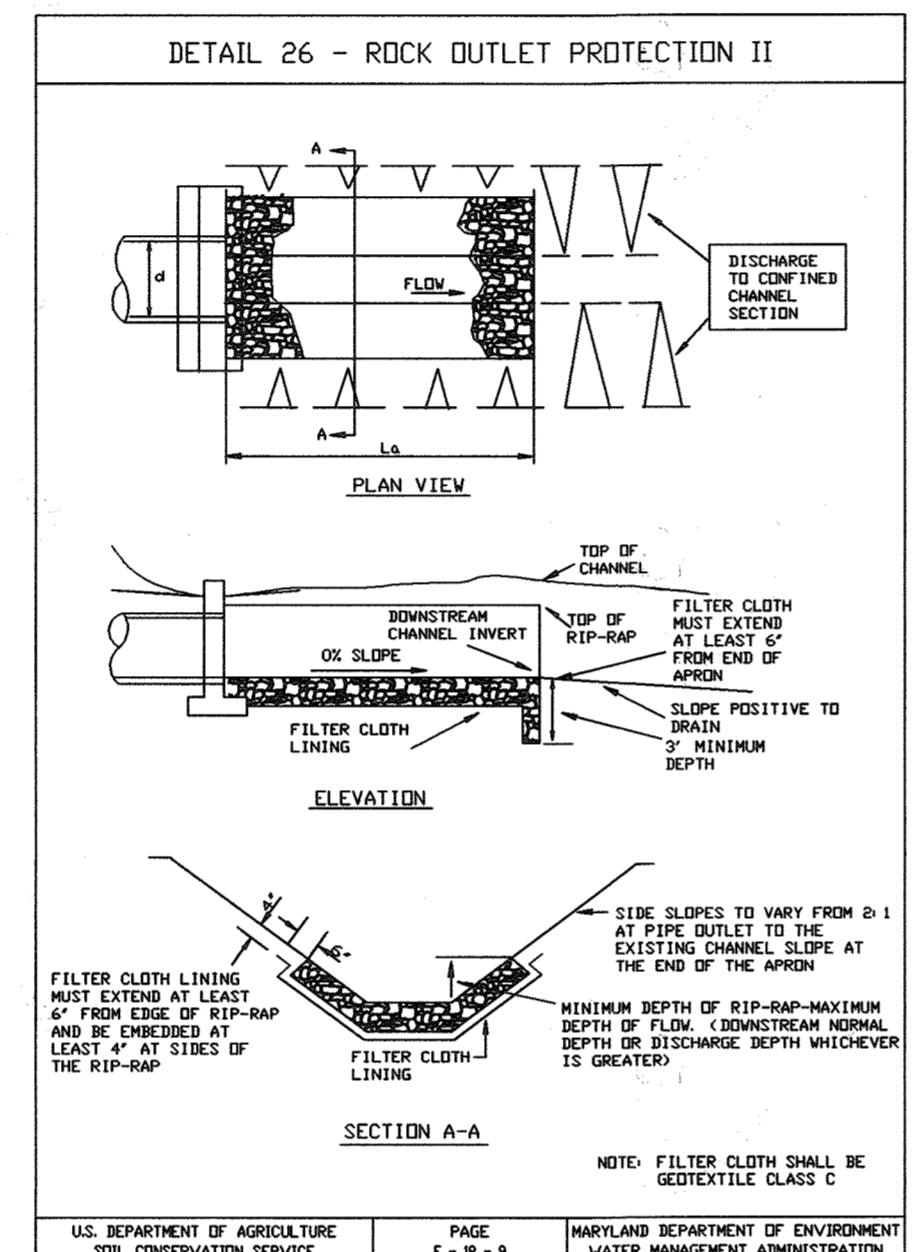
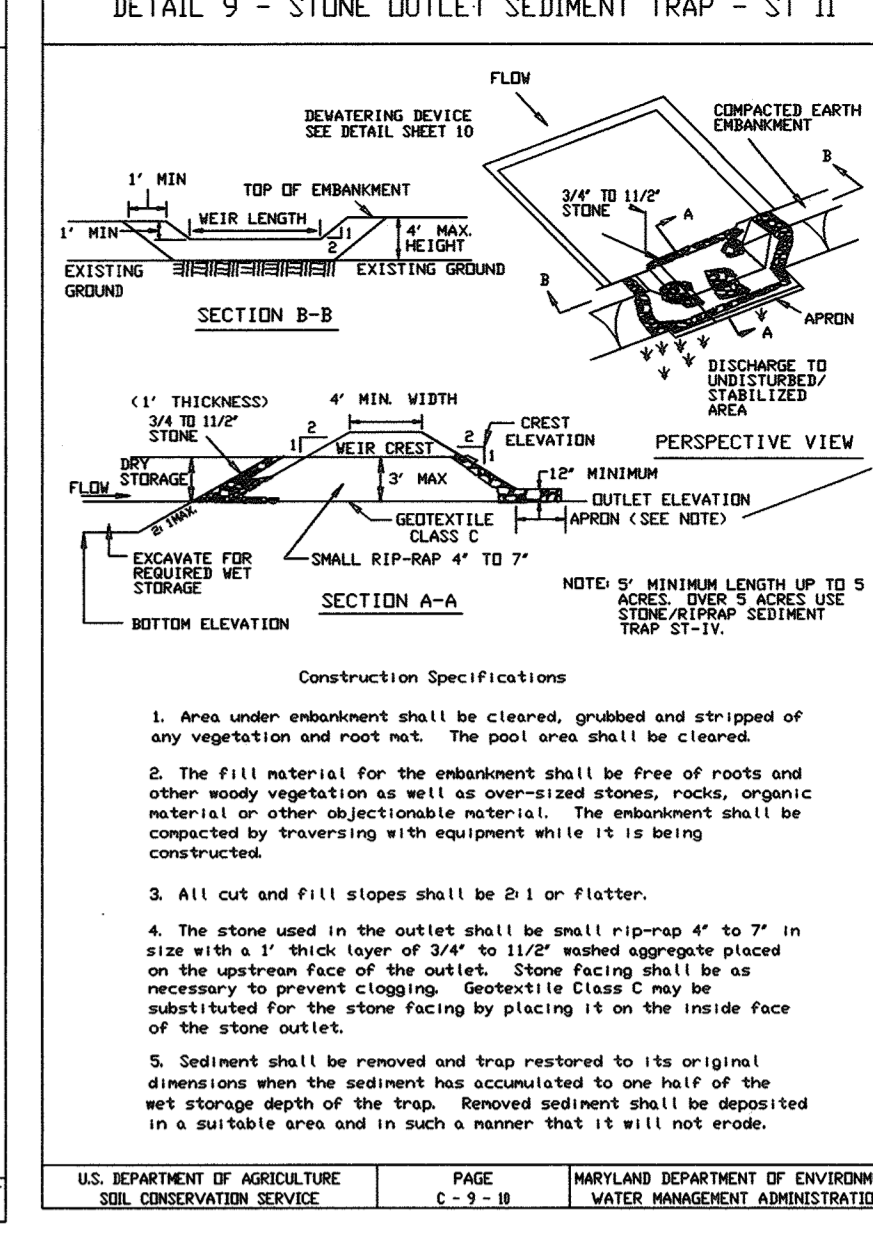
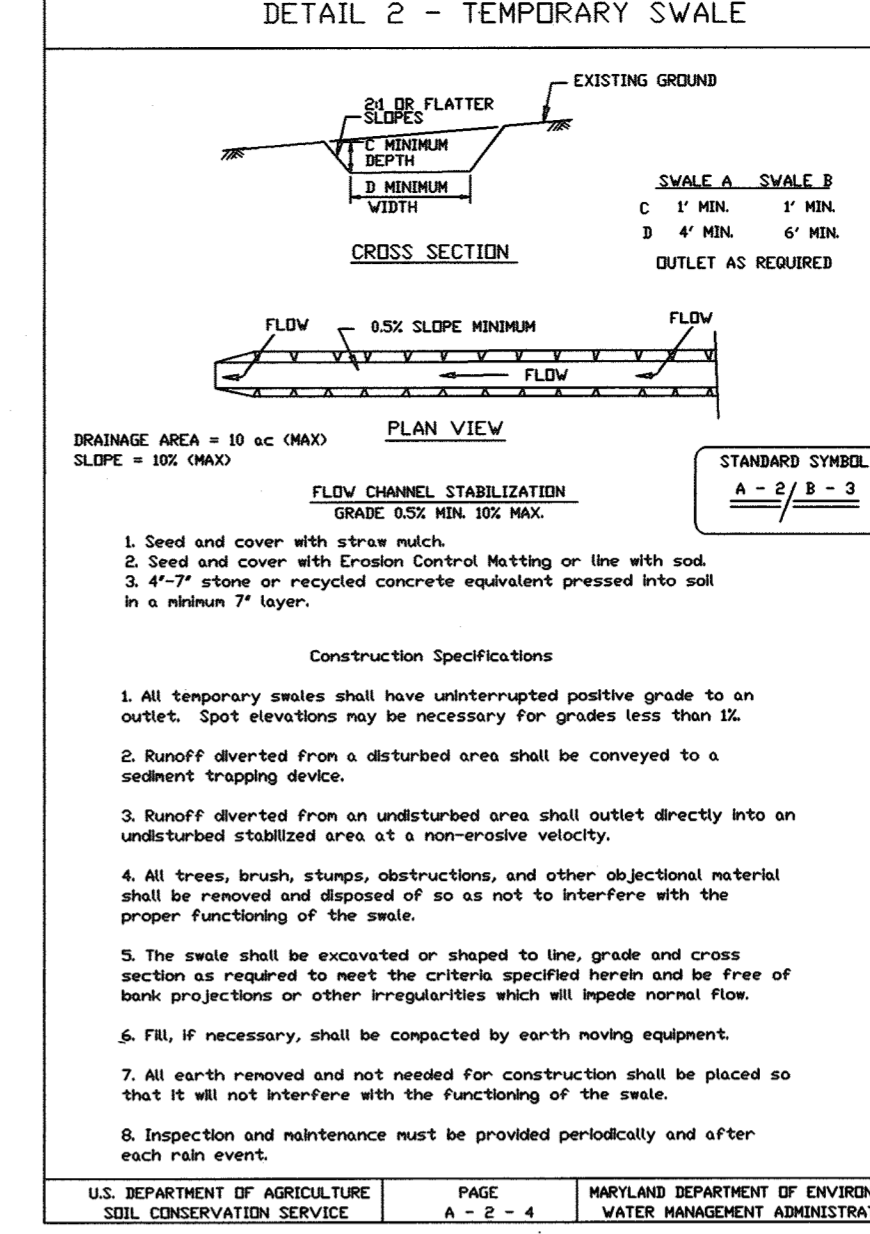
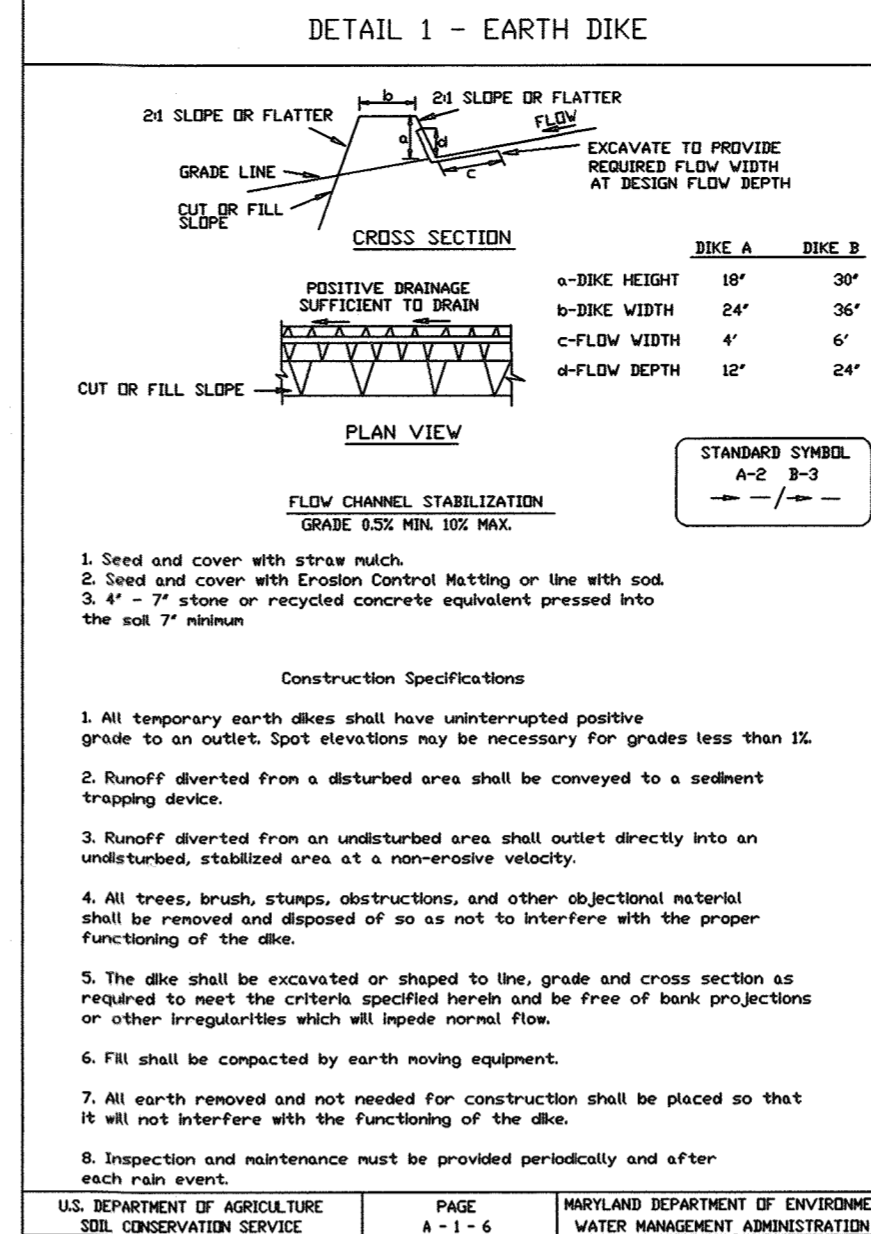
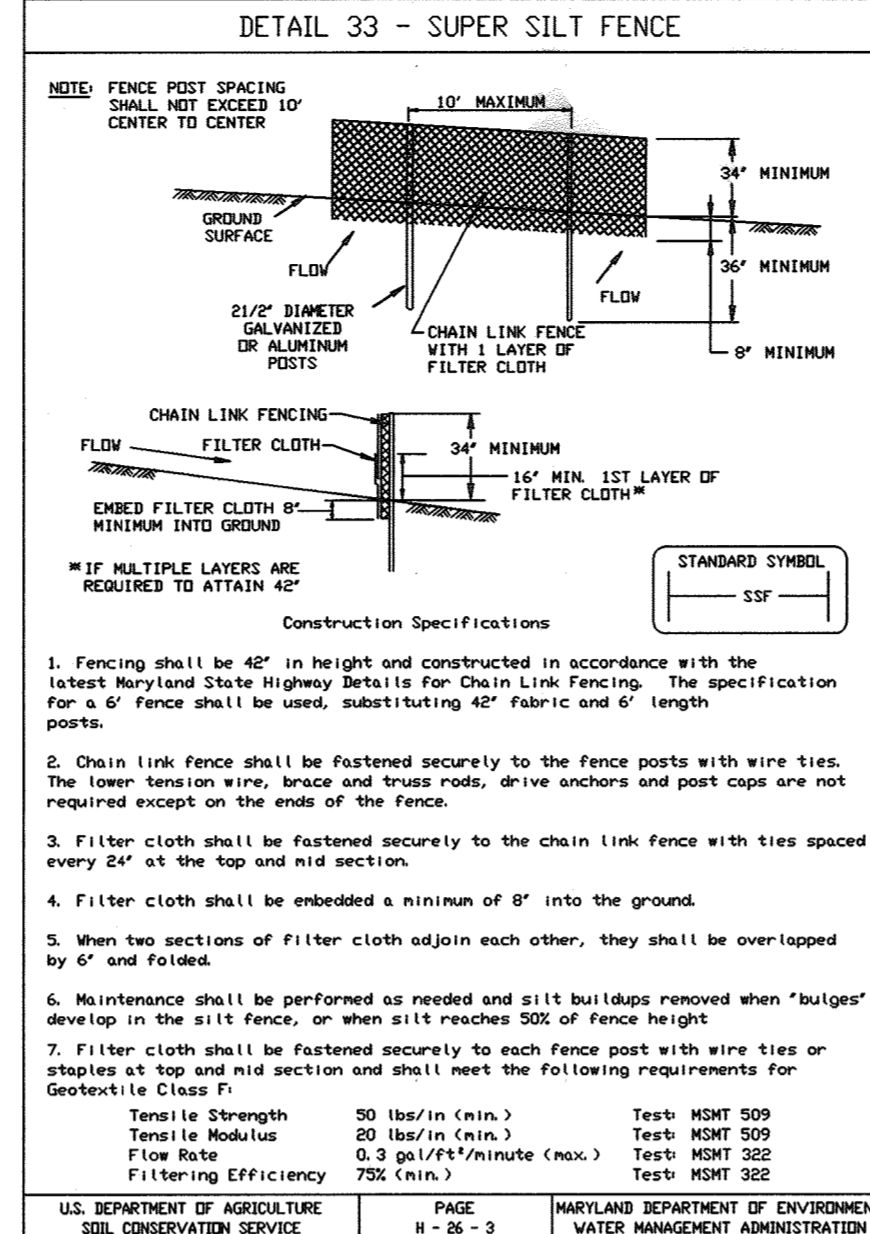
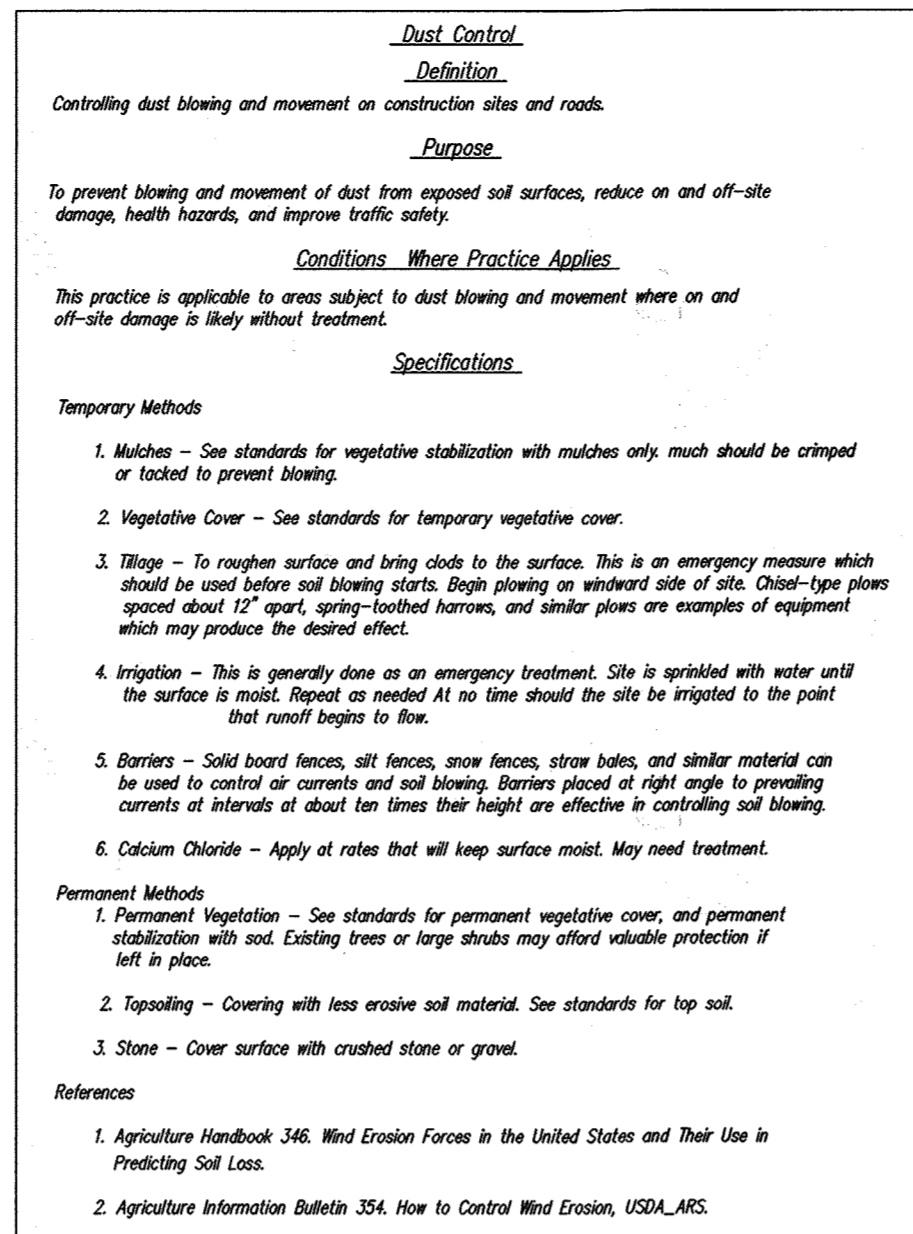
Topsoil Application

- When topsoiling, maintain needed erosion and sediment control practices such as diversion, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Bars.
- Grades on the areas to be topsoiled, which have previously established, shall be maintained, albeit 4" - 8" higher in elevation.
- Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that seeding or sodding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water.
- Topsoil shall not be placed while the topsoil or subsoil is frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.

Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

- Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
  - Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
  - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
  - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
  - Composted sludge shall be amended with a potassium fertilizer applied at a rate of 4b/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Seeding, MD-VA Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 [Signature] 5/23/01 Date  
 [Signature] 5/23/01 Date  
 Chief, Division of Land Development and Research  
 [Signature] 5/15/01 Date  
 Chief, Development Engineering Division MK



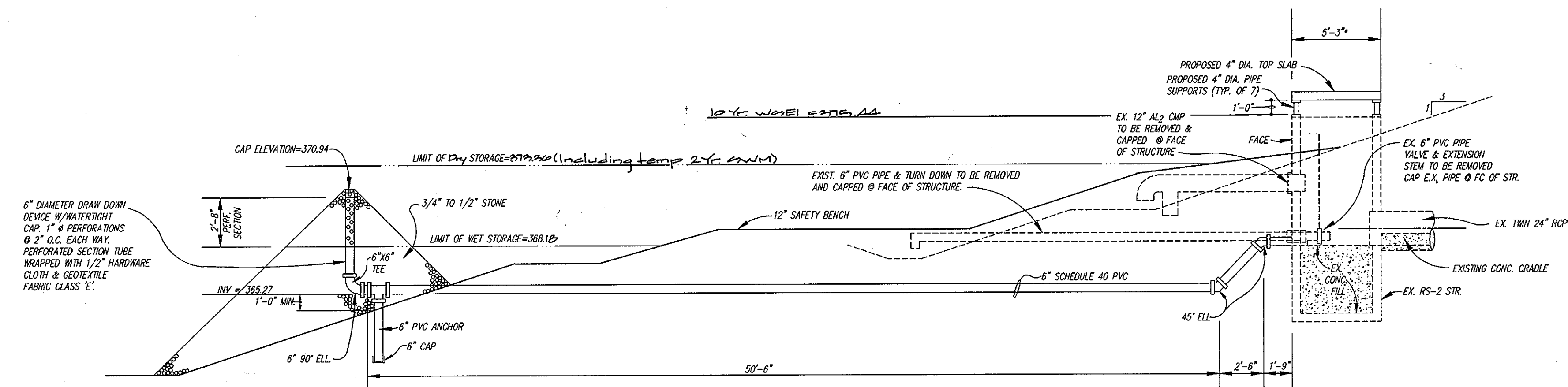
ENGINEER'S CERTIFICATE  
 I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.  
 [Signature] 4/25/01 Date

DEVELOPER'S/BUILDER'S CERTIFICATE  
 I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel 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 shall engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.  
 [Signature] 4-29-01 Date  
 Signature of Developer/Builder  
 Howard Soil Conservation District  
 Date

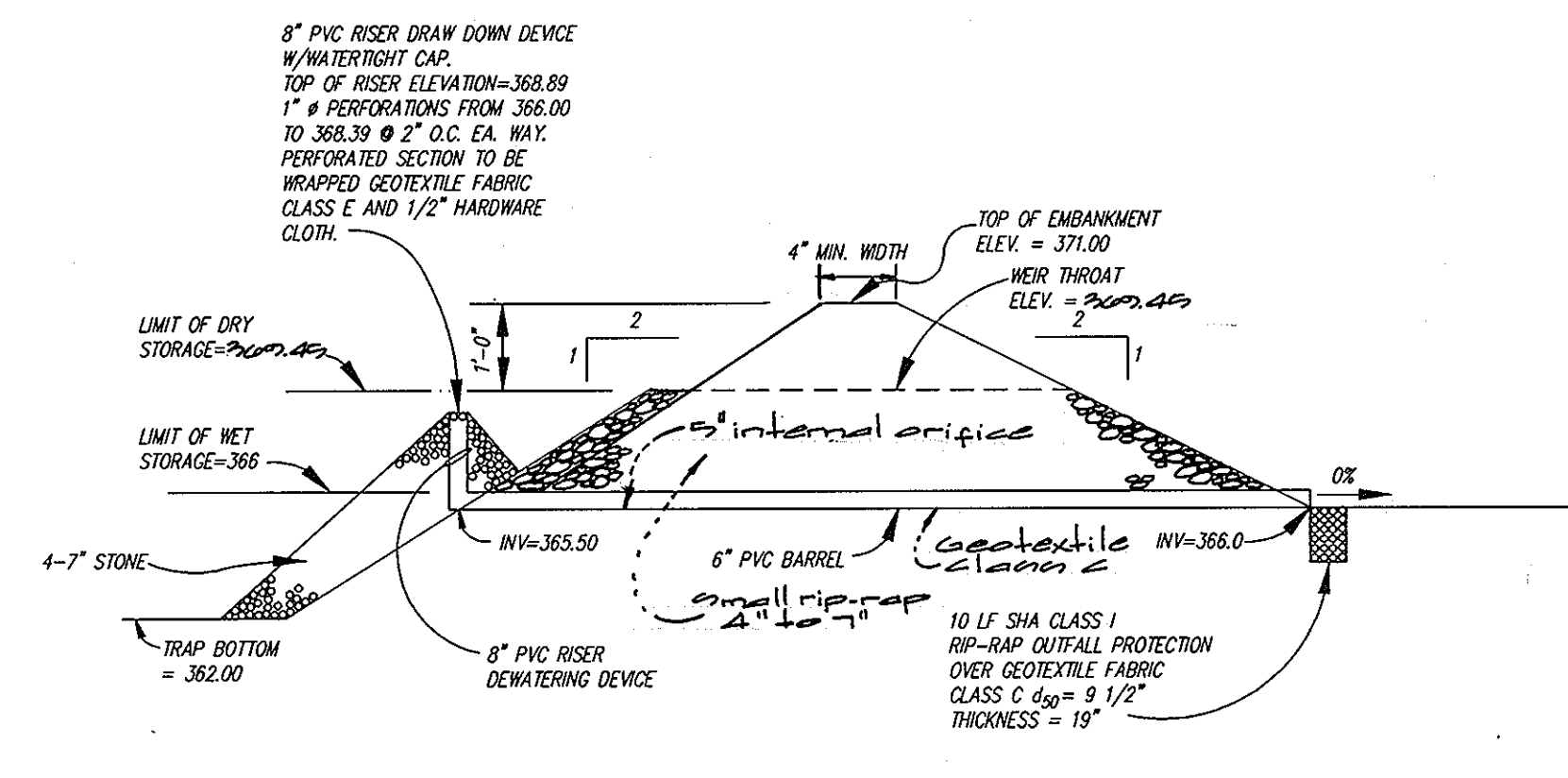
These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.  
 [Signature] 5/3/01 Date  
 Howard Soil Conservation District

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.  
 [Signature] 5/3/01 Date  
 Natural Resources Conservation Service

GLW GUTSCHICK LITTLE & WEBER, P.A. CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE - SUITE 250 - BURTONVILLE OFFICE PARK BURTONVILLE, MARYLAND 20866 TEL: 301-421-4024 BALT. 410-880-1820 DC/VA 301-989-2524 FAX: 301-421-4186	DESIGN: 150033			REVISION			DATE			BY			APP'R.				
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	DESIGN: 150033			REVISION			DATE			BY			APP'R.				
PREPARED FOR: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 ATTN: AL EDWARDS (410) 992-6027																	
SEDIMENT CONTROL DETAILS ROUTE 175 COMMERCIAL SECTION 1 AREA 2 PARCELS B-D and LOTS 4 & 5 PLAT No. 14637 & 14638																	
SCALE: AS SHOWN				ZONING: NT				G. L. W. FILE NO.: 95003				DATE: March, 2001			SHEET: 9 OF 19		
SDP 01-09																	

