

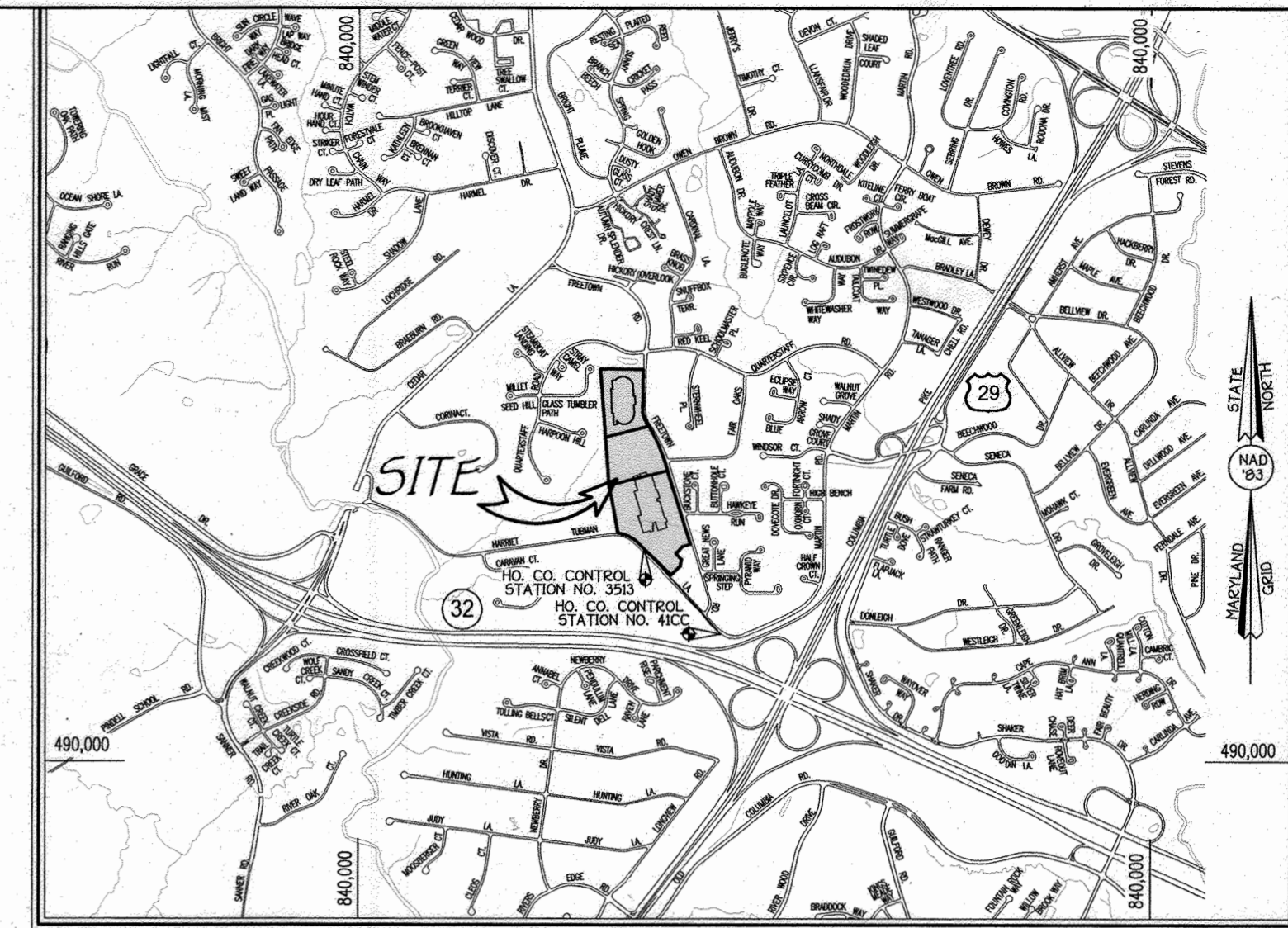
SHEET NUMBER	DESCRIPTION
1	TITLE SHEET
2	DEMOLITION PLAN
3	SITE DEVELOPMENT PLAN
4	GEOMETRY PLAN
5	SEDIMENT AND EROSION CONTROL PLAN
6	SOILS AND DRAINAGE AREA MAP
7	HANDICAP ACCESS PLAN AND SEDIMENT CONTROL DETAILS
8	DETAIL SHEET
9	SEDIMENT AND EROSION CONTROL DETAILS AND NOTES
10	STORM DRAIN PROFILES AND STRUCTURE SCHEDULE
11	LANDSCAPE PLAN
12	SIGHT DISTANCE PLAN AND PROFILE
13	DEMOLITION PLAN, SEDIMENT AND EROSION CONTROL PLAN
14	DEMOLITION PLAN, SEDIMENT AND EROSION CONTROL PLAN
15	DEMOLITION PLAN, SEDIMENT AND EROSION CONTROL PLAN
16	SITE DEVELOPMENT PLAN
17	SITE DEVELOPMENT PLAN
18	SITE DEVELOPMENT PLAN
19	DETAILS
20	HANDICAP ACCESS PLANS AND BUILDING CLEARANCES
21	STORM DRAIN AND STORMWATER MANAGEMENT FACILITY PROFILES
22	STORMWATER MANAGEMENT FACILITY NOTES & DETAILS (1)
23	STORMWATER MANAGEMENT FACILITY NOTES & DETAILS (2)
24	PROFILE DETAILS AND STRUCTURE SCHEDULE
25	BOXING LOTS
26	STORMWATER MANAGEMENT FACILITY NO. 4 PLAN
27	STORMWATER MANAGEMENT FACILITY NO. 4 NOTES AND DETAILS
28	STORMWATER MANAGEMENT FACILITY NO. 4 PROFILE NOTES, PLAN AND DETAILS
29	SEDIMENT & EROSION CONTROL NOTES & DETAILS
30	SEDIMENT & EROSION CONTROL PLAN
31	SEDIMENT & EROSION CONTROL PLAN
32	SEDIMENT & EROSION CONTROL PLAN
33	SWM DESIGN
34	SWM DESIGN NOTES & DETAILS
35	LANDSCAPE PLAN
36	LANDSCAPE NOTES & DETAILS

# SITE DEVELOPMENT PLAN ATHOLTON HIGH SCHOOL

TAX MAP No.: 35      GRID No: 24

PARCEL Nos.: 265, 249 & 292

FIFTH ELECTION DISTRICT      HOWARD COUNTY, MARYLAND



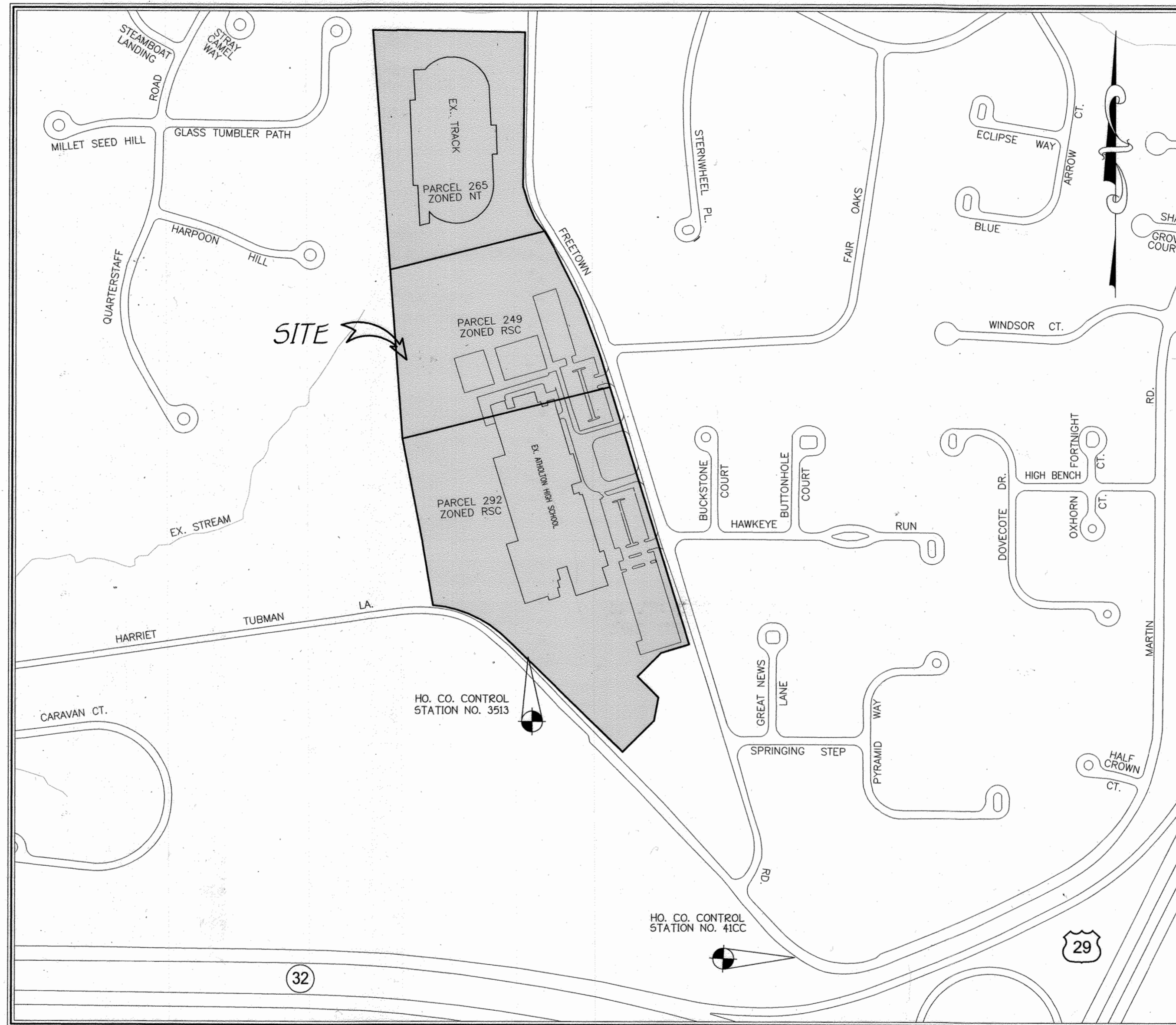
VICINITY MAP  
SCALE: 1" = 2000'  
REFERENCED ADC MAP 15

## SITE ANALYSIS DATA

- General Site Data:
  - Present Zoning: R-5C & NT
  - Present use of site or structure: Institutional Public School
  - Public water and sewer to be utilized.
- Area Tabulations:
  - Total project area: 40.98 Ac.
  - Area of this plan submission: 4.64 Ac. is the limit of submission and grading disturbance for the construction of the parking lot additions.
  - Impervious Coverage Proposed Paved Areas (Access Road, Parking and Walkways) = 1.01 Ac.
- Open Space Data: A. Open Space Required: N/A
- Parking Space Data:
  - The Number of parking spaces in accordance with the Public School System's requirements = 381
  - Total number of previous parking spaces provided: (Including handicapped spaces) = 453
  - Number of spaces proposed under this site plan = 259 (Including 9 handicapped spaces)
  - Total Number of spaces provided on site = 472 (Including 9 handicapped spaces)
  - Total number of bus stacking spaces provided = 22



**FOREST CONSERVATION NOTE**  
FOREST CONSERVATION IS EXEMPT PER SECTION 16.1202(b)(1)(iv) OF THE COUNTY CODE. THIS PORTION OF THE PROPERTY IS ZONED R-5C & IS NOT PART OF A PLANNED UNIT DEVELOPMENT



LOCATION MAP  
SCALE: 1" = 200'



"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. 13204, Expiration Date: November 3, 2008."

## 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 Bureau of Engineering/Construction Inspection Division at 410-313-1880 at least five working days prior to start of work.
- The contractor shall notify Miss Utility at 1-800-257-7777 at least 48 hours prior to any digging and excavation work.
- Project Background:
  - Tax Map 35, Grid 24
  - Parcel Nos. 265, 249 & 292
  - Zoning: This project is zoned R-5C & NT per the 2/2/04 Comprehensive Zoning Plan and to the Comp-Lite Zoning Amendments dated 7/28/06.
  - Election District: FIFTH
  - Section/Area: N/A
  - Site Area: 40.98 Ac.
- 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 placement of any asphalt.
- All plan dimensions are to the face of curb or face of building unless otherwise noted. Dimensions are measured perpendicular or radial between items unless otherwise noted.
- The existing topography is taken from field run survey with maximum two foot contour intervals prepared by Fisher, Collins and Carter Inc. dated July 2007.
- Coordinates are based on NAD 83 Maryland Coordinates System as projected by Howard County Geodetic Control Stations.
  - 41CC N 552,494.271 E 1,347,062.432 ELEV. 400.017
  - 3513 N 553,573.693 E 1,346,098.120 ELEV. 415.406
- Public water and sewer is to be utilized for this project. The existing water and sewer systems serving this project are Contract No. 44-1533 and 24-0553-D.
- All on-site storm drains under this site development plan are private.
- The existing utilities shown hereon were derived from available public records. The Contractor must dig test pits by hand at all utility crossings and connection points to verify the exact location.
- All proposed ramps shall be in accordance with current A.D.A. Standards Accessibility Guidelines. Maximum sidewalk cross slope shall be two percent. Provide a 15'x31' five foot by five foot level landing (max. slope 2%) at the top and bottom of all ramps and building entrances and exits. Handrails shall be provided on all ramps in accordance with section 4.8.5 of the A.D.A. Standards Accessibility Guidelines.
- All driveways and parking to be owned and maintained by the Howard County Public School System.
- Any damage to County and or State owned right-of-way to be corrected at the Contractor's expense.
- Trench bedding for storm drains structures shall be in accordance with Howard County Standard G2.01 Class C Bedding unless otherwise noted.
- Gutter pan of curbs shall be pitched to conform to the adjacent drainage patterns of the adjoining paving for vehicular use. See detail 8.
- For details of parking, road section, handicap, curb and gutter see sheet 8.
- There are no known grave sites or cemeteries on this site based on a visual site visit and based on an examination of the Howard County Cemetery Inventory MRP.
- This Project is recorded among the land records in Howard County, Maryland as L. 416 F. 447, L. 201 F. 296, L.489 F. 494.
- All outside lighting shall comply with Zoning Regulations Section 134 which requires lights to be installed to direct/reflect light downwards and inwards on the site and away from all public streets and residential areas. See detail on sheet 8. "Light trespass onto adjoining residential properties shall be limited 0.1 foot candles."
- This SDP is subject to the First Amendment to the Fifth Edition of the Subdivision and Land Development Regulations dated October 2, 2003 and the Amended Zoning Regulations, per Council Bill 75-2003.
- No landscape surety is required for this plan since it is a Howard County Board of Education project.
- This SDP is subject to the Amended Fifth Edition of the Subdivision and Land Development Regulations per Council Bill No. 45-2003 and the Amended Zoning Regulations per Council Bill No. 75-2003. Development or construction on this property must comply with setback and buffer regulations in effect at the time of submission of the site development plan, waiver petition application or building/grading permit applications.
- All sign posts used for traffic control signs installed in the County right-of-way shall be mounted on a 2" galvanized steel, perforated, square tube post (14 gauge) inserted into a 2-1/2" galvanized steel, perforated, square tube sleeve (12 gauge) - 3' long. A galvanized steel sole cap shall be mounted on top of each post.
- Landscaping is in accordance with Section 16.124 of the Howard County Code and the Landscape Manual. Landscape Manual shall be provided as shown on the Landscape Plan sheet of this site plan. No surety is required since this is a Howard County Board of Education project.
- Forest Conservation for this project is exempt due to the limits of disturbance being within the original limits of disturbance based on Site Development Plans SDP76-20.
- The site is considered as "re-development" and that the stormwater management has been addressed by the reduction of the impervious area for the limit of disturbance by at least 20%.
- Street light placement and the type of fixture and pole shall be in accordance with the Howard County Design Manual, Volume III (1993) and as modified by "Guidelines for Street Lights in Residential Developments (June 1993)." A minimum spacing of 20' shall be maintained between any streetlight and any tree.
- There is no floodplain on this site.
- There are no wetlands on this site.
- No traffic study is required for this project.

FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21042  
410-461-2992

DATE	DESCRIPTION
05/09/03	REV SHEET INDEX & SHEET No TO ADD SHETS 29-36
10/12/10	REVISED SHEET INDEX AND SHEET NUMBER TO ADD SHEET 28
9/28/10	REVISED SHEET INDEX AND SHEET NUMBER TO ADD SHEETS 26 & 27
10/28/11	REVISED SHEET INDEX, SITE ANALYSIS DATA AND SHEET NUMBER

APPROVED:	DATE
<i>Mark A. Leyle</i> Director - Department of Planning and Zoning	3/12/08
<i>Bruce Gist</i> Chief, Division of Land Development	3/12/08
<i>Walter...</i> Chief, Development Engineering Division	2/4/08

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 105  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6798

Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002

PROJECT	SECTION/AREA	PARCEL
ATHOLTON HIGH SCHOOL	N/A	265, 249 & 292

DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
416/447 201/296 489/494	24	R-5C NT	35	FIFTH	6056.02

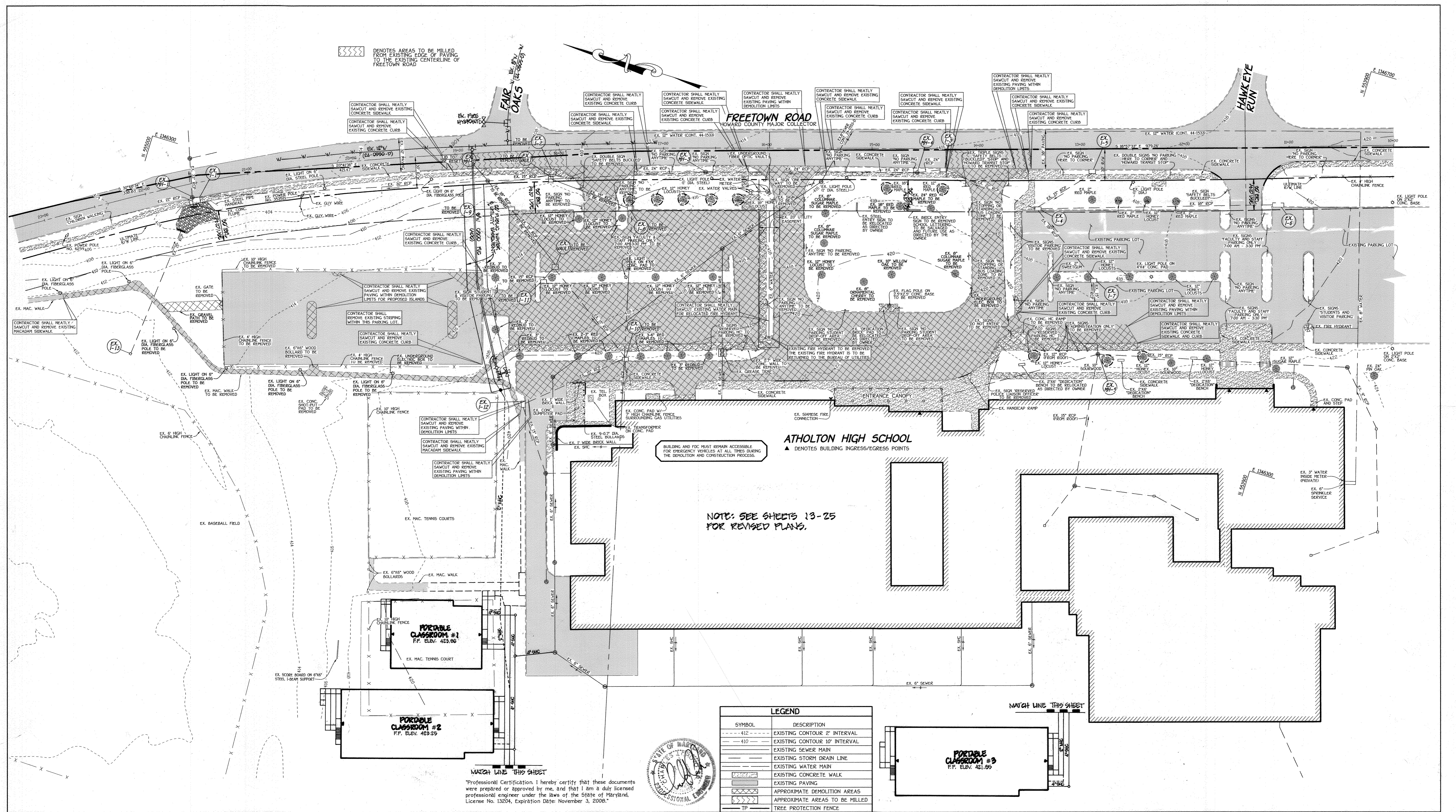
  

WATER CODE	SEWER CODE
E 29	5324500

TITLE SHEET	
HOWARD COUNTY BOARD OF EDUCATION ATHOLTON HIGH SCHOOL PARKING LOT ADDITIONS	
TAX MAP No.: 35    GRID No.: 24    PARCEL Nos.: 265, 249 & 292	FIFTH ELECTION DISTRICT    HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN    DATE: FEBRUARY 8, 2008	
SHEET 1 OF 36    SDP-08-050	

SDP-08-050





NOTE: SEE SHEETS 13-25 FOR REVISED PLANS.

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	EXISTING SEWER MAIN
---	EXISTING STORM DRAIN LINE
---	EXISTING WATER MAIN
---	EXISTING CONCRETE WALK
---	EXISTING PAVING
---	APPROXIMATE DEMOLITION AREAS
---	APPROXIMATE AREAS TO BE MILLED
---	TREE PROTECTION FENCE

"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. 13204, Expiration Date: November 3, 2008."



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 481-2855

DATE	REVISION	DESCRIPTION
10/2/10	REVISED SHEET NUMBER	
9/25/10	REVISED SHEET NUMBER	
12/10/11	REVISED BUILDING AND USE setbacks, ADDED PORTABLE CLASSROOMS, WATER, AND SEWER	
10/24/11	REVISED SHEET NUMBER	

DATE	REVISION	DESCRIPTION
3/12/04		
3/12/05		
2/4/00		

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Director - Department of Planning and Zoning  
 Chief, Division of Land Development  
 Chief, Development Engineering Division

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Elicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6798

Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002

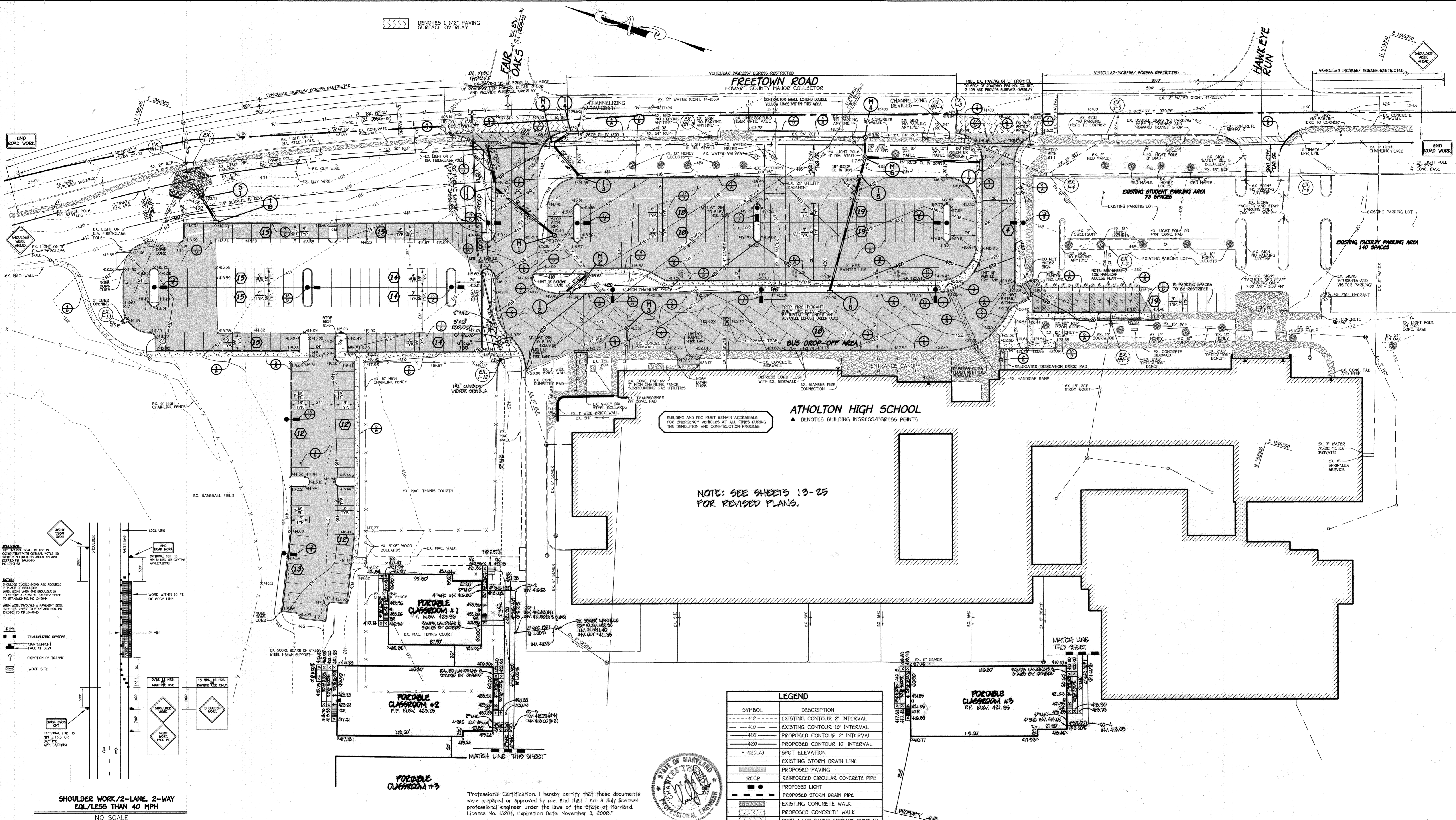
PROJECT	SECTION/AREA	PARCEL
ATHOLTON HIGH SCHOOL	N/A	269, 249 & 292
DEED REF. 416/447 201/236 429/424	BLOCK NO. 24	ZONE R-SC NT
TAX MAP 35	FIFTH	6056.02
WATER CODE E 29	SEWER CODE 5324500	

DEMOLITION PLAN	
HOWARD COUNTY BOARD OF EDUCATION ATHOLTON HIGH SCHOOL	
PARKING LOT ADDITIONS	
TAX MAP No: 35	GRID No: 24
FIFTH ELECTION DISTRICT	PARCEL Nos: 265, 249 & 292
SCALE: 1" = 40'	DATE: FEBRUARY 8, 2008
SHEET 2 OF 36 SDP-08-050	

SDP-08-050



██████ DENOTES 1 1/2" PAVING SURFACE OVERLAY



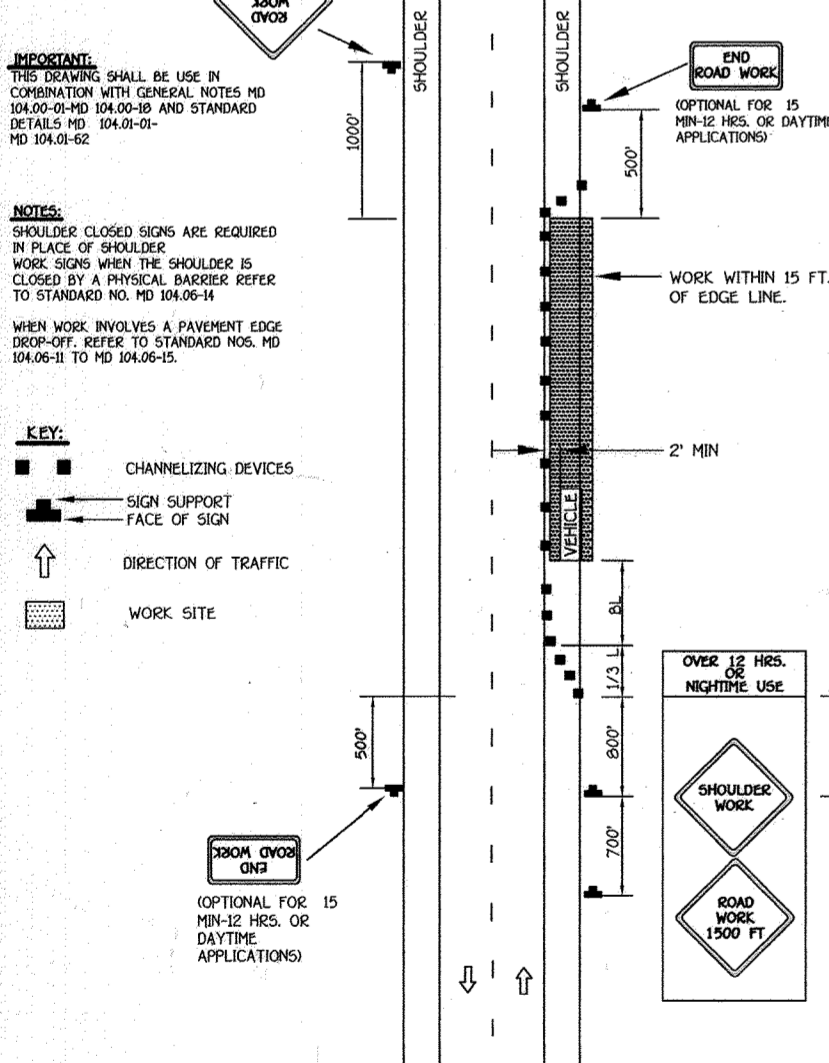
**ATHOLTON HIGH SCHOOL**  
▲ DENOTES BUILDING INGRESS/EGRESS POINTS

NOTE: SEE SHEETS 13-25 FOR REVISED PLANS.



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. 13204, Expiration Date: November 3, 2008.

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
+ 420.73	SPOT ELEVATION
---	EXISTING STORM DRAIN LINE
---	PROPOSED PAVING
---	RCCP
---	PROPOSED LIGHT
---	PROPOSED STORM DRAIN PIPE
---	EXISTING CONCRETE WALK
---	PROPOSED CONCRETE WALK
██████	PROP. 1 1/2" PAVING SURFACE OVERLAY



SHOULDER WORK/2-LANE, 2-WAY  
EQL/LESS THAN 40 MPH  
NO SCALE

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
1032 BALTIMORE NATIONAL FREE  
ELICOTT CITY, MARYLAND 21042  
410-461-2895

DATE	DESCRIPTION
10/9/10	REVISED SHEET NUMBER
5/09/10	REVISED SHEET NUMBER
10/16/11	REVISED PORTABLE CLASSROOMS, WATER AND SEWER
10/24/11	REVISED BULLDOZER RESTRICTION LINE AND USE SETBACK
10/24/11	REVISED SHEET NUMBER

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Mark L. Capri* 3/12/08  
 Director - Department of Planning and Zoning  
*Condy Hovater* 3/12/08  
 Chief, Division of Land Development  
*Debra* 3/12/08  
 Chief, Development Engineering Division

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6790

Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002

PROJECT	SECTION/AREA	PARCEL
ATHOLTON HIGH SCHOOL	N/A	265, 249 & 292
DEED REF. 416/447	BLOCK NO. 24	TAX MAP 35 FIFTH 6056.02
201/295	ZONE R-SC NT	
459/494	TAX MAP 35 FIFTH	
WATER CODE E 29	SEWER CODE 5324500	

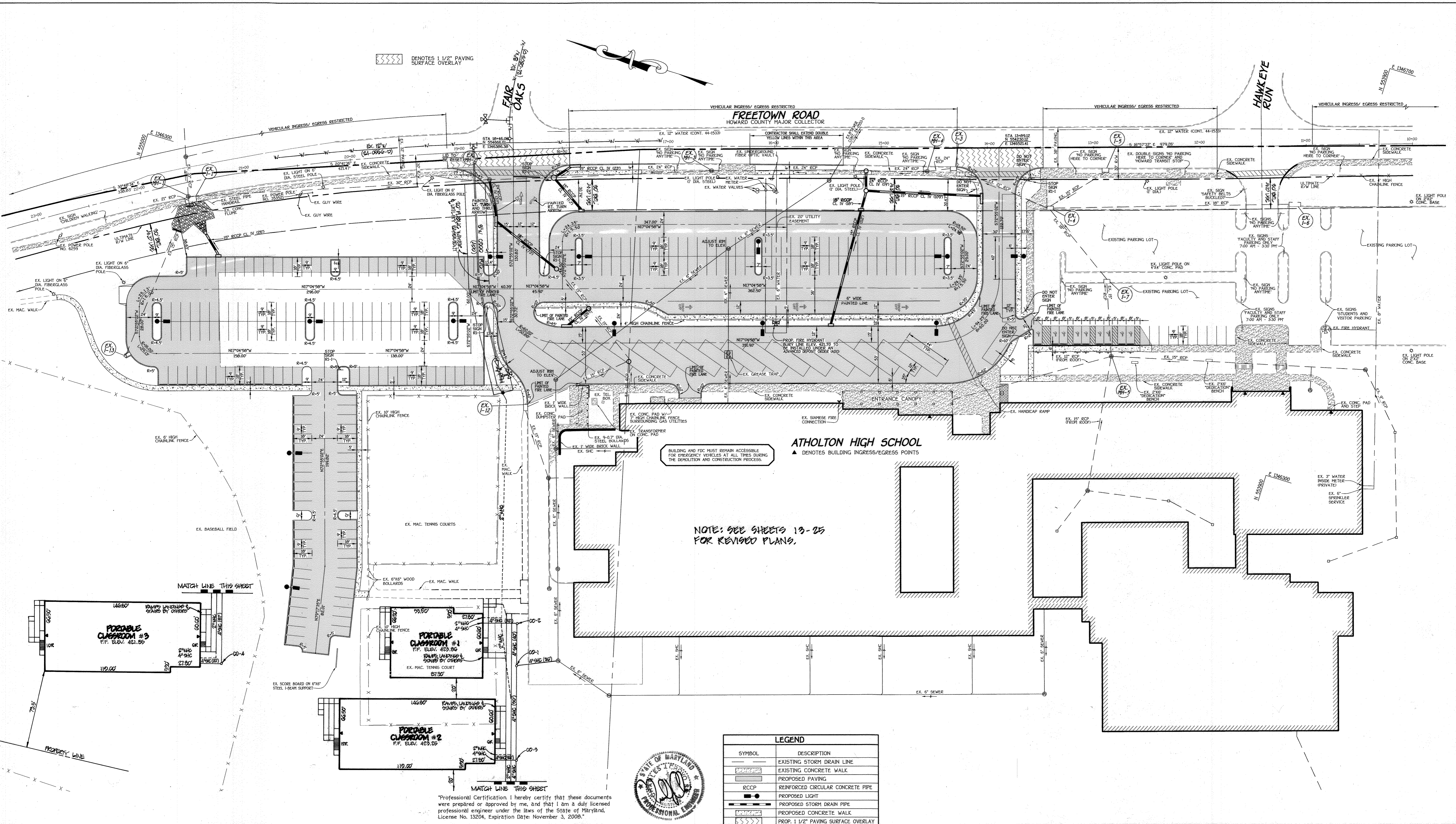
**SITE DEVELOPMENT PLAN**  
**HOWARD COUNTY BOARD OF EDUCATION**  
**ATHOLTON HIGH SCHOOL**  
**PARKING LOT ADDITIONS**

TAX MAP No. 35 GRID No. 24 PARCEL Nos.: 265, 249 & 292  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 40' DATE: FEBRUARY 8, 2008

SHEET 3 OF 36 SDP-08-050

SDP-08-050





**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK 10772 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21042  
410-461-2895

DATE	DESCRIPTION
10/2/08	REVISED SHEET NUMBER
5/20/08	REVISED SHEET NUMBER
2/10/11	REVISED PORTABLE CLASSROOMS, WATER AND SEWER, REVISED BUILDING FOOTPRINT LINE AND USE SETBACK
10/24/11	REVISED SHEET NUMBER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Charles D. Leight* 3/2/08  
Director - Department of Planning and Zoning

*Andy Hanna* 3/2/08  
Chief, Division of Land Development

*Michael...* 3/4/00  
Chief, Development Engineering Division

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 10B  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6798

Address Chart

Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002

PROJECT: ATHOLTON HIGH SCHOOL  
SECTION/AREA: N/A  
PARCEL: 269, 249 & 292

DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
416/447 201/296 429/494	24	R-5C NT	35	FIFTH	6056.02

WATER CODE: E 29  
SEWER CODE: 5324500

**GEOMETRY PLAN**  
HOWARD COUNTY BOARD OF EDUCATION  
**ATHOLTON HIGH SCHOOL**  
PARKING LOT ADDITIONS

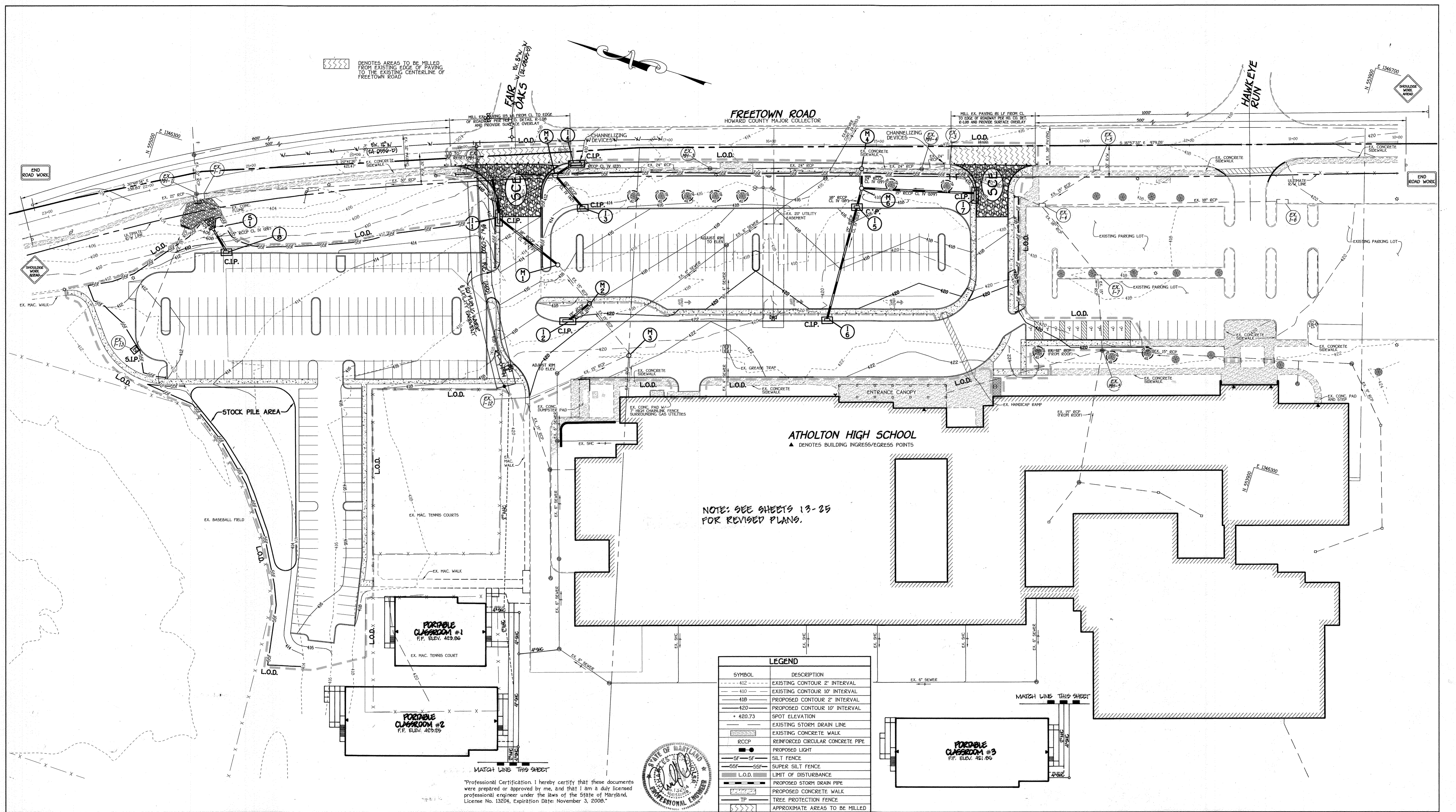
TAX MAP No: 35 GRID No: 24 PARCEL Nos: 265, 249 & 292  
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: 1" = 40' DATE: FEBRUARY 8, 2008

SHEET 4 OF 36 SDP-08-050

Professional Engineer Seal: STATE OF MARYLAND PROFESSIONAL ENGINEER

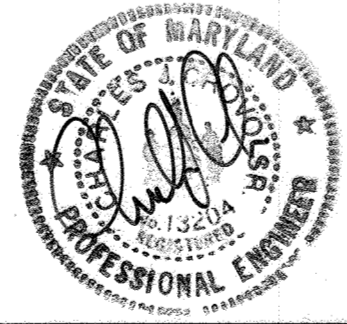
**SDP-08-050**





NOTE: SEE SHEETS 13-25 FOR REVISED PLANS.

"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. 13204, Expiration Date: November 3, 2008."



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK 10272 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2855

**ENGINEER'S CERTIFICATE**  
 I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.  
 Signature of Engineer: *[Signature]* Date: 2/12/08

**DEVELOPER'S CERTIFICATE**  
 "We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."  
 Signature of Developer: *[Signature]* Date: 2/14/08

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.  
 Signature: *[Signature]* Date: 3/11/08

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Director - Department of Planning and Zoning: *[Signature]* Date: 3/12/08  
 Chief, Division of Land Development: *[Signature]* Date: 2/12/08  
 Chief, Development Engineering Division: *[Signature]* Date: 3/14/08

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Elicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6798

Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002
PROJECT	SECTION/AREA PARCEL
ATHOLTON HIGH SCHOOL	N/A 269, 249 & 292
DEED REF. 416/447 201/296 429/434	TAX MAP 35 FIFTH 6056.02
WATER CODE E 29	SEWER CODE 5324500

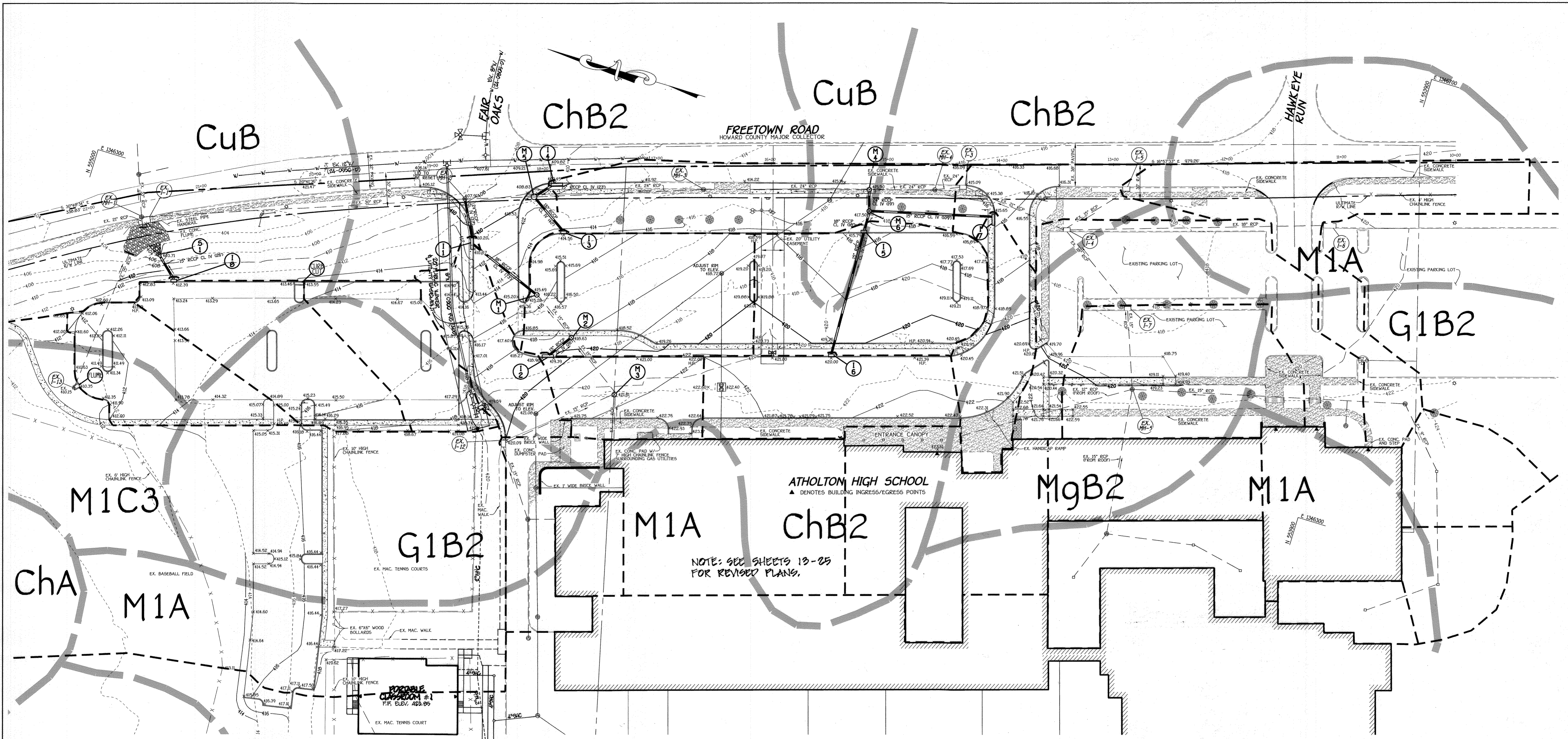
**SEDIMENT AND EROSION CONTROL PLAN**  
**HOWARD COUNTY BOARD OF EDUCATION**  
**ATHOLTON HIGH SCHOOL**  
**PARKING LOT ADDITIONS**

TAX MAP No: 35 GRID No: 24 PARCEL Nos: 265, 249 & 292  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 40' DATE: FEBRUARY 8, 2008

SHEET 5 OF 36 SDP-08-050

**SDP-08-050**





**LEGEND**

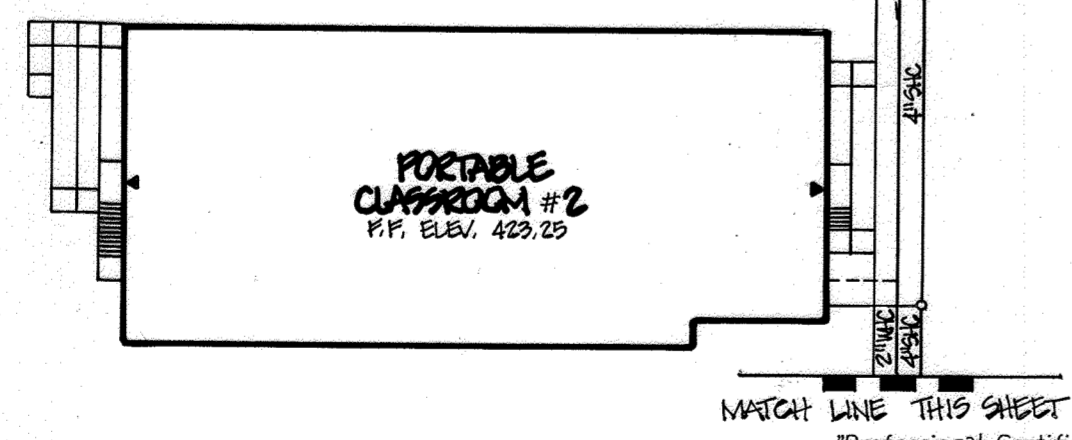
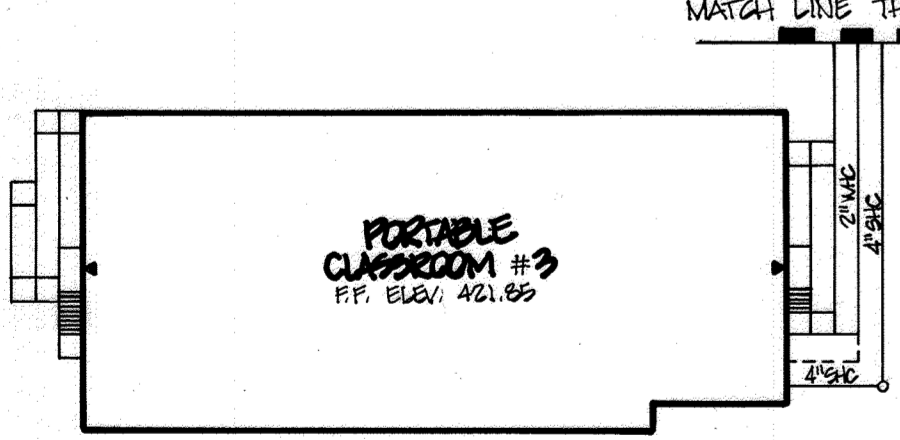
SYMBOL	DESCRIPTION
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--- 410 ---	EXISTING CONTOUR 10' INTERVAL
--- 418 ---	PROPOSED CONTOUR 2' INTERVAL
--- 420 ---	PROPOSED CONTOUR 10' INTERVAL
+ 420.73	SPOT ELEVATION
---	EXISTING STORM DRAIN LINE
---	EXISTING CONCRETE WALK
---	REINFORCED CIRCULAR CONCRETE PIPE
---	PROPOSED LIGHT
---	SOILS LINE
---	DRAINAGE AREA LIMITS
---	PROPOSED STORM DRAIN PIPE
---	PROPOSED CONCRETE WALK

**DRAINAGE AREA DATA**

STRUCTURE NO.	AREA (AC.)	'C'	% IMP.
I-1	0.23	0.81	91
I-2	0.22	0.76	86
I-3	0.57	0.77	88
I-4	0.32	0.68	56
I-5	0.56	0.79	89
I-6	0.39	0.73	82
I-7	0.26	0.75	85
I-8	0.61	0.81	93
CURB CUT	0.26	0.78	88
FLUME	0.29	0.84	97

**SOILS LEGEND**

SOIL	NAME	CLASS
ChA	Chester silt loam, 0 to 3 percent slopes	B
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
CuB	Comus silt loam, local alluvium, 3 to 8 percent slopes	B
G1B2	Glenelg loam, 3 to 8 slopes, moderately eroded	B
MgB2	Manor gravelly loam, 3 to 8 percent slopes, moderately eroded	B
M1A	Manor loam, 0 to 3 slopes	B
M1C3	Manor loam, 8 to 15 percent slopes, moderately eroded	B



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. 13204, Expiration Date: November 3, 2008.



