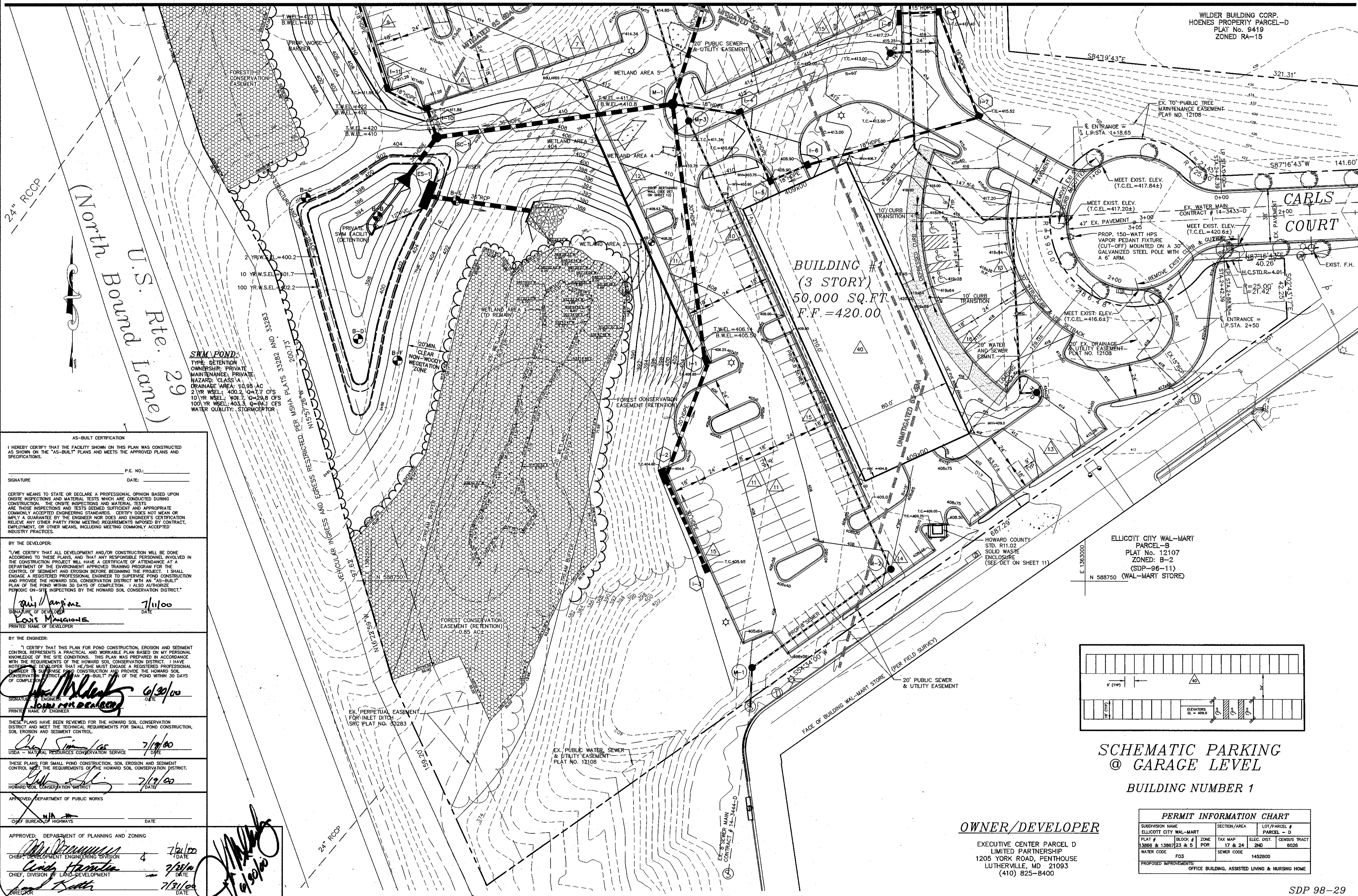






MATCH LINE SHEET 3



**SWM POND:**  
 TYPE: DETENTION  
 OWNERSHIP: PRIVATE  
 MAINTENANCE: PRIVATE  
 HAZARD: CLASS A  
 DRAINAGE AREA: 10.95 AC  
 2 YR WSEL: 400.2 Q=17.0 CFS  
 10 YR WSEL: 401.7 Q=29.9 CFS  
 100 YR WSEL: 403.3 Q=64.0 CFS  
 WATER QUALITY: STORMCEPTOR

**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 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 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: 7/11/00  
 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: *John M. Miller* DATE: 6/30/00  
 PRINTED NAME OF ENGINEER: **John M. Miller**

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: *Chad Sumner* DATE: 7/9/00  
 USDA - NATIONAL RESOURCES CONSERVATION SERVICE

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

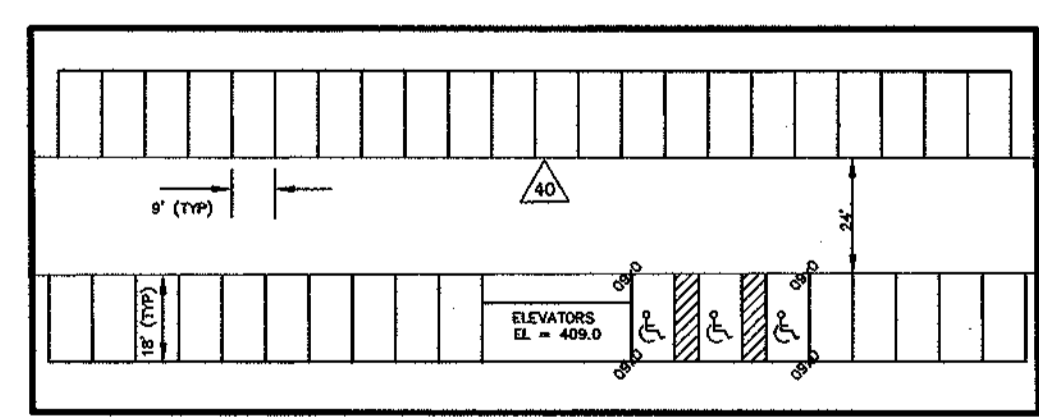
Signature: *John M. Miller* DATE: 7/19/00  
 HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 Signature: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Signature: \_\_\_\_\_ DATE: 7/21/00  
 CHIEF DEVELOPMENT ENGINEERING DIVISION

Signature: \_\_\_\_\_ DATE: 7/25/00  
 CHIEF DIVISION OF LAND DEVELOPMENT

Signature: \_\_\_\_\_ DATE: 7/31/00  
 DIRECTOR



SCHEMATIC PARKING  
 @ GARAGE LEVEL  
 BUILDING NUMBER 1

**OWNER/DEVELOPER**

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

PERMIT INFORMATION CHART			
SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL #	
ELICOTT CITY WAL-MART		PARCEL - D	
PLAT #	BLOCK #	TAX MAP	ELEC. DIST.
13866 & 13867/23 & 5	5	17 & 24	2ND
WATER CODE	F03	SEWER CODE	1452800
PROPOSED IMPROVEMENTS:			
OFFICE BUILDING, ASSISTED LIVING & NURSING HOME			

SDP 98-29

date	JUNE 00
project	97024
illustration	MMP
scale	1"=30'
approval	MMP

no.	description	date

TAX MAP 24 & 17, P/O PARCEL 1085  
**ELICOTT CITY WAL-MART PARCEL D**  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
**SITE DEVELOPMENT PLAN**

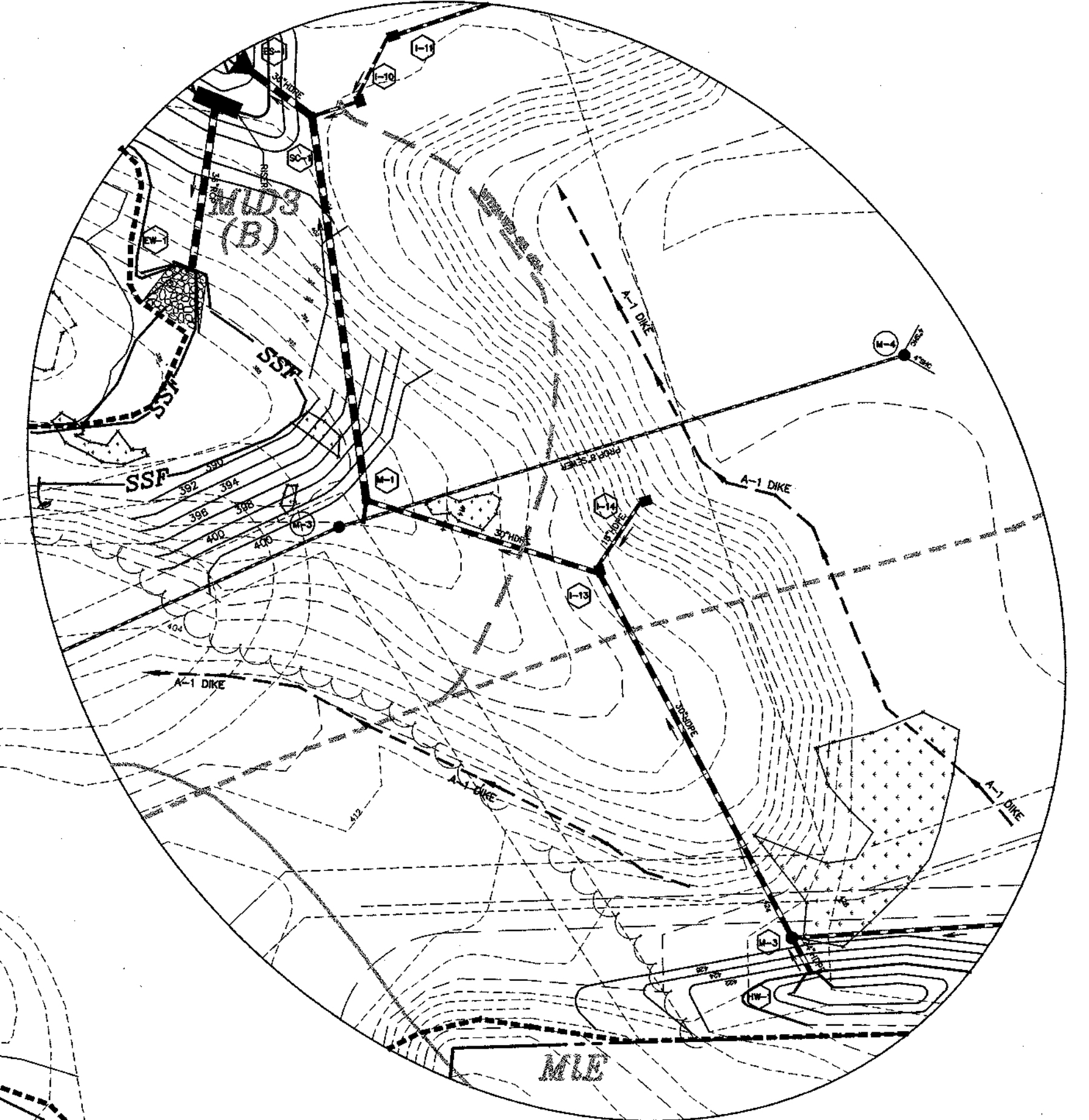
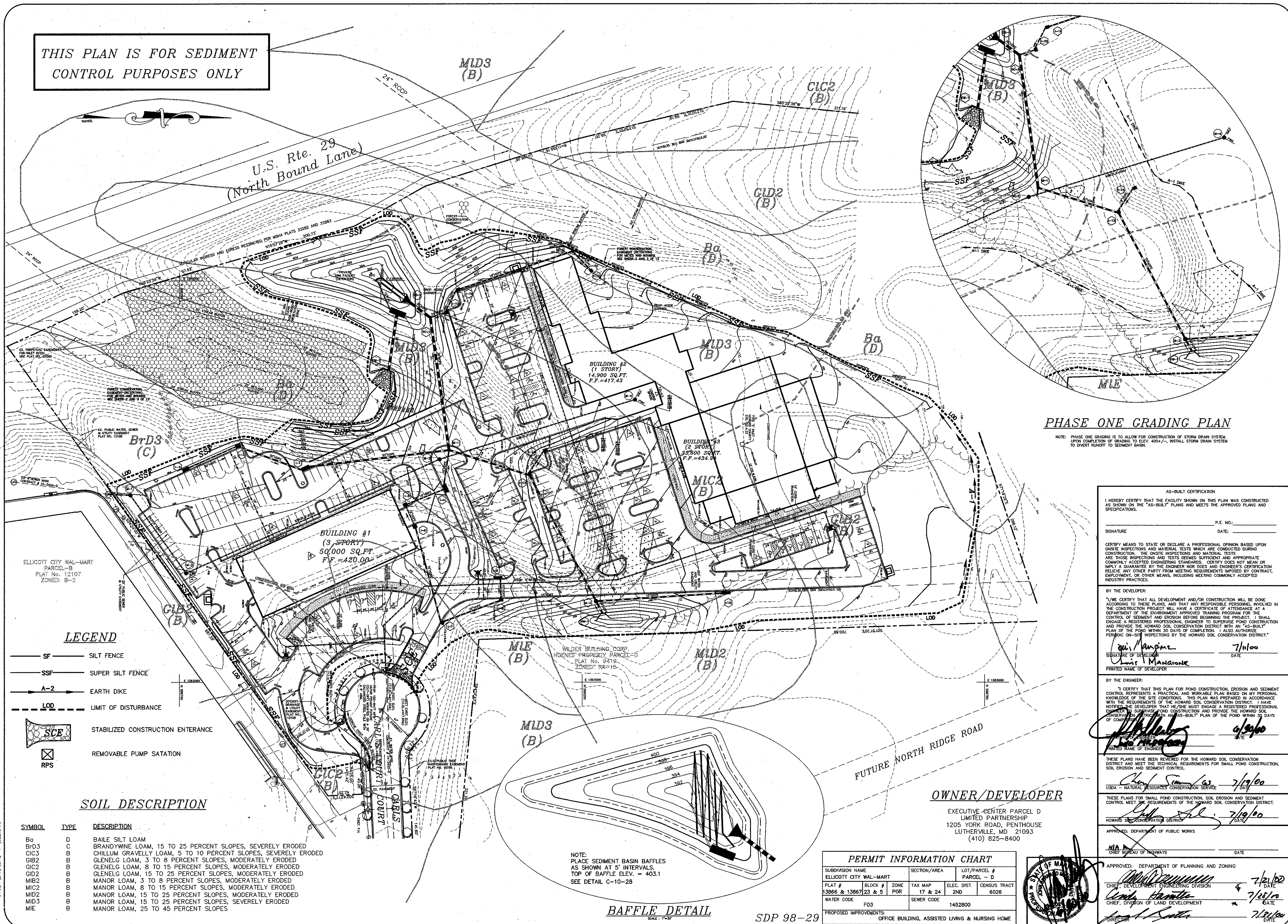
**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0286 Bldg. (301) 621-5521 Wash. (410) 397-0288 Fax.







THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY



PHASE ONE GRADING PLAN

NOTE: PHASE ONE GRADING IS TO ALLOW FOR CONSTRUCTION OF STORM DRAIN SYSTEM. UPON COMPLETION OF GRADING TO ELEV. 400'-0", INSTALL STORM DRAIN SYSTEM TO DIVERT RUNOFF TO SEDIMENT BASIN.

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: \_\_\_\_\_

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 NOR DOES 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: *Luigi Mangione* DATE: 7/11/00  
 PRINTED NAME OF DEVELOPER: Luigi 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: *John H. Miller* DATE: 6/29/00  
 PRINTED NAME OF ENGINEER: John H. Miller

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: *Chris Semmes* DATE: 7/19/00  
 USDA - NATURAL RESOURCES CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 Signature: *John A. Hill* DATE: 7/19/00  
 HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 Signature: *John A. Hill* DATE: 7/19/00  
 CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Signature: *John A. Hill* DATE: 7/21/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Signature: *John A. Hill* DATE: 7/21/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 Signature: *John A. Hill* DATE: 7/21/00  
 DIRECTOR

LEGEND

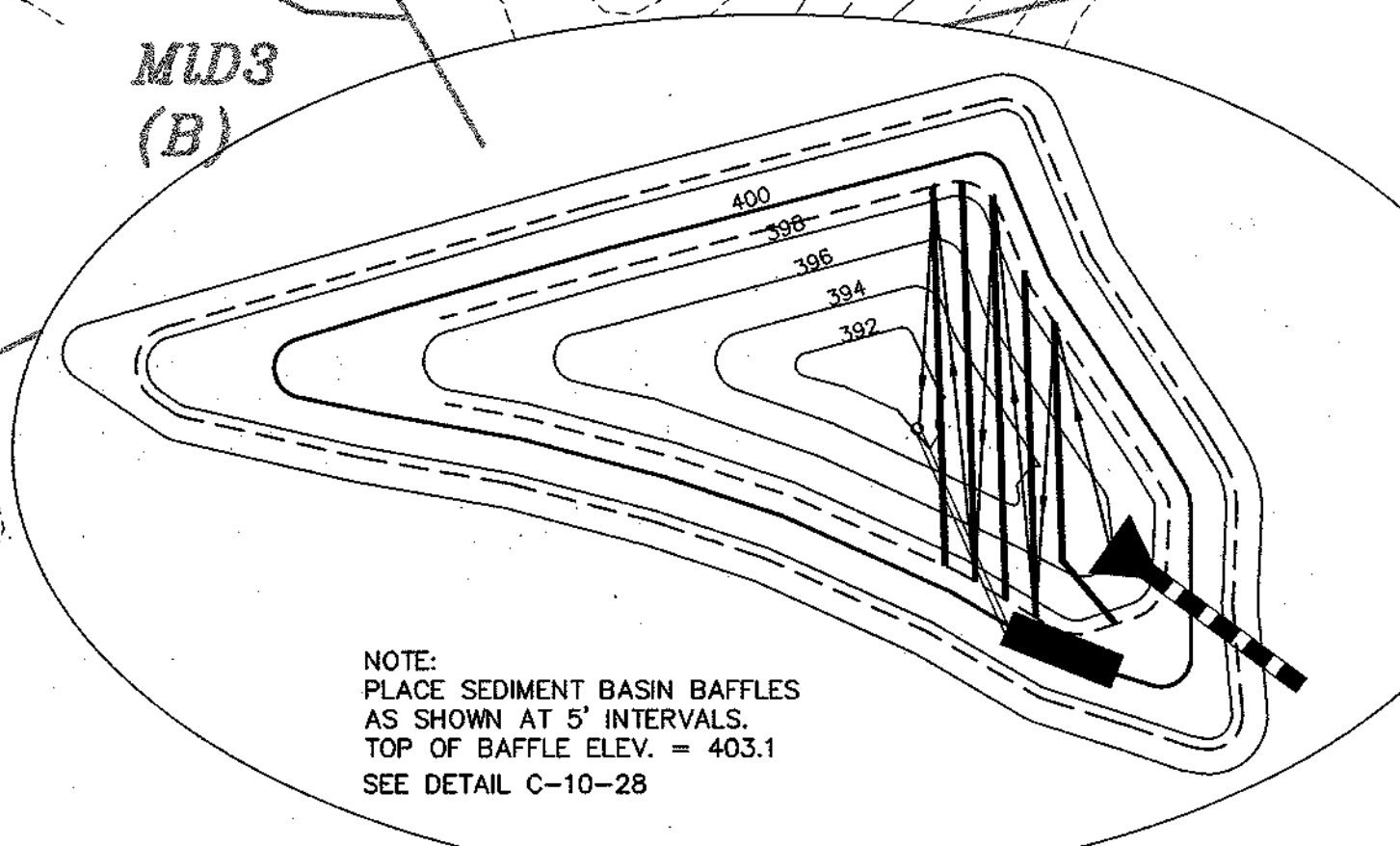
- SF SILT FENCE
- SSF SUPER SILT FENCE
- A-2 EARTH DIKE
- LOD LIMIT OF DISTURBANCE
- SCFE STABILIZED CONSTRUCTION ENTRANCE
- RPS REMOVABLE PUMP SATIATION

SOIL DESCRIPTION

SYMBOL	TYPE	DESCRIPTION
Ba	D	BAILE SILT LOAM
BrD3	C	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED
CiC2	B	CHILLUM GRAVELLY LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED
GiB2	B	GLENELG LOAM, 3 TO 8 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

NOTE: PLACE SEDIMENT BASIN BAFFLES AS SHOWN AT 5' INTERVALS. TOP OF BAFFLE ELEV. = 403.1 SEE DETAIL C-10-28

BAFFLE DETAIL

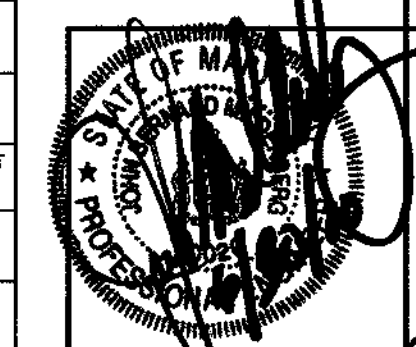


OWNER/DEVELOPER

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

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL #
ELLICOTT CITY WAL-MART		PARCEL - D
PLAT #	BLOCK #	ZONE
13866 & 13867	23 & 5	POR
TAX MAP	ELEC. DIST.	CENSUS TRACT
17 & 24	2ND	6026
WATER CODE	SEWER CODE	
F03	1452800	
PROPOSED IMPROVEMENTS:	OFFICE BUILDING, ASSISTED LIVING & NURSING HOME	



Project	97024	date	JUNE 00
Illustration	MMP	engineering	MMP
Scale	1"=60'	approval	MMP

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

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 987-0266 Fax: (301) 621-5521 Wash. (410) 987-0268 Fax



# HOWARD SOIL CONSERVATION DISTRICT

## PERMANENT SEEDING NOTES

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

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, 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:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 80 LBS. PER ACRE 14 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (.05 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOD. OPTION (3) - SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONE/ACRE WELL ANCHORED STRAW.

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. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

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, IF 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 (32 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.). FOR THE PERIOD NOVEMBER 15 THRU NOVEMBER 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED WEED FREE SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

## STANDARD SEDIMENT CONTROL NOTES

- 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 ANY CONSTRUCTION. (313-1855).
- 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, AND REVISIONS THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER 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.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 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 RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE:	17.12 ACRES
AREA DISTURBED:	10.66 ACRES
AREA TO BE ROOFED OR PAVED:	5.46 ACRES
AREA TO BE VEGETATIVELY STABILIZED:	17.200 ACRES
TOTAL CUT:	25,300 CU. YDS.
TOTAL FILL:	25,300 CU. YDS.
TOTAL WASTE/BORROW AREA LOCATION:	HOWARD RIDGE-SECTION 1 (F-96-137)

 THESE QUANTITIES ARE FOR PERMIT PURPOSES ONLY. CONTRACTOR IS REQUIRED TO PROVIDE HIS OWN QUANTITY MEASUREMENTS.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

## SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT
- CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE, WITH MOUNTABLE BERM, AT LOCATION SHOWN. (1 DAY)
- CONSTRUCT SUPER SILT FENCES AND SEDIMENT BASIN (3 DAYS)
- CONSTRUCT DIVERSION DIKES FOR "PHASE ONE" AS INDICATED ON DETAIL (1 DAY)
- COMPLETE GRADING PER "PHASE ONE" DETAIL. (2 DAYS)
- INSTALL STORM DRAIN SYSTEM HW-1, M-3, I-13, M-1, SC-1, TO ES-1 TO DIVERT FLOW TO SEDIMENT BASIN. BLOCK ALL OTHER STORM DRAIN STUBS FOR SUBSEQUENT CONSTRUCTION.
- BRING REMAINING SITE TO GRADE, DELAY CONSTRUCTION OF NOISE WALL. (30 DAYS)
- CONSTRUCT PAVEMENT AND CURB AND GUTTER AS INDICATED (5 DAYS)
- STABILIZE ALL REMAINING DISTURBED AREAS. (3 DAYS)
- WHEN ALL CONTRIBUTING DRAINAGE AREAS TO SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE TEMPORARY DEWATERING DEVICE AND CONSTRUCT PERMANENT LOW FLOW HEADWALL AS MODIFIED IN DETAIL. PROVIDE LOW FLOW ORIFICE AT FACE OF RISER STRUCTURE WALL PER DETAIL. STABILIZE REMAINING DISTURBED AREAS. (3 DAYS)
- CONSTRUCT NOISE WALL.
- WHEN ALL CONTRIBUTING DRAINAGE AREAS TO THE SEDIMENT BASIN HAVE BEEN STABILIZED AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE TEMPORARY DEWATERING DEVICE AND CONSTRUCT PERMANENT LOW FLOW HEADWALL AS MODIFIED IN DETAIL. PROVIDE LOW FLOW ORIFICE AT FACE OF RISER STRUCTURE WALL PER DETAIL. STABILIZE REMAINING DISTURBED AREAS. (3 DAYS)

