

SEDIMENT BASIN (SWM FACILITY) INFORMATION	PHASE 5 BASIN	PHASE 4A BASIN
PRE-DEVELOPMENT DRAINAGE AREA	26.9 ACRES	30.8 ACRES
POST-DEVELOPMENT DRAINAGE AREA	26.4 ACRES	30.8 ACRES
TOTAL STORAGE REQUIRED (NET VOLUME @ 1 YR. TSNM)	162,680 C.F.	181,828 C.F.
TOTAL STORAGE PROVIDED	164,918 C.F.	144,984 C.F.
NET VOLUME REQUIRED	49,240 C.F.	35,440 C.F.
NET VOLUME PROVIDED	50,253 C.F. @ 351.00	64,101 C.F. @ 360.00
DRY VOLUME REQUIRED	14,260 C.F.	12,888 C.F.
DRY VOLUME PROVIDED	14,260 C.F. @ 361.03	12,888 C.F. @ 362.95

THE PHASE 4A SEDIMENT BASIN WAS CONSTRUCTED UNDER F-05-81

RIP RAP INFORMATION		
LENGTH	STORM DRAIN CUTFALL	SWM FACILITY CUTFALL
CLASS	II	II
PSO	16"	16"
PSO	24"	24"
BLANKET THICKNESS	32"	32"

LEGEND

- STONE CONSTRUCTION ENTRANCE
- SILT FENCE
- SUPER SILT FENCE
- EARTH DIKE (INITIAL CONDITION)
- EARTH DIKE (ULTIMATE CONDITION)
- L.O.D.
- LIMIT OF DISTURBANCE
- REMOVABLE PUMPING STATION
- 100 YR. FLOODPLAIN
- EXISTING CONTOUR
- PROPOSED CONTOUR
- GABION MATTRESS
- RIP RAP INFLOW
- 15' (MIN) NO-WOODY ZONE

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.

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

Jim Meyer
Natural Resources Conservation Service

[Signature]
Date

[Signature]
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]
Signature of Developer/Builder

8-23-06
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]
Engineer's Signature
8/23/06
Date



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William F. Whelan Jr. 8-28-06
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Craig Hamrick 8/24/06
 Chief, Division of Land Development Date

[Signature] MK Date

NOTE: ONCE THE AREA DRAINING TO THE PHASE 4A BASIN HAS BEEN STABILIZED, REFER TO F-05-81 FOR POND CONVERSION DETAILS.

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

DATE	REVISION	BY	APPR.
10/10/06	rev. contact information		
4/14/08	rev. plans for creation of F-05-118. This set is for SWM and sediment control. See F-05-118 for storm basin & road information.	klp	
11/5/07	rev. grading, add retaining walls and mailbox pavilion in open space lot 215	klp	

PREPARED FOR:
 GJR Maple Lawn, Inc.
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: Mark Bennett
 410-484-8400

SEDIMENT CONTROL PLAN - PHASE 2
MAPLE LAWN FARMS
HILLSIDE DISTRICT - AREA 3
 Lots 109 through 212, Open Space Lots 213 through 218
 Common Open Areas 219 through 221

SCALE	ZONING	G. L. W. FILE No.
1"=50'	MXD-3	05001
DATE	TAX MAP - GRID	SHEET
AUG., 2006	41/22-46/4	4 OF 10

MATCH LINE - FOR CONTINUATION - SEE SHEET 4

MATCH LINE - FOR CONTINUATION - SEE SHEET 4

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Signature of Developer/Builder: *[Signature]* Date: 8-23-06

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Engineer's Signature: *[Signature]* Date: 8/23/06



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

Howard Soil Conservation District: *[Signature]* Date: 8/29/06

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.

Natural Resources Conservation Service: *[Signature]* Date: 8/24/06

LEGEND

	STONE CONSTRUCTION ENTRANCE
	SILT FENCE
	SUPER SILT FENCE
	EARTH DIKE (INITIAL CONDITION)
	EARTH DIKE (ULTIMATE CONDITION)
	LIMIT OF DISTURBANCE
	REMOVABLE PUMPING STATION
	100 YR. FLOODPLAIN EXISTING CONTOUR
	100 YR. FLOODPLAIN PROPOSED CONTOUR
	GABION MATTRESS
	RIP RAP INFLOW
	15' (MIN) NO-WOODY ZONE

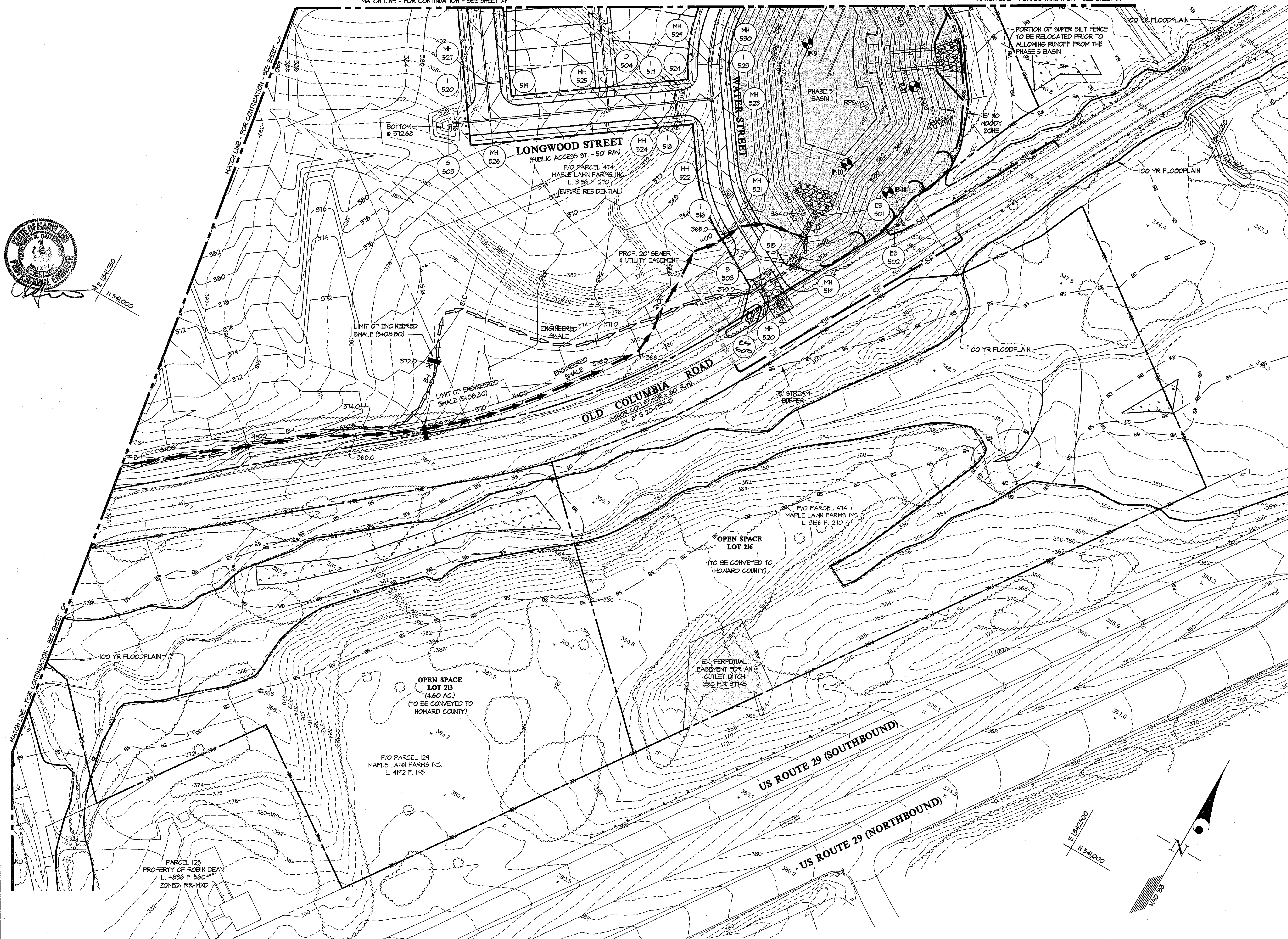
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 8-28-06
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
[Signature] 8/30/06
 Chief, Division of Land Development

Chief, Development Engineering Division: *[Signature]* MK

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BALT: 410-680-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

DATE	10/15/06	BY	klp
REVISION	1. rev. plans for section of E. 20-178. This set is for SWM & sediment control. 988 E. 20-178	BY	klp
REVISION	2. rev. headwall (HW-2) to an end section (E-522); rev. grading around E-522	BY	klp



PREPARED FOR:
 412 Maple Lawn, Inc.
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: Mark Bennett
 410-484-8400

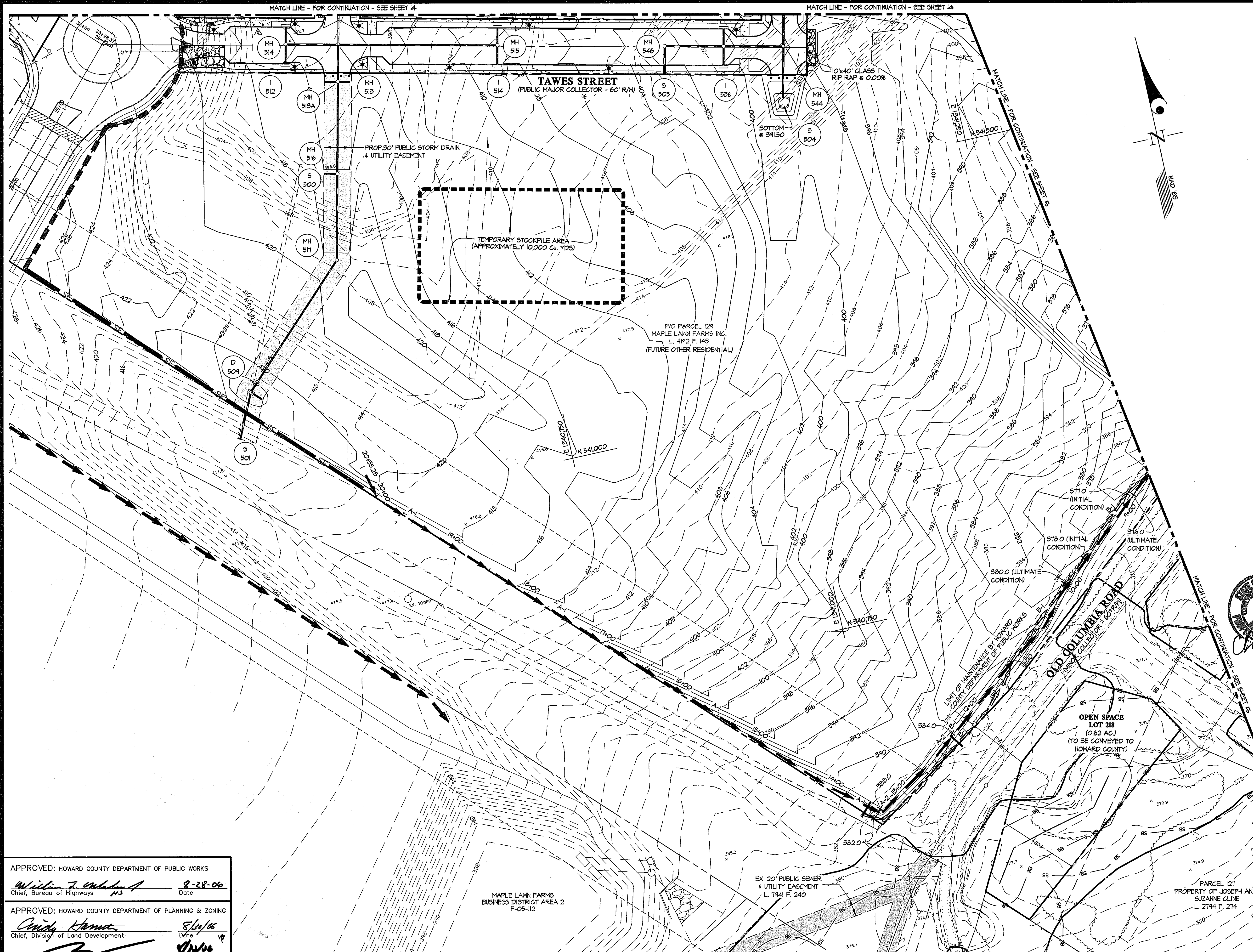
SEDIMENT CONTROL PLAN - PHASE 2
MAPLE LAWN FARMS
HILLSIDE DISTRICT - AREA 3
 Lots 109 through 212, Open Space Lots 213 through 218
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SCALE	1"=50'
ZONING	MXD-3
DATE	AUG., 2006
TAX MAP - GRID	41/22-46/4
SHEET	5 OF 17

ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

G. L. W. FILE No. 05001
 SHEET 5 OF 17

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LEGEND

	STONE CONSTRUCTION ENTRANCE
	SILT FENCE
	SUPER SILT FENCE
	EARTH DIKE (INITIAL CONDITION)
	EARTH DIKE (ULTIMATE CONDITION)
	LIMIT OF DISTURBANCE
	REMOVABLE PUMPING STATION
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[Signature] 8-23-06
 Signature of Developer/Builder Date

ENGINEER'S CERTIFICATE
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[Signature] 8/23/06
 Engineer's Signature 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] 8/23/06
 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] 8/23/06
 Howard Soil Conservation District Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. [Signature] 8-28-06
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chris Hanna 8/18/06
 Chief, Division of Land Development Date

Chief Development Engineering Division MK Date

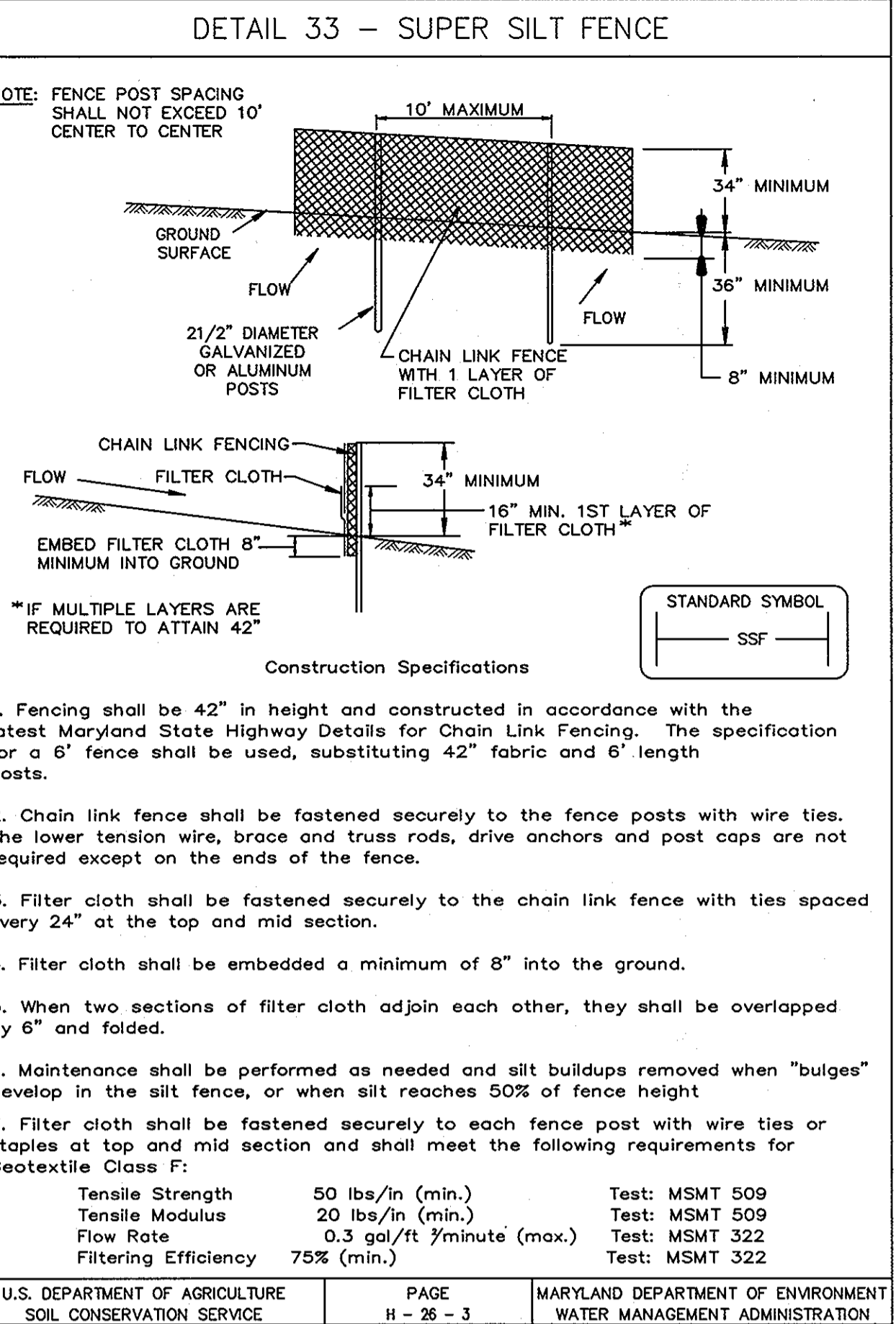
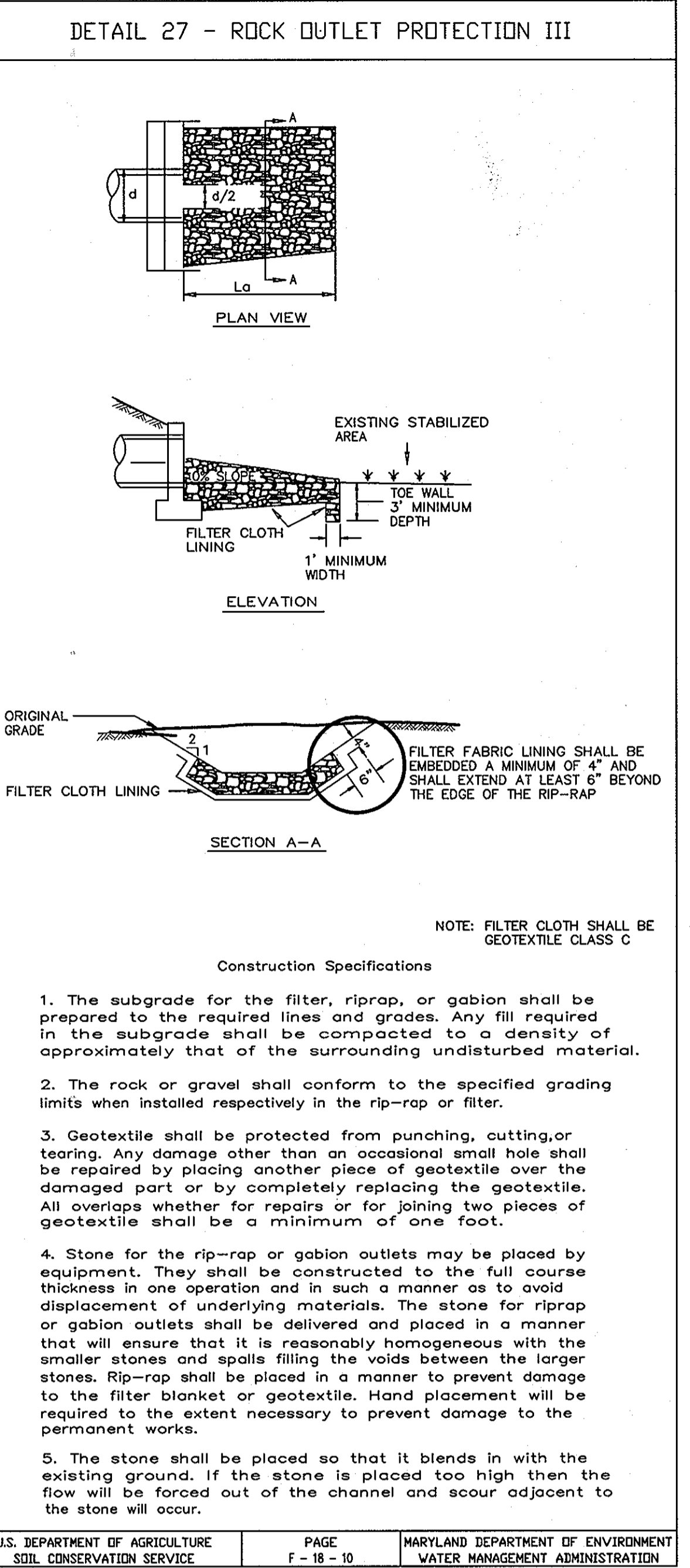
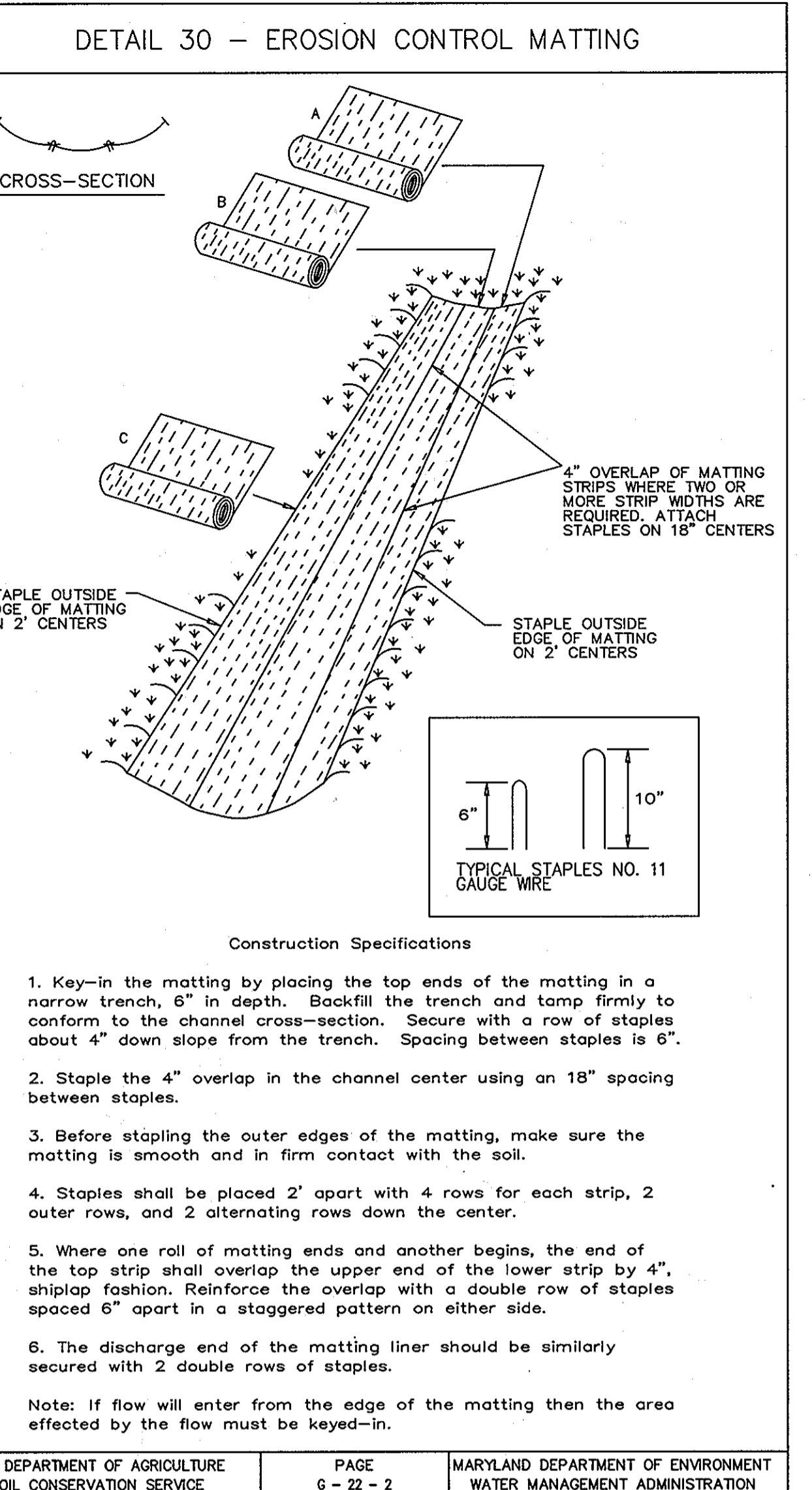
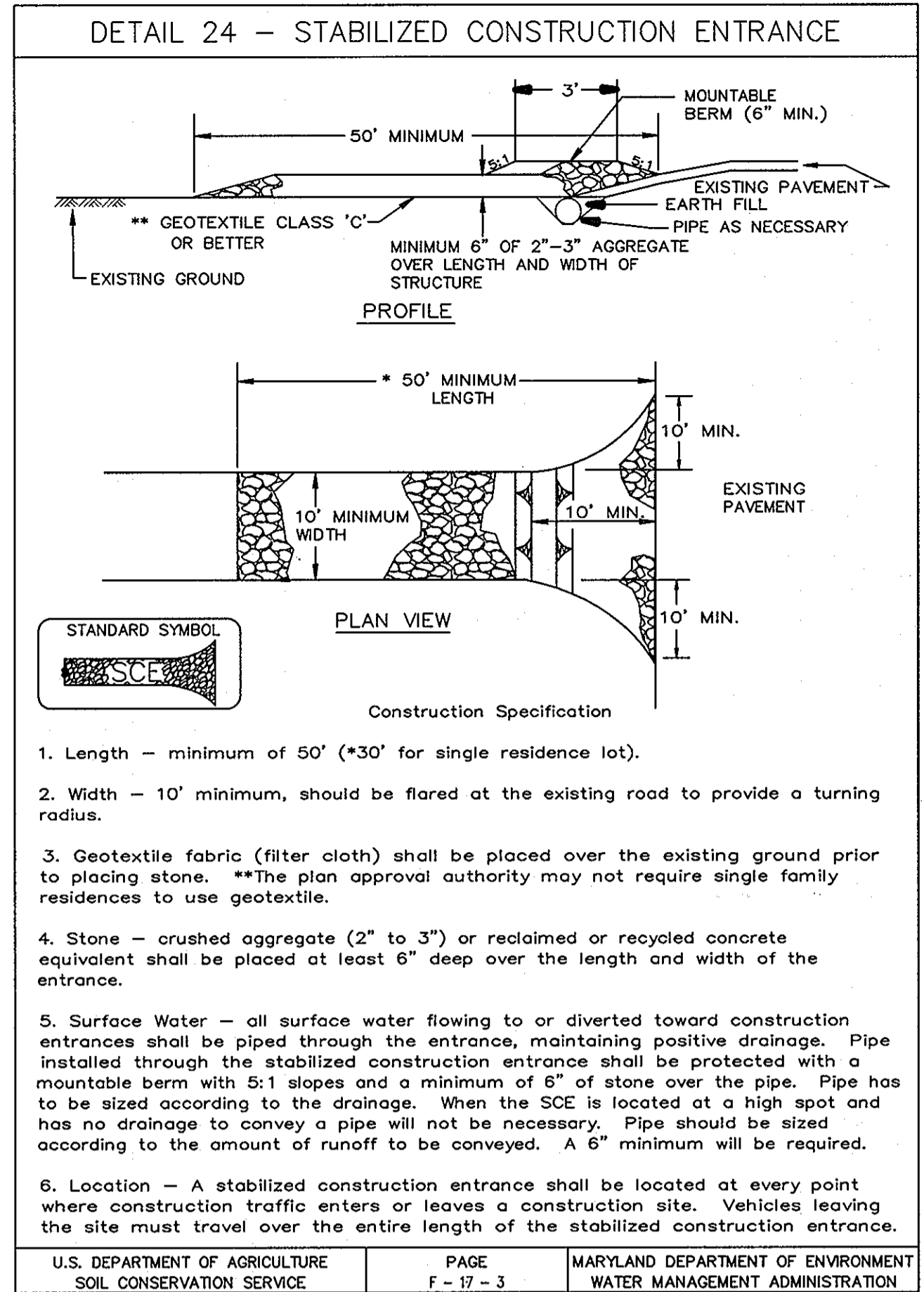
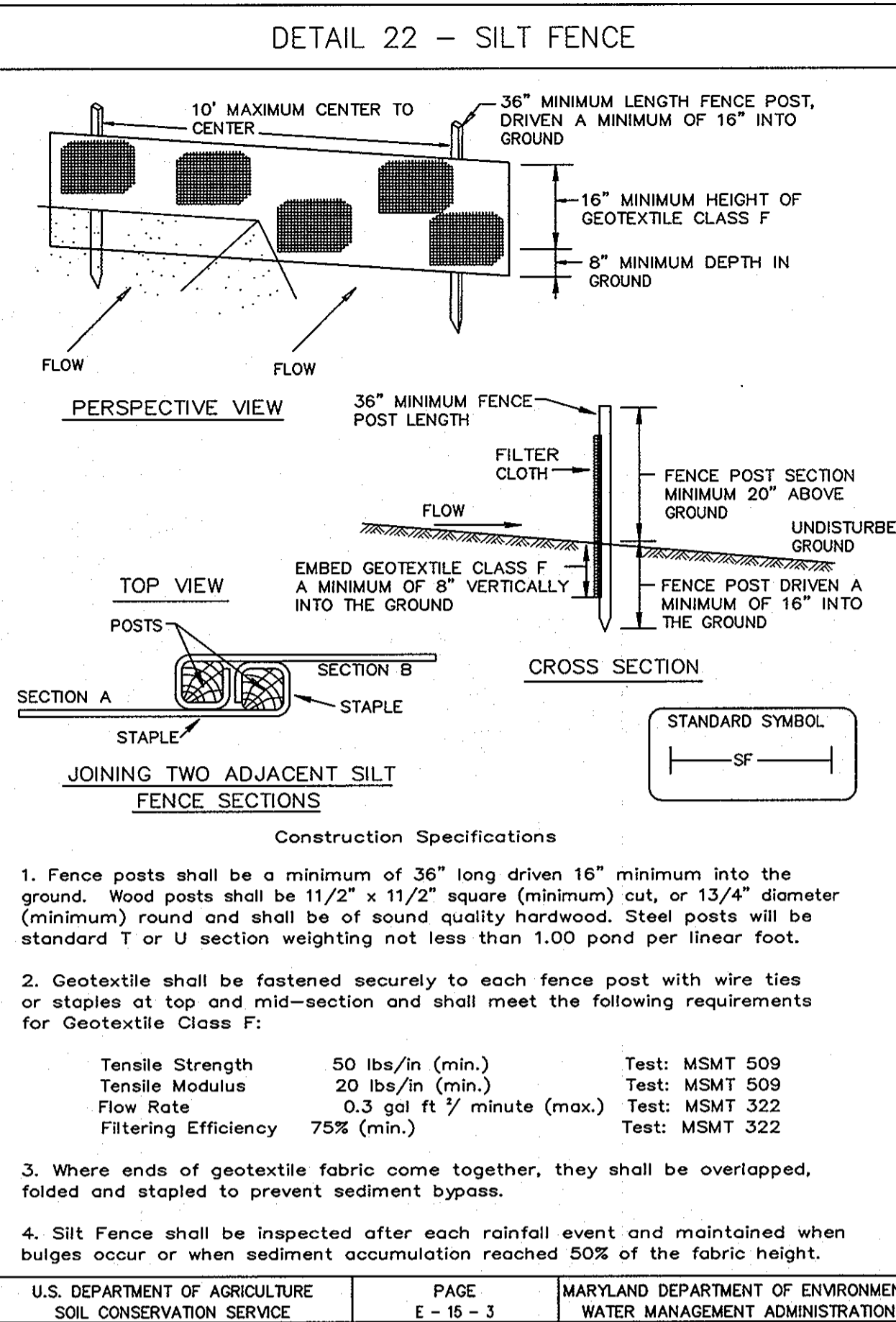
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 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.
10/15/04	rev. contact information	KLP	
4/15/05	rev. signs for creation of 15-05-17B. This set is for SWM & sediment control. See P.05-17B for storm drain and road info.	KLP	
11/2/07	rev. grading, add walk to mailbox pavilion in Open Space 212	KLP	