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 1072 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 410-410-2895

DATE	DESCRIPTION
10/21/12	REVISED SHEET NUMBER
9/25/12	REVISED SHEET NUMBER
10/16/11	ADDED PORTABLE CLASSROOMS, WATER AND SEWER
10/24/11	REVISED SHEET NUMBER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*David L. Gist* 3/12/08  
 Director - Department of Planning and Zoning

*Charles Gist* 3/12/08  
 Chief, Division of Land Development

*John Gist* 3/14/08  
 Chief, Development Engineering Division

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Ellicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6798

Address Chart

Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002

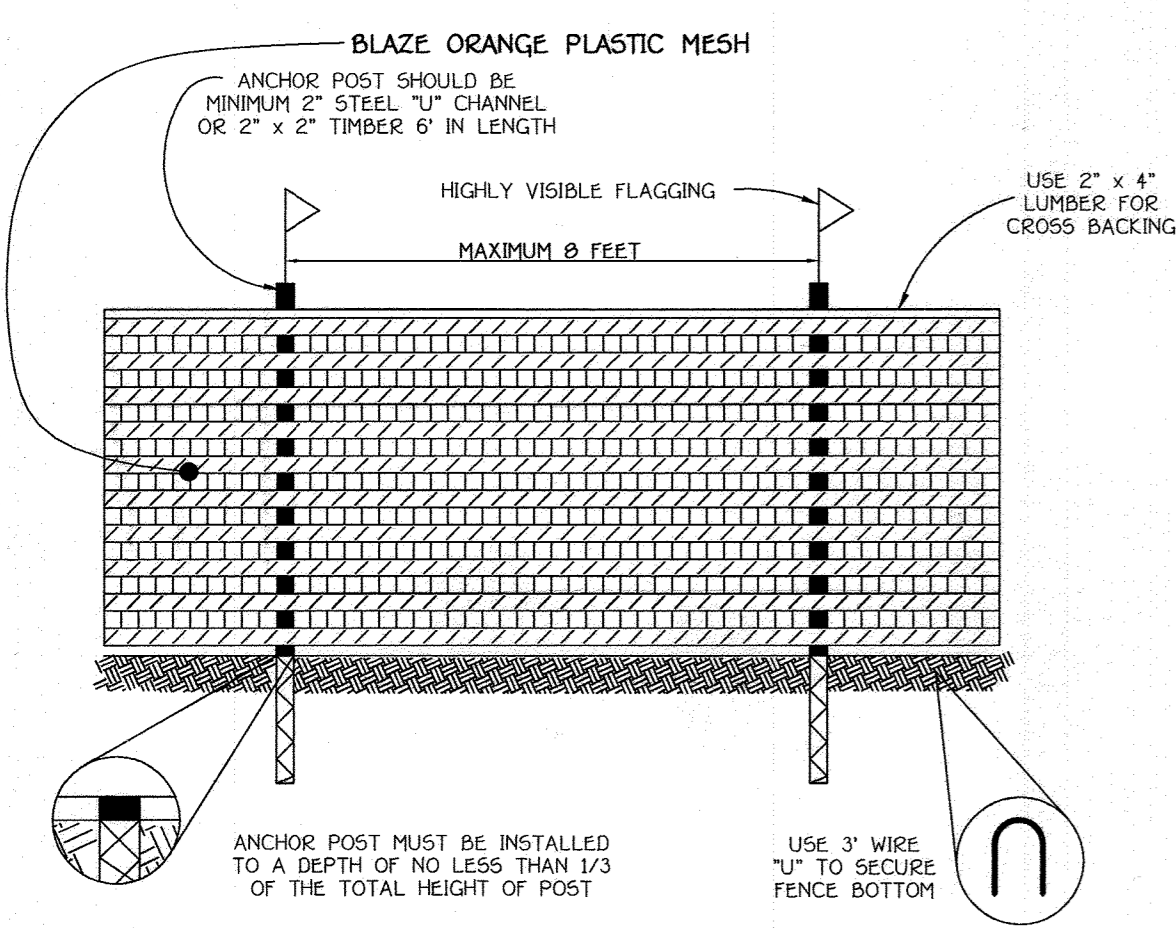
PROJECT: ATHOLTON HIGH SCHOOL  
 SECTION/AREA: N/A  
 PARCEL: 269, 249 & 292  
 DEED REF.: 416/447, 201/296, 429/494  
 BLOCK NO.: 24  
 ZONE: R-5C, NT  
 TAX MAP: 35  
 ELEC. DIST.: FIFTH  
 CENSUS TR.: 6056.02  
 WATER CODE: E 29  
 SEWER CODE: 5324500

**SOILS AND DRAINAGE AREA MAP**  
 HOWARD COUNTY BOARD OF EDUCATION  
 ATHOLTON HIGH SCHOOL  
 PARKING LOT ADDITIONS

TAX MAP No.: 35 GRID No.: 24 PARCEL Nos.: 265, 249 & 292  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 40' DATE: FEBRUARY 8, 2008

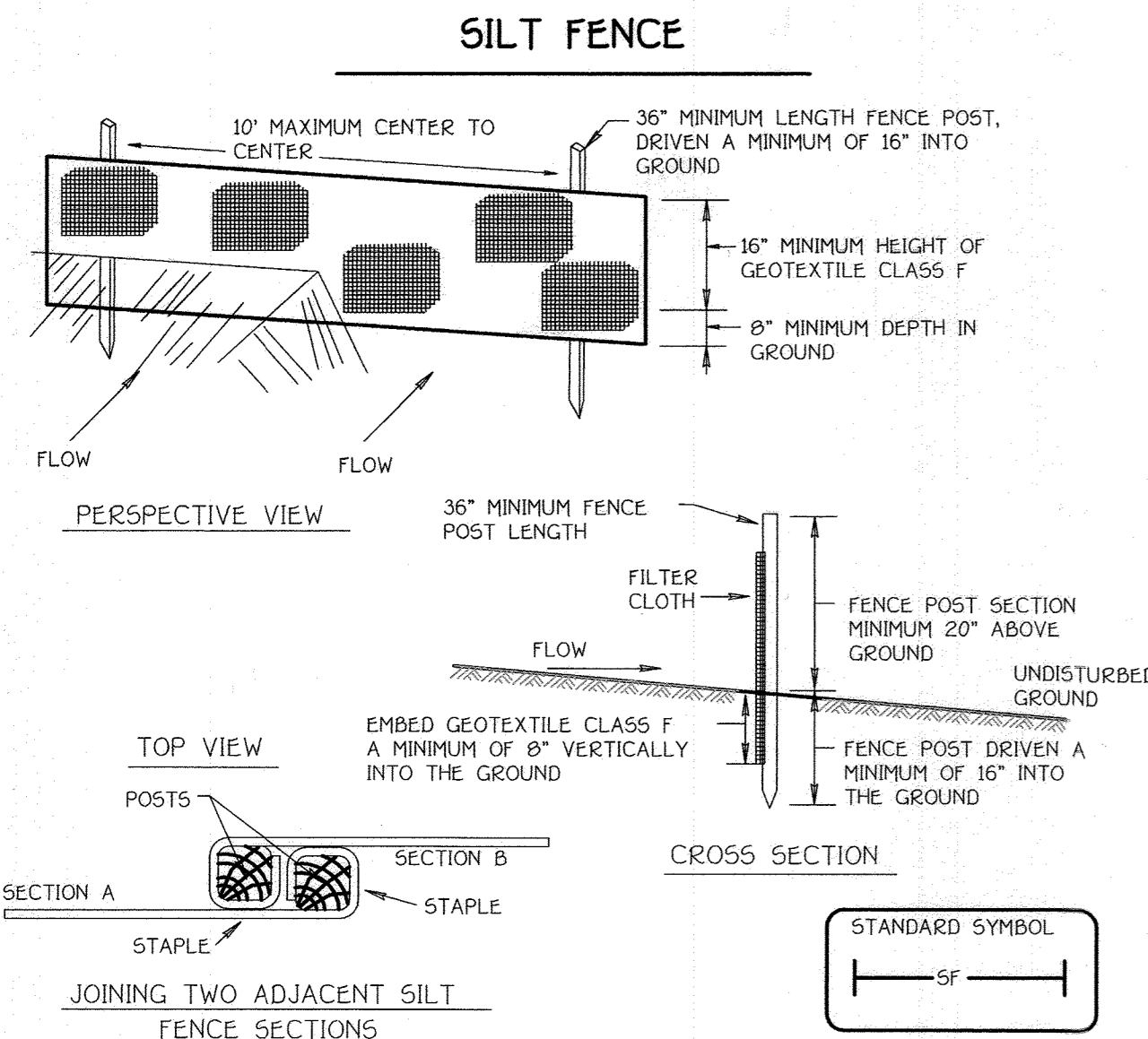
SHEET 6 OF 36 SDP-08-050





- NOTES:**
- FOREST PROTECTION DEVICE ONLY.
  - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
  - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
  - ROOT DAMAGE SHOULD BE AVOIDED.
  - PROTECTIVE SIGNAGE MAY ALSO BE USED.
  - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

**TREE PROTECTION DETAIL**  
NOT TO SCALE



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

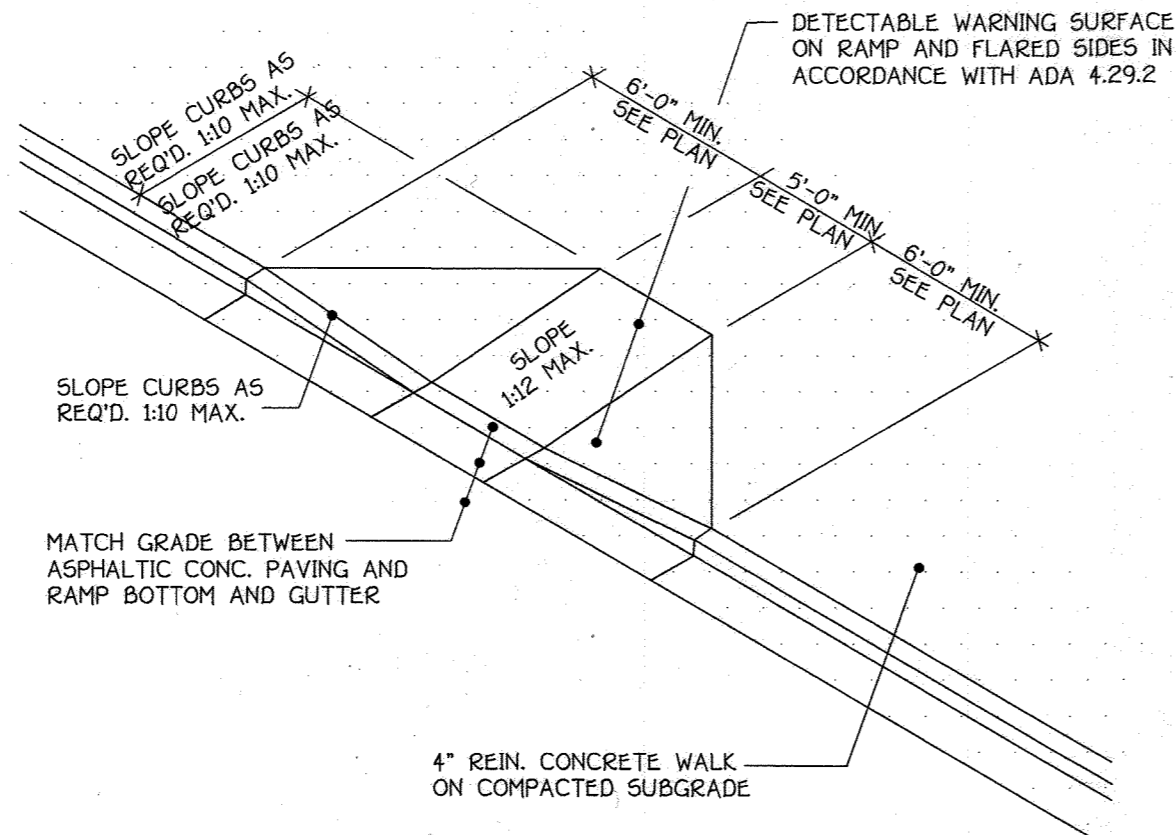
Tensile Strength	50 lbs/in (min)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min)	Test: MSMT 509
Flow Rate	0.3 gal ft / minute (max.) <sup>a</sup>	Test: MSMT 322
Filtering Efficiency	75% (min)	Test: MSMT 322

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

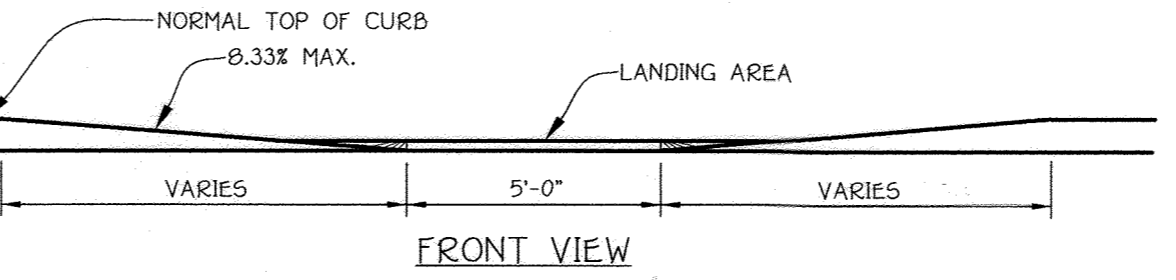
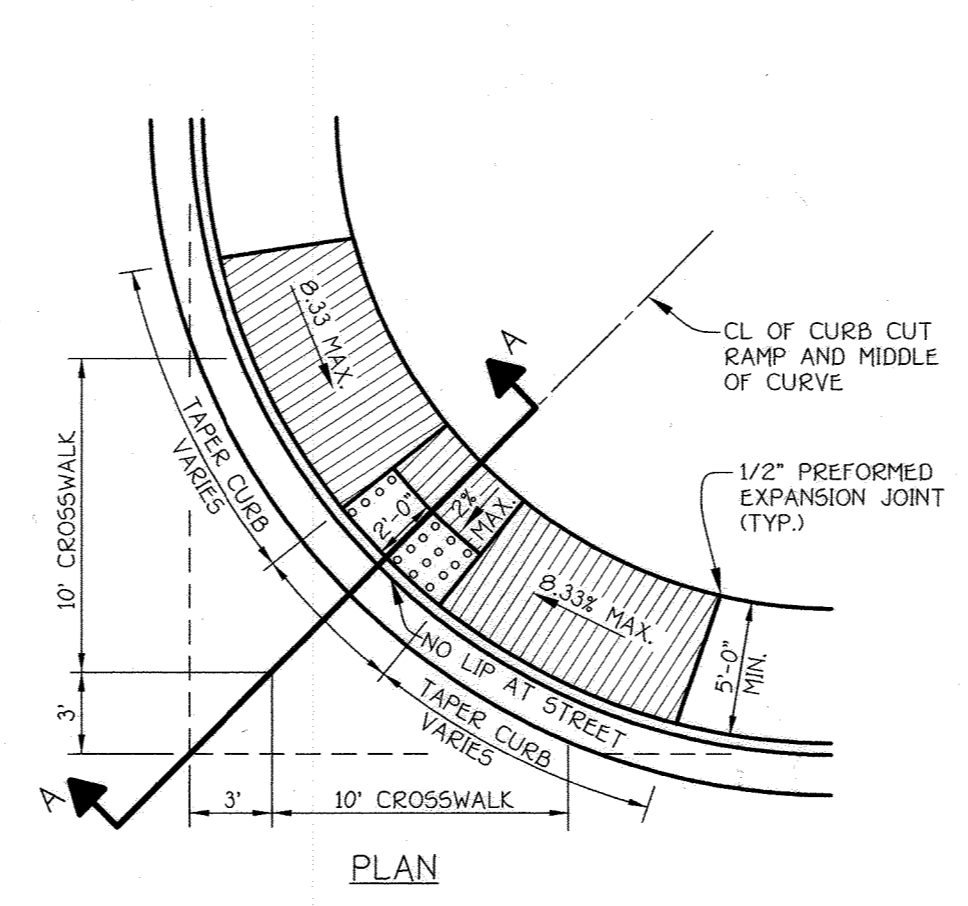
**Silt Fence Design Criteria**

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 5:1	unlimited	unlimited
5:1 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

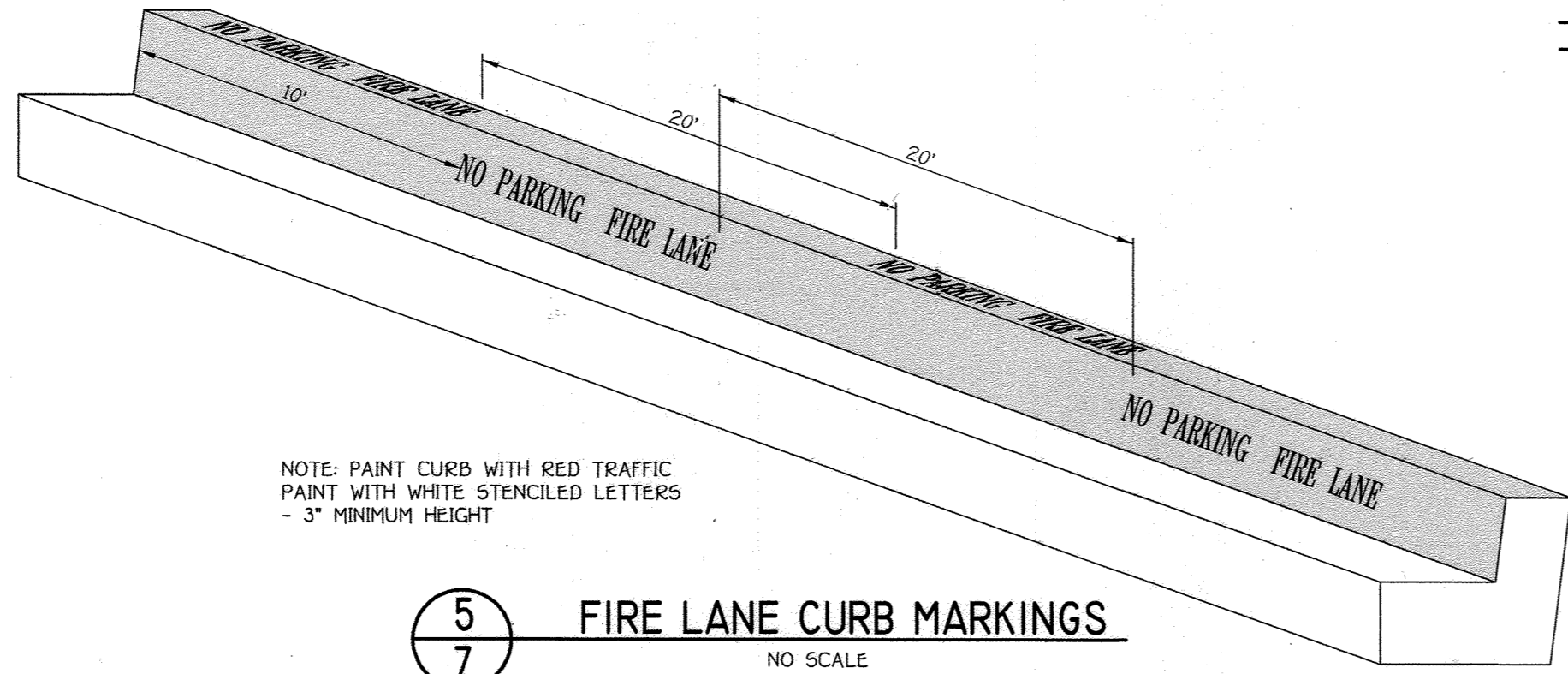
Note: In areas of less than 2:1 slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.



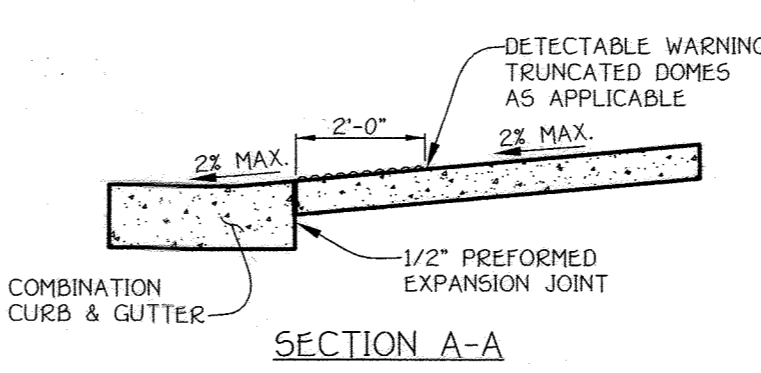
**1**  
**7** **HANDICAP RAMP 'A' DETAIL**  
NO SCALE



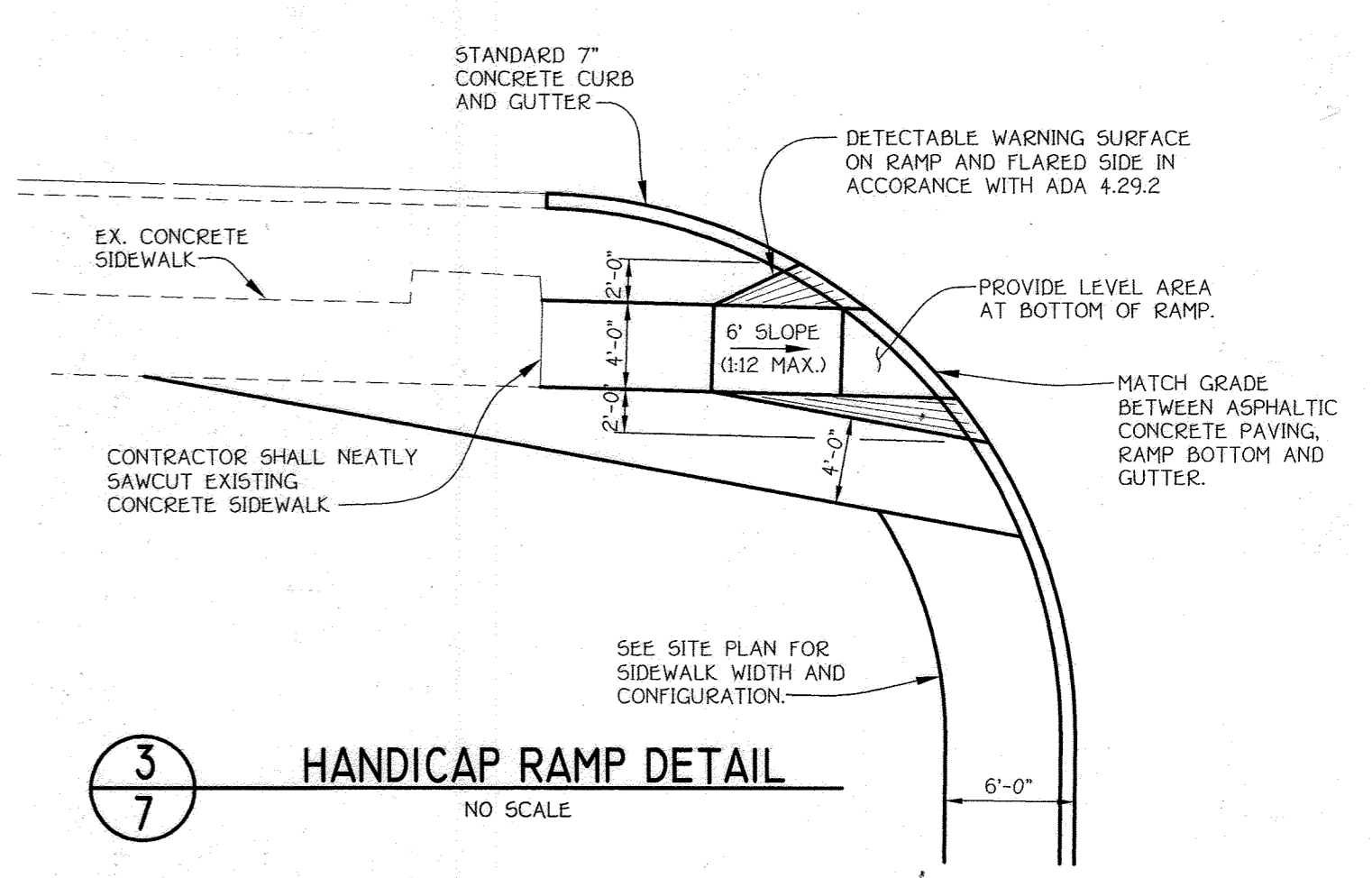
**2**  
**7** **HANDICAP RAMP DETAIL**  
NO SCALE



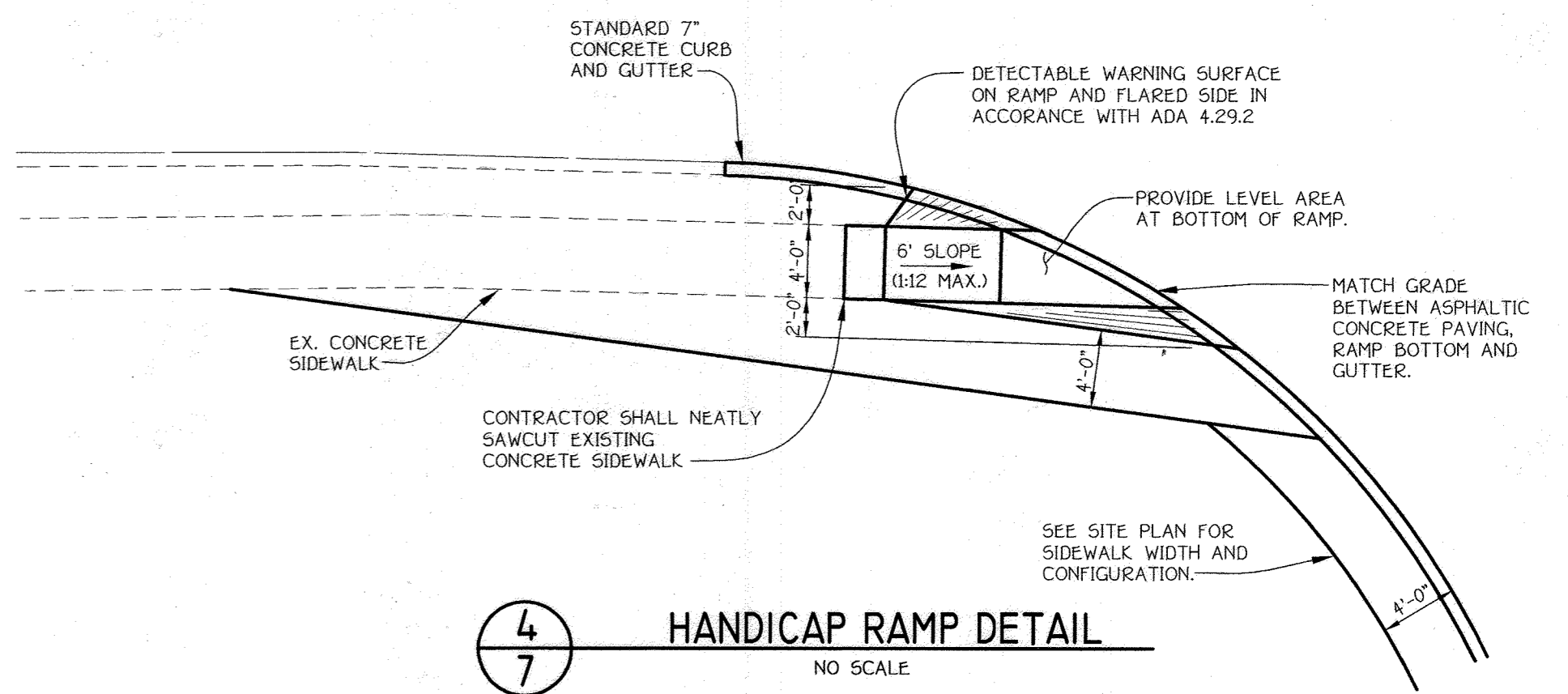
**5**  
**7** **FIRE LANE CURB MARKINGS**  
NO SCALE



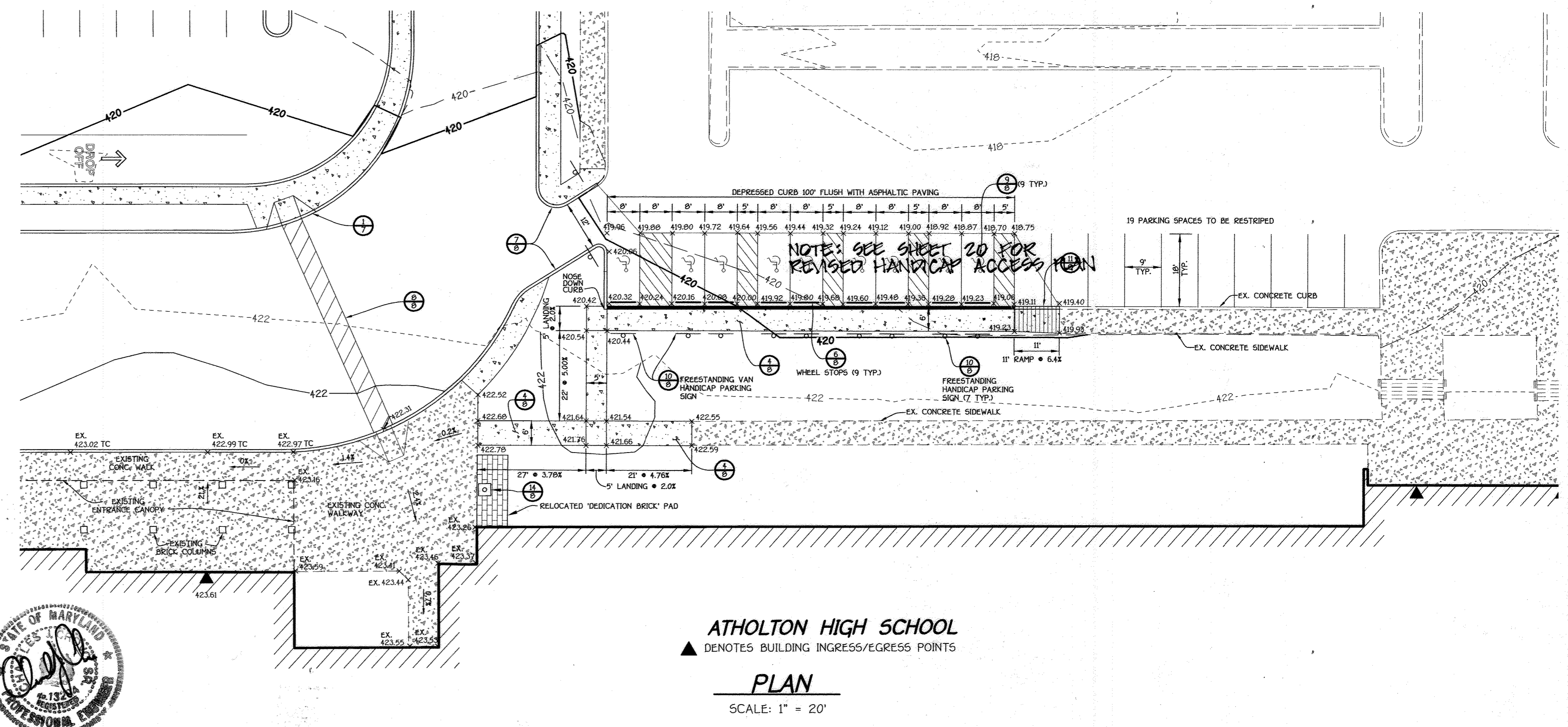
- NOTES:**
- TYPE C SIDEWALK RAMP IS TO BE USED AT LOCATIONS WHERE THE SIDEWALK MUST BE PLACED IMMEDIATELY ADJACENT TO THE BACK OF THE CURB. THE SIDEWALK SHALL BE AT LEAST 5'-0" IN WIDTH.
  - ALL RAMP SHALL HAVE A WARNING TEXTURE EXTENDING THE FULL WIDTH AND DEPTH OF THE CURB RAMP.
  - 7" COMBINATION CURB AND GUTTER IS SHOWN. DETAILS TO BE SIMILAR FOR MODIFIED CURB AND GUTTER AND BITUMINOUS CURB.
  - 4'-0" SIDEWALK REQUIRES A PASSING AREA (SEE DETAIL R-4.01).



**3**  
**7** **HANDICAP RAMP DETAIL**  
NO SCALE



**4**  
**7** **HANDICAP RAMP DETAIL**  
NO SCALE



**ATHOLTON HIGH SCHOOL**  
▲ DENOTES BUILDING INGRESS/EGRESS POINTS  
**PLAN**  
SCALE: 1" = 20'

**ENGINEER'S CERTIFICATE**  
I certify that this plan for sediment and erosion 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.  
*Cheryl*  
Signature of Engineer  
Date: 2/12/08

**DEVELOPER'S CERTIFICATE**  
I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.  
*John R. [Signature]*  
Signature of Developer  
Date: 2/14/08

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.  
*John R. [Signature]*  
Signature of SCD  
Date: 3/10/08

DATE	DESCRIPTION	REVISION BLOCK
10/2/02	REVISED SHEET NUMBER	
5/05/02	REVISED SHEET NUMBER	
10/24/01	REVISED SHEET NUMBER	

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*David A. [Signature]*  
Director - Department of Planning and Zoning  
Date: 3/12/08  
*Conny [Signature]*  
Chief, Division of Land Development  
Date: 3/12/08  
*[Signature]*  
Chief, Development Engineering Division  
Date: 3/14/08

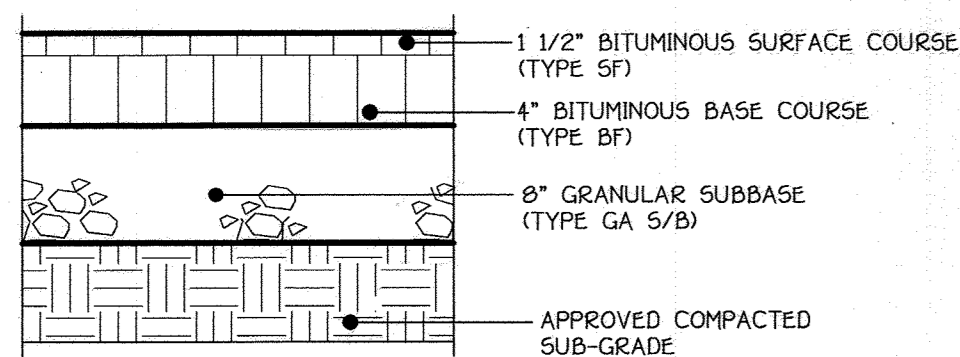
PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6798

Address Chart

Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002

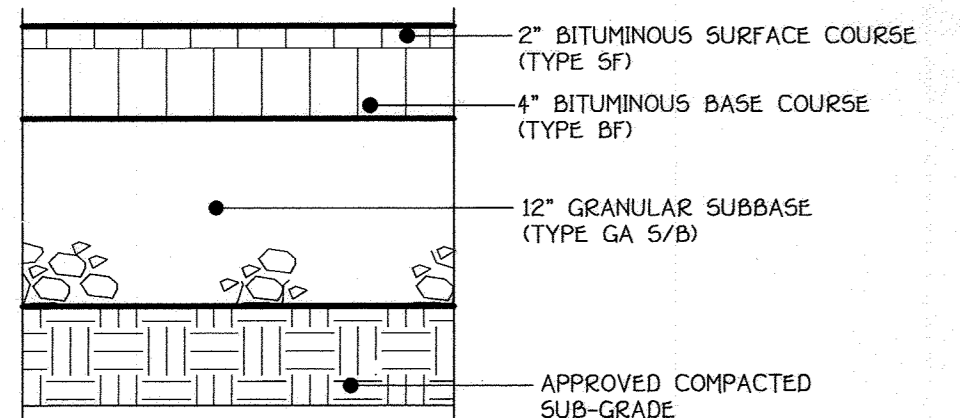
**HANDICAP ACCESS PLAN AND SEDIMENT CONTROL DETAILS**  
**HOWARD COUNTY BOARD OF EDUCATION**  
**ATHOLTON HIGH SCHOOL**  
PARKING LOT ADDITIONS  
PROJECT: ATHOLTON HIGH SCHOOL  
SECTION/AREA: N/A  
PARCEL: 269, 249 & 292  
DEED REF: 416/447, 201/296, 489/494  
BLOCK NO.: 24  
ZONE: R-SC NT  
TAX MAP: 35  
ELEC. DIST.: FIFTH  
CENSUS TR.: 6056.02  
WATER CODE: E 29  
SEWER CODE: 5324500  
TAX MAP No.: 35  
GRID No.: 24  
PARCEL Nos.: 265, 249 & 292  
FIFTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
SCALE: 1" = 20'  
DATE: FEBRUARY 8, 2008  
SHEET 7 OF 36  
SDP-08-050





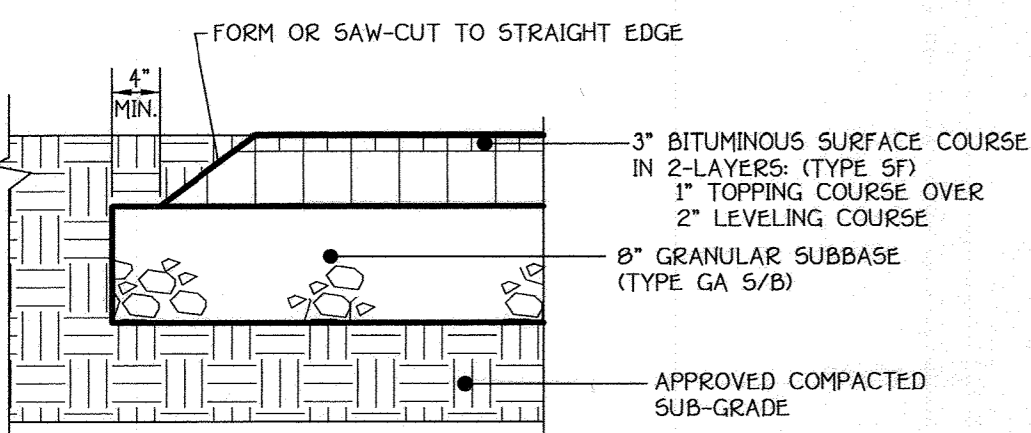
**1 LIGHT DUTY ASPHALTIC PAVING DETAIL**

NO SCALE



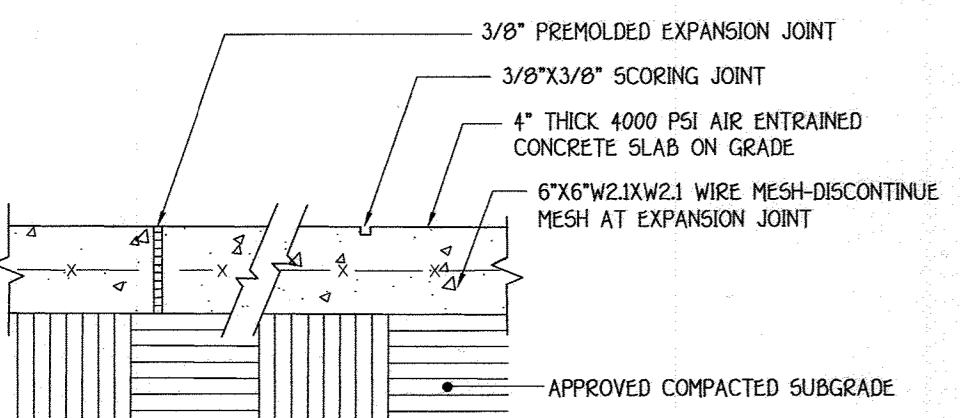
**2 HEAVY DUTY ASPHALTIC PAVING DETAIL**

NO SCALE



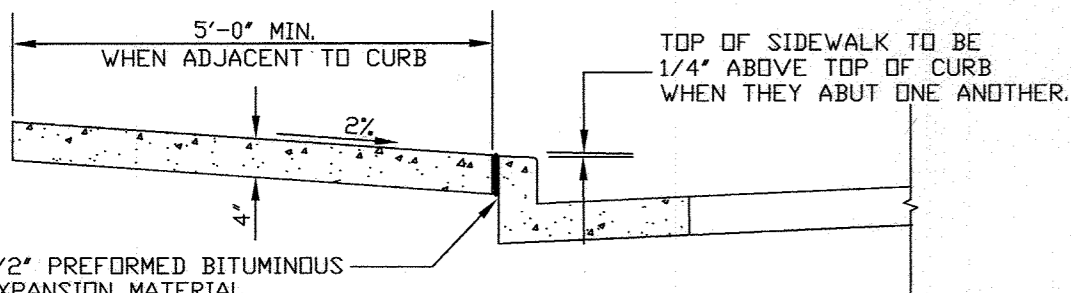
**3 ASPHALTIC WALK PAVING DETAIL**

NO SCALE



**4 CONCRETE WALK DETAIL**

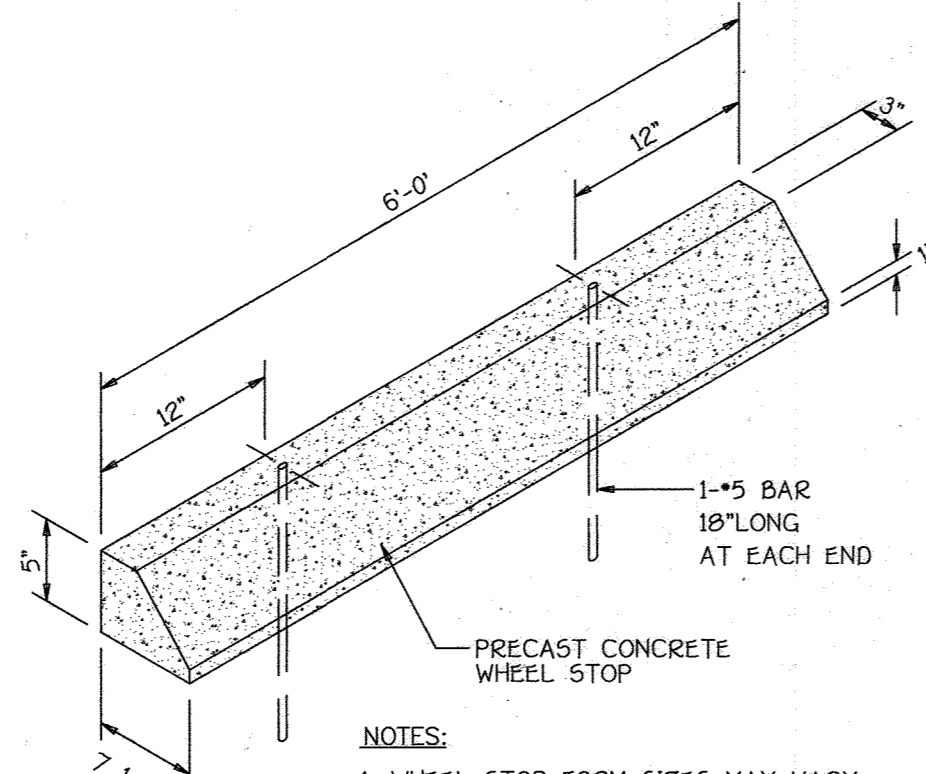
HOWARD COUNTY DETAIL R-3.05  
SCALE: 1 1/2"=1'-0"



- NOTES:
- SIDEWALK TO BE SCRIBED IN 5'-0" MAXIMUM SQUARES.
  - EXPANSION JOINTS ACROSS THE SIDEWALK NOT TO MORE THAN 15' APART.
  - 1/2" PREFORMED BITUMINOUS EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT 1/4" BELOW SURFACE OF SIDEWALK.
  - CONCRETE TO BE MIX NO. 2.
  - WHEN SIDEWALK ABUTS CURB, WALK SHALL BE 1/4" ABOVE CURB WITH 1/2" PREFORMED BITUMINOUS EXPANSION MATERIAL BETWEEN SIDEWALK AND CURB.
  - IN LONGITUDINAL SIDEWALK GRADES OF 5% OR GREATER, A CONCRETE HEADER, 6" THICK AND 6" DEEP BELOW THE NORMAL 4" SIDEWALK THICKNESS SHALL BE CONSTRUCTED FOR THE FULL WIDTH OF THE SIDEWALK AT INTERVALS OF 48 FEET. THE HEADERS SHALL BE PLACED AT EXPANSION JOINT LOCATIONS AND SHALL BE MONOLITHIC WITH THE SIDEWALK.
  - SIDEWALK WIDTH ADJACENT TO CURB SHALL BE 5'-0" MIN.
  - SIDEWALK LOCATED 2' OR MORE FROM CURB MAY BE 4'-0" IN WIDTH WITH A 5' X 5' PAVED SECTION PLACED 200' APART.

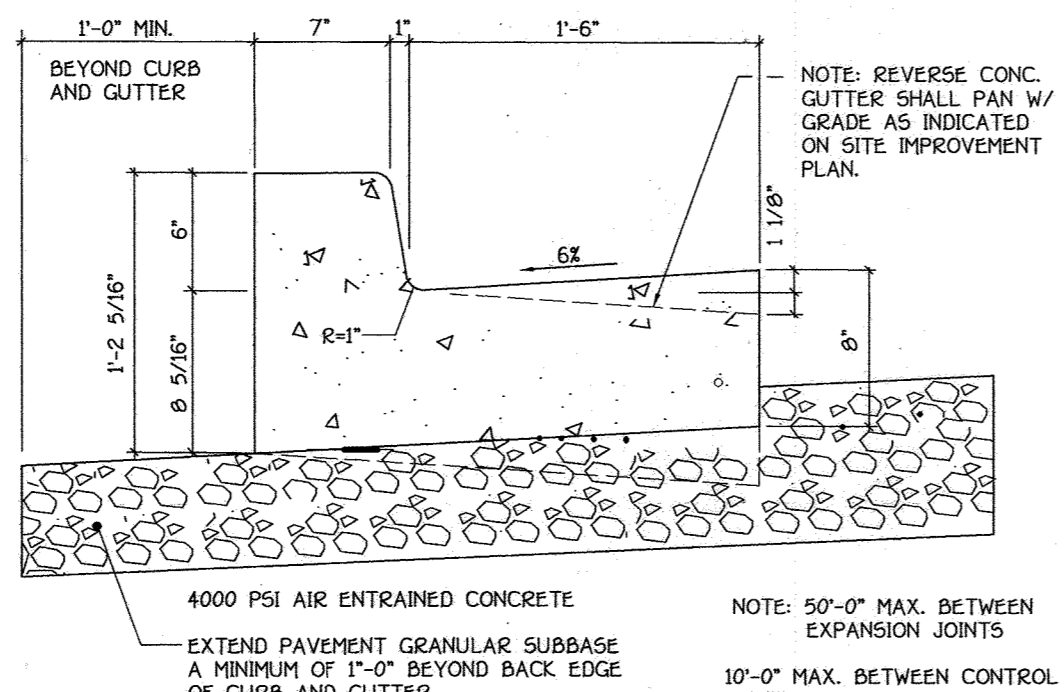
**5 CONCRETE SIDEWALK DETAIL**

HOWARD COUNTY DETAIL R-3.05  
NO SCALE



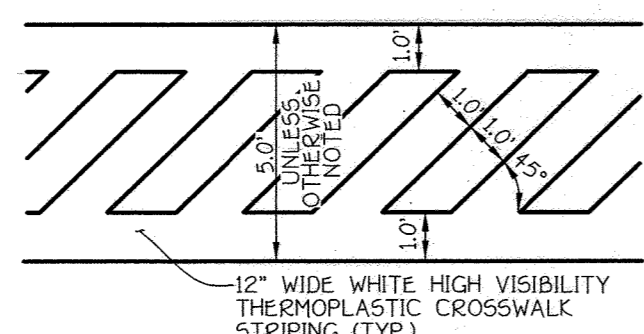
**6 WHEEL STOP DETAIL**

NO SCALE



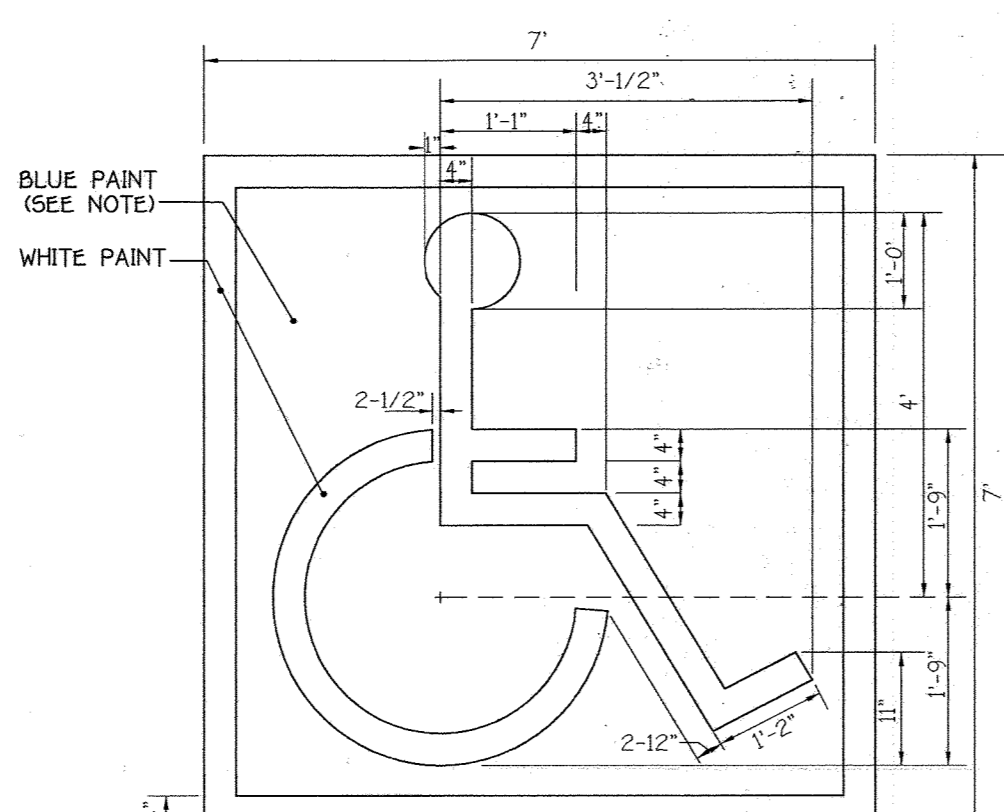
**7 STANDARD 6" COMB. CONC. CURB AND GUTTER**

HOWARD COUNTY DETAIL R-9.01  
NO SCALE



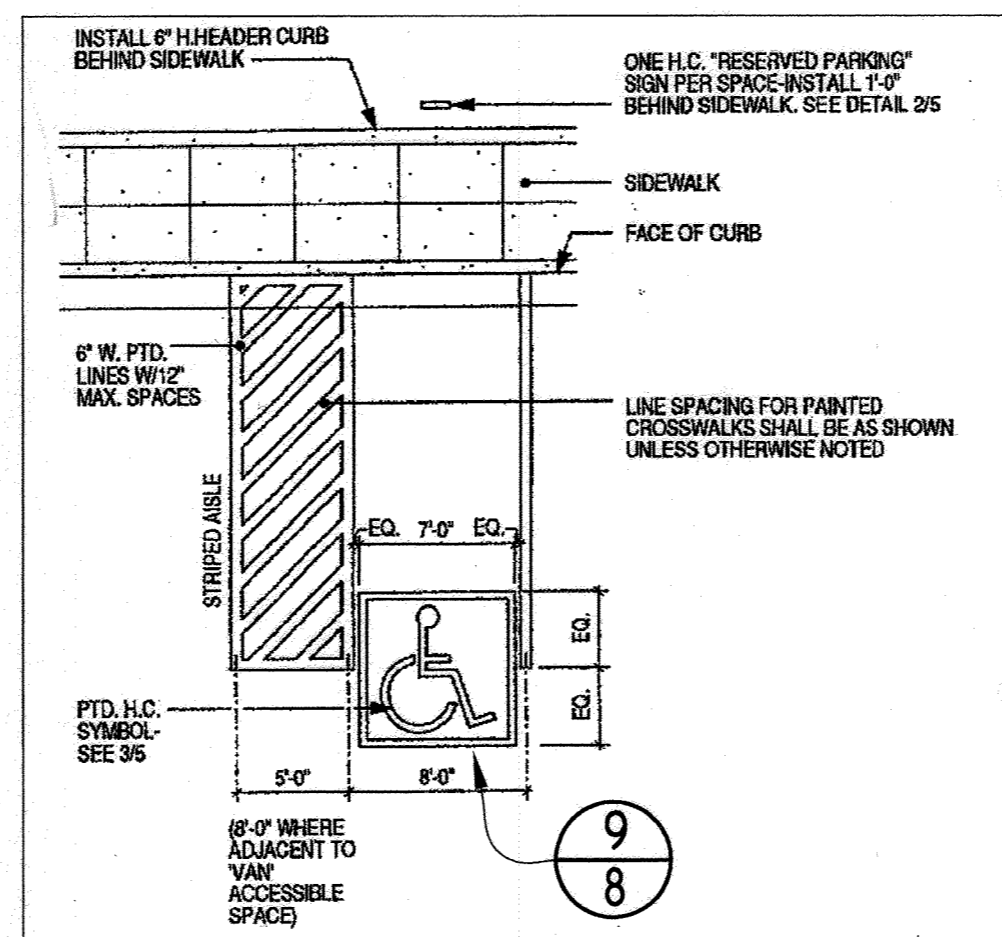
**8 CROSSWALK DETAIL**

NO SCALE



**9 HANDICAP SPACE STENCIL LAYOUT**

SCALE: 1" = 20'



**ACCESSIBLE SPACE LAYOUT**

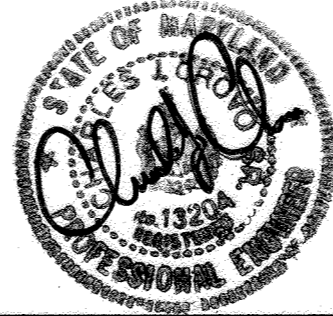
NO SCALE



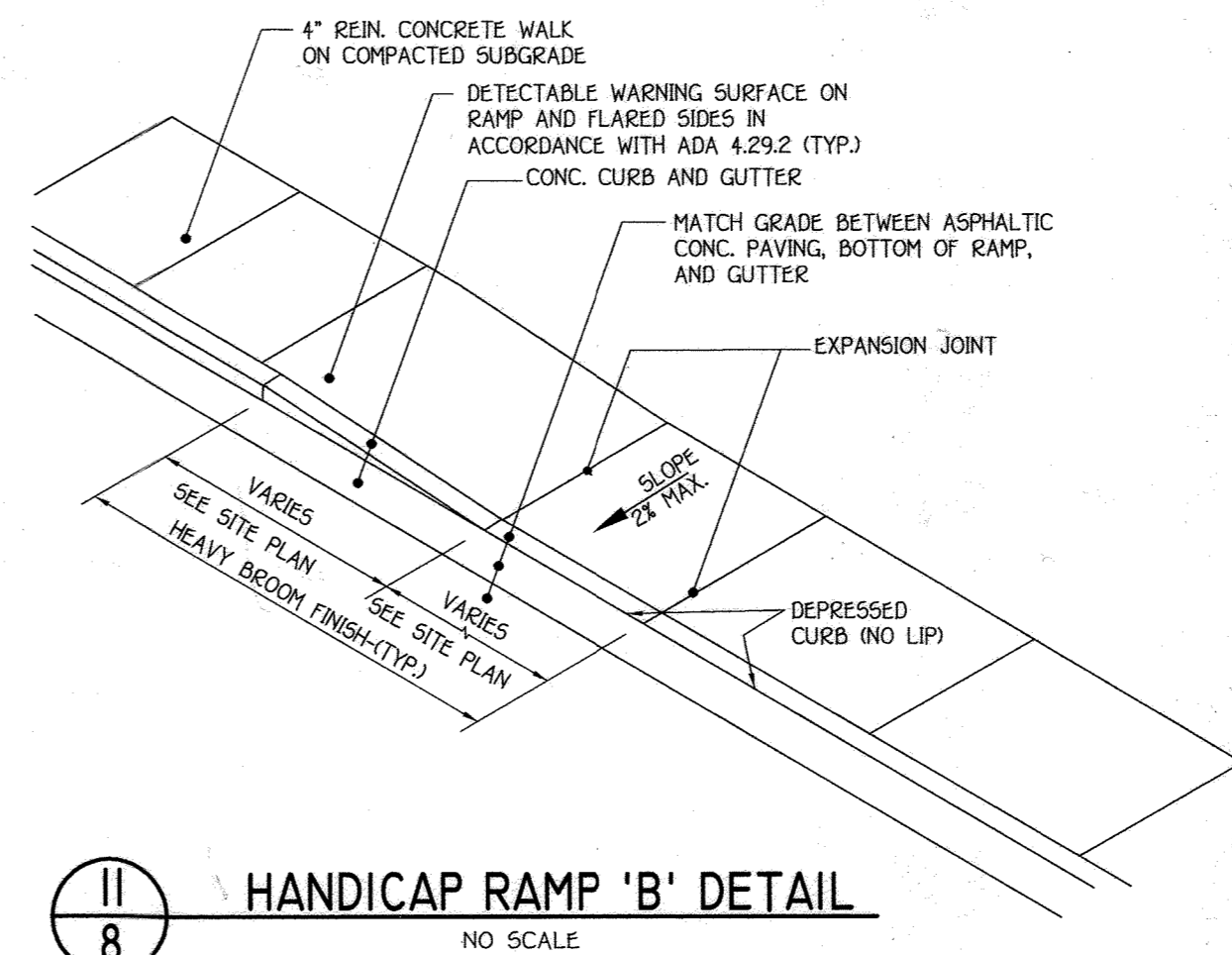
- GENERAL NOTES:
- SIGNS SHALL MEET DESIGN STANDARDS OF THE FEDERAL HIGHWAY ADMINISTRATION AND CONFORM TO THE STATE OF MARYLAND STANDARD HIGHWAY SIGN BOOKLET DETAIL R7-8.
  - ONE SIGN IS REQUIRED PER SPACE PLACED AS SHOWN ON SITE IMPROVEMENT PLAN.
  - SIGNS SHALL BE POLE MOUNTED WITH HOT DIPPED GALVANIZED COUNTY APPROVED PERFORATED CHANNEL POSTS W/TOP OF SIGNS 9'-1" ABOVE FINISHED GRADE OR AS INDICATED ON SITE DRAWINGS.
  - SIGN SHALL BE ATTACHED TO FLANGED SIDE OF POST. POST SHALL EXTEND INTO GROUND 2'-6" MIN.
  - COLORS, LEGEND AND BORDER-GREEN SYMBOL-WHITE ON BLUE BACKGROUND BACKGROUND-WHITE
  - CONTRACTOR SHALL COORDINATE ARROW DIRECTION WITH LOCATION OF ADJACENT AISLE.
  - SPACES INDICATED ON SITE DEVELOPMENT PLANS AS "VAN ACCESSIBLE" SHALL BE SIGNED ACCORDINGLY.

