

SHEET INDEX	
NO.	DESCRIPTION
1	COVER SHEET
2	SITE DEVELOPMENT PLAN
3	SEDIMENT CONTROL, SWM & SWM LANDSCAPING PLAN
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6	SWM SPECIFICATIONS

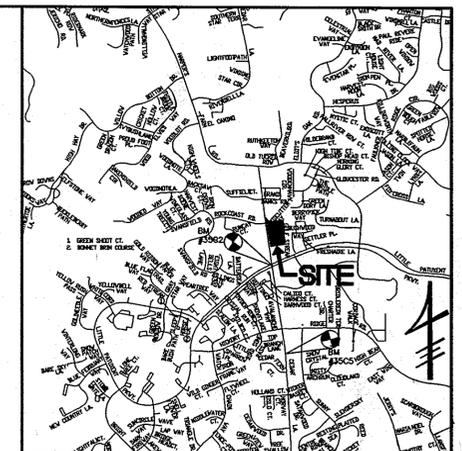
- GENERAL NOTES**
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV IE; STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
 - THE LOCATIONS OF THE UTILITIES SHOWN IS APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXISTENCE, LOCATION AND DEPTH OF ANY UTILITIES AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO BEGINNING WORK.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE ENGINEERING OFFICE, PHOENIX ENGINEERING, INC. AT (410) 247-8833 IN THE EVENT OF ANY DISCREPANCIES IN THE PLANS OR IN THE RELATIONSHIP OF FINISHED GRADES TO EXISTING GRADES, PRIOR TO BEGINNING ANY WORK.
 - THE CONTRACTOR SHALL NOTE THAT IN THE CASE OF DISCREPANCY BETWEEN THE SCALED AND FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN.
 - IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM SUCH WORK.
 - CONTRACTOR TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK ON THESE DRAWINGS:

*MISS UTILITY.....(800) 257-7777
 BALTIMORE GAS & ELECTRIC COMPANY.....(410) 685-0123
 VERIZON TELEPHONE.....(800) 978-7532
 AT&T CABLE LOCATION DIVISION.....(410) 539-9900
 HOWARD COUNTY BUREAU OF UTILITIES.....(410) 393-4974

- HOWARD COUNTY CONSTRUCTION/INSPECTION SURVEY DIVISION (24 HOURS NOTICE PRIOR TO COMMENCEMENT OF WORK).....(410) 393-3648
- ALSO SEE PREVIOUS FILE NUMBERS: PB 17, FOLIO 011, RESOLUTION CMP 550 F 143, SDP 69-09, F 89-03, F 07-199, AND FDP 66.
- THE CONTRACTOR SHALL OBTAIN THE NECESSARY PERMITS FOR CONSTRUCTION.
- TOPO TAKEN FROM FIELD RUN SURVEY PERFORMED BY NJR & ASSOCIATES DATED JUNE 2006.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. THE HOWARD COUNTY MONUMENTS BM #35C2 & BM #35C5 WERE USED FOR THIS PROJECT.
- ANY DAMAGE CAUSED BY THE CONTRACTOR TO THE COUNTY RIGHT-OF-WAY, EXISTING PAVEMENT, CURBS AND GUTTERS AND UTILITIES AND TO THE PATHWAYS AT THE SITE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE IN ACCORDANCE WITH THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS.
- THIS PROPERTY IS ZONED N.T.-O.S. AS PER THE AMENDED ZONING REGULATIONS EFFECTIVE JULY 28, 2006.
- THIS PLAN IS SUBJECT TO THE AMENDED ZONING REGULATIONS EFFECTIVE JULY 28, 2006.
- THIS PROJECT IS EXEMPT FROM THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BECAUSE THIS PROPERTY IS A PART OF PLANNED UNIT DEVELOPMENT CREATED BEFORE THE DECEMBER 31, 1992 DEADLINE, IN ACCORDANCE WITH SECTION 16.1202(b)(1)(iv) OF THE FOREST CONSERVATION MANUAL.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- EXISTING ON-SITE WATER AND SEWER ARE PUBLIC IN THE PATUXENT DRAINAGE AREA AND WERE BUILT UNDER CONTRACT 307 W&S.
- EXISTING UTILITIES ARE BASED ON FIELD RUN TOPO SUPPLEMENTED BY AS-BUILT CONSTRUCTION PLANS.
- A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT. BECAUSE NO NEW TRAFFIC IS BEING GENERATED. ALL IMPROVEMENTS ARE CONSIDERED ENHANCEMENTS TO THE EXISTING POOL FACILITY.
- LOTS 1 AND 2 HAVE A SHARED PARKING AGREEMENT. NO NEW TRAFFIC IS BEING GENERATED BY THIS PROJECT. SEE L 964 F 659.
- LANDSCAPE SURETY IN THE AMOUNT OF 4,350.00 HAS BEEN POSTED AS A PART OF THE DEVELOPERS AGREEMENT.
- ALL STORMWATER MANAGEMENT REQUIREMENTS ARE MET FROM AN F-4 ORGANIC FILTER WHICH IS TO BE PRIVATELY OWNED AND MAINTAINED BY THE OWNER. A SWM QUANTITY MANAGEMENT SYSTEM IS NOT REQUIRED.

SWANSFIELD COMMUNITY POOL RENOVATIONS

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND



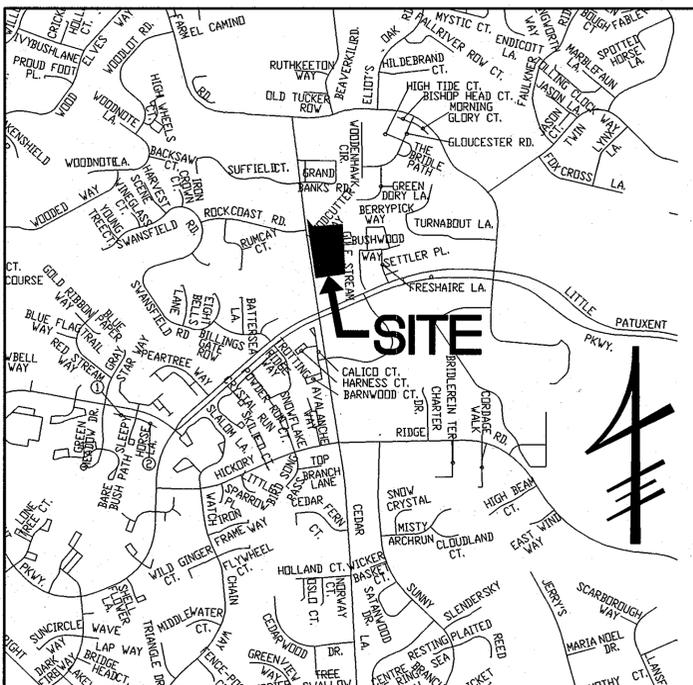
ADC: 16-C6
 SCALE: 1"=2000'

BM #35C2 ELEV. 463.465
 PK NAIL AT THE P.C. OF CURB 4.56' BEHIND THE FACE OF CURB ON CEDAR LANE. AT THE INTERSECTION OF CEDAR LANE AND LITTLE PATUXENT PARKWAY

NORTHING 563920.8157
 EASTING 1344204.1592

BM #35C5 ELEV. 451.595
 STAMPED BRASS DISC LOCATED JUST SOUTH OF THE INTERSECTION OF HICKORY RIDGE ROAD AND CEDAR LANE, 5.4' BEHIND THE FACE OF CURB OF CEDAR LANE AND 4.36' SOUTHWEST FROM THE HICKORY PLAZA BANK.

NORTHING 562148.4453
 EASTING 1344554.4774



SITE ANALYSIS

TOTAL AREA OF LOT 2 = 4.72 AC. OR 205,606 SQ. FT.
 TOTAL AREA OF THIS SUBMISSION = 4.72 AC. OR 205,606 SQ. FT.

ZONING: N.T., OPEN SPACE-CREDITED, FDP 66

PROPOSED USE = OPEN SPACE-RECREATIONAL (UNCHANGED)

THE SOILS TYPES SHOWN ON THESE PLANS ARE AS SHOWN IN THE "HOWARD COUNTY SOILS SURVEY."

THERE ARE NO WETLANDS, FLOODPLAINS, OR SLOPES GREATER THAN 15% AS SHOWN ON THIS SITE.

ALL EXISTING VEGETATION ON SITE IS IN THE FORM OF LAWN WITH SPARSE TREE STANDS.

OPEN SPACE (GREEN AREA) TO REMAIN ON SITE = 145,062 SQ. FT. OR 70.5% OF GROSS AREA.