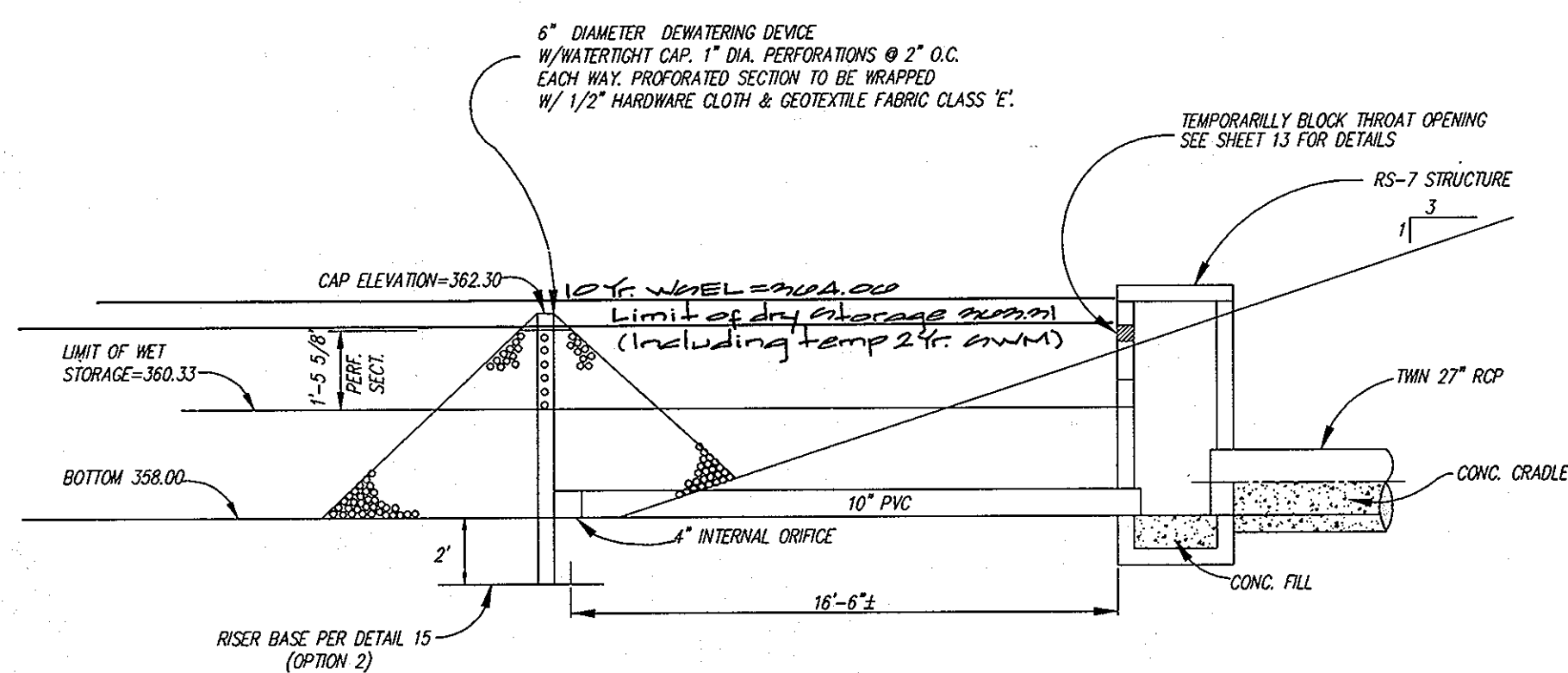


**POND No. 2 RISER TEMPORARY SWM DEWATERING DEVICE DETAIL**  
SCALE: 1" = 5'

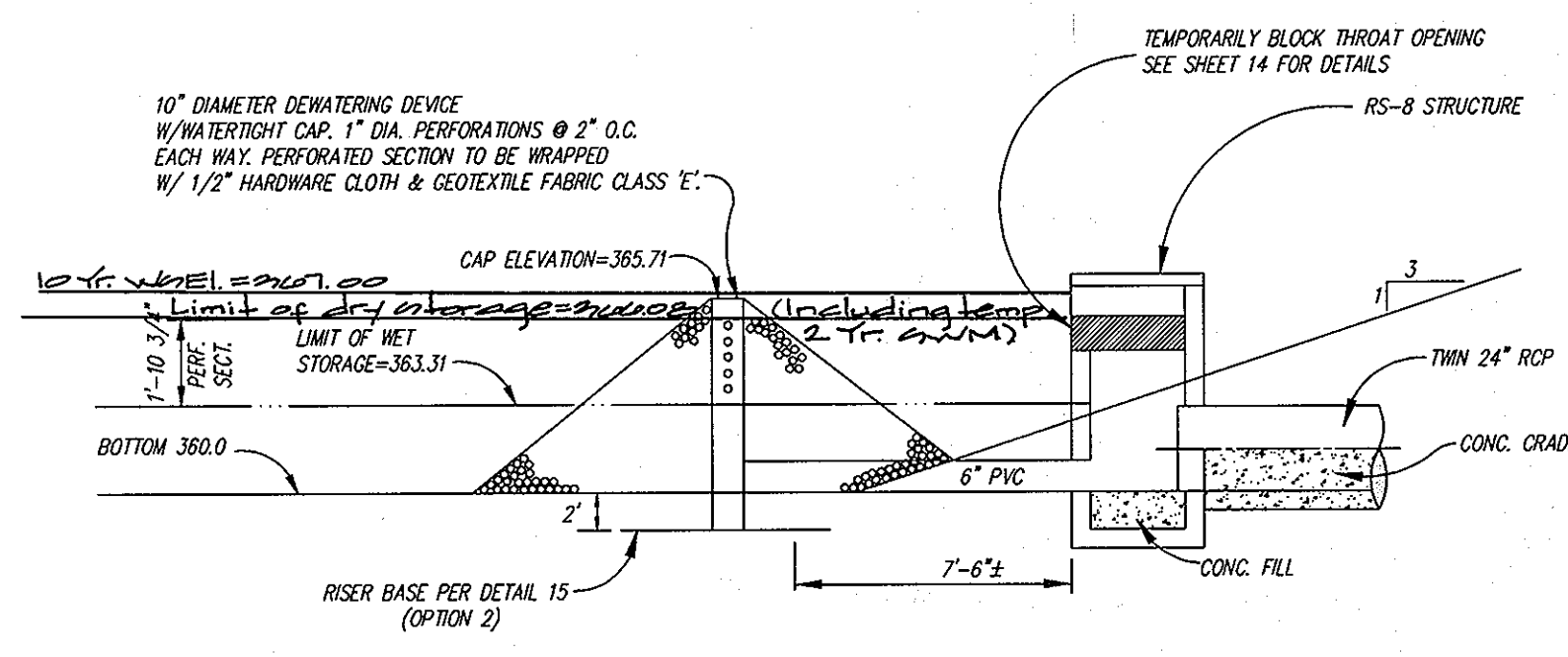


**SEDIMENT TRAP "C" RISER TEMPORARY SWM DEWATERING DEVICE DETAIL**  
N.T.S.

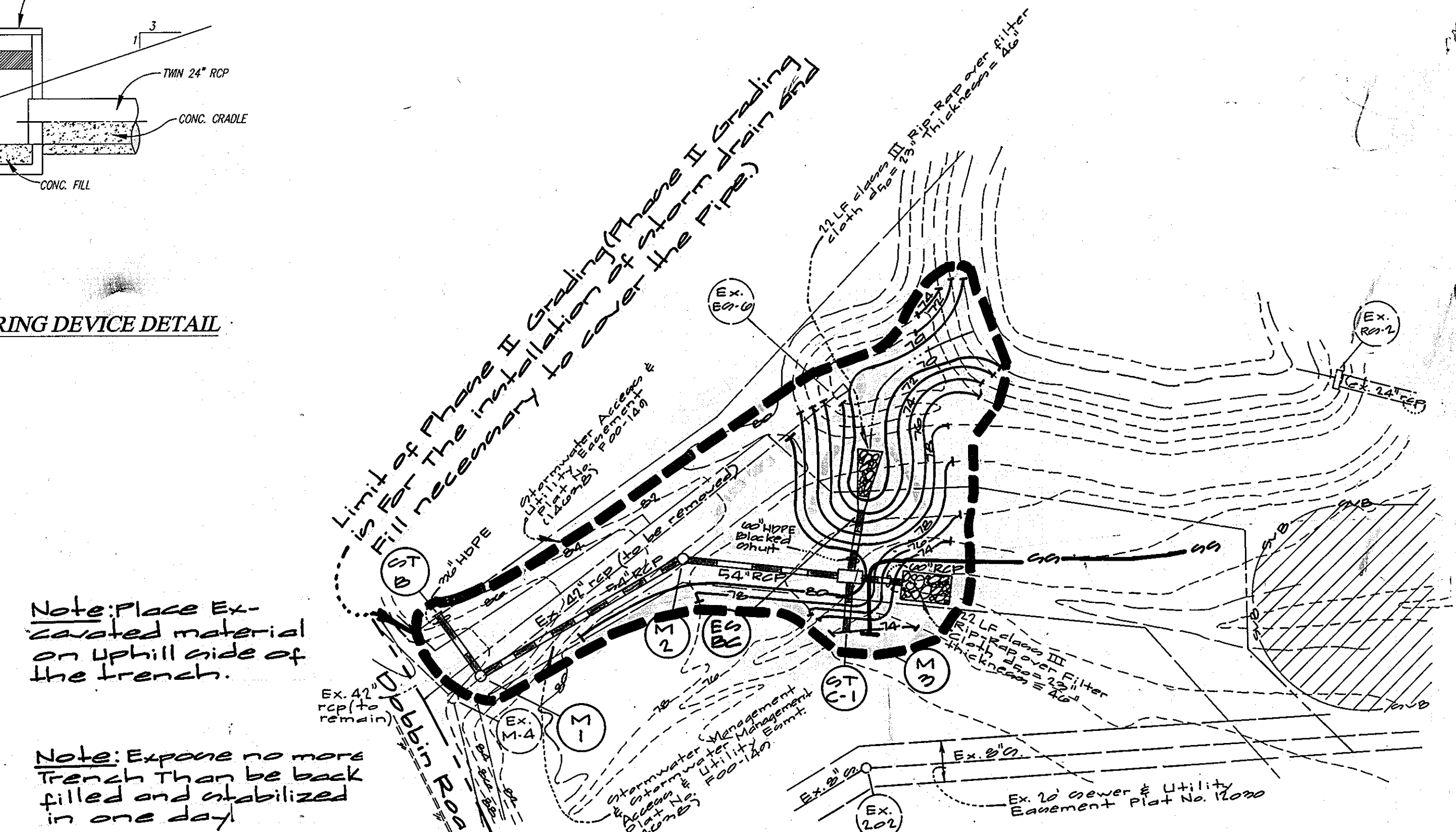
Note: For information not shown see atd. 411.0, 411.1



**POND No. 7 RISER TEMPORARY SWM DEWATERING DEVICE DETAIL**  
N.T.S.



**POND No. 8 RISER TEMPORARY SWM DEWATERING DEVICE DETAIL**  
N.T.S.



Note: Place Excavated material on uphill side of the trench.

Note: Expose no more trench than be back filled and stabilized in one day.

Note: After basin has been constructed and permission has been granted by the inspector un-block 60" RCP to basin and block 60" RCP to stream.

**Phase II Grading Detail**  
SCALE: 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Director: *[Signature]* 5/23/01  
 Chief, Division of Land Development and Research: *[Signature]* 5/23/01  
 Chief, Development Engineering Division: *[Signature]* 5/16/01

ENGINEER'S CERTIFICATE  
 I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.  
 Date: 10/9/00

DEVELOPER'S/BUILDER'S CERTIFICATE  
 I/We certify that all development and/or construction will be done according to these plans, 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 this project. I shall engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.  
 Signature of Developer/Builder: *[Signature]* Date: 10/10/00

These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.  
 Signature: *[Signature]* Date: 5/3/01  
 Howard Soil Conservation District

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.  
 Signature: *[Signature]* Date: 5/3/01  
 Natural Resources Conservation Service

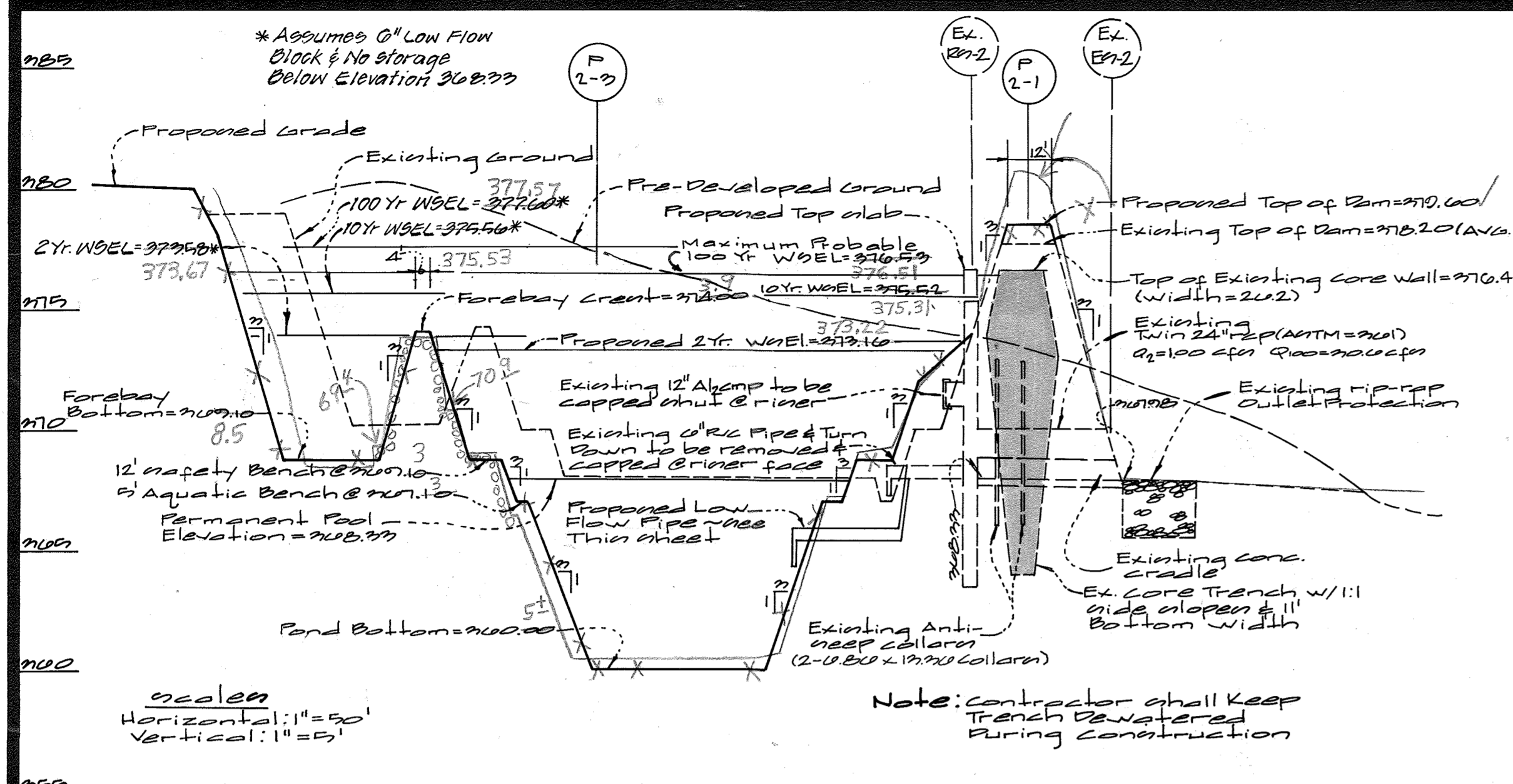
**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
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DES.	DRN.	CHK.	DATE	REVISION	BY	APPR.

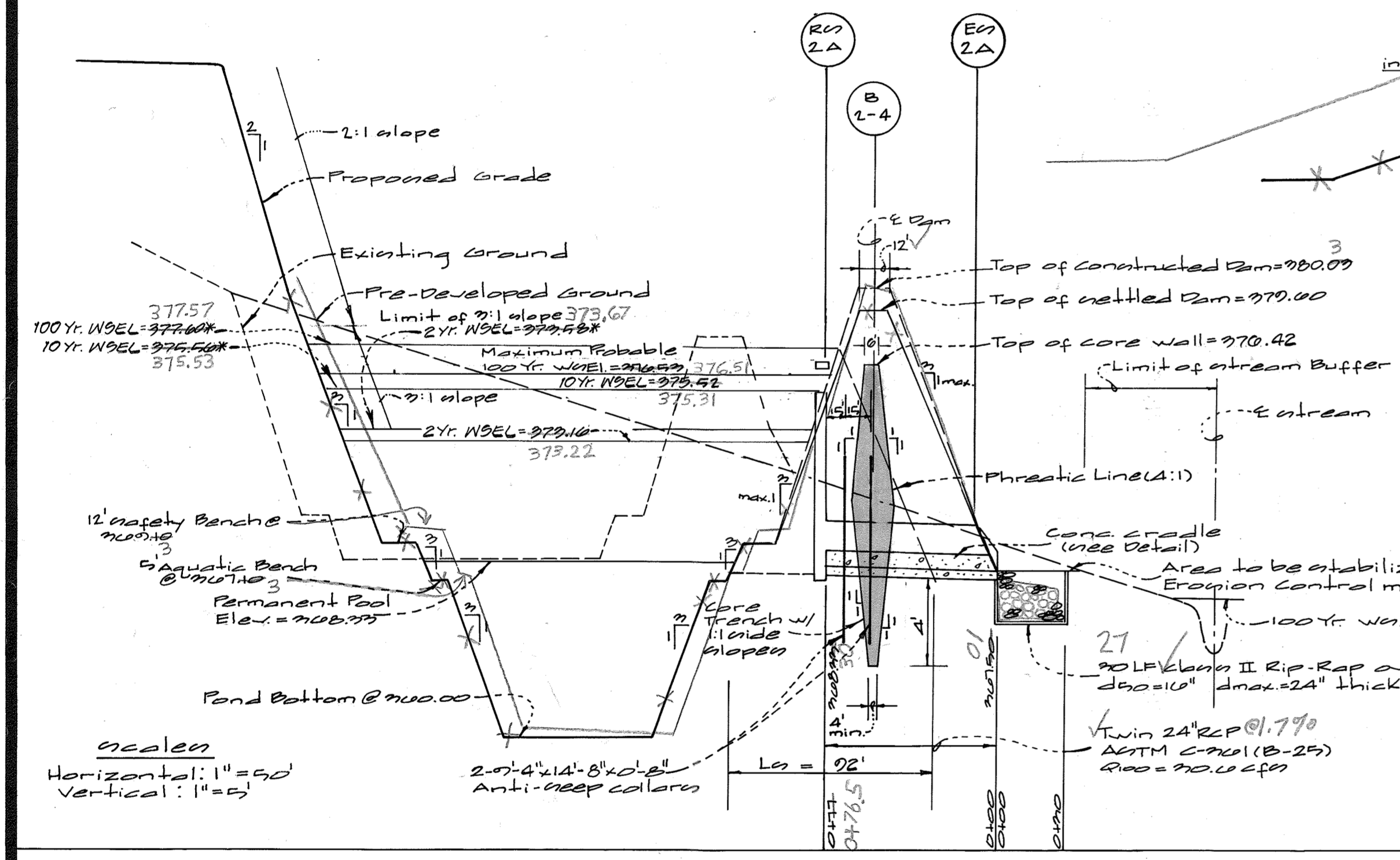
PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044  
 ATTN: AL EDWARDS  
 (410) 992-6027

SEDIMENT CONTROL DETAILS  
**ROUTE 175 COMMERCIAL**  
 SECTION 1 AREA 2  
 PARCELS B-D and LOTS 4&5  
 PLAT No. 14007 & 14032  
 ELECTION DISTRICT No. 6  
 HOWARD COUNTY, MARYLAND

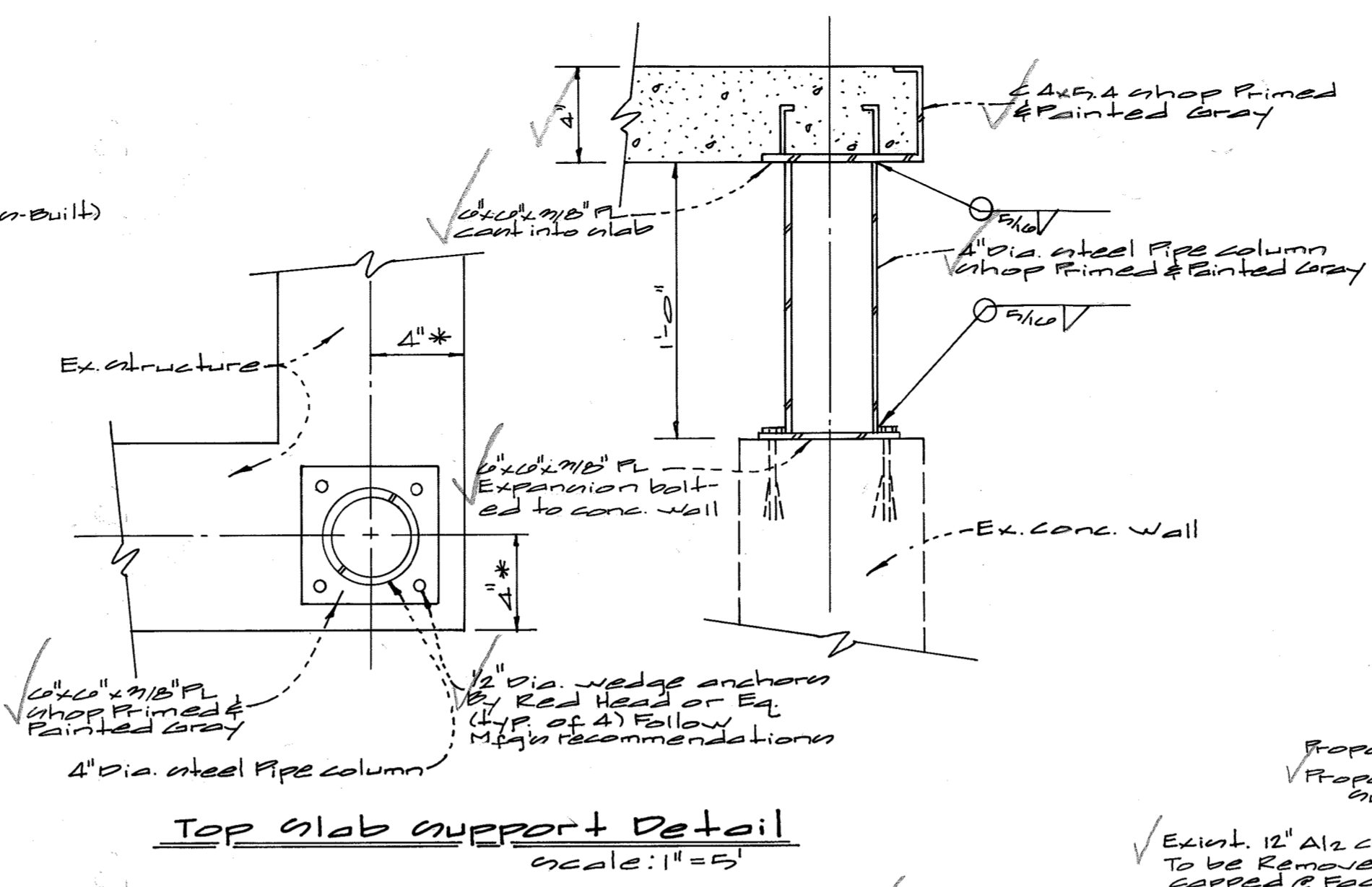
SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	NT	95003
DATE	TAX MAP - GRID	SHEET
March 2001	36-18 37-13	10 OF 19



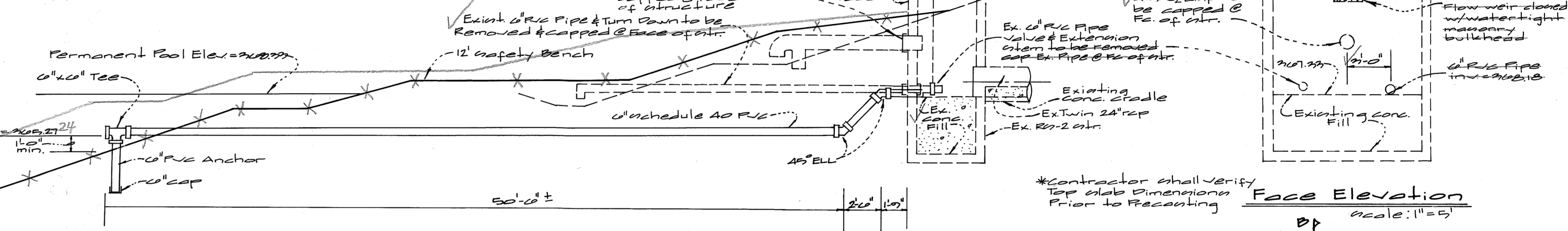
Profile Thru Pond No.2 Existing Principal Spillway



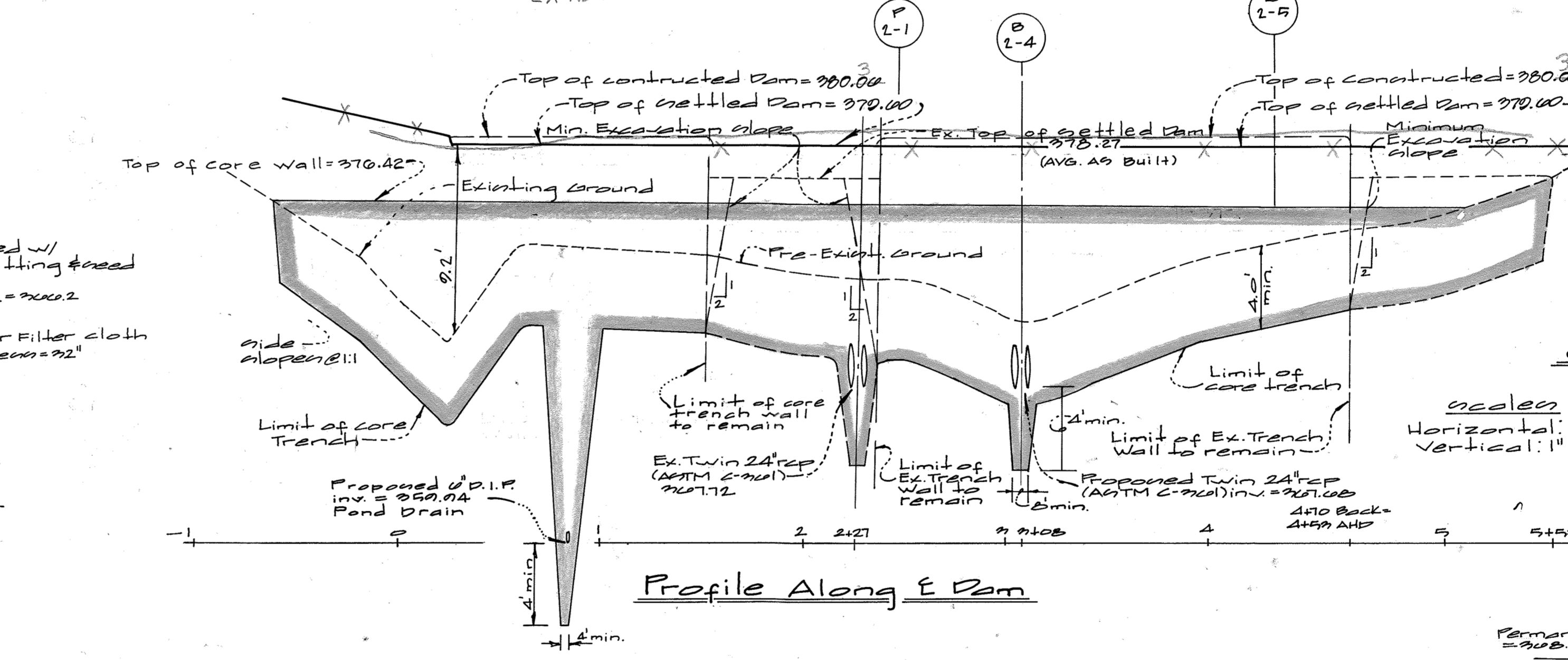
Profile Thru Pond No.2 Proposed Principal Spillway



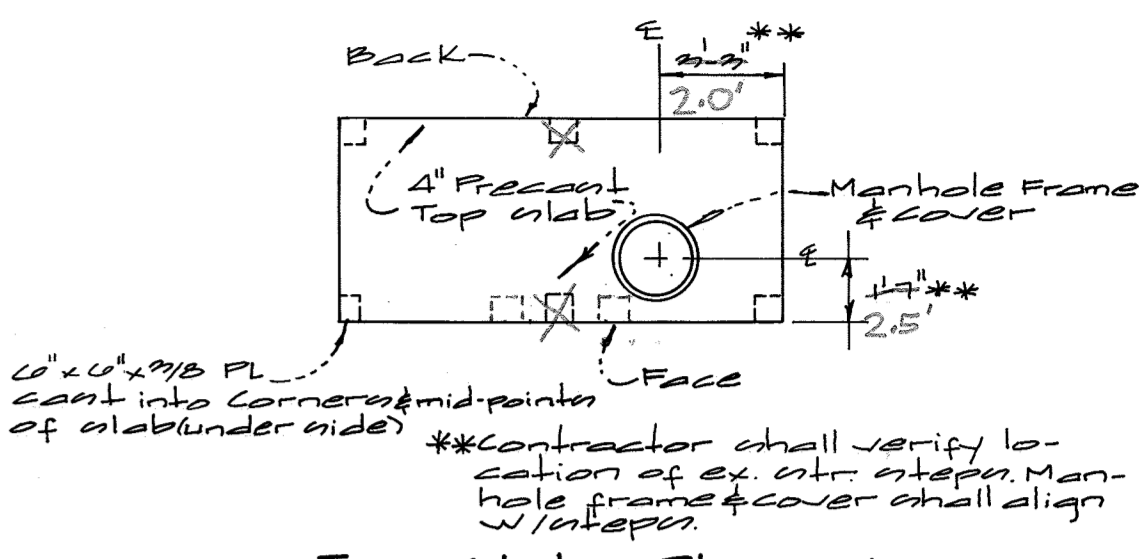
Top Slab Support Detail  
Scale: 1"=5'



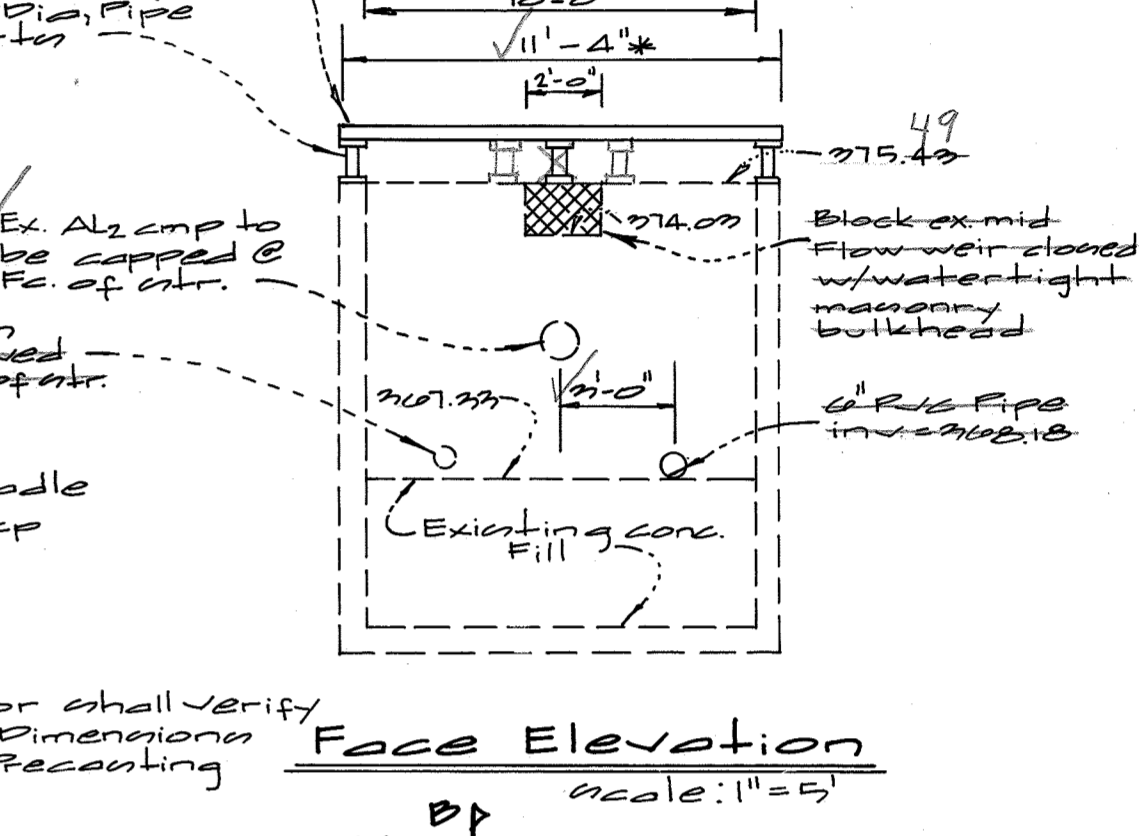
Pond No.2 Existing River Structure Modifications  
Scale: 1"=5'