# 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.

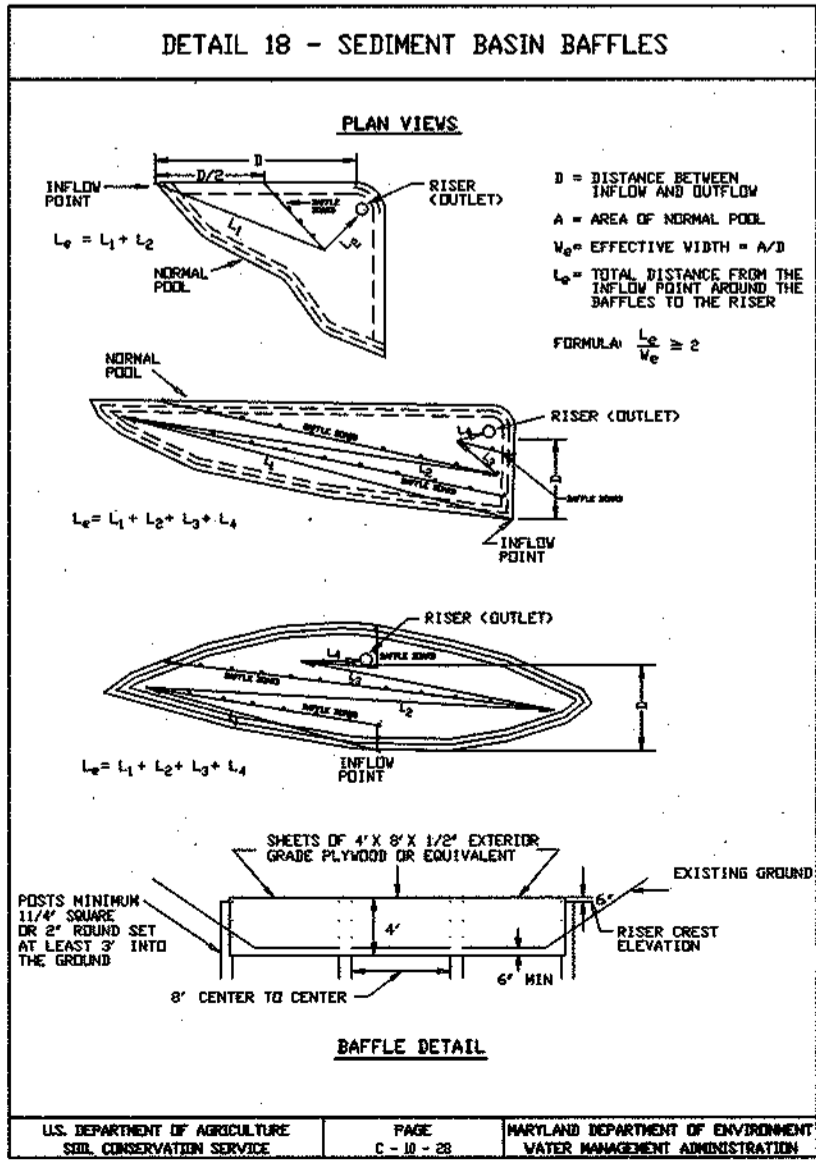
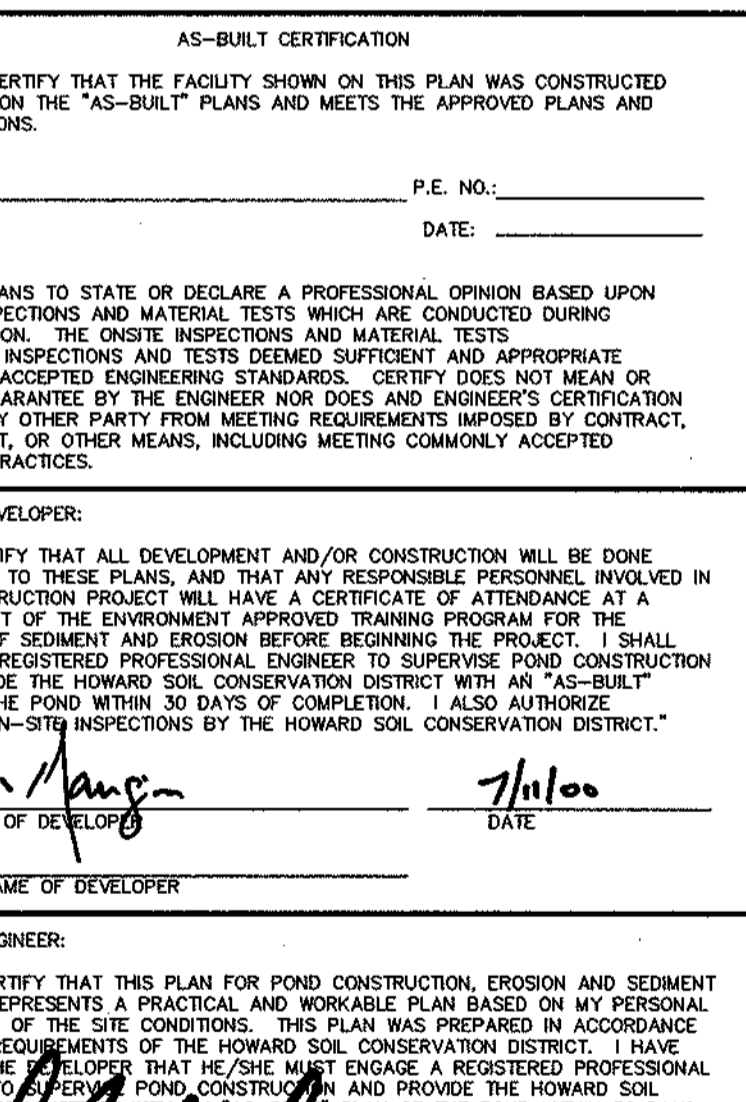
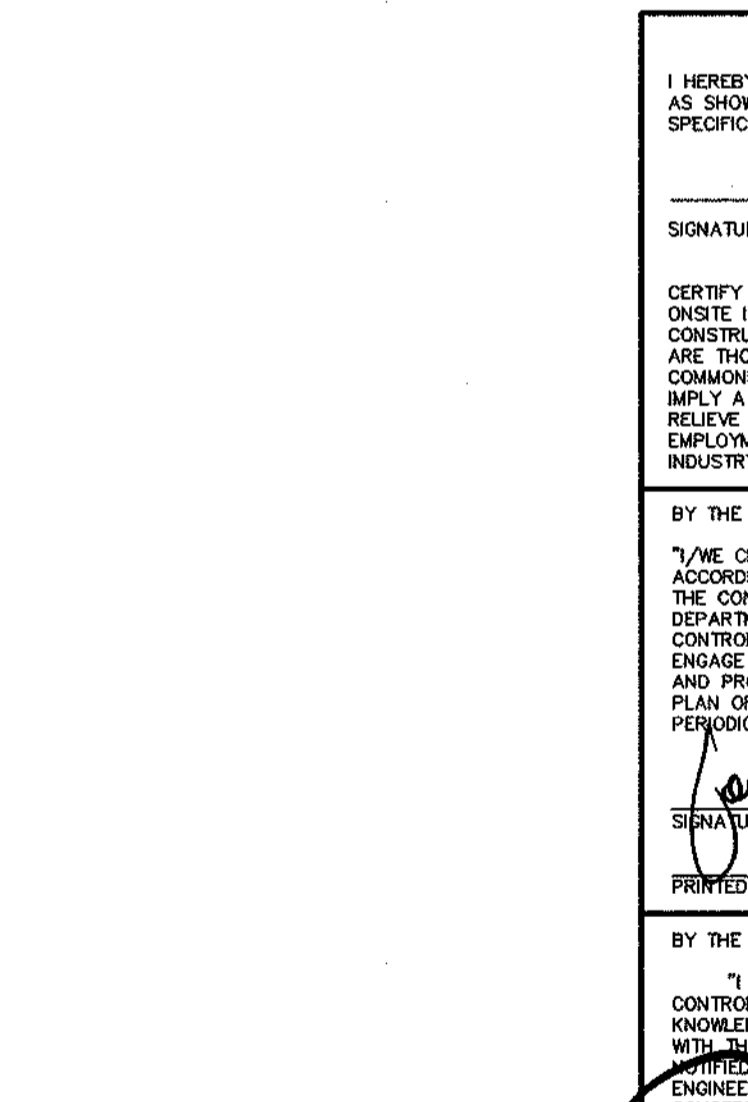
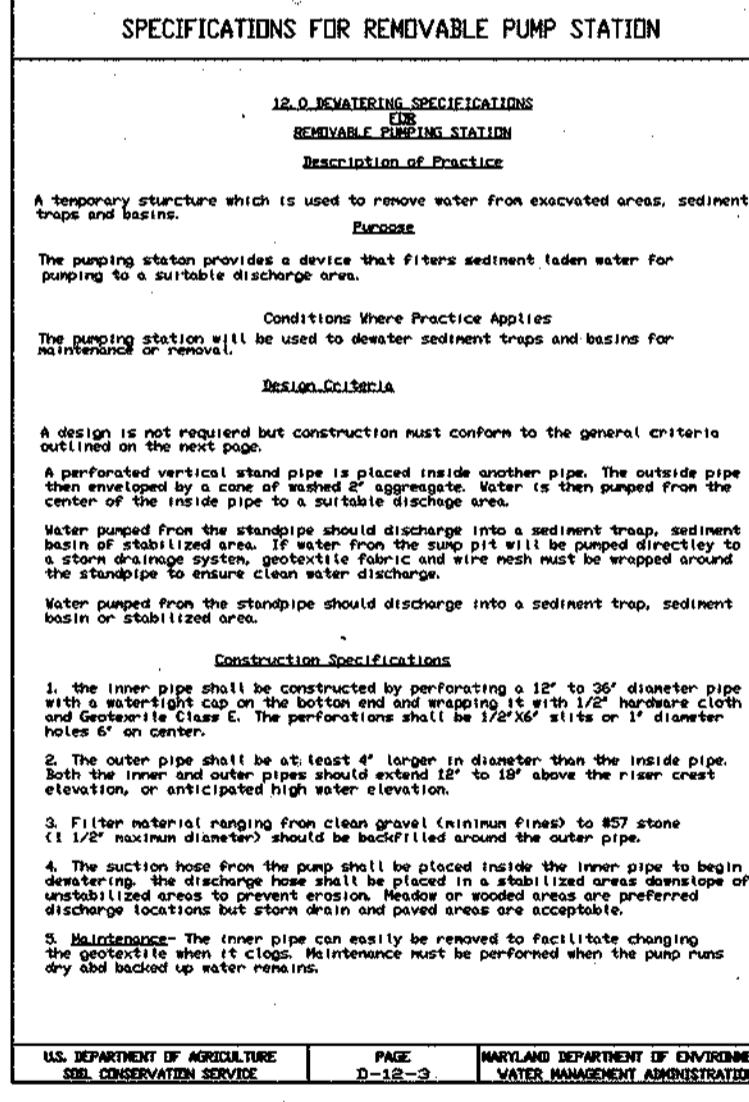
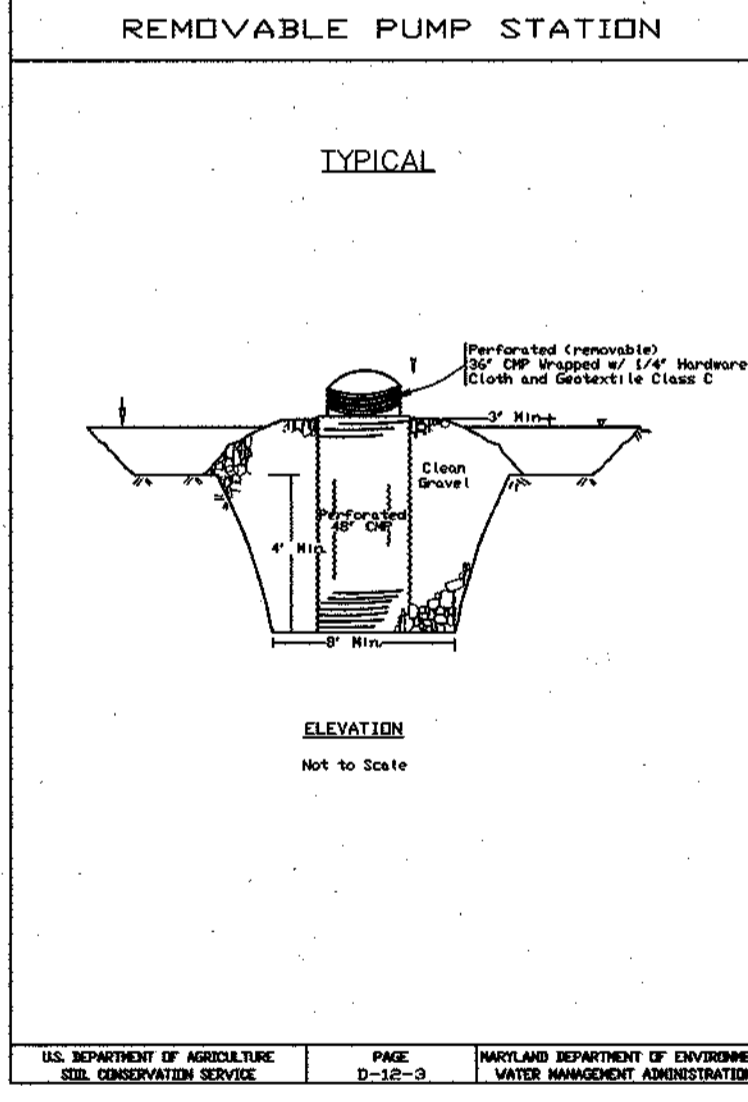
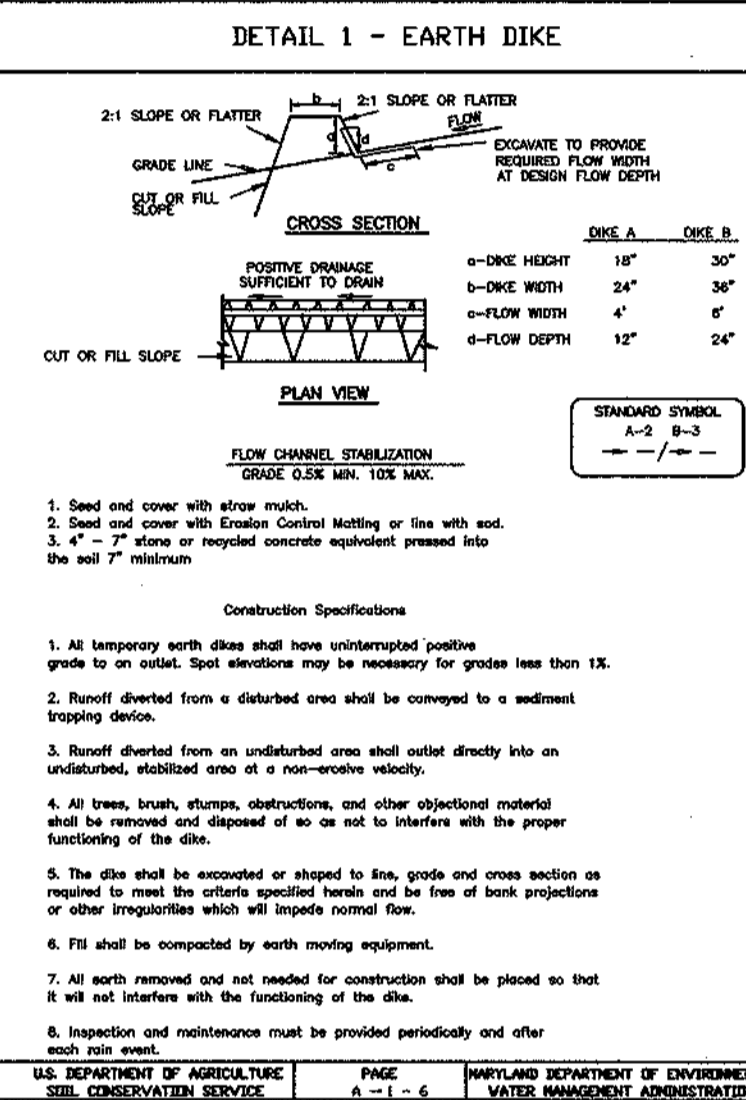
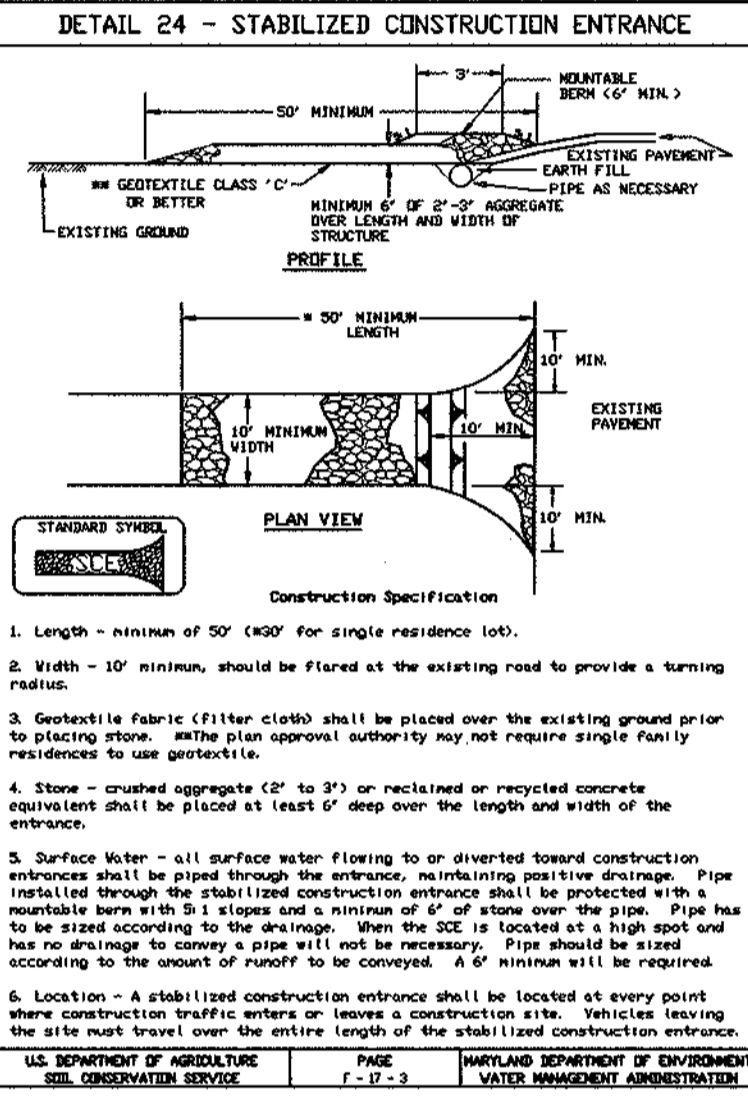
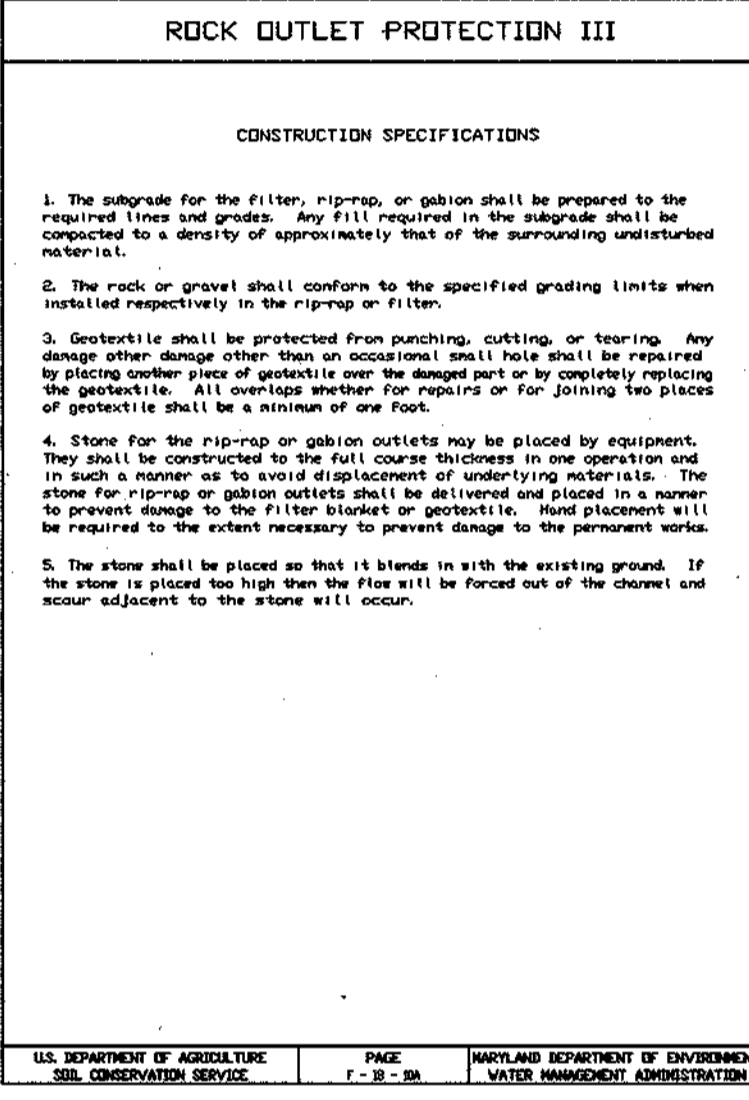
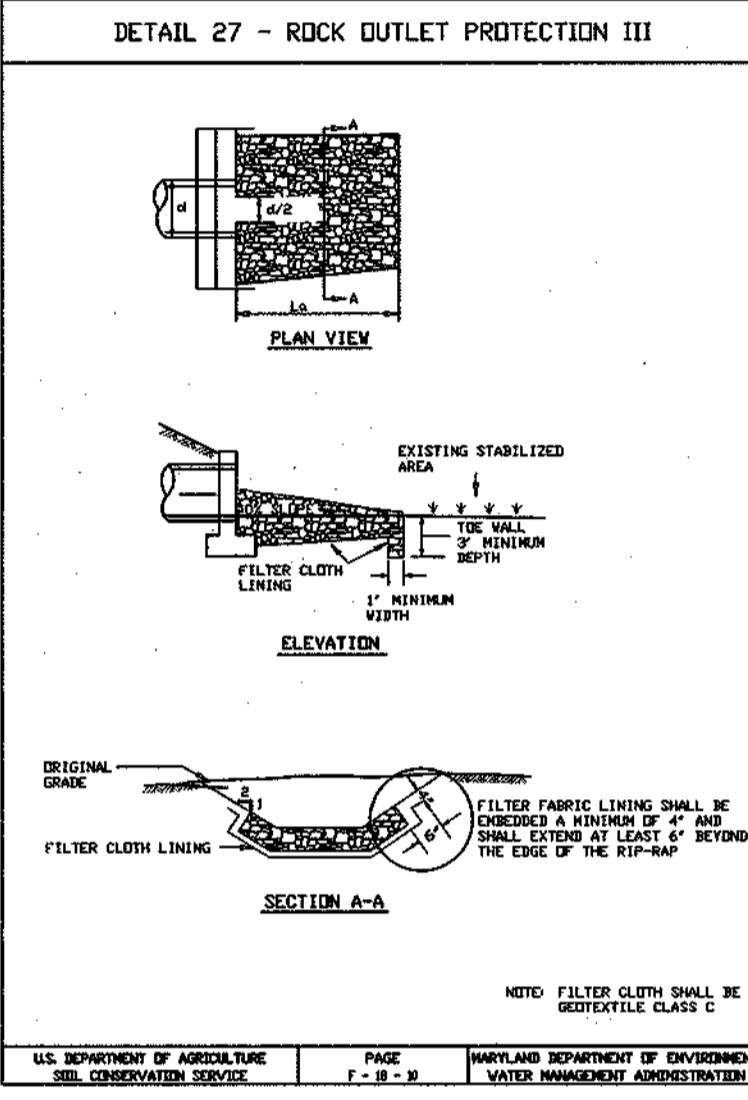
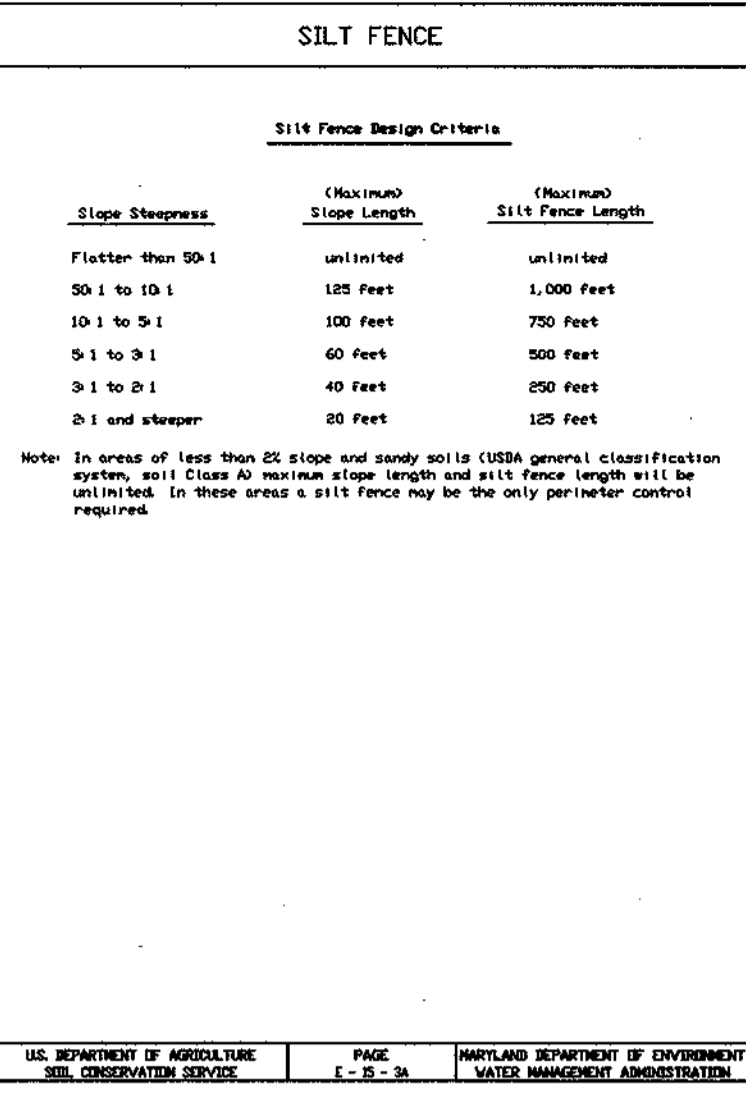
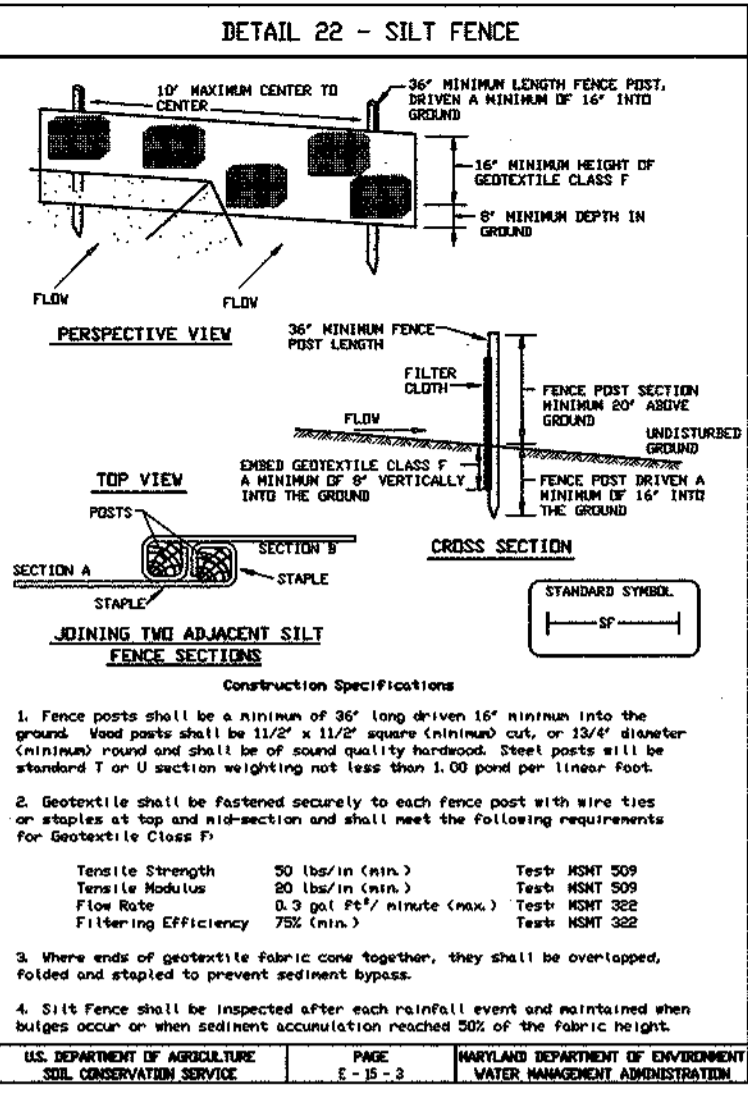
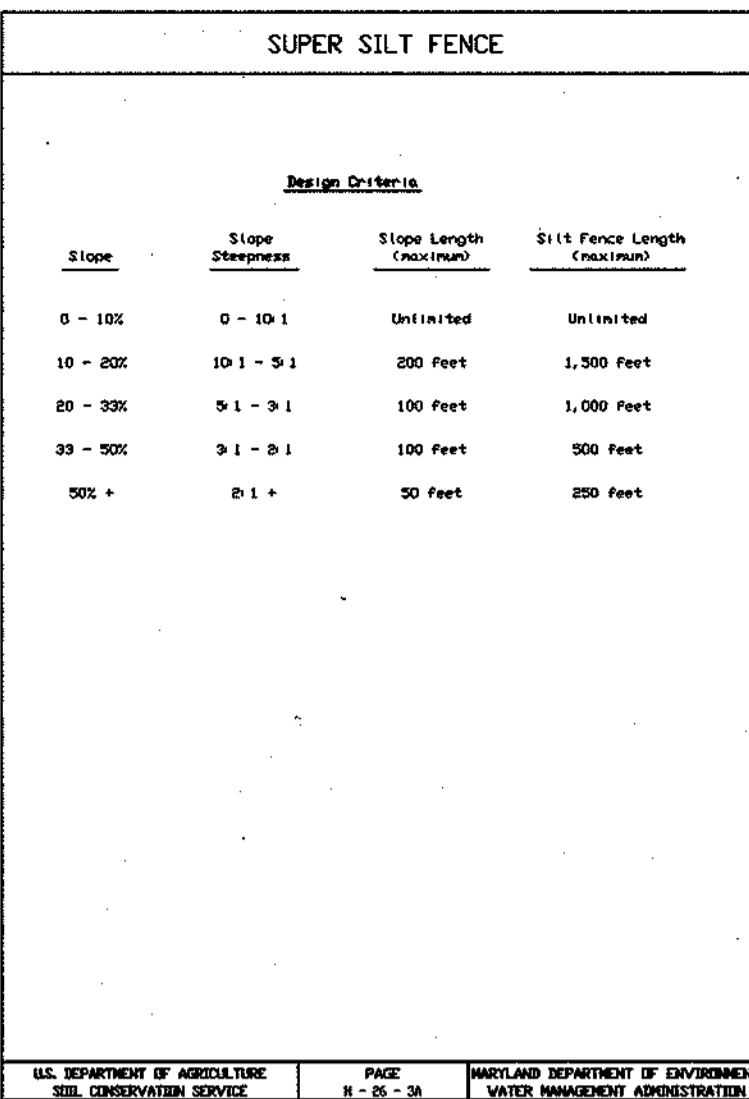
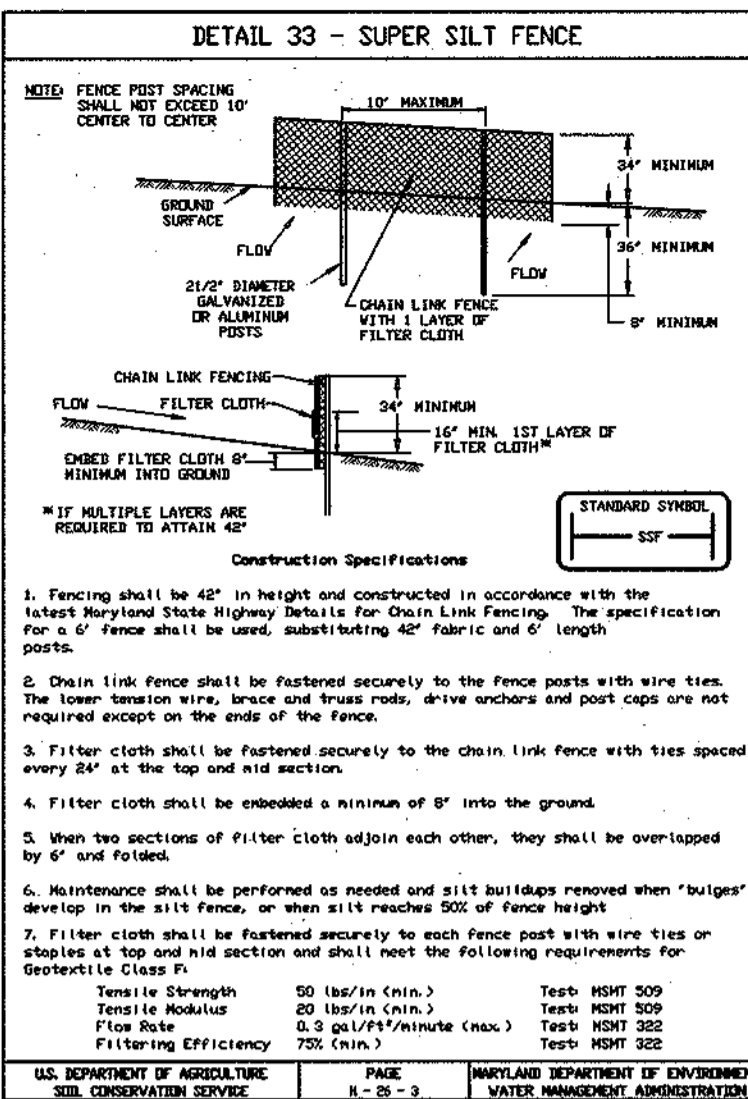
## CONDITIONS WHERE PRACTICE APPLIES

- THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
  - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
  - THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
  - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
  - THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

## CONSTRUCTION AND MATERIAL SPECIFICATIONS

- 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-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
- TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
  - 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 CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
  - TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSON-SOON GRASS, NUTSEDGE, POISON IVY, THISLE, OR OTHERS AS SPECIFIED.
  - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
  - FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
    - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
  - FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
    - ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
      - PH FOR 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 PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
      - ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
      - TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
      - 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.
    - NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
    - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

US DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, PAGE 1-23-3, MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, WATER MANAGEMENT ADMINISTRATION



SUBDIVISION NAME	ELICOTT CITY WAL-MART	SECTION/AREA	LOT/PARCEL #
PLAT #	13867/23 & 6	ELEC. DIST.	2ND
ZONE	17 & 24	CENSUS TRACT	6026
TAX MAP	17 & 24	SEWER CODE	1452800
PROPOSED IMPROVEMENTS:	OFFICE BUILDING, ASSISTED LIVING & NURSING HOME		

## OWNER/DEVELOPER

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

BY THE ENGINEER:  
I HEREBY 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 COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES 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 HEREBY 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 EROSION AND SEDIMENT 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 AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DATE: 7/19/00  
DATE: 7/19/00

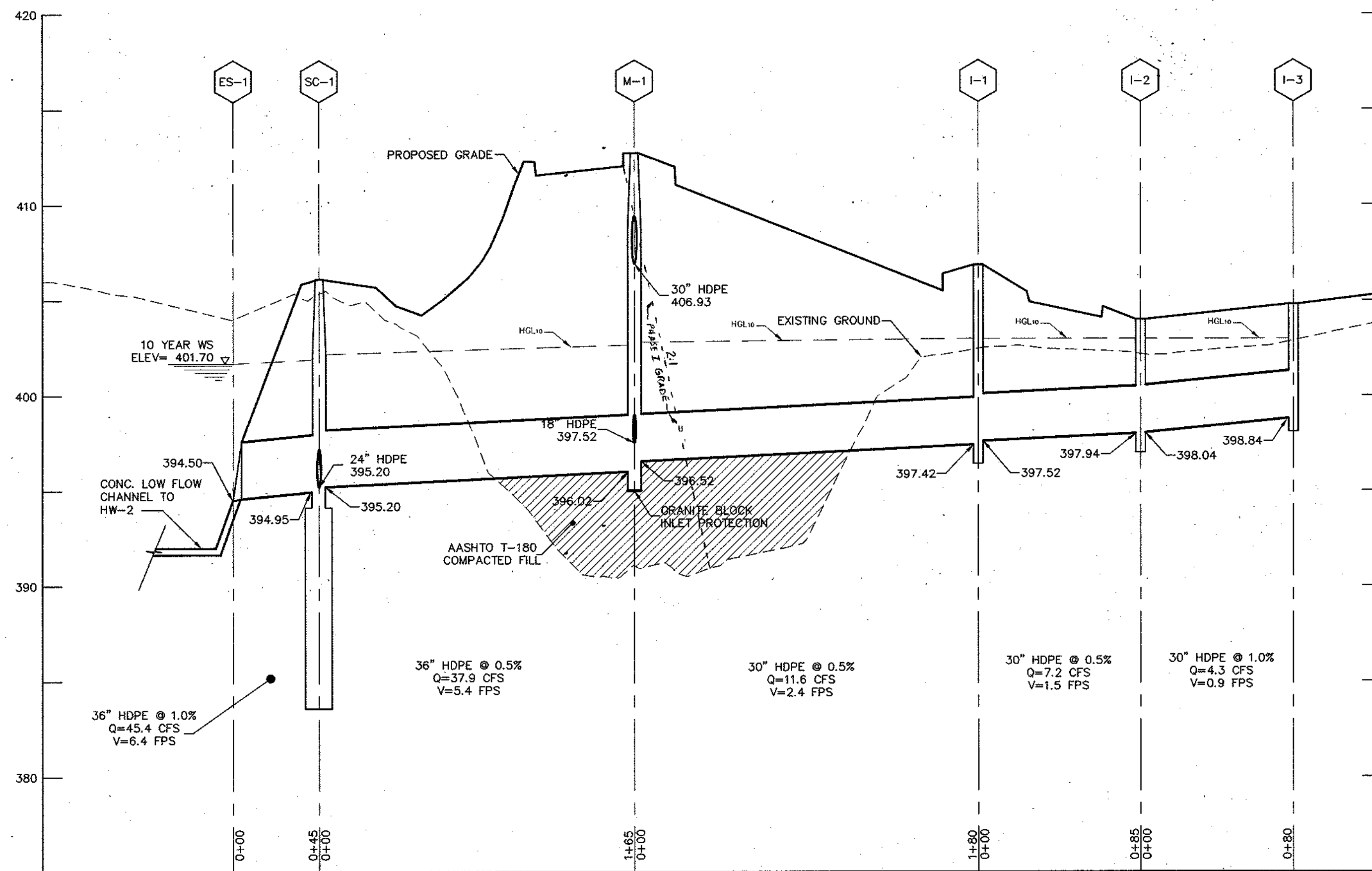
TAX MAP 17 & 24, P/O PARCEL 1085  
ELICOTT CITY WAL-MART PARCEL D  
HOWARD COUNTY, MARYLAND  
SECOND ELECTION DISTRICT  
SEDIMENT CONTROL NOTES AND DETAILS

DATE: JUNE 00  
PROJECT: 97024 DWG SITE - 4 (SEDO)  
DESCRIPTION: engineering  
SCALE: MAMP  
APPROVAL: N.T.S.  
REVISIONS: none

MILDENBERG, BOENDER & ASSOC., INC.  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042  
(410) 397-0236 Fax

