SITE DEVELOPMENT PLAN
HOWARD COMMUNITY COLLEGE
HICKORY RIDGE ROAD ENTRANCEWAY, HANDICAPPED PARKING AND TRACK ACCESS DRIVE
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

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4	SITE DETAILS
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8	SEDIMENT CONTROL NOTES AND DETAILS
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10	STORM DRAIN DRAINAGE AREA MAP
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12	STORM DRAIN PROFILES AND DETAILS
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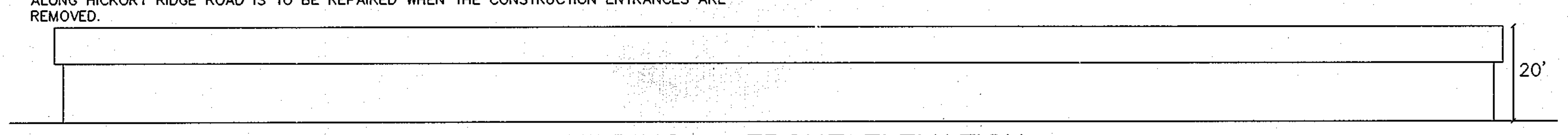
33 OFFSITE FOREST CONSERVATION PLAN
34 OFFSITE FOREST CONSERVATION PLAN AND NOTES AND TABULATIONS

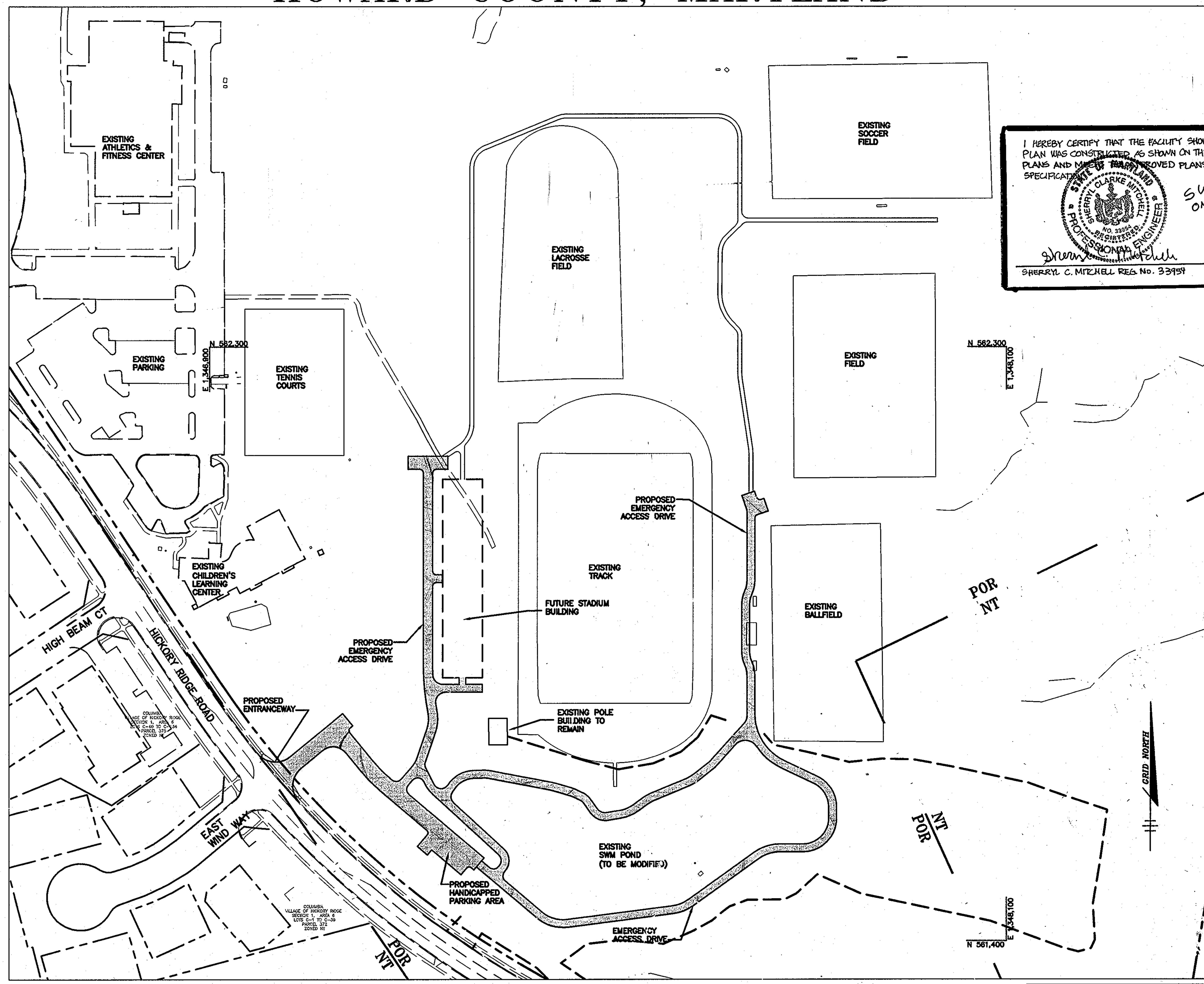
GENERAL NOTES

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 AND FACE OF BUILDING UNLESS OTHERWISE NOTED.
6. THE EXISTING TOPOGRAPHY IS TAKEN FROM AN AERIAL SURVEY BY VIRGINIA RESOURCE MAPPING DATED APRIL 2005 AND FROM A FIELD SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY PHR&A DATED DECEMBER 2005.
7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. 35C2 AND 35C5 WERE USED.
8. WATER IS PUBLIC, CONTRACT NO. 229-W AND 44-0824-D
9. SEWER IS PUBLIC, CONTRACT NO. 327-S
10. 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.
11. A 100-YEAR FLOODPLAIN STUDY IS NOT REQUIRED FOR THIS PROJECT.
12. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
13. THE PROPERTY LINE SHOWN WAS TAKEN FROM A FIELD SURVEY BY PHR&A DATED NOV. 2000.
14. SUBJECT PROPERTY ZONED POR & NT SFLD, COMMON OPEN AREA PER 2-2-04 COMPREHENSIVE ZONING PLAN AND FDP-72-A.
15. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
16. SEE DEPARTMENT OF PLANNING AND ZONING FILE NO. SDP-97-45, SDP-75-46, SDP-87-95, SDP-76-30, PB-229, SDP-68-12,SDP-75-32, SDP-00-56, SDP-01-58, WP-01-98, SDP-01-123 FDP-72-A, SDP-03-11, SDP-03-156, SDP-05-102, F-06-178, SDP-06-02, F-07-10, 3 SDP 06-106 FC Plat of Easement
17. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS TEST PITS SHALL BE TAKEN AT EXACT LOCATION ALL CONNECTION AND CROSSING LOCATIONS. NOTIFY ENGINEER OF ELEVATIONS BEFORE PROCEEDING WITH WORK.
18. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
19. 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.
20. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED INVERT GRADE.
21. ALL STORM DRAIN PIPE BEDDING SHALL BE PER HOWARD CO. STANDARD SPECIFICATIONS
22. ALL STORM DRAIN INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
23. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
24. STORM DRAIN TRENCHES WITHIN PAVEMENT SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, i.e., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
25. PROFILES 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. THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY PHR&A DATED MARCH 2001.
28. A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT.
29. ALL PROPOSED AND FUTURE OUTDOOR LIGHTING SHALL COMPLY WITH THE REQUIREMENTS OF ZONING SECTION 134.
30. THIS SITE HAS A PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY WHICH PROVIDES WATER QUALITY, RECHARGE AND CHANNEL PROTECTION VOLUME FOR ALL EXISTING AND FUTURE DEVELOPMENT IN ITS WATERSHED. CREDITS ARE USED TO MEET WATER QUALITY AND RECHARGE IN AREAS NOT DRAINING TO THE POND.
31. FOREST CONSERVATION OBLIGATIONS FOR THE ENTIRE COMMUNITY COLLEGE CAMPUS WERE ADDRESSED UNDER SDP-01-58 AND REVISED UNDER SDP-03-156, PLAT NOS. 16125 AND 16126 (DELETED FOREST CONSERVATION AREA "G"). F-07-10 Abandoned PART OF FOREST CONSERVATION EASEMENTS 'A', 'B', 'C', AND 'J' (ABANDONING 56,950 SF) BY PAYING AN ABANDONMENT FEE OF $28,442 ($0.50 PER SQUARE FOOT)/Fee approved by DPZ. SEE REVISED FOREST CONSERVATION PLAT OF EASEMENT F-07-10, Plat #19049 to 19051, Recorded: 4-25-07 and SDP 06-106/FC, Plat #21640 and 21641, Recorded: 6-30-11. 3 See General Note #20 on Sheet 29
32. JUSTIFICATION FOR FOREST CONSERVATION ABANDONMENT: IN ORDER TO HAVE THE PROPOSED ACCESS ROAD ACROSS FROM EAST WIND WAY, PART OF FOREST CONSERVATION AREA A NEEDS TO BE ABANDONED/REMOVED. PART OF FOREST CONSERVATION AREA B NEEDS TO BE ABANDONED/REMOVED BECAUSE OF EXPANSION TO THE SWM POND AND FOR A SIGHT DISTANCE EASEMENT. PART OF FOREST CONSERVATION AREAS C AND J NEED TO BE ABANDONED/REMOVED BECAUSE, IN ORDER TO CORRECT DRAINAGE ISSUES AND REMOVE EXISTING TEMPORARY SEDIMENT CONTROL FACILITIES, DRAINAGE SWALES HAVE TO BE INSTALLED.
33. FOREST CONSERVATION PLAT OF EASEMENTS RECORDED ON PLATS 16125 AND 16126 ON AUGUST 15, 2003. AND REVISED FOREST CONSERVATION PLAT OF EASEMENT NO. F-07-10, Plat #19049 to 19051, Recorded on 4-25-07.
34. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN. Offsite FC Plat of Easement SDP 06-106 FC, Plat Nos. 21640-21641 was recorded on 6-30-11. 3
35. A LANDSCAPE PLAN HAS BEEN PREPARED FOR THIS SITE IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. THIS SITE IS EXEMPT FROM LANDSCAPE SURETY SINCE IT IS AN EDUCATIONAL/GOVERNMENT USE. 36. THE EXISTING SIDEWALK ALONG HICKORY RIDGE ROAD IS TO BE REPAIRED WHEN THE CONSTRUCTION ENTRANCES ARE REMOVED.

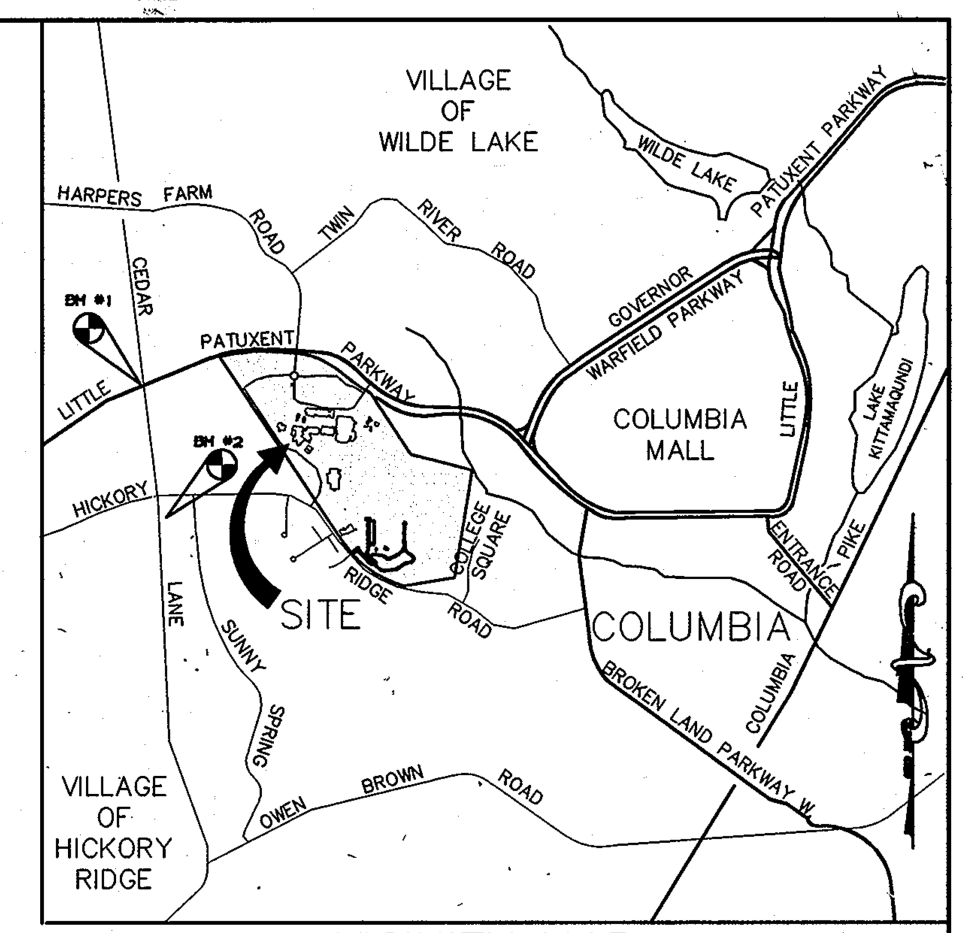
GENERAL NOTES (CONTINUED)
3 ADDITIONAL SURVEY INFORMATION PROVIDED BY CLARK COMPANIES 41155 STATE HIGHWAY 10, DELHI, NEW YORK, 13753, SURVEY WAS PERFORMED ON MARCH 4, 2009.



FUTURE STADIUM BUILDING – FRONT ELEVATION
NOT TO SCALE



I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS. SWM ONLY
3-1-10
SHERRYL C. MITCHELL REG No. 33954 DATE
2



VICINITY MAP
SCALE: 1" = 2000'

SITE ANALYSIS

AREA OF PARCEL 47:	117.84 ACRES (5,133,290 SF)
AREA OF PLAN SUBMISSION:	15.0 ACRES (653,400 SF)
LIMIT OF DISTURBED AREA:	15.0 ACRES (653,400 SF)
PRESENT ZONING:	POR & NT (LIMIT OF SUBMISSION IS ENTIRELY WITHIN THE POR ZONE)
PROPOSED USE:	THE PURPOSE OF THIS SITE DEVELOPMENT PLAN IS TO CONSTRUCT THE HICKORY RIDGE ROAD EMERGENCY ENTRANCEWAY WITH HANDICAPPED PARKING AREA TO SERVE THE FUTURE STADIUM BUILDING, ADD A TRACK EMERGENCY ACCESS DRIVE, TO SHOW ABANDONED AND RELOCATED FOREST CONSERVATION EASEMENTS AS RECORDED UNDER SDP-01-58 (FC)/HOWARD COMMUNITY COLLEGE, FOREST CONSERVATION PLAT OF EASEMENT AND TO MODIFY THE EXISTING SWM POND (SEE F-07-010/FOREST CONSERVATION PLAT OF EASEMENT).
FUTURE STADIUM BUILDING FLOOR AREA:	18,000 SF ±
PROPOSED PARKING:	5 HANDICAPPED PARKING SPACES
AREA OF STEEP SLOPES:	1.01 AC ± (43,819 SF±)

DATE	NO.	REVISION
7-28-11	3	Add Notes, Revise Sheet Index + Add sheets 29-34 due to recordation of off-site FC easements.
3-1-10	2	SWM AS-BUILT
6-9-09	1	RED LINE REVISION BY CHA ADD NEW SHEETS 22 - 28

7-28-11 FOR REVISION #3 ONLY

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 5/3/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/16/07
CHIEF, DIVISION OF LAND DEVELOPMENT — for CH BB — DATE 4-26-07

OWNER / DEVELOPER
HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY, HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE
TITLE SHEET

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

2/28/2007
DATE
JOHN W. CLAPSADDLE #16956

DESIGNED BY : PJS/ALC
DRAWN BY: ALC
PROJECT NO : 11449-2-3 C400SDP01.DWG
DATE : MARCH 5, 2007
SCALE : AS SHOWN
DRAWING NO. 1 OF 34

SDP-06-106

INDEX PLAN
1"=100'

REVISION #1 PERFORMED BY CHA. SEE SHEETS 22-28 FOR IMPROVEMENTS.
6.29.09
CHA
1080 MIDLOTHIAN TURNPIKE SUITE 303, RICHMOND, VA 23235 (804) 897-3564 WWW.CHACOMPANIES.COM

BENCHMARKS

BM #1
HOCO CONTROL #35-C2
ELEV. 464.13
N 563,920.83 E 1,344,204.15

BM #2
HOCO CONTROL #35-C5
ELEV. 452.26
N 562,148.50 E 1,344,554.47

ADDRESS CHART

PARCEL	STREET ADDRESS
47	10901 LITTLE PATUXENT PARKWAY

SUBDIVISION NAME	SECT./AREA	PARCEL
HOWARD COMMUNITY COLLEGE	N/A	47

L/F	BLOCK #	ZONING	TAX MAP NO.	ELECT. DIST.	CENSUS TRACT
Plat 19049 486/224 523/328	6&1	POR & NT	35,36	5th	6056.02

WATER CODE	SEWER CODE
107	5522500

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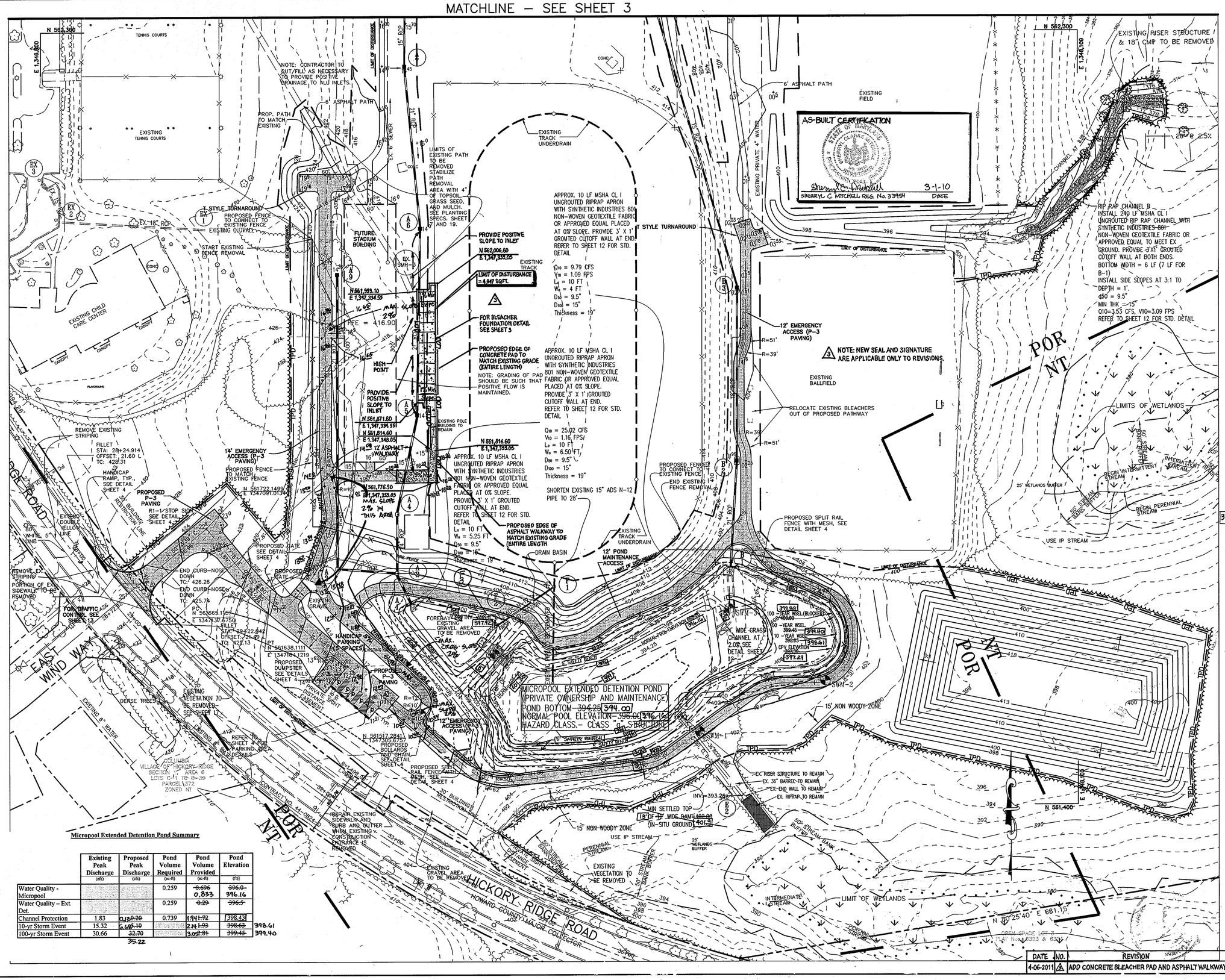

LEGEND

- PROPERTY LINE
- 380 EXISTING 10' CONTOURS
- 378 EXISTING 2' CONTOURS
- 380 PROPOSED 10' CONTOURS
- 378 PROPOSED 2' CONTOURS
- EXISTING CURB AND GUTTER
- PROPOSED CURB
- PROPOSED EDGE OF PAVEMENT
- EX. 48" RCP EXISTING STORM DRAIN
- EXISTING WATER
- EXISTING SEWER
- FLOODPLAIN
- 15"RCP PROPOSED STORM DRAIN
- EXISTING TREES
- 13 x 2 PROP. SPOT ELEVATION
- EXISITING LIGHT
- EXISITING FIRE HYDRANT
- LIMIT OF DISTURBANCE
- NT / POR ZONING
- TPD TREE PROTECTION DEVICE
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED P-3 PAVING
- WETLAND LIMIT
- WETLAND AREA
- B-3 OLD SOIL BORINGS
- SW-3 NEW SOIL BORINGS

Micropool Extended Detention Pond Summary

	Existing Peak Discharge (cfs)	Proposed Peak Discharge (cfs)	Pond Volume Required (ac-ft)	Pond Volume Provided (ac-ft)	Pond Elevation (ft)
Water Quality - Micropool			0.259	~~0.696~~ 0.833	~~396.0~~ 396.16
Water Quality – Ext. Det.			0.259	~~0.29~~	~~396.5~~
Channel Protection	1.83	~~0.20~~ 0.20	0.739	~~1.41~~ 1.72	398.43
10-yr Storm Event	15.32	~~6.65~~ 6.10		~~2.14~~ 1.93	~~398.63~~ 398.61
100-yr Storm Event	30.66	~~32.70~~ 35.22		~~3.05~~ 2.81	~~399.45~~ 399.40

DATE	NO.	REVISION
4-06-2011	4	ADD CONCRETE BLEACHER PAD AND ASPHALT WALKWAY
3-1-10	2	SWMAC-BUILT

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 5/3/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/16/07

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4-26-07

DATE	NO.	REVISION
6-9-09	1	REDLINE REVISION BY CHA
		ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA — PARCEL 47 — ZONED POR & NT
TAX MAP NO. 35, 36 — BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE
SITE DEVELOPMENT PLAN

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

2/28/2007
DATE

BOARD FOR PROFESSIONAL ENGINEERS — 19956 — JOHN WILLIAM CLAPSADDLE — STATE OF MARYLAND

JOHN W. CLAPSADDLE #16956

DESIGNED BY : PJS/ALC
DRAWN BY: ALC
PROJECT NO : 11449-2-3 .C400SDP02.DWG
DATE : MARCH 5, 2007
SCALE : 1" = 50'
DRAWING NO. 2 OF 34

SDP-06-106

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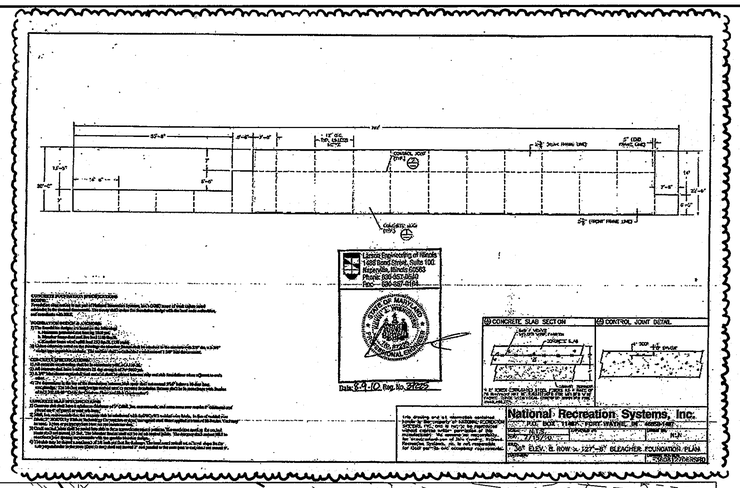
NOTE: NEW SEAL AND SIGNATURE 3 ARE APPLICABLE ONLY TO REVISIONS.



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- PROPERTY LINE
- 380 EXISTING 10' CONTOURS
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- TPD TREE PROTECTION DEVICE
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED P-3 PAVING
- WETLAND LIMIT

DATE	NO.	REVISION
4-06-2011	3	ADD BLEACHER FOUNDATION DETAIL

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 5/3/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/16/07

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4-26-07

DATE	NO.	REVISION
6-9-09	1	REDLINE REVISION BY CHA ADD NEW SHEETS 22-28

OWNER / DEVELOPER

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T 410.997.8900
F 410.997.9282

2/20/2007 DATE

BOARD FOR PROFESSIONAL ENGINEERS 16956 JOHN WESTON CLAPSADDLE STATE OF MARYLAND

JOHN W. CLAPSADDLE #16956

DESIGNED BY : PJS/ALC
DRAWN BY: ALC
PROJECT NO : 11449-2-3 C400SDP03.DWG
DATE : MARCH 5, 2007
SCALE : 1" = 50'
DRAWING NO. 3 OF 34

SDP-06-106

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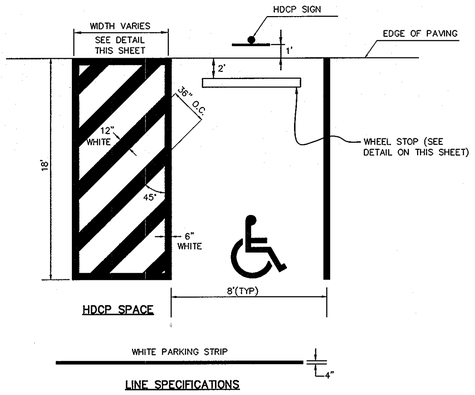
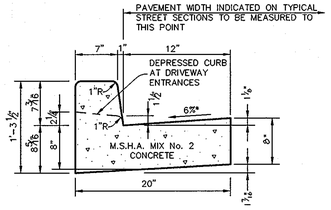


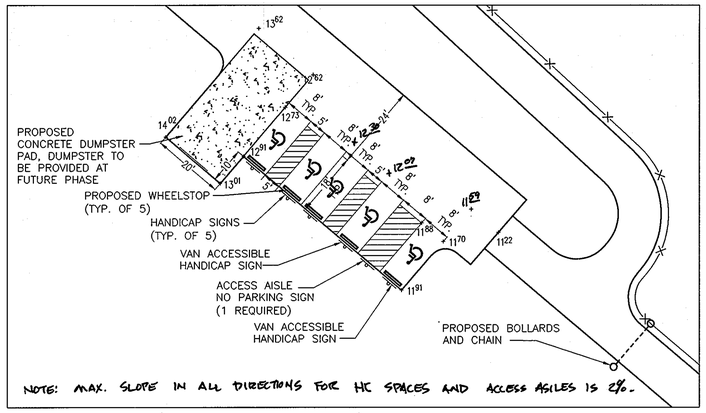
STRIPING STANDARDS
NOT TO SCALE



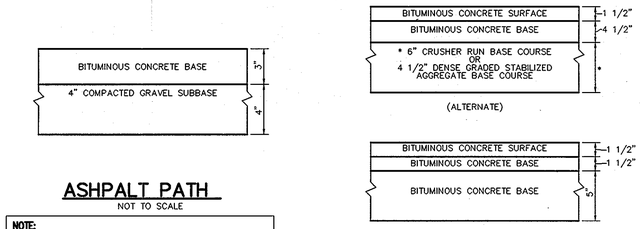
HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01).

* 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.

STANDARD 7" COMBINATION CURB AND GUTTER
NOT TO SCALE



HANDICAP SPACE DETAIL
1"=20'

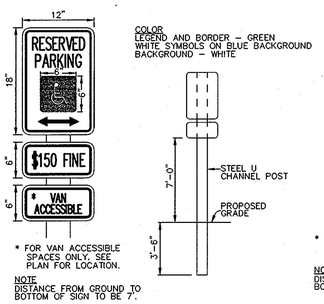


ASHPALT PATH
NOT TO SCALE

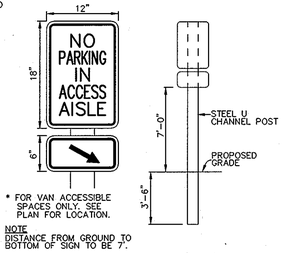
NOTE:
THE PAVING SECTION SHOWN HAS NOT BEEN DESIGNED FOR ACTUAL SOIL CONDITIONS, IN PLACE COMPACTION RESULTS, OR TRAFFIC VOLUMES SPECIFIC TO THIS PROJECT. IT IS RECOMMENDED THAT THE USER CONSULT WITH A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER FOR A SPECIFIC PAVING DESIGN BASED ON THE APPROPRIATE PARAMETERS PRIOR TO INSTALLATION OF THIS PAVING SECITON.

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

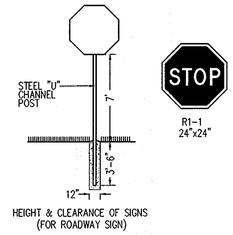
P-3 PAVING
NOT TO SCALE



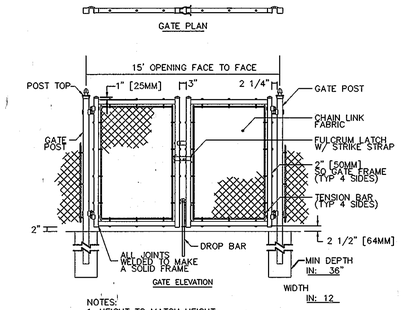
HANDICAP SIGN DETAIL
NOT TO SCALE



ACCESS AISLE SIGN
NOT TO SCALE

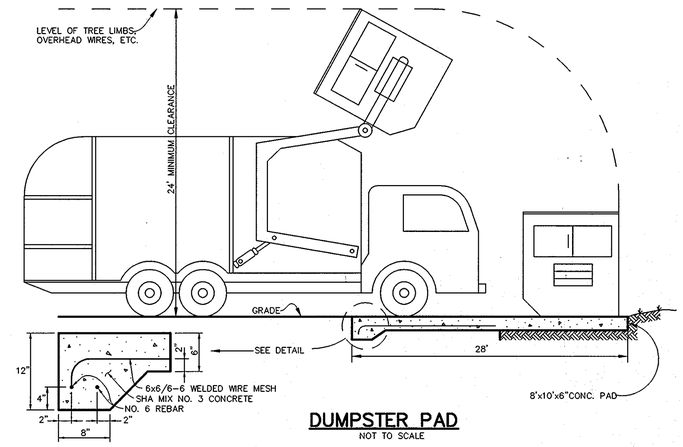


STOP SIGN DETAIL
NOT TO SCALE



NOTES:
1. HEIGHT TO MATCH HEIGHT OF EXISTING FENCE

GATE
NOT TO SCALE

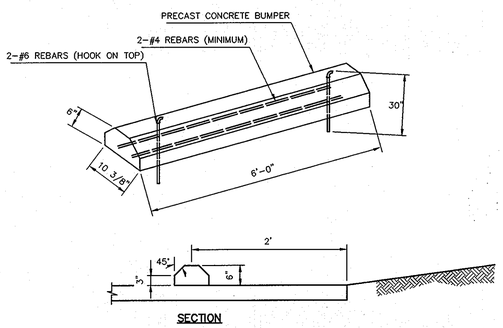


DUMPSTER PAD
NOT TO SCALE

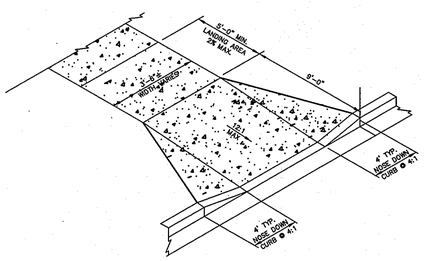
BOLLARD DETAIL
NOT TO SCALE

NOTES:

1. POSTS AND RAILS SHALL BE LOCUST OR OTHER ROT RESISTANT WOOD.
2. WELDED WIRE MESH TO HAVE OPENINGS OF 3" OR LESS.
3. WELDED WIRE MESH TO BE STAPLED TO FENCE AND POSTS.



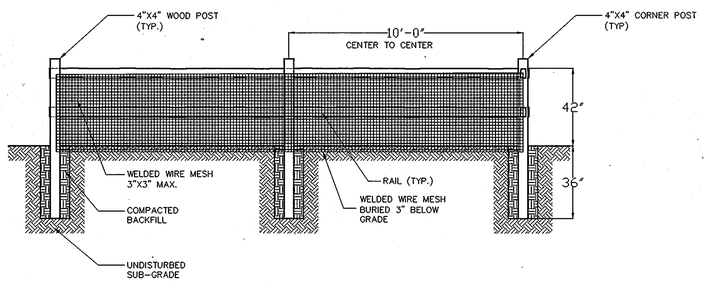
CONCRETE WHEELSTOP
NOT TO SCALE



NOTES:

CURB RAMP SHALL HAVE A TEXTILE WARNING TEXTURE EXTENDING THE FULL WIDTH AND DEPTH OF THE CURB RAMP, INCLUDING ANY FLARES. SURFACE TEXTURE OF CONCRETE RAMP SHALL BE COARSE BROOMING OR OTHER NON-SKID TYPE SURFACE.