TOTAL AREA TO BE DISTURBED = 56,628 S.F. OR 1.30 ACRES

TOTAL IMPERVIOUS AREA = 53,072 S.F. OR 1.22 ACRES

EX. PARKING PROVIDED:

REGULAR SPACES	55 SPACES (9'x18')
HANDICAP SPACES	2 SPACES (8'x18' w/5' AISLE)
VAN ACCESSIBLE	2 SPACES (8'x18' w/8' AISLE)
TOTAL	59 SPACES (SEE GENERAL NOTE #19)
	21 SPACES ON LOT 1
	38 SPACES ON LOT 2

EX. BLDG 'A' = 2,589 SF (1.26%) TO REMAIN (RENOVATED) (BATH HOUSE)
 PROP. BLDG 'A' = 1,909 SF (0.96%) EXPANSION (ADDITION) (BATH HOUSE) Δ
 BLDG 'A' TOTAL = 3,978 SF
 TOTAL AREA OF PROP. BLDG COVERAGE ON SITE = 1,325 SF (0.64%)
 TOTAL AREA OF EX. BLDG COVERAGE ON SITE = 7,809 SF (3.80%)
 TOTAL AREA OF BLDG COVERAGE ON SITE = 9,134 SF (4.44%)
 ALSO SEE: F-69-03, SDP 69-09 AND FDP 66
 PROP. BLDG 'B' = 181 SF (PUMP HOUSE) (0.08%) PROPOSED
 EX. BLDG 'C' = 120 SF (PUMP HOUSE) (0.05%) TO REMAIN
 EX. SWIMMING POOL = 5,100 SF (2.48%) TO REMAIN

**APPROVED
PLANNING BOARD
OF HOWARD COUNTY**

DATE 11/01/07

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 William for Peter Bealman, MD 12/20/2007
 COUNTY HEALTH OFFICER DATE
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 DATE 12/17/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE 12/27/07
 CHIEF, DIVISION OF LAND DEVELOPMENT

DATE 12/27/07
 DIRECTOR

Date	No	Revision Description
9-19-12	2	ADDED SNACK BAR EXPANSION 245 SF
9-1-12	1	ADDED OUTDOOR DRINKING FOUNTAIN

OWNER/DEVELOPER:
 THE COLUMBIA ASSOCIATION
 9450 GERWIG LANE
 COLUMBIA, MD 21046
 410-381-2947
 ATTN: DIANA KELLEY

PROJECT:
SWANSFIELD POOL RENOVATION
 VILLAGE OF HARPERS CHOICE
 SECTION 4, AREA 2, O.S. LOT 2
 5859 CEDAR LANE
 COLUMBIA, MD 21044
 HOWARD COUNTY, MARYLAND

PREPARED BY:

PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 1420 JOH AVENUE, SUITE A
 BALTIMORE, MARYLAND 21227
 (410) 247-8833 FAX 247-9397

AREA:
 VILLAGE OF HARPERS CHOICE
 SECTION 4, AREA 2, GRID 5
 CENSUS TRACT 6055.03 PARCEL 270 TAX MAP: 35
 6 TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE:
COVER SHEET

Des By: R.J.W.	Scale: AS SHOWN	Proj No: 06-062.01
Des By: S.E.W.	Date: October, 2006	Drawing: t101.dwg
Chk By: J.R.H.	SDP: 07-035	1 OF 6

FDP PHASE 66 CRITERIA-OPEN SPACE, CREDITED	REQUIRED	PROVIDED
Public Streets	N/A	N/A
Public Rights-Of-Way	N/A	N/A
Major Utility R/W	N/A	N/A
Drainage Facilities	N/A	N/A
Recreational Uses	Pool	Pool
Setbacks-Structures	30' Public, 25' Prop. Line	30' Public Road, 22' Prop. Line, 8' Property Line
Permitted Uses	Swimming Pool	Swimming Pool
Height	As Approved by the Planning Board	18' Max.
Parking	None, except as required for a structure by the Planning Board	Unchanged
Setbacks-General	As Approved by P&Z & the Planning Board	As Approved by P&Z & the Planning Board
Lot Size	As Per Plat	Unchanged
Lot Coverage	10% Max.	4.44%

- LEGEND**
- 188--- EX. CONTOUR
 - 188— PROP. CONTOUR
 - 52 X 61 SPOT ELEVATION
 - PROPERTY LINE

ADDRESS CHART

LOT No.	STREET ADDRESS
Open Space Lot 2	5659 Cedar Lane

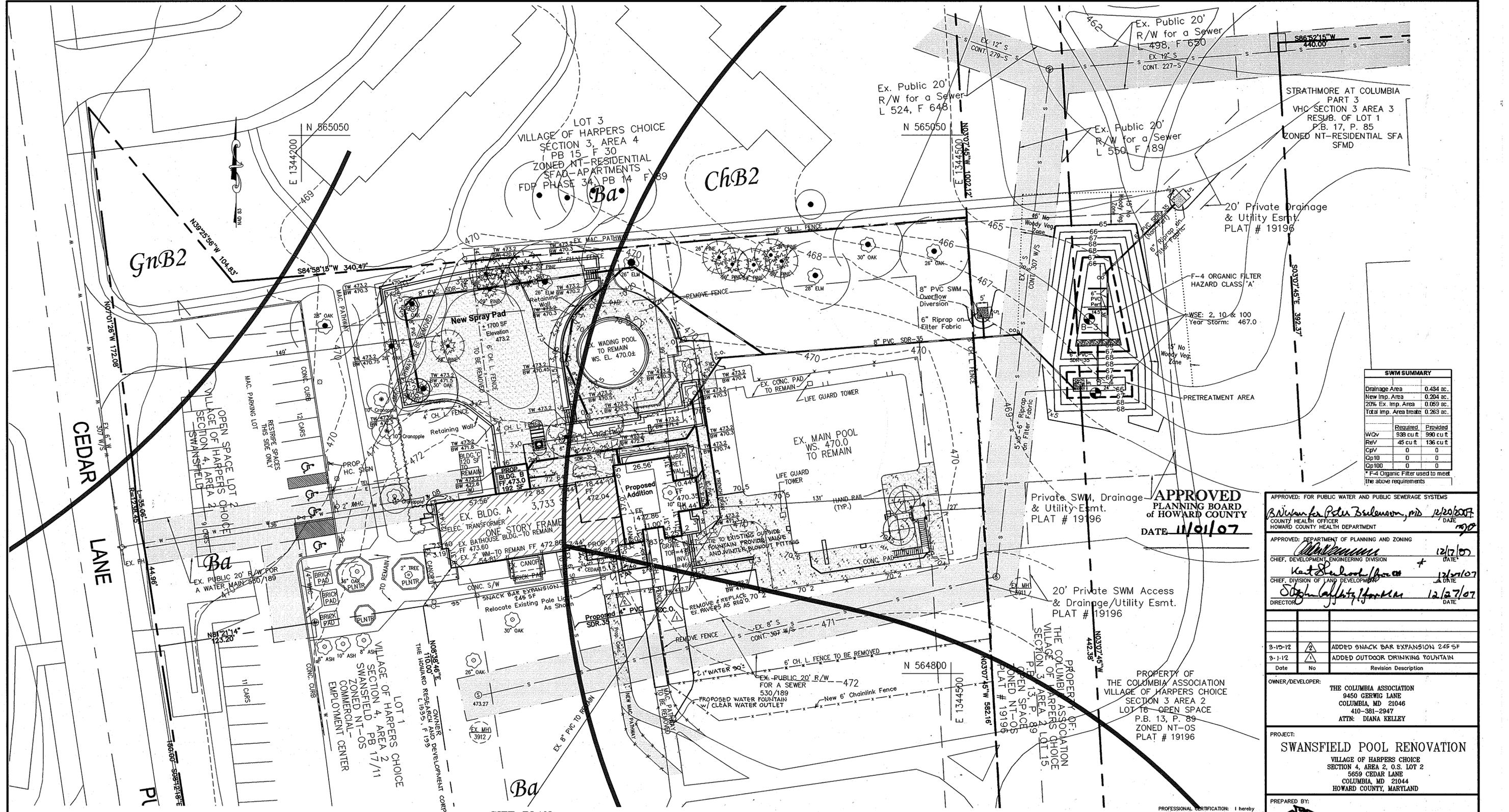
PERMIT INFORMATION CHART

SUBDIVISION NAME	SECT./AREA	PARCEL
Village Of Harpers Choice	4/2	Open Space Lot 2
DEEDS	BLOCK	ZONE
Lib: 3324	5	N.T.-O.S.
Folio: 191		
PLAT	WATER CODE	SEWER CODE
Book: 17	1-106	5584900
Folio: 011		

PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 14920 Exp. Date: 5-12-08

11-1-07

JOHN R. HEINRICHS
 Professional Engr. No. 14920



SWM SUMMARY

Drainage Area	0.434 ac.
New Imp. Area	0.204 ac.
20% Ex. Imp. Area	0.059 ac.
Total Imp. Area treated	0.263 ac.