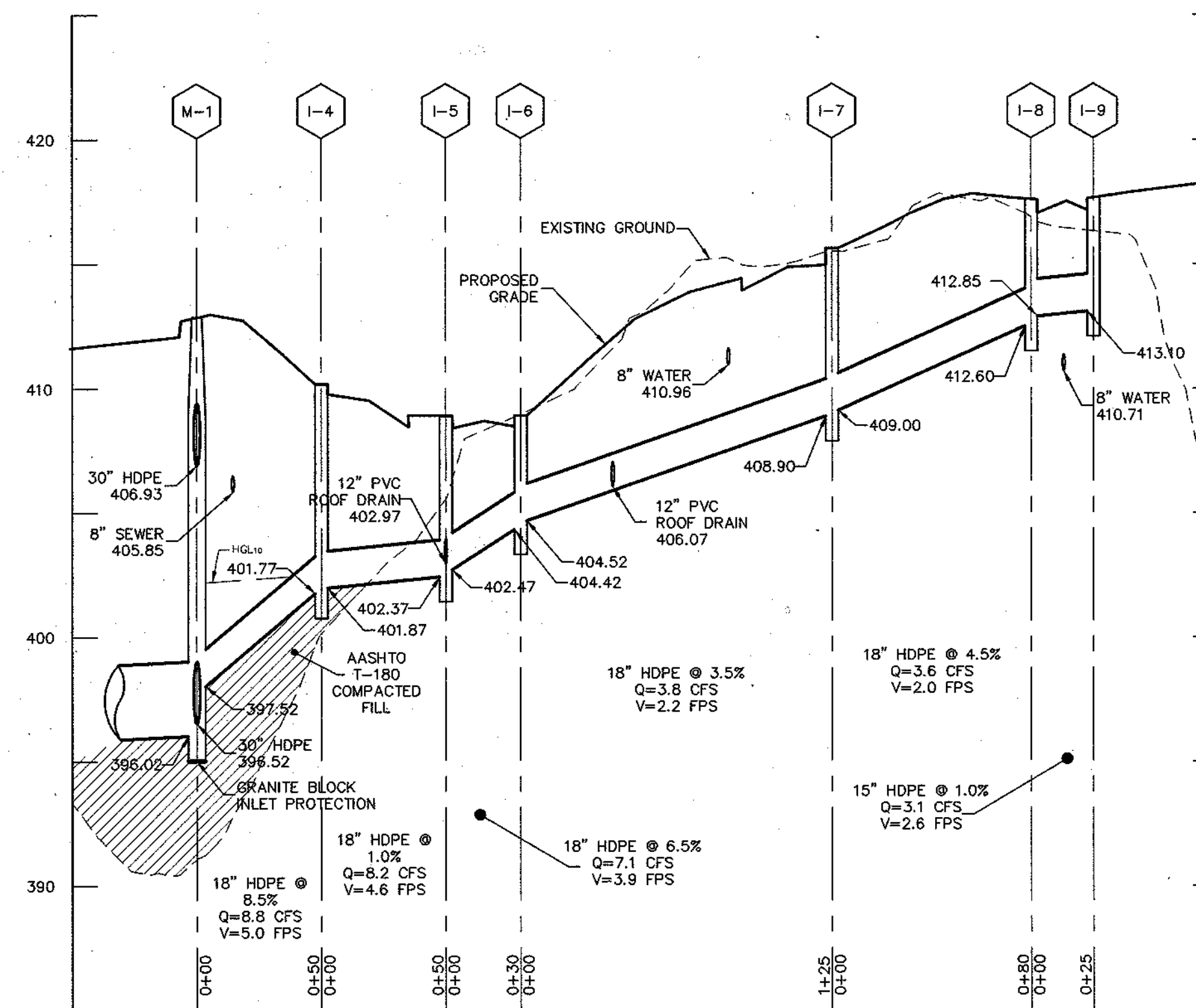
5 OF 13  
SDP-98-29





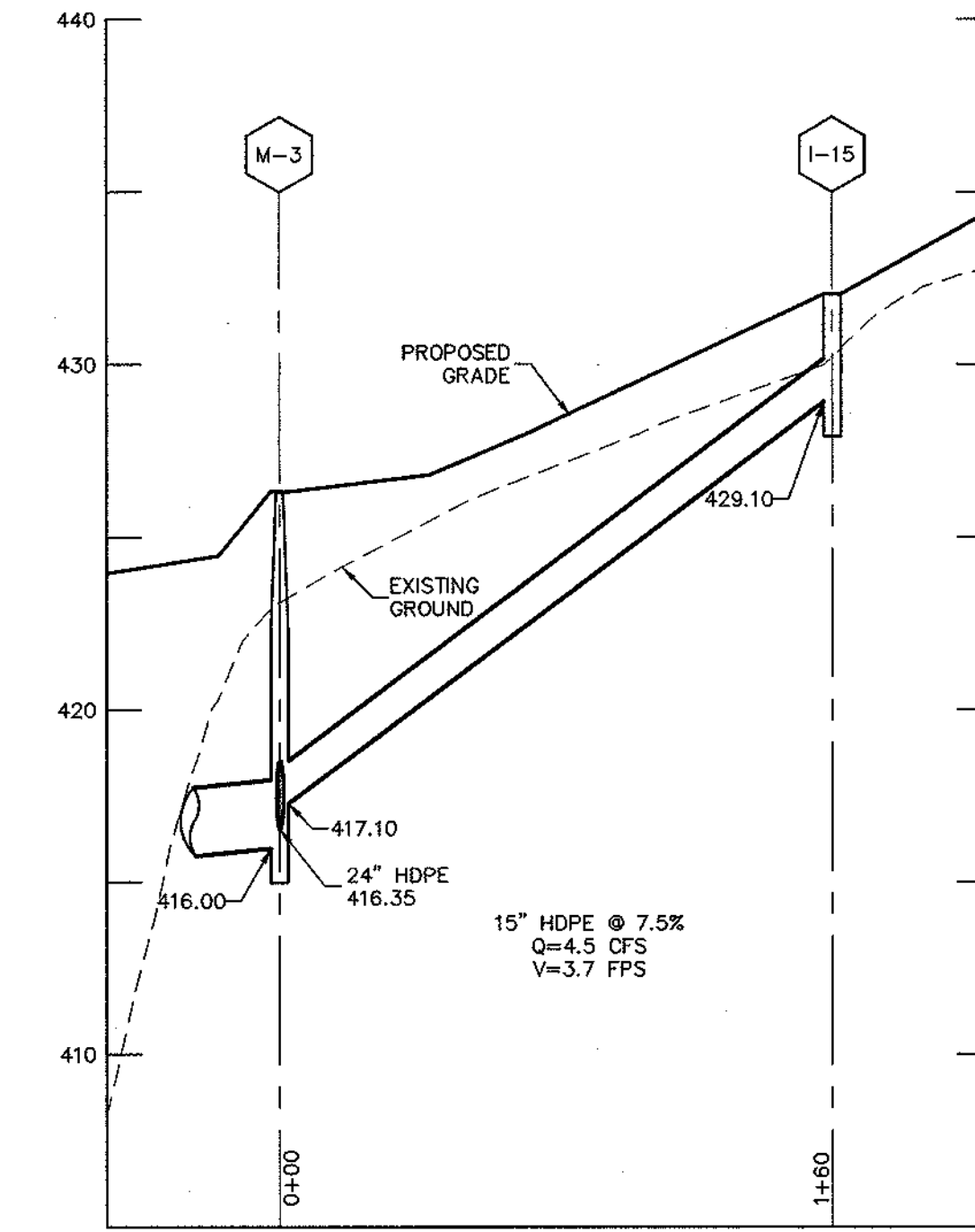
**STORMDRAIN PROFILE ES-1 TO I-3**

1"=50' HORIZONTAL  
1"=5' VERTICAL



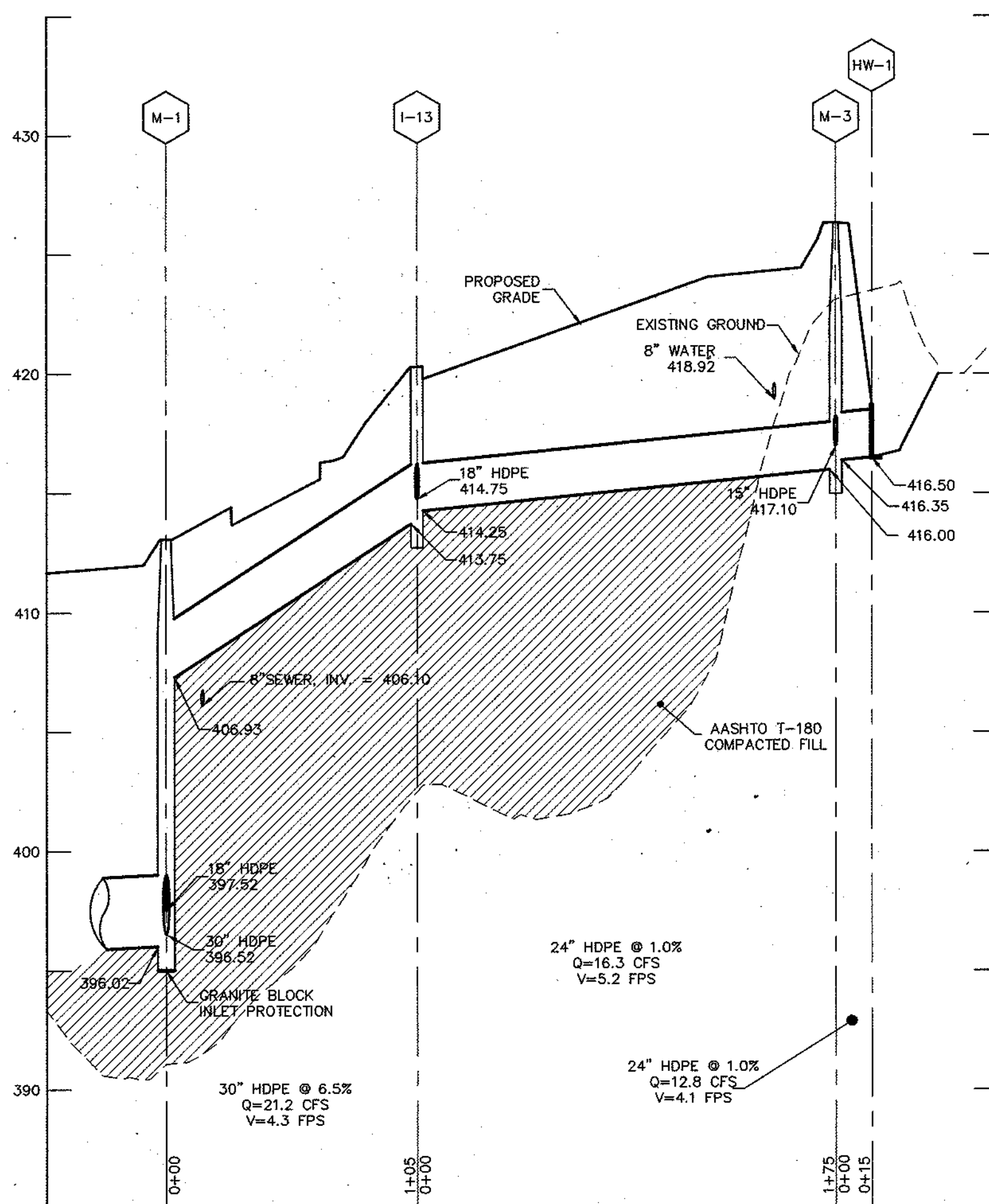
**STORMDRAIN PROFILE M-1 TO I-9**

1"=50' HORIZONTAL  
1"=5' VERTICAL



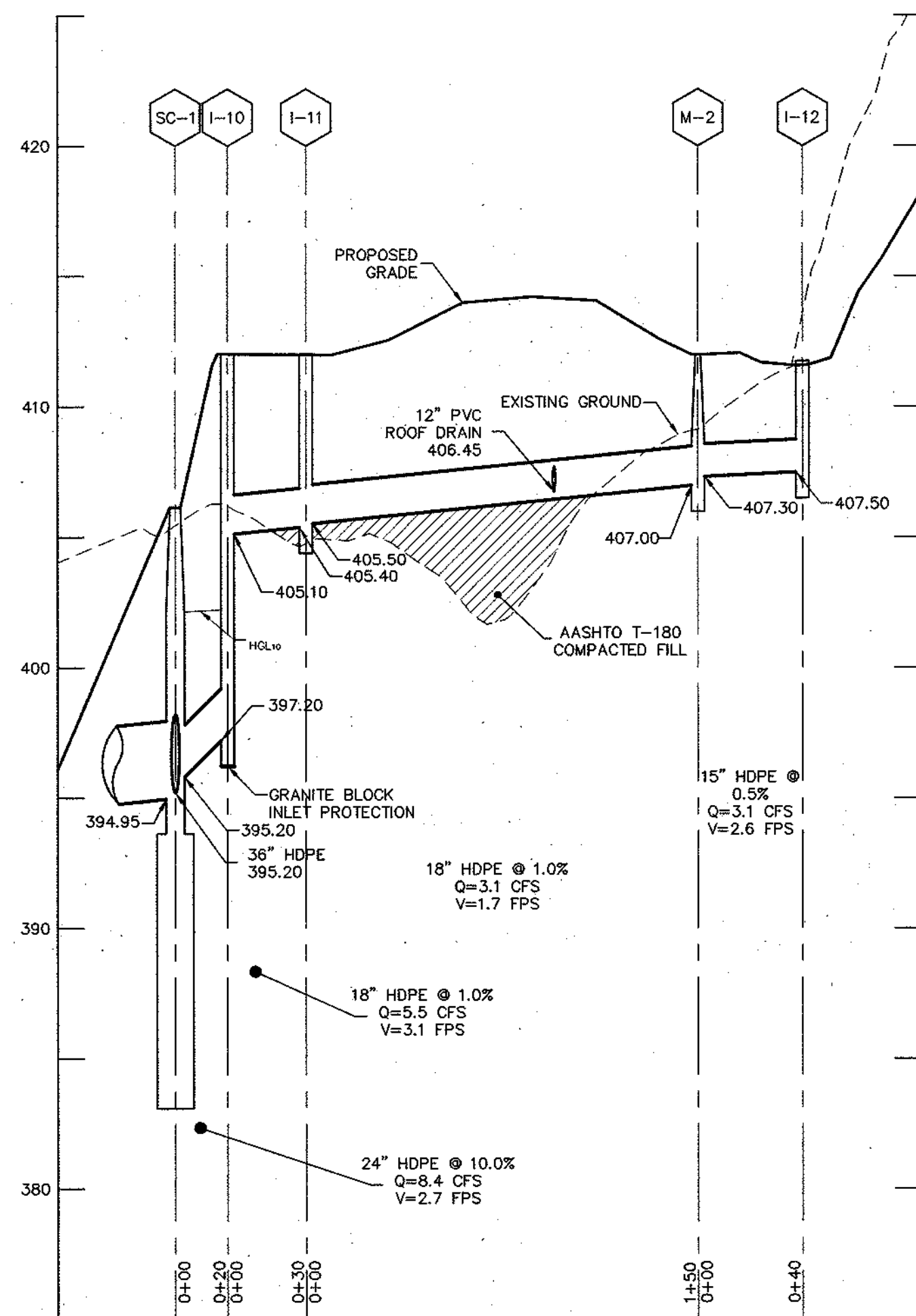
**STORMDRAIN PROFILE M-3 TO I-15**

1"=50' HORIZONTAL  
1"=5' VERTICAL



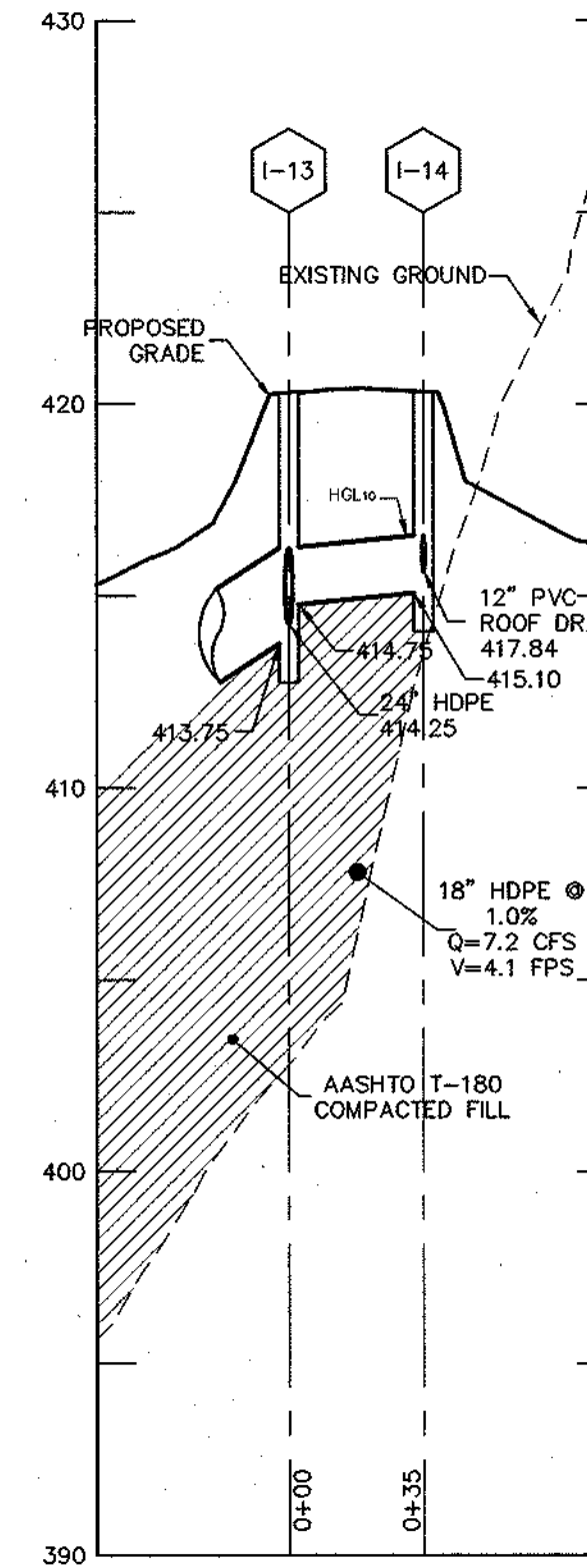
**STORMDRAIN PROFILE M-1 TO HW-1**

1"=50' HORIZONTAL  
1"=5' VERTICAL



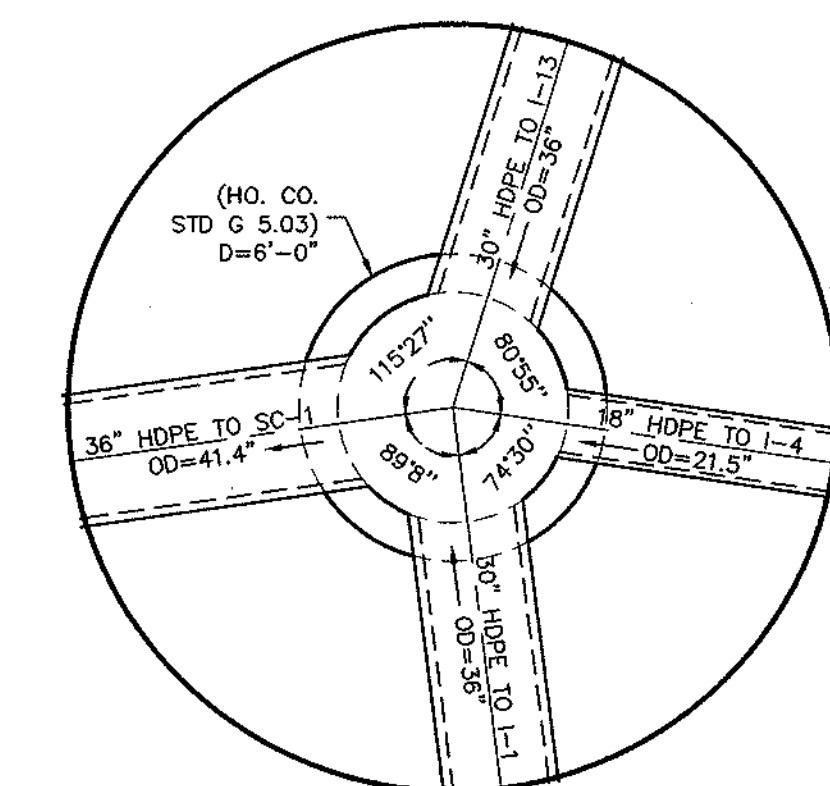
**STORMDRAIN PROFILE SC-1 TO I-12**

1"=50' HORIZONTAL  
1"=5' VERTICAL



**STORMDRAIN PROFILE I-13 TO I-14**

1"=50' HORIZONTAL  
1"=5' VERTICAL



**STRUCTURE SCHEDULE**

NO.	LOCATION	TOP	INV. IN	INV. OUT	COMMENTS
ES-1	SEE PLAN	---	---	394.50	36" # ADS END SECTION
HW-1	SEE PLAN	---	---	416.50	24" # HEAD WALL (HO. CO. STD. SD. 5.11)
HW-2	SEE PLAN	---	---	390.50	H.C. MOD'D STD 5.21 HEADWALL (C=1'-0")
I-1	SEE PLAN	406.85	397.52	397.42	INLET TYPE A-5 (HO. CO. STD SD 4.01) W=36"
I-2	SEE PLAN	404.00	398.04	397.94	INLET TYPE A-10 (HO. CO. STD SD 4.02) W=60"
I-3	SEE PLAN	404.80	---	398.84	INLET TYPE A-5 (HO. CO. STD SD 4.01) W=36"
I-4	SEE PLAN	410.00	401.87	401.77	INLET TYPE A-5 (HO. CO. STD SD 4.01)
I-5	SEE PLAN	408.90	402	402.37	INLET TYPE A-5 (HO. CO. STD SD 4.01)
I-6	SEE PLAN	408.90	47	404.42	INLET TYPE A-5 (HO. CO. STD SD 4.01)
I-7	SEE PLAN	415.52	404.52	408.90	INLET TYPE A-5 (HO. CO. STD SD 4.01)
I-8	SEE PLAN	417.40	412.85	412.60	INLET TYPE A-5 (HO. CO. STD SD 4.01)
I-9	SEE PLAN	417.40	---	413.10	INLET TYPE A-10 (HO. CO. STD SD 4.02)
I-10	SEE PLAN	411.26	405.10	397.20	INLET TYPE A-5 (HO. CO. STD SD 4.01)
I-11	SEE PLAN	411.26	405.50	405.40	INLET TYPE A-5 (HO. CO. STD SD 4.01)
I-12	SEE PLAN	411.75	---	407.50	INLET TYPE K (HO. CO. STD SD 4.12)
I-13	SEE PLAN	420.60	414.25	413.75	INLET TYPE A-5 (HO. CO. STD SD 4.01)
I-14	SEE PLAN	420.60	---	415.10	INLET TYPE A-5 (HO. CO. STD SD 4.01)
I-15	SEE PLAN	432.60	---	429.10	INLET TYPE A-10 (HO. CO. STD SD 4.02)
M-1	SEE PLAN	412.50	396.52 397.52 406.93	396.02	MANHOLE (HO. CO. STD G 5.03) D=6'-0"
M-2	SEE PLAN	412.00	407.30	407.00	MANHOLE (HO. CO. STD G 5.01)
M-3	SEE PLAN	426.00	416.35 417.10	416.00	MANHOLE (HO. CO. STD G 5.01)
SC-1	SEE PLAN	406.00	395.20 398.20	394.95	STC 7200 PRECAST CONCRETE STORMCEPTOR

NOTES:  
1. ALL CURB OPENING INLETS SHALL HAVE W = 2'-6" UNLESS OTHERWISE NOTED.  
2. TOP OF "K" INLETS = TOP OF GRADE  
3. HGL EQUALS TOP OF PIPE UNLESS OTHERWISE NOTED.

**OWNER/DEVELOPER**

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

**PERMIT INFORMATION CHART**

SUBDIVISION NAME ELLCOTT CITY WAL-MART	SECTION/AREA 17 & 24	LOT/PARCEL # PARCEL - D
PLAT # 13866 & 13867 23 & 6	TAX MAP 17 & 24	ELEC. DIST. 2ND
WATER CODE F03	SEWER CODE 1452800	CENSUS TRACT 6028
PROPOSED IMPROVEMENTS: OFFICE BUILDING, ASSISTED LIVING & NURSING HOME		

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

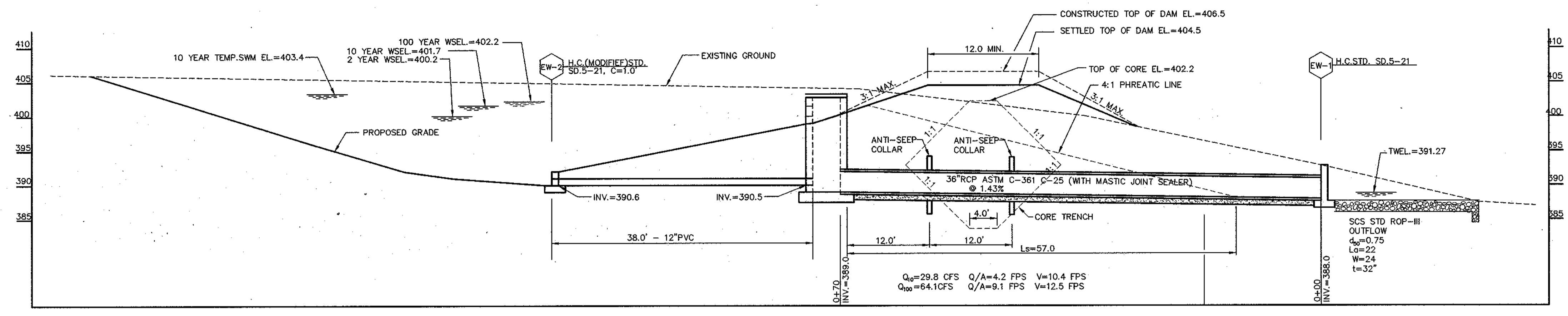
7/2/10 (DATE)  
7/2/10 (DATE)  
7/2/10 (DATE)

project	97024	date	JUNE 00
illustration	KR	engineering	KR
scale	AS SHOWN	approval	KR

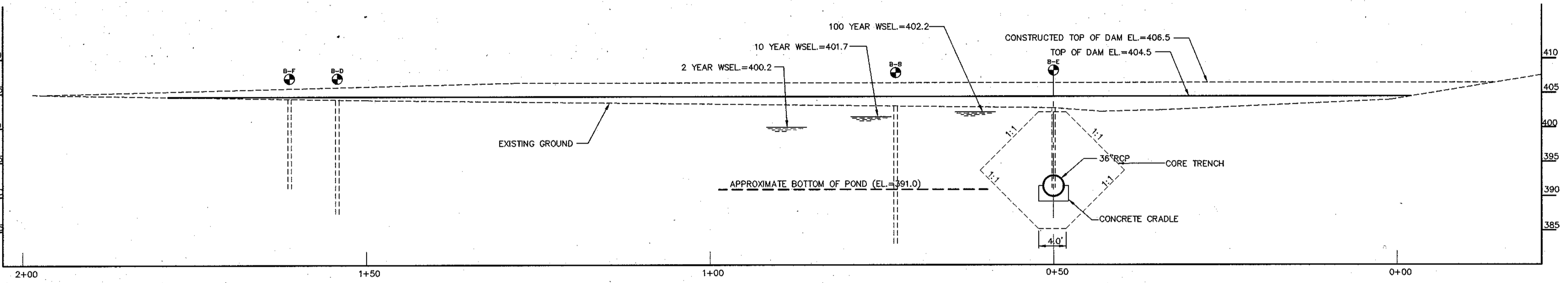
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TAX MAP 17 & 24, P/O PARCEL 1085  
**ELLCOTT CITY WAL-MART PARCEL D**  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
STORM DRAIN PROFILES

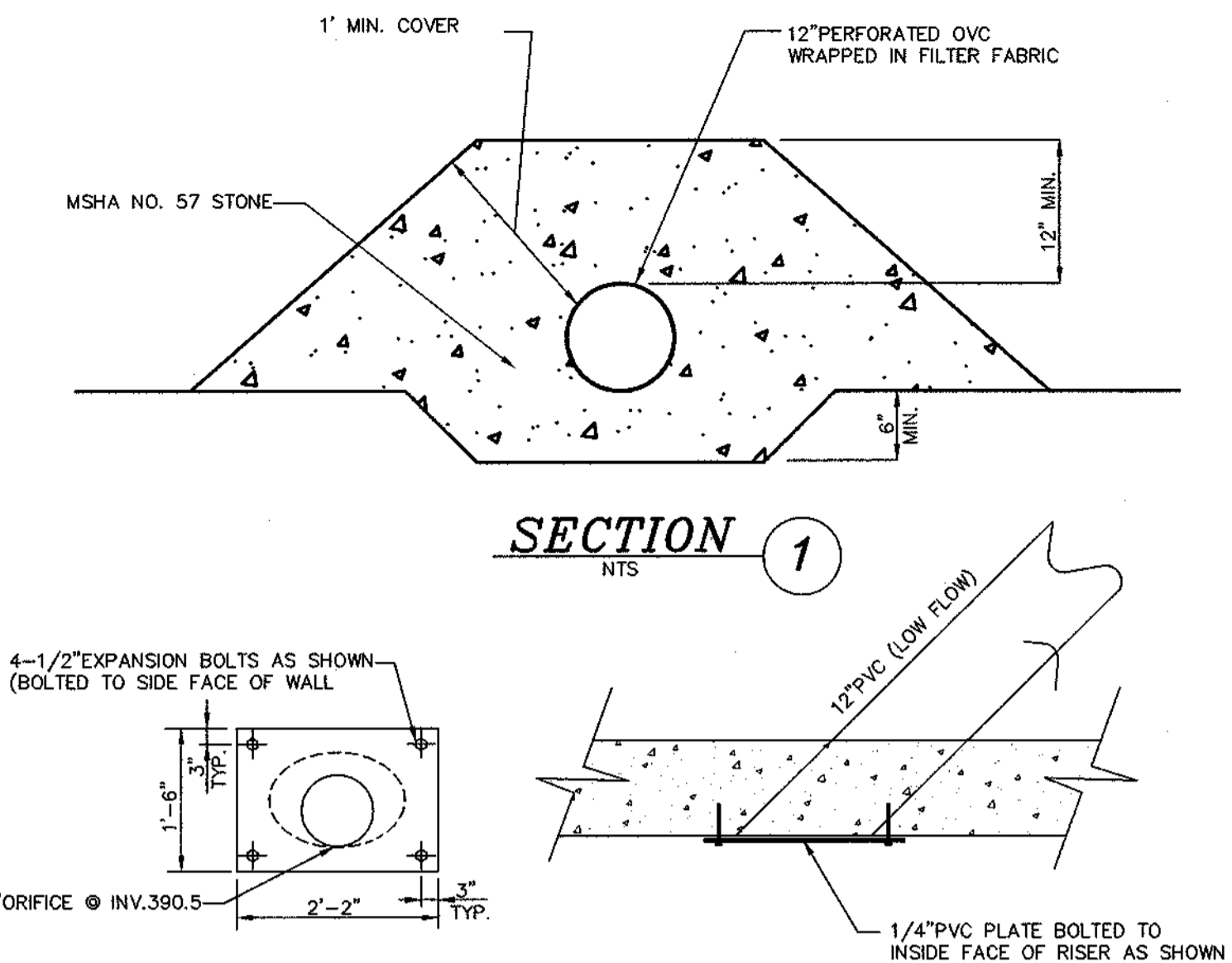
**MILDENBERG, BOENDER & ASSOC., INC.**  
Planners & Surveyors  
5072 Dorsy Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0296 Fax (301) 621-5521 Wash. (410) 997-0298 Fax



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



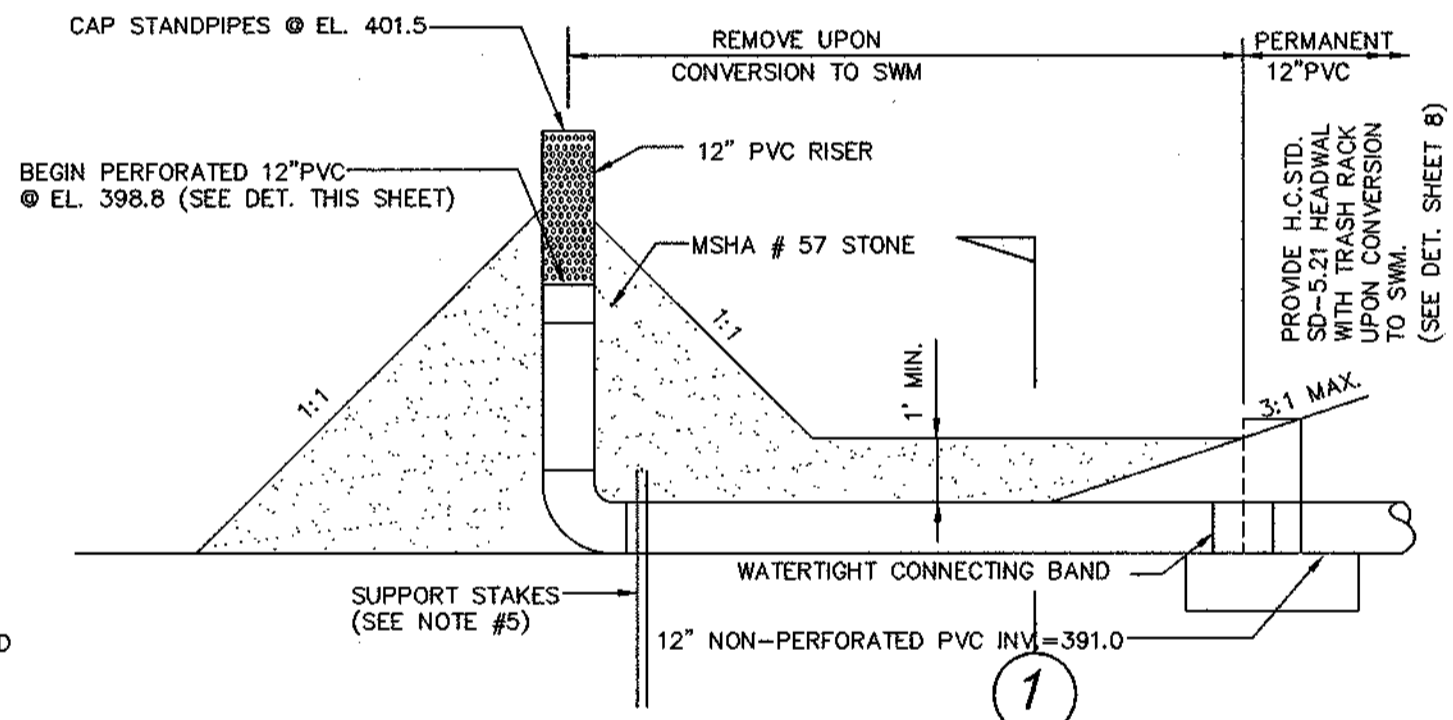
**CENTERLINE DAM PROFILE**  
SCALE: 1"=10'



**SECTION 1**  
N.T.S.

**DETAIL LOW FLOW ORIFICE A**  
N.T.S.

**DETAIL TEMPORARY CONTROL PLATE B**  
N.T.S.



- PERFORATIONS IN THE DRAW-DOWN DEVICE MAY NOT EXTEND INTO THE WET STORAGE.
- THE TOTAL AREA OF THE PERFORATIONS MUST BE GREATER THAN 4 TIMES THE AREA OF THE INTERNAL ORIFICE.
- THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS E.
- PROVIDE SUPPORT OF DRAW-DOWN DEVICE TO PREVENT SAGGING AND FLOATAION. AN ACCEPTABLE PREVENTATIVE MEASURE IS TO STAKE BOTH SIDES OF DRAW-DOWN DEVICE WITH 1" STEEL ANGLE OR 2" SQUARE OR 2" ROUND WOODEN POSTS SET 3' MIN. INTO THE GROUND THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GAUGE MINIMUM WIRE.
- STAKE BOTH SIDES OF 12" PVC WITH 1" STEEL ANGLE OR 2" ROUND WOODEN POSTS SET 3' INTO GROUND AND JOINT TO 12" PVC BY WRAPPING WITH 12 GAUGE WIRE.

