MEADOWBROOK PARK

GENERAL SITE NOTES:

1. DEVELOPER/ OWNER: HOWARD COUNTY BUREAU OF PUBLIC WORKS
   9250 BENDIX ROAD
   ELLICOTT CITY, MD, 21043 PHONE: (410) 313-4686
2. WATER PLANNING CATEGORY: F09
3. SEWERAGE PLANNING CATEGORY: 5750615
4. SUBJECT PROPERTY IS LOCATED ON TAX MAP NO. 30, PARCELS 383 AND 387.
5. PRESENT ZONING IS R-20 (RESIDENTIAL: SINGLE – 2 UNITS/ACRE), AS PER 10/18/93 COMPREHENSIVE ZONING PLAN.
6. TOTAL AREA OF PROPERTY: 76.37 ACRES.
   CURRENT TAX MAPS SHOW SITE AREA TO BE 84.20 ACRES. 7.83 ACES WERE DEEDED TO THE MARYLAND STATE HIGHWAY ADMINISTRATION.
7. PROPERTY REFERENCE:
   DEED REFERENCE: 1257/335, 1260/137, 1272/497
8. PARKING DATA:
   A. INTENDED USE OF STRUCTURE: INDOOR AND OUTDOOR RECREATIONAL FACILITIES
   B. NUMBER OF SPACES REQUIRED: 258 SPACES
   C. NUMBER OF SPACES PROVIDED: 317 SPACES INCLUDING 8 ADA SPACES
   D. TOTAL ONSITE: 317/ONSITE SPACES

8B. 20 SPACES PER BALL DIAMOND X 3=60
I SPACE PER 300 SQ.FT. FUTURE INDOOR ROLLER HOCKEY RINK X 30,000 = 150
2 SPACES PER TENNIS COURT X 2 = 4
4 SPACES PER VOLLEYBALL COURT X 1 = 4
10 SPACES PER BASKETBALL COURT X 2 = 20
10 SPACES PER OPEN PLAY FIELD X 1=10
10 SPACES PER PLAYGROUND X 1 = 10
TOTAL = 258

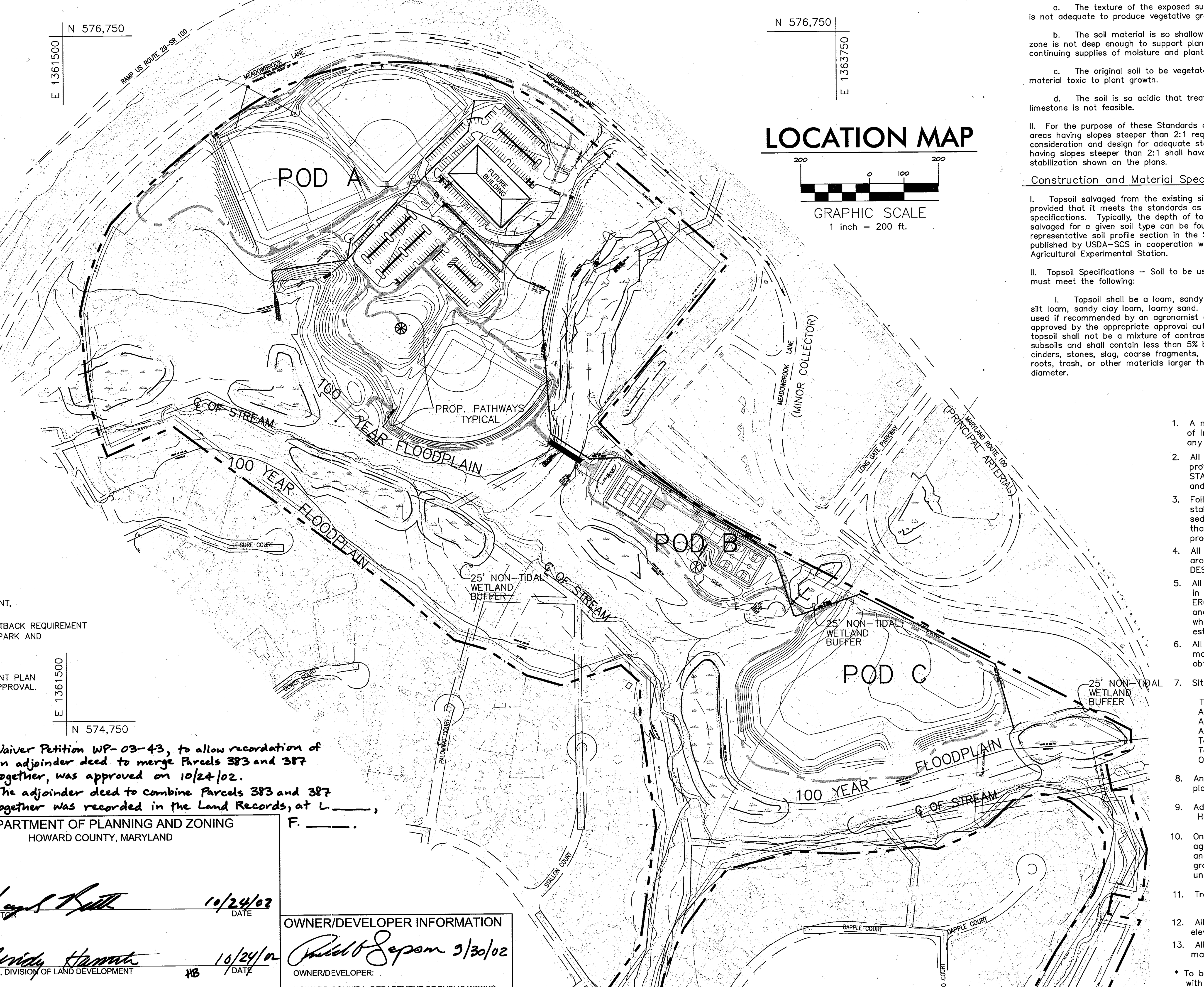
9. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/DIVISION OF CONSTRUCTION INSPECTION AT (410) 313-1880 AT LEAST FIVE(5) WORKING DAYS PRIOR TO THE START OF WORK.
10. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION WORK.
11. THE STORMWATER MANAGEMENT REQUIREMENTS IS PROVIDED ON-SITE IN ACCORDANCE WITH 2000 MARYLAND STORMWATER DESIGN MANUAL. OWNERSHIP AND MAINTENANCE OF ALL SWM FACILITIES ARE THE COUNTY'S RESPONSIBILITY.
12. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS & SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS & SPECIFICATIONS IF APPLICABLE.
13. PLAN DIMENSIONS ARE TYPICALLY TO FACE OF BUILDING, FACE OF PERIMETER CURB, CENTERLINE OF PIPES, OR TO THE PROPERTY LINE.
14. THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN AND AERIAL SURVEY WITH TWO FOOT CONTOUR INTERVALS. AERIAL TOPOGRAPHY WAS PREPARED BY HOWARD COUNTY GIS DIVISION DATED 3-16-00 AND THE WETLAND FIELD SURVEY WAS PREPARED BY McCRONE INC. DATED 3-00. THE PROPERTY LINE SURVEY WAS PREPARED BY CB MILLER ASSOC. IN AUGUST 1999.
15. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. MB-04 N.576,703.50 E.1,362,277.00. AND MONUMENT NOS. MB-06 N.575,575.80 E.1,363,163.50.
16. A FLOODPLAIN STUDY FOR THE SMALL UNAMED TRIBUTARY ON THIS PROJECT WAS PREPARED BY McCRONE INC. DATED JUNE 2000, AND APPROVAL IS PENDING. THE REMAINDER OF THE FLOOD PLAIN (RED HILL BRANCH) IS DELINEATED PER HOWARD COUNTY BUREAU OF ENGINEERING RECORDS.
17. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
18. EXISTING UTILITIES ARE BASED ON INFORMATION AND PLANS PROVIDED BY HOWARD COUNTY GIS DIVISION.
19. NON-TIDAL WETLANDS PRESENT ON SITE WERE DELINEATED BY STRAGHAN ENVIRONMENTAL SERVICES, INC.
20. NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT
21. THE "WETLAND EASEMENT" AREAS ARE NOT THE LIMITS OF WETLANDS.
22. FUTURE MSHA WETLAND AREAS ARE NOT BEING CREATED AS PART OF THIS PLAN. ANY WORK ASSOCIATED WITH THOSE AREAS WILL BE REVIEWED SEPARATELY BY THE MDE.
23. NO LANDSCAPE SURETY IS REQUIRED SINCE THIS IS A HOWARD COUNTY DPW/DRP PROJECT.
24. FOREST CONSERVATION FOR THIS PARCEL IS SATISFIED VIA AN APPENDIX B-4 DECLARATION OF INTENT, SINGLE LOT CLEARING LESS THAN 40,000 SQUARE FEET.
25. RESOLUTION 30-2002 WAS APPROVED ON APRIL 1, 2002 GRANTING A REDUCTION IN THE SETBACK REQUIREMENT FROM 20-FOOT TO 0 FEET FOR THE CONSTRUCTION OF THE PROPOSED SIDEWALK IN MEADOWBROOK PARK AND FROM 50-FOOT TO 20 FEET AND 25 FEET FOR THE PARK'S TWO BASEBALL OUTFIELD FENCES.
26. GRADING ON STEEP SLOPES OVER 25% AND OVER 20,000 SQUARE FEET IN CONTIGUOUS AREA WAS APPROVED ON MAY 23, 2002 AS WP-02-113 SUBJECT TO THE FOLLOWING CONDITIONS:
    1. THE PETITIONER SHALL COMPLY WITH ALL REVIEW COMMENTS ISSUED WITH THE SITE DEVELOPMENT PLAN (SDP-01-145) AND THE SITE DEVELOPMENT PLAN ITSELF, ONCE IT HAS RECEIVED SIGNATURE APPROVAL.
27. MDE PERMIT FOR LOD WITHIN WETLANDS AND STREAM IS 02-NT-0092/200262581.
28. Waiver Petition WP-03-43, to allow recordation of an adjoinder deed to merge Parcels 383 and 387 together, was approved on 10/24/02.
29. The adjoinder deed to combine Parcels 383 and 387 together was recorded in the Land Records, at L.____, F.____.

LEGEND

EXISTING		PROPOSED
	2' CONTOURS	394
	10' CONTOURS	370
	TREELINE	
W W	WATERLINE	
SS SS	SEWER LINE	
	CURB/EDGE OF PAVING (SEE DETAIL SHT. 20 of 27)	
N/A	REVERSE CURB (SEE DETAIL SHT. 20 of 27)	
	WETLAND BOUNDARY	N/A
	WETLAND BUFFER	N/A
	STREAM	N/A
	PROPERTY LINE	N/A
	WETLAND SYMBOL	N/A
N/A	L.O.D.	
N/A	EARTH DIKE	A-1
N/A	ASPHALT PATHWAY (SEE DETAIL SHT. 27 of 27)	
N/A	STORM DRAIN	30" SD
N/A	PHASE L.O.D.	
N/A	100 YR. FLOODPLAIN	
N/A	25% STEEP SLOPES	▨
N/A	MAN MADE 25% STEEP SLOPES	▩
	PROPOSED CURB STOP	
N/A	HAUL ROAD	
N/A	PROPOSED SIDEWALK	SIDEWALK
N/A	PROPOSED SUPER SILTFENCE	SSF
N/A	PROPOSED SILTFENCE	SF SF
N/A	PROPOSED WATERLINE	PROP. 8" WATER
N/A	SUMP PIT	☒ SP
N/A	AT GRADE INLET PROTECTION	AGIP
N/A	PROPOSED BENCH	
N/A	PROPOSED TRASH RECEPTICLE	
N/A	PROPOSED DRY SWALE	DRY SWALE @ 0.80% SLOPE

ADDRESS CHART

PARCEL NUMBER	STREET ADDRESS
383 & 387	5001 MEADOWBROOK LANE



21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetable growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

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 or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications – Soil to be used as topsoil must meet the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or a soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger that 1 and 1/2" in diameter.

ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization – Section I – Vegetative Stabilization Methods and Materials.

iii. For sites having disturbed areas over 5 acres:
i. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
b. Organic content of topsoil shall be not less than 1.5 percent by weight.
c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
d. No sod or seed shall be placed on soil soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.
NOTE: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

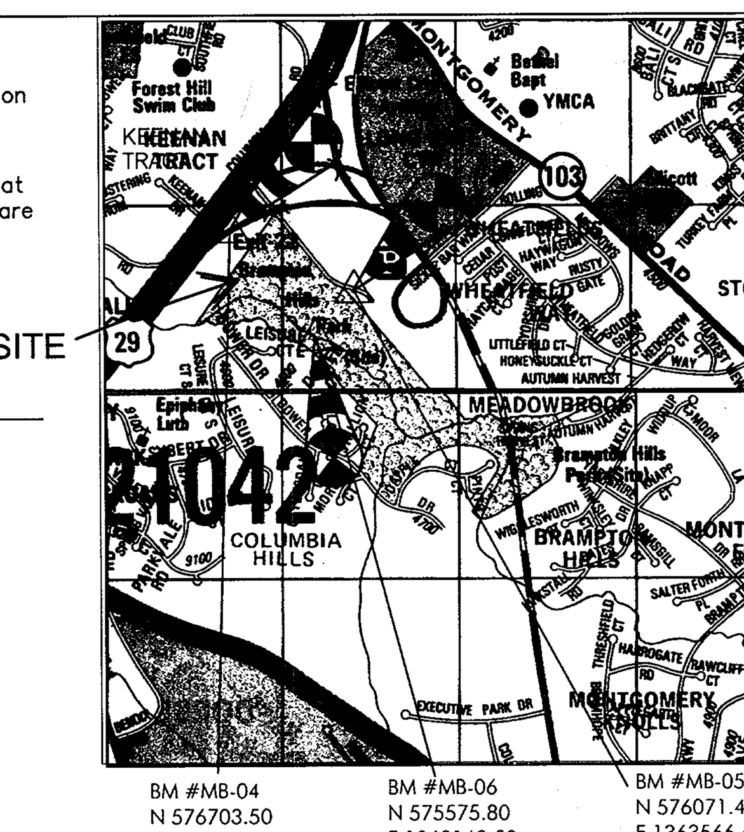
ii. Place topsoil (if required) and apply soil ammendments specified in 20.0 Vegetative Stabilization-Section I-Vegetative Stabilization Methods and Materials.

V. Topsoil Application
i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" – 8" higher in elevation.

iii. Topsoil shall be uniformly distributed in a 4" – 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

iv. Topsoil shall not be place while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.



BM #MB-04	BM #MB-06	BM #MB-05
N 576703.50	N 575575.80	N 576071.40
E 1362277.00	E 1363163.50	E 1363566.65
ELEV.=376.73	ELEV.=370.70	ELEV.=386.52

VICINITY MAP

SCALE: 1"=2000'
ADC LIC.#21097504

SHEET INDEX*

SHEET NUMBER	DESCRIPTION
1	COVER SHEET
2	DRAINAGE AREA MAP
3	EROSION & SEDIMENT CONTROL DRAINAGE AREA MAP
4	DEMOLITION PLAN
5	MASS GRADING & SEDIMENT CONTROL PLAN PHASE I – SHEET 1
6	MASS GRADING & SEDIMENT CONTROL PLAN PHASE I – SHEET 2
7	MASS GRADING & SEDIMENT CONTROL PLAN PHASE II – SHEET 1
8	MASS GRADING & SEDIMENT CONTROL PLAN PHASE II – SHEET 2
9	MASS GRADING & SEDIMENT CONTROL PLAN PHASE II – SHEET 3
10	MASS GRADING & SEDIMENT CONTROL PLAN PHASE III – SHEET 1 & NOTES
11	SITE & FINAL GRADING PLAN SHEET 1
12	SITE & FINAL GRADING PLAN SHEET 2
13	SITE & FINAL GRADING PLAN SHEET 3
14	SITE & FINAL GRADING PLAN SHEET 4
15	SEDIMENT CONTROL DETAILS
16	UTILITY PROFILES-1
17	STORM DRAIN PROFILES
18	SWM WATER QUALITY WETLAND PLANTING PLAN & DETAILS
19	SWM PROFILES & DETAILS
20	SWM DETAILS & GENERAL DETAILS
21	PARKING AREA & WATER QUALITY WETLAND pLANTING PLAN & DETAILS
22	BIORETENTION PLANTING
23	BUFFER PLANTING PLAN
24	BIORETENTION SECTION PLANTING & CONSTRUCTION PLAN & DETAILS
25	ADVENTURE PLAYGROUND LAYOUT & PLANTING PLAN
26	BALLFIELDS CONSTRUCTION DETAILS
27	MISC. CONSTRUCTION DETAILS & SITE APPURTONANCES
28	COURT GAMES & SOFTBALL CONSTRUCTION DETAILS
29	RETAINING WALL SECTION

SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (313-1855).
2. All vegetation 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. and revisions thereto.
3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: (a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes, and all slopes greater than 3:1, (b) 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. 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 seeding, sod, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. Site Analysis :

Total Area	76.37 Acres
Area Disturbed	33.80 Acres
Area to be roofed or paved	7.11 Acres
Area to be vegetatively stabilized	26.69 Acres
Total Cut	116,600 CY
Total Fill	108,000 CY
Offsite waste/borrow area location	8,000 CY

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
11. Trenches for the construction of utilities is limited to three pipe lengths or that
12. All end of silt fence and super silt fence will be curled up hill a min. of 2' in elevation.
13. All swales/ditches as called out on these plans will provide erosion control matting until permanently stabilized.

* To be determined by contractor, with pre-approval of the Sediment Control Inspector with an approved and active grading permit

PERMANENT SEEDING NOTES

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

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously

SOIL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules:

1) Preferred-Apply 2 tons per acre dolomitic limestone (92 lbs/ 100 sq.ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs./ 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At the time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq.ft.)
2) Acceptable-Apply 2 tons per acre dolomatic limestone (92 lbs/ 1000 sq.ft.) and apply 1000 lbs. per acre 10-10-10- fertilizer (23 lbs./1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

SEEDING: For the 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 weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored

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. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq.ft.) for anchoring.

MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing 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 weeping lovegrass (.07 lbs./1000 sq.ft.). For the period November 1 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 sod.

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. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq.ft.) for anchoring.

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

AREA OF PARCEL	76.37 AC./3,326,677.20 S.F.
FLOODPLAIN AREA	34.80 AC./1,515,934.35 S.F.
DISTURBED AREA	33.80 AC./1,472,445.5 S.F.
PRESENT ZONING	R-20
EXISTING USE	PASSIVE PARK
BUILDING COVERAGE (EX.)	0.02 AC./955.43 S.F.
STORAGE BUILDING (TO BE REMOVED)	0.02 AC./830.66 S.F.
PROPOSED USE	RECREATIONAL PARK

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[illegible] 10/24/02
DIRECTOR DATE

[illegible] 10/24/02
CHIEF, DIVISION OF LAND DEVELOPMENT HB DATE

[illegible] 10/26/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

OWNER/DEVELOPER INFORMATION
[illegible] 9/30/02
OWNER/DEVELOPER:
HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MARYLAND 21043

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

[illegible] 10/17/02
U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

[illegible] 10/17/02
HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

[illegible] 10.2.02
Gary J. Arthur, Director DATE

PROJECT	SECTION/AREA	MAP NO.
MEADOWBROOK PARK	N/A	MAP 30 PARCELS 383 & 387

PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302

WATER CODE	SEWER CODE
F09	5750615

McCRONE
ENGINEERING ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND
VIRGINIA L. DADDS
NO. 20199
REGISTERED PROFESSIONAL ENGINEER
[illegible] 1/25/02

DES: J.S.				
DRN: J.S.				
CHK: V.L.D.				
DATE: MAY, 2001	BY	No.	REVISION	DATE

COVER SHEET

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT # N-3105
TAX MAP 30 BLOCK 5 PARCELS 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE
AS SHOWN

SHEET
1 OF 29

SDP- 01-145

CADD FILE: G:\1010081 – Meadowbrook Park\Final Development\01-TITLE.dwg

Plot Date and Time: Sep 25, 2002 - 2:38pm

EXISTING DRAINAGE AREA MAP

200 0 100 200
GRAPHIC SCALE
1 inch = 200 ft.

LEGEND:

DRAINAGE AREA USING GRASS CHANNELS TO QUALIFY FOR THE RECHARGE (Rev) CREDIT.

DRAINAGE AREA USING GRASS CHANNELS TO QUALIFY FOR THE RECHARGE (Rev), WATER QUALITY (WQv), AND CHANNEL PROTECTION (Cpv) CREDITS.

EX SOILS — AgE3

EX & PROP DRAINAGE AREA

0.44 Ac (A) R-20
0.48 38.6%
B-26%
C-74%

1.86 Ac (B) R-20
0.61 64.5%
B-14%
C-86%

1.87 Ac (C) R-20
0.69 74.9%
C-100%

0.29 Ac (D) R-20
0.42 34.5%
C-100%

2.04 Ac (E) R-20
0.59 59.3%
B-29%
C-71%

0.34 Ac (F) R-20
0.23 0%
B-50%
C-50%

2.93 Ac (G) R-20
0.28 08.5%
B-55%
C-45%

2.51 Ac (H) R-20
0.20 8.4%
B-28%
C-72%

1.55 Ac (I) R-20
.25 9.0%
B-40%
C-60%

5.09 Ac (J) R-20
0.31 16.7%
B-100%

1.20 Ac (DD) R-20
0.26 15.8%
B-30%
C-70%

1.80 Ac (EE) R-20
0.22 7.2%
B-25.5%
C-74.4%

0.43 Ac (AA) R-20
0.64 67.4%
B-100%

1.20 Ac (BB) R-20
0.41 35.0%
B-70.5%
C-29.5%

0.54 Ac (CC) R-20
0.63 64.8%
B-100%

WATER QUALITY SUMMARY – STORAGE REQUIREMENTS

	Grass Swales/Dry Grass Swales	
	Required (Ac.-Ft)	Provided (Ac. Ft)
Rv	0.08	Grass Swales/Dry Grass Swale (all Rv provided)

	Proposed Pond #1	
	Required (Ac.-Ft)	Provided (Ac. Ft)
WQv	0.30	0.33
Rv	0.08	By Grass Swales/Dry Grass Swale
Cpv	0.54	0.55
Qp10	N/A	N/A
Qp100	N/A	N/A

	Proposed Bioretention Area A	
	Required (Ac.-Ft)	Provided (Ac. Ft)
WQv	0.03	0.03
Cpv	N/A	N/A
Rv	0.007	0.01
Qp10	N/A	N/A
Qp100	N/A	N/A

	Proposed Bioretention Area B	
	Required (Ac.-Ft)	Provided (Ac. Ft)
WQv	0.06	0.09
Cpv	0.08	0.08
Rv	0.016	0.016
Qp10	N/A	N/A
Qp100	N/A	N/A

WATER QUALITY SUMMARY

D.A.	Area (Ac.)	WQv	Rev	Cpv	Qp10	Qp100
A	0.44	Pond	Grass Swale	Pond	N/A	N/A
B	1.86	Pond	Grass Swale	Pond	N/A	N/A
EE	1.80	Pond	Grass Swale	Pond	N/A	N/A
C	1.87	Pond	Dry Grass Swale	Pond	N/A	N/A
D	0.29	Pond	Grass Swale	Pond	N/A	N/A
E	2.04	Pond	Grass Swale	Pond	N/A	N/A
F	0.34	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
G	2.93	Pond	Grass Swale	Pond	N/A	N/A
H	2.51	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
DD	1.20	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
I	1.55	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
J	5.09	Existing	Existing	Existing	N/A	N/A
AA	0.43	Bio B-East	Bio B-East	Bio B-East	N/A	N/A
BB	1.2	Bio B-East	Bio B-East	Bio B-East	N/A	N/A
CC	0.54	Bio B-West	Bio B-West	Bio B-West	N/A	N/A
Offsite Imperv. Trails	1.59	Sheet flow to Buffer	Sheet flow to Buffer	N/A (<2.0 cfs)	N/A	N/A

* V1</= 1.0 fps

Proposed Pond #1 – Extended Shallow Detention Wetland Pond (W-2)
Proposed Bioretention Area A – Bioretention Filter (F6)
Proposed Bioretention Area B – Bioretention Filter (F6)

PROPOSED DRAINAGE AREA MAP

200 0 100 200
GRAPHIC SCALE
1 inch = 200 ft.

NOTE:

REFER TO THE WATER QUALITY MANANGEMENT REPORT FOR ALL TIME OF CONCENTRATION FLOW PATH SLOPES AND DISTANCES.

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[signature] 10/24/02
DIRECTOR DATE

[signature] 10/24/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[signature] 10/21/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

[signature] 10-2-02
Gary J. Arthur, Director DATE

OWNER/DEVELOPER INFORMATION

[signature] 9/30/02
OWNER/DEVELOPER:
HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MARYLAND 21043

PROJECT	SECTION/AREA	MAP NO.
MEADOWBROOK PARK	N/A	MAP 30 PARCELS 383 & 387

PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302

WATER CODE	SEWER CODE
F09	5750615

McCRONE
ENGINEERING ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND
VIRGINIA L. DADDS
NO. 20139
REGISTERED PROFESSIONAL ENGINEER
[signature] 9/25/02

DES: J.S.
DRN: J.S.
CHK: V.D.
DATE: MAY, 2001

BY	No.	REVISION	DATE

EXISTING & PROPOSED DRAINAGE AREA MAP

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK

PROJECT N-3105
TAX MAP 30 BLOCK 5 PARCEL 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE 1"=200'

SHEET 2 OF 29

SDP- 01-145

Plot Date and Time: Sep 25, 2002 - 2:35pm

CADD FILE: G:\1010081 – Meadowbrook Park\Final Development\02-DRAINAGE AREA MAP.dwg

EXISTING SEDIMENT & EROSION CONTROL DRAINAGE AREA MAP

200 0 100 200

GRAPHIC SCALE
1 inch = 200 ft.

LEGEND:

EX. DRAINAGE AREA LINE

PROP. DRAINAGE AREA LINE

PROP. SEDIMENT TRAPS & BASIN

PROPOSED SEDIMENT & EROSION CONTROL DRAINAGE AREA MAP

200 0 100 200

GRAPHIC SCALE
1 inch = 200 ft.

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10.2.02

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER: — 9/30/02

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MARYLAND 21043

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE		SEWER CODE			
F09		5750615			

Plot Date and Time: Sep 25, 2002 2:33pm

McCRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING: CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8631
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. LOOSE — No. 21355 — REGISTERED PROFESSIONAL ENGINEER

DES:	J.S.
DRN:	J.S.
CHK:	V.D.
DATE:	MAY, 2001

BY	No.	REVISION	DATE

EXISTING & PROPOSED DRAINAGE AREA MAP

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT N-3105
TAX MAP 30 BLOCK 5 PARCEL 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE 1"=200'

SHEET 3 OF 29

SDP- 01-145

CADD FILE: G:\10100B1 - Meadowbrook Park\Final Development\03-SED-DRAINAGE AREA MAP.dwg

SOIL DESCRIPTION Color,Moisture,Density,Size,Proportion	STRA. DEPTH	DEPTH SCALE
SURFACE		0.0
Brown, moist, soft, clayey silt, trace fine sand (ML-CL)	2.0	
Brown, moist, medium dense to dense silty sand, trace mica and decomposed rock fragments (SM)	5.0	5.0
Gray, white and tan, moist, dense to very dense silty sand, trace mica, with rock fragments (SM) Decomposed Rock	10.6	10.0

BORING DETAIL
B–4

SOIL DESCRIPTION Color,Moisture,Density,Size,Proportion	STRA. DEPTH	DEPTH SCALE
SURFACE		0.0
Brown, moist, loose, sandy silt, some clay, trace quartz fragments in S-4 and trace root matterand organics in S-1 and S-4 (ML) (Fill)	10.0	5.0 10.0

BORING DETAIL
B–5

SOIL DESCRIPTION Color,Moisture,Density,Size,Proportion	STRA. DEPTH	DEPTH SCALE
SURFACE		0.0
Brown and grayish tan, moist, loose to medium dense, sandy silt, trace mica and fine gravel (ML)	5.0	5.0
Brown and grayish tan and speckled black, moist, medium dense, silty sand, trace mica and decomposed rock fragments (SM)	15.0	10.0 15.0

BORING DETAIL
B–9

SOIL DESCRIPTION Color,Moisture,Density,Size,Proportion	STRA. DEPTH	DEPTH SCALE
SURFACE		0.0
Brown, moist, very loose, silty sand, trace mica, little clay (SM-ML)	2.0	
Brown, tan and grayish white, moist, medium dense, fine to medium silty sand, trace mica, trace decomposed rock fragments (SM)	10.0	5.0 10.0

BORING DETAIL
B–10

SOIL DESCRIPTION Color,Moisture,Density,Size,Proportion	STRA. DEPTH	DEPTH SCALE
SURFACE		0.0
Brown, moist, soft, clayey silt, trace fine sand (ML-CL)	2.0	
Brown, moist, medium dense to dense silty sand, trace mica and decomposed rock fragments (SM)	5.0	5.0
Gray, white and tan, moist, dense to very dense silty sand, trace mica, with rock fragments (SM) Decomposed Rock	10.6	10.0

BORING DETAIL
B–14

SOIL DESCRIPTION Color,Moisture,Density,Size,Proportion	STRA. DEPTH	DEPTH SCALE
SURFACE		0.0
Brown, moist, loose, sandy silt, some clay, trace quartz fragments in S-4 and trace root matterand organics in S-1 and S-4 (ML) (Fill)	10.0	5.0 10.0

BORING DETAIL
B–15

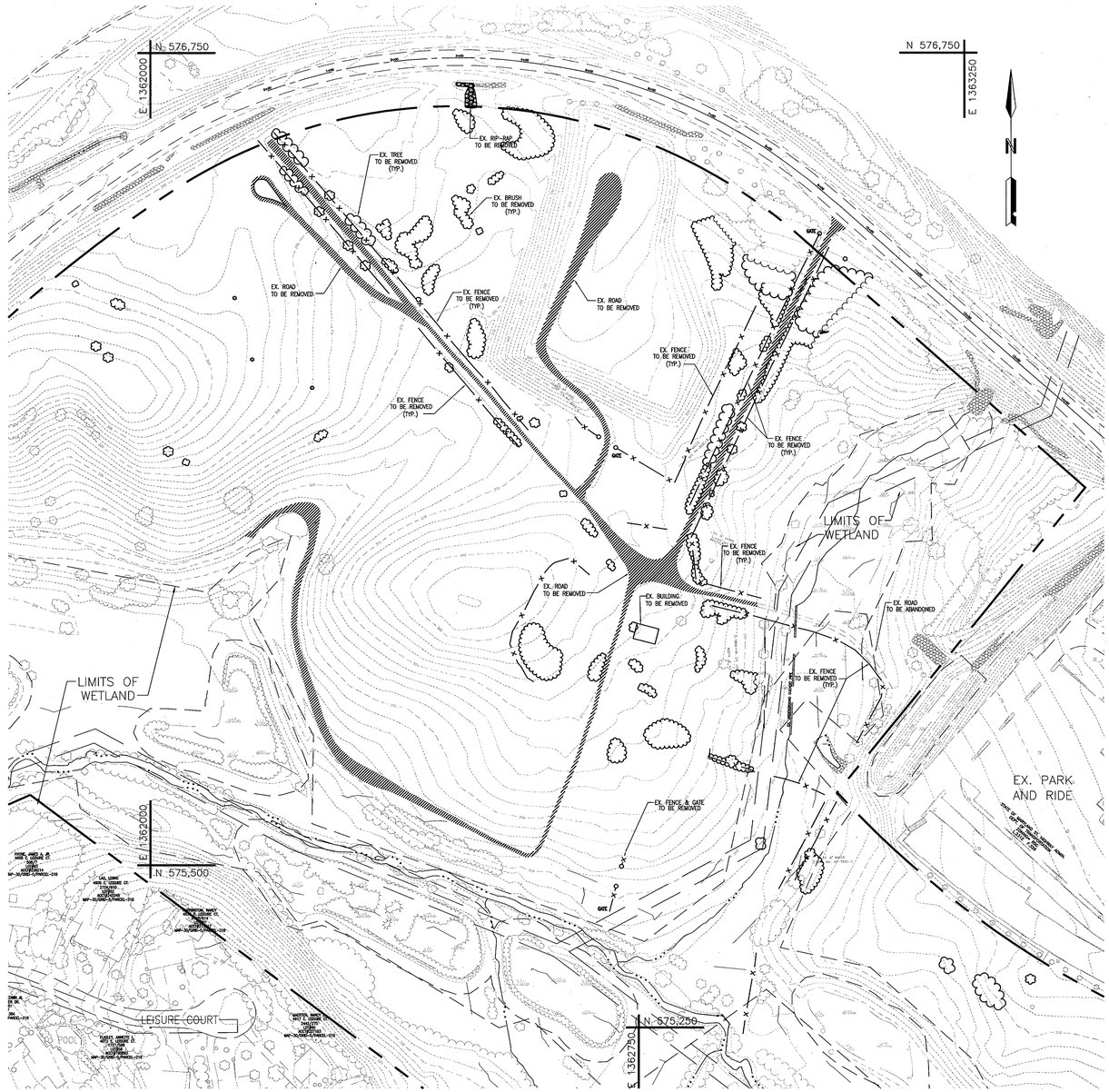
SOIL DESCRIPTION Color,Moisture,Density,Size,Proportion	STRA. DEPTH	DEPTH SCALE
SURFACE		0.0
Brown and grayish tan, moist, loose to medium dense, sandy silt, trace mica and fine gravel (ML)	5.0	5.0
Brown and grayish tan and speckled black, moist, medium dense, silty sand, trace mica and decomposed rock fragments (SM)	15.0	10.0 15.0

BORING DETAIL
B–19

NOTE: All soil borings were performed by Hillis-Carnes Engineering Associates, Inc..
All borings were performed on January 23rd and 25th of 2001.

DEMOLITION LEGEND

- TREE
- BRUSH
- RIPRAP
- DEMO AREA
- —X— FENCE



DEMOLITION PLAN

GRAPHIC SCALE
1 inch = 100 ft.

