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SITE DEVELOPMENT PLAN

HOWARD COMMUNITY COLLEGE

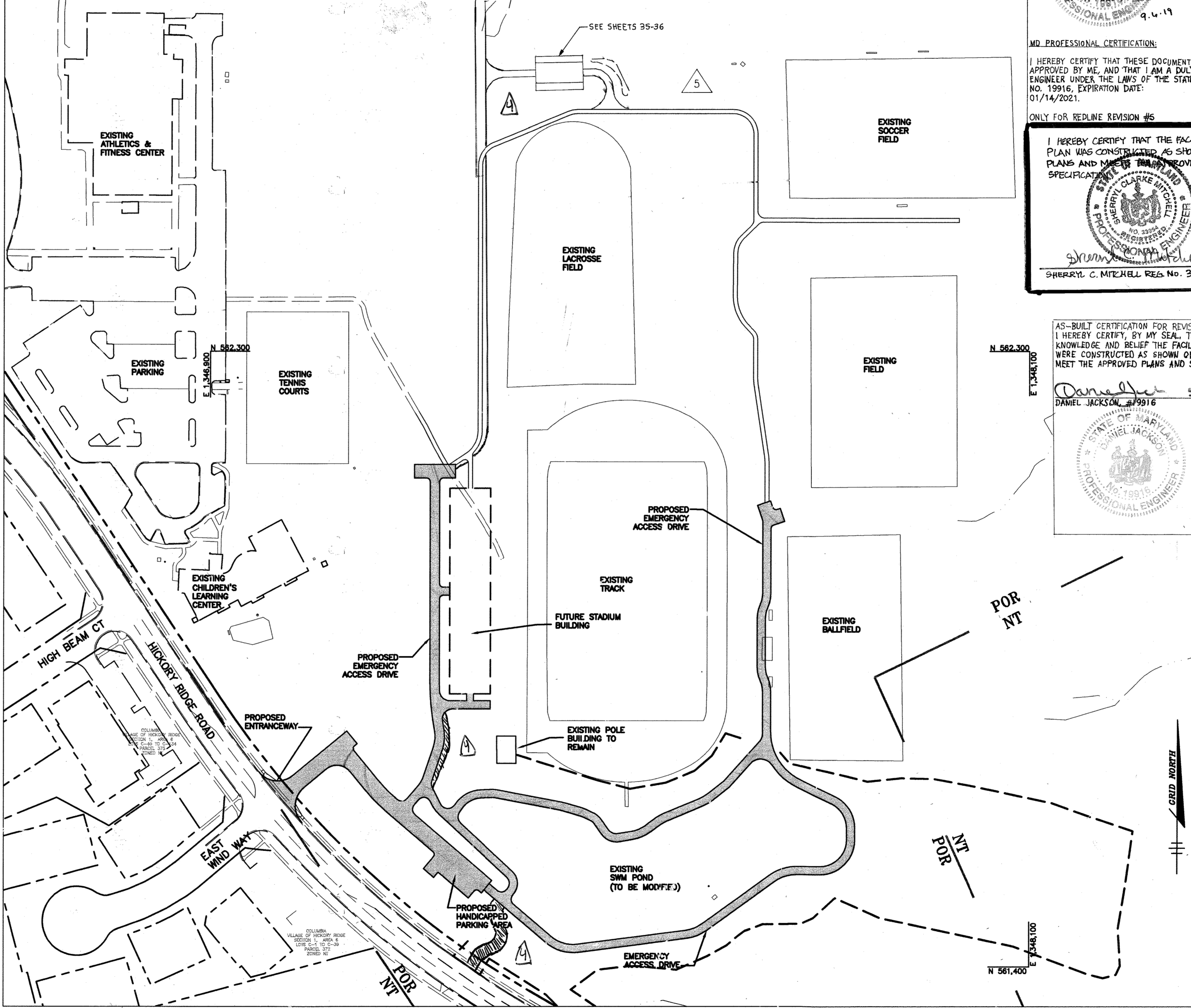
HICKORY RIDGE ROAD ENTRANCEWAY, HANDICAPPED PARKING AND TRACK ACCESS DRIVE

5th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 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.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.
- 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.
- 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.
- WATER IS PUBLIC, CONTRACT NO. 229-W AND 44-0824-D
- SEWER IS PUBLIC, CONTRACT NO. 327-S
- 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.
- A 100-YEAR FLOODPLAIN STUDY IS NOT REQUIRED FOR THIS PROJECT.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THE PROPERTY LINE SHOWN WAS TAKEN FROM A FIELD SURVEY BY PHR&A DATED NOV. 2000.
- SUBJECT PROPERTY ZONED POR & NT SFLD, COMMON OPEN AREA PER 2-2-04 COMPREHENSIVE ZONING PLAN AND FDP-72-A.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NO. SDP-97-45, SDP-75-46, SDP-87-95, SDP-76-30, PB-229, SDP-88-12, SDP-75-32, SDP-00-56, SDP-01-58, WP-01-98, SDP-01-123, SDP-72-A, SDP-03-11, SDP-03-156, SDP-05-102, F-06-178, SDP-06-02, F-07-10, SDP 06-106 FC Plat of Easement
- 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.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- 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.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED INVERT GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE PER HOWARD CO. STANDARD SPECIFICATIONS
- ALL STORM DRAIN INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- 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.
- PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- ALL TILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T108.
- THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY PHR&A DATED MARCH 2001.
- A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT.
- ALL PROPOSED AND FUTURE OUTDOOR LIGHTING SHALL COMPLY WITH THE REQUIREMENTS OF ZONING SECTION 134.
- 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.
- 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"). **FOT-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) **As approved by CPZ.**
SEE REVISED FOREST CONSERVATION PLAT OF EASEMENT F-07-10, Plat #19049 to 19051, Recorded on 4-25-07 and SDP 06-106 FC Plat #21440 and 21441, Recorded: 6-30-11.
See General Note #20 on Sheet #29
- 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.
- 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.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STEAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN. **OFFSITE FC Plat of Easement SDP 06-106 FC Plat Nos. 21440-21441 was recorded on 6-30-11.**
THE ADDITIONAL OF THE SHARED USE PATHWAY FOR THIS REVISION (#4) OF 4,995 SQ. FT. EXEMPT FROM ABANDONING STORMWATER MANAGEMENT. ANY FURTHER INCREASES IN IMPERVIOUS AREA THAT EXCEEDS A CUMULATIVE OF 5,000 SQ FT SHALL PROVIDE 50 TO THE MEP FOR THE ENTIRE CUMULATIVE INCREASE
- 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 SURVEY 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)

ADDITIONAL SURVEY INFORMATION PROVIDED BY CLARK COMPANIES 91155 STATE HIGHWAY 10, DELHI, NEW YORK, 13753, SURVEY WAS PERFORMED ON MARCH 4, 2009.

THE ADDITIONAL OF THE SHARED USE PATHWAY FOR THIS REVISION (#4) OF 4,995 SQ. FT. EXEMPT FROM ABANDONING STORMWATER MANAGEMENT. ANY FURTHER INCREASES IN IMPERVIOUS AREA THAT EXCEEDS A CUMULATIVE OF 5,000 SQ FT SHALL PROVIDE 50 TO THE MEP FOR THE ENTIRE CUMULATIVE INCREASE

INDEX PLAN
1"=100'

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

CHA
1000 MIDLANTIAN TALENTPIKE SUITE 302, BLUMENBERG, VA 23019
(804) 891-5504 WWW.CHACOMPANIES.COM

6-29-09

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

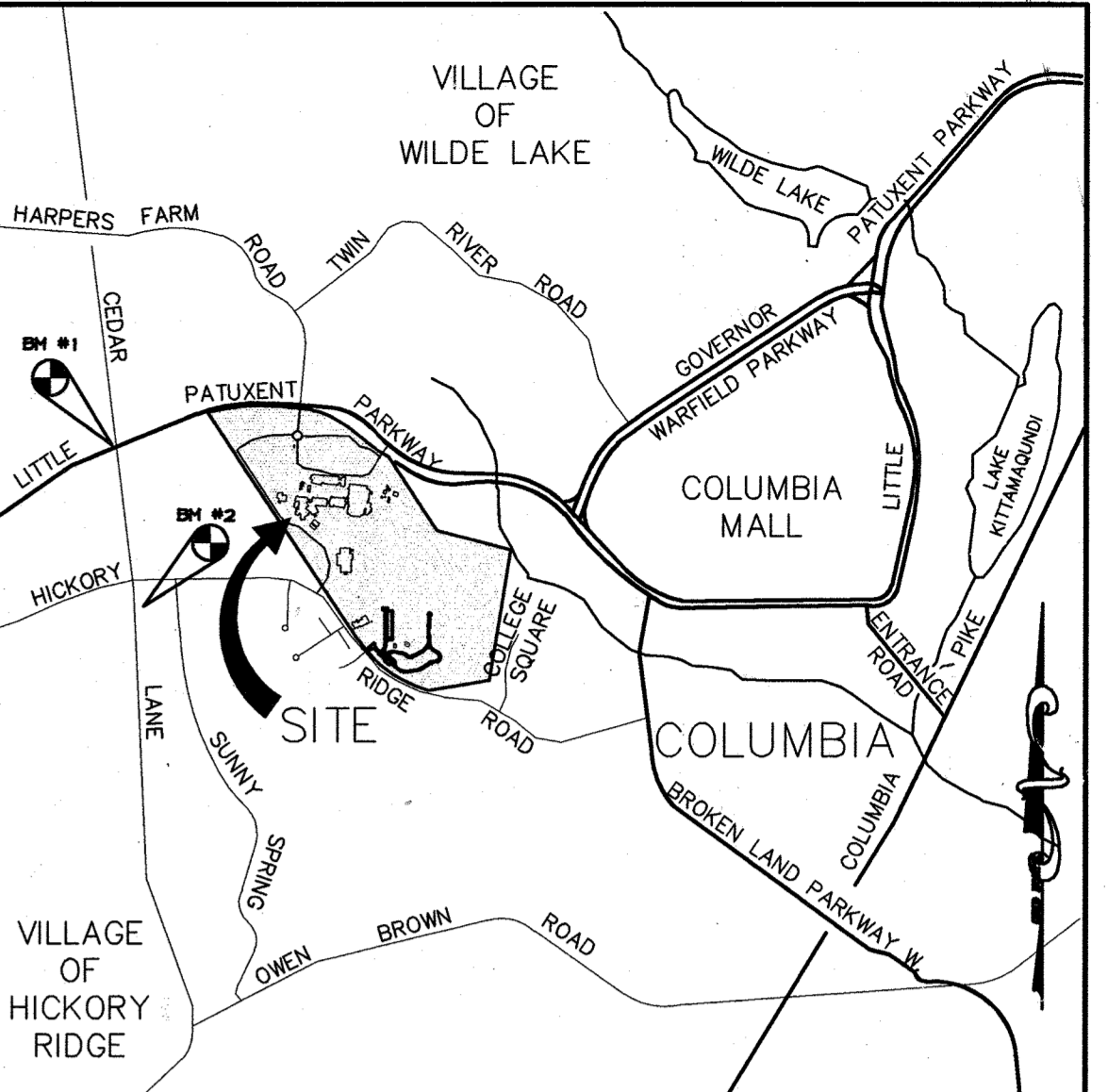
ADDRESS CHART

PARCEL	STREET ADDRESS
47	10901 LITTLE PATUXENT PARKWAY

SUBDIVISION NAME - HOWARD COMMUNITY COLLEGE
SECTION / AREA - N/A
PARCEL - 47

LOT - 19049
BLOCK - 681
ZONING - POR & NT
TAX MAP NO. - 35.36
ELECT. DIST. - 14
GENUS TRACT - 6056.02

WATER CODE - 107
SEWER CODE - 5522500



VICINITY MAP
SCALE: 1" = 2000'

SITE ANALYSIS

AS-BUILT INFORMATION ADDED TO PLAN	DATE
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)

4/17/2011 AS-BUILT INFORMATION ADDED TO PLAN

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

SWM ONLY
3-1-10
DATE

SHERREY C. MITCHELL REG. NO. 33951

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR	<i>[Signature]</i>	5/3/07	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	<i>[Signature]</i>	3/16/07	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	<i>[Signature]</i>	4-26-07	DATE
6-9-09	RED LINE REVISION BY CHA		
	ADD NEW SHEETS 22 - 28		
DATE	NO.	REVISION	

7-28-11 FOR REVISION #3 ONLY

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 SHEET

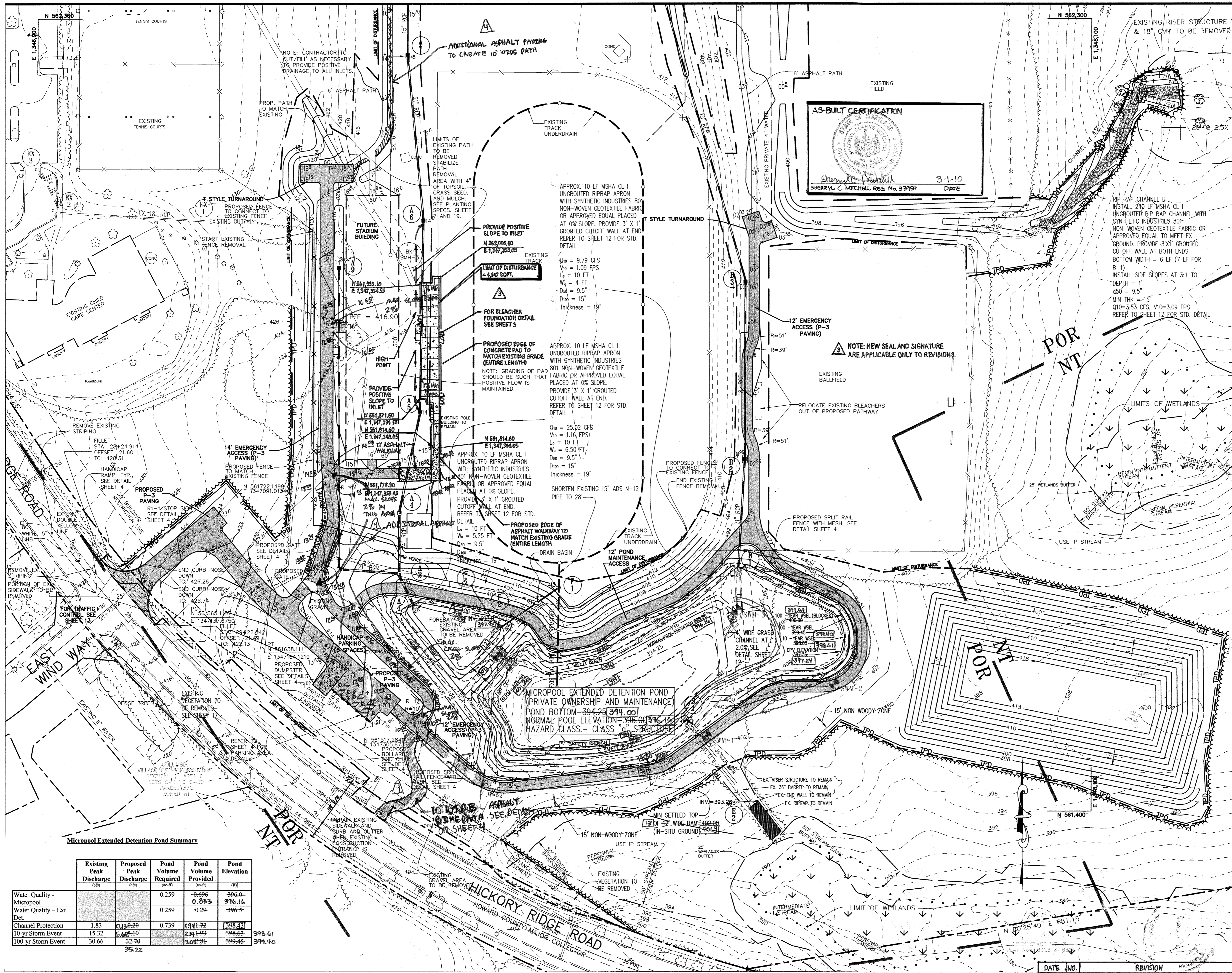
Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

PHR&A

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 26

JOHN W. CLAPSADDLE #16956
SDP-06-106

FUTURE STADIUM BUILDING - FRONT ELEVATION
NOT TO SCALE



- PROPERTY LINE
- - - - - EXISTING 10' CONTOURS
- - - - - EXISTING 2' CONTOURS
- - - - - PROPOSED 10' CONTOURS
- - - - - 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
- PROP. SPOT ELEVATION
- EXISTING LIGHT
- EXISTING FIRE HYDRANT
- LIMIT OF DISTURBANCE
- ZONING
- TPD
- TREE PROTECTION DEVICE
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED P-3 PAVING
- WETLAND LIMIT
- WETLAND AREA
- OLD SOIL BORINGS
- NEW SOIL BORINGS

APPROVED BY 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

6-9-09 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

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 36

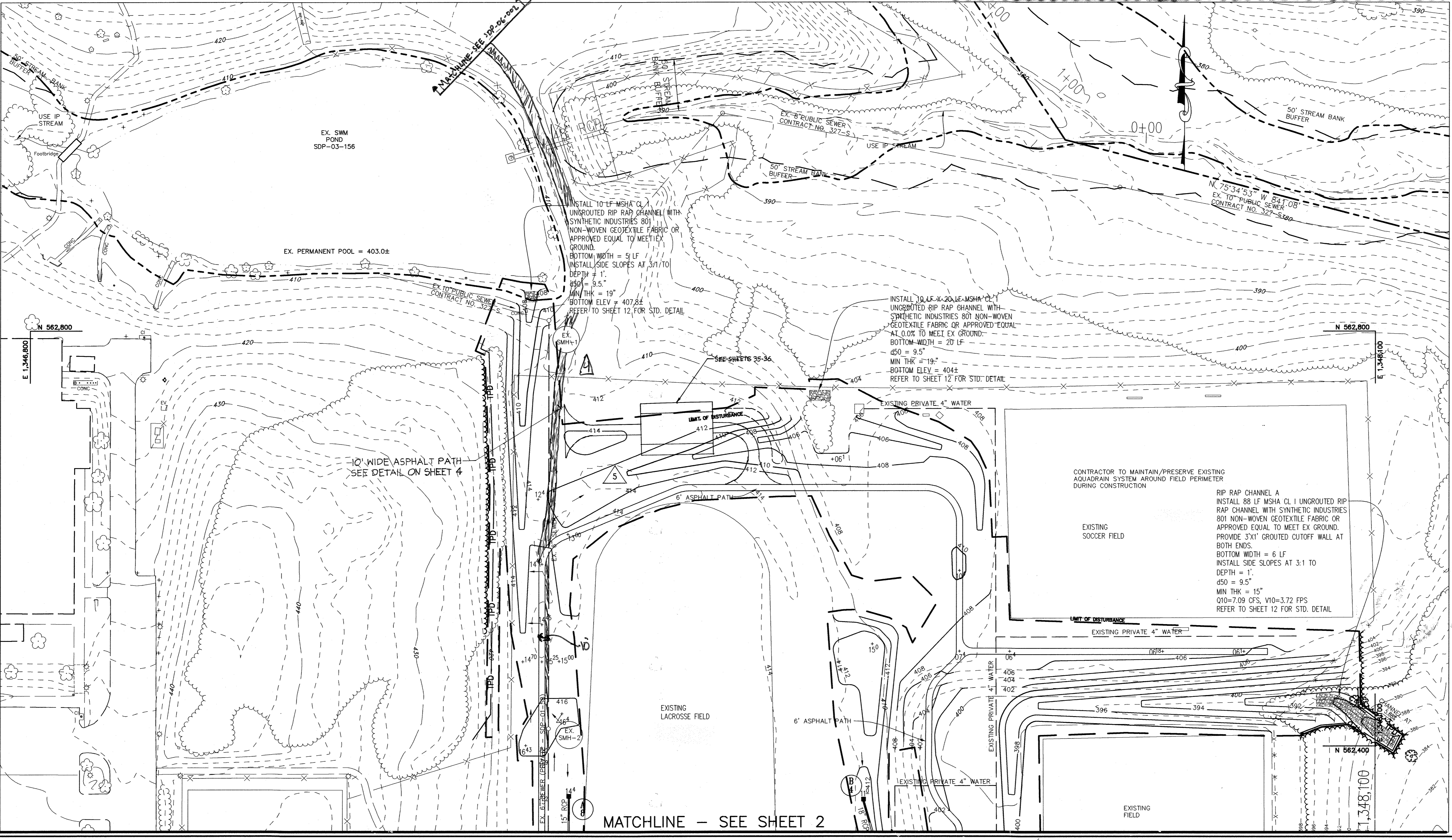


MD PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19916, EXPIRATION DATE: 01/14/2021.
 ONLY FOR REDLINE REVISION #5

NOTE: NEW SEAL AND SIGNATURE ARE APPLICABLE ONLY TO REVISIONS

LEGEND

- PROPERTY LINE
- - - - - EXISTING 10' CONTOURS
- - - - - EXISTING 2' CONTOURS
- - - - - PROPOSED 10' CONTOURS
- - - - - PROPOSED 2' CONTOURS
- ==== EXISTING CURB AND GUTTER
- ==== PROPOSED CURB
- ==== EX. 48" RCP
- ==== PROPOSED EDGE OF PAVEMENT
- ==== EXISTING STORM DRAIN
- ==== EXISTING WATER
- ==== EXISTING SEWER
- ==== FLOODPLAIN
- ==== 15" RCP
- ==== PROPOSED STORM DRAIN
- ☼ EXISTING TREES
- 13.2 PROP. SPOT ELEVATION
- ☼ EXISTING LIGHT
- ◆ EXISTING FIRE HYDRANT
- LIMIT OF DISTURBANCE
- NT ZONING
- POR ZONING
- TPD TREE PROTECTION DEVICE
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED P-3 PAVING
- WETLAND LIMIT



6/5/2019	S	PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36
5-2-10	A	SHARED USE DATA ADDITION
		REVISION
4-06-2011	A	ADD BLEACHER FOUNDATION DETAIL

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Howard County 5/2/07 DATE
 DIRECTOR

Howard County 3/14/07 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

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

6-9-09 A 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

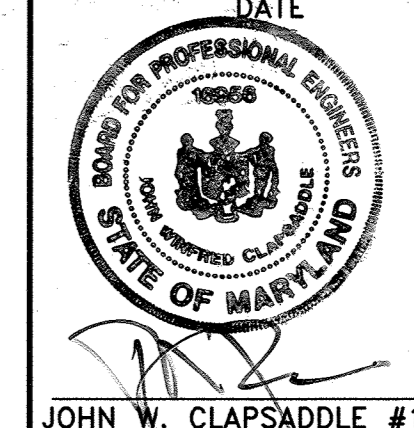
PROJECT **HOWARD COMMUNITY COLLEGE**
 HICKORY RIDGE ROAD ENTRANCEWAY,
 HANDICAPPED PARKING AND TRACK ACCESS DRIVE

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

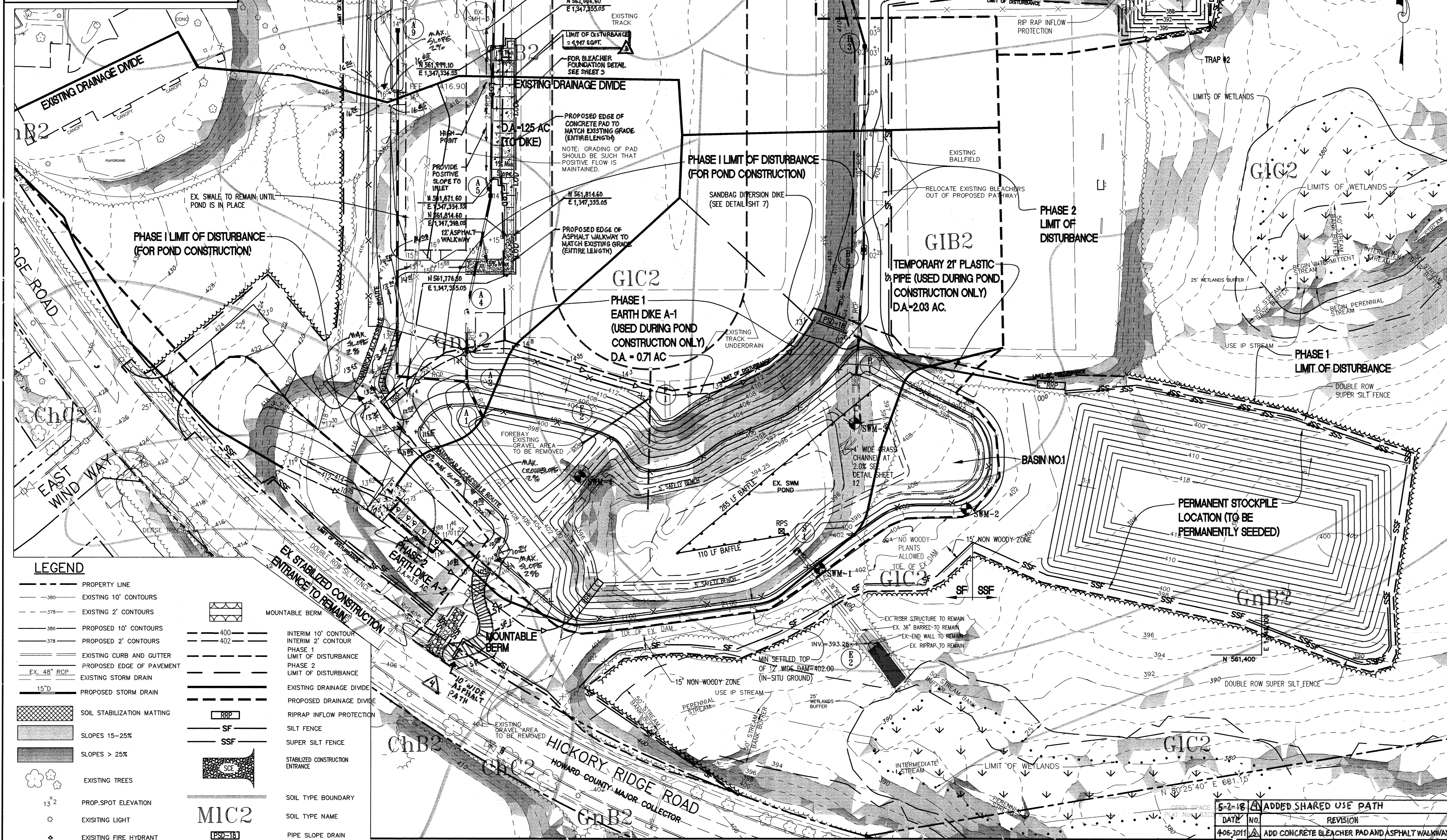
DATE 2/26/2007
 DESIGNED BY: PJS/ALC
 DRAWN BY: ALC
 PROJECT NO.: 11449-2-3
 C400SDP03.DWG
 DATE: MARCH 5, 2007
 SCALE: 1" = 50'
 DRAWING NO. 3 OF 36



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	= 65,136 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

MATCHLINE - SEE SHEET 6

RIP-RAP OUTLET (TYPE III)	
SEDIMENT TRAP # 2	
EXISTING DRAINAGE AREA	= 1.54 AC
DEVELOPED DRAINAGE AREA	= 1.54 AC
REQUIRED STORAGE (5,400cu./Ac.)	
APPROXIMATE STORAGE PROVIDED	= 8,316 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 (c)	= 4'
FLOW DEPTH (a)	= 1.5'
EMBANKMENT TOP WIDTH	= 4'
MAXIMUM SIDE SLOPES	= 2:1



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

DATE	NO.	REVISION
6/5/2019	5	PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36

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: *C. J. Clapsaddle* DATE: 2/24/07

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: *John W. Clapsaddle* 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: *Mark P. Light* DATE: 5/1/07

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

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

6-9-09 REDLINE REVISION BY CHA
ADD NEW SHEETS 22-28

OWNER / DEVELOPER
HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3157
ATTN: MR. CHUCK R. 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
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DESIGNED BY: HS
DRAWN BY: ALD
PROJECT NO.: 11449-2-3
C405DP05.DWG
DATE: MARCH 5, 2007
SCALE: 1" = 50'
DRAWING NO. 5 OF 36

JOHN W. CLAPSADDLE #16956
SDP-06-106

LEGEND

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

RIP-RAP OUTLET (TYPE III) SEDIMENT TRAP # 1	RIP-RAP OUTLET (TYPE III) SEDIMENT TRAP # 3	RIP-RAP OUTLET (TYPE III) SEDIMENT TRAP # 4
EXISTING DRAINAGE AREA = 1.90 AC	EXISTING DRAINAGE AREA = 0.55 AC	EXISTING DRAINAGE AREA = 2.04 AC
DEVELOPED DRAINAGE AREA = 1.90 AC	DEVELOPED DRAINAGE AREA = 0.55 AC	DEVELOPED DRAINAGE AREA = 2.04 AC
REQUIRED STORAGE (5,400cf./Ac.) = 10,260 CF	REQUIRED STORAGE (5,400cf./Ac.) = 2,970 CF	REQUIRED STORAGE (5,400cf./Ac.) = 11,016 CF
APPROXIMATE STORAGE PROVIDED = 12,257 CF	APPROXIMATE STORAGE PROVIDED = 3,543 CF	APPROXIMATE STORAGE PROVIDED = 1,842 CF
AVERAGE BOTTOM DIMENSION = 25' x 88'	AVERAGE BOTTOM DIMENSION = 15' x 65'	AVERAGE BOTTOM DIMENSION = 28' x 70'
BOTTOM ELEVATION = 388.0	BOTTOM ELEVATION = 405.50	BOTTOM ELEVATION = 398.5
CREST ELEVATION = 392.0	CREST ELEVATION = 408.00	CREST ELEVATION = 402.5
TOP OF EMBANKMENT ELEVATION = 394.50	TOP OF EMBANKMENT ELEVATION = 410.50	TOP OF EMBANKMENT ELEVATION = 405.0
CLEAN OUT ELEVATION = 390.0	CLEAN OUT ELEVATION = 407.2	CLEAN OUT ELEVATION = 400.5
CREST WIDTH (b) = 5'	CREST WIDTH (b) = 4'	CREST WIDTH (b) = 5'
STORAGE DEPTH = 4'	STORAGE DEPTH = 2.5'	STORAGE DEPTH = 4'
FLOW DEPTH (d) = 1.5'	FLOW DEPTH (d) = 1.5'	FLOW DEPTH (d) = 1.5'
EMBANKMENT TOP WIDTH = 4'	EMBANKMENT TOP WIDTH = 4'	EMBANKMENT TOP WIDTH = 4'
MAXIMUM SIDE SLOPES = 2:1	MAXIMUM SIDE SLOPES = 2:1	MAXIMUM SIDE SLOPES = 2:1

Figure 2: Temporary Sediment Basin Design Data Sheet

Computed by: JLS Date: 02/15/06 Checked by: Date: _____
 Project name: Howard Community College Basin # 4
 Location: _____

Total area draining to basin: 19.0 acres (ac)

Basin Volume Design

Note: 1. Also see Surface Area Design #10 for flow.
 2. To convert ft³ to yd³, divide ft³ by 27. To convert ft³ to yd³, divide ft³ by 27.

1. Min. required vol. = 3000 ft³ x 10.0 ac drainage = 6935 ft³
2. Actual Volume of basin = 12,257 ft³
3. Storage = 12,257 ft³ - 6935 ft³ = 5322 ft³
4. Vol. at downstream end = 1000 ft³ x 10.0 ac = 10,000 ft³
5. Volume corresponding to min. required volume of basin (from crest elevation) = 297.1 ft³
6. Permanent pool elevation = 396.6 ft
7. Distance from river crest elevation to permanent pool elevation = 1.15 ft
8. Basin crest elevation = 397.75 ft
9. Distance from river crest elevation to basin crest = 8.19 ft

Basin Area Design

11. $Q_p = .97$ cfs (peak discharge from 15- or 30-min storm event, peak concentration) (See attached TR-55 comp.)
 (See attached TR-55 comp.)

12. Design Principal Spillway (Barrage) discharge, Design $Q_p =$ _____ cfs (min. 10% of 10 year peak or 5" Diameter Pipe)

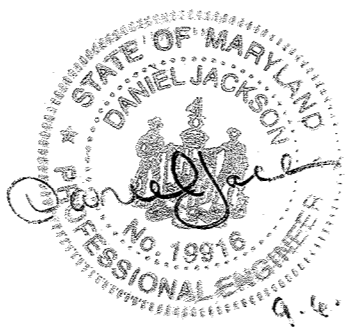
13. $H =$ _____ ft; Barrage length = _____ ft

14. Barrage Dia. = _____ in. Note: Q_p must equal or exceed Design Q_p

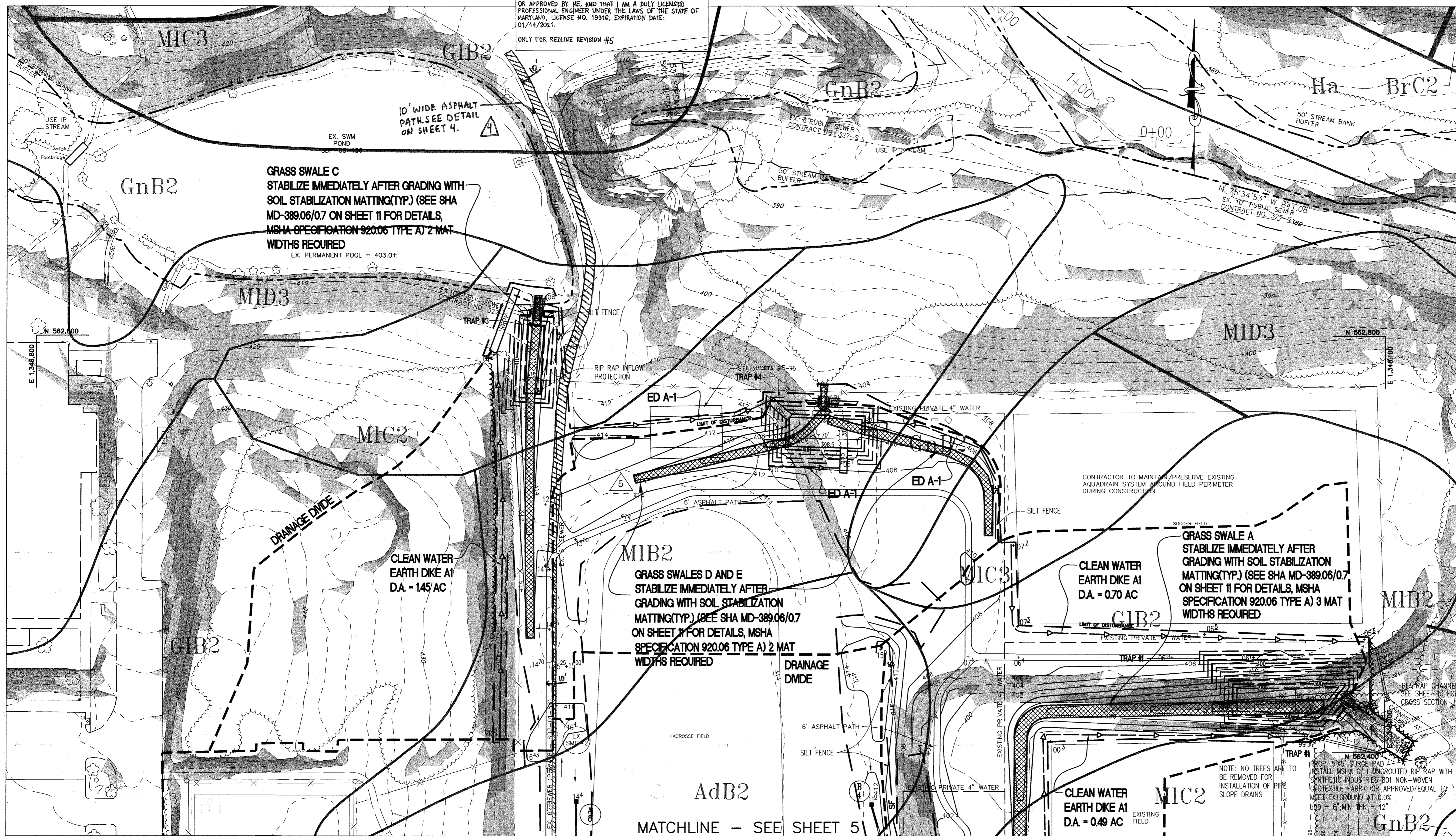
15. River Diameter = _____ in.; River Height = _____ ft; River Bed (b) = _____ ft

16. Trap Rack Dia. = _____ in.; Trap Rack Height = _____ ft

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



MD PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A BUILT LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19916, EXPIRATION DATE: 01/14/2021.
 ONLY FOR REDLINE REVISION #5



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

DATE	NO.	REVISION
5-2-10	4	ADDED SHARED USE PATH

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: *[Signature]* 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: *[Signature]* 2/26/07 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: *[Signature]* 2/15/07 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: *[Signature]* 3/15/07 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 Director: *[Signature]* 5/3/07 DATE
 Chief, Development Engineering Division: *[Signature]* 3/16/07 DATE
 Chief, Division of Land Development: *[Signature]* 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 FOR & NT
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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 2% 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 APPLICATION 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 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- III. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
 - i. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
 - a. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
 - b. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
 - c. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
 - d. NO SOD OR SEED SHALL BE PLACED ON SOIL 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 1 - 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, ALTHOUGH 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 SITES 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.

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) CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMSSION 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. (1 WEEK)
16. REMOVE TEMPORARY DRAWDOWN DEVICE AND STEEL PLATE FROM RISER. 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)

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 BAKING, 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 BAKING, 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.

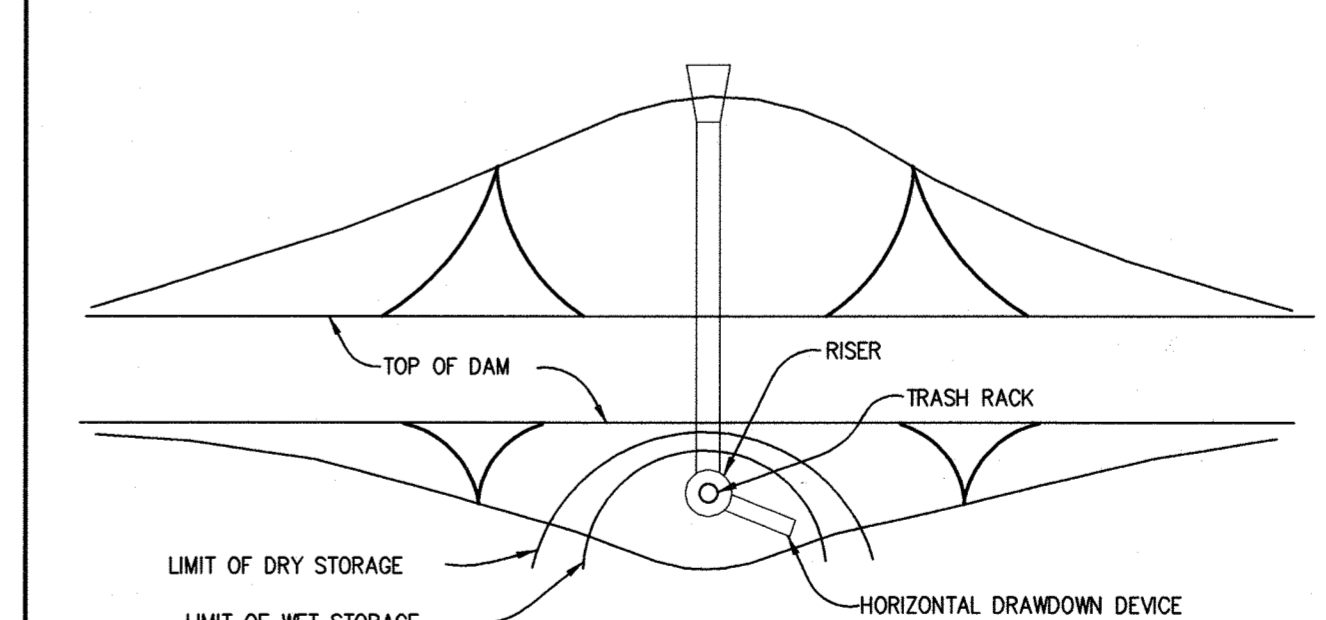
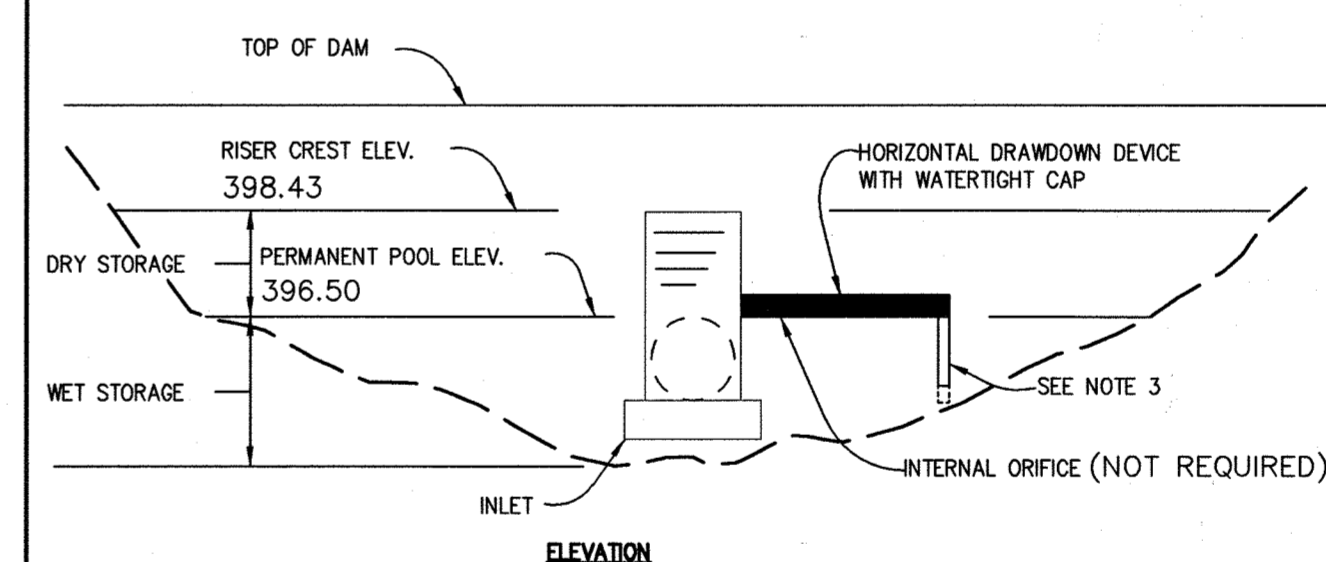
SEEDING - FOR THE PERIOD MARCH 1 THRU APRIL 30 AND FROM AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS. PER 1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. PER ACRE KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (0.05 LBS. PER 1000 SQ.FT.) 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.

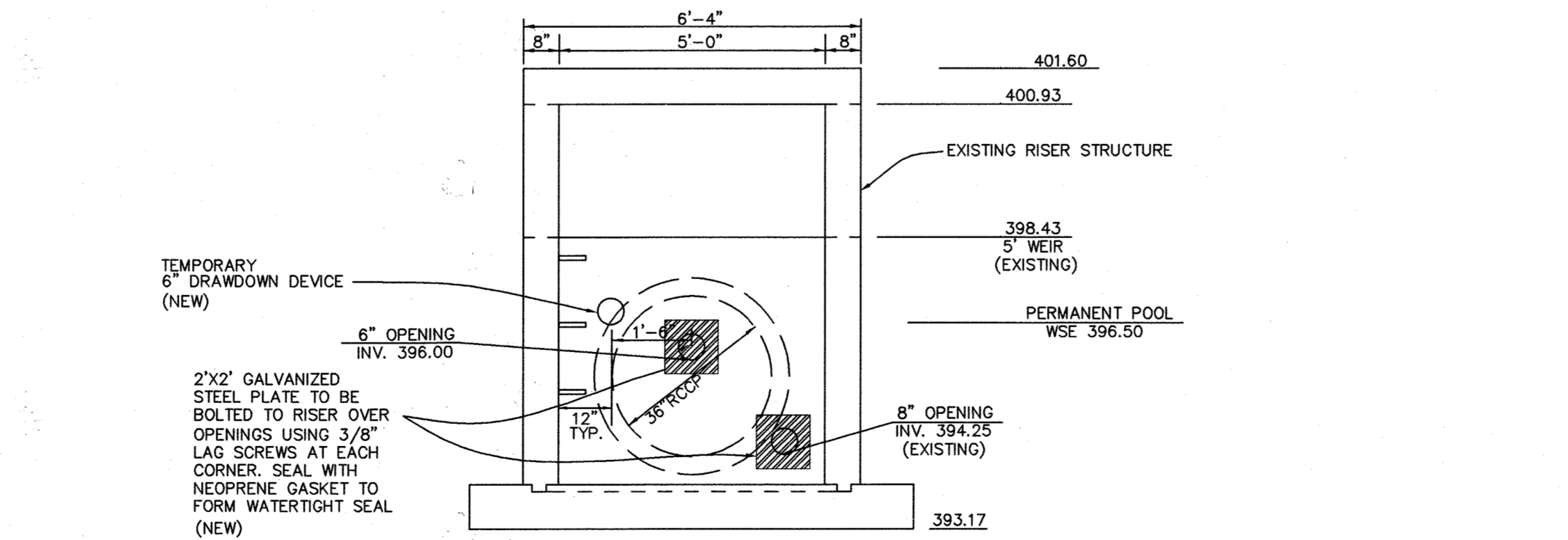
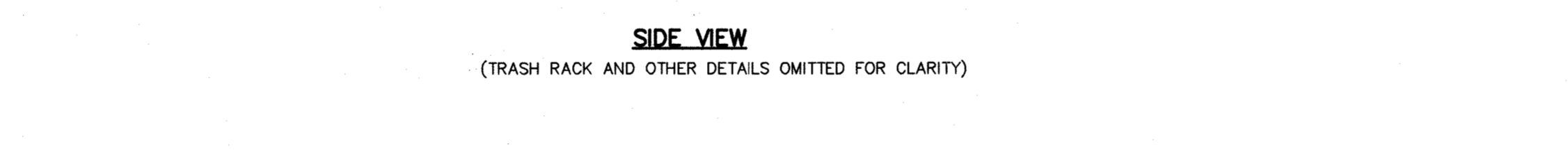
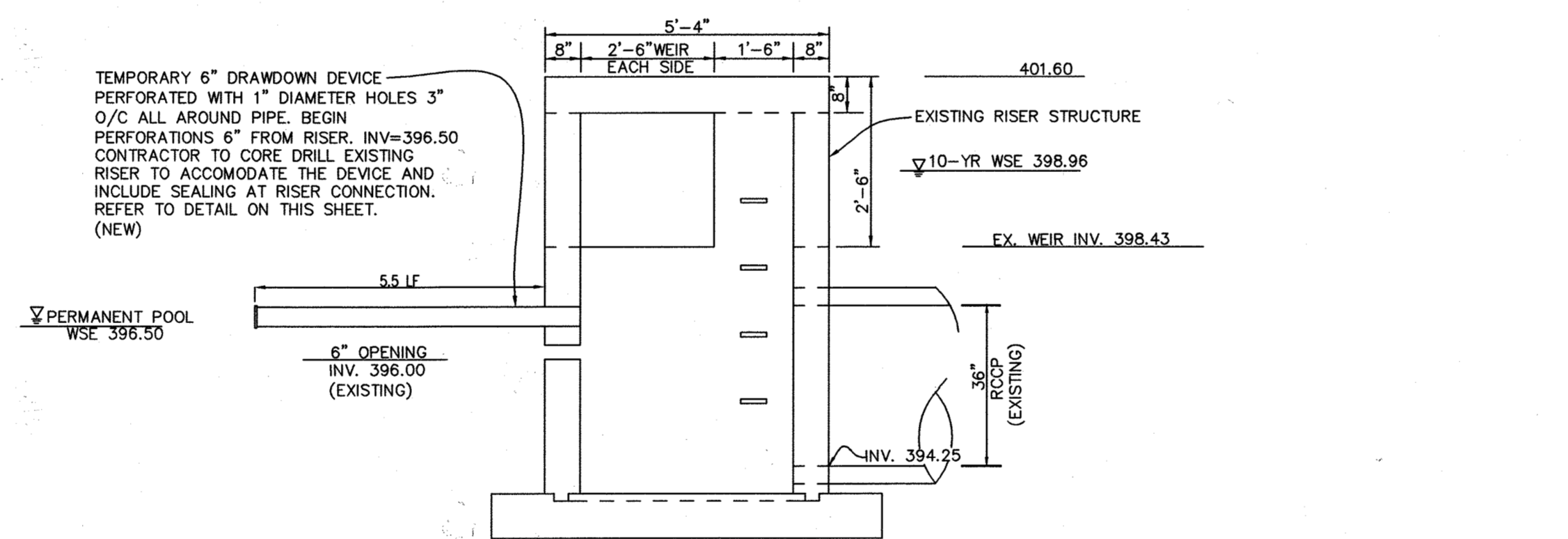
SEDIMENT TRAP AND BASIN DRAWDOWN SCHEMATIC HORIZONTAL DRAW DOWN DEVICE



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 1/2" steel angle, or 1" by 4" square or 2" round wooden posts set 3' minimum into the ground then joining them to the device by wrapping with 12 gauge minimum wire.