	Required	Provided
WQv	939 cu ft	990 cu ft
ReV	45 cu ft	136 cu ft
CpV	0	0
Op10	0	0
Op100	0	0

* F-4 Organic Filter used to meet the above requirements

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
B. Williams for Peter Beulmann, mid 12/20/07
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
W. Williams 12/17/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

W. Williams 12/17/07
 CHIEF, DIVISION OF LAND DEVELOPMENT

Steph. Gafferty 12/17/07
 DIRECTOR

Date	No	Revision Description
3-15-12	2	ADDED SNACK BAR EXPANSION 245 SF
3-1-12	1	ADDED OUTDOOR DRINKING FOUNTAIN

OWNER/DEVELOPER:
 THE COLUMBIA ASSOCIATION
 9450 GERWIC LANE
 COLUMBIA, MD 21046
 410-381-2947
 ATTN: DIANA KELLEY

PROJECT:
SWANSFIELD POOL RENOVATION
 VILLAGE OF HARPERS CHOICE
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 1420 JOH AVENUE, SUITE A
 BALTIMORE, MARYLAND 21227
 (410) 247-8833 FAX 247-9397

AREA:
 VILLAGE OF HARPERS CHOICE
 SECTION 4, AREA 2, GRID 5
 CENSUS TRACT 6055.03 PARCEL 270 TAX MAP: 35
 6 TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE:
SITE DEVELOPMENT PLAN

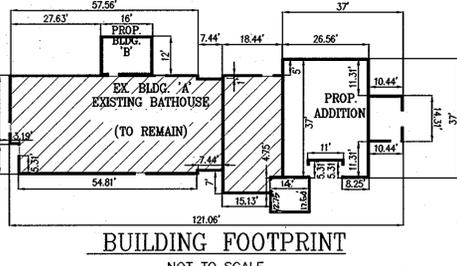
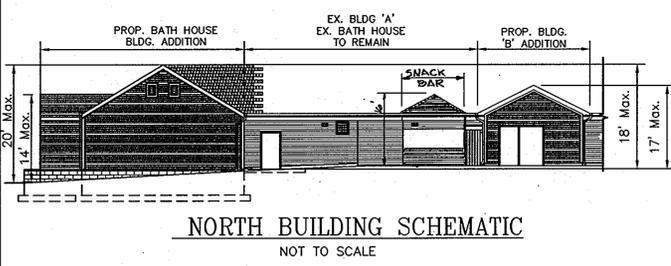
DATE: 11-1-07

PROFESSIONAL ENGINEER
 JOHN R. HENRICHS
 Professional Engr. No. 14920

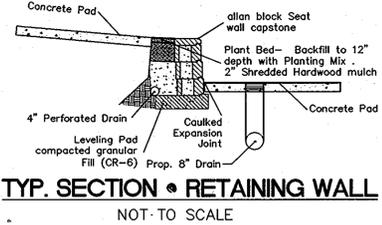
DATE: 11-1-07

Scale: AS SHOWN
 Date: September, 2006
 SPP: 07-035

Proj No: 06-062.01
 Drawing: ps01.dwg
 2 OF 6



- NOTES:
1. RETAINING WALL TO BE AS DESIGNED AND MANUFACTURED BY THE ALLAN BLOCK CORPORATION, 5300 EDINA INDUSTRIAL BLVD., SUITE 100, EDINA, MN 55439 952-835-5309 OR APPROVED EQUAL.
 2. THE LEVELING PAD SUB-GRADE BEARING MUST BE CERTIFIED BY A MARYLAND REGISTERED PROFESSIONAL GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
 3. THE RETAINING WALL CONSTRUCTION MUST BE INSPECTED BY A QUALIFIED ENGINEER DURING CONSTRUCTION.
 4. RETAINING WALLS SHALL ONLY BE CONSTRUCTED UNDER THE OBSERVATION OF A REGISTERED PROFESSIONAL ENGINEER OR A (NICET, WACEL, OR EQUIVALENT) CERTIFIED SOILS TECHNICIAN.
 5. THE REQUIRED BEARING PRESSURE BENEATH THE FOOTING OF THE WALL SHALL BE VERIFIED IN THE FIELD BY A CERTIFIED SOILS TECHNICIAN. TESTING DOCUMENTATION SHALL BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO THE START OF CONSTRUCTION. THE REQUIRED TEST PROCEDURE SHALL BE THE DYNAMIC CONE PENETROMETER TEST ASTM S1P-399.
 6. THE SUITABILITY OF THE FILL MATERIAL SHALL BE CONFIRMED BY THE ON-SITE SOILS TECHNICIAN. EACH EIGHT INCH LIFT MUST BE COMPACTED TO 95% STANDARD PROCTOR DENSITY AND THE TESTING REPORT SHALL BE MADE AVAILABLE TO THE HOWARD COUNTY INSPECTOR UPON COMPLETION OF CONSTRUCTION.



PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 14920 Exp. Date: 5-12-08.

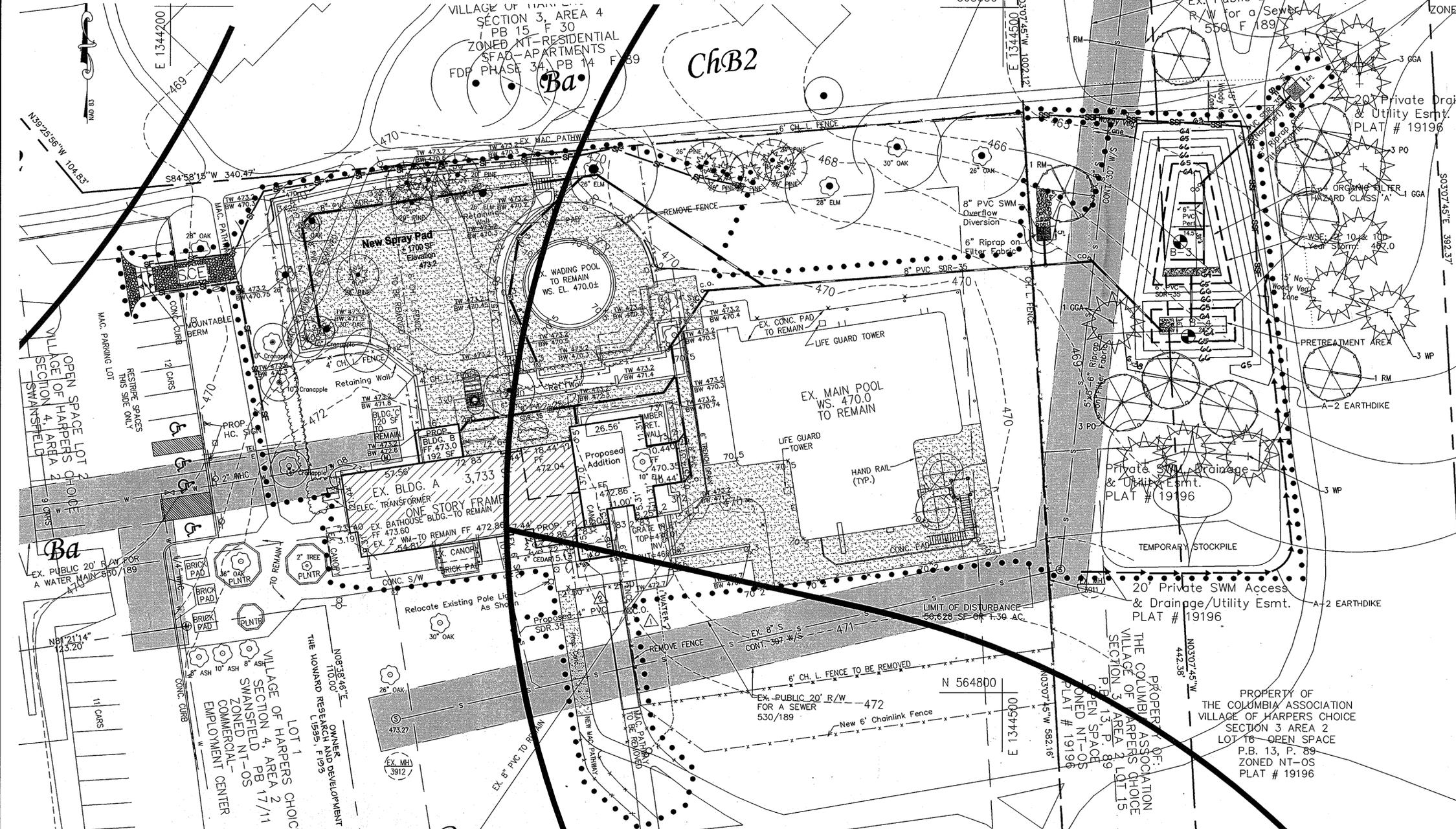
11-1-07
 Date

PROFESSIONAL ENGINEER
 JOHN R. HENRICHS
 Professional Engr. No. 14920

NO.	SYMBOL	SCIENTIFIC NAME	COMMON NAME	CAL.
3	RM	Acer Rubrum	Red Maple	2 1/2" - 3"
6	PO	Quercus Palustris	Pin Oak	2 1/2" - 3"
6	WP	Pinus Strobus	White Pine	8' Hgt.
5	GGA	Thuja plicata	Green Giant Arborvite	8' Hgt.

SWM TABULATIONS
 WQv REQ: 680 C.F. WQv PROVIDED: 757 C.F.
 ReV REQ: 118 C.F. ReV PROVIDED: 136 C.F.
 CpV REQ: N/A

- OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER FILTRATION SYSTEMS
 F-4 ORGANIC FILTER
- The stormwater wetland facility shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the facility is functioning properly.
 - The top and side slopes of the embankment shall be mowed a minimum of once per year, when the vegetation reaches 18" in height or as needed.
 - Filters that have a grass cover shall be mowed a minimum of three (3) times per growing season to maintain a maximum grass height of less than 12 inches.
 - Debris and litter shall be removed during regular mowing operations and as needed.
 - Visible signs of erosion in the facility shall be repaired as soon as it is noticed.
 - Remove silt when it exceeds four (4) inches deep in the forebay.
 - When water ponds on the surface of the filter bed for more than 72 hours, the top few inches of discolored material shall be replaced with fresh material. Proper cleaning and disposal of the removed materials and liquid must be followed by the owner.
 - A logbook shall be maintained to determine the rate at which the facility drains.
 - The maintenance logbook shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.
 - Once the performance characteristics of the infiltration system have been verified, the monitoring schedule can be reduced to an annual basis unless the performance data indicates that a more frequent schedule is required.



