

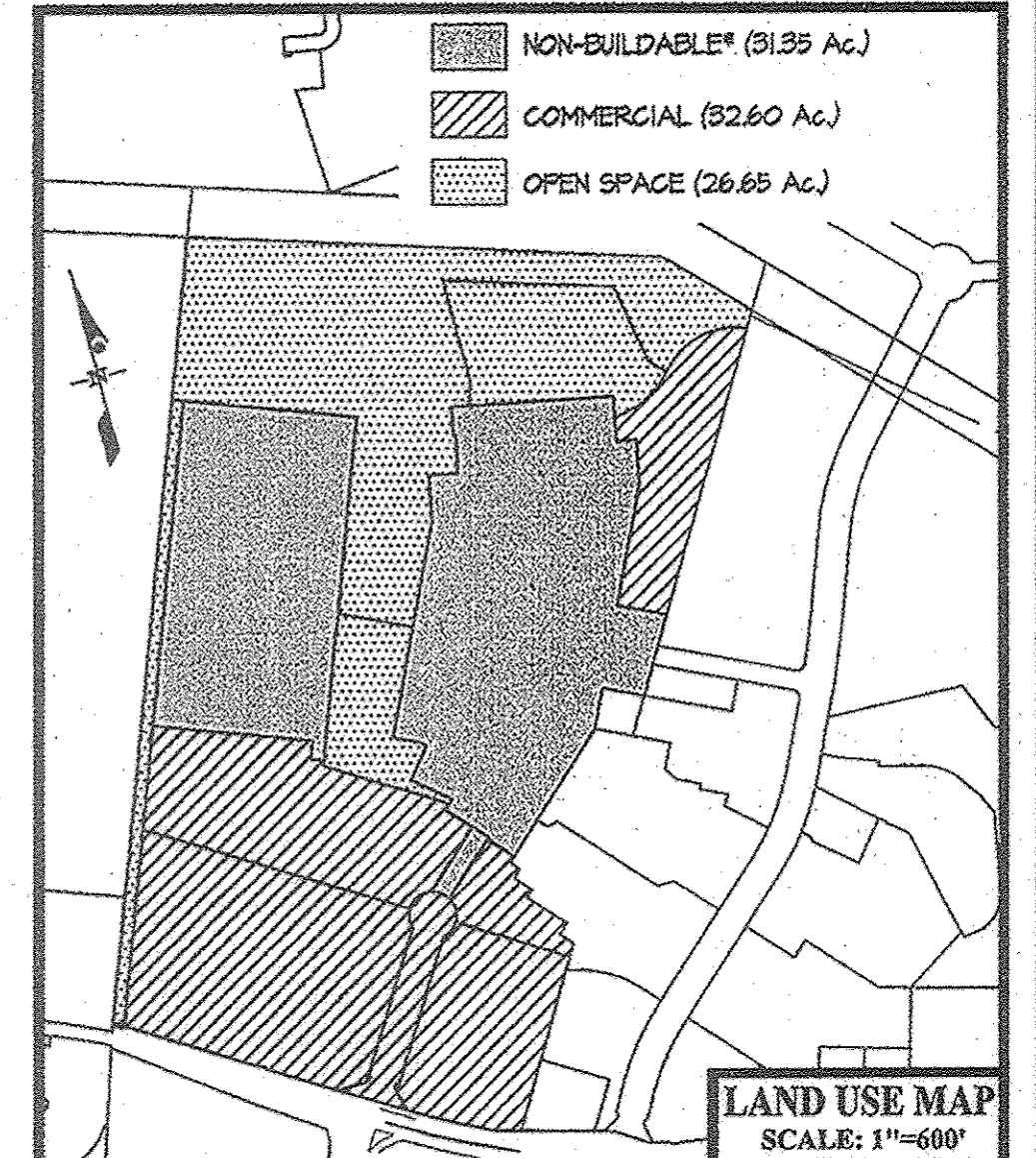
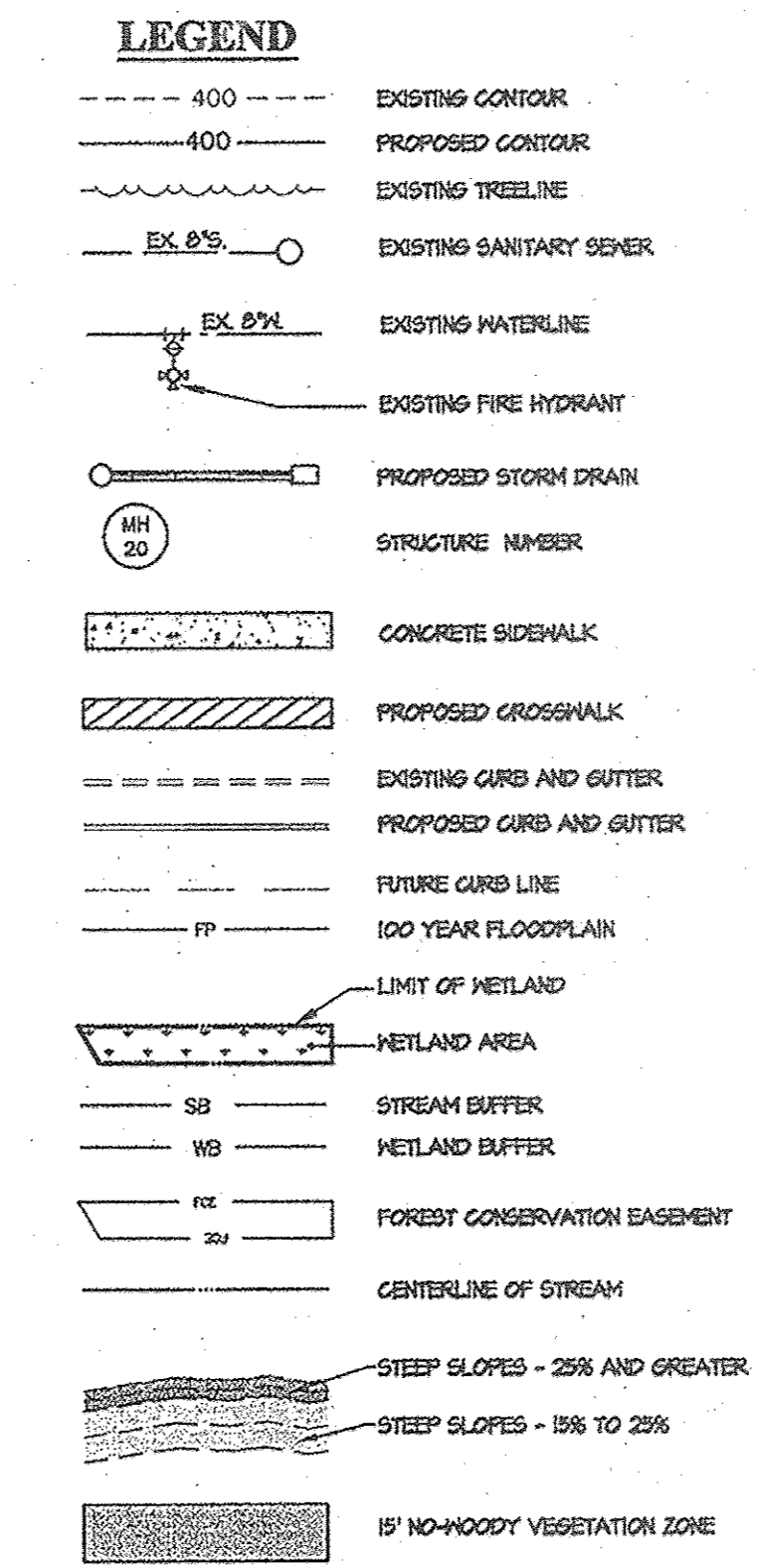
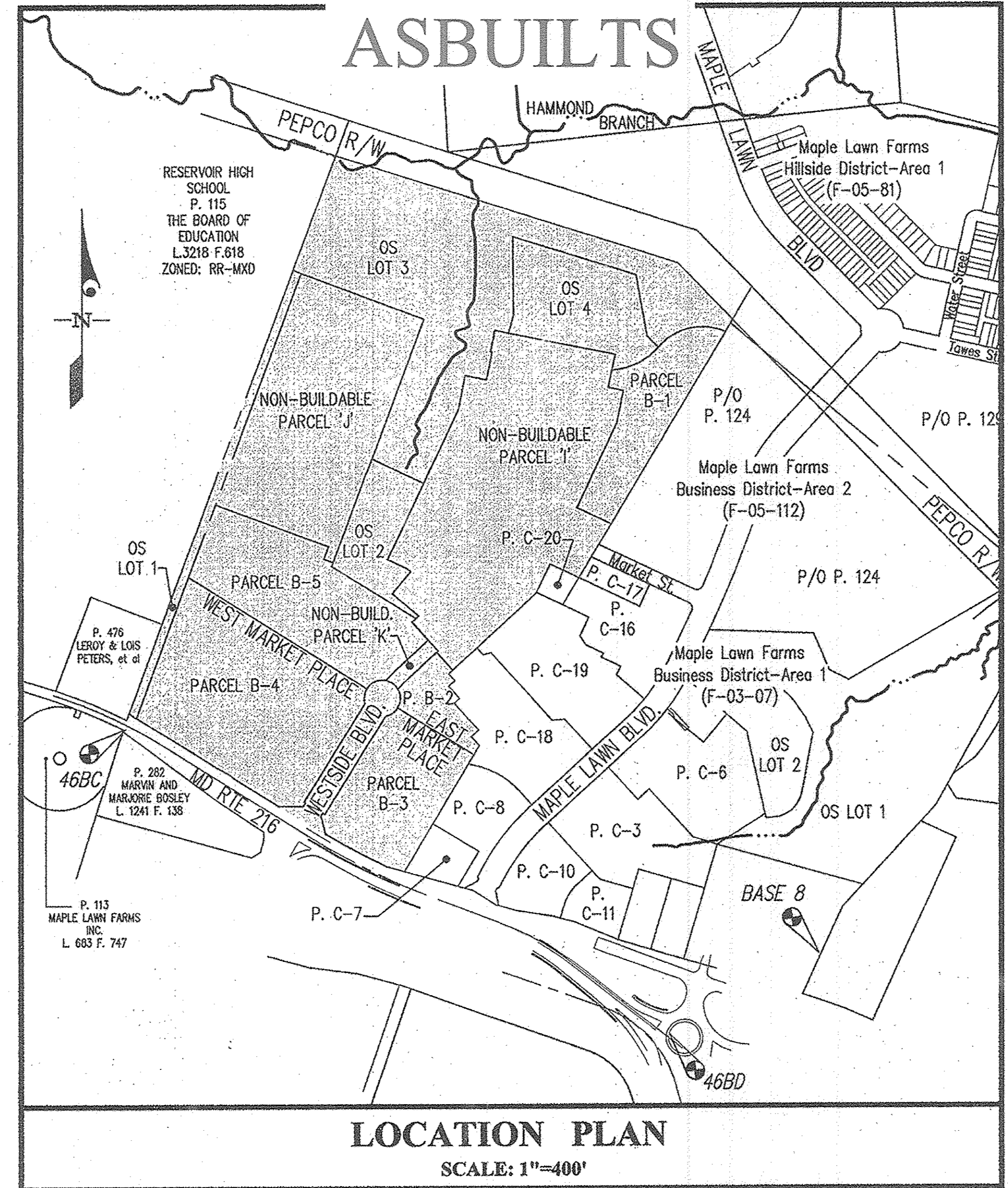
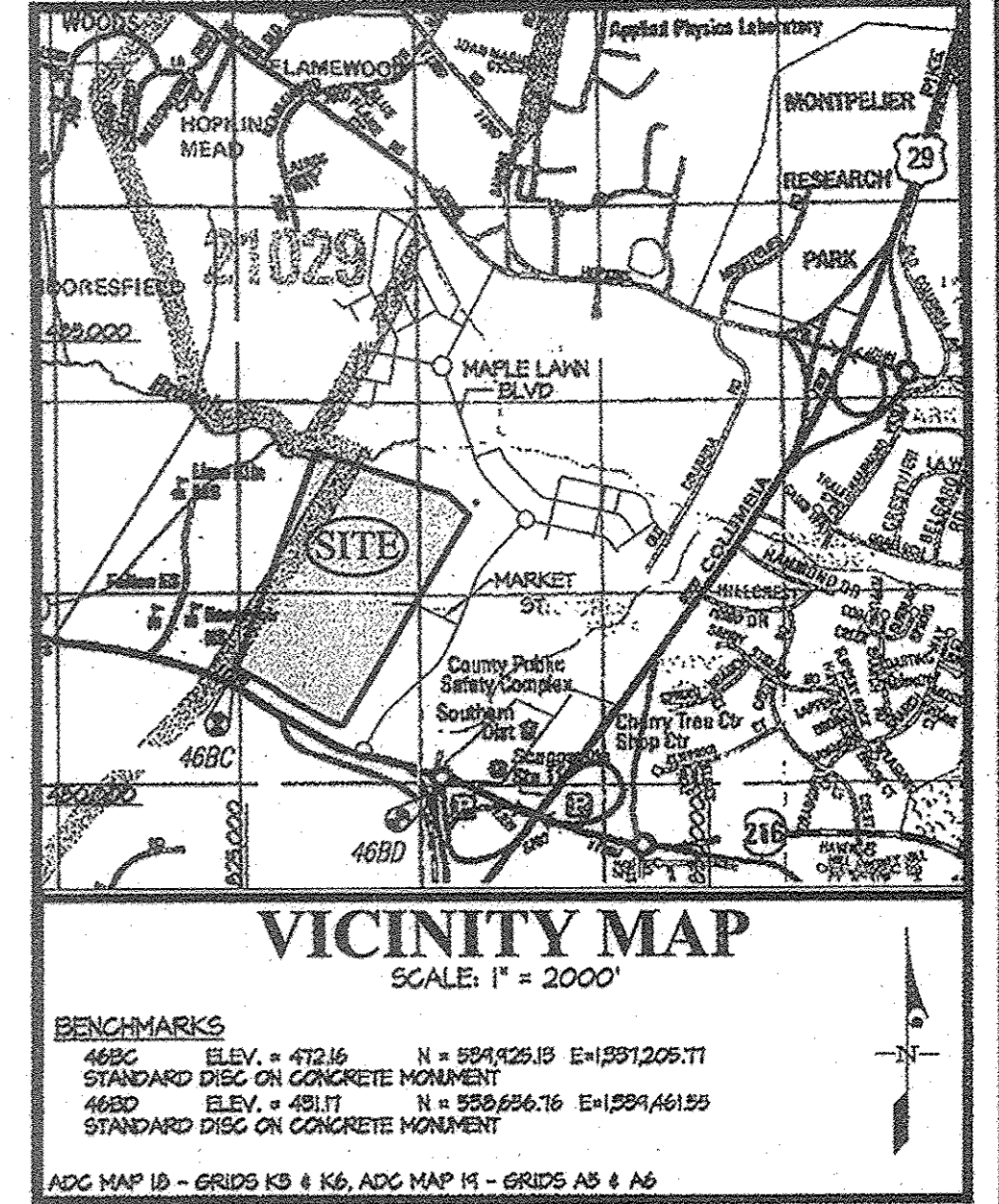
CONSTRUCTION PLAN

STORMWATER MANAGEMENT AND SEDIMENT CONTROL

MAPLE LAWN FARMS

Westside District - Area 1

Parcels B-1 through B-5, Non-Buildable Parcels 'I', 'J', & 'K', and Open Space Lots 1 through 4



SHEET INDEX

- COVER SHEET
- OVERALL SEDIMENT CONTROL PLAN (1"=100')
- SEDIMENT CONTROL PLAN (1"=50')
- SEDIMENT CONTROL PLAN (1"=50')
- SEDIMENT CONTROL PLAN (1"=50')
- SEDIMENT CONTROL PLAN (1"=50')
- SEDIMENT CONTROL DETAILS AND NOTES
- SEDIMENT CONTROL DETAILS AND NOTES
- SEDIMENT CONTROL DETAILS AND NOTES
- LAND USE PLAN
- TEMPORARY SWM DRAINAGE AREA MAP - PRE-DEVELOPMENT
- TEMPORARY SWM DRAINAGE AREA MAP - POST-DEVELOPMENT
- ULTIMATE STORMWATER MANAGEMENT OVERALL DRAINAGE AREA MAP
- STORMWATER MANAGEMENT DETAILS AND NOTES - SWM POND 3
- STORMWATER MANAGEMENT DETAILS AND NOTES - SWM POND 3
- TEMPORARY STORMWATER MANAGEMENT DETAILS AND NOTES - SWM BASIN 4
- TEMPORARY STORMWATER MANAGEMENT DETAILS AND NOTES - SWM BASIN 5
- TEMPORARY STORMWATER MANAGEMENT DETAILS AND NOTES - SWM BASIN 5
- STORMWATER MANAGEMENT DETAILS AND NOTES - SWM BASIN 6
- SEDIMENT BASINS 3 THROUGH 6 BACKFILL AND CONVERSION PLAN
- STORMWATER MANAGEMENT NOTES
- SOIL BORINGS (1 OF 2)
- SOIL BORINGS (2 OF 2)
- OVERALL FINAL GRADING PLAN
- WALL LOCATION PLAN AND CONSTRUCTION DETAILS
- WALL ELEVATION
- WALL ELEVATION
- WALL LOCATION AND ELEVATION PLAN
- RECHARGE FACILITY DETAILS
- Final Landscaping Plan
- Final Landscaping Notes

GENERAL NOTES:

- Zoning: This site is being developed under MD-3 regulations, per ZB-495M, approved on 2/20/07 and ZB-1039M approved 03/20/08 and the Comprehensive Zoning Plan dated 02/02/04. Underlying zoning is RR-DEO and the Comp. Lite Zoning Regulation Amendments dated 07/28/06.
- The previous Division of Planning and Zoning file numbers: 5-01-17, 5-06-16, ZB-495M, ZB-1039M, PB-355, PB-378, PB-01-11, PB-03-02, F-02-02, F-03-01, F-03-01, F-04-05, F-04-13, F-03-07, F-03-07B, F-03-07C, F-03-10, F-03-10B, F-03-10C, F-03-10D, F-03-10E, F-03-10F, F-03-10G, F-03-10H, F-03-10I, F-03-10J, F-03-10K, F-03-10L, F-03-10M, F-03-10N, F-03-10O, F-03-10P, F-03-10Q, F-03-10R, F-03-10S, F-03-10T, F-03-10U, F-03-10V, F-03-10W, F-03-10X, F-03-10Y, F-03-10Z, F-03-10AA, F-03-10AB, F-03-10AC, F-03-10AD, F-03-10AE, F-03-10AF, F-03-10AG, F-03-10AH, F-03-10AI, F-03-10AJ, F-03-10AK, F-03-10AL, F-03-10AM, F-03-10AN, F-03-10AO, F-03-10AP, F-03-10AQ, F-03-10AR, F-03-10AS, F-03-10AT, F-03-10AU, F-03-10AV, F-03-10AW, F-03-10AX, F-03-10AY, F-03-10AZ, F-03-10BA, F-03-10BB, F-03-10BC, F-03-10BD, F-03-10BE, F-03-10BF, F-03-10BG, F-03-10BH, F-03-10BI, F-03-10BJ, F-03-10BK, F-03-10BL, F-03-10BM, F-03-10BN, F-03-10BO, F-03-10BP, F-03-10BQ, F-03-10BR, F-03-10BS, F-03-10BT, F-03-10BU, F-03-10BV, F-03-10BW, F-03-10BX, F-03-10BY, F-03-10BZ, F-03-10CA, F-03-10CB, F-03-10CC, F-03-10CD, F-03-10CE, F-03-10CF, F-03-10CG, F-03-10CH, F-03-10CI, F-03-10CJ, F-03-10CK, F-03-10CL, F-03-10CM, F-03-10CN, F-03-10CO, F-03-10CP, F-03-10CQ, F-03-10CR, F-03-10CS, F-03-10CT, F-03-10CU, F-03-10CV, F-03-10CW, F-03-10CX, F-03-10CY, F-03-10CZ, F-03-10DA, F-03-10DB, F-03-10DC, F-03-10DD, F-03-10DE, F-03-10DF, F-03-10DG, F-03-10DH, F-03-10DI, F-03-10DJ, F-03-10DK, F-03-10DL, F-03-10DM, F-03-10DN, F-03-10DO, F-03-10DP, F-03-10DQ, F-03-10DR, F-03-10DS, F-03-10DT, F-03-10DU, F-03-10DV, F-03-10DW, F-03-10DX, F-03-10DY, F-03-10DZ, F-03-10EA, F-03-10EB, F-03-10EC, F-03-10ED, F-03-10EE, F-03-10EF, F-03-10EG, F-03-10EH, F-03-10EI, F-03-10EJ, F-03-10EK, F-03-10EL, F-03-10EM, F-03-10EN, F-03-10EO, F-03-10EP, F-03-10EQ, F-03-10ER, F-03-10ES, F-03-10ET, F-03-10EU, F-03-10EV, F-03-10EW, F-03-10EX, F-03-10EY, F-03-10EZ, F-03-10FA, F-03-10FB, F-03-10FC, F-03-10FD, F-03-10FE, F-03-10FF, F-03-10FG, F-03-10FH, F-03-10FI, F-03-10FJ, F-03-10FK, F-03-10FL, F-03-10FM, F-03-10FN, F-03-10FO, F-03-10FP, F-03-10FQ, F-03-10FR, F-03-10FS, F-03-10FT, F-03-10FU, F-03-10FV, F-03-10FW, F-03-10FX, F-03-10FY, F-03-10FZ, F-03-10GA, F-03-10GB, F-03-10GC, F-03-10GD, F-03-10GE, F-03-10GF, F-03-10GG, F-03-10GH, F-03-10GI, F-03-10GJ, F-03-10GK, F-03-10GL, F-03-10GM, F-03-10GN, F-03-10GO, F-03-10GP, F-03-10GQ, F-03-10GR, F-03-10GS, F-03-10GT, F-03-10GU, F-03-10GV, F-03-10GW, F-03-10GX, F-03-10GY, F-03-10GZ, F-03-10HA, F-03-10HB, F-03-10HC, F-03-10HD, F-03-10HE, F-03-10HF, F-03-10HG, F-03-10HH, F-03-10HI, F-03-10HJ, F-03-10HK, F-03-10HL, F-03-10HM, F-03-10HN, F-03-10HO, F-03-10HP, F-03-10HQ, F-03-10HR, F-03-10HS, F-03-10HT, F-03-10HU, F-03-10HV, F-03-10HW, F-03-10HX, F-03-10HY, F-03-10HZ, F-03-10IA, F-03-10IB, F-03-10IC, F-03-10ID, F-03-10IE, F-03-10IF, F-03-10IG, F-03-10IH, F-03-10II, F-03-10IJ, F-03-10IK, F-03-10IL, F-03-10IM, F-03-10IN, F-03-10IO, F-03-10IP, F-03-10IQ, F-03-10IR, F-03-10IS, F-03-10IT, F-03-10IU, F-03-10IV, 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* See General Note 20 for Condition on SWM Facility Located on Open Space Lot 2.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Date: 6/15/09

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 Date: 6/19/09

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Development Engineering Division
 Date: 6/19/09

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE, SUITE 200 - BURNINGTREE OFFICE PARK
 BURNINGTREE, MARYLAND 20898
 TEL: 301-421-4024 FAX: 301-421-4188

DATE	REVISION
6/15/09	Sheet Index updated per plan changes
6/17/09	Sheet Index updated and GENERAL NOTE 19 REVISED (REPLACEMENT SHEET)
7/01/09	REV. FOREST CONSERVATION NOTE PER F-08-72 CHANGES

PREPARED FOR:
 G&R / WESSEL LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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, 2018



ELECTION DISTRICT No. 5

ASBUILTS
 REVISED COVER SHEET
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4
 AND NON-BUILDABLE PARCELS 'I', 'J', AND 'K'

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
APR. 2019	41-21&22	1 OF 32
JUNE, 2009	46-3	

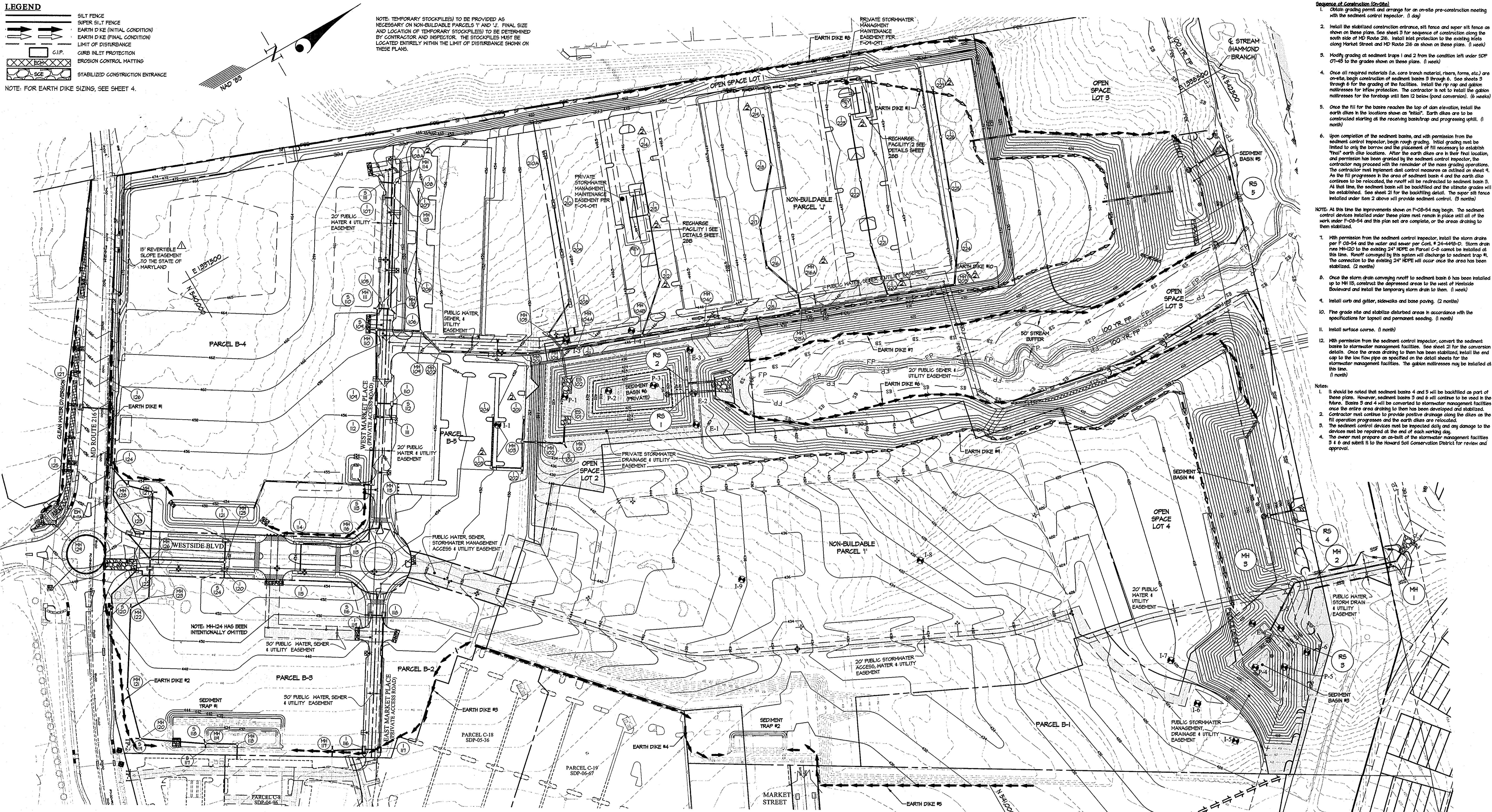
THIS SET TO BE APPROVED IN CONJUNCTION WITH P-0654

LEGEND

- SILT FENCE
- SUPER SILT FENCE
- EARTH DIKE (INITIAL CONDITION)
- EARTH DIKE (FINAL CONDITION)
- LIMIT OF DISTURBANCE
- CURB INLET PROTECTION
- EROSION CONTROL MATTING
- STABILIZED CONSTRUCTION ENTRANCE

NOTE: FOR EARTH DIKE SIZING, SEE SHEET 4.

NOTE: TEMPORARY STOCKPILES TO BE PROVIDED AS NECESSARY ON NON-BUILDABLE PARCELS 'Y' AND 'J'. FINAL SIZE AND LOCATION OF TEMPORARY STOCKPILES TO BE DETERMINED BY CONTRACTOR AND INSPECTOR. THE STOCKPILES MUST BE LOCATED ENTIRELY WITHIN THE LIMIT OF DISTURBANCE SHOWN ON THESE PLANS.



- Sequence of Construction (On-Site)**
1. Obtain grading permit and arrange for an on-site pre-construction meeting with the sediment control inspector. (1 day)
 2. Install the stabilized construction entrance, silt fence and super silt fence as shown on these plans. See sheet 3 for sequence of construction along the south side of MD Route 216. Install silt protection to the existing grade along Market Street and MD Route 216 as shown on these plans. (1 week)
 3. Modify grading of sediment traps 1 and 2 from the condition left under SDP 07-08 to the grades shown on these plans. (1 week)
 4. Once all required materials (i.e. coarse trench material, risers, forms, etc.) are on-site, begin construction of sediment basins 3 through 6. See sheets 3 through 6 for the grading of the facilities. Install the rip rap and gabion mattresses for slope protection. The contractor is not to install the gabion mattresses for the forage until Item 12 below (pond conversion). (6 weeks)
 5. Once the fill for the basins reaches the top of dam elevation, install the earth dikes in the locations shown as "Initial". Earth dikes are to be constructed starting at the receiving bank/trap and progressing uphill. (1 month)
 6. Upon completion of the sediment basins, and with permission from the sediment control inspector, begin rough grading. Initial grading must be limited to only the borrow and the placement of fill necessary to establish "Final" earth dike locations. After the earth dikes are in their final location, and permission has been granted by the sediment control inspector, the contractor may proceed with the remainder of the mass grading operations. The contractor must implement dust control measures as outlined on sheet 4. As the fill progresses in the area of sediment basin 4 and the earth dike continues to be relocated, the runoff will be redirected to sediment basin 3. At that time, the sediment basin will be backfilled and the ultimate grades will be established. See sheet 21 for the backfilling detail. The super silt fence installed under Item 2 above will provide sediment control. (3 months)
- NOTE: At the time the improvements shown on F-08-54 may begin. The sediment control devices indicated under these plans must remain in place until all of the work under F-08-54 and the site plan set are complete, or the areas draining to them stabilized.
7. With permission from the sediment control inspector, install the storm drain per F-08-54 and the water and sewer per Cont. # 24-4449-D. Storm drain line MH-520 to the existing 24" HDPE in Parcel B-5 cannot be installed at this time. Runoff conveyed by this system will discharge to sediment trap #1. The connection to the existing 24" HDPE will occur once the area has been stabilized. (2 months)
 8. Once the storm drain conveying runoff to sediment basin 4 and the earth dike has been installed up to MH 115, construct the depressed areas to the west of Postside Boulevard and install the temporary storm drain to them. (1 week)
 9. Install curb and gutter, sidewalks and base paving. (2 months)
 10. Fine grade site and stabilize disturbed areas in accordance with the specifications for topsoil and permanent seeding. (1 month)
 11. Install surface course. (1 month)
 12. With permission from the sediment control inspector, convert the sediment basins to stormwater management facilities. See sheet 21 for the conversion details. Once the areas draining to them has been stabilized, install the end cap to the low flow pipe as specified on the detail sheets for the stormwater management facilities. The gabion mattresses may be installed at this time. (1 month)

- Notes:**
1. It should be noted that sediment basins 4 and 5 will be backfilled as part of these plans. However, sediment basins 3 and 6 will continue to be used in the future. Basins 3 and 4 will be converted to stormwater management facilities once the entire area draining to them has been developed and stabilized. Contractor must continue to provide positive drainage along the dikes as the fill operation progresses and the earth dikes are relocated.
 2. The sediment control devices must be inspected daily and any damage to the devices must be repaired at the end of each working day.
 3. The owner must prepare an as-built of the stormwater management facilities 3 & 6 and submit it to the Howard Soil Conservation District for review and approval.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways *[Signature]* 6/15/09
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development *[Signature]* 6/24/09
 Date

Chief, Development Engineering Division *[Signature]* 6/19/09
 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] 6-2-09
 Signature of Developer/Builder Date

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

[Signature] 6-2-09
 Engineer's Signature Date

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

[Signature] 6/8/09
 Howard Soil Conservation District Date

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

06/03/09	COUNTOURS, CURB, & SD REVISED IN PARCELS B-5 & J. RECHARGE FACILITIES 1 & 2 ADDED (REPLACEMENT SHEET)	dds
07/01/08	REV. SD PER F-08-54 CHANGES & ADDED REVERTIBLE SLOPE EASEMENT	
DATE	REVISION	BY APPR.

PREPARED FOR:
 G&R / WESSEL LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 12875
 EXPIRATION DATE: MAY 26, 2010

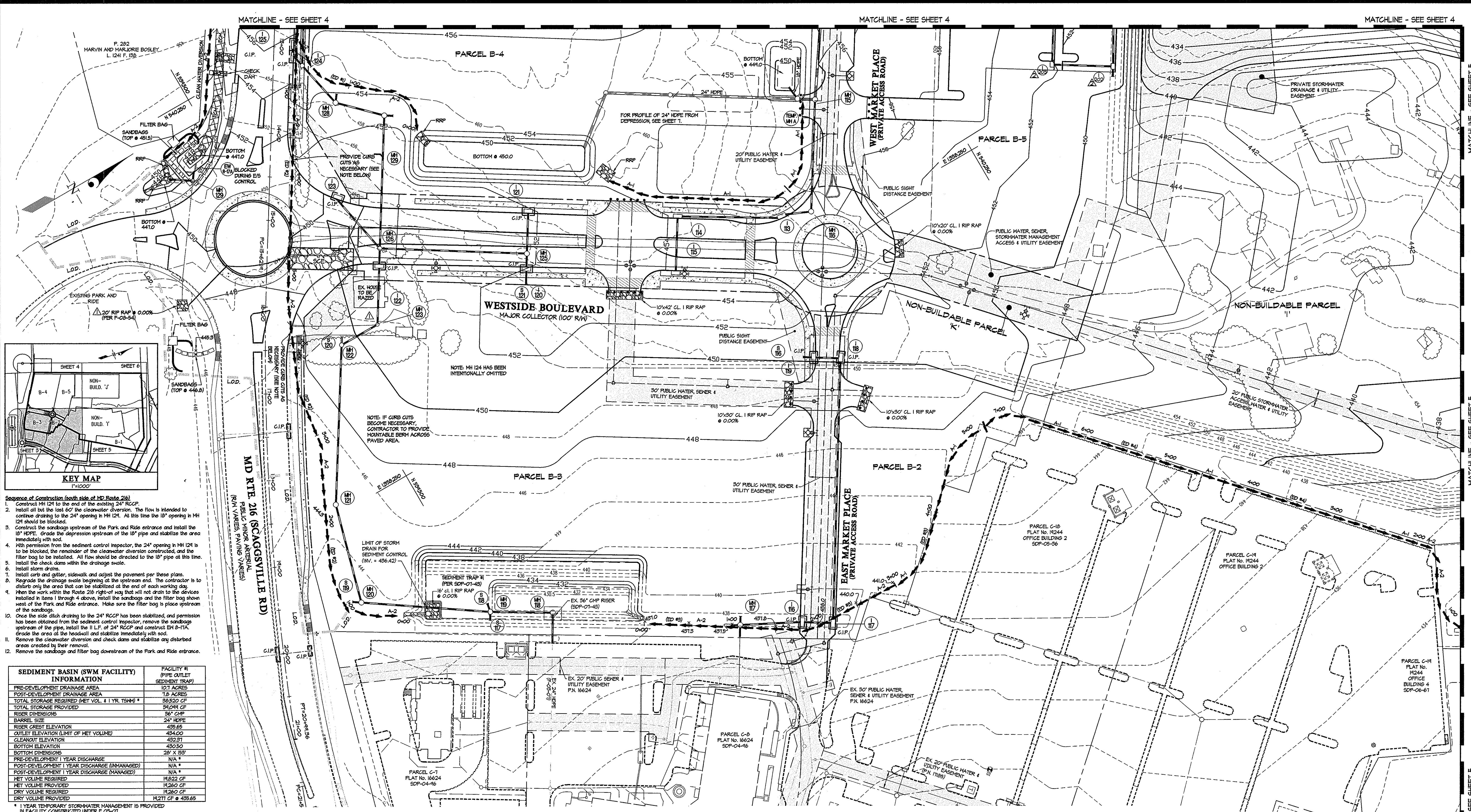


REVISED OVERALL SEDIMENT CONTROL PLAN
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4
 AND NON-BUILDABLE PARCELS 'T', 'Y', AND 'K'

ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
1"=100'	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
JUNE, 2009	41-21&22 46-3	2 OF 32

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-54



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways *6/15/09*
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development *6/15/09*
 Date
 Chief, Development Engineering Division *6-15-09*
 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 MARKING 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.
6-2-09
 Signature of Developer/Builder Date

ENGINEER'S CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTICED 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.
6/8/09
 Signature of Engineer Date

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 HOWARD SOIL CONSERVATION DISTRICT

LEGEND

SF	SILT FENCE
SSF	SUPER SILT FENCE
---	EARTH DIKE (INITIAL CONDITION)
---	EARTH DIKE (FINAL CONDITION)
---	LIMIT OF DISTURBANCE
---	CURB INLET PROTECTION
---	EROSION CONTROL MATTING
---	STABILIZED CONSTRUCTION ENTRANCE
C.I.P.	CURB INLET PROTECTION
---	EROSION CONTROL MATTING
---	STABILIZED CONSTRUCTION ENTRANCE

CONTRACTOR NOTES:
 1. FOR STORM DRAIN SIZES, SEE F-08-54.
 2. WHERE THE LOD IS NOT SHOWN, THE SEDIMENT CONTROL DEVICES WILL INDICATE THE LIMIT OF DISTURBANCE.
 3. CONTRACTOR MUST TURN ALL SILT FENCE AND SUPER SILT FENCE UPHILL BY 2' IN ELEVATION.
 4. SEE SHEETS 1 & 2 FOR SEDIMENT BASIN DRAINAGE AREA INFORMATION.

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL AVE. - SUITE 250 - BETHESDA, MARYLAND 20814
 TEL: 301-421-4024 FAX: 301-421-4186

06/03/09	A COUNTOURS, CURB, & SD REVISED IN PARCELS 'B-5' AND 'J'. (REPLACEMENT SHEET)	dds
07/01/08	REV SD, PER F-08-54 CHANGES & REV RIP-RAP LENGTH PER SHA COMMENTS	BY APPR.

PREPARED FOR:
 G&R / WESSEL LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 32775
 EXPIRATION DATE: MAY 25, 2010



REVISED SEDIMENT CONTROL PLAN
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4
 AND NON-BUILDABLE PARCELS 'T', 'J', AND 'K'
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
1"=50'	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
JUNE, 2009	41-21&22 46-3	3 OF 3

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-54

Earth Dike Treatment - EARTH DIKE #1					
START STA.	END STA.	% SLOPE	AREA	TOTAL AREA	TREATMENT
4450.00	4400.00	3.78%	0.71 AC.	0.71 AC.	A-2
2400.00	0400.00	10.48%	0.71 AC.	1.69 AC.	A-2

Earth Dike Treatment - EARTH DIKE #2					
START STA.	END STA.	% SLOPE	AREA	TOTAL AREA	TREATMENT
8400.00	6400.00	9.28%	0.24 AC.	0.24 AC.	A-2
6000.00	4000.00	2.12%	0.91 AC.	1.23 AC.	A-2
4000.00	2000.00	1.24%	1.14 AC.	2.41 AC.	A-2
2400.00	0400.00	1.47%	0.42 AC.	3.34 AC.	A-2

Earth Dike Treatment - EARTH DIKE #3					
START STA.	END STA.	% SLOPE	AREA	TOTAL AREA	TREATMENT
5425.00	5400.00	2.10%	0.45 AC.	0.45 AC.	A-1
3400.00	1400.00	0.91%	1.60 AC.	2.05 AC.	A-2
1400.00	0400.00	0.50%	1.01 AC.	3.06 AC.	A-2

Earth Dike Treatment - EARTH DIKE #4					
START STA.	END STA.	% SLOPE	AREA	TOTAL AREA	TREATMENT
1425.00	4400.00	2.01%	0.25 AC.	0.25 AC.	A-1
4000.00	2000.00	2.27%	0.52 AC.	1.25 AC.	A-1
2400.00	0400.00	1.65%	0.42 AC.	1.67 AC.	A-2

Earth Dike Treatment - EARTH DIKE #5					
START STA.	END STA.	% SLOPE	AREA	TOTAL AREA	TREATMENT
4450.00	4400.00	1.50%	0.25 AC.	0.25 AC.	A-1
4000.00	2000.00	0.50%	0.44 AC.	0.69 AC.	A-1
2400.00	0400.00	0.50%	0.33 AC.	1.02 AC.	A-1

Earth Dike Treatment - EARTH DIKE #6					
START STA.	END STA.	% SLOPE	AREA	TOTAL AREA	TREATMENT
14400.00	12400.00	1.07%	2.36 AC.	2.36 AC.	A-1
12400.00	10400.00	9.07%	2.40 AC.	5.25 AC.	A-3
10400.00	8400.00	2.39%	4.66 AC.	9.42 AC.	B-1
8400.00	6400.00	0.80%	1.52 AC.	11.24 AC.	ENGINEERED
6400.00	4400.00	0.50%	1.15 AC.	12.40 AC.	ENGINEERED
4400.00	2400.00	0.50%	0.54 AC.	12.74 AC.	ENGINEERED
2400.00	0400.00	0.50%	0.41 AC.	13.25 AC.	ENGINEERED

Earth Dike Treatment - EARTH DIKE #7					
START STA.	END STA.	% SLOPE	AREA	TOTAL AREA	TREATMENT
11425.00	10400.00	0.50%	0.42 AC.	0.42 AC.	A-1
10400.00	8400.00	2.50%	0.82 AC.	1.23 AC.	A-2
8400.00	6400.00	1.27%	1.44 AC.	3.19 AC.	A-2
6400.00	4400.00	4.49%	0.98 AC.	4.16 AC.	A-2
4400.00	2400.00	3.14%	1.16 AC.	5.32 AC.	A-2
2400.00	0400.00	1.00%	0.52 AC.	5.84 AC.	B-1

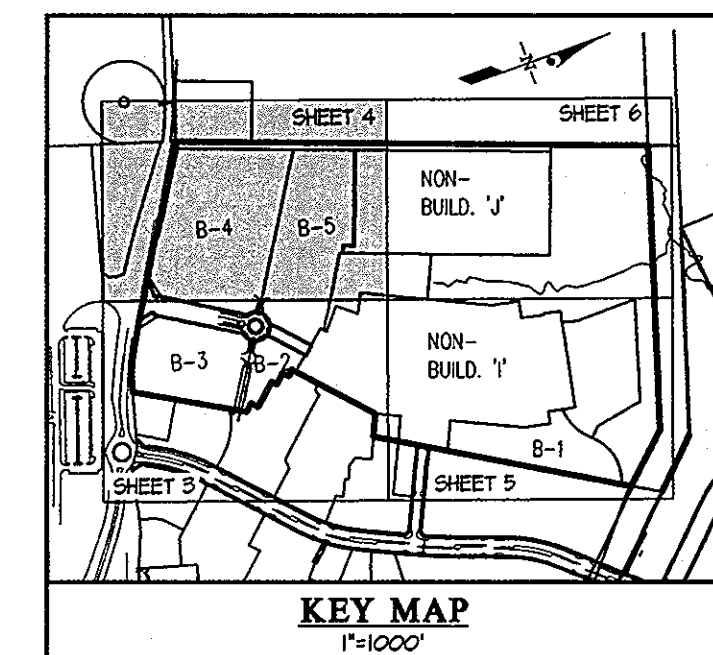
Earth Dike Treatment - EARTH DIKE #8					
START STA.	END STA.	% SLOPE	AREA	TOTAL AREA	TREATMENT
14480.00	12400.00	9.66%	0.25 AC.	0.25 AC.	A-2
12400.00	10400.00	7.77%	1.41 AC.	1.66 AC.	A-2
10400.00	8400.00	1.10%	0.74 AC.	2.40 AC.	A-2
8400.00	6400.00	6.01%	0.85 AC.	3.19 AC.	A-3
6400.00	4400.00	3.19%	2.21 AC.	4.94 AC.	A-3
4400.00	2400.00	1.59%	1.11 AC.	6.05 AC.	B-1
2400.00	0400.00	10.14%	0.36 AC.	6.42 AC.	B-1

Earth Dike Treatment - EARTH DIKE #9					
START STA.	END STA.	% SLOPE	AREA	TOTAL AREA	TREATMENT
16480.00	14400.00	2.49%	1.13 AC.	1.13 AC.	A-1
14400.00	12400.00	5.47%	0.43 AC.	2.09 AC.	A-2
12400.00	10400.00	0.80%	2.34 AC.	4.64 AC.	A-2
10400.00	8400.00	0.50%	2.20 AC.	6.84 AC.	B-1
8400.00	6400.00	0.79%	0.42 AC.	7.26 AC.	B-1
6400.00	4400.00	0.92%	0.62 AC.	7.87 AC.	B-1
4400.00	2400.00	0.79%	1.43 AC.	9.30 AC.	B-1
2400.00	0400.00	6.00%	0.26 AC.	10.15 AC.	B-2

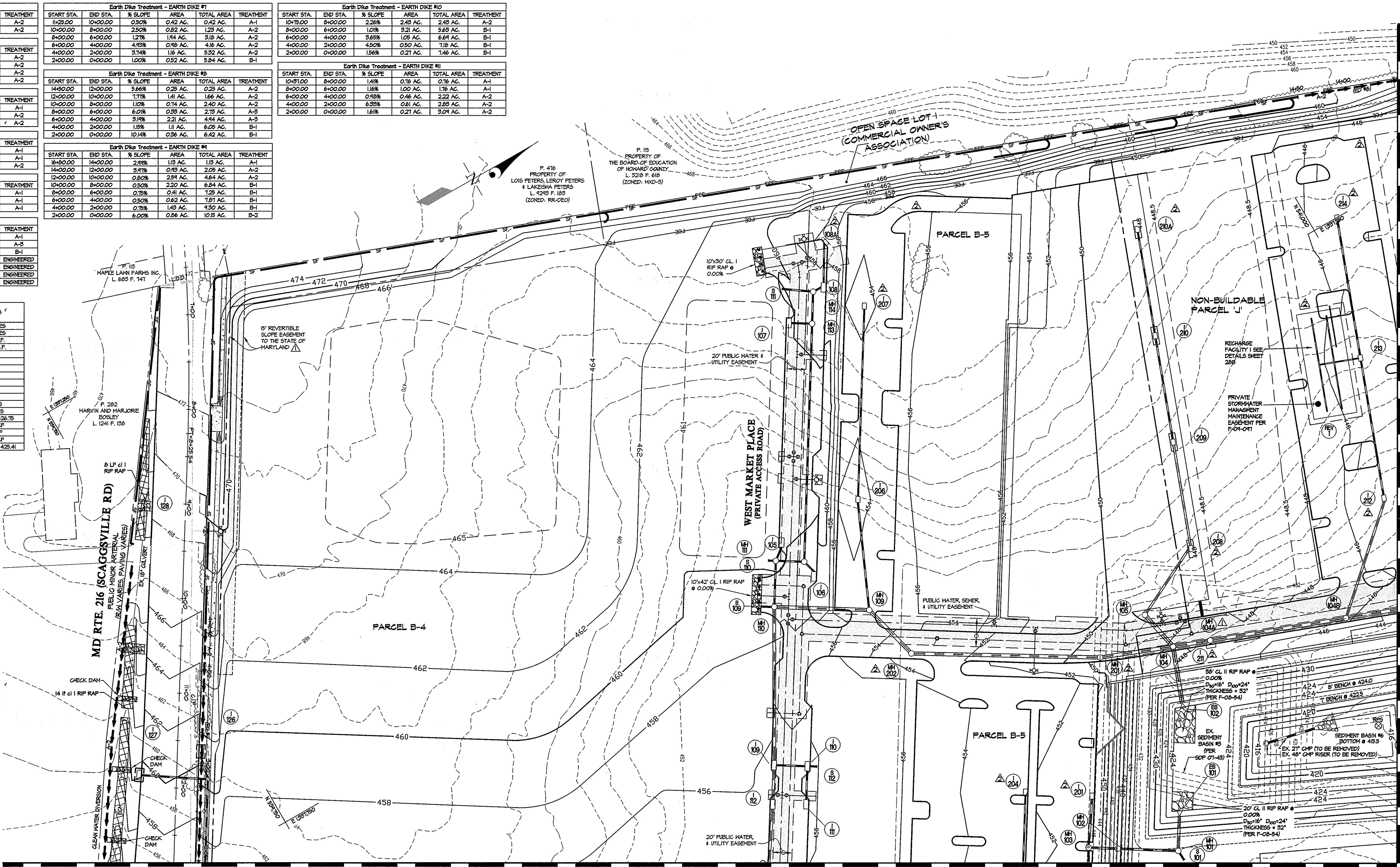
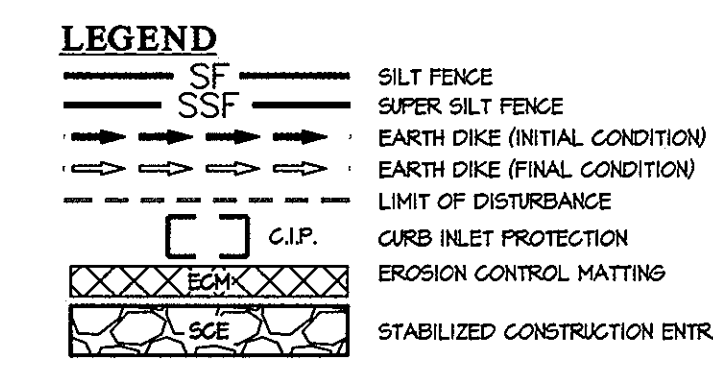
Earth Dike Treatment - EARTH DIKE #10					
START STA.	END STA.	% SLOPE	AREA	TOTAL AREA	TREATMENT
10475.00	8400.00	2.26%	2.43 AC.	2.43 AC.	A-2
8400.00	6400.00	1.01%	3.21 AC.	5.63 AC.	B-1
6400.00	4400.00	3.65%	1.05 AC.	6.64 AC.	B-1
4400.00	2400.00	4.50%	0.50 AC.	7.19 AC.	B-1
2400.00	0400.00	1.56%	0.21 AC.	7.46 AC.	B-1

Earth Dike Treatment - EARTH DIKE #11					
START STA.	END STA.	% SLOPE	AREA	TOTAL AREA	TREATMENT
10475.00	8400.00	1.41%	0.76 AC.	0.76 AC.	A-1
8400.00	6400.00	1.16%	1.00 AC.	1.76 AC.	A-1
6400.00	4400.00	0.48%	0.46 AC.	2.22 AC.	A-2
4400.00	2400.00	6.25%	0.61 AC.	2.83 AC.	A-2
2400.00	0400.00	1.61%	0.21 AC.	3.04 AC.	A-2

SEDIMENT BASIN (SWM FACILITY) INFORMATION		BASIN #6
PRE-DEVELOPMENT DRAINAGE AREA		27.0 ACRES
POST-DEVELOPMENT DRAINAGE AREA		25.8 ACRES
TOTAL STORAGE REQUIRED (NET VOLUME @ 1 YR. TSNM)		141,244 C.F.
TOTAL STORAGE PROVIDED		200,193 C.F.
RISER DIMENSIONS		2'-4 1/2'
BARREL SIZE		2'-4 1/2"
RISER CREST ELEVATION		424.75
OUTLET ELEVATION (LIMIT OF NET VOLUME)		424.00
CLEANOUT ELEVATION		419.75
BOTTOM ELEVATION		415.50
BOTTOM DIMENSIONS		55'x15'
PRE-DEVELOPMENT 1 YEAR DISCHARGE (UNMANAGED)		6.24 CFS
POST-DEVELOPMENT 1 YEAR DISCHARGE (UNMANAGED)		66.34 CFS
POST-DEVELOPMENT 1 YEAR DISCHARGE (MANAGED)		5.64 CFS @ 426.75
NET VOLUME REQUIRED (D.A. x 1800 C.F.)		49,800 C.F.
NET VOLUME PROVIDED		101,914 C.F.
DRY VOLUME REQUIRED (D.A. x 1800 C.F.)		49,800 C.F.
DRY VOLUME PROVIDED		49,600 C.F. @ 425.41



- CONTRACTOR NOTES:
- FOR STORM DRAIN SIZES, SEE F-08-54.
 - WHERE THE LOD IS NOT SHOWN, THE SEDIMENT CONTROL DEVICES WILL INDICATE THE LIMIT OF DISTURBANCE.
 - CONTRACTOR MUST TURN ALL SILT FENCE AND SUPER SILT FENCE UPHILL BY 2' IN ELEVATION.
 - SEE SHEETS 11 & 12 FOR SEDIMENT BASIN DRAINAGE AREA INFORMATION.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Date: 6/15/09

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 Date: 6/21/09

APPROVED: DEVELOPMENT ENGINEERING DIVISION
 Chief, Development Engineering Division
 Date: 6-19-09

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: 6-2-09

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 NOTICED 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: [Signature]
 Date: 6/8/09

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

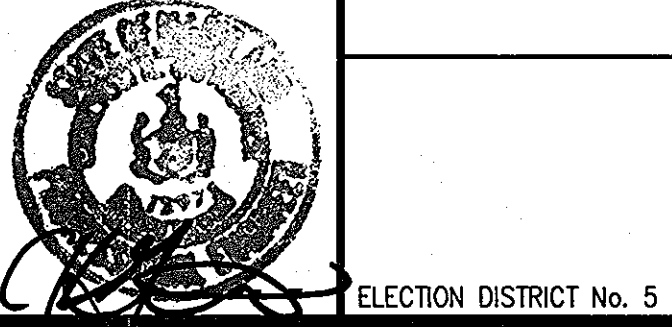
Signature of District: [Signature]
 Date: 6/8/09

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURNSVILLE OFFICE PARK
 BURNSVILLE, MARYLAND 21039
 TEL: 301-421-4024 BALT. 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.
06/03/09	CONTOURS, CURB, & SD REVISED IN PARCELS 'B-5' & 'J'. RECHARGE FACILITY 1 ADDED (REPLACEMENT SHEET)	dds	
07/01/08	REV SD PER F-08-54 CHANGES & ADDED REVERTIBLE SLOPE ESM.		

PREPARED FOR:
 G&R / WESSEL LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975
 EXPIRATION DATE: MAY 28, 2010



REVISED SEDIMENT CONTROL PLAN
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4
 AND NON-BUILDABLE PARCELS 'J', 'I', AND 'K'

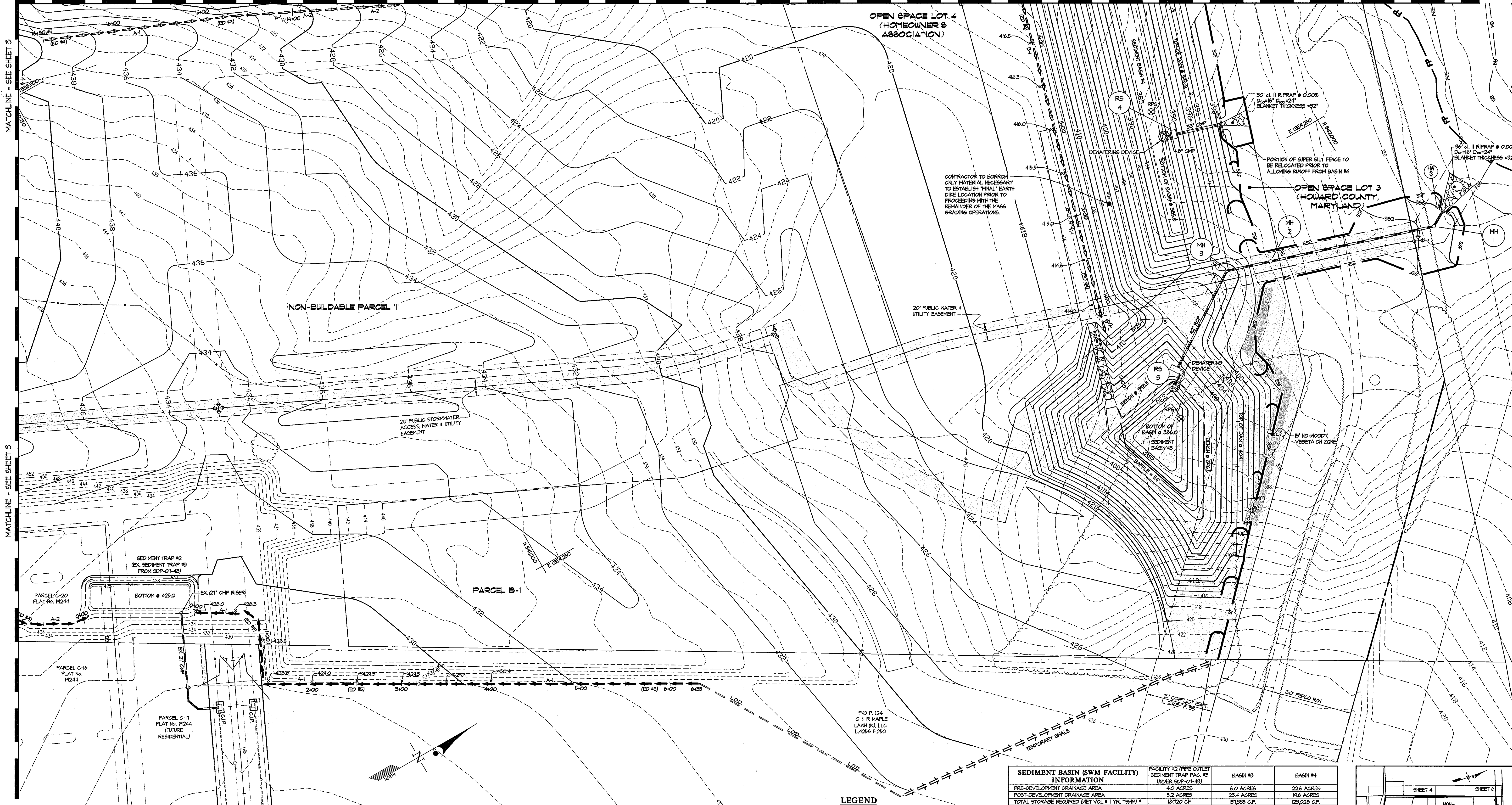
SCALE: 1"=50'
 ZONING: MXD-3
 G. L. W. FILE NO.: 06081

DATE: JUNE, 2009
 TAX MAP - GRID: 41-21&22 46-3
 SHEET: 4 OF 32

HOWARD COUNTY, MARYLAND

PIPE DIAMETER	MH-101 THRU ES-101	MH-104 THRU ES-102
PIPE LENGTH	24'	45'
PIPE SLOPE	3.4%	5.7%
Qc	1.00%	1.25%
Qo	24.6 cfs	174.4 cfs
Vo	20.0 cfs	167.1 cfs
D10	8.8 ft/sec.	13.3 ft/sec.
RIFRAP TYPE	class II	class II
RIFRAP LENGTH	20 IF	38 IF

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-54



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter Z. Hall 2-1-07
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cynthia Hantz 2/15/08
 Chief, Division of Land Development Date

David Deussen 2/15/08
 Chief, Development Engineering Division 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 PERSONS ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 1-11-08
 Signature of Developer/Builder Date

ENGINEER'S CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTICED 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.