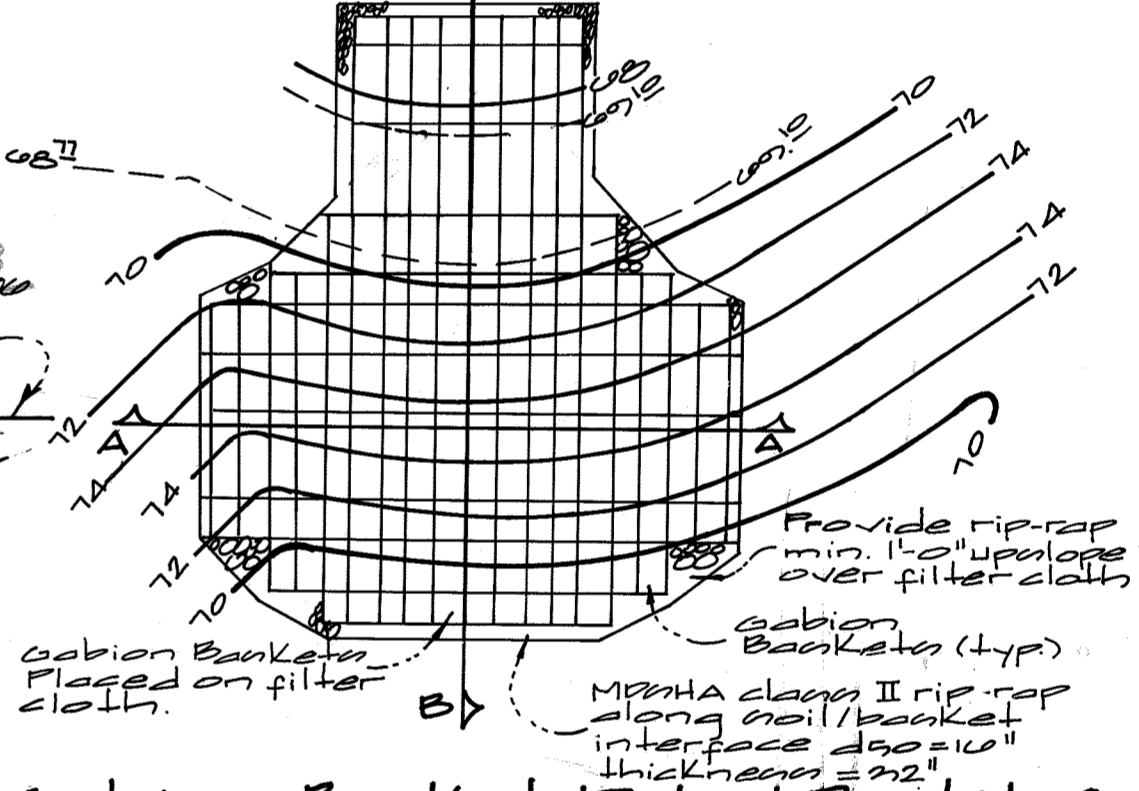
Profile Along E Dam



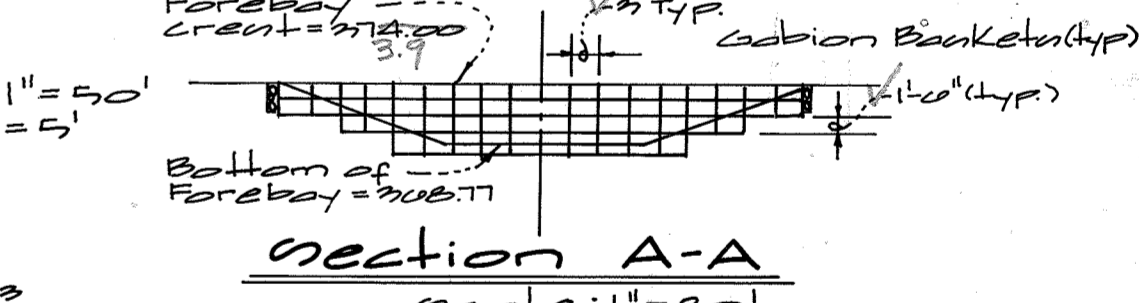
Top Slab Plan View  
Scale: 1"=5'



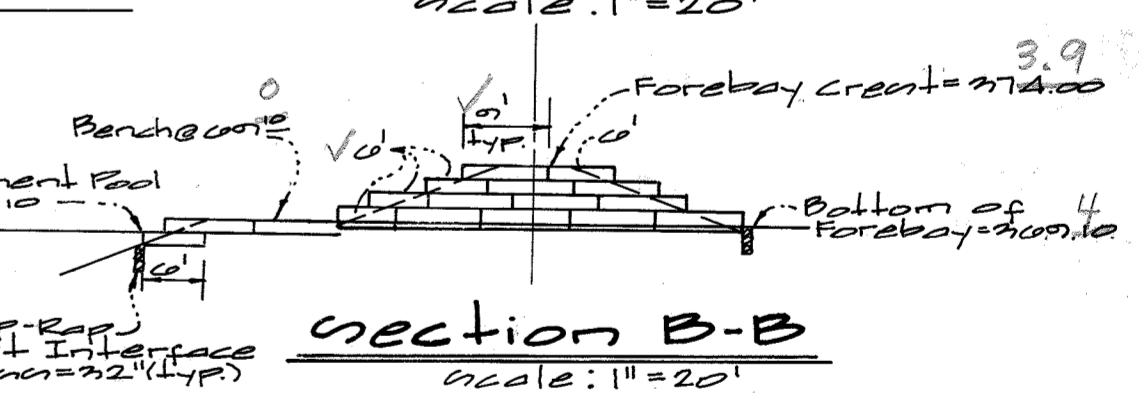
Face Elevation  
Scale: 1"=5'



Gabion Basket Detail Pond No.2  
Scale: 1"=20'



Section A-A  
Scale: 1"=20'



Section B-B  
Scale: 1"=20'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Director: *[Signature]* 5/23/01  
 Chief, Division of Land Development: *[Signature]* 5/23/01  
 Chief, Development Engineering Division: *[Signature]* 5/15/01

ENGINEER'S CERTIFICATE  
 I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.  
*[Signature]* 7/2/01  
 Engineer's Signature Date

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*[Signature]* 10/10/00  
 Signature of Developer/Builder Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.  
*[Signature]* 5/3/01  
 Natural Resources Conservation Service Date

These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.  
*[Signature]* 5/3/01  
 Howard Soil Conservation District Date

AS BUILT

AS BUILT SHEET 4 OF 9

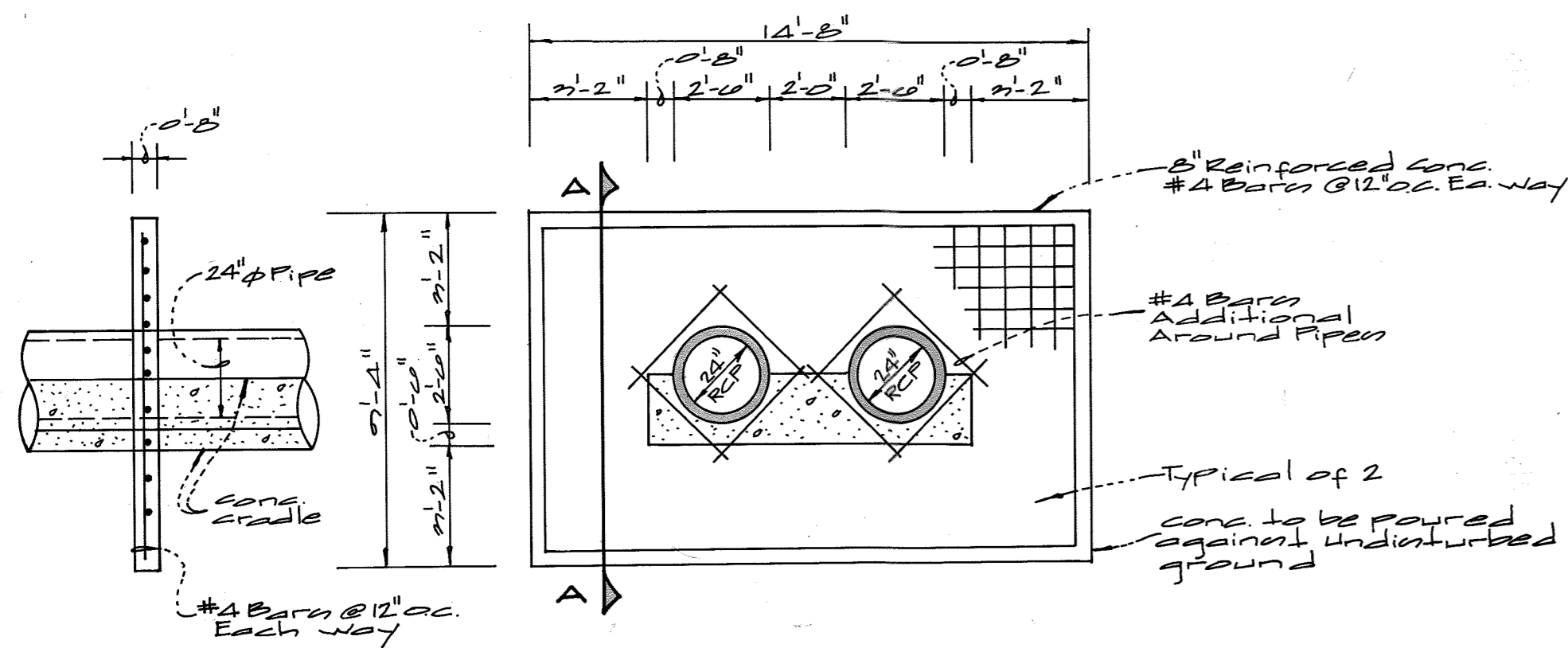
GLW GUTSCHICK LITTLE & WEBER, P.A.  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3009 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BAL: 410-880-1820 DC/WA: 301-989-2524 FAX: 301-421-4186

NO.	DATE	REVISION

PREPARED FOR:  
 THE HOWARD RESEARCH  
 AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 ATTN: AL EDWARDS  
 (410) 992-6027

Storm Water Management Details Pond No. 2  
 ROUTE 175 COMMERCIAL  
 Section 1 Area 2  
 Parcel B-D and Lots 4 & 5  
 Plat No. 014027 & 14028  
 ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	NT	95003
DATE	TAX MAP - GRID	SHEET
March, 2001	36-12&18	11 of 17

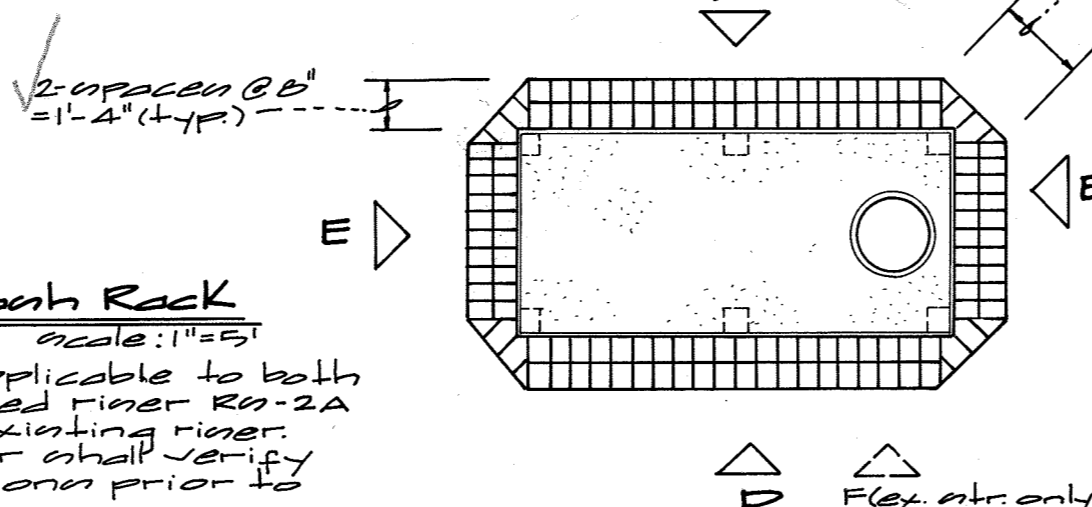


**Section A** Elevation ~ Anti-Weep Collar  
NTS

- Notes For Anti-Weep Collar**
- 1) Pour cone to undisturbed earth.
  - 2) Remove sheeting before pouring concrete.
  - 3) FE = 4000 psi @ 28 days.
  - 4) Four collars with pipe in place.
  - 5) Backfill evenly on both sides of collars.
  - 6) Locate collars a min. of 2' from pipe joints.

**FC Note:**  
Structure has been designed to require a minimum finished weight of 40,000 lbs. Any deviations from the indicated details will require buoyancy computations to be provided by the presenter.

**Plan View ~ Structure R09-2A**  
Scale: 1" = 5'

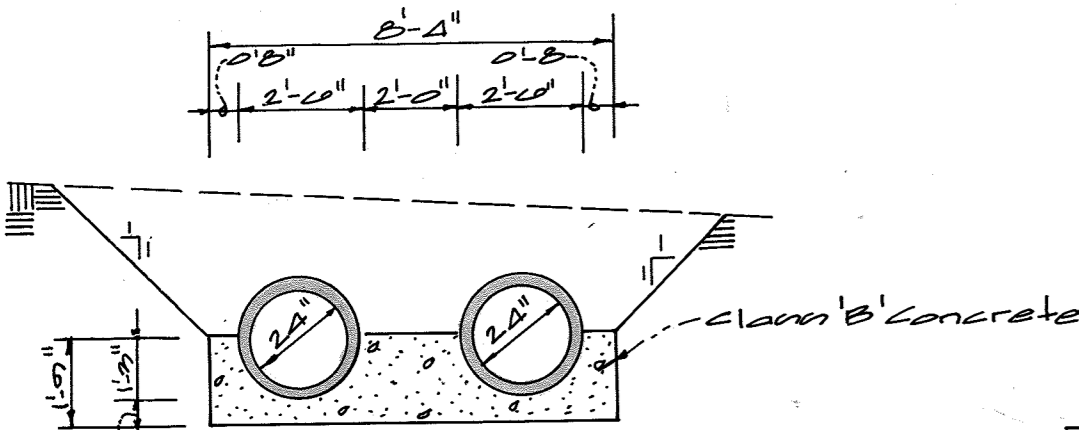


**Plan ~ Trash Rack**  
Scale: 1" = 5'

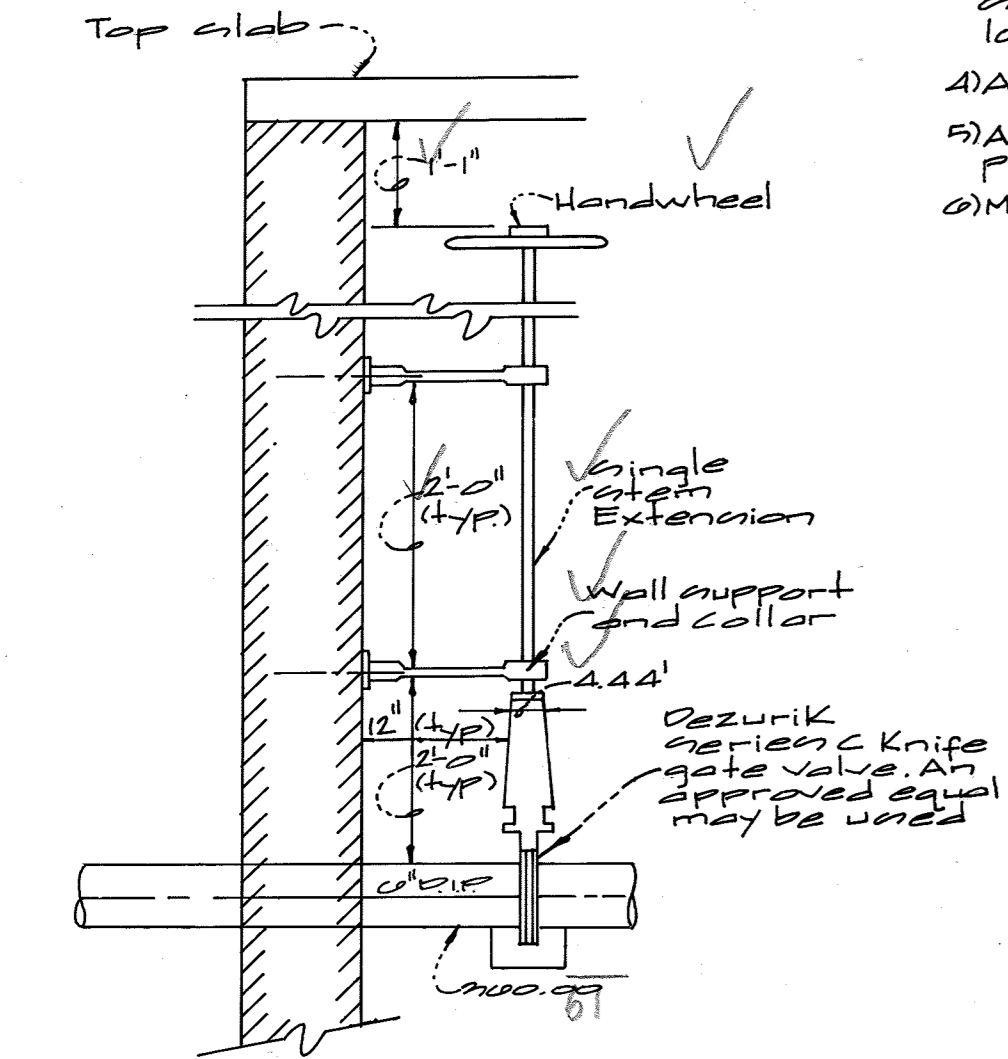
Detail is applicable to both the Proposed Riser R09-2A and the existing riser. Contractor shall verify all dimensions prior to assembly.

**Trash Rack Notes**

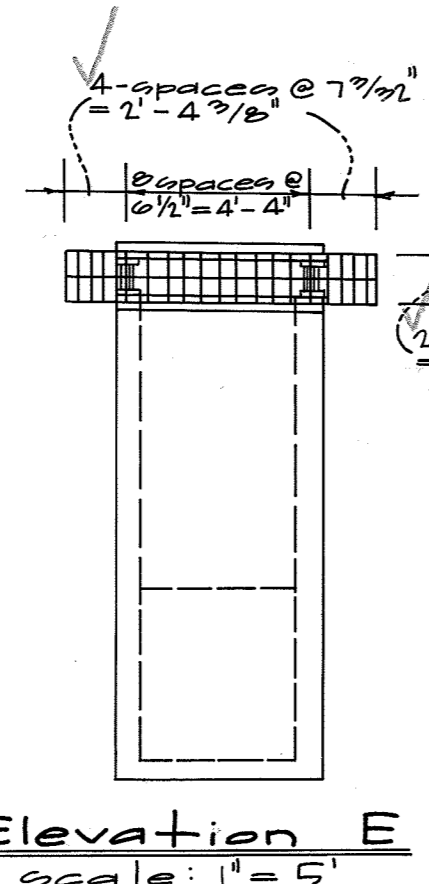
- 1) Trash racks to be hot dip galvanized after fabrication painted w/2 coats of black paint.
- 2) Vertical bars shall be on the outside of horizontal bars.
- 3) Trash rack to be securely bolted to riser structure with 1/2" @ bolts embedded 6" @ locations min. per rack.
- 4) All rebar intersections to be spot welded.
- 5) All rebar to plate intersections or plate to plate intersections to be securely welded.
- 6) Minimum opening size 6"x6".



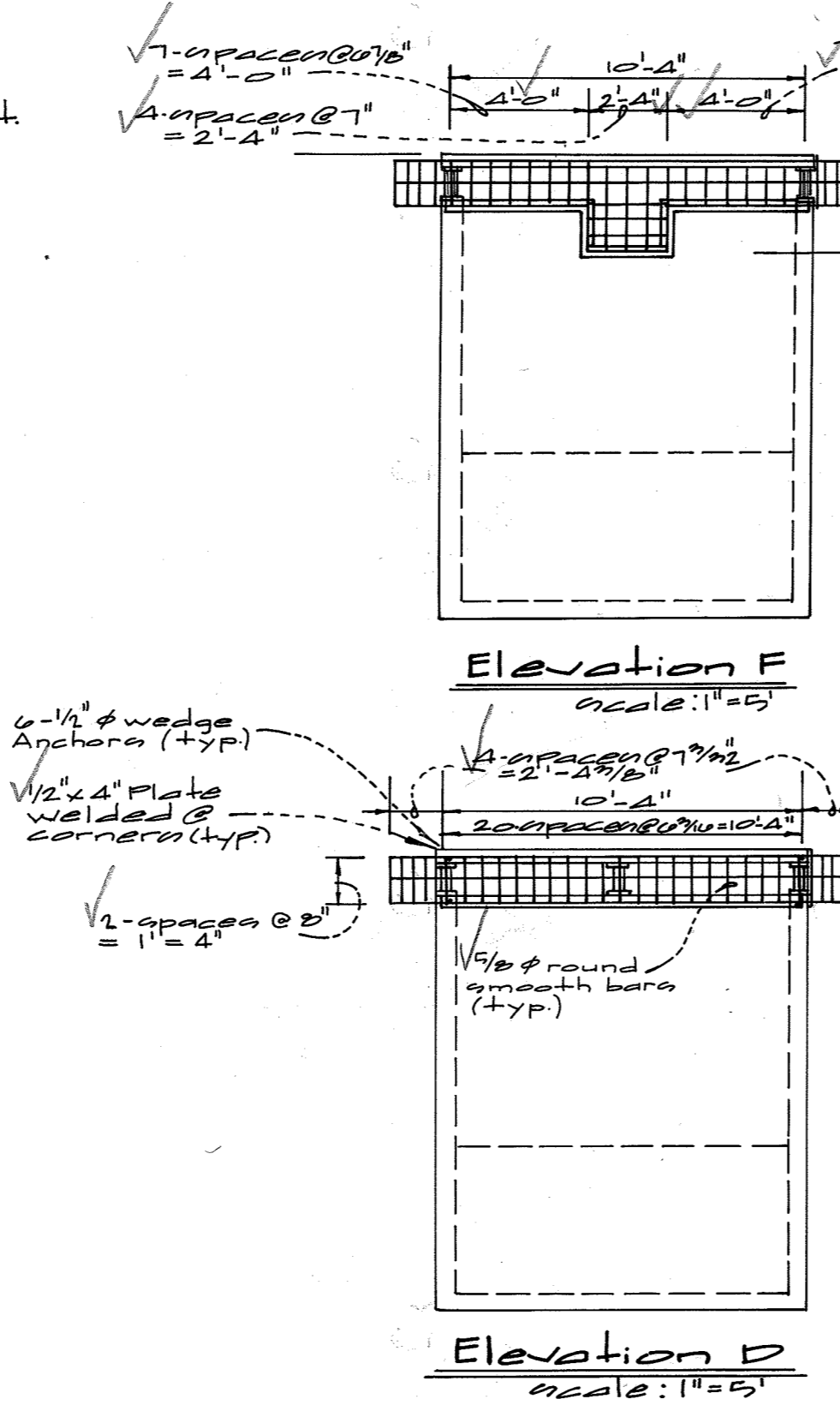
**Conc. Cradle Detail**  
(1200) A-2 Conc. Cradle) NTS



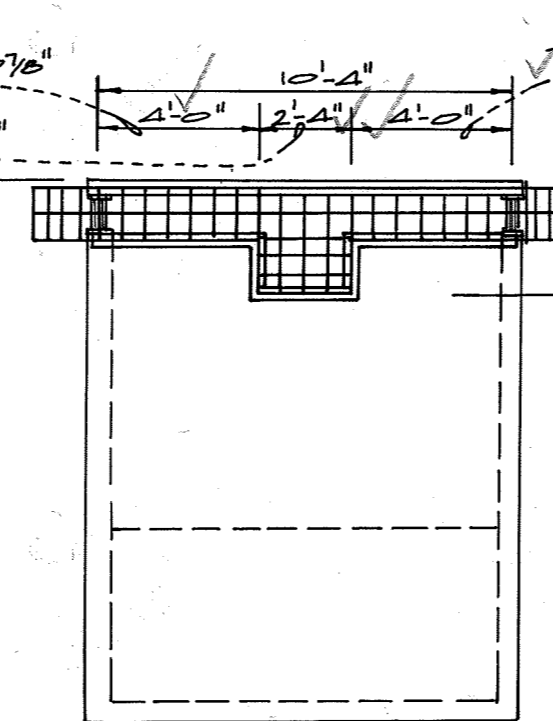
**Pond Drain Valve Detail**  
NTS



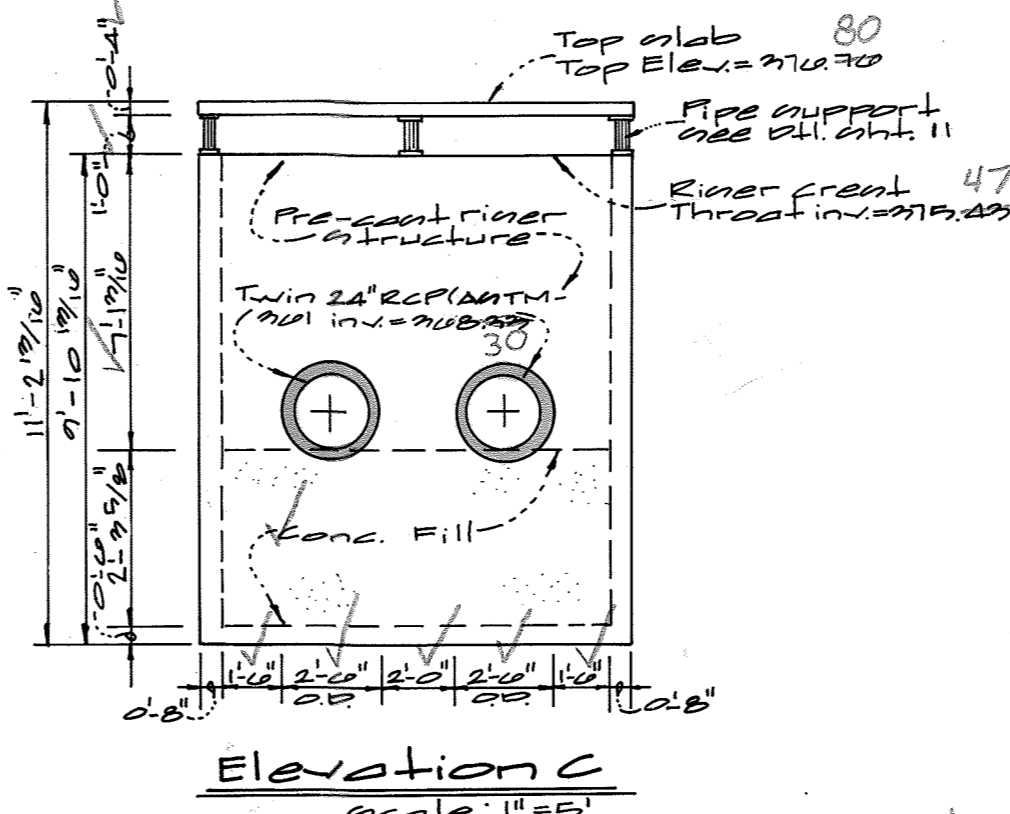
**Elevation E**  
Scale: 1" = 5'



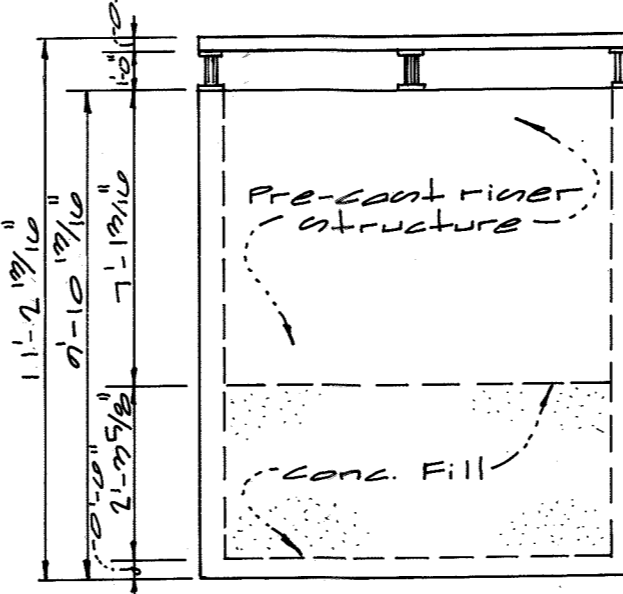
**Elevation D**  
Scale: 1" = 5'



