SITE DEVELOPMENT PLAN
NORTH LAUREL PARK
PARCEL A-1 & COMMUNITY CENTER
CAPITAL PROJECT C-0304

PLANS PREPARED FOR

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

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SITE DATA ANALYSIS CHART

TOTAL PROJECT AREA:	52.1692 AC± (2,272,490.3 SF±)
AREA OF PLAN SUBMISSION:	52.1692 AC± (2,272,490.3 SF±)
LIMIT OF DISTURBED AREA:	792,532.2 SF (18.19 AC)
PRESENT ZONING:	R-SC
EXISTING USES:	VACANT LOT
PROPOSED USES:	COUNTY PARK WITH COMMUNITY CENTER
PROPOSED FLOOR AREA:	62,520 SF
MAXIMUM # OF EMPLOYEES:	24
PARKING REQUIRED:	289 SPACES (SEE PARKING NEEDS ANALYSIS & SEE GENERAL NOTE 14)
TOTAL PARKING PROVIDED FOR PARK:	298 SPACES PROVIDED
TOTAL HC PARKING PROVIDED FOR PARK:	14 SPACES

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.

2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.

3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

4. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.

5. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

6. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL TOPOGRAPHIC SURVEY PREPARED BY VIRGINIA RESOURCE MAPPING DATED MARCH 31, 2006, AND FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED APRIL 24, 2008. BOUNDARY SURVEY WAS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED DECEMBER 12, 2006.

7. 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. 50B5 AND 50BA WERE USED FOR THIS PROJECT.

8. WATER IS PUBLIC. CONTRACT NO. C-24-4590-D.

9. SEWER IS PUBLIC. CONTRACT NO. C-24-4590-D.

10. STORMWATER MANAGEMENT FOR THIS SITE IS PROVIDED VIA TWO STORMWATER MANAGEMENT PONDS (ONE WET POND FOR WATER QUALITY AND CHANNEL PROTECTION VOLUME, OVERBANK FLOOD PROTECTION AND EXTREME FLOOD VOLUME, AND ONE DRY POND FOR CHANNEL PROTECTION VOLUME, OVERBANK FLOOD PROTECTION AND EXTREME FLOOD VOLUME) ONE BIORETENTION FACILITY FOR WATER QUALITY AND RECHARGE VOLUME IN STONE TRENCH, AND FOUR UNDERGROUND STONE TRENCHES FOR RECHARGE VOLUME. OWNERSHIP AND MAINTENANCE IS TO BE PROVIDED BY HOWARD COUNTY DEPT. OF PARKS AND RECREATION. THESE FACILITIES ARE SIZED FOR THE FUTURE AMENITIES ON THE EAST SIDE OF THE STREAM LABELED AS "NOT PART OF THIS PLAN". ALL AREAS WILL BE VERIFIED UPON SUBMISSION OF SDP FOR FUTURE AMENITIES.

11. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.

12. A 100-YEAR FLOODPLAIN STUDY IS REQUIRED FOR THIS PROJECT.

13. WETLANDS ARE FOUND ON THIS PROJECT PER FIELD VISIT AND WETLAND DELINEATION BY JOHNSON MIRMIRAN & THOMPSON DATED JUNE 2005. FLOODPLAIN, STREAMS, STREAM BUFFERS, AND STEEP SLOPES ARE ALSO LOCATED ON SITE. DISTURBANCE TO THE WETLANDS AND BUFFERS IS PROPOSED FOR THE PROPOSED ENTRANCE ROAD AND SWM POND #2 (WETLAND PERMIT TRACKING #200864784/08-NT-3405). THIS DISTURBANCE IS ESSENTIAL TO THE PROJECT IN ACCORDANCE WITH SECTION 16.116(c) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

14. A PARKING NEEDS ANALYSIS WAS PREPARED BY PHR+A, DATED JUNE 9, 2008, AND WAS APPROVED ON DECEMBER 11, 2008. THE PARKING NEEDS ANALYSIS INCLUDES PARKING COUNTS THAT HAVE BEEN PREPARED AT THE GLENWOOD COMMUNITY CENTER, MEETING NOTES FROM A APRIL 10, 2008, MEETING WITH HOWARD COUNTY STAFF, AND A BREAKDOWN OF THE USES THAT WILL OCCUR WITHIN THE PROPOSED STRUCTURE, AND PARKING REQUIREMENTS FOR EACH USE. THE PARKING NEEDS REQUIREMENTS WERE BASED ON THE NET SQUARE FOOT AREA FOR THE BUILDING, EXCLUDING HALLWAYS, STORAGE AREAS, AND MECHANICAL EQUIPMENT ROOMS. PLEASE SEE PARKING TABULATION THIS SHEET.

GENERAL NOTES CONT.

15. A NOISE STUDY FOR THIS PROJECT IS NOT REQUIRED.

16. A TRAFFIC STUDY WAS PREPARED FOR THIS PROJECT BY JOHNSON MIRMIRAN & THOMPSON, DATED JUNE 2005, AND UPDATED BY TRAFFIC CONCEPTS IN JULY 2008. THE TRAFFIC STUDY AND APFO ROADS TEST WAS APPROVED BY THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 11, 2008.

17. THE SUBJECT PROPERTY IS ZONED R-SC PER THE 02-02-04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING AMMENDMENTS DATED JULY 28, 2006.
18. ALL ELEVATIONS SHOWN ARE BASED ON NAVD 1988.

19. SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S: F-07-129 AND F-08-201.

20. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

21. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS. THE CONTRACTOR SHALL FOLLOW THE SEQUENCE OF CONSTRUCTION OUTLINED IN THESE PLANS.

22. PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.

23. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE

24. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.

25. PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.

26. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.

27. LIGHTING FOR THIS SITE IS PROVIDED AS SHOWN AND WILL BE PROVIDED IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS. LIGHT TRESPASS ONTO ADJACENT RESIDENTIAL PROPERTIES IN THE R-SC ZONING DISTRICT SHALL BE LIMITED TO NO MORE THAN 0.1 FOOT CANDLES.

28. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE HOWARD COUNTY ZONING REGULATIONS. NO LANDSCAPE SURETY IS REQUIRED FOR THIS PLAN AS THIS PROJECT IS A COUNTY PROJECT.

29. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY PRESERVING 18.51 ACRES OF ON-SITE RETENTION AND BY EXCEEDING THE BREAK-EVEN POINT OF 18.28 ACRES. NO FOREST CONSERVATION SURETY IS REQUIRED FOR THIS PROJECT AS IT IS A COUNTY PROJECT.

30. A DUMPSTER IS SHOWN ON THIS PLAN. TRASH REMOVAL WILL OCCUR ON A REGULAR BASIS.

31. THERE ARE NO BURIAL GROUNDS OR CEMETERY SITES ON THE SUBJECT PROPERTY.

32. THIS PROJECT IS SUBJECT TO COMPLIANCE WITH THE ROUTE 1 MANUAL BY EXTENDING A SIDEWALK CONNECTION TO MEREDITH AVENUE AND BY PROVIDING A PAINTED CROSSWALK AT THE DRIVEWAY ENTRANCE TO THE PARK.

33. THIS PROJECT IS SUBJECT TO COMPLIANCE WITH THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION OR BUILDING/GRADING PERMIT APPLICATIONS.

34. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN WETLANDS, STREAMS, REQUIRED BUFFERS, 100 YEAR FLOODPLAIN AND 25% OR GREATER SLOPES, EXCEPT AS PERMITTED BY HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING AS ESSENTIAL OR NECESSARY DISTURBANCES (SEE GENERAL NOTE 13).

35. AN ACCESSIBLE ROUTE SHALL BE PROVIDED BETWEEN HANDICAPPED PARKING OR PUBLIC RIGHT OF WAYS TO THE MAIN BUILDING ENTRANCE IN ACCORDANCE WITH CURRENT ADA AND LOCAL STANDARDS. ALL HANDICAPPED RAMPS SHALL BE CONSTRUCTED ACCORDING TO CURRENT ADA AND LOCAL STANDARDS. EXCEPT AS SUPERSEDED IN CURRENT ADA AND LOCAL STANDARDS THE FOLLOWING SHALL APPLY:
A) MAXIMUM SIDEWALK CROSS SLOPES SHALL BE 2%,
B) A MINIMUM 5'X 5' LANDING AREA WITH A MAXIMUM SLOPE IN ANY DIRECTION OF 2% SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION, TOPS AND BOTTOMS OF RAMPS, AND BUILDING EGRESS POINTS
C) ALL HANDICAPPED PARKING SHALL BE SLOPED NO GREATER THAN 2% IN ANY DIRECTION, INCLUDING A 5' WIDE AREA BEHIND THE PARKING SPACES.
D) AN ACCESS ROUTE FROM THE PARKING SPACE(S) TO THE MAIN BUILDING ENTRANCE SHALL BE PROVIDED. ALL SLOPES ALONG THE DIRECTION OF TRAVEL SHALL NOT EXCEED 1:20 UNLESS THEY FALL UNDER CONDITION B) ABOVE. SLOPES IN EXCESS OF 1:20 EXCEPT FOR CURB RAMPS, REQUIRE A HANDRAIL MEETING ADA REQUIREMENTS. SEE SHEET 38 FOR DETAIL OF HANDICAPPED PARKING.

36. PROVIDED PLANT QUANTITIES SHOWN ON THE LANDSCAPE PLANS REPRESENT MORE THAN THE REQUIRED PLANTING PER PLANTING SCHEDULES A, B, & D.

GENERAL NOTES CONT.

37. FOR AREAS WHICH WILL NOT BE DISTURBED AGAIN IN THE SHORT TERM, PERMANENT GRASS SEED MIXTURES SHALL BE UTILIZED PER SPECIFICATION AND THE NOTES ON SHEET 11.

38. ALL TOPSOIL SHALL BE STOCKPILED AND STORED ON SITE.

39. REFER TO GEOTECHNICAL REPORT FOR COMPLETE SET OF SITE AND BUILDING SOIL BORINGS.

40. STORMWATER MANAGEMENT ASSOCIATED WITH THE REVISION DATED 7/16/10 WAS APPROVED AS PART OF THE ORIGINAL SDP APPROVAL OF 9/2/09. THIS REVISION INCLUDES THE FOLLOWING AMENITIES: TENNIS and BASKETBALL COURTS, SKATE PARK, BATHROOM, PAVILION AND PATHWAYS. THE STORMWATER DESIGN IS IN ACCORDANCE WITH THE MDE 2000 REGULATIONS.

41. SEE F-10-097 AND SDP-10-010 FOR REVISED FOREST CONSERVATION EASEMENTS.

LOCATION PLAN
1" = 200'

BENCHMARKS

HOWARD COUNTY SURVEY CONTROL: 50BA
ELEVATION 248.625'
N 527,567.677 E 1,359,772.604
LOCATION IS ±180' SOUTH OF WHISKEY BOTTOM ROAD ALONG SOUTH BOUND US ROUTE 1.

HOWARD COUNTY SURVEY CONTROL: 50B5
ELEVATION 177.385'
N 524,999.374 E 1,357,925.748
LOCATION IS ±150' NORTH OF N LAUREL ROAD ALONG SOUTH BOUND US ROUTE 1.

VICINITY MAP
SCALE: 1" = 2000'

COPYRIGHT ADC THE MAP PEOPLE, PERMITTED USE NO. 20711188

HOWARD COUNTY ADC MAP 19 K10 & K11, MAP 20 A10 & A11

ADDRESS CHART

PARCEL NUMBER	STREET ADDRESS
A-1	9411 WHISKEY BOTTOM ROAD

SUBDIVISION NAME			SECT./AREA		PARCEL
NORTH LAUREL PARK					187, A-1, & 1065
PLAT NO.	GRID #	ZONING	TAX MAP NO.	ELECT. DIST.	CENSUS TRACT
PB 61 PG 471	22 & 3/4	R-SC	47 & 50	6	606903

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[signature] DIRECTOR, DEP.	9/2/09 DATE
[signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION	9/1/09 DATE
[signature] CHIEF, DIVISION OF LAND DEVELOPMENT	9/2/09 DATE

DATE	NO.	REVISION
8/25/10	2	ADDED SITE AMENITIES
8/12/09	1	REVISE PHASING SC PLAN, ADJUST POND 2, REVISE CULVERT NO. 1

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA
TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
REVISED TITLE SHEET

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL
STATE OF MARYLAND — SHERRYL CLARKE MITCHELL — No. 33954 — REGISTERED PROFESSIONAL ENGINEER
8-13-09
BY: [signature]
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	SCM/JSN
DRAWN BY:	SCM/JSN
PROJECT NO :	14466-1-0 C400SDP01.DWG
DATE :	MAY 29, 2009
SCALE :	1" = 100'
DRAWING NO.	1 OF 54

P:\Projects\14466\1-0\PLANS\C400SDP01.DWG

SDP-08-118

LEGEND

EXISTING 2'CONTOUR	302
EXISTING 10'CONTOUR	300
PROPOSED 2'CONTOUR	302
PROPOSED 10'CONTOUR	300
PROPERTY LINE AND RIGHT OF WAY	
FLOODPLAIN	FP
EX. TREELINE	
PROP. TREELINE	
STREAM BUFFER	SB
PROPOSED LIGHT POLE	
EX. FIRE HYDRANT	
PROP. FIRE HYDRANT	
WETLANDS	W
WETLAND BUFFER	WB
STREAM BUFFER	SB

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Marsha S. Butler 3/23/09
DIRECTOR DEP. DATE

3/10/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton 3/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
8/25/10	1	ADDED SITE AMENITIES

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA
TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
OVERALL SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
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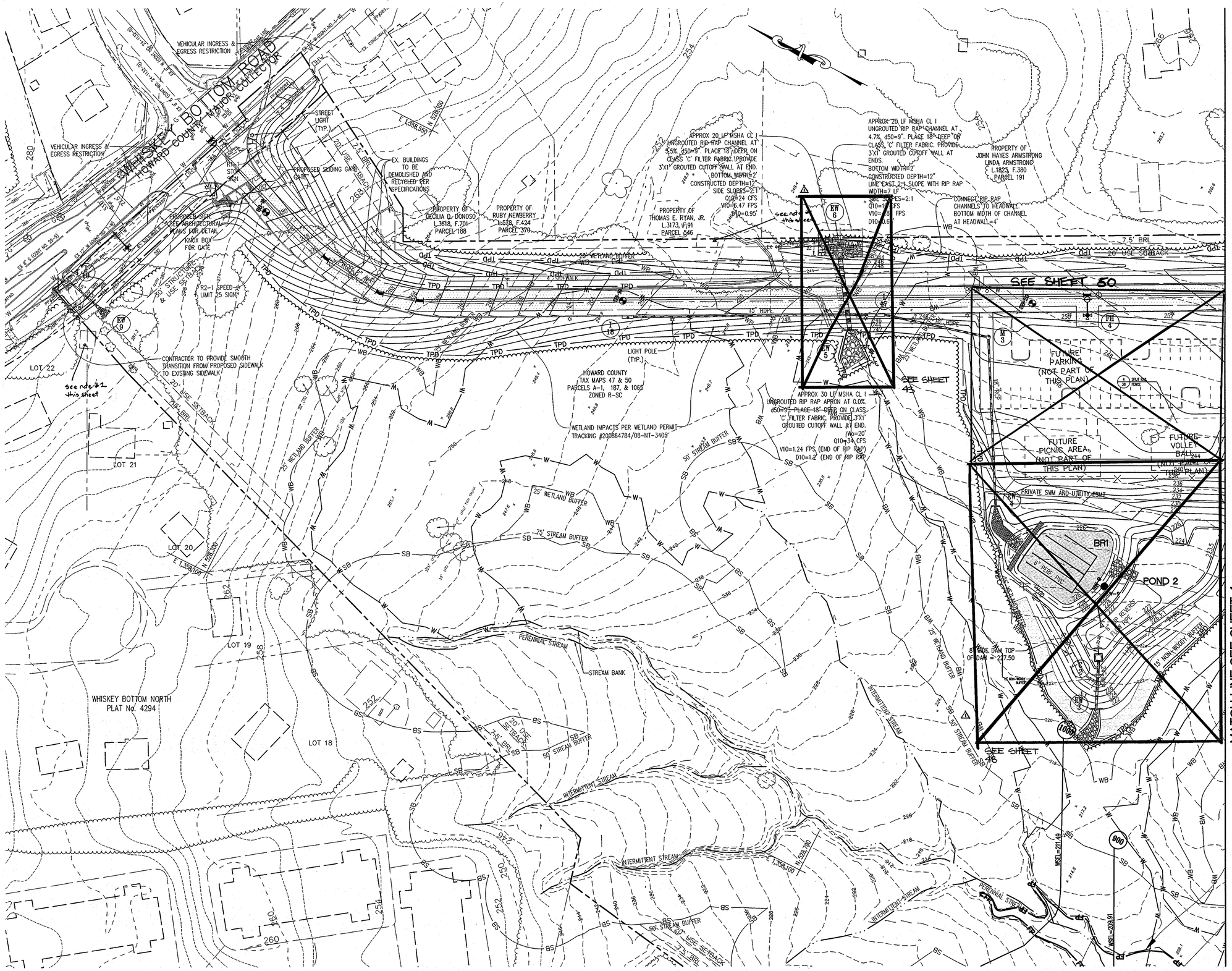
SEAL 3-4-09
STATE OF MARYLAND SHERRI CLARKE MITCHELL No. 33954 REGISTERED PROFESSIONAL ENGINEER

BY: Sheryl C. Mitchell
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY : JSN
DRAWN BY: JSN
PROJECT NO : 14466-1-0 C400SDP02.DWG
DATE : MARCH 4, 2009
SCALE : 1" = 100'
DRAWING NO. 2 OF 54

SDP-08-118



LEGEND

- PROPERTY LINE
- EXISTING 10' CONTOURS
- EXISTING 2' CONTOURS
- PROPOSED 10' CONTOURS
- PROPOSED 2' CONTOURS
- EXISTING CURB AND GUTTER
- PROPOSED CURB & GUTTER
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- SETBACK LINES
- PROPOSED P-3 PAVING (HO. CO. DETAIL R-2.01)
- PROPOSED CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05)
- EXISTING LIGHTING
- EXISTING TREE
- PROP.SPOT ELEVATION
- EX. TREELINE
- PROPOSED TREELINE
- FLOODPLAIN
- STREAM BUFFER
- WETLANDS
- WETLAND BUFFER
- TREE PROTECTION FENCE
- LIMIT OF DISTURBANCE
- LIGHT POLE

NOTE #1
Existing private sheds, partially misplaced on County property. Owners to be contacted and efforts made to have the sheds moved off County property over time.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/9/09

DATE	NO.	REVISION
8/25/10	2	ADDED SITE AMENITIES
8/12/09	1	ADJUST POND 2, REVISE CULVERT 1

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
SITE DEVELOPMENT PLAN

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SEAL — STATE OF MARYLAND — SHERRY CLARKE MITCHELL — No. 21433 — REGISTERED PROFESSIONAL ENGINEER — 3-4-09

BY: Sherry C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	SCM
DRAWN BY:	SCM
PROJECT NO :	14466-1-0 C400SDP03.DWG
DATE :	MARCH 4, 2009
SCALE :	1" = 40'
DRAWING NO.	3 OF 54

P:\Project\14466\1-0\PLANS\C400SDP03.DWG

SDP-08-118

MATCH LINE SEE SHEET 3

MATCH LINE SEE SHEET 5

PROPERTY OF PAUL Fud LEPORE REGENE M. LEPORE L.217, F.148 PARCEL 438

"HEATHERDOWNS" LOTS 1-22 A RESUBDIVISION OF LOT 1 OF THE PINDELL PROPERTY AND A SUBDIVISION OF A PORTION OF PARCEL 438 PLAT No. 10257

264 RESUBDIVISION OF PARCEL B-1 AND LOT 1 A RESUBDIVISION OF PARCEL B PINDELL PROPERTY AND PARCELS 395 AND 462 PLAT No. 5337

HOWARD COUNTY TAX MAPS 47 & 50 PARCELS A-1, 187, & 1065 ZONED R-SC

PATUXENT SQUARE APARTMENTS & RETAIL CENTER PARCEL A SDP-06-50 ZONED R-SC

HILL STREET

MEREDITH AVENUE (EX. R/W)

SEE SHEET 50

SEE SHEET 51

FUTURE PARKING (NOT PART OF THIS PLAN)

FUTURE ROOL EXPANSION (NOT PART OF THIS PLAN)

FUTURE PLAY GROUND (NOT PART OF THIS PLAN)

FUTURE PICNIC AREA (NOT PART OF THIS PLAN)

FUTURE PARK AREA - MAY INCLUDE PLAY GROUND, BASKETBALL COURTS, TENNIS COURTS, AND/OR SKATE PARK (NOT PART OF THIS PLAN)

COMMUNITY CENTER 1 STORY BUILDING 62,520 SF FFE=250.0 INSIDE METER

OUTSIDE COMMUNITY ACTIVITY AREA

PROP 8" W

PROP 6" W

PROP 8" SAN

PROP 6" SAN

PROP 4" SAN

PROP 6" FM

PROP 8" FM

PROP 10" PUBLIC WATER AND UTILITY EASEMENT

PRIVATE SWM AND UTILITY ESMT

PRIVATE S.S. UTILITY ESMT

PUBLIC 100 YEAR FLOODPLAIN, DRAINAGE, & UTILITY EASEMENT

PROPERTY OF HOWARD COUNTY L.2426, F.221 PARCEL 4

RETAINING WALL W/ GUARD RAIL SEE DETAIL SHEET 42

APPROX. 25 LF MSHA CL I UNGROUTED RIPRAP APRON, SLOPE VARIES, PLACE 18" DEEP ON CLASS 'C' FILTER FABRIC. PROVIDE 9'x1' GROUTED CUTOFF WALL AT END. W=20' D50=9" Dmax=12" V10=6.11 FPS D10=0.24'

APPROX. 23 LF MSHA CL I UNGROUTED RIPRAP APRON @ 0.00% PLACE 18" DEEP ON CLASS 'C' FILTER FABRIC. PROVIDE 9'x1' GROUTED CUTOFF WALL AT END. W=16' D50=9" Dmax=12" V10=1.19 FPS (END OF RIPRAP) D10=1.1' (END OF RIP RAP) Vactual=7.21 FPS

20' USE SETBACK

75' BRL

20' STRUCTURE USE SETBACK

25' WETLAND BUFFER

15' WETLAND BUFFER

TRANSFORMER PAD

1500 GALLON GREASE INTERCEPTOR

OVERHEAD CANOPY

FOUNDATION DRAIN TO DAYLIGHT. SEE ARCH PLANS FOR DETAIL

PERGOLA

NOTE: ENTIRE BUILDING DRAINS TO ROOF DRAINS AND DISCHARGES TO SWM POND 1.

4" PVC CIVIL CONNECTION FOR ROOF DRAIN FROM LOBBY ROOF

HANDICAPPED ACCESSIBLE ENTRANCE

KNOX BOX

SIAMESE CONNECTION

ENTRANCE CANOPY

CONNECT 4" PVC TO DOWNSPOUT. PROVIDE CAST IRON CLEAN-OUT (TYP)

ADDRESS SIGN

BIKE RACK

6' PAVED TRAIL TO BE FIELD LOCATED AS TO MINIMIZE DISTURBANCE

6' PAVED TRAIL TO BE CONNECTED TO EXISTING PARKING LOT ON ADJACENT SITE. COORDINATE CONNECTION WITH ADJACENT PROPERTY OWNER.

ReV1 ReV2 ReV3 ReV4

UNDERGROUND RECHARGE TRENCH

LIGHT POLE (TYP.)

MATCH LINE SEE SHEET 5

LEGEND

- PROPERTY LINE
- 380 EXISTING 10' CONTOURS
- 378 EXISTING 2' CONTOURS
- 380 PROPOSED 10' CONTOURS
- 378 PROPOSED 2' CONTOURS
- EXISTING CURB AND GUTTER
- PROPOSED CURB & GUTTER
- Ex. 48" RCP EXISTING STORM DRAIN
- 15"D PROPOSED STORM DRAIN
- SETBACK LINES
- PROPOSED P-3 PAVING (HO. CO. DETAIL R-2.01)
- PROPOSED CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05)

LEGEND CONT'D

- LIGHT POLE
- EXISTING LIGHTING
- EXISTING TREE
- 13 x 2 PROP. SPOT ELEVATION
- EX. TREELINE
- PROPOSED TREELINE
- FP FLOODPLAIN
- SB STREAM BUFFER
- W WETLANDS
- WB WETLAND BUFFER
- TPD TREE PROTECTION FENCE
- LOD LIMIT OF DISTURBANCE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DPZ — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/9/09

DATE	NO.	REVISION
8/25/10	1	ADDED SITE AMENITIES

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT

NORTH LAUREL COMMUNITY CENTER

CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — STATE OF MARYLAND — SUSAN CLARKE MITCHELL — No. 23954 — REGISTERED PROFESSIONAL ENGINEER — 3-4-09

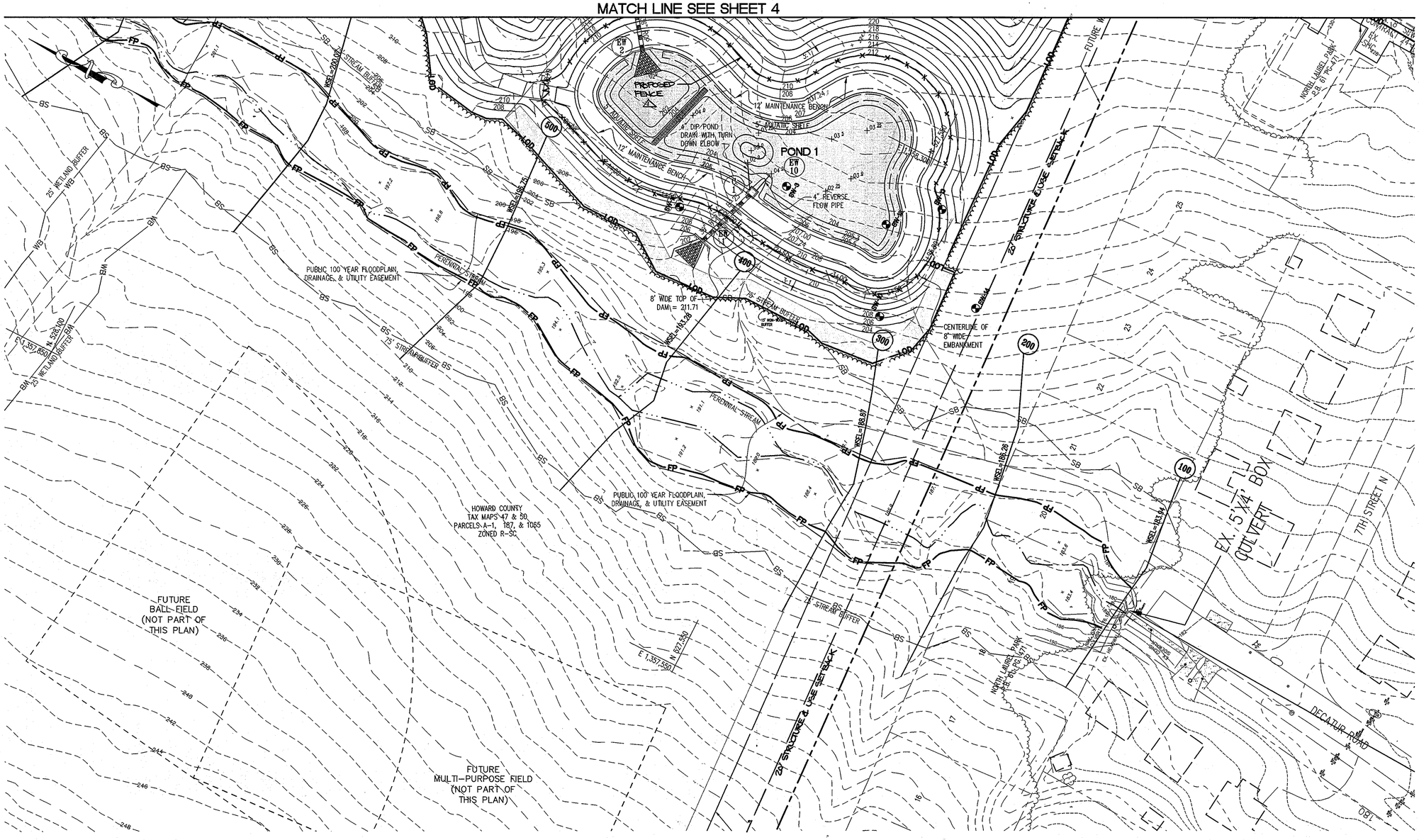
BY: Susan C. Mitchell

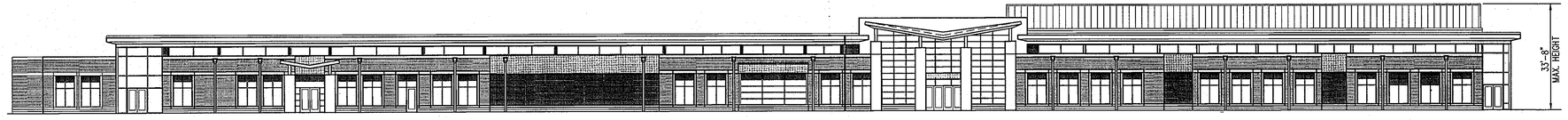
"PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23954, EXPIRATION DATE: 01-24-11"

DESIGNED BY	SCM/JSN
DRAWN BY:	SCM/JSN
PROJECT NO	14466-1-0 C400SDP04.DWG
DATE	MARCH 4, 2009
SCALE	1" = 40'
DRAWING NO.	4 OF 54

SDP-08-118

MATCH LINE SEE SHEET 4





COMMUNITY BUILDING – FRONT ELEVATION

SCALE: 1"=20'

LEGEND

- PROPERTY LINE
- EXISTING 10' CONTOURS
- EXISTING 2' CONTOURS
- PROPOSED 10' CONTOURS
- PROPOSED 2' CONTOURS
- EXISTING CURB AND GUTTER
- PROPOSED CURB & GUTTER
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- SETBACK LINES
- PROPOSED P-3 PAVING (HO. CO. DETAIL R-2.01)
- PROPOSED CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05)
- EXISTING LIGHTING
- EXISTING TREE
- PROP.SPOT ELEVATION
- EX. TREELINE
- PROP. TREELINE
- FLOODPLAIN
- STREAM BUFFER
- WETLANDS
- WETLAND BUFFER

NOTES:

1. SEE SHEET 15 FOR MORE DETAIL ON STORMWATER MANAGEMENT POND.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/19/09

DATE	NO.	REVISION
8/25/10	1	ADDED FENCE, REVISE SETBACKS

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT

NORTH LAUREL COMMUNITY CENTER

CAPITAL PROJECT C-0304

AREA

TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL 3-4-09

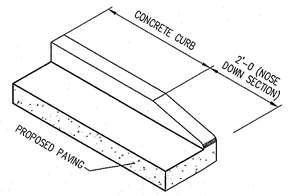
STATE OF MARYLAND — SHEREL CLARKE MITCHELL — No. 33954 — REGISTERED PROFESSIONAL ENGINEER

BY: Sheryl C. Mitchell

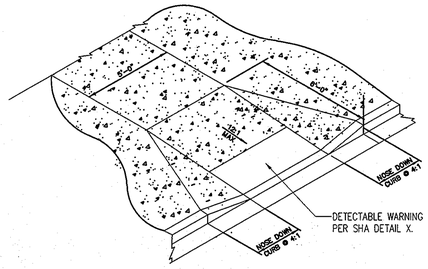
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	SCM
DRAWN BY:	SCM
PROJECT NO :	14466-1-0 C400SDP05.DWG
DATE :	MARCH 4, 2009
SCALE :	1" = 40'
DRAWING NO.	5 OF 54

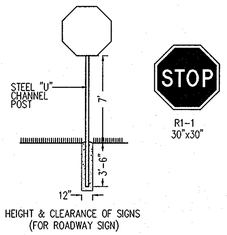
SDP-08-118



1/6 NOSE DOWN CURB DETAIL
NOT TO SCALE

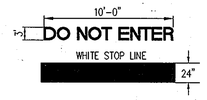


2/6 HANDICAP RAMP
NOT TO SCALE

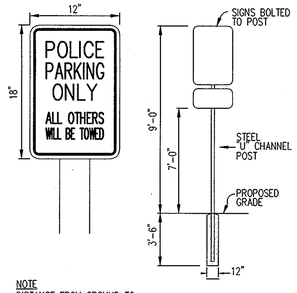


HEIGHT & CLEARANCE OF SIGNS (FOR ROADWAY SIGN)

3/6 STOP SIGN DETAIL
NOT TO SCALE



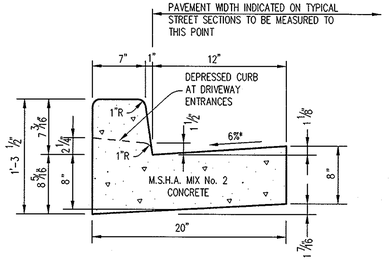
4/6 DO NOT ENTER STRIPING DETAIL
NOT TO SCALE



NOTE
DISTANCE FROM GROUND TO BOTTOM OF SIGN TO BE 7'.

COLOR
WHITE TEXT ON BLUE BACKGROUND

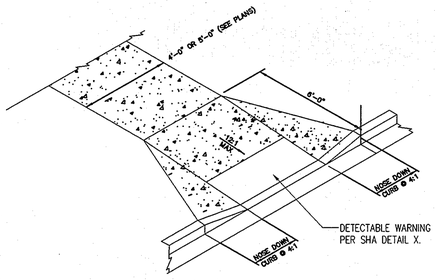
5/6 POLICE PARKING SIGN
NOT TO SCALE



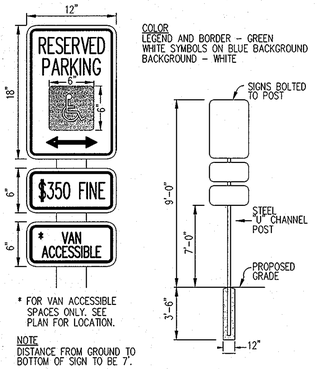
HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01).

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS THE PAVEMENT.

6/6 STANDARD 7" COMBINATION CURB AND GUTTER
NOT TO SCALE



7/6 HANDICAP RAMP
NOT TO SCALE

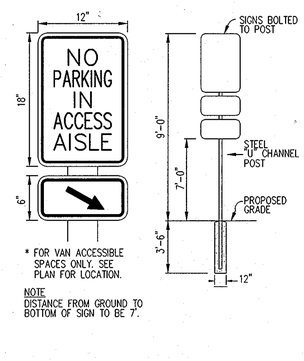


COLOR
LEGEND AND BORDER - GREEN
WHITE SYMBOLS ON BLUE BACKGROUND
BACKGROUND - WHITE

* FOR VAN ACCESSIBLE SPACES ONLY. SEE PLAN FOR LOCATION.

NOTE
DISTANCE FROM GROUND TO BOTTOM OF SIGN TO BE 7'.

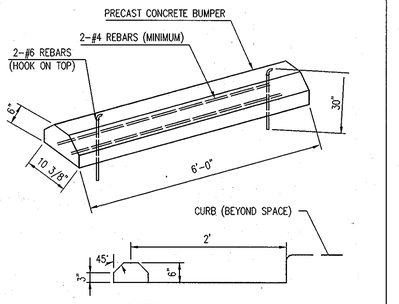
8/6 HANDICAP SIGN DETAIL
NOT TO SCALE



* FOR VAN ACCESSIBLE SPACES ONLY. SEE PLAN FOR LOCATION.

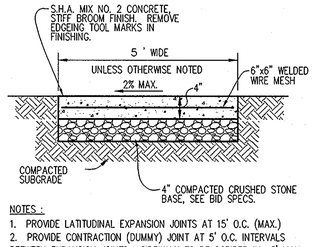
NOTE
DISTANCE FROM GROUND TO BOTTOM OF SIGN TO BE 7'.

9/6 ACCESS AISLE SIGN
NOT TO SCALE



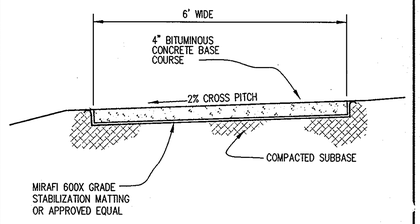
SECTION

10/6 CONCRETE WHEEL STOP
NOT TO SCALE

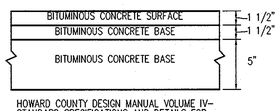


NOTES :
1. PROVIDE LATITUDINAL EXPANSION JOINTS AT 15' O.C. (MAX.)
2. PROVIDE CONTRACTION (DUMMY) JOINT AT 5' O.C. INTERVALS BETWEEN EXPANSION JOINTS. SIDEWALK TO BE SCRIBED IN 5' MAX. SQUARES. SEE TYPICAL SCORING DETAILS ON SHEET 18. CONTRACTOR TO AVOID THE CREATION OF SMALL SCORED AREAS THAT WILL CRACK AND BREAK OFF FROM SIDWALK.
3. SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
4. CONCRETE SHALL BE 3,000 PSI.

11/6 SIDEWALK DETAIL
NOT TO SCALE

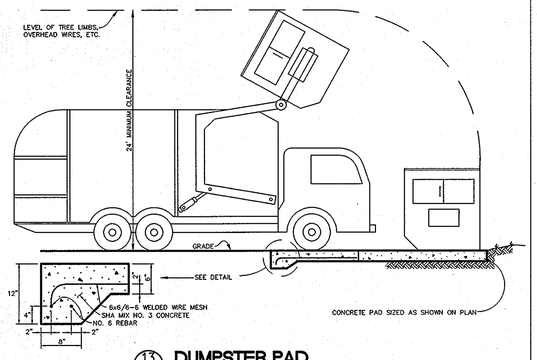


17/6 TYPICAL SECTION - ASPHALT PATHWAY
NOT TO SCALE

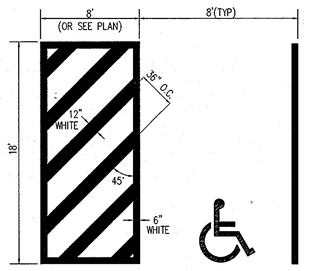


HOWARD COUNTY DESIGN MANUAL VOLUME IV- STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

12/6 P-3 PAVING
NOT TO SCALE



13/6 DUMPSTER PAD
NOT TO SCALE

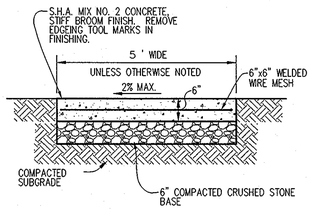


HDCP SPACE

WHITE PARKING STRIPE
4"

LINE SPECIFICATIONS

14/6 STRIPING STANDARDS
NOT TO SCALE



NOTES :
1. PROVIDE LATITUDINAL EXPANSION JOINTS AT 15' O.C. (MAX.)
2. PROVIDE CONTRACTION (DUMMY) JOINT AT 5' O.C. INTERVALS BETWEEN EXPANSION JOINTS. SIDEWALK TO BE SCRIBED IN 5' MAX. SQUARES. SEE TYPICAL SCORING DETAILS ON SHEET 18. CONTRACTOR TO AVOID THE CREATION OF SMALL SCORED AREAS THAT WILL CRACK AND BREAK OFF FROM SIDWALK.
3. SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
4. CONCRETE SHALL BE 3,000 PSI.

15/6 CONCRETE PAVING
NOT TO SCALE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/18/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/19/09

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
SITE DETAILS

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

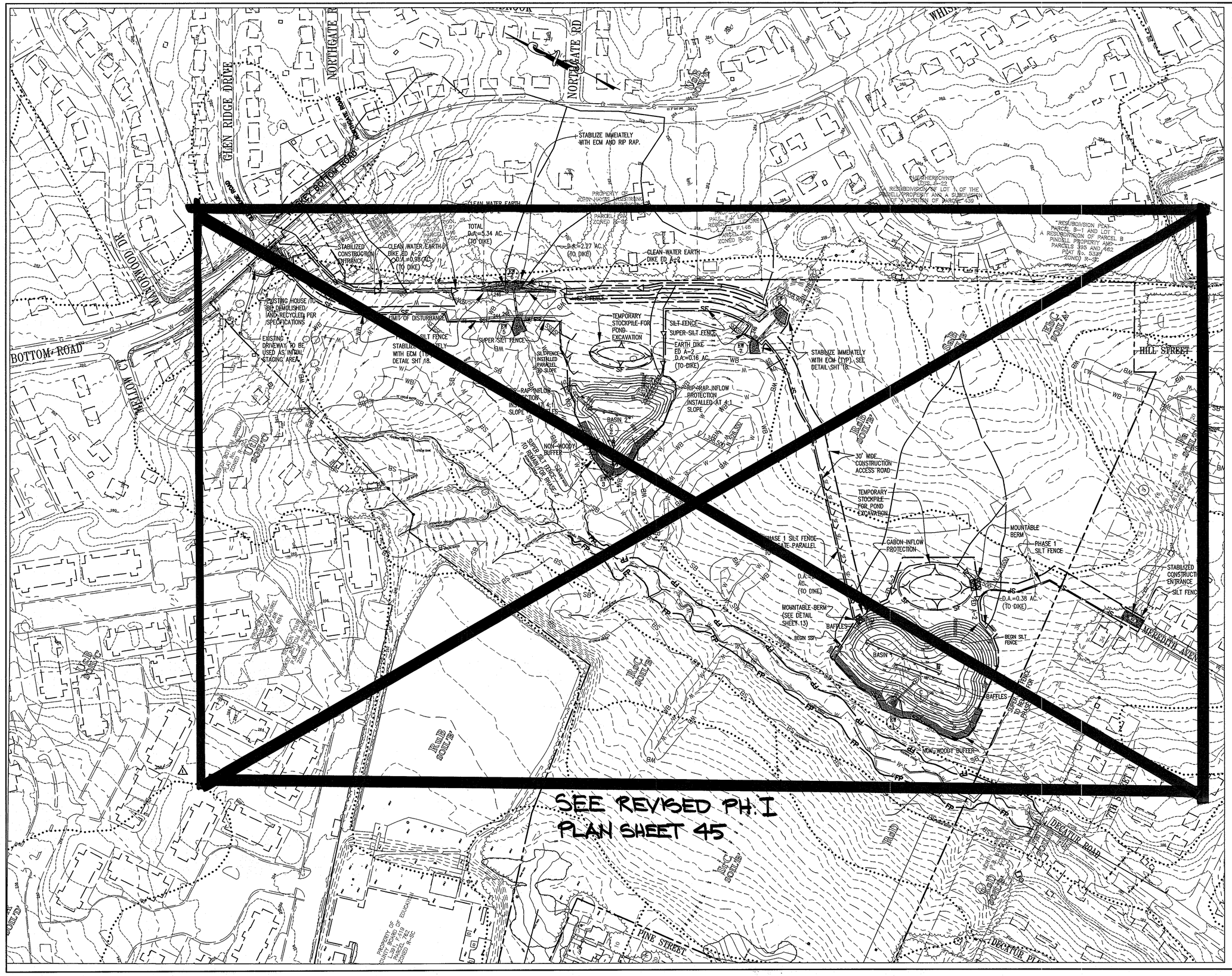
SEAL — STATE OF MARYLAND — CHERYL CLARKE MITCHELL — No. 32054 — REGISTERED PROFESSIONAL ENGINEER — 3-4-09

BY: Cheryl C Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32054, EXPIRATION DATE: 01-24-11"

DESIGNED BY : JSN
DRAWN BY: JSN
PROJECT NO : 14466-1-0 C400SDP06.DWG
DATE : MARCH 4, 2009
SCALE : AS SHOWN
DRAWING NO. 6 OF 42

SDP-08-118



NOTE: SEE SHEETS 8 AND 10 FOR BASIN DETAILS, BASIN SCHEDULES AND LEGEND

BY THE DEVELOPER :

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

DEVELOPER — DATE 3/6/09

BY THE ENGINEER :

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

ENGINEER — DATE 3-4-09

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/9/09

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/9/09

DATE	NO.	REVISION
8/12/09	1	REVISED PHASE I

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE GRADING AND SEDIMENT CONTROL PLAN PHASE 1

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — STATE OF MARYLAND — STEVEN CLARKS MITCHELL — No. 22354 — REGISTERED PROFESSIONAL ENGINEER — 3-4-09

BY: S Steven C Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 22354, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	SCM
DRAWN BY:	SCM
PROJECT NO :	14466-1-0 C400SDP07.DWG
DATE :	MARCH 4, 2009
SCALE :	1" = 100'
DRAWING NO.	7 OF 49

P:\Projects\14466\1-0\PLANS\C400SDP07.DWG

SEE REVISED PH. II PLAN SHEET 46

SEDIMENT BASIN # 2

NOTE: POND 2 IS TO BE USED AS A SEDIMENT BASIN

EX. DRAINAGE AREA	=	2.19 AC
INTERIM DRAINAGE AREA	=	3.16 AC
DEV. DRAINAGE AREA	=	2.74 AC
STORAGE REQUIRED (3,600 cu.ft./Ac.)		
REQUIRED VOLUME WET	=	5,688 CF
REQUIRED VOLUME DRY	=	5,688 CF
TOTAL VOLUME	=	11,376 CF
STORAGE PROVIDED		
PROVIDED VOLUME WET	=	6,392 CF
PROVIDED VOLUME DRY	=	13,248 CF
TOTAL VOLUME	=	19,640 CF
STORAGE DEPTH	=	2.9'
MINIMUM BOTTOM ELEVATION	=	220.50
BOTTOM DIMENSIONS	=	103'x147'
RISER DIAMETER	=	5'x5'
RISER CREST ELEVATION	=	223.40
BARREL DIAMETER	=	24"
BARREL LENGTH	=	42 LF
BARREL INVERTS		
UPSTREAM	=	219.70
DOWNSTREAM	=	219.49
TRASH RACK DIAMETER	=	N/A
CLEAN OUT ELEVATION	=	221.30
PERMANENT POOL WSEL	=	222.00
DESIGN TOP OF EMBANKMENT EL.	=	227.50
CONSTRUCTED TOP OF EMBANKMENT EL.	=	227.90
EMERGENCY SPILLWAY CREST EL.	=	N/A
EMERGENCY SPILLWAY WIDTH	=	N/A
Q1 EXISTING	=	0.2 cfs
Q1 INTERIM	=	0.4 cfs
Q1 DEVELOPED	=	< 0.4 cfs

Figure 2 Temporary Sediment Basin Design Data

Computed by: SCM 09/08 Checked by: Date:
Project name: NLCP Basin
Location: Entry

Total area draining to basin: 3.16

Basin Volume Design

Note: 1. Also see Surface Area Design #30, this form.
2. To convert ft³ to yd³, divide ft³ by 27. To convert ft² to yd², divide ft² by 9.

1. Min. required vol. = 3600 ft³/ac x 3.16 ac. drainage = 11,376 ft³
2. Actual Volume of basin = 19,639 ft³
3. Excavate — ft³ (— yd³) to obtain required capacity.
4. Vol. at dewatering elev. = 1800 ft³/ac x 3.16 ac. = 5,688 ft³
5. Vol. of basin at cleanout = 900 ft³/ac x 3.16 ac. = 2,844 ft³
6. Elevation corresponding to min. required volume of basin (riser crest elevation) 223.40 ft.
7. Permanent pool elevation 222.0 ft.
8. Distance from riser crest elevation to permanent pool elevation 1.4 ft.
9. Basin cleanout elevation 221.3 ft.
10. Distance from riser crest elevation to cleanout elevation 2.1 ft.

Spillway Design

11. Q_{10} = 19.2 cfs (peak discharge from 10-yr, 24-hr storm event, attach computations) interim

Principal Spillway (Qps) (See Detail 11)

12. Design Principal Spillway (Barrel) discharge, Design Q_{ps} = ____ cfs (min. 10% of 10 year peak or 8" Diameter Pipe)
13. H = ____ ft.; Barrel length = ____ ft.
14. Barrel Diam. ____ in. Note: Q_{ps} must equal or exceed Design Q_{ps}
Q_{ps} = Q (from Table 13 or 14) ____ x (length correction factor) ____ = ____ cfs.
15. Riser Diameter ____ in.; Riser Height ____ ft.; Riser Head (h) = ____ ft.
16. Trash Rack Diam. ____ in.; Trash Rack Height = ____ in.

See Pond Comps

NOTE: A table showing design data shall be included on the plan for each basin.

C-10-10

1994

Emergency Spillway (Qes)

17. Emergency spillway cap., Q_{es} = Q_{10} - Q_{ps} = ____ - ____ = ____ cfs N/A
18. Width ____ ft; Hp ____ ft
19. Entrance channel slope ____ %.
20. Exit channel slope ____ %

Anti-Seep Collar Design (If Required)

21. y = ____ ft.; z = ____ :1; pipe slope = ____ %; Ls = ____ ft
22. Use ____ collars, ____ ft. - ____ in. square; projection = ____ ft.

See Pond Comps

Design Elevations

23. Riser Crest = 223.40 ft. 24. Design High Water = 225.10 ft. (100-year)
25. Emergency Spillway Crest = N/A ft. 26. Min. settled top of dam = 227.50 ft.
27. Permanent pool = 222.0 ft. 28. Bottom of Basin = 220.50 ft.
29. Draw-down orifice invert = 222.0 ft.

Surface Area Design

30. Min.basin surface area; SA ≥ 0.0035 x Q_{10} = 0.0035 x 19.2 cfs ≤ 0.29 ac.
0.07 ≤ 0.29

Draw-down Device

31. Draw-down device orifice diameter = 4" in. (From Table 11)
32. A_t = Total area of perforations ≥ 4A_o A_t > 0.348 ft²
A_t = (# of perforation/foot)(perforation area ft²)(perforated section length ft.)
A_t = 0.36 ft²
A_o = Internal orifice area (from Table 11 or computed) = 0.087 ft²
Use 1" DIA openings spaced 3" O.C.
πD = π(0.33) = 1.04' circumference so 4 holes around circumference
1/0.25 = 4 so 16 holes/LF
A(1") = 0.0050 C-10-11 (0.0050)(16) = 0.08 ft²/ft
$\frac{0.348 \text{ ft}^2}{0.08 \text{ ft}^2/\text{ft}}$ = 4.35' say 4.5'

1994

LEGEND

EXISTING 2'CONTOUR	302
EXISTING 10'CONTOUR	300
PROPOSED 2'CONTOUR	302
PROPOSED 10'CONTOUR	300
PROPERTY LINE AND RIGHT OF WAY	
EXISTING WETLAND	W
LIMIT OF CLEARING	
LIMIT OF DISTURBANCE	LOD
STORM DRAIN INLET	
SUPER SILT FENCE	SSF
SILT FENCE	SF
EARTH DIKE	
WETLAND BUFFER	WB
100-YEAR FLOOD PLAIN	FP
15-25% SLOPES	
>25% SLOPES	
DRAINAGE DIVIDE	
STABILIZED CONSTRUCTION ENTRANCE	SCE
EROSION CONTROL MATTING	
RIP RAP INFLOW PROTECTION	RRP
GABION INFLOW PROTECTION	GM

NOTE: EXISTING EARTH DIKE TO BE CONSTRUCTED BY SITE CONTRACTOR IN PHASE I.