**10 HANDICAP PARKING SIGN DETAIL**

NOT TO SCALE

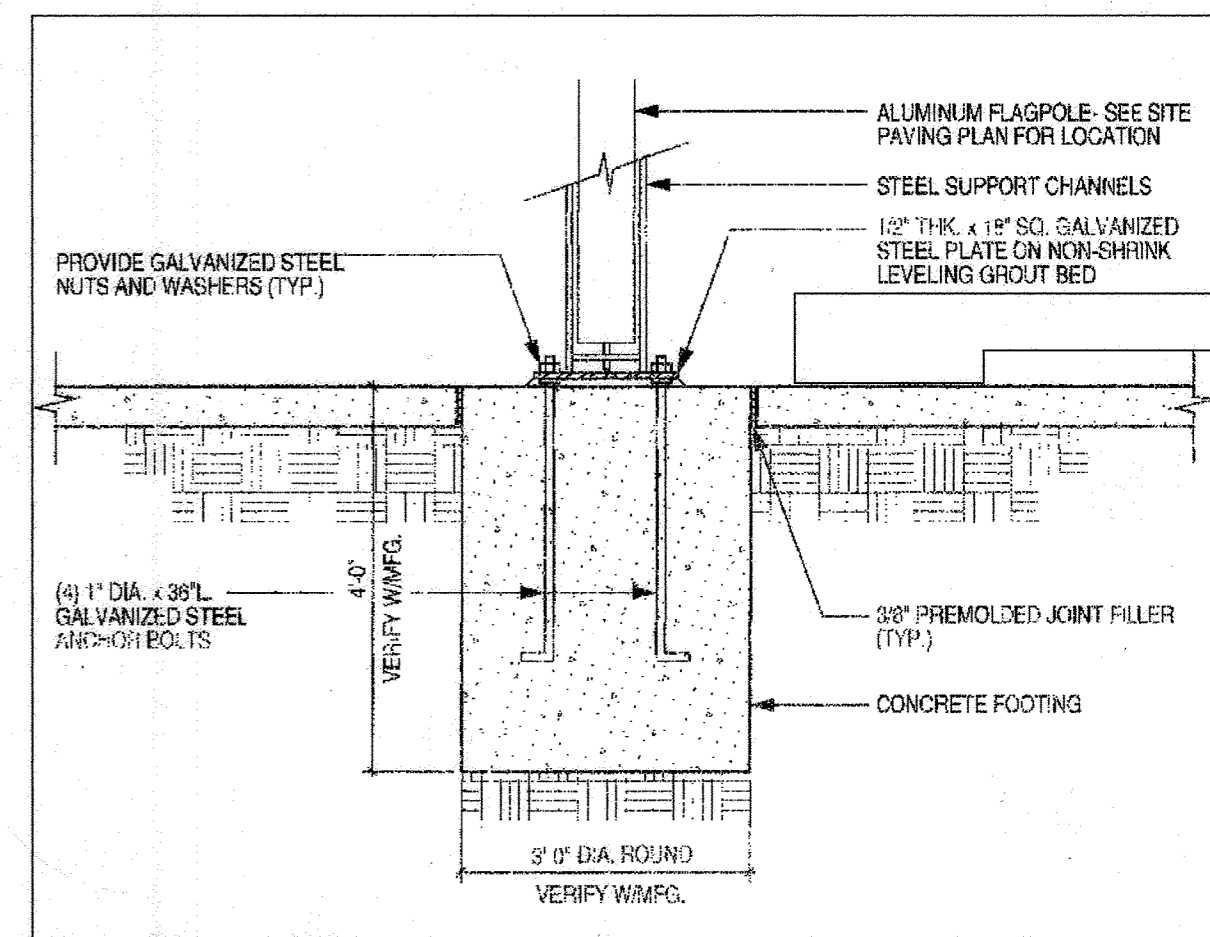


"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 13204, Expiration Date: November 3, 2008."



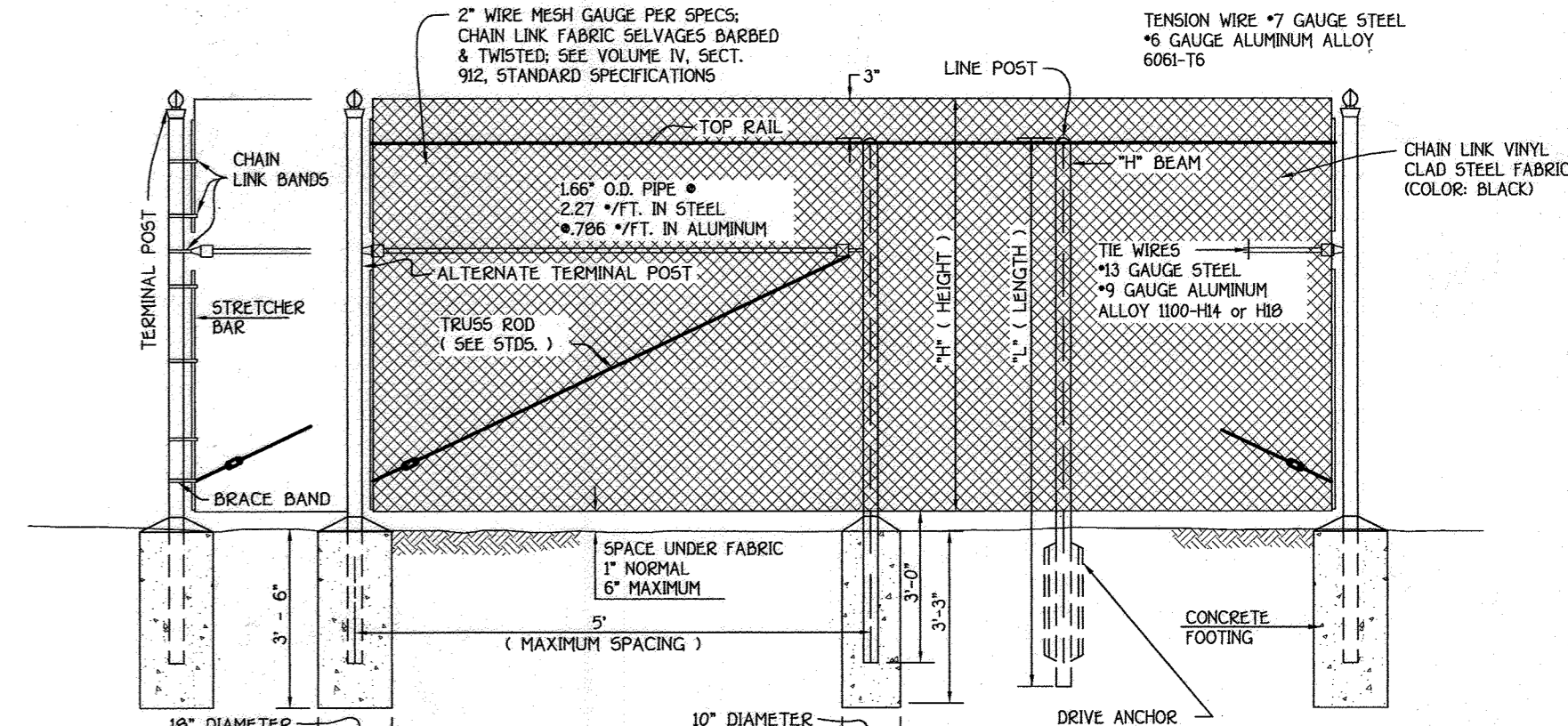
**11 HANDICAP RAMP 'B' DETAIL**

NO SCALE



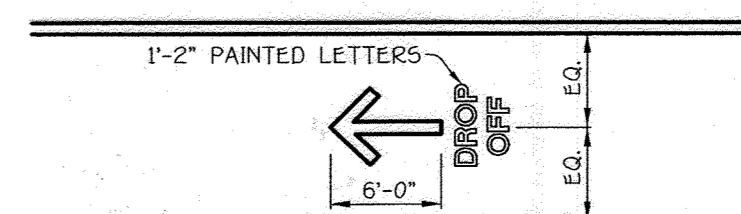
**14 TILT FLAGPOLE DETAIL**

NO SCALE



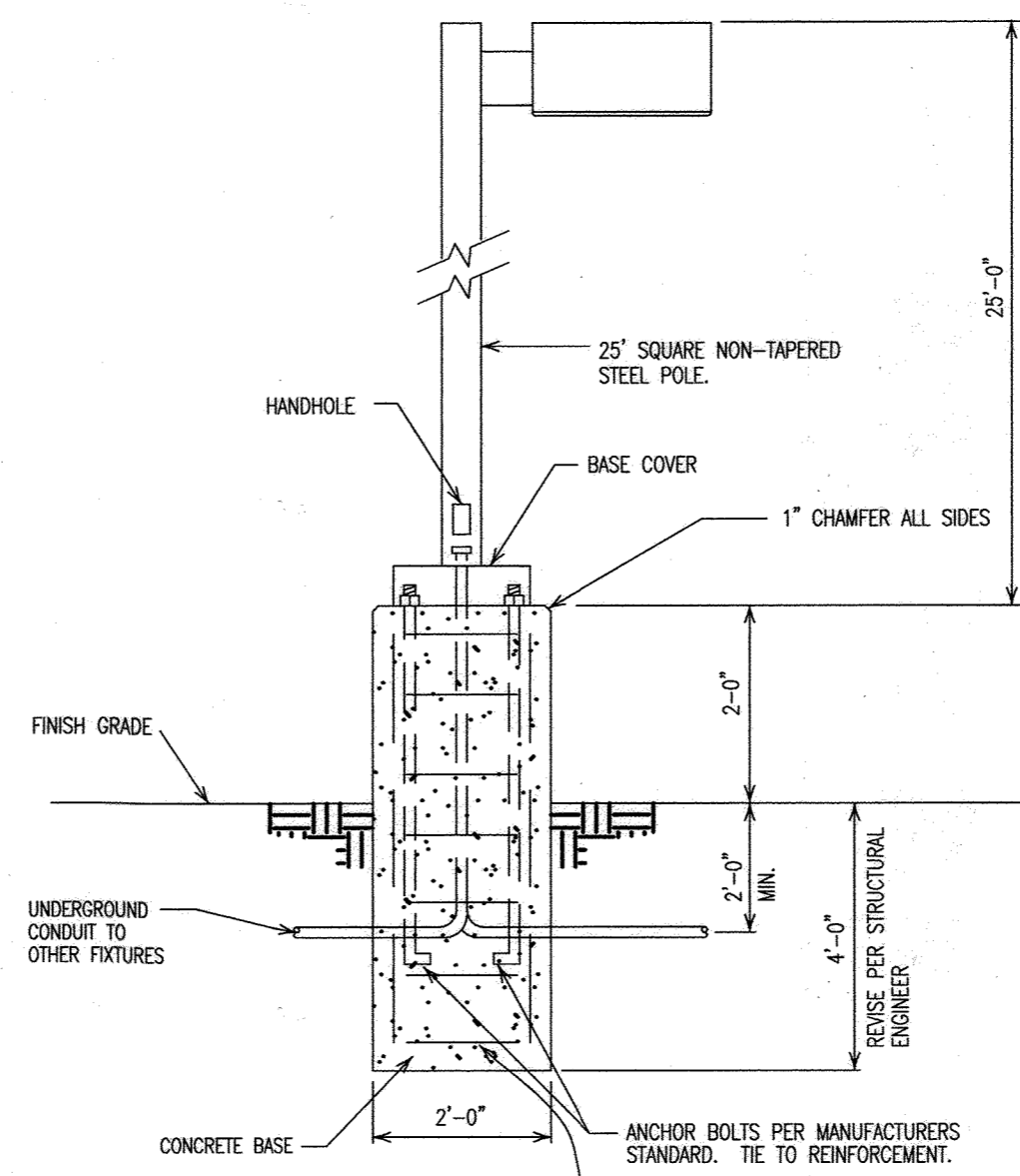
**15 CHAIN LINK FENCE DETAIL**

HOWARD COUNTY DETAIL G-7.22  
NO SCALE



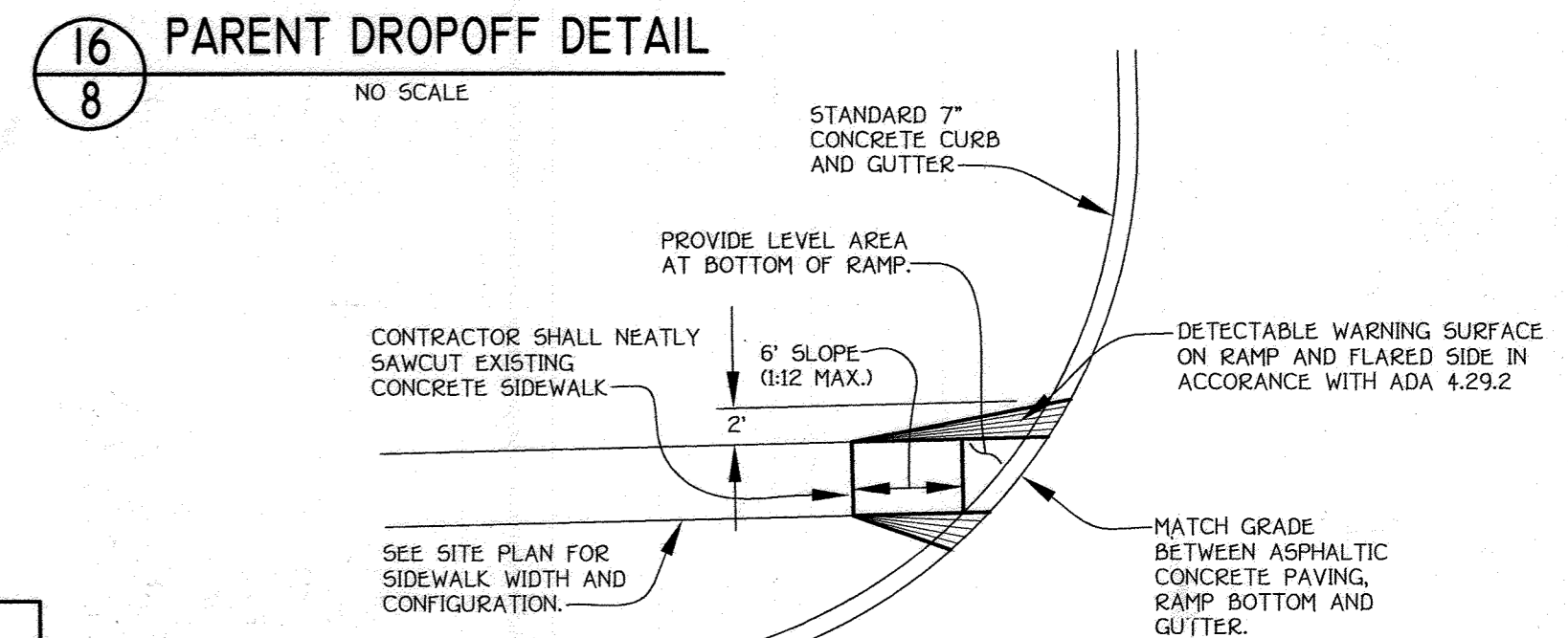
**16 PARENT DROPOFF DETAIL**

NO SCALE



**LIGHTING FIXTURE SCHEDULE**

TYPE	DESCRIPTION	LAMP	SHIELDING
1	POLE MOUNTED FIXTURE MOUNTED ON 25'-0" POLE.	250 WATT CERAMIC METAL HALIDE	SQUARE ROADWAY PARKING LIGHT, 1 THRU V DISTRIBUTION, FLAT GLASS LENS



**17 HANDICAP RAMP 'C' DETAIL**

NO SCALE

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CONTINENTAL SQUARE OFFICE PARK - 20772 BALTIMORE NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21042  
410-428-2955

DATE	DESCRIPTION	REVISION BLOCK
10/2/08	REVISED SHEET NUMBER	
8/22/08	REVISED SHEET NUMBER	
10/24/11	REVISED SHEET NUMBER	

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Mark A. Carter* 3/12/08  
 Director - Department of Planning and Zoning  
*Condy* 3/14/08  
 Chief, Planning and Development  
*John* 2/14/08  
 Chief, Development Engineering Division

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Elicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6798

Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002
PROJECT	SECTION/AREA
ATHOLTON HIGH SCHOOL	N/A
DEED REF. 416/447	PARCEL 269, 249 & 292
BLOCK NO. 24	TAX MAP 201/295
ZONE R-5C	ELEC. DIST. FIFTH
TAX MAP 35	PARCEL 6056.02
WATER CODE E 29	SEWER CODE 5324500

DETAIL SHEET	
HOWARD COUNTY BOARD OF EDUCATION ATHOLTON HIGH SCHOOL PARKING LOT ADDITIONS	
TAX MAP No.: 35	GRID No.: 24
FIFTH ELECTION DISTRICT	PARCEL Nos.: 265, 249 & 292
SCALE: 1" = 20'	DATE: FEBRUARY 8, 2008
SHEET 8 OF 36 SDP-08-050	

**SDP-08-050**



20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

Vegetative stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, it is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas, and preserving wildlife habitat and visual resources.

This practice shall be used on disturbed areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration up to one year, and Permanent Seeding, for long term vegetative cover. Examples of applicable practices are: Temporary Seeding, Seeding, Seeding with mulch, Seeding with straw, Seeding with straw and mulch, and Permanent Seeding with straw, straw and mulch, and Seeding with straw, straw and mulch. Other areas at final grade, former stockpiles and staging areas, etc.

Effects on water quality and quantity: Planting vegetation in disturbed areas will have an effect on the water budget, especially on volume and rates of runoff. Infiltration, evaporation, transpiration, evapotranspiration, and groundwater recharge. Vegetation over time will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. It will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seeded preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation: Install erosion and sediment control structures (temporary or permanent) such as diversions, grade stabilization structures, berms, weirs, or sediment control basins.

B. Soil Amendments: Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.

C. Seeded Preparation: Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as a disk harrow or chisel plow. The soil should be rolled or dragged smooth, but left in the roughened condition. Sloped areas greater than 3:1 should be rolled or dragged smooth, but left in the roughened condition. Sloped areas greater than 3:1 should be rolled or dragged smooth, but left in the roughened condition. Sloped areas greater than 3:1 should be rolled or dragged smooth, but left in the roughened condition.

D. Seed Mixture: Seed mixture shall be composed of free flowing and suitable for accurate application by approved equipment. Mature may be substituted for fertilizer with prior approval of the appropriate authority. Fertilizers shall not be delivered to the site fully labeled according to the label shall bear the name and brand name of the manufacturer and manufacturer of the product.

E. Fertilizers: Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Mature may be substituted for fertilizer with prior approval of the appropriate authority. Fertilizers shall not be delivered to the site fully labeled according to the label shall bear the name and brand name of the manufacturer and manufacturer of the product.

F. Lime: Lime shall be ground limestone (dolomite plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.

G. Mulch: Mulch and fertilizer into the top 3-5" of soil by disking or other suitable means. In copolymer lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

H. Fertilizers: Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Mature may be substituted for fertilizer with prior approval of the appropriate authority. Fertilizers shall not be delivered to the site fully labeled according to the label shall bear the name and brand name of the manufacturer and manufacturer of the product.

I. Lime: Lime shall be ground limestone (dolomite plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.

J. Mulch: Mulch and fertilizer into the top 3-5" of soil by disking or other suitable means. In copolymer lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

K. Fertilizers: Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Mature may be substituted for fertilizer with prior approval of the appropriate authority. Fertilizers shall not be delivered to the site fully labeled according to the label shall bear the name and brand name of the manufacturer and manufacturer of the product.

L. Lime: Lime shall be ground limestone (dolomite plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.

M. Mulch: Mulch and fertilizer into the top 3-5" of soil by disking or other suitable means. In copolymer lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

N. Fertilizers: Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Mature may be substituted for fertilizer with prior approval of the appropriate authority. Fertilizers shall not be delivered to the site fully labeled according to the label shall bear the name and brand name of the manufacturer and manufacturer of the product.

O. Lime: Lime shall be ground limestone (dolomite plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.

P. Mulch: Mulch and fertilizer into the top 3-5" of soil by disking or other suitable means. In copolymer lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

Q. Fertilizers: Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Mature may be substituted for fertilizer with prior approval of the appropriate authority. Fertilizers shall not be delivered to the site fully labeled according to the label shall bear the name and brand name of the manufacturer and manufacturer of the product.

R. Lime: Lime shall be ground limestone (dolomite plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.

S. Mulch: Mulch and fertilizer into the top 3-5" of soil by disking or other suitable means. In copolymer lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

T. Fertilizers: Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Mature may be substituted for fertilizer with prior approval of the appropriate authority. Fertilizers shall not be delivered to the site fully labeled according to the label shall bear the name and brand name of the manufacturer and manufacturer of the product.

U. Lime: Lime shall be ground limestone (dolomite plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.

V. Mulch: Mulch and fertilizer into the top 3-5" of soil by disking or other suitable means. In copolymer lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

W. Fertilizers: Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Mature may be substituted for fertilizer with prior approval of the appropriate authority. Fertilizers shall not be delivered to the site fully labeled according to the label shall bear the name and brand name of the manufacturer and manufacturer of the product.

X. Lime: Lime shall be ground limestone (dolomite plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.

Y. Mulch: Mulch and fertilizer into the top 3-5" of soil by disking or other suitable means. In copolymer lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

Z. Fertilizers: Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Mature may be substituted for fertilizer with prior approval of the appropriate authority. Fertilizers shall not be delivered to the site fully labeled according to the label shall bear the name and brand name of the manufacturer and manufacturer of the product.

AA. Lime: Lime shall be ground limestone (dolomite plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.

AB. Mulch: Mulch and fertilizer into the top 3-5" of soil by disking or other suitable means. In copolymer lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

AC. Fertilizers: Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Mature may be substituted for fertilizer with prior approval of the appropriate authority. Fertilizers shall not be delivered to the site fully labeled according to the label shall bear the name and brand name of the manufacturer and manufacturer of the product.

AD. Lime: Lime shall be ground limestone (dolomite plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.

AE. Mulch: Mulch and fertilizer into the top 3-5" of soil by disking or other suitable means. In copolymer lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

AF. Fertilizers: Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Mature may be substituted for fertilizer with prior approval of the appropriate authority. Fertilizers shall not be delivered to the site fully labeled according to the label shall bear the name and brand name of the manufacturer and manufacturer of the product.

AG. Lime: Lime shall be ground limestone (dolomite plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.

AH. Mulch: Mulch and fertilizer into the top 3-5" of soil by disking or other suitable means. In copolymer lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

AI. Fertilizers: Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Mature may be substituted for fertilizer with prior approval of the appropriate authority. Fertilizers shall not be delivered to the site fully labeled according to the label shall bear the name and brand name of the manufacturer and manufacturer of the product.

AJ. Lime: Lime shall be ground limestone (dolomite plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.

AK. Mulch: Mulch and fertilizer into the top 3-5" of soil by disking or other suitable means. In copolymer lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

AL. Fertilizers: Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Mature may be substituted for fertilizer with prior approval of the appropriate authority. Fertilizers shall not be delivered to the site fully labeled according to the label shall bear the name and brand name of the manufacturer and manufacturer of the product.

AM. Lime: Lime shall be ground limestone (dolomite plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.

SECTION 2 - TEMPORARY SEEDING

Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed mixtures - Temporary Seeding

- Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardness Zone (from Figure 5) and enter them in the Temporary Seeding Summary below, along with application rates, seeding dates and seeding depths. If this summary is not put on the plans and completed, then Table 26 must be put on the plans.
- For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	Fertilizer Rate (lb/1000sf)	Lime Rate (ton/1000sf)
1	BARLEY	122	3/1 - 5/15	1" - 2"	600 lb/acre	2 tons/acre
	OATS	96	8/15 - 10/15	1" - 2"	05 lb/1000sf	000 lb/1000sf
	RYE	140		1" - 2"		

SECTION 3 - PERMANENT SEEDING

Seeding grass and legumes to establish ground cover for a minimum of one year on disturbed areas generally receiving low maintenance.

A. Seed mixtures - Permanent Seeding

- Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342 - Critical Area Planning, for Special Areas, maintenance areas, see Sections IV Sod and V Turfgrass.
- For sites having disturbed areas over 5 acres, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.
- For areas receiving low maintenance, apply urea-form fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (50 lb/acre), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	N	P205	K2O	Lime Rate
1	TALL FESCUE (90#)	125	3/1 - 5/15	1" - 2"	90 lb/acre	175 lb/acre	175 lb/acre	2 tons/acre
3	PERENNIAL RYE GRASS (100#)	15	8/15 - 10/15	1" - 2"	120 lb/acre	14 lb/acre	100 lb/acre	000 lb/1000sf
10	TALL FESCUE (90#)	120	3/1 - 5/15	1" - 2"				
	HARD FESCUE (120#)	30	8/15 - 10/15	1" - 2"				

NOTE: THESE SEEDING SPECIFICATIONS ARE THE MINIMUM REQUIRED FOR SEDIMENT CONTROL. REFER TO PROJECT SPECIFICATIONS FOR SEEDING REQUIREMENTS FOR OTHER AREAS OF THE SITE.

SEDIMENT CONTROL NOTES

- 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 (313-1955).
- 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.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 30 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.
- ALL SEDIMENT TRENCHES/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.
- 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. 50), SOIL (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.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
  - TOTAL AREA OF SITE: 40.98 ACRES
  - AREA DISTURBED: 4.64 ACRES
  - AREA TO BE SOOPEL OR PAVED: 3.29 ACRES
  - AREA TO BE VEGETATIVELY STABILIZED: 1.35 ACRES
  - TOTAL DISTURBED AREA: 34.57 CU.YDS.
  - TOTAL FILL: 3792 CU.YDS.
- OFFSITE WASTE/BORROW AREA LOCATION: N/A
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- 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.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THOSE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

Reference: Guideline Specifications, Soil Preparation, MD-VA, Pub. 1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1973.

STANDARDS AND SPECIFICATIONS FOR TOPSOIL

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

Purpose: To provide a suitable soil medium for 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

- This practice is limited to areas having 21" or flatter slopes where:
  - The texture of the exposed subsoil/parent material is not adequate to provide vegetative growth.
  - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish contrasting supplies of moisture and plant nutrients.
  - The original soil to be vegetated contains material toxic to plant growth.
  - The soil is so acidic that treatment with limestone is not feasible.
- 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 Experiment Station.

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

- Topsoil shall be a loam, sandy loam, clay loam, silty loam, sandy clay loam, loamy sand. Other soils may be used if approved by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, or other materials larger than 2" diameter.
- Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnson grass, nutgrass, poison ivy, thistle, or others as specified.
- Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Subsoils with high iron, manganese, or sulfur or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342 - Critical Area Planning, for Special Areas, maintenance areas, see Sections IV Sod and V Turfgrass.

III. For sites having disturbed areas under 5 acres:

- Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
- For sites having disturbed areas under 5 acres:
- On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

- 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.
- Organic content of topsoil shall be not less than 1.5 percent by weight.
- Topsoil having soluble salt content greater than 500 parts per million shall not be used.
- 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 phytotoxic materials.

Note: Topsoil salvaged from the existing site, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

IV. 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

- When topsoil is applied, maintain erosion and sediment control practices such as diversions, grade stabilization structures, earth dikes, slope filter fences and sediment traps and basins.
- Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
- 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.
- Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition when the subsoil is excessively wet. Conditions such as these may be detrimental to the grading and seeded 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 under 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:

- 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.
- 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 9.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
- Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

II. 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.

Reference: Guideline Specifications, Soil Preparation, MD-VA, Pub. 1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1973.

III. 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.

IV. SITE ANALYSIS:
 

- TOTAL AREA OF SITE: 40.98 ACRES
- AREA DISTURBED: 4.64 ACRES
- AREA TO BE SOOPEL OR PAVED: 3.29 ACRES
- AREA TO BE VEGETATIVELY STABILIZED: 1.35 ACRES
- TOTAL DISTURBED AREA: 34.57 CU.YDS.
- TOTAL FILL: 3792 CU.YDS.

V. OFFSITE WASTE/BORROW AREA LOCATION: N/A

VI. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

VII. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

VIII. 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.

IX. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THOSE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

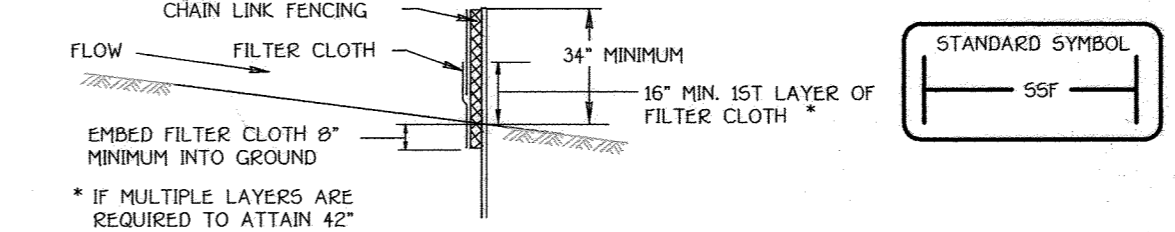
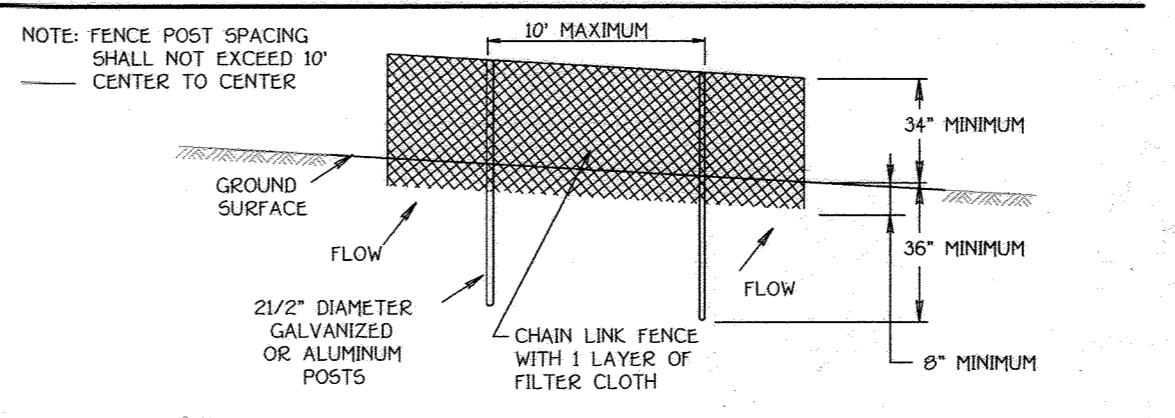
Reference: Guideline Specifications, Soil Preparation, MD-VA, Pub. 1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1973.

Curb Inlet Protection 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.

SUPER SILT FENCE



Construction Specifications

- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6" fence shall be used, substituting 42" fabric and 6" length posts.
- Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt bulges removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
- Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min)	Test: MSMT 509
Flow Rate	0.3 gal/ft (min/100 in)	Test: MSMT 322
Filtering Efficiency	75% (min)	Test: MSMT 322

Design Criteria

Slope Steepness	Slope Length (Maximum)	Silt Fence Length (Maximum)
0 - 10%	0 - 101	Unlimited
10 - 20%	101 - 51	1,000 feet
20 - 33%	51 - 31	100 feet
33 - 50%	31 - 21	100 feet
50% +	21 +	50 feet

Construction Specifications

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

Reference: Guideline Specifications, Soil Preparation, MD-VA, Pub. 1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1973.



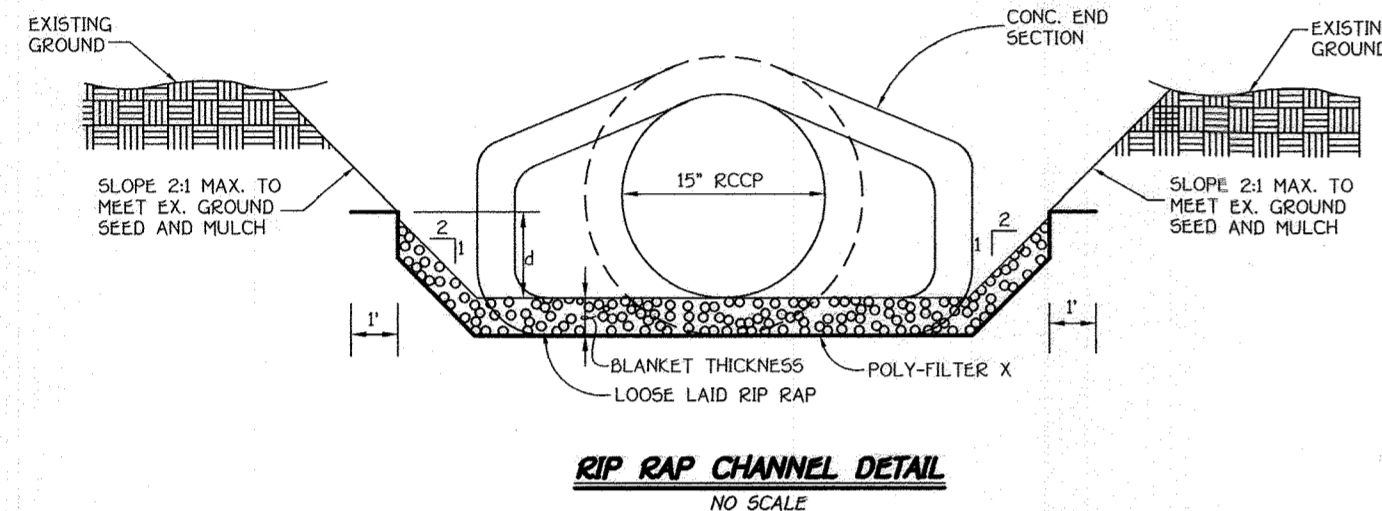
STRUCTURE SCHEDULE							
STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	COORDINATES	WIDTH	TYPE	REMARKS
I-1	411.03	406.50 (08')	406.00 (24')	N 554661.23 E 134637.80	4'	A-10	D - 4.03
I-2	419.68	-	416.00 (15')	N 554569.80 E 1346241.58	2.5'	A-10	D - 4.03
I-3	415.06	-	409.00 (15')	N 554588.25 E 1346348.92	2.5'	A-5	D - 4.01
I-4	409.95	-	405.54 (15')	N 554606.98 E 1346389.90	3'	A-10	D - 4.03
I-5	416.29	412.12 (15')	411.67 (08')	N 554336.63 E 1346262.25	2.5'	A-5	D - 4.01
I-6	420.50	-	416.75 (15')	N 554332.25 E 1346314.56	2.5'	A-5	D - 4.01
I-7	416.35	-	412.93 (15')	N 554230.46 E 1346471.46	2.5'	A-10	D - 4.03
I-8	412.89	-	405.79 (15')	N 554902.62 E 1346208.38	2.5'	A-5	D - 4.01
S-1	-	-	403.71 (15')	N 554921.82 E 1346227.62	4'	15" END SECTION	D - 5.51
M-1	415.49	410.67 (15')	410.42 (08')	N 554595.11 E 1346291.08	4'	4' STD. MANHOLE	G - 5.12
M-2	410.33	414.93 (15')	412.29 (15')	N 554555.27 E 1346264.53	4'	4' STD. MANHOLE	G - 5.12
M-3	421.61	414.45 (15')	414.51 (12')	N 554504.67 E 1346227.67	4'	4' STD. MANHOLE	G - 5.12
M-4	415.90	410.85 (24')	410.99 (24')	N 554343.28 E 1346463.95	4'	4' STD. MANHOLE	G - 5.12
M-5	409.43	404.43 (24')	405.00 (15')	N 554622.57 E 1346372.44	5'	5' STD. MANHOLE	G - 5.13
M-6	417.50	411.84 (15')	411.59 (08')	N 554333.87 E 1346446.13	4'	4' STD. MANHOLE	G - 5.12

PIPE SCHEDULE		
SIZE	CLASS	LENGTH
15"	RCCP, CLASS IV	336 L.F.
18"	RCCP, CLASS IV	91 L.F.
24"	RCCP, CLASS IV	56 L.F.

NOTES:  
 1. TOP ELEVATIONS AND COORDINATES FOR A-5 AND A-10 INLETS ARE LOCATED AT TOP CENTER OF THE INLET.  
 2. COORDINATES FOR END SECTIONS ARE LOCATED AT CENTER END AT RIPRAP.

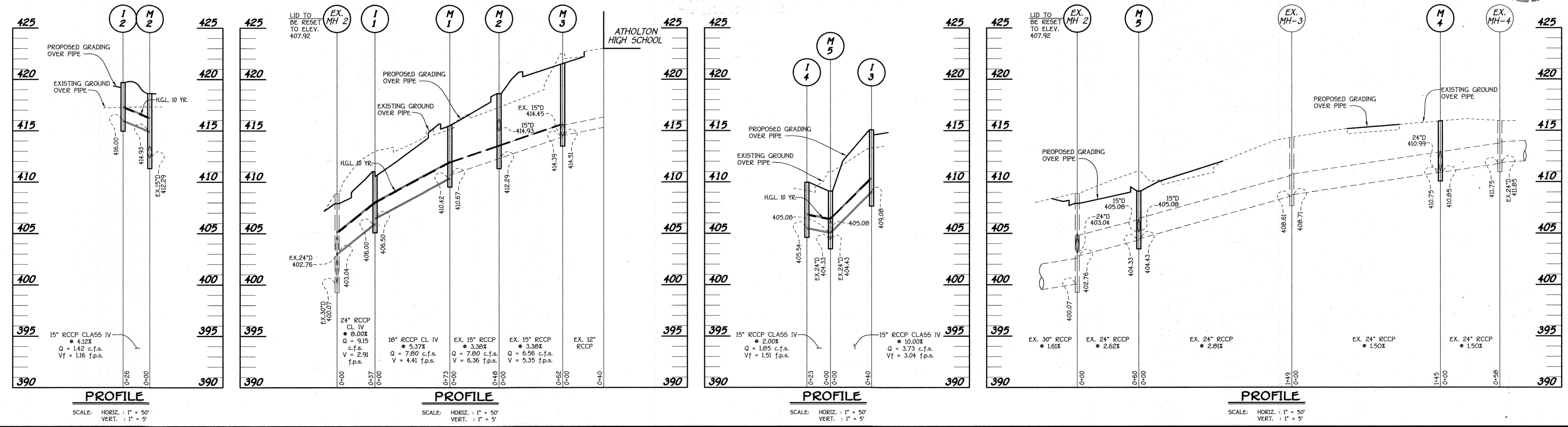
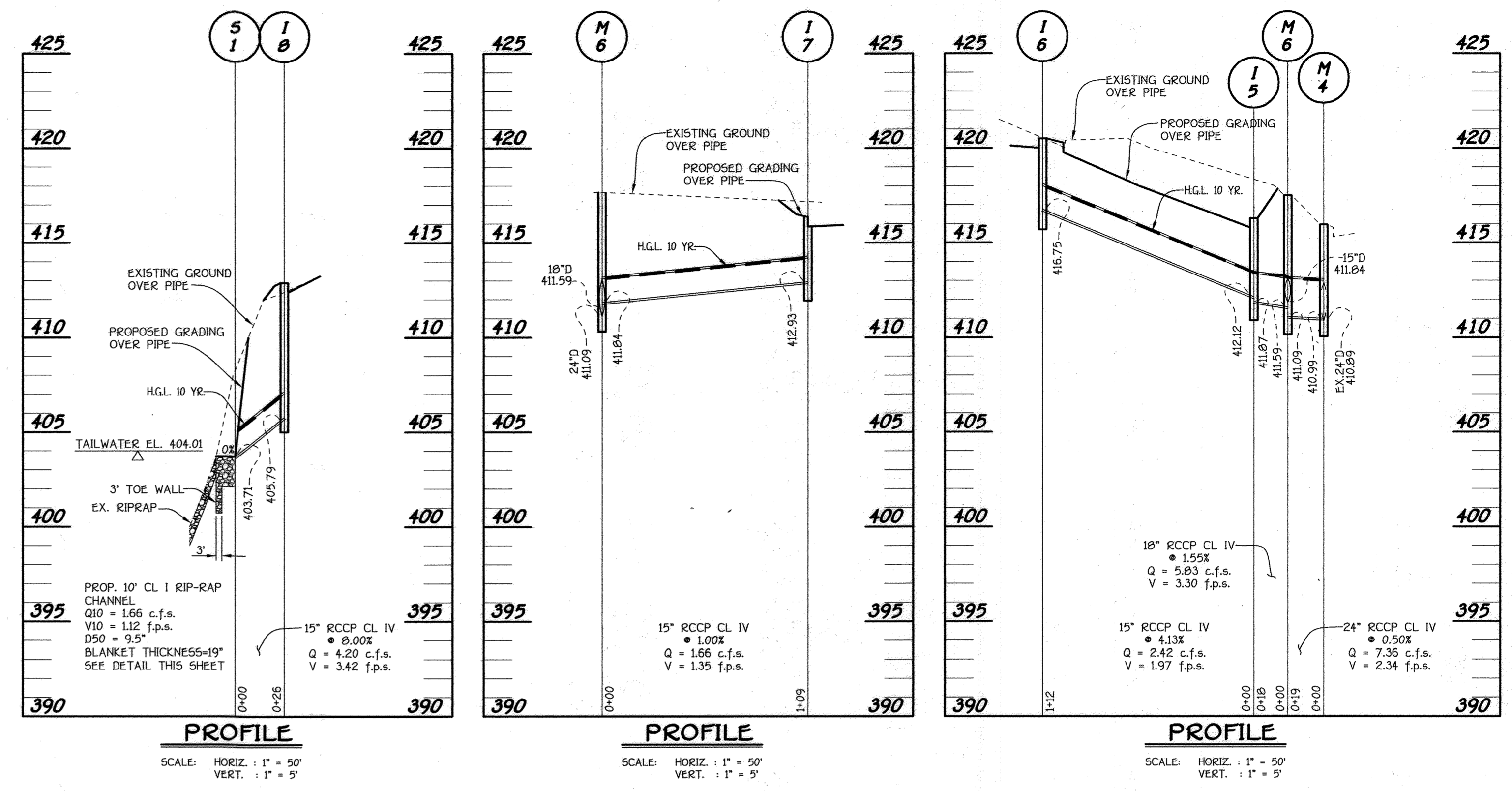
**CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS**

- The subgrade for the filter, riprap or gabion shall be prepared to the required fines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
- Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
- Stone for the riprap or gabion outlets may be placed by equipment. Both shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.



RIP-RAP CHANNEL DESIGN DATA											
STRUCTURE	AREA	WETTED PERIMETER	R	R <sup>2/3</sup>	S	S <sup>1/2</sup>	W*	d	n	V (f.p.s.)	Q (c.f.s.)
S-1	3.73	13.33'	3.36	2.22	0.0050	0.0707	12'	0.3'	0.04	1.12	4.20

\* - DENOTES WIDTH AT END OF 10' RIPRAP CHANNEL



"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. 13204, Expiration Date: November 3, 2008."



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CONTINENTAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 410-481-2895

DATE	DESCRIPTION	REVISION BLOCK
10/2/06	REVISED SHEET NUMBER	
3/28/07	REVISED SHEET NUMBER	
10/24/11	REVISED SHEET NUMBER	

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Director - Department of Planning and Zoning  
 Chief, Division of Land Development  
 Chief, Development Engineering Division

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Ellicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6798

Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002

PROJECT	SECTION/AREA	PARCEL
ATHOLTON HIGH SCHOOL	N/A	269, 249 & 292

DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
416/447 201/296 429/494	24	R-5C NT	35	FIFTH	6056.02

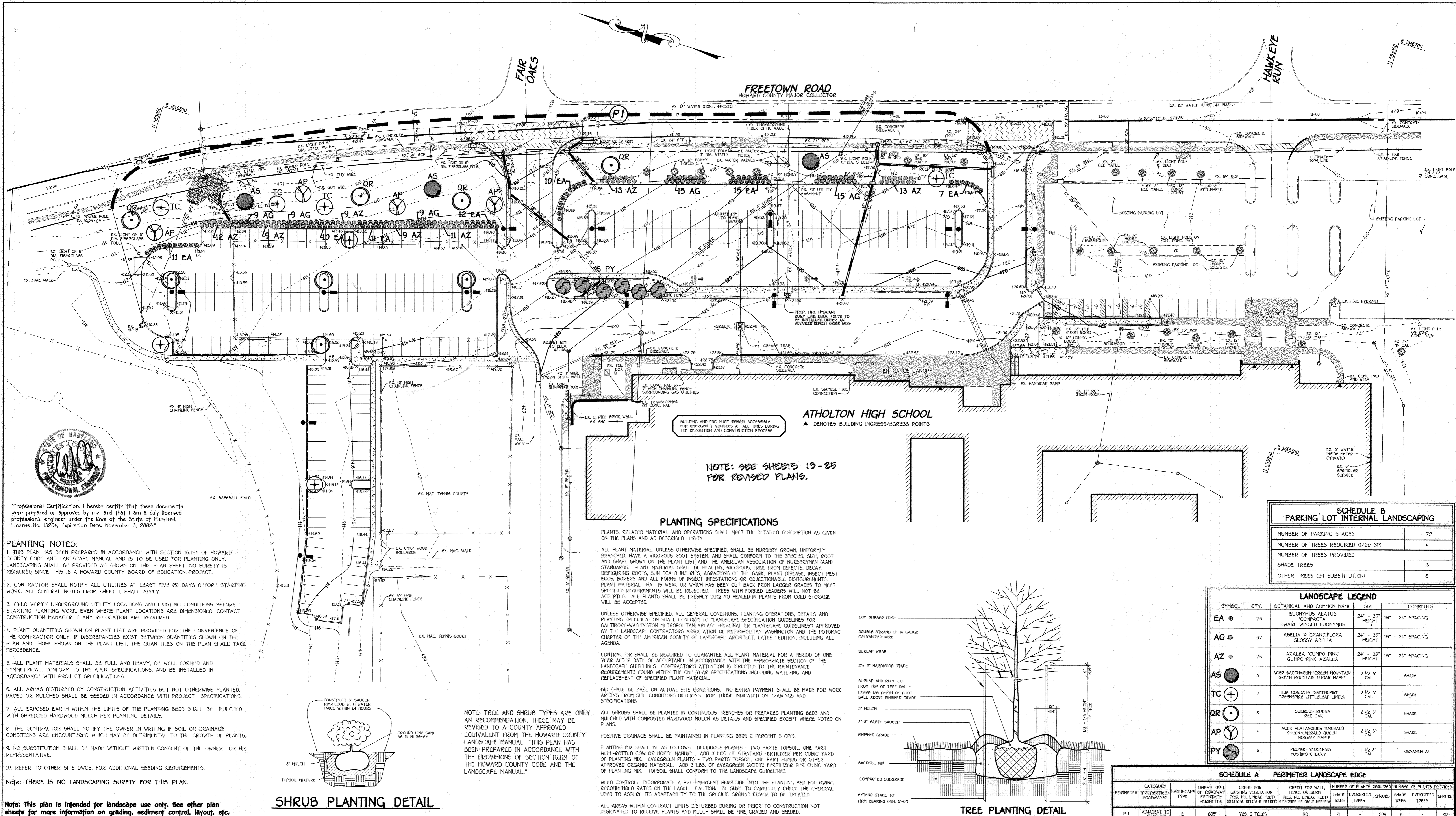
WATER CODE	SEWER CODE
E 29	5324500

**STORM DRAIN PROFILES AND STRUCTURE SCHEDULE**  
 HOWARD COUNTY BOARD OF EDUCATION  
 ATHOLTON HIGH SCHOOL  
 PARKING LOT ADDITIONS

TAX MAP No.: 35 GRID No.: 24 PARCEL Nos.: 265, 249 & 292  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: FEBRUARY 8, 2008

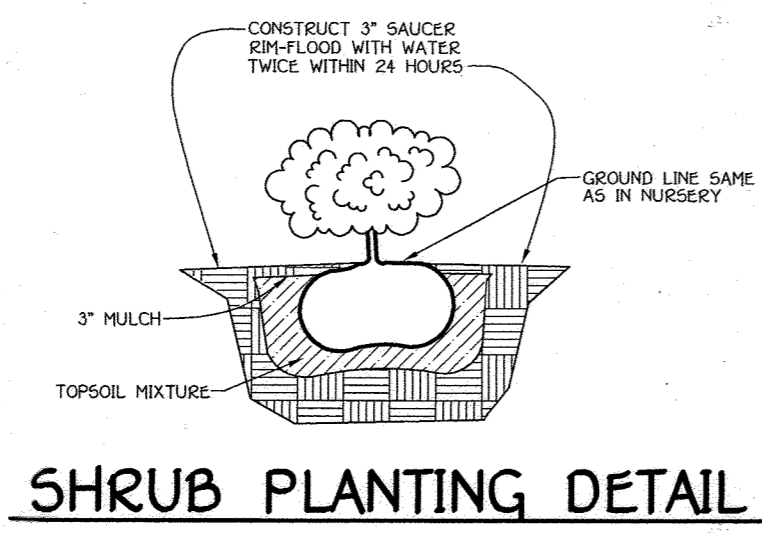
SHEET 10 OF 36 SDP-08-050





"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. 13204, Expiration Date: November 3, 2008."

- PLANTING NOTES:**
1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF HOWARD COUNTY CODE AND LANDSCAPE MANUAL AND IS TO BE USED FOR PLANTING ONLY. LANDSCAPING SHALL BE SHOWN ON THIS PLAN SHEET. NO SURETY IS REQUIRED SINCE THIS IS A HOWARD COUNTY BOARD OF EDUCATION PROJECT.
  2. CONTRACTOR SHALL NOTIFY ALL UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK. ALL GENERAL NOTES FROM SHEET 1, SHALL APPLY.
  3. FIELD VERIFY UNDERGROUND UTILITY LOCATIONS AND EXISTING CONDITIONS BEFORE STARTING PLANTING WORK, EVEN WHERE PLANT LOCATIONS ARE DIMENSIONED. CONTACT CONSTRUCTION MANAGER IF ANY RELOCATION ARE REQUIRED.
  4. PLANT QUANTITIES SHOWN ON PLANT LIST ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON THE PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL TAKE PRECEDENCE.
  5. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE A.A.N. SPECIFICATIONS, AND BE INSTALLED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
  6. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES BUT NOT OTHERWISE PLANTED, PAVED OR MULCHED SHALL BE SEEDED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
  7. ALL EXPOSED EARTH WITHIN THE LIMITS OF THE PLANTING BEDS SHALL BE MULCHED WITH SHREDDED HARDWOOD MULCH PER PLANTING DETAILS.
  8. THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING IF SOIL OR DRAINAGE CONDITIONS ARE ENCOUNTERED WHICH MAY BE DETRIMENTAL TO THE GROWTH OF PLANTS.
  9. NO SUBSTITUTION SHALL BE MADE WITHOUT WRITTEN CONSENT OF THE OWNER OR HIS REPRESENTATIVE.
  10. REFER TO OTHER SITE DWGS. FOR ADDITIONAL SEEDING REQUIREMENTS.
- Note: THERE IS NO LANDSCAPING SURETY FOR THIS PLAN.



**SHRUB PLANTING DETAIL**

**PLANTING SPECIFICATIONS**

PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.

ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED, HAVE A VIGOROUS ROOT SYSTEM, AND SHALL CONFORM TO THE SPECIES, SIZE, ROOT AND SHAPE SHOWN ON THE PLANT LIST AND THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUN SCALD INJURIES, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BORERS AND ALL FORMS OF INSECT INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS. 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 NOT BE ACCEPTED. ALL PLANTS SHALL BE FRESHLY DUG; NO HEALED-IN PLANTS FROM COLD STORAGE WILL BE ACCEPTED.

UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATION SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS", (HEREINAFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECT, LATEST EDITION, INCLUDING ALL AMENDMENTS.

CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF 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.

BID SHALL BE BASED ON ACTUAL SITE CONDITIONS. NO EXTRA PAYMENT SHALL BE MADE FOR WORK ARISING FROM SITE CONDITIONS DIFFERING FROM THOSE INDICATED ON DRAWINGS AND SPECIFICATIONS.

ALL SHRUBS SHALL BE PLANTED IN CONTINUOUS TRENCHES OR PREPARED PLANTING BEDS AND MULCHED WITH COMPOSTED HARDWOOD MULCH AS DETAILS AND SPECIFIED EXCEPT WHERE NOTED ON PLANS.

POSITIVE DRAINAGE SHALL BE MAINTAINED IN PLANTING BEDS 2 PERCENT SLOPE.

PLANTING MIX SHALL BE AS FOLLOWS: DECIDUOUS PLANTS - TWO PARTS TOPSOIL, ONE PART WELL-ROTTED COW OR HORSE MANURE. ADD 3 LBS. OF STANDARD FERTILIZER PER CUBIC YARD OF PLANTING MIX. EVERGREEN PLANTS - TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL. ADD 3 LBS. OF EVERGREEN (ACIDIC) FERTILIZER PER CUBIC YARD OF PLANTING MIX. TOPSOIL SHALL CONFORM TO THE LANDSCAPE GUIDELINES.

WEED CONTROL: INCORPORATE A PRE-EMERGENT HERBICIDE INTO THE PLANTING BED FOLLOWING RECOMMENDED RATES ON THE LABEL. CAUTION: BE SURE TO CAREFULLY CHECK THE CHEMICAL USED TO ASSURE ITS ADAPTABILITY TO THE SPECIFIC GROUND COVER TO BE TREATED.

ALL AREAS WITHIN CONTRACT LIMITS DISTURBED DURING OR PRIOR TO CONSTRUCTION NOT DESIGNATED TO RECEIVE PLANTS AND MULCH SHALL BE FINE GRADED AND SEEDED.

NOTE: SEE SHEETS 13-25 FOR REVISED PLANS.