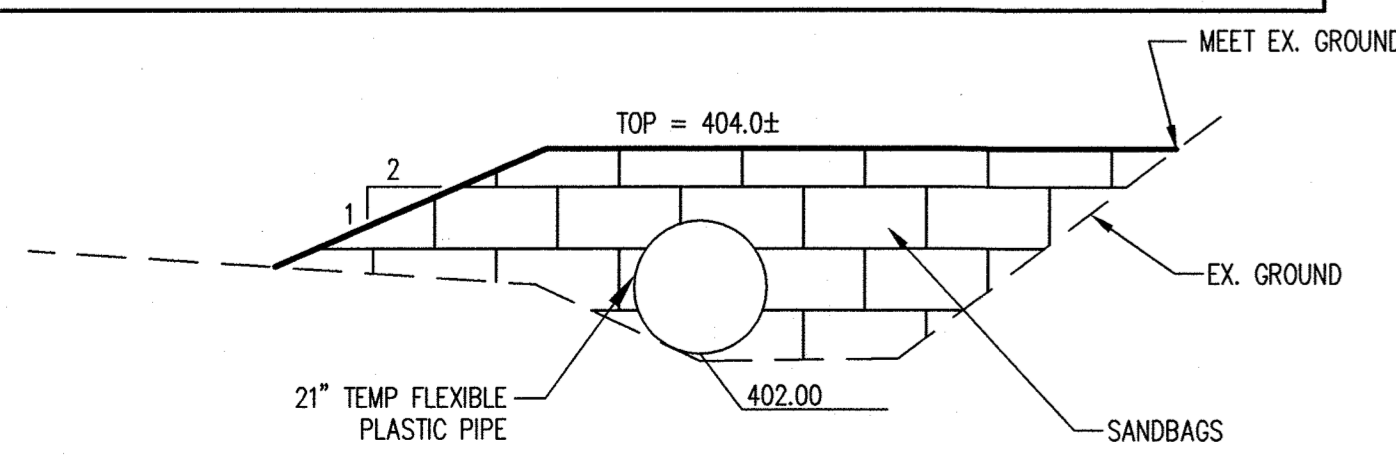
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 10 - 29	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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NOTE: REFER TO SHEET 15 FOR ALL RISER MODIFICATION DETAILS. THIS DETAIL IS FOR SEDIMENT CONTROL ONLY.

SANDBAG DIVERSION DIKE DETAIL

NOT TO SCALE



DATE	NO.	REVISION
6/5/2019	5	PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36

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
C. Clapsaddle 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
John W. Clapsaddle 2/26/07
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
Jim Hughes 3/10/07
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
Sharon A. ... 3/10/07
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR
Dan ... 7/2/07
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 LHA
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

DESIGNED BY: HS
DRAWN BY: SGM
PROJECT NO. 11449-2-3
C400SDP07.DWG
DATE: JULY 27, 2006
SCALE: AS SHOWN
DRAWING NO. 7 OF 36

JOHN W. CLAPSADDLE #16956
STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
SDP-06-106

DETAIL 1 - EARTH DIKE

CROSS SECTION

2:1 SLOPE OR FLATTER
EXCAVATE TO PROVIDE REQUIRED FLOW WIDTH AT DESIGN FLOW DEPTH

PLAN VIEW

POSITIVE DRAINAGE SUFFICIENT TO DRAIN
CUT OR FILL SLOPE

DIKE A **DIKE B**

a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4"	6"
d-FLOW DEPTH	12"	24"

CONSTRUCTION SPECIFICATIONS

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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE A-1-6 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 4 - PIPE SLOPE DRAIN

PERSPECTIVE VIEW

CROSS SECTION

GEOTEXTILE APRON
STANDARD FLARED ENTRANCE SECTION
COMPACTED EARTH DIKE

CONSTRUCTION SPECIFICATIONS

1. DISCHARGE INTO A STABILIZED WATER-COURSE, SEDIMENT TRAPPING DEVICE, OR INTO A STABILIZED AREA AT A NON-EROSIVE VELOCITY. REF: 18.0 ROCK OUTLET PROTECTION
2. ANCHORS (USE MANUFACTURER'S SPECIFICATIONS FOR TYPE AND SPACING)
3. HEIGHT = PIPE DIAMETER X 2 (MAX 4')
4. 4" MINIMUM LENGTH AT LESS THAN 1% SLOPE
5. NOTE: PIPE SIZE DESIGNATION IS: PSD 12 = PIPE SLOPE DRAIN WITH A 12" DIAMETER PIPE.

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

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE B-5-4 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 5 - RIP-RAP INFLOW PROTECTION

PERSPECTIVE VIEW

CROSS SECTION

COMPACTED EMBANKMENT
2:1 SLOPE OR FLATTER
TRAP/BASIN BOTTOM
10' MINIMUM
1' MINIMUM FLOW DEPTH
18" MINIMUM DEPTH OF 4" TO 12" RIP-RAP
GEOTEXTILE CLASS 'C' LINING

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

PLAN VIEWS

BAFFLE DETAIL

INFLOW POINT
NORMAL POOL
RISER (OUTLET)
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-18-28 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DATE	NO	REVISION
6/5/2019	5	PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36

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: *[Signature]* 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: *[Signature]* DATE: 2/28/07

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

HOWARD SOIL CONSERVATION DISTRICT DATE: 7/30/07

DETAIL 22 - SILT FENCE

PERSPECTIVE VIEW

TOP VIEW

CROSS SECTION

10' MAXIMUM CENTER TO CENTER
36" MINIMUM LENGTH FENCE POST, DRIVEN A MINIMUM OF 16" INTO GROUND
16" MINIMUM HEIGHT OF GEOTEXTILE CLASS F
8" MINIMUM DEPTH IN GROUND
36" MINIMUM FENCE POST LENGTH
FILTER CLOTH
FENCE POST SECTION MINIMUM 20" ABOVE GROUND
UNDISTURBED GROUND
FENCE POST DRIVEN A MINIMUM OF 16" INTO THE GROUND
EMBED GEOTEXTILE CLASS F A MINIMUM OF 8" VERTICALLY INTO THE GROUND
STAPLE
JOINING TWO ADJACENT SILT FENCE SECTIONS

CONSTRUCTION SPECIFICATIONS

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound 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 1/2 minute (max.)	Test: MSMT 509
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

PROFILE

PLAN VIEW

50' MINIMUM
MOUNTABLE BERM (6" MIN.)
EXISTING PAVEMENT
EARTH FILL
PIPE AS NECESSARY
EXISTING GROUND
MINIMUM 6" OF 2"-3" AGGREGATE OVER LENGTH AND WIDTH OF STRUCTURE
EXISTING PAVEMENT
10' MINIMUM LENGTH
10' MIN. WIDTH
10' MIN. HEIGHT
10' MIN. WIDTH

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

PROFILE

PLAN VIEW

NOTE: FENCE POST SPACING SHALL NOT EXCEED 10' CENTER TO CENTER
10' MAXIMUM
33" MINIMUM
36" MINIMUM
8" MINIMUM
GROUND SURFACE
FLOW
2 1/2" DIAMETER GALVANIZED OR ALUMINUM POSTS
CHAIN LINK FENCE WITH 1 LAYER OF FILTER CLOTH
SIX (6) GAUGE OR HEAVIER CHAIN LINK FENCING
GEOTEXTILE CLASS A FILTER CLOTH
33" MINIMUM
2 1/2" DIA. GALVANIZED OR ALUMINUM POSTS
EMBED FILTER CLOTH 8" MINIMUM INTO GROUND

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

ELEVATION

HOOK AND CHAIN FOR REMOVAL
Perforated (removable) 12" - 36" pipe wrapped w/ 1/2" hardware cloth and Geotextile Class 'C'
3" MIN.
CLEAN GRAVEL
PERFORATED 48" PIPE WRAPPED WITH 1/2" HARDWARE CLOTH
8' MIN.
WEIGHT AS NECESSARY TO PREVENT FLOATATION OF CENTER PIPE
ANTICIPATED WATER SURFACE ELEV.

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-12-4 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR: *[Signature]* DATE: 5/2/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 3/14/07

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 4-26-07

DATE: 6-9-07 REVISION: 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

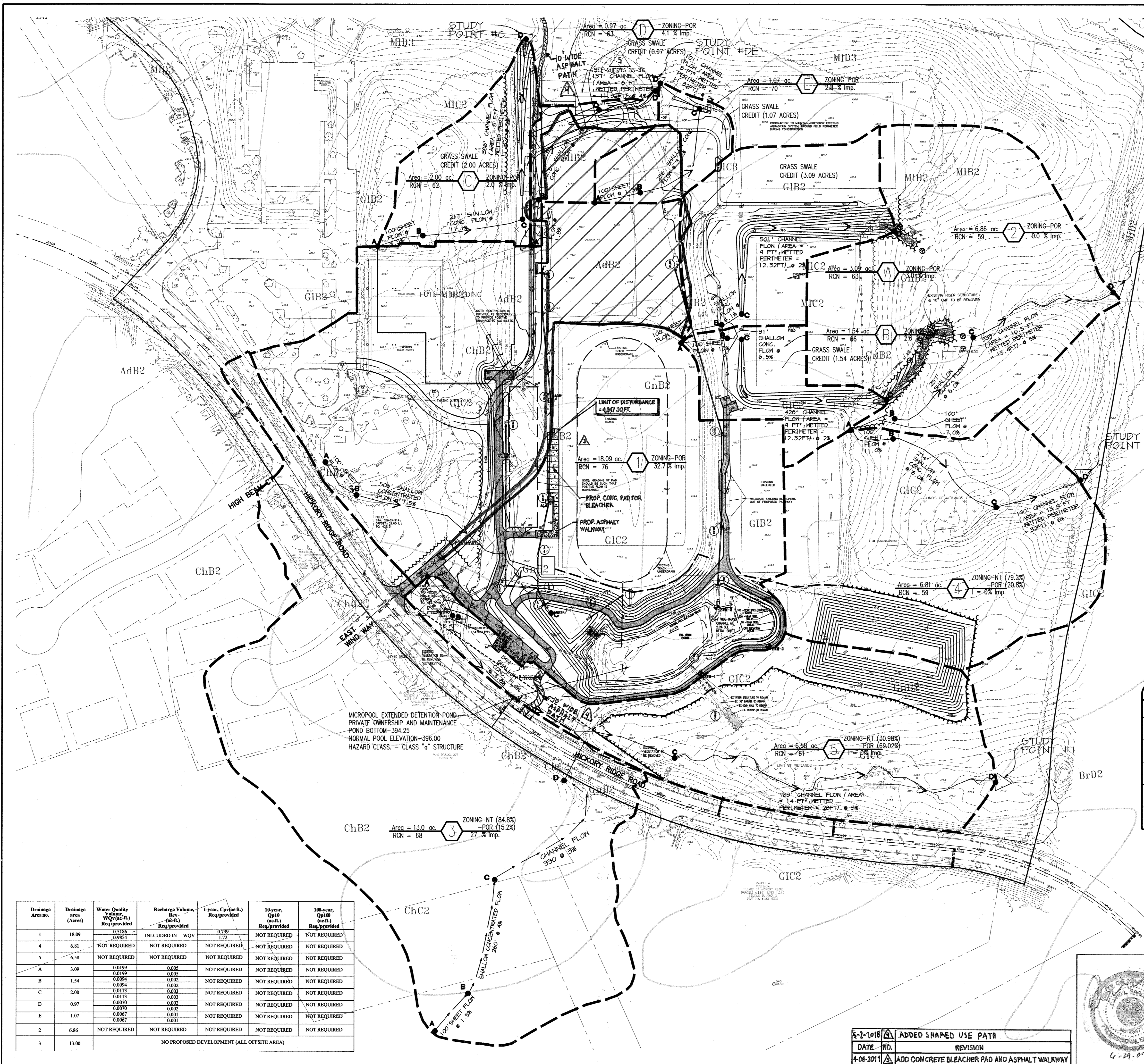
TITLE: SEDIMENT CONTROL NOTES & DETAILS

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

DESIGNED BY: HS
DRAWN BY: SGM
PROJECT NO: 11449-2-3
C400SDPB.DWG
DATE: JULY 27, 2006
SCALE: AS SHOWN
DRAWING NO. 8 OF 36

JOHN W. CLAPSADDLE #16956

P:\project\11449-2-3\Plans\C400SDPB.dwg, 2/20/2007 10:17:11 AM



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

DATE	NO.	REVISION
6/5/2014	5	PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36

LEGEND

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

MD PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19916, EXPIRATION DATE: 01/14/2021.
 ONLY FOR REDLINE REVISION #5

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

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

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
John K. Hingle 5/2/13
 DIRECTOR DATE
Kat Padon 3/18/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
Kat Padon 4-26-07
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
 6-3-09 **RED LINE REVISION BY CHA**
 ADD LIMITS OF DISTURBANCE FOR SYNTHETIC INFILL TURF FIELD SHOWN ON 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
 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

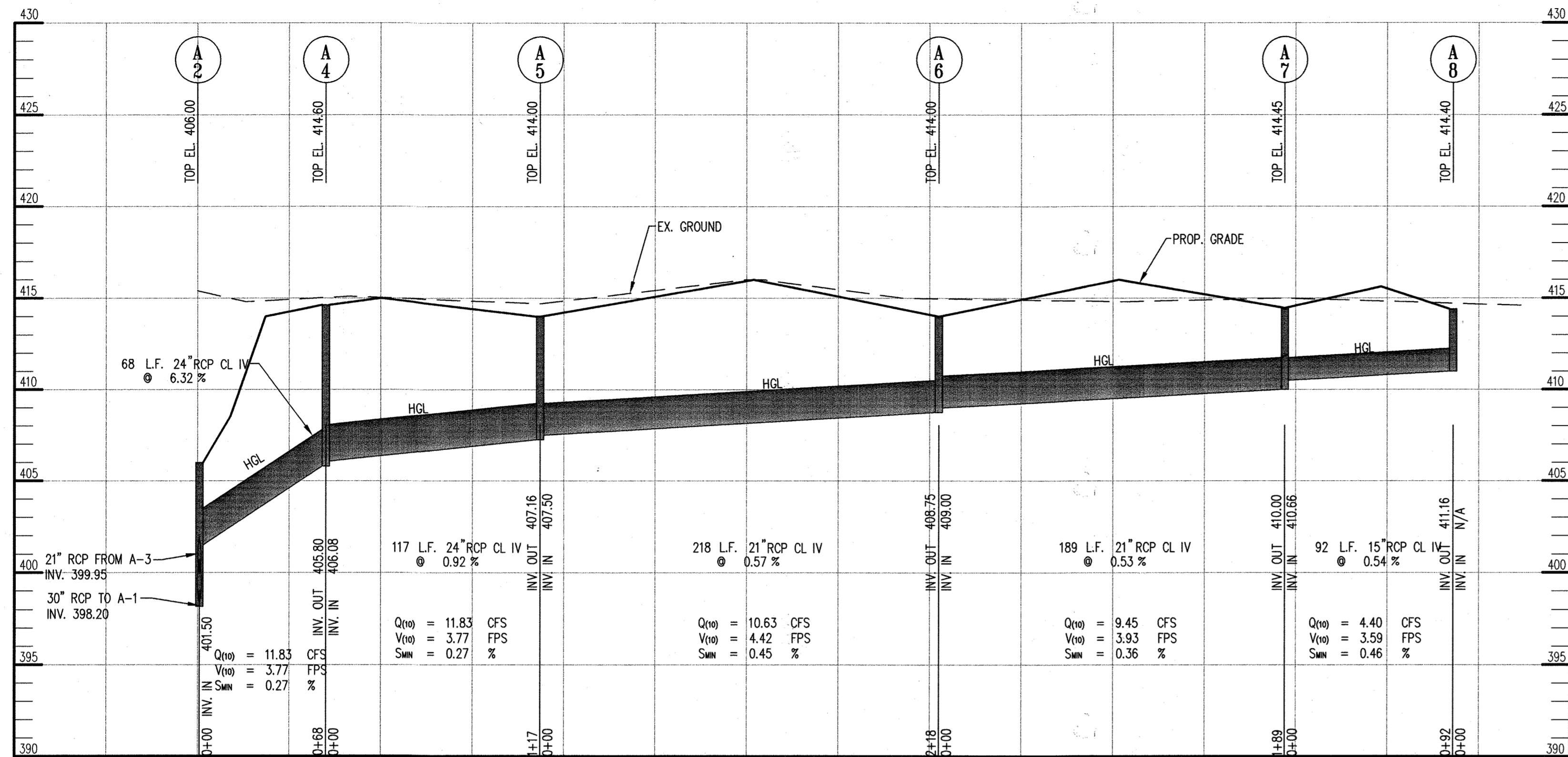
DESIGNED BY : HS
DRAWN BY : JYP
PROJECT NO : 11449-2-3
DATE : JULY 27, 2006
SCALE : 1" = 100'
DRAWING NO. : 9 OF 26

Drainage Area no.	Drainage area (Acres)	Water Quality Volume, WQV (ac-ft)	Recharge Volume, Rev. (ac-ft)	1-year, Cv (ac-ft)	10-year, Qp10 (cfs)	100-year, Qp100 (cfs)
1	18.09	0.5186	INCLUDED IN WQV	0.739	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	0.005	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED
B	1.54	0.0094	0.002	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED
C	2.00	0.0113	0.003	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED
D	0.97	0.0070	0.002	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED
E	1.07	0.0067	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)				

REVISION #1 PERFORMED BY CHA SEE SHEETS 22-26 FOR IMPROVEMENTS.

CHA
 10900 HICKORY RIDGE BLVD
 SUITE 203 RICHMOND, VA 23255
 (804) 871-2604 WWW.CHA-COMPANIES.COM

DATE	NO.	REVISION
5-7-2010	1	ADDED SHAPED USE PATH
4-06-2011	2	ADD CONCRETE BLEACHER PAD AND ASPHALT WALKWAY



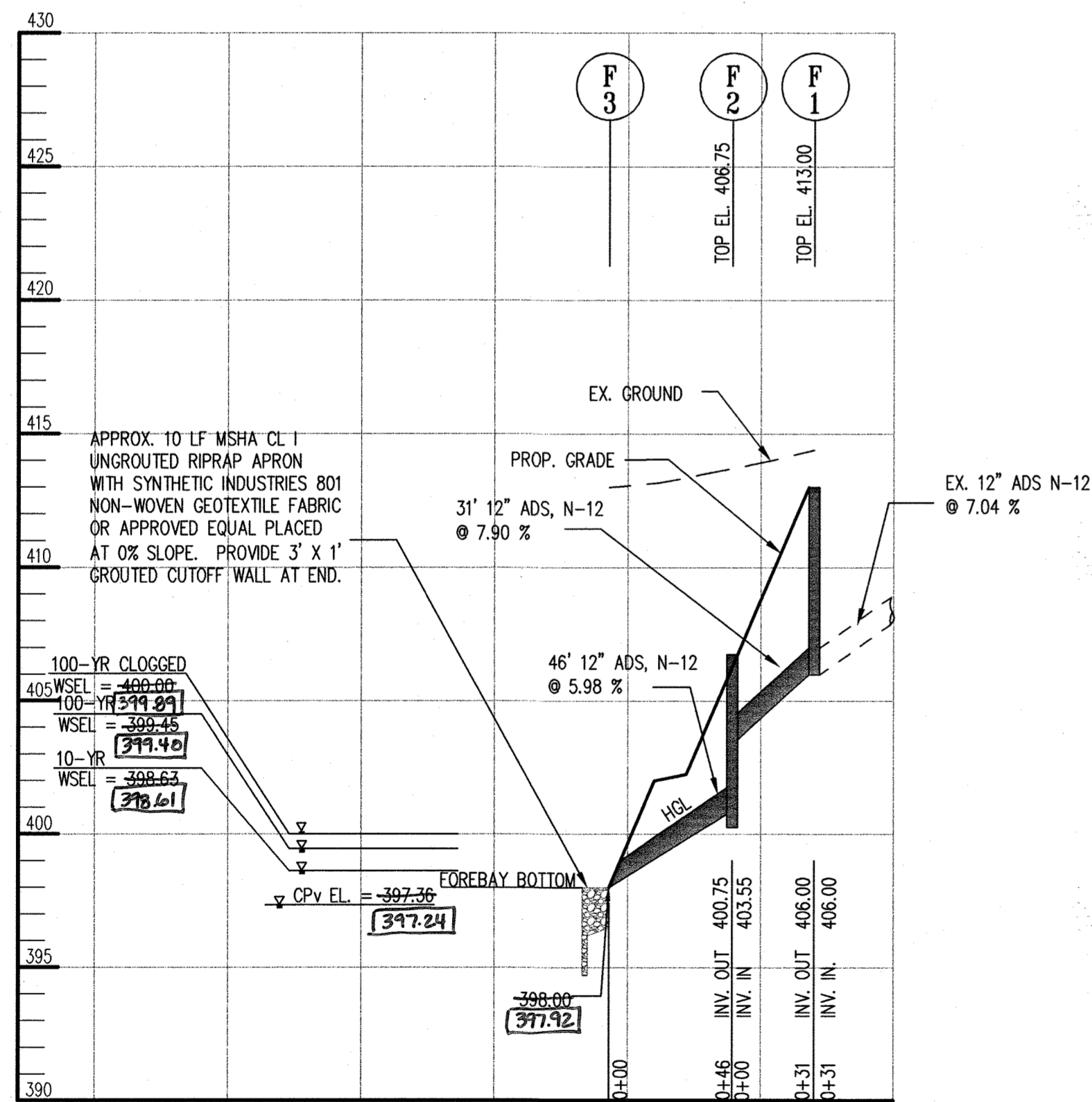
STORM DRAIN PROFILE
SCALE: HOR: 1"=50'
VERT: 1"=5'

STRUCTURE SCHEDULE							
NUMBER	TYPE	LOCATION		TOP ELEVATION	INVERT OUT	SIZE	REMARKS
		STATION	OFFSET				
A1	END WALL	SEE	PLAN	-----	398.00 397.06	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	-----	397.40 397.57	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

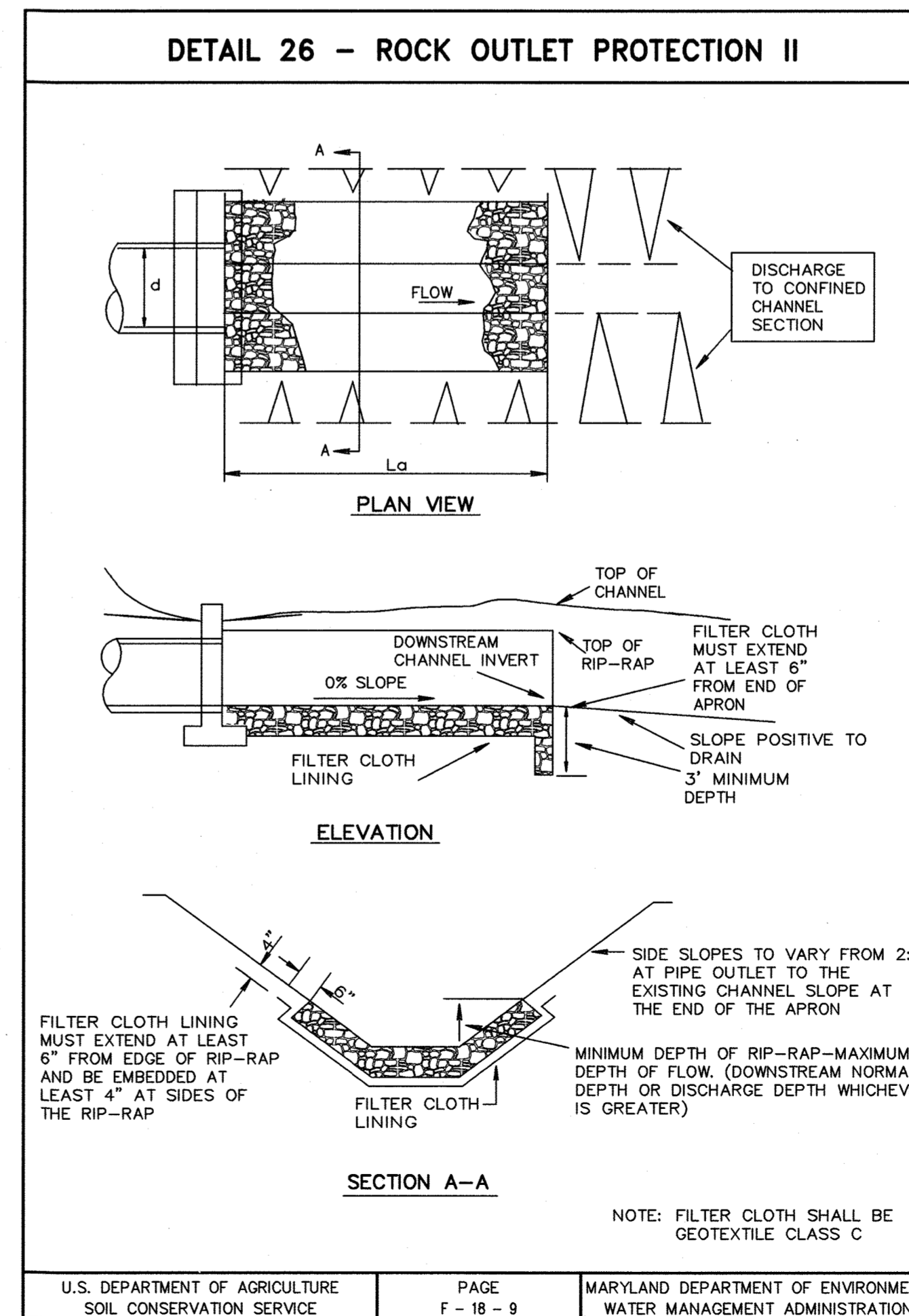
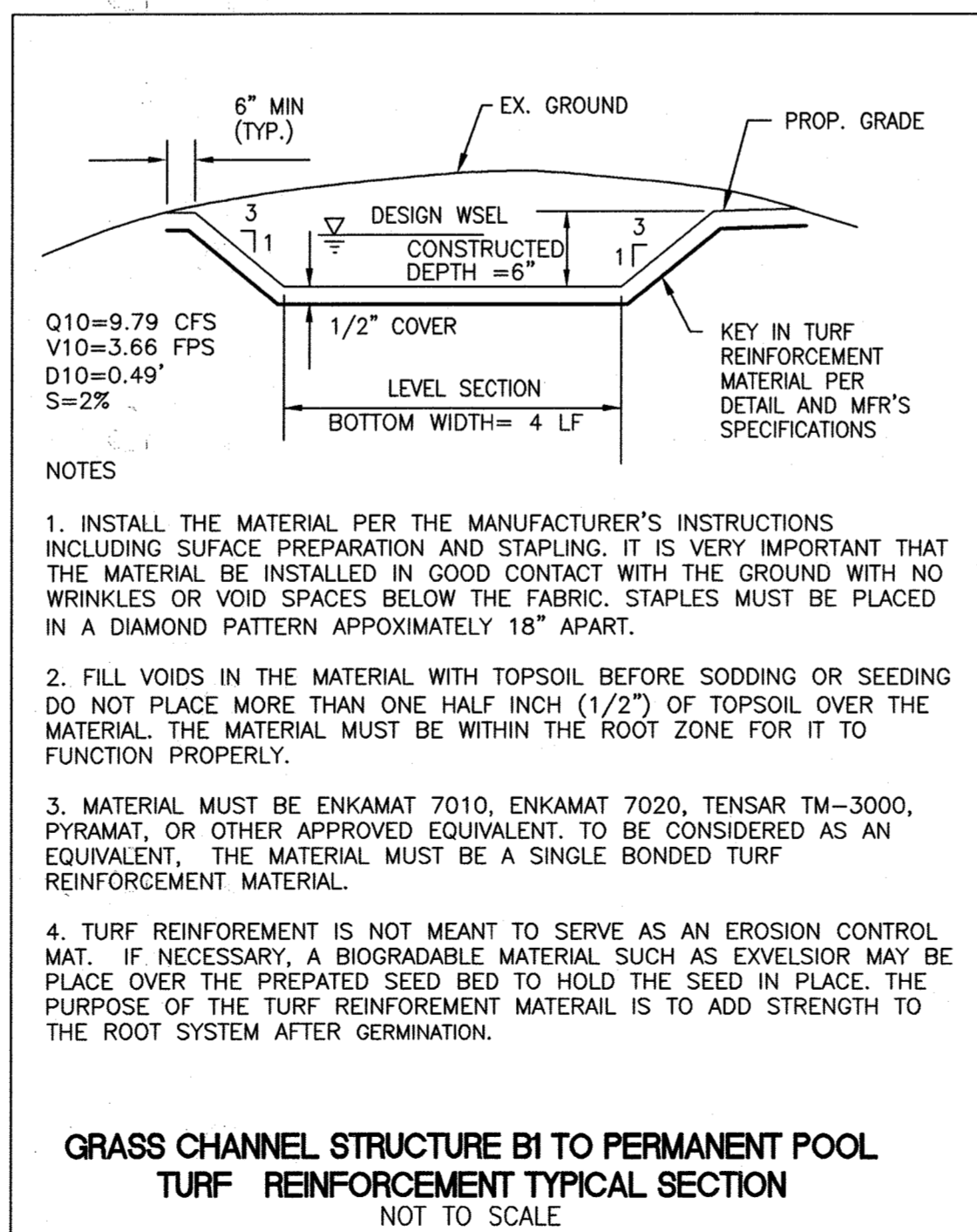
NOTES

- 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'



DATE	NO.	REVISION
6/5/2019	5	PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36
3-1-10	2	SWIM AS-BUILT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Mark L. Long 5/16/07 DATE
DIRECTOR

John W. Clapsaddle 3/16/07 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

John W. Clapsaddle 4/26/07 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

6.9.09 REDLINE REVISION BY CHA
ADD NEW SHEETS 22-28

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**
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

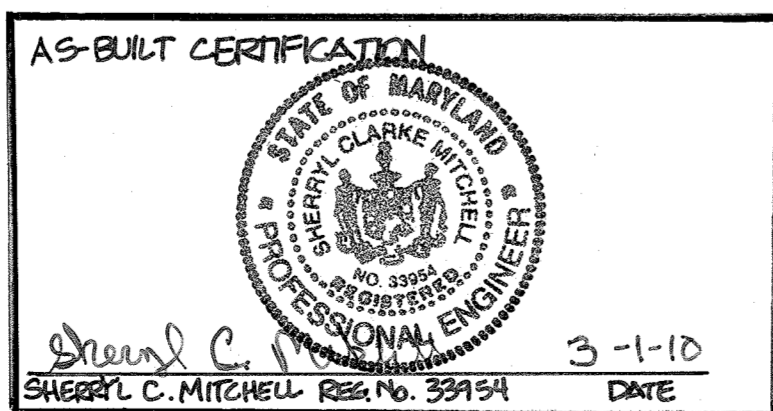
TITLE **STORM DRAIN
PROFILES AND DETAILS**

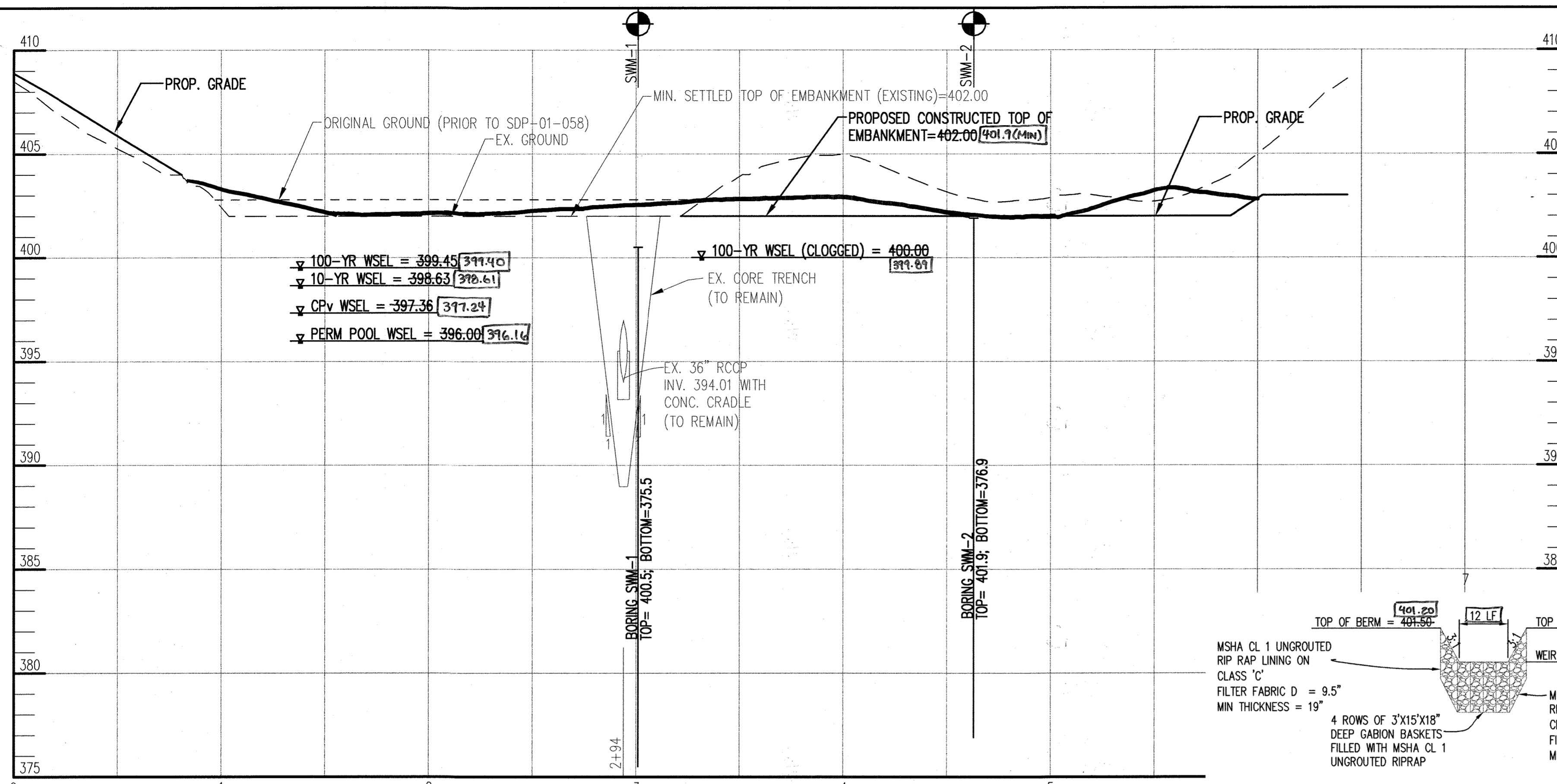
Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

John W. Clapsaddle 2/16/10 DATE
REGISTERED PROFESSIONAL ENGINEER
STATE OF MARYLAND

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 36

JOHN W. CLAPSADDLE #16956



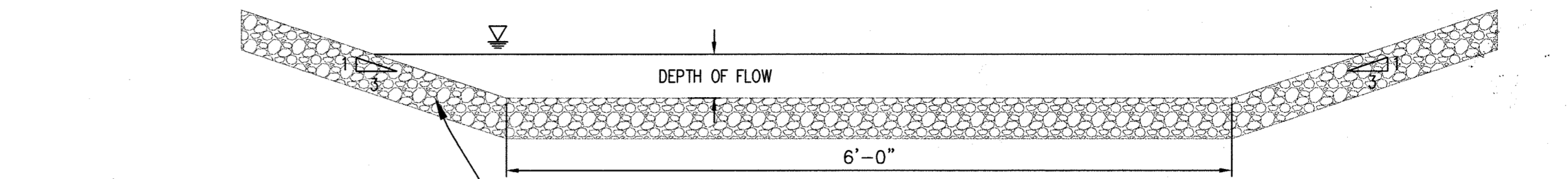
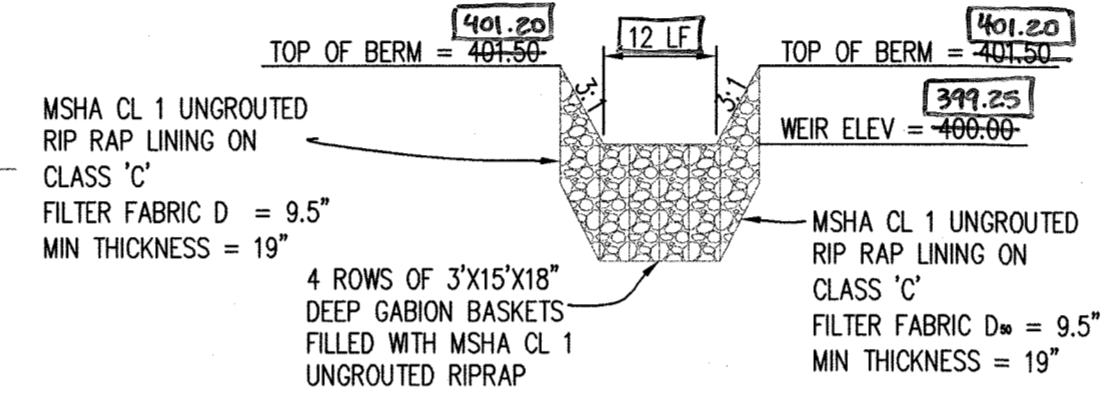


PROFILE ALONG CENTERLINE OF EXISTING EMBANKMENT

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

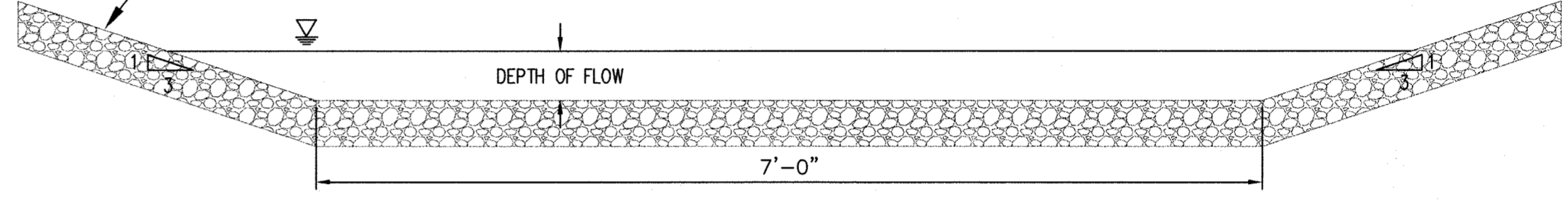
FOREBAY WEIR CROSS SECTION

NOT TO SCALE



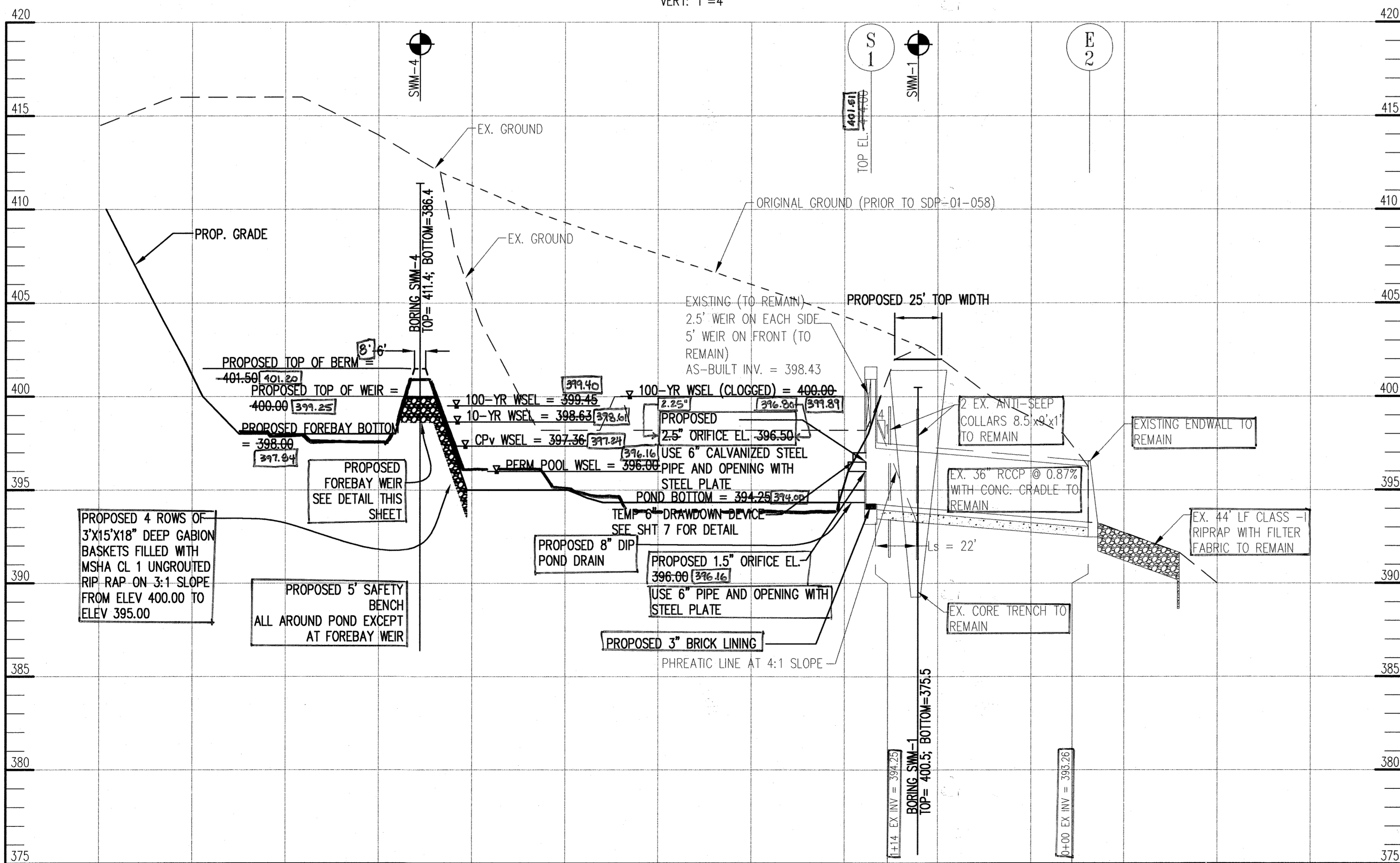
CROSS SECTION RIP-RAP CHANNEL A AND B

SCALE: NTS



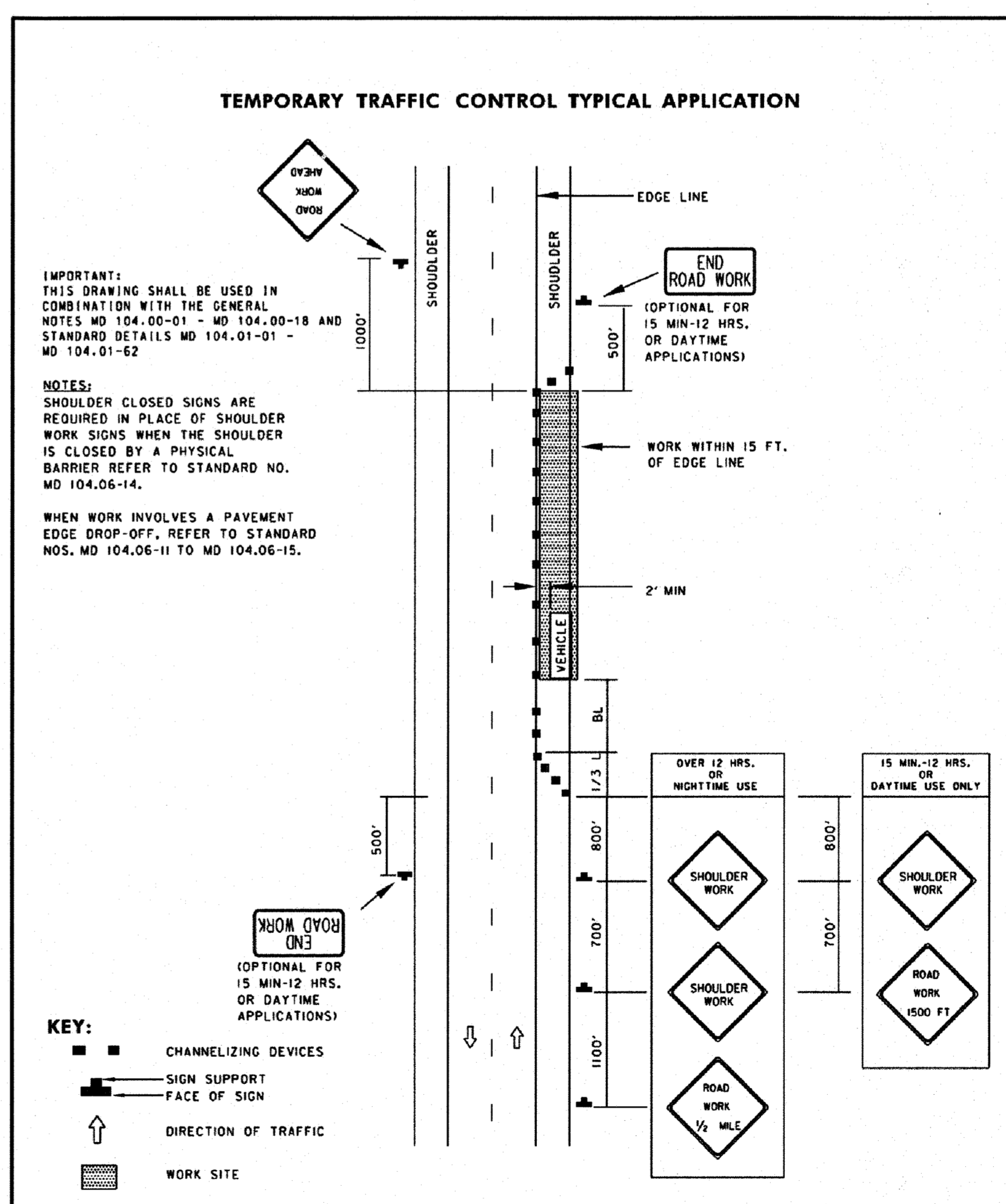
CROSS SECTION RIP-RAP CHANNEL B-1

SCALE: NTS



PROFILE THROUGH EXISTING PRINCIPAL SPILLWAY

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



<p>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 104.01-02</p> <p>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.</p> <p>WHEN WORK INVOLVES A PAVEMENT EDGE DROP-OFF, REFER TO STANDARD NOS. MD 104.06-11 TO MD 104.06-15.</p>	<p>KEY:</p> <ul style="list-style-type: none"> CHANNELIZING DEVICES SIGN SUPPORT FACE OF SIGN DIRECTION OF TRAFFIC WORK SITE
<p>SPECIFICATION 104</p> <p>APPROVED</p>	<p>CATEGORY CODE ITEMS</p> <p>APPROVAL + SIGN REVISIONS</p> <p>APPROVAL + FEDERAL HIGHWAY ADMINISTRATION</p> <p>APPROVAL + STATE OF MARYLAND</p>

DATE	NO.	REVISION
6/5/2019	5	PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36
3-1-10	2	SWM AS-BUILT

AS-BUILT CERTIFICATION

Sherry C. Mitchell, P.E. 3-1-10 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Director: *Sherry C. Mitchell* 5/1/07 DATE

Chief, Development-Engineering Division: *Sherry C. Mitchell* 3/1/07 DATE

Chief, Division of Land Development: *Sherry C. Mitchell* 4-26-07 DATE

6-9-09 REVISION BY CHA ADD NEW SHEETS 22-26

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
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

<p>DESIGNED BY: HS</p> <p>DRAWN BY: HS</p> <p>PROJECT NO: 11449-2-3 C400SDP13.DWG</p> <p>DATE: DECEMBER 05, 2006</p> <p>SCALE: AS SHOWN</p> <p>DRAWING NO. 13 OF 36</p>	<p>DATE 12/05/06</p> <p>DESIGNED BY: HS</p> <p>DRAWN BY: HS</p> <p>PROJECT NO: 11449-2-3 C400SDP13.DWG</p> <p>DATE: DECEMBER 05, 2006</p> <p>SCALE: AS SHOWN</p> <p>DRAWING NO. 13 OF 36</p>
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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, roller,

ers, 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 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:

- 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 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 hugging type band with o-ring gaskets having a minimum diameter

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.

