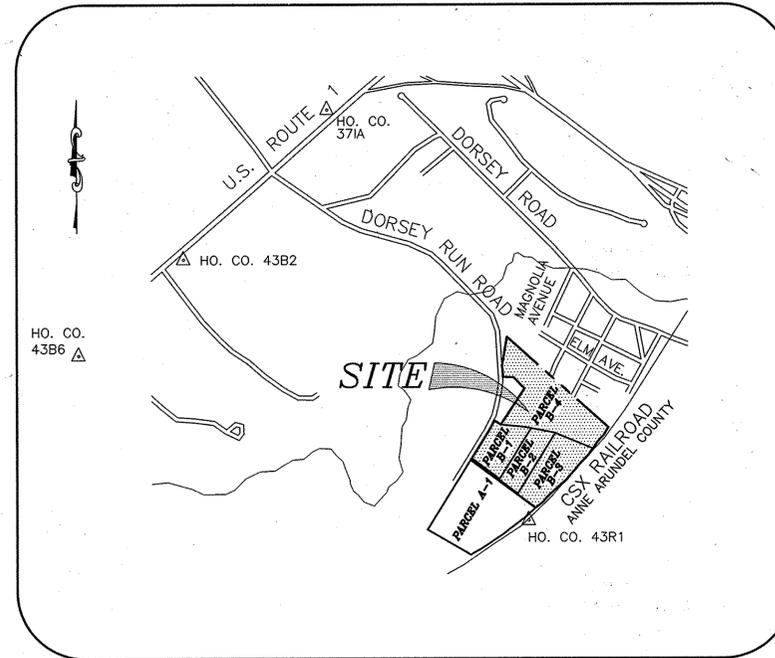


SITE DEVELOPMENT PLANS HOWARD BUSINESS PARK PARCELS B-1 THRU B-4 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHEET INDEX

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GRADING, EROSION & SEDIMENT CONTROL PLAN	2
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VICINITY MAP

SCALE: 1"=1000'

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTIONS DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS PRIOR TO ANY EXCAVATION WORK:

MISS UTILITY	1-800-257-7777
C&P TELEPHONE COMPANY	(410) 725-9976
HOWARD COUNTY BUREAU OF UTILITIES	(410) 313-4900
AT&T CABLE LOCATION DIVISION	(410) 393-3533
BALTIMORE GAS & ELECTRIC	(410) 685-0123
STATE HIGHWAY ADMINISTRATION	(410) 531-5533
HOWARD COUNTY DEPT. OF PUBLIC WORKS/CONSTRUCTION INSPECTION DIVISION	(410) 313-1880
- PROJECT BACKGROUND:
LOCATION: FIRST ELECTION DISTRICT - TAX MAP 43 - PARCEL 321
ZONING: M-2
TOTAL TRACT AREA: 35.11 ACRES ±
DPZ REFERENCE #:
 - SDP-95-60 APPROVED ON JUNE 19, 1995.
 - WP-00-23 APPROVED ON AUGUST 31, 1999
 - F-00-27 APPROVED ON SEPTEMBER 23, 1999
 - WP-00-28 APPROVED ON DECEMBER 30, 1999
 - F-00-29 APPROVED ON
- TWO FOOT CONTOUR TOPOGRAPHY AND EXISTING CONDITIONS BASED ON AERIAL MAPPING TOPOGRAPHIC SURVEY BY WINGS AERIAL MAPPING CO, INC. IN FEBRUARY 1999. BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT SEPTEMBER 1999 BY MILDENBERG, BOENDER & ASSOCIATES, INC.
- HORIZONTAL AND VERTICAL DATUMS BASED ON (NAD'83) MARYLAND STATE COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.

STA. No. 43B6	N 550,601.597	ELEV. 210.54
	E 1,376,866.071	
STA. No. 43B2	N 551,654.993	ELEV. 209.59
	E 1,378,176.951	
STA. No. 371A	N 553,315.147	ELEV. 195.75
	E 1,379,982.153	
STA. No. 43R1	N 548,305.502	ELEV. 134.53
	E 1,382,025.818	
- WATER AND SEWER ARE PUBLIC, CONTRACT # 14-3775-D.
- STORMWATER MANAGEMENT QUANTITY CONTROL IS PROVIDED FOR THE ULTIMATE CONDITIONS FOR PARCELS B-1 THRU B-4. WATER QUALITY WILL BE PROVIDED VIA RETENTION.
- APFO ROAD TEST SATISFIED UNDER F-00-29, HOWARD BUSINESS PARK, PARCELS A-1 & B-1 THRU B-4.
- WETLAND AND STREAM DELINEATION APPROVED UNDER F-00-29, HOWARD BUSINESS PARK, PARCELS A-1 & B-1 THRU B-4.
- CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES ON SITE PRIOR TO COMMENCING CONSTRUCTION.
- FOREST CONSERVATION REQUIREMENTS SATISFIED UNDER F-00-29, HOWARD BUSINESS PARK, PARCELS A-1 & B-1 THRU B-4. NO ADDITIONAL FOREST CONSERVATION OBLIGATION IS INCURRED BY THE DEVELOPMENT INDICATED ON THIS SDP.
- LANDSCAPING AS REQUIRED BY THE LANDSCAPE MANUAL, IS DEFERRED UNTIL A SITE DEVELOPMENT PLAN IS SUBMITTED FOR BUILDING DEVELOPMENT ON EACH PARCEL.
- PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
- SLOPES IN EXCESS OF 25% EXIST AND ARE IDENTIFIED WHERE THEY EXCEED 20,000 SQ. FT.
- EXISTING CONTOURS INDICATED WITHIN THE RIGHT OF WAY OF DORSEY RUN ROAD ARE PER THE PROPOSED ROAD GRADES SHOWN ON F-00-29.
- ON MARCH 14, 2000, MDE ISSUED THEIR INTENT TO ISSUE THE PERMIT FOR THE WETLAND & STREAM CROSSING UNDER AUTHORIZATION NO. 99-NT-0300/199964805.
- ALL FOREST RESOURCE PRE-CONSTRUCTION PROTECTION PROVIDED UNDER F-00-29 SHALL REMAIN IN PLACE DURING ALL CONSTRUCTION ACTIVITIES.
- FLOODPLAIN DELINEATION PREPARED BY MILDENBERG, BOENDER & ASSOCIATES, INC. ON OR ABOUT MARCH 2000.
- 0.45 ACRES OF FOREST RETENTION WAS DISTURBED DURING CONSTRUCTION. AREA REPLANTED UNDER F-00-29, HOWARD BUSINESS PARK, PARCELS A-1 AND B-1 THRU B-4.

THE PURPOSE OF THIS PLAN IS TO MASS GRADE THE SITE AND PROVIDE SWM.

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

SIGNATURE: _____ P.E. NO. _____
DATE: _____

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

DEVELOPER'S CERTIFICATE
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A 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 "AS-SITE" INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: *Mark L. Levy* DATE: 5/26/00
Printed Name: Mark L. Levy

ENGINEER'S CERTIFICATE
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT THEY 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: *R. Jacobs Hikmat* DATE: 4/28/00
Printed Name: R. Jacobs Hikmat

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

Signature: *Carl Simon / GS* DATE: 6/1/00
USDA NATURAL RESOURCE 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. ...* DATE: 6/1/00
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
DATE: 4/6/00
Signature: *...*
CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE: 6/9/00
Signature: *...*
CHIEF, DIVISION OF LAND DEVELOPMENT

DATE: 6/12/00
Signature: *...*
DIRECTOR

ADDRESS CHART	
BUILDING NO.	STREET ADDRESS
PARCEL B-1	7111 DORSEY RUN ROAD, ELK RIDGE, MD 21075
PARCEL B-2	7121 DORSEY RUN ROAD, ELK RIDGE, MD 21075
PARCEL B-3	7131 DORSEY RUN ROAD, ELK RIDGE, MD 21075
PARCEL B-4	7091 DORSEY RUN ROAD, ELK RIDGE, MD 21075

PERMIT INFORMATION CHART					
SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL #	PAR. 321:		
HOWARD BUSINESS PARK	N/A	(PARCELS B-1 THRU B-4)			
PLAT # OR L/F	BLOCK #	ZONE	TAX MAP	ELEC. DIST.	CENSUS TRACT
4894/0101	12	M-2	43	FIRST	6012
WATER CODE	B-01	SEWER CODE	2250000		
PROPOSED IMPROVEMENTS: MASS GRADING, SEDIMENT CONTROL, AND STORMWATER MANAGEMENT					

DEVELOPER
ATTN: MARK LEVY
DORSEY ROCK, LLC
C/O ROCK REALTY, INC.
25 MAIN STREET
REISTERSTOWN, MARYLAND 21136
(410) 526-4030

Project	98001	date	APR 2000
Illustration	SID	engineering	
scale	SID	SID	
AS SHOWN	RH	approval	

REVIEW FOR PERMITS	1-23-15	date	
BY	BEI	description	
2	BEI	INDEX TO SHEET 9	
1	BEI	INDEX TO SHEET 9	
ADD	DATE	BY	date
1	ADD	NO.	