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER:

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MARYLAND 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/2/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10-2-02

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE			SEWER CODE		
F09			5750615		

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ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — CHRISTAL L. DAVIS — No. 21587 — REGISTERED PROFESSIONAL ENGINEER — 9/25/02

DES: J.S.					
DRN: J.S.					
CHK: V.L.D.					
DATE: MAY, 2001	BY	No.	REVISION	DATE	

DEMOLITION & SOIL BORING PLAN

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT N-3105
TAX MAP 30 BLOCK 5 PARCEL 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 4 OF 29

SDP- 01-145

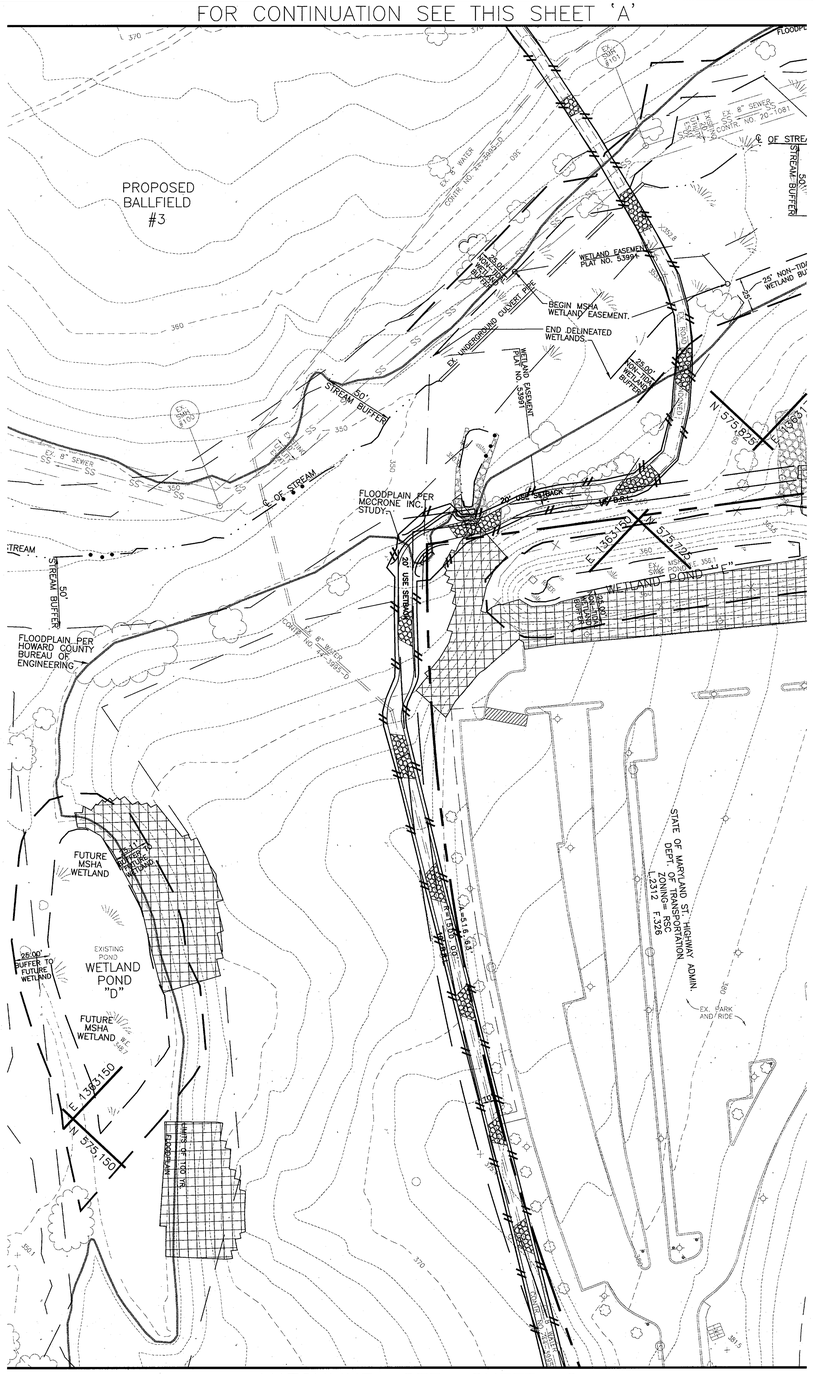
Plot Date and Time: Sep 25, 2002 - 2:26pm

CADD FILE: G:\1010081 - Meadowbrook Park\Final Development\04-DEMO.dwg

FOR CONTINUATION SEE THIS SHEET 'A'

Note:

THE EX. FARM LANE SHALL BE USED AS A TEMPORARY HAUL ROAD DURING PHASE I AND II CONSTRUCTION PER THE TEMPORARY HAUL ROAD DETAIL ON SHEET 15.

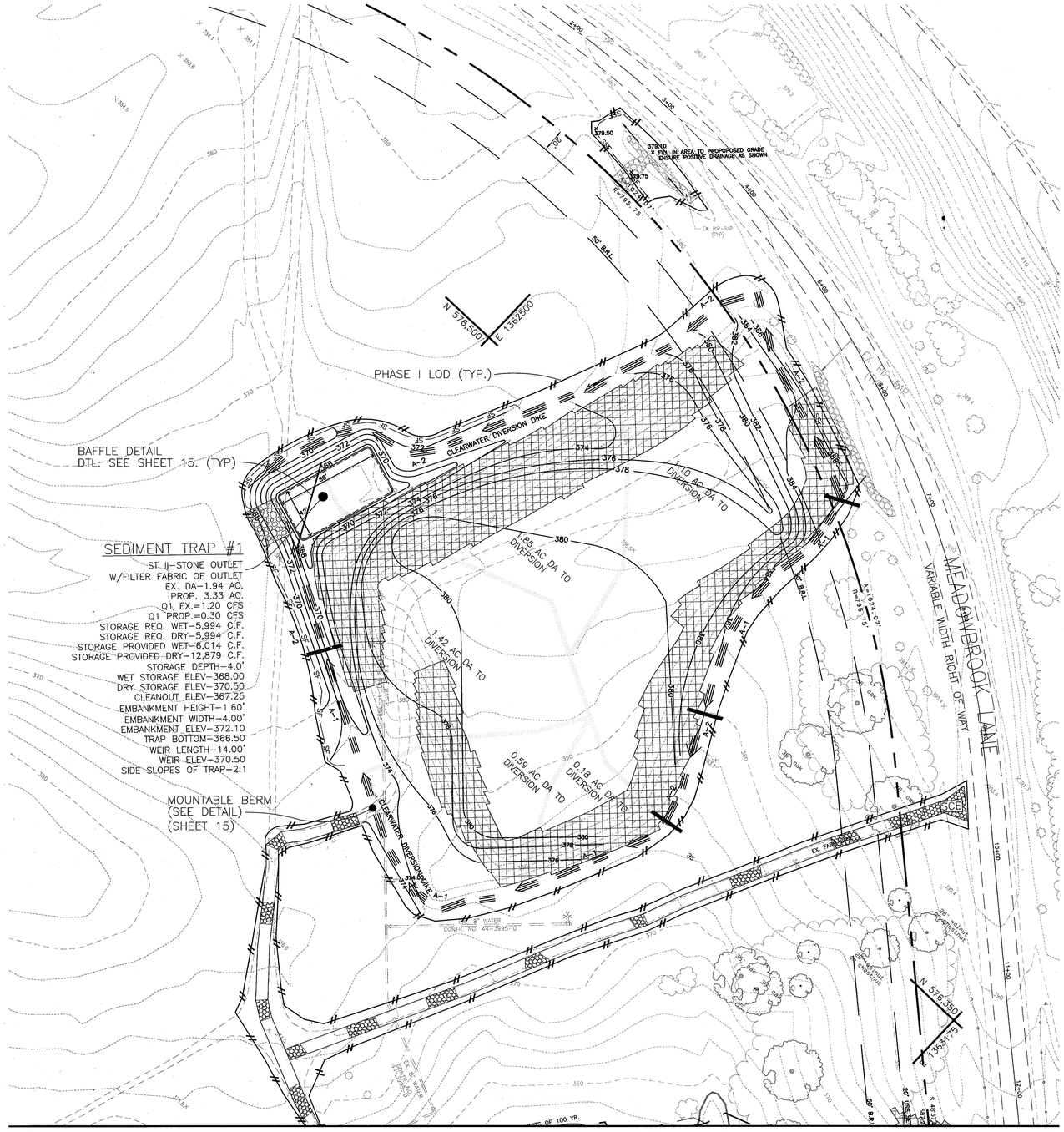


MATCHLINE SEE SHEET 6

MASS GRADING PLAN

50 0 25 50

GRAPHIC SCALE
1 inch = 50 ft.



FOR CONTINUATION SEE THIS SHEET 'A'

MASS GRADING PLAN

50 0 25 50

GRAPHIC SCALE
1 inch = 50 ft.

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER: 10/30/02

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/4/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10.2.02

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE		SEWER CODE			
F09		5750615			

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ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DAVIS — No. 20188 — REGISTERED PROFESSIONAL ENGINEER — 9/26/02

DES: J.S.					
DRN: J.S.					
CHK: V.L.D.					
DATE: MAY, 2001	BY	No.	REVISION	DATE	

MASS GRADING & SEDIMENT CONTROL PLAN
PHASE I
SHEET 1

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCEL 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE 1"=50'

SHEET 5 OF 29

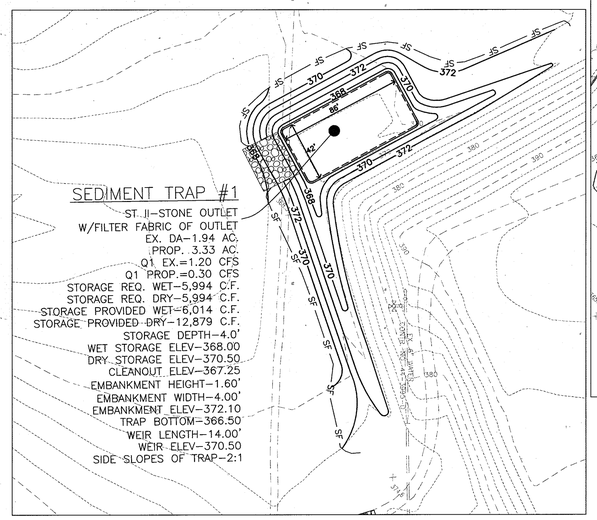
SDP-01-145

Plot Date and Time: Sep 25 2002 - 2:41pm

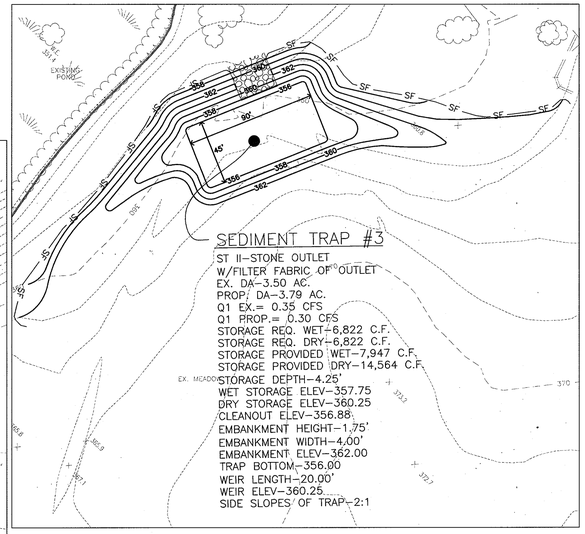
CADD FILE: G:\1010081 - Meadowbrook Park\Final Development\05-SITE& MASS GRADING PH-1.dwg

Note:

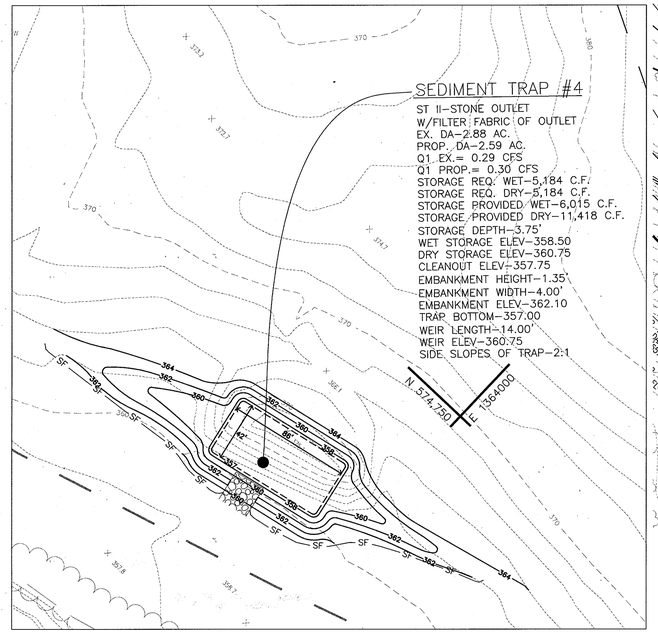
THE EX. FARM LANE SHALL BE USED AS A TEMPORARY HAUL ROAD DURING PHASE I AND II CONSTRUCTION PER THE TEMPORARY HAUL ROAD DETAIL ON SHEET 15.



TRAP #1 CONSTRUCTION
BEGINNING OF PHASE I
SCALE: 1"=50'

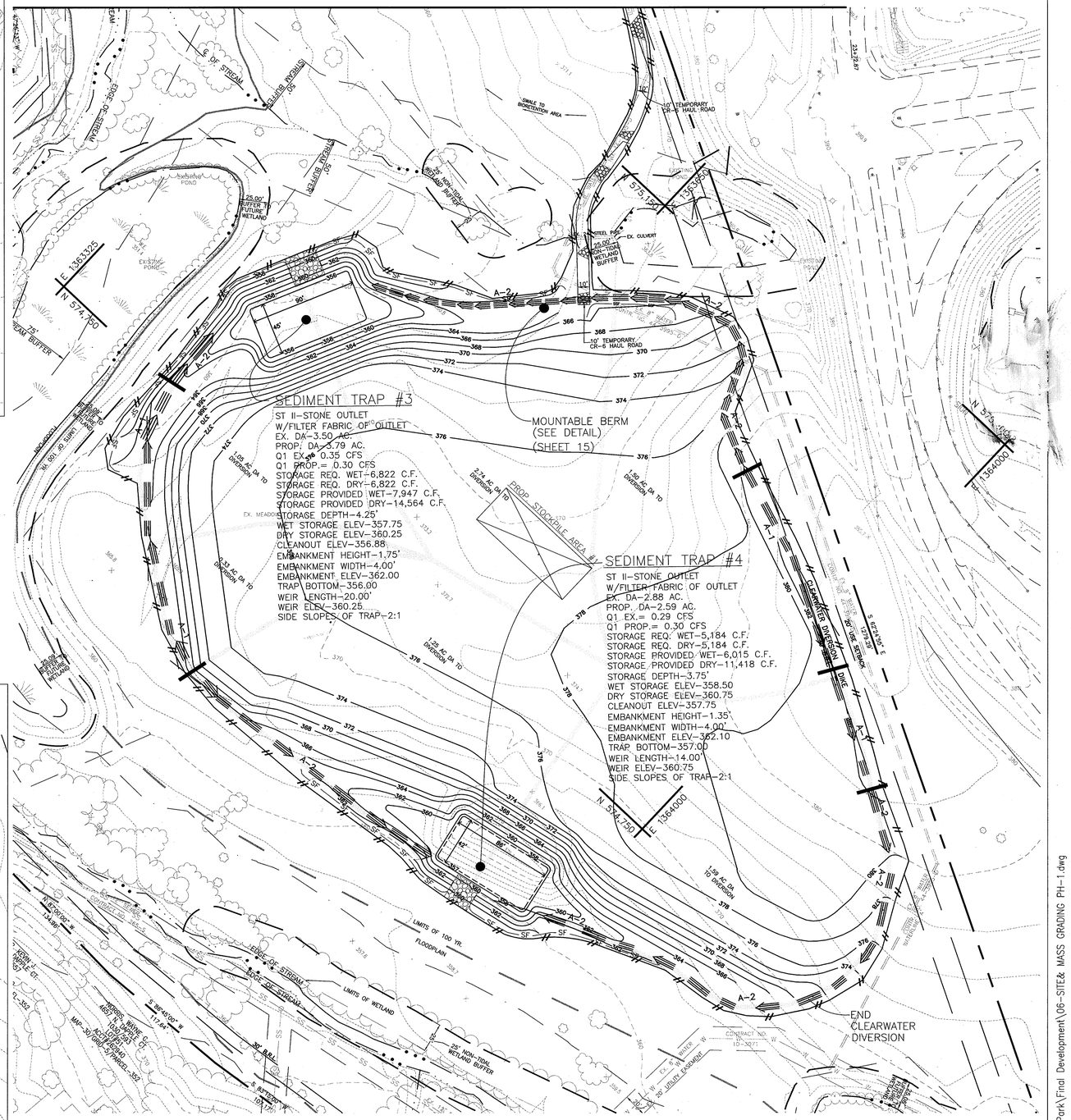


TRAP #3 CONSTRUCTION
BEGINNING OF PHASE I
SCALE: 1"=50'



TRAP #4 CONSTRUCTION
BEGINNING OF PHASE I
SCALE: 1"=50'

MATCHLINE SEE SHEET 5



MASS GRADING PLAN

GRAPHIC SCALE
1 inch = 50 ft.

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER:

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10-2-02

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE			SEWER CODE		
F09			5750615		

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ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. ENDERS — No. 22539 — REGISTERED PROFESSIONAL ENGINEER

DES:	J.S.
DRN:	J.S.
CHK:	V.L.D.
DATE:	MAY, 2001

BY	No.	REVISION	DATE

MASS GRADING & SEDIMENT CONTROL PLAN
PHASE I
SHEET-2

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 21 PARCELS 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE 1"=50'

SHEET 6 OF 29

SDP-01-145

Plot Date and Time: Sep 25, 2002 2:44pm

CADD FILE: G:\10100B1 - Meadowbrook Park\Final Development\06-SITE& MASS GRADING PH-1.dwg

Note:

THE EX. FARM LANE SHALL BE USED AS A TEMPORARY HAUL ROAD DURING PHASE I AND II CONSTRUCTION PER THE TEMPORARY HAUL ROAD DETAIL ON SHEET 15.

SEDIMENT TRAP #2

ST I-PIPE OUTLET
EX. DA-1.35 AC.
PROP. DA-4.85 AC.
Q1 EX.=0.14 CFS
Q1 PROP.= 1.10 CFS
STORAGE REQ. WET-8,730 C.F.
STORAGE REQ. DRY-8,730 C.F.
STORAGE PROVIDED WET-10,390 C.F.
STORAGE PROVIDED DRY-15,083 C.F.
STORAGE DEPTH-3.05'
WET STORAGE ELEV-374.35
DRY STORAGE ELEV-376.05
CLEANOUT ELEV-373.68
EMBANKMENT WIDTH-4.00'
EMBANKMENT ELEV-378.00
TRAP BOTTOM-373.00
RISER-27" CMP
BARREL-21" CMP
TOP OF RISER ELEV-376.05
SIDE SLOPES OF TRAP-2:1

SEDIMENT BASIN #1

EX. DA-14.58 AC.
PROP. 11.23 AC.
Q1 EX.=2.80 CFS
Q1 PROP.= 0.90 CFS
STORAGE REQ. WET-26,244 C.F.
STORAGE REQ. DRY-26,244 C.F.
STORAGE PROVIDED WET-29,285 C.F.
STORAGE PROVIDED DRY-61,689 C.F.
STORAGE DEPTH-4.5'
WET STORAGE ELEV-349.75
DRY STORAGE ELEV-352.50
CLEANOUT ELEV-348.88
EMBANKMENT HEIGHT-11.50'
EMBANKMENT WIDTH-8.00'
EMBANKMENT ELEV-355.00
BASIN BOTTOM-348.00
EMERGENCY SPILLWAY WIDTH-20.00'
W/10:1 SIDE SLOPES
EMERGENCY SPILLWAY ELEV-353.50
RISER-12" PVC
BARREL-10" PVC
TOP OF RISER ELEV-352.50
4" DRAW DOWN ORIFICE INV-349.00
SIDE SLOPES OF BASIN (COMBINED)-5:1

MEADOWBROOK LANE
"MINOR COLLECTOR"
VARIABLE WIDTH RIGHT OF WAY

FUTURE BUILDING

PROP. STOCKPILE AREA #2

N 576,300 E 1362500

N 577,000 E 1362500

E 1362750 N 576,300

E 1362075 N 575,825

MATCHLINE SEE SHEET 8

MASS GRADING PLAN

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER:

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10-2-02

PROJECT	SECTION/AREA	MAP NO.
MEADOWBROOK PARK	N/A	MAP 30 PARCELS 383 & 387

PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302

WATER CODE	SEWER CODE
F09	5750615

GRAPHIC SCALE
50 0 25 50
1 inch = 50 ft.

McCRONE
ENGINEERING• ENVIRONMENTAL SCIENCES
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20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — SHONTA L. MOORE — No. 21193 — REGISTERED PROFESSIONAL ENGINEER

DES: J.S.			
DRN: J.S.			
CHK: V.L.D.			
DATE: MAY, 2001	BY	No.	REVISION	DATE

MASS GRADING & SEDIMENT CONTROL PLAN
PHASE II
SHEET 1

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCEL 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE 1"=50'

SHEET 7 OF 29

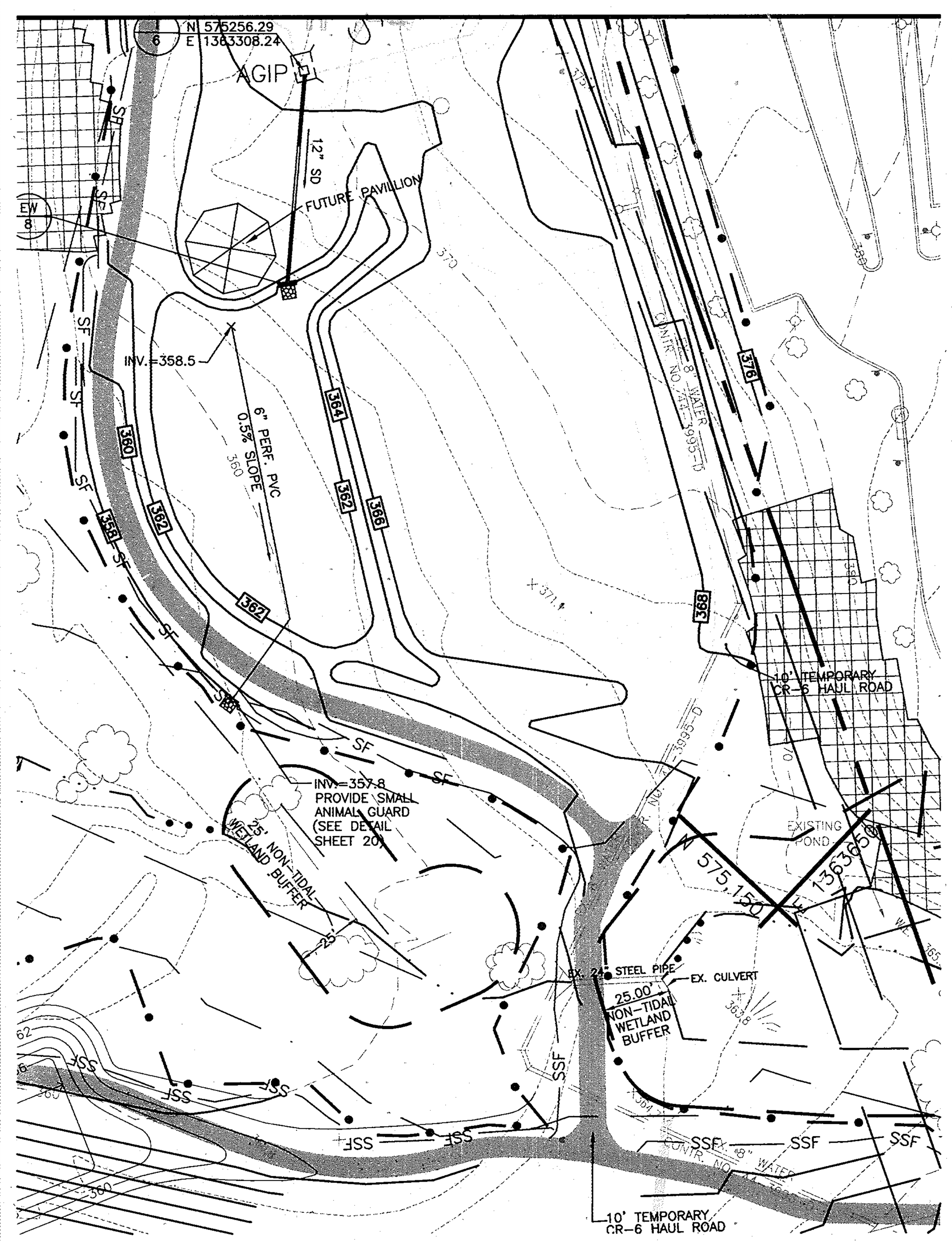
SDP-01-145

Plot Date and Time: Sep 25, 2002 - 2:56pm

CADD FILE: G:\10100B1 - Meadowbrook Park\Final Development\07-SITE& MASS GRADING PH-2.dwg

FOR MATCHLINE SEE SHEET 7

FOR CONTINUATION SEE THIS SHEET 'A'



MASS GRADING PLAN

GRAPHIC SCALE
1 inch = 50 ft.

FOR CONTINUATION SEE THIS SHEET 'A'

GRADING PLAN

GRAPHIC SCALE
1 inch = 50 ft.

Note:

THE EX. FARM LANE SHALL BE USED AS A TEMPORARY HAUL ROAD DURING PHASE I AND II CONSTRUCTION PER THE TEMPORARY HAUL ROAD DETAIL ON SHEET 15.

OWNER/DEVELOPER INFORMATION
[signature] 9/30/02
OWNER/DEVELOPER:
HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD ELLICOTT CITY, MD. 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[signature] DIRECTOR — 10/24/02 DATE

[signature] CHIEF, DIVISION OF LAND DEVELOPMENT — HB 10/24/02 DATE

[signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/21/02 DATE

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

[signature] 10-2-02
Gary J. Arthur, Director — DATE

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE			SEWER CODE		
F09			5750615		

McCRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING: CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DADDS — NO. 20199 — REGISTERED PROFESSIONAL ENGINEER
[signature] 9/23/02

DES: J.S.	BY	No.	REVISION	DATE
DRN: J.S.				
CHK: V.L.D.				
DATE: MAY, 2001				

MASS GRADING & SEDIMENT CONTROL PLAN
PHASE II
SHEET 2

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK

PROJECT NO. N-3105
TAX MAP 30 — BLOCK 5 — PARCEL 383 & 387
SECOND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

SCALE 1"=50'

SHEET 8 OF 29

SDP-01-145

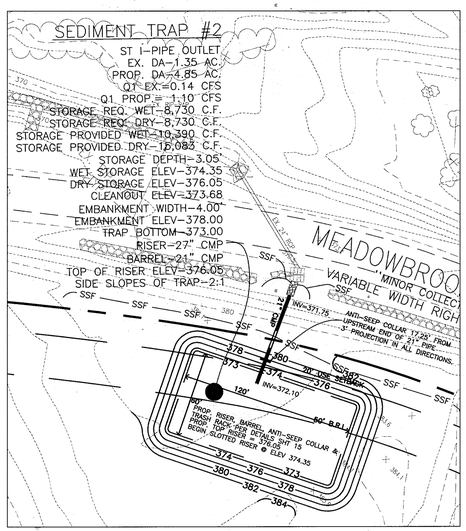
Plot Date and Time: Sep 25, 2002 - 2:57pm

CADD FILE: G:\1010081 – Meadowbrook Park\Final Development\08 –SITE&MASS GRADING PH-2.dwg

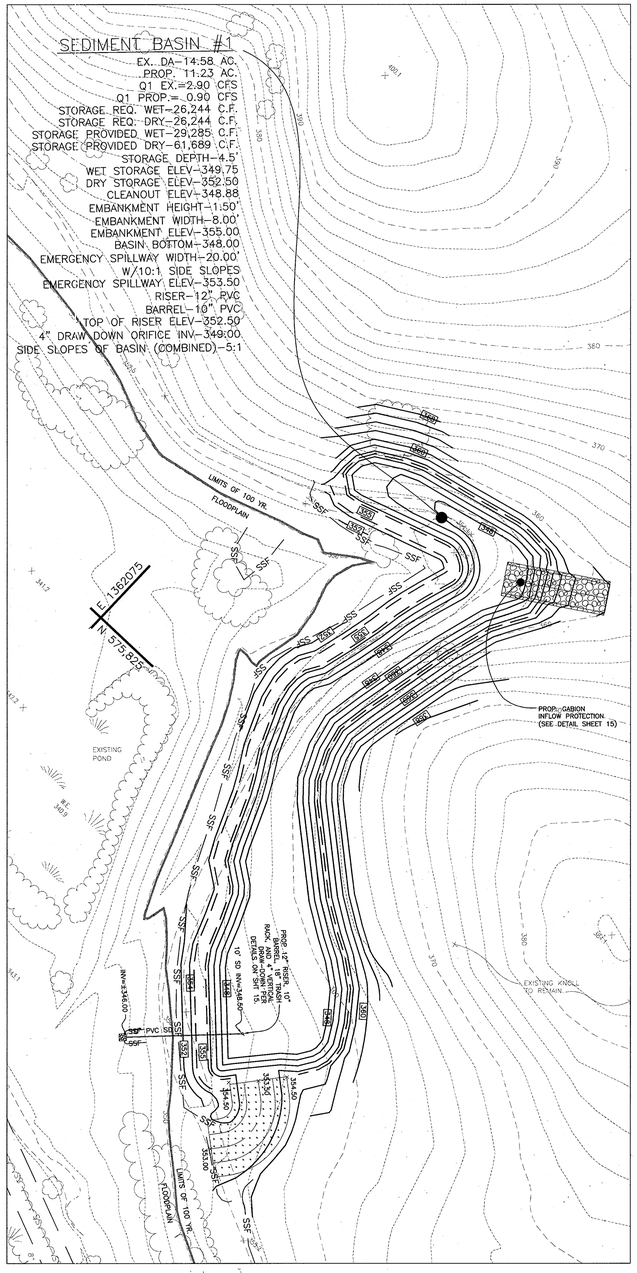
MATCHLINE SEE SHEET 8

Note:

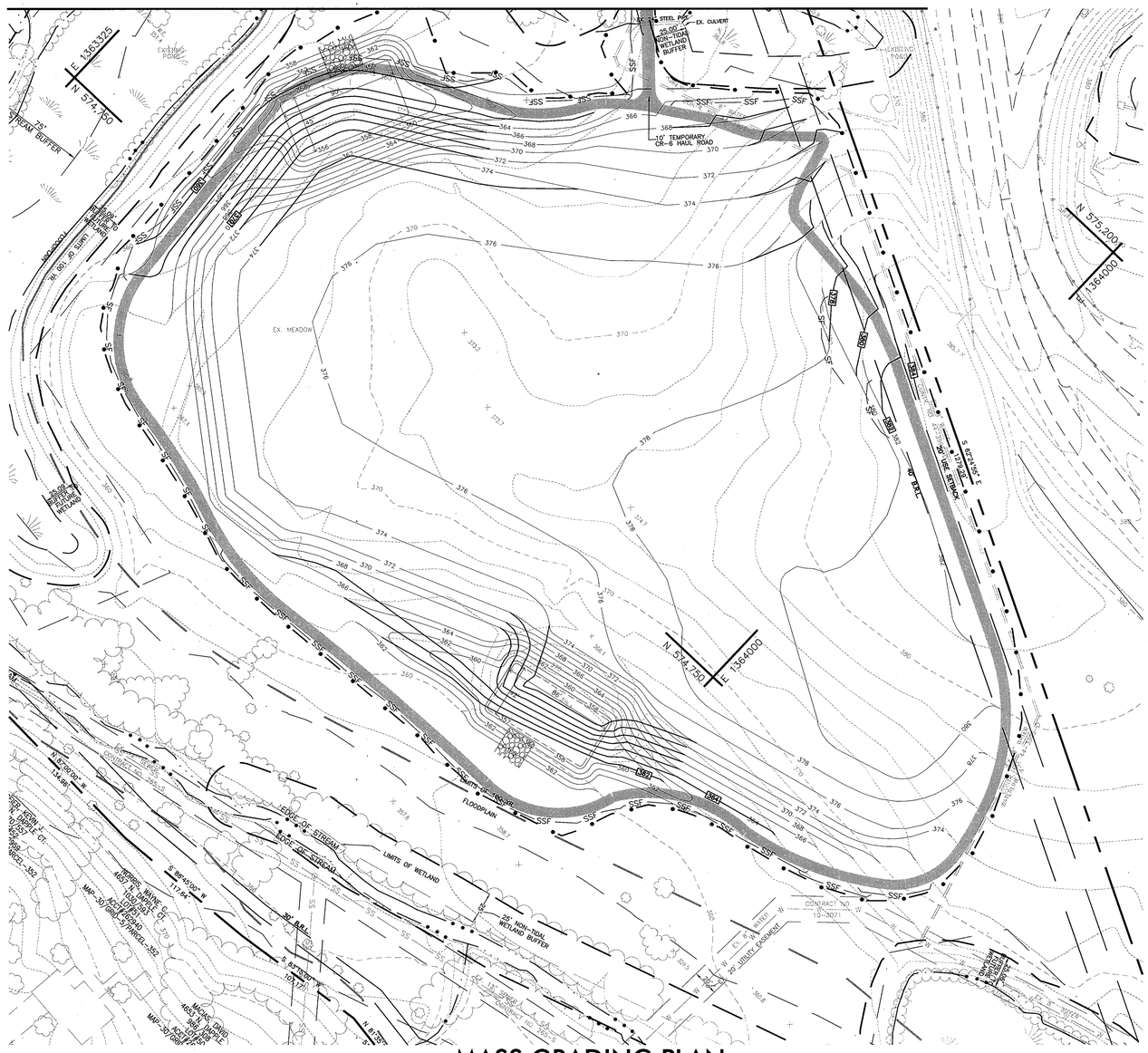
THE EX. FARM LANE SHALL BE USED AS A TEMPORARY HAUL ROAD DURING PHASE I AND II CONSTRUCTION PER THE TEMPORARY HAUL ROAD DETAIL ON SHEET 15.



TRAP #2 CONSTRUCTION
BEGINNING OF PHASE II
SCALE: 1"=50'



BASIN #1 CONSTRUCTION
BEGINNING OF PHASE II
SCALE: 1"=50'



MASS GRADING PLAN

50 0 25 50
GRAPHIC SCALE
1 inch = 50 ft.