HANDICAP RAMP
NOT TO SCALE



SECTION OF TYPICAL FENCE PANEL

SPLIT RAIL FENCE WITH MESH
NOT TO SCALE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 5/3/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/16/07

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4-26-07

DATE	NO.	REVISION
6.9.09	1	REDLINE REVISION BY CHA
		ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE
SITE DETAILS

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

2/20/2007
DATE

BOARD FOR PROFESSIONAL ENGINEERS — 16956 — REGISTERED CLAPSADDLE — STATE OF MARYLAND

JOHN W. CLAPSADDLE #16956

DESIGNED BY : PJS/ALC	
DRAWN BY: ALC	
PROJECT NO : 11449-2-3 C400SDP04.DWG	
DATE : MARCH 5, 2007	
SCALE : AS SHOWN	
DRAWING NO. 4 OF 34	

SDP-06-106

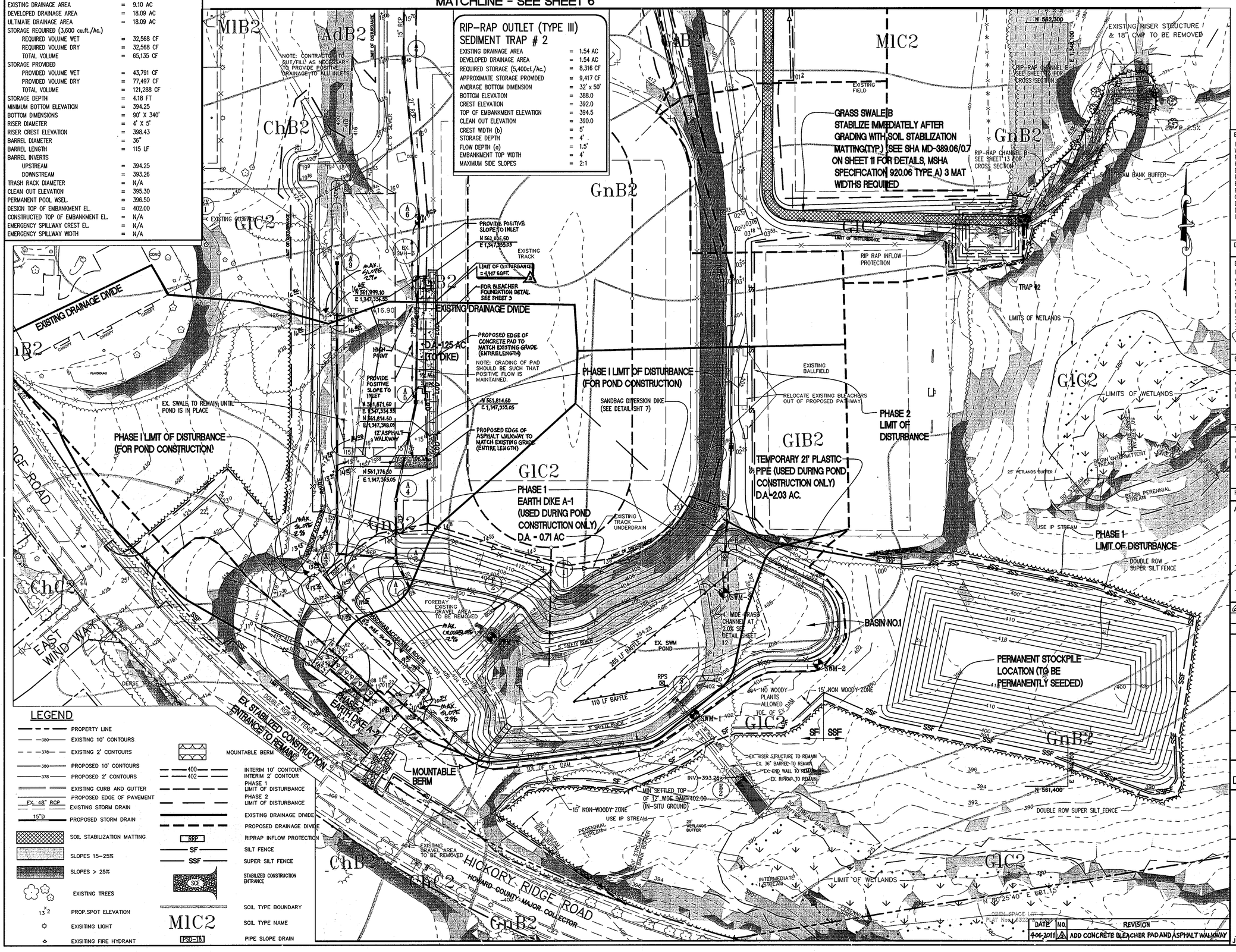
P:\project\11449\2-3\Plans\C-400SDP04.dwg, 2/20/2007 10:12:21 AM

SEDIMENT BASIN # 1

EXISTING DRAINAGE AREA	=	9.10 AC
DEVELOPED DRAINAGE AREA	=	18.09 AC
ULTIMATE DRAINAGE AREA	=	18.09 AC
STORAGE REQUIRED (3,600 cu.ft./Ac.)		
REQUIRED VOLUME WET	=	32,568 CF
REQUIRED VOLUME DRY	=	32,568 CF
TOTAL VOLUME	=	65,135 CF
STORAGE PROVIDED		
PROVIDED VOLUME WET	=	43,791 CF
PROVIDED VOLUME DRY	=	77,497 CF
TOTAL VOLUME	=	121,288 CF
STORAGE DEPTH	=	4.18 FT
MINIMUM BOTTOM ELEVATION	=	394.25
BOTTOM DIMENSIONS	=	90' X 340'
RISER DIAMETER	=	4' X 5'
RISER CREST ELEVATION	=	398.43
BARREL DIAMETER	=	36"
BARREL LENGTH	=	115 LF
BARREL INVERTS		
UPSTREAM	=	394.25
DOWNSTREAM	=	393.26
TRASH RACK DIAMETER	=	N/A
CLEAN OUT ELEVATION	=	395.30
PERMANENT POOL WSEL.	=	396.50
DESIGN TOP OF EMBANKMENT EL.	=	402.00
CONSTRUCTED TOP OF EMBANKMENT EL.	=	N/A
EMERGENCY SPILLWAY CREST EL.	=	N/A
EMERGENCY SPILLWAY WIDTH	=	N/A

RIP-RAP OUTLET (TYPE III) SEDIMENT TRAP # 2

EXISTING DRAINAGE AREA	=	1.54 AC
DEVELOPED DRAINAGE AREA	=	1.54 AC
REQUIRED STORAGE (5,400cf./Ac.)	=	8,316 CF
APPROXIMATE STORAGE PROVIDED	=	9,417 CF
AVERAGE BOTTOM DIMENSION	=	32' x 50'
BOTTOM ELEVATION	=	388.0
CREST ELEVATION	=	392.0
TOP OF EMBANKMENT ELEVATION	=	394.5
CLEAN OUT ELEVATION	=	390.0
CREST WIDTH (b)	=	5'
STORAGE DEPTH	=	4'
FLOW DEPTH (a)	=	1.5'
EMBANKMENT TOP WIDTH	=	4'
MAXIMUM SIDE SLOPES	=	2:1



LEGEND

- PROPERTY LINE
- 380 EXISTING 10' CONTOURS
- 378 EXISTING 2' CONTOURS
- 380 PROPOSED 10' CONTOURS
- 378 PROPOSED 2' CONTOURS
- EXISTING CURB AND GUTTER
- EX. 48" RCP EXISTING EDGE OF PAVEMENT
- EXISTING STORM DRAIN
- 15"D PROPOSED STORM DRAIN
- SOIL STABILIZATION MATTING
- SLOPES 15-25%
- SLOPES > 25%
- EXISTING TREES
- 13 X 2 PROP.SPOT ELEVATION
- EXISITING LIGHT
- EXISITING FIRE HYDRANT
- MOUNTABLE BERM
- 400 INTERIM 10' CONTOUR
- 402 INTERIM 2' CONTOUR
- PHASE 1 LIMIT OF DISTURBANCE
- PHASE 2 LIMIT OF DISTURBANCE
- EXISTING DRAINAGE DIVIDE
- PROPOSED DRAINAGE DIVIDE
- RRP RIPRAP INFLOW PROTECTION
- SF SILT FENCE
- SSF SUPER SILT FENCE
- SCE STABILIZED CONSTRUCTION ENTRANCE
- M1C2 SOIL TYPE BOUNDARY
- SOIL TYPE NAME
- PSD-18 PIPE SLOPE DRAIN

NOTE:

CONTRACTOR SHALL BE RESPONSIBLE FOR ADDING SEDIMENT CONTROLS OR ADJUSTMENTS TO SEDIMENT CONTROLS SHOWN AS DIRECTED BY THE HOWARD COUNTY INSPECTOR

3 NOTE: NEW SEAL AND SIGNATURE ARE APPLICABLE ONLY TO REVISIONS.

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 2/26/07

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 2/28/2007

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

NATURAL RESOURCES CONSERVATION SERVICE — DATE 3/15/07

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 3/15/07

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 5/3/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/16/07

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4-26-07

DATE	NO.	REVISION
6-9-09	1	REDLINE REVISION BY CHA
		ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY, HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA — PARCEL 47 — ZONED POR & NT
TAX MAP NO. 35, 36 — BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL, DRAINAGE AREA MAP AND SOILS PLAN**

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

2/28/2007
BOARD FOR PROFESSIONAL ENGINEERS — JOHN W. CLAPSADDLE #16956 — STATE OF MARYLAND

DESIGNED BY : HS	
DRAWN BY: ALC	
PROJECT NO : 11449-2-3 C4C0SDP05.DWG	
DATE : MARCH 5, 2007	
SCALE : 1" = 50'	
DRAWING NO. 5 OF 34	

DATE	NO.	REVISION
4-06-2011	4	ADD CONCRETE BLEACHER PAD AND ASPHALT WALKWAY

SDP-06-106

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LEGEND

PROPERTY LINE	INTERIM 10' CONTOUR (400) / INTERIM 2' CONTOUR (402)
EXISTING 10' CONTOURS (380)	PHASE 1 LIMIT OF DISTURBANCE
EXISTING 2' CONTOURS (378)	PHASE 2 LIMIT OF DISTURBANCE
PROPOSED 10' CONTOURS (380)	EXISTING DRAINAGE DIVIDE
PROPOSED 2' CONTOURS (378)	PROPOSED DRAINAGE DIVIDE
EXISTING CURB AND GUTTER	RRP — RIP RAP INLET PROTECTION
PROPOSED EDGE OF PAVEMENT	SF — SILT FENCE
EX. 48" RCP — EXISTING STORM DRAIN	SSF — SUPER SILT FENCE
15"D — PROPOSED STORM DRAIN	SCE — STABILIZED CONSTRUCTION ENTRANCE
SOIL STABILIZATION MATTING	SOIL TYPE BOUNDARY
SLOPES 15–25%	M1C2 — SOIL TYPE NAME
SLOPES > 25%	PSD-18 — PIPE SLOPE DRAIN
EXISTING TREES	
13 x 2 — PROP.SPOT ELEVATION	
EXISITING LIGHT	
EXISITING FIRE HYDRANT	

RIP-RAP OUTLET (TYPE III) SEDIMENT TRAP # 1

EXISTING DRAINAGE AREA	=	1.90 AC
DEVELOPED DRAINAGE AREA	=	1.90 AC
REQUIRED STORAGE (5,400cf./Ac.)	=	10,260 CF
APPROXIMATE STORAGE PROVIDED	=	12,257 CF
AVERAGE BOTTOM DIMENSION	=	25' x 88'
BOTTOM ELEVATION	=	388.0
CREST ELEVATION	=	392.0
TOP OF EMBANKMENT ELEVATION	=	394.50
CLEAN OUT ELEVATION	=	390.0
CREST WIDTH (b)	=	5'
STORAGE DEPTH	=	4'
FLOW DEPTH (a)	=	1.5'
EMBANKMENT TOP WIDTH	=	4'
MAXIMUM SIDE SLOPES	=	2:1

RIP-RAP OUTLET (TYPE III) SEDIMENT TRAP # 3

EXISTING DRAINAGE AREA	=	0.55 AC
DEVELOPED DRAINAGE AREA	=	0.55 AC
REQUIRED STORAGE (5,400cf./Ac.)	=	2,970 CF
APPROXIMATE STORAGE PROVIDED	=	3,543 CF
AVERAGE BOTTOM DIMENSION	=	15' x 65'
BOTTOM ELEVATION	=	405.50
CREST ELEVATION	=	408.00
TOP OF EMBANKMENT ELEVATION	=	410.50
CLEAN OUT ELEVATION	=	407.2
CREST WIDTH (b)	=	4'
STORAGE DEPTH	=	2.5'
FLOW DEPTH (a)	=	1.5'
EMBANKMENT TOP WIDTH	=	4'
MAXIMUM SIDE SLOPES	=	2:1

RIP-RAP OUTLET (TYPE III) SEDIMENT TRAP # 4

EXISTING DRAINAGE AREA	=	2.04 AC
DEVELOPED DRAINAGE AREA	=	2.04 AC
REQUIRED STORAGE (5,400cf./Ac.)	=	11,016 CF
REQUIRED TSWM STORAGE	=	1,842 CF
APPROXIMATE STORAGE PROVIDED	=	11,348 CF
AVERAGE BOTTOM DIMENSION	=	28' x 70'
BOTTOM ELEVATION	=	398.5
CREST ELEVATION	=	402.5
TOP OF EMBANKMENT ELEVATION	=	405.0
CLEAN OUT ELEVATION	=	400.5
CREST WIDTH (b)	=	5'
STORAGE DEPTH	=	4'
FLOW DEPTH (a)	=	1.5'
EMBANKMENT TOP WIDTH	=	4'
MAXIMUM SIDE SLOPES	=	2:1

Figure 2. Temporary Sediment Basin Design Data Sheet

Computed by: HS Date: 02/15/06 Checked by: ____ Date: ____
Project name: Howard Comm. College Basin #: 1
Location: ____

Total area draining to basin: 18.09 acres (ac)

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.

required / Provided

1. Min. required vol. = 3600 ft³/ac x 18.09 ac. drainage = 65135 ft³
2. Actual Volume of basin = 120924 ft³
3. Excavate — ft³ (— yd³) to obtain required capacity.
4. Vol. at dewatering elev. = 1800 ft³/ac x 18.09 ac. = 32562 ft³
5. Vol. of basin at cleanout = 900 ft³/ac x 18.09 ac. = 16281 ft³
6. Elevation corresponding to min. required volume of basin (riser crest elevation) 397.10 ft. (provided - 398.43)
7. Permanent pool elevation 396.90 ft.
8. Distance from riser crest elevation to permanent pool elevation 1.93 ft.
9. Basin cleanout elevation 399.30 ft.
10. Distance from riser crest elevation to cleanout elevation 3.13 ft.

Spillway Design

11. Q_{10} = 93.7 cfs (peak discharge from 10-yr, 24-hr storm event, attach computations) (See attached TR-20 comps.)

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.

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

C-10-10

1994

Emergency Spillway (Oes) -N/A-

17. Emergency spillway cap., Q_{es} = Q_{10} - Q_{ps} = ____ - ____ = ____ cfs
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.

Design Elevations

23. Riser Crest = 398.43 ft. 24. Design High Water = 399.28 ft.
25. Emergency Spillway Crest = N/A ft. 26. Min. settled top of dam = 402.0 ft.
27. Permanent pool = 396.90 ft. 28. Bottom of Basin = 394.25 ft.
29. Draw-down orifice Invert = 396.50 ft.

Surface Area Design

30. Min. basin surface area; SA ≥ 0.0035 x Q_{10} = 0.0035 x 93.7 cfs ≤ 1.08 ac. (= 0.269) > Area @ elev. 398.43

Draw-down Device

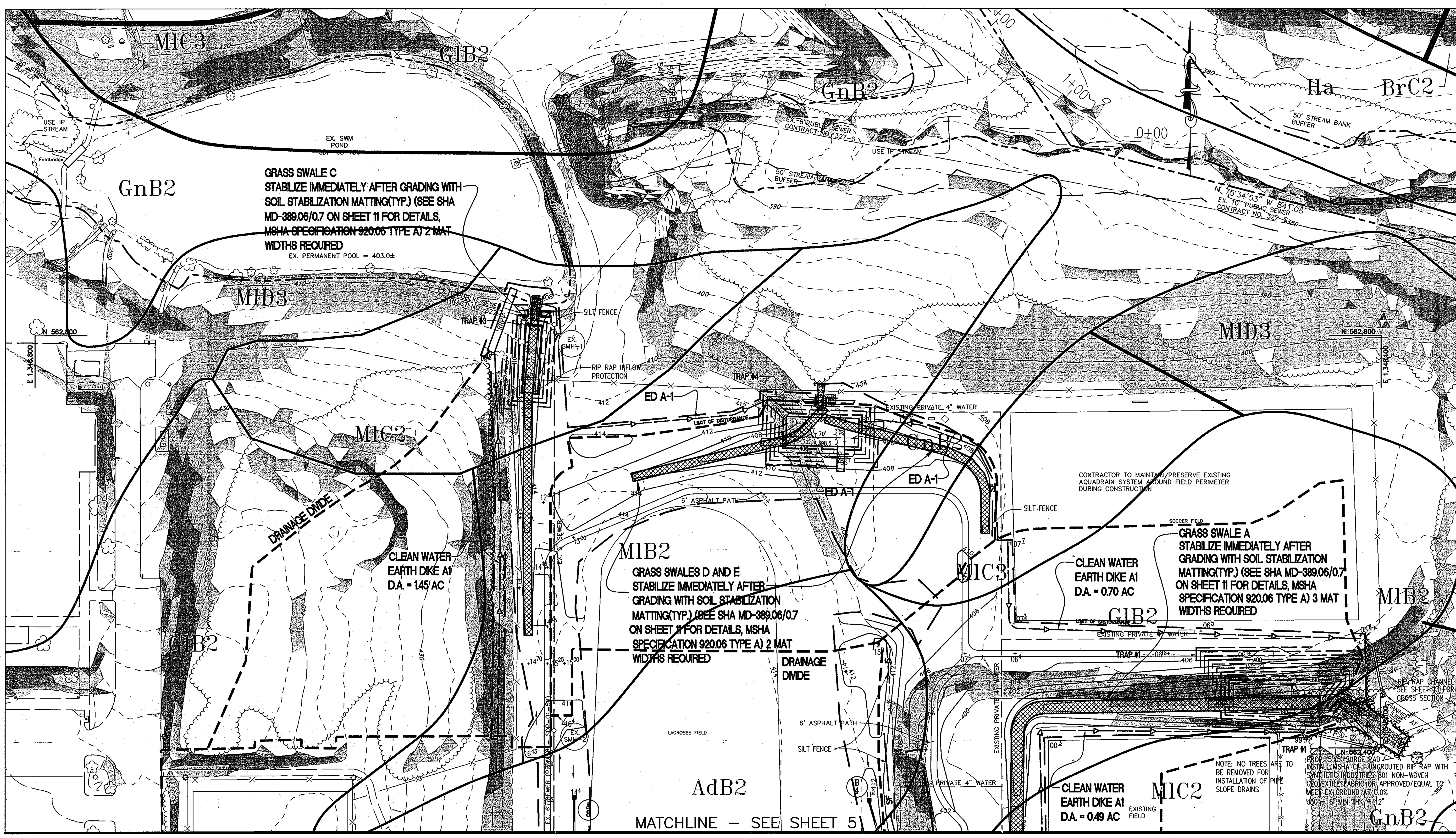
31. Draw-down device orifice diameter = 6" in. (From Table 11) A_D = 0.20 ft²
32. A_t = Total area of perforations ≥ $4A_D$; $4A_D$ = 0.80 ft²
A_t = (# of perforation/foot)(perforation area ft²)(perforated section length ft.)
A_t = 0.87 ft² (32 x 0.00545 x 5.0) > $4A_D$ (0.80 ft²)
A_o = Internal orifice area (from Table 11 or computed)
1" dia holes — 3" 3" 3" — 1.0'

C-10-11

1994

NOTE:

CONTRACTOR SHALL BE RESPONSIBLE FOR ADDING SEDIMENT CONTROLS OR ADJUSTMENTS TO SEDIMENT CONTROLS SHOWN AS DIRECTED BY THE HOWARD COUNTY INSPECTOR



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 2/26/07 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 2/28/2007 DATE

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

NATURAL RESOURCES CONSERVATION SERVICE 3/15/07 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 3/15/07 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR 5/3/07 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 3/16/07 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 4-26-07 DATE

DATE	NO.	REVISION
6.9.09	1	REDLINE REVISION BY CHA ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY, HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL, DRAINAGE AREA MAP AND SOILS PLAN**

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

2/28/2007
DATE

BOARD FOR PROFESSIONAL ENGINEERS 16956 JOHN WINFRED CLAPSADDLE STATE OF MARYLAND

JOHN W. CLAPSADDLE #16956

DESIGNED BY : HS	
DRAWN BY: ALC	
PROJECT NO : 11449-2-3 C400SDP06.DWG	
DATE : MARCH 5, 2007	
SCALE : 1" = 50'	
DRAWING NO. 6 OF 34	

SDP-06-106

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.

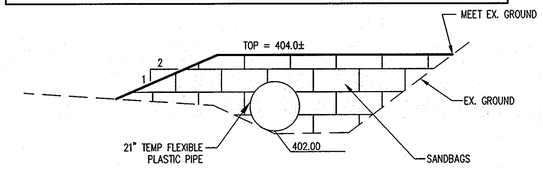
IIII. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
-i. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
--a. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES 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.



SANDBAG DIVERSION DIKE DETAIL

NOT TO SCALE

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 ESTABLISHED 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	117.84 ACRES
AREA DISTURBED	15.0 ACRES
AREA TO BE ROOFED OR PAVED	5.00 ACRES
AREA TO BE VEGETATIVELY STABILIZED	10.0 ACRES
TOTAL CUT	27,500 CU. YARDS
TOTAL FILL	27,500 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.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT. SCHEDULE AND ATTEND THE PRECONSTRUCTION MEETING. (1 DAY)
2. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE AS SHOWN ON THE PLAN. (1 DAY)
3. INSTALL SILT FENCE AND SUPER SILT FENCE WITHIN PHASE I LIMIT OF DISTURBANCE. (2 DAYS)
4. MODIFY EXISTING STORMWATER MANAGEMENT POND. (FACILITY IS TO BE CONSTRUCTED INITIALLY AS POND AND UTILIZED FOR SEDIMENT BASIN NO. 1.) EXISTING EMBANKMENT, CORE TRENCH, 36" RCP BARREL WITH ACCOUTREMENTS, AND RISER ARE TO REMAIN IN PLACE AND BE UTILIZED FOR MODIFIED POND. (4 WEEKS)

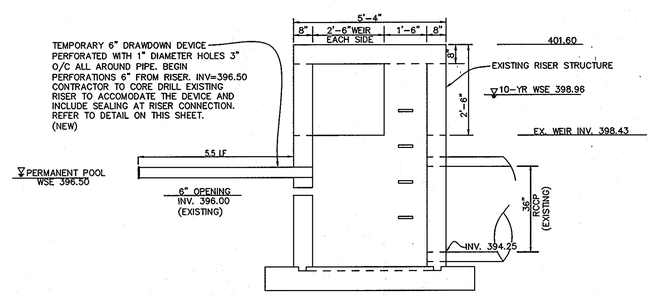
   a. INSTALL EARTH DIKES, PIPE SLOPE DRAINS AND RIP RAP PROTECTION TO DIVERT DRAINAGE AROUND POND AREA. DO NOT BEGIN STEPS b–e UNTIL A 5–DAY DRY WEATHER FORECAST FROM THE NATIONAL WEATHER SERVICE IS PREDICTED. OBTAIN PERMISSION FROM INSPECTOR BEFORE PROCEEDING.

   b. DEWATER THE POND BY PUMPING INTO EXISTING RISER. INSTALL REMOVABLE PUMP STATION.

   c. GRADE THE POND AS SHOWN. EXCESS MATERIAL IS TO BE PLACED IN PERMANENT STOCKPILE LOCATION.

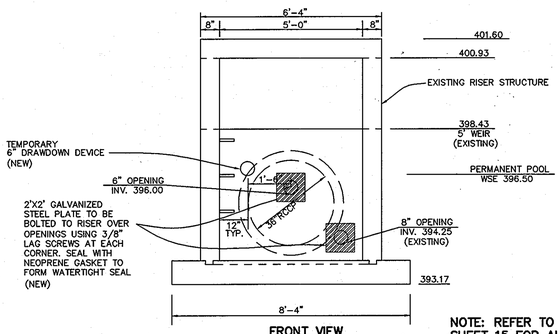
   d. INSTALL TEMPORARY DRAWDOWN DEVICE AND BLOCK OPENINGS ON RISER PER DETAILS PROVIDED.

   e. OBTAIN PERMISSION FROM INSPECTOR AND REMOVE EARTH DIKES, PIPE SLOPE DRAINS AND RIP RAP PROTECTION. (2 DAYS)
5. INSTALL EARTH DIKE AND RIP RAP INFLOW PROTECTION FROM LOW POINT NEAR HICKORY RIDGE ROAD TO SEDIMENT BASIN 1. EARTH DIKE IS TO BE REMOVED AS CONSTRUCTION PROGRESSES.
6. INSTALL CLEAN WATER EARTH DIKES TO DIVERT WATER AWAY FROM TRAPS 2 AND 3.
7. INSTALL TRAPS 1, 2, 3 AND 4. DO NOT INSTALL EARTH DIKES DIVERTING WATER TO TRAPS UNTIL TRAPS ARE IN PLACE.
8. INSTALL REMAINING SEDIMENT CONTROL DEVICES WITHIN PHASE 2 LIMIT OF DISTURBANCE. (3 WEEKS)
9. OBTAIN PERMISSION FROM INSPECTOR AND BEGIN CLEARING AND GRADING. (3 WEEKS)
10. BEGIN STORM DRAIN CONSTRUCTION. (3 WEEKS)
11. BEGIN TRAIL AND ACCESS ROAD, PAVING AND UTILITY CONSTRUCTION. (1 WEEK)
12. STABILIZE CHANNELS AROUND EXISTING PLAYING FIELDS IMMEDIATELY WITH SOIL STABILIZATION MATTING AS SHOWN ON PLAN.
13. STABILIZE ALL OTHER DISTURBED AREAS.
14. WHEN SITE IS COMPLETELY STABILIZED, OBTAIN PERMISSION FROM INSPECTOR AND FLUSH STORM DRAIN. DEWATER POND AND FINE GRADE POND BOTTOM AND FOREBAY. (1 WEEK)
15. INSTALL POND LANDSCAPING.
16. REMOVE TEMPORARY DRAWDOWN DEVICE AND STEEL PLATES FROM RISER. (1 DAY)
    INSTALL 6" GALVANIZED STEEL TURN DOWN PIPES, ORIFICE PLATES, AND 8" POND DRAIN. INSTALL TRASH RACKS. (1 WEEK)
17. WITH PERMISSION OF INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES. (1 WEEK)



SIDE VIEW

(TRASH RACK AND OTHER DETAILS OMITTED FOR CLARITY)



FRONT VIEW

(TRASH RACK AND OTHER DETAILS OMITTED FOR CLARITY)

EXISTING RISER DETAIL

N.T.S.

NOTE: REFER TO SHEET 15 FOR ALL RISER MODIFICATION DETAILS. THIS DETAIL IS FOR SEDIMENT CONTROL ONLY.

TEMPORARY SEEDING NOTES

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

SEEDBED PREPARATION : LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, 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 3 LBS. PER ACRE OF WEEPING LOVEGRASS (0.07 LBS. PER 1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE 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 60 LBS. PER ACRE (1.4 LBS. PER 1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (0.05 LBS. PER 1000 SQ.FT.) OF WEEPING LOVEGRASS. 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.

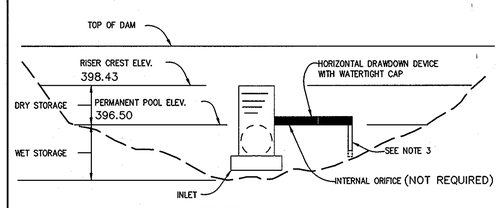
2) USE SOD.

3) SEED WITH 60 LBS. PER ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE WELL ANCHORED STRAW.

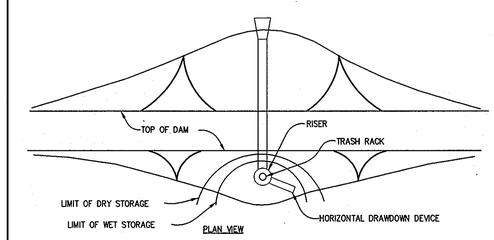
MULCHING : APPLY 1–1/2 TO 2 TONS PER ACRE (70 TO 90 LBS. PER 1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL. PER 1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT.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

SEDIMENT TRAP AND BASIN DRAWDOWN SCHEMATIC HORIZONTAL DRAW DOWN DEVICE



ELEVATION



PLAN VIEW

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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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 2/26/07

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 2/28/2007

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

NATURAL RESOURCES CONSERVATION SERVICE — DATE 3/2/07

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 3/2/07

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 3/2/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/16/07

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/26/07

DATE	NO.	REVISION
6-9-09	1	REDLINE REVISION BY CHA ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044–3197
ATTN: MR. CHUCK NIGHTINGALE
410–772–4296

PROJECT HOWARD COMMUNITY COLLEGE
HICKORY RIDGE ROAD ENTRANCEWAY, HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA — PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE SEDIMENT CONTROL NOTES & DETAILS

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

2/28/2007
DATE

JOHN W. CLAPSADDLE #16956

DESIGNED BY : HS	
DRAWN BY: SGM	
PROJECT NO : 11449–2–3 C400SDP07.DWG	
DATE : JULY 27, 2006	
SCALE : AS SHOWN	
DRAWING NO. 7 OF 34	

SDP–06–106

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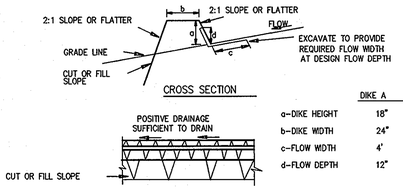
DETAIL 1 – EARTH DIKE



	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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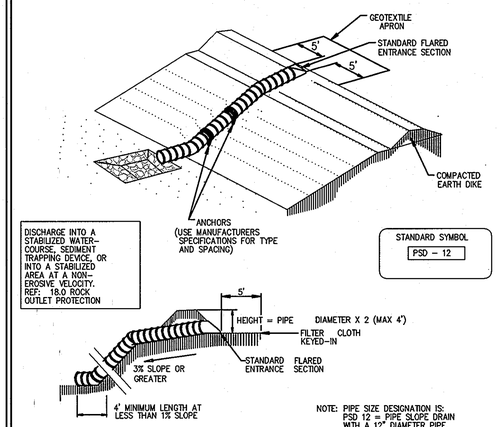
DETAIL 4 – PIPE SLOPE DRAIN



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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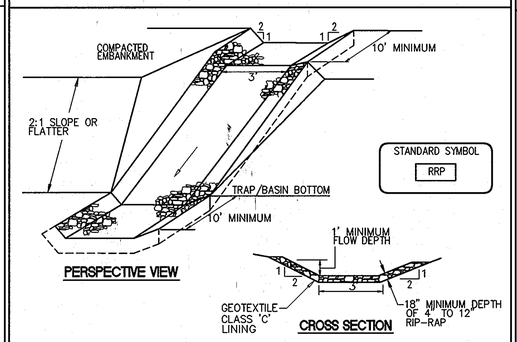
DETAIL 5 – RIP-RAP INFLOW PROTECTION



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.

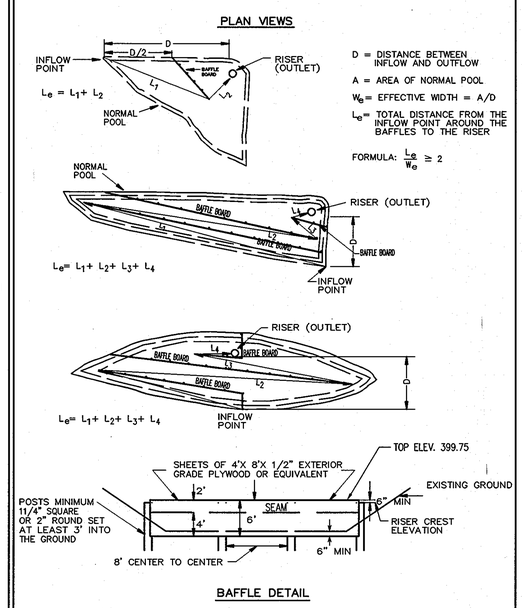
5. GABION INFLOW PROTECTION MAY BE USED IN LIEU OF RIP–RAP INFLOW PROTECTION.

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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B – 6 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 18 – SEDIMENT BASIN BAFFLES



D = DISTANCE BETWEEN INFLOW AND OUTFLOW

A = AREA OF NORMAL POOL

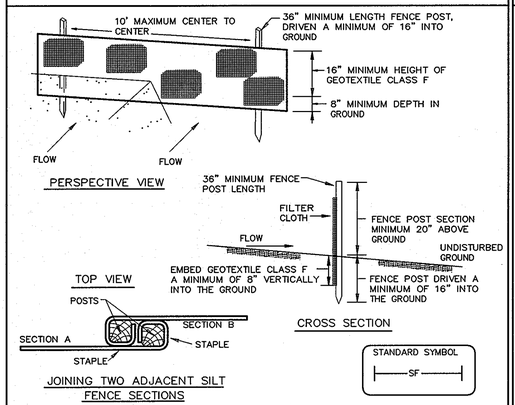
W_e = EFFECTIVE WIDTH = A/D

L_e = TOTAL DISTANCE FROM THE INFLOW POINT AROUND THE BAFFLES TO THE RISER

FORMULA: $\frac{L_e}{W_e} \geq 2$

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

DETAIL 22 – SILT FENCE



STANDARD SYMBOL
SF

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:

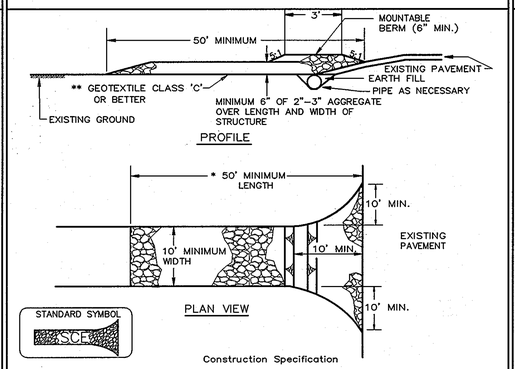
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft ^{2}/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

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

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

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

DETAIL 24 – STABILIZED CONSTRUCTION ENTRANCE



STANDARD SYMBOL
SCE

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.

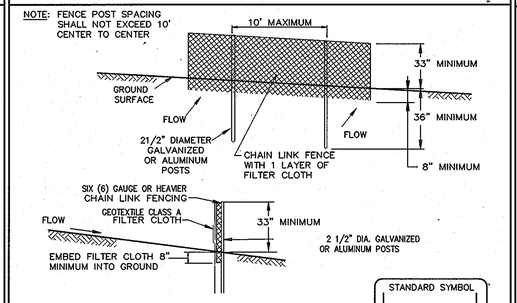
5. Surface Water – all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone 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.

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

DETAIL 33 – SUPER SILT FENCE

NOTE: FENCE POST SPACING SHALL NOT EXCEED 10' CENTER TO CENTER



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.

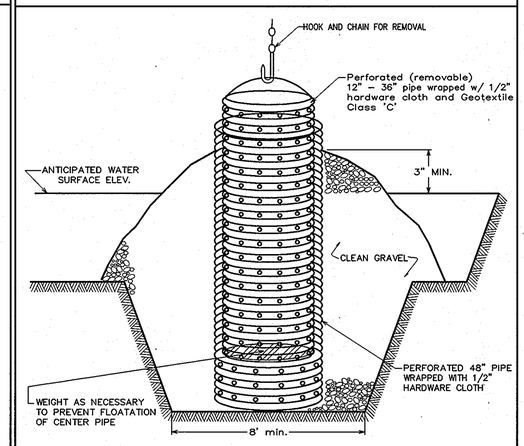
5. Filter cloth shall be embedded a minimum of 8" into the ground.