COVER SHEET

HOWARD BUSINESS PARK
PARCELS B-1 THRU B-4
TAX MAP 43 - PARCEL 321 - BLOCK 12
FIRST ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

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

98001.dwg (sep) 001-seg-cover.dwg 4-7-00 2:10:42, 800, EST

98007 (v09) (sdp) 1:001-sdp-groundA.dwg 5-22-00 7:45:43 pm EST

BALTIMORE WASHINGTON AUTO EXCHANGE, INC.
PLAYBOOK NO. 10215 & 10216
ZONED M-2

DORSEY RUN ROAD
MAJOR COLLECTOR - 80' ROW - PUBLIC ROAD
ZONED M-2

MARYLAND ENVIRONMENTAL SERVICES
LOT 6
3528/0001
ZONED M-2

PARCEL B-4
16.320 ACRES

EX. 20' PUBLIC WATER, SEWER
AND UTILITY EASEMENT
CONTRACT # 14-3775-0
WET STORAGE ELEV. 133.83
DRY STORAGE ELEV. 136.46
TOP OF EMBANKMENT ELEV. 140.85

MATCHLINE, SHEET 3 OF 8

NOTE
ALL DISTURBANCE ADJACENT TO SEWER OR
STORMDRAIN SHALL BE IMMEDIATELY
STABILIZED (SAME DAY).

SEDIMENT TRAP IV
DRAINAGE AREA - 8.7 ACRES
REQUIRED WET STORAGE - 15,660 CF
PROVIDED WET STORAGE - 15,678 CF
REQUIRED DRY STORAGE - 13,660 CF
PROVIDED DRY STORAGE - 26,920 CF
WET STORAGE ELEV. 133.83
DRY STORAGE ELEV. 136.46
CLEANOUT ELEV. 132.15

DEVELOPER
ATTN: MARK LEVY
DORSEY ROCK, LLC
C/O ROCK REALTY, INC.
25 MAIN STREET
REISTERSTOWN, MARYLAND 21136
(410) 526-4030

SOILS DESCRIPTION

SYMBOL	DESCRIPTION
BeB2	BELTSVILLE SILT LOAM, 1% TO 5% SLOPES, MODERATELY ERODED --- TYPE C
BeC2	BELTSVILLE SILT LOAM, 5% TO 10% SLOPES, MODERATELY ERODED --- TYPE C
BeC3	BELTSVILLE SILT LOAM, 5% TO 10% SLOPES, SEVERELY ERODED --- TYPE C
BeD2	BELTSVILLE SILT LOAM, 10% TO 15% SLOPES, MODERATELY ERODED --- TYPE C
EvB	EYESBORO LOAMY SAND, 1% TO 5% SLOPES --- TYPE A
EvC	EYESBORO LOAMY SAND, 5% TO 15% SLOPES --- TYPE A
Gp	GRAVEL PITS AND QUARRIES
IuB	IUKA LOAM, LOCAL ALLUVIUM, 1% TO 5% SLOPES --- TYPE C
Khc2	KEYPORT SILT LOAM, 3% TO 10% SLOPES, MODERATELY ERODED --- TYPE C
LI	LEONARDTOWN SILT LOAM --- TYPE D
ScB	SANDY AND CLAYEY LAND, GENTLY SLOPING --- TYPE C
ScD	SANDY AND CLAYEY LAND, MODERATELY SLOPING --- TYPE C
ScE	SANDY AND CLAYEY LAND, MODERATELY STEEP --- TYPE C
SiC2	SASSAFRAS GRAVELLY SANDY LOAM, 5% TO 10% SLOPES, MODERATELY ERODED --- TYPE B
SiD2	SASSAFRAS LOAM, 10% TO 15% SLOPES, MODERATELY ERODED --- TYPE B
SeE	SASSAFRAS SOILS, 15% TO 40% SLOPES --- TYPE B

LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- FLOW ARROWS
- LIMIT OF DISTURBANCE
- EARTH DIKE
- SILT FENCE
- FOREST CONSERVATION EASEMENT
- WETLANDS
- TREE PROTECTIVE FENCING
- GABION MATTING



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: *[Signature]* P.E. NO. _____
DATE: _____

CERTIFY MEANS TO START OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEMAND SUPPORT AND APPROPRIATE COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER FOR 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.

DEVELOPER'S CERTIFICATE

I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER: *[Signature]* DATE: 5/26/00
PRINTED NAME OF DEVELOPER: Dorsey Rock, LLC

ENGINEER'S CERTIFICATE

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

SIGNATURE OF ENGINEER: *[Signature]* DATE: 5/26/00
PRINTED NAME OF ENGINEER: R. JAMES HIKMOT

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

[Signature] DATE: 6/1/00
USDA - NATURAL RESOURCE CONSERVATION SERVICE

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

[Signature] DATE: 6/9/00
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 6/6/00
CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 6/9/00
DIRECTOR: *[Signature]* DATE: 6/16/00

Project	date	APR 2000
98001	illustration	engineering
1	SID	SID
2	SID	SID
3	scale	1"=50'
4	approval	RH

5	REVISE SHEET NUMBER	REVISE SHEET NUMBER
4	REVISE SHEET NUMBER	REVISE SHEET NUMBER
3	ADD SEDIMENT TRAP TO PARCEL B-4	12/03/03
2	description	BY
1	revisions	date

HOWARD BUSINESS PARK
PARCELS B-1 THRU B-4
TAX MAP 43 - PARCEL 321 - BLOCK 12
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
GRADING, EROSION & SEDIMENT CONTROL PLAN

MILDENBERG, ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
(410) 987-0296 Fax. (301) 621-5521 Wash. (410) 997-0298 Fax.

HOWARD SOIL CONSERVATION DISTRICT

PERMANENT SEEDING NOTES B-4-5

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

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

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES: 1) PREFERRED - APPLY 2 TONS PER ACRES DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.)...

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING...

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

TEMPORARY SEEDING NOTES B-4-4

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

SEEDING 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 (3.2 LBS./1000 SQ.FT.)...

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED WOOD FREE SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING...

REFER TO THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

STANDARD SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION... 2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL...

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.

DEVELOPERS CERTIFICATE

I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT...

ENGINEER'S CERTIFICATE

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

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

USDA - NATURAL RESOURCE CONSERVATION SERVICE DATE: 6/1/00

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. DATE: 6/1/00

APPROVED: DEPARTMENT OF PLANNING AND ZONING DATE: 6/1/00

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 6/1/00

CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 6/1/00

- 6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSOR FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. 7. SITE ANALYSIS: TOTAL AREA OF SITE: 35.11 ACRES...

STANDARD AND SPECIFICATIONS FOR TOPSOIL B-4-2

DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

- I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH. b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS...

CONSTRUCTION AND MATERIAL SPECIFICATIONS

- I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING: 1. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND...

