

U.S. Rte. 29  
(North Bound Lane)

WILDER BUILDING CORP.  
HOEMES PROPERTY PARCEL-D  
PLAT No. 8418  
ZONED: RA-15

**BUILDING A**  
51,910 SQ.FT.  
L.F.=410.0  
U.F.=424.0  
8911

**CARLS COURT**

**OWNER/DEVELOPER**  
EXECUTIVE CENTER PARCEL D  
LIMITED PARTNERSHIP  
1205 YORK ROAD, PENTHOUSE  
LUTHERVILLE, MD 21093  
(410) 825-8400

AS-BUILT CERTIFICATION  
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
P.E. NO.: \_\_\_\_\_

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE MADE IN ACCORDANCE WITH THE REQUIREMENTS AND TESTS DEMAND SUPPORT AND APPROPRIATE COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

BY THE DEVELOPER:  
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 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 FISCAL ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 4/24/07  
PRINTED NAME OF DEVELOPER

BY THE ENGINEER:  
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 AND TESTS DEMAND SUPPORT AND APPROPRIATE COMMONLY ACCEPTED ENGINEERING STANDARDS. 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]* 4/19/07  
PRINTED NAME OF ENGINEER

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. 8818, EXPIRATION DATE 10/17/12.

*[Signature]* 5/8/07  
DATE

USDA - NATURAL RESOURCES CONSERVATION SERVICE  
*[Signature]* 5/8/07  
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  
*[Signature]* 5/8/07  
DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 5/8/07  
DATE  
CHIEF DEVELOPMENT ENGINEERING DIVISION  
*[Signature]* 5/16/07  
DATE  
CHIEF DIVISION OF LAND DEVELOPMENT  
*[Signature]* 5/16/07  
DATE  
DIRECTOR

**LEGEND**

- SWM MAINTENANCE ACCESS
- WETLANDS
- FOREST CONSERVATION EASEMENT
- PUBLIC EATER, SEWER & UTILITY EASEMENT
- EXISTING TREE LINE
- PROPOSED TREE LINE
- OUTDOOR LIGHT
- NUMBER OF PARKING SPA.

NOTE: 1. SEE SHEETS 14 THRU 16 FOR DETAILS OF RETAINING WALLS  
2. SEE SHEETS 9 FOR DETAILS OF STORMWATER MANAGEMENT FACILITY

Project: APR-2007  
Illustration: 04-038  
Scale: MMX  
Date: 4/26/12  
Revision: REVISE STORM DRAIN HW-1 TO HW-2

**EXECUTIVE CENTER**  
ELLCOTT CITY WAL-MART PARCEL D  
TAX MAP 17 & 24, P/O PARCEL 1065  
HOWARD COUNTY, MARYLAND  
SECOND ELECTION DISTRICT  
SITE DEVELOPMENT PLAN

**MILDENBERG, & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland - 21042  
(410) 997-0296, Bal. (301) 621-5521, Wash. (410) 997-0298, Fax.

2 OF 17  
SDP-06-094

44 104-038 DWG(S) 150P-2

HOWARD COUNTY MEDICAL RESEARCH PARK  
ELLCOTT CITY  
ROSE MANOR LLC  
PARCEL 886, LOT-C2  
PLAT NO. 5677  
ZONED: PDR

- LEGEND**
- SWM MAINTENANCE ACCESS
  - WETLANDS
  - FOREST CONSERVATION EASEMENT
  - PUBLIC WATER, SEWER & UTILITY EASEMENT
  - EXISTING TREE LINE
  - PROPOSED TREE LINE
  - OUTDOOR LIGHT
  - NUMBER OF PARKING SPA.

NOTE: SEE SHEETS 14 THRU 16 FOR DETAILS OF RETAINING WALLS

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. 8816, EXPIRATION 10/17/12

**OWNER/DEVELOPER**

EXECUTIVE CENTER PARCEL D  
LIMITED PARTNERSHIP  
1205 YORK ROAD, PENTHOUSE  
LUTHERVILLE, MD 21093  
(410) 825-8400

AS-BUILT CERTIFICATION  
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

P.E. NO.: \_\_\_\_\_  
DATE: \_\_\_\_\_  
SIGNATURE: \_\_\_\_\_

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BY THE DEVELOPER:  
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 DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Signature*  
SIGNATURE OF DEVELOPER  
LEWIS MILDENBERG  
PRINTED NAME OF DEVELOPER  
DATE: 4/20/07

BY THE ENGINEER:  
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 HAS MET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT 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 OF ENGINEER  
P. JACOB HIKMAT  
PRINTED NAME OF ENGINEER  
DATE: 4/19/07

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*  
USA - NATURAL RESOURCES CONSERVATION SERVICE  
DATE: 5/8/07

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

*Signature*  
HOWARD SOIL CONSERVATION DISTRICT  
DATE: 5/8/07

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Signature*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 5/14/07

*Signature*  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 4/16/07

*Signature*  
DIRECTOR  
DATE: 5/14/07



WILYER BUILDING CORP.  
HOGEN'S PROPERTY  
PARCEL D  
PLAT NO. 8419  
ZONED: RA-15

**BUILDING B**  
41,670 SQ. FT.  
L.F. = 415.0  
U.F. = 429.0  
8910

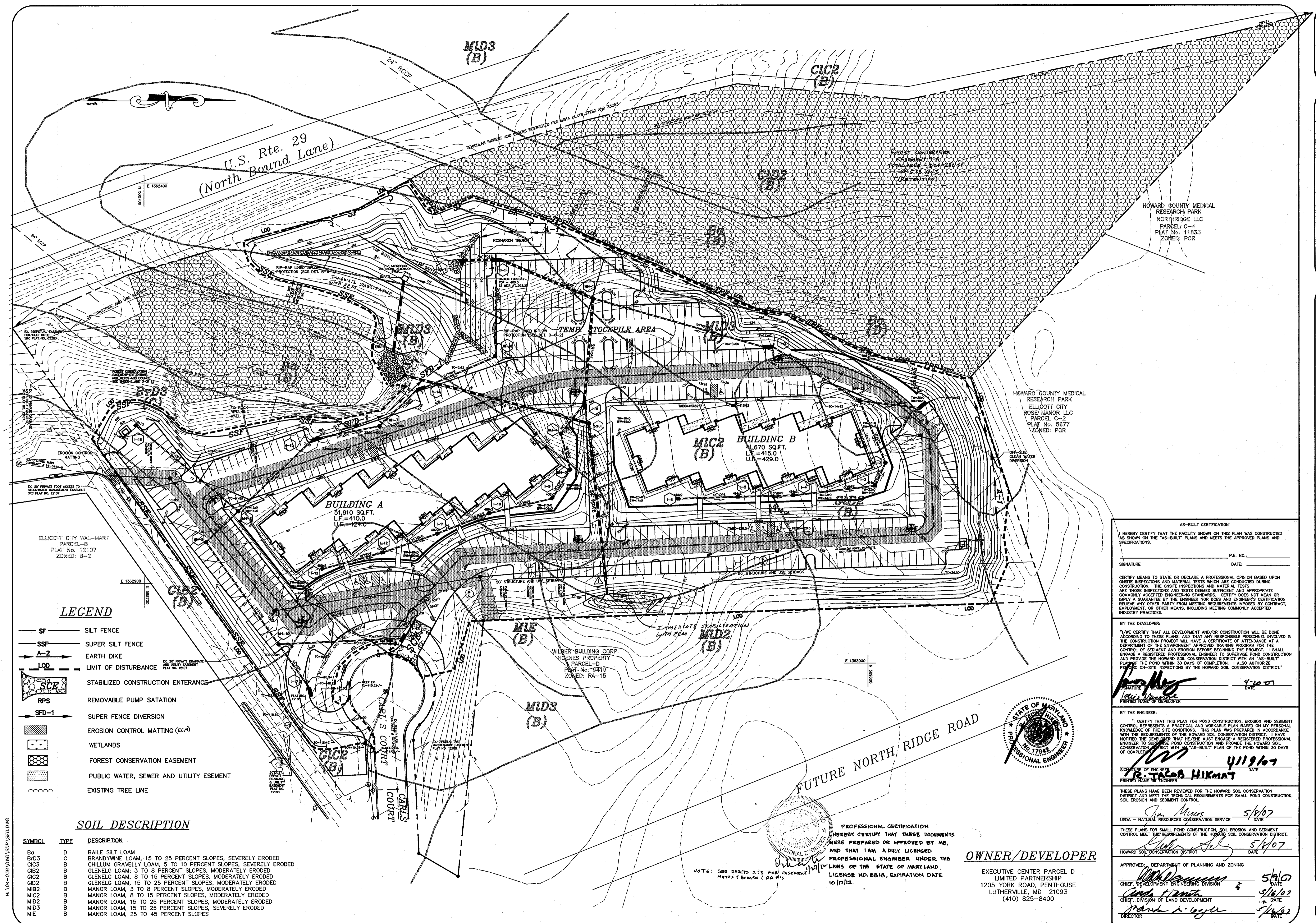
MATCH LINE SHEET 2 OF 17

Project	date	approval
04-038	APR-2007	MMK
illustration	engineering	MMK
scale	1"=30'	

description	date
REVISE STORM DRAIN HW-1 TO HW-2	04/15/07

**EXECUTIVE CENTER**  
ELLCOTT CITY WAL-MART PARCEL D  
TAX MAP 17 & 24, P/O PARCEL 1065  
HOWARD COUNTY, MARYLAND  
SECOND ELECTION DISTRICT  
SITE DEVELOPMENT PLAN

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0286 Fax. (301) 621-5521 Wash. (410) 997-0288 Fax.



- LEGEND**
- SF SILT FENCE
  - SSF SUPER SILT FENCE
  - A-2 EARTH DIKE
  - LOD LIMIT OF DISTURBANCE
  - SCE STABILIZED CONSTRUCTION ENTRANCE
  - RPS REMOVABLE PUMP SATIATION
  - SFD-1 SUPER FENCE DIVERSION
  - ECM EROSION CONTROL MATTING (ECM)
  - WETLANDS
  - FOREST CONSERVATION EASEMENT
  - PUBLIC WATER, SEWER AND UTILITY ESEMENT
  - EXISTING TREE LINE

**SOIL DESCRIPTION**

SYMBOL	TYPE	DESCRIPTION
Ba	D	BAILE SILT LOAM
BrD3	C	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED
C1C3	B	CHILLUM GRAVELLY LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED
G1B2	B	GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
G1C2	B	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
G1D2	B	GLENELG LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
M1B2	B	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
M1C2	B	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
M1D2	B	MANOR LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
M1D3	B	MANOR LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED
M1E	B	MANOR LOAM, 25 TO 45 PERCENT SLOPES

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

P.E. NO.: \_\_\_\_\_  
DATE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

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**BY THE DEVELOPER:**

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SIGNATURE: \_\_\_\_\_ DATE: 4/22/07  
PRINTED NAME OF DEVELOPER: \_\_\_\_\_

**BY THE ENGINEER:**

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

SIGNATURE OF ENGINEER: \_\_\_\_\_ DATE: 4/19/07  
PRINTED NAME OF ENGINEER: R. JACOB HIKMAT

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.

USDA - NATURAL RESOURCES CONSERVATION SERVICE  
DATE: 5/8/07

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: 5/8/07

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR

DATE: 5/10/07  
DATE: 5/16/07  
DATE: 5/16/07

**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. 8818, EXPIRATION DATE 10/1/12.

**OWNER/DEVELOPER**

EXECUTIVE CENTER PARCEL D  
LIMITED PARTNERSHIP  
1205 YORK ROAD, PENTHOUSE  
LUTHERVILLE, MD 21093  
(410) 825-8400

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Drexel Hill Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0236 Fax: (301) 621-5621 Wash. (410) 997-0238 Fax.

**EXECUTIVE CENTER**  
ELICOTT CITY WAL-MART PARCEL D  
TAX MAP 17 & 24, P/O PARCEL 1085  
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
EROSION AND SEDIMENT CONTROL PLAN

project 04-038 APR. 2007  
illustration MMM MMH  
scale 1"=50'  
date 01/25/12

REVISE STORM DRAIN HW-1 TO HW-2  
description  
revisions

4 OF 17  
SDP-06-094

HOWARD SOIL CONSERVATION DISTRICT

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LEGGED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- 1) PREFERRED - APPLY 2 TONS PER ACRE OF DOLOMIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING.
2) ACCEPTABLE - APPLY 2 TONS PER ACRE OF DOLOMIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING.

SEEDING - FOR PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE 1.4 LBS./1000 SQ.FT. OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. PER ACRE 1.4 LBS./1000 SQ.FT. OF KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (0.5 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS.

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, FOR NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.)

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30, AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (0.7 LBS./1000 SQ.FT.).

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED WHEED FREE SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS.

STANDARD SEDIMENT CONTROL NOTES

- 1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF MAY CONSTRUCTION.
2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
3) FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

- 4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC.51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC.52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMBINED SEEDING DATAS DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN GRADING PERMIT
2. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE, WITH MOUNTABLE BERM, AT LOCATION SHOWN. (1 DAY)
3. CONSTRUCT SUPER SILT FENCES AND SEDIMENT BASIN WITH MATERIALS ON SITE. (4 DAYS)
4. CONSTRUCT DIVERSION DIKES AS INDICATED (1 DAY)
5. WITH PERMISSION OF INSPECTOR BRING SITE TO GRADE, INCLUDING STORM DRAIN SYSTEM. DELAY CONSTRUCTION OF RECHARGE TRENCH (30 DAYS)
6. CONSTRUCT BUILDINGS, PAVEMENT AND CURB AND GUTTER AS INDICATED (35 DAYS)
7. WHEN ALL CONTRIBUTING AREAS TO STORM DRAIN SYSTEM HAVE BEEN STABILIZED, CONSTRUCT RECHARGE TRENCH (35 DAYS)
8. STABILIZE ALL REMAINING DISTURBED AREAS. (3 DAYS)
9. WHEN ALL CONTRIBUTING DRAINAGE AREAS TO SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED AREAS. (3 DAYS)
10. WHEN ALL CONTRIBUTING DRAINAGE AREAS TO THE SEDIMENT BASIN HAVE BEEN STABILIZED AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, CONVERT SEDIMENT BASIN TO PERMANENT SWM: (15 DAYS)
11. PROVIDE AS-BUILT OF COMPLETED SWM FACILITY TO HOWARD SOIL CONSERVATION DISTRICT.

STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW pH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