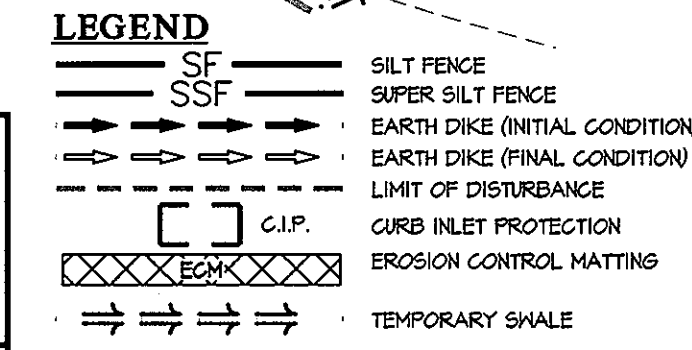
[Signature] 1-11-08
 Engineer's Signature Date

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 1/22/08
 Howard Soil Conservation District Date

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

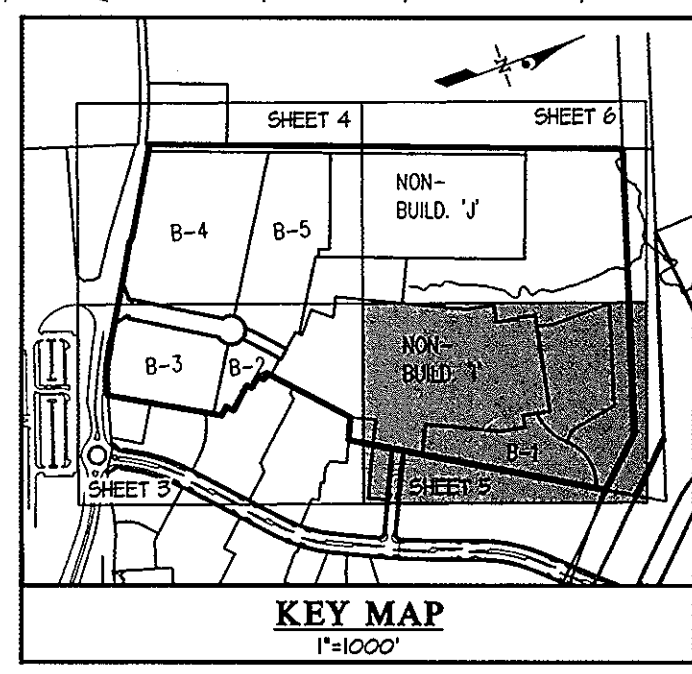
[Signature] Date
 Natural Resources Conservation Service Date



CONTRACTOR NOTES:
 1. FOR STORM DRAIN SIZES, SEE F-08-04.
 2. WHERE THE L.O.D. IS NOT SHOWN, THE SEDIMENT CONTROL DEVICES WILL INDICATE THE LIMIT OF DISTURBANCE.
 3. CONTRACTOR MUST TURN ALL SILT FENCE AND SUPER SILT FENCE UPHILL BY 2" IN ELEVATION.
 4. SEE SHEETS 11 & 12 FOR SEDIMENT BASIN DRAINAGE AREA INFORMATION.

SEDIMENT BASIN (SWM FACILITY) INFORMATION		FACILITY #2 (PIPE OUTLET SEDIMENT TRAP FAC. #3 UNDER SDF-01-43)	BASIN #3	BASIN #4
PRE-DEVELOPMENT DRAINAGE AREA	4.0 ACRES	4.0 ACRES	6.0 ACRES	22.6 ACRES
POST-DEVELOPMENT DRAINAGE AREA	5.2 ACRES	5.2 ACRES	11.6 ACRES	11.6 ACRES
TOTAL STORAGE PROVIDED (NET VOL. @ 1 YR. TSWM) *	18,120 CF	18,120 CF	17,135 CF	125,028 CF
TOTAL STORAGE PROVIDED	18,004 CF	18,004 CF	17,642 CF	125,480 CF
RISER DIMENSIONS	21" CMP	21" CMP	15" x 6"	84" CMP
BARREL SIZE	21" CMP	21" CMP	30"	30"
RISER CREST ELEVATION	425.40	425.40	421.15	395.75
OUTLET ELEVATION (LIMIT OF NET VOLUME)	423.55	423.55	394.30	394.30
CLEANOUT ELEVATION	426.35	426.35	394.85	397.15
BOTTOM ELEVATION	425.00	425.00	396.00	395.00
BOTTOM DIMENSIONS	27x10'	27x10'	VARIES	16x24'
PRE-DEVELOPMENT 1 YEAR DISCHARGE	N/A *	N/A *	1.91 CFS	2.92 CFS
POST-DEVELOPMENT 1 YEAR DISCHARGE (UNMANAGED)	N/A *	N/A *	59.62 CFS	46.71 CFS
POST-DEVELOPMENT 1 YEAR DISCHARGE (MANAGED)	N/A *	N/A *	1.41 CFS @ 401.15	2.42 CFS @ 393.70
NET VOLUME REQUIRED	4360 CF	4360 CF	42120 CF	40680 CF
NET VOLUME PROVIDED	4344 CF	4344 CF	42471 CF	41932 CF
DRY VOLUME REQUIRED	4360 CF	4360 CF	42120 CF	40680 CF
DRY VOLUME PROVIDED	4360 CF @ 429.40	4360 CF @ 429.40	42120 CF @ 391.51	40680 CF @ 393.48

* 1 YEAR TEMPORARY STORM-WATER MANAGEMENT IS PROVIDED IN FACILITY CONSTRUCTED UNDER F-08-01.



GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3609 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK
 BURTNSVILLE, MARYLAND 20886
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DES. DEV.	DRN. AML.	CHK. DEV.	DATE	REVISION	BY	APPR.

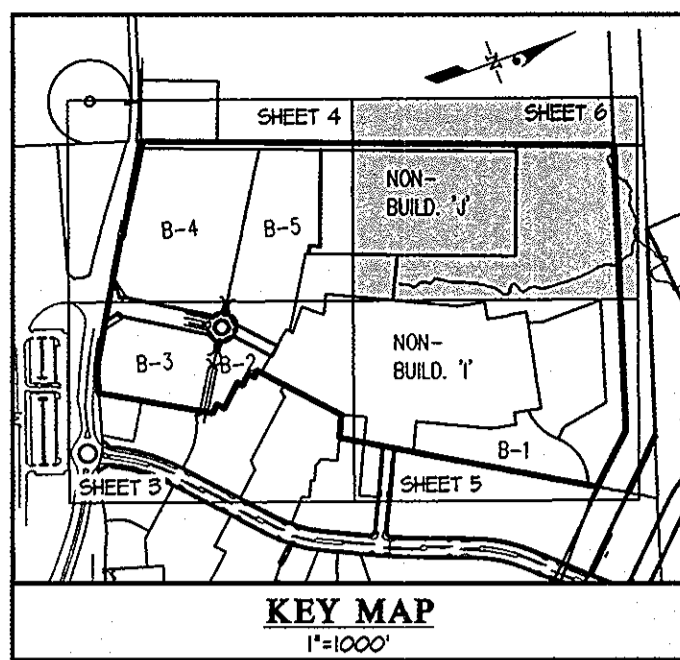
PREPARED FOR:
G & R WOODHOLME LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 13976
 EXPIRATION DATE: MAY 25, 2008

[Signature]
 ELECTION DISTRICT No. 5

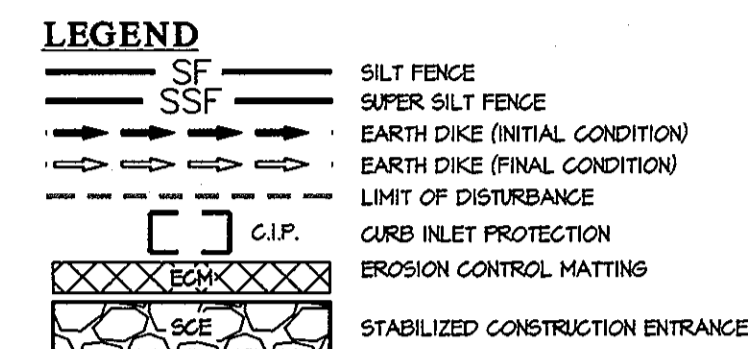
SEDIMENT CONTROL PLAN
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS T, J, AND K
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
1"=50'	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
JAN., 2008	41-21&22 46-3	5 OF 9



PIPE SLOPE DRAIN INFORMATION	PSD-1	PSD-2	PSD-3	PSD-4
DRAINAGE AREA	37.1 AC.	2.2 AC.	4.8 AC.	2.4 AC.
PIPE DIAMETER (QTY. - SIZE)	2 - 24"	1 - 21"	2 - 24"	1 - 21"
UPPER INVERT OF PIPE	435.0	420.5	423.5	435.5
LOWER INVERT OF PIPE	411.0	378.0	344.0	426.0
PIPE LENGTH	104 LF	161 LF	156 LF	44 LF
TOP OF EARTH DIKE	434.0	424.0	427.5	434.0

NOTE:
 1. SEE PIPE SLOPE DRAIN DETAIL, SHEET 6.
 2. ANCHORING TO BE PROVIDED A MINIMUM OF EVERY 10'.
 (SEE ANCHORING DETAIL, SHEET 6.)



CONTRACTOR NOTES:
 1. FOR STORM DRAIN SIZES, SEE F-08-54.
 2. WHERE THE LOD IS NOT SHOWN, THE SEDIMENT CONTROL DEVICES WILL INDICATE THE LIMIT OF DISTURBANCE.
 3. CONTRACTOR MUST TURN ALL SILT FENCE AND SUPER SILT FENCE WHILL BY 2" IN ELEVATION.
 4. SEE SHEETS 11 & 12 FOR SEDIMENT BASIN DRAINAGE AREA INFORMATION.

SEDIMENT BASIN (SWM FACILITY) INFORMATION	
PRE-DEVELOPMENT DRAINAGE AREA	13.4 ACRES
POST-DEVELOPMENT DRAINAGE AREA	17.1 ACRES
TOTAL STORAGE REQUIRED (NET VOLUME @ 1 YR. TSWM)	121,834 C.F.
TOTAL STORAGE PROVIDED	122,044 C.F.
RISER DIMENSIONS	20'x4'
BARREL SIZE	36"
RISER CREST ELEVATION	397.25
OUTLET ELEVATION (LIMIT OF NET VOLUME)	381.60
CLEANOUT ELEVATION	379.80
BOTTOM ELEVATION	378.00
BOTTOM DIMENSIONS	VARIES
PRE-DEVELOPMENT 1 YEAR DISCHARGE	0.95 CFS
POST-DEVELOPMENT 1 YEAR DISCHARGE (UNMANAGED)	42.01 CFS
POST-DEVELOPMENT 1 YEAR DISCHARGE (MANAGED)	0.74 CFS @ 381.01'
NET VOLUME REQUIRED (D.A. x 1800 CF)	31,860 CF
NET VOLUME PROVIDED	33,520 CF
DRY VOLUME REQUIRED (D.A. x 1800 CF)	31,860 CF
DRY VOLUME PROVIDED	31,860 CF @ 323.48'

DEVELOPER'S/BUILDER'S CERTIFICATE
 I, THE 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 EMPLOY 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: 6-2-09

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 EMPLOY 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: 6-2-09

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: 4/8/09

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways: *[Signature]* Date: 6/15/09

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development: *[Signature]* Date: 6/28/09
 Chief, Development Engineering Division: *[Signature]* Date: 6-19-09

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3939 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK
 BURTNSVILLE, MARYLAND 20866
 TEL: 301-421-4024 FAX: 410-880-1820 DC: 301-959-2524 FAX: 301-421-4186



MATCHLINE - SEE SHEET 4 (left), MATCHLINE - SEE SHEET 5 (middle), MATCHLINE - SEE SHEET 5 (right)

DATE	REVISION	BY	APP'R.
06/03/09	CONTOURS, CURB, & SD REVISED IN PARCELS 'B-5' & 'J'. RECHARGE FAC 2 ADDED (REPLACEMENT SHEET)	dds	
07/01/08	REV SD PER F-08-54 CHANGES & REV PIPE SIZES IN SWM BASINS #5 & #6		

PREPARED FOR:
 G&R / WESSEL LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

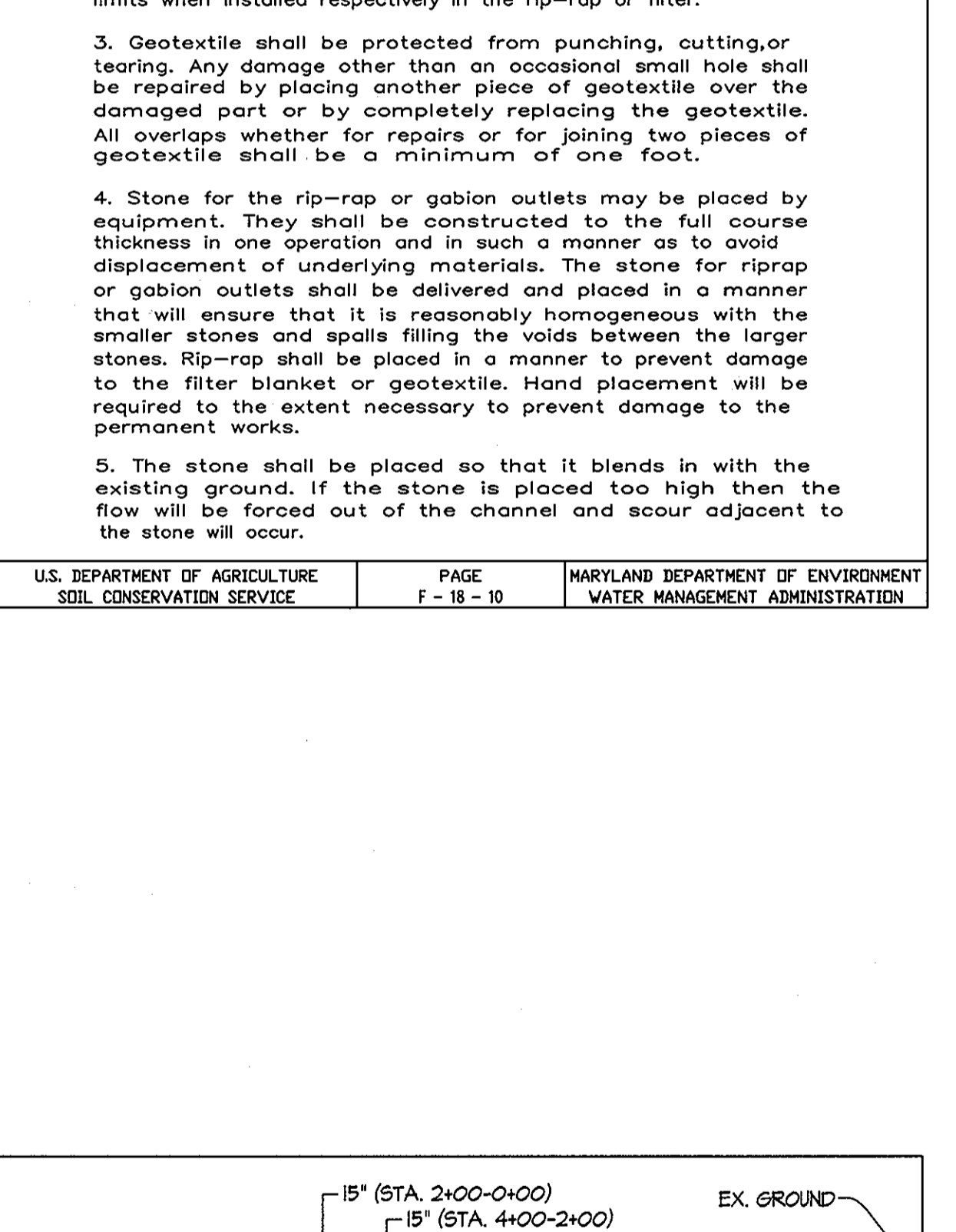
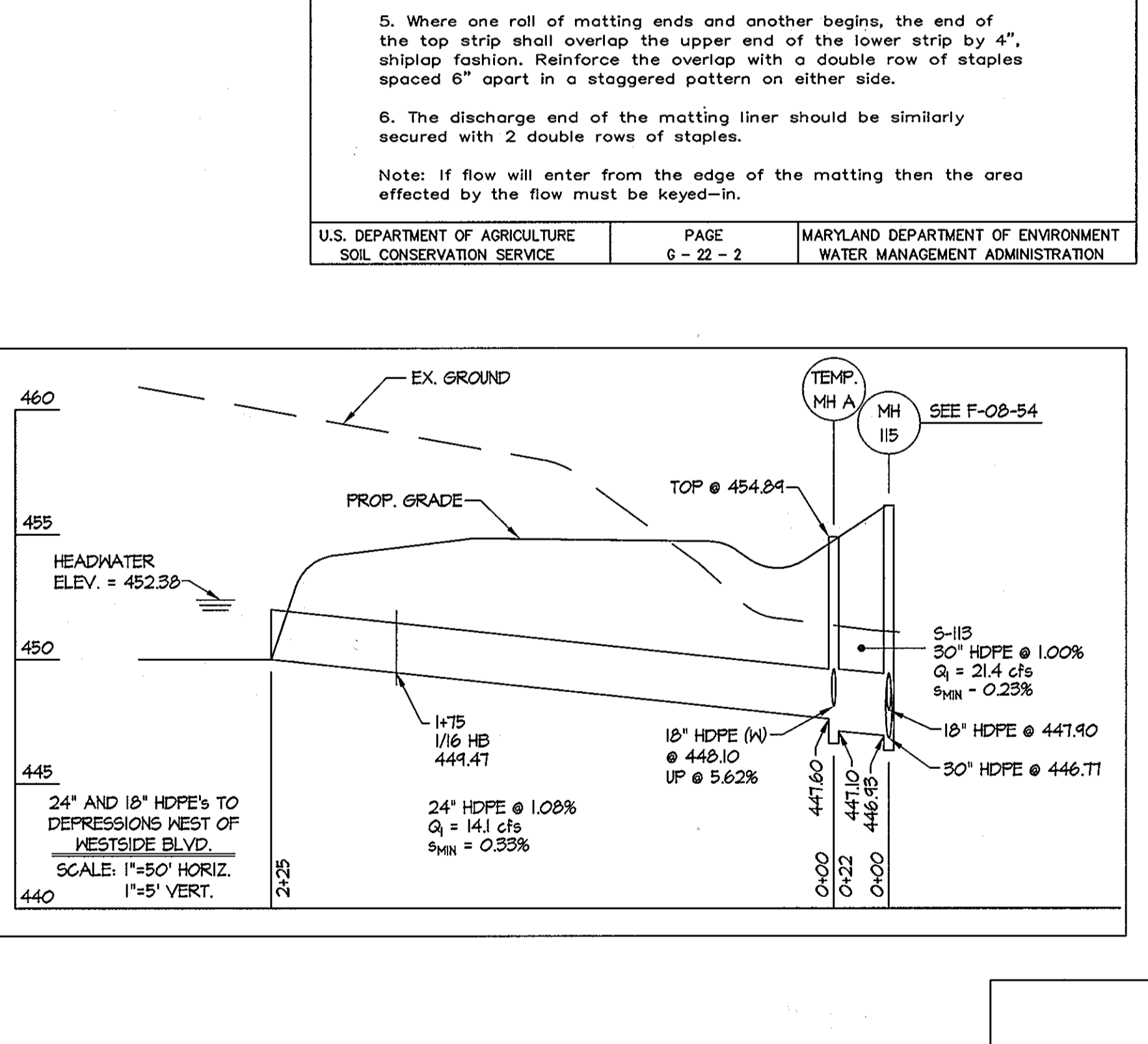
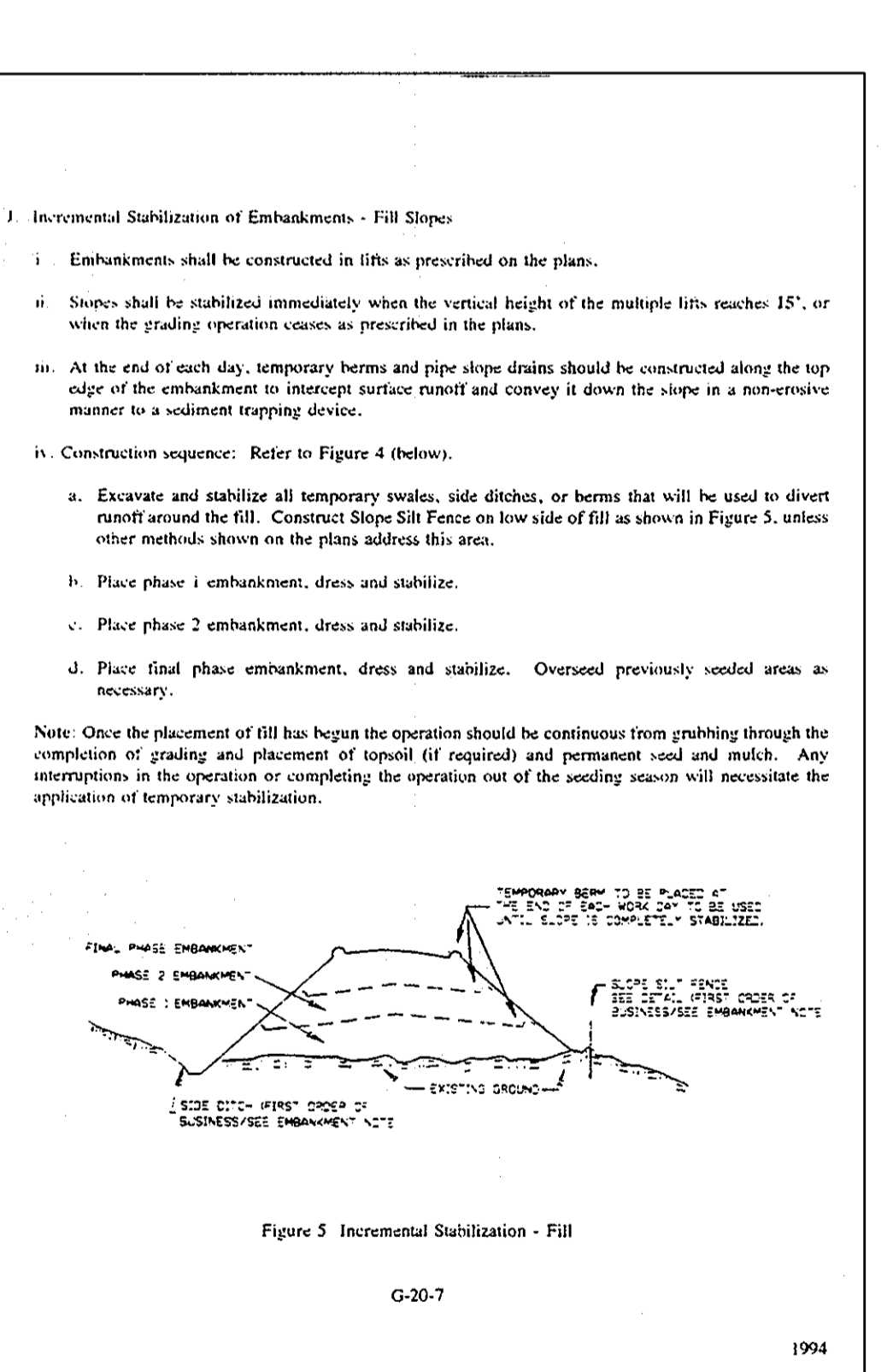
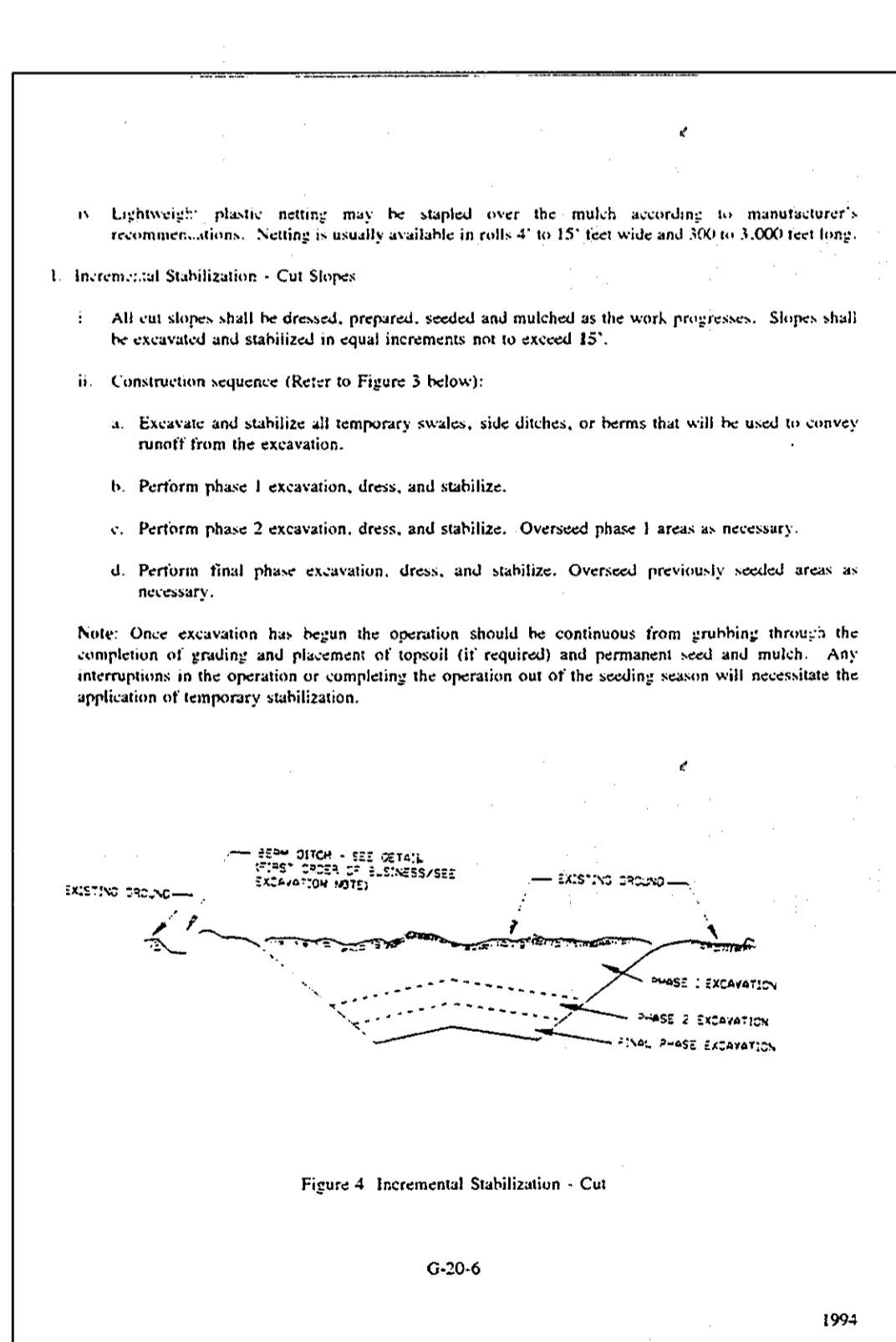
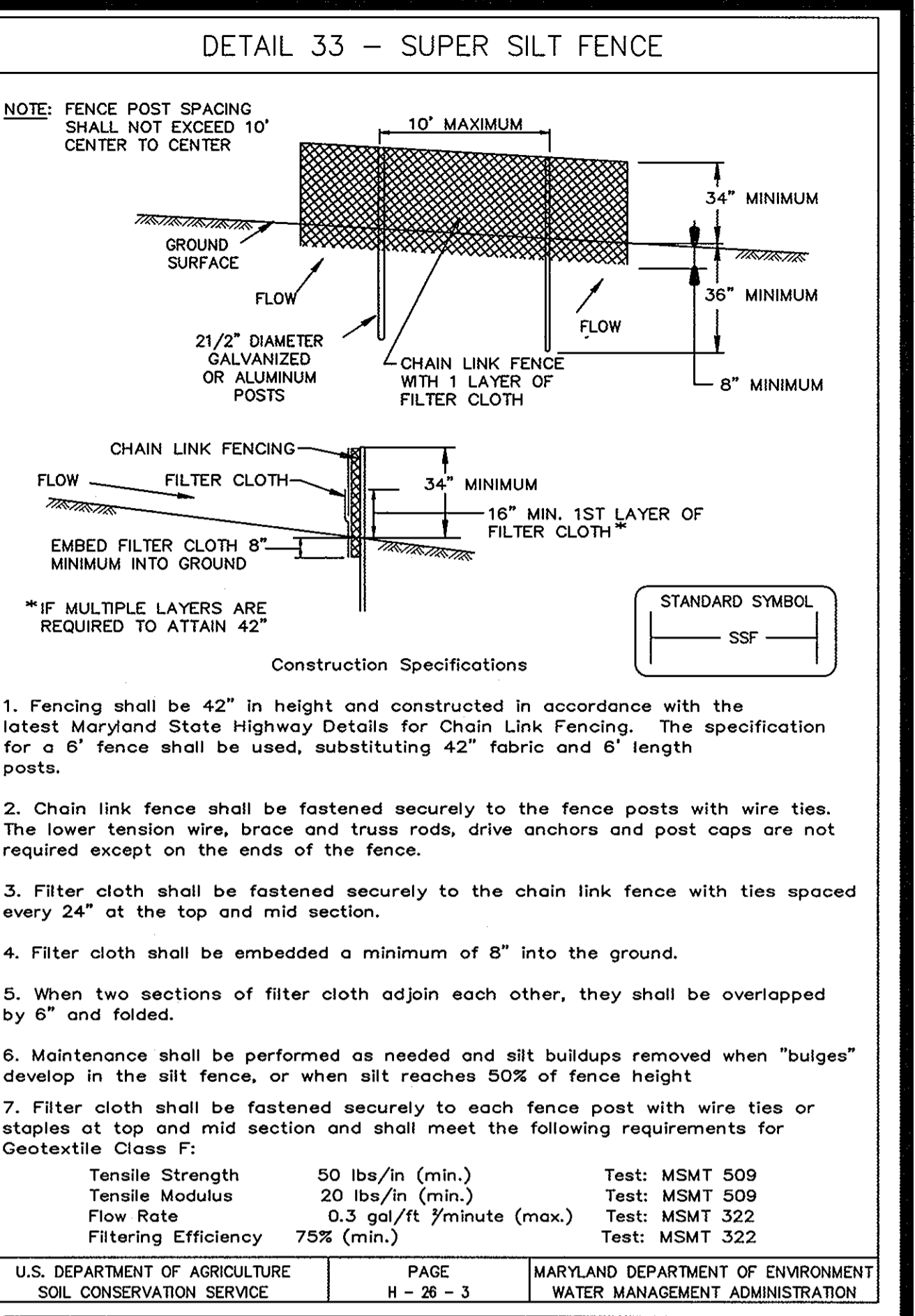
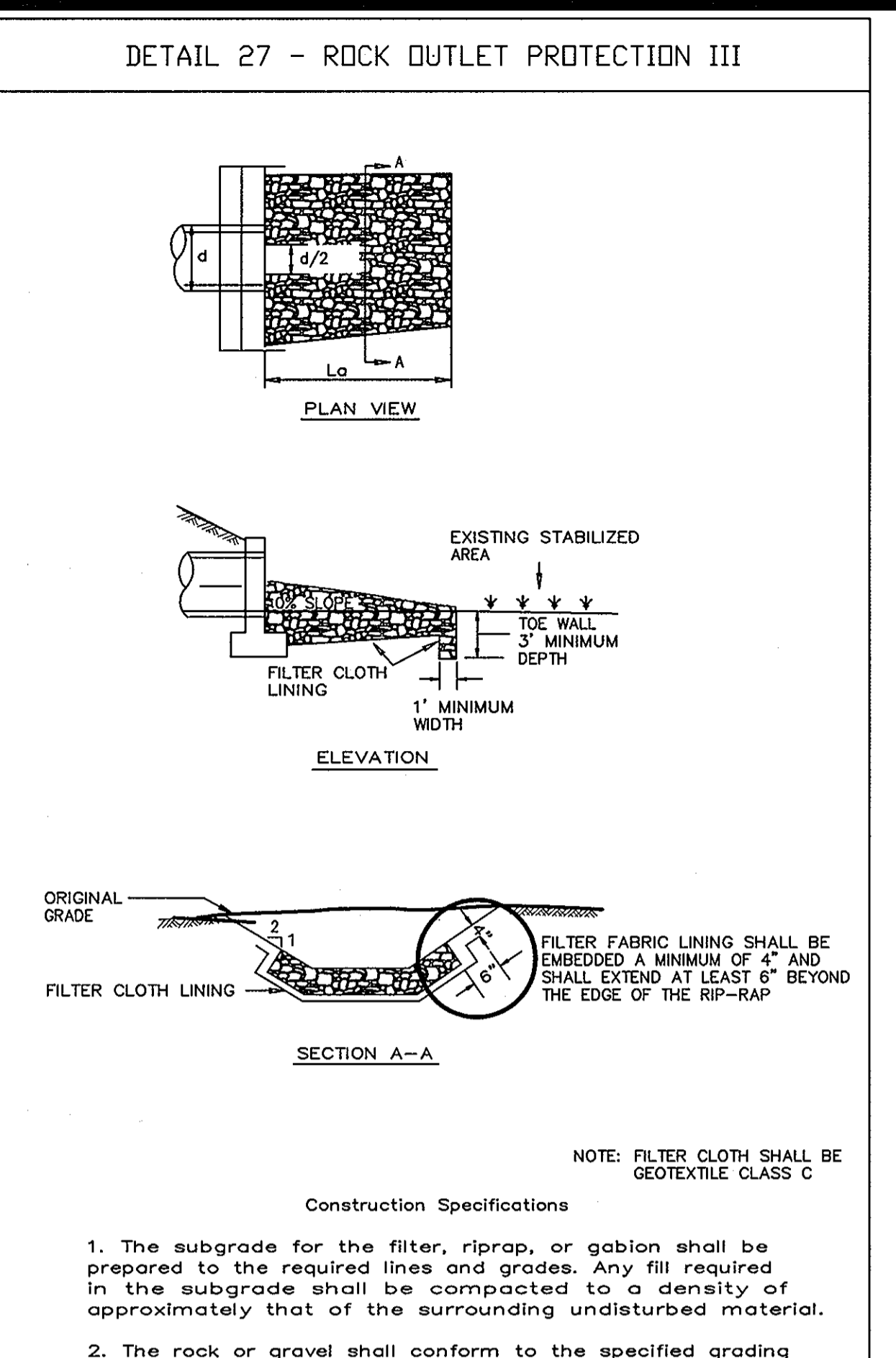
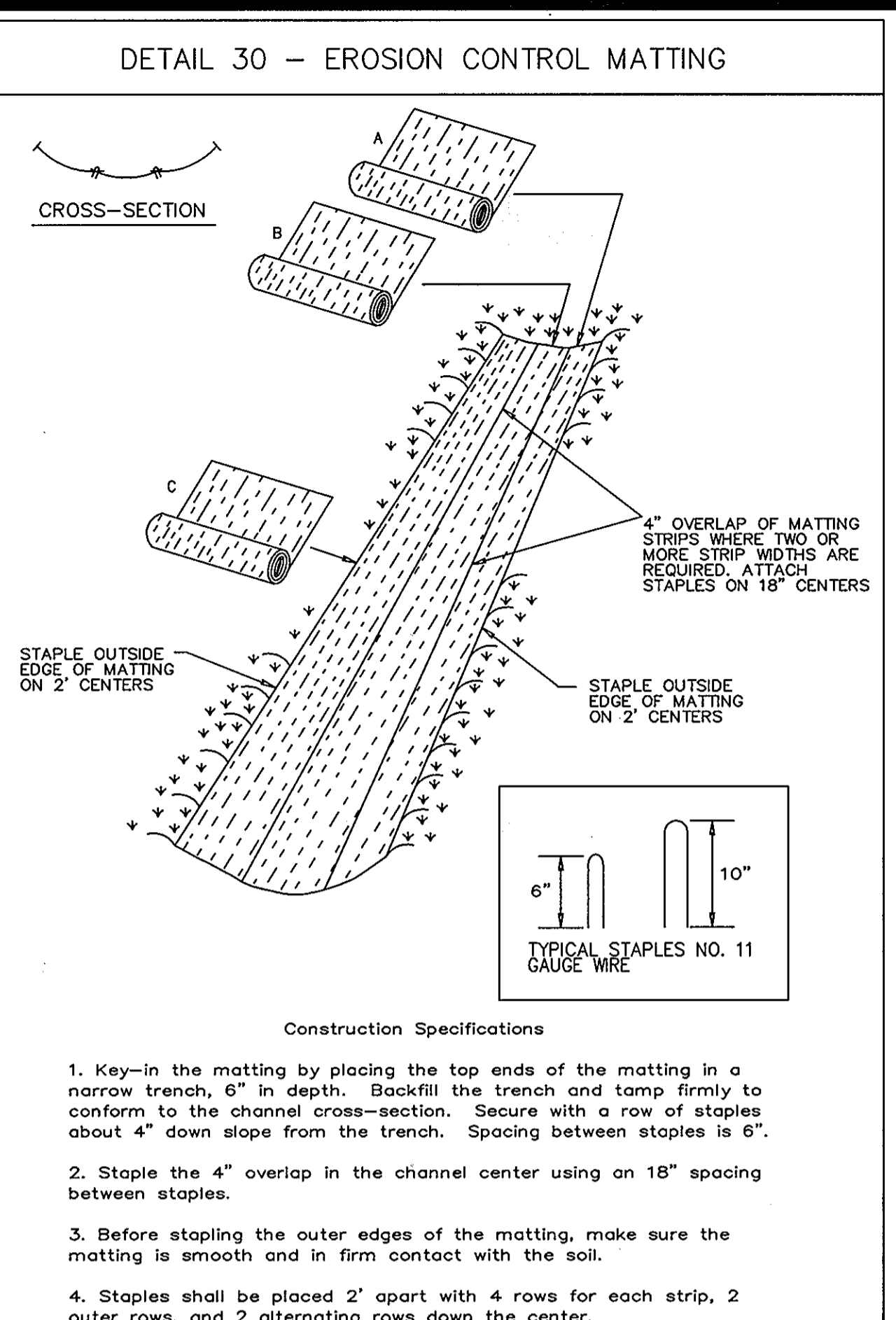
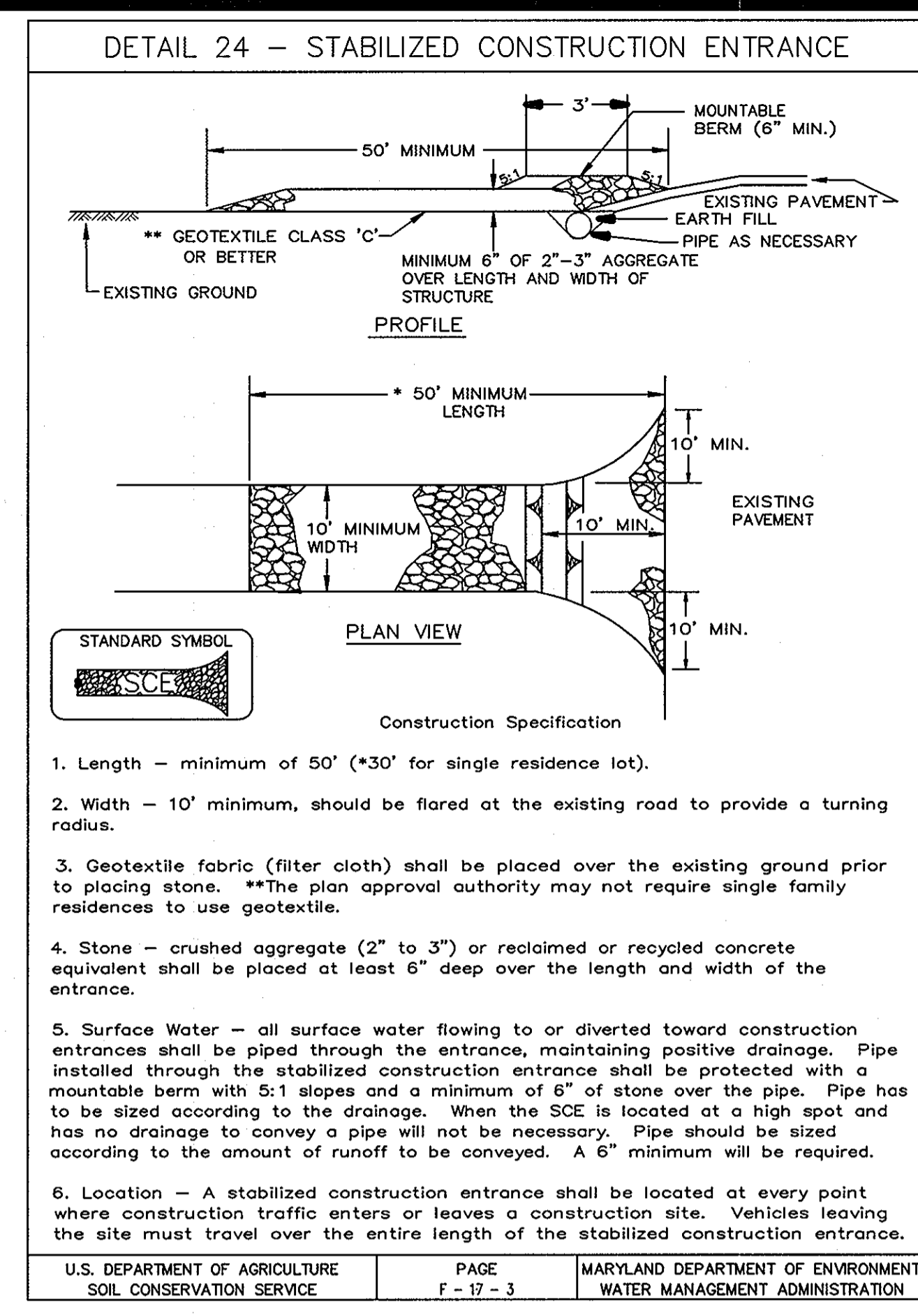
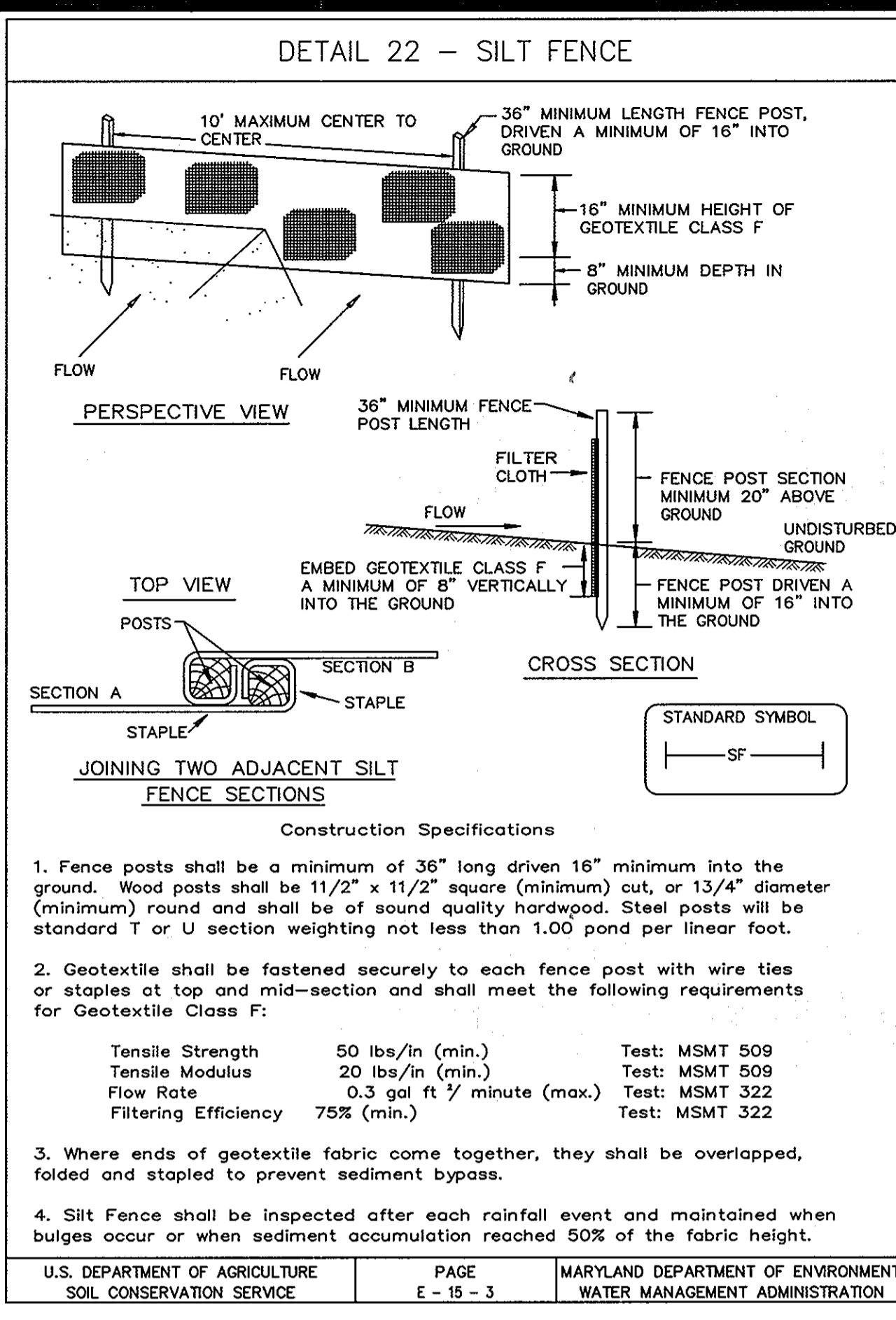
PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
 EXPIRATION DATE: MAY 28, 2010



REVISED SEDIMENT CONTROL PLAN
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B4 THROUGH B8, OPEN SPACE LOTS 1 THROUGH 4
 AND NON-BUILDABLE PARCELS 'J', 'I', AND 'K'
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
1"=50'	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
JUNE, 2009	41-21&22 46-3	6 OF 12

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-54



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Date: 2-10-08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 Date: 2/15/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Development Engineering Division
 Date: 2/15/08

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: 1-11-08

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.

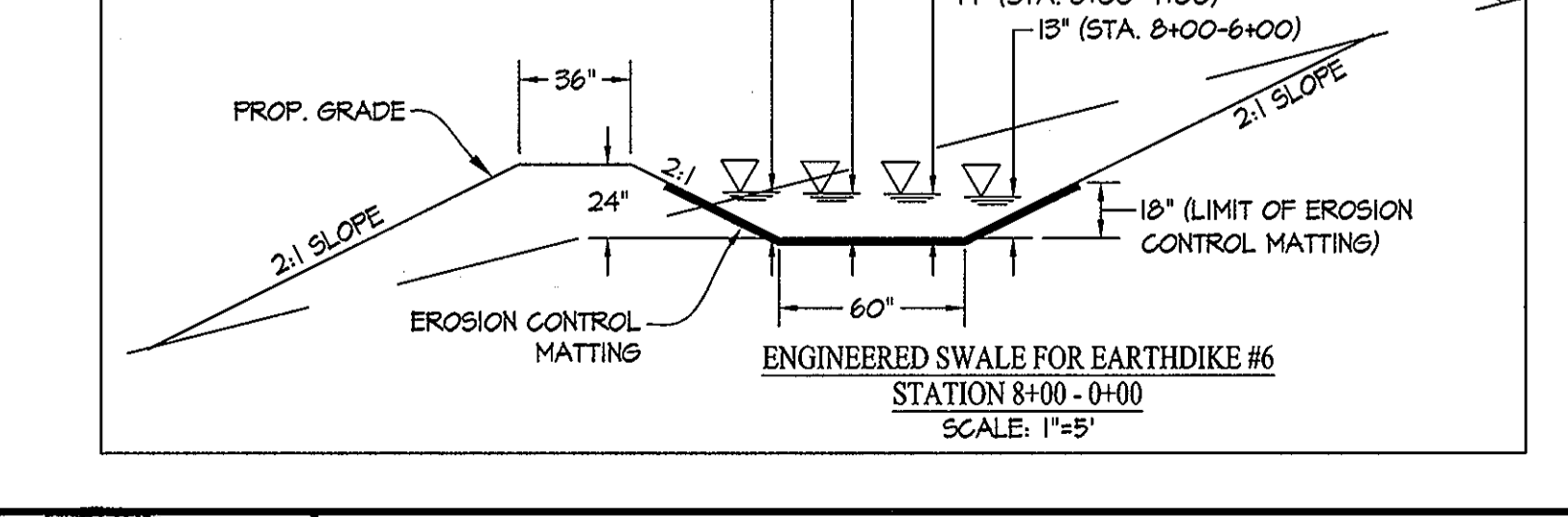
Signature: [Signature]
 Date: 1-11-08

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

Signature: [Signature]
 Date: 1/22/08

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: [Date]



GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONTVILLE OFFICE PARK
 BURTONTVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-980-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DES. DEV.	DRN. AML	CHK. DEV.	DATE	REVISION	BY	APPR.