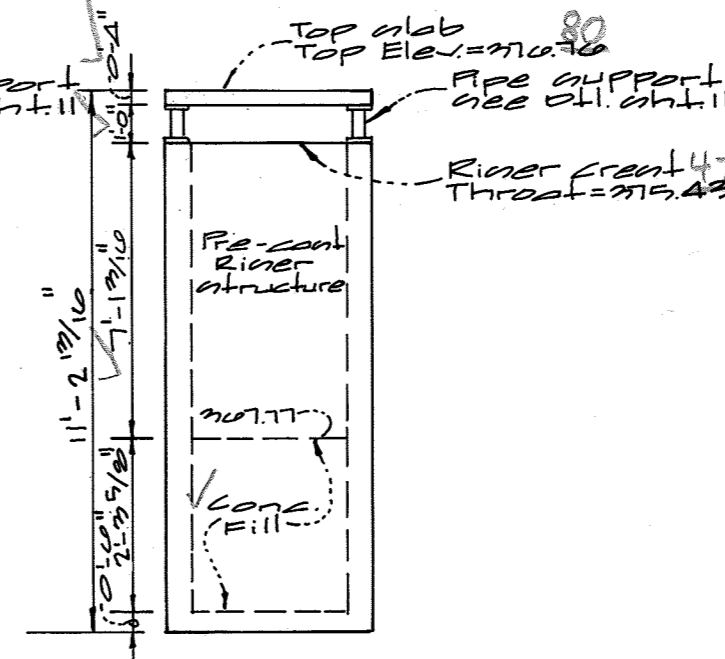
**Elevation F**  
Scale: 1" = 5'



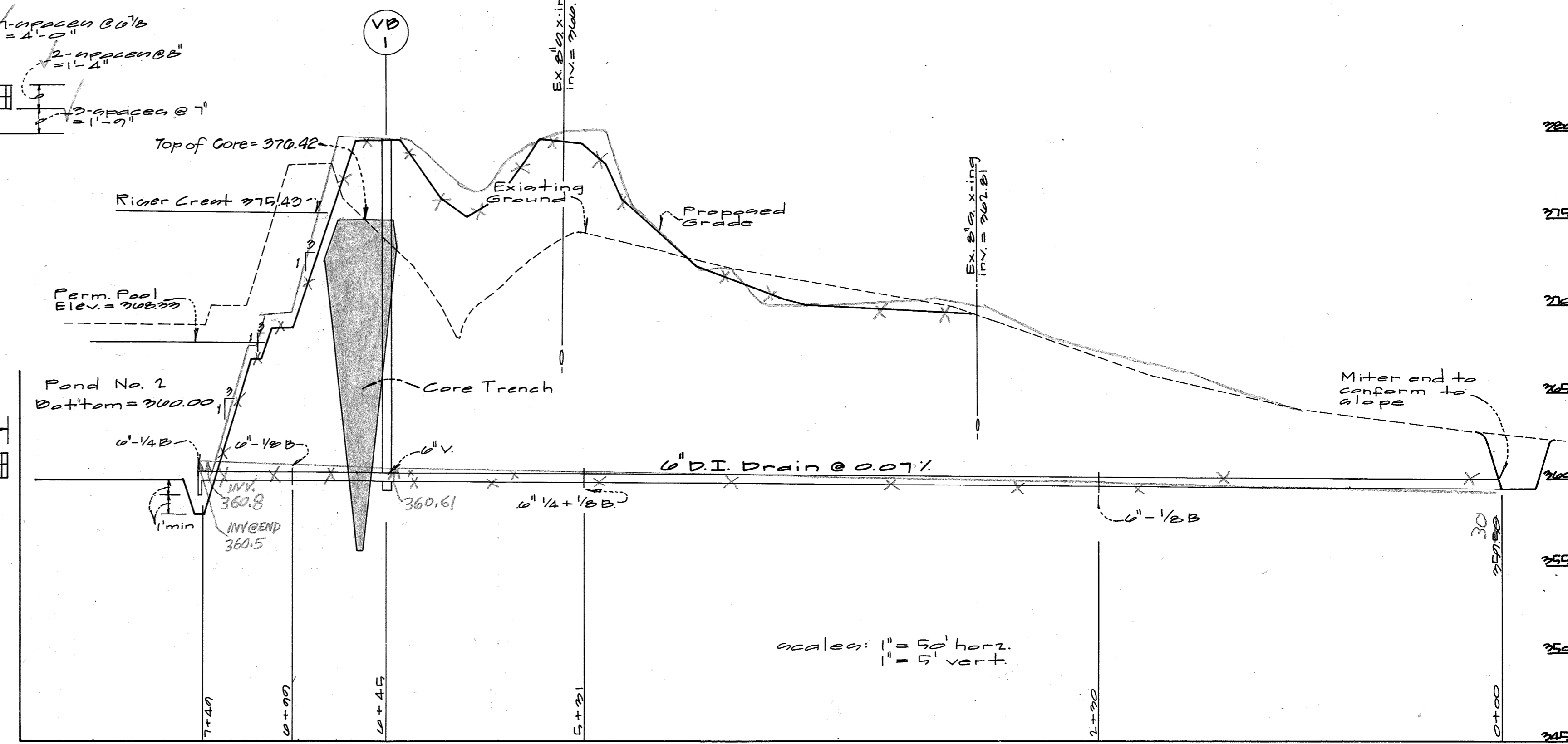
**Elevation C**  
Scale: 1" = 5'



**Elevation A**  
Scale: 1" = 5'



**Elevation B**  
Scale: 1" = 5'



**Pond No. 2 ~ Drain**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*[Signature]* 5/27/01  
Director Date

*[Signature]* 5/23/01  
Chief, Division of Land Development Date

*[Signature]* 5/15/01  
Chief, Development Engineering Division Date

**ENGINEER'S CERTIFICATE**

I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

*[Signature]* 7/2/00  
Engineer's Signature Date



**DEVELOPER'S/BUILDER'S CERTIFICATE**

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*[Signature]* 10.10.00  
Signature of Developer/Builder Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

*[Signature]* 5/3/01  
Natural Resources Conservation Service Date

These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

*[Signature]* 5/3/01  
Howard Soil Conservation District Date

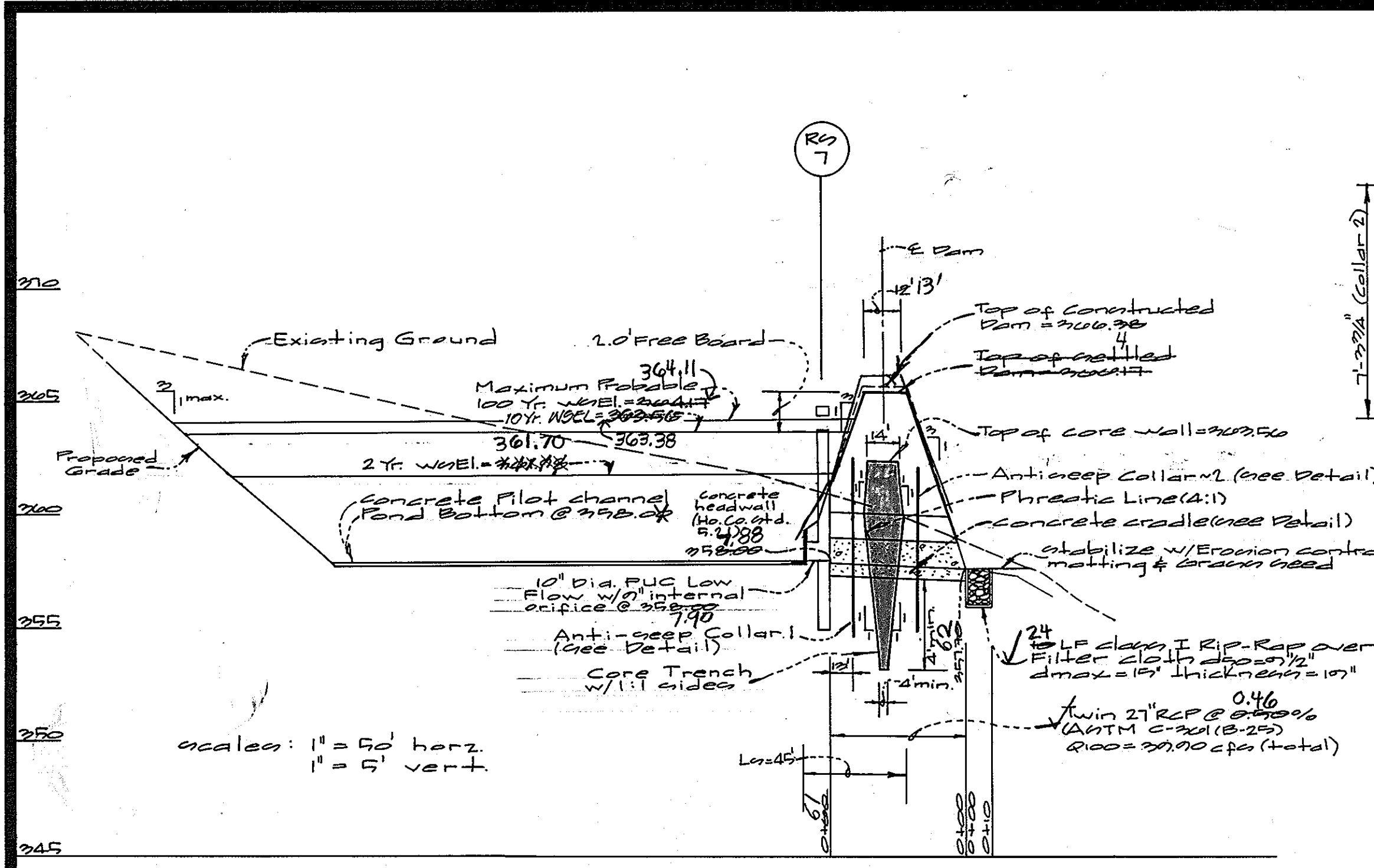
**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20866  
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-988-2524 FAX: 301-421-4188

PREPARED FOR:  
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
ATTN: AL EDWARDS  
(410) 992-6027

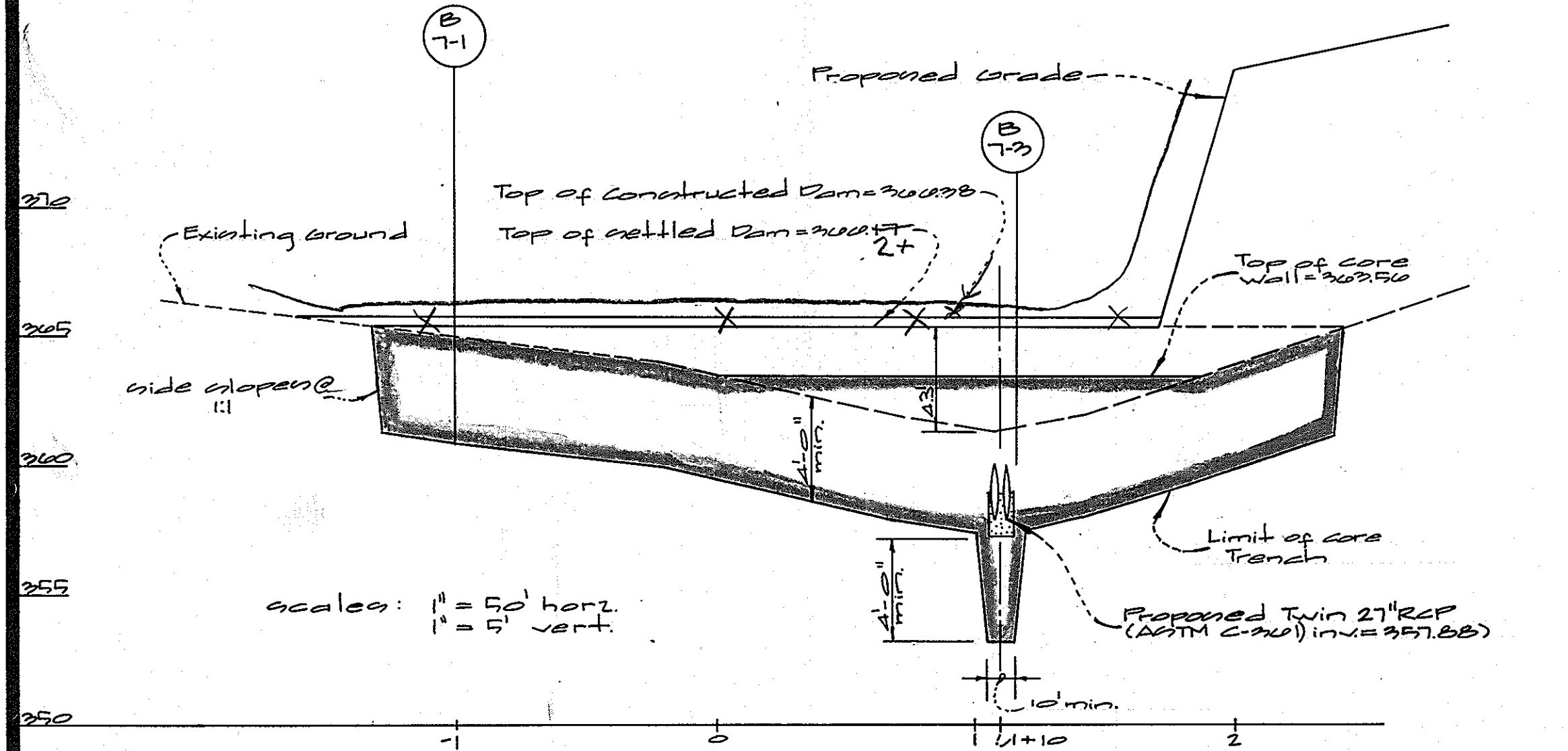
Storm Water Management Details Pond No. 2  
**ROUTE 175 COMMERCIAL**  
Section 1 Area 2  
Parcel B and Lots 4 & 5  
Plot No.'s 14027 & 14028  
ELECTION DISTRICT No. 6

AS BUILT SHEET 50F9

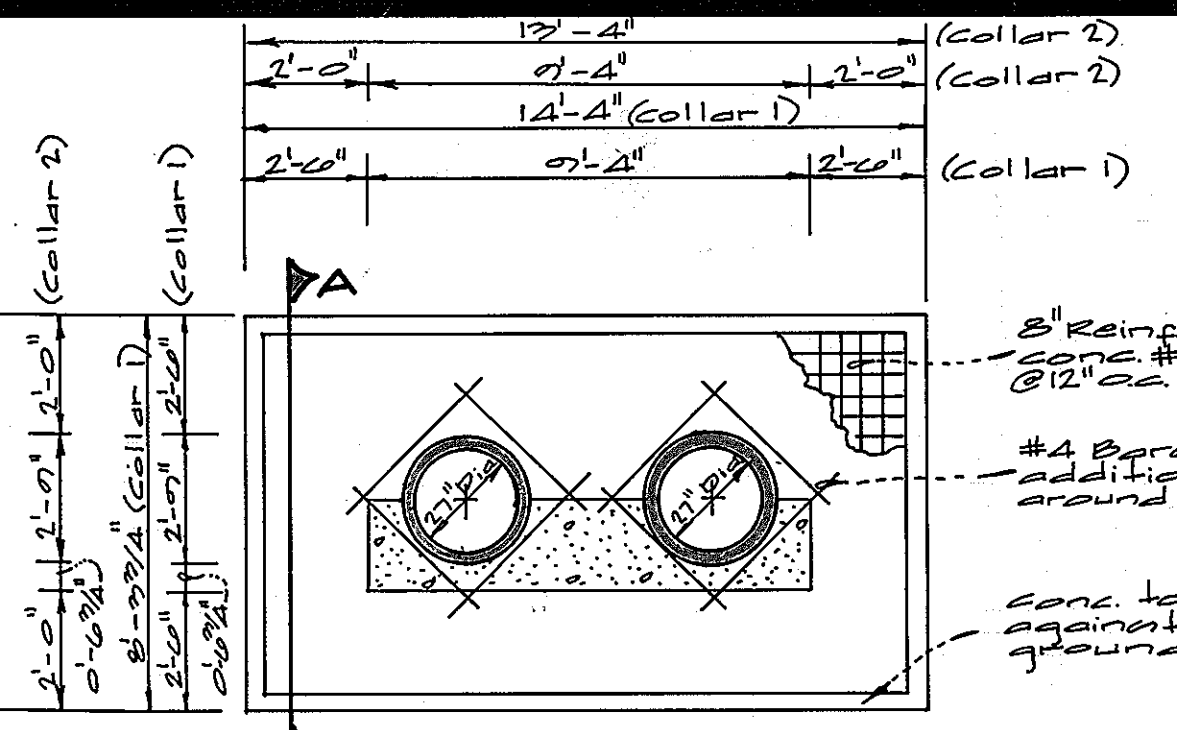
SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	NT	95003
DATE	TAX MAP - GRID	SHEET
March 2001	36-12&18	12 of 19



Profile Thru Pond No. 7 Principal Spillway

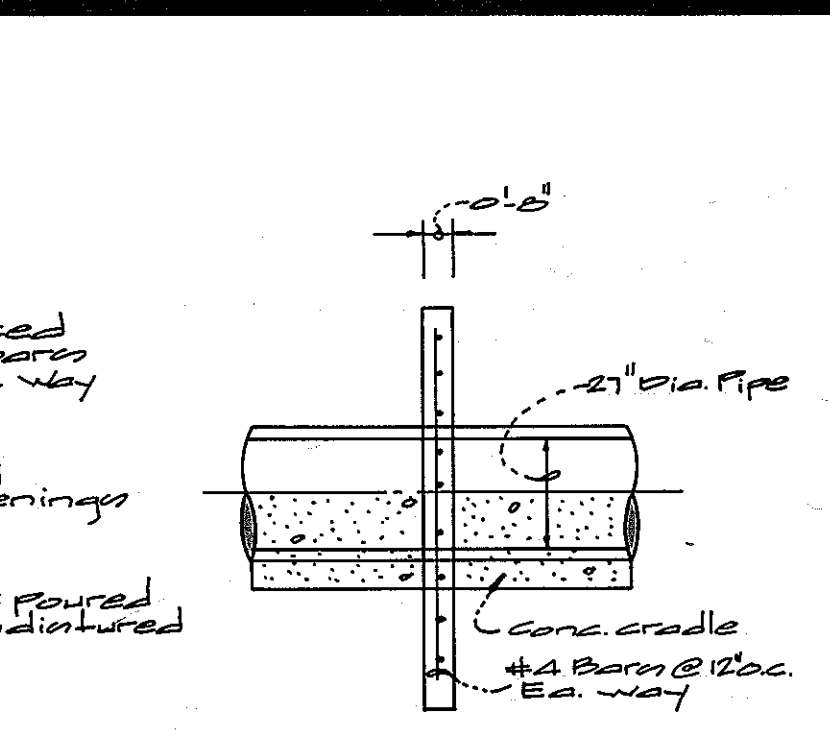


Profile Along E Dam

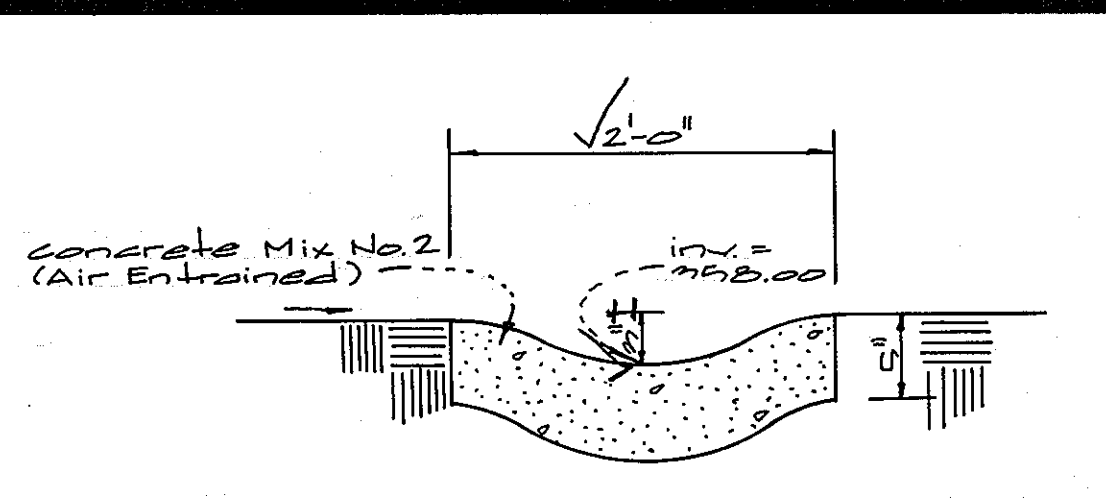


Elevation ~ Anti-keep Collar

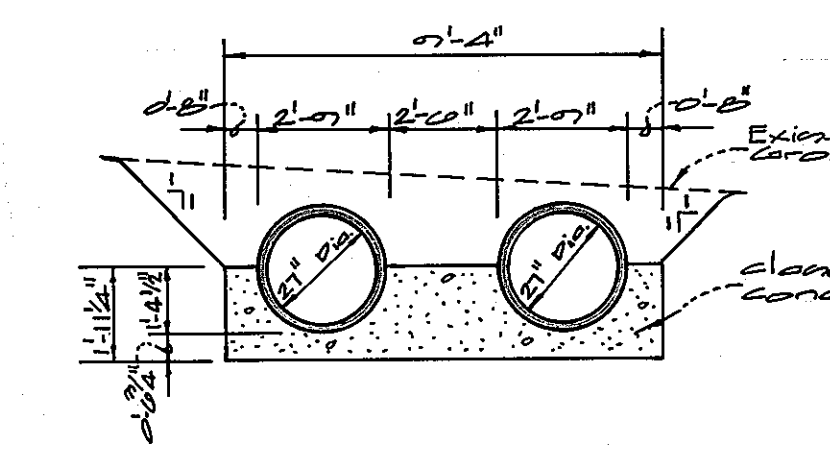
**Notes For Anti-keep Collar**  
 1) Pour conc. to undisturbed earth.  
 2) Remove sheeting before pouring concrete.  
 3) FC = 4000 psi @ 28 days.  
 4) Four collars with pipe in place.  
 5) Backfill evenly on both sides of collars.  
 6) Locate collars a min. of 2' from pipe joints.