- 1. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

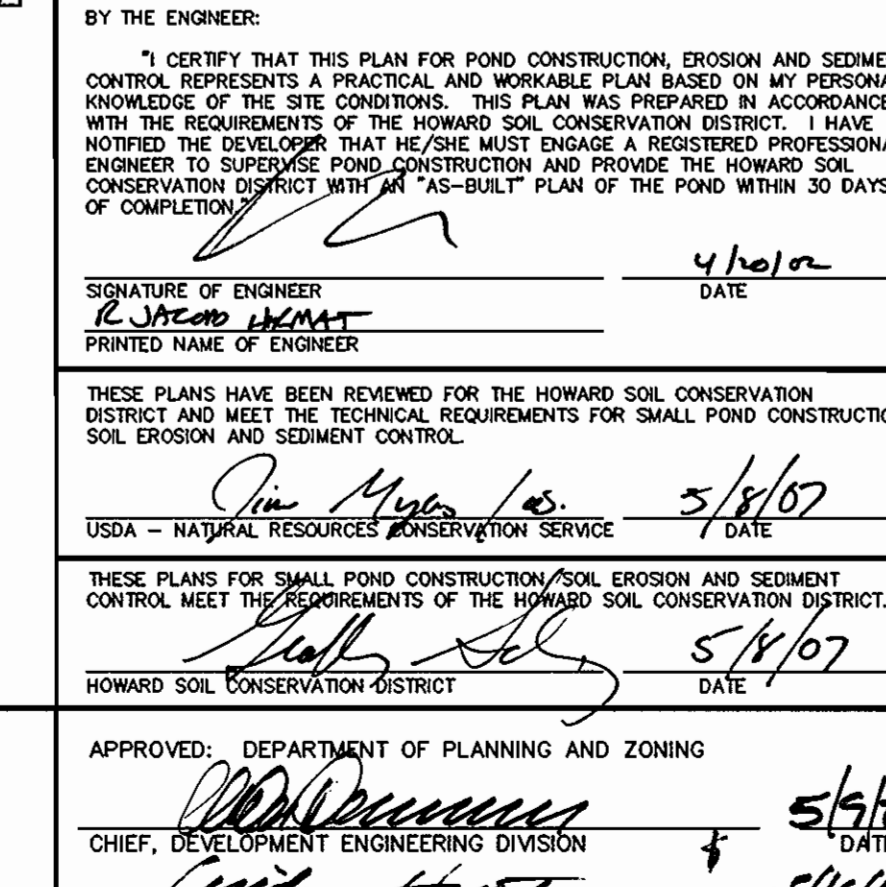
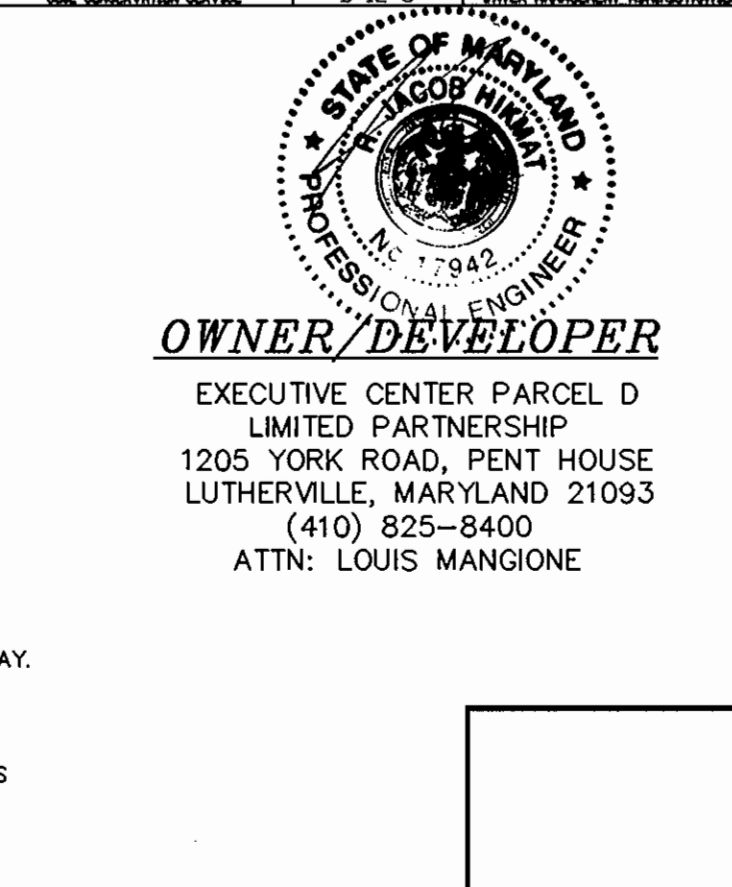
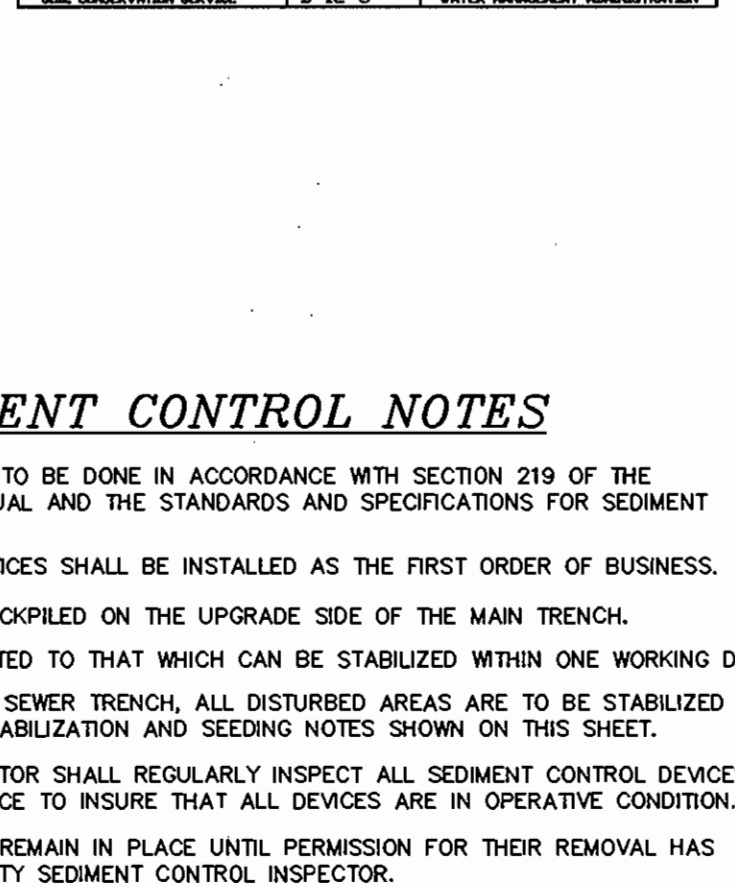
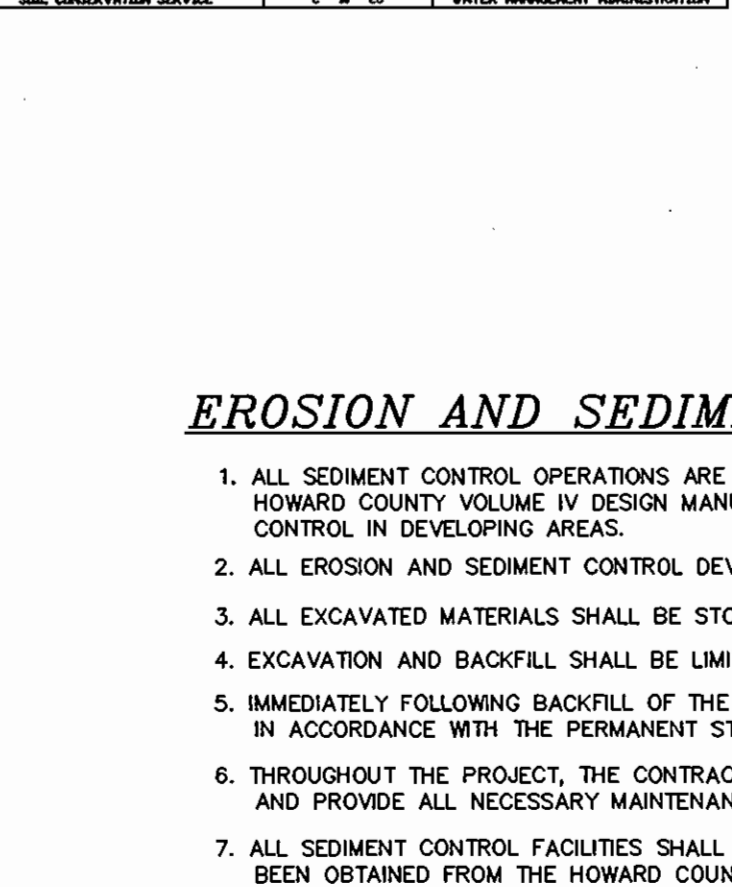
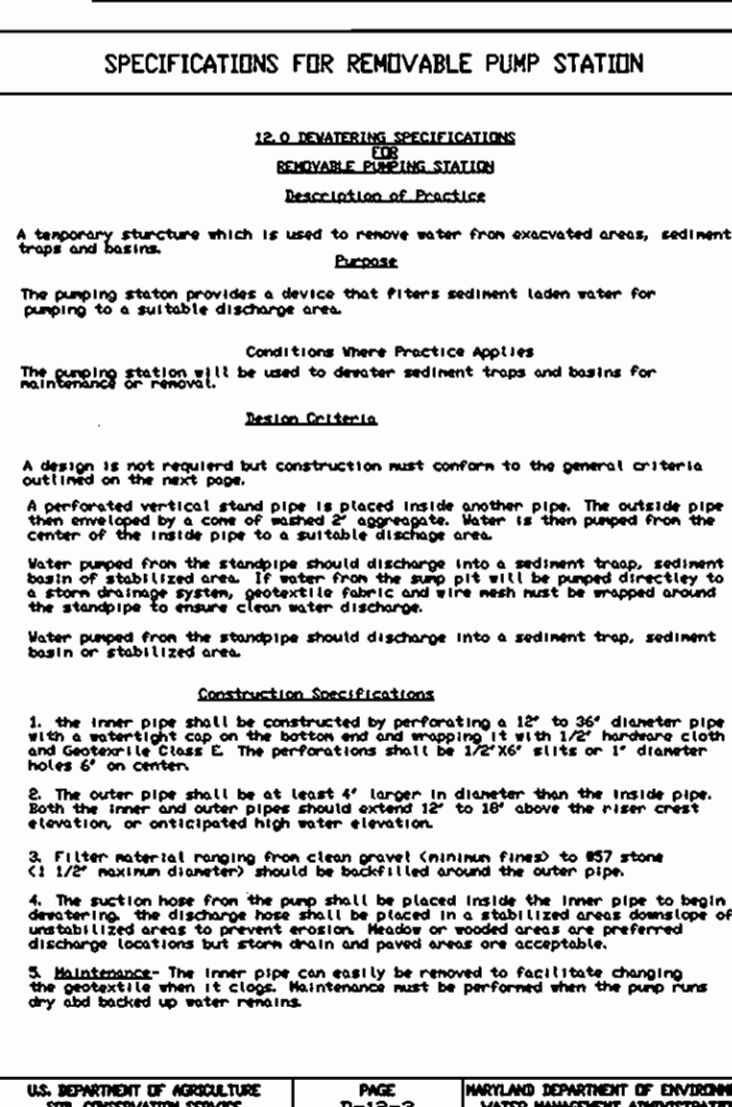
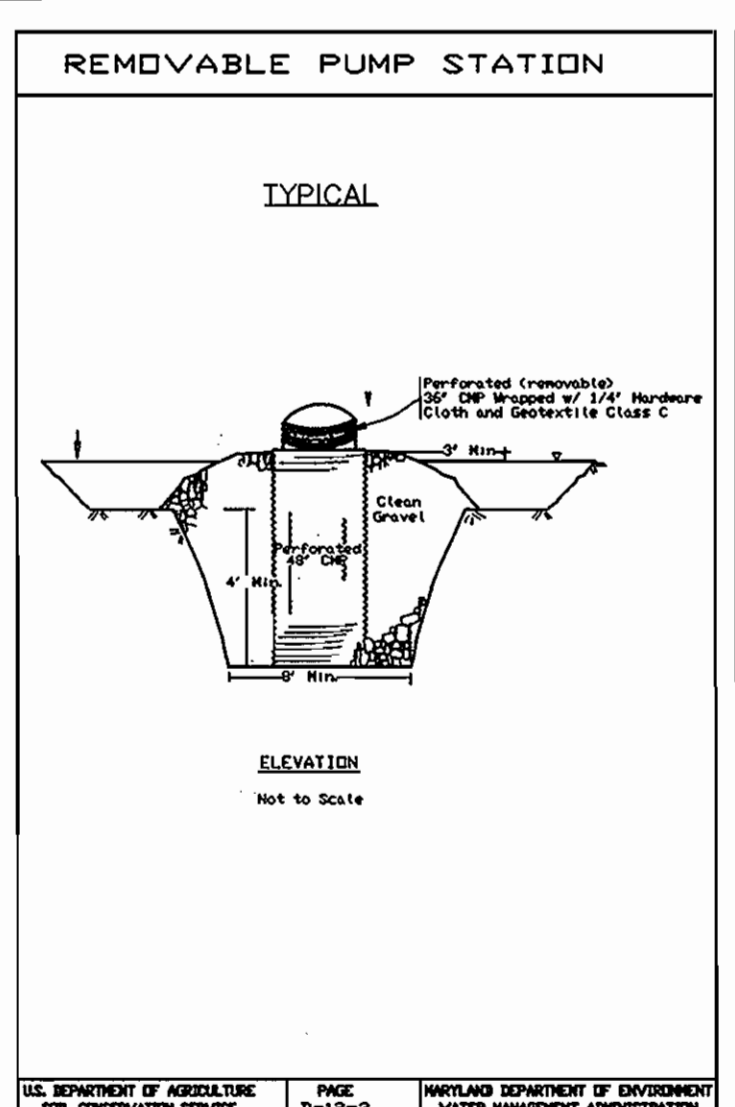
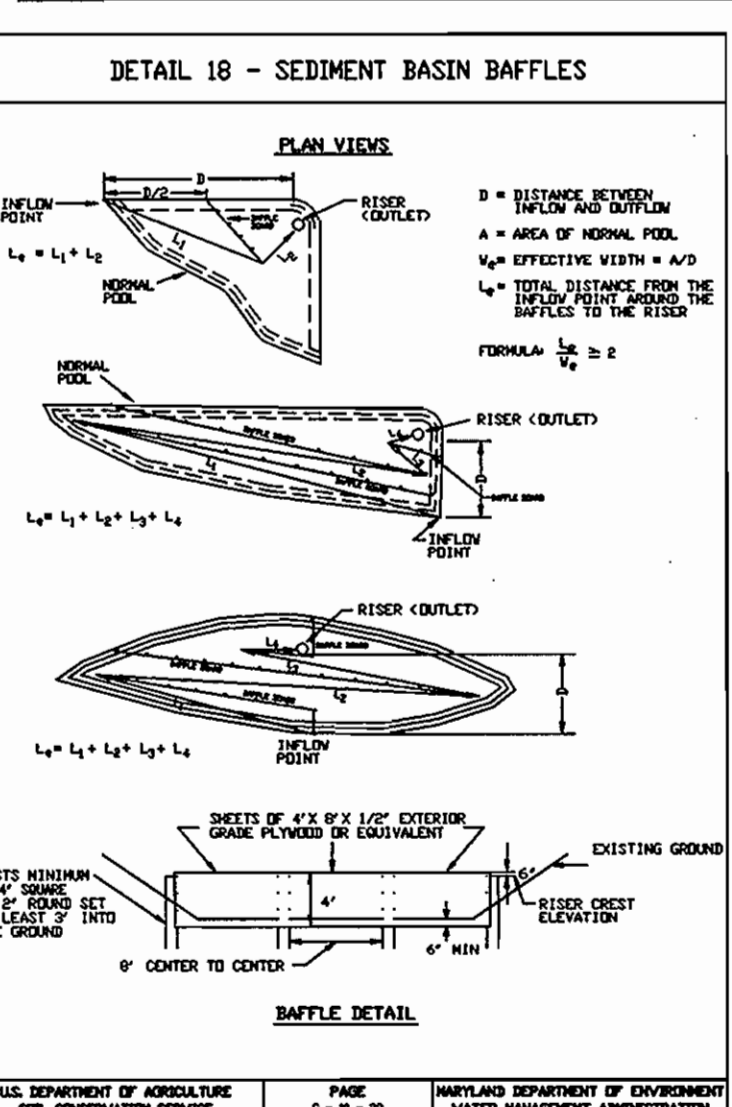
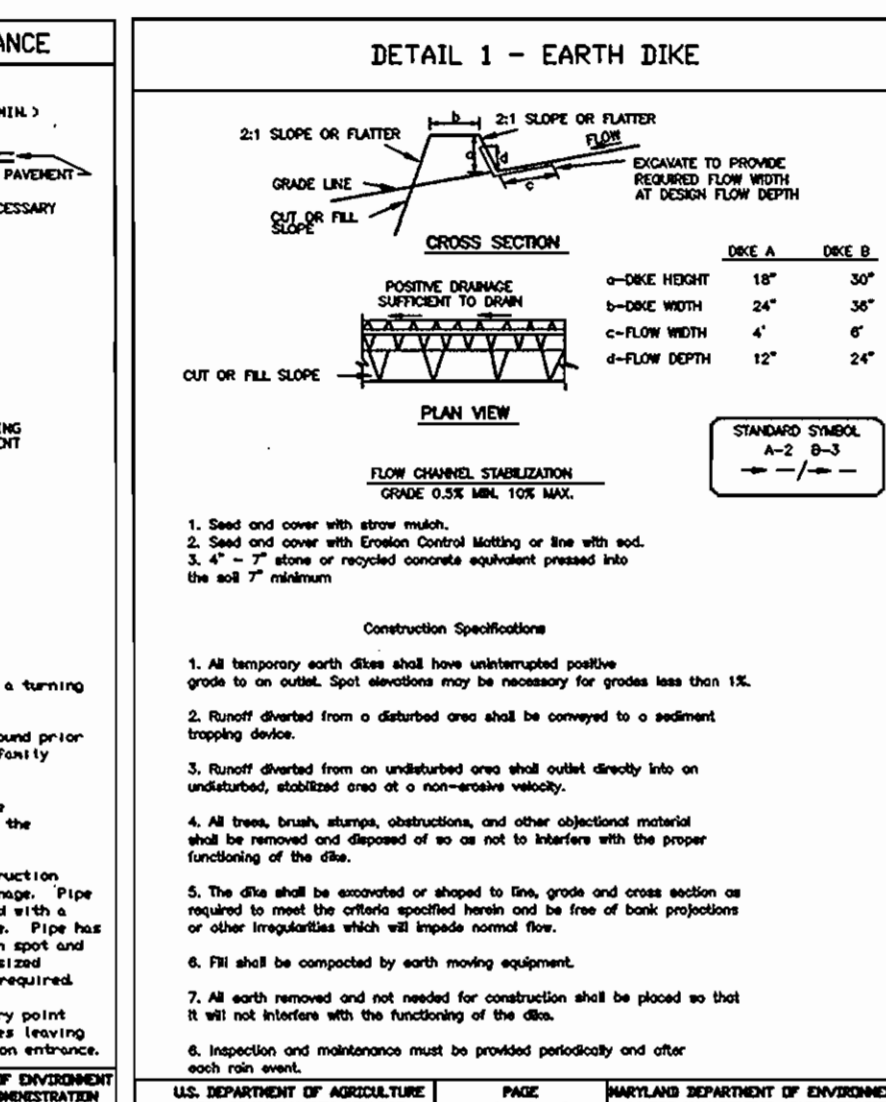
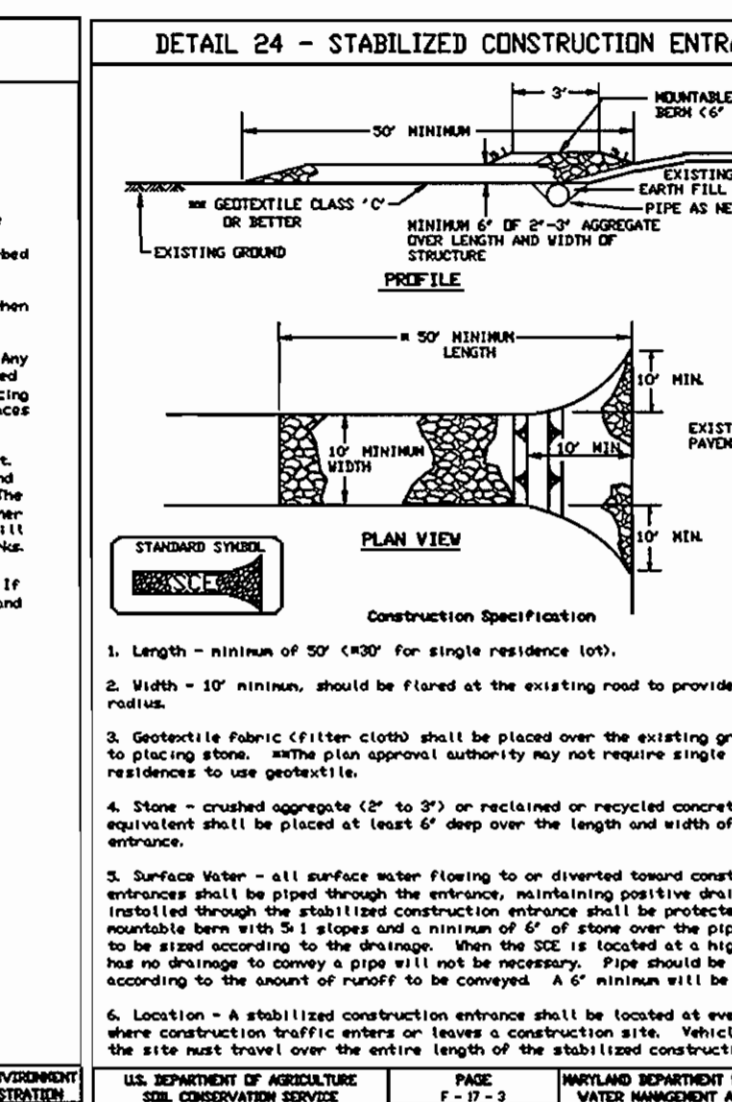
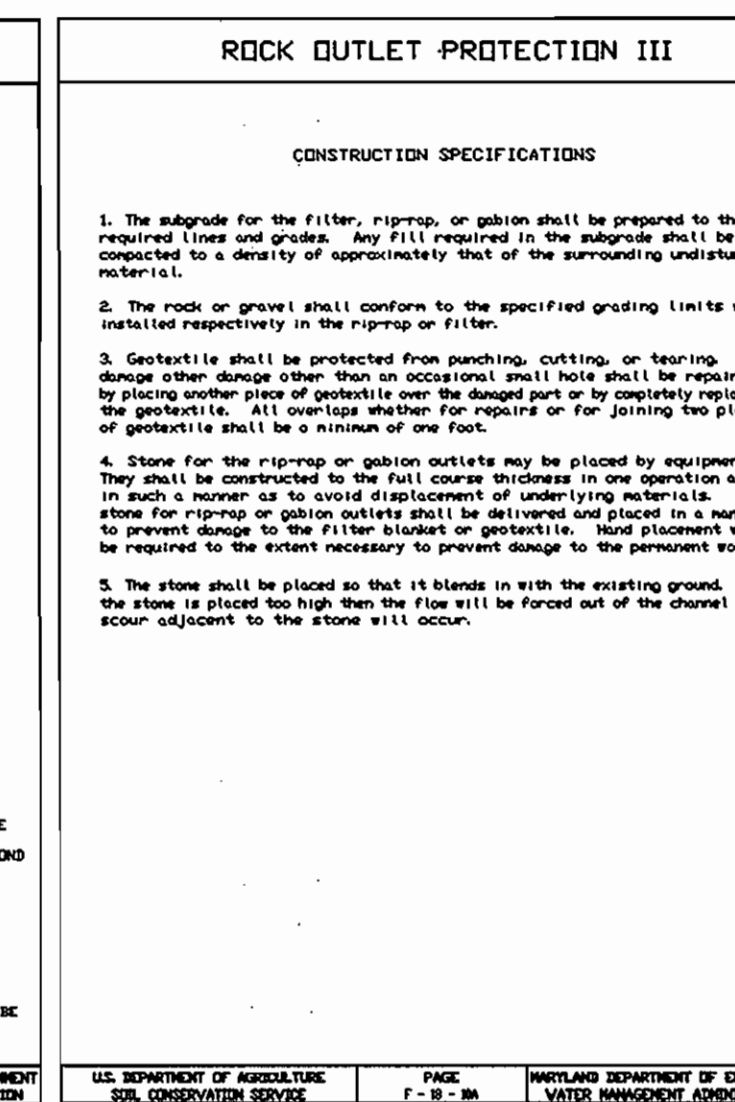
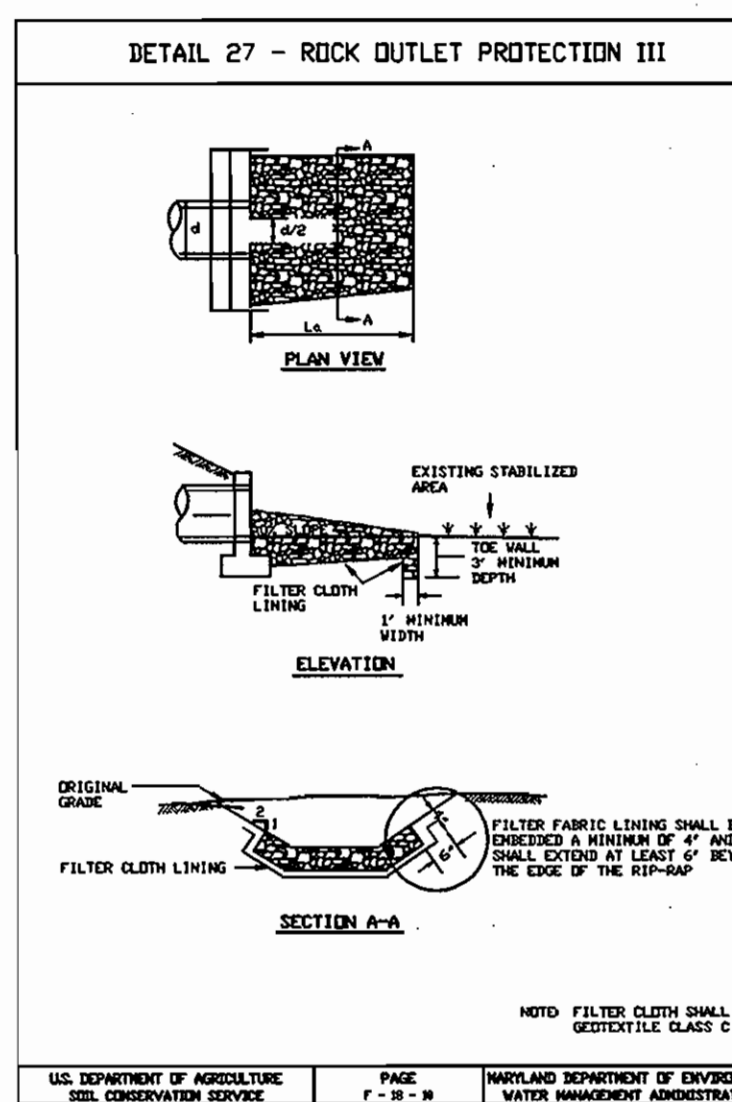
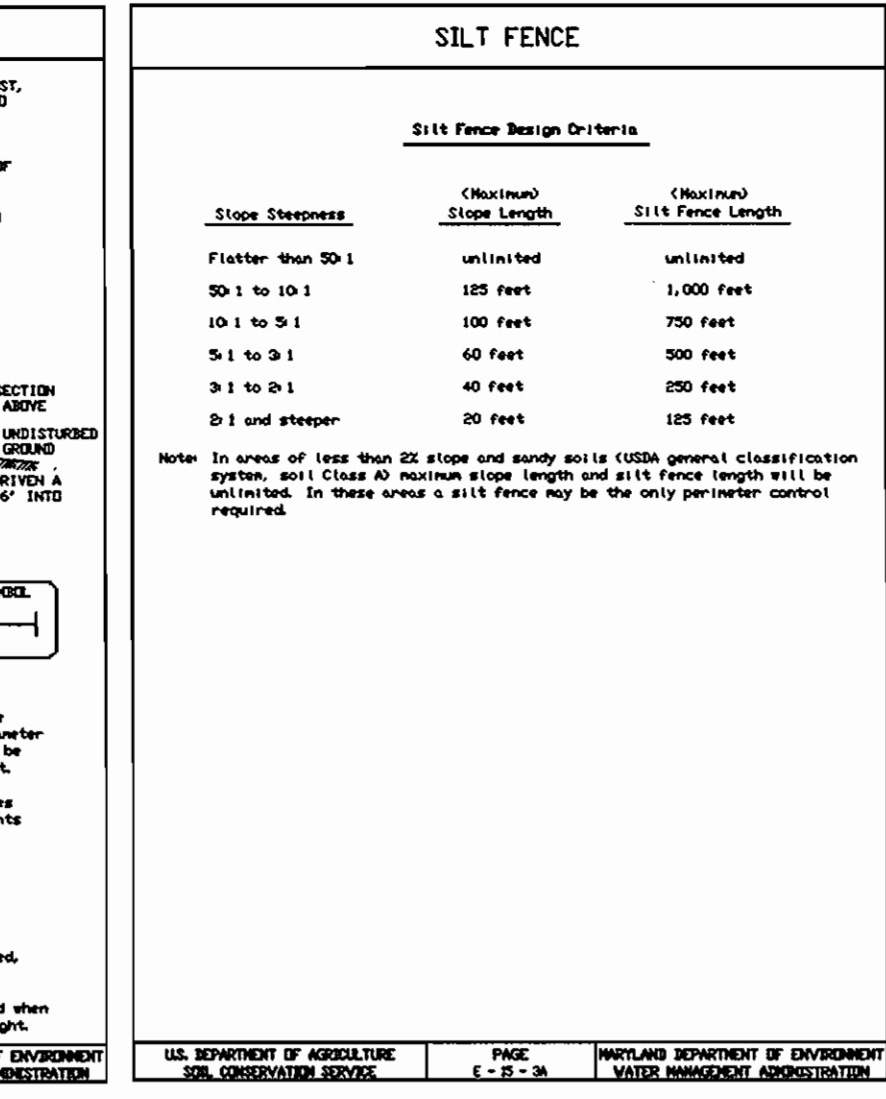
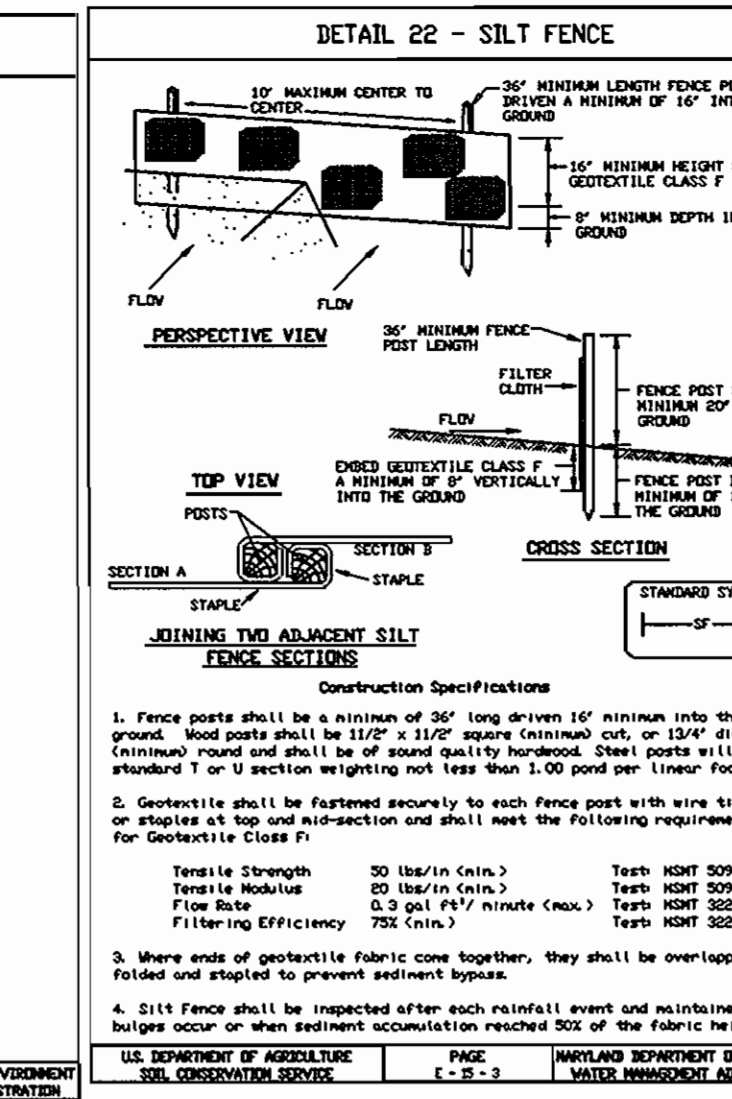
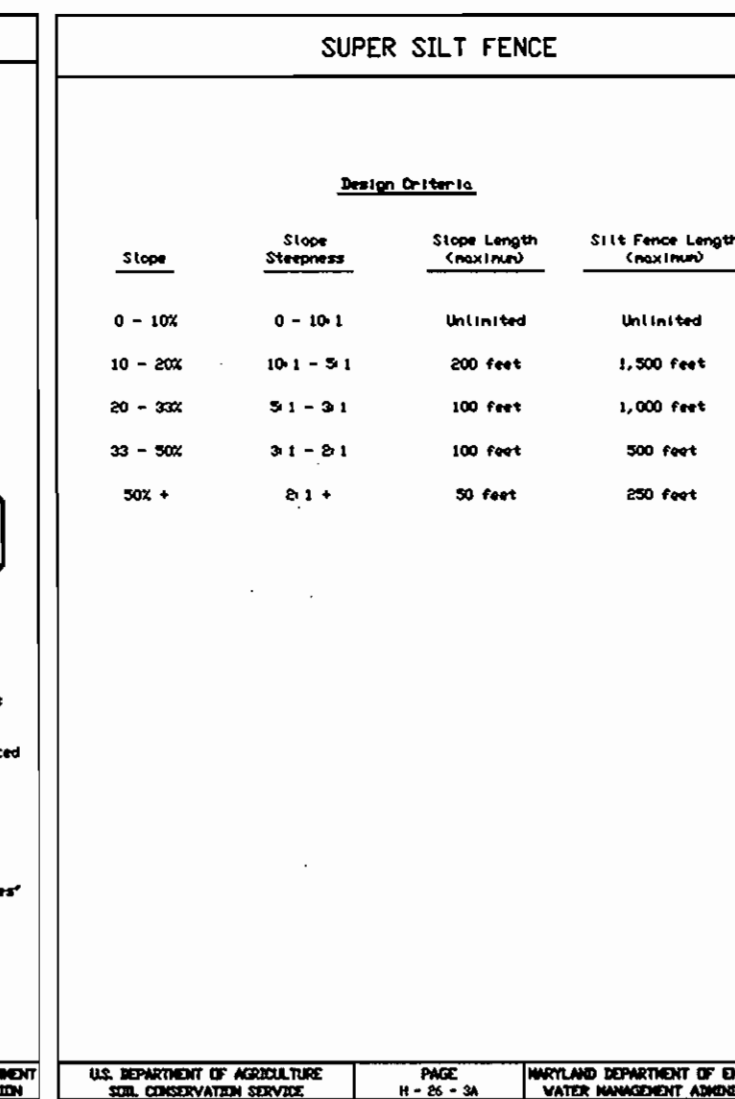
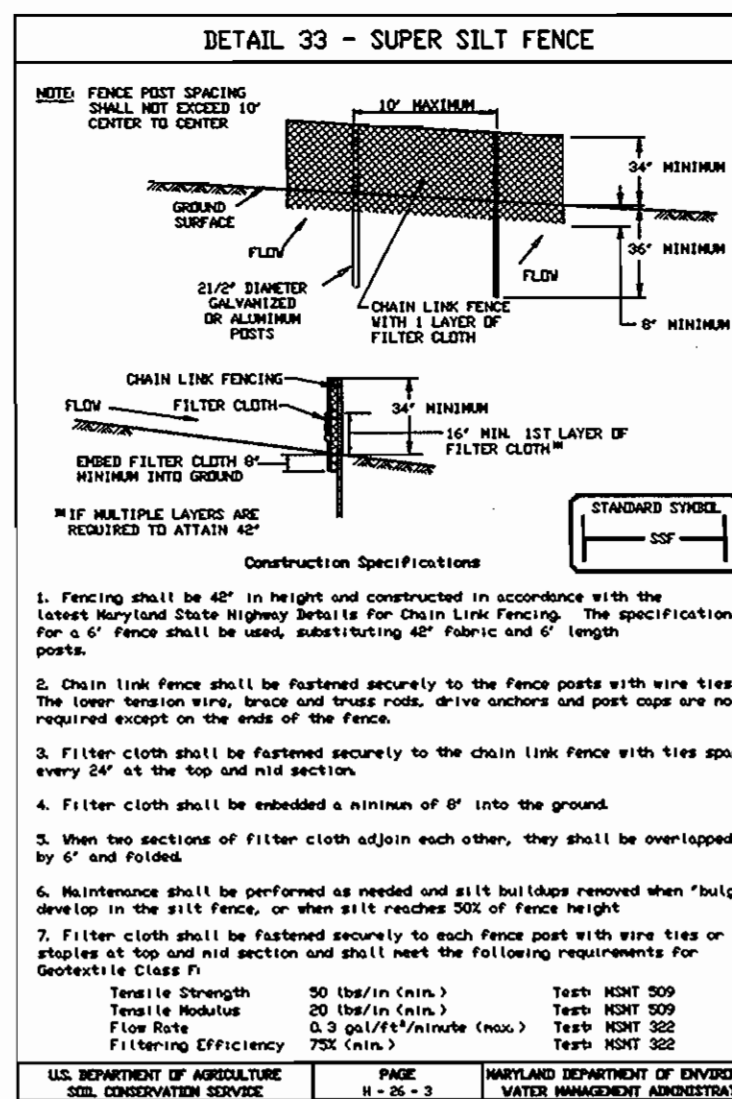
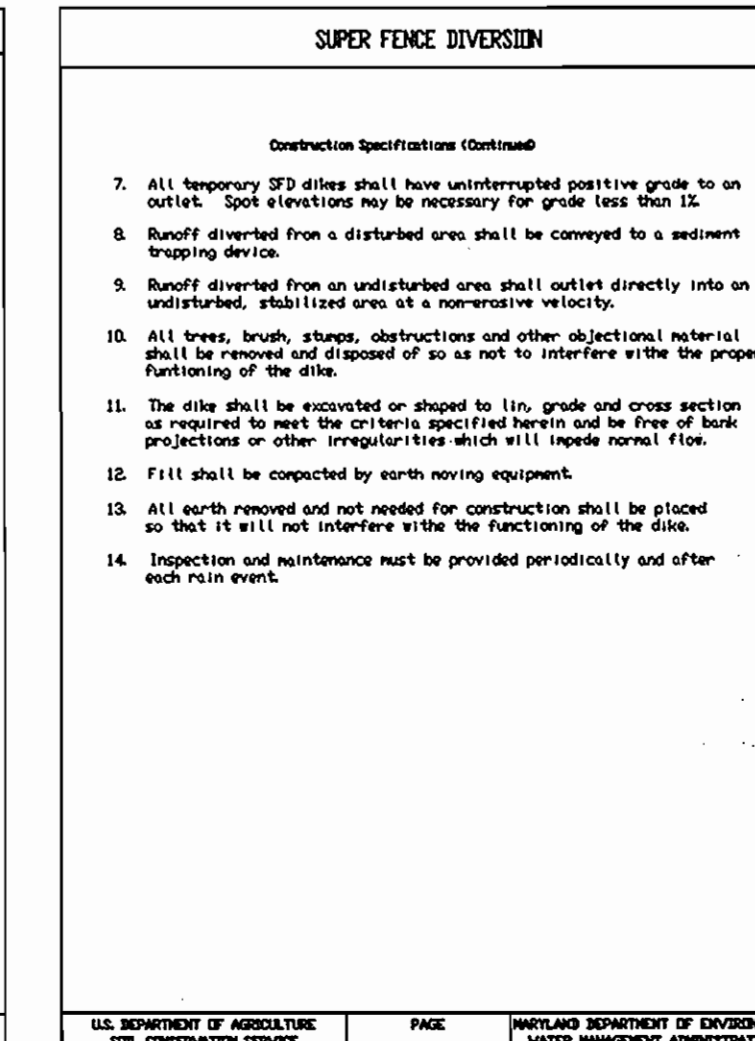
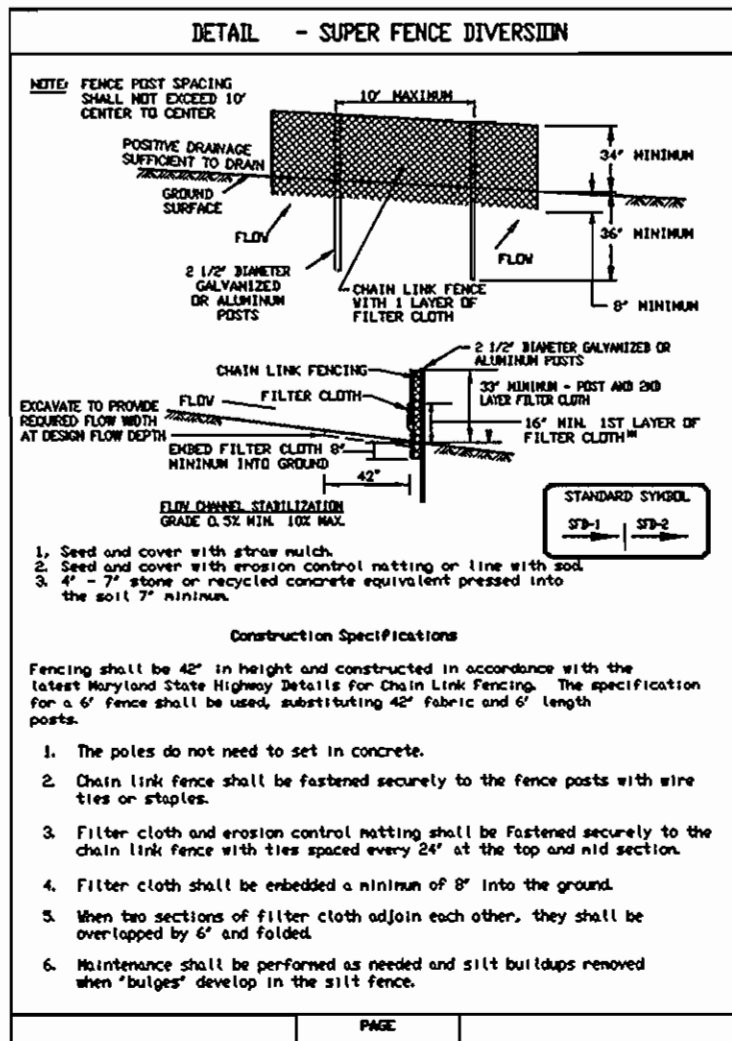
- 1. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SSS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
2. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

- 1. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND, OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDEHS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
2. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONSON GRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
3. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
4. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
i. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
ii. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
i. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
a. pH FOR TOPSOILS SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A pH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PERSCRIBED TO RAISE THE pH TO 6.5 OR HIGHER.
b. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
c. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
d. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
ii. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

- 5. TOPSOIL APPLICATION
i. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
ii. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 4" - 8" HIGHER IN ELEVATION.
iii. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
iv. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

- 6. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:
i. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
a. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS WHO ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
b. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
c. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
ii. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING. MD-VA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.



EROSION AND SEDIMENT CONTROL NOTES

- 1. ALL SEDIMENT CONTROL OPERATIONS ARE TO BE DONE IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY VOLUME IV DESIGN MANUAL AND THE STANDARDS AND SPECIFICATIONS FOR SEDIMENT CONTROL IN DEVELOPING AREAS.
2. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF BUSINESS.
3. ALL EXCAVATED MATERIALS SHALL BE STOCKPILED ON THE UPGRADE SIDE OF THE MAIN TRENCH.
4. EXCAVATION AND BACKFILL SHALL BE LIMITED TO THAT WHICH CAN BE STABILIZED WITHIN ONE WORKING DAY.
5. IMMEDIATELY FOLLOWING BACKFILL OF THE SEWER TRENCH, ALL DISTURBED AREAS ARE TO BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION AND SEEDING NOTES SHOWN ON THIS SHEET.
6. THROUGHOUT THE PROJECT, THE CONTRACTOR SHALL REGULARLY INSPECT ALL SEDIMENT CONTROL DEVICES AND PROVIDE ALL NECESSARY MAINTENANCE TO INSURE THAT ALL DEVICES ARE IN OPERATIVE CONDITION.
7. ALL SEDIMENT CONTROL FACILITIES SHALL REMAIN IN PLACE UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.



OWNER/DEVELOPER

EXECUTIVE CENTER PARCEL D LIMITED PARTNERSHIP 1205 YORK ROAD, PENT HOUSE LUTHERVILLE, MARYLAND 21093 ATTN: LOUIS MANGIONE

AS-BUILT CERTIFICATION I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS. SIGNATURE: Louis Mangione DATE: 4/14/07

BY THE ENGINEER: 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. SIGNATURE: Louis Mangione DATE: 4/14/07

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: Louis Mangione DATE: 5/18/07

APPROVED: DEPARTMENT OF PLANNING AND ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION SIGNATURE: Louis Mangione DATE: 5/18/07

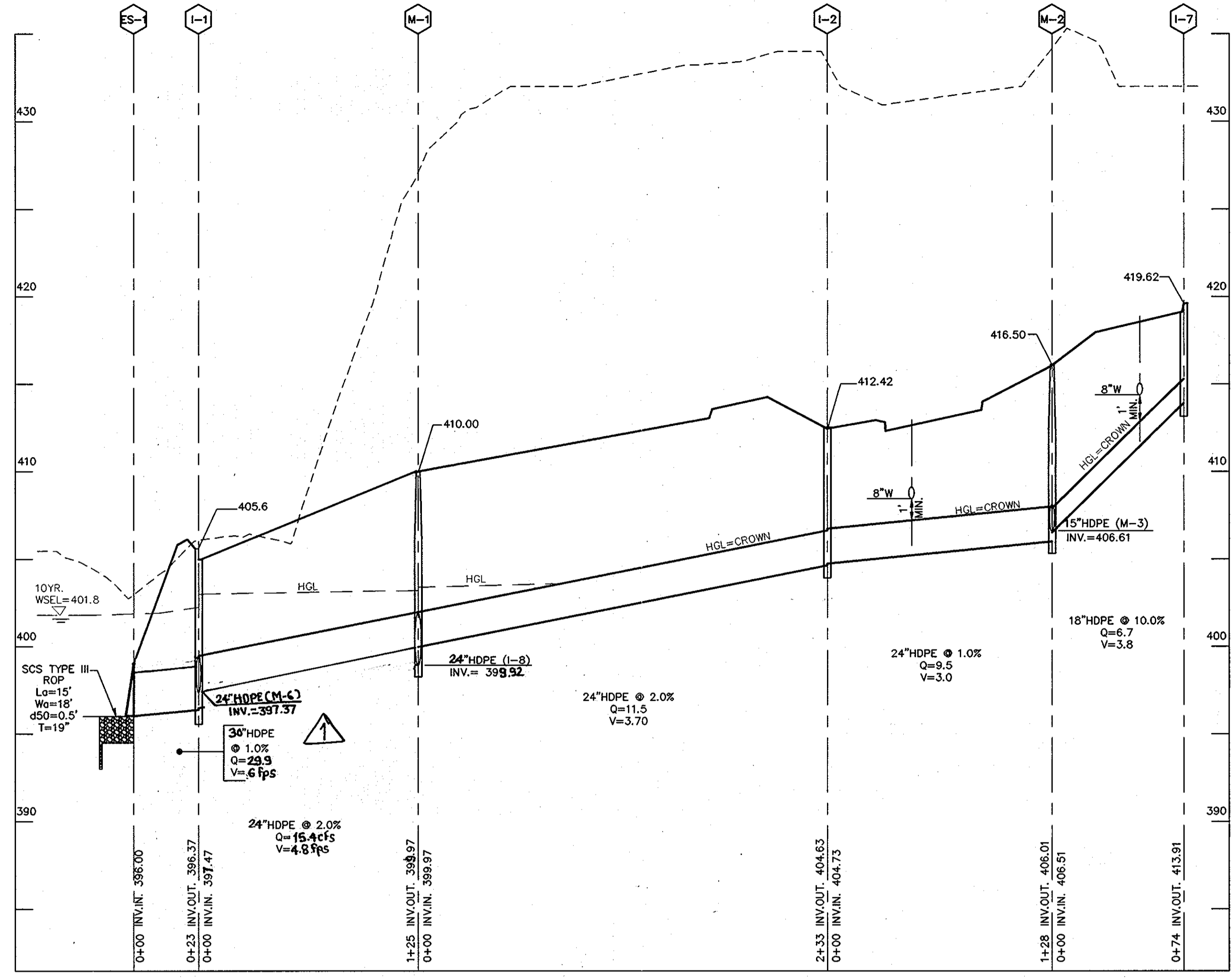
CHIEF, DIVISION OF LAND DEVELOPMENT SIGNATURE: Louis Mangione DATE: 5/18/07

Table with columns: date, project, illustration, scale, approval. Values include APR-2007, 04-05B, MAM, 1"=60'

Table with columns: date, description, revisions. Includes entries for 'folded and revised' and 'revisions'.