PREPARED FOR:
 612 Maple Lawn, Inc.
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: Mark Bennett
 410-484-8400

SEDIMENT CONTROL PLAN - PHASE 2
MAPLE LAWN FARMS
HILLSIDE DISTRICT - AREA 3
 Lots 109 through 212, Open Space Lots 213 through 218
 Common Open Areas 219 through 221
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	MXD-3	05001
DATE	TAX MAP - GRID	SHEET
AUG., 2006	41/22-46/4	6 OF 10



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 Meyer 8/29/06
Natural Resources Conservation Service Date

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John A. ... 8/29/06
Howard Soil Conservation District Date

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[Signature] 8/29/06
Engineer's Signature Date

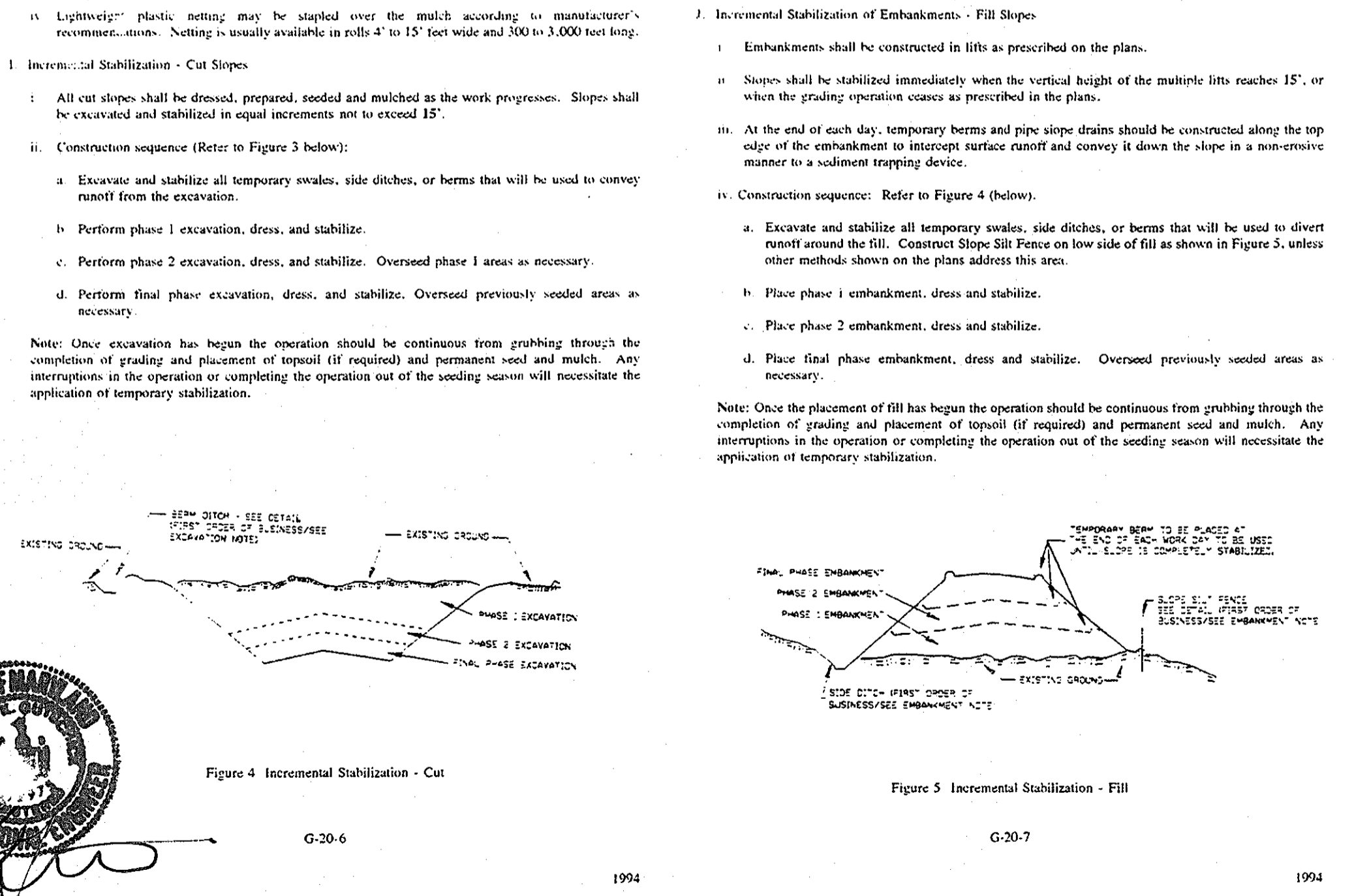
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[Signature] 8-23-06
Signature of Developer/Builder Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. ... 8-28-06
Chief, Bureau of Highways Date

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy ... 8/29/06
Chief, Division of Land Development Date

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
[Signature] MK
Chief, Development Engineering Division Date



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BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 FAX: 301-421-4186

10/15/06 Rev. contact information
4/15/07 Rev. Plans for creation of E.O.B. 11b. This set is for storm & sediment control. See P-06-17b for storm drain & red. info.

DATE	REVISION	BY	APPR.

DES. DEV	DRN. AML	CHK. DEV	

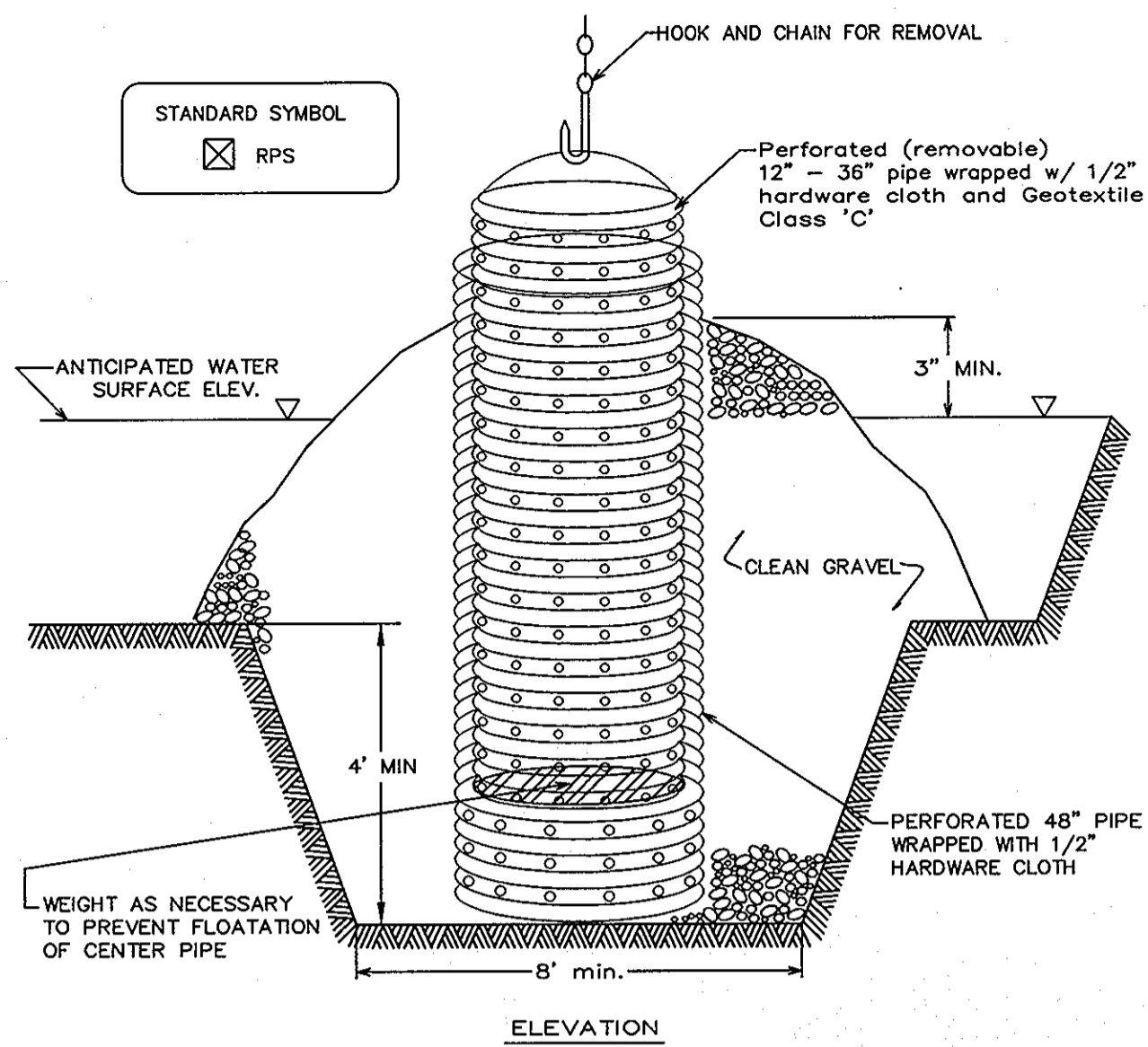
PREPARED FOR:
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SEDIMENT CONTROL DETAILS
MAPLE LAWN FARMS
HILLSIDE DISTRICT - AREA 3
Lots 109 through 212, Open Space Lots 213 through 218
Common Open Areas 219 through 221

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	05001
DATE	TAX MAP - GRID	SHEET
AUG., 2006	41/22-46/4	7 OF 17

HOWARD COUNTY, MARYLAND

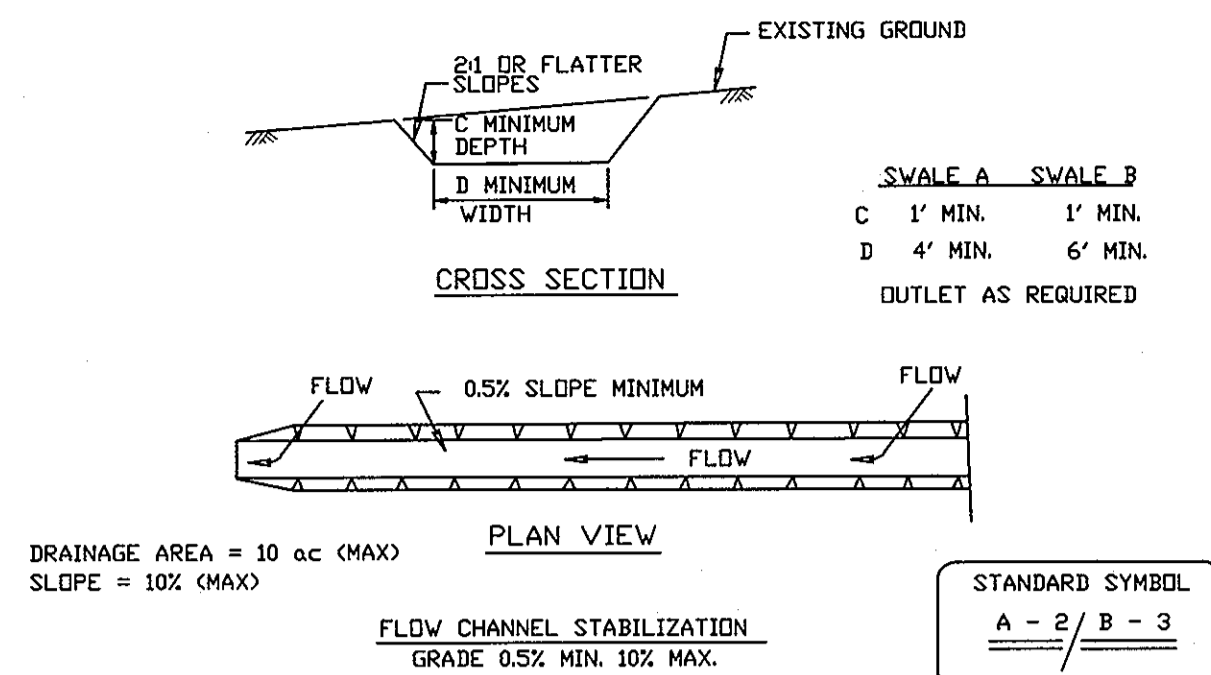
DETAIL 20A - REMOVABLE PUMPING STATION



- Construction Specifications**
- The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
 - After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
 - The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" x 6" slots or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.
 - The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE D-12-5 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

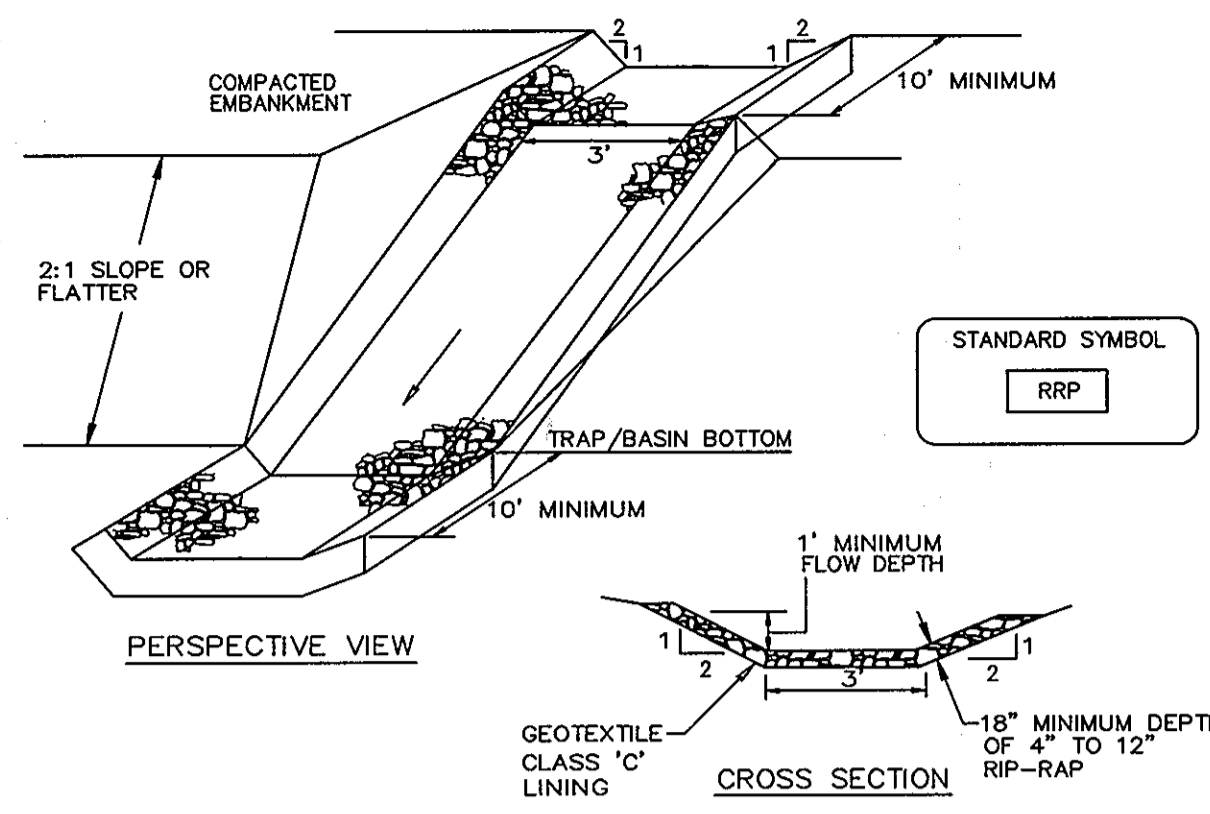
DETAIL 2 - TEMPORARY SWALE



- Construction Specifications**
- Seed and cover with straw mulch.
 - Seed and cover with Erosion Control Matting or line with sod.
 - 4"-7" stone or recycled concrete equivalent pressed into soil in a minimum 7" layer.
- All temporary swales shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
 - Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
 - Runoff diverted from an undisturbed area shall outlet directly into an undisturbed stabilized area at a non-erosive velocity.
 - All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.
 - The swale shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
 - Fill, if necessary, shall be compacted by earth moving equipment.
 - All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the swale.
 - Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE A-2-4 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

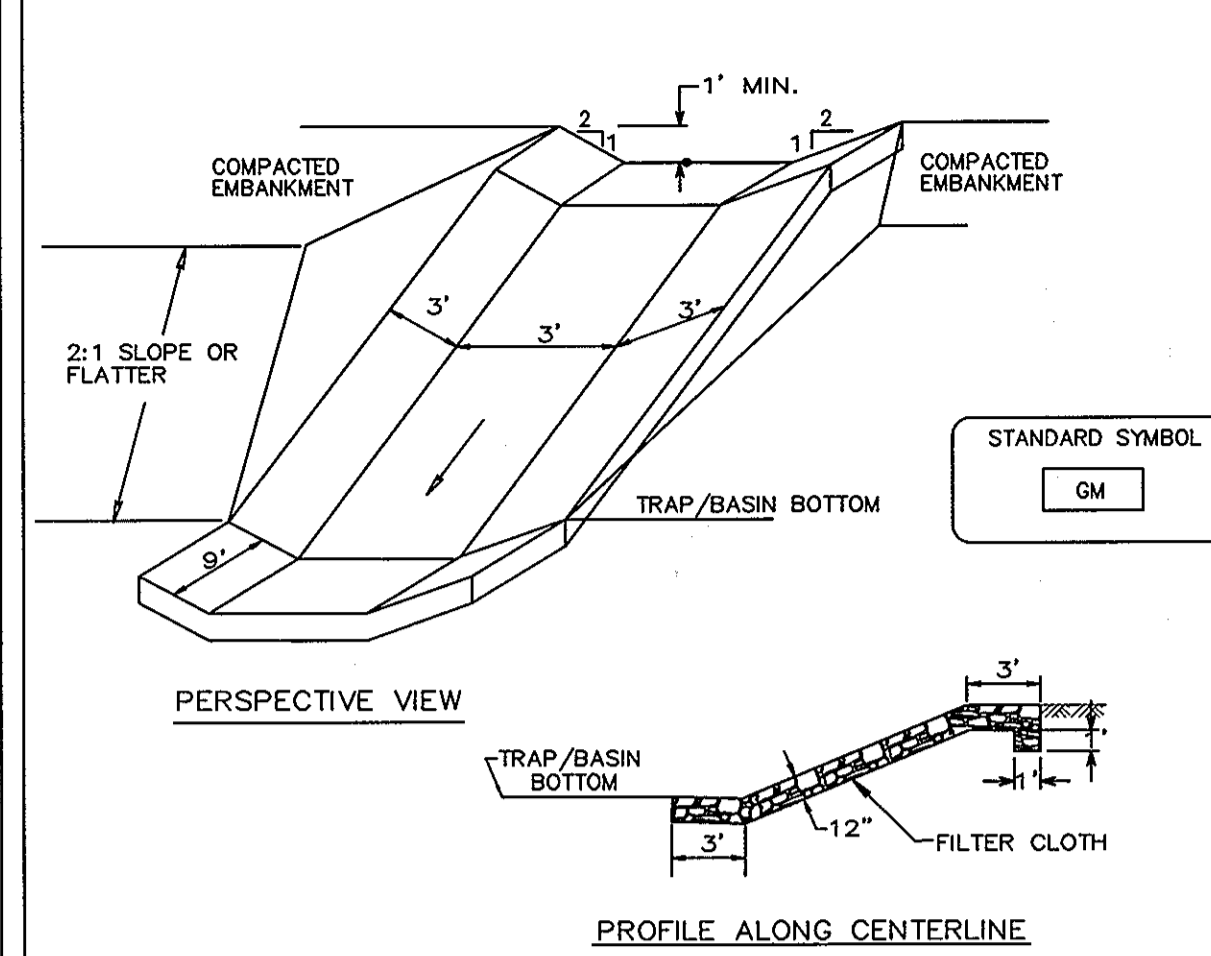
DETAIL 5 - RIP-RAP INFLOW PROTECTION



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

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE B-6-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