TEMPORARY DUST CONTROL MEASURES H5

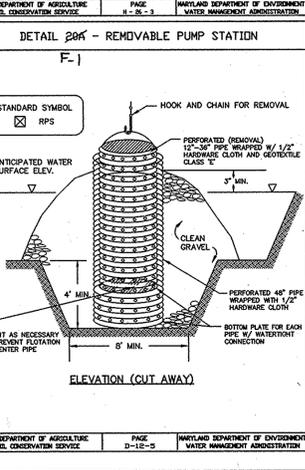
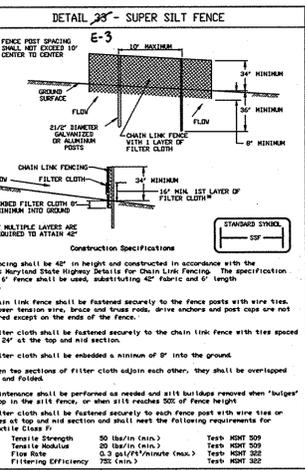
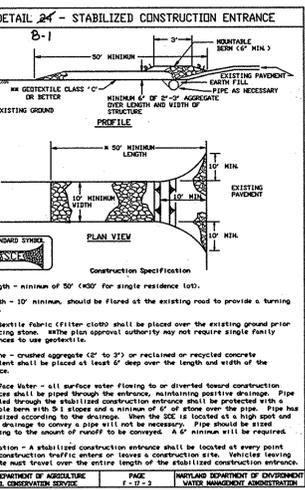
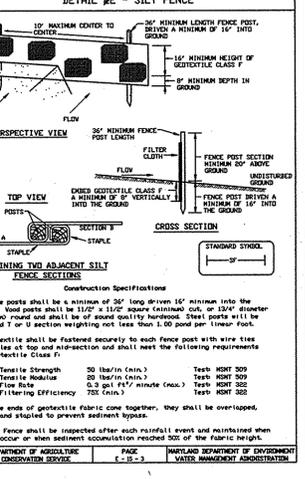
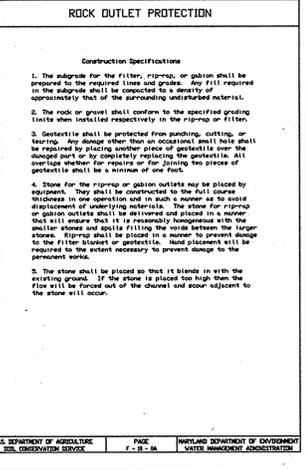
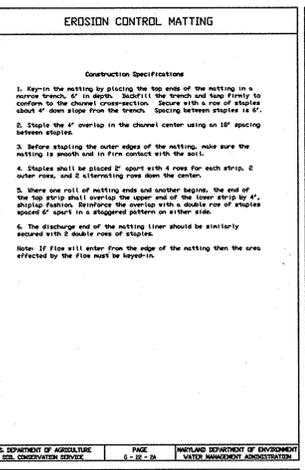
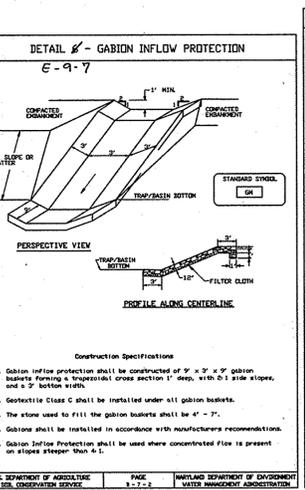
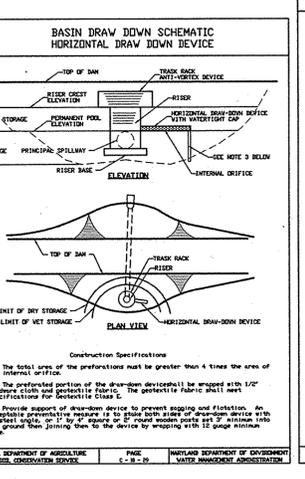
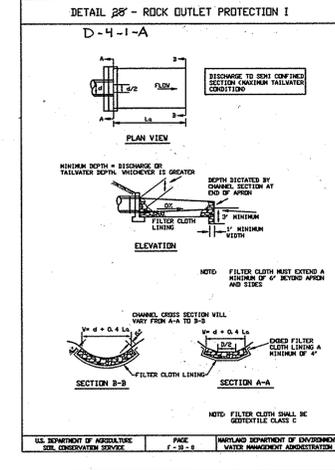
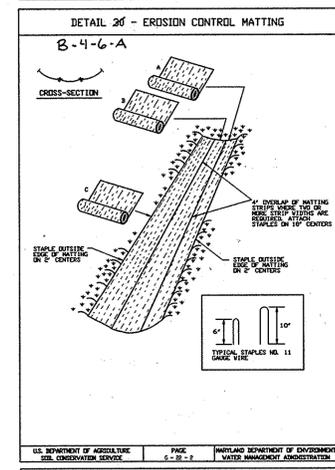
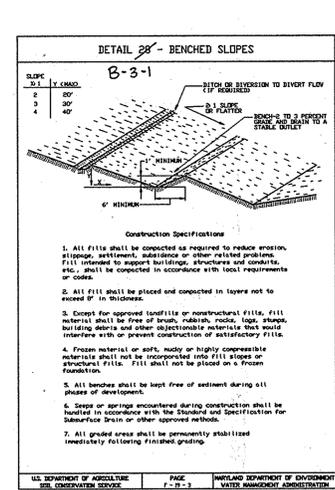
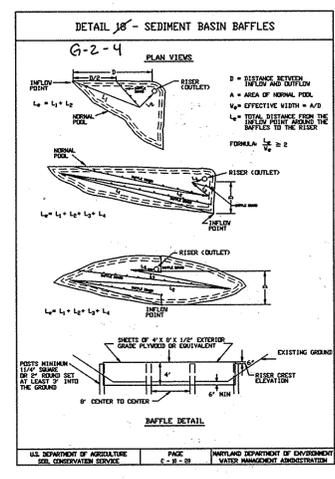
- 1. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING. 2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.

TEMPORARY DUST CONTROL MEASURES H5

- 3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. 4. BARRIERS - SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.

- I. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS: a. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS WHO ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.

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



SILT FENCE table with columns for Slope Steepness, Slope Length, and Silt Fence Length. Includes design criteria and construction specifications.

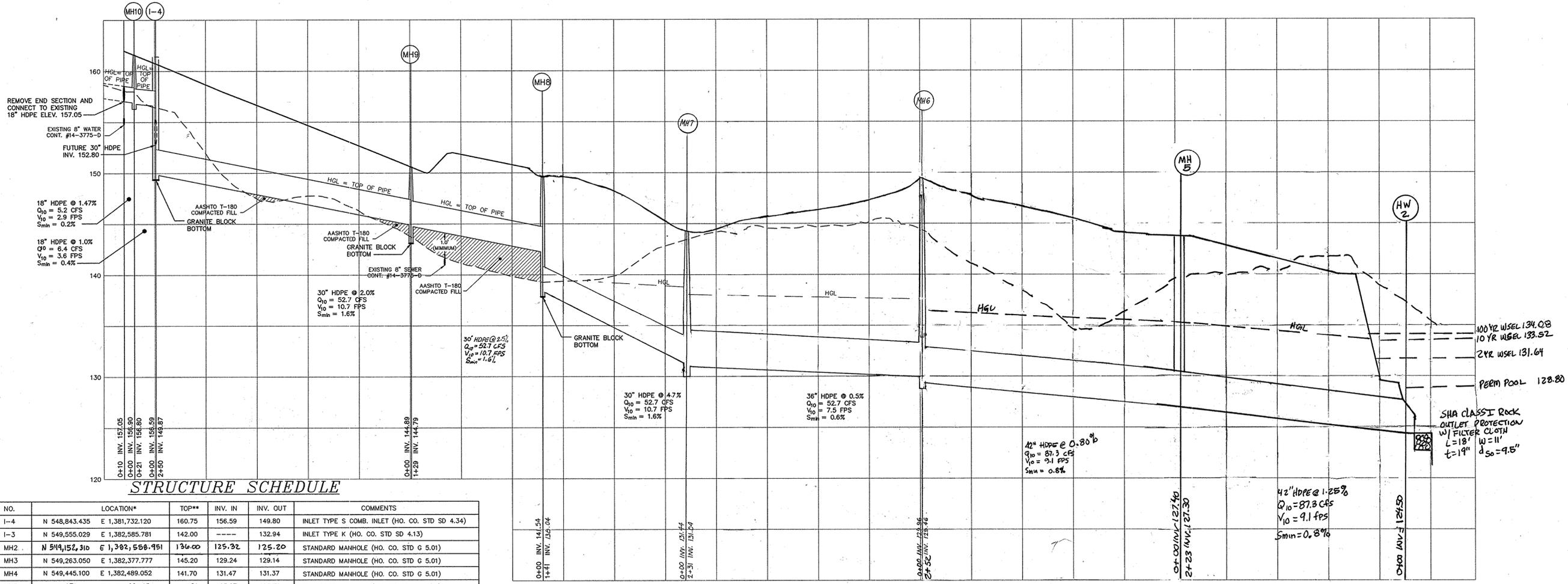
DETAIL 1 - EARTH DIKE table with columns for Slope, Slope Steepness, and Silt Fence Length. Includes design criteria and construction specifications.

SUPER SILT FENCE table with columns for Slope, Slope Steepness, Slope Length, and Silt Fence Length. Includes design criteria and construction specifications.