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER: 3/30/02

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10.2.02

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO._	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST._	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE		SEWER CODE			
F09		5750615			

McCRONE
ENGINEERING• ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING• CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DAVIS — No. 21599 — REGISTERED PROFESSIONAL ENGINEER — 9/30/02

DES: J.S.					
DRN: J.S.					
CHK: V.L.D.					
DATE: MAY, 2001	BY	No.	REVISION	DATE	

MASS GRADING & SEDIMENT CONTROL PLAN
PHASE II
SHEET-3

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 21 PARCELS 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE 1"=50'
SHEET 9 OF 29

SDP-01-145

Plot Date and Time: Sep 25, 2002 - 3:04pm

CADD FILE: G:\1010081 - Meadowbrook Park\Final Development\09-SITE& MASS GRADING PH-2.dwg

SEQUENCE OF CONSTRUCTION

PHASE 1 MASS GRADING

1. Install stabilized construction entrance. (1 day)
2. Install CR-6 Hall Road per plan. (3 days)
3. Clear for and install Sediment Traps #1, #3, & #4. (2 weeks)
4. Clear for and install perimeter controls draining to traps. (3 weeks)
5. Upon Inspector's approval of sediment controls, begin clearing, grubbing, and grading of site shown in Phase 1. (12 weeks)
6. Temporarily stabilize all disturbed areas and with the inspector's approval proceed to phase II (2 weeks)

PHASE 2 MASS GRADING

7. Clear for and install Sediment Trap #2 and Sediment Basin #1. (3 weeks)
8. Clear for and install perimeter controls draining to traps. (1 week)
9. Upon Inspector's approval of sediment controls, begin clearing, grubbing, and grading of site shown in Phase 2. (6 weeks)
10. Upon Inspector's approval, fill in Traps #1, #3, #4. Dewater traps per sump pit detail on sheet 15. (2 weeks)
11. Cut/Fill fields and courts to rough grades. Rough grade courts, fields, parking and building areas. (20 weeks)
12. Install waterline, retaining wall, and POD C backstops. (3 weeks)
13. Install all storm drain structures except I-5 and I-4. Provide at grade inlet protection only on inlet I-6. Install pipe for sand structures. (2 weeks)
14. Fine grade and permanently stabilize all of phase II area except in close vicinity of Trap #2 and Basin #1 (as shown on phase III plans) and place temporary stabilization on building areas and place graded aggregate base on paved areas. Pave all paths. (4 weeks)
15. Install play equipment, fences, nets, pavilions, bridge, benches, trash receptacles, backstops, etc. (4 weeks)
16. Install paving and concrete throughout the site. Install special surfacing in playground and tennis courts. Place sand in volleyball court. (10 weeks)
17. Upon Inspector's approval, remove the Haul road. (2 weeks)
18. Stabilize all disturbed areas, and with Inspector's approval, remove Phase 2 perimeter controls except those as shown being utilized during phase III. (2 weeks)

PHASE 3 MASS GRADING

19. Upon Inspector's approval, convert Basin #1 to Pond #1 and fill in Trap #2. Basin #1 and Trap #2 shall be dewatered per the sump pit detail on sheet 15. (3 weeks)
20. Install I-4 and I-5. Provide at grade inlet protection on I-4 and I-5. (1 week)
21. Modify MH-3. Add flow splitter weir per detail on sheet 20. (1 day)
22. Stabilize all distrubed areas, and with Inspector's approval, remove all remaining sediment controls. (1 week)

* All swales and concentrated flow areas shall be stabilized by use of erosion control matting per the detail on sheet 15.

* All utility construction shall be completed such that at the end of every working day the disturbed area will be stabilized. In addition the utility construction will conform to the details on sheet 15.

MASS GRADING PLAN

GRAPHIC SCALE
50 0 25 50
1 inch = 50 ft.

OWNER/DEVELOPER INFORMATION

Richard Sapson 3/30/02

OWNER/DEVELOPER:

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/4/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur 10-2-02
Gary J. Arthur, Director — DATE

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE			SEWER CODE		
F09			5750615		

Plot Date and Time: Sep 25, 2002 - 3:04pm

McCRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
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ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — CHRISTIAL L. DAVIS — No. 21589 — REGISTERED PROFESSIONAL ENGINEER

Christial L. Davis 10/25/02

DES: J.S.					
DRN: J.S.					
CHK: V.L.D.					
DATE: MAY, 2001	BY	No.	REVISION	DATE	

MASS GRADING & SEDIMENT CONTROL PLAN
PHASE III & NOTES
SHEET 1

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCEL 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE 1"=50'

SHEET 10 OF 29

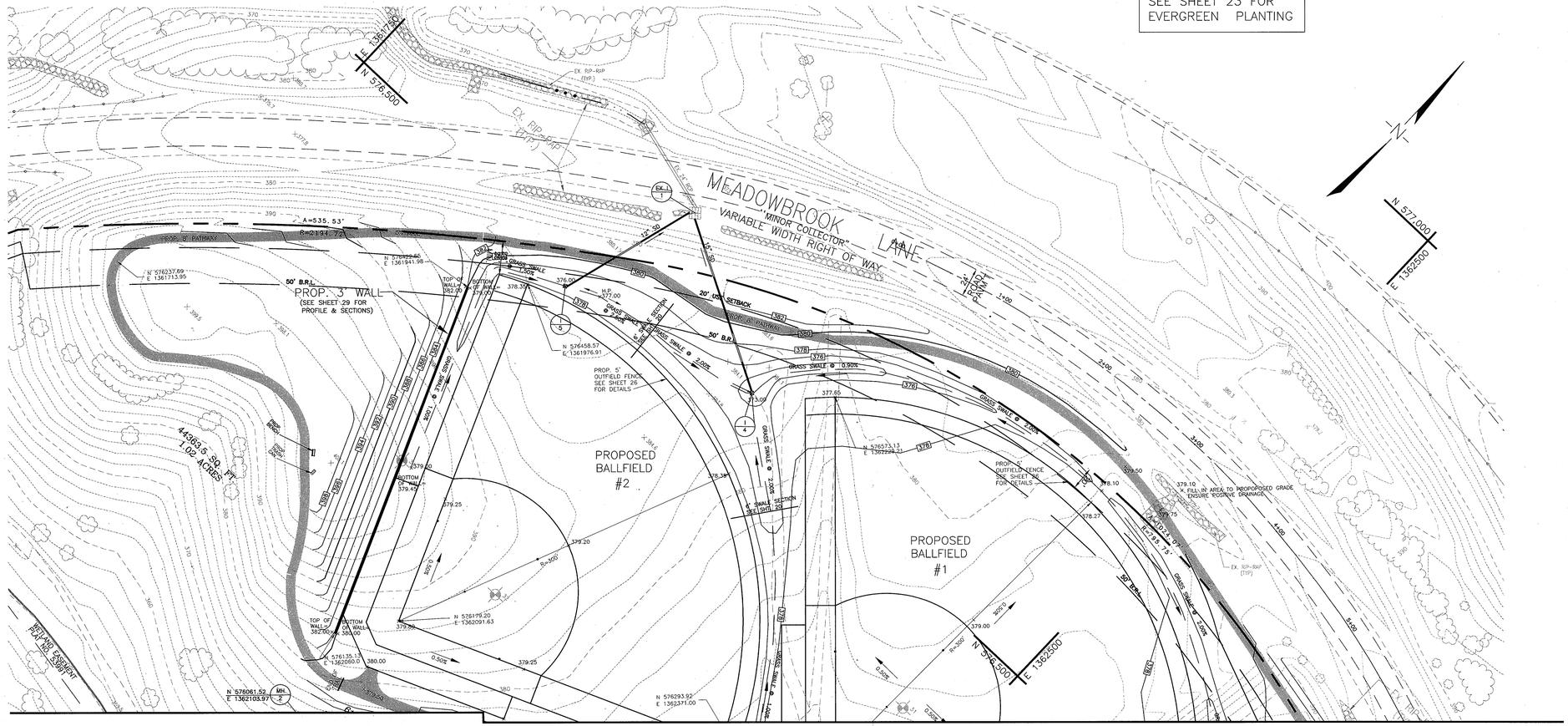
SDP-01-145

CADD FILE: G:\1010081 - Meadowbrook Park\Final Development\10-SITE& MASS GRADING PH-3.dwg

Notes

1. SEE SHEET 1 FOR SITE LEGEND.
2. ALL DIMENSIONS ARE TO FACE OF CURB.
3. ALL CURB RADII ARE 6.0' UNLESS OTHERWISE SPECIFIED.
4. STANDARD CURB AND GUTTER SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL R 3.01.
5. HANDICAP RAMPS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL R 4.03 & HANDICAP RAMP DETAIL AS SPECIFIED ON SHEET 20 OF 29.
6. ALL SIDEWALKS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL R-3.05
7. ALL EXTERIOR LIGHTING SHALL BE INSTALLED IN COMPLIANCE WITH SECTION 134 OF THE ZONING REGULATIONS.
8. BACKSTOPS, PLAYERS BENCHES, WARNING TRACKS AND ALL OTHER BALLFIELD APPURTENANCES TO BE CONSTRUCTED IN ACCORDANCE WITH DETAILS ON SHEET 20.
9. ALL PATH INTERSECTIONS (TURN AROUND AREAS) SHALL BE GRADED AT 2.0% MAX.

ALL GRASS SWALES ARE MIN. OF 5' WIDTH UNLESS OTHERWISE SPECIFIED SEE SHEET 20 OF 29 FOR DETAILS.



SITE PLAN

GRAPHIC SCALE
1 inch = 50 ft.

OWNER/DEVELOPER INFORMATION

Richard A. Sypson 9/30/02

OWNER/DEVELOPER:

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MARYLAND 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10-2-02

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE		SEWER CODE			
F09		5750615			

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ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. BROOKS — No. 21598 — PROFESSIONAL ENGINEER

DES: J.S.					
DRN: J.S.					
CHK: V.L.D.					
DATE: MAY, 2001	BY	No.	REVISION	DATE	

SITE & FINAL GRADING PLAN
SHEET 1

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT #N-3105
TAX MAP 30 BLOCK 5 PARCEL 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE 1"=50'

SHEET 11 OF 29

SDP- 01-145

Plot Date and Time: Sep 25, 2002 - 3:13pm

CADD FILE: C:\1010081 — Meadowbrook Park\Final Development\11 GRADING PLAN.dwg

NOTE:
1. SEE SHEET 11 FOR GENERAL SITE NOTES.

REFER TO SHEETS 21, 22 & 23 FOR ADDITIONAL PLANTING INFORMATION.

WATER QUALITY SUMMARY

D.A.	Area (Ac.)	WQv	Rev	Cpv	Qp10	Qp100
A	0.44	Pond	Grass Swale	Pond	N/A	N/A
B	1.86	Pond	Grass Swale	Pond	N/A	N/A
EE	1.80	Pond	Grass Swale	Pond	N/A	N/A
C	1.87	Pond	Dry Grass Swale	Pond	N/A	N/A
D	0.29	Pond	Grass Swale	Pond	N/A	N/A
E	2.04	Pond	Grass Swale	Pond	N/A	N/A
F	0.34	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
G	2.93	Pond	Grass Swale	Pond	N/A	N/A
H	2.51	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
DD	1.20	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
I	1.55	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
J	5.09	Existing	Existing	Existing	N/A	N/A
AA	0.43	Bio B-East	Bio B-East	Bio B-East	N/A	N/A
BB	1.2	Bio B-East	Bio B-East	Bio B-East	N/A	N/A
CC	0.54	Bio B-West	Bio B-West	Bio B-West	N/A	N/A
Offsite Imperv. Trails	1.59	Sheet flow to Buffer	Sheet flow to Buffer	N/A (<2.0 cfs)	N/A	N/A

* V1</= 1.0 fps

	Grass Swales/Dry Grass Swales	
	Required (Ac.-Ft)	Provided (Ac. Ft)
Rv	0.08	Grass Swales/Dry Grass Swale (all Rv provided)

	Proposed Pond #1	
	Required (Ac.-Ft)	Provided (Ac. Ft)
WQv	0.30	0.33
Rv	0.08	By Grass Swales/Dry Grass Swale
Cpv	0.54	0.55
Qp10	N/A	N/A
Qp100	N/A	N/A

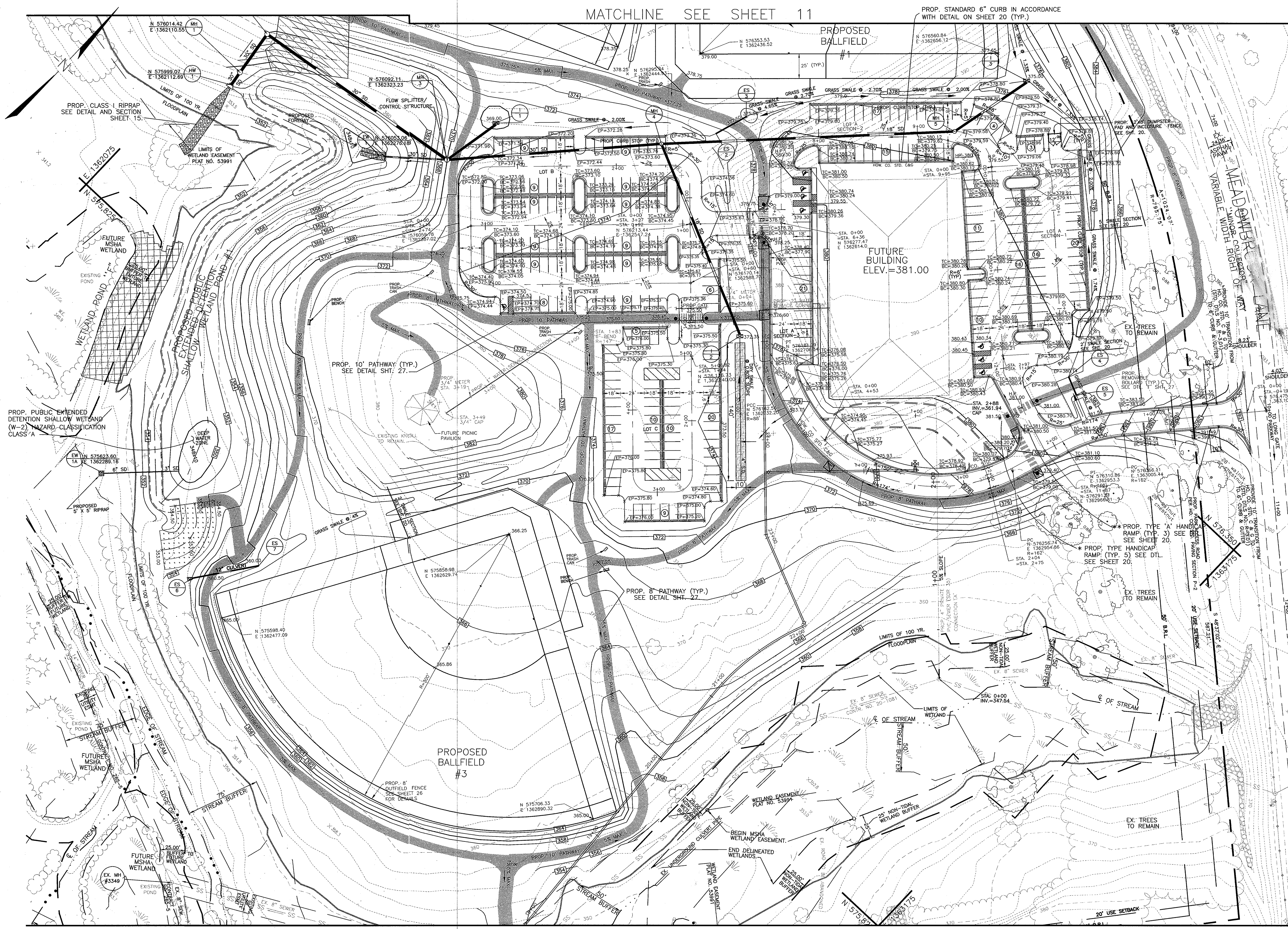
	Proposed Bioretention Area A	
	Required (Ac.-Ft)	Provided (Ac. Ft)
WQv	0.03	0.03
Cpv	N/A	N/A
Rv	0.007	0.01
Qp10	N/A	N/A
Qp100	N/A	N/A

	Proposed Bioretention Area B	
	Required (Ac.-Ft)	Provided (Ac. Ft)
WQv	0.06	0.09
Cpv	0.08	0.08
Rv	0.016	0.016
Qp10	N/A	N/A
Qp100	N/A	N/A

Proposed Pond #1 – Extended Shallow Detention Wetland Pond (W–2)
Proposed Bioretention Area A – Bioretention Filter (F6)
Proposed Bioretention Area B – Bioretention Filter (F6)

Proposed pond #1 was selected based on its suitability to provide Cpv and WQv, space available, ease of maintenance, cost, community acceptance, and a high quality for the wetland habitat.

Both of the proposed bioretention areas were selected based on the small drainage areas being conveyed, space available, suitability to provide Rev, WQv, and Cpv, ease of maintenance, cost, and community acceptance.



SITE PLAN

GRAPHIC SCALE
1 inch = 50 ft.

OWNER/DEVELOPER INFORMATION
9/30/02
OWNER/DEVELOPER:
HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MARYLAND 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10-2-02

PROJECT			SECTION/AREA	MAP NO.
MEADOWBROOK PARK			N/A	MAP 30 PARCELS 383 & 387

PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302

WATER CODE	SEWER CODE
F09	5750615

Plot Date and Time: Sep 25, 2002 - 3:17pm

McCRONE
ENGINEERING ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DADDS — NO. 20199 — REGISTERED PROFESSIONAL ENGINEER — 9/25/02

DES: J.S.	BY	No.	REVISION	DATE
DRN: J.S.				
CHK: V.L.D.				
DATE: MAY, 2001				

SITE & FINAL GRADING PLAN
SHEET 2

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT #N-3105
TAX MAP 30 — BLOCK 5 — PARCELS 383 & 382
SECOND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

SCALE 1"=50'
SHEET 12 OF 29

SDP- 01-145

CADD FILE: G:\1010081 – Meadowbrook Park\Final Development\12 – GRADING PLAN.dwg

NOTE:
1. SEE SHEET 11 FOR GENERAL SITE NOTES.

REFER TO SHEETS 21, 22 & 23 FOR ADDITIONAL PLANTING INFORMATION.

WATER QUALITY SUMMARY – STORAGE REQUIREMENTS

WATER QUALITY SUMMARY

D.A.	Area (Ac.)	WQv	Rev	Cpv	Qp10	Qp100
A	0.44	Pond	Grass Swale	Pond	N/A	N/A
B	1.86	Pond	Grass Swale	Pond	N/A	N/A
EE	1.80	Pond	Grass Swale	Pond	N/A	N/A
C	1.87	Pond	Dry Grass Swale	Pond	N/A	N/A
D	0.29	Pond	Grass Swale	Pond	N/A	N/A
E	2.04	Pond	Grass Swale	Pond	N/A	N/A
F	0.34	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
G	2.93	Pond	Grass Swale	Pond	N/A	N/A
H	2.51	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
DD	1.20	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
I	1.55	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
J	5.09	Existing	Existing	Existing	N/A	N/A
AA	0.43	Bio B-East	Bio B-East	Bio B-East	N/A	N/A
BB	1.2	Bio B-East	Bio B-East	Bio B-East	N/A	N/A
CC	0.54	Bio B-West	Bio B-West	Bio B-West	N/A	N/A
Offsite Imperv. Trails	1.59	Sheet flow to Buffer	Sheet flow to Buffer	N/A (<2.0 cfs)	N/A	N/A

* V1</= 1.0 fps

Grass Swales/Dry Grass Swales		
	Required (Ac.-Ft)	Provided (Ac. Ft)
Rv	0.08	Grass Swales/Dry Grass Swale (all Rv provided)

Proposed Pond #1		
	Required (Ac.-Ft)	Provided (Ac. Ft)
WQv	0.30	0.33
Rv	0.08	By Grass Swales/Dry Grass Swale
Cpv	0.54	0.55
Qp10	N/A	N/A
Qp100	N/A	N/A

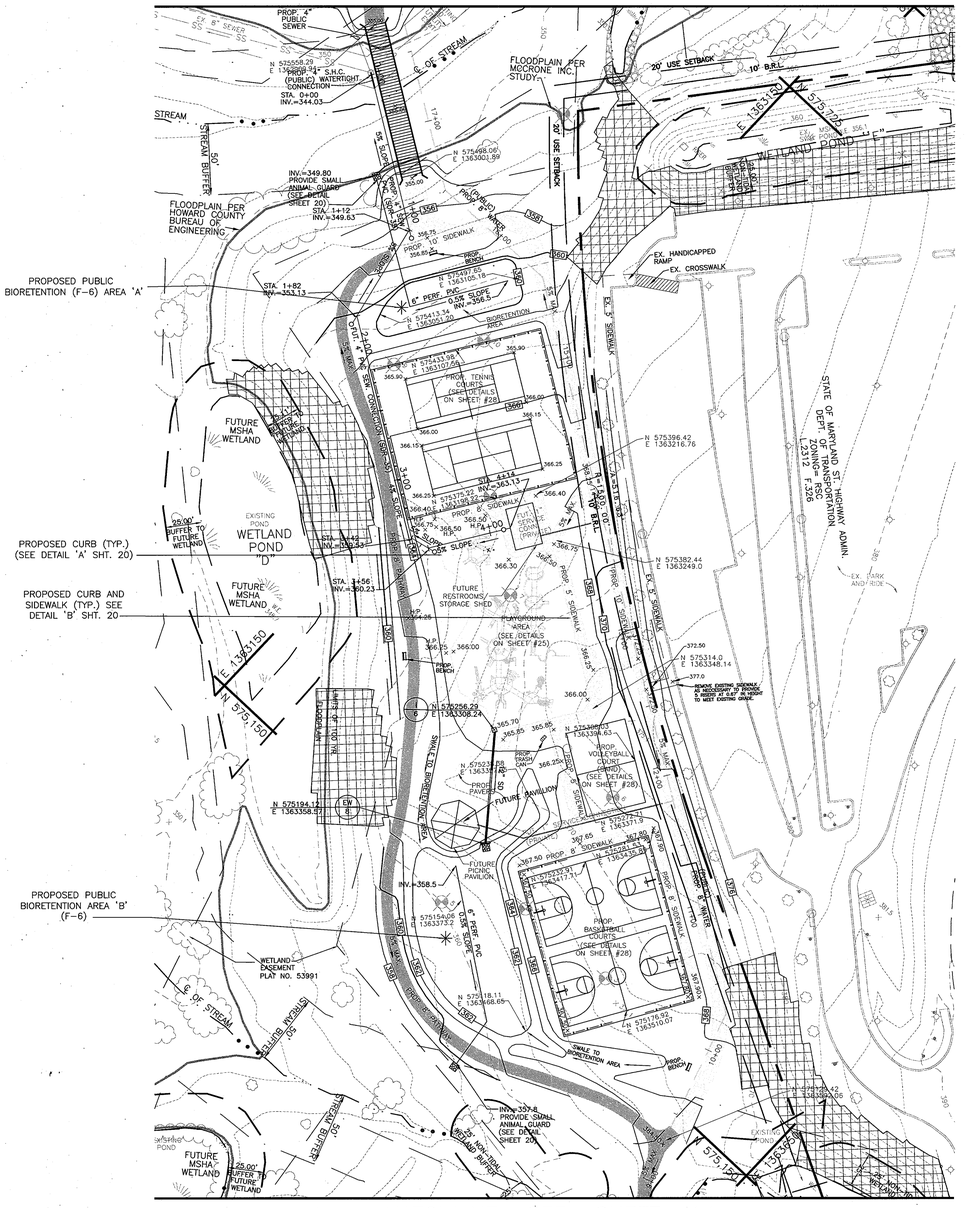
Proposed Bioretention Area A		
	Required (Ac.-Ft)	Provided (Ac. Ft)
WQv	0.03	0.03
Cpv	N/A	N/A
Rv	0.007	0.01
Qp10	N/A	N/A
Qp100	N/A	N/A

Proposed Bioretention Area B		
	Required (Ac.-Ft)	Provided (Ac. Ft)
WQv	0.06	0.09
Cpv	0.08	0.08
Rv	0.016	0.016
Qp10	N/A	N/A
Qp100	N/A	N/A

Proposed Pond #1 – Extended Shallow Detention Wetland Pond (W-2)
Proposed Bioretention Area A – Bioretention Filter (F6)
Proposed Bioretention Area B – Bioretention Filter (F6)

Proposed pond #1 was selected based on its suitability to provide Cpv and WQv, space available, ease of maintenance, cost, community acceptance, and a high quality for the wetland habitat.

Both of the proposed bioretention areas were selected based on the small drainage areas being conveyed, space available, suitability to provide Rev, WQv, and Cpv, ease of maintenance, cost, and community acceptance.



SITE PLAN

GRAPHIC SCALE
50 0 25 50
1 inch = 50 ft.

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER:

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10-2-02

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE			SEWER CODE		
F09			5750615		

Plot Date and Time: Sep 25, 2002 - 3:20pm

McCRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
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ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DAVIS — NO. 21025 — REGISTERED PROFESSIONAL ENGINEER

DES: J.S.				
DRN: J.S.				
CHK: V.L.D.				
DATE: MAY, 2001	BY	No.	REVISION	DATE

SITE & FINAL GRADING PLAN
SHEET 3

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCEL 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE 1"=50'

SHEET 13 OF 29

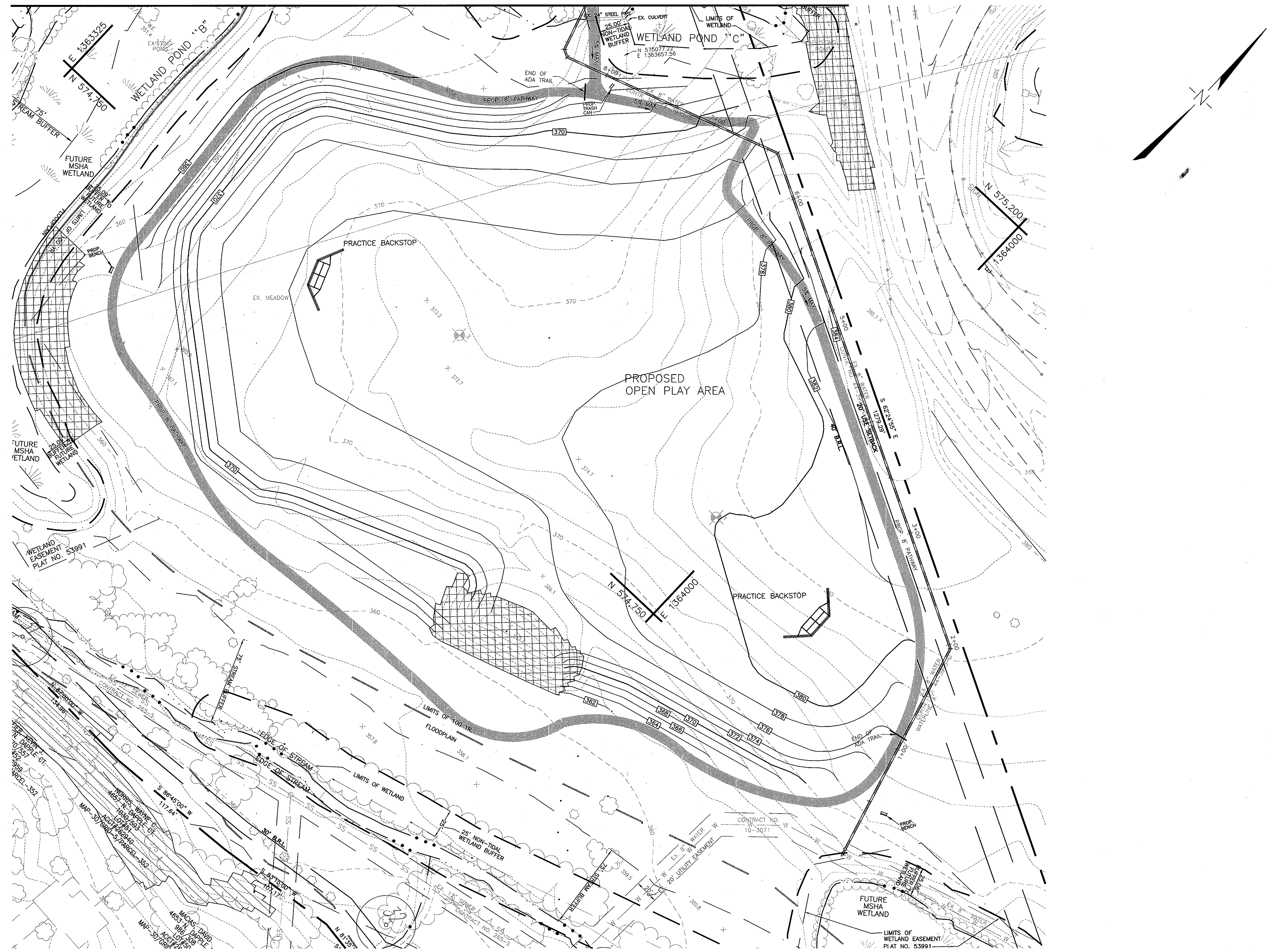
SDP-01-145

CADD FILE: G:\10100081 - Meadowbrook Park\Final Development\13 - GRADING PLAN.dwg

NOTE:
1. SEE SHEET 11 FOR GENERAL SITE NOTES.

REFER TO SHEETS 21, 22 & 23 FOR ADDITIONAL PLANTING INFORMATION.

MATCHLINE SEE SHEET 13



SITE PLAN

50 0 25 50
GRAPHIC SCALE
1 inch = 50 ft.

OWNER/DEVELOPER INFORMATION
9/30/02
OWNER/DEVELOPER:
HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD ELLICOTT CITY, MD. 21043

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	
DIRECTOR	10/24/02 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	10/24/02 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	10/21/02 DATE

DEPARTMENT OF RECREATION AND PARKS HOWARD COUNTY, MARYLAND	
Gary J. Arthur, Director	10-2-02 DATE

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE			SEWER CODE		
F09			5750615		

Plot Date and Time: Sep 25, 2002 - 3:30pm

McCRONE
ENGINEERING ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING CONSTRUCTION SERVICES
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ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DADDS — NO. 20099 — REGISTERED PROFESSIONAL ENGINEER

DES: J.S.	BY	No.	REVISION	DATE
DRN: J.S.				
CHK: V.L.D.				
DATE: MAY, 2001				

SITE & FINAL GRADING PLAN
SHEET 4

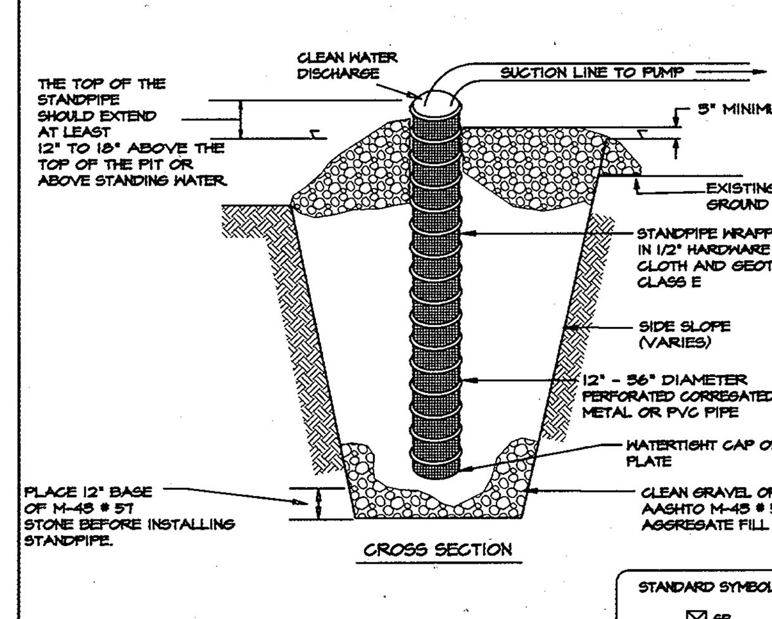
SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 — BLOCK 21 — PARCELS 383 & 387
SECOND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

SCALE 1"=50'
SHEET 14 OF 29

SDP-01-145

CADD FILE: G:\1010081 – Meadowbrook Park\Final Development\14 – GRADING PLAN.dwg

DETAIL 20B - SUMP PIT



CONSTRUCTION SPECIFICATIONS

1. PIT DIMENSIONS ARE VARIABLE, WITH THE MINIMUM DIAMETER BEING 2 TIMES THE STANDPIPE DIAMETER.

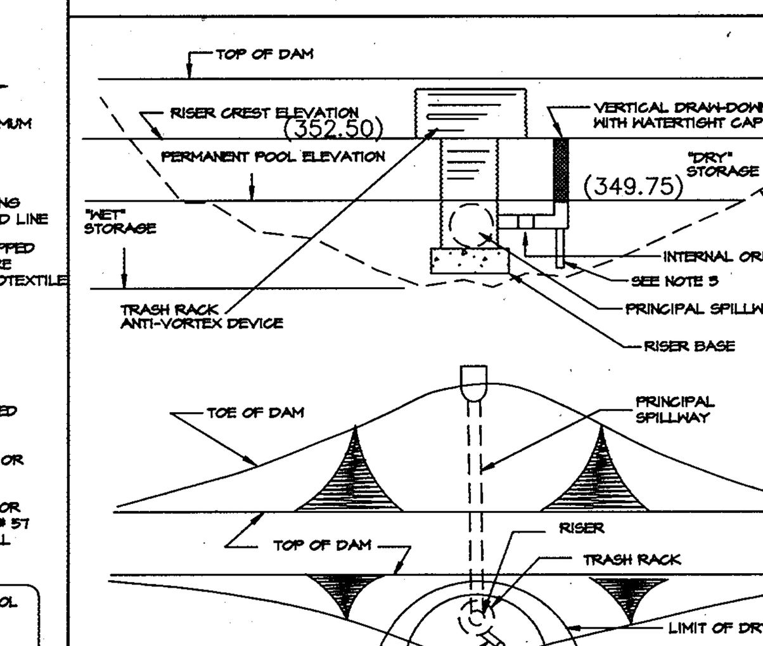
2. THE STANDPIPE SHOULD BE CONSTRUCTED BY PERFORATING A 12" TO 24" DIAMETER CORRUGATED OR PVC PIPE. THEN WRAPPING WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE CLASS E. THE PERFORATIONS SHALL BE 1/2" X 6" SLITS OR 1" DIAMETER HOLES.

3. A BASE OF FILTER MATERIAL CONSISTING OF CLEAN GRAVEL OR #57 STONE SHOULD BE PLACED IN THE PIT TO A DEPTH OF 12". AFTER INSTALLING THE STANDPIPE, THE PIT SURROUNDING THE STANDPIPE SHOULD THEN BE BACKFILLED WITH THE SAME FILTER MATERIAL.