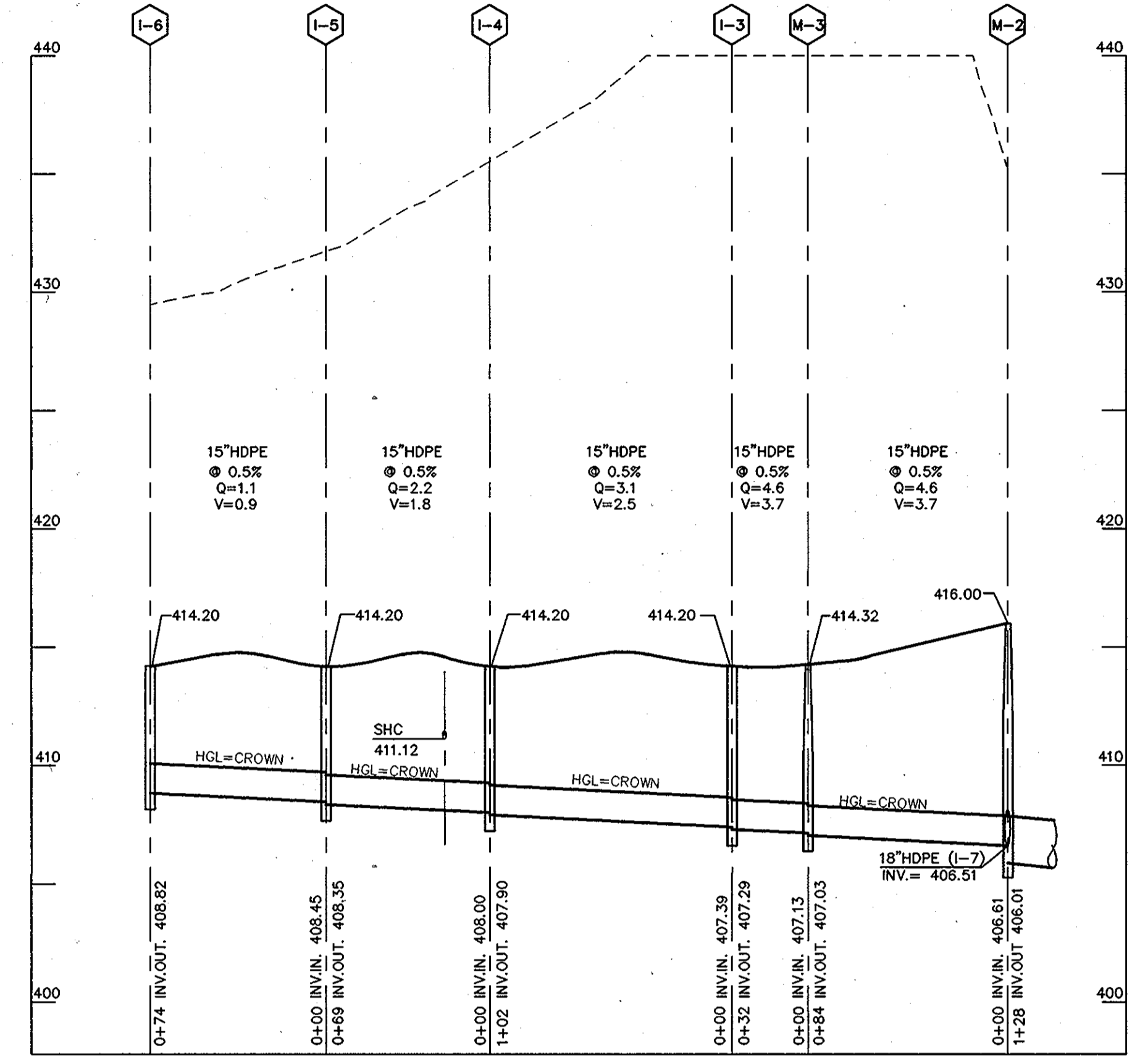
EXECUTIVE CENTER ELLICOTT CITY WAL-MART PARCEL D TAX MAP 17 & 24, P/O PARCEL 1085 HOWARD COUNTY, MARYLAND SECOND ELECTION CONTROL NOTES AND DETAILS

MILDENBERG, BOENDER & ASSOC., INC. Engineers Planners Surveyors 5072 Drossy Hall Drive, Suite 202, Ellicott City, Maryland, 21042 (410) 987-0286 Fax: (301) 621-5521 Wash. (410) 987-0288 Fax.



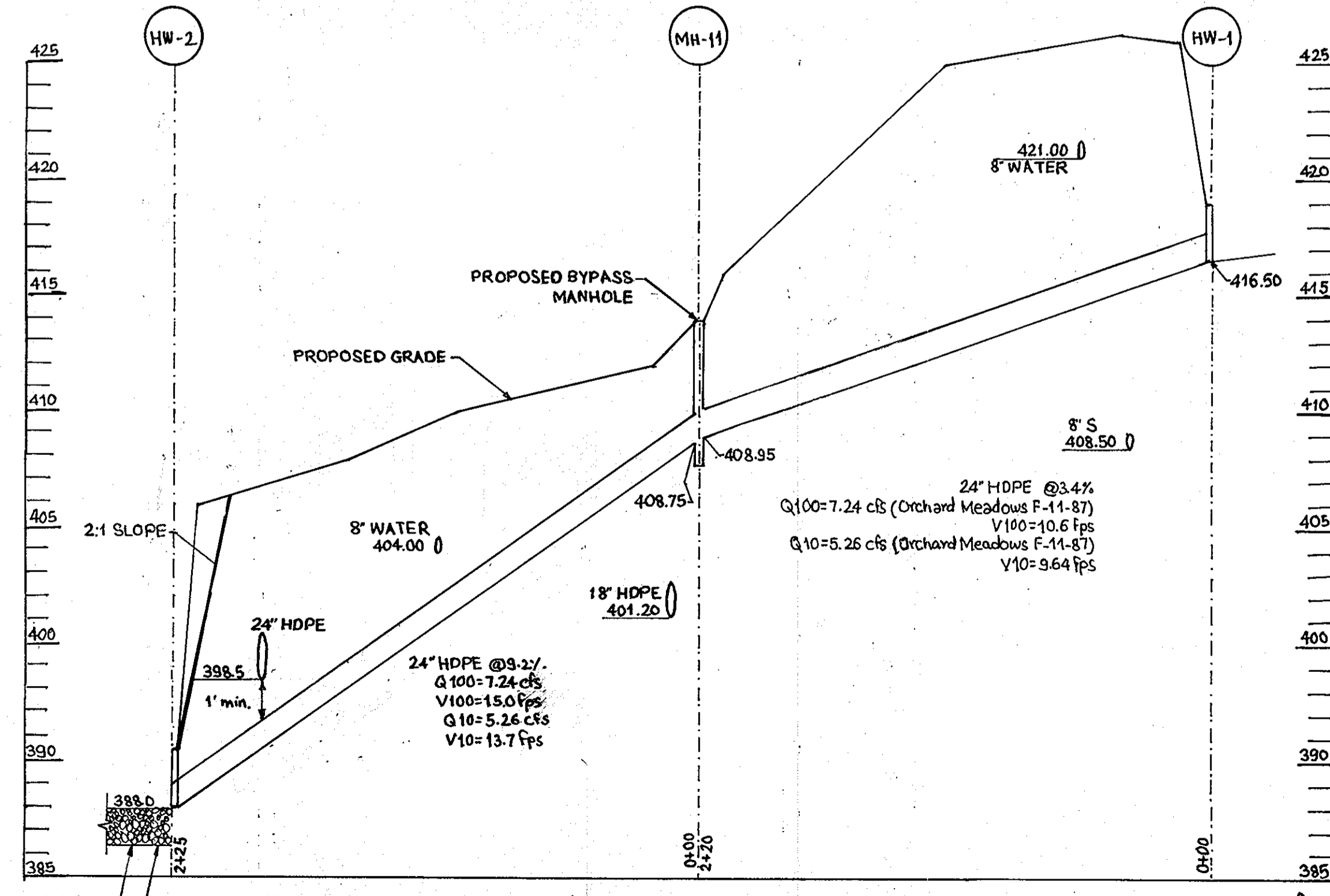
STORM DRAIN PROFILE (ES-1 TO I-7)

SCALE: HOR. 1"=50'  
VER. 1"=5'



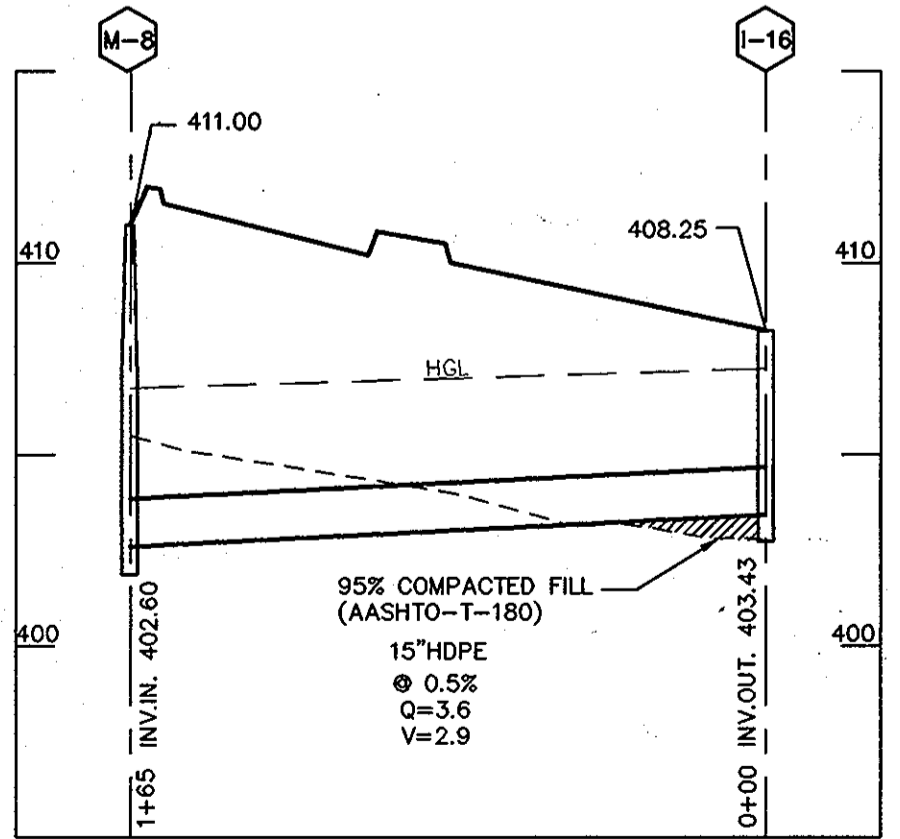
STORM DRAIN PROFILE (I-6 TO M-2)

SCALE: HOR. 1"=50'  
VER. 1"=5'



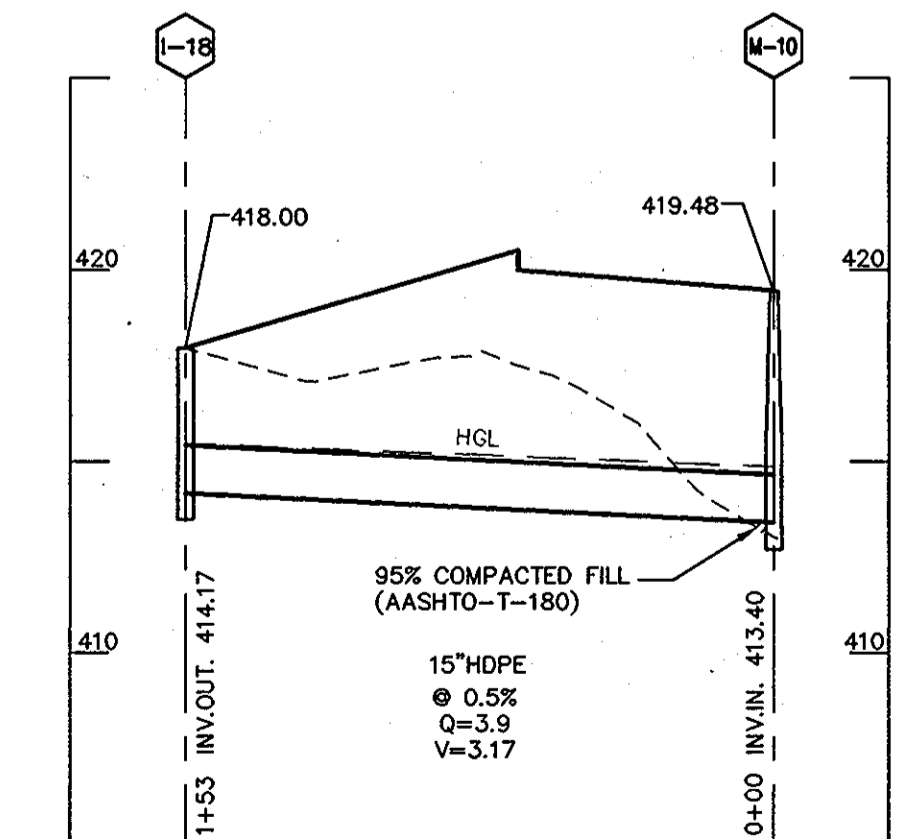
15" BYPASS STORM DRAIN PROFILE (HW-1 TO HW-2)

SCALE: HOR. 1"=50'  
VER. 1"=5'



STORM DRAIN PROFILE (I-16 TO M-7)

SCALE: HOR. 1"=50'  
VER. 1"=5'



STORM DRAIN PROFILE (I-18 TO M-9)

SCALE: HOR. 1"=50'  
VER. 1"=5'



OWNER/DEVELOPER

EXECUTIVE CENTER PARCEL D  
LIMITED PARTNERSHIP  
1205 YORK ROAD, PENTHOUSE  
LUTHERVILLE, MD 21093  
(410) 825-8400

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.  
9818, EXPIRATION DATE 10/17/12.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR

5/16/12  
5/16/12  
5/16/12

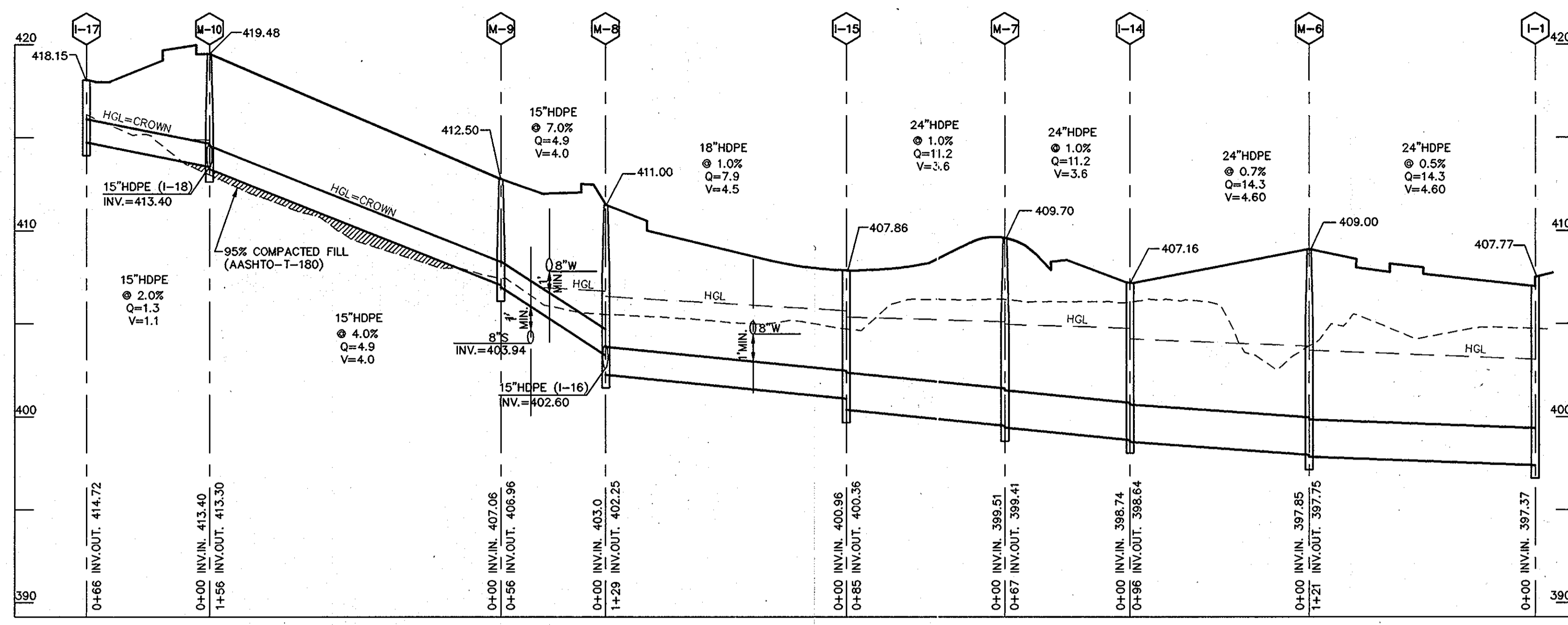
project	04-038	date	APR. 2007
illustration	MMM	engineering	MMM
scale	1"=50'	approval	MMM

no.	1	description	REVISE STORM DRAIN PROFILES	date	01/25/12
no.		revisions		date	

EXECUTIVE CENTER  
ELLCOTT CITY WAL-MART PARCEL D  
TAX MAP 17 & 24, P/O PARCEL 1085  
HOWARD COUNTY, MARYLAND  
SECOND ELECTION DISTRICT

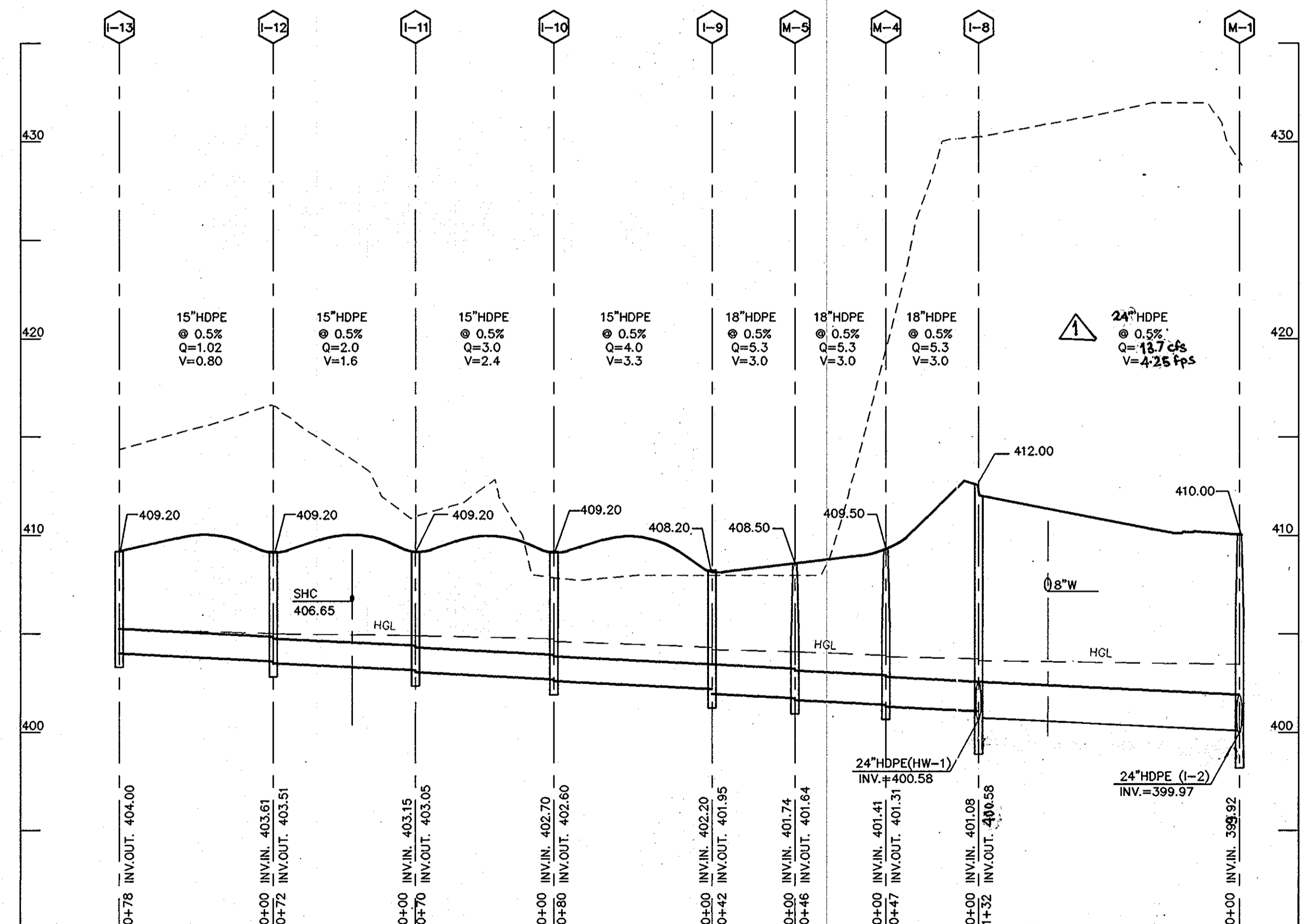
STORM DRAIN PROFILES

MILDENBERG,  
BOENDER & ASSOC., INC.  
Engineers Planners Surveyors  
5092 Drossel Hill Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 987-0236 Fax: (301) 621-5527 Wash. (410) 987-0238 Fax.



STORM DRAIN PROFILE (I-17 TO I-1)

SCALE: HOR. 1"=50'  
VER. 1"=5'



STORM DRAIN PROFILE (I-13 TO M-1)

SCALE: HOR. 1"=50'  
VER. 1"=5'

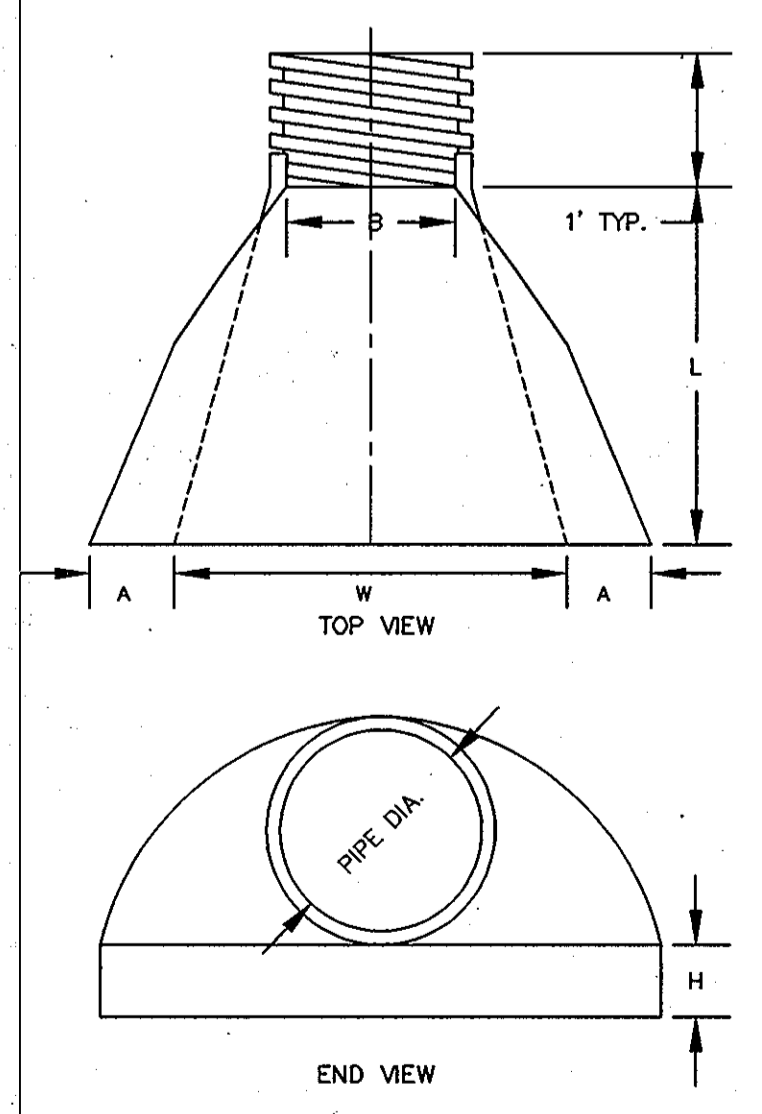
STRUCTURE SCHEDULE

NO.	LOCATION	TOP	INV. IN	INV. OUT	COMMENTS
ES-1	-	-	-	396.00	30" ø ADS END SECTION
HW-1	-	-	-	416.50	24" ø HEAD WALL (HO. CO. STD. SD 5.11)
HW-2	N589017 E 1,362,644	-	-	388.00	24" ø HEAD WALL (HO. CO. STD. SD 5.11)
I-1	N589137.8, E1362498.4	407.77	397.37	396.37	INLET TYPE A-10 (HO. CO. STD. SD 4.02)
I-2	N589475.9, E1362607.4	412.42	404.73	404.63	INLET TYPE A-10 (HO. CO. STD. SD 4.02)
I-3	N589608.7, E1362780.7	404.12	407.39	407.29	YARD INLET (HO. CO. STD. SD 4.14)
I-4	N589507.2, E1362792.4	414.20	4008.00	407.90	YARD INLET (HO. CO. STD. SD 4.14)
I-5	N589438.1, E1362794.3	414.20	408.45	408.35	YARD INLET (HO. CO. STD. SD 4.14)
I-6	N589364.1, E136796.5	414.20	-	408.82	YARD INLET (HO. CO. STD. SD 4.14)
I-7	N589669.5, E1362679.6	419.62	-	415.39	INLET TYPE A-10 (HO. CO. STD. SD 4.02)
I-8	N589249.8, E1362677.9	412.00	401.08	400.58	INLET TYPE A-10 (HO. CO. STD. SD 4.02)
I-9	N589208.6, E1362794.9	408.20	402.20	401.95	YARD INLET (HO. CO. STD. SD 4.14)
I-10	N589129.6, E1362814.2	409.20	402.70	402.60	YARD INLET (HO. CO. STD. SD 4.14)
I-11	N589064.9, E1362839.9	409.20	403.15	403.05	YARD INLET (HO. CO. STD. SD 4.14)
I-12	N588996.7, E1362863.2	409.20	403.61	403.51	YARD INLET (HO. CO. STD. SD 4.14)
I-13	N588922.2, E1362883.4	409.20	-	404.00	YARD INLET (HO. CO. STD. SD 4.14)
I-14	N589044.9, E1362658.9	407.16	398.74	398.64	INLET TYPE A-10 (HO. CO. STD. SD 4.02)
I-15	N588913.7, E1362722.3	407.86	400.96	400.36	INLET TYPE A-10 (HO. CO. STD. SD 4.02)
I-16	N588868.3, E1362700.9	406.68	-	403.43	INLET TYPE A-5 (HO. CO. STD. SD 4.01)
I-17	N588904.0, E1363035.9	418.15	-	414.72	INLET TYPE A-10 (HO. CO. STD. SD 4.02)
I-18	N589023.6, E1362969.2	418.00	-	414.17	INLET TYPE A-10 (HO. CO. STD. SD 4.02)
M-1	N589258.4, E1362544.6	410.00	398.92	399.97	MANHOLE (HO. CO. STD. SD 5.03)
M-2	N589589.7, E1362672.8	416.50	406.61	406.01	MANHOLE (HO. CO. STD. SD 5.03)
M-3	N589621.6, E1362750.0	414.36	407.13	407.03	MANHOLE (HO. CO. STD. SD 5.03)
M-4	N589218.0, E1362713.2	149.50	401.41	401.64	MANHOLE (HO. CO. STD. SD 5.03)
M-5	N589229.6, E1362758.2	408.50	401.74	401.64	MANHOLE (HO. CO. STD. SD 5.03)
M-6	N=89136.6, E1362616.3	409.00	397.85	397.75	MANHOLE (HO. CO. STD. SD 5.03)
M-7	N588992.5, E1362703.7	409.70	399.51	399.41	MANHOLE (HO. CO. STD. SD 5.03)
M-8	N588817.0, E1362809.7	411.00	402.60	402.25	MANHOLE (HO. CO. STD. SD 5.03)
M-9	N588777.0, E1362848.4	402.50	405.50	405.40	MANHOLE (HO. CO. STD. SD 5.03)
M-10	N588866.9, E1362976.0	419.48	413.40	413.20	MANHOLE (HO. CO. STD. SD 5.03)
MH-11	N 583,258 E 1,362,633	414.00	408.95	408.75	MANHOLE (HO. CO. STD. SD 5.12)

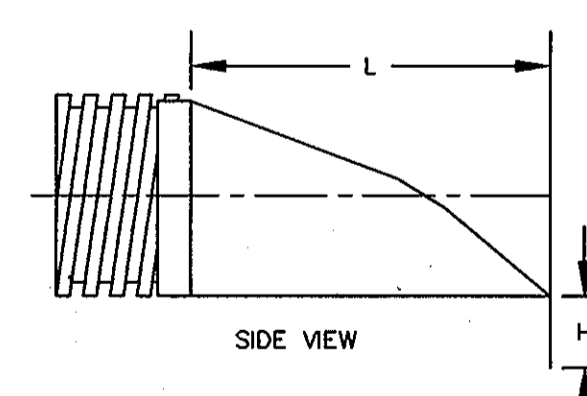
- NOTES:  
 1. ALL CURB OPENING INLETS SHALL HAVE W = 2'-6" UNLESS OTHERWISE NOTED.  
 2. TOP OF "S" INLETS = TOP OF GRATE.  
 3. HGL EQUALS TOP OF PIPE UNLESS OTHERWISE NOTED.  
 4. INLET LOCATION= CENTER OF INLET AT FACE OF CURB  
 5. MANHOLE LOCATION= CENTER OF THE MANHOLE

PIPE SCHEDULE

QUANTITY	PIPE SIZE
1257'	15" HDPE
338'	18" HDPE
1200'	24" HDPE
23'	30" HDPE



HDPE END SECTION  
(PART NO. 2410 NP)  
NOT TO SCALE



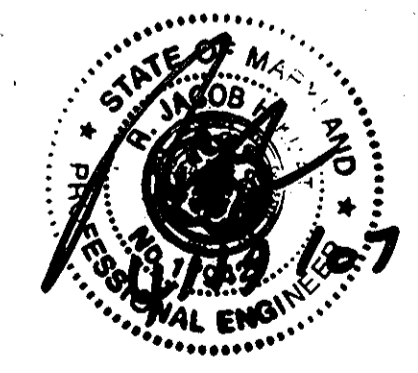
PIPE DIAMETER	PART NO.	A, ±1	B MAX	H, ±1	L, ±1/2	W, ±2
15" HDPE	1210 NP	6.5"	10"	6.5"	25"	29"
18" HDPE	1810 NP	7.5"	15"	6.5"	32"	35"
24" HDPE	2410 NP	7.5"	18"	6.5"	36"	45"
36" HDPE	3610 NP	10.5"	NA	7.0"	53"	68"
30" HDPE	3015 NP	7.5"	12"	8.4"	56"	65"

INSTALLATION INSTRUCTIONS

- SPREAD THE END SECTION COLLAR AND PLACE IT OVER THE LAST PIPE CORRUGATION. MAKE SURE THE COLLAR SEATS PROPERLY IN THE CORRUGATION VALLEY.
- INSERT THREADED ROD THROUGH THE PRE-DRILLED HOLES IN THE END SECTION COLLAR. TIGHTEN WING NUTS.
- PLACE BACKFILL AROUND THE END SECTION AND OVER THE TIE PLATE. USE CARE DURING COMPACTION ALONG THE SIDES TO PREVENT DISTORTION.



PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 82818, EXPIRATION DATE 10/11/12.



OWNER/DEVELOPER

EXECUTIVE CENTER PARCEL D  
 LIMITED PARTNERSHIP  
 1205 YORK ROAD, PENTHOUSE  
 LUTHERVILLE, MD 21093  
 (410) 825-8400

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] DATE 5/6/12  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] DATE 5/16/12  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] DATE 5/16/12  
 DIRECTOR

project	date	description	approval
04-038	APR. 2007	engineering	MMM
04-038	APR. 2007	illustration	MMM
		scale	1"=50'

REVISE	STORM DRAIN PROFILES & SCHEDULES	DATE
		01/25/12

EXECUTIVE CENTER  
 ELLICOTT CITY WAL-MART PARCEL D  
 TAX MAP 17 & 24, P/O PARCEL 1085  
 HOWARD COUNTY, MARYLAND  
 SECOND ELECTION DISTRICT  
 STORM DRAIN PROFILES

MILDENBERG, BOENDER & ASSOC., INC.  
 Engineers Planners Surveyors  
 5077 Dresser Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0286 Fax: (301) 621-5521 Wash. (410) 997-0288 Fax.