BY THE DEVELOPER :

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

DEVELOPER 3/6/09 DATE

BY THE ENGINEER :

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

Sherri C. Mitchell 3-4-09
ENGINEER DATE

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

HOWARD SOIL CONSERVATION DISTRICT 3/9/09 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Thomas J. Butler 3/23/09
DIRECTOR, DEP DATE

3/10/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton 3/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
8/12/09	1	REVISED PHASE II

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **GRADING AND SEDIMENT CONTROL PLAN PHASE 2**

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

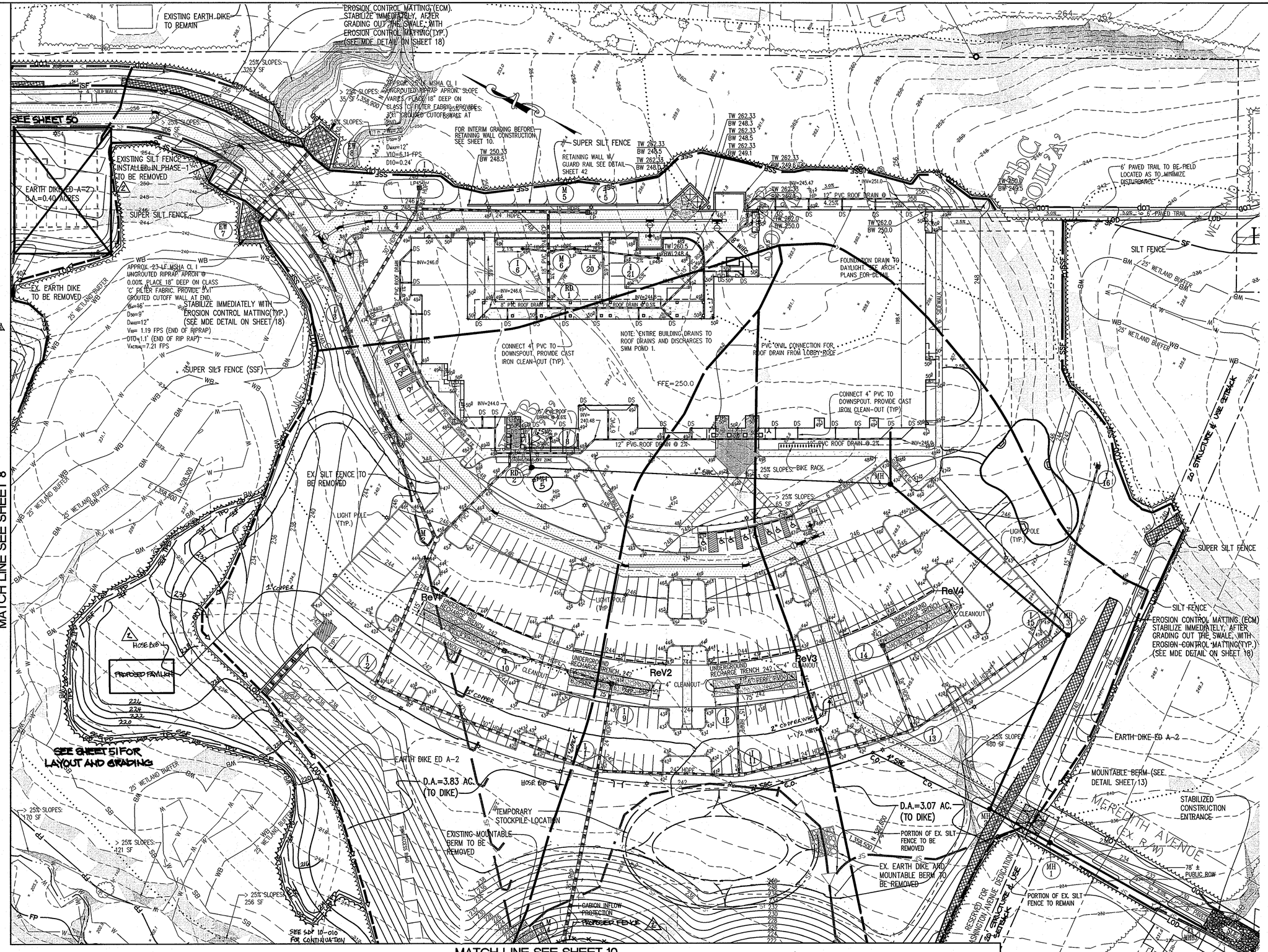
SEAL 3-4-09
STATE OF MARYLAND SHERRI CLARKE MITCHELL No. 33954 REGISTERED PROFESSIONAL ENGINEER

BY: Sherri C. Mitchell
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY :SCM
DRAWN BY: SCM
PROJECT NO : 14466-1-0 C400SDP08.DWG
DATE : MARCH 4, 2009
SCALE : 1" = 40'
DRAWING NO. 8 OF 49

SDP-08-118

P\Project\14466\1-0\PLANS\C400SDP08.DWG



BY THE DEVELOPER :

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

DEVELOPER — DATE 7/6/09

BY THE ENGINEER :

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

ENGINEER — DATE 3-4-09

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/9/09

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/16/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/9/09

DATE	NO.	REVISION
8/25/10	2	ADDED SITE AMENITIES
8/12/09	1	REVISED PHASE II GRADING

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA — TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
GRADING AND SEDIMENT CONTROL PLAN PHASE 2

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8818 Centre Park Drive
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T 410.997.8900
F 410.997.9282

SEAL — 3-4-09

STATE OF MARYLAND — SHERRI CLARKS MITCHELL — 21551 — REGISTERED PROFESSIONAL ENGINEER

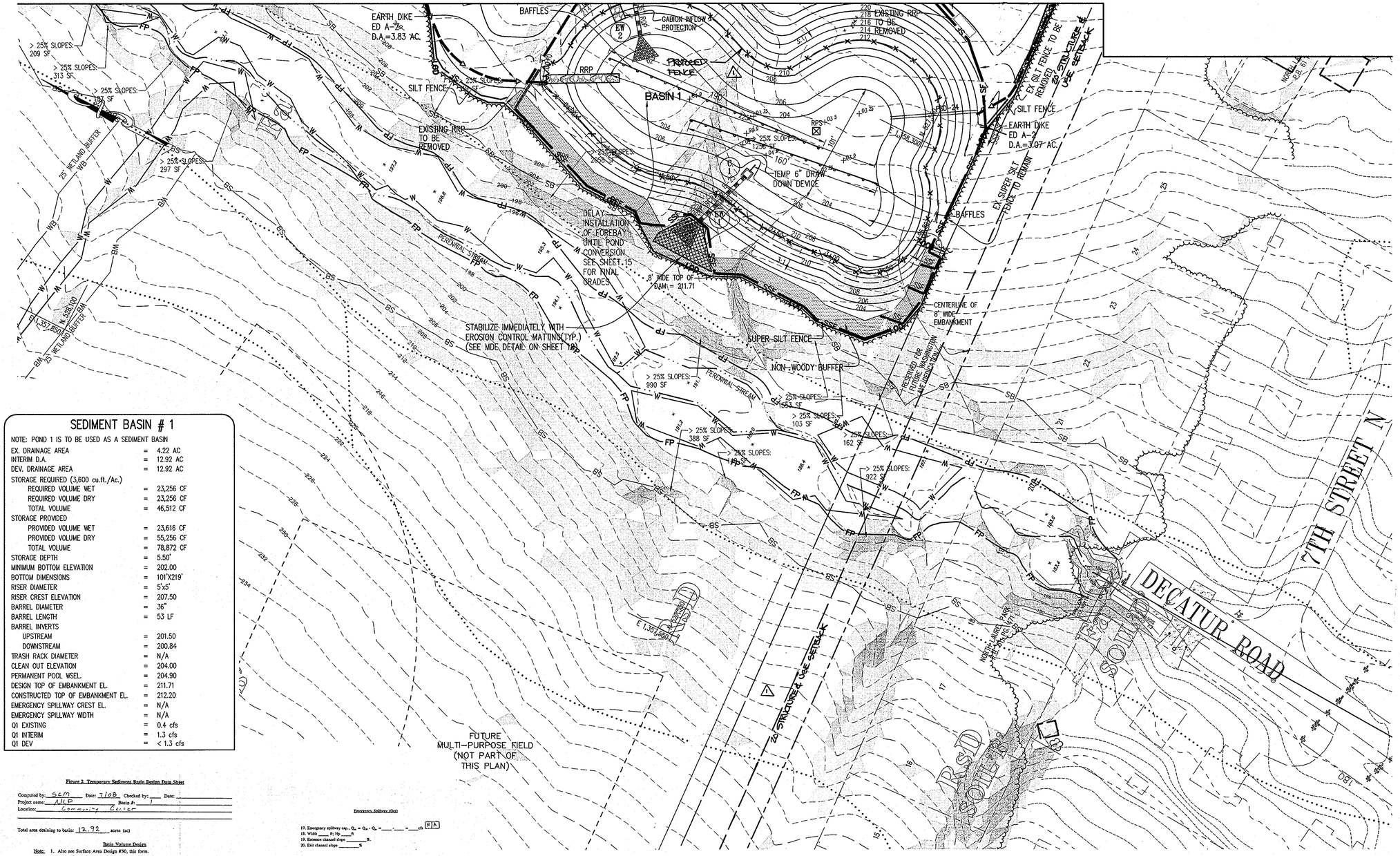
BY: Sherri C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	SCM/JSN
DRAWN BY:	SCM/JSN
PROJECT NO :	14466-1-0 C400SDP09.DWG
DATE :	MARCH 4, 2009
SCALE :	1" = 40'
DRAWING NO.	9 OF 54

SDP-08-118

MATCH LINE SEE SHEET 9



NOTE: SEE SHEET 8 FOR LEGEND

SEDIMENT BASIN # 1

NOTE: POND 1 IS TO BE USED AS A SEDIMENT BASIN

EX. DRAINAGE AREA	=	4.22 AC
INTERIM D.A.	=	12.92 AC
DEV. DRAINAGE AREA	=	12.92 AC
STORAGE REQUIRED (3,600 cu.ft./Ac.)		
REQUIRED VOLUME WET	=	23,256 CF
REQUIRED VOLUME DRY	=	23,256 CF
TOTAL VOLUME	=	46,512 CF
STORAGE PROVIDED		
PROVIDED VOLUME WET	=	23,616 CF
PROVIDED VOLUME DRY	=	55,256 CF
TOTAL VOLUME	=	78,872 CF
STORAGE DEPTH	=	5.50'
MINIMUM BOTTOM ELEVATION	=	202.00
BOTTOM DIMENSIONS	=	101'X219'
RISER DIAMETER	=	5'x5'
RISER CREST ELEVATION	=	207.50
BARREL DIAMETER	=	36"
BARREL LENGTH	=	53 LF
BARREL INVERTS		
UPSTREAM	=	201.50
DOWNSTREAM	=	200.84
TRASH RACK DIAMETER	=	N/A
CLEAN OUT ELEVATION	=	204.00
PERMANENT POOL WSEL.	=	204.90
DESIGN TOP OF EMBANKMENT EL.	=	211.71
CONSTRUCTED TOP OF EMBANKMENT EL.	=	212.20
EMERGENCY SPILLWAY CREST EL.	=	N/A
EMERGENCY SPILLWAY WIDTH	=	N/A
Q1 EXISTING	=	0.4 cfs
Q1 INTERIM	=	1.3 cfs
Q1 DEV	=	< 1.3 cfs

Figure 2 Temporary Sediment Basin Design Data Sheet

Computed by: SCM Date: 7/08 Checked by: ___ Date: ___
Project name: NLP Basin #: 1
Location: Community Center

Total area draining to basin: 12.92 acres (ac)

Basin Volume Design

Note: 1. Also see Surface Area Design #30, this form.
2. To convert ft² to yd², divide ft² by 27. To convert ft² to yd³, divide ft³ by 9.

1. Min. required vol. = 3600 ft³/ac x 12.92 ac. drainage = 46,512 ft³
2. Actual Volume of basin = 78,872 ft³
3. Excavate ___ ft³ (___ yd³) to obtain required capacity.
4. Vol. at dewatering elev. = 1800 ft³/ac x 12.92 ac. = 23,256 ft³
5. Vol. of basin at cleanout = 900 ft³/ac x 12.92 ac. = 11,628 ft³
6. Elevation corresponding to min. required volume of basin (riser crest elevation) 207.50 ft.
7. Permanent pool elevation 204.90 ft.
8. Distance from riser crest elevation to permanent pool elevation 2.60 ft.
9. Basin cleanout elevation 204.00ft.
10. Distance from riser crest elevation to cleanout elevation 3.50 ft.

Spillway Design

11. Q_{10} = 70 cfs (peak discharge from 10-yr, 24-hr storm event, attach computations)
Interim

Principal Spillway (Qpv) (See Detail 11)

12. Design Principal Spillway (Barrel) discharge, Design Q_b = ___ cfs (min. 10% of 10 year peak or 6" Diameter Pipe)
13. H = ___ ft.; Barrel length = ___ ft.
14. Barrel Diam. 24 in. Note: Q_b must equal or exceed Design Q_b
Q_b = Q (from Table 13 or 14) ___ x (length correction factor) ___ = ___ cfs.
15. Riser Diameter ___ in.; Riser Height ___ ft.; Riser Head (h) = ___ ft.
16. Trash Rack Diam. ___ in.; Trash Rack Height = ___ in.

Use Qb or Qp Comp.

NOTE: A table showing design data shall be included on the plan for each basin.

C-10-10 1994

Emergency Spillway (Qes)

17. Emergency spillway cap., $Q_e = Q_{10} - Q_p$ = ___ - ___ = ___ cfs (Q A)
18. Width ___ ft; Hp ___ ft
19. Entrance channel slope ___ %.
20. Exit channel slope ___ %

Anti-Seep Collar Design (If Required)

21. y = ___ ft.; z = ___:1; pipe slope = ___ %; Lc = ___ ft (Use Lc = Lmin)
22. Use ___ collars, ___ ft. x ___ in. square; projection = ___ ft.

Design Elevations

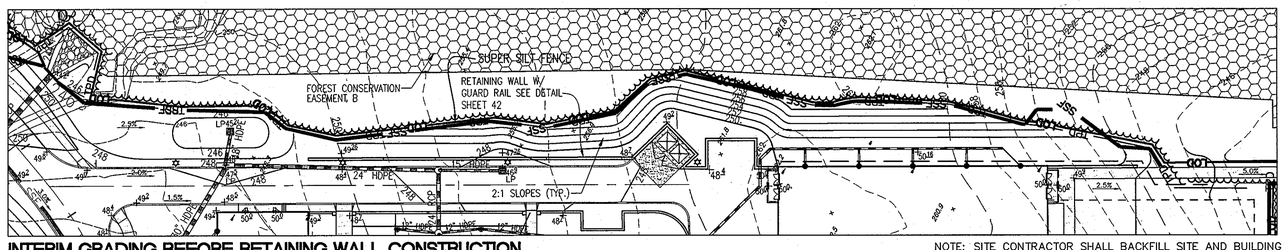
23. Riser Crest	= 207.50 ft.	24. Design High Water	= 207.98 ft. (Q10 + Qp)
25. Emergency Spillway Crest	= N/A ft.	26. Min. settled top of dam	= 211.71 ft.
27. Permanent pool	= 204.10 ft.	28. Bottom of Basin	= 202.00 ft.
29. Draw-down orifice layer	= 204.10 ft.		

Surface Area Design

30. Min.basin surface area; SA ≥ 0.0035 x Q_p = 0.0035 x 70 cfs ≤ 0.87ac. 0.245 ≤ 0.87

Draw-down Device

31. Draw-down device orifice diameter = 6" in. (From Table 11)
32. A_o = Total area of perforations ≥ 4A_w A_w= 0.80 ft²
A_o= (# of perforation/foot)(perforation area ft²)(perforated section length ft.)
A_o= 0.33 ft²
A_o = Internal orifice area (from Table 11 or computed) = 0.30 ft²
Use 1" Dia. openings, spaced 3" o.c.
# of holes per foot = 4 holes/LF
Diameter = 1 / 4 so 24 holes/LF
0.05
A_o = 0.0050 C-10-11 ∴ 0.12 ft²/ft
0.80 ft² / 0.12 ft²/ft = 6.6' Use 6.7' 1994



INTERIM GRADING BEFORE RETAINING WALL CONSTRUCTION
SCALE: 1"=40'

NOTE: SITE CONTRACTOR SHALL BACKFILL SITE AND BUILDING RETAINING WALLS UPON COMPLETION OF WALLS BY BUILDING CONTRACTOR.

BY THE DEVELOPER :

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

DEVELOPER — DATE 3/6/09

BY THE ENGINEER :

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

Sheryl C. Mitchell 3-4-09
ENGINEER — DATE

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/9/09

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/9/09

DATE	NO.	REVISION
8/25/10	1	ADDED FENCE REVISE SETBACKS

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE GRADING AND SEDIMENT CONTROL PLAN PHASE 2

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — 3-4-09

STATE OF MARYLAND — SHERYL CLARKE MITCHELL — No. 22054 — REGISTERED PROFESSIONAL ENGINEER

BY: Sheryl C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 22054, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	SCM
DRAWN BY:	SCM
PROJECT NO :	14466-1-0 C400SDSP10.DWG
DATE :	MARCH 4, 2009
SCALE :	1" = 40'
DRAWING NO.	10 OF 54

P:\Project\14466\1-0\PLANS\C400SDP10.DWG

SDP-08-118

STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313–1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE–DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A)7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER 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 THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 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 ONLY 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 OF SITE	51.61 ACRES
AREA DISTURBED	18.18 ACRES
AREA TO BE PAVED	5.51 ACRES
AREA TO BE VEGETATIVELY STABILIZED	12.67 ACRES
TOTAL CUT	80,076 CU. YARDS
TOTAL FILL	81,629 CU. YARDS
OFFSITE WASTE AREA LOCATION TO HAVE ACTIVE GRADING PERMIT	

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 WHICH SHALL BE BACK–FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
12. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
14. CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT–TERM VEGETATIVE COVER IS NEEDED. WHERE AREAS WILL NOT BE DISTURBED AGAIN IN THE SHORT TERM, USE PERMANENT SEEDING AS NOTED BELOW.

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. PER 1000 SQ.FT.).

SEEDING : FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2–1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS. PER 1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 10 LBS. PER ACRE OF FOXTAIL MILLET. FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING : APPLY 1–1/2 TO 2 TONS PER ACRE (70 TO 90 LBS. PER 1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL. PER 1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 347 GAL. PER ACRE (8 GAL. PER 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.

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 LOOSENED.

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

SEEDING : FOR THE PERIOD MARCH 1 THRU APRIL 30 AND FROM AUGUST 1 THRU OCTOBER 15, SEED WITH FOLLOWING MIXTURE: 100% TALL TURF TYPE FESCUE (3 WAY BLEND) AT 6 LBS/1,000 SF. ALL SEED VARIETIES MUST BE SELECTED FROM LIST OF RECOMMENDED CULTIVARS OF TURF–TYPE TALL FESCUES AS INDICATED BY THE UNIVERSITY OF MARYLAND AGRONOMY MIMEO 77 (REVISED MAY 1995) OR MOST CURRENT EDITION. SEED MIX SHALL CONSIST OF A THREE–WAY BLEND (34%, 33%, AND 33%) OF TURF–TYPE TALL FESCUES FROM ABOVE UNIVERSITY OF MARYLAND LIST OR RECOMMENDED CULTIVARS. DURING THE PERIOD OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY ONE OF THE FOLLOWING OPTIONS :

1) 2 TONS PER ACRE OF WELL–ANCHORED MULCH STRAW AND SEED AS SOON AS POSSIBLE IN THE SPRING.
2) USE SOD.
3) SEED AND MULCH WITH 2 TONS PER ACRE WELL ANCHORED STRAW.

MULCHING : APPLY 1–1/2 TO 2 TONS PER ACRE (70 TO 90 LBS. PER 1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL. PER 1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 347 GAL. PER ACRE (8 GAL. PER 1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE : INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

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

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

CONDITIONS WHERE PRACTICE APPLIES
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 EXPERIMENTATION 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 SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1–1/2" IN DIAMETER.
–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 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.

III. 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.

IIII. 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 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 TO 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 AMENDMENTS AS 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 PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

VI. ALTERNATIVE FOR PERMANENT SEEDING – INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:
–i. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITE HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
--a. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
--b. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
--c. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
--d. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE. REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING. MD–VA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.

ALL TOPSOIL TO BE STOCKPILED AND STORED ON SITE!!

DETAIL 24 – STABILIZED CONSTRUCTION ENTRANCE

Construction Specification

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.

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SEQUENCE OF CONSTRUCTION

THE GRADING, EROSION & SEDIMENT CONTROL AND CONSTRUCTION OF THIS T WILL BE DONE IN 2 PHASES. PHASE 1 PRIMARILY INCLUDES CONSTRUCTION OF DIMENT BASINS (TO BE CONVERTED TO SWM PONDS), WHILE PHASE 2 INVOLVES DING AND BUILDING OPERATIONS ON THE SITE.

OBT GRADING PERMIT AND ALL REQUIRED PERMITS FROM MDE (MDE TRACKING 86) FOR WETLAND DISTURBANCE. SCHEDULE AND ATTEND THE PRECONSTRU TING DAY)

OBTA EMOLITION PERMIT AND DEMOLISH EXISTING HOUSE. USE EXISTING ASPH VEWA R STAGING AREA. INSTALL STABILIZED CONSTRUCTION ENTRANCE AT SKEY OM ROAD. INSTALL STABILIZED CONSTRUCTION ENTRANCE AT MERED NUE IF DED FOR ACCESS TO SITE. (5 DAYS)

INSTALL FENCE ALONG PHASE I LIMIT OF DISTURBANCE FROM WHISKEY OM AD TO P SED CULVERT EW5 TO EW6, IF DEEMED NECESSARY BY INSPEC TALL SIL CE AS SHOWN ON SHEET 7 FROM MEREDITH AVENUE TO PON THIS RANCE IS BE USED. CLEAR AND GRUB FOR 15' WIDE CONSTRUCTION A S AD. (3 DA

INSTALL CU T EW5 TO EW6 AND RIP RAP QUICKLY AND WHEN THE W ER IS ECTED TO Y. PROVIDE 2 FOOT MINIMUM COVER OVER CULVERT PE RADING ON ET 7. IMMED Y STABILIZE DITCH UPSTREAM OF CULVERT. (3 DAYS)

INSTALL CLEA TER EARTH DIKES ALONG EAST SIDE OF PROPOSED Y ROAD TO ECT CLEAN W TO CULVERT. INSTALL EROSION CONTROL MATTING SHOWN ON ET 7. (2 DAYS

BEGIN POND NO. CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED TIALLY AS D AND UTILIZED SEDIMENT BASIN NO. 2.
a. INSTALL S SILT FENCE ALONG DOWNSTREAM TOE EMBANKMENT. AIN PERMISSION INSPECTOR BEFORE PROCEEDING. (1
b. CLEAR PON EA AND STRIP TOPSOIL FOR POND AREA STOCKPILE OUTSIDE OF EMBANKMENT AREA. (2 DAYS)
c. GRADE A SM AREA TO BOTTOM ELEVATION OF 220.5 INSTALL REMOVABLE ING STATION TO BE USED TO DEWATER WORK AREA DURING CONS TION. DIRECT FLOWS TO PUMPING STA SUCH THAT WATER MAY B MPED TO DEWATER THE WORK AREA. DAY)
d. CONSTRUCT TH UT–OFF TRENCH. CUTOFF AND CORE NCH BACKFILL MATERIAL IS TO T THE PROVISIONS OF MD–378 CR IA AS SUPERVISED BY GEOTECHNICAL ENGINEER. (2 DA
e. CONSTRUCT RIP OUTFALL, BARREL, CONCRETE C E, ANTI–SEEP COLLARS, AND R STRUCTURE. CONCRETE COLLAR RE TO BE CAST–IN–PLACE. ALL IN LATION IS TO BE OBSERVED B HRA ENGINEER. (3 DAYS)
f. CONSTRUCT EMBAN T IN 8" LIFTS, USING 4" L WITHIN 5 FEET HORIZONTALLY OF EL OR RISER. CONSTRUCT E.
g. GRADE CHECK AND MANENTLY STABILIZE EMB MENT. (1 DAY)
h. INSTALL TEMPORARY WDOWN DEVICE. (1 DA
i. EXCAVATE SEDIMENT N STORAGE AREA AS N ON SEDIMENT CONTROL PLAN SHEET (3 DAYS) DO NOT INS BIORETENTION FACILITY AT THIS TIME.
j. UPON COMPLETION OF , STABILIZE WITH ORARY SEEDING. (1 DAY)
k. OBTAIN PERMISSION FR SPECTOR AND RE E PHASE I EARTH DIKES AND RIP RAP PROTECTI 1 DAY)

INSTALL CULVERT AND RIP RAP STRUCTURE TO STRUCTURE EW8. PROVIDE FOOT MINIMUM COVER OVER CULV PER GRADING SHEET 7. IMMEDIATELY ABILIZE DITCH UPSTREAM OF CULV (3 DAYS)

CLEAR AND GRUB FOR REMAINDER CONSTRUC ACCESS ROAD TO BASIN/POND (3 DAYS)

BEGIN POND NO. 1 CONSTRUCTION. TY IS BE CONSTRUCTED INITIALLY AS D AND UTILIZED FOR SEDIMENT BAS O. 1.
a. INSTALL PHASE I EARTH DIKES R AP PROTECTION TO DIVERT DRAINAGE AROUND POND AREA STA SUPER SILT FENCE ALONG WNSTREAM TOE OF EMBANKMENT PERMISSION FROM INSPECTOR BEFORE CEEDING. (1 DAY)
b. CLEAR POND AREA AND STRIP FOR POND AREA AND STOCKPILE OUTSIDE OF THE EMBANKMENT A 2 DAYS)
c. GRADE A SMALL AREA TO BOTTOM VATION OF 200.5 AND INSTALL REMOVABLE PUMPING STATION TO USED TO DEWATER THE WORK AREA DURING CONSTRUCTION. DIRECT F TO PUMPING STATION SUCH THAT WATER MAY BE PUMPED TO DEW HE WORK AREA. (1 DAY)
d. CONSTRUCT THE CUT–OFF TREN OFF AND CORE TRENCH BACKFILL MATERIAL IS TO MEET THE PRO F MD–378 CRITERIA AS SUPERVISED BY THE GEOTECHN EER. (2 DAYS)
e. CONSTRUCT RIP RAP OUTFALL, RRE ONCRETE CRADLE, ANTI–SEEP COLLARS, AND RISER STRUCT CON TE COLLARS ARE TO BE CAST–IN–PLACE. ALL INSTALLATION IS BE O VED BY PHRA ENGINEER. (3 DAYS)
f. CONSTRUCT EMBANKMENT IN LIFTS, G 4" LIFTS WITHIN 5 FEET HORIZONTALLY OF BARREL ISER. C RUCT CORE.
g. GRADE CHECK AND PERMAN Y STABIL EMBANKMENT. (1 DAY)
h. INSTALL TEMPORARY DRAW N DEVICE SHOWN ON DETAIL ON SHEET 13. DELAY THE CONSTRUCTION LOW FLOW NING UNTIL POND CONVERSION. BLOCK POND AIN OPENING SHOWN ON SHEET 13. (1 DAY)
i. EXCAVATE POND STORAG REA AS SHOWN SEDIMENT CONTROL PLAN SHEET 9. (3 DAYS) DO INSTALL FOREB WEIR AT THIS TIME.
j. UPON COMPLETION OF , STABILIZE WITH MPORARY SEEDING. (1 DAY)
k. OBTAIN PERMISSION FR NSPECTOR AND R VE PHASE I EARTH DIKES AND RIP RAP PROTECT (1 DAY)

ASE 2:

INSTALL REMAINING PERIM CONTROLS. (1 WEEK)

OBTAIN PERMISSION FRO SPECTOR. BEGIN CLEARING GRADING. FOLLOW DUS TROL PRACTICES PER M DETAIL H–30–1 (SEE SHEET THROUGHOUT THE DING AND CONSTRUCTI CTIVITY ON THE SITE. (3 MON

INSTALL STABILIZED C RUCTION ENTRANCE AND SILT F E AT MEREDITH AVENU OT INSTALLED IN STE BEGIN INSTALLATION OF WATER, ER, STORM DRAIN AN HARGE TRENCHES. S IN RECHARGE TRENCHES IS TO B PT CLEAN. (2 THS)

CONSTRUCT TEMPO Y 15" CMP FROM EARTH DIKE (WHICH VEYS SEDIMENT EN WATER TO STR RE I18). USE SANDBAGS TO HOLD TEM ARY 15" CMP IN CE. (3 DAYS)

BEGIN PAVING, AND GUTTER, SIDEWALK AND BUILDING CO RUCTION. (2 THS)

CONSTRUCT R IMPROVEMENTS ALONG WHISKEY BOTTOM ROAD STALL CURB T PROTECTION STRUCTURE I19. RELOCATE BGE POWER POLES. MONTHS)

UPON COMPL N OF ALL CONSTRUCTION AND STABILIZATION OF GRASSED AS WITH PE ENT SEEDING, APPLY FINAL PAVING SURFACE COUR AND STABILI REMAINING AS. (1 WEEK)

OBTAIN PE SSION FROM INSPECTOR AND FLUSH STORM DRAIN. (1 D

SEEK PE SION FROM SEDIMENT CONTROL INSPECTOR BEFORE PROC NG THER. M OUT AND BEGIN CONVERSION OF SEDIMENT BASINS 1 AND O MANENT RMWATER MANAGEMENT PONDS 1 AND 2. CONSTRUCT BIOR TION ILITY IN D 2. REMOVE DRAWDOWN DEVICES AND REMOVABLE PUMPIN TATIONS OVE S PLATES AND INSTALL LOW FLOW PIPE AND POND DRAIN IN 1. TALL T H RACKS. PERMANENTLY BLOCK OPENING IN RISER FOR POND R WDOW VICE USING NON–SHRINK GROUT AND PARGING. FINE GRADE P TOMS TALL FOREBAY WEIR IN POND 1 AND GABION WEIR IN POND 1 A OND SHO N APPROVED SWM PLANS. (3 WEEKS)

INS LANDSCAPING IN PONDS 1 AND 2. (1 WEEK)

C ACTOR TO LOCATE AND REMOVE ALL OLD AND NEW JUNK, TRASH AND BR M LANDS, STREAMS, BUFFERS, FLOODPLAIN, FOREST AND OPEN SPACE.

PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL RE T CONTROL DEVICES AND STABILIZE DISTURBED AREAS IN ACCORDANCE WI ENT SEEDING NOTES. (2 DAYS)

Provide As-builts to county and Howard SCD.

SEE REVISED SOC SHEET 46

CONSTRUCTION EXIT WITH CLEAN–OUT RACKS

MAINTENANCE

The exit shall be maintained in a condition which will prevent tracking or flow of mud onto public rights–of–way. This may require periodic top dressing with 2 inch stone, as conditions demand; and repair and/or cleanout of the structures used to collect fallen material. All materials spilled, dropped, washed or tracked from vehicles onto roadways shall be removed immediately.

USE

On sites where excessive hauling (300 loads or more) is anticipated. For dry use provide cleanouts as shown and maintain as directed. When use for washing mud from vehicles before leaving site, modify and lead runoff to a sediment basin or device as directed.

WASH RACK DETAILS – ADAPTED FROM MONTGOMERY COUNTY STANDARDS

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 11/2" x 11/2" square (minimum) cut, or 13/4" 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.

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DETAIL 23C – CURB INLET PROTECTION

MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard drawing.
2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).
4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the 1/2 " x 1/2 " wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4 " x 1 1/2 " stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

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

3/6/09
DEVELOPER DATE

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

Sherryl C. Mitchell 3-4-09
ENGINEER DATE

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

3/9/09
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

3/23/09
DIRECTOR, DEP. DATE

3/10/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

3/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
8/12/09	1	REVISED SOC

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C–0304

AREA
TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A–1, 187 & 1065 ZONED R–SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
SEDIMENT CONTROL DETAILS AND NOTES

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

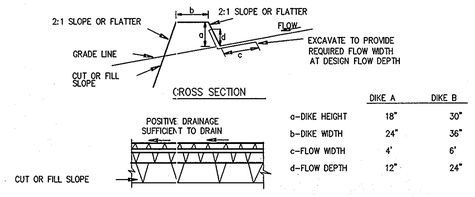
SEAL
STATE OF MARYLAND SHERRYL CLARKE MITCHELL No. 33954 REGISTERED PROFESSIONAL ENGINEER
3-4-09
BY: Sherryl C. Mitchell
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01–24–11"

DESIGNED BY :SCM
DRAWN BY: SGM
PROJECT NO : 14466–1–0 C400SDP11.DWG
DATE : MARCH 4, 2009
SCALE : AS SHOWN
DRAWING NO. 11 OF 49

P:\Project\14466\1–0\PLANS\C400SDP11.DWG

SDP–08–118

DETAIL 1 – EARTH DIKE



	DIKE A	DIKE B
a–DIKE HEIGHT	18"	30"
b–DIKE WIDTH	24"	36"
c–FLOW WIDTH	4'	6'
d–FLOW DEPTH	12"	24"

STANDARD SYMBOL: A–2 B–3

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" – 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non–erosive velocity.
4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
6. Fill shall be compacted by earth moving equipment.
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
8. Inspection and maintenance must be provided periodically and after each rain event.

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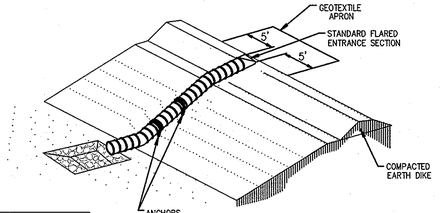
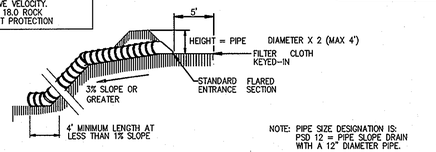
DETAIL 4 – PIPE SLOPE DRAIN



DISCHARGE INTO A STABILIZED WATER–COURSE, SEDIMENT TRAPPING DEVICE, OR INTO A STABILIZED AREA AT A NON–EROSIVE VELOCITY. REF: 18.0 ROCK OUTLET PROTECTION

STANDARD SYMBOL: PSD – 12



NOTE: PIPE SIZE DESIGNATION IS: PSD 12 = PIPE SLOPE DRAIN WITH A 12" DIAMETER PIPE.

Table 6 Design Criteria for Pipe Slope Drain

Size	Pipe/Tubing Diameter (D) in	Maximum Drainage Area (Acres)
PSD–12	12	0.5
PSD–18	18	1.5
PSD–21	21	2.5
PSD–24	24	3.5
PSD–24 (2)	24	5.0

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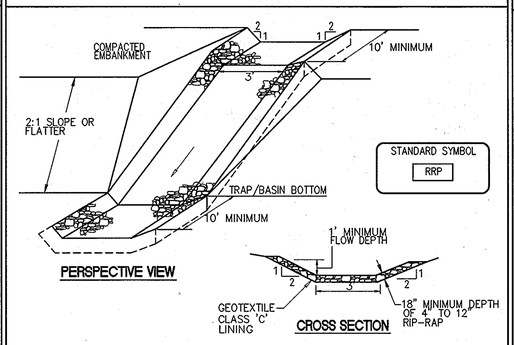
DETAIL 5 – RIP–RAP INFLOW PROTECTION



STANDARD SYMBOL: RRP

CONSTRUCTION SPECIFICATIONS

1. RIP–RAP LINED INFLOW CHANNELS SHALL BE 1' IN DEPTH, HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND 3' (MIN.) BOTTOM WIDTH. THE CHANNEL SHALL BE LINED WITH 4" TO 12" RIP– RAP TO A DEPTH OF 18".
2. FILTER CLOTH SHALL BE INSTALLED UNDER ALL RIP–RAP. FILTER CLOTH SHALL BE GEOTEXTILE CLASS C.
3. ENTRANCE AND EXIT SECTIONS SHALL BE INSTALLED AS SHOWN ON THE DETAIL SECTION.
4. RIP–RAP USED FOR THE LINING MAY BE RECYCLED FOR PERMANENT OUTLET PROTECTION IF THE BASIN IS TO BE CONVERTED TO A STORMWATER MANAGEMENT FACILITY.
5. GABION INFLOW PROTECTION MAY BE USED IN LIEU OF RIP–RAP INFLOW PROTECTION.
6. RIP–RAP SHOULD BLEND INTO EXISTING GROUND.
7. RIP–RAP INFLOW PROTECTION SHALL BE USED WHERE THE SLOPE IS BETWEEN 4:1 AND 10:1, FOR SLOPES FLATTER THAN 10:1 USE EARTH DIKE OR TEMPORARY SWALE LINING CRITERIA.

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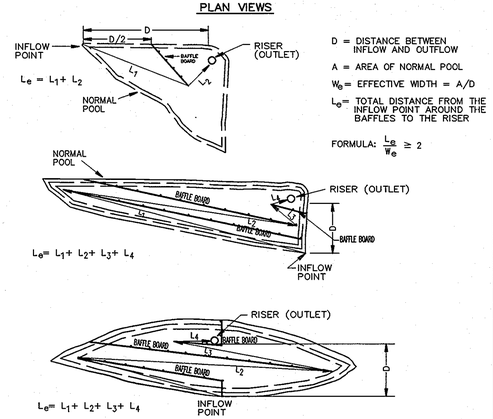
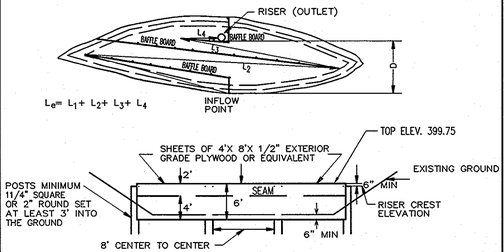
DETAIL 18 – SEDIMENT BASIN BAFFLES

PLAN VIEWS



D = DISTANCE BETWEEN INFLOW AND OUTFLOW
A = AREA OF NORMAL POOL
W_e = EFFECTIVE WIDTH = A/D
L_e = TOTAL DISTANCE FROM THE INFLOW POINT AROUND THE BAFFLES TO THE RISER
FORMULA: $\frac{L_e}{W_e} \geq 2$



BAFFLE DETAIL

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C – 10 – 28	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BY THE DEVELOPER :

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

DEVELOPER — DATE 3/6/09

BY THE ENGINEER :

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

ENGINEER Sheryl C. Mitchell — DATE 3-1-09

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/9/09

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/19/09

DATE	NO.	REVISION

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C–0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A–1, 187 & 1065 ZONED R–SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
SEDIMENT CONTROL DETAILS

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — 3-4-09

BY: Sheryl C. Mitchell

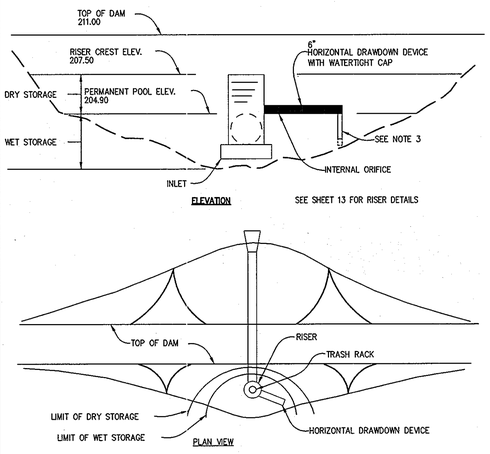
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33904, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	SCM
DRAWN BY:	SGM
PROJECT NO :	14466–1–0 C400SDP12.DWG
DATE :	MARCH 4, 2009
SCALE :	AS SHOWN
DRAWING NO.	12 OF 42

P:\Project\14466\1-0\PLANS\C400SDP12.DWG

POND 1

SEDIMENT TRAP AND BASIN DRAWDOWN SCHEMATIC HORIZONTAL DRAW DOWN DEVICE



Construction Specifications

1. The total area of the perforation must be greater than 2 times the area of the internal orifice.
2. The perforated portion of the drawdown device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.
3. Provide support of drawdown device to prevent sagging and floatation. An acceptable preventative measure is to stake both sides of drawdown 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.

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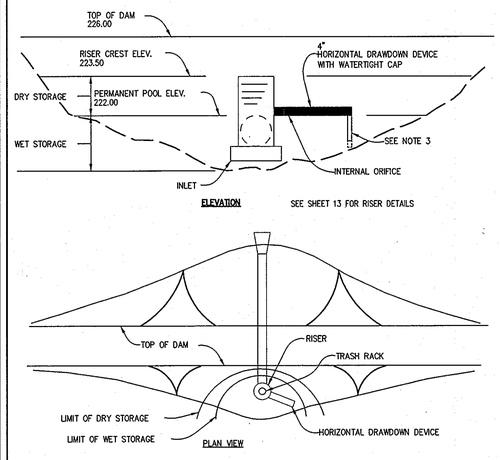
POND 2

SEDIMENT TRAP AND BASIN DRAWDOWN SCHEMATIC HORIZONTAL DRAW DOWN DEVICE



Construction Specifications

1. The total area of the perforation must be greater than 2 times the area of the internal orifice.
2. The perforated portion of the drawdown device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.
3. Provide support of drawdown device to prevent sagging and floatation. An acceptable preventative measure is to stake both sides of drawdown 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.

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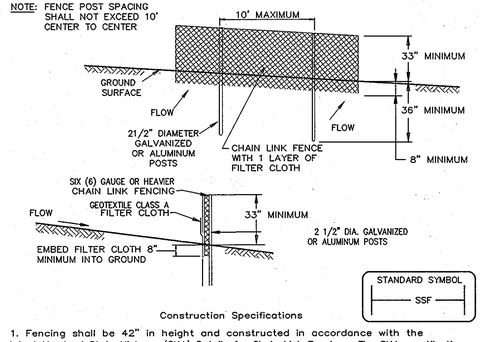
DETAIL 33 – SUPER SILT FENCE



STANDARD SYMBOL: SSF

Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway (SHA) Details for Chain Link Fencing. The SHA specifications for a 6 foot fence shall be used, substituting 42" fabric and 6 foot length posts.
2. The posts do not need to be set in concrete.
3. Chain link fence shall be fastened securely to the fence posts with wire ties or staples. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence. The chain link fencing shall be six (6) gauge or heavier.
4. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
5. Filter cloth shall be embedded a minimum of 8" into the ground.
6. When two sections of geotextile fabric adjoin each other, they shall be overlapped by 6" and folded.
7. 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

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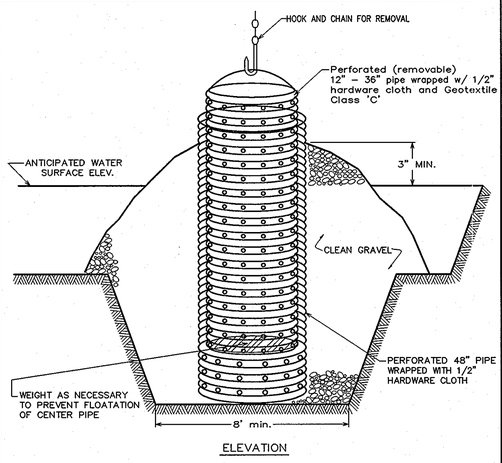
DETAIL 20A – REMOVABLE PUMPING STATION



ELEVATION

Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.
4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

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SDP–08–118

BASIN 1 RISER MODIFICATION DETAIL

SECTION "C-C"
SCALE: 1'=2'

SECTION "D-D"
SCALE: 1'=2'

BASIN 1 RISER MODIFICATION DETAIL
SCALE: 1'=2'

BASIN 2 RISER MODIFICATION DETAIL

SECTION "C-C"
SCALE: 1'=2'

SECTION "D-D"
SCALE: 1'=2'

BASIN 2 RISER MODIFICATION DETAIL
SCALE: 1'=2'

TEMPORARY 15" CMP
SCALE : 1"=50'

30.0 - DUST CONTROL

DEFINITION

CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

PURPOSE

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.

CONDITIONS WHERE PRACTICE APPLIES

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

SPECIFICATIONS

TEMPORARY METHODS

1. MULCHES – SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
2. VEGATATIVE COVER – SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
3. TILLAGE – TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12" APART, SPRING-TOOTHED HARROWS, AND SIMILIAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
4. IRRIGATION – THIS IS GENERALLY DONE AS AN EMERGENGY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
5. BARRIERS – SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMIILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
6. CALCIUM CHLORIDE – APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

PERMANENT METHODS

1. PERMANENT VEGETATION – SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
2. TOPSOILING – COVERING WITH LESS EROSIVE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
3. STONE – COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

REFERENCES

1. AGRICULTURE HANDBOOK 346. WIND EROSION FORCES IN THE UNITED STATES AND THEIR USES IN PREDICTING SOIL LOSS.
2. AGRICULTURE INFORMATION BULLETIN 354. HOW TO CONTROL WIND EROSION, USDA-ARS.

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DETAIL 26 - ROCK OUTLET PROTECTION II

NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

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APPENDIX 5

ROCK OUTLET PROTECTION II

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.

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MOUNTABLE BERM

Not to scale

Filter cloth shall be Geotextile Class 'C', or better.

BY THE DEVELOPER :

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

[signature] 3/6/09
DEVELOPER — DATE

BY THE ENGINEER :

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

Sheryl C. Mitchell 3-4-09
ENGINEER — DATE

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

[signature] 3/9/09
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Thomas E. Butler 3/23/09
DIRECTOR — DATE

[signature] 3/10/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Cindy Hamilton 3/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
SEDIMENT CONTROL DETAILS

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL 3-4-09
STATE OF MARYLAND — SHERYL CLARKE MITCHELL — No. 33954 — REGISTERED PROFESSIONAL ENGINEER
BY: [signature]
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY : SCM
DRAWN BY: SGM
PROJECT NO : 14466-1-0 C400SDP13.DWG
DATE : MARCH 4, 2009
SCALE : AS SHOWN
DRAWING NO. 13 OF 42

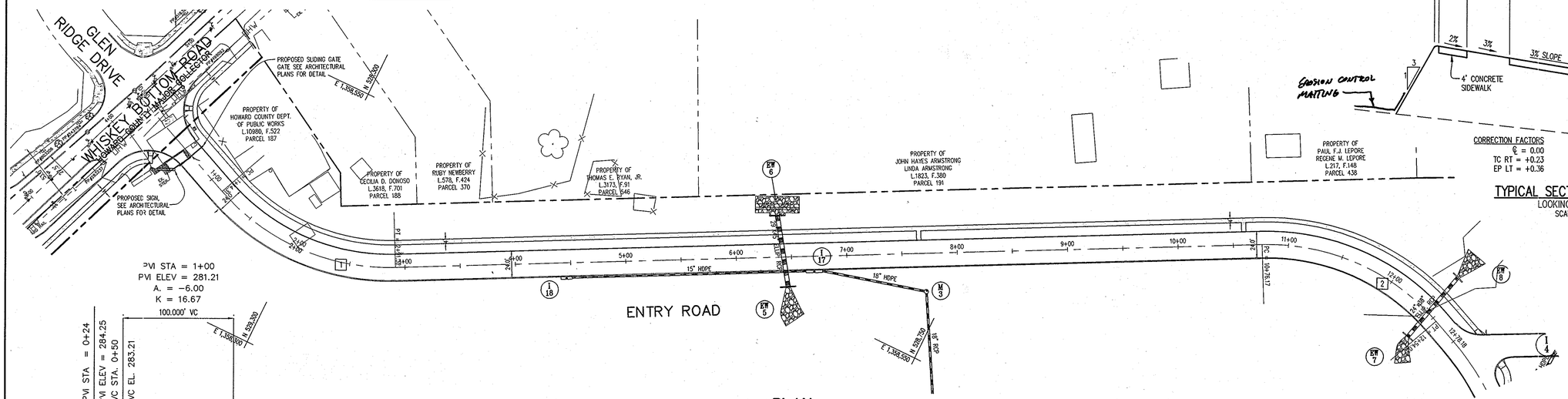
SDP-08-118

LEGEND

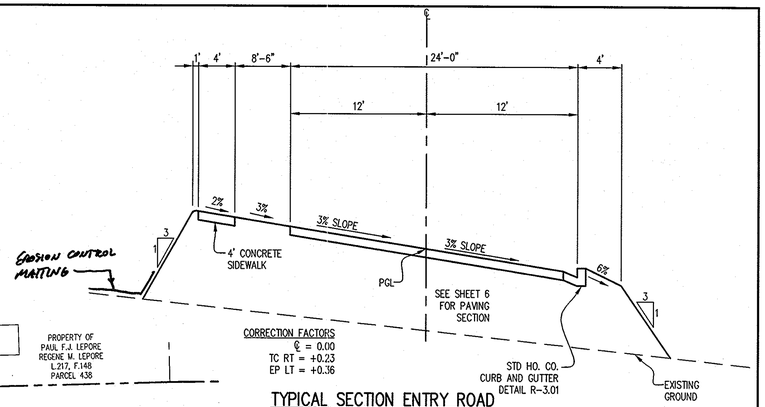
- EX. GRND. AT CENTER LINE
- EX. GRND. 20' RIGHT
- EX. GRND. 20' LEFT
- PROP. GRADE AT CENTER LINE

CURVE DATA TABLE

CURVE NO.	DELTA	RADIUS	ARC	TAN	CHD. BRG.	CHD. LEN.
1	50°42'39"	200.00	177.01	94.78	S02°02'37"E	171.29
2	50°57'17"	200.00	177.87	95.30	S01°55'18"E	172.06

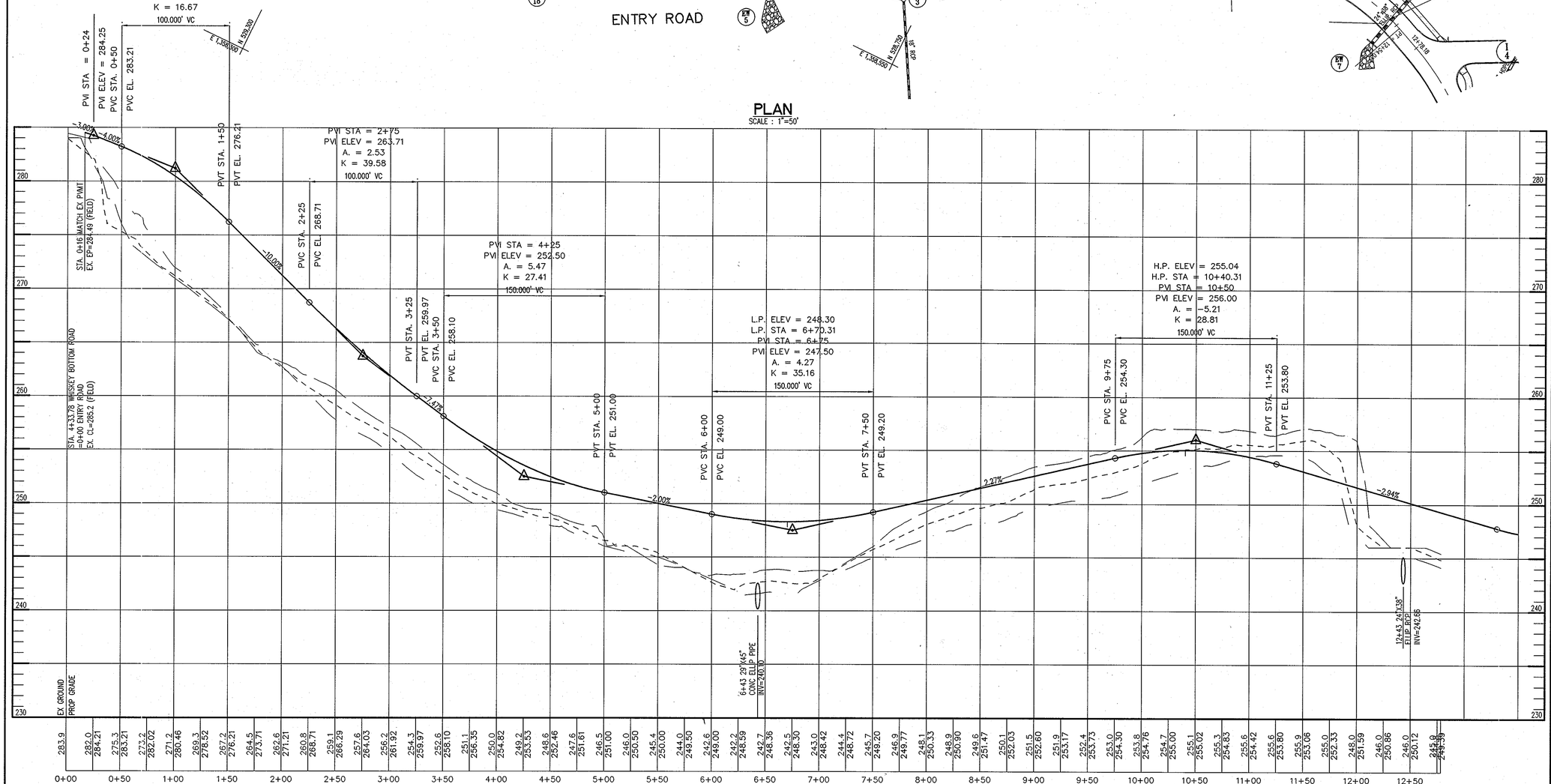


PLAN
SCALE : 1"=50'



CORRECTION FACTORS
℄ = 0.00
TC RT = +0.23
EP LT = +0.36

TYPICAL SECTION ENTRY ROAD
LOOKING UPSTATION
SCALE : NTS



ENTRY ROAD
SCALE : HOR: 1"=50'
VERT: 1"=5'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/19/09

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
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9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
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PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
GRADE ESTABLISHMENT PLAN
ENTRY ROAD FROM WHISKEY BOTTOM ROAD

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

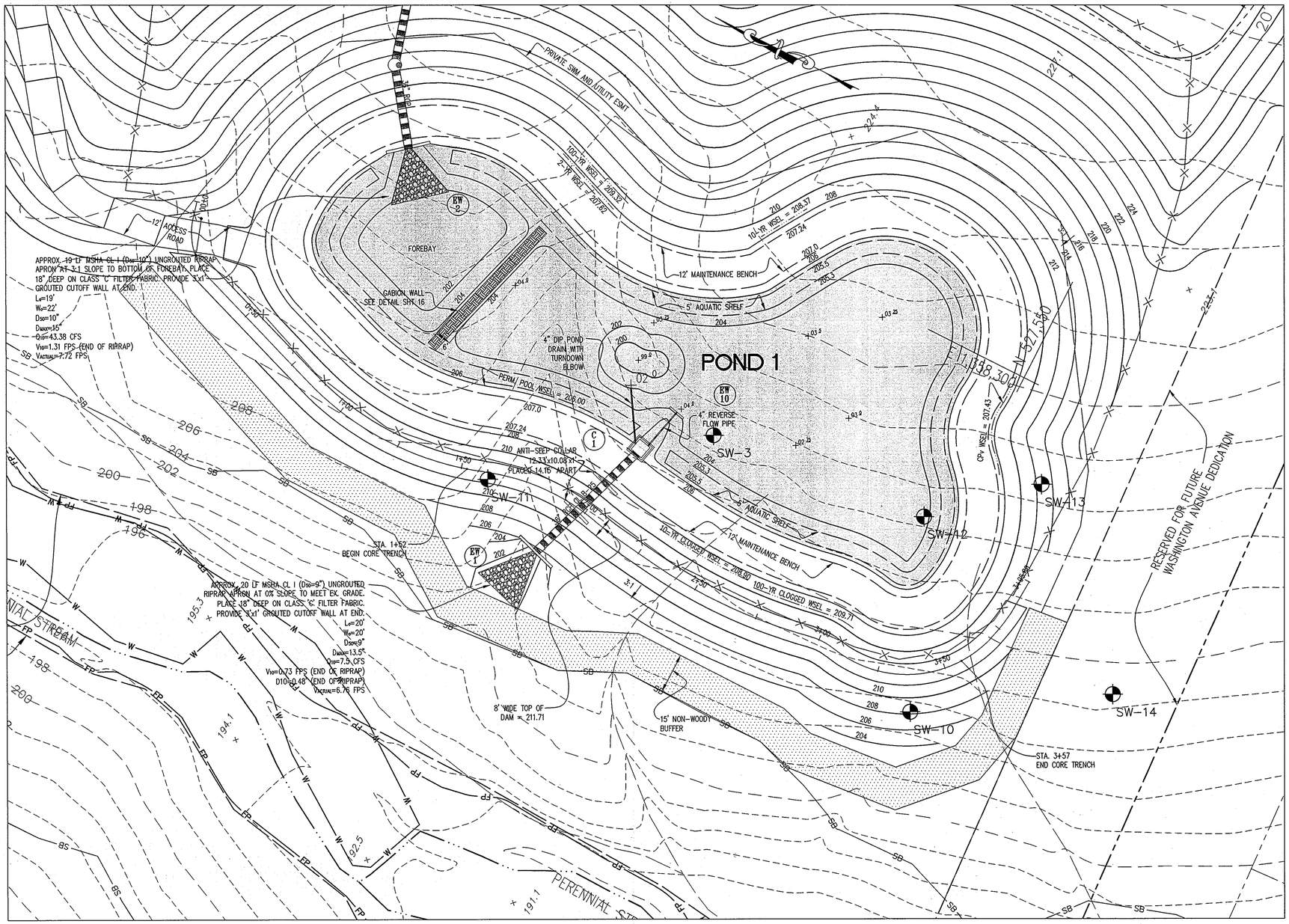
SEAL — 34-01
STATE OF MARYLAND — SHERYL CLARKE MITCHELL — No. 34-01 — PROFESSIONAL ENGINEER
BY: Sheryl C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	SCM
DRAWN BY:	SGM
PROJECT NO :	14466-1-O C400SDP14.DWG
DATE :	MARCH 4, 2009
SCALE :	AS SHOWN
DRAWING NO.	14 OF 42

P:\Project\14466\1-O\PLANS\C400SDP14.DWG

SDP-08-118



STORMWATER MANAGEMENT POND No. 1 PLAN

SCALE : 1" = 20'

NOTE: REFER TO GEOTECHNICAL REPORT FOR COMPLETE SET OF SITE AND BUILDING SOIL BORINGS.