SCHEDULE D
STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER: 424

NUMBER OF TREES REQUIRED:
 SHADE TREES: 9
 EVERGREEN TREES: 11

CREDIT FOR EXISTING VEGETATION:
 (NO, YES AND %) NO

CREDIT FOR OTHER LANDSCAPING:
 (NO, YES AND %) NO

NUMBER OF TREES PROVIDED:
 SHADE TREES: 9
 EVERGREEN TREES: 11

OTHER TREES (2:1 SUBSTITUTION) 0
 LANDSCAPE SURETY IN THE AMOUNT OF \$4350.00 HAS BEEN POSTED AS A PART OF THE DEVELOPER'S AGREEMENT

ENGINEER'S CERTIFICATE
 I/WE CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
 John R. Heinrichs 11.1.07
 ENGINEER: JOHN R. HEINRICHS, VICE PRESIDENT DATE
 PHOENIX ENGINEERING, INC.

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
 Diana Kelly 11.1.07
 DEVELOPER: DIANA KELLEY DATE
 THE COLUMBIA ASSOCIATION

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS
 John K. Robertson 12/6/07
 NATIONAL RESOURCES CONSERVATION SERVICES DATE
 HOWARD S.C.D.

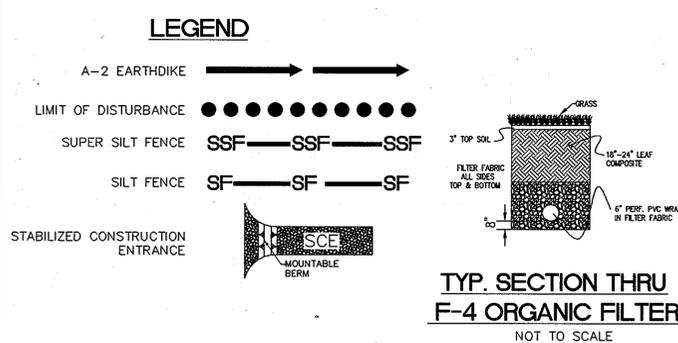
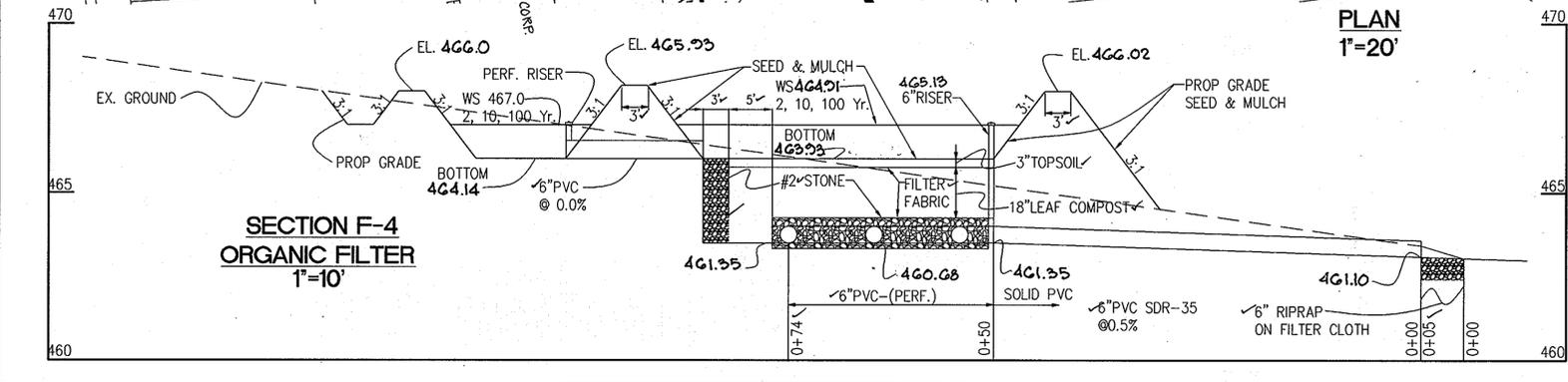
APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 William Peter Behrman, MD 12/6/07
 COUNTY HEALTH OFFICER DATE
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 12/7/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 12/7/07
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 12/22/07
 DIRECTOR DATE

APPROVED
 PLANNING BOARD
 of HOWARD COUNTY
 DATE 11/01/07



PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 14920 Exp. Date: 5-12-08

11-1-07
 JOHN R. HEINRICHS
 Professional Engr. No. 14920

Date	No	Revision Description
3-12-12	1	ADDED SNACK BAR EXPANSION 245 SF
3-1-12	2	ADDED OUTDOOR DRINKING FOUNTAIN

OWNER/DEVELOPER: THE COLUMBIA ASSOCIATION
 9460 GERWIG LANE
 COLUMBIA, MD 21046
 410-381-2947
 ATTN: DIANA KELLEY

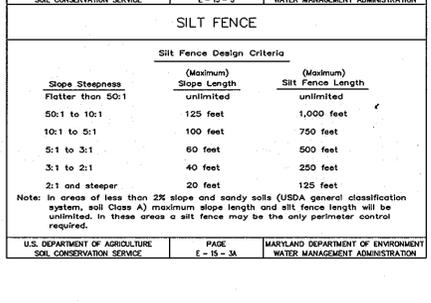
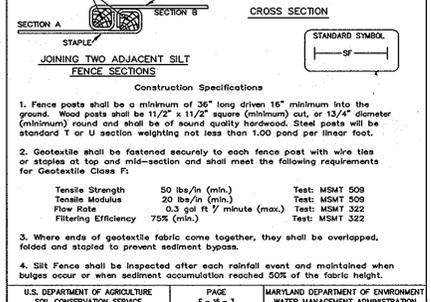
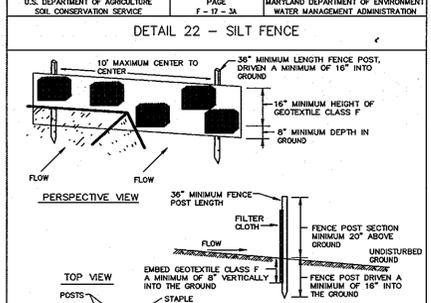
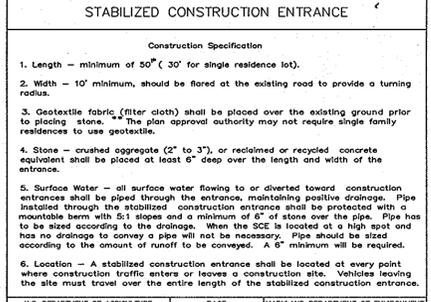
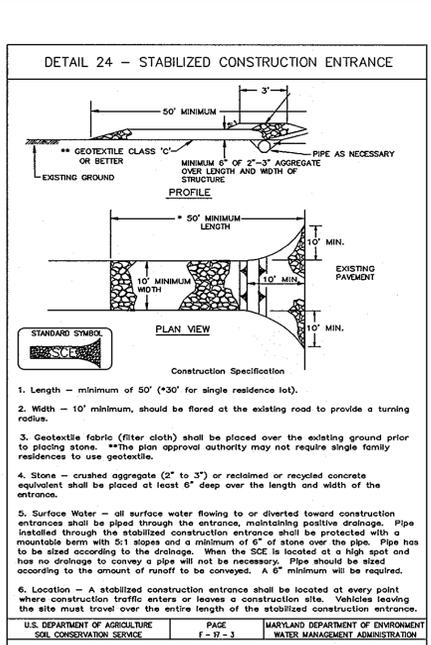
PROJECT: SWANSFIELD POOL RENOVATION
 VILLAGE OF HARPERS CHOICE
 SECTION 4, AREA 2, O.S. LOT 2
 5659 CEDAR LANE
 COLUMBIA, MD 21044
 HOWARD COUNTY, MARYLAND

PREPARED BY: PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 1420 JOH AVENUE, SUITE A
 BALTIMORE, MARYLAND 21227
 (410) 247-8833 FAX 247-8997

AREA: VILLAGE OF HARPERS CHOICE
 SECTION 4, AREA 2, GRID 5
 CENSUS TRACT 6055.03 PARCEL 270 TAX MAP: 35
 6 TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT CONTROL, SWM & SWM LANDSCAPING PLAN

Des By: R.J.W. Scale: 1"=20' Proj No: 06-062.01
 Dwn By: S.E.W. Date: September, 2006 Drawing: ep01.dwg
 Csk By: J.R.H. SPP: 07-035 3 OF 6



SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (913-1855)
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS, SOIL, TEMPORARY SEEDING AND MULCHING (SEC. 6) TEMPORARY STABILIZATION MULCHING SHALL 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: 4.72 ACRES
AREA TO BE ROOFED OR PAVED: 1.30 ACRES
AREA TO BE VEGETATIVELY STABILIZED: 0.64 ACRES
TOTAL CUT: 275 CU. YDS.
OFFSITE WATER/BORROW AREA LOCATION TO BE DETERMINED - BUT MUST BE A SITE WITH AN OPEN GRADING PERMIT
- 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 CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW 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 GRADING 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 SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED 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:

- PREFERRED - APPLY 2 TONS PER ACRE DOLICMIC LIMESTONE (92 LBS/1000 SQUARE FT) AND 400 LBS PER ACRE 16-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC 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 DOLICMIC LIMESTONE (92 LBS/1000 SQ FT) AND 1000 LBS PER ACRE 16-10-10 FERTILIZER (23 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 LBS/1000 SQ FT) OF WEDDING LOGWASMS. 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; OR OPTION (2) USE SEED WITH 50 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (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 GALLONS/1000 SQ FT) OF GULLISHED 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.