4. THE STANDPIPE SHOULD EXTEND 12" TO 18" ABOVE THE LIP OF THE PIT OR THE RISER CREST ELEVATION (BASIN DEWATERING ONLY) AND THE FILTER MATERIAL SHOULD EXTEND 3" MINIMUM ABOVE THE ANTICIPATED STANDING WATER ELEVATION.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE D - 13 - 2 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BASIN DRAWDOWN SCHEMATIC VERTICAL DRAW-DOWN DEVICE



CONSTRUCTION SPECIFICATIONS

1. PERFORATIONS IN THE DRAW-DOWN DEVICE MAY NOT EXTEND INTO THE WET STORAGE.

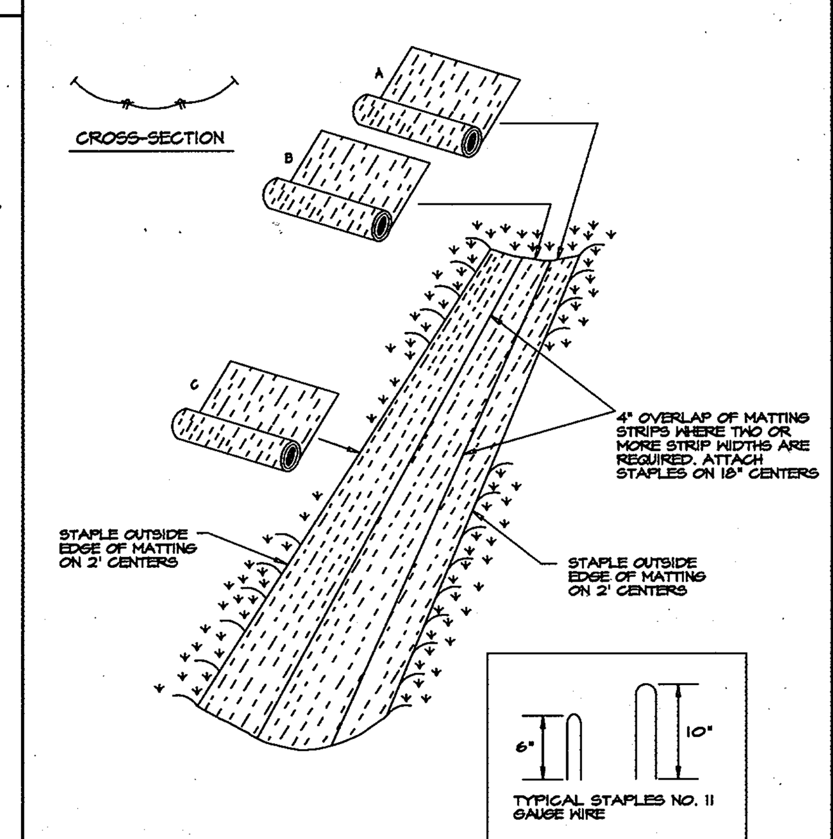
2. THE TOTAL AREA OF THE PERFORATIONS MUST BE GREATER THAN 2 TIMES THE AREA OF THE INTERNAL ORIFICE.

3. THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS E.

4. PROVIDE SUPPORT OF DRAW-DOWN DEVICE TO PREVENT SAGGING AND FLOATATION. AN ACCEPTABLE PREVENTATIVE MEASURE IS TO STAKE BOTH SIDES OF DRAW-DOWN DEVICE WITH 1" STEEL ANGLE, OR 1" BY 4" SQUARE OR 2" ROUND WOODEN POSTS SET 3' MINIMUM INTO THE GROUND THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GAUGE MINIMUM WIRE.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE C-10-30 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 - EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE G - 22 - 2 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

EROSION CONTROL MATTING

CONSTRUCTION SPECIFICATIONS

1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".

2. Staple the 4" overlap in the channel center using an 18" spacing between staples.

3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.

4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.

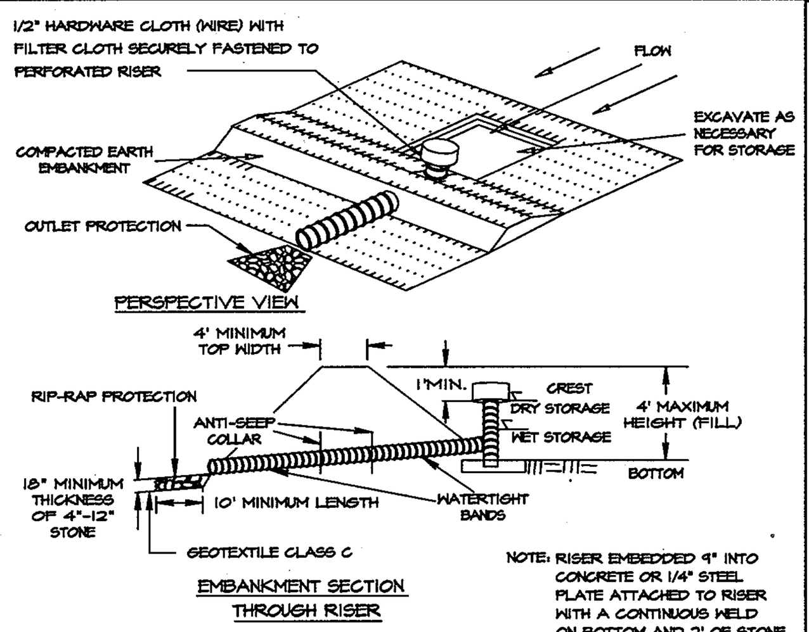
5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.

6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE G - 22 - 2A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 8 - PIPE OUTLET SEDIMENT TRAP - ST I



Construction Specifications

1. The area under the embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material, or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.

3. The total trap volume as measured from the bottom to riser crest elevation shall be 3600 cubic feet per acre of drainage area (see Table 9). The top of embankment must be 1' above the riser crest elevation.

4. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap (900cf/ac). The sediment shall be deposited in a suitable area and in such a manner that it will not erode.

5. The structure shall be inspected periodically and after each rain and repairs made as necessary.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE C - 9 - 7 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

PIPE OUTLET SEDIMENT TRAP - ST I

6. Construction operations shall be carried out in such a manner that erosion and water pollution are abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentrated inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.

7. The structure shall be removed and area stabilized when the drainage area has been properly stabilized.

8. All cut and fill slopes shall be 2:1 or flatter.

9. All pipe connections shall be watertight.

10. Above the wet storage elevation, the riser shall be perforated with 1/2" wide by 6" long slits or 1" diameter holes spaced 6" vertically and horizontally. No perforations will be allowed within 6" of the horizontal barrel.

11. The riser shall be wrapped with 1/2" hardware cloth (wire) then wrapped with Geotextile Class E. The filter cloth shall extend 6" above the highest slit and 6" below the lowest slit. Where ends of filter cloth come together, they shall be overlapped, folded and fastened to prevent bypass. Filter cloth shall be replaced as necessary to prevent clogging.

12. Straps or connecting bands shall be used to hold the filter cloth and wire fabric in place. They shall be placed at the top and bottom of the cloth.

13. Fill material around the pipe spillway shall be hand compacted in 4" layers. A minimum of 2' of hand-compacted backfill shall be placed over the pipe spillway before crossing it with construction equipment.

14. The riser shall be anchored with either a concrete base or steel plate base to prevent flotation. Concrete bases shall be at least twice the riser diameter and 12" deep with the riser embedded 9". Steel plate bases shall be at least twice the riser diameter, 1/4" minimum thickness and attached to the bottom of the riser by a continuous weld to form a watertight connection. Then place 2' of stone, gravel or tamped earth on the plate.

15. Anti seep collars shall be constructed in accordance with plans (ref. table 16 and Details 13 and 14).

16. Concentric trash rack and anti-vortex device design details are on Detail 16.

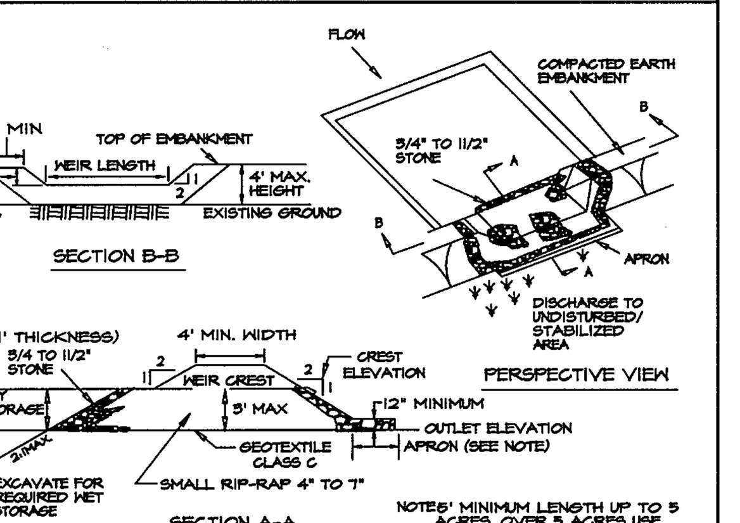
17. Refer to Section D for dewatering requirements of sediment traps.

18. Outlet - An outlet shall be provided, which includes a means of conveying the discharge in an erosion free manner to an existing stable channel.

19. Where discharge occurs at the property line, local ordinances and drainage easement requirements shall be met.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE C - 9 - 7A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II



Construction Specifications

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.

3. All cut and fill slopes shall be 2:1 or flatter.

4. The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1' thick layer of 3/4" to 1 1/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.

5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE C - 9 - 10 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

RIP-RAP OUTLET SEDIMENT TRAP - ST II

6. The structure shall be inspected periodically and after each rain and repairs made as needed.

7. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentration inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.

8. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

9. Refer to Section D for specifications concerning trap dewatering.

10. Minimum trap depth shall be measured from the weir elevation.

11. The elevation of the top of any dike directing water into the trap must equal or exceed the elevation of the trap embankment.

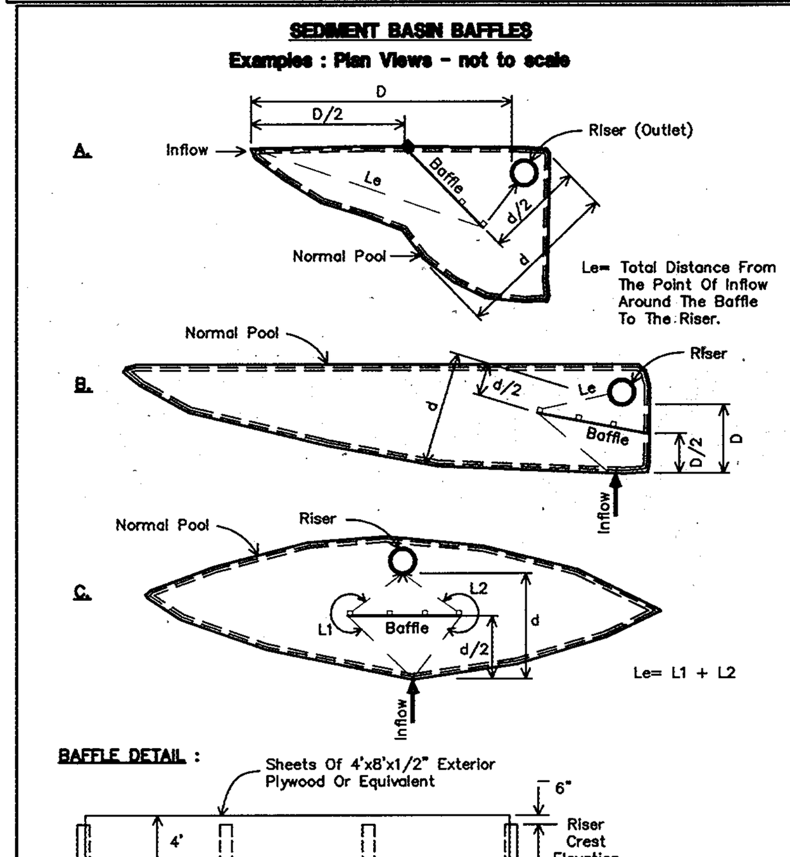
12. Geotextile Class C shall be placed over the bottom and sides of the outlet channel prior to the placement of stone. Sections of filter cloth must overlap at least 1' with the section nearest the entrance placed on top. The filter cloth shall be en-bedded at least 6" into existing ground at the entrance of the outlet channel.

13. Outlet - An outlet shall be provided, including a means of conveying the discharge in an erosion free manner to an existing stable channel.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE C-9-10 A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

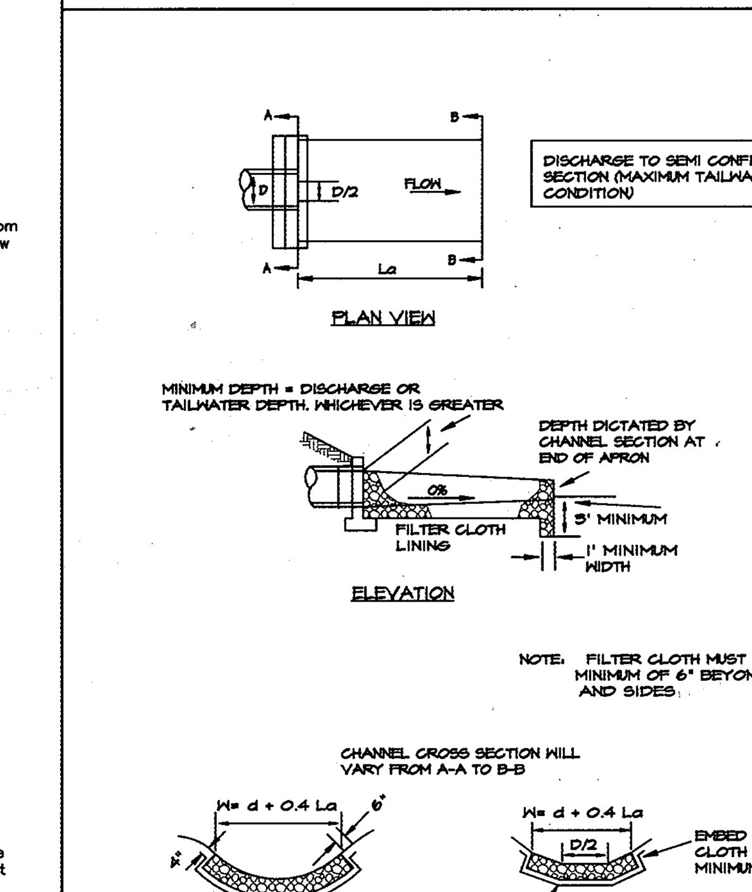
SEDIMENT BASIN BAFFLES

Examples : Plan Views - not to scale



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND | SEDIMENT BASIN BAFFLES | STANDARD DRAWING BAFFLES

DETAIL 25 - ROCK OUTLET PROTECTION I



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE F-18-8 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

ROCK OUTLET PROTECTION

Construction Specifications

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.

2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.

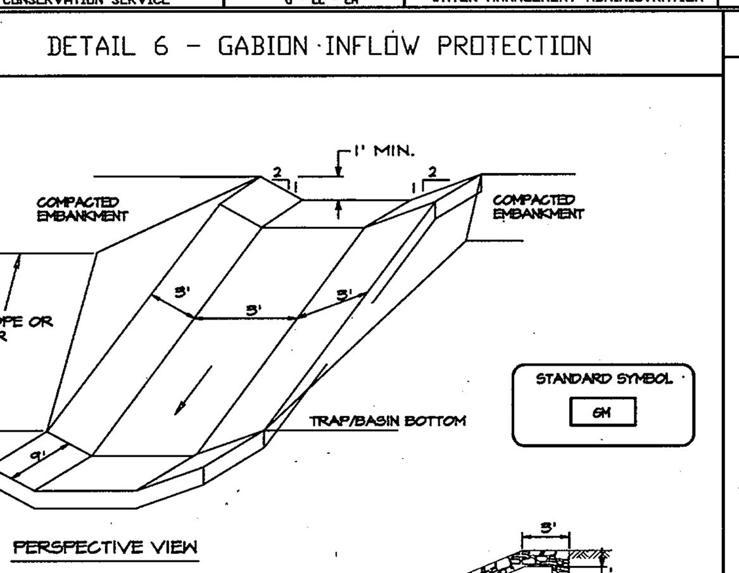
3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.

4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE F - 18 - 8A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 6 - GABION INFLOW PROTECTION



Construction Specifications

1. Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.

2. Geotextile Class C shall be installed under all gabion baskets.

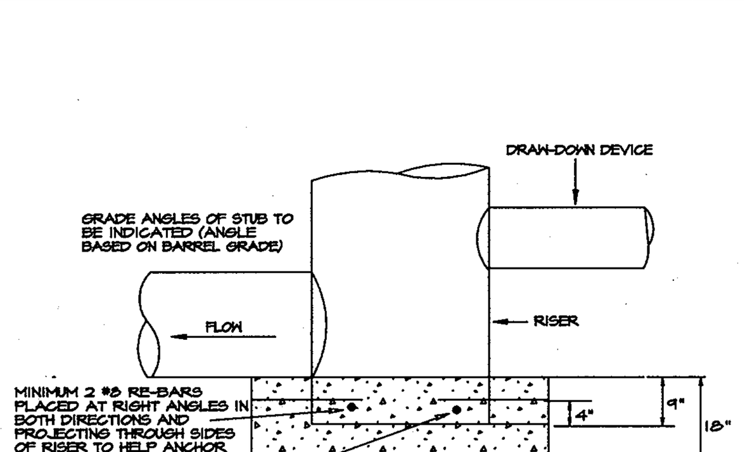
3. The stone used to fill the gabion baskets shall be 4" - 7".

4. Gabions shall be installed in accordance with manufacturers recommendations.

5. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE B - 7 - 2 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 15 - RISER BASE DETAIL



Construction Specifications

The riser shall have a base attached with a watertight connection and shall have sufficient weight to prevent flotation of the riser. Two approved bases for risers 10" or less in height are:

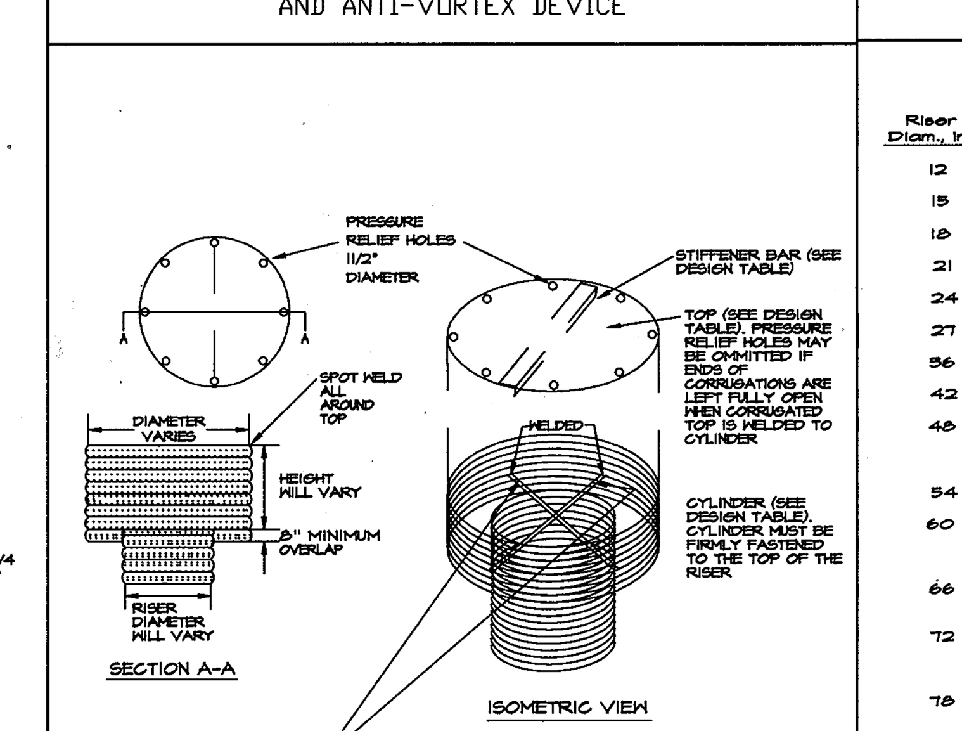
1. A concrete base 18" thick with the riser embedded 9" in the base.

2. A 1/4" minimum thickness steel plate attached to the riser by a continuous weld around the circumference of the riser to form a watertight connection. The plate shall have 2' of stone, gravel, or compacted earth placed on it to prevent flotation. In either case, each side of the square base shall be twice the riser diameter.

Note: For risers greater than ten feet high computations shall be made to design a base which will prevent floatation. The minimum factor of safety shall be 1.20 (downward forces = 1.20 x upward forces).

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE C-10-25 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 16 - CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE C - 10 - 26 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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

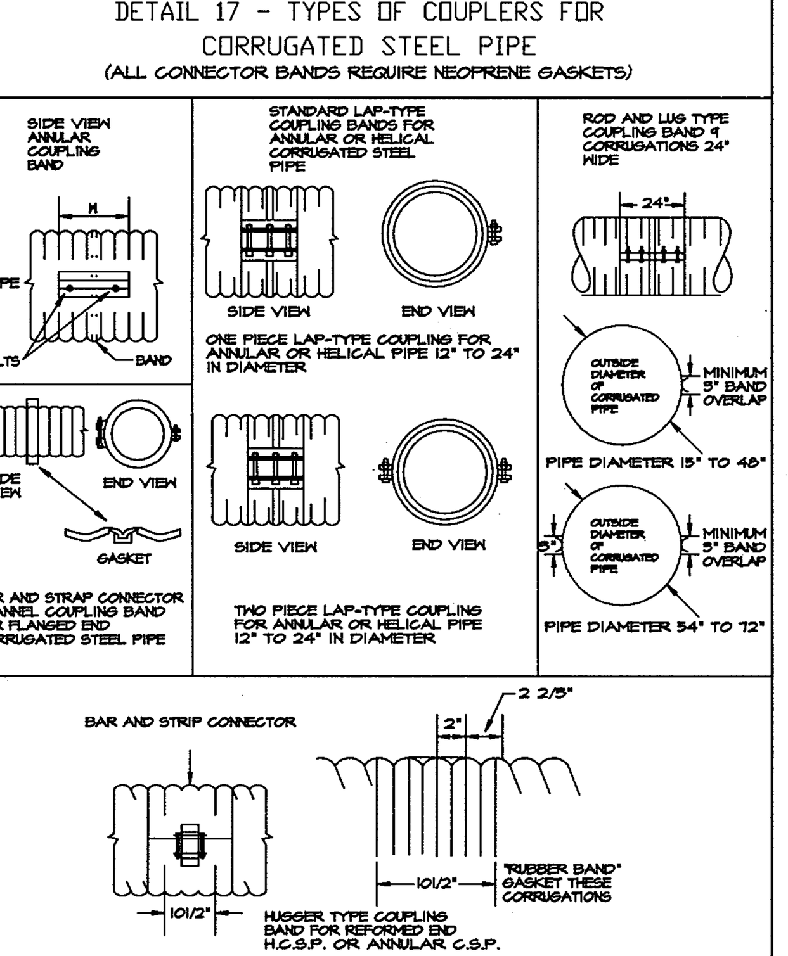
Riser Diam., in.	Trash Rack Cylinder Diam. in.	Thick., gage	H, in.	Minimum Size Support Bar	Minimum Top Thickness	Stiffener
12	18	16	6	#6 Rebar	16 ga.	--
15	21	16	7	"	"	--
18	27	16	8	"	"	--
21	30	16	11	"	"	--
24	36	16	13	"	14 ga.	--
27	42	16	15	"	14 ga.	--
36	54	14	17	#8 Rebar	12 ga.	--
42	60	14	19	"	"	--
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., w/stiffener	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 378.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE C - 10 - 26A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 17 - TYPES OF COUPLERS FOR CORRUGATED STEEL PIPE

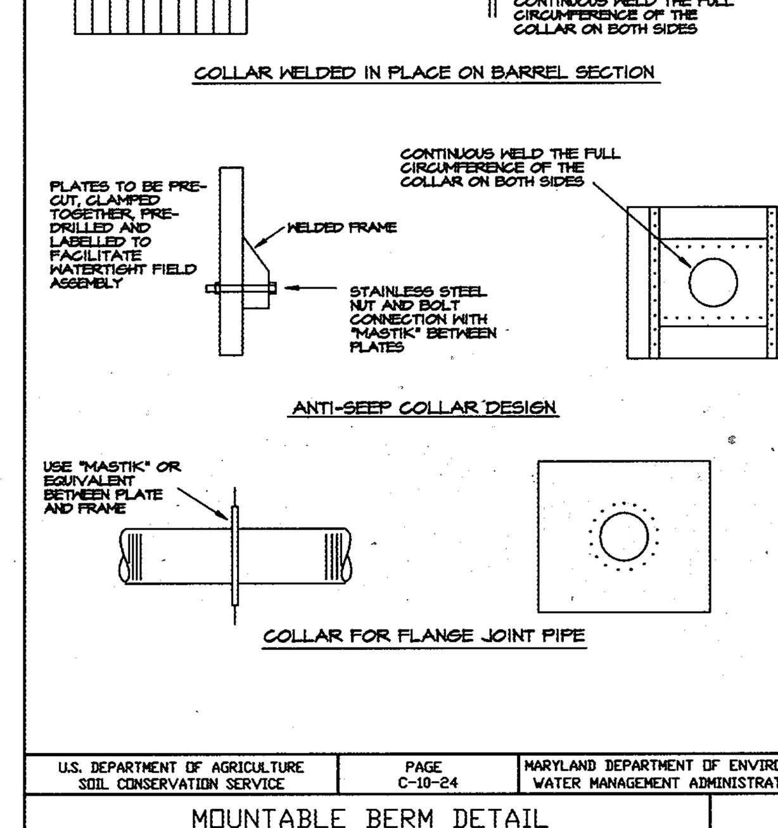
(ALL CONNECTOR BANDS REQUIRE NEOPRENE GASKETS)



NOTE: UNDER NO CIRCUMSTANCES WILL THE DIMPLE (UNIVERSAL) CONNECTOR BAND BE ACCEPTABLE FOR USE IN ANY SEDIMENT CONTROL OR STORMWATER MANAGEMENT STRUCTURE

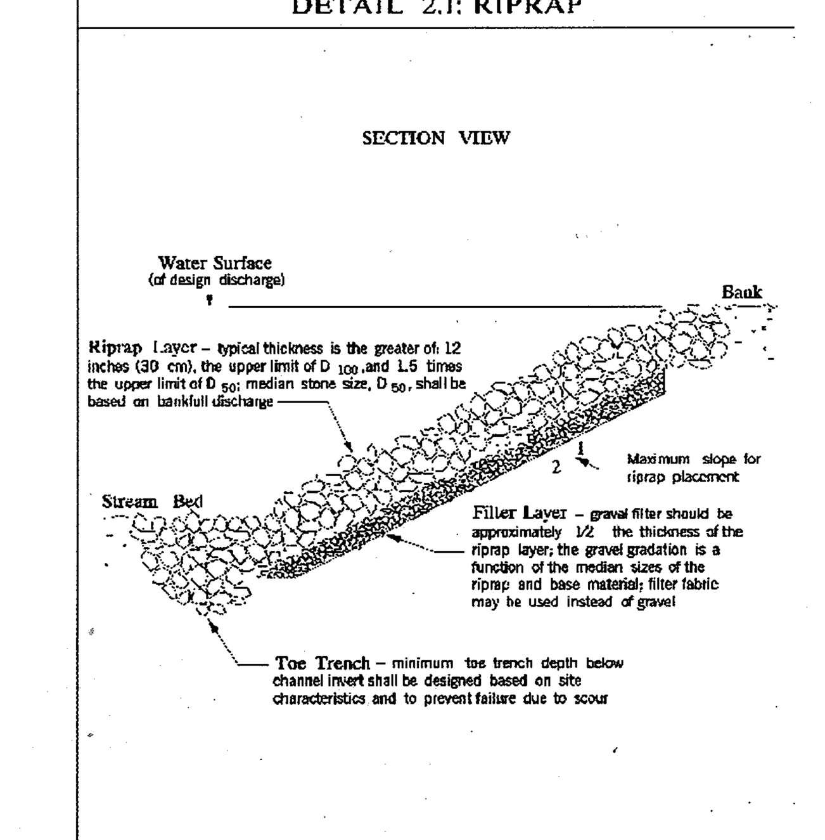
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE C - 10 - 27 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 14 - TYPICAL ANTI-SEEP COLLARS



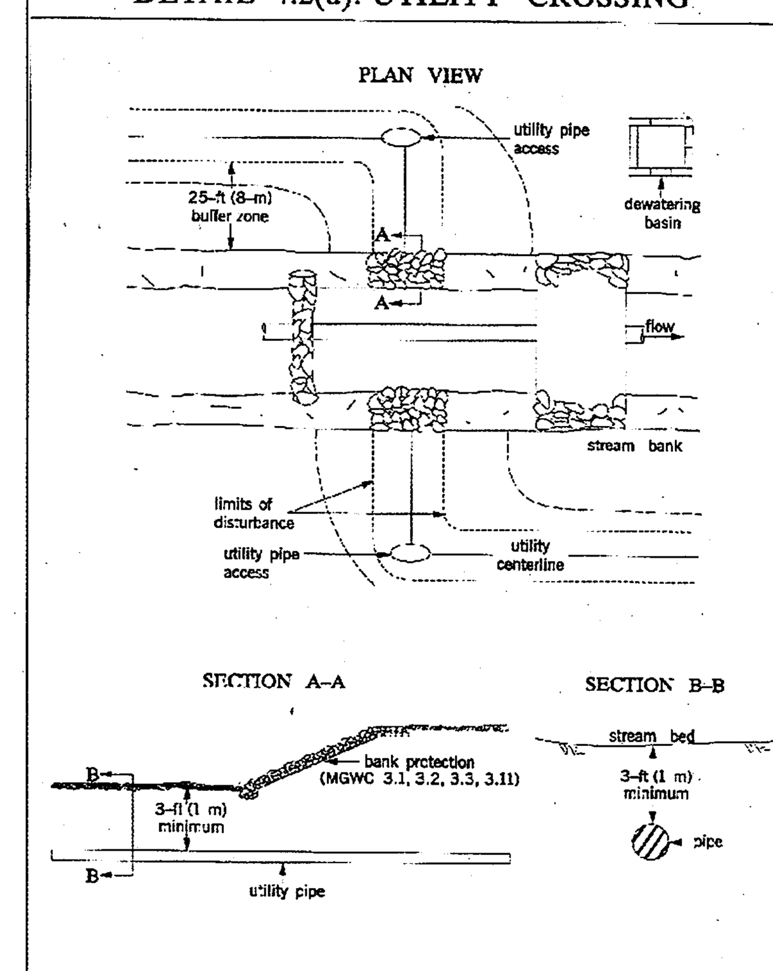
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE C-10-24 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Maryland's Guidelines To Waterway Construction DETAIL 2.1: RIPRAP



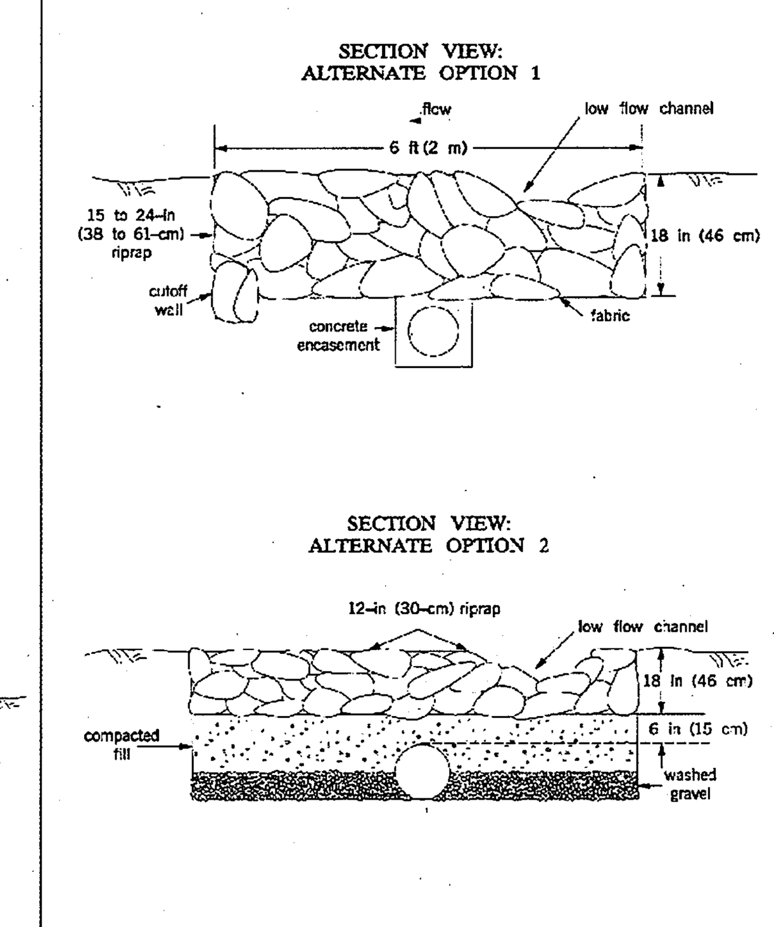
SLOPE PROTECTION AND STABILIZATION TECHNIQUES | REVISED NOVEMBER 2000 PAGE 2.1 - 2 | MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Maryland's Guidelines To Waterway Construction DETAIL 4.2(a): UTILITY CROSSING



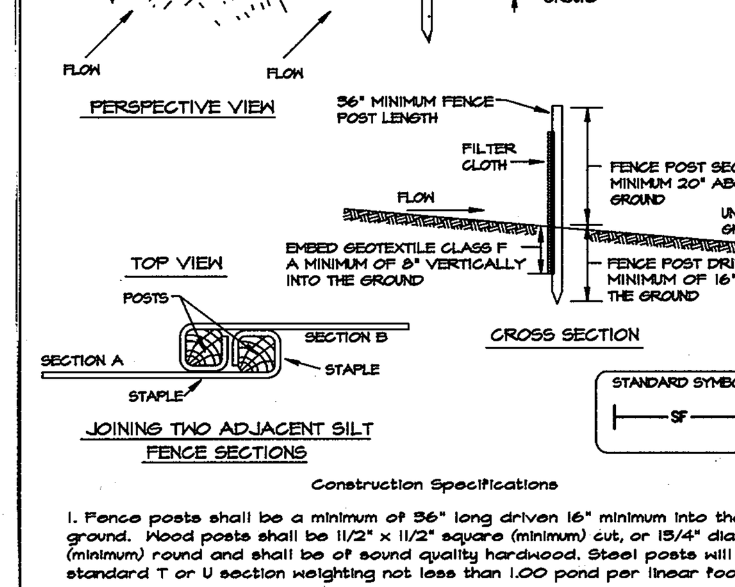
STREAM CROSSINGS | PAGE 4.2 - 2 | MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Maryland's Guidelines To Waterway Construction DETAIL 4.2(b): UTILITY CROSSING



STREAM CROSSINGS | REVISED NOVEMBER 2000 PAGE 4.2 - 3 | MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22 - SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

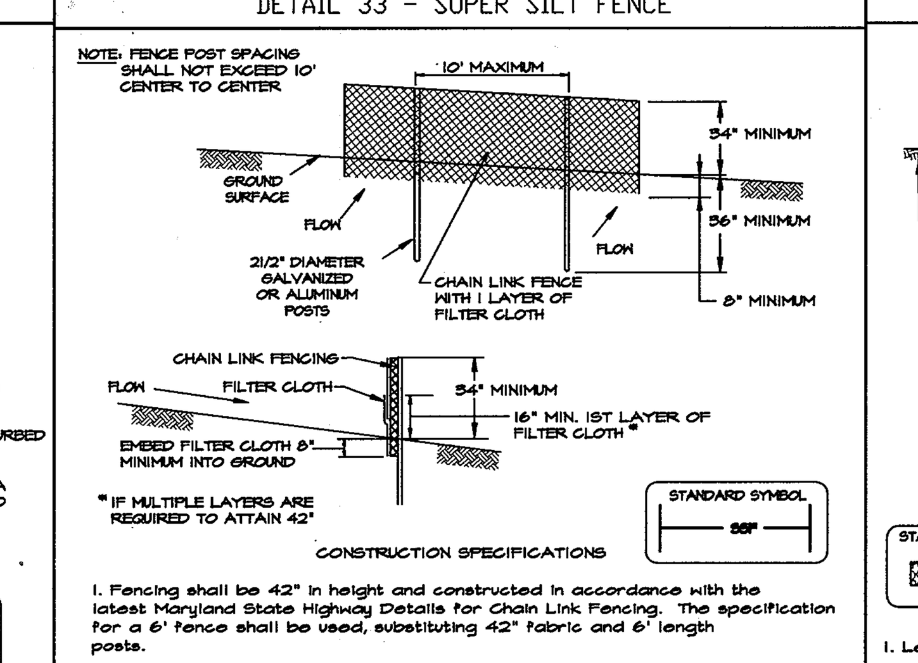
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE E-15-3 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 33 - SUPER SILT FENCE



CONSTRUCTION SPECIFICATIONS

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8" into the ground.