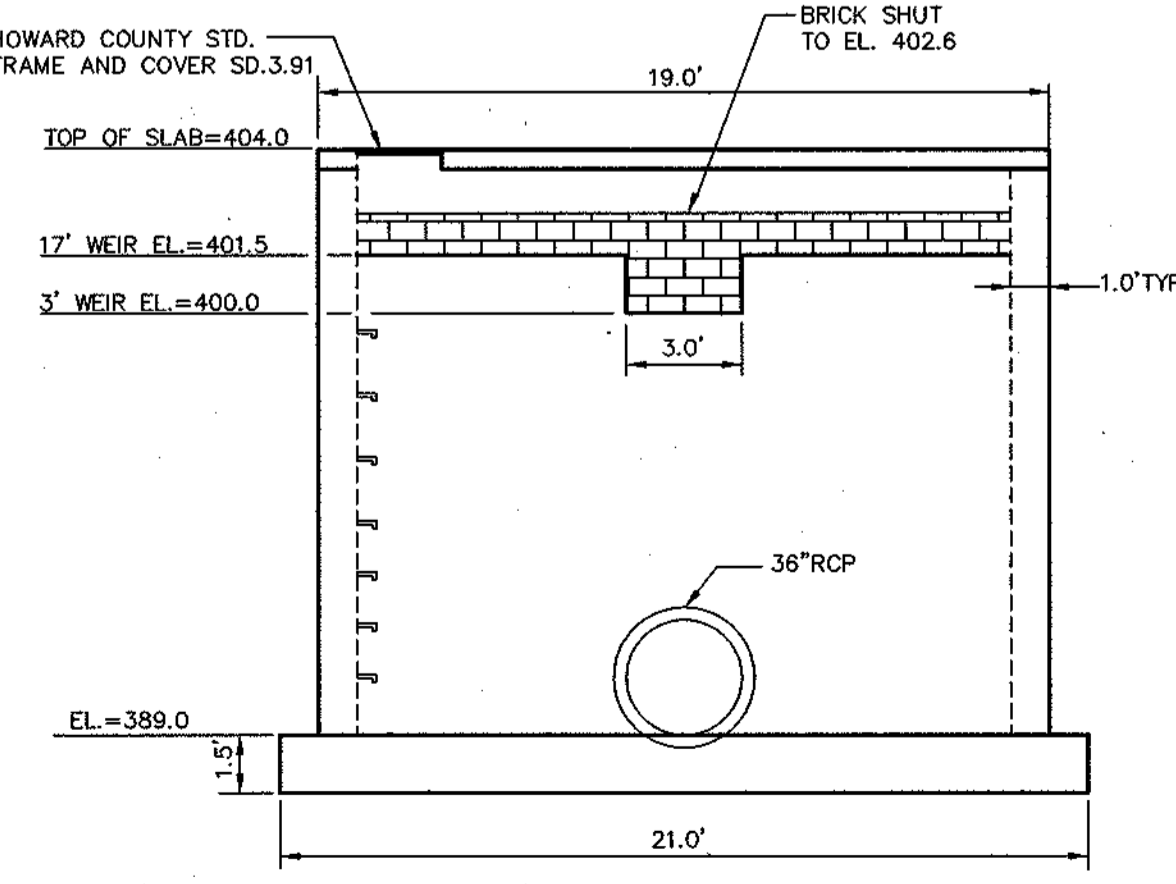
**TEMPORARY DEWATERING STANDPIPE FOR SEDIMENT CONTROL**  
N.T.S.

**SEDIMENT BASIN:**

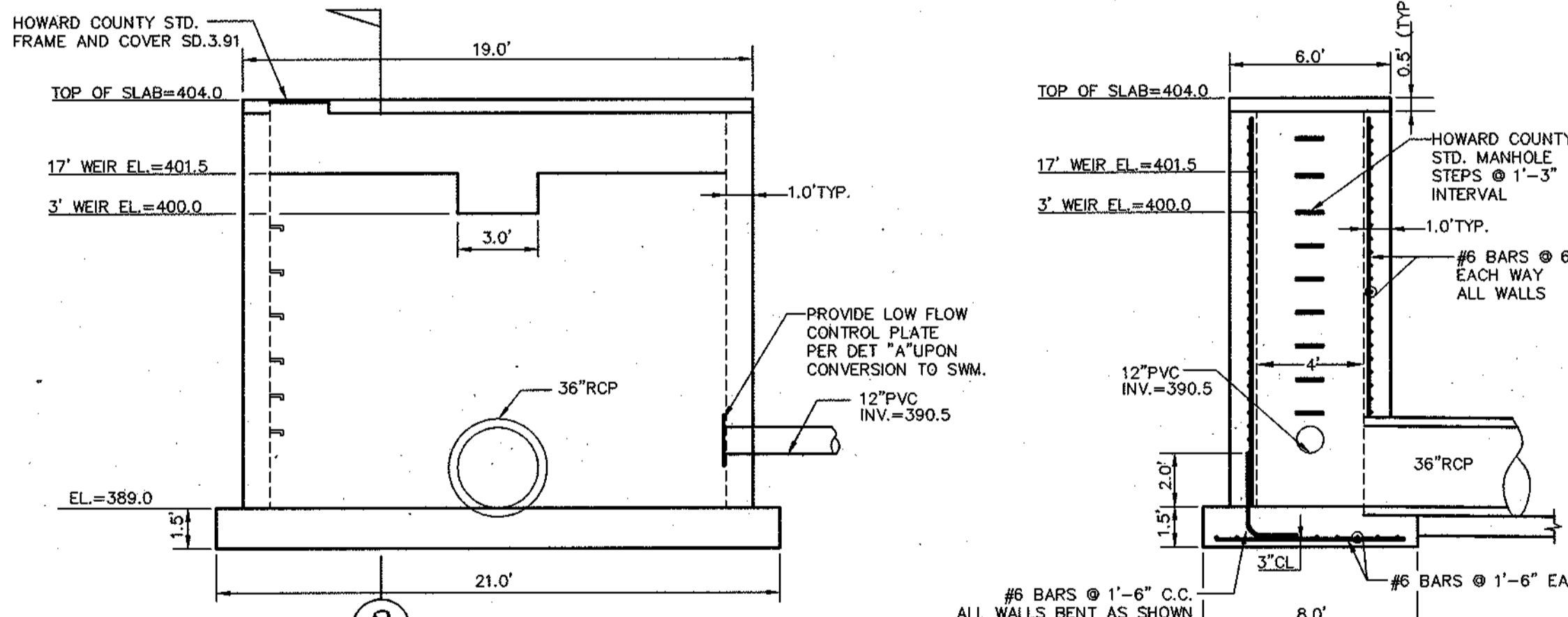
DRAINAGE AREA = 10.95 AC.  
STORAGE REQUIRED = 39,420 FT.  
STORAGE PROVIDED = 53,091 @ EL. 402.6  
WET STORAGE = 19,710 FT.  
DRY STORAGE = 33,381 FT.  
CLEANOUT ELEV. = 397.03  
PRINCIPLE SPILLWAY ELEV. = 398.8  
PERM. POOL ELEV. = 398.8  
SETTLED TOP OF DAM ELEV. = 404.5  
OUTLET ELEV. = 402.6  
WET STORAGE ELEV. = 398.8  
Q<sub>100</sub> = 2.2 CFS (FOR TSWM)  
Q<sub>10</sub> = 1.8 CFS (FOR TSWM)

PERMIT INFORMATION CHART			
SUBDIVISION NAME ELLICOTT CITY WAL-MART	SECTION/AREA PARCEL - D	LOT/AREA PARCEL - D	
FLAT # 13866 & 13867	ZONE 23 & 5	TAX MAP 17 & 24	ELEC. DIST. 2ND
WATER CODE F03	SEWER CODE 1452800	CENSUS TRACT 6026	
PROPOSED IMPROVEMENTS: OFFICE BUILDING, ASSISTED LIVING & NURSING HOME			

**TEMPORARY STANDPIPE DETAIL**  
N.T.S.

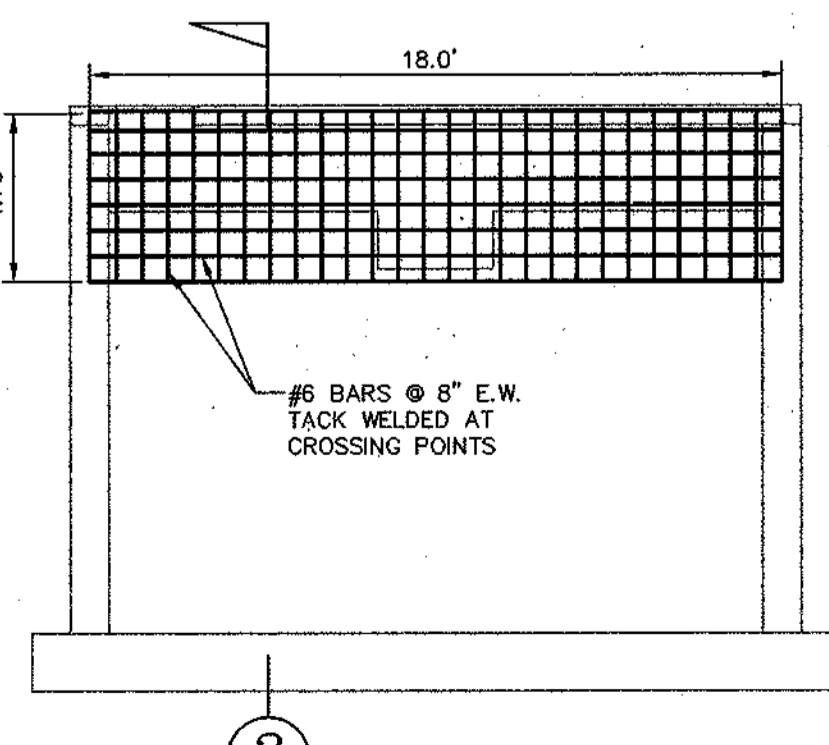


**BLOCKING DETAIL FOR SEDIMENT BASIN (TSWM)**  
SCALE: 1"=5'

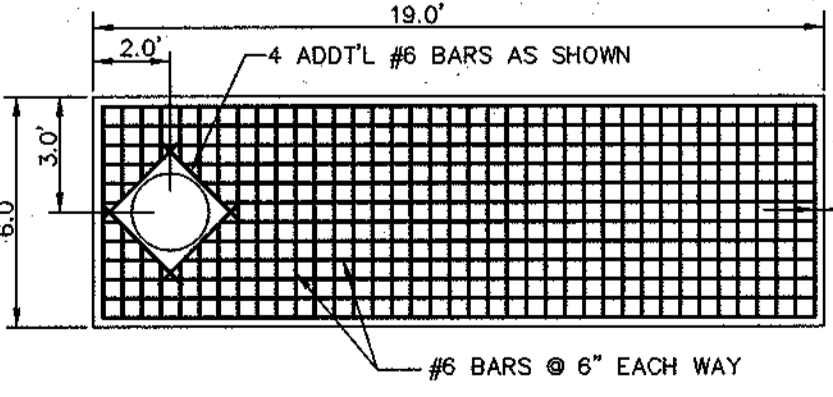


**FRONT WALL ELEVATION**  
SCALE: 1"=5'

**SECTION 2**  
SCALE: 1"=5'



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



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

**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: \_\_\_\_\_

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 SUITABLE AND APPROPRIATE COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES 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: 7/10/00  
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 CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Signature: *John M. Mangione* Date: 6/22/00  
PRINTED NAME OF ENGINEER: \_\_\_\_\_

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: *Chris Simons* Date: 7/19/00  
USDA - NATURAL RESOURCES CONSERVATION SERVICE

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

Signature: *John M. Mangione* Date: 7/9/00  
HOWARD SOIL CONSERVATION DISTRICT

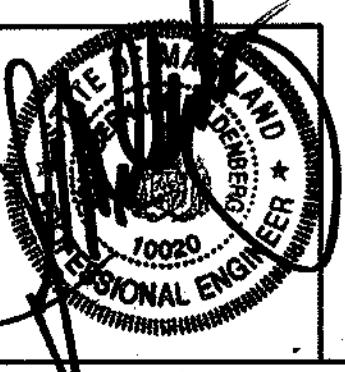
APPROVED, DEPARTMENT OF PUBLIC WORKS  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
CHIEF BUREAU OF HIGHWAYS

APPROVED, DEPARTMENT OF PLANNING AND ZONING  
Signature: \_\_\_\_\_ Date: 7/21/00  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Signature: \_\_\_\_\_ Date: 7/21/00  
CHIEF, DIVISION OF LAND DEVELOPMENT

Signature: \_\_\_\_\_ Date: 7/11/00  
DIRECTOR

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



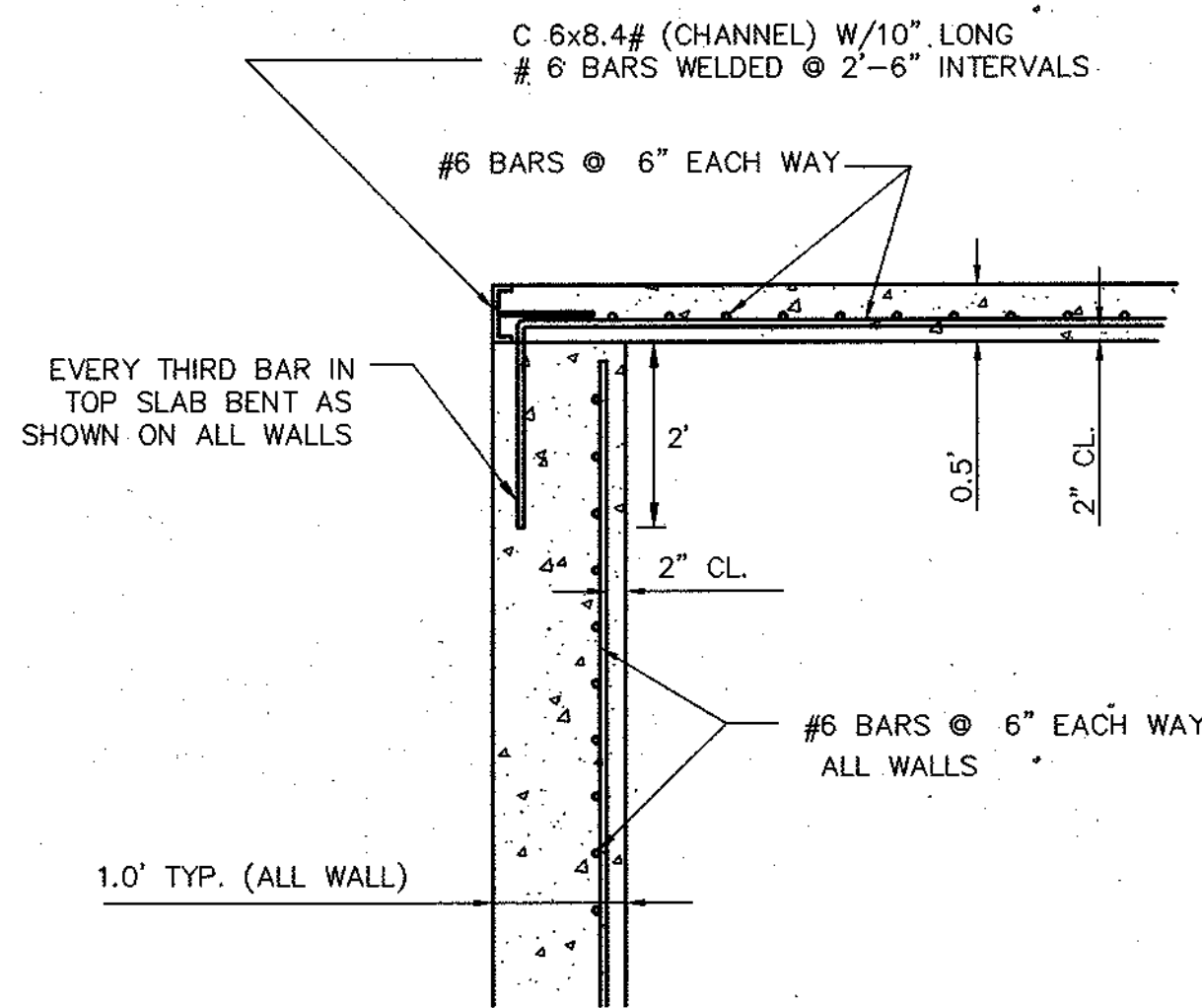
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Illustration	MMP	scale	AS SHOWN
Approval	JBM	description	
Approval	JBM	revisions	

Project	97024	date	JUNE 00
Illustration	MMP	scale	AS SHOWN
Approval	JBM	description	
Approval	JBM	revisions	

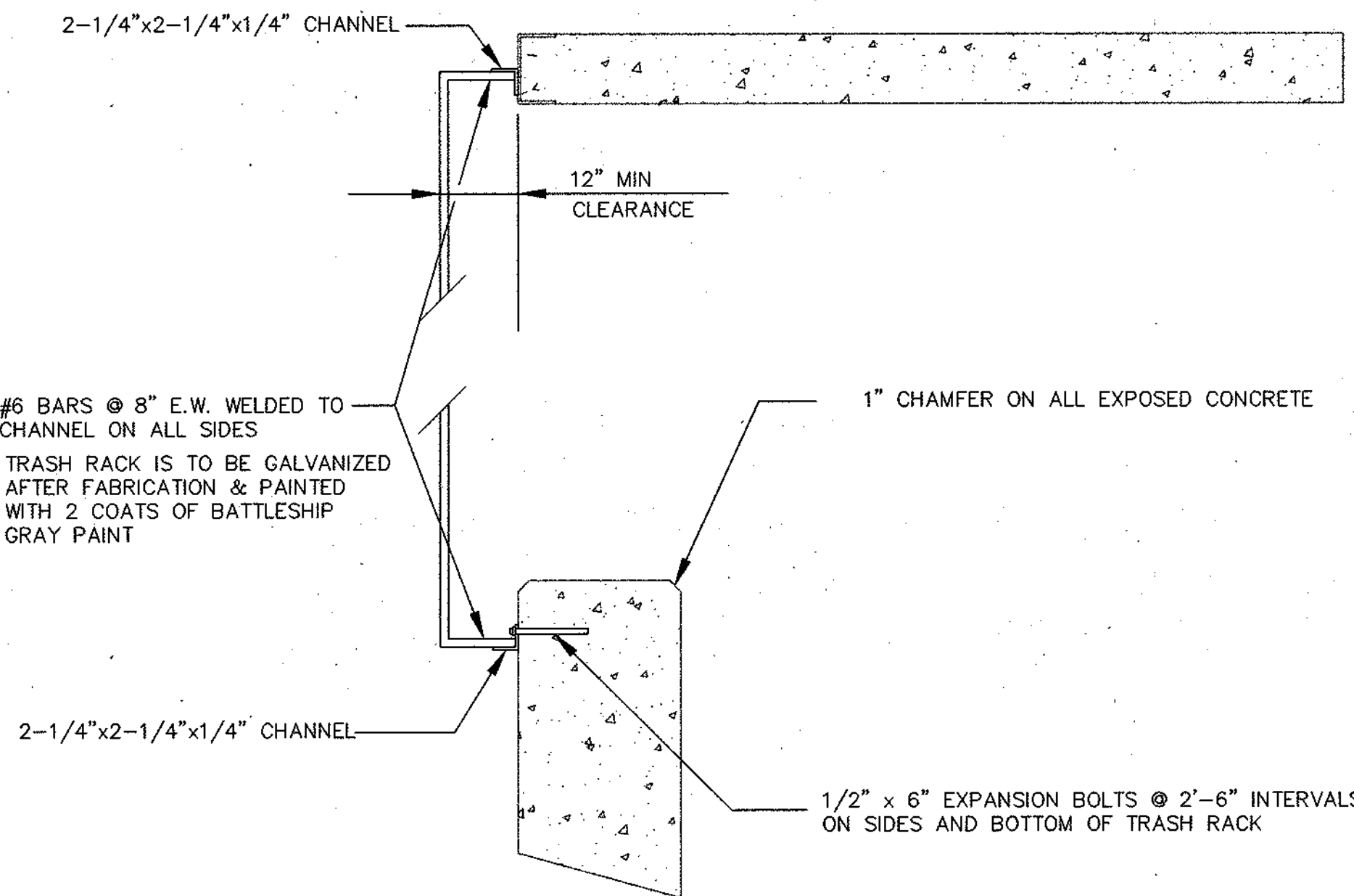
TAX MAP 24 & 17, P/O PARCEL 848  
**ELLICOTT CITY WAL-MART PARCEL D**  
HOWARD COUNTY, MARYLAND  
SECOND ELECTION DISTRICT  
STORMWATER MANAGEMENT DETAILS

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hill Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 397-0286 Fax (301) 621-5521 Wash. (410) 397-0298 Fax

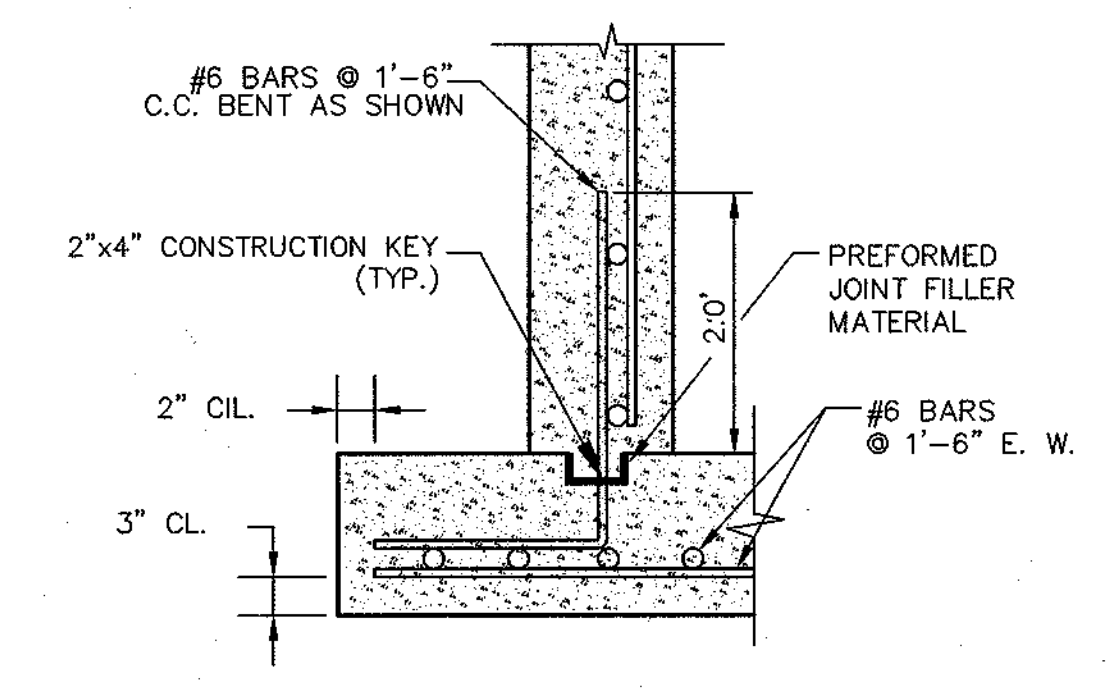




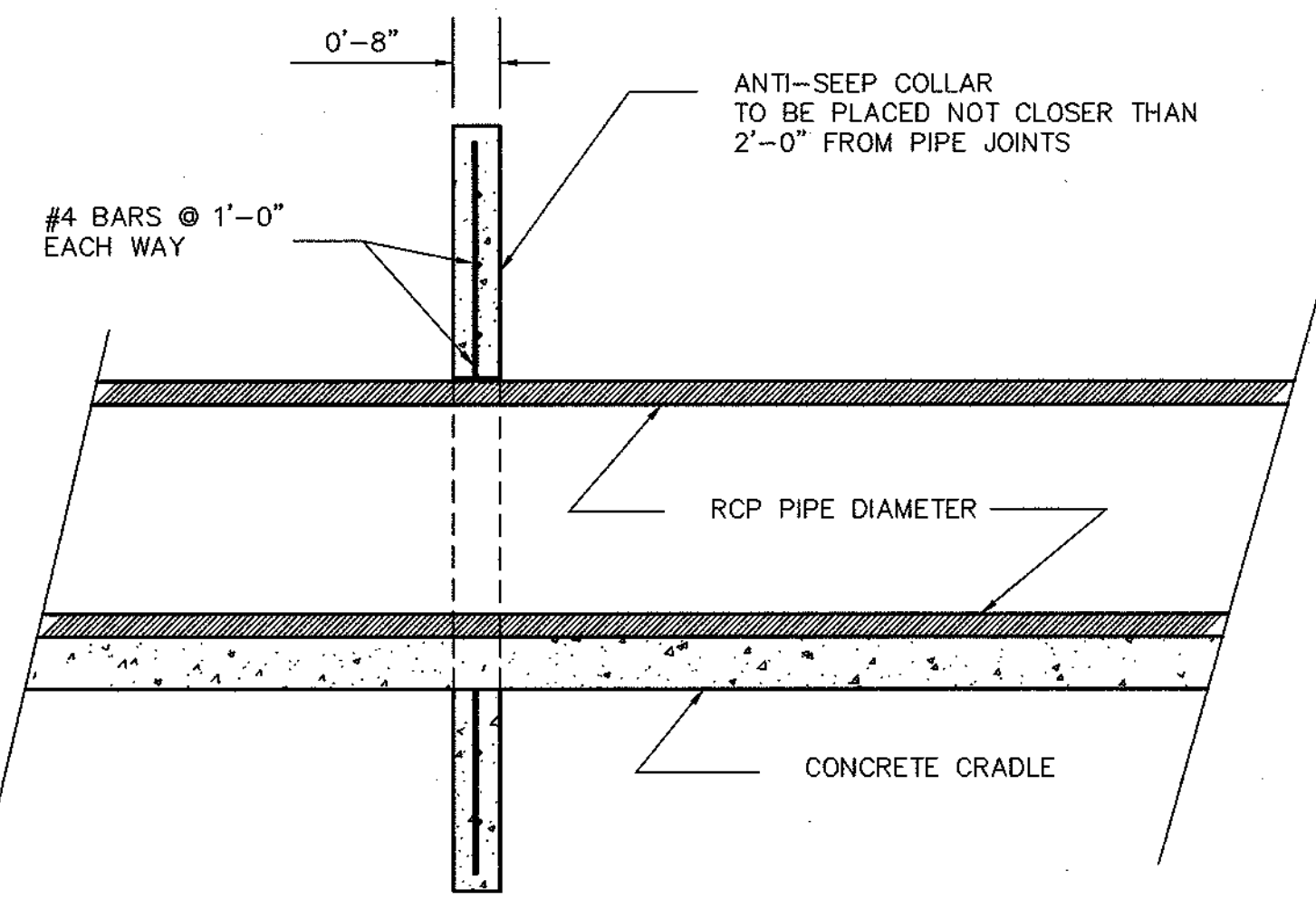
DETAIL B  
N.T.S.



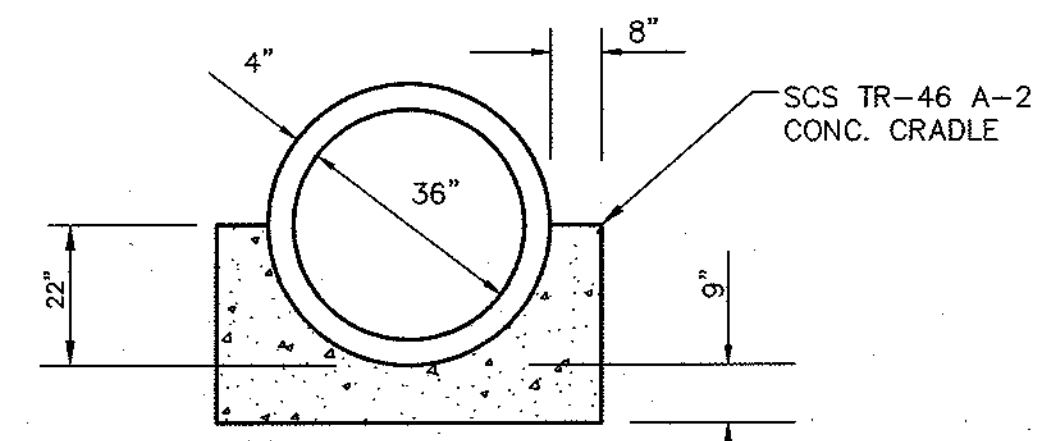
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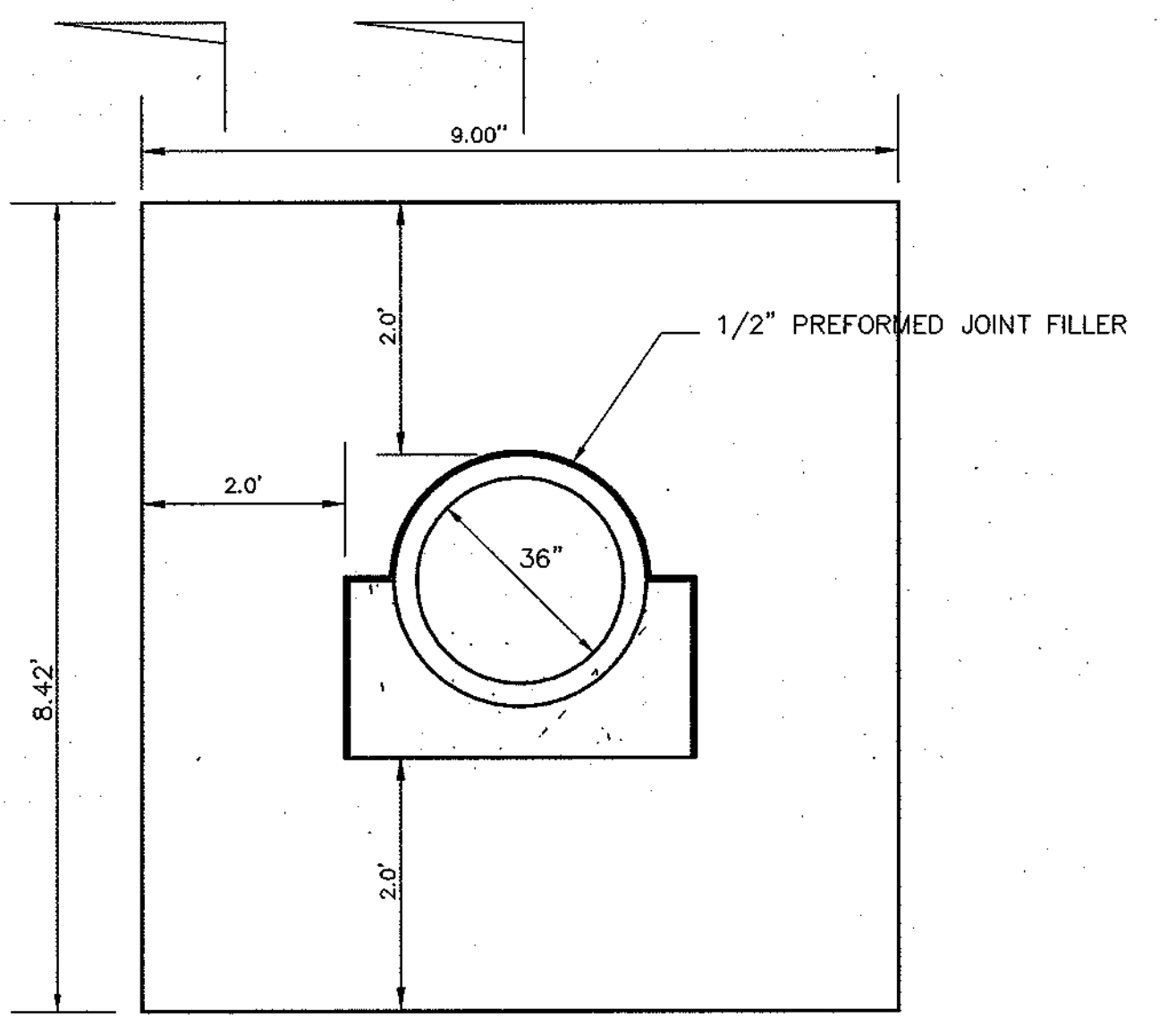
WALL TO BOTTOM SLAB CONNECTION  
DETAIL  
N.T.S.