**ATHOLTON HIGH SCHOOL**  
▲ DENOTES BUILDING INGRESS/EGRESS POINTS

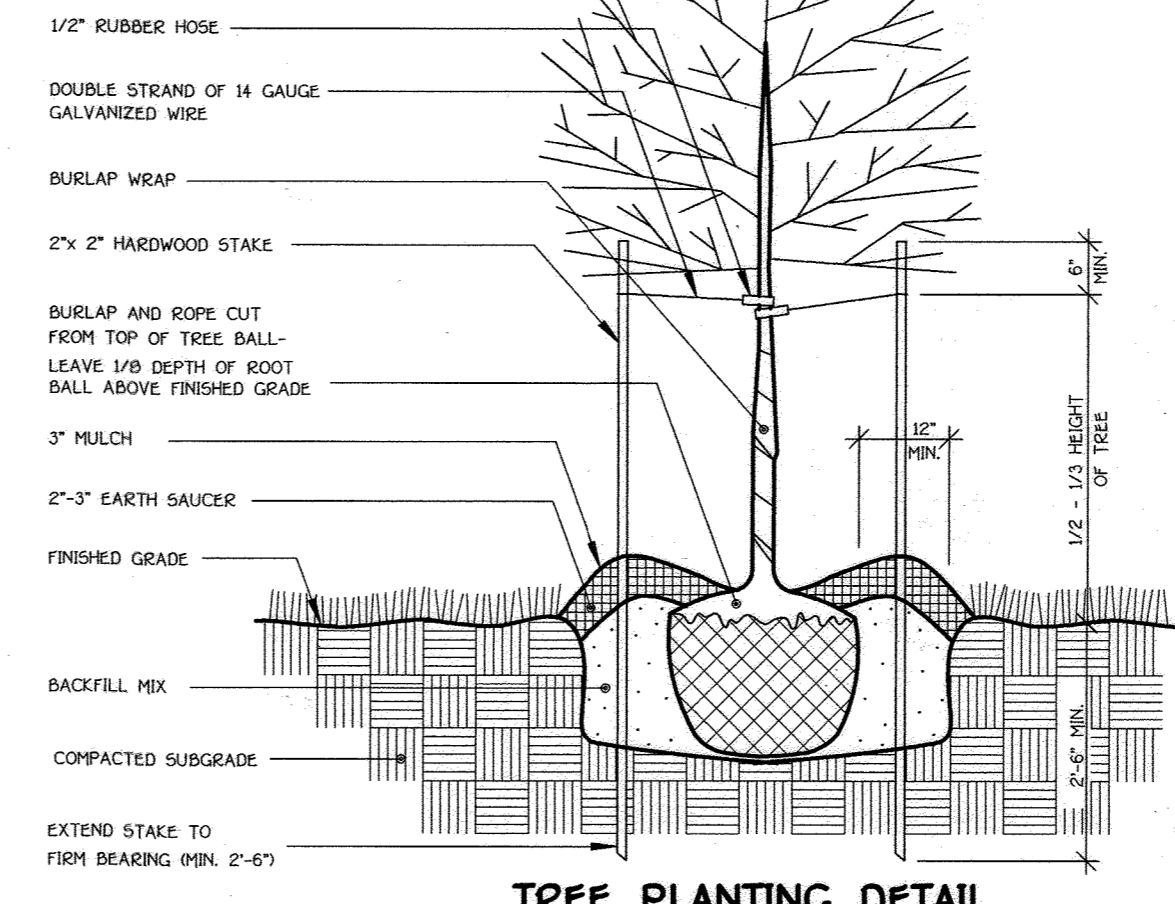
BUILDING AND FDC MUST REMAIN ACCESSIBLE FOR EMERGENCY VEHICLES AT ALL TIMES DURING THE DEMOLITION AND CONSTRUCTION PROCESS.

**SCHEDULE B  
PARKING LOT INTERNAL LANDSCAPING**

NUMBER OF PARKING SPACES	72
NUMBER OF TREES REQUIRED (1/20 SP)	4
NUMBER OF TREES PROVIDED	4
SHADE TREES	0
OTHER TREES (2:1 SUBSTITUTION)	6

**LANDSCAPE LEGEND**

SYMBOL	QTY.	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
EA ⊙	76	EUONYMUS ALATUS 'COMPACTA' DWARF WINGED EUONYMUS	24" - 30" HEIGHT	18" - 24" SPACING
AG ⊙	57	ABELIA X GRANDIFLORA GLOSSY ABELIA	24" - 30" HEIGHT	18" - 24" SPACING
AZ ⊙	76	AZALEA 'JUMPO PINK' GUMPO PINK AZALEA	24" - 30" HEIGHT	18" - 24" SPACING
AS ⊙	3	ACER SACCHARUM 'GREEN MOUNTAIN' GREEN MOUNTAIN SUGAR MAPLE	2 1/2-3" CAL.	SHADE
TC ⊕	7	TILIA CORDATA 'GREENSPIRE' GREENSPIRE LITTLELEAF LINDEN	2 1/2-3" CAL.	SHADE
QR ⊙	8	QUERCUS RUBRA RED OAK	2 1/2-3" CAL.	SHADE
AP ⊙	4	ACER PLATANOIDES 'SPEARHEAD' QUEENSWALL QUEEN NORWAY MAPLE	2 1/2-3" CAL.	SHADE
PY ⊙	6	PRUNUS YEDONENSIS YOSHINO CHERRY	1 1/2-2" CAL.	ORNAMENTAL



**TREE PLANTING DETAIL**

**SCHEDULE A PERIMETER LANDSCAPE EDGE**

CATEGORY	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED (YES, NO, LINEAR FEET)	NUMBER OF PLANTS PROVIDED			
TREES	SHRUBS	TREES	SHRUBS	TREES	SHRUBS	TREES			
P-1	ADJACENT TO ROADWAY	E	835'	YES, 6 TREES	NO	21	209	15	209

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PARK  
ELICOTT CITY, MARYLAND 21042  
410-461-2292

**LANDSCAPE CERTIFICATION**

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

*Bruce Gist*  
BRUCE GIST  
DIRECTOR SCHOOL PLANNING & CONSTRUCTION

*Bruce Gist*  
Date: 2/14/08

DATE	DESCRIPTION	REVISION BLOCK
10/10/07		
5/20/07	REVISED SHEET NUMBER	
10/24/07	REVISED SHEET NUMBER	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Bruce Gist*  
Director - Department of Planning and Zoning

*Conrad Harris*  
Chief, Division of Land Development

*John D. Williams*  
Chief, Development Engineering Division

3/12/08  
3/12/08  
3/14/08

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Elicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6798

Address Chart

Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002

PROJECT: ATHOLTON HIGH SCHOOL

DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.	PARCEL
416/447 201/296 429/434	24	R-5C NT	35	FIFTH	6056.02	269, 249 & 292

WATER CODE: E 29  
SEWER CODE: 5324500

**LANDSCAPE PLAN**

HOWARD COUNTY BOARD OF EDUCATION  
ATHOLTON HIGH SCHOOL

PARKING LOT ADDITIONS

TAX MAP No.: 35 GRID No.: 24 PARCEL Nos.: 265, 249 & 292  
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: 1" = 40' DATE: FEBRUARY 8, 2008

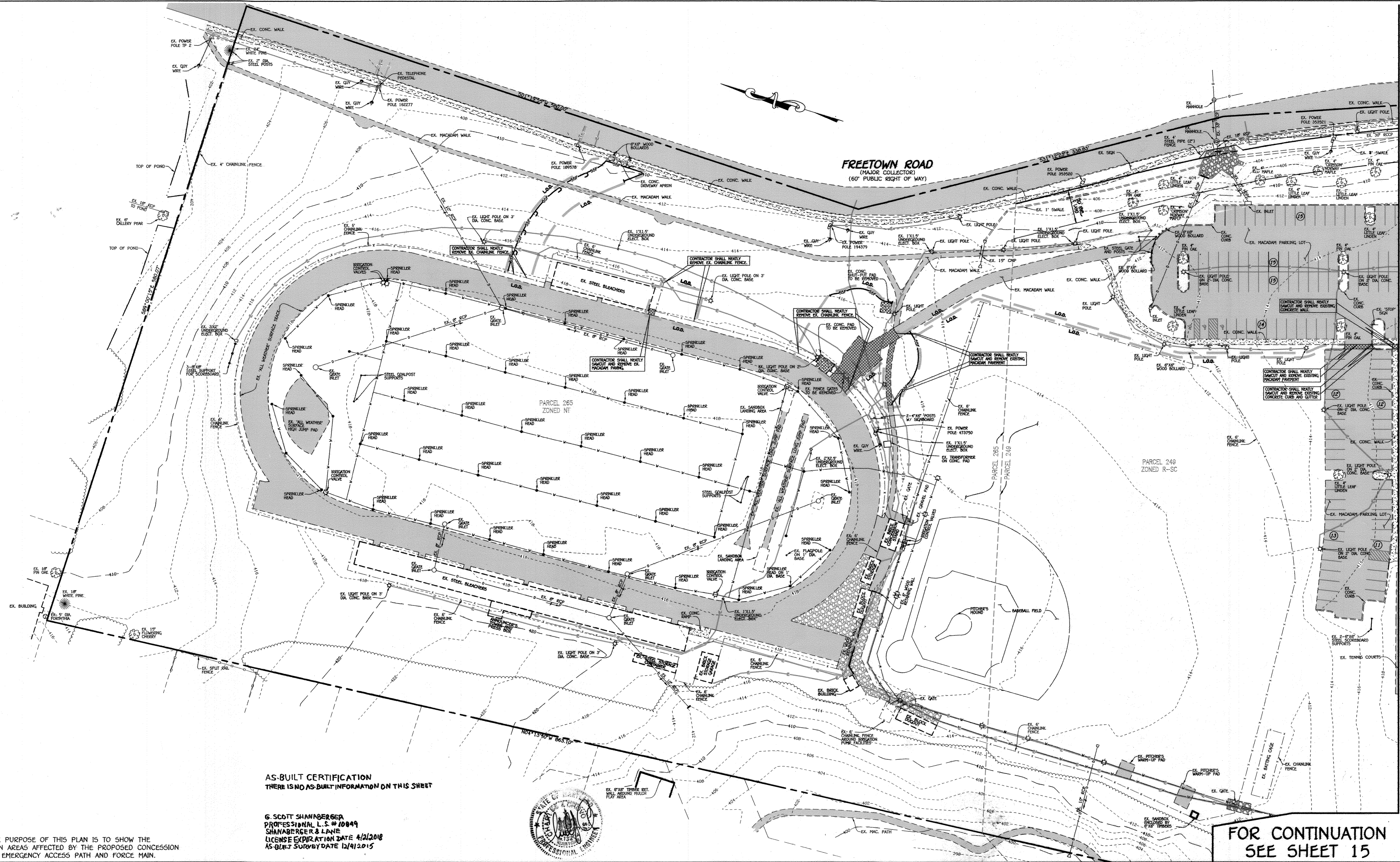
SHEET 11 OF 36 SDP-08-050







FOR CONTINUATION SEE SHEET 14



**AS-BUILT CERTIFICATION**  
THERE IS NO AS-BUILT INFORMATION ON THIS SHEET

**G. SCOTT SHAMBERGER**  
PROFESSIONAL L.S. # 10049  
SHAMBERGER & LANE  
LICENSE EXPIRATION DATE 4/21/2018  
AS-BUILT SURVEY DATE 12/12/2015



NOTE: THE PURPOSE OF THIS PLAN IS TO SHOW THE DEMOLITION AREAS AFFECTED BY THE PROPOSED CONCESSION BUILDING, EMERGENCY ACCESS PATH AND FORCE MAIN.

**FOR CONTINUATION**  
**SEE SHEET 15**

**ENGINEER'S CERTIFICATE**

"I certify that this plan for sediment and erosion 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."

*G. Scott Shamberger*  
Signature of Engineer  
10/25/11  
Date

**DEVELOPER'S CERTIFICATE**

"I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

*John L. Roberts*  
Signature of Developer  
10/25/11  
Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

*John L. Roberts*  
John L. Roberts  
10/27/11  
Date

10/2/12	REVISED SHEET NUMBER
8/29/10	REVISED SHEET NUMBER
DATE	DESCRIPTION
	REVISION BLOCK
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Thomas J. Buttle</i>	11/9/11
Director - Department of Planning and Zoning	Date
<i>West Shuler</i>	11-02-11
Chief, Division of Land Development	Date
<i>Chris Hodson</i>	11-3-11
Chief, Development Engineering Division	Date

PREPARED FOR:  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention: Bruce Graft  
410-313-6805

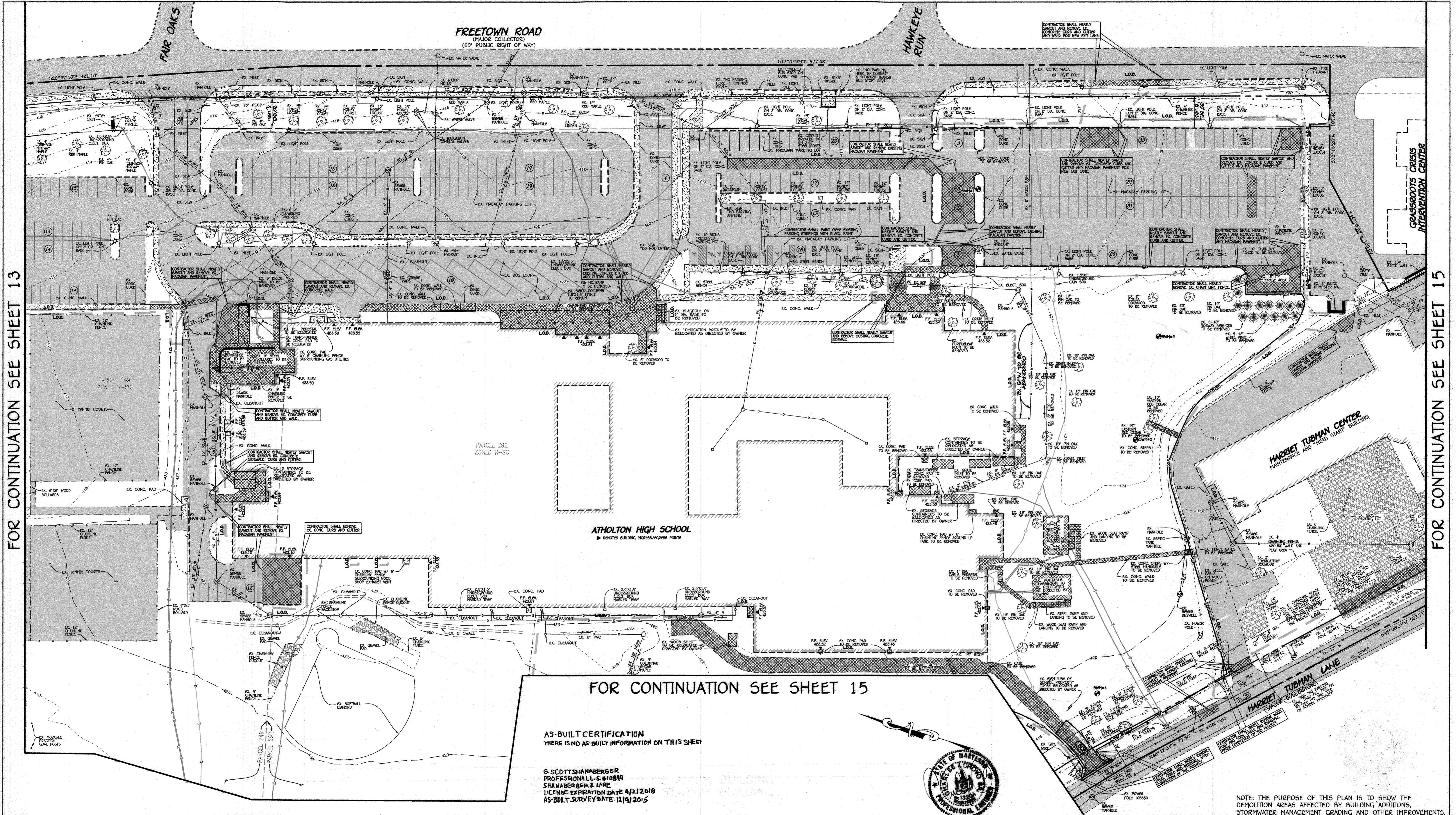
TCA ARCHITECTS  
2661 RIVA ROAD, SUITE 120  
ANNAPOLIS, MARYLAND 21401  
(410) 841-6205

Address Chart		
Parcel Number	Street Address	
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002	
PROJECT		
ATHOLTON HIGH SCHOOL	SECTION/AREA	PARCEL
	N/A	269, 249 & 292
DEED REF. 416/447	TAX MAP	ELEC. DIST. CENSUS TR.
201/296	24	35
409/434	ZONE R-3C	FIFTH
NT	SEWER CODE	6056.02
WATER CODE E. 29	5324500	

**DEMOLITION PLAN, SEDIMENT AND EROSION CONTROL PLAN**  
**"REVISED SITE DEVELOPMENT PLAN"**  
**ATHOLTON HIGH SCHOOL**

CLASSROOM ADDITIONS AND IMPROVEMENTS  
PARCEL Nos.: 265,249 & 292  
TAX MAP No.: 35 GRID No.: 24  
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: 1"=40'  
DATE: JULY 15, 2011





FOR CONTINUATION SEE SHEET 13

FOR CONTINUATION SEE SHEET 15

**FOR CONTINUATION SEE SHEET 15**

**AS-BUILT CERTIFICATION**  
THERE IS NO AS BUILT INFORMATION ON THIS SHEET

G-SCOTT SHANABERGER  
PRO-FREDDHALL S-#10809  
SHANABERGER & LANE  
LICENSE EXPIRATION DATE 4/21/2018  
AS-BUILT SURVEY DATE: 12/19/2015



NOTE: THE PURPOSE OF THIS PLAN IS TO SHOW THE DEMOLITION AREAS AFFECTED BY BUILDING ADDITIONS, STORMWATER MANAGEMENT GRADING AND OTHER IMPROVEMENTS.

**ENGINEER'S CERTIFICATE**

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer: *[Signature]* Date: 1/25/11

**DEVELOPER'S CERTIFICATE**

"I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer: *[Signature]* Date: 1/25/11

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Signature: *[Signature]* Date: 1/27/11

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* Date: 1/9/11

*[Signature]* Date: 11-09-11

*[Signature]* Date: 11-3-11

DATE	DESCRIPTION	REVISION BLOCK
2/20/10	REQUIRED TO ELIMINATE A PORTION OF PRIVATE WATER MAIN AND ADD 1" WATER SERVICE	
10/9/10	REVISED SHEET NUMBER	
8/29/10	REVISED SHEET NUMBER	

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6805

TCA ARCHITECTS  
2661 RIVA ROAD, SUITE 120  
ANNAPOLIS, MARYLAND 21401  
(410) 841-6205

Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002

PROJECT	SECTION/AREA	PARCEL
ATHOLTON HIGH SCHOOL	N/A	269, 249 & 292

DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.	WATER CODE	SEWER CODE
416/447 201/296 429/424	24	R-SC NT	35	FIFTH	6056.02	E 29	5324500

**DEMOLITION PLAN, SEDIMENT AND EROSION CONTROL PLAN**

**"REVISED SITE DEVELOPMENT PLAN"**

**ATHOLTON HIGH SCHOOL**

CLASSROOM ADDITIONS AND IMPROVEMENTS

PARCEL Nos.: 265,249 & 292  
TAX MAP No.: 35 GRID No.: 24  
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: 1"=40' DATE: JULY 15, 2011

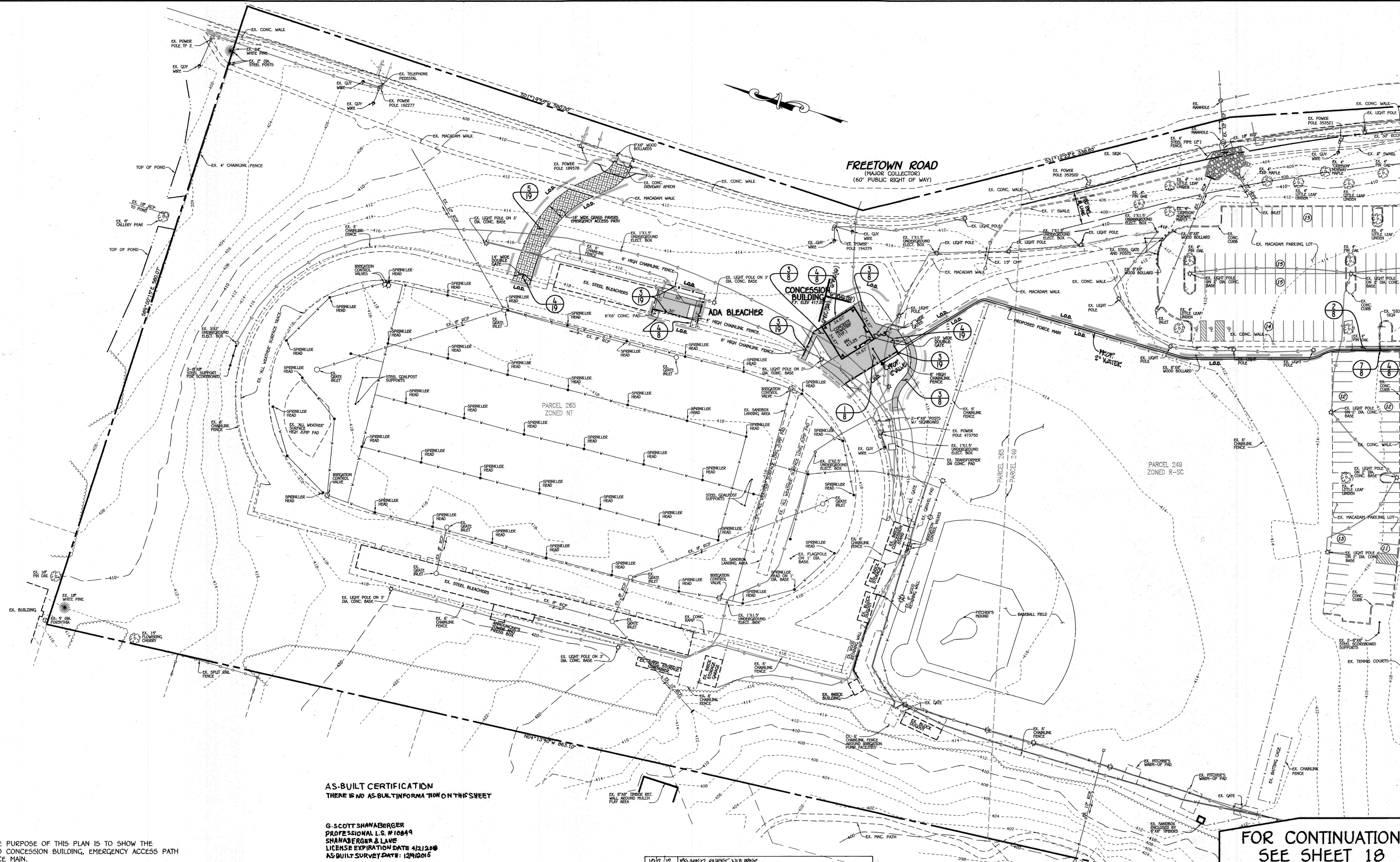
SHEET 14 OF 36







FOR CONTINUATION SEE SHEET 17



**AS-BUILT CERTIFICATION**  
 THERE IS NO AS-BUILT INFORMATION ON THIS SHEET

G. SCOTT SHANABERGER  
 PROFESSIONAL L.S. #10849  
 SHANABERGER & LAWE  
 LICENSE EXPIRATION DATE 4/21/2010  
 AS-BUILT SURVEY DATE: 12/9/2015

NOTE: THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED CONCESSION BUILDING, EMERGENCY ACCESS PATH AND FORCE MAIN.

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PKWY  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2895

DATE	DESCRIPTION	REVISION BLOCK
10/2/12	REVISED SHEET NUMBER	
07/0/12	ADDED WATER CONNECTION TO STADIUM BUILDING	
07/1/12	ADDED WATER CONNECTION TO STADIUM BUILDING	
5/25/12	REVISED SHEET NUMBER	
12/10/11	ADDED STORM DRAINS TO CONCESSION BUILDING	

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Thomas E. Buttle</i>	11/9/11
Director - Department of Planning and Zoning	Date
<i>Walt Shuler</i>	11-09-11
Chief, Division of Land Development	Date
<i>Phil Blaher</i>	11-3-11
Chief, Development Engineering Division	Date

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Ellicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6805

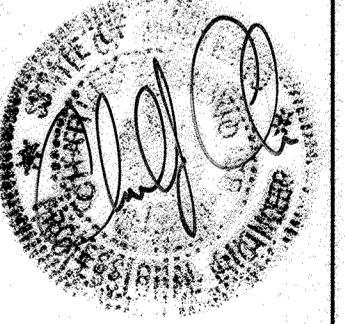
Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002

PROJECT	SECTION/AREA	PARCEL
ATHOLTON HIGH SCHOOL	N/A	269, 249 & 292
DEED REF. 416/447 201/236 429/434	BLOCK NO. 24 ZONE R-SC NT	TAX MAP 35 ELEC. DIST. FIFTH CENSUS TR. 6056.02
WATER CODE E 29	SEWER CODE 5324500	

**FOR CONTINUATION SEE SHEET 18**

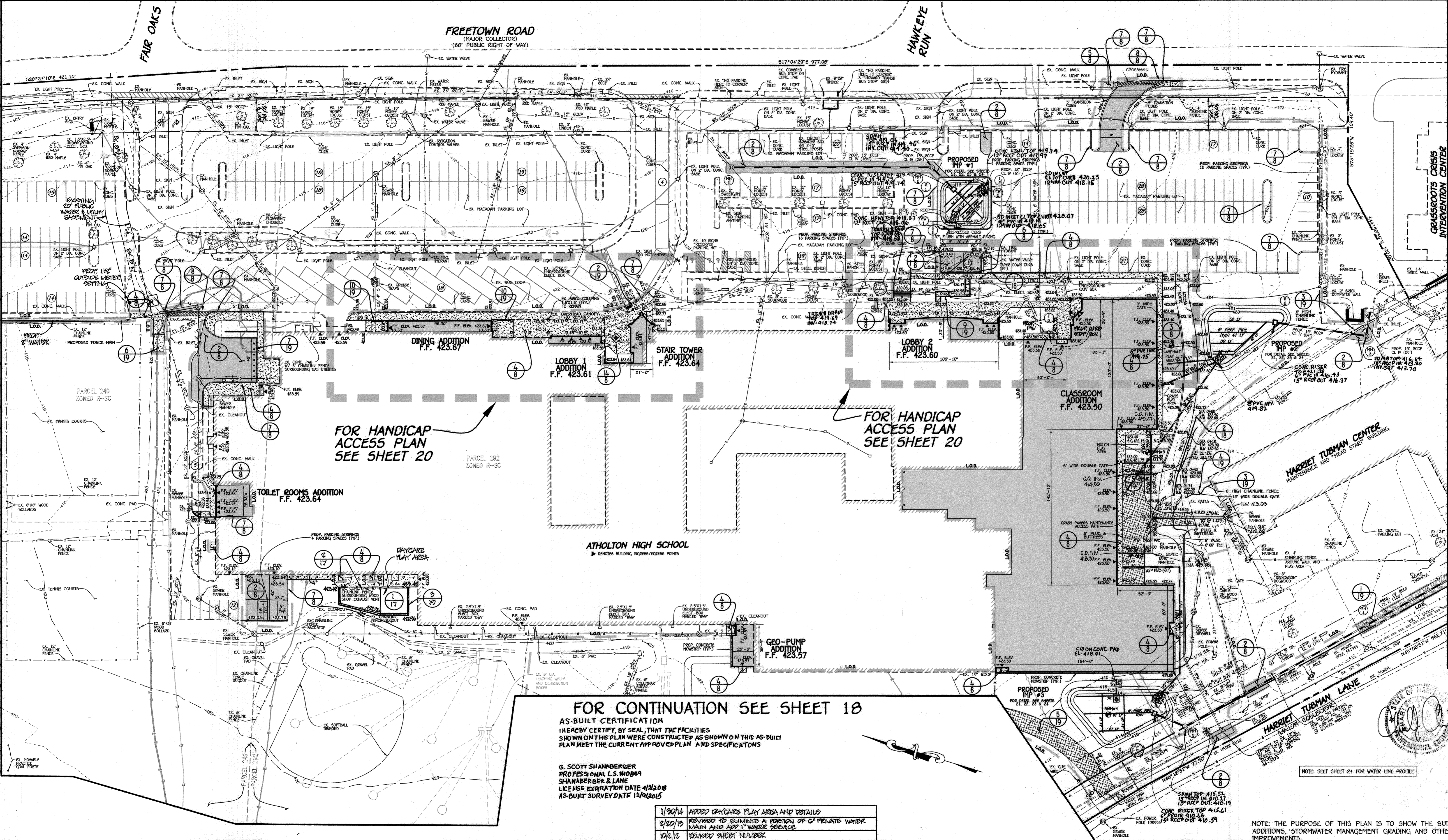
**SITE DEVELOPMENT PLAN**  
**"REVISED SITE DEVELOPMENT PLAN"**  
**ATHOLTON HIGH SCHOOL**  
 CLASSROOM ADDITIONS AND IMPROVEMENTS  
 PARCEL Nos.: 265,249 & 292  
 TAX MAP No.: 35 GRID No.: 24  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1"=40' DATE: JULY 15, 2011  
 SHEET 16 OF 36





FOR CONTINUATION SEE SHEET 16

FOR CONTINUATION SEE SHEET 18



FOR HANDICAP ACCESS PLAN SEE SHEET 20

FOR HANDICAP ACCESS PLAN SEE SHEET 20

FOR CONTINUATION SEE SHEET 18

AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY, BY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN MEET THE CURRENT APPROVED PLAN AND SPECIFICATIONS

G. SCOTT SHANBERGER  
 PROFESSIONAL L.S. #10849  
 SHANBERGER & LANE  
 LICENSE EXPIRATION DATE 4/30/2018  
 AS-BUILT SURVEY DATE 11/20/2015

DATE	DESCRIPTION	REVISION BLOCK
1/30/14	ADDED DRYCAGE PLAY AREA AND DETAILS	
2/20/15	REVISED TO ELIMINATE A PORTION OF 6" PRIVATE WATER MAIN AND ADD 1" WATER SERVICE	
10/2/16	REVISED SHEET NUMBER	
9/9/16	REVISED WATER CONNECTION TO STADIUM BUILDING	
9/7/16	REVISED SEWER LABELS	
5/29/16	REVISED SHEET NUMBER	
12/16/11	ADDED STORM DRAINS AND SEWER MAIN	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Thomas J. Sull* 11/16 Date  
 Director - Department of Planning and Zoning  
*Scott Shanberger* 11-08-11 Date  
 Chief, Division of Land Development  
*Paul Edwards* 11-3-11 Date  
 Chief, Development Engineering Division

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Ellicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6805

TCA ARCHITECTS  
 2661 RIVA ROAD, SUITE 120  
 ANNAPOLIS, MARYLAND 21401  
 (410) 841-6205

Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002

PROJECT	SECTION/AREA	PARCEL
ATHOLTON HIGH SCHOOL	N/A	265, 249 & 292

DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
16/447 201/296 499/494	24	R-3 NT	35	FIFTH	6056.02

WATER CODE	E 29	SEWER CODE	5324500
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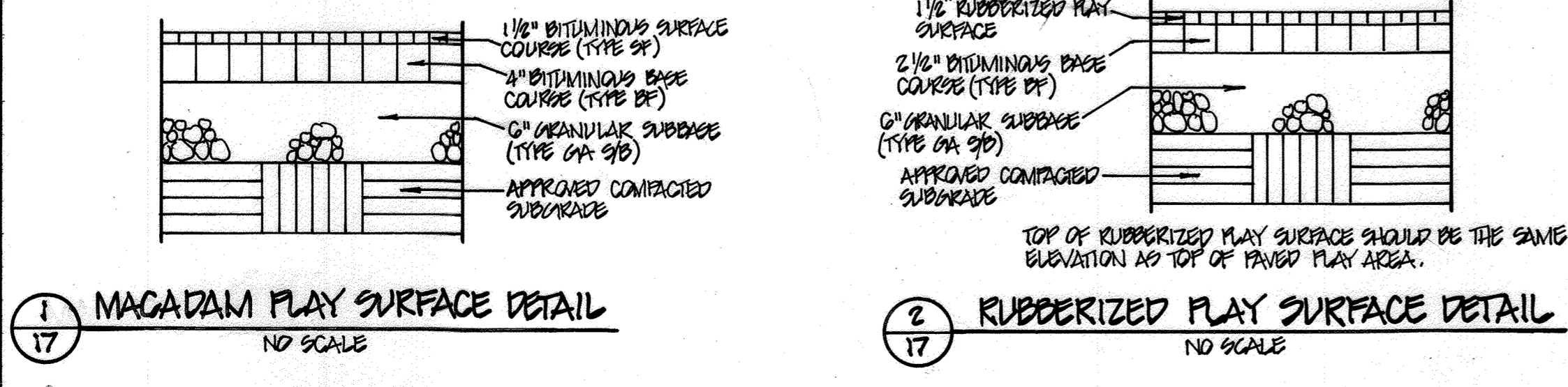
**SITE DEVELOPMENT PLAN**  
**"REVISED SITE DEVELOPMENT PLAN"**  
**ATHOLTON HIGH SCHOOL**

CLASSROOM ADDITIONS AND IMPROVEMENTS

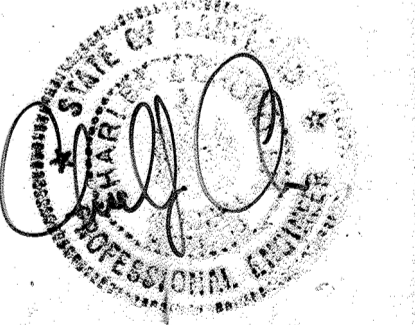
PARCEL Nos.: 265,249 & 292  
 TAX MAP No.: 35 GRID No.: 24  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1"=40' DATE: JULY 15, 2011

SHEET 17 OF 36

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2895



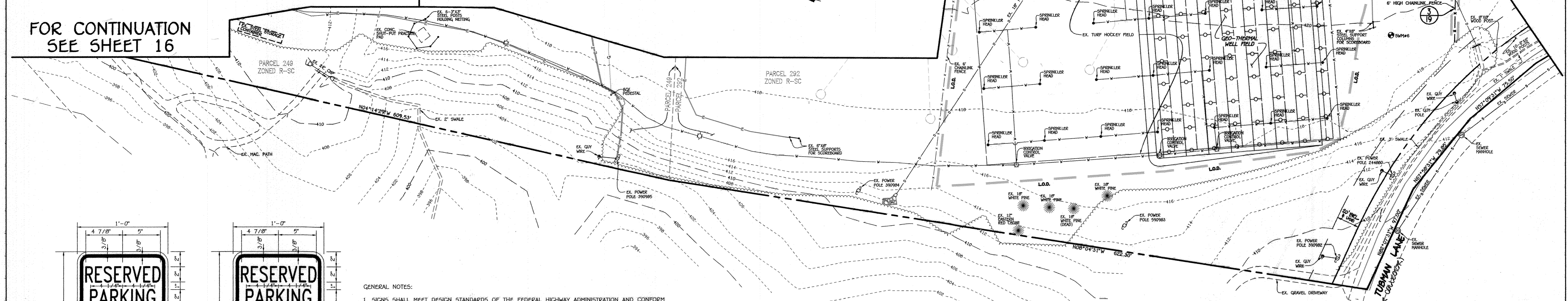
NOTE: THE PURPOSE OF THIS PLAN IS TO SHOW THE BUILDING ADDITIONS, STORMWATER MANAGEMENT GRADING AND OTHER IMPROVEMENTS.



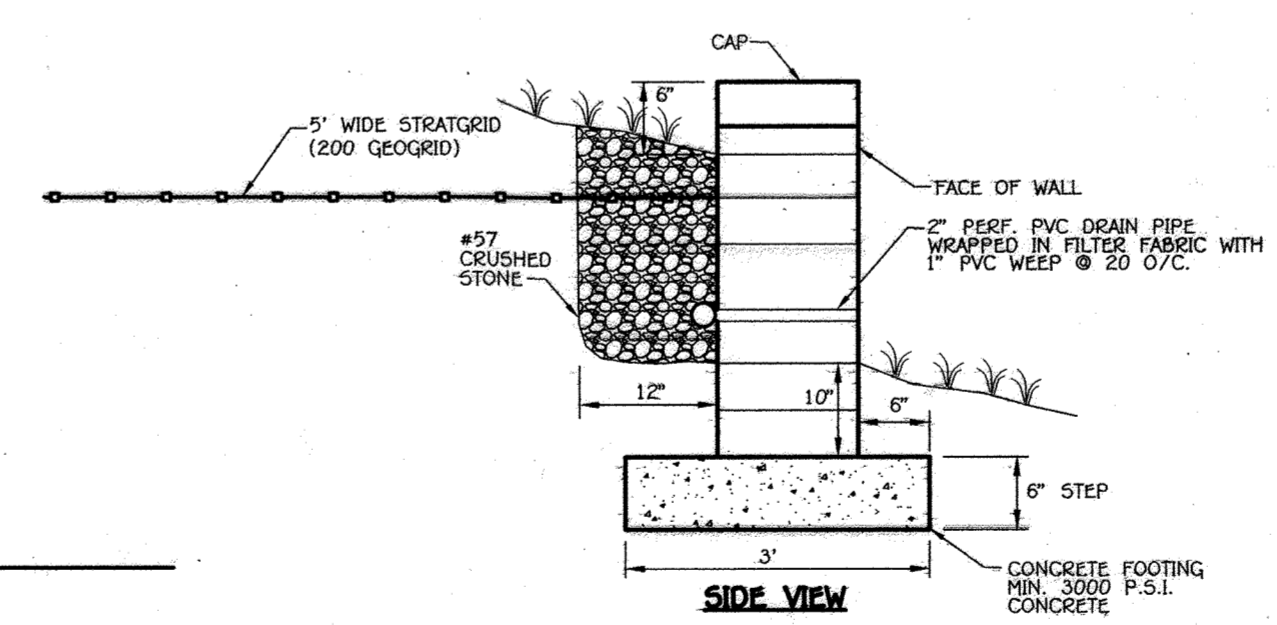
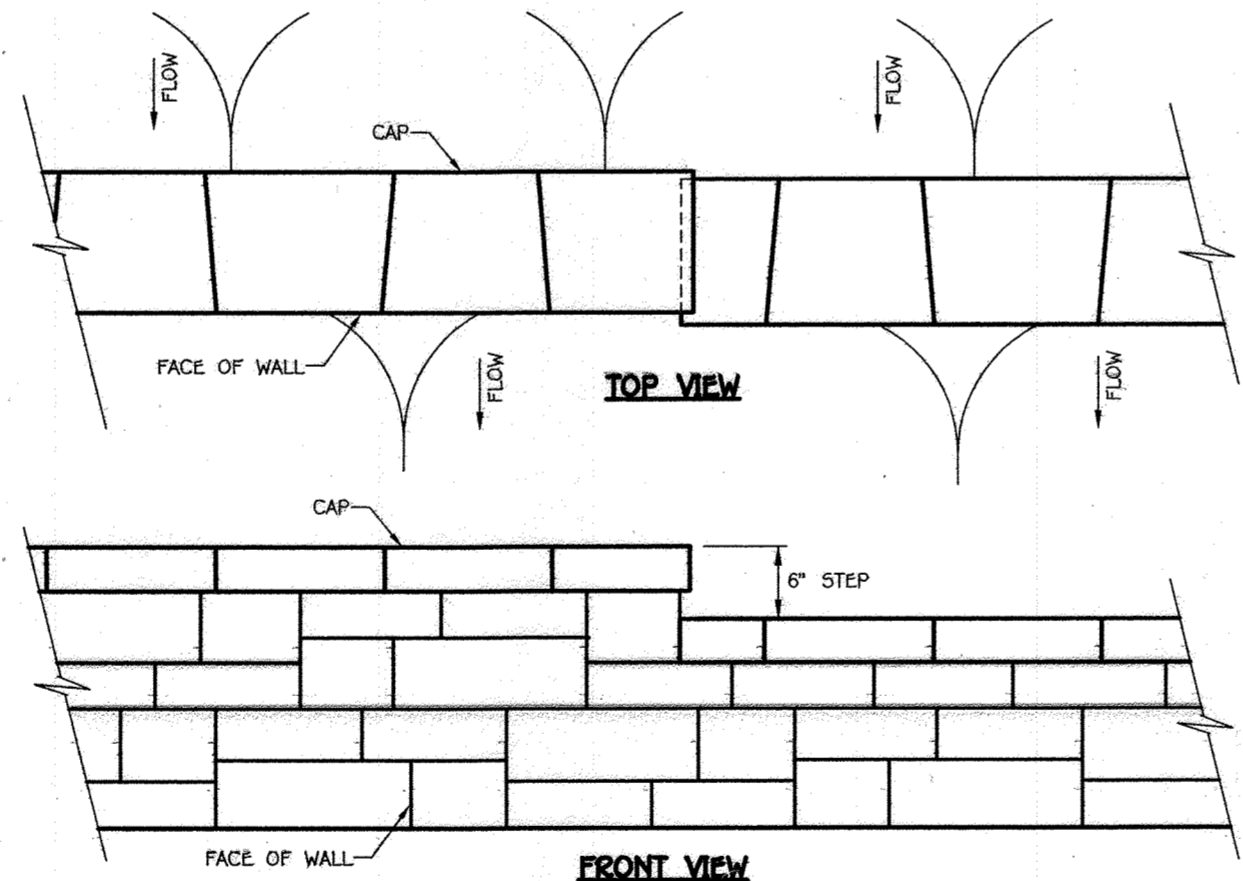


FOR CONTINUATION SEE SHEET 17

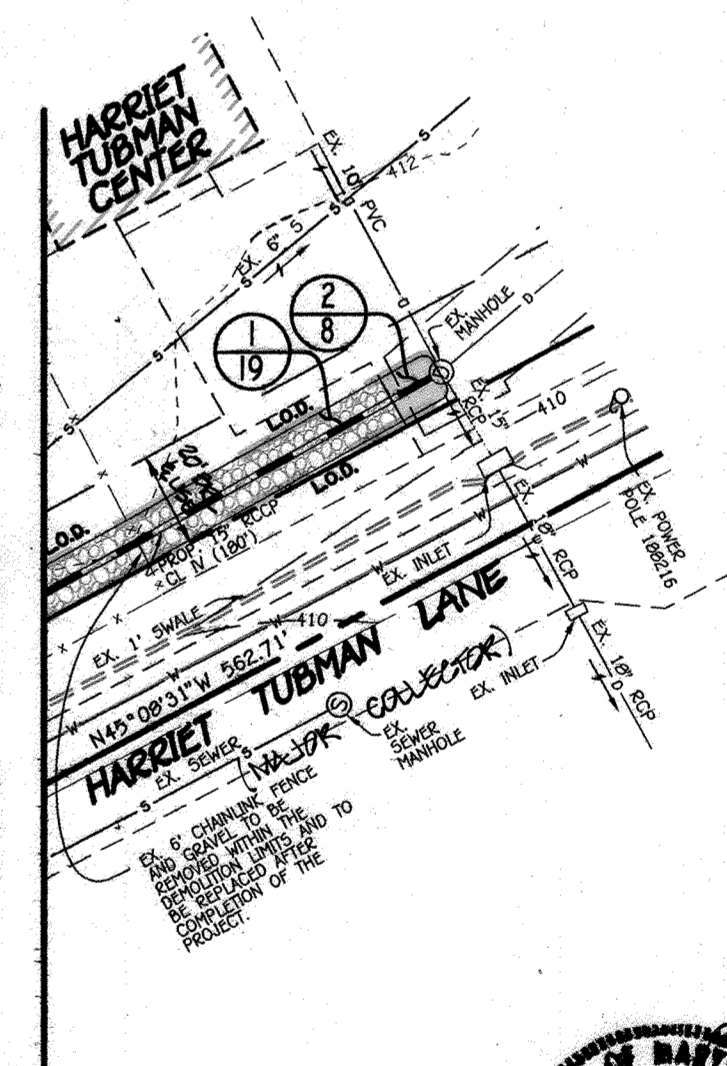
FOR CONTINUATION  
SEE SHEET 16



- GENERAL NOTES:
- SIGNS SHALL MEET DESIGN STANDARDS OF THE FEDERAL HIGHWAY ADMINISTRATION AND CONFORM TO THE STATE OF MARYLAND STANDARD HIGHWAY SIGN BOOKLET DETAIL R7-8.
  - ONE SIGN IS REQUIRED PER SPACE PLACED AS SHOWN ON SITE IMPROVEMENT PLAN.
  - SIGNS SHALL BE POLE MOUNTED WITH HOT DIPPED GALVANIZED COUNTY APPROVED PERFORATED CHANNEL POSTS W/TOP OF SIGNS 9'-1" ABOVE FINISHED GRADE OR AS INDICATED ON SITE DRAWINGS.
  - SIGN SHALL BE ATTACHED TO FLANGED SIDE OF POST. POST SHALL EXTEND INTO GROUND 2'-6" MIN.
  - COLORS: LEGEND AND BORDER-GREEN  
SYMBOL-WHITE ON BLUE BACKGROUND  
BACKGROUND-WHITE
  - CONTRACTOR SHALL COORDINATE ARROW DIRECTION WITH LOCATION OF ADJACENT AISLE.
  - SPACES INDICATED ON SITE DEVELOPMENT PLANS AS "VAN ACCESSIBLE" SHALL BE SIGNED ACCORDINGLY.



FOR CONTINUATION  
SEE SHEET 17



AS-BUILT CERTIFICATION  
THERE IS NO AS-BUILT INFORMATION ON THIS SHEET

G. SCOTT SHANBERGER  
PROFESSIONAL L.S. #10849  
SHANBERGER & LAWE  
LICENSE EXPIRATION DATE 4/2/2018  
AS-BUILT SURVEY DATE 12/9/2015

NOTE: THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED GEOTHERMAL WELL FIELD AND OTHER IMPROVEMENTS.



FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21042  
(410) 461-2295

10/2/12	REVISED SHEET NUMBER	
5/10/12	REVISED SHEET NUMBER	
DATE	DESCRIPTION	REVISION BLOCK
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
<i>James E. Butler</i>	Director - Department of Planning and Zoning	11/9/11
<i>Walt Steinhilber</i>	Chief, Division of Land Development	11-02-11
<i>Paul Chasen</i>	Chief, Development Engineering Division	11-3-11

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention: Bruce Giel  
410-313-6805

TCA ARCHITECTS  
2661 RIVA ROAD, SUITE 120  
ANNAPOLIS, MARYLAND 21401  
(410) 841-6205

Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002
PROJECT	SECTION/AREA
ATHOLTON HIGH SCHOOL	N/A
DEED REF. 416/447	PARCEL 269, 249 & 292
BLOCK NO. 24	ZONE R-5C
TAX MAP 409/1494	FIFTH
WATER CODE E 29	SEWER CODE 5324500

**SITE DEVELOPMENT PLAN**

**"REVISED SITE DEVELOPMENT PLAN"**  
**ATHOLTON HIGH SCHOOL**

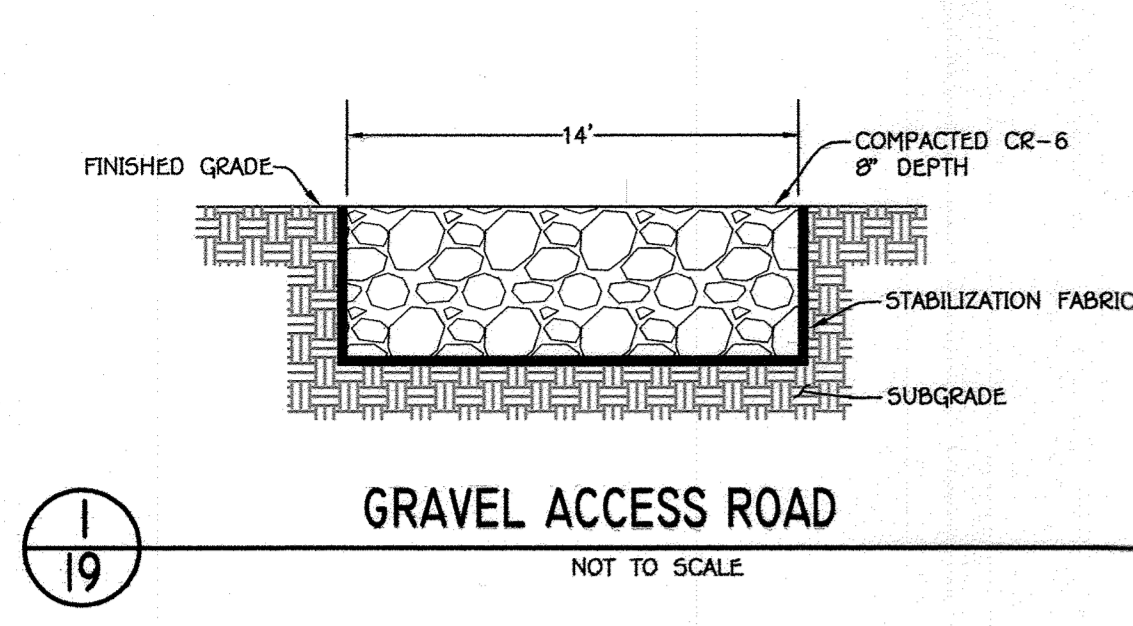
CLASSROOM ADDITIONS AND IMPROVEMENTS

PARCEL Nos.: 265, 249 & 292  
TAX MAP No.: 35 GRID No.: 24  
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: 1"=40' DATE: JULY 15, 2011