SPECIFICATIONS FOR REMOVABLE PUMP STATION table with columns for Design Criteria and Construction Specifications.

Project information block including date (APR 2000), project name (HOWARD BUSINESS PARK), location (PARCELS B-1 THRU B-4), and contact information for MILDENBERG & ASSOC., INC. (Engineers, Planners, Surveyors).

98007 (Rev. 1/99) 1.001-esd-no-sedno.dwg 55-22-00 7.36:12 pm EST



STRUCTURE SCHEDULE

NO.	LOCATION*	TOP**	INV. IN	INV. OUT	COMMENTS
I-4	N 548,843.435 E 1,381,732.120	160.75	156.59	149.80	INLET TYPE S COMB. INLET (HO. CO. STD SD 4.34)
I-3	N 549,555.029 E 1,382,585.781	142.00	---	132.94	INLET TYPE K (HO. CO. STD SD 4.13)
MH2	N 549,152.310 E 1,382,588.951	136.00	125.32	125.20	STANDARD MANHOLE (HO. CO. STD G 5.01)
MH3	N 549,263.050 E 1,382,377.777	145.20	129.24	129.14	STANDARD MANHOLE (HO. CO. STD G 5.01)
MH4	N 549,445.100 E 1,382,489.052	141.70	131.47	131.37	STANDARD MANHOLE (HO. CO. STD G 5.01)
MH5	N 548,870.102 E 1,382,522.271	144.20	125.87	125.72	STANDARD MANHOLE (HO. CO. STD G 5.01)
MH6	N 548,705.870 E 1,382,337.091	143.51	129.96	129.46	STANDARD MANHOLE (HO. CO. STD G 5.01)
MH7	N 548,553.602 E 1,382,163.151	144.22	131.44	131.03	STANDARD MANHOLE (HO. CO. STD G 5.01)
MH8	N 548,623.262 E 1,382,040.560	149.86	141.54	138.04	STANDARD MANHOLE (HO. CO. STD G 5.01)
MH9	N 548,698.846 E 1,381,936.023	150.85	144.89	144.79	STANDARD MANHOLE (HO. CO. STD G 5.01)
MH10	N 548,856.201 E 1,381,715.384	161.60	156.59	149.87	STANDARD MANHOLE (HO. CO. STD G 5.01)
HW1	N 549,120.025 E 1,382,341.960	---	---	124.50	36" TYPE "C" HEADWALL (HO. CO. STD. SD 5.41)
HW2	N 549,980.820 E 1,382,161.945	---	---	124.50	42" TYPE "C" HEADWALL (HO. CO. STD. SD 5.41)

* MANHOLE LOCATIONS BASED ON NAD'83 COORDINATE SYSTEM AND ARE GIVEN TO CENTERLINE OF MANHOLE. COORDINATES FOR "K" INLETS TO CL OF INLET. LOCATION FOR I-4 GIVEN TO CENTER OF FACE OF INLET AT FUTURE CURB LINE. LOCATION OF HEADWALL GIVEN TO THE CENTERLINE OF PIPE AT THE CONNECTION OF THE STORM DRAIN PIPE TO THE HEADWALL.
 ** ELEVATIONS MEASURED TO CENTER OF ALL INLETS OR MANHOLES.

STORM DRAIN PROFILE FROM MH9 TO HW2

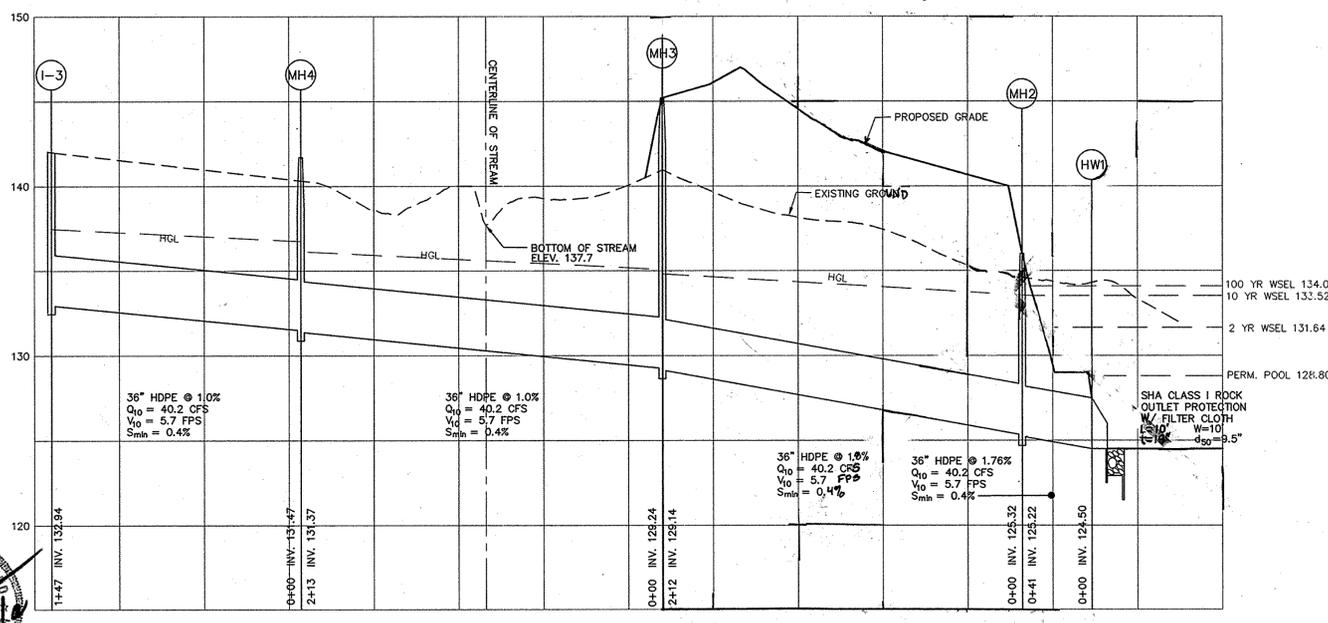
HORIZONTAL SCALE: 1" = 50'
 VERTICAL SCALE: 1" = 5'

PIPE SCHEDULE

QUANTITY	PIPE SIZE
569'	18" HDPE
569'	30" HDPE
830'	36" HDPE
437'	42" HDPE

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

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



STORM DRAIN PROFILE FROM I-3 TO HW1

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

I. DESCRIPTION
 THE WORK SHALL CONSIST OF INSTALLING EROSION CONTROL DEVICES IN AND ADJACENT TO TEMPORARY STREAM CONSTRUCTION SUCH AS A UTILITY CROSSING.

II. CONSTRUCTION REQUIREMENTS

- ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF WORK.
- THE CONTRACTOR SHALL INSURE THAT A CONTINUOUS PERIMETER CONTROL BARRIER IS IN PLACE SO AS TO MINIMIZE POLLUTANTS ENTERING THE WATER.
- EXCAVATED TOPSOIL AND SUBSOIL SHALL BE KEPT SEPARATE AND REPLACED IN THEIR NATURAL ORDER.
- ALL EXCAVATED MATERIALS SHALL BE PLACED ON THE UPLAND SIDE OF THE EXCAVATION. ALL CONSTRUCTION SHALL TAKE PLACE DURING STREAM LOW FLOWS. THE LENGTH OF CONSTRUCTION TIME SHALL BE LIMITED TO A MAXIMUM OF 5 DAYS FOR EACH CROSSING.
- ALL UTILITY CROSSINGS SHALL BE PLACED AT LEAST THREE FEET BENEATH THE STREAM BED UNLESS AN ALTERNATIVE SECTION IS SPECIFICALLY APPROVED BY THE ADMINISTRATION. THE CONTRACTOR MAY ELECT TO CONSTRUCT THE UTILITY CROSSING IN TWO STAGES. IN THIS CASE, A WRA APPROVED FLOW BARRIER MAY BE CONSTRUCTED TO KEEP THE CONSTRUCTION AREA DRY.
- SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED IN ACCORDANCE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN AND THE INSPECTION AUTHORITY APPROVES THEIR REMOVAL.