BY THE DEVELOPER :

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

DEVELOPER — DATE 3/6/09

BY THE ENGINEER :

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

ENGINEER — DATE 3-4-09

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/9/09

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/9/09

DATE	NO.	REVISION

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
STORMWATER MANAGEMENT POND 1 PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

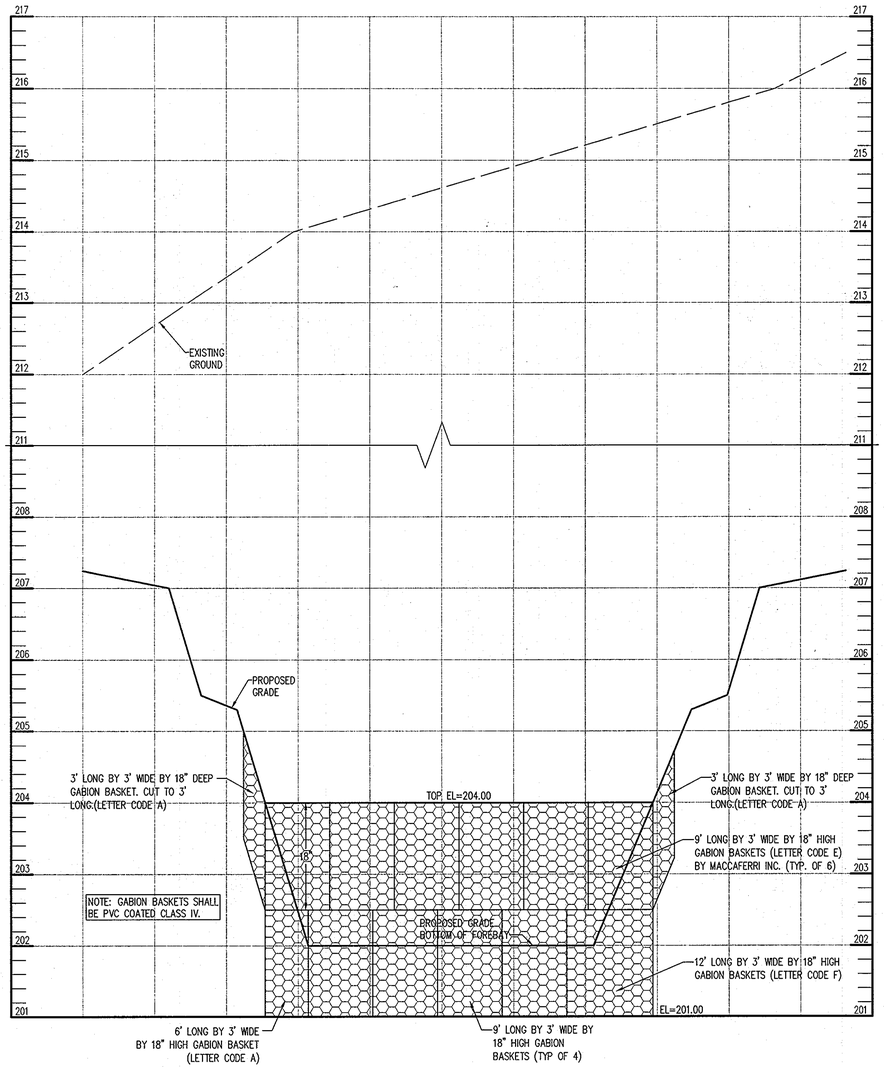
SEAL — STATE OF MARYLAND — STEPHEN CLARKE HEIDEBRINK — REG. NO. 33954 — REGISTERED PROFESSIONAL ENGINEER — 3.4.09

BY: Steven C. Heidebrink

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

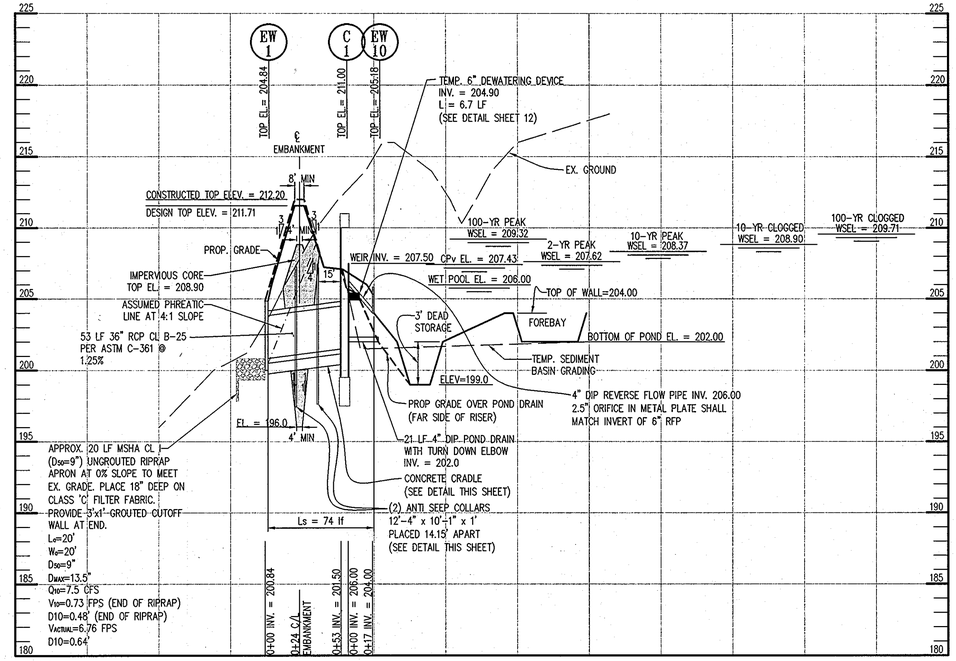
DESIGNED BY :	PDS
DRAWN BY:	PDS
PROJECT NO :	14466-1-0 C400SDP15.DWG
DATE :	MARCH 4, 2009
SCALE :	AS SHOWN
DRAWING NO.	15 OF 42

SDP-08-118



POND NUMBER 1 GABION WALL DETAIL

SCALE : HOR: 1"=10'
VERT: 1"=1'

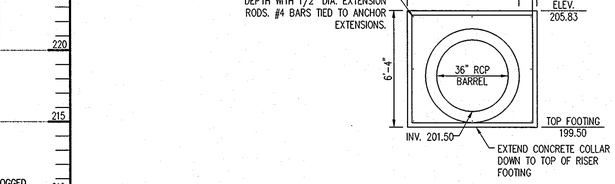


POND 1 PRINCIPAL SPILLWAY PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'

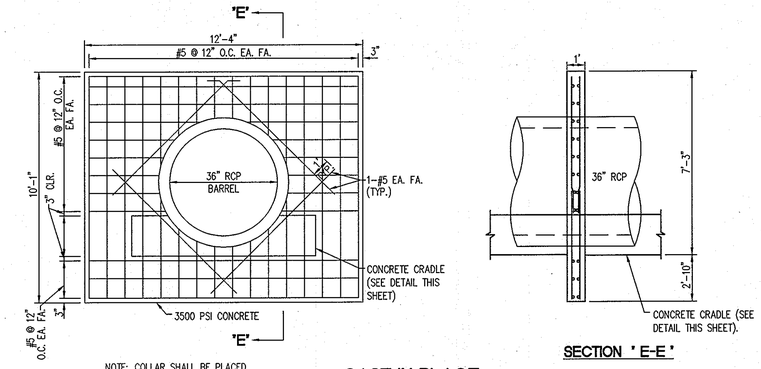
POND 1 EMBANKMENT CENTERLINE PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'



CONCRETE COLLAR DETAIL AT 36" RCP BARREL CONNECTION TO RISER

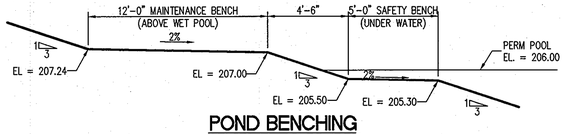
NOT TO SCALE



CAST IN PLACE ANTI-SEEP COLLAR DETAIL

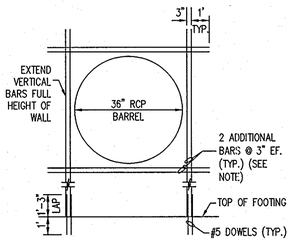
(2 REQUIRED)
NOT TO SCALE

SECTION 'E-E'



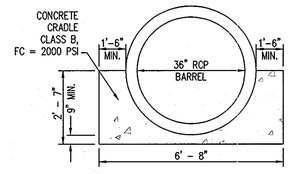
POND BENCHING TYPICAL SECTION

NOT TO SCALE



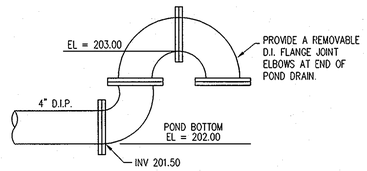
OPENING REINFORCING DETAIL

NOT TO SCALE



CONCRETE CRADLE DETAIL

NOT TO SCALE



TURN DOWN ELBOW

NOT TO SCALE

BY THE DEVELOPER :

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DEVELOPER — DATE 3/6/09

BY THE ENGINEER :

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ENGINEER — DATE 3-4-09

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/9/09

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/9/09

DATE	NO.	REVISION

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA — TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE — STORMWATER MANAGEMENT POND 1 PROFILES AND DETAILS

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — STATE OF MARYLAND — STEVEN CLARKE MITCHELL — No. 22503 — REGISTERED PROFESSIONAL ENGINEER

3-4-09

BY: Steven C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 22503, EXPIRATION DATE: 07-24-11"

DESIGNED BY :	PDS
DRAWN BY:	PDS
PROJECT NO :	14466-1-0 C400SDP16.DWG
DATE :	MARCH 4, 2009
SCALE :	AS SHOWN
DRAWING NO.	16 OF 42

SDP-08-118

TOP SLAB
SCALE: 1"=2'

SECTION "C-C"
SCALE: 1"=2'

RISER GENERAL NOTES:
1. THIS DETAIL IS FOR A PRECAST RISER ONLY.

2. SHOP DRAWINGS MUST BE APPROVED BY THE DESIGN ENGINEER PRIOR TO FABRICATION.

3. RISER STRUCTURES MUST BE REINFORCED CONCRETE.

4. ALL CONNECTIONS SHALL BE WATERTIGHT.

PLAN SECTION TOP SLAB REMOVED
SCALE: 1"=2'

SECTION "D-D"
SCALE: 1"=2'

POND 1 CONCRETE RISER DETAIL STRUCTURE C1
SCALE: 1"=2'

SECTION "A-A" SIDE VIEW

SECTION "B-B" BOTTOM VIEW

FRONT ELEVATION

TRASH RACK BOLTED TO OUTSIDE FACE OF STRUCTURE WITH 1/2" DIA. EXPANSION BOLTS (HILTI KWIK BOLT OR EQUAL) @ 12" C.C. (TYP.) DRILL ANGLE FRAME TO ALLOW PASSAGE OF BOLTS.

REMOVABLE TRASH RACK NOTES:

1. ENTIRE TRASH RACK MUST BE HOT DIPPED GALVANIZED AFTER CONSTRUCTION.
2. BUTT WELD FRAME ANGLE, FILLET WELD BARS TO ANGLE FRAME.
3. PROVIDE 1/4" FILLET WELD AT BAR CROSSINGS.
4. ANGLE FRAMES AND BARS SHALL BE FABRICATED USING ASTM A-36 STEEL.
5. TRASH RACK SHALL BE MOUNTED TO RISER WITH 1/2" DIA. STAINLESS STEEL HEX HEAD BOLTS.
6. HORIZONTAL BARS TO BE BEHIND VERTICAL BARS.
7. TRASH RACK SHALL BE PAINTED BATTLESHIP GREY.

RISER TRASH RACK DETAILS - FRONT WALL
NOT TO SCALE

BIORETENTION SPECIFICATIONS

1. THE UNDERDRAIN PIPE MUST BE 6-INCH DIAMETER SCHEDULE 40 OR STRONGER PERFORATED PVC PIPE AT 0.00% SLOPE. A MINIMUM OF THREE INCHES OF GRAVEL MUST BE PLACED UNDER THE PIPE, WITH A MINIMUM OF 6 INCHES OF GRAVEL OVER THE PIPE. PERFORATIONS MUST BE 3/8 INCH IN DIAMETER AND MUST BE LOCATED 4 INCHES ON CENTER, EVERY 90 DEGREES AROUND THE PIPE. PERFORATED PIPE MUST BEGIN AT LEAST 5FT. INSIDE THE FILTER MEDIA. FILTER FABRIC MUST NOT BE WRAPPED AROUND THE UNDERDRAIN PIPE.

2. 4" INCH CLEAN-OUTS SHOULD BE USED. CLEANOUTS FOR EACH PIPE SHOULD EXTEND 6 INCHES ABOVE THE TOP OF THE PLANTING MEDIA AND HAVE A REMOVABLE CAP.

3. THE GRAVEL LAYER SURROUNDING THE UNDERDRAIN PIPES MUST MEET MSHA SIZE #7 (TABLE 901A), AND MUST PROVIDE A MINIMUM OF 6 INCHES COVER OVER THE PIPE, AND MINIMUM 3 INCHES UNDER THE PIPE. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED ANYWHERE WITHIN THE FILTER MEDIA (STONE OR SAND).

4. A MINIMUM 6-INCH FINE AGGREGATE SAND LAYER SHALL BE PROVIDED BELOW THE SOIL FILTER/PLANTING MEDIA. A SAND WINDOW SHALL EXTEND FROM THE SAND FILTER TO THE SURFACE OF THE PLANTING MEDIA. THE SAND WINDOW MUST BE ASTM C33 FINE AGGREGATE CONCRETE SAND. MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE.

5. THE PLANTING MEDIA SHALL CONSIST OF 1/3 PERLITE, 1/3 COMPOST AND 1/3 TOPSOIL. THE PERLITE SHALL BE COARSE GRADE HORTICULTURAL PERLITE. THE COMPOST SHALL BE HIGH GRADE COMPOST FREE OF STONES AND PARTIALLY COMPOSTED WOODY MATERIAL. THE SOIL SHALL MEET THE FOLLOWING MINIMUM CRITERIA: CONTAIN NO MORE THAN 10% CLAY, 30-55% SILT AND 35-60% SAND. THE SOIL SHALL BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES. THE FIRST LAYER OF THE PLANTING MEDIA SHALL BE LIGHTLY TILLED TO MIX IT INTO THE SAND LAYER, SO NOT TO CREATE A DEFINITIVE BOUNDARY. THE PLANTING MATERIAL SHALL BE FLOODED AFTER PLACEMENT. ANY SETTLEMENT THAT OCCURS SHALL BE FILLED BACK TO THE DESIGN ELEVATION.

6. THE SURFACE MULCH LAYER WILL CONSIST OF STANDARD FINE SHREDDED AGED HARDWOOD MULCH. THE MULCH SHOULD BE UNIFORMLY TO A DEPTH OF 2 TO 3 INCHES. YEARLY REPLENISHING MAY BE NECESSARY. PINE BARK IS NOT ACCEPTABLE.

BIORETENTION AREA OPERATION AND MAINTENANCE SCHEDULE

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER 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 PLANTING INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASE 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 YEARS.

4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE A MONTH AND AFTER HEAVY STORMS.

BIORETENTION TYPICAL SECTION
NOT TO SCALE

BIORETENTION DATA TABLE				
	A	B	C	D
BR1	227.00	226.00	9"	21"

LOCATION	"A"	"B"
ReV1	233.50	236.00
ReV2	232.00	234.50
ReV3	233.50	236.00
ReV4	233.50	236.00

TYPICAL SECTION RECHARGE TRENCH
(NOT TO SCALE)

CLEANOUT / OBSERVATION WELL CAP
(NOT TO SCALE)

BY THE DEVELOPER :
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3/6/09
DEVELOPER — DATE

BY THE ENGINEER :
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Sheryl C. Mitchell 3-4-09
ENGINEER — DATE

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

3/9/09
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Marsha S. Butler 3/23/09
DIRECTOR, DEP. — DATE

3/10/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Cindy Hamilton 3/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA
TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
STORMWATER MANAGEMENT POND 1
AND BIORETENTION DETAILS

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL

BY: Sheryl C. Mitchell

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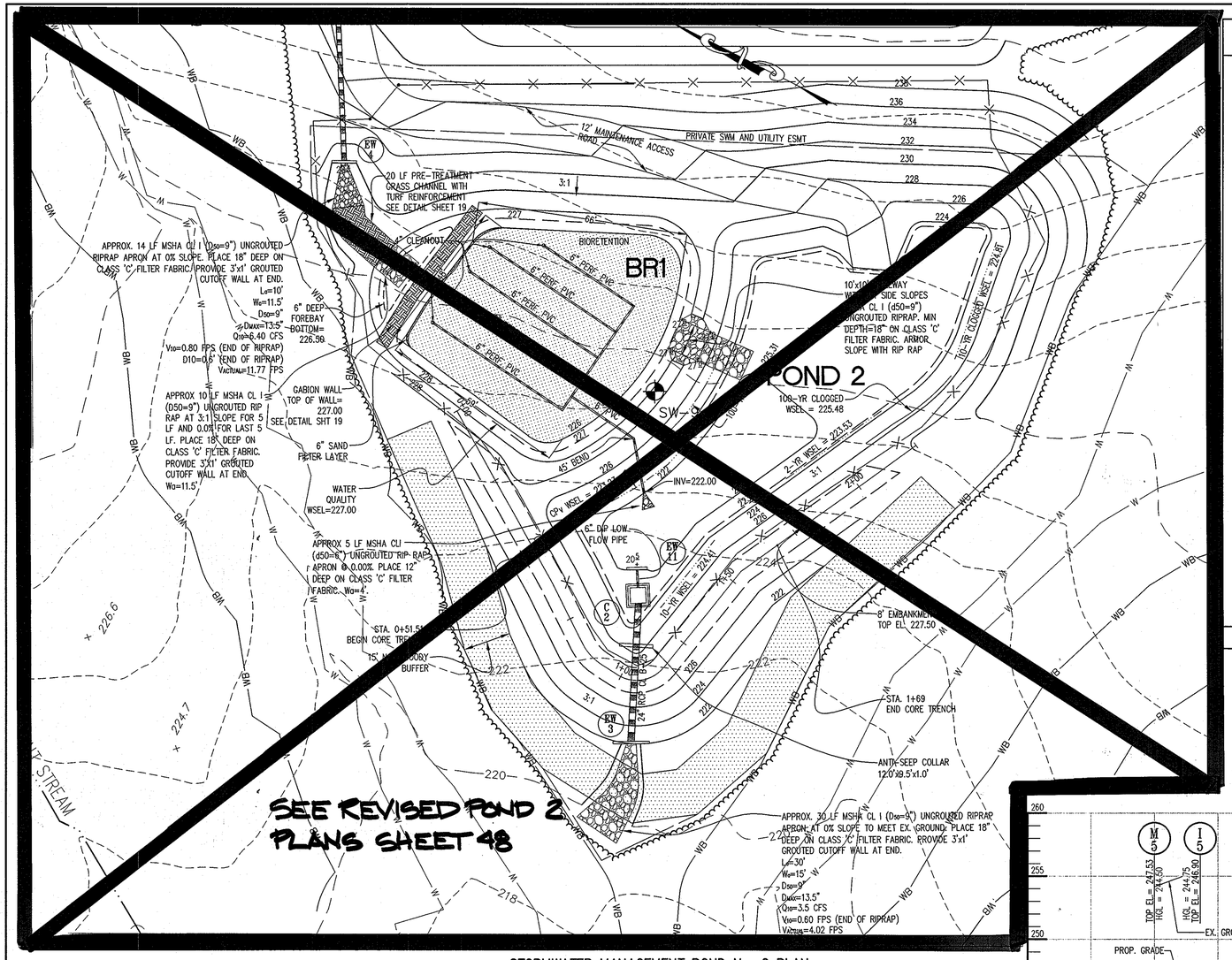
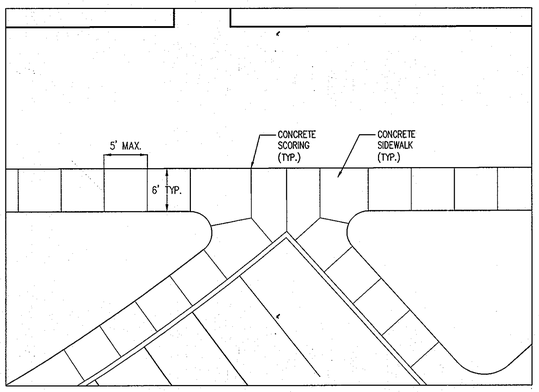
DESIGNED BY : PDS
DRAWN BY: PDS
PROJECT NO : 14466-1-0 C400SDP17.DWG
DATE : MARCH 4, 2009
SCALE : AS SHOWN
DRAWING NO. 17 OF 42

SDP-08-118



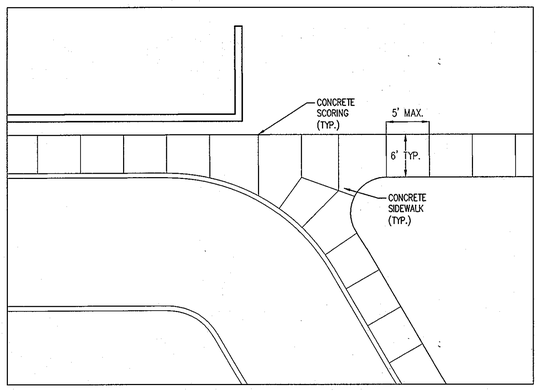
STORMWATER MANAGEMENT POND No. 2 PLAN

SCALE : 1" = 20'



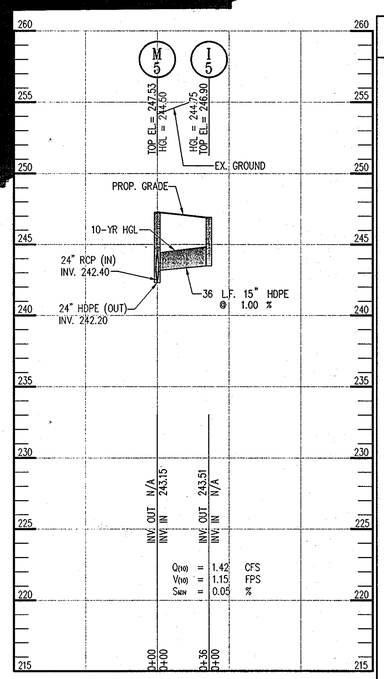
1/18 CONCRETE SIDEWALK SCORING LAYOUT

SCALE: 1" = 10'



2/18 CONCRETE SIDEWALK SCORING LAYOUT

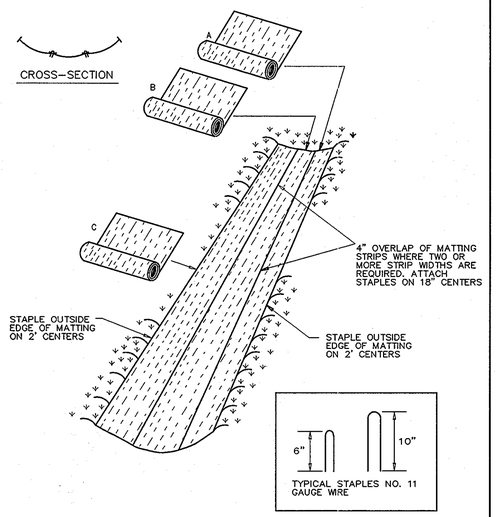
SCALE: 1" = 10'



STORM DRAIN PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'

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

NOTE: REFER TO GEOTECHNICAL REPORT FOR COMPLETE SET OF SITE AND BUILDING SOIL BORINGS.

BY THE DEVELOPER :

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DEVELOPER — DATE 3/6/09

BY THE ENGINEER :

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

ENGINEER — DATE 3-4-09

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/9/09

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/9/09

DATE	NO.	REVISION
8/12/09	1	REVISED POND 2

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C–0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A–1, 187 & 1065 ZONED R–SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE SWM POND 2 PLAN, STORM PROFILES, SEDIMENT CONTROL DETAILS & SITE DETAILS

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — 3-4-09

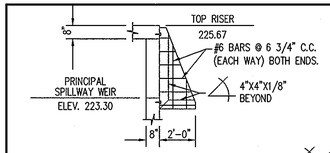
STATE OF MARYLAND — SHERRI CLARKE MITCHELL — NO. 21522 — REGISTERED PROFESSIONAL ENGINEER

BY: _____

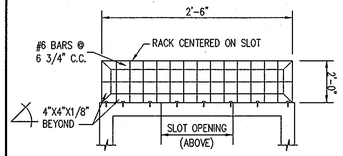
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01–24–11"

DESIGNED BY :	PDS
DRAWN BY:	PDS
PROJECT NO :	14466–1–0 C400SDP18.DWG
DATE :	MARCH 4, 2009
SCALE :	AS SHOWN
DRAWING NO.	18 OF 49

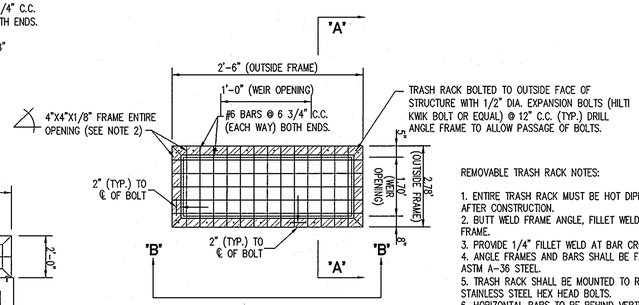
SDP–08–118



SECTION 'A-A'
SIDE VIEW



SECTION 'B-B'
BOTTOM VIEW

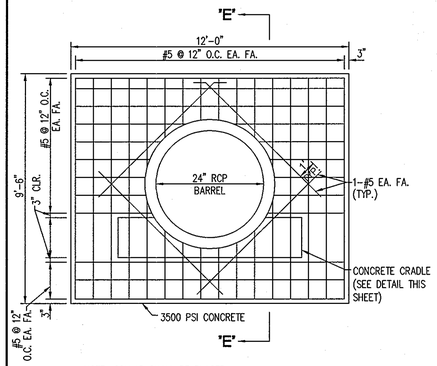


FRONT ELEVATION

REMOVABLE TRASH RACK NOTES:

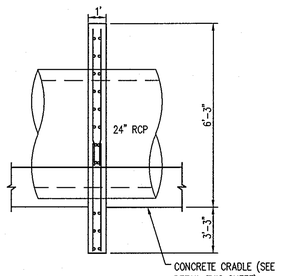
1. ENTIRE TRASH RACK MUST BE HOT DIPPED GALVANIZED AFTER CONSTRUCTION.
2. BUTT WELD FRAME ANGLE, FILLET WELD BARS TO ANGLE FRAME.
3. PROVIDE 1/4" FILLET WELD AT BAR CROSSINGS.
4. ANGLE FRAMES AND BARS SHALL BE FABRICATED USING ASTM A-36 STEEL.
5. TRASH RACK SHALL BE MOUNTED TO RISER WITH 1/2" DIA. STAINLESS STEEL HEX HEAD BOLTS.
6. HORIZONTAL BARS TO BE BEHIND VERTICAL BARS.
7. TRASH RACK SHALL BE PAINTED BATTLESHIP GREY.

RISER TRASH RACK DETAILS
NOT TO SCALE

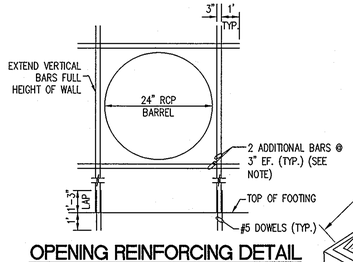


NOTE: COLLAR SHALL BE PLACED A MINIMUM OF 2 FEET FROM ANY PIPE JOINT

CAST IN PLACE ANTI-SEEP COLLAR DETAIL
(1 REQUIRED)
NOT TO SCALE



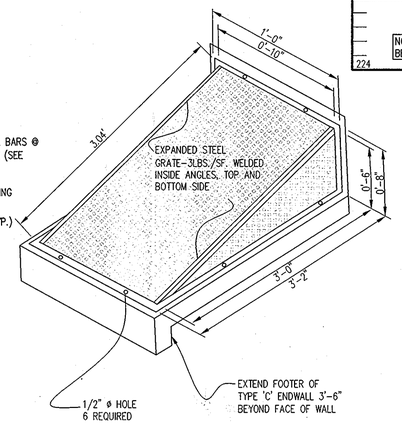
SECTION ' E-E '



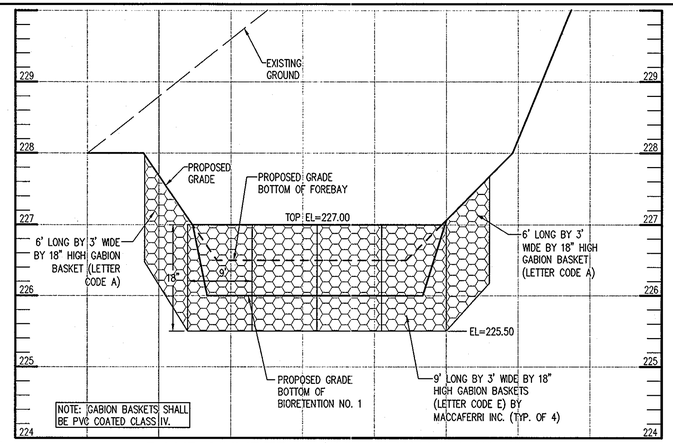
OPENING REINFORCING DETAIL
NOT TO SCALE

GENERAL NOTES FOR TRASH RACK

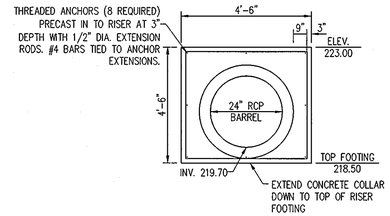
1. STEEL TO CONFORM TO ASTM A-36.
2. ALL SURFACES OF TRASH RACK MUST BE HOT DIPPED GALVANIZED AFTER FABRICATION.
3. TRASH RACK TO BE FASTENED TO WALL WITH ½" MASONRY ANCHORS TRASH RACK TO BE REMOVABLE.
4. TRASH RACK TO BE CENTERED OVER OPENING.
5. TRASH RACK SHALL BE PAINTED BATTLESHIP GREY.



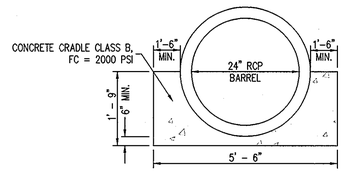
LOW FLOW TRASH RACK DETAIL
(NOT TO SCALE)



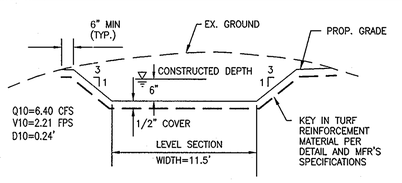
POND NUMBER 2 GABION WALL DETAIL
SCALE : HOR: 1"=10'
VERT: 1"=1'



CONCRETE COLLAR DETAIL AT 24" RCP BARREL CONNECTION TO RISER
NOT TO SCALE



CONCRETE CRADLE DETAIL
NOT TO SCALE



NOTES

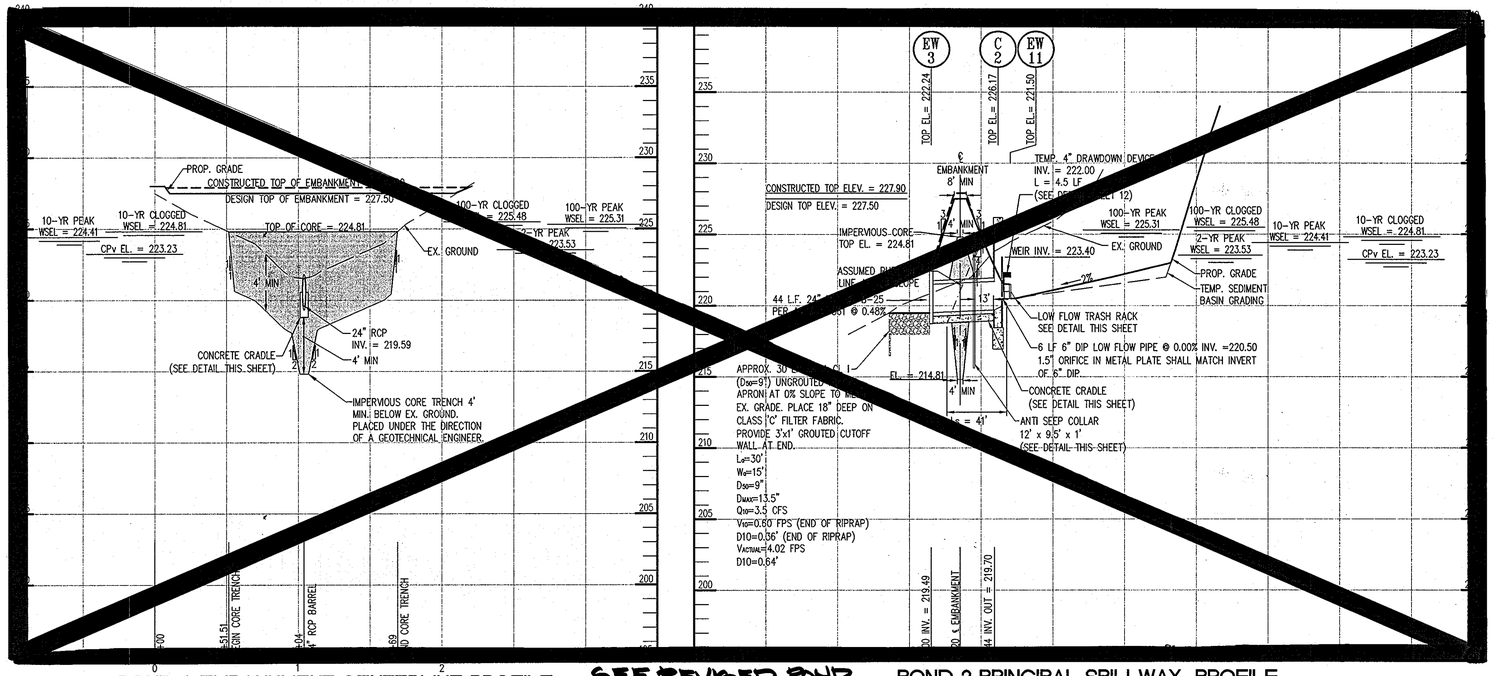
1. INSTALL THE MATERIAL PER THE MANUFACTURER'S INSTRUCTIONS INCLUDING SURFACE PREPARATION AND STAPLING. IT IS VERY IMPORTANT THAT THE MATERIAL BE INSTALLED IN GOOD CONTACT WITH THE GROUND WITH NO WRINKLES OR VOID SPACES BELOW THE FABRIC. STAPLES MUST BE PLACED IN A DIAMOND PATTERN APPOXIMATELY 18" APART.

2. FILL VOIDS IN THE MATERIAL WITH TOPSOIL BEFORE SODDING OR SEEDING DO NOT PLACE MORE THAN ONE HALF INCH (1/2") OF TOPSOIL OVER THE MATERIAL. THE MATERIAL MUST BE WITHIN THE ROOT ZONE FOR IT TO FUNCTION PROPERLY.

3. MATERIAL MUST BE ENKAMAT 7010, ENKAMAT 7020, TENSAR TM-3000, PYRAMAT, OR OTHER HOWARD COUNTY APPROVED EQUIVALENT. TO BE CONSIDERED AS AN EQUIVALENT, THE MATERIAL MUST BE A SINGLE BONDED TURF REINFORCEMENT MATERIAL. PROPOSED ALTERNATIVES MUST BE APPROVED BY ENGINEER PRIOR TO PLACEMENT.

4. TURF REINFORCEMENT IS NOT MEANT TO SERVE AS AN EROSION CONTROL MAT. IF NECESSARY, A BIODEGRADABLE MATERIAL SUCH AS EXVELSIOR MAY BE PLACE OVER THE PREPRATED SEED BED TO HOLD THE SEED IN PLACE. THE PURPOSE OF THE TURF REINFORCEMENT MATERIAL IS TO ADD STRENGTH TO THE ROOT SYSTEM AFTER GERMINATION.

STRUCTURE E4 TO BIORETENTION No. 1
TURF REINFORCEMENT TYPICAL SECTION
NOT TO SCALE



POND 2 EMBANKMENT CENTERLINE PROFILE
SCALE : HOR: 1"=50'
VERT: 1"=5'

SEE REVISED POND PROFILES SHEET 49

POND 2 PRINCIPAL SPILLWAY PROFILE
SCALE : HOR: 1"=50'
VERT: 1"=5'

BY THE DEVELOPER :

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

DEVELOPER — DATE 3/6/09

BY THE ENGINEER :

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

ENGINEER — DATE 3-4-09

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/9/09

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/13/09

DATE	NO.	REVISION
8/12/09	1	REVISED POND PROFILES

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA — TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
STORMWATER MANAGEMENT POND 2 PROFILES AND DETAILS

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — STATE OF MARYLAND, SHERRIL CLARKS MITCHELL, REGISTERED PROFESSIONAL ENGINEER — 3-4-09

BY: Sherril C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32954, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	PDS
DRAWN BY:	PDS
PROJECT NO :	14466-1-0 C400SDP19.DWG
DATE :	MARCH 4, 2009
SCALE :	AS SHOWN
DRAWING NO.	19 OF 49

SDP-08-118

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

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

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

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

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

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

Structure Backfill

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

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.

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

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

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

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

   Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

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

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

   All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

   Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

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

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

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

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.

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

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "**Structure Backfill**".

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

Plastic Pipe - The following criteria shall apply for plastic pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" – 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.

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

4. Backfilling shall conform to "**Structure Backfill**".

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

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 902.10, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class SE (Non-Woven).

Care of Water during Construction

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

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

OPERATION AND MAINTENANCE

An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and major repairs needs to be retained in a file. The issuance of a Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or spillway from its original design and specifications is required. A permit is also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs are to be made as soon as practical.

TOP SLAB
SCALE: 1"=2'

PLAN SECTION
TOP SLAB REMOVED
SCALE: 1"=2'

SECTION "C-C"
SCALE: 1"=2'

POND 2 CONCRETE RISER DETAIL
STRUCTURE C2
SCALE: 1"=2'

SECTION "D-D"
SCALE: 1"=2'

RISER GENERAL NOTES:
1. THIS DETAIL IS FOR A PRECAST RISER ONLY.
2. SHOP DRAWINGS MUST BE APPROVED BY THE DESIGN ENGINEER PRIOR TO FABRICATION.
3. RISER STRUCTURES MUST BE REINFORCED CONCRETE.
4. ALL CONNECTIONS SHALL BE WATERTIGHT.