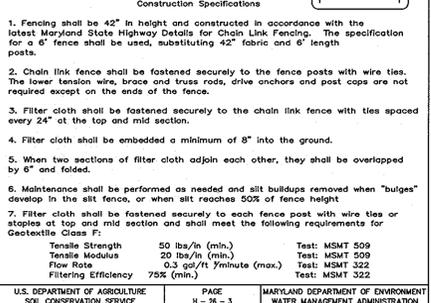
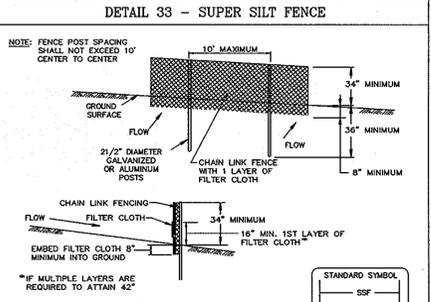
SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

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 NOVEMBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEDDING LOGWASMS (.07 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOIL.

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 GAL PER ACRE (5 GAL/1000 SQ FT) OF GULLISHED ASPHALT ON FLAT AREAS, ON SLOPES 8 FT OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.



STANDARD AND SPECIFICATION FOR TOPSOILING

DEFINITION: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATION GROWTH ON AREAS WITH LOW MOISTURE, LOW NUTRIENT LEVELS, LOW PH, OR THE PRESENCE OF OTHER MATERIALS TOXIC TO PLANTS.

PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATION GROWTH ON AREAS WITH LOW MOISTURE, LOW NUTRIENT LEVELS, LOW PH, OR THE PRESENCE OF OTHER MATERIALS TOXIC TO PLANTS.

CONDITIONS WHERE PRACTICE APPLIES: THIS PRACTICE IS RECOMMENDED FOR SITES OF 2:1 OR FLATTER SLOPES WHERE:

- THE TEXTURE OF THE EXPOSED SUBSOIL OR PARENT MATERIAL IS NOT SUITABLE TO PRODUCE ADEQUATE 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 ACID THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

SPECIFICATIONS: SECTION I - SITE PREPARATION (WHERE TOPSOIL IS TO BE ADDED).

WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, DIKES, WATERWAYS AND SEDIMENT BASINS.

GRADING: GRADES ON THE AREAS TO BE TOPSOILED WHICH HAVE BEEN PREVIOUSLY ESTABLISHED SHALL BE MAINTAINED.

LIMITS: WHERE THE SUBSOIL IS EITHER HIGHLY ACID OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQ. FT.). LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

TILLING: AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENED BY DISKING OR BY SCRAPING TO A DEPTH OF AT LEAST 3 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREA OF THE SLOPE TO CREATE HORIZONTAL EROSION CHECK SLOTS TO PREVENT TOPSOIL FROM SLIDING DOWN THE SLOPE.

SECTION II - TOPSOIL MATERIAL AND APPLICATION.

NOTE: TOPSOIL SALVAGED FROM THE EXISTING SITE MAY OFTEN BE USED BUT IT SHOULD MEET THE SAME STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. THE DEPTH OF TOPSOIL TO BE SALVAGED SHALL BE NO MORE THAN THE DEPTH DESCRIBED AS A REPRESENTATIVE PROFILE FOR THAT PARTICULAR SOIL TYPE AS DESCRIBED IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

MATERIALS: TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND OR OTHER SOIL AS APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST. IT SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND CONTAIN NO MORE THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENT, GRAVEL, STICKS, ROOTS, TRASH OR OTHER EXTRANEOUS MATERIALS LARGER THAN 1-1/2 INCHES IN DIAMETER. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS OF BERMUDAGRASS, QUACKGRASS, JANKONGRASS, NUTSEDGE, POISON IVY, THISTLES, OR OTHERS AS SPECIFIED. ALL TOPSOIL SHALL BE TESTED BY A RECOGNIZED LABORATORY FOR ORGANIC MATTER CONTENT, PH AND SOLUBLE SALTS. A PH OF 6.0 TO 7.5 AND AN ORGANIC CONTENT OF NOT LESS THAN 6.0, LIME SHALL BE APPLIED AND INCORPORATED WITH TOPSOIL TO ADJUST THE PH TO 6.5 OR HIGHER. TOPSOIL CONTAINING SOLUBLE SALTS GREATER THAN 50 PARTS PER MILLION SHALL NOT BE USED.

NO SOIL 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 TO PERMIT DISPERSION OF TOXIC MATERIALS.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS AS APPROVED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

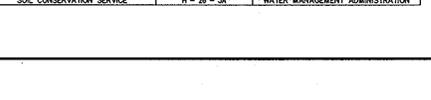
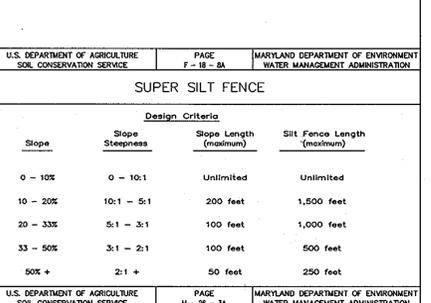
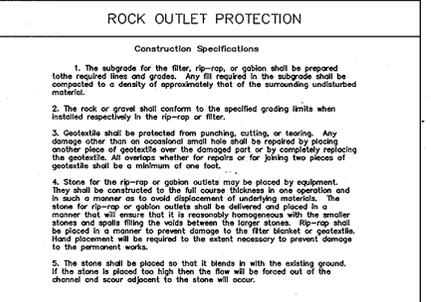
GRADING: THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED AND COMPACTED TO A MINIMUM OF FOUR (4) INCHES. SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SOODING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDING PREPARATION.

STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INVERT	RIM ELEV.	REMARKS
I-1	ADS INLINE	SEE PLAN	468.21	472.25	12" NYLOPLAST W/12" SLOTTED DROP IN GRATES W/8" OUTLET(S)
I-2	ADS INLINE	SEE PLAN	468.51	472.60	12" NYLOPLAST W/12" SLOTTED DROP IN GRATES W/8" OUTLET(S)
I-3	ADS INLINE	SEE PLAN	467.38	472.50	12" NYLOPLAST W/12" SLOTTED DROP IN GRATES W/8" OUTLET(S)
I-4	ADS INLINE	SEE PLAN	469.00	472.90	12" NYLOPLAST W/12" SLOTTED DROP IN GRATES W/8" OUTLET(S)
I-5	ADS INLINE	SEE PLAN	469.39	472.90	12" NYLOPLAST W/12" SLOTTED DROP IN GRATES W/8" OUTLET(S)
I-6	ADS INLINE	SEE PLAN	468.15	470.30	12" NYLOPLAST W/12" SLOTTED DROP IN GRATES W/8" OUTLET(S)
I-7	ADS INLINE	SEE PLAN	468.25	470.33	12" NYLOPLAST W/12" SLOTTED DROP IN GRATES W/8" OUTLET(S)
I-8	ADS INLINE	SEE PLAN	468.37	470.30	12" NYLOPLAST W/12" SLOTTED DROP IN GRATES W/8" OUTLET(S)
M-1	ADS INLINE	SEE PLAN	466.10 464.01 464.10	EX. GRADE	12" NYLOPLAST W/18" SLOTTED DROP IN GRATES W/3-8" OUTLETS W/INTERNAL HOOD

SEQUENCE OF CONSTRUCTION

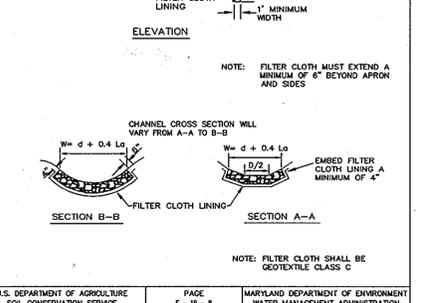
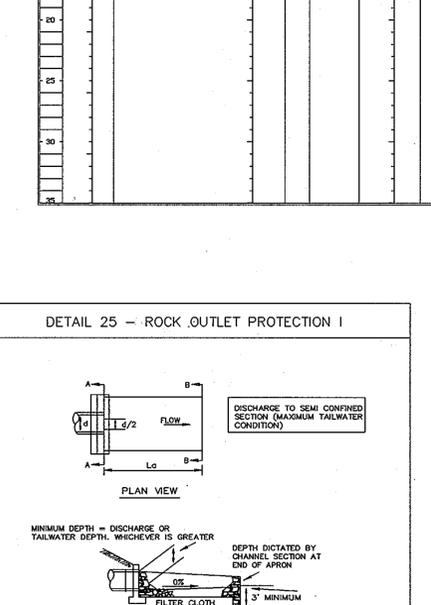
(1 DAY)	DAY 1	OBTAIN A GRADING PERMIT
(2 DAYS)	DAY 2-3	CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE WITH A MOUNTABLE BERM (SCE).
(3 DAYS)	DAY 4-6	CLEAR AND GRUB AREA FOR, AND INSTALL REMAINING SEDIMENT CONTROL DEVICES, AND GET PERMISSION FROM SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING.
(5 DAYS)	DAY 7-12	GRADE F-4 ORGANIC FILTER AND STABILIZE AS PER TEMPORARY SEEDING NOTES. SEE MD-378 SPECIFICATIONS ON SHEET 6.
(12 DAYS)	DAY 13-25	ROUGH GRADE SITE AND STABILIZE AS PER TEMPORARY SEEDING NOTES.
(60 DAYS)	DAY 26-86	CONSTRUCT BUILDINGS A & B AND SPRAY POOL.
(8 DAYS)	DAY 87-95	FINE GRADE SITE AND SEED DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.
(6 DAYS)	DAY 96-101	WHEN ALL DISTURBED AREAS HAVE BEEN STABILIZED AND UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES.