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

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

DETAIL 20A – REMOVABLE PUMPING STATION



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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D – 32 – 4	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 2/26/07

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 2/28/2007

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

NATURAL RESOURCES CONSERVATION SERVICE DATE 4/30/07

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 9/30/07

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR DATE 9/3/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 3/16/07

CHIEF, DIVISION OF LAND DEVELOPMENT DATE 4-26-07

DATE	NO.	REVISION
6-9-09	1	REDLINE REVISION BY CHA
		ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044–3197
ATTN: MR. CHUCK NIGHTINGALE
410–772–4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE SEDIMENT CONTROL NOTES & DETAILS

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

2/28/2007
DATE

BOARD FOR PROFESSIONAL ENGINEERS 16956 JOHN WESLEY CLAPSADDLE STATE OF MARYLAND

JOHN W. CLAPSADDLE #16956

DESIGNED BY : HS
DRAWN BY: SGM
PROJECT NO 11449-2-3 C400SDP08.DWG
DATE : JULY 27, 2006
SCALE : AS SHOWN
DRAWING NO. 8 OF 24

SDP–06–106

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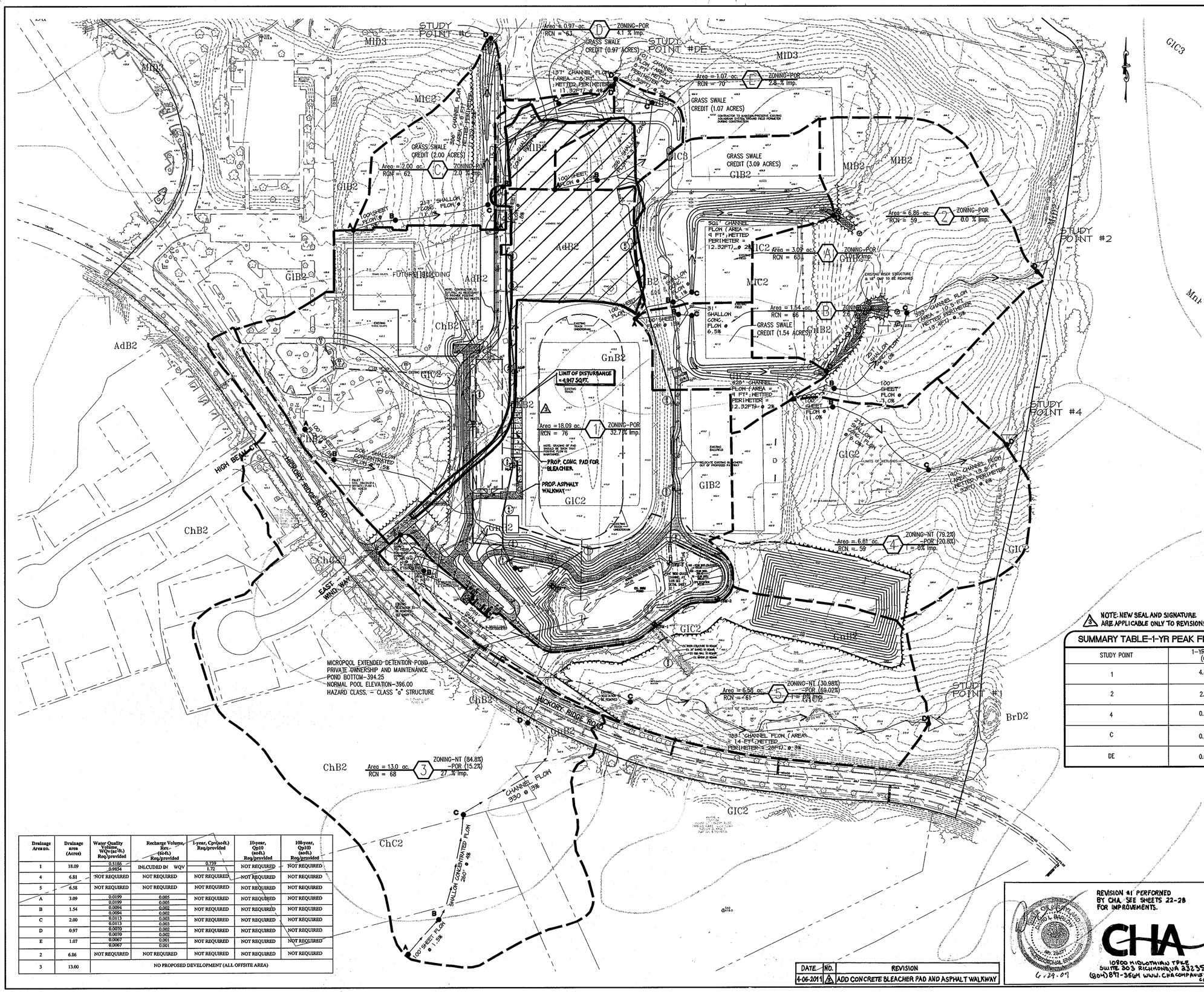

SUMMARY TABLE

Area No.	Area, A (acres)	RCN	Tc (hours)	REQ.WQv (acres feet)	REQ.CPv (acres feet)	1-YR. FLOW (CFS)
A	3.09	63	0.106	0.0199	Not Required	0.90
B	1.54	66	0.100	0.0094	Not Required	0.70
1	18.09	76	0.175	0.5186	0.7387	0.20
4	6.81	59	0.207	Not Required	Not Required	0.59
5	6.58	61	0.187	Not Required	Not Required	1.10
C	2.00	62	0.317	0.0113	Not Required	0.28
D	0.97	63	0.493	0.0070	Not Required	0.12
E	1.07	70	0.224	Not Required	Not Required	0.56
3	13.00	68	0.45	NO PROPOSED DEVELOPMENT		3.72
2	6.86	59	0.127	Not Required	Not Required	0.82

LEGEND

- DEVELOPED DRAINAGE DIVIDE
- STORM DRAIN SYSTEM
- TC FLOW PATH
- INLET NUMBER (B 6)
- SOIL TYPE BOUNDARY
- TR-55 DATA: AREA / RCN — DA — ZONE / % IMP

NOTE: NEW SEAL AND SIGNATURE ARE APPLICABLE ONLY TO REVISIONS. (3)

SUMMARY TABLE-1-YR PEAK FLOWS

STUDY POINT	1-YR. FLOW (CFS)
1	4.40
2	2.41
4	0.59
C	0.28
DE	0.62

Drainage Area no.	Drainage area (Acres)	Water Quality Volume, WQv (ac-ft.) Req/provided	Recharge Volume, Rev. (ac-ft.) Req/provided	1-year, Cpv(ac-ft.) Req/provided	10-year, Qp10 (ac-ft.) Req/provided	100-year, Qp100 (ac-ft.) Req/provided
1	18.09	0.5186 / 0.9834	INLCUDED IN WQV	0.739 / 1.72	NOT REQUIRED	NOT REQUIRED
4	6.81	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED
5	6.58	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED
A	3.09	0.0199 / 0.0199	0.005 / 0.005	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED
B	1.54	0.0094 / 0.0094	0.002 / 0.002	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED
C	2.00	0.0113 / 0.0113	0.003 / 0.003	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED
D	0.97	0.0070 / 0.0070	0.002 / 0.002	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED
E	1.07	0.0067 / 0.0067	0.001 / 0.001	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED
2	6.86	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED
3	13.00	NO PROPOSED DEVELOPMENT (ALL OFFSITE AREA)				

DATE	NO.	REVISION
4-06-2011	3	ADD CONCRETE BLEACHER PAD AND ASPHALT WALKWAY

REVISION #1 PERFORMED BY CHA. SEE SHEETS 22-28 FOR IMPROVEMENTS.

STATE OF MARYLAND — CHRISTOPHER A. BARLOW — No. 28671 — PROFESSIONAL ENGINEER — 6.29.07

CHA
10800 HUGUENOT TRLE
SUITE 203 RICHMOND VA 23235
(804) 871-3564 WWW.CHACOMPANIES.COM

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 8/2/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/18/07

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4-26-07

DATE	NO.	REVISION
6-9-09	1	RED LINE REVISION BY CHA ADD LIMITS OF DISTURBANCE FOR SYNTHETIC INFILL TURF FIELD SHOWN ON SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE STORMWATER MANAGEMENT
DRAINAGE AREA MAP-PROPOSED CONDITION

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

PHR+A

2/28/2007 DATE

BOARD FOR PROFESSIONAL ENGINEERS — 16956 — REGISTERED PROFESSIONAL ENGINEER — STATE OF MARYLAND

JOHN W. CLAPSADDLE #16956

DESIGNED BY : HS
DRAWN BY: JYP
PROJECT NO : 11449-2-3 C400SDP09.DWG
DATE : JULY 27, 2006
SCALE : 1" = 100'
DRAWING NO. 9 OF 34

SDP-06-106

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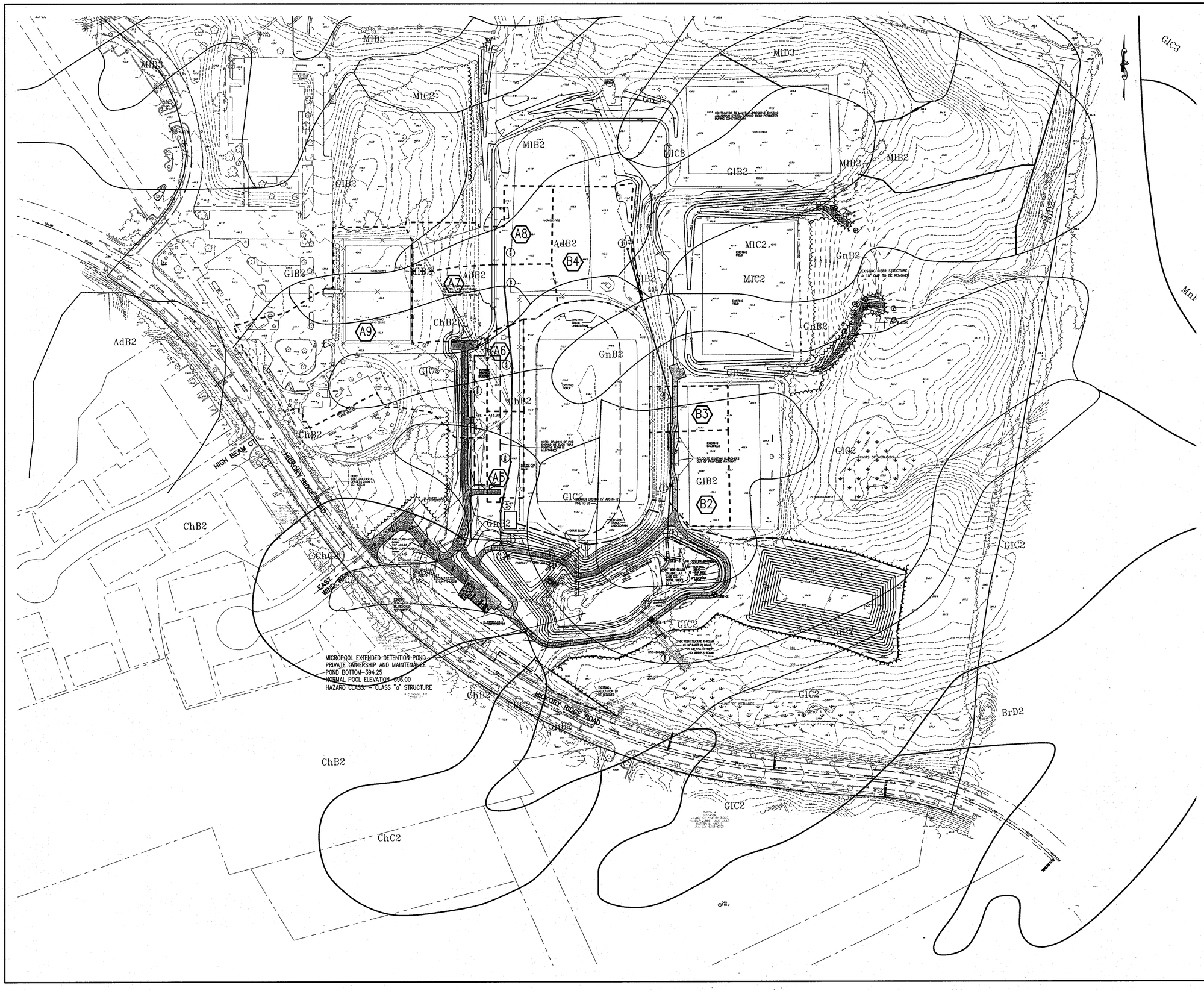

DRAINAGE AREA TABULATION

INLET NUMBER	DRAINAGE AREA (AC)	C FACTOR
A9	3.56	0.46
A8	0.98	0.46
A7	1.17	0.46
A6	0.38	0.46
A5	0.40	0.46
B4	1.19	0.46
B3	0.43	0.46
B2	0.84	0.46

LEGEND

DEVELOPED DRAINAGE DIVIDE

STORM DRAIN SYSTEM

SOIL TYPE BOUNDARY

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 5/3/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5/16/07

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4-26-07

DATE	NO.	REVISION
6-9-09	1	REDLINE REVISION BY CHA
		ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
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2-28-2007
DATE

BOARD FOR PROFESSIONAL ENGINEERS 16956 JOHN WINFRED CLAPSADDLE STATE OF MARYLAND

JOHN W. CLAPSADDLE #16956

DESIGNED BY : PDK
DRAWN BY: SGM
PROJECT NO : 11449-2-3 C400SDP10.DWG
DATE : JULY 27, 2006
SCALE : 1" = 100'
DRAWING NO. 10 OF 34

SDP-06-106

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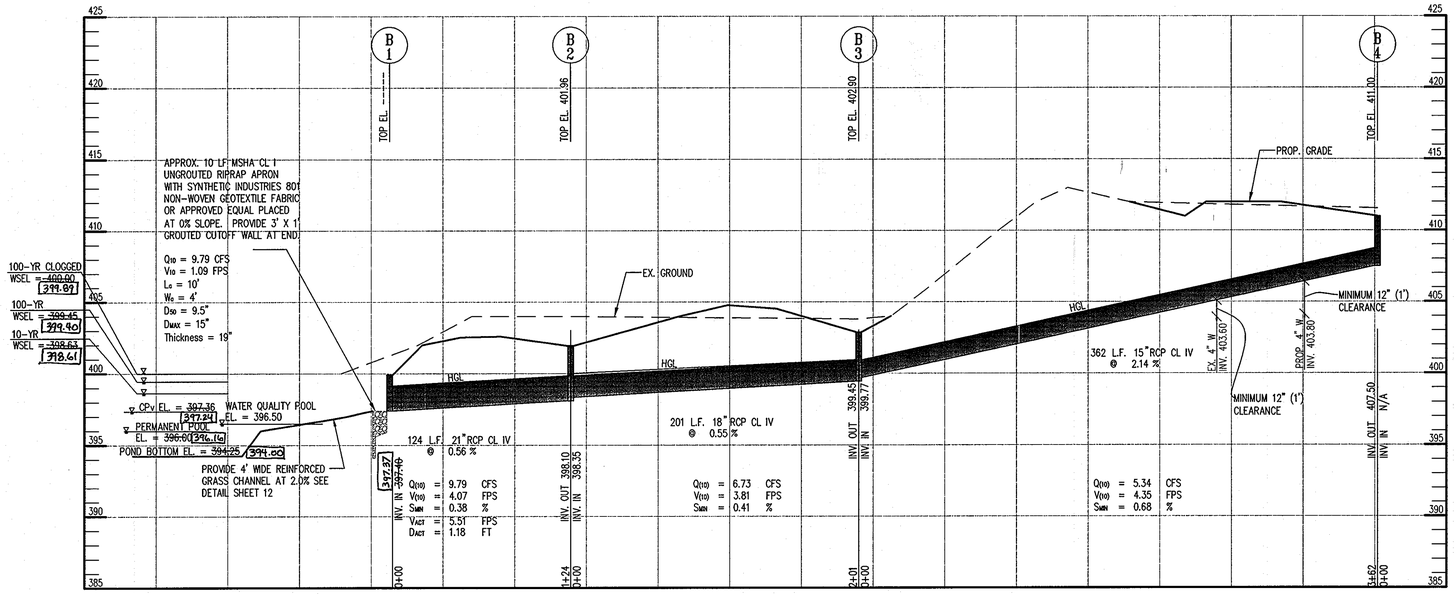
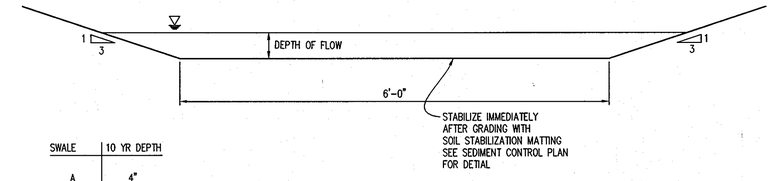


STORM DRAIN PROFILE

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

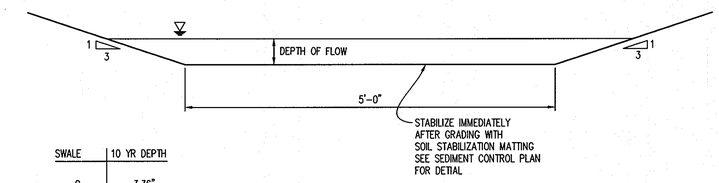
GRASS SWALE CROSS SECTIONS



SWALE	10 YR DEPTH
A	4"
B	2.7"

CROSS SECTIONS SWALE A AND B

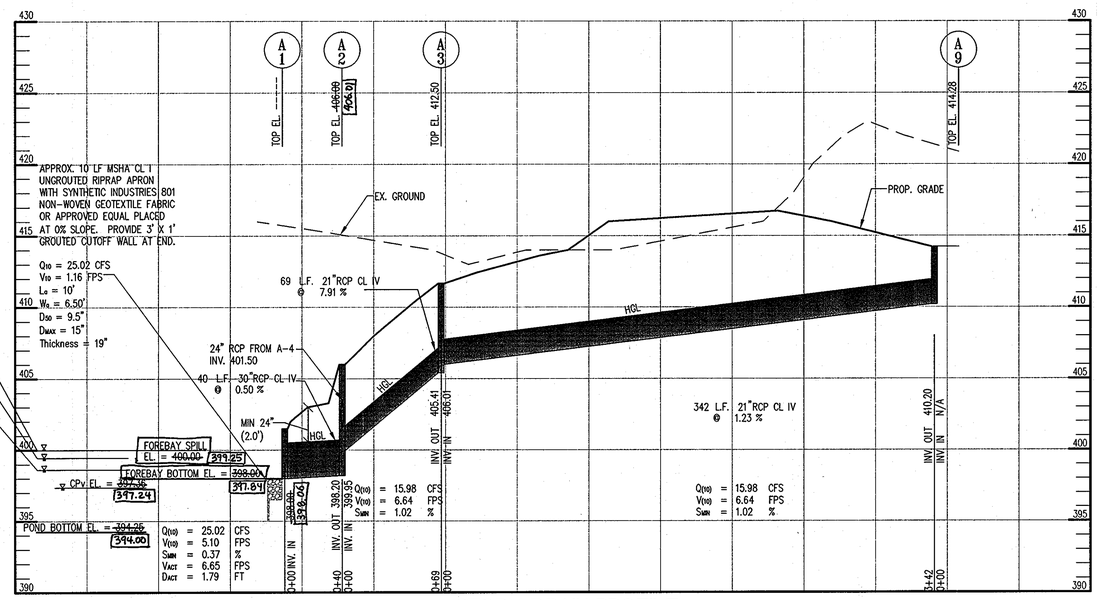
SCALE : NTS



SWALE	10 YR DEPTH
C	3.36"
D	1.872"
E	2.4"

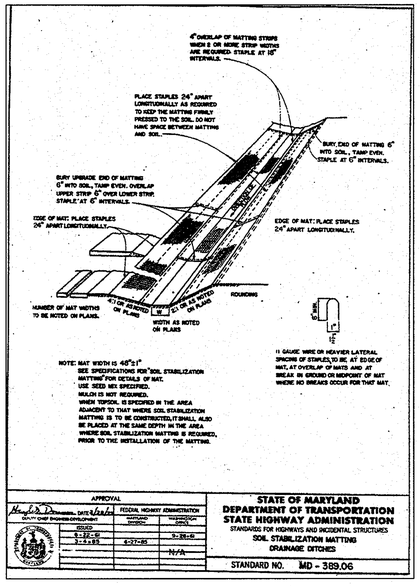
CROSS SECTIONS SWALE C, D AND E

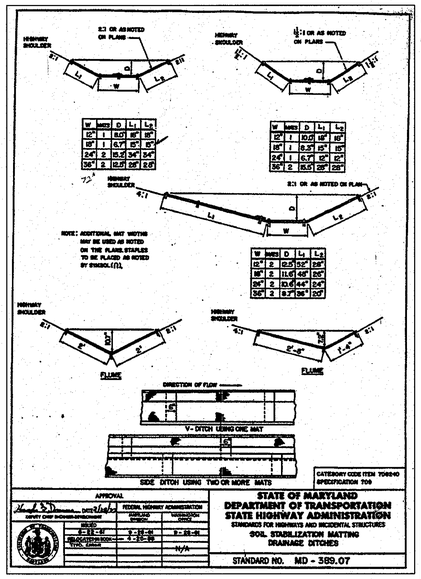
SCALE : NTS



STORM DRAIN PROFILE

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





AS-BUILT CERTIFICATION

STATE OF MARYLAND — SHERRYL CLARKE MITCHELL — REGISTERED PROFESSIONAL ENGINEER — No. 33154

SHERRYL C. MITCHELL REG. No. 33154 — 3-1-10 DATE

3-1-10 | 2 | SWM AS-BUILT

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 5/7/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/16/07

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11-26-07

DATE	NO.	REVISION
6-9-09	1	REDLINE REVISION BY CHA
		ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA — PARCEL 47 — ZONED POR & NT
TAX MAP NO. 35, 36 — BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN PROFILES AND SEDIMENT CONTROL DETAILS

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

PHR+A

2/28/2007
DATE

BOARD FOR PROFESSIONAL ENGINEERS — 16956 — JOHN WESLEY CLARSADDLE — STATE OF MARYLAND

JOHN W. CLARSADDLE #16956

DESIGNED BY : PDK	
DRAWN BY: SGM	
PROJECT NO : 11449-2-3 C400SDP11.DWG	
DATE : MARCH 5, 2007	
SCALE : AS SHOWN	
DRAWING NO. 11 OF 34	

SDP-06-106

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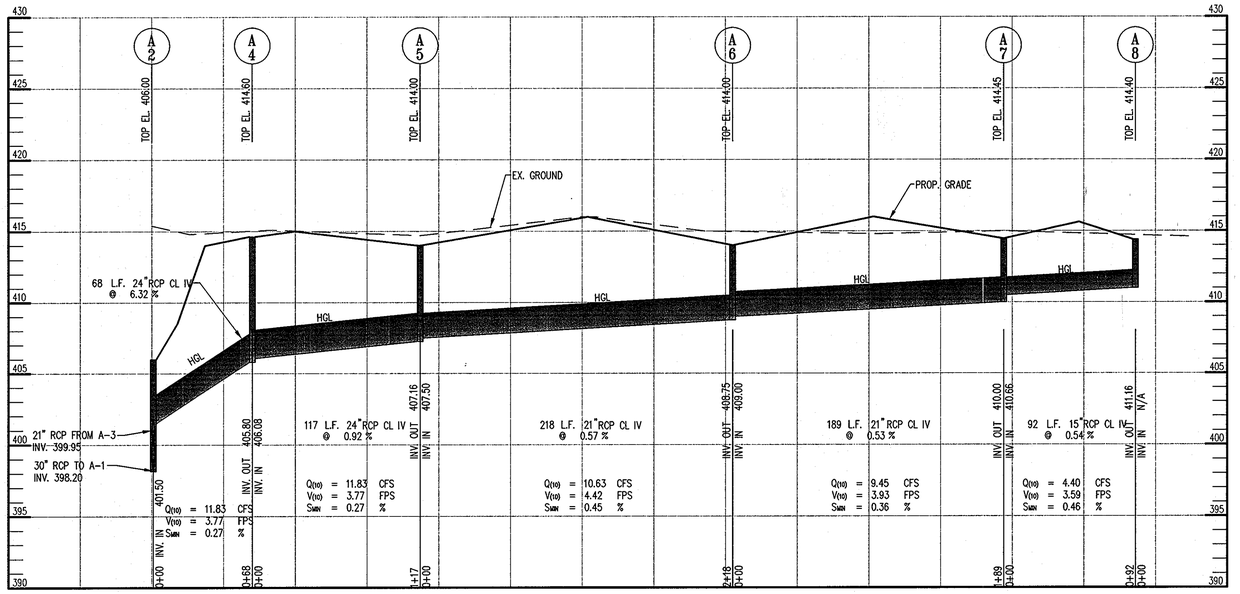


STORM DRAIN PROFILE

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

STRUCTURE SCHEDULE

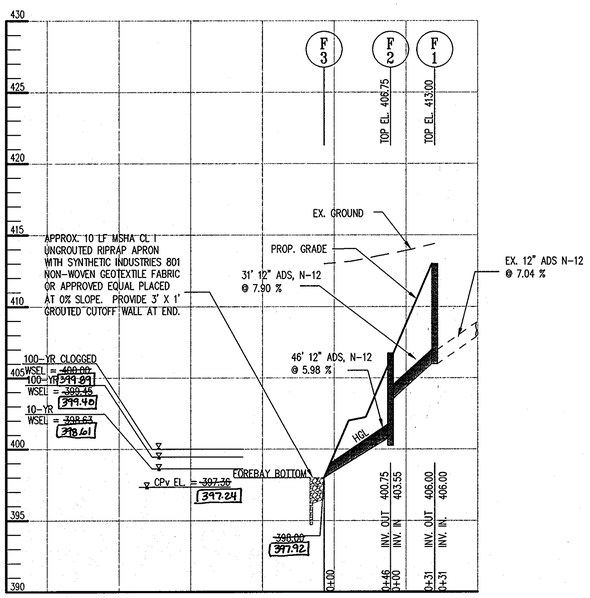
NUMBER	TYPE	LOCATION		TOP ELEVATION	INVERT OUT	SIZE	REMARKS
		STATION	OFFSET				
A1	END WALL	SEE	PLAN	-----	~~398.80~~ 398.06	DIA = 30"	HCDPW SD-5.21
A2	SHALLOW BRICK MANHOLE	SEE	PLAN	406.00	398.20	4'-0" x 4'-0"	HCDPW G-5.05
A3	SHALLOW BRICK MANHOLE	SEE	PLAN	412.50	405.41	4'-0" x 4'-0"	HCDPW G-5.05
A9	"S" INLET	SEE	PLAN	414.28	410.20	3'-11" x 3'-11 1/2"	HCDPW SD-4.22 WITH RETICULAR GRATE PER SD 4.93
A5	MODIFIED TYPE "S" INLET	SEE	PLAN	414.00	407.16	3'-11" x 3'-11 1/2"	SEE DETAIL SHEET 15 PROVIDE RETICULAR GRATE PER SD 4.93
A6	MODIFIED TYPE "S" INLET	SEE	PLAN	414.00	408.75	3'-11" x 3'-11 1/2"	SEE DETAIL SHEET 15 PROVIDE RETICULAR GRATE PER SD 4.93
A7	MODIFIED TYPE "S" INLET	SEE	PLAN	414.45	410.00	3'-11" x 3'-11 1/2"	SEE DETAIL SHEET 15 PROVIDE RETICULAR GRATE PER SD 4.93
A8	"S" INLET	SEE	PLAN	414.40	411.16	3'-11" x 3'-11 1/2"	HCDPW SD-4.22 WITH RETICULAR GRATE PER SD 4.93
A4	SHALLOW BRICK MANHOLE	SEE	PLAN	414.60	405.80	4'-0" x 4'-0"	HCDPW G-5.05
F1	DRAIN BASIN	SEE	PLAN	413.00	406.00	15"	ADS DRAIN BASIN WITH STANDARD H-25 GRATE
F2	DRAIN BASIN	SEE	PLAN	406.75	400.75	12"	ADS DRAIN BASIN WITH SOLID GRATE
F3	FLARED END SECTION	SEE	PLAN	-----	~~398.00~~ 397.92	12"	ADS PART 1210 NP
B1	END WALL	SEE	PLAN	-----	~~397.40~~ 397.31	DIA = 21"	HCDPW SD-5.21
B2	MODIFIED TYPE "S" INLET	SEE	PLAN	401.96	398.10	3'-11" x 3'-11 1/2"	SEE DETAIL SHEET 15 PROVIDE RETICULAR GRATE PER SD 4.93
B3	MODIFIED TYPE "S" INLET	SEE	PLAN	402.90	399.45	3'-11" x 3'-11 1/2"	SEE DETAIL SHEET 15 PROVIDE RETICULAR GRATE PER SD 4.93
B4	"S" INLET	SEE	PLAN	411.00	407.50	3'-11" x 3'-11 1/2"	HCDPW SD-4.22 WITH RETICULAR GRATE PER SD 4.93

NOTES

1) ALL STRUCTURES ARE HCDPW STANDARDS UNLESS NOTED OTHERWISE.
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.
5) PROVIDE SOLID LID FOR STRUCTURE F1.

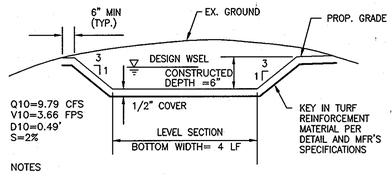
PIPE SCHEDULE

SIZE	TYPE	LINEAR FOOTAGE
15"	RCP CL IV	454
12"	ADS, N12	77
18"	RCP CL IV	201
21"	RCP CL IV	942
24"	RCP CL IV	185
30"	RCP CL IV	40



UNDERDRAIN PROFILE

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



NOTES

1. INSTALL THE MATERIAL PER THE MANUFACTURER'S INSTRUCTIONS INCLUDING SUFACE 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.

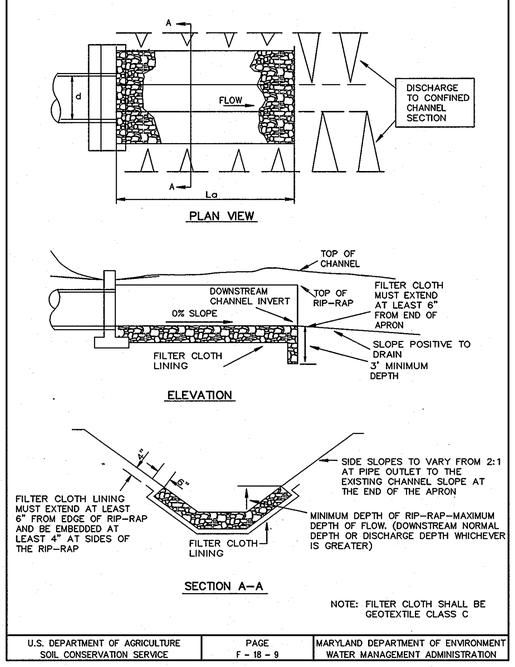
2. FILL VOIDS IN THE MATERIAL WITH TOPSOIL BEFORE SODDING OR SEEDING DO NOT PLACE MORE THAN ONE HALF INCH (1/2") OF TOPSOIL OVER THE MATERIAL. THE MATERIAL MUST BE WITHIN THE ROOT ZONE FOR IT TO FUNCTION PROPERLY.

3. MATERIAL MUST BE ENKAMAT 7010, ENKAMAT 7020, TENSAR TM-3000, PYRAMAT, OR OTHER APPROVED EQUIVALENT. TO BE CONSIDERED AS AN EQUIVALENT, THE MATERIAL MUST BE A SINGLE BONDED TURF REINFORCEMENT MATERIAL.

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

GRASS CHANNEL STRUCTURE B1 TO PERMANENT POOL TURF REINFORCEMENT TYPICAL SECTION
NOT TO SCALE

DETAIL 26 – ROCK OUTLET PROTECTION II



NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 18 - 9	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

AS-BUILT CERTIFICATION

STATE OF MARYLAND — SHERRYL CLARKE MITCHELL — NO. 33954 — REGISTERED PROFESSIONAL ENGINEER

Sherrl C. Mitchell 3-1-10
SHERRYL C. MITCHELL Reg. No. 33954 DATE

3-1-10 | 2 | SWM AS-BUILT

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 5/3/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/16/07

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4-26-07

DATE	NO.	REVISION
6.9.09	1	REDLINE REVISION BY CHA
		ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA — PARCEL 47 — ZONED POR & NT
TAX MAP NO. 35, 36 — BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN PROFILES AND DETAILS

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

2/28/2007
DATE

STATE OF MARYLAND — BOARD FOR PROFESSIONAL ENGINEERS — 1998 — JOHN W. CLAPSADDLE

JOHN W. CLAPSADDLE #16956

DESIGNED BY :	PDK/HS
DRAWN BY:	SGM
PROJECT NO :	11449-2-3 C400SDP12.DWG
DATE :	MARCH 5, 2007
SCALE :	AS SHOWN
DRAWING NO.	12 OF 34

SDP-06-106

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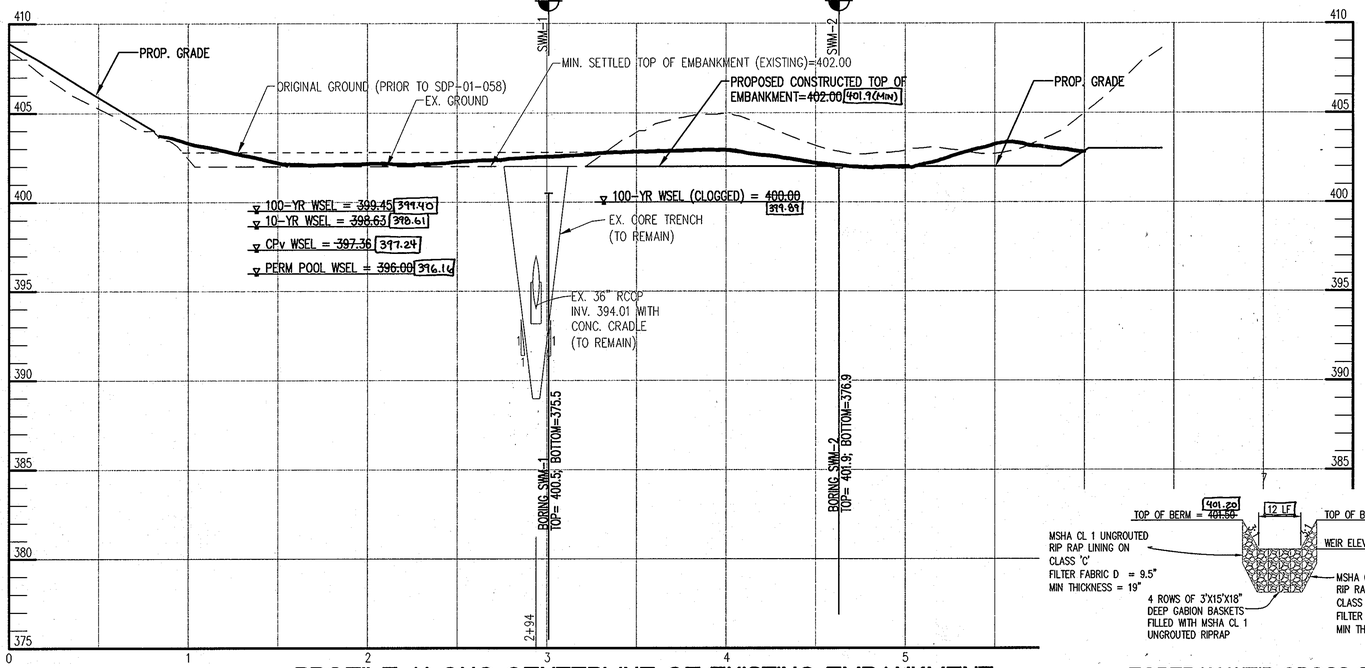
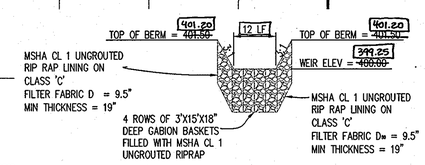


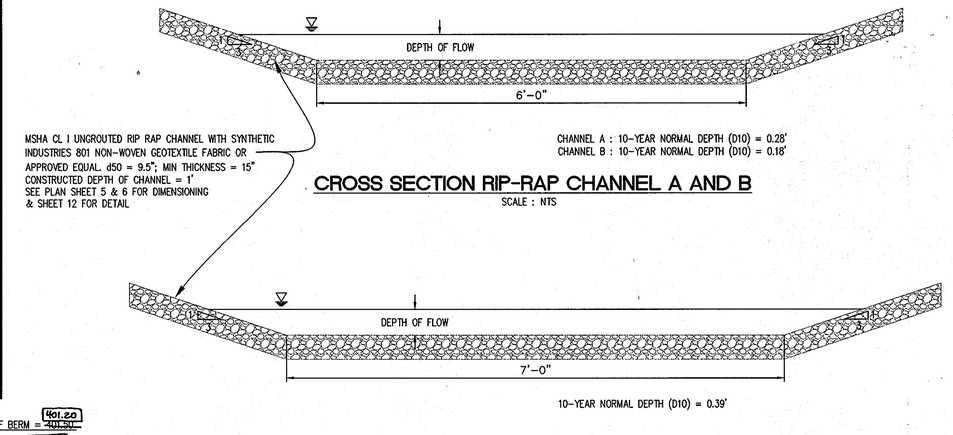
PROFILE ALONG CENTERLINE OF EXISTING EMBANKMENT

SCALE : HOR: 1"=40'
VERT: 1"=4'



FOREBAY WEIR CROSS SECTION

NOT TO SCALE

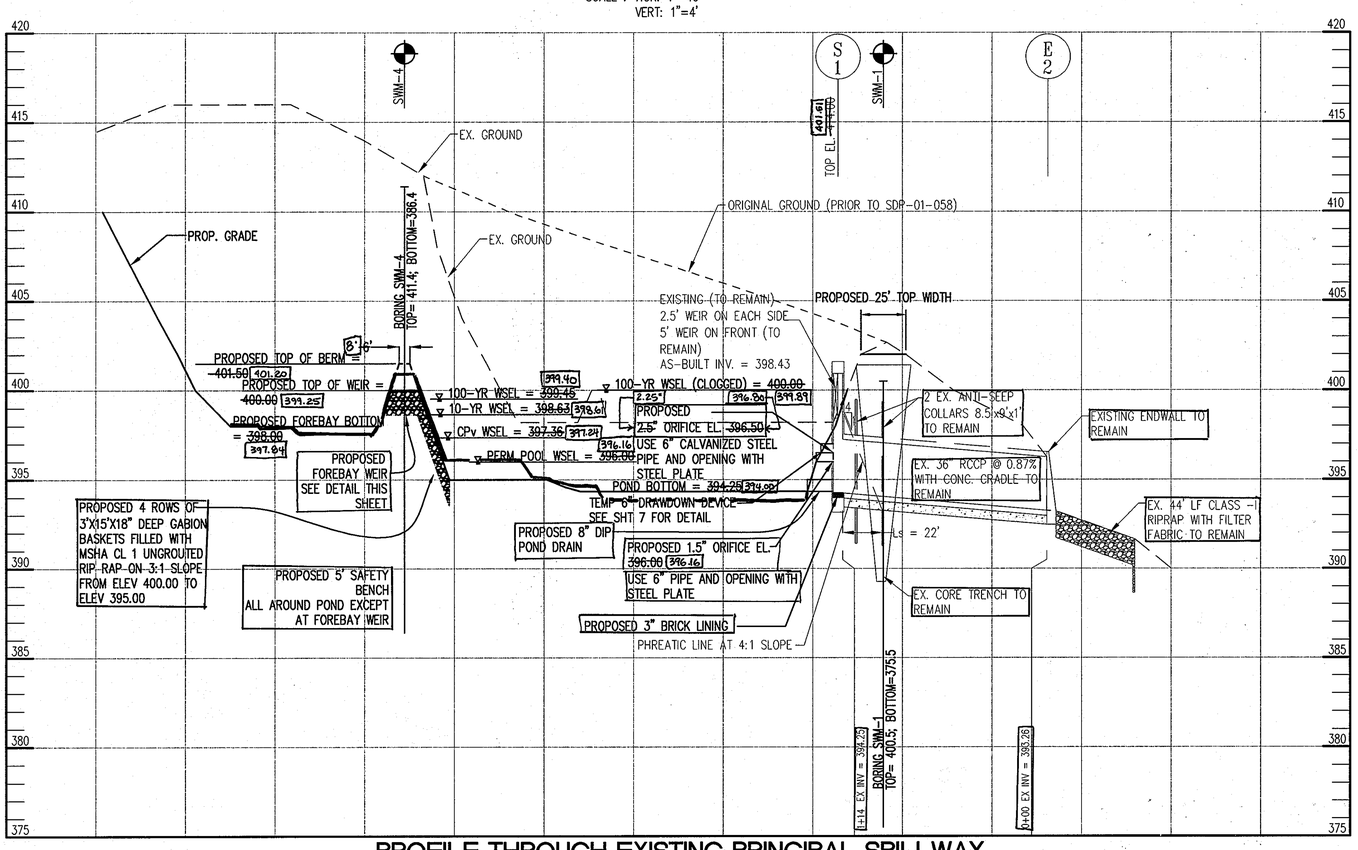


CROSS SECTION RIP-RAP CHANNEL A AND B

SCALE : NTS

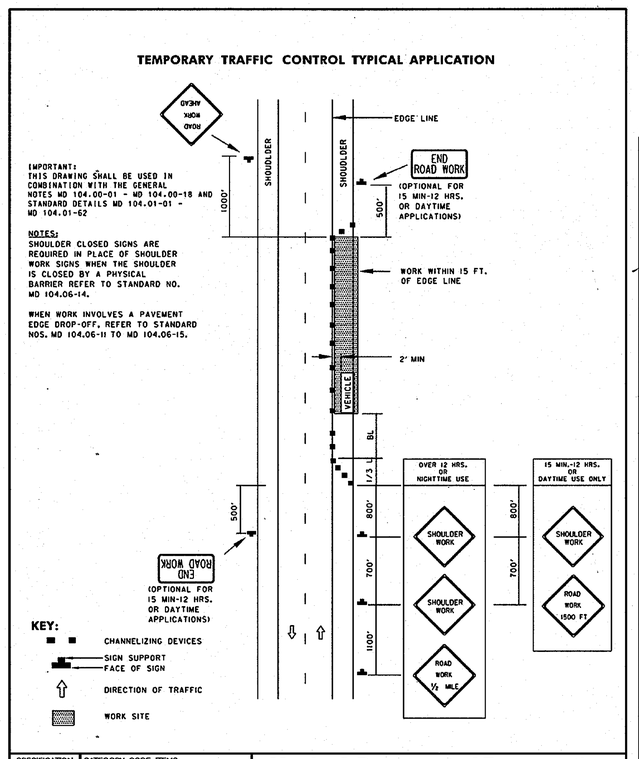
CROSS SECTION RIP-RAP CHANNEL B-1

SCALE : NTS



PROFILE THROUGH EXISTING PRINCIPAL SPILLWAY

SCALE : HOR: 1"=40'
VERT: 1"=4'



IMPORTANT:
THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES MD 104.00-01 - MD 104.00-18 AND STANDARD DETAILS MD 104.01-01 - MD 104.01-62

NOTES:
SHOULDER CLOSED SIGNS ARE REQUIRED IN PLACE OF SHOULDER WORK SIGNS WHEN THE SHOULDER IS CLOSED BY A PHYSICAL BARRIER REFER TO STANDARD NO. MD 104.06-14.