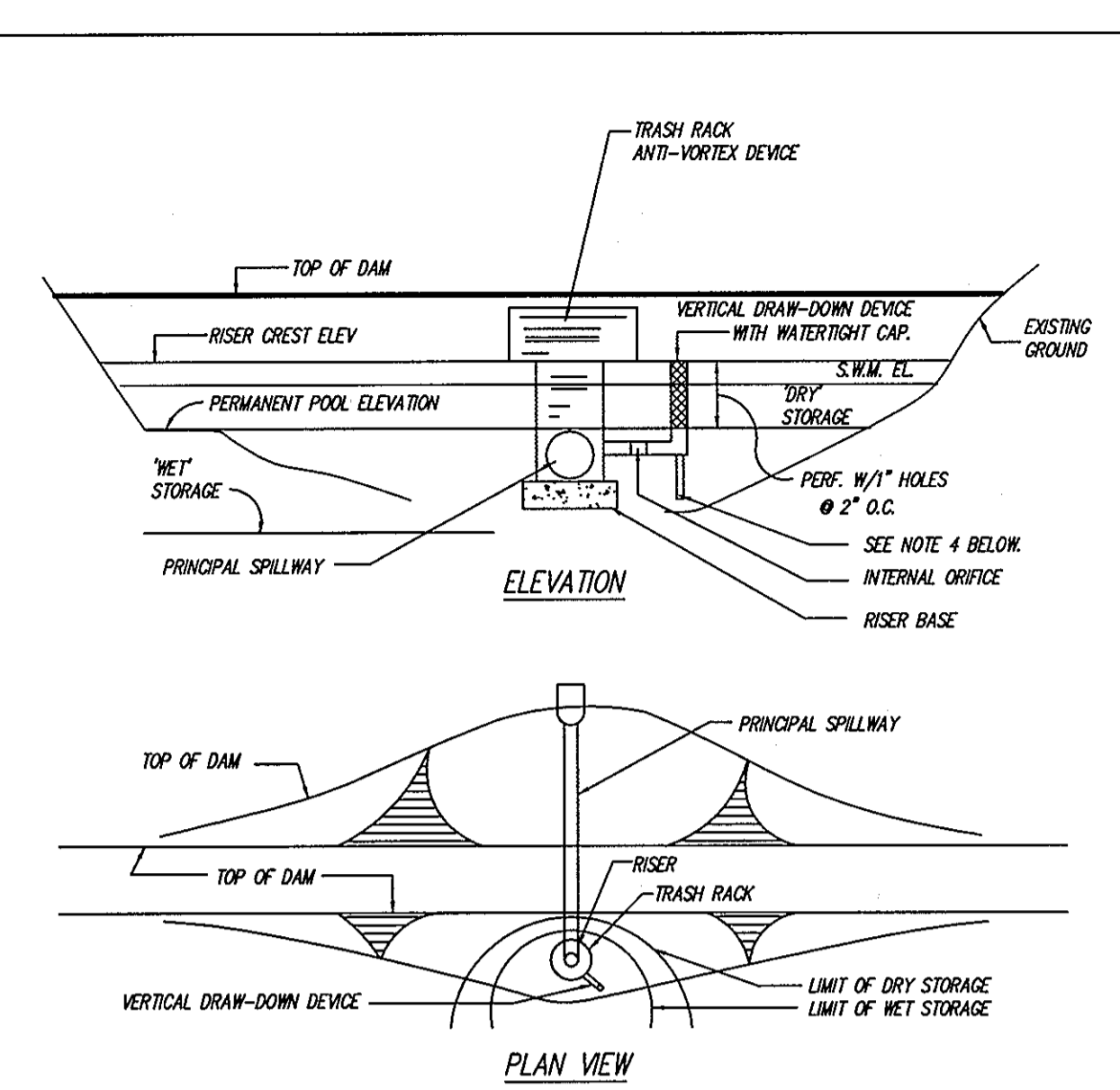
DETAIL 6 - GABION INFLOW PROTECTION



- Construction Specifications**
- Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.
 - Geotextile Class C shall be installed under all gabion baskets.
 - The stone used to fill the gabion baskets shall be 4" - 7".
 - Gabions shall be installed in accordance with manufacturers recommendations.
 - Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE B-7-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BASIN DRAWDOWN SCHEMATIC VERTICAL DRAWDOWN DEVICE



- Construction Specifications**
- Perforations in the draw-down device may not extend into the wet storage.
 - The total area of the perforations must be greater than 4 times the area of the internal orifice.
 - The perforated portion of the draw-down device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.
 - Provide support of draw-down device to prevent sagging and flotation. An acceptable preventative measure is to stake both sides of draw-down device with 1" steel angle, or 1" by 4" square or 2" round wooden posts set 3" minimum into the ground then joining them to the device by wrapping with 12 gauge minimum wire.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-10-30 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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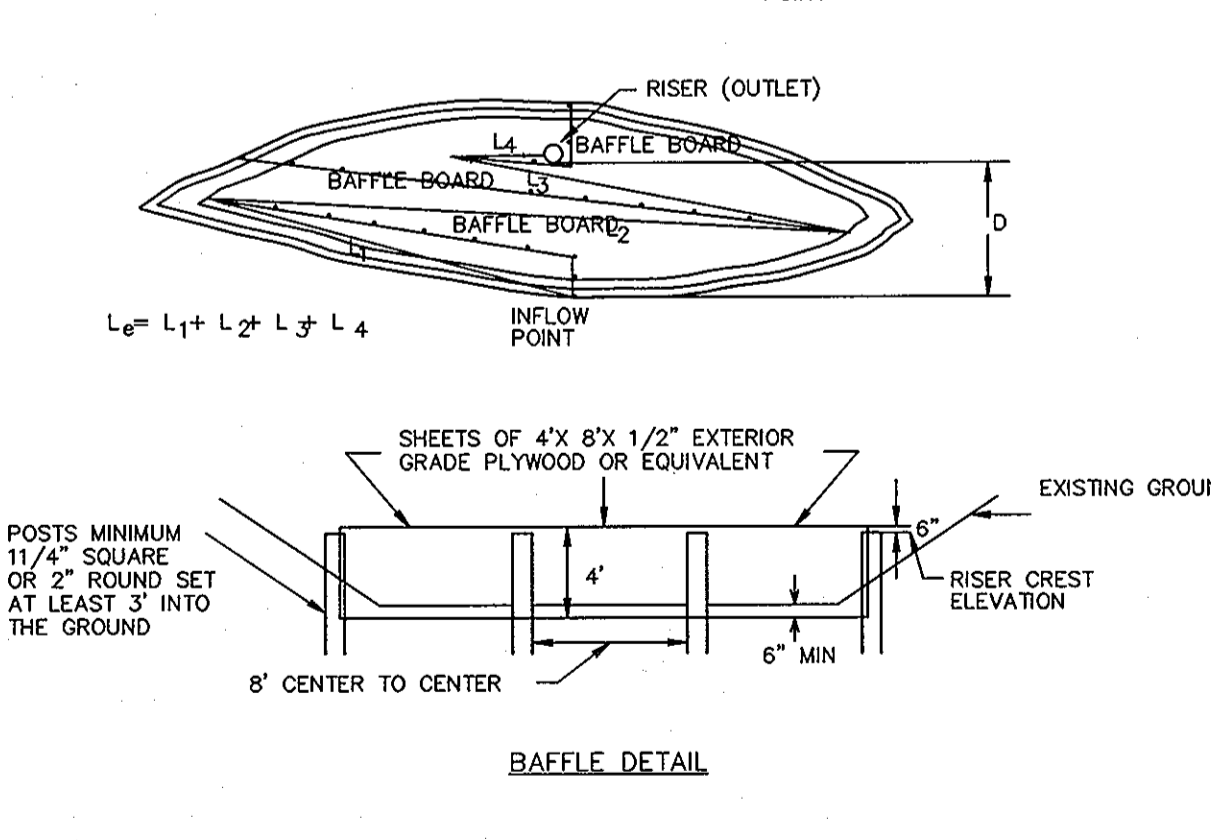
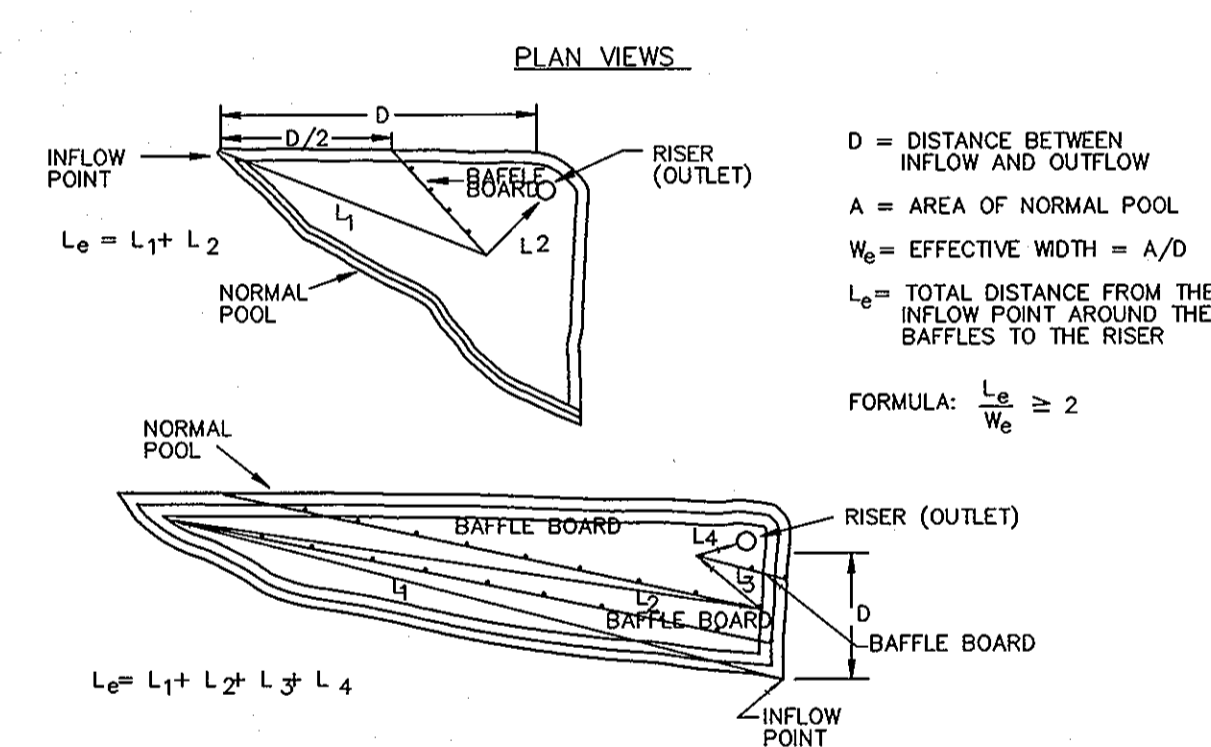
Signature of Developer/Builder: *[Signature]* Date: 8-23-06

ENGINEER'S CERTIFICATE

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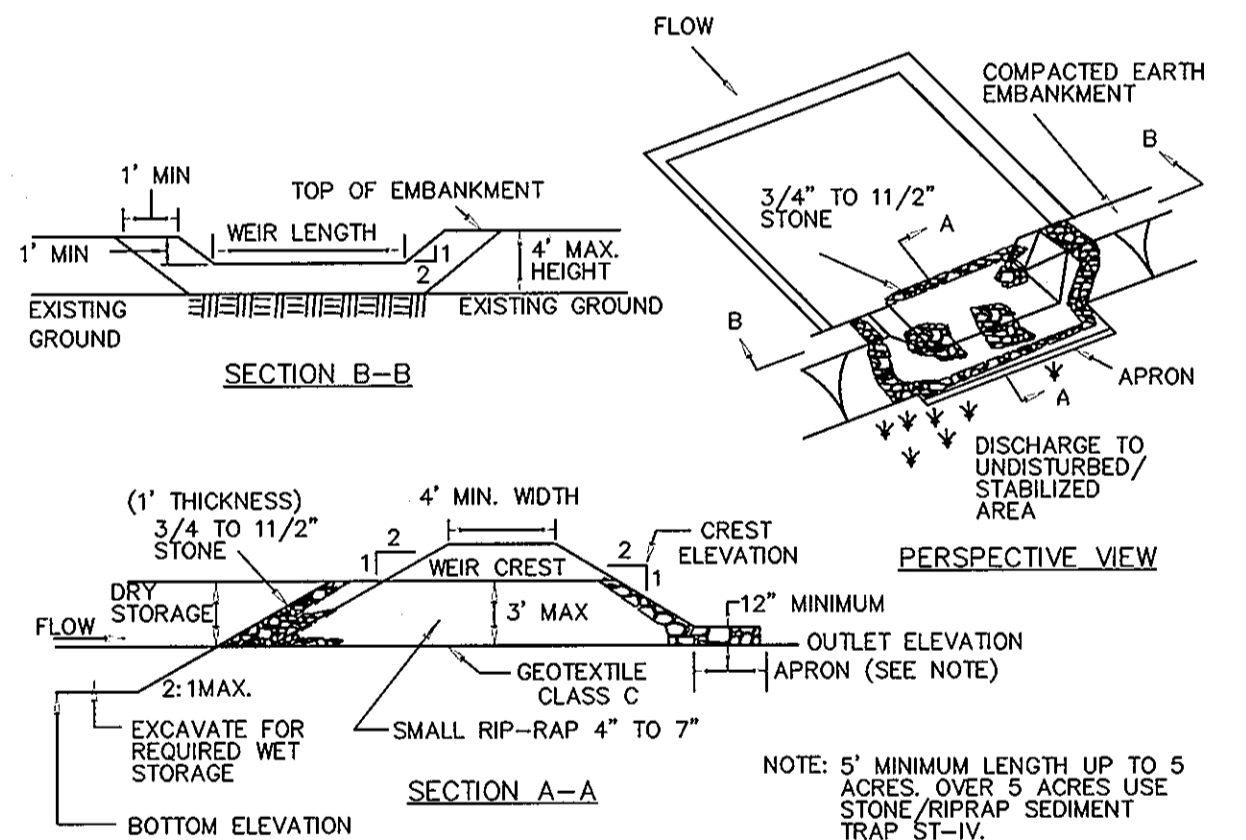
Engineer's Signature: *[Signature]* Date: 8/23/06

DETAIL 18 - SEDIMENT BASIN BAFFLES



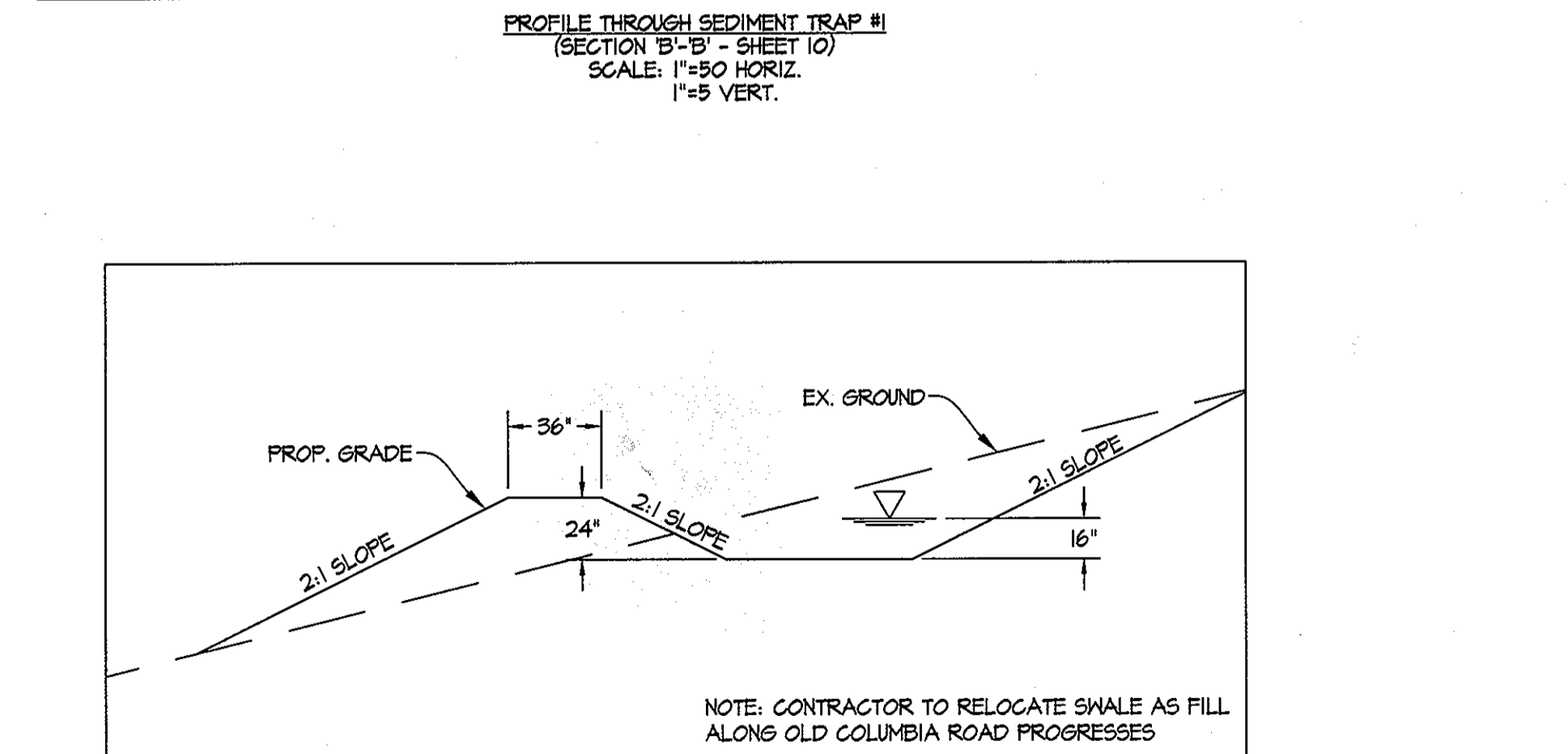
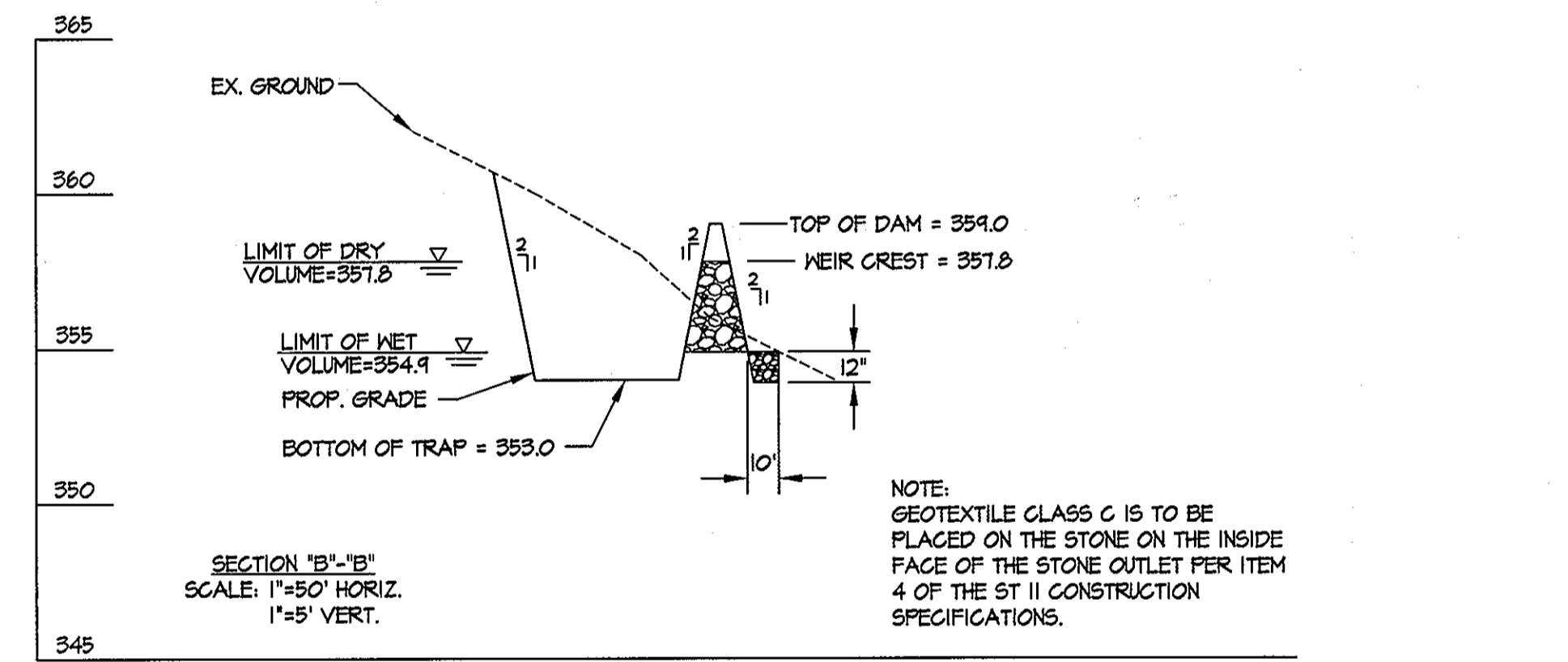
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-10-28 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II



- Construction Specifications**
- Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
 - The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
 - All cut and fill slopes shall be 2:1 or flatter.
 - The stones used in the outlet shall be small rip-rap 4" to 7" in size with a 1" thick layer of 3/4" to 1 1/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.
 - Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-9-10 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-9-10 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways: *[Signature]* Date: 8-28-06
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development: *[Signature]* Date: 8/23/06
 Chief, Development Engineering Division: *[Signature]* Date: 8/23/06

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.

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

Signature: *[Signature]* Date: 8/23/06
 Signature: *[Signature]* Date: 8/23/06

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:
 GIR Maple Lawn, Inc.
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: Mark Bennett
 410-484-8400

SEDIMENT CONTROL DETAILS			SCALE	ZONING	G. L. W. FILE NO.
MAPLE LAWN FARMS HILLSIDE DISTRICT - AREA 3 Lots 109 through 212, Open Space Lots 213 through 218 Common Open Areas 219 through 221			AS SHOWN	MXD-3	05001
DATE	TAX MAP - GRID	SHEET			
AUG., 2006	41/22-46/4	8 OF 17			

SEDIMENT CONTROL NOTES

- 1. A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (410) IS-1880
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
3. Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes and perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51), sod (Sec. 54), temporary seedings (Sec. 50) and mulching (Sec. 52). Temporary stabilization, with mulch alone, can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. Site Analysis:
Total Area of Site : 44.4 Acres
Area Disturbed : 44.4 Acres
Area to be roofed or paved : 6.6 Acres
Area to be vegetatively stabilized : 37.8 Acres
Total Cut : 254,000 Cu. Yds.
Total Fill : 254,000 Cu. Yds.

- 8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment control must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

- 11. Trenches for the construction of utilities is limited to 3 pipe lengths or that which shall be backfilled and stabilized within one working day whichever is shorter.

PERMANENT SEEDING NOTES

Apply to graded or cleared area not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding (unless previously loosened).

- Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:
1) Preferred - Apply 2 tons per acre dolomitic limestone (42 lbs/1000 square feet) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding.
2) Acceptable - Apply 2 tons per acre dolomitic limestone (42 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding.

Seeding: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.
Mulching: Apply 1-1/2 to 2 tons per acre (10 to 40 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 2lb gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes, 8 ft or higher, use 3-4b gal per acre (8 gal/1000 sq ft) for anchoring.
Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.
Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding (unless previously loosened).
Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft).
Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq ft.). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
Mulching: Apply 1-1/2 to 2 tons per acre (10 to 40 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 2lb gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes, 8 ft or higher, use 3-4b gal per acre (8 gal/1000 sq ft) for anchoring.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.
Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding (unless previously loosened).
Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft).
Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq ft.). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
Mulching: Apply 1-1/2 to 2 tons per acre (10 to 40 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 2lb gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes, 8 ft or higher, use 3-4b gal per acre (8 gal/1000 sq ft) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

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 unacceptable soil gradation.

CONDITIONS WHERE PRACTICE APPLIES

- 1. This practice is limited to areas having 2:1 or flatter slopes where:
a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
c. The original soil to be vegetated contains material toxic to plant growth.
d. The soil is so acidic that treatment with limestone is not feasible.
2. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

- 1. 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.
2. 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 clinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
3. Topsoil must be free of plant parts such as bermuda grass, quackgrass, Johnsongrass, nutedge, poison ivy, thistle, or others as specified.
4. 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.
5. For sites having disturbed areas under 5 acres:
a. Place topsoil (if required) and apply soil amendments as specified in 2.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
b. For sites having disturbed areas over 5 acres:
1. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
a. 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.
b. Organic content of topsoil shall be not less than 15 percent by weight.
c. Topsoil having soluble salt greater than 500 parts per mill shall not be used.
d. 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.
2. Topsoil substitutes 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.
3. Place topsoil (if required) and apply soil amendments as specified in 2.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
6. Topsoil Application
a. When topsoiling, maintain needed erosion and sediment control practices such as diversion, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
b. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
c. 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 sodding or seeding 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.
d. 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 seedbed preparation.

- b. Composted sludge shall contain at least 1 percent nitrogen, 15 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.
c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
d. Composted sludge shall be amended with a potassium fertilizer applied at a rate of 4lb/1,000 square feet, and 1/3 the normal lime application rate.
References: Guideline Specifications, Soil Preparation and Sodding, MD-VIA Pib. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 14T3.

DUST CONTROL

Definition

Controlling dust blowing and movement on construction sites and roads.

Purpose

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

Conditions Where Practice Applies

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

Temporary Methods

- 1. Mulches - See standards for vegetative stabilization with mulches only. Mulch should be crimped or tacked to prevent blowing.
2. Vegetative Cover - See standards for temporary vegetative cover.
3. Tillage - To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12' apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect.
4. Irrigation - This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed. At no time should the site be irrigated to the point that runoff begins to flow.
5. Barriers - Solid board fences, silt fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 10 times their height are effective in controlling soil blowing.
6. Calcium Chloride - Apply at rates that will keep surface moist. May need retreatment.