BY THE DEVELOPER :

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

[signature] 3/6/09
DEVELOPER DATE

BY THE ENGINEER :

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

Sheryl C. Mitchell 3-4-09
ENGINEER DATE

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

[signature] 3/9/09
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Marsha E. Butler 3/23/09
DIRECTOR, DEP. DATE

[signature] 3/10/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton 3/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
STORMWATER MANAGEMENT
SPECIFICATIONS AND POND 2 DETAILS

Patton Harris Rust & Associates
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8818 Centre Park Drive
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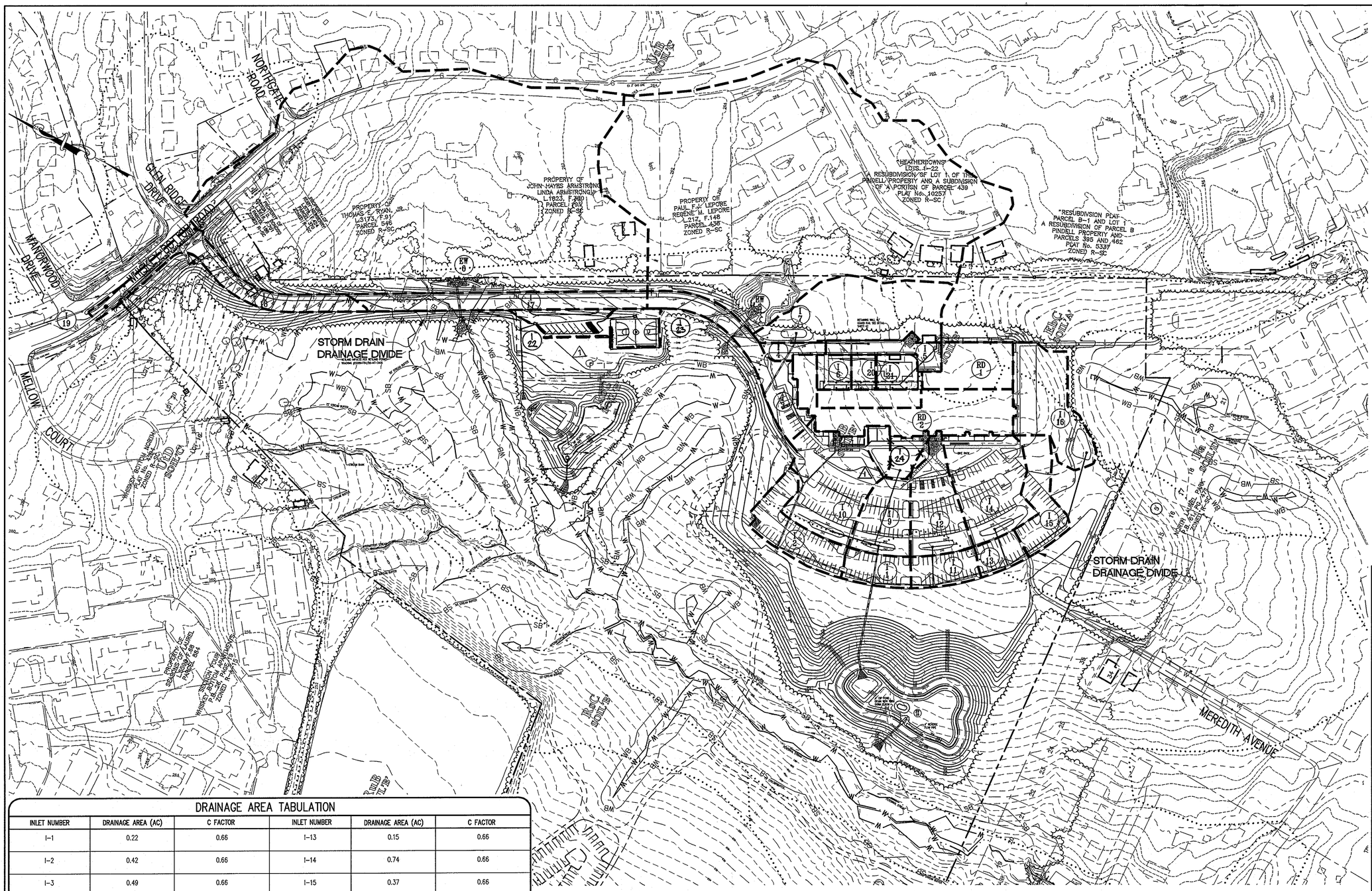
SEAL 3-4-09
STATE OF MARYLAND · SHERYL CLARKE MITCHELL · No. 33954 · REGISTERED PROFESSIONAL ENGINEER

BY: Sheryl C. Mitchell
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY : PDS
DRAWN BY: PDS
PROJECT NO : 14466-1-0 C400SDP20.DWG
DATE : MARCH 4, 2009
SCALE : AS SHOWN
DRAWING NO. 20 OF 42

SDP-08-118



DRAINAGE AREA TABULATION

INLET NUMBER	DRAINAGE AREA (AC)	C FACTOR	INLET NUMBER	DRAINAGE AREA (AC)	C FACTOR
I-1	0.22	0.66	I-13	0.15	0.66
I-2	0.42	0.66	I-14	0.74	0.66
I-3	0.49	0.66	I-15	0.37	0.66
I-4	0.10	0.66	I-16	0.66	0.66
I-5	0.22	0.66	I-17	0.52	0.77
I-6	0.12	0.66	I-18	0.46	0.77
			I-19	0.06	0.90
I-7	0.99	0.66	I-20	0.09	0.66
			I-21	0.16	0.66
I-9	0.43	0.66	RD-1	0.58	0.66
I-10	0.79	0.66	RD-2	0.82	0.66
I-11	0.22	0.66	EW-6	9.01	RCN = 80
I-12	0.49	0.66	EW-8	7.14	RCN = 80

DRAINAGE AREA TABULATION

INLET NUMBER	DRAINAGE AREA (AC)	C FACTOR
I-22	0.24	0.76
I-23	0.20	0.71
I-24	0.19	0.66

1

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Thomas E. Butler — 3/23/09
DIRECTOR, DEP. — DATE

[signature] — 3/10/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Cindy Harris — 3/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION
8/25/10	1	ADDED STORM DRAIN

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA
TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN DRAINAGE AREA MAP

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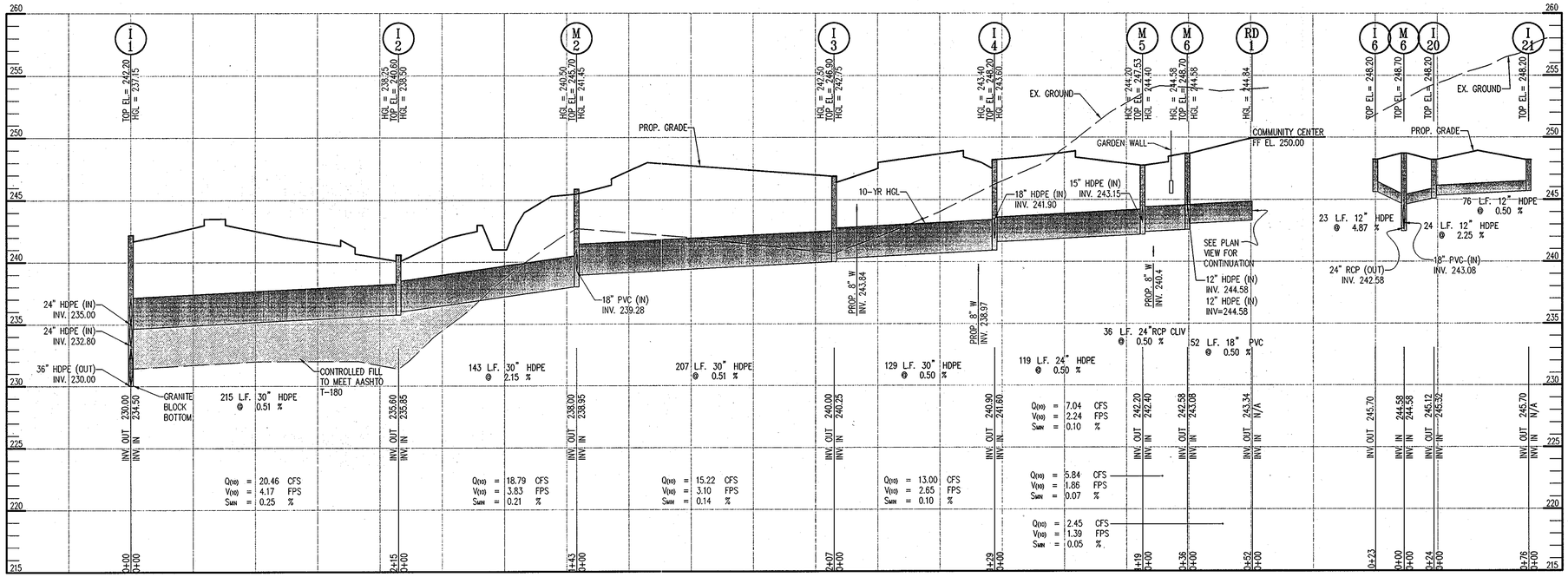
SEAL 3-4-09
STATE OF MARYLAND — SHEREE CLARKE MITCHELL — No. 33954 — REGISTERED PROFESSIONAL ENGINEER

BY: Sheryl C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

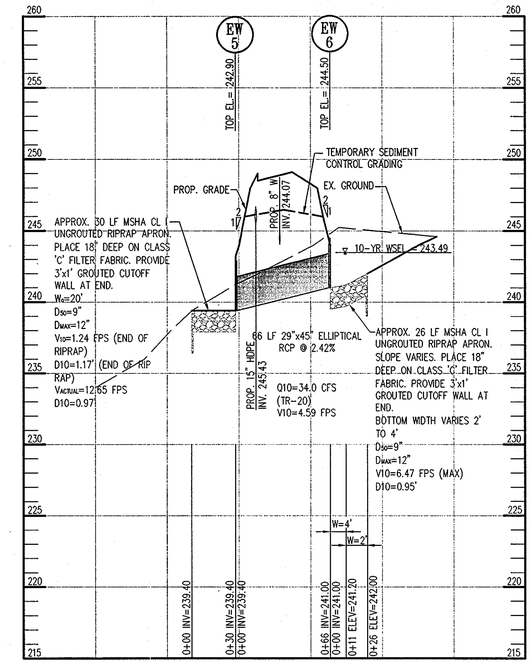
DESIGNED BY : SCM
DRAWN BY: SCM
PROJECT NO : 14466-1-0 C400SDP21.DWG
DATE : MARCH 4, 2009
SCALE : 1" = 100'
DRAWING NO. 21 OF 54

SDP-08-118



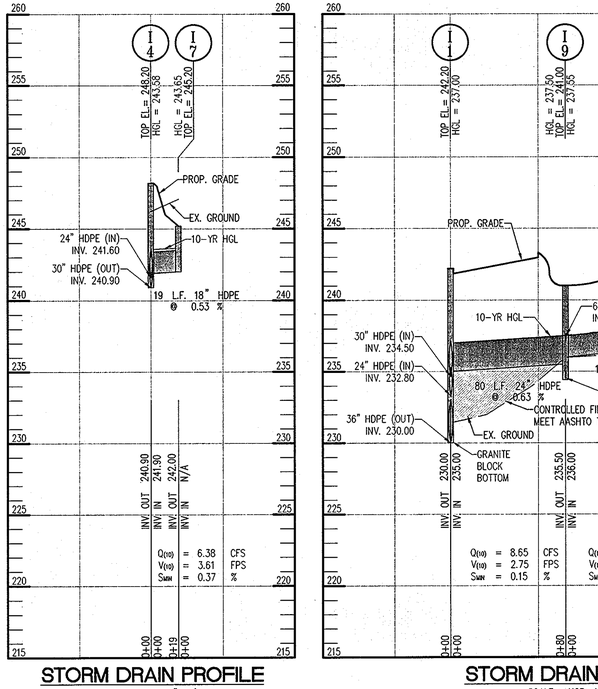
STORM DRAIN PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'



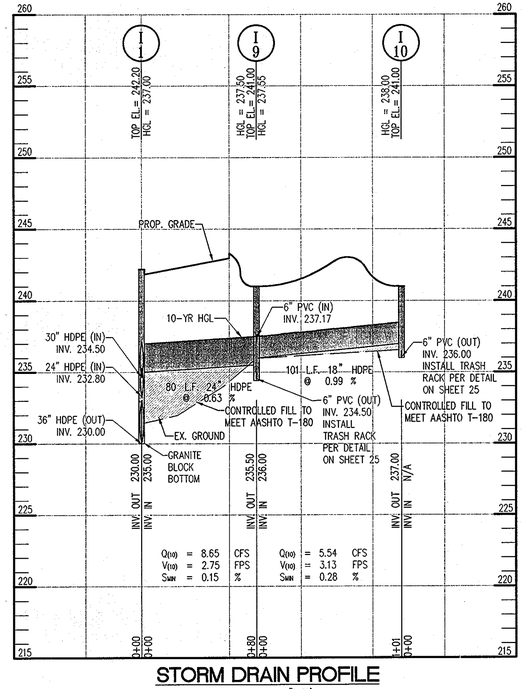
CULVERT NO. 1 PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'



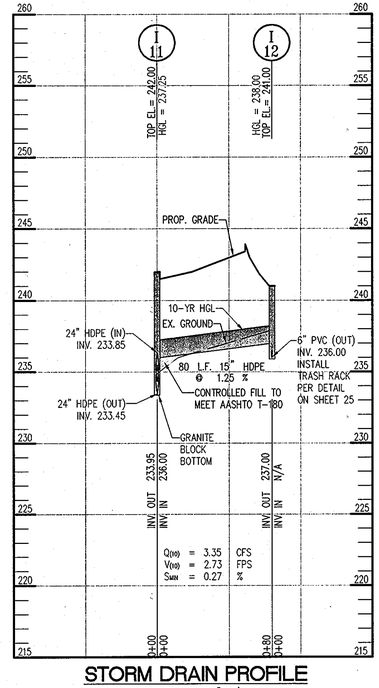
STORM DRAIN PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'



STORM DRAIN PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'



STORM DRAIN PROFILE

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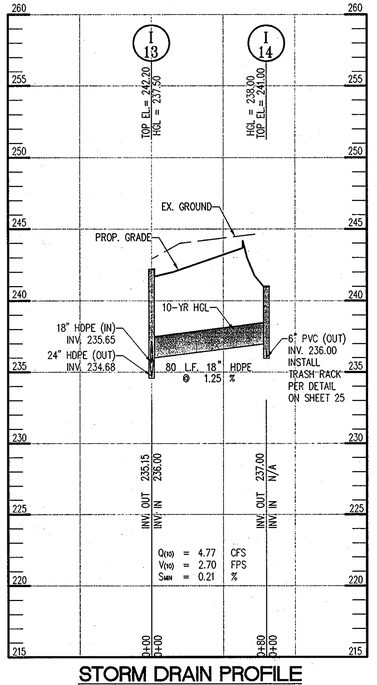
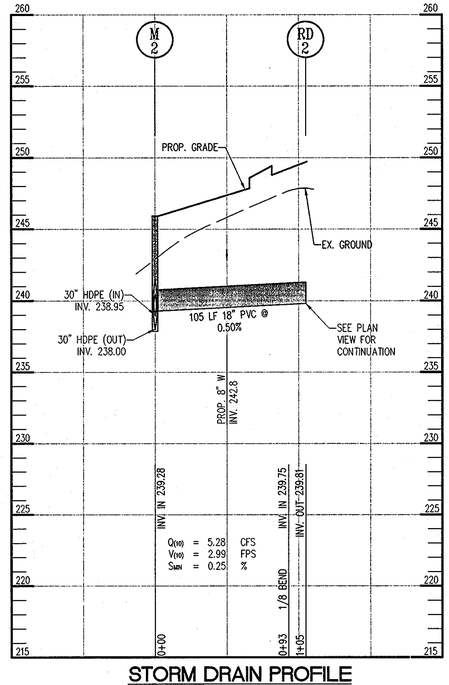
VERT: 1"=5'



STORM DRAIN PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'



STORM DRAIN PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEPW — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/9/09

DATE	NO.	REVISION

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN PROFILES

Patton Harris Rust & Associates
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T 410.997.8900
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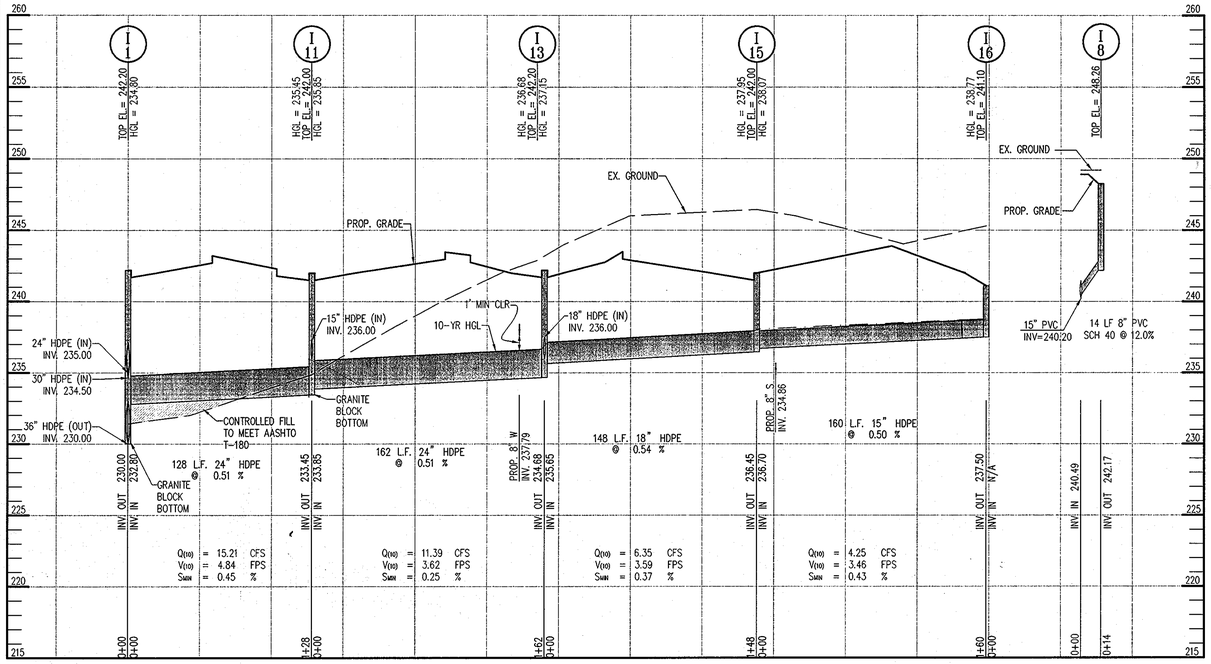
SEAL — STATE OF MARYLAND — DAVID CLARKE MITCHELL — No. 21321 — REGISTERED PROFESSIONAL ENGINEER — 3-4-09

BY: David C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

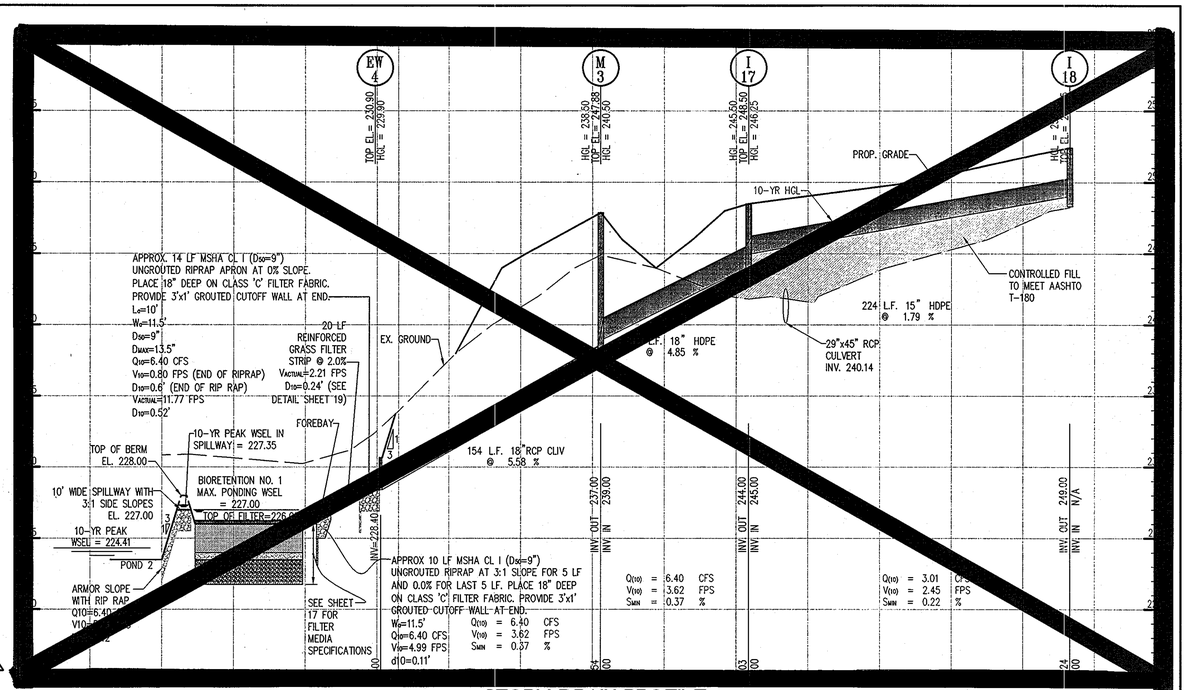
DESIGNED BY :	PDS
DRAWN BY:	PDS
PROJECT NO :	14466-1-0 C400SDP22.DWG
DATE :	MARCH 4, 2009
SCALE :	AS SHOWN
DRAWING NO.	22 OF 42

SDP-08-118



STORM DRAIN PROFILE

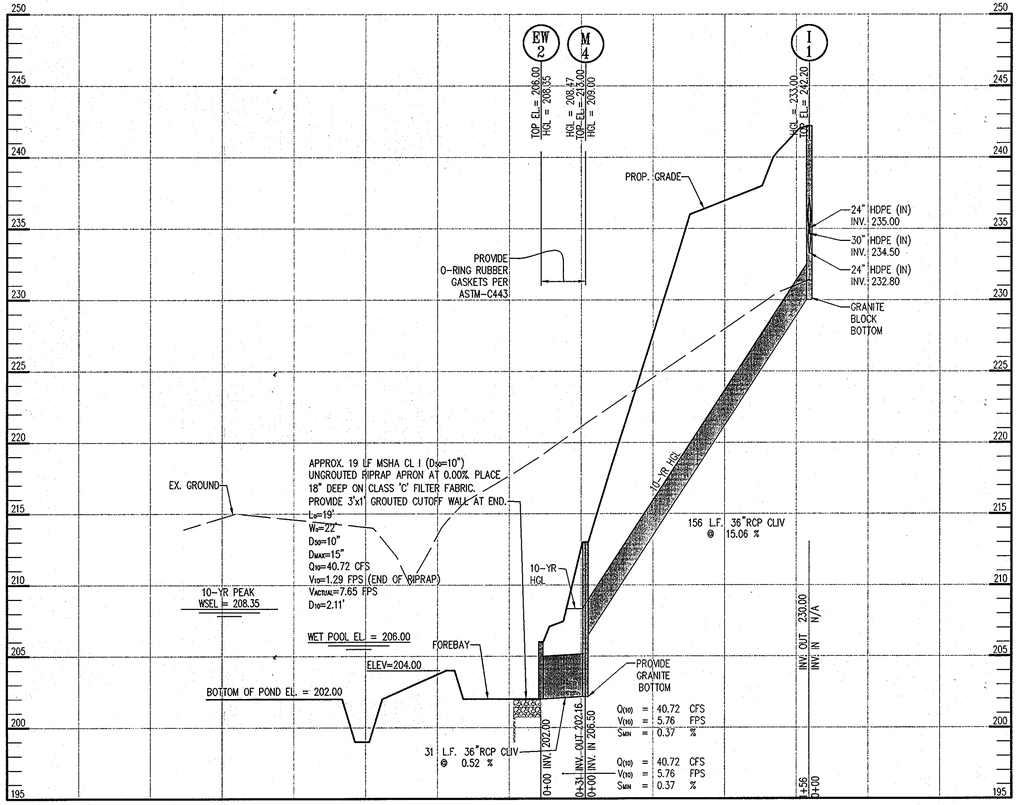
SCALE : HOR: 1"=50'
VERT: 1"=5'



SEE SHEET 49

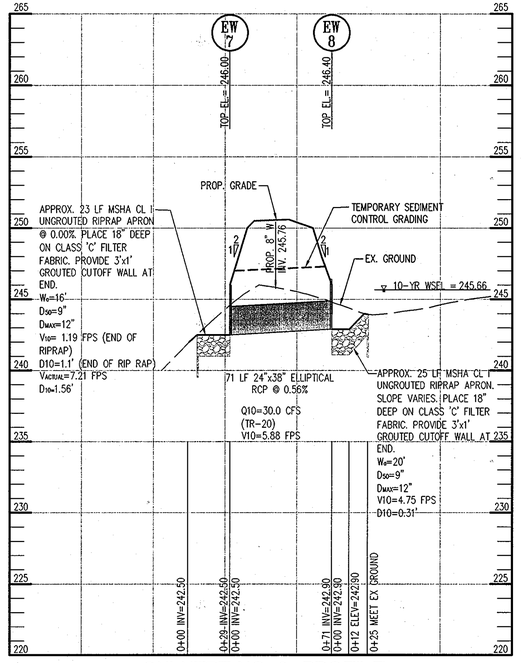
STORM DRAIN PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'



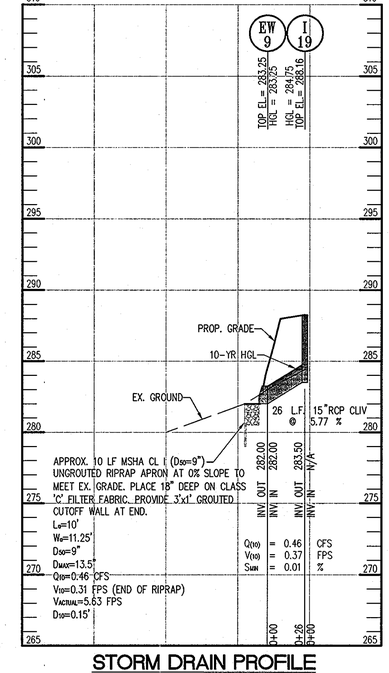
STORM DRAIN PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'



CULVERT NO. 2 PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'



STORM DRAIN PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEPT. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 2/19/09

DATE	NO.	REVISION
8/12/09	1	ADJUST POND 2

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN PROFILES

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — STATE OF MARYLAND — SHERRIL CLARKE MITCHELL — REG. NO. 21586 — PROFESSIONAL ENGINEER — 3-4-09

BY: Sherrill C Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	PDS
DRAWN BY:	PDS
PROJECT NO :	14466-1-O C400SDP23.DWG
DATE :	MARCH 4, 2009
SCALE :	AS SHOWN
DRAWING NO.	23 OF 49

SDP-08-118

STRUCTURE SCHEDULE

NUMBER	TYPE	LOCATION		TOP ELEVATION		SIZE	REMARKS
		STATION	OFFSET	UPPER	LOWER		
I-1	A-10 INLET	SEE	PLAN	242.20	*	T = 10'	D-4.04
I-2	A-10 INLET	SEE	PLAN	240.60	*	T = 10'	D-4.04
I-3	A-10 INLET	SEE	PLAN	246.90	*	T = 10'	D-4.04
I-4	A-10 INLET	SEE	PLAN	248.20	*	T = 10'	D-4.04
I-5	TYPE 'S' INLET	SEE	PLAN	246.90	*	2'-7"x2'-7 1/2"	D-4.22
I-6	NYOPLAST INLINE DRAIN	SEE	PLAN	248.20	*	DIA=15"	15" STD H25 GRATE
I-7	TYPE 'S' INLET	SEE	PLAN	245.20	*	2'-7"x2'-7 1/2"	D-4.22
I-8	NYOPLAST INLINE DRAIN	SEE	PLAN	248.26	*	DIA=12"	12" STD H25 GRATE
I-9	TYPE 'S' INLET	SEE	PLAN	241.00	*	2'-7"x2'-7 1/2"	D-4.22 MODIFIED PER DETAIL SHT 25
I-10	TYPE 'S' INLET	SEE	PLAN	241.00	*	2'-7"x2'-7 1/2"	D-4.22 MODIFIED PER DETAIL SHT 25
I-11	A-10 INLET	SEE	PLAN	242.00	*	T = 10'	D-4.04
I-12	TYPE 'S' INLET	SEE	PLAN	241.00	*	2'-7"x2'-7 1/2"	D-4.22 MODIFIED PER DETAIL SHT 25
I-13	A-10 INLET	SEE	PLAN	242.20	*	T = 10'	D-4.04
I-14	TYPE 'S' INLET	SEE	PLAN	241.00	*	2'-7"x2'-7 1/2"	D-4.22 MODIFIED PER DETAIL SHT 25
I-15	A-10 INLET	SEE	PLAN	242.00	*	T = 10'	D-4.04
I-16	TYPE 'S' INLET	SEE	PLAN	241.10	*	2'-7"x2'-7 1/2"	D-4.22
I-17	A-15 INLET	SEE	PLAN	248.50	*	T = 15'	D-4.04
I-18	A-10 INLET	SEE	PLAN	253.05	252.65	T = 10'	D-4.04
I-19	A-10 INLET	SEE	PLAN	288.36	288.16	T = 10'	D-4.04
I-20	NYOPLAST DRAIN BASIN	SEE	PLAN	248.20	*	DIA = 15"	15" STD H-25 GRATE
I-21	NYOPLAST INLINE DRAIN	SEE	PLAN	248.20	*	DIA = 15"	15" STD H-25 GRATE
*	*	*	*	*	*	*	*
M-2	6'-0" MANHOLE	SEE	PLAN	245.70	*	DIA = 6'-0"	G-5.12
M-3	4'-0" MANHOLE	SEE	PLAN	247.88	*	DIA = 4'-0"	G-5.12
M-4	5'-0" MANHOLE	SEE	PLAN	213.00	*	DIA = 5'-0"	G-5.12
M-5	4'-0" MANHOLE	SEE	PLAN	247.53	*	DIA = 4'-0"	G-5.12
M-6	4'-0" MANHOLE	SEE	PLAN	248.70	*	DIA = 4'-0"	G-5.12
EW-1	TYPE 'C' ENDWALL	SEE	PLAN	204.84	*	DIA = 36"	D-5.21
EW-2	TYPE 'C' ENDWALL	SEE	PLAN	206.00	*	DIA = 36"	D-5.21
EW-3	TYPE 'C' ENDWALL	SEE	PLAN	222.24	*	DIA = 24"	D-5.21
EW-4	TYPE 'C' ENDWALL	SEE	PLAN	230.90	*	DIA = 18"	D-5.21
EW-5	TYPE 'O' ENDWALL	SEE	PLAN	242.90	*	ELLIP. 29"x45"	D-5.43
EW-6	TYPE 'O' ENDWALL	SEE	PLAN	244.50	*	ELLIP. 29"x45"	D-5.43
EW-7	TYPE 'C' ENDWALL	SEE	PLAN	246.00	*	DIA = 30"	D-5.21
EW-8	TYPE 'C' ENDWALL	SEE	PLAN	246.40	*	DIA = 30"	D-5.21
EW-9	CONCRETE END SECTION	SEE	PLAN	283.25	*	DIA = 15"	D-5.51
EW-10	TYPE 'C' ENDWALL	SEE	PLAN	205.18	*	DIA = 6"	D-5.21 USE SPEC FOR D=12"
EW-11	TYPE 'C' ENDWALL	SEE	PLAN	221.50	*	DIA = 6"	D-5.21 USE SPEC FOR D=12"
C-1	CONCRETE RISER	SEE	PLAN	211.00	*	5' X 5'	SEE DETAIL SHEET 17
C-2	CONCRETE RISER	SEE	PLAN	226.17	*	5' X 5'	SEE DETAIL SHEET 20

NOTES

1) ALL STRUCTURES ARE HOWARD COUNTY STANDARDS UNLESS NOTED OTHERWISE. CONTRACTOR MAY USE PRECAST STRUCTURE WHERE AVAILABLE TO MEET THE STANDARD STRUCTURE SPECIFIED.

2) STATIONS ARE GIVEN TO CENTER OF STRUCTURE AT FACE OF CURB FOR CURB INLETS AND TO CENTER OF STRUCTURE FOR ALL OTHER STRUCTURES.

3) ELEVATIONS ARE GIVEN TO TOP OF CURB FOR CURB INLETS, TOP OF GRATE FOR GRATE INLETS AND TOP OF LID FOR MANHOLES.

4) PIPE LENGTHS ARE GIVEN TO THE CENTER OF THE STRUCTURE. CONTRACTOR SHALL ADJUST LENGTH TO OBTAIN ACTUAL PIPE LENGTHS.

PIPE SCHEDULE

SIZE	TYPE	LINEAR FOOTAGE	SIZE	TYPE	LINEAR FOOTAGE
15"	RCP CL. IV	26	*	*	*
18"	RCP CL. IV	154	24"	RCP CL B-25	36
24"	RCP CL. IV	36	36"	RCP CL B-25	53
36"	RCP CL. IV	187	6"	PERF. PVC SCH 40	1130
24" x 38"	ELLIP. RCP CL. IV	71	8"	PVC SCH. 40	81
29" x 45"	ELLIP. RCP CL. IV	66	12"	PVC SCH. 40	654
12"	HDPE	123	15"	PVC SCH. 40	317
15"	HDPE	500	18"	PVC SCH. 40	157
18"	HDPE	451	4"	DIP	47
24"	HDPE	489	6"	DIP	5
30"	HDPE	694	*	*	*

ALL QUANTITIES TO BE VERIFIED BY CONTRACTOR. ROOF DRAIN CONNECTIONS TO DOWN SPOUTS ARE NOT INCLUDED.

RECHARGE TRENCH NO. 4 PROFILE (ReV4)

SCALE : HOR: 1"=50'
VERT: 1"=5'

HDPE SPECIFICATIONS

CORRUGATED HIGH-DENSITY POLYETHYLENE STORM DRAIN (HDPE) PIPE FOR ON-SITE DRAINAGE SHALL MEET THE REQUIREMENTS OF AASHTO M294. AASHTO WALL TYPE MAY BE TYPE "S" OR TYPE "D". PIPE AND FITTINGS SHALL BE MANUFACTURED FROM VIRGIN PE COMPOUNDS AND SHALL CONFORM TO THE APPLICABLE CURRENT EDITION OF THE AASHTO MATERIAL SPECIFICATIONS FOR CELL CLASSIFICATIONS AS DEFINED AND DESCRIBED IN ASTM D3350.

PIPES SHALL BE CONNECTED THROUGH A BELL AND SPIGOT CONNECTION. A RUBBER GASKET MEETING THE REQUIREMENTS OF ASTM F477 SHALL BE SUPPLIED ON THE SPIGOT END. THE PIPE MANUFACTURER SHALL PROVIDE CERTIFICATIONS ON JOINT INTEGRITY.

PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 AND MANUFACTURER'S RECOMMENDATIONS.

ALL PIPES SHALL BE BEDDED ON 4" TO 6" OF (CLASS I FILL (UNDER THE PIPE) AND UP TO ½ THE PIPE DIAMETER COMPACTED AT OPTIMUM MOISTURE CONTENT (PLUS OR MINUS 2 PERCENTAGE POINTS), AND TO A MINIMUM OF 95% OF THE MAXIMUM DENSITY AS DETERMINED IN THE LABORATORY BY ASTM TEST METHOS D-1557-78. ALL ADDITIONAL BACKFILL SHALL MEET HOWARD COUNTY SPECIFICATIONS.

CORRUGATED HDPE STORM DRAIN SHALL BE N-12 PRO-LINK WT, AS MANUFACTURED BY ADS, INC., COLUMBUS, OH, OR APPROVED EQUAL.

RECHARGE TRENCH NO. 1 PROFILE (ReV1)

SCALE : HOR: 1"=50'
VERT: 1"=5'

RECHARGE TRENCH NO. 2 PROFILE (ReV2)

SCALE : HOR: 1"=50'
VERT: 1"=5'

RECHARGE TRENCH NO. 3 PROFILE (ReV3)

SCALE : HOR: 1"=50'
VERT: 1"=5'

PRIVATE SEWER PROFILE

SCALE : HOR: 1"=50' - VERT: 1"=5'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[signature] 3/23/09
DIRECTOR DEP. DATE

[signature] 3/10/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[signature] 3/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE STRUCTURE AND PIPE SCHEDULES
PRIVATE SEWER PROFILE

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL 3-4-09
STATE OF MARYLAND SHERRIL CLARKE MITCHELL No. 33954 REGISTERED PROFESSIONAL ENGINEER

BY: [signature]
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY : PDS
DRAWN BY: PDS
PROJECT NO : 14466-1-0 C400SDP24.DWG
DATE : MARCH 4, 2009
SCALE : AS SHOWN
DRAWING NO. 24 OF 42

SDP-08-118

PATTON HARRIS RUST & ASSOCIATES, pc — BORING LOG

PROJECT NAME: North Laurel Park	PROJECT NUMBER: 14466-1-1	BORING NUMBER: SW-1
LOCATION: Laurel, Maryland		SHEET 1 OF 1
LOGGED BY: Babu	DRILLER: Hurdis Drilling Company	ELEVATION: 238.7'

GROUNDWATER DATA	DATE	TIME	ELAPSED	CAVED (FT)	DEPTH (FT)		DATE	TIME
ENCOUNTERED:	▽			---			START:	04-24-08	
UPON COMPLETION:	▼			---	13.0	7.0	FINISHED:	04-24-08	
SHORT TERM:	▽			---			DRILLING METHOD:	HSA	
LONG TERM:	▽			---			EQUIPMENT:	CME-45 ATV	

Elevation (ft.)	Depth (ft.)	Recovery (inches)	SPT blows per 6in.	SPT blows per foot	VISUAL DESCRIPTION	Stratum	Groundwater	MC (%)	LL (%)	PI (%)	Fines (%)	COMMENTS
240	0	16	3 3	7 10	Organic Surface - 2.0 inches. Medium dense, orangish brown, moist, clayey SAND (SC) with trace roots.	A						PVC pipe set up at 13.0 feet.
235	5	14	3 13	18 31	Hard, brown, wet, sandy CLAY (CL) with trace gravels.	3.0						
230	10	14	14 36	50 66	Very dense to dense, brown, wet, silty SAND (SM) with trace gravels.	6.0	▼					
225	15	12	20 14	20 34	Boring Terminated at 10.0 feet.	10.0						
220	20											
215	25											

The split spoon sample is driven into the soil a distance of 18 inches, by a 140-pound safety hammer falling 30 inches. The number of blows required to drive the sample the first 12 inches is designated the SPT or N-value.

PATTON HARRIS RUST & ASSOCIATES, pc — BORING LOG

PROJECT NAME: North Laurel Park	PROJECT NUMBER: 14466-1-1	BORING NUMBER: SW-2
LOCATION: Laurel, Maryland		SHEET 1 OF 1
LOGGED BY: Babu	DRILLER: Hurdis Drilling Company	ELEVATION: 239.9'

GROUNDWATER DATA	DATE	TIME	ELAPSED	CAVED (FT)	DEPTH (FT)		DATE	TIME
ENCOUNTERED:	▽			---		DRY	START:	04-24-08	
UPON COMPLETION:	▼			---	13.0	DRY	FINISHED:	04-24-08	
SHORT TERM:	▽			---			DRILLING METHOD:	HSA	
LONG TERM:	▽			---			EQUIPMENT:	CME-45 ATV	

Elevation (ft.)	Depth (ft.)	Recovery (inches)	SPT blows per 6in.	SPT blows per foot	VISUAL DESCRIPTION	Stratum	Groundwater	MC (%)	LL (%)	PI (%)	Fines (%)	COMMENTS
240	0	16	3 4	10 14	Organic Surface - 3.0 inches. Medium dense, tannish brown, very moist, silty SAND (SM) with trace gravels.	A						PVC pipe set up at 13.0 feet.
235	5	14	3 14	16 29		3.0						
230	10	16	7 11	13 24	Very stiff, yellowish white mottled red, moist, sandy CLAY (CL).	5.0						
225	15	15	6 9	13 22	Boring Terminated at 10.0 feet.	10.0						
220	20											
215	25											

The split spoon sample is driven into the soil a distance of 18 inches, by a 140-pound safety hammer falling 30 inches. The number of blows required to drive the sample the first 12 inches is designated the SPT or N-value.

PATTON HARRIS RUST & ASSOCIATES, pc — BORING LOG

PROJECT NAME: North Laurel Park	PROJECT NUMBER: 14466-1-1	BORING NUMBER: SW-3
LOCATION: Laurel, Maryland		SHEET 1 OF 1
LOGGED BY: Babu	DRILLER: Hurdis Drilling Company	ELEVATION: 214.6'

GROUNDWATER DATA	DATE	TIME	ELAPSED	CAVED (FT)	DEPTH (FT)		DATE	TIME
ENCOUNTERED:	▽			---		DRY	START:	05-01-08	
UPON COMPLETION:	▼			---	4.0	DRY	FINISHED:	05-01-08	
SHORT TERM:	▽			---			DRILLING METHOD:	HSA	
LONG TERM:	▽			---			EQUIPMENT:	CME-45 ATV	

Elevation (ft.)	Depth (ft.)	Recovery (inches)	SPT blows per 6in.	SPT blows per foot	VISUAL DESCRIPTION	Stratum	Groundwater	MC (%)	LL (%)	PI (%)	Fines (%)	COMMENTS
215	0	15	4 5	8 13	Organic Surface - 2.0 inches. Stiff, orangish brown, moist, sandy CLAY (CL).	A						PVC pipe set up at 13.0 feet.
210	5	15	6 10	14 24	Very stiff, reddish brown, moist, sandy CLAY (CL) with trace gravel.	3.0						
205	10	14	5 7	12 19				18.0	40	18	99.5	
200	15	14	6 12	16 28	Boring Terminated at 10.0 feet.	10.0						
195	20											
190	25											

The split spoon sample is driven into the soil a distance of 18 inches, by a 140-pound safety hammer falling 30 inches. The number of blows required to drive the sample the first 12 inches is designated the SPT or N-value.

PATTON HARRIS RUST & ASSOCIATES, pc — BORING LOG

PROJECT NAME: North Laurel Park	PROJECT NUMBER: 14466-1-1	BORING NUMBER: SW-4
LOCATION: Laurel, Maryland		SHEET 1 OF 1
LOGGED BY: Babu	DRILLER: Hurdis Drilling Company	ELEVATION: 244.3'

GROUNDWATER DATA	DATE	TIME	ELAPSED	CAVED (FT)	DEPTH (FT)		DATE	TIME
ENCOUNTERED:	▽			---		DRY	START:	04-24-08	
UPON COMPLETION:	▼			---	12.0	DRY	FINISHED:	04-24-08	
SHORT TERM:	▽			---			DRILLING METHOD:	HSA	
LONG TERM:	▽			---			EQUIPMENT:	CME-45 ATV	

Elevation (ft.)	Depth (ft.)	Recovery (inches)	SPT blows per 6in.	SPT blows per foot	VISUAL DESCRIPTION	Stratum	Groundwater	MC (%)	LL (%)	PI (%)	Fines (%)	COMMENTS
245	0	16	3 3	7 10	Organic Surface - 2.0 inches. Stiff, reddish brown, moist, sandy SILT (ML) with trace gravels.	A						PVC pipe set up at 16.0 feet.
240	5	14	3 5	10 15	Medium dense, tannish brown, very moist, silty SAND (SM) with gravels.	3.0						
235	10	14	8 8	12 20	Very stiff, yellowish white, moist, sandy CLAY (CL).	5.0						
230	15	14	3 7	9 16	Medium dense, tannish yellow, moist, silty SAND (SM).	8.0						
225	20	17	5 10	14 24	Very stiff, reddish white, moist, sandy fat CLAY (CH).	13.0						
220	25				Boring Terminated at 15.0 feet.	15.0						

The split spoon sample is driven into the soil a distance of 18 inches, by a 140-pound safety hammer falling 30 inches. The number of blows required to drive the sample the first 12 inches is designated the SPT or N-value.

PATTON HARRIS RUST & ASSOCIATES, pc — BORING LOG

PROJECT NAME: North Laurel Park	PROJECT NUMBER: 14466-1-1	BORING NUMBER: SW-5
LOCATION: Laurel, Maryland		SHEET 1 OF 1
LOGGED BY: Babu	DRILLER: Hurdis Drilling Company	ELEVATION: 238.0'

GROUNDWATER DATA	DATE	TIME	ELAPSED	CAVED (FT)	DEPTH (FT)		DATE	TIME
ENCOUNTERED:	▽			---		DRY	START:	04-22-08	
UPON COMPLETION:	▼			---	9.0	DRY	FINISHED:	04-22-08	
SHORT TERM:	▽			---			DRILLING METHOD:	HSA	
LONG TERM:	▽			---			EQUIPMENT:	CME-45 ATV	

Elevation (ft.)	Depth (ft.)	Recovery (inches)	SPT blows per 6in.	SPT blows per foot	VISUAL DESCRIPTION	Stratum	Groundwater	MC (%)	LL (%)	PI (%)	Fines (%)	COMMENTS
240	0	14	3 3	5 8	Organic Surface - 1.0 inches. Loose, brown, moist, clayey SAND (SC) with trace gravels.	A						PVC pipe set up at 11.0 feet.
235	5	15	4 7	8 15	Stiff to very stiff, reddish mottled white, moist, sandy CLAY (CL).	3.0						
230	10	14	3 9	14 23								
225	15	15	4 10	14 24	Very stiff, reddish pink, moist, sandy fat CLAY (CH).	8.5						
220	20				Boring Terminated at 10.0 feet.	10.0						
215	25											

The split spoon sample is driven into the soil a distance of 18 inches, by a 140-pound safety hammer falling 30 inches. The number of blows required to drive the sample the first 12 inches is designated the SPT or N-value.

PATTON HARRIS RUST & ASSOCIATES, pc — BORING LOG

PROJECT NAME: North Laurel Park	PROJECT NUMBER: 14466-1-1	BORING NUMBER: SW-6
LOCATION: Laurel, Maryland		SHEET 1 OF 1
LOGGED BY: Babu	DRILLER: Hurdis Drilling Company	ELEVATION: 236.2'

GROUNDWATER DATA	DATE	TIME	ELAPSED	CAVED (FT)	DEPTH (FT)		DATE	TIME
ENCOUNTERED:	▽			---			START:	04-22-08	
UPON COMPLETION:	▼			---	8.0	3.5	FINISHED:	04-22-08	
SHORT TERM:	▽			---			DRILLING METHOD:	HSA	
LONG TERM:	▽			---			EQUIPMENT:	CME-45 ATV	

Elevation (ft.)	Depth (ft.)	Recovery (inches)	SPT blows per 6in.	SPT blows per foot	VISUAL DESCRIPTION	Stratum	Groundwater	MC (%)	LL (%)	PI (%)	Fines (%)	COMMENTS
240	0	12	2 4	7 10	Organic Surface - 1.0 inches. Medium dense, brown, wet, silty SAND (SM) with trace gravels.	A						PVC pipe set up at 6.0 feet.
235	5	12	10 8	9 17			▼					
230	10	10	11 8	13 21	Boring Terminated at 10.0 feet.	10.0						
225	15											
220	20											
215	25											

The split spoon sample is driven into the soil a distance of 18 inches, by a 140-pound safety hammer falling 30 inches. The number of blows required to drive the sample the first 12 inches is designated the SPT or N-value.

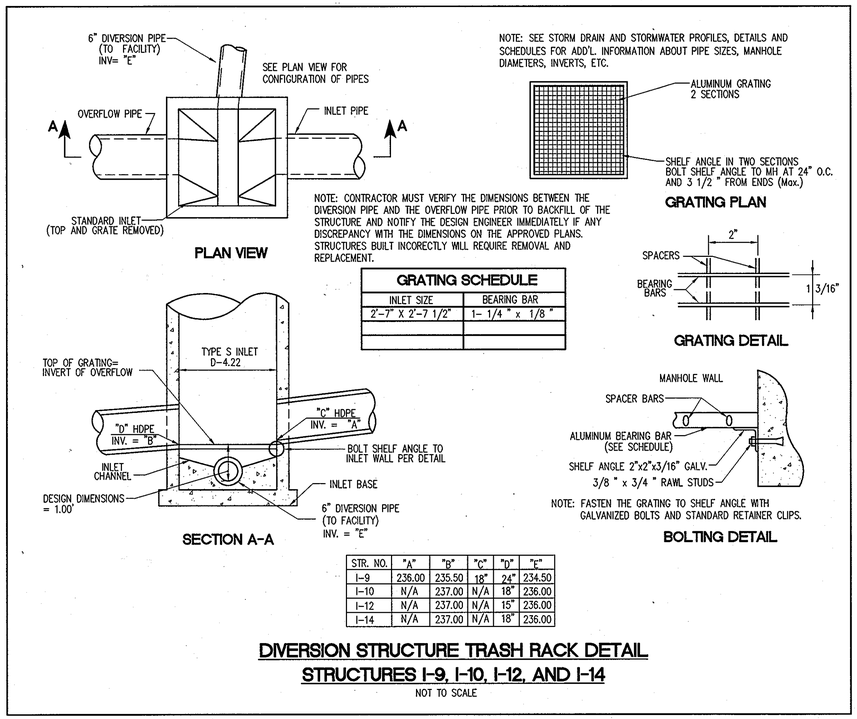
PATTON HARRIS RUST & ASSOCIATES, pc — BORING LOG

PROJECT NAME: North Laurel Park	PROJECT NUMBER: 14466-1-1	BORING NUMBER: SW-7
LOCATION: Laurel, Maryland		SHEET 1 OF 1
LOGGED BY: Babu	DRILLER: Hurdis Drilling Company	ELEVATION: 238.5'

GROUNDWATER DATA	DATE	TIME	ELAPSED	CAVED (FT)	DEPTH (FT)		DATE	TIME
ENCOUNTERED:	▽			---			START:	04-24-08	
UPON COMPLETION:	▼			---	9.0	2.5	FINISHED:	04-24-08	
SHORT TERM:	▽			---			DRILLING METHOD:	HSA	
LONG TERM:	▽			---			EQUIPMENT:	CME-45 ATV	

Elevation (ft.)	Depth (ft.)	Recovery (inches)	SPT blows per 6in.	SPT blows per foot	VISUAL DESCRIPTION	Stratum	Groundwater	MC (%)	LL (%)	PI (%)	Fines (%)	COMMENTS
240	0	12	2 2	3 7	Organic Surface - 1.0 inches. Loose, brown, wet, silty SAND (SM) with trace gravels.	A						PVC pipe set up at 9.0 feet.
235	5	14	6 12	15 27	Very stiff to hard, yellowish white, moist, sandy CLAY (CL).	3.0	▼					
230	10	15	16 20	25 45	Dense, orangish brown, wet, clayey SAND (SC) with trace gravels.	7.0						
225	15				Boring Terminated at 10.0 feet.	10.0						
220	20											
215	25											

The split spoon sample is driven into the soil a distance of 18 inches, by a 140-pound safety hammer falling 30 inches. The number of blows required to drive the sample the first 12 inches is designated the SPT or N-value.



GRATING SCHEDULE	
INLET SIZE	BEARING BAR
2'-7" X 2'-7 1/2"	1- 1/4 " x 1/8 "

STR. NO.	"A"	"B"	"C"	"D"	"E"
I-9	236.00	235.50	18"	24"	234.50
I-10	N/A	237.00	N/A	18"	236.00
I-12	N/A	237.00	N/A	15"	235.00
I-14	N/A	237.00	N/A	18"	235.00

DIVERSION STRUCTURE TRASH RACK DETAIL
STRUCTURES I-9, I-10, I-12, AND I-14

NOT TO SCALE

NOTE: REFER TO GEOTECHNICAL REPORT FOR COMPLETE SET OF SITE AND BUILDING SOIL BORINGS.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/9/09

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
SOIL BORING LOGS AND SWM DETAILS

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — STATE OF MARYLAND — SHERRY CLARKE MITCHELL — 33954 — REGISTERED PROFESSIONAL ENGINEER — 3-4-09

BY: Sherry C Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	PDS
DRAWN BY:	PDS
PROJECT NO :	14466-1-0 C40DSDP25.DWG
DATE :	MARCH 4, 2009
SCALE :	NTS
DRAWING NO.	25 OF 42

SDP-08-118

PHR+A PATTON HARRIS RUST & ASSOCIATES, pc — BORING LOG

PROJECT NAME: North Laurel Park	PROJECT NUMBER: 14466-1-1	BORING NUMBER: SW-8
LOCATION: Laurel, Maryland		SHEET 1 OF 1
LOGGED BY: Babu	DRILLER: Hurdis Drilling Company	ELEVATION: 238.0'

GROUNDWATER DATA	DATE	TIME	ELAPSED	CAVED (FT)	DEPTH (FT)		DATE	TIME
ENCOUNTERED:	▽			---		DRY	START:	04-24-08	
UPON COMPLETION:	▼			---	9.0	DRY	FINISHED:	04-24-08	
SHORT TERM:	▽			---			DRILLING METHOD:	HSA	
LONG TERM:	▼			---			EQUIPMENT:	CME-45 ATV	

Elevation (ft.)	Depth (ft.)	Recovery (inches)	SPT blows per 6in.	SPT blows per foot	VISUAL DESCRIPTION	Stratum	Groundwater	MC (%)	LL (%)	PI (%)	Fines (%)	COMMENTS
		12	3 3 5	8	Organic Surface - 1.0 inches. Loose to medium dense, very moist, clayey SAND (SC) with trace gravels and roots.							
235	5	12	5 11 9	20	Very stiff, reddish mottled white, moist, sandy CLAY (CL).							
		13	6 11 13	24								
230	10				Medium dense, reddish brown, moist, clayey SAND (SC) with trace gravels.							PVC pipe set up at 9.0 feet.
225	15				Boring Terminated at 10.0 feet.							
220	20											
215	25											

The split spoon sampler is driven into the soil a distance of 18 inches, by a 140 pound (140lb) hammer falling 30 inches. The number of blows required to drive the last 12 inches, or part thereof, is designated the SPT or N-value.

PHR+A PATTON HARRIS RUST & ASSOCIATES, pc — BORING LOG

PROJECT NAME: North Laurel Park	PROJECT NUMBER: 14466-1-1	BORING NUMBER: SW-9
LOCATION: Laurel, Maryland		SHEET 1 OF 1
LOGGED BY: Babu	DRILLER: Hurdis Drilling Company	ELEVATION: 228.5'

GROUNDWATER DATA	DATE	TIME	ELAPSED	CAVED (FT)	DEPTH (FT)		DATE	TIME
ENCOUNTERED:	▽			---			START:	04-24-08	
UPON COMPLETION:	▼			---	15.0	8.5	FINISHED:	04-24-08	
SHORT TERM:	▽			---			DRILLING METHOD:	HSA	
LONG TERM:	▼			---			EQUIPMENT:	CME-45 ATV	

Elevation (ft.)	Depth (ft.)	Recovery (inches)	SPT blows per 6in.	SPT blows per foot	VISUAL DESCRIPTION	Stratum	Groundwater	MC (%)	LL (%)	PI (%)	Fines (%)	COMMENTS
		18	3 4 13	17	Organic Surface - 2.0 inches. Medium dense, black, wet, silty SAND (SM) with trace organics and gravels.							
225	5	15	4 8 8	16	Very stiff, reddish mottled white, moist, sandy fat CLAY (CH).							
		14	5 8 9	14	Stiff, tannish white, moist, sandy CLAY (CL).							
220	10	13	20 10 13	23	Medium dense, tannish brown, wet, silty SAND (SM) with trace gravels.							PVC pipe set up at 15.0 feet.
215	15	15	5 7 12	19	Very stiff, white, very moist to wet, sandy fat CLAY (CH).							
					Boring Terminated at 15.0 feet.							

The split spoon sampler is driven into the soil a distance of 18 inches, by a 140 pound (140lb) hammer falling 30 inches. The number of blows required to drive the last 12 inches, or part thereof, is designated the SPT or N-value.

PHR+A PATTON HARRIS RUST & ASSOCIATES, pc — BORING LOG

PROJECT NAME: North Laurel Park	PROJECT NUMBER: 14466-1-1	BORING NUMBER: SW-10
LOCATION: Laurel, Maryland		SHEET 1 OF 1
LOGGED BY: Babu	DRILLER: Hurdis Drilling Company	ELEVATION: 205.1'

GROUNDWATER DATA	DATE	TIME	ELAPSED	CAVED (FT)	DEPTH (FT)		DATE	TIME
ENCOUNTERED:	▽			---		DRY	START:	05-01-08	
UPON COMPLETION:	▼			---	4.4	DRY	FINISHED:	05-01-08	
SHORT TERM:	▽			---			DRILLING METHOD:	HSA	
LONG TERM:	▼			---			EQUIPMENT:	CME-45 ATV	

Elevation (ft.)	Depth (ft.)	Recovery (inches)	SPT blows per 6in.	SPT blows per foot	VISUAL DESCRIPTION	Stratum	Groundwater	MC (%)	LL (%)	PI (%)	Fines (%)	COMMENTS
		15	4 6 10	16	Organic Surface - 2.0 inches. Very stiff, orangish yellow, moist, sandy CLAY (CL).							
200	5	15	4 9 11	20								
		16	6 7 10	17	Very stiff, reddish mottled gray, very moist, sandy fat CLAY (CH) with trace gravels.			18.3	63	41	53.3	
195	10	15	7 12 16	28	Boring Terminated at 10.0 feet.							
190	15											
185	20											
180	25											

The split spoon sampler is driven into the soil a distance of 18 inches, by a 140 pound (140lb) hammer falling 30 inches. The number of blows required to drive the last 12 inches, or part thereof, is designated the SPT or N-value.

PHR+A PATTON HARRIS RUST & ASSOCIATES, pc — BORING LOG

PROJECT NAME: North Laurel Park	PROJECT NUMBER: 14466-1-1	BORING NUMBER: SW-11
LOCATION: Laurel, Maryland		SHEET 1 OF 1
LOGGED BY: Babu	DRILLER: Hurdis Drilling Company	ELEVATION: 206.2'

GROUNDWATER DATA	DATE	TIME	ELAPSED	CAVED (FT)	DEPTH (FT)		DATE	TIME
ENCOUNTERED:	▽			---		DRY	START:	05-01-08	
UPON COMPLETION:	▼			---	4.0	DRY	FINISHED:	05-01-08	
SHORT TERM:	▽			---			DRILLING METHOD:	HSA	
LONG TERM:	▼			---			EQUIPMENT:	CME-45 ATV	

Elevation (ft.)	Depth (ft.)	Recovery (inches)	SPT blows per 6in.	SPT blows per foot	VISUAL DESCRIPTION	Stratum	Groundwater	MC (%)	LL (%)	PI (%)	Fines (%)	COMMENTS
		14	4 7 13	20	Organic Surface - 2.0 inches. Medium dense, reddish orange, moist, clayey SAND (SC).							
205	5	15	3 6 9	15	Stiff, reddish mottled gray, moist, sandy CLAY (CL) with trace gravel.							
		14	6 7 10	17	Very stiff, reddish, moist, sandy CLAY (CL).			14.0	31	14	77.6	
200	10	14	7 7 10	17	Very stiff, gray mottled red/yellow, moist, sandy fat CLAY (CH).							
195	15				Boring Terminated at 10.0 feet.							
190	20											
185	25											

The split spoon sampler is driven into the soil a distance of 18 inches, by a 140 pound (140lb) hammer falling 30 inches. The number of blows required to drive the last 12 inches, or part thereof, is designated the SPT or N-value.