WHEN WORK INVOLVES A PAVEMENT EDGE DROP-OFF, REFER TO STANDARD NOS. MD 104.06-11 TO MD 104.06-15.

SPECIFICATION 104	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF TRAFFIC AND SAFETY

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
	APPROVAL 6-20-03	APPROVAL 9-23-03
	REVISED	REVISED
	REVISED	REVISED
	REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

SHOULDER WORK /2-LANE, 2-WAY GREATER THAN 40 MPH

STANDARD NO. MD 104.02-01

3-1-10 | 2 | SWM AS-BUILT

AS-BUILT CERTIFICATION
STATE OF MARYLAND — SHERYL C. MITCHELL — REGISTERED PROFESSIONAL ENGINEER
Sheryl C. Mitchell 3-1-10
SHERYL C. MITCHELL REG. No. 33951 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 5/3/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/16/07
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-26-07

DATE	NO.	REVISION
6-9-09	1	REDLINE REVISION BY CHA ADD NEW SHEETS 22-26

OWNER / DEVELOPER
HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY, HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE STORMWATER MANAGEMENT PROFILES

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

2/20/2007 DATE
BOARD FOR PROFESSIONAL ENGINEERS — 19850 — JOHN WINFIELD CLARKE — STATE OF MARYLAND

DESIGNED BY : HS	
DRAWN BY: HS	
PROJECT NO : 11449-2-3 C400SDP13.DWG	
DATE : DECEMBER 05, 2006	
SCALE : AS SHOWN	
DRAWING NO. 13 OF 34	

SDP-06-106

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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 414, Mix No. 3.

Rock Riprap

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

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

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded 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.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER PONDS (P-1 THROUGH P-5)

ROUTINE MAINTENANCE:

1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.

2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOVED A MINIMUM OF TWO (2) TIMES PER YEAR IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPE AND MAINTENANCE ACCESS SHALL BE MOVED AS NEEDED.

3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.

4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS THE RIPRAP OR GABION OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE:

1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHALL BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.

2. SEDIMENT SHALL BE REMOVED FROM THE POND, AND FOREBAY, NO LATER THAN WHEN THE CAPACITY OF THE POND, OR FOREBAY, IS HALF FULL OF SEDIMENT, OR WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED OPEN CHANNEL SYSTEMS (0-1 AND 0-2)

1. THE OPEN CHANNEL SYSTEM SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.

2. THE OPEN CHANNEL SHALL BE MOVED A MINIMUM OF AS NEEDED DURING THE GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 6 INCHES.

3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.

4. VISIBLE SIGNS OF EROSION INTHE OPEN CHANNEL SYSTEM SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

5. REMOVE SILT IN THE OPEN CHANNEL SYSTEM WHEN IT EXCEEDS 25% OF THE ORIGINAL WQv.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[signature] 5/7/07
DIRECTOR DATE

[signature] 3/16/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[signature] for CH 4-26-07
CHIEF, DIVISION OF LAND DEVELOPMENT BB DATE

DATE	NO.	REVISION
6.9.09	1	REDLINE REVISION BY CHA ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE STORMWATER MANAGEMENT NOTES AND SPECIFICATIONS

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

2/20/2007
DATE

DESIGNED BY : HS
DRAWN BY: HS
PROJECT NO : 11449-2-3 C400SDP14.DWG
DATE : DECEMBER 05, 2006
SCALE : AS SHOWN
DRAWING NO. 14 OF 34

SDP-06-106

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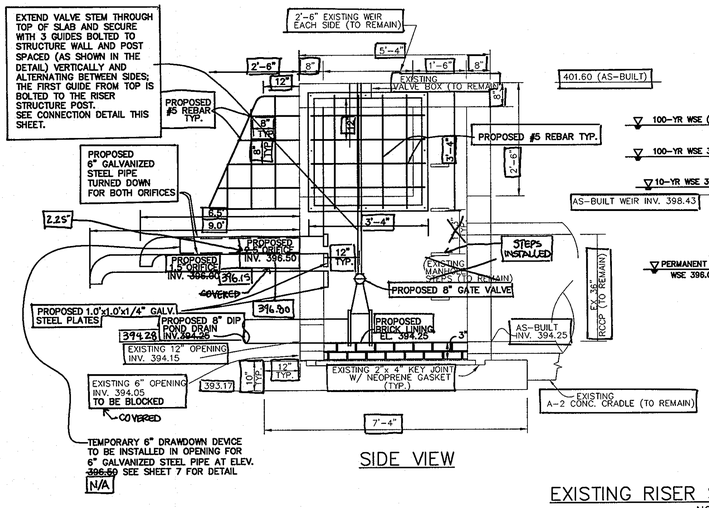
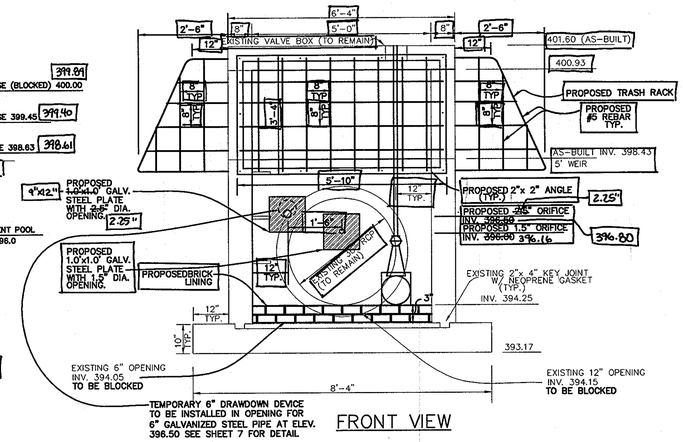


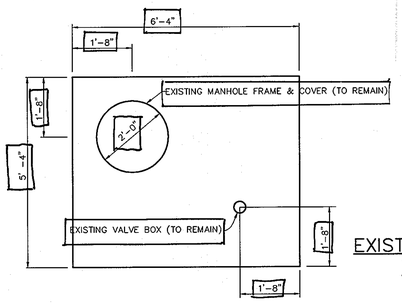


EXISTING RISER STRUCTURE (S-1) DETAIL

NOT TO SCALE

NOTE: ALL EXISTING INFORMATION (NOT LABELLED AS "AS-BUILT") TAKEN FROM APPROVED SDP-01-058

NOTE: CONCRETE BOX AND 36" BARREL ARE EXISTING. CONTRACTOR TO PROVIDE ALL OTHER APPARATUS AS SHOWN ON THIS PLAN TO PROVIDE A COMPLETED STRUCTURE. ANY ITEM SHOWN ON THIS PLAN WHICH IS NOT EXISTING SHALL BE PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL CONFIRM WHAT FEATURES ARE EXISTING PRIOR TO SUBMITTING A BID AND IS THEREAFTER RESPONSIBLE FOR PROVIDING A COMPLETED STRUCTURE AT JOB CLOSEOUT.

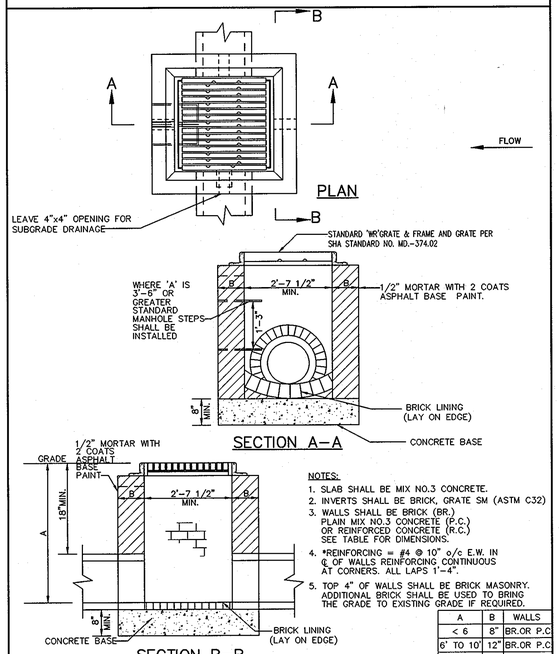


EXISTING RISER STRUCTURE TOP SLAB PLAN -

REMOVABLE TRASH RACK NOTES:

1. STEEL TO CONFORM TO ASTM A-36. #5 BARS TO BE SMOOTH. SEE DETAIL FOR SPACING.
2. ALL REBAR TO BE WELDED AT ALL INTERSECTIONS.
3. ALL BENDS TO BE 2" RADIUS. 2" x 2" ANGLE IRON AND 1/2" DIAMETER ANCHOR BOLTS TO BE USED FOR TRASH RACK FRAME.
4. GALVANIZE TRASH RACK AFTER FABRICATION AND PAINT BATTLESHIP GRAY.

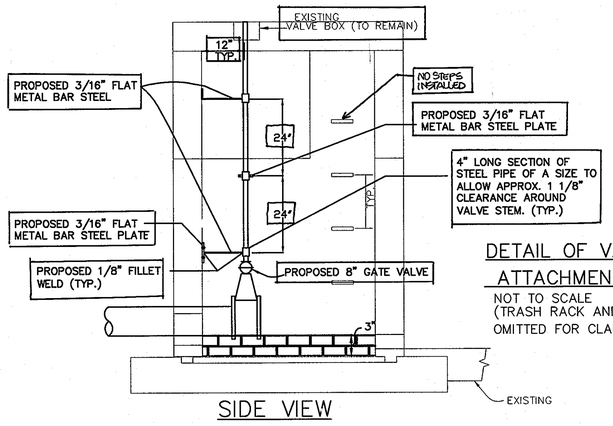
MODIFIED TYPE 'S INLET SD4.22
(FOR INLETS A-7, A-6, A-5, B-3 & B-2)



NOTES:

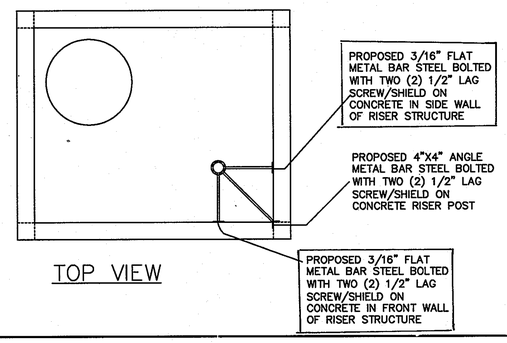
1. SLAB SHALL BE MIX NO.3 CONCRETE.
2. INVERTS SHALL BE BRICK, GRATE SM (ASTM C32)
3. WALLS SHALL BE BRICK (BR.) PLAIN MIX NO.3 CONCRETE (P.C.) OR REINFORCED CONCRETE (R.C.) SEE TABLE FOR DIMENSIONS.
4. *REINFORCING = #4 @ 10" o/c E.W. IN ℄ OF WALLS REINFORCING CONTINUOUS AT CORNERS. ALL LAPS 1'-4".
5. TOP 4" OF WALLS SHALL BE BRICK MASONRY. ADDITIONAL BRICK SHALL BE USED TO BRING THE GRADE TO EXISTING GRADE IF REQUIRED.

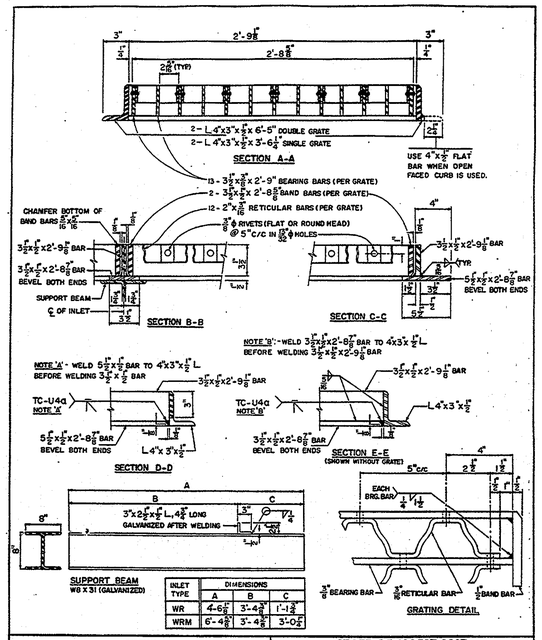
A	B	WALLS
< 6	8"	BR.OR P.C
6' TO 10'	12"	BR.OR P.C
6' TO 15'	8"	R.C. *

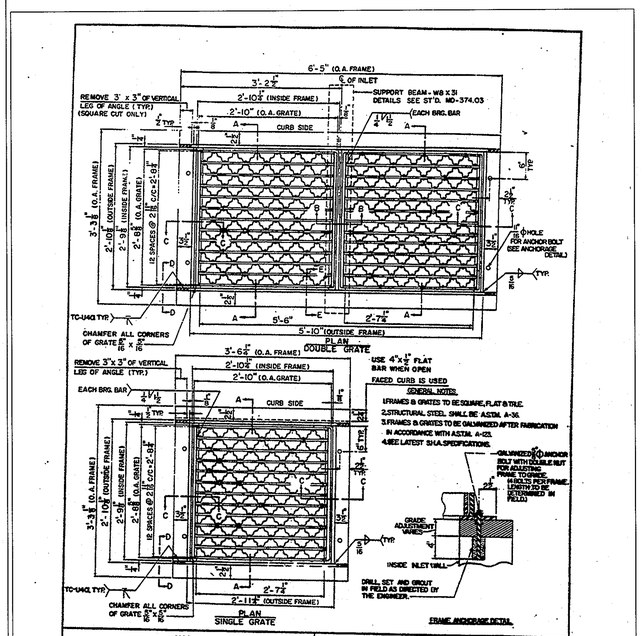


DETAIL OF VALVE STEM ATTACHMENT TO WALL

NOT TO SCALE
(TRASH RACK AND OTHER DETAILS OMITTED FOR CLARITY)







3-1-10/2 SWM AS-BUILT

AS-BUILT CERTIFICATION

STATE OF MARYLAND — SHERRYL CLARKE MITCHELL — No. 39954 — PROFESSIONAL ENGINEER

SHERRYL C. MITCHELL REG. No. 39954 — 3-1-10 DATE

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 2/26/07

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 2/28/2007

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

NATURAL RESOURCES CONSERVATION SERVICE — DATE 4/30/07

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 9/30/07

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 5/7/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/16/07

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4-26-07

DATE	NO.	REVISION
6-9-09	1	REDLINE REVISION BY CHA
		ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA — PARCEL 47 — ZONED POR & NT
TAX MAP NO. 35, 36 — BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE — STORMWATER MANAGEMENT DETAILS

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

2/28/2007 DATE

BOARD FOR PROFESSIONAL ENGINEERS — STATE OF MARYLAND — No. 10006 — SHERRYL CLARKE MITCHELL

DESIGNED BY :	HS
DRAWN BY:	HS
PROJECT NO :	11449-2-3 C400SDP15.DWG
DATE :	OCTOBER 20, 2006
SCALE :	AS SHOWN
DRAWING NO.	15 OF 34

SDP-06-106

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BORING LOG

FROEHLING & ROBERTSON, INC.
GEOTECHNICAL • ENVIRONMENTAL • MATERIALS
ENGINEERS • LABORATORIES
"OVER ONE HUNDRED YEARS OF SERVICE"
SINCE 1851

Report No.: H68-013G Date: June 2006

Client: Howard Community College

Project: HCC, Proposed Retention Pond, Columbia, Maryland

Boring No.: SWM-1 (1 of 1) Total Depth 25.0' Elev: 400.5ft ± ** Location: See Boring Location Plan.

Type of Boring: 3¼" ID HSA Started: 5/24/06 Completed: 5/24/06 Driller: J. McCabe

Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	* Sample Blows	Sample Depth (feet)	N Value (blows/ft)	REMARKS
400.3	0.2	Surficial organic soil				* SPT sampling was performed using an auto-hammer apparatus.
		FILL: Yellowish red, moist to very moist, medium stiff to very soft, micaceous, sandy SILT with some clay (ML)	2-4-4	1.0	8	** Elevations were estimated from plans provided by the client.
				2.5		
		trace roots from 3½ to 5 feet	3-2-3	3.5	5	
				5.0		
			WOH	6.0	0	
				7.5		
			WOH	8.5	0	Solid PVC Infiltrometer pipe set to 9.80 feet in offset boring immediately after drilling. After a 24 hr presoak period, the infiltration rate was 0.08 inches per hour.
				10.0		
388.5	12.0	RESIDUUM: Yellowish brown, very dark gray, and white, very moist, dense to loose, micaceous, silty, fine to medium SAND (SM)	13-14-19	13.5	33	
				15.0		
						Groundwater was encountered at a depth of 17 feet immediately after drilling.
			4-3-4	18.5	7	
				20.0		Cave-in depth at 20 feet.
378.5	22.0	Yellowish brown and very dark gray, very moist, medium dense, micaceous, silty, fine to medium SAND (SM)	10-11-13	23.5	24	
375.5	25.0	Boring terminated at 25 feet.		25.0		

*Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the second and third increments of penetration is termed the standard penetration resistance, N.

BORING LOG H68-013G.GPJ F&R.GDT 6/26/06

BORING LOG

FROEHLING & ROBERTSON, INC.
GEOTECHNICAL • ENVIRONMENTAL • MATERIALS
ENGINEERS • LABORATORIES
"OVER ONE HUNDRED YEARS OF SERVICE"
SINCE 1851

Report No.: H68-013G Date: June 2006

Client: Howard Community College

Project: HCC, Proposed Retention Pond, Columbia, Maryland

Boring No.: SWM-2 (1 of 1) Total Depth 25.0' Elev: 401.9ft ± ** Location: See Boring Location Plan.

Type of Boring: 3¼" ID HSA Started: 6/1/06 Completed: 6/1/06 Driller: D. Snowden

Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	* Sample Blows	Sample Depth (feet)	N Value (blows/ft)	REMARKS
401.3	0.6	Surficial organic soil				* SPT sampling was performed using an auto-hammer apparatus.
		RESIDUUM: Yellowish red, moist, loose, micaceous, silty, fine SAND with trace roots (SM)	3-2-3	1.0	5	
399.9	2.0	Light olive brown and yellowish brown, moist, loose, micaceous, silty, fine SAND (SM)		2.5		** Elevations were estimated from plans provided by the client.
			4-4-4	3.5	8	
				5.0		
396.4	5.5	Dark brown and light brownish gray, moist, loose, micaceous, silty, fine SAND with trace rock fragments (SM)	4-4-6	6.0	10	
				7.5		
393.9	8.0	Brownish yellow and light olive brown, moist, medium dense, micaceous, silty, fine to medium SAND (SM)	5-5-7	8.5	12	
				10.0		
389.9	12.0	Olive, olive yellow, and light gray, moist, medium dense, micaceous, silty, fine to medium SAND (SM)				Solid PVC Infiltrometer pipe set to 11.90 feet in offset boring immediately after drilling. After a 24 hr presoak period, the infiltration rate was 0.68 inches per hour.
			5-5-6	13.5	11	
				15.0		
384.9	17.0	Dark yellowish brown and olive brown, moist, medium dense, micaceous, silty, fine to medium SAND (SM)	8-9-13	18.5	22	Groundwater was encountered at a depth of 20.2 feet immediately after drilling.
				20.0		Cave-in depth at 22 feet.
			8-12-13	23.5	25	
376.9	25.0	Boring terminated at 25 feet.		25.0		

*Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the second and third increments of penetration is termed the standard penetration resistance, N.

BORING LOG H68-013G.GPJ F&R.GDT 6/26/06

BORING LOG

FROEHLING & ROBERTSON, INC.
GEOTECHNICAL • ENVIRONMENTAL • MATERIALS
ENGINEERS • LABORATORIES
"OVER ONE HUNDRED YEARS OF SERVICE"
SINCE 1851

Report No.: H68-013G Date: June 2006

Client: Howard Community College

Project: HCC, Proposed Retention Pond, Columbia, Maryland

Boring No.: SWM-3 (1 of 1) Total Depth 25.0' Elev: 405.2ft ± ** Location: See Boring Location Plan.

Type of Boring: 3¼" ID HSA Started: 6/1/06 Completed: 6/1/06 Driller: D. Snowden

Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	* Sample Blows	Sample Depth (feet)	N Value (blows/ft)	REMARKS
404.8	0.4	Surficial organic soil				* SPT sampling was performed using an auto-hammer apparatus.
		RESIDUUM: Dark yellowish brown, moist, loose, micaceous, clayey, silty, fine SAND (SM-SC)	4-4-4	1.0	8	
				2.5		** Elevations were estimated from plans provided by the client.
402.2	3.0	Reddish brown, moist, loose, micaceous, silty, fine SAND (SM)	3-3-4	3.5	7	
				5.0		No groundwater was encountered during or immediately after drilling.
399.7	5.5	Light gray and reddish yellow, moist, medium dense, micaceous, silty, fine to medium SAND (SM)	4-5-6	6.0	11	
				7.5		
397.2	8.0	White and very pale brown, moist, loose, silty, fine to coarse SAND with trace mica (SM)	3-4-5	8.5	9	
				10.0		
393.2	12.0	White, gray, and brownish yellow, moist, loose, silty, fine to coarse SAND with trace mica (SM)	5-4-5	13.5	9	
				15.0		Solid PVC Infiltrometer pipe set to 14.65 feet in offset boring immediately after drilling. After a 24 hr presoak period, the infiltration rate was 1.16 inches per hour.
388.2	17.0	White, gray, and brownish yellow, moist, medium dense, silty, fine to coarse SAND with trace fine gravel and mica (SM)	8-8-13	18.5	21	
				20.0		Cave-in depth at 20.6 feet.
383.2	22.0	Light gray and yellow, moist, medium dense, silty, fine to medium SAND with trace mica (SM)	8-11-13	23.5	24	
380.2	25.0	Boring terminated at 25 feet.		25.0		

*Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the second and third increments of penetration is termed the standard penetration resistance, N.

BORING LOG H68-013G.GPJ F&R.GDT 6/26/06

BORING LOG

FROEHLING & ROBERTSON, INC.
GEOTECHNICAL • ENVIRONMENTAL • MATERIALS
ENGINEERS • LABORATORIES
"OVER ONE HUNDRED YEARS OF SERVICE"
SINCE 1851

Report No.: H68-013G Date: June 2006

Client: Howard Community College

Project: HCC, Proposed Retention Pond, Columbia, Maryland

Boring No.: SWM-4 (1 of 1) Total Depth 25.0' Elev: 411.4ft ± ** Location: See Boring Location Plan.

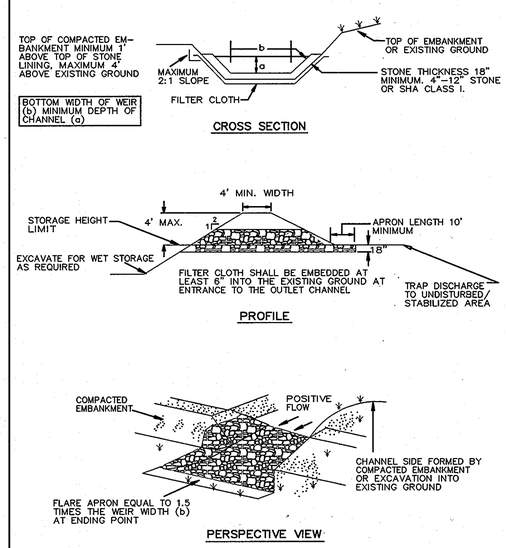
Type of Boring: 3¼" ID HSA Started: 5/24/06 Completed: 5/24/06 Driller: J. McCabe

Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	* Sample Blows	Sample Depth (feet)	N Value (blows/ft)	REMARKS
411.1	0.3	GRAVEL				* SPT sampling was performed using an auto-hammer apparatus.
		FILL: Yellowish brown, white, and light red, moist, loose, micaceous, very fine sandy SILT with trace organics and roots (FILL)	3-3-5	1.0	8	
				2.5		** Elevations were estimated from plans provided by the client.
408.4	3.0	Yellowish red, moist, stiff, micaceous, silty CLAY (FILL)	4-6-9	3.5	15	
				5.0		
405.9	5.5	RESIDUUM: Light reddish brown, brown, and dark reddish gray, moist, medium dense to loose, micaceous, silty, fine SAND (SM)	5-5-6	6.0	11	
				7.5		
			5-4-5	8.5	9	
				10.0		
399.4	12.0	Pink, brownish yellow, and dark gray, moist, medium dense, micaceous, silty, fine SAND (SM)	4-6-6	13.5	12	
				15.0		Solid PVC Infiltrometer pipe set to 15.70 feet in offset boring immediately after drilling. After a 24 hr presoak period, the infiltration rate was 0.08 inches per hour.
394.4	17.0	Yellowish brown, dark brown, black, white, and gray, very moist, loose, micaceous, silty, fine SAND (SM)	3-3-5	18.5	8	Groundwater was encountered at a depth of 19 feet immediately after drilling.
				20.0		Cave-in depth at 21 feet.
			2-2-4	23.5	6	
386.4	25.0	Boring terminated at 25 feet.		25.0		

*Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the second and third increments of penetration is termed the standard penetration resistance, N.

BORING LOG H68-013G.GPJ F&R.GDT 6/26/06

DETAIL 10 – RIP-RAP OUTLET SEDIMENT TRAP – ST III



NOTE: MAXIMUM DRAINAGE AREA= 10 ac.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C – 9 – 13	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

RIP-RAP OUTLET SEDIMENT TRAP – ST III

Constuction Specifications

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

2. The fill material for the embankment shall be free of roots or other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Maximum height of embankment shall be 4', measured at centerline of embankment.

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

4. Elevation of the top of any dike directing water into trap must equal or exceed the height of trap embankment.

5. Storage area provided shall be figured by computing the volume measured from top of excavation. (For storage requirements see Table 10).

6. Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Section of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.

7. Stone used in the outlet channel shall be 4" – 12" placed 18" thick.

8. Outlet – An outlet shall be provided, which includes a means of conveying the discharge in an erosion free manner to an existing stable channel. Protection against scour at the discharge end shall be provided as necessary.

9. Outlet channel must have positive drainage from the trap.

10. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/4 of the wet storage depth of the trap (1350 cf/ac). Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

11. The structure shall be inspected periodically after each rain and repaired as needed.

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

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

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C – 9 – 13A	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 2/26/07

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 2/26/2007

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

NATURAL RESOURCES CONSERVATION SERVICE _____ DATE 4/30/07

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 4/30/07

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR _____ DATE 5/3/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION _____ DATE 3/16/07

CHIEF, DIVISION OF LAND DEVELOPMENT _____ DATE 4-26-07

DATE	NO.	REVISION
6-9-07	1	REDLINE REVISION BY CHA
		ADD NEW SHEETS 22-28

OWNER / DEVELOPER
HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE SOIL BORING LOGS AND SEDMENT CONTROL DETAILS

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

2/28/2007
DATE

BOARD FOR PROFESSIONAL ENGINEERS — STATE OF MARYLAND

DESIGNED BY : HS	
DRAWN BY: SGM	
PROJECT NO : 11449-2-3 C400SDP14.DWG	
DATE : JULY 27, 2006	
SCALE : AS SHOWN	
DRAWING NO. 16 OF 34	

SDP-06-106

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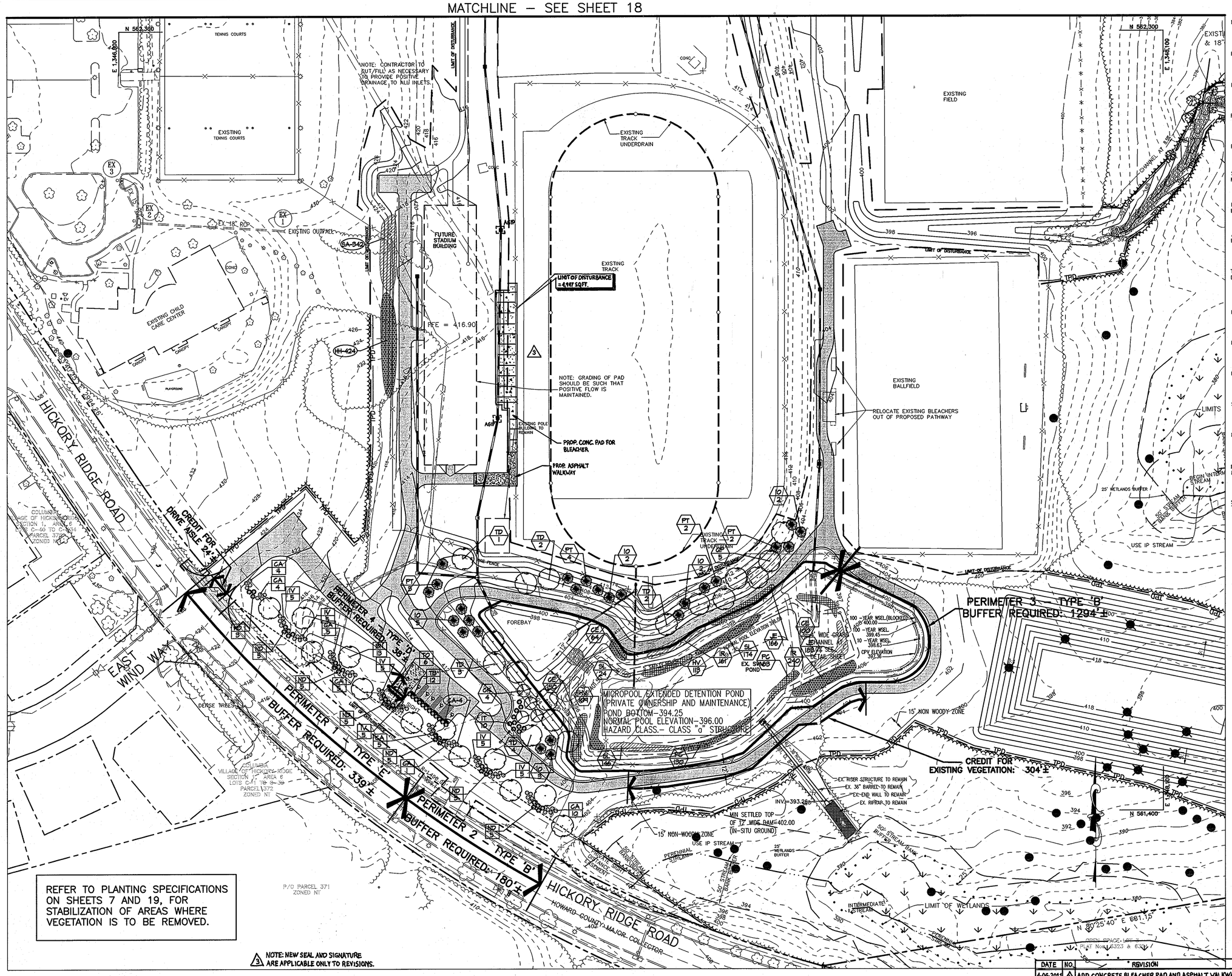
MATCHLINE – SEE SHEET 18



REFER TO PLANTING SPECIFICATIONS ON SHEETS 7 AND 19, FOR STABILIZATION OF AREAS WHERE VEGETATION IS TO BE REMOVED.