Permanent Methods

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

BEST MANAGEMENT PRACTICES

FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

- 1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR 100 YEAR FLOODPLAIN.
2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOOD PLAIN.
3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYE GRASS (LOLIUM MULTIFLORUM) MILLET (SETARIA ITALICA) BARLEY (HORDEUM SPECIES) OATS (SP.) RYE (SECALE CEREALE) THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM USE I WATERS: IN STREAM WORK SHALL BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

PLANTING NOTES

- 1. Riparian areas may be planted as soon as reasonable to do so. Late winter- early spring plantings are preferred. Earliest planting dates will vary from year to year but planting may generally begin as soon as the ground is no longer frozen. Alternate planting dates may be considered as condition warrants.
2. Soil amendments and fertilization recommendations will be made based upon the results of soil analysis for nitrogen, phosphorus, potassium, organic matter content and pH. If required, fertilizer will be provided using a slow release, soluble 16-8-16 analysis designed to last 5-8 years contained in polyethylene perforated bags such as manufactured by ADCO Works, P.O. Box 310 Halliis, N.Y. 11423 or approved equal.
3. Plant materials will be planted in accordance with the Planting Distribution Diagram, Planting Details and plant schedule.
4. Plant material shall be nursery grown and inspected prior to planting. Plants not conforming to the American Standard for Nursery Stock specifications for size, form, vigor, or roots, or due to trunk wounds, breakage, desiccation, insect or disease must be replaced.
5. Planting stock must be protected from desiccation at all times prior to planting. Materials held for planting shall be moistened and placed in cool shaded areas until ready for placement.
6. Newly planted trees may require watering at least once per week during the first growing season depending on rainfall in order to get established. The initial planting operation should allow for watering during installation to completely soak backfill material.
7. Planting holes should be excavated to a minimum diameter of 2.5 to 3 times the diameter of the root ball or container. Mechanical angering is preferred with scarification of the sides of each hole.
8. Mulch shall be applied in accordance with the diagram provided and shall consist of composted, shredded hardwood bark mulch, free of wood alcohol.
9. One hundred per cent (100 %) survival of riparian buffer plantings shall be guaranteed for one (1) year. Replacement plantings shall be provided after first year's growing season.

CONSTRUCTION NOTES/SPECIFICATIONS

- 1. The contractor shall install appropriate sediment and erosion control devices before project. All work to be performed at the direction of the stream restoration specialist and these drawings.
2. The foundation area shall be cleared of trees, stumps, roots, sod, loose rock, or other objectionable material.
3. The cross-section shall be excavated to the neat lines and grades as shown on the plans. Over-excavated areas shall be backfilled with moist soil compacted to the density of the surrounding material.
4. No abrupt deviations from the design grade or horizontal alignment shall be permitted unless authorized by the ERI Stream Restoration Specialist.
5. Filter, bedding, and rock rip-rap shall be placed to line and grade in the manner specified.
6. Construction operations shall be done in such a manner that erosion, air, and water pollution will be minimized and held within legal limits. The completed job shall present a workmanlike appearance. All disturbed areas shall be vegetated or otherwise protected against soil erosion.
7. Filter cloth shall be placed beneath rip-rap where indicated. The filter cloth shall consist of either woven or non-woven monofilament fiber and shall conform to the ASTM D 1777, ASTM D 1682, Having a thickness of 20-60 Mils, and a grab strength of 90-120 LBS.
8. All boulders shall be well graded selected Class III Rip-rap boulders, natural in color and pre-approved by the Stream Restoration Specialist.
9. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
10. The rock or gravel shall conform to the specified grading limits when installed.
11. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
12. Stone and boulders for the rip-rap may be placed by equipment. It shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the small stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works. Exact placement will be required as directed by the ERI Stream Specialist in the field.
13. The stone shall be placed so that it blends in with the existing grade. If the stone is placed too high, then the flow will be forced out of the channel and scour adjacent to the stone will occur.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. ... 8-28-06
Chief, Bureau of Highways
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Candy ... 8/20/06
Chief, Division of Land Development
Chief Development Engineering Division MK

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

Table with columns: DATE, REVISION, BY, APPR.
10/5/06 rev. contact information klp
4/15/08 Rev. Plans for creation of P.O.B. 17B. This set is for storm & sediment control. See P.O.B. 17B for storm drain and road information. klp

PREPARED FOR:
412 Maple Lawn Lane
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: Mark Bennett
410-484-8400

Signature of Developer/Builder
Date 8-23-06

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 of Engineer
Date 8/23/06

SEDIMENT CONTROL DETAILS
SCALE AS SHOWN
ZONING MXD-3
G. L. W. FILE No. 05001
DATE AUG, 2006
TAX MAP - GRID 41/22-46/4
SHEET 9 OF 10

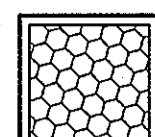
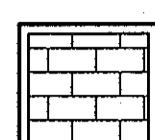
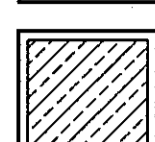
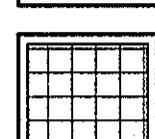
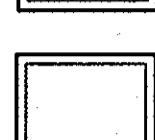




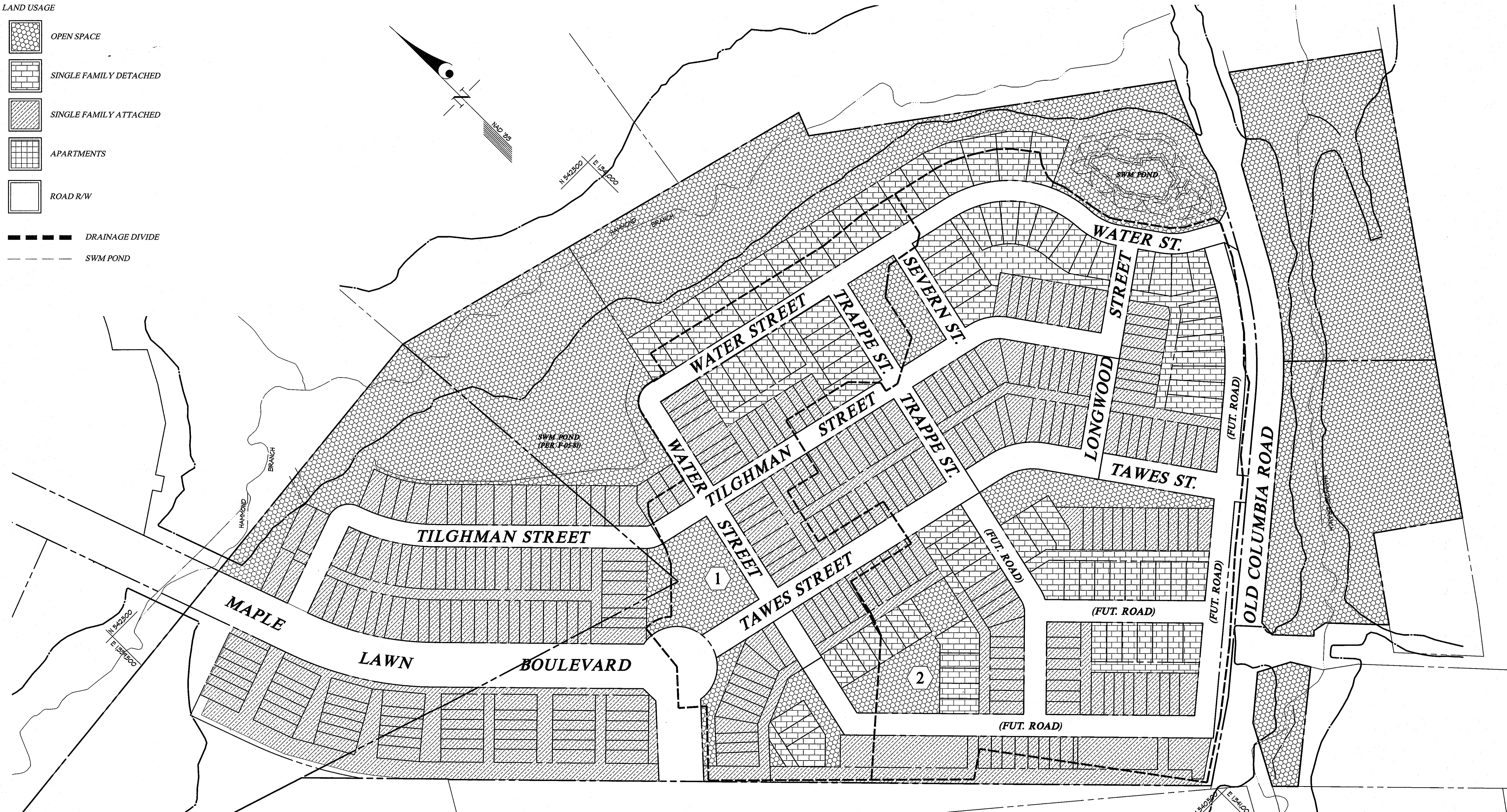
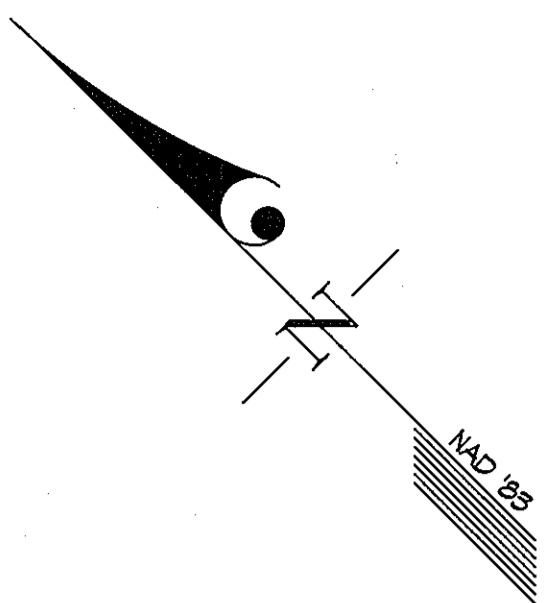
These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
Howard Soil Conservation District
Date

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.
Natural Resources Conservation Service
Date

LEGEND

LAND USAGE

-  OPEN SPACE
-  SINGLE FAMILY DETACHED
-  SINGLE FAMILY ATTACHED
-  APARTMENTS
-  ROAD R/W
-  DRAINAGE DIVIDE
-  SWM POND



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William J. ... 8-28-06
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cindy ... 8/30/06
 Chief, Division of Land Development Date
... MK
 Chief, Development Engineering Division



RUNOFF FROM DRAINAGE AREA 1 IS MANAGED BY THE EXISTING FACILITY IN HILLSIDE DISTRICT - AREA 1 CONSTRUCTED UNDER F 05-81. RUNOFF FROM DRAINAGE AREA 2 IS MANAGED BY THE FACILITY ON OPEN SPACE LOT 215 AND IS BEING CONSTRUCTED UNDER THESE PLANS. RECHARGE FOR BOTH AREAS AS WELL AS THE DEVELOPMENT UNDER F 05-81 IS BEING SATISFIED BY THE FACILITY BEING CONSTRUCTED ON OPEN LOT 214 UNDER THESE PLANS.

GLWGUTSCHICK LITTLE & WEBER, P.A.
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 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

DATE	REVISION	BY	APPR.
10/10/06	rev. contact information	WLB	
11/19/08	rev. plan for creation of Prop. 17B. This set is for SWM & sediment control. See Prop. 17B for exact drain and road info.	WLB	

PREPARED FOR:
 412 Maple Lawn, Inc.
 SUITE 300 WOODHOLME CENTER
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 ATTN: Mark Bennett
 410-484-8400

LAND USE PLAN
MAPLE LAWN FARMS
HILLSIDE DISTRICT - AREA 3
 Lots 109 through 212, Open Space Lots 213 through 218
 Common Open Areas 219 through 221

SCALE	ZONING	G. L. W. FILE No.
1"=100'	MXD-3	05001
DATE	TAX MAP - GRID	SHEET
AUG, 2006	41/22-46/4	10 OF 19

ELECTION DISTRICT No. 5

HOWARD COUNTY, MARYLAND

- LEGEND**
- 410 EX. CONTOURS
 - 410 PROPOSED CONTOURS
 - WB WETLAND BUFFER
 - SB STREAM BUFFER
 - 100 YR. FLOODPLAIN
 - SWM DRAINAGE AREA
 - TIME OF CONCENTRATION (PRE-DEVELOPMENT)
 - TIME OF CONCENTRATION (POST-DEVELOPMENT)
 - (A) DRAINAGE STUDY POINT
 - (A) T.O.C. STUDY POINT - POST DEVELOPMENT
 - (A) T.O.C. STUDY POINT - PRE-DEVELOPMENT

STORMWATER MANAGEMENT SUMMARY FOR FACILITY AT ENTRANCE FROM OLD COLUMBIA ROAD
 DRAINAGE AREA = 26.1 AC. OR 0.0408 SQ. MILES

PRE-DEVELOPMENT
 CURVE NUMBER = 54 TIME OF CONCENTRATION = 0.32 HOURS

POST-DEVELOPMENT
 CURVE NUMBER = 88 TIME OF CONCENTRATION = 0.24 HOURS

WATER QUALITY VOLUME REQUIRED: 42,140 C.F. PROVIDED: 42,445 C.F.
 RECHARGE VOLUME REQUIRED: 17,083 C.F. PROVIDED: SEE NOTE 4 BELOW
 CHANNEL PROTECTION VOLUME REQUIRED: 90,248 C.F. PROVIDED: 114,260 C.F.
 1 YEAR DISCHARGE = 1.04 C.F.S.
 100 YEAR DISCHARGE = 151.20 C.F.S.

1. THE FACILITY WILL BE PUBLICLY OWNED AND MAINTAINED. AN OPEN SPACE LOT WILL BE CONVEYED TO THE COUNTY.
2. THE FACILITY WILL BE A P-2 NET POND WITH EXTENDED DETENTION.
3. THE FACILITY HAS AN 'A' POND CLASSIFICATION.
4. THE STORAGE WILL BE PROVIDED IN AN INFILTRATION TRENCH TYPE FACILITY ON OPEN SPACE LOT 214. THE FACILITY WILL SATISFY THE STORAGE REQUIREMENTS FOR THESE FINAL PLANS AS WELL AS THE STORAGE REQUIREMENTS FOR F-05-81.

PRE-DEVELOPMENT

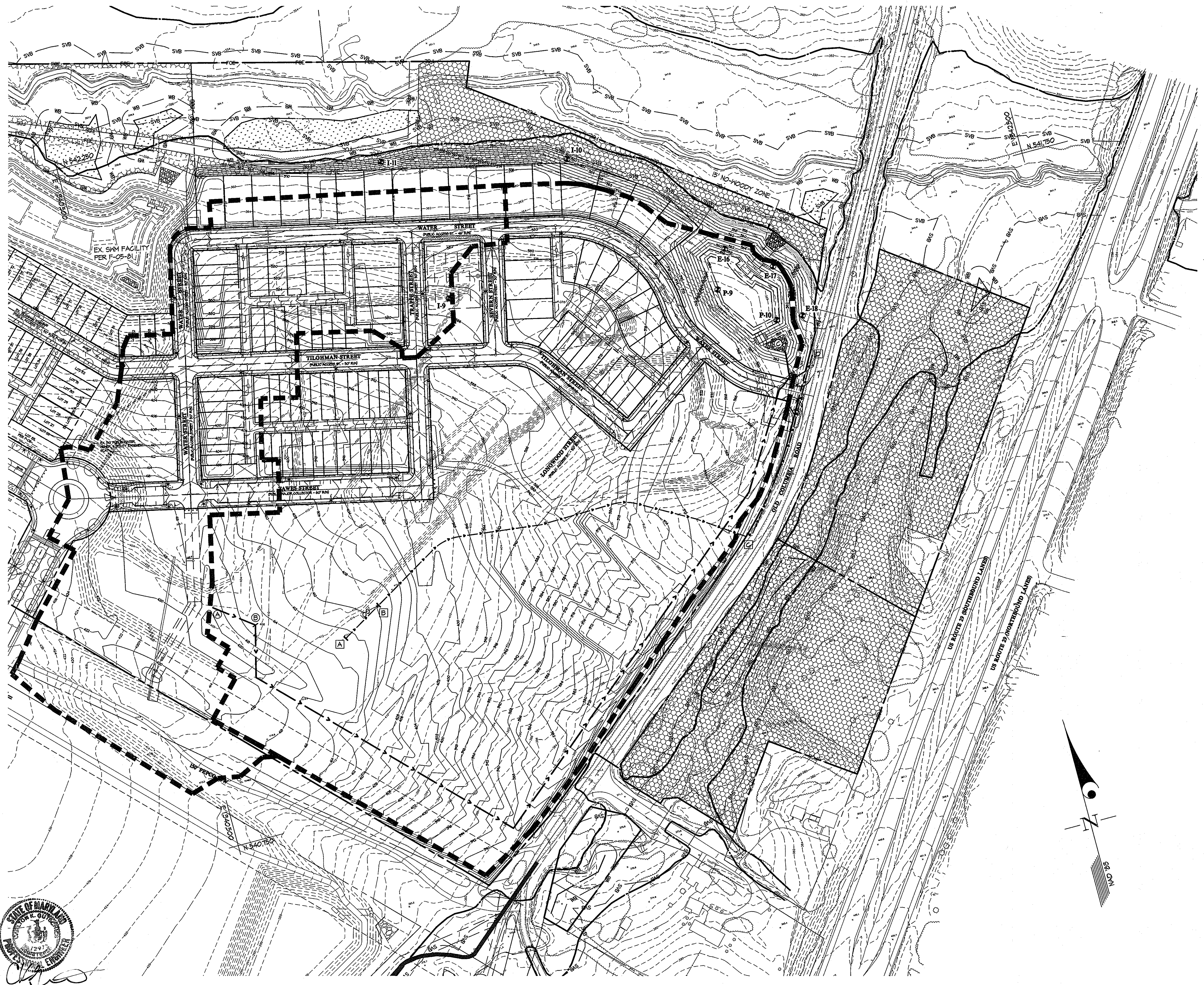
SEGMENT	DESCRIPTION	TIME
(A) - (B)	100' OVERLAND FLOW @ 3.5% (GRASS, n=0.24)	0.14 HR.
(B) - (C)	680' SHALLOW CONC. FLOW (UNPAVED) @ 1.4% (v=4.4'/SEC.)	0.03 HR.
(C) - (D)	350' SHALLOW CONC. FLOW (UNPAVED) @ 1.6% (v=2.0'/SEC.)	0.10 HR.
TOTAL =		0.32 HR.

POST DEVELOPMENT

SEGMENT	DESCRIPTION	TIME
(A) - (B)	60' OVERLAND FLOW @ 2.0% (GRASS, n=0.24)	0.16 hr.
(B) - (C)	1000' SHALLOW CONC. FLOW (PAVED) @ 2.5% (v=3.2'/SEC.)	0.01 hr.
(C) - (D)	1430' PIPE FLOW @ 6.0'/SEC.	0.07 hr.
TOTAL =		0.24 HR.

POND SUMMARY

BEFORE	UNMANAGED	MANAGED
FINAL SWM @ POND		
1 YR 176 C.F.S.	43.37 C.F.S.	1.04 C.F.S. @ 361.00
2 YR 6.45 C.F.S.	58.84 C.F.S.	9.64 C.F.S. @ 361.24
10 YR 31.47 C.F.S.	108.78 C.F.S.	108.68 C.F.S. @ 361.85
100 YR 68.40 C.F.S.	163.96 C.F.S.	151.20 C.F.S. @ 362.07
TEMPORARY SWM @ POND		
1 YR 151 C.F.S.	60.88 C.F.S.	2.44 C.F.S. @ 361.03
2 YR 6.15 C.F.S.	78.15 C.F.S.	11.78 C.F.S. @ 361.66
10 YR 31.47 C.F.S.	132.90 C.F.S.	96.80 C.F.S. @ 362.11



Approved: Howard County Dept. of Public Works
William F. Mahan 8-28-06
 Chief, Bureau of Highways Date

Approved: Howard County Dept. of Planning & Zoning
Cynthia Hamant 8/28/06
 Chief, Division of Land Development Date

[Signature] 8/28/06
 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

DATE	REVISION	BY	APPR.
10/16/06	rev. contact information	klp	
4/16/06	rev. plans for creation of ponds. This plan set is for storm & sediment control. See Prop-118 for storm drain & pond information.	klp	

PREPARED FOR:
 612 Maple Lawn, Inc.
 SUITE 900 WOODHOLME CENTER
 1829 REISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: Mark Bennett
 410-484-8400

STORMWATER MANAGEMENT DRAINAGE AREA MAP

MAPLE LAWN FARMS
HILLSIDE DISTRICT - AREA 3
 Lots 109 through 212, Open Space Lots 213 through 218
 Common Open Areas 219 through 221

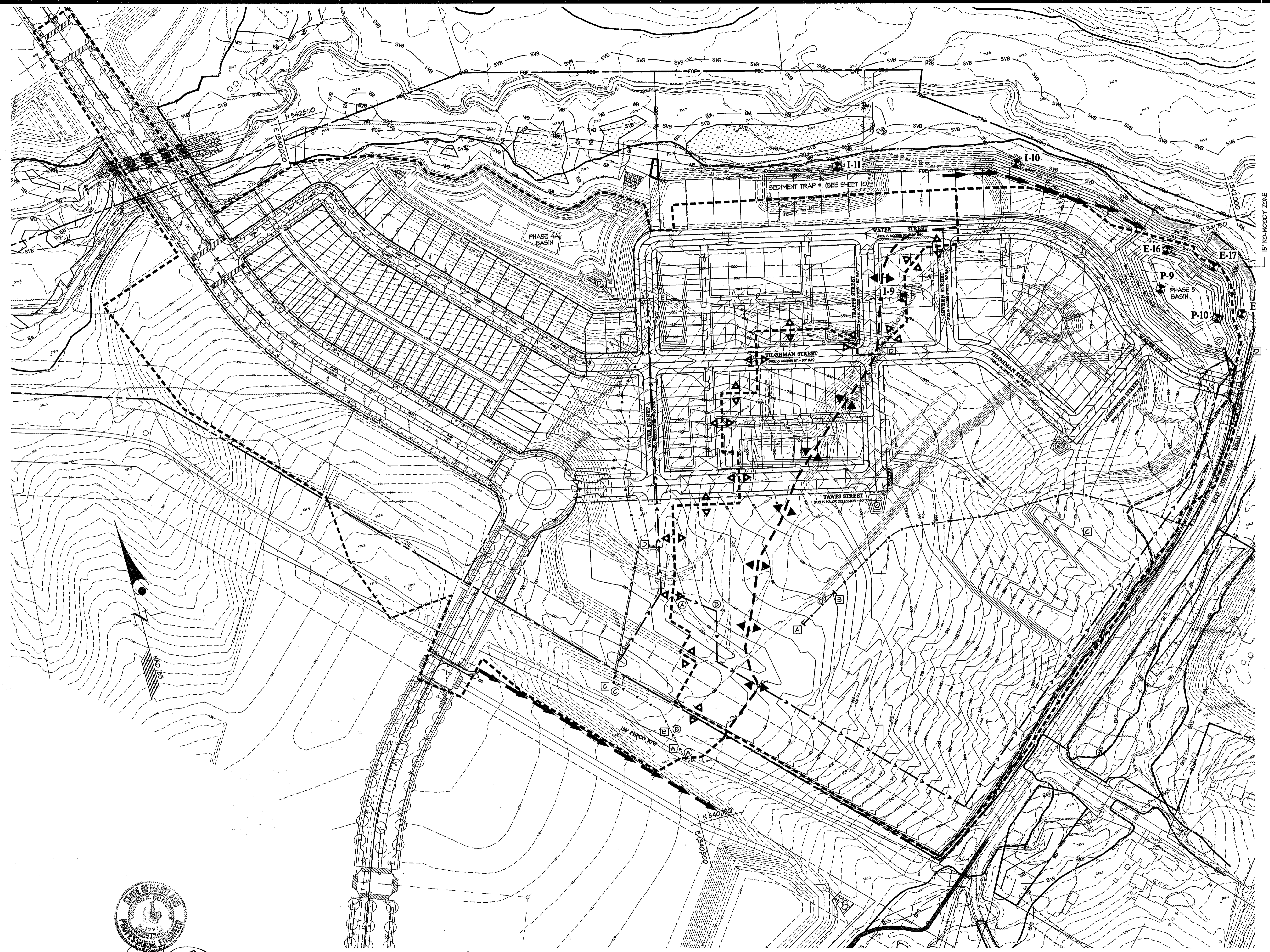
ELECTION DISTRICT No. 5

HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	MXD-3	05001
DATE	TAX MAP - GRID	SHEET
AUG., 2006	41/22-46/4	11 OF 19

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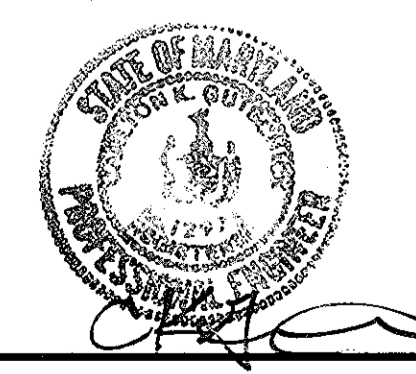
- LEGEND**
- 410 EX. CONTOURS
 - 410 PROPOSED CONTOURS
 - WB WETLAND BUFFER
 - SB STREAM BUFFER
 - 100 YR. FLOODPLAIN
 - TEMPORARY AFTER DRAINAGE AREA
 - TEMPORARY BEFORE DEVELOPMENT DRAINAGE AREA
 - TIME OF CONCENTRATION (PRE-DEVELOPMENT)
 - TIME OF CONCENTRATION (POST-DEVELOPMENT)
 - DRAINAGE STUDY POINT
 - T.O.C. STUDY POINT - POST DEVELOPMENT
 - T.O.C. STUDY POINT - PRE-DEVELOPMENT