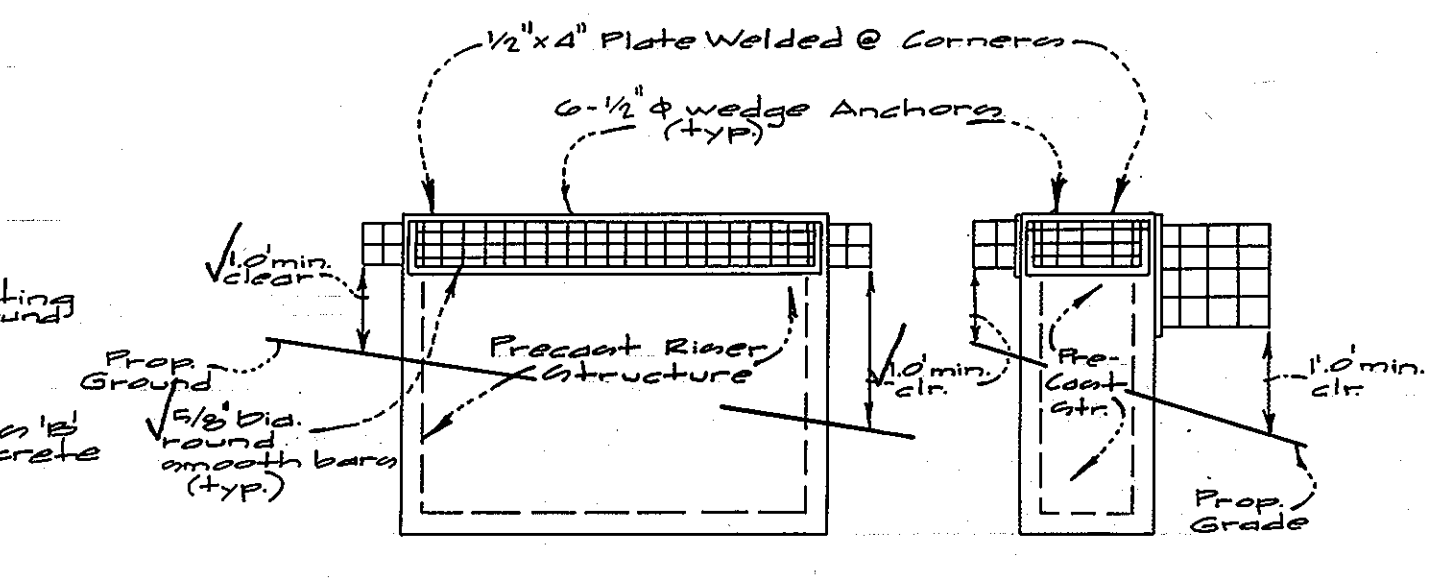
Section AA



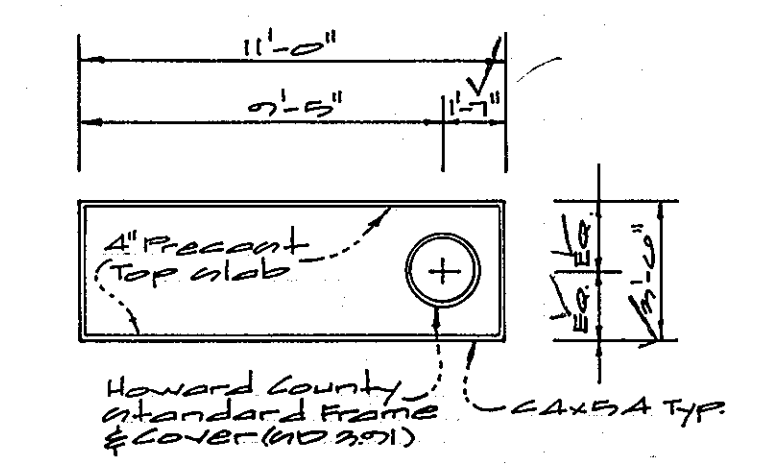
Pilot Channel Detail



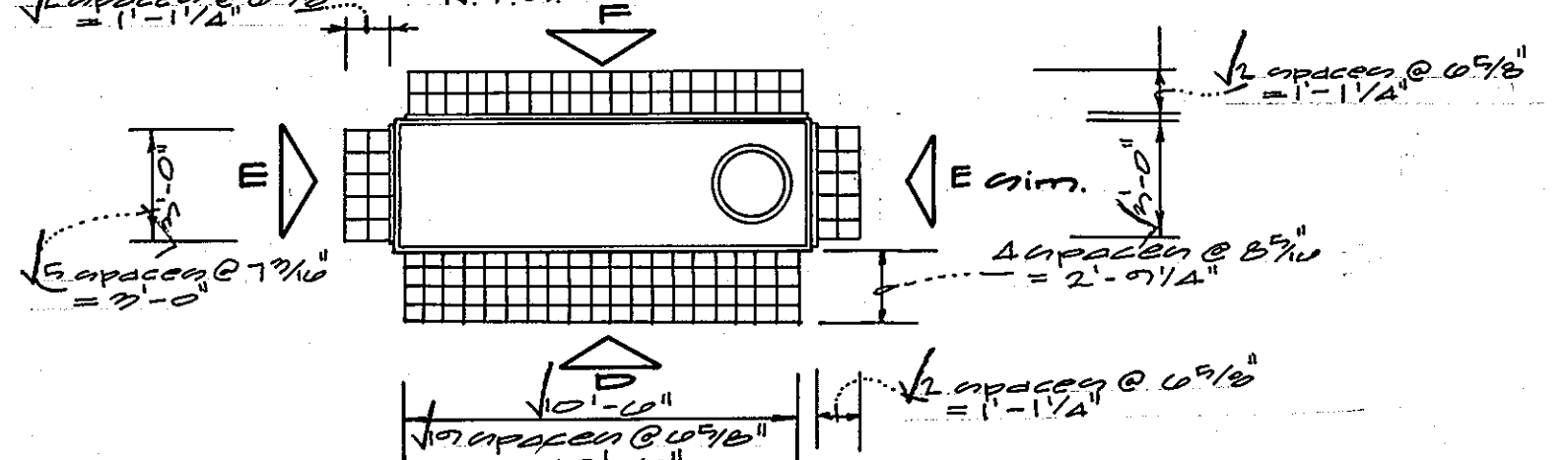
Conc. Cradle Detail



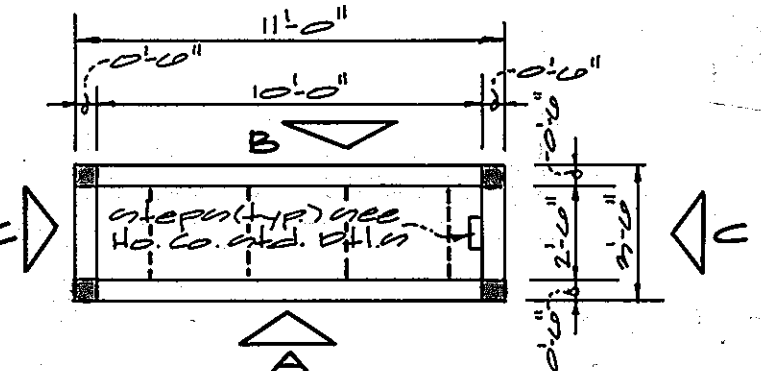
Elevation F and Elevation E



Plan ~ Top slab

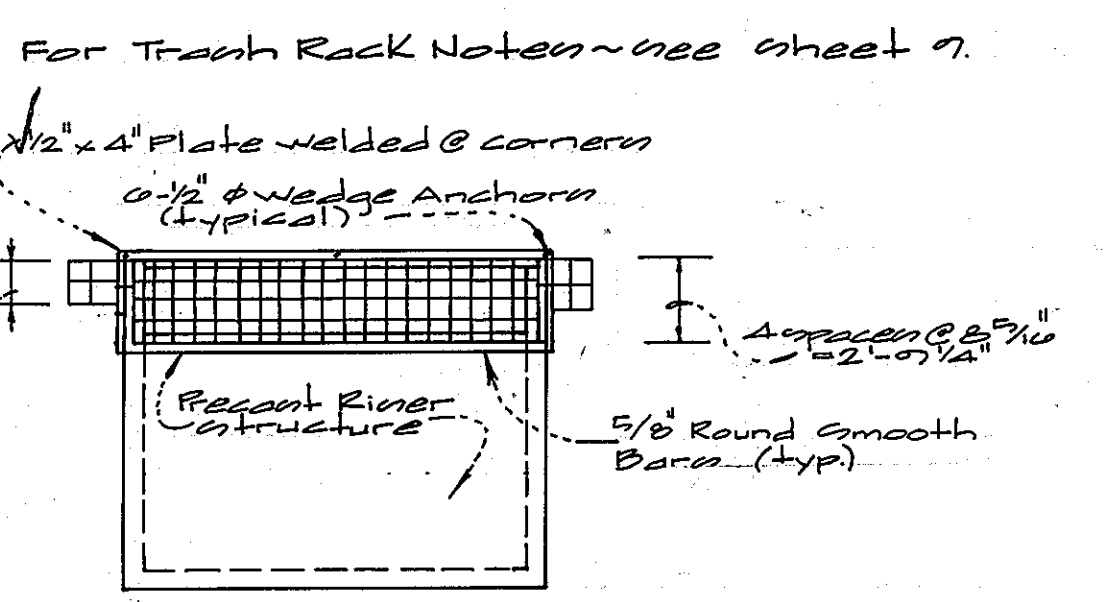


Plan ~ Trash Rack

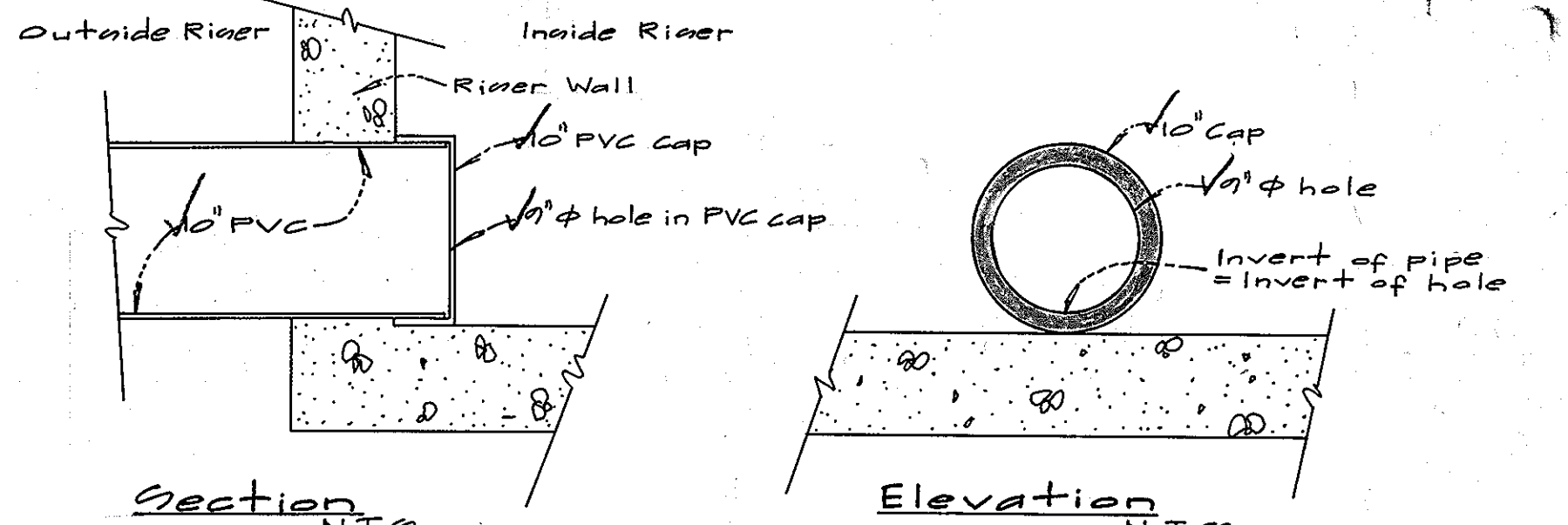


Plan View ~ structure R97

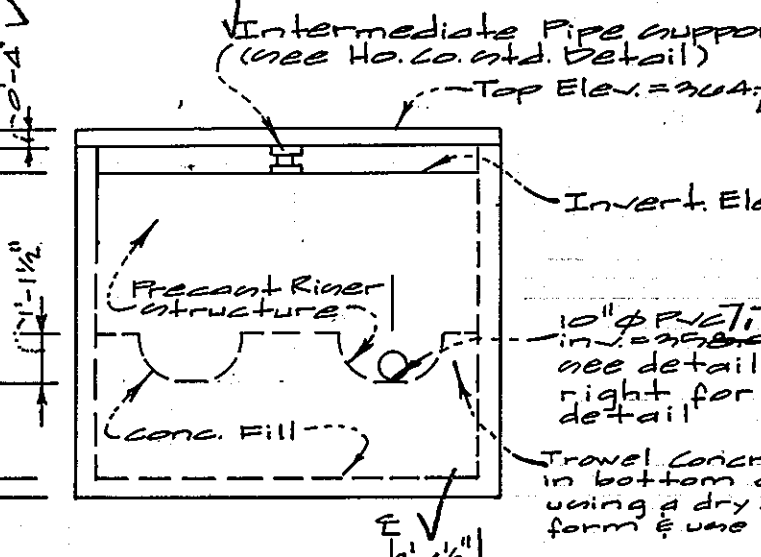
**FR Notes:**  
 Structure has been designed to require a minimum finished weight of 17,140 lbs. Any deviation from the indicated details will require buoyancy computations to be provided by the presenter.



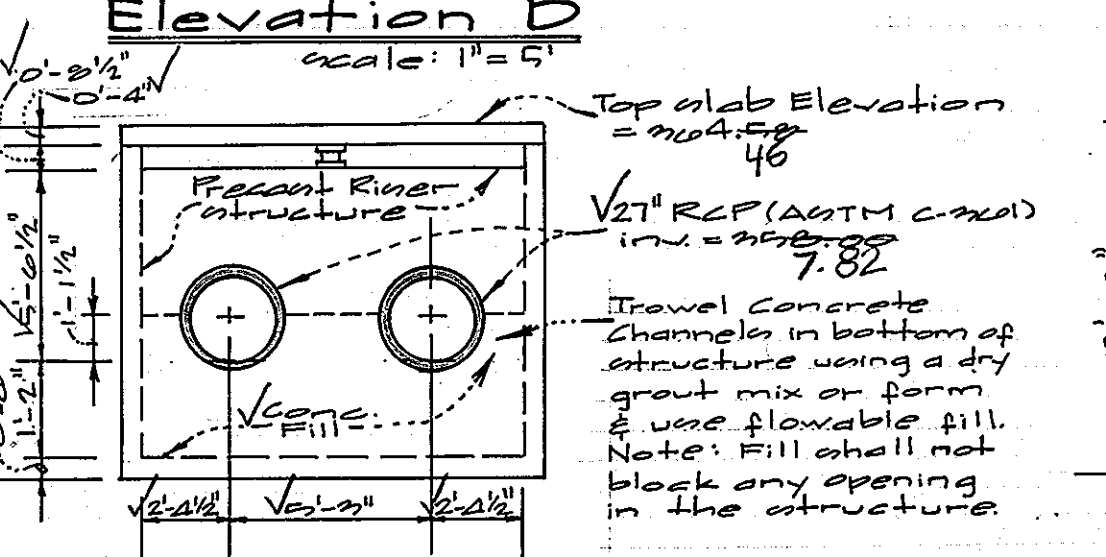
Elevation D



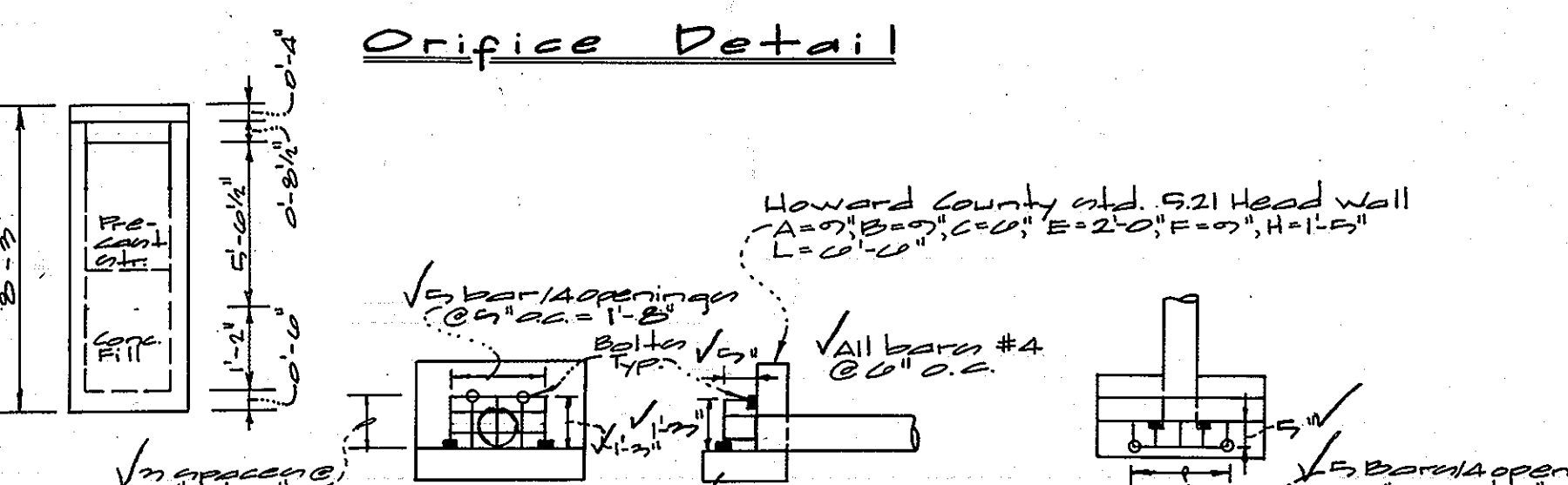
Orifice Detail



Elevation A



Elevation B



Elevation C

10\"/>

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Director: *[Signature]* 5/23/01  
 Chief, Division of Land Development: *[Signature]* 5/23/01  
 Chief, Development Engineering Division: *[Signature]* 5/16/01

**ENGINEER'S CERTIFICATE**  
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*[Signature]* 7/21/01  
 Engineer's Signature Date

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*[Signature]* 10-10-00  
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*[Signature]* 5/3/01  
 Natural Resources Conservation Service Date

These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.  
*[Signature]* 5/3/01  
 Howard Soil Conservation District Date

AS-BUILT

AS-BUILT SHEET 6 OF 9

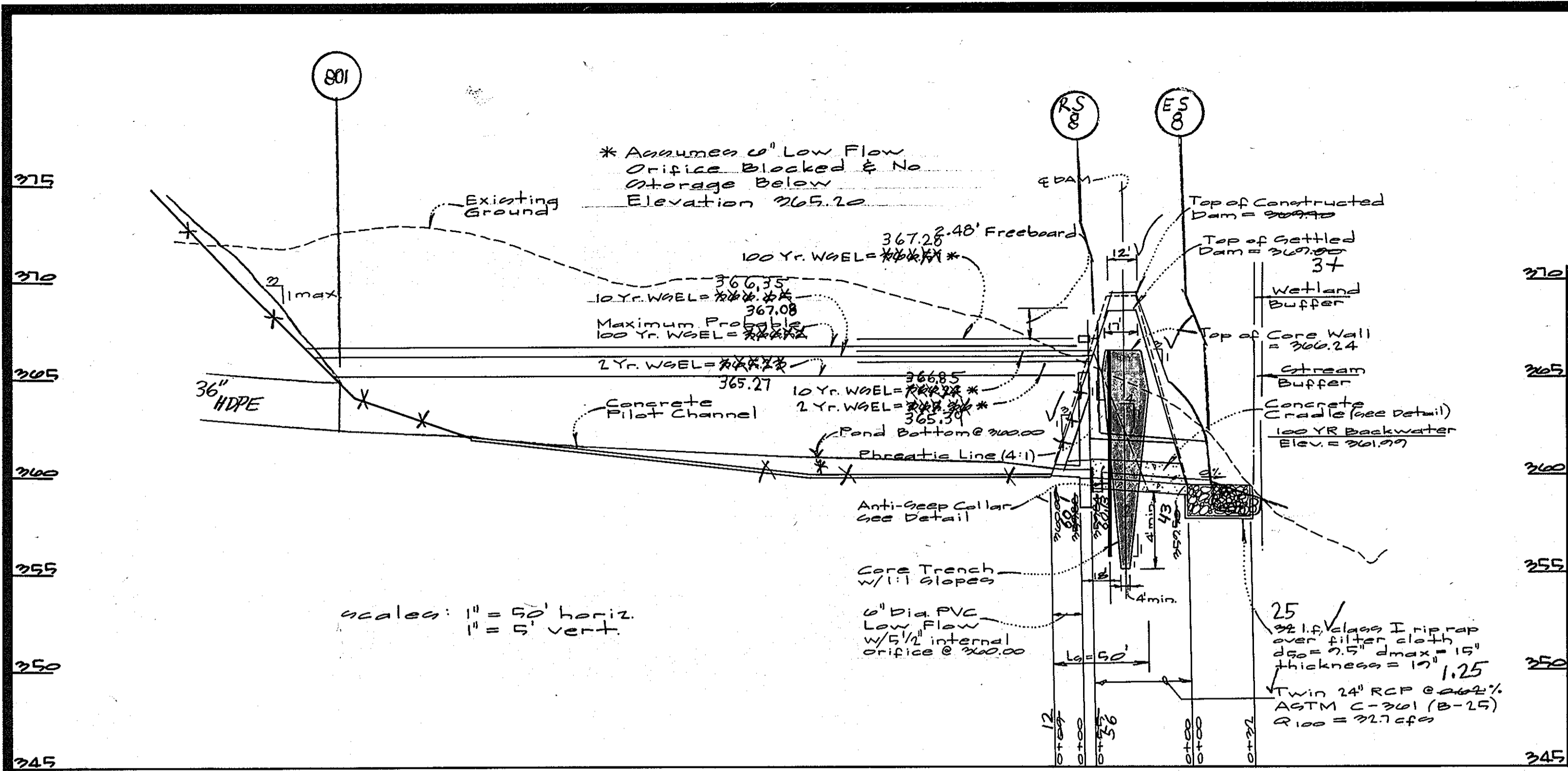
**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-959-2524 FAX: 301-421-4186

NO.	DATE	REVISION

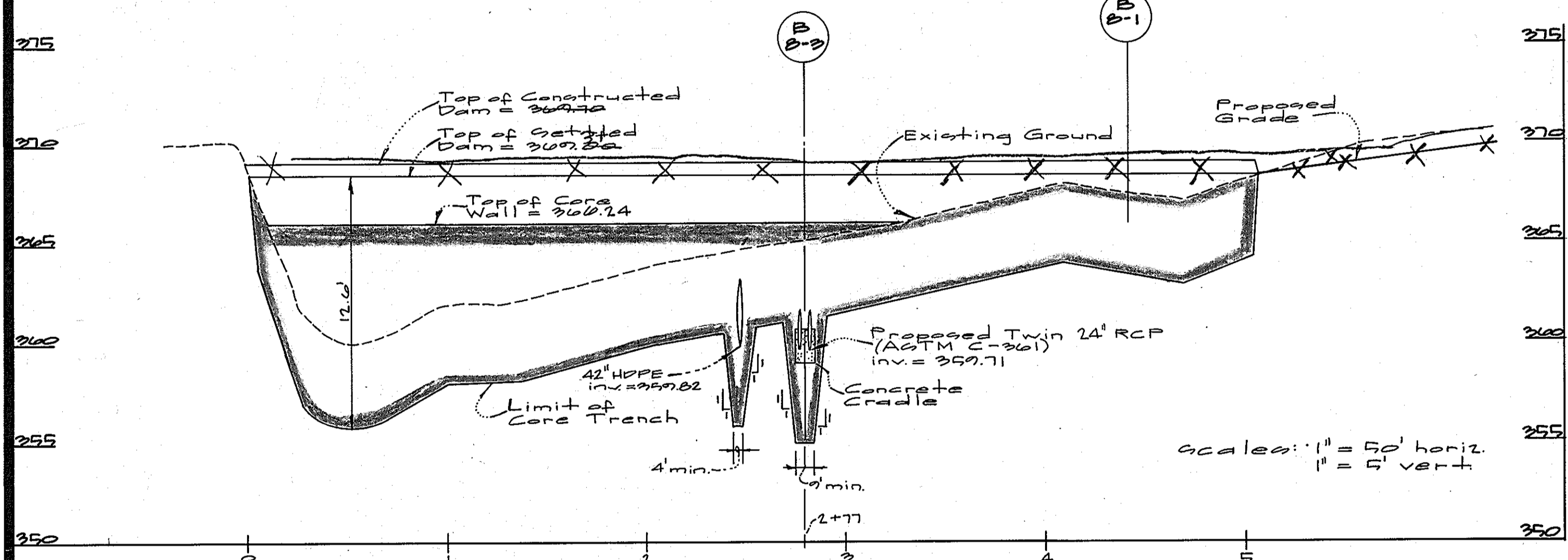
PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 ATTN: AL EDWARDS  
 (410) 992-6027

Storm Water Management Details Pond No. 7  
**ROUTE 175 COMMERCIAL**  
 Section 1 Area 2  
 Parcels B-B and Lots 4&5  
 Plat No's 14097 & 14098  
 ELECTION DISTRICT No. 6

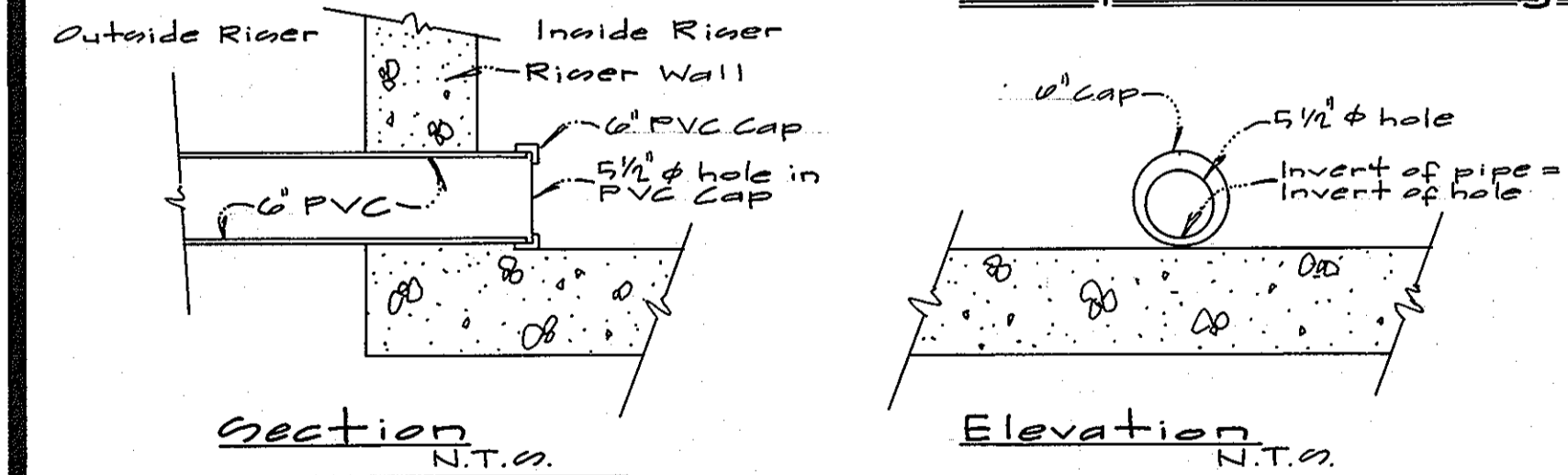
SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	NT	95003
DATE	TAX MAP - GRID	SHEET
SEP, 2003	36-12&18	13 of 17



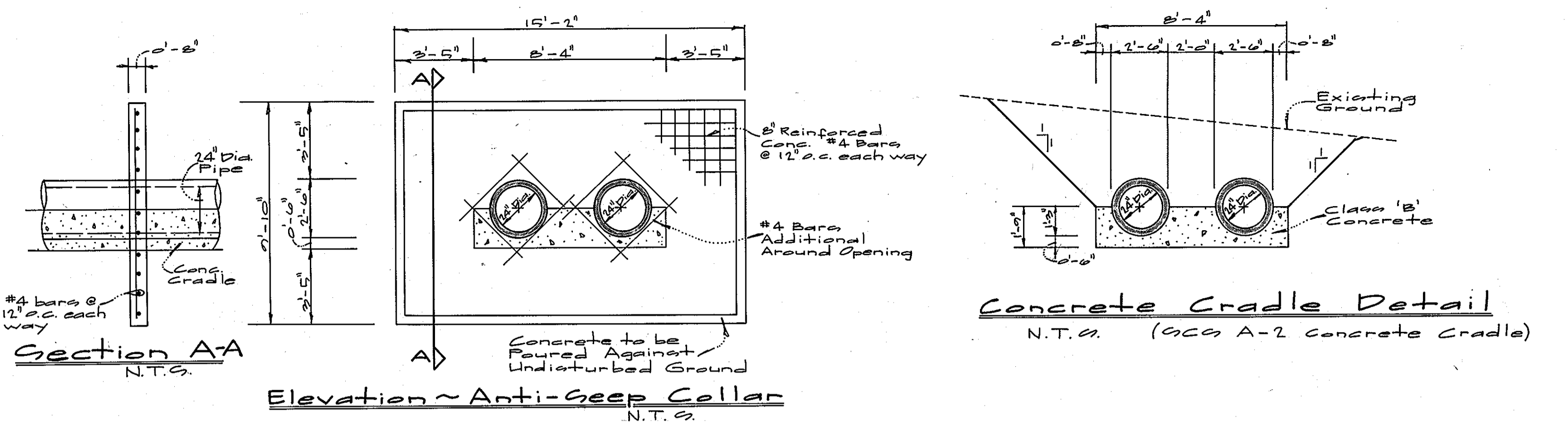
Profile Thru Pond No. 8 Principle Spillway



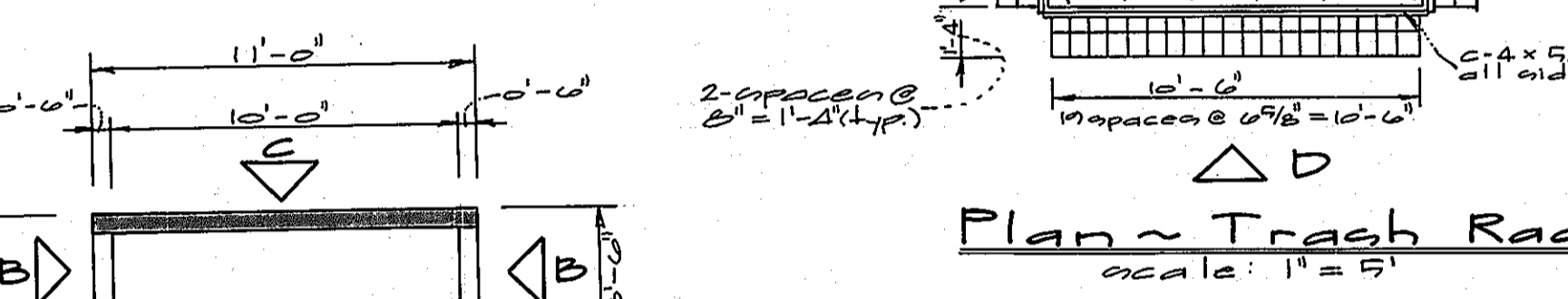
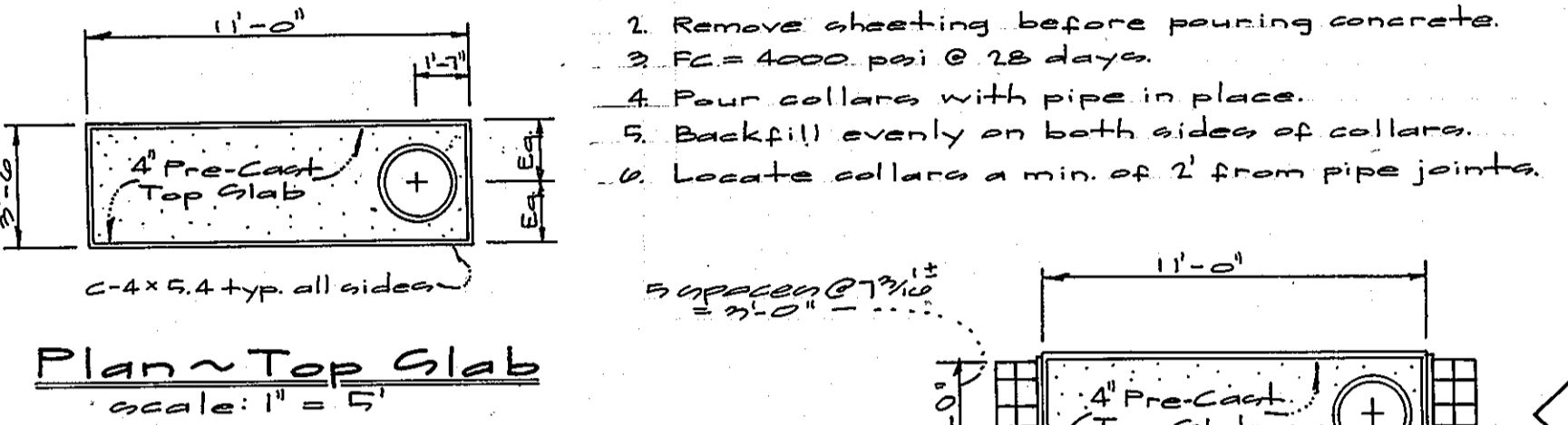
Profile Along Dam