PL 104-038 (01/05) SD-DRAIN.DWG

U.S. Rte. 29  
(North Bound Lane)

00000 N  
E 1362400

00000 N  
E 1363000

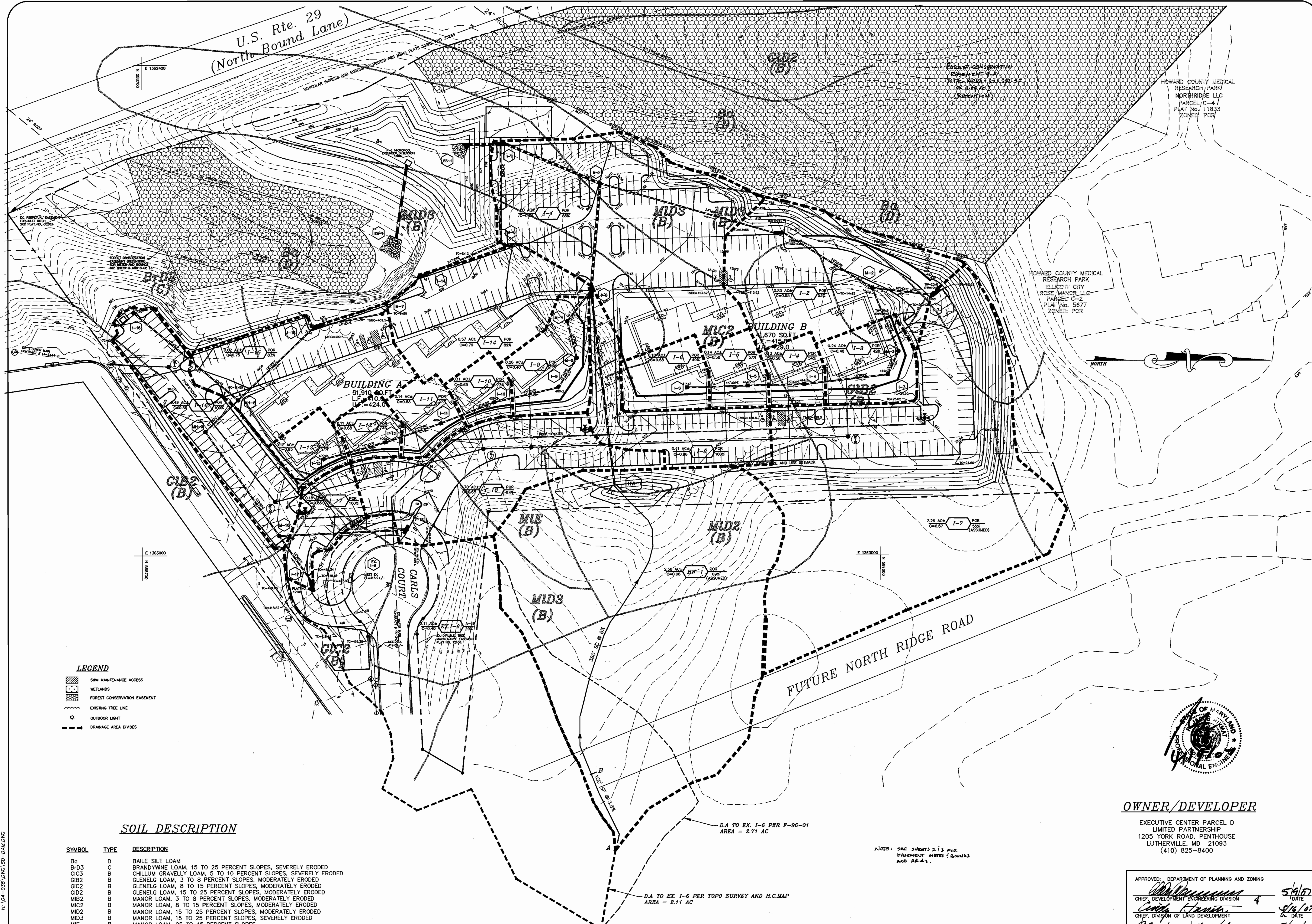
00000 N  
E 1363000

**LEGEND**

- SWM MAINTENANCE ACCESS
- WETLANDS
- FOREST CONSERVATION EASEMENT
- EXISTING TREE LINE
- OUTDOOR LIGHT
- DRAINAGE AREA DIVIDES

**SOIL DESCRIPTION**

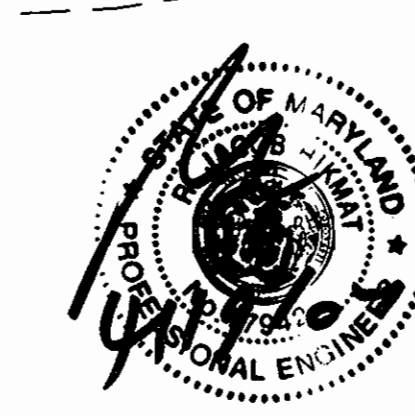
SYMBOL	TYPE	DESCRIPTION
Ba	D	BAILE SILT LOAM
BrD3	C	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED
CIC3	B	CHILLUM GRAVELLY LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED
GIB2	B	GLENELG LOAM, 3 TO 9 PERCENT SLOPES, MODERATELY ERODED
GIC2	B	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
GID2	B	GLENELG LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
MIB2	B	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
MIC2	B	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
MID2	B	MANOR LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
MID3	B	MANOR LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED
MIE	B	MANOR LOAM, 25 TO 45 PERCENT SLOPES



DA TO EX. I-6 PER F-96-01  
AREA = 2.71 AC

DA TO EX. I-6 PER TOPO SURVEY AND H.C.MAP  
AREA = 2.71 AC

NOTE: SEE SHEETS 2, 3 FOR  
EASEMENT MAPS, ROWS  
AND R.R.'S.



**OWNER/DEVELOPER**

EXECUTIVE CENTER PARCEL D  
LIMITED PARTNERSHIP  
1205 YORK ROAD, PENTHOUSE  
LUTHERVILLE, MD 21093  
(410) 825-8400

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 5/16/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 5/16/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 5/16/07  
DIRECTOR DATE

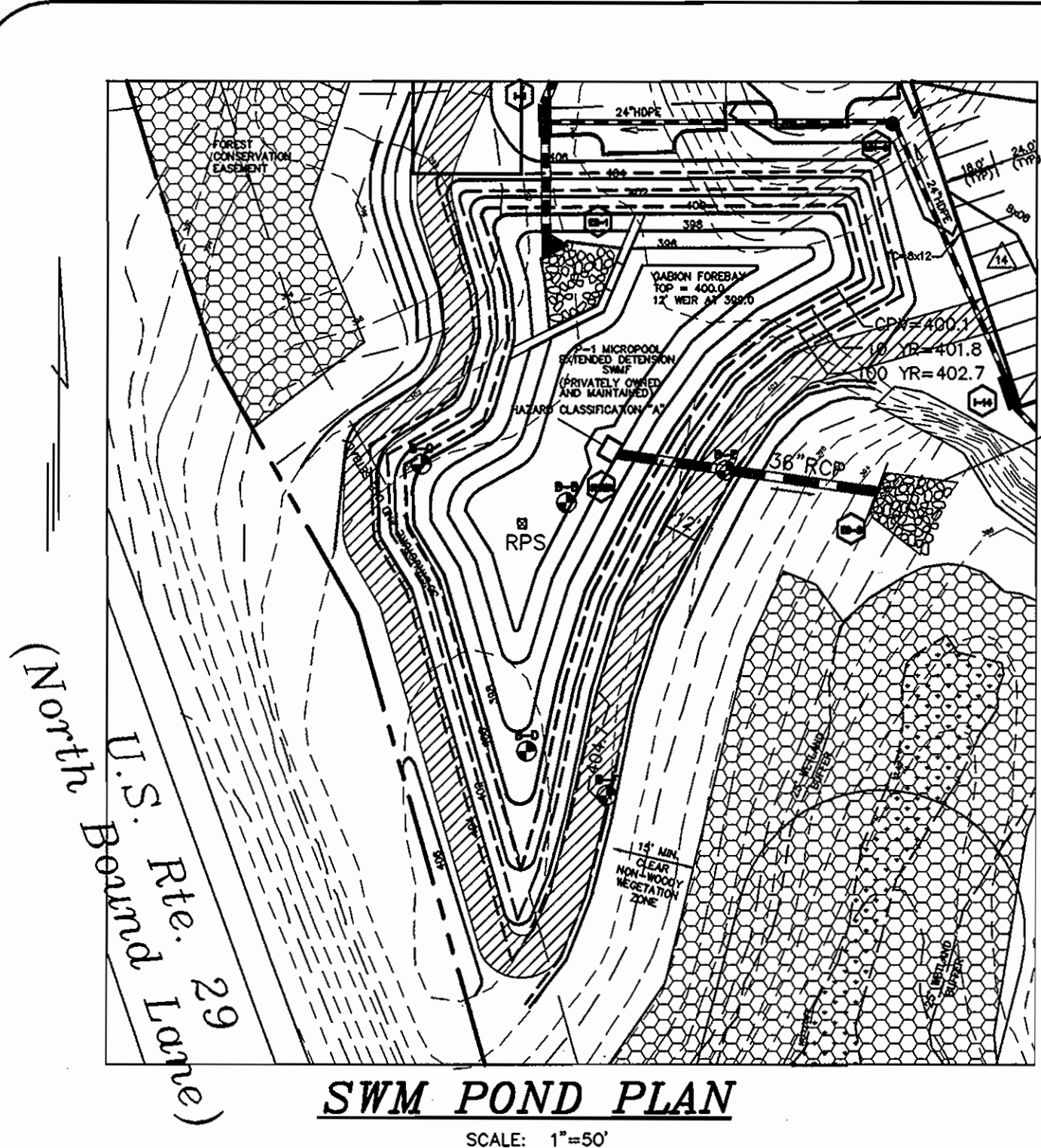
project	04-038	date	APR. 2007
illustration	MMM	engineering	MMM
scale	1" = 50'	approval	MMM

no.	description	date

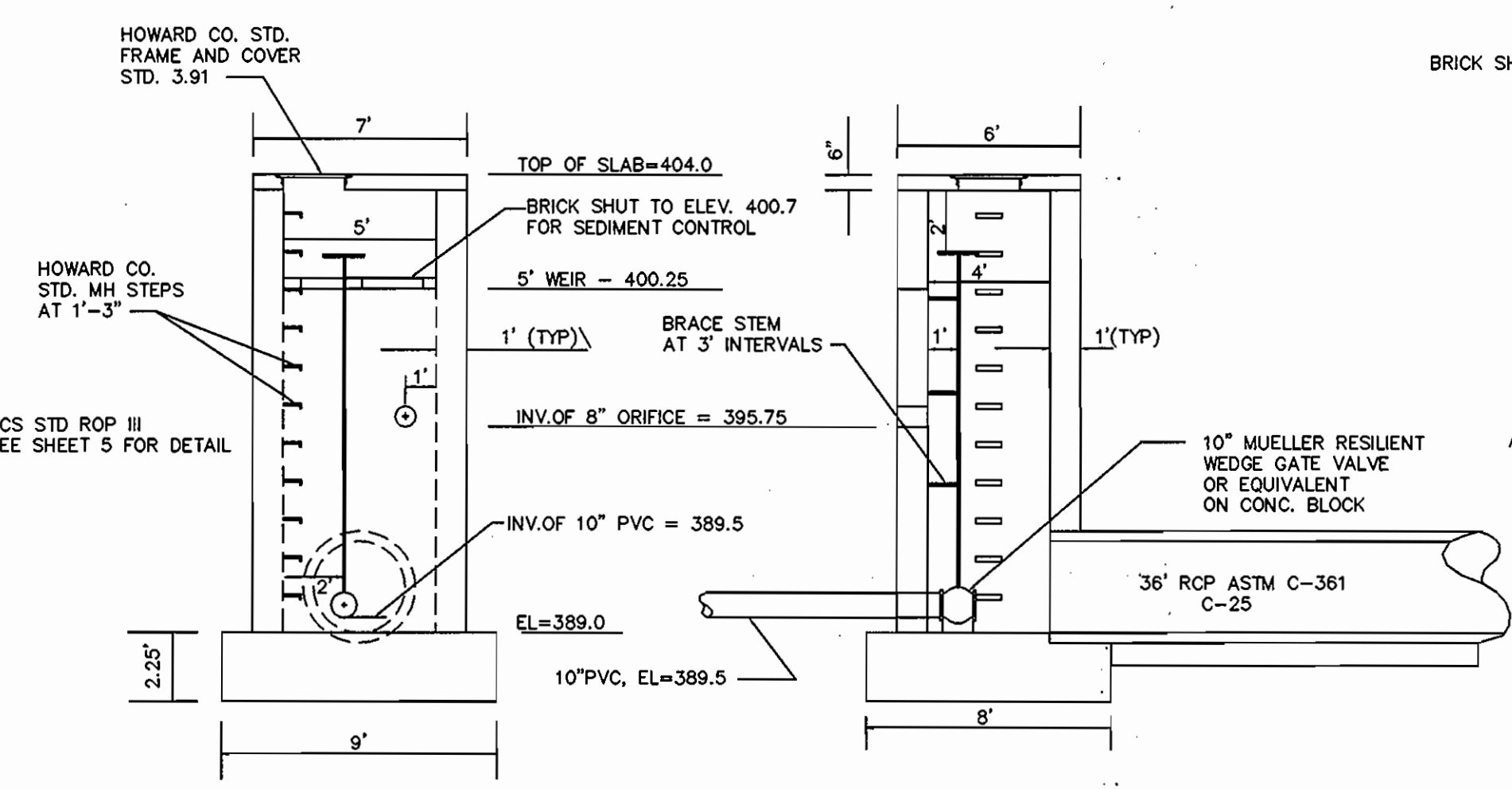
**EXECUTIVE CENTER**  
 ELLICOTT CITY WAL-MART PARCEL D  
 TAX MAP 17 AND 24, P/O PARCEL 1065  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
**STORM DRAIN DRAINAGE AREA MAP**

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

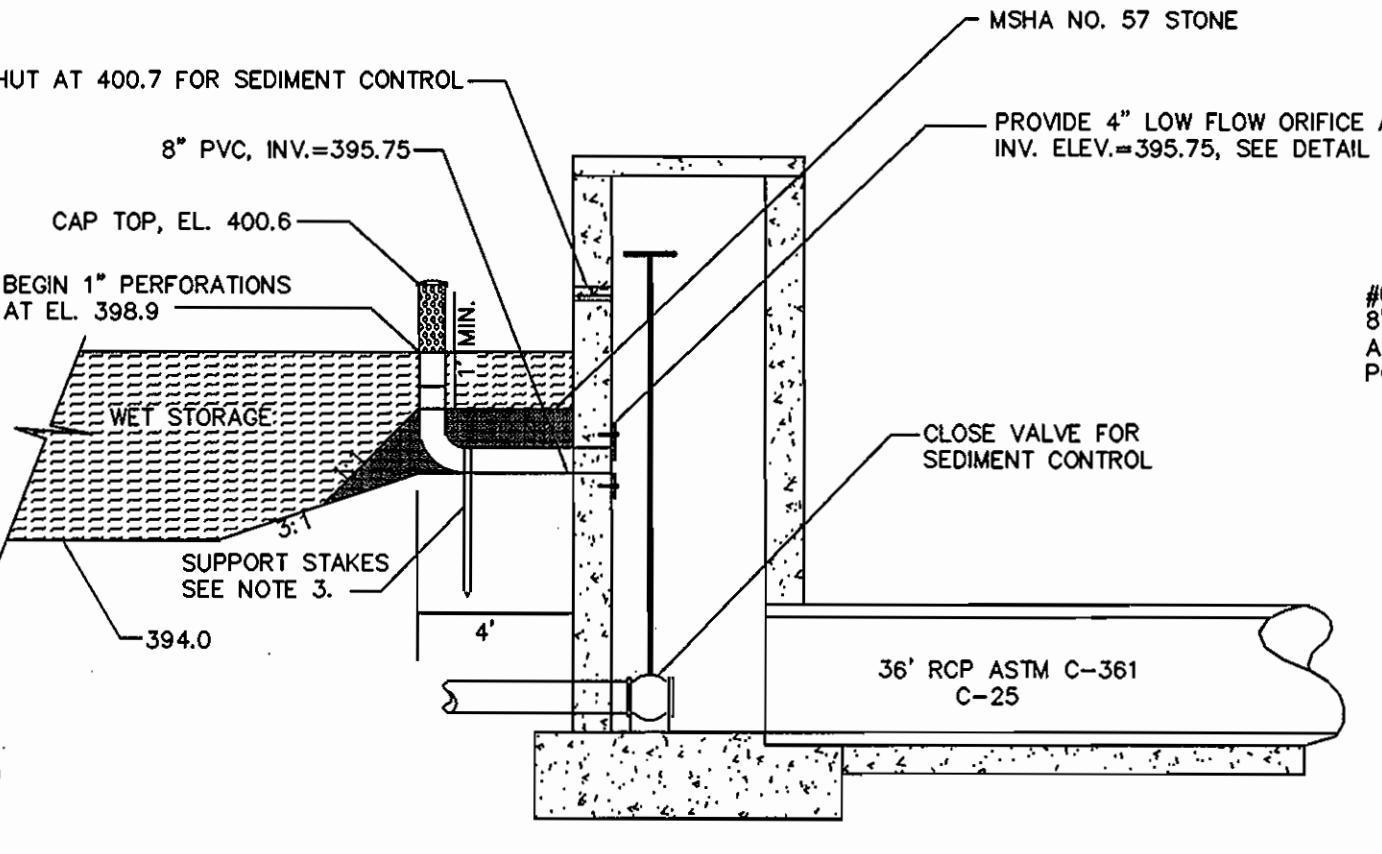




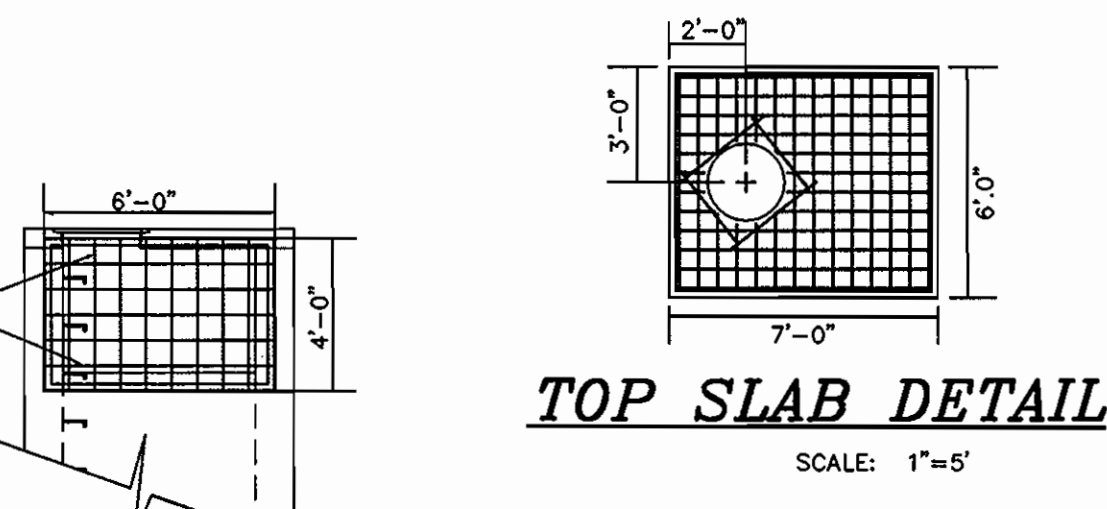
**SWM POND PLAN**  
SCALE: 1"=50'



**FRONT WALL SECTION**  
**SWM RISER STRUCTURE**  
SCALE: 1"=5'



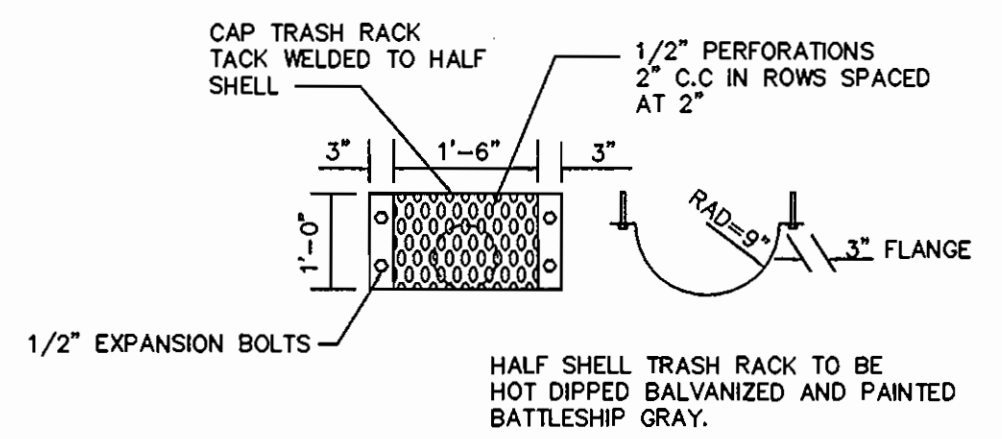
**ELEVATION OF TRASH RACK**  
SCALE: 1"=5'



**TOP SLAB DETAIL**  
SCALE: 1"=5'

- PERFORATIONS IN THE DRAW DOWN DEVICE MAY NOT EXTEND INTO THE WET STORAGE
- THE TOTAL AREA OF THE PERFORATIONS MUST BE GREATER THAN 4 TIMES THE AREA OF THE ORIFICE.
- PROVIDE SUPPORT OF DRAW DOWN DEVICE TO PREVENT SAGGING AND FLOATING. AN ACCEPTABLE PREVENTATIVE MEASURE IS TO STAKE BOTH SIDES OF DRAW DOWN DEVICE WITH 1\"/>

**TEMPORARY DEWATERING STANDPIPE**  
SCALE: 1"=5'

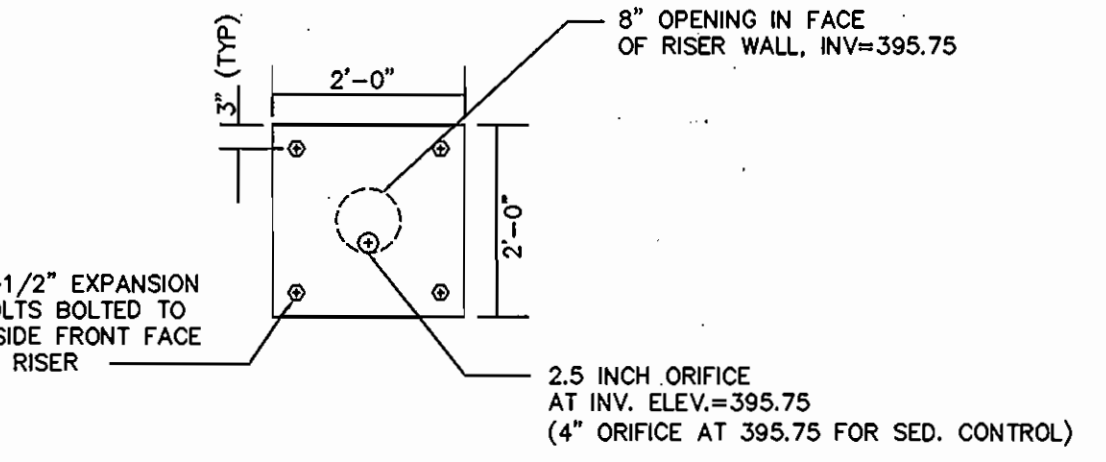


**HALF SHELL TRASH RACK**

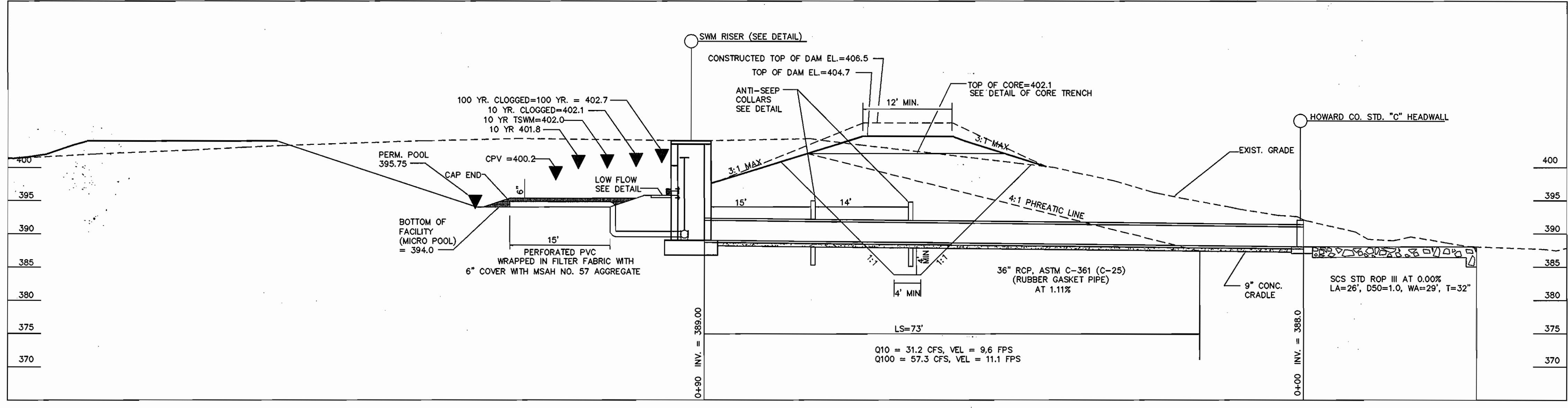
**SEDIMENT BASIN: STORMWATER MANAGEMENT**

DRAINAGE AREA = 11.98 AC.  
 STORAGE REQUIRED = 41,128 CU. FT.  
 STORAGE PROVIDED = 44,013 @ EL. 400.60  
 WET STORAGE = 22,350 CU. FT. AT 398.9  
 DRY STORAGE = 21,663 CU. FT. AT 400.60  
 CLEANOUT ELEV. = 397.5  
 PERM. POOL ELEV. = 398.9  
 SETTLED TOP OF DAM ELEV. = 404.7  
 PRINCIPLE SPILLWAY ELEV. = 400.25  
 OUTLET ELEV. = 398.9  
 Q<sub>10</sub> = 1.2 CFS (FOR TSSM)  
 Q<sub>100</sub> = 1.0 CFS (FOR TSSM)

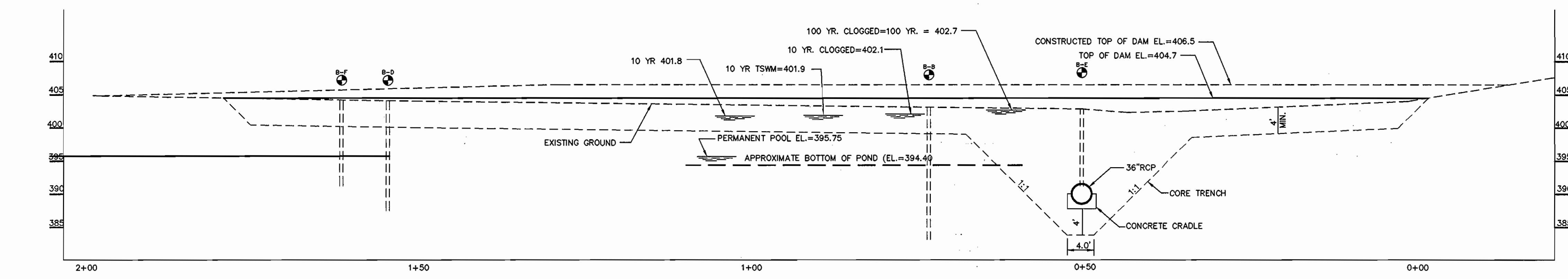
WQV REQ'D = 0.48 AC. FT.  
 WQV PROVIDED = 0.48 AC. FT.  
 REV. PROVIDED = 0.11 AC. FT.  
 CPV PEAK Q = 0.34 CFS  
 CPV WSEL = 400.2  
 QP 10 = 31.2 CFS  
 QP 100 = 57.3 CFS  
 10 YR. WSEL = 402.0  
 100 YR. WSEL = 402.7  
 THIS FACILITY IS A CLASS A SWMF  
 PRIVATELY OWNED AND MAINTAINED  
 REV IS PROVIDED BY AN OFF-LINE  
 TRCHARGE TRENCH



**LOW FLOW PLATE**

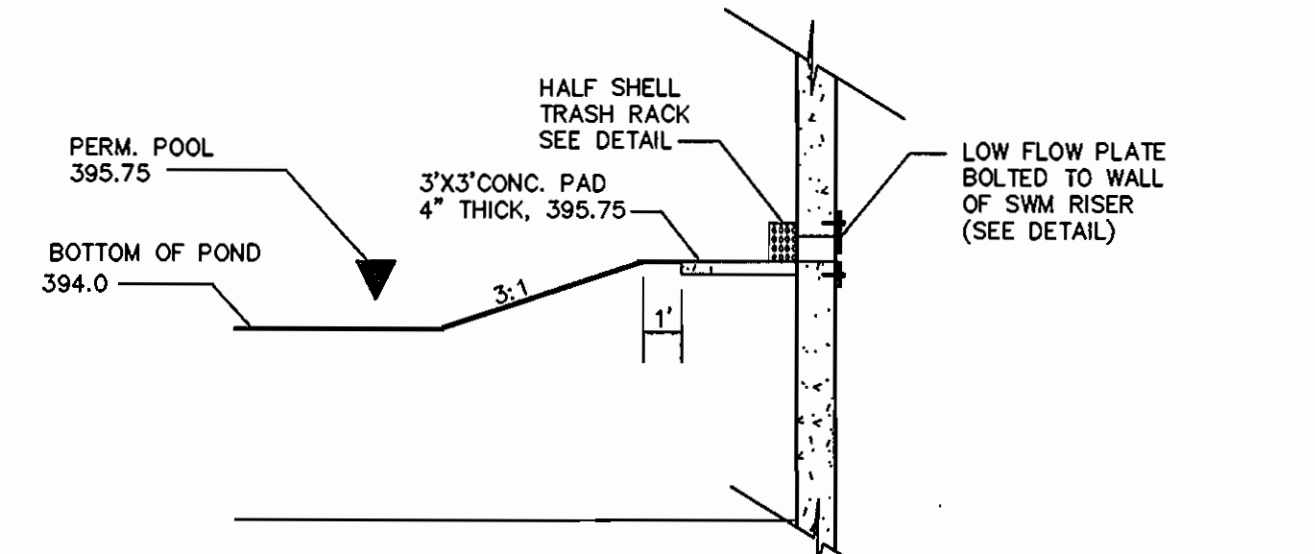


**PRINCIPLE SPILLWAY PROFILE**  
SCALE: 1"=10'



**CENTERLINE DAM PROFILE**  
SCALE: 1"=10'

**LOW FLOW ENTRANCE DETAIL (MICRO POOL EXTENDED DETENTION)**



**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER FOR JOB SIZES AND ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.**

**BY THE DEVELOPER:**

I, THE DEVELOPER, 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 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 OF DEVELOPER: \_\_\_\_\_ DATE: 4/20/07  
 PRINTED NAME OF DEVELOPER: Louis Mangione

**BY THE ENGINEER:**

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

SIGNATURE OF ENGINEER: \_\_\_\_\_ DATE: 4/19/07  
 PRINTED NAME OF ENGINEER: COB NIEMAT

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.