PHR+A PATTON HARRIS RUST & ASSOCIATES, pc — BORING LOG

PROJECT NAME: North Laurel Park	PROJECT NUMBER: 14466-1-1	BORING NUMBER: SW-12
LOCATION: Laurel, Maryland		SHEET 1 OF 1
LOGGED BY: Babu	DRILLER: Hurdis Drilling Company	ELEVATION: 214.3'

GROUNDWATER DATA	DATE	TIME	ELAPSED	CAVED (FT)	DEPTH (FT)		DATE	TIME
ENCOUNTERED:	▽			---		DRY	START:	04-30-08	
UPON COMPLETION:	▼			---	3.9	DRY	FINISHED:	04-30-08	
SHORT TERM:	▽			---			DRILLING METHOD:	HSA	
LONG TERM:	▼			---			EQUIPMENT:	CME-45 ATV	

Elevation (ft.)	Depth (ft.)	Recovery (inches)	SPT blows per 6in.	SPT blows per foot	VISUAL DESCRIPTION	Stratum	Groundwater	MC (%)	LL (%)	PI (%)	Fines (%)	COMMENTS
		16	3 5 7	12	Organic Surface - 1.5 inches. Stiff, orangish brown, moist, sandy SILT (ML) with trace gravels.							
210	5	15	4 10 14	24	Very stiff to hard, reddish, moist, sandy CLAY (CL).							
		15	5 11 14	25								
205	10	15	8 17 16	33								
200	15				Boring Terminated at 10.0 feet.							
195	20											
190	25											

The split spoon sampler is driven into the soil a distance of 18 inches, by a 140 pound (140lb) hammer falling 30 inches. The number of blows required to drive the last 12 inches, or part thereof, is designated the SPT or N-value.

PHR+A PATTON HARRIS RUST & ASSOCIATES, pc — BORING LOG

PROJECT NAME: North Laurel Park	PROJECT NUMBER: 14466-1-1	BORING NUMBER: SW-13
LOCATION: Laurel, Maryland		SHEET 1 OF 1
LOGGED BY: Babu	DRILLER: Hurdis Drilling Company	ELEVATION: 218.7'

GROUNDWATER DATA	DATE	TIME	ELAPSED	CAVED (FT)	DEPTH (FT)		DATE	TIME
ENCOUNTERED:	▽			---			START:	04-24-08	
UPON COMPLETION:	▼			---	24.0	23.0	FINISHED:	04-24-08	
SHORT TERM:	▽			---			DRILLING METHOD:	HSA	
LONG TERM:	▼			---			EQUIPMENT:	CME-45 ATV	

Elevation (ft.)	Depth (ft.)	Recovery (inches)	SPT blows per 6in.	SPT blows per foot	VISUAL DESCRIPTION	Stratum	Groundwater	MC (%)	LL (%)	PI (%)	Fines (%)	COMMENTS
		16	4 6 7	13	Organic Surface - 2.0 inches. Stiff, orangish brown, moist, sandy SILT (ML) with trace gravels.							
215	5	15	11 13 21	34	Hard, orangish brown mottled gray, moist, sandy SILT (ML) with trace gravels.							
		15	9 21 24	45	Hard, orangish brown, moist, sandy CLAY (CL) with trace gravels.							
210	10	14	8 14 25	39	Hard, reddish brown mottled white, moist, sandy CLAY (CL).							
205	15	15	7 17 10	27	Very stiff, dark gray/olive, moist to wet, sandy fat SILT (CH) with trace gravels.							PVC pipe set up at 24.0 feet.
200	20	14	7 8 16	24								
195	25				Boring Terminated at 25.0 feet.							

The split spoon sampler is driven into the soil a distance of 18 inches, by a 140 pound (140lb) hammer falling 30 inches. The number of blows required to drive the last 12 inches, or part thereof, is designated the SPT or N-value.

NOTE: REFER TO GEOTECHNICAL REPORT FOR COMPLETE SET OF SITE AND BUILDING SOIL BORINGS.

GEOTECHNICAL DESIGN RECOMMENDATIONS

Infiltration Data

In-situ infiltration testing at Stormwater management and Bio-retention facilities, were performed at depths ranging from 8.0 feet to 24.0 feet below the existing ground surface, based on the proposed bottom elevations of the structures. The results of the tests are presented in Appendix D, In-Situ Infiltration Testing at the locations indicated on the Boring Location Plan presented in Appendix A. The testing was performed at the desired locations of the Stormwater Management (SWM) facility.

The in-situ infiltration tests were performed by installing a five-inch diameter pipe to a depth of two feet below the proposed stormwater facility depth. The standpipe was filled with water to the desired depth and allowed to pre-soak for 24 hours. After that time period, the depth of the pre-soaked water level was then measured and recorded. The standpipe was refilled to the desired depth and the water level was then measured each hour for four hours in a falling head test. The hourly incremental rates along with the four hour average infiltration rate (in/hr) for each of the three test locations is presented in Appendix D. The average infiltration rates in the field permeability tests range from 0.00 inches per hour to 2.76 inches/hour at the proposed SWM/bio-retention facility locations. A number of factors can influence the results of the field permeability testing such as clay content, groundwater levels, and soil density. Groundwater was encountered at depths ranging from 3.5 feet to 23.0 feet within Borings SW-1, SW-6, SW-7, SW-9, and SW-10 through SW-13, during drilling or upon completion, and after 24 hours of completion of the soil borings.

As an additional method of evaluating the soil for infiltration, the USDA hydrometer analysis was used to classify the soils at the similar depth and location as the in-situ infiltration tests. The locations and average depths of the samples chosen for the hydrometer analysis are shown on the USDA Textural Classification Chart in the Laboratory Test Data presented in Appendix C.

According to the United States Department of Agriculture (USDA) textural classification method, from which soil permeability was estimated using data obtained in a study titled "Estimation of Soil Properties", presented in the Transactions of the American Society of Agricultural Engineers, Volume 25, No. 5, 1982. The results are as follows in Table 2:

TABLE 2

Boring Number	Depth (ft)	USDA Classification	USDA Soil Permeability Estimate (inches/hour)
SW-1	13.0	SANDY LOAM	1.02
SW-2	13.0	CLAY LOAM	0.09
SW-4	16.0	CLAY LOAM	0.09
SW-5	9.0	SILTY CLAY	0.04
SW-6	8.5	SANDY LOAM	1.02
SW-7	9.0	SANDY CLAY LOAM	0.17
SW-8	9.0	CLAY LOAM	0.09
SW-9	14.0	CLAY LOAM	0.09
SW-13	24.0	CLAY LOAM	0.09

Stormwater Management (SWM) and Bio-Retention Facilities

Based on the Soil Boring Plan, we understand that several stormwater management (SWM) and bio-retention facilities will be proposed within the site. We understand that the proposed bottom of the stormwater management and bio-retention facilities will vary from El. 194.0 feet to El. 230.0 feet. Groundwater was encountered at depths ranging from 3.5 feet to 23.0 feet within Borings SW-1, SW-6, SW-7, SW-9, and SW-10 through SW-13, during drilling or upon completion, and after 24 hours of completion of the soil borings.

Groundwater Control

Groundwater readings were performed at all test locations at the completion of each soil boring. Groundwater was encountered at depths ranging from 1.0 feet to 27.0 feet within Borings SB-1, SB-4, SB-8, SB-9, SB-13, SB-15, SB-19, SW-1, SW-6, SW-7, SW-9, and SW-10 through SW-13, during drilling or upon completion, and after 24 hours of completion of the soil borings. Based on PHR+A's observations of the groundwater levels at the time of our subsurface investigation, significant difficulties may occur within or in the vicinity of the proposed parking lot, and installation of stormwater management and bio-retention facilities. Temporary or permanent dewatering may be necessary during the construction of the structures.

Should perched water be encountered during excavation of foundation and/or utility trenches, conventional dewatering systems such as sump pumps and pits, diversion ditches, or dikes, etc. are anticipated to be adequate for groundwater control.

CONSTRUCTION QUALITY ASSURANCE

We recommend that PHR+A be retained to monitor the construction activities and to verify that the field conditions are consistent with the findings of our investigation. If significant variations are encountered or if the design is altered, PHR+A should be notified and given the opportunity to evaluate potential impacts to the geotechnical recommendations of this report.

Approval of subgrade and fill placement should be achieved by performing field density tests in accordance with ASTM D 1556 (Sand-Cone Method) or ASTM D 2922 (Nuclear Method). Field density tests should be performed as needed to verify that adequate compactive effort is being used. A daily field report should be submitted for each day's work, summarizing the foundation construction observations, compaction test results, observations, and the contractor's activities.

The contractor should provide at least 24 hours notice before starting fill operations and/or changing construction equipment or procedures. Regardless of notification, any fill placed by the contractor in the absence of the geotechnical engineer's representative is at the contractor's risk.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/19/09

DATE	NO.	REVISION

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA — TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
SOIL BORING LOGS AND GEOTECHNICAL RECOMMENDATIONS

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
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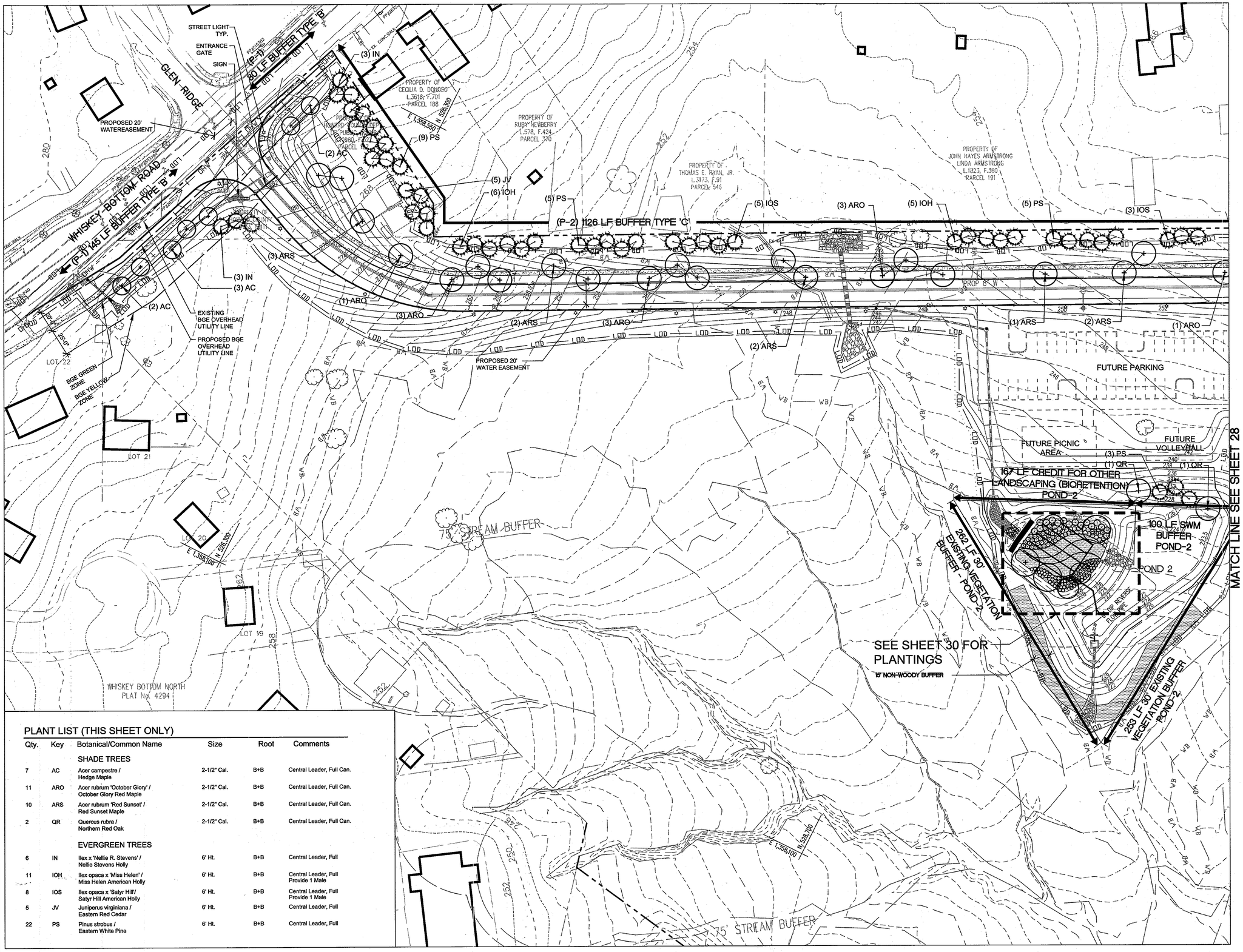
SEAL — STATE OF MARYLAND · DONALD CLARKE MITCHELL · No. 33954 · REGISTERED PROFESSIONAL ENGINEER — 3-4-09 Plan Only

BY: Donald C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	PDS/HS
DRAWN BY:	PDS/HS
PROJECT NO :	14466-1-0 C400SDP26.DWG
DATE :	MARCH 4, 2009
SCALE :	NTS
DRAWING NO.	26 OF 42

SDP-08-118



PLANT LIST (THIS SHEET ONLY)

Qty.	Key	Botanical/Common Name	Size	Root	Comments
		SHADE TREES			
7	AC	Acer campestre / Hedge Maple	2-1/2" Cal.	B+B	Central Leader, Full Can.
11	ARO	Acer rubrum 'October Glory' / October Glory Red Maple	2-1/2" Cal.	B+B	Central Leader, Full Can.
10	ARS	Acer rubrum 'Red Sunset' / Red Sunset Maple	2-1/2" Cal.	B+B	Central Leader, Full Can.
2	QR	Quercus rubra / Northern Red Oak	2-1/2" Cal.	B+B	Central Leader, Full Can.
		EVERGREEN TREES			
6	IN	Ilex x 'Nellie R. Stevens' / Nellie Stevens Holly	6' Ht.	B+B	Central Leader, Full
11	IOH	Ilex opaca x 'Miss Helen' / Miss Helen American Holly	6' Ht.	B+B	Central Leader, Full Provide 1 Male
8	IOS	Ilex opaca x 'Satyr Hill' / Satyr Hill American Holly	6' Ht.	B+B	Central Leader, Full Provide 1 Male
5	JV	Juniperus virginiana / Eastern Red Cedar	6' Ht.	B+B	Central Leader, Full
22	PS	Pinus strobus / Eastern White Pine	6' Ht.	B+B	Central Leader, Full

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEPT. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/19/09

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
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P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
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P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA
TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

BOARD OF EXAMINERS OF LANDSCAPE ARCHITECTS 778 CHARLES EUGENE BAILEY STATE OF MARYLAND

DESIGNED BY :	CLD
DRAWN BY:	CLD
PROJECT NO :	14466-1-0 C400SDP03.DWG
DATE :	MARCH 5, 2009
SCALE :	1" = 40'
DRAWING NO.	27 OF 42

P:\Project\14466\1-0\PLANS\C400SDP03.DWG

SDP-08-118

MATCH LINE SEE SHEET 27

(2) ARO
(P-2) 1126 LF BUFFER TYPE 'C'
(6) IOH
(7) JV
(2) ARS
(P-2) 900/LF 30' WOODED BUFFER
5' A. SIDEWALK
PROP. B.W.
(1) ARS
FUTURE PARKING (NOT PART OF THIS PLAN)
PROPOSED 20' WATER EASEMENT
SWM BUFFER - SEE SHEET 27 FOR DISTANCES
RETAINING WALL W/ GUARD RAIL SEE DETAIL SHEET 42
TW 250.33 BW 248.6
TW 262.33 BW 248.5 TW 262.33 BW 248.0
TW 262.33 BW 248.3 TW 262.33 BW 248.5 TW 262.33 BW 249.1
TRANSFORMER PAD
TW 262.33 BW 249.6
TW 262.33 BW 249.4
TW 262.0 BW 250.0
TW 262.0 BW 250.0
TW 250.0 BW 249.5
6' PAVED TRAIL TO BE FIELD LOCATED AS TO MINIMIZE DISTURBANCE
6' PAVED TRAIL
6' PAVED EXISTING COORDINATE PROPER
HILL ST
PLANTING BED
LAWN
PLANTING BED
TW 260.5 BW 248.4
OVERHEAD CANOPY
OVERHEAD CANOPY
PERGOLA
FUTURE POOL EXPANSION (NOT PART OF THIS PLAN)
HANDICAPPED ACCESSIBLE ENTRANCE
COMMUNITY CENTER 1 STORY BUILDING 62,520 SF
OVERHEAD CANOPY
HANDICAPPED ACCESSIBLE ENTRANCE
OVERHEAD CANOPY
HANDICAPPED ACCESSIBLE ENTRANCE
KNOX. BOX
OVERHEAD CANOPY
ADDRESS SIGN
ENTRANCE CANOPY
FUTURE PLAY GROUND (NOT PART OF THIS PLAN)
PLANTING AREA 572 SF
(1) ARS
LOADING/DROP-OFF ZONE
OUTSIDE COMMUNITY ACTIVITY AREA
(1) ARS
(1) ARO
LIGHT POLE (TYP.)
(1) ARS
(1) ARO
(2) ARO
(1) ARS
(1) ARO
LIGHT POLE (TYP.)
(1) ARS
(2) ARS
(1) ARO
(1) ARS
(2) ARS
(1) ARO
(1) ARO
(1) PA
(1) PA
(P-3) 1041 LF 30' WOODED BUFFER
BR2
BR3
BR4
BR5
UNDERGROUND RECHARGE TRENCH 242
(2) ARS
(2) ARO
(2) ARS
(2) ARO
(2) ARO
PROPOSED 20' WATER EASEMENT
WASHINGTON AVENUE PAPER STREET 100' R/W
MEREDITH AVENUE (EX. R/W)
FUTURE PICNIC AREA (NOT PART OF THIS PLAN)
FUTURE PARK AREA - MAY INLCUDE PLAY GROUND, BASKETBALL COURTS, TENNIS COURTS, AND/OR SKATE PARK (NOT PART OF THIS PLAN)
(2) QP
(4) QP
(2) PS
(3) JV
(2) QR
(2) NS
(2) PS
(1) QR
(3) IOS
(3) NS
(3) PS
121 LF 30' EXISTING VEGETATION SWM BUFFER POND 1
520 LF SWM BUFFER POND 1
SWM ACCESS ROAD
RESERVED FOR FUTURE WASHINGTON AVENUE DEDICATION
PRIVATE 6' SIDEWALK
PRIVATE 5' SIDEWALK
PRIVATE 5' PAVED TRAIL
SIDEWALK TO CONNECT TO EXISTING SIDEWALK

EXISTING WOODED AREA REMAINING WITHIN PAPER STREET R.O.W. TO BE COUNTED AS 30' WOODED BUFFER CREDIT PER DISCUSSIONS WITH THE COUNTY

LEGEND

CREDITED TOWARD PARKING LOT LANDSCAPE REQUIREMENT

PLANT LIST (THIS SHEET ONLY)

Qty.	Key	Botanical/Common Name	Size	Root	Comments
		SHADE TREES			
15	ARO	Acer ruburum 'October Glory' / October Glory Red Maple	2-1/2" Cal.	B+B	Central Leader, Full Can.
15	ARS	Acer rubrum 'Red Sunset' / Red Sunset Maple	2-1/2" Cal.	B+B	Central Leader, Full Can.
5	NS	Nyssa sylvatica / Black Gum	2-1/2" Cal.	B+B	Central Leader, Full Can.
1	PA	Platanus x acerifolia 'Bloodgood' / Bloodgood London Planetree	2-1/2" Cal.	B+B	Central Leader, Full Can.
3	QP	Quercus prinus / Chestnut Oak	2-1/2" Cal.	B+B	Central Leader, Full Can.
3	QR	Quercus rubra / Northern Red Oak	2-1/2" Cal.	B+B	Central Leader, Full Can.
		EVERGREEN TREES			
6	IOH	Ilex opaca X 'Miss Helen' / Miss Helen American Holly	6' Ht.	B+B	Central Leader, Full Provide 1 Male
3	IOS	Ilex opaca x 'Satyr Hill' / Satyr Hill American Holly	6' Ht.	B+B	Central Leader, Full Provide 1 Male
10	JV	Juniperus virginiana / Eastern Red Cedar	6' Ht.	B+B	Central Leader, Full
7	PS	Pinus strobus / Eastern White Pine	6' Ht.	B+B	Central Leader, Full

MATCH LINE SEE SHEET 29

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/19/09

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA
TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
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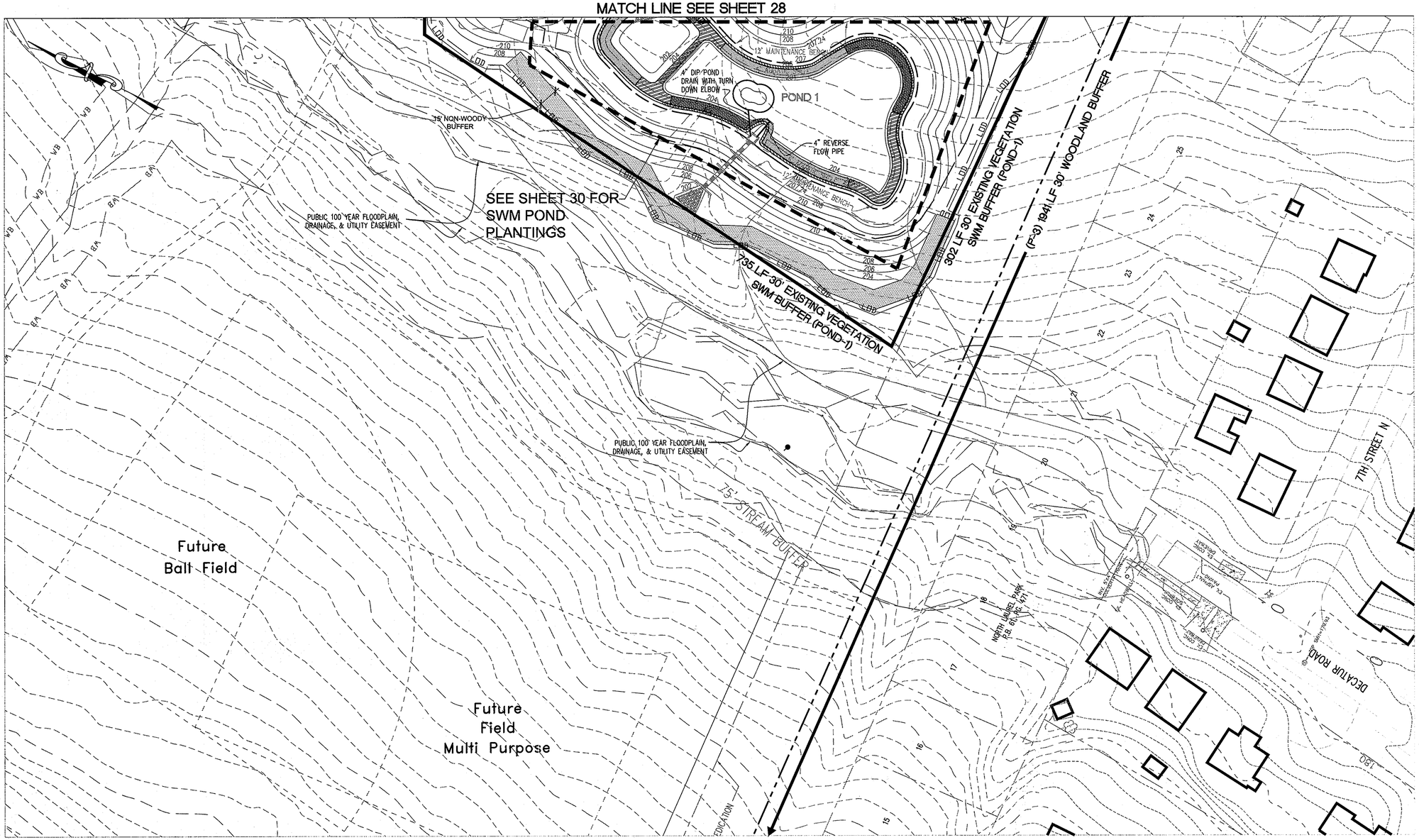
BOARD OF ENGINEERS OF LANDSCAPE ARCHITECTS 778 CHARLES EUGENE BAILEY, JR. STATE OF MARYLAND

DESIGNED BY :	CLD
DRAWN BY:	CLD
PROJECT NO :	14466-1-0 C400SDP03.DWG
DATE :	MARCH 5, 2009
SCALE :	1" = 40'
DRAWING NO.	28 OF 42

SDP-08-118

MATCH LINE SEE SHEET 28



EXTENDS TO EDGE OF PROPERTY ALONG THIS EDGE (1,941 LF TOTAL)

NO PLANTINGS ON THIS SHEET

SEE SHEET 30 FOR SWM POND PLANTINGS

SEE SHEET 28 FOR STORMWATER MANAGEMENT BUFFER PLANTINGS

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Thomas E. Butler 3/23/09
DIRECTOR, DEP. DATE

[signature] 3/10/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton 3/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
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9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
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PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA
TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

Patton Harris Rust & Associates
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Columbia, MD 21045
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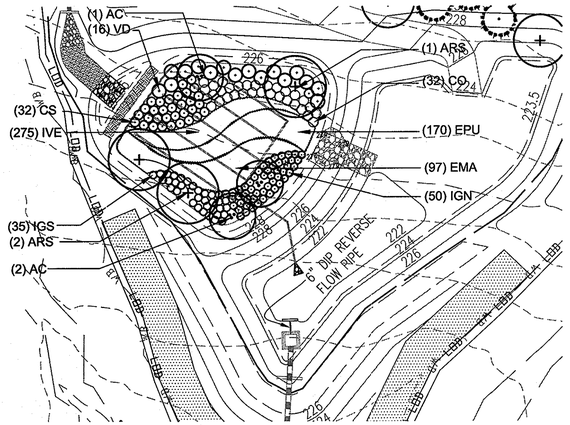
BOARD OF EXAMINERS OF LANDSCAPE ARCHITECTS 778 CHARLES EUGENE BAILEY JR. STATE OF MARYLAND

DESIGNED BY : CLD
DRAWN BY: CLD
PROJECT NO : 14466-1-0 C400SDP03.DWG
DATE : MARCH 5, 2009
SCALE : 1" = 40'
DRAWING NO. 29 OF 42

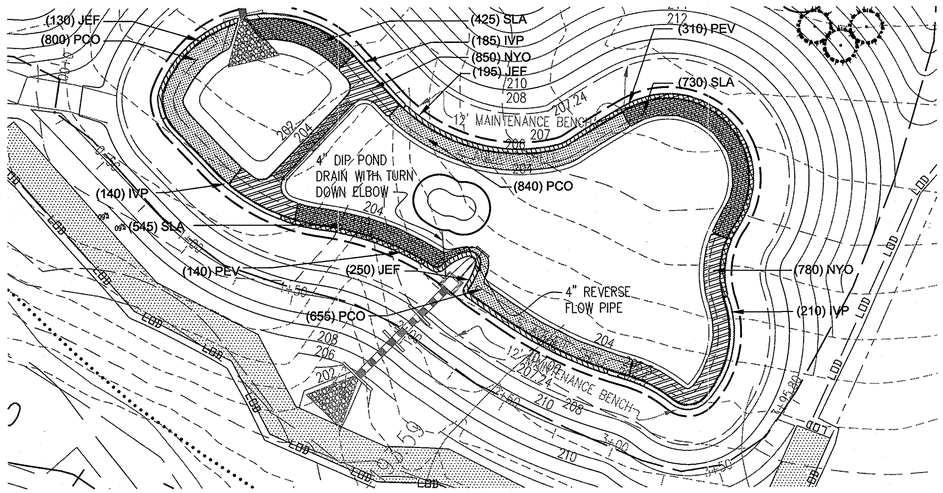
P:\Project\14466\1-0\PLANS\C400SDP03.DWG

SDP-08-118



1 Pond 2 and Bioretention Area 1 Plantings

Scale: 1" = 30'



2 Pond 1 Plantings

Scale: 1" = 30'

SWM PLANT LIST

Qty.	Key	Botanical/Common Name	Size	Root	Comments
		SHADE TREES			
3	ARS	Acer rubrum 'Red Sunset' / Red Sunset Maple	2-1/2" Cal.	B+B	Central Leader, Full Canopy
		UNDERSTORY TREES			
3	AC	Amelanchier canadensis / Serviceberry	8' Ht.	B+B	Clump, 3-5 Canes, Full Canopy
		SHRUBS			
32	CO	Cephalanthus occidentalis / Buttonbush	#5	Cont.	30" Ht, Full
32	CS	Cornus sericea 'Isanti'/ Isanti Dogwood	#5	Cont.	30" Ht, Full
50	IGN	Ilex glabra 'Nigra' / Nigra Inkberry Holly	#5	Cont.	30" Ht, Full
35	IGS	Ilex glabra 'Shamrock' / Shamrock Inkberry Holly	#5	Cont.	30" Ht, Full
16	VD	Viburnum dentatum 'Synnestvedt' / Chicago Lustre Arrowwood Viburnum	#5	Cont.	30" Ht, Full
		HERBACEOUS			
170	EPU	Echinacea purpurea / Purple Coneflower	#1	Cont.	24" O.C.
97	EMA	Eupatorium maculatum / Joe Pye Weed	#1	Cont.	36" O.C.
275	IVE	Iris versicolor / Blueflag Iris	#1	Cont.	18" O.C.
535	IVP	Iris versicolor / Blueflag Iris	-	Plug	12" O.C.
575	JEF	Juncus effusus / Soft Rush	-	Plug	12" O.C.
1630	NYO	Nymphaea odorata / American waterlily	-	Plug	12" O.C.
2295	PCO	Pontederia cordata / Pickerel Weed	-	Plug	12" O.C.
450	PEV	Peltandra virginica / Arrow Arum	-	Plug	12" O.C.
1700	SLA	Sagittaria latifolia / Duck Potato	-	Plug	12" O.C.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEPT. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/19/09

DATE	NO.	REVISION

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT

NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA

TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

STORMWATER PLANTING PLANS

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
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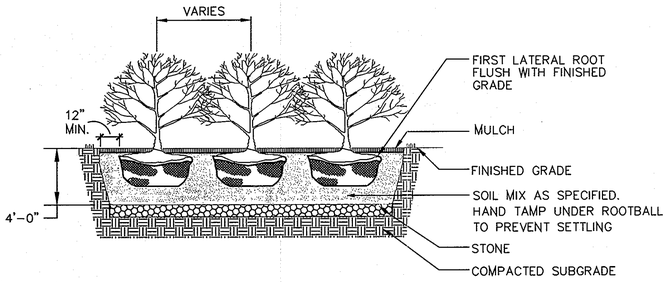
BOARD OF EXAMINERS OF LANDSCAPE ARCHITECTS — 778 — CHARLES EUGENE BAILEY — STATE OF MARYLAND

DESIGNED BY :	CLD
DRAWN BY:	CLD
PROJECT NO :	14466-1-0 C400SDP03.DWG
DATE :	MARCH 5, 2009
SCALE :	1" = 40'
DRAWING NO.	30 OF 42

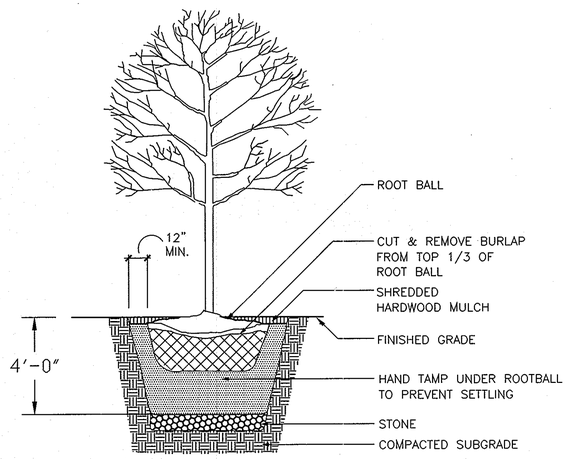


NOTE:

1.CUT AND REMOVE BURLAP FROM TOP 1/3 OF ROOT BALL AS SHOWN.

1 Typical Bioretention Shrub Planting

NTS



2 Bioretention Tree Planting

NTS

SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO PERIMETER AND ROADWAYS		
Perimeter	P-1	P-2	P-3
Perimeter/Frontage Designation Landscape Type	B	C	C
Linear Feet of Roadway Frontage/Perimeter	225	2026	1941
Credit for Existing Vegetation (Yes, No, Linear Feet Describe below if needed)	No	Yes 900	Yes 1941
Credit for Wall, Fence or Berm (Yes, No, Linear Feet Describe below if needed)	No	No	No
Subtotal (linear feet of perimeter – credits)	225	1126	0
Number of Plants Required			
Shade Trees	1:50=5	1:40=28	–
Evergreen Trees	1:40=6	1:20=56	–
Shrubs	–	–	–
Number of Plants Provided			
Shade Trees	5	28	–
Evergreen Trees	6	56	–
Other Trees (2:1 Substitution)	–	–	–
Shrubs (10:1 Substitution)	–	–	–
Describe Plant Substitution Credits Below if needed)			

SCHEDULE B
PARKING LOT INTERNAL LANDSCAPING

Number of parking spaces	289
Number of trees required	15
Number of trees provided	
Shade Trees	22
Other Trees (2:1 Substitution)	–

SCHEDULE D
STORMWATER MANAGEMENT AREA LANDSCAPING

Stormwater Management Pond	POND 1	POND 2
Linear feet of perimeter	1,307	782
Credit for existing vegetation	YES 787	YES 515
Credit for other landscaping	NO	YES 167
Subtotal (linear feet of perimeter – credits)	520	100
Number of trees required		
Shade Trees (1:50)	11	2
Evergreen Trees (1:40)	13	3
Number of trees provided		
Shade Trees	11	2
Other Trees (2:1 Substitution)	13	3

NOTE:
PROVIDED PLANT QUANTITIES SHOWN REPRESENT MORE THAN THE REQUIRED PLANTING PER SCHEDULES A, B, & D.

At the time of plant installation, all shrubs and trees listed and approved on the Landscape Plan, shall comply with the proper height requirement in accordance with the Howard County Landscape Manual. In addition, no substitutions or relocations of the required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from the approved Landscape Plan may result in denial or delay in the final release of the landscape plan until such time as all required materials are planted and/or revisions are made to the applicable plans

The owner, tenants, and/or their agents shall be responsible for maintenance of the required landscaping including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.

This plan has been prepared in accordance with Section 16.124 of the Howard County Code and Landscape Manual with 75 shade trees, 3 ornamental trees, 78 evergreen trees and 165 shrubs.

Developer's/Owner's Landscape Certificate

I/we certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Code and the Landscape Manual. I/we further certify that upon completion a Letter of Landscape Installation, accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

Michael A. Iannello 3-3-09

Developer's/Owner's Name

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/19/09

DATE	NO.	REVISION

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
PLANTING DETAILS, PLANT LIST & PLANT SCHEDULES

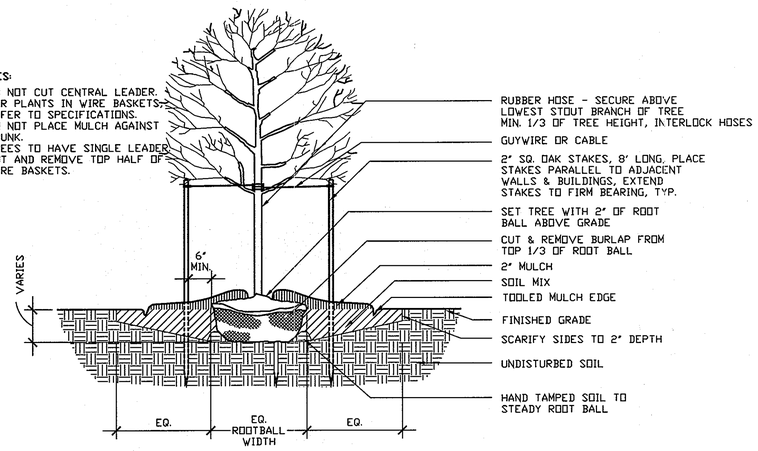
Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

BOARD OF EXAMINERS OF LANDSCAPE ARCHITECTS — CHARLES EUGENE BAILEY — 778 — STATE OF MARYLAND

DESIGNED BY : CLD	
DRAWN BY: CLD	
PROJECT NO : 14466-1-0 C400SDP03.DWG	
DATE : MARCH 5, 2009	
SCALE : NTS	
DRAWING NO. 31 OF 42	

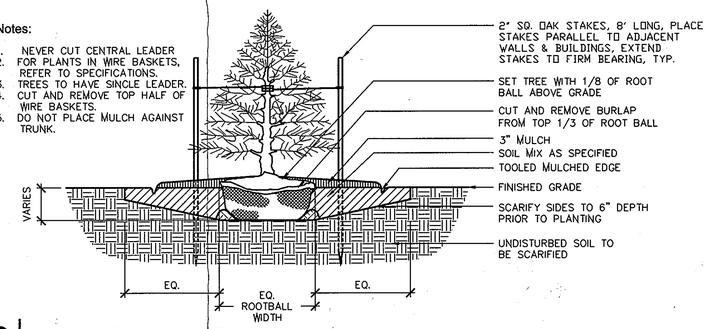
P:\Project\14466\1-0\PLANS\C400SDP03.DWG

NOTES:
1. DO NOT CUT CENTRAL LEADER.
2. FOR PLANTS IN WIRE BASKETS, REFER TO SPECIFICATIONS.
3. DO NOT PLACE MULCH AGAINST TRUNK.
4. TREES TO HAVE SINGLE LEADER.
5. CUT AND REMOVE TOP HALF OF WIRE BASKETS.

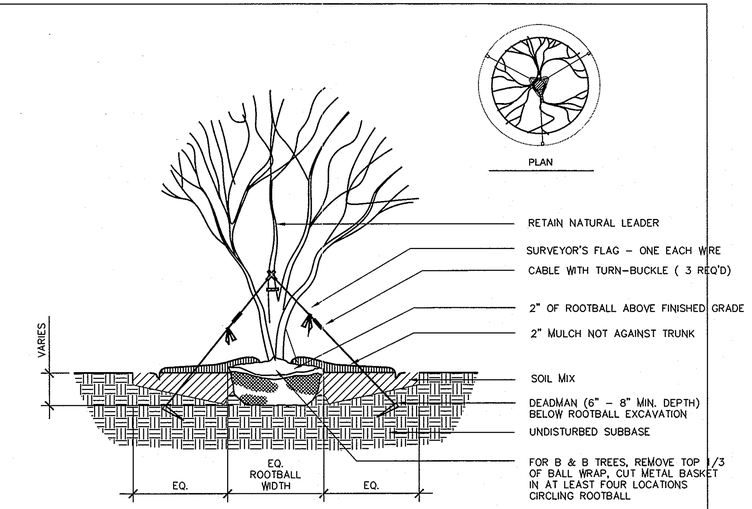


1 Typical Deciduous Tree Planting
Scale: 1/2" = 1'-0"

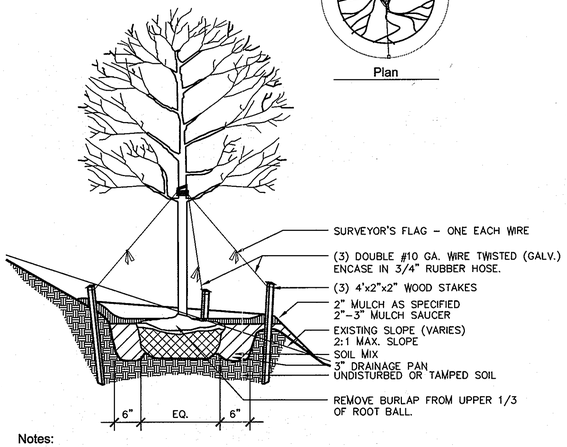
Notes:
1. NEVER CUT CENTRAL LEADER
2. FOR PLANTS IN WIRE BASKETS, REFER TO SPECIFICATIONS.
3. TREES TO HAVE SINCLE LEADER.
4. CUT AND REMOVE TOP HALF OF WIRE BASKETS.
5. DO NOT PLACE MULCH AGAINST TRUNK.



2 Typical Evergreen Tree Planting
Scale: 1/2" = 1'-0"



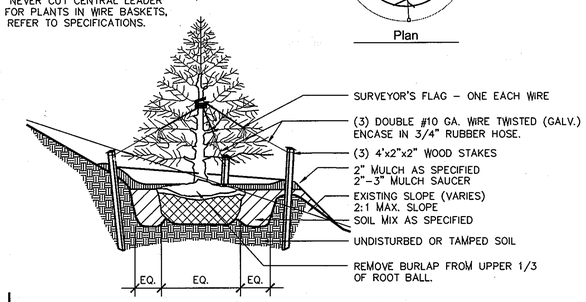
3 Typical Multi-Stem Tree Planting
Scale: 1/2" = 1'-0"



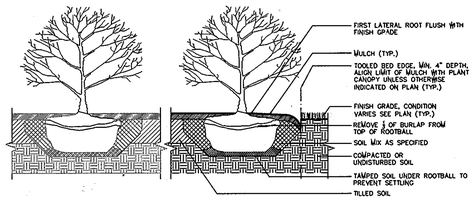
Notes:
1. NEVER CUT CENTRAL LEADER.
2. NEVER MULCH AGAINST TRUNK.
3. SET TREE WITH 1/8 OF ROOT BALL ABOVE GRADE.
4. STAKES, WIRES, AND HOSES SHALL BE REMOVED AFTER ONE YEAR.
5. SCARIFY SUBSOIL AND SIDES OF TREE PIT TO A MIN. OF 4" DEPTH.
6. TREES UNDER 2-1/2" CAL.: 10' x 2" x 2" STAKES SET VERTICAL, MIN. 2' INTO COMPACTED SUBGRADE.

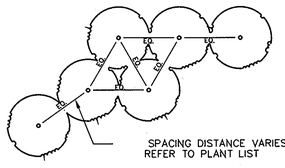
6 Typical Deciduous Tree Planting on Slope
Scale: 1/2" = 1'-0"

Notes:
1. NEVER CUT CENTRAL LEADER
2. FOR PLANTS IN WIRE BASKETS, REFER TO SPECIFICATIONS.

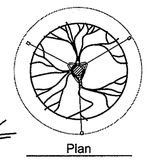


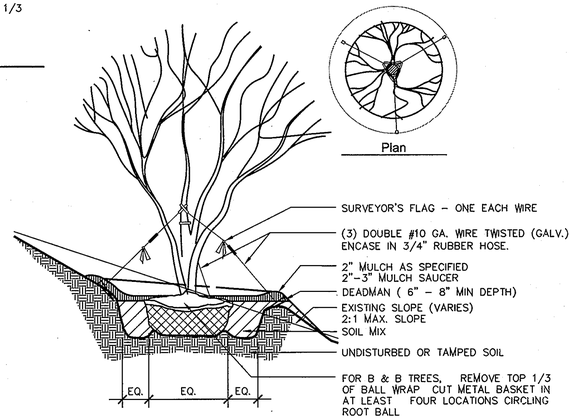
4 Typical Evergreen Tree Planting on Slope
Scale: 1/2" = 1'-0"





7 Typical Shrub Planting
NTS





5 Typical Multi-Stem Tree Planting on Slope
Scale: 1/2" = 1'-0"

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/9/09

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

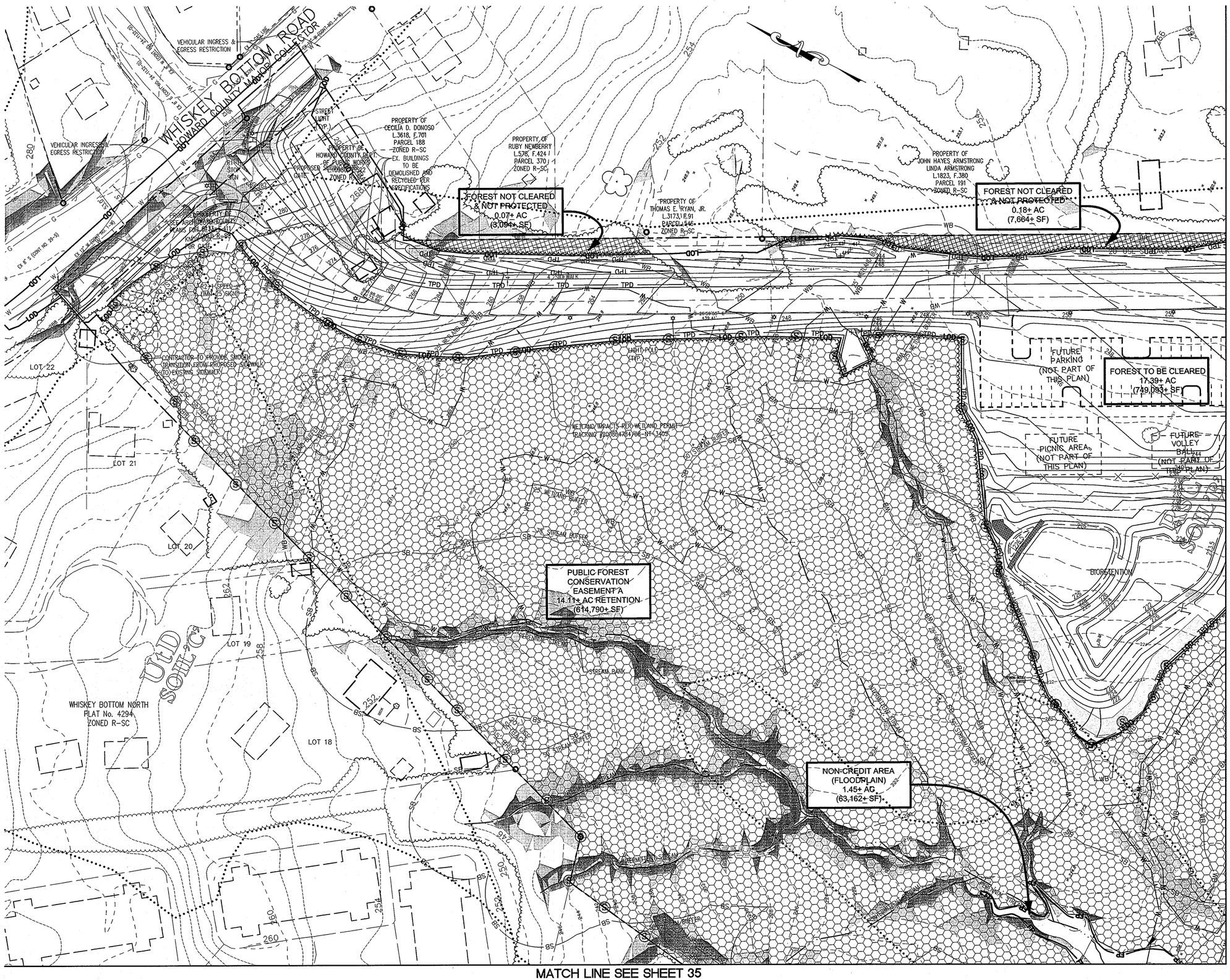
TITLE
PLANTING DETAILS, PLANT LIST & PLANT SCHEDULES

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

BOARD OF EXAMINERS OF LANDSCAPE ARCHITECTS 778 CHARLES STEPHEN MILLER STATE OF MARYLAND

DESIGNED BY : CLD
DRAWN BY: CLD
PROJECT NO : 14466-1-0 C400SDP03.DWG
DATE : MARCH 5, 2009
SCALE : NTS
DRAWING NO. 32 OF 42

P:\Project\14466\1-0\PLANS\C400SDP03.DWG



LEGEND

- PROP. BUILDING
- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE — TPD
- PROPERTY LINE AND RIGHT OF WAY
- FLOODPLAIN — FP
- EX. TREELINE
- PROP. TREELINE
- FOREST RETENTION AREA
- FOREST NOT CLEARED OR PROTECTED
- FOREST CLEARED UNDER A FUTURE PHASE
- FOREST CONSERVATION EASEMENT SIGNAGE — (S)
- SOILS — MrE
- 15–25% SLOPES
- >25% SLOPES

NOTE:

⚠1 THE FOREST CONSERVATION EASEMENTS SHOWN ON F-10-097 AND THE FOREST CONSERVATION PLANS INCLUDED WITH SDP-10-010 SUPERCEDES THE FOREST CONSERVATION INFORMATION SHOWN ON THIS SHEET.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEPT. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/19/09

DATE	NO.	REVISION
8/25/10	1	ADDED NOTES

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA — TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

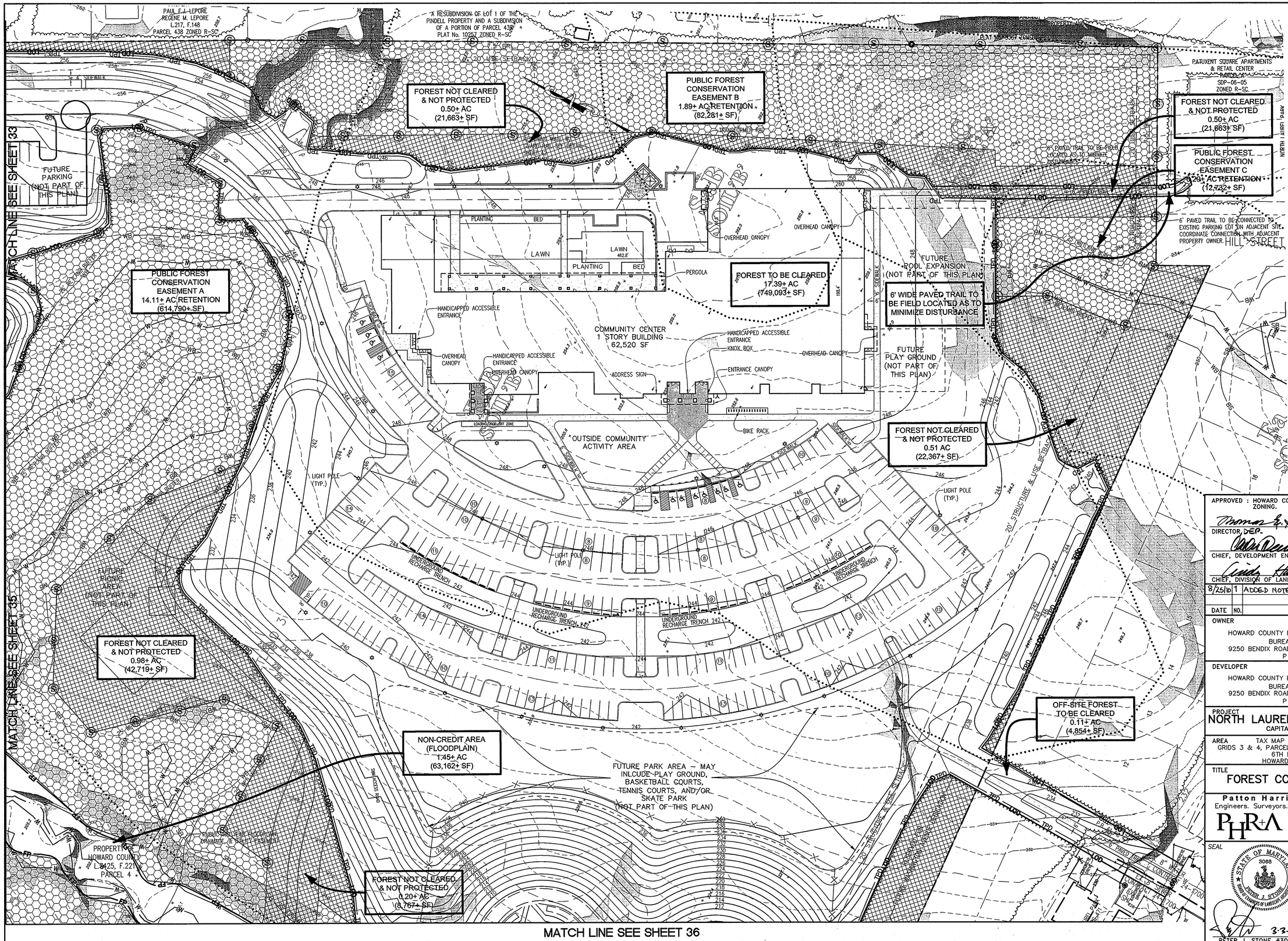
TITLE
FOREST CONSERVATION PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — STATE OF MARYLAND 3068 PETER J. STONE — 3-3-09 — PETER J. STONE #3068

DESIGNED BY :	JSN
DRAWN BY:	JSN
PROJECT NO :	14466-1-0 C400SDP33.DWG
DATE :	MARCH 4, 2009
SCALE :	1" = 40'
DRAWING NO.	33 OF 54

SDP-08-118



LEGEND

- PROP. BUILDING
- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE — TPD
- PROPERTY LINE AND RIGHT OF WAY
- FLOODPLAIN — FP
- EX. TREELINE
- PROP. TREELINE
- FOREST RETENTION AREA
- FOREST NOT CLEARED OR PROTECTED
- FOREST CLEARED UNDER A FUTURE PHASE
- FOREST CONSERVATION EASEMENT SIGNAGE (S)
- SOILS MrE
- 15–25% SLOPES
- >25% SLOPES

NOTE:

1. THE FOREST CONSERVATION EASEMENTS SHOWN ON F-10-037 AND THE FOREST CONSERVATION PLANS INCLUDED WITH SDP-10-010 SUPERCEDES THE FOREST CONSERVATION INFORMATION SHOWN ON THIS SHEET

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP.	3/23/09 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	3/10/09 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	3/19/09 DATE

DATE	NO.	REVISION
8/25/10	1	ADDED NOTES

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL

STATE OF MARYLAND 3088 PETER J. STONE REGISTERED PROFESSIONAL ENGINEER

3.3.09
PETER J. STONE #3068

DESIGNED BY : JSN	
DRAWN BY: JSN	
PROJECT NO :	14466-1-0 C400SDP34.DWG
DATE : MARCH 4, 2009	
SCALE : 1" = 40'	
DRAWING NO.	34 OF 54

SDP-08-118

MATCH LINE SEE SHEET 33

MATCH LINE SEE SHEET 34

MATCH LINE SEE SHEET 36

MATCH LINE SEE SHEET 37

LEGEND

- PROP. BUILDING
- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE — TPD —
- PROPERTY LINE AND RIGHT OF WAY
- FLOODPLAIN — FP —
- EX. TREELINE
- PROP. TREELINE
- FOREST RETENTION AREA
- FOREST NOT CLEARED OR PROTECTED
- FOREST CLEARED UNDER A FUTURE PHASE
- FOREST CONSERVATION EASEMENT SIGNAGE (S)
- SOILS MrE
- 15-25% SLOPES
- >25% SLOPES

NOTE: 1

1 THE FOREST CONSERVATION EASEMENTS SHOWN ON F-10-037 AND THE FOREST CONSERVATION PLANS INCLUDED WITH SDP-10-010 SUPERCEDES THE FOREST CONSERVATION INFORMATION SHOWN ON THIS SHEET.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/19/09

DATE	NO.	REVISION
8/25/10	1	ADDED NOTES

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — STATE OF MARYLAND — 3068 — PETER J. STONE — REGISTERED PROFESSIONAL ENGINEER

7-3-09
PETER J. STONE #3068

DESIGNED BY : JSN	
DRAWN BY: JSN	
PROJECT NO :	14466-1-0 C400SDP35.DWG
DATE : MARCH 4, 2009	
SCALE : 1" = 40'	
DRAWING NO.	35 OF 54

SDP-08-118

MATCH LINE SEE SHEET 34

MATCH LINE SEE SHEET 35

MATCH LINE SEE SHEET 37

LEGEND

PROP. BUILDING	
LIMIT OF DISTURBANCE	
TREE PROTECTION FENCE	TPD
PROPERTY LINE AND RIGHT OF WAY	
FLOODPLAIN	FP
EX. TREELINE	
PROP. TREELINE	
FOREST RETENTION AREA	
FOREST NOT CLEARED OR PROTECTED	
FOREST CLEARED UNDER A FUTURE PHASE	
FOREST CONSERVATION EASEMENT SIGNAGE	S
SOILS	MrE
15–25% SLOPES	
>25% SLOPES	

NOTE: 1

THE FOREST CONSERVATION EASEMENTS SHOWN ON F-10-097 AND THE FOREST CONSERVATION PLANS INCLUDED WITH SDP-10-010 SUPERCEDES THE FOREST CONSERVATION INFORMATION SHOWN ON THIS SHEET.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Thomas E. Butler — 3/23/09
DIRECTOR, DEP. — DATE

[signature] — 3/10/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Cindy Hanna — 3/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION
8/25/10	1	ADDED NOTES

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA
TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL
STATE OF MARYLAND 3068 PETER J. STONE BOARD OF CHAMBERS OF LANDSCAPE ARCHITECTS

3-3-09
PETER J. STONE #3068

DESIGNED BY : JSN
DRAWN BY: JSN
PROJECT NO : 14466-1-0 C400SDP36.DWG
DATE : MARCH 4, 2009
SCALE : 1" = 40'
DRAWING NO. 36 OF 54

SDP-08-118

MATCH LINE SEE SHEET 35

MATCH LINE SEE SHEET 36

LEGEND

PROP. BUILDING	
LIMIT OF DISTURBANCE	
TREE PROTECTION FENCE	TPD
PROPERTY LINE AND RIGHT OF WAY	
FLOODPLAIN	FP
EX. TREELINE	
PROP. TREELINE	
FOREST RETENTION AREA	
FOREST NOT CLEARED OR PROTECTED	
FOREST CLEARED UNDER A FUTURE PHASE	
FOREST CONSERVATION EASEMENT SIGNAGE	(S)
SOILS	MrE
15–25% SLOPES	
>25% SLOPES	

NOTE: 1

THE FOREST CONSERVATION EASEMENTS SHOWN ON F-10-097 AND THE FOREST CONSERVATION PLANS INCLUDED WITH SDP-10-010 SUPERCEDES THE FOREST CONSERVATION INFORMATION SHOWN ON THIS SHEET.