5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

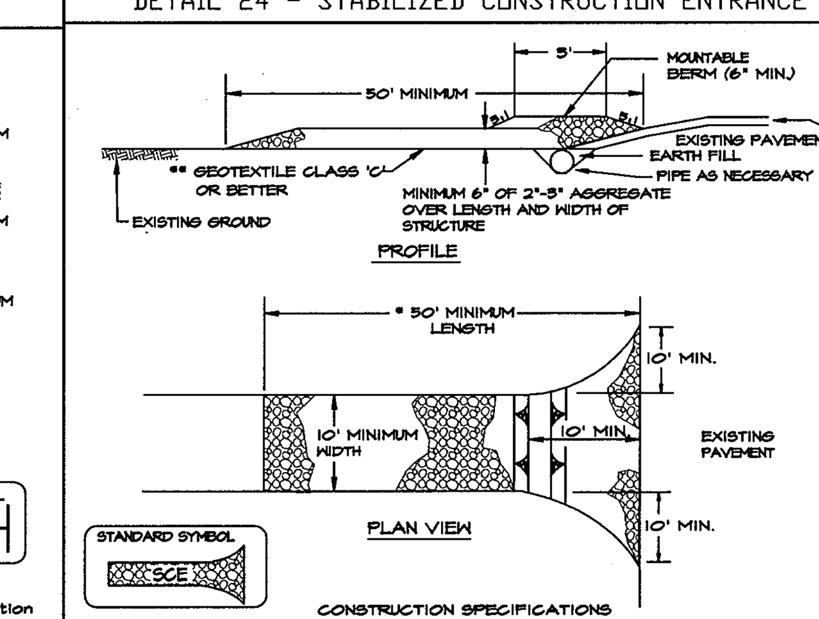
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.

7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft ²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE H - 26 - 3 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



CONSTRUCTION SPECIFICATIONS

1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

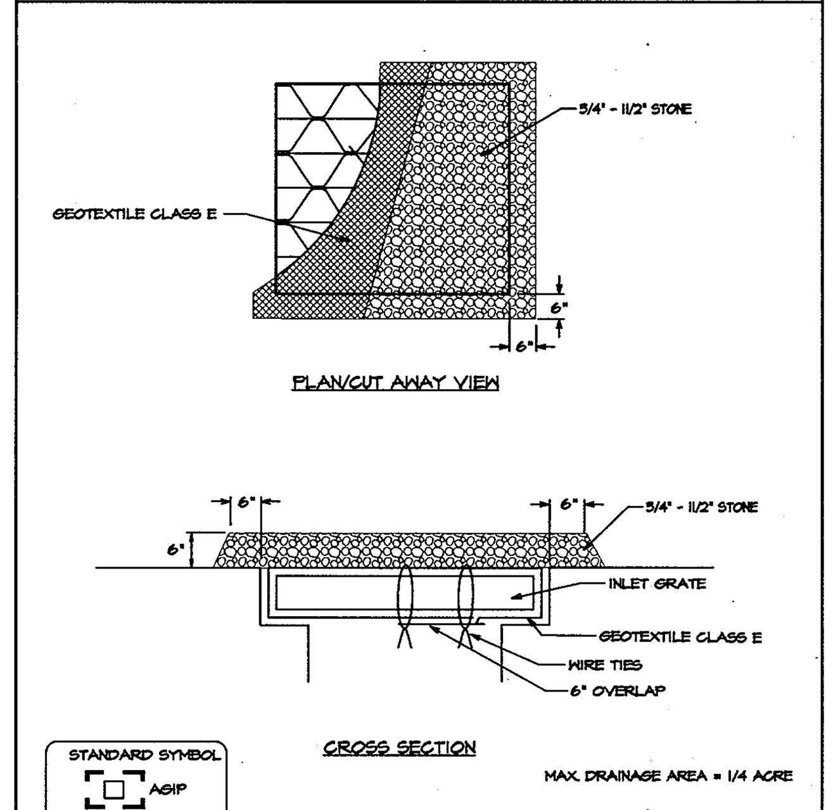
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE F-17-3 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23B - AT GRADE INLET PROTECTION



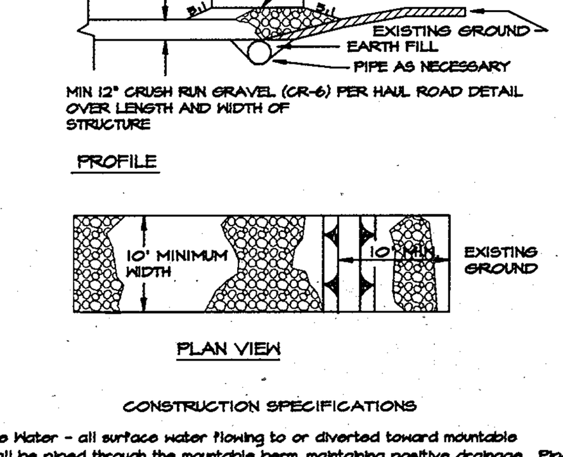
CONSTRUCTION SPECIFICATIONS

1. LIFT GRATE AND WRAP WITH GEOTEXTILE CLASS E TO COMPLETELY COVER ALL OPENINGS, THEN SET GRATE BACK IN PLACE.

2. PLACE 3/4" TO 1 1/2" STONE, 4"-6" THICK ON THE GRATE TO SECURE THE FABRIC AND PROVIDE ADDITIONAL FILTRATION.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE E - 16 - 5A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MOUNTABLE BERM DETAIL

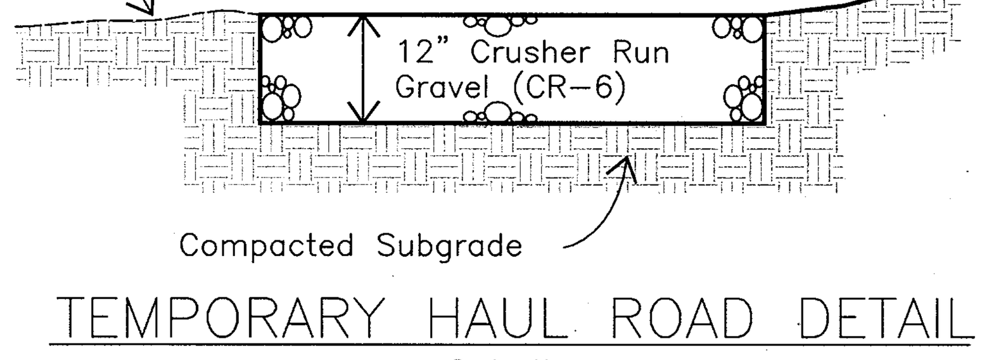


CONSTRUCTION SPECIFICATIONS

1. Surface Water - all surface water flowing to or diverted toward mountable berm shall be piped through the mountable berm, maintaining positive drainage. Pipe installed through the mountable berm shall be protected with a mountable berm with 5:1 slopes and a minimum of 18" of stone over the pipe. Pipe has to be sized according to the drainage. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

2. Refer to the sediment erosion control plans for the location of the mountable berm.

TEMPORARY HAUL ROAD DETAIL



Scale: None

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[signature] 10/24/02
DIRECTOR — DATE

[signature] 10/24/02
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] 10/21/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

[signature] 10-2-02
Gary J. Arthur, Director — DATE

PROJECT	SECTION/AREA	MAP NO.
MEADOWBROOK PARK	N/A	MAP 30 PARCELS 383 & 387

PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302

WATER CODE	SEWER CODE
F09	5750615

DEVELOPER'S CERTIFICATION

"I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR SEDIMENT AND EROSION CONTROL BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."
"SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL AND STANDARDS & SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS SHOWN ON THESE PLANS."

[signature] 9/30/02
DATE

ENGINEER'S CERTIFICATION

"I HEREBY 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 SOIL CONSERVATION DISTRICT."

[signature] 9/25/02
VIRGINIA DADDS — DATE

OWNER/DEVELOPER INFORMATION

[signature] 9/30/02
OWNER/DEVELOPER:
HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MARYLAND 21043

McCRONE
ENGINEERING ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DADDS — No. 20199 — REGISTERED PROFESSIONAL ENGINEER [signature] 9/25/02

DES: J.S.			
DRN: J.S.			
CHK: V.L.D.			
DATE: MAY, 2001	BY	No.	REVISION	DATE

SEDIMENT & EROSION CONTROL DETAILS

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK

PROJECT NO. N-3105
TAX MAP 30 — BLOCK 5 — PARCELS 383 & 387
SECOND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

SCALE 1"=50'

SHEET 15 OF 29

SDP-01-145

Plot Date and Time: Sep 25, 2002 - 3:32pm

NOTES

PART 1

1. APPROXIMATE LOCATIONS OF EXISTING MAINS OR POTENTIALLY CONCURRENT WORK BY OTHERS IS SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING OR CONSTRUCTED MAINS AND SERVICES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE TO EXISTING OR CONSTRUCTED MAINS SHALL BE IMMEDIATELY REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES, NAD 83, PER A SURVEY BY McCRONE, INC. BENCHMARK POINTS MB-04, MB-05, AND MB-06 ARE AS SHOWN ON SHEET 1.

3. ALL VERTICAL CONTROLS ARE BASED ON NAVD 83 PER THE BENCHMARK POINTS NOTED IN ITEM 2 ABOVE.

4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

5. CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY A MINIMUM OF 5'-0" OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS NOT MADE ARRANGEMENTS FOR BRACING OF ANY POLES. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.

6. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.

7. NO TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.

8. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

   AT&T 1-800-526-2000
   BGE (CONTRACTOR SERVICES) 410-850-4620
   BGE (UNDERGROUND DAMAGE CONTROL) 410-787-9068
   BUREAU OF UTILITIES 410-313-4900
   BELL ATLANTIC MARYLAND, INC. 1-800-621-9900
   COLONIAL PIPELINE CO. 410-795-1390
   MISS UTILITY 1-800-257-7777
   STATE HIGHWAY ADMINISTRATION 410-531-5533

9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR WITHOUT GIVING NOTIFICATION TO THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING DEVELOPMENT ENGINEERING DIVISION.

10. THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.

11. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.

12. THE CONTRACTOR SHALL STABILIZE ALL WORK AT THE END OF EACH CONSTRUCTION DAY.

PART 2

1. ALL WATER MAINS SHALL BE D.I.P. CLASS 50 UNLESS OTHERWISE NOTED.
2. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
5. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
6. SANITARY SEWER SERVICE CONNECTIONS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL S 2.11.
7. CLEANOUTS FOR SANITARY SEWER HOUSE CONNECTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL S 2.22.
8. SANITARY SEWER MAIN LINE CLEANOUT SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL S 3.21.
9. TRENCH BEDDING AND TRENCH PAYMENT WIDTHS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAILS G 2.01 & G 2.02-A.

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER:
HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

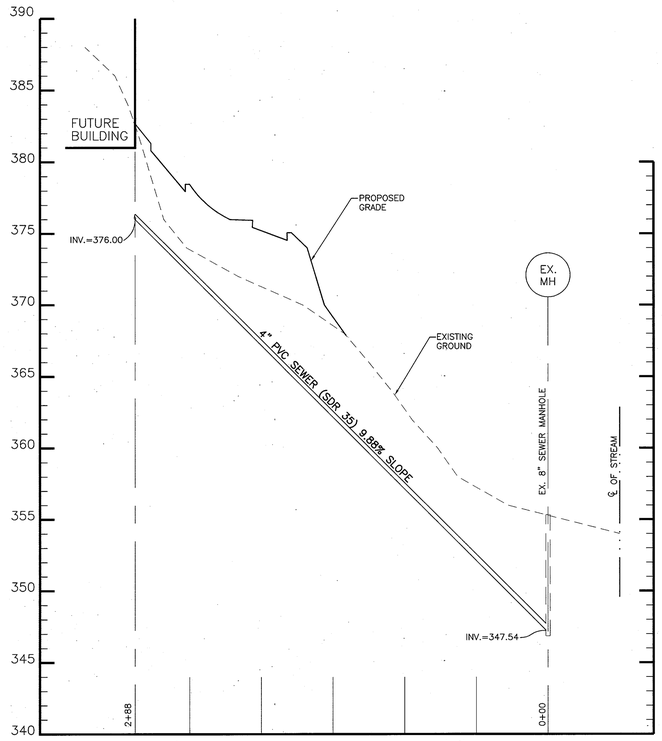
DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10.2.02

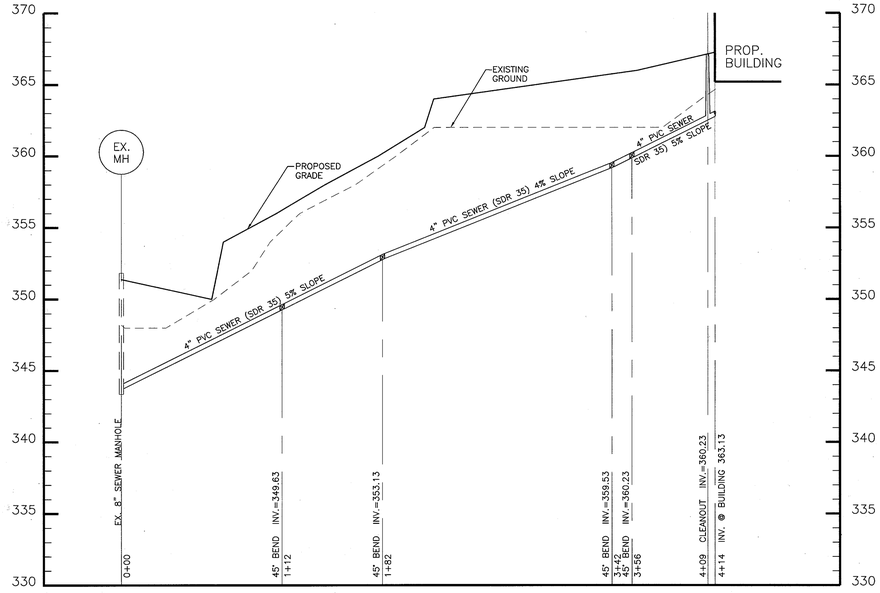
PROJECT	SECTION/AREA	MAP NO.
MEADOWBROOK PARK	N/A	MAP 30 PARCELS 383 & 387

PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302

WATER CODE	SEWER CODE
F09	5750615



SEWER CONNECTION 'A'
PROFILE
SCALE: 1"=50' HORIZONTAL; 1"=5' VERTICAL



SEWER CONNECTION 'B'
PROFILE
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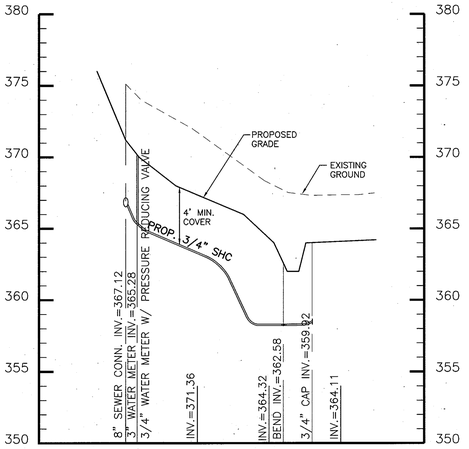

WHC STA. 11+82
PROFILE
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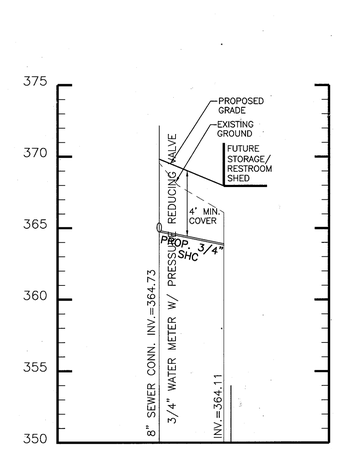

WHC STA. 13+84
PROFILE
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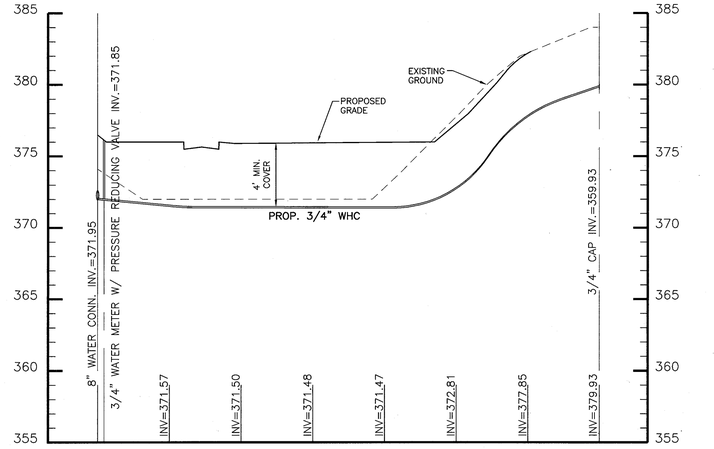

WHC STA. 3+19
PROFILE
SCALE: 1"=50' HORIZONTAL; 1"=5' VERTICAL

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(410) 267-8631
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ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DAVIS — No. 20243 — REGISTERED PROFESSIONAL ENGINEER
9/30/02

DES:	J.S.
DRN:	J.S.
CHK:	V.L.D.
DATE:	MAY, 2001

BY	No.	REVISION	DATE

WATER & SEWER HOUSE CONNECTION PROFILES

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCELS 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

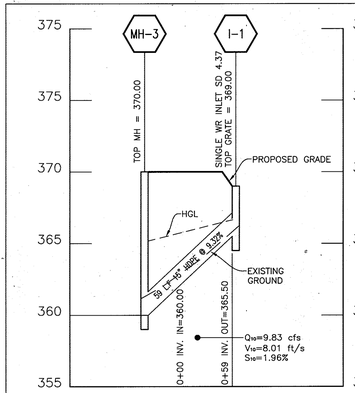
SCALE AS SHOWN

SHEET 16 OF 29

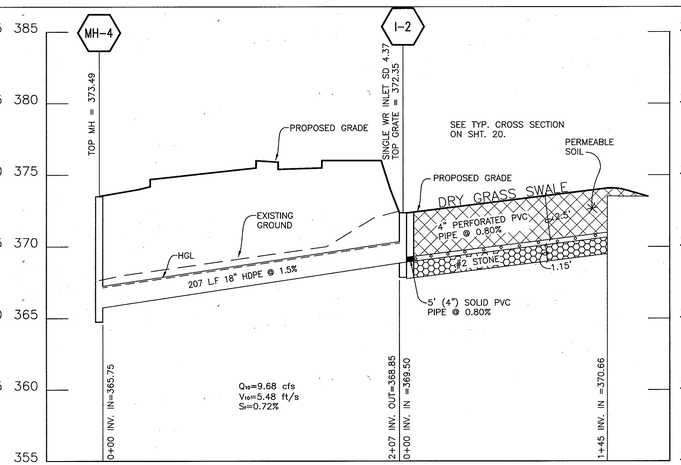
SDP-01-145

Plot Date and Time: Sep 25, 2002 - 3:35pm

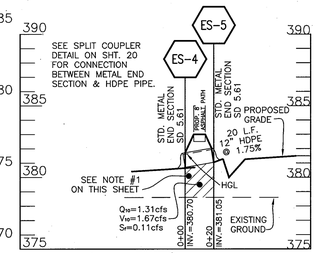
CADD FILE: G:\1010081 - Meadowbrook Park\Final Development\16-UTILITY-PROFILE.dwg



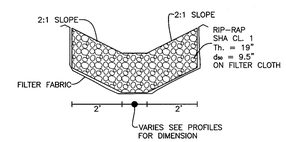
STORM DRAIN PROFILE
SCALE: 1"=5' VERTICAL, 1"=50' HORIZONTAL



STORM DRAIN PROFILE
SCALE: 1"=5' VERTICAL, 1"=50' HORIZONTAL

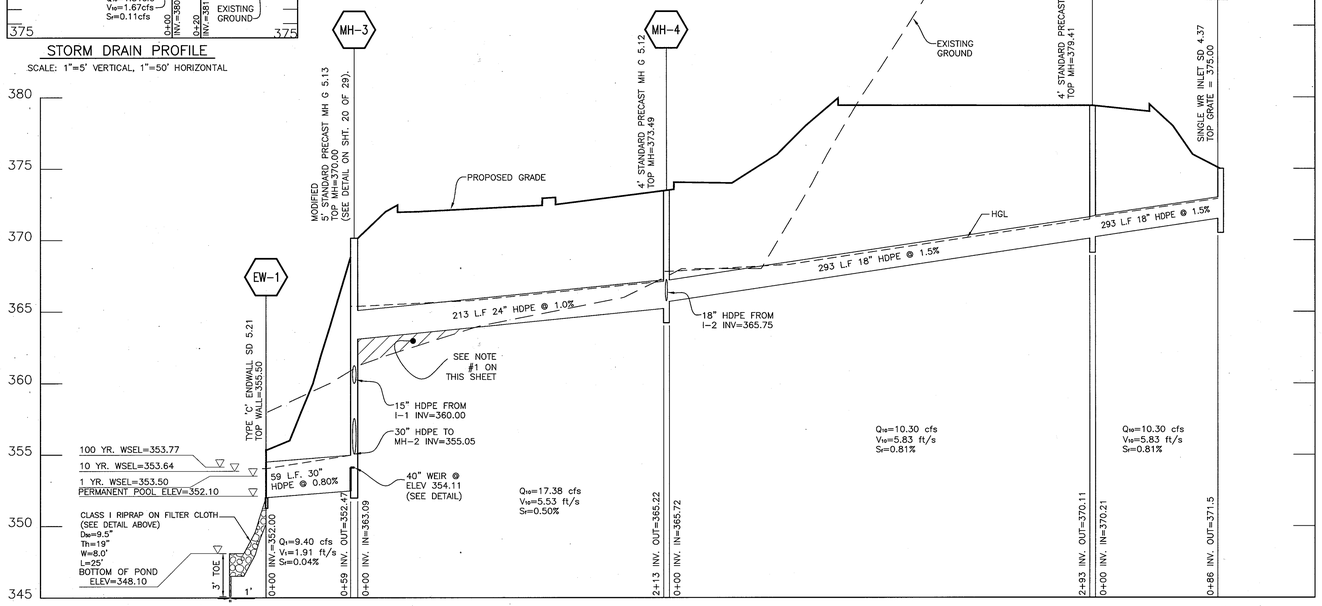


STORM DRAIN PROFILE
SCALE: 1"=5' VERTICAL, 1"=50' HORIZONTAL



TYPICAL RIP-RAP CROSS SECTION
NOT TO SCALE

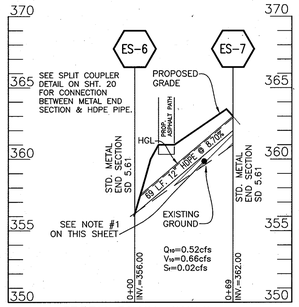
1. PLACE FILL TO 98% COMPACTION BY MODIFIED PROCTOR AND THEN EXCAVATE STORM DRAIN TRENCH. SELECT FILL SHALL MEET AASHTO T-180 SPECIFICATIONS.
2. ALL HDPE PIPE TO BE SDR-35 UNLESS OTHERWISE NOTED.
3. ALL END SECTIONS SHALL BE PER DETAIL ON SHEET 20 OF 29.



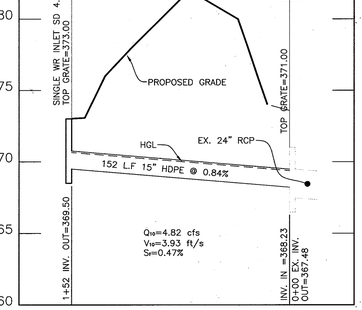
STORM DRAIN PROFILE
SCALE: 1"=5' VERTICAL, 1"=50' HORIZONTAL

STORM DRAIN PROFILE
SCALE: 1"=5' VERTICAL, 1"=50' HORIZONTAL

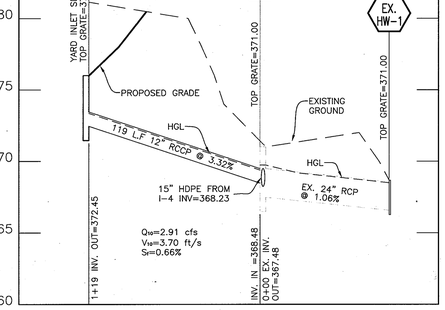
STORM DRAIN PROFILE
SCALE: 1"=5' VERTICAL, 1"=50' HORIZONTAL



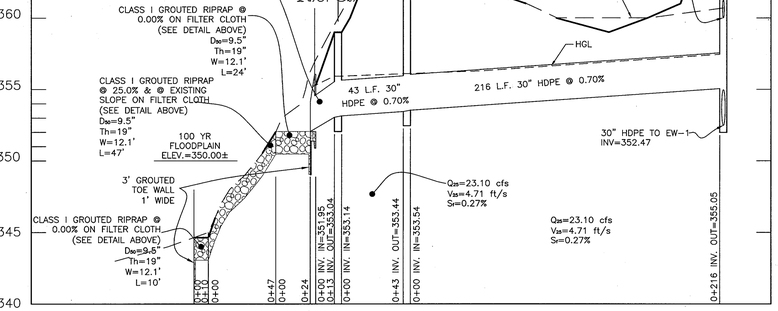
STORM DRAIN PROFILE
SCALE: 1"=5' VERTICAL, 1"=50' HORIZONTAL



STORM DRAIN PROFILE
SCALE: 1"=5' VERTICAL, 1"=50' HORIZONTAL



STORM DRAIN PROFILE
SCALE: 1"=5' VERTICAL, 1"=50' HORIZONTAL



STORM DRAIN PROFILE
SCALE: 1"=5' VERTICAL, 1"=50' HORIZONTAL

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER: 3/30/02

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MARYLAND 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — 10/24/02 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/24/02 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/21/02 DATE

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — 10-2-02 DATE

PROJECT				SECTION/AREA	ELEC. DIST.	MAP NO.
MEADOWBROOK PARK				N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE			CENSUS TR.
N/A	5	R-20	2		2	602302
WATER CODE			SEWER CODE			
F09			5750615			

Plot Date and Time: Sep 25, 2002 - 3:37pm

McCRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING: CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DAVIS — NO. 22021 — PROFESSIONAL ENGINEER — 9/25/02

DES:	J.S.
DRN:	J.S.
CHK:	V.L.D.
DATE:	MAY, 2001

BY	No.	REVISION	DATE

STORM DRAIN PROFILES

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCELS 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 17 OF 29

SDP-01-145

CADD FILE: G:\10100081 - Meadowbrook Park\Final Development\17-STORM-PROFILE.dwg

WATER QUALITY SUMMARY

D.A.	Area (Ac.)	WQv	Rev	Cpv	Qp10	Qp100
A	0.44	Pond	Grass Swale	Pond	N/A	N/A
B	1.86	Pond	Grass Swale	Pond	N/A	N/A
EE	1.80	Pond	Grass Swale	Pond	N/A	N/A
C	1.87	Pond	Dry Grass Swale	Pond	N/A	N/A
D	0.29	Pond	Grass Swale	Pond	N/A	N/A
E	2.04	Pond	Grass Swale	Pond	N/A	N/A
F	0.34	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
G	2.93	Pond	Grass Swale	Pond	N/A	N/A
H	2.51	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
DD	1.20	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
I	1.55	*Grass Swale	Grass Swale	N/A (<2.0 cfs)	N/A	N/A
J	5.09	Existing	Existing	Existing	N/A	N/A
AA	0.43	Bio B-East	Bio B-East	Bio B-East	N/A	N/A
BB	1.2	Bio B-East	Bio B-East	Bio B-East	N/A	N/A
CC	0.54	Bio B-West	Bio B-West	Bio B-West	N/A	N/A
Offsite Imperv. Trails	1.59	Sheet flow to Buffer	Sheet flow to Buffer	N/A (<2.0 cfs)	N/A	N/A

* V1</= 1.0 fps

Grass Swales/Dry Grass Swales		
	Required (Ac.-Ft)	Provided (Ac. Ft)
Rv	0.08	Grass Swales/Dry Grass Swale (all Rv provided)

Proposed Pond #1		
	Required (Ac.-Ft)	Provided (Ac. Ft)
WQv	0.30	0.33
Rv	0.08	By Grass Swales/Dry Grass Swale
Cpv	0.54	0.55
Qp10	N/A	N/A
Qp100	N/A	N/A

Proposed Bioretention Area A		
	Required (Ac.-Ft)	Provided (Ac. Ft)
WQv	0.03	0.03
Cpv	N/A	N/A
Rv	0.007	0.01
Qp10	N/A	N/A
Qp100	N/A	N/A

Proposed Bioretention Area B		
	Required (Ac.-Ft)	Provided (Ac. Ft)
WQv	0.06	0.09
Cpv	0.08	0.08
Rv	0.016	0.016
Qp10	N/A	N/A
Qp100	N/A	N/A

Proposed Pond #1 – Extended Shallow Detention Wetland Pond (W-2)
Proposed Bioretention Area A – Bioretention Filter (F6)
Proposed Bioretention Area B – Bioretention Filter (F6)

Proposed pond #1 was selected based on its suitability to provide Cpv and WQv, space available, ease of maintenance, cost, community acceptance, and a high quality for the wetland habitat.

Both of the proposed bioretention areas were selected based on the small drainage areas being conveyed, space available, suitability to provide Rev, WQv, and Cpv, ease of maintenance, cost, and community acceptance.

OWNER/DEVELOPER INFORMATION

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD 21043
OWNER/DEVELOPER

3/30/02
DATE

ENGINEER'S CERTIFICATION

"I HEREBY 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 SOIL CONSERVATION DISTRICT."

Virginia Dadds 10/18/02
VIRGINIA DADDS DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

10/24/02
DIRECTOR DATE

11/21/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

11/21/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

10-2-02
Gary J. Arthur, Director DATE

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE		SEWER CODE			
F09		5750615			

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (F-6)

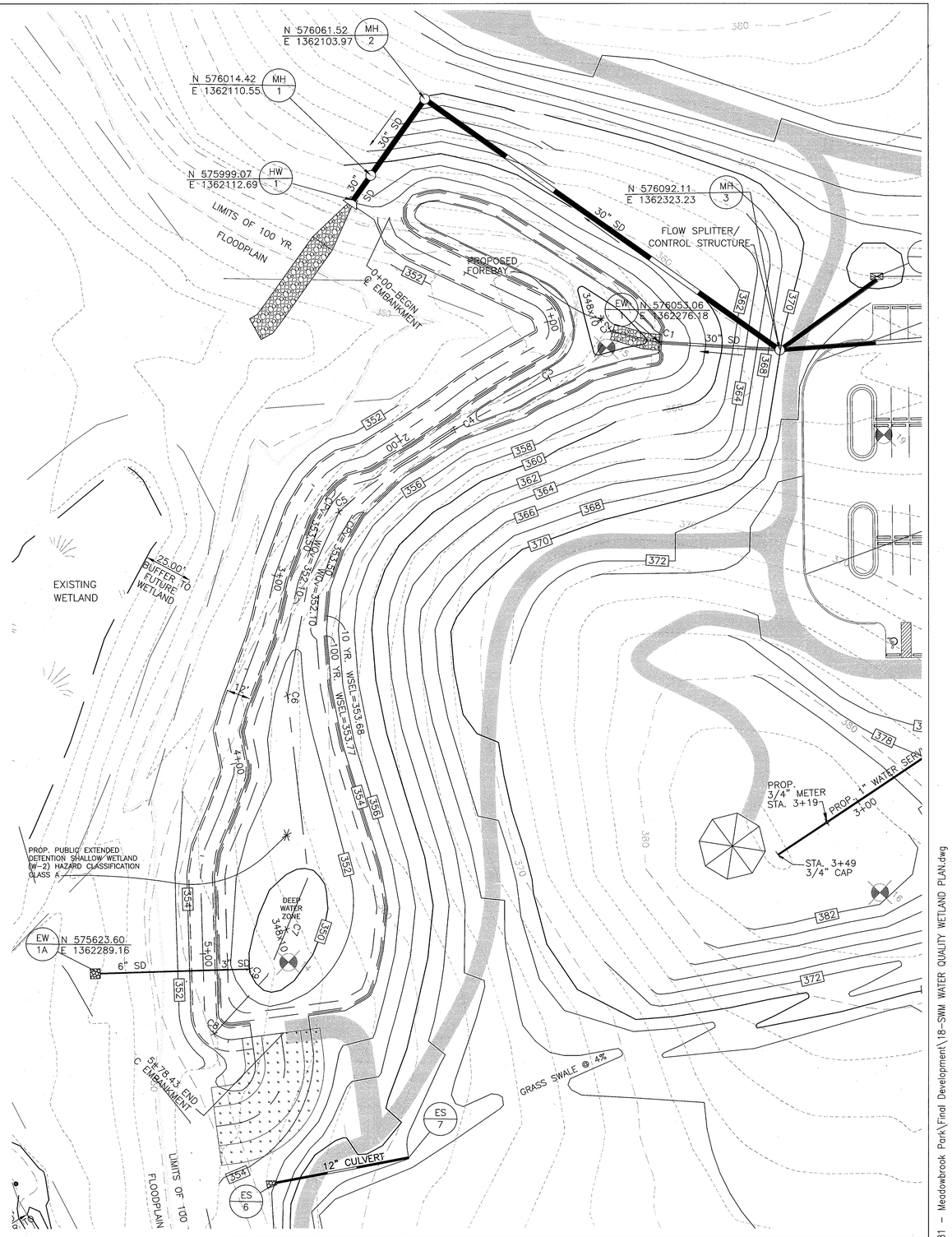
1. Annual maintenance of plant material, mulch layer and soil is required. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning.
2. Schedule of plant inspection will be twice a year in spring and fall. This inspection will include removal of dead and diseased vegetation considered beyond treatment, treatment of all diseased trees and shrubs and replacement of all deficient stakes and wires.
3. Mulch shall be inspected each spring. Remove previous mulch layer before applying new layer once every 2 to 3 events.
4. Soil erosion to be addressed on an as needed basis, with a minimum of once per month and after heavy storm events.