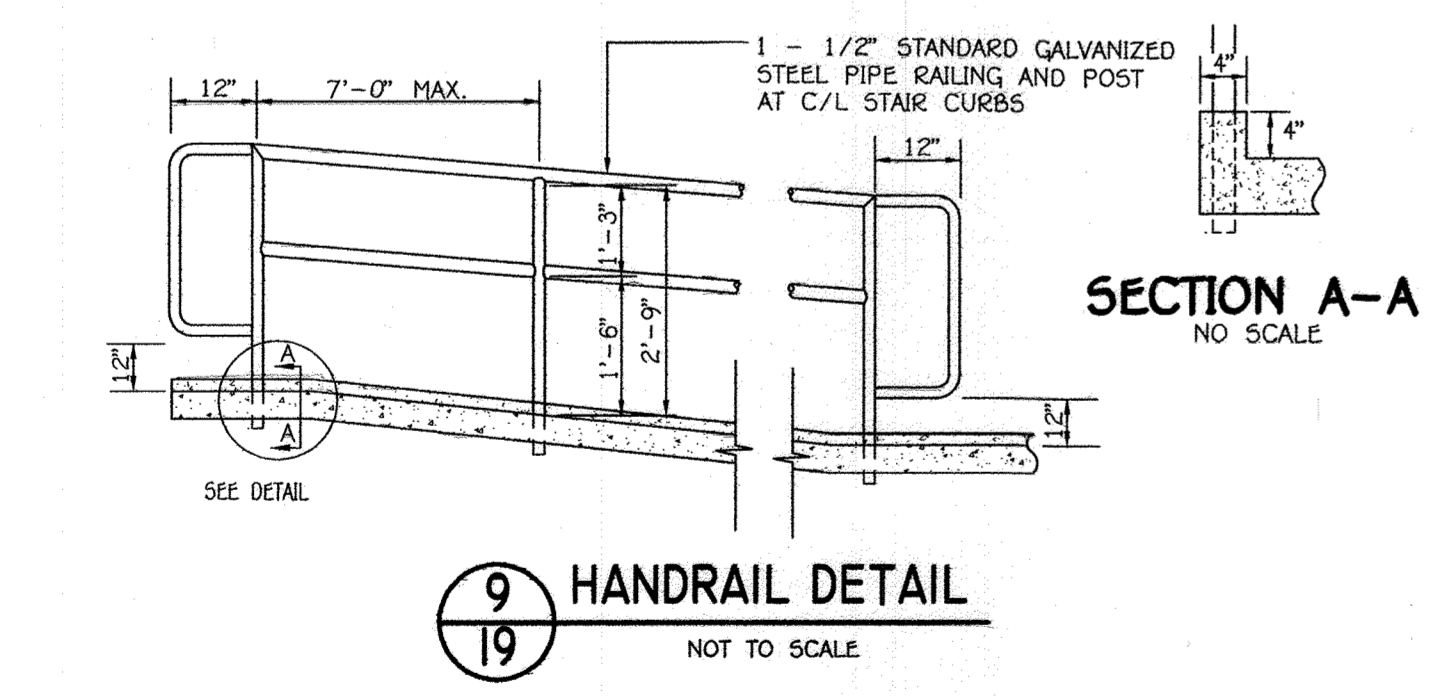
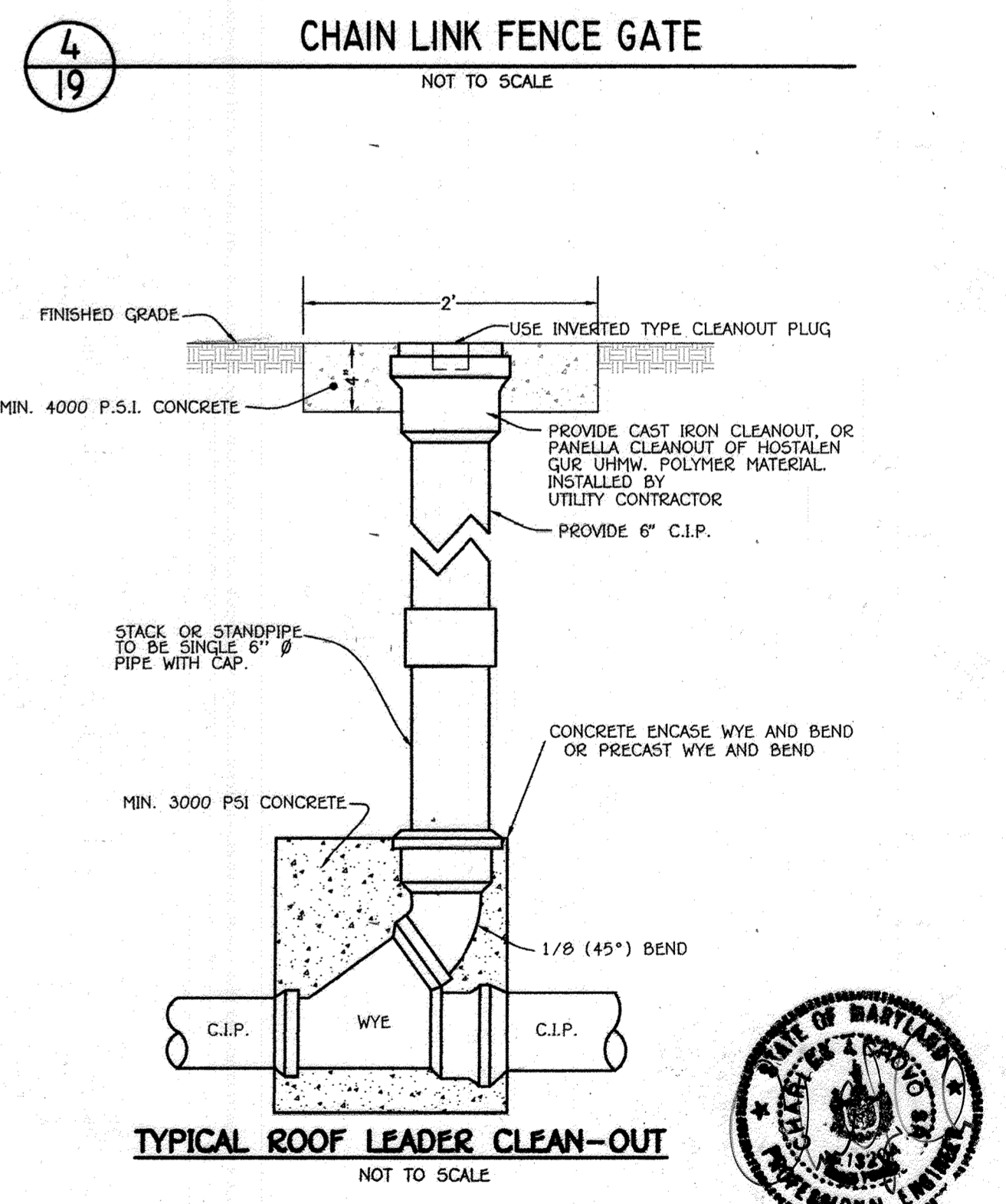
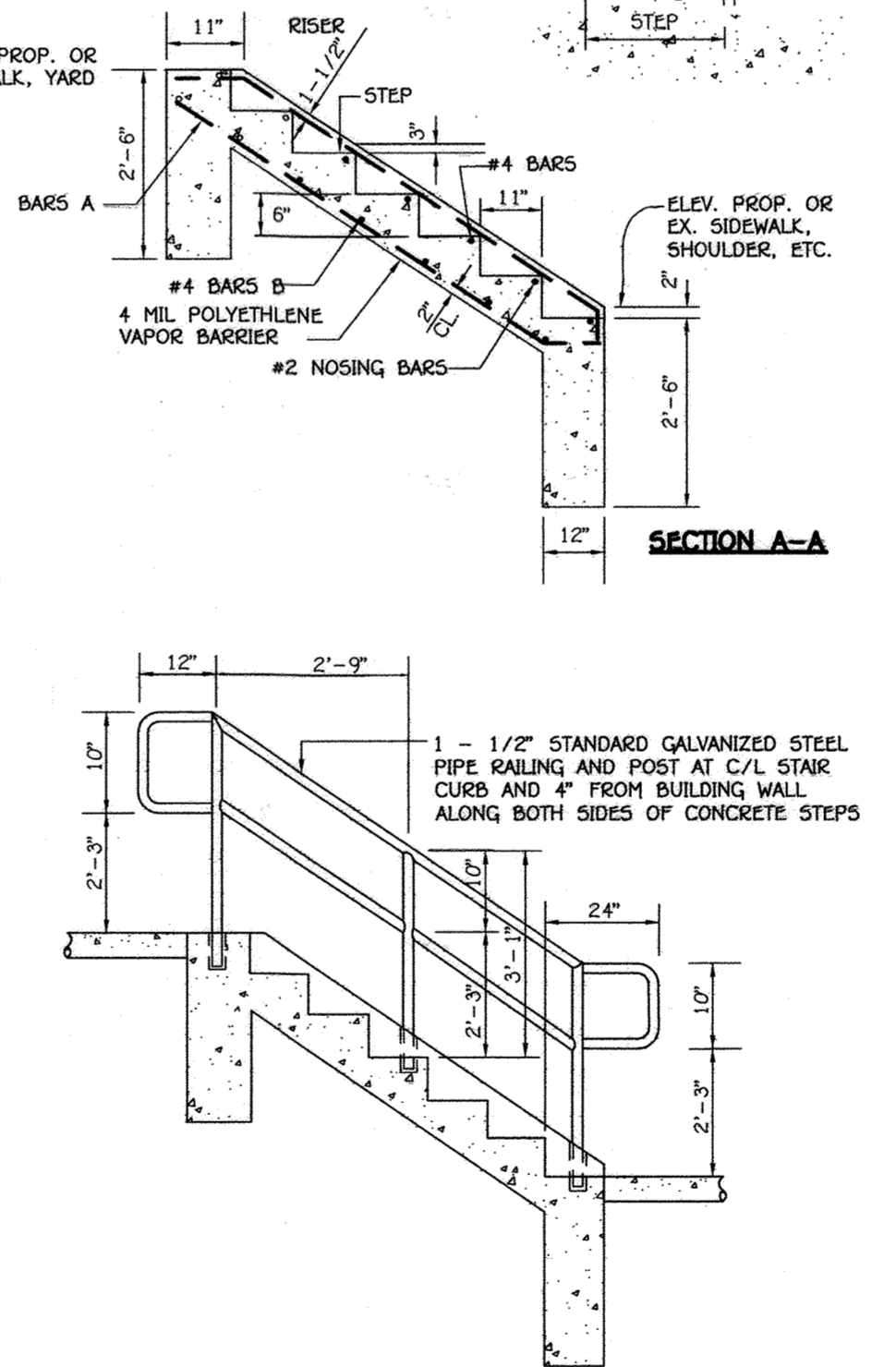
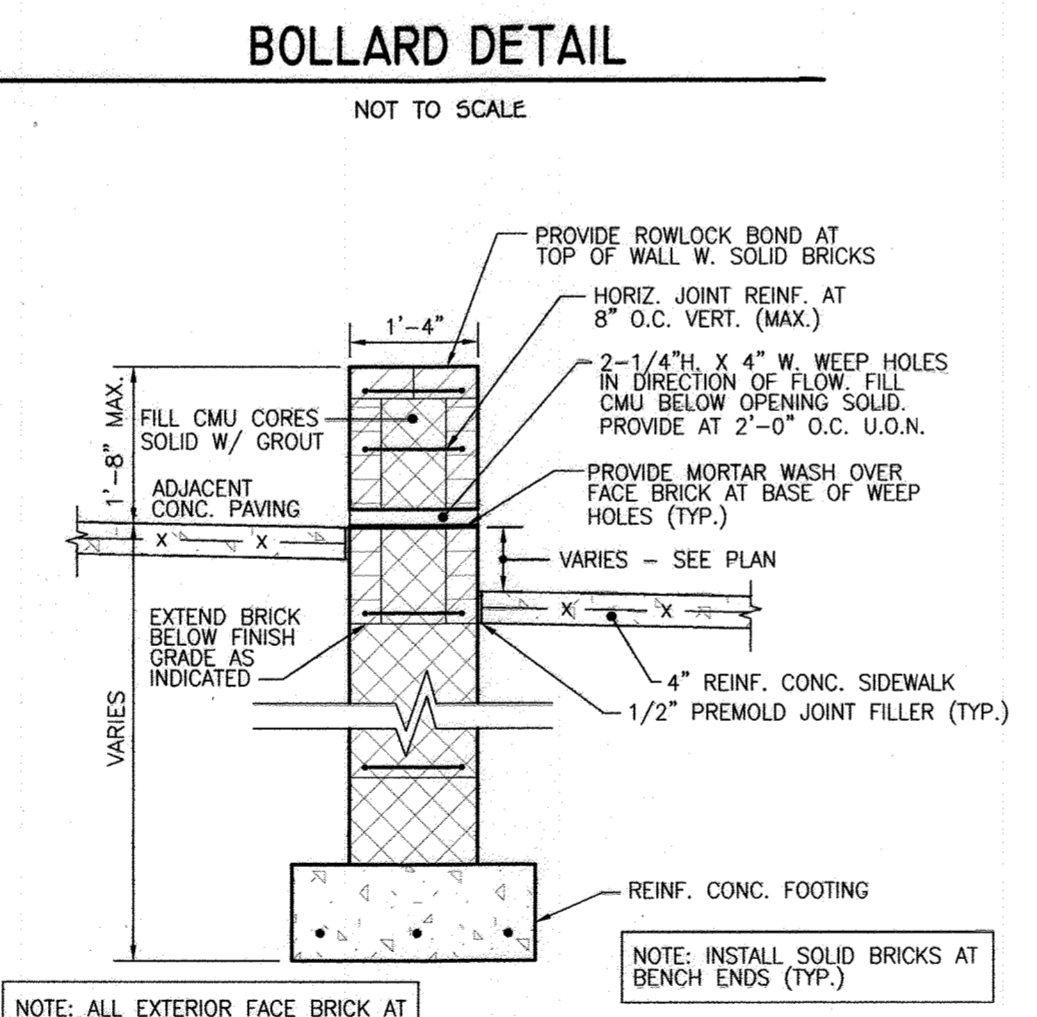
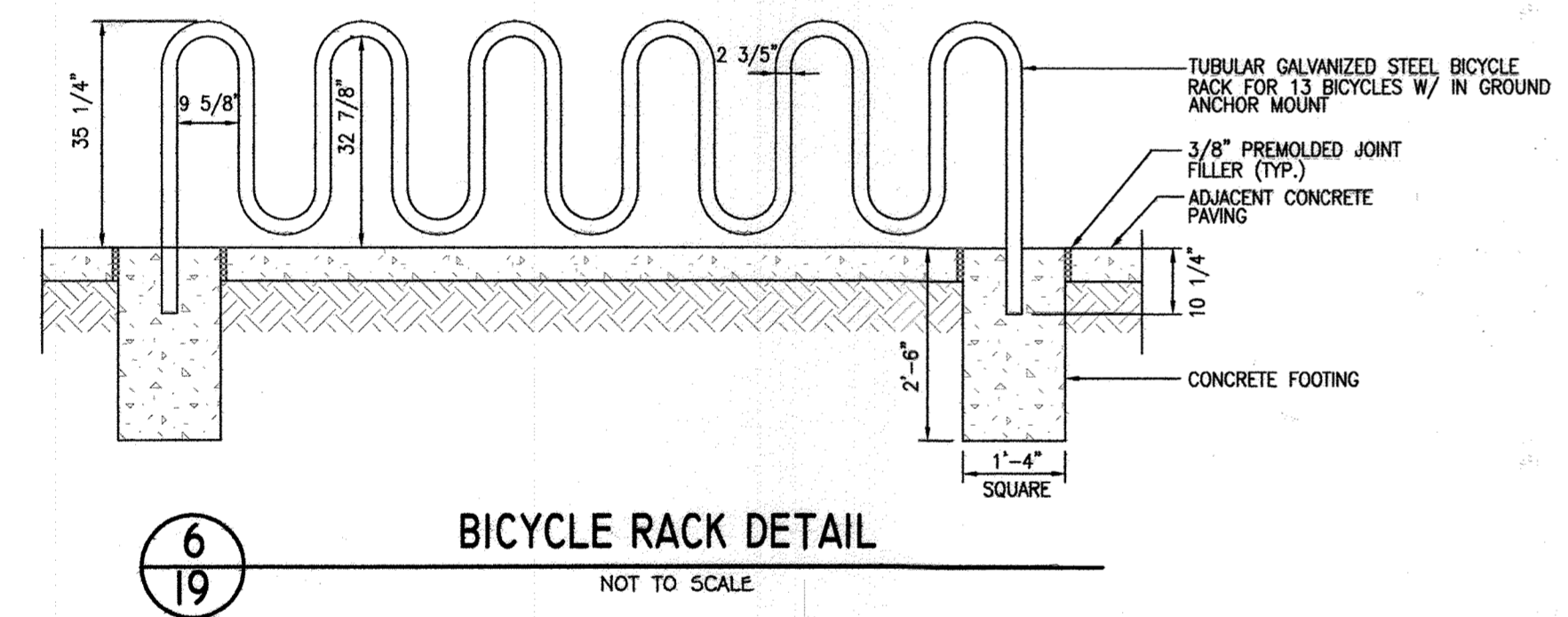
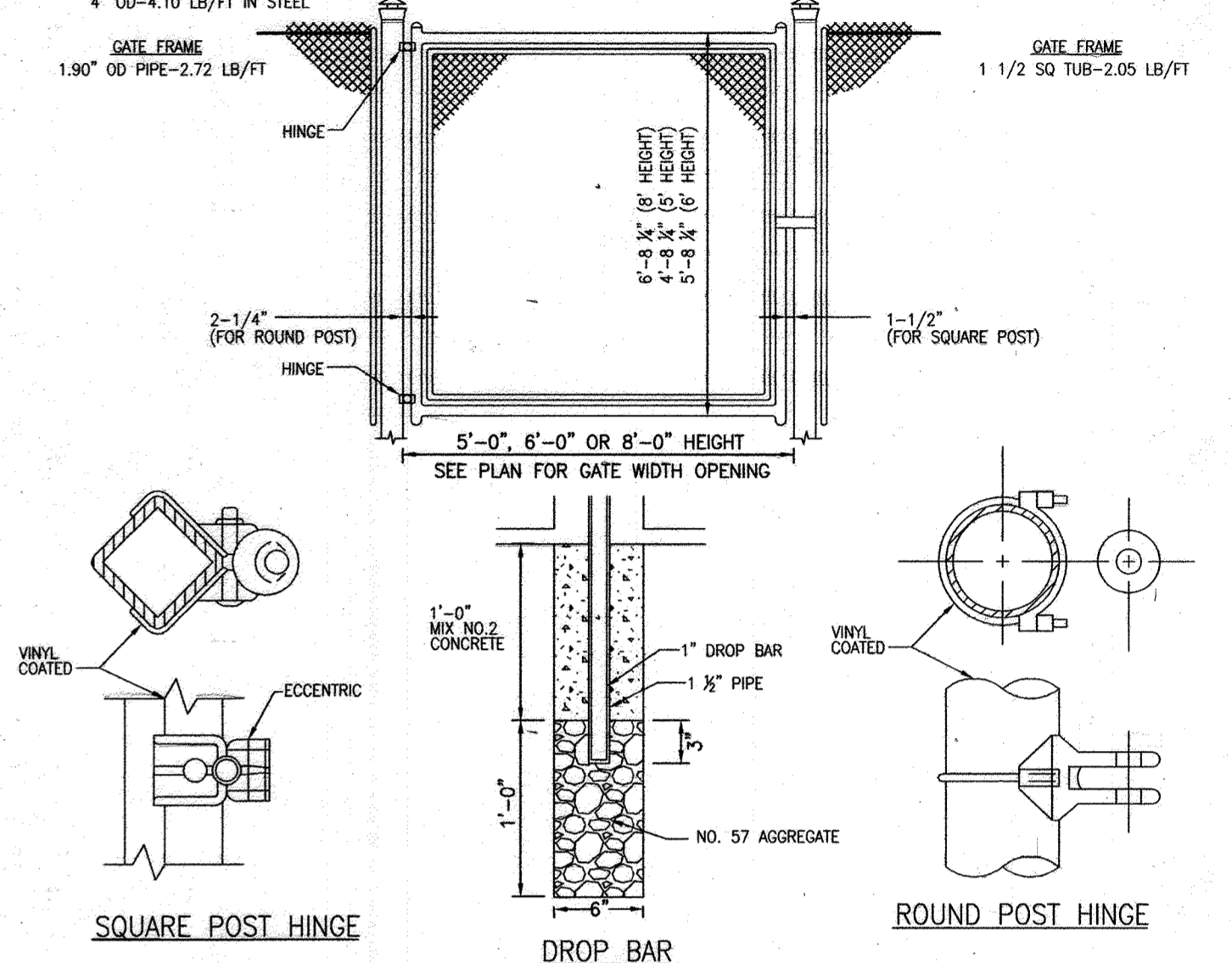
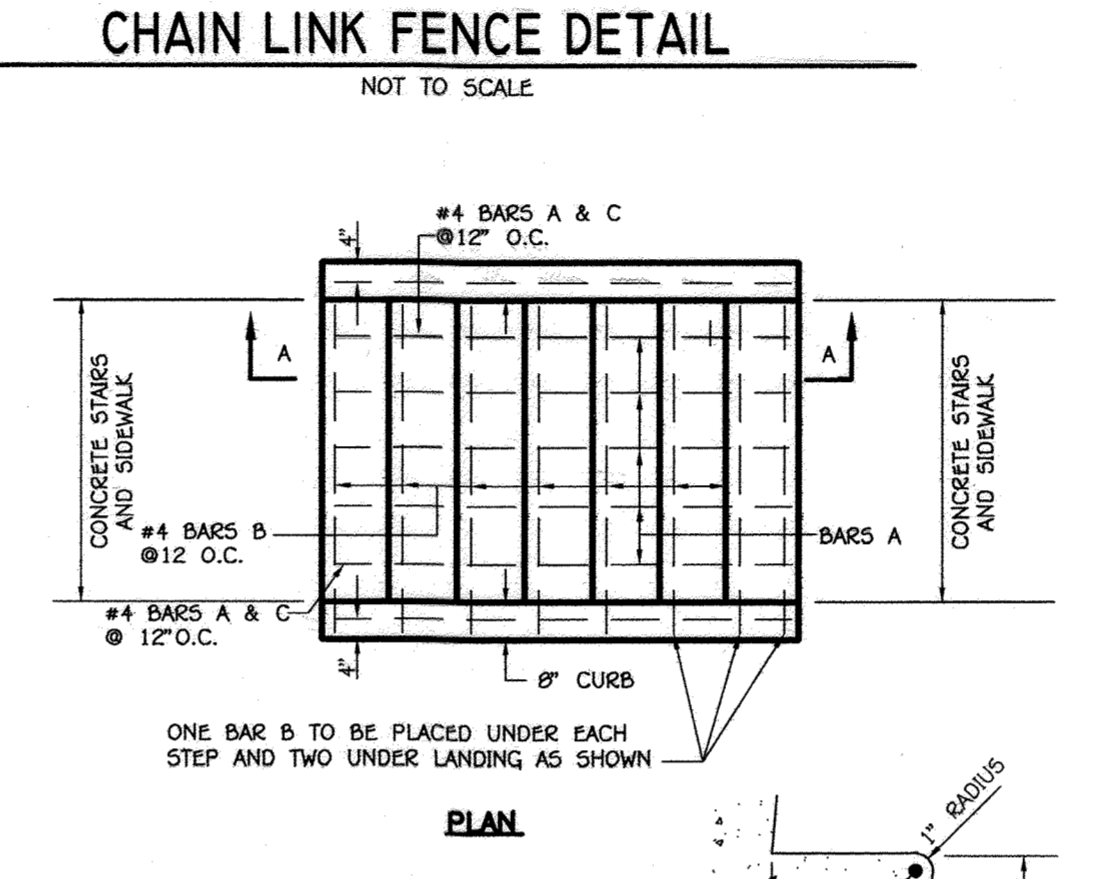
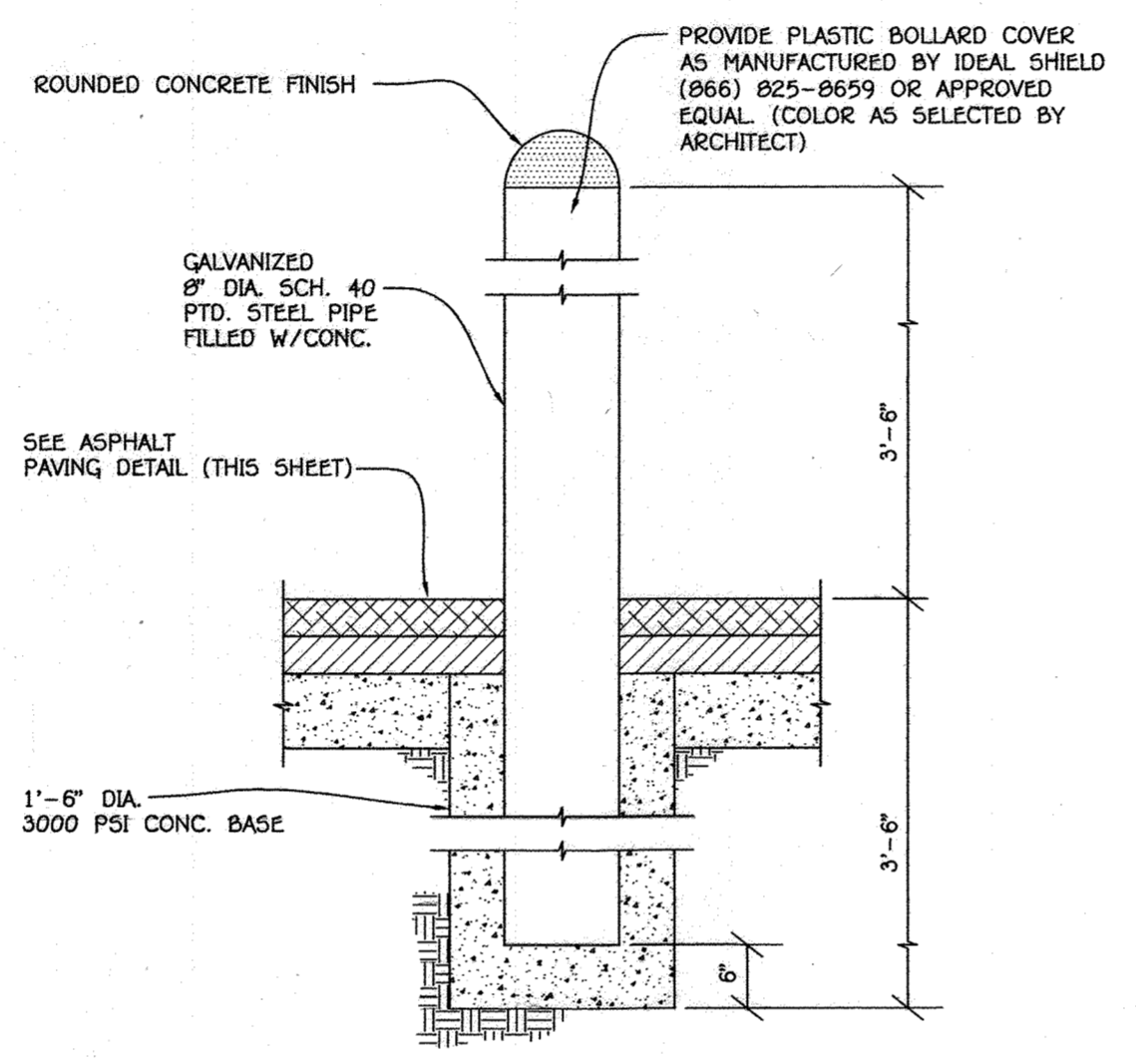
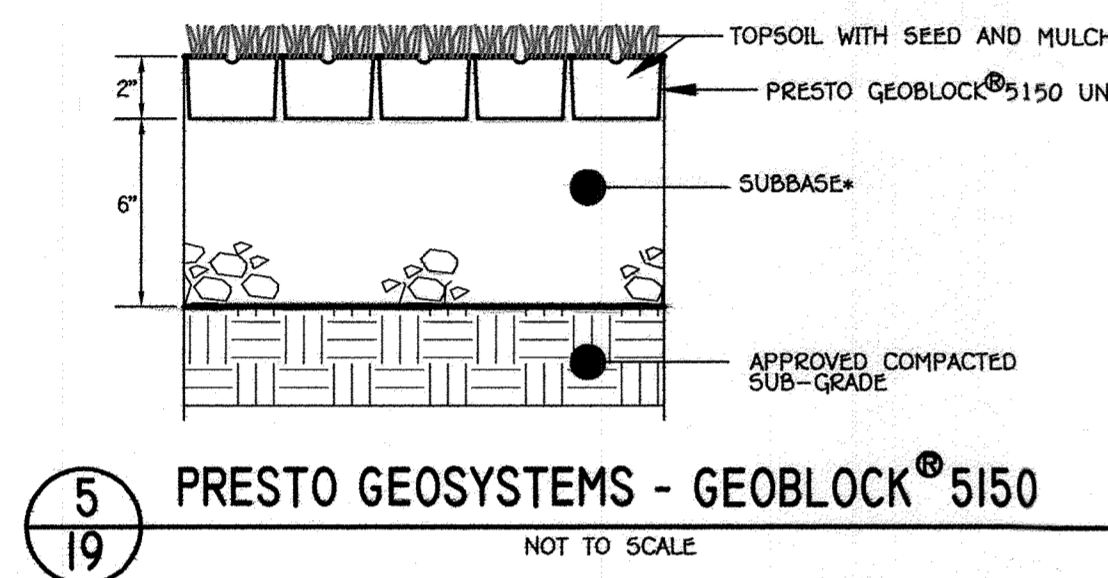
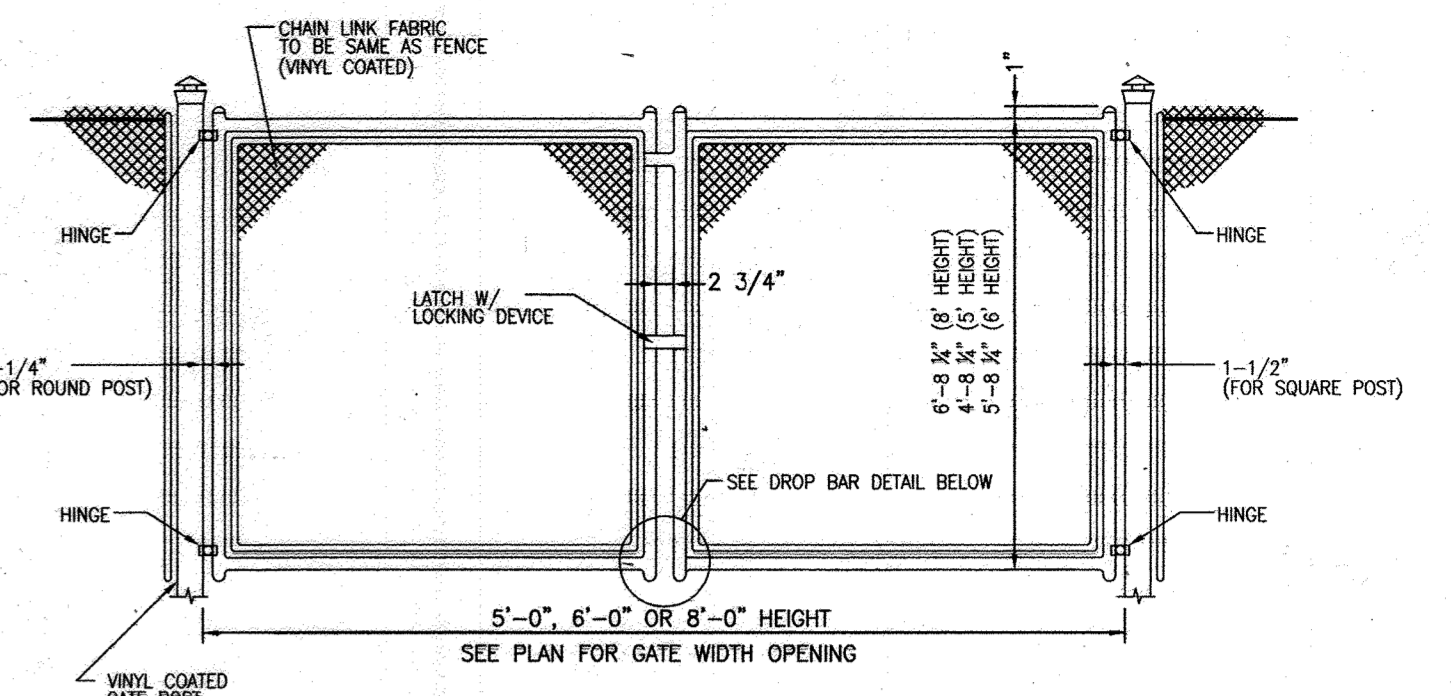
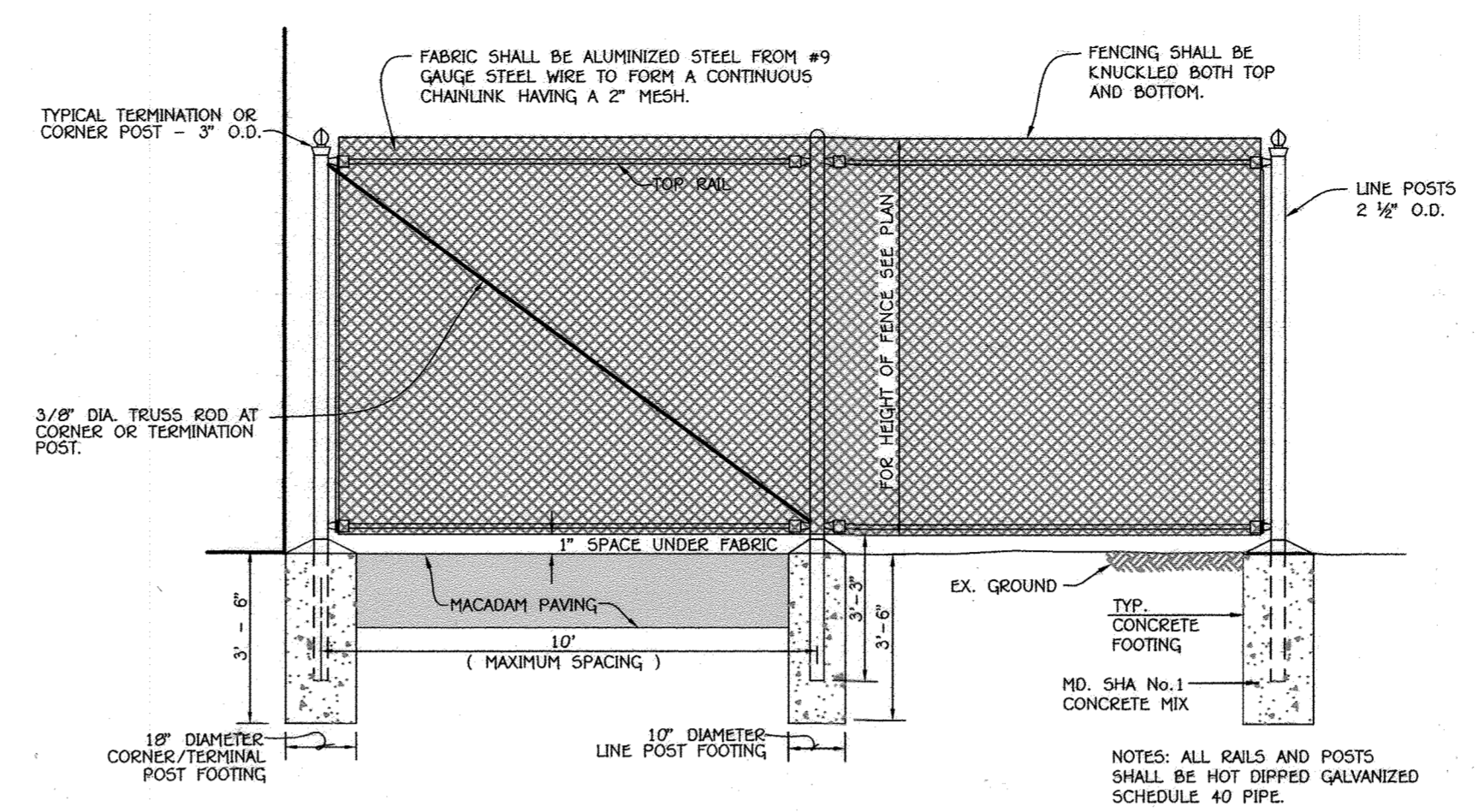
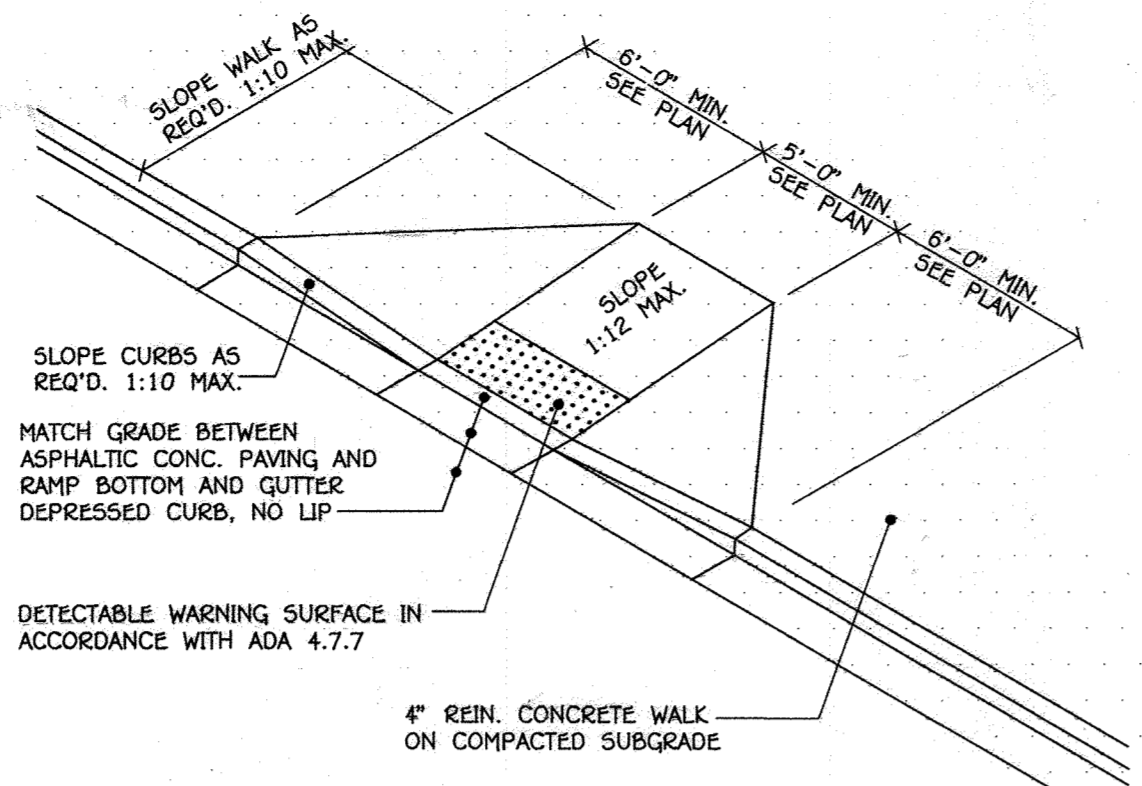
SHEET 18 OF 36

SOP 08-050





\*THE SUBBASE IS A HOMOGENOUS MIXTURE CONSISTING OF 1) A CLEAR-STONE/CRUSHED ROCK HAVING AN AASHTO#5 OR SIMILAR DESIGNATION BLENDED WITH 2) PULVERIZED TOPSOIL AND 3) A VOID COMPONENT GENERALLY CONTAINING AIR AND/OR WATER. THE AGGREGATE PORTION SHALL HAVE A PARTICLE RANGE FROM 9.5 MM TO 25 MM (0.375 TO 1.0 IN) WITH A D50 OF 13 MM (0.5 IN). THE PERCENTAGE VOID-SPACE OF THE AGGREGATE PORTION WHEN COMPACTED SHALL BE AT LEAST 50%. THE PULVERIZED TOPSOIL PORTION SHALL EQUAL 25% OF THE TOTAL VOLUME AND BE ADDED AND BLENDED TO PRODUCE A HOMOGENOUS MIXTURE PRIOR TO PLACEMENT OR WASHED INTO THE IN-PLACE COMPACTED AGGREGATE. ONCE PLACED, THE MIXTURE SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.



AS-BUILT CERTIFICATION  
THERE IS NO AS-BUILT INFORMATION ON THIS SHEET

G. SCOTT SHANBERGER  
PROFESSIONAL L.S.#10849  
SHANBERGER & LANE  
LICENSE EXPIRATION DATE 4/2/2018  
AS-BUILT SURVEY DATE 12/9/2015

10/9/10	REVISED SHEET NUMBER
5/25/10	REVISED SHEET NUMBER
DATE	DESCRIPTION
	REVISION BLOCK
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Anna &amp; Suttler</i>	11/9/11
Director - Department of Planning and Zoning	Date
<i>Kat Shalender</i>	11-28-11
Chief, Division of Land Development	Date
<i>Paul Church</i>	11-3-11
Chief, Development Engineering Division	Date

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention Bruce Gist  
410-313-6805

TCA ARCHITECTS  
2661 RIVA ROAD, SUITE 120  
ANNAPOLIS, MARYLAND 21401  
(410) 841-6205

Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002
PROJECT	SECTION/AREA
ATHOLTON HIGH SCHOOL	N/A
DEED REF. 416/447	PARCEL 269, 249 & 292
201/296	
499/434	
WATER CODE E 29	SEWER CODE 5324500

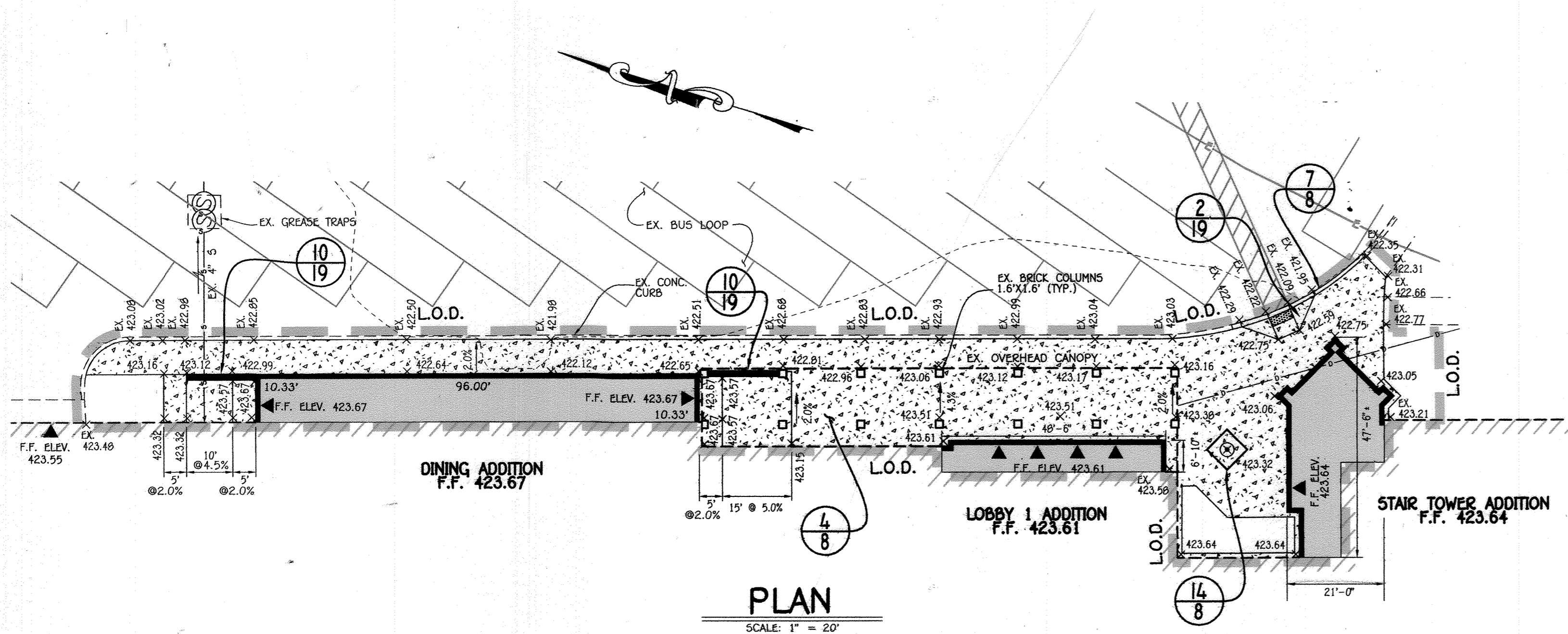
NOTE: THE PURPOSE OF THIS PLAN IS TO SHOW DETAILS FOR THE PROPOSED BUILDING ADDITIONS AND OTHER IMPROVEMENTS.

<b>DETAILS</b>	
<b>"REVISED SITE DEVELOPMENT PLAN"</b>	
<b>ATHOLTON HIGH SCHOOL</b>	
CLASSROOM ADDITIONS AND IMPROVEMENTS	
PARCEL Nos.: 265, 249 & 292	TAX MAP No.: 35 GRID No.: 24
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE: 1"=40' DATE: JULY 15, 2011
SHEET 19 OF 36	

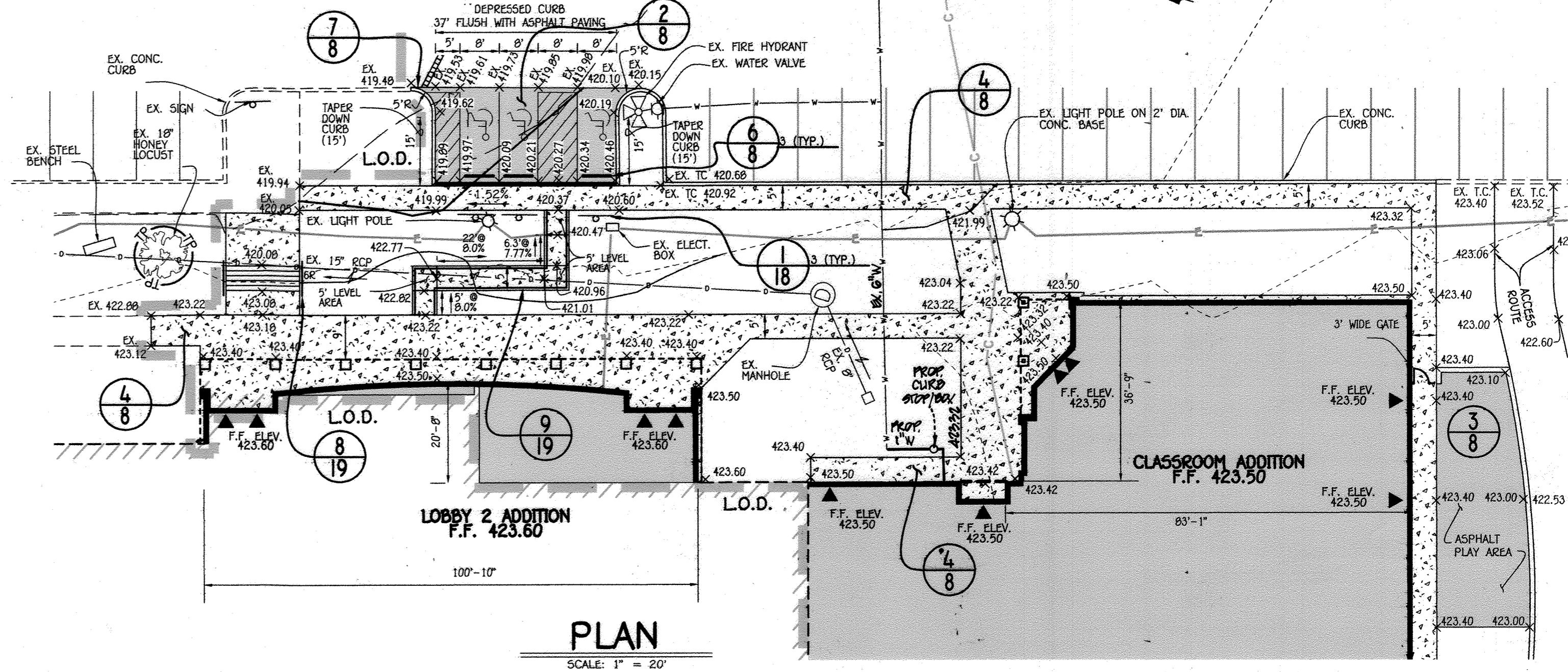
FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10275 BALTIMORE NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21042  
(410) 461-2255



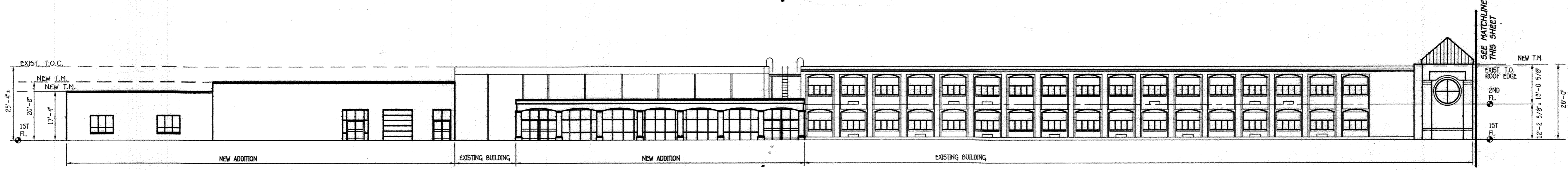




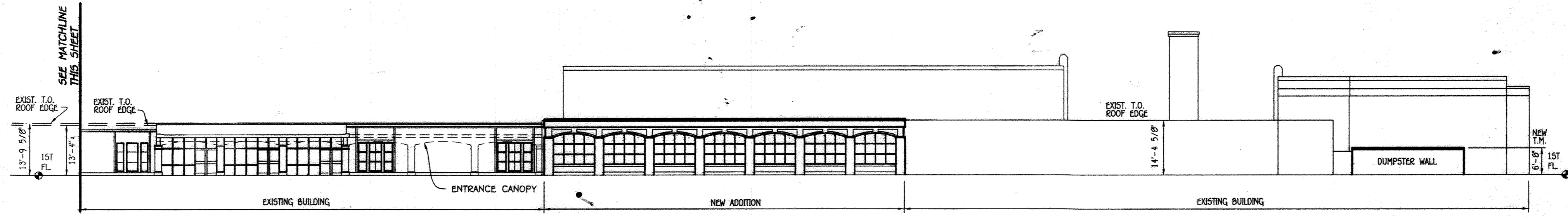
**PLAN**  
SCALE: 1" = 20'



**PLAN**  
SCALE: 1" = 20'



**WESTFACING - ELEVATION**  
SCALE: 1" = 20'



**WESTFACING - ELEVATION**  
SCALE: 1" = 20'

NOTE: THE PURPOSE OF THIS PLAN IS TO SHOW HANDICAP ACCESS AND BUILDING ELEVATION.

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELLSWORTH CITY, MARYLAND 21042  
(410) 461-2895

8/20/19	REVISED TO ELIMINATE A PORTION OF C-1 PRIVATE WATER MAIN AND ADD 1" WATER SERVICE
10/6/12	REVISED SHEET NUMBER
5/20/10	REVISED SHEET NUMBER
DATE	DESCRIPTION
REVISION BLOCK	
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Thomas E. Kudler</i>	11/9/11
Director - Department of Planning and Zoning	Date
<i>Victor S. Anderson</i>	11-08-11
Chief, Division of Land Development	Date
<i>Paul Anderson</i>	11-2-11
Chief, Development Engineering Division	Date

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 106  
Ellicott City, Maryland 21042  
Attention: Bruce Grist  
410-313-6805

TCA ARCHITECTS  
2661 RIVA ROAD, SUITE 120  
ANNAPOLIS, MARYLAND 21401  
(410) 841-6205

Address Chart		
Parcel Number	Street Address	
265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002	
PROJECT	SECTION/AREA	PARCEL
ATHOLTON HIGH SCHOOL	N/A	269, 249 & 292
DEED REF. 416/447 201/296 429/434	BLOCK NO. 24	ZONE R-5C NT
TAX MAP	ELEC. DIST.	CENSUS TR.
35	FIFTH	6056.02
WATER CODE	E 29	SEWER CODE 5324500

**HANDICAP ACCESS PLANS AND BUILDING ELEVATIONS**  
**"REVISED SITE DEVELOPMENT PLAN" ATHOLTON HIGH SCHOOL**

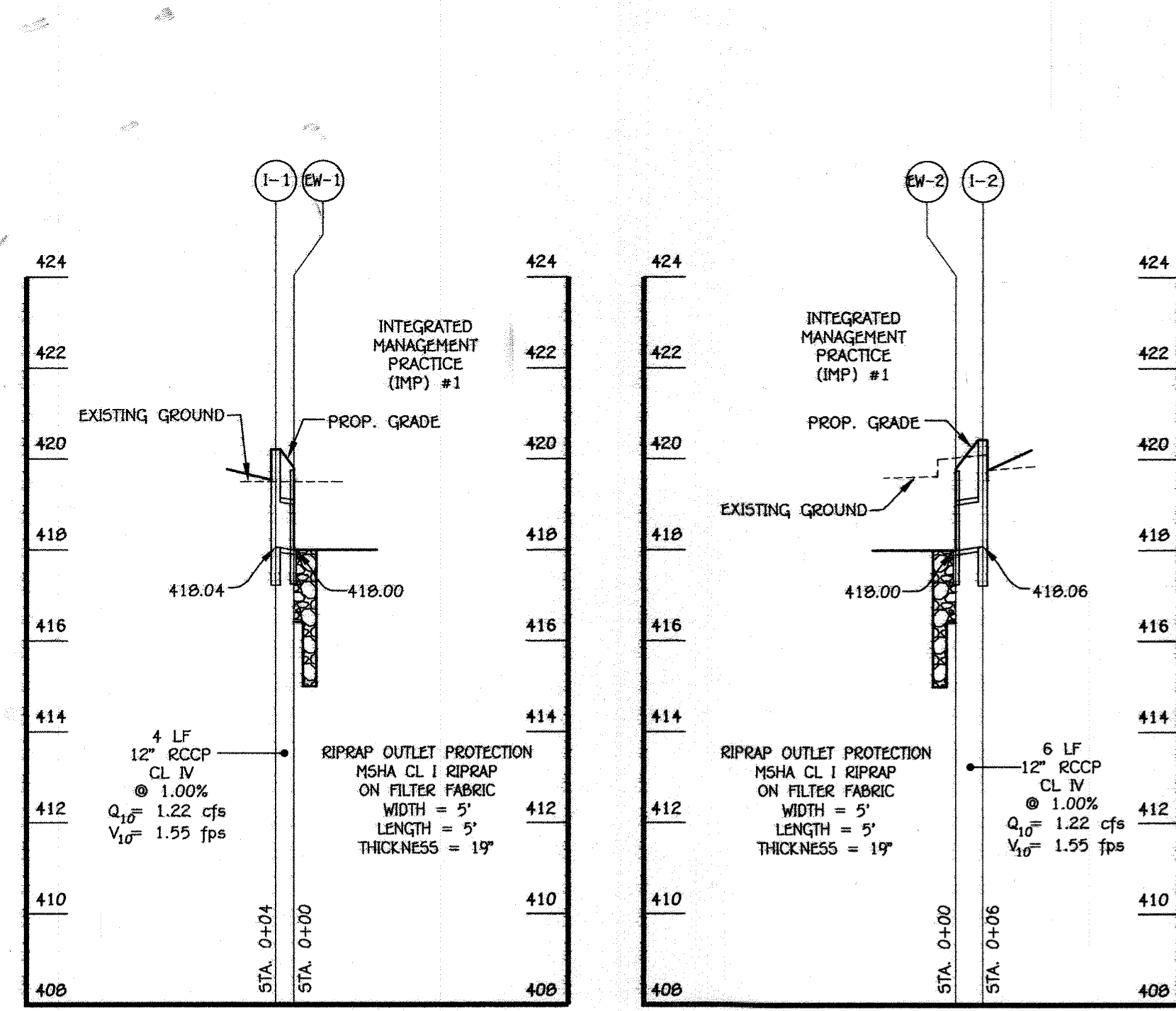
CLASSROOM ADDITIONS AND IMPROVEMENTS

PARCEL Nos.: 265,249 & 292  
TAX MAP No.: 35 GRID No.: 24  
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JULY 15, 2011