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.

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

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.

Backfilling shall conform to "Structure Backfill".

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:

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

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.

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

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.

Backfilling shall conform to "Structure Backfill".

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:

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

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.

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

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.

Backfilling shall conform to "Structure Backfill".

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:

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

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.

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

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.

Backfilling shall conform to "Structure Backfill".

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:

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

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.

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

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.

Backfilling shall conform to "Structure Backfill".

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

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- 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.

formance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water pumps from which the water shall be pumped.

Stabilization
All borrow areas shall be graded to provide proper drainage and left in a specific 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.

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 511.

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 per-

NRCS - MARYLAND

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

ROUTINE MAINTENANCE:

- FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
- TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE 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.
- DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
- 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.

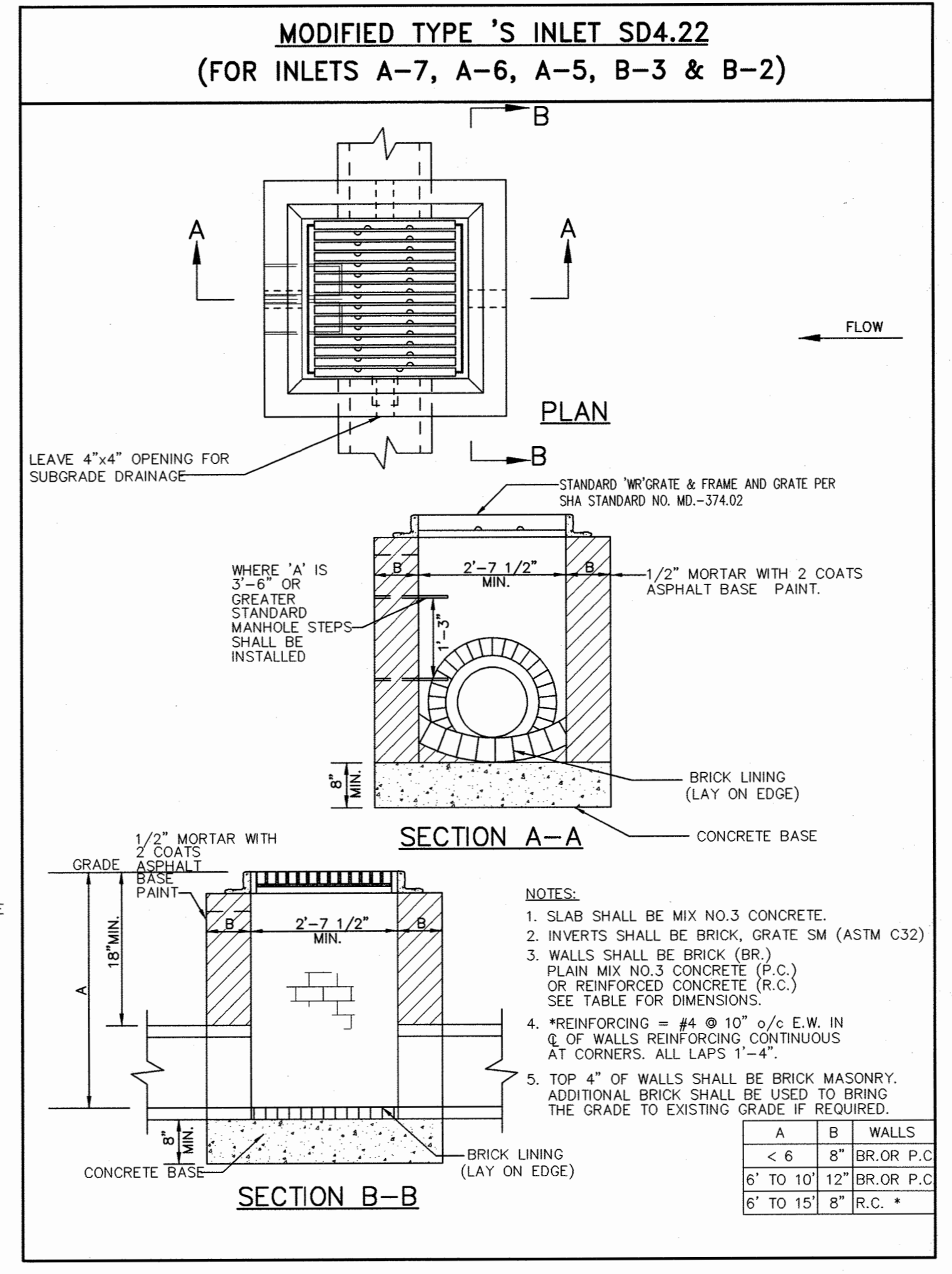
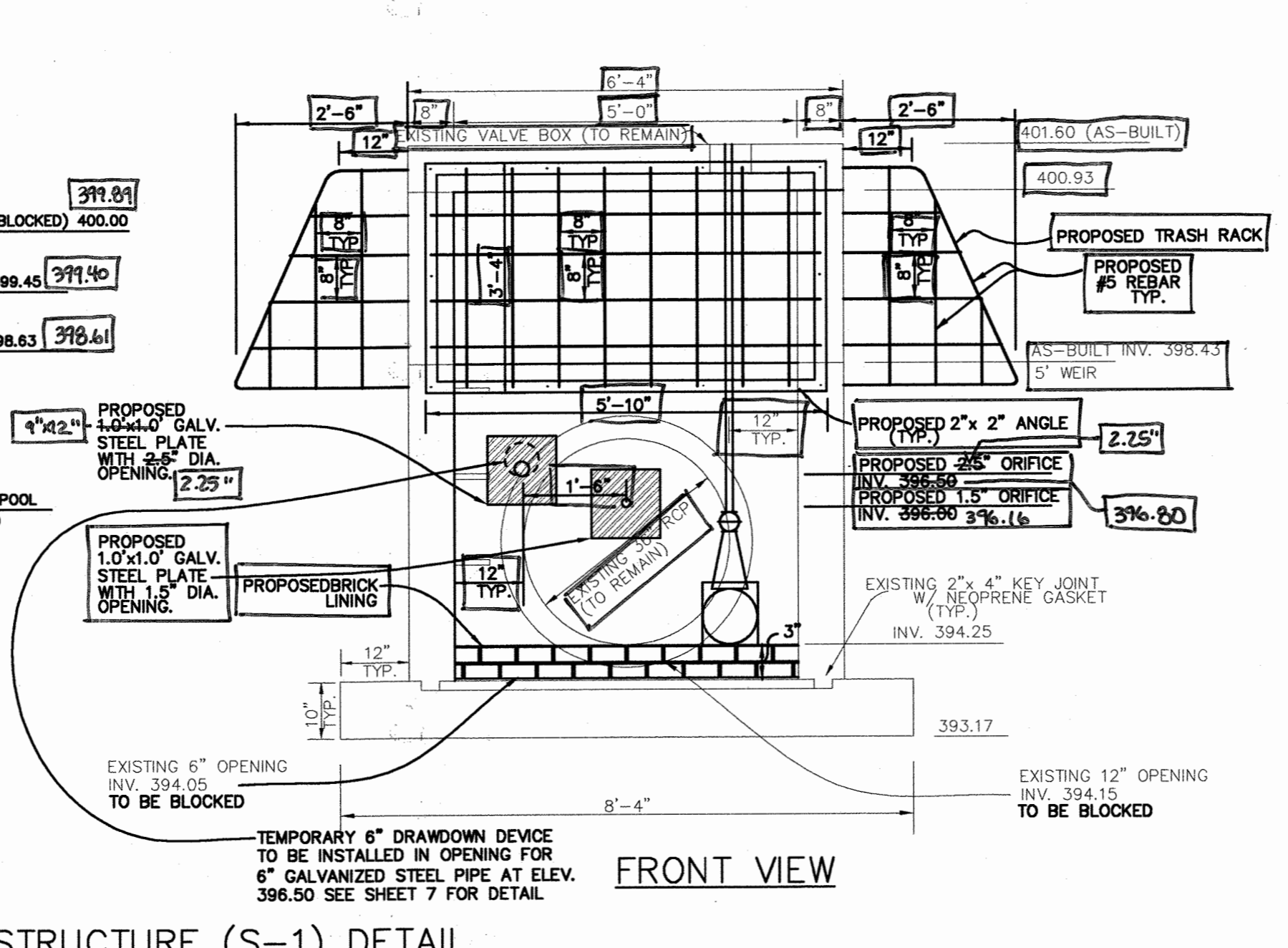
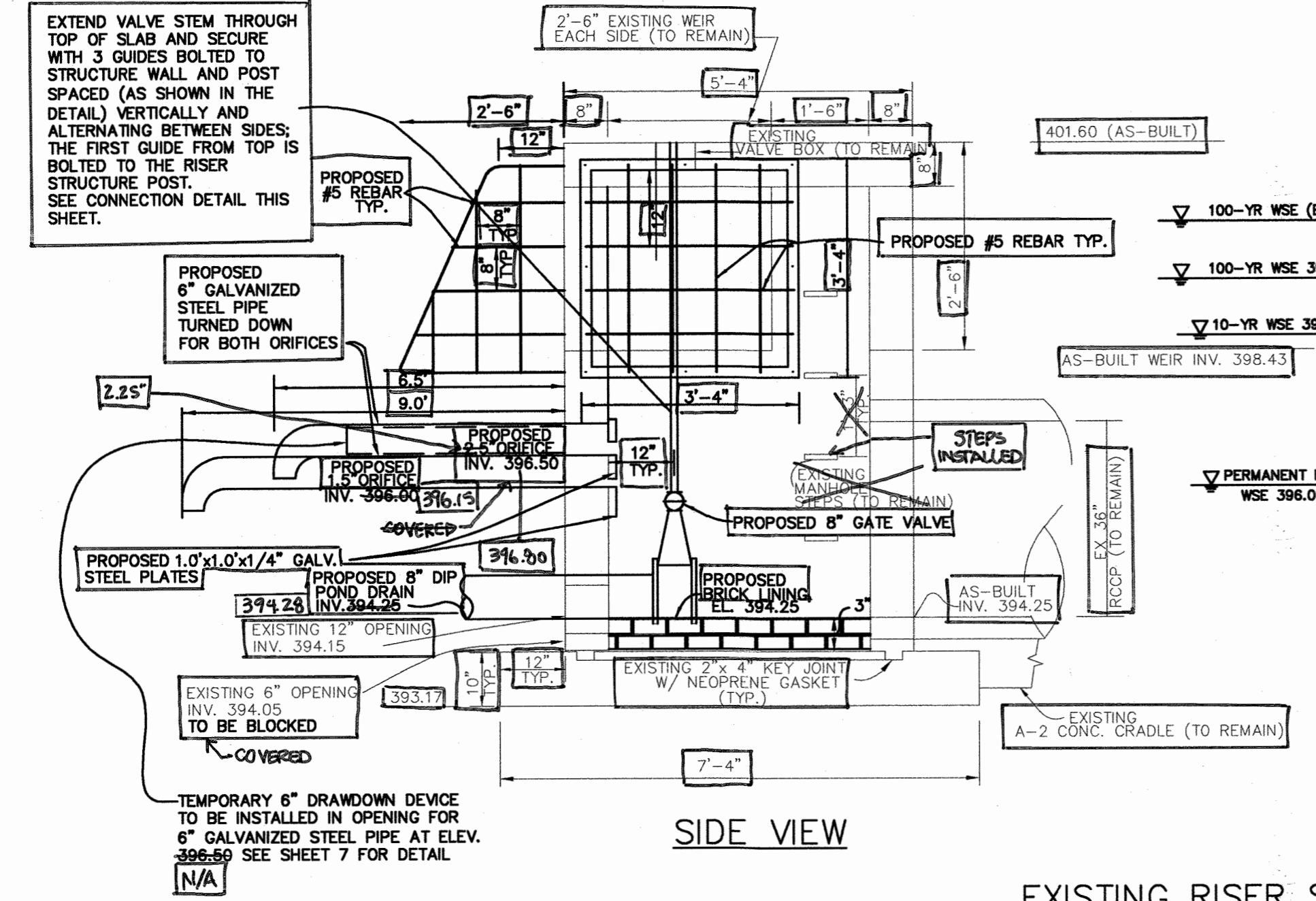
NON-ROUTINE MAINTENANCE:

- 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.
- 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 (O-1 AND O-2)

- 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.
- 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.
- DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
- VISIBLE SIGNS OF EROSION IN THE OPEN CHANNEL SYSTEM SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
- REMOVE SILT IN THE OPEN CHANNEL SYSTEM WHEN IT EXCEEDS 25% OF THE ORIGINAL WQV.

DATE	NO.	REVISION
6/5/2014	5	PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36
APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.		
<i>Mark D. Weyl</i>		5/2/12
DIRECTOR		DATE
<i>John A. ...</i>		2/16/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION		DATE
<i>John A. ...</i>		4-26-07
CHIEF, DIVISION OF LAND DEVELOPMENT		DATE
6-9-09	1	REDLINE REVISION BY CHA ADD NEWS NETS 22-28
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 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		
<i>John A. ...</i>		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 36		

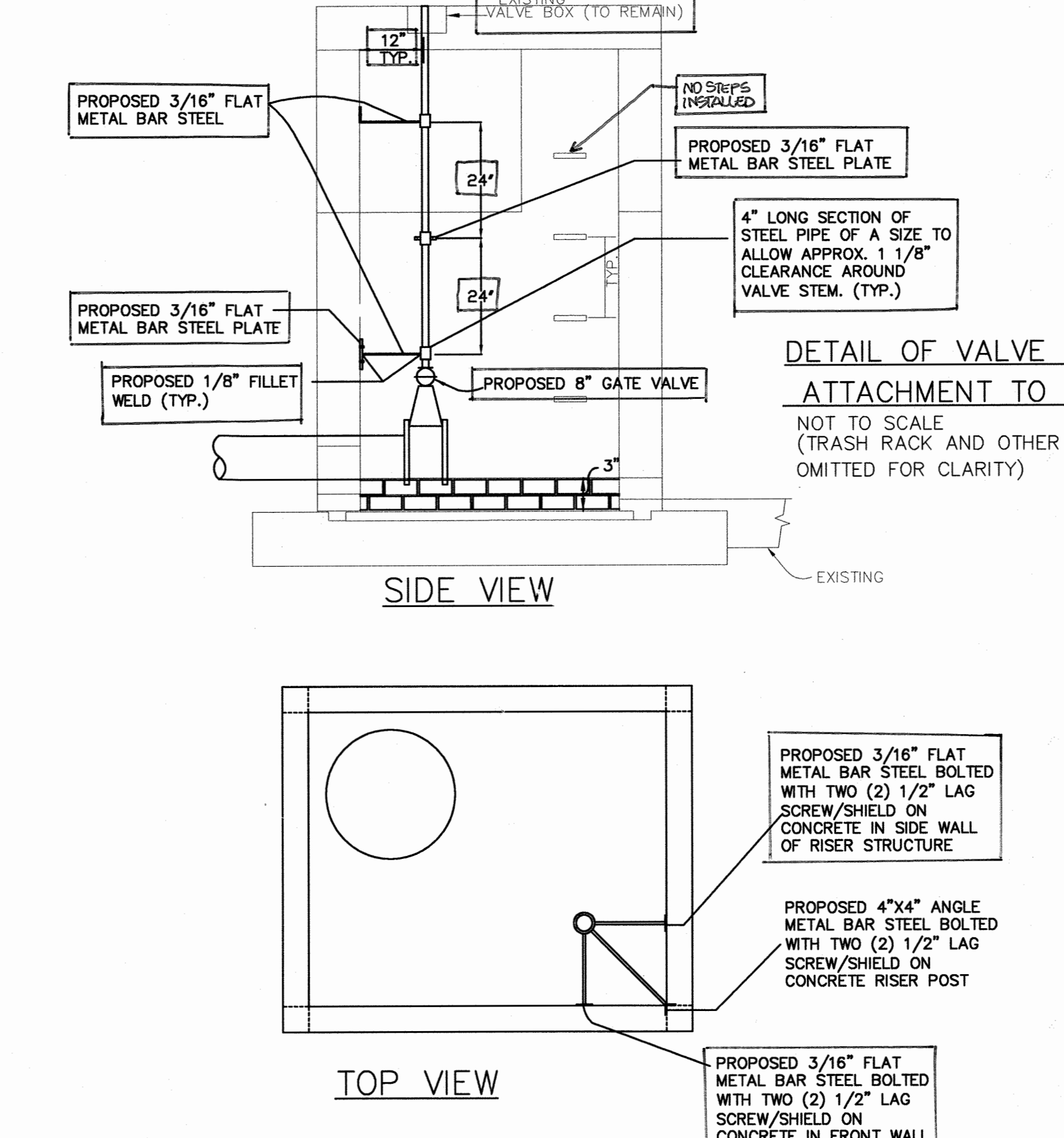
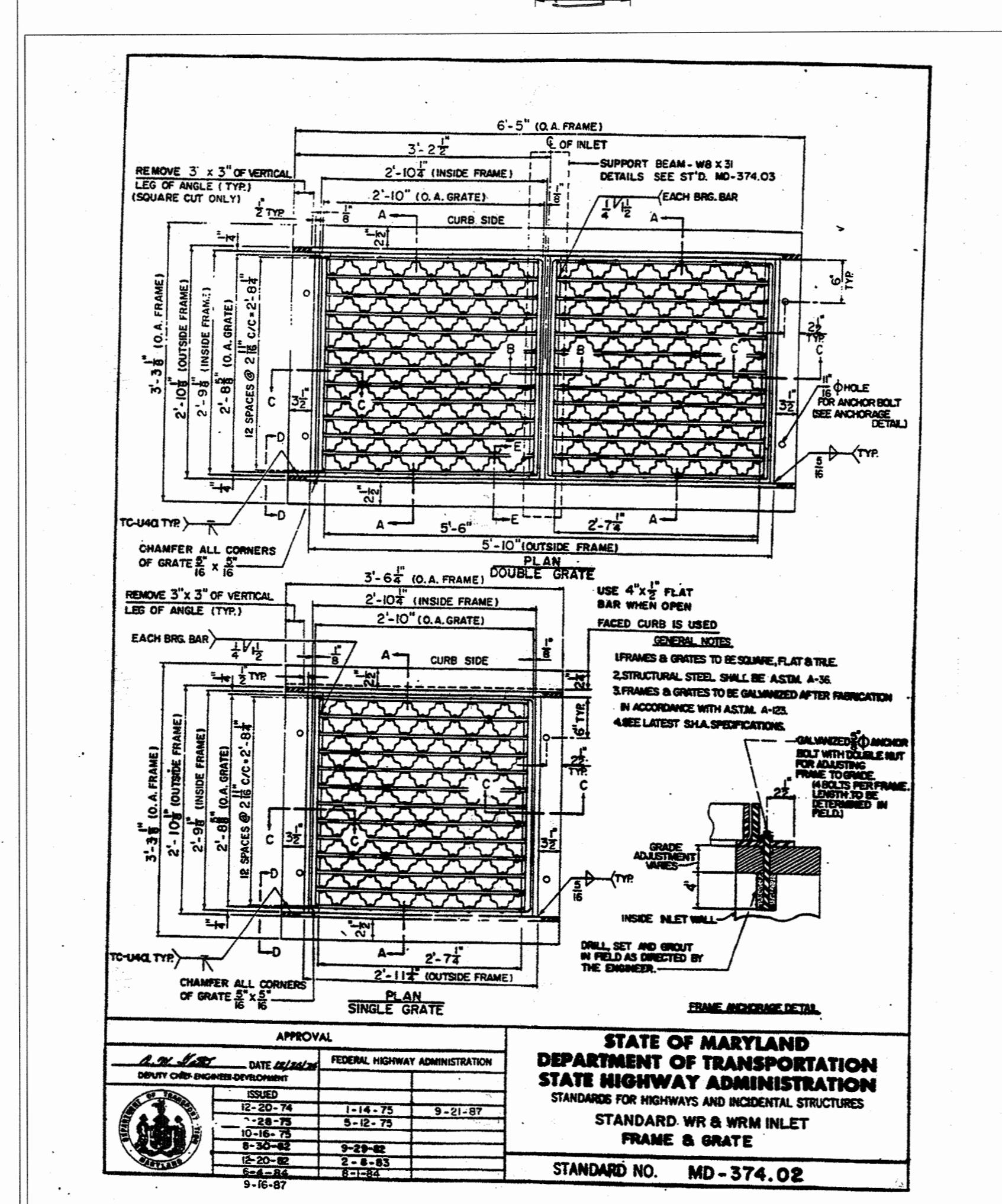
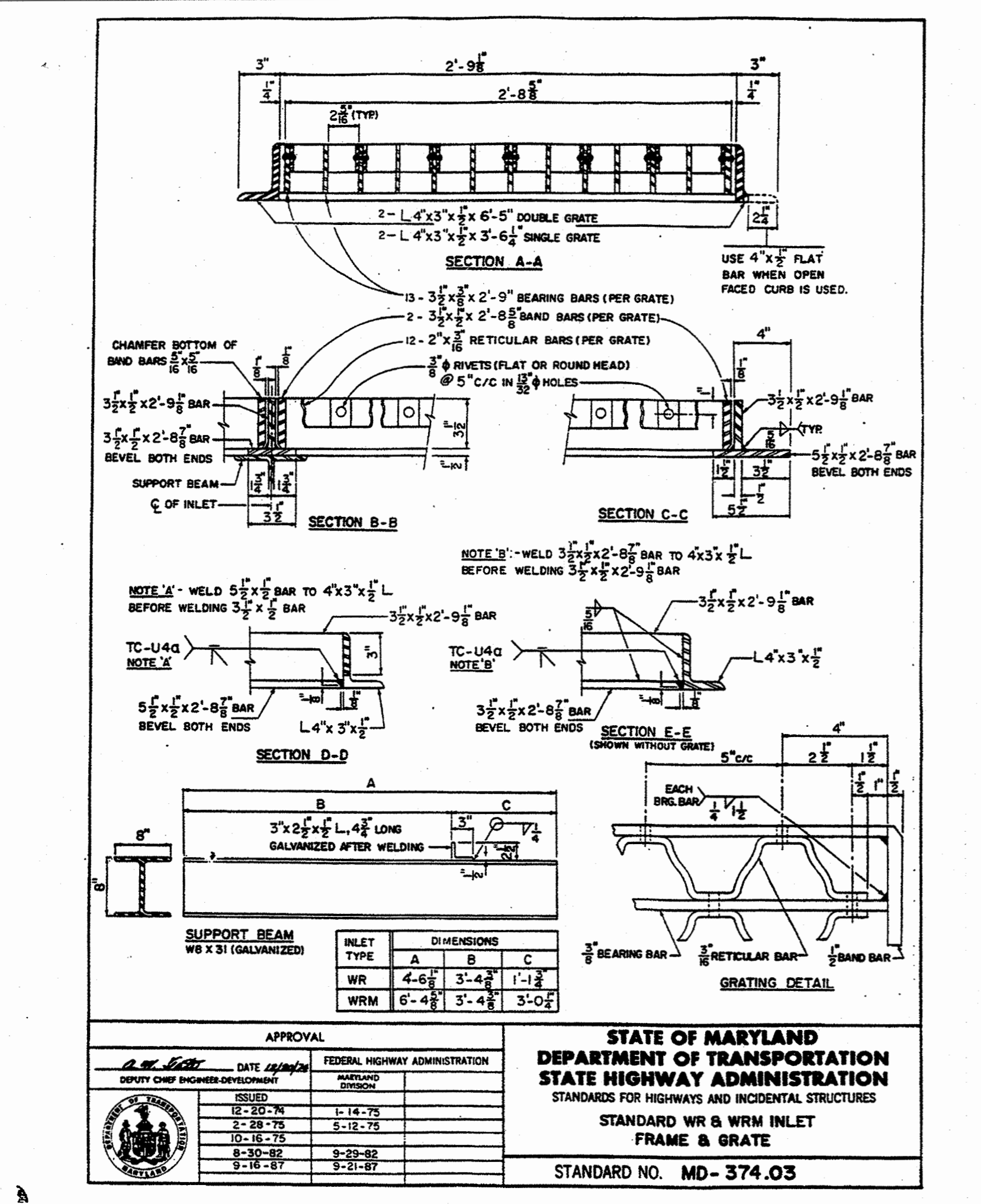
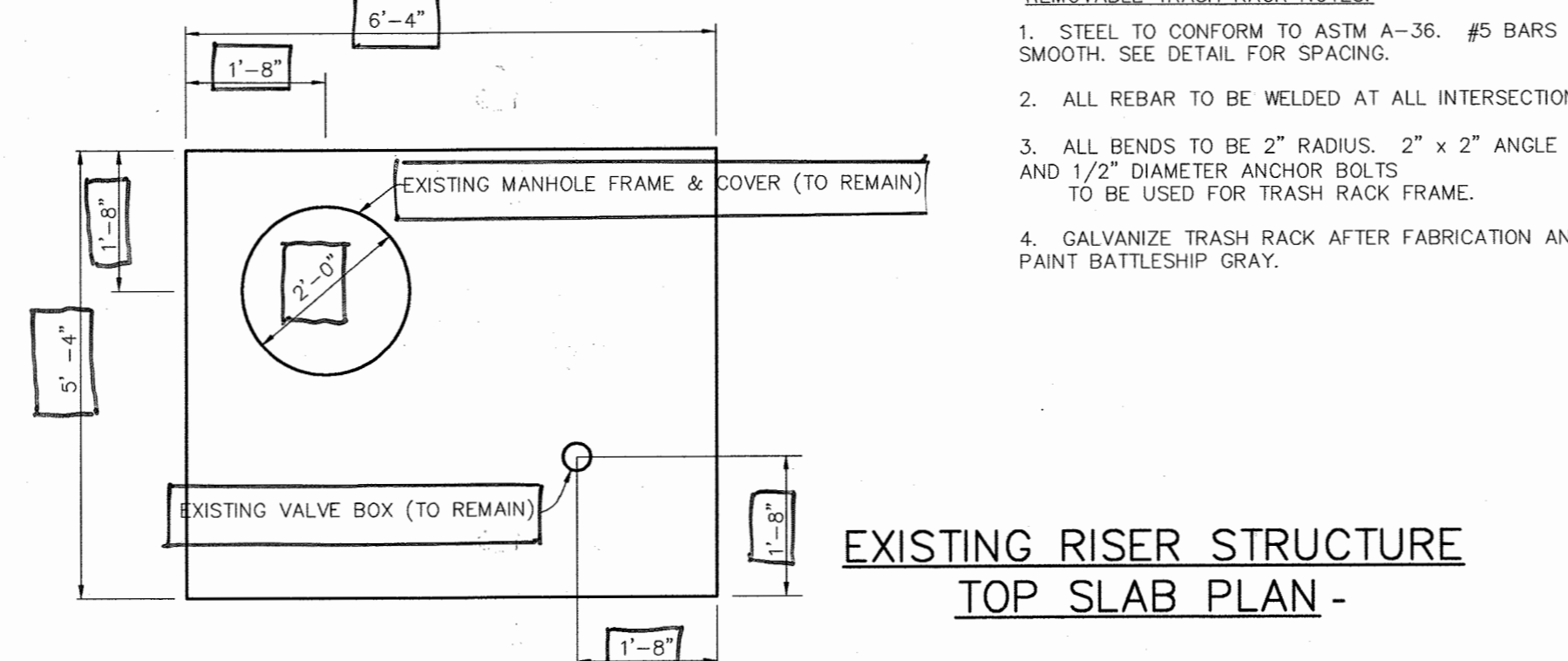


NOTE: ALL EXISTING INFORMATION (NOT LABELLED AS "AS-BUILT") TAKEN FROM APPROVED SDP-01-058

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 (S-1) DETAIL NOT TO SCALE

- 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.



DATE NO. REVISION
 6/5/2014 15 PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36
 3/10/21 5 MM AS-BUILT

AS-BUILT CERTIFICATION
 STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 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: [Signature] 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: [Signature] DATE: 2/26/07

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: [Signature] DATE: 5/7/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 3/16/07
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 4/26/07
 REVISION: 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

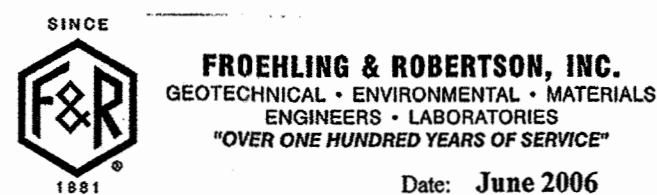
AREA: PARCEL 47 ZONED POR & NT
 TAX MAP NO. 35, 36 BLOCK 6 & 1
 5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

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

DESIGNED BY: HS
 DRAWN BY: HS
 PROJECT NO.: 11449-2-3
 C400SDP15.DWG
 DATE: OCTOBER 20, 2006
 SCALE: AS SHOWN
 DRAWING NO. 15 OF 36

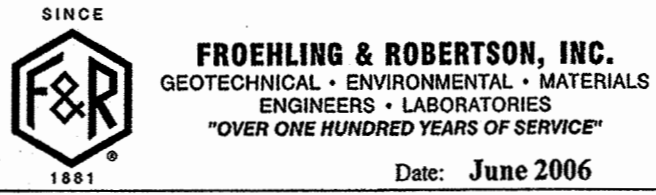
BORING LOG



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 ± **		
Type of Boring: 3/4" ID HSA		Started: 5/24/06	Completed: 5/24/06		
Driller: J. McCabe		Location: See Boring Location Plan.			
Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	* Sample Blows	N Value (blows/ft)	REMARKS
400.3	0.2	Surficial organic soil FILL: Yellowish red, moist to very moist, medium stiff to very soft, micaceous, sandy SILT with some clay (ML)	2-4-4	1.0	* SPT sampling was performed using an auto-hammer apparatus.
	2.5			8	** Elevations were estimated from plans provided by the client.
	3.5	trace roots from 3/4 to 5 feet	3-2-3	3.5	
	5.0			5	
	6.0		WOH	0	
	7.5		WOH	0	
	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			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	
	15.0			33	
	18.5		4-3-4	18.5	Groundwater was encountered at a depth of 17 feet immediately after drilling.
	20.0			7	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	
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



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 ± **		
Type of Boring: 3/4" ID HSA		Started: 6/1/06	Completed: 6/1/06		
Driller: D. Snowden		Location: See Boring Location Plan.			
Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	* Sample Blows	N Value (blows/ft)	REMARKS
401.3	0.6	Surficial organic soil RESIDUUM: Yellowish red, moist, loose, micaceous, silty, fine SAND with trace roots (SM)	3-2-3	1.0	* SPT sampling was performed using an auto-hammer apparatus.
399.9	2.0	Light olive brown and yellowish brown, moist, loose, micaceous, silty, fine SAND (SM)	4-4-4	3.5	** Elevations were estimated from plans provided by the client.
	5.0			8	
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	
	7.5			10	
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	
	10.0			12	
389.9	12.0	Olive, olive yellow, and light gray, moist, medium dense, micaceous, silty, fine to medium SAND (SM)	5-5-6	13.5	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.
	15.0			11	
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	Groundwater was encountered at a depth of 20.2 feet immediately after drilling.
	20.0			22	Cave-in depth at 22 feet.
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



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 ± **		
Type of Boring: 3/4" ID HSA		Started: 6/1/06	Completed: 6/1/06		
Driller: D. Snowden		Location: See Boring Location Plan.			
Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	* Sample Blows	N Value (blows/ft)	REMARKS
404.8	0.4	Surficial organic soil RESIDUUM: Dark yellowish brown, moist, loose, micaceous, clayey, silty, fine SAND (SM-SC)	4-4-4	1.0	* SPT sampling was performed using an auto-hammer apparatus.
402.2	3.0	Reddish brown, moist, loose, micaceous, silty, fine SAND (SM)	3-3-4	3.5	** Elevations were estimated from plans provided by the client.
399.7	5.5	Light gray and reddish yellow, moist, medium dense, micaceous, silty, fine to medium SAND (SM)	4-5-6	6.0	No groundwater was encountered during or immediately after drilling.
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	
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	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.
	15.0			15.0	
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	Cave-in depth at 20.6 feet.
	20.0			20.0	
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	
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.

DATE	NO.	REVISION
6/5/2016	5	PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36

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: *[Signature]* 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: *[Signature]* DATE: 2/26/07

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: 1/30/07

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: 1/30/07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR: *[Signature]* DATE: 3/14/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 4-26-07

CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 6-9-07

REDLINE REVISION BY CHA
ADD NEW SHEETS 22-28

DATE	NO.	REVISION
2/26/07		

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

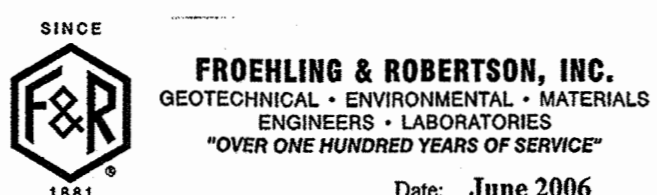
AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE SOIL BORING LOGS
AND SEDIMENT CONTROL DETAILS

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

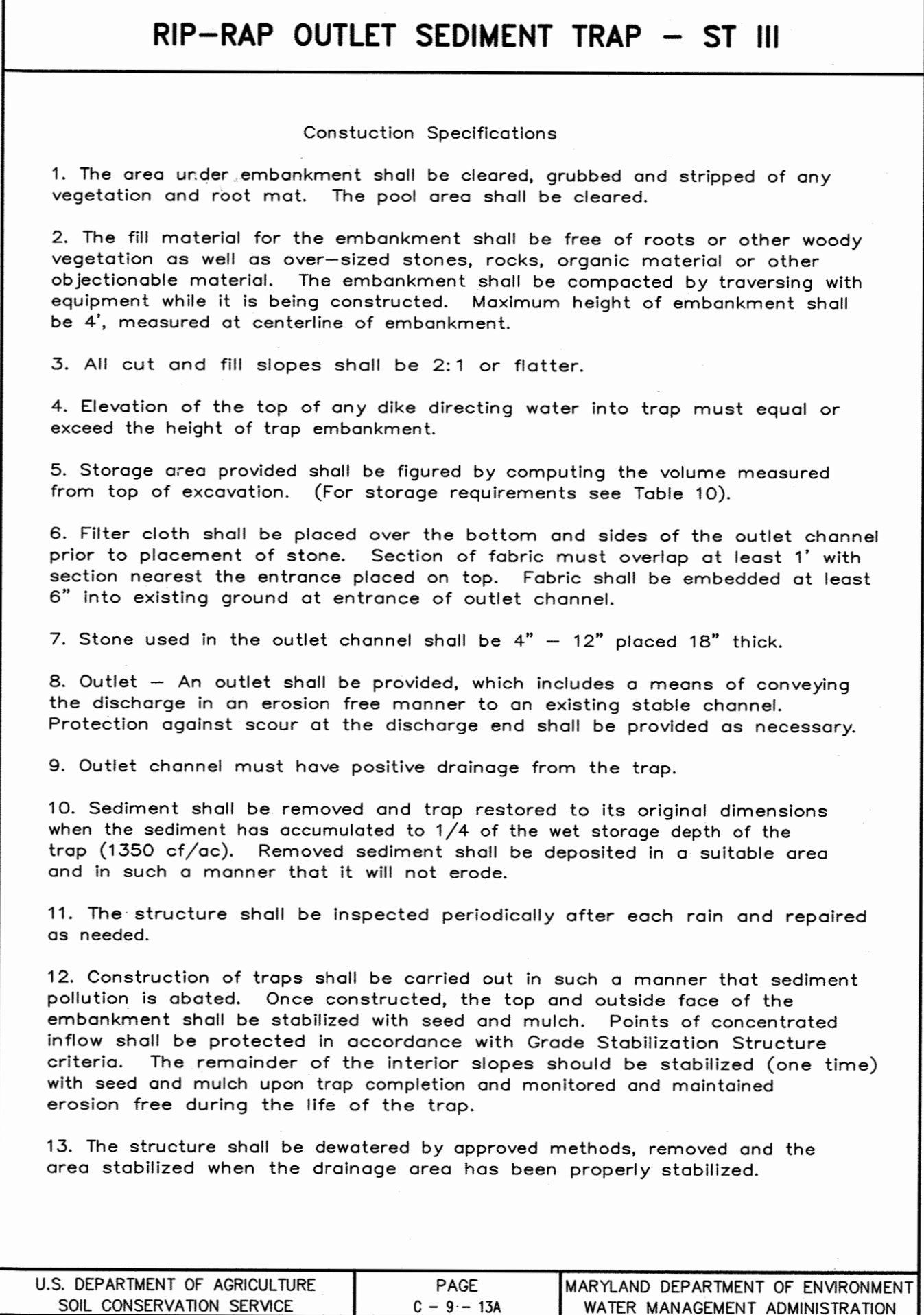
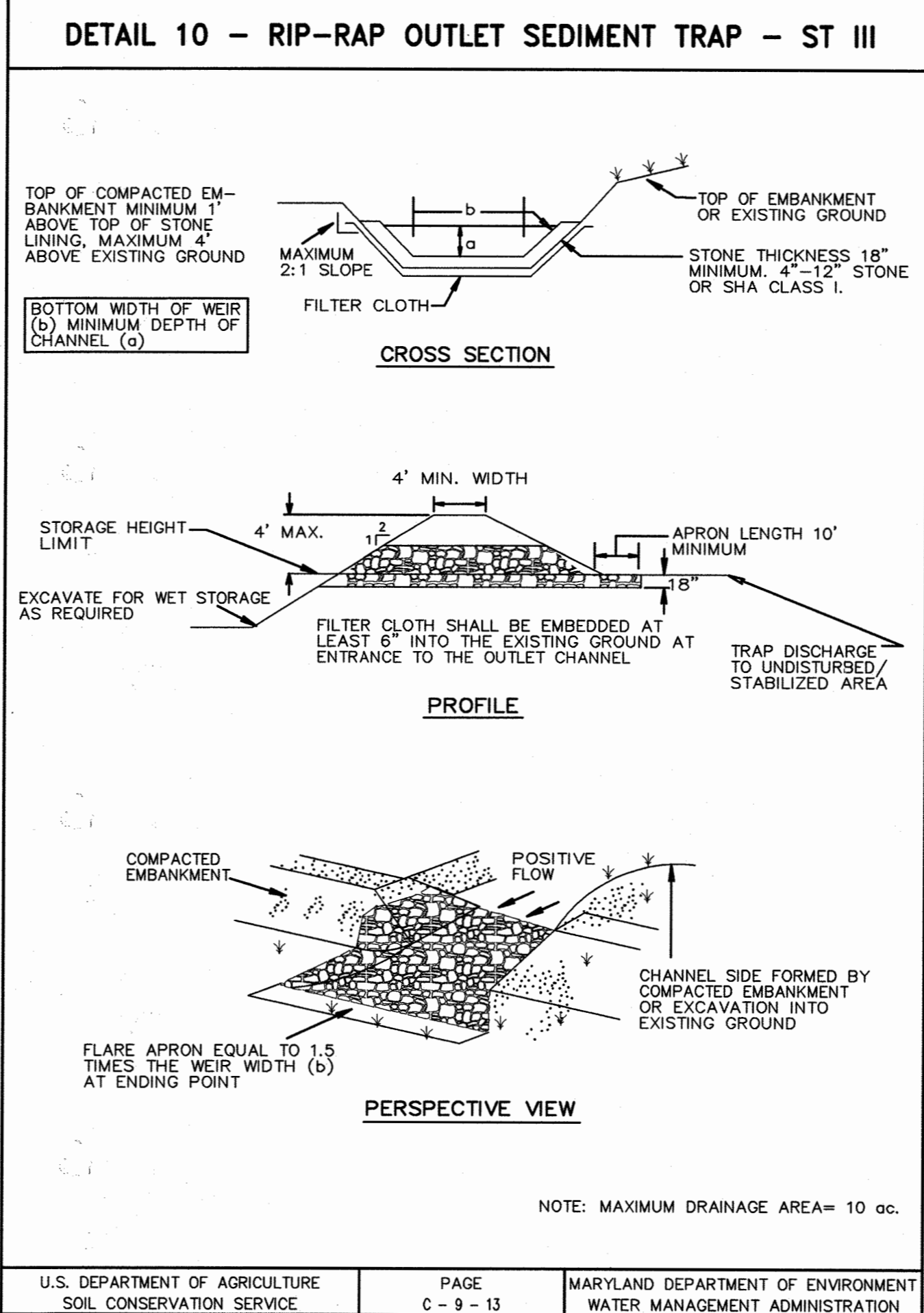
DESIGNED BY: HS
DRAWN BY: SGM
PROJECT NO: 11449-2-3
C4005DP14.DWG
DATE: JULY 27, 2006
SCALE: AS SHOWN
DRAWING NO. 16 OF 36

BORING LOG



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 ± **		
Type of Boring: 3/4" ID HSA		Started: 5/24/06	Completed: 5/24/06		
Driller: J. McCabe		Location: See Boring Location Plan.			
Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	* Sample Blows	N Value (blows/ft)	REMARKS
411.1	0.3	GRAVEL 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	* SPT sampling was performed using an auto-hammer apparatus.
408.4	3.0	Yellowish red, moist, stiff, micaceous, silty CLAY (FILL)	4-6-9	3.5	** Elevations were estimated from plans provided by the client.
	5.0			15	
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	
	7.5			11	
	8.5		5-4-5	9	
	10.0			9	
399.4	12.0	Pink, brownish yellow, and dark gray, moist, medium dense, micaceous, silty, fine SAND (SM)	4-6-6	13.5	
	15.0			12	
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	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.
	20.0			8	Groundwater was encountered at a depth of 19 feet immediately after drilling. Cave-in depth at 21 feet.
	23.5		2-2-4	6	
386.4	25.0	Boring terminated at 25 feet.		25.0	

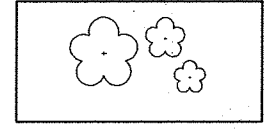
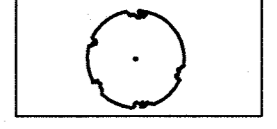
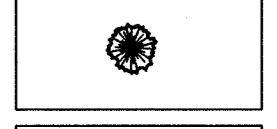
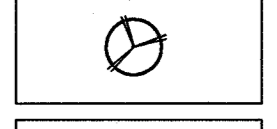
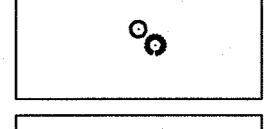
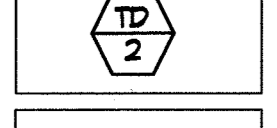
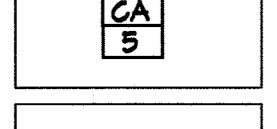
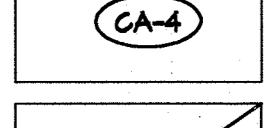

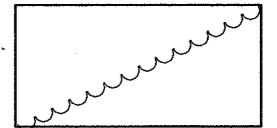
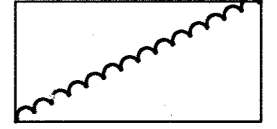
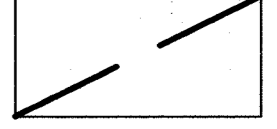
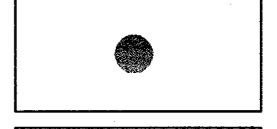
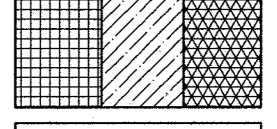

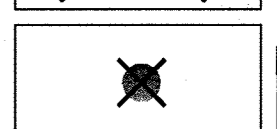
*Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the second and third increments of penetration is termed the standard penetration resistance, N.