USDA - NATURAL RESOURCES CONSERVATION SERVICE: \_\_\_\_\_ DATE: 5/8/07

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: 5/8/07

**OWNER/DEVELOPER**

EXECUTIVE CENTER PARCEL D  
 LIMITED PARTNERSHIP  
 1205 YORK ROAD, PENT HOUSE  
 LUTHERVILLE, MARYLAND 21093  
 (410) 825-8400  
 ATTN: LOUIS MANGIONE

APPROVED: \_\_\_\_\_ DATE: 5/9/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

\_\_\_\_\_ DATE: 5/16/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT

\_\_\_\_\_ DATE: 5/16/07  
 DIRECTOR

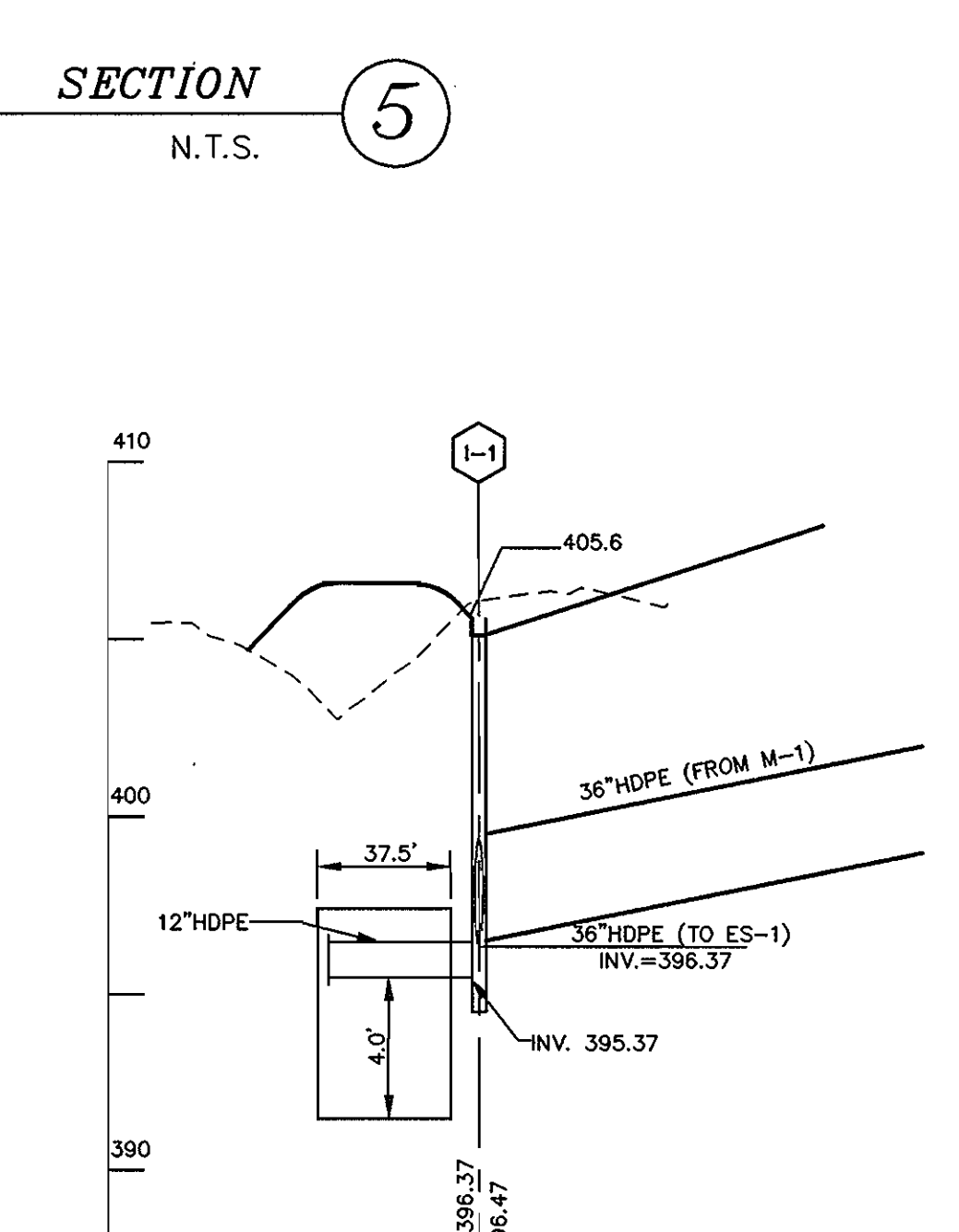
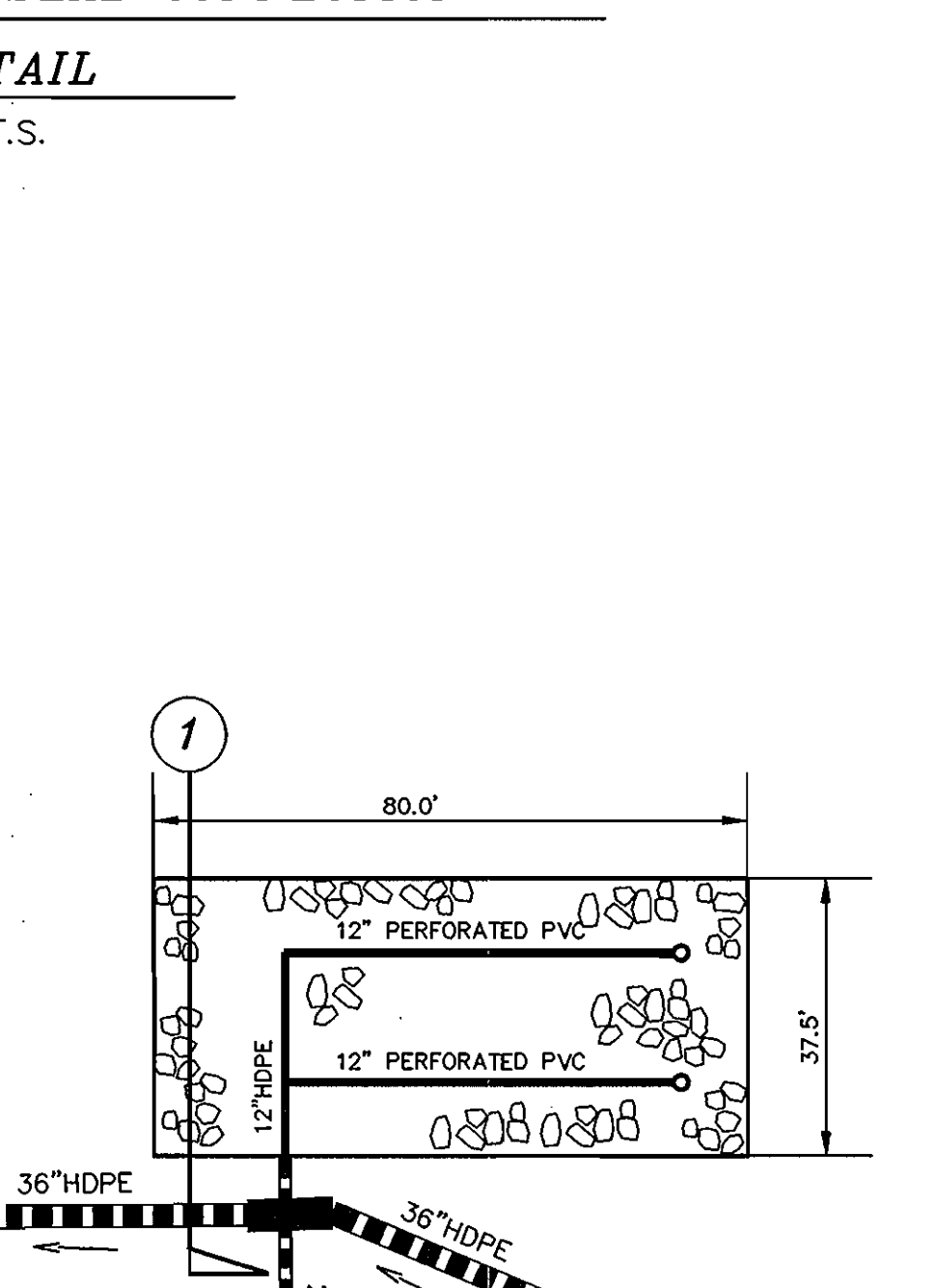
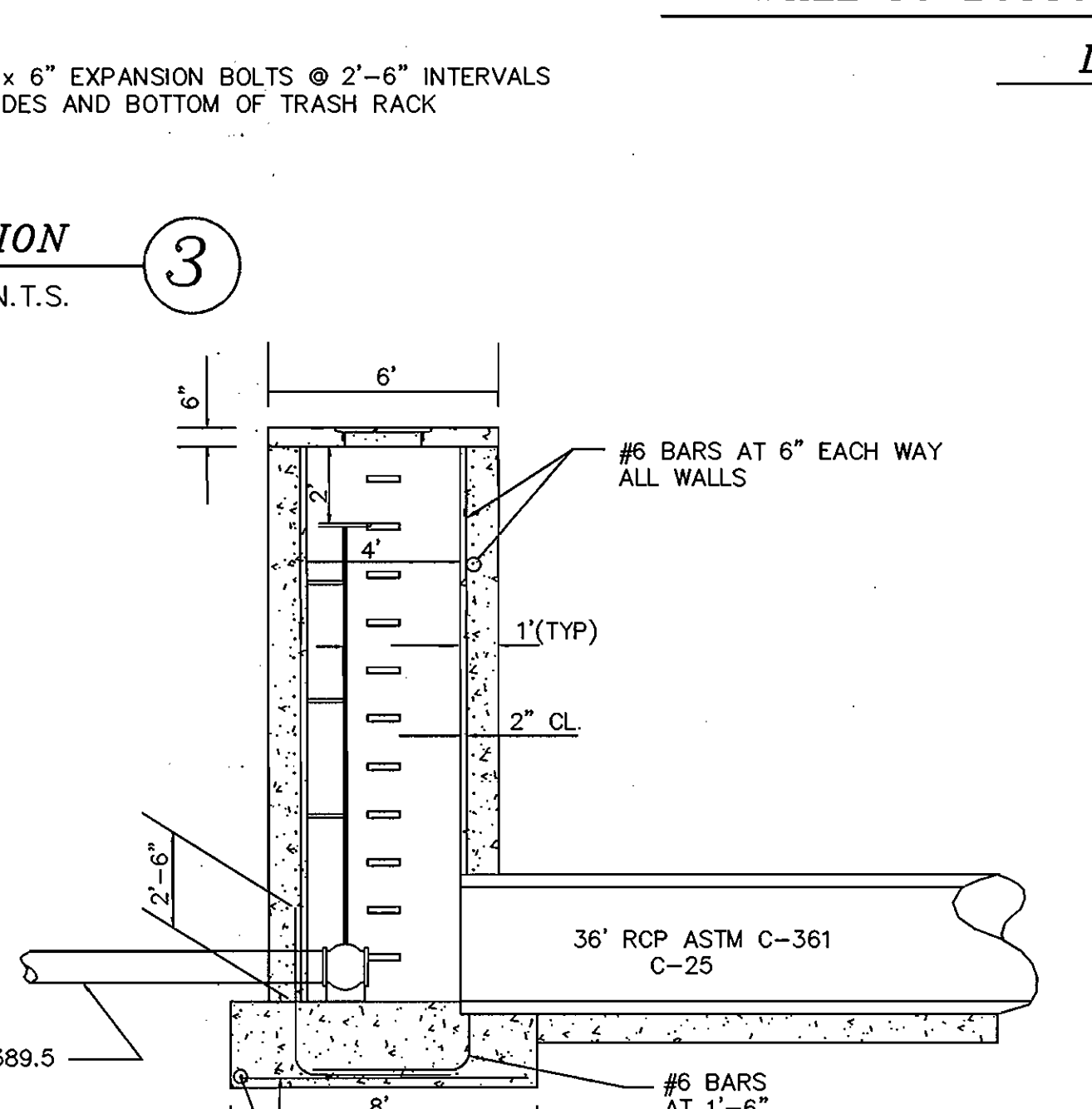
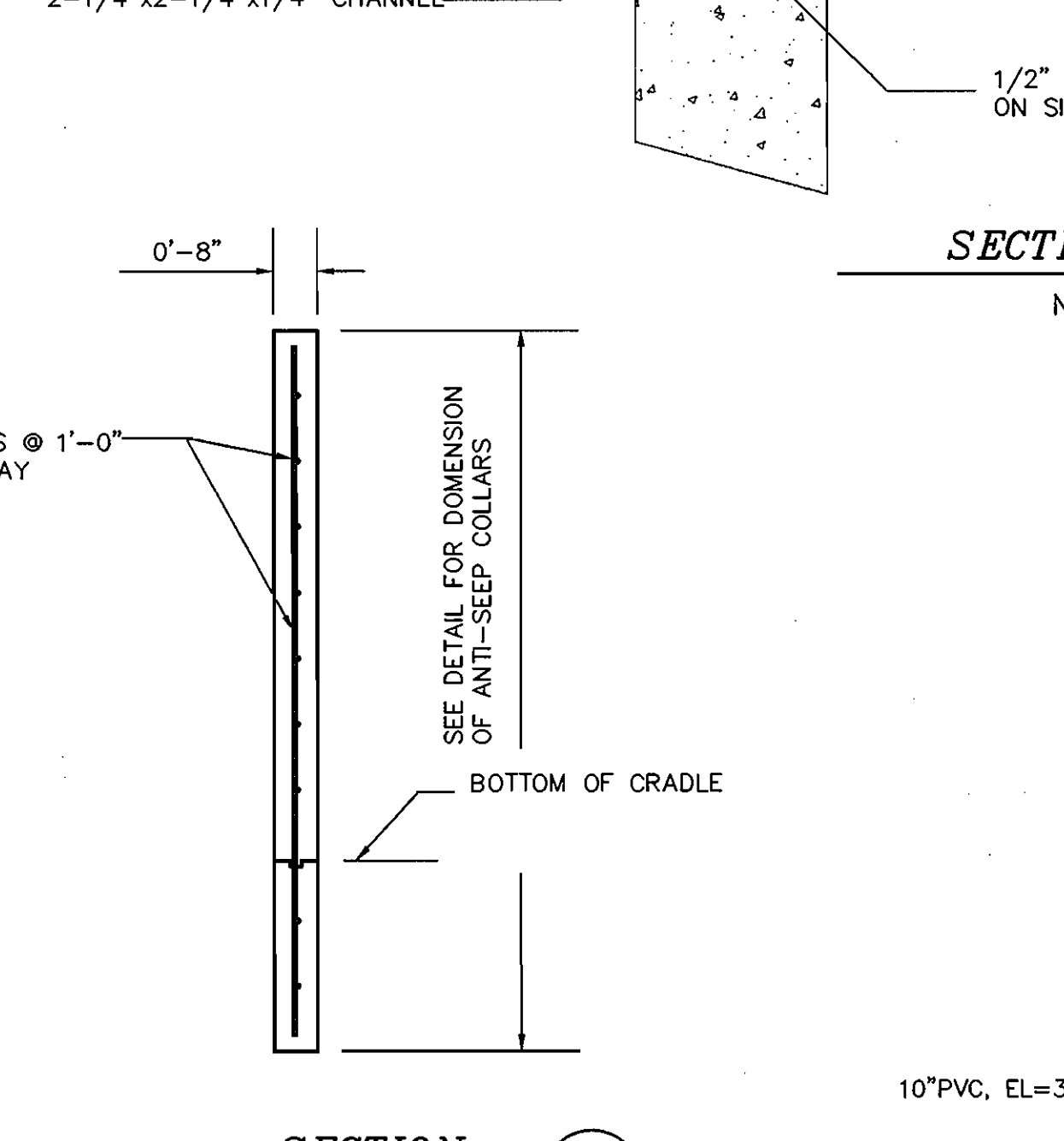
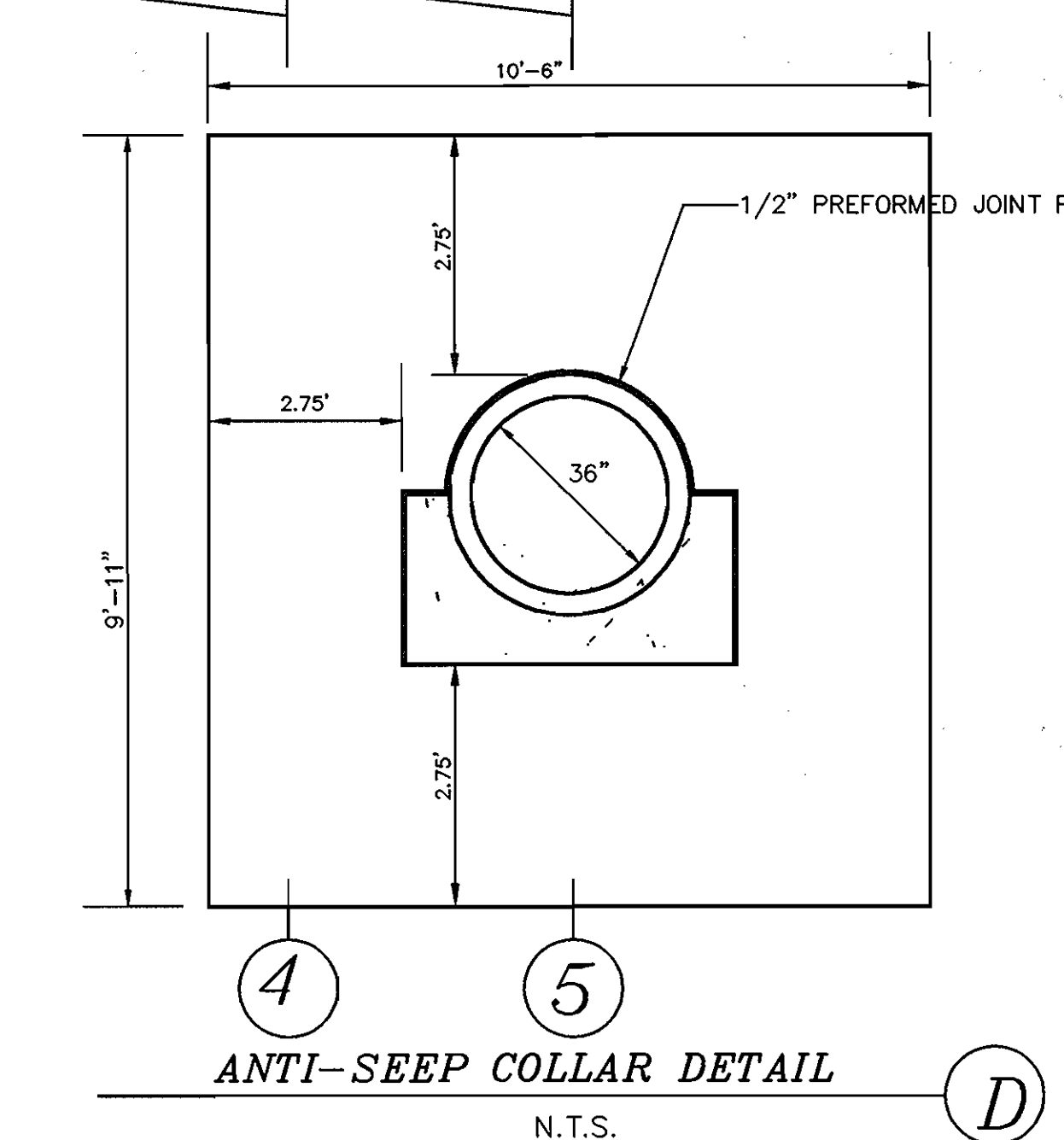
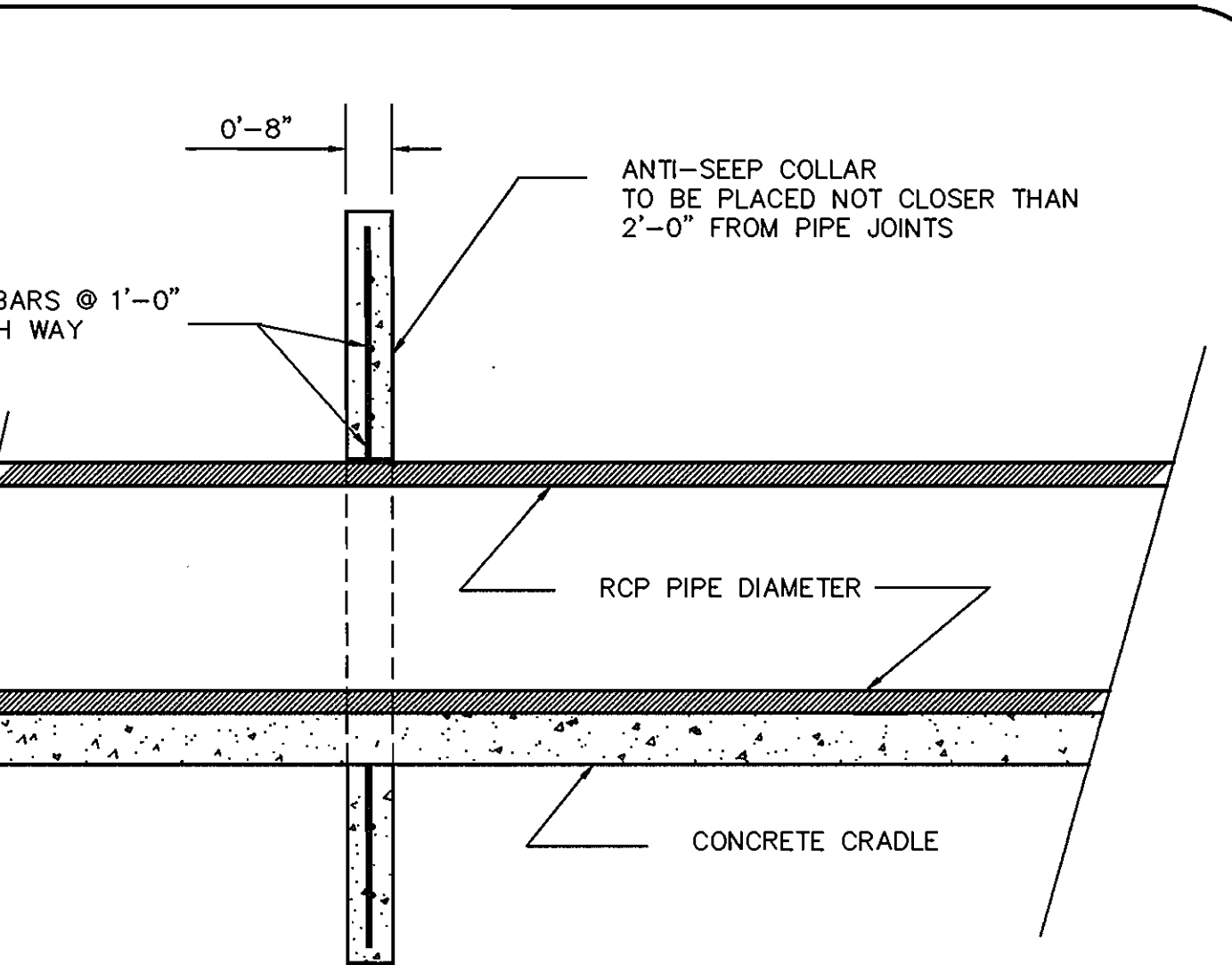
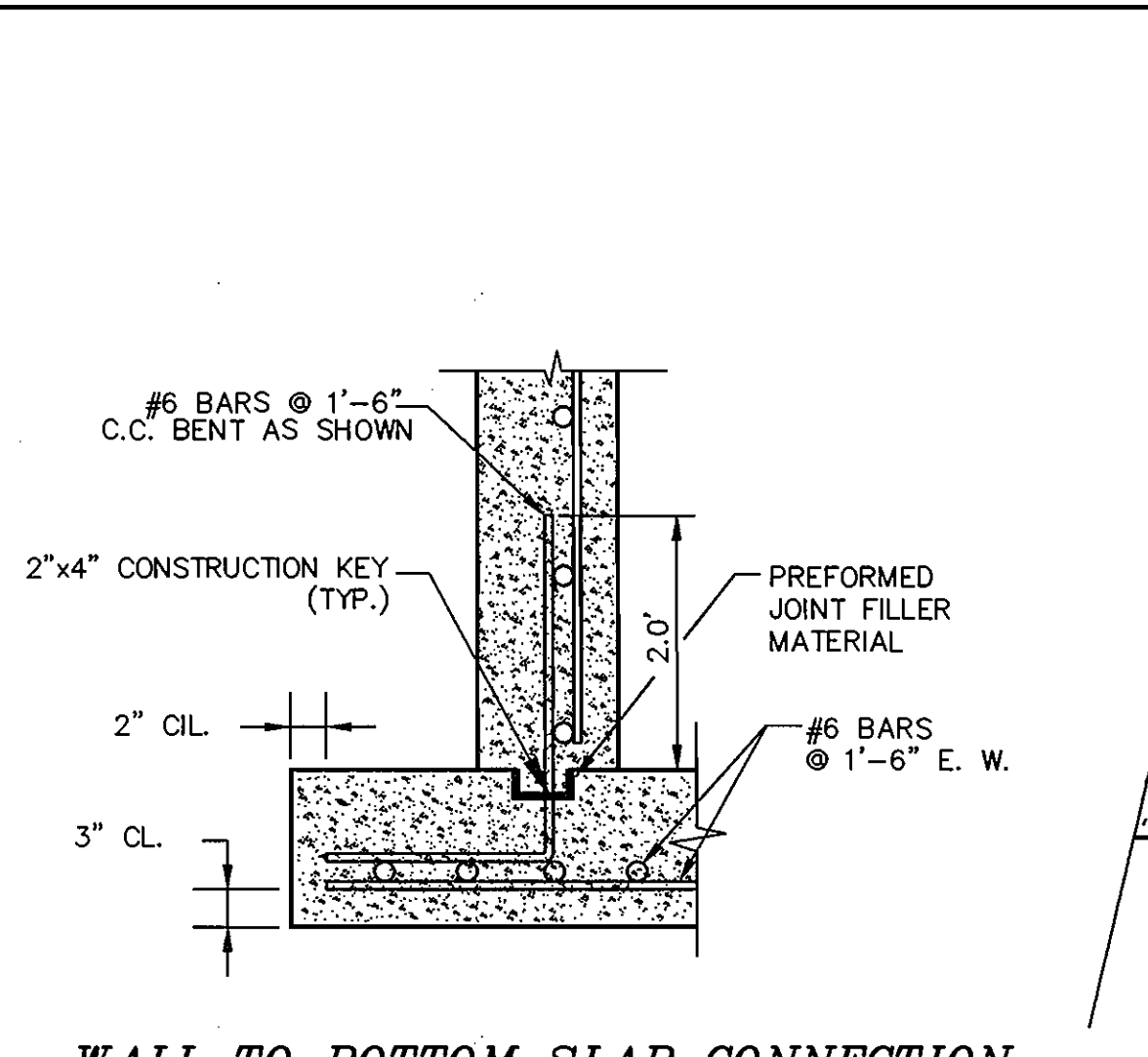
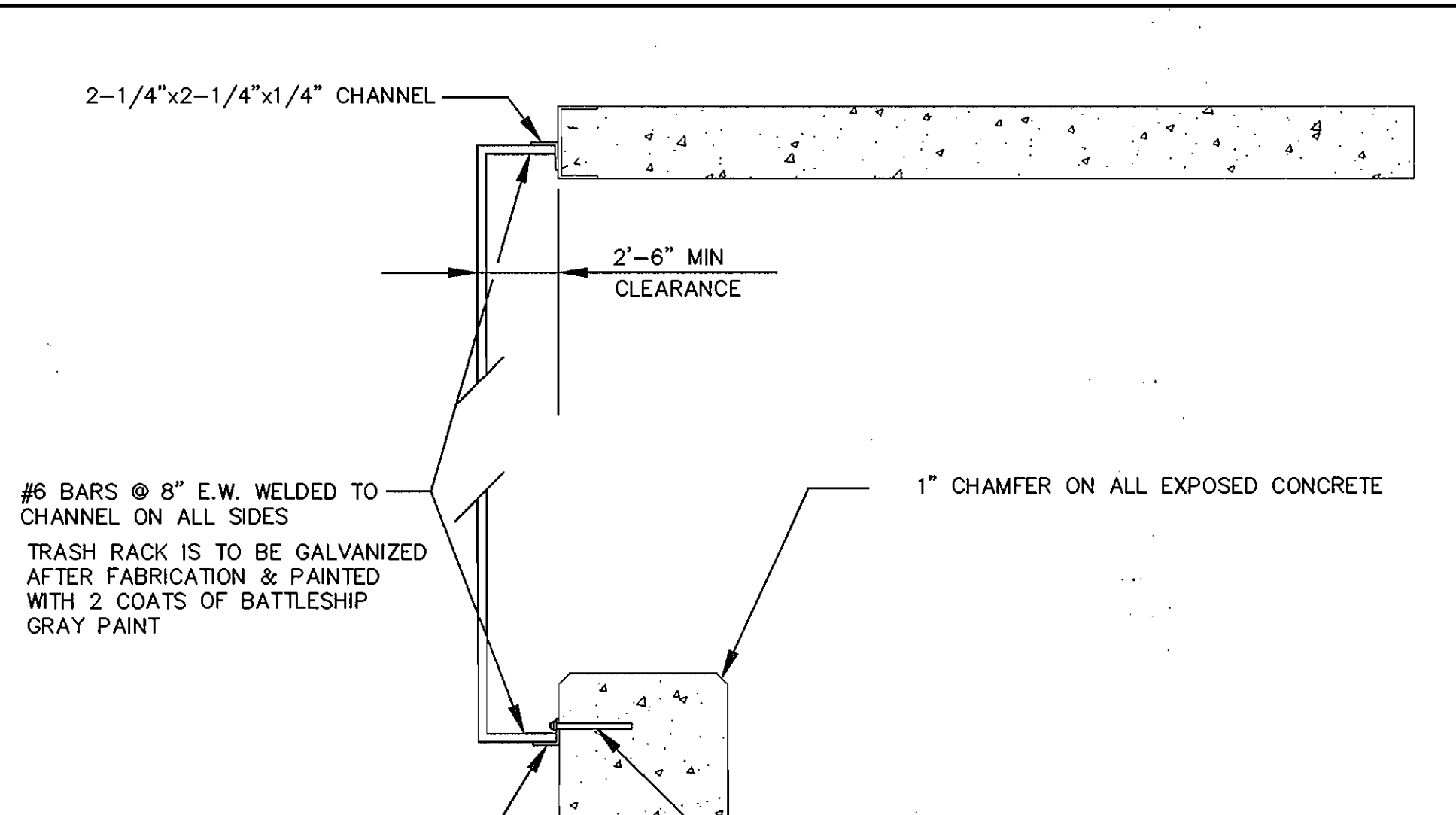
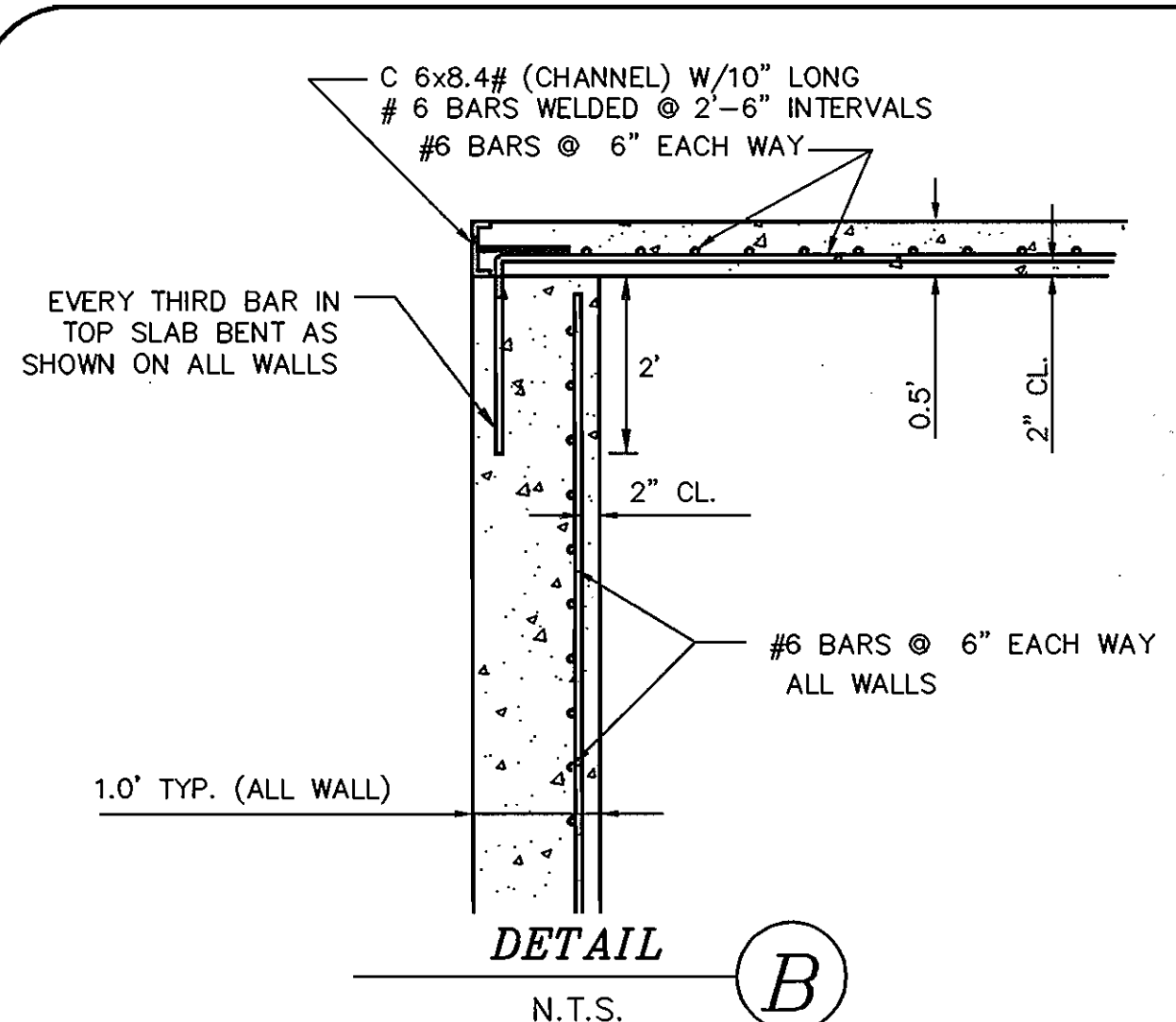
PROJECT: 04-038  
 DATE: APR. 2007  
 ILLUSTRATION: IBM  
 SCALE: AS SHOWN  
 APPROVAL: IBM

EXECUTIVE CENTER  
 ELLICOTT CITY WAL-MART PARCEL D  
 TAX MAP 17 AND 24, P/O PARCEL 1085  
 HOWARD COUNTY, MARYLAND  
 SECOND ELECTION DISTRICT  
 STORMWATER MANAGEMENT DETAILS

MILDENBERG & ASSOC., INC.  
 Engineers Planners Surveyors  
 5072 Dorsey Hill Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 987-0296 Fax. (301) 621-6521 Wash. (410) 987-0298 P.z.

9 OF 17

SDP-06-094



**AS-BUILT CERTIFICATION**  
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

SIGNATURE: \_\_\_\_\_ P.E. NO. \_\_\_\_\_  
DATE: \_\_\_\_\_

**CERTIFY MEANS TO START OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.**

**BY THE DEVELOPER:**  
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 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: *Louis Mangione* DATE: 4/24/17  
Printed Name of Developer: **Louis Mangione**

**BY THE ENGINEER:**  
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: *E. Jacob Himm* DATE: 4/12/17  
Printed Name of Engineer: **E. Jacob Himm**

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.