3 NOTE: NEW SEAL AND SIGNATURE ARE APPLICABLE ONLY TO REVISIONS.

LEGEND

- EX. TREES
- PROP. SHADE TREE
- PROP. EVERGREEN TREE
- PROP. ORNAMENTAL TREE
- PROP. SHRUBS
- STORMWATER MANAGEMENT PLANTING
- PERIMETER LANDSCAPE PLANTING
- ADDITIONAL LANDSCAPE PLANTINGS
- TREE PROTECTION DEVICE
- EX. TREELINE
- PROPOSED TREELINE
- LIMIT OF DISTURBANCE
- SPECIMEN TREE
- PROPOSED PERENNIALS
- PERIMETER LANDSCAPE EDGE LIMITS
- SPECIMEN TREE TO BE REMOVED

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 5/3/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/16/07

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4-26-07

DATE	NO.	REVISION
6-8-07	1	REDLINE REVISION BY CHA
		ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044–3197
ATTN: MR. CHUCK NIGHTINGALE
410–772–4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY, HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA — PARCEL 47 — ZONED POR & NT
TAX MAP NO. 35, 36 — BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE

LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
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8818 Centre Park Drive
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PHR+A

7-26-07
DATE

LANDSCAPE ARCHITECT 3068 PETER J. STONE STATE OF MARYLAND

PETER J. STONE #3068

DESIGNED BY : PJS/ALC	
DRAWN BY: ALC	
PROJECT NO : 11449-2-3 L200LND01.DWG	
DATE : MARCH 5, 2007	
SCALE : 1" = 50'	
DRAWING NO. 17 OF 34	

DATE	NO.	REVISION
4-06-2011	3	ADD CONCRETE BLEACHER PAD AND ASPHALT WALKWAY

SDP–06–106

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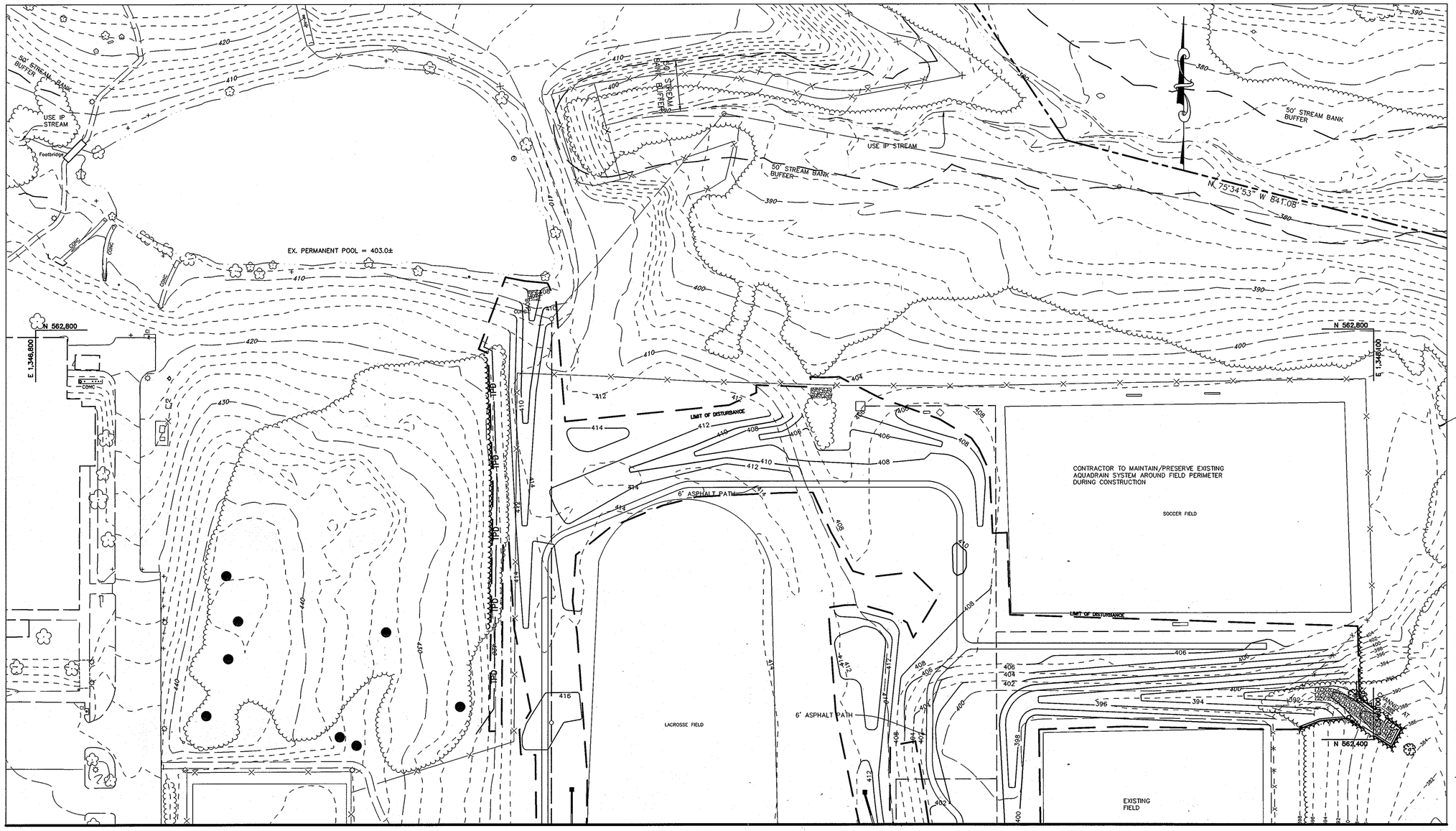
LEGEND

EX. TREES	
PROP. SHADE TREE	
PROP. EVERGREEN TREE	
PROP. ORNAMENTAL TREE	
PROP. SHRUBS	
STORMWATER MANAGEMENT PLANTING	TP 2
PERIMETER LANDSCAPE PLANTING	CA 5
ADDITIONAL LANDSCAPE PLANTINGS	CA-4
TREE PROTECTION DEVICE	TPD
EX. TREELINE	
PROPOSED TREELINE	
LIMIT OF DISTURBANCE	
SPECIMEN TREE	
PROPOSED PERENNIALS	
PERIMETER LANDSCAPE EDGE LIMITS	
SPECIMEN TREE TO BE REMOVED	



MATCHLINE – SEE SHEET 17

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 5/7/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/14/07

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4-26-07

DATE	NO.	REVISION
6.9.07	1	REDLINE REVISION BY CHA
		ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
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PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY, HANDICAPPED PARKING AND TRACK ACCESS DRIVE

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LANDSCAPE PLAN

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T 410.997.8900
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2-26-07
DATE

PETER J. STONE #3068

DESIGNED BY : PJS/ALC	
DRAWN BY: ALC	
PROJECT NO : 11449-2-3 L200LNDO2.DWG	
DATE : MARCH 5, 2007	
SCALE : 1" = 50'	
DRAWING NO. 18 OF 34	

SDP-06-106

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PLANTING SPECIFICATIONS

1. Plants, related material, and operations shall meet the detailed description, as given on the plans and as described herein. Where discrepancies exist between Standards & Guidelines referenced within these specifications and the Howard County Landscape Manual, the latter takes precedence.

2. All plant material, unless otherwise specified, that is not nursery grown, uniformly branched, does not have a vigorous root system, and does not conform to the most recent edition of the American Association of Nurserymen (AAN) Standards will be rejected. Plant material that is not healthy, vigorous, free from defects, decay, disfiguring roots, sunscald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements will be rejected. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will be rejected. All B & B plants shall be freshly dug; no healed-in plants or plants from cold storage will be accepted.

3. Unless otherwise specified, all general conditions, planting operations, details and planting specifications shall conform to the most recent edition of the "Landscape Specification Guidelines by the Landscape Contractors Association of MD, DC, & VA", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects.

4. Contractor shall guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section on the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

5. Contractor shall be responsible for notifying all relevant and appropriate utility companies, utility contractors, and "Miss Utility" a minimum of 48 hours prior to the beginning of any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Major changes will require the approval of the landscape architect. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

6. Protection of existing vegetation to remain shall be accomplished via the temporary installation of 4 foot high snow fence at the drip line, see detail.

7. Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction. Do not plant Pinus strobus or XCupressacyparis leylandii between November 15 and March 15. Landscape plants are not to be installed before site is graded to final grade.

8. Contractor to regrade, fine grade, sod, hydroseed and straw mulch all areas disturbed by their work.

9. Bid shall be based on actual site conditions. No extra payment shall be made for work arising from actual site conditions differing from those indicated on drawings and specifications.

10. Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence. Where discrepancies on the plan exist between the symbols and the callout leader, the number of symbols take precedence.

11. All shrubs and groundcover areas shall be planted in continuous planting beds, prepared as specified, unless otherwise indicated on plans. (See Specification 13). Beds to be mulched with minimum 2" and maximum 3" of composted, double-shredded hardwood mulch throughout.

12. Positive drainage shall be maintained on planting beds (minimum 2 percent slope).

13. Bed preparation shall be as follows: Till into a minimum depth of 6" 1 yard of Compro or Leafgro per 200 SF of planting bed, and 1 yard of topsoil per 100 SF of bed. Add 3 lbs of standard 5-10-5 fertilizer per cubic yard of planting mix and till. Ericaceous plants (Azaleas, Rhododendrons, etc.): top dress after planting with iron sulfate or comparable product according to package directions. Taxus baccata 'Repandens' (English weeping yews): Top dress after planting with 1/4 to 1/2 cup lime each.

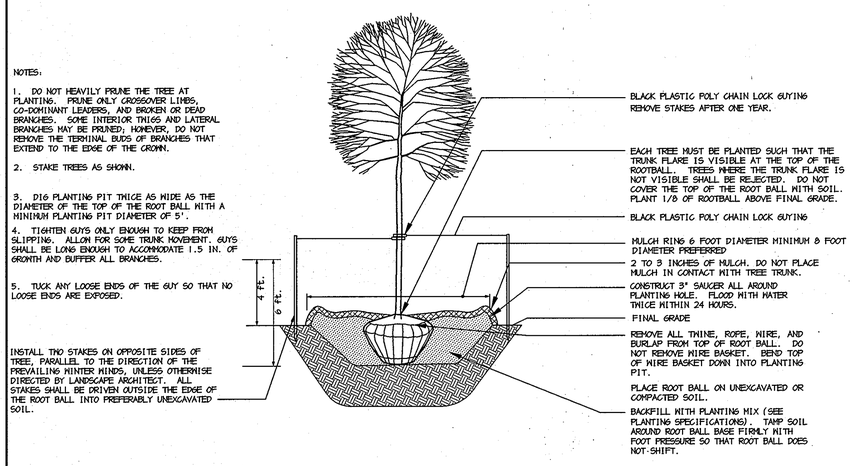
14. Planting mix: For trees not in a prepared bed, mix 50% Compro or Leafgro with 50% soil from tree hole to use as backfill, see tree planting detail.

15. Weed & insect control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. For tree planting, apply a pre-emergent on top of soil and root ball before mulching. Caution: For areas to be planted with a ground cover, be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated. Maintain the mulch weed-free for the extent of the warranty period. Under no circumstances is a pesticide containing chlorpyrifos to be used as a means of pest control.

16. Water: All plant material planted shall be watered thoroughly the day of planting. All plant material not yet planted shall be properly protected from drying out until planted. At a minimum, water unplanted plant material daily and as necessary to avoid dessication.

17. Pruning: Do not heavily prune trees and shrubs at planting. Prune only broken, dead, or diseased branches.

18. All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded, grass seed planted, and covered with straw mulch.

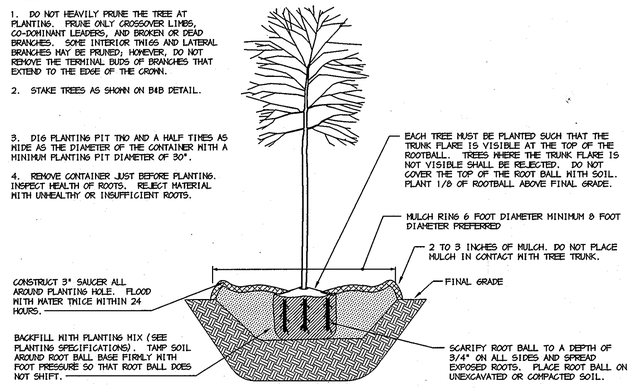


DECIDUOUS B&B TREE PLANTING DETAIL (TREES 3" CAL. OR SMALLER)
NOT TO SCALE

PLANT SCHEDULE

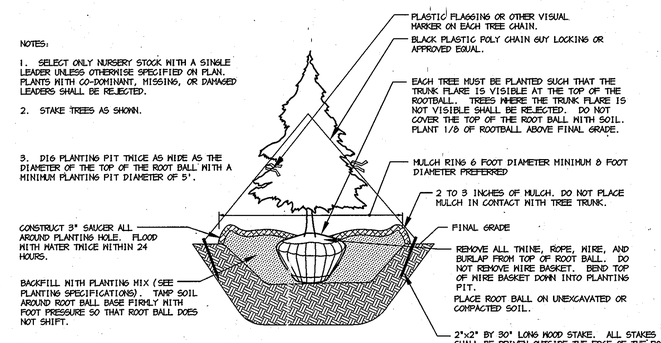
SYMBOL	QTY.	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS	ZONE*
BN	13	BETULA NIGRA 'HERITAGE' HERITAGE RIVER BIRCH	10-12' HT.	B&B	MULTI-STEM	
QP	5	QUERCUS PALUSTRIS PIN OAK	2.5"-3" CAL.	B&B	PLANT AS SHOWN	
TD	12	TAXODIUM DISTICHUM BALD CYPRESS	2.5"-3" CAL.	B&B	PLANT AS SHOWN	
CK	4	CORNUS KOUSA CHINENSIS 'MILKY WAY' MILKY WAY KOUSA DOGWOOD	8-10' HT.	B&B	PLANT AS SHOWN	
ID	14	ILEX OPACA AMERICAN HOLLY	5-6' HT.	B&B	PLANT AS SHOWN	
PT	11	PINUS THUNBERGIANA JAPANESE BLACK PINE	6-8' HT.	B&B	PLANT AS SHOWN	
TO	6	THUJA OCCIDENTALIS 'EMERALD' EMERALD GREEN ARBORVITAE	6-7' HT.	B&B	PLANT AS SHOWN	
CA	38	CORNUS ALBA 'IVORY HALO' IVORY HALO TATARIAN DOGWOOD	24-30" HT.	CONT.	PLANT AS SHOWN	
IT	10	ITEA VIRGINICA 'HENRY'S GARNET' HENRY'S GARNET VIRGINIA SWEETSPIRE	24-30" HT.	CONT.	PLANT AS SHOWN	
IV	24	ILEX VERTICILLATA 'RED SPRITE' RED SPRITE WINTERBERRY	24-30" HT.	CONT.	SEE PLANT LIST NOTE 1	
IV	6	ILEX VERTILLATA 'JIM DANDY' JIM DANDY WINTERBERRY	24-30" HT.	CONT.	SEE PLANT LIST NOTE 1	
ND	33	NANDINA DOMESTICA 'GULF STREAM' GULF STREAM NANDINA	24-30" HT.	CONT.	PLANT AS SHOWN	
TB	12	TAXUS BACCATA 'REPANDENS' SPREADING ENGLISH YEW	24-30" HT.	CONT.	PLANT AS SHOWN	
CE	314	CAREX ELATA 'AUREA' ** BOWLES GOLDEN SEDGE	1 GAL.	CONT.	24" O.C.	(1,2),3
HH	424	HEMEROCALLIS X HAPPY RETURNS HAPPY RETURNS DAYLILY	1 GAL.	CONT.	24" O.C.	
HV	222	HYDROCOTYLE UMBELLETA PENNYWORT	1 GAL.	CONT.	24" O.C.	(1,2),3
IR	401	IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS	1 GAL.	CONT.	24" O.C.	(1,2),3
JE	349	JUNCUS EFFUSUS SOFT RUSH	1 GAL.	CONT.	24" O.C.	(2,3),4
PC	213	PONTEDERIA CORDATA PICKERELWEED	1 GAL.	CONT.	24" O.C.	2,3
SA	342	SEDUM 'AUTUMN JOY' AUTUMN JOY SEDUM	1 GAL.	CONT.	24" O.C.	
SL	344	SAGGITARIA LATIFOLIA BROAD LEAF ARROWHEAD	1 GAL.	CONT.	24" O.C.	(1,2),3

NOTES:
1. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
2. STAKE TREES AS SHOWN ON B&B DETAIL.
3. DIG PLANTING PIT TWO AND A HALF TIMES AS WIDE AS THE DIAMETER OF THE CONTAINER WITH A MINIMUM PLANTING PIT DIAMETER OF 30".
4. REMOVE CONTAINER JUST BEFORE PLANTING. INSPECT HEALTH OF ROOTS. REJECT MATERIAL WITH UNHEALTHY OR INSUFFICIENT ROOTS.



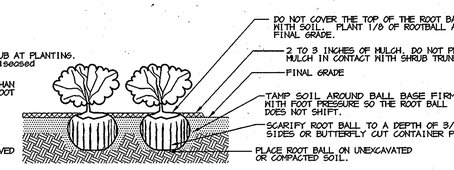
CONTAINERIZED TREE PLANTING DETAIL
NOT TO SCALE

NOTES:
1. SELECT ONLY NURSERY STOCK WITH A SINGLE LEADER UNLESS OTHERWISE SPECIFIED ON PLAN. PLANTS WITH CO-DOMINANT, MISSING, OR DAMAGED LEADERS SHALL BE REJECTED.
2. STAKE TREES AS SHOWN.
3. DIG PLANTING PIT TWICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5'.



EVERGREEN B&B TREE PLANTING DETAIL
NOT TO SCALE

NOTES:
1. SEE PLANTING SPECIFICATIONS FOR PREPARATION OF PLANTING BED.
2. DO NOT HEAVILY PRUNE THE SHRUB AT PLANTING. PRUNE ONLY BROKEN, DAMAGED, OR Diseased BRANCHES.
3. DIG PLANTING PIT 12" WIDER THAN THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 18".
4. FOR B&B SHRUBS: REMOVE ALL TWINE, ROPE, AND BURLAP FROM TOP OF ROOT BALL.
5. ALL CONTAINERS SHALL BE REMOVED BEFORE INSTALLATION.



SHRUB BED PLANTING DETAIL - B&B AND CONTAINER SHRUBS
NOT TO SCALE

PLANT LIST NOTES:

1. PLANT 1 JIM DANDY WINTERBERRY IN THE BACK OF EACH GROUPING OF RED SPRITE WINTERBERRIES.

* HYDROLOGIC ZONES ACCORDING TO APPENDIX A OF THE MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE JULY 2000.
** ALSO KNOWN AS CAREX STRICTA 'AUREA'

SCHEDULE A - PERIMETER LANDSCAPE EDGE

	ADJACENT TO ROADWAYS		
PERIMETER	1	2	4
LANDSCAPE TYPE	E	B	D
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	339'±	339'±	38'±
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO
CREDIT FOR WALL, FENCE, BERM OR DRIVE AISLE (YES/NO/LINEAR FEET)	YES 24'	NO	NO
LINEAR FEET REMAINING	315'±	180'±	38'±
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	 8 - 79	 4 5 -	 1 4 -
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES SMALL FLOWERING TREES SHRUBS	 8 - - 79	 5 0 0 30	 0 6 - -

** EXPANSION TO EXISTING DEVELOPMENT OF LESS THAN 50% SHALL BE REQUIRED TO PROVIDE LANDSCAPING FOR THE ADDITIONAL DEVELOPMENT ONLY. (PAGE 3 OF THE Ho.Co. LANDSCAPE MANUAL)

SUBSTITUTION NOTES:

PERIMETER 2:
1 SHADE TREE HAS BEEN SUBSTITUTED FOR 2 EVERGREEN TREES
30 SHRUBS HAVE BEEN SUBSTITUTED FOR 3 EVERGREEN TREES

PERIMETER 4:
2 EVERGREEN TREES HAVE BEEN SUBSTITUTED FOR 1 SHADE TREE

SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING

S.W.M. POND PERIMETER	3
LANDSCAPE TYPE	B
LINEAR FEET OF TOTAL PERIMETER	±1,294'
CREDIT FOR EX. VEGETATION (NO OR YES & %)	YES,304'
CREDIT FOR OTHER PROP. LANDSCAPING (NO OR YES & %)	NO
LINEAR FEET OF REMAINING PERIMETER	990'
NUMBER OF TREES REQUIRED: SHADE TREES EVERGREEN TREES	 20 25
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION, 50% MAX.) SHRUBS (10:1 SUBSTITUTION, 25% MAX.)	 17 25 4 10

SUBSTITUTION NOTES:

4 ORNAMENTAL TREES HAVE BEEN SUBSTITUTED FOR 2 SHADE TREES
10 SHRUBS HAVE BEEN SUBSTITUTED FOR 1 SHADE TREE

GENERAL NOTES:

1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.

2. THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.

3. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

4. ALL MATERIAL SELECTED SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "USA STANDARD FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

5. ALL MATERIAL SHALL BE PLANTED IN ACCORDANCE WITH THE MINIMUM STANDARDS CITED IN THE LATEST EDITION OF "LANDSCAPE SPECIFICATION GUIDELINES" PUBLISHED BY THE LANDSCAPE CONTRACTORS ASSOCIATION.

6. AT THE TIME OF INSTALLATION, ALL SHRUBS AND OTHER PLANTINGS SHALL BE OF THE PROPER HEIGHT AND/OR SPREAD REQUIREMENTS IN ACCORDANCE WITH THIS PLAN AND THE HOWARD COUNTY LANDSCAPE MANUAL.

7. NO SUBSTITUTIONS OR RELOCATION OF PLANTS MAY BE MADE WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING OF HOWARD COUNTY. ANY DEVIATION FROM THIS LANDSCAPE PLAN MAY RESULT IN A REQUIREMENT FOR SUBMITTAL OF AN OFFICIAL "REDLINE REVISION" TO THE SITE DEVELOPMENT PLAN(S) AND/OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY.

8. NO LANDSCAPE SURETY IS REQUIRED FOR THIS PROJECT BECAUSE IT IS AN EDUCATIONAL/GOVERNMENT USE.

DEVELOPER'S/BUILDER'S 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 HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SIGNATURE 2/26/07 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR 5/7/07 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 3/16/07 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 4-26-07 DATE

DATE	NO.	REVISION
6-9-07	1	REDLINE REVISION BY CHA
		ADD NEW SHEETS 22-28

OWNER / DEVELOPER

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10901 LITTLE PATUXENT PARKWAY
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PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE LANDSCAPE SCHEDULES AND DETAILS

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
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F 410.997.9282

2-26-07 DATE

PETER J. STONE #3068

DESIGNED BY : PJS/ALC	
DRAWN BY: ALC	
PROJECT NO : 11449-2-3 L2000LNDO3.DWG	
DATE : MARCH 5, 2007	
SCALE : AS SHOWN	
DRAWING NO. 19 OF 34	

SDP-06-106

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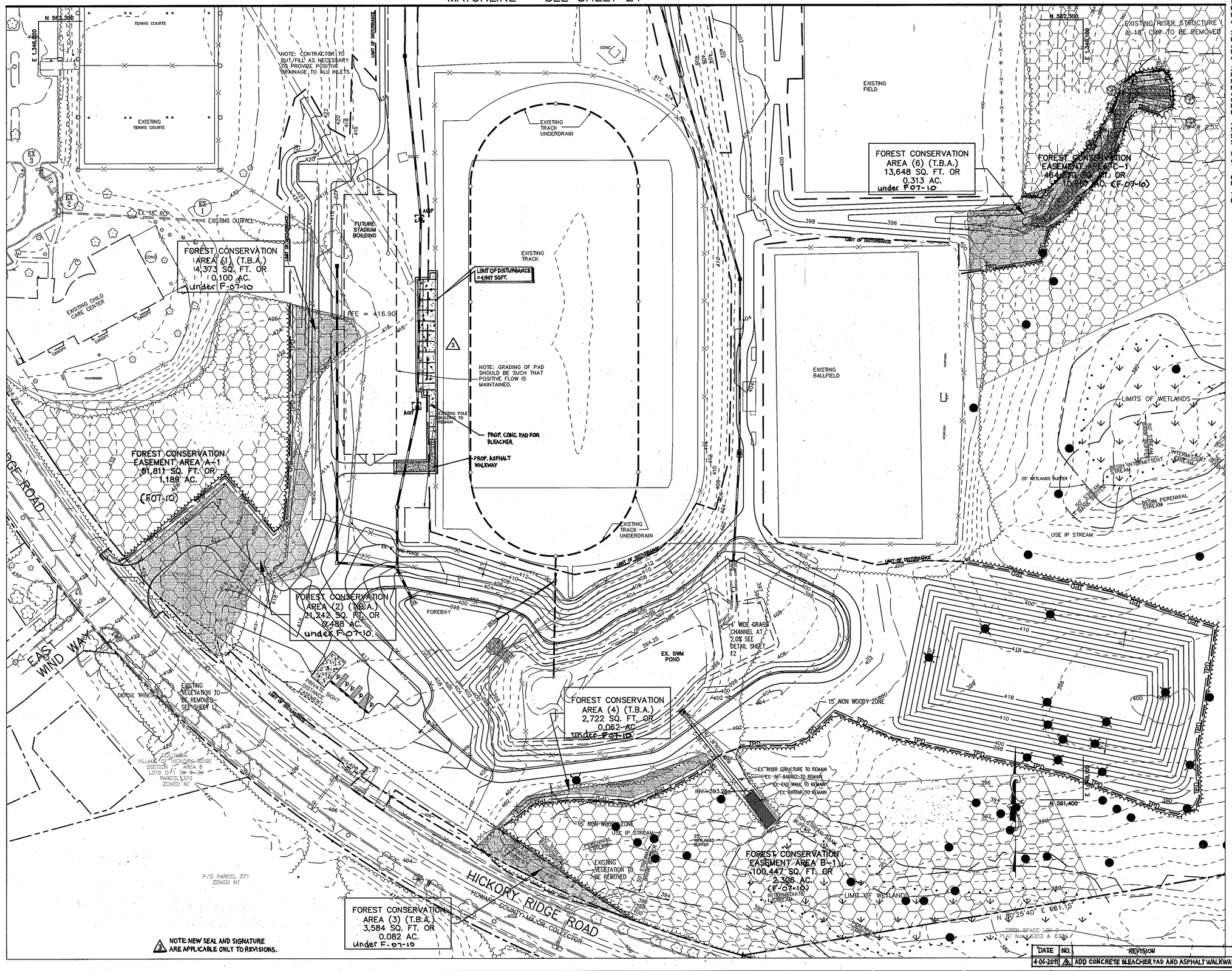
MATCHLINE – SEE SHEET 21



NOTE: NEW SEAL AND SIGNATURE ARE APPLICABLE ONLY TO REVISIONS.

DATE	NO.	REVISION
4-06-2011	3	ADD CONCRETE BLEACHER PAD AND ASPHALT WALKWAY

GENERAL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO ABANDON 1.31± AC (56,884 SF) OF FOREST RETENTION EASEMENTS AS SHOWN. PARTS OF FOREST CONSERVATION EASEMENT AREA 'A', 'B', 'C', AND 'J' WILL BE ABANDONED. T.B.A. IS "TO BE ABANDONED".

2. THIS PROPERTY IS SUBJECT TO AN APPROVED FOREST STAND DELINEATION, DATED OCT. 11, 2000, APPROVED FOREST CONSERVATION PLANS (SDP-01-58) AND REVISED UNDER SDP-03-156 (DELETED FOREST CONSERVATION 'G'), AND RECORDED FOREST CONSERVATION EASEMENT PLATS 16125 AND 16126, DATED AUGUST 15, 2003.

3. JUSTIFICATION FOR REMOVAL: IN ORDER TO HAVE THE PROPOSED ACCESS ROAD ACROSS FROM EAST WIND WAY, PART OF FOREST CONSERVATION AREA A NEEDS TO BE ABANDONED/REMOVED. PART OF FOREST CONSERVATION AREA B NEEDS TO BE ABANDONED/REMOVED BECAUSE OF EXPANSION TO THE SWM POND AND FOR A SIGHT DISTANCE EASEMENT. PART OF FOREST CONSERVATION AREAS C AND J NEED TO BE ABANDONED/REMOVED BECAUSE IN ORDER TO CORRECT DRAINAGE ISSUES, DRAINAGE SWALES HAVE TO BE PUT IN. THE IMPROVEMENTS PROPOSED ARE IN ACCORDANCE WITH THE COLLEGE'S RECENT MASTER PLAN.

4. THE FOREST CONSERVATION FOR THE PROPOSED SITE DEVELOPMENT WILL BE SATISFIED BY THE PAYMENT OF AN ABANDONMENT FEE IN THE AMOUNT OF $28,442 ($0.50 PER SQUARE FOOT) AND A FEE-IN-LIEU OF $28,442 ($0.50 PER SQUARE FOOT) FOR A TOTAL OF $56,884.

5. BEARINGS AND DISTANCES FOR THE REVISED FOREST CONSERVATION EASEMENT ARE PROVIDED ON AN EASEMENT PLAT AS PLAT NO. F-07-010, Plat 19049.

6. THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERCEDES ANY DISCREPANCIES BETWEEN THE MANUAL AND THESE PLANS.

7. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION.

LEGEND

- PROPERTY LINE
- EXISTING TREELINE
- PROPOSED TREELINE
- WETLANDS AND 25' BUFFER
- EX. STREAM AND BUFFER
- EXISTING CONTOURS (380, 378)
- PROPOSED CONTOURS
- EXISTING BUILDING
- PROPOSED BUILDING
- LIMIT OF DISTURBANCE
- TREE PROTECTION DEVICE (TPD) (BLAZE ORANGE PLASTIC MESH) (TPD)
- EXISTING FOREST CONSERVATION AREA
- SPECIMEN TREE
- SPECIMEN TREE TO BE REMOVED
- FOREST CONSERVATION AREA TO BE ABANDONED

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 5/2/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 3/14/07
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 4-26-07

DATE	NO.	REVISION
6-9-07	1	REDLINE REVISION BY CHA
		ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY, HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION PLAN

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

2-26-07
DATE
PROFESSIONAL LANDSCAPE ARCHITECT 3068 PETER J. STONE STATE OF MARYLAND
PETER J. STONE #3068

DESIGNED BY : PJS/ALC	
DRAWN BY: ALC	
PROJECT NO : 11449-2-3	1200FCP01.DWG
DATE : MARCH 5, 2007	
SCALE : 1" = 50'	
DRAWING NO. 20 OF 34	

SDP-06-106

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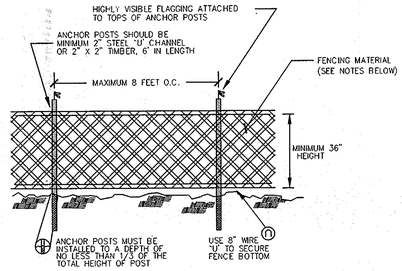

NOTES:

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

FOREST CONSERVATION ABANDONMENT CHART			
AREA	SF ABANDONED	TOTAL SF AFTER ABANDONMENT	NEW EASEMENT AREA
A	25,615	51,811	A-1
B	6,306	100,447	B-1
C	20,066	464,204	C-1
J	4,963	103,497	J-1
TOTAL	56,950		

LEGEND

- PROPERTY LINE
- EXISTING TREELINE
- PROPOSED TREELINE
- WETLANDS AND 25' BUFFER
- EX. STREAM AND BUFFER
- EXISTING CONTOURS (380, 378)
- PROPOSED CONTOURS
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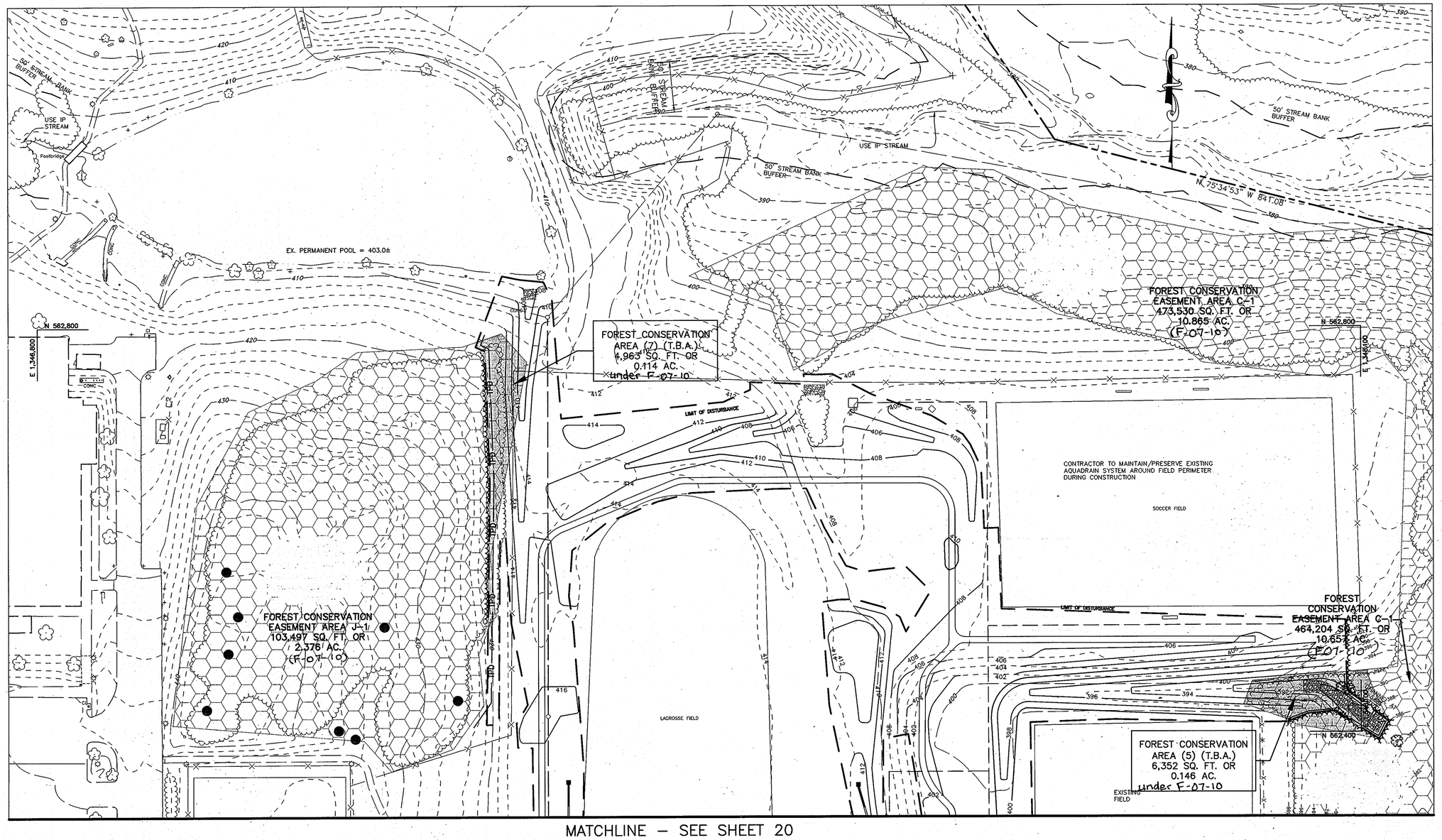
- SPECIMEN TREE
- SPECIMEN TREE TO BE REMOVED



MATCHLINE – SEE SHEET 20

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 5/2/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 3/14/07
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 4-26-07

DATE	NO.	REVISION
6-4-09	1	TREELINE REVISION BY CHA
		ADD NEW SHEETS 22-28

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE**
HICKORY RIDGE ROAD ENTRANCEWAY, HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION PLAN

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

2-26-07
DATE

PETER J. STONE #3068

DESIGNED BY : PJS/ALC	
DRAWN BY: ALC	
PROJECT NO : 11449-2-3 L200FCP02.DWG	
DATE : MARCH 5, 2007	
SCALE : 1" = 50'	
DRAWING NO. 21 OF 34	

SDP-06-106

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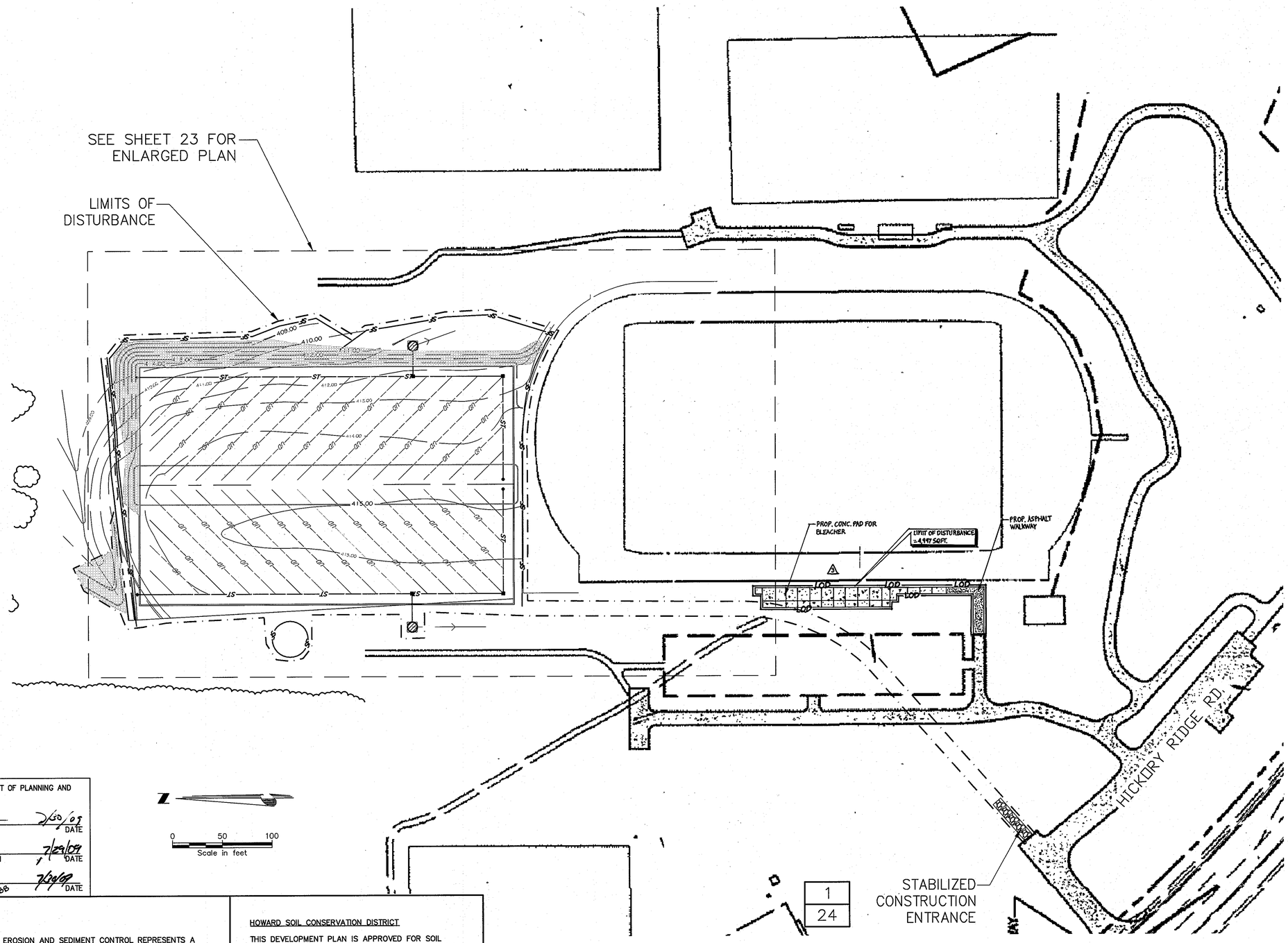

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 7/20/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 7/21/09
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 7/22/09

ENGINEERS CERTIFICATION

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

7-20-09
DATE
CHA INC
10800 MIDLOTHIAN TURNPIKE
THE WINCHESTER BUILDING, SUITE 303
RICHMOND, VA, 23235

HOWARD SOIL CONSERVATION DISTRICT

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

HOWARD SOIL CONSERVATION DISTRICT 7/22/09 DATE

MAP REFERENCE:
ADDITIONAL SITE MAPPING FROM SITE DEVELOPMENT PLAN FOR HOWARD COMMUNITY COLLEGE "HICKORY RIDGE ROAD ENTRANCEWAY, HANDICAPPED PARKING AND TRACK ACCESS DRIVE" BY PHR+A DATED MARCH 5, 2007.