PREPARED FOR:
 G*P/Weaver LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975
 EXPIRATION DATE: MAY 25, 2008

Signature: [Signature]

SEDIMENT CONTROL DETAILS AND NOTES
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)

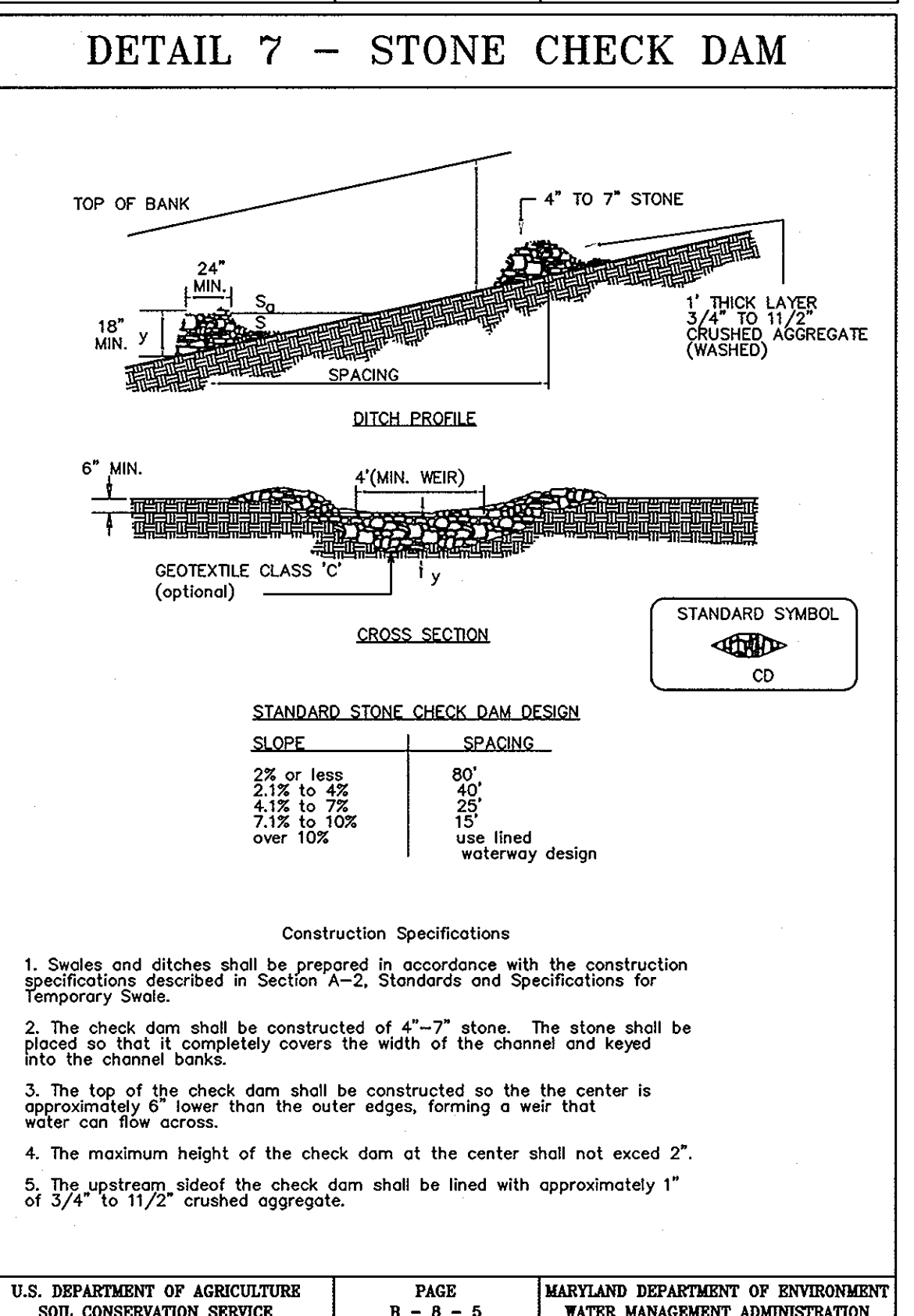
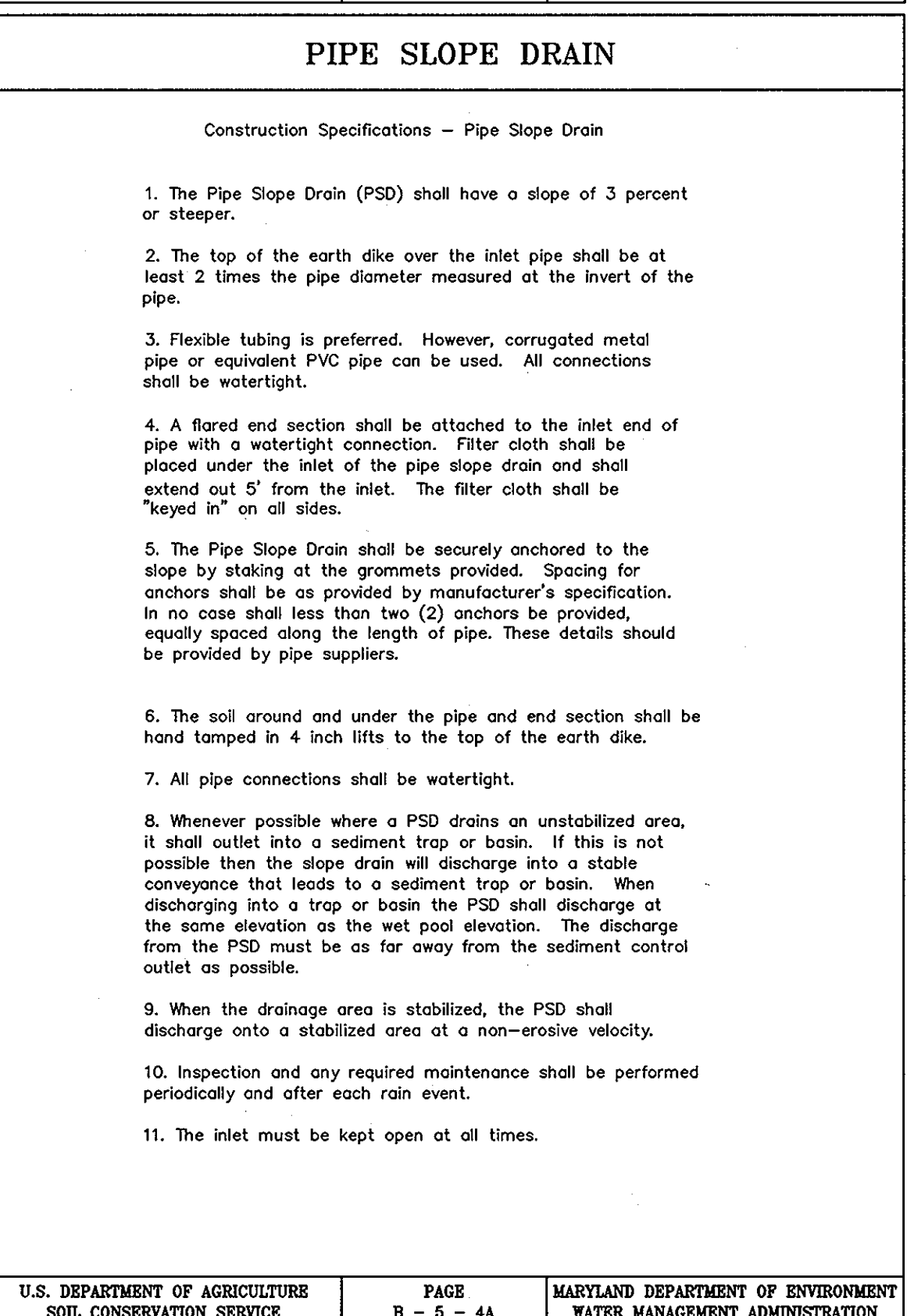
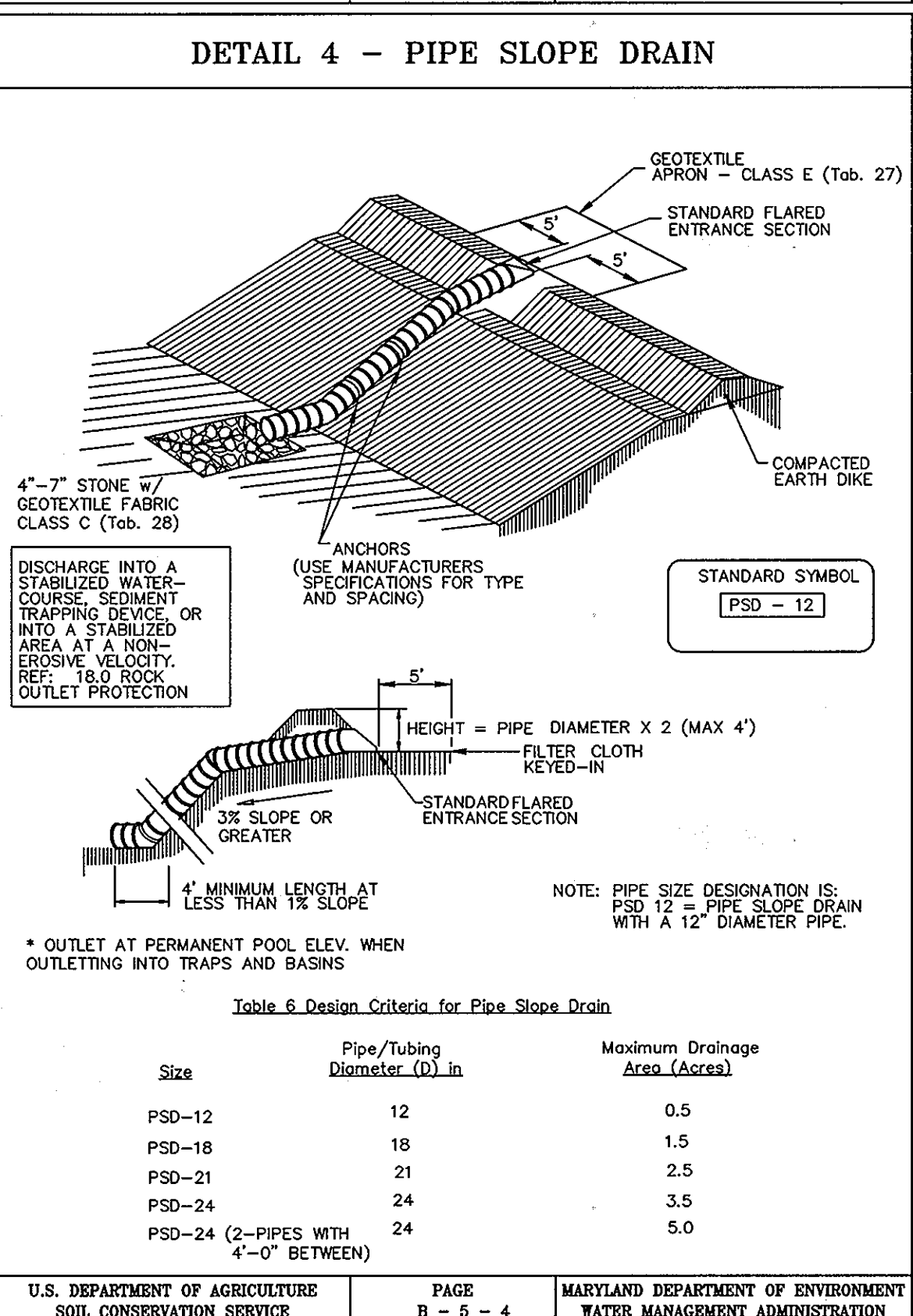
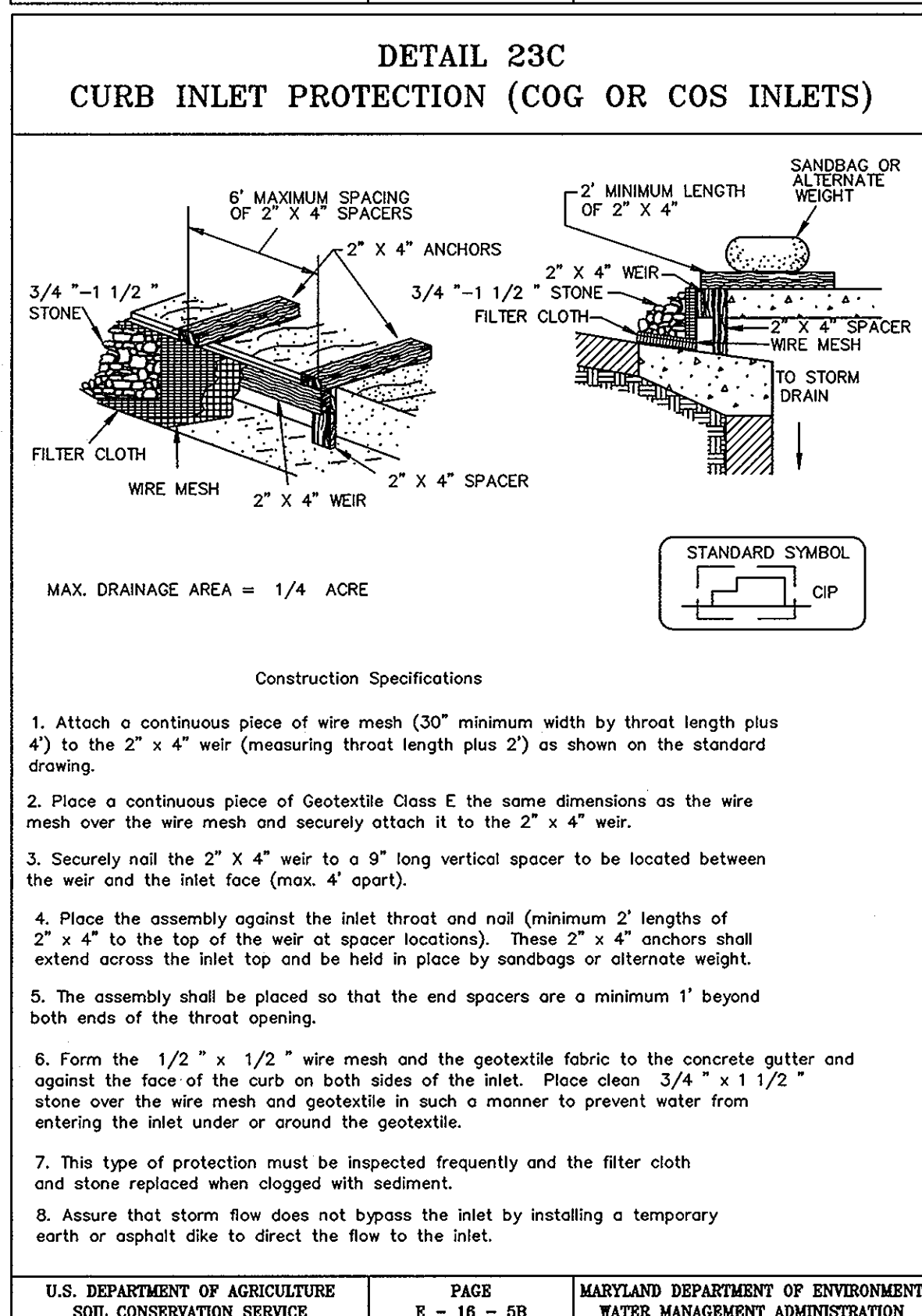
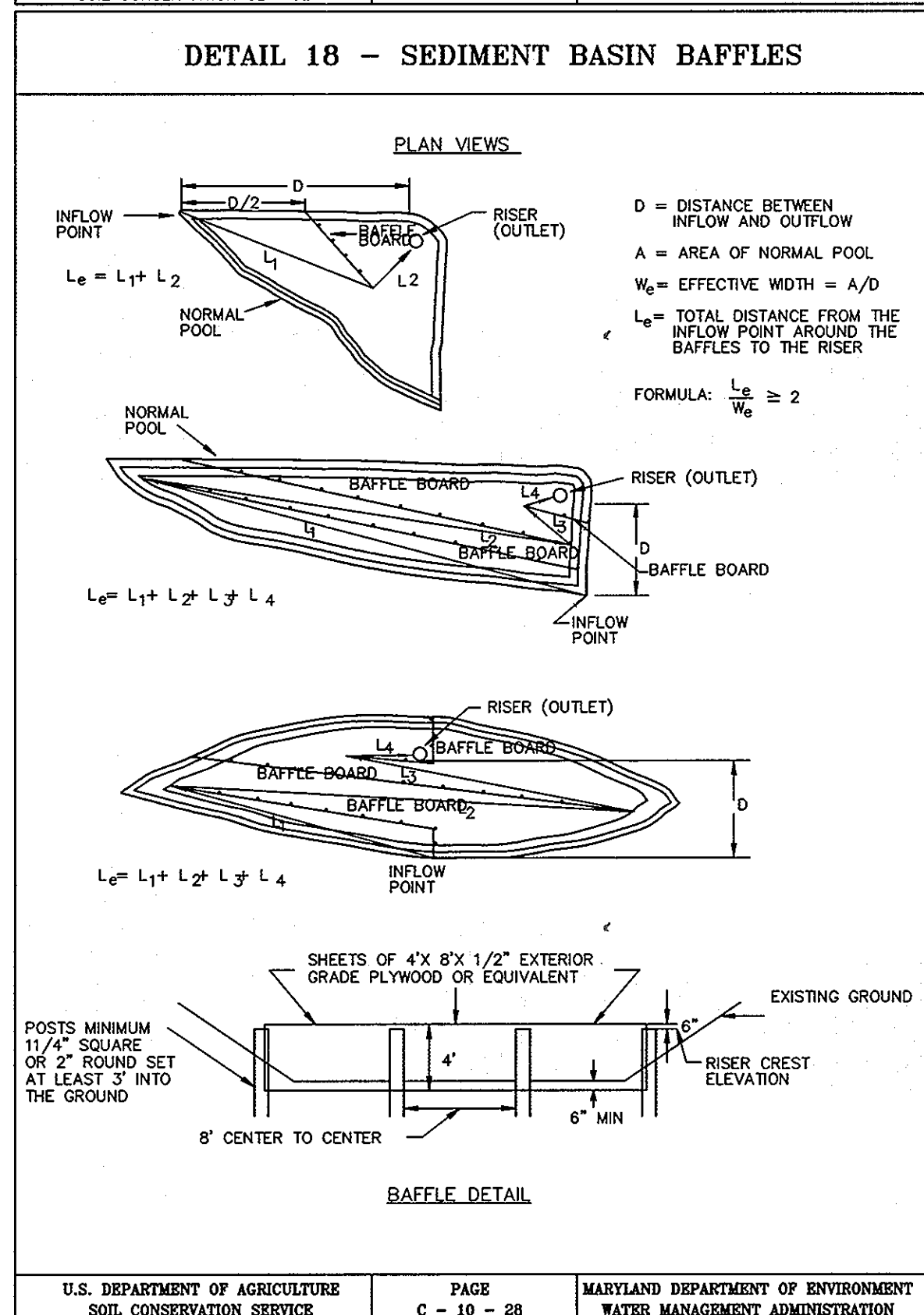
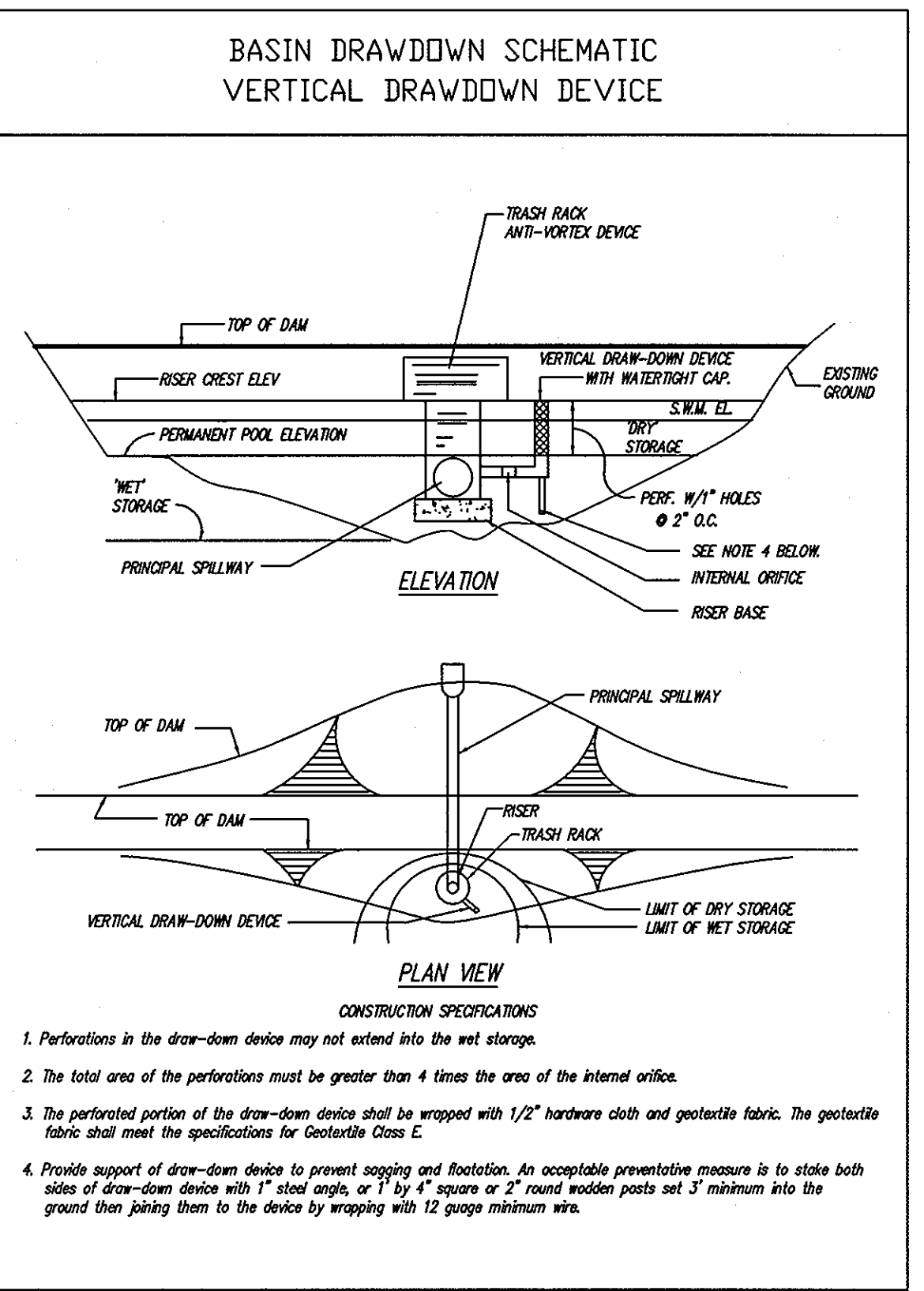
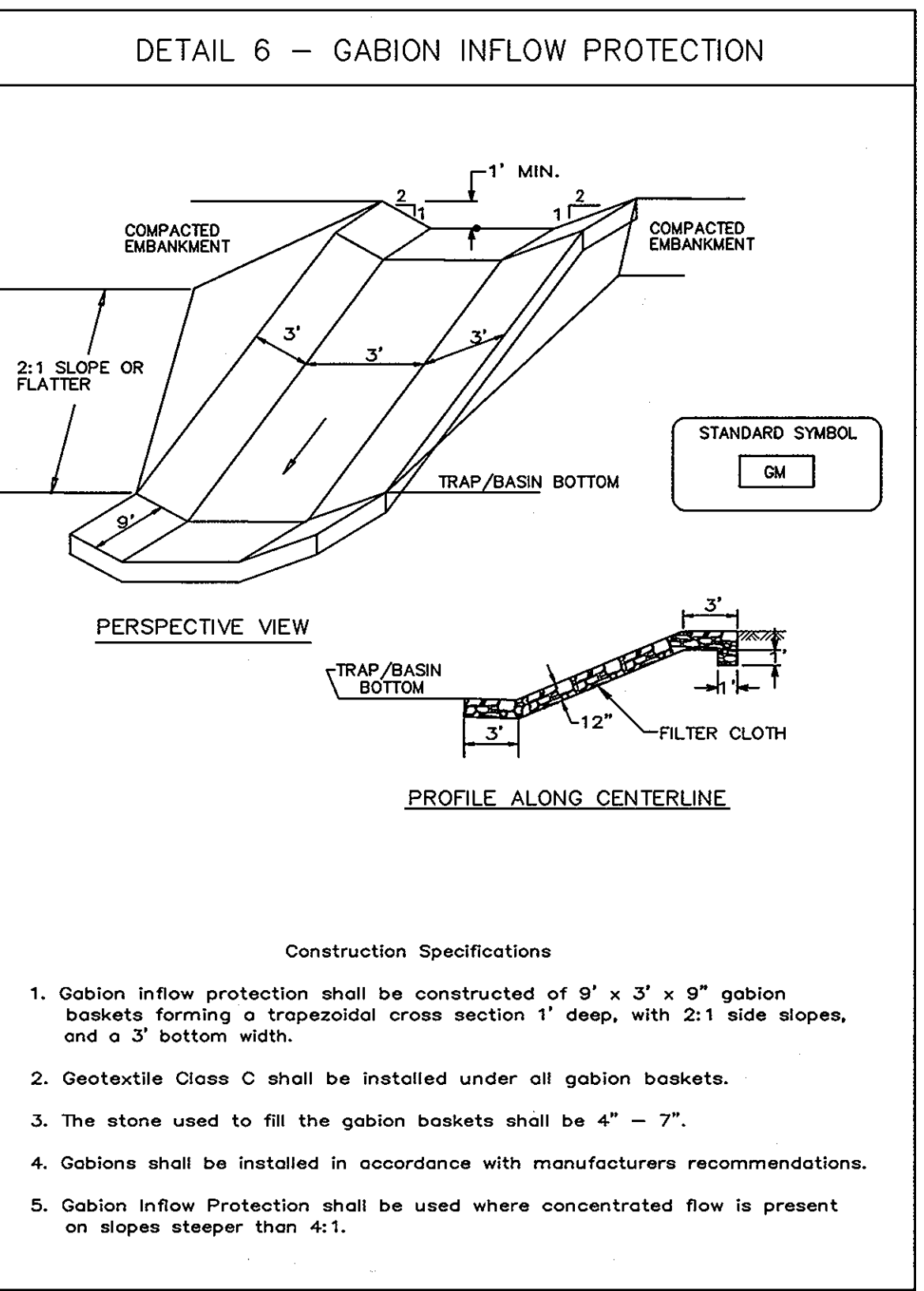
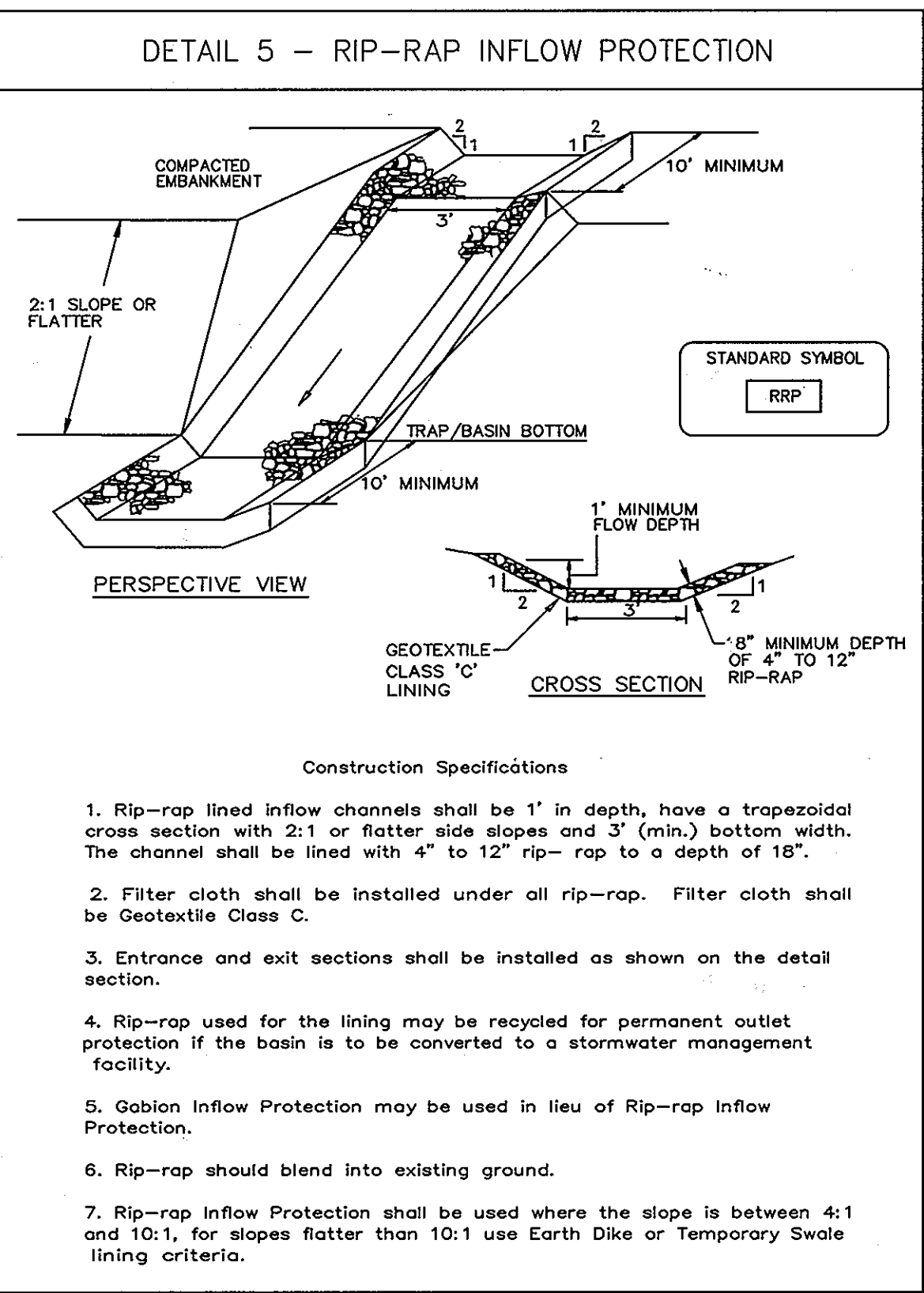
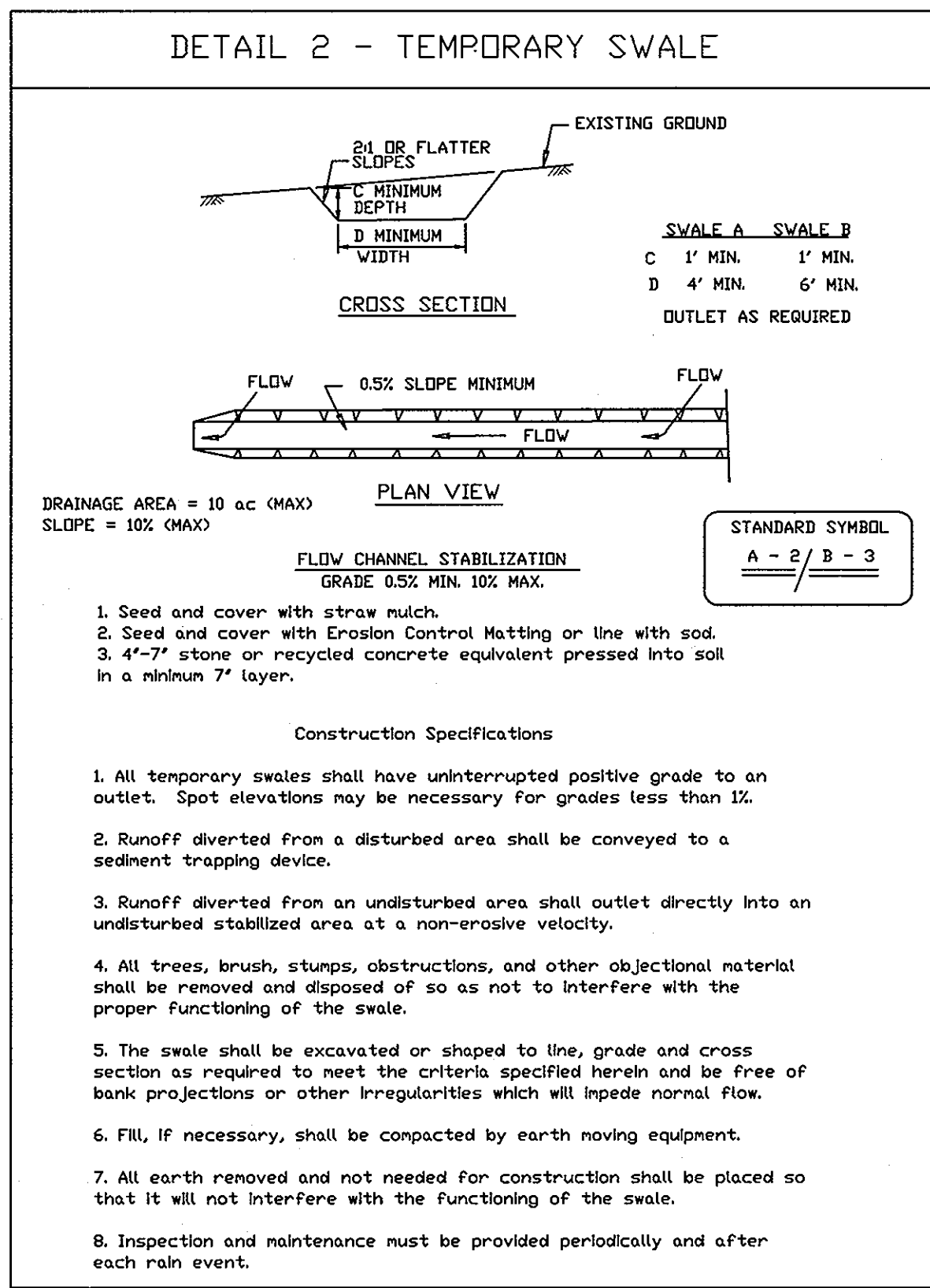
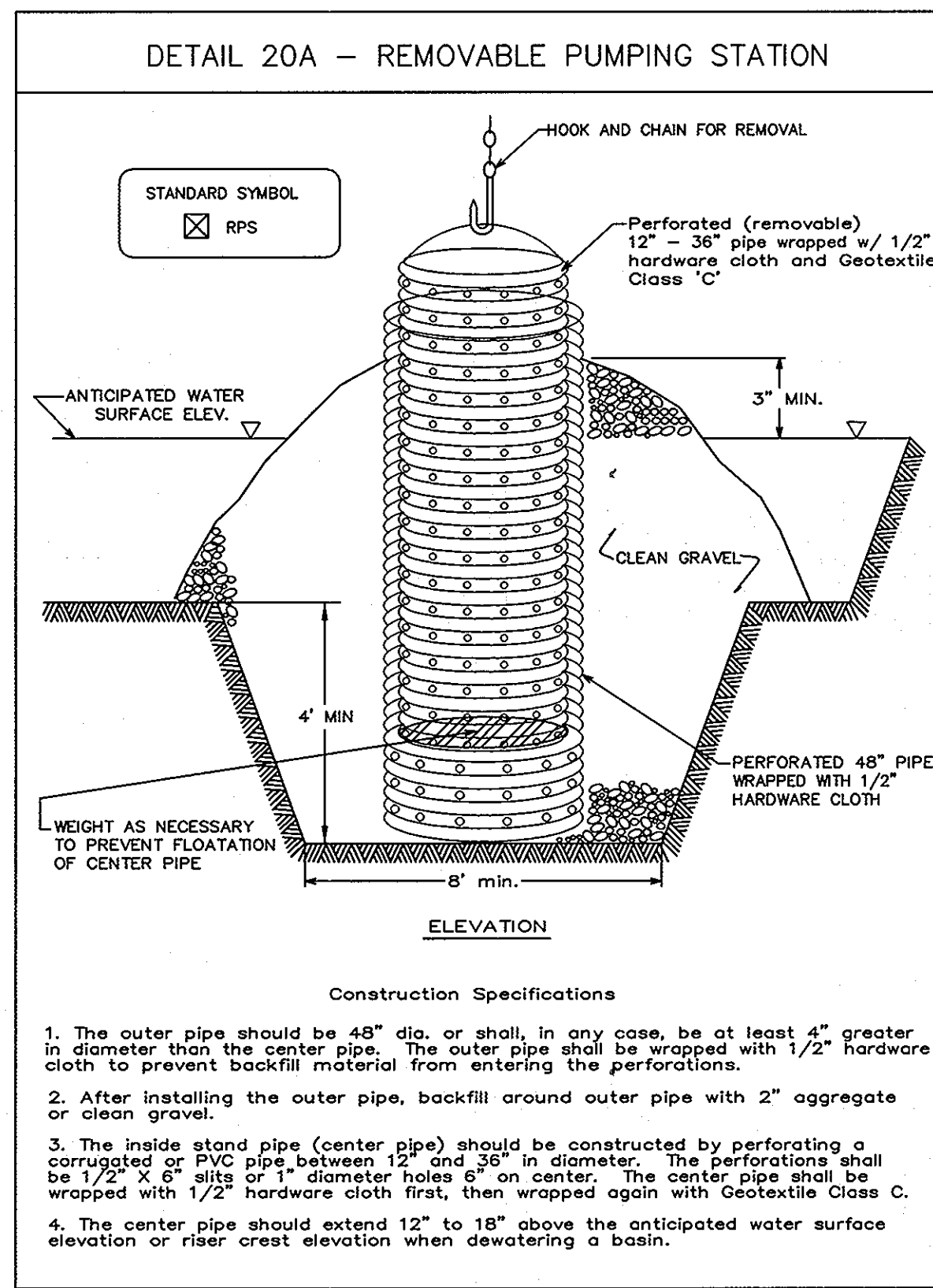
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'T', 'J', AND 'K'

ELECTION DISTRICT No. 5

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
JAN., 2008	41-21&22 46-3	7 OF 32

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THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-4



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Date: 2-1-09

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 Date: 2/15/08

APPROVED: DEVELOPER'S/BUILDER'S CERTIFICATE
 Signature of Developer/Builder: [Signature]
 Date: 1-11-08

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

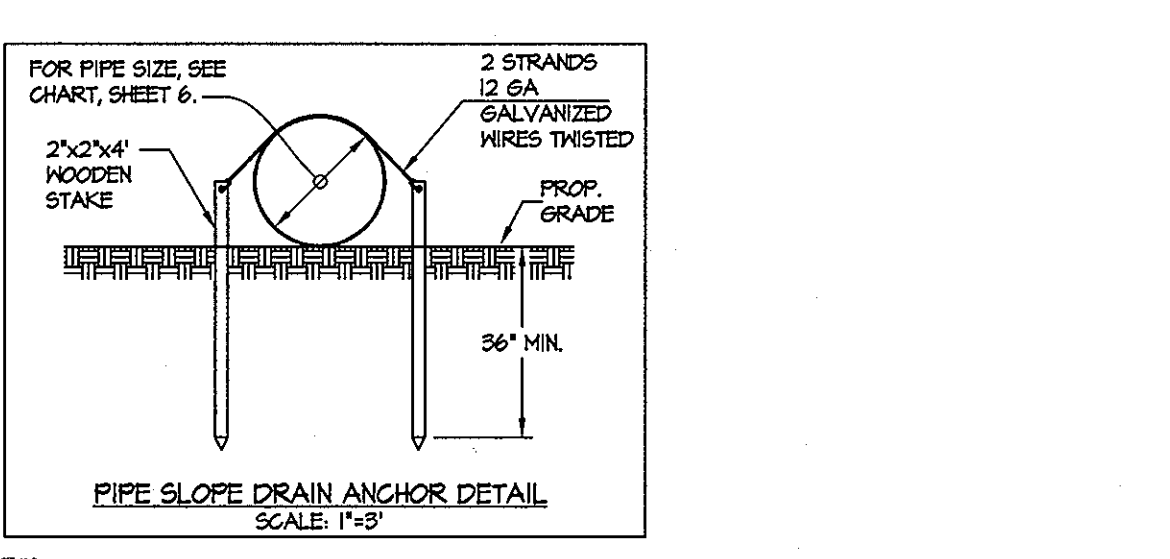
Signature of Engineer: [Signature]
 Date: 1-11-08

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

Signature of Engineer: [Signature]
 Date: 1/22/08

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 of Engineer: [Signature]
 Date: [Date]



SEDIMENT CONTROL DETAILS AND NOTES
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'T', 'J', AND 'K'

SCALE: AS SHOWN
 ZONING: MXD-3
 G. L. W. FILE NO.: 06081

DATE: JAN., 2008
 TAX MAP - GRID: 41-21&22 46-3
 SHEET: 8 OF 22

ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20986
 TEL: 301-421-4024 FAX: 301-989-2524 FAX: 301-421-4188

DES. DEV.	DRN. AML.	CHK. DEV.	DATE	REVISION	BY	APPR.

PREPARED FOR:
 G&R/Wessell LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 13972
 EXPIRATION DATE: MAY 28, 2008

Signature of Engineer: [Signature]
 Date: [Date]

SEDIMENT CONTROL DETAILS AND NOTES
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'T', 'J', AND 'K'

SCALE: AS SHOWN
 ZONING: MXD-3
 G. L. W. FILE NO.: 06081

DATE: JAN., 2008
 TAX MAP - GRID: 41-21&22 46-3
 SHEET: 8 OF 22

ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

SEDIMENT CONTROL DETAILS AND NOTES
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'T', 'J', AND 'K'

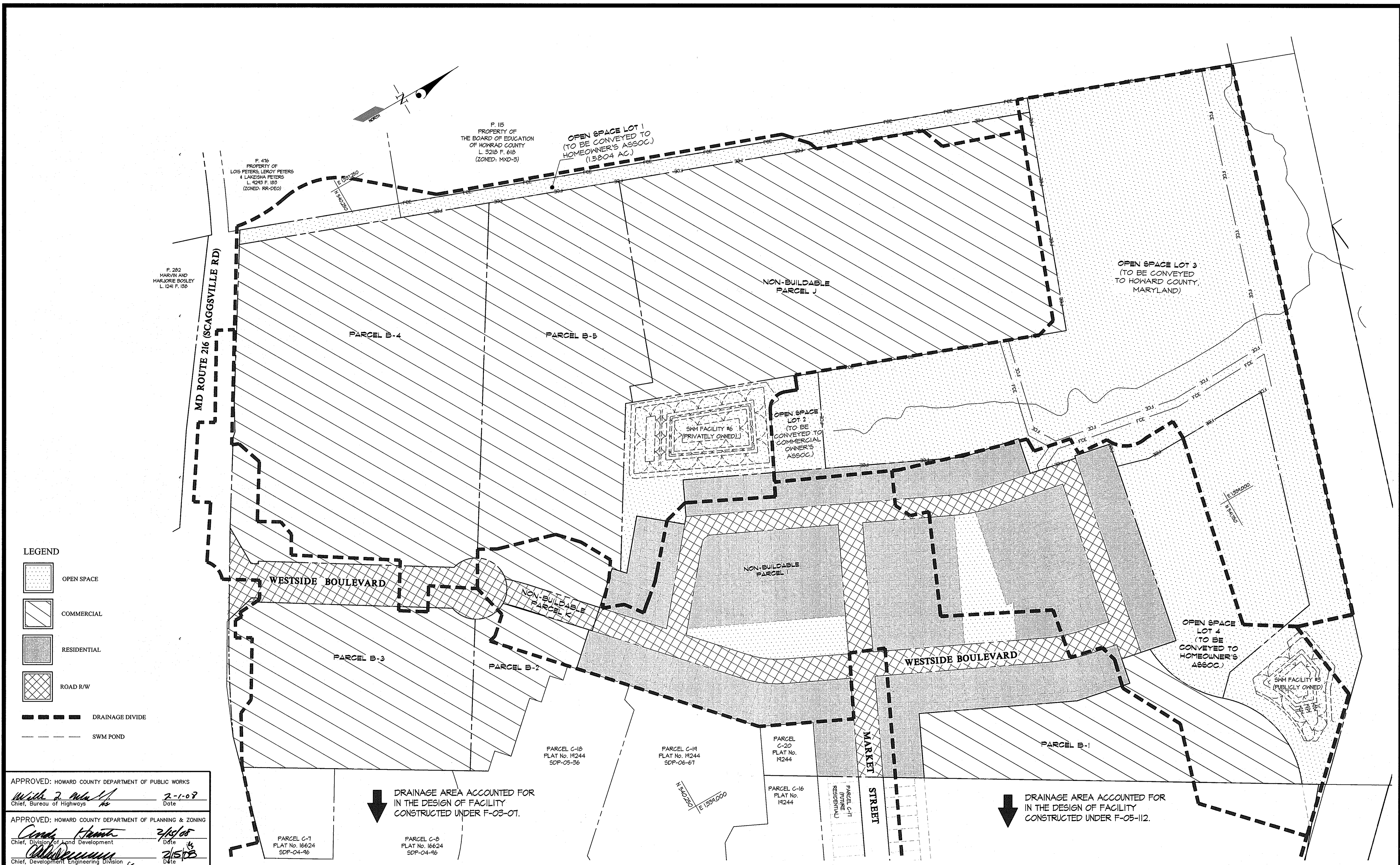
SCALE: AS SHOWN
 ZONING: MXD-3
 G. L. W. FILE NO.: 06081

DATE: JAN., 2008
 TAX MAP - GRID: 41-21&22 46-3
 SHEET: 8 OF 22

ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

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THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-4



- LEGEND**
- OPEN SPACE
 - COMMERCIAL
 - RESIDENTIAL
 - ROAD R/W
 - DRAINAGE DIVIDE
 - SWM POND

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Wilde & ...
 Chief, Bureau of Highways
 Date: 2-1-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
... Hunter
 Chief, Division of Land Development
 Date: 2/15/07
... Williams
 Chief, Development Engineering Division
 Date: 2/15/07

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

DATE	REVISION	BY	APPR.

PREPARED FOR:
 G&R/Weasel LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975
 EXPIRATION DATE: MAY 28, 2008



LAND USE PLAN
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'J', 'I', AND 'K'
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
JAN., 2008	41-21&22 46-3	10 OF 12

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-54

SOILS CHART				
SOIL TYPE	SOIL NAME	HYDROLOGIC SOILS GROUP	HYDRIC SOILS	POSSIBLE HYDRIC INCLUSIONS
Ba	Baile Silt Loam	D	X	
CgB2*	Chester gravelly silt loam, 3-8%	B		
ChC2	Chester silt loam, 8-15% slope, moderate erosion	B		
ChC3	Chester silt loam, 8-15% slope, severely eroded	B		
Co	Codorus silt loam	C		X
CoB*	Comus silt loam	C		
CoS	Comus silt loam	B		
DeA	Delanco silt loam, 0-3% slope	C		X
EKb2*	Eloak silt loam, 3-8% slope, moderately eroded	C		
EnB2*	Elisboro loam, 3-8% slopes, moderately eroded	B		
GnA	Glenville silt loam, 0-3%	C		X
GnB2*	Glenville silt loam, 3-8% slopes, moderately eroded	C		X
GnC2*	Gleneta loam, 3-8% slopes, moderately eroded	B		
Ha	Hatboro silt loam	D	X	X
MIB2*	Manor loam, 3-8%, moderately eroded	B		
MIC2	Manor loam, 8-15%, moderately eroded	B		
MID3*	Manor loam, 15-25%, severely eroded	B		

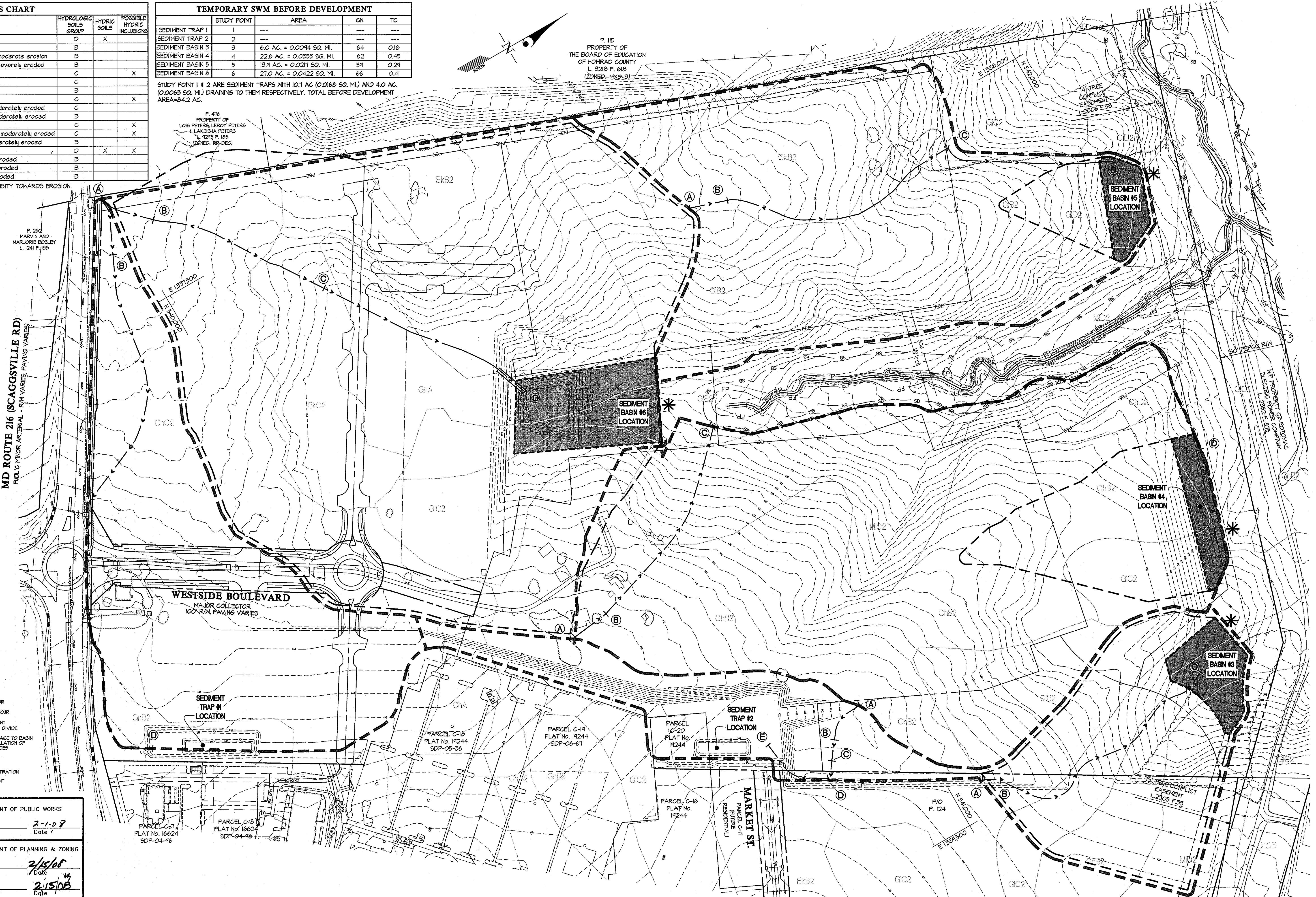
TEMPORARY SWM BEFORE DEVELOPMENT				
STUDY POINT	AREA	CN	TC	
SEDIMENT TRAP 1	1	---	---	---
SEDIMENT TRAP 2	2	---	---	---
SEDIMENT BASIN 3	3	6.0 AC. = 0.0094 SQ. MI.	64	0.18
SEDIMENT BASIN 4	4	22.6 AC. = 0.0359 SQ. MI.	62	0.45
SEDIMENT BASIN 5	5	13.9 AC. = 0.0211 SQ. MI.	59	0.29
SEDIMENT BASIN 6	6	21.0 AC. = 0.0422 SQ. MI.	66	0.41

STUDY POINT 1 & 2 ARE SEDIMENT TRAPS WITH 10.7 AC (0.0168 SQ. MI.) AND 4.0 AC. (0.0063 SQ. MI.) DRAINING TO THEM RESPECTIVELY. TOTAL BEFORE DEVELOPMENT AREA=84.2 AC.

* SOILS WITH A MODERATE TO HIGH PROPENSITY TOWARDS EROSION.

L:\CADD\DRAWINGS\03067\06081\PLANS (SWM-SD)\06081DM-EX.dwg 1/10/2008 11:02:30 AM EST

MD ROUTE 216 (SCAGGSVILLE RD)
PUBLIC MINOR ARTERIAL - R/W VARIES, PAVING VARIES



- LEGEND**
- 600 --- EXISTING CONTOUR
 - 600 --- PROPOSED CONTOUR
 - --- PRE-DEVELOPMENT DRAINAGE AREA DIVIDE
 - --- LIMITS OF DRAINAGE TO BASIN PRIOR TO INSTALLATION OF PERIMETER DEVICES
 - * --- --- STUDY POINT
 - --- TIME OF CONCENTRATION T.O.C. STUDY POINT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
With 2 mba
 Chief, Bureau of Highways 2-1-08
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cinda Hunter 2/15/08
 Chief, Division of Land Development Date
John Vasserman 2/15/08
 Chief, Development Engineering Division Date

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

DATE	REVISION	BY	APPR.

PREPARED FOR:
 G&R/Wessel LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 28, 2008.



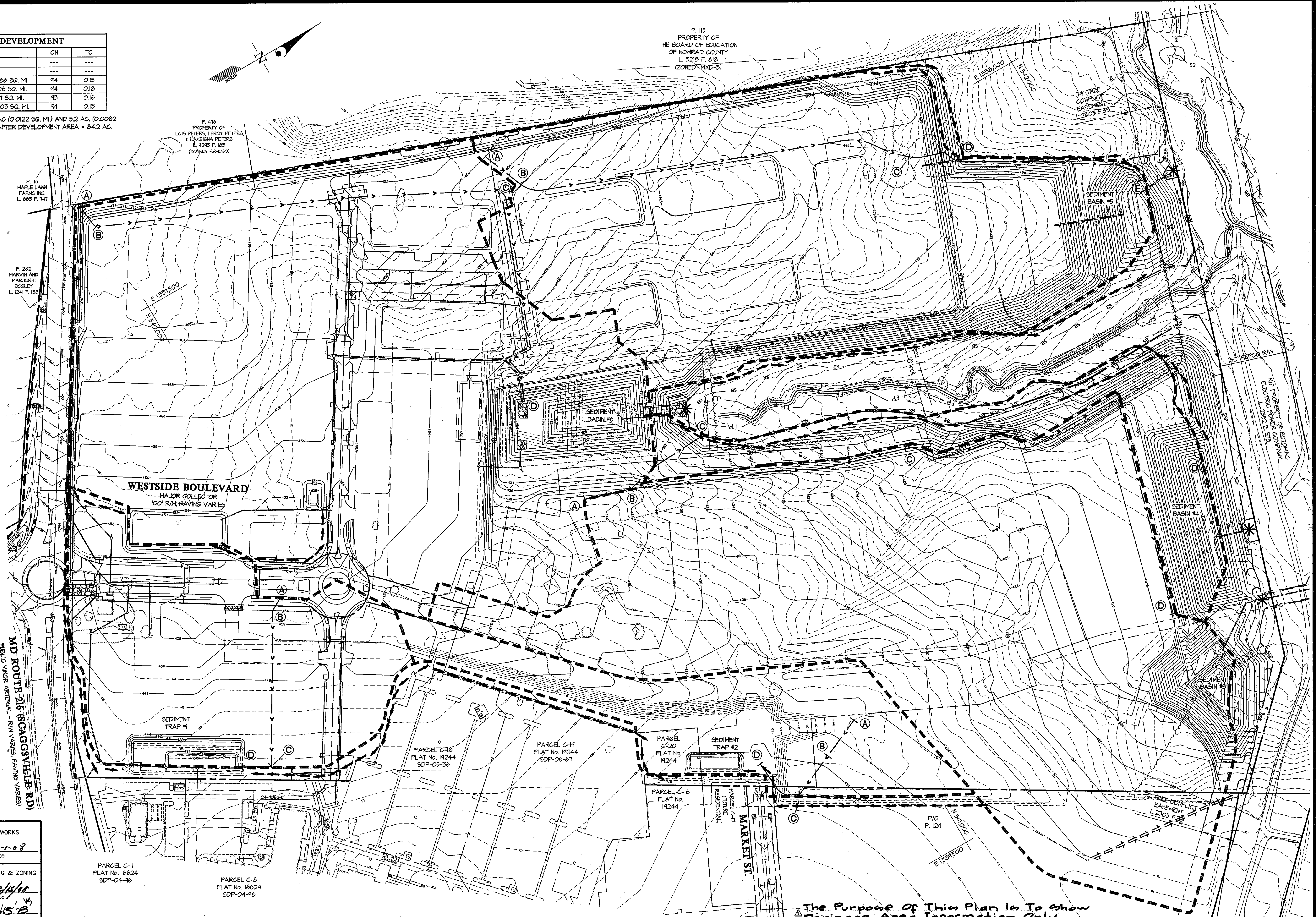
TEMPORARY SWM DRAINAGE AREA MAP - PRE-DEVELOPMENT
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'T', 'J', AND 'K'
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
1" = 100'	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
JAN., 2008	41-21&22 46-3	11 OF 32

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-54

TEMPORARY SWM AFTER DEVELOPMENT				
STUDY POINT	AREA	CN	TC	
SEDIMENT TRAP 1	1	---	---	---
SEDIMENT TRAP 2	2	---	---	---
SEDIMENT BASIN 3	3	23.4 AC. = 0.0366 SQ. MI.	94	0.15
SEDIMENT BASIN 4	4	19.6 AC. = 0.0306 SQ. MI.	94	0.18
SEDIMENT BASIN 5	5	17.1 AC. = 0.0271 SQ. MI.	93	0.16
SEDIMENT BASIN 6	6	25.8 AC. = 0.0403 SQ. MI.	94	0.13

STUDY POINT 1 & 2 ARE SEDIMENT TRAPS WITH 1.8 AC. (0.0122 SQ. MI.) AND 5.2 AC. (0.0082 SQ. MI.) DRAINING TO THEM RESPECTIVELY. TOTAL AFTER DEVELOPMENT AREA = 84.2 AC.



LEGEND	
--- 600 ---	EXISTING CONTOUR
--- 602 ---	PROPOSED CONTOUR
---	POST-DEVELOPMENT DRAINAGE AREA DIVIDE
---	TIME OF CONCENTRATION
A	STUDY POINT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
With 2 modifications
 Chief, Bureau of Highways Date: 2-1-08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hunter
 Chief, Division of Land Development Date: 2/1/08
Charles O'Donovan
 Chief, Development Engineering Division Date: 2/1/08

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: 301-421-4186

PREPARED FOR:
G&R/Wessel LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 20975.
 EXPIRATION DATE: MAY 28, 2008



TEMPORARY SWM DRAINAGE AREA MAP - POST-DEVELOPMENT

(STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS I THROUGH 4 AND NON-BUILDABLE PARCELS 'I', 'J', AND 'K'

SCALE	ZONING	G. L. W. FILE NO.
1" = 100'	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
JAN., 2008	41-21&22 46-3	12 OF 32

DATE: 01/01/08 BY: [Signature] APPR: [Signature]

The Purpose of This Plan is To show Drainage Area Information Only.

STORMWATER MANAGEMENT VOLUMES				
DESIGN CRITERIA ITEM	FACILITY #3		FACILITY #6	
	REQUIRED	PROVIDED	REQUIRED	PROVIDED
WATER QUALITY VOLUME	21,641 c.f.	25,502 c.f.	84,913 c.f.	101,514 c.f.
RECHARGE VOLUME	5,303 c.f.	SEE NOTE 5 BELOW	14,110 c.f.	SEE NOTE 5 BELOW
CHANNEL PROTECTION	37,087 c.f.	40,201 c.f. @ 349.10	164,624 c.f.	185,150 c.f. @ 424.38

STORMWATER MANAGEMENT SUMMARY				
DESIGN CRITERIA ITEM	FACILITY #3		FACILITY #6	
	BEFORE DEV.	AFTER DEV.	BEFORE DEV.	AFTER DEV.
DRAINAGE AREA	11.8 ac.	11.8 ac.	35.2 ac.	35.2 ac.
CURVE NUMBER	50	50	50	44
TIME OF CONCENTRATION	0.24 Hr.	0.11 Hr.	0.31 Hr.	0.14 Hr.

- NOTES:
- FACILITY #3 WILL BE PRIVATELY OWNED & MAINTAINED. AN OPEN SPACE LOT WILL BE CONVEYED TO THE HOME OWNERS ASSOCIATION.
 - FACILITY #6 WILL BE OWNED & MAINTAINED. AN OPEN SPACE LOT WILL BE CONVEYED TO THE COMMERCIAL OWNER'S ASSOCIATION.
 - BOTH FACILITIES WILL BE P2 WET PONDS WITH EXTENDED DETENTION.
 - BOTH FACILITIES WILL HAVE AN 'A' POND CLASSIFICATION.
 - THE VOLUME WILL BE PROVIDED IN AN INFILTRATION TRENCH TYPE FACILITY ON A FUTURE SITE DEVELOPMENT PLAN. THE FACILITY WILL SATISFY THE STORAGE REQUIREMENTS FOR BOTH FACILITY 3 AND 6.