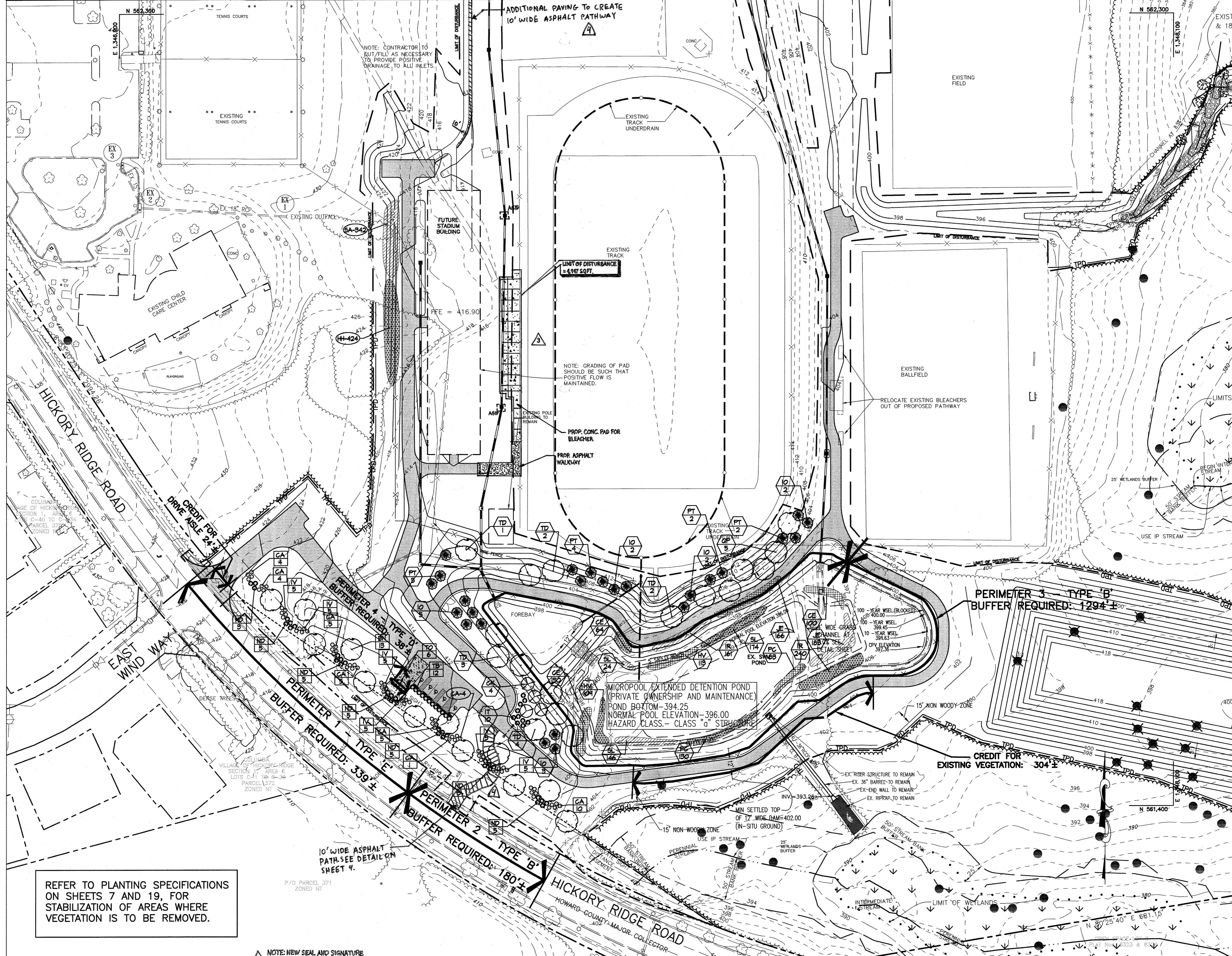


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MATCHLINE - SEE SHEET 18

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 



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

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

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Director: *David M. ...* DATE: 5/5/07

Chief, Development Engineering Division: *...* DATE: 3/16/07

Chief, Division of Land Development: *...* DATE: 4-26-07

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
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
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DATE 7-26-07

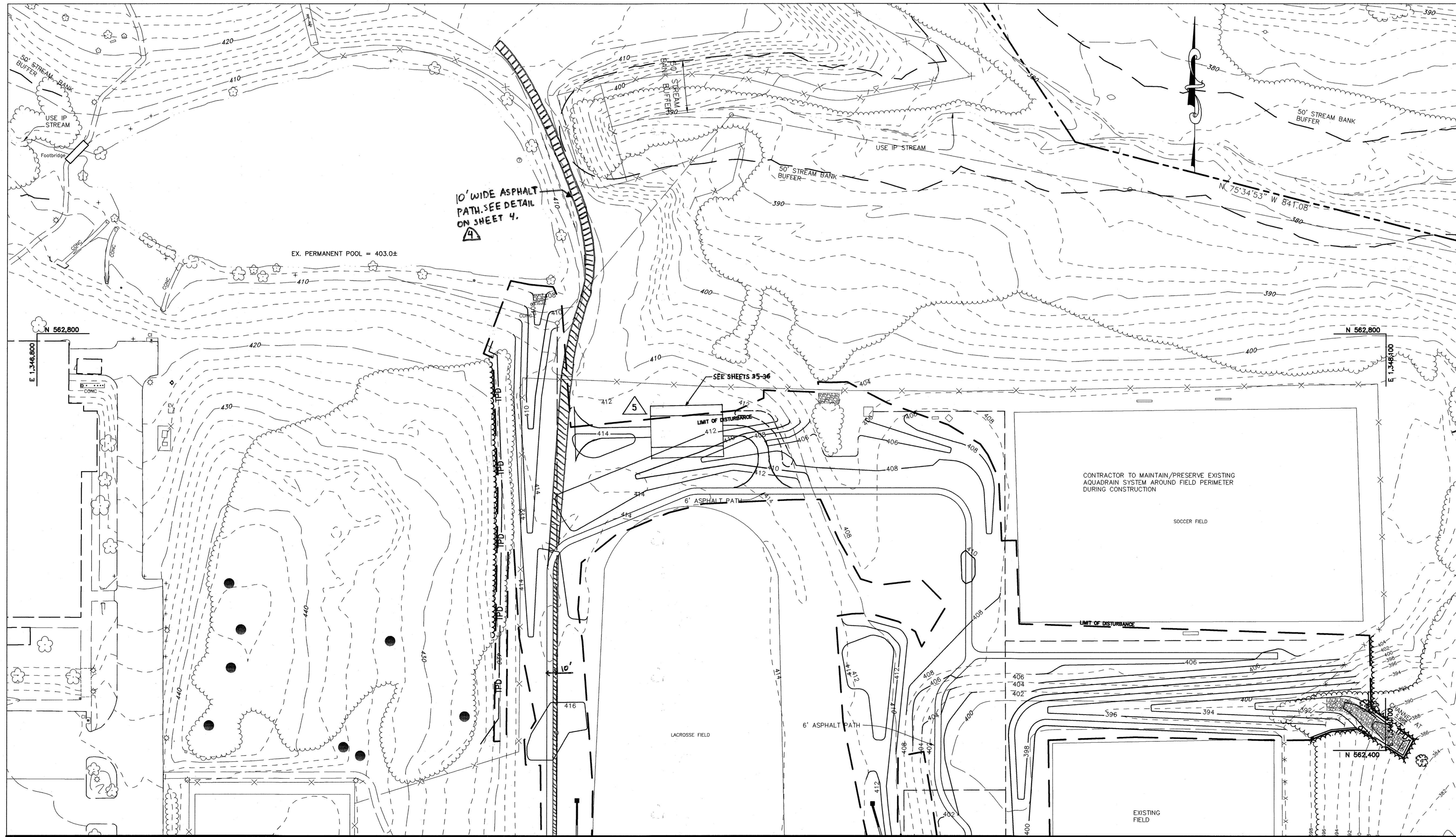
DESIGNED BY : PJS/ALC
DRAWN BY: ALC
PROJECT NO : 11449-2-3
L200LND01.DWG
DATE : MARCH 5, 2007
SCALE : 1" = 50'
DRAWING NO. 17 OF 36

PETER J. STONE #3068

DATE	NO.	REVISION
4-06-2011	1	ADD CONCRETE BLEACHER PAD AND ASPHALT WALKWAY

LEGEND

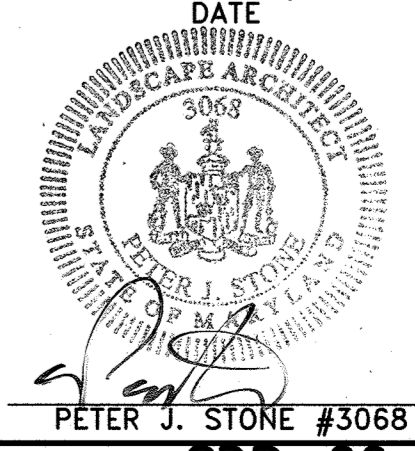
EX. TREES		PERIMETER LANDSCAPE PLANTING		SPECIMEN TREE	
PROP. SHADE TREE		ADDITIONAL LANDSCAPE PLANTINGS		PROPOSED PERENNIALS	
PROP. EVERGREEN TREE		TREE PROTECTION DEVICE		PERIMETER LANDSCAPE EDGE LIMITS	
PROP. ORNAMENTAL TREE		EX. TREELINE		SPECIMEN TREE TO BE REMOVED	
PROP. SHRUBS		PROPOSED TREELINE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



MATCHLINE - SEE SHEET 17

PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19916, EXPIRATION DATE: 01/14/2021.
 ONLY FOR REDLINE REVISION #5

6/5/2019	5	PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36
5-2-18	4	SHARED USE PATH
DATE	NO.	REVISION
APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.		
<i>Mark L. Coughlin</i>	5/1/07	DATE
DIRECTOR		
<i>Walter R. Lusk</i>	2/14/07	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION		
<i>Walter R. Lusk</i>	11-24-04	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT		
6/4/09	1	REDLINE REVISIONS BY CHA
		ADD NEW SHEETS 22-28
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 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 Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282		
DATE	DESIGNED BY : PJS/ALC	
2/6/07	DRAWN BY: ALC	
	PROJECT NO : 11449-2-3 L200LND02.DWG	
	DATE : MARCH 5, 2007	
	SCALE : 1" = 50'	
	DRAWING NO. 18 OF 36	
PETER J. STONE #3068		



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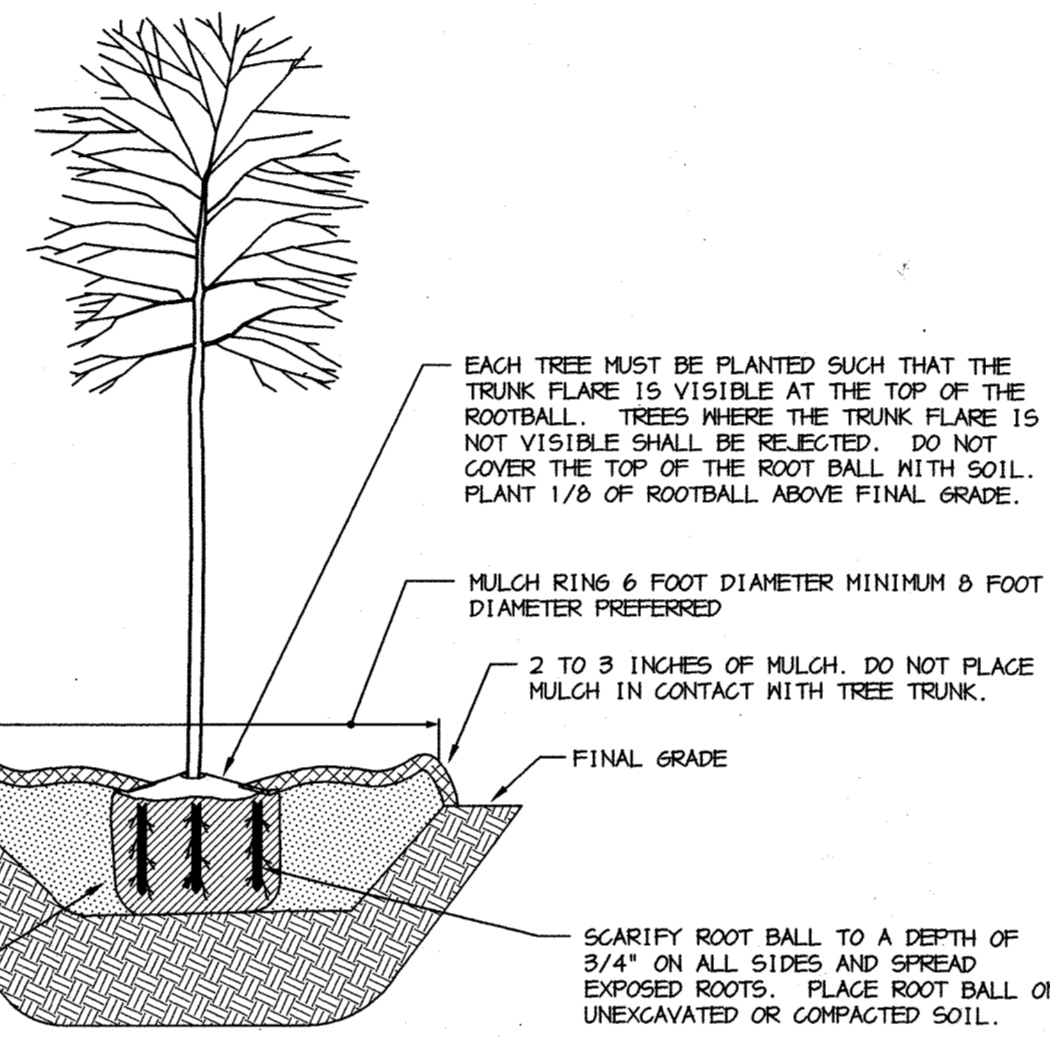
PLANTING SPECIFICATIONS

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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 Xcupressocyparis leylandii between November 15 and March 15. Landscape plants are not to be installed before site is graded to final grade.
- Contractor to regrade, fine grade, sod, hydroseed and straw mulch all areas disturbed by their work.
- 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.
- 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.
- 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.
- Positive drainage shall be maintained on planting beds (minimum 2 percent slope).
- 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.
- 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.
- 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.
- 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.
- Pruning: Do not heavily prune trees and shrubs at planting. Prune only broken, dead, or diseased branches.
- 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.

PLANT SCHEDULE						
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS	ZONE*
BN	13	BETULA NIGRA HERITAGE	10-12' HT.	B&B	MULTI-STEM	
QP	5	QUERCUS PALMIFERA	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	8-10' HT.	B&B	PLANT AS SHOWN	
IO	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	TRILIUM OCCIDENTALE EMERALD EMERALD GREEN ARBORVITAE	6-7' HT.	B&B	PLANT AS SHOWN	
CA	38	CORNUS ALBA 'IVORY HALO'	24-30" HT.	CONT.	PLANT AS SHOWN	
IT	10	ITEA VIRGINICA HENRY'S GARNET	24-30" HT.	CONT.	PLANT AS SHOWN	
IV	24	ILEX VERTICILLATA 'RED SPRITE'	24-30" HT.	CONT.	SEE PLANT LIST NOTE 1	
ND	33	NANDINA DOMESTICA 'GULF STREAM'	24-30" HT.	CONT.	SEE PLANT LIST NOTE 1	
TV	6	TAXUS BACCATA 'REPANDENS'	24-30" HT.	CONT.	PLANT AS SHOWN	
CE	314	CAREX ELATA 'AUREA'	1 GAL.	CONT.	24" O.C.	(1,2,3)
HH	424	HEMEROCALLIS X HAPPY RETURNS	1 GAL.	CONT.	24" O.C.	
HV	222	HYDROCOYLE UMBELLATA	1 GAL.	CONT.	24" O.C.	(1,2,3)
IR	401	IRIS VERSICOLOR 'BLUE FLAG'	1 GAL.	CONT.	24" O.C.	(1,2,3)
JE	349	JUNCEUS EFFUSUS 'SOFT BUSH'	1 GAL.	CONT.	24" O.C.	(2,3,4)
PC	213	PONEDERIA CORDATA PICKERELLED	1 GAL.	CONT.	24" O.C.	2,3
SA	342	SEDUM 'AUTUMN JOY'	1 GAL.	CONT.	24" O.C.	
SL	344	SAGGATARIA LATIFOLIA BROAD LEAF ARROWHEAD	1 GAL.	CONT.	24" O.C.	(1,2,3)

NOTES:

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

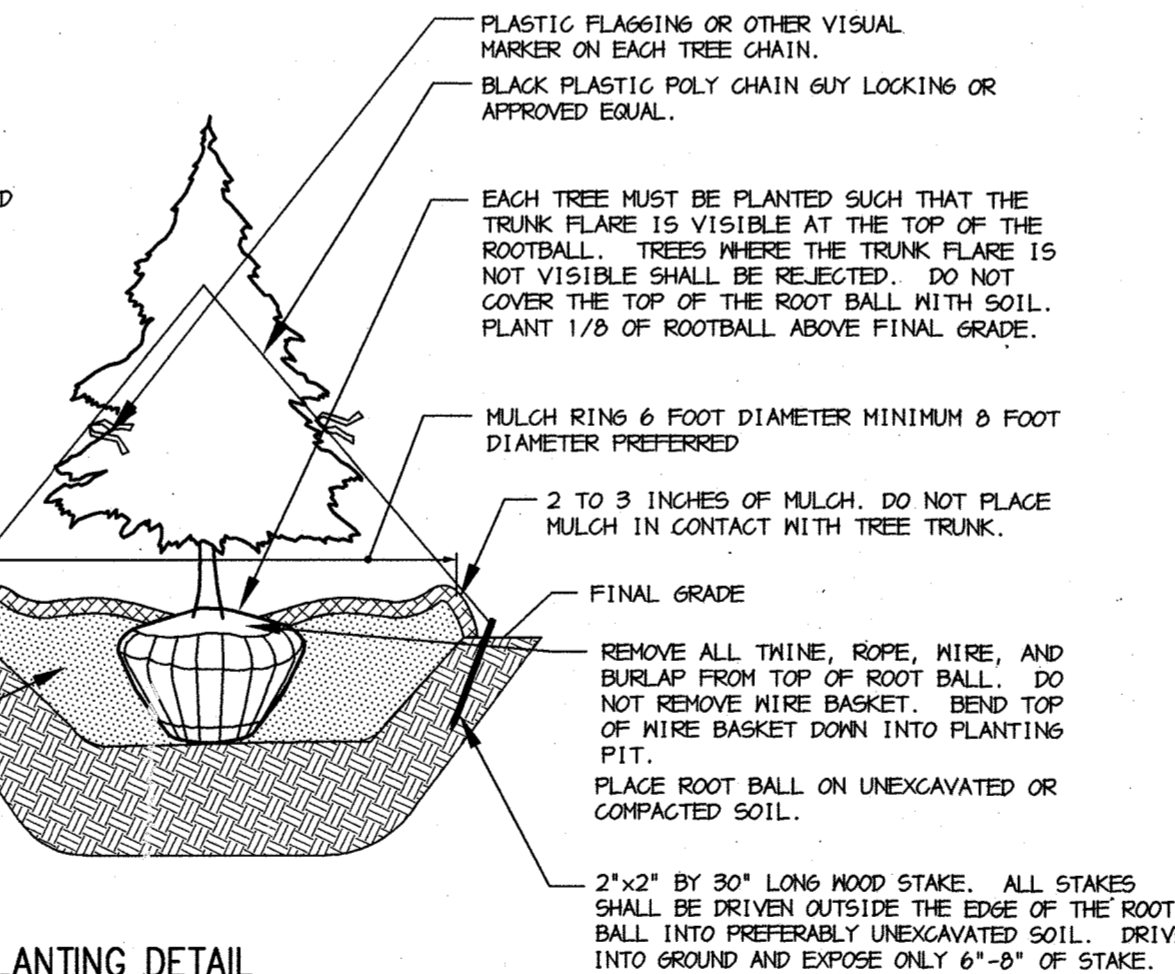


CONTAINERIZED TREE PLANTING DETAIL

NOT TO SCALE

NOTES:

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

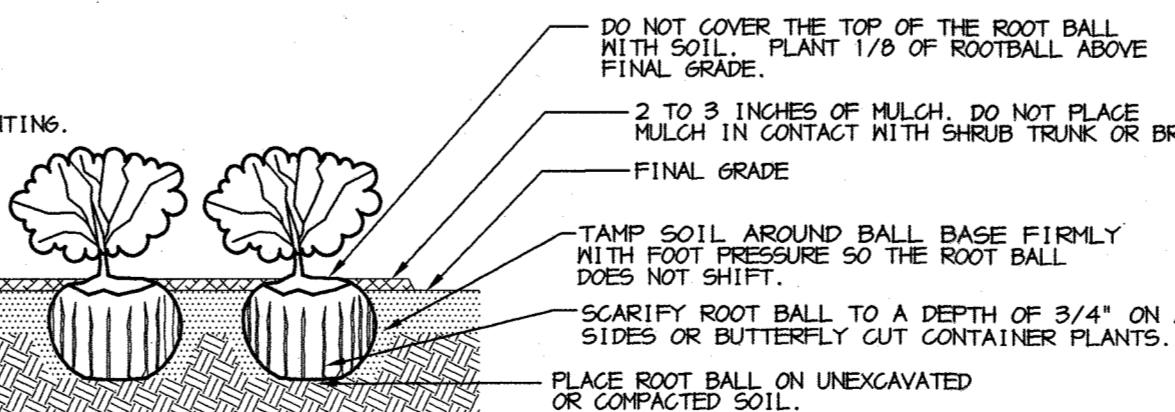


EVERGREEN B&B TREE PLANTING DETAIL

NOT TO SCALE

NOTES:

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



SHRUB BED PLANTING DETAIL - B&B AND CONTAINER SHRUBS

NOT TO SCALE

PLANT LIST NOTES:

- 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'

GENERAL NOTES:

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- 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.
- 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.
- 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.
- 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.
- 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
SIGNATURE DATE

SCHEDULE A - PERIMETER LANDSCAPE EDGE			
PERIMETER	ADJACENT TO ROADWAYS		
	1	2	4
LANDSCAPE TYPE	E	B	D
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	399' ±	399' ±	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	8	4	1
EVERGREEN TREES	-	5	4
SHRUBS	74	-	-
NUMBER OF PLANTS PROVIDED			
SHADE TREES	8	5	0
EVERGREEN TREES	-	0	6
SMALL FLOWERING TREES	74	30	-
SHRUBS	-	-	-

** 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.M.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	20
EVERGREEN TREES	25
NUMBER OF PLANTS PROVIDED	
SHADE TREES	17
EVERGREEN TREES	25
OTHER TREES (2:1 SUBSTITUTION, 50% MAX.)	4
SHRUBS (10:1 SUBSTITUTION, 25% MAX.)	10

SUBSTITUTION NOTES:

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

DATE	NO.	REVISION
6/5/2019	15	PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature] 5/7/07 DATE
DIRECTOR

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

[Signature] 4-26-07 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

6-9-09 REDLINE REVISION BY CHA
ADD NEW SHEETS 22-23

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
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
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

[Signature] 2-26-07
DESIGNED BY: PJS/ALC

[Signature]
DRAWN BY: ALC

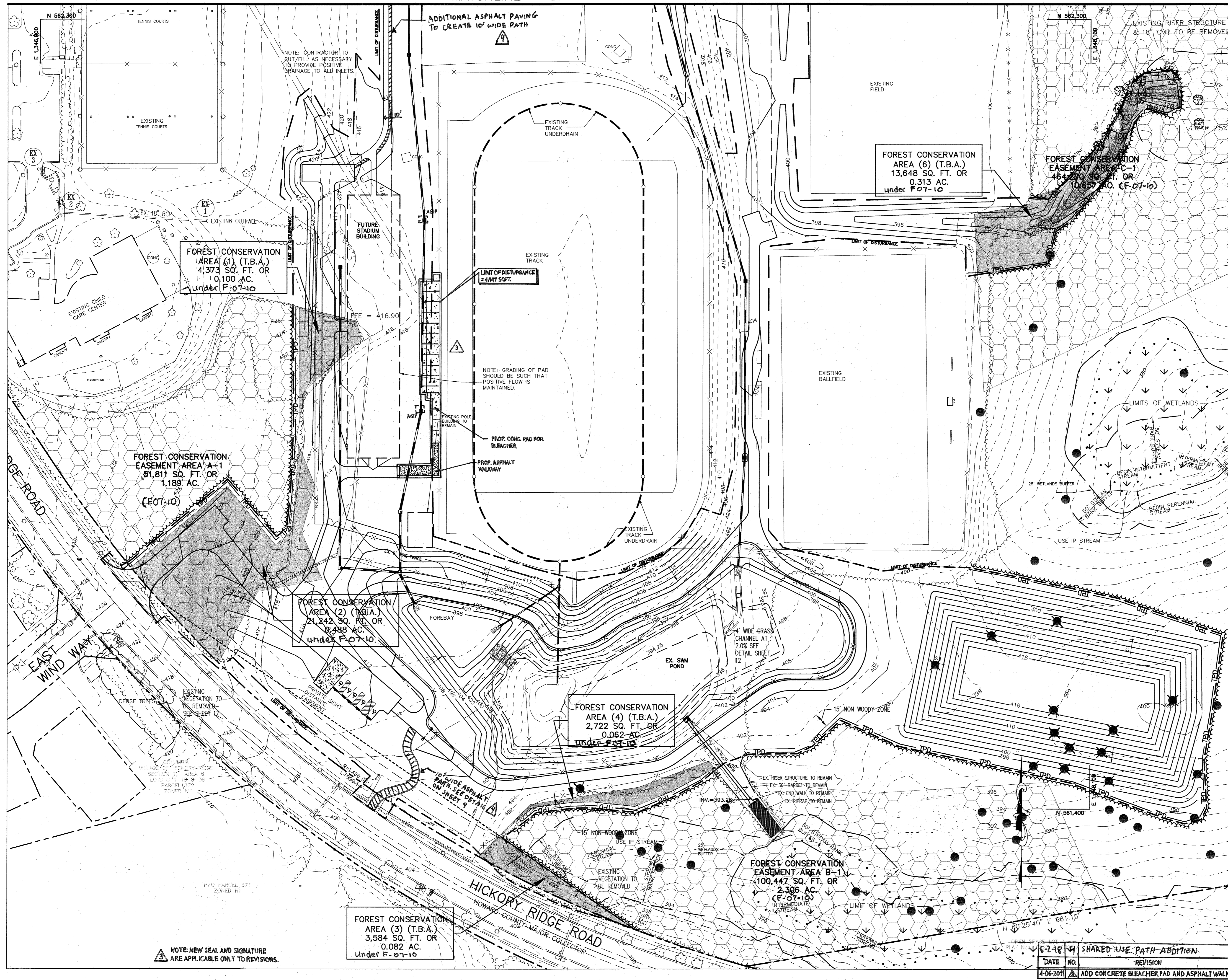
PROJECT NO. 11449-2-3
L200LD03.DWG

DATE: MARCH 5, 2007

SCALE: AS SHOWN

DRAWING NO. 19 OF 26

PETER J. STONE #3068



- 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-01-98) 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, DATED 10/04/07.
 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		SPECIMEN TREE	
EXISTING TREELINE		SPECIMEN TREE TO BE REMOVED	
PROPOSED TREELINE		FOREST CONSERVATION AREA TO BE ABANDONED	
WETLANDS AND 25' BUFFER			
EX. STREAM AND BUFFER			
EXISTING CONTOURS			
PROPOSED CONTOURS			
EXISTING BUILDING			
PROPOSED BUILDING			
LIMIT OF DISTURBANCE			
TREE PROTECTION DEVICE (TPD) (BLAZE ORANGE PLASTIC MESH)			
EXISTING FOREST CONSERVATION AREA			

DATE NO. 5/2/07 REVISION 5/2/07 STORAGE BUILDING

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Paula K. Eagle 5/2/07 DATE
DIRECTOR

[Signature] 3/14/07 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 4-26-07 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

DATE NO. 4-9-07 REVISION 4-9-07 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 FOREST CONSERVATION PLAN

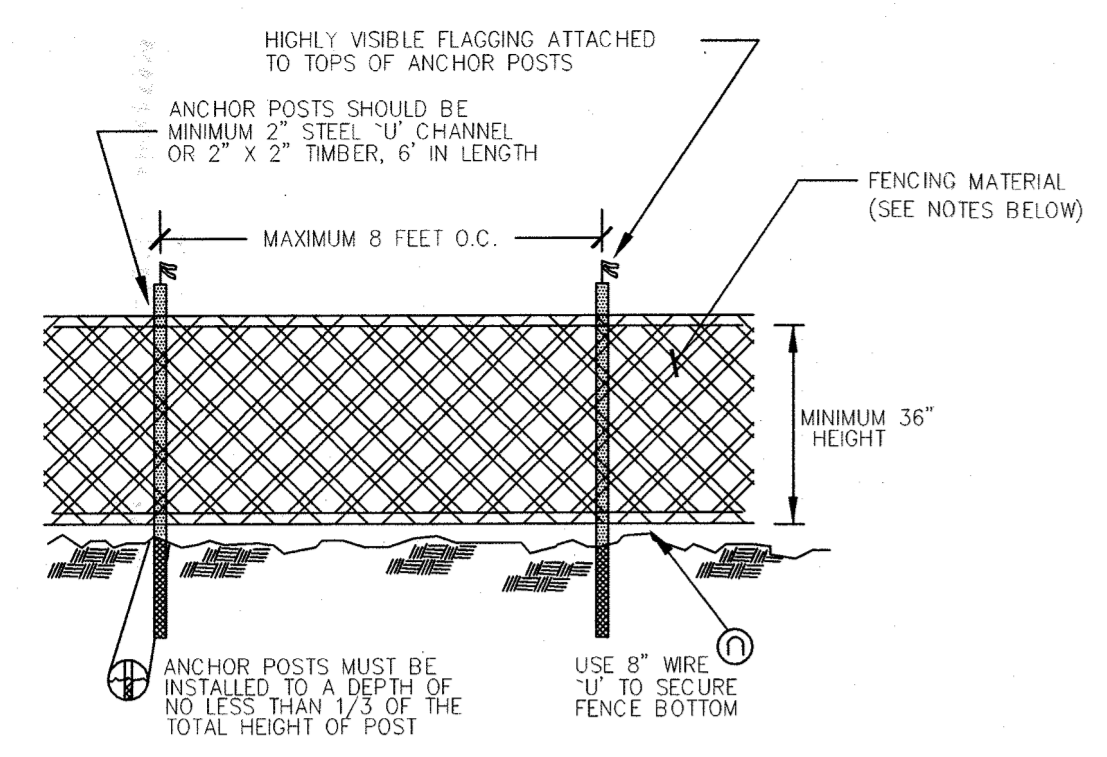
Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DATE 7-26-07
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 36

PETER J. STONE #3068

5-2-16 34 SHARED USE PATH ADDITION
4-06-2011 ADD CONCRETE BLEACHER PAD AND ASPHALT WALKWAY

P:\Project\11449-2-3\Plans\1200FCP01.dwg, 2/26/2007 10:29:53 AM



- NOTES:
- BLAZE ORANGE MESH OR SUPER SILT FENCE FOR TREE PROTECTION DEVICE, ONLY.
 - BOUNDARIES OF PROTECTION AREA WILL BE ESTABLISHED PRIOR TO GRADING AND SEDIMENT CONTROL.
 - AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
 - FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

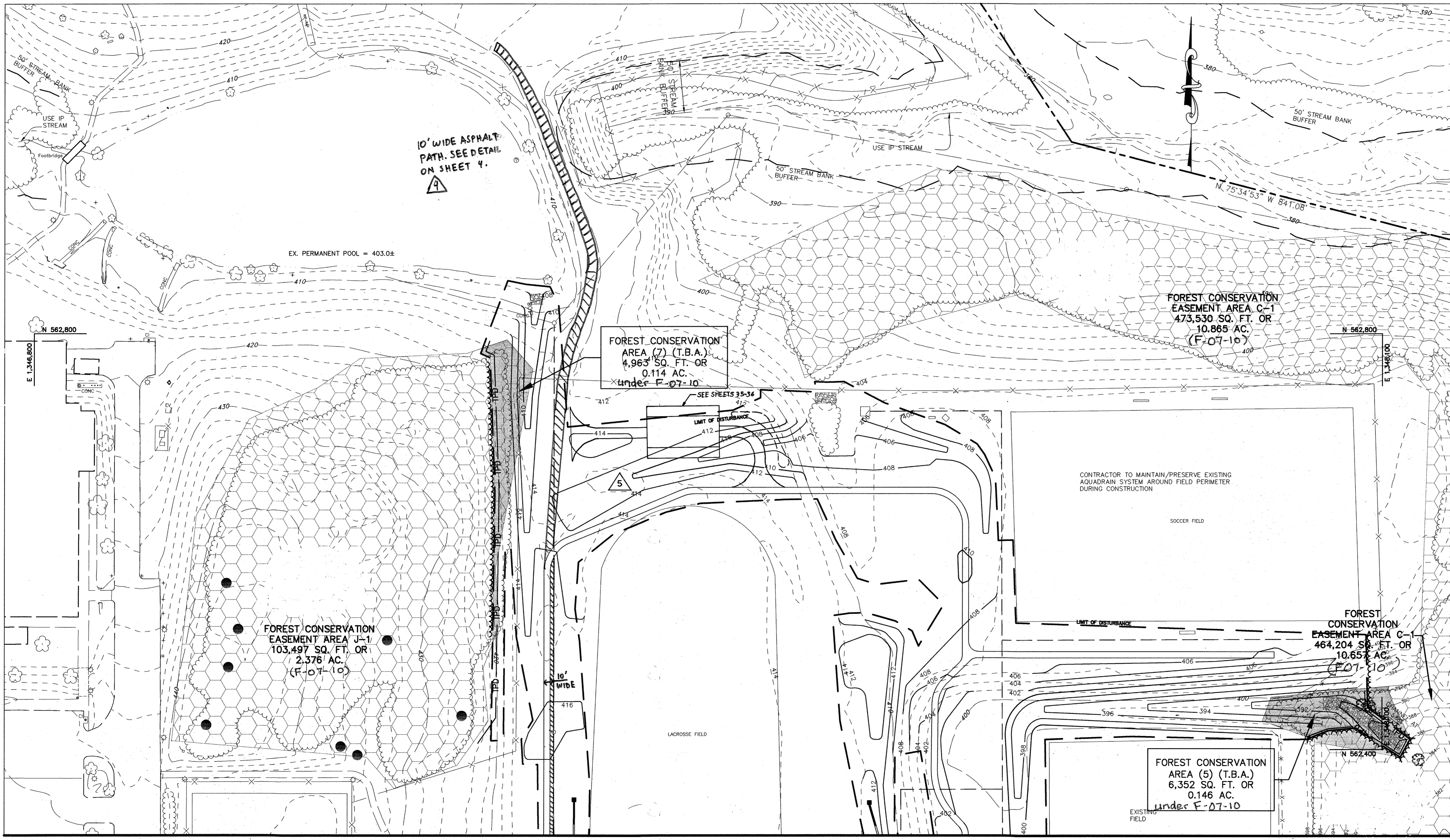
TREE PROTECTION FENCING
NOT TO SCALE

NO PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19916, EXPIRATION DATE: 01/16/2021.
 ONLY FOR REDLINE REVISION #5

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		

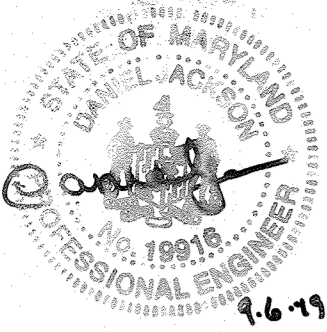
LEGEND

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



5-2-18	4	SHARED USE PATH
DATE	NO.	REVISION
APPROVED BY: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.		
<i>Mark L. Coughlin</i>	5/7/10	DATE
DIRECTOR		
<i>John D. Decker</i>	3/14/07	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION		
<i>John D. Decker</i>	4-28-07	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	08	
6-9-09	1	REDLINE REVISION BY CHA ADD NEW SHEETS 22-28
DATE	NO.	REVISION
OWNER / DEVELOPER		
HOWARD COMMUNITY COLLEGE 10501 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 L2009CP02.DWG		
DATE: MARCH 5, 2007		
SCALE: 1" = 50'		
DRAWING NO. 21 OF 36		

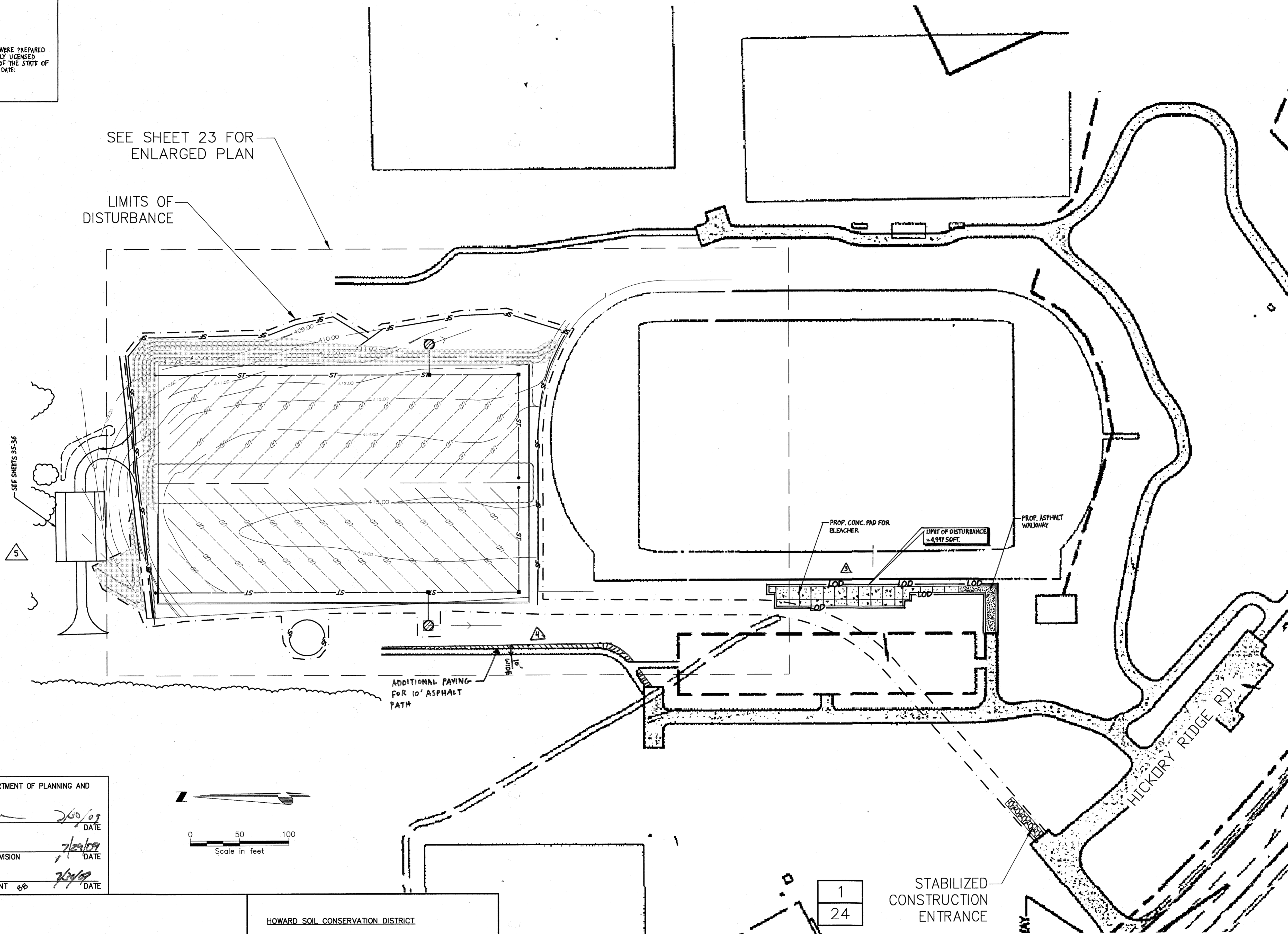
MATCHLINE - SEE SHEET 20



MD PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19916, EXPIRATION DATE: 01/14/2021.
 ONLY FOR REDLINE REVISION #5

SEE SHEET 23 FOR ENLARGED PLAN

LIMITS OF DISTURBANCE



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Mark H. Layle 7/20/09 DATE
 DIRECTOR
John P. Dennis 7/22/09 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
Cindy Hawks 7/22/09 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

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."

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

HOWARD SOIL CONSERVATION DISTRICT

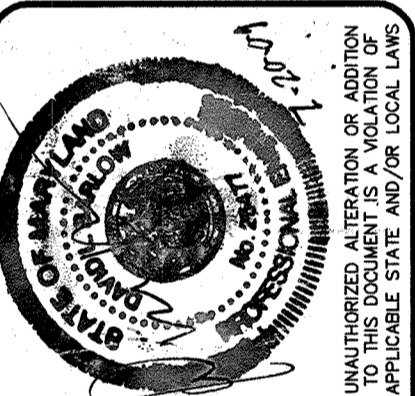
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John E. Robertson 7/22/09 DATE
 HOWARD SOIL CONSERVATION DISTRICT

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	NDN	6/09/09
2	ADD CONC. BEACHER PAD & ASPHALT WALK		4-06-2011
3	ADDED SHARED USE PATH		5-2-10
4	STORAGE BUILDING, NEW SHEETS 35-36		6/5/2009



CHA
 10800 Midlothian Turnpike, The Winchester Building,
 Richmond, VA 23235
 Main: (804) 997-2684 • www.chacompany.com

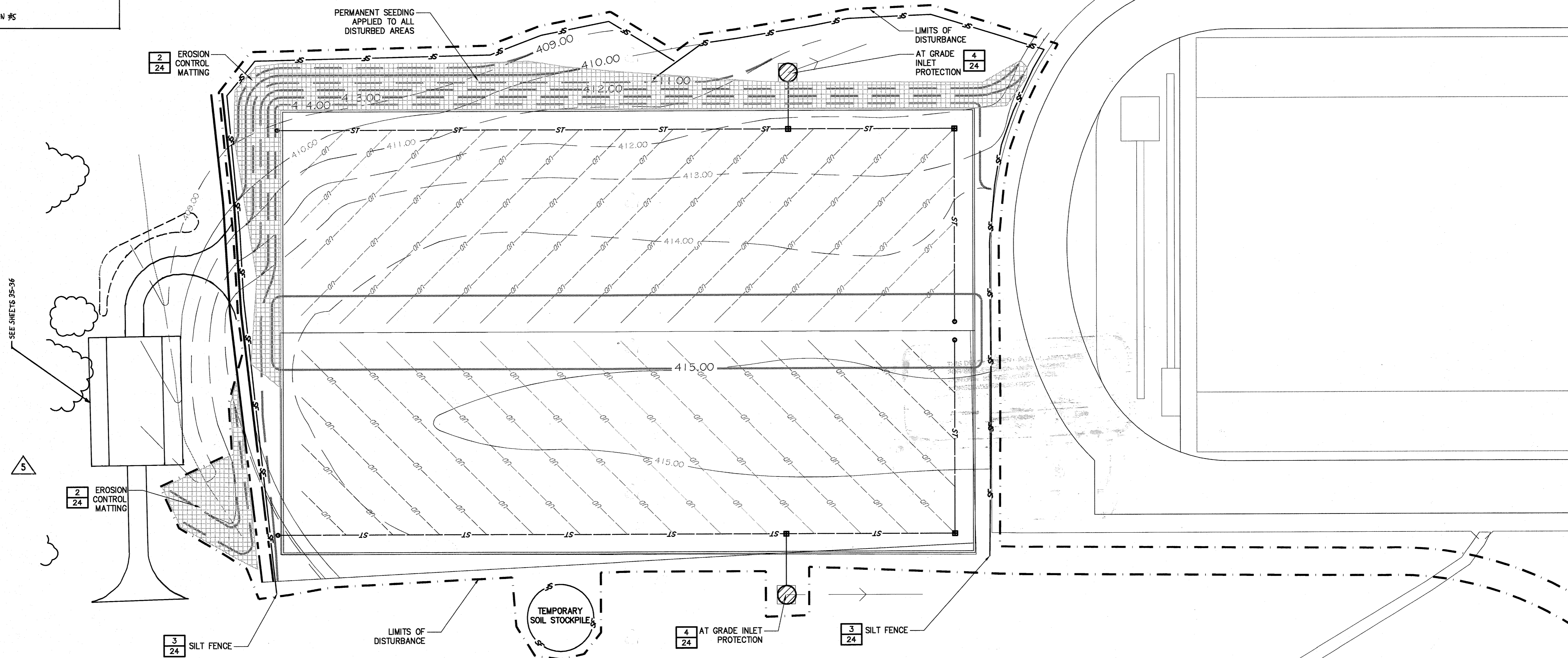
Designed: NDN Drawn: NDN Checked: DLB

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



MD PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19916, EXPIRATION DATE: 01/14/2021.
 ONLY FOR REDLINE REVISION #5



File: K:\19817\ACAD\ACAD_SHEET_FILES\021 ENLARGED EROSION AND SEDIMENT CONTROL PLAN.DWG
 Saved: 7/20/2009 8:46:59 AM Plotted: 7/20/2009 8:52:17 AM User: Nickerson, Nate

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

<i>Mark D. Wright</i>	7/30/09
DIRECTOR	DATE
<i>Chris Pennington</i>	7/21/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Cindy Hamer</i>	7/21/09
CHIEF, DIVISION OF LAND DEVELOPMENT	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."

Daniel J. R. 7-20-09
 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.