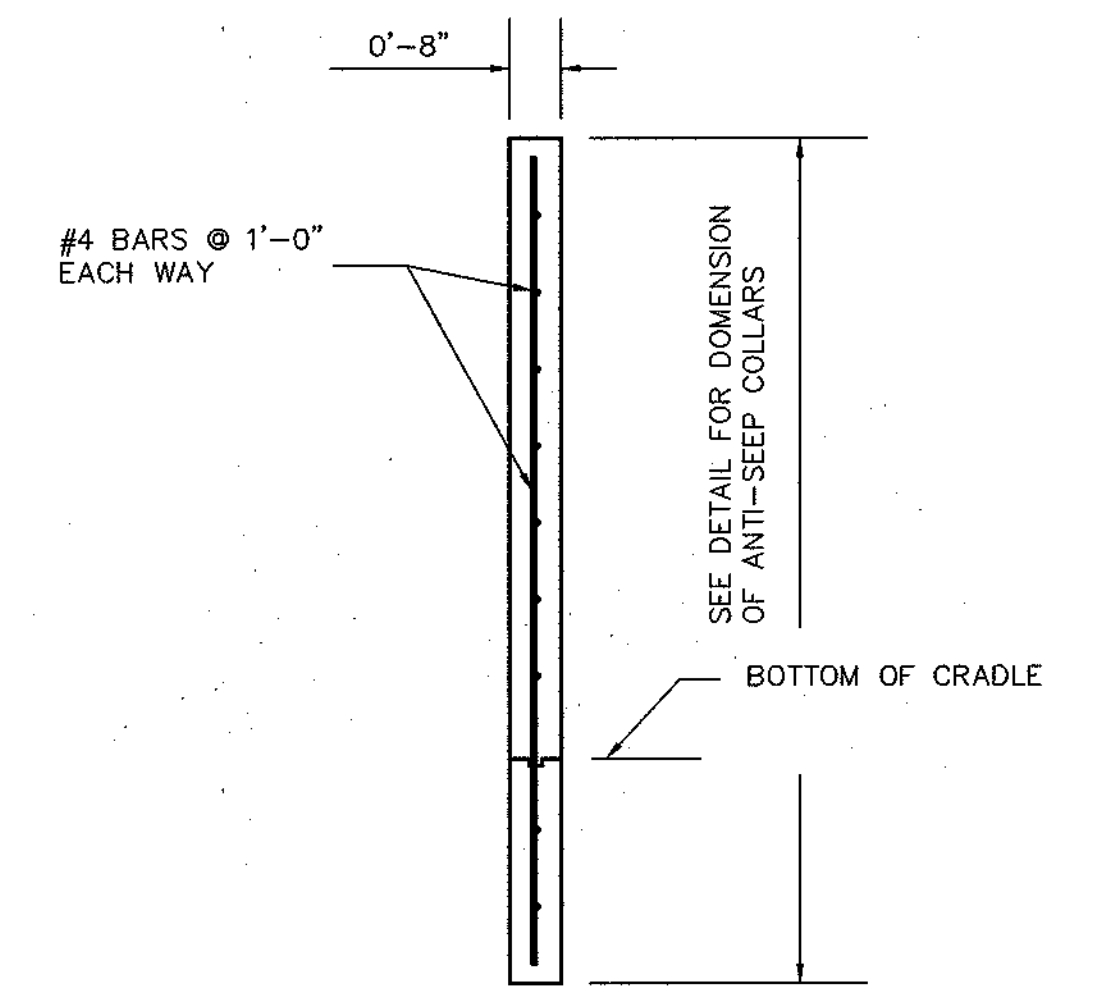
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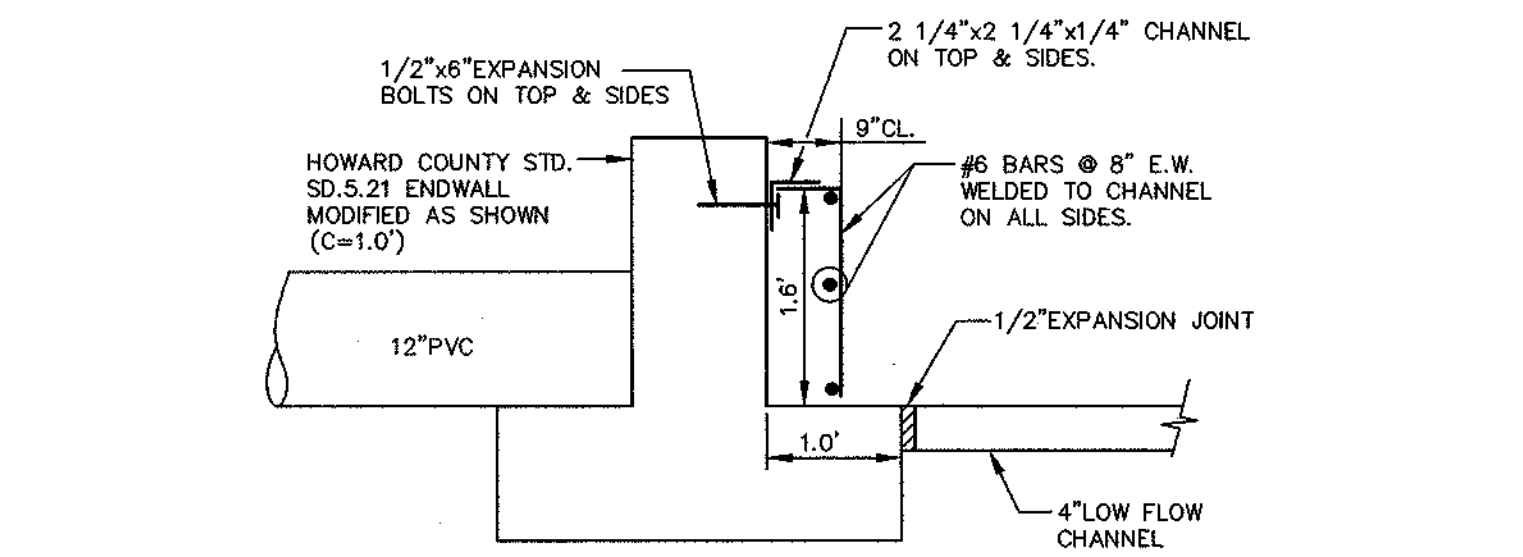
DETAIL OF CONCRETE CRADLE  
N.T.S.



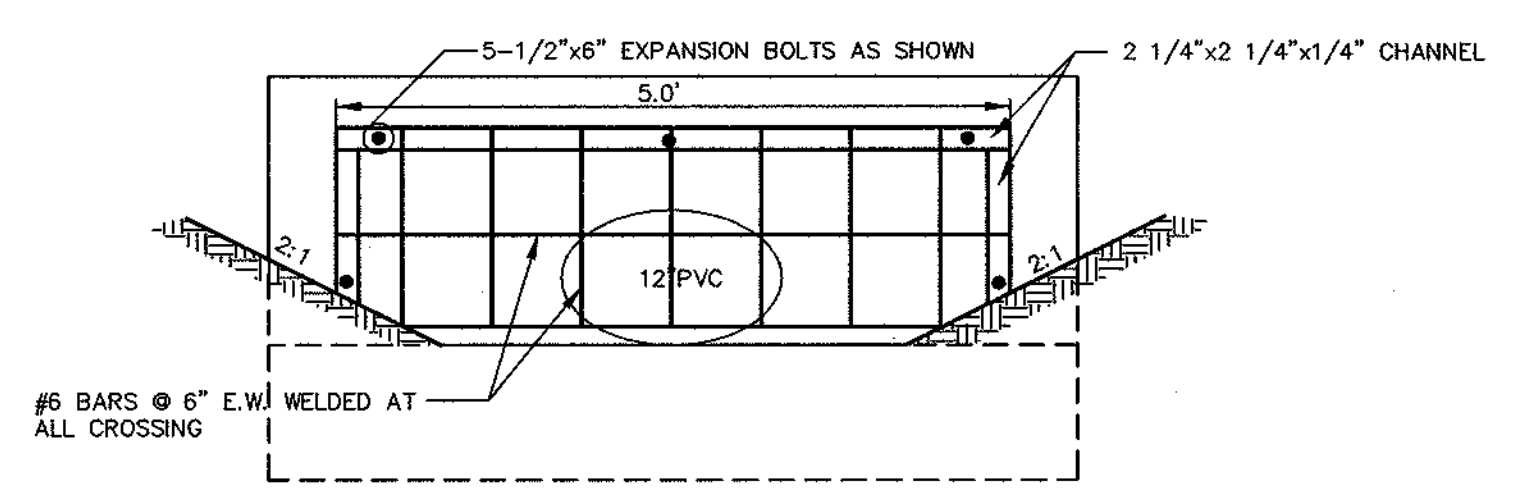
ANTI-SEEP COLLAR DETAIL  
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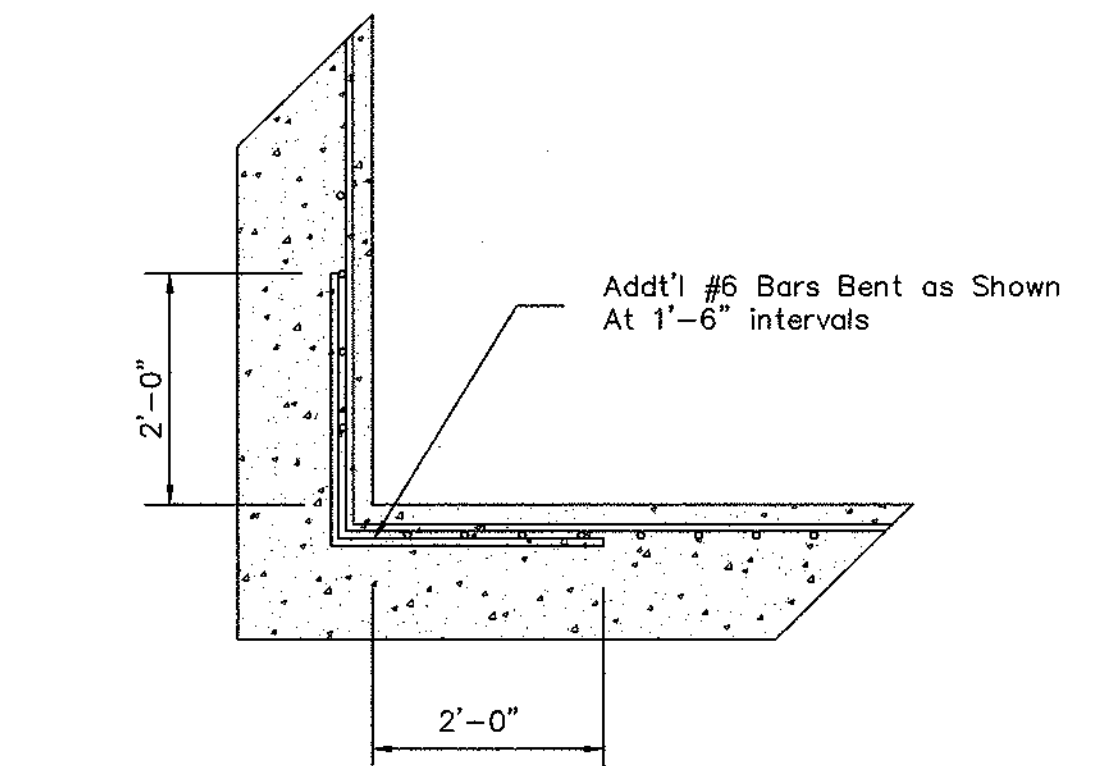
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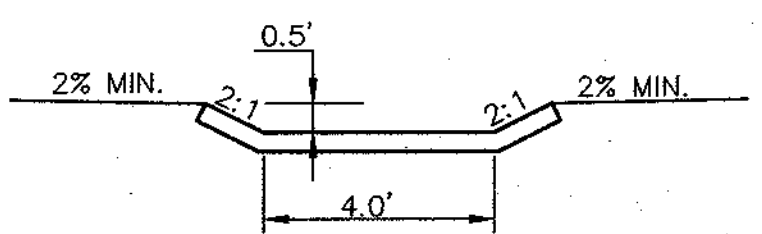
LOW TRASH RACK DETAIL  
N.T.S.



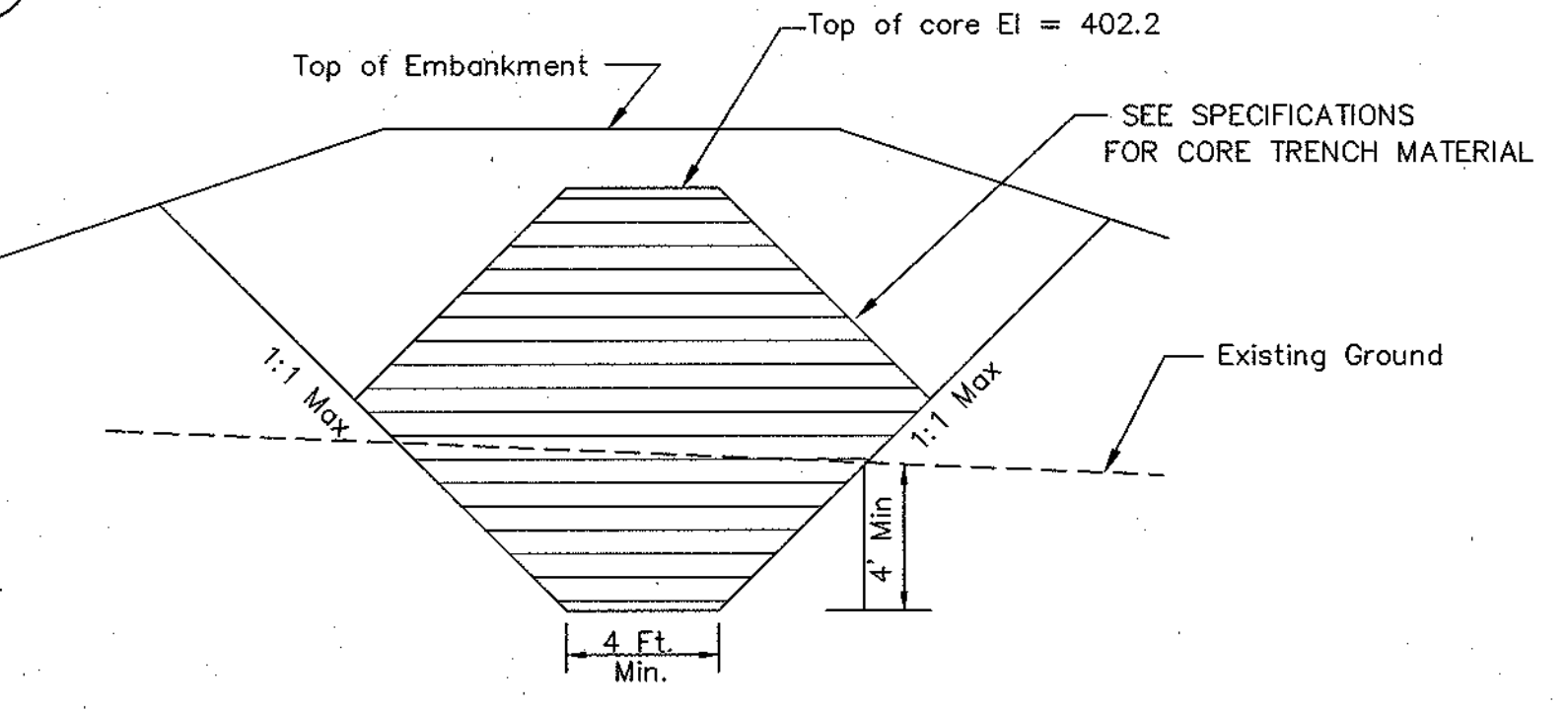
LOW TRASH RACK DETAIL  
N.T.S.



CORNER TREATMENT DETAIL  
N.T.S.



LOW FLOW CONCRETE CHANNEL DETAIL  
N.T.S.



CORE TRENCH DETAIL  
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

- NOTES:
- REFER TO HOWARD COUNTY STD. SD-3.05 FOR NOTES RELATING TO CONCRETE LOW FLOW CHANNEL.
  - MIN. SLOPE OF CHANNEL TO BE GREATER THAN 1%.

**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.

DATE: 7/19/00

BY THE DEVELOPER:

DATE: 7/19/00

BY THE ENGINEER:

DATE: 7/19/00

APPROVED: DEPARTMENT OF PUBLIC WORKS

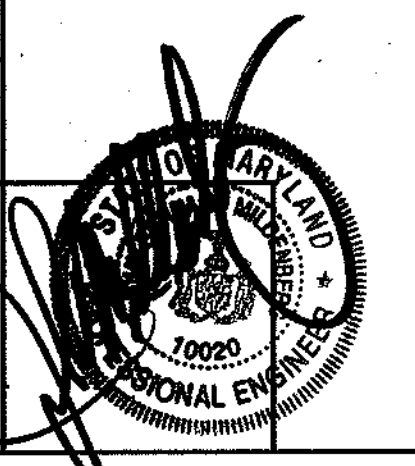
DATE: 7/19/00

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DATE: 7/19/00

APPROVED: DEPARTMENT OF LAND DEVELOPMENT

DATE: 7/19/00



PERMIT INFORMATION CHART			
SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL #	
ELLICOTT CITY WAL-MART		PARCEL - D	
PLAT #	BLOCK #	ZONE	TAX MAP
13866 & 13867	23 & 5	POR	17 & 24
WATER CODE	SEWER CODE	ELEC. DIST.	CENSUS TRACT
F03		2ND	6026
PROPOSED IMPROVEMENTS:		1452800	
OFFICE BUILDING, ASSISTED LIVING & NURSING HOME			

Project	date	no.
97054	JUNE 00	
illustration	engineering	
M.P.	MP	
scale	AS SHOWN	
description	revisions	

TAX MAP 24 & 17 P/O PARCEL 1085  
ELLICOTT CITY WAL-MART PARCEL D  
2ND. ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
STORMWATER MANAGEMENT DETAILS

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
6092 Dorsy Hill Drive, Suite 202, Ellicott City, Maryland, 21042  
(410) 997-0236 Fax: (410) 997-0238 Fax



# POND SPECIFICATIONS

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378. 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.

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED TO THE PLANS. TREES, BRUSH AND STUMPS SHALL BE CUT APPROXIMATELY 1' LEVEL WITH THE GROUND SURFACE. FOR DRY STORMWATER MANAGEMENT PONDS, A MINIMUM OF A 50 FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

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 AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION CC, SC, CH, OR CL. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGN AND CONSTRUCTION ARE SUPERVISED BY A GEOTECHNICAL ENGINEER.

**PLACEMENT**— AREAS ON WHICH FILL IS TO BE SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8" 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 AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSE BY NOT LESS THAN ONE TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TRED 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.

WHERE A MINIMUM REQUIRED DENSITY IS SPECIFIED, IT SHALL NOT BE LESS 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.

**CUT OFF TRENCH**— THE CUT OFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION. THE MINIMUM WIDTH SHALL BE FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

## 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 MATERIAL 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 FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE.

**REINFORCED CONCRETE PIPE**— ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

- MATERIALS—REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM DESIGNATION C-361.
- BEDDING— ALL REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING FOR THEIR ENTIRE LENGTH. THIS BEDDING SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 10% OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 3 INCHES, OR AS SHOWN ON THE DRAWINGS.
- LAYING PIPE— BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE JOINTS ARE SEALED FOR THE ENTIRE LINE, THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE ARE FILLED. CARE SHALL BE EXERCISED TO PREVENT ANY DEVIATION FROM THE ORIGINAL LINE AND GRADE OF THE PIPE. THE FIRST JOINT MUST BE LOCATED WITHIN 2 FEET FROM THE RISER.
- BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
- OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

**POLYVINYL CHLORIDE (PVC) PIPE**— ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR POLYVINYL CHLORIDE (PVC) PIPE:

- MATERIALS—PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241.
- JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.
- BEDDING— THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.
- BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
- OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

**POLYETHYLENE TEREPHTHALATE (PET) PIPE**— ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR POLYETHYLENE TEREPHTHALATE (PET) PIPE:

- MATERIALS—PET PIPE SHALL BE PET-1120 OR PET-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241.
- JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.
- BEDDING— THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.
- BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
- OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

## 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 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: *[Signature]* DATE: 7/16/00

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 ADVISED 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: 7/16/00

PRINTED NAME OF ENGINEER: \_\_\_\_\_

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

DATE: 7/19/00

APPROVED: DEPARTMENT OF PUBLIC WORKS

DATE: 7/16/00

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DATE: 7/16/00

DATE: 7/16/00

DATE: 7/16/00

DATE: 7/16/00

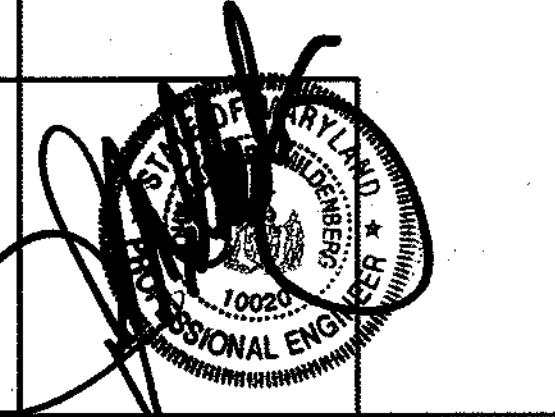
DATE: 7/16/00

DATE: 7/16/00

DATE: 7/16/00

## OWNER/DEVELOPER

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



## PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

**CORRUGATED METAL PIPE**— ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

- MATERIALS— (STEEL PIPE)— THIS PIPE AND ITS APPURTENANCES SHALL BE GALVANIZED AND FULLY BITUMINOUS COATED AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A WITH WATER TIGHT COUPLING BANDS. ANY BITUMINOUS COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND. STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THE FOLLOWING COATINGS OF APPROVED QUALITY MAY BE USED: NEXON, PLASTI-COTE, BLACK-CLAD, AND BETH-CU-LOY. COATED CORRUGATED STEEL PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M-245 AND M-246.
- MATERIALS— (ALUMINUM COATED STEEL PIPE)— THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-274 WITH WATER TIGHT COUPLING BANDS OR FLANGES. ANY ALUMINUM COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND.
- MATERIALS— (ALUMINUM PIPE)— THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-196 OR M-211 WITH WATER TIGHT COUPLINGS BANDS OR FLANGES. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER. HOT DIP GALVANIZED BOLTS MAY BE USED FOR CONNECTIONS. THE PH OF THE SURROUNDING SOILS SHALL BE BETWEEN 4 AND 9.

**COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC.**— MUST BE COMPOSED OF THE SAME MATERIAL AS THE PIPE. METALS MUST BE INSULATED FROM DISSIMILAR MATERIALS WITH USE RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 24 MILS IN THICKNESS.

**CONNECTIONS**— ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE TRENCH SHALL BE WELDED 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 ROLLED AND ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BAND WIDTH. THE FOLLOWING TYPE IS ACCEPTABLE FOR PIPE LESS THAN 24" IN DIAMETER: FLANGES ON BOTH ENDS OF THE PIPE, A 12" WIDE STANDARD LAP TYPE BAND WITH 12" WIDE BY 3/8" THICK CLOSED CELL CIRCULAR NEOPRENE GASKET; AND A 12" WIDE HUGGER TYPE BAND WITH O-RING GASKETS HAVING MINIMUM THICKNESS OF 1/2" GREATER THAN THE CORRUGATION DEPTH. PIPES 24" IN DIAMETER AND LARGER SHALL BE CONNECTED BY A 24" LONG ANNULAR CORRUGATED BAND USING ROADS AND LUGS. A 12" WIDE BY 3/8" THICK CLOSED CELL CIRCULAR NEOPRENE GASKET WILL BE INSTALLED ON THE END OF EACH PIPE FOR A TOTAL OF 24".

**HELICALLY CORRUGATED PIPE** SHALL HAVE EITHER CONTINUOUSLY WELDED SEAMS OR HAVE LOCK SEAMS WITH INTERNAL CAULKING OR A NEOPRENE BEAD.

**BEDDING**— THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

**BACKFILLING** SHALL CONFORM TO "STRUCTURE BACKFILL".

**OTHER DETAILS** (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

**REINFORCED CONCRETE PIPE**— ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

- MATERIALS—REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM DESIGNATION C-361.
- BEDDING— ALL REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING FOR THEIR ENTIRE LENGTH. THIS BEDDING SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 10% OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 3 INCHES, OR AS SHOWN ON THE DRAWINGS.
- LAYING PIPE— BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE JOINTS ARE SEALED FOR THE ENTIRE LINE, THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE ARE FILLED. CARE SHALL BE EXERCISED TO PREVENT ANY DEVIATION FROM THE ORIGINAL LINE AND GRADE OF THE PIPE. THE FIRST JOINT MUST BE LOCATED WITHIN 2 FEET FROM THE RISER.
- BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
- OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

**POLYVINYL CHLORIDE (PVC) PIPE**— ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR POLYVINYL CHLORIDE (PVC) PIPE:

- MATERIALS—PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241.
- JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.
- BEDDING— THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.
- BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
- OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

**POLYETHYLENE TEREPHTHALATE (PET) PIPE**— ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR POLYETHYLENE TEREPHTHALATE (PET) PIPE:

- MATERIALS—PET PIPE SHALL BE PET-1120 OR PET-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241.
- JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.
- BEDDING— THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.
- BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
- OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

**CONCRETE** SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 505.

THE RIPRAP SHALL BE PLACED TO THE REQUIRED THICKNESS IN ONE OPERATION. THE ROCK SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE THE RIPRAP IS PLACED IN A HOMOGENEOUS WITH THE LARGER ROCKS UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT ONE TO ANOTHER WITH THE SMALLER ROCKS FILLING THE VOIDS BETWEEN THE LARGER ROCKS. FILTER CLOTH SHALL BE REPLACED UNDER ALL RIPRAP. ALL RIPRAP TO BE USED BY THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 519.12.2.

## CARE OF WATER DURING CONSTRUCTION

ALL WORK ON THE PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DYES, LEVES, COFFRAMS, 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 TEMPORARY WORKS FROM THE REMOVAL OF WATER FROM THE 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 FILL 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 WALLS AND BOTTOM OF THE 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 FILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER TO PUMPS FROM WHICH THE WATER SHALL BE PUMPED.