USDA - NATURAL RESOURCES CONSERVATION SERVICE  
Signature: *Jim Myer* DATE: 5/6/17

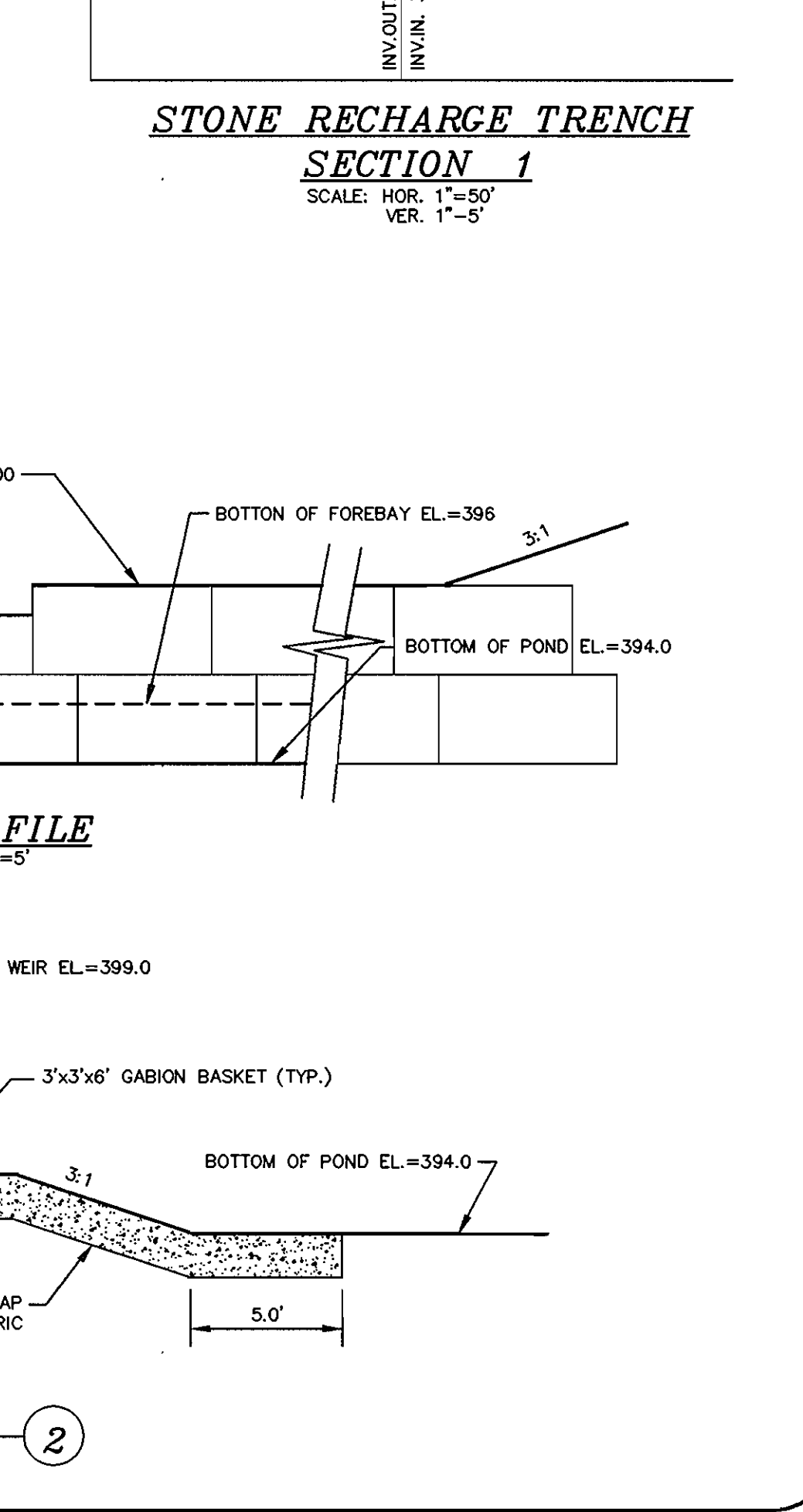
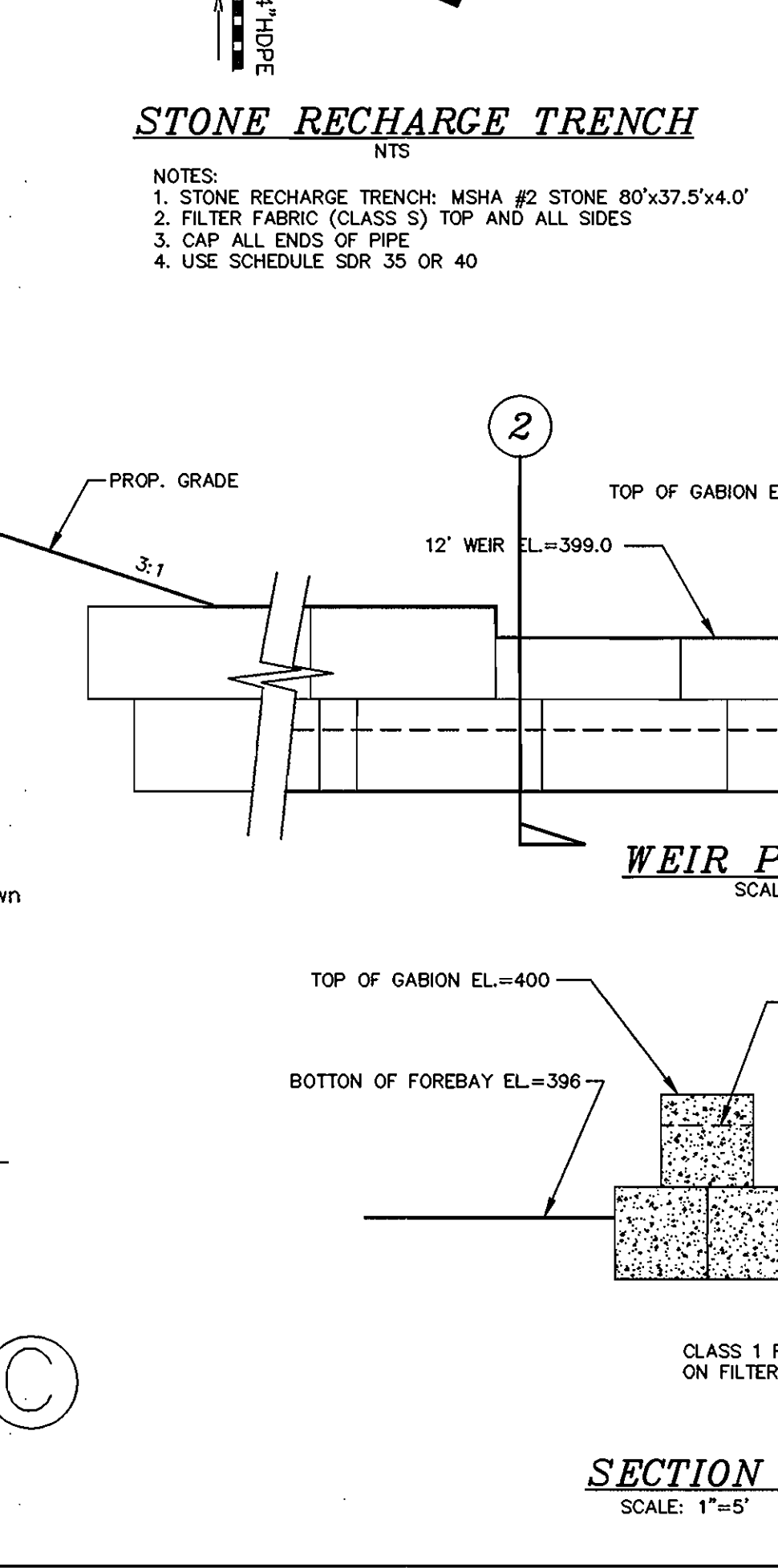
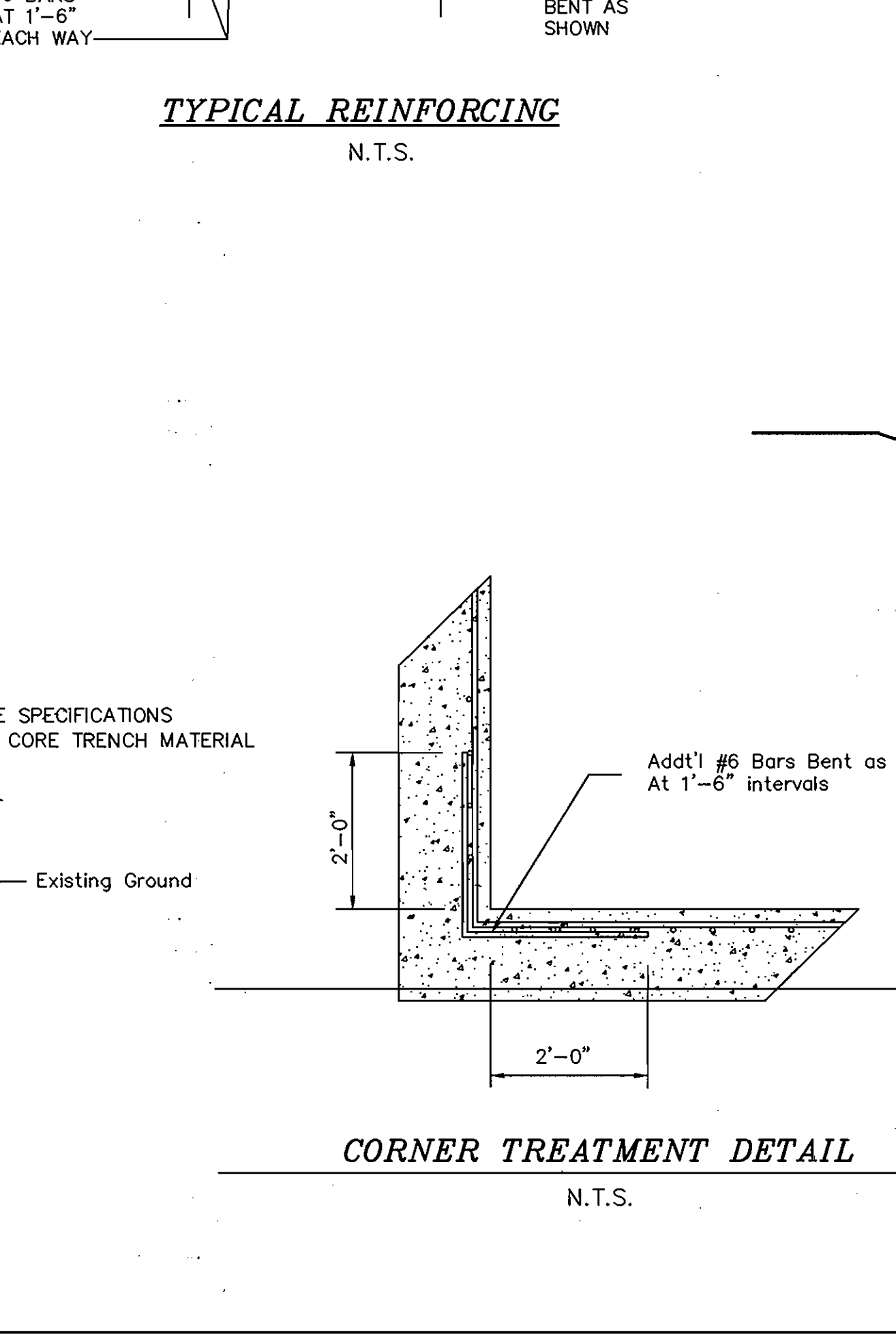
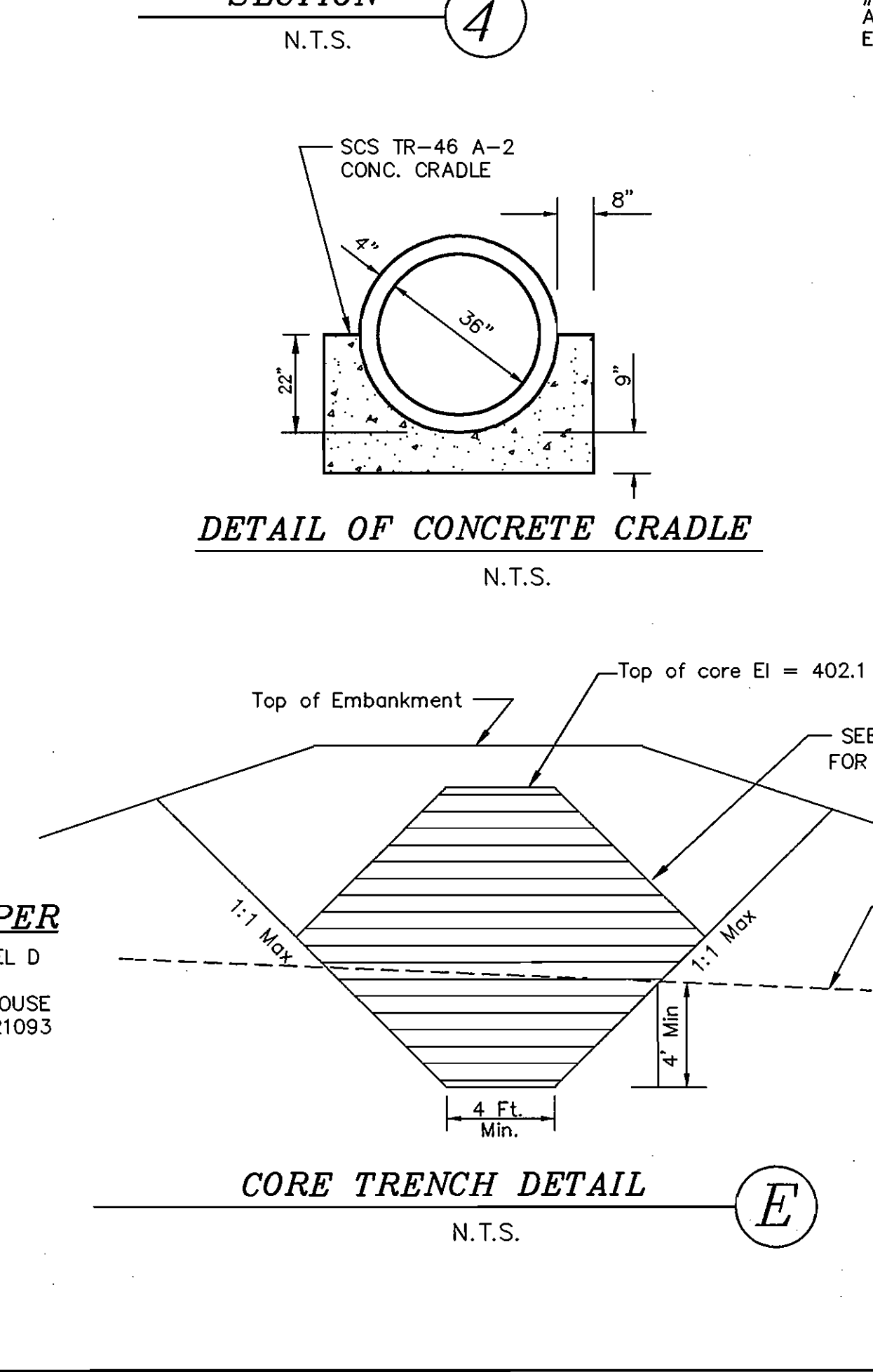
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: *Sharon* DATE: 5/8/17  
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Signature: *Mark* DATE: 5/16/17  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
Signature: *Chris* DATE: 5/16/17  
CHIEF, DIVISION OF LAND DEVELOPMENT  
Signature: *Mark* DATE: 5/16/17  
DIRECTOR

**OWNER/DEVELOPER**  
EXECUTIVE CENTER PARCEL D  
LIMITED PARTNERSHIP  
1205 YORK ROAD, PENT HOUSE  
LUTHERVILLE, MARYLAND 21093  
(410) 825-8400  
ATTN: LOUIS MANGIONE

STATE OF MARYLAND  
JACOB HIMM  
No. 17942  
PROFESSIONAL ENGINEER



date	APR. 2007	engineering	MM	approval	
project	04-038	illustration	MM	scale	1"=50'
					no.
					date
					description
					revisions

**EXECUTIVE CENTER**  
ELLICOTT CITY WAL-MART PARCEL D  
TAX MAP 17 & 24, P/O PARCEL 1086  
HOWARD COUNTY, MARYLAND  
SECOND ELECTION DISTRICT

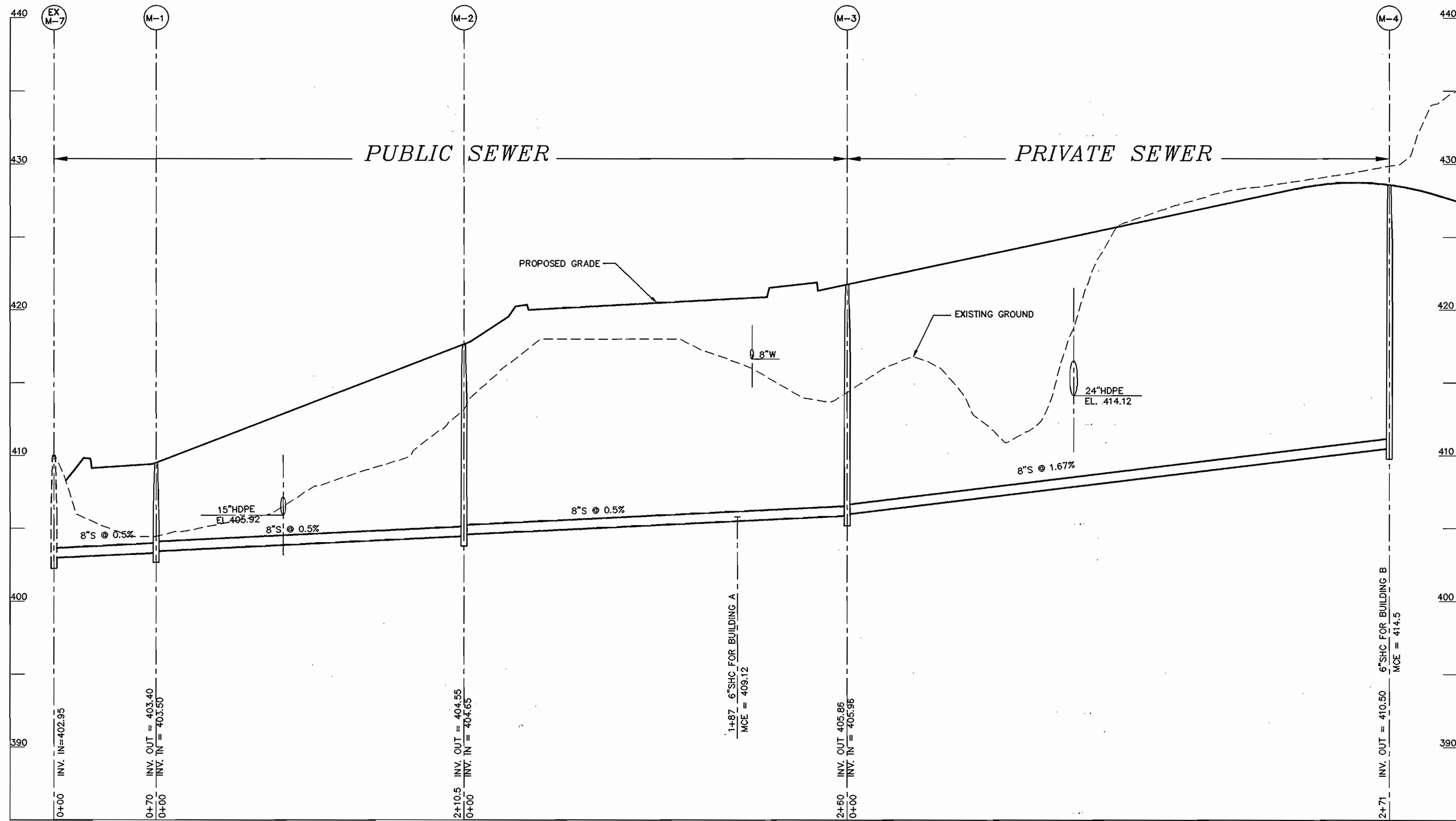
**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Surveyors  
5072 Dimeson Hill Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0286 Fax (301) 621-5521 Wash. (410) 997-0288 Fax

**STORMWATER MANAGEMENT DETAILS**

10 OF 17

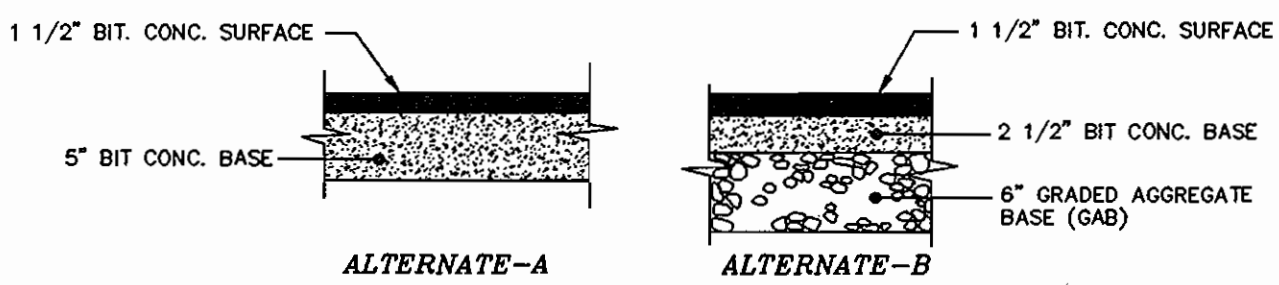
SDP-06-094





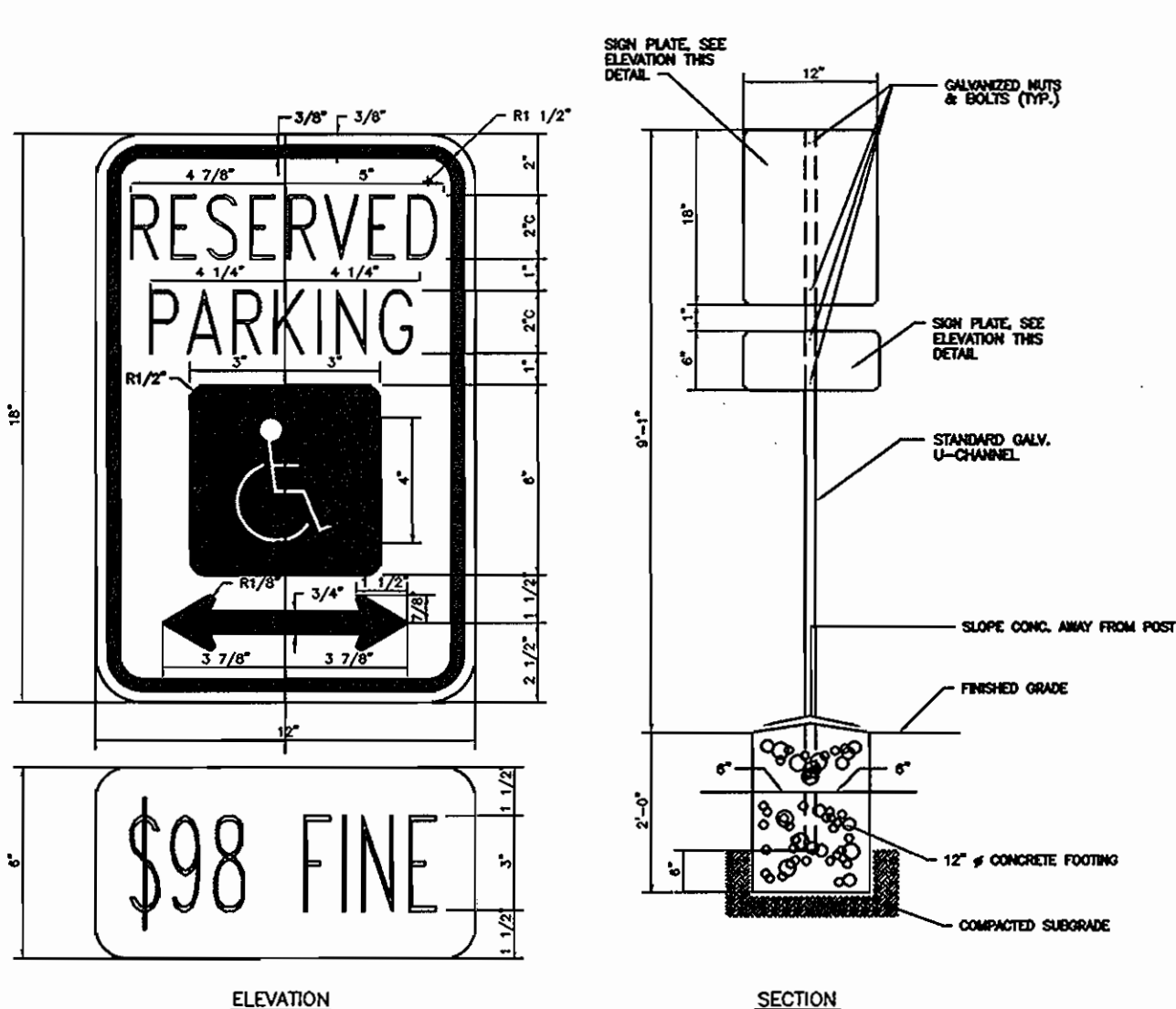
**8" SEWER PROFILE**

SCALE: HOR. 1"=50'  
VER. 1"=5'

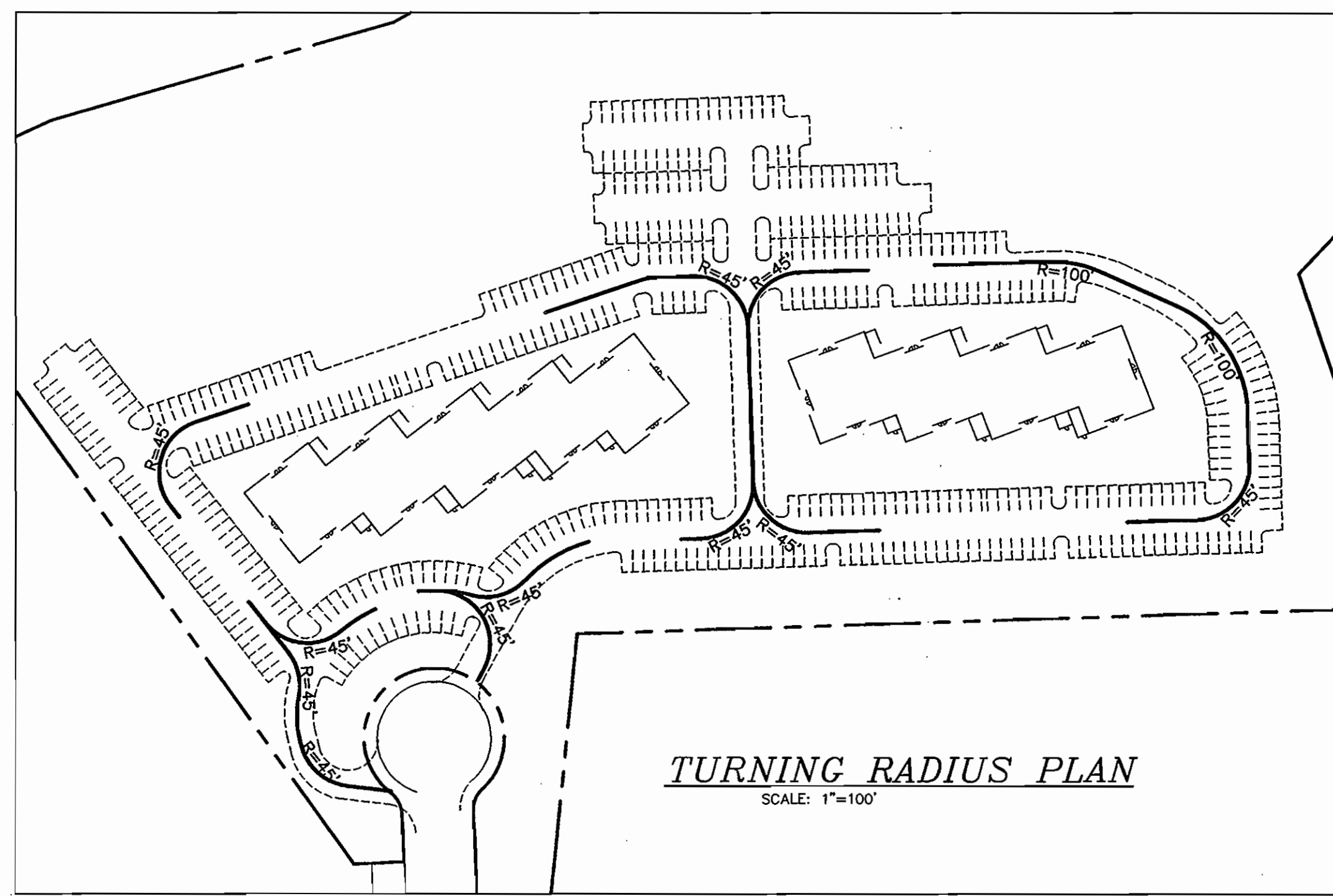


**PAVING SECTIONS**

P-2  
N.T.S.