OPERATION AND MAINTENANCE SCHEDULE FOR STORMWATER WETLANDS (W-1 THROUGH W-4)

1. The stormwater wetland facility shall be inspected annually after major storms. Inspection shall be performed during wet weather to determine if the facility is functioning properly.
2. The top and side slopes of the embankment shall be moved a minimum of once per year, when vegetation reaches 18" in height or as needed.
3. Debris and litter shall be removed during regular mowing operations and as needed.
4. Visible signs of erosion in the facility shall be repaired as soon as it is noticed.
5. Remove silt when in exceeds four (4) inches deep in the forebay.
6. If a minimum coverage of 50% is not achieved in the planted wetland zones after the second growing season, reinforcement planting shall be provided.

COORDINATE TABLE

POINT	NORTHING	EASTING
C1	576053.06	1362276.18
C2	576040.09	1362253.84
C3	576001.24	1362247.60
C4	575949.06	1362230.38
C5	575878.44	1362216.34
C6	575792.15	1362261.33
C7	575704.86	1362342.82
C8	575641.12	1362352.42
C9	575677.34	1362342.97



SWM PLAN

GRAPHIC SCALE
50 0 15 50
1 inch = 30 ft.

McCRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING: CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DADDS — No. 6676 — PROFESSIONAL ENGINEER
Virginia Dadds 10/18/02

DES: J.S.				
DRN: J.S.				
CHK: V.D.				
DATE: MAY, 2001	BY	No.	REVISION	DATE

SWM WATER QUALITY WETLAND PLAN & NOTES

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCELS 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE 1"=30'
SHEET 18 OF 29

SDP- 01-145

Plot Date and Time: Sep 25, 2002 - 3:38pm
CADD FILE: G:\1010081 - Meadowbrook Park\Final Development\18-SWM WATER QUALITY WETLAND PLAN.dwg

24.0 Materials Specifications Table 27 Geotextile Fabrics

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE STRENGTH LB. MIN.	BURST STRENGTH PSI. MIN.
A	0.30	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40-0.80*	90	190

* US STD SIEVE CW-02215

THE PROPERTIES SHALL BE DETERMINED IN ACCORDANCE WITH THE FOLLOWING PROCEDURES:

- APPARENT OPENING SIZE MSMT 323
- GRAB TENSILE STRENGTH ASTM D 1682; 4x8" SPECIMEN, 1x2" CLAMPS, 12"/MIN. STRAIN RATE IN BOTH PRINCIPAL DIRECTIONS OF GEOTEXTILE FABRIC.
- BURST STRENGTH ASTM D 3786

THE FABRIC SHALL BE INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS, AND WILL BE ROT AND MILDEW RESISTANT. IT SHALL BE MANUFACTURED FROM FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS, AND COMPOSED OF A MINIMUM OF 85% BY WEIGHT OF POLYOLEPHINS, POLYESTERS, OR POLYAMIDES. THE GEOTEXTILE FABRIC SHALL RESIST DETERIORATION FROM ULTRAVIOLET EXPOSURE.

IN ADDITION, CLASSES A THROUGH E SHALL HAVE A 0.01 CM./SEC. MINIMUM PERMEABILITY WHEN TESTED IN ACCORDANCE WITH MSMT 507, AND AN APPARENT MINIMUM ELONGATION OF 20 PERCENT (20%) WHEN TESTED IN ACCORDANCE WITH THE GRAB TENSILE STRENGTH REQUIREMENTS LISTED ABOVE.

SILT fENCE

CLASS F GEOTEXTILE FABRICS FOR SILT FENCE SHALL HAVE A 50 LB./IN. MINIMUM TENSILE STRENGTH AND A 20 LB./IN. MINIMUM TENSILE MODULES WHEN TESTED IN ACCORDANCE WITH msmt 509. THE MATERIAL SHALL ALSO HAVE A 0.3 GAL./FT.2/MIN. FLOW RATE AND SEVENTY-FIVE PERCENT (75%) MINIMUM FILTERING EFFICIENCY WHEN TESTED IN ACCORDANCE WITH MSMT 322.

GEOTEXTILE FABRICS USED IN THE CONSTRUCTION OF SILT FENCE SHALL RESIST DETERIORATION FROM ULTRAVIOLET EXPOSURE. THE FABRIC SHALL CONTAIN SUFFICIENT AMOUNTS OF ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 12 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 TO 120 DEGREES F.

Table 28 Stone Size

	SIZE RANGE	D_{50}	D_{50}	AASHTO	WEIGHT
NUMBER 57	3/8"-1 1/2"	1/2"	1 1/2"	M-43	N/A
NUMBER 1	2"-3"	2 1/2"	3"	M-43	N/A
RIPRAP **	4"-7"	5 1/2"	7"	N/A	N/A
CLASS I	N/A	9.5"	15"	N/A	150 LB MAX
CLASS II	N/A	16"	24"	N/A	700 LB MAX
CLASS III	N/A	23"	34"	N/A	2000 LB MAX

* THIS CLASSIFICATION IS TO BE USED ON THE INSIDE FACE OF STONE OUTLETS AND CHECK DAMS.

** THIS CLASSIFICATION IS TO BE USED WHENEVER SMALL RIP-RAP IS REQUIRED. The STATE HIGHWAY ADMINISTRATION DESIGNATION FOR THIS STONE IS STONE FOR GABIONS (905.01.04).

NOTE: RECYCLED CONCRETE EQUIVALENT MAY BE SUBSTITUTED FOR ALL STONE CLASSIFICATIONS. RECYCLED CONCRETE EQUIVALENT SHALL BE CONCRETE BROKEN INTO THE SIZES MEETING THE APPROPRIATE CLASSIFICATION, SHALL CONTAIN NO STEEL REINFORCEMENT, AND SHALL HAVE A DENSITY OF 150 POUNDS PER CUBIC FOOT.

OWNER/DEVELOPER INFORMATION

Ronald Lapson 2/30/02

OWNER/DEVELOPER:

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

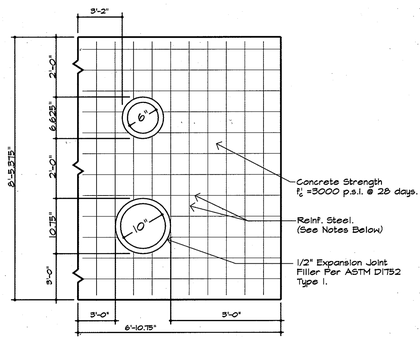
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/2/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, Maryland

Gary J. Arthur, Director — DATE 10.2.02

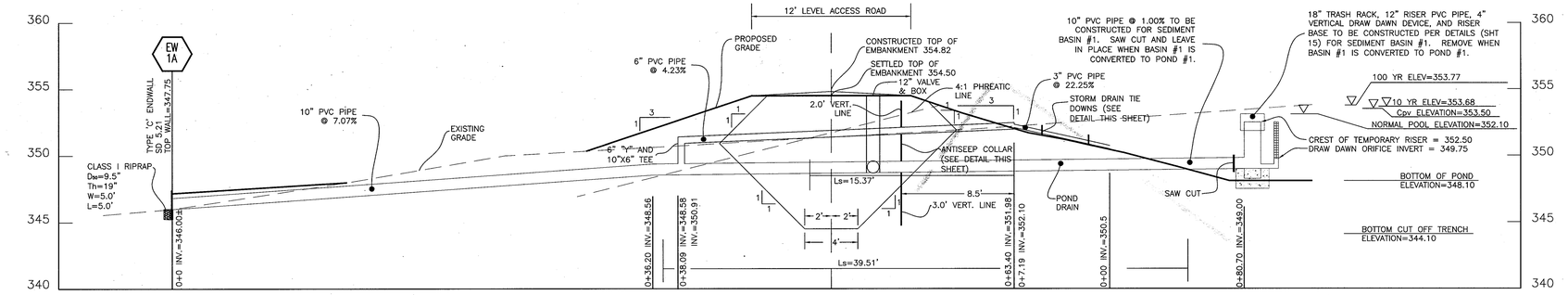
PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE		SEWER CODE			
F09		5750615			



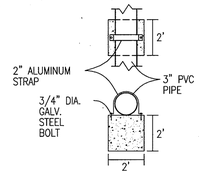
ANTI-SEEP COLLAR DETAIL
NOT TO SCALE

NOTES:

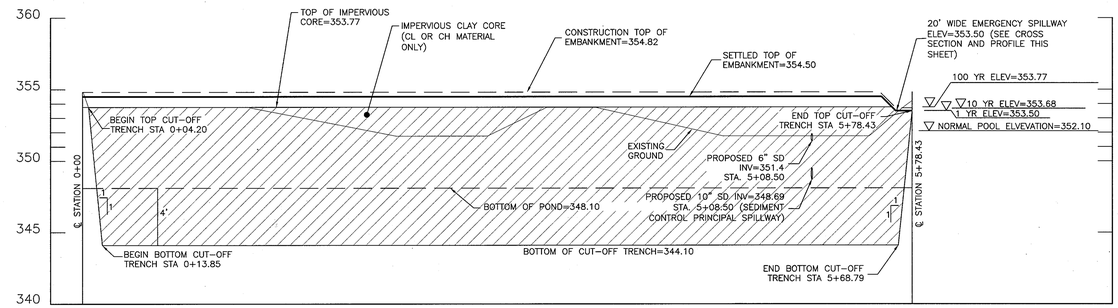
1. SEE PROFILE THIS SHEET FOR LOCATION OF COLLAR.
2. POSITION ANTI-SEEP COLLAR A MINIMUM OF 2'-0" FROM PIPE SEAM.
3. MINIMUM WALL THICKNESS IS 8" USING 3000 PSI CONCRETE
4. REINFORCING STEEL - GRADE 60 DEFORMED BARS (ASTM-A-615); #4 BARS AT 12" C/C EACH WAY CENTERED IN WALL; MAINTAIN A MINIMUM OF 3" CLEARANCE FROM ALL SURFACES.
5. POUR #1 - BOTTOM OF ANTI-SEEP COLLAR AND CONCRETE CRADLE AROUND PRINCIPAL SPILLWAY PIPE AND EXTEND VERTICAL STEEL A MINIMUM OF 1'-0" ABOVE CONSTRUCTION JOINT FOR SPLICE.
6. PLACE EXPANSION JOINT AROUND PIPE AS SHOWN.
7. POUR #2 - UPPER PORTION OF ANTI-SEEP COLLAR.



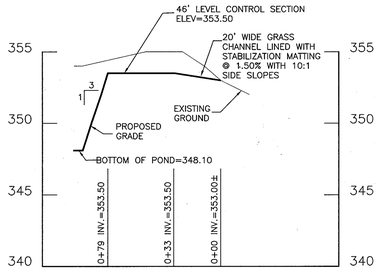
PRINCIPLE SPILLWAY PROFILE
SCALE: 1"=5'



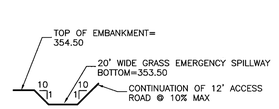
STORM DRAIN TIE DOWN DETAIL



EMBANKMENT CENTER LINE PROFILE
SCALE: 1"=5' VERTICAL, 1"=50' HORIZONTAL



EMERGENCY SPILLWAY PROFILE
SCALE: 1"=5' VERTICAL, 1"=50' HORIZONTAL



EMERGENCY SPILLWAY CROSS SECTION
SCALE: 1"=5' VERTICAL, 1"=50' HORIZONTAL

WETLAND POND

ELEVATION STORAGE VOLUME WORKSHEET

Water Quantity Volume from Deepwater

Surface Area (Sq. Ft.)	Elevation (Ft.)	Surface Area (Ac.)	Average Surface area (Ac.)	Difference In Elevation (Ft.)	Incremental Storage (Ac.-Ft.)	Sum Storage (Ac.-Ft.)
1015	348.10	0.02			0.000	0.000
1015	349.00	0.02	0.02	0.90	0.021	0.021
1015	350.00	0.02	0.02	1.00	0.023	0.044
1015	351.00	0.02	0.02	1.00	0.023	0.068
1015	352.00	0.02	0.02	1.00	0.023	0.091
1015	352.10	0.02	0.02	0.10	0.002	0.093

Water Quantity Surface Area <= to 6"

Surface Area (Sq. Ft.)	Elevation (Ft.)	Surface Area (Ft.^2)	Surface area <= 6" (Ft.^2)
7428	351.60	7428.00	
14600	352.10	14600.00	7172.00

Water Quantity Surface Area <= to 18"

Surface Area (Sq. Ft.)	Elevation (Ft.)	Surface Area (Ft.^2)	Surface area <= 18" (Ft.^2)
3174	350.60	3174.00	
7428	351.60	7428.00	4254.00
14600	352.10	14600.00	7172.00
		SUM=	11426.00

Water Quality Volumes for WETLAND POND
Extended Detention Shallow Wetland

Sizing Criteria	Guidelines for Facility		Provided by Facility	
	Volume Allocation	Surface Area Allocation	Volume Allocation	Surface Area Allocation
	Percent	Percent	Percent	Percent
Deepwater	25%	N/A	28.2%	-
6" Deep or less	N/A	35%	-	49.12%
18" Deep or less	N/A	65%	-	78.26%

DEEPWATER - A MINIMUM OF 4' DEEP

WETLAND POND - STORAGE REQUIREMENTS

ELEV	SURFACE AREA	AVG. SURFACE AREA	DIFF IN ELEV.	INTERVAL STORAGE	SUM STORAGE INTERVAL	SUM STORAGE	SUM STORAGE ABOVE 352.1
feet	square feet	square feet	feet	cubic feet	cubic feet	acre-feet	acre-feet
354.5	**TOP OF EMBANKMENT**						
354.0	21461				48574	1.115	0.786
		20553	0.5	10277			
353.5	19645				38298	0.879	0.550
		18739	0.5	9370			
353.0	17833				28928	0.664	0.335
		16934	0.5	8467			
352.5	16035				20461	0.470	0.141
		15318	0.4	6127			
352.1	14600				14334	0.329	0.000
		12266	0.1	1227			
352.0	9931				13108	0.301	
		6802	1.0	6802			
351.0	3673				6306	0.145	
		3050	1.0	3050			
350.0	2426				3256	0.075	
		2017	1.0	2017			
349.0	1607				1240	0.028	
		1453	0.5	726			
348.5	1298				513	0.012	
		1157	0.4	463			
348.1	1015				51	0.001	

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Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DAVIS — NO. 21638 — PROFESSIONAL ENGINEER

DES: J.S				
DRN: J.S.				
CHK: V.D.				
DATE: MAY, 2001	BY	No.	REVISION	DATE

STORMWATER MANAGEMENT PROFILES & DETAILS

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCELS 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

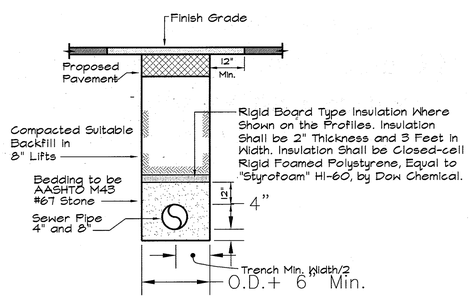
SCALE AS SHOWN

SHEET 19 OF 29

SDP-01-145

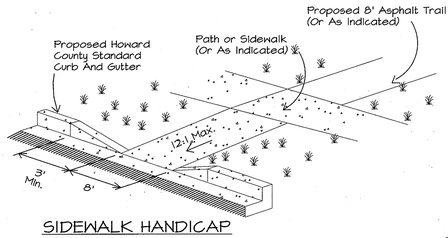
Plot Date and Time: Sep 25, 2002 - 3:41pm

CADD FILE: G:\1010081 - Meadowbrook Park\Final Development\19-SWM PROFILES.dwg



TRENCH & BEDDING DETAIL
(FOR PRIVATE ON-SITE SANITARY SEWER)

NO SCALE



SIDEWALK HANDICAP RAMP DETAIL

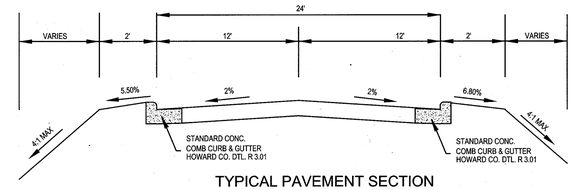
Scale: None

PIPE SCHEDULE

SIZE	TYPE	LENGTH
12"	RCCP	166'
12"	HDPE	151'
15"	HDPE	299'
18"	HDPE	619'
24"	HDPE	216'
30"	HDPE	322'

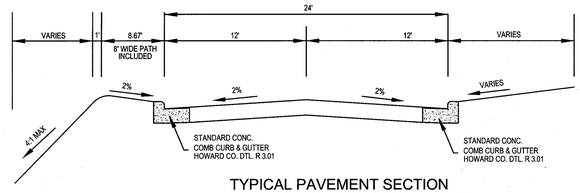
STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	ELEVATIONS T/C OR T/G	ELEVATIONS INV. IN	ELEVATIONS INV. OUT	INSIDE WIDTH'	STANDARD REFERENCE
HW-1	TYPE 'A' HEADWALL	N.575,999.07 E.1,362,112.69	356.95	352.95	——	30" PIPE	SD = 5.11
MH-1	SHALLOW MANHOLE	N.576,014.42 E.1,362,110.55	359.00	353.14	353.04	30" PIPE	MODIFIED G = 5.13
MH-2	STANDARD MANHOLE	N.576,061.52 E.1,362,103.97	369.50	353.54	353.44	30" PIPE	G = 5.13
MH-3	STANDARD MANHOLE	N.576,092.11 E.1,362,323.23	370.00	363.04 / 360.00	355.05 / 352.47	15"/24"/30" PIPE	MODIFIED G = 5.13
EW-1	TYPE 'C' ENDWALL	N.576,053.06 E.1,362,276.18	355.50	352.00	——	30" PIPE	SD = 5.21
I-1	SINGLE WR INLET	N.576,153.35 E.1,362,333.63	369.00		365.50	15" PIPE	SD = 4.37
MH-4	STANDARD MANHOLE	N.576,252.75 E.1,362,470.29	373.49	365.72 / 365.75	365.22	18"/24" PIPE	G = 5.12
I-2	SINGLE WR INLET	N.576,164.99 E.1,362,662.08	372.35	——	368.85	18" PIPE	SD = 4.37
MH-5	STANDARD MANHOLE	N.576,465.32 E.1,362,677.86	379.41	370.21	370.11	18" PIPE	G = 5.12
I-3	SINGLE WR INLET	N.576,552.79 E.1,362,695.82	375.00	——	371.50	18" PIPE	SD = 4.37
I-4	SINGLE WR INLET	N.576,520.38 E.1,362,175.97	373.00	——	369.50	15" PIPE	SD = 4.37
I-5	YARD INLET	N.576,478.80 E.1,362,000.83	376.00	——	372.45	12" PIPE	SD = 4.14
I-6	YARD INLET	N.575,256.29 E.1,363,308.24	365.70	——	362.14	12" PIPE	SD = 4.14
EW-1A	TYPE 'C' ENDWALL	N.575,623.60 E.1,362,289.16	347.75	346.00	——	10" PIPE	SD = 5.21
EW-8	TYPE 'C' ENDWALL	N.575,194.12 E.1,363,358.57	363.50	——	361.75	12" PIPE	SD = 5.21
ES-5	12" END SECTION	N.576,354.88 E.1,362,951.05	382.05	381.05	——	12" PIPE	SD=5.61
ES-4	12" END SECTION	N.576,362.99 E.1,362,932.77	381.70	——	380.70	12" PIPE	SD=5.61
ES-7	12" END SECTION	N.575,662.75 E.1,362,467.96	363.00	362.00	——	12" PIPE	SD=5.61
ES-6	12" END SECTION	N.575,612.19 E.1,362,421.32	357.00	——	356.00	12" PIPE	SD=5.61
ES-3	12" END SECTION	N.576,331.49 E.1,362,514.06	376.50	375.50	——	12" PIPE	SD=5.61
ES-2	12" END SECTION	N.576,298.19 E.1,362,503.48	376.00	——	375.00	12" PIPE	SD=5.61



TYPICAL PAVEMENT SECTION
MAIN ENTRANCE ROAD @ STA. 1+00

NOT TO SCALE



TYPICAL PAVEMENT SECTION
MAIN ENTRANCE ROAD @ STA. 3+00

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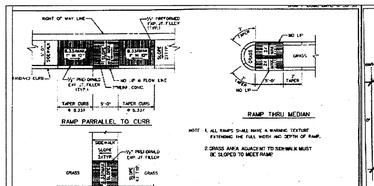
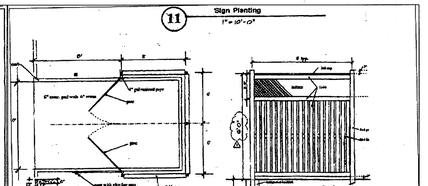
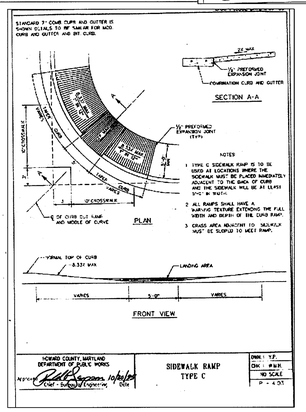
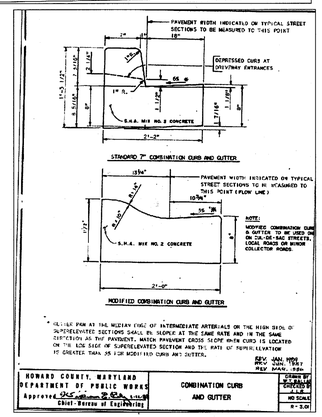
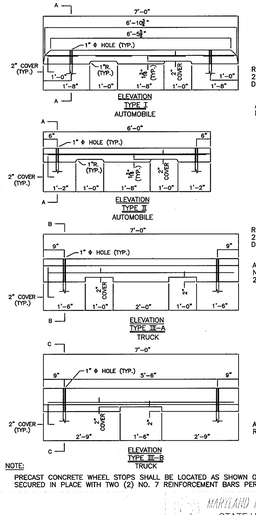








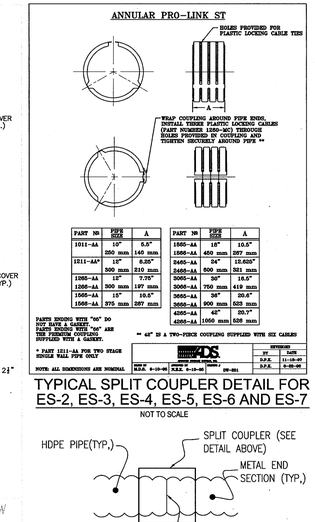


NOTE:
PRECAST CONCRETE WHEEL STOPS SHALL BE LOCATED AS SHOWN ON THE PLANS, THEN SECURED IN PLACE WITH TWO (2) NO. 7 REINFORCEMENT BARS PER WHEEL STOP.

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

PRE-CAST CONCRETE WHEEL STOPS

MD-725.01

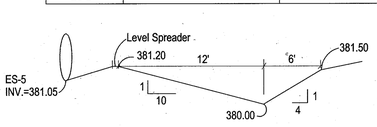


TYPICAL SPLIT COUPLER DETAIL FOR ES-2, ES-3, ES-4, ES-5, ES-6 AND ES-7

NOT TO SCALE

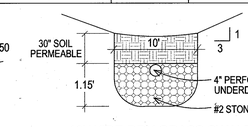
TYPICAL HDPE PIPE AND METAL END SECTION CONNECTION

NOT TO SCALE



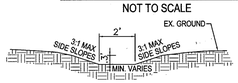
4' WIDE GRASS SWALE W/ LEVEL SPREADER

NOT TO SCALE



10' WIDE DRY GRASS SWALE CUT SECTION

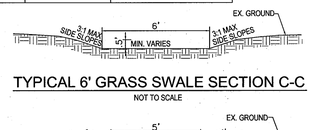
NOT TO SCALE



TYPICAL 2' GRASS SWALE SECTION A-A

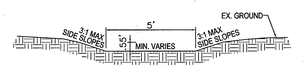
NOT TO SCALE

NOTE:
ALL SWALES TO BE STABILIZED WITH EROSION CONTROL MATTING, PER DETAIL SHT 15
4" TOPSOIL, SEED AND MULCH. MATTING TO EXTEND 1' MINIMUM BEYOND INVERT.



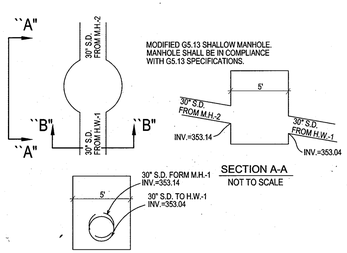
TYPICAL 6' GRASS SWALE SECTION C-C

NOT TO SCALE



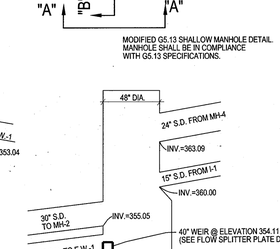
TYPICAL 5' GRASS SWALE SECTION B-B

NOT TO SCALE



STORM DRAIN MANHOLE 1

NOT TO SCALE

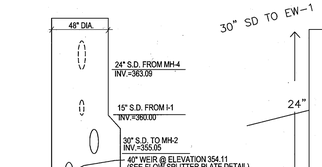


STORM DRAIN MANHOLE 1

NOT TO SCALE

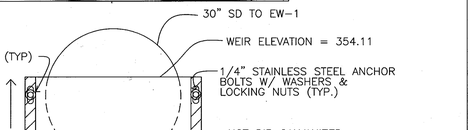
STORM DRAIN MANHOLE 3

NOT TO SCALE

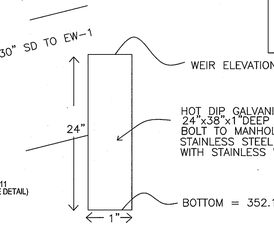


STORM DRAIN MANHOLE 3

NOT TO SCALE



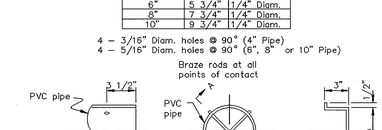
FLOW SPLITTER PLATE DETAIL
SECTION B-B
SCALE: NONE



FLOW SPLITTER PLATE DETAIL
SECTION A-A
SCALE: NONE

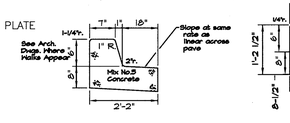
Pipe Size	A	Rod Size
4"	3 3/4"	1/8" Diam.
6"	5 3/4"	1/4" Diam.
8"	7 3/4"	1/4" Diam.
10"	9 3/4"	1/4" Diam.

4 – 3/16" Diam. holes @ 90° (4" Pipe)
4 – 5/16" Diam. holes @ 90° (6", 8" or 10" Pipe)



DETAIL OF SMALL ANIMAL GUARD FOR PVC PIPE

SD-00012



REVERSE SLOPE 6" CURB & GUTTER

NOT TO SCALE

STANDARD COMBINATION 6" CURB & GUTTER

NOT TO SCALE

OWNER/DEVELOPER INFORMATION

3/30/02

OWNER/DEVELOPER:
HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/21/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10.2.02

PROJECT	SECTION/AREA	MAP NO.
MEADOWBROOK PARK	N/A	MAP 30 PARCELS 383 & 387

PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302

WATER CODE	SEWER CODE
F09	5750615

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES — DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

McCRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING: CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DAVIS — No. 20021 — REGISTERED PROFESSIONAL ENGINEER — 10/25/02

DES: J.S.						
DRN: J.S.						
CHK: V.D.						
DATE: MAY, 2001	BY	No.	REVISION	DATE		

DETAILS

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCELS 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

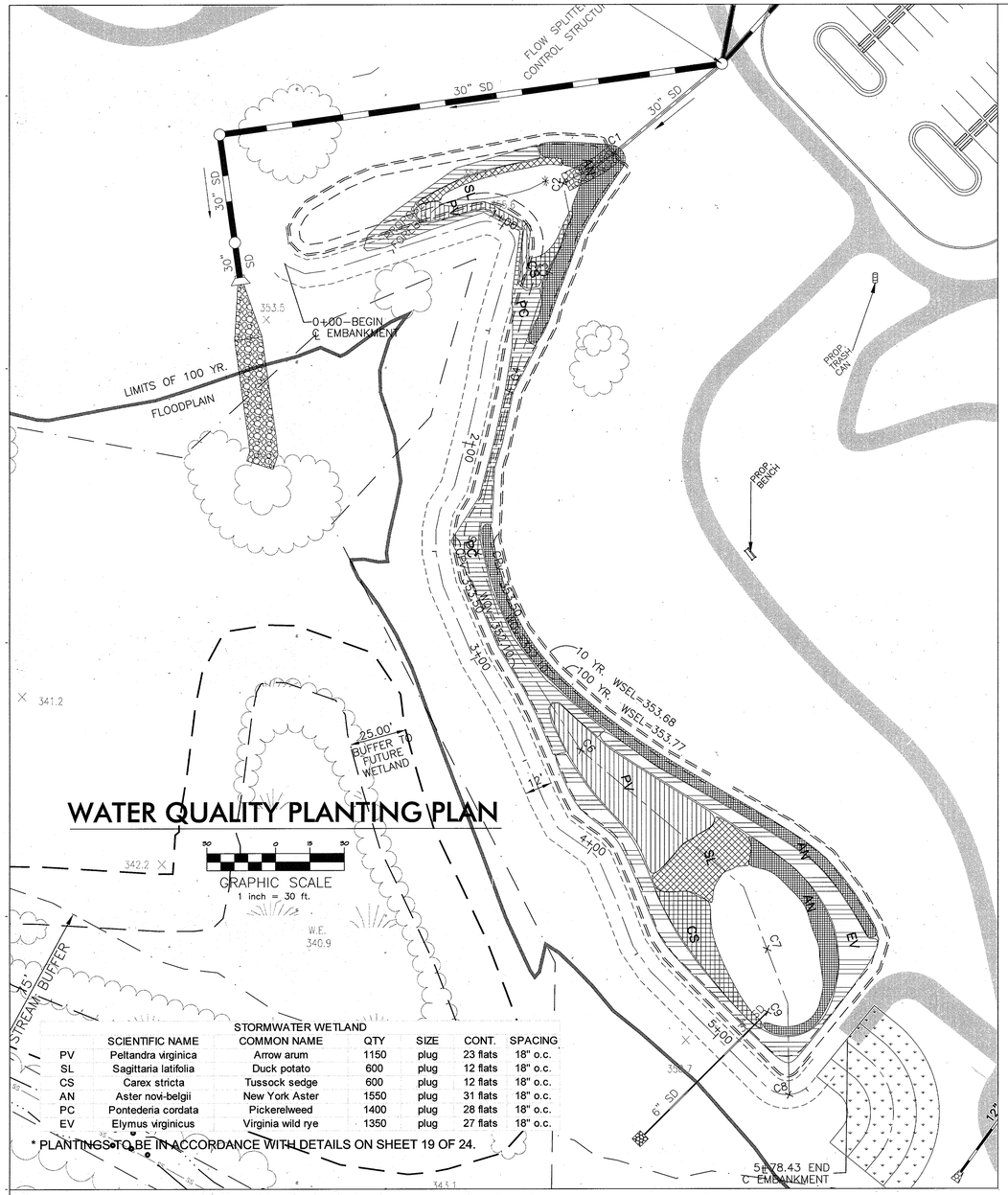
SCALE AS SHOWN

SHEET 20 OF 29

SDP- 01-145

Plot Date and Time: Sep 25, 2002 - 3:44pm

CADD FILE:G:\10100B1 - Meadowbrook Park\Final Development\20-DETAILS.dwg



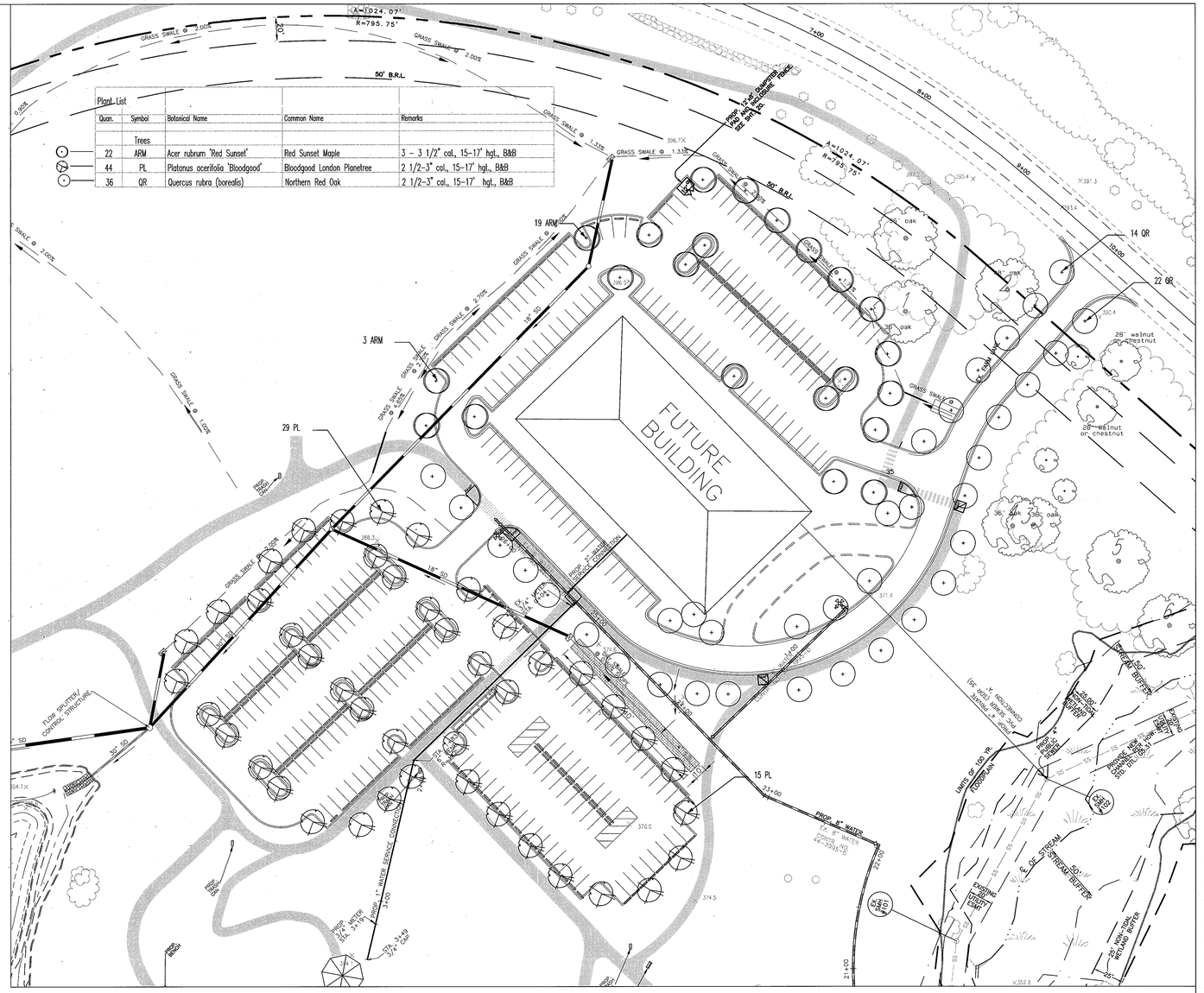
WATER QUALITY PLANTING PLAN

GRAPHIC SCALE
1 inch = 30 ft.