ECOR, Inc. BORING LOG

PROJECT	PROPOSED SWM FACILITY, SWANFIELD SWIMMING POOL	DATE	06/27/04	BORING NO.	B-3
LOCATION	Columbia, Maryland	DATE	06/27/04	DEPTH	66.6
DESCRIPTION	See Boring Location Plan	DATE	06/27/04	DEPTH	66.6
TYPE OF SOIL	Track Rip B-D-50	DATE	06/27/04	DEPTH	66.6

DEPTH	SOIL DESCRIPTION	WATER	REMARKS
0-1	Medium brown moist micaceous silty clay, trace gravel and clay, C&G fill	2-1	18" 2-2-4 DS 18"
1-2	Orange brown moist micaceous silty clay, C&G fill	3-2	18" 2-4-5 DS 18"
2-3	Light brown moist to very moist silty clay, little sand and mica, C&G fill	3-3	18" 3-4-5 DS 18"
3-4	Orange brown moist micaceous silty sand, trace clay (C&G)	3-4	18" 2-4-5 DS 18"
4-5	Brown, orange brown moist micaceous silty sand, trace clay and gravel (C&G)	3-5	18" 3-5-6 DS 18"
5-6	Brown, orange brown moist micaceous silty sand, trace clay and gravel (C&G)	3-6	18" 4-4-5 DS 18"
6-7	Brown, orange brown moist micaceous silty sand, trace clay and gravel (C&G)	3-7	18" 6-7-9 DS 18"
7-8	Brown, orange brown moist micaceous silty sand, trace clay and gravel (C&G)	3-8	18" 7-9-9 DS 18"



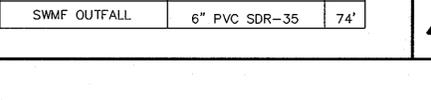
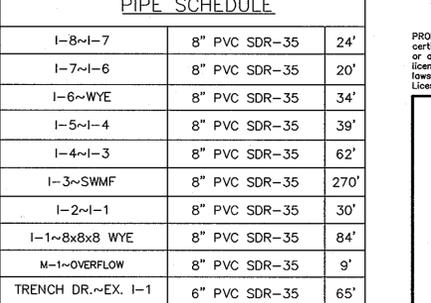
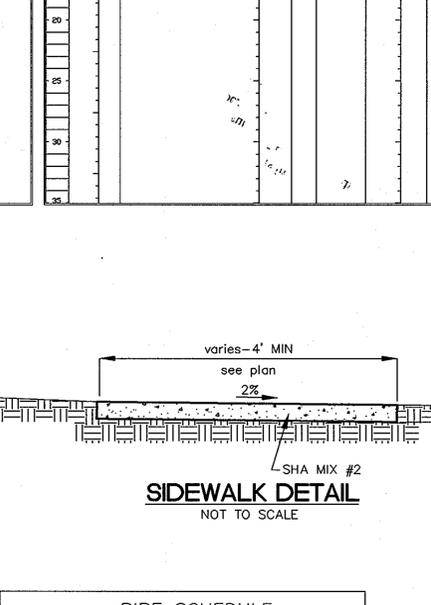
PIPE SCHEDULE

NO.	TYPE	LOCATION	INVERT	RIM ELEV.	REMARKS
I-8~I-7	8" PVC SDR-35	24'			
I-7~I-6	8" PVC SDR-35	20'			
I-6~I-4E	8" PVC SDR-35	34'			
I-5~I-1	8" PVC SDR-35	39'			
I-4~I-3	8" PVC SDR-35	62'			
I-3~SWMF	8" PVC SDR-35	270'			
I-2~I-1	8" PVC SDR-35	30'			
I-1~8x8x8	8" PVC SDR-35	84'			
M-1-OVERFLOW	8" PVC SDR-35	9'			
TRENCH DR.-EX. I-1	6" PVC SDR-35	65'			
SWMF OUTFALL	6" PVC SDR-35	74'			

ECOR, Inc. BORING LOG

PROJECT	PROPOSED SWM FACILITY, SWANFIELD SWIMMING POOL	DATE	06/27/04	BORING NO.	B-4
LOCATION	Columbia, Maryland	DATE <td>06/27/04</td> <td>DEPTH</td> <td>66.6</td>	06/27/04	DEPTH	66.6
DESCRIPTION	See Boring Location Plan	DATE <td>06/27/04</td> <td>DEPTH</td> <td>66.6</td>	06/27/04	DEPTH	66.6
TYPE OF SOIL	Track Rip B-D-50	DATE <td>06/27/04</td> <td>DEPTH</td> <td>66.6</td>	06/27/04	DEPTH	66.6

DEPTH	SOIL DESCRIPTION	WATER	REMARKS
0-1	Light gray, brown moist silty clay, little sand, trace mica, C&G fill	2-1	18" 2-3-5 DS 18"
1-2	Brown, orange brown moist micaceous silty sand, trace clay and gravel (C&G)	3-1	18" 3-5-6 DS 18"
2-3	Brown, orange brown moist micaceous silty sand, trace clay and gravel (C&G)	3-2	18" 4-4-5 DS 18"
3-4	Brown, orange brown moist micaceous silty sand, trace clay and gravel (C&G)	3-3	18" 5-5-6 DS 18"
4-5	Brown, orange brown moist micaceous silty sand, trace clay and gravel (C&G)	3-4	18" 6-7-9 DS 18"
5-6	Brown, orange brown moist micaceous silty sand, trace clay and gravel (C&G)	3-5	18" 7-9-9 DS 18"



APPROVED PLANNING BOARD OF HOWARD COUNTY

DATE 11/01/07

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

John H. Henrichs 12/20/07
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

ENGINEER'S CERTIFICATE

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

John H. Henrichs 11.1.07
ENGINEER: JOHN R. HENRICHS, VICE PRESIDENT
PHOENIX ENGINEERING, INC.

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Diana Kelley 11.1.07
DEVELOPER: DIANA KELLEY
THE COLUMBIA ASSOCIATION

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

John R. Henrichs 12/7/07
HOWARD S.C.D. DATE

NATURAL RESOURCES CONSERVATION SERVICES

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT

John R. Henrichs 12/7/07
HOWARD S.C.D. DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

John R. Henrichs 12/2/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Kate R. Doolittle 12/2/07
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Stephanie Tz 12/2/07
DIRECTOR DATE

OWNER/DEVELOPER: THE COLUMBIA ASSOCIATION
9450 GERWIG LANE
COLUMBIA, MD 21046
410-381-2947
ATTN: DIANA KELLEY

PROJECT: SWANFIELD POOL RENOVATION
VILLAGE OF HARPERS CHOICE
SECTION 4, AREA 2, O.S. LOT 2
5659 CEDAR LANE
COLUMBIA, MD 21044
HOWARD COUNTY, MARYLAND

PREPARED BY: PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
1420 JOH AVE, SUITE A
BALTIMORE, MARYLAND 21227
(410) 247-8893 FAX 247-9397

AREA: VILLAGE OF HARPERS CHOICE
SECTION 4, AREA 2, GRID 5
CENSUS TRACT 6055.03 PARCEL 270 TAX MAP: 35
6 TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT CONTROL NOTES & DETAILS