PLAN VIEW

KEY

- MANHOLE
- FLOW BARRIER
- SEDIMENT CONTROL

ALTERNATIVES

SECTION AA

SECTION BB

WATER RESOURCES ADMINISTRATION UTILITY CROSSING APPROVED ON _____ WPD
 CHIEF, WATERWAY PERMITS 5.1

980071 (rev 1/99) 001-sdp-sd-wg 4-10-00 10:22:40 am EST

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT-ENGINEERING DIVISION
 DATE: 4/16/00

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 4/16/00

DATE: 4/12/00



project	date	description
98001	APR. 2000	engineering
		approval
		scale
		AS SHOWN

no.	description	date
1	REVERT ROAD DESIGN TO ORIGINAL DESIGN AND COMPUTATIONS PER JUNE 2000 APPROVAL	1-25-15
2	REVISE STORM DRAIN DESIGN PER JUNE 2000 APPROVAL	3/27/02
3	REVISE STORM DRAIN DESIGN PER JUNE 2000 APPROVAL	3/27/02

HOWARD BUSINESS PARK
 PARCELS B-1 THRU B-4
 TAX MAP 43 - PARCEL 321 - BLOCK 12
 HOWARD COUNTY, MARYLAND
FIRST ELECTION DISTRICT
STORM DRAIN PROFILE

MILDENBERG, BOENDER & ASSOC., INC.
 Surveyors
 Planners
 Engineers
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
 (410) 997-0296 Fax, (301) 821-5521 Wash., (410) 997-0298 Fax

POND SPECIFICATIONS (WHERE APPLICABLE)

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 SMOOTHER 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 LEVEL WITH THE GROUND SURFACE. FOR DIRT STORMWATER MANAGEMENT PONDS, A MINIMUM OF A 50 FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

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 GC, 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 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

COMPACTION - THE MOVEMENT OF 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 NEARLY AS POSSIBLE TO THAT DENSITY, AND IS TO BE CERTIFIED BY THE OWNER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99.

CUT OFF TRENCH - THE CLIFF 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, WITH THE MINIMUM WIDTH BEING 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 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.

PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION. CORRUGATED METAL PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE: 1. MATERIALS - (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 POLYMER COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THE FOLLOWING COATINGS OR EQUIVALENTS SHALL BE USED: NEXON, PLASTICOTE, CLAC-BLAD, 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-174 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 COUPLING BANDS OR FLANGES. ALUMINUM SURFACES SHALL BE PAINTED WITH A 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.

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

3. CONNECTIONS - ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATER TIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. ANTI-SEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATER TIGHT. DRAIN BANDS ARE NOT CONSIDERED TO BE WATER TIGHT.

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 CONNECTIONS ARE ACCEPTABLE FOR PIPE LESS THAN 24" IN DIAMETER: FLANGES ON BOTH ENDS OF THE PIPE, 12" WIDE CELLULAR CORRUGATED BAND USING RODS AND LUGS, A 12" WIDE HUGGER TYPE BAND WITH 0-RING GASKETS HAVING MINIMUM DIAMETER 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 RODS 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.

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

5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL."

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

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

1. MATERIALS - REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM DESIGNATION C-361.

2. 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.

3. LAYING PIPE - BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE FLANGES ARE SEALED, THE BEDDING LINE, BEDDING LINE, BEDDING LINE, BEDDING LINE, BEDDING LINE, 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.

4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL."

5. 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:

1. MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241.

2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATER TIGHT.

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

4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL."

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

CONCRETE

CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 905.

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 IN PLACE SHALL BE REASONABLY 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 AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 919.12.

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 DRAIN LEAVES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM THE VARIOUS PARTS OF THE WORK AREA FOR MAINTAINING THE EXCAVATIONS. OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM OF THE REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PROGRESS OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTING OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER 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.
- 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 USGS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND THE HERIR SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION AND ALL ROUTINE AND NON-ROUTINE 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.

SWM POND MAINTENANCE SCHEDULE

ROUTINE MAINTENANCE:

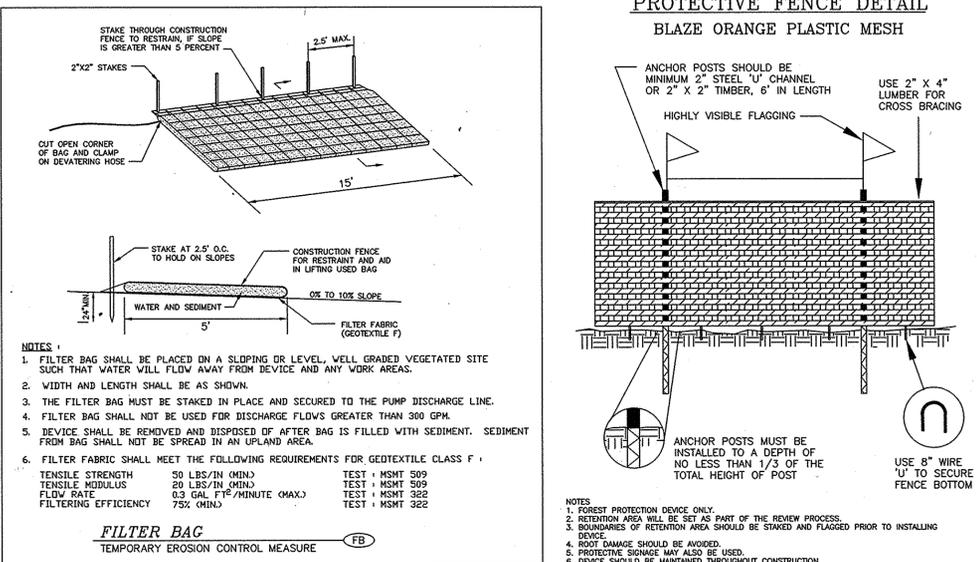
- FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER ALL MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
- TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES PER YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER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

NON-ROUTINE MAINTENANCE:

- STRUCTURAL COMPONENTS OF THE POND (DAM, RISER, AND 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/OR FOREBAY, WHEN ONE HALF THE TOTAL CAPACITY OF THE POND AND/OR FOREBAY IS FULL OF SEDIMENT, OR DEEMED NECESSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT
- CONSTRUCT STABILIZED CONSTRUCTION ENTRANCES (1 DAY)
- CONSTRUCT SEDIMENT BASIN & TRAP (14 DAYS)
- CONSTRUCT ALL SEDIMENT CONTROL MEASURES (21 DAYS)
- CONSTRUCT PROPOSED SEWER SYSTEM, AND STORM DRAIN SYSTEM FROM 1-3 TO HWY EXCAVATION FROM SEWER CONSTRUCTION TO BE PLACED ON THE UP SIDE. ALL DISTURBANCE ADJACENT TO STORMDRAIN OR SEWER SHALL BE STABILIZED IMMEDIATELY (SAME DAY). (5 DAYS)
- UPON THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, BRING SITE TO THEIR FINAL GRADE ELEVATIONS WITH THE DUST CONTROL PER PP. H-30-1 OF MARYLAND STANDARDS AND SPECS, IF REQUIRED. (30 DAYS)
- STABILIZE ALL 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 SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED AREAS. (3 DAYS)
- CONSTRUCT SWM FACILITY & WALL (14 DAYS)
- DEWATER SEDIMENT BASIN (1 DAY)
- BRING SWM FACILITY TO FINAL GRADE & STABILIZE (5 DAYS)
- NOTE SEDIMENT CONTROL DEVICES TO REMAIN IN PLACE AND GOOD WORKING ORDER UNTIL SDP FOR PARCEL B-1 THRU B-4 ARE CONSTRUCTED.