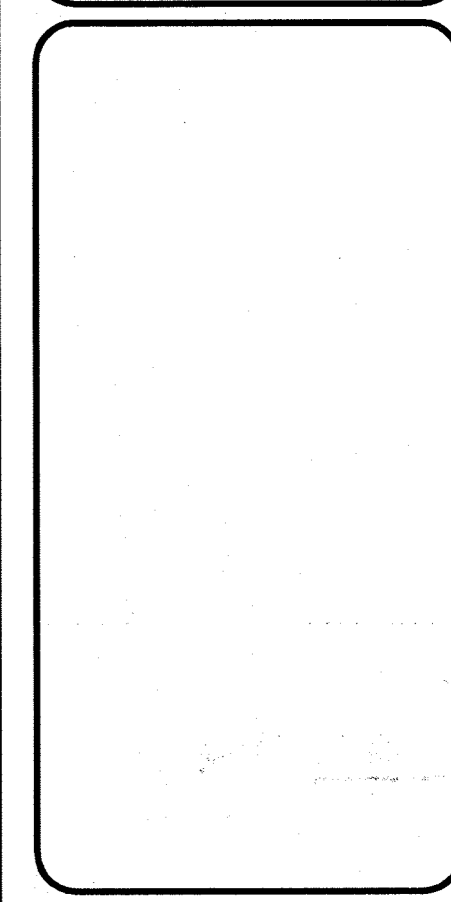
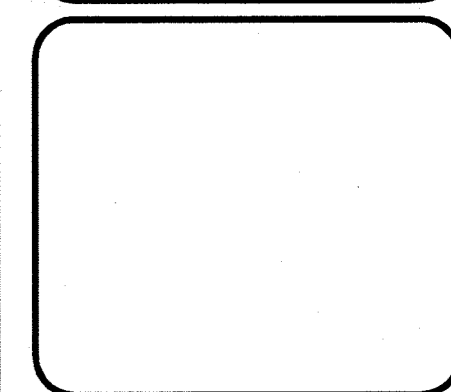
John R. Reuter 7/22/09
 HOWARD SOIL CONSERVATION DISTRICT

LEGEND

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

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

No.	Submittal / Revision	Date
1	RED LINE REVISION PLAN BY CHA EROSION AND SEDIMENT CONTROL PLAN FOR SYNTHETIC INFILL FIELD	6/09/09
2	STORAGE BUILDING, MEN SHEETS 35-36	6/27/09



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CHA
 10800 Midlothian Turnpike, The Winchester Building,
 Suite 303, Richmond, VA, 23235-4700
 Made: (804) 281-0844 - www.chaengineers.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

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 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 construction (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.

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 (3) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, (5) 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 Cur	2670 Cu. Yds.
Total Fill	3160 Cu. Yds.

 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 final 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 tilled.

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

1. Preferred -- Apply 2 tons/acre dolomite 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 urea/ammonia fertilizer (9 lbs/1000 sq. ft.).
2. Acceptable -- Apply 2 tons/acre dolomite 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 (14 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 (0.5 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 - February 28, protect site by:

- Option 1 -- 3 to 4 tons per acre of well anchored straw mulch and seed as soon as possible in the spring.
- Option 2 -- One soil, 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 gal per acre (3 gal/1000 sq. ft.) of emulsified asphalt on flat areas; On slope 8 feet or higher, use 348 gal 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 tilled.

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 bushels per acre of annual ryegrass (3.2 lbs/1000 sq. ft.). For the period May 1 - August 14, seed with 3 lbs/acre of weeping lovegrass (0.7 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.

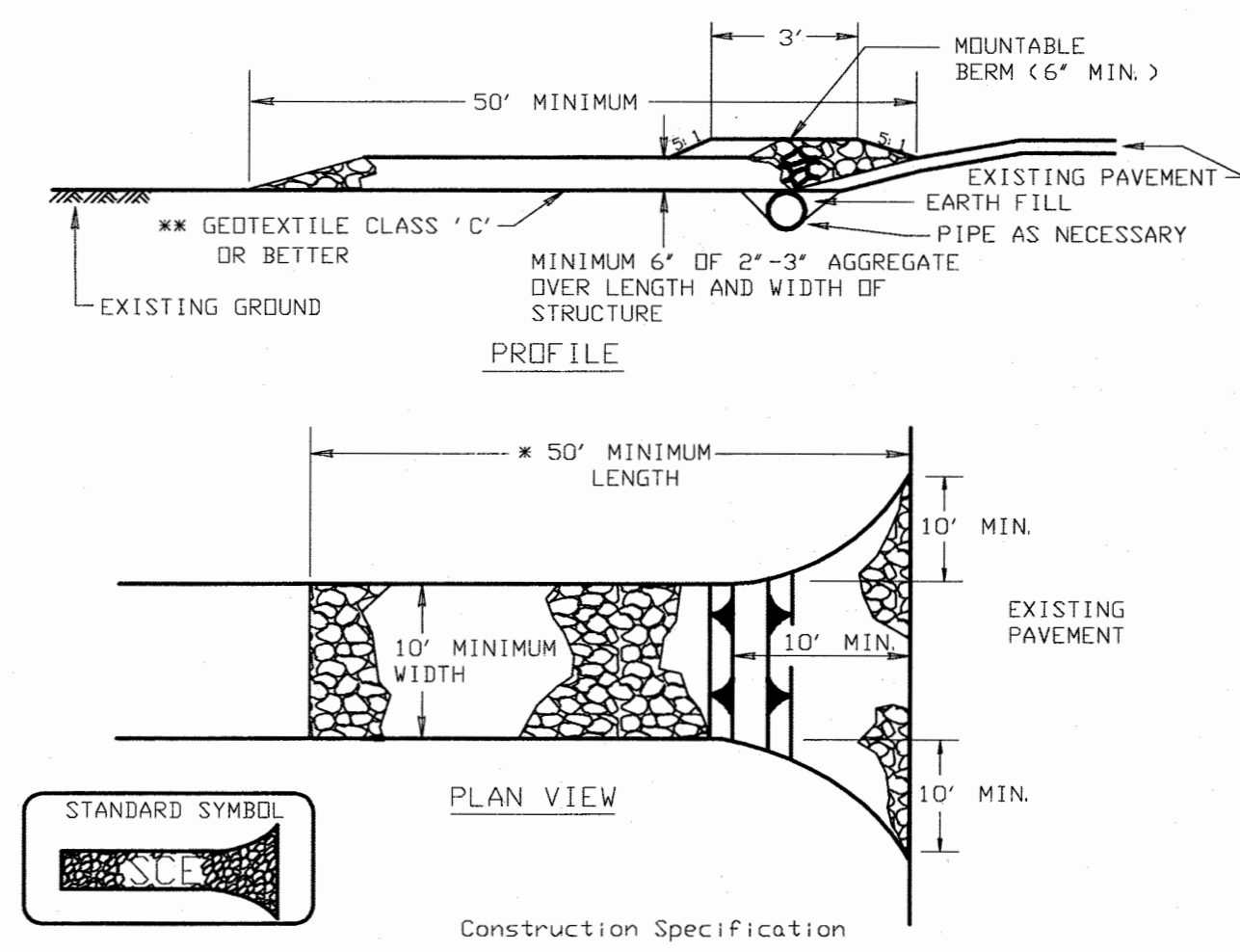
Mulching -- Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (3 gal/1000 sq. ft.) of emulsified asphalt on flat areas; On slope 8 ft. or 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

John P. Platten
7/10/09

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

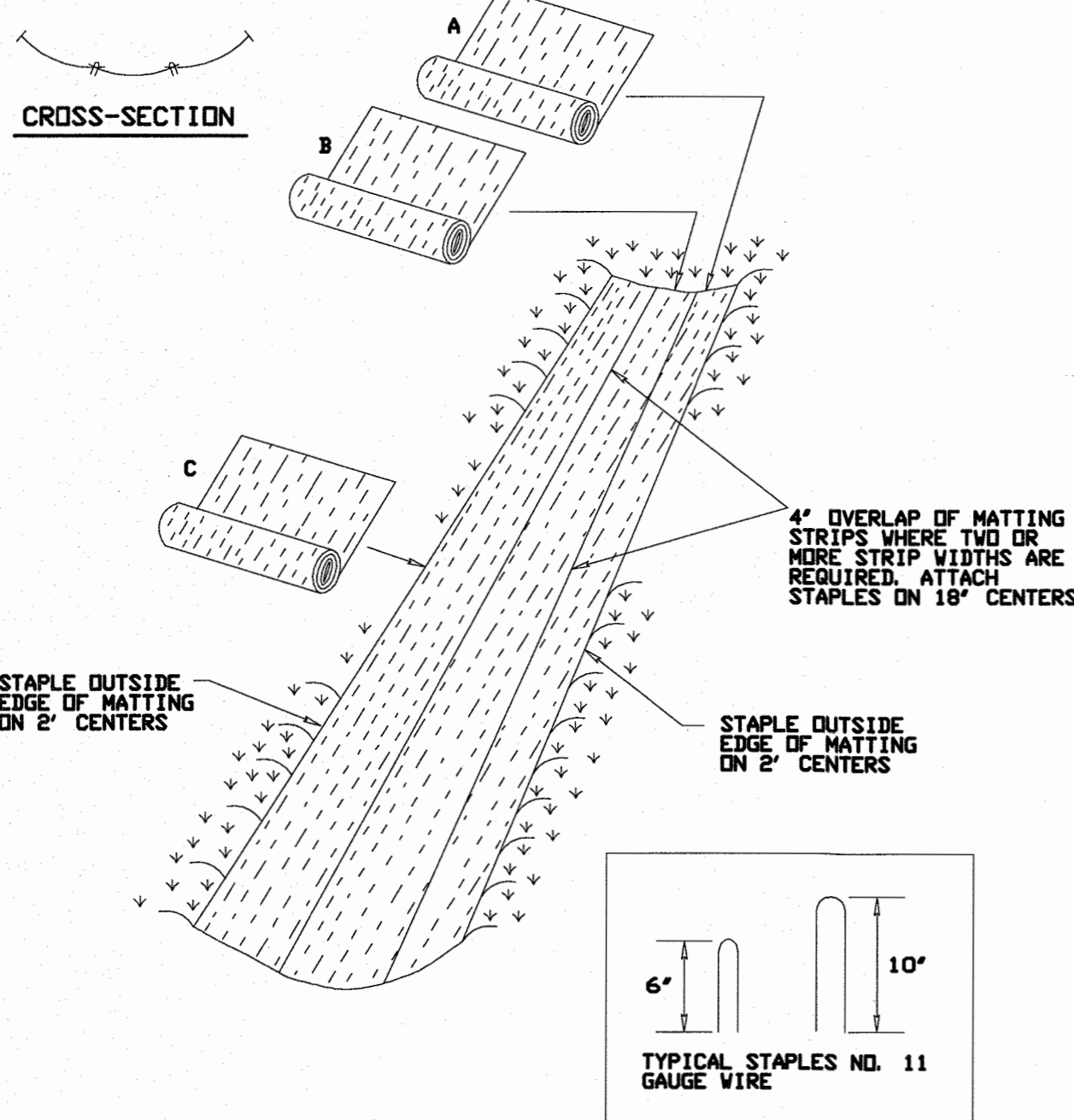


1. Length - minimum of 50' (*30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. *The plan approval authority may not require single 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 17-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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

DETAIL 30 - EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 6-22-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

2 EROSION CONTROL MATTING
24 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 6-22-2A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SILT FENCE

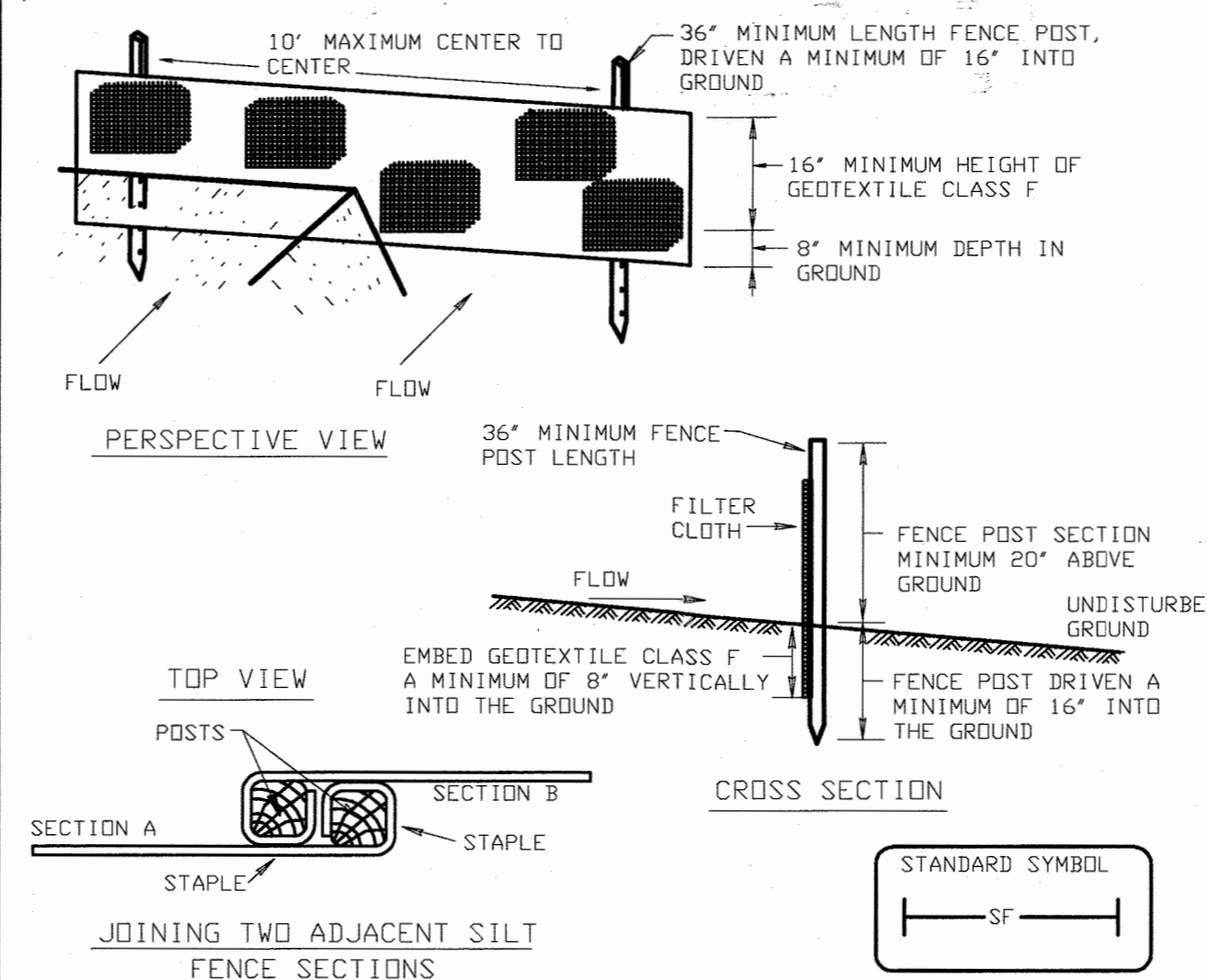
Silt Fence Design Criteria

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



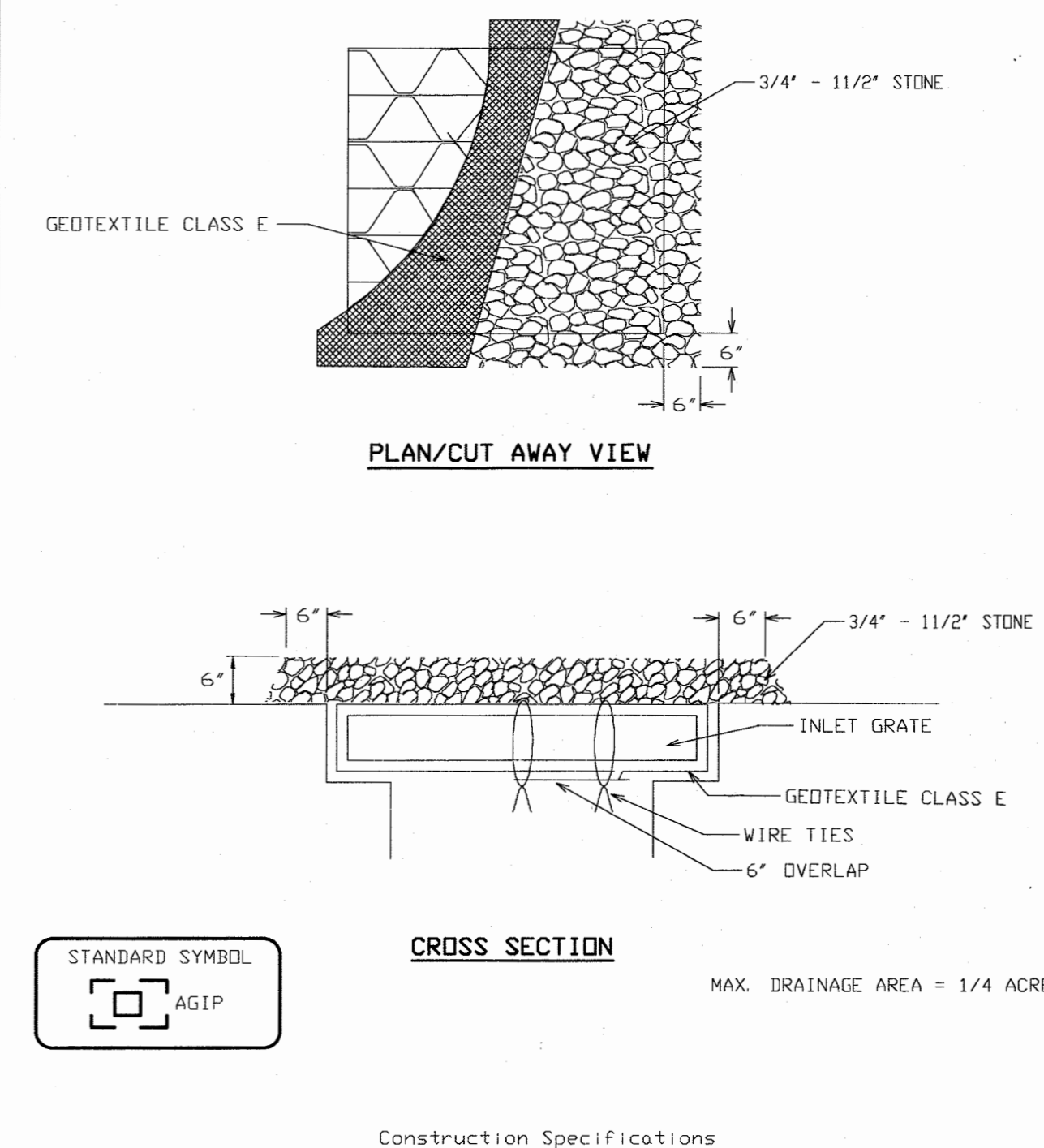
1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear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

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

DETAIL 23B - AT GRADE INLET PROTECTION



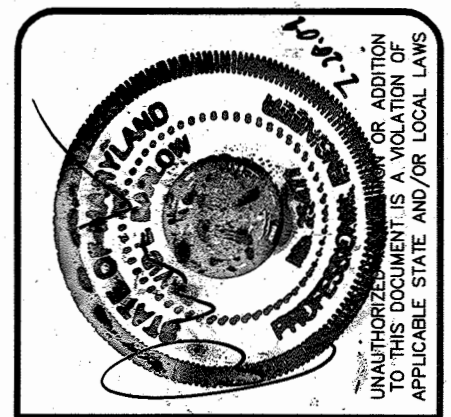
1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
2. Place 3/4" to 1 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

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

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

Date	NDM 6/09/09
By	DLB
Approved	DLB
Submitted/Revision	RED LINE REVISION PLAN BY CHA EROSION AND SEDIMENT CONTROL NARRATIVE AND DETAILS FOR SYNTHETIC INFILL TURF FIELD STORAGE BUILDING, SHEETS 24-26
No.	6/5/2011

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



CHA
10000 Middlebrook Turnpike, The Woodlands Building,
Suite 303 - Rockville, VA 22063-4700
Main: (801) 897-3504 - www.chaonline.com

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
Designed: NDN Drawn: NDN Checked: DLB

24 OF 36

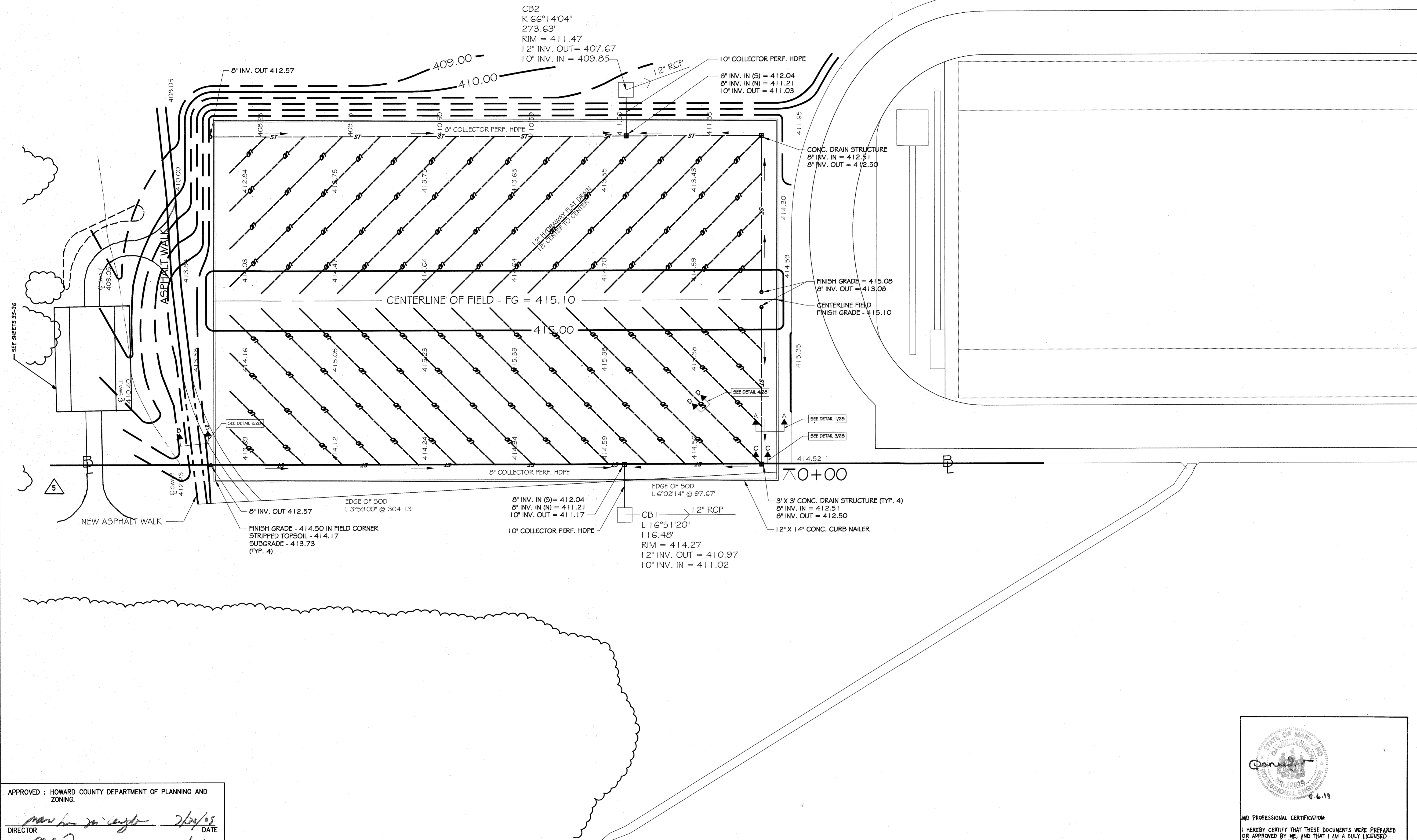
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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature] 7/20/09 DATE
 DIRECTOR

[Signature] 7/20/09 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 7/20/09 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT



STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 8-6-19

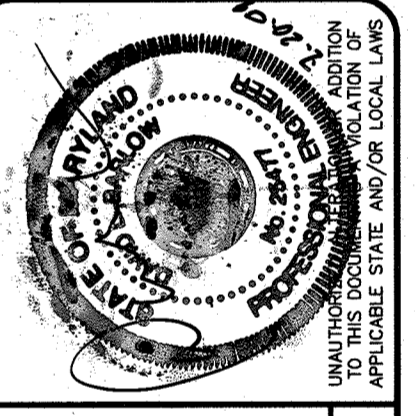
MD PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19916, EXPIRATION DATE: 01/14/2021.
 ONLY FOR REDLINE REVISION #5

HOWARD COMMUNITY COLLEGE
 SYNTHETIC INFILL TURF FIELD
 SITE PLAN (ADD SHEET 25)

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

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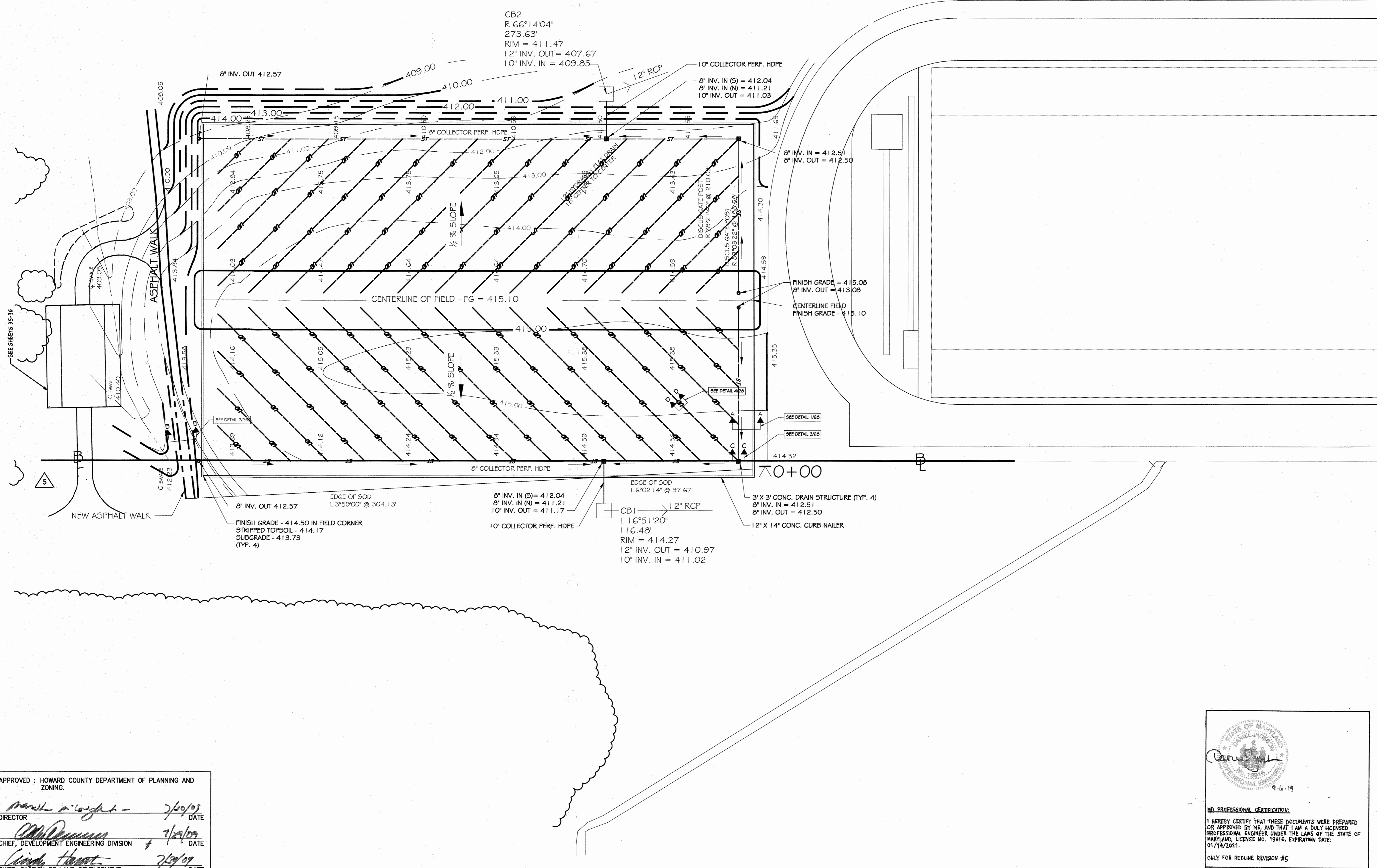
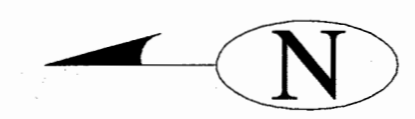
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CLARK
 COMPANIES

No.	Submittal / Revision	Date
1	RED LINE REVISION PLAN BY CHA SITE PLAN FOR SYNTHETIC INFILL TURF FIELD	DLB NDN 6/09/09
2	STORE AGE BUILDING, NEW SHEETS 35-36	6/27/09

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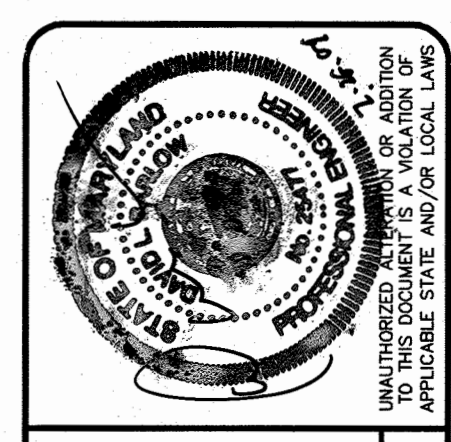
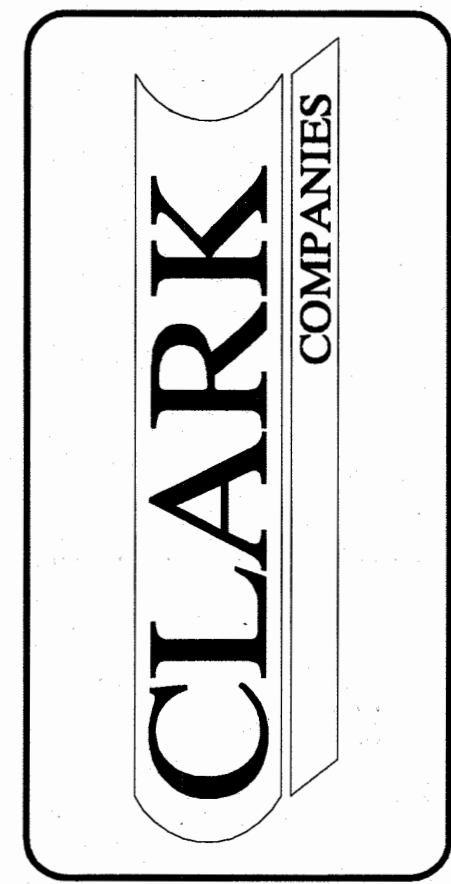
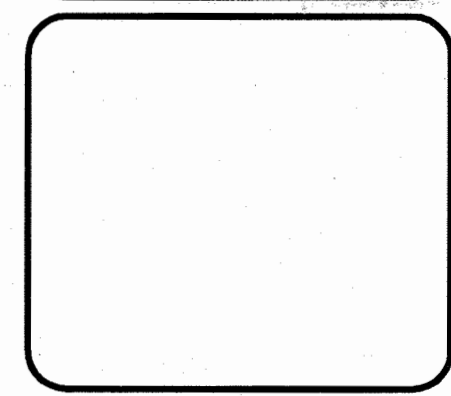


APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature] 7/20/09 DATE
 DIRECTOR
 [Signature] 7/20/09 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 7/20/09 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19916, EXPIRATION DATE: 01/14/2021.
 ONLY FOR REDLINE REVISION #5

No.	Submittal / Revision	App'd By	Date
1	RED LINE REVISION PLAN BY CHA SITE PLAN FOR SYNTHETIC INFILL TURF FIELD IMPROVEMENTS SHOWING EXISTING CONDITIONS	DLB NDN	6/09/09
2	STORAGE BUILDING, NEW SHEETS 35-36		6/22/09



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CHA
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 Designated: CLK Drawn: CLK Checked: CLK

HOWARD COMMUNITY COLLEGE
 SYNTHETIC INFILL TURF FIELD
 SITE PLAN WITH EXISTING
 CONDITIONS (ADD SHEET 26)
 Issue Date: 5-07-2008 Project No.: 19817 Scale: AS SHOWN

SDP-06-106

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APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

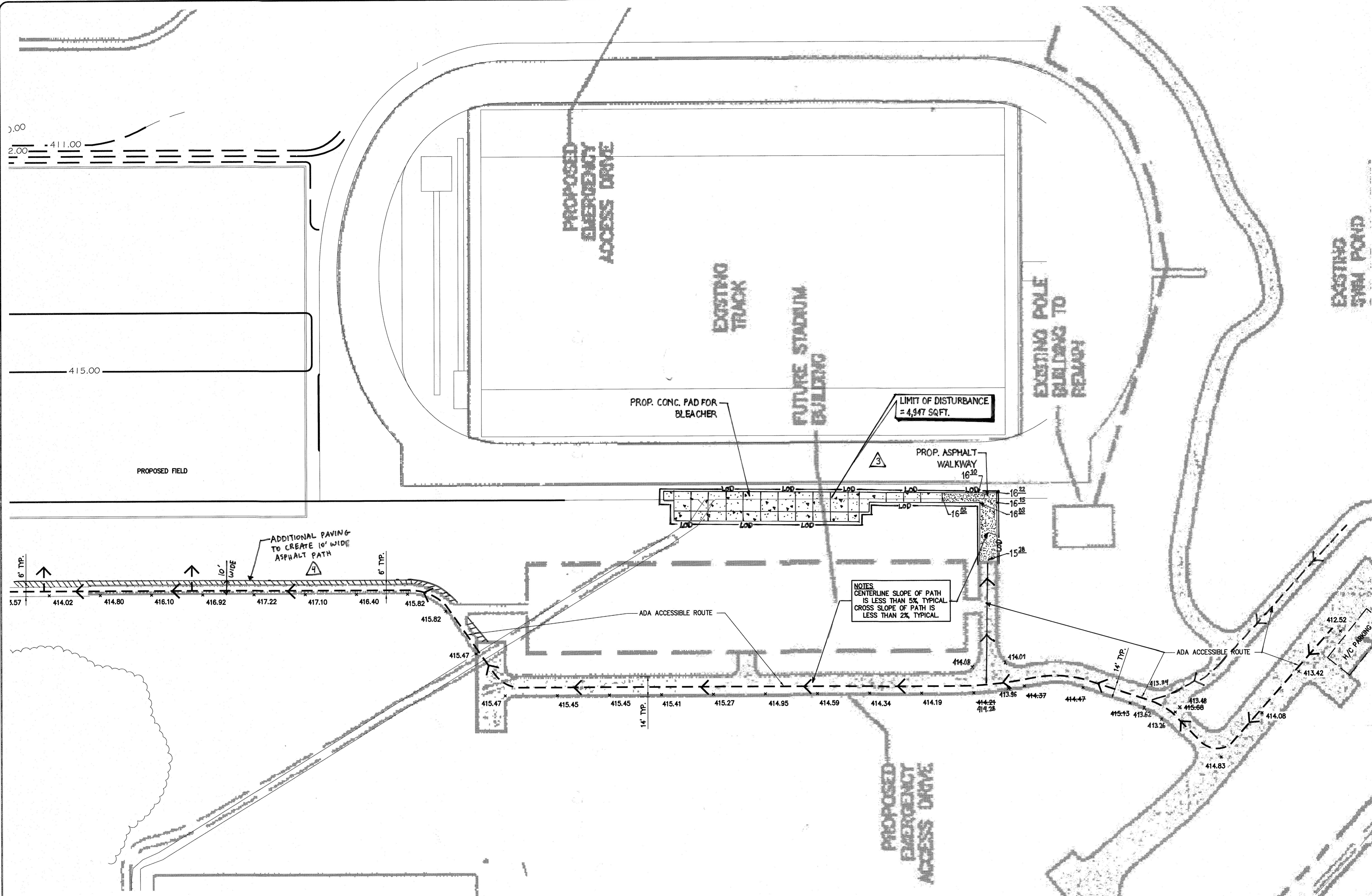
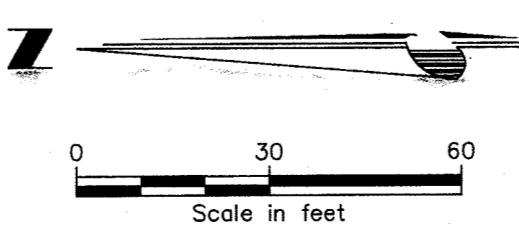
Frank L. Gault 7/20/09 DATE
 DIRECTOR

William Nickerson 7/20/09 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

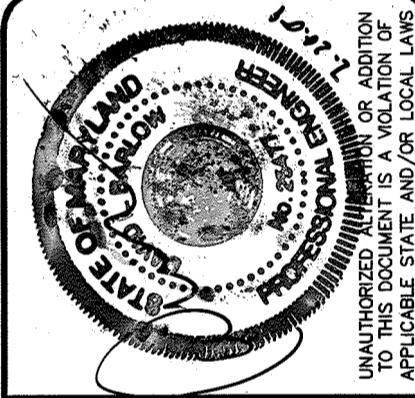
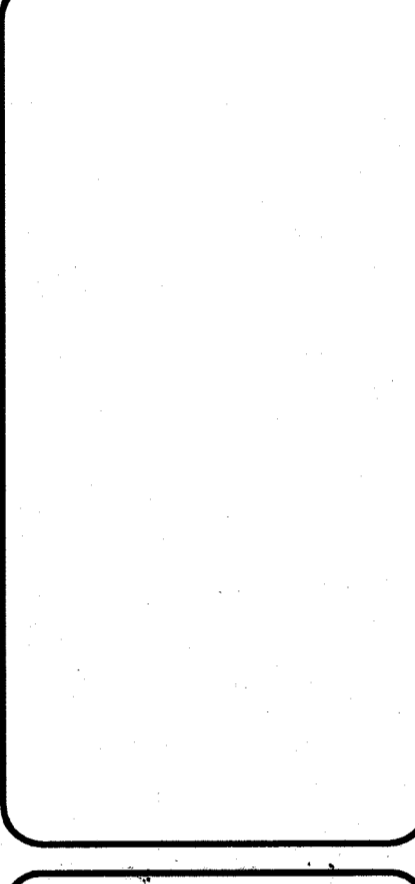
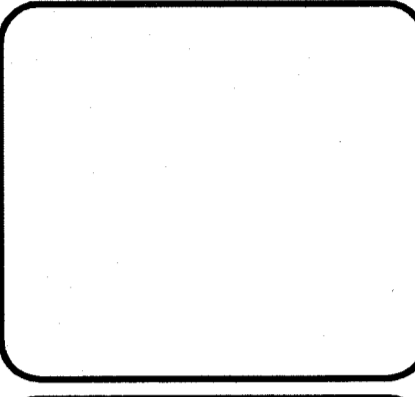
Chris Hamer 7/20/09 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

ITING
 INS
 ECTS

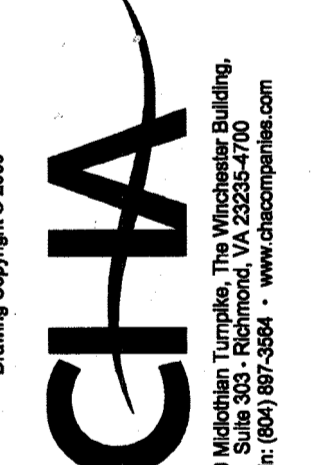
 NOTE: NEW SEAL AND SIGNATURE ARE APPLICABLE ONLY TO REVISIONS.



No.	Submital / Revision	Appd. By	Date
1	RED LINE REVISION PLAN BY CHA ADA-ACCESSIBLE ROUTE FOR SYNTHETIC INFILL TURF FIELD	DLB	6/09/09
2	ADD CONC. BLEACHER PAD ASPHALT WALK		4-6-2011
3	ADDED 10' WIDE SHARED USE PATH		5-2-11
4	STORAGE BUILDING NEW SHEETS 35-36		6/27/09



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 Suite 300, Richmond, VA 23255-4100
 Main: (804) 687-6364 www.howardcountyva.gov

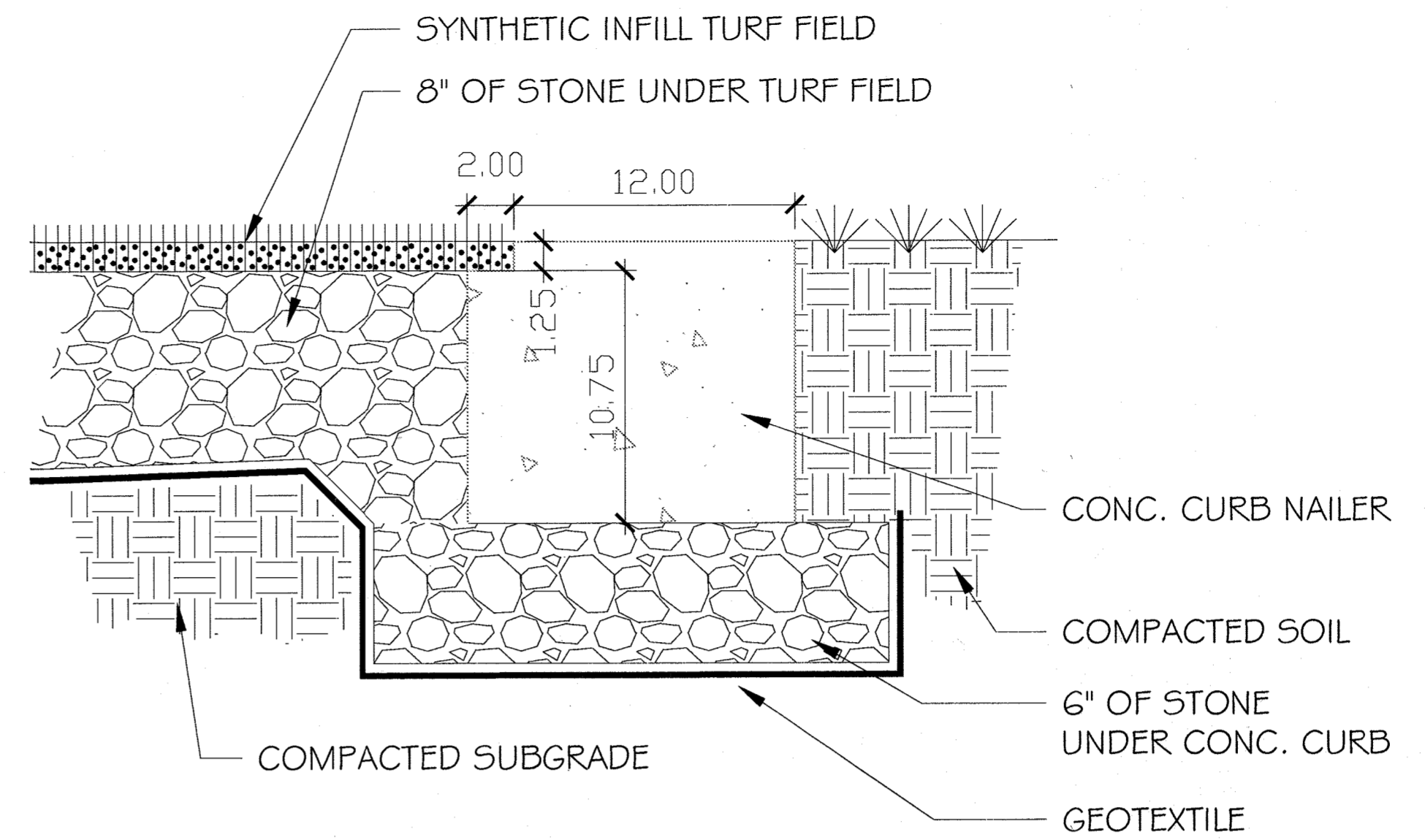
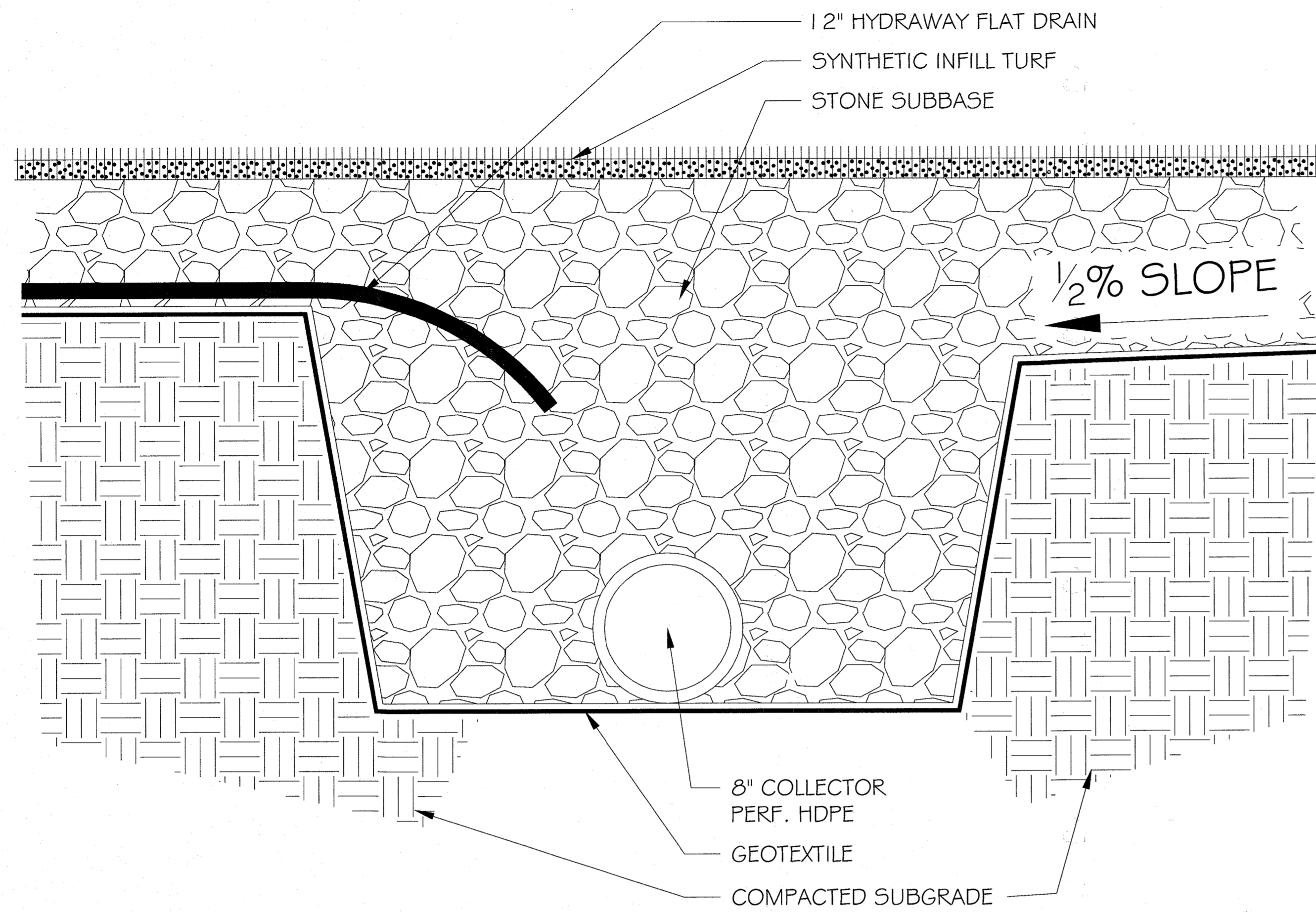
Designed: AFO
 Drawn: AFO
 Checked: DLB