PERMANENT SWM SUMMARY			
	FACILITY #3		
	Before	Unmanaged	Managed
1 YR	0.66 c.f.s.	20.04 c.f.s.	0.34 c.f.s. @ 349.10
2 YR	2.71 c.f.s.	21.64 c.f.s.	2.95 c.f.s. @ 349.35
10 YR	14.30 c.f.s.	52.50 c.f.s.	43.17 c.f.s. @ 349.74
100 YR	32.66 c.f.s.	80.04 c.f.s.	72.63 c.f.s. @ 349.97

PERMANENT SWM SUMMARY (CLOGGED)			
	FACILITY #3		
	Before	Unmanaged	Managed
1 YR	0.66 c.f.s.	20.04 c.f.s.	16.36 c.f.s. @ 349.54
2 YR	2.71 c.f.s.	21.64 c.f.s.	24.27 c.f.s. @ 349.60
10 YR	14.30 c.f.s.	52.50 c.f.s.	46.05 c.f.s. @ 349.77
100 YR	32.66 c.f.s.	80.04 c.f.s.	70.19 c.f.s. @ 349.95

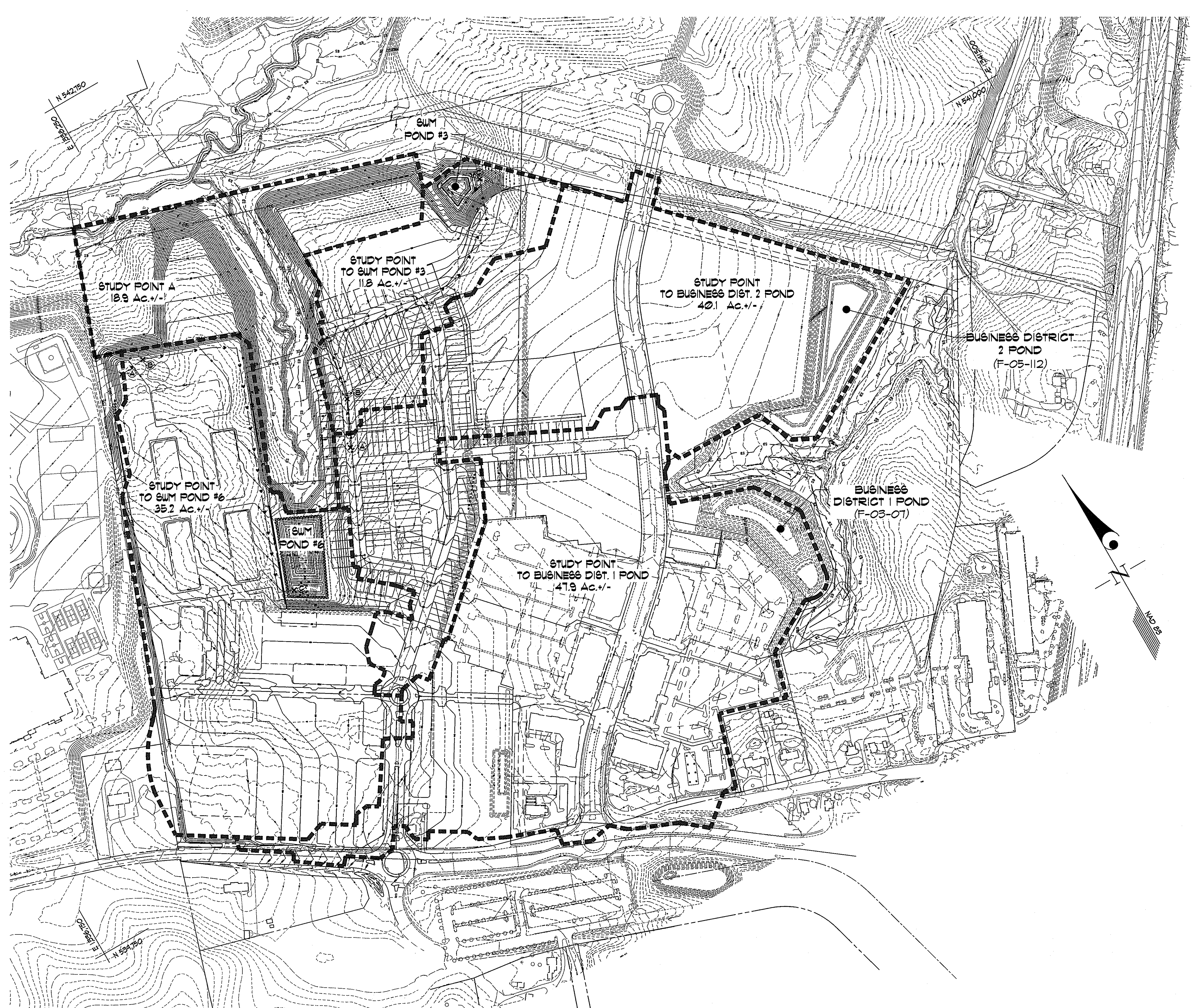
TOP OF DAM @ FACILITY #3 = 404.1
TOP OF DAM @ FACILITY #6 = 433.0

TEMPORARY SWM SUMMARY			
	BASIN #3		
	Before	Unmanaged	Managed
1 YR	1.34 c.f.s.	50.62 c.f.s.	1.41 c.f.s. @ 401.13
2 YR	3.41 c.f.s.	74.64 c.f.s.	18.11 c.f.s. @ 401.40
10 YR	12.13 c.f.s.	124.45 c.f.s.	106.34 c.f.s. @ 402.08

TOP OF DAM @ BASIN 3 = 404.1
TOP OF DAM @ BASIN 4 = 346.4
TOP OF DAM @ BASIN 5 = 340.0
TOP OF DAM @ BASIN 6 = 433.0

- LEGEND**
- - - - - EXISTING CONTOURS
 - - - - - PROPOSED CONTOURS
 - - - - - DRAINAGE DIVIDES
 - - - - - TIME OF CONCENTRATION (POST-DEVELOPMENT)
 - ⊙ STUDY POINT

STORMWATER MANAGEMENT AREAS (POST-DEVELOPMENT)	
STUDY POINT TO SWM POND #6	35.2 AC.±
STUDY POINT TO SWM POND #3	11.8 AC.±
STUDY POINT TO BUSINESS DIST. 1 POND (F-03-07)	47.9 AC.±
STUDY POINT TO BUSINESS DIST. 2 POND (F-05-112)	40.1 AC.±
STUDY POINT A	18.9 AC.±
TOTAL DRAINAGE AREA	153.9 AC.±



The Purpose of This Plan is To Show Drainage Area Information Only.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. Smith 2-1-08
Chief, Bureau of Highways

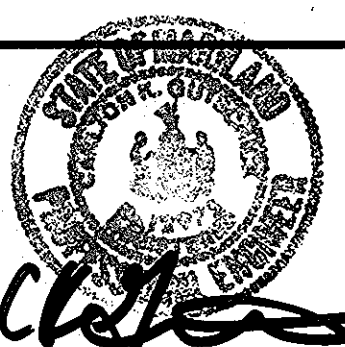
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Candy Hunter 2/15/08
Chief, Division of Land Development

Chris Demaris 2/15/08
Chief, Development Engineering Division

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

PREPARED FOR:
G&R/Wessell LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN RD
BALTIMORE, MD 21208
ATTN: CHARLIE O'DONOVAN
410-484-8400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 12976, EXPIRATION DATE: MAY 25, 2008



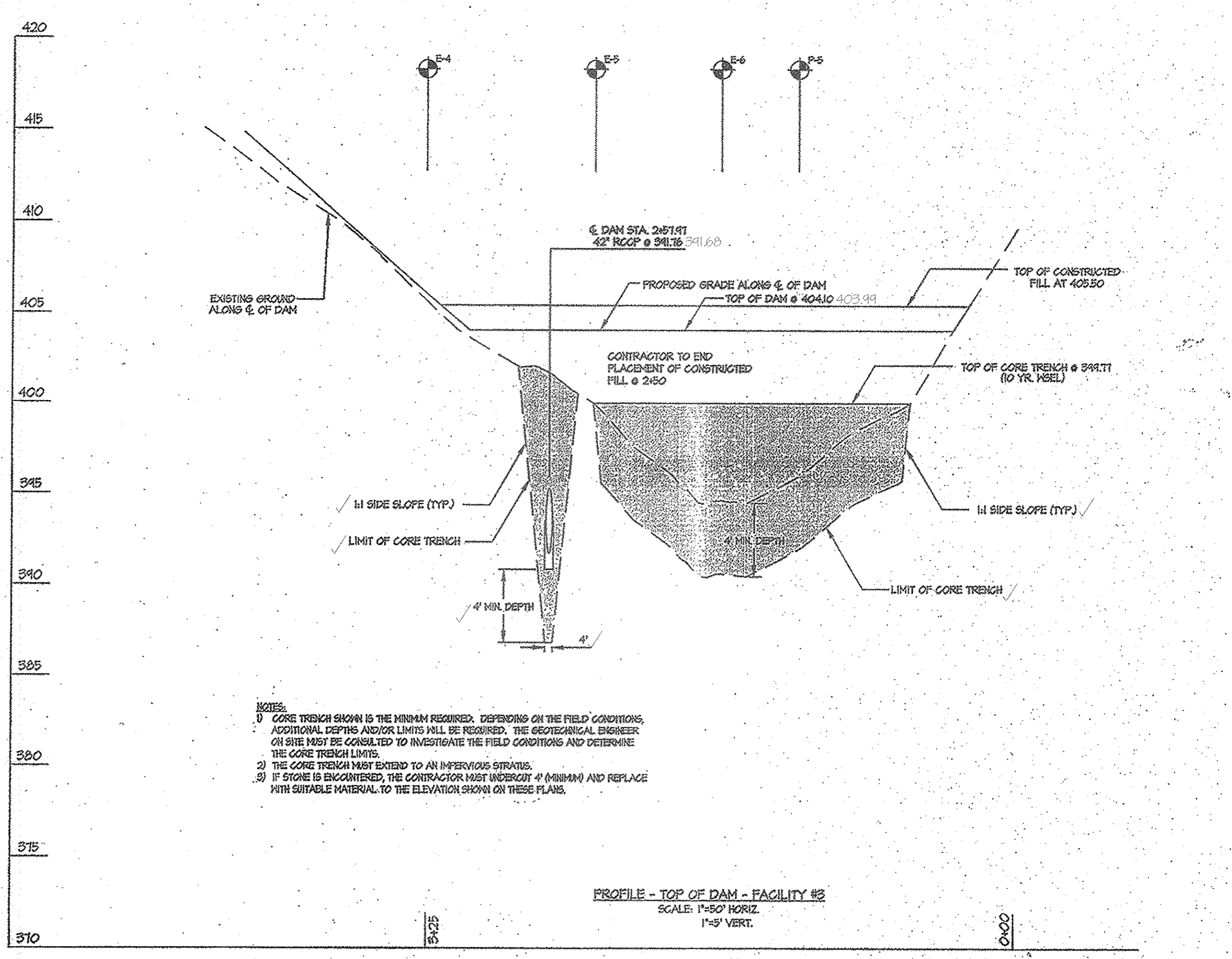
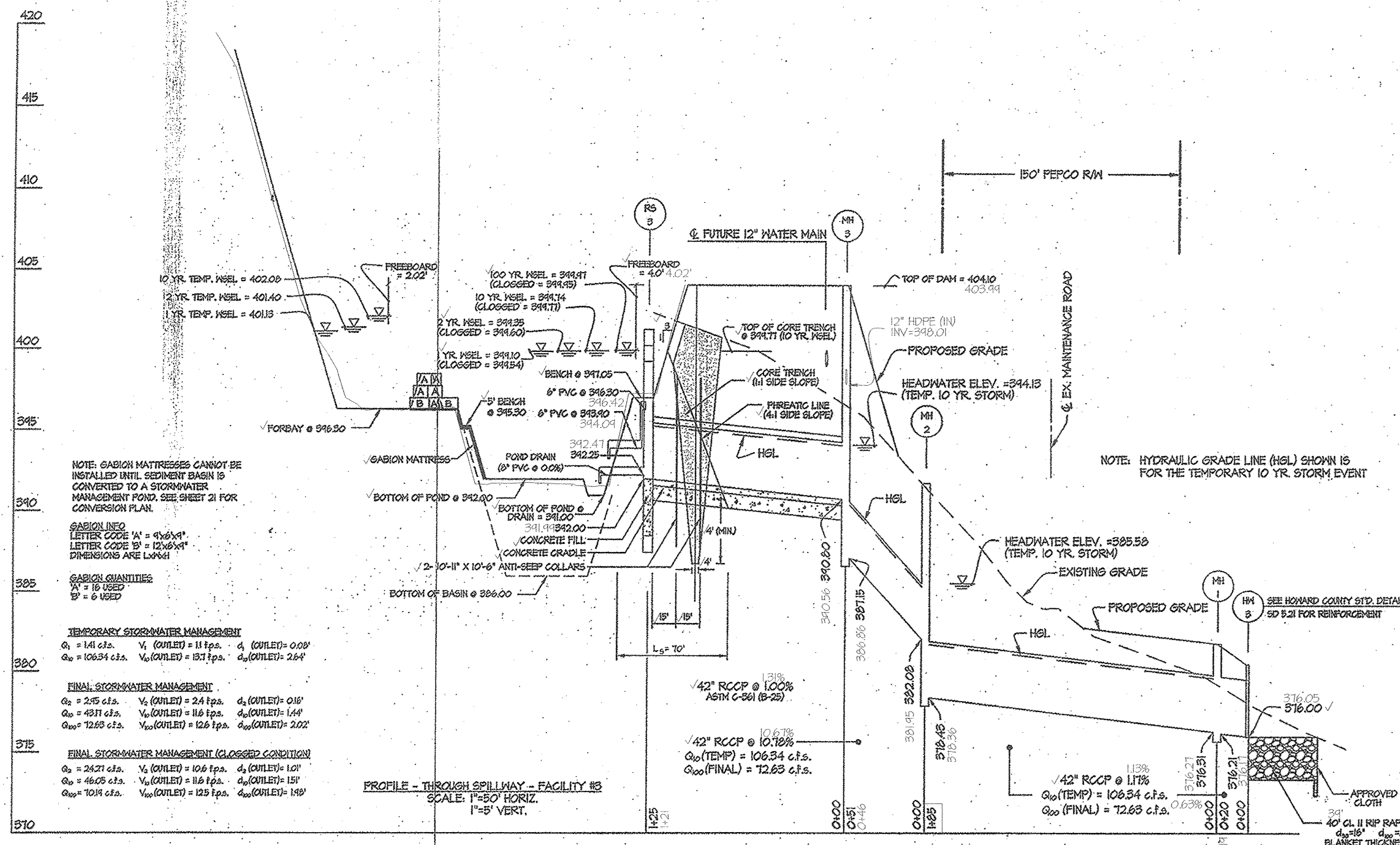
ULTIMATE STORMWATER MANAGEMENT OVERALL DRAINAGE AREA MAP
(STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
WESTSIDE DISTRICT - AREA 1
PARCELS B4 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'J', 'J', AND 'K'

SCALE	ZONING	G. L. W. FILE No.
1"=200'	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
JAN., 2008	41-21&22 46-3	13 OF 32

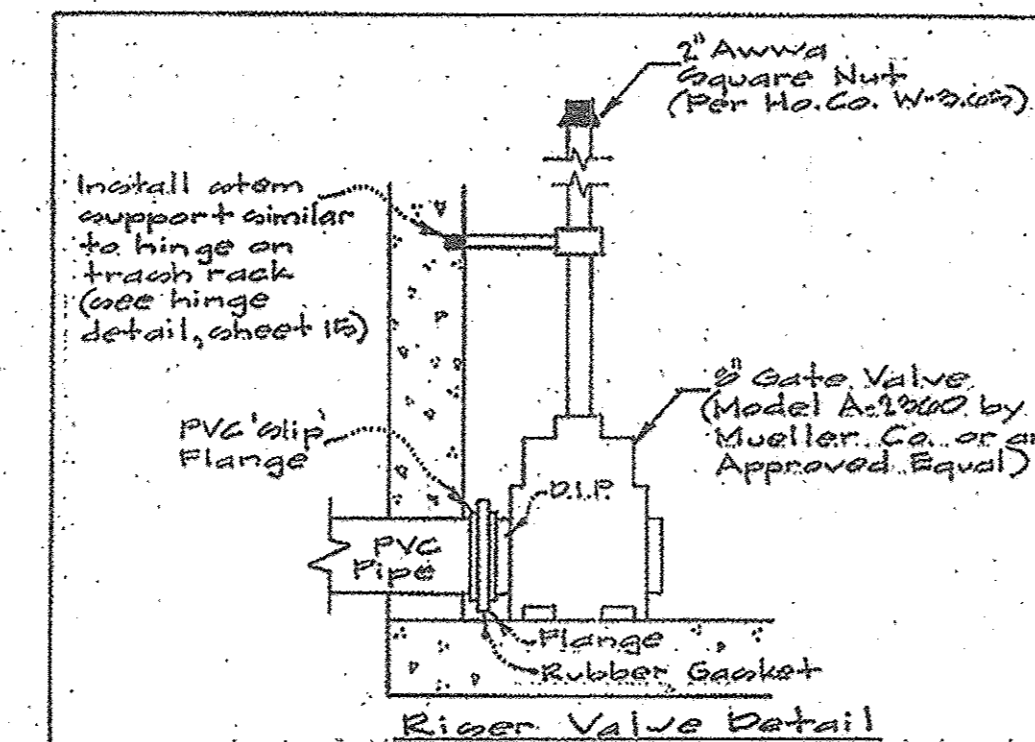
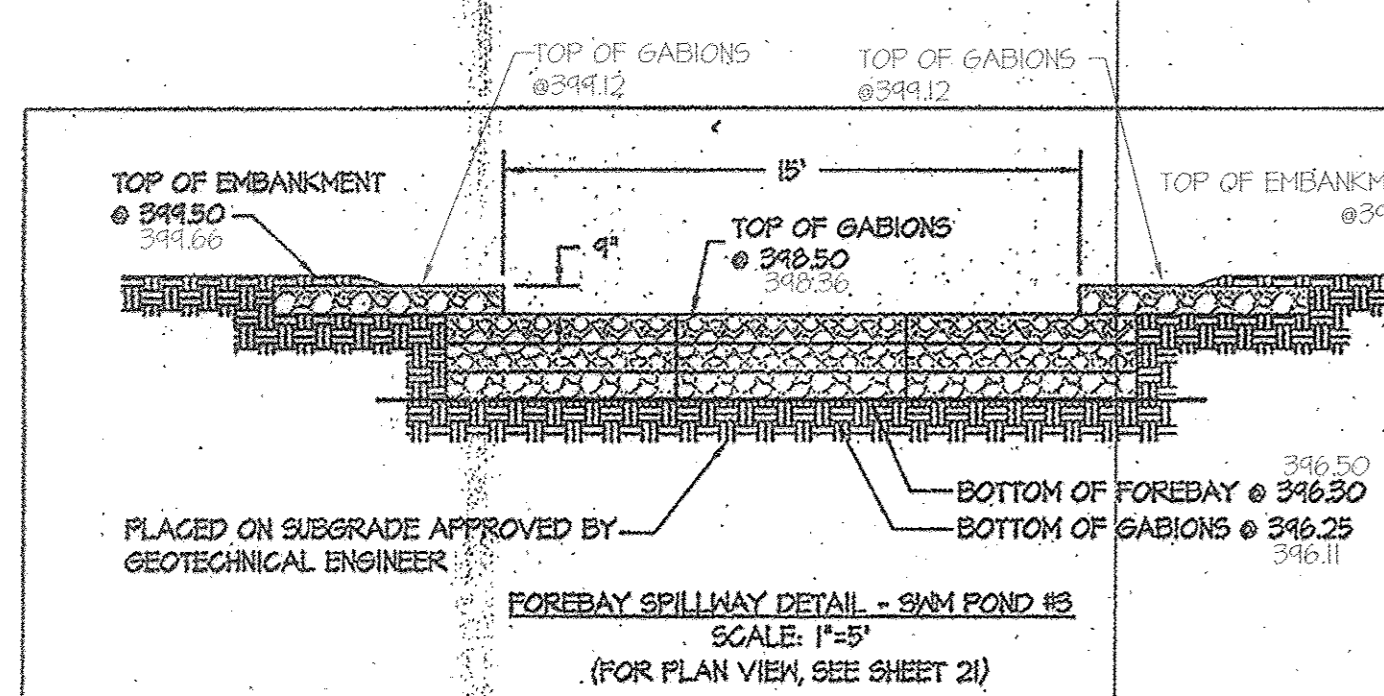
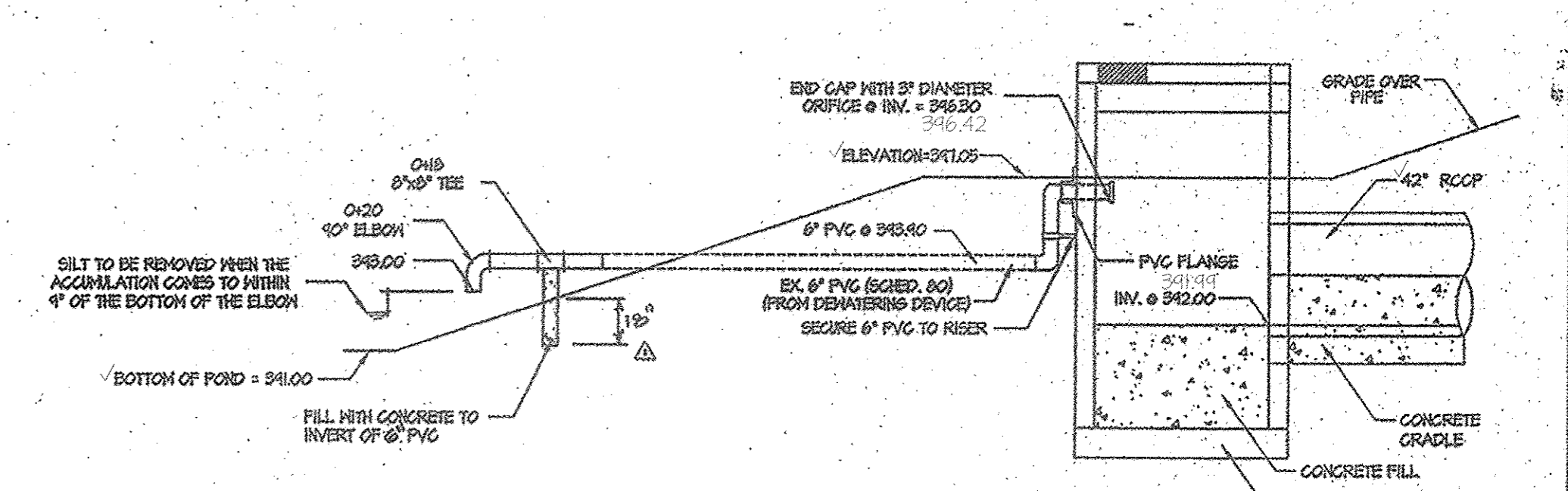
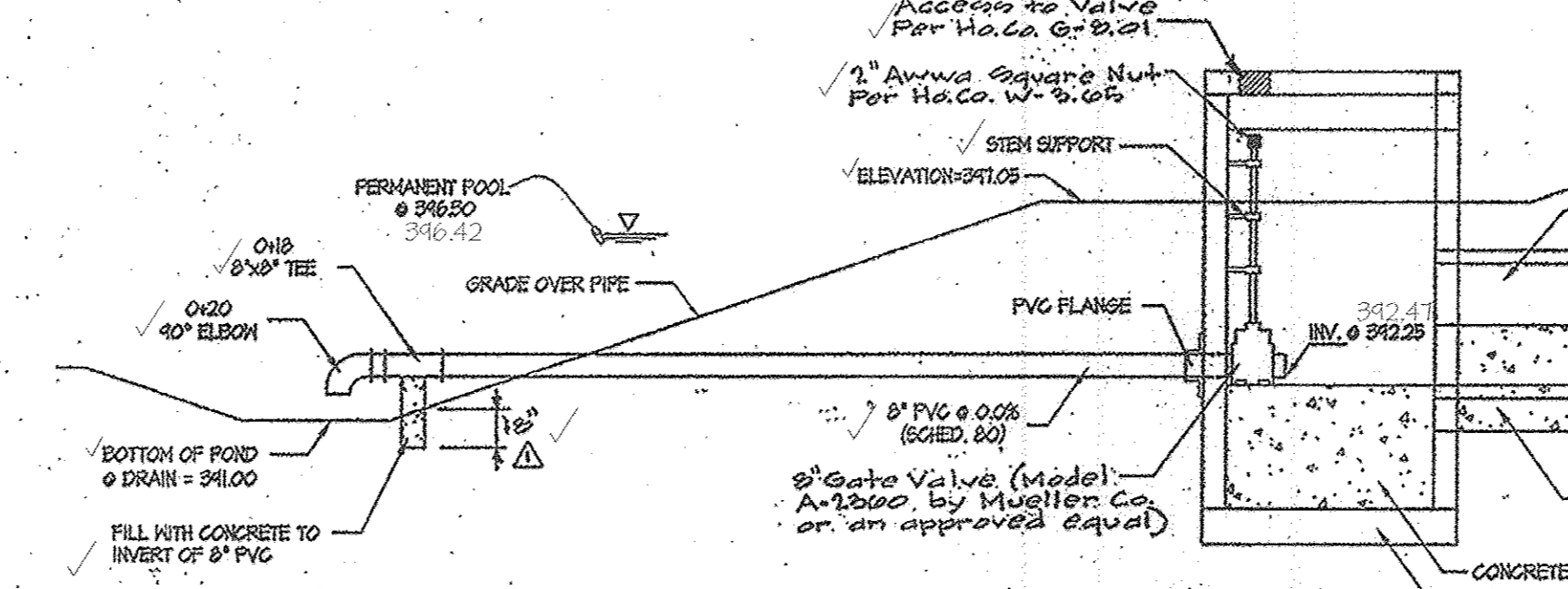
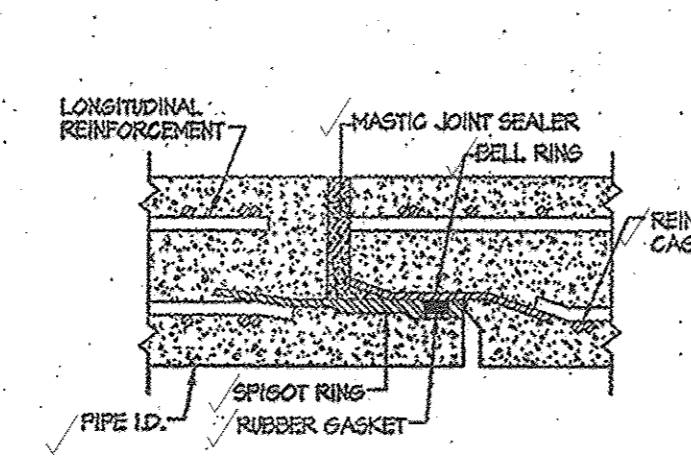
DATE	BY	APPR.
01/10/08	added purpose note	

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-55

L:\CAD\DRAWINGS\03087\FINALS (SWM-SC)\06081DAM-OVERALL.dwg 1/10/2008 12:09:59 PM EST

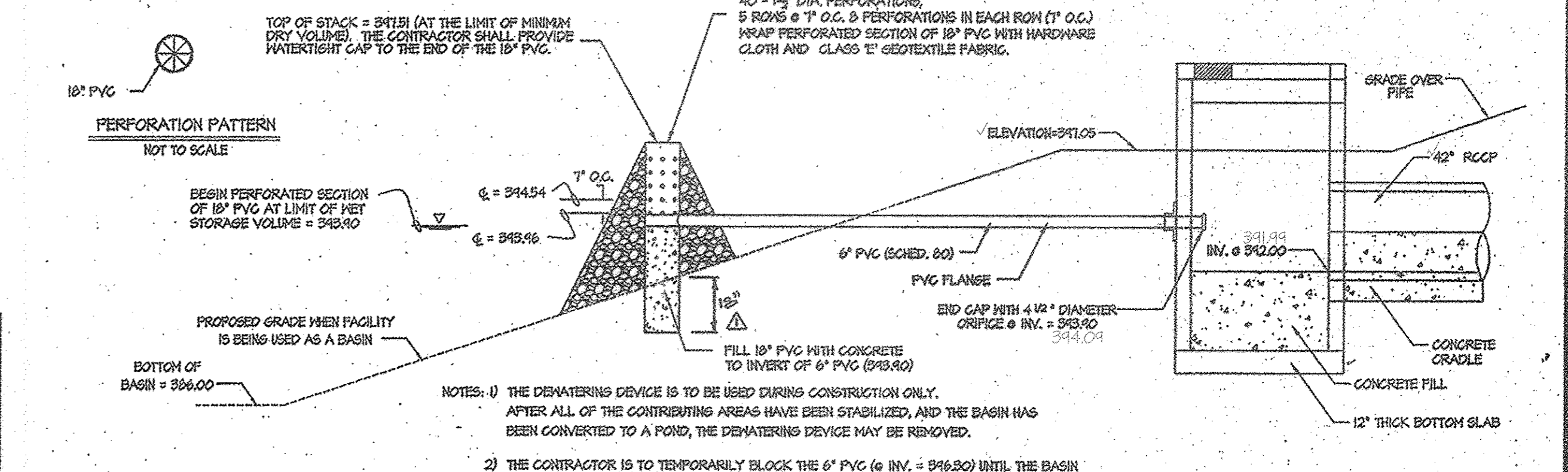


- NOTES:**
1. WEIR OPENINGS WILL BE PROVIDED ON THE FRONT, REAR AND BOTH SIDES OF THE RISER.
 2. CONTRACTOR MUST PROVIDE RUBBER GASKETS AT THE PIPE JOINTS ALONG THE 36" RCP.
 3. THE FIRST PIPE JOINT MUST BE WITHIN 4 FEET OF THE RISER STRUCTURE.
 4. CONTRACTOR MUST USE A MASTIC GROUT WHERE THE 36" RCP CONNECTS TO THE RISER.



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. 12975, Expiration Date: May 26 2018.

4/27/18
Date
Carl K. Gutschick
Professional Engineer
Maryland Reg. No. 12975



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Willa J. Smith
Chief, Bureau of Highways
Date: 2/1/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Harant
Chief, Division of Land Development
Date: 2/5/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Harant
Chief, Development Engineering Division
Date: 2/5/08

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: 1-11-08

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: [Signature]
Date: 1-11-08

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

Signature of Professional Engineer: [Signature]
Date: 4/27/10

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.

Signature of Natural Resources Conservation Service: [Signature]
Date: 1/26/08

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3609 NATIONAL DRIVE - SUITE 250 - BURTOWNSVILLE OFFICE PARK
BURTOWNSVILLE, MARYLAND, 20868
TEL: 301-421-4024 FAX: 410-889-1820 DC/VA 301-989-2624 FAX: 301-421-4168

DATE	REVISION	BY	APPR.
2/10/08	Added dimensions, rev pond drain profile, added riser valve detail		

PREPARED FOR:
G.R./Associates, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN RD
BALTIMORE, MD 21208
ATTN: CHARLIE O'DONOVAN
410-484-8400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 26, 2008.

Signature of Professional Engineer: [Signature]
Date: 4/27/10

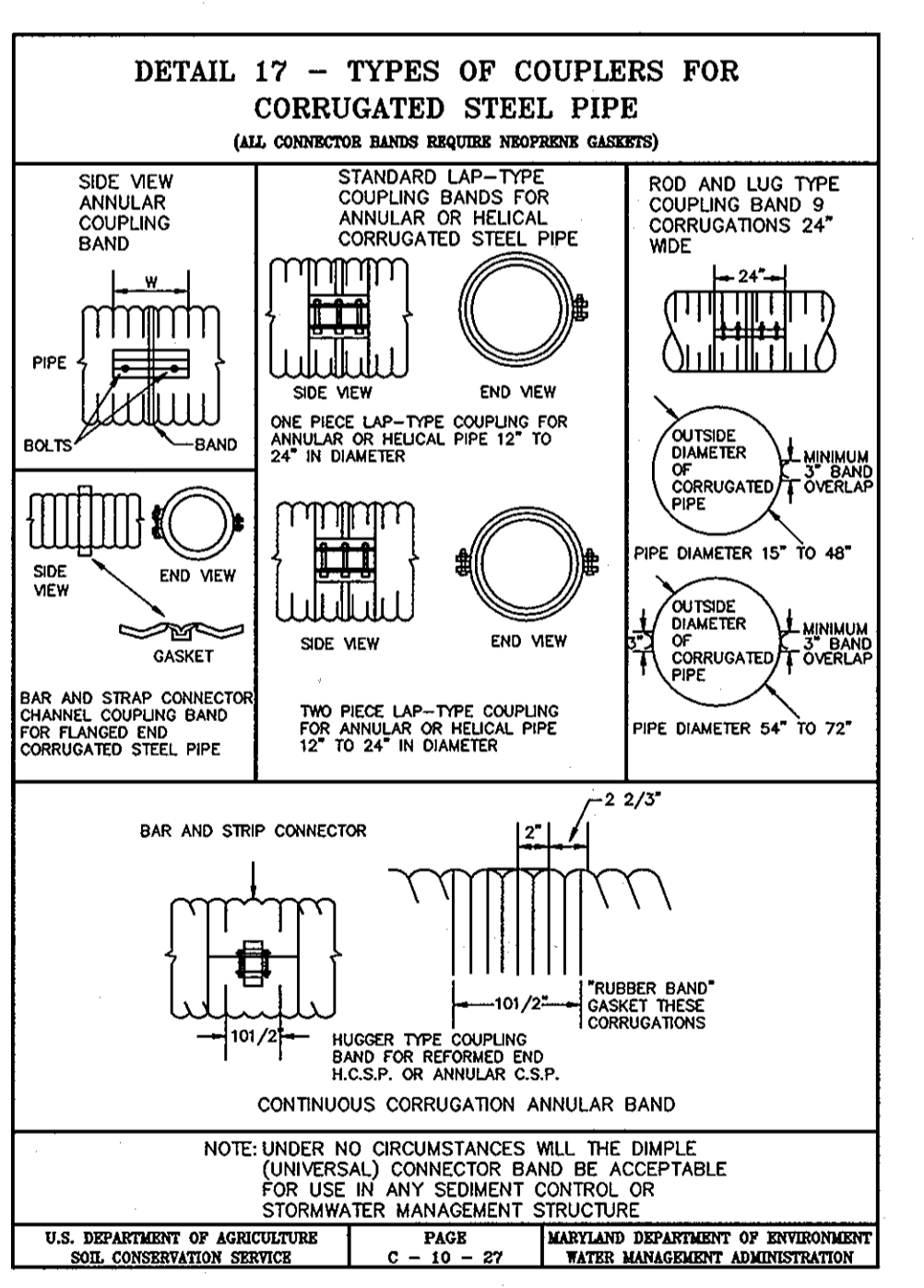
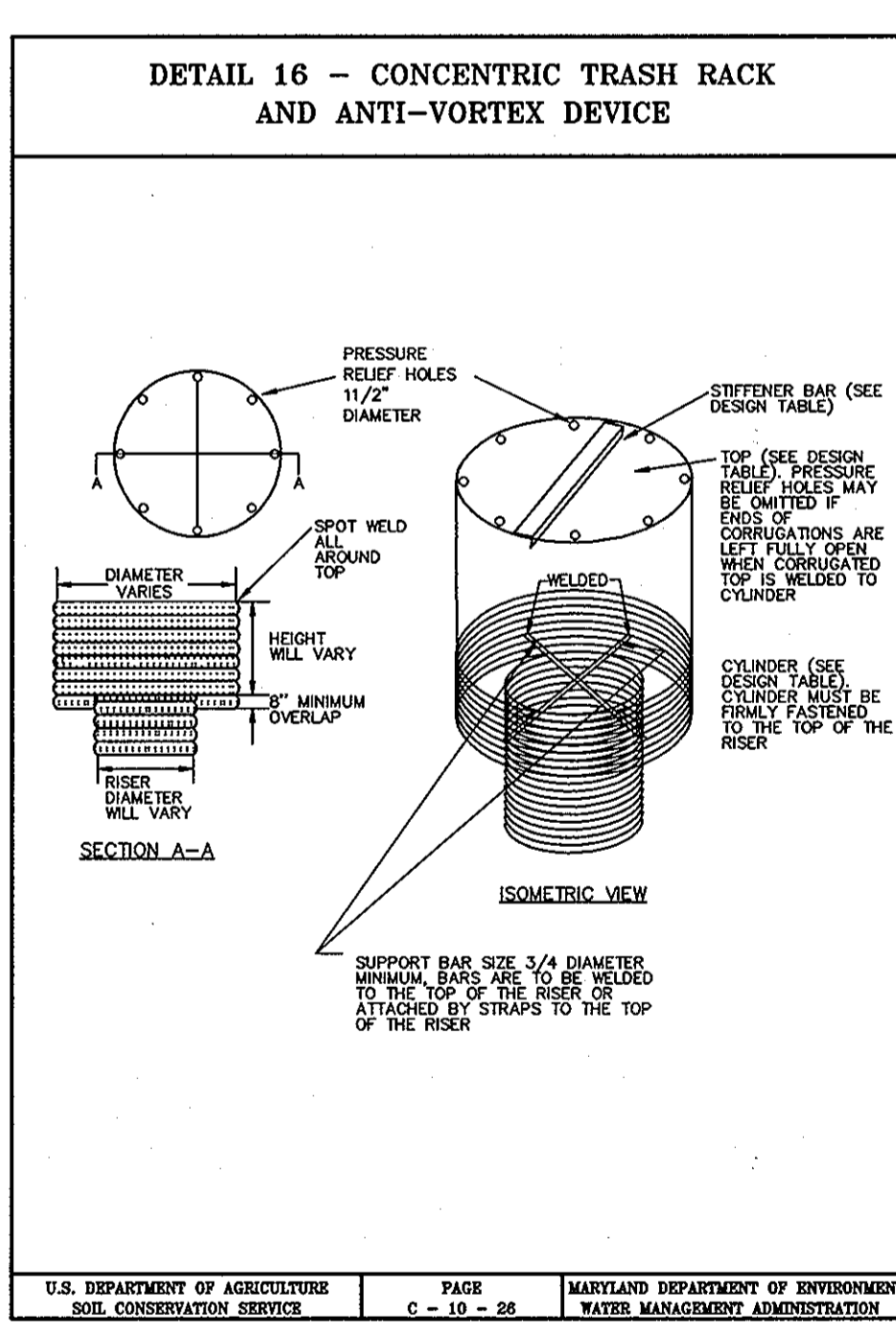
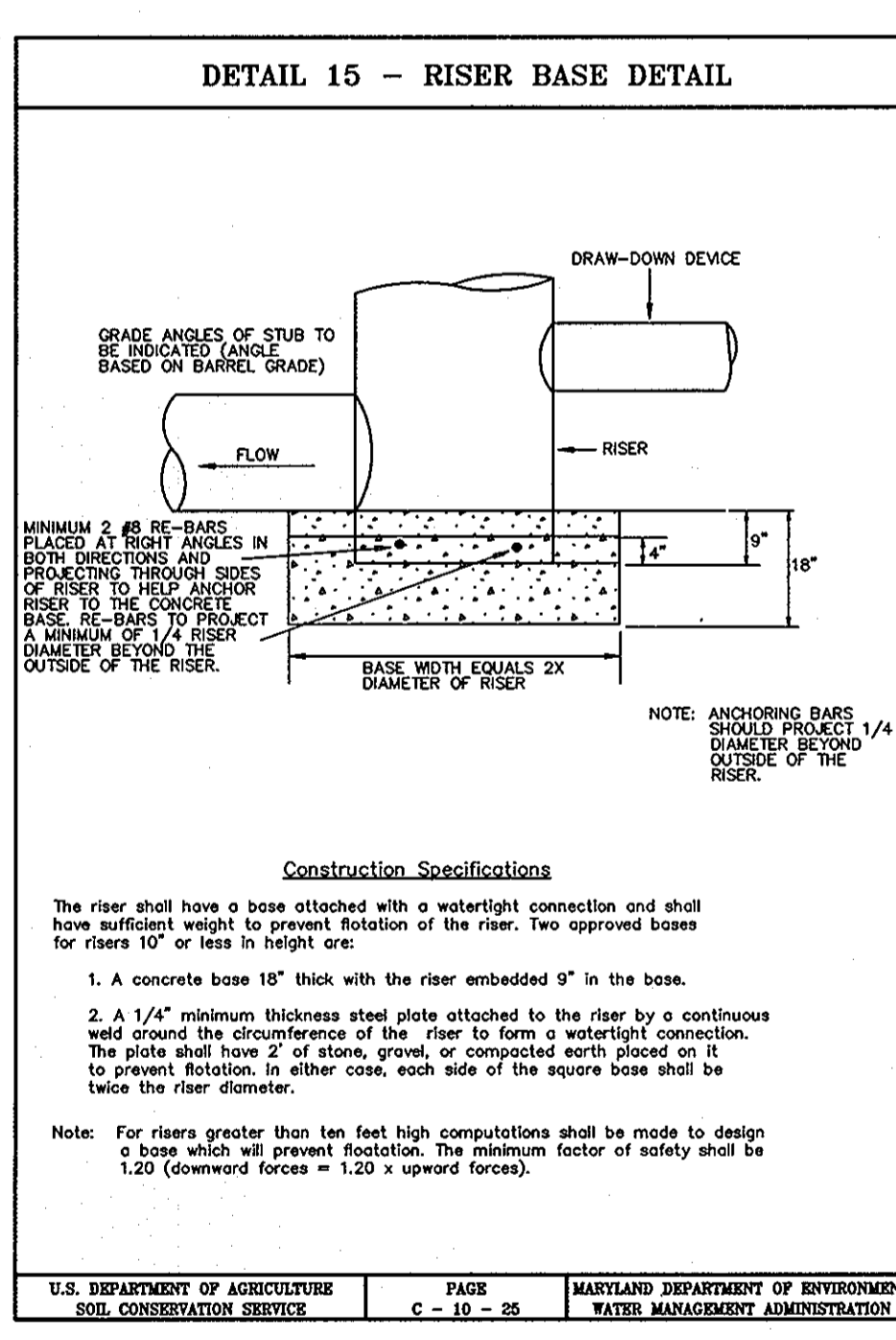
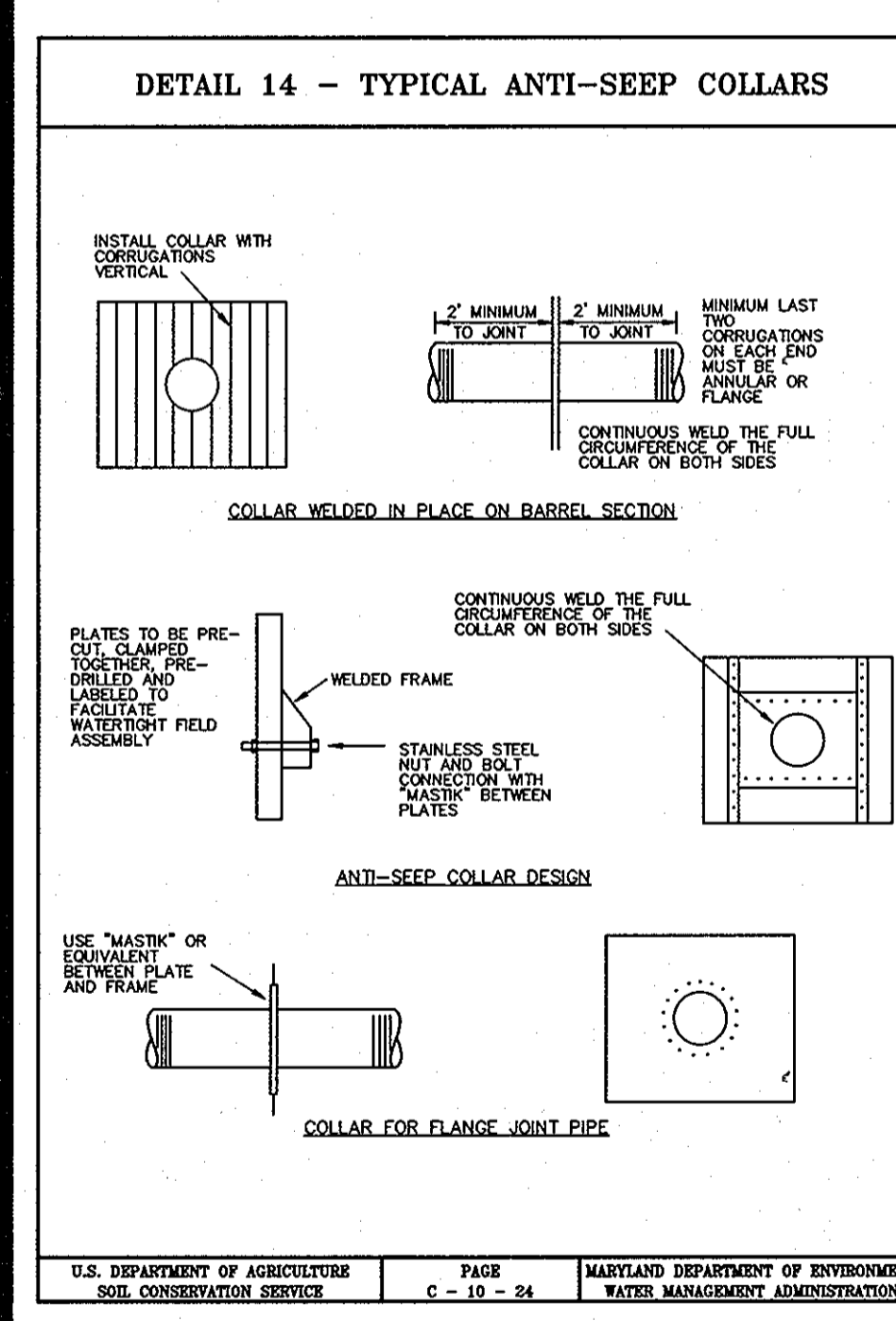
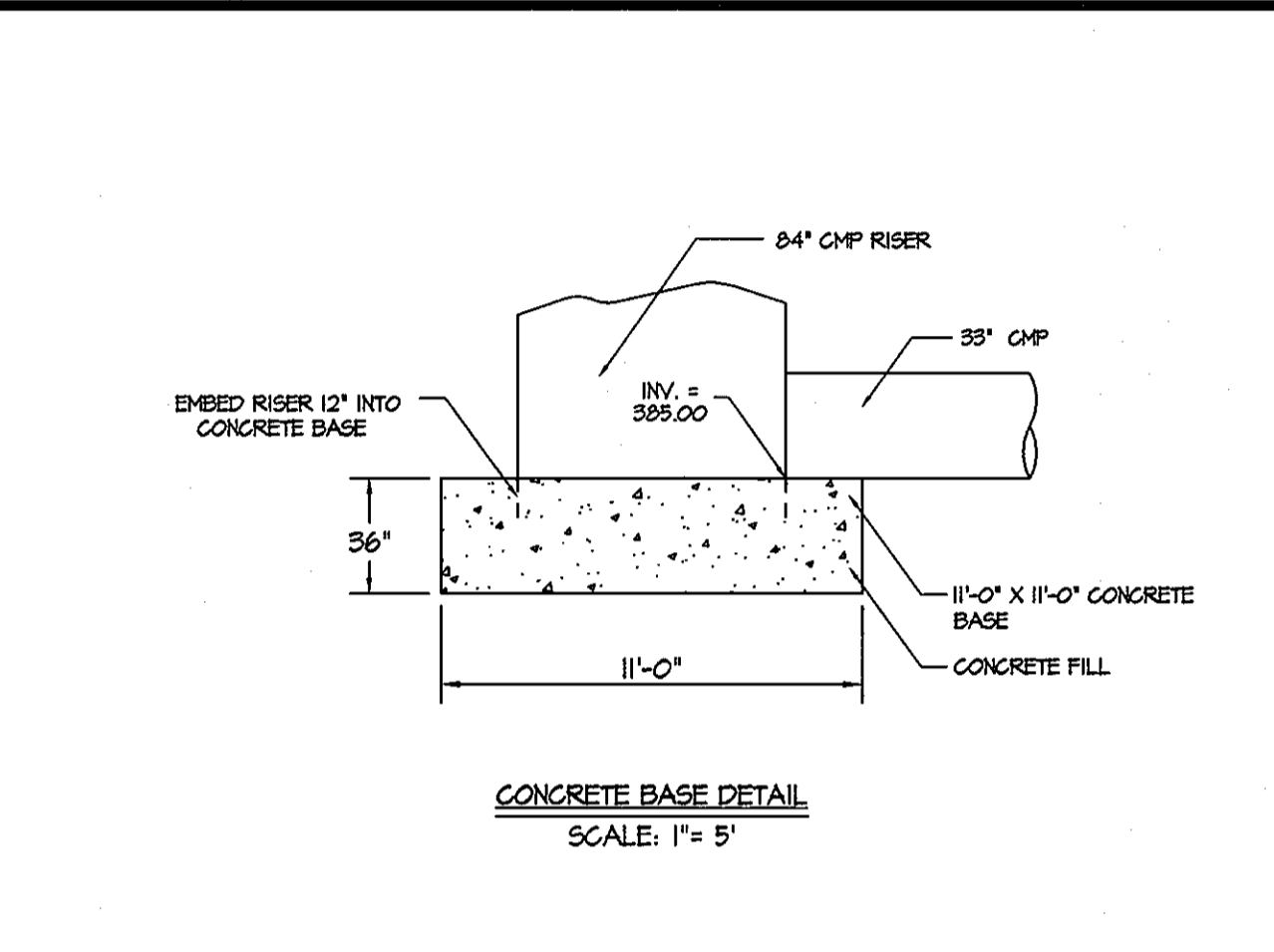
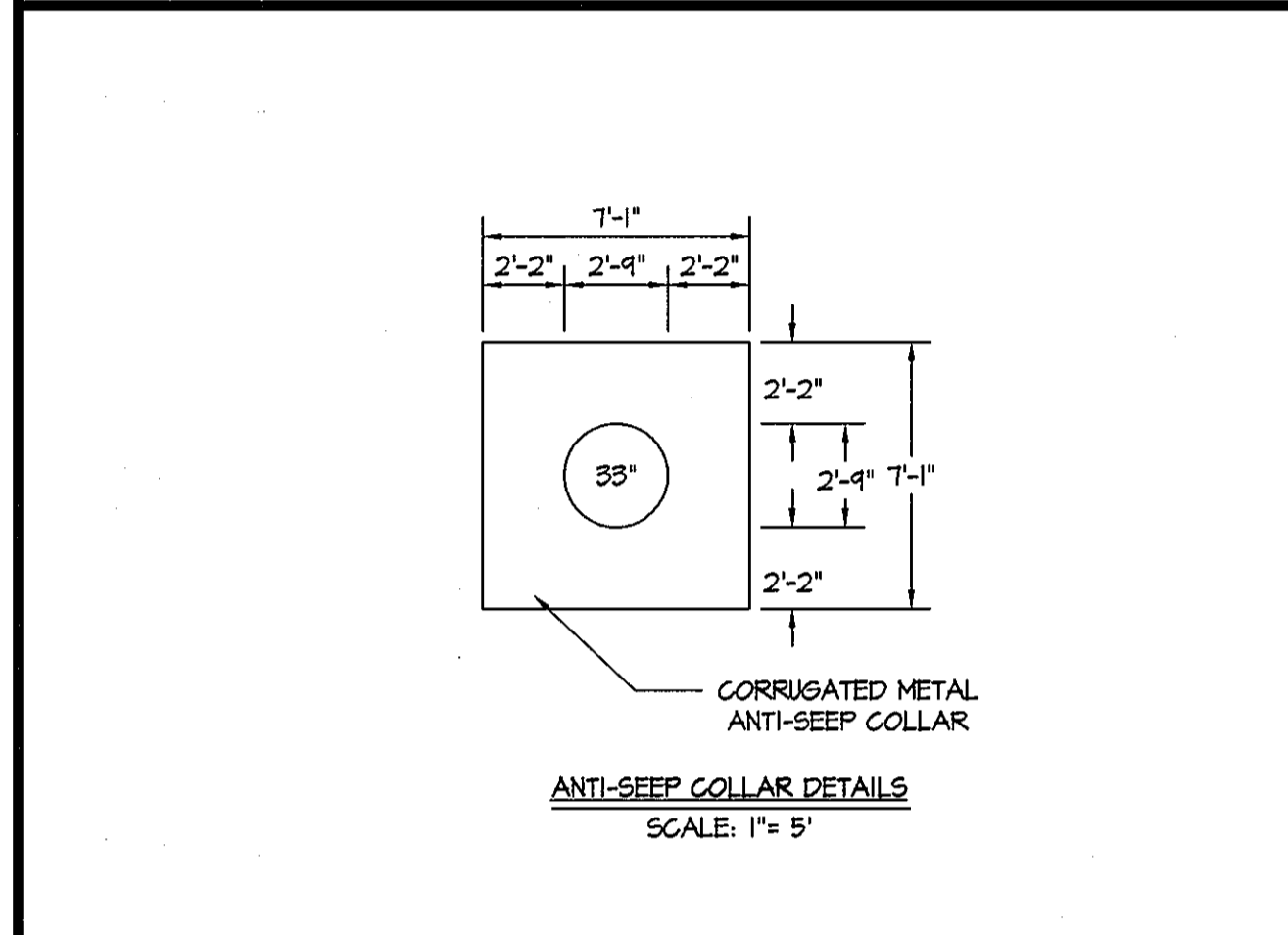
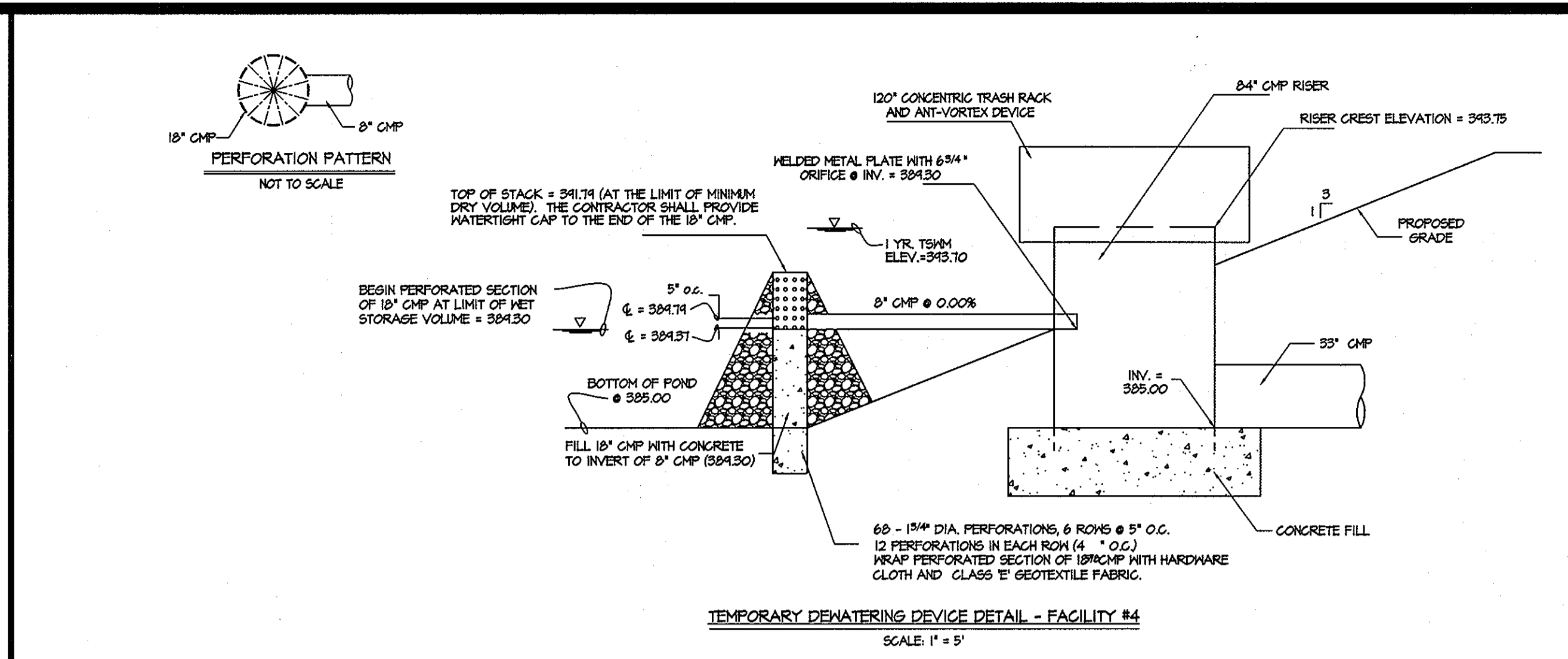
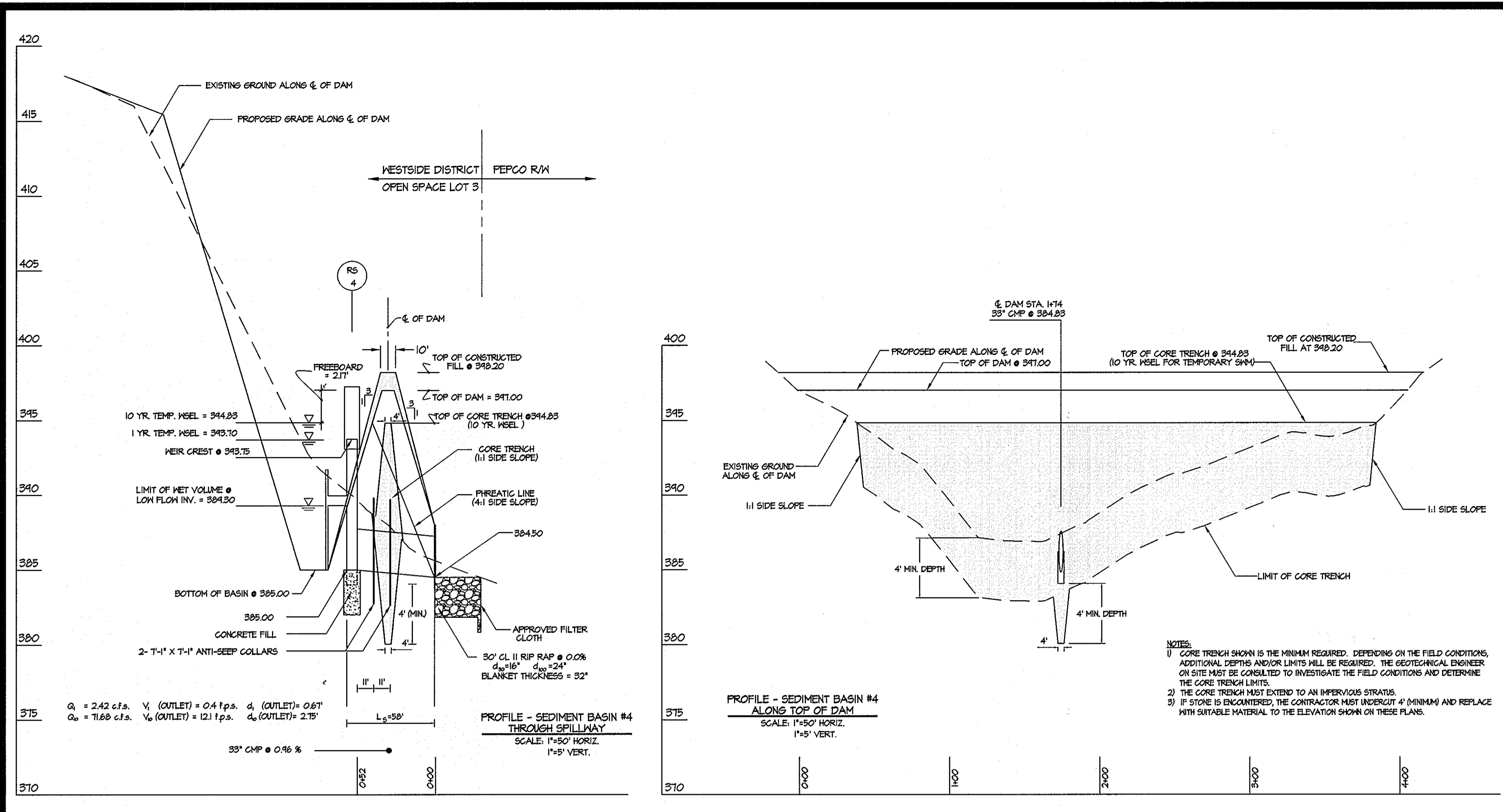
AS-BUILTS
STORMWATER MANAGEMENT DETAILS AND NOTES - SWM POND 3
(STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)

MAPLE LAWN FARMS
WESTSIDE DISTRICT - AREA 1
PARCELS B1 THROUGH B5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'Y', 'Z', AND 'X'

ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
APR 2008 JAN. 2008	41-218.22 46-3	14 OF 32

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-53



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Date: 2-1-08

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: 1-11-08

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: 1-11-08

These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
 Signature: [Signature]
 Date: 1/22/08
 Howard Soil Conservation District
 Natural Resources Conservation Service
 Date: [Signature]

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

DATE	REVISION	BY	APPR.