NOTE: NEW SEAL AND SIGNATURE ARE APPLICABLE ONLY TO REVISIONS.

No.	Submittal / Revision	App'd	By	Date
1	RED LINE REVISION PLAN BY CHA EROSION AND SEDIMENT CONTROL PLAN FOR SYNTHETIC INFILL TURF FIELD	DLB	NDN	6/09/09
2	ADD CONC. BLEACHER PAD & ASPHALT WALK			4-05-2011

Drawing Copyright © 2009
CHA
10800 Midlothian Turnpike, The Winchester Building, Suite 303, Richmond, VA 23235
Main: (804) 897-5084 - Fax: www.chainc@aol.com

Designed: NDN | Drawn: NDN | Checked: DLB

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HOWARD COMMUNITY COLLEGE
SYNTHETIC INFILL TURF FIELD

EROSION AND SEDIMENT CONTROL PLAN (ADD SHEET 22)

Issue Date: 5-07-2009 | Project No.: 19817 | Scale: AS SHOWN

SDP-06-106

File: K:\19817\CADD\ACAD_SHEET_FILES\C2.0 EROSION AND SEDIMENT CONTROL PLAN.DWG
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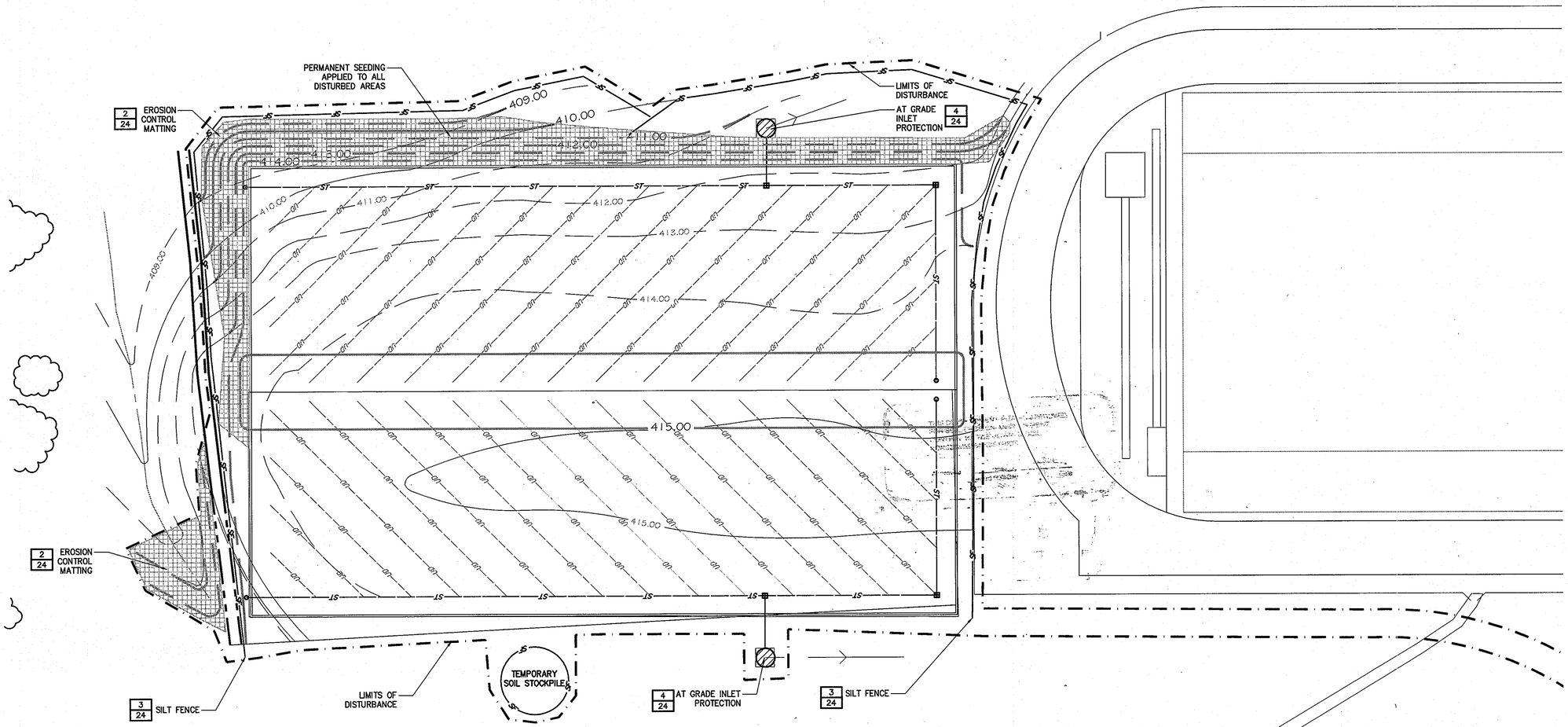

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	7/30/09 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	7/29/09 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	7/30/09 DATE

ENGINEERS CERTIFICATION

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

7-20-09
DATE
CHA INC
10800 MIDLOTHIAN TURNPIKE
THE WINCHESTER BUILDING, SUITE 303
RICHMOND, VA, 23235

HOWARD SOIL CONSERVATION DISTRICT

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

HOWARD SOIL CONSERVATION DISTRICT 7/22/09 DATE

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- SILT FENCE
- INLET PROTECTION
- EROSION CONTROL MATTING
- LIMITS OF DISTURBANCE

0 30 60
Scale in feet

NOTE:
SEE SHEET 24 FOR EROSION AND SEDIMENT CONTROL NARRATIVE AND DETAILS

No.	Submittal / Revision	Appd	By	Date
1	RED LINE REVISION PLAN BY CHA (ROOM ADDITION, SEDIMENT CONTROL PLAN FOR SYNTHETIC INFILL TURF FIELD	DLB	NDN	5/09/09

STATE OF MARYLAND LAND DESIGNER PROFESSIONAL ENGINEER DAVID L. BOLTON No. 19817

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF THE APPLICABLE STATE AND/OR LOCAL LAWS

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CHA
10800 Midlothian Turnpike, The Winchester Building, Suite 303, Richmond, VA 23235
Main: (804) 897-0564 • www.chacompanies.com

Designed: NDN | Drawn: NDN | Checked: DLB

HOWARD COMMUNITY COLLEGE
SYNTHETIC INFILL TURF FIELD

ENLARGED EROSION AND SEDIMENT CONTROL PLAN (ADD SHEET 23)

Issue Date: 5-07-2009 | Project No.: 19817 | Scale: AS SHOWN

SDP-06-106

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SYNTHETIC INFILL TURF FIELD FOR HOWARD COMMUNITY COLLEGE – HOWARD COUNTY, MD

I. PROJECT DESCRIPTION:

The purpose of this project is to resurface an existing natural turf athletic field at Howard Community College with synthetic turf. The total amount of land disturbance required is approximately 3.13 acres. Work includes installation of synthetic turf, stone base and underdrain system.

II. EXISTING SITE CONDITIONS:

The project is located at the existing lacrosse field on the campus of Howard County Community College. Runoff from the project site travels overland to two inlets located on either side of the field. Slopes on the site are generally 1–2% with the northeastern edge of the site at a 6–10% slope.

III. SOIL:

Soils onsite according to USDA Web Soil Survey are Gladstone Urban Land Complex.

IV. SEQUENCE OF CONSTRUCTION:

The following is the general sequence of construction to be followed in order to install the proposed sediment erosion control measures.
1. Obtain a Grading Permit.
2. 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 constrction (410–313–1855)
3. Stake limits of disturbance
4. Install construction entrance, silt fence and inlet protection as shown on the approved erosion and sediment control plan.
5. Install underground utilities.
6. Perform grading as shown on the approved site plan. Stabilize slopes and channels with seeding and erosion control matting immediately following grading.
7. Once the site is stabilized and approved by the Howard County inspector, contractor shall remove temporary erosion control devices.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[signature] DIRECTOR	7/30/09 DATE
[signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION	7/29/09 DATE
[signature] CHIEF, DIVISION OF LAND DEVELOPMENT BB	7/30/09 DATE

HOWARD SOIL CONSERVATION DISTRICT

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 most current 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 greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol 1, Chapter 12 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 (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
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	117.8	Acres
Area Disturbed	3.2	Acres
Area to be roofed or paved	0.0	Acres
Area to be vegetatively stabilized	0.8	Acres
Total Cut	2670	Cu. Yds.
Total Fill	3160	Cu. Yds.
Offsite waste/borrow area location:	AGGREGATE INDUSTRIES, 7529 STANDISH PLACE, ROCKVILLE, MD	

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 control 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 by the end of each work day, whichever is shorter.

Rev. 9/99

HOWARD SOIL CONSERVATION DISTRICT

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

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

Seeding -- For the periods March 1 -- April 30, and August 1 -- October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 -- July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 -- February 28, protect site by:
Option 1 -- Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring.
Option 2 -- Use sod. Option 3 --- Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching -- Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance -- Inspect all seeding areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

Seedbed preparation: -- Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: -- Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

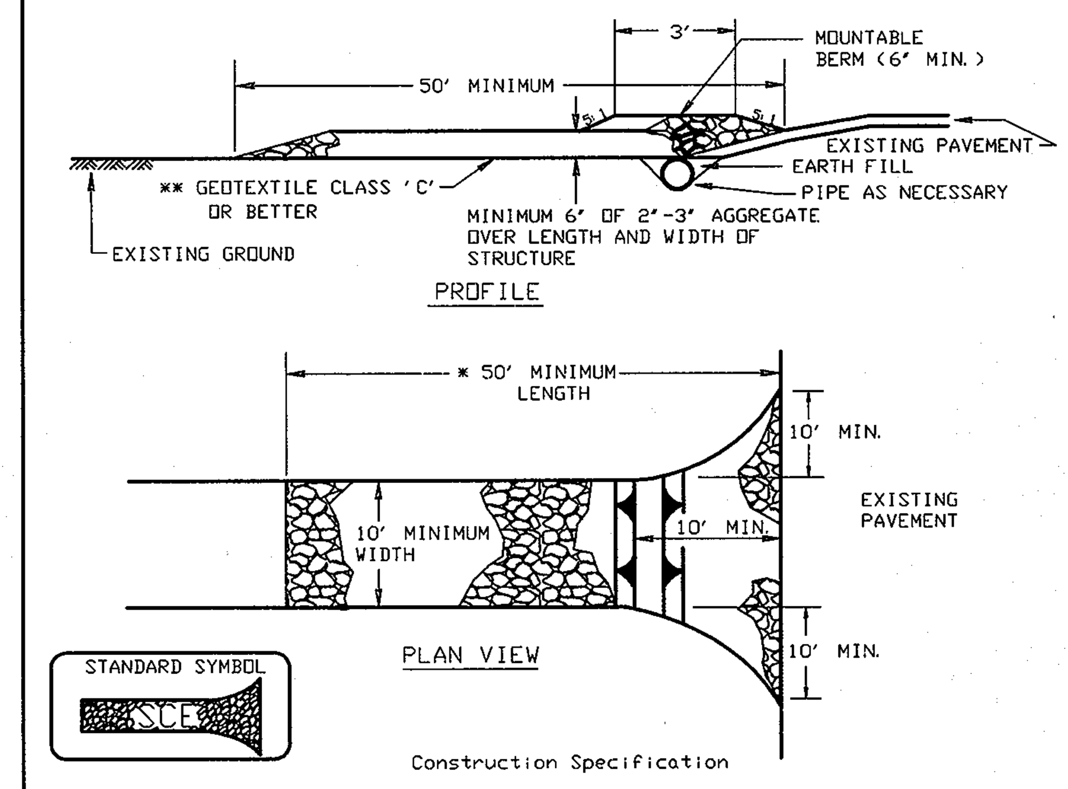
Seeding: -- For periods March 1 -- April 30 and from August 15 -- October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 -- August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 -- February 28, protect site by applying 2 tons/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/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the *1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL* for additional rates and methods not covered.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
Approved [signature] Howard S.C.D. Date 7/22/09

DETAIL 24 – STABILIZED CONSTRUCTION ENTRANCE



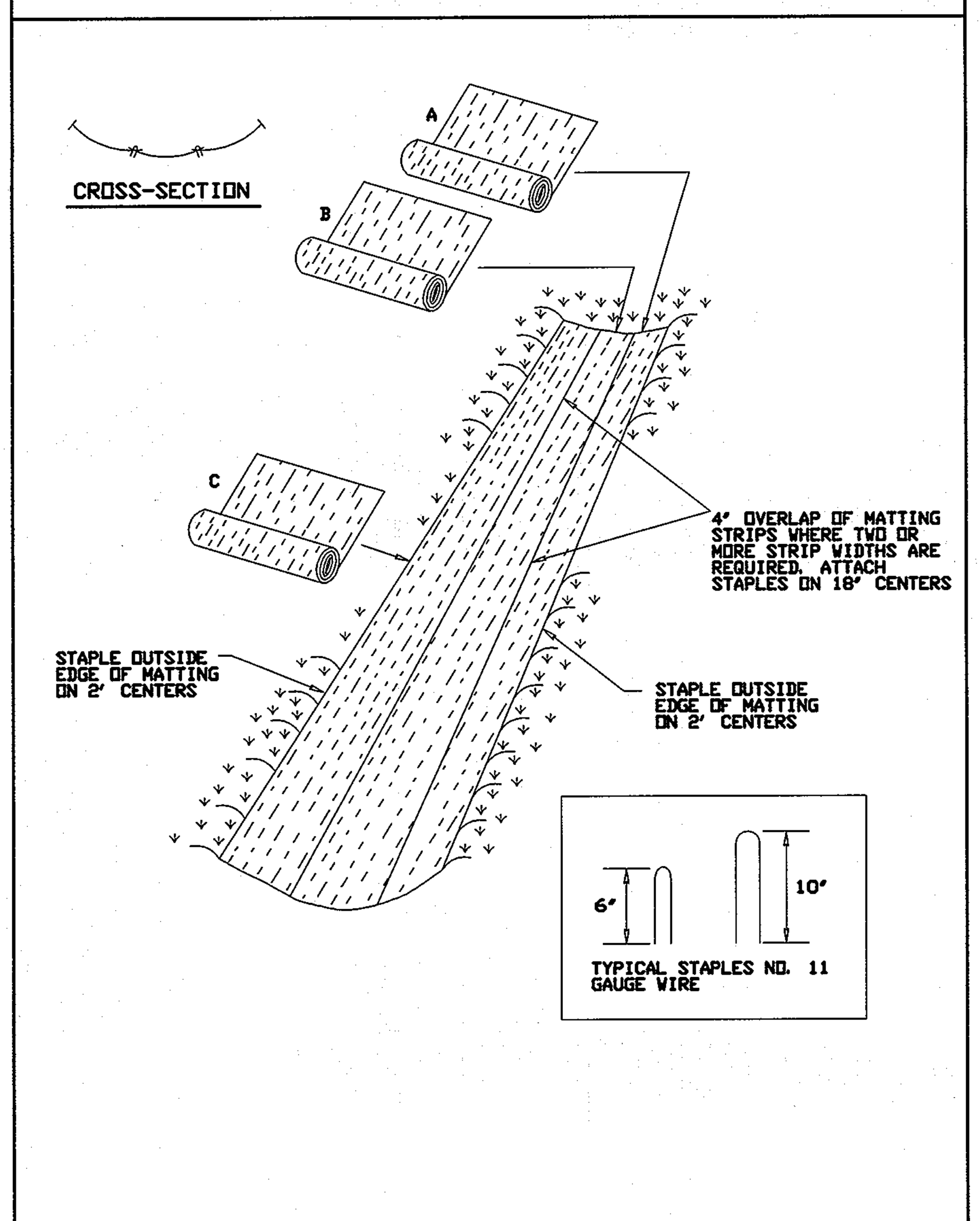
Construction Specification

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.

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

1 / 24 **STABILIZED CONSTRUCTION ENTRANCE**
SCALE: N.T.S.

DETAIL 30 – EROSION CONTROL MATTING



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

2 / 24 **EROSION CONTROL MATTING**
SCALE: N.T.S.

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

SILT FENCE

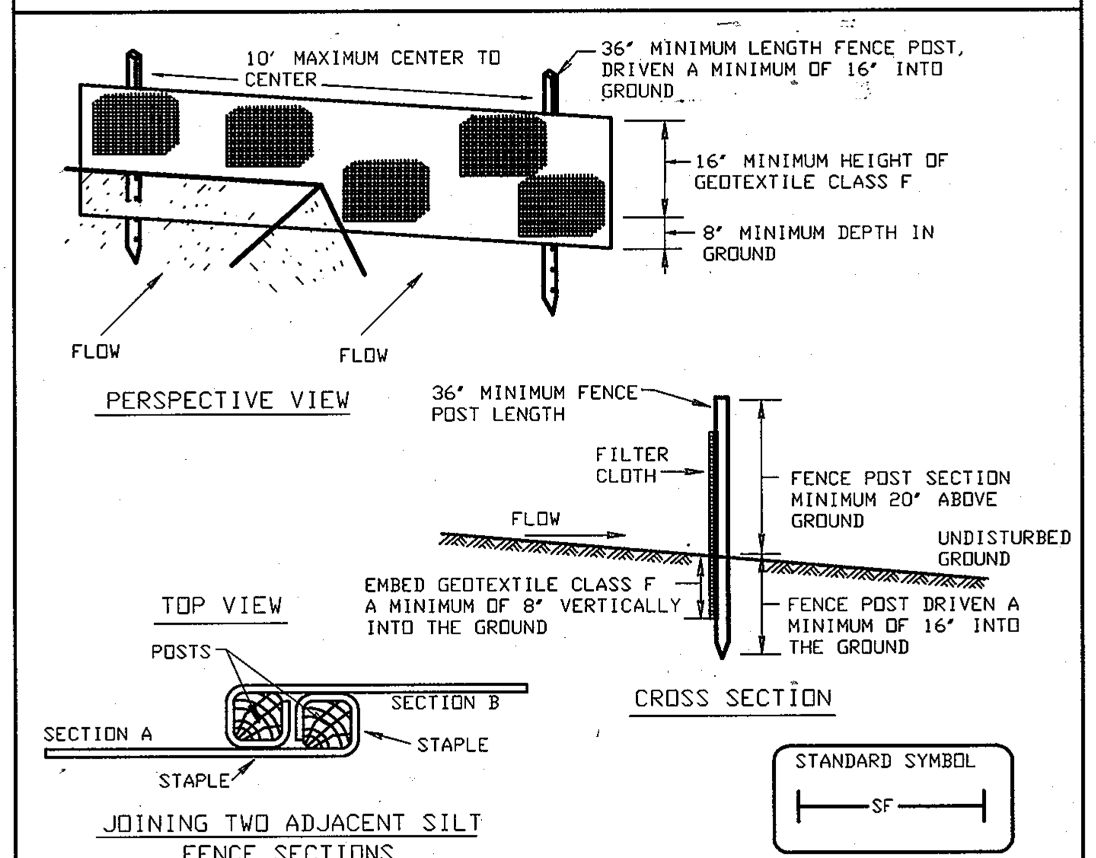
Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

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

DETAIL 22 – SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 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:

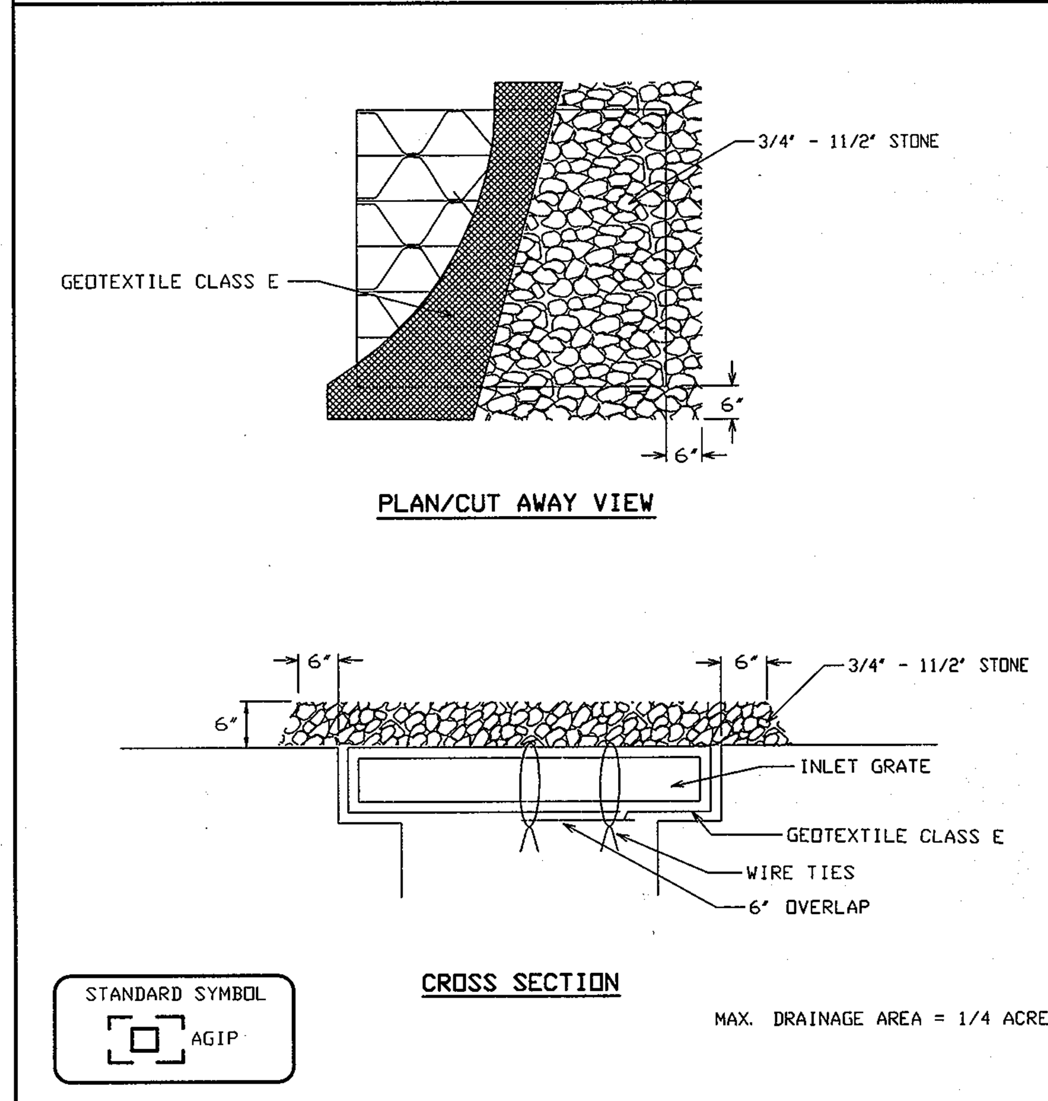
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

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

3 / 24 **SILT FENCE**
SCALE: N.T.S.

DETAIL 23B – AT GRADE INLET PROTECTION



Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
2. Place 3/4" to 11/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

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

4 / 24 **AT GRADE INLET PROTECTION**
SCALE: N.T.S.

No.	Submittal / Revision	App'd	By	Date
1	RED LINE REVISION PLAN BY CHA EROSION AND SEDIMENT CONTROL NARRATIVE AND DETAILS FOR SYNTHETIC INFILL TURF FIELD	DLB	NDN	6/09/09

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Designed: NDN | Drawn: NDN | Checked: DLB

HOWARD COMMUNITY COLLEGE
SYNTHETIC INFILL TURF FIELD

EROSION CONTROL NARRATIVE AND DETAILS (ADD SHEET 24)

Issue Date: 5-07-2009 | Project No.: 19817 | Scale: AS SHOWN

SDP-06-106

File: K:\19817\CADD\ACAD_SHEET_FILES\C2.2 EROSION CONTROL NARRATIVE AND DETAILS.DWG
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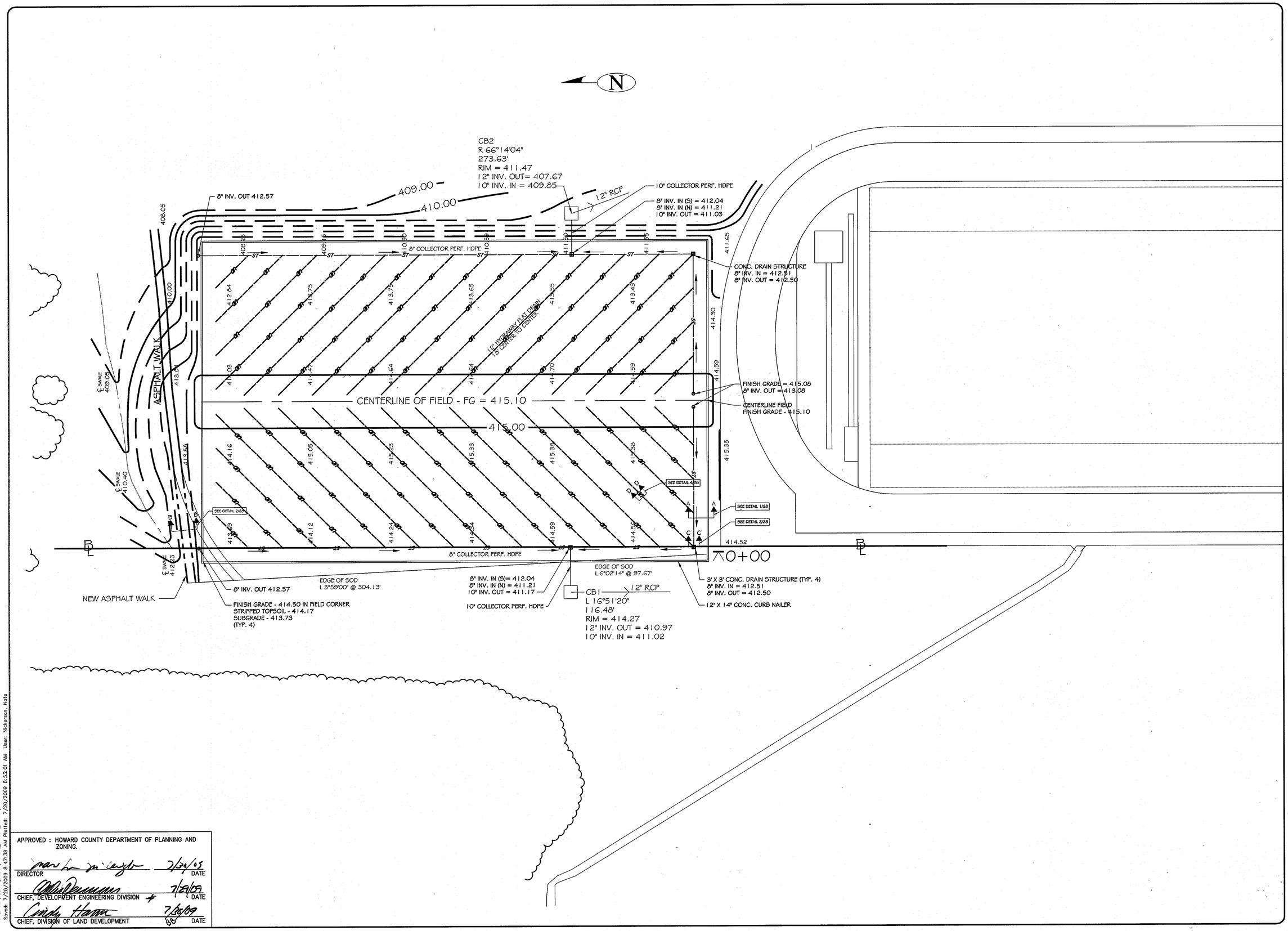

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 7/30/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 7/30/09
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 7/30/09

No.	Submittal / Revision	App'd	By	Date
1	RED LINE REVISION PLAN BY CHA SITE PLAN FOR SYNTHETIC INFILL TURF FIELD	DLB	NDN	6/09/09

CLARK COMPANIES

STATE OF MARYLAND
NICHOLAS D. NICKERSON
No. 28411
PROFESSIONAL ENGINEER
6-24-09
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HOWARD COMMUNITY COLLEGE
SYNTHETIC INFILL TURF FIELD

SITE PLAN (ADD SHEET 25)

Issue Date: 5-07-2009 | Project No.: 19817 | Scale: AS SHOWN

SDP-06-106

File: K:\19817\CADD\ACAD_SHEET_FILES\S1 SITE PLAN.DWG
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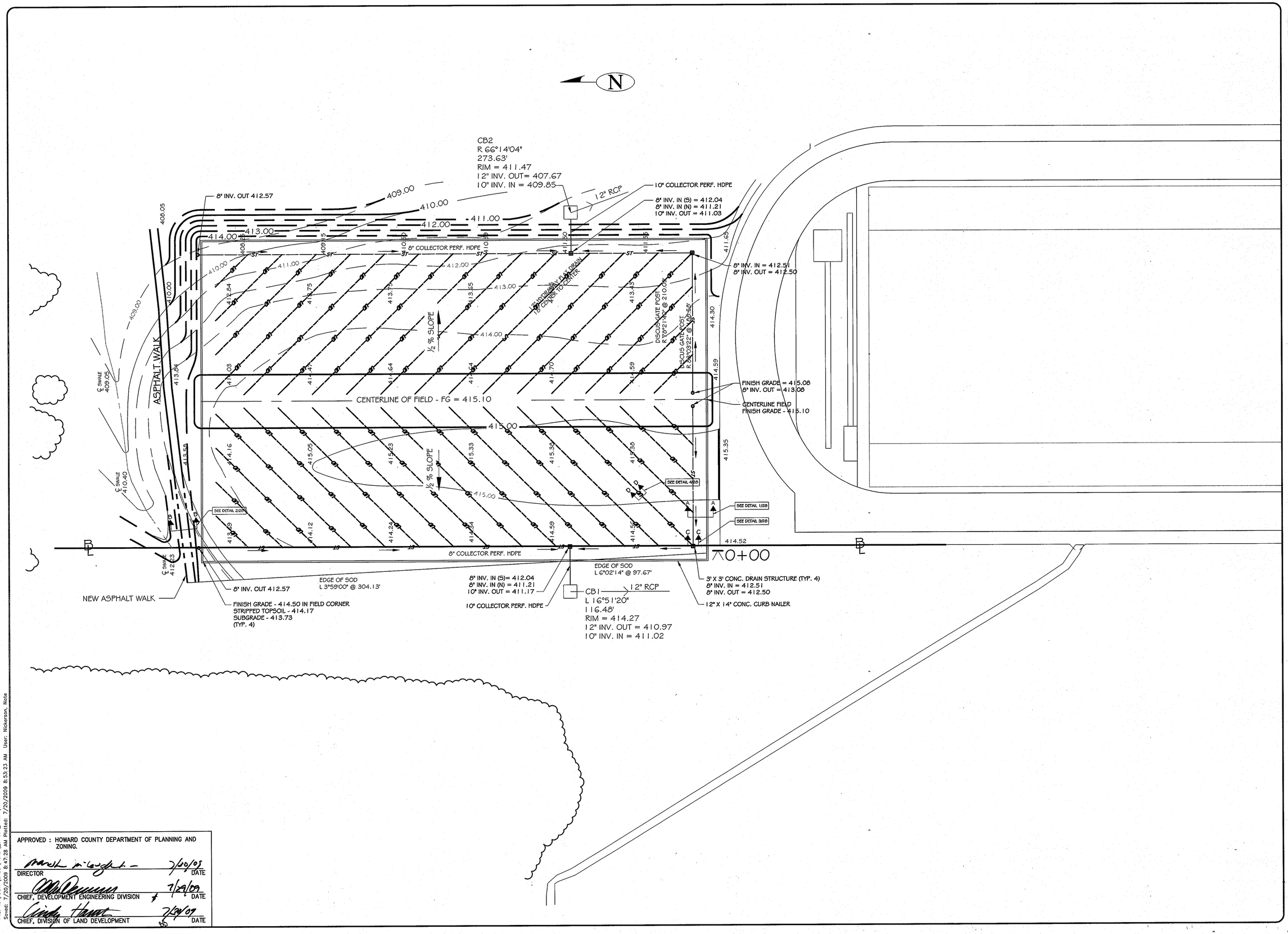