HOWARD COMMUNITY COLLEGE
 SYNTHETIC INFILL TURF FIELD

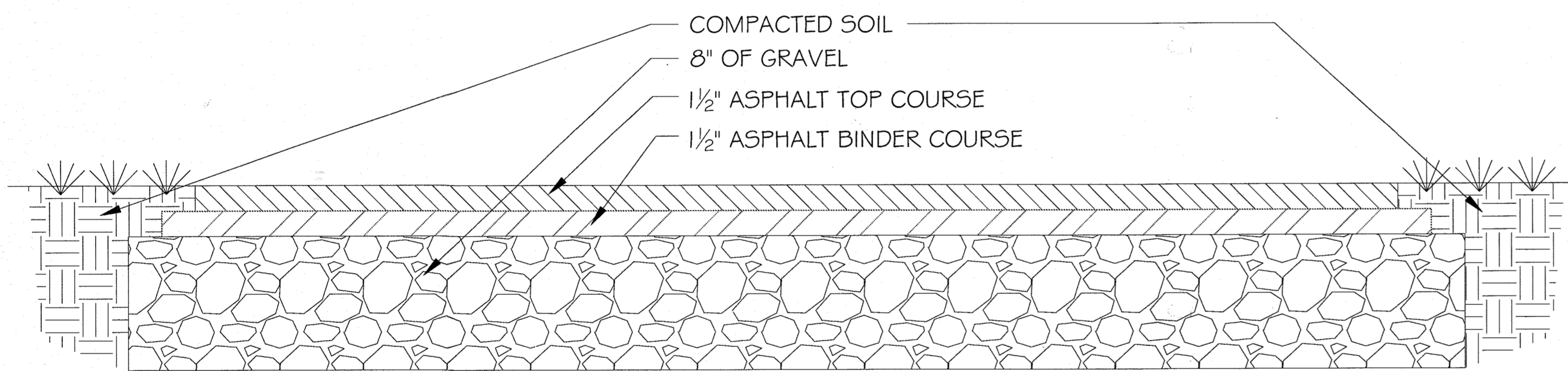
ACCESSIBLE ROUTE (ADD SHEET 27)

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

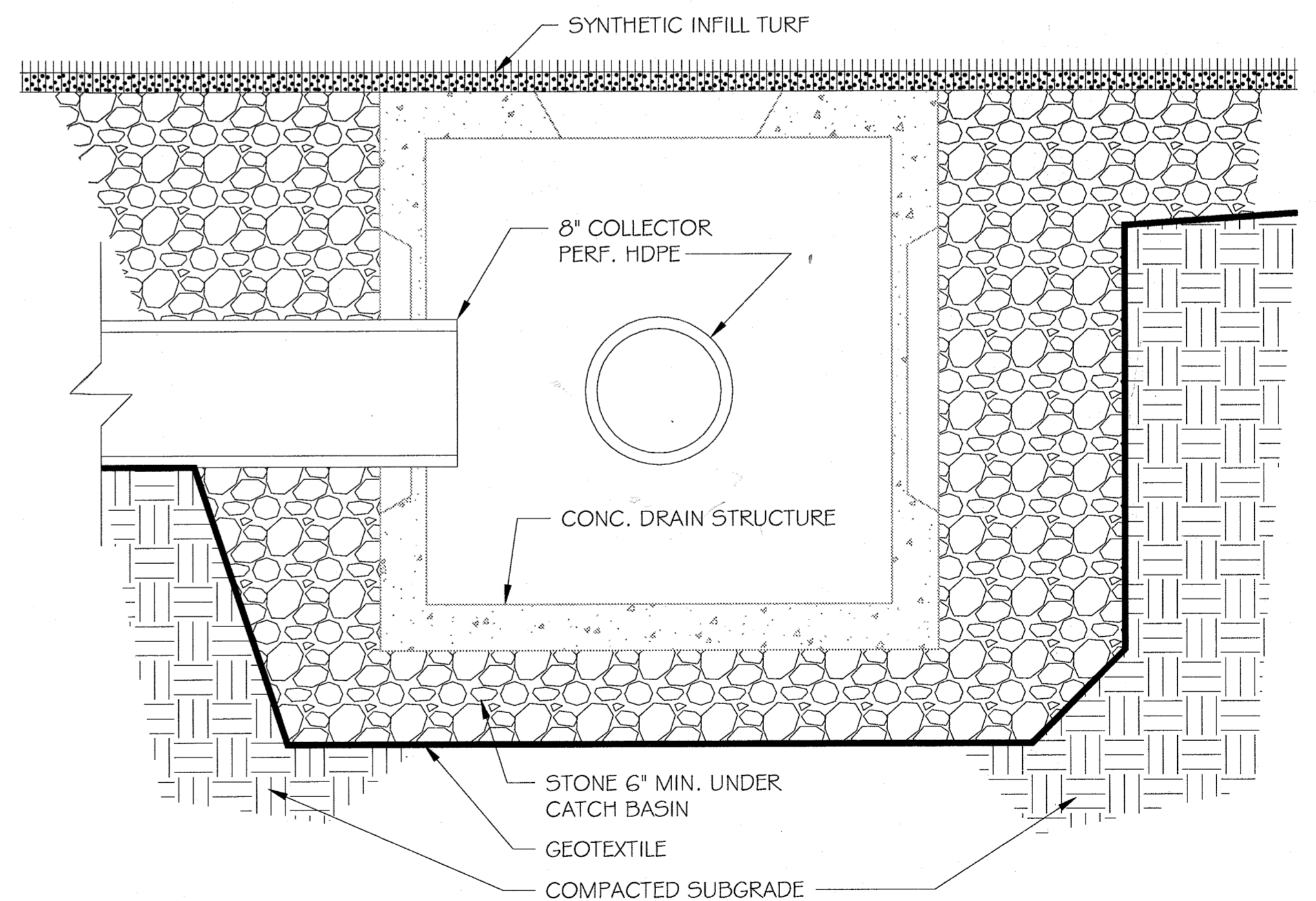
SDP-06-106



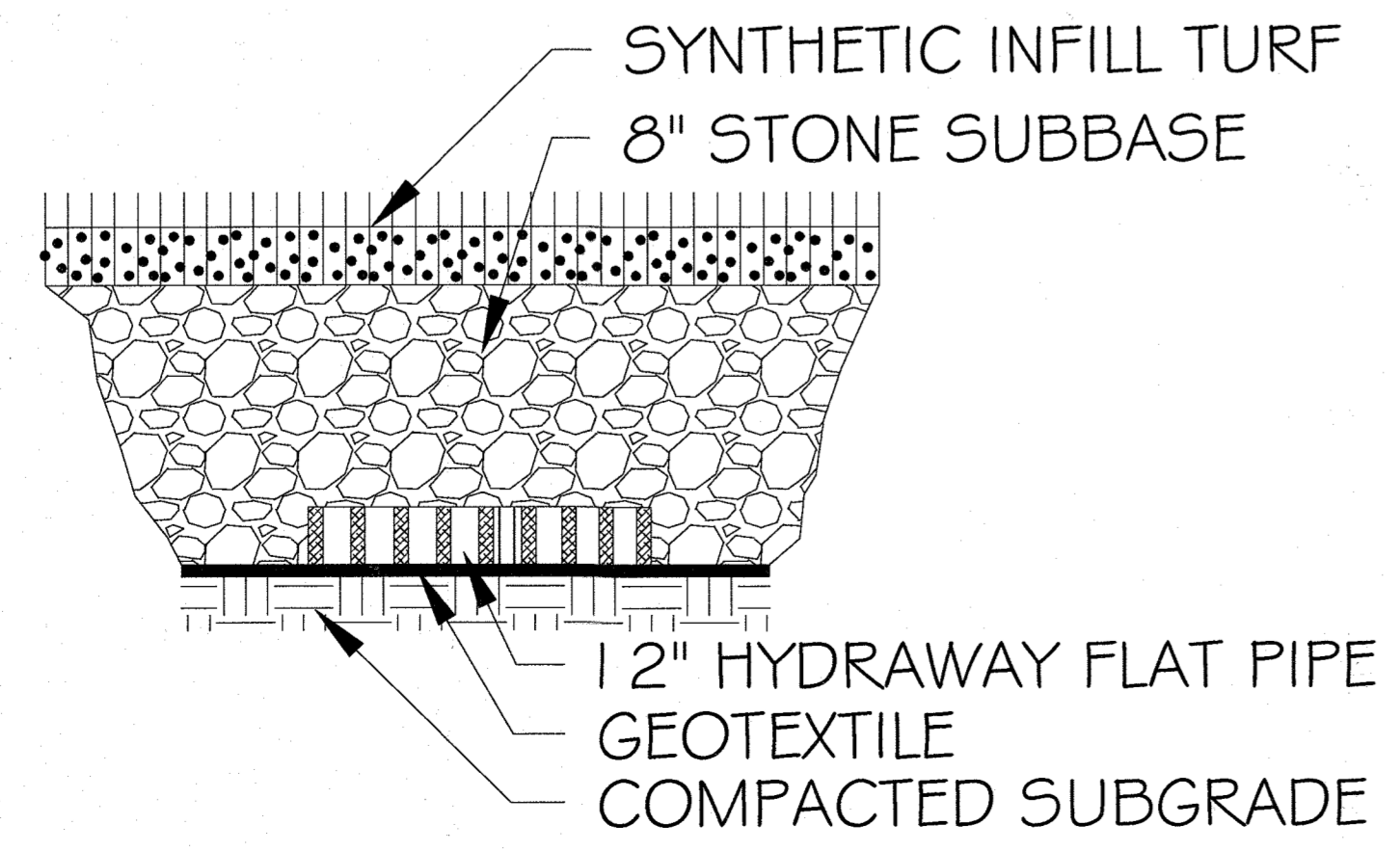
1
DI CONC. CURB NAILER & 8" COLLECTOR
NOT TO SCALE



2
DI NEW ASPHALT WALK
NOT TO SCALE



3
DI CONC. DRAIN STRUCTURE
NOT TO SCALE



4
DI FLAT DRAIN PROFILE
NOT TO SCALE

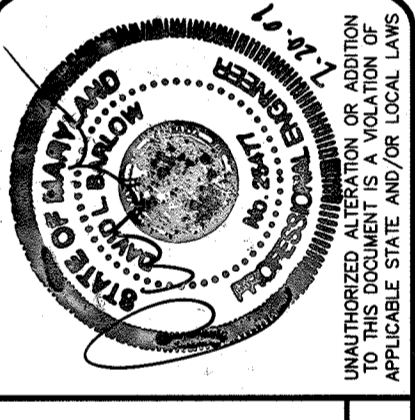
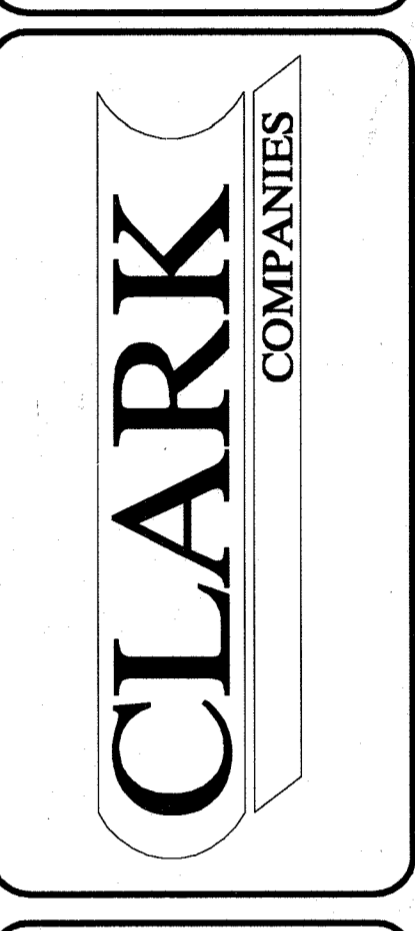
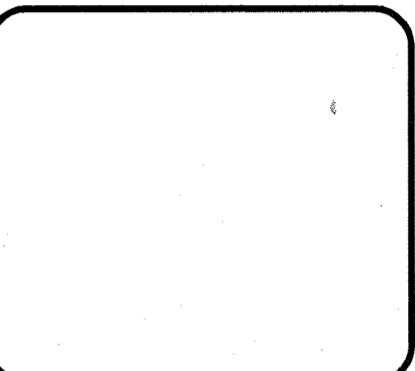
APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Thomas M. Loyall 7/30/09 DATE
DIRECTOR

[Signature] 7/30/09 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Cindy Hantz 7/30/09 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT 88

No.	Submittal / Revision	App'd By	Date
1	RED LINE REVISION PLAN BY CHA SITE DETAILS FOR SYNTHETIC INFILL TURF FIELD	DLB	NDN 16/09/09
2	STORAGE BUILDING MEN SHEETS 35-36		6/5/2011



1000 Redwood Turnpike, Tyngsboro Building,
Main: (800) 887-3584 • www.chacompanies.com

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Drawn: CLK
Checked: CLK

HOWARD COMMUNITY COLLEGE
SYNTHETIC INFILL TURF FIELD
DETAILS (ADD SHEET 28)

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

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Saved: 7/20/2009 8:46:30 AM Plotted: 7/20/2009 8:56:14 AM User: Nickerson, Nate

SITE DEVELOPMENT PLAN HOWARD COMMUNITY COLLEGE OFFSITE FOREST CONSERVATION 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

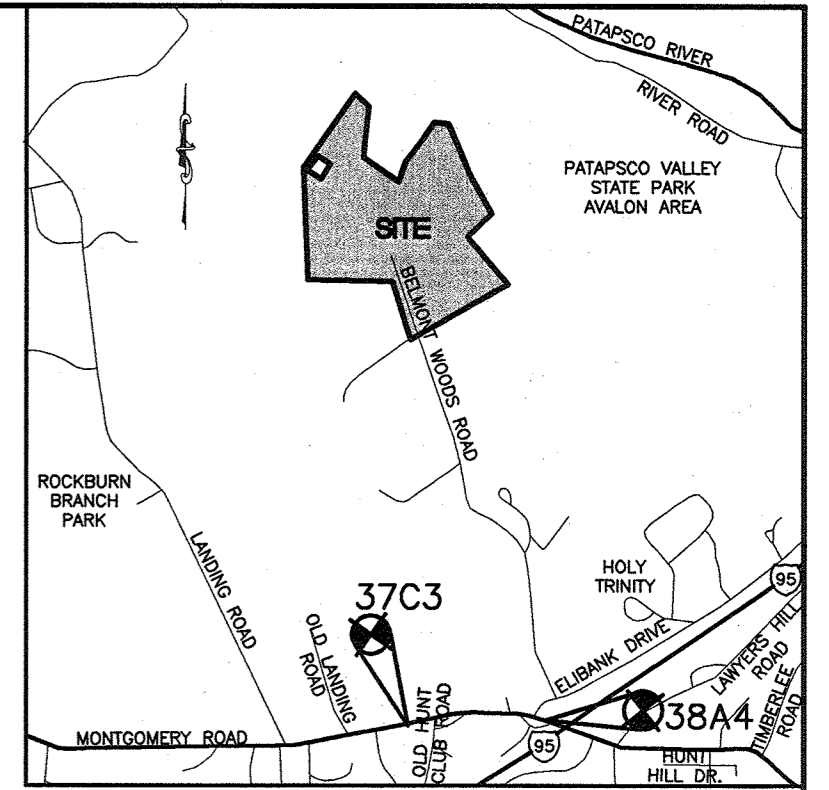
GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 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.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY PHR+A, DATED AUGUST 2005.
- 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.
- WATER IS PRIVATE.
- SEWER IS PRIVATE.
- STORMWATER MANAGEMENT IS NOT PROPOSED WITH THIS PLAN.
- 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.
- THERE IS NO FLOODPLAIN ON THIS SITE.
- THERE ARE NO WETLANDS ON THIS SITE.
- NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
- A NOISE STUDY FOR THIS PROJECT IS NOT REQUIRED.
- 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.
- ALL ELEVATIONS SHOWN ARE BASED NGVD29.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- 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).
- 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. 166-65) AND IS ENCLOSED BY A STEEL FENCE.
- THERE ARE EXISTING STRUCTURES ON THE SITE. THE SITE IS A HISTORIC SITE, HISTORIC SITE NO. HO-43. NO STRUCTURES ARE TO BE REMOVED.
- SPECIMEN TREES EXIST ON SITE AS SHOWN.
- 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.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NO.'S: BA 02-022C, BA 550-D, F-07-10, SDP-06-106/FC, PLAT #s 21640 AND 21641.

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

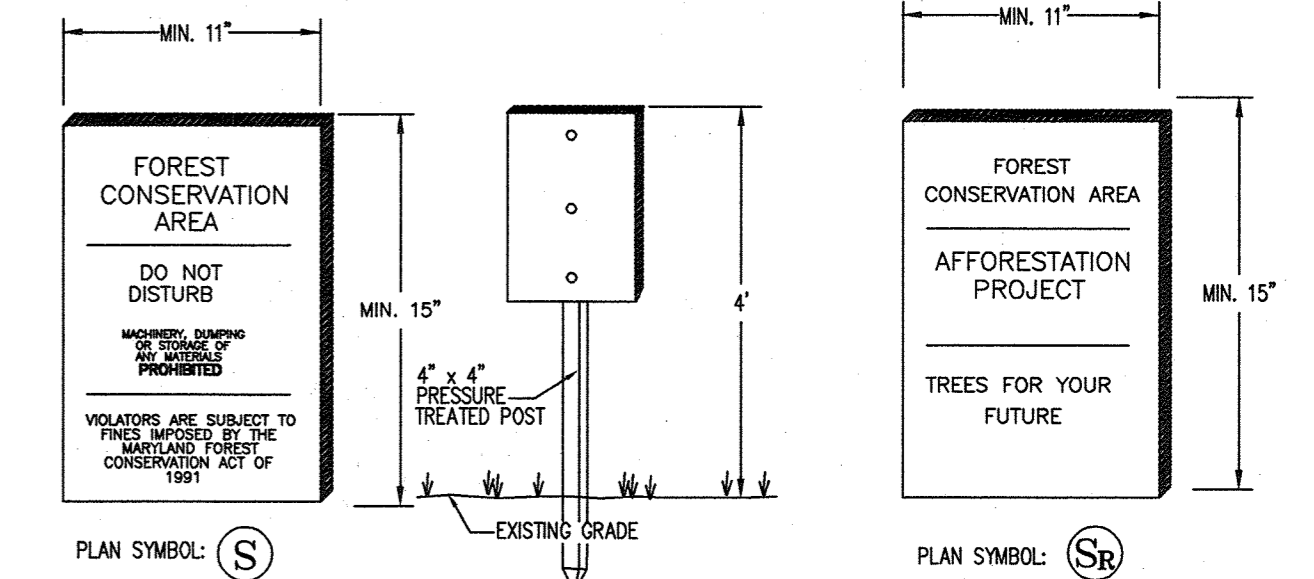


VICINITY MAP

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

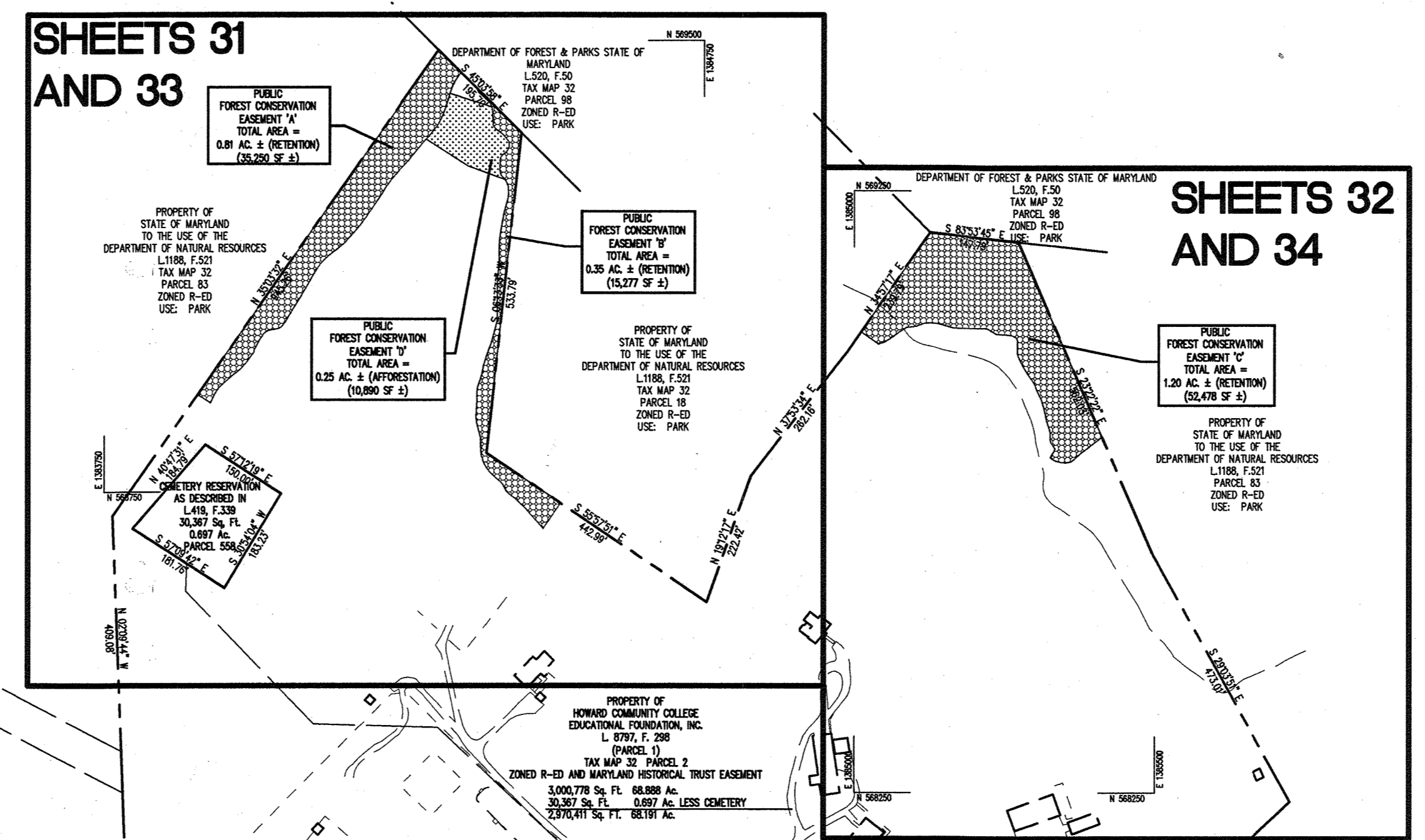
PURPOSE STATEMENT:

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:
- SIGNAGE SHALL BE LOCATED ON FOREST CONSERVATION / AFFORESTATION EASEMENT BORDER.
 - SEE PLAN FOR SPACING.

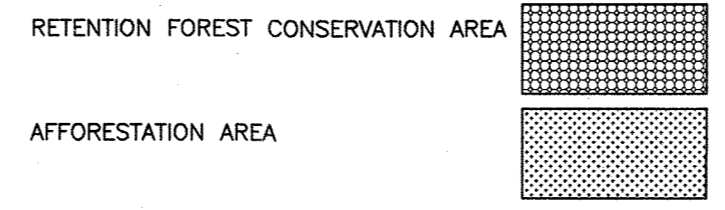
FOREST CONSERVATION & AFFORESTATION SIGN DETAIL
NOT TO SCALE



INDEX PLAN

1"=200'

LEGEND



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 WITH 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

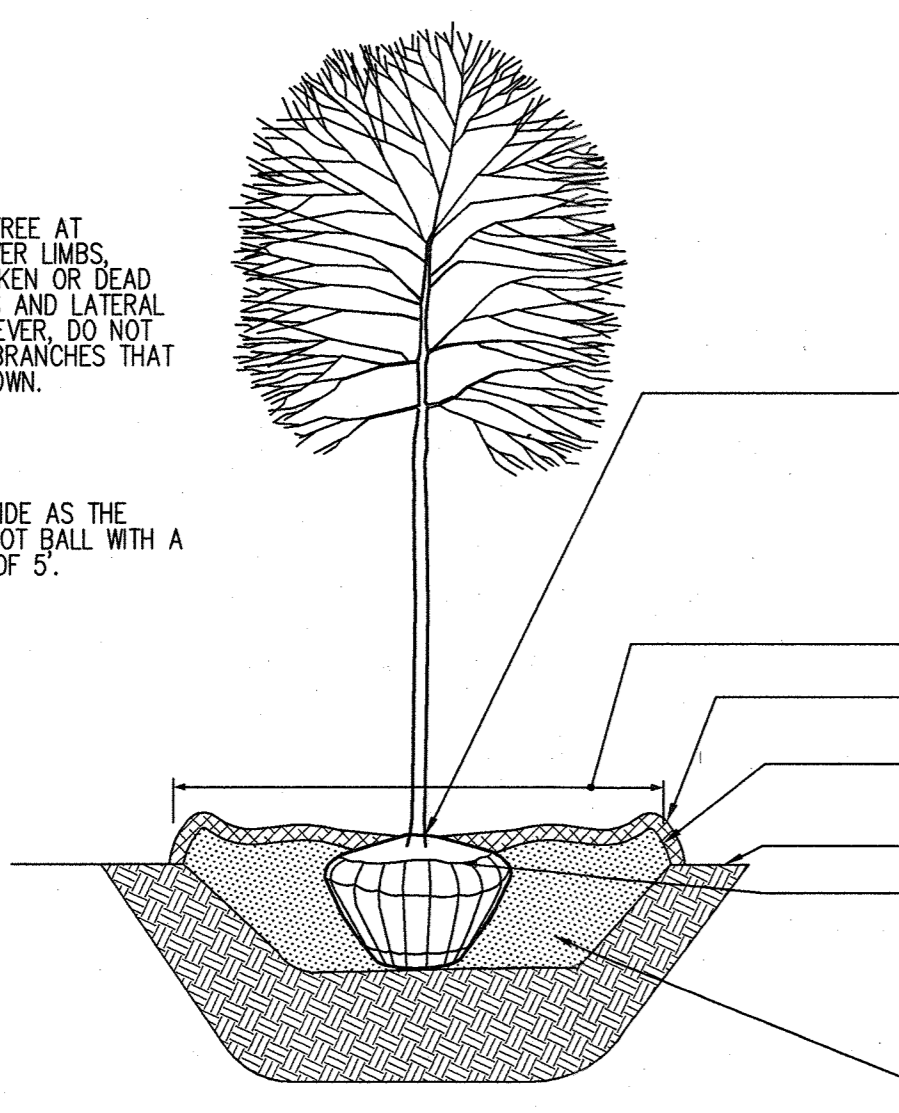
ADDRESS CHART

PARCEL NUMBER	STREET ADDRESS
2	6555 BELMONT WOODS ROAD

SUBDIVISION NAME	HOWARD COMMUNITY COLLEGE EDUCATIONAL FOUNDATION, INC.	SECT./AREA	N/A	PARCEL	2
PLAT NO.	SDP-06-106FC	GRID #	19	ZONING	R-ED
TAX MAP NO.	35	ELECT. DIST.	01	CENSUS TRACT	6011.01
WATER CODE		SEWER CODE			

NOTES:

- 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.
- DIG PLANTING PIT TWICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5'.



- EACH TREE MUST BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOTBALL. TREES WHERE THE TRUNK FLARE IS NOT VISIBLE SHALL BE REJECTED. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL. PLANT 1/8 OF ROOTBALL ABOVE FINAL GRADE.
- MULCH RING 6 FOOT DIAMETER MINIMUM 8 FOOT DIAMETER PREFERRED
2 TO 3 INCHES OF MULCH. DO NOT PLACE MULCH IN CONTACT WITH TREE TRUNK.
CONSTRUCT 3" SAUCER ALL AROUND PLANTING HOLE. FLOOD WITH WATER TWICE WITHIN 24 HOURS.
FINAL GRADE
REMOVE ALL TWINE ROPE WIRE AND BURLAP FROM TOP OF ROOT BALL. DO NOT REMOVE WIRE BASKET. BEND TOP OF WIRE BASKET DOWN INTO PLANTING PIT.
PLACE ROOT BALL ON UNEXCAVATED OR COMPACTED SOIL.
BACKFILL WITH PLANTING MIX (SEE PLANTING SPECIFICATIONS). TAMP SOIL AROUND ROOT BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT ROOT BALL DOES NOT SHIFT.

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

FOREST CONSERVATION PROGRAM

- 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.
- PRESERVATION:**
FOREST PRESERVATION AREAS SHALL BE PERMANENTLY PROTECTED BY FOREST CONSERVATION EASEMENTS.
- GENERAL CONSTRUCTION NOTE:**
THERE WILL BE NO STAGING OR STORING OF EQUIPMENT WITHIN THE LIMIT OF DISTURBANCE.
- POST CONSTRUCTION MANAGEMENT PRACTICE:**
A TWO-YEAR POSTED CONSTRUCTION AND MANAGEMENT PROGRAM TO ENSURE FOREST HEALTH IS REQUIRED AND INCLUDES THE FOLLOWING:
 - MAINTENANCE OF SIGNS, FENCES, AND TREE PROTECTION DEVICES TO
 - PREVENT UNWARRANTED INTRUSION AND DAMAGE.
 - CAREFUL REMOVAL OF ALL TEMPORARY STRUCTURES AFTER CONSTRUCTION.
 - ROUTINE INSPECTIONS OF FOREST CONSERVATION EASEMENTS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Wanda E. Butler 8/4/11
DIRECTOR DATE

Mr. [Signature] 8/3/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Ken [Signature] 8/04/11
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

6/9/2019	5	PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 95-96
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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

DESIGNED BY: PJS/ALC
DRAWN BY: ALC
PROJECT NO: 11449-2-8
C400SDP29.DWG
DATE: JULY 28, 2011
SCALE: AS SHOWN
DRAWING NO. 29 OF 36

PETER J. STONE #3068



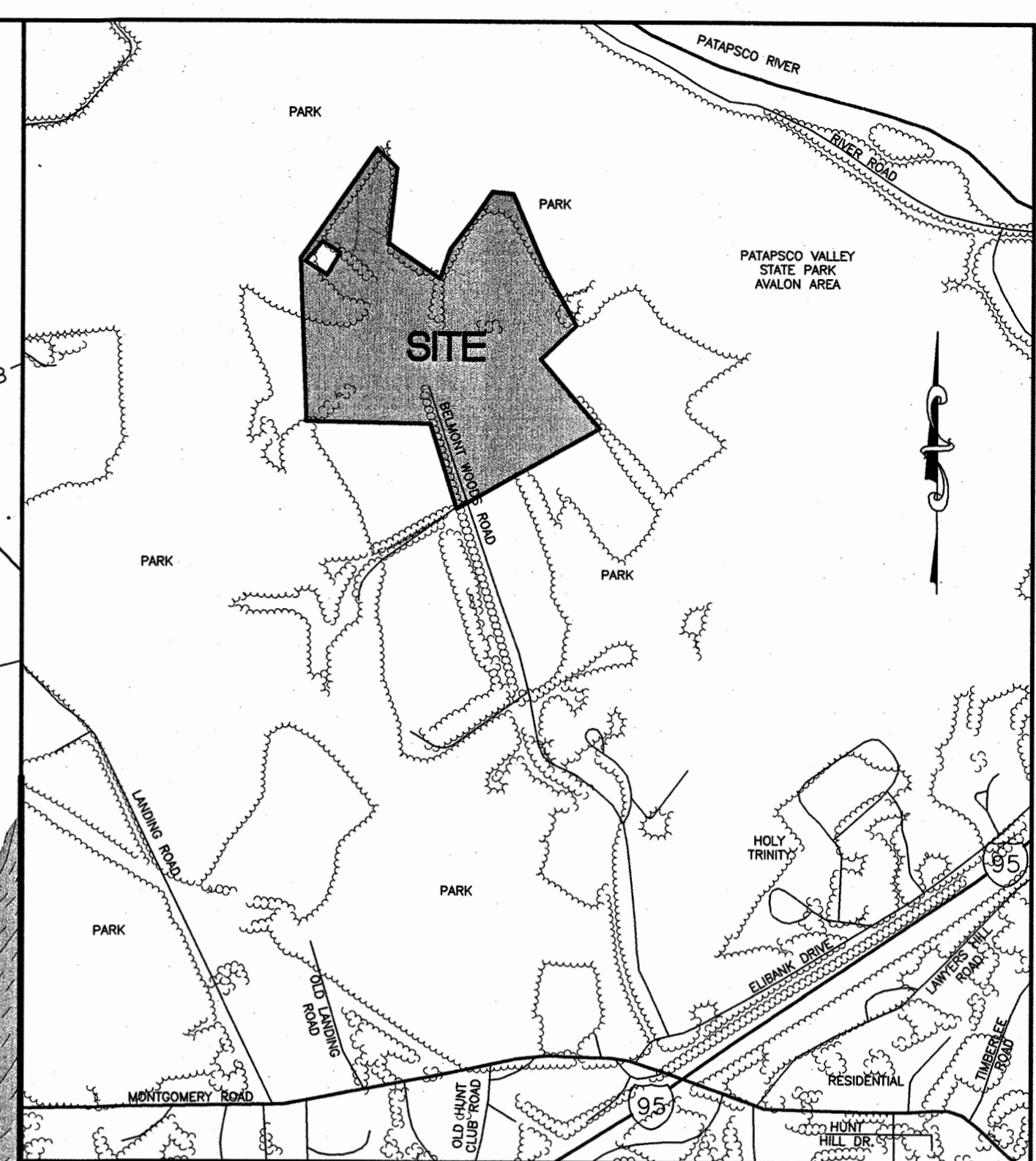
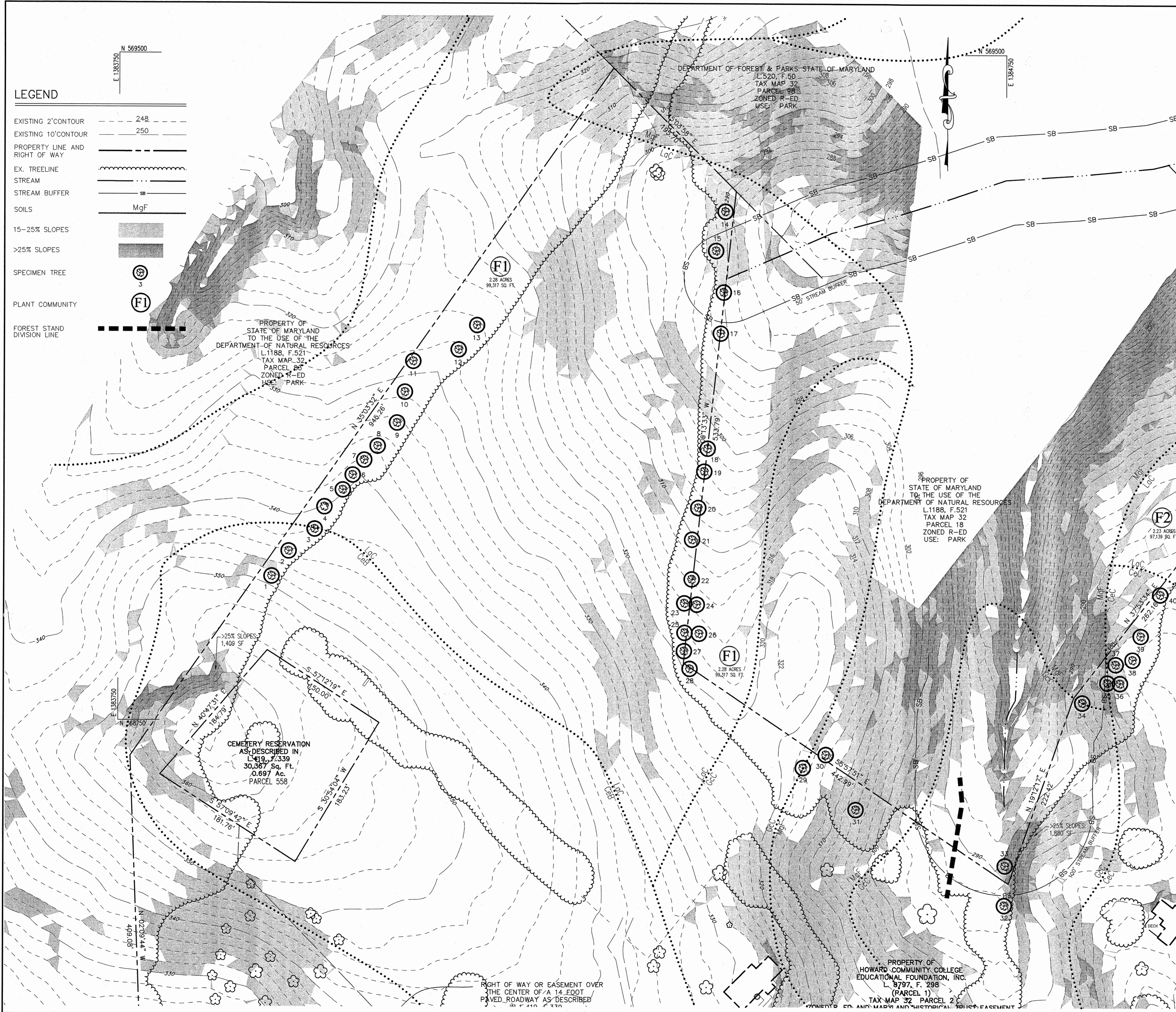
LEGEND

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

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Monica J. Buttle</i> DIRECTOR	8/4/11 DATE
<i>William J. ...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	8/3/11 DATE
<i>Victor ...</i> CHIEF, DIVISION OF LAND DEVELOPMENT	8/04/11 DATE
6/5/2014	5 PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36
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	DESIGNED BY PJS/ALC
	DRAWN BY: ALC
PETER J. STONE #3068	PROJECT NO : 11449-2-8 C400SDP30.DWG
	DATE : JULY 28, 2011
	SCALE : 1" = 100'
	DRAWING NO. 30 OF 36

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	[Hatched Pattern]
>25% SLOPES	[Darker Hatched Pattern]
SPECIMEN TREE	(3)
PLANT COMMUNITY	(F1)
FOREST STAND DIVISION LINE	- - - - -



HOWARD COUNTY ADC MAP 17
VICINITY MAP
 SCALE: 1" = 1,000'
 PERMITTED USE NO.
 2071188

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Thomas J. Butler</i>	8/4/11
DIRECTOR	DATE
<i>Michael J. ...</i>	8/2/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Kevin ...</i>	8/2/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
6/5/2019 5 PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 95-36	

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**

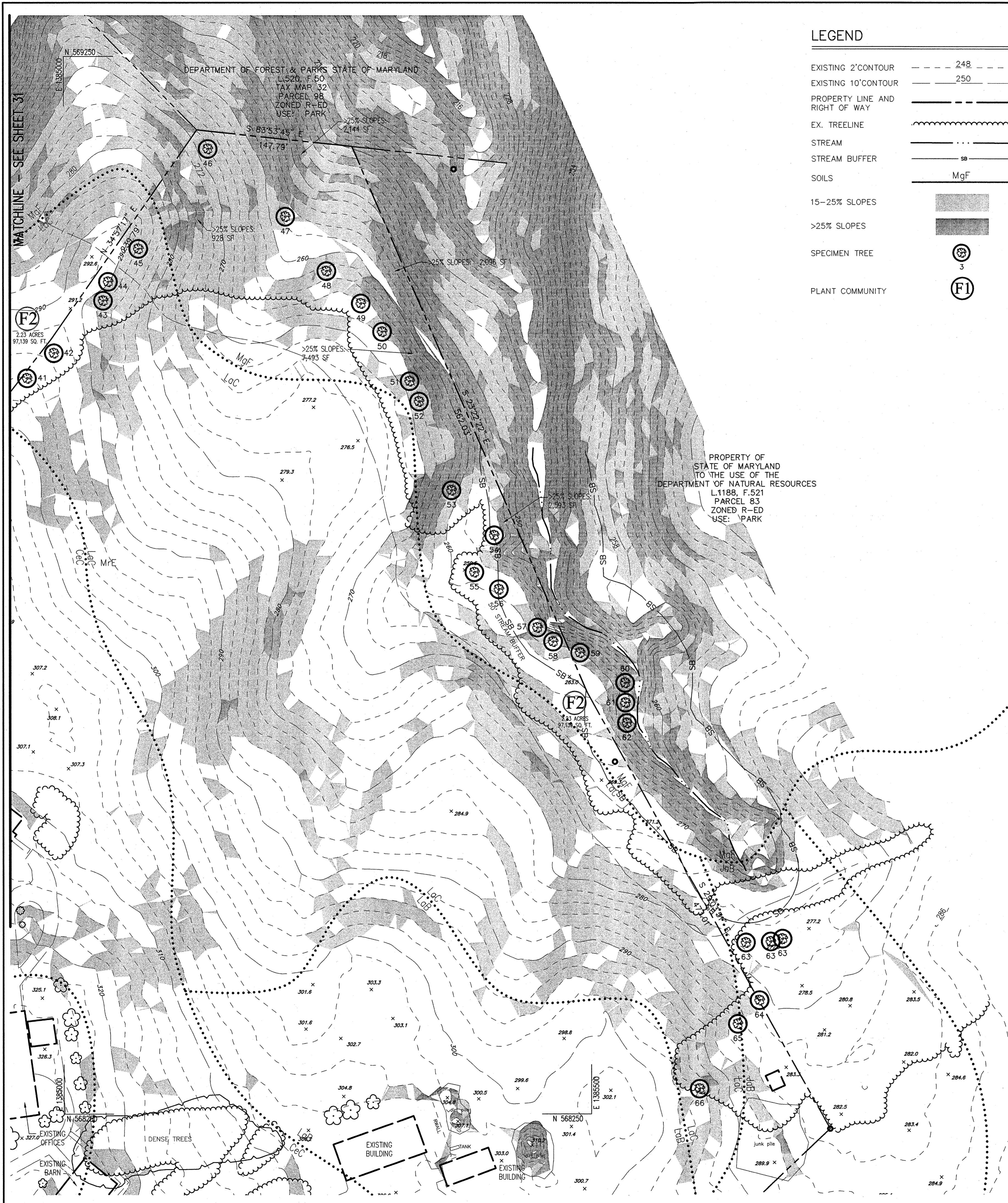
Patton Harris Rust & Associates, pc
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 8818 Centre Park Drive
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

7-28-11
 DATE

DESIGNED BY : PJS/ALC
 DRAWN BY: ALC
 PROJECT NO : 11449-2-B
 C400SDP31.DWG
 DATE : JULY 28, 2011
 SCALE : 1"=50'
 DRAWING NO. 31 OF 36

PETER J. STONE #3068

MATCHLINE - SEE SHEET 32



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 (<i>Liriodendron tulipifera</i>)	30"	GOOD
2	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	41"	GOOD
3	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	49"	GOOD
4	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	44"	GOOD
5	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	40"	GOOD
6	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	44"	DEAD
7	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	48"	GOOD
8	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	50"	GOOD
9	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	38"	GOOD
10	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	37"	GOOD
11	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
12	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	49"	GOOD
13	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	37"	GOOD
14	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	40"	GOOD
15	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	34"	GOOD
16	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	36"	GOOD
17	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	32"	GOOD
18	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	31"	GOOD
19	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
20	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	31"	GOOD
21	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	32"	GOOD
22	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	34"	GOOD
23	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
24	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
25	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
26	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	34"	GOOD
27	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	36"	GOOD
28	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	45"	GOOD
29	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	55"	GOOD
30	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	39"	GOOD
31	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	43"	GOOD
32	BLACK WALNUT (<i>Juglans nigra</i>)	55"	GOOD
33	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	39"	GOOD

34	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	49"	GOOD
35	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
36	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
37	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	36"	GOOD
38	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	37"	GOOD
39	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	39"	GOOD
40	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	46"	GOOD
41	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	38"	GOOD
42	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	36"	GOOD
43	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	46"	GOOD
44	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	34"	GOOD
45	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	43"	GOOD
46	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
47	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	35"	GOOD
48	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	38"	GOOD
49	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
50	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
51	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
52	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
53	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	40"	GOOD
54	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	40"	GOOD
55	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	48"	GOOD
56	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	36"	GOOD
57	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
58	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	32"	GOOD
59	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
60	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	46"	GOOD
61	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
62	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	38"	GOOD
63	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	46"	GOOD
64	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	30"	GOOD
65	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	39"	GOOD
66	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	33"	GOOD
67	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	50"	GOOD
68	TULIP POPLAR (<i>Liriodendron tulipifera</i>)	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) - GcC, JACKLAND SILT LOAM (3-8% SLOPES) - JcB, LEGORE SILT LOAM (3-8% SLOPES) - LcC, 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
JcB	Jackland silt loam	-	Slight	N	3-8
LcB	Legore silt loam	Slight	Slight	N	3-8
LcC	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.