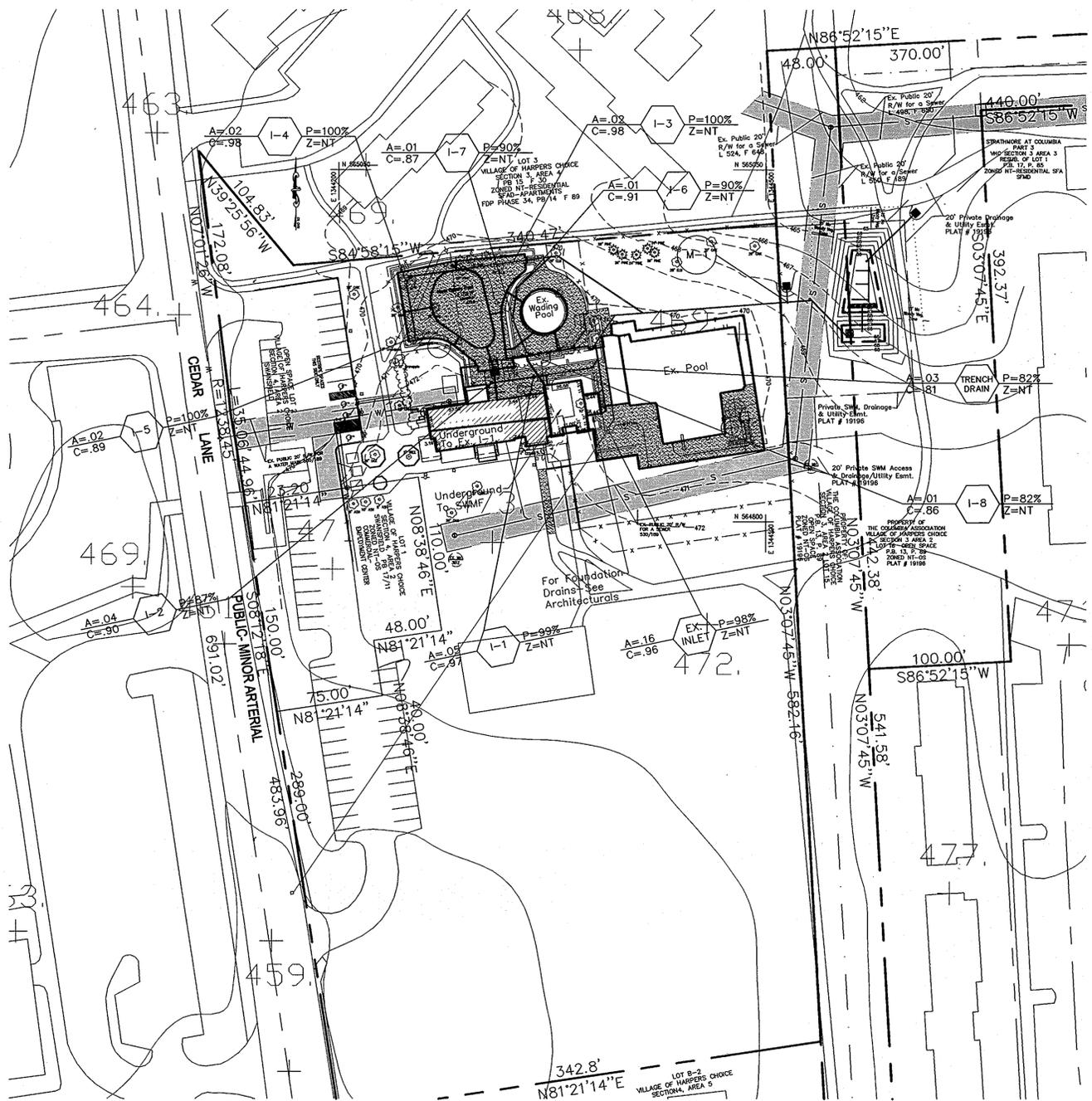
Des By: R.J.W. Scale: AS-SHOWN Proj No: 06-062.01
Dn By: S.E.W. Date: October, 2006 Drawing: de01.dwg
Ck By: J.R.H. SPP: 07-035 4 OF 6

PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 14920 Exp. Date: 5-12-08

11.1.07
Date

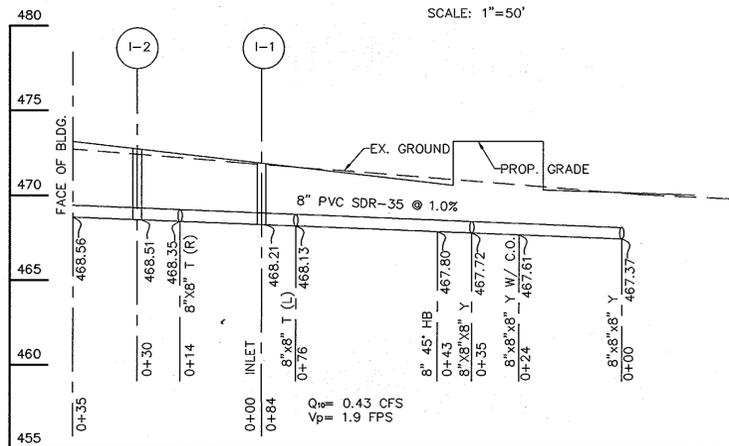
John H. Henrichs
JOHN R. HENRICHS
Professional Engr. No. 14920

SDP 07-035



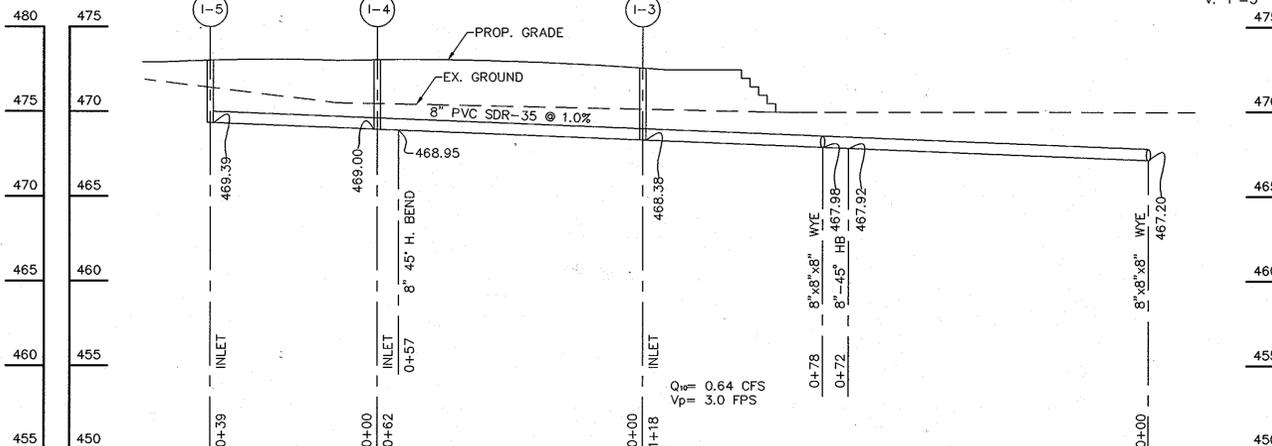
DRAINAGE AREA MAP

SCALE: 1"=50'



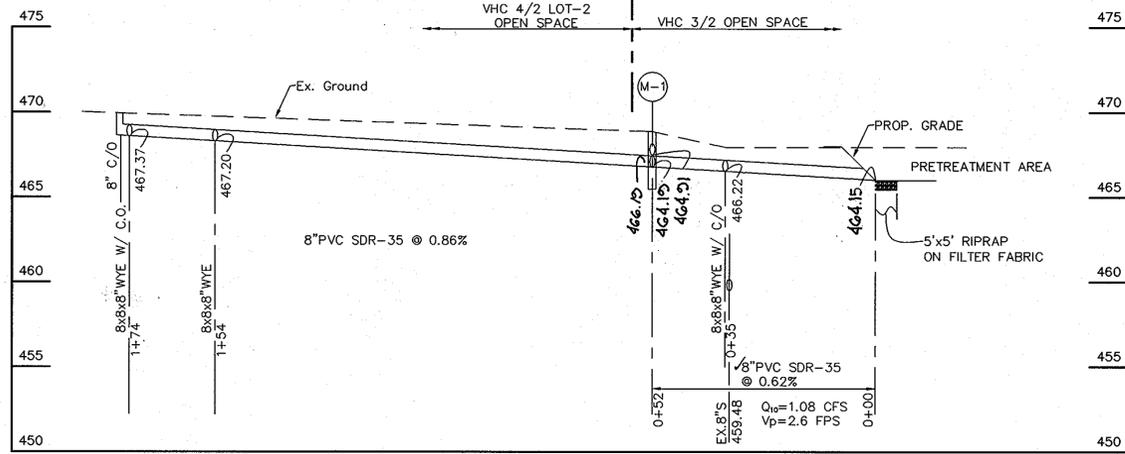
PATIO DRAIN PROFILE

SCALE: H: 1"=20'
V: 1"=5'



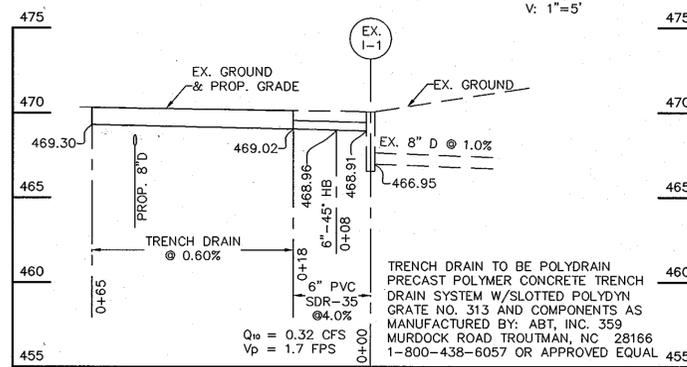
SPRAY PAD

SCALE: H: 1"=20'
V: 1"=5'



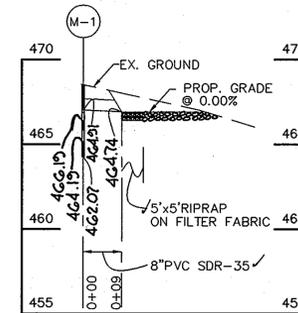
BIORETENTION PROFILE

SCALE: H: 1"=20'
V: 1"=5'



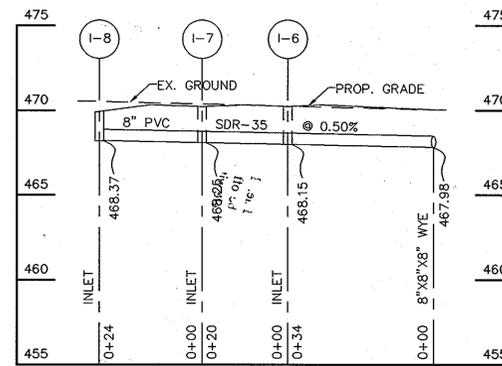
TRENCH DRAIN PROFILE

SCALE: H: 1"=20'
V: 1"=5'



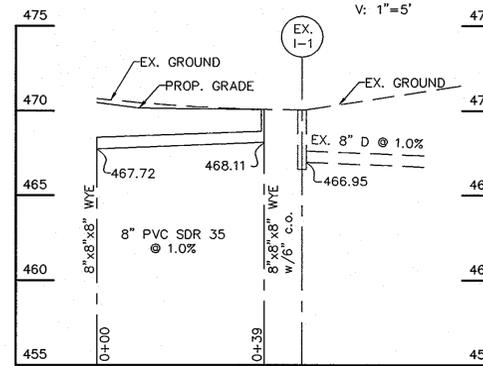
SWMF OVERFLOW DIVERSION PROFILE

SCALE: H: 1"=20'
V: 1"=5'



WADING POOL DRAIN PROFILE

SCALE: H: 1"=20'
V: 1"=5'



CONCESSION STAND DRAIN PROFILE

SCALE: H: 1"=20'
V: 1"=5'

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE 11/01/07

ENGINEER'S CERTIFICATE

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

John R. Heinrichs 11.1.07
ENGINEER: JOHN R. HEINRICHS, VICE PRESIDENT DATE
PHENIX ENGINEERING, INC.