NO CONSTRUCTION THIS SHEET.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Thomas E. Butler — 3/23/09
DIRECTOR, DEP. — DATE

[signature] — 3/10/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION CE — DATE

Cindy Hamm — 3/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DATE	NO.	REVISION
8/25/10	1	ADDED NOTES

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA
TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL
STATE OF MARYLAND 3068 PETER J. STONE BOARD OF EXAMINERS OF LANDSCAPE ARCHITECTS
3-3-09
PETER J. STONE #3068

DESIGNED BY : JSN
DRAWN BY: JSN
PROJECT NO : 14466-1-0 C400SDP37.DWG
DATE : MARCH 4, 2009
SCALE : 1" = 40'
DRAWING NO. 37 OF 54

SDP-08-118

SEQUENCE OF OPERATIONS

PRE-CONSTRUCTION

1. FIELD STAKE LIMITS OF DISTURBANCE (L.O.D.) AT 25' INTERVALS.

2. REVIEW L.O.D. IN FIELD AND ADJUST IF PRACTICAL.

3. INSTALL TREE PROTECTION FENCE AT THE L.O.D. AND IMPLEMENT TREE PROTECTION METHODS AS SHOWN.

4. CLEAR AND GRUB AS NECESSARY TO FACILITATE ROOT PRUNING TO A DEPTH OF 2-3 FEET WITHIN THE LIMITS OF THE PROPOSED FOREST RETENTION AREA AND AROUND SPECIMEN TREES TO BE SAVED. CLEAR REMAINING TREES IN A WAY THAT "SAVE TREES' ARE NOT DISTURBED. GRIND STUMPS 12" IN DIAMETER AND LARGER THAT ARE WITHIN 25' OF THE L.O.D.

5. DO NOT ATTEMPT TO SAVE TREES WITHIN 25' FROM THE L.O.D. UNLESS, IN THE OPINION OF THE CONSULTING ARBORIST, THEY HAVE A 75% CHANCE OR BETTER OF SURVIVAL.

6. PRUNE AND FERTILIZE DESIRABLE 'EDGE TREES' AS PER CONSULTING ARBORIST'S RECOMMENDATIONS AND DETAILS PROVIDED ON THIS SHEET.

7. THERE SHALL BE NO STAGING, STORAGE, OR STOCKPILING OF MATERIALS OUTSIDE OF THE L.O.D.

8. REMOVE OR TREAT WITH AN ACCEPTABLE METHOD, NOXIOUS PLANT MATERIAL SUCH AS MULTIFLORA ROSE, TEARTHUMB, AND JOHNSON GRASS BEFORE INSTALLING REFORESTATION PLANTS.

9. INSTALL TREE PROTECTION SIGNAGE.

10. STABILIZE ANY DISTURBED AREAS USING THE SPECIFIED STABILIZATION MIXTURE WHICH ALLOWS FOR NATURAL REVEGETATION OF FOREST COMMUNITIES.

FOREST CONSERVATION PROGRAM

I. OBJECTIVE:
IT IS THE OBJECTIVE OF THE FOREST CONSERVATION PLAN OF NORTH LAUREL PARK TO RETAIN ENVIRONMENTAL INTEGRITY BY PRESERVING EXISTING WOODED AREAS & REFORESTING AREAS ON SITE.

II. PRESERVATION:
FOREST PRESERVATION AREAS SHALL BE PERMANENTLY PROTECTED BY FOREST CONSERVATION EASEMENTS.

III. GENERAL CONSTRUCTION NOTE:
THERE WILL BE NO STAGING OR STORING OF EQUIPMENT OUTSIDE THE LIMIT OF DISTURBANCE.

IV. POST CONSTRUCTION MANAGEMENT PRACTICE:
A TWO-YEAR POSTED CONSTRUCTION AND MANAGEMENT PROGRAM TO ENSURE FOREST HEALTH IS REQUIRED AND INCLUDES THE FOLLOWING:

1-MAINTENANCE OF SIGNS, FENCES, AND TREE PROTECTION DEVICES TO PREVENT UNWARRANTED INTRUSION AND DAMAGE.
2-CAREFUL REMOVAL OF ALL TEMPORARY STRUCTURES AFTER CONSTRUCTION.
3-ROUTINE INSPECTIONS OF FOREST CONSERVATION EASEMENTS.
4-ROUTINE INSPECTIONS AND MAINTENANCE OF REFORESTATION AREAS.

GENERAL NOTES

1. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL TOPOGRAPHIC SURVEY PREPARED BY VIRGINIA RESOURCE MAPPING DATED MARCH 31, 2006, AND FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED APRIL 24, 2008. BOUNDARY SURVEY WAS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED DECEMBER 12, 2006.

2. NO CRITICAL HABITATS OF RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.

3. NO TREES, SHRUBS, OR PLANTS IDENTIFIED AS RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.

4. THERE ARE NO KNOWN CEMETERIES OR BURIAL PLOTS LOCATED ON THE SITE, ACCORDING TO THE HOWARD COUNTY CEMETERIES INVENTORY.

5. ONE EXISTING BUILDING IS PRESENT ON THE SITE.

6. THE SOILS ON SITE ARE CHILLUM-RUSSETT LOAMS (2-5% SLOPES) - ChB, CODORUS AND HATBORO SOILS (0-2% SLOPES) - Cp, EVESBORO LOAMY SAND (2-10% SLOPES) - EbC, FALLSINGTON SANDY LOAM (0-2% SLOPES) - Fa, LEGORE SILT LOAM (8-15% SLOPES) - LeC, RUSSET FINE SANY LOAM (2-5% SLOPES) - RsB, RUSSET FINE SANY LOAM (5-10% SLOPES) - RsC, RUSSET FINE SANY LOAM (10-15% SLOPES) - RsD, RUSSETT AND BELTSVILLE SOILS (2-5% SLOPES) - RuB, SASSAFRAS LOAM (2-5% SLOPES) - SaB, SASSAFRAS AND CROOM SOILS (5-10% SLOPES) - SrC, SASSAFRAS AND CROOM SOILS (15-25% SLOPES) - SrE, URBAN LAND-CHILLUM-BELTSVILLE COMPLEX (0-5% SLOPES) - UcB, URBAN LAND-CHILLUM-BELTSVILLE COMPLEX (5-15% SLOPES) - UcD, URBAN LAND-FALLSINGTON COMPLEX (0-2& SLOPES) - UfA, URBAN LAND-SASSAFRAS-BELTSVILLE COMPLEX (0-5% SLOPES) - UsB, URBAN LAND-UDORTHENTS COMPLEX (0-15% SLOPES) - UtD, URBAN LAND-WOODSTOWN-SASSAFRAS COMPLEX (5-10% SLOPES) - UwC ACCORDING TO THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY.

7. THE FOREST STAND DELINEATION (FSD), DATED JUNE 2005 HAS BEEN PREPARED BY JOHNSON, MIRMIRAN, & THOMPSON.

8. THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERCEDES ANY DISCREPANCIES BETWEEN THE MANUAL AND THESE PLANS.

9. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY PRESERVING 18.51 ACRES OF ON-SITE RETENTION AND BY EXCEEDING THE BREAK-EVEN POINT OF 18.28 ACRES. NO FOREST CONSERVATION SURETY IS REQUIRED FOR THIS PROJECT AS IT IS A COUNTY PROJECT.

10. THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTEDWITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

11. THE BOUNDARY OF THE PROPOSED FOREST CONSERVATION EASEMENTS ARE IDENTIFIED ON FINAL PLAT F-08-201 WITH BEARINGS AND DISTANCES UNDER PLAT NO.'S 20481-20486.

FOREST CONSERVATION SEQUENCE OF OPERATIONS

1. Prior to beginning any grading operations on this site or on a respective lot, there may be a preconstruction meeting held at the site which is to include the Contractor and representatives from Patton Harris Rust & Associates, Inc. (PHR+A). The Howard County Department of Planning and Zoning (DPZ) and the owner will be notified by the Contractor as to the time and place of the field meeting, should they wish to send a representative. The purpose of this meeting will be to review the approved FCP and to field verify the correct Limits of Disturbance (LOD).

2. The Limits of Disturbance (LOD) pertinent to the preservation of wooded areas shall be staked in the field with final adjustments being made as necessary to insure adequate protection of the Critical Root Zone of trees designated for retention. Stakes to be used shall be those specified for the "TREE PROTECTION DEVICE" to which approved protective material will be attached. Alternate means of defining the LOD may be used if approved by the DPZ.

3. All forest retention areas shall be protected by highly visible, well anchored temporary protection devices (see detail), which shall be securely in place prior to any clearing or grading operations.

4. Grading operations or other construction operations which could dislodge or otherwise damage the protective devices shall be avoided along the edges of the LOD lines if possible. Any protective devices which are damaged during site construction operations shall be properly repaired immediately by the Contractor.

5. After site grading, retaining wall, and parking lot have been completed, all trees adjacent to the LOD line shall be inspected for indications of crown die-back (summer indicator), damage within respective critical root zones or any dead wood or other conditions which might be hazardous to pedestrians, buildings, utility lines vehicular access ways or parked vehicles.

6. Should there be evidence of any damage to tree trunks, branches or the critical root zone of trees within the protected areas, or to isolated specimen trees to be preserved, the damage shall be examined within a period of two (2) days from the date of observance by a licensed tree care professional. Exposed roots should be covered immediately to a depth of 6 - 8 inches with soil, preferably mixed with 50% peat moss or leaf mold.

7. Remove damaged, dead or dying trees or limbs only if the trees or limbs pose an immediate safety hazard to buildings, utility lines, vehicles, or access and egress drives or pedestrian areas. Trees designated for pruning or removal shall be pruned or removed using equipment and methods which will not damage or destroy adjacent large trees or understory trees or shrubs designated for retention.

8. All temporary forest protection devices will be carefully removed after all general construction, necessary tree surgery, removal of debris, etc. regrading and reseeding of sediment and erosion control disturbance have been completed and acceptance and approval of the work and site conditions have been given by the DPZ.

Howard County Forest Conservation Worksheet

Project Name: North Laurel Community Center
County File #: SDP-08-118
Date: March 3, 2009

			Acres
Net Tract Area			
A.	*Total Tract Area*	A =	52.28*
B.	*Floodplain Area*	B =	1.45
C.	*Net Tract Area* Net Tract Area = (A-B-C)	C =	50.83
Land Use Category:			
D.	*Afforestation Threshold* (Net Tract Area X 15%	D =	7.62
E.	*Conservation Threshold* (Net Tract Area X 20%	E =	10.17
Existing Forest Cover			
F.	*Existing Forest Cover within the Net Tract Area*	F =	50.74**
G.	*Area of Forest Above Conservation Threshold* If the Existing Forest Cover (F) is greater than Conservation Threshold (G), then G = Existing Forest Cover (F) - Conservation Threshold (E); Otherwise G = 0	G =	40.57
Break Even Point			
H.	*Break Even* (Amount of forest that must be retained so that no mitigation is required) (1) If the area of forest above the Conservation Threshold (G) is greater than zero, then H = (0.2 X the area of forest above Conservation Threshold (G)) + the Conservation Threshold (E) (2) If the area of forest above the Conservation Threshold (G) is equal to zero, then H = Existing Forest Cover (F)	H =	18.28
I.	*Forest Clearing Permitted Without Mitigation* I = Existing Forest Cover (F) - Break Even Point (H)	I =	32.46
Proposed Forest Clearing			
J.	*Total Area of Forest to be Cleared*	J =	32.23
K.	*Total Area of Forest to be Retained* K = Existing Forest Cover (F) - forest to be cleared (J)	K =	18.51
Planting Requirements			
If the Total Area of Forest to be Cleared (K) is at or above the Breakeven Point (H), no planting is required and no further calculations are necessary (L=0, M=0, N=0, P=0); If not, calculate the planting requirement below:			
L.	*Reforestation for Clearing Above the Conservation Threshold* (1) If the total area of forest to be retained (K) is greater than the Conservation Threshold (E), then L = the area of forest to be cleared (J) X 0.25; or (2) If the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then L = area of forest above Conservation Threshold (G) X 0.25	L =	0.00
M.	*Reforestation for Clearing Below the Conservation Threshold* (1) If Existing Forest Cover (F) is greater than Conservation Threshold (E) and the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then M = 2.0 X (the Conservation Threshold (E) - the forest to be retained (K)) (2) If Existing Forest (F) is less than or equal to the Conservation Threshold (E), then M = 2.0 X Forest to be cleared (J).	M =	0.00
N.	*Credit for Retention Above the Conservation Threshold* If the area of forest to be retained (K) is greater than the Conservation Threshold (E), then N = K - E	N =	8.34
P.	*Total Reforestation Required* P = L + M - N	P =	0.00
Q.	*Total Afforestation Required* (1) If Existing Forest Cover (F) is less than the Afforestation Threshold (D) then Q = the Afforestation Threshold (D) - the Existing Forest Cover (F)	Q =	0.00
R.	*Total Planting Requirement* R = P + Q	R =	0.00

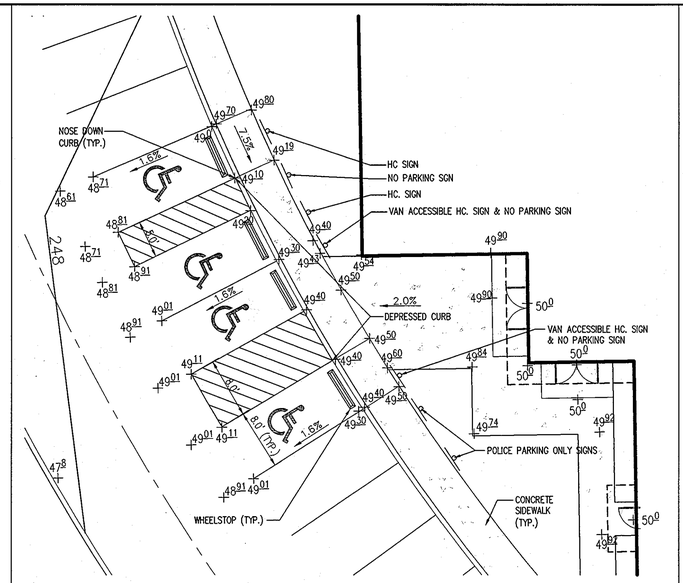
*TOTAL TRACT AREA OF 52.28 ACRES REPRESENTS 52.17 ACRES ON-SITE AND 0.11 ACRES OF OFF-SITE DISTURBANCE FOR THE MEREDITH AVENUE UTILITY CONNECTIONS (SEE SHEET 34).

**THE TOTAL FOREST AREA ALSO INLUDES 0.11 ACRES OF OFF-SITE DISTURBANCE FOR THE MEREDITH AVENUE UTILITY CONNECTIONS (SEE SHEET 34).

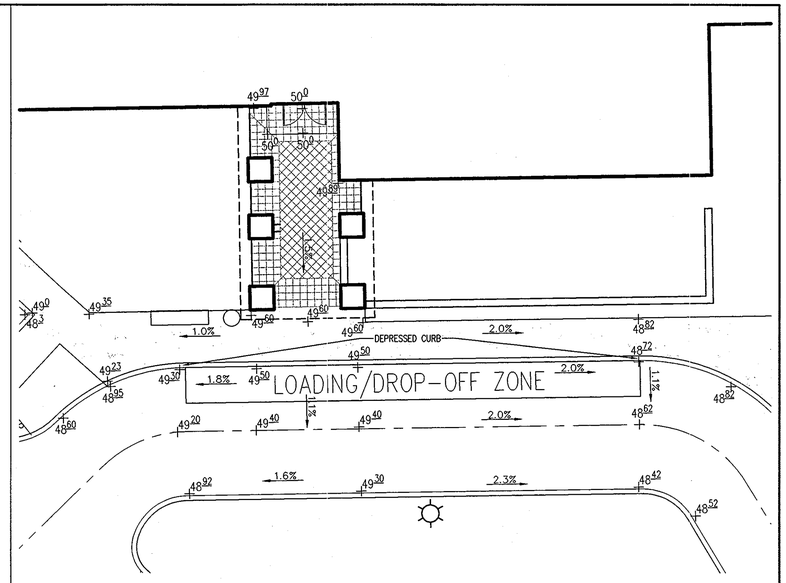
SOILS CHART

MAP SYMBOL	NAME	STRUCTURAL LIMITATIONS Dwellings w/ Basements	EROSION HAZARD	HYDRIC (Yes/No)	SLOPE (%)
ChB	Chillum-Russett Loams	Not limited	Low	No	2-5
Cp	Codorus and Hatboro Soils	Frequently flooded	Low	Yes	0-2
EbC	Evesboro Loamy Sand	Somewhat limited	Moderate	No	2-10
Fa	Fallsington Sandy Loam	Very limited	Low	Yes	0-2
LeC	Legore Silt Loam	Very limited	Moderate	No	8-15
RsB	Russett Fine Sandy Loam	Very limited	Low	No	2-5
RsC	Russett Fine Sandy Loam	Very limited	Moderate	No	5-10
RsD	Russett Fine Sandy Loam	Very limited	Moderate	No	10-15
RuB	Russett and Beltsville Soils	Very limited	Low	No	2-5
SaB	Sassafras Loam	Not limited	Low	No	2-5
SrC	Sassafras and Croom Soils	Somewhat limited	Moderate	No	5-10
SrE	Sassafras and Croom Soils	Somewhat limited	Severe	Yes	15-25
UcB	Urban Land - Chillum - Beltsville Complex	Not rated	Low	No	0-5
UcD	Urban Land - Chillum - Beltsville Complex	Not rated	Moderate	No	5-15
UfA	Urban Land - Fallsington Complex	Not rated	Low	Yes	0-2
UsB	Urban Land - Sassafras - Beltsville Complex	Not rated	Low	No	0-5
UtD	Urban Land - Udorthents Complex	Not rated	Moderate	No	0-15
UwC	Urban Land - Woodstown - Sassafras Complex	Not rated	Moderate	No	5-10

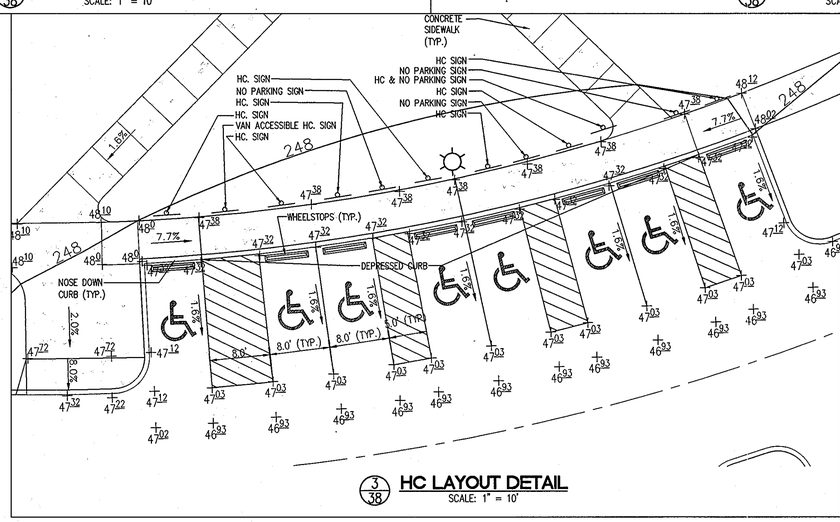
SOURCE: SOIL INFORMATION TAKEN FROM THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY.



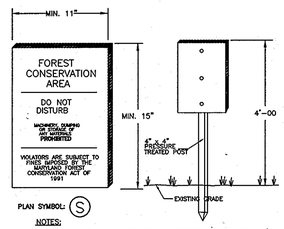
1/38 HC LAYOUT DETAIL
SCALE: 1" = 10'



2/38 DROP OFF DETAIL
SCALE: 1" = 10'

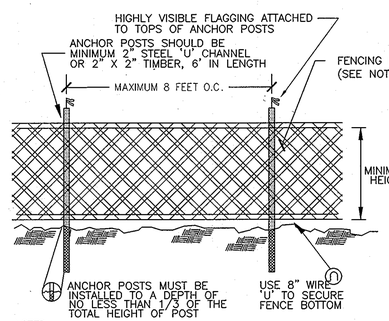


3/38 HC LAYOUT DETAIL
SCALE: 1" = 10'



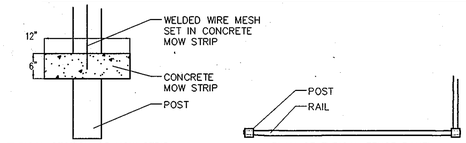
NOTES:
1. SIGNAGE SHALL BE LOCATED ON FOREST CONSERVATION / REFORESTATION / AFFORESTATION EASEMENT BORDER.
2. SEE PLAN FOR SPACING.

FOREST CONSERVATION & REFORESTATION SIGN DETAIL
NOT TO SCALE



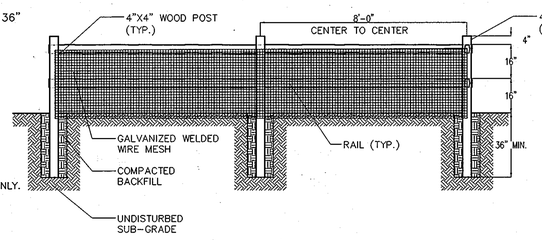
NOTES:
1. BLAZE ORANGE MESH OR SUPER SILT FENCE FOR TREE PROTECTION DEVICE, ONLY.
2. BOUNDARIES OF PROTECTION AREA WILL BE ESTABLISHED PRIOR TO GRADING AND SEDIMENT CONTROL.
3. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
4. FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION FENCING
NOT TO SCALE



TYPICAL SECTION OF MOW STRIP

PLAN OF TYPICAL FENCE PANEL



SECTION OF TYPICAL FENCE PANEL

4/38 SPLIT RAIL FENCE WITH MESH
NOT TO SCALE

SPLIT RAIL FENCE NOTES:

1. POSTS AND RAILS SHALL BE LOCUST OR OTHER ROT RESISTANT WOOD, OR APPROVED ALTERNATE.
2. WELDED WIRE MESH TO HAVE OPENINGS OF 3" OR LESS.
3. WELDED WIRE MESH TO BE STAPLED SECURELY TO GATES, RAILS, AND POSTS.
4. GATE AND POSTS SHALL MATCH FENCE. GATE OPENING SHALL BE 14' WIDE AND SHALL HAVE DOUBLE GATES. INSTALL PER MANUFACTURER'S SPECIFICATIONS/RECOMMENDATIONS. GATE SHALL BE SPLIT RAIL WITH GALVANIZED STEEL FRAME OR APPROVED EQUAL.
5. PROVIDE MOW STRIP ALONG ENTIRE LENGTH OF SPLIT RAIL FENCE

FOREST CONSERVATION EASEMENT TABLE

CONSERVATION TYPE	AREA	ACRES	SF
1. ON-SITE RETENTION	A	14.11	614,790
	B	1.89	82,281
	C	0.29	12,732
	D	0.67	29,086
	E	0.65	28,370
	F	0.90	39,376
TOTAL ON-SITE RETENTION		18.51	806,635

HANDICAPPED ACCESSIBILITY NOTES:

1. AN ACCESSIBLE ROUTE SHALL BE PROVIDED BETWEEN HANDICAPPED PARKING OR PUBLIC RIGHT OF WAYS TO THE MAIN BUILDING ENTRANCE IN ACCORDANCE WITH CURRENT ADA AND LOCAL STANDARDS. ALL HANDICAPPED RAMPS SHALL BE CONSTRUCTED ACCORDING TO CURRENT ADA AND LOCAL STANDARDS, EXCEPT AS SUPERSEDED IN CURRENT ADA AND LOCAL STANDARDS THE FOLLOWING SHALL APPLY:
A) MAXIMUM SIDEWALK CROSS SLOPES SHALL BE 2%
B) A MINIMUM 5'X 5' LANDING AREA WITH A MAXIMUM SLOPE IN ANY DIRECTION OF 2% SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION, TOPS AND BOTTOMS OF RAMPS, AND BUILDING EGRESS POINTS
C) ALL HANDICAPPED PARKING SHALL BE SLOPED NO GREATER THAN 2% IN ANY DIRECTION, INCLUDING A 5' WIDE AREA BEHIND THE PARKING SPACES.
D) AN ACCESS ROUTE FROM THE PARKING SPACE(S) TO THE MAIN BUILDING ENTRANCE SHALL BE PROVIDED. ALL SLOPES ALONG THE DIRECTION OF TRAVEL SHALL NOT EXCEED 1:20 UNLESS THEY FALL UNDER CONDITION B) ABOVE. SLOPES IN EXCESS OF 1:20 EXCEPT FOR CURB RAMPS, REQUIRE A HANDRAIL MEETING ADA REQUIREMENTS.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/20/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/19/09

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

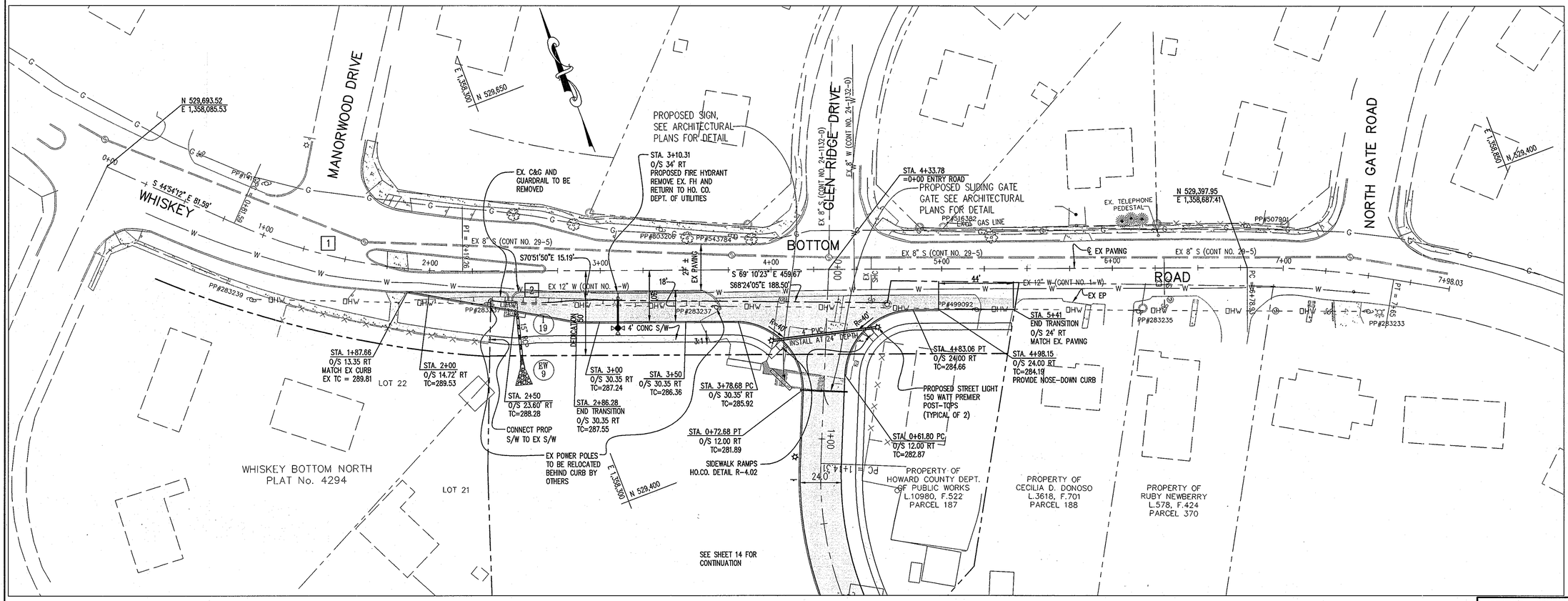
TITLE FOREST CONSERVATION NOTES & DETAILS AND HC ACCESS DETAILS

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

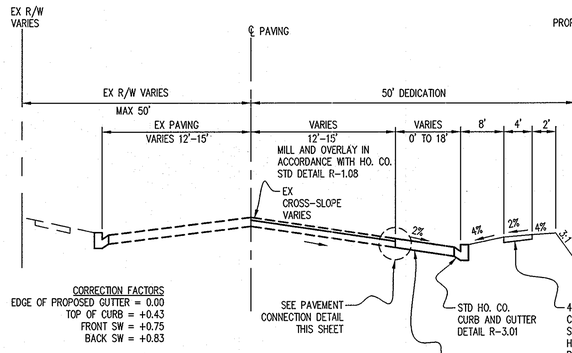
SEAL — STATE OF MARYLAND — 3068 — PETER J. STONE — PROFESSIONAL ENGINEER — LANDSCAPE ARCHITECT
3-23-09
PETER J. STONE #3068

DESIGNED BY : JSN
DRAWN BY: JSN
PROJECT NO : 14466-1-0 C400SDP38.DWG
DATE : MARCH 4, 2009
SCALE : AS SHOWN
DRAWING NO. 38 OF 42

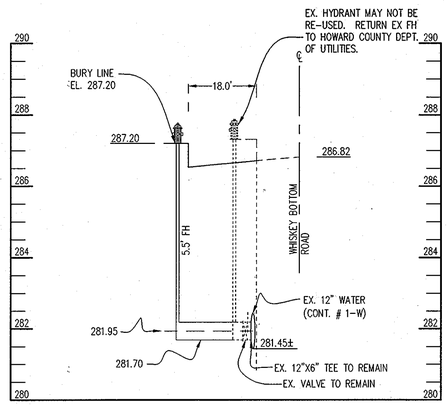
SDP-08-118



PLAN VIEW
SCALE : 1" = 30'



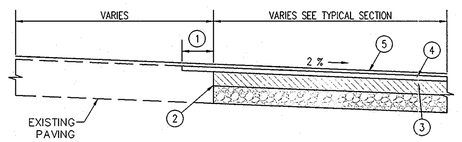
TYPICAL SECTION
WHISKEY BOTTOM ROAD WIDENING
MAJOR COLLECTOR
LOOKING UPSTATION
SCALE : NTS



FIRE HYDRANT RELOCATION
WHISKEY BOTTOM ROAD 3+10
SCALE :
HOR: 1"=20'
VERT: 1"=2'

CURVE DATA TABLE

CURVE NO.	DELTA	RADIUS	ARC	TAN	CHD. BRG.	CHD. LEN.
1	24° 16' 10"	325.00	137.66	69.88	S57° 04' 18" E	136.64
2	03° 28' 16"	671.53	40.68	20.35	N04° 27' 43" W	40.68



1. MILL A 1" WIDE X 1.5" DEEP STRIP
2. SAW-CUT THROUGH FULL DEPTH PAVING
3. INSTALL SUB BASE GRAVEL AND BASE PAVEMENT PER THE TYPICAL PAVEMENT SECTION.
4. PROVIDE 2" INTERMEDIATE SURFACE COURSE
5. PROVIDE 1-1/2" TOP SURFACE COURSE

NOTE: LONGITUDINAL JOINTS FOR THE TOP SURFACE COURSE MUST NOT COINCIDE WITH THE FULL-DEPTH SAW-CUT JOINT

PAVEMENT CONNECTION DETAIL
NOT TO SCALE

NOTES:

1. STREET LIGHT PLACEMENT, FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (LATEST EDITION). A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND TREE.

2. HOWARD COUNTY WILL SUPPLY CONTRACTOR WITH DEVICES TO LOCATE END OF CONDUIT FOR STREET LIGHT CABLE. CONTACT TRAFFIC DIVISION AT 410-313-5752 FOR INFORMATION.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/9/09

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
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PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
ROAD IMPROVEMENT PLAN
WHISKEY BOTTOM ROAD

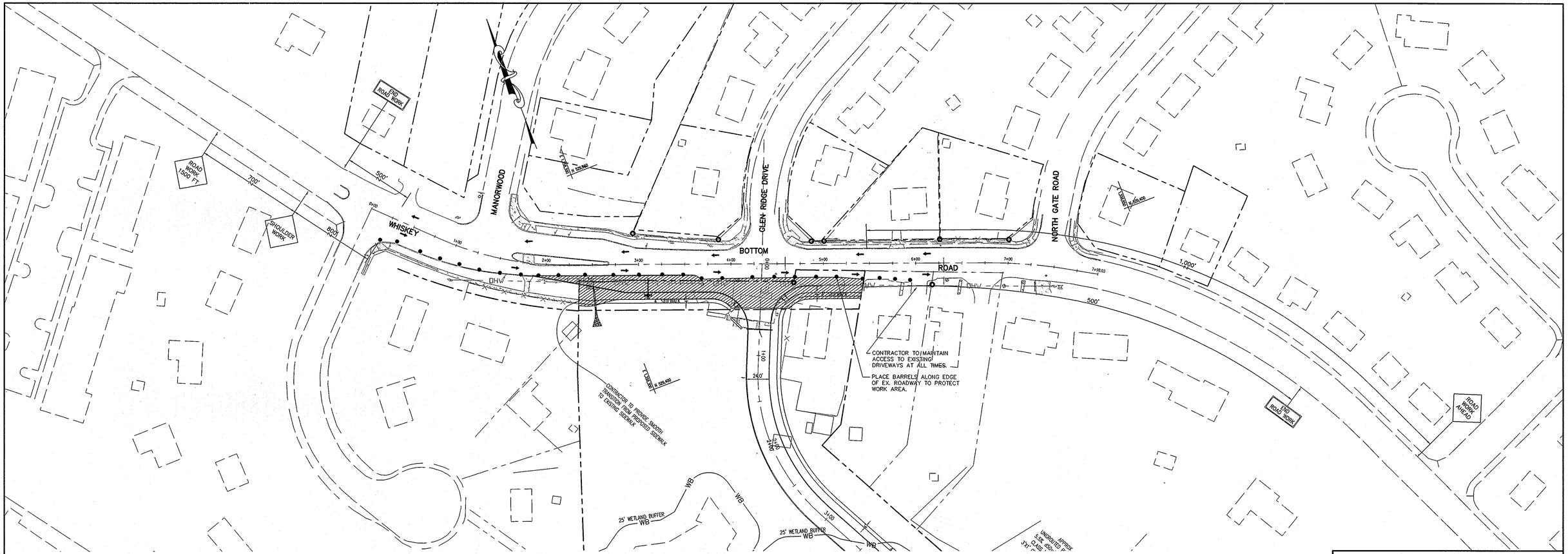
Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — 3-4-09
STATE OF MARYLAND · SHERRIL CLARKE MITCHELL · REGISTERED PROFESSIONAL ENGINEER
BY: Sherrill C Mitchell
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33934, EXPIRATION DATE: 01-24-11"

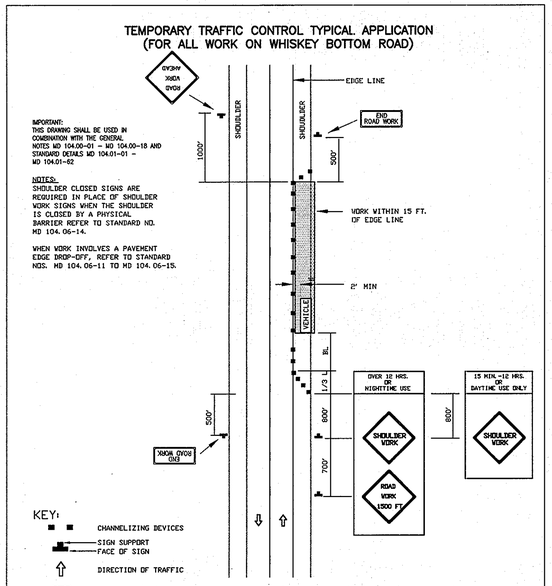
DESIGNED BY :	SCM
DRAWN BY:	SCM
PROJECT NO :	14466-1-0 C400SDP39.DWG
DATE :	MARCH 4, 2009
SCALE :	AS SHOWN
DRAWING NO.	39 OF 42

SDP-08-118

P:\Project\14466\1-0\PLANS\C400SDP39.DWG

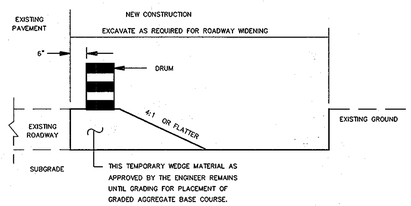


PLAN VIEW
SCALE : 1" = 50'

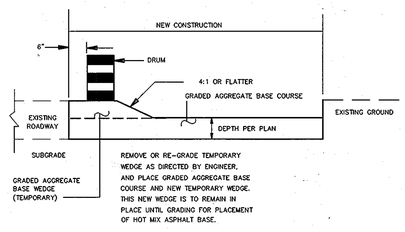


SHOULDER WORK / 2-LANE, 2-WAY
LESS THAN 40 MPH

MD 104.02-02



EXCAVATION



BASE COURSE

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION
STAGED ROADWAY CONSTRUCTION
MD 104.01-28

LEGEND

- TRAFFIC CONTROL DEVICES (BARRELS)
- DIRECTION OF TRAFFIC
- CONSTRUCTION SIGN
- PROPOSED CURB AND GUTTER
- EXISTING CURB AND GUTTER
- WORK AREA

NOTES:
1. SHA STANDARD NO. 104.31-02 (FLAGGER OPERATION) WILL BE USED AS NECESSARY DURING PERIODS OF CONSTRUCTION.

2. CONTRACTOR TO MAINTAIN LESS THAN 2 INCHES OF DROP-OFF DURING PERIODS OF NON-CONSTRUCTION OR CONTRACTOR SHALL USE SHA STANDARD NO. MD 104.01.28 (STAGED ROADWAY CONSTRUCTION WITH 4:1 SLOPE) TO PROVIDE 2 LEFT TURNING LANES INTO DOBBIN SHOPPING CENTER FOR AS LONG AS POSSIBLE.

3. TEMPORARY TRAFFIC CONTROL DEVICES AND PERMANENT TRAFFIC CONTROL SIGNS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL REQUIRED TRAFFIC CONTROL DEVICES ARE TO BE PROVIDED BY THE CONTRACTOR AND SHALL BE INCLUDED IN THE BASE BID.

4. ALL TEMPORARY SIGNAGE IN WORK ZONE TO BE ORANGE WITH BLACK SYMBOLS/LETTERING.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/19/09

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
TRAFFIC CONTROL PLAN WHISKEY BOTTOM ROAD

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — 3-4-09

STATE OF MARYLAND — SIDNEY CLARKE NEWFIELD — No. 33954 — REGISTERED PROFESSIONAL ENGINEER

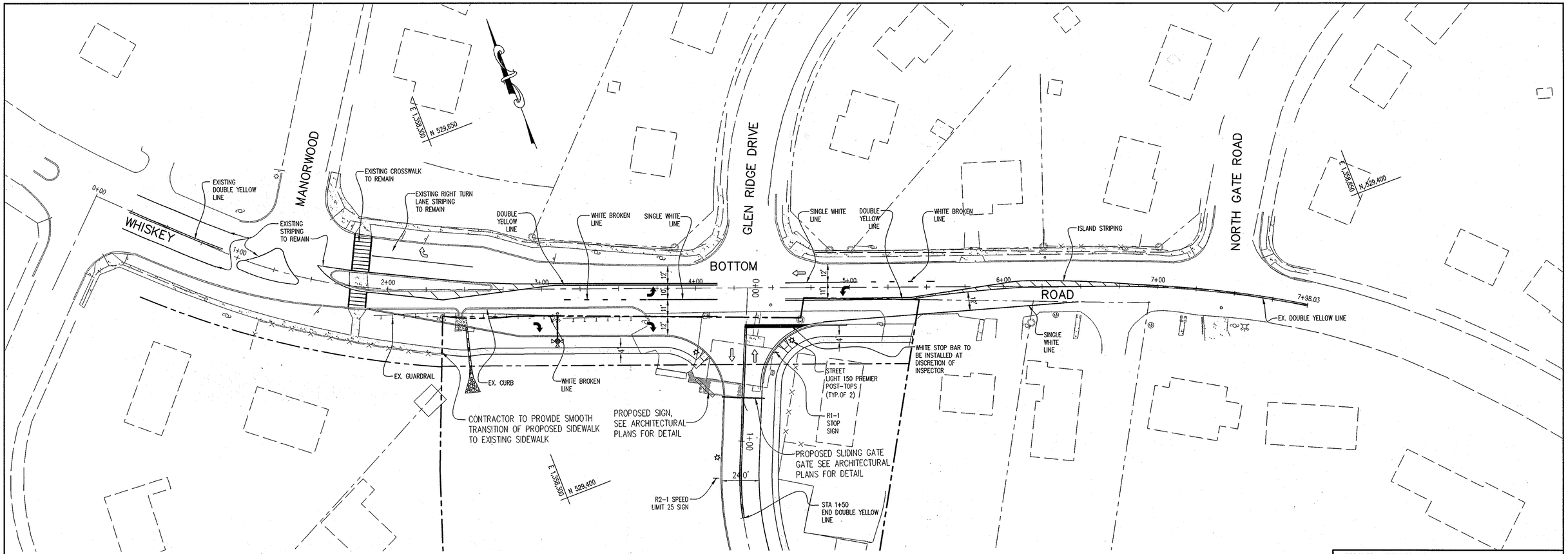
BY: Sidney C. Newfield

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

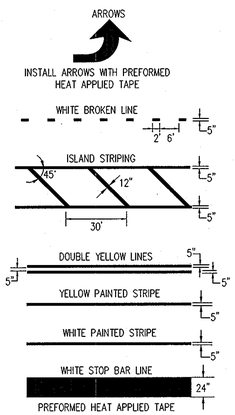
DESIGNED BY :	JSN
DRAWN BY:	JSN
PROJECT NO :	14466-1-0 C400SDP40.DWG
DATE :	MARCH 4, 2009
SCALE :	AS SHOWN
DRAWING NO.	40 OF 42

P:\Project\14466\1-0\PLANS\C400SDP40.DWG

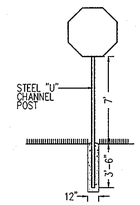
SDP-08-118



PLAN VIEW
SCALE : 1" = 30'



LINE SPECIFICATIONS



HEIGHT & CLEARANCE OF SIGNS (FOR ROADWAY SIGN)

R1-1
30" X 30"

(1/41) **STOP SIGN**
NOT TO SCALE

R2-1
24" X 30"

(2/41) **SPEED LIMIT 25 SIGN**
NOT TO SCALE

(3/41) **STRIPING STANDARDS**
NOT TO SCALE

(4/41) **POST DETAIL**
NOT TO SCALE

LEGEND

PROPERTY LINE	
DIRECTION OF TRAFFIC	⇨
ROAD SIGN	
EXISTING CURB AND GUTTER	
EXISTING EDGE OF PAVEMENT	
PROPOSED CURB AND GUTTER	
PROPOSED STRIPING	
PROPOSED LIGHTS	✲

NOTES:

1. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) -3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP OF EACH POST.

2. ALL SIGN LOCATIONS ARE APPROXIMATE. PLEASE CONTACT HOWARD COUNTY TRAFFIC DIVISION (410-313-5752) BEFORE INSTALLING ANY SIGNS.

3. PAVEMENT MARKINGS:
   a) PLEASE CONTACT HOWARD COUNTY TRAFFIC DIVISION (410-313-5752) BEFORE INSTALLING OR REMOVING ANY PAVEMENT MARKINGS.
   b) ALL PAVEMENT MARKING REMOVALS SHALL BE DONE BY GRINDING.