Thomas E. Butler 8/4/11
DIRECTOR DATE
Chris P. ... 8/2/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
K. J. ... 8/10/11
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

6/5/2011 5 PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36

DATE NO.	REVISION

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

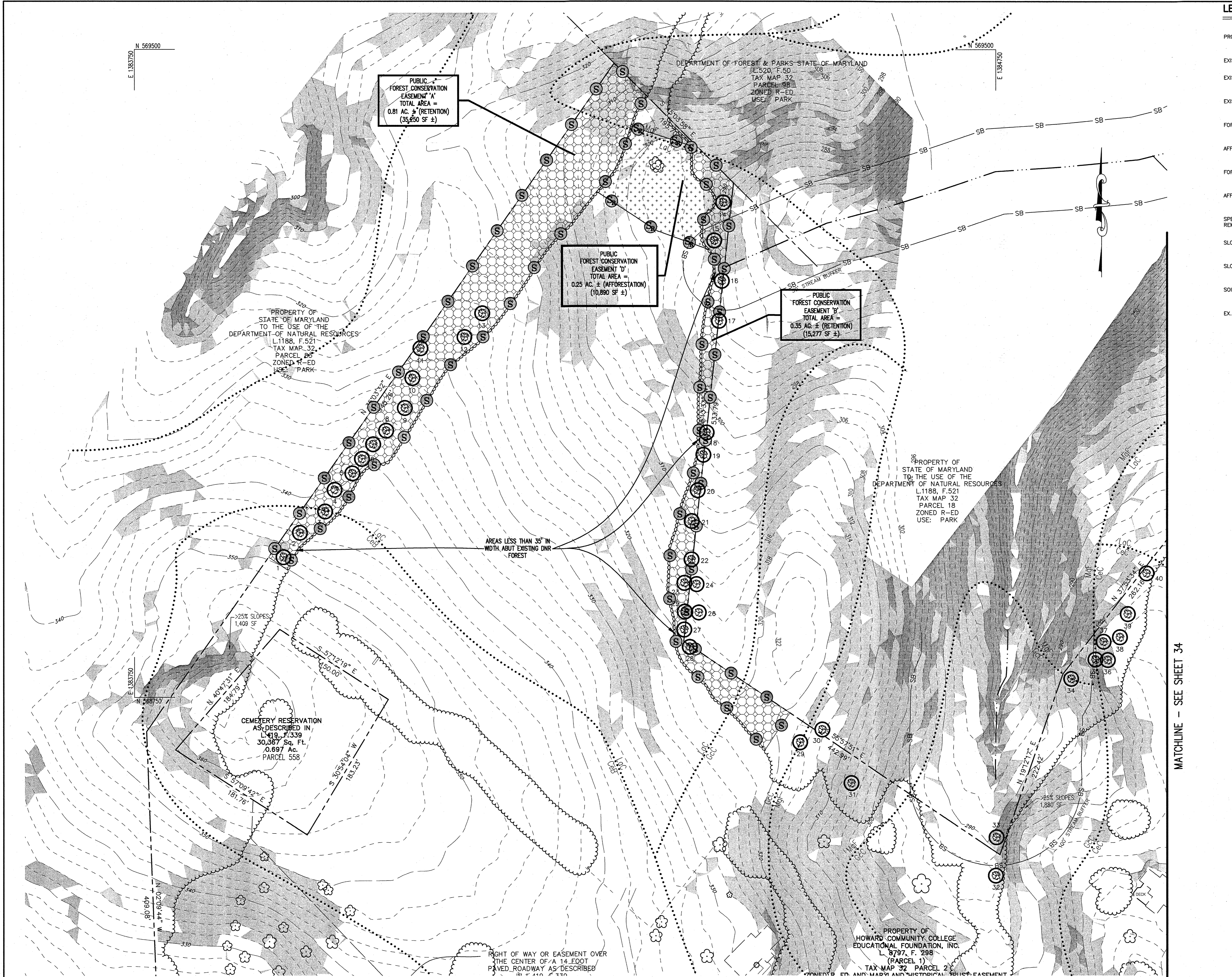
PROJECT HOWARD COMMUNITY COLLEGE
EDUCATIONAL FOUNDATION, INC (BELMONT CENTER)
HICKORY RIDGE ROAD ENTRANCEWAY,
HANDICAPPED PARKING AND TRACK ACCESS DRIVE

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
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 36



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.

Thomas E. Sutler 8/4/11 DATE
DIRECTOR

Alan Dammann 8/3/11 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Walter S. ... 8/04/11 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

6/5/2014 5 PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36

DATE	NO.	REVISION

OWNER / DEVELOPER
HOWARD COMMUNITY COLLEGE
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COLUMBIA, MARYLAND 21044-3197
ATTN: MR. CHUCK NIGHTINGALE
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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

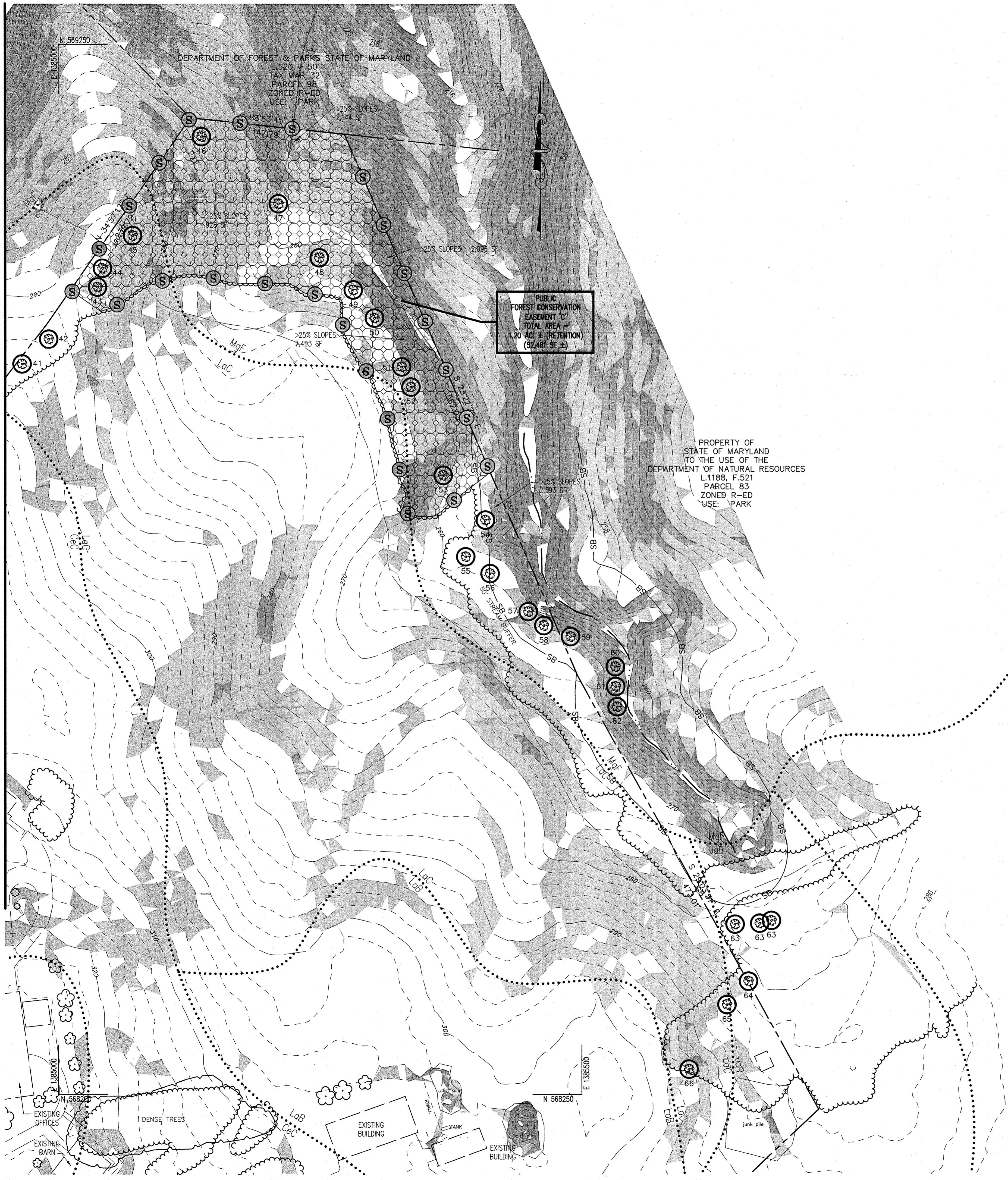
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PROJECT NO : 11449-2-8
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DATE : JULY 28, 2011
SCALE : 1" = 50'
DRAWING NO. 33 OF 36

PETER J. STONE #3068

MATCHLINE - SEE SHEET 34

MATCHLINE - SEE SHEET 33



PUBLIC FOREST CONSERVATION EASEMENT 'C'
TOTAL AREA = 120 AC ± (RETENTION) (52,481 SF ±)

PROPERTY OF STATE OF MARYLAND TO THE USE OF THE DEPARTMENT OF NATURAL RESOURCES
L1188, F.521
PARCEL 83
ZONED R-ED
USE: PARK

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 ±	0.25 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.

- 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 WEEDINGS.
- 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) WEAR 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 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 MAINTENANCE AND REPLACEMENT 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, ELK RIDGE, 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 PHRA, 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 ENCLOSED BY A STEEL FENCE.
6. THERE ARE EXISTING STRUCTURES ON THE SITE. THE SITE IS A HISTORIC SITE, HISTORIC SITE NO. H0-43.
7. THE SOILS ON SITE ARE CHILLUM LOAM (2-5% SLOPES) - C4b, CHILLUM LOAM (5-10% SLOPES) - C6c, GLADSTONE-LEGORE COMPLEX (8-15% SLOPES) - G6c, JACKLAND SILT LOAM (3-8% SLOPES) - J6b, LEGORE SILT LOAM (3-8% SLOPES) - L6c, LEGORE-MONTALTO SILT LOAMS (3-8% SLOPES) - L6d, MANOR-BANNERTOWN SANDY LOAMS (25-65%) - M6f, AND RUSSETT FINE SANDY LOAM (10-15% SLOPES) - R6d 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 32/36, 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 16128 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 RETURNED TO THE COLLEGE UPON RECORDEMENT OF THIS PLAN. SDP 06-106/PC. 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. H0-43. 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-06-106/FC 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. PHRA 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.

Wanda J. Butler 8/4/11
DIRECTOR DATE
John Damann 8/3/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
Ken DeLoach 8/04/11
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

6/5/2011 5 PROPOSED STORAGE BUILDING, ADDED NEW SHEETS 35-36

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
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 36
PETER J. STONE #3068

P:\Project\11449-2-B\PLANS\C400SDP34.DWG

CONSTRUCTION SPECIFICATIONS FOR MICRO-BIORETENTION FACILITIES

1. MATERIAL SPECIFICATIONS
THE ALLOWABLE MATERIALS TO BE USED IN MICRO-BIORETENTION ARE DETAILED IN TABLE B.4.1. (SEE THIS SHEET)

2. FILTER MEDIA OR PLANTING SOIL
THE SOIL SHALL BE A UNIFORM MIX OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION AND BIOSWALE PRACTICES THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.
THE PLANTING SOIL SHALL MEET THE FOLLOWING CRITERIA:
• SOIL CONTENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION)
• ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35%-40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%)
• CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%
• pH RANGE - SHOULD BE BETWEEN 5.5-7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED INTO THE SOIL TO INCREASE OR DECREASE pH.
THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR pH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

REPLACEMENT OF FILTER MEDIA IS REQUIRED IF WATER PONDS FOR MORE THAN 24 HOURS.

3. COMPACTION
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF THE BASE OF MICRO-BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TIRE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.
COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE MICRO-BIORETENTION AND BIOSWALE FACILITIES BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACATURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
WHEN BACKFILLING THE MICRO-BIORETENTION AND BIOSWALE FACILITIES, PLACE SOIL IN LIFTS OF 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE MICRO-BIORETENTION OR BIOSWALE BASINS. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS. GRADE MICRO-BIORETENTION AND BIOSWALE MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL
RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION AREAS CAN BE FOUND ON THE LANDSCAPE PLANS FOUND HEREIN.

5. PLANT INSTALLATION
COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING AREAS TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE MICRO-BIORETENTION AREAS DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.
ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8th OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.
TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.
GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.
THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE MICRO-BIORETENTION STRUCTURES IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS REPEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAINS
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
• PIPE - SHOULD BE 4"-6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 758, TYPE PS 28, OR AASHTO M-78) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OR HDPE).
• PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4X4) GALVANIZED HARDWARE CLOTH.
• GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
• A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
• A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

7. MISCELLANEOUS
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL THE SITE AND ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

TABLE B.4.1 MATERIAL SPECIFICATIONS FOR MICRO-BIORETENTION AND BIOSWALE FACILITIES

MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE APPENDIX A, TABLE A.4	N/A	PLANTINGS ARE SITE-SPECIFIC
PLANTING SOIL [2' TO 4' DEEP]	LOAMY SAND (60-65%) & COMPOST (35-40%) OR SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%)	N/A	USDA SOILS TYPES LOAMY SAND OR SANDY LOAM; CLAY CONTENT < 5%
ORGANIC CONTENT	MIN. 10% BY DRY WEIGHT (ASTM D 2974)		
MULCH	SHREDDED HARDWOOD	N/A	AGED 6 MONTHS, MINIMUM; NO PINE OR WOOD CHIPS
GRAVEL DIAPHRAGM	ASTM-D-448 PEA GRAVEL	NO. 8 OR NO. 9 (1/8" TO 3/8")	
BRIDGING LAYER	ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	DELAWARE VALLEY RIVER JACKS
INFLOW PROTECTION	ORNAMENTAL STONE; WASHED COBBLES	STONE: 3" TO 5"	PE TYPE 1 NONWOVEN
GEOTEXTILE		N/A	
GRAVEL (UNDERDRAINS)	AASHTO M-43	NO. 57 OR NO. 8 AGGREGATE (3/8" TO 3/4")	
UNDERDRAIN PIPING, OBSERVATION WELLS, AND CLEAN OUTS	F 758, TYPE PS 28 OR AASHTO M-278 PVC OR SDR35	4" TO 6" RIGID SCHEDULE 40	SLOTTED OR PERFORATED PIPE; 3/8" PERF. @ 6" ON CENTER, 4 HOLES PER ROW; MINIMUM OF 3" OF GRAVEL ABOVE AND BENEATH PIPES.
POURED IN PLACE CONCRETE (IF REQUIRED)	MSHA MIX NO. 3; F _c = 3500 PSI @ 28 DAYS, NORMAL WEIGHT, AIR ENTRAINMENT REINFORCING TO MEET ASTM-615-60	N/A	ON SITE TESTING OF POURED-IN-PLACE CONCRETE REQUIRED: 28 DAY STRENGTH AND SLUMP TEST; ALL CONCRETE DESIGN (CAST-IN-PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND. DESIGN TO INCLUDE MEETING ACI CODE 308.1R/89; VERTICAL; LOADING (H=10 OR H=20); ALLOWABLE HORIZONTAL LOADING (BASE AND SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING.
JUTE MATTING (OR EQUIVALENT)	6-9 MONTHS BEFORE BIODEGRADATION	4" WIDE ROLLS	MANUFACTURER: GRANITE ENVIRONMENTAL

INSPECTION REQUIREMENTS FOR MICRO-BIORETENTION FACILITIES

REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:
1. DURING EXCAVATION TO SUBGRADE AND PLACEMENT AND BACKFILL OF UNDERDRAIN SYSTEMS.
2. DURING PLACEMENT OF FILTER MEDIA.
3. DURING CONSTRUCTION OF APPURTENANCE CONVEYANCE.
4. UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

MAINTENANCE CRITERIA FOR MICRO-BIORETENTION FACILITIES

THE FOLLOWING ITEMS SHOULD BE ADDRESSED TO ENSURE PROPER MAINTENANCE AND LONG-TERM PERFORMANCE OF MICRO-BIORETENTION PRACTICES:
1. THE PROPOSED SWM FACILITIES ARE PRIVATELY OWNED AND MAINTAINED BY THE OWNER. PRIVATELY OWNED PRACTICES SHALL HAVE A MAINTENANCE PLAN AND SHALL BE PROTECTED BY EASEMENT, DEED RESTRICTION, ORDINANCE, OR OTHER LEGAL MEASURES PREVENTING ITS NEGLIGENCE, ADVERSE ALTERATION, AND REMOVAL.
2. THE TOP FEW INCHES OF FILTER MEDIA SHOULD BE REMOVED AND REPLACED WHEN WATER PONDS FOR MORE THAN TWENTY-FOUR (24) HOURS. SILTS AND SEDIMENT SHOULD BE REMOVED FROM THE SURFACE OF THE FILTER BED WHEN ACCUMULATION EXCEEDS ONE (1) INCH.
3. WHERE PRACTICES ARE USED TO TREAT AREAS WITH HIGHER CONCENTRATIONS OF HEAVY METALS (E.G., PARKING LOTS, ROADS, ETC.), MULCH SHOULD BE REPLACED ANNUALLY IN THE SPRING. OTHERWISE, THE TOP TWO (2) TO THREE (3) INCHES SHOULD BE REPLACED AS NECESSARY. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER EVERY 2 TO 3 YEARS.
4. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. OCCASIONAL PRUNING AND REPLACEMENT OF DEAD VEGETATION IS NECESSARY. IF SPECIFIC PLANTS ARE NOT SURVIVING, MORE APPROPRIATE SPECIES SHOULD BE USED. WATERING MAY BE REQUIRED DURING PROLONGED DRY PERIODS.

HORIZONTAL DATUM FOR THIS AS-BUILT SURVEY IS BASED ON THE MARYLAND STATE REFERENCE SYSTEM AND IS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 35CS AND 35PA. VERTICAL DATUM FOR THIS AS-BUILT SURVEY IS NORTH AMERICAN VERTICAL DATUM (NAVD) 1988 AS PROJECTED BY THE ABOVE MENTIONED HOWARD COUNTY GEODETIC CONTROL STATIONS OR HOWARD COUNTY VERTICAL CONTROL BENCH MARKS 35CS AND 35PA. THIS AS-BUILT SURVEY WAS PERFORMED BY MORRIS & RITCHE ASSOCIATES, INC.

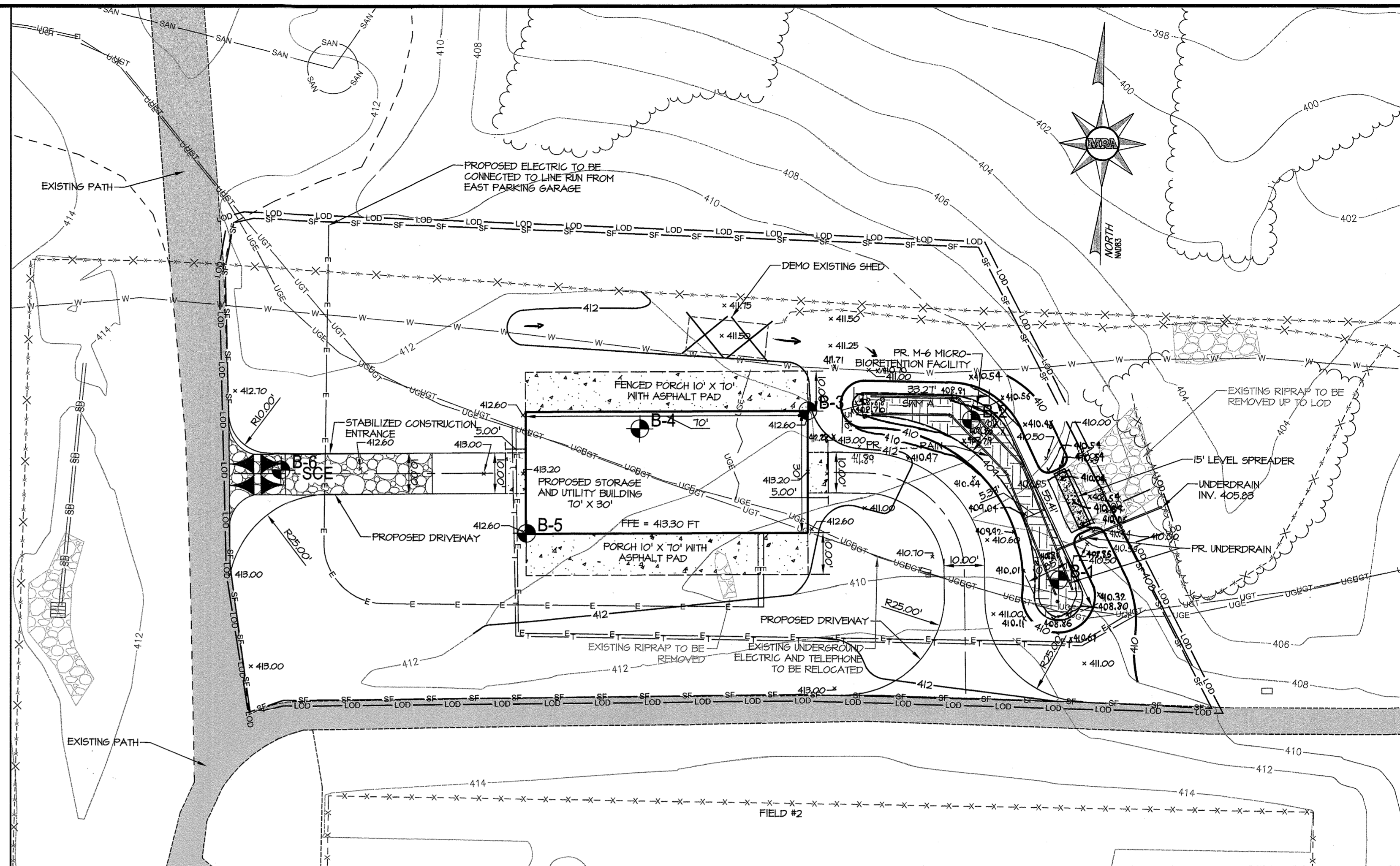
AS-BUILT CERTIFICATION FOR REVISION 5 ONLY I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.

Daniel Jackson, PE
5/13/20 DATE
PROFESSIONAL ENGINEER
STATE OF MARYLAND
NO. 18916
10-22-19 DATE
DIRECTOR

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Kathleen Johnson
CHIEF, DEVELOPMENT ENGINEERING DIVISION
10-15-19 DATE
Kathleen Johnson
CHIEF, DIVISION & LAND DEVELOPMENT
10-21-19 DATE
DIRECTOR

LEGEND

- EX. PROPERTY LINE
- EX. RIGHT-OF-WAY
- EX. ADJACENT PROPERTY LINE
- EX. EASEMENT
- EX. BUILDING
- EX. BUILDING OVERHANG
- EX. CURB
- EX. PAVEMENT/EDGE OF GUTTER
- EX. WALK
- EX. CONCRETE
- EX. METAL FENCE
- EX. WOOD FENCE
- EX. STREAM/POND
- EX. TREELINE
- EX. SHRUBLINE
- EX. SPECIMEN TREE
- EX. TREE
- EX. SHRUB
- EX. STORM DRAIN
- EX. SANITARY LINE
- EX. WATERLINE
- EX. GAS LINE
- EX. UNDERGROUND ELECTRIC
- EX. UNDERGROUND TELEPHONE
- EX. 1' CONTOUR
- EX. 2' CONTOUR
- EX. 10' CONTOUR
- PR. LIMIT OF DISTURBANCE
- PR. SILT FENCE
- PR. STABILIZED CONSTRUCTION ENTRANCE (SCE)
- PR. 1' CONTOUR
- PR. 2' CONTOUR
- PR. 10' CONTOUR
- PR. LIMIT OF DISTURBANCE
- PR. TREE PROTECTION FENCE
- PR. EASEMENT
- PR. BUILDING
- PR. CURB & GUTTER
- PR. RETAINING WALL
- PR. ROAD CENTER LINE
- PR. CONC SIDEWALK
- PR. ASPHALT TRAIL
- PR. DRIVEWAY
- EX. DRAINAGE DIVIDE
- PR. DRAINAGE DIVIDE
- PR. MICRO-BIORETENTION FACILITY (M-6)
- PR. BORING



LAYOUT PLAN
SCALE: 1"=20'



Scale 1" = 20'

MICRO-BIORETENTION CHART

FACILITY NUMBER	TOP OF EMBANKMENT ELEV 'A'	ESD PONDING ELEV 'B'	FACILITY SURFACE ELEV 'C'	PLANTING MEDIA TOP ELEV 'D'	PLANTING MEDIA BOTTOM ELEV 'E'	BRIDGING LAYER BOTTOM ELEV 'F'	UNDER DRAIN INVERT ELEV 'G'	STONE BOTTOM ELEV 'H'	FILTER BED AREA PROVIDED (TOP SF)
SWM A	410.04	409.60	408.81	408.56	406.56	406.29	405.64	405.14	573.03

Lot/Parcel Number	Facility Name & Number	Practice Type (Quantity)	Public	Private	HOA Maintains	Misc.
Parcel 47	SWM A	Micro-Bioretenion	Yes	No		Howard Community College to Maintain

Howard County Community College- Master Stormwater Plant Schedule- SWM A

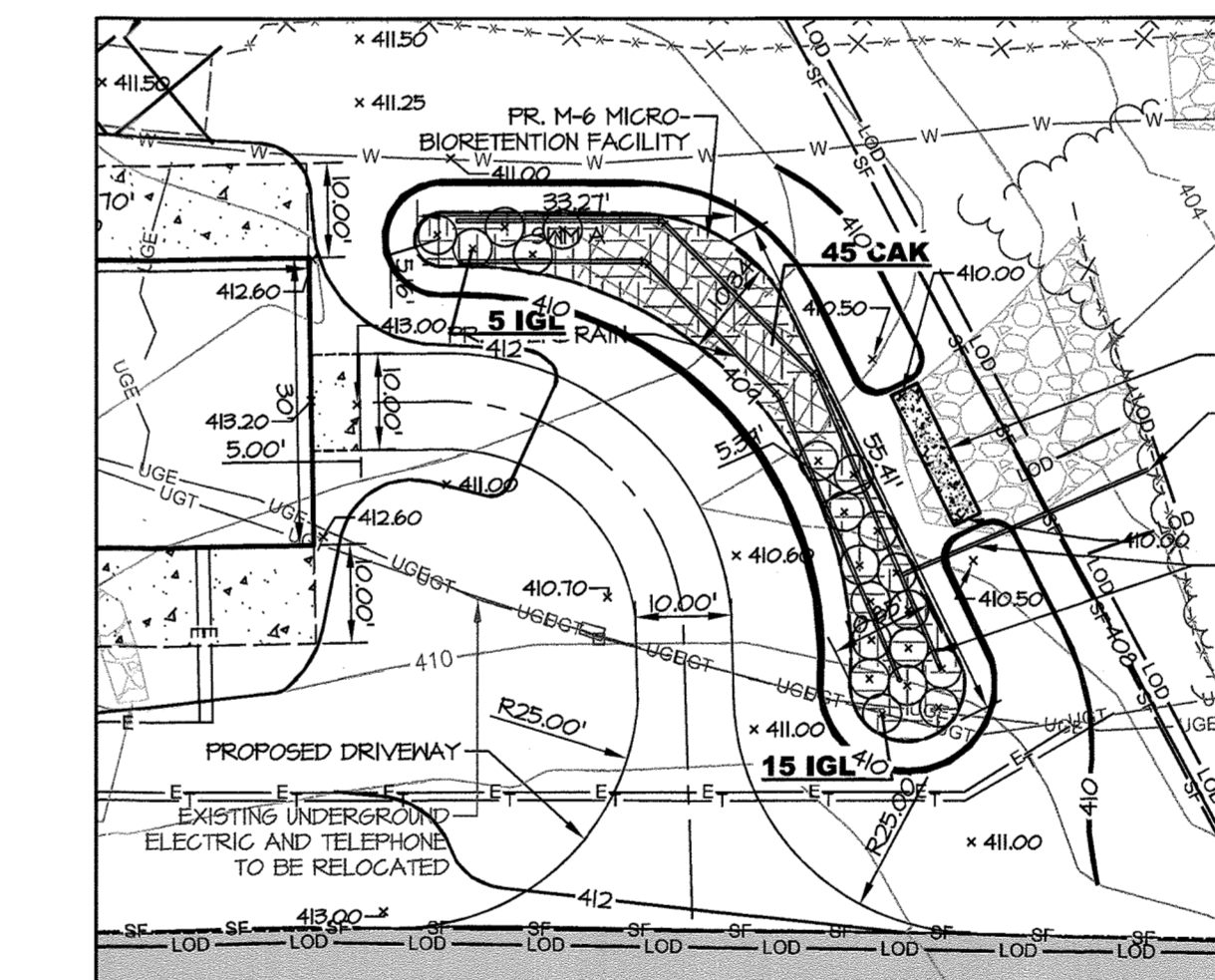
KEY BOTANICAL NAME	COMMON NAME	SIZE	ROOT SPACING	QTY
SHRUBS				
IGL <i>Ilex glabra 'Shamrock'</i>	Inkberry	3 Gal.	CONT.	4' O.C. 20
PERENNIALS & GRASSES				
CAK <i>Calamagrostis x acutiflora 'Karl Foerster'</i>	Feather Reed Grass	3 Gal.	CONT.	24" O.C. 45
				TOTAL
				45

SITE ANALYSIS DATA CHART

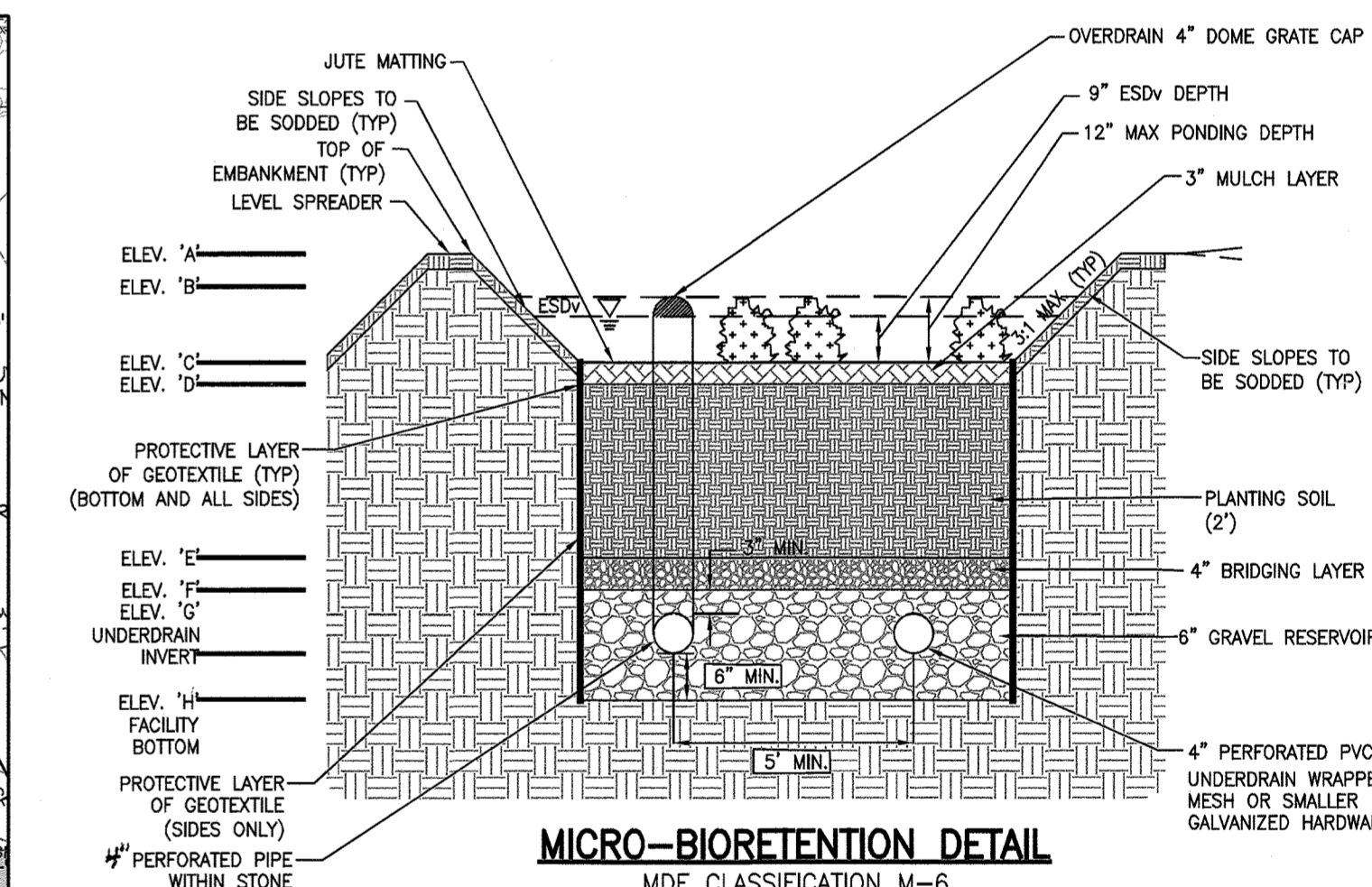
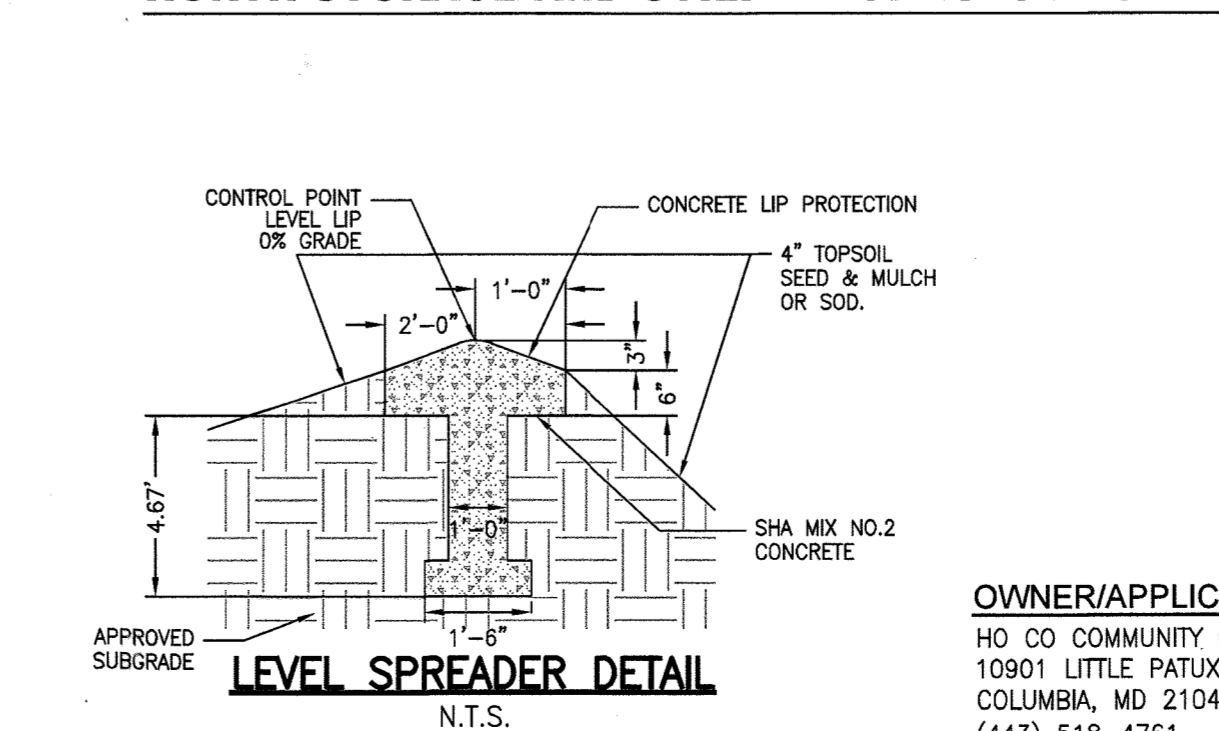
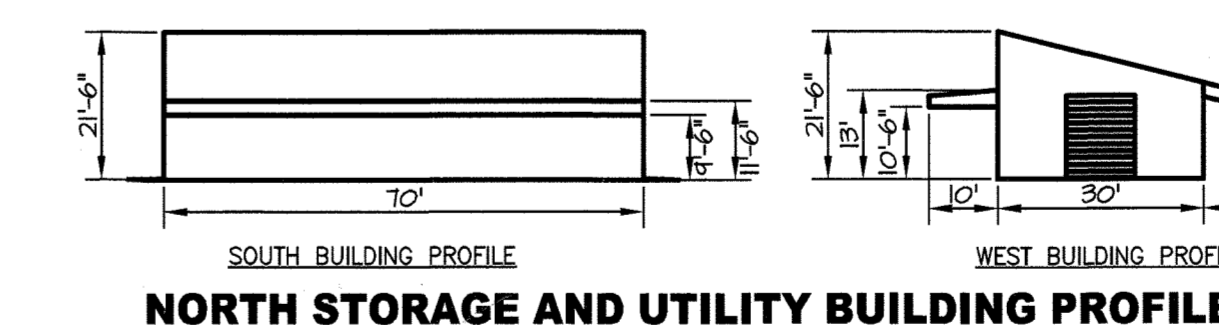
- GROSS SITE AREA: 97.46 ACRES
- GROSS SITE AREA ENCOMPASSES ALL OF PARCEL 47
- LIMIT OF DISTURBANCE: 0.58 ACRES
- WETLANDS: 0.0 ACRES
- FLOODPLAIN: 0.0 ACRES
- STREAM AREA: 0.0 ACRES
- FORESTED AREA: 0.0 ACRES
- ERODIBLE SOILS: 0.0 ACRES
- STEEP SLOPES (>15%): 0.0 ACRES
- IMPERVIOUS AREA: 0.01 ACRES
- GREEN OPEN SPACE: 0.62 ACRES
- PRESENT ZONING: POR
- PROPOSED/EXISTING USE: STORAGE AND UTILITY BUILDING (EX OPEN SPACE)
- SANITARY SEWER/WATER SERVICE: PUBLIC/PUBLIC

THIS SHEET FEATURES A 70' X 30' STORAGE AND UTILITY BUILDING TO BE USED BY THE COMMUNITY COLLEGE.

SECTION NUMBER	DESCRIPTION	CONCRETE STRENGTH (MIN. COMPRESSIVE STRENGTH)	MIN. THICKNESS (INCHES)	MIN. REINFORCEMENT (AS PER ACI 318)	MIN. SLOPE (PERCENT)	MIN. FINISH (AS PER ACI 318)
P-1	FOUNDATION WALLS	3,000 PSI (MIN. 28 DAYS)	12"	NO. 4 @ 12" O.C.	1.0%	AS PER ACI 318
P-2	FOUNDATION SLABS	3,000 PSI (MIN. 28 DAYS)	12"	NO. 4 @ 12" O.C.	1.0%	AS PER ACI 318
P-3	FOUNDATION BEAMS	3,000 PSI (MIN. 28 DAYS)	12"	NO. 4 @ 12" O.C.	1.0%	AS PER ACI 318
P-4	FOUNDATION PILES	3,000 PSI (MIN. 28 DAYS)	12"	NO. 4 @ 12" O.C.	1.0%	AS PER ACI 318



PLANTING PLAN SWM A
SCALE: 1"=20'



MICRO-BIORETENTION DETAIL
MDE CLASSIFICATION M-6
N.T.S.

MORRIS & RITCHE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-8792 / (301) 776-1690
FAX: (410) 792-7395
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MIRAGTA.COM

HOWARD COUNTY COMMUNITY COLLEGE
SITE DEVELOPMENT PLAN
(ADDITIONAL SHEET)
LAYOUT PLAN, STORM WATER MANAGEMENT, AND PROPOSED STORAGE AND UTILITY BUILDING

TAX MAP 35, PARCEL 47, GRID 6
ZONED: POR, 15TH ELECTION DISTRICT
COLUMBIA, MARYLAND 21044 - HOWARD COUNTY

DATE	REVISIONS	JOB NO.:
9-7-19	ADD 30' X 70' STORAGE BLDG	20384
4/17/20	AS-BUILT INFORMATION ADDED TO PLAN.	