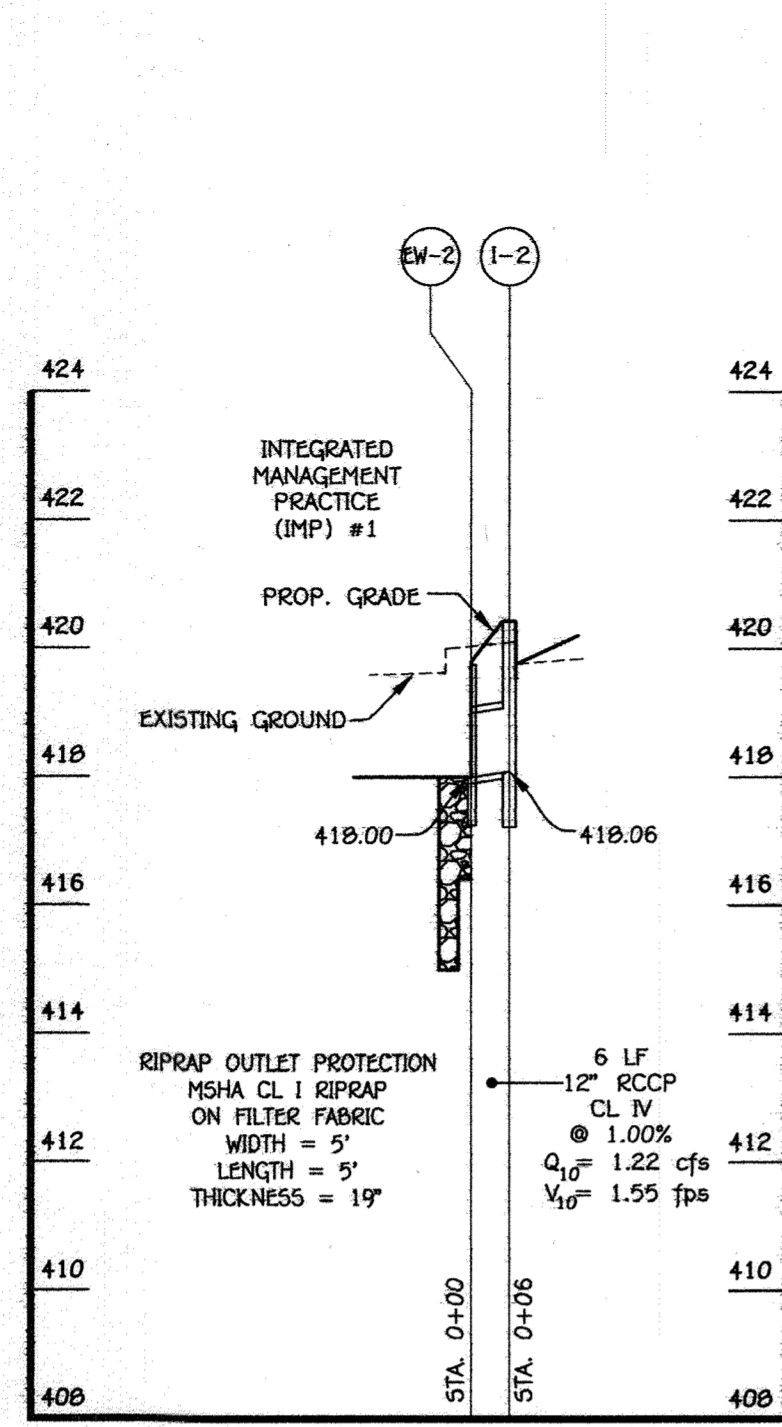
SHEET 20 OF 36



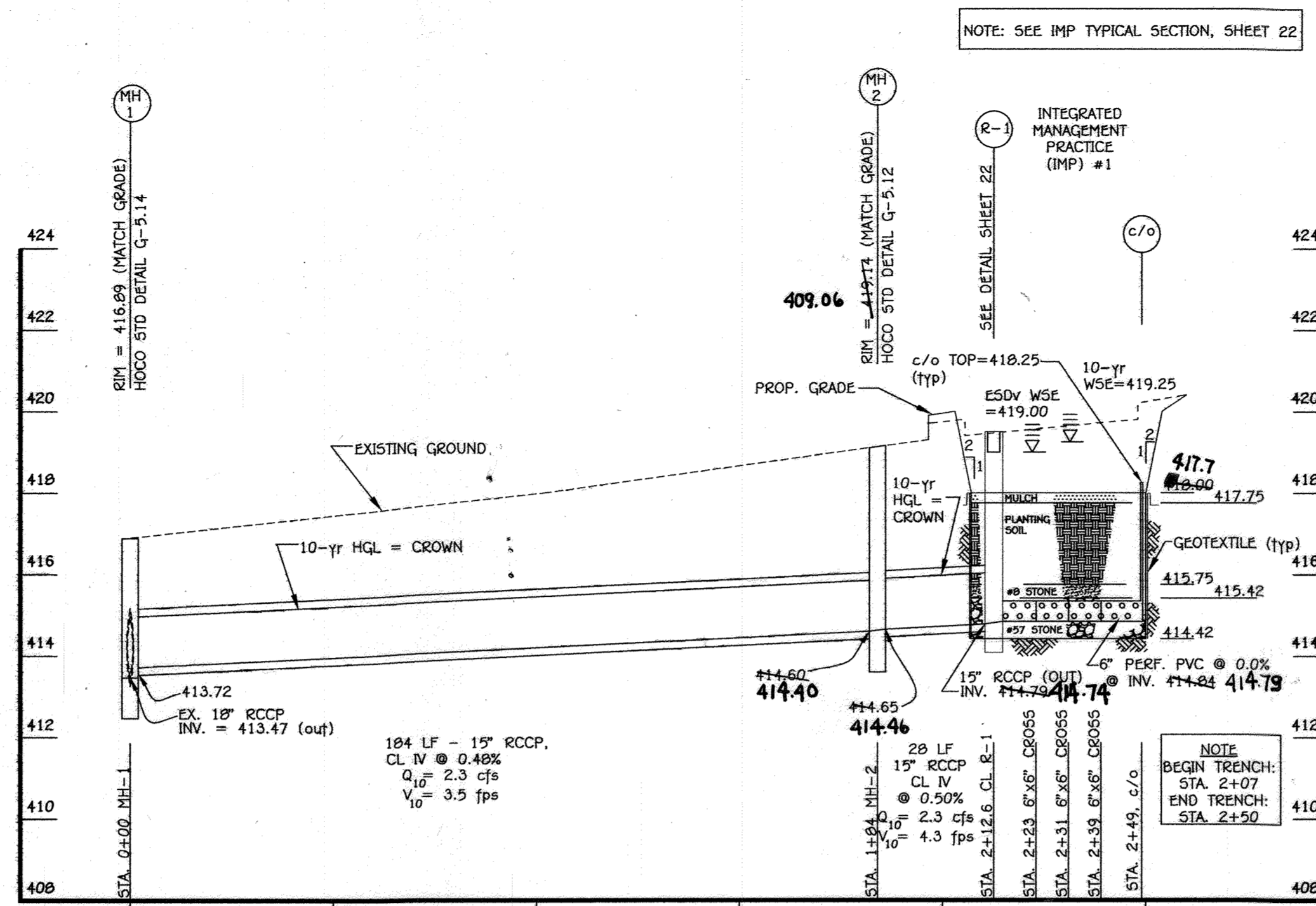




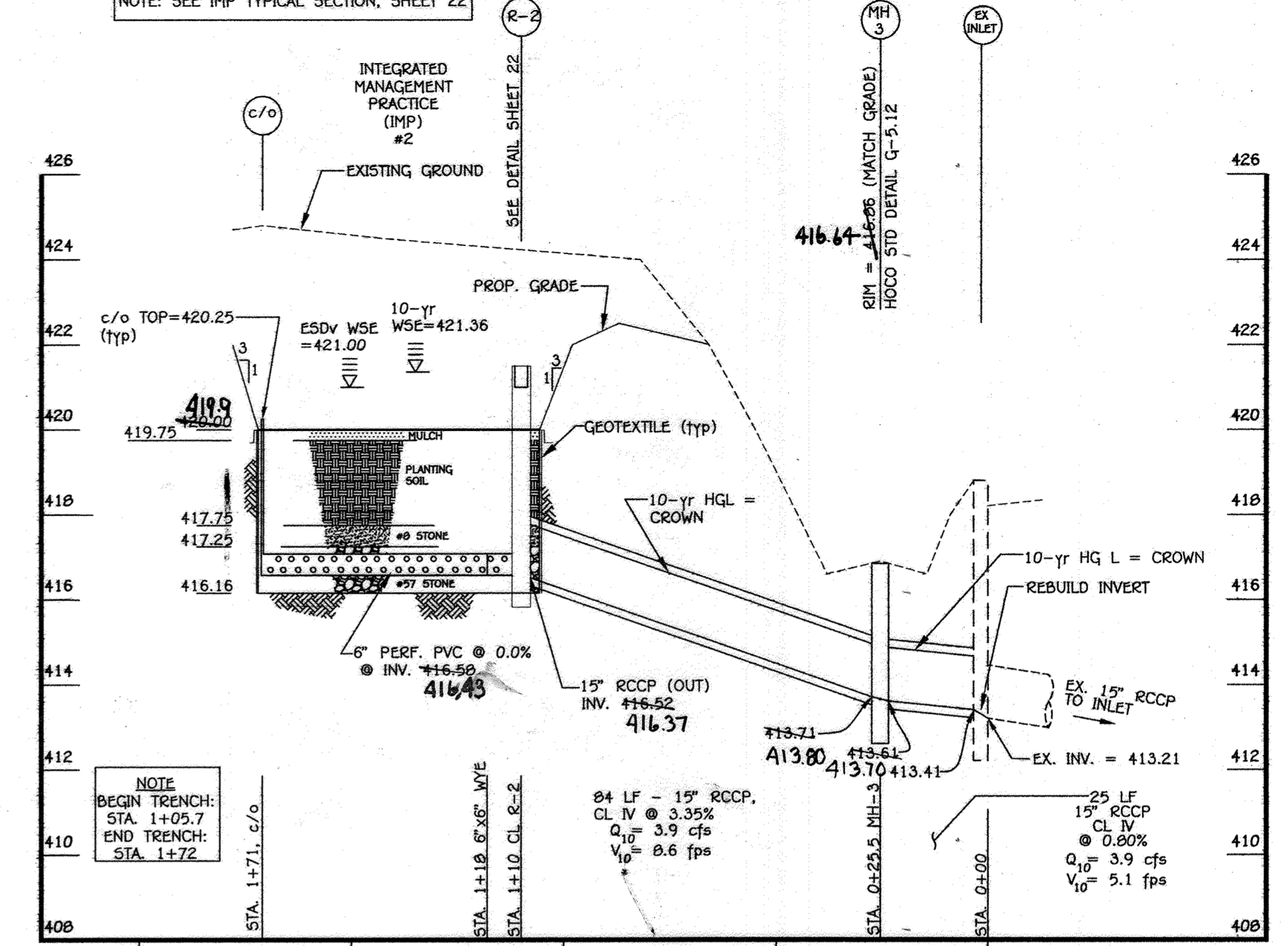
1-1 TO EW-1  
SCALE: HORIZ. 1" = 30' VERT. 1" = 3'



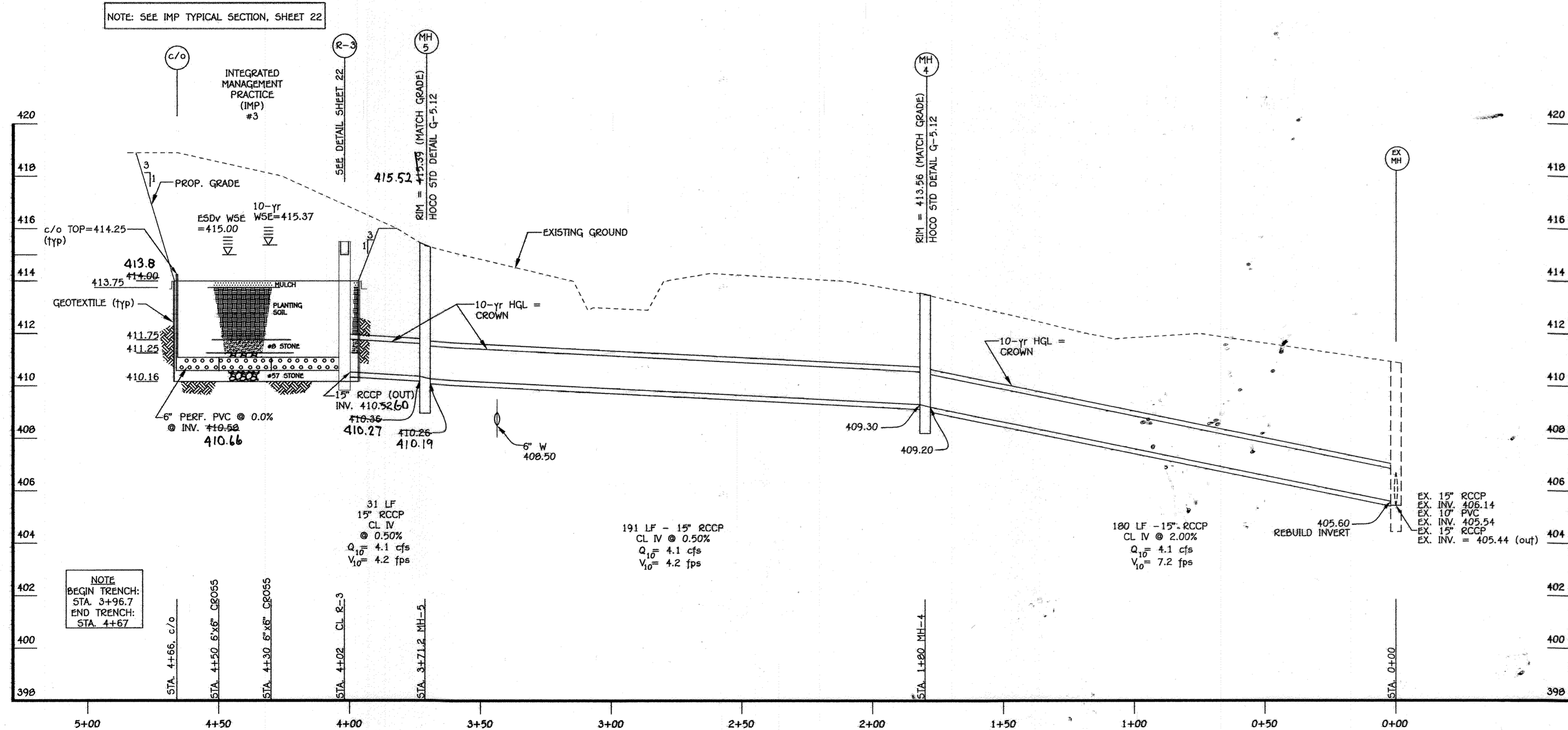
1-2 TO EW-2  
SCALE: HORIZ. 1" = 30' VERT. 1" = 3'



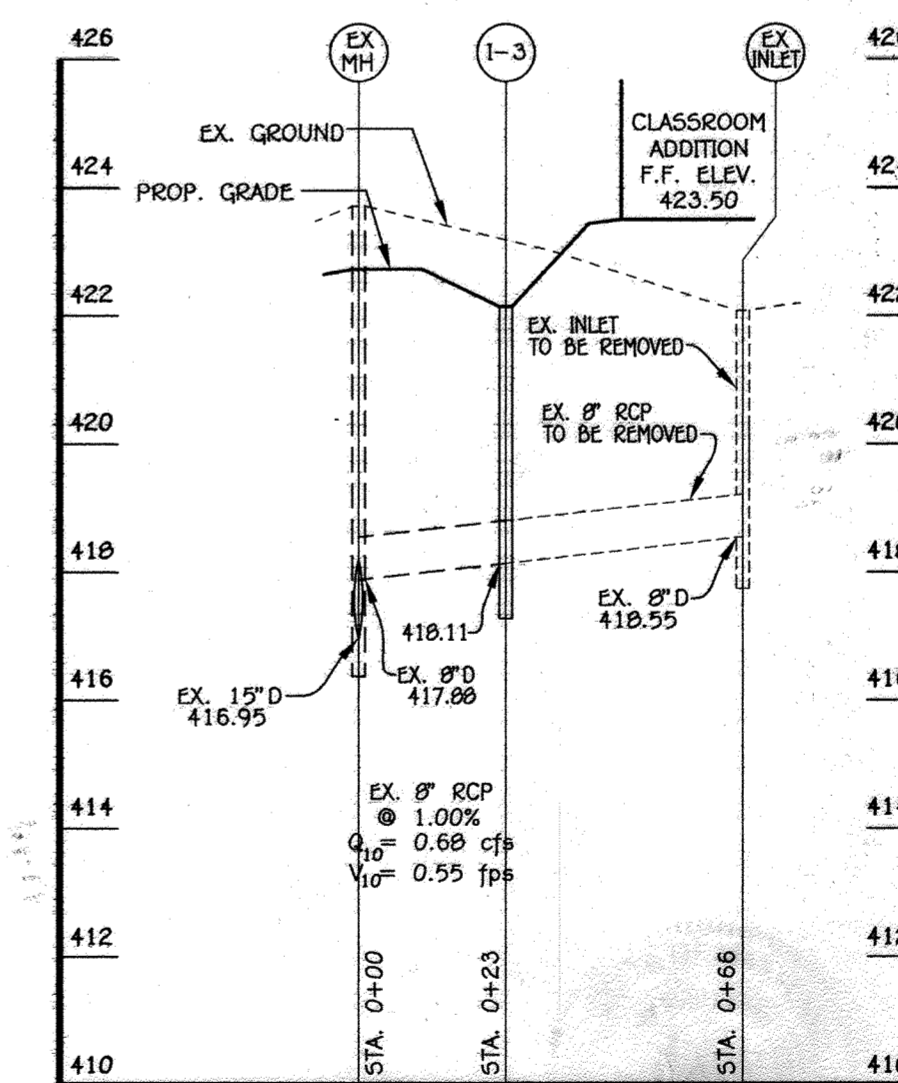
IMP #1 UNDERDRAIN OUTFALL PROFILE  
SCALE: HORIZ. 1" = 30' VERT. 1" = 3'



IMP #2 UNDERDRAIN OUTFALL PROFILE  
SCALE: HORIZ. 1" = 30' VERT. 1" = 3'



IMP #3 UNDERDRAIN OUTFALL PROFILE  
SCALE: HORIZ. 1" = 30' VERT. 1" = 3'



1-3 TO EX MH  
SCALE: HORIZ. 1" = 30' VERT. 1" = 3'

AS-BUILT CERTIFICATION

I HEREBY CERTIFY, BY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN AND THAT THE CURRENT APPROVED PLANS AND SPECIFICATIONS ARE BEING MAINTAINED.

G. SCOTT SHANABGER  
PROFESSIONAL L.S. #10849  
SHANABGER & LANE  
LICENSE EXPIRATION DATE: 12/31/2015  
AS-BUILT SURVEY DATE: 11/17/2015



NOTE: THE PURPOSE OF THIS PLAN IS TO SHOW STORM DRAIN AND STORMWATER MANAGEMENT PROFILES.

FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SOURCE OFFICE: PARK - 10272 BALTIMORE NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21114  
(410) 461-2892

10/2/10	REVISION SHEET NUMBER
9/29/10	REVISION SHEET NUMBER
DATE	DESCRIPTION
REVISION BLOCK	
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Donna E. Suttler</i>	11/9/10
Director - Department of Planning and Zoning	Date
<i>Walt Shalender</i>	11-08-11
Chief, Division of Land Development	Date
<i>Paul Edward</i>	11-3-11
Chief, Development Engineering Division	Date

PREPARED FOR:  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 MARYLAND ROUTE 109  
ELICOTT CITY, MARYLAND 21042  
Attention: Bruce Gist  
410-313-6805

Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002
PROJECT	SECTION/AREA
ATHOLTON HIGH SCHOOL	N/A
DEED REF.	TAX MAP
416/447 201/296 429/434	35
WATER CODE	SEWER CODE
E 29	5324500

STORM DRAIN AND STORMWATER MANAGEMENT FACILITY PROFILES

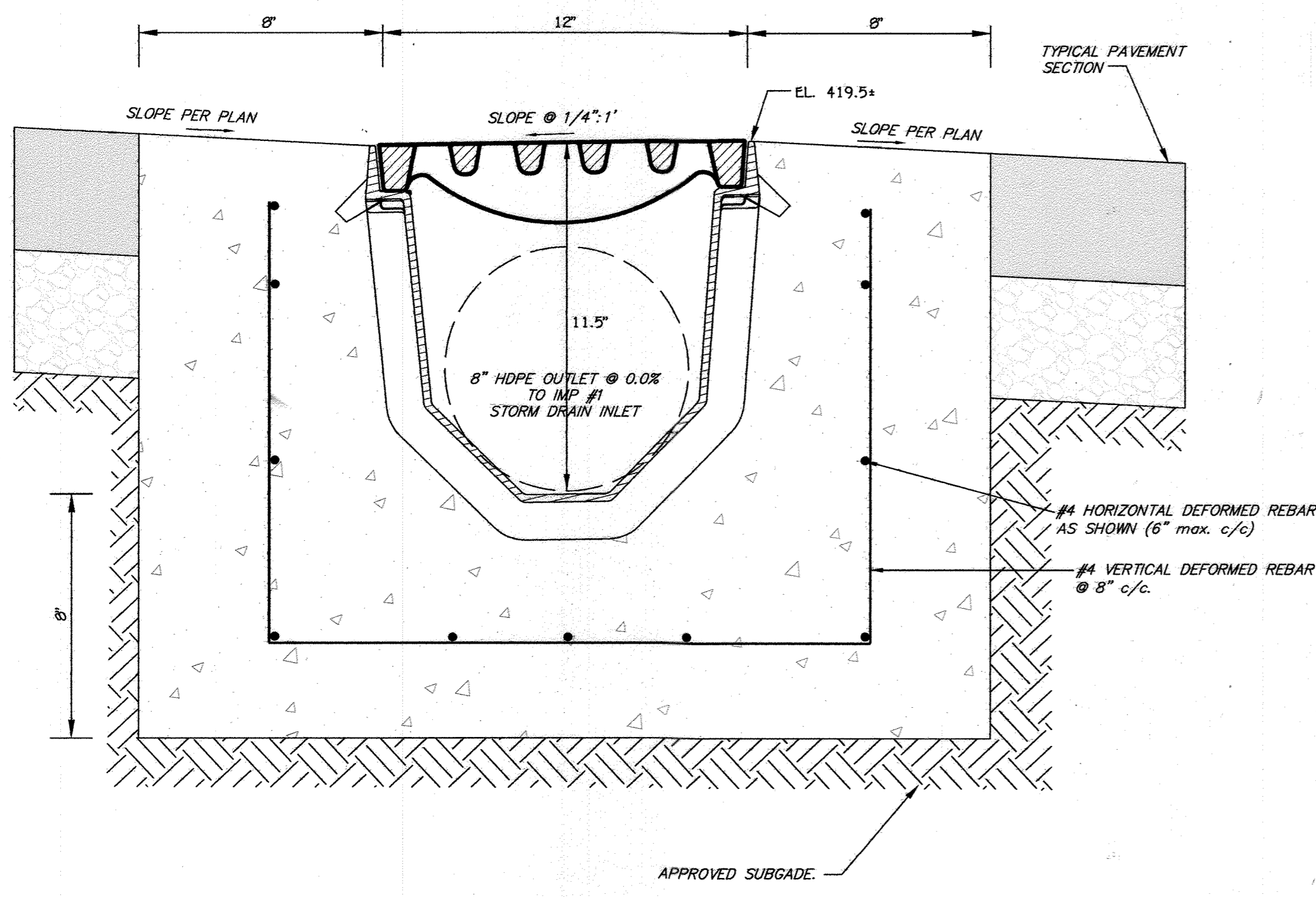
"REVISED SITE DEVELOPMENT PLAN" ATHOLTON HIGH SCHOOL

CLASSROOM ADDITIONS AND IMPROVEMENTS

PARCEL Nos.: 265,249 & 292  
TAX MAP No.: 35 GRID No.: 24  
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JULY 15, 2011

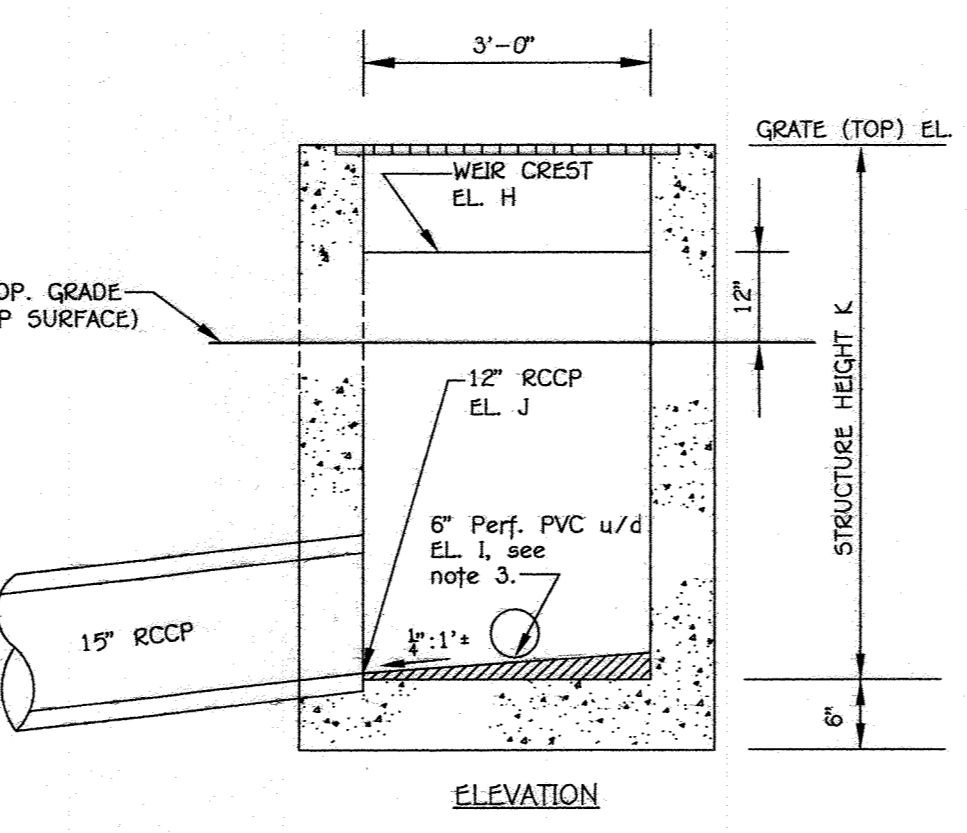
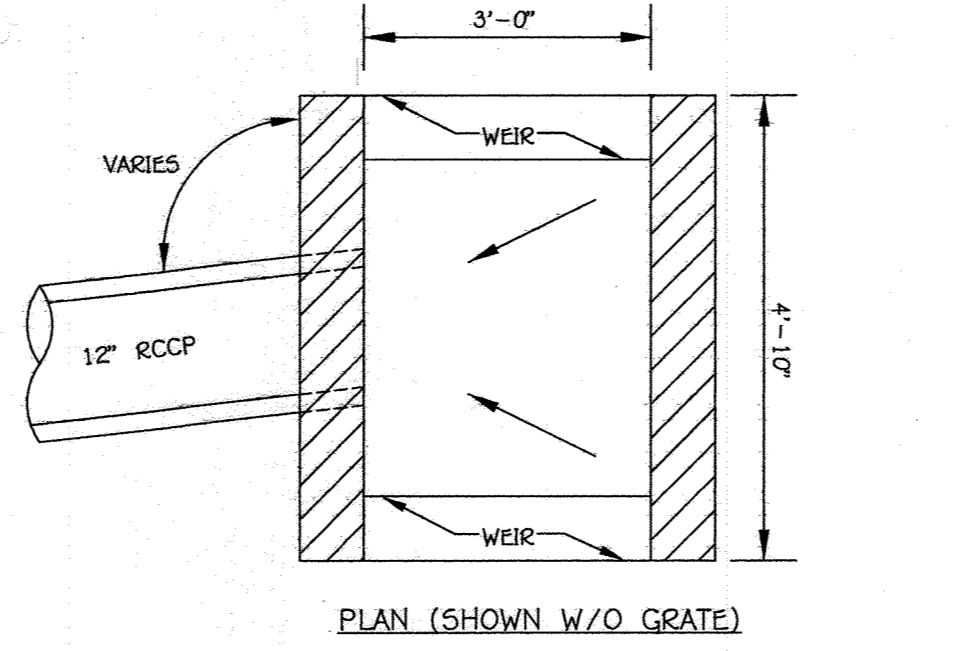
SHEET 21 OF 30





- NOTES:
- TRENCH DRAIN: NEENAH R-4996-C, TYPE C GRATE, HEAVY DUTY TRENCH FRAME, OR APPROVED EQUAL. LENGTH IS 24 LF W/ ONE (1) CLOSED END & ONE (1) 8" OUTLET (SEE PLAN FOR LOCATION)
  - INSTALL TRENCH DRAIN PER MANUFACTURER'S RECOMMENDATIONS/INSTRUCTIONS.
  - CONCRETE: 3,500 psi @ 28 days. BROOM FINISH. INSTALL EXPANSION JOINT IN CENTER (i.e., 12" FROM CURB).
  - REBAR: GRADE 60, #4 DEFORMED REBAR AS SHOWN, 2" MIN. COVER.
  - SUBGRADE: COMPACT 95% MAX. DENSITY, AASHTO T99.
  - TRENCH DRAIN LONGITUDINAL SLOPE SHALL BE 0.0% (i.e., LEVEL). INSTALL GRATE WITH A REVERSE SLOPE.
  - OUTFALL CONNECTION IS AT THE FACE OF THE STORM DRAIN INLET AS SHOWN. PROVIDE WATERTIGHT, SECURE CONNECTION FROM TRENCH DRAIN TO INLET.

TRENCH DRAIN DETAIL  
NTS



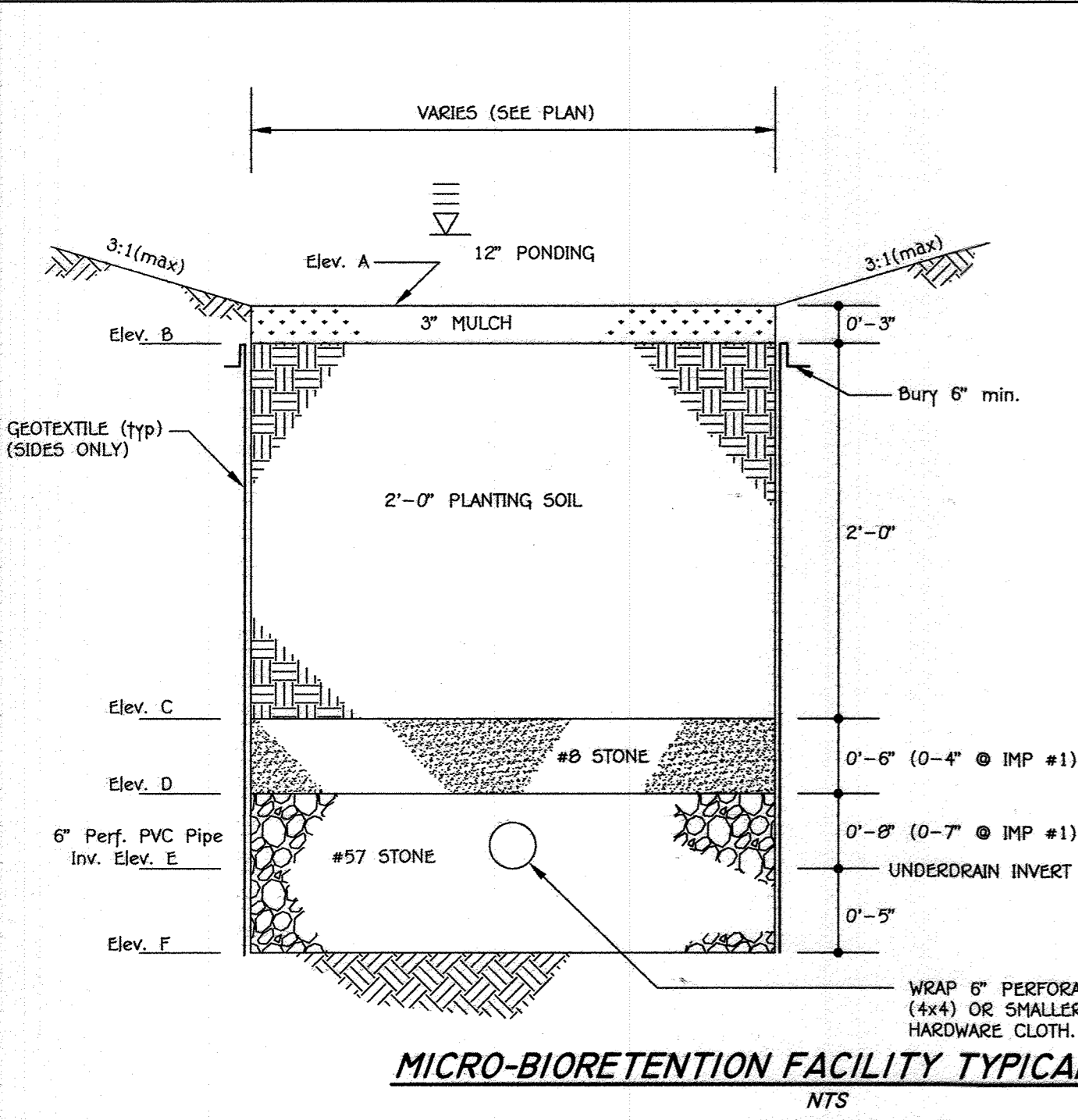
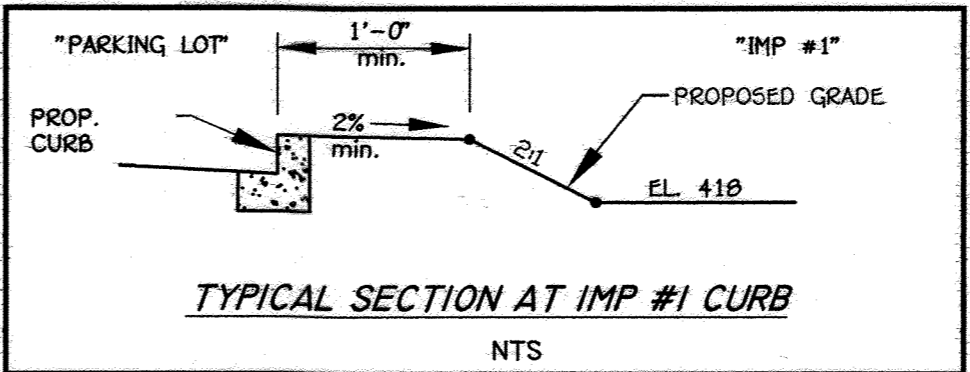
- NOTES:
- SEE MSHA STD DETAIL MD-370.11 FOR DETAILS NOT SHOWN ABOVE.
  - USE DOUBLE OPENING WITH NO CONCRETE GUTTER APPROACHES.
  - PVC UNDERDRAIN MAY ENTER INLET AT AN ANGLE TO MAINTAIN IN CENTER OF BMP. SEE PLAN FOR UNDERDRAIN ENTRANCE WALL LOCATION.
  - SLOPE RISER INVERT 1/4" TOWARD 12" RCCP OUTFALL.
  - A WEIR TRASH RACK IS NOT REQUIRED/NEEDED.

R-1, R-2, and R-3 ELEVATION TABLE

	R-1 (IMP #1)	R-2 (IMP #2)	R-2 (IMP #3)	
ELEV. G	419.50.45	421.50.38	415.50.61	Top of Grate
ELEV. H	419.00.48.95	421.00.42.08	415.00.11	Weir Crest
ELEV. I	414.84.79	416.58.43	410.58.66	Inv. 6" Perfor. u/d
ELEV. J	414.78.79	416.58.37	410.52.60	15" RCCP Invert Out
ELEV. K	4.71.14	4.97.5.01	4.92.5.01	Structure Height

MODIFIED K-INLET TYPICAL SECTION FOR STRUCTURES R-1, R-2, & R-3  
NTS

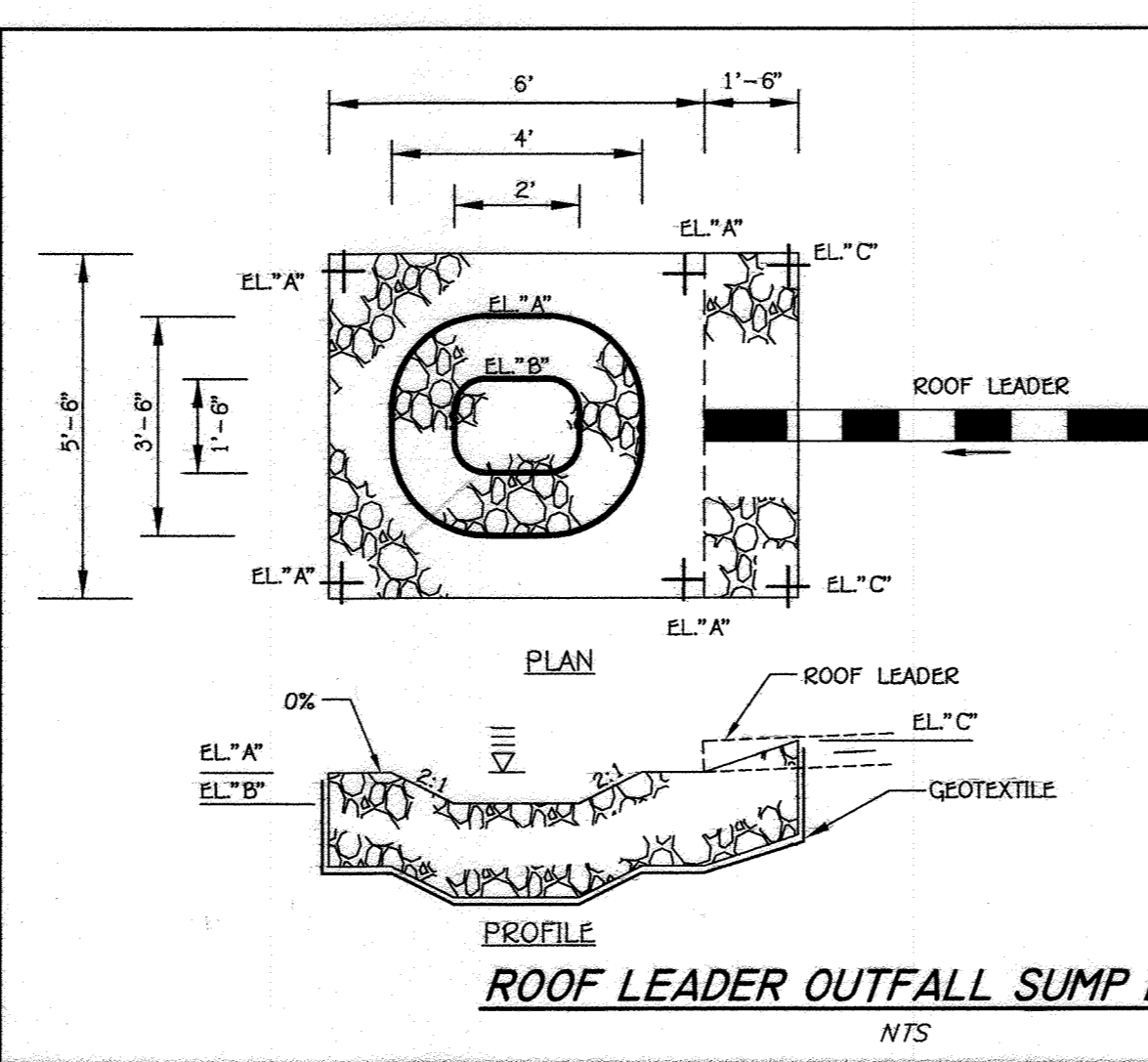
- GENERAL STORMWATER MANAGEMENT NOTES
- STORMWATER MANAGEMENT HAS BEEN PROVIDED WITH THREE (3) MICRO-BIORETENTION FACILITIES. PLEASE REFER TO THE SWM REPORT PREPARED BY FISHER, COLLINS, & CARTER, INC. DATED AUGUST 26, 2011.
  - ALL CONSTRUCTION SHALL MEET THE LATEST EDITION OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS, SMALL EARTHEN DAM SPECIFICATION MD-370, AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT'S CURRENT STORMWATER DESIGN MANUAL, OR AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CONSULT THE ENGINEER SHOULD THERE BE ANY DISCREPANCIES. SEE MICRO-BIORETENTION FACILITY SPECIFICATIONS ON SHEET 23.
  - THE UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL TEST FIT ALL KNOWN EXISTING UTILITIES TO VERIFY, SIZE, SHAPE, LOCATION, AND TYPE PRIOR TO PERFORMING CONSTRUCTION. ANY UTILITY DAMAGED DUE TO CONSTRUCTION MUST BE REPAIRED IMMEDIATELY.
  - SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. IF THE CONTRACTOR MAKES FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
  - CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-257-7777 AND THE HOWARD COUNTY DEPARTMENT OF INSPECTION LICENSES & PERMITS THREE (3) WORKING DAYS BEFORE BEGINNING CONSTRUCTION.
  - FISHER, COLLINS & CARTER, INC. IS NOT RESPONSIBLE FOR THE CONTRACTOR'S UTILIZATION OF MEN, MATERIALS, EQUIPMENT, OR SAFETY MEASURES IN THE PERFORMANCE OF ANY WORK FOR THIS PROJECT. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR PERFORMING THE WORK CORRECTLY AND IN CONFORMANCE WITH CODE/SPECIFICATION REQUIREMENTS.
  - THE IMPs MAY BE GRADED, HOWEVER, THE PLANTING SOIL IN THE IMPs SHALL NOT BE INSTALLED UNTIL ALL UPSTREAM AREAS HAVE BEEN STABILIZED (i.e., THICK GRASS COVER, OR PAVED).
  - THE STORMWATER MANAGEMENT MICRO-BIORETENTION IMPs FOR THIS PROJECT WILL BE PRIVATELY OWNED AND MAINTAINED.
  - THE IMPs SHALL BE AT LEAST 10 FT FROM THE SCHOOL BUILDING (TEMPORARY BUILDINGS EXCLUDED) AS MEASURED FROM THE 1 FT DEPTH W.S.E. TO THE BUILDING.
  - ALL ROOF LEADER OUTFALLS SHALL BE CONSTRUCTED PER THE ROOF LEADER OUTFALL SUMP DETAIL AS SHOWN ON THIS SHEET.



MICRO-BIORETENTION IMP ELEVATION TABLE

	IMP #1	IMP #2	IMP #3
Elev. A	417.7	419.9	413.8
Elev. B	420.00	420.00	414.00
Elev. C	417.75	419.75	413.75
Elev. D	415.75	417.75	411.75
Elev. E	415.42	417.25	411.25
Elev. F	414.84	416.43	410.66
Elev. G	414.84	416.58	410.58
Elev. H	414.42	416.16	410.16

MICRO-BIORETENTION FACILITY TYPICAL SECTION  
NTS



ROOF LEADER OUTFALL SUMP ELEVATION TABLE

	IMP #2	IMP #3
EL. A	420.00	414.00
EL. B	419.50	413.50
EL. C	420.50	414.50

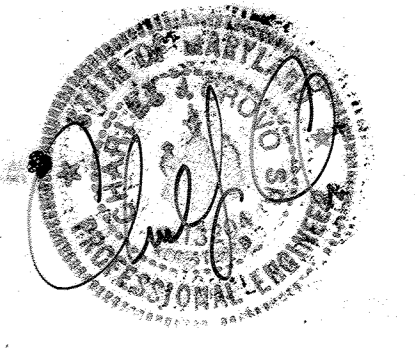
- NOTES:
- OUTFALL SUMP MATERIALS: MSHA CL 1 RIPRAP ON GEOTEXTILE, 19" THICK.
  - SEE PLAN FOR EXACT SHAPE OF OUTFALL SUMP.

ROOF LEADER OUTFALL SUMP DETAIL (TYP)  
NTS

AS-BUILT CERTIFICATION

I HEREBY CERTIFY, BY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN MEETING THE CURRENT APPROVED PLANS AND SPECIFICATIONS.

*G. Scott Shanaberger*  
G. SCOTT SHANABERGER  
PROFESSIONAL L.S.#100819  
SHANABERGER & LANE  
LICENSE EXPIRATION DATE 4/2/2015  
AS-BUILT SURVEY DATE: 12/19/2015



NOTE: THE PURPOSE OF THIS PLAN IS TO SHOW NOTES AND DETAILS FOR STORMWATER MANAGEMENT FACILITIES.

FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21042  
(410) 461-2895

10/2/12	REVISED SHEET NUMBER
8/20/10	REVISED SHEET NUMBER
DATE	DESCRIPTION
	REVISION BLOCK
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Thomas E. Butler</i>	11/9/11
Director - Department of Planning and Zoning	Date
<i>Scott Shanaberger</i>	11-08-11
Chief, Division of Land Development	Date
<i>Paul Church</i>	11-3-11
Chief, Development Engineering Division	Date

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6805

TCA ARCHITECTS  
2661 RIVA ROAD, SUITE 120  
ANNAPOLIS, MARYLAND 21401  
(410) 841-6205

Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002
PROJECT	SECTION/AREA
ATHOLTON HIGH SCHOOL	N/A
DEED REF.	TAX MAP
416/447	R-SC
201/296	NT
499/434	
WATER CODE	SEWER CODE
E 29	5324500

STORMWATER MANAGEMENT FACILITY NOTES & DETAILS (1)

"REVISED SITE DEVELOPMENT PLAN" ATHOLTON HIGH SCHOOL

CLASSROOM ADDITIONS AND IMPROVEMENTS

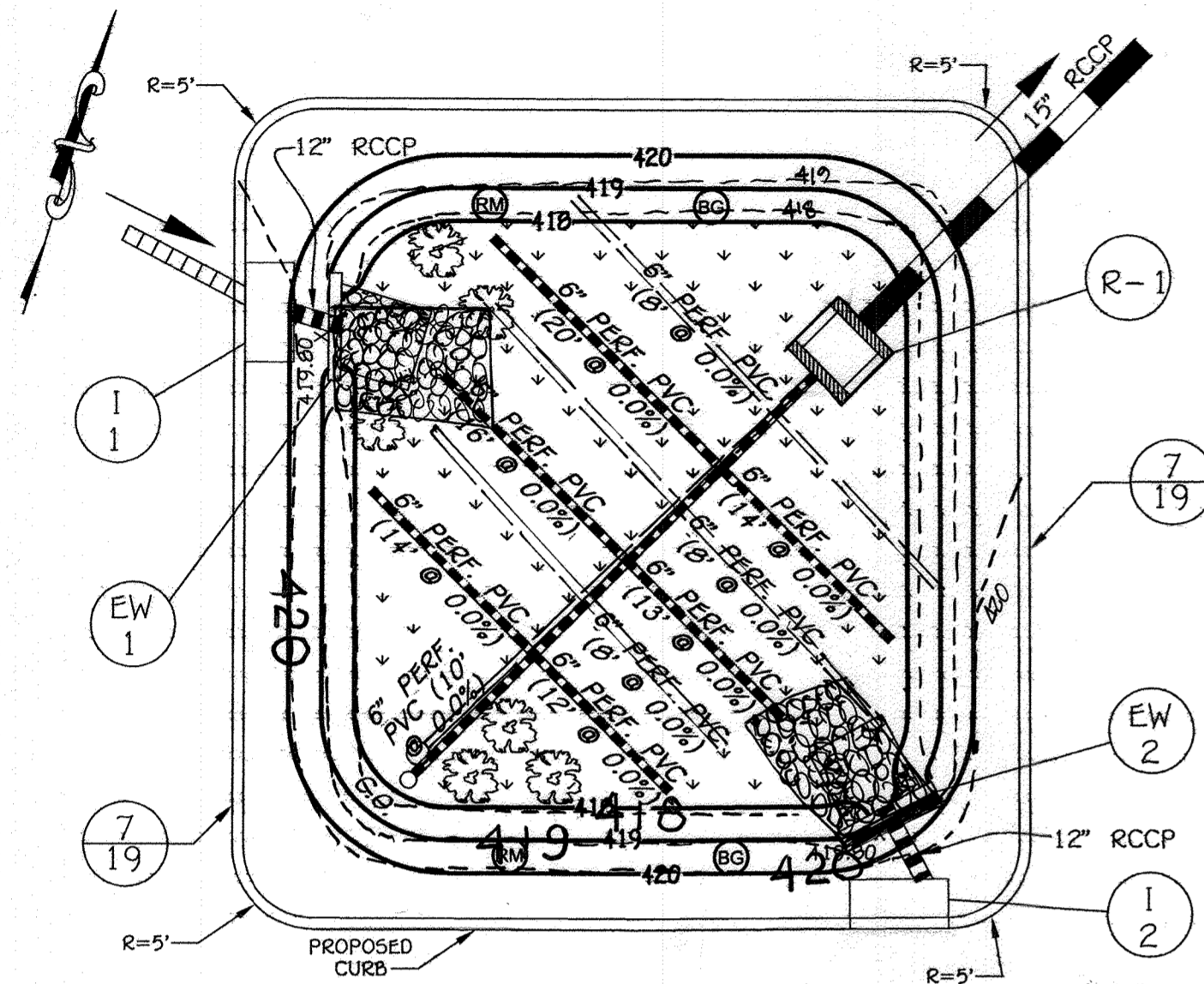
PARCEL Nos.: 265,249 & 292  
TAX MAP No.: 35 GRID No.: 24  
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JULY 15, 2011

SHEET 22 OF 36



IMP MICRO-BIORETENTION PLANTING SCHEDULE			
PLANT NAME	FORM	QUANTITY	SYMBOL
SWITCH GRASS ( <i>panicum virgatum</i> )	Grass	130 Qts <sup>a</sup>	↘↘↘
FOX SEDGE ( <i>carex vulpinoidea</i> )	Grass	130 Qts <sup>a</sup>	↘↘↘
RED MAPLE ( <i>acer rubrum</i> )	Tree (4'-6", 1" cal.)	2	Ⓜ
BLACKGUM ( <i>nyssa sylvatica</i> )	Tree (5'-8", 1" cal.)	2	Ⓢ
RED OSIER DOGWOOD ( <i>cornus sericea</i> )	Shrub	6	Ⓢ

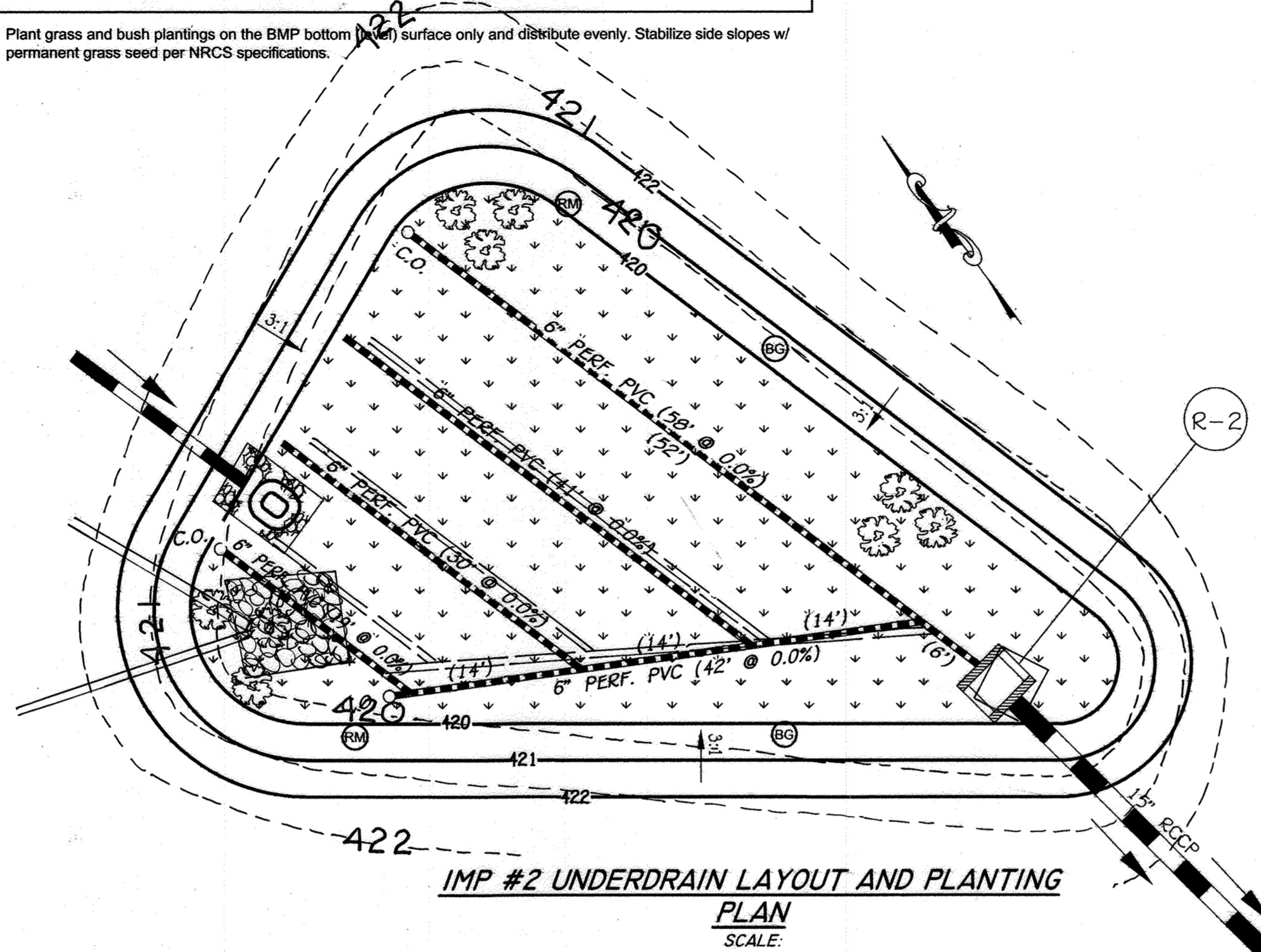
Plant grass and bush plantings on the BMP bottom (level) surface only and distribute evenly. Stabilize side slopes w/ permanent grass seed per NRCS specifications.



**IMP #1 UNDERDRAIN LAYOUT PLANTING PLAN**  
SCALE: 1" = 10'

IMP MICRO-BIORETENTION PLANTING SCHEDULE			
PLANT NAME	FORM	QUANTITY	SYMBOL
SWITCH GRASS ( <i>panicum virgatum</i> )	Grass	230 Qts <sup>a</sup>	↘↘↘
FOX SEDGE ( <i>carex vulpinoidea</i> )	Grass	230 Qts <sup>a</sup>	↘↘↘
RED MAPLE ( <i>acer rubrum</i> )	Tree (4'-6", 1" cal.)	2	Ⓜ
BLACKGUM ( <i>nyssa sylvatica</i> )	Tree (5'-8", 1" cal.)	2	Ⓢ
RED OSIER DOGWOOD ( <i>cornus sericea</i> )	Shrub	9	Ⓢ

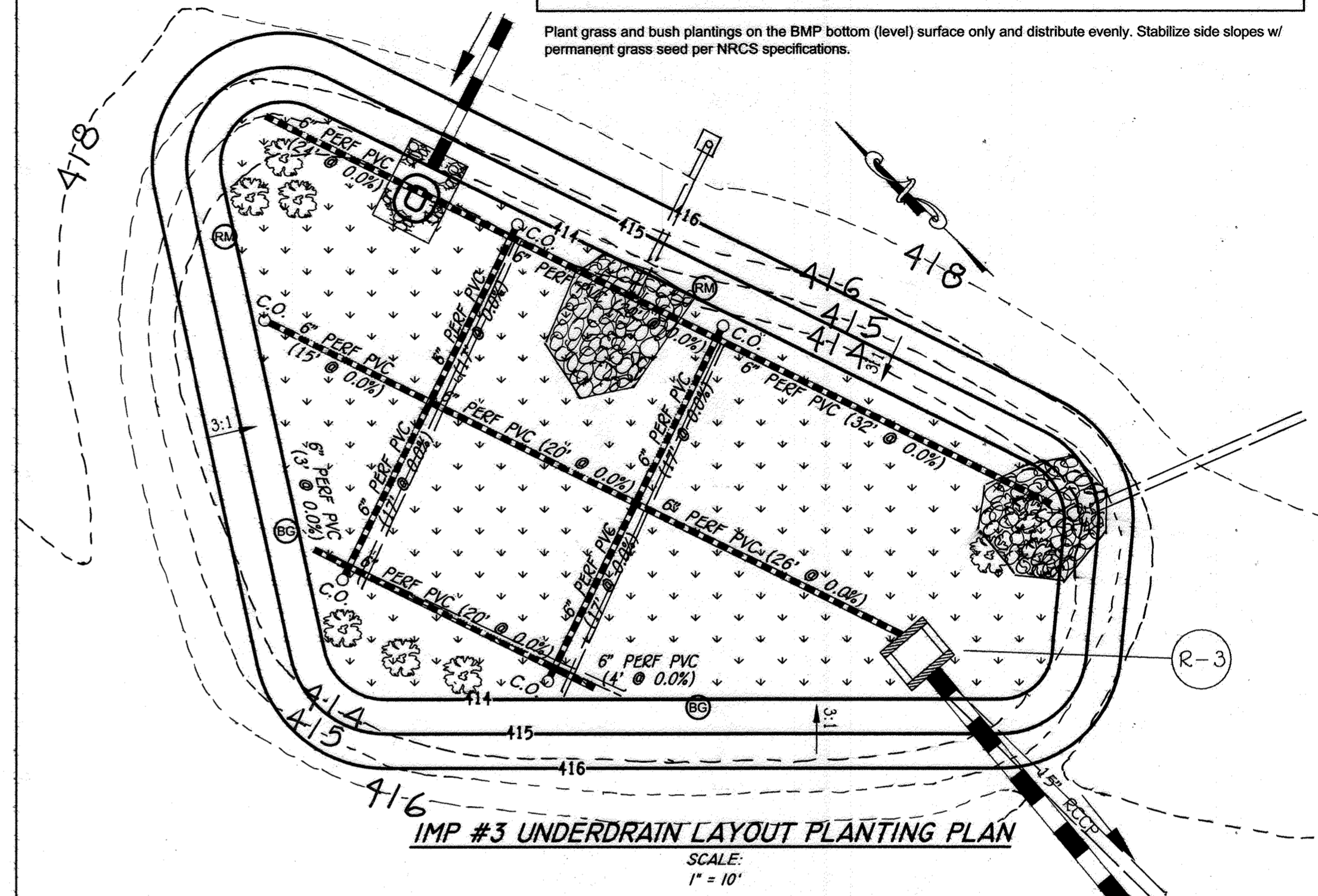
Plant grass and bush plantings on the BMP bottom (level) surface only and distribute evenly. Stabilize side slopes w/ permanent grass seed per NRCS specifications.



**IMP #2 UNDERDRAIN LAYOUT AND PLANTING PLAN**  
SCALE: 1" = 10'

IMP MICRO-BIORETENTION PLANTING SCHEDULE			
PLANT NAME	FORM	QUANTITY	SYMBOL
SWITCH GRASS ( <i>panicum virgatum</i> )	Grass	260 Qts <sup>a</sup>	↘↘↘
FOX SEDGE ( <i>carex vulpinoidea</i> )	Grass	260 Qts <sup>a</sup>	↘↘↘
RED MAPLE ( <i>acer rubrum</i> )	Tree (4'-6", 1" cal.)	2	Ⓜ
BLACKGUM ( <i>nyssa sylvatica</i> )	Tree (5'-8", 1" cal.)	2	Ⓢ
RED OSIER DOGWOOD ( <i>cornus sericea</i> )	Shrub	9	Ⓢ

Plant grass and bush plantings on the BMP bottom (level) surface only and distribute evenly. Stabilize side slopes w/ permanent grass seed per NRCS specifications.