Approved: Howard County Dept. of Public Works
William J. Mullan 8-28-06
 Chief, Bureau of Highways MS Date

Approved: Howard County Dept. of Planning & Zoning
Conny Hamada 8/30/06
 Chief, Division of Land Development MS Date

Chief, Development Engineering Division
Mike MS 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 20886
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

DATE	REVISION	BY	APPR.
8/15/06	rev. contact information	WLF	
4/15/06	rev. plans for creation of 8-28-06. This set is for own & sediment control. See E-08-17B for storm drain and road information.	WLF	

PREPARED FOR:
 GJR Maple Lawn, Inc.
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: Mark Bennett
 410-484-8400

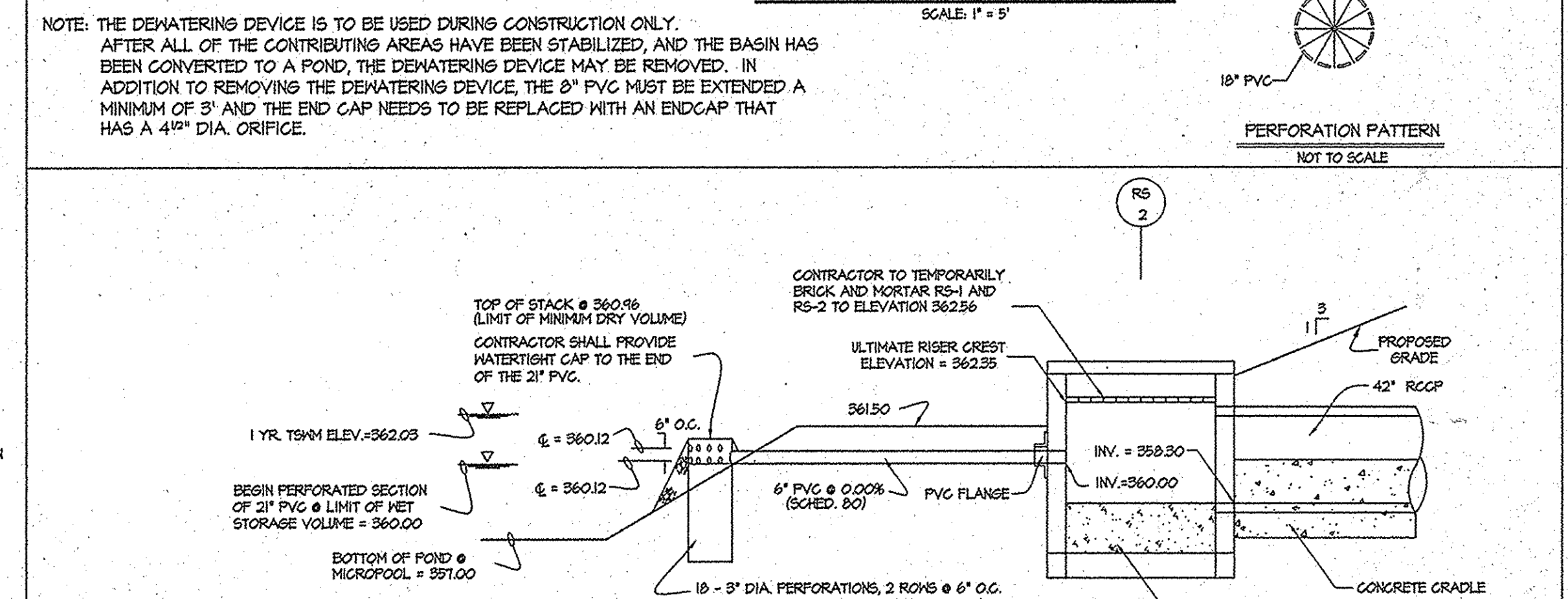
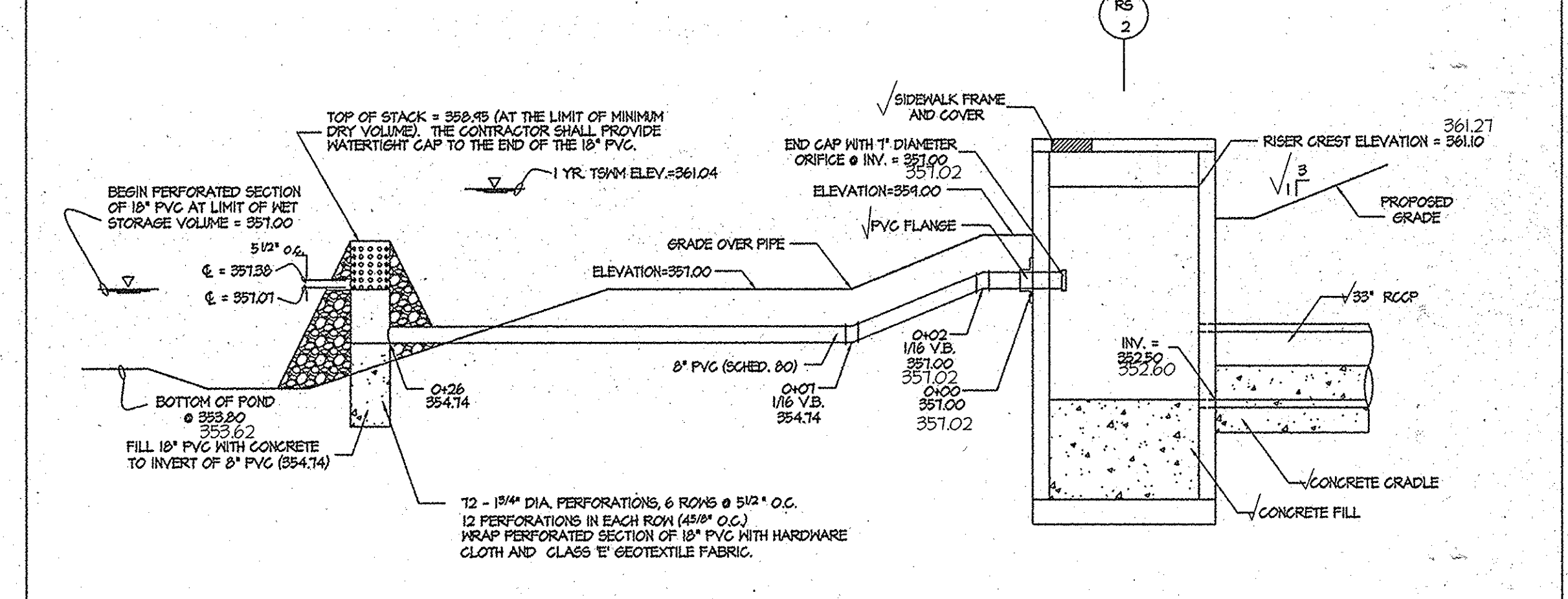
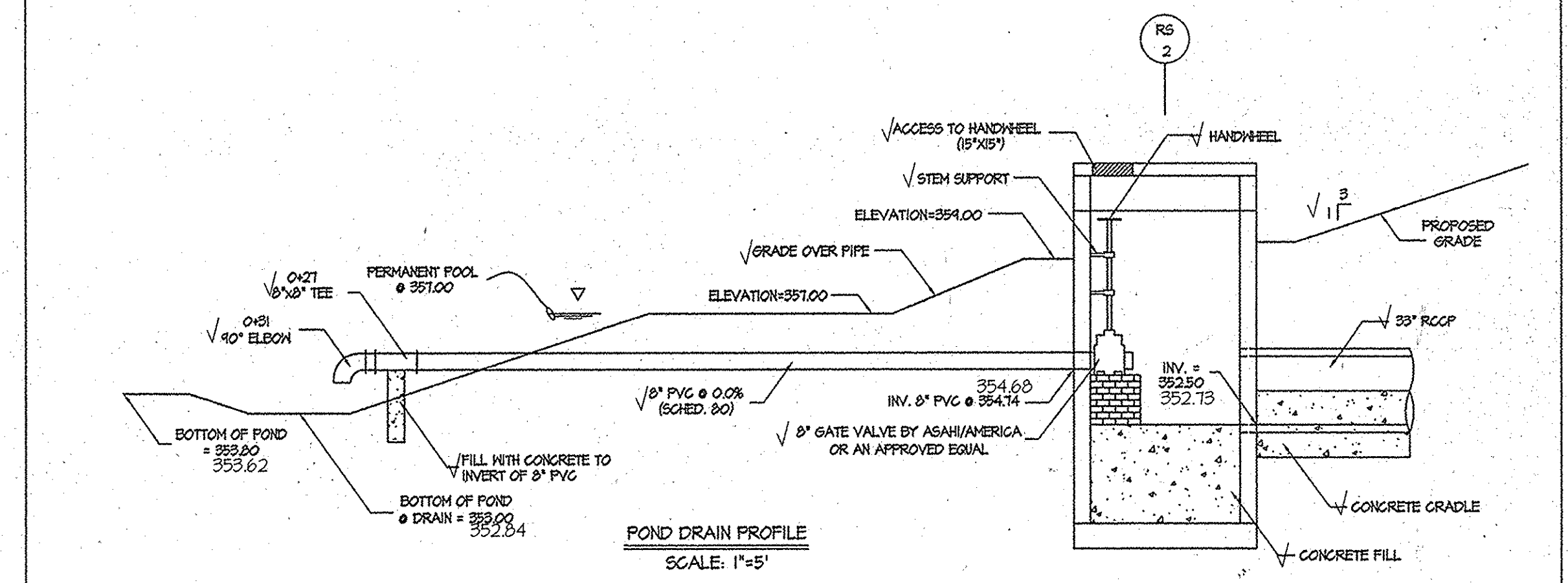
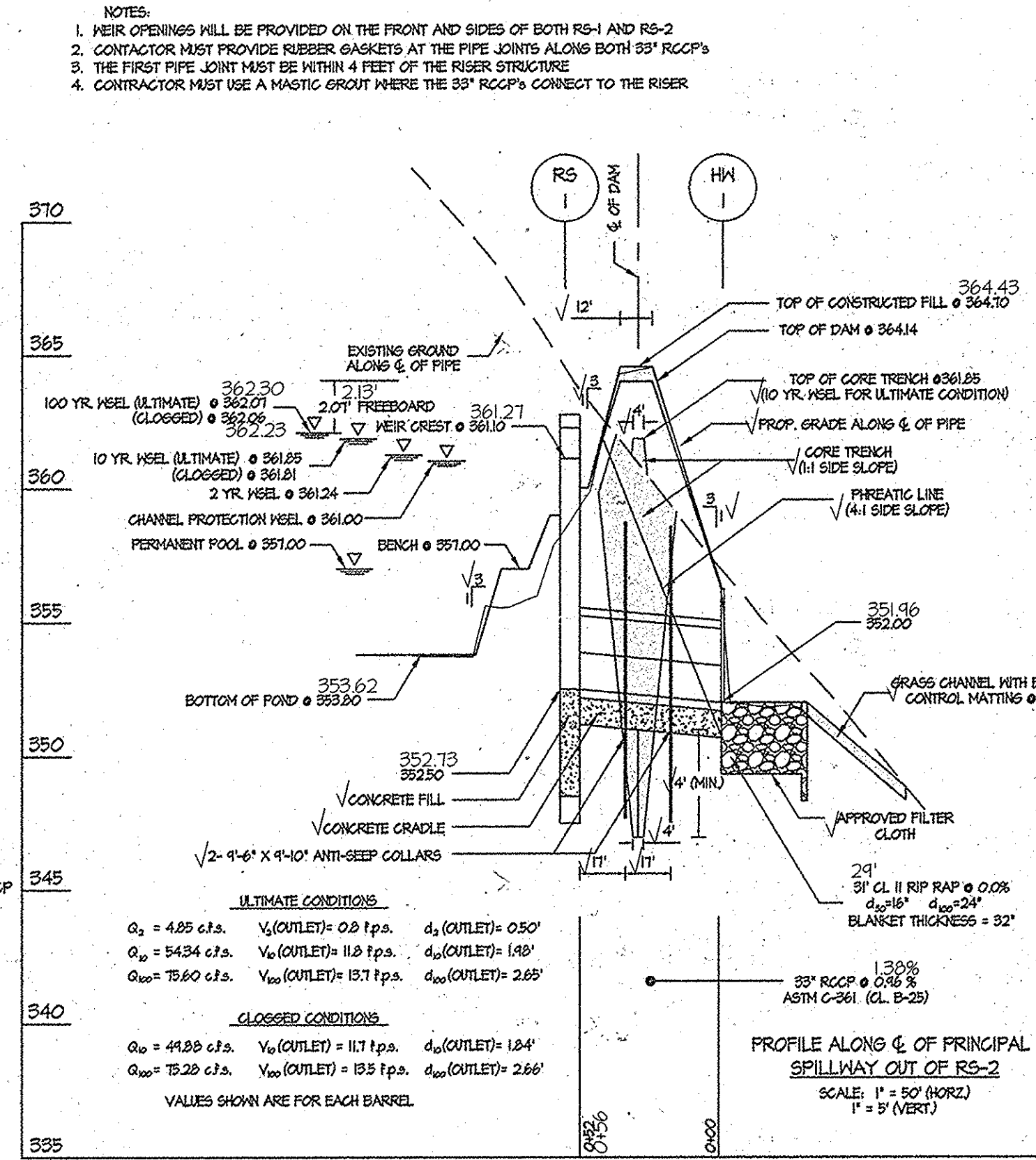
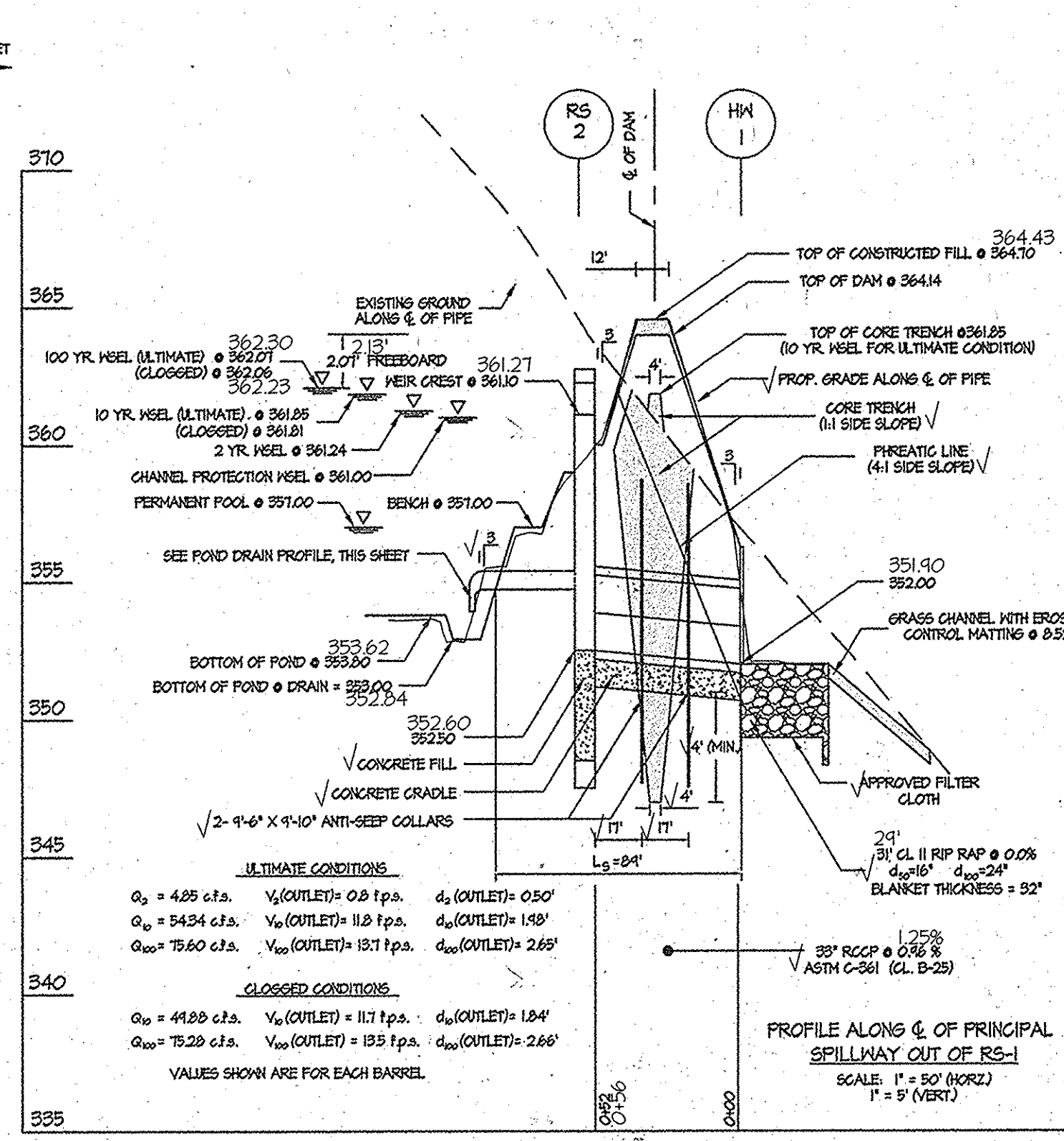
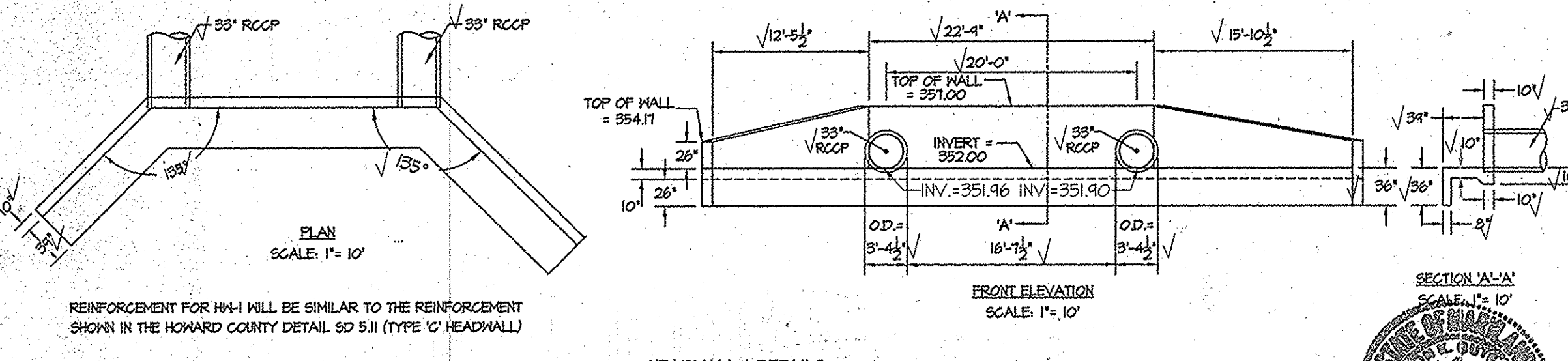
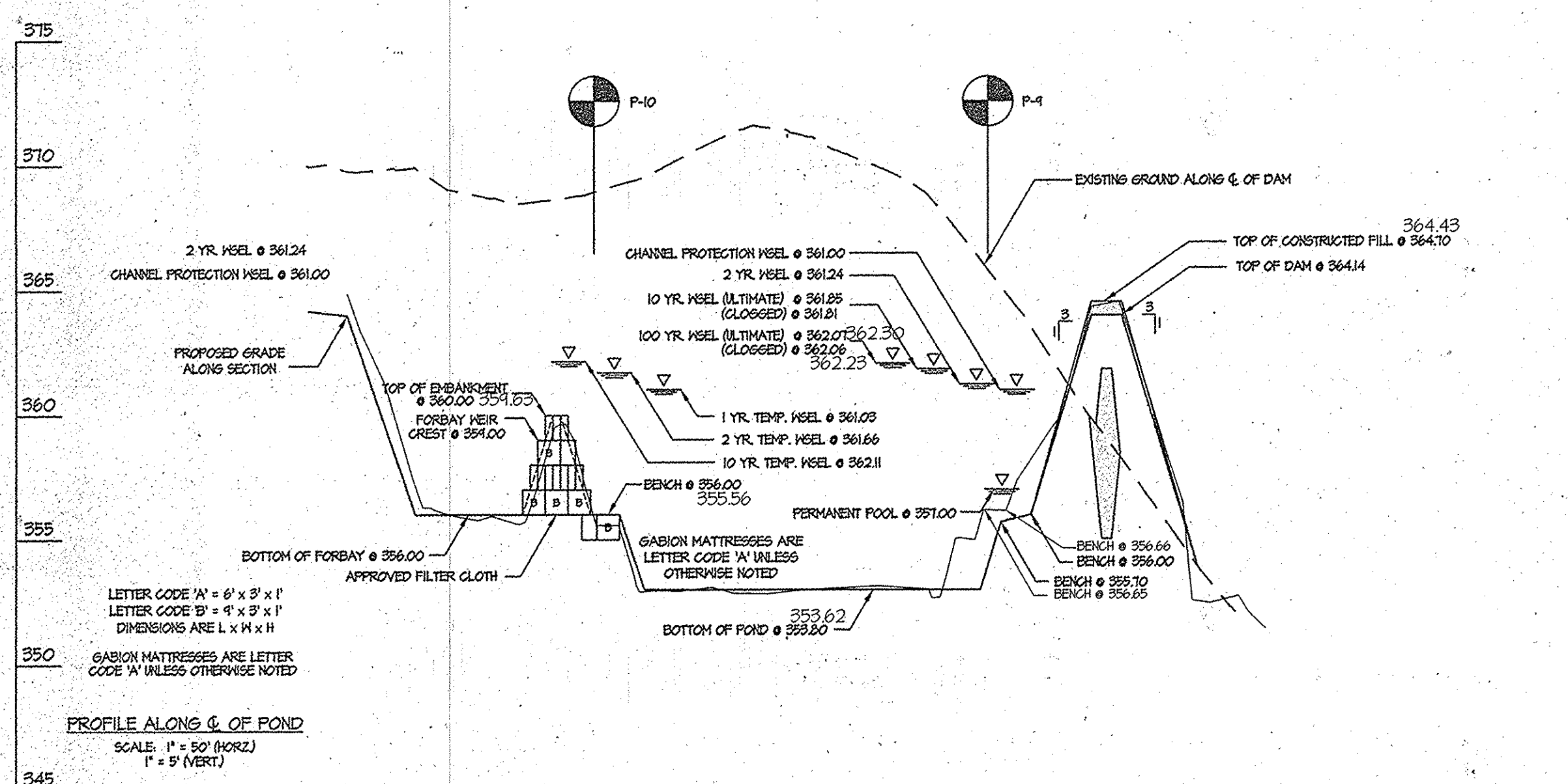
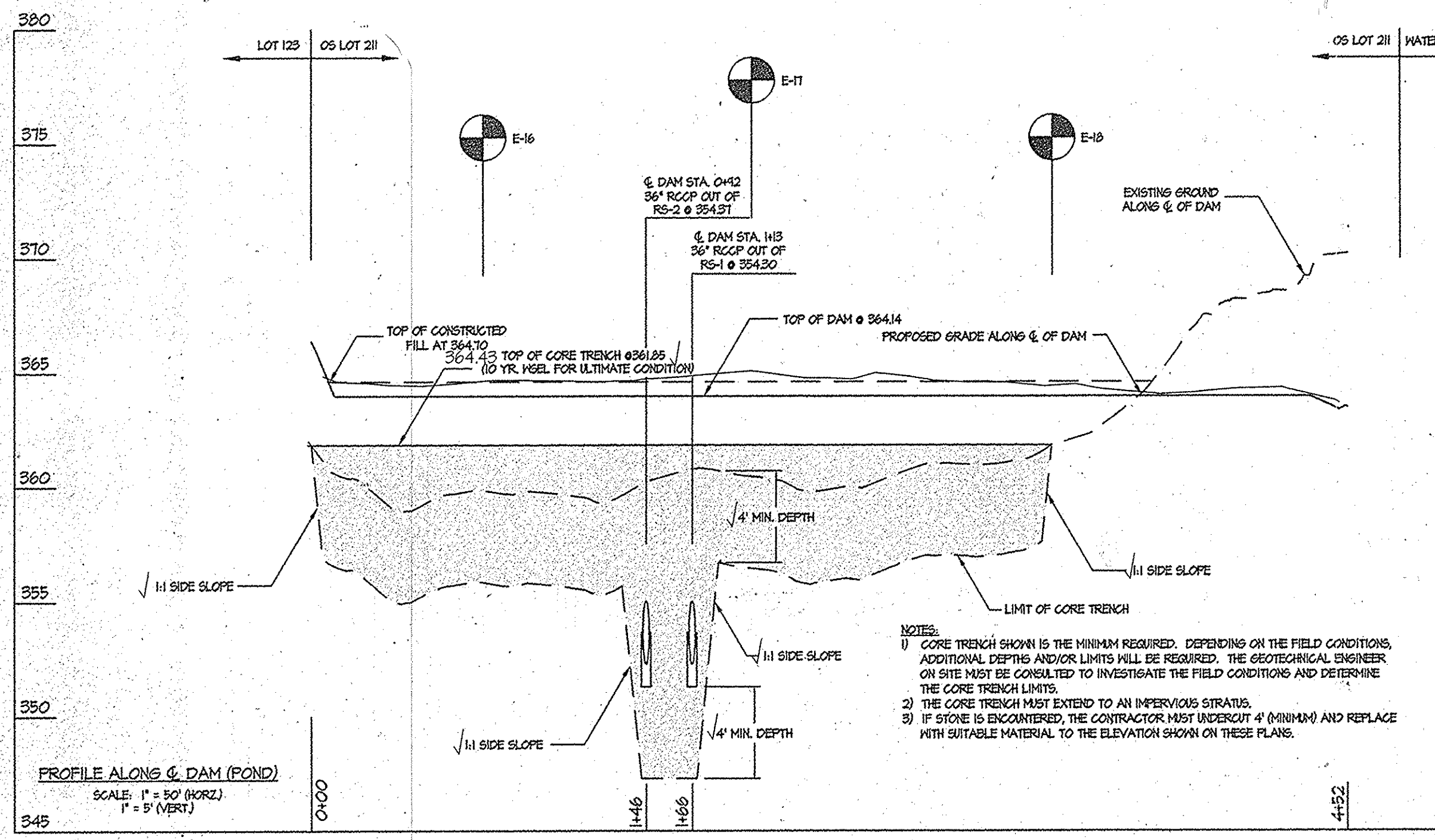
TEMPORARY STORMWATER MANAGEMENT DRAINAGE AREA MAP

**MAPLE LAWN FARMS
 HILLSIDE DISTRICT - AREA 3**
 Lots 109 through 212, Open Space Lots 213 through 218
 Common Open Areas 219 through 221

ELECTION DISTRICT No. 5

HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	MXD-3	05001
DATE	TAX MAP - GRID	SHEET
AUG, 2006	41/22-46/4	11 OF 19



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 of Developer/Builder: *[Signature]* Date: 8-23-06

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: *[Signature]* Date: 8/23/06

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12475, Expiration Date: May 26 2016.