## STABILIZATION

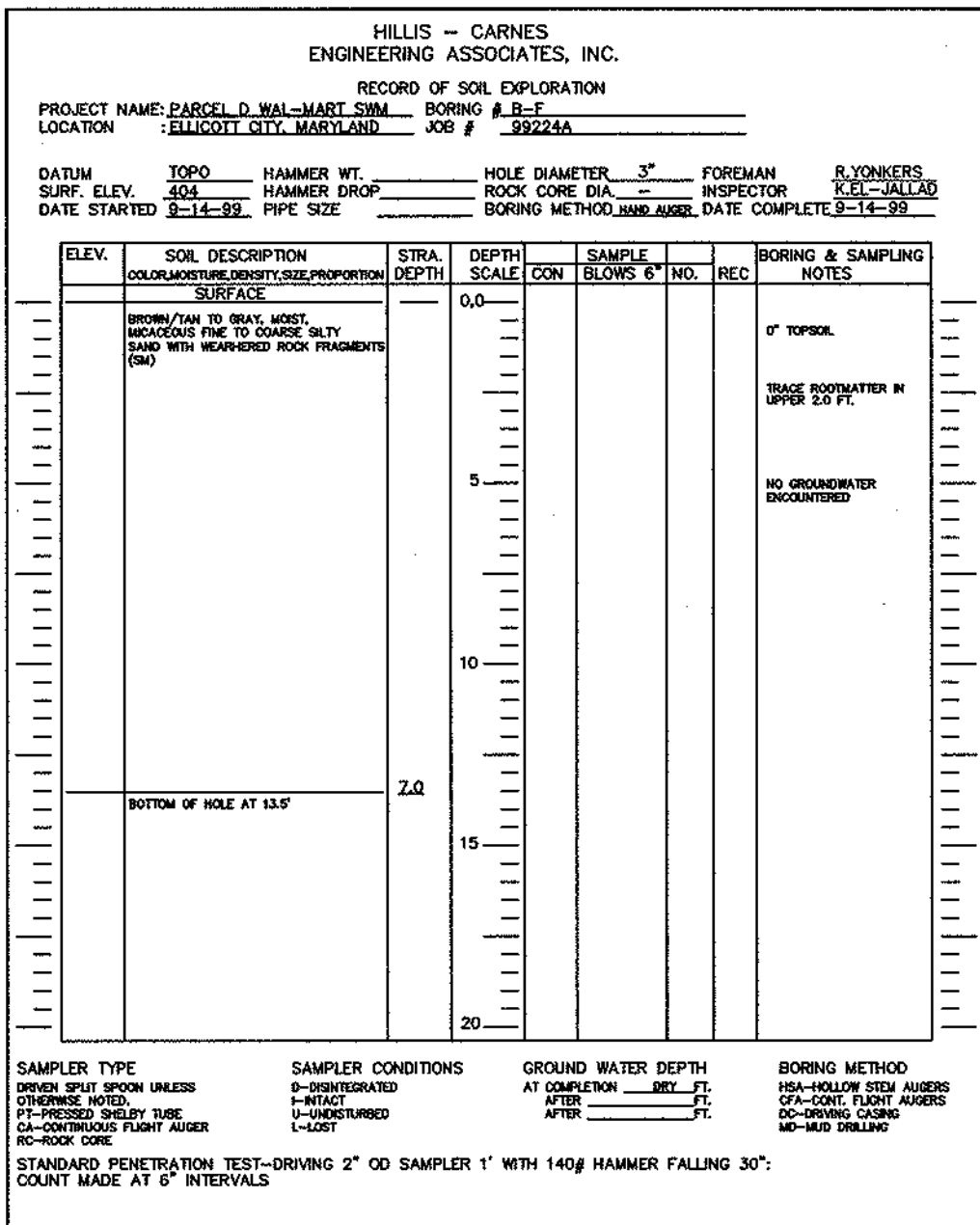
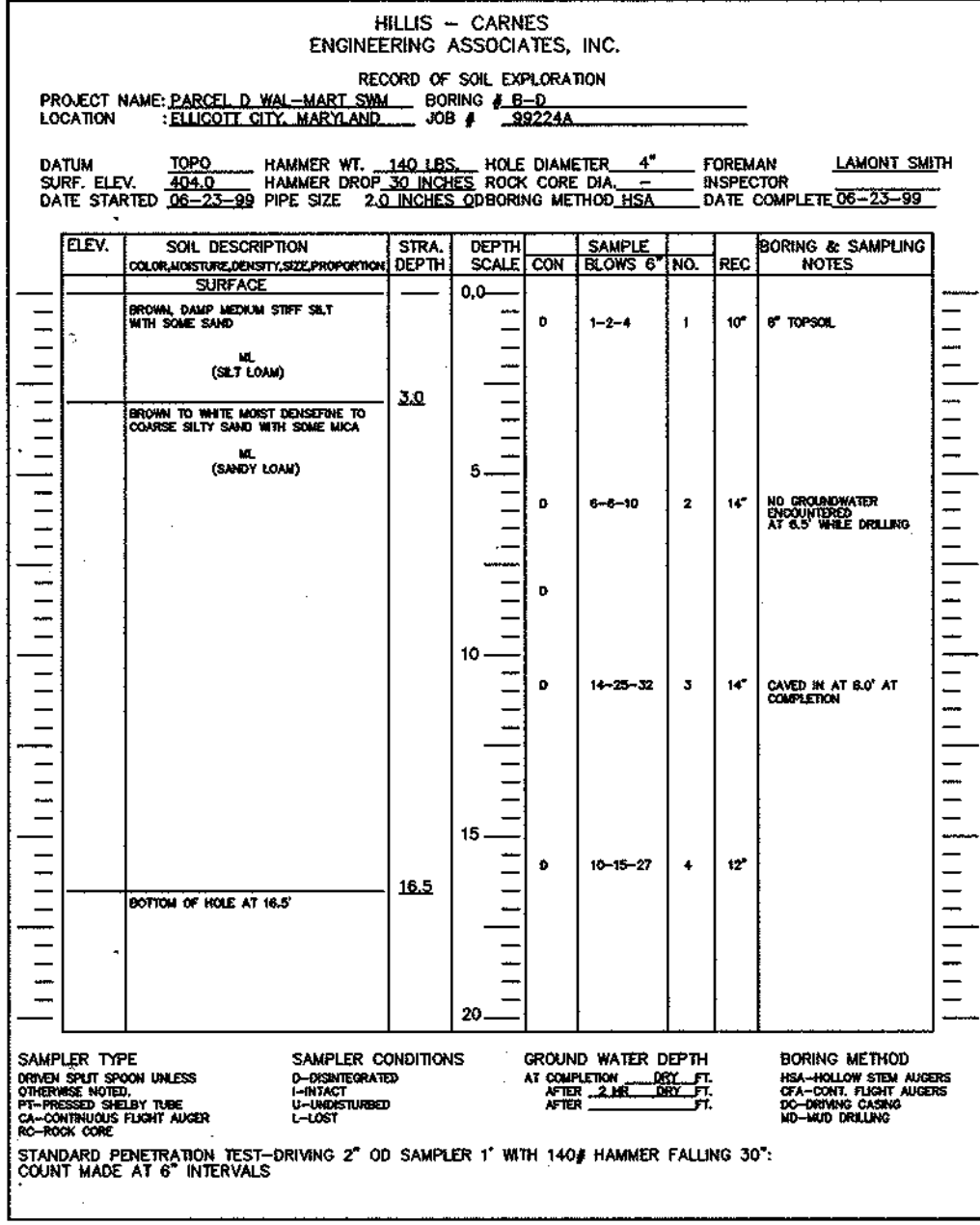
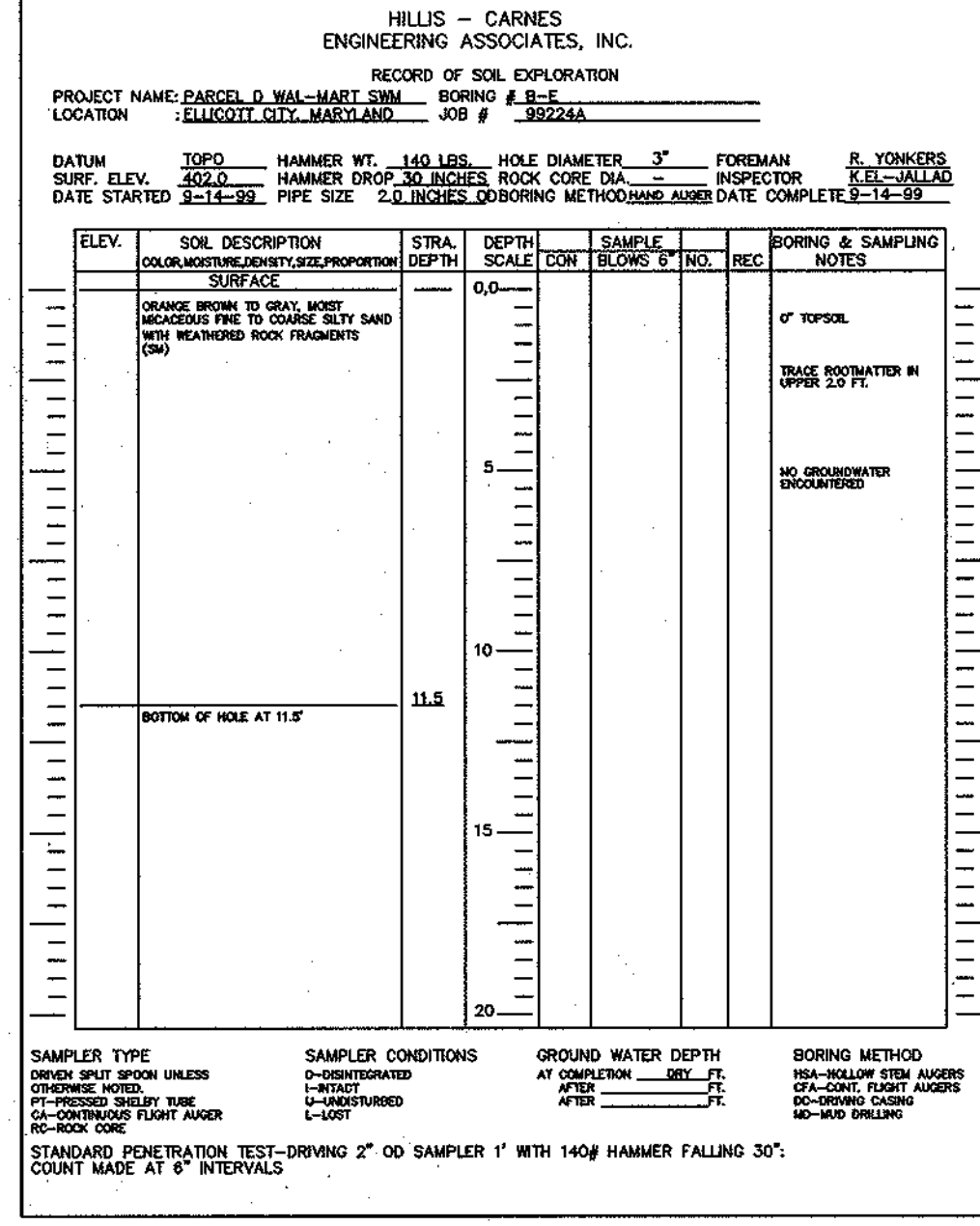
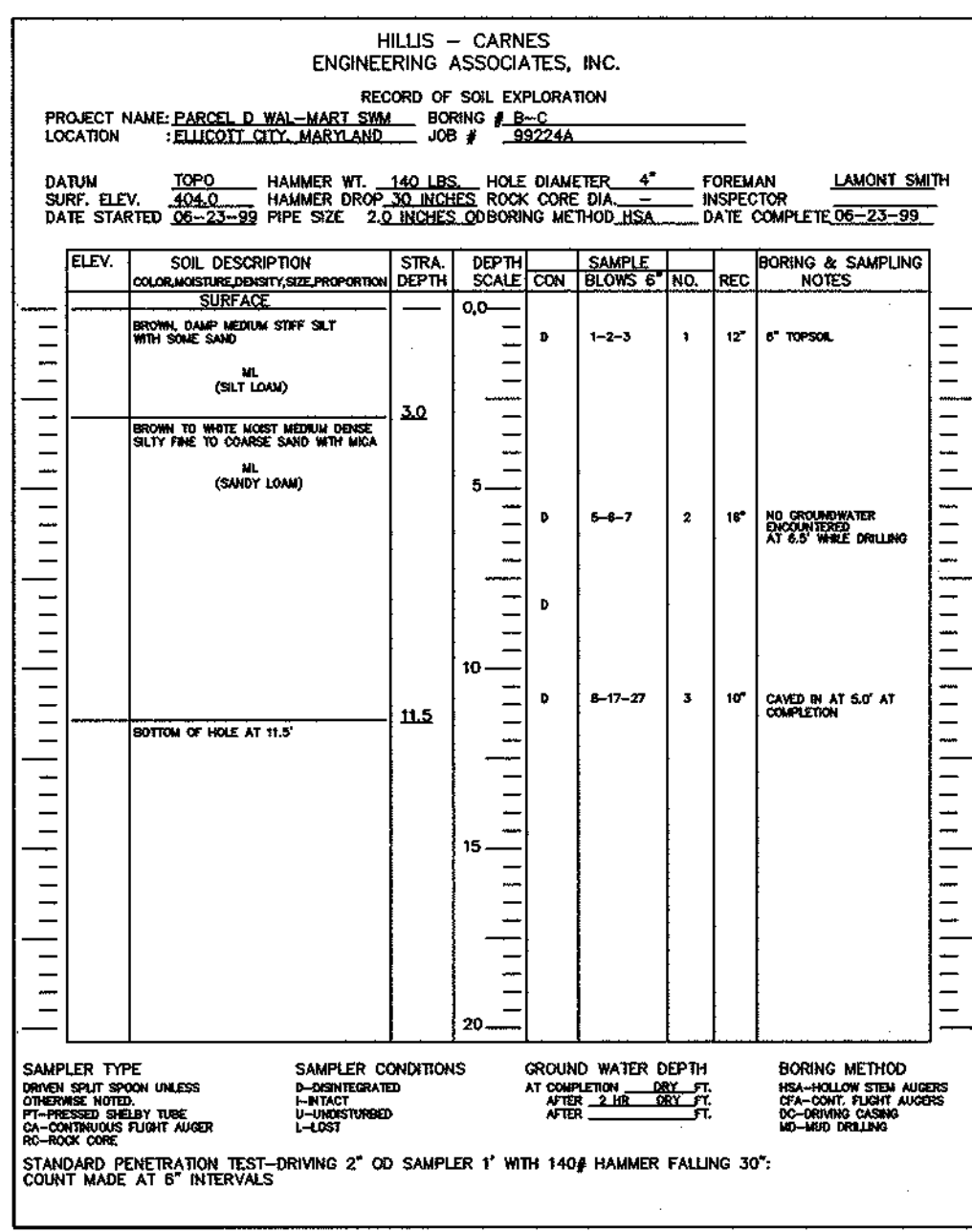
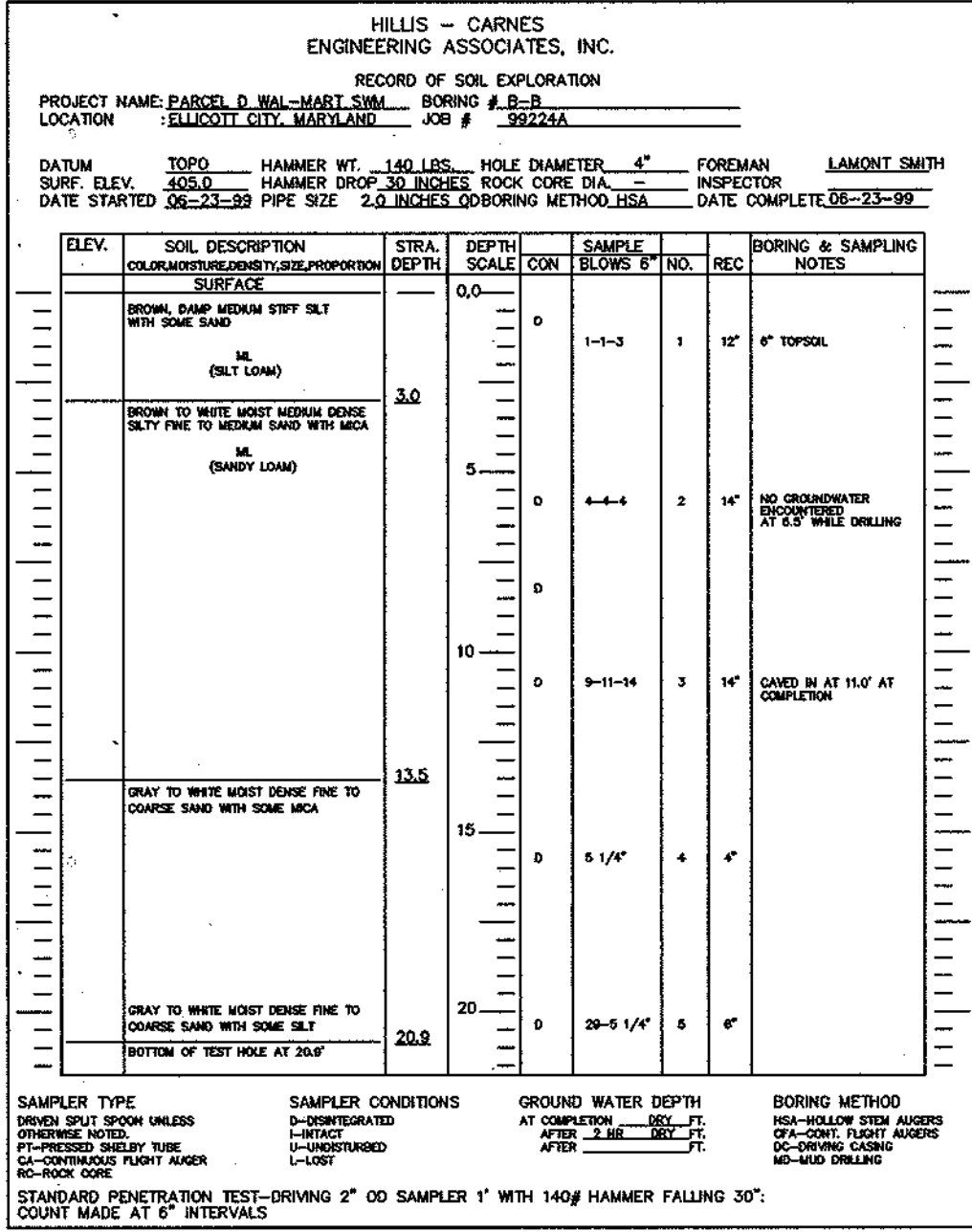
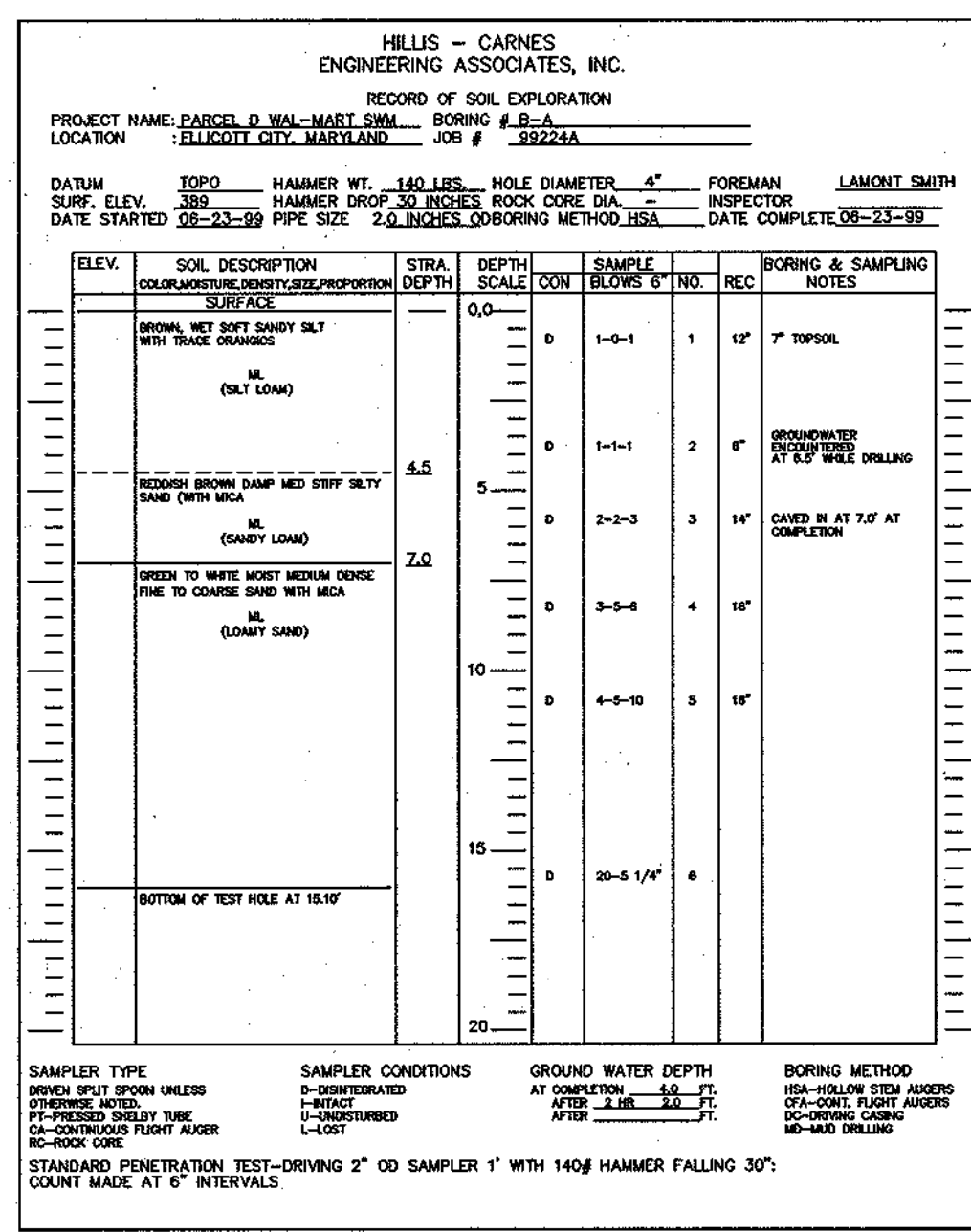
ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE MARYLAND SOIL CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.

## 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 TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS.

## SWM POND MAINTENANCE REQUIREMENTS

- SILT SHALL BE REMOVED WHEN ACCUMULATION EXCEEDS SIX (6) INCHES IN BASINS WITHOUT FOREBAYS. IN BASIN WITH FOREBAYS, SILT SHALL BE REMOVED WHEN ACCUMULATION EXCEEDS FOUR (4) INCHES IN THE FOREBAY.
- ACCUMULATED PAPER, TRASH AND DEBRIS SHALL BE REMOVED AS NECESSARY.
- VEGETATION GROWING ON THE EMBANKMENT TOP AND FACES IS NOT ALLOWED TO EXCEED 18 INCHES IN HEIGHT AT ANY TIME.
- ANNUAL INSPECTION AND REPAIR, IF REQUIRED, OF THE STRUCTURE SHALL BE PERFORMED.



## OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SSC STANDARDS AND SPECIFICATIONS FOR PONDS (MD-378), THE POND OWNER(S) AND THE 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.

## GEOTECHNICAL RECOMMENDATIONS

- WITHIN THE EMBANKMENT AREA, STRIP THE TOPSOIL AND ANY SOFT OR OTHERWISE UNSUITABLE MATERIALS TO EXPOSE STABLE, UNDISTURBED NATIVE SOILS.
- PROOF ROLL THE STRIPPED SURFACE TO A UNIFORM CONDITION FURTHER CUTTING OFF ANY SOFT OR OTHERWISE UNSUITABLE SPOTS AND REPLACING WITH CONTROLLED FILL.
- EXCAVATE THE CUT OFF TRENCH, BACKFILL THE RESULTING EXCAVATION WITH ACCEPTABLE FINE-GRAINED MATERIALS AND CONSTRUCT THE PROPOSED RISER AND OUTFALL PIPE. THE CUT OFF TRENCH, RISER AND OUTFALL PIPE CONSTRUCTION FOR THE SWM POND SHOULD BE COMPLETED IN ACCORDANCE WITH APPROPRIATE CITY SPECIFICATIONS. THE SOIL TYPES USED IN THE CUT OFF TRENCH CONSTRUCTION SHOULD BE APPROVED FOR THE INTENDED USAGE.
- FILL THE DESIGNATED EMBANKMENT AREA WITH CONTROLLED FILL TO ACHIEVE PLAN GRADE. IT IS RECOMMENDED THAT THE EMBANKMENT BE PROVIDED WITH A MINOR CORE EXTENDING UPWARDS TO THE 100-YEAR RETENTION LEVEL SO THAT THE MORE GRANULAR MATERIALS AVAILABLE ON SITE MAY BE USED IN THE OUTER REGIONS OF THE EMBANKMENT WITH THE MOST POROUS MATERIALS PLACED IN THE DOWNSTREAM CONSTRUCTION. ALL FILL PLACEMENT AND COMPACTION SHALL BE IN ACCORDANCE WITH APPROVED STANDARDS.
- WITHIN THE POND BASIN AREA, CUT THE POND TO PLAN GRADE. IT IS NOTED THAT VERY DENSE DISINTEGRATED ROCK WAS ENCOUNTERED ABOVE THE UPPER AND LOWER LIMITS OF THE PLAN POND BOTTOM AT B-9 WITH HARD ROCK ENCOUNTERED NEAR THE LOWER PLAN BOTTOM AT B-9. ACCORDINGLY, IN ORDER TO ACHIEVE THE POND BOTTOM GRADE, PRE-RIPPING COMBINED WITH JACKHAMMERING WILL MOST LIKELY BE REQUIRED IN VARIOUS AREAS TO EXCAVATE THE VERY DENSE DISINTEGRATED TO HARD ROCK MATERIALS. ELASTING WITHIN THE POND AREA IS NOT RECOMMENDED, SINCE STRESS FRACTURES WITHIN THE UNDERLYING ROCK MAY DEVELOP; THEREBY, POSSIBLY DAMAGING THE INTEGRITY OF THE SWM POND.

## OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DETENTION POND

- ROUTINE MAINTENANCE:**
- FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
  - TOP END SIDES 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.
  - DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATION AND AS NEEDED.
  - VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIP-RAP OR GABION OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
- NON-ROUTINE MAINTENANCE:**
- 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.
  - SEDIMENT SHALL BE REMOVED FROM THE POND, AND FOREBAY, NO LATER THAN WHEN THE CAPACITY OF THE POND, OR FOREBAY, IS HALF FULL OF SEDIMENT. NECESSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.

## OPERATION AND MAINTENANCE SCHEDULE FOR STORMCEPTOR WATER QUALITY DEVICE

- THE STORMCEPTOR WATER QUALITY STRUCTURE SHALL BE PERIODICALLY INSPECTED AND CLEANED TO MAINTAIN OPERATION AND FUNCTION. THE OWNER SHALL INSPECT THE STORMCEPTOR UNIT YEARLY AT A MINIMUM, UTILIZING THE STORMCEPTOR INSPECTION/MONITORING FORM. INSPECTION SHALL BE DONE BY USING A CLEAR PLEXIGLAS TUBE ("SLOW JUDGE") TO EXTRACT A WATER COLUMN SAMPLE WHEN THE SEDIMENT DEPTHS EXCEED THE LEVEL SPECIFIED IN TABLE 6 OF THE STORMCEPTOR TECHNICAL MANUAL. THE UNIT MUST BE CLEANED.
- THE STORMCEPTOR WATER QUALITY STRUCTURE SHALL BE CHECKED IMMEDIATELY AFTER PETROLEUM SPILLS. THE OWNER SHALL CONTACT THE APPROPRIATE REGULATORY AGENCIES.
- THE MAINTENANCE OF THE STORMCEPTOR UNIT SHALL BE DONE USING A VACUUM TRUCK WHICH REMOVE THE WATER, SEDIMENT, DEBRIS, FLOATING HYDROCARBONS AND OTHER MATERIALS IN THE UNIT. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
- THE INLET AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTION AT LEAST EVERY SIX MONTHS. IF OBSTRUCTIONS ARE FOUND THE OWNER SHALL HAVE THEM REMOVED. STRUCTURAL PARTS OF THE STORMCEPTOR UNIT SHALL BE REPAIRED AS NEEDED.
- THE OWNER SHALL RETAIN AND MAKE THE STORMCEPTOR INSPECTION/MONITORING FORMS AVAILABLE TO THE HOWARD COUNTY OFFICIALS UPON THEIR REQUEST.

## PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL #
ELLICOTT CITY WAL-MART		PARCEL - D
PLAT #	BLOCK #	ZONE
13866 & 13867	23 & 6	POR
TAX MAP	ELEC. DIST.	CENSUS TRACT
17 & 24	2ND	6026
WATER CODE	SEWER CODE	1452800
FO3		
PROPOSED IMPROVEMENTS: OFFICE BUILDING, ASSISTED LIVING & NURSING HOME		

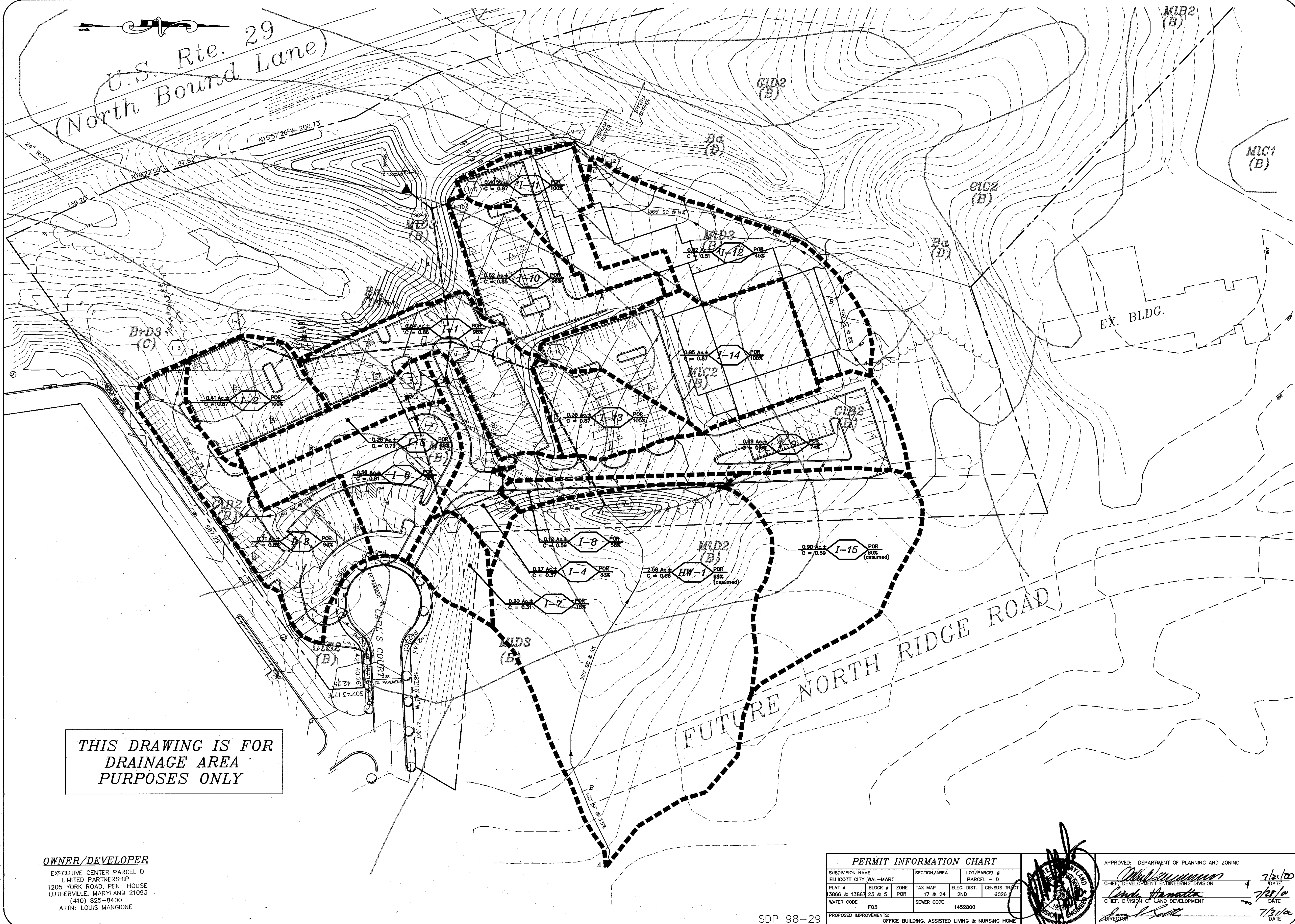
date	JUNE 00
project	97054
illustration	engineering
scale	M&P
approval	M&P
AS SHOWN	

description	
revisions	
date	
no.	

TAX MAP 17 & 24, P/O PARCEL 1085  
**ELLICOTT CITY WAL-MART PARCEL D**  
 HOWARD COUNTY, MARYLAND  
 SECOND ELECTION DISTRICT  
**STORMWATER MANAGEMENT SPECIFICATIONS**

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 987-0286 Fax: (301) 621-5621 Wash. (410) 987-0286 Fax.





THIS DRAWING IS FOR  
DRAINAGE AREA  
PURPOSES ONLY

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

PERMIT INFORMATION CHART					
SUBDIVISION NAME ELLICOTT CITY WAL-MART	SECTION/AREA 17 & 24	LOT/PARCEL # PARCEL - D	ELEC. DIST. 2ND	CENSUS TRACT 6026	DATE 7/25/00
PLAT # 13866 & 13867	BLOCK # 23 & 5	ZONE POR	TAX MAP 17 & 24	SEWER CODE 1452800	DATE 7/25/00
WATER CODE FO3	SEWER CODE 1452800	PROPOSED IMPROVEMENTS: OFFICE BUILDING, ASSISTED LIVING & NURSING HOME	DATE 7/3/00		