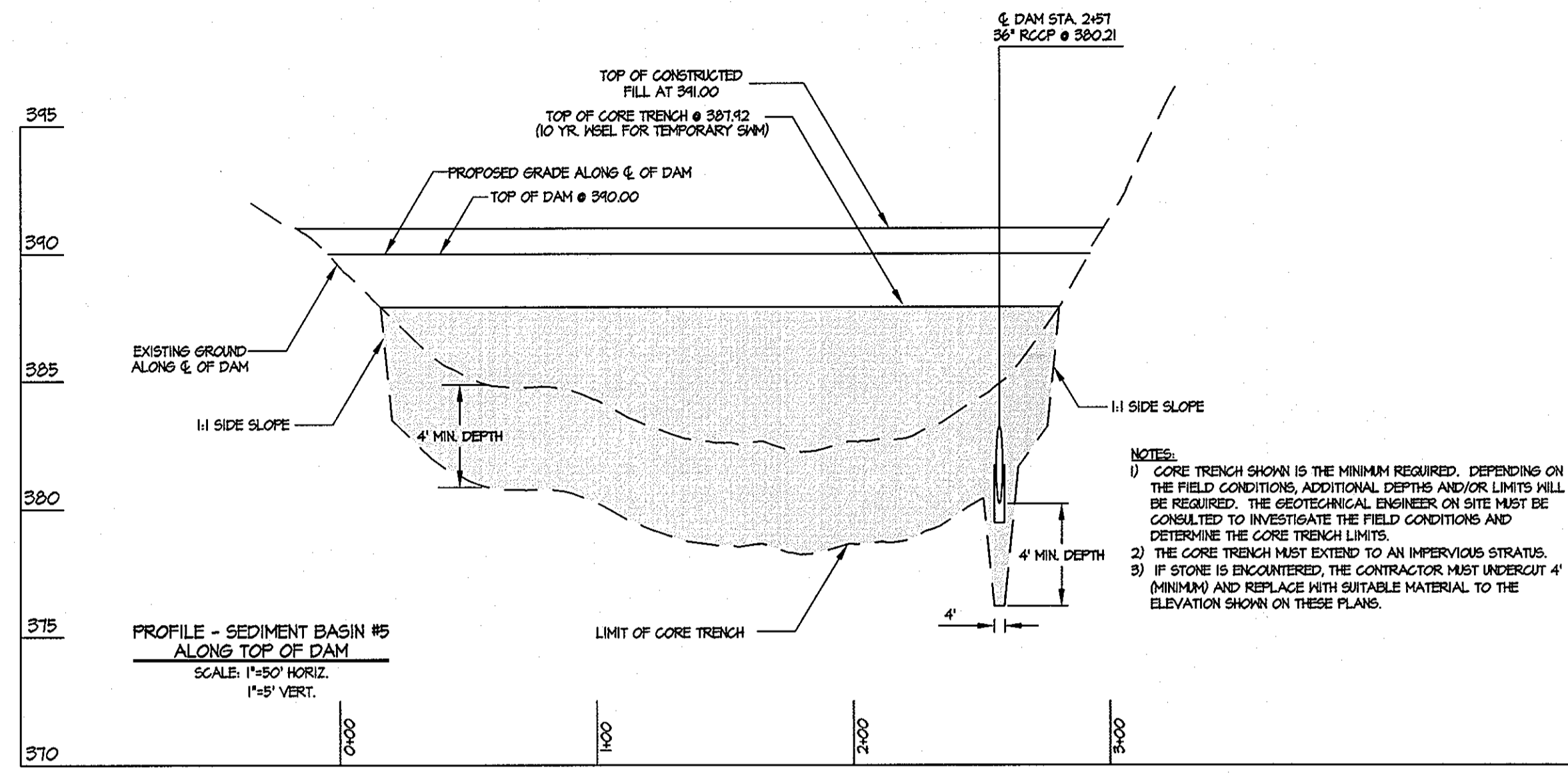
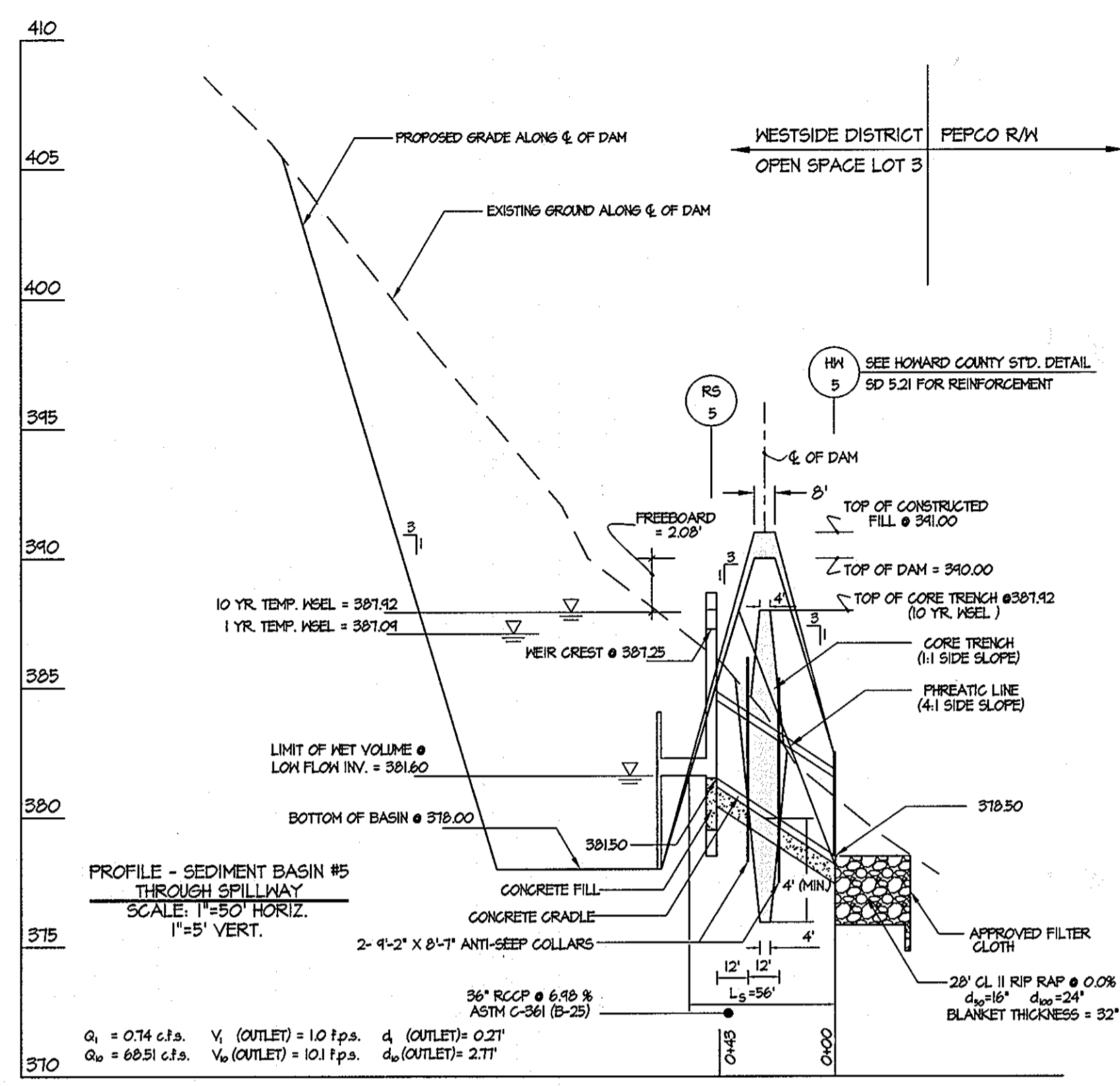
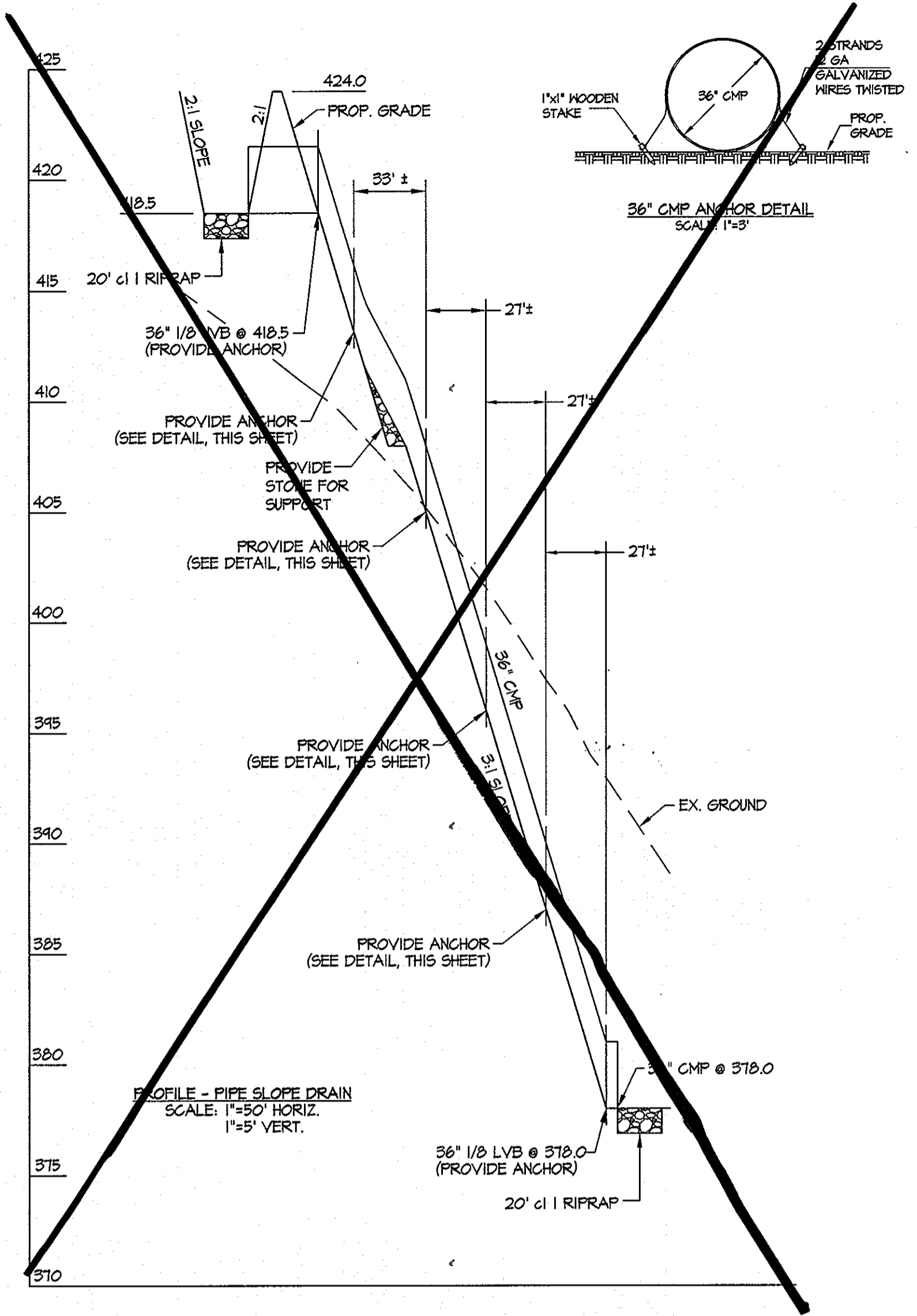
PREPARED FOR:
 G&R/Wood LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
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 EXPIRATION DATE: MAY 26, 2008
 [Signature]
 [Seal]

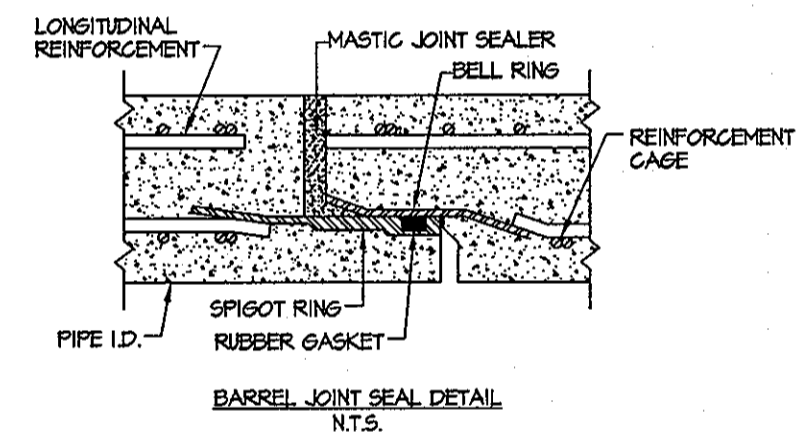
TEMPORARY STORMWATER MANAGEMENT DETAILS AND NOTES - SWM BASIN 4		
SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
JAN., 2008	41-21&22 46-3	16 OF 32

STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4
 AND NON-BUILDABLE PARCELS 'I', 'J', AND 'K'
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-54



- NOTES:**
- WEIR OPENINGS WILL BE PROVIDED ON THE FRONT, REAR AND BOTH SIDES OF THE RISER.
 - CONTRACTOR MUST PROVIDE RUBBER GASKETS AT THE JOINTS ALONG THE 36" RCCP.
 - THE FIRST PIPE JOINT MUST BE WITHIN 4 FEET OF THE RISER STRUCTURE.
 - CONTRACTOR MUST USE A MASTIC GROUT WHERE THE 36" RCCP CONNECTS TO THE RISER.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Wilde 2. Hubel 2-7-09
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chris Hanna 2/15/08
 Chief, Division of Land Development Date

Chris Hanna 2/15/08
 Chief, Development Engineering Division 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] 1-11-08
 Signature of Developer/Builder Date

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

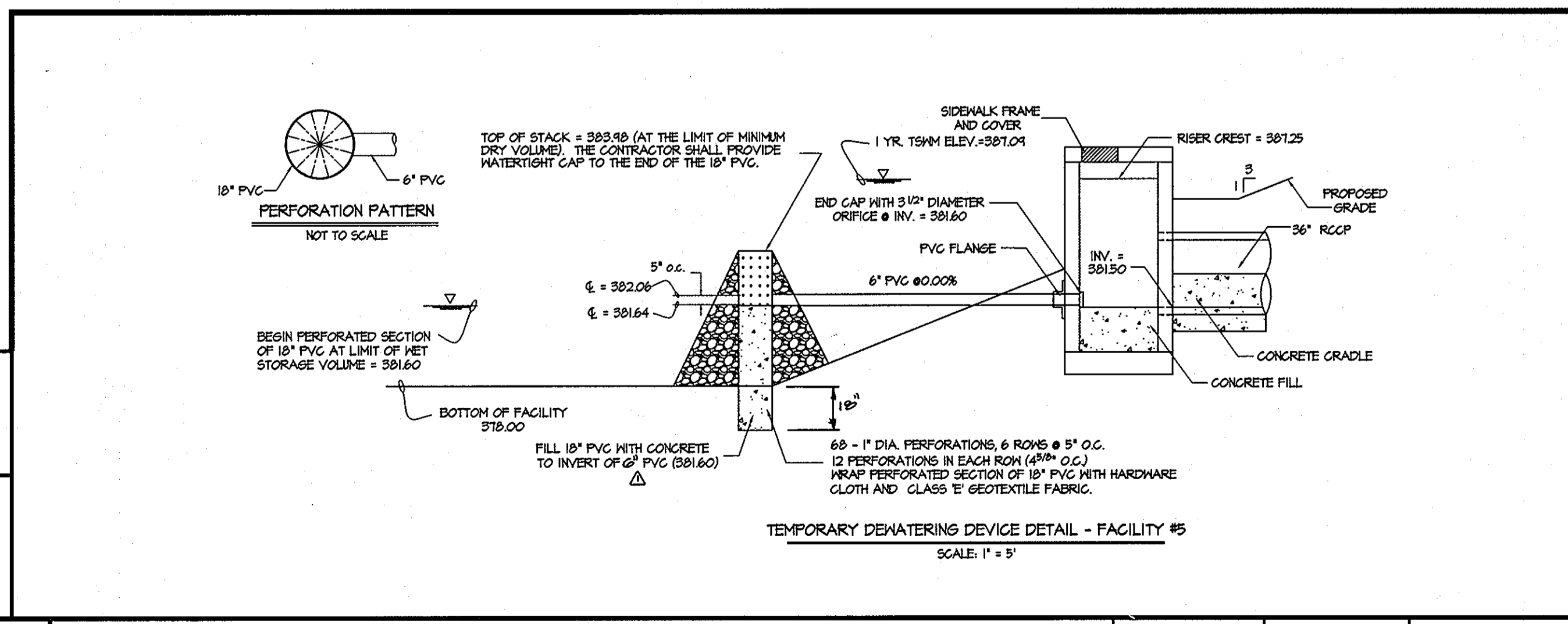
[Signature] 1-11-08
 Engineer's Signature Date

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

[Signature] 1/22/08
 Howard Soil Conservation District Date

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

[Signature]
 Natural Resources Conservation Service Date



GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3509 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.
01/21/08	Removed pipe drain profile; rev callouts & pipe size & added dimension		

PREPARED FOR:
 G R / Wessel LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

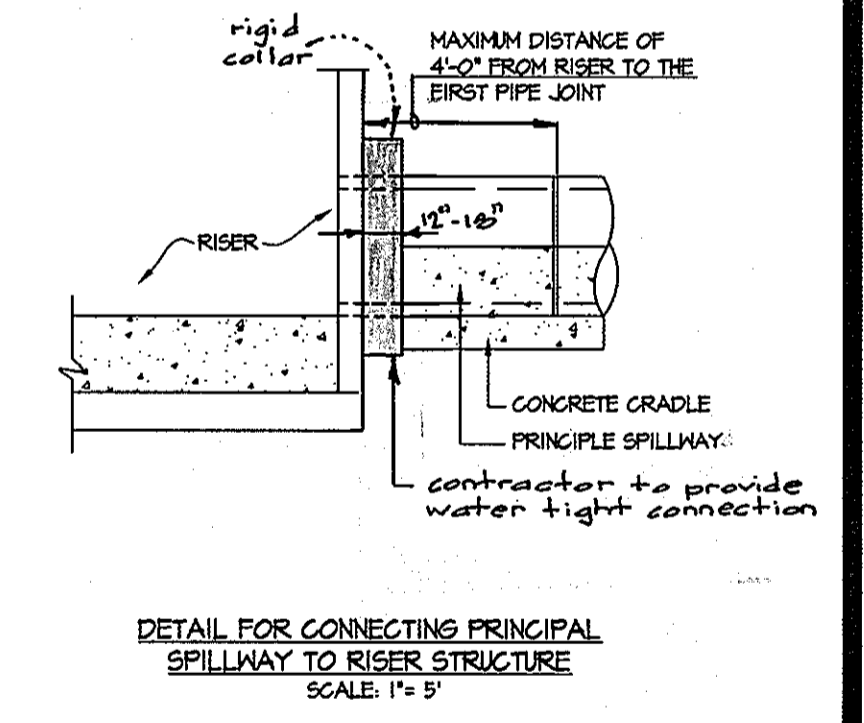
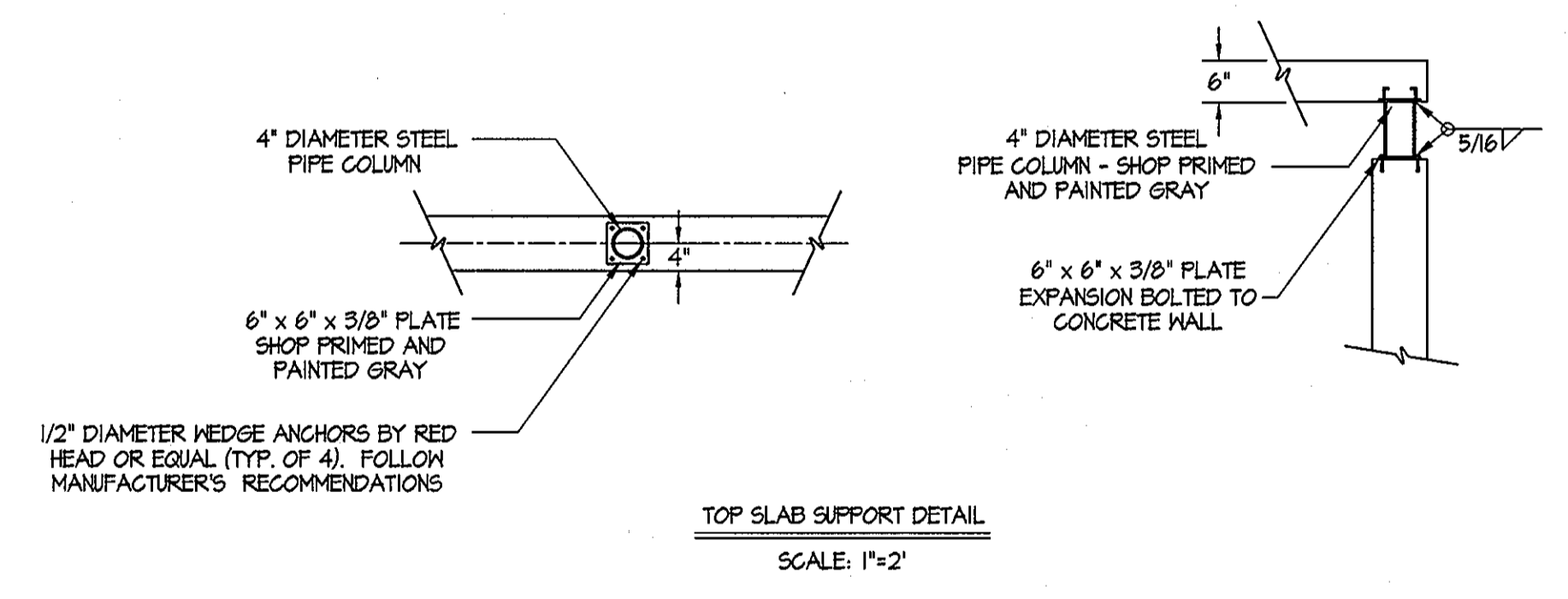
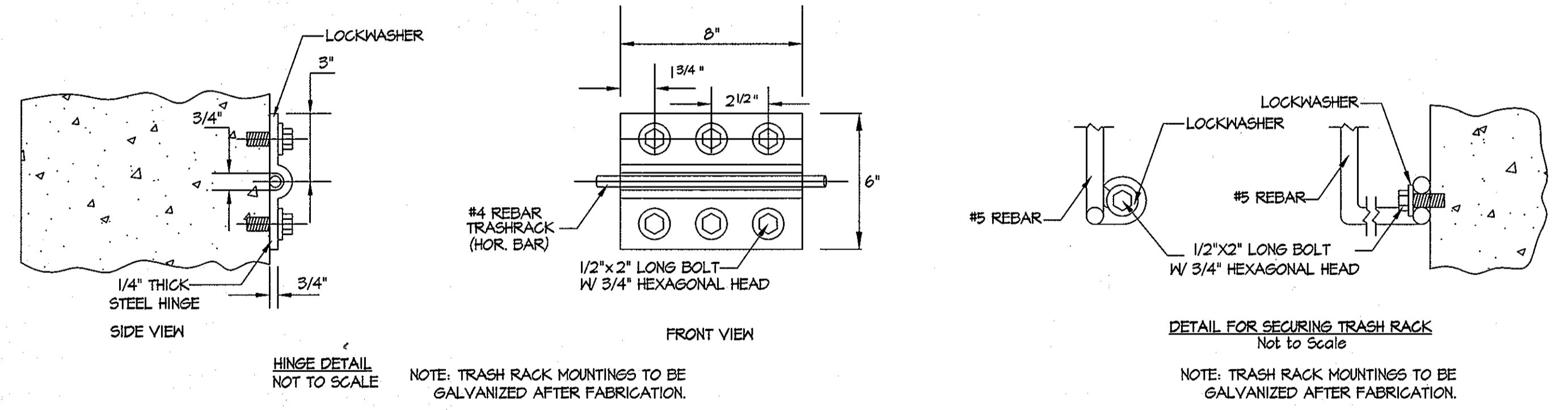
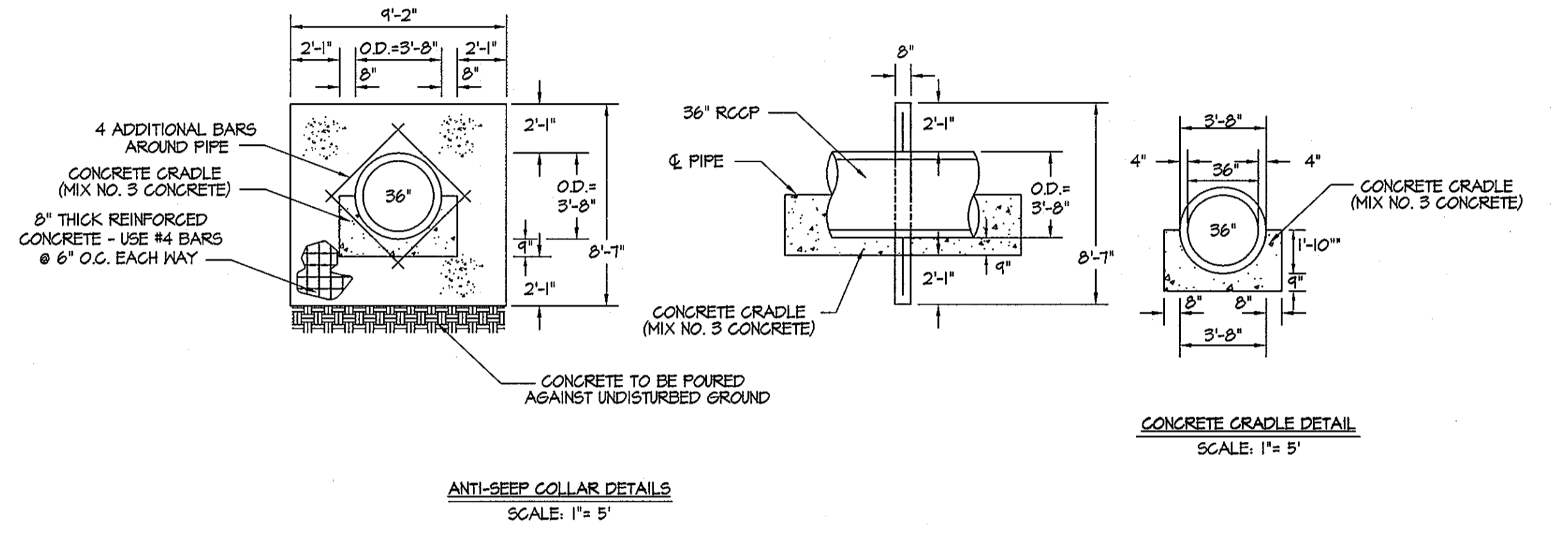
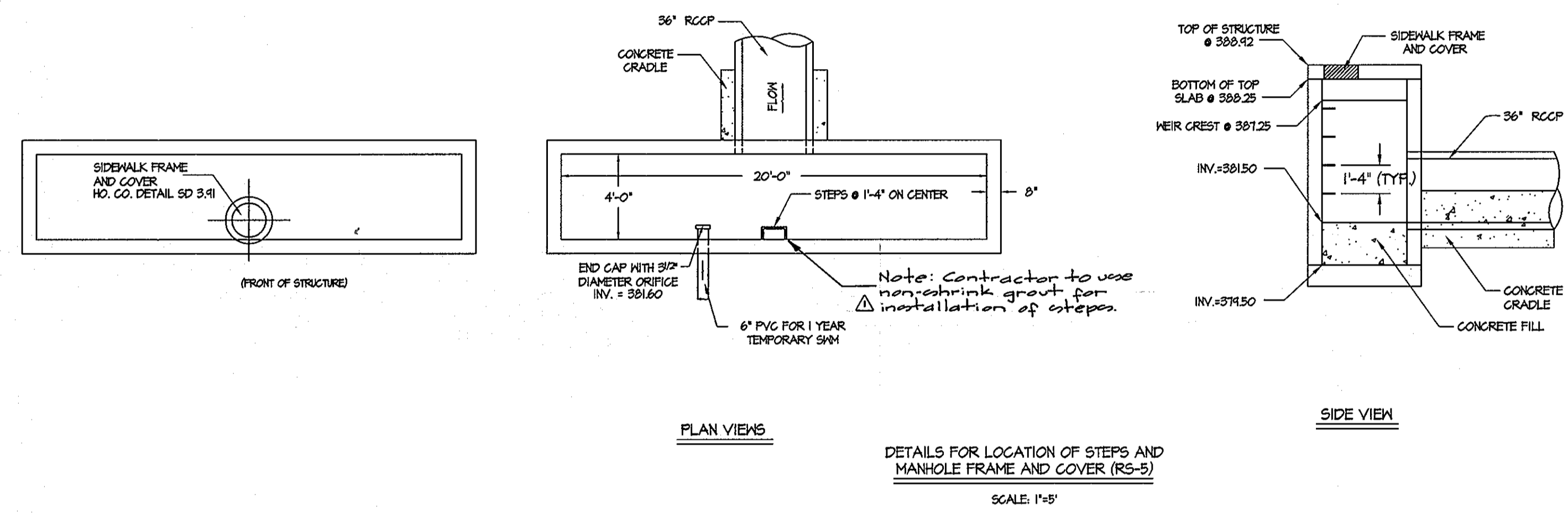
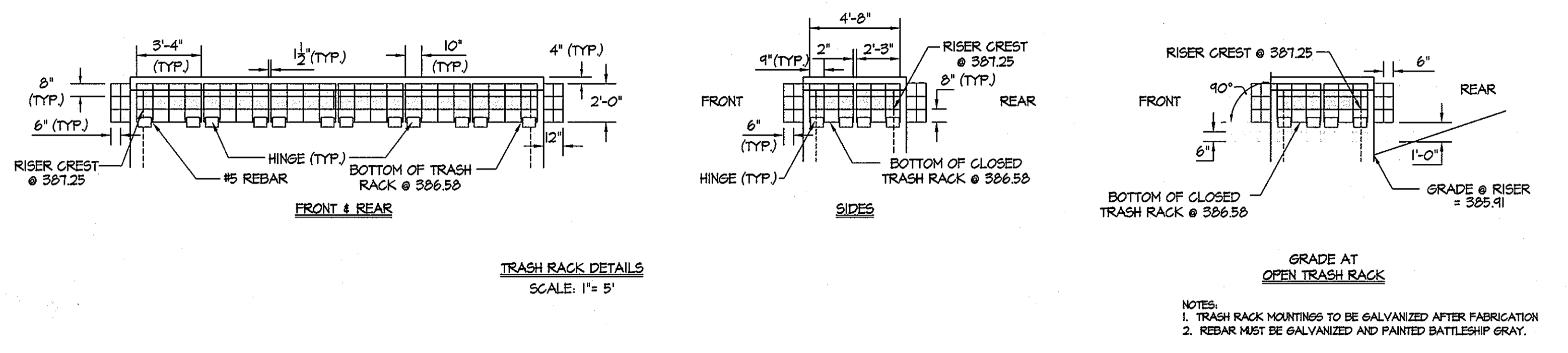
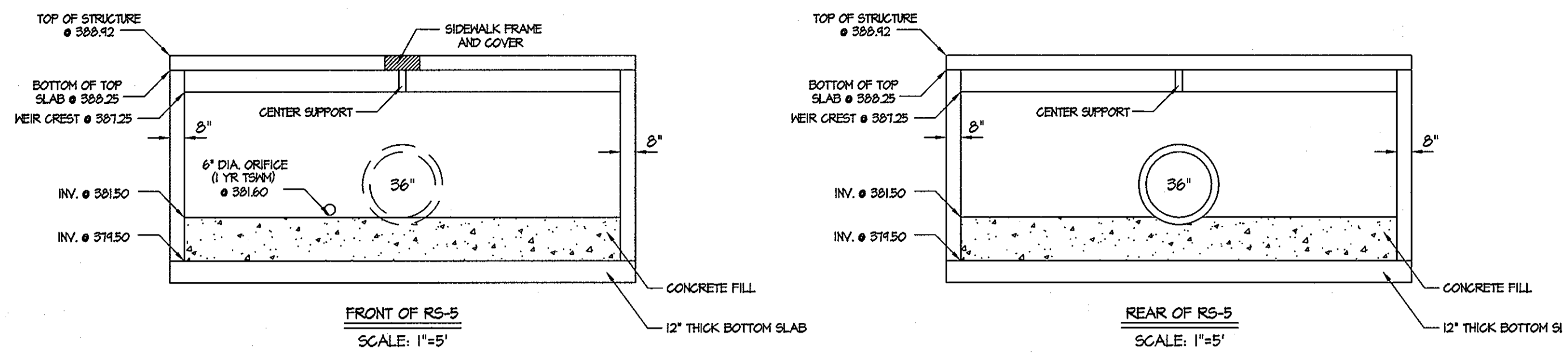
PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
 EXPIRATION DATE: MAY 28, 2008

[Signature]

TEMPORARY STORMWATER MANAGEMENT DETAILS AND NOTES - SWM BASIN 5
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4
 AND NON-BUILDABLE PARCELS 'I', 'J', AND 'K'

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
JAN., 2008	41-21&22 46-3	17 OF 22

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-54



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
W. Z. M. H. H. 2-1-08
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Conrad K. Hunter 2/5/08
 Chief, Division of Land Development

Michael J. ... 2/5/08
 Chief, Development Engineering Division

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] 1-11-08
 Signature of Developer/Builder Date

ENGINEER'S CERTIFICATE
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[Signature] 1-11-08
 Engineer's Signature Date

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

[Signature] 1/22/08
 Howard Soil Conservation District Date

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

[Signature]
 Natural Resources Conservation Service Date

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3609 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK
 BURTNSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	BY	APPR.
01/10/08	[Signature]	[Signature]
Added non-shrink grout note to riser detail		

PREPARED FOR:
 G & R/Wessel LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975
 EXPIRATION DATE: MAY 28, 2008

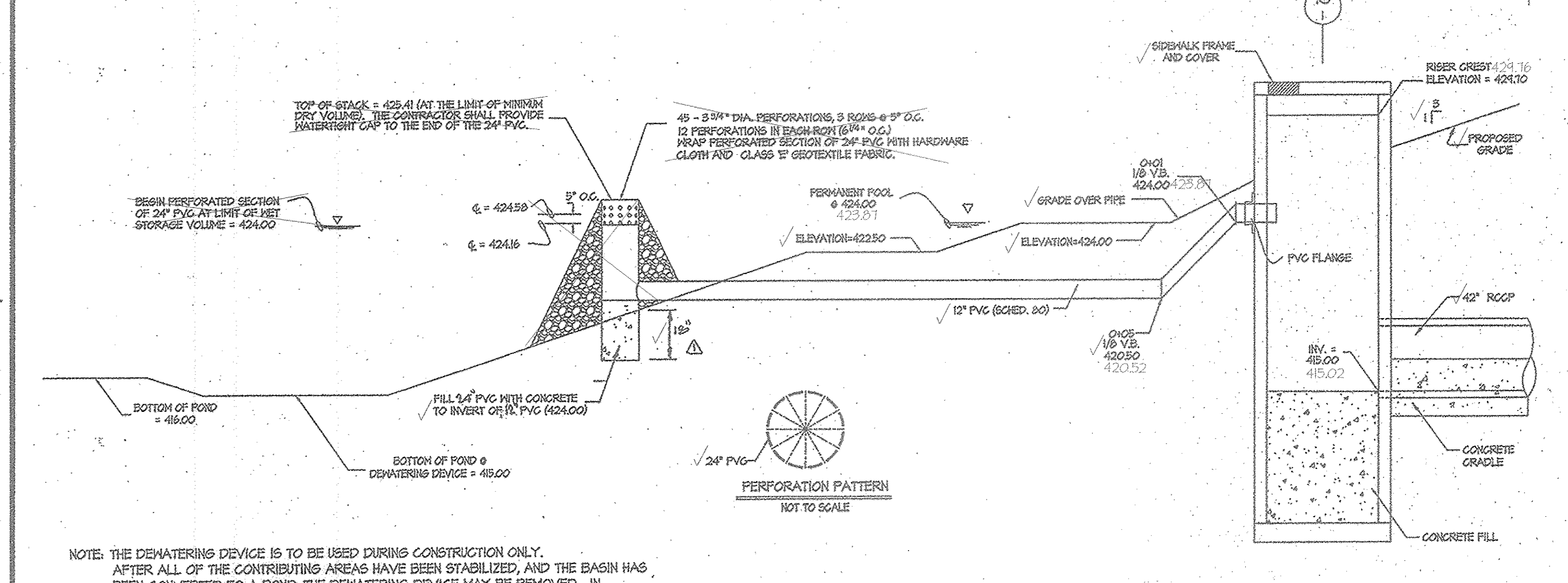
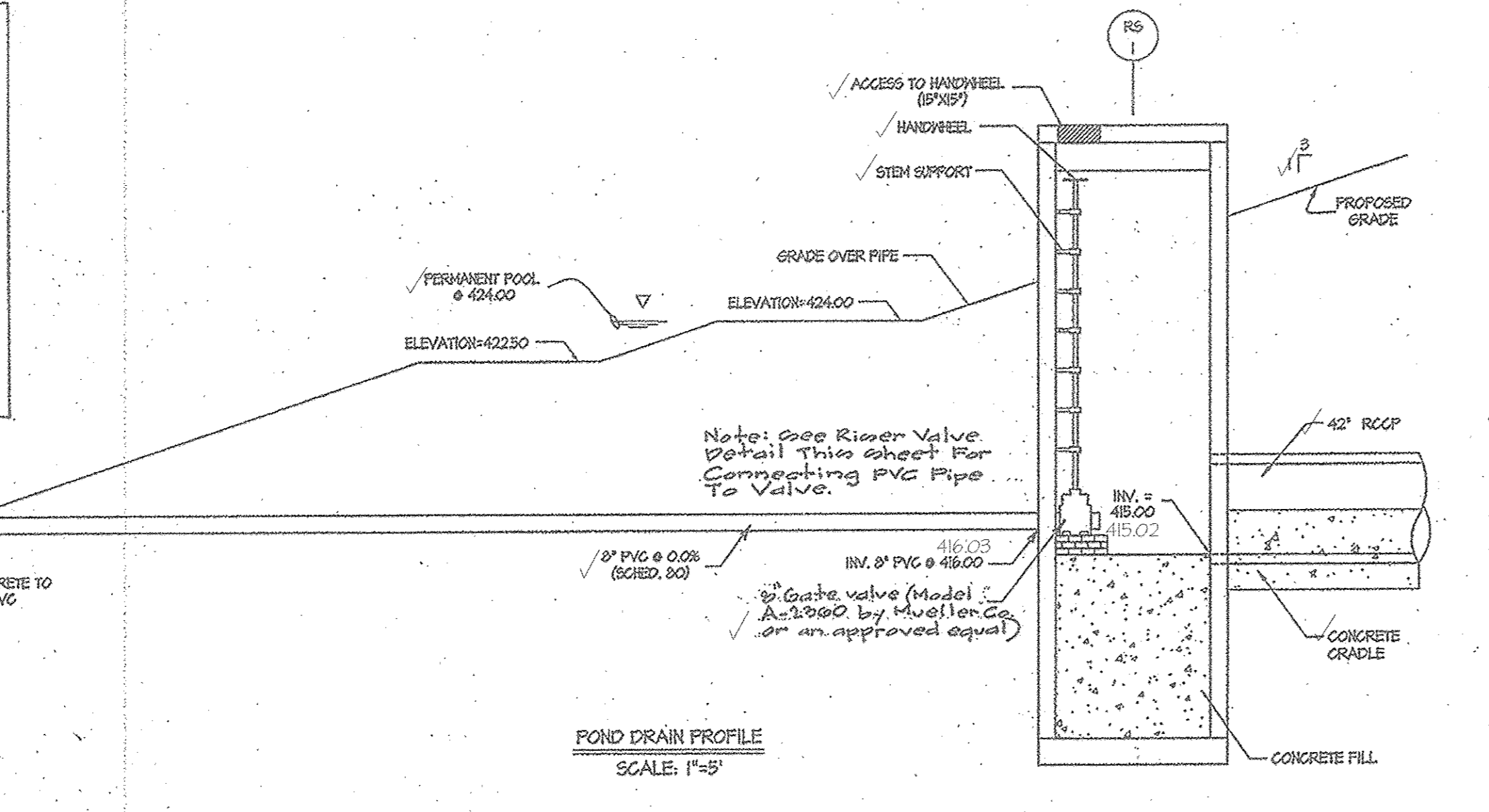
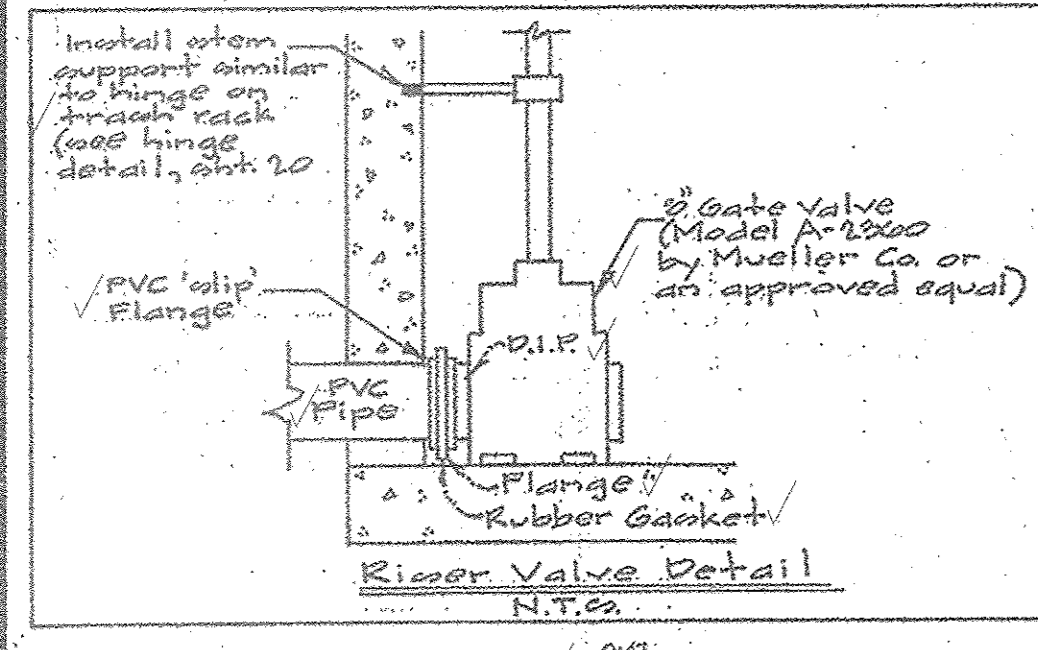
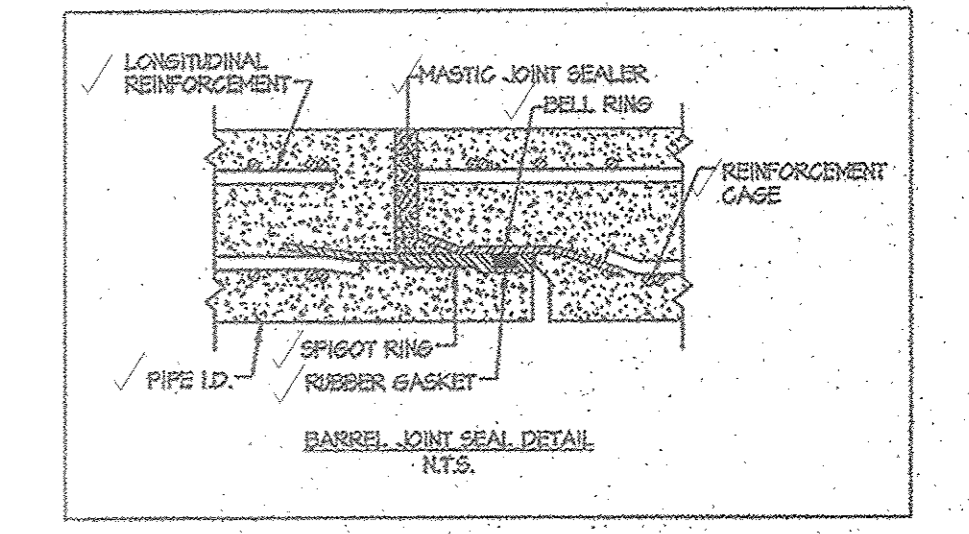
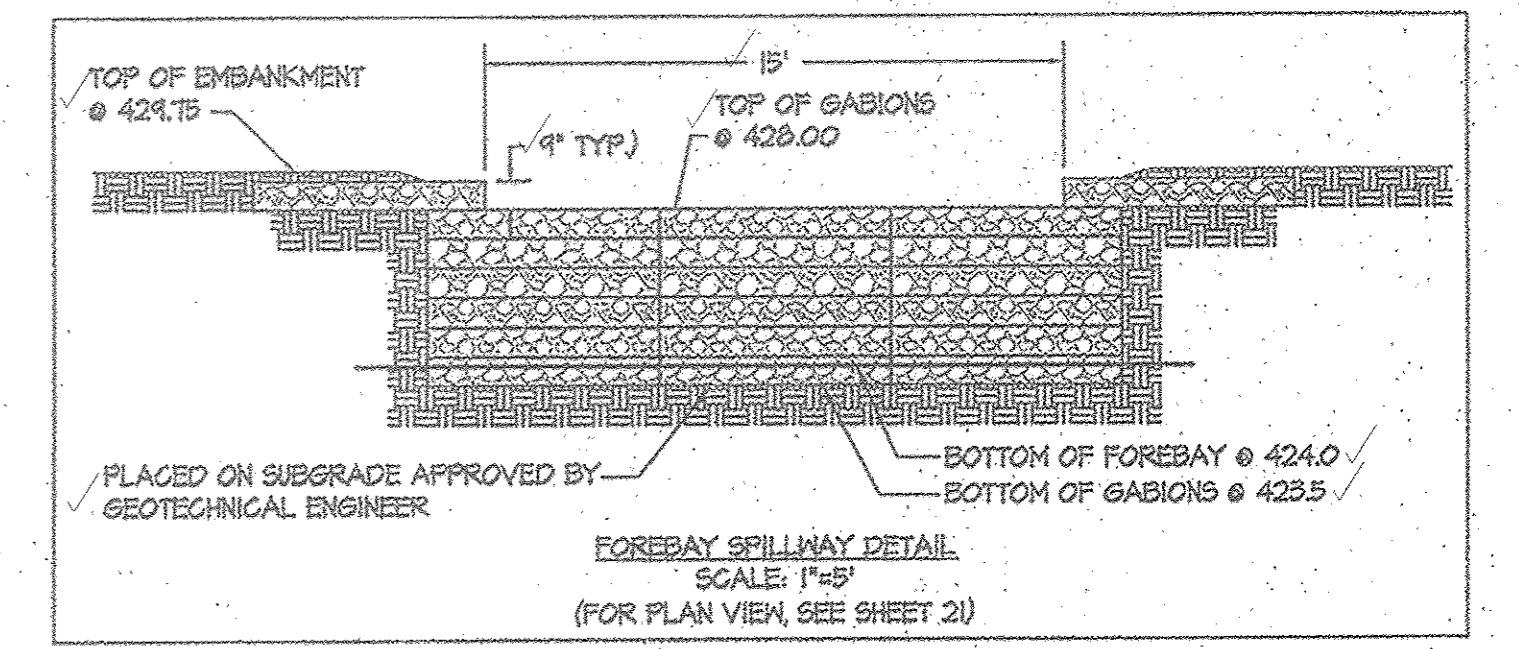
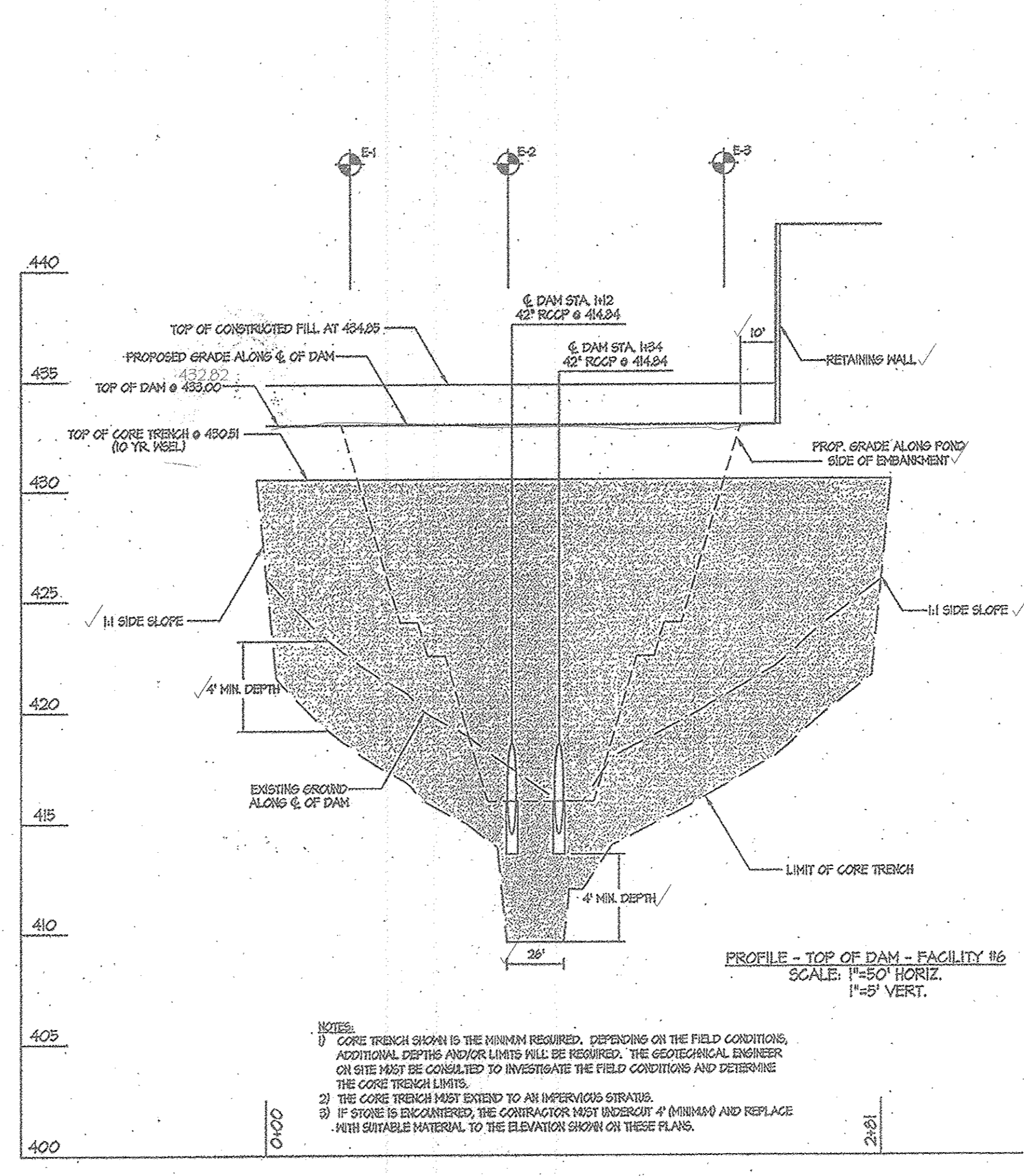
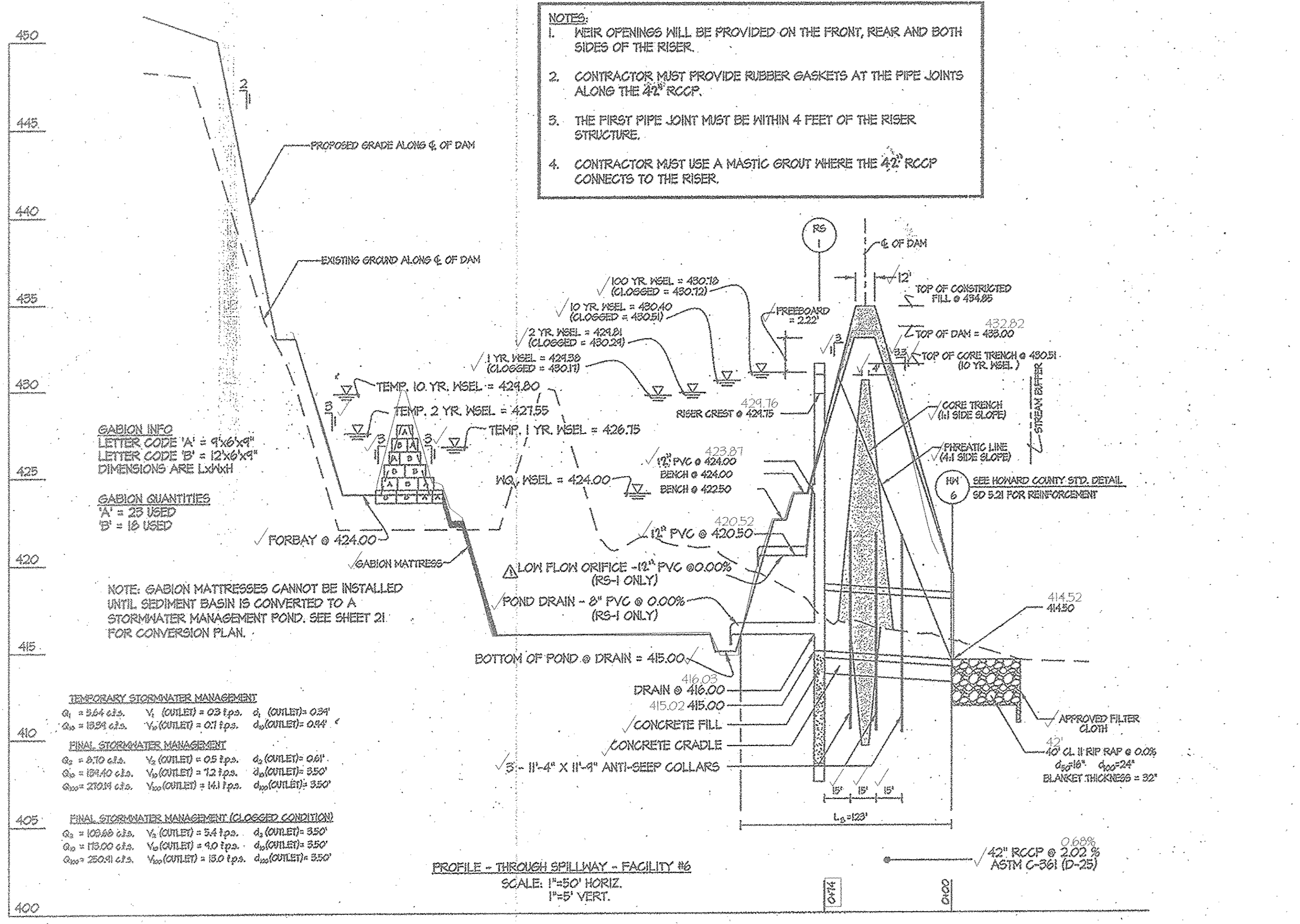
[Signature]
 [Professional Seal]

TEMPORARY STORMWATER MANAGEMENT DETAILS AND NOTES - SWM BASIN 5
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'T', 'J', AND 'K'

ELECTION DISTRICT No. 5 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
JAN., 2008	41-21&22 46-3	18 OF 32

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-5



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Date: 2-10-09

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 Date: 2/15/09

Chief, Development Engineering Division
 Date: 2/15/09

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: 1-11-08

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: 1-11-08

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

Signature: [Signature]
 Date: 1/23/08

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: [Date]

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. 12875, Expiration Date: May 26, 2018.

Signature: [Signature]
 Date: 4/12/08

Professional Engineer
 Maryland Reg. No. 12875

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3309 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20886
 TEL: 301-421-4024 FAX: 301-421-4020

DATE	REVISION	BY	APP'R.
01/11/08	As-Built pipe sizes, added riser valve detail, added dimensions		

PREPARED FOR:
 G.R. Wessell, LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 13875, EXPIRATION DATE: MAY 26, 2008.