Date: 8/22/15
Signature: *[Signature]*
Professional Engineer
Maryland Reg. No. 12475

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William F. ... 8-28-06
Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

... 8/23/06
Chief, Development Engineering Division

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

Signature: *[Signature]* Date: 8/24/06
Howard Soil Conservation District

Signature: *[Signature]* Date: 8/24/06
Natural Resources Conservation Service

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: 8/24/06
ASBUILTS

GEW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK
BURTNSVILLE, MARYLAND, 20869
TEL: 301-421-4024 FAX: 301-421-4188

DATE	REVISION	BY	APPR.
10/15/10	rev contact information	kjp	
1/15/12	...	kjp	

PREPARED FOR:
GIA Maple Lawn Farms
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: Mark Bennett
410-484-8400

STORMWATER MANAGEMENT PROFILES, NOTES, AND DETAILS

**MAPLE LAWN FARMS
HILLSIDE DISTRICT - AREA 3**
Lots 109 through 212, Open Space Lots 213 through 218
Common Open Areas 219 through 221

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	MXD-3	05001
DATE	TAX MAP - GRID	SHEET
MAY 2015 AUG, 2006	41/22-46/4	19 OF 19

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Signature of Developer/Builder: *[Signature]* Date: 8-23-06

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Engineer's Signature: *[Signature]* Date: 8/23/06

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

Howard Soil Conservation District: *[Signature]* Date: 8/23/06

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.

Natural Resources Conservation Service: *[Signature]* Date: 8/24/06



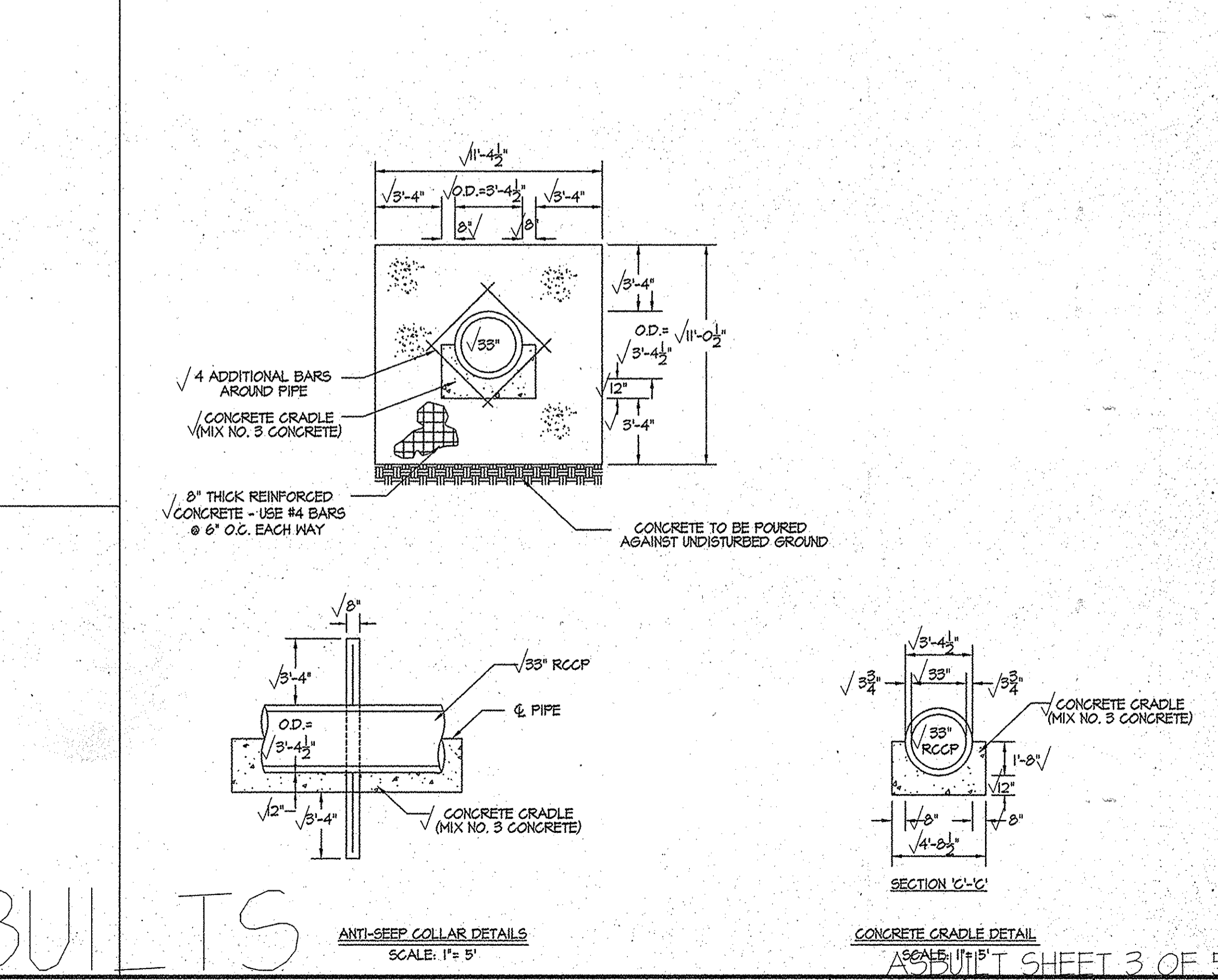
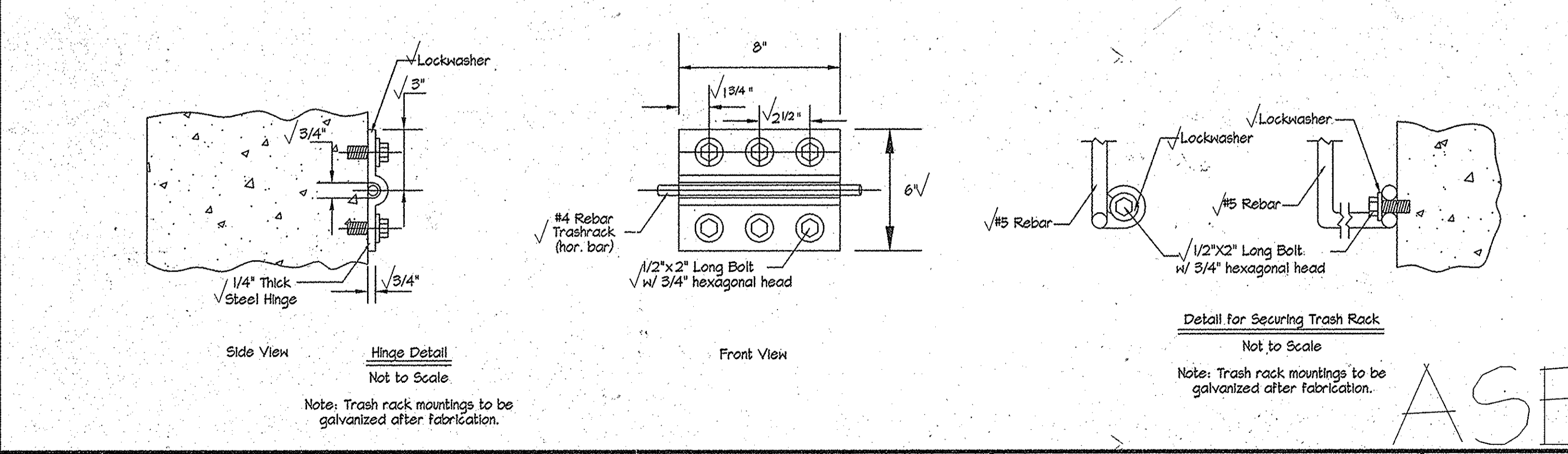
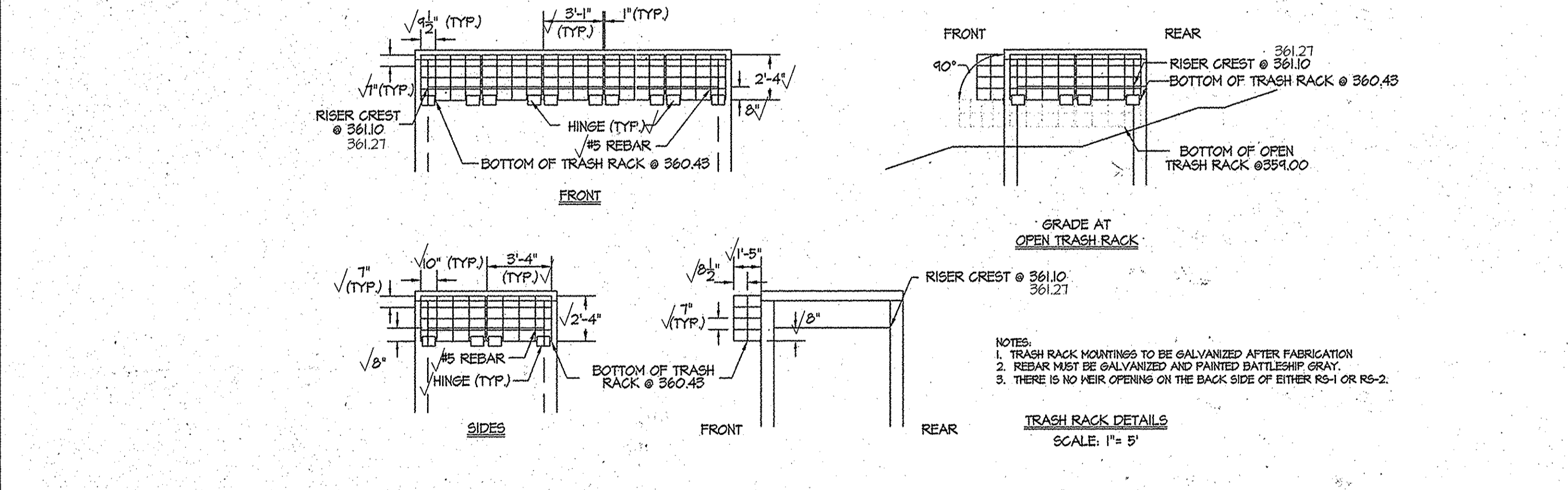
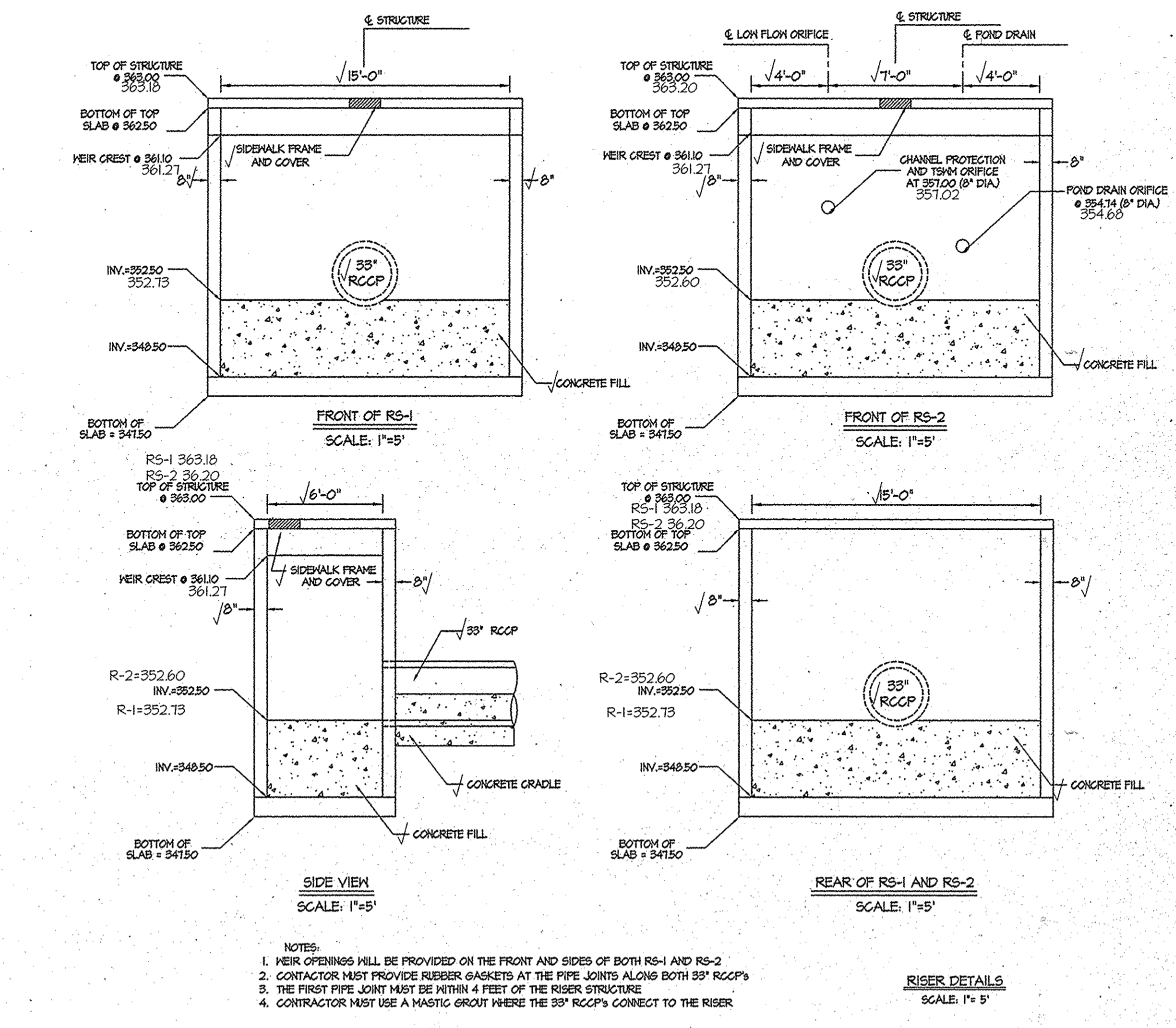
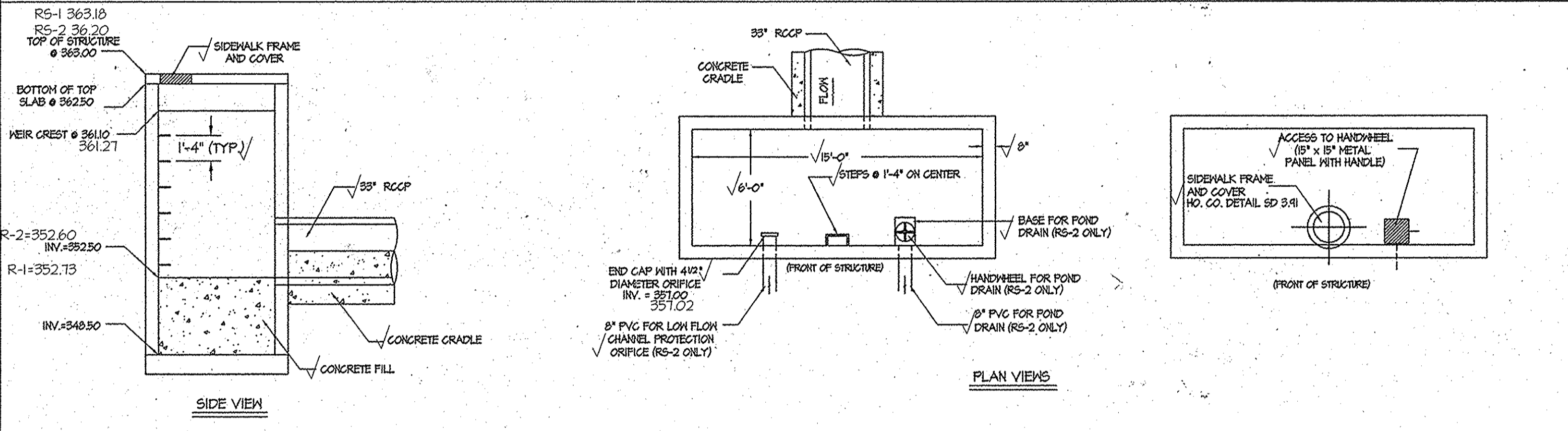
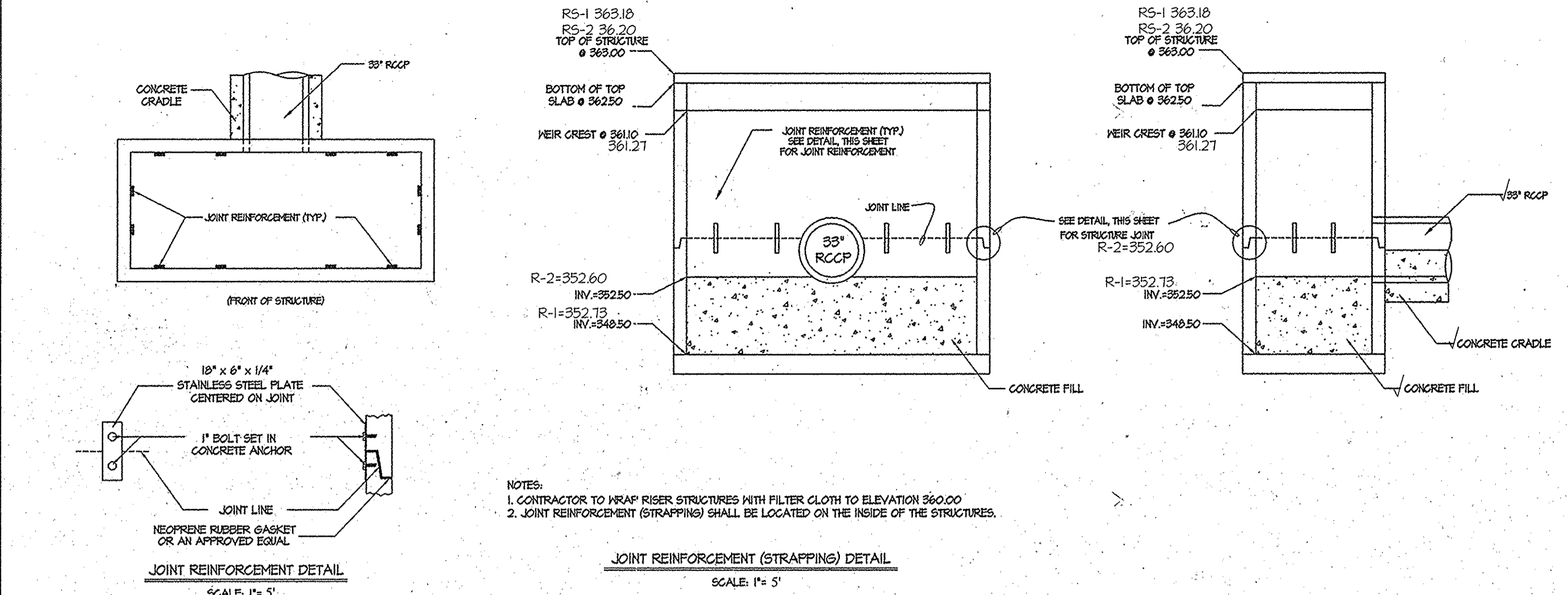
PROFESSIONAL CERTIFICATION
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12475, Expiration Date: May 26 2016.

Date: 5/27/15
 Carl K. Gutschick
 Professional Engineer
 Maryland Reg. No. 12475

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 William J. Warden, Chief, Bureau of Highways, Date: 8-28-06

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Cindy Horvath, Chief, Division of Land Development, Date: 8/30/06
 Chief, Development Engineering Division, Date: 8/30/06

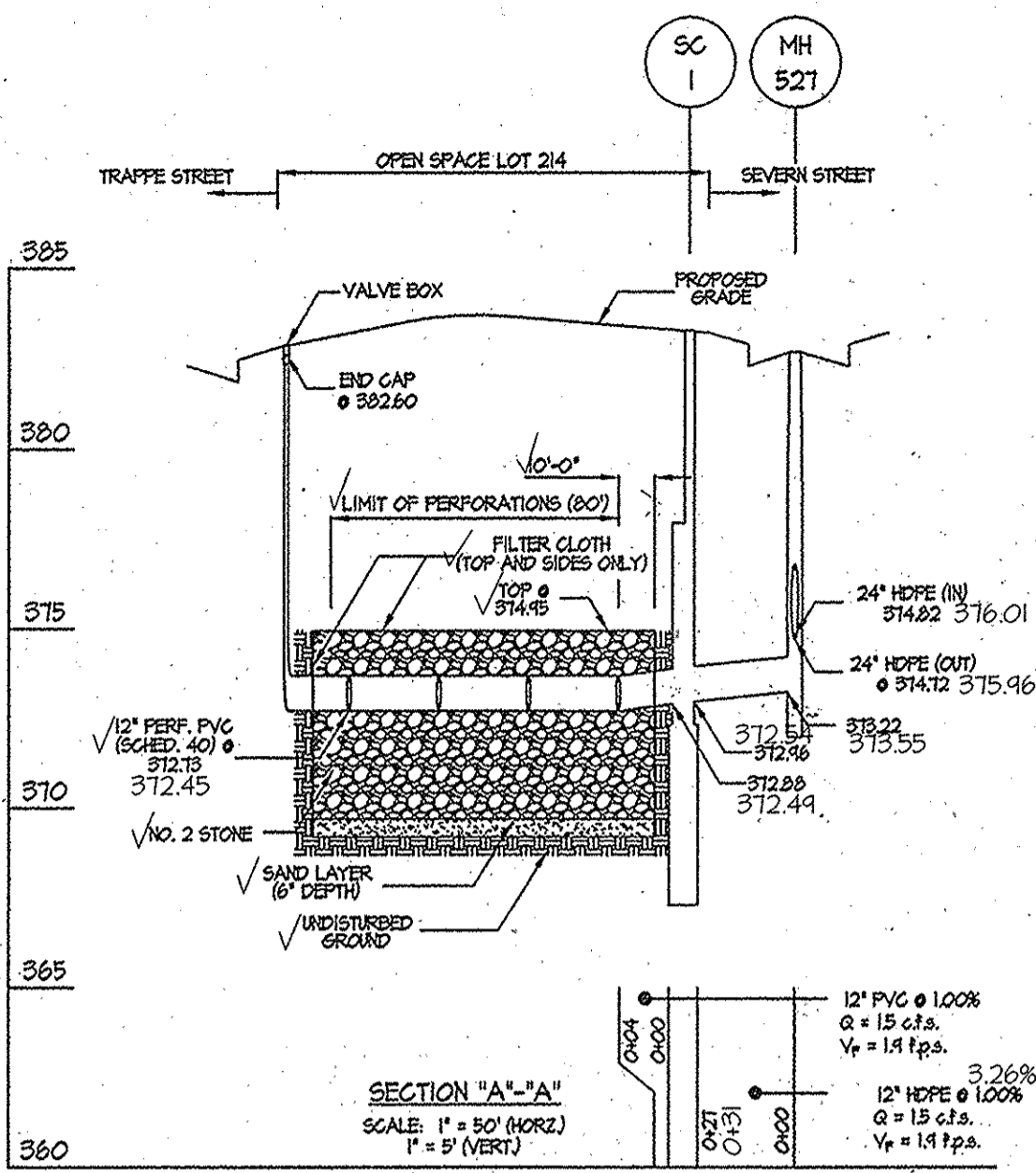
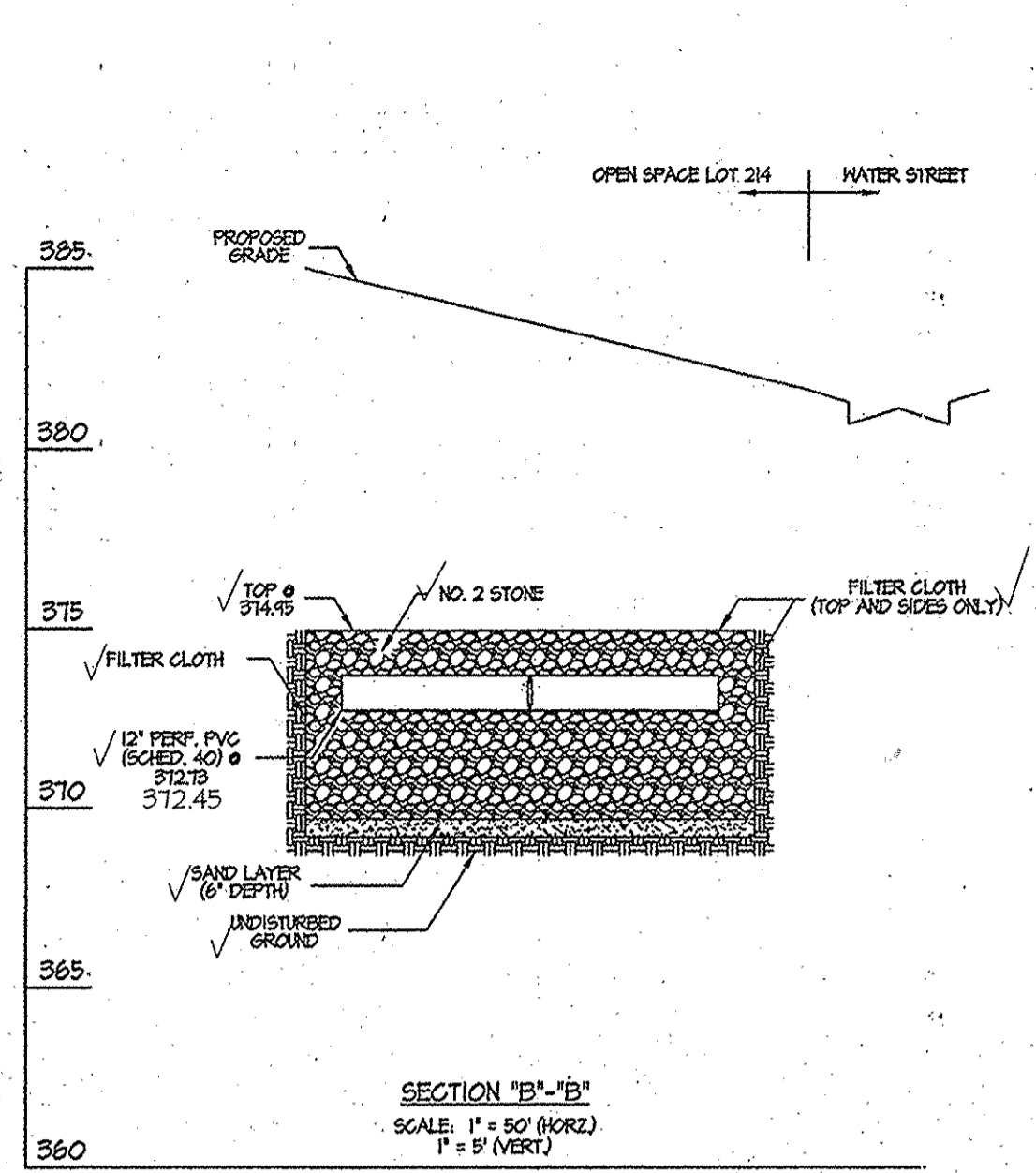
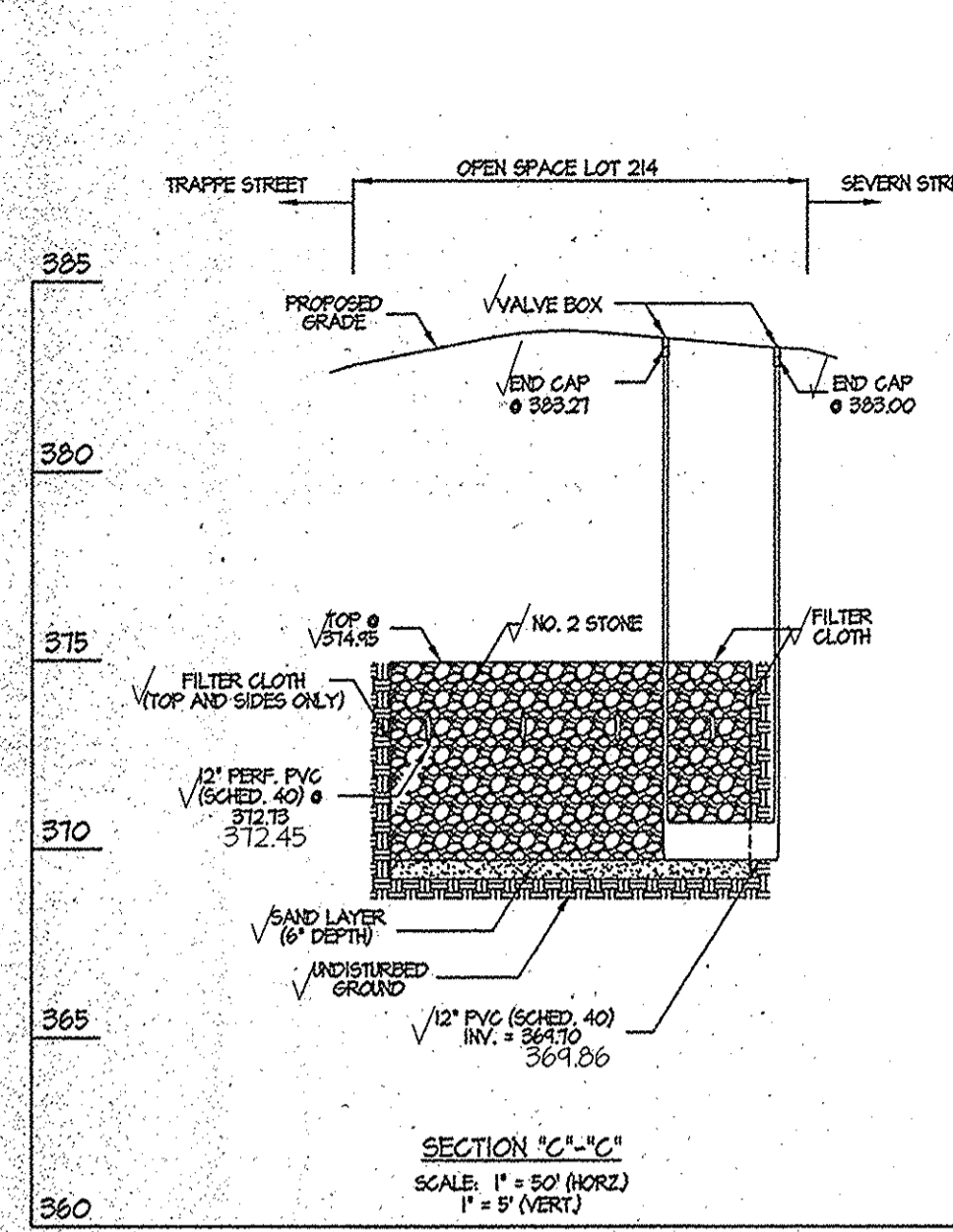
GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3809 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20886
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186