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

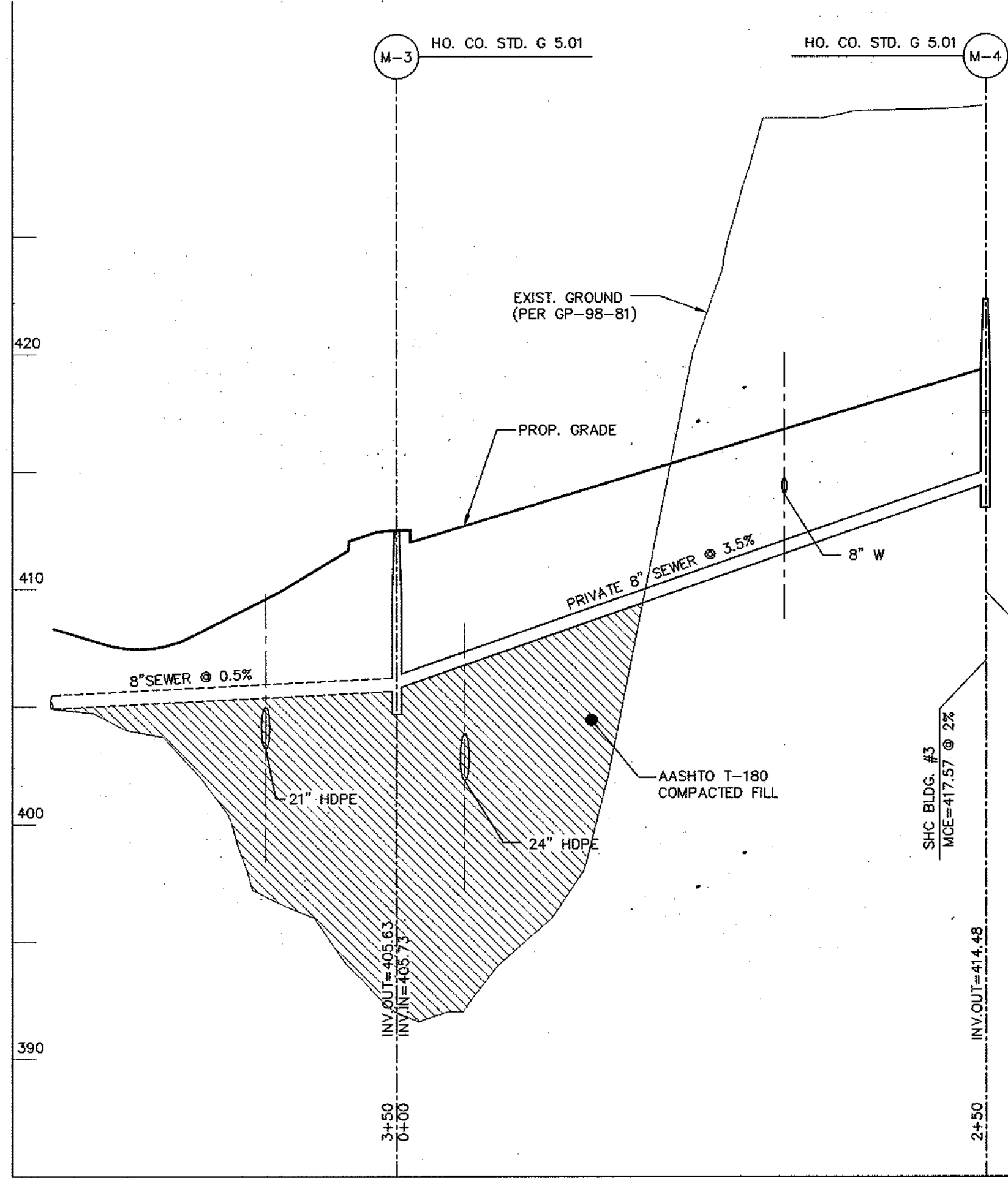
Project	97054	date	JUNE 00
Illustration	KR/MMP	engineering	KR
Scale	1"=50'	approval	

no.	description	date

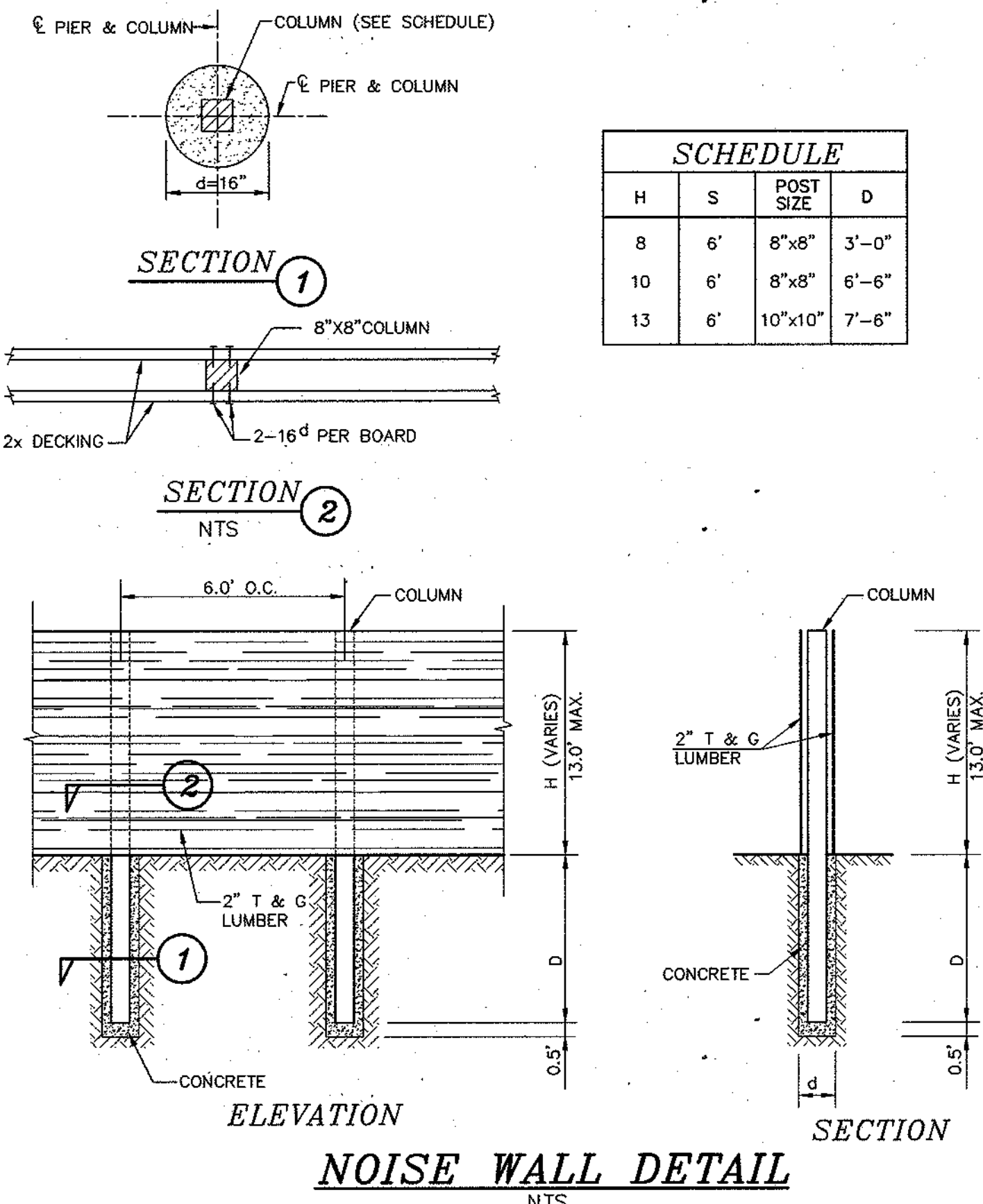
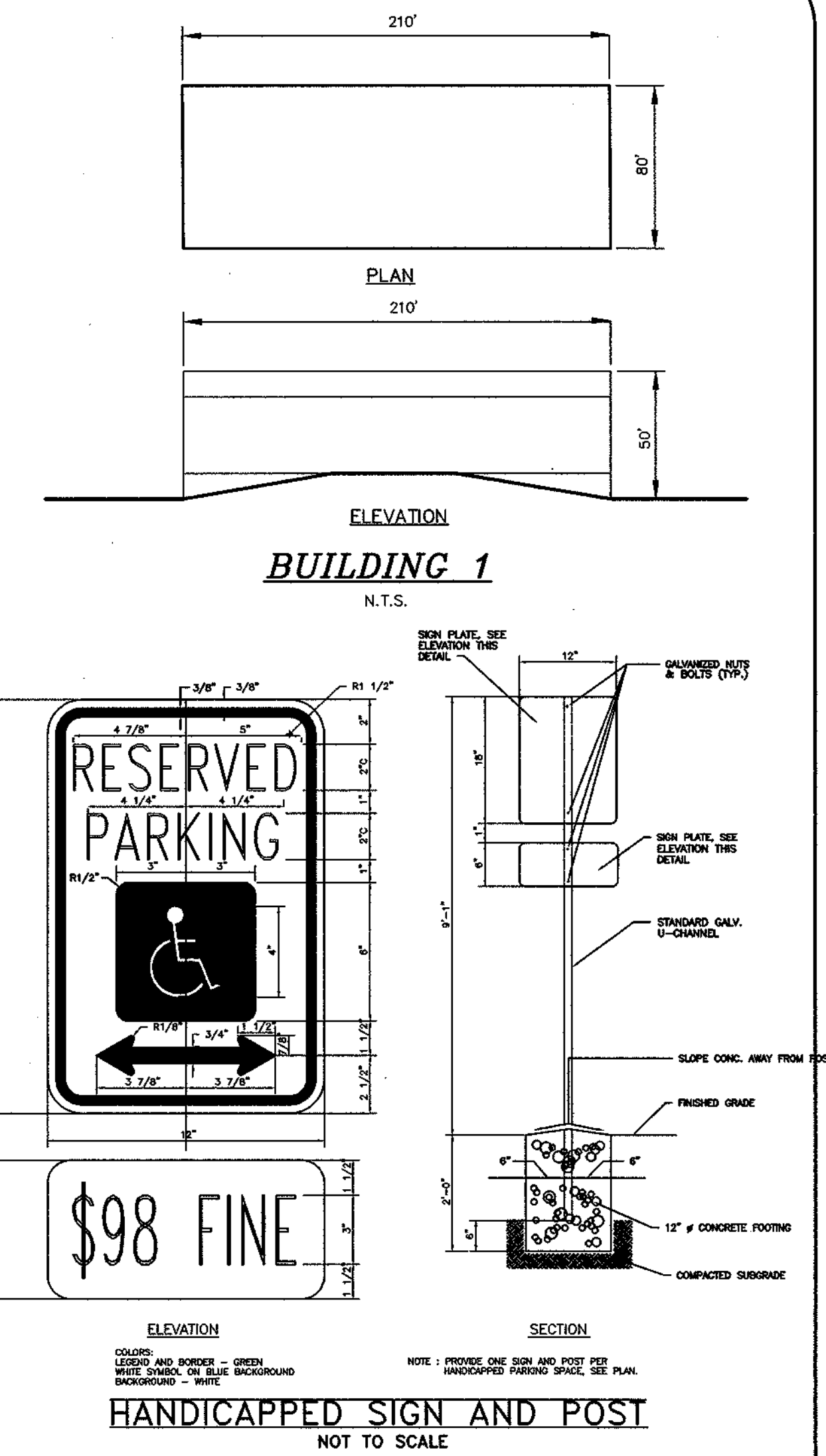
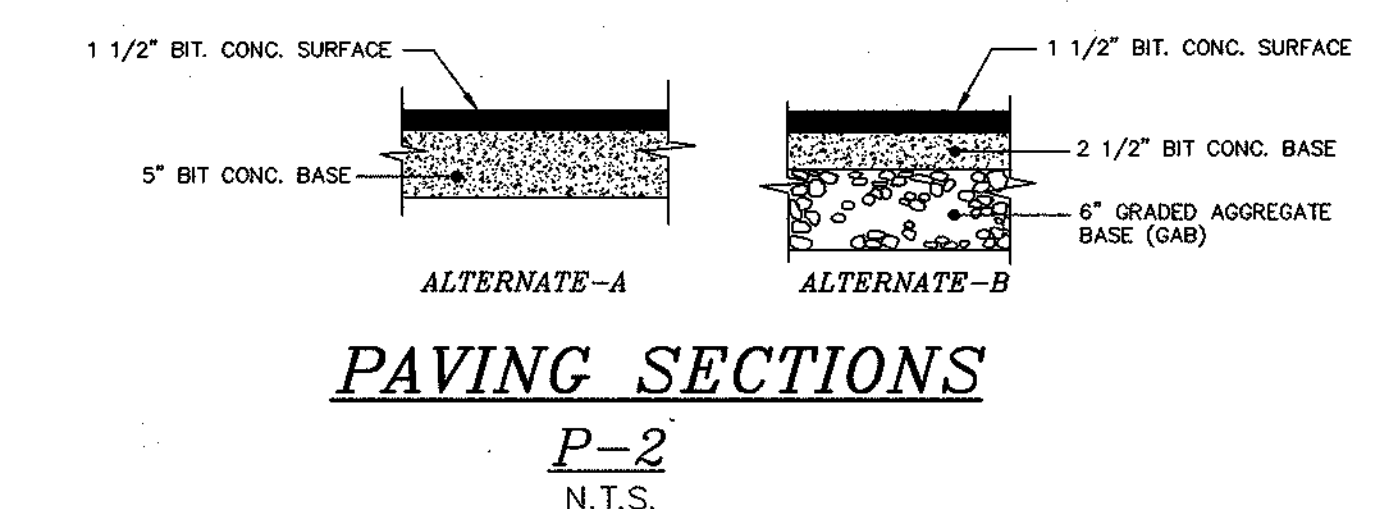
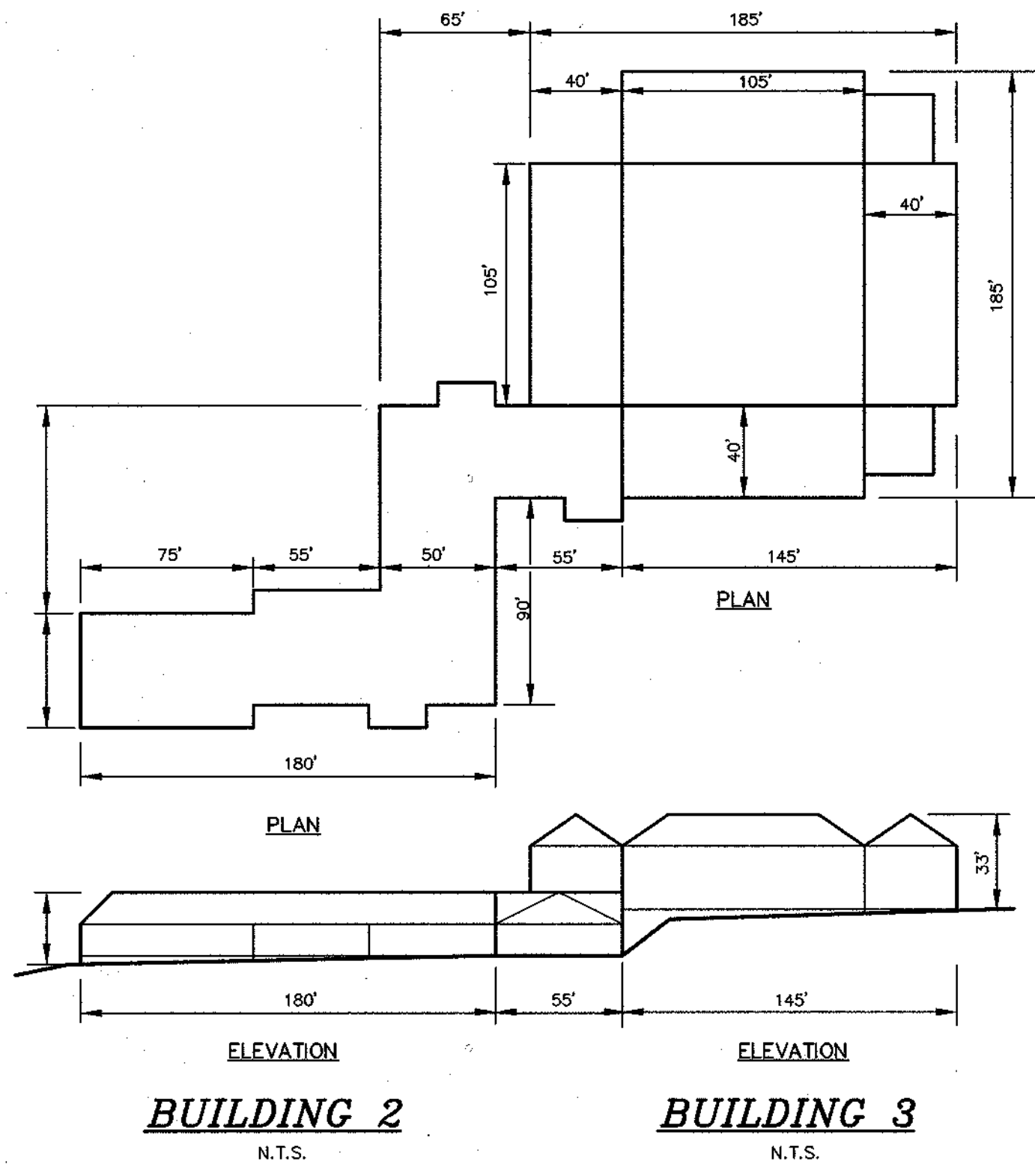
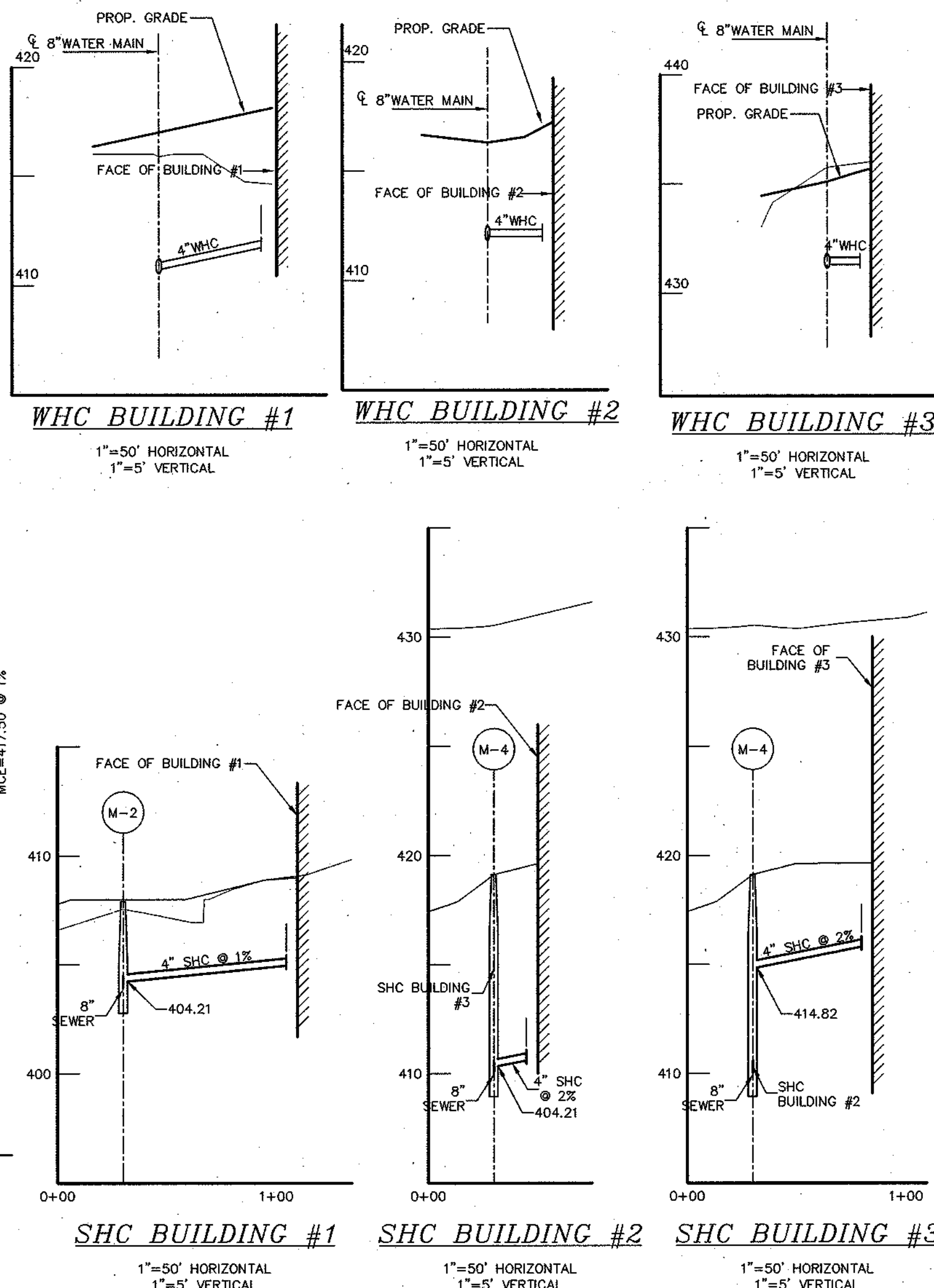
TAX MAP 17 & 24, PARCELS: 1085  
**ELLICOTT CITY WAL-MART PARCEL D**  
 SECOND ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 INLET DRAINAGE AREA MAP

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Drossy Hill Drive, Suite 202, Ellicott City, Maryland, 21042  
 (410) 987-0280 Fax. (301) 821-5521 Wash. (410) 987-0288 Fax.



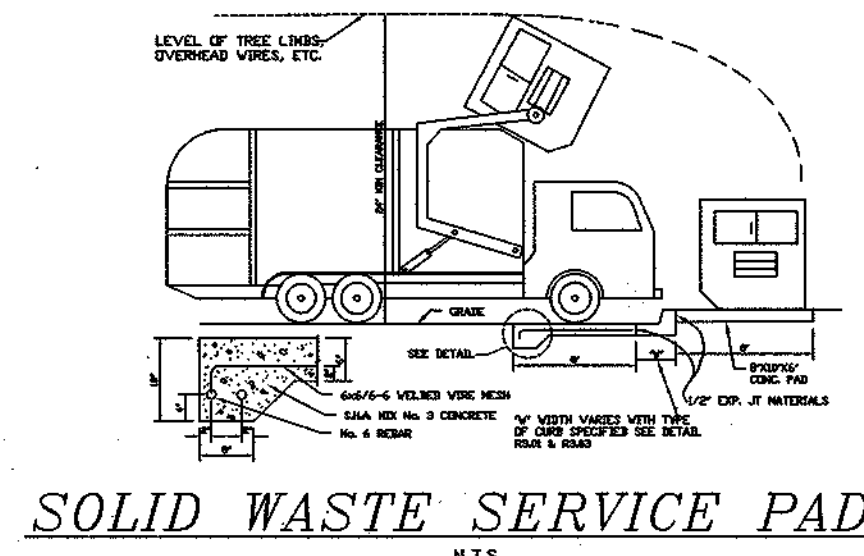


**8" SEWER MAIN PROFILE**  
SCALE= VER. 1"=5'  
HOR. 1"=50'



- NOTES:
- GENERAL:
    - HEIGHT OF BARRIER SHALL BE BASED ON ACOUSTIC REQUIREMENTS.
    - BARRIER WALLS HAVING A HEIGHT (H) NOT INDICATED IN THE TABLES SHALL BE CONSTRUCTED AS SHOWN IN THE HIGHER HEIGHT CATEGORY.
  - SIDING:
    - 2 INCH WOOD DECKING MATERIAL SHALL BE UTILIZED TO SPAN HORIZONTALLY BETWEEN POSTS. DESIGN CRITERIA IS BASED ON AN ALLOWABLE BENDING STRESS OF 1400 LBS. PER SQ. IN. AND A 33 1/3% INCREASE IN STRESS FOR WIND LOADS AS CONSIDERED APPROPRIATE. DECKING SHALL BE MC15.
    - SIDING IN CONTACT WITH THE GROUND AND FOR A DISTANCE OF 6" ABOVE GRADE SHALL BE TREATED WITH WOOD PRESERVATIVE.
  - POST:
    - WOOD POST SHALL BE UTILIZED AT THE SPACING INDICATED ON THE SCHEDULE. DESIGN CRITERIA IS BASED ON AN ALLOWABLE BENDING STRESS OF 1400 LBS. PER SQ. IN. AND A 33 1/3% INCREASE FOR WIND LOAD.
    - POST EMBEDDED IN THE AREA OF EMBEDMENT AND 12" ABOVE GRADE.
  - CONCRETE:
    - CONCRETE IN THE PIERS HAVE A 28 DAY COMPRESSIVE STRENGTH OF 2500 LBS. PER SQ. FT.
    - CONCRETE SHALL BE PLACED IN DRILLED PIERS UTILIZING THE EARTH AS THE FORMS.
  - FOUNDATIONS:
    - THE DRILLED PIERS HAVE BEEN DESIGNED UTILIZING AN ALLOWABLE PASSIVE PRESSURE OF 300 LBS. PER SQ. FT. AND THE FOLLOWING FORMULA:  

$$D = \left( \frac{14.52M}{P_d} \right)^{1/3}$$
 M= MOMENT AT TOP OF DRILLED PIER (FT./LBS)  
 P= ALLOWABLE PASSIVE PRESSURE (300 LBS PER SQ.FT.)  
 D= DIAMETER OF PIER (FT.)  
 D= DEPTH OF PIER (FT.)
  - ALTERNATIVE #1 (PRESERVATIVE TREATMENT) ALTERNATIVE #1 REPRESENTS THE ADDITIONAL COST FACTOR FOR TREATING THE BASIC WOOD STRUCTURE INDICATED ON THIS REFERENCE PLAN. THE NECESSITY FOR TREATMENT AND THE TYPE OF PRESERVATIVE WILL BE SUBJECT TO LOCAL CONDITIONS. ALL TREATMENTS SHALL CONFORM TO AWWA STD C-14.
  - ALTERNATIVE #2 (PAINTING) ALTERNATIVE #2 REPRESENTS THE ADDITIONAL COST FACTOR REQUIRED TO PAINT ONE SIDE OF THE BASIC WOOD STRUCTURE SHOWN ON THIS REFERENCE PLAN. PAINTING SHALL CONSIST OF 3 APPLICATIONS OF PAINT: 2 COATS OF LATEX BASE PAINT CONFORMING TO FEDERAL SPECIFICATION TT-P-009966 SHALL BE APPLIED OVER PRIMER COAT CONFORMING TO FEDERAL SPECIFICATION TT-P-00250.
  - ALTERNATIVE #3 (STAINING) ALTERNATIVE #3 REPRESENTS THE ADDITIONAL COST FACTOR REQUIRED TO STAIN ONE SIDE OF BASIC WOOD STRUCTURE. STAIN SHALL CONSIST OF 2 COATS OF SEMI-TRANSPARENT SEALER STAIN APPLIED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.



**Hydro Conduit**  
STC 7200  
PRECAST CONCRETE STORMCEPTOR

GENERAL NOTES:  
 1. STORMCEPTOR SECTION SHALL CONFORM TO AWWA C 604 PROFILE...  
 2. UNLESS NOTED OTHERWISE, ALL MATERIALS SHALL BE AS SHOWN...  
 3. FINISH CONCRETE SURFACE SHALL BE SMOOTH AND FINISHED TO MATCH ADJACENT SURFACES...  
 4. REINFORCEMENT SHALL BE AS SHOWN...  
 5. FLOORING SHALL BE AS SHOWN...  
 6. ALL MATERIALS SHALL BE AS SHOWN...  
 7. REFER TO AWWA C 604 FOR DIMENSIONS AND DETAILS...  
 8. REFER TO AWWA C 604 FOR DIMENSIONS AND DETAILS...

**Order Request Form**  
Precast Concrete Stormceptor

Contractor Information:  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State: \_\_\_\_\_  
 Zip Code: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_

Owner Information:  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State: \_\_\_\_\_  
 Zip Code: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_

PLEASE FILL OUT COMPLETELY AND FAX TO: (410) 997-0298

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

**PERMIT INFORMATION CHART**

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL #
ELLICOTT CITY WAL-MART	17 & 24	D
FLAT #	BLOCK #	ZONE
13866 & 13867	23 & 6	POR
WATER CODE	SEWER CODE	ELEC. DIST.
F03	1452800	6025
PROPOSED IMPROVEMENTS:	OFFICE BUILDING, ASSISTED LIVING & NURSING HOME	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

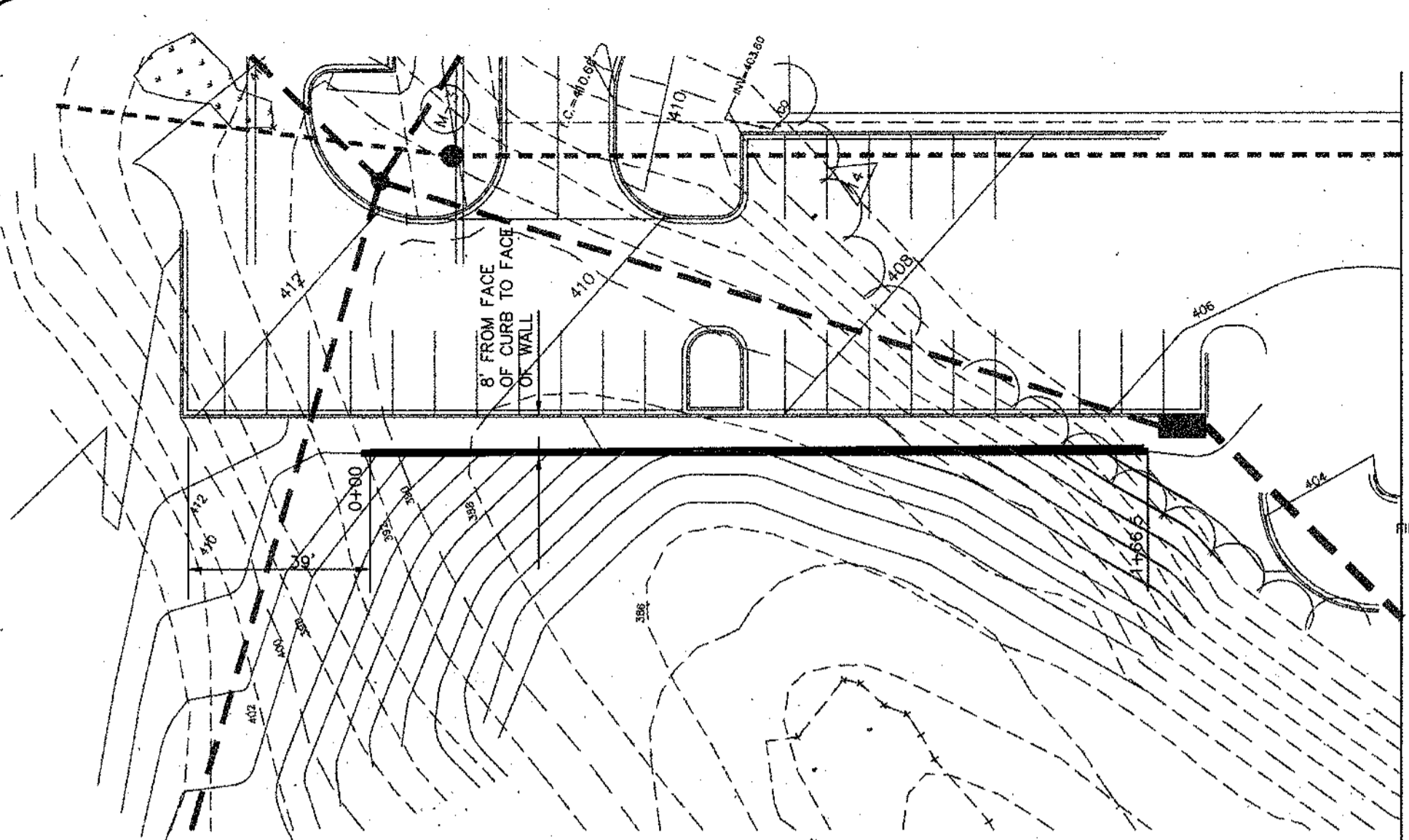
CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* 7/21/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* 7/21/00  
 DIRECTOR: *[Signature]* 7/21/00

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

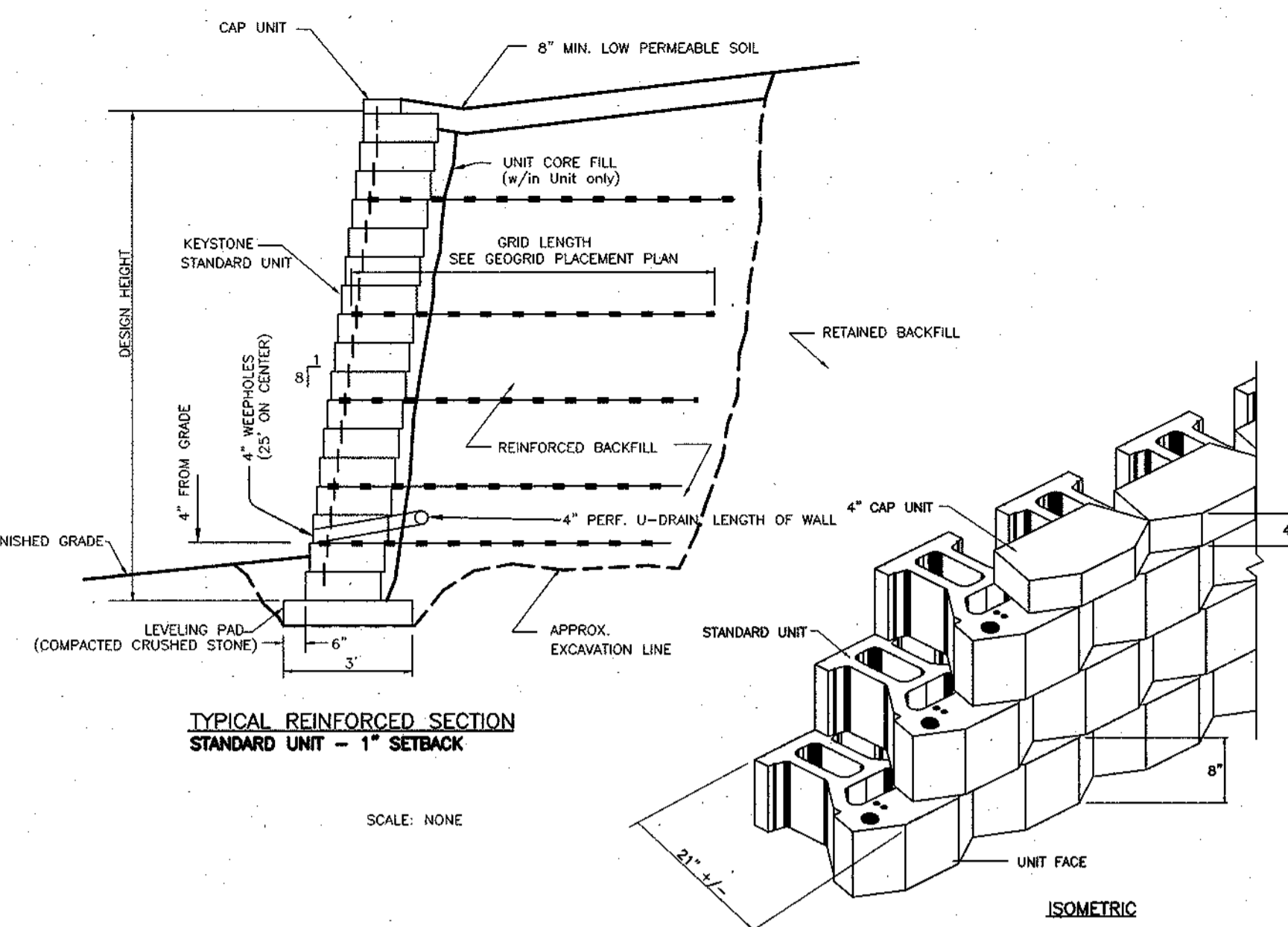
**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Drexel Hill Drive, Suite 202, Ellicott City, Maryland, 21042  
 (410) 987-0286, Fax: (301) 621-5521, Wash. (410) 997-0288, Fax

Project: 97024  
 Date: JUNE 00  
 Illustration: MMP  
 Engineering: MMP  
 Scale: AS SHOWN  
 Approval: MMP





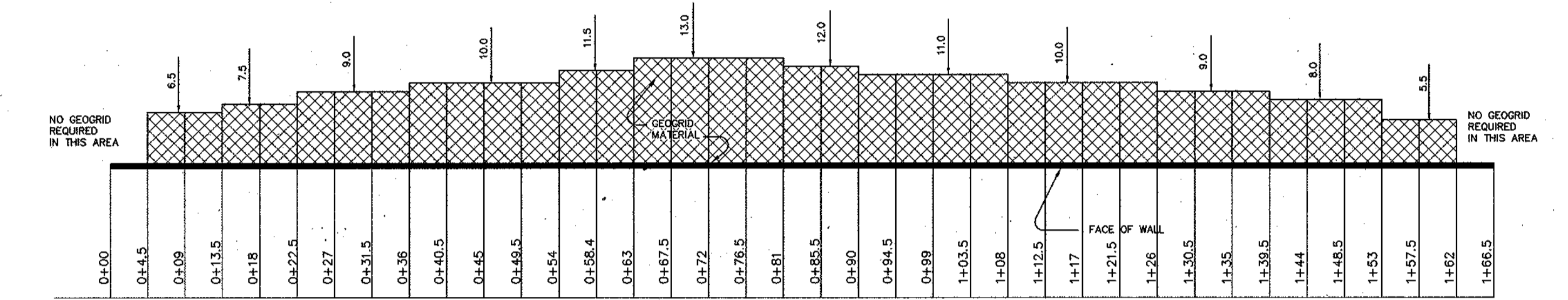
**RETAINING WALL - SITE PLAN**  
1" = 30'