**IMP #3 UNDERDRAIN LAYOUT PLANTING PLAN**  
SCALE: 1" = 10'

- REFER TO THE 2000 MARYLAND SWM DESIGN MANUAL FOR BIORETENTION SPECIFICATIONS (PG. B.3.7) FOR INFORMATION NOT LISTED HEREIN AND FOR ADDITIONAL INFORMATION.
- THE BIORETENTION IMP MATERIALS ARE AS FOLLOWS:
  - PLANTING SOIL: PER PLANTING SOIL SPECIFICATIONS OUTLINED IN MDE'S 2000 SWM MANUAL.
  - PVC PIPE: SCHEDULE 40, PERFORATED PIPE SHALL HAVE NO SLOPE (0.0%).
  - STONE AGGREGATE: MSHA SPECIFICATIONS AS SHOWN ON TYPICAL SECTION; AGGREGATE MUST BE FREE OF FINES, DIRT & DEBRIS.
  - GEOTEXTILE: PER MDE SWM MANUAL OR MIRAFT 140N.
  - MULCH: SHREDDED, WELL-AGED (6-12 MONTHS) HARDWOOD MULCH; NO WOOD CHIPS OR PINE MULCH.
- THE CONTRACTOR SHALL UNDER NO CIRCUMSTANCES ALLOW SURFACE DRAINAGE INTO THE MICRO-BIORETENTION IMPs UNTIL ALL UPSTREAM AREAS HAVE BEEN STABILIZED (I.E., PAVED, OR HAVE WELL-ESTABLISHED VEGETATION).
- BOARDS SHALL NOT BE LEFT IN PLACE DURING THE CONSTRUCTION OF THE BIORETENTION IMP.
- GEOTEXTILE (FILTER FABRIC) SHALL BE PLACED AGAINST EXCAVATED SURFACES. SCARIFY EARTH PRIOR TO GEOTEXTILE PLACEMENT. INSTALL GEOTEXTILE PER MANUFACTURER'S SPECIFICATIONS/RECOMMENDATIONS AND USE A 2 FT MINIMUM OVERLAP AND NOTCH ENDS WITH A 6" MINIMUM BURY OR EQUIVALENT ANCHORING METHOD.
- THE CONTRACTOR SHALL OBTAIN INDEPENDENT CERTIFICATION THAT THE SOILS AND OTHER MATERIALS MEET THE SPECIFICATIONS DURING THE AS-BUILT STAGE.
- THE BIORETENTION FACILITIES SHALL BE VEGETATED (TOP LEVEL SURFACE ONLY) IN ACCORDANCE WITH THE PLANTING SCHEDULE AND PLANT PER MDE SPECIFICATIONS IN THE 2000 SWM DESIGN MANUAL.
- USE PERFORATED PVC PIPE INSIDE THE BIORETENTION FACILITIES AND WRAP PERFORATED PIPE WITH 3/4" HARDWARE CLOTH TO PREVENT AGGREGATE FROM ENTERING THE PERFORATIONS.
- INSTALL CLEANOUTS (SOLID PVC PIPE) AS SHOWN. THE CLEANOUT TOP SHALL EXTEND 2-3" ABOVE TOP OF MULCH.

**OPERATION AND MAINTENANCE SCHEDULE FOR THE BIO-RETENTION INTEGRATED MANAGEMENT PRACTICES (IMPs)**

THE MICRO-BIORETENTION FACILITIES SHALL BE INSPECTED AT LEAST TWICE PER YEAR (ONCE EACH IN THE SPRING AND FALL) AND AFTER HEAVY STORMS. MICRO-BIORETENTION FACILITY COMPONENTS TO BE INSPECTED AND MAINTAINED INCLUDE THE ITEMS AS FOLLOWS:

- PLANT MATERIAL: PLANTS SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION. REMOVE AND REPLACE DEAD OR DYING VEGETATION CONSIDERED BEYOND TREATMENT (SEE NOTE #1 BELOW). MAINTENANCE INCLUDES PRUNING, AND REPLACEMENT OF DEFICIENT STAKES AND WIRE.
- MULCH LAYER: SHALL BE REPLACED EVERY 3 YEARS (IN THE SPRING) DUE TO THE HEAVY METALS GENERATED FROM THE PARKING LOT. THE OWNER SHALL PROPERLY DISPOSE OF THE OLD MULCH SO AS NOT TO CAUSE STORMWATER CONTAMINATION ELSEWHERE. WASHED OUT AREAS SHALL BE REPAIRED AS NECESSARY.
- SOIL LAYER: SHOULD STORMWATER POND FOR MORE THAN 48 HOURS, THE TOP 6 INCHES (MINIMUM) OF THE SOIL LAYER SHALL BE REPLACED. THE OLD SOILS SHALL BE PROPERLY DISPOSED.
- SPILLWAY OUTFALL, INTERIOR SLOPES: ERODED AREAS SHALL BE REPAIRED (ILLED IN AND SEEDING) AS NEEDED. BARE AREAS SHALL BE TREATED AND RE-SEEDING.
- INLET: REPAIR CRACKS, DAMAGED CONCRETE, ETC. AS NECESSARY.
- REMOVE AND PROPERLY DISPOSE ACCUMULATED SEDIMENT GREATER THAN ONE (1) INCH.

NOTES:

- IF SPECIFIC PLANTS ARE NOT SURVIVING, THE PLANT TYPE SHALL BE CHANGED TO BETTER SUITED SPECIES.
- PLANT WATERING MAY BE NEEDED DURING PROLONGED DRY PERIODS.

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY, BY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THE AS-BUILT PLAN AND THE CURRENT APPROVED PLANS AND SPECIFICATIONS.

*Scott Shanaberger*  
 S. SCOTT SHANABERGER  
 PROFESSIONAL L.S.#10849  
 SHANABERGER & LAKE  
 LICENSE EXPIRATION DATE 4/2/2018  
 AS-BUILT SURVEY DATE 12/9/2015



NOTE: THE PURPOSE OF THIS PLAN IS TO SHOW NOTES AND DETAILS FOR STORMWATER MANAGEMENT FACILITIES.

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALDORNE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2995

DATE	DESCRIPTION	REVISION BLOCK
10/2/12	REVISED SHEET NUMBER	
5/29/16	REVISED SHEET NUMBER	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Thomas E. Sutler* 11/9/11  
 Director - Department of Planning and Zoning Date

*Kate Sheehan* 11-08-11  
 Chief, Division of Land Development Date

*Paul Chubb* 11-3-11  
 Chief, Development Engineering Division Date

PREPARED FOR:  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 109  
 Ellicott City, Maryland 21042  
 Attention: Bruce Gist  
 410-313-6805

TCA ARCHITECTS  
 2661 RIVA ROAD, SUITE 120  
 ANNAPOLIS, MARYLAND 21401  
 (410) 841-6205

Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002

PROJECT	SECTION/AREA	PARCEL
ATHOLTON HIGH SCHOOL	N/A	265, 249 & 292

DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
416/447 201/296 499/494	24	R-SC NT	35	FIFTH	6056.02

WATER CODE	SEWER CODE
E 29	5324500

**STORMWATER MANAGEMENT FACILITY NOTES & DETAILS (2)**

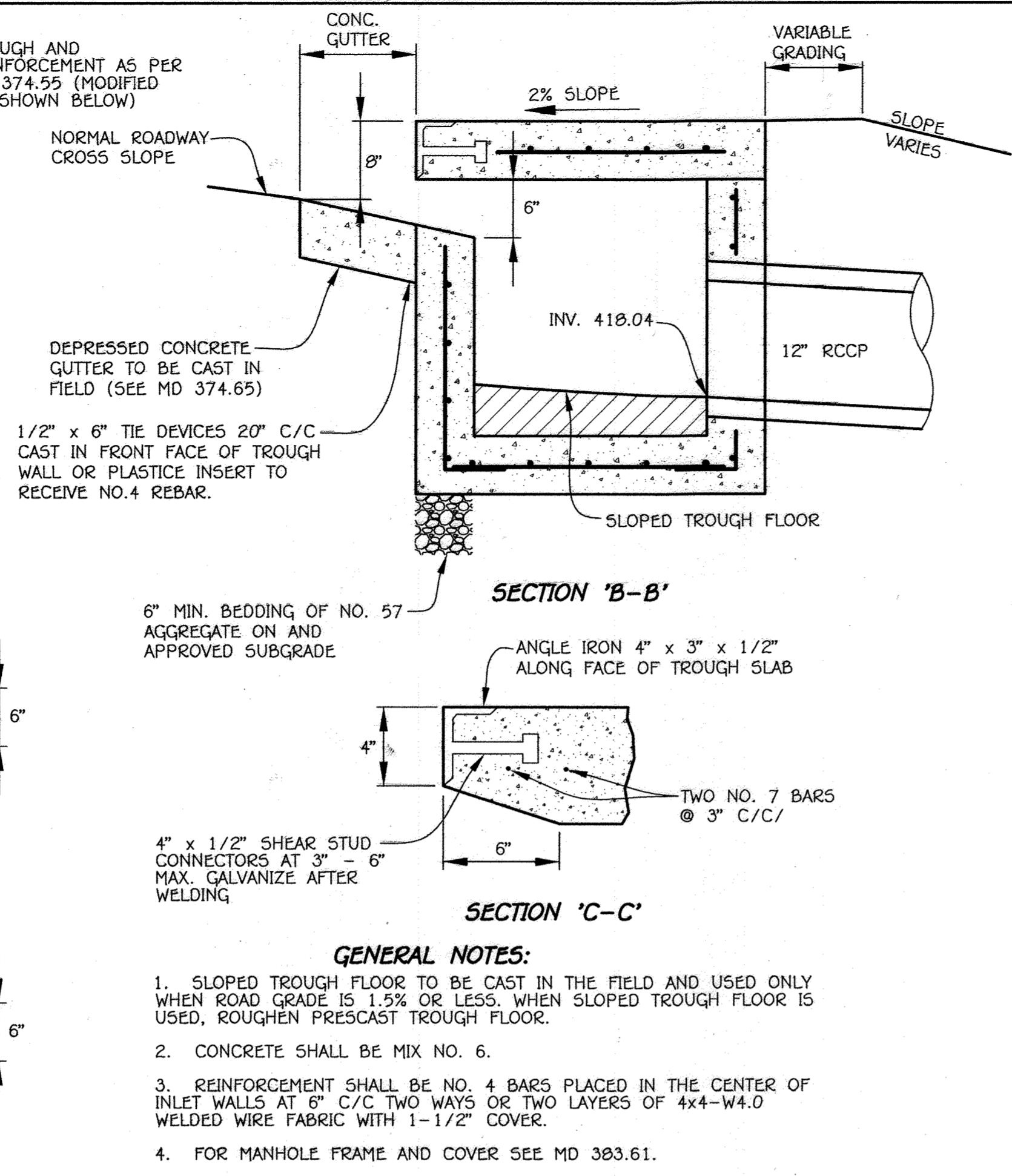
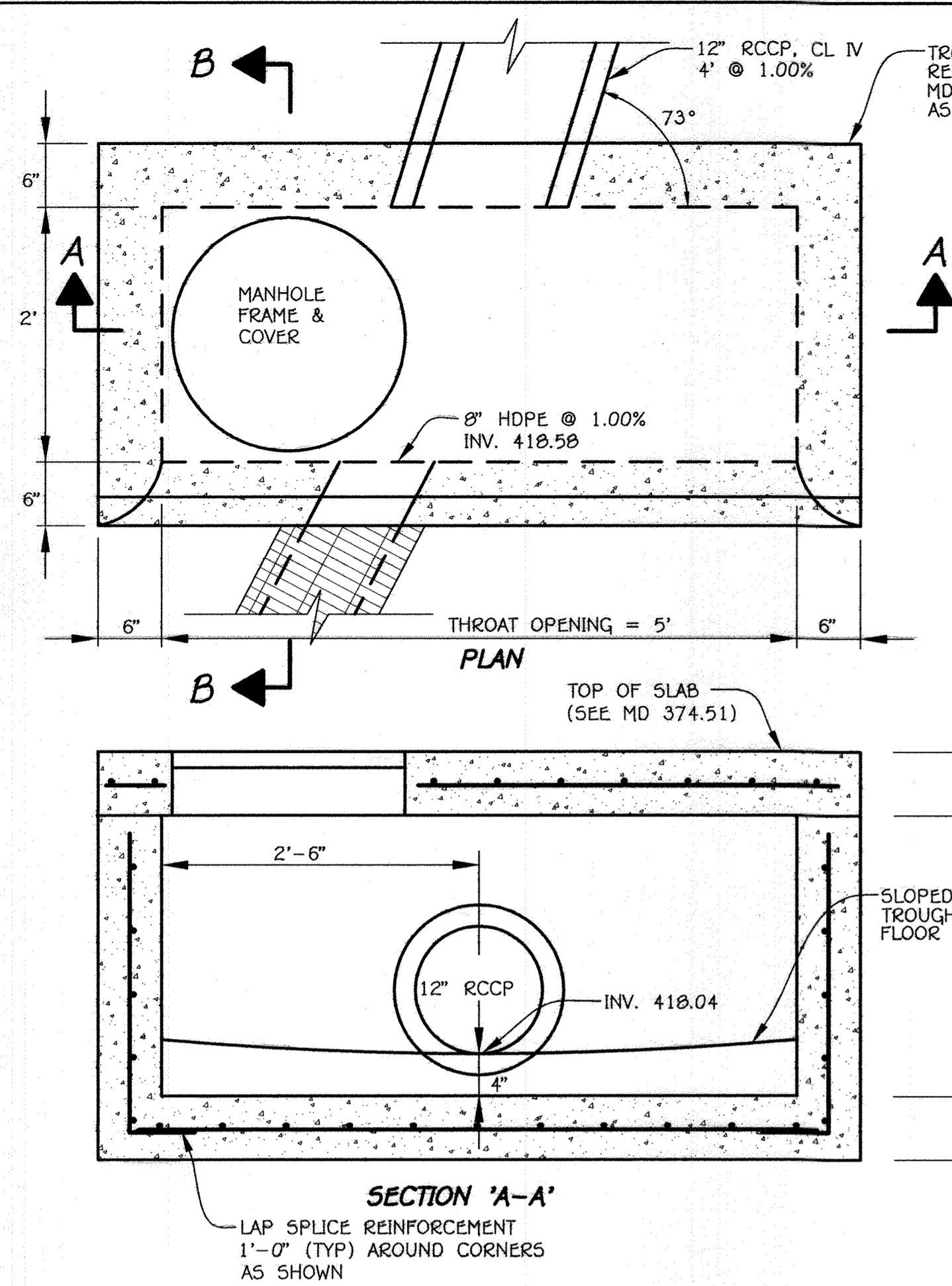
**"REVISED SITE DEVELOPMENT PLAN" ATHOLTON HIGH SCHOOL**

CLASSROOM ADDITIONS AND IMPROVEMENTS

PARCEL Nos.: 265,249 & 292  
 TAX MAP No.: 35 GRID No.: 24  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: JULY 15, 2011

SHEET 23 OF 36





PRECAST SHALLOW COG-5 INLET (I-1)

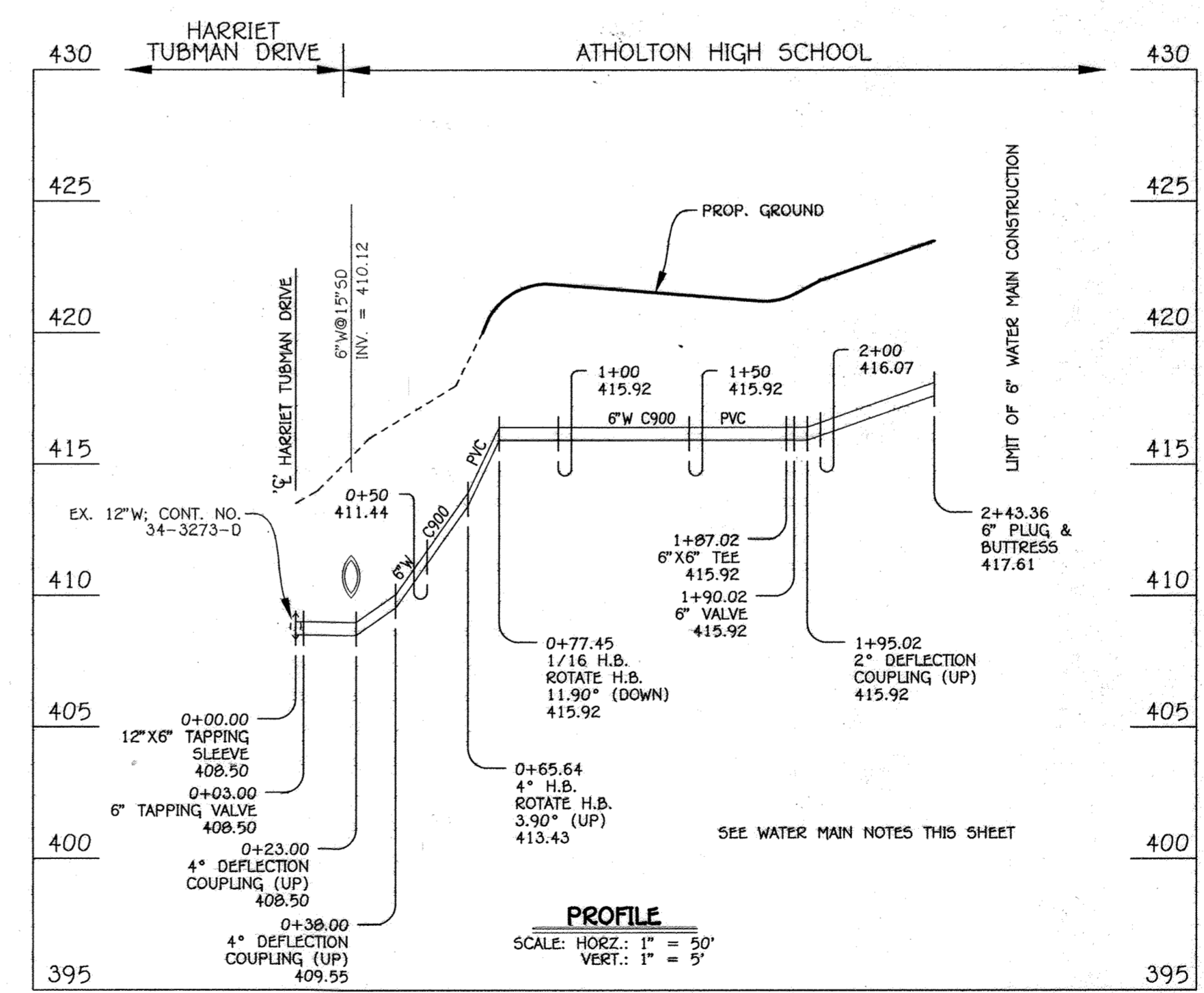
PRECAST SHALLOW COG-5 INLET (I-2)

STRUCTURE SCHEDULE							
STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	COORDINATES	WIDTH	TYPE	REMARKS
I-1	420.21**	418.50 (8")	418.04 (12")	N 553924.11 E 1346462.00	2.0'	MODIFIED A-5 INLET	SEE DETAIL SHEET
I-2	420.43**	-	418.06 (12")	N 553900.23 E 1346511.59	2.0'	MODIFIED A-5 INLET	SEE DETAIL SHEET
I-3	422.14**	-	418.11 (8")	N 553824.43 E 1346404.98	2.50'	S INLET	D-4.23 & D-4.93
M-1	416.89	413.72 (15")	413.47 (18")	N 554133.79 E 1346457.23	-	4' STD. MANHOLE	G - 5.12
M-2	419.14	414.65 (15")	414.60 (15")	N 553957.84 E 1346511.30	-	4' STD. MANHOLE	G - 5.12
M-3	416.86	413.71 (15")	413.61 (15")	N 553530.22 E 1346479.88	-	4' STD. MANHOLE	G - 5.12
M-4	413.56	409.30 (15")	409.20 (15")	N 553452.12 E 1346225.89	-	4' STD. MANHOLE	G - 5.12
M-5	415.39	410.36 (15")	410.26 (15")	N 553584.76 E 1346088.23	-	4' STD. MANHOLE	G - 5.12
EW-1	419.80	418.00 (12")	-	N 553925.17 E 1346468.51	-	CONCRETE END SECTION	D - 5.21
EW-2	419.80	418.00 (12")	-	N 553906.99 E 1346508.60	-	CONCRETE END SECTION	D - 5.21
R-1	418.75	414.84 (6")	414.79	N 553932.66 E 1346497.94	-	MODIFIED K INLET	SEE DETAIL SHEET
R-2	420.88	416.58 (6")	416.43	N 553613.98 E 1346467.18	-	MODIFIED K INLET	SEE DETAIL SHEET
R-3	415.11	415.11	415.11	-	-	MODIFIED K INLET	SEE DETAIL SHEET

\* - DENOTES THROAT OPENING ELEVATION  
 \*\* - DENOTES TOP OF CURB ELEVATION AT CENTERLINE OF INLET  
 \*\*\* - DENOTES GRATE ELEVATION

PIPE SCHEDULE		
SIZE	CLASS	LENGTH
12"	RCCP, CL IV	10 L.F.
15"	RCCP, CL IV	4723 L.F.
6"	PERF PVC	545 L.F.

AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY, BY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN AND THE CURRENT APPROVED PLANS AND SPECIFICATIONS.  
 G. Scott Shanaberger  
 PROFESSIONAL S. #10849  
 SHANABERGER & LANE  
 LICENSE EXPIRATION DATE 4/1/2018  
 AS BUILT SURVEY DATE 12/9/2015



6" WATER MAIN: TO ATHOLTON HIGH SCHOOL

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
6" WATER MAIN: TO ATHOLTON HIGH SCHOOL			
0+00.00	12" X 6" TAPPING SLEEVE	553550.56	1346093.24
0+03.00	6" TAPPING VALVE	553592.66	1346095.37
0+65.64	4" H.B.	553596.62	1346139.99
0+77.45	1/16 H.B.	553604.23	1346149.03
1+87.02	6" X 6" TEE	553636.43	1346253.77
1+90.02	6" VALVE	553639.30	1346252.89
2+43.36	6" PLUG & BUTTRESS	553690.27	1346237.22

WATER MAIN NOTES:  
 1. ALL WATER MAINS SHALL BE AWWA C900 PVC PIPE.  
 2. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.  
 3. DEFLECTION COUPLINGS SHALL BE CERTAIN-TITE PVC HIGH DEFLECTION COUPLINGS.  
 4. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

NOTE: THE PURPOSE OF THIS PLAN IS TO SHOW WATER MAIN PROFILE, STRUCTURE SCHEDULE AND DETAILS.

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CONFIDENTIAL SERVICE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2895

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Director - Department of Planning and Zoning  
 Chief, Division of Land Development  
 Chief, Development Engineering Division

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Ellicott City, Maryland 21042  
 Attention: Bruce Graf  
 410-313-6805

Address Chart	
Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002

PROFILE, DETAILS AND STRUCTURE SCHEDULE  
 "REVISED SITE DEVELOPMENT PLAN" ATHOLTON HIGH SCHOOL  
 CLASSROOM ADDITIONS AND IMPROVEMENTS  
 PARCEL Nos.: 265,249 & 292  
 TAX MAP No.: 35 GRID No.: 24  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: JULY 15, 2011  
 SHEET 24 OF 36



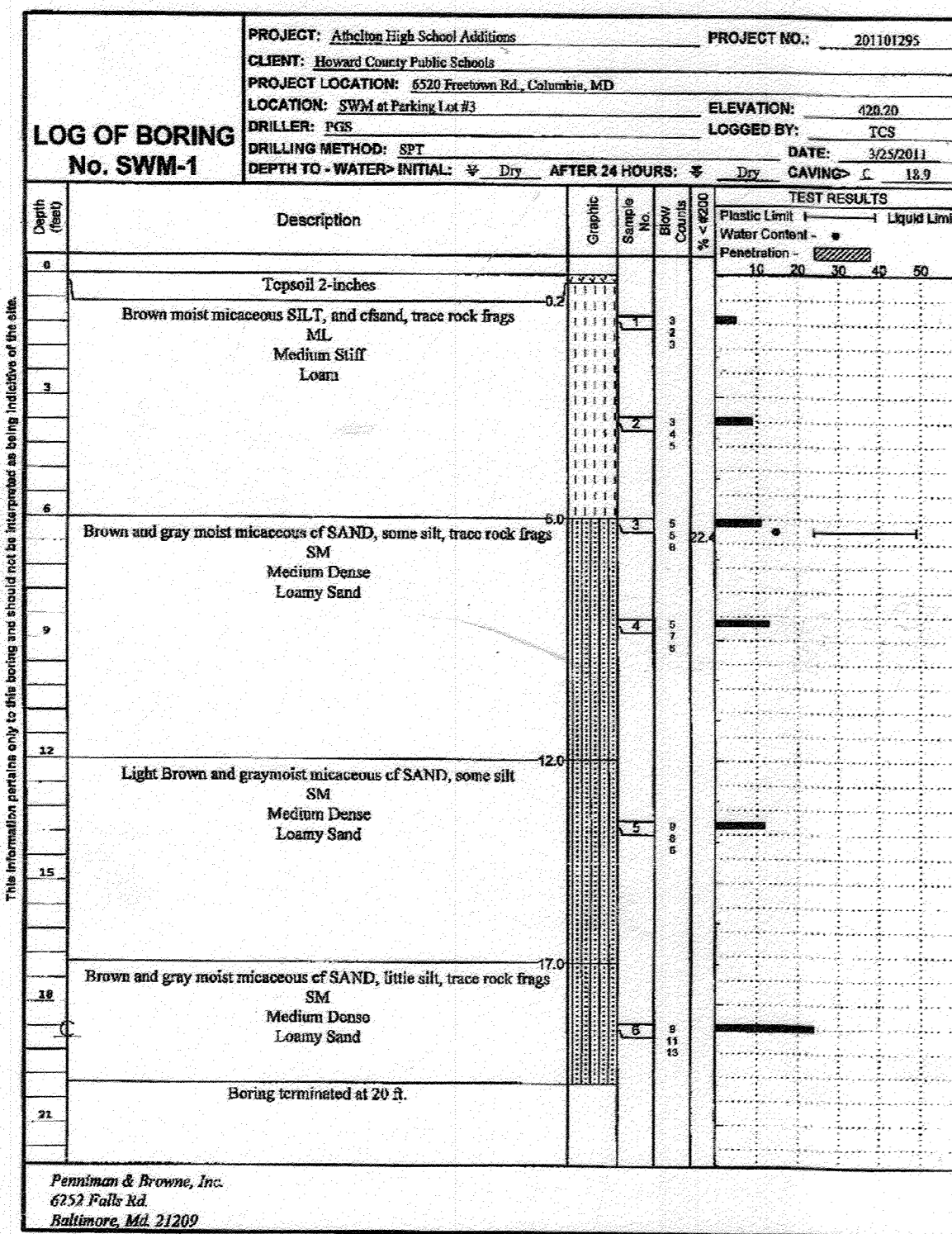


Figure PAGE 1 of 1

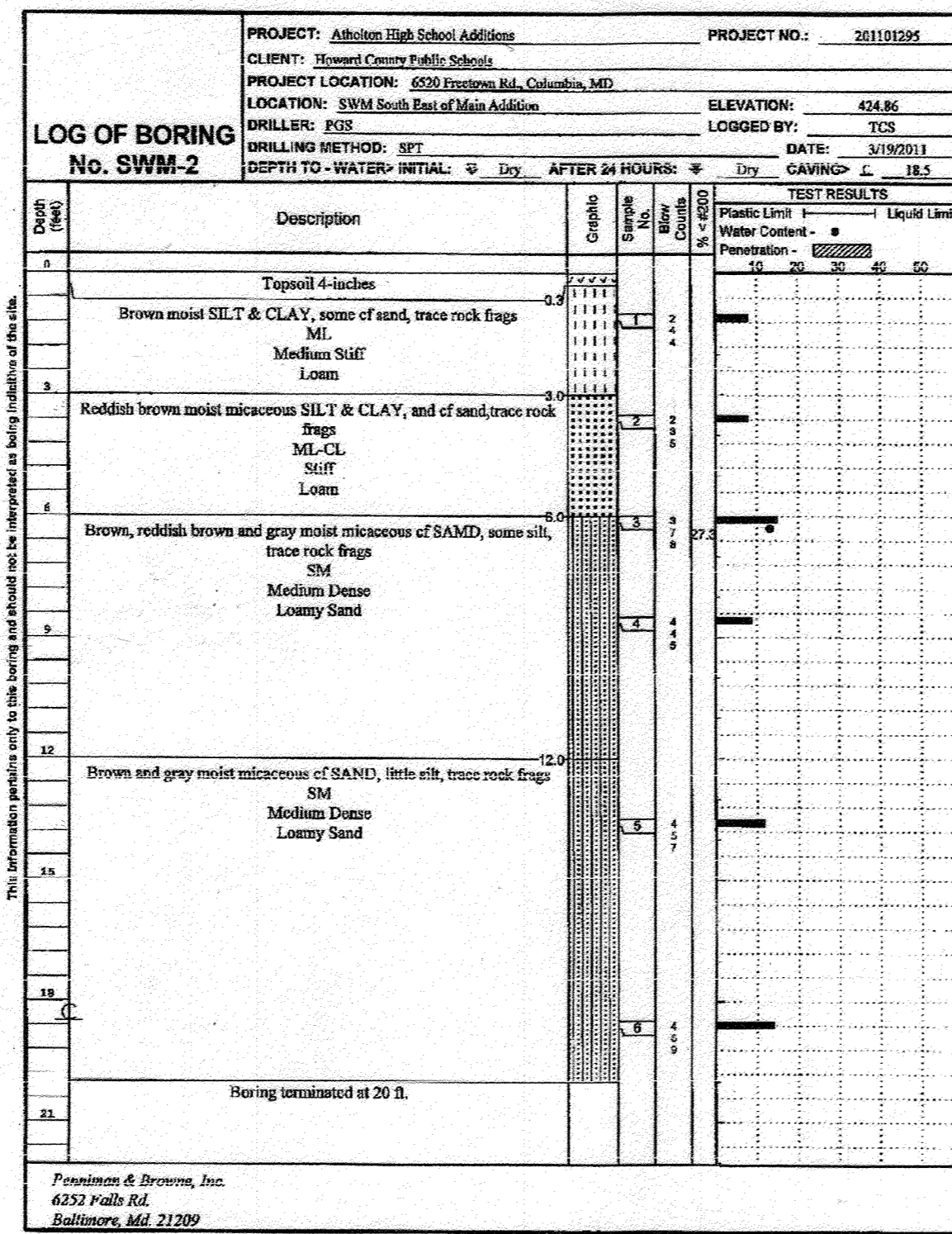


Figure PAGE 1 of 1

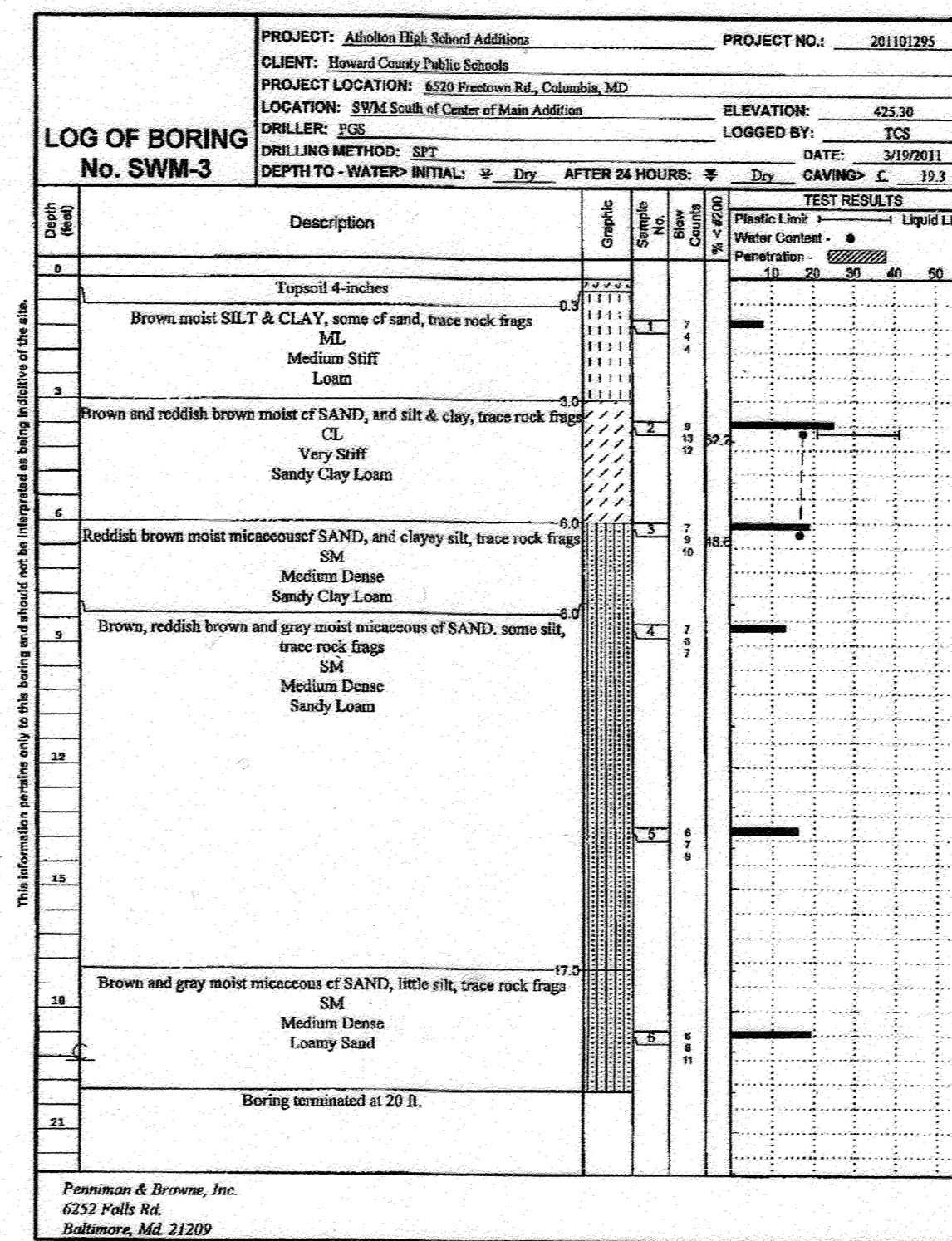


Figure PAGE 1 of 1

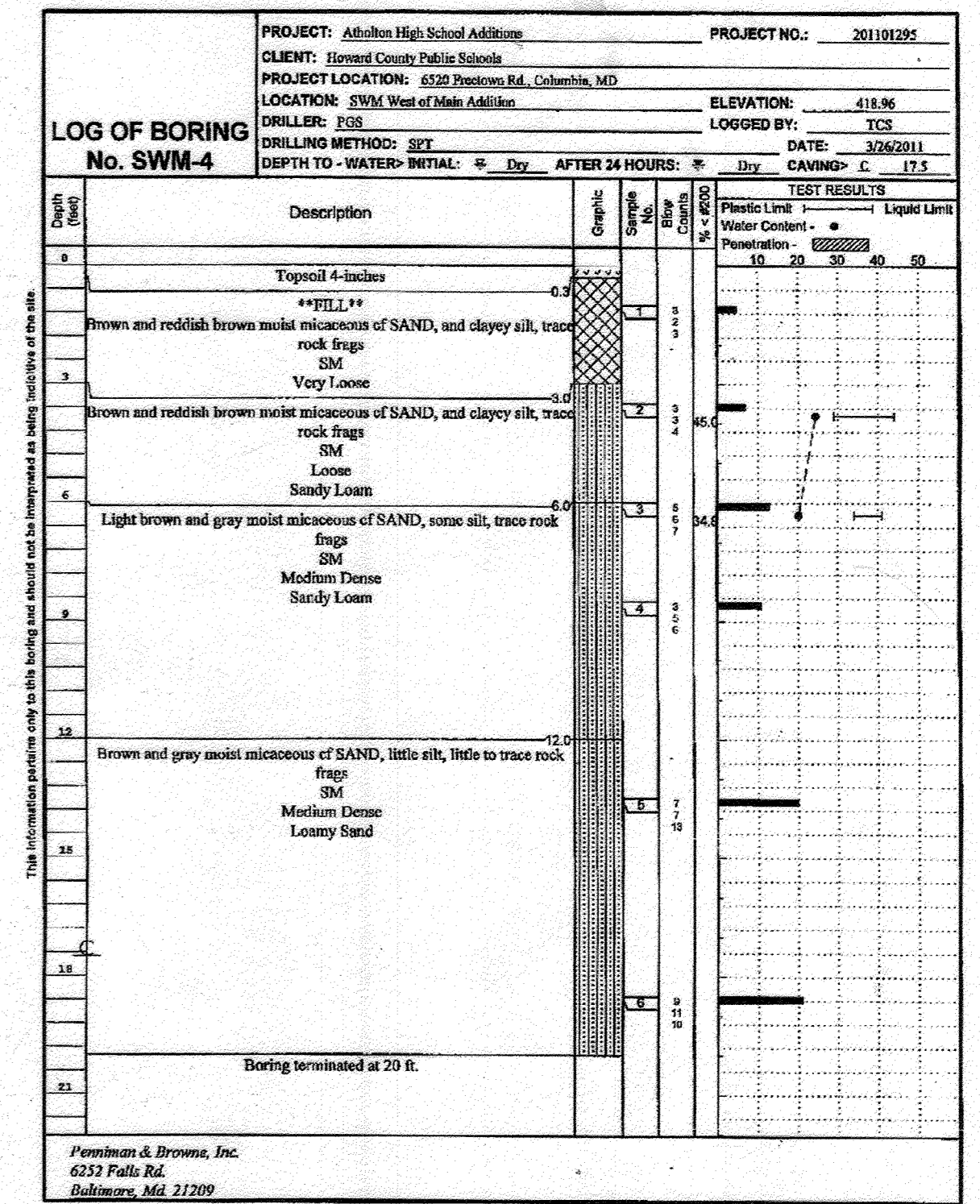


Figure PAGE 1 of 1

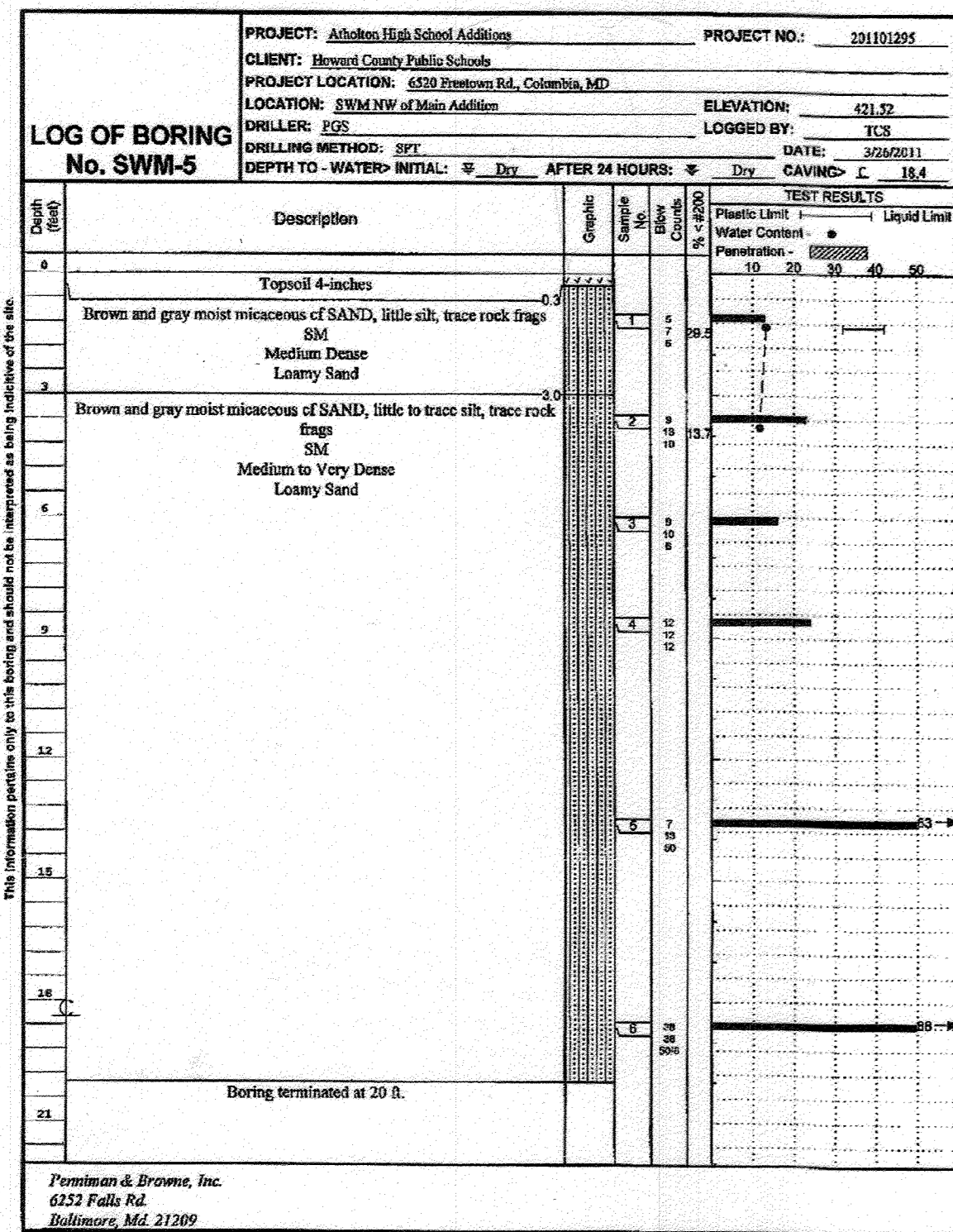


Figure PAGE 1 of 1

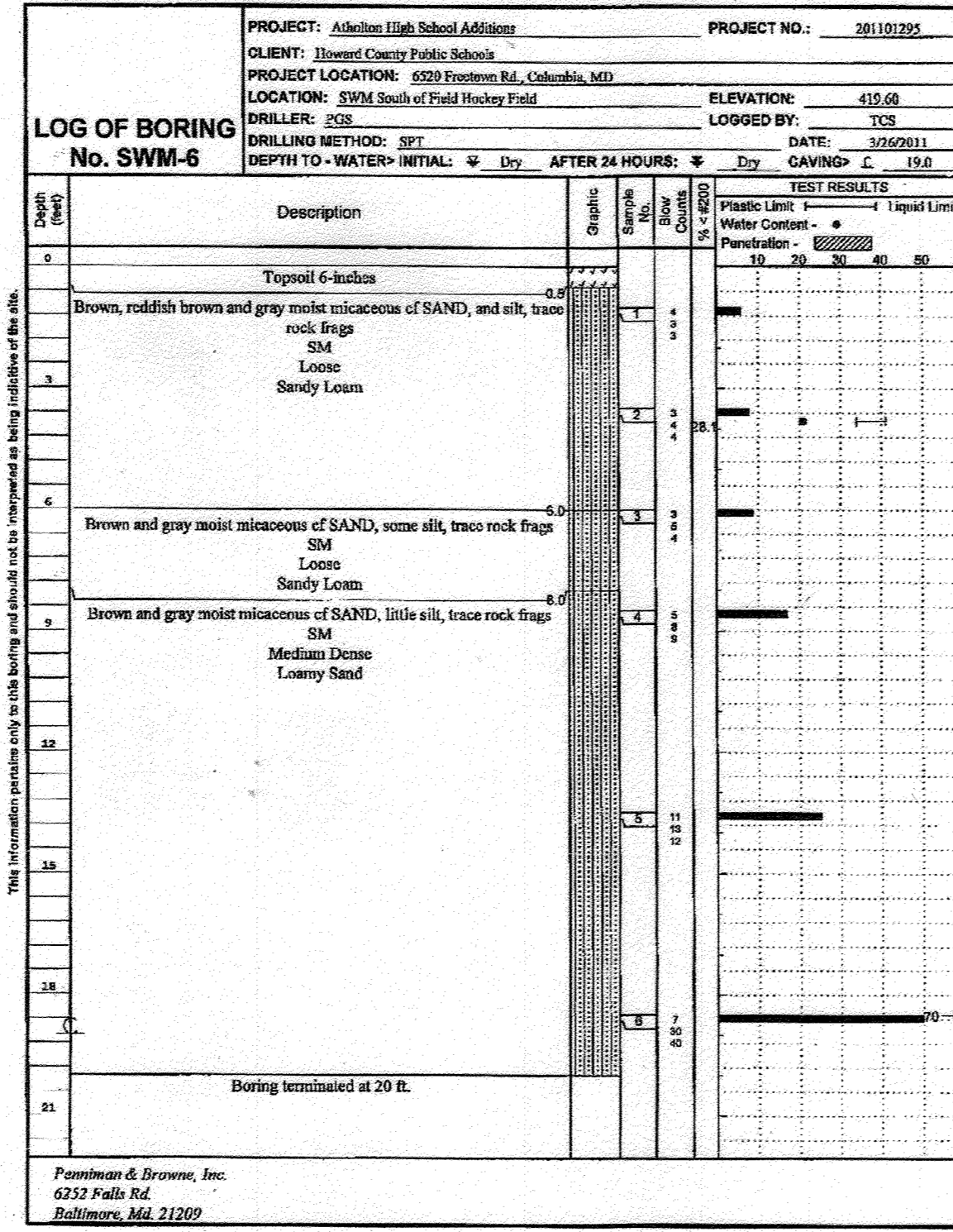


Figure PAGE 1 of 1



NOTE: THE PURPOSE OF THIS PLAN IS TO SHOW BORING LOGS FOR THE PROPOSED IMP MICRO-BIORETENTION FACILITIES.

FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PKCE  
ELICOTT CITY, MARYLAND 21042  
(410) 461-2895

10/10/10 REVISION SHEET NUMBER  
8/29/10 REVISION SHEET NUMBER  
DATE REVISION BLOCK  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Dorcas E. Butler 11/8/10 Date  
Director - Department of Planning and Zoning  
Kurt DeLoach 1-08-11 Date  
Chief, Division of Land Development  
Paul Edwards 11-3-11 Date  
Chief, Development Engineering Division

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 MARYLAND ROUTE 108  
ELICOTT CITY, MARYLAND 21042  
Attention: Bruce Gist  
410-313-6805

Address Chart					
Parcel Number	Street Address				
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002				
PROJECT	SECTION/AREA	PARCEL			
ATHOLTON HIGH SCHOOL	N/A	269, 249 & 292			
DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
416/447 201/236 429/434	24	R-SC NT	35	FIFTH	6056.02
WATER CODE	E 29	SEWER CODE	5324500		

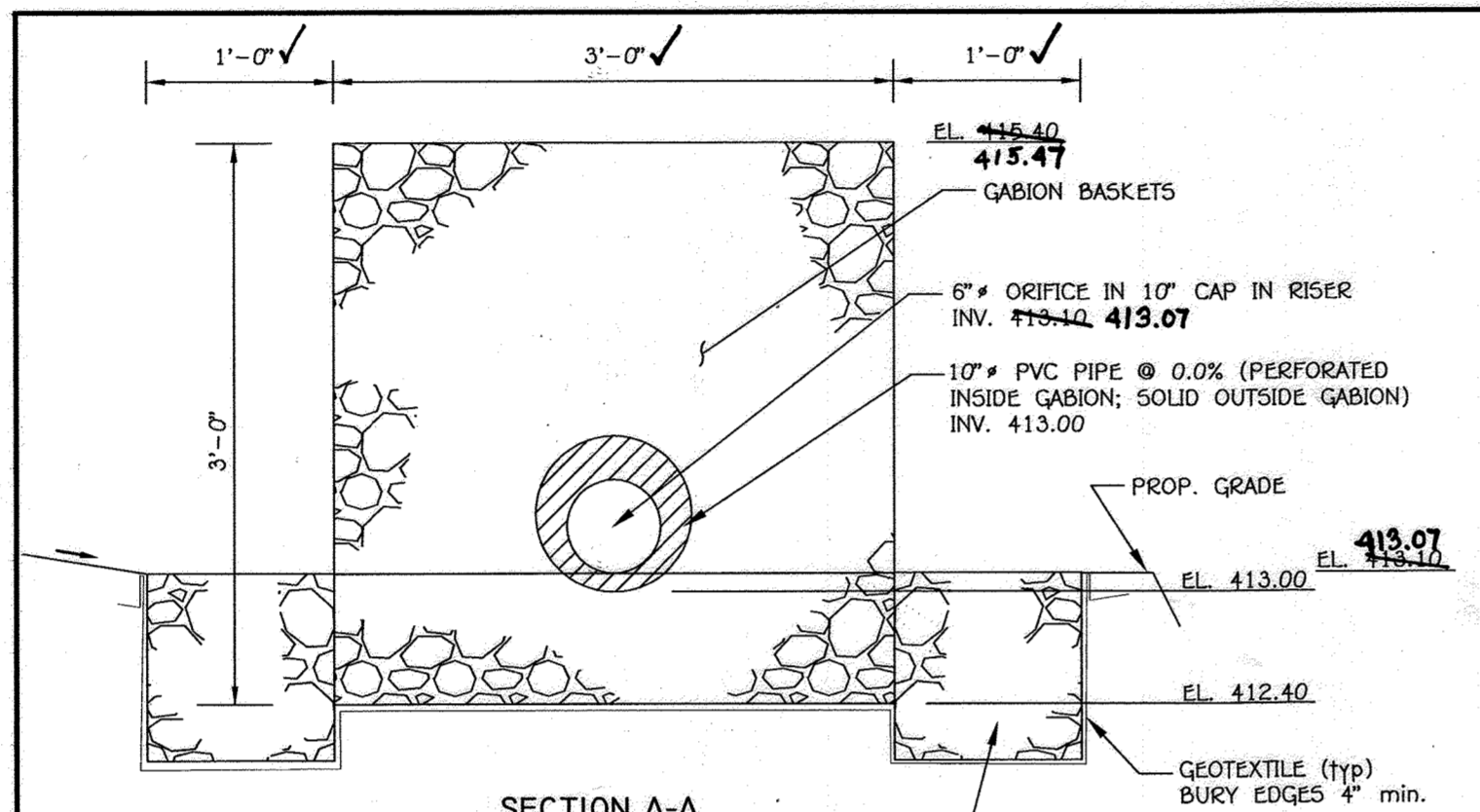
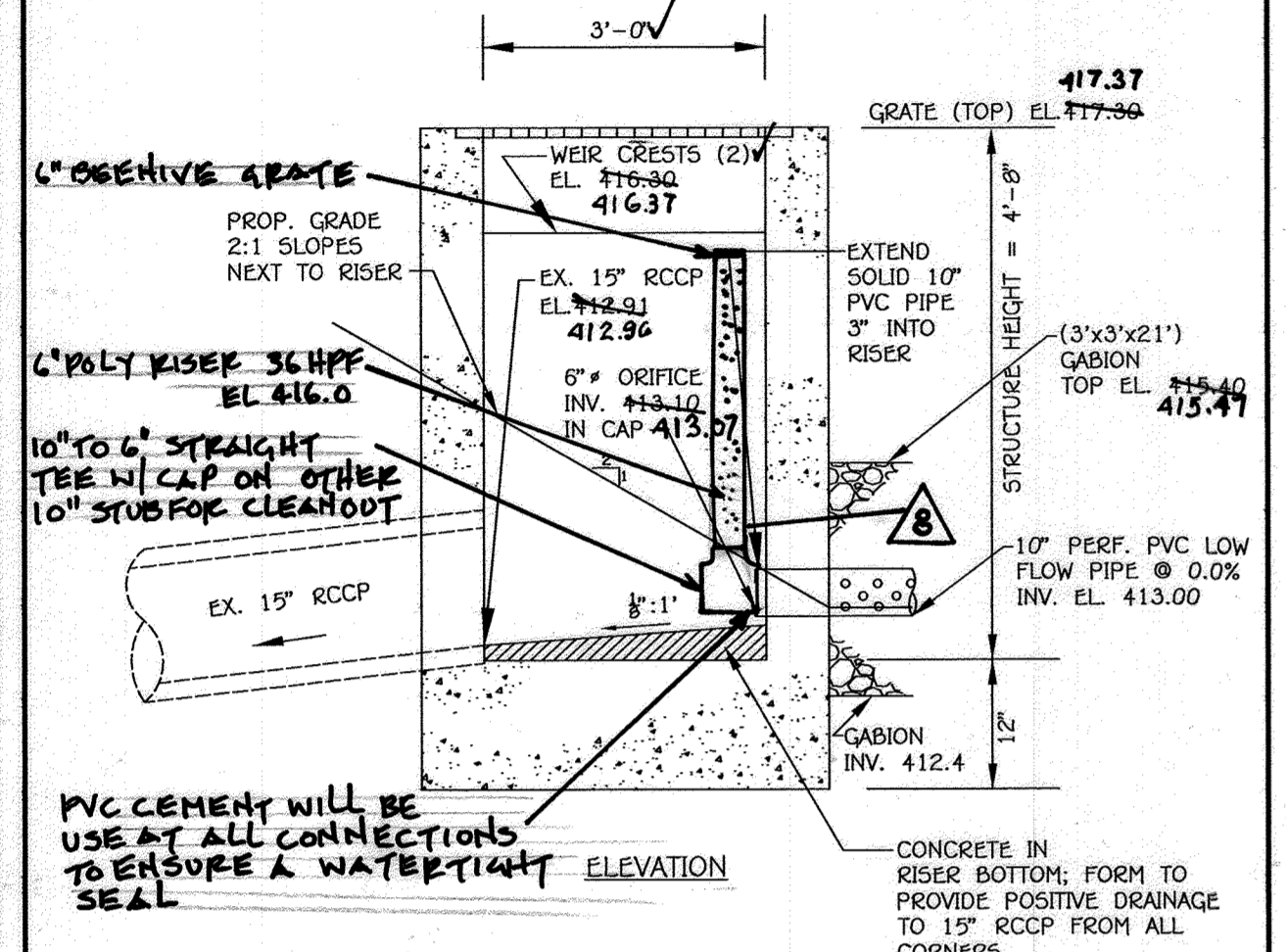
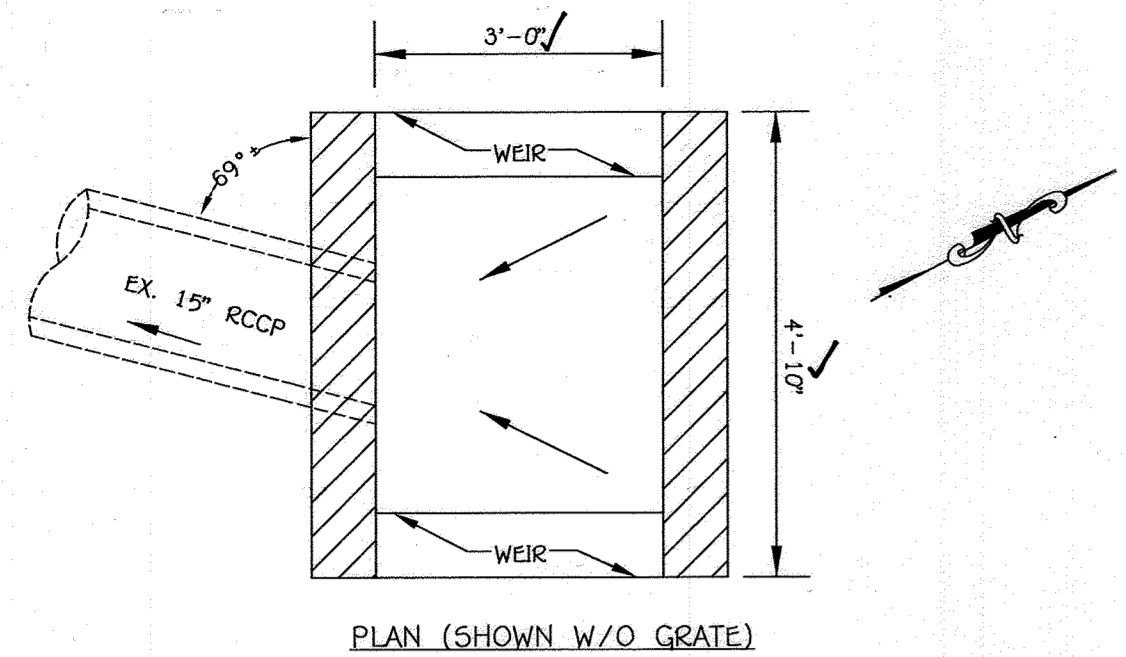
**BORING LOGS**  
"REVISED SITE DEVELOPMENT PLAN"  
ATHOLTON HIGH SCHOOL  
CLASSROOM ADDITIONS AND IMPROVEMENTS  
PARCEL Nos.: 265,249 & 292  
TAX MAP No.: 35 GRID No.: 24  
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JULY 15, 2011  
SHEET 25 OF 36

SDP08-050



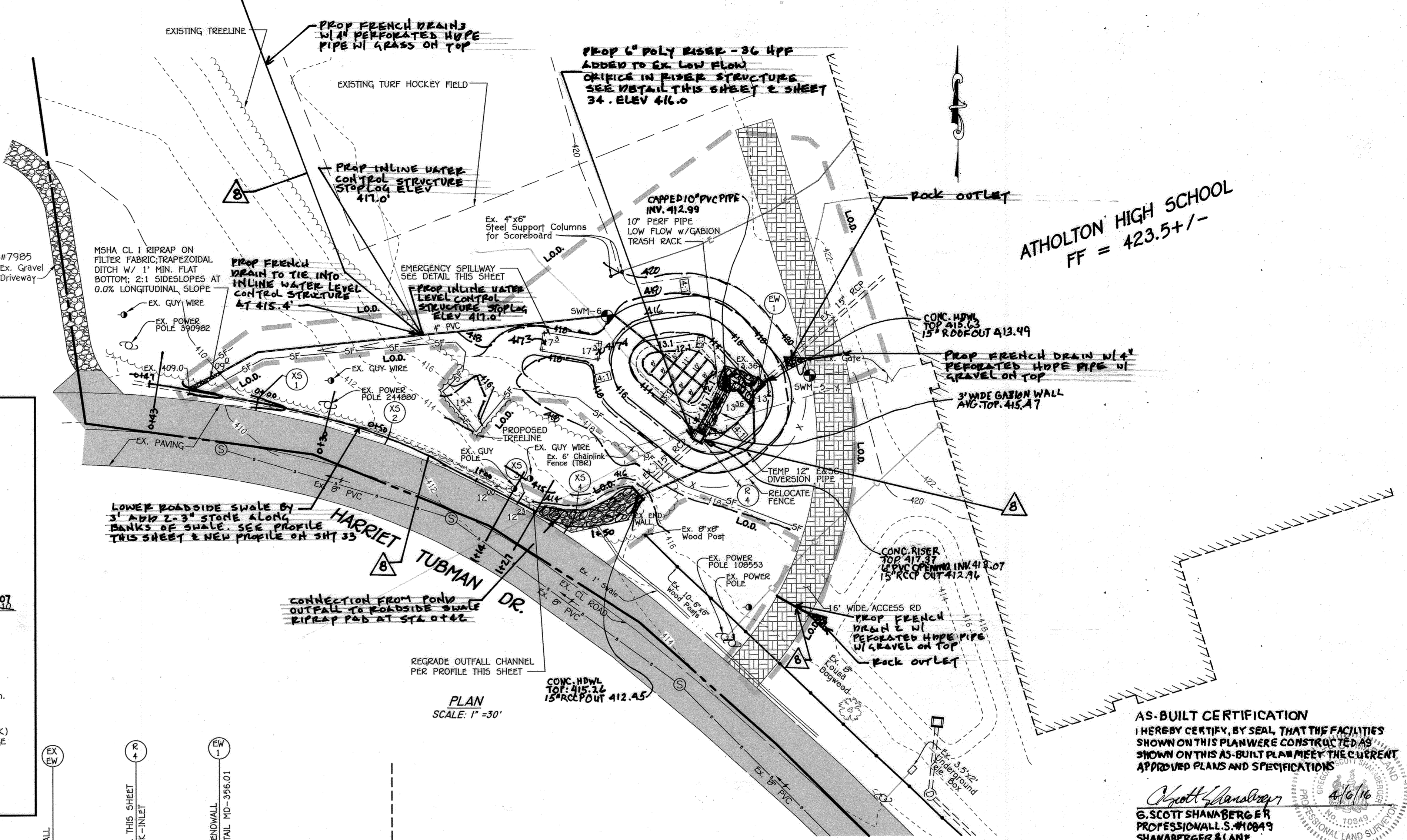
**STORMWATER MANAGEMENT FACILITY NOTES**

- PLEASE REFER TO THE SWM REPORT PREPARED BY FISHER, COLLINS, & CARTER, INC. DATED APRIL 25, 2012.
- ALL CONSTRUCTION SHALL MEET THE LATEST EDITION OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS, SMALL EARTHEN DAM SPECIFICATION MD-378, OR AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CONSULT THE ENGINEER SHOULD THERE BE ANY DISCREPANCIES.
- THE UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL TEST PIT ALL KNOWN EXISTING UTILITIES TO VERIFY, SIZE, SHAPE, LOCATION, AND TYPE PRIOR TO PERFORMING CONSTRUCTION. UTILITY RELOCATIONS, WHETHER SHOWN OR NOT, ARE THE RESPONSIBILITY OF THE OWNER. ANY UTILITY DAMAGED DUE TO CONSTRUCTION MUST BE REPAIRED IMMEDIATELY.
- SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. IF THE CONTRACTOR MAKES FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
- CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-257-7777 AND THE HOWARD COUNTY DEPARTMENT OF INSPECTION LICENSES & PERMITS THREE (3) WORKING DAYS BEFORE BEGINNING CONSTRUCTION.
- FISHER, COLLINS & CARTER, INC. IS NOT RESPONSIBLE FOR THE CONTRACTOR'S UTILIZATION OF MEN, MATERIALS, EQUIPMENT, OR SAFETY MEASURES IN THE PERFORMANCE OF ANY WORK FOR THIS PROJECT. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR PERFORMING THE WORK CORRECTLY AND IN CONFORMANCE WITH CODE AND SPECIFICATIONS.
- THE STORMWATER MANAGEMENT FACILITY SHOWN ON THIS SHEET WILL BE PRIVATELY OWNED AND MAINTAINED.
- REFER SHEET 27 FOR ADDITIONAL GENERAL NOTES.
- EXTEND THE 10" PERFORATED PIPE 3" OUT OF THE GABION BASKET AT THE UPSTREAM END (NORTH) AND PROVIDE A REMOVABLE CAP TO SERVE AS A CLEAN-OUT.