DATE	REVISION	BY	APPR.
10/15/06	rev contact information		
4/15/08	add 33\"/>		

STORMWATER MANAGEMENT PROFILES, NOTES, AND DETAILS		
SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	05001
DATE	TAX MAP - GRID	SHEET
MAY, 2015	41/22-46/4	14 OF 17

L:\CADD\DRAWINGS\04001\05001\FINALS\05001SM29.dwg 8/17/2006 11:14:29 AM EST



Precast Concrete Stormceptor Order Request Form

CONTRACTOR INFORMATION
 Name: GUY & SON, INC.
 Address: 210 WEST PADDLE ROAD
 City: BETHESDA
 State: MARYLAND
 Zip: 20814
 Contact: MARY HOPKINS
 Phone: 410-271-4111
 Fax: 410-271-4111

OWNER INFORMATION
 Name: SEVERN & ROSE, INC.
 Address: 10000 SEVERN STREET
 City: GREENBELT
 State: MARYLAND
 Zip: 20878
 Contact: MARY HOPKINS
 Phone: 410-271-4111
 Fax: 410-271-4111

PLEASE FILL OUT COMPLETELY AND FAX TO: CSR Hydro Conduit
 ATTN: ED O'MALLEY FAX: (703)922-3659, PHONE: (703)971-1900
 FOR TECHNICAL ASSISTANCE PLEASE CALL MIKE BARG, PHONE (703)971-1900

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 of Developer/Builder: [Signature]
 Date: 8/23/06

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."

Engineer's Signature: [Signature]
 Date: 8/23/06

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

Signature: [Signature]
 Date: 8/24/06

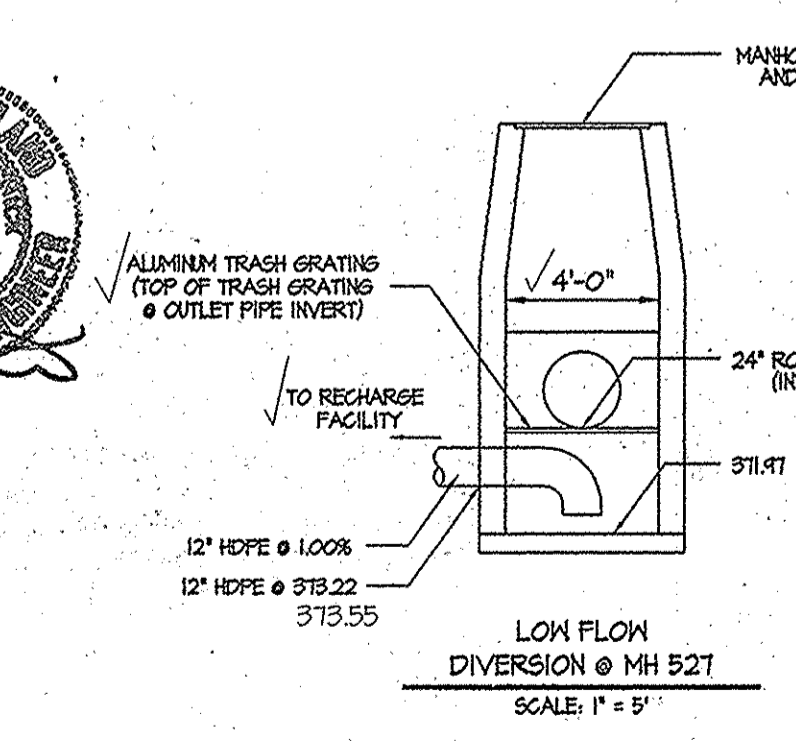
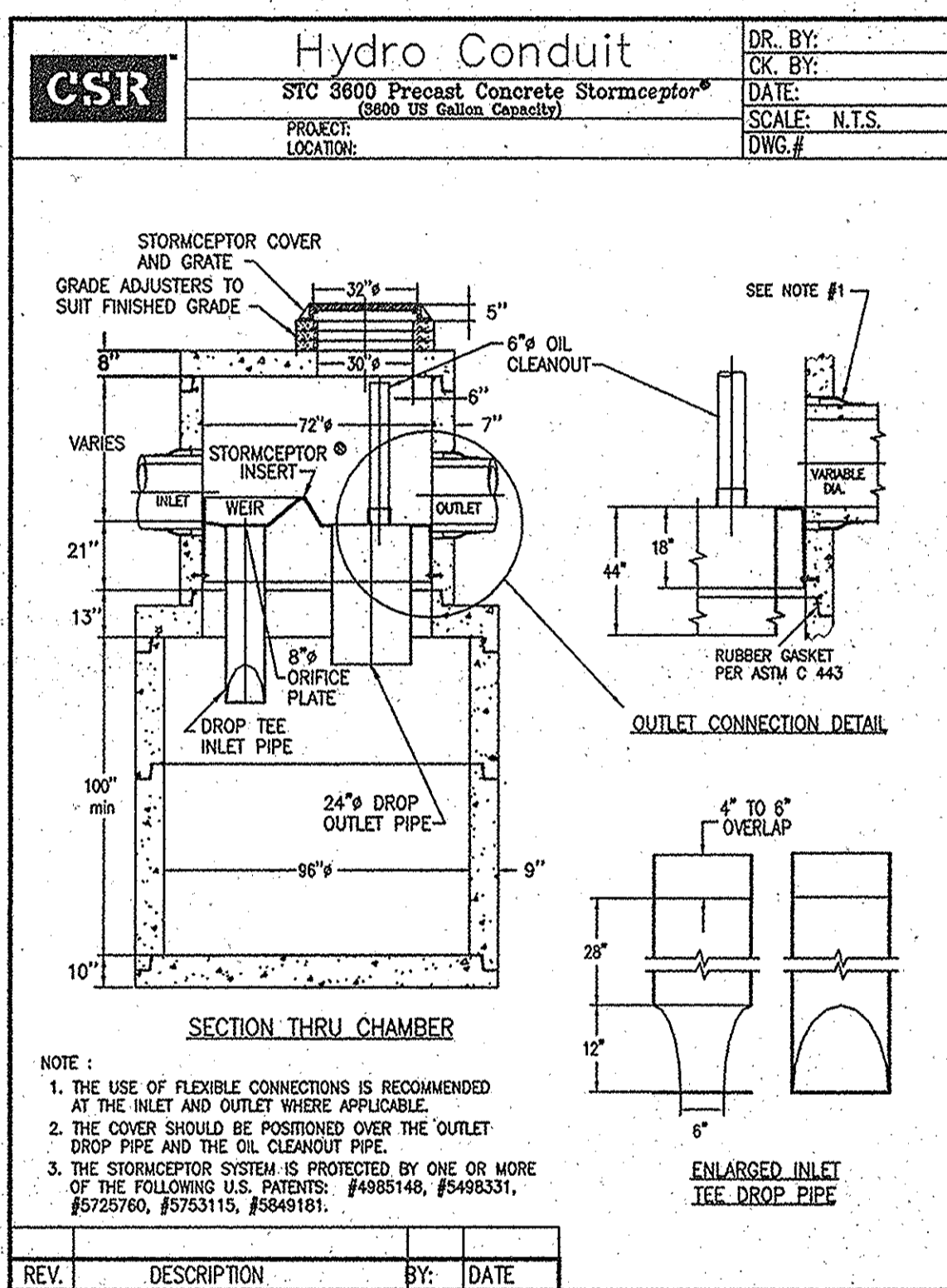
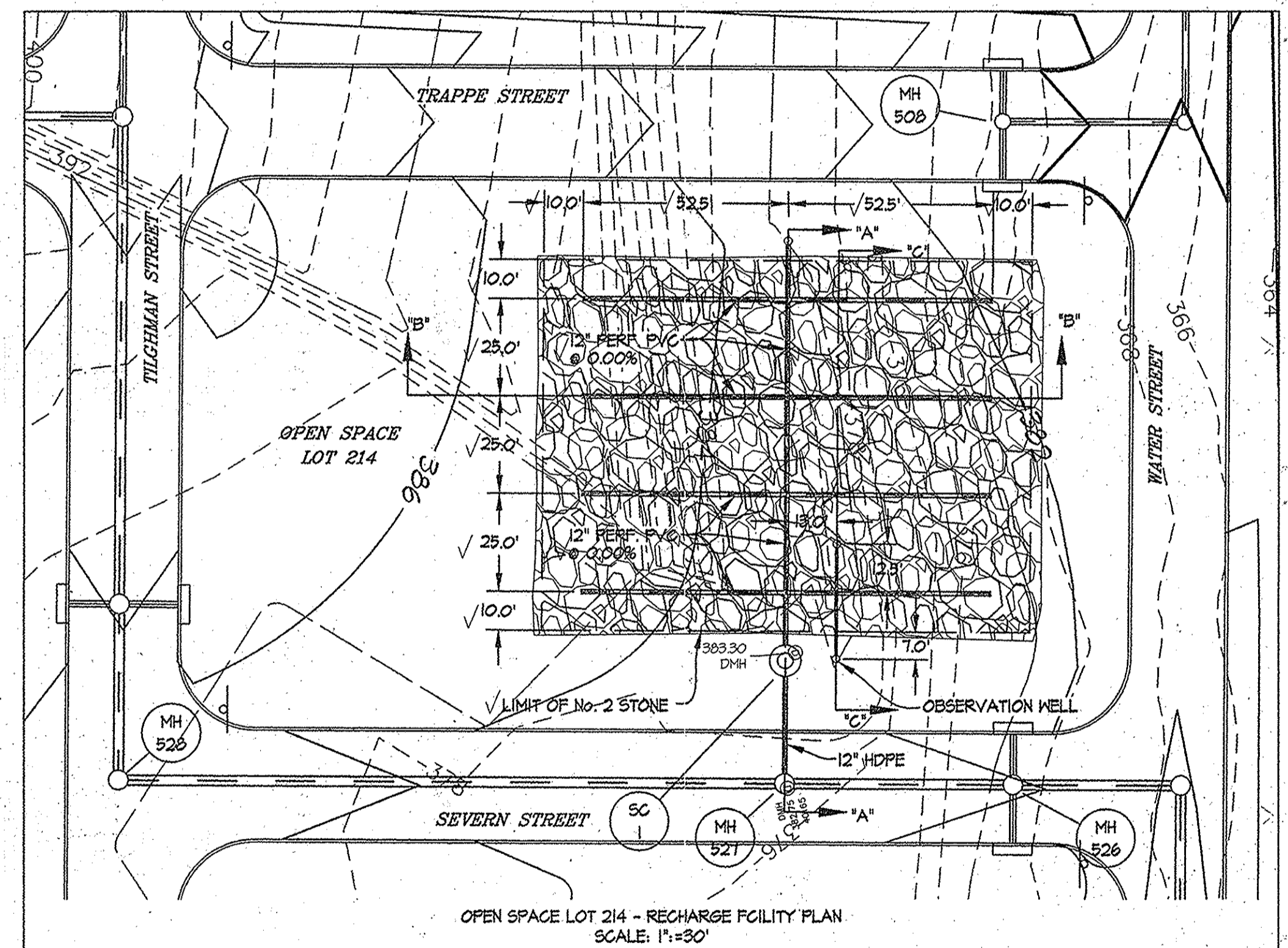
These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Signature: [Signature]
 Date: 8/24/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Signature: [Signature]
 Date: 8-29-06

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Signature: [Signature]
 Date: 8/29/06

APPROVED: NATIONAL RESOURCES CONSERVATION SERVICE
 Signature: [Signature]
 Date: 8/29/06



- OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER INFILTRATION TRENCHES**
- The monitoring wells and structures shall be inspected on a quarterly basis and after every large storm event.
 - Water levels and sediment build up in the monitoring wells shall be recorded over a period of several days to insure trench drainage.
 - A log book shall be maintained to determine the rate at which the facility drains.
 - When the facility becomes clogged so that it does not drain down within the 12 hour time period, corrective action shall be taken.
 - The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.
 - Once the performance characteristics of the infiltration facility have been verified, the monitoring schedule can be reduced to an annual basis unless the performance data indicates that a more frequent schedule is required.

- OPERATIONS AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMCEPTOR WATER QUALITY DEVICE**
- The Stormceptor water quality structure shall be periodically inspected and cleaned to maintain operation and function. The owner shall request the Stormceptor Inspection/Monitoring Form. Inspections shall be done by using clear plexiglass tubes ("sludge judge") to extract a water column sample. When the sediment depth exceeds the level specified in Table 6 of the Stormceptor Technical Manual, the unit must be cleaned.
 - The Stormceptor water quality structure shall be checked and cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agencies.
 - The maintenance of the Stormceptor unit shall be done using a vacuum truck which will remove water, sediment, debris, floating hydrocarbons, and other materials in each unit. Proper cleaning and disposal of the removed materials and liquid must be followed by the owner.
 - The inlet and outlet pipes shall be checked for any obstructions at least once every six months. If obstructions are found the owner shall have them removed. Structural parts of the Stormceptor unit shall be repaired as needed.
 - The owner shall retain and make the Stormceptor Inspection/Monitoring Forms available to the Howard County Officials upon their request.

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12475, Expiration Date: May 26 2016.

Date: 8/27/06
 Signature: [Signature]
 Title: Professional Engineer

CONSTRUCTION SPECIFICATIONS

These specifications are applicable to all ponds facility number 1 & 3. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 20 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment conform to Unified Soil Classification CC, SC, CH, or CL and must have at least 30% passing the #20 sieve. Consideration may be given to the use of other materials in the embankment if designated by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% maximum dry density with a moisture content within ±2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10-year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pit of 4.0 and a minimum relative density of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent flooding the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any remaining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

- Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.
- Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bandwidth. The following pipe connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, prepared to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard top type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide huggar type band with 6-inch gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and nuts, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets fill the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling shall conform to "Structure Backfill".

Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe - The following criteria shall apply for plastic pipe:

- Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" high pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch pipe shall meet the requirements of AASHTO M294 Type S.
- Joints and connections to anti-seep collars shall be completely watertight.
- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.08, Class C.

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

OPERATION AND MAINTENANCE

An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and repair reports needs to be retained in a file. The issuance of a Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or spillway from its original design and specifications is required. A permit is also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs are to be made as soon as practical.

GLEW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONVILLE OFFICE PARK
 BURTONVILLE, MARYLAND 20886
 TEL: 301-421-4024 FAX: 301-421-4188

DATE	REVISION	BY	APPR.
10/19/06	rev contact information		
11/15/06	add 12" PVC (Sched. 40) to storm drain and road inlets		

PREPARED FOR:
 G.P. Maple Lawn, Inc.
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: Mark Bennett
 410-484-8400

STORMWATER MANAGEMENT PROFILES, NOTES, AND DETAILS

MAPLE LAWN FARMS HILLSIDE DISTRICT - AREA 3
 Lots 109 through 212, Open Space Lots 213 through 218
 Common Open Areas 219 through 221

ELECTION DISTRICT No. 5

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	05001
DATE	TAX MAP - GRID	SHEET
MAY 2015	41/22-46/4	15 OF 19
AUG. 2006		

ASBUILTS SHEET 4 OF 5

ASBUILTS P-06161

**OPERATION AND MAINTENANCE SCHEDULE
FOR PUBLICLY OWNED AND JOINTLY MAINTAINED RETENTION POND**

NOTE: WHILE THE STORMWATER MANAGEMENT FACILITY IS OWNED BY HOWARD COUNTY, THE MAINTENANCE OF THE FACILITY IS THE RESPONSIBILITY OF BOTH THE COUNTY AND THE HOMEOWNER'S ASSOCIATION (H.O.A.). THE FOLLOWING OUTLINES THE MAINTENANCE RESPONSIBILITY OF EACH ENTITY:

ROUTINE MAINTENANCE (BY H.O.A.)

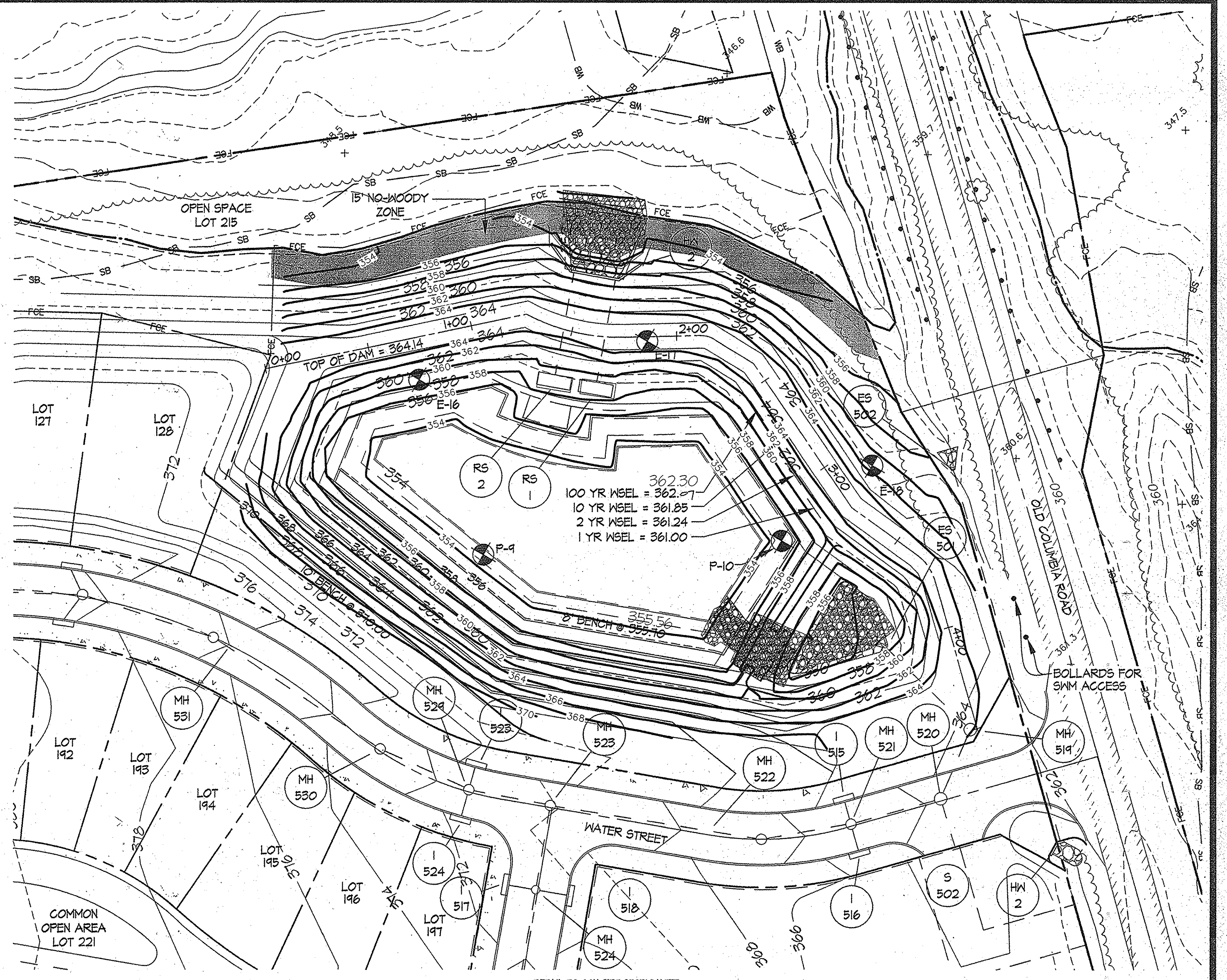
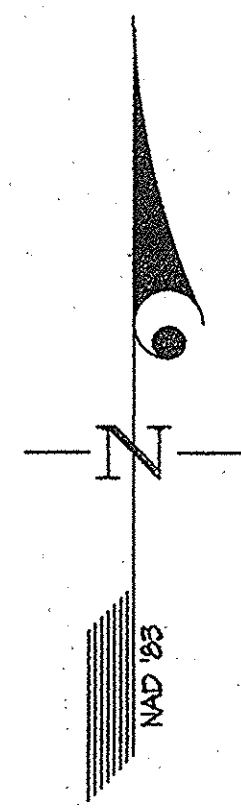
1. THE FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES PER YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHALL BE MOWED AS NEEDED.
3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS THE RIP-RAP OR GABION OUTLET SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE (BY COUNTY)

1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHALL BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHALL BE REMOVED FROM THE POND AND FOREBAY NO LATER THAN WHEN THE CAPACITY OF THE POND IS HALF FULL OR WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.