STORMWATER WETLAND

	SCIENTIFIC NAME	COMMON NAME	QTY	SIZE	CONT.	SPACING
PV	Peltandra virginica	Arrow arum	1150	plug	23 flats	18" o.c.
SL	Sagittaria latifolia	Duck potato	600	plug	12 flats	18" o.c.
CS	Carex stricta	Tussock sedge	600	plug	12 flats	18" o.c.
AN	Aster novi-belgii	New York Aster	1550	plug	31 flats	18" o.c.
PC	Pontederia cordata	Pickerelweed	1400	plug	28 flats	18" o.c.
EV	Elymus virginicus	Virginia wild rye	1350	plug	27 flats	18" o.c.

* PLANTINGS TO BE IN ACCORDANCE WITH DETAILS ON SHEET 19 OF 24.



PARKING AREA PLANTING PLAN

GRAPHIC SCALE
1 inch = 50 ft.

SCHEDULE `B' PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES	322
INTERNAL ISLANDS REQUIRED 1:20 SPACES	16
INTERNAL ISLANDS PROVIDED	16
NUMBER OF TREES REQUIRED	16
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 substitution)	36

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10.2.02

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE			SEWER CODE		
F09			5750615		

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER: — 3/30/02

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043

McCRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING: CONSTRUCTION SERVICES
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ANNAPOLIS, MARYLAND 21401
(410) 267-6621
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DAVIS — NO. 21789 — PROFESSIONAL ENGINEER — 9/25/02

DES: J.S.				
DRN: J.S.				
CHK: V.D.				
DATE: MAY, 2001	BY	No.	REVISION	DATE

LANDSCAPE PLAN
PARKING AREA & WATER QUALITY WETLAND PLANTING PLAN

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 — BLOCK 5 — PARCELS 383 & 387
SECOND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 21 OF 29

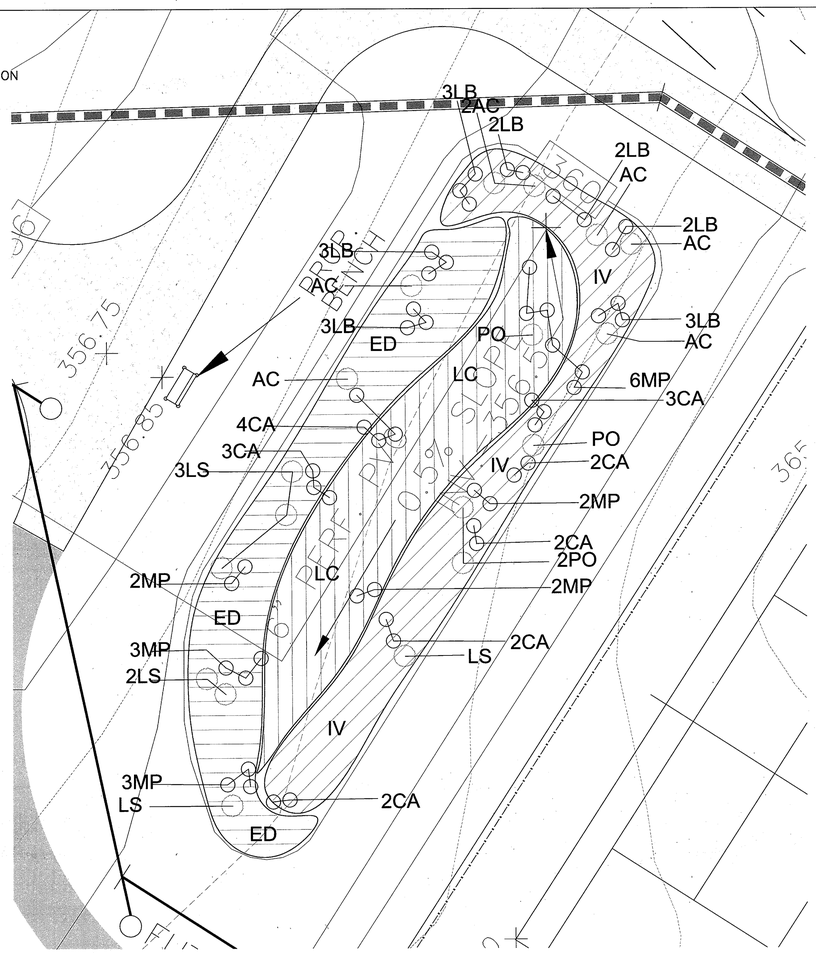
SDP-01-145

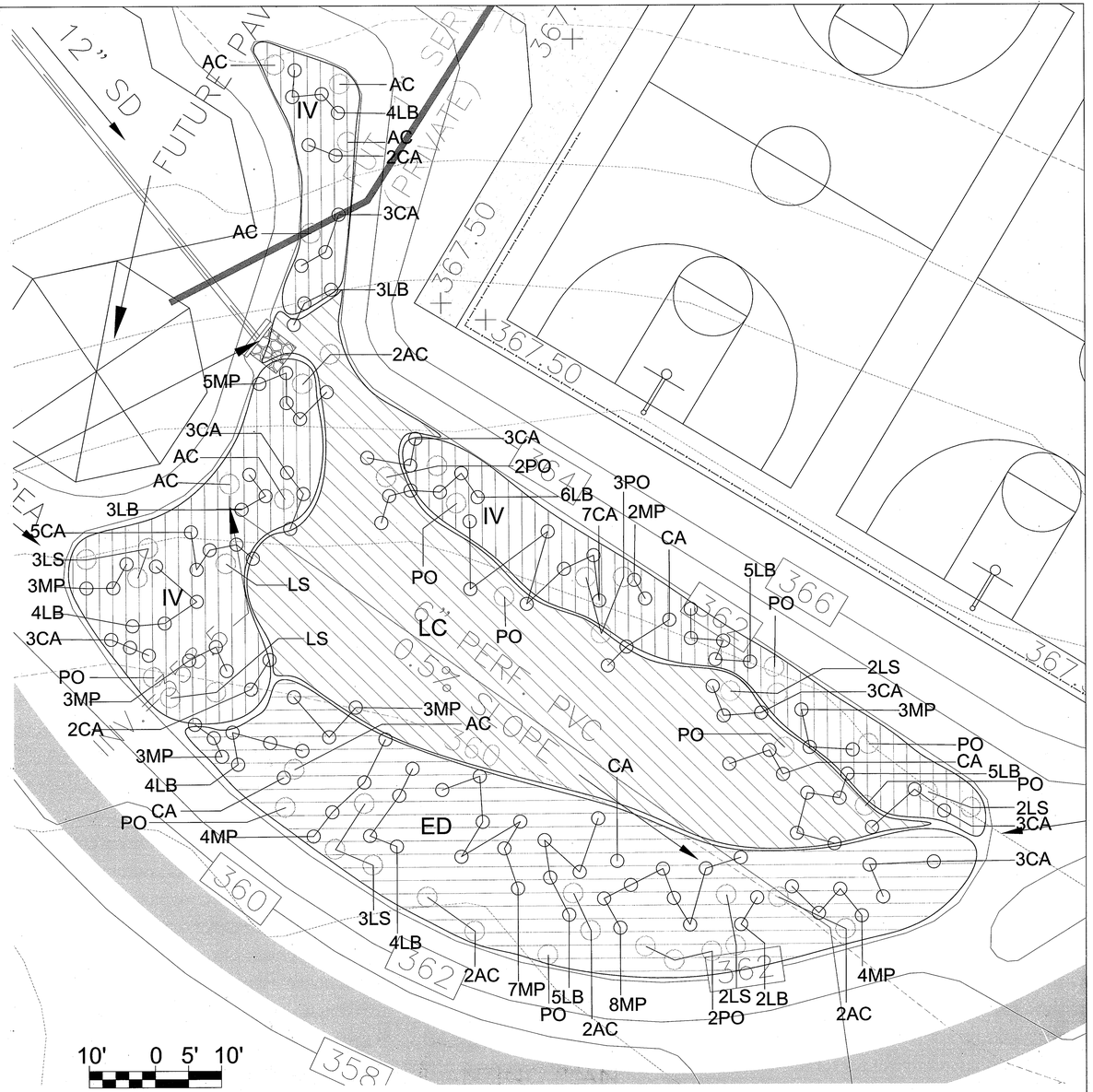
Plot Date and Time: Sep 25, 2002 - 3:46pm

CADD FILE:G:\1010081 - Meadowbrook Park\Final Development\21-POD A PLANTING PLAN.dwg

NOTE:

1. NO PLANTINGS ARE REQUIRED AROUND THE BIORETENTION FACILITIES OR SWM WATER QUALITY FACILITY BECAUSE PLANTINGS ARE PROVIDED IN THOSE FACILITIES.





10' 0 5' 10'

1" = 10'

BIORETENTION FACILITY A

	SCIENTIFIC NAME	COMMON NAME	QTY	SIZE	CONT.	SPACING
IV	Iris versicolor	blue flag	300	plug	6 flats	24 " o.c.
LC	Lobelia cardinalis	cardinal flower	300	plug	6 flats	24 " o.c.
ED	Eupatorium dubium	joe-pye weed	300	plug	6 flats	24 " o.c.
CA	Clethra alnifolia	sweet pepperbush	18	2-3 '	B&B	as shown
LB	Lindera benzoin	spice bush	18	2-3 '	B&B	as shown
MP	Myrica pennsylvanica	bayberry	18	2-3 '	B&B	as shown
AC	Amelanchier canadensis	serviceberry	7	2-3 '	B&B	as shown
LS	Liquidambar styraciflua	sweet gum	7	2-3 '	B&B	as shown
PO	Platanus occidentalis	sycamore	4	2-3 '	B&B	as shown

BIORETENTION FACILITY B

	SCIENTIFIC NAME	COMMON NAME	QTY	SIZE	CONT.	SPACING
IV	Iris versicolor	blue flag	750	plug	15 flats	24 " o.c.
LC	Lobelia cardinalis	cardinal flower	750	plug	15 flats	24 " o.c.
ED	Eupatorium dubium	joe-pye weed	700	plug	14 flats	24 " o.c.
CA	Clethra alnifolia	sweet pepperbush	45	2-3 '	B&B	as shown
LB	Lindera benzoin	spice bush	45	2-3 '	B&B	as shown
MP	Myrica pennsylvanica	bayberry	45	2-3 '	B&B	as shown
AC	Amelanchier canadensis	serviceberry	15	2-3 '	B&B	as shown
LS	Liquidambar styraciflua	sweet gum	15	2-3 '	B&B	as shown
PO	Platanus occidentalis	sycamore	15	2-3 '	B&B	as shown

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER: 9/30/02

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — 10/24/02 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/24/02 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/21/02 DATE

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary D. Arthur, Director — 10-2-02 DATE

PROJECT	SECTION/AREA	MAP NO.
MEADOWBROOK PARK	N/A	MAP 30 PARCELS 383 & 387

PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302

WATER CODE	SEWER CODE
F09	5750615

Plot Date and Time: Sep 25 2002 - 3:51pm

SLATER
ASSOCIATES INC.
5560 Sterrett Pl. Suite 302 Columbia, MD 21045
410.992.0001 - phone 410.992.0212 - fax slaterj@eros.com

McCRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING: CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DAVIS — REGISTERED PROFESSIONAL ENGINEER — 10/8/02

DES: J.M.					
DRN: J.S.					
CHK: V.D.					
DATE: MAY, 2001	BY	No.	REVISION	DATE	

LANDSCAPE PLAN
BIORETENTION PLANTING PLAN

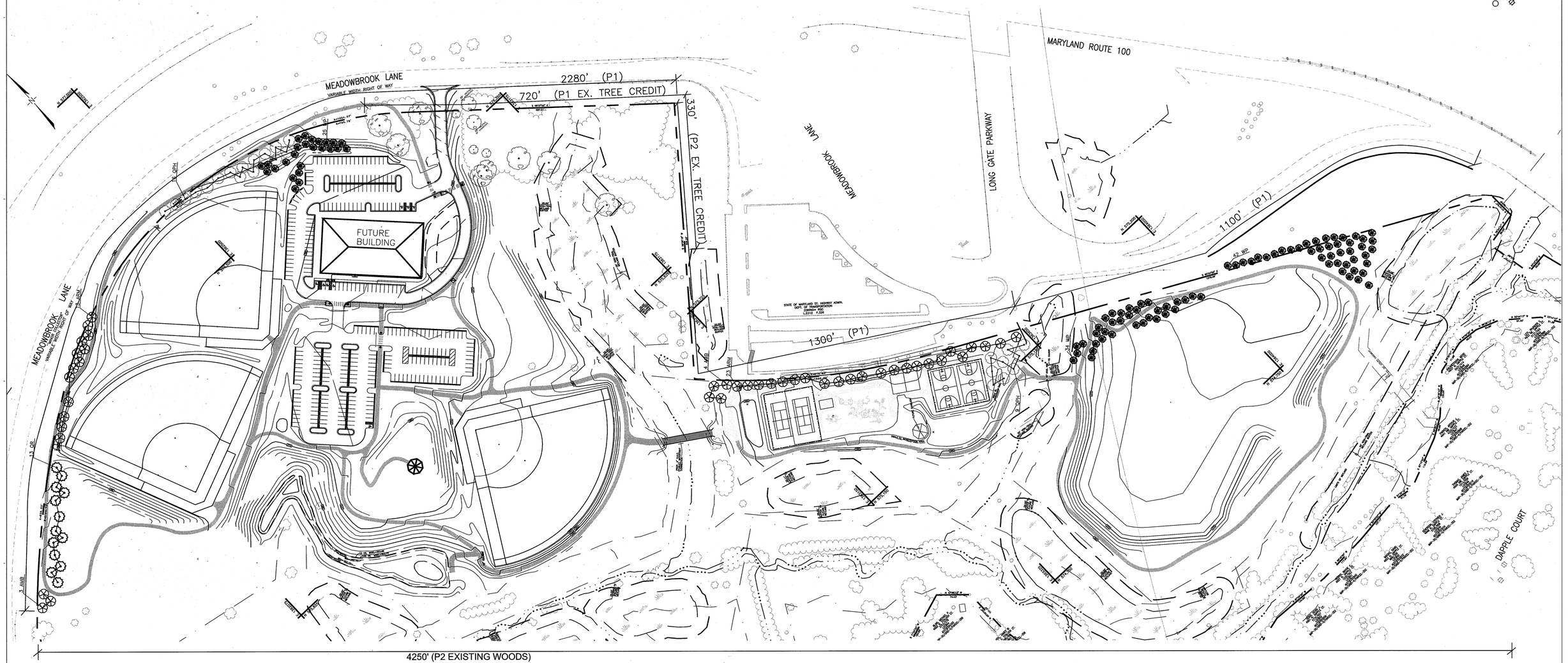
SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCELS 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE 1"=10'

SHEET 22 OF 29

SDP-01-145

CADD FILE: G:\1010081 - Meadowbrook Park\Final Development\22-BIORET PLANTING.dwg



DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10-8-02

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER: — 9/30/02

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MARYLAND 21043

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE			SEWER CODE		
F09			5750615		

SCHEDULE `A'
PERIMETER LANDSCAPE EDGE

	P1 (TYPE B)	P2 (TYPE C)
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	5010 L.F.	4250 L.F.
CREDIT FOR EXISTING VEGETATION (YES LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	1050 L.F.	4250 L.F.
CREDIT FOR WALL, FENCE OR BERM (YES LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	0 L.F.	0 L.F.
NUMBER OF PLANTS REQUIRED SHADE TREES (1:50') EVERGREEN TREES (1:40') SHRUBS	 81 101 0	 0 0 0
NUMBER OF PLANTS PROVIDED SHADE TREES (1:50') EVERGREEN TREES (1:40') SHRUBS (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	 81 101 0	 0 0 0

NOTE: NO LANDSCAPE SURETY IS REQUIRED SINCE THIS IS A HOWARD COUNTY DPW/DRP PROJECT.

BUFFER PLANTING PLAN

100 0 50 100
GRAPHIC SCALE
1 inch = 100 ft.

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ENGINEERING• ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING• CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
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Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. WADDS — No. 21538 — PROFESSIONAL ENGINEER — 10/21/02

DES: J.S.					
DRN: J.S.					
CHK: V.D.					
DATE: MAY, 2001	BY	No.	REVISION	DATE	

LANDSCAPE PLAN
BUFFER PLANTING PLAN

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT N-3105
TAX MAP 30 BLOCK 5 PARCEL 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

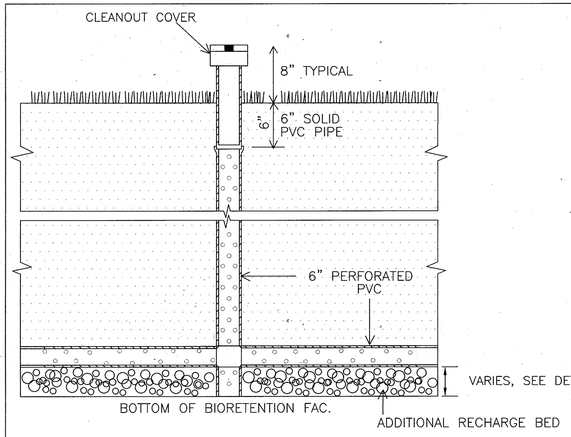
SCALE 1"=100'

SHEET 23 OF 29

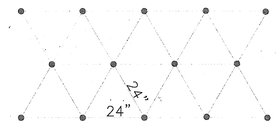
SDP-01-145

Plot Date and Time: Oct 07, 2002 - 10:57am

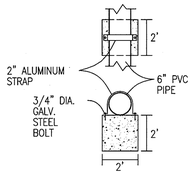
CADD FILE: G:\10100B1 - Meadowbrook Park\Final Development\23-BUFFER PLANTING PLAN.dwg



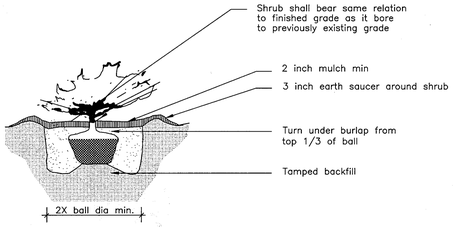
SECTION C: BIORETENTION FACILITY
OBSERVATION WELL/
CLEANOUT DETAIL
NOT TO SCALE



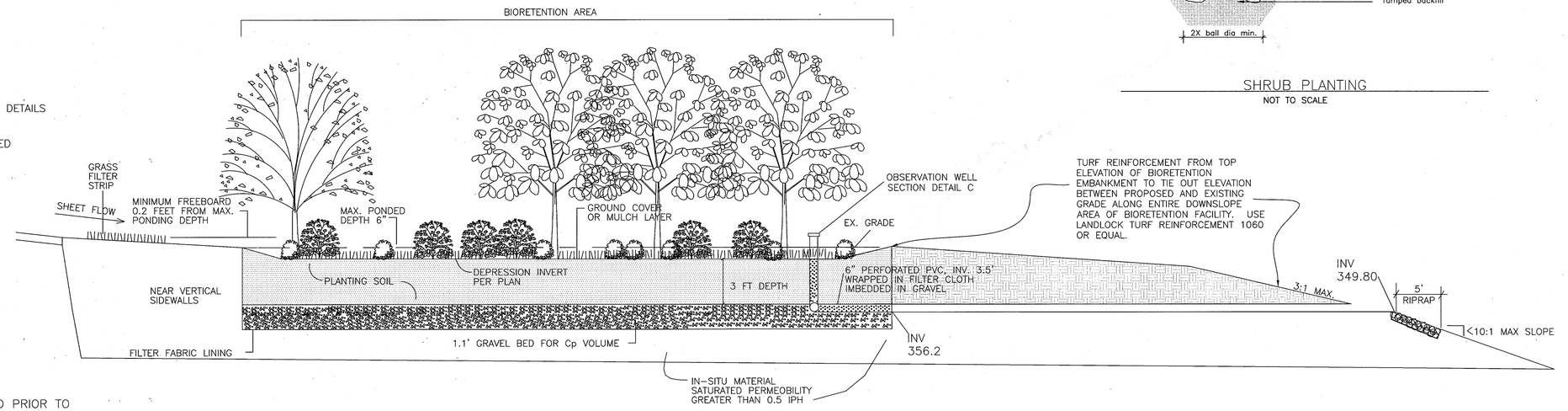
HERBACEOUS VEGETATION PLANTING PATTERN
NOT TO SCALE



END SECTION FOR 6" PVC UNDERDRAIN



SHRUB PLANTING
NOT TO SCALE



BIORETENTION FACILITY B (WEST)
SCALE 1:4

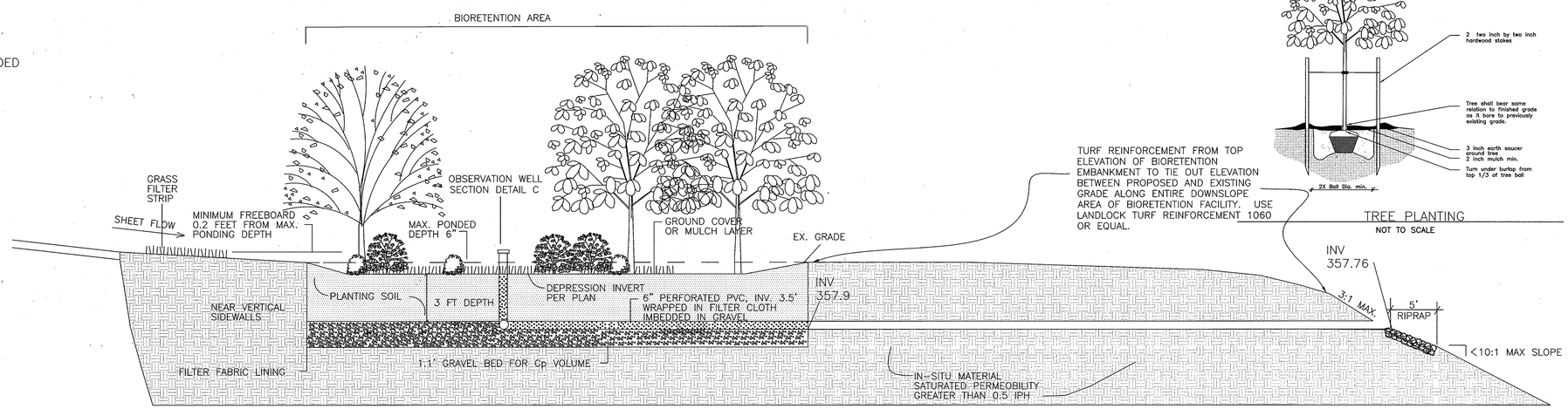
PLANTING SOILS

THE PLANTING SOIL FOR BIORETENTION AREAS MUST BE TESTED PRIOR TO INSTALLATION FOR pH, ORGANIC MATTER, AND OTHER CHEMICAL CONSTITUENTS. THE SOIL SHOULD MEET THE FOLLOWING CRITERIA (LANDSCAPE CONTRACTORS ASSOCIATION, 1986)

USDA SOIL CLASSIFICATION SHALL BE SANDY LOAM, LOAMY SAND OR LOAM WITH AN INFILTRATION RATE BETWEEN 0.52 AND 2.41 IN./HR.

pH RANGE:	5.5 – 6.5
ORGANIC MATTER:	1.5 – 3.0%
MAGNESIUM (Mg):	35 LBS./ACRE
PHOSPHORUS (P_2O_5) :	100 LBS./ACRE
POTASSIUM (K_2O):	85 LBS./ACRE
SOLUBLE SALTS:	NOT TO EXCEED 500 PPM

IT IS RECOMMENDED THAT ONE TEST FOR MAGNESIUM, PHOSPHORUS, POTASSIUM, AND SOLUBLE SALTS BE PERFORMED PER BORROW SOURCE OR FOR EVERY 500 CUBIC YARDS OF SOIL MATERIAL. IT IS RECOMMENDED THAT A SIEVE ANALYSIS, pH, AND ORGANIC MATTER TEST BE PERFORMED PER BIORETENTION AREA.
SOIL SHALL BE PLACED IN NO GREATER THAN 18" LIFTS AND LIGHTLY TAMPED BEFORE PLACEMENT OF THE NEXT LAYER.



BIORETENTION FACILITY A (EAST)
SCALE 1:4

TREE PLANTING
NOT TO SCALE

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER: 9/30/02

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10-2-02

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE		SEWER CODE			
F09		5750615			

Plot Date and Time: Sep 25, 2002 3:39pm

McCRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
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ANNAPOLIS, MARYLAND 21401
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Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DAVIS — No. 22196 — REGISTERED PROFESSIONAL ENGINEER — 9/25/02

DES: J.S.					
DRN: J.S.					
CHK: V.D.					
DATE: MAY, 2001	BY	No.	REVISION	DATE	

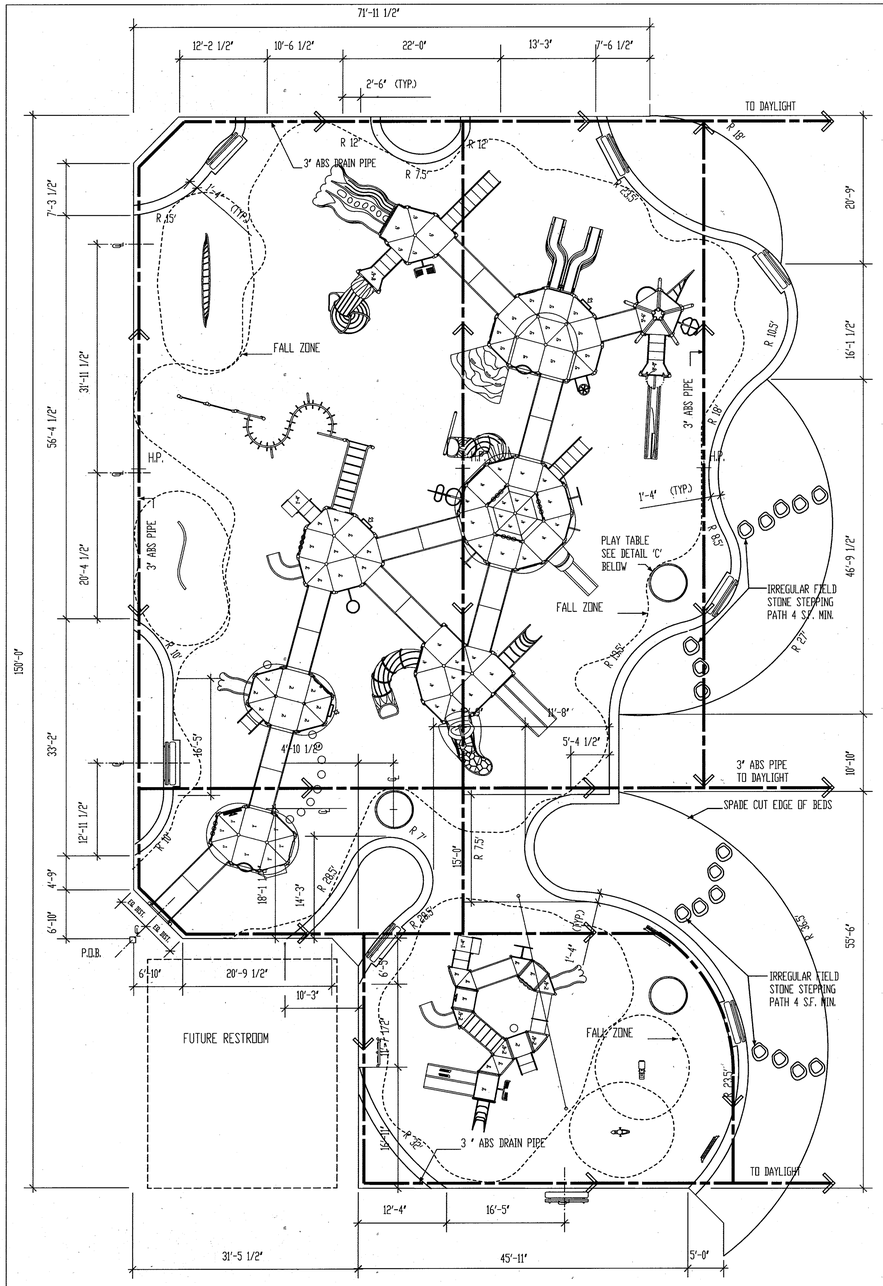
LANDSCAPE PLAN
BIORETENTION SECTION
PLANTING & CONSTRUCTION
PLAN & DETAILS

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCELS 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS NOTED

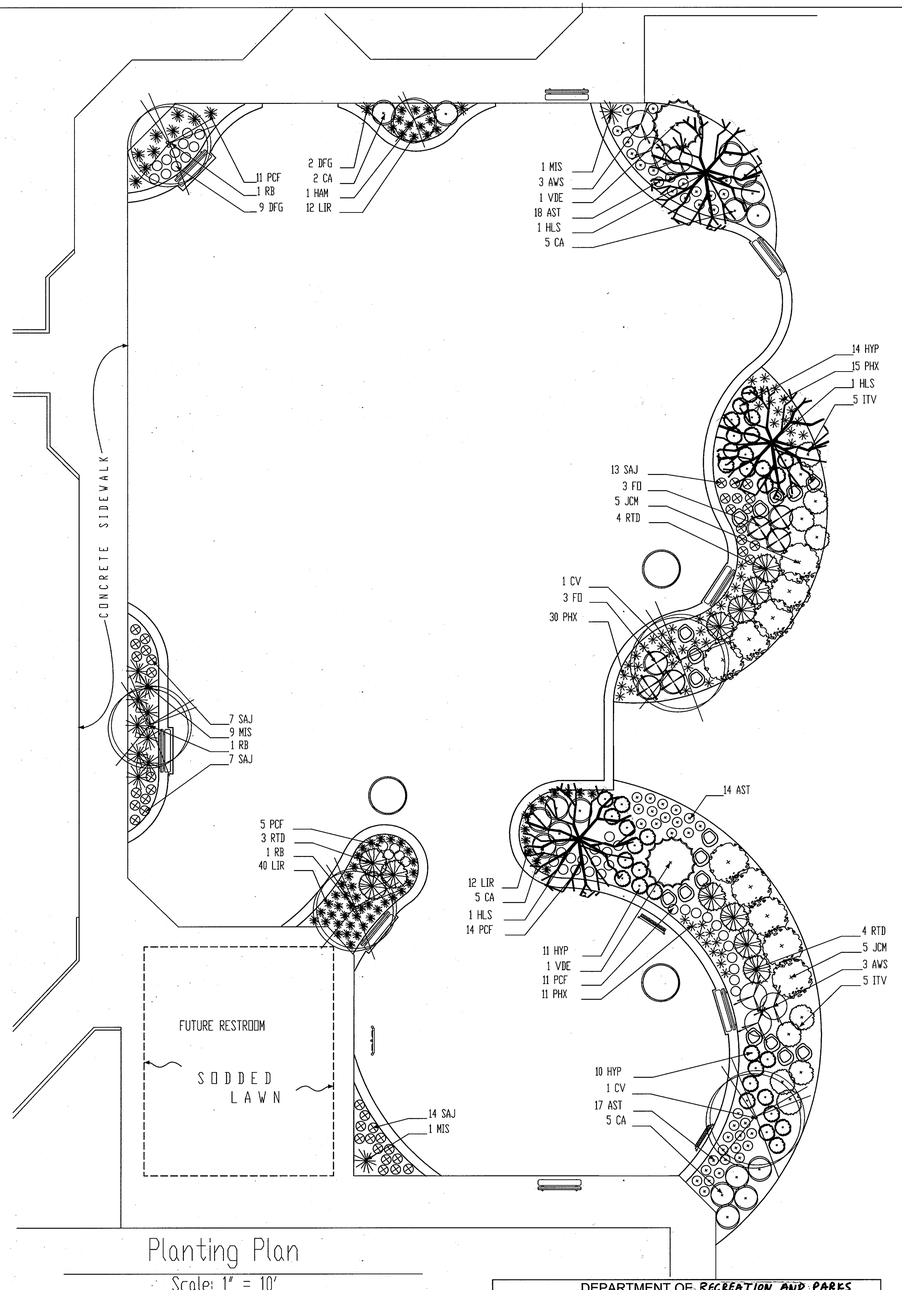
SHEET 24 OF 29

SDP-01-145



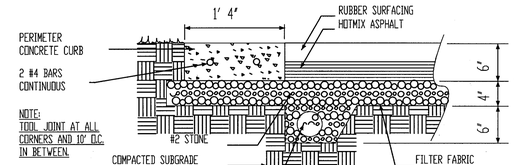
Layout Plan

Scale: 1" = 10'



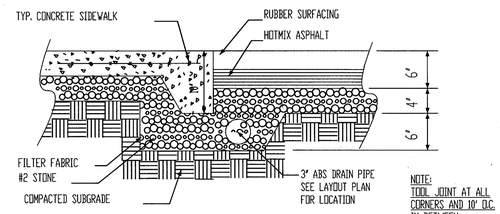
Planting Plan

Scale: 1" = 10'



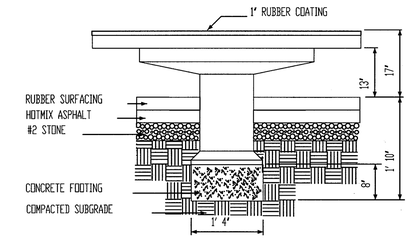
A PLAY AREA SURFACE AT PERIMETER CURB

SCALE: 1" = 1' 0"



B PLAY AREA SURFACE AT SIDEWALK

SCALE: 1" = 1' 0"



C PLAY AREA TABLES

SCALE: 3/4" = 1' 0"

Plant List				
Type	Symbol	Botanical Name	Common Name	Remarks
	Trees			
3	RB	Betula nigra	River Birch	1 3/4" -2" cal.,8-10' hgt. B&B
2	CV	Chionanthus virginicus	White Fringetree	1" cal., 7-8' hgt. B&B
3	HLS	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honey Locust	2 1/2"-3" cal., 12-14' hgt. B&B
	Shrubs			
17	CA	Clethra alnifolia 'Hummingbird'	Hummingbird Summersweet	18- 24" hgt., 3 gal.
11	RTD	Cornus sericea	Redosier Dogwood	2-3' hgt., 3 gal.
6	FD	Fothergilla gardenii	Dwarf Fothergilla	18-24" hgt., 3 gal.
1	HAM	Hamamelis vernalis	Vernal Witch-hazel	4-5' hgt. B&B
6	AWS	Spirea x bumalda 'Anthony Waterer'	Anthony Waterer Spirea	18-24" hgt., 3 gal.
10	ITV	Itea virginica 'Henry's Garnet'	Virginia Sweetspire	2-3' hgt., 3 gal.
10	JCM	Juniperus chinensis 'Monlep'	Mint Julep Juniper	18-24" hgt., 3 gal.
3	VDE	Viburnun dentatum	Arrowwood Viburnun	30-36" hgt. & sprd., B&B
	Perennials			
49	AST	Aster sp.	Aster	1 gal. cont., 16" o.c.
41	PCF	Echinacea purpurea	Purple Coneflower	1 gal. cont., 16" o.c.
35	HYP	Hypericum calycinum	St. John's-wort	1 gal. cont., 12" o.c.
41	SAJ	Sedum spectabile 'Autumn Joy'	Autumn Joy Stonecrop	1 gal. cont., 16" o.c.
	Groundcover			
64	LIR	Liriope muscari 'Big Blue'	Liriope	1 gal. cont., 12" o.c.
56	PHX	Phlox sp.	Creeping Phlox	1 gal. cont., 12" o.c.
	Grasses			
11	MIS	Miscanthus sinensis 'Morning Light'	Morning Light Maiden Grass	3 gal. cont., 3' o.c.
11	IFG	Pennisetum alopecuroides	Fountain Grass	3 gal. cont., 3' o.c.