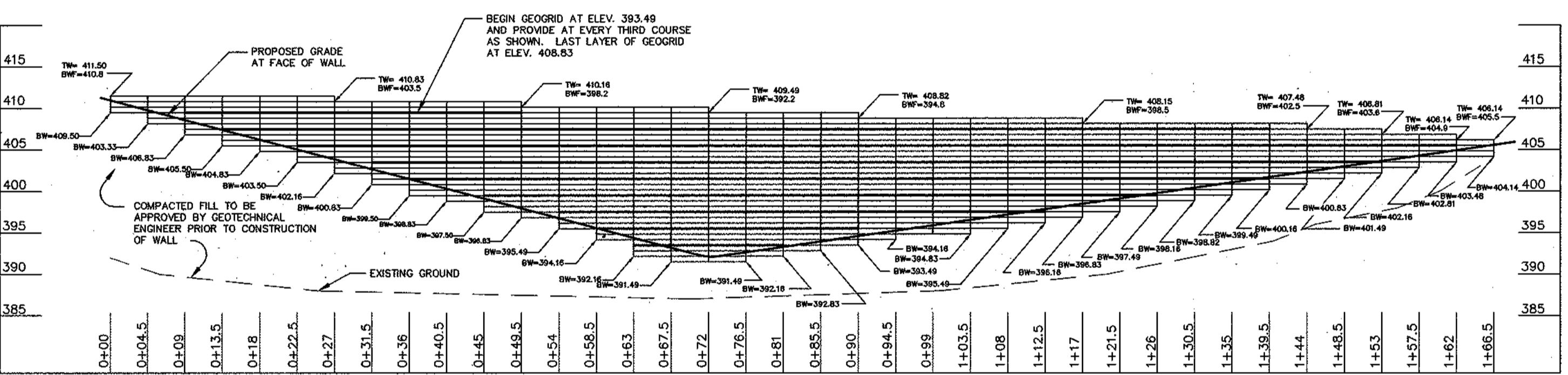
**TYPICAL REINFORCED SECTION**  
STANDARD UNIT - 1" SETBACK

SCALE: NONE

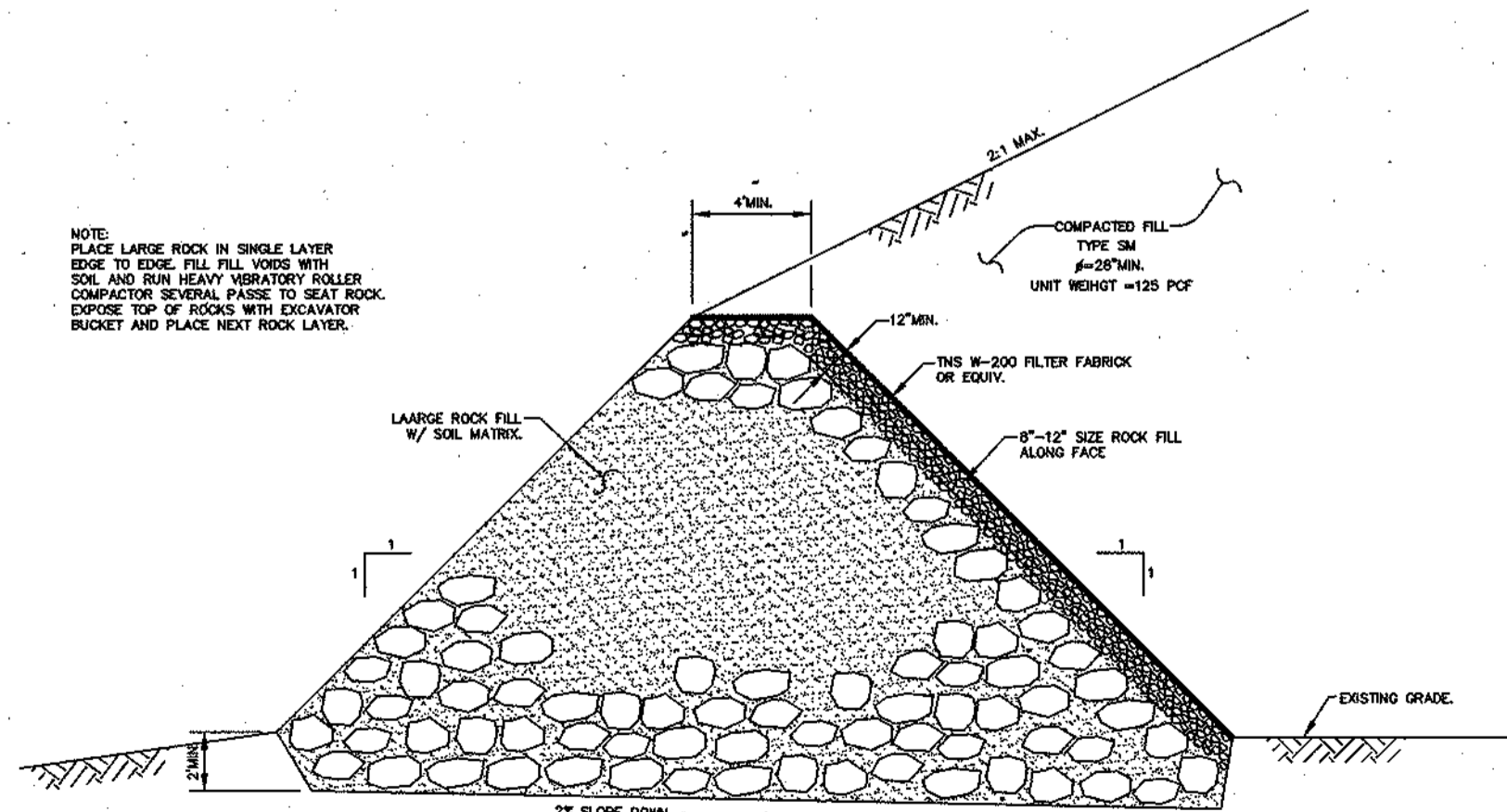
**LEGEND:**  
TW - TOP OF 4" CAP UNIT  
BW - PROPOSED GRADE AT FACE OF WALL  
BW - BOTTOM OF KEYSTONE STANDARD UNIT  
--- LOCATION OF GEOGRID



**KEYSTONE PLAN - GEOGRID PLACEMENT**



**KEYSTONE RETAINING WALL - ELEVATION**



**ALTERNATIVE WALL DETAIL**

TO BE CONSTRUCTED UNDER DIRECT SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER.

**RETAINING WALL - SPECIFICATIONS**

**2.02 MODULAR CONCRETE RETAINING WALL UNITS**

A. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING ARCHITECTURAL REQUIREMENTS:

FACE COLOR - STANDARD MANUFACTURERS' COLOR OR CUSTOM COLOR AS SPECIFIED BY THE OWNER.

FACE FINISH - SCULPTURED ROCK FACE IN ANGULAR MULTIPLANNER 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.

EXPOSED SURFACES OF UNITS SHALL BE FREE OF CHIPS, CRACKS OR OTHER IMPERFECTIONS WHEN VIEWED FROM A DISTANCE OF 10 FEET UNDER DIFFUSED LIGHTING.

B. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING MATERIAL REQUIREMENTS:

1. CEMENT - MATERIALS SHALL CONFORM TO THE FOLLOWING APPLICABLE SPECIFICATIONS.
  - A. PORTLAND CEMENT - ASTM C 150
  - B. MODIFIED PORTLAND CEMENT - PORTLAND CEMENT CONFORMING TO ASTM C 150, MODIFIED AS FOLLOWS: Limestone - CALCIUM CARBONATE, WITH A MINIMUM 85% CONTENT, MAY BE ADDED TO THE CEMENT, PROVIDED THESE REQUIREMENTS OF C 150 AS MODIFIED ARE MET: (1) LIMITATION ON INSOLUBLE RESIDUE 1.5%; (2) LIMITATION ON AIR CONTENT OF MORTAR - VOLUME PERCENT, 22% MAXIMUM; AND (3) LIMITATIONS OF LOSS OF IGNITION - 7%
  - C. BLENDED CEMENTS - ASTM C 618
  - D. POZZOLANS - ASTM C 618
  - E. BLAST FURNACE SLAG CEMENT - ASTM C 989
2. AGGREGATES - AGGREGATES SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS, AS APPLICABLE.
  - A. NORMAL WEIGHT AGGREGATES - ASTM C 33
  - B. LIGHTWEIGHT AGGREGATES - ASTM C 331
3. OTHER CONSTITUENTS - AIR ENTRAINING AGENTS, COLORING PIGMENTS, INTEGRAL WATER REPELLENTS, FINELY GROUND SILICA, AND OTHER CONSTITUENTS SHALL BE PREVIOUSLY ESTABLISHED AS SUITABLE FOR USE IN MODULAR CONCRETE RETAINING WALL UNITS AND SHALL CONFORM TO APPLICABLE ASTM STANDARDS OR SHALL BE SHOWN BY TEST OR EXPERIENCE TO BE NOT DETRIMENTAL TO THE DURABILITY OF THE MODULAR CONCRETE UNITS OR ANY MATERIAL CUSTOMARILY USED IN RETAINING WALL CONSTRUCTION.

C. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING STRUCTURAL AND GEOMETRIC REQUIREMENTS:

COMPRESSIVE STRENGTH = 3000 PSI MINIMUM;

ABSORPTION = 8% MAXIMUM (8% IN NORTHERN STATES) FOR STANDARD WEIGHT AGGREGATES;

UNIT DEPTH - 20 INCHES MINIMUM;

UNIT WIDTH TO HEIGHT RATIO = 2.25: 1;

UNIT WEIGHT - 90 LBS/UNIT MINIMUM FOR STANDARD WEIGHT AGGREGATES

INTER-UNIT SHEAR STRENGTH - 1500 PLF MINIMUM AT 2 PSI NORMAL PRESSURE;

GEOGRID/UNIT PEAK CONNECTION STRENGTH - 1000 PLF MINIMUM AT 2 PSI NORMAL FORCE

MAXIMUM HORIZONTAL GAP BETWEEN ERECTED UNITS SHALL BE - 1/2 INCH.

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 DRAWINGS;

ALIGNMENT AND GRID POSITIONING MECHANISM - FIBERGLASS PINS, TWO PER UNIT MINIMUM;

**2.03 SHEAR CONNECTORS**

A. STRENGTH OF SHEAR CONNECTORS BETWEEN VERTICAL ADJACENT UNITS SHALL BE APPLICABLE OVER A DESIGN TEMPERATURE OF 10 DEGREES F TO + 100 DEGREES F. SHEAR CONNECTORS SHALL BE 1/2" INCH DIAMETER THERMOSET ISOPHTHALIC POLYESTER RESIN-PULTRUDED FIBERGLASS REINFORCEMENT RODS. CONNECTORS SHALL HAVE A MINIMUM FLEXURAL STRENGTH OF 128,000 PSI AND SHORT BEAM SHEAR OF 6,400 PSI.

B. SHEAR CONNECTORS SHALL BE CAPABLE OF HOLDING THE GEOGRID IN THE PROPER DESIGN POSITION DURING GRID PRE-TENSIONING AND BACKFILLING.

**2.04 BASE LEVELING PAD MATERIAL**

A. MATERIAL SHALL CONSIST OF A COMPACTED CRUSHED STONE BASE OR NON-REINFORCED CONCRETE AS SHOWN ON THE CONSTRUCTION DRAWINGS. THE LEVELING PAD SHALL BE A MINIMUM OF 6 INCHES THICK. AS AN OPTION, CONCRETE MAY BE 3 INCHES THICK WITH A COMPACTED GRANULAR BASE FOR A TOTAL THICKNESS OF 6 INCHES.

**2.05 UNIT FILL**

A. UNIT FILL SHALL CONSIST OF CLEAN 1" MINUS CRUSHED STONE OR CRUSHED GRAVEL MEETING THE GRADATION LISTED BELOW.

SIEVE SIZE PERCENT PASSING

1 INCH	100
3/4 INCH	75-100
NO. 4	0 - 10
NO. 50	0 - 5

B. ONE CUBIC FOOT, MINIMUM, OF DRAIN FILL SHALL BE USED FOR EACH SQUARE FOOT OF WALL FACE. DRAIN FILL SHALL BE PLACED WITHIN CORES OF, BETWEEN, AND BEHIND UNITS TO MEET THIS REQUIREMENT.

**2.06 REINFORCED BACKFILL**

A. REINFORCED BACKFILL SHALL BE FREE OF DEBRIS AND MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE PERCENT PASSING

2 INCH	100-75
3/4 INCH	100-75
NO. 4	100-20
NO. 40	0-60
NO. 200	0-35
PHI ANGLE	= 28°
C	= 0
UNIT WGT.	= 120 LBS./CU.FT.
PLASTICITY INDEX (PI)	< 10 AND LIQUID LIMIT < 40.

B. THE MAXIMUM AGGREGATE SIZE SHALL BE LIMITED TO 3/4 INCH UNLESS FIELD TESTS HAVE BEEN OR WILL BE PERFORMED TO EVALUATE POTENTIAL STRENGTH REDUCTIONS TO THE GEOGRID DESIGN DUE TO DAMAGE DURING CONSTRUCTION.

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 BACKFILL OR IN THE REINFORCED SOIL MASS.

D. CONTRACTOR SHALL SUBMIT REINFORCED FILL SAMPLE AND LABORATORY TEST RESULTS TO THE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO THE USE OF ANY PROPOSED REINFORCED FILL MATERIAL.

**2.07 GEOGRID**

A. TA, ALLOWABLE TENSILE DESIGN LOAD, SHALL BE DETERMINED AS FOLLOWS:  
TA = TOR / (FD\*CF\*CS)  
TA SHALL BE EVALUATED BASED ON A 75 YEAR DESIGN LIFE.

B. TOR, CREEP LIMITED TENSILE LOAD  
TOR SHALL BE DETERMINED FROM 10,000 HOUR CREEP TESTING PERFORMED IN ACCORDANCE WITH ASTM D5262.

C. FD, FACTOR FOR DURABILITY/AGING  
FD SHALL BE DETERMINED FROM POLYMER SPECIFIC DURABILITY TESTING COVERING THE RANGE OF EXPECTED SOIL ENVIRONMENTS.

D. FC, FACTOR FOR CONSTRUCTION DAMAGE  
FC SHALL BE DETERMINED FROM PRODUCT SPECIFIC CONSTRUCTION DAMAGE TESTING PERFORMED IN ACCORDANCE WITH GRI-G4. TEST RESULTS SHALL BE PROVIDED FOR EACH PRODUCT TO BE USED WITH PROJECT SPECIFIC OR MORE SEVERE SOIL TYPE.

E. FS, OVERALL FACTOR OF SAFETY  
FS SHALL BE 1.5 UNLESS OTHERWISE NOTED.

F. THE MAXIMUM DESIGN TENSILE LOAD OF THE GEOGRID SHALL NOT EXCEED THE LABORATORY TESTED ULTIMATE STRENGTH OF THE GEOGRID/FACING UNIT CONNECTION AS LIMITED BY THE "HINGE HEIGHT" DIVIDED BY A FACTOR OF SAFETY OF 1.5. THE CONNECTION STRENGTH TESTING AND COMPUTATION PROCEDURES SHALL BE IN ACCORDANCE WITH NCMIA TEST METHODS.

G. SOIL INTERACTION COEFFICIENT, CI  
CI VALUES SHALL BE DETERMINED PER GRI-G65 AT A MAXIMUM 0.75 INCH DISPLACEMENT.

H. MANUFACTURING QUALITY CONTROL

THE GEOGRID MANUFACTURER SHALL HAVE A MANUFACTURING QUALITY CONTROL PROGRAM THAT INCLUDES QC TESTING FOR EACH 40,000 SF OF PRODUCTION, EACH LOT, OR EACH PRODUCTION DAY. THE QC TESTING SHALL INCLUDE:

TENSILE MODULUS  
SPECIFIC GRAVITY  
MELT FLOW INDEX (PP&HDPE)  
MOLECULAR WEIGHT (PETP)

G. GEOGRID SHALL CONFORM TO MIRAFI "MIRAGRID XT (8KT)" FABRIC.

**PART 3 EXECUTION**

**3.01 EXCAVATION**

A. CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS. ARCHITECT/ENGINEER WILL INSPECT THE EXCAVATION AND APPROVE PRIOR TO PLACEMENT OF LEVELING MATERIAL OR FILL SOILS.

B. OVER-EXCAVATION OF DELETERIOUS SOILS AND REPLACEMENT WITH SUITABLE FILL WILL BE PAID AT UNIT COST RATES.

**3.02 BASE LEVELING PAD**

A. LEVELING PAD MATERIAL(S) SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS, TO A MINIMUM THICKNESS OF 6 INCHES.

B. SOIL LEVELING PAD MATERIALS SHALL BE COMPACTED TO A MINIMUM OF 95% STANDARD OR 90% MODIFIED PROCTOR.

C. LEVELING PAD SHALL BE PREPARED TO INSURE FULL CONTACT TO THE BASE SURFACE OF THE CONCRETE UNITS.

**3.03 KEYSTONE UNIT INSTALLATION**

A. FIRST COURSE OF UNITS SHALL BE PLACED ON THE LEVELING PAD, AND ALIGNMENT AND LEVEL CHECKED. PINS OR MOLDED SURFACES OF MODULAR CONCRETE UNITS SHALL BE USED FOR ALIGNMENT CONTROL.

B. POSITION VERTICALLY ADJACENT MODULAR CONCRETE UNITS AS RECOMMENDED BY THE MANUFACTURER.

C. MAXIMUM STACKED VERTICAL HEIGHT OF WALL UNITS, PRIOR TO WALL DRAIN FILL AND BACKFILL PLACEMENT AND COMPACTION, SHALL NOT EXCEED TWO COURSES.

D. WHOLE, OR CUT, UNITS ON CURVES AND CORNERS TO BE ERECTED WITH RUNNING BOND APPROXIMATELY CENTERED ON UNITS ABOVE AND BELOW.

E. CAP UNITS SHALL BE GLEUED TO UNDERLAYING UNITS WITH AN ADHESIVE RECOMMENDED BY THE MANUFACTURER.

**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 ELEVATIONS AND TO THE EXTENT SHOWN ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE ENGINEER.

C. THE GEOGRID SHALL BE LAID HORIZONTALLY ON COMPACTED BACKFILL. PLACE THE NEXT COURSE OF MODULAR CONCRETE UNITS OVER 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. SPLICED CONNECTIONS BETWEEN SHORTER PIECES OF GEOGRID IS NOT ALLOWED UNLESS PRE-APPROVED BY THE ARCHITECT/ENGINEER PRIOR TO CONSTRUCTION.

**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.

B. REINFORCED BACKFILL SHALL BE PLACED AND COMPACTED IN LIFTS NOT TO EXCEED 8 INCHES WHERE HAND COMPACTION IS USED, OR 12 INCHES WHERE HEAVY COMPACTION EQUIPMENT IS USED.

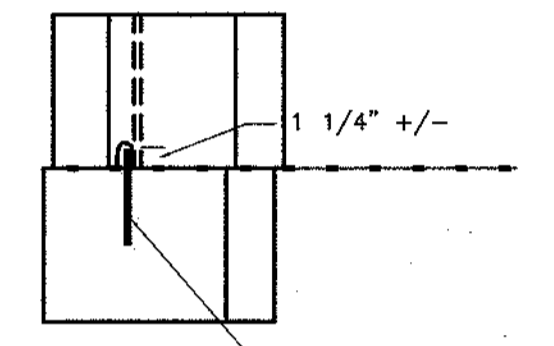
C. REINFORCED BACKFILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D695. THE MOISTURE CONTENT OF THE BACKFILL MATERIAL PRIOR TO AND DURING COMPACTION SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT EACH LAYER AND SHALL BE WITHIN 2 PERCENTAGE POINTS DRY OF OPTIMUM.

D. ONLY LIGHTWEIGHT HAND-OPERATED EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET FROM THE TAIL OF THE MODULAR CONCRETE UNIT.

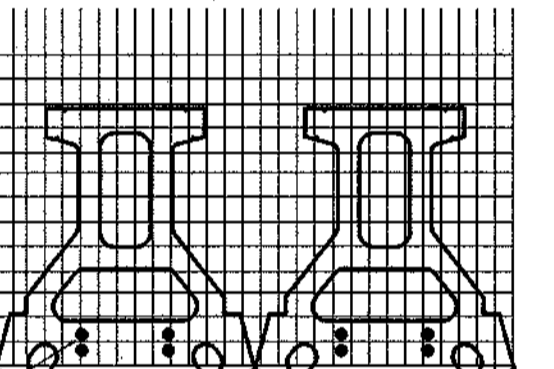
E. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY UPON THE GEOGRID REINFORCEMENT. A MINIMUM FILL THICKNESS OF 6 INCHES IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOGRID. TRACKED VEHICLE TURNING SHOULD BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM DISPLACING THE FILL AND DAMAGING THE GEOGRID.

F. RUBBER Tired EQUIPMENT MAY PASS OVER GEOGRID REINFORCEMENT AT SLOW SPEEDS, LESS THAN 10 MPH. SUDDEN BRAKING AND SHARP TURNING SHALL BE AVOIDED.

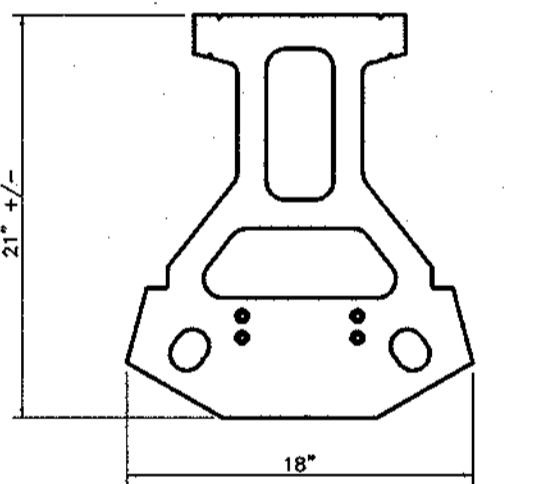
G. AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LIFT OF REINFORCED BACKFILL AWAY FROM THE WALL UNITS TO DIRECT RUNOFF AWAY FROM WALL FACE. THE CONTRACTOR SHALL NOT ALLOW SURFACE RUNOFF FROM ADJACENT AREAS TO ENTER THE WALL CONSTRUCTION SITE.



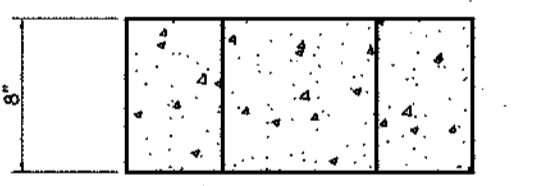
**GRID CONNECTION**



**GRID / PIN CONNECTION**



**PLAN**



**FACE**

**KEYSTONE STANDARD UNIT**

SCALE: NONE

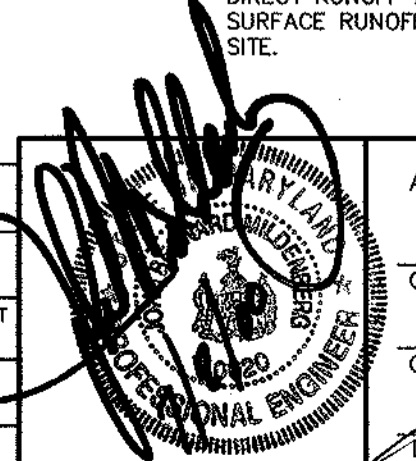
**KEYSTONE STD. UNIT**

**OWNER/DEVELOPER**

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

**PERMIT INFORMATION CHART**

SUBDIVISION NAME ELLCOTT CITY WAL-MART	SECTION/AREA 23 & 5	LOT/PARCEL # PARCEL - D
FLAT # 13866 & 13867	BLOCK # 23 & 5	ZONE POR
TAX MAP 17 & 24	ELEC. DIST. 2ND	CENSUS TRACT 6016
WATER CODE F03	SEWER CODE 1452800	
PROPOSED IMPROVEMENTS: OFFICE BUILDING, ASSISTED LIVING & NURSING HOME		



APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 7/20/00

CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 7/20/00

DIRECTOR  
DATE: 7/20/00

project	date
97054	JUNE 00
illustration	engineering
M&P	M&P
scale	approval
1" = 30'	

description	date
revisions	

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

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

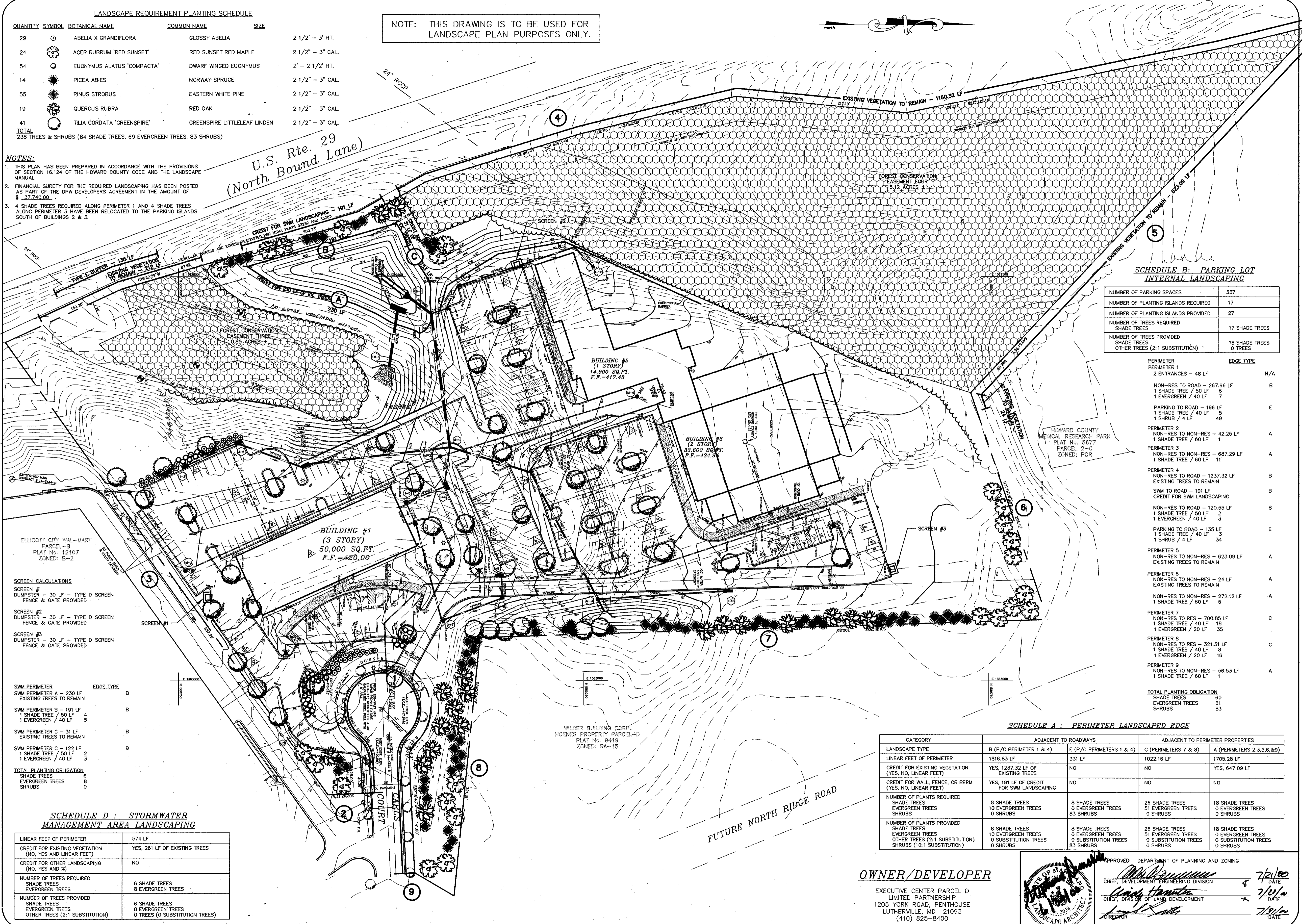


LANDSCAPE REQUIREMENT PLANTING SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
29	⊙	ABELIA X GRANDIFLORA	GLOSSY ABELIA	2 1/2" - 3" HT.
24	⊙	ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2 1/2" - 3" CAL.
54	⊙	EUONYMUS ALATUS 'COMPACTA'	DWARF WINGED EUONYMUS	2' - 2 1/2' HT.
14	⊙	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>				
236 TREES & SHRUBS (84 SHADE TREES, 69 EVERGREEN TREES, 83 SHRUBS)				

NOTE: THIS DRAWING IS TO BE USED FOR LANDSCAPE PLAN PURPOSES ONLY.

- NOTES:**
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
  - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$37,740.00.
  - 4 SHADE TREES REQUIRED ALONG PERIMETER 1 AND 4 SHADE TREES ALONG PERIMETER 3 HAVE BEEN RELOCATED TO THE PARKING ISLANDS SOUTH OF BUILDINGS 2 & 3.



**SCHEDULE B: PARKING LOT INTERNAL LANDSCAPING**

NUMBER OF PARKING SPACES	337
NUMBER OF PLANTING ISLANDS REQUIRED	17
NUMBER OF PLANTING ISLANDS PROVIDED	27
NUMBER OF TREES REQUIRED	17 SHADE TREES
NUMBER OF TREES PROVIDED	18 SHADE TREES 0 OTHER TREES (2:1 SUBSTITUTION)

PERIMETER	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 - 1237.32 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 - 135 LF	E	
1 SHADE TREE / 40 LF	3	
1 SHRUB / 4 LF	34	
PERIMETER 5		
NON-RES TO NON-RES - 623.09 LF	A	
EXISTING TREES TO REMAIN		
PERIMETER 6		
NON-RES TO NON-RES - 24 LF	A	
EXISTING TREES TO REMAIN		
NON-RES TO NON-RES - 272.12 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	

**SCHEDULE A: PERIMETER LANDSCAPED EDGE**

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	B (P/O PERIMETER 1 & 4)	E (P/O PERIMETERS 1 & 4) C (PERIMETERS 7 & 8) A (PERIMETERS 2,3,5,6,8,9)
LINEAR FEET OF PERIMETER	1816.83 LF	331 LF 1022.16 LF 1705.28 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES, 1237.32 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	8 SHADE TREES 10 EVERGREEN TREES 0 SHRUBS	8 SHADE TREES 0 EVERGREEN TREES 83 SHRUBS
NUMBER OF PLANTS PROVIDED	8 SHADE TREES 10 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS (10:1 SUBSTITUTION)	26 SHADE TREES 0 EVERGREEN TREES 0 SUBSTITUTION TREES 83 SHRUBS
NUMBER OF PLANTS PROVIDED	8 SHADE TREES 10 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS (10:1 SUBSTITUTION)	26 SHADE TREES 0 EVERGREEN TREES 0 SUBSTITUTION TREES 83 SHRUBS
NUMBER OF PLANTS PROVIDED	8 SHADE TREES 10 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS (10:1 SUBSTITUTION)	26 SHADE TREES 0 EVERGREEN TREES 0 SUBSTITUTION TREES 83 SHRUBS

**SCREEN CALCULATIONS**

SCREEN #1  
DUMPSTER - 30 LF - TYPE D SCREEN  
FENCE & GATE PROVIDED

SCREEN #2  
DUMPSTER - 30 LF - TYPE D SCREEN  
FENCE & GATE PROVIDED

SCREEN #3  
DUMPSTER - 30 LF - TYPE D SCREEN  
FENCE & GATE PROVIDED

**SWM PERIMETER**

EDGE TYPE

SWM PERIMETER A - 230 LF  
EXISTING TREES TO REMAIN

SWM PERIMETER B - 191 LF  
1 SHADE TREE / 50 LF 4  
1 EVERGREEN / 40 LF 5

SWM PERIMETER C - 31 LF  
EXISTING TREES TO REMAIN

SWM PERIMETER C - 122 LF  
1 SHADE TREE / 50 LF 2  
1 EVERGREEN / 40 LF 3

**TOTAL PLANTING OBLIGATION**

SHADE TREES 6  
EVERGREEN TREES 6  
SHRUBS 0

**SCHEDULE D: STORMWATER MANAGEMENT AREA LANDSCAPING**

LINEAR FEET OF PERIMETER	574 LF
CREDIT FOR EXISTING VEGETATION (NO, YES AND LINEAR FEET)	YES, 261 LF OF EXISTING TREES
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO
NUMBER OF TREES REQUIRED	6 SHADE TREES 8 EVERGREEN TREES
NUMBER OF TREES PROVIDED	6 SHADE TREES 8 EVERGREEN TREES 0 OTHER TREES (2:1 SUBSTITUTION)

**OWNER/DEVELOPER**

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

APPROVED: DEPARTMENT OF PLANNING AND ZONING

7/21/00 DATE

7/21/00 DATE

7/21/00 DATE

Project	97024	July 00
Illustration	Engineering	
MPP/SID		
Scale	1"=50'	

Project	97024	July 00
Illustration	Engineering	
MPP/SID		
Scale	1"=50'	

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

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Drexel Hill Drive, Suite 202, Ellicott City, Maryland, 21042  
(410) 987-0296 Fax: (301) 621-5521 Wash. (410) 987-0298 Fax.