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

Diana Kelley 11.1.07
DEVELOPER: DIANA KELLEY DATE
THE COLUMBIA ASSOCIATION

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

John K. Blanton 12/1/07
NATURAL RESOURCES CONSERVATION SERVICES DATE
HOWARD S.C.D.

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

Brian J. Patten 12/20/07
COUNTY HEALTH OFFICER DATE
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED, DEPARTMENT OF PLANNING AND ZONING

John P. ... 12/17/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

West ... 11/21/07
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John ... 12/27/07
DIRECTOR DATE

Date	No	Revision Description

OWNER/DEVELOPER: THE COLUMBIA ASSOCIATION
9450 GERWIG LANE
COLUMBIA, MD 21046
410-381-2947
ATTN: DIANA KELLEY

PROJECT: SWANSFIELD POOL RENOVATION
VILLAGE OF HARPERS CHOICE
SECTION 4, AREA 2, O.S. LOT 2
5659 CEDAR LANE
COLUMBIA, MD 21044
HOWARD COUNTY, MARYLAND

PREPARED BY: PHENIX ENGINEERING, INC.
CONSULTING ENGINEERS
1420 JOH AVENUE, SUITE A
BALTIMORE, MARYLAND 21227
(410) 247-8853 FAX 247-8997

AREA: VILLAGE OF HARPERS CHOICE
SECTION 4, AREA 2, GRID 5
CENSUS TRACT 6055.03 PARCEL 270 TAX MAP: 35
6 TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: DRAINAGE AREA MAP AND PROFILES

Des By: R.J.W. Scale: AS-SHOWN Proj No: 06-062.01
Dn By: S.E.W. Date: October, 2006 Drawing: d001.dwg
Ck By: J.R.H. SPP: 07-035 5 OF 6

PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 14920 Exp. Date: 5-12-08

11.1.07
Date

John R. Heinrichs
JOHN R. HEINRICHS
Professional Engr. No. 14920

CONSTRUCTION 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. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-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 GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

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

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

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

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

Cut Off Trench - The cutoff trench shall be excavated into impervious material along and 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, roller,

etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Structure Backfill

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

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi, 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags,

etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.

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

- 1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymer coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted

with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

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

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

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of the pipe with its circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide huggie type band with o-ring gaskets having a minimum diameter

of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

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

- 5. Backfilling shall conform to "Structure Backfill".

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

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 C-361.

- 2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding / cradle for their entire length. This bedding / cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

- 3. 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 4 feet from the riser.

Concrete

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

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311. Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

Care of Water during Construction

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

formance 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 stumps 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 Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction erosion 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.

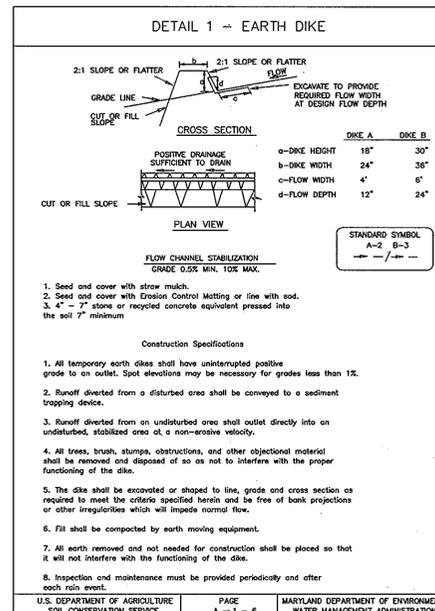
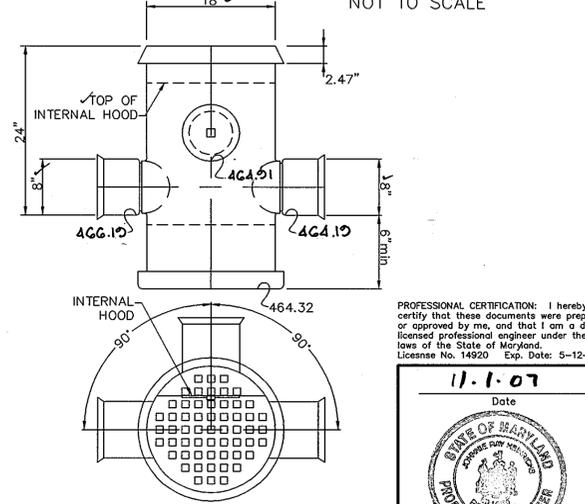


Table with 2 columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. Includes page number 1-1 and 1-6.

APPROVED PLANNING BOARD OF HOWARD COUNTY DATE 11/01/07

HANDICAP SIGN DETAIL NOT TO SCALE



M-1 DIVERSION STRUCTURE NOT TO SCALE

DIVERSION STRUCTURE M-1 TO BE AN 18" PVC DRAINAGE BASIN WITH INTERNAL HOOD BY NYLOPLAST 3130 WERONA AVENUE, BUFORD, GA. 30518 1-866-888-8479 OR APPROVED EQUAL.

PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 14920 Exp. Date: 5-12-08. Date 11-1-07. JOHN H. HENRICHS Professional Engr. No. 14920



- 1. FREESTANDING SIGN 7'-0" ABOVE FINISHED GRADE MOUNTED ON WALL OR STRUCTURE 6'-0" ABOVE GROUND.
- 2. TWO SEPARATE SIGNS TO BE APPLIED TO METAL SIGN BOARD MOUNTED TO METAL POST.
- CHARACTERS: \$98 FINE SIGN SIGN TO UTILIZE AN ALUMINUM BLANK 6"x12"x0.060 INCH THICK WITH TWO SINGLE POST MOUNTING HOLES. THE TEXT AND BORDER SHALL BE STANDARD GREEN TO MATCH THAT ON 07-01 AND THE BACKGROUND SHALL BE REFLECTIVE WHITE. TEXT SHALL BE IN 3" SIGN. SHALL BE MOUNTED DIRECTLY BELOW THE STANDARD 07-01 RESERVED PARKING FOR HANDICAPPED SIGN. ITS BOTTOM EDGE SHALL BE NO LESS THAN 7 FEET ABOVE GROUND. IF THE SIGN IS PLACED AGAINST A BUILDING STRUCTURE, OR OTHER BACKGROUND WHERE VEHICLE OR PEDESTRIAN TRAFFIC IS NOT OBSTRUCTED THE BOTTOM EDGE OF SIGN SHALL BE AT LEAST 6 FEET BUT NOT MORE THAN 10 FEET ABOVE GROUND.



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS. B. Wilson for Peter Besilerman, md 12/20/2007. COUNTY HEALTH OFFICER. HOWARD COUNTY HEALTH DEPARTMENT. ENGINEER'S CERTIFICATE. DATE 11-1-07.

DEVELOPER'S CERTIFICATE. DEVELOPER: DIANA KELLEY. DATE 11-1-07.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS. NATURAL RESOURCES CONSERVATION SERVICE. DATE 12/17/07.

APPROVED: DEPARTMENT OF PLANNING AND ZONING. CHIEF, DEVELOPMENT ENGINEERING DIVISION. DATE 12/17/07.

CHIEF, DIVISION OF LAND DEVELOPMENT. DATE 12/23/07.

OWNER/DEVELOPER: THE COLUMBIA ASSOCIATION. 9450 GERWIG LANE, COLUMBIA, MD 21046. ATTN: DIANA KELLEY.

PROJECT: SWANSFIELD POOL RENOVATION. VILLAGE OF HARPERS CHOICE. SECTION 4, AREA 2, O.S. LOT 2. 5659 CEDAR LANE, COLUMBIA, MD 21044. HOWARD COUNTY, MARYLAND.

PREPARED BY: PHOENIX ENGINEERING, INC. CONSULTING ENGINEERS. 1420 JOH AVENUE, SUITE A, BALTIMORE, MARYLAND 21227. (410) 247-8833 FAX 247-9397.

AREA: VILLAGE OF HARPERS CHOICE. SECTION 4, AREA 2, GRID 5. CENSUS TRACT 6055.03. PARCEL 270. TAX MAP: 35. 6 TH ELECTION DISTRICT. HOWARD COUNTY, MARYLAND.

TITLE: SWM SPECIFICATIONS.

Table with 4 columns: Des By, Scale, Date, Proj No. Des By: R.J.W., Scale: AS-SHOWN, Date: October, 2006, Proj No: 06-062.01. Dwn By: S.E.W., Date: 2006, Drawing: spec01.dwg. Ck By: J.R.H., Stp: 07-035, 6 OF 6.