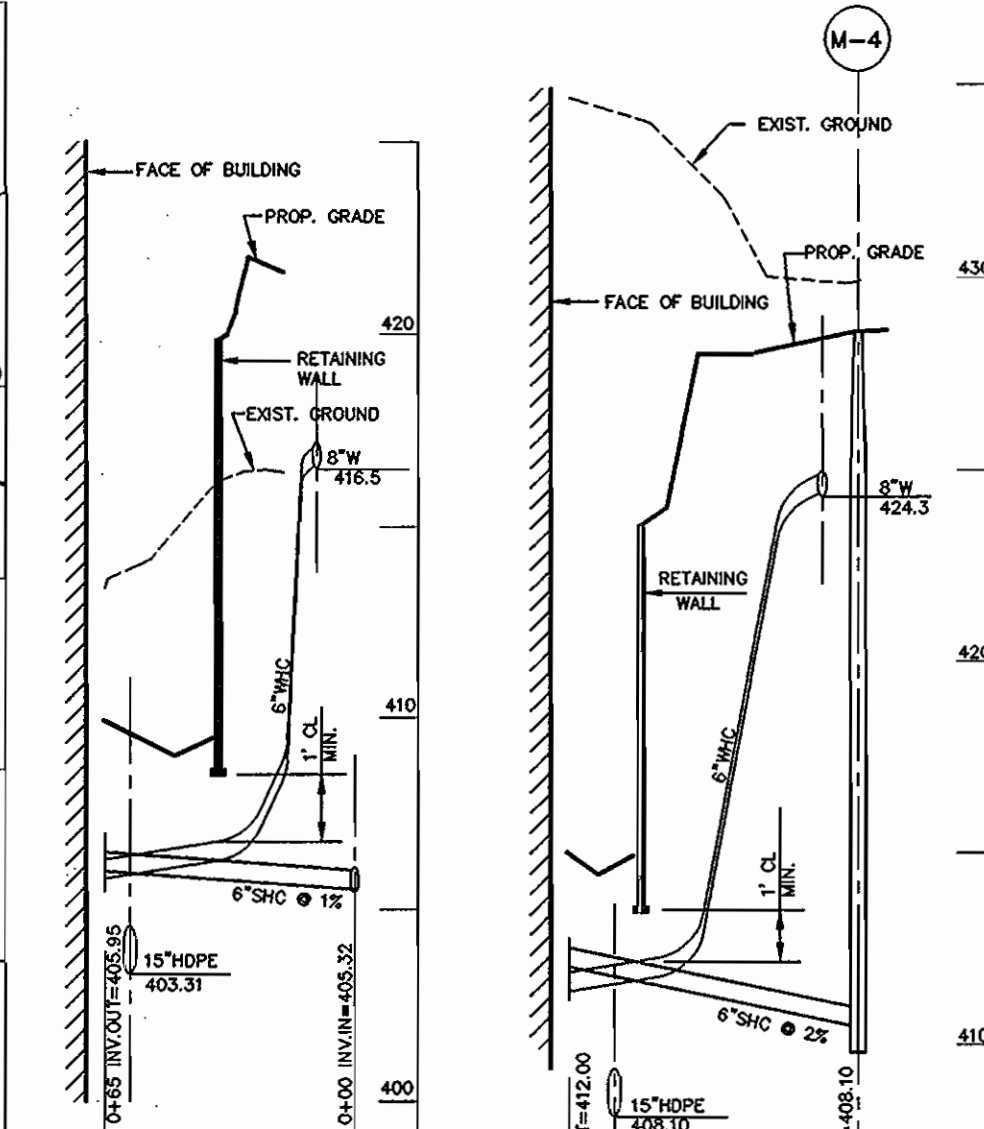


**HANDICAPPED SIGN AND POST**  
NOT TO SCALE



**TURNING RADIUS PLAN**

SCALE: 1"=100'

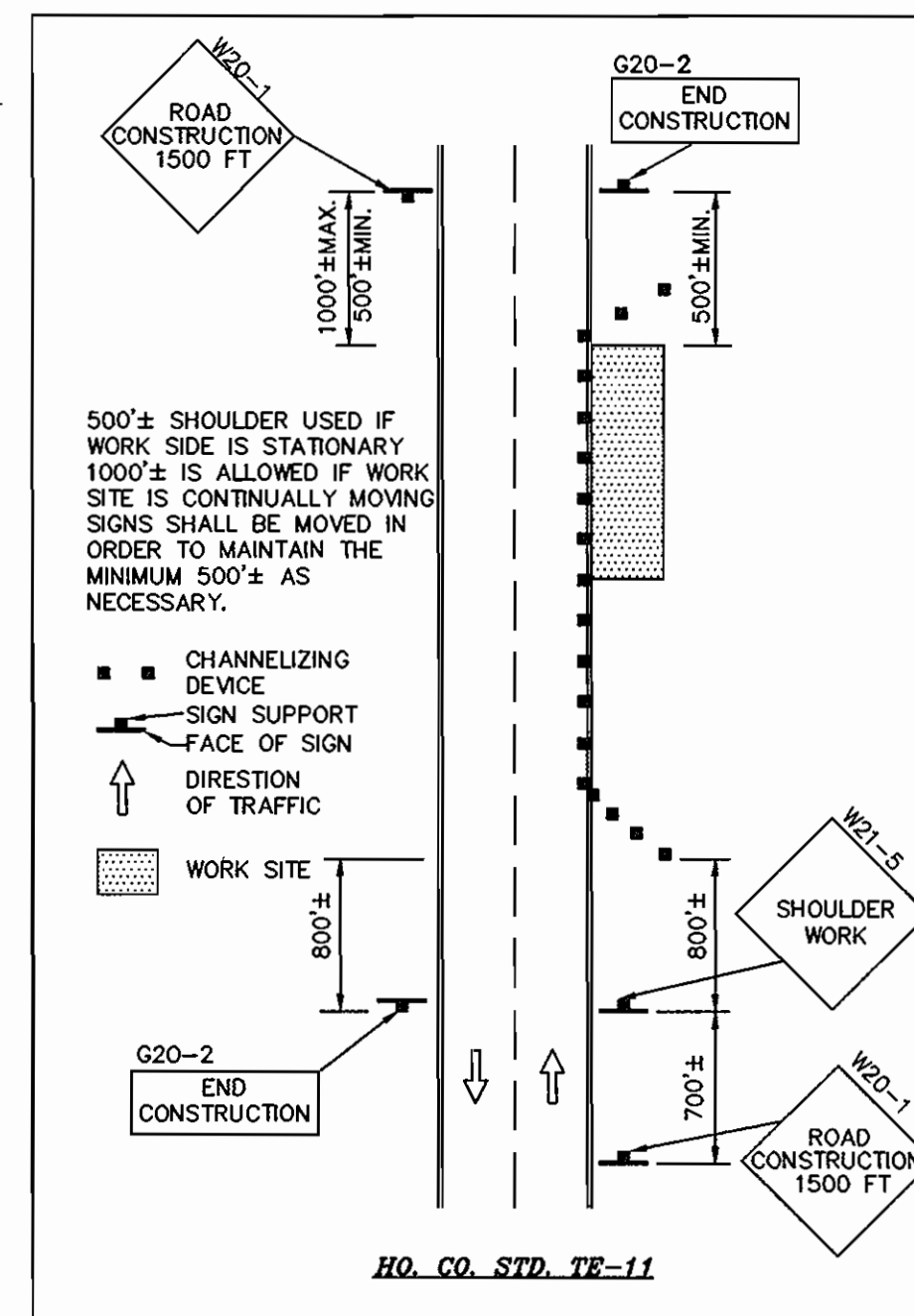


**WHC & SHC (BUILDING A)**

SCALE: HOR. 1"=50'  
VER. 1"=5'

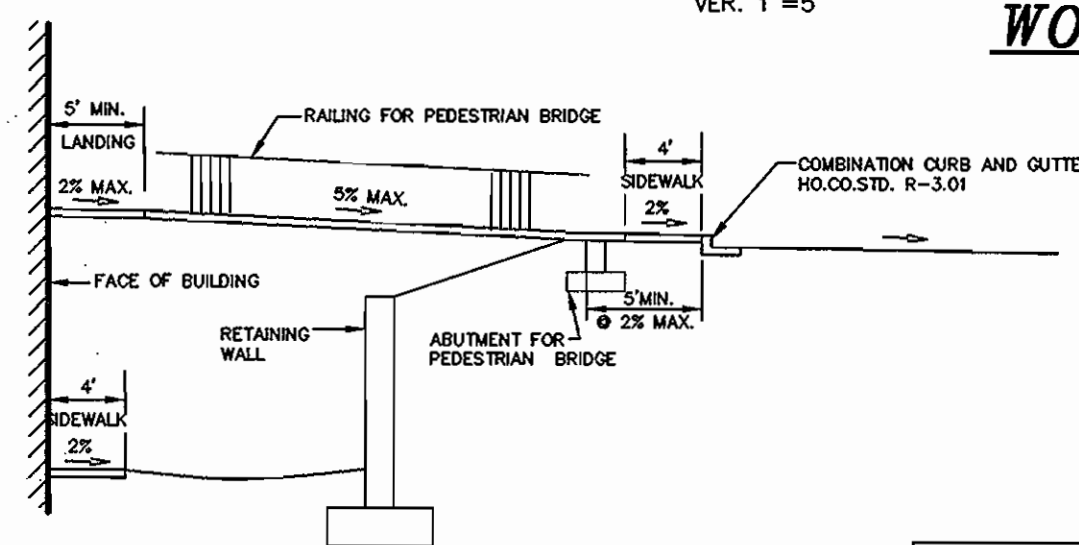
**WHC & SHC (BUILDING B)**

SCALE: HOR. 1"=50'  
VER. 1"=5'



**WORK ZONE TRAFFIC CONTROL PLAN**

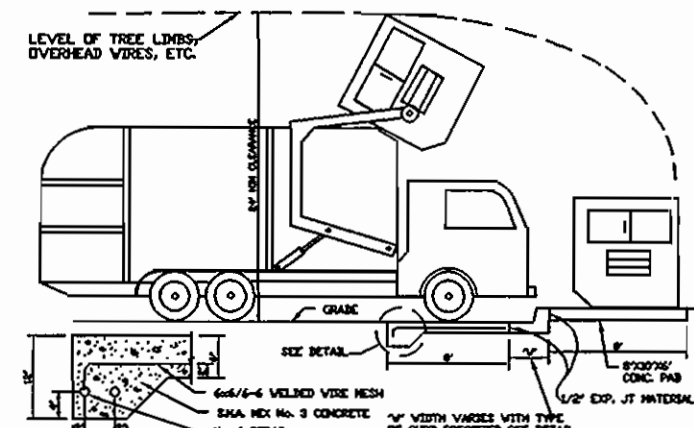
HO. CO. STD. TF-11



**PEDESTRIAN BRIDGE TYPICAL SECTION**

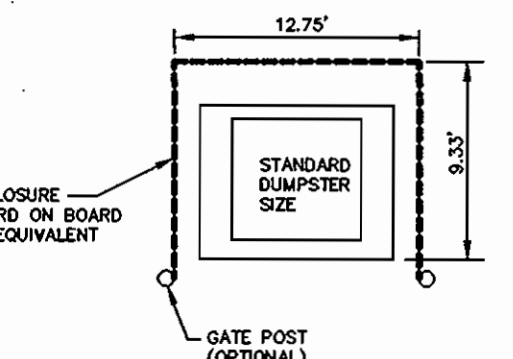
SCALE: 1"=10'

- NOTES:
- REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS OF PEDESTRIAN BRIDGE, RAILING AND ABUTMENTS
  - REFER TO DRAWINGS 14 THRU 16 FOR RETAINING WALL DETAILS.



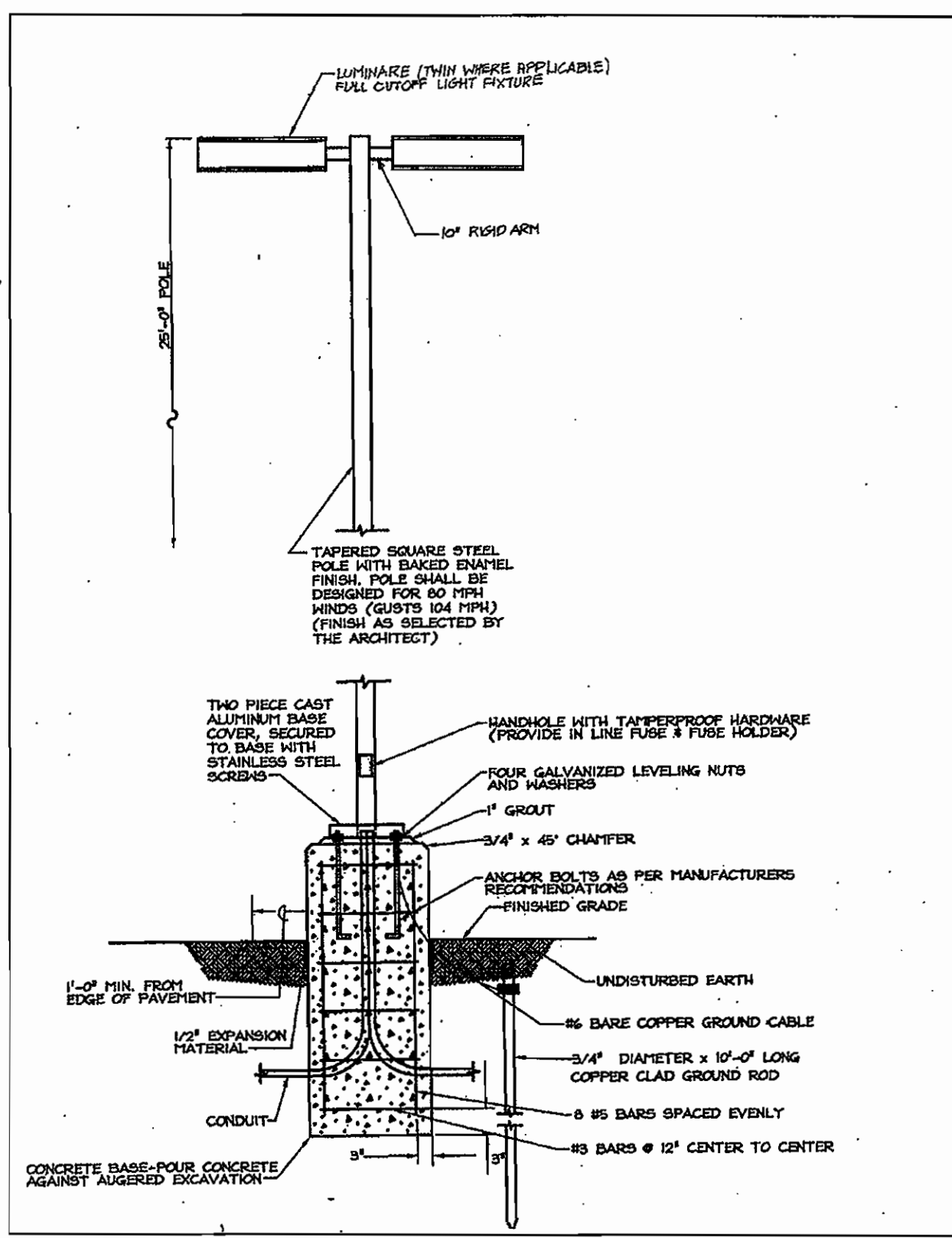
**SOLID WASTE SERVICE PAD**

N.T.S.



**SOLID WASTE CONTAINER ENCLOSURE**

N.T.S.



**LIGHT POLE BASE DETAIL**


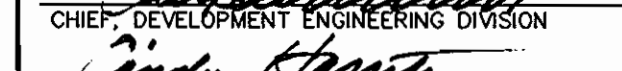
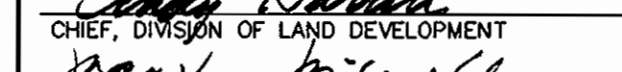
SCALE: N.T.S.

**OWNER/DEVELOPER**

EXECUTIVE CENTER PARCEL D  
LIMITED PARTNERSHIP  
1205 YORK ROAD, PENT HOUSE  
LUTHERVILLE, MARYLAND 21093  
(410) 825-8400  
ATTN: LOUIS MANGIONE



APPROVED: DEPARTMENT OF PLANNING AND ZONING

 5/6/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 5/6/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 5/16/07  
 DIRECTOR

date	APR. 2007
project	04-038
illustration	MMM
scale	1"=50'
approval	MMM

no.		description	revisions

**EXECUTIVE CENTER**  
ELLICOTT CITY WAL-MART PARCEL D  
TAX MAP 17 & 24, P/O PARCEL 1086  
HOWARD COUNTY, MARYLAND  
SECOND ELECTION DISTRICT  
MISCELLANEOUS DETAILS AND PROFILES

**MILDENBERG & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorseu Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 987-0286 Fax: (301) 621-5521 Wash. (410) 987-0288 Fax.

LANDSCAPE REQUIREMENT PLANTING SCHEDULE

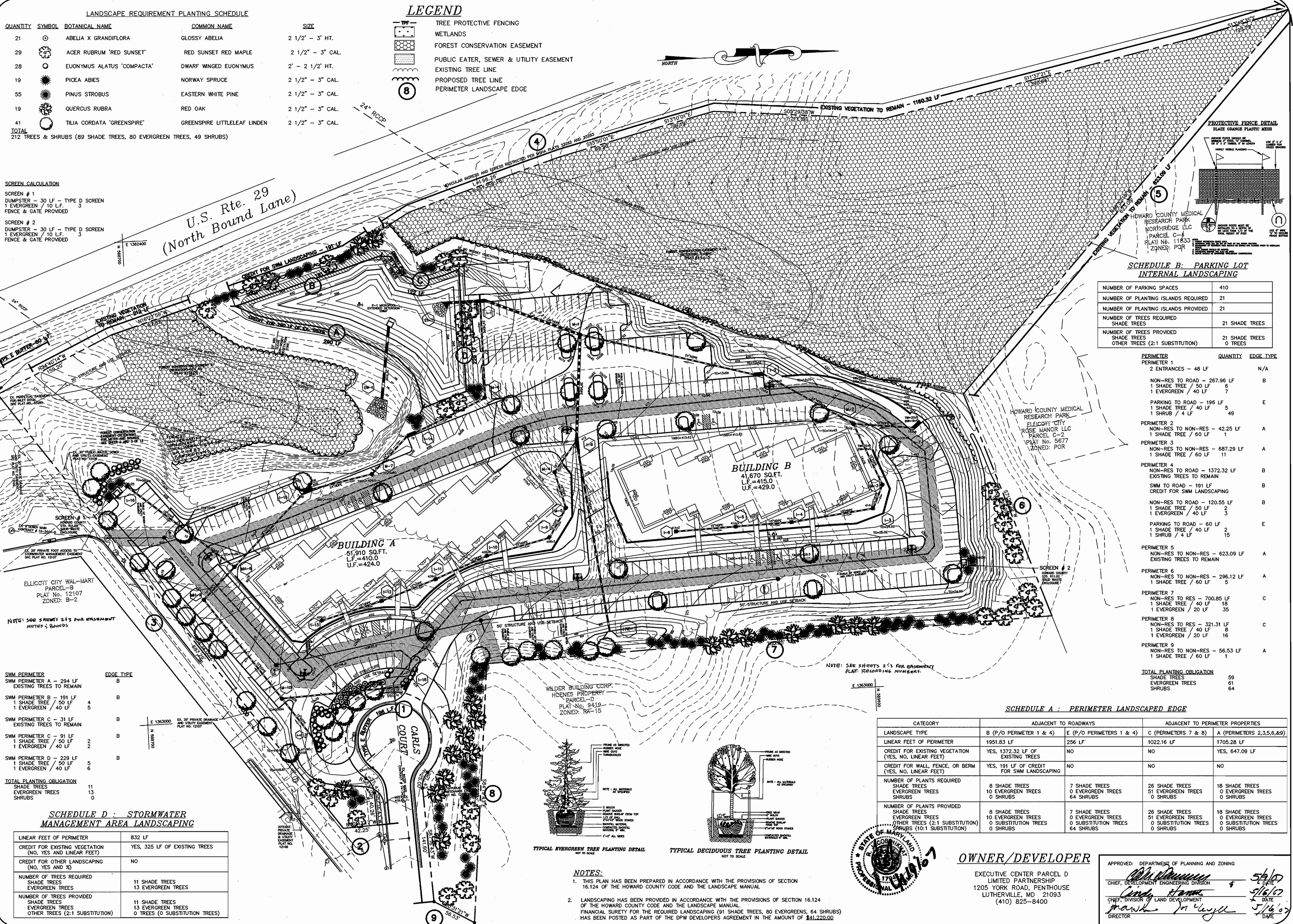
QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
21	○	ABELIA X GRANDIFLORA	GLOSSY ABELIA	2 1/2' - 3' HT.
29	●	ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2 1/2' - 3' CAL.
28	○	EUONYMUS ALATUS 'COMPACTA'	DWARF WINGED EUONYMUS	2' - 2 1/2' HT.
19	●	PICEA ABIES	NORWAY SPRUCE	2 1/2' - 3' CAL.
55	●	PINUS STROBUS	EASTERN WHITE PINE	2 1/2' - 3' CAL.
19	●	QUERCUS RUBRA	RED OAK	2 1/2' - 3' CAL.
41	○	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	2 1/2' - 3' CAL.
<b>TOTAL</b>				
212 TREES & SHRUBS (89 SHADE TREES, 80 EVERGREEN TREES, 49 SHRUBS)				

LEGEND

- TPF TREE PROTECTIVE FENCING
- WETLANDS
- FOREST CONSERVATION EASEMENT
- PUBLIC EATER, SEWER & UTILITY EASEMENT
- EXISTING TREE LINE
- PROPOSED TREE LINE
- PERIMETER LANDSCAPE EDGE

SCREEN CALCULATION  
 SCREEN # 1  
 DUMPSTER - 30 LF - TYPE D SCREEN  
 1 EVERGREEN / 10 LF  
 FENCE & GATE PROVIDED  
 SCREEN # 2  
 DUMPSTER - 30 LF - TYPE D SCREEN  
 1 EVERGREEN / 10 LF  
 FENCE & GATE PROVIDED

U.S. Rte. 29  
 (North Bound Lane)



SCHEDULE B: PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES	410
NUMBER OF PLANTING ISLANDS REQUIRED	21
NUMBER OF PLANTING ISLANDS PROVIDED	21
NUMBER OF TREES REQUIRED	21 SHADE TREES
NUMBER OF TREES PROVIDED	21 SHADE TREES
OTHER TREES (2:1 SUBSTITUTION)	0 TREES

PERIMETER	QUANTITY	EDGE TYPE
PERIMETER 1		
2 ENTRANCES - 48 LF		N/A
NON-RES TO ROAD - 267.96 LF		B
1 SHADE TREE / 50 LF	6	
1 EVERGREEN / 40 LF	7	
PARKING TO ROAD - 196 LF		E
1 SHADE TREE / 40 LF	5	
1 SHRUB / 4 LF	49	
PERIMETER 2		
NON-RES TO NON-RES - 42.25 LF		A
1 SHADE TREE / 60 LF	1	
PERIMETER 3		
NON-RES TO NON-RES - 687.29 LF		A
1 SHADE TREE / 60 LF	11	
PERIMETER 4		
NON-RES TO ROAD - 1372.32 LF		B
EXISTING TREES TO REMAIN		
SWM TO ROAD - 191 LF		B
CREDIT FOR SWM LANDSCAPING		
NON-RES TO ROAD - 120.55 LF		B
1 SHADE TREE / 50 LF	2	
1 EVERGREEN / 40 LF	3	
PARKING TO ROAD - 60 LF		E
1 SHADE TREE / 40 LF	2	
1 SHRUB / 4 LF	15	
PERIMETER 5		
NON-RES TO NON-RES - 623.09 LF		A
EXISTING TREES TO REMAIN		
PERIMETER 6		
NON-RES TO NON-RES - 296.12 LF		A
1 SHADE TREE / 60 LF	5	
PERIMETER 7		
NON-RES TO RES - 700.85 LF		C
1 SHADE TREE / 40 LF	18	
1 EVERGREEN / 20 LF	35	
PERIMETER 8		
NON-RES TO RES - 321.31 LF		C
1 SHADE TREE / 40 LF	8	
1 EVERGREEN / 20 LF	16	
PERIMETER 9		
NON-RES TO NON-RES - 56.53 LF		A
1 SHADE TREE / 60 LF	1	
<b>TOTAL PLANTING OBLIGATION</b>		
SHADE TREES	59	
EVERGREEN TREES	61	
SHRUBS	64	

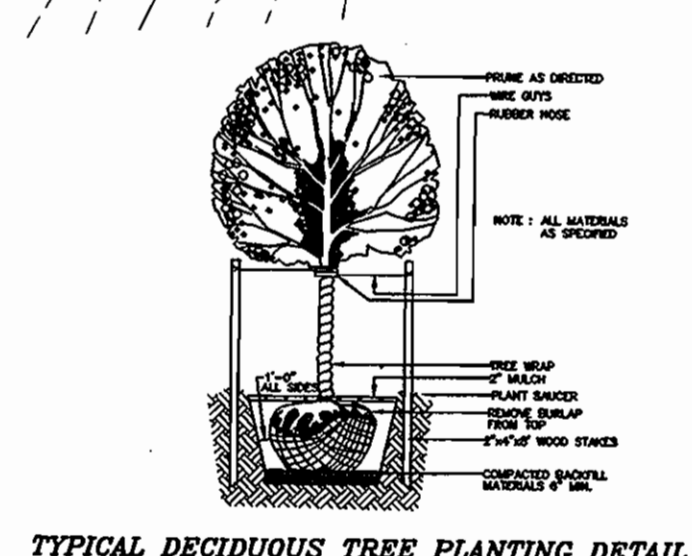
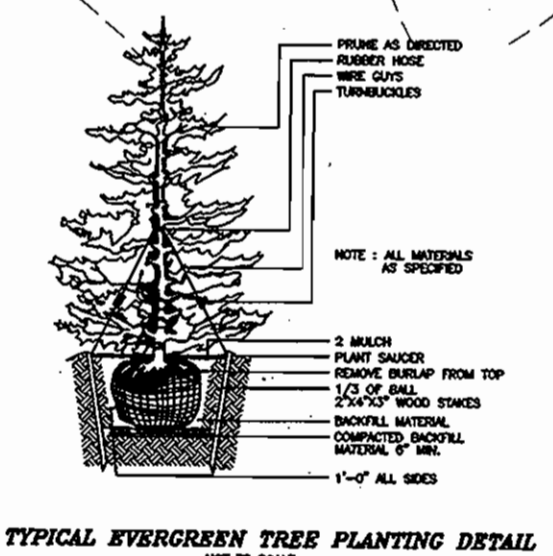
SCHEDULE A: PERIMETER LANDSCAPED EDGE

CATEGORY	ADJACENT TO ROADWAYS		ADJACENT TO PERIMETER PROPERTIES	
	B (P/O PERIMETER 1 & 4)	E (P/O PERIMETERS 1 & 4)	C (PERIMETERS 7 & 8)	A (PERIMETERS 2,3,5,6,8,9)
LANDSCAPE TYPE				
LINEAR FEET OF PERIMETER	1951.83 LF	1022.16 LF	1705.28 LF	1705.28 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES, 1372.32 LF OF EXISTING TREES	NO	NO	YES, 647.09 LF
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET)	YES, 191 LF OF CREDIT FOR SWM LANDSCAPING	NO	NO	NO
NUMBER OF PLANTS REQUIRED				
SHADE TREES	8 SHADE TREES	7 SHADE TREES	26 SHADE TREES	18 SHADE TREES
EVERGREEN TREES	10 EVERGREEN TREES	0 EVERGREEN TREES	51 EVERGREEN TREES	0 EVERGREEN TREES
SHRUBS	0 SHRUBS	64 SHRUBS	0 SHRUBS	0 SHRUBS
NUMBER OF PLANTS PROVIDED				
SHADE TREES	8 SHADE TREES	7 SHADE TREES	26 SHADE TREES	18 SHADE TREES
EVERGREEN TREES	10 EVERGREEN TREES	0 SUBSTITUTION TREES	51 SUBSTITUTION TREES	0 SUBSTITUTION TREES
OTHER TREES (2:1 SUBSTITUTION)	0 SHRUBS	64 SHRUBS	0 SHRUBS	0 SHRUBS

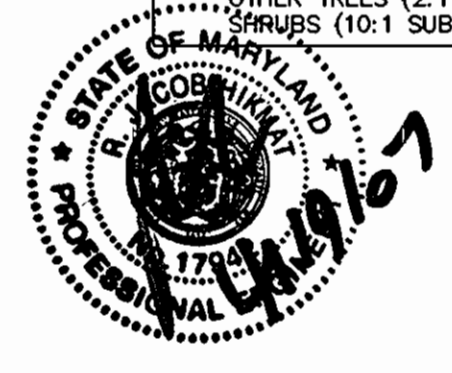
SWM PERIMETER	EDGE TYPE
SWM PERIMETER A - 294 LF EXISTING TREES TO REMAIN	B
SWM PERIMETER B - 191 LF 1 SHADE TREE / 50 LF 1 EVERGREEN / 40 LF	B
SWM PERIMETER C - 31 LF EXISTING TREES TO REMAIN	B
SWM PERIMETER D - 91 LF 1 SHADE TREE / 50 LF 1 EVERGREEN / 40 LF	B
SWM PERIMETER E - 229 LF 1 SHADE TREE / 50 LF 1 EVERGREEN / 40 LF	B
<b>TOTAL PLANTING OBLIGATION</b>	
SHADE TREES	11
EVERGREEN TREES	13
SHRUBS	0

SCHEDULE D: STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	832 LF
CREDIT FOR EXISTING VEGETATION (NO, YES AND LINEAR FEET)	YES, 325 LF OF EXISTING TREES
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO
NUMBER OF TREES REQUIRED	
SHADE TREES	11 SHADE TREES
EVERGREEN TREES	13 EVERGREEN TREES
NUMBER OF TREES PROVIDED	
SHADE TREES	11 SHADE TREES
EVERGREEN TREES	13 EVERGREEN TREES
OTHER TREES (2:1 SUBSTITUTION)	0 TREES (0 SUBSTITUTION TREES)



- NOTES:
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL
  - LANDSCAPING HAS BEEN PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING (91 SHADE TREES, 80 EVERGREENS, 64 SHRUBS) HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$41,220.00



OWNER/DEVELOPER  
 EXECUTIVE CENTER PARCEL D  
 LIMITED PARTNERSHIP  
 1205 YORK ROAD, PENTHOUSE  
 LUTHERVILLE, MD 21093  
 (410) 825-8400

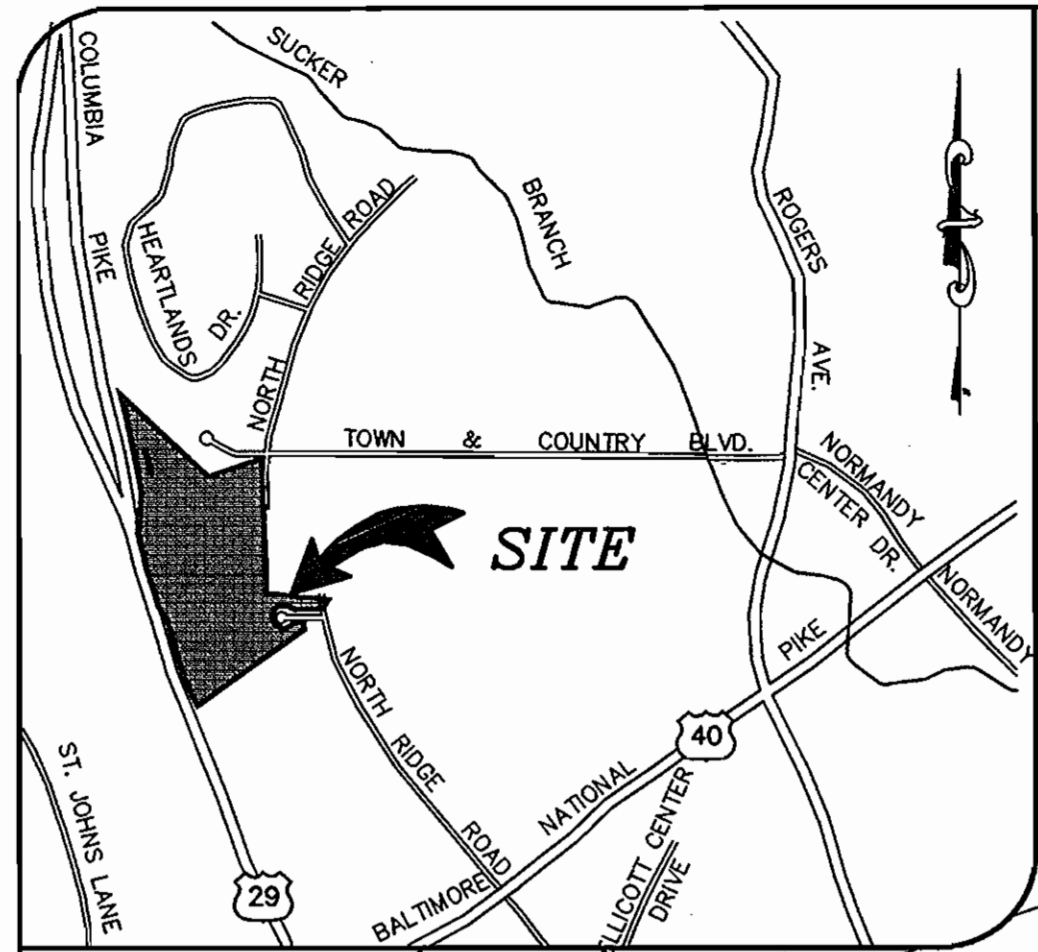
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 5/16/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 5/16/07  
 DIRECTOR

date	APR 2007	engineering	MMM	approval
project	04-038	illustration	MMM	scale
				1"=50'

date		description	revisions
no.			

EXECUTIVE CENTER  
 ELLICOTT CITY WAL-MART PARCEL D  
 TAX MAP 17 AND 24, P/O PARCEL 1085  
 HOWARD COUNTY, MARYLAND  
 LANDSCAPE PLAN  
 SECOND ELECTION DISTRICT

MILDENBERG & ASSOC., INC.  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0236 Fax. (301) 621-5521 Wash. (410) 997-0238 Fax.



NOTE: THIS PLAN IS TO BE USED FOR FOREST CONSERVATION PURPOSES ONLY.

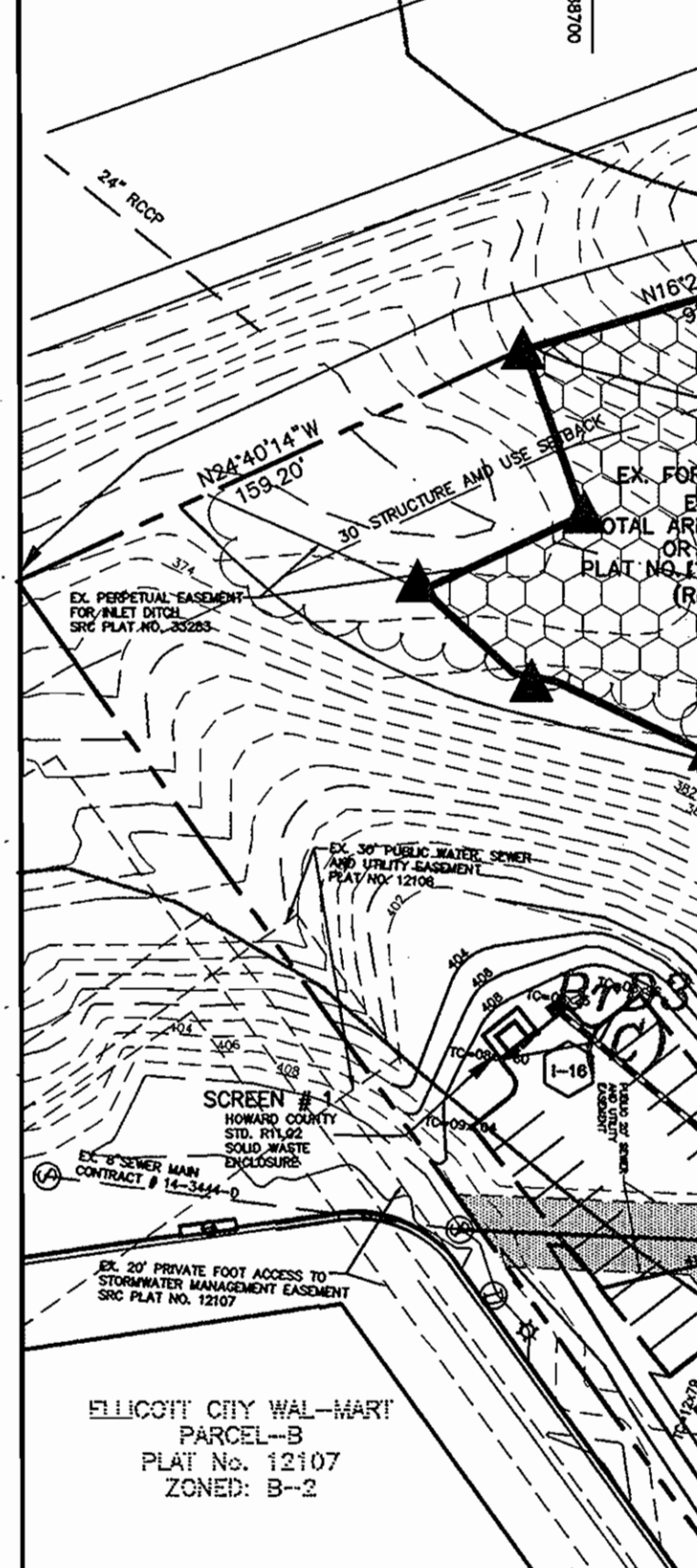
**GENERAL NOTE**

THE PURPOSE OF THIS PLAN IS TO REVISE A PORTION OF THE APPROVED FOREST CONSERVATION PLAN FOR THE OVERALL WAL-MART SITE SHOWN IN SDP-96-01, THE PORTION BEING REVISED IS WITHIN PARCEL D (SDP-96-29). THE COMPUTATIONS HEREON SHOW A DEFICIENCY OF 7.00 ACRES OF REFORESTATION, WHICH WILL BE SATISFIED VIA OFF-SITE REFORESTATION. OFF-SITE REFORESTATION PLANS ARE BEING PREPARED BY CHESAPEAKE ENVIRONMENTAL, INC.