**HOWARD SOIL CONSERVATION DISTRICT
OPERATION, MAINTENANCE, AND INSPECTION NOTE**

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN THE USDA'S "STANDARDS AND SPECIFICATIONS FOR PONDS" (ND-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.



DETAIL TO CONVERT STORMWATER MANAGEMENT FACILITY
SCALE: 1"=30'

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 of Developer/Builder: *[Signature]* Date: 8-23-06

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."

Engineer's Signature: *[Signature]* Date: 8/23/06



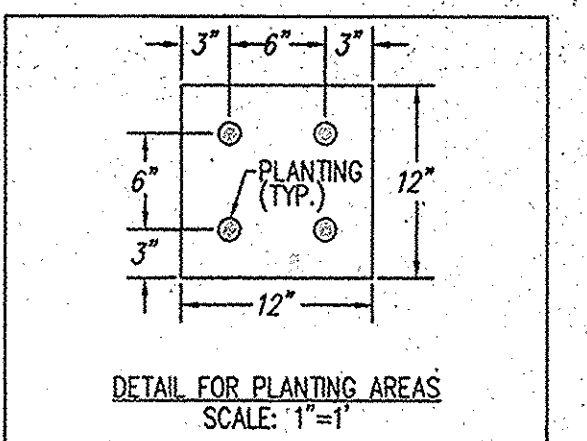
These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
Signature: *[Signature]* Date: 8/23/06
Howard Soil Conservation District

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: 8/23/06
Natural Resources Conservation Service

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12475, Expiration Date: May 26 2016.

Date: 5/27/15
Signature: *[Signature]*
Professional Engineer
Maryland Reg. No. 12475



CONTRACTOR TO PROVIDE ONE OR MORE OF THE FOLLOWING FOR AQUATIC BENCH:
(MIN. 4 PER SQ. FT. 6" O.C.)
• WATER LILY
• DEEP WATER DUCK POTATO
• SAGO POND PLANT
• WILD CELERY
• REDHEAD GRASS
PLANT TYPE MAY BE DEPENDENT UPON AVAILABILITY.

ASBUILTS SHEET 5 OF 5

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS <i>[Signature]</i> Chief, Bureau of Highways Date: 8-28-06
HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING <i>[Signature]</i> Chief, PLD Date: 8/29/06
Development Engineering Division <i>[Signature]</i> Date: 8/29/06

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

DATE	REVISION	BY	APP'R.
10/10/06	rev. contact information	kjp	
4/15/08	see plans for location of 509-108. This plan set is for storm & sediment control.	kjp	

PREPARED FOR:
442 Maple Lawn, Inc.
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21205
ATTN: Mark Bennett
410-484-8400

STORMWATER MANAGEMENT POND CONVERSION PLAN
MAPLE LAWN FARMS
HILLSIDE DISTRICT - AREA 3
Lots 109 through 212, Open Space Lots 213 through 218
Common Open Areas 219 through 221
ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN	ZONING MXD-3	G. L. W. FILE NO. 05001
DATE MAY 2015 AUG., 2006	TAX MAP - GRID 41/22-46/4	SHEET 16 OF 17

L:\CADD\DRAWINGS\04001\05001\FINALS\05001SWM31.dwg 8/18/2006 11:25:37 AM EST

HILLS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn - Hillside SWM
 Location: Howard County, Maryland
 Boring Number: E-16
 Job #: 010681

ELEV.	SOIL DESCRIPTION	ESTIMATED DEPTH	DEPTH SCALE	CON.	SAMPLE BLOW'S	NO.	REC.	BORING & SAMPLING NOTES
14.0	Surface	0.0						Topsoil
13.5	Brown, moist, very dense micaceous silty sand (SM)	1-2.3		D	1	14"		No groundwater encountered while drilling
13.0		3-3.5		D	2	18"		
12.5		3-4.5		D	3	12"		
12.0		3-6.7		D	4	10"		Caved in at 10.0' at Completion
11.5		22-51/2"		D	5	8"		Caved in at 10.0' after 24 hours
11.0	Bottom of Test Hole at 14.2'	15.0						

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

HILLS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn - Hillside SWM
 Location: Howard County, Maryland
 Boring Number: E-17
 Job #: 010681

ELEV.	SOIL DESCRIPTION	ESTIMATED DEPTH	DEPTH SCALE	CON.	SAMPLE BLOW'S	NO.	REC.	BORING & SAMPLING NOTES
14.0	Surface	0.0						Topsoil
13.5	Orange brown, moist, silty clayey silty sand with mica (ML-CL)	3-4-5		D	1	14"		No groundwater encountered while drilling
13.0		7-10-11		D	2	18"		
12.5		4-6-8		D	3	14"		
12.0		11-16"		D	4	8"		Caved in at 8.2' at Completion
11.5		19-51/4"		D	4	6"		Caved in at 8.0' after 24 hours
11.0	Bottom of Test Hole at 12.2'	15.0						

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

HILLS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn - Hillside SWM
 Location: Howard County, Maryland
 Boring Number: E-18
 Job #: 010681

ELEV.	SOIL DESCRIPTION	ESTIMATED DEPTH	DEPTH SCALE	CON.	SAMPLE BLOW'S	NO.	REC.	BORING & SAMPLING NOTES
14.0	Surface	0.0						Topsoil
13.5	Orange brown, moist, silty clayey silty sand with mica (ML-CL)	6-6-8		D	1	12"		No groundwater encountered while drilling
13.0		16-17-19		D	2	10"		
12.5		9-16-22		D	3	10"		
12.0		19-51/4"		D	4	6"		Caved in at 10.0' at Completion
11.5		40-51/2"		D	8	10"		Caved in at 11.0' after 24 hours
11.0	Bottom of Test Hole at 13.0'	18.0						

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

HILLS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn - Hillside SWM
 Location: Howard County, Maryland
 Boring Number: E-19
 Job #: 010681

ELEV.	SOIL DESCRIPTION	ESTIMATED DEPTH	DEPTH SCALE	CON.	SAMPLE BLOW'S	NO.	REC.	BORING & SAMPLING NOTES
14.0	Surface	0.0						Topsoil
13.5	Brown, moist, very dense micaceous silty sand with weathered rock (SM)	19-38-51/4"		D	7	13"		No groundwater encountered while drilling
13.0		40-51/2"		D	8	10"		
12.5		20.5						
12.0	Bottom of Test Hole at 20.5'	30.0						

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

HILLS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn - Hillside SWM
 Location: Howard County, Maryland
 Boring Number: E-20
 Job #: 010681

ELEV.	SOIL DESCRIPTION	ESTIMATED DEPTH	DEPTH SCALE	CON.	SAMPLE BLOW'S	NO.	REC.	BORING & SAMPLING NOTES
14.0	Surface	0.0						Topsoil
13.5	Brown, moist, very dense micaceous silty sand with weathered rock (SM)	2-3-3		D	1	12"		Groundwater encountered at 10.0' while drilling
13.0		2-3-3		D	2	4"		
12.5		14-17-18		D	3	14"		
12.0		14-17-18		D	4	10"		
11.5		22-24-37		D	5	10"		Caved in at 11.0' at Completion
11.0	Bottom of Test Hole at 15.0'	15.0						Caved in at 5.0' after 24 hours

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

HILLS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn - Hillside SWM
 Location: Howard County, Maryland
 Boring Number: E-21
 Job #: 010681

ELEV.	SOIL DESCRIPTION	ESTIMATED DEPTH	DEPTH SCALE	CON.	SAMPLE BLOW'S	NO.	REC.	BORING & SAMPLING NOTES
14.0	Surface	0.0						Topsoil
13.5	Brown, moist, very dense micaceous silty sand with weathered rock (SM)	2-3-3		D	1	12"		Groundwater encountered at 10.0' while drilling
13.0		2-3-3		D	2	4"		
12.5		14-17-18		D	3	14"		
12.0		14-17-18		D	4	10"		
11.5		22-24-37		D	5	10"		Caved in at 11.0' at Completion
11.0	Bottom of Test Hole at 15.0'	15.0						Caved in at 5.0' after 24 hours

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

HILLS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn - Hillside SWM
 Location: Howard County, Maryland
 Boring Number: P-8
 Job #: 010681

ELEV.	SOIL DESCRIPTION	ESTIMATED DEPTH	DEPTH SCALE	CON.	SAMPLE BLOW'S	NO.	REC.	BORING & SAMPLING NOTES
14.0	Surface	0.0						Topsoil
13.5	Orange brown, moist, silty clayey silty sand with mica (ML-CL)	2-3-6		D	1	12"		Groundwater encountered at 10.0' while drilling
13.0		8-9-11		D	2	14"		
12.5		28-12-9		D	3	18"		Caved in at 8.0' at Completion
12.0		8-12-17		D	4	10"		Set in situ pipe at 10.0'
11.5		9-11-12		D	5	16"		Caved in at 5.0' after 24 hours
11.0	Bottom of Test Hole at 15.0'	15.0						

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

HILLS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn - Hillside SWM
 Location: Howard County, Maryland
 Boring Number: P-9
 Job #: 010681

ELEV.	SOIL DESCRIPTION	ESTIMATED DEPTH	DEPTH SCALE	CON.	SAMPLE BLOW'S	NO.	REC.	BORING & SAMPLING NOTES
14.0	Surface	0.0						Topsoil
13.5	Orange brown, moist, silty clayey silty sand with mica (ML-CL)	1-2-2		D	1	12"		No groundwater encountered while drilling
13.0		2-4-6		D	2	10"		
12.5		3-4-4		D	3	18"		Caved in at 8.0' at Completion
12.0		2-6-7		D	4	12"		Caved in at 7.0' after 24 hours
11.5		23-33-50 1/4"		D	5	16"		
11.0	Bottom of Test Hole at 15.0'	50 1/4"						

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

HILLS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn - Hillside SWM
 Location: Howard County, Maryland
 Boring Number: P-10
 Job #: 010681

ELEV.	SOIL DESCRIPTION	ESTIMATED DEPTH	DEPTH SCALE	CON.	SAMPLE BLOW'S	NO.	REC.	BORING & SAMPLING NOTES
14.0	Surface	0.0						Topsoil
13.5	Brown, moist, medium dense micaceous silty sand with weathered rock (SM)	6-7-7		D	1	14"		No groundwater encountered while drilling
13.0		12-11-11		D	2	12"		Caved in at 18.0' at Completion
12.5		2-4-6		D	3	14"		Caved in at 18.0' after 24 hours
12.0		4-7-8		D	4	12"		
11.5		21-51/4"		D	5	10"		
11.0	Bottom of Test Hole at 24.0'	25.0						

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

HILLS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn - Hillside SWM
 Location: Howard County, Maryland
 Boring Number: P-11
 Job #: 010681

ELEV.	SOIL DESCRIPTION	ESTIMATED DEPTH	DEPTH SCALE	CON.	SAMPLE BLOW'S	NO.	REC.	BORING & SAMPLING NOTES
14.0	Surface	0.0						Topsoil
13.5	Brown, moist, very dense micaceous silty sand with weathered rock (SM)	11-51/4"		D	7	8"		No groundwater encountered while drilling
13.0		21.5		D	7	8"		
12.5		11-51/4"		D	7	8"		
12.0		51/4"		D	6	6"		
11.5	Bottom of Test Hole at 24.0'	25.0						

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

HILLS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn - Hillside SWM
 Location: Howard County, Maryland
 Boring Number: P-12
 Job #: 010681

ELEV.	SOIL DESCRIPTION	ESTIMATED DEPTH	DEPTH SCALE	CON.	SAMPLE BLOW'S	NO.	REC.	BORING & SAMPLING NOTES
14.0	Surface	0.0						Topsoil
13.5	Brown, moist, very dense micaceous silty sand with weathered rock (SM)	11-51/4"		D	7	8"		No groundwater encountered while drilling
13.0		21.5		D	7	8"		
12.5		11-51/4"		D	7	8"		
12.0		51/4"		D	6	6"		
11.5	Bottom of Test Hole at 24.0'	25.0						

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

EMBANKMENT AND CUT-OFF TRENCH

The areas of the SWM facilities should be stripped of topsoil and any other unsuitable materials from the embankment or structure area in accordance with Soil Conservation Guidelines. After stripping operations have been completed, the exposed subgrade material should be proffed with a loaded dump truck or similar equipment in the presence of a geotechnical engineer or his representative. For areas that are not accessible to a dump truck, the exposed materials should be observed and tested by a geotechnical engineer or his representative utilizing a Dynamic Cone Penetrometer. Any excessively soft or loose materials identified by proffing or penetrometer testing should be excavated to suitably firm soil, and then grades re-established by backfilling with suitable soil.

A representative of the Geotechnical Engineer should be present to monitor placement and compaction of fill for the embankment and cut off trench. In accordance with NRCS-MD Code No. 378 Pond Standards/Specifications, soils considered suitable for the center of the embankment and cut off trench shall conform to Unified Soil Classification GC, SC, CL, or CH and have at least 30% passing the #200 sieve.

It is our professional opinion that in addition to the soil materials described above, a fine grained soil, including Silt (ML - MH) with a plasticity index of 10 or more can be utilized for the center of the embankment and core trench. All fill materials must be placed and compacted in accordance with NRCS-MD Code No. 378 specifications.

REMARKS

The evaluations and recommendations contained in this report are based on our understanding of the proposed construction, the data obtained from our field exploration, and our experience with the soils and subsurface conditions in this area. If there are any changes to the project characteristics, this office should be advised so that the recommendations of this report can be re-evaluated.

We appreciate having been of service to you in the subsurface exploration of this project and we are prepared to assist you during the construction phase as well. If you have any questions concerning the contents of this report or any of our consulting, design, testing, and inspection services, please contact this office.

HILLS-CARNES ENGINEERING



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.

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.

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Date: 8-28-06

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 Date: 8/28/06

Engineer's Signature
 Date: 8/28/06

Signature of Developer/Builder
 Date: 8-23-06

Signature of Howard Soil Conservation District
 Date: 8/28/06

Signature of No. 10 Resources Conservation Service
 Date: 8/28/06

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

DATE	REVISION	BY	APP'R.
10/16/2010	See contact information		
4/15/09	See plan for creation of P-8, P-9, P-10, P-11, P-12. This plan set is for SWM & sediment control. See P-8, P-9, P-10, P-11, P-12 for storm drain information & road info.	KL	

PREPARED FOR:
 AIR Maple Lawn Inc.
 SUITE 300 WOODHOLM CENTER
 1829 REISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: Mark Bennett
 410-484-8400

SOIL BORING DETAILS

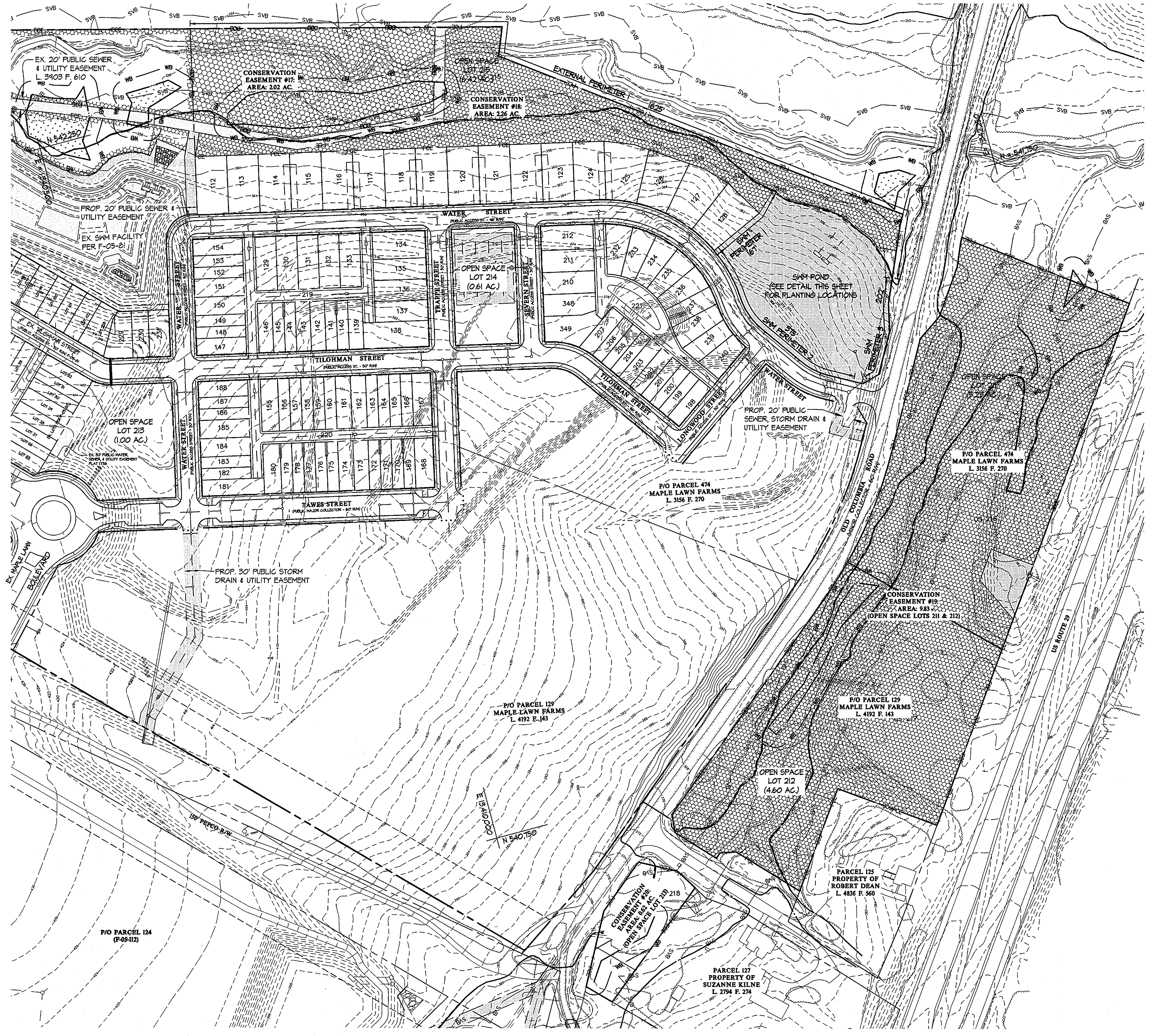
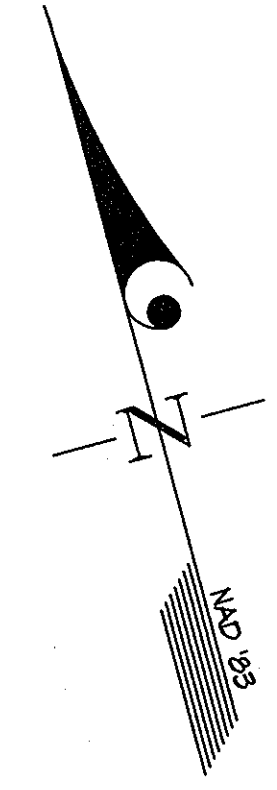
MAPLE LAWN FARMS
HILLSIDE DISTRICT - AREA 3
 Lots 109 through 212, Open Space Lots 213 through 218
 Common Open Area 219 through 221

ELECTION DISTRICT No. 5

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	05001
DATE	TAX MAP - GRID	SHEET
AUG., 2006	41/22-46/4	17 OF 17

HOWARD COUNTY, MARYLAND

PLANT LIST					
SYMBOL	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE	ROOT	COMMENTS
SHADE TREES					
AR	8	Acer rubrum 'Autumn Flame' Autumn Flame Maple	2 1/2-3' Cal.	B4B	
QP	1	Quercus palustris Pin Oak	2 1/2-3' Cal.	B4B	
EVERGREEN TREES					
PS	11	Pinus strobus White Pine	6'-8' Ht.	B4B	
PO	16	Picea omorika Serbian Spruce	6'-8' Ht.	B4B	



DEVELOPERS' CERTIFICATE:
I/We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Code and the Landscape Manual. I/We further certify that upon completion of the landscape installation, a letter of notice, accompanied with an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

Mark B. Smith Name
V. Tran Date 11/11/10

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William R. ... 12-1-10
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Robert ... 12/13/10
Chief, Division of Land Development Date

... 12/13/10
Chief, Development Engineering Division Date

STATE OF MARYLAND
Michael B. Tran
933 LANDSCAPE ARCHITECT
11/10/10

The purpose of this plan is to remove the information pertaining to the stormwater management planting from F-25-17b and include it with this plan set.

GLWGUTSCHICK 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 BAL: 410-880-1829 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.
12/19/10	REMOVED REFERENCES TO RESIDENTIAL LANDSCAPE PERIMETERS, REVISED SHEET NUMBER & CONTACT INFO.	KLP	

PREPARED FOR:
G&R MAPLE LAWN INC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

Revised **LANDSCAPE PLAN**
MAPLE LAWN FARMS
HILLSIDE DISTRICT - AREA 3
Lots 109 through 212, Open Space Lots 213 through 218
Common Open Areas 219 through 221

SCALE	ZONING	G. L. W. FILE No.
1"=100'	MXD-3	05001
DATE	TAX MAP - GRID	SHEET
AUG., 2006	41/22-46/4	18 OF 19

NOTES:

- AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL AND THE MLF LANDSCAPE DESIGN CRITERIA. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN THE DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
- THE OWNER, TENANTS 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 WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE, THE LANDSCAPE MANUAL, AND THE MLF LANDSCAPE DESIGN CRITERIA WITH 17 SHADE TREES AND 33 EVERGREEN TREES PROVIDED WITH THE LANDSCAPE SURETY IN THE AMOUNT OF \$10,500.00 WITH DPA DEVELOPER'S AGREEMENT.

STORMWATER MANAGEMENT AREA LANDSCAPING - SCHEDULE D											
PERIMETER	PROPOSED LAND USE	ADJACENT LAND USE	TYPE OF BUFFER	LINEAR FEET OF PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) DESCRIBE BELOW IF NEEDED.	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) DESCRIBE BELOW IF NEEDED.	NUMBER OF PLANTS REQUIRED		NUMBER OF PLANTS PROVIDED		HOW REQUIRED BUFFER IS BEING PROVIDED
							SHADE TREES	EVERGREEN TREES	SHADE TREES	EVERGREEN TREES	
SNM-1	SNM	RESIDENTIAL	'B' Buffer *	167 L.F.	NO	NO	3	4	3	4	SEE PLAN
SNM-2	SNM	ROADWAY	'C' Buffer *	375 L.F.	NO	NO	9	19	9	19	SEE PLAN
SNM-3	SNM	ROADWAY	'C' Buffer *	202 L.F.	NO	NO	5	10	5	10	SEE PLAN

* FOLLOWS COMPREHENSIVE SKETCH PLAN GUIDELINE REQUIREMENTS

NOTES:

- THE BUFFERS SHOWN FOR SCHEDULE 'D' ARE IN ACCORDANCE WITH THE LANDSCAPING MANUAL ACCORDING TO THE COMPREHENSIVE SKETCH PLAN CRITERIA, THE FOLLOWING ARE THE MINIMUM PLANTINGS TO BE PROVIDED ALONG BUFFER TYPE 'B':
 SHADE TREE: 1.50 LINEAR FEET OF MEASURED PERIMETER EDGE, AND
 EVERGREEN TREE: 1.40 LINEAR FEET OF MEASURED PERIMETER EDGE.
 BUFFER STORMWATER MANAGEMENT FROM A ROADWAY OR PERIMETER RESIDENTIAL PROPERTIES:
 SHADE TREE: 1.40 LINEAR FEET OF MEASURED PERIMETER EDGE, AND
 EVERGREEN TREE: 1.20 LINEAR FEET OF MEASURED PERIMETER EDGE.
- AFFORESTATION PLANTING SIZE SHALL BE LARGE ENOUGH TO MEET THE LANDSCAPE BUFFERING REQUIREMENT ALONG EXTERNAL PERIMETERS WHERE APPLICABLE.

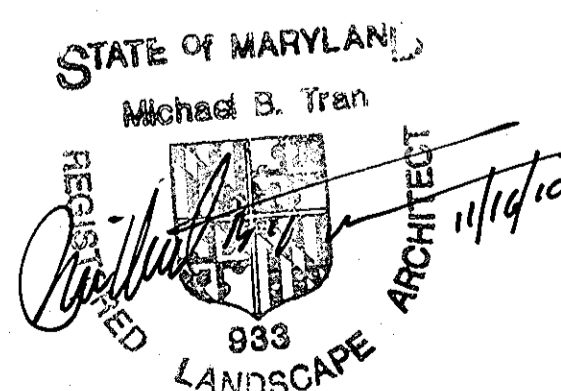
PROJECTED BOND REQUIREMENT - SURETY FOR SCHEDULE D:
 SCHEDULE 'D' NUMBER OF REQUIRED SHADE TREES FOR BONDING: 17 x \$300 = \$ 5,100.00
 SCHEDULE 'D' NUMBER OF REQUIRED EVERGREEN TREES FOR BONDING: 33 x \$150 = \$ 4,950.00
 TOTAL: \$ 10,500.00

COMMENTS:

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William Z. M... 12-1-10
 Chief, Bureau of Highways
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Kent S... 12/13/10
 Chief, Division of Land Development
 Date

... 12/13/10
 Chief, Development Engineering Division
 Date



The purpose of this plan is to remove the information pertaining to the stormwater management planting from F 03-17b and include it with this plan set.

GLWGUTSCHICK LITTLE & WEBER, P.A.
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DATE	REVISION	BY	APP'R.
12/13/10	REMOVED REFERENCES TO SCHEDULE 'A' PLANTING REQUIREMENTS, REVISED SHEET NUMBER AND CONTACT INFO.	KLP	

PREPARED FOR:
 G&R MAPLE LAWN INC
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 ATTN: MARK BENNETT
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Revised LANDSCAPE DETAILS AND NOTES

MAPLE LAWN FARMS
 HILLSIDE DISTRICT - AREA 3
 Lots 109 through 212, Open Space Lots 213 through 218
 Common Open Areas 219 through 221

ELECTION DISTRICT No. 5

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	05001
DATE	TAX MAP - SRID	SHEET
AUG., 2006	41/22-41/4	19 OF 19