Signature: [Signature]
 Date: [Date]

ASBUILTS

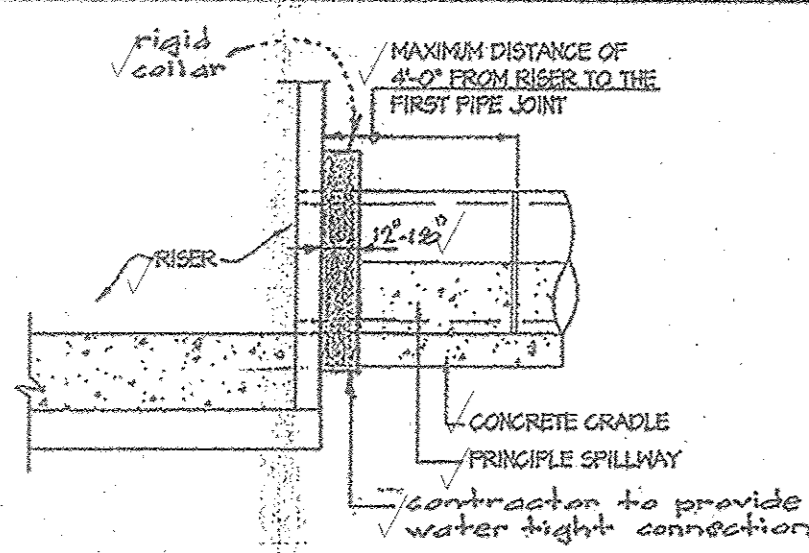
STORMWATER MANAGEMENT DETAILS AND NOTES - SWM BASIN 6
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B4 THROUGH B5, OPEN SPACE LOTS 1 THROUGH 4
 AND NON-BUILDABLE PARCELS 7, 8, AND 'K'

SCALE: AS SHOWN
 ZONING: MXD-3
 G. L. W. FILE NO.: 06081

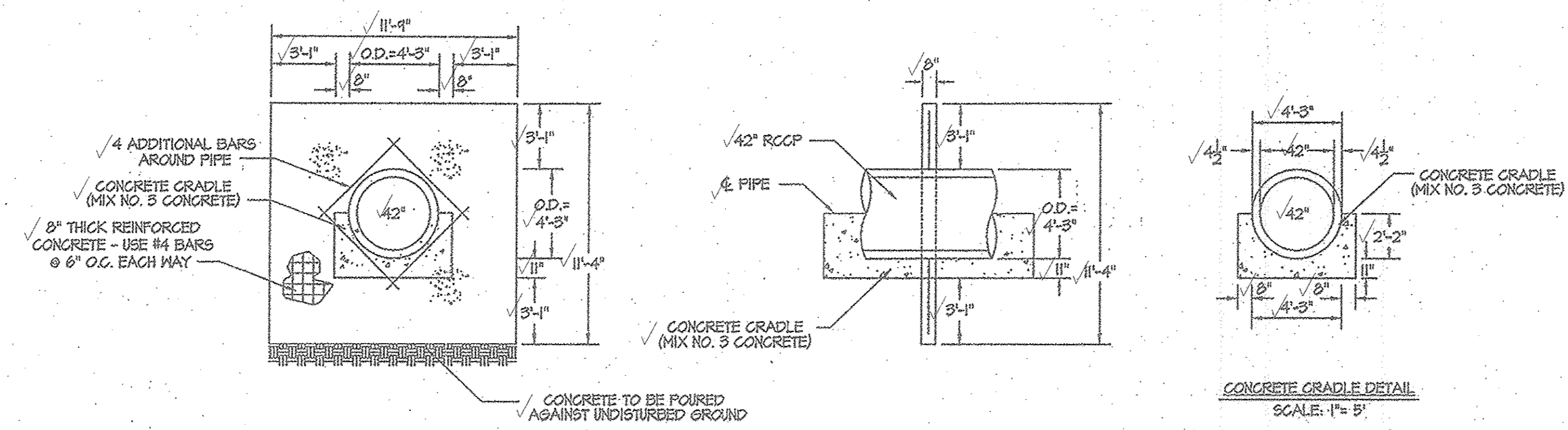
DATE: APR 2008
 TAX MAP - GRID: 41-21&22
 SHEET: 19 OF 22

HOWARD COUNTY, MARYLAND
 ELECTION DISTRICT No. 5

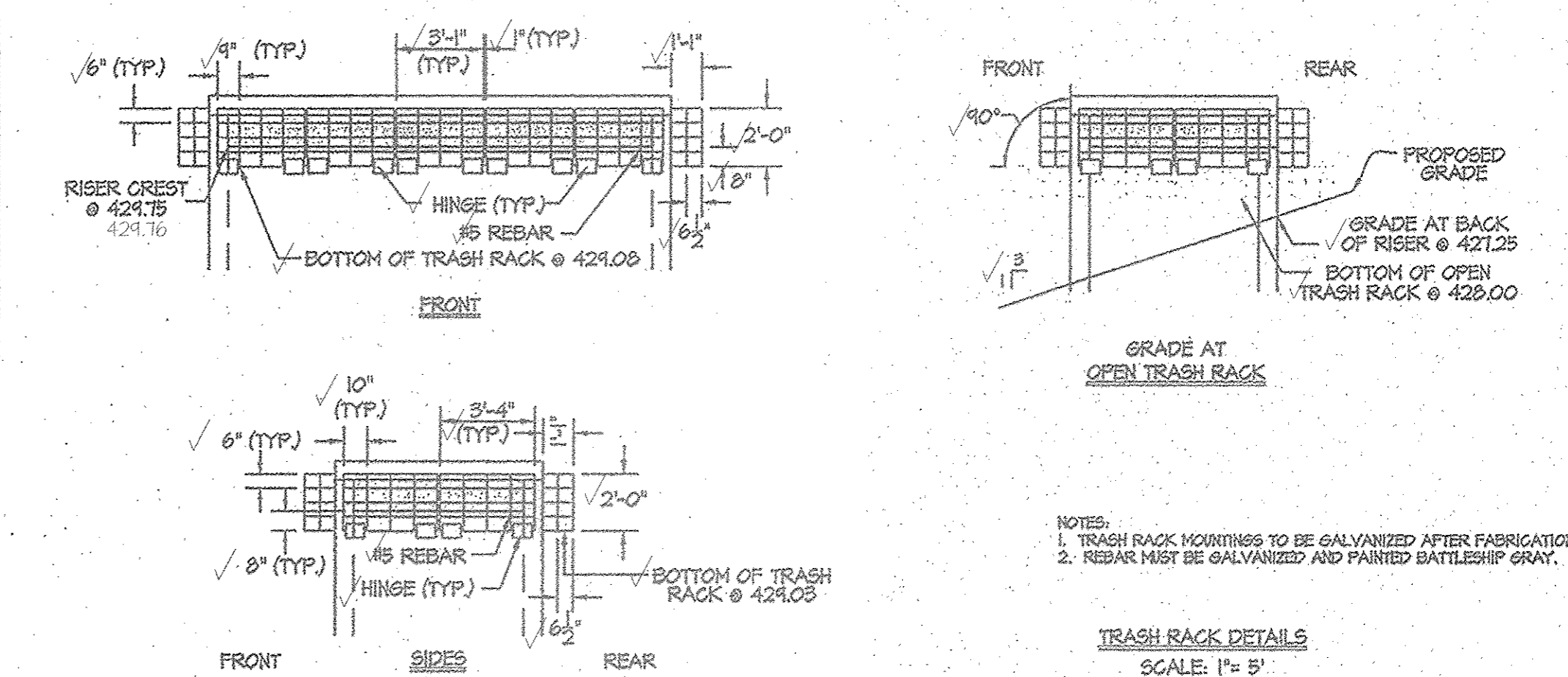
THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-55



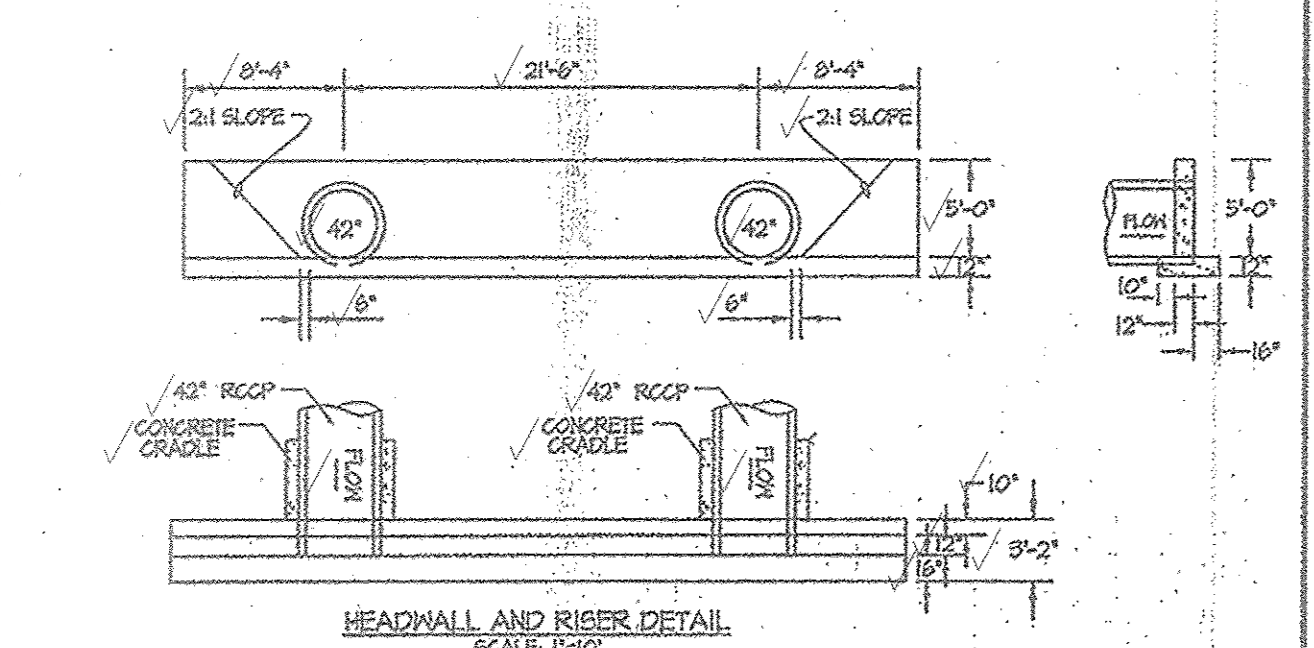
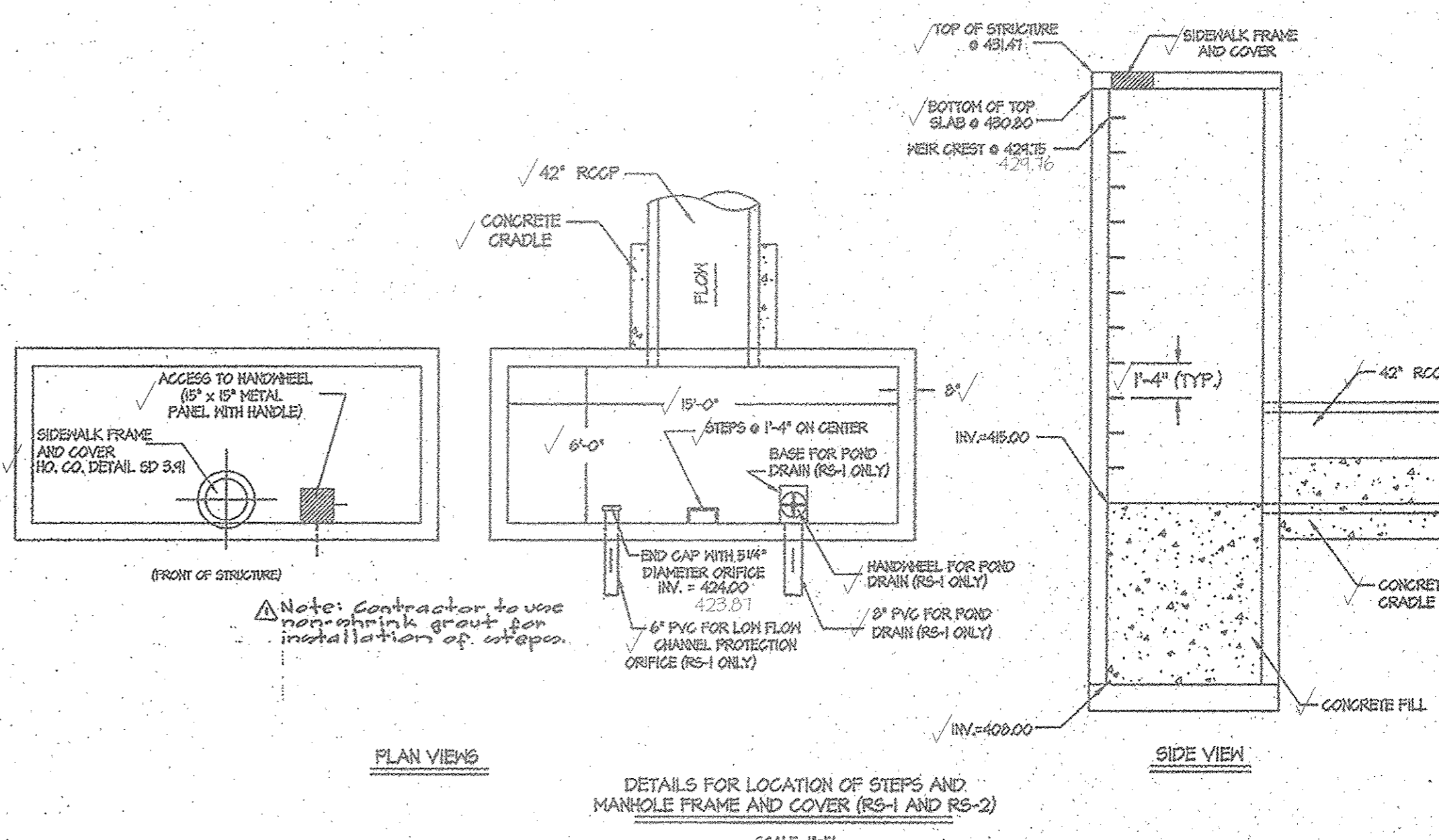
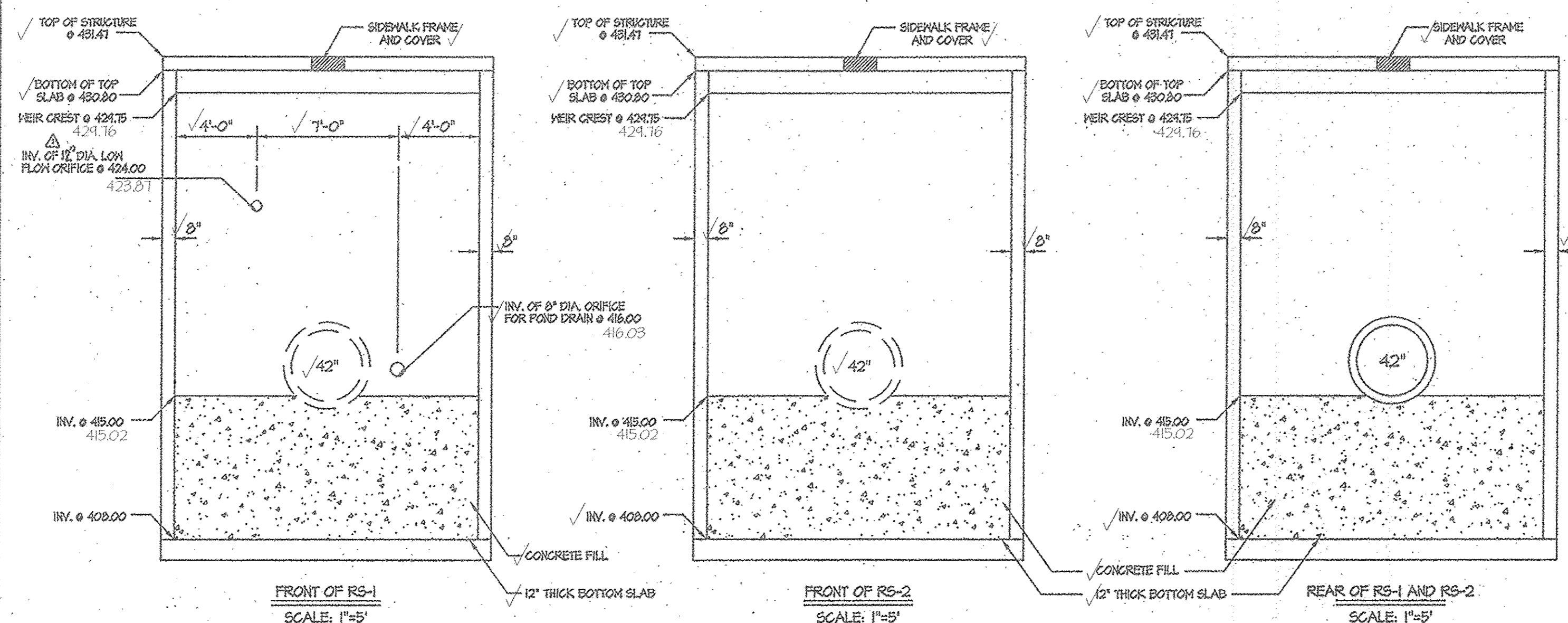
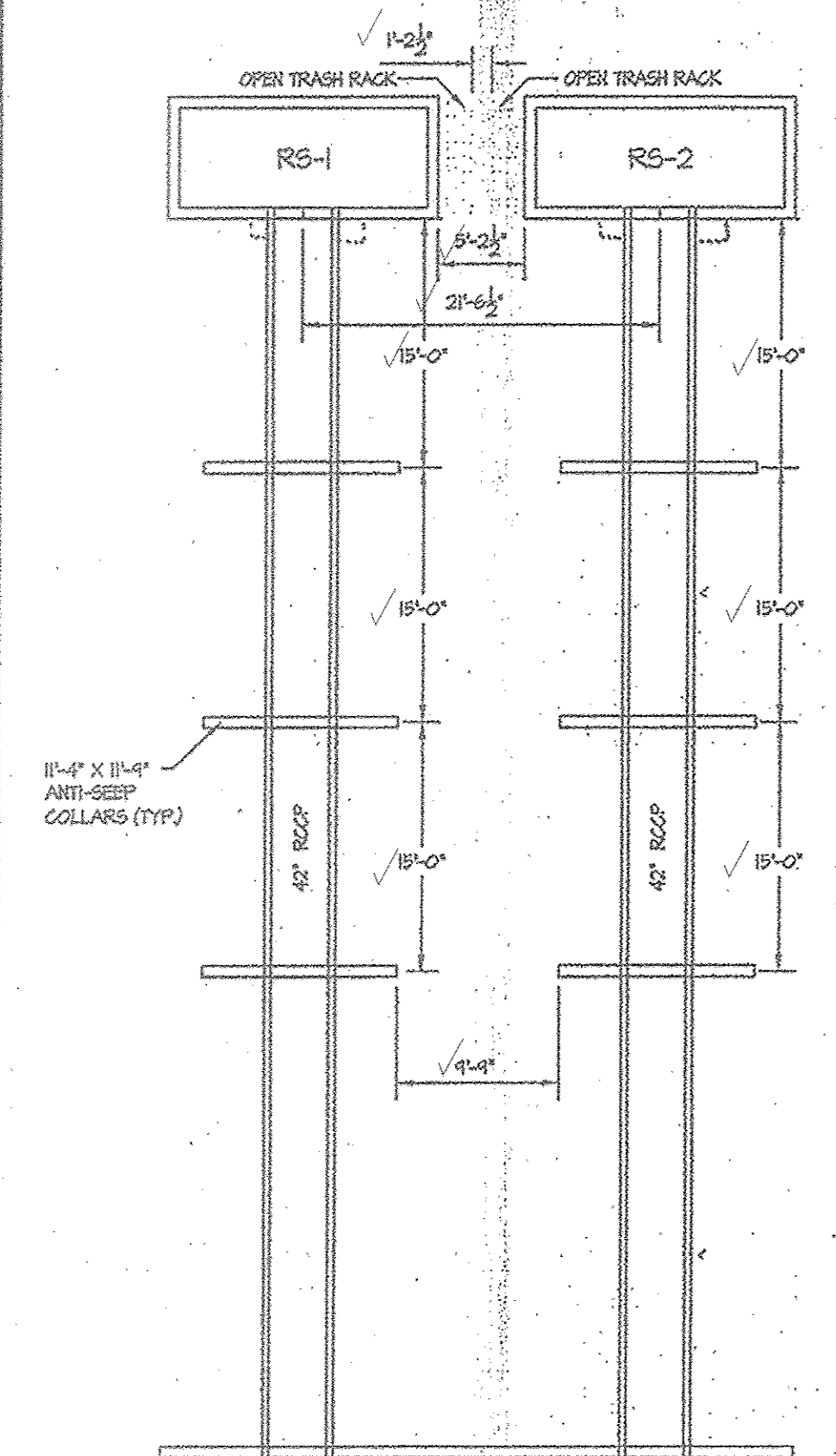
DETAIL FOR CONNECTING PRINCIPAL SPILLWAY TO RISER STRUCTURE SCALE: 1/2"



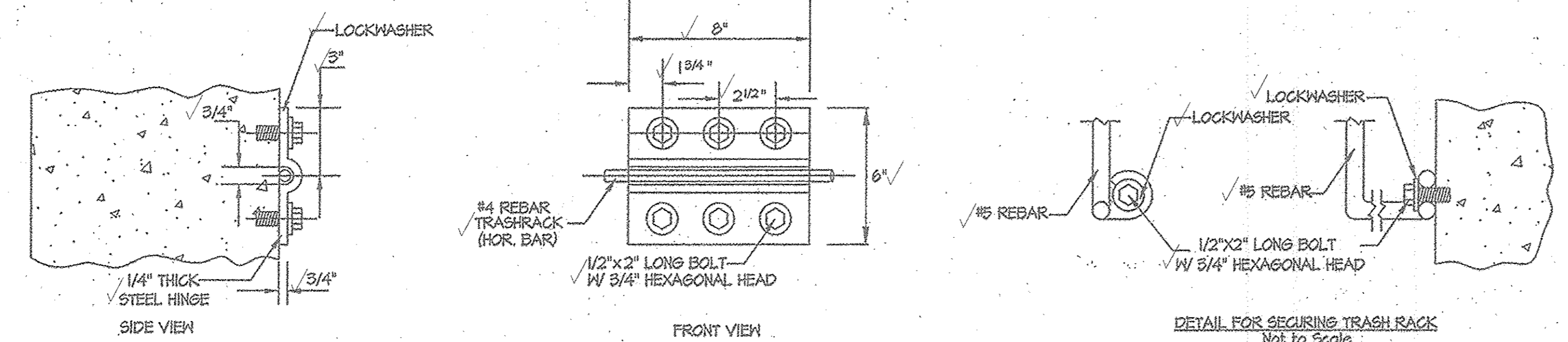
ANTI-SLEEP COLLAR DETAILS SCALE: 1"



TRASH RACK DETAILS SCALE: 1"



HEADMALL AND RISER DETAIL SCALE: 1/2"

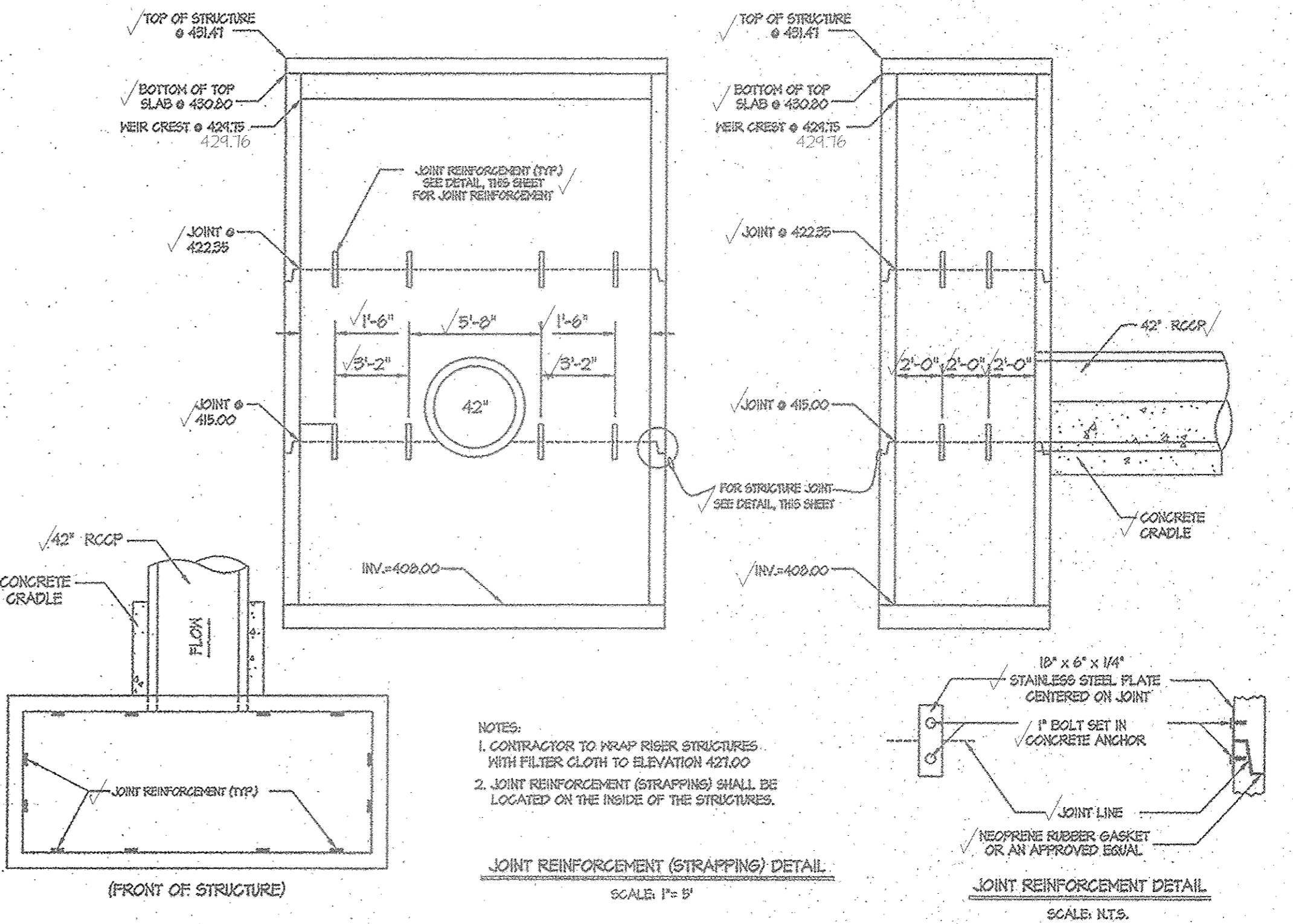


HINGE DETAIL NOT TO SCALE NOTE: TRASH RACK MOUNTINGS TO BE GALVANIZED AFTER FABRICATION.

DETAIL FOR SECURING TRASH RACK Not to Scale NOTE: TRASH RACK MOUNTINGS TO BE GALVANIZED AFTER FABRICATION.

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. 12975, Expiration Date: May 26, 2018.

4/27/10 Date: *Egel K. Weitschick* Professional Engineer Maryland Reg. No. 12975



NOTES: 1. CONTRACTOR TO PRAP RISER STRUCTURES WITH FILTER CLOTH TO ELEVATION 421.00 2. JOINT REINFORCEMENT (STRAPPING) SHALL BE LOCATED ON THE INSIDE OF THE STRUCTURES.

JOINT REINFORCEMENT (STRAPPING) DETAIL SCALE: 1"

JOINT REINFORCEMENT DETAIL SCALE: N.T.S.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. ... 2-1-08
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Christa ... 2/15/08
 Chief, Division of Land Development Date
... 2/15/08
 Chief, Development Engineering Division Date

DEVELOPER'S/BUILDER'S CERTIFICATE
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 Signature of Developer/Builder: *...* Date: 1-11-08

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: *...* Date: 1-11-08

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
 Signature: *Stephen M. Schomire* 4/27/10
 Date: *...* 1/22/08
 Howard Soil Conservation District Date
 Natural Resources Conservation Service Date

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONTOWNE OFFICE PARK
 BURTONTOWNE, MARYLAND 20886
 TEL: 301-421-0294 BALT. 410-820-1620 DC/VA 301-289-2524 FAX: 301-421-4165

DATE	REVISION	BY	APPR.
2/15/08	Review flow or pipe diameter added atop installation note		

PREPARED FOR:
 G & R/Woodall LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 26, 2018.
...

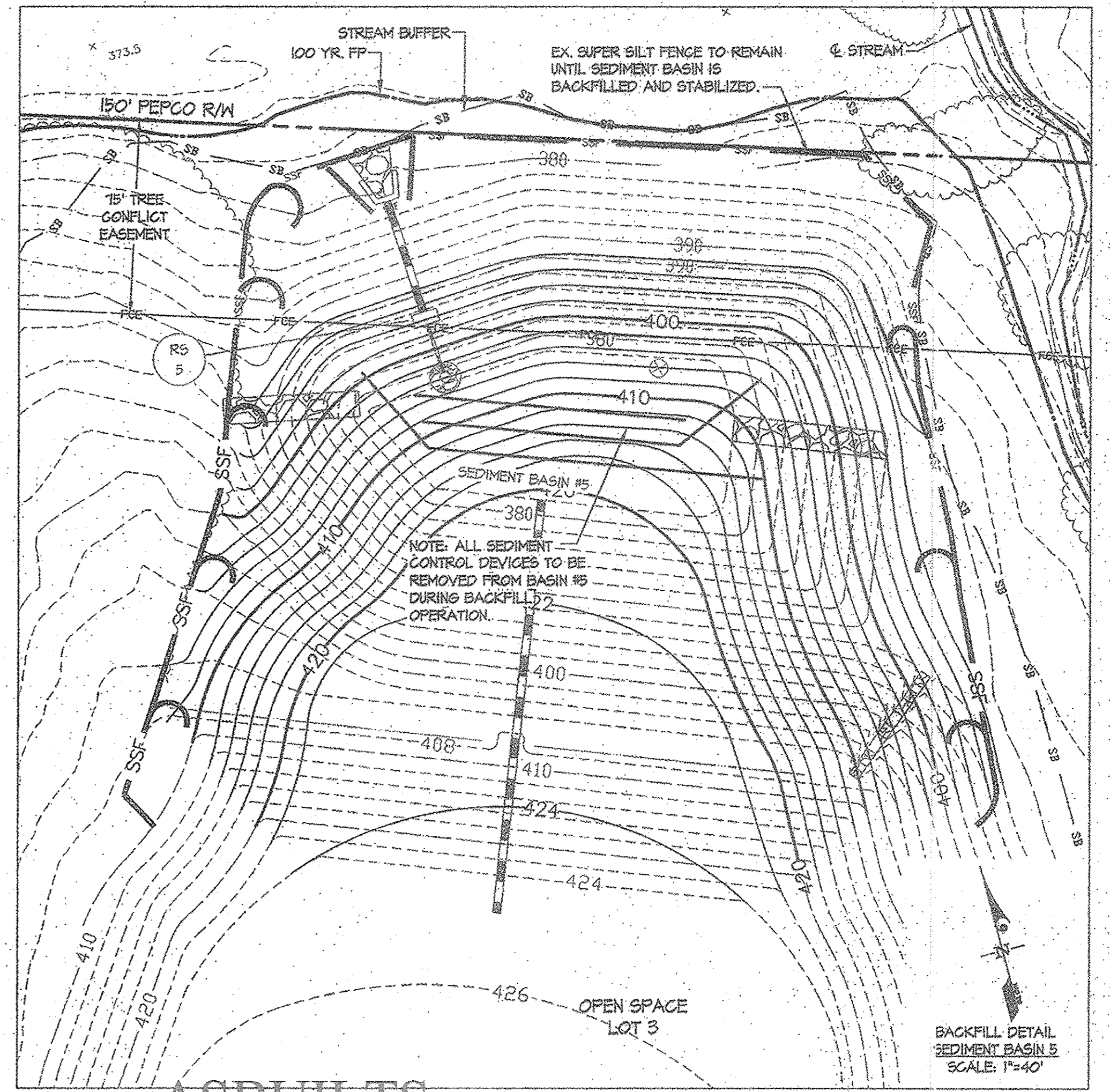
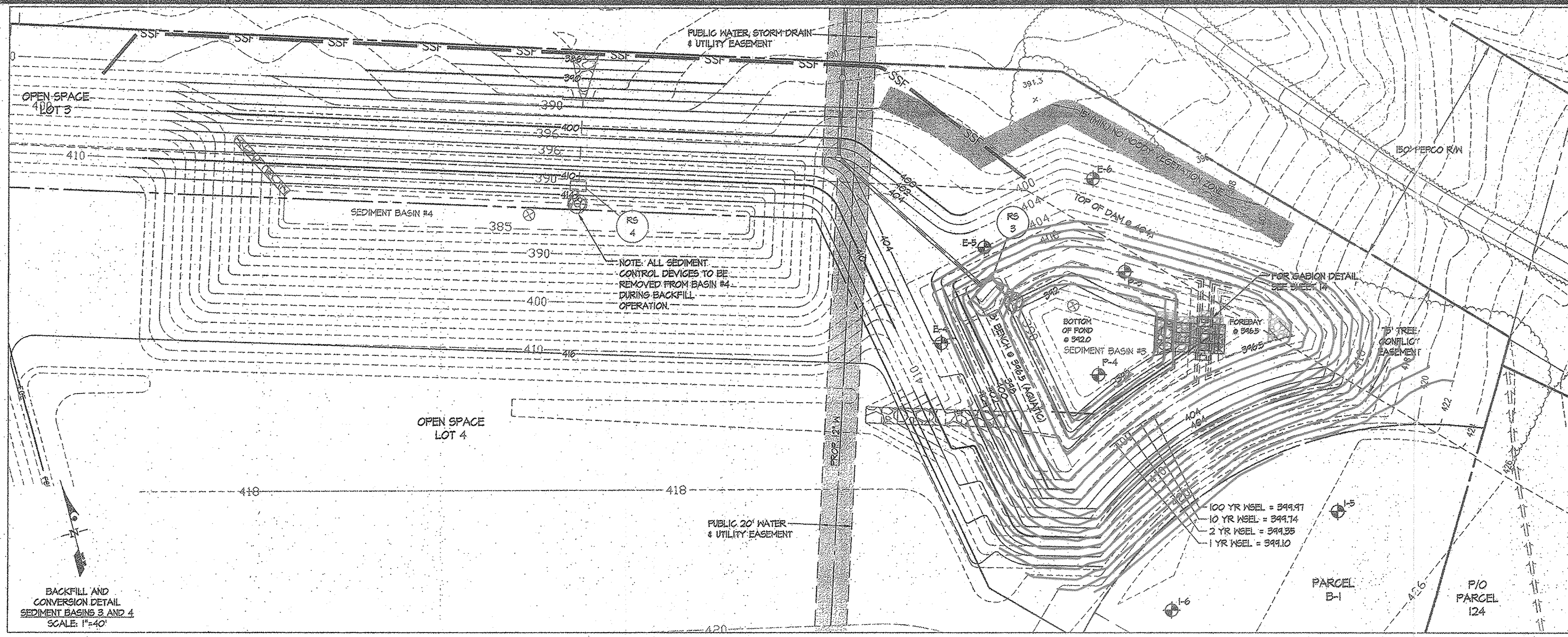
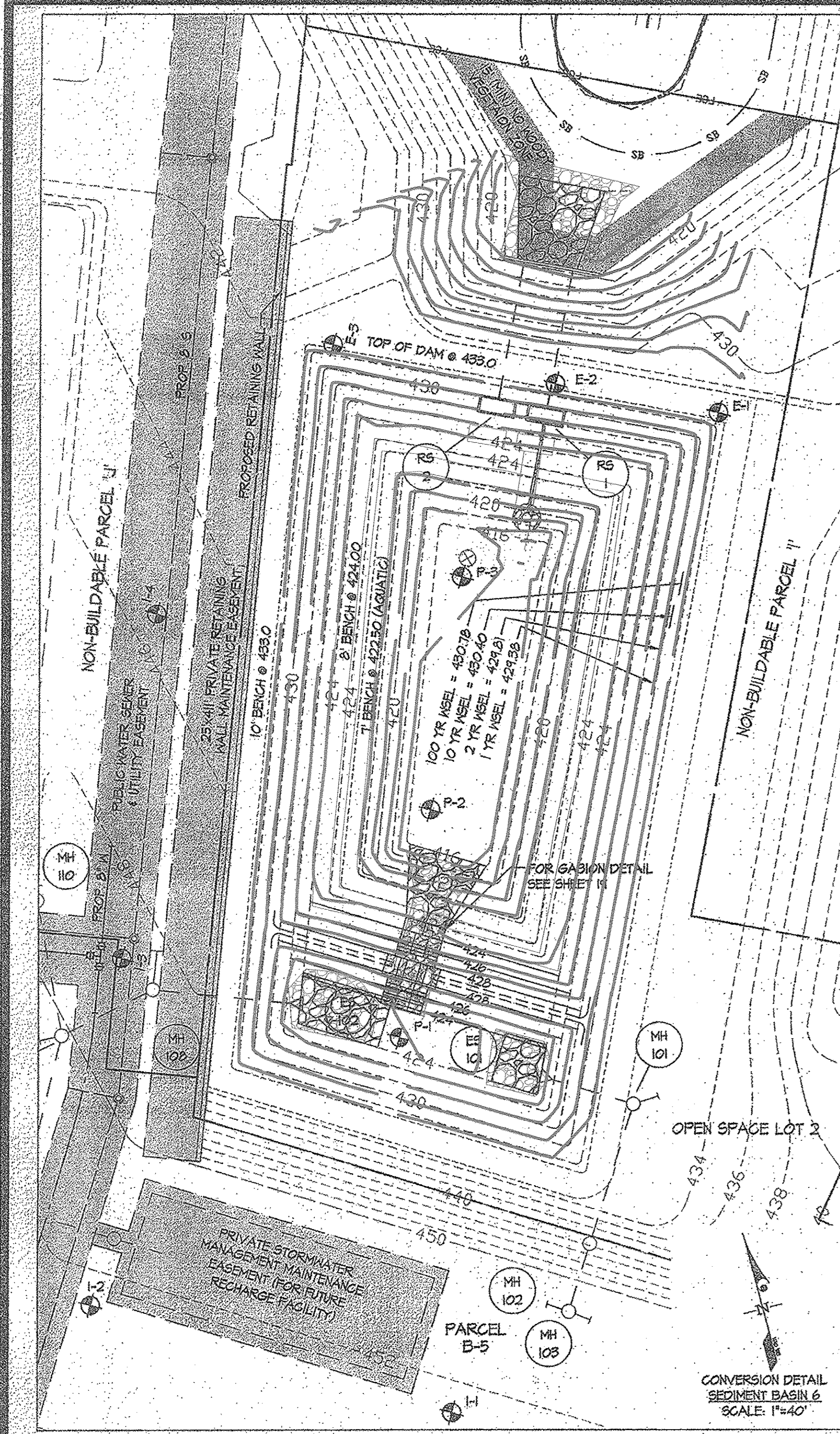
ASBUILTS
 STORMWATER MANAGEMENT DETAILS AND NOTES - SWM BASIN 6
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'T', 'Y', AND 'K'
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	MXD-3	06081
DATE: APR. 2018 JAN., 2008	TAX MAP - GRID: 41-21&22 46-3	SHEET: 20 OF 22

ELECTION DISTRICT No. 5

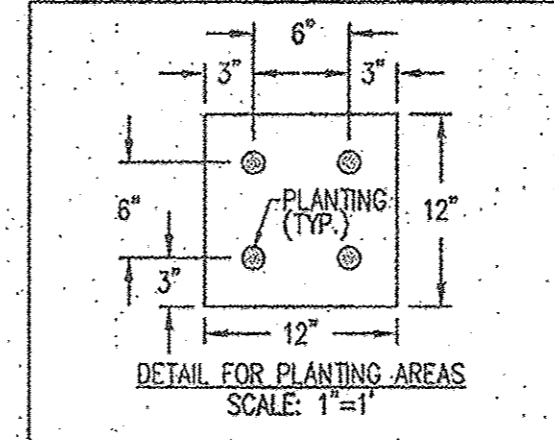
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 PLOTTED 4/17/2018 10:47 AM. LAST SAVED: 8/10/2017 3:42 PM. PLOTTED BY: Steve L. Simpson

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-0655



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, 2018.

Date: 4/12/18
Signature: Carl K. Gutschick
Professional Engineer
Maryland Reg. No. 12475



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Date: 2-1-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Date: 2/15/08

DEVELOPER/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.

Date: 1-11-08
Signature: [Signature]

ENGINEER'S CERTIFICATE
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Date: 1-11-08
Signature: [Signature]

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

Date: 1/22/18
Signature: [Signature]

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

Date: [Signature]

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3902 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BAL: 410-880-1020 DC/VA: 301-989-2524 FAX: 301-421-4106

DATE	REVISION	BY	APP'R.

PREPARED FOR:
MAPLE LAWN FARMS, LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN RD
BALTIMORE, MD 21208
ATTN: CHARLIE O'DONOVAN
410-484-8400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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, 2018



ASBUILTS
BASINS 3 THRU 6 BACKFILL, CONVERSION, AND SEDIMENT CONTROL PLAN
(STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
WESTSIDE DISTRICT - AREA 1
PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS T, F, AND K

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	MXD-3	06081
DATE: APR 2018 JAN, 2008	TAX MAP - GRID 41-21&22 46-3	SHEET 21 OF 28

THIS SET TO BE APPROVED IN CONJUNCTION WITH P-0654

OPERATION AND MAINTENANCE SCHEDULE FOR PUBLICLY OWNED AND MAINTAINED RETENTION POND #3

ROUTINE MAINTENANCE (BY HOMEOWNER'S ASSOCIATION)

1. 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 SLOPED 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 HOWARD 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 OF SEDIMENT OR WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.

NOTE:
POND #3 WILL BE OWNED AND MAINTAINED BY HOWARD COUNTY
POND #6 WILL BE OWNED AND MAINTAINED BY THE COMMERCIAL OWNER'S ASSOCIATION.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED RETENTION POND #6

ROUTINE MAINTENANCE (BY COMMERCIAL OWNER'S ASSOCIATION)

1. 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 SLOPED 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 COMMERCIAL OWNER'S ASSOCIATION)

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 OF SEDIMENT 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 HEREIN SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN THE USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-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.

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate 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 #200 sieve. Consideration may be given to the use of other materials in the embankment if designed 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 sheepfoot, 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% of 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 pH of 4.0 and a minimum resistivity 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 floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining 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 or pipe. 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:

1. 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. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 8.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. 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. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 8.

2. Coupling bands, anti-seep collars, and sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.
3. 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 type 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 circles, 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 huger type band with o-ring 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 lugs, 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 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.

4. 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.

5. Backfilling shall conform to "Structure Backfill".

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

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

1. 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" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M234 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. 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.

4. Backfilling shall conform to "Structure Backfill".

5. 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 921.09, Class C.

Core 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 required excavations 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 major repairs 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.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter Z. ... 2-1-08
Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy ... 2/15/08
Chief, Division of Land Development

... 2/15/08
Chief, Development Engineering Division

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."

... 1-11-08
Signature of Developer/Builder Date

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

... 1-11-08
Engineer's Signature Date

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

... 1/22/08
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

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

DATE	REVISION	BY	APPR.

PREPARED FOR:
G & R Wessell LLC
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN RD
BALTIMORE, MD 21208
ATTN: CHARLIE O'DONOVAN
410-484-8400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 12975
EXPIRATION DATE: MAY 28, 2008



STORMWATER MANAGEMENT NOTES
(STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
WESTSIDE DISTRICT - AREA 1
PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4
AND NON-BUILDABLE PARCELS T, T', AND K"

SCALE: NO SCALE
ZONING: MXD-3
G. L. W. FILE NO.: 06081

DATE: JAN., 2008
TAX MAP - GRID: 41-21&22
SHEET: 46-3
22 OF 32

ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND

L:\CADD\DRAWINGS\03067\06081\DWG\06081SM22.dwg DES. DEV DRN. KLP CHK. DEV DATE REVISION BY APPR.

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-5

<p>HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION</p> <p>Project Name: Maple Lawn - Westside Property, Howard County, Maryland</p> <p>Soil Elev: 429.70, Hammer Drop: 30, Hole Diameter: 6", Foramen: L. Smith</p> <p>Date Started: 11/24/08, Date Completed: 11/24/08</p> <table border="1"> <thead> <tr> <th>Elevation</th> <th>Soil Sample Location</th> <th>Description</th> <th>Boring and Sampling Notes</th> <th>Fac</th> <th>NM</th> <th>SPT Blows</th> <th>SPT Blows/ft</th> </tr> </thead> <tbody> <tr><td>430</td><td>Topsoil 0"</td><td>Brown, moist, micaceous silty clay (SM)</td><td>Topsoil 0"</td><td>13"</td><td>1-3</td><td>4</td><td>10</td></tr> <tr><td>428</td><td>13"</td><td>No groundwater encountered while drilling</td><td></td><td>13"</td><td>4-4</td><td>6</td><td>10</td></tr> <tr><td>426</td><td>14"</td><td></td><td></td><td>13"</td><td>9</td><td>9</td><td>10</td></tr> <tr><td>424</td><td>15"</td><td></td><td></td><td>13"</td><td>4-6</td><td>10</td><td>10</td></tr> <tr><td>422</td><td>16"</td><td></td><td></td><td>13"</td><td>4-6</td><td>11</td><td>10</td></tr> <tr><td>420</td><td>17"</td><td></td><td></td><td>13"</td><td>9-7</td><td>13</td><td>10</td></tr> <tr><td>418</td><td>18"</td><td></td><td></td><td>13"</td><td>11-17-27</td><td>44</td><td>10</td></tr> <tr><td>416</td><td>19"</td><td></td><td></td><td>13"</td><td>19-21-32</td><td>53</td><td>10</td></tr> </tbody> </table> <p>Bottom of boring @ 15.0'</p>	Elevation	Soil Sample Location	Description	Boring and Sampling Notes	Fac	NM	SPT Blows	SPT Blows/ft	430	Topsoil 0"	Brown, moist, micaceous silty clay (SM)	Topsoil 0"	13"	1-3	4	10	428	13"	No groundwater encountered while drilling		13"	4-4	6	10	426	14"			13"	9	9	10	424	15"			13"	4-6	10	10	422	16"			13"	4-6	11	10	420	17"			13"	9-7	13	10	418	18"			13"	11-17-27	44	10	416	19"			13"	19-21-32	53	10	<p>HILLIS - CARNES ENGINEERING ASSOCIATES, INC. 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RECORD OF SOIL EXPLORATION</p> <p>Project Name: Maple Lawn - Westside Property, Howard County, Maryland</p> <p>Soil Elev: 405.72, Hammer Drop: 30, Hole Diameter: 6", Foramen: L. 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RECORD OF SOIL EXPLORATION</p> <p>Project Name: Maple Lawn - Westside Property, Howard County, Maryland</p> <p>Soil Elev: 400.33, Hammer Drop: 30, Hole Diameter: 6", Foramen: L. 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RECORD OF SOIL EXPLORATION</p> <p>Project Name: Maple Lawn - Westside Property, Howard County, Maryland</p> <p>Soil Elev: 428.34, Hammer Drop: 30, Hole Diameter: 6", Foramen: L. 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RECORD OF SOIL EXPLORATION</p> <p>Project Name: Maple Lawn - Westside Property, Howard County, Maryland</p> <p>Soil Elev: 402.25, Hammer Drop: 30, Hole Diameter: 6", Foramen: L. Smith</p> <p>Date Started: 12/07/08, Date Completed: 12/07/08</p> <table border="1"> <thead> <tr> <th>Elevation</th> <th>Soil Sample Location</th> <th>Description</th> <th>Boring and Sampling Notes</th> <th>Fac</th> <th>NM</th> <th>SPT Blows</th> <th>SPT Blows/ft</th> </tr> </thead> <tbody> <tr><td>399</td><td>Topsoil 0"</td><td>Brown, moist, medium soft to silty, micaceous sandy sil, trace rock fragments (SM)</td><td>Topsoil 0"</td><td>6"</td><td>2-5</td><td>8</td><td>10</td></tr> <tr><td>397</td><td>6"</td><td></td><td></td><td>6"</td><td>3-4-7</td><td>12</td><td>10</td></tr> <tr><td>395</td><td>12"</td><td></td><td></td><td>12"</td><td>3-4-3</td><td>7</td><td>10</td></tr> <tr><td>393</td><td>13"</td><td></td><td></td><td>12"</td><td>5-6-9</td><td>15</td><td>10</td></tr> <tr><td>391</td><td>14"</td><td></td><td></td><td>12"</td><td>8-9-13</td><td>22</td><td>10</td></tr> <tr><td>389</td><td>15"</td><td></td><td></td><td>12"</td><td>5-6-9</td><td>15</td><td>10</td></tr> <tr><td>387</td><td>16"</td><td></td><td></td><td>12"</td><td>6-18-31</td><td>47</td><td>10</td></tr> </tbody> </table> <p>Bottom of boring @ 25.0'</p>	Elevation	Soil Sample Location	Description	Boring and Sampling Notes	Fac	NM	SPT Blows	SPT Blows/ft	399	Topsoil 0"	Brown, moist, medium soft to silty, micaceous sandy sil, trace rock fragments (SM)	Topsoil 0"	6"	2-5	8	10	397	6"			6"	3-4-7	12	10	395	12"			12"	3-4-3	7	10	393	13"			12"	5-6-9	15	10	391	14"			12"	8-9-13	22	10	389	15"			12"	5-6-9	15	10	387	16"			12"	6-18-31	47	10
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APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Witten R. Witten
 Chief, Bureau of Highways
 Date: 2-1-08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Cindy Hamlin
 Chief, Division of Land Development
 Date: 2/15/08

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: 1-11-08

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: 1-11-08

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: [Signature]
 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: [Signature]