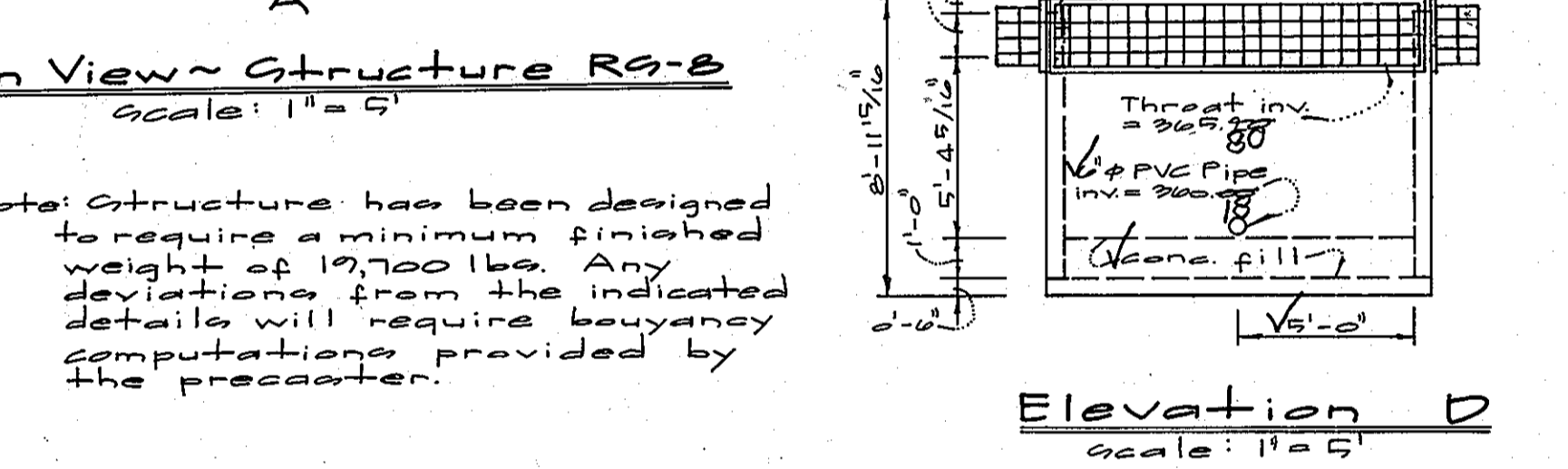
Orifice Detail



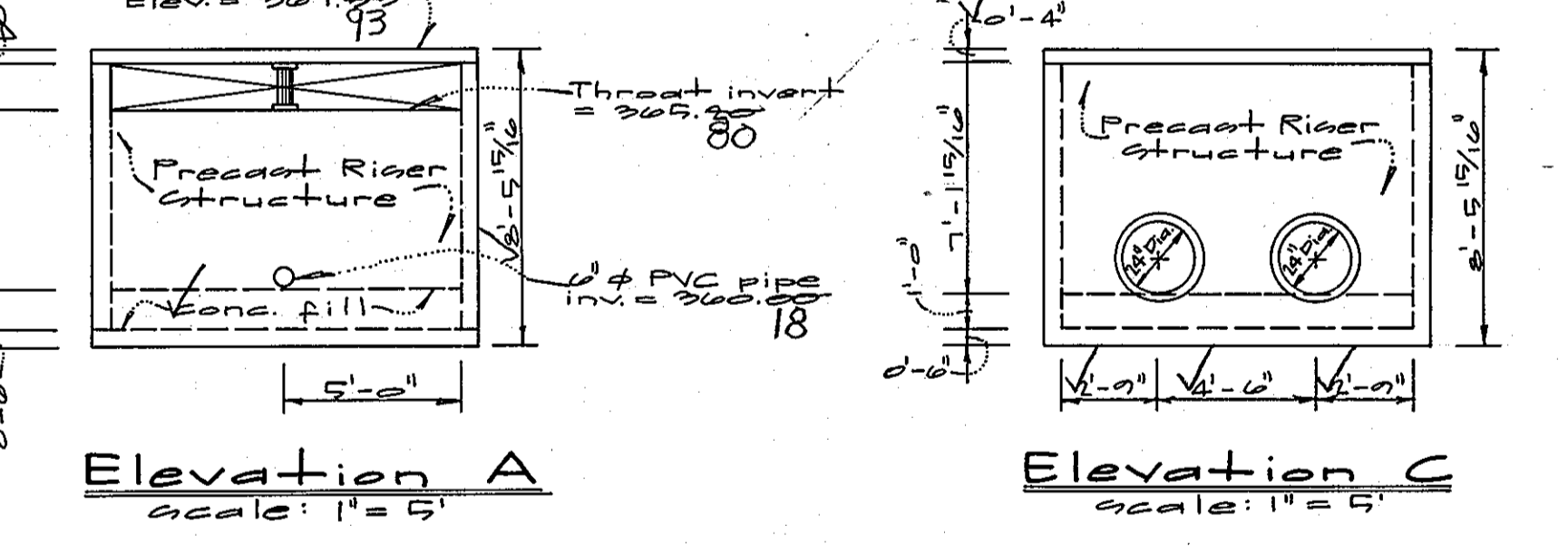
Elevation ~ Anti-Seep Collar



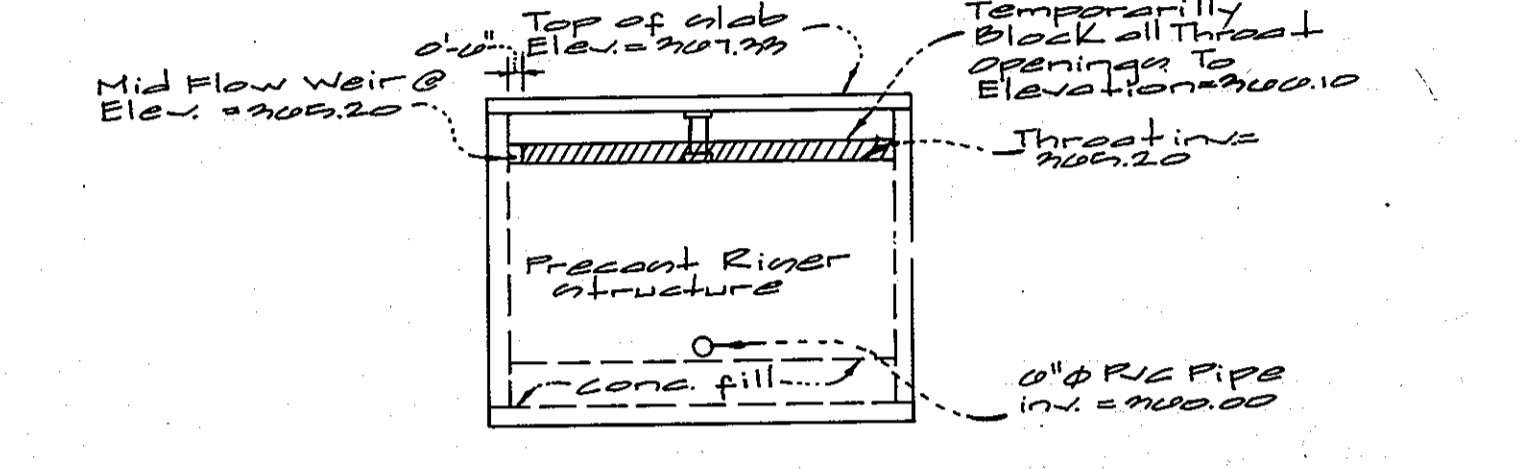
Plan ~ Trash Rack



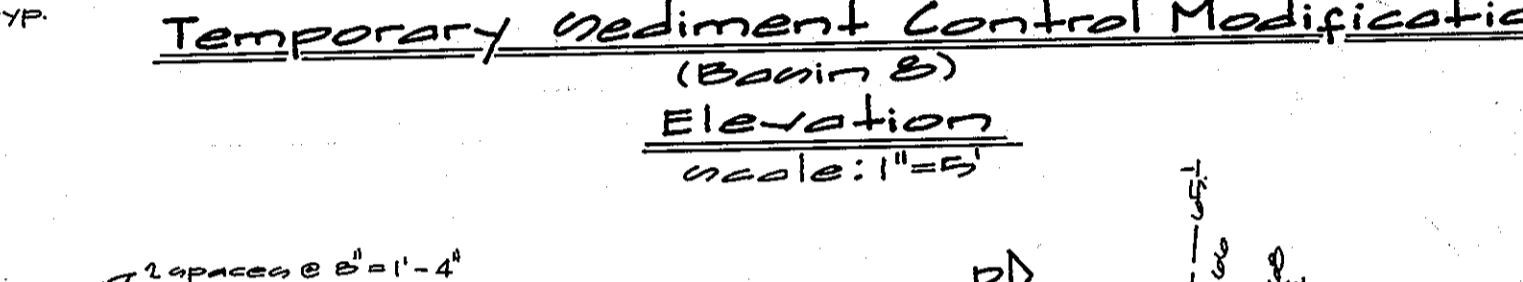
Elevation D



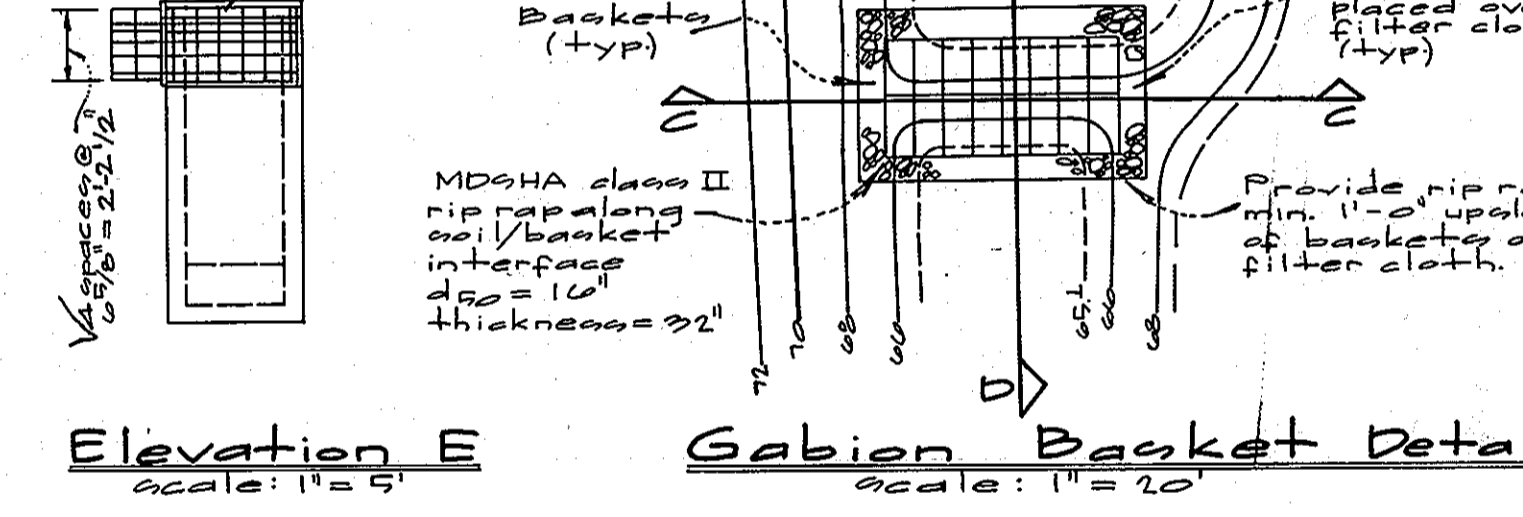
Elevation A



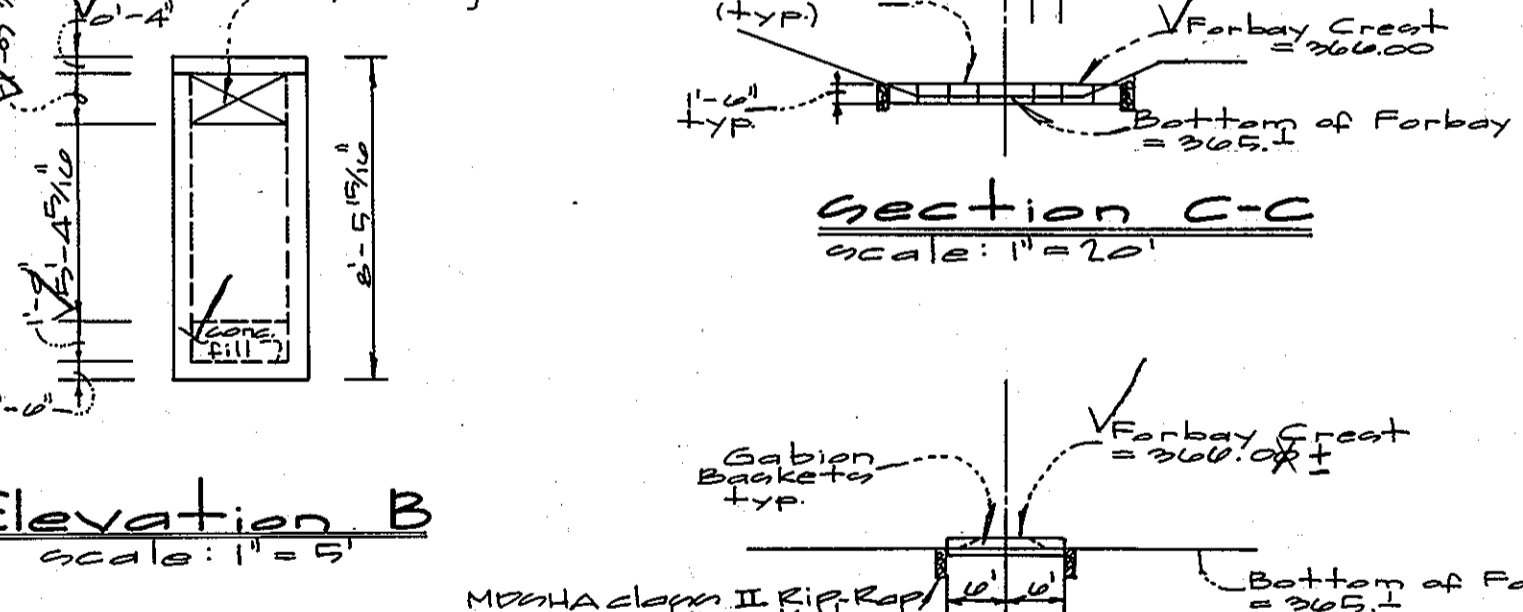
Temporary Sediment Control Modifications (Basin B)



Elevation



Elevation E



Section C-C

**ENGINEER'S CERTIFICATE**  
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*D. J. Hettler* 7/2/00  
 Engineer's Signature Date

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*[Signature]* 10-10-00  
 Signature of Developer/Builder Date

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*[Signature]* 5/3/01  
 Natural Resources Conservation Service Date

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*[Signature]* 5/3/01  
 Howard Soil Conservation District Date

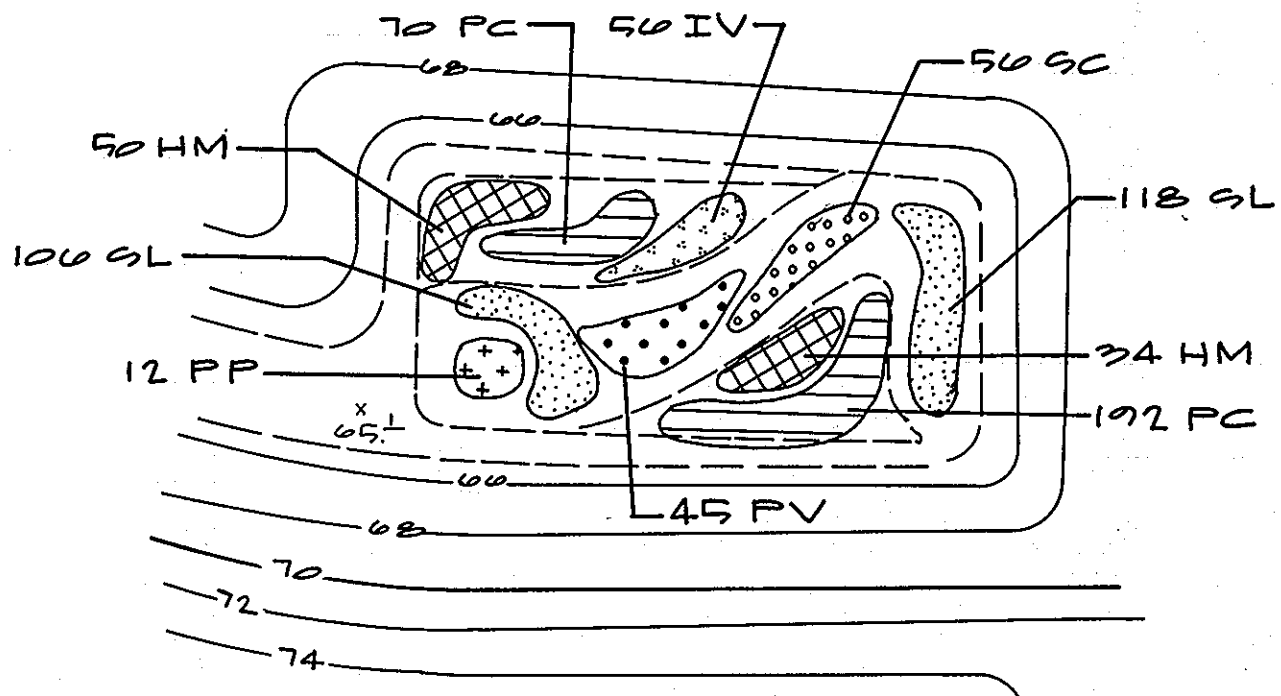
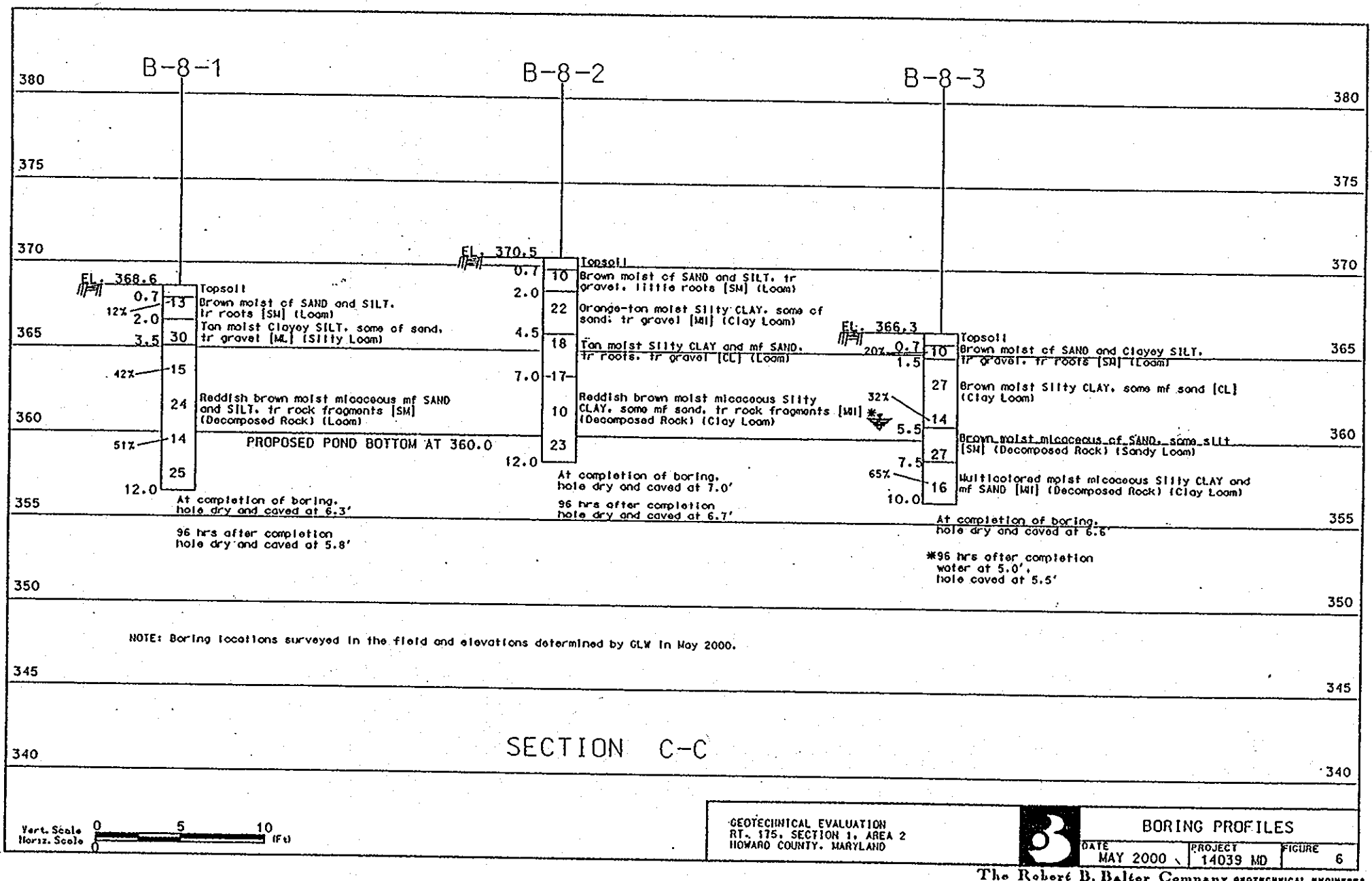
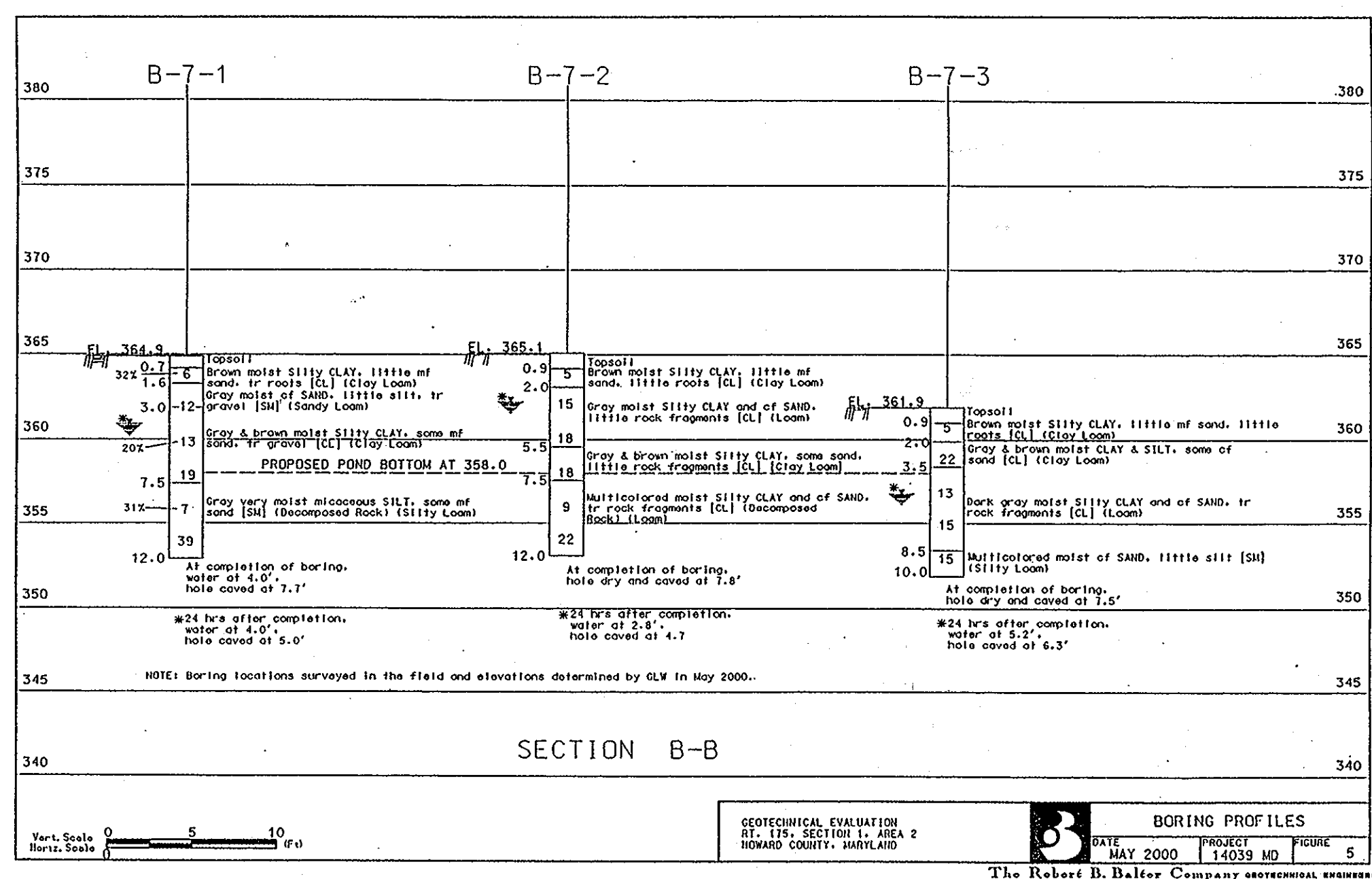
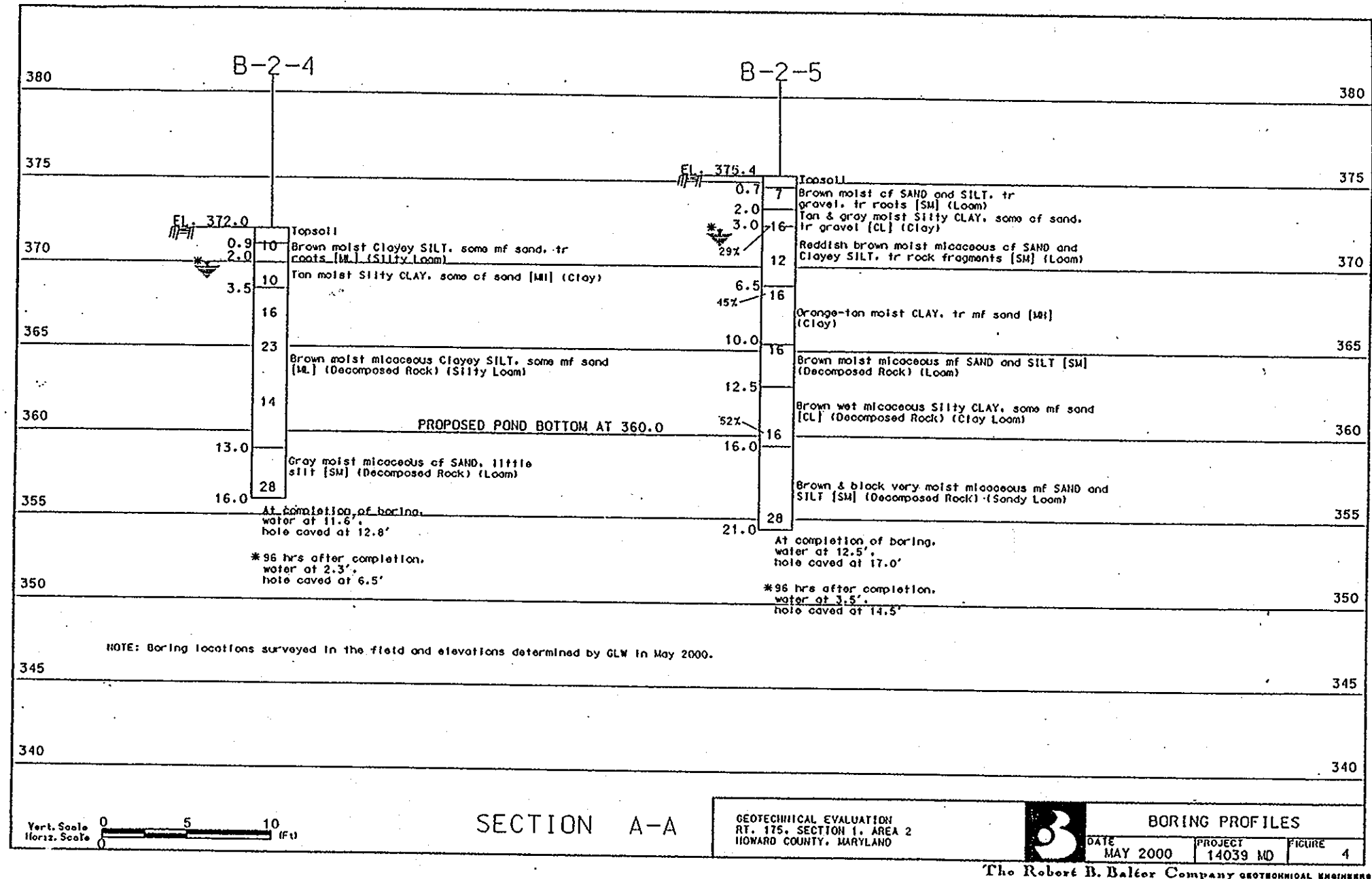
**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-889-2524 FAX: 301-421-4186

DES.	DRN.	CHK.	DATE	REVISION	BY	APP'R.

PREPARED FOR:  
 THE HOWARD RESEARCH  
 AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 ATTN: AL EDWARDS  
 (410) 992-6027

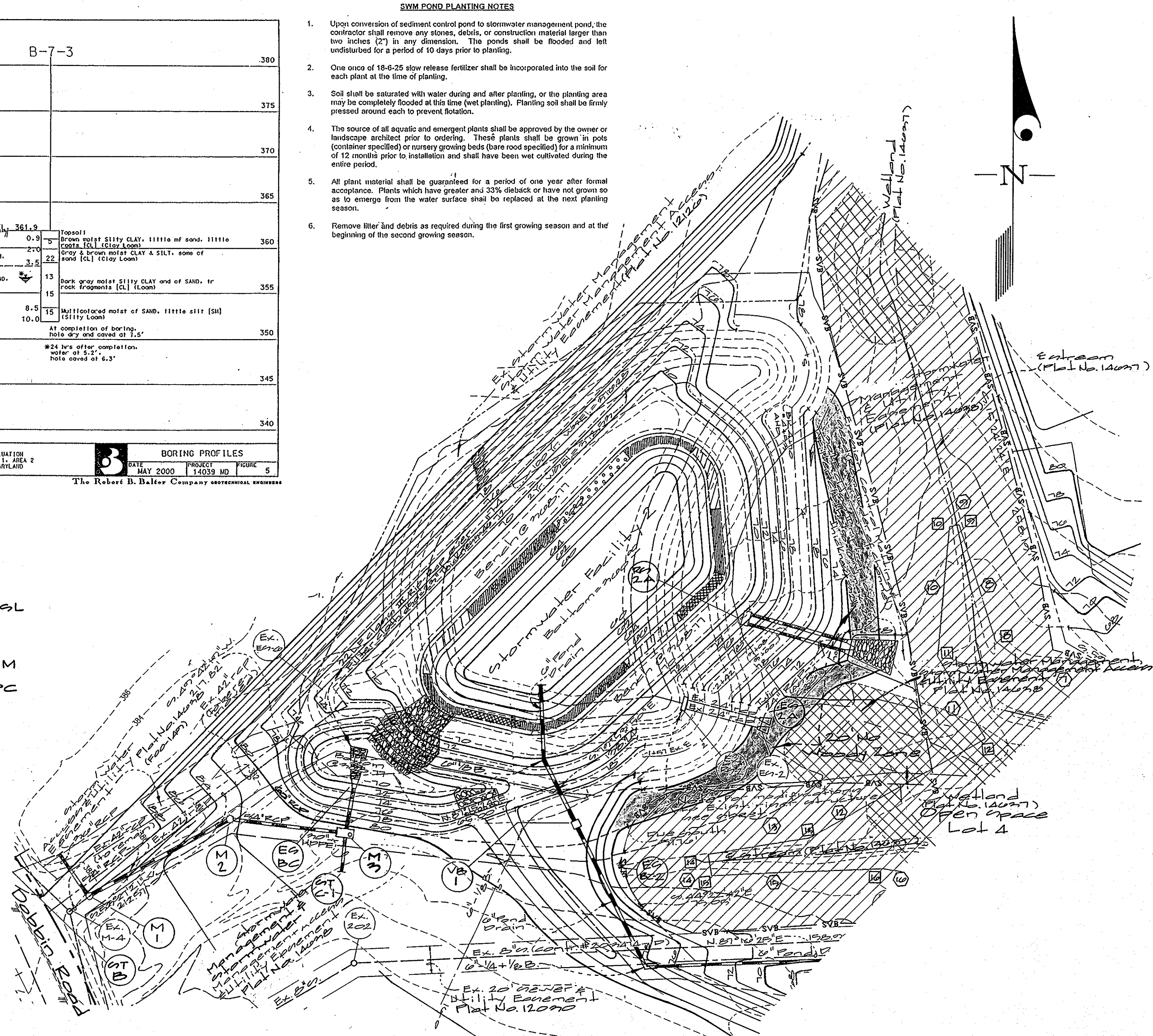
Storm Water Management Details Pond No. 8  
**ROUTE 175 COMMERCIAL**  
 Section 1 Area 2  
 Parcels B-D and Lots 4&5  
 Plat No. 1400N & 1400S  
 ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	NT	95003
DATE	TAX MAP - GRID	SHEET
SEP 11, 2003	36-12&18	14 of 19



**WETLANDS PLANTING FOR POND No. 2**  
scale: 1" = 20'

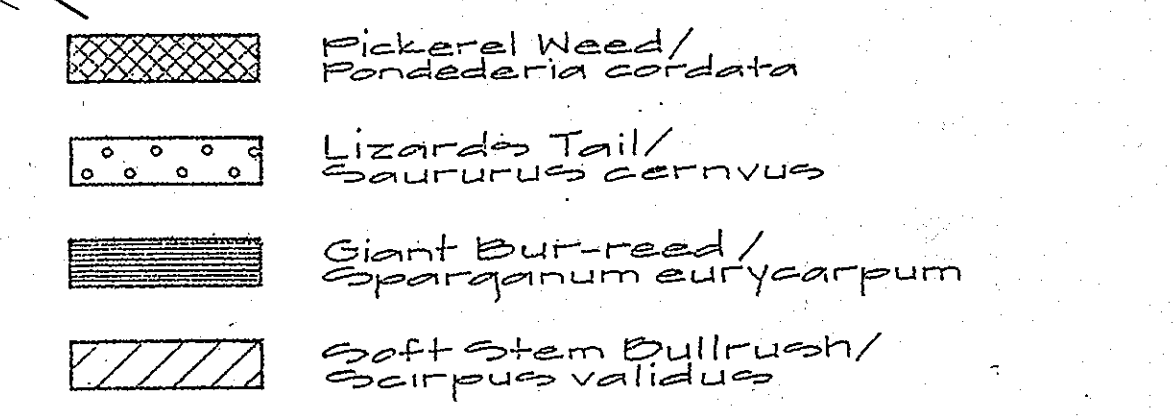
Key	Qty	Name (Botanical/Common Name)	Remarks
IV	56	Iris versicolor/Blue Flag	Tuber
PC	262	Pontederia cordata/Pickelweed	Tuber
PP	12	Polamageton pectinatus/Pondweed	1 Pl.
SL	224	Sagittaria latifolia/Duck Potato	Tuber
SC	56	Saururus cernuus/Lizard's Tail	Tuber
PV	45	Peltandra virginicum/Arrow Arum	Tuber
HM	85	Hibiscus moscheutos/Marsh Hibiscus	1 3/4" Plug



- SWM POND PLANTING NOTES**
- Upon conversion of sediment control pond to stormwater management pond, the contractor shall remove any stones, debris, or construction material larger than two inches (2") in any dimension. The ponds shall be flooded and left undisturbed for a period of 10 days prior to planting.
  - One ounce of 18-0-25 slow release fertilizer shall be incorporated into the soil for each plant at the time of planting.
  - Soil shall be saturated with water during and after planting, or the planting area may be completely flooded at this time (wet planting). Planting soil shall be firmly pressed around each to prevent flotation.
  - The source of all aquatic and emergent plants shall be approved by the owner or landscape architect prior to ordering. These plants shall be grown in pots (containers specified) or nursery growing beds (bare root specified) for a minimum of 12 months prior to installation and shall have been wet cultivated during the entire period.
  - All plant material shall be quarantined for a period of one year after formal acceptance. Plants which have greater than 33% dieback or have not grown so as to emerge from the water surface shall be replaced at the next planting season.
  - Remove litter and debris as required during the first growing season and at the beginning of the second growing season.