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10.2.02

PROJECT	SECTION/AREA	MAP NO.
MEADOWBROOK PARK	N/A	MAP 30 PARCELS 383 & 387

PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302

WATER CODE	SEWER CODE
F09	5750615

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER: — 9/30/02

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043

SLATER
ASSOCIATES INC.
5560 Sterrett Pl. Suite 302 Columbia, MD 21045
410.992.0001 - phone 410.992.0212 - fax slaterj@eros.com

McCRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING: CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8625
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DAVIDS — No. 21628 — PROFESSIONAL ENGINEER — 9/30/02

DES:	J.S.
DRN:	J.S.
CHK:	V.D.
DATE:	MAY, 2001

BY	No.	REVISION	DATE

LANDSCAPE PLAN
ADVENTURE PLAYGROUND LAYOUT & PLANTING PLAN

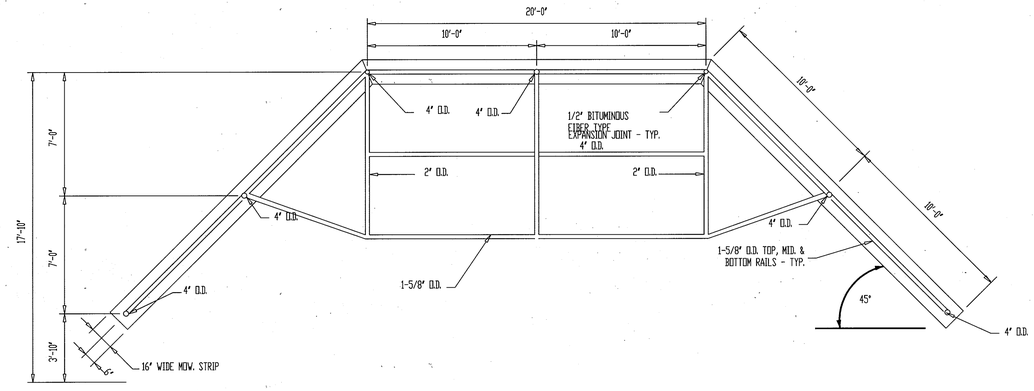
SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCELS 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS NOTED

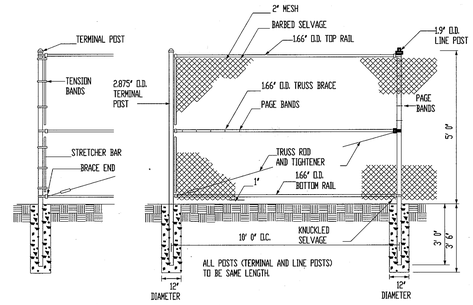
SHEET 25 OF 29

SDP-01-145

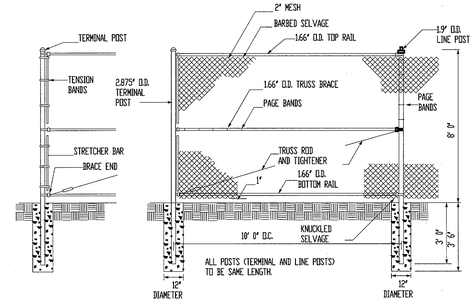
Plot Date and Time: Sep 25, 2002 - 4:00pm



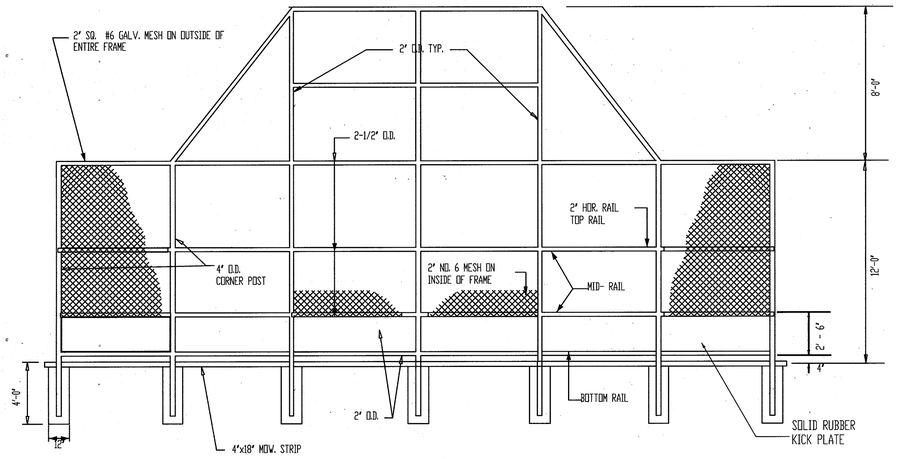
A HOODED BACKSTOP PLAN
SCALE: 1/4"= 1'-0"



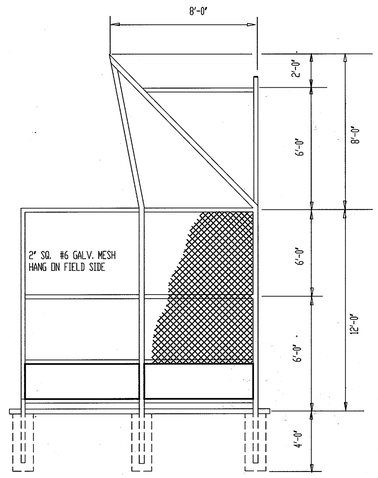
F OUTFIELD FENCE (FIELDS 1 AND 2)
N.T.S.



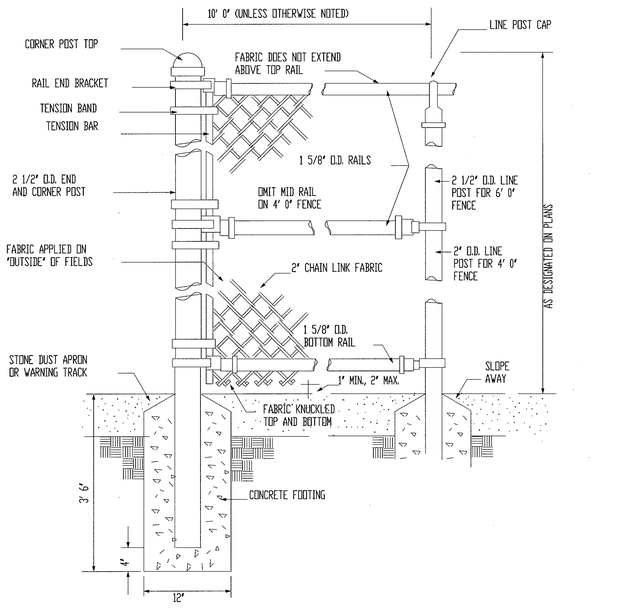
F OUTFIELD FENCE (FIELD 3)
N.T.S.



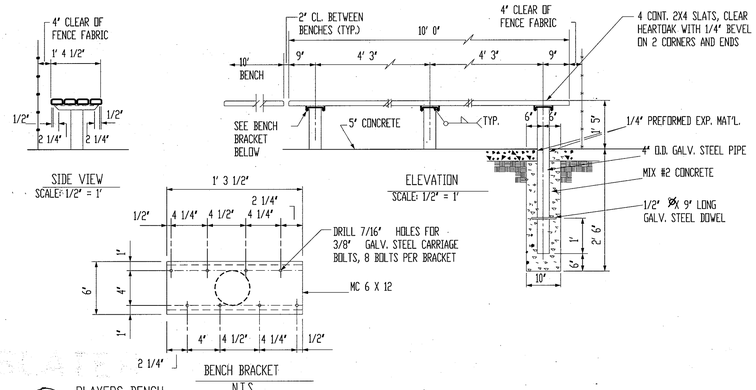
D HOODED BACKSTOP ELEVATION
SCALE: 1/4"= 1'-0"



HOODED BACKSTOP SECTION
SCALE: 1/4"= 1'-0"



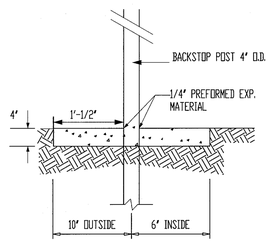
C BALL FIELD SIDELINE FENCE
N.T.S.



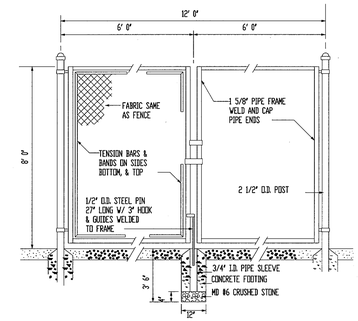
G PLAYERS BENCH
SCALE AS NOTED

NOTE:
4"x12" CONT. CONCRETE MOW STRIP WITH 2 #4 REBARS AND BROOM FINISH. MAX. 15' LENGTH BETWEEN EXPANSION JOINTS.

NOTE:
MOW STRIP IS TO BE PROVIDED AROUND ALL BACKSTOPS



E HOODED BACKSTOP MOWSTRIP
N.T.S.



H BALL FIELD GATES
N.T.S.

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER — 9/30/02

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10.2.02

PROJECT			SECTION/AREA	ELEC. DIST.	MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE		SEWER CODE			
F09		5750615			

McCRONE
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20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8631
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. CRONE — No. 21487 — REGISTERED PROFESSIONAL ENGINEER — 11/25/02

DES:	J.S.				
DRN:	J.S.				
CHK:	V.D.				
DATE:	MAY, 2001	BY	No.	REVISION	DATE

BALLFIELDS
CONSTRUCTION DETAILS

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCELS 383 & 387
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

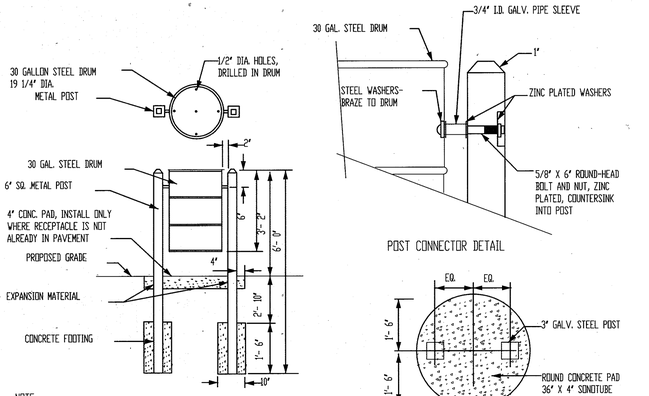
SCALE AS SHOWN

SHEET 26 OF 29

SDP-01-145

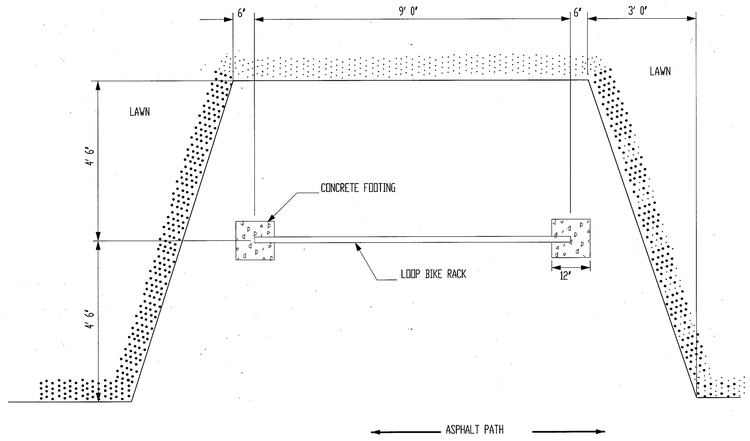
Plot Date and Time: Sep 25, 2002 - 4:00pm

CADD FILE: G:\1010081 - Meadowbrook Park\Final Development\26-CONSTRUCTION DETAILS.dwg

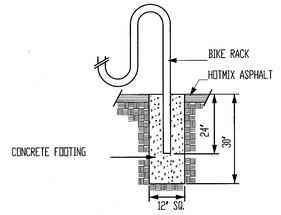


POST CONNECTOR DETAIL

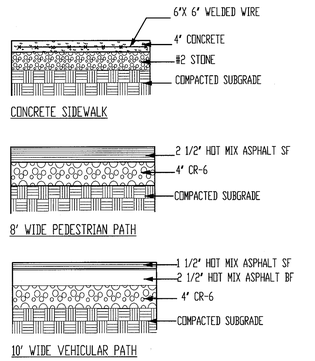
A TRASH RECEPTACLE
N.T.S.



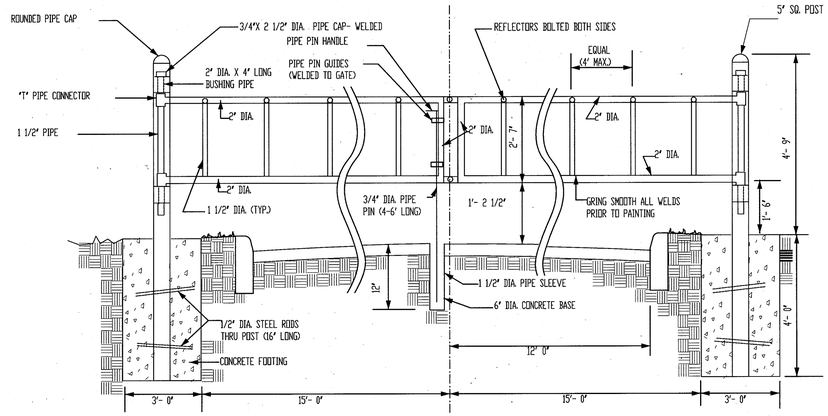
B BICYCLE RACK PLAN
SCALE: 1/2"= 1'-0"



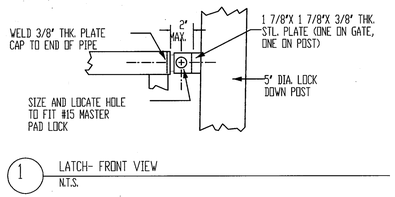
BIKE RACK FOOTING
SCALE: 1/2"= 1'-0"



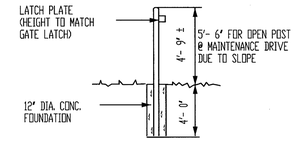
C PATHWAY PAVING
N.T.S.



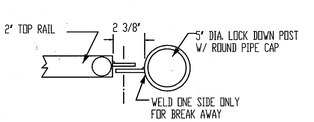
D ENTRANCE GATE
N.T.S.



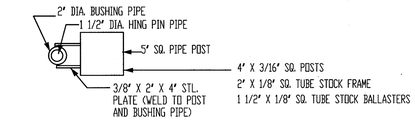
1 LATCH- FRONT VIEW
N.T.S.



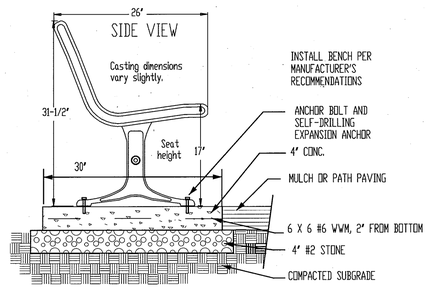
2 LOCK DOWN POST ELEVATION
N.T.S.



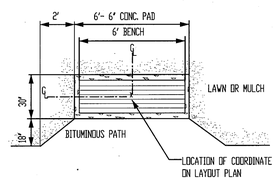
3 LATCH- TOP VIEW
N.T.S.



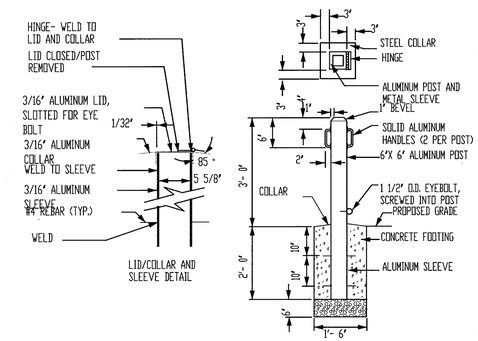
4 HINGE- TOP VIEW
N.T.S.



E BENCH DETAIL
NTS



PLAN
SCALE: 1/2"= 1'-0"



F REMOVABLE BOLLARD W/ SAFETY LID AND NON-PROTRUDING COLLAR
N.T.S.

OWNER/DEVELOPER INFORMATION

Robert J. Lepson 3/30/02
OWNER/DEVELOPER:

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MARYLAND 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10.2.02

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE			SEWER CODE		
F09			5750615		

Plot Date and Time: Sep 25, 2002 4:01pm

McCRONE
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LAND PLANNING & SURVEYING• CONSTRUCTION SERVICES
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Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DAVIDSON — No. 21590 — PROFESSIONAL ENGINEER

DES: J.S.				
DRN: J.S.				
CHK: V.D.				
DATE: MAY, 2001	BY	No.	REVISION	DATE

SITE APPURTONANCES
CONSTRUCTION DETAILS

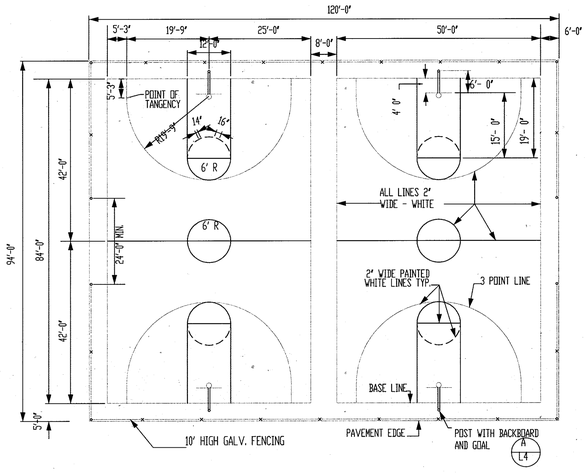
SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCELS 383 & 387
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS NOTED

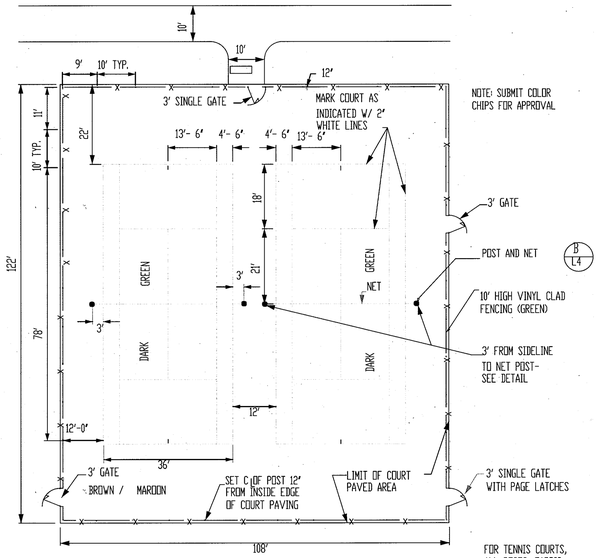
SHEET 27 OF 29

CADD FILE: G:\10100081 - Meadowbrook Park\Final Development\07-CONSTRUCTION DETAILS.dwg

SDP-01-145

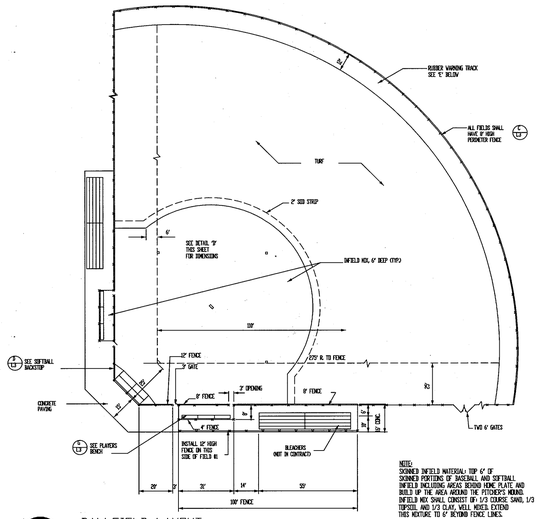


A BASKETBALL COURT LAYOUT
1" = 20' 0"



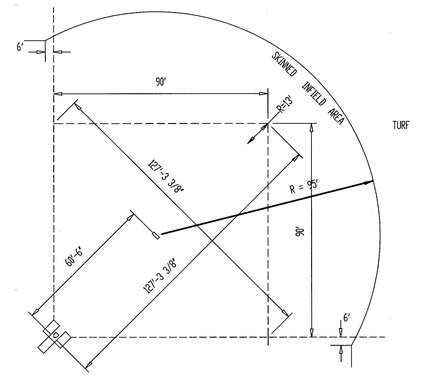
FOR TENNIS COURTS, ALL POSTS, FABRIC, AND FITTINGS WILL BE GREEN VINYL CLAD

B TENNIS COURT LAYOUT PLAN
N.T.S.

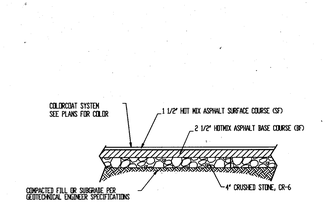


NOTE:
SKINNED INFIELD MATERIAL: TOP 6" OF SKINNED PORTIONS OF BASEBALL AND SOFTBALL INFIELD INCLUDING AREAS BEHIND HOME PLATE AND BUILT UP THE AREA AROUND THE PITCHER'S MOUND. INFIELD MIX SHALL CONSIST OF 1/3 COARSE SAND, 1/3 TOPSOIL AND 1/3 CLAY. WELL ROLLED. EXTEND THIS MIXTURE 10'-0" BEYOND FENCE LINES.

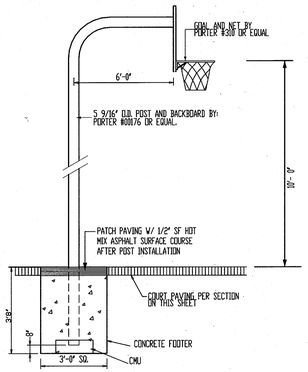
C BALLFIELD LAYOUT
SCALE: 1" = 40' 0"



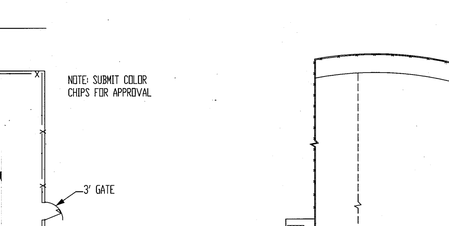
D BALLFIELD LAYOUT
N.T.S.



G BASKETBALL COURT PAVING SECTION
N.T.S.

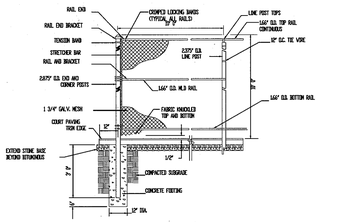


F BASKETBALL GOAL POST DETAIL
N.T.S.

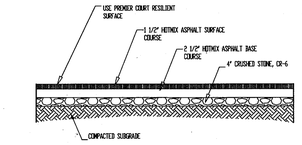


H TENNIS EQUIPMENT
N.T.S.

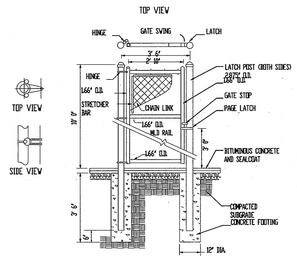
CENTER STRAP ANCHOR
N.T.S.



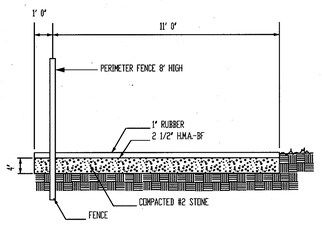
K TENNIS COURT FENCING
N.T.S.



I TENNIS COURT PAVING
N.T.S.



J TENNIS COURT GATE DETAIL
N.T.S.



E WARNING TRACK
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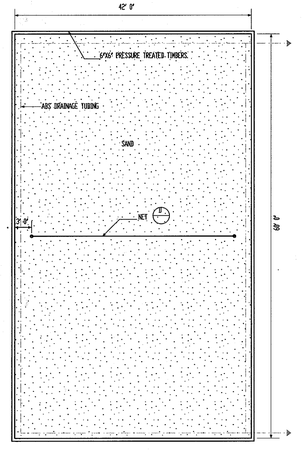
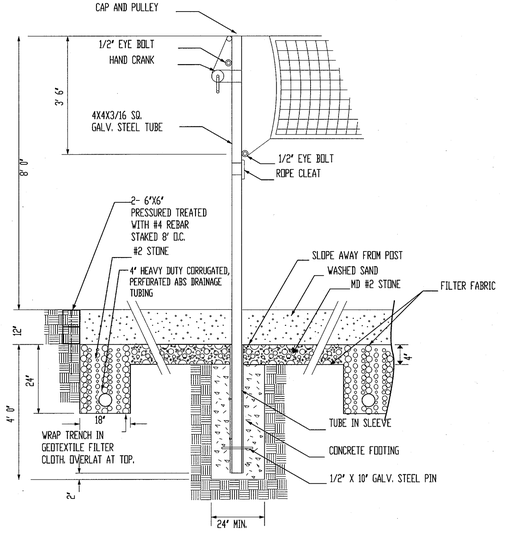


L VOLLEYBALL COURT LAYOUT
N.T.S.



M VOLLEYBALL NET AND SURFACE DETAIL
SCALE: 1/2" = 1' 0"

OWNER/DEVELOPER INFORMATION

OWNER/DEVELOPER:

HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MARYLAND 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10-202

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

PROJECT	SECTION/AREA	MAP NO.
MEADOWBROOK PARK	N/A	MAP 30 PARCELS 383 & 387

PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302

WATER CODE	SEWER CODE
F09	5750615

Plot Date and Time: Sep 25, 2002 - 4:01pm

McCRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING: CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DAVIS — REG. NO. 21598 — PROFESSIONAL ENGINEER — 9/30/02

DES: J.S.					
DRN: J.S.					
CHK: V.D.					
DATE: MAY, 2001	BY	No.	REVISION	DATE	

COURT GAMES AND SOFTBALL CONSTRUCTION DETAILS

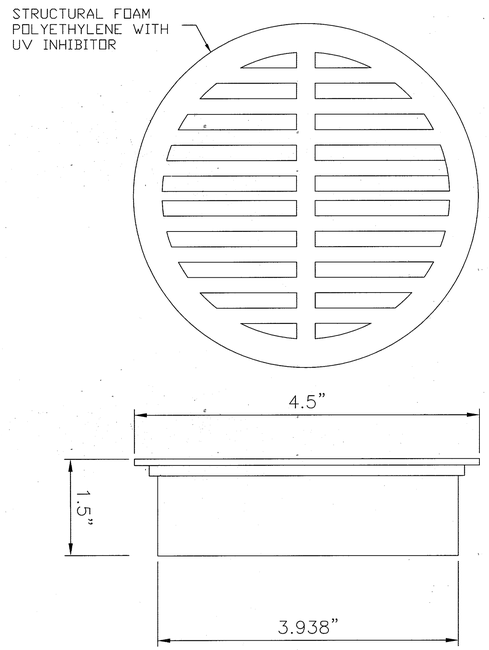
SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT NO. N-3105
TAX MAP 30 BLOCK 5 PARCELS 383 & 387
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE 1"=50'

SHEET 28 OF 29

CADD FILE: G:\10100081 - Meadowbrook Park\Final Development\28-CONSTRUCTION DETAILS.dwg

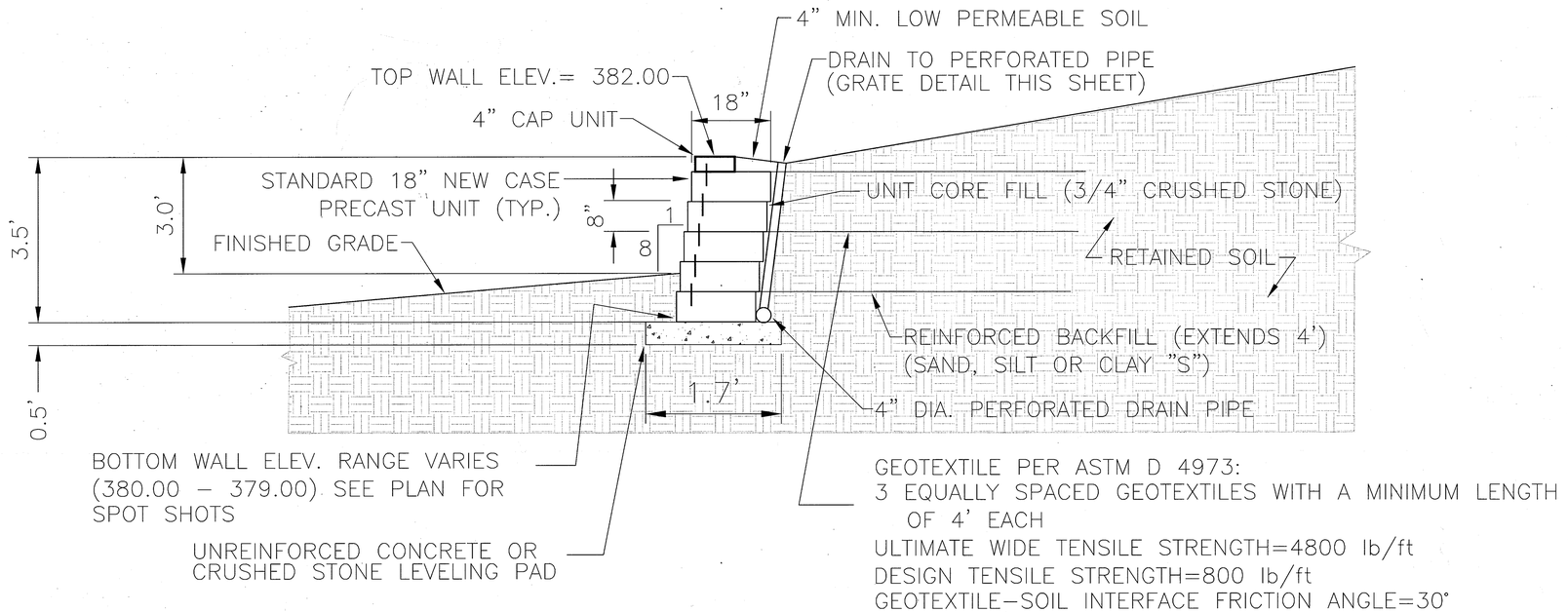
SDP- 01-145



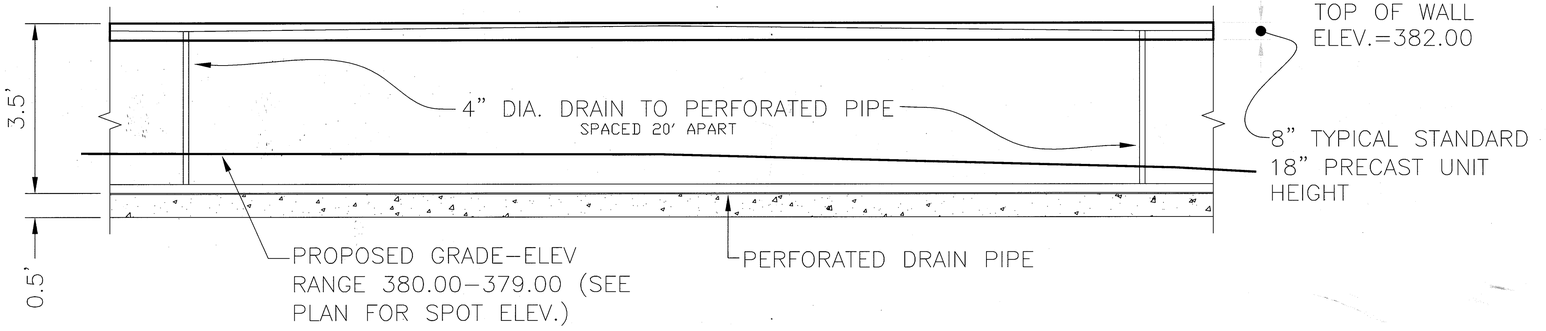
4" ROUND GRATE
NOT TO SCALE

NOTES

1. THE PROPOSED WALL CONSTRUCTION SHALL BE PERFORMED UNDER THE OBSERVATION OF A MARYLAND REGISTERED PROFESSIONAL ENGINEER.
2. THE FOUNDATION SOIL MUST BE EXAMINED BY THE ENGINEER TO ASSURE THE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS THE ASSUMED DESIGN STRENGTH.



TYPICAL REINFORCED WALL SECTION
NOT TO SCALE



TYPICAL REINFORCED WALL ELEVATION
NOT TO SCALE

OWNER/DEVELOPER INFORMATION
OWNER/DEVELOPER — DATE 9/30/02
HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS
9250 BENDIX ROAD
ELLICOTT CITY, MD. 21043

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

DIRECTOR — DATE 10/24/02
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/21/02

DEPARTMENT OF RECREATION AND PARKS
HOWARD COUNTY, MARYLAND

Gary J. Arthur, Director — DATE 10.2.02

PROJECT			SECTION/AREA		MAP NO.
MEADOWBROOK PARK			N/A		MAP 30 PARCELS 383 & 387
PLAT NO.	GRID NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
N/A	5	R-20	2	2	602302
WATER CODE		SEWER CODE			
F09		5750615			

Plot Date and Time: Sep 25, 2002 - 4:02pm

McCRONE
ENGINEERING: ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING: CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621
Fax (410) 267-9932
ANNAPOLIS CENTREVILLE ELKTON PRINCE FREDERICK SALISBURY

STATE OF MARYLAND — VIRGINIA L. DAVIS — No. 21048 — REGISTERED PROFESSIONAL ENGINEER — 9/30/02

DES: J.S.							
DRN: J.S.							
CHK: V.D.							
DATE: MAY, 2001	BY	No.	REVISION	DATE			

RETAINING WALL SECTION

SITE DEVELOPMENT PLAN
MEADOWBROOK PARK
PROJECT #N-3105
TAX MAP 30 — BLOCK 5 — PARCEL 383 & 387
SECOND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

SCALE NONE
SHEET 29 OF29

SDP-01 - 145

CADD FILE: G:\1010081 – Meadowbrook Park\Final Development\29-RETAINING-WALL-SECTION.dwg