- NOTES:
- FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL, WELL GRASS VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREAS.
 - WIDTH AND LENGTH SHALL BE AS SHOWN.
 - THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
 - FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
 - DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL NOT BE SPREAD IN AN UPLAND AREA.
 - FILTER FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:
- | | | |
|----------------------|--------------------------------------|-----------------|
| TENSILE STRENGTH | 50 LBS/FIN (MIN) | TEST 1 MSMT 509 |
| TENSILE MODULUS | 1.0 LBS/FIN (MIN) | TEST 1 MSMT 509 |
| FLOW RATE | 0.3 GAL F ² /MINUTE (MAX) | TEST 1 MSMT 362 |
| FILTERING EFFICIENCY | 75% (MIN) | TEST 1 MSMT 362 |
- TEMPORARY EROSION CONTROL MEASURE (FB)

- NOTES:
- FOREST PROTECTION DEVICE ONLY WILL BE SET AS PART OF THE REWEEK PROCESS.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING.
 - ROOT DAMAGE SHOULD BE AVOIDED.
 - PROTECTIVE SIGNAGE MAY ALSO BE USED.
 - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

AS-BUILT CERTIFICATION

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

SIGNATURE: _____ P.E. NO. _____ DATE: _____

CERTIFY MEANS TO START OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER OF THE QUALITY OF THE WORK OR THAT THE ENGINEER HAS CONDUCTED ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

DEVELOPER'S CERTIFICATE

I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESTORATION 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 OF DEVELOPER: _____ DATE: _____

PRINTED NAME OF DEVELOPER: _____

ENGINEER'S CERTIFICATE

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

SIGNATURE OF ENGINEER: _____ DATE: _____

PRINTED NAME OF ENGINEER: _____

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

USDA - NATURAL RESOURCE CONSERVATION SERVICE DATE: _____

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

HOWARD SOIL CONSERVATION DISTRICT DATE: _____

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DATE: _____

DATE: _____

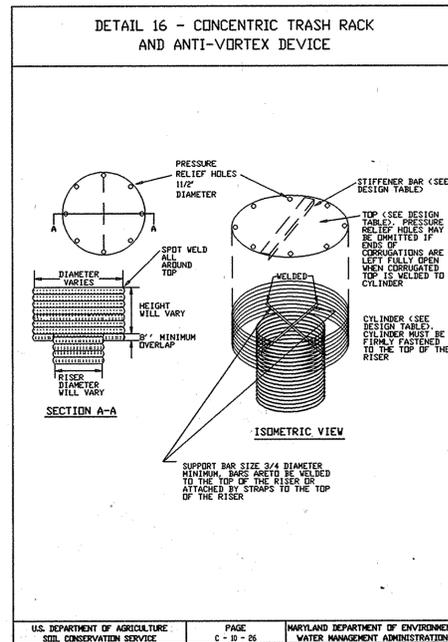
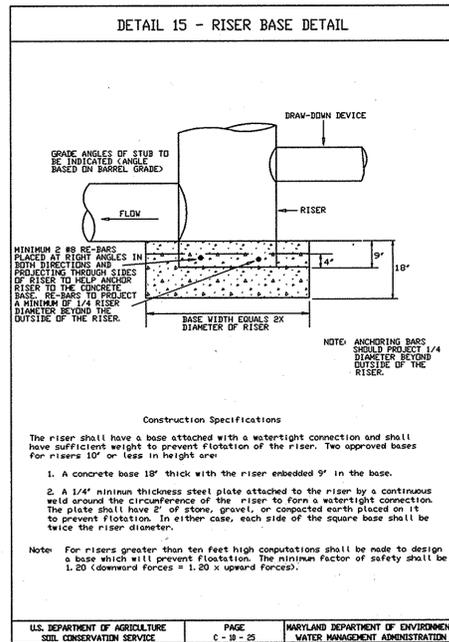
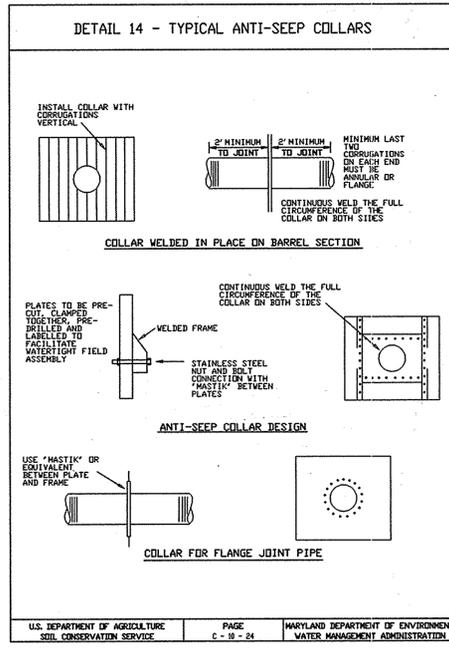
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HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

DEPTH	SOIL DESCRIPTION	STRA	DEPTH	SCALE	CON	BLDG'S	NO.	SEC.	BORING & SAMPLING NOTES
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	1-2-2	1	1	1	1	4" Topsoil
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	2	1	1	1	Granular material encountered at 3.5' while drilling (M-C)
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	3	1	1	1	Cored in at 5.0' at completion
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	4	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	5	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	6	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	7	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	8	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	9	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	10	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	11	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	12	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	13	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	14	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	15	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	16	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	17	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	18	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	19	1	1	1	Cored in at 12' after 24 hours
1-1-2	Brown to gray, moist, very stiff clay with trace fine sand, rock fragments (M-C)	0.0	0.0	3-6-8	20	1	1	1	Cored in at 12' after 24 hours

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

DEPTH	SOIL DESCRIPTION	STRA	DEPTH	SCALE	CON	BLDG'S	NO.	SEC.	BORING & SAMPLING NOTES
1-1-2	Tan, moist, soft to stiff, sandy clay trace gravel and nodules (S)	0.0	0.0	2-2-1	1	1	1	1	3" Topsoil
1-1-2	Tan, moist, soft to stiff, sandy clay trace gravel and nodules (S)	0.0	0.0	3-5-5	2	1	1	1	Granular material encountered at 3.5' while drilling (S)
1-1-2	Tan, moist, soft to stiff, sandy clay trace gravel and nodules (S)	0.0	0.0	3-5-5	3	1	1	1	Cored in at 5.0' at completion
1-1-2	Tan, moist, soft to stiff, sandy clay trace gravel and nodules (S)	0.0	0.0	3-5-5	4	1	1	1	Cored in at 12' after 24 hours
1-1-2	Tan, moist, soft to stiff, sandy clay trace gravel and nodules (S)	0.0	0.0	3-5-5	5	1	1	1	Cored in at 12' after 24 hours
1-1-2	Tan, moist, soft to stiff, sandy clay trace gravel and nodules (S)	0.0	0.0	3-5-5	6	1	1	1	Cored in

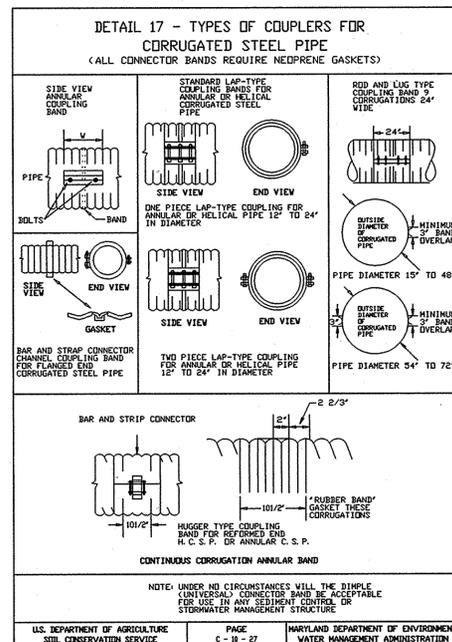


DETAIL 16 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE (continued)

Riser Diam. in.	Trash Rack Cylinder Diam. in.	Trash Rack Thick. in.	H. in.	Minimum Size Support Bar	Minimum Top Thickness	Minimum Top Stiffener
12	18	16	6	#6 Rebar	16 ga.	--
15	21	16	7	"	"	--
18	27	16	8	"	"	--
21	30	16	11	"	"	--
24	36	16	13	"	14 ga.	--
27	42	16	15	"	14 ga.	--
36	54	14	17	#8 Rebar	12 ga.	--
42	60	14	19	"	"	--
48	72	12	21	1-1/4" pipe or 1-1/4 x 1-1/4 x1/4 angle	10 ga.	--
54	78	12	25	"	"	--
60	90	12	29	1-1/2" pipe or 1-1/2 x 1-1/2 x1/4 angle	8 ga.	--
66	96	10	33	2" pipe or 2x2x3/16 angle	8 ga.	2x2x1/4 angle
72	102	10	36	"	"	2-1/2x2-1/2x1/4 angle
78	114	10	39	2-1/2" pipe or 2x2x1/4 angle	"	"
84	120	10	42	2-1/2" pipe or 2-1/2x2-1/2x1/4 angle	"	2-1/2 x2-1/2x 5/16 angle

Note: The above trash rack and anti-vortex device information is only for corrugated metal pipe. Concrete risers must meet the requirements of MD 376.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-18-26A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



AS-BUILT CERTIFICATION

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

SIGNATURE: _____ P.E. NO. _____ DATE: _____

DEVELOPERS CERTIFICATE

I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER: *Mark L. Lem* DATE: 2/24/04