**SWM POND PLANT LIST**  
Pond No. 2

KEY	QTY	NAME (COMMON/BOTANICAL)	REMARKS
PC	221	Pickelweed/ Pontederia cordata	Bare Root @ 15" O.C.
SC	100	Lizard's Tail/ Saururus cernuus	Bare Root @ 15" O.C.
SE	260	Giant Bur-reed/ Sparganium eurycarpum	Bare Root @ 15" O.C.
SV	207	Soft Stem Bullrush/ Scirpus validus	Bare Root @ 15" O.C.



Note: For Flood Plain Elevation and Bearings & Distances, see sheet 1.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Paul Rantz* 5/23/01  
Director

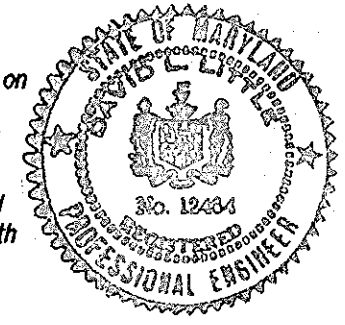
*Trish Hamstra* 5/23/01  
Chief, Division of Land Development

*Michelle Cummings* 5/15/01  
Chief, Development Engineering Division MK

**ENGINEER'S CERTIFICATE**

I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

*D. D. Little* 7/21/00  
Engineer's Signature Date



**DEVELOPER'S/BUILDER'S CERTIFICATE**

I/We certify that all development and/or construction will be done according to these plans, 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 shall engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

*William F. Clark* 10-10-00  
Signature of Developer/Builder Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

*John Myers* 5/3/01  
Natural Resources Conservation Service Date

These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

*John L. Little* 5/3/01  
Howard Soil Conservation District Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK  
BURTNSVILLE, MARYLAND 20866  
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4168

DES.	DRN.	CHK.	DATE	REVISION	BY	APP'R.

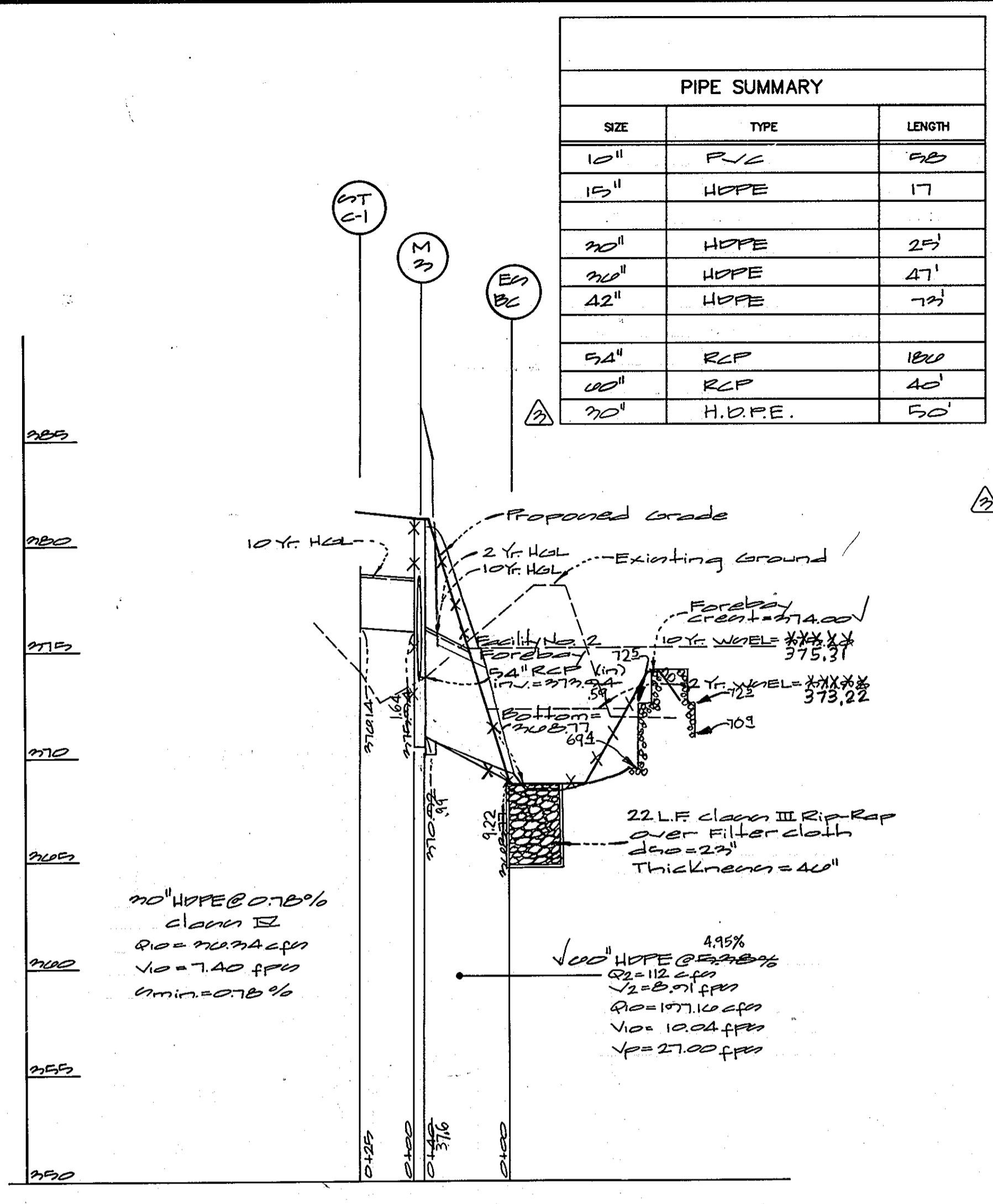
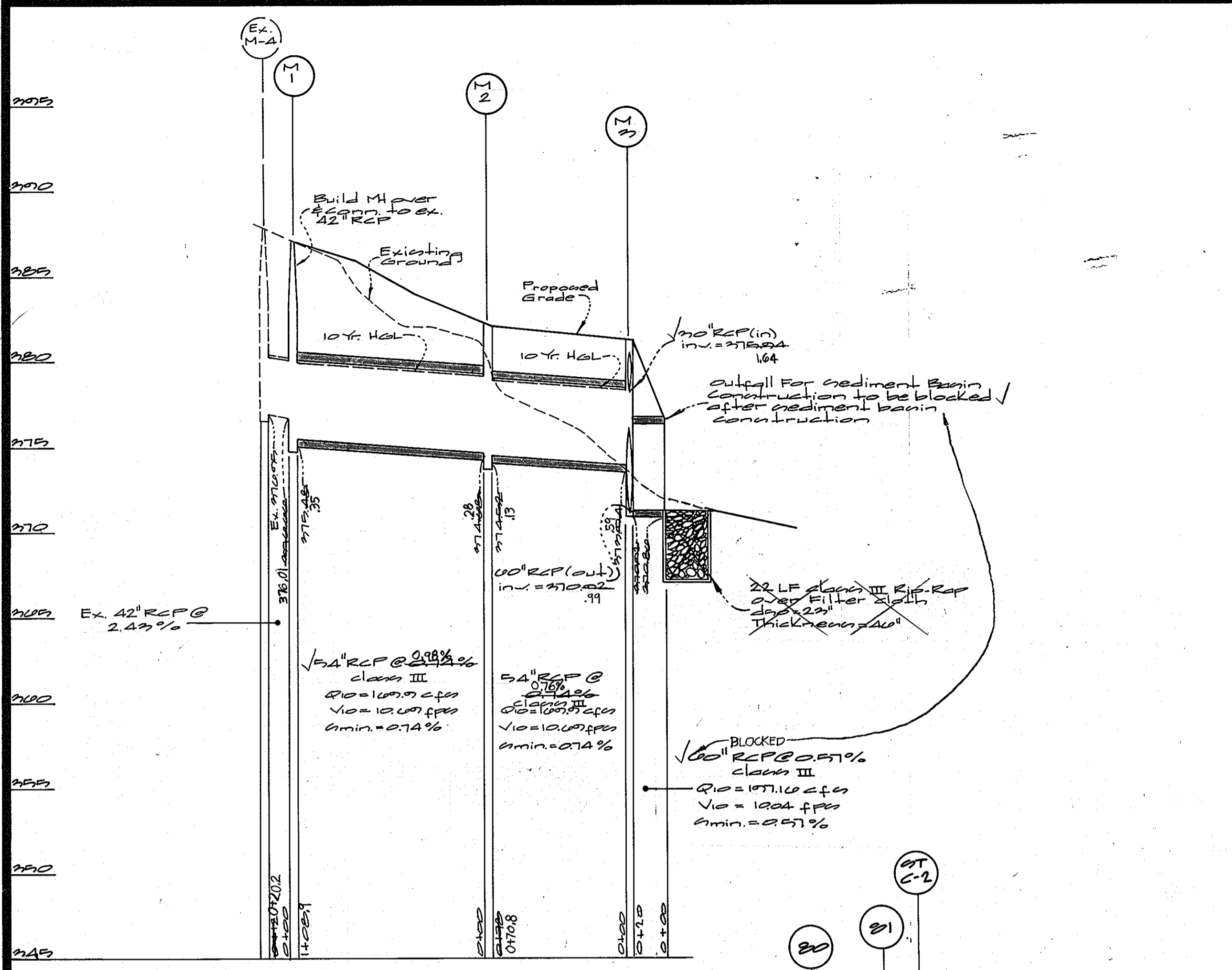
PREPARED FOR:  
THE HOWARD RESEARCH  
AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
ATTN: AL EDWARDS  
(410) 992-6027

Planting Plan/Soil Boring Profiles  
**ROUTE 175 COMMERCIAL**  
SECTION 1 AREA 2  
PARCELS B-DILOTS 4&5  
PLAT No. 110077 & 140026  
ELECTION DISTRICT No. 6  
HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	NT	95003
DATE	TAX MAP - GRID	SHEET
March, 2001	36-12&18	15 of 19

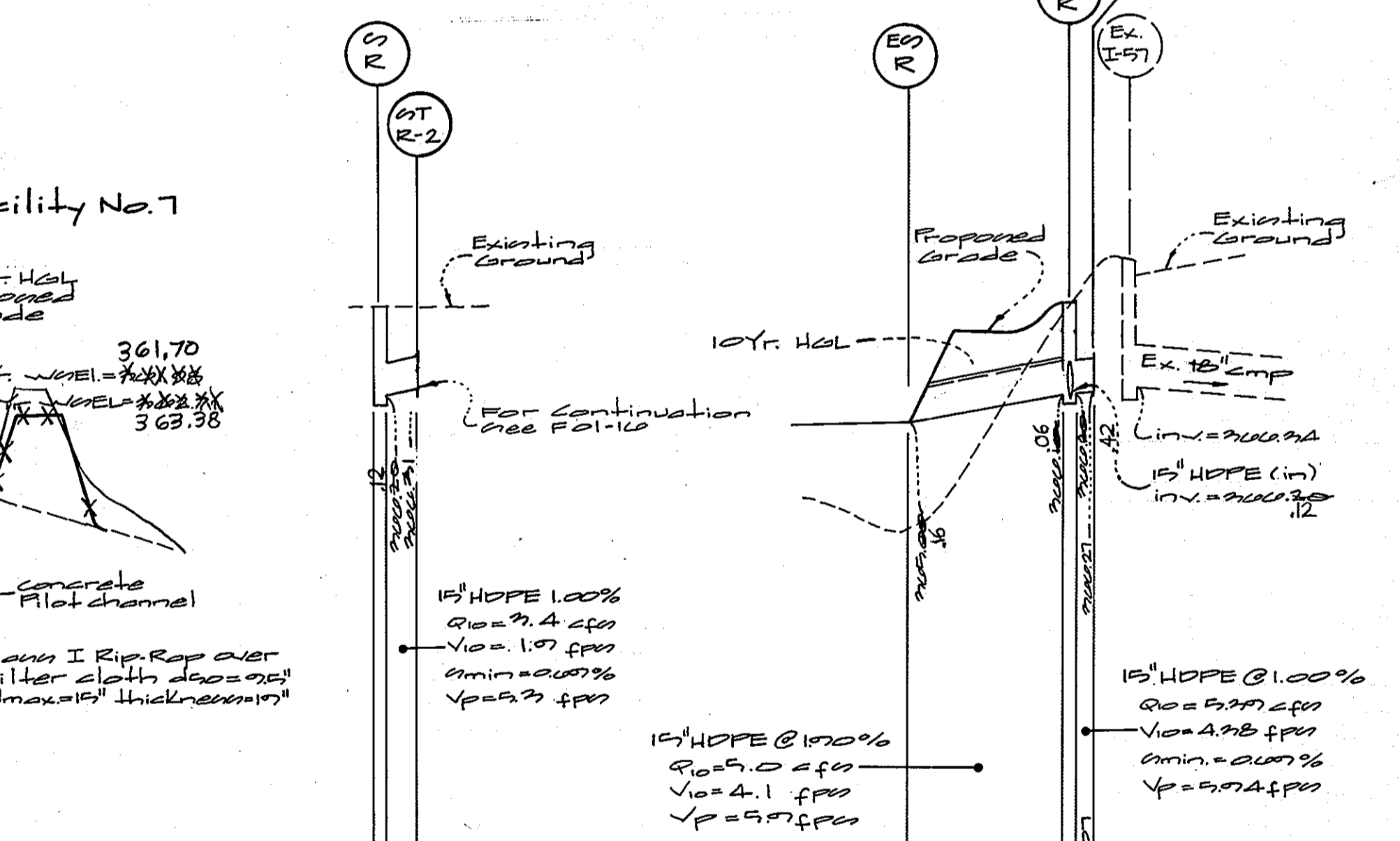
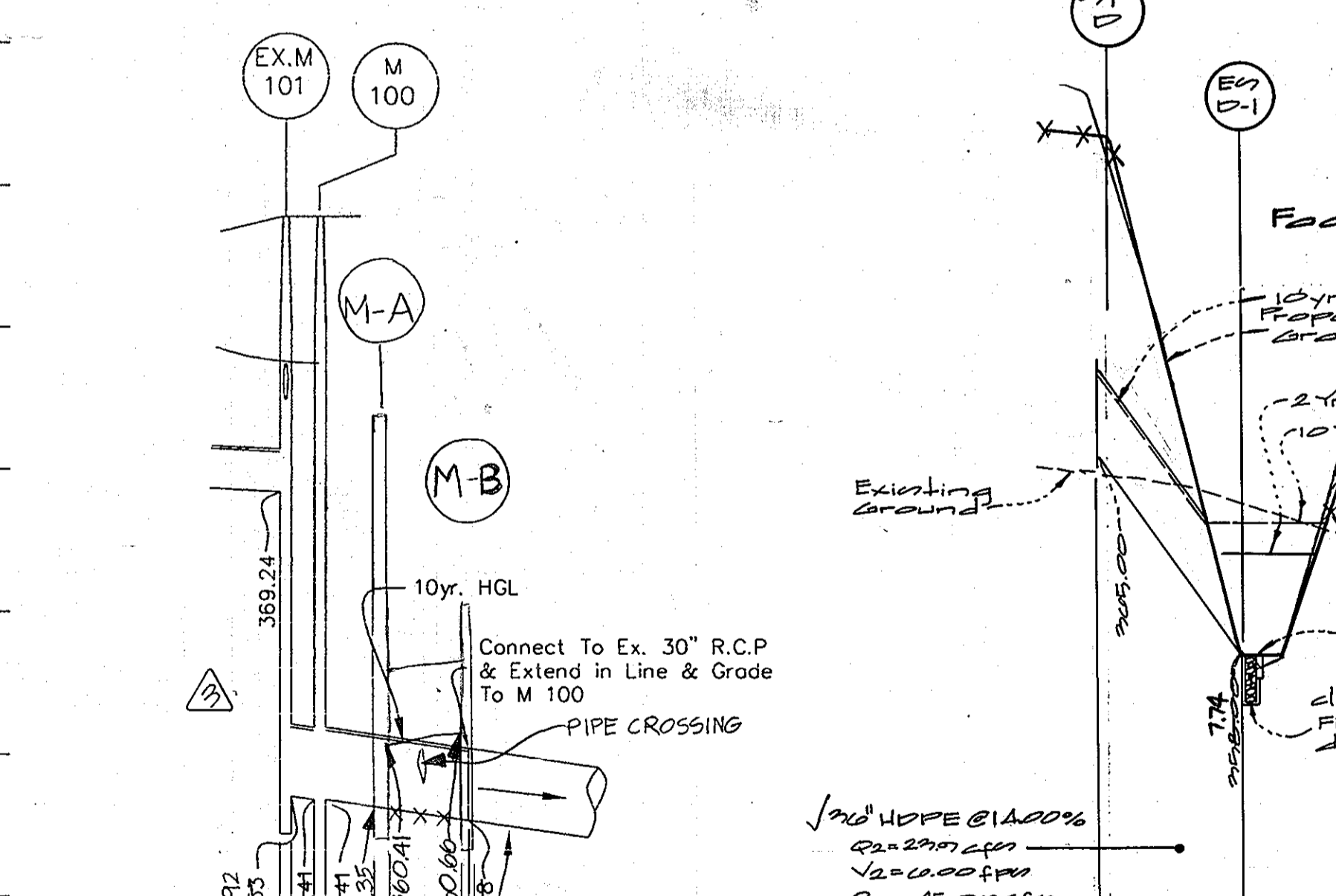
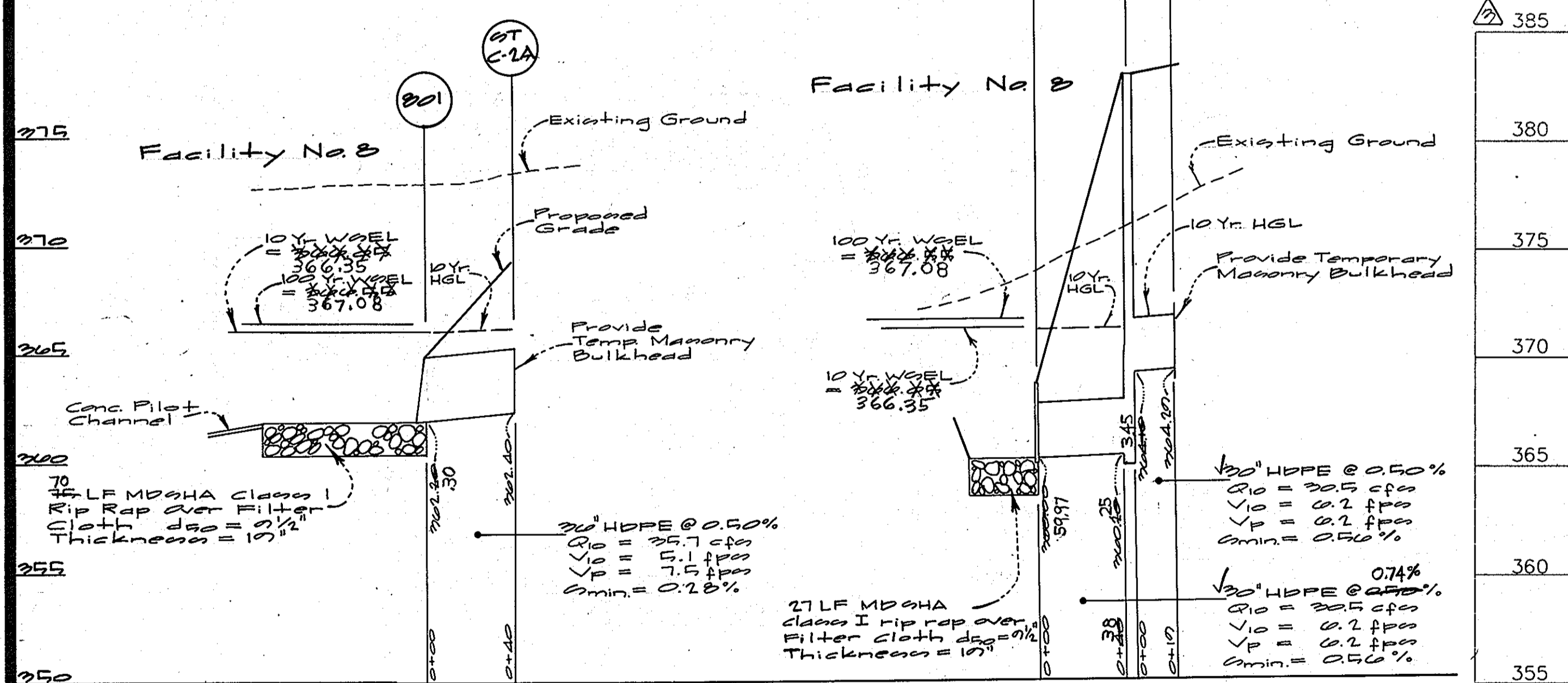






STRUCTURE SCHEDULE									
NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION		INVERT ELEVATION		STD. DETAIL	LOCATIONS	REMARKS
			UPPER	LOWER	UPPER	LOWER			
M-1	42"	4'	278.88	278.88	278.88	278.88	5.12	See Plan	
M-2	Manhole	4'	278.88	278.88	278.88	278.88	5.12		
B-1	Manhole	5'	278.88	278.88	278.88	278.88	5.12		
M-1	Manhole	7'	278.88	278.88	278.88	278.88	5.12		
M-2	Manhole	7'	278.88	278.88	278.88	278.88	5.12		
B-1	End section	42"	278.88	278.88	278.88	278.88	5.12		
B-2	End wall	30"	278.88	278.88	278.88	278.88	5.12		
M-100	Stormceptor	70" Diam	278.92	278.92	278.92	278.92	See Detail	See Plan	
VB	Valve Box	30"	278.92	278.92	278.92	278.92	W 202		

PIPE SUMMARY		
SIZE	TYPE	LENGTH
12"	R/C	58
15"	HDPE	17
24"	HDPE	25
30"	HDPE	47
42"	HDPE	75
54"	RCP	180
42"	RCP	40
30"	H.D.P.E.	50



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[Signature]  
 Date: 5/23/01  
 [Signature]  
 Date: 5/23/01  
 [Signature]  
 Date: 5/15/01

STORM DRAIN PROFILE



ASBUILT

ASBUILT SHEET 8 OF 9

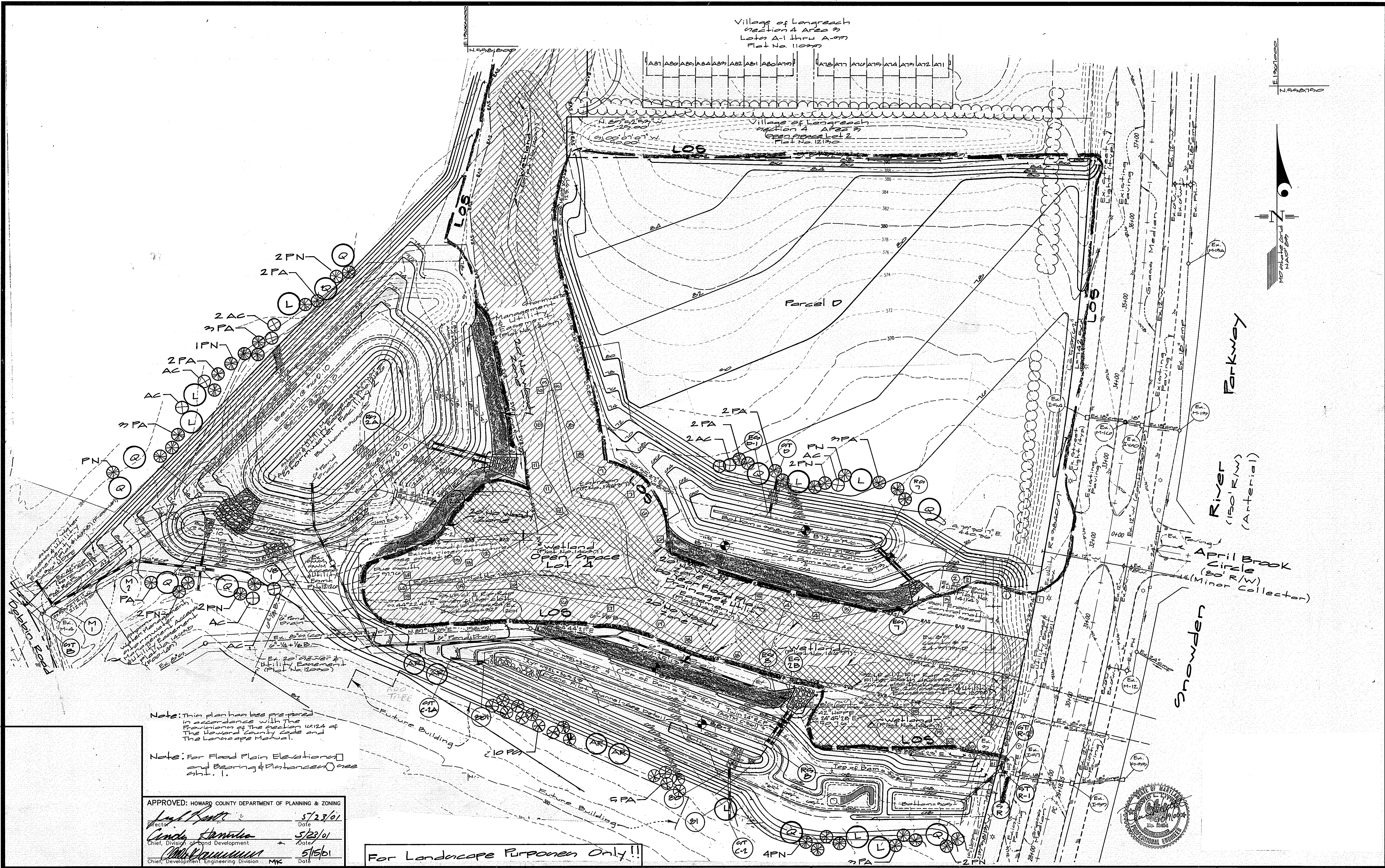
**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONTOWN, MARYLAND 20814  
 TEL: 301-421-4024 BALT: 410-320-1820 DC/VA: 301-385-2824 FAX: 301-421-4188

DES.	DRN.	CHK.	DATE	REVISION	BY	APP.

PREPARED FOR:  
**THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION**  
 10275 LITTLE PATUXENT PKWY.  
 COLUMBIA, MD 21044  
 ATTN: AL EDWARDS  
 (410) 992-6027

Storm Drain Profiles & Schedules  
**ROUTE 175 COMMERCIAL**  
 SECTION 1 AREA 2  
 PARCELS B-D and LOTS 4 & 5  
 PLAT No. 27 140297 & 140298  
 HOWARD COUNTY, MARYLAND

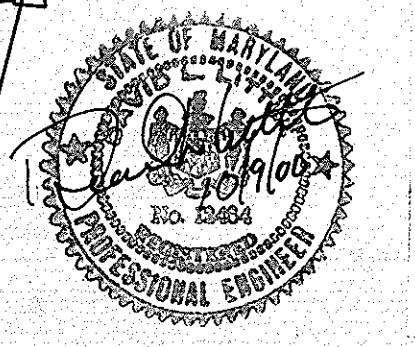
SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	NT	95003
March 2001	36-18 37-13	17 OF 19



Village of Longreach  
Section 4 Area 2  
Lots A-1 thru A-99  
Plat No. 110997

A87 A88 A89 A90 A91 A92 A93 A94 A95 A96 A97 A98 A99

Village of Longreach  
Section 4 Area 2  
Open Space Lot 2  
Plat No. 12190



Note: This plan has been prepared in accordance with the provisions of the Section 10124 of the Howard County Code and the Landscape Manual.

Note: For Flood Plain Elevation and Bearing & Distances see sheet 1.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Paul H. ...* 5/23/01  
Director Date

*Cinda ...* 5/23/01  
Chief, Division of Land Development Date

*Chris ...* 5/15/01  
Chief, Development Engineering Division Date

For Landscaping Purposes Only!!

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONTVILLE OFFICE PARK  
BURTONTVILLE, MARYLAND 20894  
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-889-2524 FAX: 301-421-4188

DES.	DRN.	CHK.	DATE	REVISION	BY	APP.
			5-14-02	Rev. Pipe size from R2 to E2 & Alignment of ST-R2	WGL	MJT
			5-22-02	Rev. landscaping adj. to Facility B & Rev. of stubs Facility B	GLW	dm

PREPARED FOR:  
The Howard Research and Development Corp  
12215 Little Patuxent Place  
Columbia, Maryland 21044  
Attn: A1 Edward  
(410) 992-0027

Stormwater Management Perimeter Planting Plan  
**ROUTE 175 COMMERCIAL**  
Section 1 Area 2  
Parcels B-D and Lots 4 & 5  
Plat No's 14097 & 14098

ELECTION DISTRICT No. 6

HOWARD COUNTY, MARYLAND

SCALE 1"=50'	ZONING NT	G. L. W. FILE NO. 95003
DATE March, 2001	TAX MAP - GRID 36-18 37-13	SHEET 18 of 19

GDP 01-09

PLANT MATERIALS AND PLANTING METHODS

A. Plant Materials

The landscape contractor shall furnish and install and/or dig, ball, burlap and transport all of the plant materials called for on drawings and/or listed in the Plant Schedule.

- Plant Names**  
Plant names used in the Plant Schedule shall conform with "Standardized Plant Names," latest edition.
- Plant Standards**  
All plant material shall be equal to or better than the requirements of the "USA Standard for Nursery Stock" latest edition, as published by the American Association of Nurserymen (hereafter referred to as AAN Standards). All plants shall be typical of their species and variety, shall have a normal habit of growth and shall be first quality, sound, vigorous, well-branched and with healthy, well-furnished root systems. They shall be free of disease, insect pests and mechanical injuries.  
All plants shall be nursery grown and shall have been grown under the same climate conditions as the location of this project for at least two years before planting. Neither height nor plants from cold storage shall be accepted.