4. ALL SIGNAGE AND STRIPING SHALL CONFORM TO HOWARD COUNTY AND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/19/09

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
SIGNAGE & STRIPING PLAN WHISKEY BOTTOM ROAD

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — STATE OF MARYLAND — DARRELL CLARKE WHEELER — No. 21401 — REGISTERED PROFESSIONAL ENGINEER

3-4-09

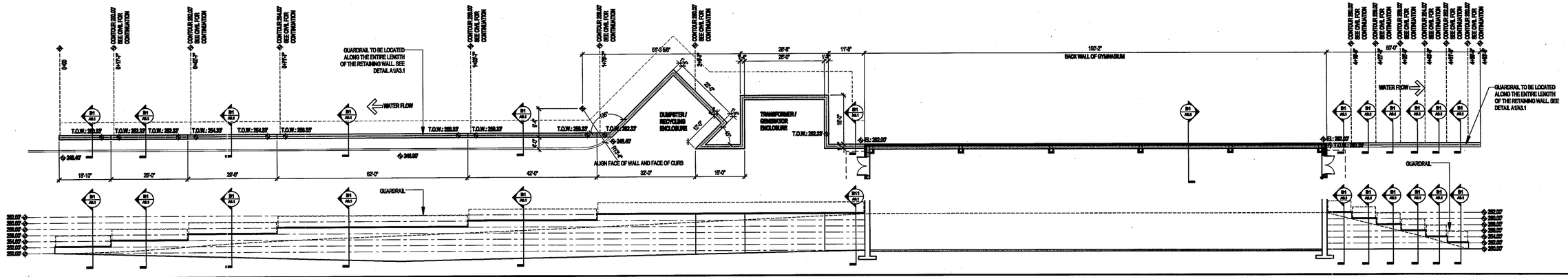
BY: Darrell C Wheeler

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21401, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	JSN
DRAWN BY:	JSN
PROJECT NO :	14466-1-0 C400SDP40.DWG
DATE :	MARCH 4, 2009
SCALE :	AS SHOWN
DRAWING NO.	41 OF 42

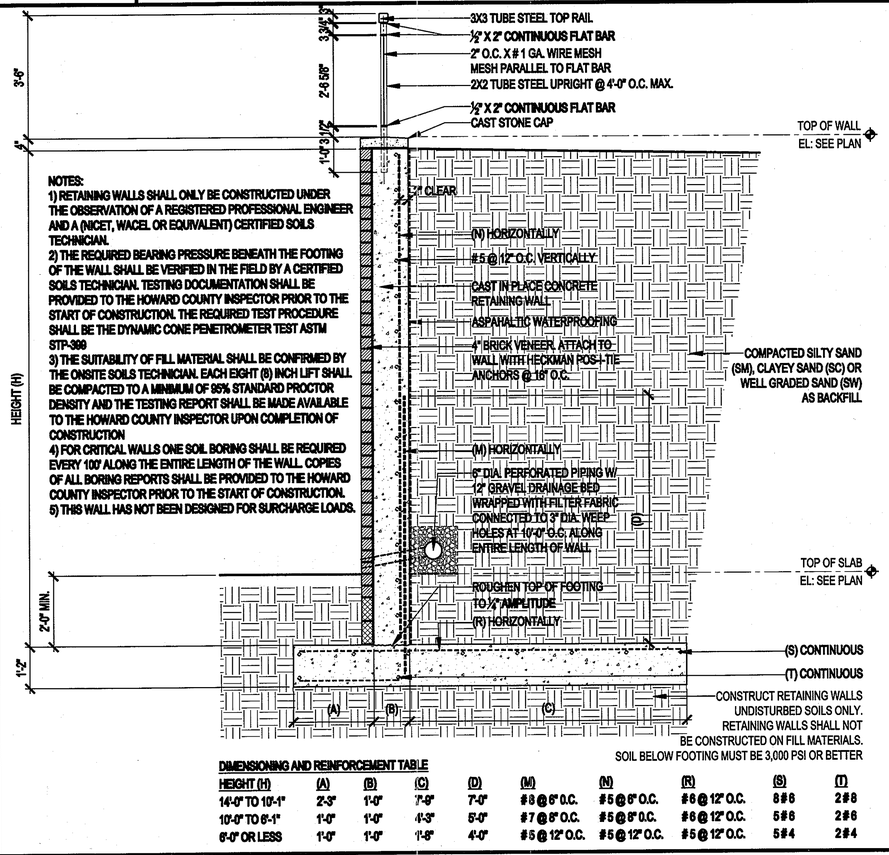
P:\Project\14466\1-0\PLANS\C400SDP40.DWG

SDP-08-118



J1 — RETAINING WALL PLAN AND ELEVATION

1/16" = 1'-0" | -



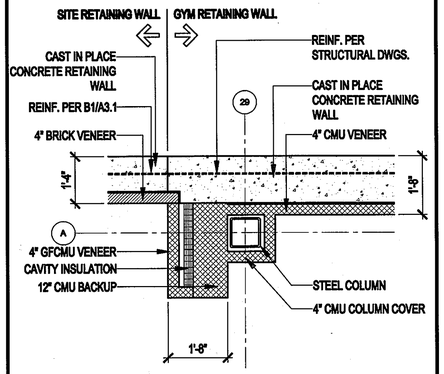
NOTES:
1) RETAINING WALLS SHALL ONLY BE CONSTRUCTED UNDER THE OBSERVATION OF A REGISTERED PROFESSIONAL ENGINEER AND A (NICET, WACEL OR EQUIVALENT) CERTIFIED SOILS TECHNICIAN.
2) THE REQUIRED BEARING PRESSURE BENEATH THE FOOTING OF THE WALL SHALL BE VERIFIED IN THE FIELD BY A CERTIFIED SOILS TECHNICIAN. TESTING DOCUMENTATION SHALL BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO THE START OF CONSTRUCTION. THE REQUIRED TEST PROCEDURE SHALL BE THE DYNAMIC CONE PENETROMETER TEST ASTM STP-399
3) THE SUITABILITY OF FILL MATERIAL SHALL BE CONFIRMED BY THE ONSITE SOILS TECHNICIAN. EACH EIGHT (8) INCH LIFT SHALL BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY AND THE TESTING REPORT SHALL BE MADE AVAILABLE TO THE HOWARD COUNTY INSPECTOR UPON COMPLETION OF CONSTRUCTION
4) FOR CRITICAL WALLS ONE SOIL BORING SHALL BE REQUIRED EVERY 100' ALONG THE ENTIRE LENGTH OF THE WALL. COPIES OF ALL BORING REPORTS SHALL BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO THE START OF CONSTRUCTION.
5) THIS WALL HAS NOT BEEN DESIGNED FOR SURCHARGE LOADS.

DIMENSIONING AND REINFORCEMENT TABLE

HEIGHT (H)	(A)	(B)	(C)	(D)	(M)	(N)	(R)	(S)	(T)
14'-0" TO 10'-1"	2'-3"	1'-0"	1'-0"	7'-0"	#8@6" O.C.	#5@6" O.C.	#6@12" O.C.	8#8	2#8
10'-0" TO 6'-1"	1'-0"	1'-0"	1'-3"	5'-0"	#7@6" O.C.	#5@6" O.C.	#6@12" O.C.	5#8	2#6
6'-0" OR LESS	1'-0"	1'-0"	1'-6"	4'-0"	#5@12" O.C.	#5@12" O.C.	#5@12" O.C.	5#4	2#4

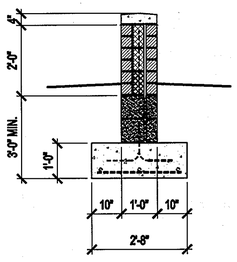
B1 — RETAINING WALL DETAIL AND SCHEDULE

1/2" = 1'-0" | -



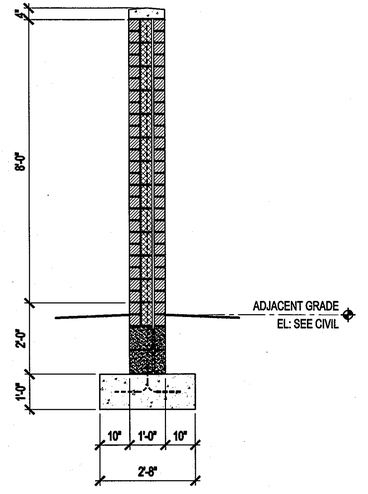
E8 — DETAIL - GYM CORNER

1/2" = 1'-0" | -



B8 — GARDEN WALL

1/2" = 1'-0" | -



B11 — GARDEN WALL

1/2" = 1'-0" | -

B14 — GARDEN WALL WITH FENCE

1/2" = 1'-0" | -

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DIRECTOR, DEPT. — DATE 3/23/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/10/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/9/09

The Lukasiewicz Partnership
Architecture
Planning
Interior Design
2700 South Quincy Street
Suite 300
Arlington, VA 22206
703.998.0101
FAX 703.998.7796

PROJECT NORTH

REVISIONS

NUMBER	DESCRIPTION	DATE	APPROVED

PROJECT ARCHITECT: Gregory S. Lukasiewicz, A.I.A.
PROJECT ENGINEER (CIVIL): Sherry Mitchell, PE
PROJECT ENGINEER (STRUCTURAL): Randall M. Heist, P.E.
PROJECT ENGINEER (M,P,E): Kent Hoffman, PE

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HOWARD COUNTY, MARYLAND - DEPARTMENT OF PUBLIC WORKS
DIRECTOR — DATE
CHIEF, BUREAU OF ENGINEERING — DATE

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
WALL SECTIONS

SCALE	1/2"=1'-0"
DRAWN BY	DSL
CHECKED BY	DS
APPROVED BY	GSL
DESIGNED BY	DSL
CONSTRUCTION #	0406

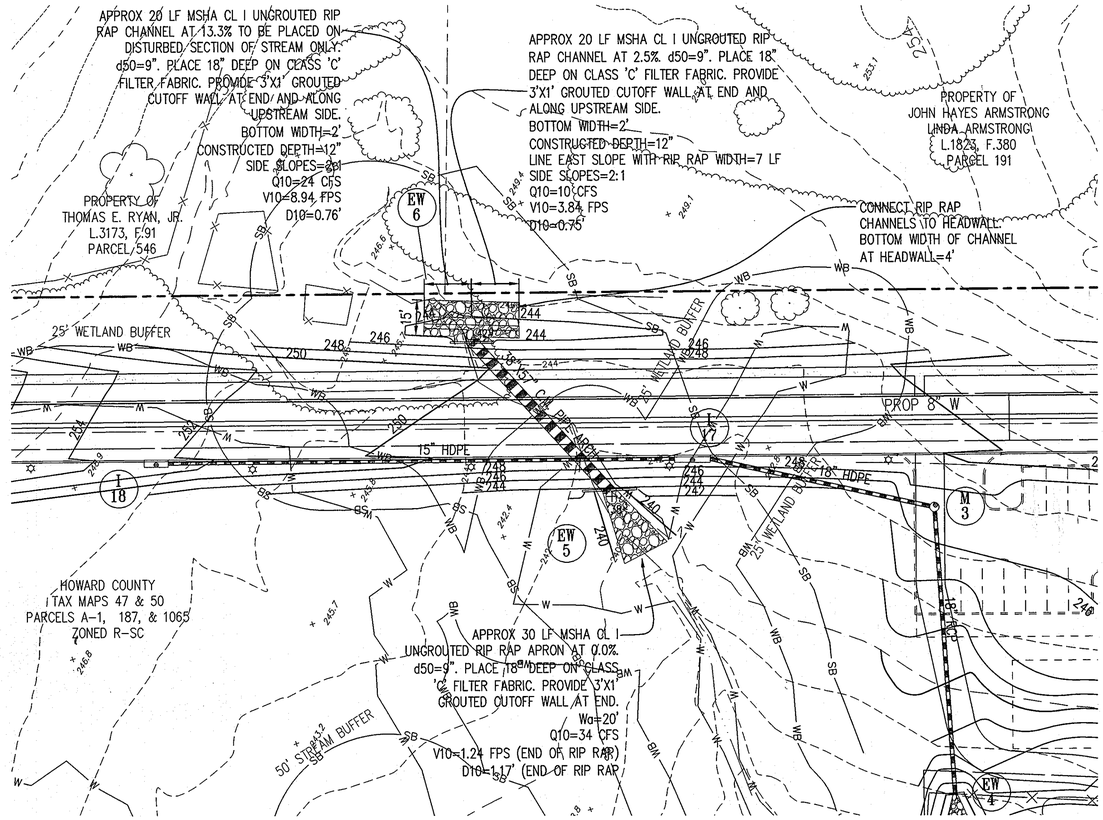
NORTH LAUREL COMMUNITY CENTER
PERMIT SET
2/23/2009

ARCHITECTURAL REGISTRATION BOARD — 7545-R — GREGORY SCOTT LUKASIEWICZ — STATE OF

STATE OF MARYLAND — DANIELLE MATTHEW HAUSS — REG. NO. 32150 — REGISTERED PROFESSIONAL ENGINEER

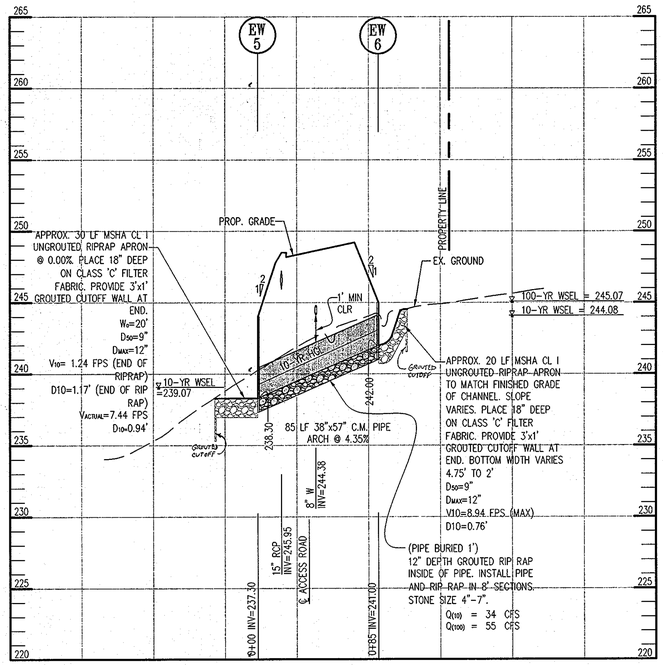
SHEET 42 OF 42

A3.1



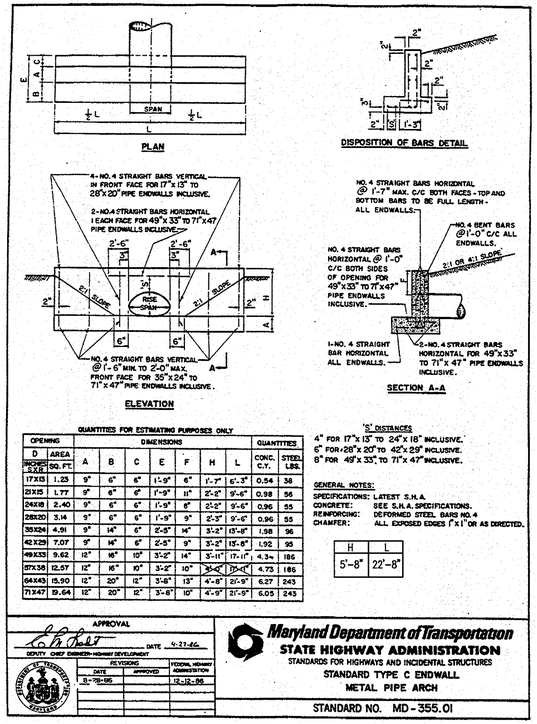
CULVERT NO. 1 PLAN

SCALE : 1"=30'



CULVERT NO. 1 PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'



QUANTITIES FOR ESTIMATING PURPOSES ONLY

OPENING		DIMENSIONS						QUANTITIES	
D INCHES	AREA SQ.FT.	A	B	C	E	F	H	L	CONC. C.Y.	STEEL LBS.
17X13	1.23	9"	6"	6"	1'-9"	6"	1'-7"	6'-3"	0.54	38
21X15	1.77	9"	6"	6"	1'-9"	11"	2'-2"	9'-6"	0.98	56
24X18	2.40	9"	6"	6"	1'-9"	8"	2'-2"	9'-6"	0.96	55
28X20	3.14	9"	6"	6"	1'-9"	9"	2'-3"	9'-6"	0.96	55
35X24	4.91	9"	14"	6"	2'-5"	14"	3'-2"	13'-8"	1.58	96
42X29	7.07	9"	14"	6"	2'-5"	9"	3'-2"	13'-8"	1.92	95
49X33	9.62	12"	16"	10"	3'-2"	14"	3'-11"	17'-11"	4.34	186
57X38	12.57	12"	16"	10"	3'-2"	10"	3'-6"	15'-4"	4.73	186
64X43	15.90	12"	20"	12"	3'-8"	13"	4'-4"	21'-9"	6.27	243
71X47	19.64	12"	20"	12"	3'-8"	10"	4'-9"	21'-9"	6.05	243

'S' DISTANCES
4" FOR 17"x 13" TO 24"x 18" INCLUSIVE.
6" FOR 28"x 20" TO 42"x 29" INCLUSIVE.
8" FOR 49"x 33" TO 71"x 47" INCLUSIVE.

H	L
5'-8"	22'-8"

GENERAL NOTES:
SPECIFICATIONS: LATEST S.H.A.
CONCRETE: SEE S.H.A. SPECIFICATIONS.
REINFORCING: DEFORMED STEEL BARS NO.4
CHAMFER: ALL EXPOSED EDGES 1"x1" OR AS DIRECTED.

APPROVAL
DEPUTY CHIEF ENGINEER- HIGHWAY DEVELOPMENT
DATE 4-27-86

REVISIONS		FEDERAL HIGHWAY ADMINISTRATION
DATE	APPROVED	
3-08-95		12-12-86

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD TYPE C ENDWALL
METAL PIPE ARCH
STANDARD NO. MD-355.01

MODIFIED STRUCTURE EW5

STRUCTURE SCHEDULE

NUMBER	TYPE	LOCATION		TOP ELEVATION		SIZE	REMARKS
		STATION	OFFSET	UPPER	LOWER		
EW-5	TYPE 'C' ENDWALL	SEE	PLAN	244.00	*	38"x57" PIPE ARCH	MODIFIED MSHA STD No. MD-355.01 SEE DETAIL THIS SHEET
EW-6	TYPE 'C' ENDWALL	SEE	PLAN	245.00	*	38"x57" PIPE ARCH	MSHA STD No. MD-355.01

NOTES

1) CONTRACTOR MAY USE PRECAST STRUCTURE WHERE AVAILABLE TO MEET THE STANDARD STRUCTURE SPECIFIED.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR : DEP. — DATE 9/2/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/1/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/2/09

DATE	NO.	REVISION
8/12/09	1	REVISE CULVERT NO. 1

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE REVISED CULVERT No.1 PLAN
PROFILES AND DETAILS

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

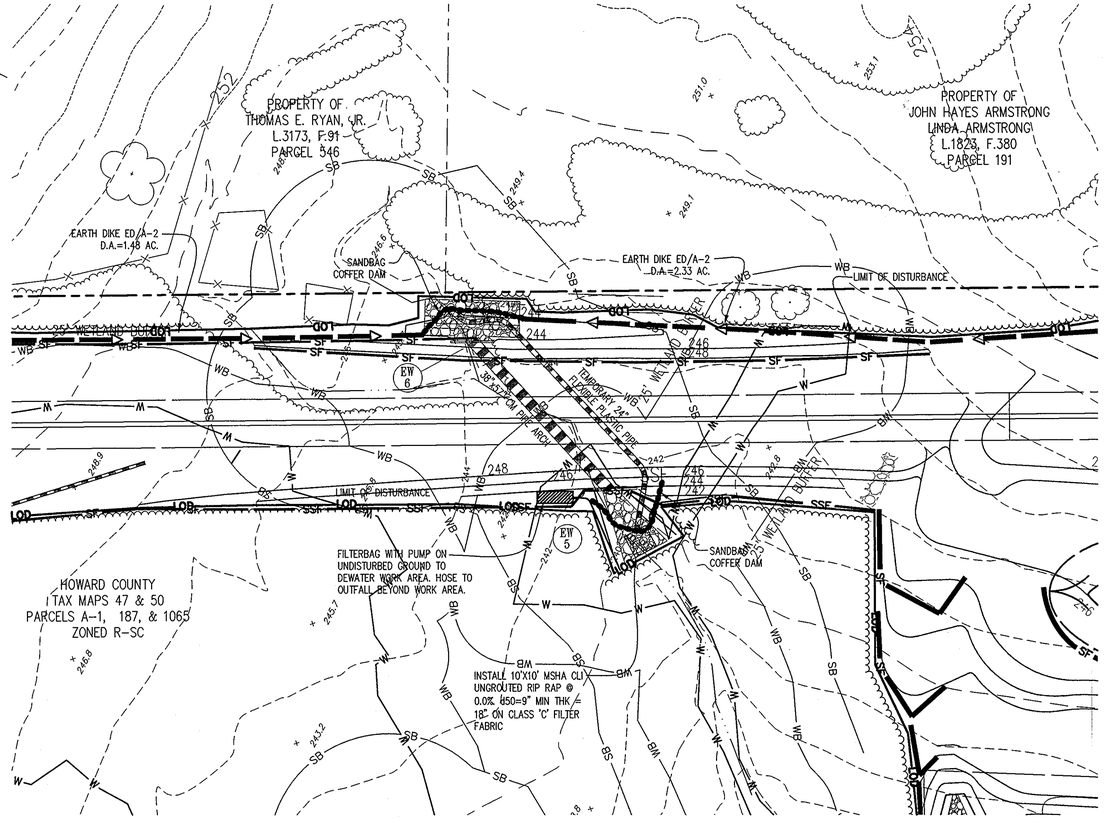
SEAL — STATE OF MARYLAND — GREGORY CLARKE MITCHELL — No. 33954 — REGISTERED PROFESSIONAL ENGINEER — 8-13-09

BY: Gregory C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY : SCM
DRAWN BY: SGM
PROJECT NO : 14466-1-0 C400SDP43.DWG
DATE : MAY 29, 2009
SCALE : 1" = 30'
DRAWING NO. 43 OF 49

P:\Project\14466\1-0\PLANS\C400SDP43.DWG



SEDIMENT CONTROL PLAN

SCALE : 1"=30'

SEE SHEET 46 FOR STEPS 1–13 WHICH DO NOT APPLY TO CULVERT CONSTRUCTION

CULVERT SEQUENCE OF CONSTRUCTION

14. OBTAIN GRADING PERMIT AND ALL REQUIRED PERMITS FROM MDE (MDE TRACKING NO. 200864784) FOR WETLAND DISTURBANCE. SCHEDULE AND ATTEND THE PRECONSTRUCTION MEETING. ACCESS WILL BE FROM WHISKEY BOTTOM ROAD. (1 DAY)

15. INSTALL SEDIMENT CONTROL DEVICES. REMOVE PORTION OF EARTH DIKE AS SHOWN ON SHEET 47 AND INSTALL CLEAN WATER EARTH DIKES ALONG EAST SIDE OF PROPOSED ENTRY ROAD TO DIRECT CLEAN WATER TO CULVERT. INSTALL EROSION CONTROL MATTING AS SHOWN ON SHEET 47. (2 DAYS)

16. INSTALL SAND BAG COFFER DAMS AND TEMPORARY 24" PLASTIC PIPE FOR STREAM DIVERSION AROUND CULVERT NO. 1. INSTALL EROSION CONTROL MATTING AROUND RIP RAP. FOLLOW MARYLAND WATERWAY CONSTRUCTION GUIDELINES. OBTAIN PERMISSION FROM INSPECTOR AND WHEN A 3-DAY CLEAR WEATHER FORECAST FROM THE NATIONAL WEATHER SERVICE IS PREDICTED, INSTALL CULVERT FROM STRUCTURE EW5 TO EW6 AND RIP RAP. INSTALLATION IS NOT TO EXCEED 2 WEEKS. IN-STREAM WORK MAY NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR. PROVIDE 2 FOOT MINIMUM COVER OVER PERMANENT CULVERT. IMMEDIATELY STABILIZE DITCH UPSTREAM OF CULVERT AND INSTALL EROSION CONTROL MATTING.

17. ONCE CULVERT IS INSTALLED OBTAIN PERMISSION FROM INSPECTOR AND REMOVE TEMPORARY 24" PLASTIC PIPE AND SANDBAG COFFER DAMS. EARTH DIKES ARE TO BE DIRECTED TO PERMANENT RIP RAP CHANNELS.

18. SEED AND STABILZE REMAINING DISTURBED AREAS.

19. ONCE ENTIRE SITE IS STABILIZED, OBTAIN PERMISSION FROM INSPECTOR AND REMOVE REMAINING SEDIMENT CONTROL DEVICES.

NOTES:

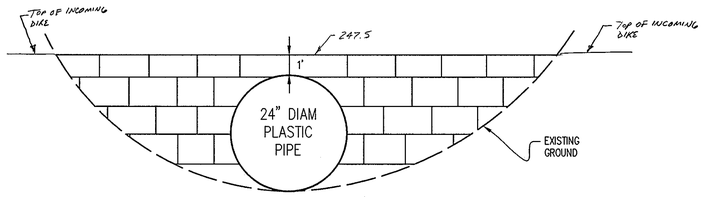
1. SEE SHEET 47 FOR ADDITIONAL SEDIMENT CONTROL DEVICES AND TREE PROTECTION DEVICES.

2. CONTRACTOR MUST BE DILIGENT IN MINIMIZING EROSION AND PREVENTING SEDIMENT FROM LEAVING THE SITE.

3. APPLY TEMPORARY SEEDING TO ALL AREAS LEFT UNDISTURBED FOR MORE THAN TWO WEEKS.

4. ALL CONSTRUCTION ACTIVITIES ARE TO BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.

5. ALL CONTRUCTION ACTIVITIES MUST BE WITHIN LIMITS OF DISTURBANCE.



SANDBAG COFFER DAM DETAIL

NTS

BY THE DEVELOPER :

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

DEVELOPER DATE

BY THE ENGINEER :

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

Sherrell C. Mitchell 8-13-09
ENGINEER DATE

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

HOWARD SOIL CONSERVATION DISTRICT 8/25/09 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. 9/2/09 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 9/1/09 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 9/2/09 DATE

DATE	NO.	REVISION
8/12/09	1	REVISE CULVERT NO. 1

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
REVISED CULVERT No.1
SEDIMENT CONTROL PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

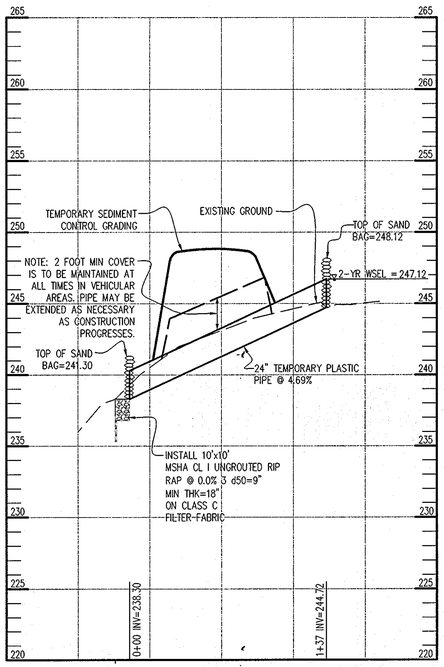
SEAL — STATE OF MARYLAND — SHERRELL CLARKE MITCHELL — REGISTERED PROFESSIONAL ENGINEER — 8-13-09

BY: Sherrell C Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33904, EXPIRATION DATE: 01-26-11"

DESIGNED BY :	SCM
DRAWN BY:	SGM
PROJECT NO :	14466-1-0 C4005DSP44.DWG
DATE :	MAY 29, 2009
SCALE :	AS SHOWN
DRAWING NO.	44 OF 49

P:\Project\14466\1-0\PLANS\C4005DSP44.DWG



TEMPORARY CULVERT PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'

MGWC 1.4: DIVERSION PIPE

Temporary measure for dewatering in-channel construction sites

DESCRIPTION

The work should consist of installing flow diversion pipes in combination with sandbag or stone diversions when construction activities occur within the stream channel.

EFFECTIVE USES & LIMITATIONS

Diversion pipes with an insufficient flow capacity can cause the channel diversion to fail thereby resulting in severe erosion of the disturbed channel section under construction. Therefore, in-channel construction activities should occur only during periods of low flow.

MATERIAL SPECIFICATIONS

Materials for stream diversions should meet the following requirements:

- *Riprap:* Stone should be washed and have a minimum diameter of 6 inches (15 centimeters).
- *Sandbags:* Sandbags should consist of materials which are resistant to ultra-violet radiation, tearing, and puncture and should be woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
- *Sheeting:* Sheeting should consist of polyethylene or other material which is impervious and resistant to puncture and tearing.

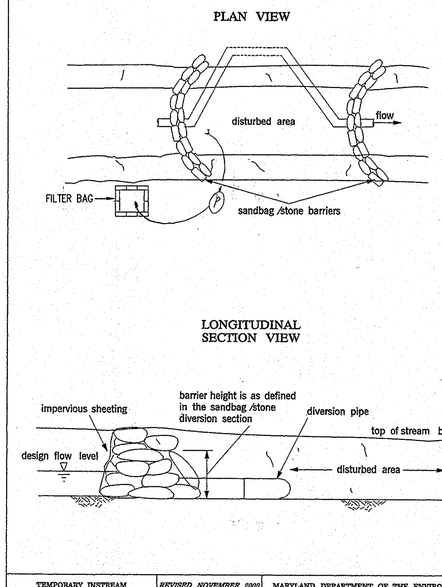
INSTALLATION GUIDELINES

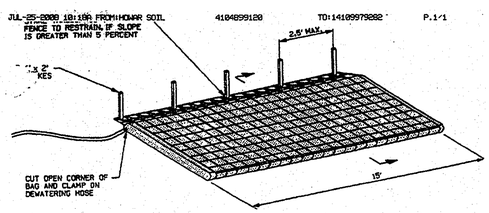
All erosion and sediment control devices including mandatory dewatering basins should be installed as the first order of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to downstream during low flow conditions. If necessary, silt fence or straw bales should be installed around the perimeter of the work area.

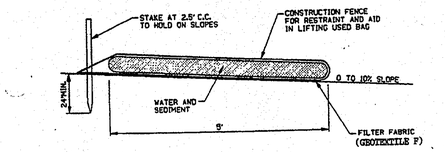
Diversion pipes with sandbag or stone barriers should be completed as follows (refer to Detail 1.4):

1. Sandbag/stone barriers should be sized and installed as detailed in MGWC 1.5: Sandbag/Stone Diversion. The materials should be sized to withstand baseflow velocities.
2. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.
3. Sediment-laden water from the construction area should be pumped to a dewatering basin.
4. The diversion pipe should have a minimum capacity sufficient to convey the 2-year flow for projects with a duration of two weeks or greater. For projects of shorter duration, the capacity of the pipe can be reduced accordingly.
5. If necessary, silt fence or straw bales should be installed around the perimeter of the work area.
6. Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal.

Maryland's Guidelines To Waterway Construction
DETAIL 1.4: DIVERSION PIPE







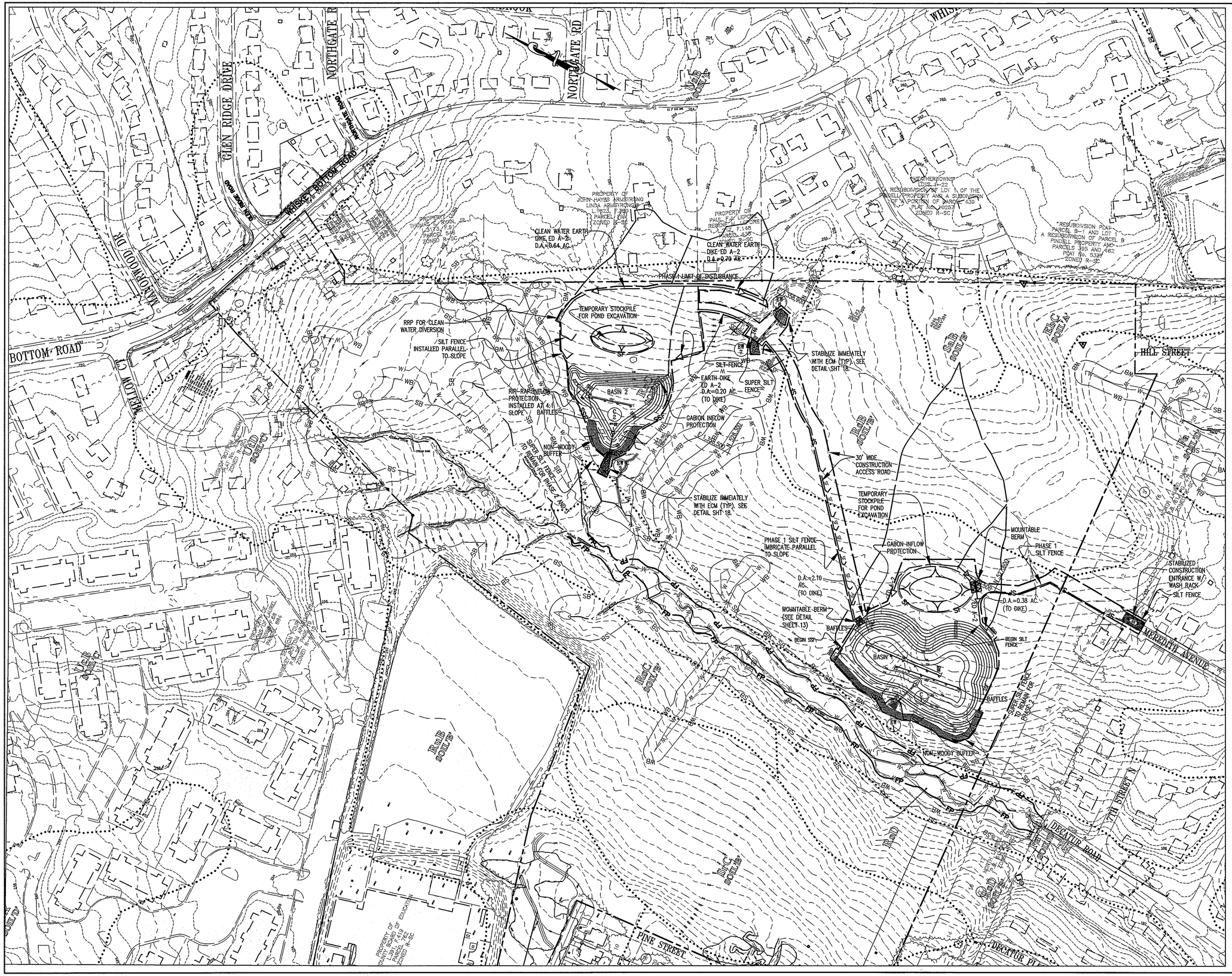
SECTION

NOTES:
1. FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL, WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREAS.
2. WIDTH AND LENGTH SHALL BE AS SHOWN
3. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
4. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
5. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.
6. FILTER FABRIC 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 ft²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

FILTER BAG
TEMPORARY EROSION CONTROL MEASURE (FB)

SDP-08-118



NOTE: SEE SHEETS 8 AND 10 FOR BASIN DETAILS, BASIN SCHEDULES AND LEGEND

BY THE DEVELOPER :

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

DEVELOPER _____ DATE _____

BY THE ENGINEER :

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

ENGINEER Steven C. Mitchell 8-13-09 DATE

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HOWARD SOIL CONSERVATION DISTRICT _____ 8/25/09 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR , DEP. _____ 9/2/09 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION _____ 9/1/09 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT _____ 9/2/09 DATE

DATE	NO.	REVISION
8/12/09	1	REVISE PHASING SC PLAN, ADJUST POND 2

OWNER

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P 410 313 2414

DEVELOPER

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PROJECT
NORTH LAUREL COMMUNITY CENTER
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AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE REVISED GRADING & SEDIMENT CONTROL
PLAN PHASE 1

Patton Harris Rust & Associates
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SEAL — STATE OF MARYLAND — STEVEN CLARKE MITCHELL — No. 33954 — REGISTERED PROFESSIONAL ENGINEER — 8/13/09

BY: Steven C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	SCM
DRAWN BY:	SCM
PROJECT NO :	14466-1-O C400SDP45.DWG
DATE :	MAY 29, 2009
SCALE :	1" = 100'
DRAWING NO.	45 OF 49

P:\Project\14466\1-O\PLANS\C400SDP45.DWG

SDP-08-118

SEQUENCE OF CONSTRUCTION

NOTE: THE GRADING, EROSION & SEDIMENT CONTROL AND CONSTRUCTION OF THIS PROJECT WILL BE DONE IN 3 PHASES. PHASE 1 PRIMARILY INCLUDES CONSTRUCTION OF TWO SEDIMENT BASINS (TO BE CONVERTED TO SWM PONDS). PHASE 2 INVOLVES GRADING AND CONSTRUCTION OF BUILDING AND PARKING LOTS. PHASE 3 INVOLVES ENTRANCE ROAD FROM WHISKEY BOTTOM ROAD.

PHASE 1:

1. OBTAIN GRADING PERMIT AND ALL REQUIRED PERMITS. SCHEDULE AND ATTEND THE PRECONSTRUCTION MEETING. (1 DAY)

2. INSTALL STABILIZED CONSTRUCTION ENTRANCE WITH WASH RACK AT MEREDITH AVENUE FOR ACCESS TO SITE. (5 DAYS)

3. INSTALL SILT FENCE AS SHOWN ON SHEET 45 ALONG PHASE I LIMIT OF DISTURBANCE FROM MEREDITH AVENUE TO POND #1. CLEAR AND GRUB FOR 15' WIDE CONSTRUCTION ACCESS ROAD. (3 DAYS). (1 WEEK).

4. OBTAIN PERMISSION FROM INSPECTOR AND WHEN A 3-DAY CLEAR WEATHER FORECAST FROM THE NWS HAS BEEN PREDICTED, INSTALL CULVERT EW7 TO EW8. PROVIDE 2 FOOT MINIMUM COVER OVER CULVERT PER GRADING ON SHEET 45. IMMEDIATELY STABILIZE DITCH UPSTREAM OF CULVERT. (3 DAYS)

5. INSTALL PERIMETER CONTROLS FROM POND 1 TO POND 2. CLEAR AND GRADE FOR REMAINDER OF CONSTRUCTION ACCESS ROAD TO BASIN/POND #2.

6. (STEPS 6 AND 7 MAY BY CONCURRENT) BEGIN POND NO. 1 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS POND AND UTILIZED FOR SEDIMENT BASIN NO. 1.
A. INSTALL PHASE 1 EARTH DIKES AND RIP RAP PROTECTION TO DIVERT DRAINAGE AROUND POND AREA. INSTALL SUPER SILT FENCE ALONG DOWNSTREAM TOE OF EMBANKMENT. OBTAIN PERMISSION FROM INSPECTOR BEFORE PROCEEDING. (1 DAY)
B. CLEAR POND AREA AND STRIP TOPSOIL FOR POND AREA AND STOCKPILE OUTSIDE OF THE EMBANKMENT AREA. (2 DAYS)
C. GRADE A SMALL AREA TO BOTTOM ELEVATION OF 200.5 AND INSTALL REMOVABLE PUMPING STATION TO BE USED TO DEWATER THE WORK AREA DURING CONSTRUCTION. DIRECT FLOWS TO PUMPING STATION SUCH THAT WATER MAY BE PUMPED TO DEWATER THE WORK AREA. (1 DAY)
D. CONSTRUCT THE CUT-OFF TRENCH. CUTOFF AND CORE TRENCH BACKFILL MATERIAL IS TO MEET THE PROVISIONS OF MD-378 CRITERIA AS SUPERVISED BY THE GEOTECHNICAL ENGINEER. (2 DAYS)
E. CONSTRUCT RIP RAP OUTFALL, BARREL, CONCRETE CRADLE, ANTI-SEEP COLLARS, AND RISER STRUCTURE. CONCRETE COLLARS ARE TO BE CAST-IN-PLACE. ALL INSTALLATION IS TO BE OBSERVED BY PHRA ENGINEER. (3 DAYS)
F. CONSTRUCT EMBANKMENT IN 8" LIFTS, USING 4" LIFTS WITHIN 5 FEET HORIZONTALLY OF BARREL OR RISER. CONSTRUCT CORE.
G. GRADE CHECK AND PERMANENTLY STABILIZE EMBANKMENT. (1 DAY)
H. INSTALL TEMPORARY DRAWDOWN DEVICE AS SHOWN ON DETAIL ON SHEET 13. DELAY THE CONSTRUCTION OF LOW FLOW OPENING UNTIL POND CONVERSION. BLOCK POND DRAIN OPENING AS SHOWN ON SHEET 13. (1 DAY)
I. EXCAVATE POND STORAGE AREA AS SHOWN ON SEDIMENT CONTROL PLAN SHEET 9. (3 DAYS) DO NOT INSTALL FOREBAY WEIR AT THIS TIME. EXCAVATED EARTH TO BE PLACED NORTH AND EAST OF POND #1 IN FILL AREAS.
J. UPON COMPLETION OF BASIN, STABILIZE WITH TEMPORARY SEEDING. (1 DAY)
K. OBTAIN PERMISSION FROM INSPECTOR AND REMOVE PHASE I EARTH DIKES AND RIP RAP PROTECTION. (1 DAY)

7. (STEPS 6 AND 7 MAY BE CONCURRENT) BEGIN POND NO. 2 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS POND AND UTILIZED FOR SEDIMENT BASIN NO. 2.
A. INSTALL SUPER SILT FENCE ALONG DOWNSTREAM TOE OF EMBANKMENT. INSTALL CLEAN WATER EARTH DIKE AND RRP ABOVE POND 2 AS SHOWN ON SHEET 45. OBTAIN PERMISSION FROM INSPECTOR BEFORE PROCEEDING. (2 DAYS)
B. CLEAR POND AREA AND STRIP TOPSOIL FOR POND AREA AND STOCKPILE OUTSIDE OF THE EMBANKMENT AREA. (2 DAYS)
C. GRADE A SMALL AREA TO BOTTOM ELEVATION OF 220.5 AND INSTALL REMOVABLE PUMPING STATION TO BE USED TO DEWATER THE WORK AREA DURING CONSTRUCTION. DIRECT FLOWS TO PUMPING STATION SUCH THAT WATER MAY BE PUMPED TO DEWATER THE WORK AREA. (1 DAY)
D. CONSTRUCT THE CUT-OFF TRENCH. CUTOFF AND CORE TRENCH BACKFILL MATERIAL IS TO MEET THE PROVISIONS OF MD-378 CRITERIA AS SUPERVISED BY THE GEOTECHNICAL ENGINEER. (2 DAYS)
E. CONSTRUCT RIP RAP OUTFALL, BARREL, CONCRETE CRADLE, ANTI-SEEP COLLARS, AND RISER STRUCTURE. CONCRETE COLLARS ARE TO BE CAST- IN-PLACE. ALL INSTALLATION IS TO BE OBSERVED BY PHRA ENGINEER. (3 DAYS)
F. CONSTRUCT EMBANKMENT IN 8" LIFTS, USING 4" LIFTS WITHIN 5 FEET HORIZONTALLY OF BARREL OR RISER. CONSTRUCT CORE.
G. GRADE CHECK AND PERMANENTLY STABILIZE EMBANKMENT. (1 DAY)
H. INSTALL TEMPORARY DRAWDOWN DEVICE. (1 DAY)
I. EXCAVATE SEDIMENT BASIN STORAGE AREA AS SHOWN ON SEDIMENT CONTROL PLAN SHEETS 45 AND 46. (3 DAYS) DO NOT INSTALL BIORETENTION FACILITY AT THIS TIME.
J. UPON COMPLETION OF POND, STABILIZE WITH TEMPORARY SEEDING. (1 DAY)

PHASE 2:

8. OBTAIN PERMISSION FROM INSPECTOR. BEGIN CLEARING AND GRADING FOR BUILDING AND PARKING LOTS. FOLLOW DUST CONTROL PRACTICES PER MDE DETAIL H-30-1 (SEE SHEET 13) THROUGHOUT THE GRADING AND CONSTRUCTION ACTIVITY ON SITE. (3 MONTHS)

9. BEGIN PAVING, CURB AND GUTTER, SIDEWALK AND BUILDING CONSTRUCTION. (2 MONTHS)

10. FROM MEREDITH AVENUE BEGIN INSTALLATION OF WATER, SEWER, STORM DRAIN AND RECHARGE TRENCHES. STONE IN RECHARGE TRENCHES IS TO BE KEPT CLEAN. (2 MONTHS)

PHASE 3:

11. OBTAIN PERMITS FROM MDE (MDE TRACKING NO. 200864784) FOR WETLAND DISTURBANCE. SCHEDULE AND ATTEND PRECONSTRUCTION MEETING. (1DAY)

12. OBTAIN DEMOLITION PERMIT AND DEMOLISH EXISTING HOUSES. USE EXISTING ASPHALT DRIVEWAY FOR STAGING AREA. INSTALL STABILIZED CONSTRUCTION ENTRANCE WITH WASH RACK AT WHISKEY BOTTOM ROAD (5 DAYS).

13. INSTALL REMAINING PHASE 3 PERIMETER CONTROLS FROM WHISKEY BOTTOM ROAD TO CULVERT NO. 1 (EW 5 AND EW 6). (1 WEEK)

SEE SHEET 44 FOR STEPS 14-19

20. OBTAIN PERMISSION FROM INSPECTOR TO BEGIN CLEARING AND GRADING FOR ENTRANCE ROAD FROM WHISKEY BOTTOM ROAD TO CULVERT EW5 TO EW6. FOLLOW DUST CONTROL PRACTICES PER MDE DETAIL H-30-1 (SEE SHEET 13) THROUGHOUT THE GRADING AND CONSTRUCTION ACTIVITY ON SITE. (1 WEEK)

21. BEGIN INSTALLATION OF WATER, SEWER AND STORM DRAIN. (2 MONTHS)

22. CONSTRUCT TEMPORARY 15" CMP FROM EARTH DIKE (WHICH CONVEYS SEDIMENT LADEN WATER TO STRUCTURE I-18). USE SANDBAGS TO HOLD TEMPORARY 15" CMP IN PLACE. (3 DAYS)

23. BEGIN PAVING, CURB AND GUTTER AND SIDEWALK.

24. CONSTRUCT ROAD IMPROVEMENTS ALONG WHISKEY BOTTOM ROAD. INSTALL CURB INLET PROTECTION AT STRUCTURE I 19. RELOCATE BGE POWER POLES. (2 MONTHS)

25. UPON COMPLETION OF ALL CONSTRUCTION AND STABILIZATION OF ALL GRASSED AREAS WITH PERMANENT SEEDING, APPLY FINAL PAVING SURFACE COURSE AND STABILIZE ANY REMAINING AREAS. (1 WEEK)

26. OBTAIN PERMISSION FROM INSPECTOR AND FLUSH STORM DRAIN. (1 DAY)

27. SEEK PERMISSION FROM SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING FURTHER. MUCK OUT AND BEGIN CONVERSION OF SEDIMENT BASINS 1 AND 2 TO PERMANENT STORMWATER MANAGEMENT PONDS 1 AND 2. CONSTRUCT BIORETENTION FACILITY IN POND 2. REMOVE DRAWDOWN DEVICES AND REMOVABLE PUMPING STATIONS. REMOVE STEEL PLATES AND INSTALL LOW FLOW PIPE AND POND DRAIN IN POND 1. INSTALL TRASH RACKS. PERMANENTLY BLOCK OPENING IN RISER FOR POND 1 FOR DRAWDOWN DEVICE USING NON-SHRINK GROUT AND PARGING. FINE GRADE POND BOTTOMS. INSTALL FOREBAY WEIR IN POND 1 AND GABION WEIR IN POND 1 AND POND 2 AS SHOWN ON APPROVED SWM PLANS. (3 WEEKS)

28. INSTALL LANDSCAPING IN PONDS 1 AND 2. (1 WEEK)

29. CONTRACTOR TO LOCATE AND REMOVE ALL OLD AND NEW JUNK, TRASH AND DEBRIS FROM WETLANDS, STREAMS, BUFFERS, FLOODPLAIN, FOREST AND OPEN SPACE.

30. WITH PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 DAYS)

31. PROVIDE AS-BUILTS TO COUNTY AND HOWARD SCD.

SEDIMENT BASIN # 2

NOTE: POND 2 IS TO BE USED AS A SEDIMENT BASIN

EX. DRAINAGE AREA	=	2.19 AC
INTERIM DRAINAGE AREA	=	3.16 AC
DEV. DRAINAGE AREA	=	2.74 AC
STORAGE REQUIRED (3,600 cu.ft./Ac.)		
REQUIRED VOLUME WET	=	5,688 CF
REQUIRED VOLUME DRY	=	5,688 CF
TOTAL VOLUME	=	11,376 CF
STORAGE PROVIDED		
PROVIDED VOLUME WET	=	6,392 CF
PROVIDED VOLUME DRY	=	13,248 CF
TOTAL VOLUME	=	19,640 CF
STORAGE DEPTH	=	2.9'
MINIMUM BOTTOM ELEVATION	=	220.50
BOTTOM DIMENSIONS	=	108'x136'
RISER DIAMETER	=	5'x5'
RISER CREST ELEVATION	=	223.40
BARREL DIAMETER	=	24"
BARREL LENGTH	=	42 LF
BARREL INVERTS		
UPSTREAM	=	219.70
DOWNSTREAM	=	219.49
TRASH RACK DIAMETER	=	N/A
CLEAN OUT ELEVATION	=	221.30
PERMANENT POOL WSEL.	=	222.00
DESIGN TOP OF EMBANKMENT EL.	=	227.50
CONSTRUCTED TOP OF EMBANKMENT EL.	=	227.90
EMERGENCY SPILLWAY CREST EL.	=	N/A
EMERGENCY SPILLWAY WIDTH	=	N/A
Q1 EXISTING	=	0.2 cfs
Q1 INTERIM	=	0.4 cfs
Q1 DEVELOPED	=	< 0.4 cfs

LEGEND

EXISTING 2'CONTOUR	302
EXISTING 10'CONTOUR	300
PROPOSED 2'CONTOUR	302
PROPOSED 10'CONTOUR	300
PROPERTY LINE AND RIGHT OF WAY	
EXISTING WETLAND	W
EX. TREELINE	
LIMIT OF CLEARING	
LIMIT OF DISTURBANCE	LOD
STORM DRAIN INLET	
SUPER SILT FENCE	SSF
SILT FENCE	SF
EARTH DIKE	
WETLAND BUFFER	WB
100-YEAR FLOOD PLAIN	FP
15-25% SLOPES	
>25% SLOPES	
DRAINAGE DIVIDE	
STABILIZED CONSTRUCTION ENTRANCE	SCE
EROSION CONTROL MATTING	
RIP RAP INFLOW PROTECTION	RRP
GABION INFLOW PROTECTION	GM

NOTE: EXISTING EARTH DIKE TO BE CONSTRUCTED BY SITE CONTRACTOR IN PHASE I.