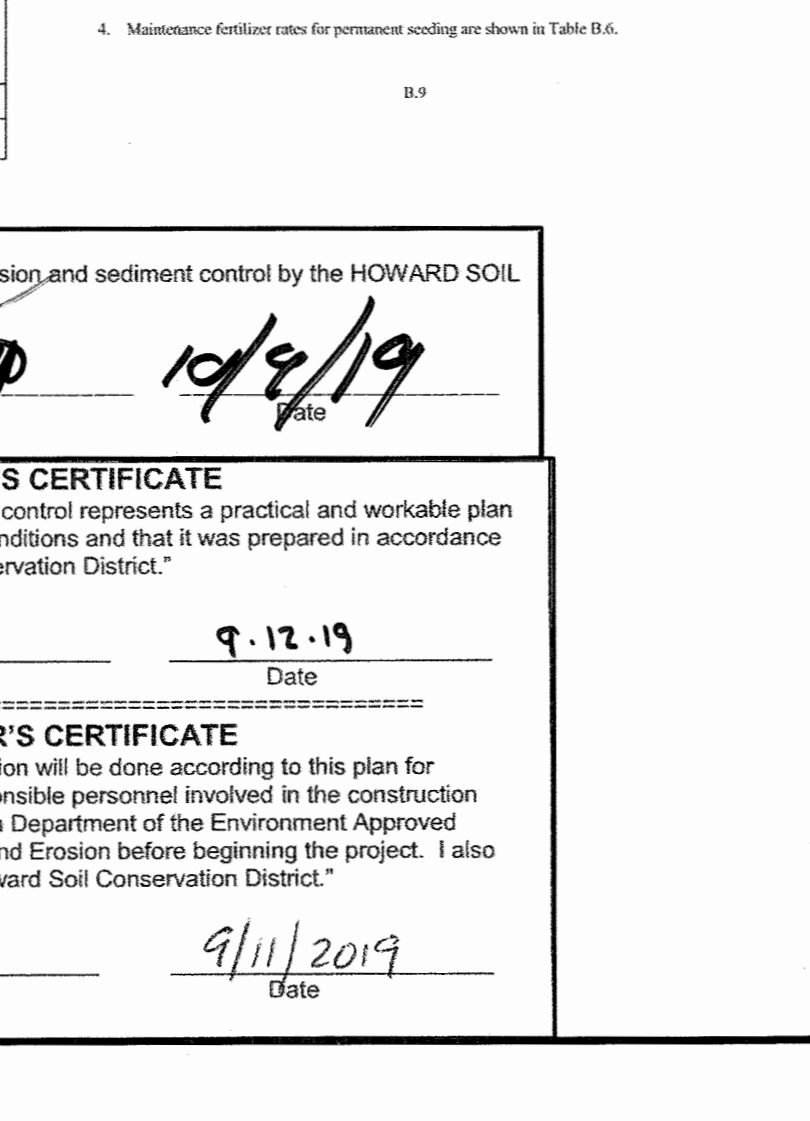
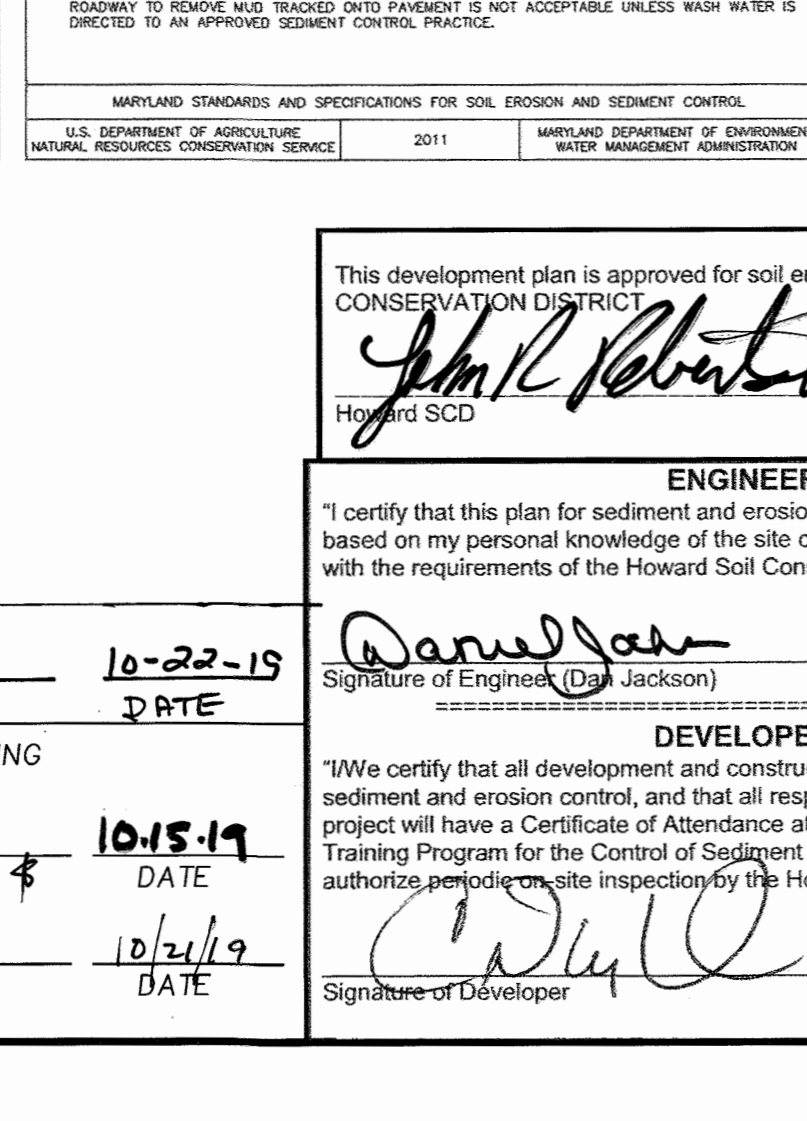
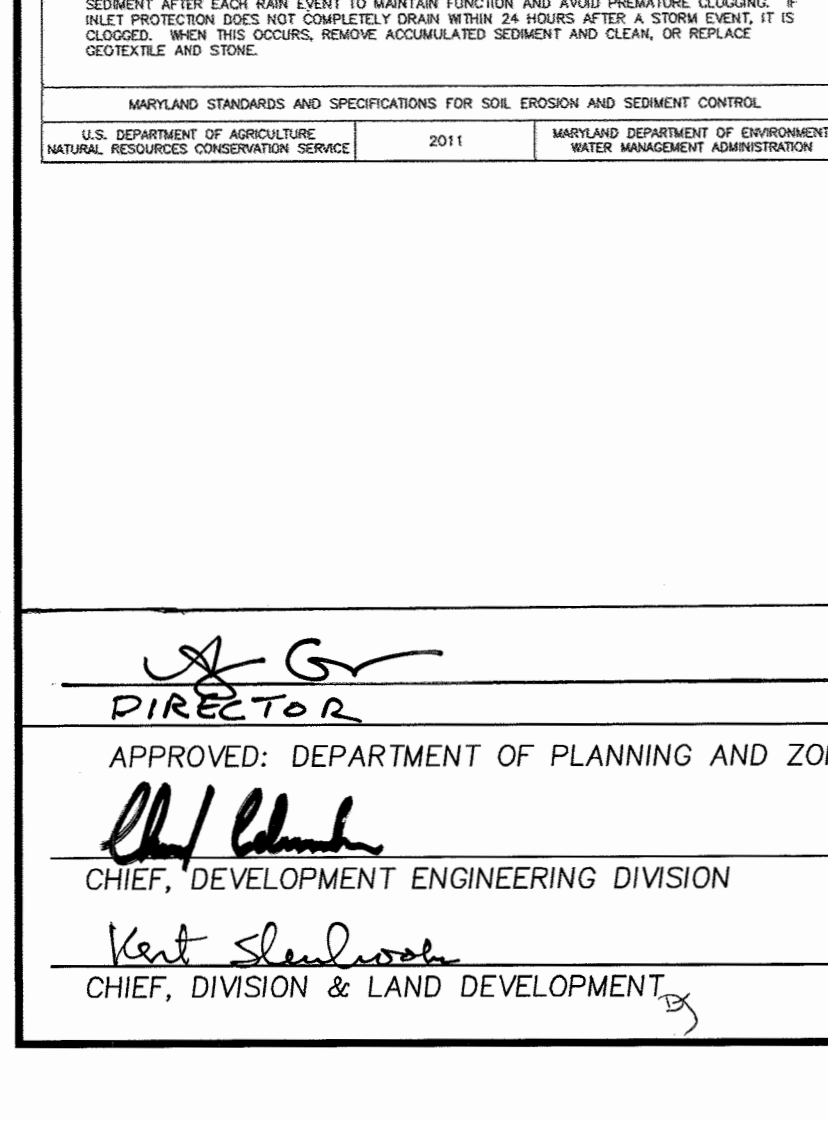
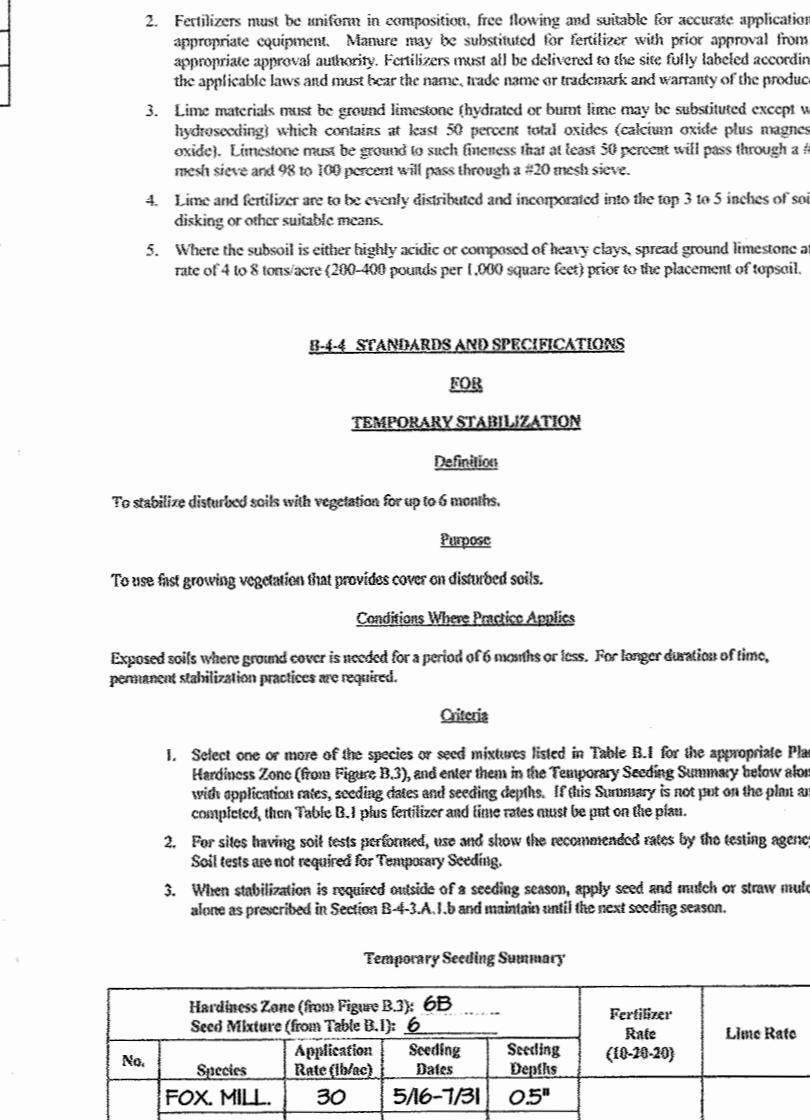
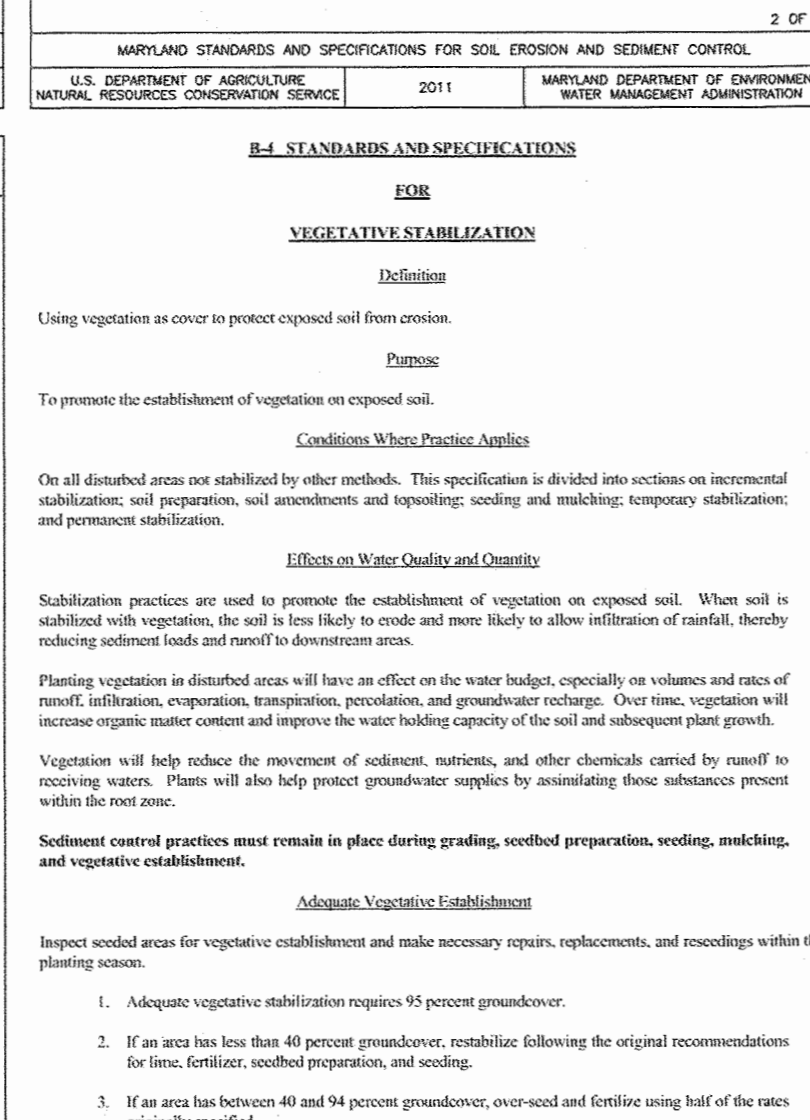
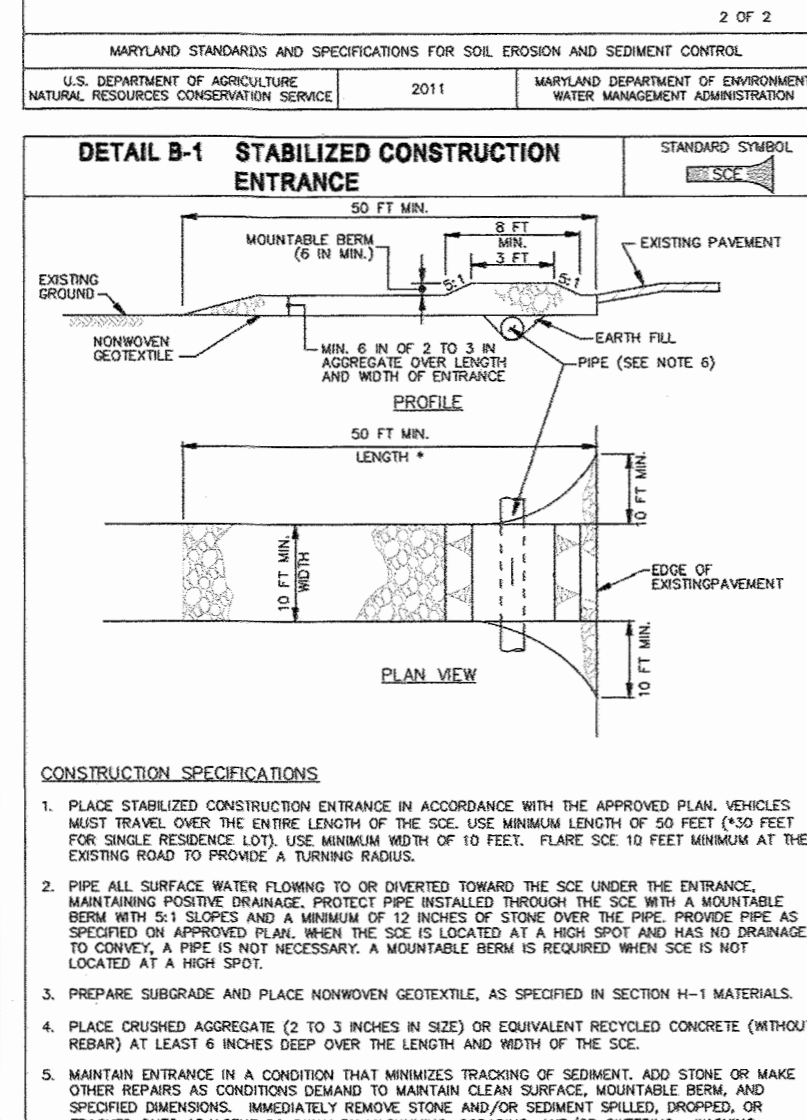
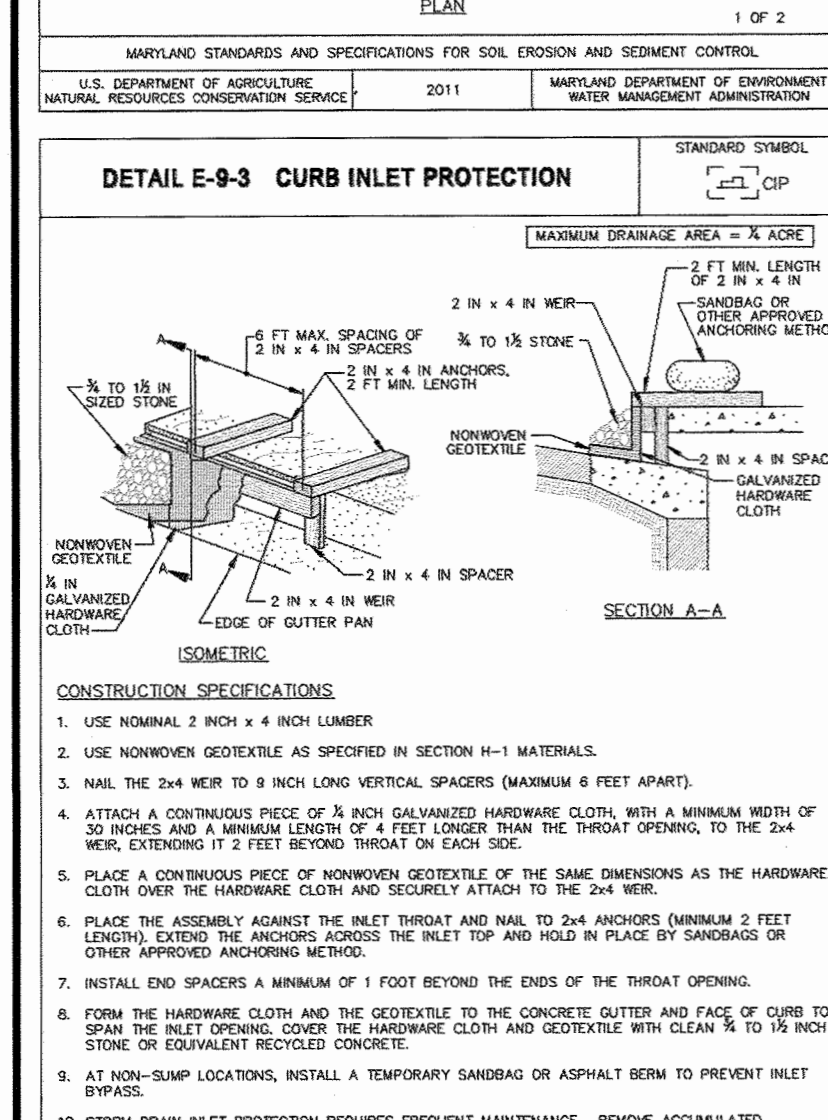
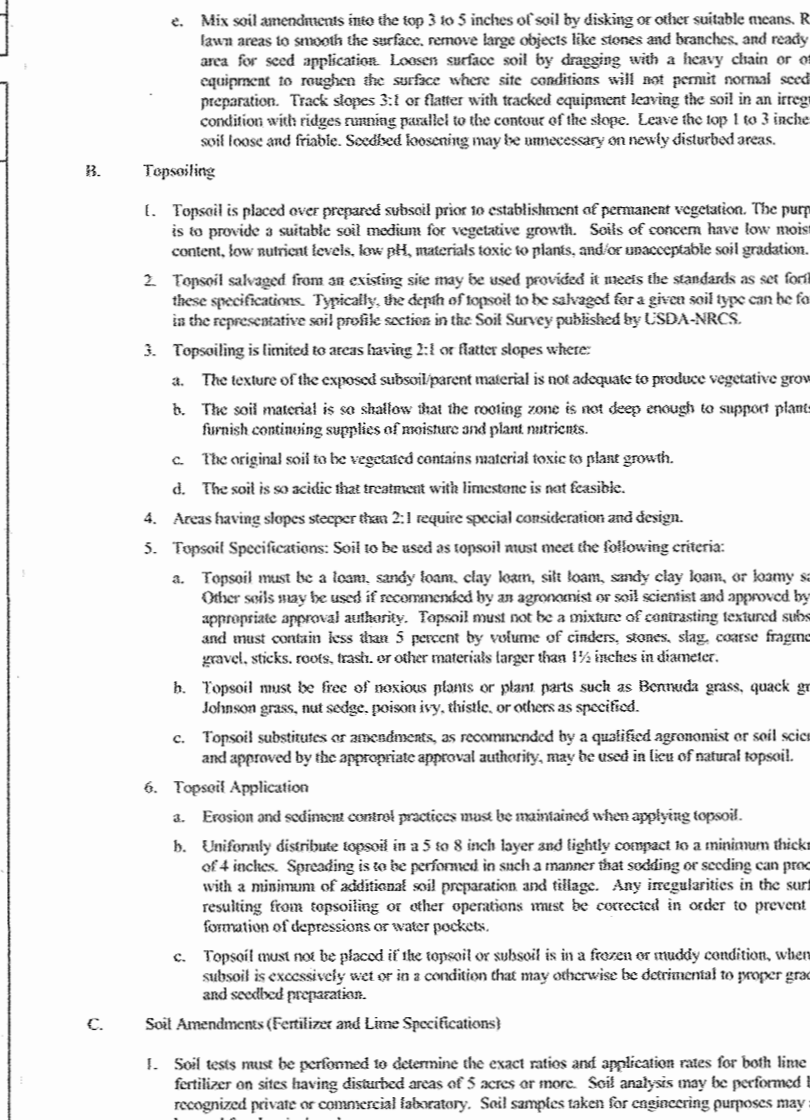
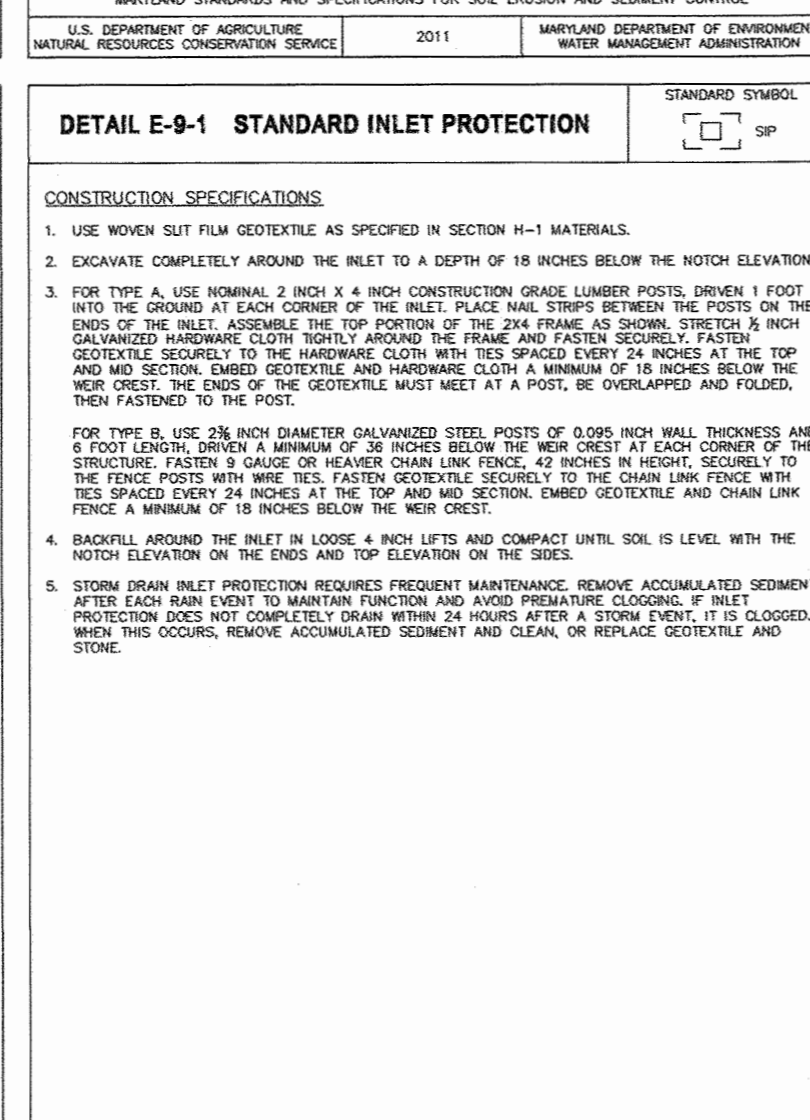
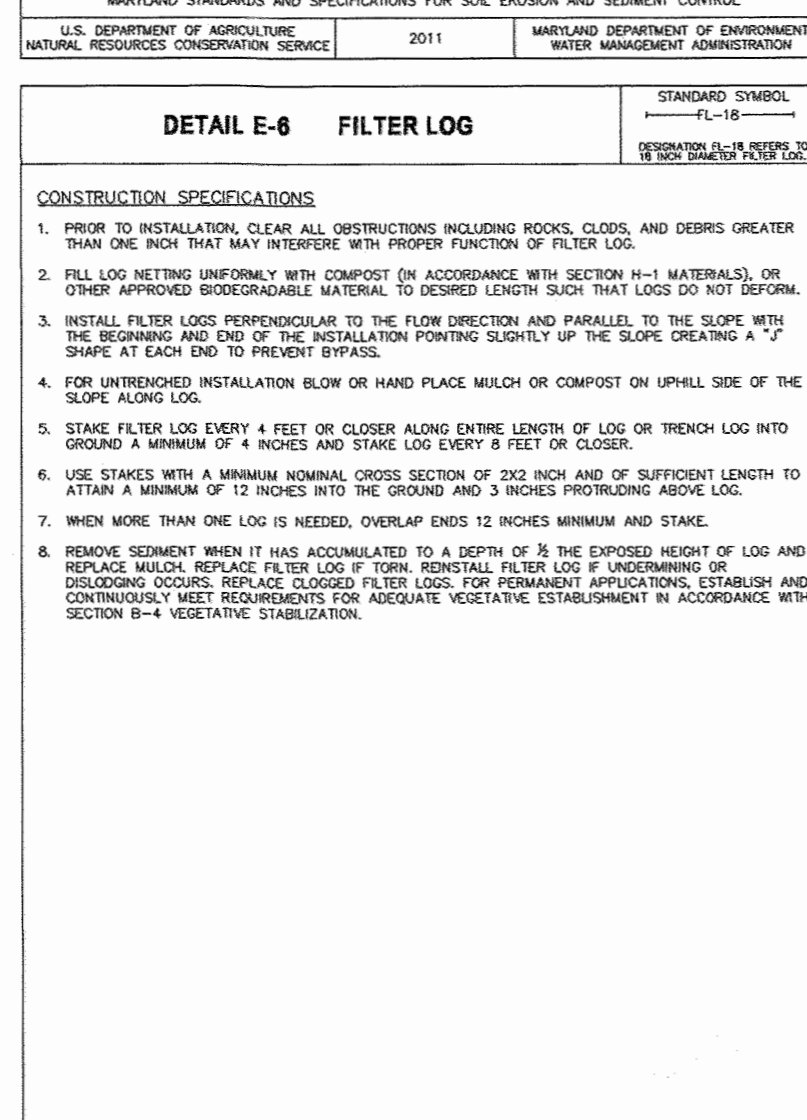
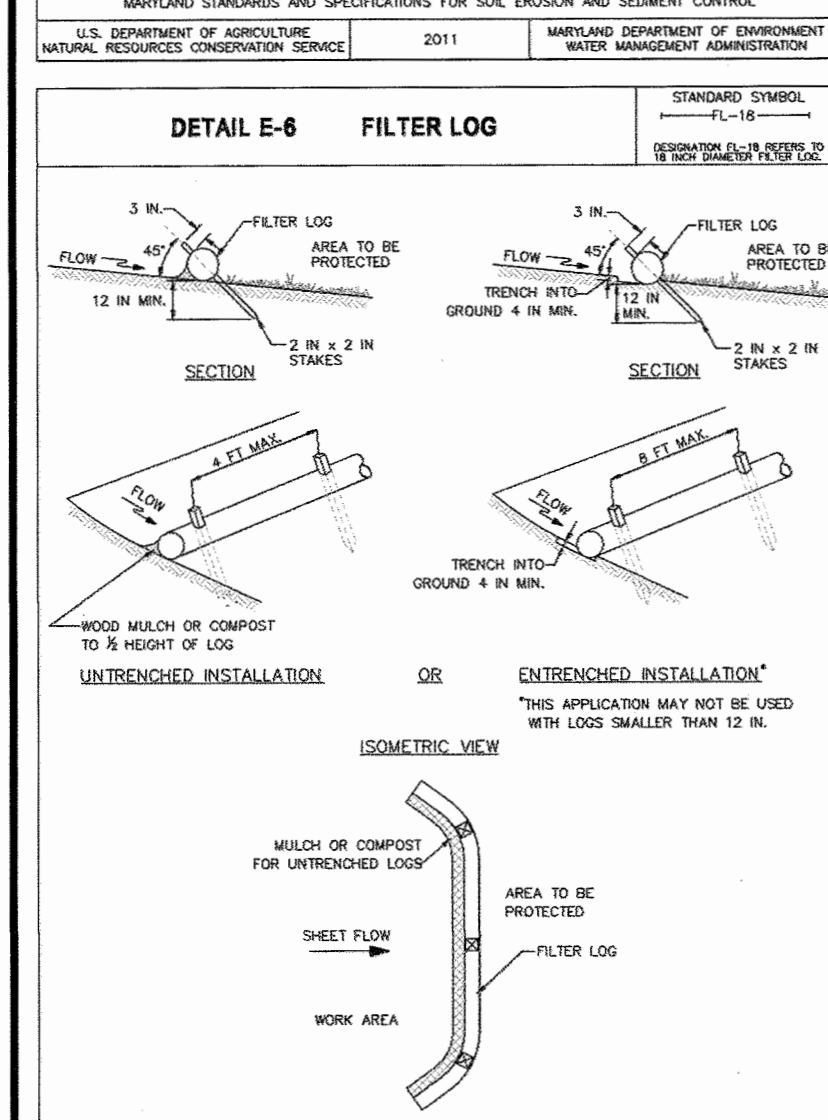
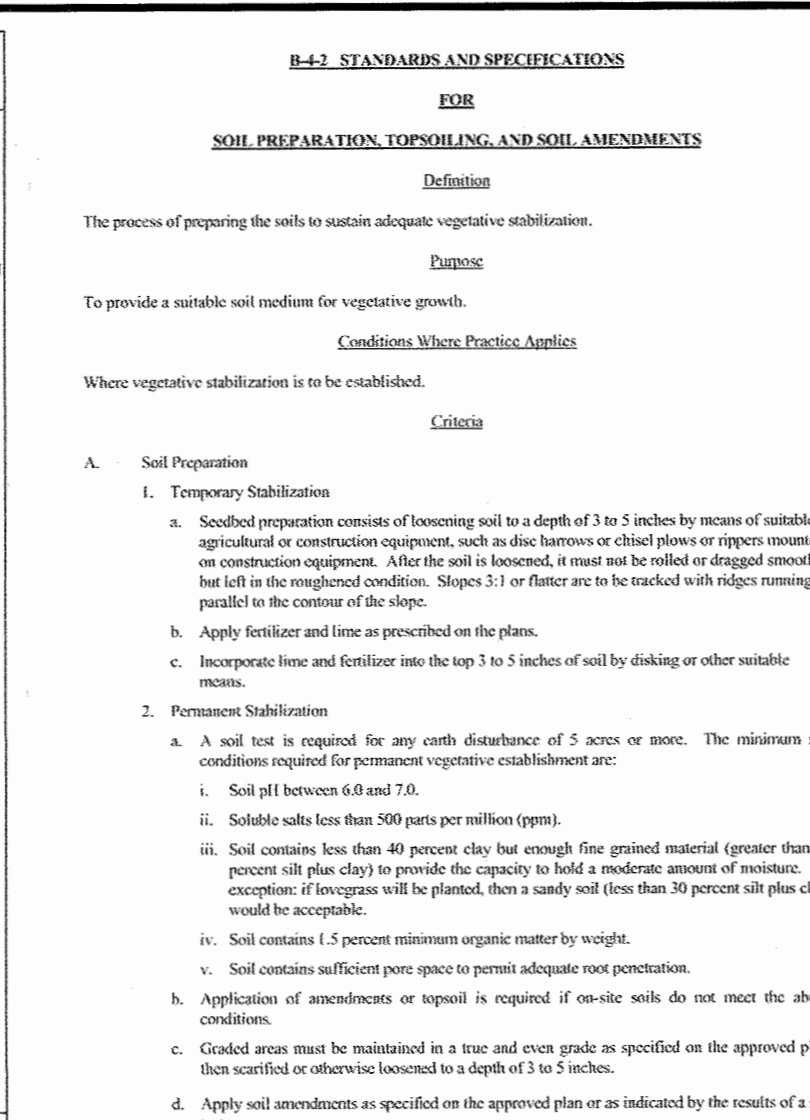
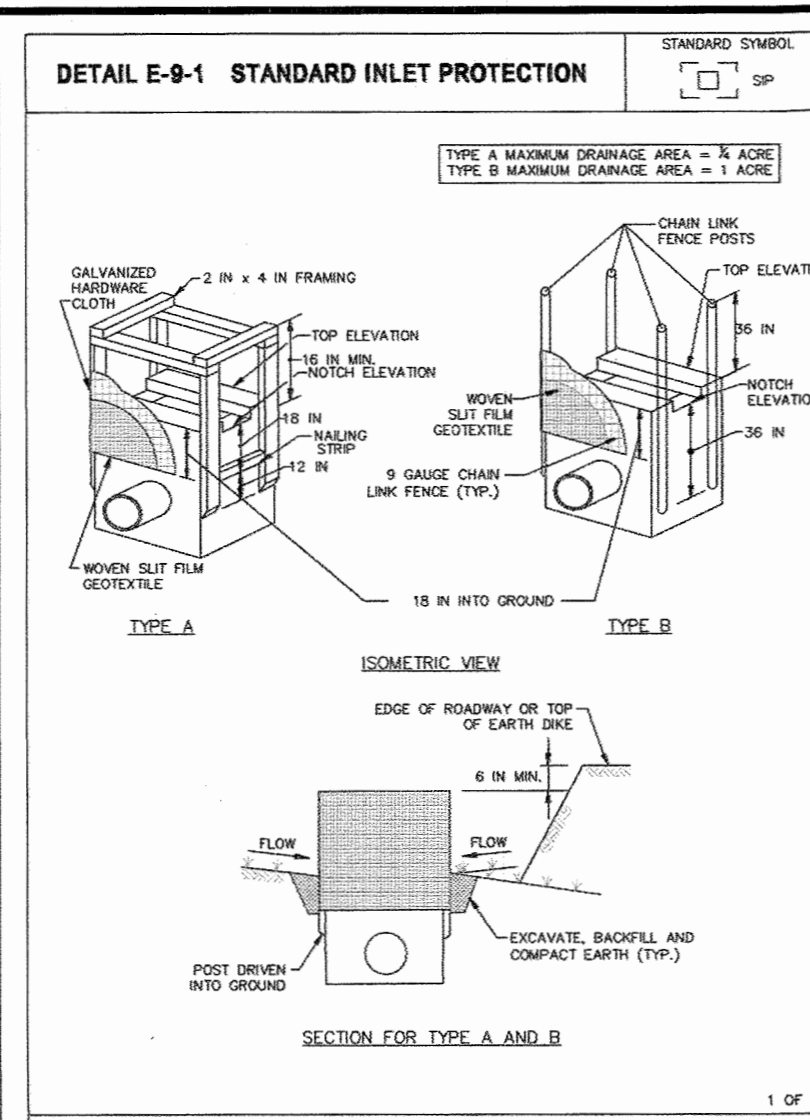
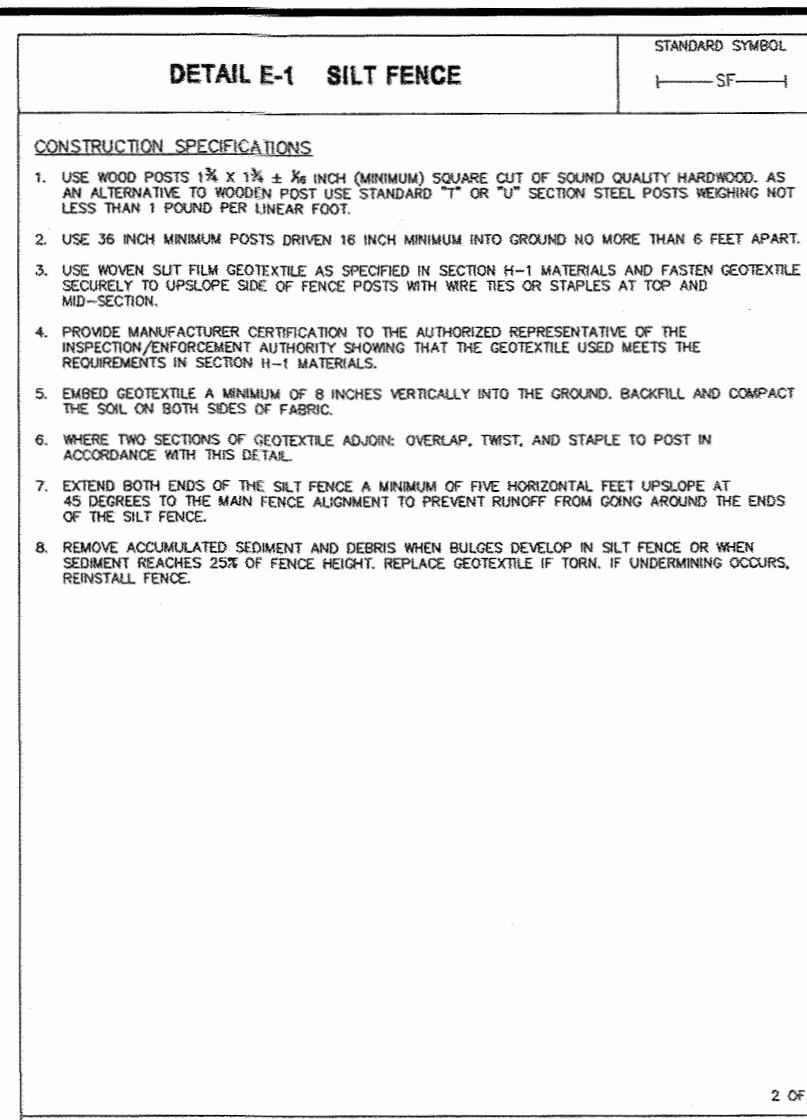
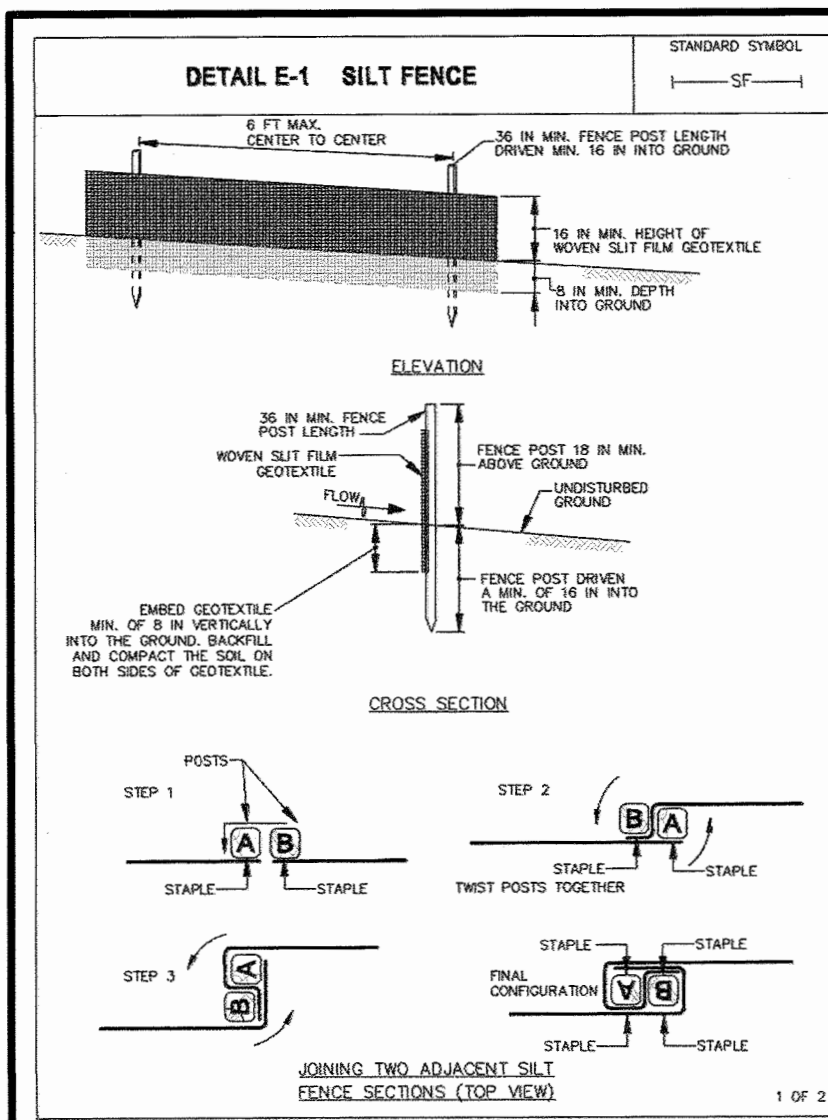
SCALE: 1"=20'
DATE: 07/24/2019
DRAWN BY: MBF
DESIGN BY: MBF
REVIEW BY: DJ
SHEET: 35 OF 36

SDP-35

MRA
MORRIS & RITCHE ASSOCIATES, INC.
18916 PROFESSIONAL ENGINEER
9-7-19

MD PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19916, EXPIRATION DATE: 01/14/2021.

OWNER/APPLICANT:
HO CO COMMUNITY COLLEGE
10901 LITTLE PATUMENT PKWY
COLUMBIA, MD 21044
(443) 518-4761



B-4.3 STANDARDS AND SPECIFICATIONS

FOR SEEDING AND MULCHING

DEFINITION

The application of seed and mulch to establish vegetative cover.

PERMITS

To protect disturbed soils from erosion during and at the end of construction.

CONDITIONS WHEN PRACTICE APPLIES

Where vegetative stabilization is not established.

CRITERIA

A. Soil Preparation

1. Temporary Stabilization
 - a. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as harrows or chain plows or ripper tines, or by means of a subsoiler, or by means of a subsoiler or any project. Refer to Table B-4 regarding the required seed rate.
 - b. Match alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
 - c. Apply fertilizer and lime as specified on the plan.
 - d. Incubation: The incubation for seeding begins once the soil structure must be a good culture of nitrogen fixing bacteria prepared specifically for the project. Incubation must not be used later than the date indicated on the container. Add fresh incubation as directed on the package. Use four times the recommended amount of seed when hydroseeding. Note: It is very important to keep incubation as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
 - e. Soil seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control unless sufficient time has elapsed (14 days min.) to permit dispersion of phytotoxic material.
2. Permanent Stabilization
 - a. Soil seed must be applied to any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetation establishment are:
 - i. Soil pH between 6.0 and 7.0.
 - ii. Sulfide salts less than 100 ppm per million (ppm).
 - iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 20 percent silt clay) to provide the capacity to hold a moderate amount of water. An exception: If seepage will be planned, then a sandy soil (less than 20 percent silt clay) would be acceptable.
 - iv. Soil contains 1.5 percent minimum organic matter by weight.
 - v. Soil contains sufficient pore space to permit adequate root penetration.
 - b. Application of amendments or topsoil is required if on-site soils do not meet the above criteria.
 - c. Good soil must be maintained in a top and even grade as specified on the approval plan. If graded or otherwise to a depth of 1 to 3 inches.
 - d. Apply soil amendments as specified on the approval plan or as indicated by the results of a soil test.
 - e. Mix soil amendments into the top 3 to 5 inches of soil by digging or other suitable means. Rate of application to amend the surface, remove large objects like stones and benches, and study the area for rock pockets. Loosen surface soil by dragging with a heavy chain or other equipment to amend the surface where the conditions will not permit normal mechanical preparation. Topsoil layers 21 inches with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded incubation may be necessary on newly disturbed soil.
 - f. Mix soil amendments into the top 3 to 5 inches of soil by digging or other suitable means. Rate of application to amend the surface, remove large objects like stones and benches, and study the area for rock pockets. Loosen surface soil by dragging with a heavy chain or other equipment to amend the surface where the conditions will not permit normal mechanical preparation. Topsoil layers 21 inches with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded incubation may be necessary on newly disturbed soil.

B-4.4 STANDARDS AND SPECIFICATIONS

FOR SEEDING AND MULCHING

DEFINITION

The application of seed and mulch to establish vegetative cover.

PERMITS

To stabilize disturbed soils with permanent vegetation.

CONDITIONS WHEN PRACTICE APPLIES

Exposed soils where ground cover is needed for 6 months or more.

CRITERIA

A. Seed Mixture

1. General
 - a. Select one or more of the species or mixtures listed in Table B.4.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the soil conditions or grades listed on Table B.4.3. Enter selected mixture, application rate, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - b. Additional seeding specifications for exceptional sites such as deserts, stream banks, dunes or for special purposes such as wildlife or aesthetic purposes may be found in USDA-NRCS Technical Note Series, Section 365 - Critical Area Planting.
 - c. For sites having disturbed areas over 5 acres, one and one-half times recommended by the soil testing agency.
 - d. For areas requiring low maintenance, apply one-half from Section 6.0.6.0.1 at 1/4 pounds per 1000 square feet (50 pounds per acre) at the time of seeding and the soil remains dormant in the Permanent Seeding Summary.
 - e. For areas where topsoil is to be applied, apply one-half from Section 6.0.6.0.1 at 1/4 pounds per 1000 square feet (50 pounds per acre) at the time of seeding and the soil remains dormant in the Permanent Seeding Summary.
2. Turfgrass Mixtures
 - a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which require a sodding to high level of maintenance.
 - b. Select one or more of the species or mixtures listed below based on the conditions or purposes. Enter selected mixture(s), application rate, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - c. Kentucky Bluegrass: Full Sun Mixture: For use in areas that require intensive maintenance. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivar Seeding Rate: 15 to 20 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each seeding from 19 to 25 percent of the total mixture by weight.
 - d. Kentucky Bluegrass/Perennial Ryegrass Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and where turf will receive minimum to intensive maintenance. Certified Perennial Ryegrass/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each seeding from 19 to 25 percent of the total mixture by weight.
 - e. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas requiring low to medium maintenance in full sun to medium shade. Recommended Certified Kentucky Bluegrass/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each seeding from 19 to 25 percent of the total mixture by weight.
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B-4.5 STANDARDS AND SPECIFICATIONS

FOR SEEDING AND MULCHING

DEFINITION

The application of seed and mulch to establish vegetative cover.

PERMITS

To stabilize disturbed soils with permanent vegetation.

CONDITIONS WHEN PRACTICE APPLIES

Exposed soils where ground cover is needed for 6 months or more.

CRITERIA

A. Seed Mixture

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 - a. Select one or more of the species or mixtures listed in Table B.4.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the soil conditions or grades listed on Table B.4.3. Enter selected mixture, application rate, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
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B-4.6 STANDARDS AND SPECIFICATIONS

FOR SEEDING AND MULCHING

DEFINITION

The application of seed and mulch to establish vegetative cover.

PERMITS

To stabilize disturbed soils with permanent vegetation.

CONDITIONS WHEN PRACTICE APPLIES

Exposed soils where ground cover is needed for 6 months or more.

CRITERIA

A. Seed Mixture

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HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the final LDD and protected areas are marked clearly in the field. A minimum of 48-hour notice to CID must be given on the following stages:
 - a. Prior to the start of earth disturbance.
 - b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.
 - c. Prior to the start of another phase of construction or reworking of another grading unit.
 - d. Prior to the removal or modification of sediment control practices.
2. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with other laws.
3. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-3), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-5). Temporary stabilization with mulch alone can only be applied between the start and end of the grading phase. Permanent stabilization (Sec. B-4-3) specifications shall be enforced in areas with 15' or greater of fill. Stockpiles (Sec. B-4-8) in excess of 20 ft. must be braced with suitable armor. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization practices (Sec. B-4-6).
5. All sediment control structures are to remain in place, and to be maintained in operative condition until permission for their removal has been obtained from the CID.
6. Site Analysis:

Total Area of Site:	97.46	Acres
Area Disturbed:	0.01	Acres
Area to be seeded or paved:	0	Acres
Area to be vegetatively stabilized:	0	Acres
Total Cost:	867.2	Cu Yds.
Total Fill:	0	Cu Yds.
Off-site waste/borrow area location:	TO BE DETERMINED	
7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
 - a. Inspection date
 - b. Weather information (pre-storm event, during rain event)
 - c. Name and title of inspector
 - d. Inspection information (current conditions as well as time and amount of last recorded precipitation)
 - e. Direct description of project's status (e.g., percent complete) and current activities
 - f. Evidence of sediment discharges
 - g. Identification of plan deficiencies
 - h. Maintenance and corrective action performed
 - i. Identification of missing or improperly installed sediment controls
 - j. Compliance status regarding the sequence of construction and stabilization requirements
 - k. Photographs
 - l. Monitoring/sampling
 - m. Maintenance and corrective action performed
 - n. Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NRPS, MDE).
8. Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:
 - a. Inspection date
 - b. Weather information (pre-storm event, during rain event)
 - c. Name and title of inspector
 - d. Inspection information (current conditions as well as time and amount of last recorded precipitation)
 - e. Direct description of project's status (e.g., percent complete) and current activities
 - f. Evidence of sediment discharges
 - g. Identification of plan deficiencies
 - h. Maintenance and corrective action performed
 - i. Identification of missing or improperly installed sediment controls
 - j. Compliance status regarding the sequence of construction and stabilization requirements
 - k. Photographs
 - l. Monitoring/sampling
 - m. Maintenance and corrective action performed
 - n. Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NRPS, MDE).
9. Trenches for the construction of utilities is limited to four pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.
10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CID per the list of HSCD-approved field changes.
11. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum average of 20 ac; per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a given time.
12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.
 - a. All Silt Fence and Super Silt Fence shall be placed on 2% slopes, and be braced at 25' minimum intervals, with lower ends cut off by 2' in elevation.
14. Stream channels will not be disturbed during the following restricted time periods (inclusive):
 - Use I and IIII March 1 - June 15
 - Use II and IIII October 1 - April 30
 - Use IV March 1 - May 31
15. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

SEQUENCE OF CONSTRUCTION

1. THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED PRIOR TO GRADING, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION, OR OTHER LAND DISTURBING ACTIVITIES.
2. CONDUCT A PRE-CONSTRUCTION MEETING. WORK MAY NOT COMMENCE UNTIL THE PERMITTEE OR THE RESPONSIBLE PERSONNEL HAVE MET ON SITE WITH THE SEDIMENT & EROSION CONTROL INSPECTOR TO REVIEW THE APPROVED PLANS.

Hardiness Zone (from Figure B.3)	Seed Mixture (from Table B.4.3)	Seeding Rate (lb/acre)	Fertilizer Rate (lb/acre)	Lime Rate (lb/acre)
1	T. FESCUE	60	3/1-5/15	0
2	K. BLUE	40	3/1-5/15	0
3. OBTAIN GRADING PERMIT. NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS, LICENSES AND PERMITS (410-313-2455) AT LEAST 24 HOURS BEFORE STARTING ANY WORK.
4. INSTALL SEDIMENT CONTROL MEASURES AS SHOWN ON PLAN IN ACCORDANCE WITH DETAILS. 5 DAYS
5. AFTER OBTAINING PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED, STAKEOUT AND ROUGH GRADE SITE. 2 WEEKS
6. STABILIZE THE SITE AND ALL DISTURBED AREAS AND INSTALL THE STORMWATER MANAGEMENT DEVICE. 2 MONTHS
7. UPON STABILIZATION OF ALL DISTURBED AREAS AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES. 1 WEEK

EXISTING TOPOGRAPHY MUST BE FIELD VERIFIED FOR THE SEDIMENT CONTROL INSPECTOR PRIOR TO COMMENCING WORK.

PERMITS

DURING GRADING AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL MEASURES SHOWING HEREON. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITH:

- A 7 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWALES, DITCH PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
- A 14 CALENDAR DAYS FOR ALL OTHER DISTURBED AREAS.

NOTES

DURING GRADING AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL MEASURES SHOWING HEREON. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITH:

- A 7 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWALES, DITCH PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
- A 14 CALENDAR DAYS FOR ALL OTHER DISTURBED AREAS.

MORRIS & RITCHE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

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HOWARD COUNTY COMMUNITY COLLEGE
SITE DEVELOPMENT PLAN
(ADDITIONAL SHEET)
EROSION AND SEDIMENT CONTROL
NOTES AND DETAILS
A PROPOSED STORAGE AND UTILITY BUILDING

TAX MAP 35, PARCEL 47, GRID 6
ZONED: PRT, 15TH ELECTION DISTRICT
COLUMBIA, MARYLAND 21044 - HOWARD COUNTY

SDP-36

MD PROFESSIONAL CERTIFICATION:

DATE: 9-7-19
REVISIONS: Add 30'x70' STORAGE BLDG
JOB NO.: 20384

SCALE: DATE: 07/24/2019
DRAWN BY: MBF
DESIGN BY: MBF
REVIEW BY: DJ
SHEET: 36 OF 36

MD PROFESSIONAL CERTIFICATION: 9-12-19

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19916, EXPIRATION DATE: 07/14/2021.

OWNER/APPLICANT:
HO CO COMMUNITY COLLEGE
10901 LITTLE PATRIOT PKWY
COLUMBIA, MD 21044
(443) 518-4761