B. Planting Methods

All proposed plant materials that meet the specifications in Section A are to be planted in accordance with the following methods during the proper planting seasons as described in the following:

- Planting Seasons**  
The planting of deciduous trees, shrubs and vines shall be from March 1st to June 15th and from September 15th to December 15th. Planting of evergreen material may be continued during the winter months providing there is no frost in the ground and frost-free topsoil planting mixtures are used.  
The planting of evergreen material shall be from March 15th to June 15th and from August 15th to December 1st. No planting shall be done when ground is frozen or excessively moist. No frozen or wet topsoil shall be used at any time.
- Digging**  
All plant material shall be dug, balled and burlapped (B+B) in accordance with the AAN Standards.
- Excavation of Plant Pits**  
The landscaping contractor shall excavate all plant pits, vine pits, hedge trenches and shrub beds in accordance with the following schedule:

- Plant Measurements**  
All plants shall conform to the measurements specified in the Plant Schedule as approved by the ARC.  
a. Caliper measurements shall be taken six inches (6") above grade for trees under four-inch (4") caliper and twelve (12") above grade for trees four inches (4") in caliper and over.  
b. Minimum branching height for all trees shall be six feet (6'), maximum eight feet (8').  
c. Minimum size for planting shade trees shall be 3-3 1/2" caliper, 14'-16" in height.  
d. Minimum size for planting minor or intermediate focus trees (pines, crabapples, etc.) shall be 3-3 1/2" caliper, 10'-12" in height.  
e. Minimum size for planting shrubs shall be 18" - 24" spread unless noted otherwise.  
f. Caliper, height, spread and size of ball shall be generally as follows:

CALIPER	HEIGHT	SPREAD	SIZE OF BALL
3" - 3 1/2"	14'-16'	6'-8'	32" diameter
3 1/2" - 4"	14'-16'	8'-10'	36" diameter
4" - 4 1/4"	16'-18'	8'-10'	40" diameter
4 1/4" - 5"	16'-17'	10'-12'	44" diameter
5" - 5 1/2"	16'-20'	10'-12'	48" diameter
5 1/2" - 6"	18'-20'	12'-14'	52" diameter

All plant material shall generally average the median for the size ranges indicated above as indicated in the "AAN Standards".

- Plant Identification**  
Legible labels shall be attached to all shade trees, minor trees, specimen shrubs and burlapped boxes of other plant material giving the botanical and common names, size and quantity of each. Each shipment of plants shall bear certificates of inspection as required by Federal, State and County authorities.
- Plant Inspection**  
The ARC may, upon request by the builder or developer, at least ten (10) days prior to the installation of any proposed plant material, inspect all proposed plant material at the source of origin.  
a. **Stakes:** Shall be sound wood 2" x 2" rough sawn oak or similar durable woods, or lengths, minimum 7'-0" for major trees and 5'-0" minimum for minor trees.  
b. **Wire and Cable:** Wire shall be #10 galvanized or bethanized annealed steel wire. For trees over 3" caliper, provide 5/16" turn buckles, eye and eye with 4" take-up. For trees over 5" caliper, provide 3/16", 7 strand cable cadmium plated steel with galvanized "eye" thimbles of wire and hose on trees up to 3" in caliper.  
c. **Hose:** Shall be new, 2 ply reinforced rubber hose, minimum 1/2" I.D. "Plastic Lock Ties" or "Paul's Trees Braces" may be used in place of wire and hose on trees up to 3" in caliper.  
d. All trees under 3" in caliper are to be planted and staked in accordance with the attached "Typical Tree Staking Detail". All trees over 3" in caliper are to be planted and guyed in accordance with the attached "Typical Tree Guying Detail".

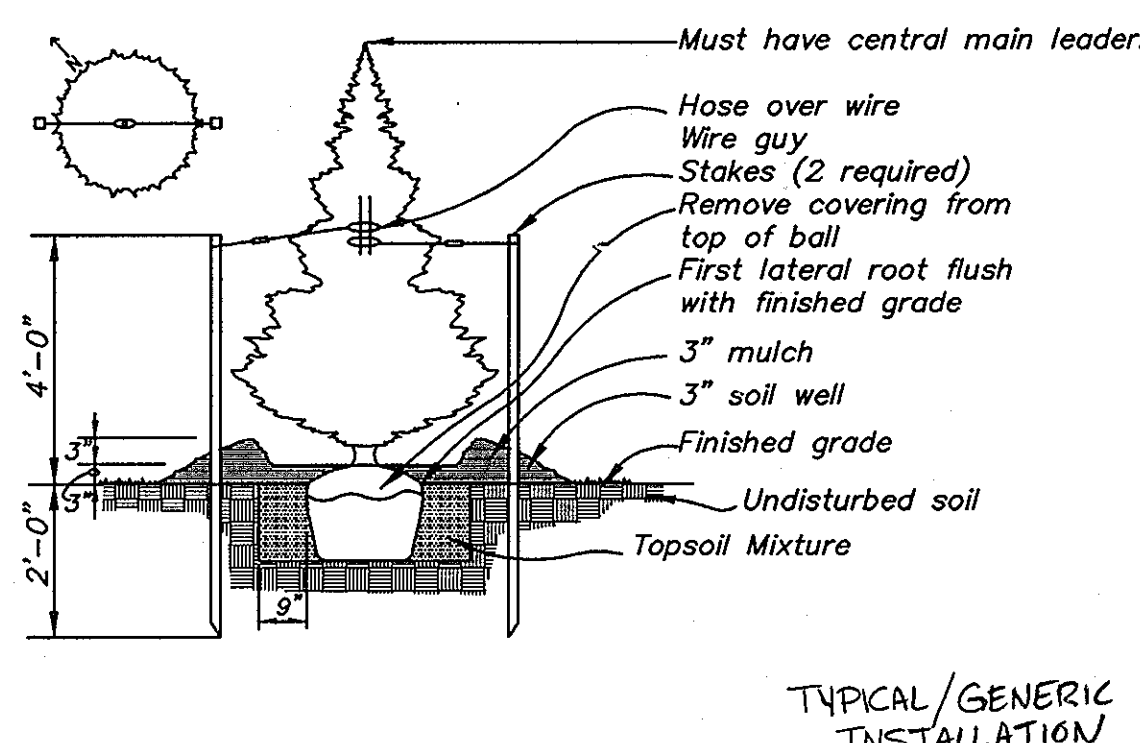
The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and where necessary, replaced with new material to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*[Signature]* 5/23/01 Date  
*[Signature]* 5/23/01 Date  
 Chief, Division of Land Development  
*[Signature]* 5/23/01 Date  
 Chief, Development Engineering Division MK

5. Plant Pruning, Edging and Mulching

- Each tree, shrub or vine shall be pruned in an appropriate manner to its particular requirements, in accordance with accepted standard practice. Broken or bruised branches shall be removed with clean cuts flush with the adjacent trunk or branches. All cuts over 1" in diameter shall be painted with an approved antiseptic tree wound dressing.
- All trunks and shrub beds shall be edged and cultivated to the lines shown on the drawing. The areas around isolated plants shall be edged and cultivated to the full diameter of the pit. Sod which has been removed and stacked shall be used to trim the edges of all excavated areas to the neat lines of the plant pit saucers, the edges of shrub areas, hedge trenches and vine pockets.
- After cultivation, all plant materials shall be mulched with a 2" layer of fine, shredded pine bark, peat moss, or another approved material over the entire area of the bed or saucer.



Evergreen Planting Detail N.T.S.

6. Plant Inspection and Acceptance

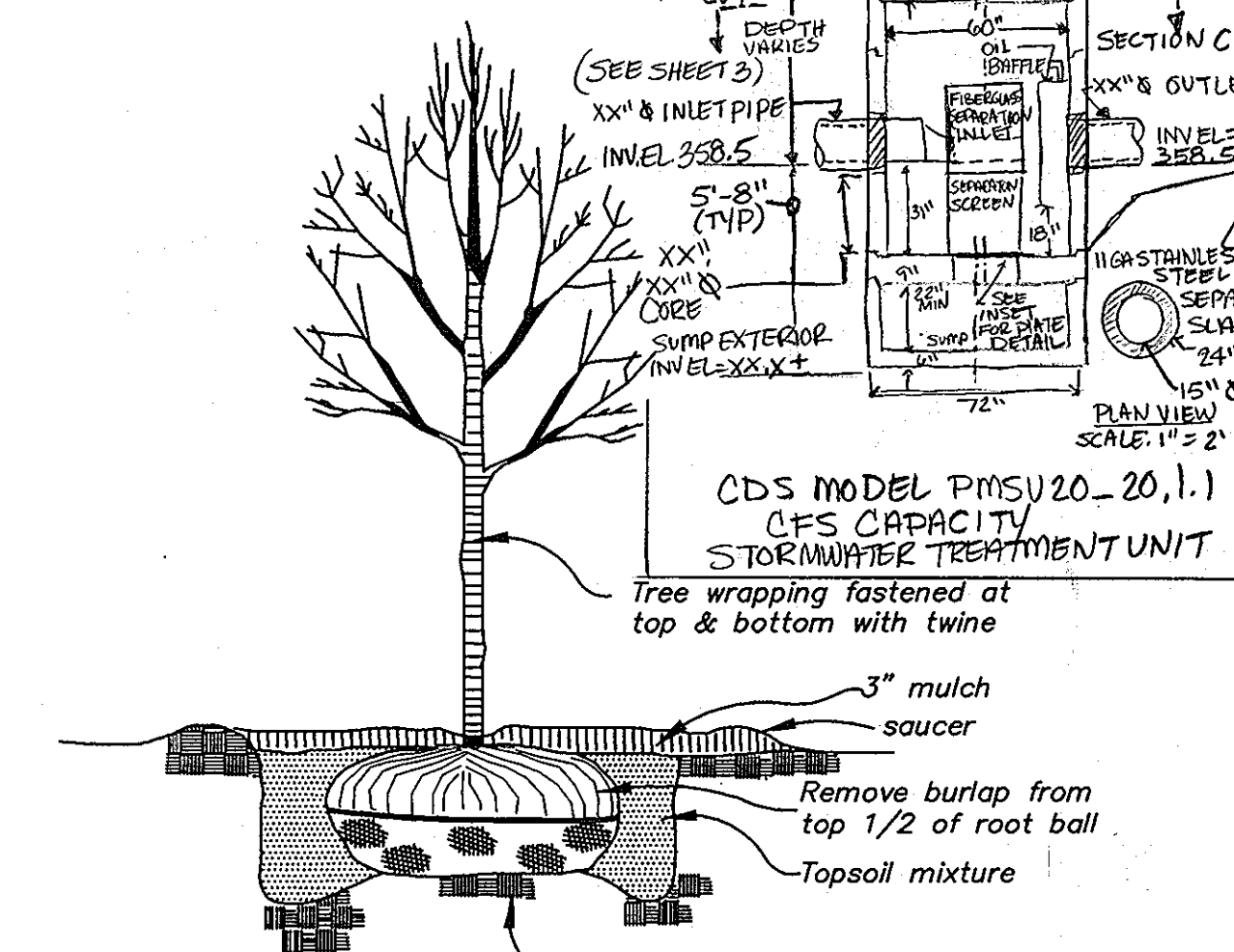
The ARC shall be responsible for inspecting all planting projects on a periodic basis to assure that all work is proceeding in accordance with the approved plans and specifications.

7. Plant Guarantee

All plant material shall be guaranteed for the duration of one full growing season, after final inspection and acceptance of the work in the planting project. Plants shall be alive and in satisfactory growing condition at the end of the guarantee period.  
a. For this purpose, the "growing season" shall be that period between the end of the "Spring" planting season, and the commencement of the "Fall" planting season.  
b. Guarantee for planting performed after the specified end of the "Spring" planting season, shall be extended through the end of the next following "Spring" planting season.

Sodding

All sodding shall be in accordance to the "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas" latest edition, approved by the Landscape Contractors Association of Metropolitan Washington and the American Society of Landscape Architects.  
All sod shall be strongly rooted sod, not less than two years old and free of weeds and undesirable native grasses. Provide only sod capable of good development when planted and in strips not more than 18" wide x 4' long. Provide sod composed principally of improved strain Kentucky bluegrass, such as, Columbia, Vicia, or Escort.

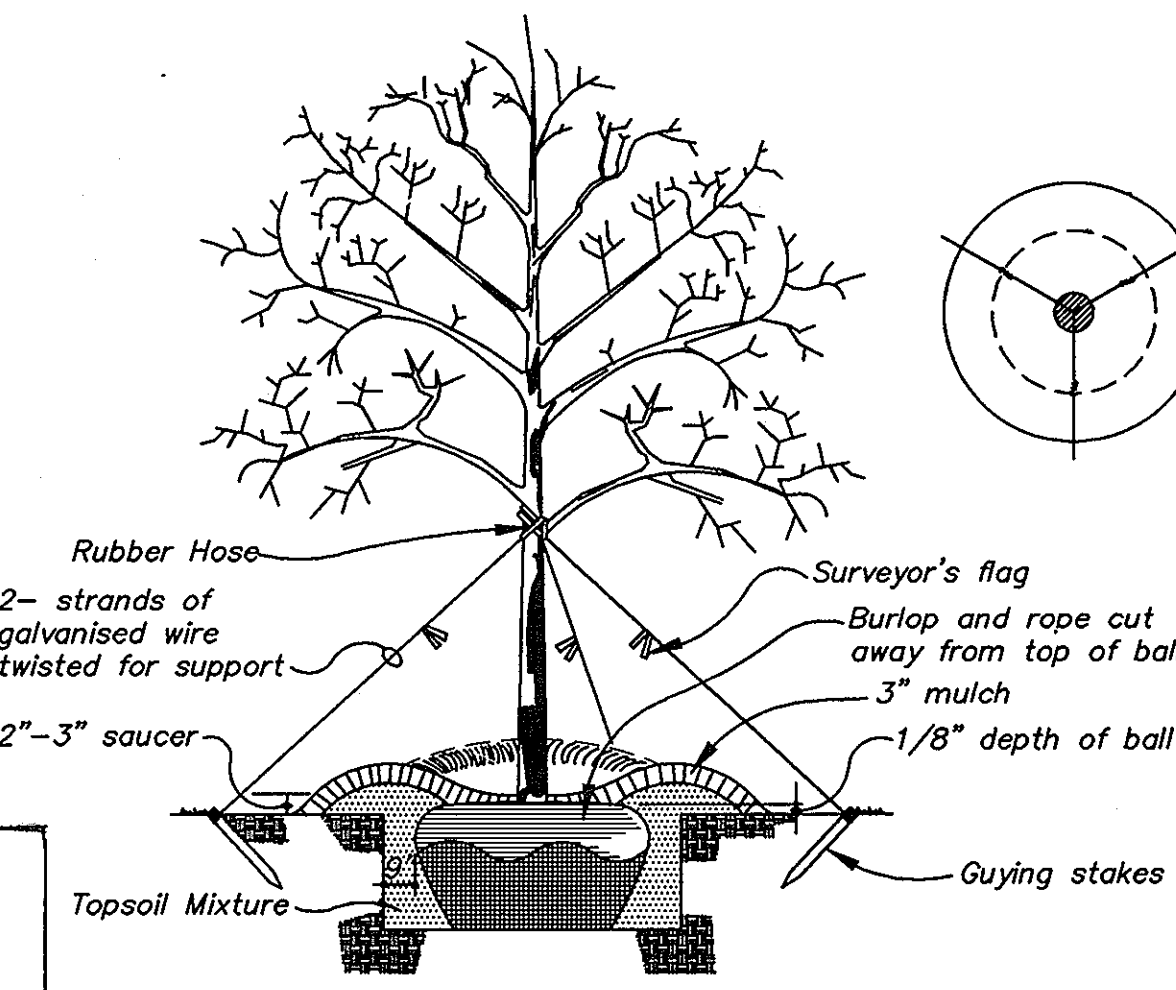


Typical Deciduous Tree Planting N.T.S.

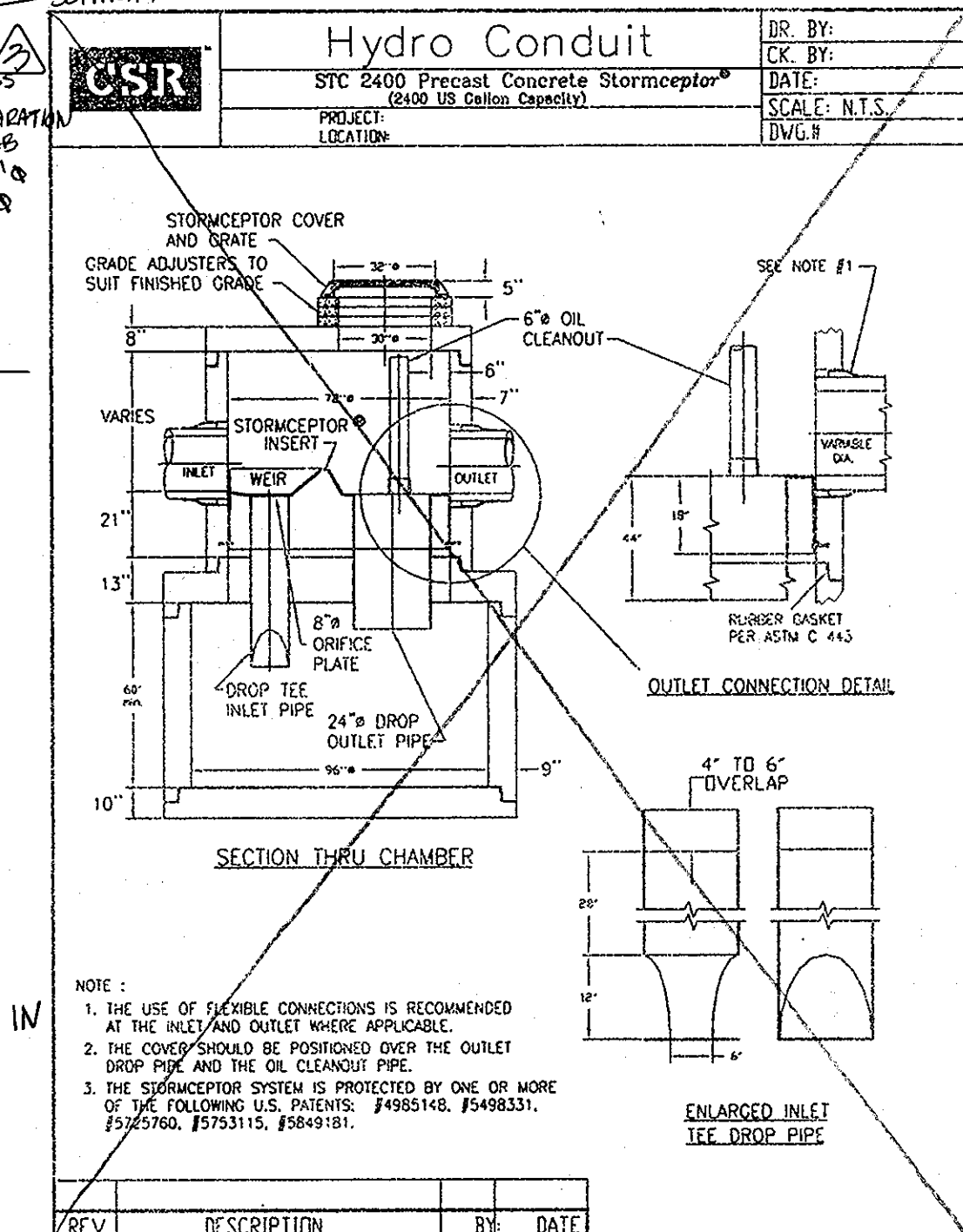
NOTE: CDS MODEL PMSU20 USED IN PLACE OF STC 2400

LANDSCAPING NOTES

- Contractor shall notify all utilities at least (5) five days before starting work. All General Notes, especially those regarding utilities, on Sheet 1 shall apply.
- Field verify underground utility locations and existing conditions before starting planting work. Contact owner or his representative if any relocations are required.
- Plant quantities shown on Plant List are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on the plan and those shown on the plant list, the quantities on the plan shall take precedence.
- All plant material shall be full, heavy, well formed, and symmetrical, and conform to the A.A.N. Specifications, and be installed in accordance with project specifications.
- No substitution shall be made without written consent of the owner or his representative.
- All areas disturbed by construction activities but not otherwise planted, paved, or mulched shall be seeded or sodded in accordance with project specifications.
- The contractor shall notify the owner in writing if he/she encounters soil drainage conditions which may be detrimental to the growth of the plants.
- All exposed earth within limits of planting beds shall be mulched with shredded hardwood mulch per Planting Details.



Typical Tree Guying Detail N.T.S.



SECTION THROUGH CHAMBER

PROCEDURE TO SEAL LIFT HOLES

- LIFT HOLES IN THE TANK SECTION ARE TO BE PLUGGED WITH A TAPERED FLEXIBLE PLUG AND KNOCKED INTO THE HOLE WITH A HAMMER. (PLUG MAY BE PLACED IN THE INSIDE OR OUTSIDE OF THE TANK)
- ONCE THE PLUG IS SET IN PLACE, THE INSIDE AND OUTSIDE OF THE LIFT HOLES MUST BE COVERED WITH CEMENT GROUT.
- CEMENT GROUT SEAL SHOULD EXTEND FOR 2 TO 3 INCHES BEYOND THE LIFT HOLE OPENING.
- LIFT HOLES WHICH ARE NOT PART OF THE TANK SECTION NEED ONLY BE SEALED WITH THE FLEXIBLE PLUG KNOCKED INTO PLACE.

STORMCEPTOR DROP PIPE INSTALLATION PROCEDURE

- DROP PIPES ARE TO BE INSTALLED ONCE THE RISER SECTION CONTAINING THE INSERT HAS BEEN INSTALLED ON THE STORAGE CHAMBER.
- ENTER THE STORAGE CHAMBER AND INSTALL THE INLET DROP PIPE FROM UNDERNEATH THE INSERT. THE INLET DROP PIPE IS EASILY IDENTIFIABLE BY THE T-SECTION FITTING. THE TEE IS ORIENTED SUCH THAT IT IS PERPENDICULAR TO THE DIRECTION OF FLOW IN THE UPSTREAM STORM SEWER. FOR THE SMALLER MODELS (LESS THAN 2000) THE INLET DROP PIPE IS CEMENTED INTO THE COUPLING THAT IS PROVIDED USING THE SUPPLIED PVC CEMENT. FOR THE LARGER MODELS (GREATER THAN 2000) THE INLET DROP PIPE IS CONNECTED INTO A GASKETED COUPLING (USING THE SUPPLIED PIPE LUBRICANT). ONCE THE INLET DROP PIPE HAS BEEN INSTALLED, THE CONNECTION SHOULD ALSO BE CAULKED USING THE SUPPLIED (CHEMREX 948 OR BULLDOG PREMIUM PL) SEALANT TO ENSURE AN OIL/WATER TIGHT CONNECTION.
- THE LARGE 24" (610 mm) RISER PIPE IS INSERTED INTO THE PROVIDED OUTLET SLEEVE FROM ABOVE WHILE STANDING ON THE INSERT. A FLANGE IS PROVIDED ON THE OUTLET RISER PIPE TO PREVENT IT FROM FALLING INTO THE STORAGE CHAMBER. THE UNDERSIDE OF THE FLANGE MUST BE CAULKED WITH THE PROVIDED CHEMREX 948 SEALANT TO ENSURE AN OIL/WATER TIGHT CONNECTION.
- A 6" (150 mm) COUPLING IS PROVIDED ON THE INSERT FOR THE SUPPLIED 6" (150mm) PVC VENT PIPE. THE VENT PIPE SHOULD BE ATTACHED TO THE COUPLING USING THE SUPPLIED PVC CEMENT. ONCE THE CEMENT HAS SET, THE CONNECTION SHOULD ALSO BE CAULKED USING THE SUPPLIED CHEMREX 948 SEALANT TO ENSURE AN OIL/WATER TIGHT CONNECTION.

PLANT LIST				
SYMBOL	QTY.	NAME BOTANICAL/COMMON	SIZE	REMARKS
SHADE TREES				
L	8	Liquidambar styraciflua/ Sweet Gum	2-2 1/2 cal.	B&B
Q	11	Quercus Palustris/ Pin Oak	2-2 1/2 cal.	B&B
ORNAMENTAL TREES				
AC	9	Amalanchier Canadensis/ Service Berry	10'-12' HT.	B&B
EVERGREEN TREES				
PA	26	Picea Abies/Norway Spruce	10'-12' HT	B&B
PN	17	Pinus Nigra/Black Pine	10'-12' HT	B&B
AR	4	Acer Rubrum/Red Sweetgum Red Sweetgum Maple	2-2 1/2 cal.	B & B
PS	10	Pinus strobus/White Pine	10'-12' HT.	B & B

Schedule D Stormwater Management Area Landing	
Linear Feet Of Perimeter	1,520 Feet
Number of trees required (Type B)	
Shade Trees (1:50)	31
Evergreen Trees (1:40)	38
Credit for existing vegetation (No, Yes and %)	No
Credit for other landscaping (No, Yes and %)	No
Number of trees provided	
Shade trees	23
Evergreen Trees	53
Other trees (2:1 substitution)	9
Landscape Surety for Schedule-D Required Plantings: Financial surety for the 69 required trees has been posted as part of the Developer's Agreement in the amount of \$1,000,000	

CONTRACTOR INSTALLATION PROCEDURE FOR INLET STORMCEPTOR

- STAKE-OUT THE LOCATION OF THE INLET STORMCEPTOR AND EXCAVATE HOLE. EXCAVATE ADEQUATE SPACE TO CONNECT INLET AND OUTLET PIPES TO UNIT. INSTALL OF EXCAVATION.
- CHECK ELEVATION OF UNIT BY MEASURING ITS SECTIONS FROM THE BASE OF THE STORAGE CHAMBER (BOTTOM OF BASE SLAB) TO THE INVERT OF THE UNIT BYPASS CHAMBER OUTLET ELEVATION (FIBERGLASS INSERT). SUBTRACT THIS DISTANCE FROM DESIGN OUTLET ELEVATION TO DETERMINE TOP OF SUBBASE ELEVATION. CHECK ELEVATION OF INSTALLED SUBBASE AND ADJUST AS NEEDED.
- SECURE INSPECTOR APPROVAL OF SUB GRADE AND SUBBASE.
- INSTALL STORAGE CHAMBER. ATTACH CABLES OR CHAINS TO THE THREE PULLING IRONS ON THE BASE SLAB. USING LARGE EQUIPMENT OR CRANE, LIFT AND PLACE THE BASE SECTION OF THE STORAGE CHAMBER IN THE EXCAVATED HOLE ON THE SUBBASE. MAKE SURE THE BASE IS LEVEL. SPECIFIC ALIGNMENT OF THIS PART IS NOT REQUIRED. INSTALL RUBBER GASKET ON THE BASE UNIT AND APPLY LUBRICATING SOAP (PROVIDED IN SHIPMENT).
- INSTALL BYPASS CHAMBER OF INLET STORMCEPTOR WITH FACTORY INSTALLED INSERT. LIFT BYPASS SECTION, LUBRICATE BELL, AND INSTALL WHILE CHECKING ALIGNMENT AND GRADE OF OUTLET DRAINAGE PIPE. CHECK AND MAKE SURE BYPASS CHAMBER IS SET FLUSH, LEVEL, AND IS AT THE PROPER ELEVATION. INSTALL RUBBER GASKET ON TOP OF BYPASS RISER AN LUBRICATE.
- INSTALL INLET AND OUTLET STORM DRAIN PIPES. CONNECT PIPE WITH FLEXIBLE BOOTS (WHEN PROVIDED) AND WITH NON-SHRINK GROUT WHEN FLEXIBLE BOOTS ARE NOT PROVIDED. THE INVERT OF THE OUTLET PIPE IS TO MATCH THE INVERT OF THE STORMCEPTOR INSERT. FLEXIBLE BOOT INSTALLATION PROCEDURES: CENTER THE PIPE IN THE BOOT OPENING. LUBRICATE THE OUTSIDE OF THE PIPE AND/OR THE INSIDE OF THE BOOT. POSITION THE PIPE CLAMP IN THE GROOVE OF THE BOOT WITH THE SCREW AT THE TOP. TIGHTEN THE PIPE CLAMP WHILE ENSURING EVEN CONTRACTION OF THE RUBBER.
- INSTALL INLET DOWN PIPE WITH HANDLE AND 4" VENT PIPE ACCORDING TO INSTALLATION INSTRUCTIONS FOR INLET STORMCEPTOR MODEL STC450.
- INSTALL RISER SECTION. ALIGN SIZES ABOVE INLET(12") DOWN PIPE. NOTE, FOR SHALLOW INSTALLATIONS THIS SECTION MAY NOT BE REQUIRED.
- INSTALL FLATTOP WITH OPENING FOR STORMCEPTOR FRAME AND GRATE ORIENTED ABOVE THE STORMCEPTOR 12" INLET DOWN PIPE.
- BACK FILL STORMCEPTOR WITH APPROVED BACK FILL MATERIAL (NO ORGANIC OR TOP SOIL IS TO BE USED FOR BACK FILL). BACK FILL AND COMPACT IN 8" LIFTS. BACK FILL SHOULD BE COMPACTED TO LOCAL/STATE REQUIREMENTS.
- INSTALL AND SET GRADE ADJUSTING RINGS, AS NEEDED.
- INSTALL AND SET FRAME AND GRATE.
- THE STORMCEPTOR SHOULD BE PUMPED OUT WHEN SEDIMENT CONTROL MEASURES ARE REMOVED (SITE PERMANENTLY STABILIZED).
- FINAL INSPECTION.

FOR TECHNICAL INFORMATION CALL CSR HYDRO CONDUIT AT 301-698-7373



GLW GUTSCHICK LITTLE & WEBER, P.A.  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20866  
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-889-2524 FAX: 301-421-4186

PREPARED FOR:  
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PKWY.  
COLUMBIA, MD 21044  
ATTN: AL EDWARDS  
(410) 992-6027

ASBUILT  
PLANTING NOTES, SCHEDULES, PLANT LIST & STORMCEPTOR NOTES  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2  
PARCELS B-D and LOT 4 & 5  
PLAT No. 21 14007 & 14008  
ELECTION DISTRICT No. 6

ASBUILT SHEET 9 OF 9  
SCALE AS SHOWN  
ZONING NT  
G. L. W. FILE NO. 95003  
March 2001  
36-18  
37-13  
19 OF 19