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

DEVELOPER DATE

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Sherryl C. Mitchell 8-13-09
ENGINEER DATE

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

8/25/09
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Thomas E. Butler 9/2/09
DIRECTOR, DEP. DATE

9/1/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamm 9/2/09
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
8/12/09	1	REVISE PHASING SC PLAN, ADJUST POND 2

OWNER
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PROJECT
NORTH LAUREL COMMUNITY CENTER
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AREA
TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
REVISED GRADING & SEDIMENT CONTROL
PLAN PHASE 2 AND SEQUENCE OF CONSTRUCTION

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SEAL 8-13-09
STATE OF MARYLAND SHERRYL CLARKE MITCHELL No. 33954 REGISTERED PROFESSIONAL ENGINEER

BY: Sheryl C. Mitchell
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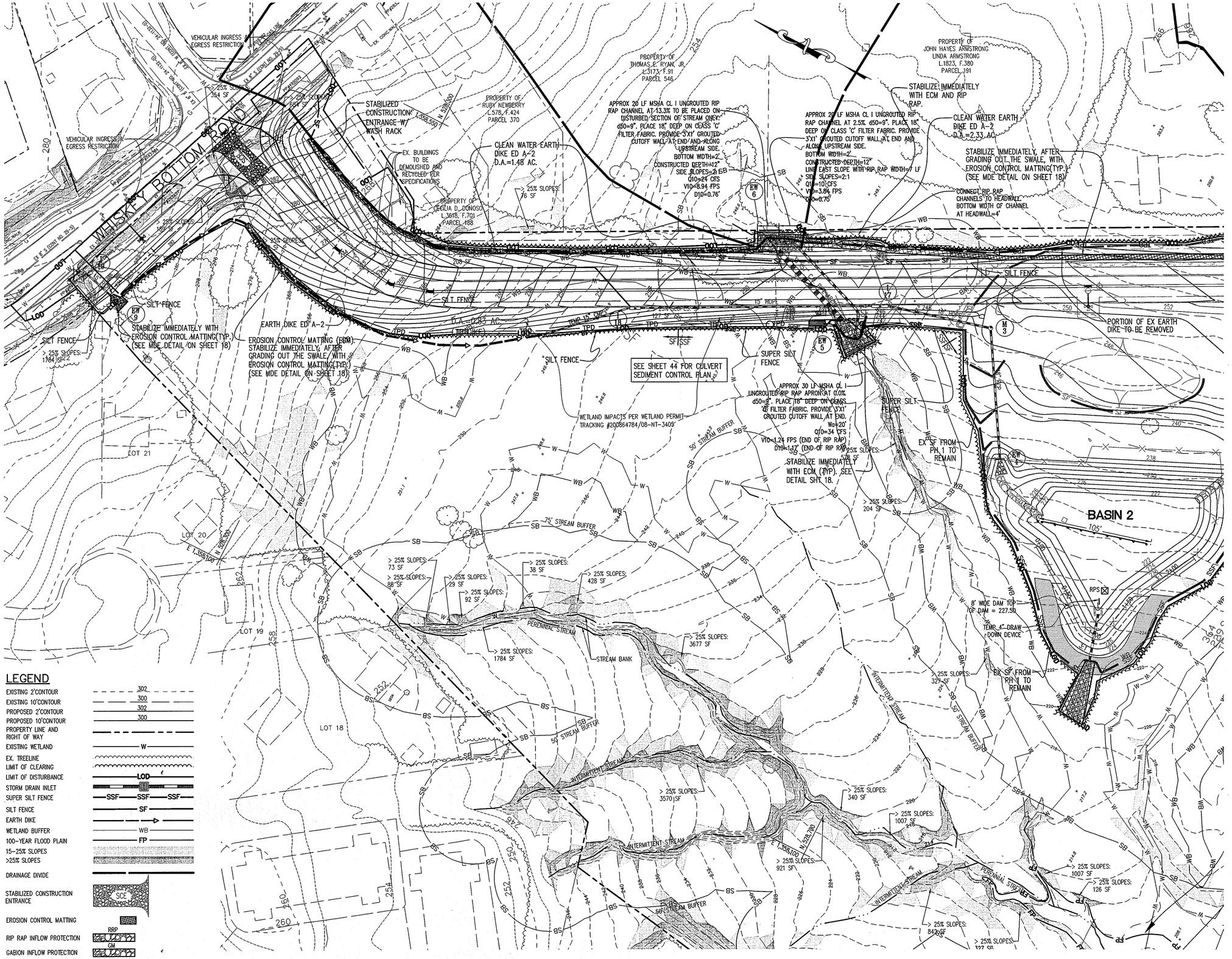
DESIGNED BY :SCM
DRAWN BY: SCM
PROJECT NO : 14466-1-0 C400SDP46.DWG
DATE : MAY 29, 2009
SCALE : 1" = 40'
DRAWING NO. 46 OF 49

P:\Project\14466\1-0\PLANS\C400SDP46.DWG

SDP-08-118



LEGEND

- EXISTING 2'CONTOUR — 302
- EXISTING 10'CONTOUR — 300
- PROPOSED 2'CONTOUR — 302
- PROPOSED 10'CONTOUR — 300
- PROPERTY LINE AND RIGHT OF WAY
- EXISTING WETLAND — W
- EX. TREELINE
- LIMIT OF CLEARING
- LIMIT OF DISTURBANCE — LOD
- STORM DRAIN INLET
- SUPER SILT FENCE — SSF
- SILT FENCE — SF
- EARTH DIKE
- WETLAND BUFFER — WB
- 100-YEAR FLOOD PLAIN — FP
- 15-25% SLOPES
- >25% SLOPES
- DRAINAGE DIVIDE
- STABILIZED CONSTRUCTION ENTRANCE — SCE
- EROSION CONTROL MATTING
- RIP RAP INFLOW PROTECTION — RRP
- GABION INFLOW PROTECTION — GM

NOTES:
1. EXISTING EARTH DIKE TO BE CONSTRUCTED BY SITE CONTRACTOR IN PHASE I.

2. SEE SHEET 44 FOR CULVERT SEDIMENT CONTROL PLAN.

BY THE DEVELOPER :

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

DEVELOPER — DATE

BY THE ENGINEER :

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

Sheryl C. Mitchell — 8-13-09
ENGINEER — DATE

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

HOWARD SOIL CONSERVATION DISTRICT — 8/25/09 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — 9/2/09 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 9/1/09 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 9/2/09 DATE

DATE	NO.	REVISION
8/12/09	1	REVISE PHASING SC PLAN, ADJUST POND 2

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA — TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
REVISED GRADING & SEDIMENT CONTROL PLAN PHASE 3

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — STATE OF MARYLAND — SHERYL CLARKE MITCHELL — REGISTERED PROFESSIONAL ENGINEER — 8-13-09

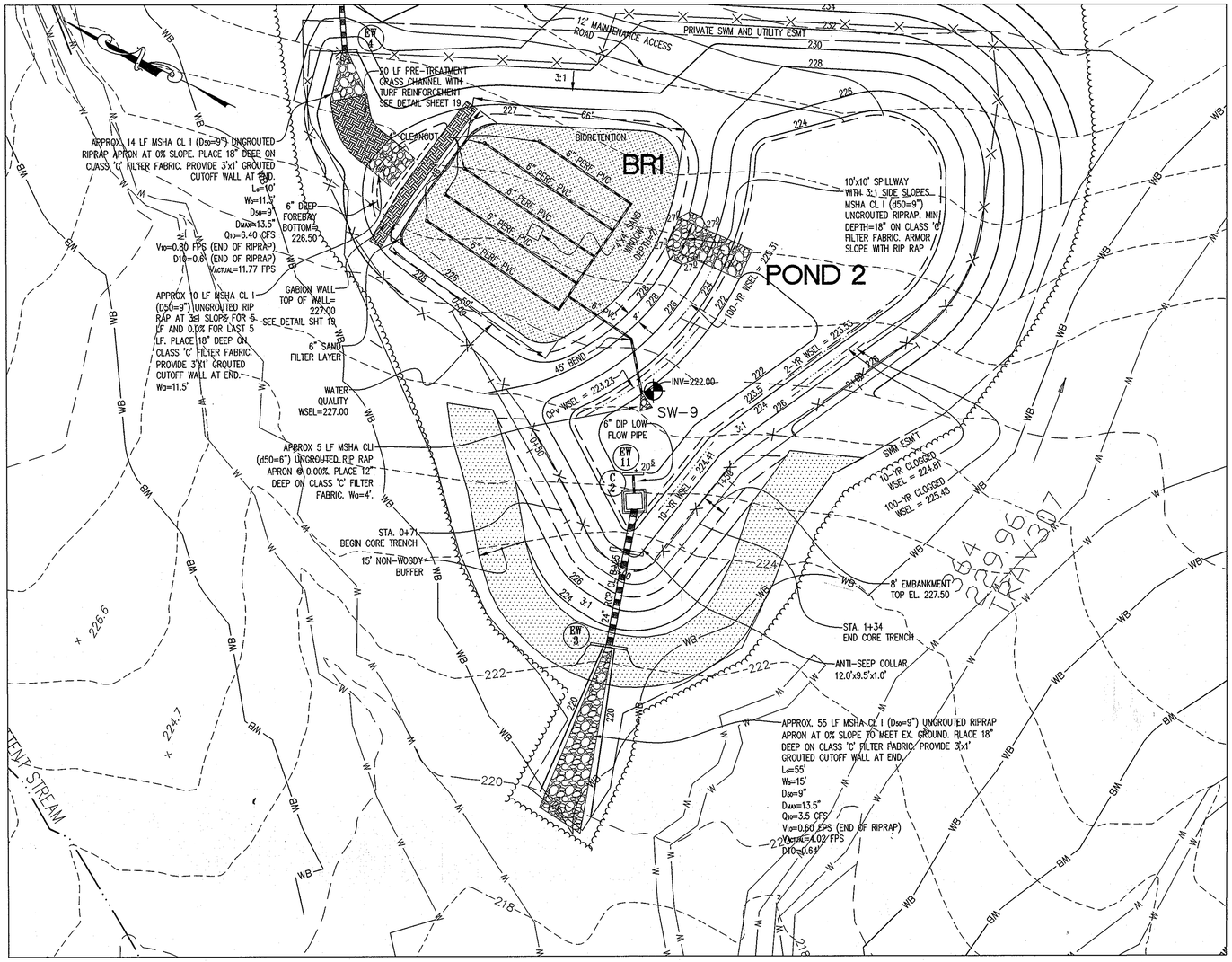
BY: Sheryl C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33504, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	SCM
DRAWN BY:	SCM
PROJECT NO :	14466-1-0 C400SDP08.DWG
DATE :	MAY 29, 2009
SCALE :	1" = 40'
DRAWING NO.	47 OF 49

P:\Project\14466\1-0\PLANS\C400SDP47.DWG

SDP-08-118



STORMWATER MANAGEMENT POND No. 2 PLAN

SCALE : 1" = 20'

BY THE DEVELOPER :

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

DEVELOPER — DATE

BY THE ENGINEER :

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

Sheryl C. Mitchell 8-13-09

ENGINEER — DATE

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

8/25/09

HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — 9/2/09 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 9/1/09 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 9/2/09 DATE

DATE	NO.	REVISION
8/12/09	1	REVISE PHASING SC PLAN, ADJUST POND 2

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA — TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
REVISED
STORMWATER MANAGEMENT POND 2 PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

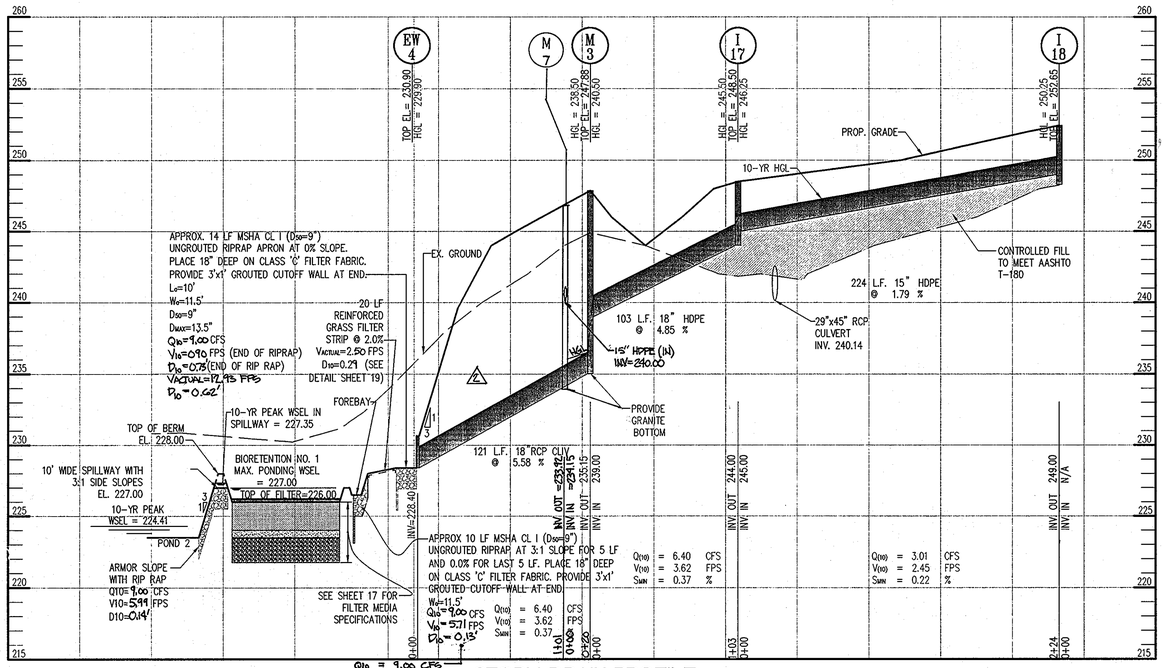
SEAL — STATE OF MARYLAND — SHERYL CLARKE MITCHELL — No. 33954 — REGISTERED PROFESSIONAL ENGINEER — 8-13-09

BY: Sheryl C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

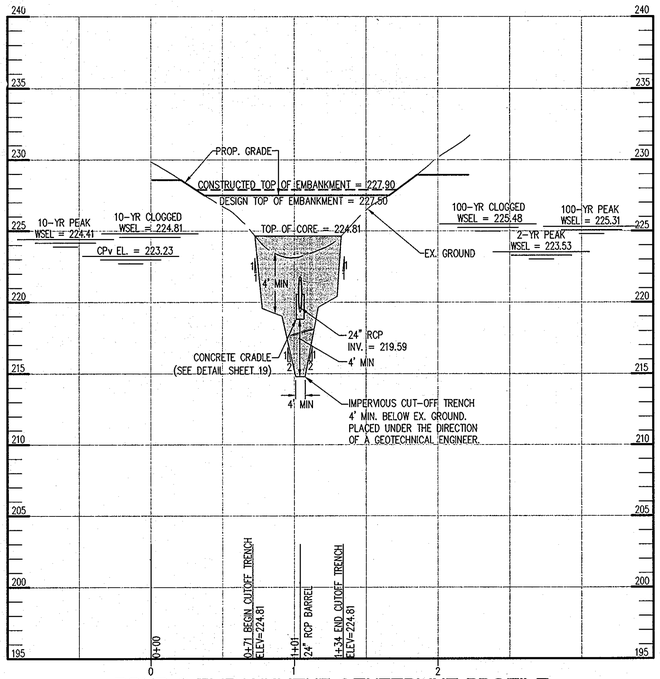
DESIGNED BY :	SCM
DRAWN BY:	SGM
PROJECT NO :	14466-1-0 C400SDP48.DWG
DATE :	MAY 29, 2009
SCALE :	AS SHOWN
DRAWING NO.	48 OF 49

SDP-08-118



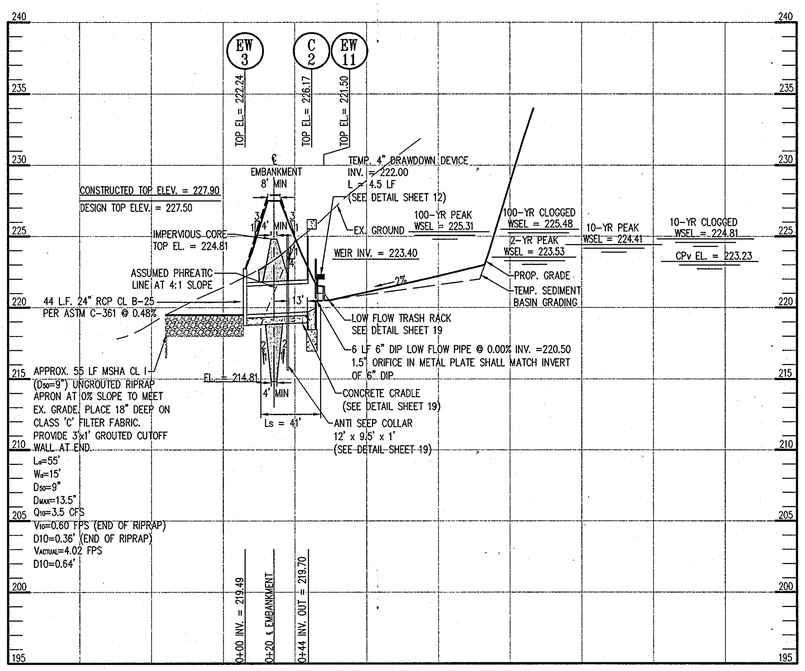
STORM DRAIN PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'



POND 2 EMBANKMENT CENTERLINE PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'



POND 2 PRINCIPAL SPILLWAY PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'

BY THE DEVELOPER :

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

DEVELOPER — DATE

BY THE ENGINEER :

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

Sherrod C. Mitchell — 8-13-09
ENGINEER — DATE

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

HOWARD SOIL CONSERVATION DISTRICT — 8/25/09 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. — 9/2/09 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 9/1/09 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 9/2/09 DATE

DATE	NO.	REVISION
8/25/10	2	ADDED STORM DRAIN
8/12/09	1	REVISE PHASING SC PLAN, ADJUST POND 2

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA — TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE — REVISED STORMWATER MANAGEMENT POND 2 PROFILES

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — 8-13-09

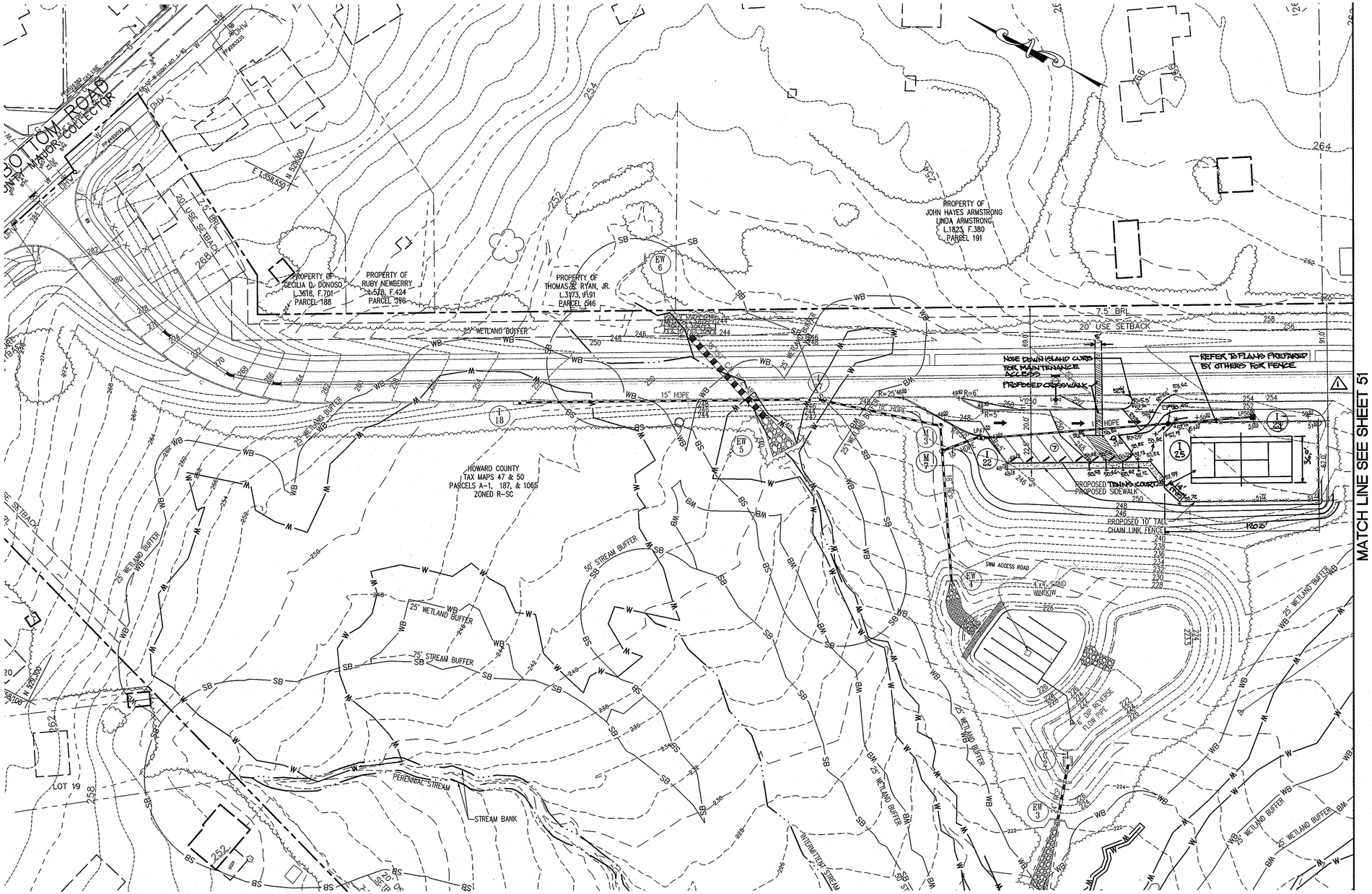
STATE OF MARYLAND — SHERROD CLARKE MITCHELL — No. 21601 — REGISTERED PROFESSIONAL ENGINEER

BY: Sherrod C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21601, EXPIRATION DATE: 01-24-11"

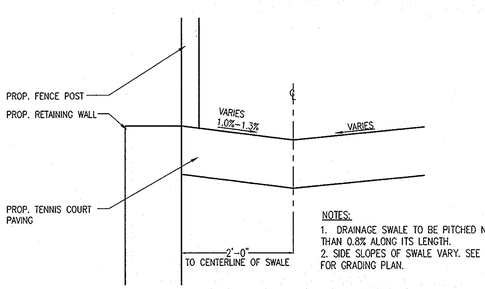
DESIGNED BY	PDS
DRAWN BY	PDS
PROJECT NO	14433-1-0 C400SDP49.DWG
DATE	MAY 29, 2009
SCALE	AS SHOWN
DRAWING NO.	49 OF 54

SDP-08-118



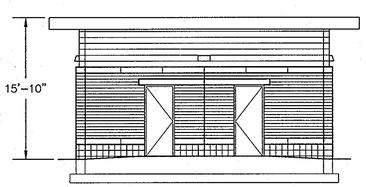
LEGEND

- PROPERTY LINE
- EXISTING 10' CONTOURS
- EXISTING 2' CONTOURS
- PROPOSED 10' CONTOURS
- PROPOSED 2' CONTOURS
- EXISTING CURB AND GUTTER
- PROPOSED CURB & GUTTER
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- SETBACK LINES
- PROPOSED CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05)
- EXISTING LIGHTING
- EXISTING TREE
- PROP.SPOT ELEVATION
- EX. TREELINE
- PROPOSED TREELINE
- FLOODPLAIN
- STREAM BUFFER
- WETLANDS
- WETLAND BUFFER
- TREE PROTECTION FENCE
- LIMIT OF DISTURBANCE
- LIGHT POLE

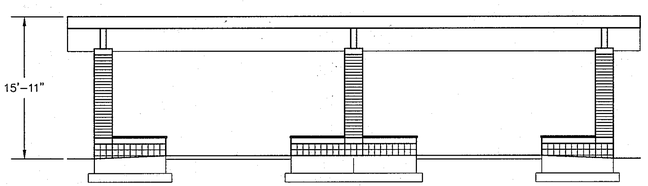


NOTES:
1. DRAINAGE SWALE TO BE PITCHED NO MORE THAN 0.8% ALONG ITS LENGTH.
2. SIDE SLOPES OF SWALE VARY. SEE SHEET 51 FOR GRADING PLAN.

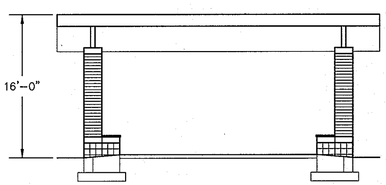
⚠ (1/50) BASKETBALL COURT DRAINAGE SWALE
NOT TO SCALE



EAST SIDE RESTROOM AND MAINTENANCE PAVILION - FRONT ELEVATION
NOT TO SCALE



EAST SIDE PICNIC PAVILION - FRONT ELEVATION
NOT TO SCALE



EAST SIDE SKATE PARK PAVILION - FRONT ELEVATION
NOT TO SCALE

The Purpose of this Revised Sheet is to add site amenities to the Community Center Park.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/13/10

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/13/10

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/13/10

DATE	NO.	REVISION
6.24.11	1	REVISE TENNIS AND BASKETBALL COURTS

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
Revised
SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — 9-7-10

STATE OF MARYLAND · SHERRIE CLARKE MITCHELL · No. 22854 · REGISTERED PROFESSIONAL ENGINEER

BY: Sherrie C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 22854, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	JSN
DRAWN BY:	JSN
PROJECT NO :	14466-1-2 C400SDP50.DWG
DATE :	SEPTEMBER 7, 2010
SCALE :	1" = 40'
DRAWING NO.	50 OF 54

SDP-08-118

P:\Project\14466\1-0\PLANS\C400SDP50.DWG

MATCH LINE SEE SHEET 50

PROPERTY OF
PAUL Ed. LEPORE
REGENE M. LEPORE
L.217, F.148
PARCEL 438

"HEATHEROOWNS"
LOTS 1-22
A RESUBDIVISION OF LOT 1 OF THE
PINDELL PROPERTY AND A SUBDIVISION
OF A PORTION OF PARCEL 439
PLAT No. 10257

RESUBDIVISION OF
PARCEL B-1 AND LOT 1
A RESUBDIVISION OF PARCEL B PINDELL PROPERTY AND
PARCELS 395 AND 462
PLAT No. 5337

HOWARD COUNTY
TAX MAPS 47 & 50
PARCELS A-1, 187, & 1065
ZONED R-SC

PATUXENT SQUARE APARTMENTS
& RETAIL CENTER
PARCEL A
SDP-06-50
ZONED R-SC

HILL STREET

7.5' BRL
20' USE SETBACK
20' STRUCTURE & USE SETBACK
25' WETLAND BUFFER

N 328,700
E 1,358,900

PROPOSED PLAYGROUND
PROPOSED SIDEWALK
PROPOSED BASKETBALL COURTS
PROPOSED RESTROOM BUILDING
FFE=242.7'
PROPOSED SKATE PARK
PROPOSED SKATE PAVILION
SEE SHEET A1.1 OF ARCHITECTURAL PLANS
PROPOSED HORSESHOE PIT
PROPOSED 12' WIDE ASPHALT TRAIL
SEE SHEET A1.1 OF ARCHITECTURAL PLANS
PROPOSED STAIRS
PROPOSED PAVILION
STAIR AND HANDRAIL
HOSE BIB
DRY WELL
TYPICAL OF 3
SEE DETAIL SHEET 52
SEE GRADING PLAN PREPARED BY MAHAN RYKIEL INC. FOR SKATE PARK
CONNECT TO 6" PVC ELBOW SHOWN ON SKATE PARK PLANS. SEE SKATE PARK PLANS FOR INLET INV=232.53
CONNECT 4" PVC UNDERDRAIN FROM SKATE PARK. PLANS TO 6" PVC
FIELD CONNECTION INV=222.69(6")
PROP. RETAINING WALL
BASKETBALL COURT
DRAINAGE SWALE
PROP. RETAINING WALL
PROVIDE A 6" TEE OR FIELD CONNECTION TO CONNECT UNDERDRAINS FOR PLAYGROUND AREA INV=237.53±(6")
1" COPPER
2" COPPER WHC
1-1/2 METER
4" SHC
6" SHC
8" WHC
12" HDPE
15" HDPE
ACCESSIBLE ROUTE
78' ± PUBLIC ROW
PROPERTY OF
HOWARD COUNTY
L.3425, F.221
PARCEL 4
10' WIDE ASPHALT TRAIL
SEE SDP-10-010 FOR CONTINUATION

NOTE: CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL SKATE PARK ELEMENTS FOR OWNER/ARCHITECT REVIEW AT LEAST 4 WEEKS PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL STRUCUTURAL DESIGN OF ELEMENTS.

LEGEND

- PROPERTY LINE
- 380 EXISTING 10' CONTOURS
- 378 EXISTING 2' CONTOURS
- 380 PROPOSED 10' CONTOURS
- 378 PROPOSED 2' CONTOURS
- EXISTING CURB AND GUTTER
- PROPOSED CURB & GUTTER
- EX. 48" RCP EXISTING STORM DRAIN
- 15"D PROPOSED STORM DRAIN
- SETBACK LINES
- PROPOSED CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05)

LEGEND CONT'D

- LIGHT POLE
- EXISTING LIGHTING
- EXISTING TREE
- 13 x 2 PROP.SPOT ELEVATION
- EX. TREELINE
- PROPOSED TREELINE
- FP FLOODPLAIN
- SB STREAM BUFFER
- W WETLANDS
- WB WETLAND BUFFER
- TPD TREE PROTECTION FENCE
- LOD LIMIT OF DISTURBANCE

Purpose: Added site amenities to Community Center Park.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/13/10

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/13/10

CHIEF, DIVISION OF LAND DEVELOPMENT JEK — DATE 10/8/10

DATE	NO.	REVISION
6-24-11	1	REVISE TENNIS AND BASKETBALL COURTS

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
Revised
SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — 9-7-10

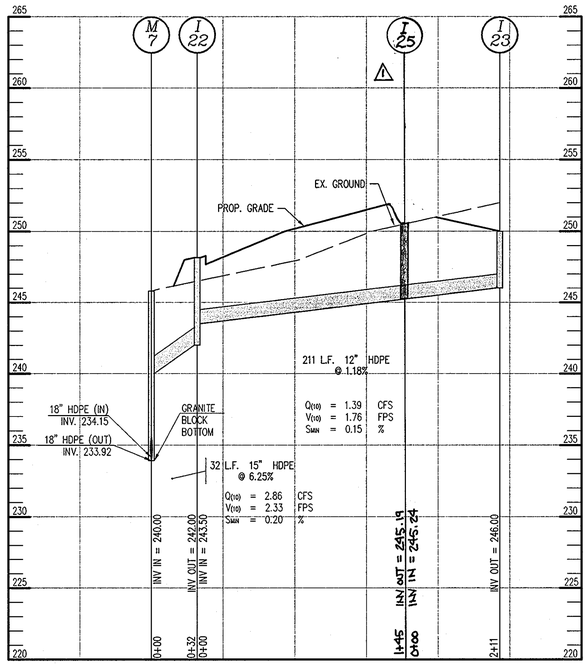
STATE OF MARYLAND · SHERYL CLARKS MITCHELL · No. 22458 · REGISTERED PROFESSIONAL ENGINEER

BY: Sheryl C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

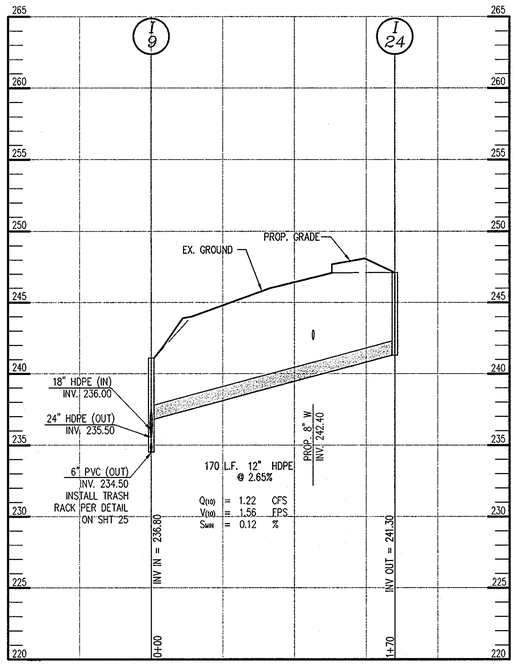
DESIGNED BY :	JSN
DRAWN BY:	JSN
PROJECT NO	14466-1-2 C400SDP51.DWG
DATE :	SEPTEMBER 7, 2010
SCALE :	1" = 40'
DRAWING NO.	51 OF 54

SDP-08-118



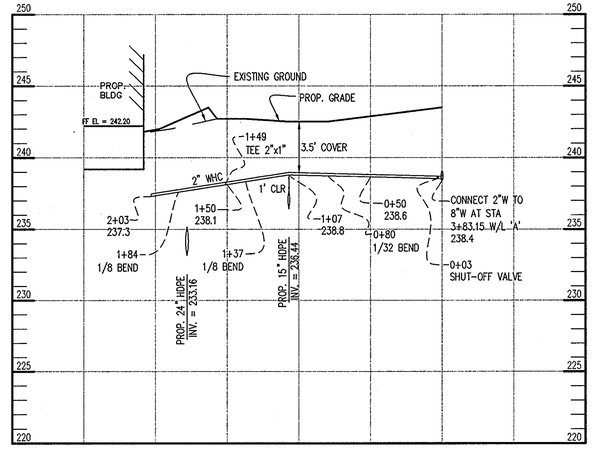
STORM DRAIN PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'



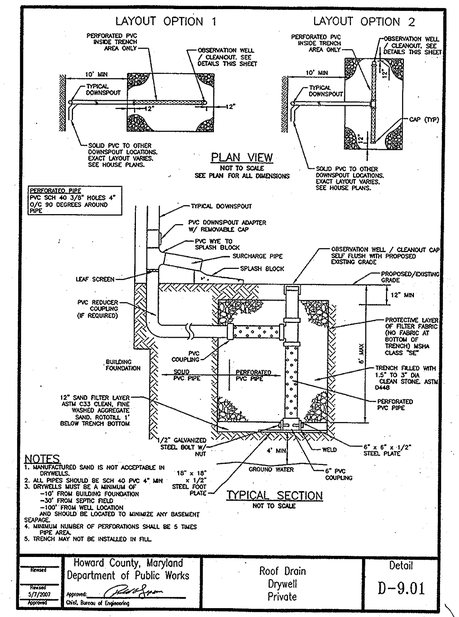
STORM DRAIN PROFILE

SCALE : HOR: 1"=50'
VERT: 1"=5'



PRIVATE WHC PROFILE

SCALE : HOR: 1"=50' – VERT: 1"=5'



Revised	Howard County, Maryland Department of Public Works	Roof Drain Drywell Private	Detail D-9.01
Revised 5/7/2003 Approved	Approved: Chief, Bureau of Engineering		

DRY WELL DETAIL

NOT TO SCALE

NOTE:

USE LAYOUT OPTION 1. DEPTH OF STONE = 5'. SEE SHEET 51 FOR DIMENSIONS

STRUCTURE SCHEDULE

NUMBER	TYPE	LOCATION		TOP ELEVATION		SIZE	REMARKS
		NORTHING	EASTING	UPPER	LOWER		
M-7	4'-0" DOGHOUSE MANHOLE	528,756.6965	1,358,592.4106	245.80	*	DIA = 4' 0"	G-5.14
I-22	A-5 INLET	328,734.3557	1,358,614.7085	248.15	*	T = 5'	D-4.04
I-23	TYPE 'S' INLET	528,554.0605	1,358,724.2333	250.00	*	2'-7"X2'-7 1/2"	D-4.22
I-24	NYOPLAST INLINE DRAIN	527,904.0051	1,358,691.0853	247.10	*	DIA = 15"	15" STD H25 GRATE
I-25	NYOPLAST INLINE DRAIN	528,610.28	1,358,690.11	250.45	*	DIA = 24"	24" STD H25 GRATE

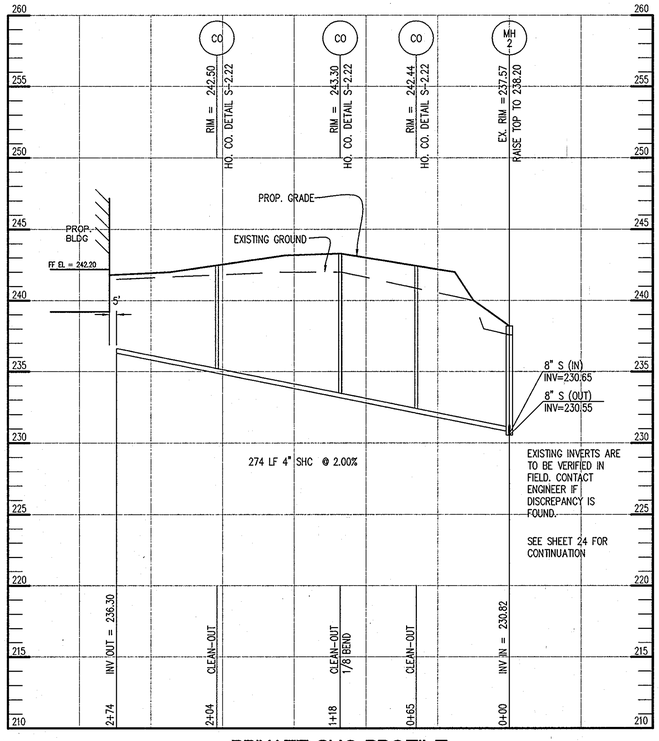
NOTES:

1) ALL STRUCTURES ARE HOWARD COUNTY STANDARDS UNLESS NOTED OTHERWISE. CONTRACTOR MAY USE PRECAST STRUCTURE WHERE AVAILABLE TO MEET THE STANDARD STRUCTURE SPECIFIED.

2) STATIONS ARE GIVEN TO CENTER OF STRUCTURE AT FACE OF CURB FOR CURB INLETS AND TO CENTER OF STRUCTURE FOR ALL OTHER STRUCTURES.

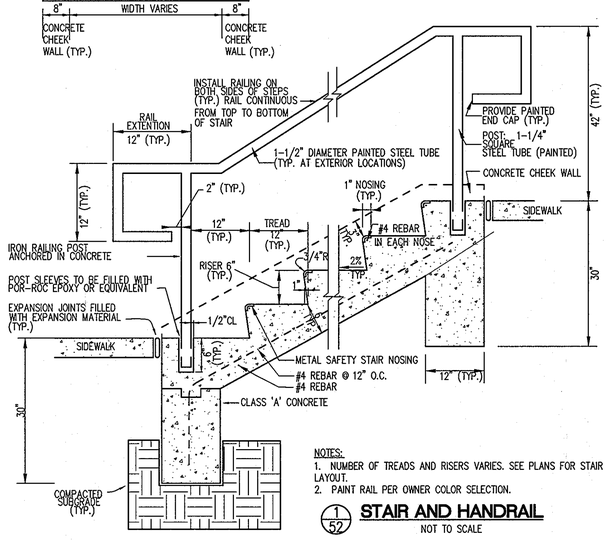
3) ELEVATIONS ARE GIVEN TO TOP OF CURB FOR CURB INLETS, TOP OF GRATE FOR GRATE INLETS AND TOP OF LID FOR MANHOLES.

4) PIPE LENGTHS ARE GIVEN TO THE CENTER OF THE STRUCTURE. CONTRACTOR SHALL ADJUST LENGTH TO OBTAIN ACTUAL PIPE LENGTHS.



PRIVATE SHC PROFILE

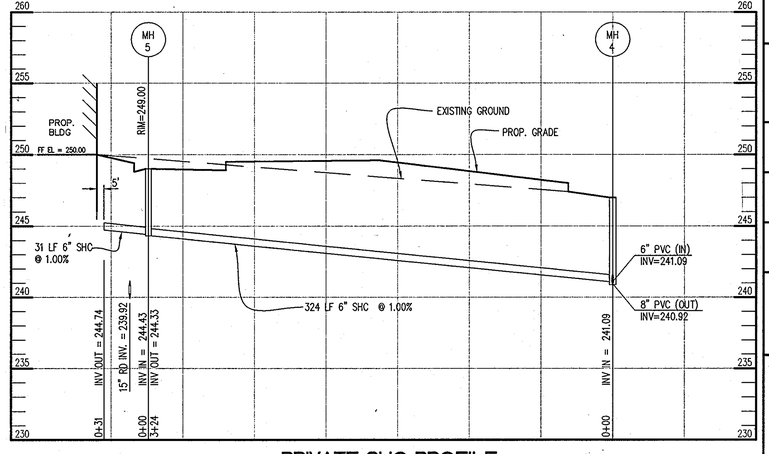
SCALE : HOR: 1"=50' – VERT: 1"=5'



NOTES:
1. NUMBER OF TREADS AND RISERS VARIES. SEE PLANS FOR STAIR LAYOUT.
2. PAINT RAIL PER OWNER COLOR SELECTION.

(1/52) **STAIR AND HANDRAIL**

NOT TO SCALE



PRIVATE SHC PROFILE

SCALE : HOR: 1"=50' – VERT: 1"=5'

Purpose: Added Site amenities to Community Center Park

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/3/10

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/13/10

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/13/10

DATE	NO.	REVISION
6-24-11	1	ADD STORM DRAIN

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
AMENITY PROFILES, SCHEDULES AND DETAILS

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — 9-7-10

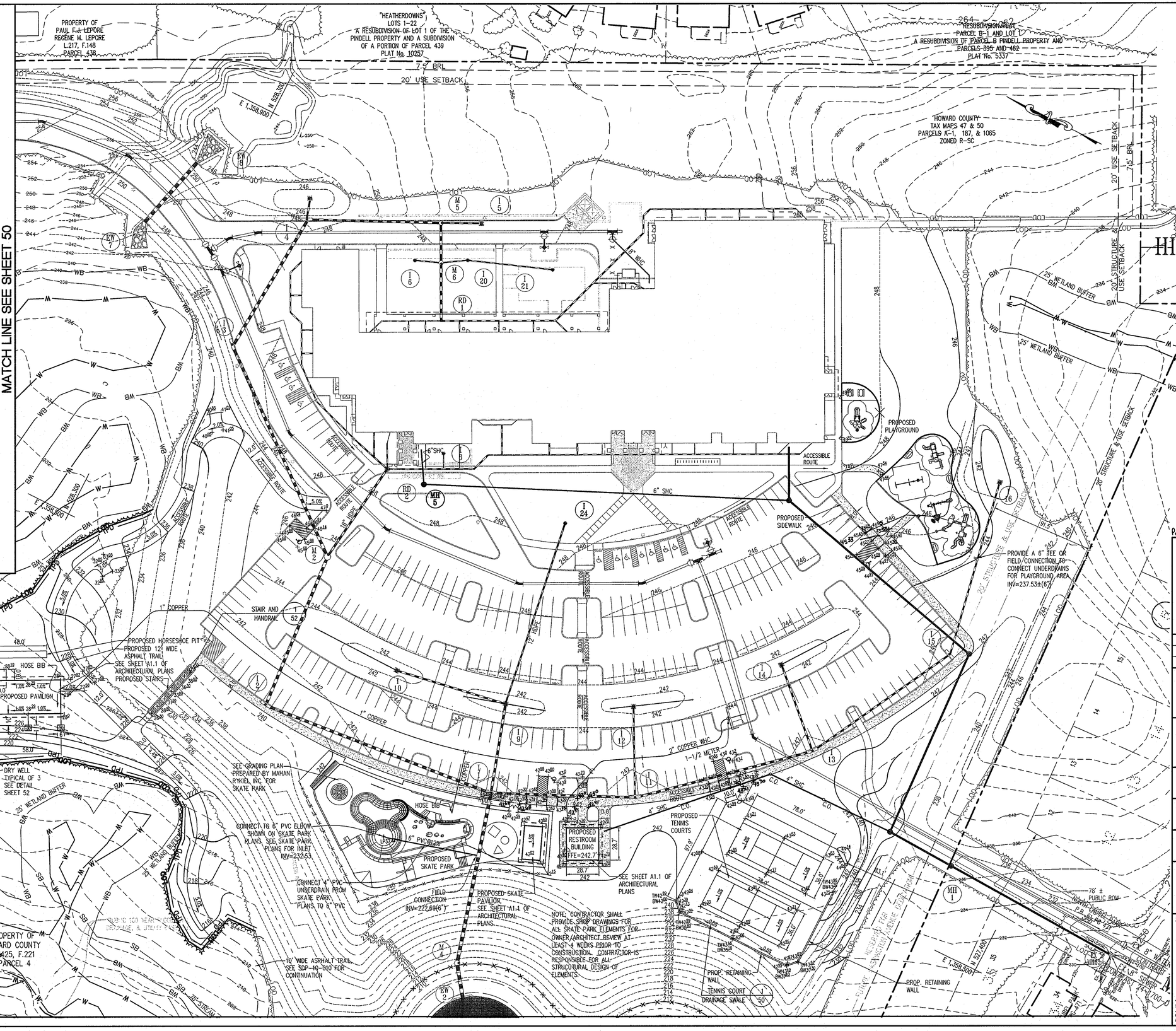
STATE OF MARYLAND — CLARKE MICHAEL SCHMIDT — NO. 33954 — REGISTERED PROFESSIONAL ENGINEER

BY: [signature]

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	SCM
DRAWN BY:	SCM
PROJECT NO :	14466-1-2 C400SDP52.DWG
DATE :	SEPTEMBER 7, 2010
SCALE :	AS SHOWN
DRAWING NO.	52 OF 54

SDP-08-118



Purpose: Added site amenities to Community Center Park

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/13/10

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/13/10

CHIEF, DIVISION OF LAND DEVELOPMENT JEK — DATE 10/12/10

DATE	NO.	REVISION

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

PROJECT
NORTH LAUREL COMMUNITY CENTER
CAPITAL PROJECT C-0304

AREA — TAX MAP 47 GRID 22 & TAX MAP 50
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE — Revised
SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL — 9-7-10

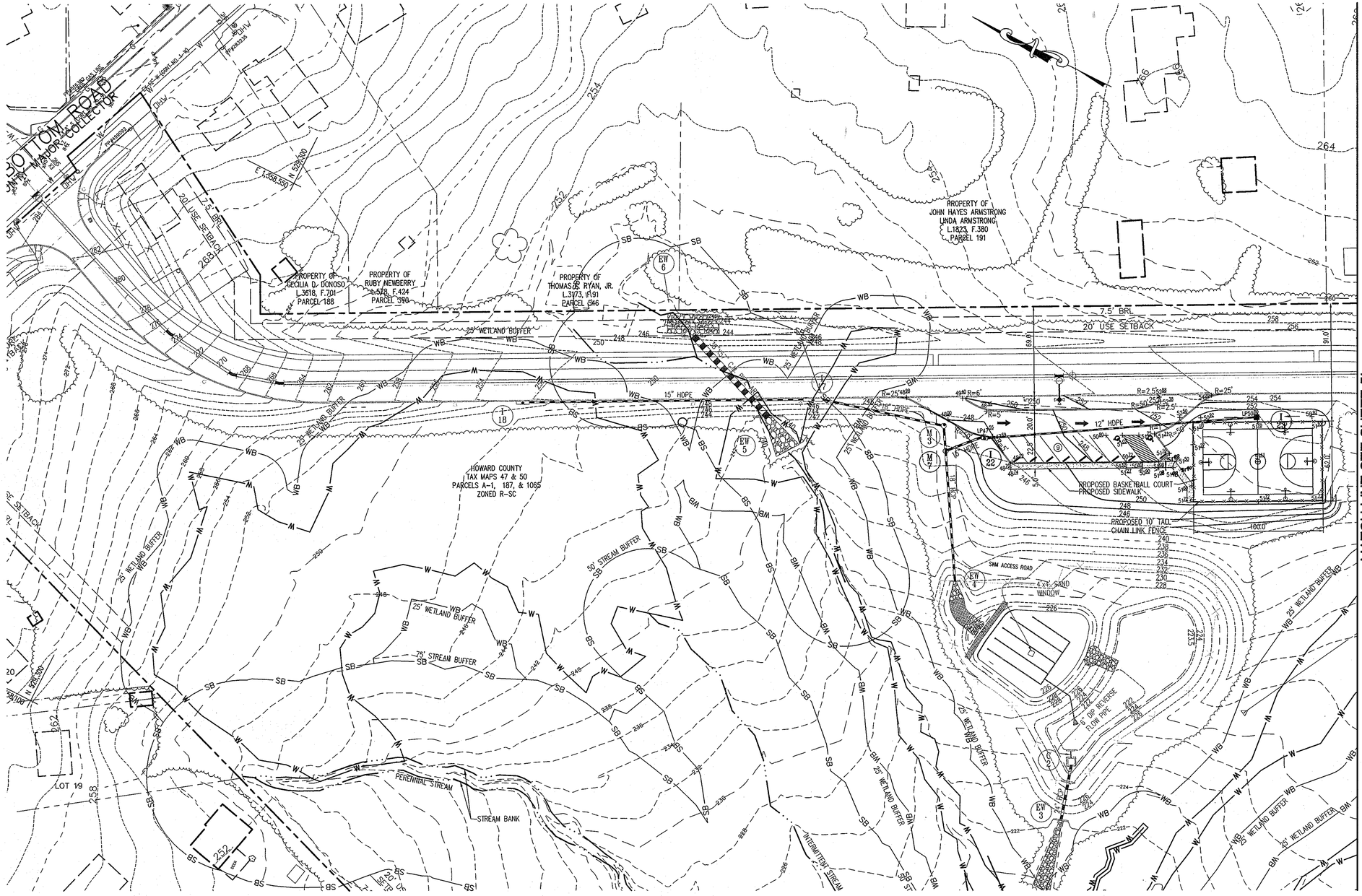
STATE OF MARYLAND — SHERRIL CLARKE BURDETT — No. 22454 — REGISTERED PROFESSIONAL ENGINEER

BY: Sherril C. Burdett

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 22454, EXPIRATION DATE: 01-24-11"

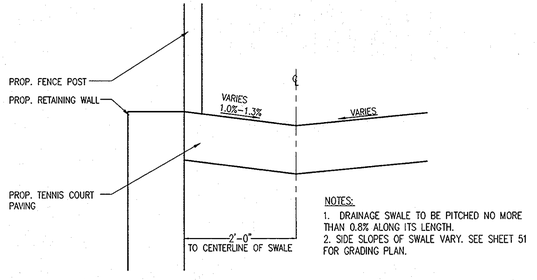
DESIGNED BY :	JSN
DRAWN BY:	JSN
PROJECT NO :	14466-1-2 C400SDSP51.DWG
DATE :	SEPTEMBER 7, 2010
SCALE :	1" = 40'
DRAWING NO.	51 OF 54

SDP-08-118



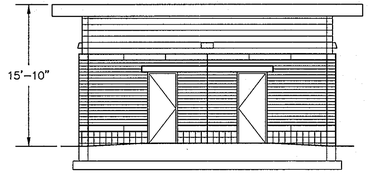
LEGEND

- PROPERTY LINE
- EXISTING 10' CONTOURS (380)
- EXISTING 2' CONTOURS (378)
- PROPOSED 10' CONTOURS (380)
- PROPOSED 2' CONTOURS (378)
- EXISTING CURB AND GUTTER
- PROPOSED CURB & GUTTER
- EXISTING STORM DRAIN (EX. 48" RCP)
- PROPOSED STORM DRAIN (15"D)
- SETBACK LINES
- PROPOSED CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05)
- EXISTING LIGHTING
- EXISTING TREE
- PROP.SPOT ELEVATION (13 x 2)
- EX. TREELINE
- PROPOSED TREELINE
- FP — FLOODPLAIN
- SB — STREAM BUFFER
- W — WETLANDS
- WB — WETLAND BUFFER
- TPD — TREE PROTECTION FENCE
- LOD — LIMIT OF DISTURBANCE
- LIGHT POLE

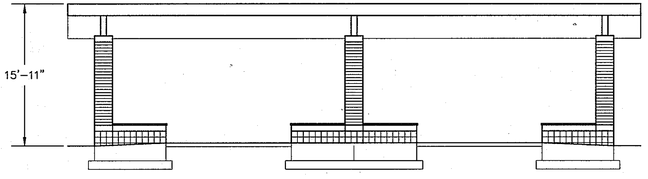


NOTES:
1. DRAINAGE SWALE TO BE PITCHED NO MORE THAN 0.8% ALONG ITS LENGTH.
2. SIDE SLOPES OF SWALE VARY. SEE SHEET 51 FOR GRADING PLAN.

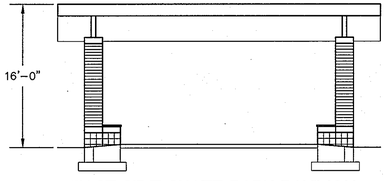
1/50 **TENNIS COURT DRAINAGE SWALE**
NOT TO SCALE



EAST SIDE RESTROOM AND MAINTENANCE PAVILION - FRONT ELEVATION
NOT TO SCALE



EAST SIDE PICNIC PAVILION - FRONT ELEVATION
NOT TO SCALE



EAST SIDE SKATE PARK PAVILION - FRONT ELEVATION
NOT TO SCALE

The Purpose of this Revised Sheet is to add site amenities to the Community Center Park.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/13/10

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/13/10

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/13/10

DATE	NO.	REVISION

OWNER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045
P 410 313 2414

DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
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PROJECT
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AREA TAX MAP 47 GRID 22 & TAX MAP 50
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F 410.997.9282

SEAL — STATE OF MARYLAND — STEVEN CLARKE MITCHELL — No. 33054 — REGISTERED PROFESSIONAL ENGINEER — 9-7-10

BY: Steven C. Mitchell

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33054, EXPIRATION DATE: 01-24-11"

DESIGNED BY :	JSN
DRAWN BY:	JSN
PROJECT NO :	14466-1-2 C400SDP50.DWG
DATE :	SEPTEMBER 7, 2010
SCALE :	1" = 40'
DRAWING NO.	50 OF 54

P:\Project\14466\1-0\PLANS\C400SDP50.DWG

SDP-08-118