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

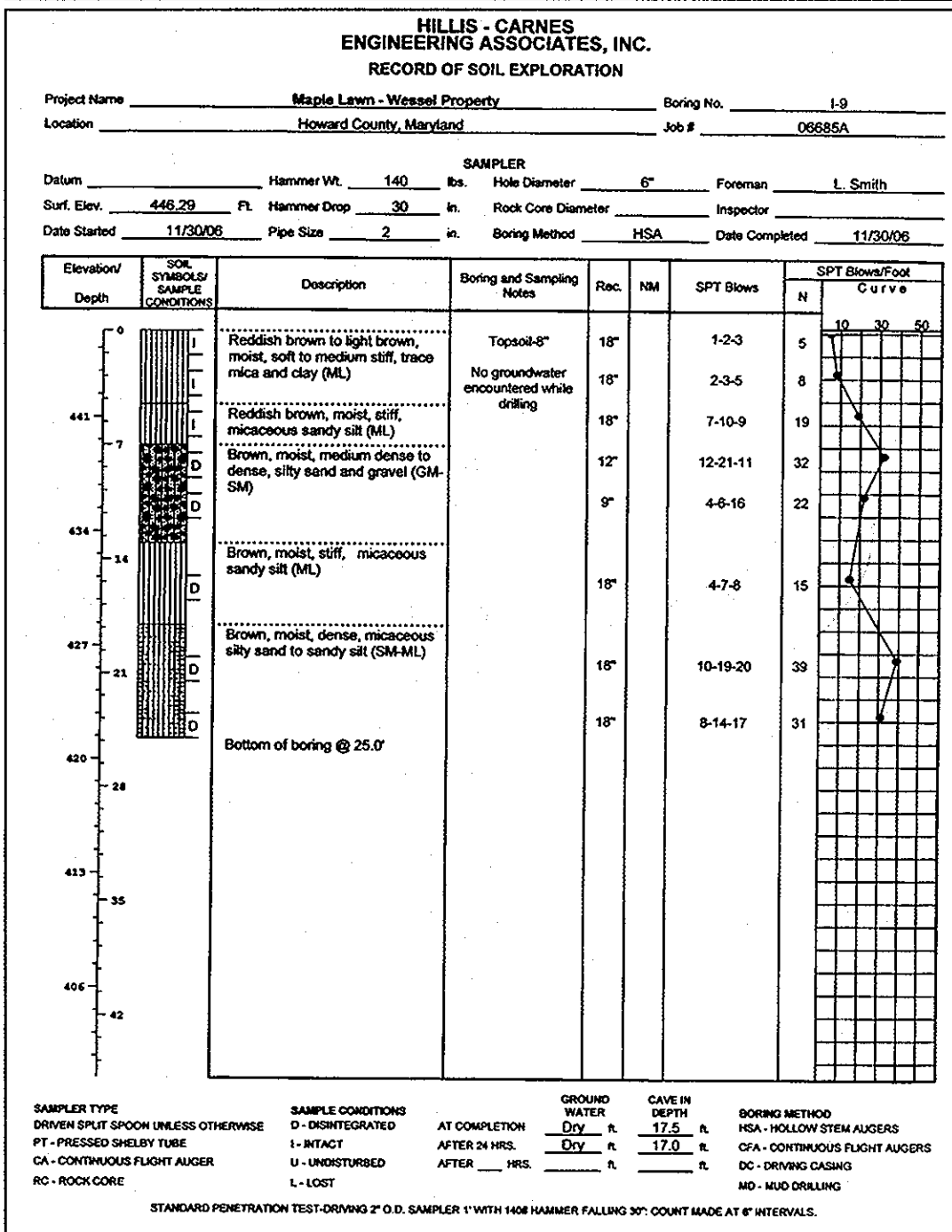
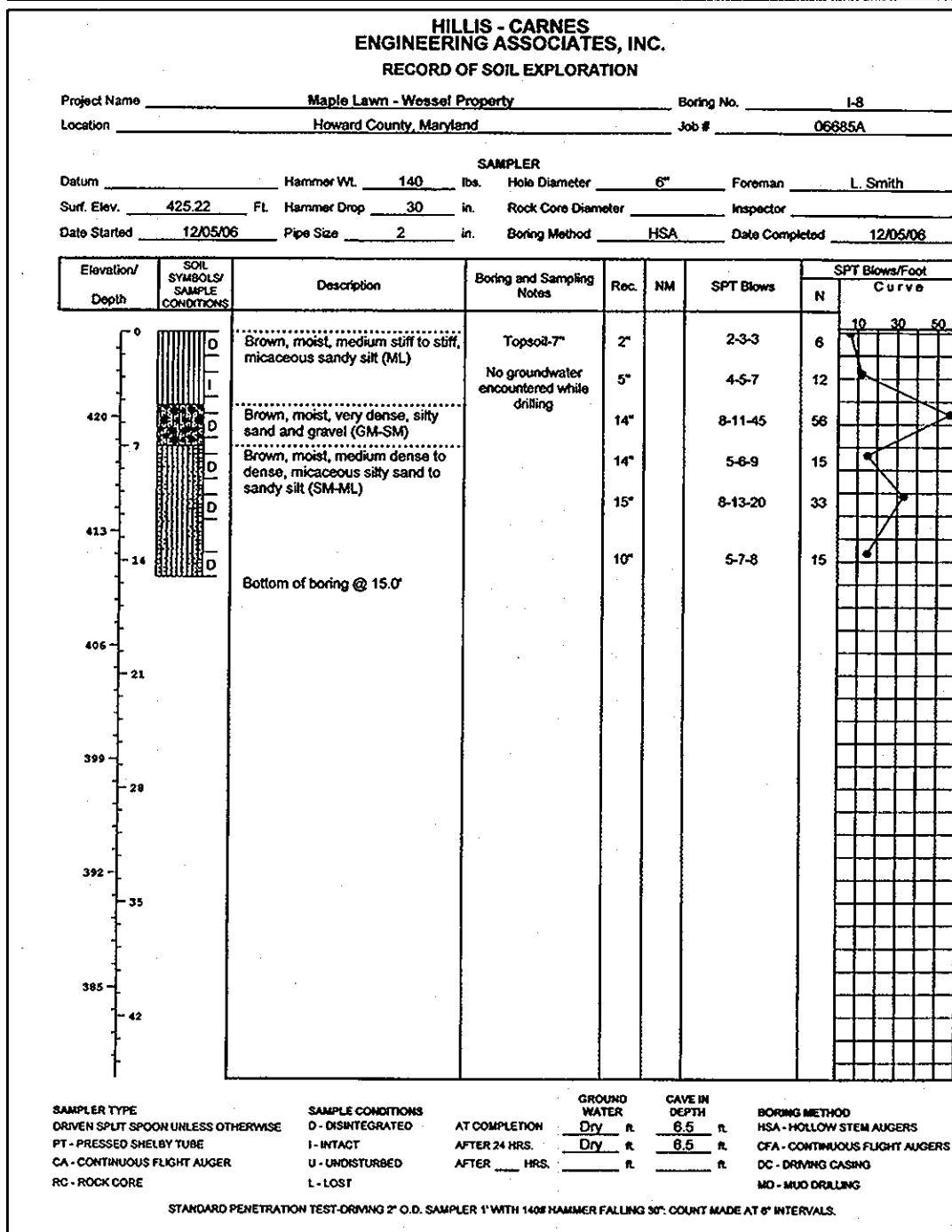
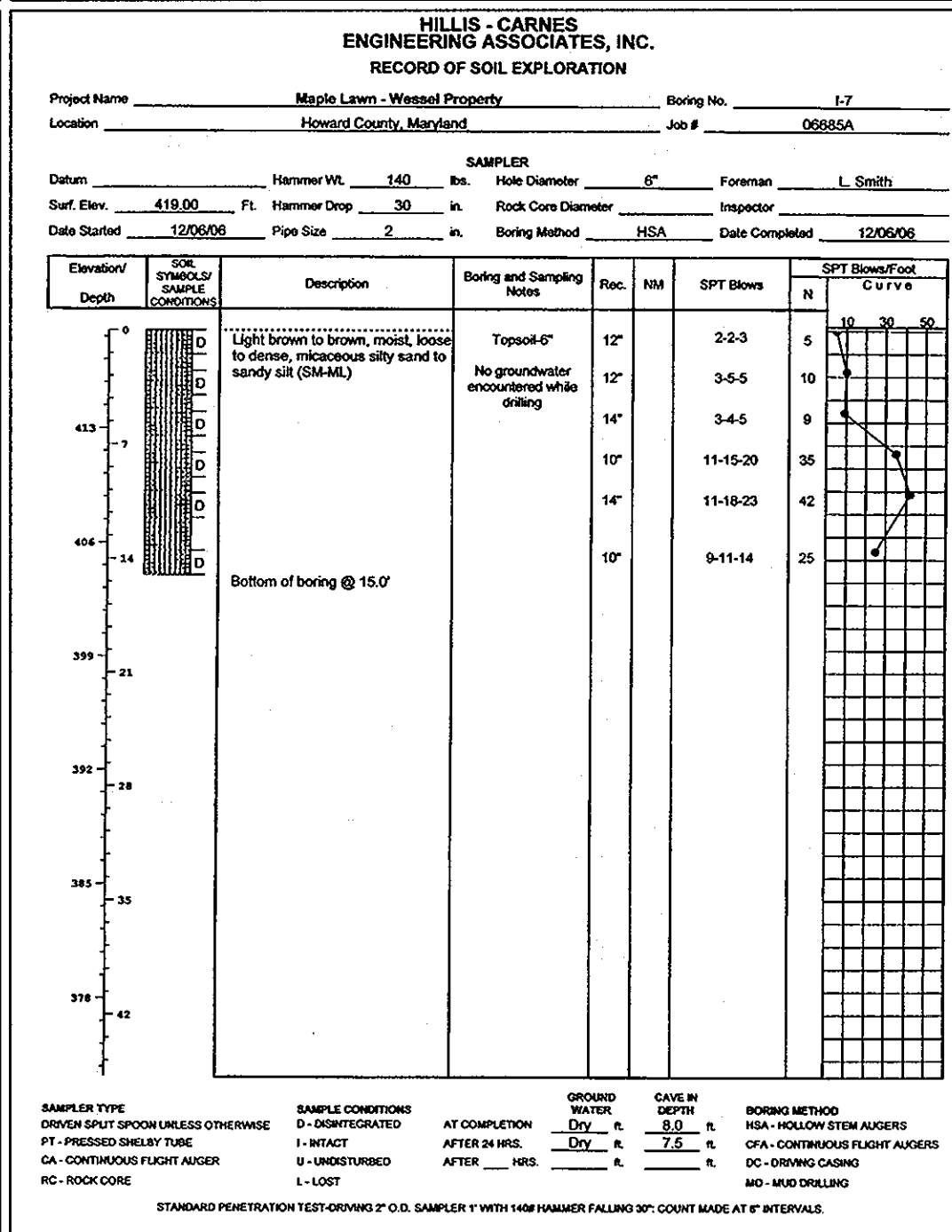
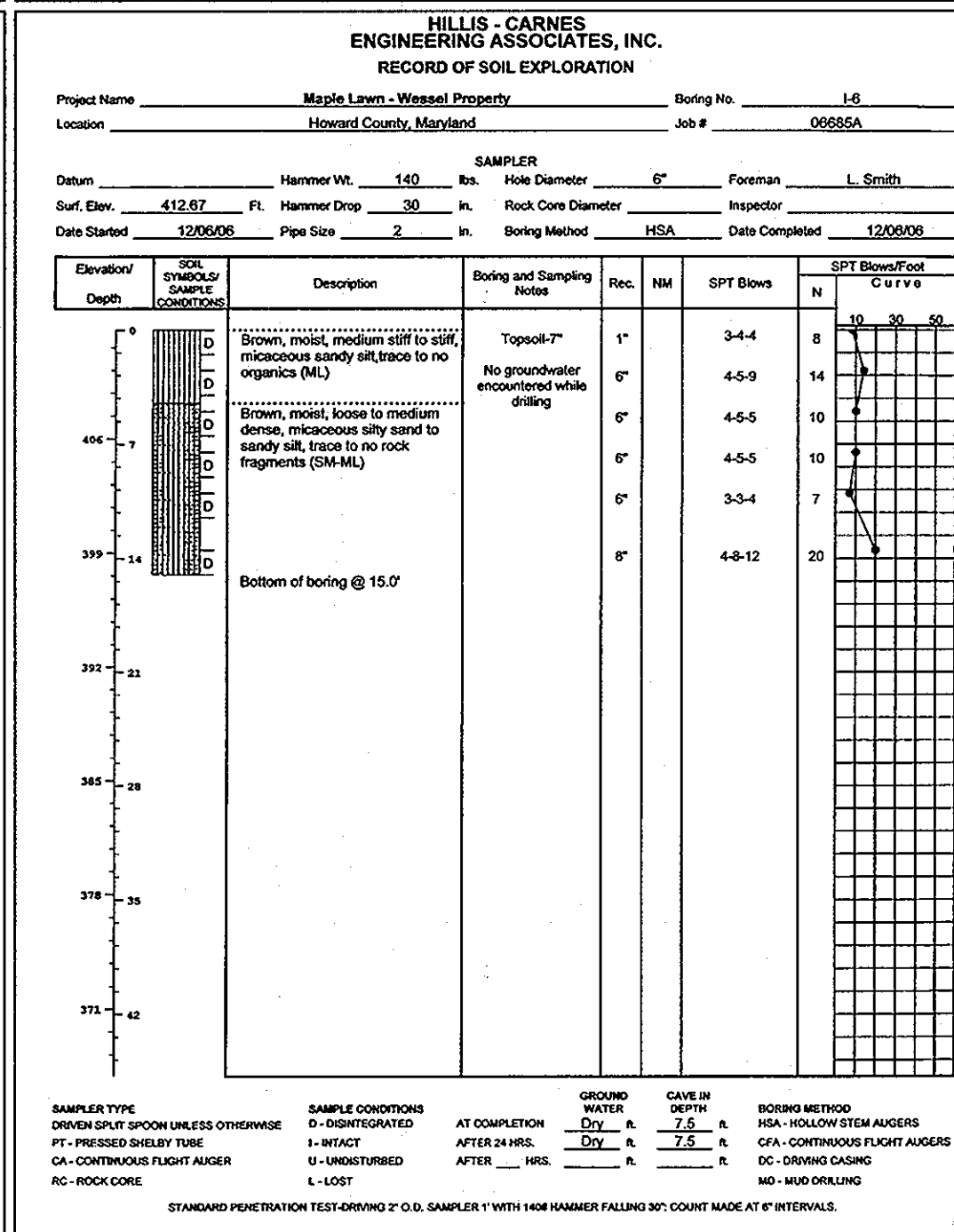
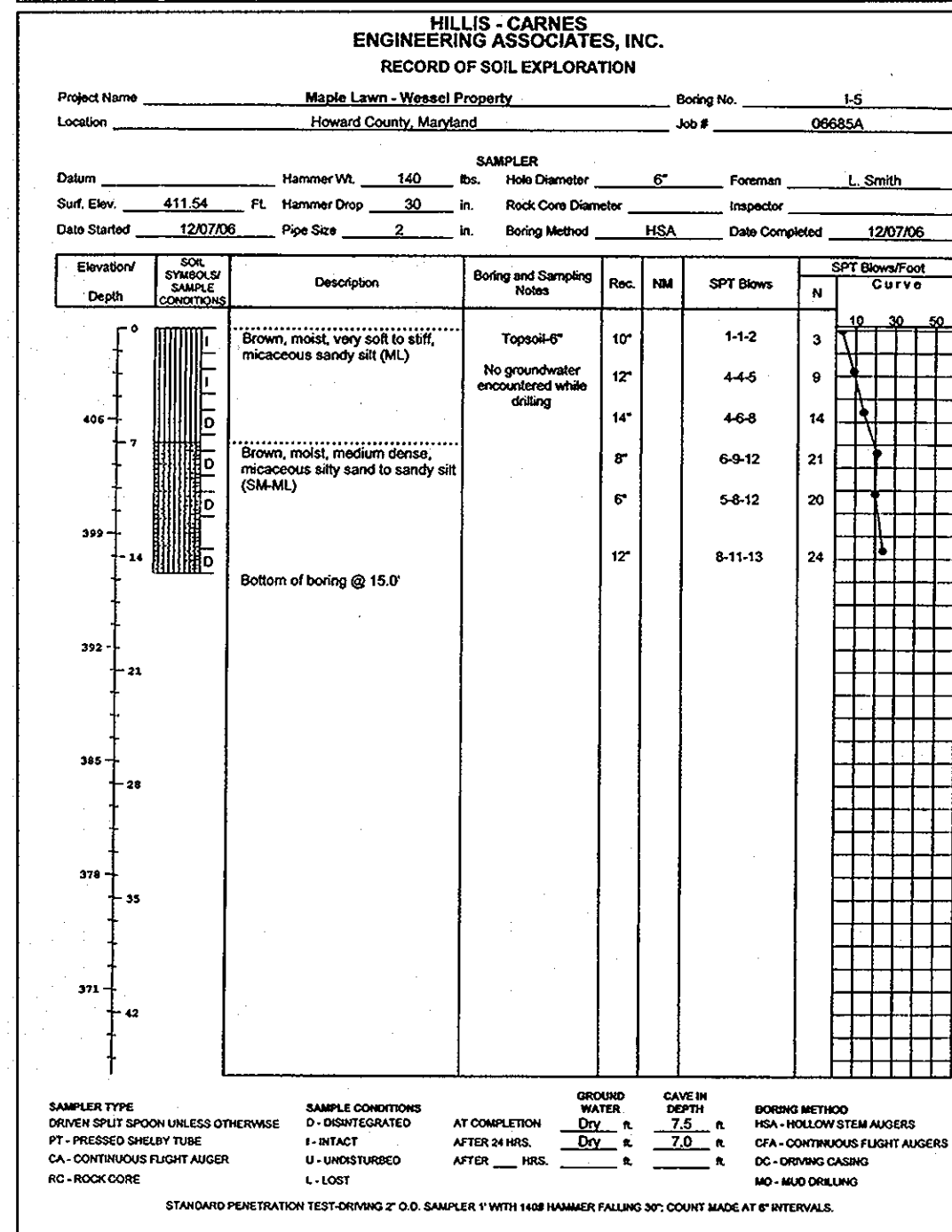
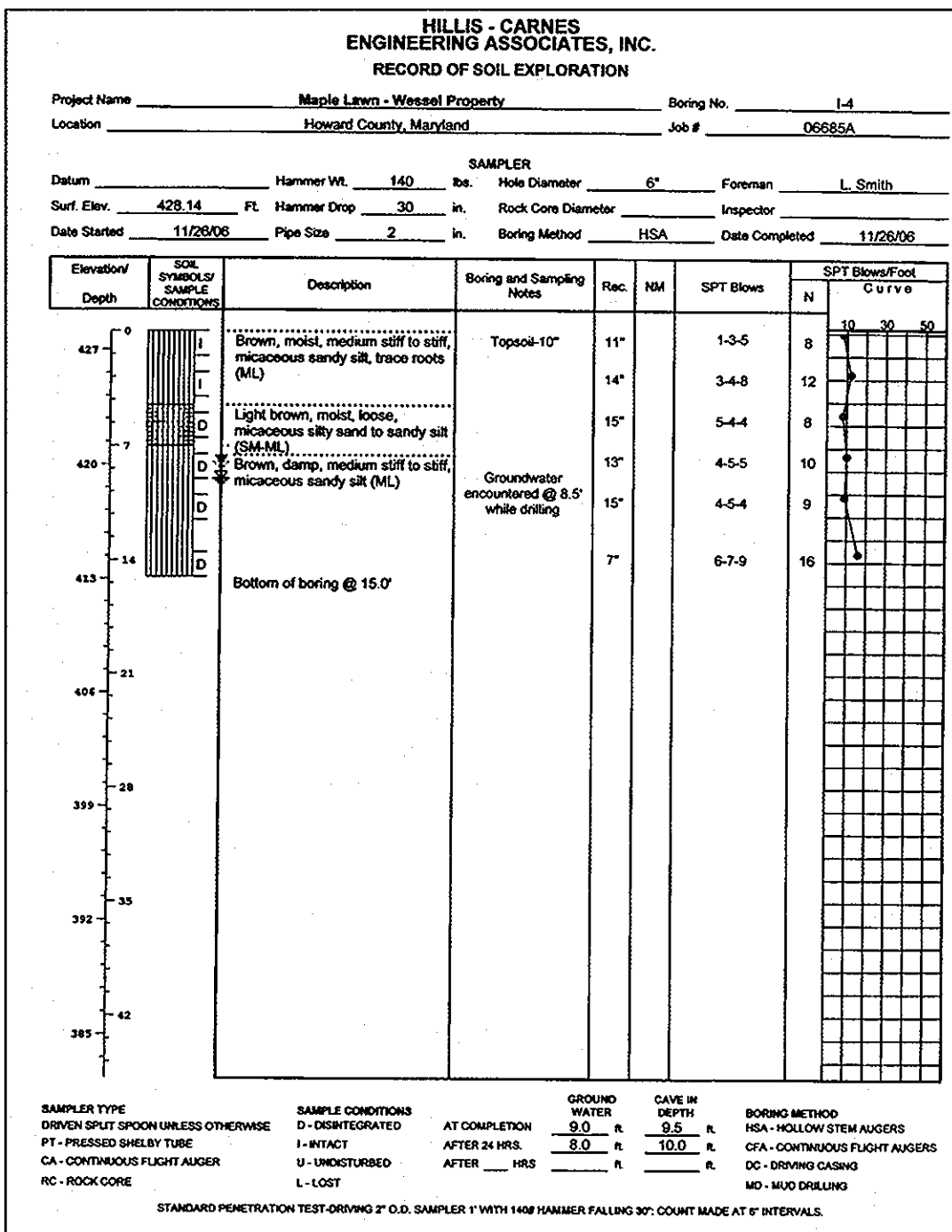
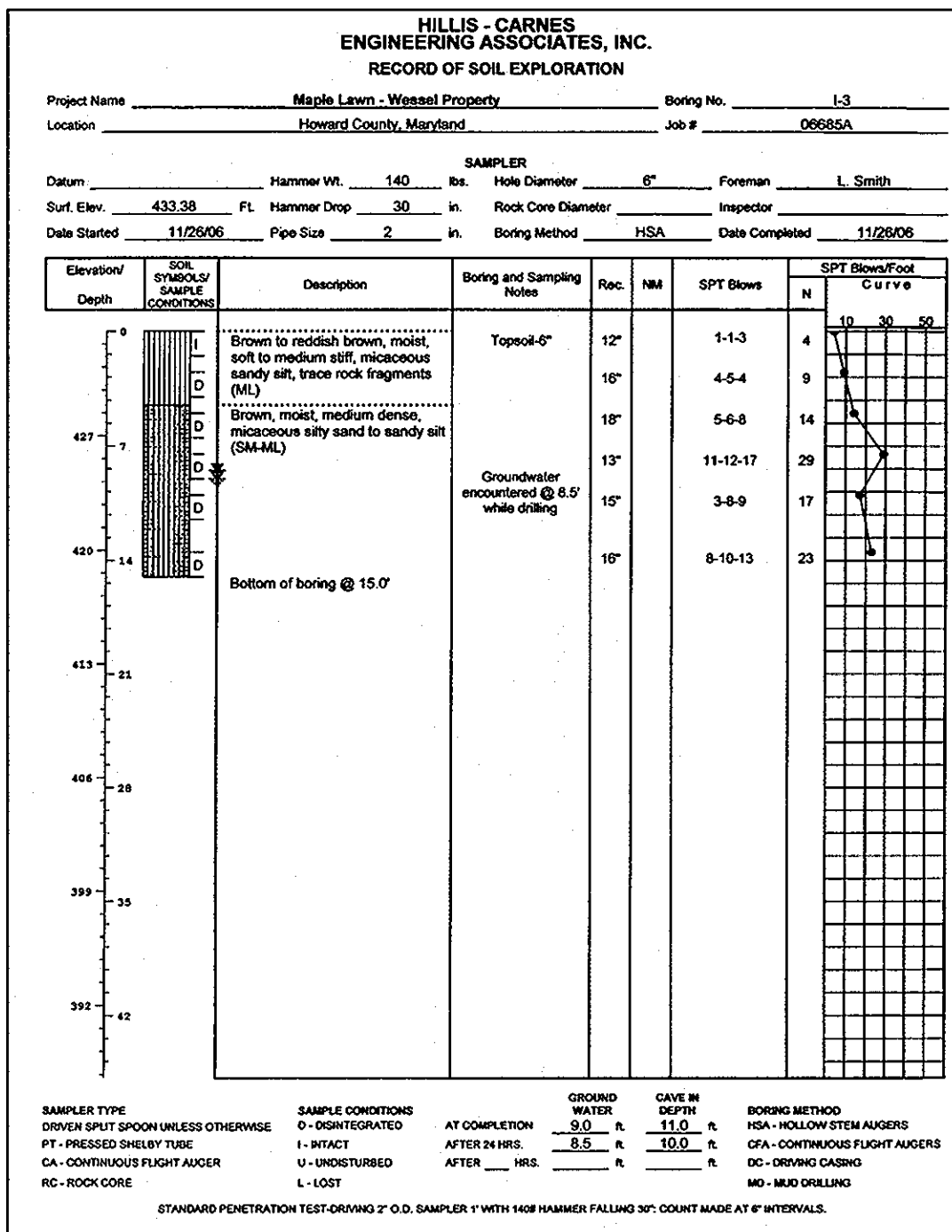
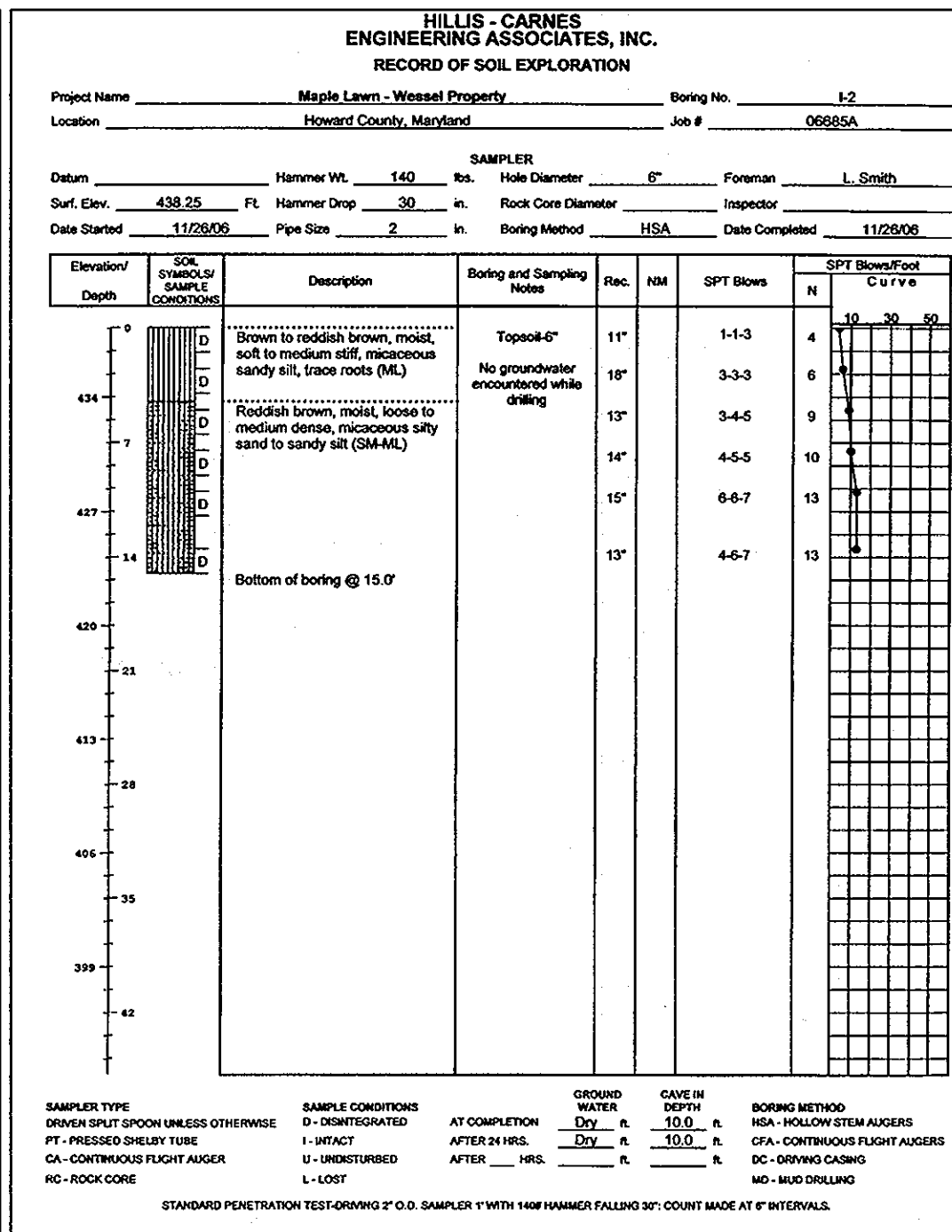
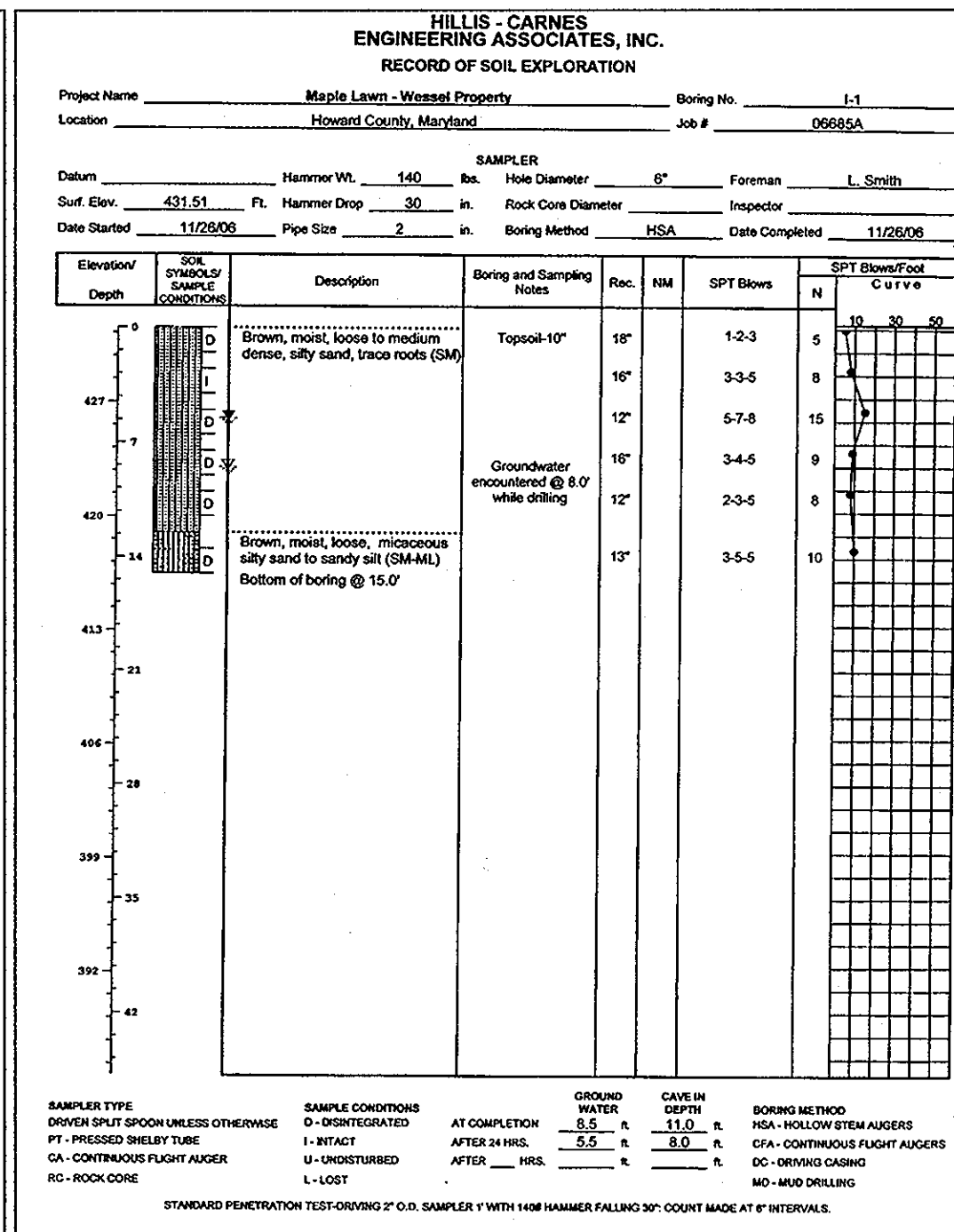
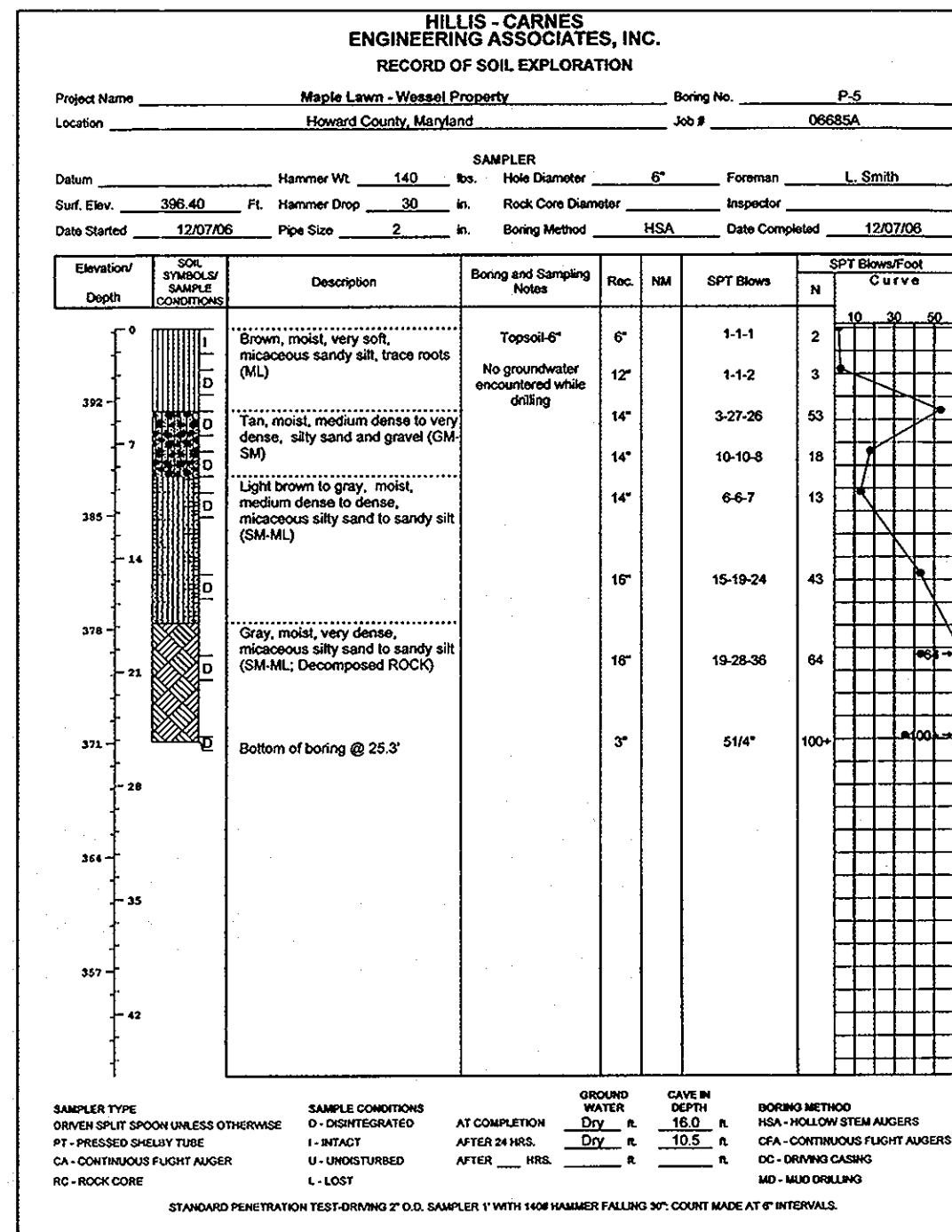
DATE	REVISION	BY	APPR.

PREPARED FOR:
 G & R Westside LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975
 EXPIRATION DATE: MAY 28, 2008
 [Signature]

SOIL BORINGS (1 OF 2)
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
 MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4
 AND NON-BUILDABLE PARCELS 'T', 'J', AND 'K'
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
 ZONING: MXD-3
 DATE: NOV, 2007
 TAX MAP - GRID: 41-21&22 46-3
 SHEET: 23 OF 32
 G. L. W. FILE NO.: 06081



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: 1-11-08

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: 1-11-08

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.

CLW 1-11-08
 Engineer's Signature Date

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

CLW 1-11-08
 Signature of Developer/BUILDER Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Michelle A. Smith 2-1-08
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cynthia Hoot 2/5/08
 Chief, Division of Land Development Date

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3609 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK
 BURTNSVILLE, MARYLAND 20868
 TEL: 301-421-4024 FAX: 410-880-1820 DC/WA: 301-989-2524 FAX: 301-421-4186

5.0 EVALUATIONS AND RECOMMENDATIONS
 Our findings indicate that the site can be developed for the proposed structures utilizing conventional spread footing and ground-supported slab construction. Special considerations should be given to the proper monitoring of fill operations, footing excavations, and concrete placement in all structural areas.

The following recommendations have been developed on the basis of the previously described project characteristics and subsurface conditions. If there are any changes to the project characteristics or if different subsurface conditions are encountered during construction, HCEA should be consulted so that the recommendations of this report can be reviewed.

5.1 General Site Preparation
 The initial step in the development of this site should be the controlled removal of topsoil/organic laden cultivated soils, man-made materials; frozen, wet, soft or loose soils; and any other deleterious materials. These operations should be performed in a manner consistent with good erosion and sediment control practices.

After the initial stripping process is completed, areas of the site to receive fill or areas of the site to be graded where structures will be located, should be profiled. The profiling operations should be performed using a 20-ton, fully-loaded dump truck or another pneumatic-tire vehicle of similar size and weight. The purpose of the profiling will be to provide surface densification and to locate any near-surface pockets of soft or loose soils requiring underdrains. A geotechnical engineer or experienced soils inspector should witness the profiling operations and should determine which areas need further underdrain and/or stabilization.

At the time of our subsurface exploration, relatively soft or loose soils were encountered within the top two feet at the boring locations. It should therefore be anticipated that even the surficial natural soils may need to be either reworked or removed and replaced in order to prepare the subgrade for the placement of additional structural fill materials.

In areas where auger refusal was encountered, it should be anticipated that more intensive excavation efforts may be required. In particular, areas of confined excavation (such as for utility lines) may require jackhammering or other rock excavation methods to establish true elevations. Due to the variable nature of the residual materials encountered at the site, it should be anticipated that areas of very dense material may be encountered at other locations across the site.

5.2 Fill Selection, Placement and Compaction
 All material to be used as fill or backfill should be inspected, tested and approved by the Geotechnical Engineer. In general, the on-site soils with a Unified Soil Classification of CL or better, which are free from organic and other deleterious components can be re-used as general site fill.

We must point out, however, that using the on-site soils or importing similar materials may present placement and compaction problems for the contractor if the moisture contents of the materials are not carefully controlled or if heavy concentrated wheel loads are applied to the surface of the soils. The fine-grained nature of many of the soils encountered on-site will make them sensitive to heavy dynamic loads and to increases in moisture content beyond their "optimum" value. Traffic from the various equipment creates pumping and a general deterioration of the soils. As a result, the backfill (or aggregate natural material) may have to be removed and properly re-compacted or replaced. It is our recommendation that the contractor be fully advised of these potential problems. Additionally, the contractor should not permit water to pond on the site. Exposed subgrades should be sloped and sealed at all times to facilitate rainfall runoff.

Moisture conditioning that is, wetting or drying of the soils should be anticipated to achieve proper compaction. Our experience has been that drying of the soils is required more often than wetting of the soils; therefore, a drier season of the year, such as late spring through early fall, would be the preferable part of the year for fill construction. In any case, the Contractor should be aware that drying of the soils may be required. The moisture contents of the soils should be controlled properly to avoid excessive construction delays. If imported fill material is required, those materials should have Unified Soil Classifications of SM or better.

All fill should be placed in relatively horizontal 8-inch (maximum) loose lifts and should be compacted to a minimum of 95 percent of the Modified Proctor (ASTM D-1557) maximum dry density. Fill materials in landscape and other non-structural areas should be compacted to at least 92 percent of the Modified Proctor maximum dry density if significant subsidence of the fill under its own weight is to be avoided. Field moisture contents should be maintained within 2 percentage points of the optimum moisture content in order to provide adequate compaction.

Structural fill should extend a minimum of 10 ft beyond building lines where foot slabs are to be constructed on the fill. Fill slopes no steeper than 2:1 (H:V), or flatter, should be used. A sufficient number of in-place density tests should be performed by an experienced Engineering Technician on a full-time basis to verify that the proper degree of compaction is being obtained.

Many of the building areas on site are only proposed locations. Topsoil which has been stripped during site preparation and other unstable soils which are not removed from the site, should not be buried on site except in clearly defined areas where they are not planned for future development.

5.6 Groundwater and Drainage
 As detailed in Section 4.5 of this report, it is anticipated that groundwater will not cause any major construction problems. Any water infiltration resulting from precipitation, surface run-off, or perched water should be able to be controlled by means of sump pits and pumps. If any conditions are encountered which cannot be handled in such a manner, this office should be consulted.

Adequate drainage should be provided at the site to minimize any increases in the moisture contents of the foundation soils. All pavement or parking areas should be sloped away from the structures to prevent the ponding of water. The site drainage should also be such that run-off onto adjacent properties is controlled properly.

5.8 Stormwater Management by Infiltration
 We have evaluated the site subsurface conditions in the vicinities of the proposed stormwater management facilities (both recharge facilities and pond areas) and in accordance with the State of Maryland's, "2000 Stormwater Design Manual", General Subsurface Exploration Guidelines. The following information is provided for planning stormwater management measures:

1. Location of seasonal high groundwater table:
 Groundwater was monitored during the drilling and 24 hours after the completion of the borings. The following table summarizes the groundwater conditions at the time of our exploration:

Boring	Approximate Depth to Groundwater (ft)	Completion	24 hr
L-1	6.0	8.5	5.5
L-2	6.5	9.0	8.5
L-3	8.0	9.0	8.0
L-4	8.5	8.0	8.0
L-5	8.5	7.5	6.0
L-6	21.0	12.5	5.5
P-1	20.0	17.0	7.5
E-2	11.5	8.0	7.0
E-3	8.0	8.5	5.5

2. Infiltration Rates:
 In-situ infiltration tests were conducted in boreholes offset five feet from L-1 through L-9, P-2, and P-5. All tests were conducted at a depth of 5 ft below existing site grades except for L-9, which was conducted at 10 ft in depth. The water level drop in each pipe was measured each hour for four hours and the in-situ rate was calculated by taking the average of the four readings for each test.

Test Number	Infiltration Rate (in/hr)	Average Infiltration Rate (in/hr)
L-1	0.56	0.56
L-2	0.31	0.31
L-3	0.13	0.13
L-4	0.38	0.38
L-5	2.05	2.05
L-6	3.88	3.88
L-7	3.98	3.98
L-8	0.06	0.06
L-9	0.00	0.00
P-2	0.31	0.31
P-5	0.06	0.06

3. Depth to Bedrock:
 Bedrock was not encountered within the depths explored in the SWM borings, however, very dense decomposed rock materials were encountered in borings P-3 and P-4 at depths of 23.5 ft and 20.0 ft respectively, below the existing site grades.

Based on the State of Maryland's, "2000 Stormwater Design Manual", a minimum field infiltration rate of 0.52 inches per hour is required for infiltration practices. Also, it is recommended that infiltration structures be located only in areas where the bottom of the structure will be 2 to 4 feet

above the seasonally high groundwater table and/or bedrock. Lastly, the use of SWM infiltration systems on fill material is not recommended.

Based on the results of our subsurface exploration, the above-outlined criteria, and our experience with infiltration facilities in the project vicinity, infiltration methods of stormwater management are not recommended for use at either of the SWM ponds or at the locations of L-1 through L-4 and L-8 and L-9.

Infiltration may be feasible at the locations of L-5, L-6, and L-7. The actual ability to infiltrate will depend on the facility bottom elevation. The cut sheets provided at the time of the boring stakeout indicate that these three SWM locations will require fill to establish the final site grades. In order for infiltration to be feasible, the bottom of the structures would have to be located below the proposed fill materials and founded in natural soils similar to those tested.

Representative samples of some of the surficial soils encountered within the pond area borings as well as areas of planned cut were analyzed in our laboratory for potential use as core trench material in the SWM ponds. The results of the laboratory testing are as follows:

Boring	Sample Depth (ft)	USCS	Liquid Limit (%)	Plasticity Index (%)	Natural Moisture Content (%)
P-1	2.5 - 4.0	ML	41	14	20.7
P-3	0.0 - 1.5	ML	43	16	25.1
P-5	2.5 - 4.0	ML	41	13	35.1
G-22	2.5 - 4.0	CL	45	19	24.6
G-20	0.0 - 1.5	CL	35	14	18.2

It is HCEA's opinion that, in addition to the CL materials similar to those tested above, ML materials similar to those tested (with a PI-10) will also be suitable for use in the SWM pond core trenches where required. It should be noted however that these more fine-grained materials, where encountered, were typically limited to the upper 2 ft to 5 ft of the borings and may be limited in quantity. Additional test pits can be performed at the start of construction of help further identify potential borrow sources.

3.0 RECOMMENDED ADDITIONAL SERVICES
 Additional soil and foundation engineering, testing, and consulting services recommended for this project are summarized below.

Fill Placement and Compaction: A Geotechnical Engineer or experienced Soils Inspector should witness any required filling operations and should take sufficient in-place density tests to verify that the specified degree of fill compaction is achieved. He should observe and approve borrow materials used and should determine if their existing moisture contents are suitable. The Soils Inspector should also be onsite during all cement augmentation procedures in the pavement areas.

Foundation Excavation Inspection: A Geotechnical Engineer or experienced Soils Inspector should inspect the foundation excavations. He should verify that the design bearing pressure is available and that no loose pockets exist beneath the bearing surfaces of the excavations. Based on the inspection, the Inspector would either approve the bearing surface or recommend that loose or soft soils or highly plastic soils be undercut to expose satisfactory bearing materials.

Additional Geotechnical Studies: When the footprints of the Commercial Buildings onsite are finalized, a geotechnical study including additional test borings should be performed to determine the soil conditions at the locations of those specific structures, based upon the actual structural loading conditions and building elevations.

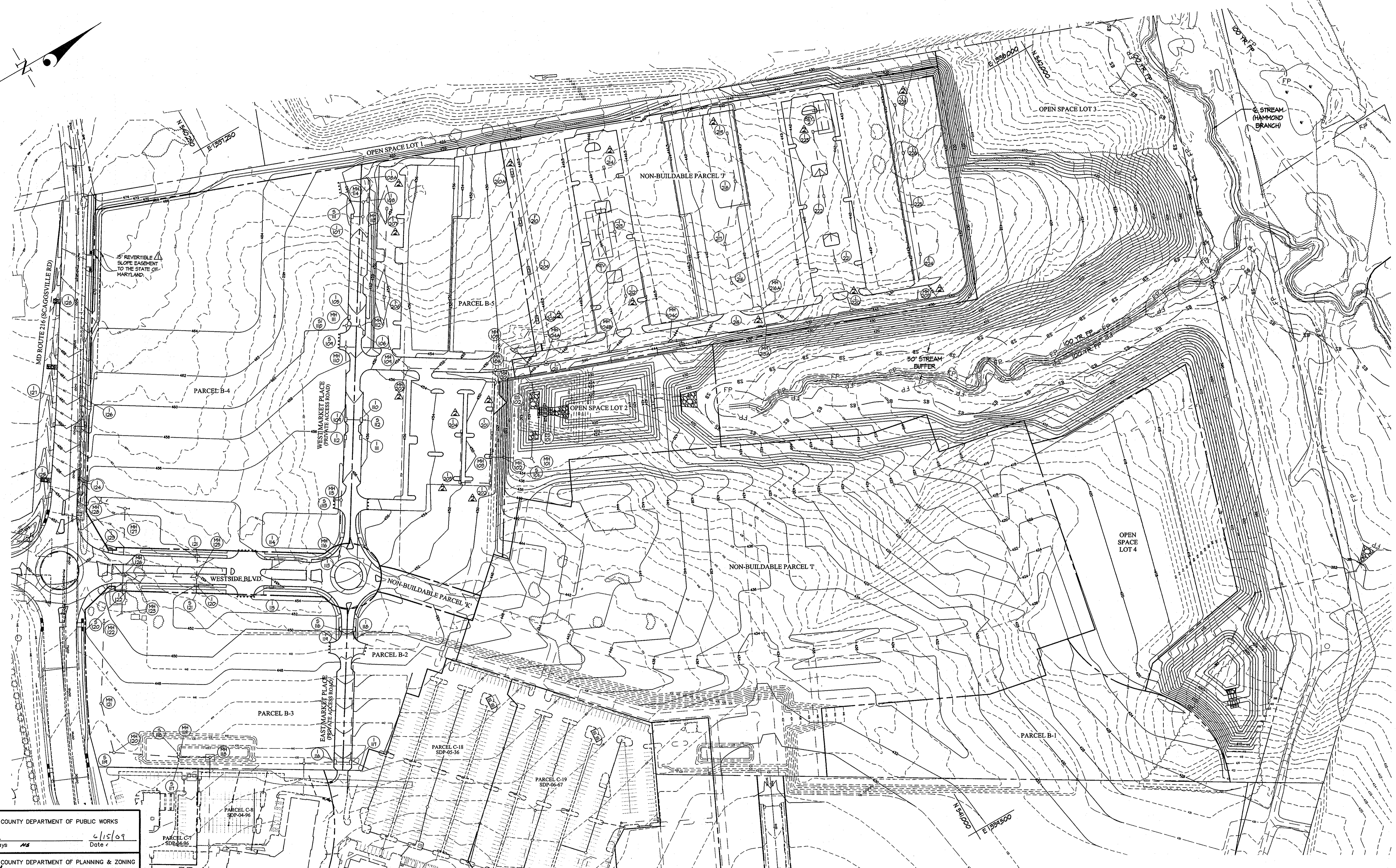
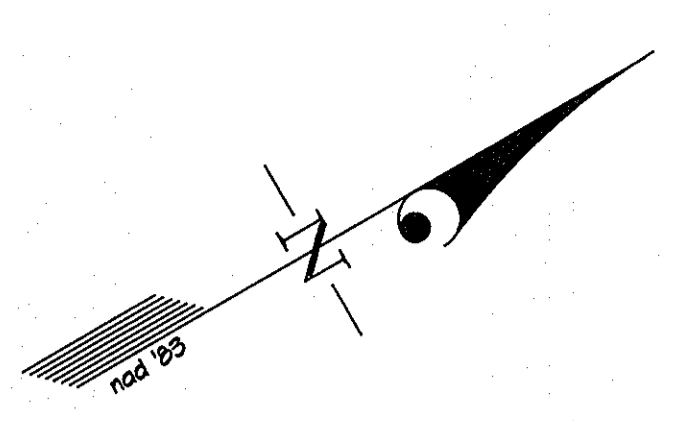
PREPARED FOR:
 G.R. Weasel LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 28, 2008.

CLW
 ELECTION DISTRICT No. 5

SOIL BORINGS (2 OF 2)
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'J', 'I', AND 'K'

SCALE: AS SHOWN
 ZONING: MXD-3
 G. L. W. FILE NO.: 06081
 DATE: NOV, 2007
 TAX MAP - GRID: 41-21&22-46-3
 SHEET: 24 OF 24



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Bob B...
 Chief, Bureau of Highways
 Date: 6/15/09

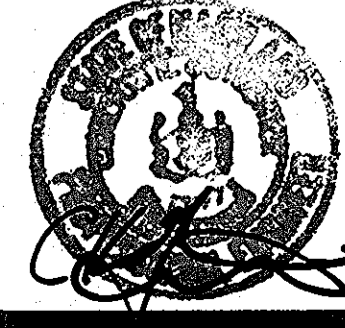
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hunt
 Chief, Division of Land Development
 Date: 6/24/09
Charles Edwards
 Chief, Development Engineering Division
 Date: 6/19/09

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BIRTONSVILLE OFFICE PARK
 BIRTONSVILLE, MARYLAND 21039
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-889-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R
06/03/09	A CONTOURS, CURB, & SD REVISED IN PARCELS 'B-5' & 'J' (REPLACEMENT SHEET)	gds	
07/01/08	REV. PURPOSE NOTE, ADDED SLOPE EASEMENT		

PREPARED FOR:
 G&R / WESSEL LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS
 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. 10275
 EXPIRATION DATE: MAY 28, 2010

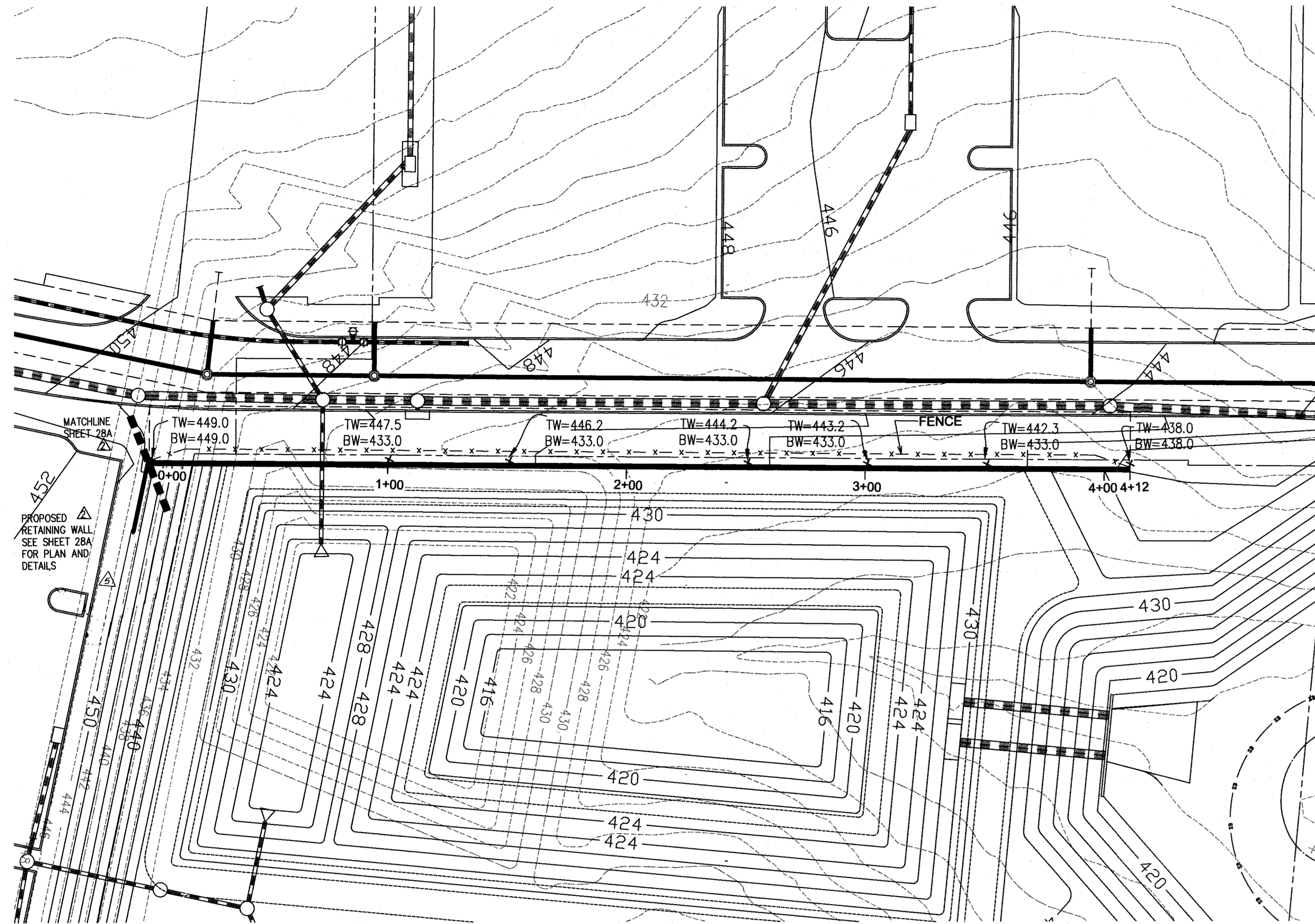


Revised **OVERALL FINAL GRADING PLAN**
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4
 AND NON-BUILDABLE PARCELS 'T', 'J', AND 'K'

SCALE	ZONING	G. L. W. FILE NO.
1"=100'	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
JUNE, 2009	41-21&22 46-3	25 OF 22

THE PURPOSE OF THIS GRADING PLAN IS TO SHOW ULTIMATE GRADING AFTER SITE STABILIZATION AND REMOVAL OF SEDIMENT CONTROL DEVICES. ALL OTHER INFORMATION HAS BEEN INTENTIONALLY OMITTED FOR CLARITY. FOR STORM DRAIN INFORMATION, SEE F-02-54. Δ

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-02-54



WALL LOCATION PLAN
1" = 30'

NOTES:

- No trees shall be planted within 10 feet of the top of the retaining wall.
- Retaining walls shall only be constructed under the observation of a registered professional engineer and a (NICET, WACEL, or equiv.) certified soils technician.
- One soil boring shall be required every one hundred feet along the entire length of the wall. Copies of all boring reports shall be provided to the Howard County Inspector Prior to the start of construction.
- The required bearing pressure beneath the wall system shall be verified in the field by a certified soils technician. Testing documentation must be provided to the Howard County Inspector prior to start of construction. The required bearing test shall be the Dynamic Cone Penetrometer test ASTM STP-399.
- The suitability of fill material shall be confirmed by the on-site soils technician. Each 8" lift must be compacted to a minimum 95% standard proctor density and the testing report shall be made available to the Howard County Inspector upon completion of construction.
- Walls shall not be constructed on uncertified fill materials.
- Walls shall not be constructed within a Howard Co. right-of-way or easement.

SPECIFICATIONS
MODULAR CONCRETE BLOCK RETAINING WALL

PART 1: GENERAL

- 1.01 Description**
A. Work shall consist of furnishing and construction of a Modular Retaining Wall System in accordance with these specifications and in reasonably close conformity with the lines, grades, design, and dimensions shown on the plans. Work includes preparing foundation soil, furnishing and installing leveling pad, unit drainage fill and backfill to the lines and grades shown on the construction drawings. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location, and lengths designated on the construction drawings.

- 1.02 Delivery, Storage and Handling**
A. Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification has been received.
B. Contractor shall protect all materials from damage due to job site conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

PART 2: PRODUCTS

- 2.01 Modular Concrete Retaining Wall Units**
A. Modular concrete units shall conform to the following architectural requirements:
face color - concrete gray - standard manufacturer's color may be specified by the Owner.
face finish - sculptured rock face in angular tri-planer configuration. Other face finishes will not be allowed without written approval of Owner.
bond configuration - running with bonds nominally located at midpoint vertically adjacent units, in both straight and curved alignments.
B. Modular concrete materials shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.
C. Modular concrete units shall conform to the following structural and geometric requirements measured in accordance with appropriate references:
compressive strength = 3000 psi minimum;
absorption = 8 % maximum (8% in northern states) for standard weight aggregates;
dimensional tolerances = ± 1/8" from nominal unit dimensions not including rough split face, ± 1/16" unit height - top and bottom planes;
unit size - 8" (H) x 18" (W) x 12" (D) minimum;
unit weight - 75 lbs/unit minimum for standard weight

- aggregates;
inter-unit shear strength - 1000 pif minimum at 2 psi normal pressure;
geogrid/unit peak connection strength - 1000 pif minimum at 2 psi normal force.
D. Modular concrete units shall conform to the following conductivity requirements: (if applicable)
vertical setback = 1/8"± per course (near vertical) or 1"± per course per the design;
alignment and grid positioning mechanism - fiberglass pins, two per unit minimum;
maximum horizontal gap between erected units shall be - 1/2 inch.

- 2.02 Shear Connectors (if applicable)**
A. Shear connectors shall be 1/2 inch diameter thermoset isophthalic polyester resin-protuded fiberglass reinforcement rods or equivalent to provide connection between vertically and horizontally adjacent units.
Strength of shear connectors between vertical adjacent units shall be applicable over a design temperature of 10 degrees F to + 100 degrees F.
B. Shear connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.

- 2.03 Base Leveling Pad Material**
A. First course of units shall be placed on a compacted #57 crushed stone base as shown on the construction drawings.

- 2.04 Unit Drainage Fill**
A. Unit drainage fill shall consist of #57 crushed stone

- 2.05 Reinforced Backfill**
A. Reinforced backfill shall type SM, be free of debris and meet the following gradation tested in accordance with ASTM D-422 and most other properties shown on the plan:
- | Sieve Size | Percent Passing |
|------------|-----------------|
| 2 inch | 100-75 |
| 3/4 inch | 100-75 |
| No. 40 | 0-60 |
| No. 200 | 0-45 |
- Plasticity Index (PI) <10 and Liquid Limit <40 per ASTM D-4318.
B. Material can be site excavated soils where the above requirements can be met. Unsuitable soils for backfill (high plastic clays or organic soils) shall not be used in the reinforced soil mass.

- 2.06 Geogrid Soil Reinforcement**

- A. Geosynthetic reinforcement shall consist of geogrids manufactured specifically for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn.

- 2.07 Drainage Pipe**
A. The drainage pipe shall be perforated corrugated HDPE pipe manufactured in accordance with ASTM D-1248.

PART 3 EXECUTION

- 3.01 Excavation**
A. Contractor shall excavate to the lines and grades shown on the construction drawings. Owner's representative shall be responsible for inspecting and approving the excavation prior to placement of leveling material or fill soils.

- 3.02 Base Leveling Pad**
A. Leveling pad material shall be placed to the lines and grades shown on the construction drawings, to a minimum thickness of 6 inches and extend laterally a minimum of 6" in front and behind the modular wall unit.
B. Leveling pad shall be prepared to insure full contact to the base surface of the concrete units.

- 3.03 Modular Unit Installation**
A. First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and insure that all units are in full contact with the base and properly seated.
B. Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.
C. Install shear/connecting devices per manufacturer's recommendations.
D. Place and compact drainage fill within and behind wall units. Place and compact backfill soil behind drainage fill. Follow wall erection and drainage fill closely with structure backfill.
E. Maximum stacked vertical height of wall units, prior to unit drainage fill and backfill placement and compaction, shall not exceed three courses.

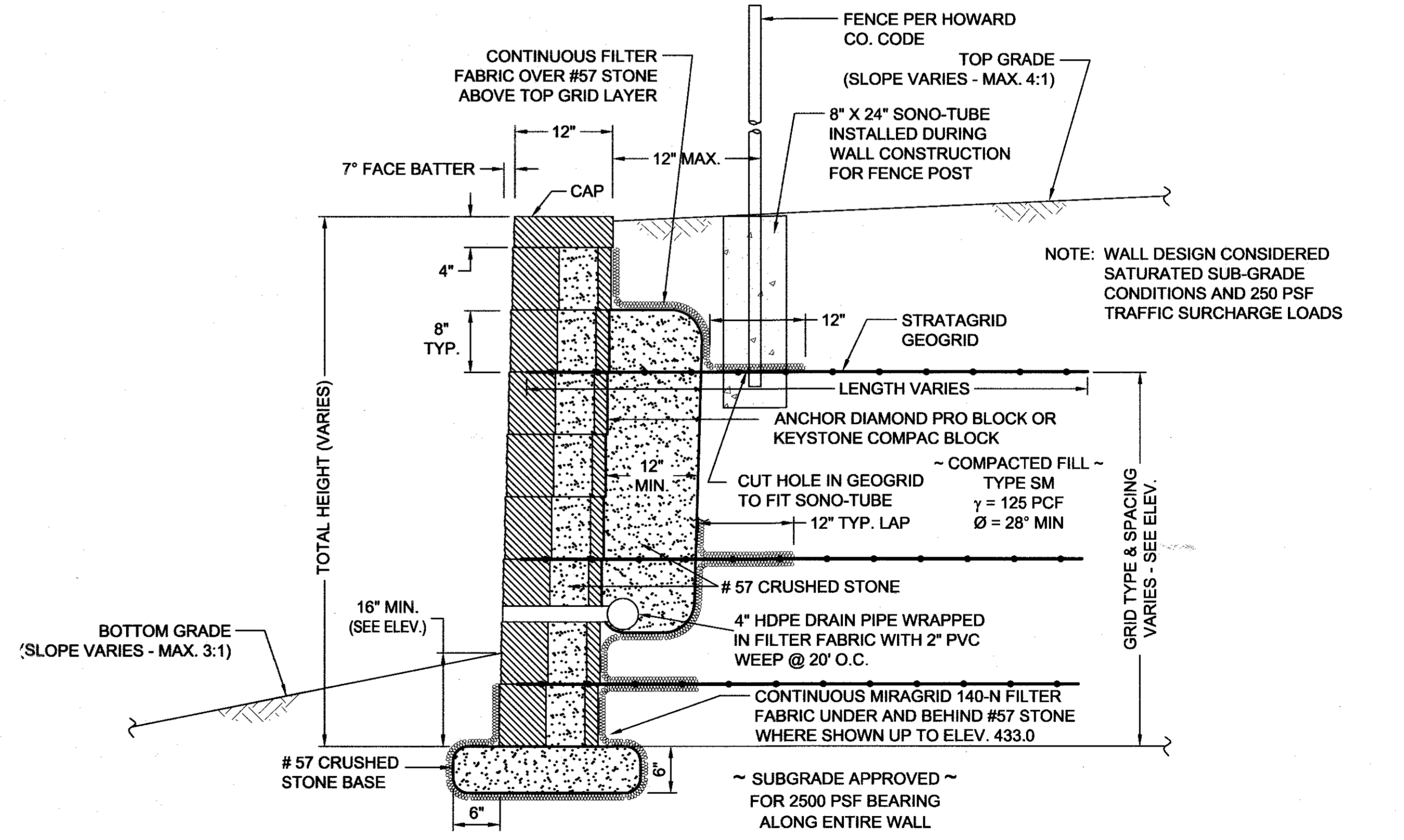
- 3.04 Structural Geogrid Installation**
A. Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.
B. Geogrid reinforcement shall be placed at the strengths, lengths, and elevations shown on the construction design drawings or as directed by the Engineer.
C. The geogrid shall be laid horizontally on compacted backfill and attached to the modular wall units. Place the next course of modular concrete units over the geogrid. The geogrid shall be pulled taut, and anchored prior to

- backfill placement on the geogrid.
D. Geogrid reinforcements shall be continuous throughout their embedment lengths and placed side-by-side to provide 100% coverage at each level. Spliced connections between shorter pieces of geogrid or gaps between adjacent pieces of geogrid are not permitted.