PRINTED NAME OF DEVELOPER: **Mark L. Lem**

ENGINEER'S CERTIFICATE

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

SIGNATURE OF ENGINEER: *R. JAGG HIKMAT* DATE: 2/24/04

PRINTED NAME OF ENGINEER: **R. JAGG HIKMAT**

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

John R. Robertson 3/5/04
SDA - NATURAL RESOURCE CONSERVATION SERVICE DATE

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

John R. Robertson 3/5/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Mike Williams 2/5/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

John R. Robertson 3/5/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mark L. Lem 2/23/04
DIRECTOR DATE

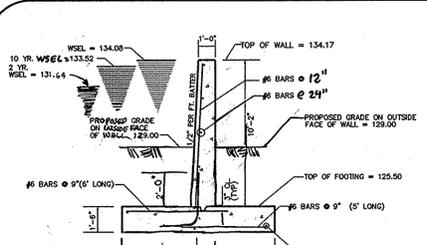


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illustration	SJD	engineering	SJD
scale	AS SHOWN	approval	RH

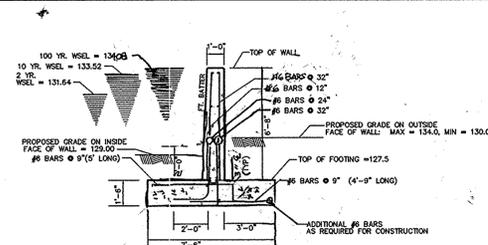
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HOWARD BUSINESS PARK
PARCELS B-1 THRU B-4
TAX MAP 43 - PARCEL 921 - BLOCK 12
FIRST ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
SEDIMENT CONTROL REDLINE & DETAILS

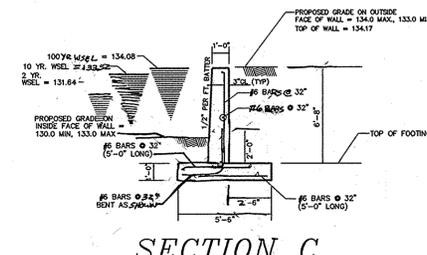
MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
(410) 997-0296 Fax. (301) 821-5521 Wash. (410) 997-0298 Fax.



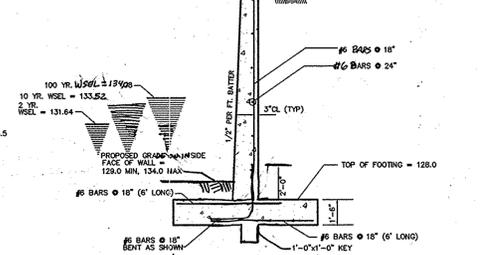
SECTION A
SCALE: 1" = 5'



SECTION B
SCALE: 1" = 5'

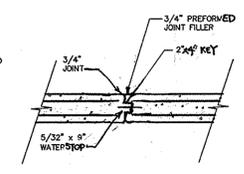


SECTION C
SCALE: 1" = 5'



SECTION D
SCALE: 1" = 5'

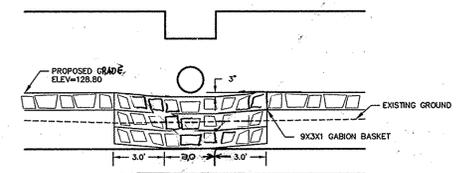
GENERAL NOTES:
 1. ALL CONCRETE SHALL BE MSHA MIX NO. 3
 FC=3,500 PSI, FY=60,000 PSI
 2. ALLOWABLE BEARING ON SUBGRADE SHALL EXCEED 2,000 PSF. SUBGRADE TO BE APPROVED BY GEOTECHNICAL ENGINEER PRIOR TO PLACING FOOTINGS.
 3. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED (3/4" IN X 3/4" IN).
 4. CONSTRUCTION KEYS SHALL BE A MINIMUM OF 2" X 4" NOMINAL.
 5. 3/4" EXPANSION JOINTS SHALL BE PROVIDED AT 30' INTERVALS FOR ALL SECTIONS OF WALL.
 6. NO STONE IS TO BE PLACED UNDER THE FOOTING OF THIS WALL.
 7. ALL REINFORCING BARS ARE TO BE EPOXY COATED PER MSHA SPECIFICATIONS.
 8. CONSTRUCTION OF THE RETAINING WALL SHALL BE PERFORMED UNDER THE SUPERVISION OF A MARYLAND REGISTERED PROFESSIONAL ENGINEER.



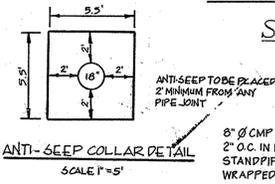
TYPICAL EXPANSION JOINT
NOT TO SCALE
 NOTE:
 1. EXPANSION JOINTS TO BE PLACED AT 30' INTERVALS
 2. WATERSTOP IS TO BE ELASTOMERIC OR OTHER APPROVED MATERIAL



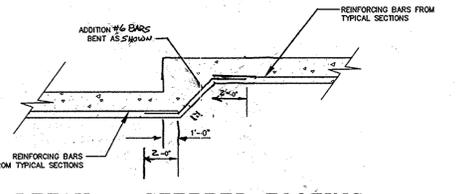
WEEPHOLE DETAIL
NOT TO SCALE
NOTE: DELETE WEEPHOLES ON SECTIONS A AND B



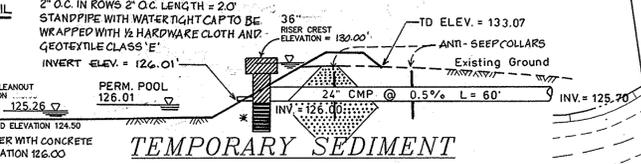
SPILLWAY DETAIL
SCALE 1"=5'



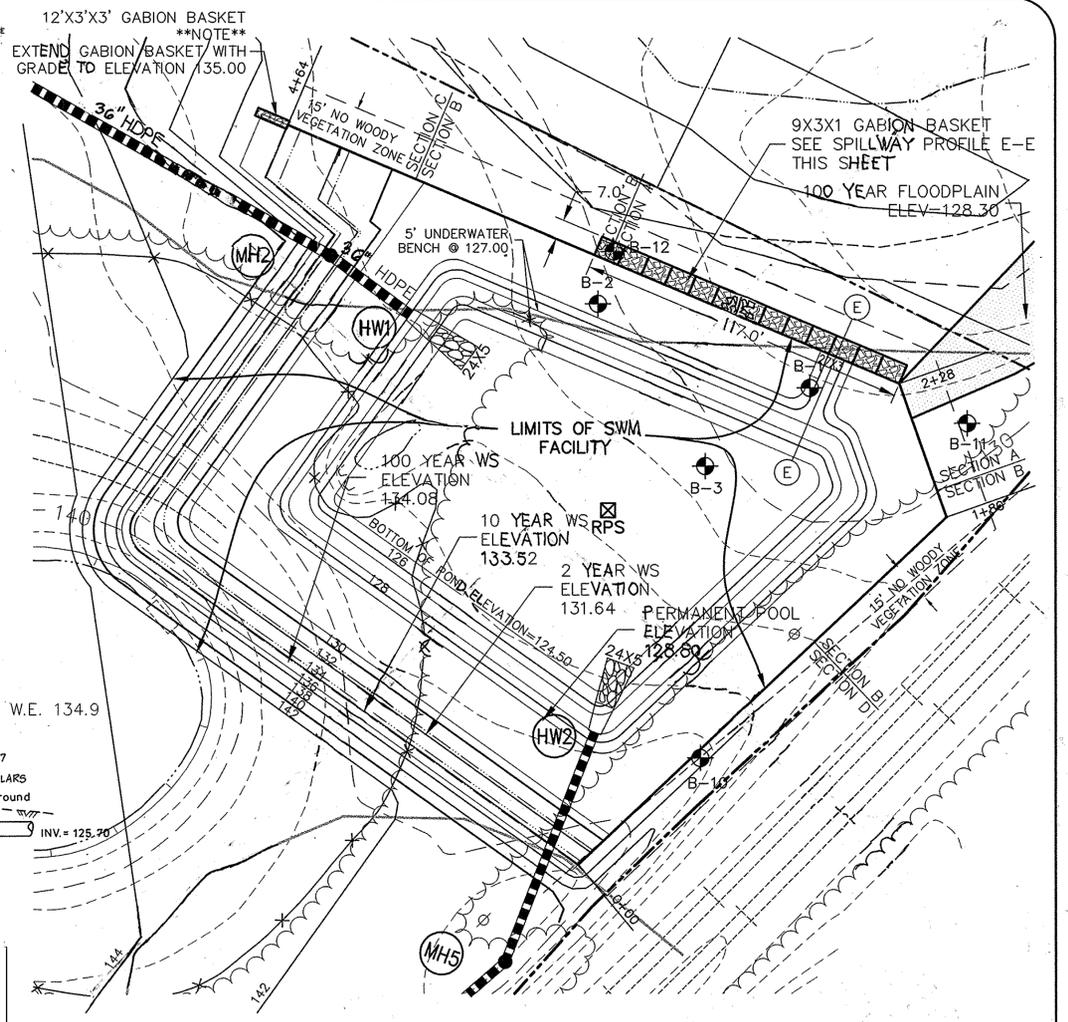
ANTI-SEEP COLLAR DETAIL
SCALE 1"=5'