- LEGEND**
- DENOTES FOREST CONSERVATION AREA TO REMAIN
  - DENOTES FOREST CONSERVATION AREA TO BE REMOVED
  - DENOTES FOREST CONSERVATION SIGNAGE
  - DENOTES TREE PROTECTIVE FENCING



**VICINITY MAP**  
SCALE: 1" = 1000'



**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

P.E. NO.:  
DATE:

**BY THE DEVELOPER:**

I, THE DEVELOPER, 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 DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEGINS 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 AUTHORIZED PERSONNEL TO SIGN THE HOWARD SOIL CONSERVATION DISTRICT.

*Amir Mangi* 4/23/07  
PRINTED NAME OF DEVELOPER

**BY THE ENGINEER:**

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 INFORMED 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 AUTHORIZED PERSONNEL TO SIGN THE HOWARD SOIL CONSERVATION DISTRICT.

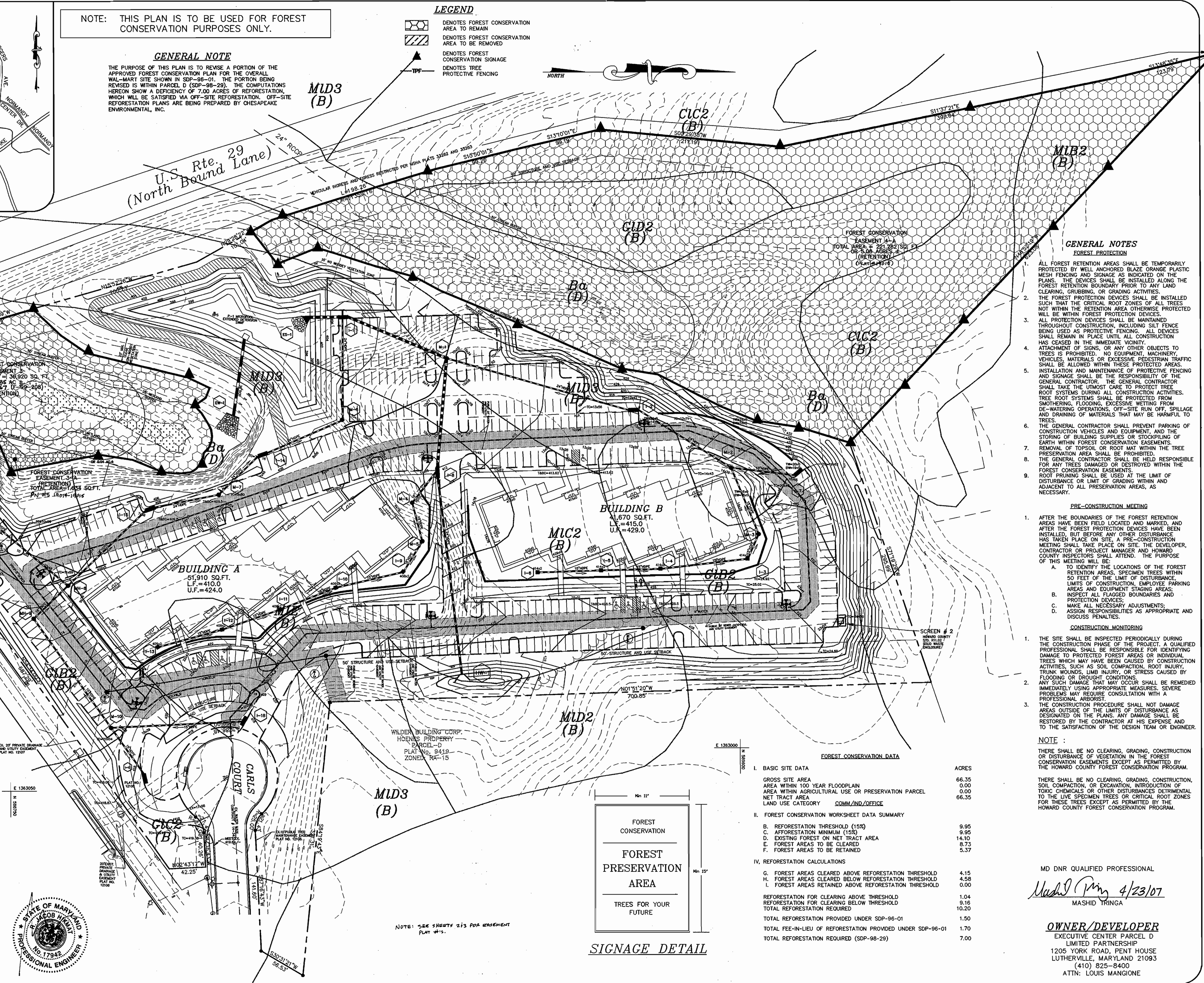
*Amir Mangi* 4/23/07  
PRINTED NAME OF ENGINEER

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

USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE:  
THESE PLANS FOR SMALL POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT DATE:

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE: 5/19/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 5/16/07  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 5/16/07  
DIRECTOR



**GENERAL NOTES**  
FOREST PROTECTION

1. ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
2. THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES NOT WITHIN THE RETENTION AREA OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES.
3. ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
4. ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS.
5. INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOTHERING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUMY OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
6. THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS.
7. REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
8. THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
9. ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

**PRE-CONSTRUCTION MEETING**

1. AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:
  - A. TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
  - B. INSPECT ALL FLAGGED BOUNDARIES AND PROTECTIVE DEVICES;
  - C. MAKE ALL NECESSARY ADJUSTMENTS;
  - D. ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

**CONSTRUCTION MONITORING**

1. THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR DROUGHT CONDITIONS.
2. ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIATED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
3. THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

**NOTE :**  
THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENTS EXCEPT AS PERMITTED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.

THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, SOIL COMPACTION, OR EXCAVATION, INTRODUCTION OF TOXIC CHEMICALS OR OTHER DISTURBANCES DETRIMENTAL TO THE LIVE SPECIMEN TREES OR CRITICAL ROOT ZONES FOR THESE TREES EXCEPT AS PERMITTED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.

MD DNR QUALIFIED PROFESSIONAL  
*Mashid Mangi* 4/23/07  
MASHID TRINGA

**OWNER/DEVELOPER**  
EXECUTIVE CENTER PARCEL D  
LIMITED PARTNERSHIP  
1205 YORK ROAD, PENT HOUSE  
LUTHERVILLE, MARYLAND 21093  
(410) 825-8400  
ATTN: LOUIS MANGIONE

**FOREST CONSERVATION DATA**

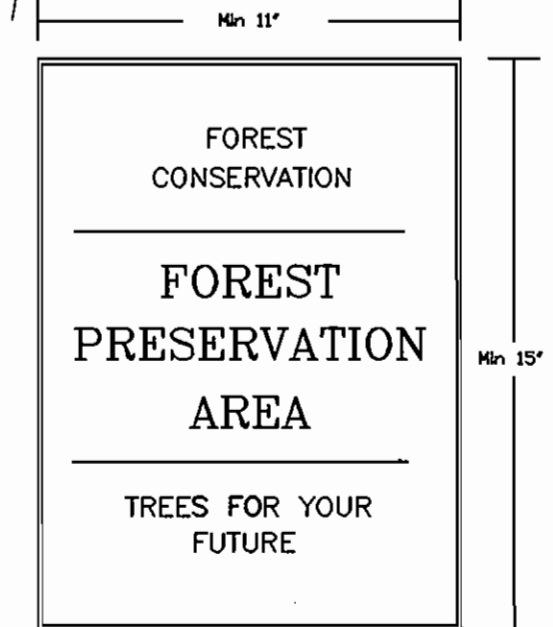
I. BASIC SITE DATA	ACRES
GROSS SITE AREA	66.35
AREA WITHIN 100 YEAR FLOODPLAIN	0.00
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL	0.00
NET TRACT AREA	66.35
LAND USE CATEGORY	COMM/IND/OFFICE

**II. FOREST CONSERVATION WORKSHEET DATA SUMMARY**

B. REFORESTATION THRESHOLD (15%)	9.95
C. AFFORESTATION MINIMUM (15%)	9.95
D. EXISTING FOREST ON NET TRACT AREA	14.10
E. FOREST AREAS TO BE CLEARED	8.73
F. FOREST AREAS TO BE RETAINED	5.37

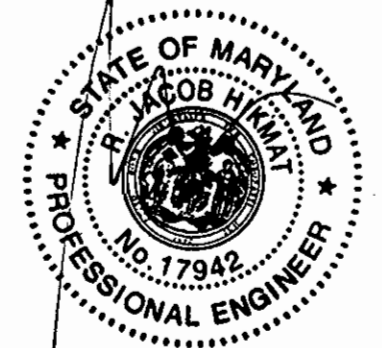
**IV. REFORESTATION CALCULATIONS**

G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	4.15
H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	4.58
I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	0.00
REFORESTATION FOR CLEARING ABOVE THRESHOLD	1.04
REFORESTATION FOR CLEARING BELOW THRESHOLD	9.16
TOTAL REFORESTATION REQUIRED	10.20
TOTAL REFORESTATION PROVIDED UNDER SDP-96-01	1.50
TOTAL FEE-IN-LIEU OF REFORESTATION PROVIDED UNDER SDP-96-01	1.70
TOTAL REFORESTATION REQUIRED (SDP-98-29)	7.00



**SIGNAGE DETAIL**

NOTE: SEE SHEETS 213 FOR EASEMENT PLAT #15.



Project	04-03B	date	APR. 2007
Illustration	MMX	engineering	MMX
scale	1"=50'	approval	MMX

no.	description	date

**EXECUTIVE CENTER**  
ELLICOTT CITY WAL-MART PARCEL D  
TAX MAP 17 AND 24, P/O PARCEL 1085  
HOWARD COUNTY, MARYLAND  
SECOND ELECTION DISTRICT  
**FOREST CONSERVATION PLAN**

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsy Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 987-0296 Fax: (410) 987-0298 Fax

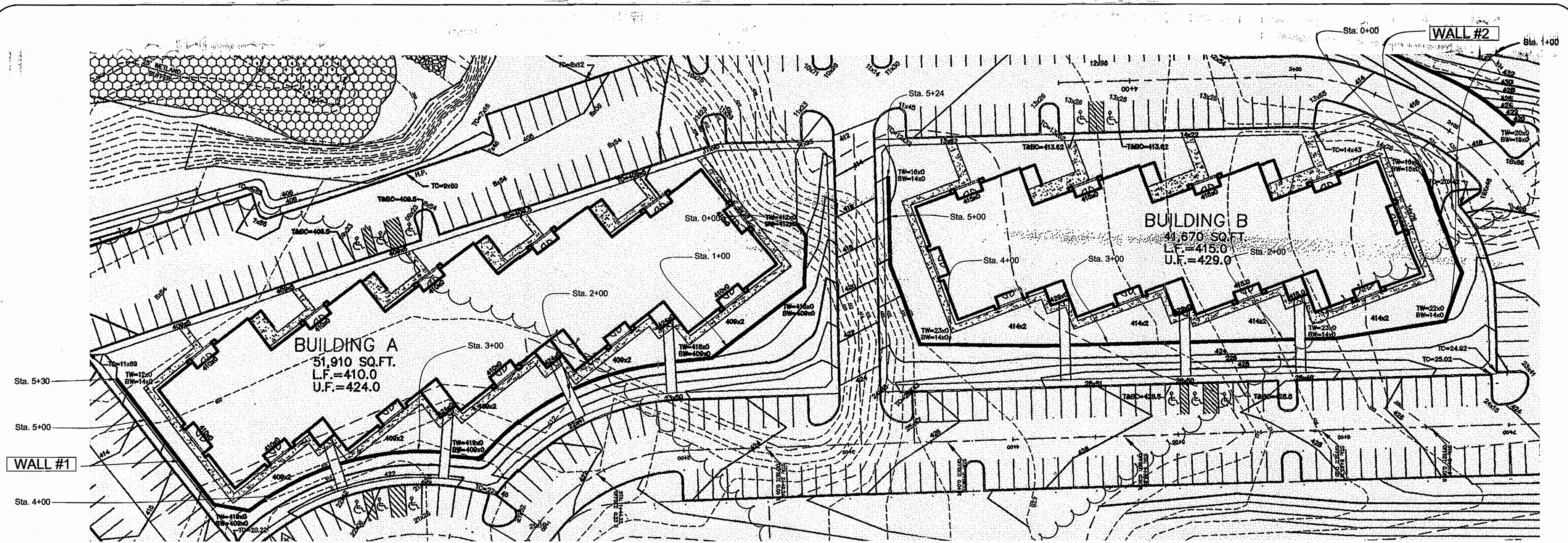
Project	05483W	Engineering	CX	Approval	RMS
Illustration	CX	Scale	AS SHOWN	Date	

no.	description	revisions	date

TAX MAP 24 & 17, P/O PARCEL 1085  
 ELLICOTT CITY WAL-MART PARCEL D  
 HOWARD COUNTY, MARYLAND  
 SECOND ELECTION DISTRICT  
**RETAINING WALL PLAN & DETAILS**

**HILLIS-CARNES**  
 ENGINEERING ASSOCIATES, INC.  
 10911 Guilford Road, Suite 108  
 Annapolis Junction, Maryland  
 Telephone: (410) 880-0788

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division  
 Chief, Division of Land Development  
 Director



**WALL #1 & #2 LOCATION PLAN**  
 1"=30'

**SPECIFICATIONS**

**KEYSTONE MODULAR CONCRETE BLOCK RETAINING WALL**

**PART 1: GENERAL**

- 1.01 Description
  - A. Work shall consist of furnishing and construction of a KEYSTONE Retaining Wall System in accordance with these specifications and reasonably close conformity with the lines, grades, design, and dimensions shown on the plans.
  - B. 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.
  - C. 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 unit dimensions not including rough split face, ± 1/16" unit height - top and bottom planes;
    - unit size - 8" (H) x 18" (W) x 22" (D) minimum;
    - unit weight - 100 lbs/unit minimum for standard weight

- aggregates;
  - inter-unit shear strength - 600 pif minimum at 2 psi normal pressure;
  - geogrid/unit peak connection strength - 600 pif minimum at 2 psi normal force.
- D. Modular concrete units shall conform to the following constructability requirements:
  - 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
  - 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. Material shall consist of 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 meet other properties shown on the plan:
 

Sieve Size	Percent Passing
2 inch	100-75
3/4 inch	100-75
No. 40	0-40
No. 200	0-40
  - B. Plasticity Index (PI) <15 and Liquid Limit <40 per ASTM D-4318.
  - C. 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-1246.

**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 shearconnecting 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

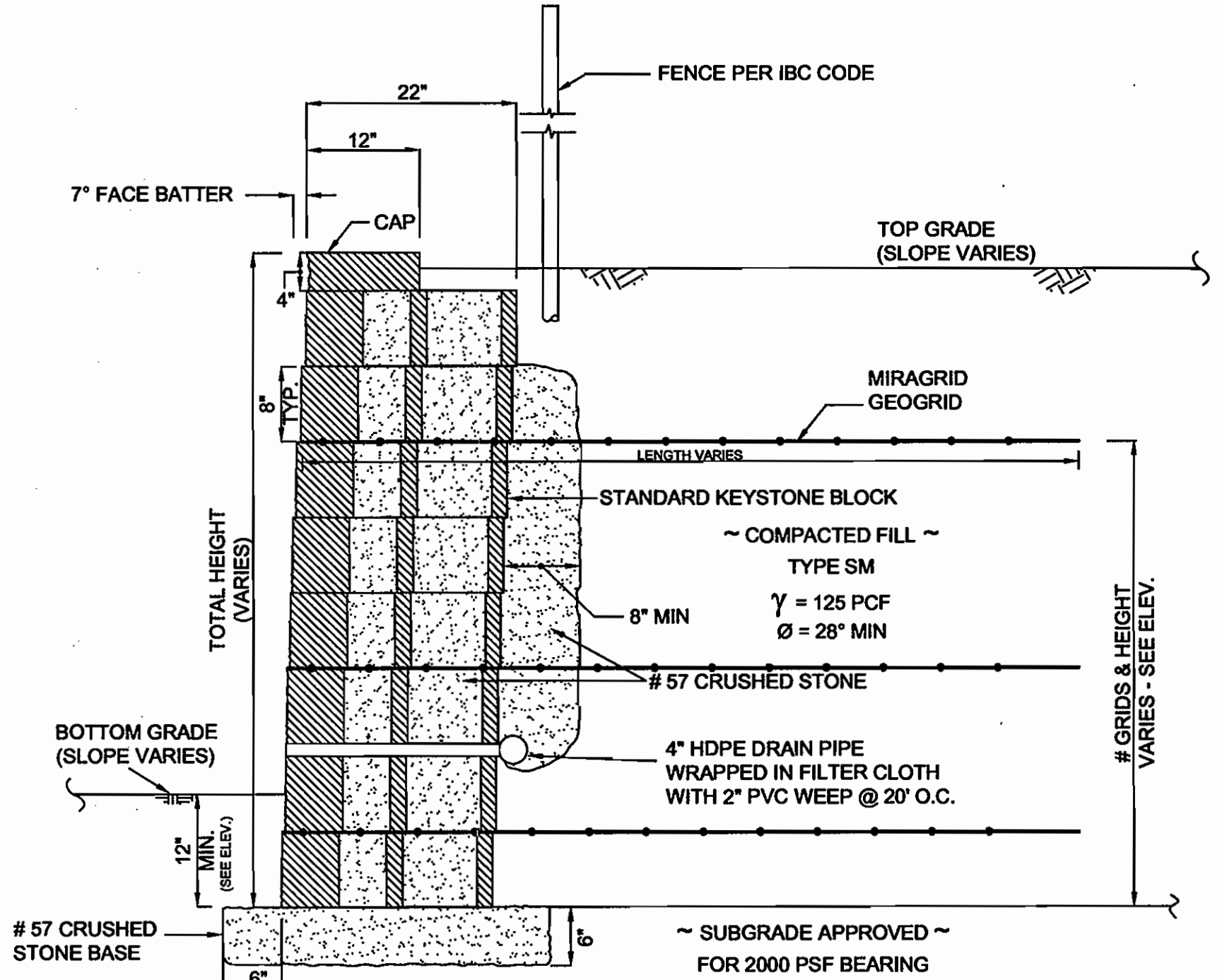
- backfill placement on the geogrid.
- D. Geogrid reinforcements shall be continuous throughout their embedment lengths and placed side-by-side to provide 100% coverage at each level. Spliced connections between shorter pieces of geogrid or gaps between adjacent pieces of geogrid are not permitted.

- 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 burning should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
  - F. Rubber tired 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.

- NOTES:**
- 1.) No trees shall be planted within 10 feet of the top of the retaining wall.
  - 2.) Retaining walls shall only be constructed under the observation of a registered professional engineer and a (NICET, WACEL, or equiv.) certified soils technician.
  - 3.) 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.
  - 4.) 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.

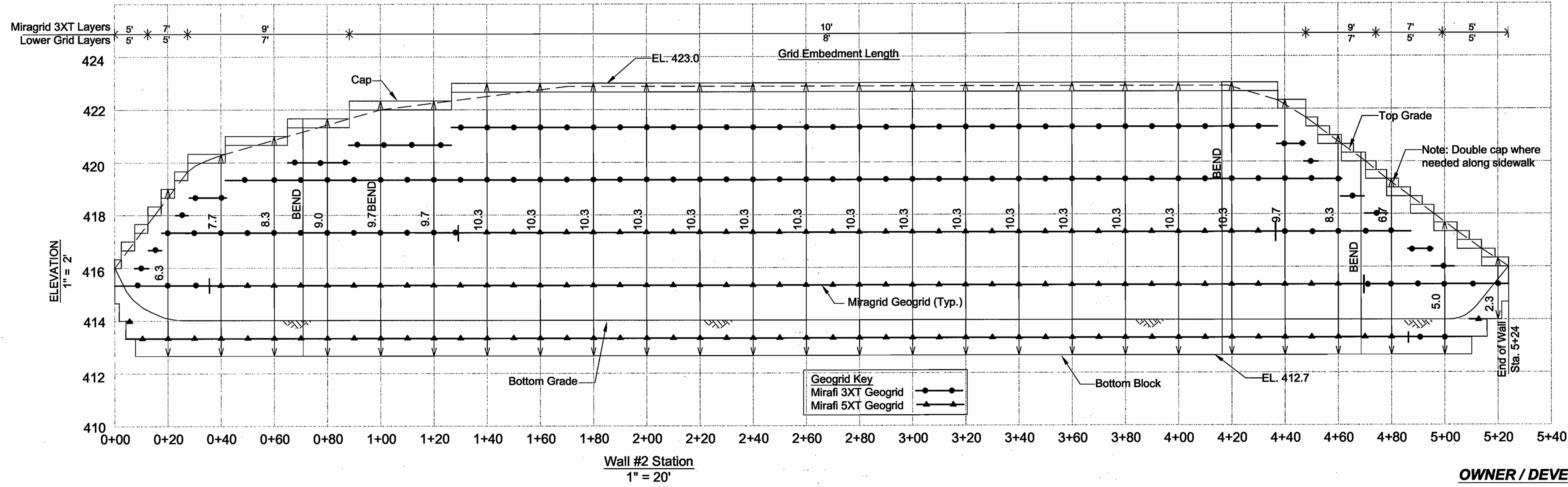
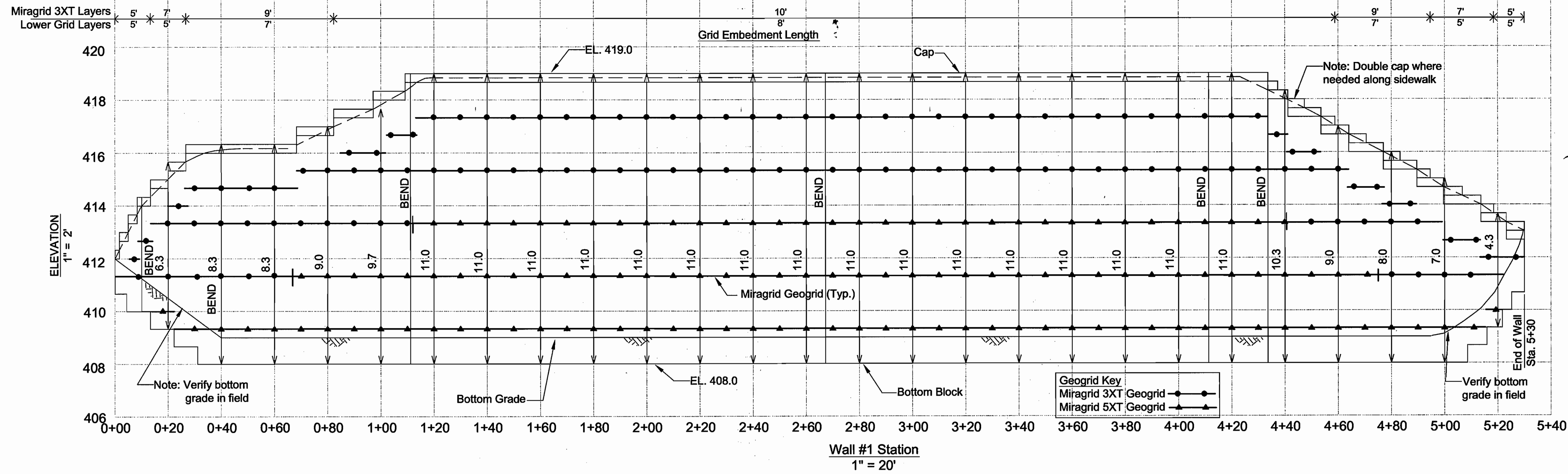


**TYPICAL WALL SECTION**  
 N.T.S.

**OWNER / DEVELOPER**  
 EXECUTIVE CENTER PARCEL D  
 LIMITED PARTNERSHIP  
 1205 YORK ROAD, PENTHOUSE  
 LUTHERVILLE, MD 21093  
 (410) 825-8400



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division  
 Chief, Division of Land Development  
 Director



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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 5/16/10  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
 [Signature] 5/16/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
 [Signature] 5/16/10  
 DIRECTOR DATE

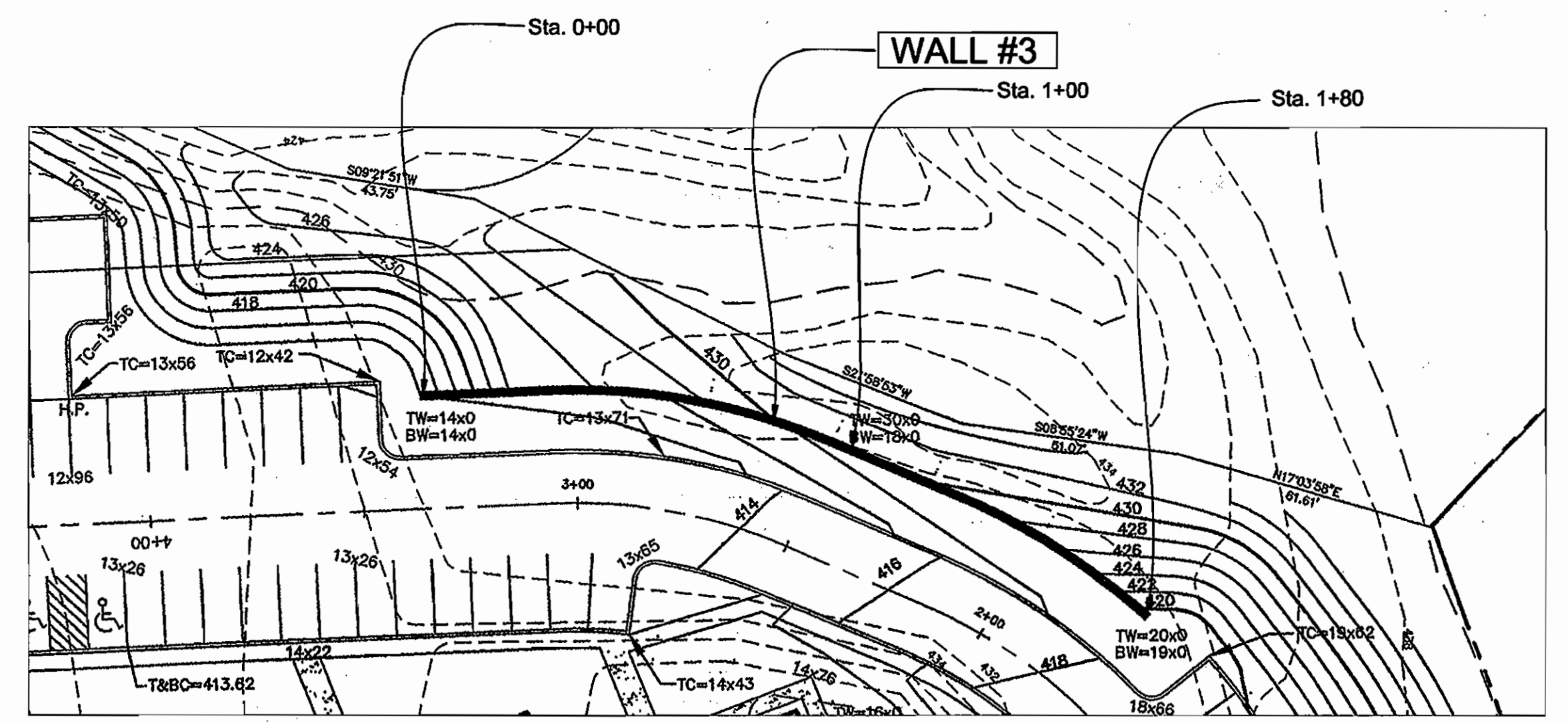
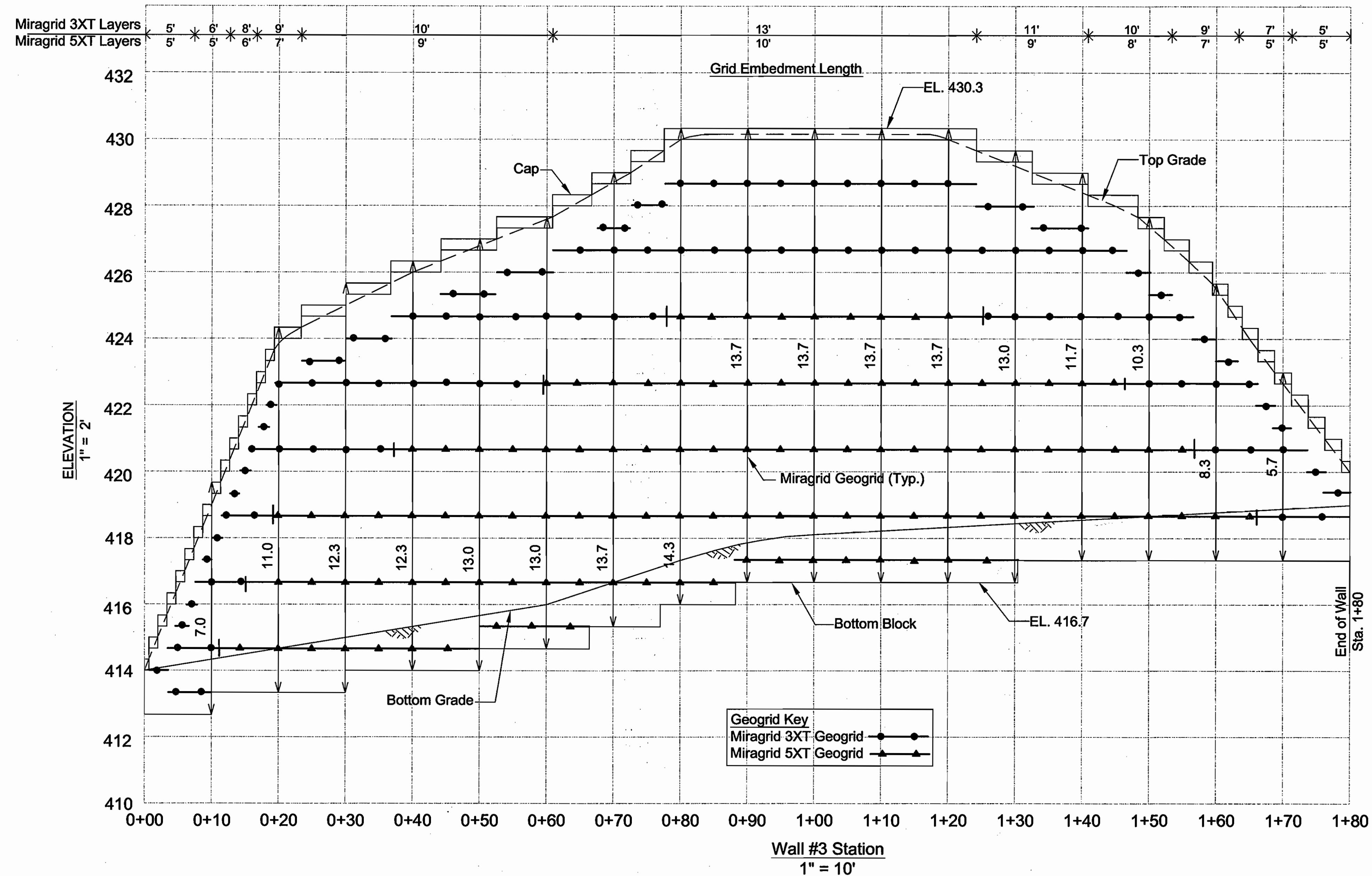
date	09/26/2005	engineering	CX	approval	RWS
project	05493M	illustration	CX	scope	AS SHOWN

no.		description	revisions	date

TAX MAP 24 & 17, P/O PARCEL 1085  
 ELLICOTT CITY WAL-MART PARCEL D  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
**RETAINING WALL #1 & #2 ELEVATIONS**

**HILLIS-CARNES**  
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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 5/9/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 5/16/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 5/16/07  
 DIRECTOR DATE

date	09/28/2005	engineering	CX	approval	RWS
project	05493M	illustration	CX	scale	AS SHOWN

no.	description	date

TAX MAP 24 & 17, P/O PARCEL 1085  
 ELLICOTT CITY WAL - MART PARCEL D  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
**RETAINING WALL #3 PLAN & ELEVATION**

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