- 3.05 Reinforced Backfill Placement**
A. Reinforced backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack in the geogrid and installation damage.
B. Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches where hand compaction is used, or 8 - 10 inches where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required density as required.
C. Reinforced backfill shall be compacted to 95% of the maximum density as determined by ASTM D698. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be + 3% to - 3% of optimum.
D. Only lightweight hand-operated equipment shall be allowed within 3 feet from the tail of the modular concrete unit.
E. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
F. Rubber lined equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided.
G. At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

- 3.06 Cap Installation**
A. Cap units shall be glued to underlying units with an all-weather adhesive recommended by the manufacturer.

- 3.07 Field Quality Control**
A. The Owner shall engage inspection and testing services, including independent laboratories, to provide quality assurance and testing services during construction.
B. As a minimum, quality assurance testing should include foundation soil inspection, soil and backfill testing, verification of design parameters, and observation of construction for general compliance with design drawings and specifications.



TYPICAL WALL SECTION
NTS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Date: 6/15/09

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 Date: 6/15/09

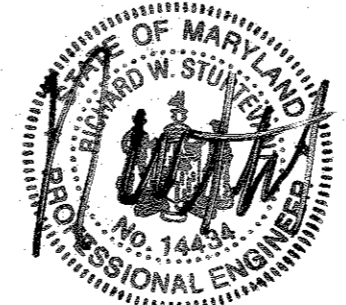
Chief, Development Engineering Division
 Date: 6.19.9

HILLIS-CARNES
ENGINEERING ASSOCIATES
 10975 Guilford Road, Suite A
 Annapolis Junction, Maryland
 (410) 880-4788 Fax: (410) 880-4058

DATE	REVISION	BY	APPR.
08/01/10	REMOVE PROPOSED RETAINING WALL		
6/11/09	STORMDRAIN REVISED IN PARCELS 'B-5' & 'J'. MATCHLINE ADDED (REPLACEMENT SHEET)	HKJ	
07/01/08	REV. TO SHOW STORM DRAIN AS PROPOSED PER F-08-54		

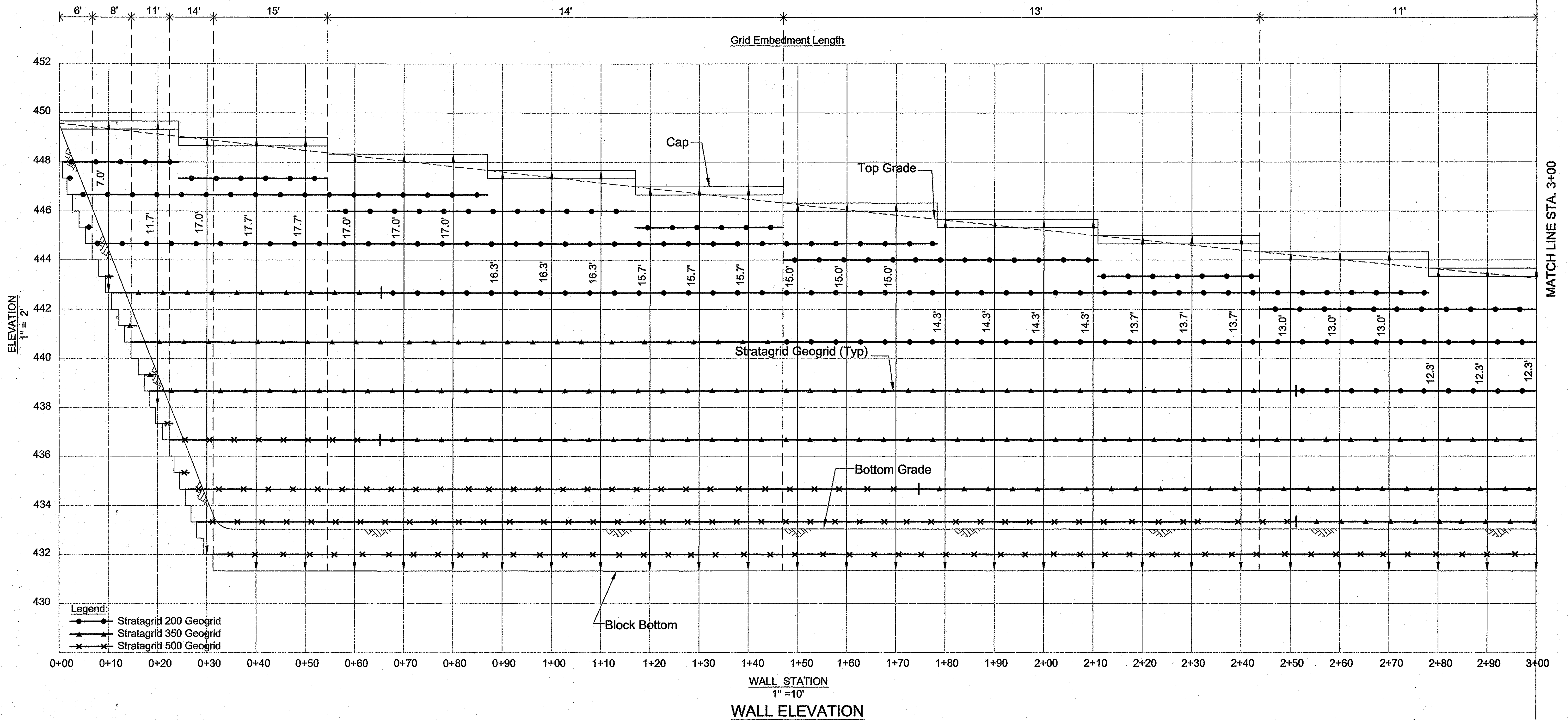
PREPARED FOR:
 G&R / WESSEL LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 142271
 EXPIRATION DATE: 12/31/11



WALL LOCATION PLAN AND CONSTRUCTION DETAILS
 MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'I' AND 'J'
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	HCEA PROJECT NO.
AS SHOWN	MXD-3	04164-B
DATE	TAX MAP - GRID	SHEET
JUNE, 2009	41-21&22 46-3	26 OF 32



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
W. R. W. W. 2-1-08
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Christy H. H. 2/15/08
 Chief, Division of Land Development Date

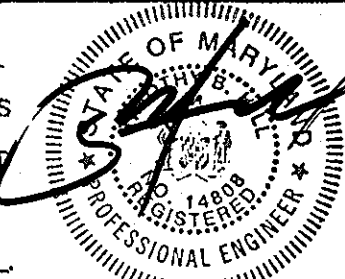
W. R. W. W. 2/15/08
 Chief, Development Engineering Division Date

HILLIS-CARNES
ENGINEERING ASSOCIATES
 10976 Guilford Road, Suite A Annapolis Junction, Maryland
 (410) 880-4788 Fax: (410) 880-4098

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

PREPARED FOR:
 G&R/Wood LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS
 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. 14808
 EXPIRATION DATE: 2/27/2008



WALL ELEVATION
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4
 AND NON-BUILDABLE PARCELS 'T', 'F', AND 'K'

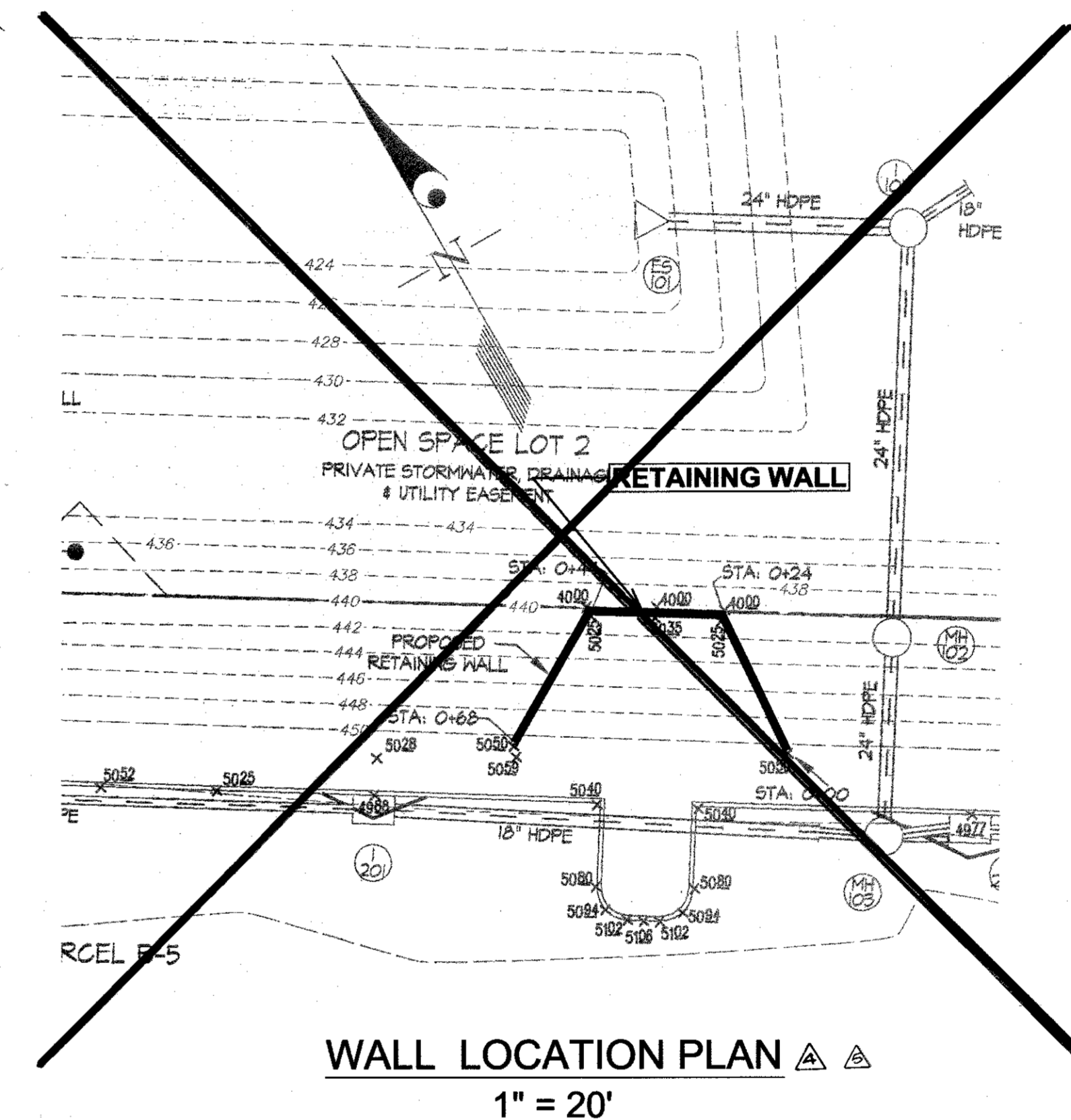
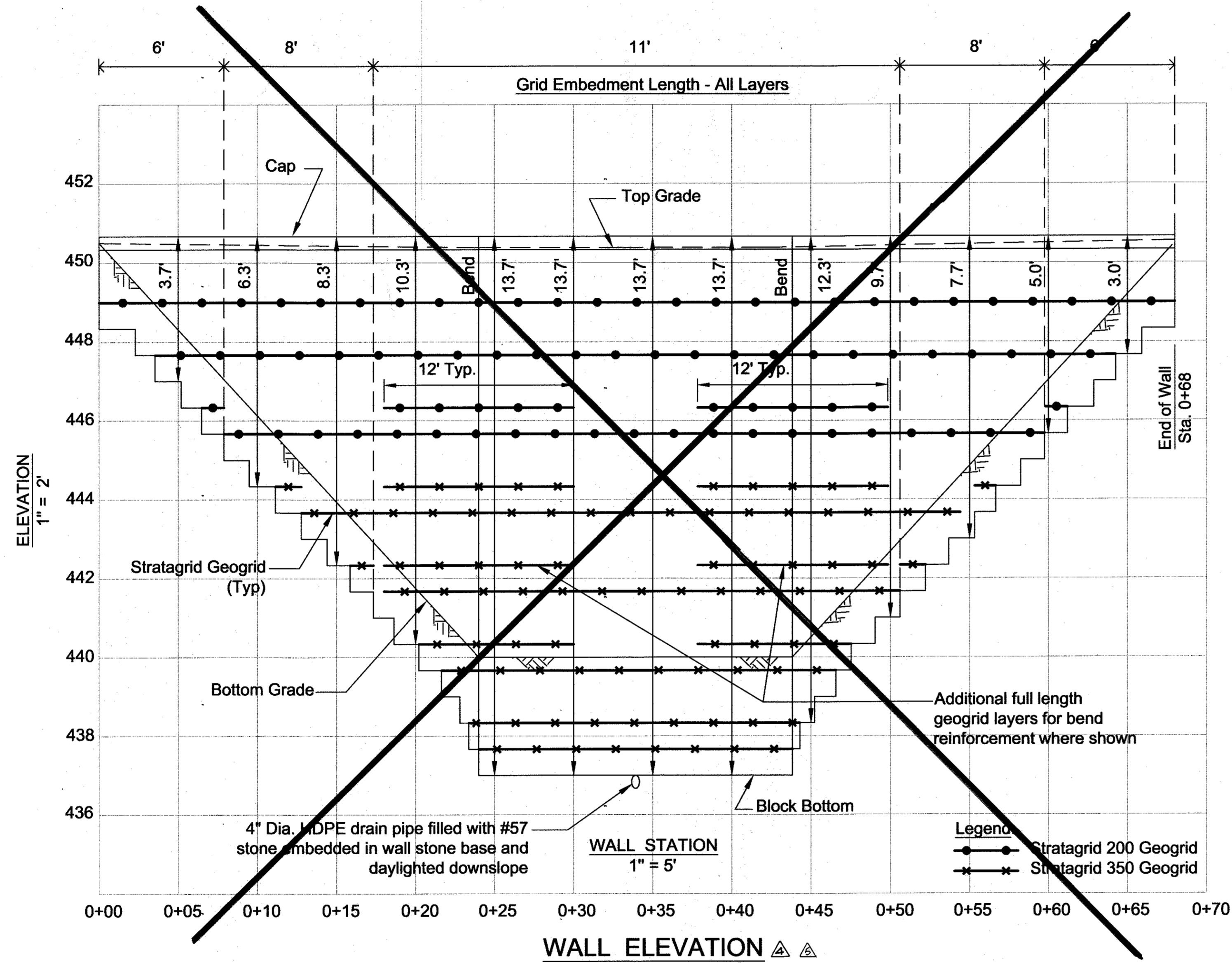
SCALE	ZONING	HCEA PROJECT NO.
AS SHOWN	MXD-3	04164-B
DATE	TAX MAP - GRID	SHEET
JAN., 2008	41-21&22 46-3	27 OF 32

ELECTION DISTRICT No. 5

HOWARD COUNTY, MARYLAND

THIS SET TO BE APPROVED IN CONJUNCTION WITH P-08-54

L:\CAD\DWG\PROJECTS\03067\03067.dwg 1/11/2008 8:29:04 AM EST



Note:
For typical wall section and specifications see sheet 26

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter J. Wall
 Chief, Bureau of Highways 1-12-10
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Kurt S. ...
 Chief, Division of Land Development 1/15/10
 Date

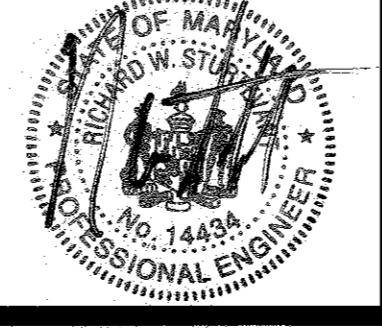
...
 Chief, Development Engineering Division 1/15/10
 Date

HILLIS-CARNES
 ENGINEERING ASSOCIATES
 10975 Gullford Road, Suite A Annapolis Junction, Maryland
 (410) 880-4788 Fax: (410) 880-4098

DATE	REVISION	BY	APPR.
08-01-10	REMOVE PROPOSED RETAINING WALL	HKJ	
11-02-09	Wall Location, Elevation and Profile Revised		
02-03-09	Common Wall and Added A		

PREPARED FOR:
 MAPLE LAWN FARMS, LLC.
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

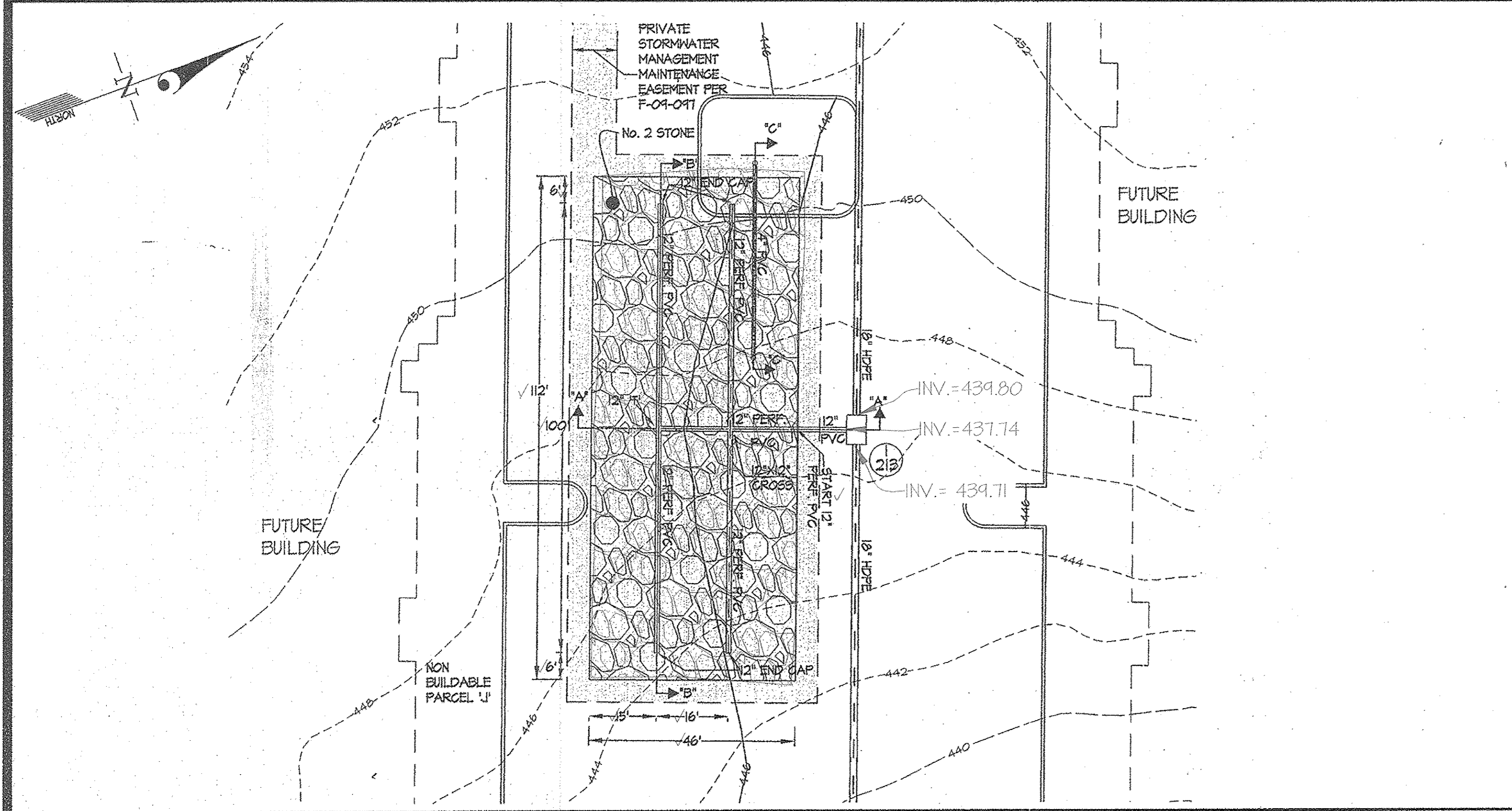
PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14434
 EXPIRATION DATE: 05/31/11



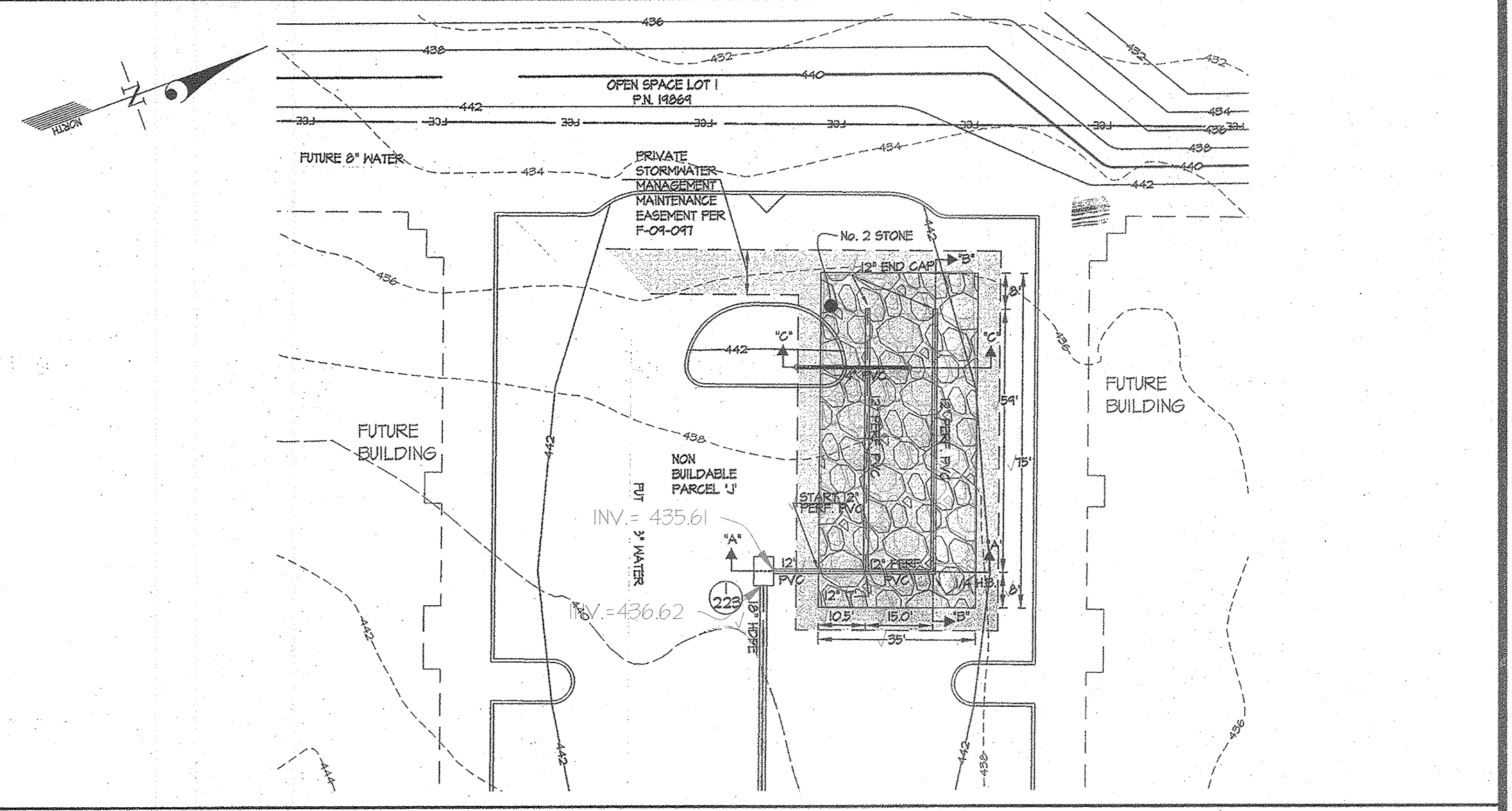
Revised WALL LOCATION PLAN AND ELEVATION
 MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4
 AND NON-BUILDABLE PARCELS 'I', 'J' AND 'K'
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	HCEA PROJECT NO.
AS SHOWN	MXD-3	09148-A
DATE	TAX MAP - GRID	SHEET
December 2009	41-21&22 46-3	29 OF 32

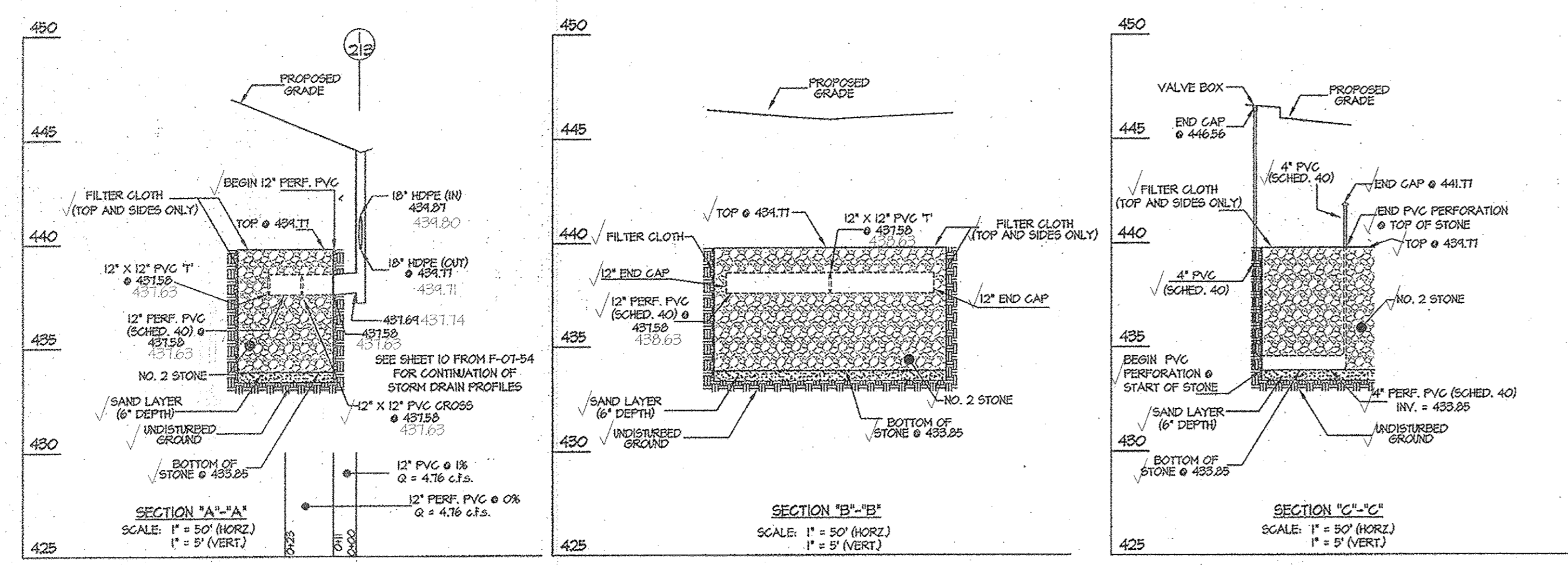
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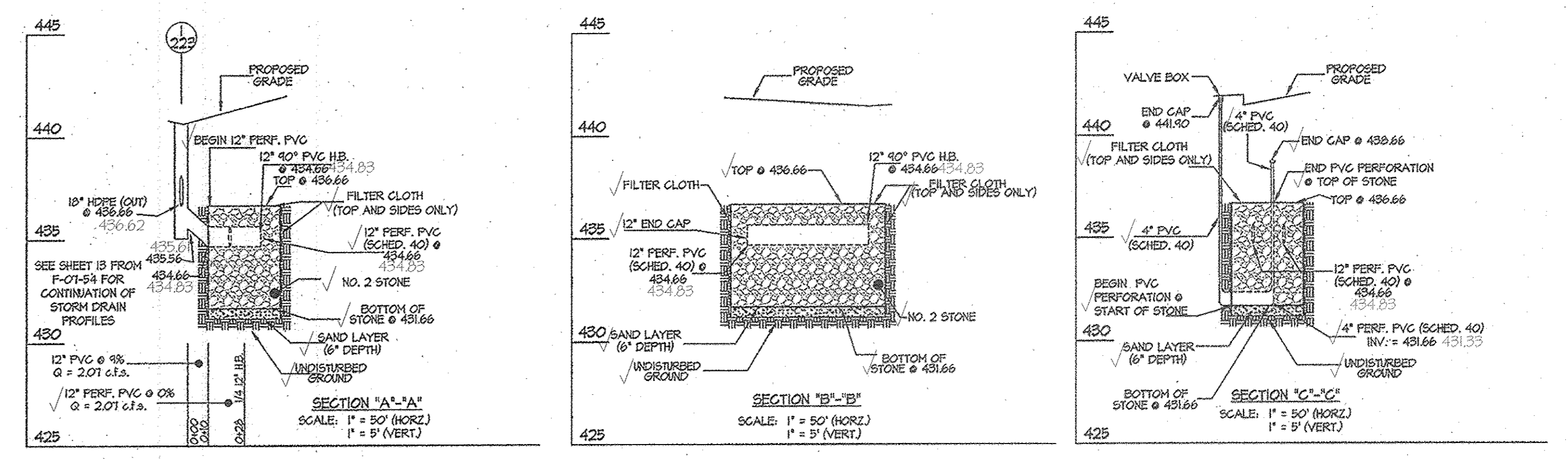
RECHARGE FACILITY 1 ENLARGEMENT SCALE: 1" = 20'



RECHARGE FACILITY 2 ENLARGEMENT SCALE: 1" = 20'



RECHARGE FACILITY 1 CROSS SECTIONS



RECHARGE FACILITY 2 CROSS SECTIONS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Blair 6/13/09
 Chief, Bureau of Highways
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chris 6/26/09
 Chief, Division of Land Development
 Date

Chad 6/19/09
 Chief, Development Engineering Division
 Date

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 BULTE 410-820-1820 DC/VA 301-589-2524 FAX 301-421-4186

DATE	REVISION	BY	APPR.
06/03/09	RECHARGE FACILITIES DETAIL SHEET ADDED	dds	

PREPARED FOR:
 G&R / WESSEL LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: 05/26, 2010



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. 12975, Expiration Date: May 26 2010.

4/12/18
 Date

Charlie Gutschick
 Professional Engineer
 Maryland Reg. No. 12975

PIPE SCHEDULE	SIZE & TYPE	QUANTITY (LF)	REMARKS
	4" PVC	35	SCH. 40
	4" PERF. PVC	64	SCH. 40
	12" PVC	21	SCH. 40
	12" PERF. PVC	575	SCH. 40

*ALL PIPES TO BE PRIVATE.

- 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 GLOGGED 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.

ASBUILTS
 RECHARGE FACILITY DETAILS
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'T', 'U', AND 'K'

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
APR 2018 JUNE, 2009	41-21&22 46-3	20 OF 32

HOWARD COUNTY, MARYLAND

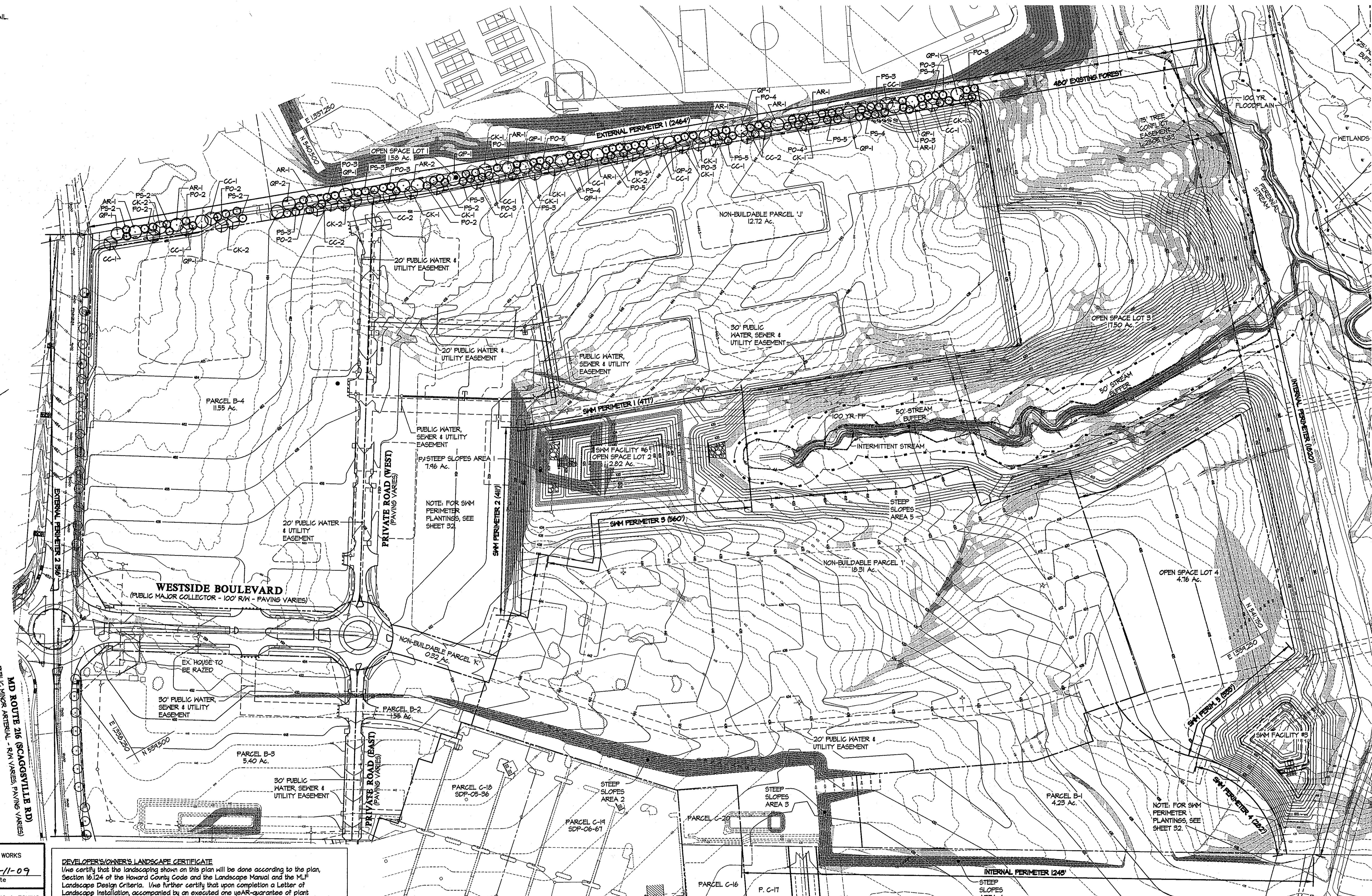
L:\CAD\DRAWINGS\0087\0087\ASBUILTS\CANS\sheet 30 of 31.dwg
 PLOTTED: 4/11/18 10:49 AM, LAST SAVED: 8/10/2017 11:28 AM, PLOTTED BY: STEVE L. SIMPSON
 1/11/2018 10:49 AM, PLOTTED BY: STEVE L. SIMPSON

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-55-1

NOTE: SEE SHEET 32 FOR TREE PLANTING DETAIL.

STEEP SLOPES DATA	
AREA No.	AREA IN SF
1 (1)	30,280 sf±
2 (1)	21,828 sf±
3 (1)	4,475 sf±
4 (1)	13,771 sf±
5 (2)	23,616 sf±

(1) GRADING PER SDP-07-43
 (2) GRADING PER AIR-FLOWN TOPO
 ALL OTHER STEEP SLOPE AREAS SHOWN ARE LESS THAN 10,000sf IN CONTIGUOUS AREA.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter D. Marshall 9-11-09
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Wendy Hamer 9/11/09
 Chief, Division of Land Development Date

Chris DeWitt 9/21/09
 Chief, Development Engineering Division Date

DEVELOPER'S/OWNER'S LANDSCAPE 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 and the MLF Landscape Design Criteria. I/we further certify that upon completion a Letter of Landscape Installation, accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

[Signature] 9-04-09
 Developer's/Owner's Name Date

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3509 NATIONAL DRIVE - SUITE 250 - BURTONTOWNE OFFICE PARK
 BURTONTOWNE, MARYLAND 20886
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.
9-17-09	Rev.3 New Sheet. Add perimeter landscaping.		

PREPARED FOR:
 G&R / WESSEL LLC
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN RD
 BALTIMORE, MD 21208
 ATTN: CHARLIE O'DONOVAN
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 12275
 EXPIRATION DATE: MAY 26, 2010

[Signature] 9-3-09
 ELECTION DISTRICT No. 5

FINAL LANDSCAPING PLAN
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'T', 'J', AND 'K'

SCALE: 1"=100'
 ZONING: MXD-3
 G. L. W. FILE NO.: 06081

DATE: JUNE, 2009
 TAX MAP - GRID: 41-21&22 46-3
 SHEET: 31 OF 32

HOWARD COUNTY, MARYLAND

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THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-54

STORMWATER MANAGEMENT AREA LANDSCAPING - SCHEDULE D

PERIMETER	PROPOSED LAND USE	TYPE OF BUFFER	ADJACENT LAND USE	LINEAR-FOOT OF PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR-FOOT) DESCRIBE BELOW IF NEEDED.	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR-FOOT) 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	
SWM-1	SWM	'B' BUFFER	COMMERCIAL	471 L.F.	NO	YES - 471' (SWM RETAINING WALL)	0	0	0	0	-----
SWM-2	SWM	'B' BUFFER	COMMERCIAL	411 L.F.	NO	NO	8	10	8	14	SEE PLAN (THIS SHEET)
SWM-3	SWM	'C' BUFFER	RESIDENTIAL (FUTURE)	560 L.F.	NO	NO	14	28	14	28	SEE PLAN (THIS SHEET)
SWM-4	SWM	'B' BUFFER	COMMERCIAL	282 L.F.	NO	NO	6	7	6	7	SEE PLAN (THIS SHEET)
SWM-5	SWM	'C' BUFFER	OPEN SPACE (RESIDENTIAL)	933 L.F.	NO	NO	8	17	8	17	SEE PLAN (THIS SHEET)
TOTAL NUMBER OF TREES							36	62	36	66	

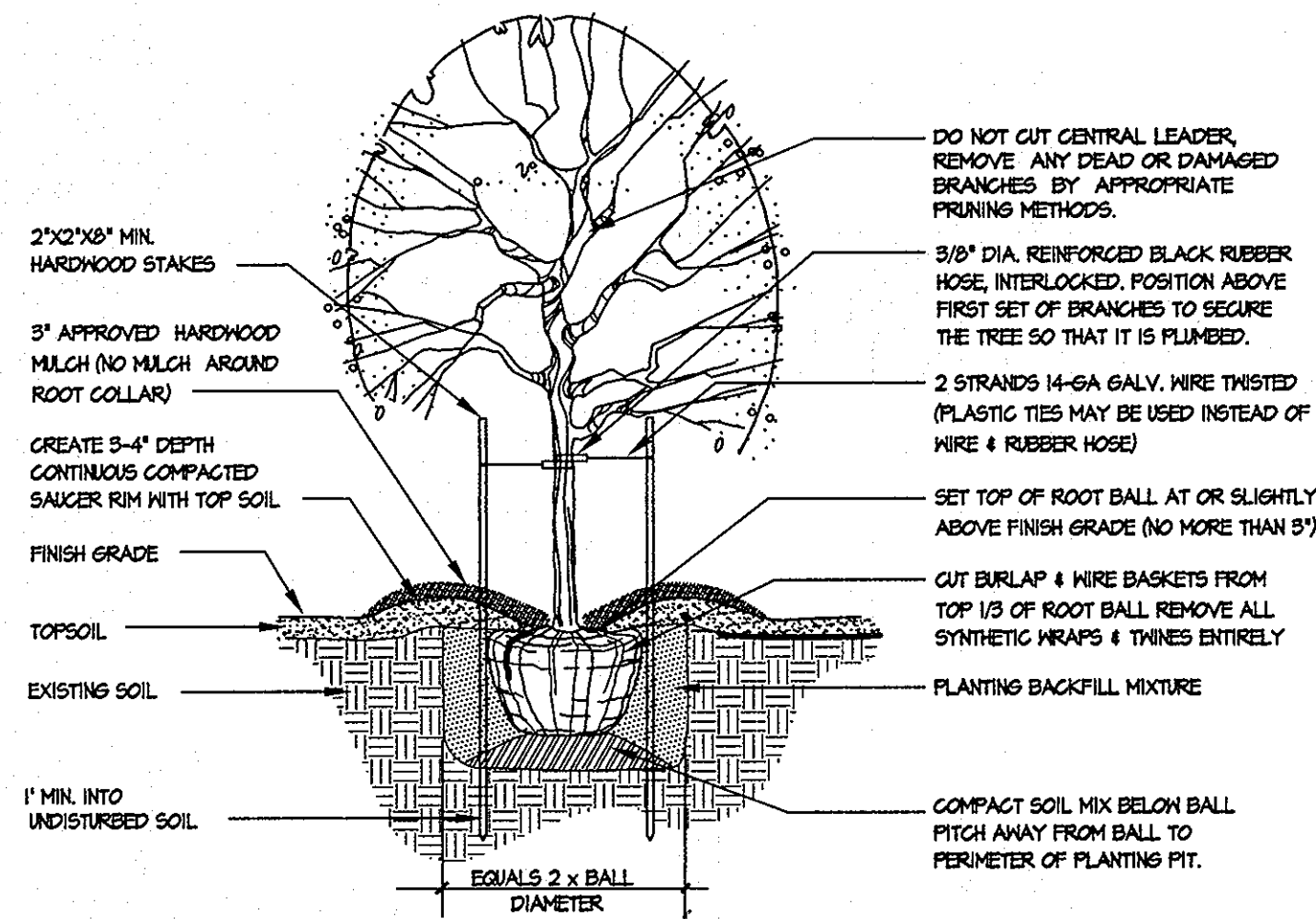
* FOLLOWS COMPREHENSIVE SKETCH PLAN GUIDELINE REQUIREMENTS

NOTES

- INTERNAL PLANTING AND PARKING LOT LANDSCAPING WILL BE PROVIDED WITH THE SITE DEVELOPMENT PLANS.
- 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 PLANTING TO BE PROVIDED ALONG BUFFER TYPE 'B':
 SHADE TREE: 1:50 LINEAR-FOOT OF MEASURED PERIMETER EDGE, AND
 EVERGREEN TREE: 1:40 LINEAR-FOOT OF MEASURED PERIMETER EDGE.
 BUFFER STORMWATER MANAGEMENT FROM A ROADWAY OR PERIMETER RESIDENTIAL PROPERTIES:
 SHADE TREE: 1:40 LINEAR-FOOT OF MEASURED PERIMETER EDGE, AND
 EVERGREEN TREE: 1:20 LINEAR-FOOT OF MEASURED PERIMETER EDGE.

Projected Bond Requirement - Surety for Schedule D:
 Schedule 'D' Number of required Shade Trees for bonding: 36 x \$300 = \$10,800.00
 Schedule 'D' Number of required Evergreen Trees for bonding: 62 x \$150 = \$9,300.00
 TOTAL: \$20,100.00

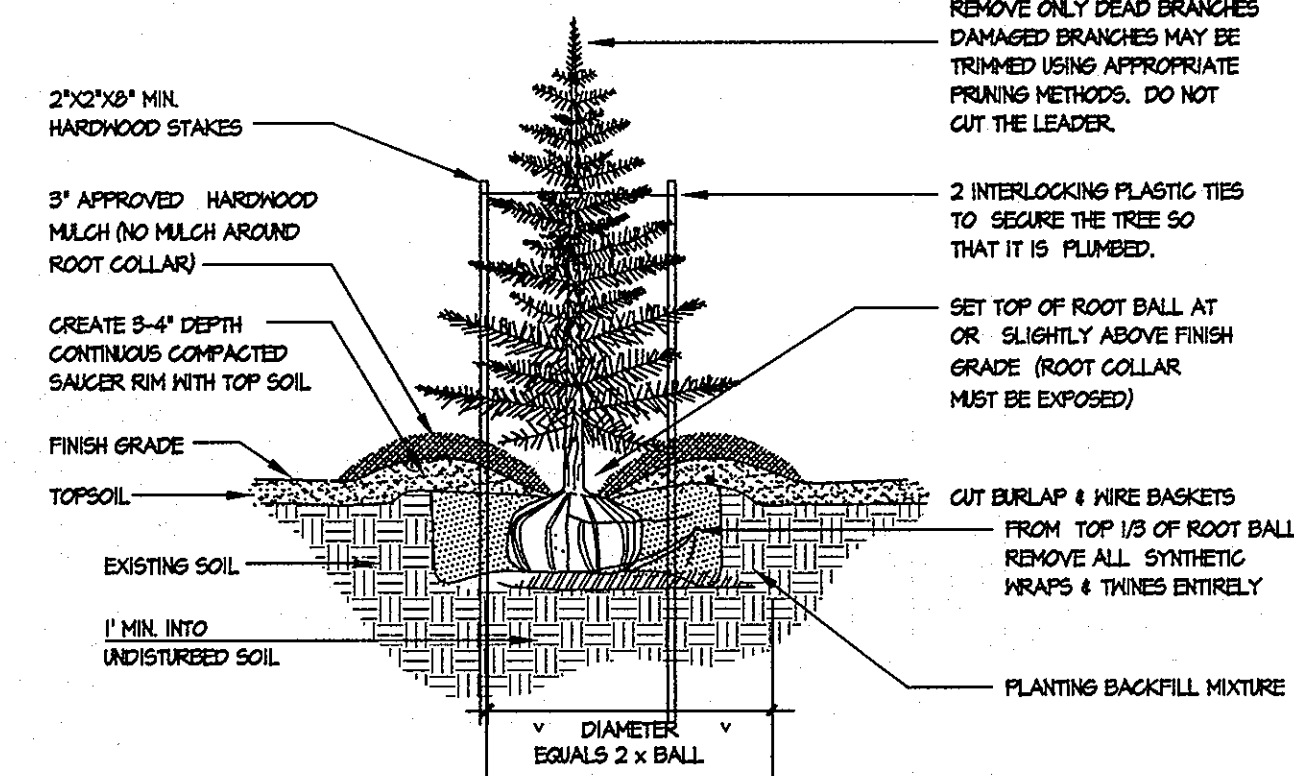
COMMENTS:



NOTE: TREE STAKES AND GUY WIRES TO BE REMOVED 1 YEAR AFTER PLANTING.

DECIDUOUS TREE PLANTING DETAIL FOR PLANTING MATERIAL UP TO 3 1/2" CALIPER

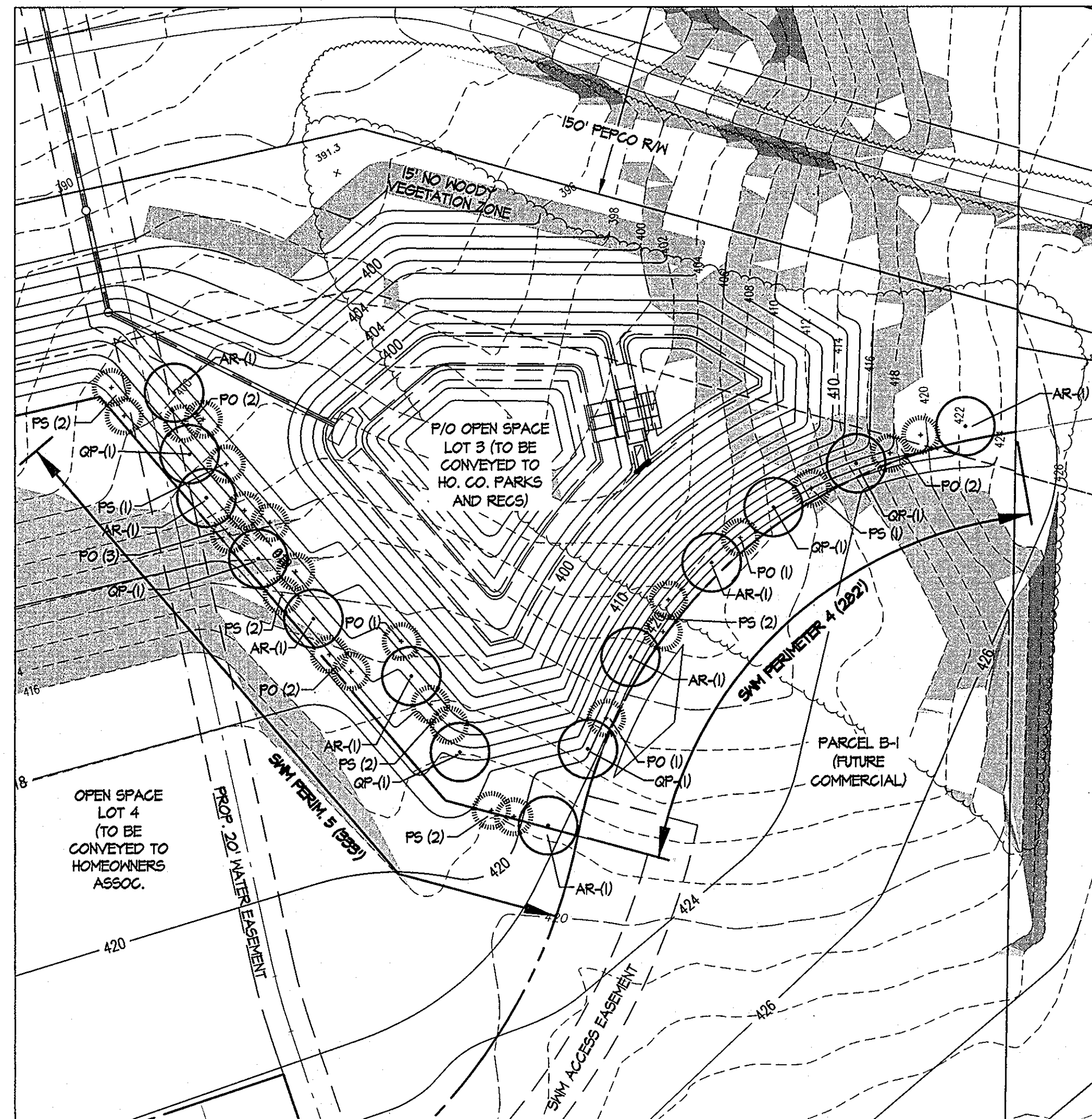
NTS



NOTE: TREE STAKES AND GUY WIRES TO BE REMOVED 1 YEAR AFTER PLANTING.

EVERGREEN TREE PLANTING DETAIL

NTS

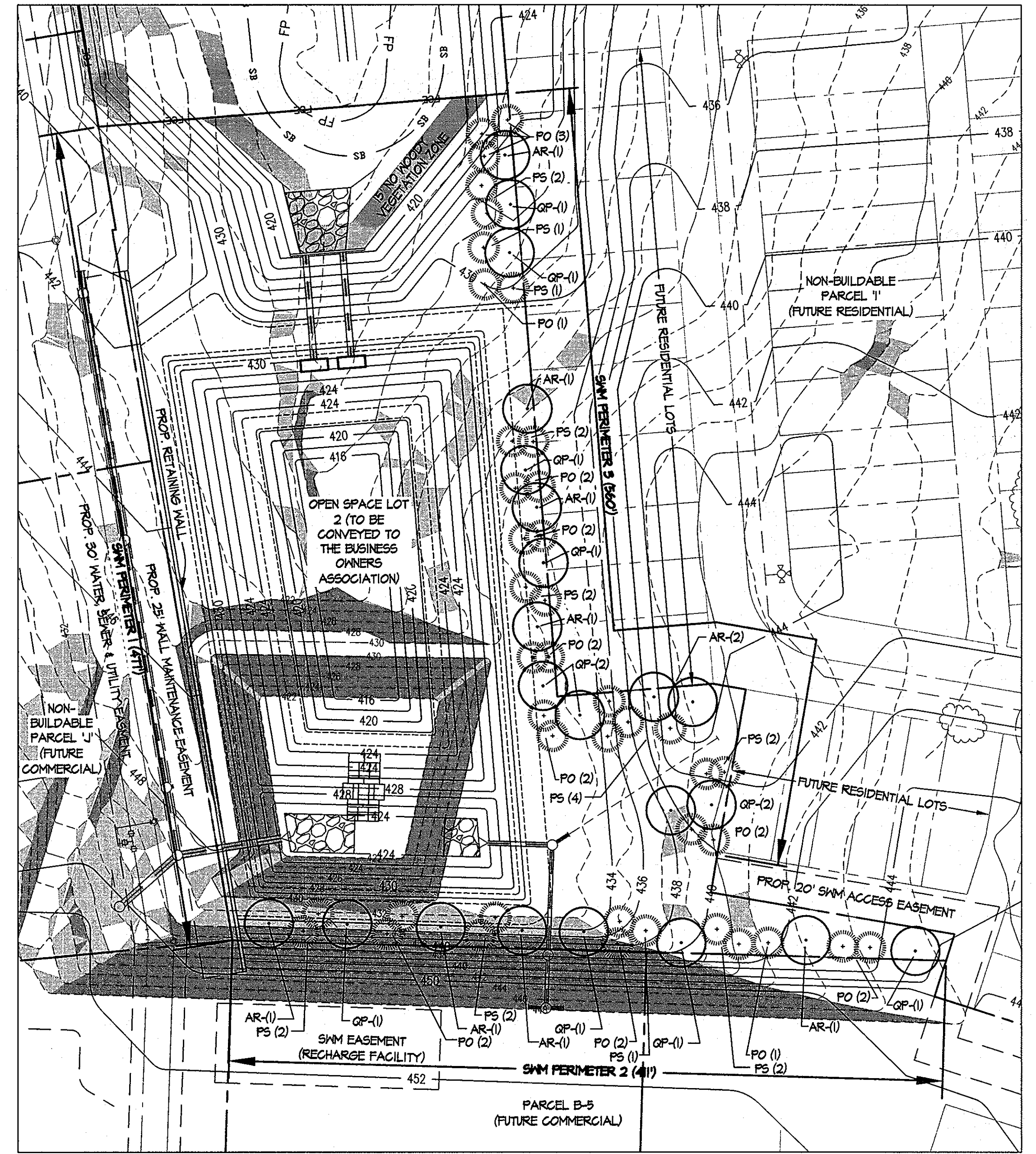


SWM PERIMETER PLANTINGS - SWM POND #3 (F-08-55)

SCALE: 1"=50'

PLANT LIST (SWM POND #3 FROM F-08-55)

SYMBOL	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE	ROOT	COMMENTS
SHADE TREES					
AR	8	Acer rubrum 'Autumn Flame'	2 1/2-3" Cal.	B&B	
GP	6	Quercus palustris Pin Oak	2 1/2-3" Cal.	B&B	
EVERGREEN TREES					
PS	12	Pinus strobus White Pine	6'-8' Ht.	B&B	
PO	12	Picea omorika Serbian Spruce	6'-8' Ht.	B&B	



SWM PERIMETER PLANTINGS - SWM POND #6 (SEE F-08-55)

SCALE: 1"=50'

PLANT LIST (SWM POND #6 FROM F-08-55)

SYMBOL	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE	ROOT	COMMENTS
SHADE TREES					
AR	10	Acer rubrum 'Autumn Flame'	2 1/2-3" Cal.	B&B	
GP	12	Quercus palustris Pin Oak	2 1/2-3" Cal.	B&B	
EVERGREEN TREES					
PS	21	Pinus strobus White Pine	6'-8' Ht.	B&B	
PO	21	Picea omorika Serbian Spruce	6'-8' Ht.	B&B	

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 61 shade trees, 33 ornamentals, and 162 evergreen trees required. A landscape surety in the amount of \$47,550.00 will be posted to DPN with the Developer's Agreement.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 9-11-09
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 [Signature] 9/21/09
 Chief, Division of Land Development

[Signature] 9/21/09
 Chief, Development Engineering Division

DEVELOPER'S/OWNER'S LANDSCAPE 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 and the MLF Landscape Design Criteria. I/we further certify that upon completion a Letter of Landscape Installation, accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.

[Signature] 9-04-09
 Developer's/Owner's Name

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 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK
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 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

9-17-09	Rev. 3 New Sheet. Add perimeter landscaping.				
DATE	REVISION	BY	APP'R.		

PREPARED FOR:
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 SUITE 300 WOODHOLME CENTER
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 EXPIRATION DATE: MAY 28, 2010



This Plan is For Landscaping Purposes
 See sheet 9 of F-08-54 for storm drain size, type & length.

FINAL LANDSCAPING NOTES
 (STORMWATER MANAGEMENT AND SEDIMENT CONTROL ONLY)
MAPLE LAWN FARMS
 WESTSIDE DISTRICT - AREA 1
 PARCELS B-1 THROUGH B-5, OPEN SPACE LOTS 1 THROUGH 4 AND NON-BUILDABLE PARCELS 'Y', 'Z', AND 'K'

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	MXD-3	06081
DATE	TAX MAP - GRID	SHEET
JUNE, 2009	41-21&22 46-3	32 OF 32

ELECTION DISTRICT No. 5

HOWARD COUNTY, MARYLAND

THIS SET TO BE APPROVED IN CONJUNCTION WITH F-08-54

F-08-54