DETAIL - STEPPED FOOTING
SCALE: 1" = 5'

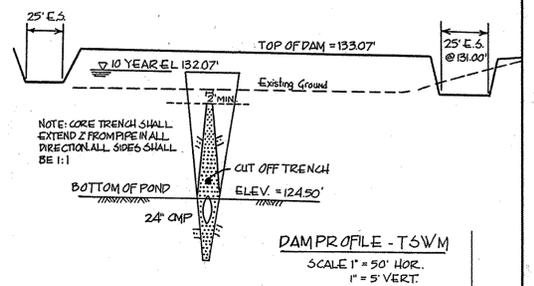


TEMPORARY SEDIMENT BASIN DETAIL
SCALE 1"=10'
NOTE: ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS FOR SEDIMENT CONTROL BASINS (MPEC-10-6)

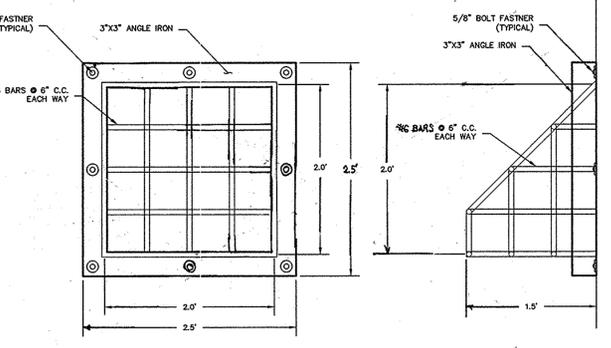


PLAN - RETAINING WALL
SCALE: 1" = 30'

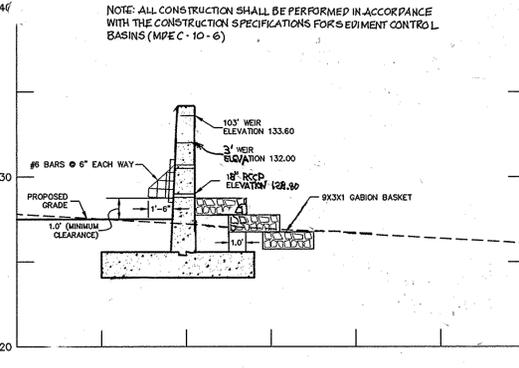
POND DATA
 HAZARD CLASSIFICATION - "a"
 DRAINAGE AREA - 28.9 ACRES
 PROPOSED TC - 0.25 HR.
 WATER QUALITY TYPE - RETENTION
 OWNERSHIP - PRIVATE



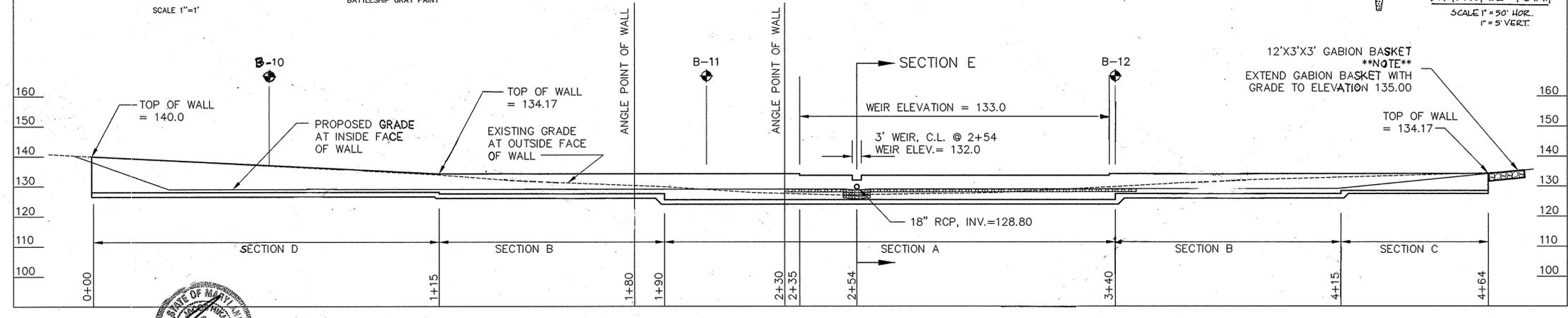
DAM PROFILE - T-SWM
SCALE 1" = 50' HOR.
1" = 5' VERT.



TRASH RACK DETAIL
SCALE 1"=1'



SPILLWAY PROFILE (E-E)
SCALE 1"=5'



PROFILE - RETAINING WALL
SCALE: 1" = 20'

AS-BUILT CERTIFICATION
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.
 SIGNATURE: _____ P.E. NO. _____
 DATE: _____

DEVELOPER'S CERTIFICATE
 I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM THE ENVIRONMENTAL APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
 SIGNATURE OF DEVELOPER: _____ DATE: _____
 PRINTED NAME OF DEVELOPER: _____

ENGINEER'S CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTICED THE DEVELOPER THAT THEY MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 SIGNATURE OF ENGINEER: _____ DATE: 5/23/06
 PRINTED NAME OF ENGINEER: R. JACOB HIKMA

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL.
 SIGNATURE: Cheryl Sumner/CS. DATE: 6/1/00
 USDA - NATURAL RESOURCE CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 SIGNATURE: _____ DATE: 6/1/00
 HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: _____ DATE: 4/16/06
 CHIEF, DIVISION OF LAND DEVELOPMENT: _____ DATE: 6/1/06
 DIRECTOR: _____ DATE: 6/13/00



Project	Date	Illustration	Scale	Approval
98001	APR 2000	JBM/KR	1"=5'	JBM

Revisions	Description	Date
5	REVISED POND DESIGN TO ORIGINAL DESIGNED DETAILS AND COMPUTED DATE FOR 2000 APPROVAL DATE	1-29-06
4	REVISED WATER MANAGEMENT DETAILS	12/1/03
3	REVISED POND DESIGN ASSOCIATED DETAILS	12/1/03

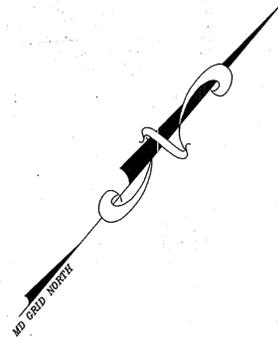
HOWARD BUSINESS PARK
 PARCELS B-1 THRU B-4
 TAX MAP 43 - PARCEL 321 - BLOCK 12
 HOWARD COUNTY, MARYLAND
 FIRST ELECTION DISTRICT
 RETAINING WALL SECTIONS AND DETAILS

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Belcooth City, Maryland 21042
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**THIS PLAN IS FOR DELINEATING
STORMWATER MANAGEMENT DRAINAGE
AREAS**

NOTE

1. TIME OF CONCENTRATION FOR DRAINAGE AREA #3A IS BASED ON TRAVEL TIME IN STORMDRAIN.
2. THIS PLAN MAKES NO CHANGES TO PARCEL A-1. THE EXISTING POND AND CONDITIONS SHOWN HEREON ARE BASED ON ACTUAL FIELD CONDITIONS ESTABLISHED BY SDP 95-60. DRAINAGE AREAS FOR THIS PARCEL HAVE BEEN SHOWN BECAUSE THE TOTAL CONTRIBUTING DRAINAGE AREA TO THE EXISTING FACILITY LOCATED ON PARCEL A-1 HAS BEEN REDUCED AS A RESULT OF THE SDP FOR PARCELS B-1 THRU B-4.



E 1,281,000
N 549,500

SID2
BALTIMORE WASHINGTON AUTO EXCHANGE, INC.
PLATBOOK NO. 10215 & 10216
ZONED M-2