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 7/30/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 7/29/09
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 7/29/09

No.	Submittal / Revision	Appr'd	By	Date
1	RED LINE REVISION PLAN BY CHA SITE PLAN WITH SYNTHETIC INFILL TURF FIELD IMPROVEMENTS SHOWING EXISTING CONDITIONS	DLB	NDN	6/09/09

CLARK COMPANIES

STATE OF MARYLAND — DAVID L. BRUNSMAN — No. 25 — PROFESSIONAL ENGINEER

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HOWARD COMMUNITY COLLEGE
SYNTHETIC INFILL TURF FIELD

SITE PLAN WITH EXISTING CONDITIONS (ADD SHEET 26)

Issue Date: 5-07-2009 | Project No.: 19817 | Scale: AS SHOWN

SDP-06-106

File: K:\19817\CADD\ACAD_SHEET_FILES\S2 SITE PLAN WITH EXISTING CONDITIONS.DWG
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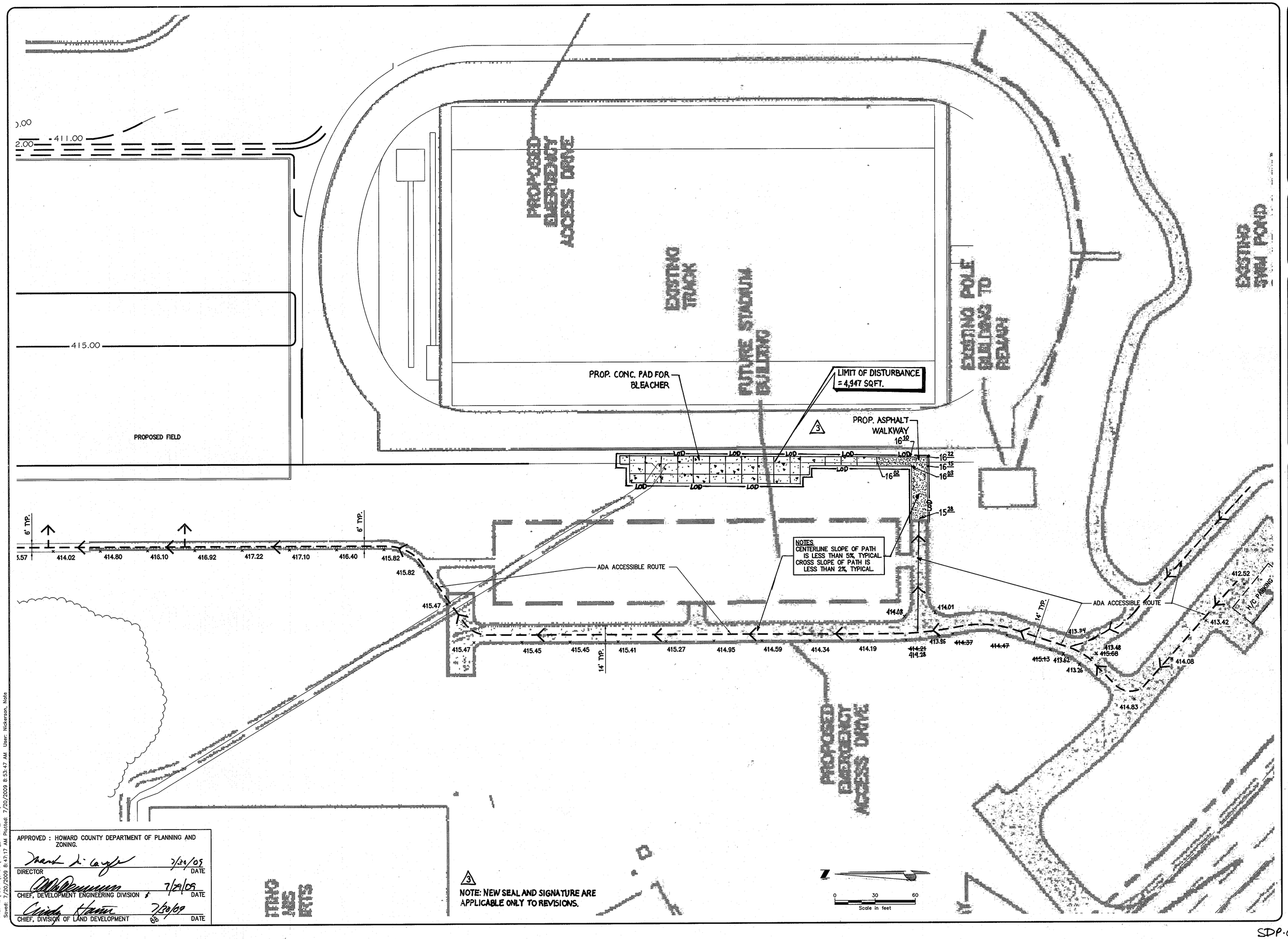

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 7/30/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 7/30/09
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 7/30/09

No.	Submittal / Revision	Appd	By	Date
1	RED LINE REVISION PLAN BY CHA ADA-ACCESSIBLE ROUTE FOR SYNTHETIC INFILL TURF FIELD	DLB	NDN	6/09/09
3	ADD CONC. BLEACHER PAD & ASPHALT WALK			4-06-2011

STATE OF MARYLAND LARRY D. LEWIS No. 17 PROFESSIONAL ENGINEER

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Designed: AFO | Drawn: AFO | Checked: DLB

HOWARD COMMUNITY COLLEGE
SYNTHETIC INFILL TURF FIELD

ACCESSIBLE ROUTE (ADD SHEET 27)

Issue Date: 5-07-2009 | Project No.: 19817 | Scale: AS SHOWN

SDP-06-106

File: K:\19817\CADD\ACAD_SHEET_FILES\C3.1 ACCESSIBLE ROUTE.DWG
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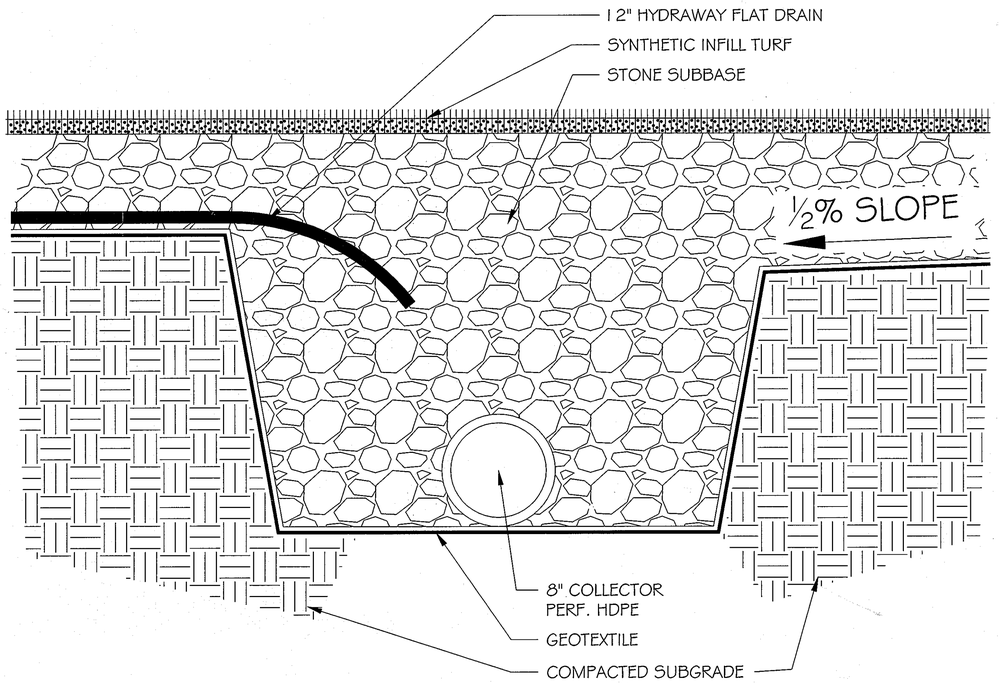
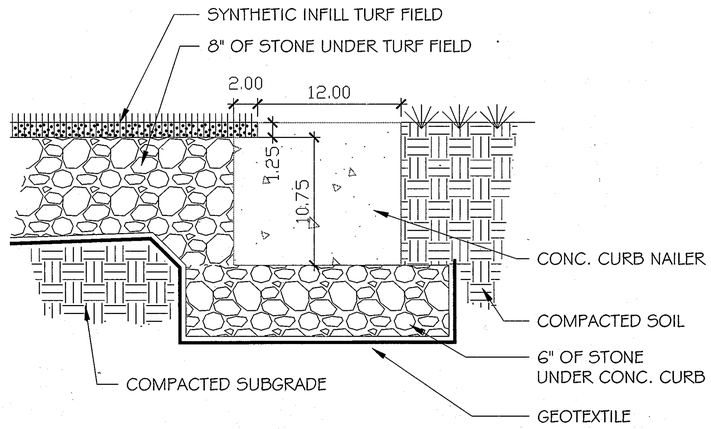
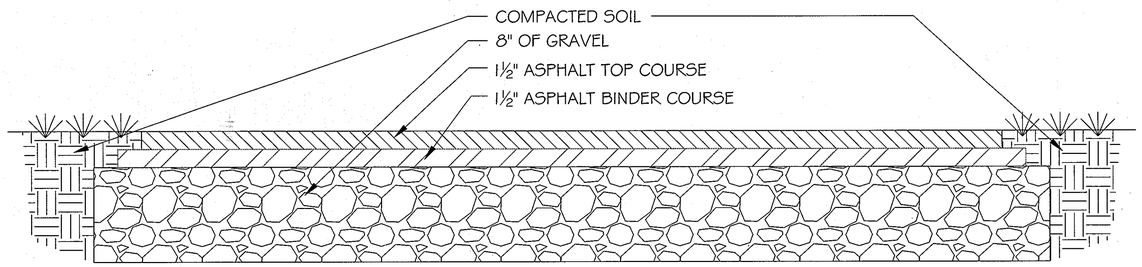
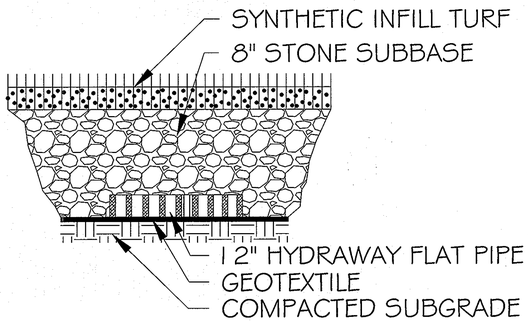




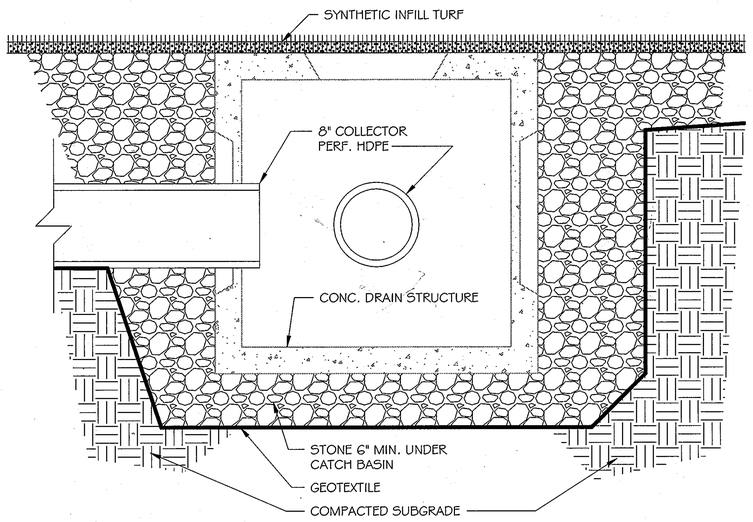
1/D1 CONC. CURB NAILER & 8" COLLECTOR
NOT TO SCALE



2/D1 NEW ASPHALT WALK
NOT TO SCALE



4/D1 FLAT DRAIN PROFILE
NOT TO SCALE



3/D1 CONC. DRAIN STRUCTURE
NOT TO SCALE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 7/30/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 7/30/09
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 7/30/09

No.	Submittal / Revision	Appd	By	Date
1	RED LINE REVISION PLAN BY CHA SITE DETAILS FOR SYNTHETIC INFILL TURF FIELD	DLB	NDN	6/09/09

CLARK COMPANIES

STATE OF MARYLAND — DAVID L. BOWLER — No. 7777 — PROFESSIONAL ENGINEER

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HOWARD COMMUNITY COLLEGE
SYNTHETIC INFILL TURF FIELD

DETAILS (ADD SHEET 28)

Issue Date: 5-07-2009 | Project No.: 19817 | Scale: AS SHOWN

SDP-06-106

File: K:\19817\CADD\ACAD_SHEET_FILES\D1 DETAILS.DWG
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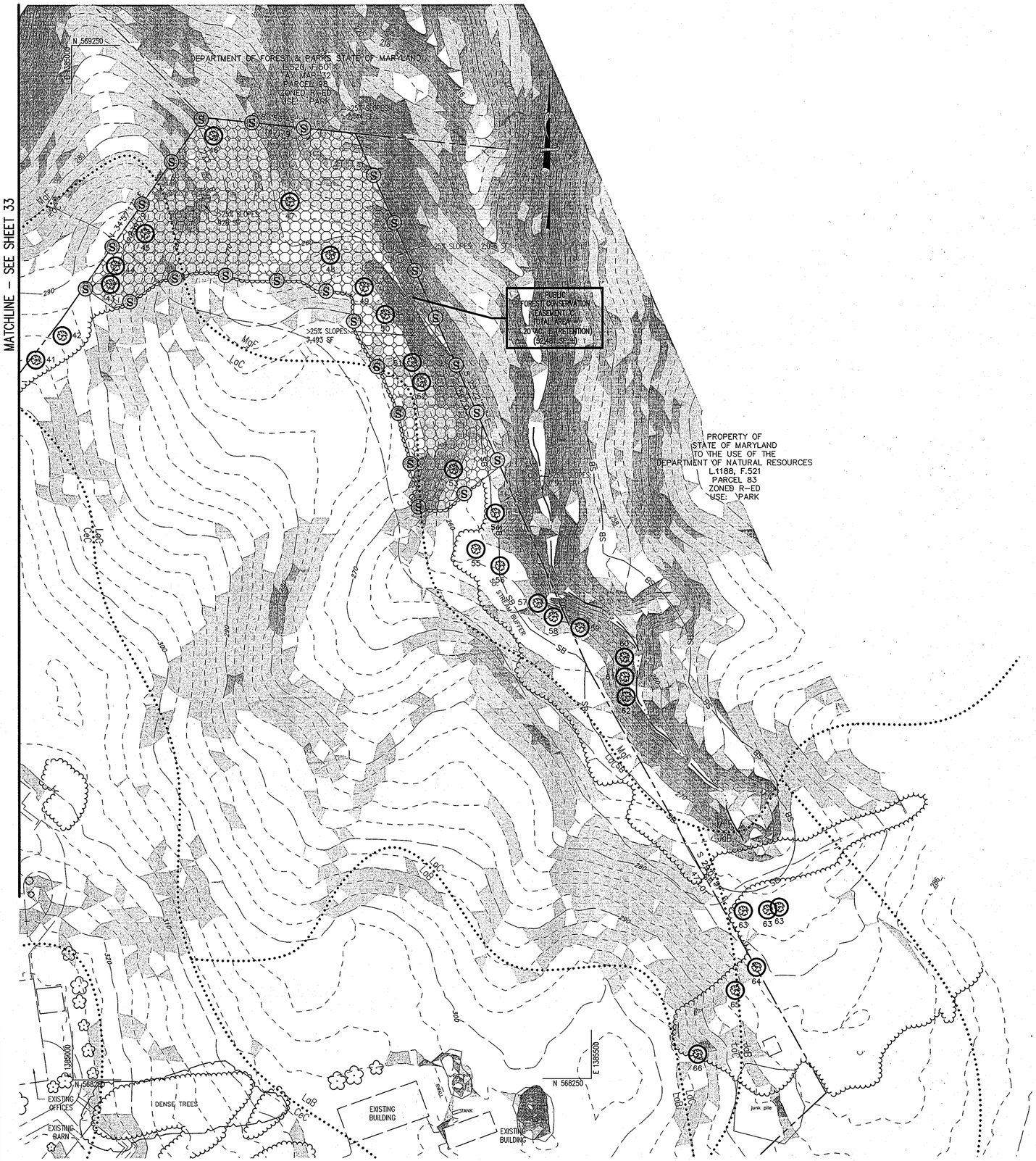

FOREST CONSERVATION EASEMENT	AREA RETENTION (IN ACRES)	AREA AFFORESTATION (IN ACRES)
A	0.81 AC ±	0
B	0.35 AC ±	0
C	1.20 AC ±	0
D	0	0.25 AC ±
SUBTOTAL	2.36 AC ±	0.25 AC ±
TOTAL		2.61 AC ±

PLANTING SPECIFICATIONS AFFORESTATION OR REFORESTATION MAINTENANCE AND REPLACEMENT REQUIREMENTS

A TWO YEAR (24) MONTH MAINTENANCE AND REPLACEMENT WARRANTY PERIOD IS REQUIRED FOR ALL NEWLY PLANTED MATERIALS. THE MAINTENANCE AND REPLACEMENT WARRANTY PERIOD SHALL COMMENCE UPON THE DATE OF THE WRITTEN ACCEPTANCE BY THE OWNER OF THE PLANTED AREAS. A WRITTEN WARRANTY WILL BE DELIVERED TO THE OWNER UPON ACCEPTANCE OF THE PLANTED AREAS. MAINTENANCE AND REPLACEMENT SHALL BE PROVIDED BY THE CONTRACTOR RESPONSIBLE FOR THE INITIAL PLANTING OPERATIONS AND RELATED WORK. ALL LANDSCAPE PLANT MATERIAL INCLUDED AS FOREST CONSERVATION CREDITS SHALL BE COVERED UNDER THIS MAINTENANCE AND REPLACEMENT WARRANTY PERIOD.

I. MAINTENANCE:
THE CONTRACTOR SHALL FIELD CHECK THE NEWLY PLANTED AREA(S) AND SHALL PROVIDE THE FOLLOWING MAINTENANCE ITEMS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE WHICH SHALL BEGIN AFTER THE COMPLETION AND ACCEPTANCE OF THE INITIAL AFFORESTATION OR REFORESTATION PLANTING.

II. MAINTENANCE ITEMS:
1. WATERING: WATERING OF ALL NEWLY PLANTED MATERIALS ONCE PER WEEK AS WEATHER PERMITS DURING THE ENTIRE INITIAL GROWING SEASON. FOLLOWING THE INITIAL GROWING SEASON, WATERING SHALL BE DONE ON AN "AS NEEDED" BASIS DEPENDING ON THE FREQUENCY OF NATURAL RAINFALL. DURING THE MONTHS OF JULY AND AUGUST AND PERIODS OF SEVERE DROUGHT, ALL NEWLY PLANTED MATERIALS SHALL BE WATERED THOROUGHLY ONCE EVERY WEEK. WATERING SHALL BE DONE DEEPLY AND SLOWLY USING AN OPEN END HOSE OR WATERING PROBE, AT LOW PRESSURE, ALLOWING THE WATER TO BE ABSORBED INTO THE SOIL UNTIL THOROUGHLY SATURATED. THE WATERED AREA SHALL INCLUDE THE WHOLE ROOT ZONE AS THE TREE BECOMES MORE ESTABLISHED.
2. FERTILIZING: FERTILIZING SHALL BE APPLIED ONLY AFTER THE SOIL HAS BEEN TESTED TO DETERMINE ITS NEEDS. ORGANIC FERTILIZER SHOULD BE APPLIED IN ACCORDANCE WITH THE AMOUNTS RECOMMENDED IN THE SOIL ANALYSIS REPORT. NO FERTILIZING OF NEWLY PLANTED TREES SHALL BE DONE WITHIN THE FIRST GROWING SEASON AFTER INITIAL PLANTING. FOLLOWING THE FIRST GROWING SEASON, APPLY FERTILIZER AS RECOMMENDED EITHER IN LATE FALL OR EARLY SPRING.
3. SUPPLEMENTAL MULCH: TO CONTROL UNDESIRABLE VEGETATION ADJACENT TO THE NEWLY PLANTED MATERIALS AND TO PREVENT TREE ROOTS FROM DRYING OUT, ADDITIONAL MULCH SHALL BE PLACED OVER THE EXISTING MULCH FIELD WHERE REQUIRED. CAREFULLY REMOVE ANY INVASIVE PLANTS (INCLUDING THE ROOT SYSTEM) WITHIN THE MULCH FIELDS. DO NOT DAMAGE TREES IN ANY WAY DURING REMOVAL OF INVASIVE PLANTS OR REMULCHING OPERATIONS.
4. PRUNING: REMOVE DEAD, DISEASED, DYING AND BROKEN BRANCHES FROM ALL PLANT MATERIALS. PRUNING SHALL BE DONE CLEANLY LEAVING NO RAGGED ENDS.
5. MOWING: AREA TO BE PLANTED SHALL NOT BE MOWED AND SHALL BE LEFT TO RETURN TO ITS NATURAL STATE.

III. REPLACEMENT OF DEAD OR DYING MATERIALS:
1. REPLACEMENT: ANY PLANT MATERIALS WHICH ARE 25% DEAD OR MORE SHALL BE REPLACED DURING THE APPROPRIATE SPRING OR FALL PLANTING SEASONS IN ACCORDANCE WITH THE METHODS INDICATED IN THE PLANTING SPECIFICATIONS. A TREE SHALL BE CONSIDERED DEAD WHEN THE MAIN LEADER HAS DIED BACK.
2. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME GENUS, SPECIES AND SIZE AS SPECIFIED ON THE PLANT LIST.
3. CONTRACTOR SHALL SCHEDULE AN INSPECTION OF THE AFFORESTATION OR REFORESTATION AREA(S) BY A QUALIFIED REPRESENTATIVE OF THE COUNTY, AT THE BEGINNING AND AT THE END OF THE GROWING SEASON TO OBSERVE ANY PROBLEMS, MONITOR SURVIVAL RATE AND SPECIFY NECESSARY REMEDIAL ACTIONS NEEDED TO CORRECT EXISTING PROBLEMS. THE INSPECTION SHOULD FOCUS ON THE FOLLOWING ITEMS WHEN DETERMINING SURVIVAL POTENTIAL:
(A) VIGOR AND THREAT OF COMPETING VEGETATION
(B) PLANT STRUCTURE
(C) GROWTH RATE
(D) CROWN DEVELOPMENT
(E) TRUNK CONDITIONS AND HEALTH

IV. PLANT CONDITION CHECK SHEETS
THE CONTRACTOR SHALL MAINTAIN ACCURATE RECORDS ON APPROPRIATE FIELD DATA CHECK SHEETS WHICH SHALL INCLUDE ALL CONDITIONS OBSERVED RELATIVE TO THE HEALTH AND POTENTIAL SURVIVAL OF THE PLANT MATERIALS. SUCH CHECK SHEETS SHALL BE COMPLETED DURING EACH SCHEDULED MAINTENANCE SESSION DURING THE 24 MONTH MANAGEMENT AND MAINTENANCE PROGRAM. ONE COPY OF THE CHECK SHEETS SHALL BE SENT TO THE CLIENT, ONE COPY TO PHRA, AND ONE COPY SHALL BE SENT TO THE ANNE ARUNDEL COUNTY DEPARTMENT OF PLANNING AND ZONING.

V. SURVIVAL REQUIREMENT:
THE SURVIVAL RATE FOR AFFORESTATION AND REFORESTATION AREAS SHALL BE A MINIMUM OF SEVENTY-FIVE PERCENT (75%) OF THE TOTAL NUMBER OF TREES REQUIRED TO BE PLANTED PER ACRE UNDER THE APPROVED PLAN.

GENERAL NOTES:

1. THE SITE IS LOCATED AT 6555 BELMONT WOODS ROAD, ELKRIDGE, MD 21075 (TAX MAP 32, PARCEL 2) AND IS THE HOWARD COMMUNITY COLLEGE BELMONT CONFERENCE CENTER. THE SITE CONSISTS OF 68.19 ACRES.

2. BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY PHR+A, DATED AUGUST 2005.

3. NO CRITICAL HABITATS OF RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.

4. NO TREES, SHRUBS, OR PLANTS IDENTIFIED AS RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.

5. THERE IS A CEMETERY LOCATED ON THE SITE, ACCORDING TO THE HOWARD COUNTY CEMETERIES INVENTORY. IT IS THE HANSON CEMETERY (HOWARD COUNTY ID # 32-1; NO. 166-GS) AND IS ENLOSED BY A STEEL FENCE.

6. THERE ARE EXISTING STRUCTURES ON THE SITE. THE SITE IS A HISTORIC SITE, HISTORIC SITE NO. HO-43.

7. THE SOILS ON SITE ARE CHILLUM LOAM (2-5% SLOPES) – CnB, CHILLUM LOAM (5-10% SLOPES) – CnC, GLADSTONE-LEGORE COMPLEX (8-15% SLOPES) – GoC, JACKLAND SILT LOAM (3-8% SLOPES) – JaB, LEGORE SILT LOAM (3-8% SLOPES) – LeC, LEGORE-MONTALTO SILT LOAMS (3-8%) – LmB, MANOR-BANNERTOWN SANDY LOAMS (25-65%) – MgF, AND RUSSETT FINE SANDY LOAM (10-15% SLOPES) – RsD ACCORDING TO THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY.

8. THE SITE IS ZONED R-ED (RESIDENTIAL: ENVIRONMENTAL DEVELOPMENT). CURRENTLY, THE SITE IS USED AS A CONFERENCE CENTER WITH ASSOCIATED PARKING.

9. THIS SITE IS LOCATED IN THE PATAPSCO RIVER LOWER NORTH BRANCH WATERSHED.

10. THERE ARE NO FLOODPLAINS, STREAMS, OR WETLANDS LOCATED ON THIS SITE.

11. THE FSD HAS BEEN PREPARED IN CONJUNCTION WITH THESE PLANS.

12. THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERCEDES ANY DISCREPANCIES BETWEEN THE MANUAL AND THESE PLANS.

13. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION.

14. THE PURPOSE OF THIS PLAN IS TO RECORD OFF-SITE FOREST CONSERVATION EASEMENTS TO MEET THE OBLIGATION OF 1.31 ACRES OF RETENTION FOR PROPOSED IMPROVEMENTS AS SHOWN ON SDP 06-106/ HOWARD COMMUNITY COLLEGE, TAX MAP 35/36, PARCEL 47. PLACEMENT OF 2.36 ACRES OF RETENTION AND 0.25 ACRES OF AFFORESTATION FOR A TOTAL OF 2.61 ACRES ARE TO BE PLACED INTO EASEMENT AREAS (1.31 ACRES OF REQUIRED RETENTION MINUS 0.25 ACRES OF PROPOSED AFFORESTATION=1.06 ACRES @ 2:1 OFF-SITE RATIO=2.12 ACRES OF REQUIRED RETENTION). THE 1.31 ACRES OF REQUIRED RETENTION WAS PREVIOUSLY SHOWN IN EASEMENT AREA ON THE HOWARD COMMUNITY COLLEGE CAMPUS UNDER PLAT Nos. 16125 AND 16126 BUT WAS ABANDONED BY A REVISED FOREST CONSERVATION PLAT OF EASEMENT UNDER PLAT Nos. 19049 TO 19051 (F-07-10). AN ABANDONMENT FEE OF $28,475.00 WAS PROVIDED BUT IS REFUNDED TO THE COLLEGE UPON RECORDATION OF THIS PLAN, SDP 06-106/FC. DPZ HAS DETERMINED NO SURETY IS REQUIRED FOR THE FOREST CONSERVATION EASEMENTS SHOWN ON THIS PLAN. F-07-10 ABANDONED PART OF FOREST CONSERVATION EASEMENTS A, B, C, & J (ABANDONING 56,950 SF), PLAT NOS. 19049-19051, RECORDED 4/25/07. THE 56,950 SF (1.31 AC) HAS BEEN MET BY PLACEMENT IN AN OFF-SITE EASEMENT UNDER SDP-06-106/PROPERTY OF HOWARD COMMUNITY COLLEGE EDUCATIONAL FOUNDATION, INC. (BELMONT CENTER).

15. THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

16. BEARINGS AND DISTANCES FOR FOREST CONSERVATION EASEMENTS ARE PROVIDED ON A PLAT 21640 + 21641

17. ALL SPECIMEN TREES LISTED ON THE FOREST STAND DELINEATION ARE TO REMAIN.

18. PER DPZ POLICY MEMO OF 11/01/10, ON-SITE FORESTED AREAS LESS THAN 35' IN WIDTH MAY BE PLACED IN RETENTION EASEMENT WHEN LOCATED ADJACENT TO PERMANENTLY PROTECTED FORESTED MARYLAND STATE PARK LAND.

19. THIS SITE IS IDENTIFIED AS HISTORIC SITE NO. HO-43. ADDITIONALLY, A CEMETERY IS LOCATED WITHIN THIS SITE, IDENTIFIED AS PARCEL 558, LISTED IN THE CEMETERY INVENTORY AS HOWARD COUNTY ID #32-1, NO. 166-GS, AND IS ENCLOSED BY A STEEL FENCE.

20. DPZ RELEVANT FILE NUMBERS: BA-02-022C, BA-550-D, F-07-10, SDP-06-106FC PLAT OF EASEMENT, PLAT NOS. 21640 + 21641

LEGEND

PROPERTY LINE
EXISTING TREELINE
EXISTING CONTOURS
EXISTING BUILDING
FOREST RETENTION SIGNAGE
AFFORESTATION SIGNAGE
FOREST CONSERVATION AREA
AFFORESTATION AREA
SPECIMEN TREES TO REMAIN
SLOPES 15–25%
SLOPES > 25%
SOILS
EX. STREAM AND BUFFER

REFORESTATION PLANTING LISTS – EASEMENT D

QUANTITIES	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS
50	ACER RUBRUM / RED MAPLE**	1" CAL.	B & B	FULL CROWN 15' ± SPACING SEE RANDOM PLANTING DETAIL
TOTAL AREA: 0.25 ACRES				
TREES REQUIRED: 50*				
TREES PROVIDED: 50				

*NOTE: CALCULATIONS FOR 1" CAL. PLANTS IS BASED ON 200 PLANTS PER ACRE.

**OWNER INSTALLED 50 1" CALIPER RED MAPLES IN OCTOBER, 2008. PHR+A INSPECTED THE PLANTINGS ON JANUARY 14, 2011. ALL PLANTINGS APPEAR TO BE IN GOOD CONDITION. RECOMMEND THAT OWNER INSTALL TREE GUARDS ON ALL TREES.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 8/4/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 8/3/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 8/04/11

DATE	NO.	REVISION

OWNER / DEVELOPER
HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE EDUCATIONAL FOUNDATION, INC (BELMONT CENTER)**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE
OFFSITE FOREST CONSERVATION PLAN AND NOTES AND DETAILS

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

7-28-11
DATE

PETER J. STONE #3068

DESIGNED BY	PJS/ALC
DRAWN BY:	ALC
PROJECT NO :	11449-2-B C400SDP34.DWG
DATE :	JULY 28, 2011
SCALE :	1" = 50'
DRAWING NO.	34 OF 34

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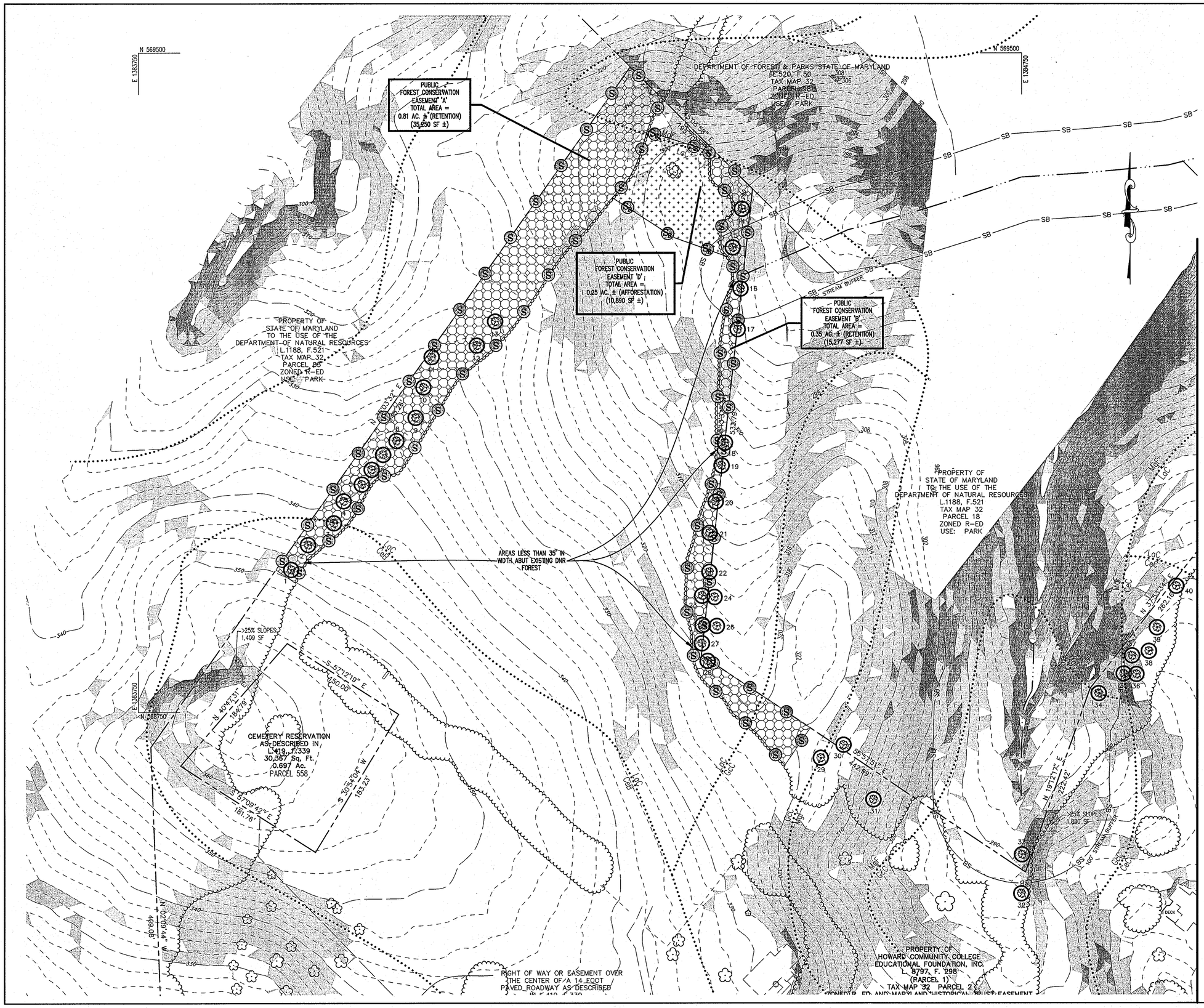
SDP-06-106



LEGEND

- PROPERTY LINE
- EXISTING TREELINE
- EXISTING CONTOURS
- EXISTING BUILDING
- FOREST RETENTION SIGNAGE
- AFFORESTATION SIGNAGE
- FOREST CONSERVATION AREA
- AFFORESTATION AREA
- SPECIMEN TREES TO REMAIN
- SLOPES 15–25%
- SLOPES > 25%
- SOILS
- EX. STREAM AND BUFFER

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 8/4/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 8/3/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 8/04/11

DATE	NO.	REVISION

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044–3197
ATTN: MR. CHUCK NIGHTINGALE
410–772–4296

PROJECT **HOWARD COMMUNITY COLLEGE EDUCATIONAL FOUNDATION, INC (BELMONT CENTER)**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE
OFFSITE FOREST CONSERVATION PLAN

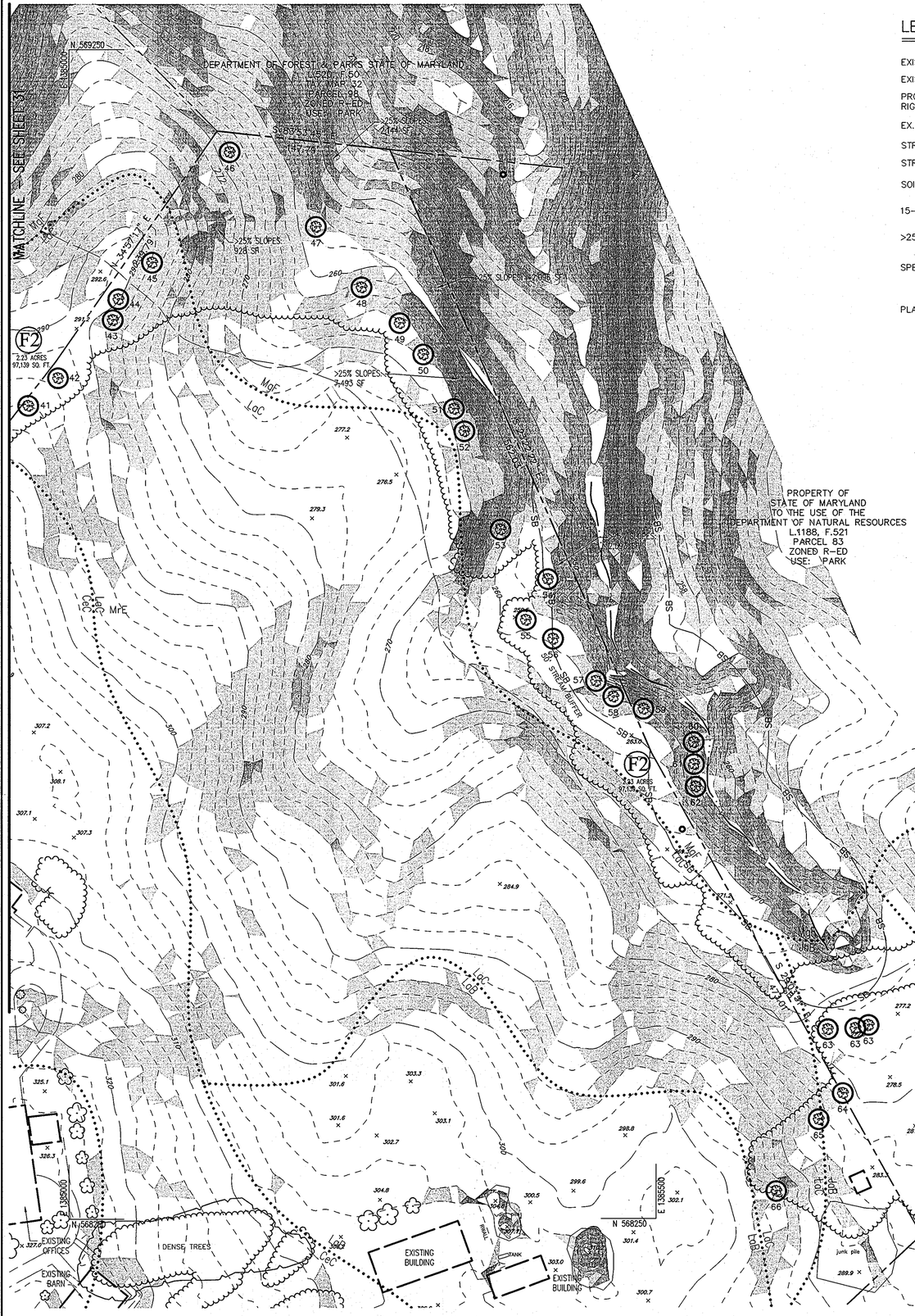
Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

7-28-11
DATE

STATE OF MARYLAND 3068 PETER J. STONE REGISTERED PROFESSIONAL ENGINEER
PETER J. STONE #3068

DESIGNED BY PJS/ALC
DRAWN BY: ALC
PROJECT NO : 11449-2-8 C400SDP33.DWG
DATE : JULY 28, 2011
SCALE : 1" = 50'
DRAWING NO. 33 OF 34

P:\Project\11449\2-8\PLANS\C400SDP05.DWG



LEGEND

- EXISTING 2'CONTOUR — 248
- EXISTING 10'CONTOUR — 250
- PROPERTY LINE AND RIGHT OF WAY
- EX. TREELINE
- STREAM
- STREAM BUFFER — SB
- SOILS — MgF
- 15–25% SLOPES
- >25% SLOPES
- SPECIMEN TREE — 3
- PLANT COMMUNITY — F1

SPECIMEN TREE CHART

KEY	SPECIES	SIZE	CONDITION
1	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
2	TULIP POPLAR (Liriodendron tulipifera)	41'	GOOD
3	TULIP POPLAR (Liriodendron tulipifera)	49"	GOOD
4	TULIP POPLAR (Liriodendron tulipifera)	44"	GOOD
5	TULIP POPLAR (Liriodendron tulipifera)	40"	GOOD
6	TULIP POPLAR (Liriodendron tulipifera)	44"	DEAD
7	TULIP POPLAR (Liriodendron tulipifera)	48"	GOOD
8	TULIP POPLAR (Liriodendron tulipifera)	50"	GOOD
9	TULIP POPLAR (Liriodendron tulipifera)	38"	GOOD
10	TULIP POPLAR (Liriodendron tulipifera)	37"	GOOD
11	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
12	TULIP POPLAR (Liriodendron tulipifera)	49"	GOOD
13	TULIP POPLAR (Liriodendron tulipifera)	37"	GOOD
14	TULIP POPLAR (Liriodendron tulipifera)	40"	GOOD
15	TULIP POPLAR (Liriodendron tulipifera)	34"	GOOD
16	TULIP POPLAR (Liriodendron tulipifera)	36"	GOOD
17	TULIP POPLAR (Liriodendron tulipifera)	32"	GOOD
18	TULIP POPLAR (Liriodendron tulipifera)	31"	GOOD
19	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
20	TULIP POPLAR (Liriodendron tulipifera)	31"	GOOD
21	TULIP POPLAR (Liriodendron tulipifera)	32"	GOOD
22	TULIP POPLAR (Liriodendron tulipifera)	34"	GOOD
23	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
24	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
25	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
26	TULIP POPLAR (Liriodendron tulipifera)	34"	GOOD
27	TULIP POPLAR (Liriodendron tulipifera)	36"	GOOD
28	TULIP POPLAR (Liriodendron tulipifera)	45"	GOOD
29	TULIP POPLAR (Liriodendron tulipifera)	55"	GOOD
30	TULIP POPLAR (Liriodendron tulipifera)	39"	GOOD
31	TULIP POPLAR (Liriodendron tulipifera)	43"	GOOD
32	BLACK WALNUT (Juglans nigra)	55"	GOOD
33	TULIP POPLAR (Liriodendron tulipifera)	39"	GOOD
34	TULIP POPLAR (Liriodendron tulipifera)	49"	GOOD
35	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
36	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
37	TULIP POPLAR (Liriodendron tulipifera)	36"	GOOD
38	TULIP POPLAR (Liriodendron tulipifera)	37"	GOOD
39	TULIP POPLAR (Liriodendron tulipifera)	39"	GOOD
40	TULIP POPLAR (Liriodendron tulipifera)	46"	GOOD
41	TULIP POPLAR (Liriodendron tulipifera)	38"	GOOD
42	TULIP POPLAR (Liriodendron tulipifera)	36"	GOOD
43	TULIP POPLAR (Liriodendron tulipifera)	46"	GOOD
44	TULIP POPLAR (Liriodendron tulipifera)	34"	GOOD
45	TULIP POPLAR (Liriodendron tulipifera)	43"	GOOD
46	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
47	TULIP POPLAR (Liriodendron tulipifera)	35"	GOOD
48	TULIP POPLAR (Liriodendron tulipifera)	38"	GOOD
49	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
50	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
51	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
52	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
53	TULIP POPLAR (Liriodendron tulipifera)	40"	GOOD
54	TULIP POPLAR (Liriodendron tulipifera)	40"	GOOD
55	TULIP POPLAR (Liriodendron tulipifera)	48"	GOOD
56	TULIP POPLAR (Liriodendron tulipifera)	36"	GOOD
57	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
58	TULIP POPLAR (Liriodendron tulipifera)	32"	GOOD
59	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
60	TULIP POPLAR (Liriodendron tulipifera)	46"	GOOD
61	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
62	TULIP POPLAR (Liriodendron tulipifera)	38"	GOOD
63	TULIP POPLAR (Liriodendron tulipifera)	46"	GOOD
64	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD
65	TULIP POPLAR (Liriodendron tulipifera)	39"	GOOD
66	TULIP POPLAR (Liriodendron tulipifera)	33"	GOOD
67	TULIP POPLAR (Liriodendron tulipifera)	50"	GOOD
68	TULIP POPLAR (Liriodendron tulipifera)	56"	GOOD

GENERAL NOTES:

1. THE SITE IS LOCATED AT 6555 BELMONT WOODS ROAD, ELKRIDGE, MD 21075 (TAX MAP 32, PARCEL 2) AND IS THE HOWARD COMMUNITY COLLEGE BELMONT CONFERENCE CENTER. THE SITE CONSISTS OF 68.19 ACRES.

2. BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY PHR+A, DATED AUGUST 2005.

3. THE SOILS ON SITE ARE CHILLUM LOAM (2–5% SLOPES) – CeB, CHILLUM LOAM (5–10% SLOPES) – CeC, GLADSTONE–LEGORE COMPLEX (8–15% SLOPES) – GeC, JACKLAND SILT LOAM (3–8% SLOPES) – JaB, LEGORE SILT LOAM (3–8% SLOPES) – LaC, LEGORE–MONTALTO SILT LOAMS (3–8%) – LmB, MANOR–BANNERTOWN SANDY LOAMS (25–65%) – MgF, AND RUSSETT FINE SANDY LOAM (10–15% SLOPES) – RsD ACCORDING TO THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY.

4. THE SITE IS ZONED R–ED (RESIDENTIAL: ENVIRONMENTAL DEVELOPMENT). CURRENTLY, THE SITE IS USED AS A CONFERENCE CENTER WITH ASSOCIATED PARKING AND CONTAINS 4.51 ACRES OF FOREST.

5. THIS SITE IS LOCATED IN THE PATAPSCO RIVER LOWER NORTH BRANCH WATERSHED.

6. THERE ARE NO FLOODPLAINS, STREAMS, OR WETLANDS LOCATED ON THIS SITE.

7. THERE ARE TWO EXISTING FOREST STANDS LOCATED ON SITE, AS SHOWN ON THE PLAN. THEY RANGE FROM MEDIUM TO HIGH PRIORITY FOREST STANDS DUE TO FRAGILE ENVIRONMENTAL SYSTEMS, SUCH AS STREAMS AND STEEP SLOPE AREAS.

8. THERE ARE 68 SPECIMEN TREES LOCATED ON SITE, AS SHOWN ON THE PLAN.

9. FIELD WORK FOR THIS INVENTORY WAS CONDUCTED ON DECEMBER 14, 2007 BY JONATHAN NORMAN, PLANNER OF PATTON HARRIS RUST AND ASSOCIATES UNDER THE SUPERVISION OF PETER J. STONE, RLA AND SCOTT R. WOLFORD RLA OF PATTON HARRIS RUST AND ASSOCIATES. ON JANUARY 14, 2011, JONATHAN NORMAN REVISITED THE SITE TO VERIFY TREE LOCATIONS, SIZES, AND SPECIES.

10. THE SITE HAS A FOREST CONSERVATION THRESHOLD OF 20% AND AN AFFORESTATION THRESHOLD OF 15%.

11. THERE IS A CEMETERY LOCATED ON THE SITE, ACCORDING TO THE HOWARD COUNTY CEMETERIES INVENTORY. IT IS THE HANSON CEMETERY (HOWARD COUNTY ID # 32–1; NO. 166–GS). THERE ARE EXISTING STRUCTURES ON THE SITE. THE SITE IS A HISTORIC SITE, HISTORIC SITE NO. HO–43.

12. NO RARE, THREATENED, OR ENDANGERED PLANTS OR ANIMALS OR CRITICAL HABITATS WERE OBSERVED IN THE FIELD.

13. THIS FOREST STAND DELINEATION (FSD) HAS BEEN PREPARED IN ACCORDANCE WITH HOWARD COUNTY REGULATIONS.

PLANT COMMUNITY SUMMARY

SYMBOL	COMMUNITY	AREA	PRIORITY RETENTION
F1	FOREST	2.28 Ac.±	MEDIUM
F2	FOREST	2.23 Ac.±	HIGH

AREA CHART

AREA	ACRES
TOTAL TRACT AREA	68.19
EXISTING FOREST	4.51
LAND WITHIN STREAM BUFFERS	0.22
LAND WITHIN FLOODPLAIN	0
FOREST WITHIN STREAM BUFFERS	0.22
FOREST WITHIN FLOODPLAIN	0

SOILS CHART

MAP SYMBOL	NAME	STRUCTURAL LIMITATIONS Dwellings w/ Basements	EROSION HAZARD	HYDRIC	SLOPE (%)
CeB	Chillum loam	Slight	Slight	N	2–5
CeC	Chillum loam	Slight	Moderate	N	5–10
GcC	Gladstone–Legore complex	Moderate: slopes	Moderate	N	8–15
JaB	Jackland silt loam	–	Slight	N	3–8
LaB	Legore silt loam	Slight	Slight	N	3–8
LaC	Legore silt loam	Moderate: slopes	Moderate	N	8–15
LmB	Legore–Montalto silt loam	Slight	Slight	N	3–8
MgF	Manor–Bannertown sandy loam	Severe: slopes	Severe	N	25–65
RsD	Russett fine sandy loam	–	Moderate	Y	10–15

SOURCE: NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 8/4/11

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/3/11

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/04/11

DATE	NO.	REVISION

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044–3197
ATTN: MR. CHUCK NIGHTINGALE
410–772–4296

PROJECT **HOWARD COMMUNITY COLLEGE EDUCATIONAL FOUNDATION, INC (BELMONT CENTER)**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE **OFFSITE FOREST STAND DELINEATION PLAN, NOTES & TABULATIONS**

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

7-28-11
DATE

STATE OF MARYLAND 3068 PETER J. STONE REGISTERED PROFESSIONAL ENGINEER AND LANDSCAPE ARCHITECT

PETER J. STONE #3068

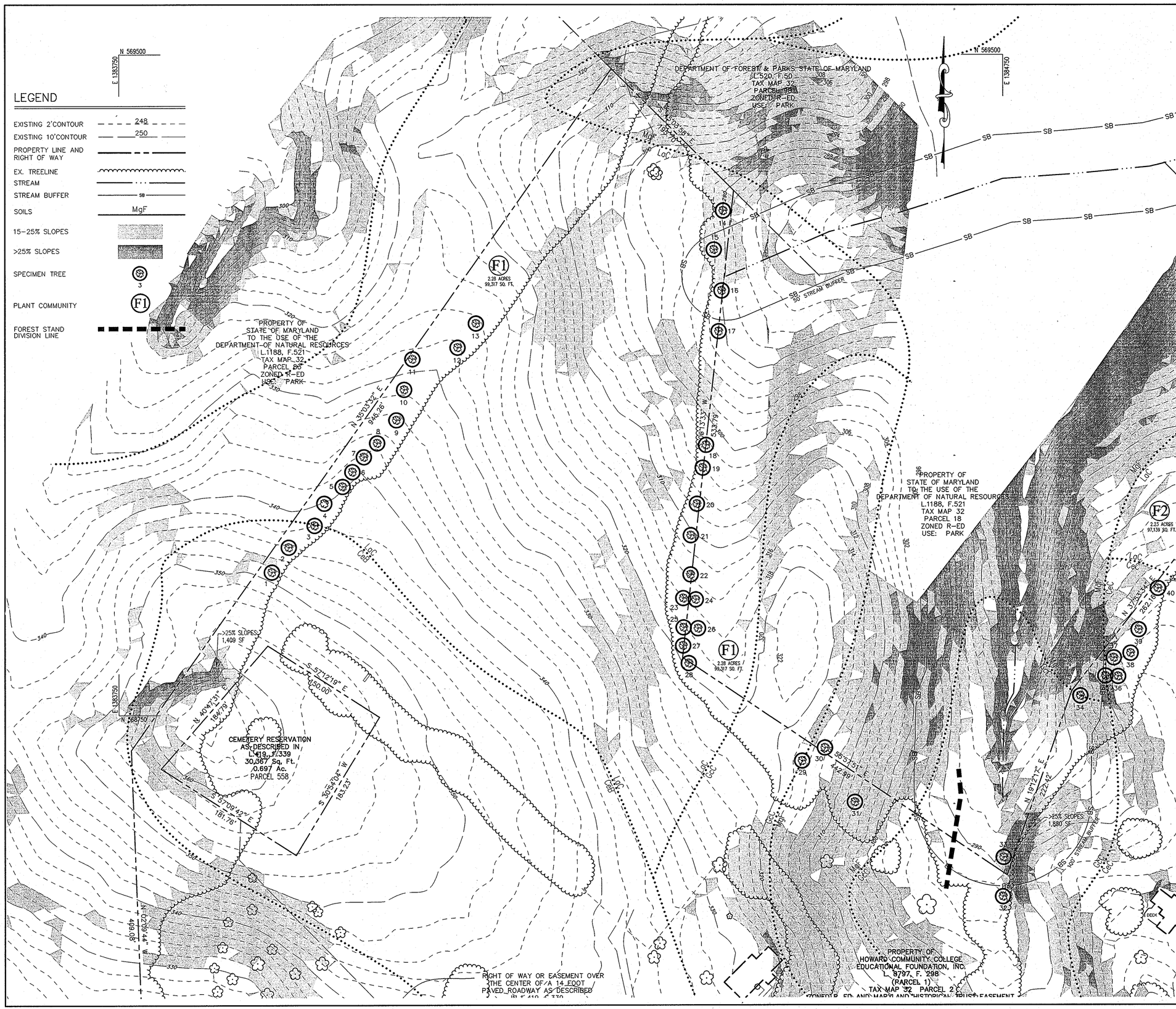
DESIGNED BY : PJS/ALC
DRAWN BY: ALC
PROJECT NO : 11449-2-8 C400SDP32.DWG
DATE : JULY 28, 2011
SCALE : 1"=50'
DRAWING NO. 32 OF 34

P:\Project\11449\2-8\PLANS\C400SDP04.DWG

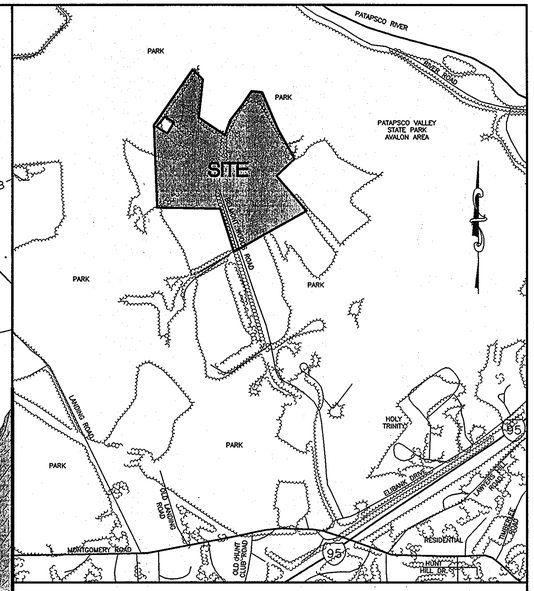
SDP–06–106

LEGEND

- EXISTING 2'CONTOUR — 248
- EXISTING 10'CONTOUR — 250
- PROPERTY LINE AND RIGHT OF WAY
- EX. TREELINE
- STREAM
- STREAM BUFFER — SB
- SOILS — MgF
- 15–25% SLOPES
- >25% SLOPES
- SPECIMEN TREE — 3
- PLANT COMMUNITY — F1
- FOREST STAND DIVISION LINE



MATCHLINE – SEE SHEET 32



HOWARD COUNTY ADC MAP 17

VICINITY MAP

SCALE: 1" = 1,000'
PERMITTED USE NO.
20711188

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 8/4/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 8/8/11
CHIEF, DIVISION OF LAND DEVELOPMENT & ⊕	DATE 8/04/11

DATE	NO.	REVISION

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044–3197
ATTN: MR. CHUCK NIGHTINGALE
410–772–4296

PROJECT **HOWARD COMMUNITY COLLEGE EDUCATIONAL FOUNDATION, INC (BELMONT CENTER)**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE

OFFSITE FOREST STAND DELINEATION PLAN

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

7-28-11
DATE

STATE OF MARYLAND 3068 PETER J. STONE REGISTERED PROFESSIONAL ENGINEER

PETER J. STONE #3068

DESIGNED BY : PJS/ALC
DRAWN BY: ALC
PROJECT NO : 11449-2-8 C400SDP31.DWG
DATE : JULY 28, 2011
SCALE : 1"=50'
DRAWING NO. 31 OF 34

P:\Project\11449\2-8\PLANS\C400SDP03.DWG

SDP–06–106

LEGEND

- PROPERTY LINE
- EXISTING TREELINE
- EXISTING CONTOURS
- EXISTING BUILDING
- SOILS
- EX. STREAM AND BUFFER

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	DATE 8/4/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 8/3/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 8/04/11

DATE	NO.	REVISION

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT **HOWARD COMMUNITY COLLEGE EDUCATIONAL FOUNDATION, INC (BELMONT CENTER)**
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE
OFFSITE OVERALL SITE DEVELOPMENT PLAN

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

7-28-11
DATE

STATE OF MARYLAND 3068 PETER J. STONE REGISTERED PROFESSIONAL ENGINEER

PETER J. STONE #3068

DESIGNED BY	PJS/ALC
DRAWN BY:	ALC
PROJECT NO :	11449-2-8 C400SDP30.DWG
DATE :	JULY 28, 2011
SCALE :	1" = 100'
DRAWING NO.	30 OF 34

P:\Project\11449\2-8\PLANS\C400SDP02.DWG

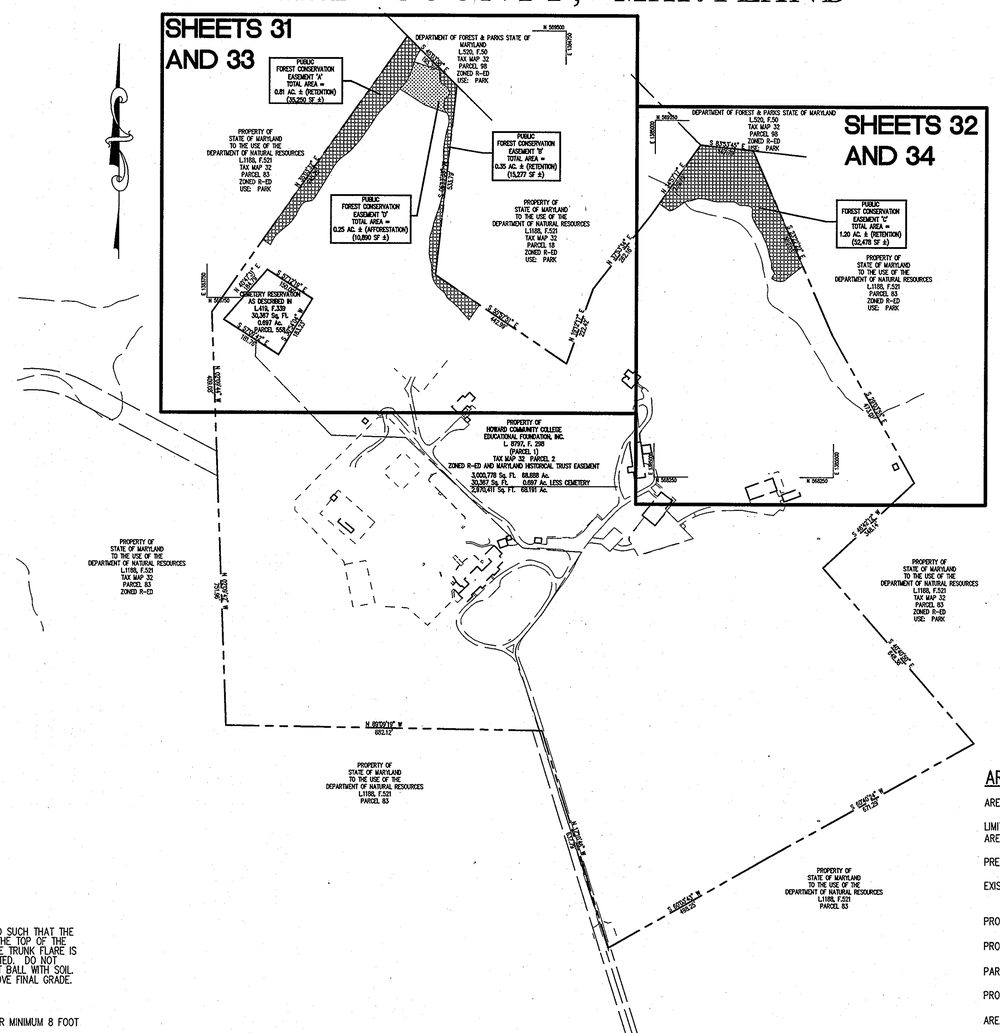
SDP-06-106

SITE DEVELOPMENT PLAN
HOWARD COMMUNITY COLLEGE

OFFSITE FOREST CONSERVATION
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

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. BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY PHR+A, DATED AUGUST 2005.
7. THE COORDINATES SHOWN HEREON ARE IN MARYLAND COORDINATE SYSTEM NAD 83/91 BASED ON THE HOWARD COUNTY GEODETIC CONTROL. HOWARD COUNTY MONUMENT NOS. 37C3 AND 38A4 WERE USED FOR THIS PROJECT.
8. WATER IS PRIVATE.
9. SEWER IS PRIVATE.
10. STORMWATER MANAGEMENT IS NOT PROPOSED WITH THIS PLAN.
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. THERE IS NO FLOODPLAIN ON THIS SITE.
13. THERE ARE NO WETLANDS ON THIS SITE.
14. NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
15. A NOISE STUDY FOR THIS PROJECT IS NOT REQUIRED.
16. THE SUBJECT PROPERTY IS ZONED R-ED PER THE 2/2/04 COMPREHENSIVE ZONING PLAN AND THE "COMP LITE" ZONING AMENDMENTS EFFECTIVE 07-28-06.
17. ALL ELEVATIONS SHOWN ARE BASED NGVD29.
18. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
19. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
20. THE PURPOSE OF THIS PLAN IS TO RECORD OFF-SITE FOREST CONSERVATION EASEMENTS TO MEET THE OBLIGATION OF 1.31 ACRES OF RETENTION FOR PROPOSED IMPROVEMENTS AS SHOWN ON SDP 06-106/ HOWARD COMMUNITY COLLEGE, TAX MAP 35/36, PARCEL 47. PLACEMENT OF 2.36 ACRES OF RETENTION AND 0.25 ACRES OF AFFORESTATION FOR A TOTAL OF 2.61 ACRES ARE TO BE PLACED INTO EASEMENT AREAS (1.31 ACRES OF REQUIRED RETENTION MINUS 0.25 ACRES OF PROPOSED AFFORESTATION=1.06 ACRES @ 2:1 OFF-SITE RATIO=2.12 ACRES OF REQUIRED RETENTION). THE 1.31 ACRES OF REQUIRED RETENTION WAS PREVIOUSLY SHOWN IN EASEMENT AREA ON THE HOWARD COMMUNITY COLLEGE CAMPUS UNDER PLAT Nos. 16125 AND 16126 BUT WAS ABANDONED BY A REVISED FOREST CONSERVATION PLAT OF EASEMENT UNDER PLAT Nos. 19049 TO 19051 (F-07-10). AN ABANDONMENT FEE OF $28,475.00 WAS PROVIDED BUT IS REFUNDED TO THE COLLEGE UPON RECORDATION OF THIS PLAN, SDP 06-106/FC. DPZ HAS DETERMINED NO SURETY IS REQUIRED FOR THE FOREST CONSERVATION EASEMENTS SHOWN ON THIS PLAN. F-07-10 ABANDONED PART OF FOREST CONSERVATION EASEMENTS A, B, C, & J (ABANDONING 56,950 SF), PLAT NOS. 19049-19051, RECORDED 4/25/07. THE 56,950 SF (1.31 AC) HAS BEEN MET BY PLACEMENT IN AN OFF-SITE EASEMENT UNDER SDP-06-106/PROPERTY OF HOWARD COMMUNITY COLLEGE EDUCATIONAL FOUNDATION, INC. (BELMONT CENTER).
21. THERE IS A CEMETERY LOCATED ON THE SITE, ACCORDING TO THE HOWARD COUNTY CEMETERIES INVENTORY. IT IS THE HANSON CEMETERY (HOWARD COUNTY ID # 32-1; NO. 166-GS) AND IS ENLOSED BY A STEEL FENCE.
22. THERE ARE EXISTING STRUCTURES ON THE SITE. THE SITE IS A HISTORIC SITE, HISTORIC SITE NO. HO-43. NO STRUCTURES ARE TO BE REMOVED.
23. SPECIMEN TREES EXIST ON SITE AS SHOWN.
24. THERE ARE NO STREAMS, WETLANDS, OR FLOODPLAIN ON SITE. NO NEW STRUCTURES SHALL BE PERMITTED WITHIN THE STREAM BUFFERS, STEEP SLOPES, OR FOREST CONSERVATION EASEMENT AREAS. EXISTING CONDITIONS ARE AS INDICATED ON THE OFF-SITE FOREST STAND DELINEATION SHEET OF SDP-06-106/HOWARD COMMUNITY COLLEGE, HICKORY RIDGE ROAD ENTRANCEWAY, HANDICAPPED PARKING AND TRACK ACCESS DRIVE.
25. SEE DEPARTMENT OF PLANNING AND ZONING FILE NO.'S: BA 02-022C, BA 550-D, F-07-10, SDP-06-106FC, PLAT #'s 21640 AND 21641.

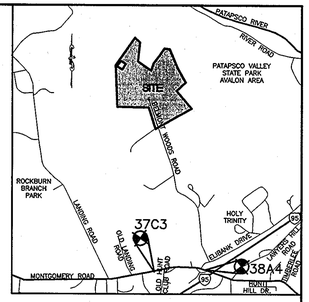


INDEX PLAN
1"=200'

BENCHMARKS

BM #1
HOCO CONTROL 37C3
ELEV. 258.497
N 562916.003 E 1384856.679

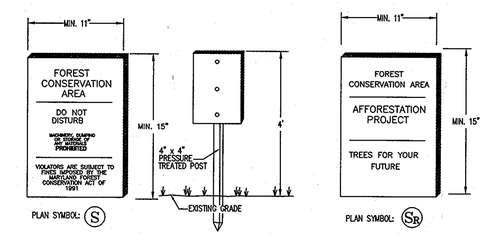
BM #2
HOCO CONTROL #38A4
ELEV. 224.176
N 562977.621 E 1386288.112



VICINITY MAP
SCALE: 1" = 2000'
COPYRIGHT ADC THE MAP PEOPLE PERMITTED
USE NO. 20711188
HOWARD COUNTY ADC MAP 17 D3, D4, E3, E4

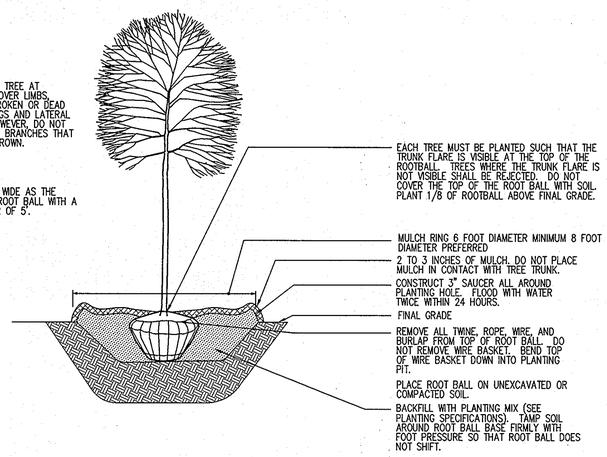
PURPOSE STATEMENT:

THE PURPOSE OF THIS PLAN IS TO PREPARE A FOREST CONSERVATION EASEMENT FOR 1.31 ACRES OF OFFSITE FOREST TO BE UTILIZED BY HOWARD COMMUNITY COLLEGE (F-07-010 AND SDP-06-106). THERE ARE TWO EXISTING FOREST STANDS WITHIN THE AREA OF THE SITE AS SHOWN ON THESE PLANS. THEY RANGE FROM MEDIUM TO HIGH PRIORITY FOREST STANDS DUE TO FRAGILE ENVIRONMENTAL SYSTEMS, SUCH AS STREAMS AND STEEP SLOPE AREAS. A FOREST STAND DELINEATION WAS NOT PREPARED FOR THE REMAINDER OF THE SITE AS THIS FOREST IS NOT BEING USED FOR OFFSITE FOREST RETENTION CREDITS.



NOTES:
1. SIGNAGE SHALL BE LOCATED ON FOREST CONSERVATION / REFORESTATION / AFFORESTATION EASEMENT BORDER.
2. SEE PLAN FOR SPACING.

FOREST CONSERVATION & AFFORESTATION SIGN DETAIL
NOT TO SCALE



NOTES:
1. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
2. DIG PLANTING PIT TWICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5'.

DECIDUOUS B&B TREE PLANTING DETAIL (TREES 3" CAL. OR SMALLER)
NOT TO SCALE

FOREST CONSERVATION PROGRAM

I. OBJECTIVE:
IT IS THE OBJECTIVE OF THE FOREST CONSERVATION PLAN OF HOWARD COMMUNITY COLLEGE TO RETAIN ENVIRONMENTAL INTEGRITY BY PRESERVING EXISTING WOODED AREAS IN AN OFFSITE FOREST CONSERVATION EASEMENT AND BY PLANTING ADDITIONAL FORESTED AREAS.

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 WITHIN 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
2-PREVENT UNWARRANTED INTRUSION AND DAMAGE.
3-CAREFUL REMOVAL OF ALL TEMPORARY STRUCTURES AFTER CONSTRUCTION.
4-ROUTINE INSPECTIONS OF FOREST CONSERVATION EASEMENTS.

LEGEND

RETENTION FOREST CONSERVATION AREA

AFFORESTATION AREA

AREA TABULATION CHART

AREA OF SITE:	68.191 ACRES (2,970,411 SF)
LIMIT OF DISTURBED AREA TOTAL:	0 ACRES
PRESENT ZONING:	R-ED
EXISTING USE:	HOWARD COMMUNITY COLLEGE BELMONT CONFERENCE CENTER
PROPOSED USE WITH THIS PLAN:	FOREST CONSERVATION EASEMENTS
PROPOSED FLOOR AREA:	N/A
PARKING REQUIRED FOR THIS PLAN:	N/A
PROPOSED PARKING WTIH THIS PLAN:	0 SPACES
AREA OF STEEP SLOPES:	0.43 AC ± (18,543 SF ±)
NUMBER OF TENANTS WITHIN AREA OF PLAN SUBMISSION:	N/A
NUMBER OF EMPLOYEES:	N/A

ADDRESS CHART	
PARCEL NUMBER	STREET ADDRESS
2	6555 BELMONT WOODS ROAD

SUBDIVISION NAME: COLLEGE EDUCATIONAL FOUNDATION, INC. HOWARD COMMUNITY			SECT./AREA N/A		PARCEL 2
PLAT NO. SDP-06-106FC	GRID # 19	ZONING R-ED	TAX MAP NO. 32	ELECT. DIST. 01	CENSUS TRACT 6011.01
WATER CODE –			SEWER CODE –		

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 8/4/11

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/3/11

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/04/11

DATE	NO.	REVISION

OWNER / DEVELOPER
HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
410-772-4296

PROJECT HOWARD COMMUNITY COLLEGE EDUCATIONAL FOUNDATION, INC (BELMONT CENTER)
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE OFFSITE FOREST CONSERVATION TITLE SHEET

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

7-28-11
DATE

PETER J. STONE #3068

DESIGNED BY :	PJS/ALC
DRAWN BY:	ALC
PROJECT NO :	11449-2-8 C400SDPP29.DWG
DATE :	JULY 28, 2011
SCALE :	AS SHOWN
DRAWING NO.	29 OF 34

P:\Project\11449\2-8\PLANS\C400SDP01.DWG

SDP-06-106