**LOW FLOW TRASH RACK (GABION) DETAIL**  
SCALE: 1" = 1'

NOTE: GABION TRASH RACK SHALL BE COMPOSED OF 3'x3' GABIONS WITH LENGTHS OF 6 FT (3 BASKETS) AND 3 FT (1 BASKET) UNITS. GABIONS SHALL BE PVC-COATED AND TIED TOGETHER.



**AS-BUILT CERTIFICATION**  
I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.

G. SCOTT SHAMBERGER  
PROFESSIONAL S.E. #10849  
SHAMBERGER BLANE  
LICENSE EXPIRATION DATE 4/12/14  
AS-BUILT SURVEY DATE: 12/12/15

**ATHOLTON HIGH SCHOOL SWM POND 4**

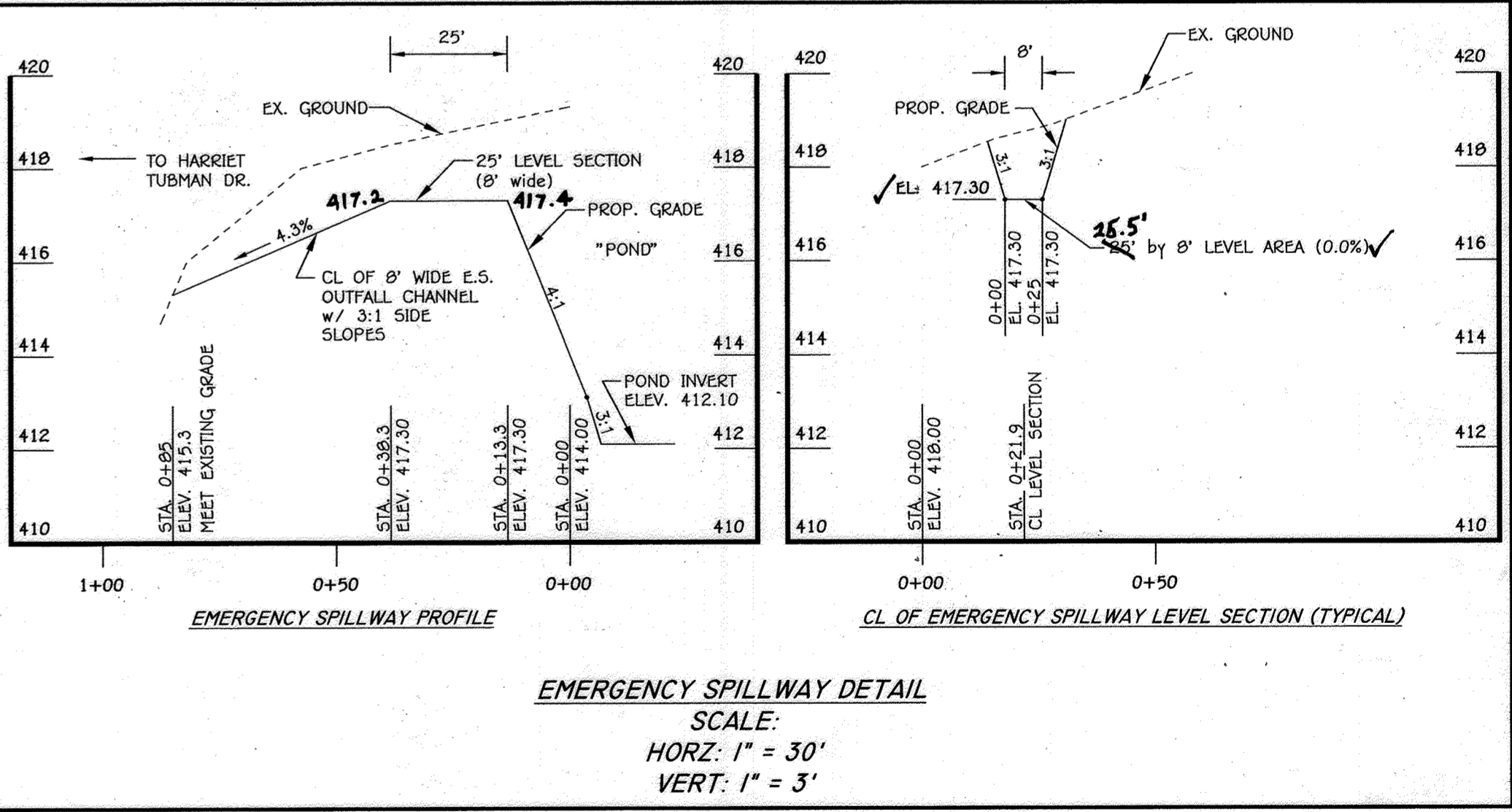
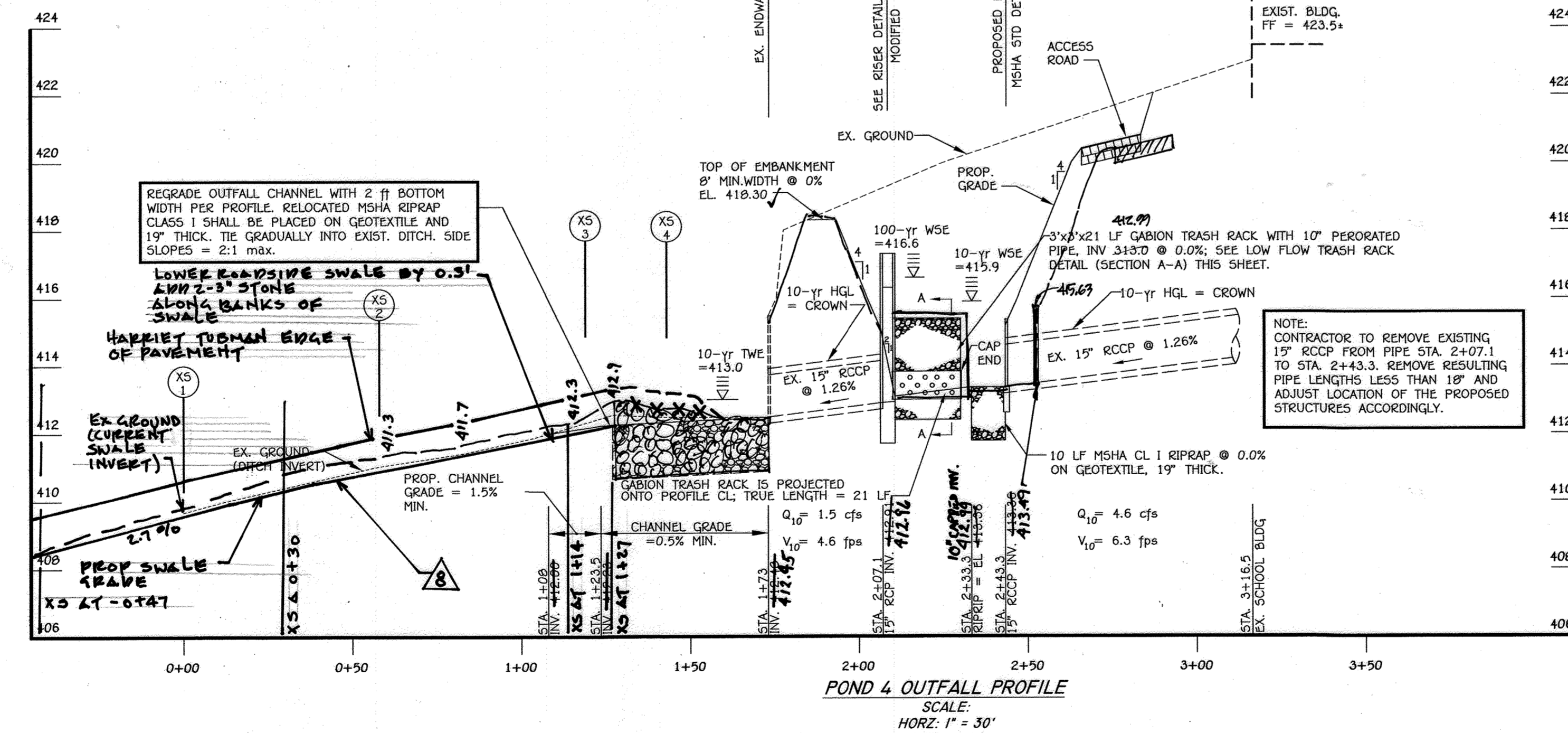
**STORMWATER MANAGEMENT SUMMARY TABLE II**  
PEAK DISCHARGES, WSES, SWM QUANTITY AND QUALITY VOLUMES

Storm	Peak Q (cfs)	Water Surface El.	Storage (AF)
1-year Storm	1.0	414.59	0.040
2-year Storm	1.2	414.93	0.054
10-year Storm	1.5	415.87	0.106
100-year Storm	4.2	416.57	0.160
Water Quality	n/a	413.1	0.02142 (933 cf)

**ATHOLTON HIGH SCHOOL SWM POND 4**

**STORMWATER MANAGEMENT SUMMARY TABLE I**  
PEAK DISCHARGES AT STUDY POINT XS-1\*

Storm	1-year Peak Q (cfs)	2-year Peak Q (cfs)	10-year Peak Q (cfs)	100-year Peak Q (cfs)
Proposed w/ SWM	1.8	2.2	3.6	6.8



NOTE: THE PURPOSE OF THIS PLAN IS TO ADD A NEW STORMWATER MANAGEMENT FACILITY TO SOLVE A DRAINAGE ISSUE ALONG WITH PROVIDING WATER QUALITY.

**ENGINEER'S CERTIFICATE**  
I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

*Signature of Engineer*  
Date: 10/3/12

**DEVELOPER'S CERTIFICATE**  
I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

*Signature of Developer*  
Date: 10/3/12

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

*Signature of Howard SCD*  
Date: 10/4/12

**APPROVED SWM IMPROVEMENTS**

DATE: 10/2/12  
DESCRIPTION: REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Director: *Signature* Date: 10/2/12  
Chief, Division of Land Development: *Signature* Date: 10/2/12  
Chief, Development Engineering Division: *Signature* Date: 10/2/12

PREPARED FOR HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 109  
Ellicott City, Maryland 21042  
Attention: Bruce Gist  
410-313-6805

Address Chart  
Parcel Number: P.265, P.249 & P.292  
Street Address: 6520 FREETOWN ROAD, COLUMBIA, MD 21044-4002

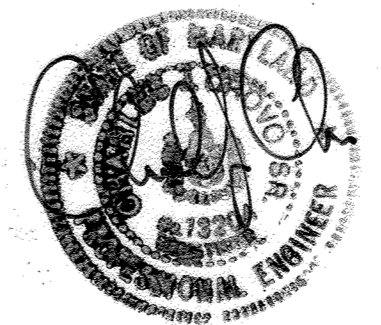
PROJECT: ATHOLTON HIGH SCHOOL  
SECTION/AREA: N/A  
PARCEL: 269, 249 & 292  
DEED REF: 418/447, 201/296, 489/494  
BLOCK NO.: 24  
ZONE: R-5C NT  
TAX MAP: 35  
ELEC. DIST.: FIFTH  
CENSUS TR.: 6056.02  
WATER CODE: E 29  
SEWER CODE: 5324500

**STORMWATER MANAGEMENT FACILITY #4 PLAN**  
"REVISED SITE DEVELOPMENT PLAN" ATHOLTON HIGH SCHOOL

STORMWATER IMPROVEMENTS

PARCEL Nos.: 265,249 & 292  
TAX MAP No.: 35  
GRID No.: 24  
FIFTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN  
DATE: SEPTEMBER 17, 2012

SHEET 26 OF 26 36





**Pond MD-378 - N.R.C.S. - JANUARY 2000 CONSTRUCTION SPECIFICATIONS FOR SMALL EARTHEN DAMS**  
 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 6 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.

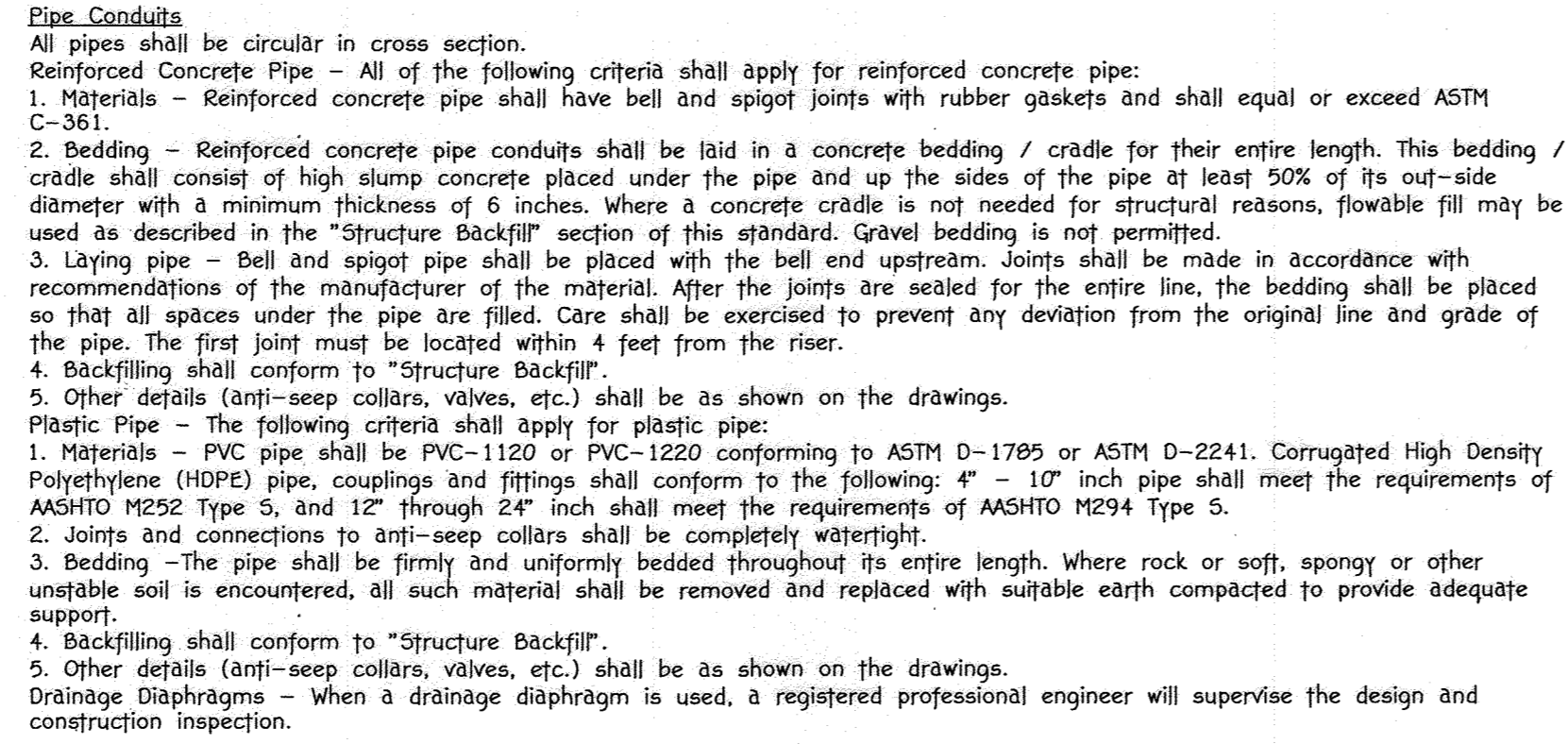
**Compaction** - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one track tread of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber 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.

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

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

**Structure Backfill**  
 Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe. Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 pass 29 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. If only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.



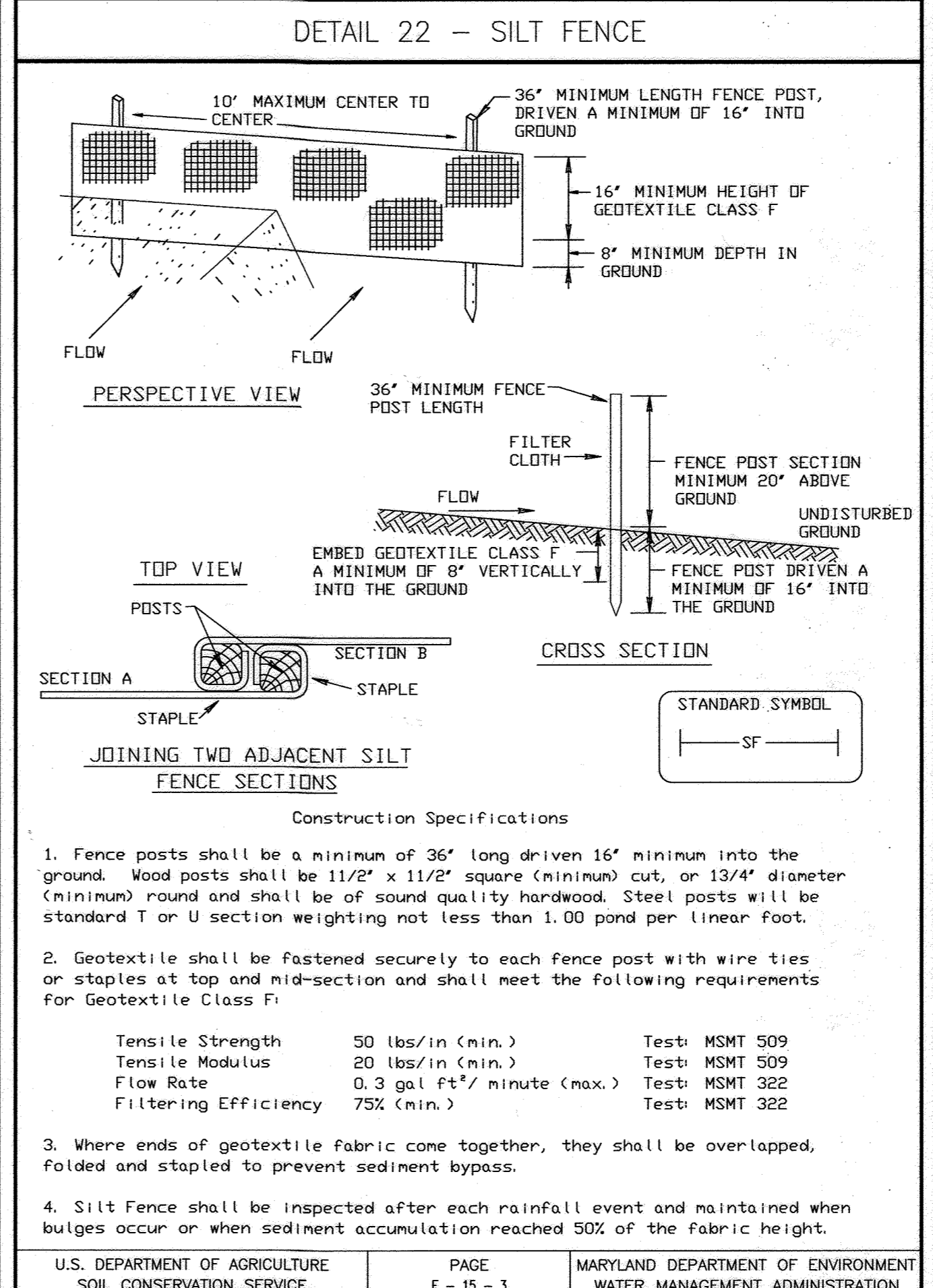
**Concrete**  
 Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

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

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

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



**PERMANENT SEEDING NOTES**  
 ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS.

**SEEDBED PREPARATION:**  
 LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

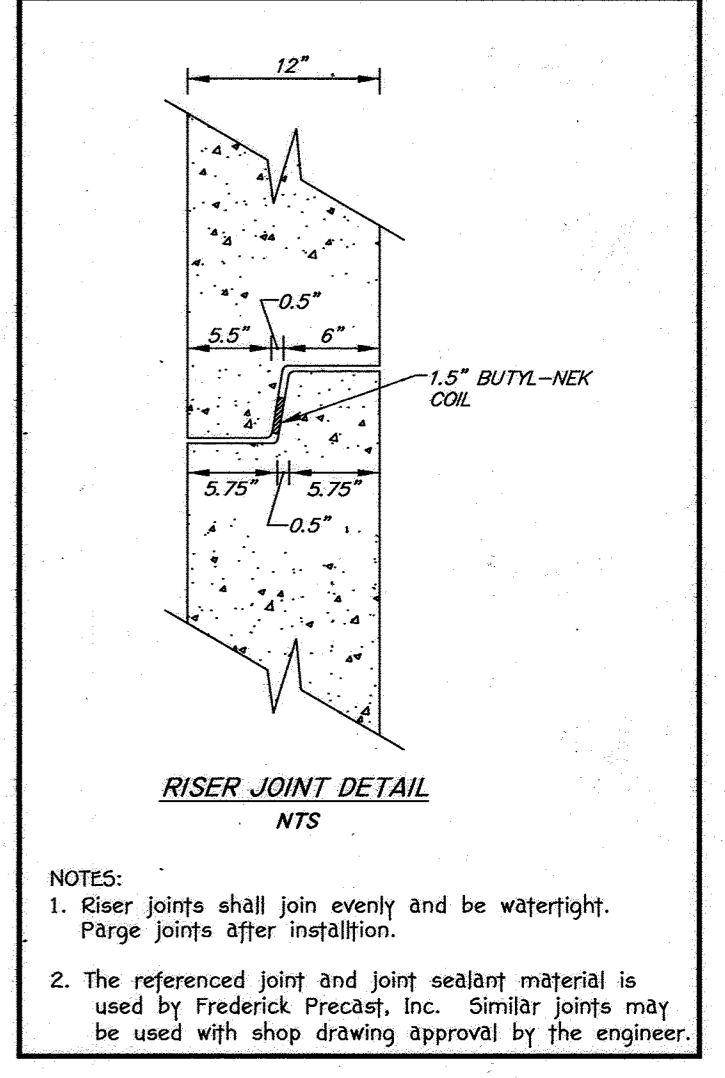
**SOIL AMENDMENTS:**  
 APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1,000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (14 LBS./1,000 SQ.FT.) BEFORE SEEDING HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 38-0-0 UREAFORM FERTILIZER (9 LBS./1,000 SQ.FT.) AND 500 LBS. PER ACRE (11.5 LBS./1,000 SQ.FT.) OF 10-20-20 FERTILIZER.

**SEEDING:**  
 FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 100 LBS. PER ACRE (2.3 LBS./1,000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR MAY 1 THROUGH JULY 31, SEED WITH 60 LBS./ACRE (1.4 LBS./1,000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (0.05 LBS./1,000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28, PROJECT SITE BY OPTION (1) - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING; OPTION (2) - USE 500; OPTION (3) - SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEED.

**MULCHING:**  
 APPLY 1 TO 2 TONS PER ACRE (10 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 6 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR ANCHORING.

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

**NOTE:** FOR PUBLIC PONDS SUBSTITUTE CHEMUNG CROWN VETCH AT 15 LBS./ACRE AND KENTUCKY 31 TALL FESCUE AT 40 LBS./ACRE AS THE SEEDING REQUIREMENT. OPTIMUM SEEDING DATE FOR THIS MIXTURE IS MARCH 1 TO APRIL 30.



**OPERATION & MAINTENANCE SCHEDULE**  
**MICRO-BIORETENTION STORMWATER MANAGEMENT FACILITIES**

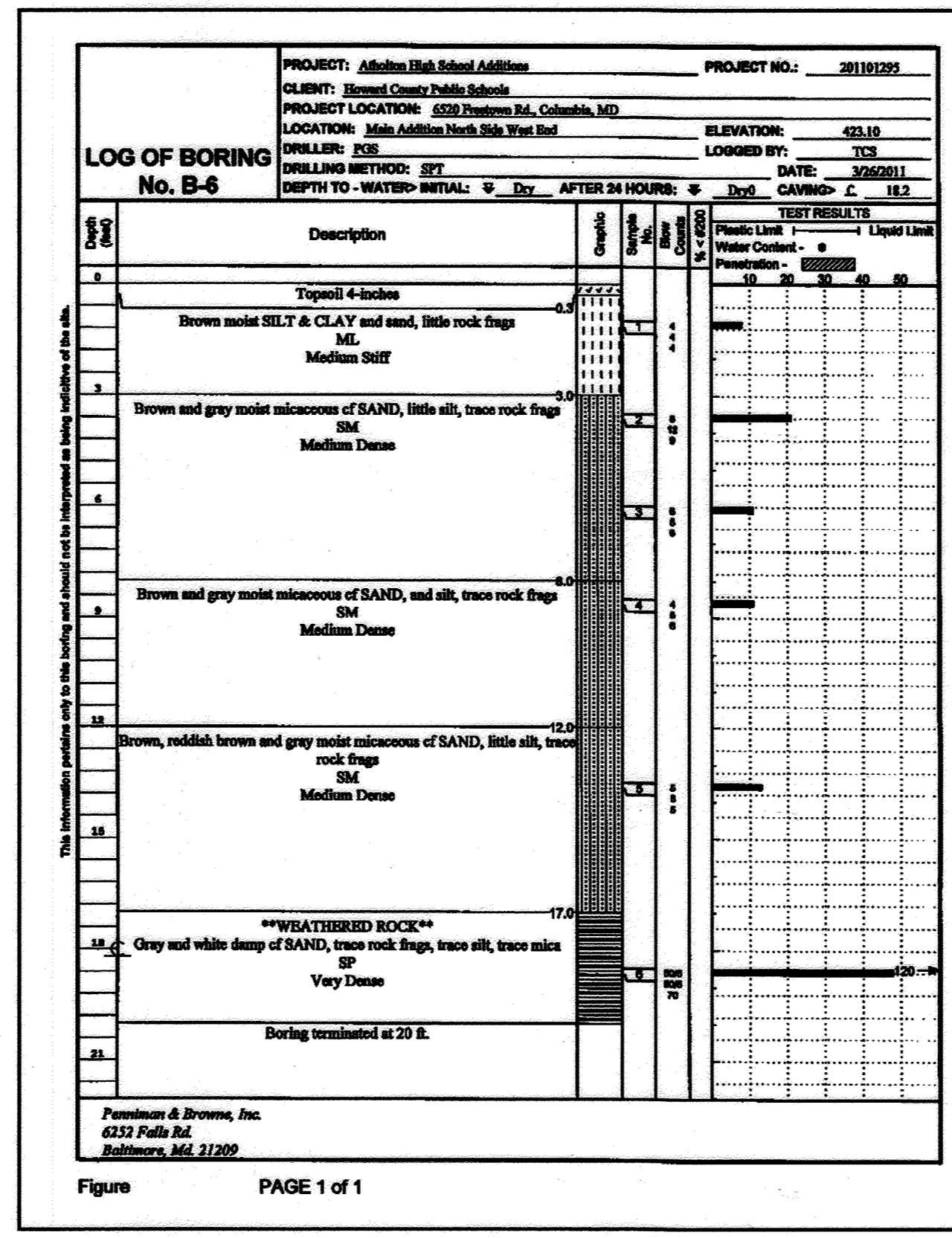
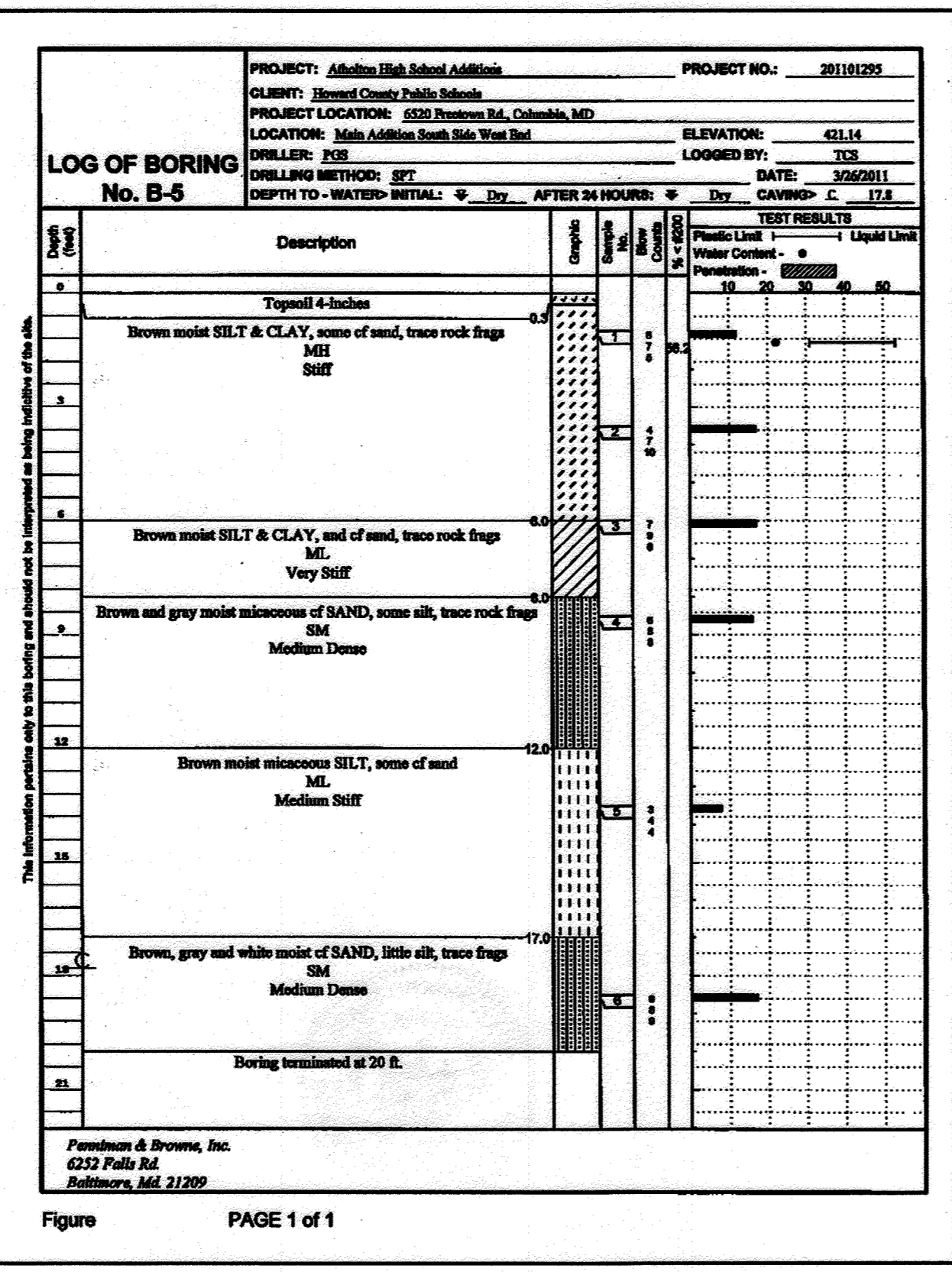
The SWM bioretention facility shall be inspected at least twice per year (each Spring and Fall) and after heavy storms. The owner is responsible for maintaining a detailed log of the maintenance inspection findings and a history of the completed work. The log shall be made available to Howard County DPZ/DPW and The Maryland Department of the Environment upon request.

- Mow grass surfaces in and around SWM facility at least twice a year.
- Remove debris and sediment in and around gabion trash rack. Remove gabion aggregate and clean perforated pipe as necessary.
- Remove tree growth within 15 ft of the embankment.
- Plant material: plants shall be checked for disease and insect infestation. Remove and replace dead or dying vegetation considered beyond treatment (see note #1 below). Prune, and replace deficient tree stakes and wire as needed.
- Mulch layer: Shall be replaced once every Spring. The owner shall properly dispose of the old mulch so as not to cause stormwater contamination elsewhere. Washed out areas shall be repaired as necessary.
- Soil layer: should stormwater pond for more the 48 hours, the top 6 inches (minimum) of the soil layer shall be replaced. The old soils shall be properly disposed.
- Spillway outfall, interior slopes: eroded areas shall be repaired (filled in and seeded) as needed. Bare areas shall be treated and re-seeded.
- Inlet and Endwall: repair cracks, damaged concrete, etc. as necessary. Remove and properly dispose accumulated sediment greater than one (1) inch

**NOTES:**  
 1. If specific plants are not surviving; the plant type shall be changed to a better-suited species.  
 2. Plant watering may be needed during prolonged dry periods.

**SEDIMENT CONTROL NOTES**

- 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 (313-1895).
- 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.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 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.
- 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), 500 (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.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:**  
 TOTAL AREA OF SITE = 39.7 ACRES AREA DISTURBED AREA = 0.53 ACRES AREA TO BE ROOFED OR PAVED = 0.09 ACRES AREA TO BE VEGETATIVE STABILIZED = 0.44 ACRES TOTAL CUT = 500 CY TOTAL FILL = 0 CY (C/F VOLUMES ARE NOT FOR BIDDING USE) OFFSITE WASTE/BORROW AREA WILL BE FROM AN H.S.C.D.-APPROVED SITE.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.



**ENGINEER'S CERTIFICATE**  
 I certify that this plan for sediment and erosion 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.

*Chris Collins*  
 Signature of Engineer 10/31/12 Date

**DEVELOPER'S CERTIFICATE**  
 I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic site inspection by the Howard Soil Conservation District.

*Sam Olt*  
 Signature of Developer 10/31/12 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

*John R. Hartman*  
 Signature of District Director 10/24/12 Date

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 10910 Maryland Route 108  
 Ellicott City, Maryland 21042  
 Attention: Bruce Giff  
 410-313-6805

DATE: \_\_\_\_\_ DESCRIPTION: \_\_\_\_\_ REVISION BLOCK: \_\_\_\_\_

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*David L. Taylor* 10/20/12 Date  
 Director - Department of Planning and Zoning  
*Katherine* 10/23/12 Date  
 Chief, Division of Land Development  
*John* 10/16/12 Date  
 Chief, Development Engineering Division

Address Chart

Parcel Number	Street Address
P.265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044-4002

PROJECT: ATHOLTON HIGH SCHOOL SECTION/AREA: N/A PARCEL: 269, 249 & 292  
 DEED REF: 416/447, 201/296, 489/434 BLOCK NO.: 24 ZONE: R-5C TAX MAP No.: 35 ELEC. DIST.: FIFTH CENSUS TR.: 6056.02  
 WATER CODE: E 29 SEWER CODE: 5324500

**STORMWATER MANAGEMENT FACILITY #4**  
**NOTES & DETAILS**  
**"REVISED SITE DEVELOPMENT PLAN"**  
**ATHOLTON HIGH SCHOOL**  
**STORMWATER IMPROVEMENTS**

PARCEL Nos.: 265,249 & 292  
 TAX MAP No.: 35 GRID No.: 24  
 FIFTH ELECTION DISTRICT: HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: SEPTEMBER 17, 2012

SHEET 27 OF 28 36

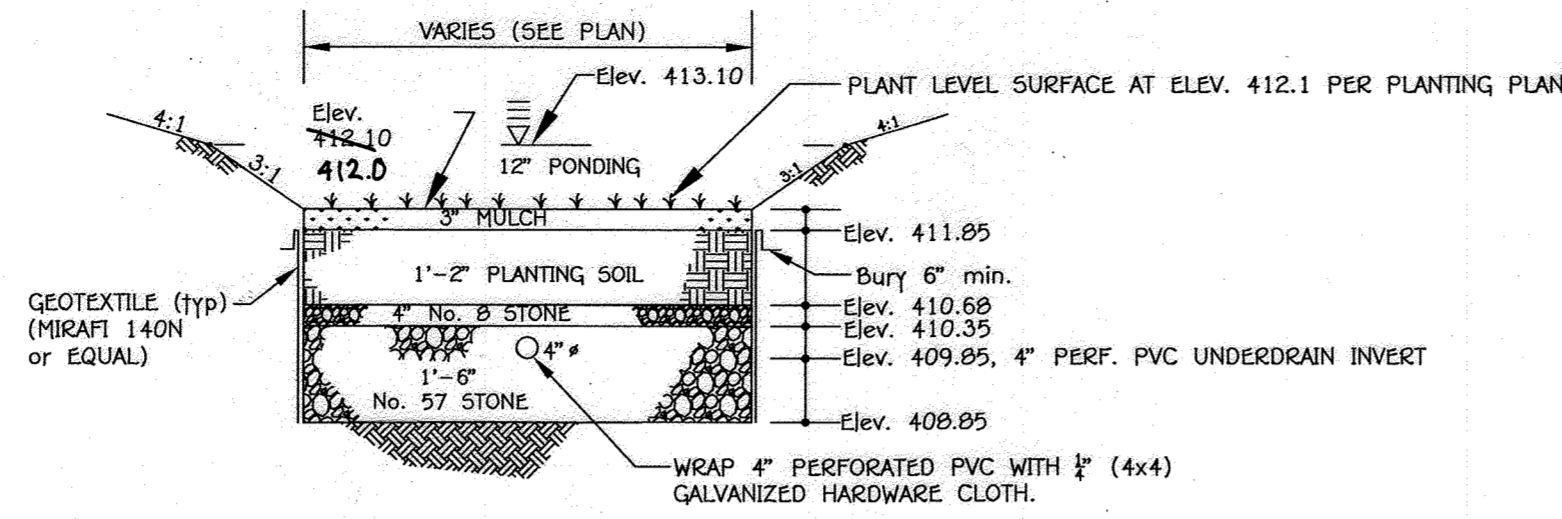


**SEQUENCE OF CONSTRUCTION**

1. OBTAIN GRADING PERMIT. (1 DAY)
2. NOTIFY HOWARD COUNTY D.I.L.P. (410-313-1330) AND MISS UTILITY (800-257-7777) AT LEAST THREE (3) DAYS PRIOR TO BEGINNING WORK. (1 DAY)
3. INSTALL PERIMETER SEDIMENT AND EROSION CONTROL DEVICES (SILT FENCE). USE PAVED ACCESS ROAD FOR ACCESS. (1 DAY)
4. WITH PERMISSION OF THE INSPECTOR, CLEAR AND GRUB AND TEST PIT PIPE AT STRUCTURE LOCATIONS. NOTIFY ENGINEER IF ELEVATIONS DO NOT AGREE WITH THE PIPE INVERTS SHOWN ON THIS PLAN. (3 DAYS)
5. CONNECT TEMPORARY 12" PIPE DIVERSION TO THE EXISTING 15" ROOF LEADER AT THE PROPOSED ENDWALL (EW-1) LOCATION, PLACING THE DISCHARGE POINT AT THE EXISTING RIPRAP OUTFALL. PIPE DOES NOT NEED TO BE BURIED, BUT NEEDS TO BE ANCHORED TO PREVENT MOVEMENT DURING STORMS (STAKE DOWN AT 9' INTERVALS OR AS PER THE INSPECTOR). THE DIVERSION MAY BE TEMPORARILY REMOVED TO CONSTRUCT EW-1, BUT SHALL BE RE-INSTALLED UNTIL THE POND HAS BEEN PERMANENTLY STABILIZED.
6. CONCURRENTLY WITH STEP 5., SAND BAG (OR USING OTHER SUITABLE MEANS APPROVED BY THE INSPECTOR) TO SEAL THE EXISTING 15" ROOF LEADER OUTFALL AT THE EXISTING ENDWALL.
7. CONSTRUCT SWM POND WITHIN LIMITS OF DISTURBANCE. (3 WEEKS)
8. FINE GRADE, INSTALL NEW FENCE WITH GATE, AND PLACE PERMANENT SEEDING. (3 DAYS)
9. WITH PERMISSION OF THE S.E.C. INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE AREAS DISTURBED BY THIS PROCESS AND INSTALL LANDSCAPING AS NEEDED. (3 DAYS)

**SEDIMENT & EROSION CONTROL NOTES FOR UNDERDRAIN OUTFALL CONSTRUCTION**

1. ALL EXCAVATED TRENCH DIRT SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
2. ALL EXISTING SEDIMENT CONTROL MEASURES THAT ARE DISTURBED MUST BE REPAIRED THE SAME DAY.
3. THE CONTRACTOR SHALL ONLY DO AS MUCH WORK AS CAN BE BACK-FILLED, SEEDED, AND MULCHED THAT SAME DAY.
4. SEDIMENT & EROSION CONTROL DEVICES SHALL BE INSPECTED EVERY DAY AND MAINTAINED IN GOOD WORKING CONDITION.

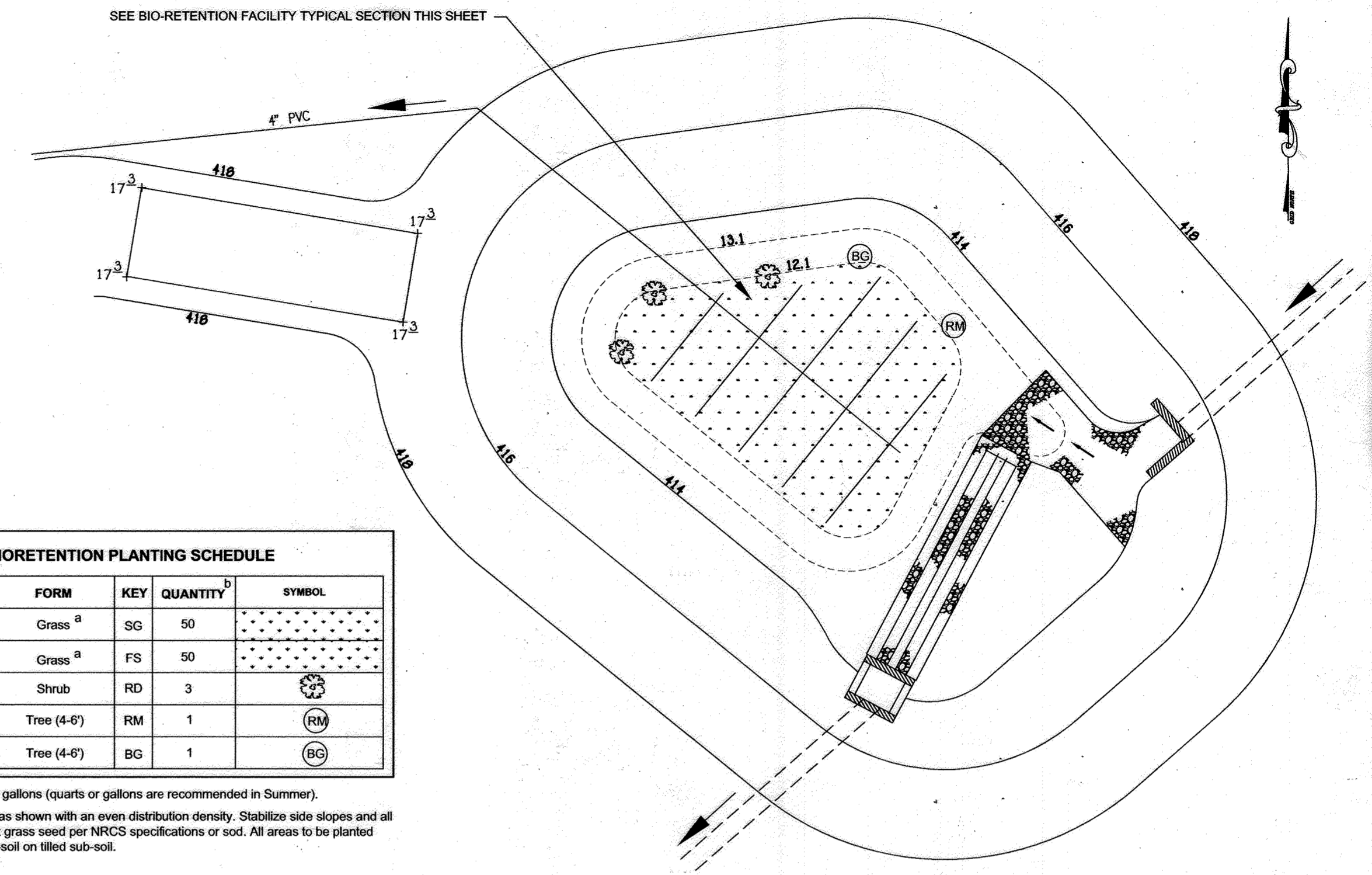


**TYPICAL SECTION**

**IMP MICRO-BIORETENTION FACILITY NOTES AND SPECIFICATIONS**

1. THE LIMITS OF THE TYPICAL SECTION (i.e., PLANTING SOIL, AGGREGATE) IS THE LEVEL SURFACE OF THE MICRO-BIORETENTION FACILITIES AT ELEVATION 412.1.
2. REFER TO THE 2000 MARYLAND SWM DESIGN MANUAL FOR BIORETENTION SPECIFICATIONS (PG. B.3.7) FOR INFORMATION NOT LISTED HEREIN AND FOR ADDITIONAL INFORMATION.
3. THE BIORETENTION IMP MATERIALS ARE AS FOLLOWS:
  - PLANTING SOIL: PER PLANTING SOIL SPECIFICATIONS OUTLINED IN MDE'S 2000 SWM MANUAL.
  - PVC PIPE: SCHEDULE 40, PERFORATED PIPE SHALL HAVE NO SLOPE (0.0%).
  - STONE AGGREGATE: MSHA SPECIFICATIONS AS SHOWN ON TYPICAL SECTION; AGGREGATE MUST BE FREE OF FINES, DIRT & DEBRIS.
  - GEOTEXTILE: PER MDE SWM MANUAL OR MIRAFI 140N.
  - MULCH: SHREDDED, WELL-AGED (6-12 MONTHS) HARDWOOD MULCH; NO WOOD CHIPS OR PINE MULCH.
4. THE CONTRACTOR SHALL UNDER NO CIRCUMSTANCES ALLOW SURFACE DRAINAGE INTO THE MICRO-BIORETENTION IMPs UNTIL ALL UPSTREAM AREAS HAVE BEEN STABILIZED (i.e., PAVED, OR HAVE WELL-ESTABLISHED VEGETATION).
5. BOARDS SHALL NOT BE LEFT IN PLACE DURING THE CONSTRUCTION OF THE BIORETENTION IMP.
6. GEOTEXTILE (FILTER FABRIC) SHALL BE PLACED AGAINST EXCAVATED SURFACES. SCARIFY EARTH PRIOR TO GEOTEXTILE PLACEMENT. INSTALL GEOTEXTILE PER MANUFACTURER'S SPECIFICATIONS/RECOMMENDATIONS AND USE A 2 FT MINIMUM OVERLAP AND NOTCH ENDS WITH A 6" MINIMUM BURY OR EQUIVALENT ANCHORING METHOD.
7. THE CONTRACTOR SHALL OBTAIN INDEPENDENT CERTIFICATION THAT THE SOILS AND OTHER MATERIALS MEET THE SPECIFICATIONS AND SUBMIT TO ENGINEER.
8. THE BIORETENTION FACILITY SHALL BE VEGETATED IN ACCORDANCE WITH THE PLANTING SCHEDULE PER MDE SPECIFICATIONS IN THE 2000 SWM DESIGN MANUAL.
9. USE PERFORATED PVC PIPE INSIDE THE BIORETENTION FACILITIES AND WRAP PERFORATED PIPE WITH 1/2" HARDWARE CLOTH TO PREVENT AGGREGATE FROM ENTERING THE PERFORATIONS.
10. INSTALL CLEANOUT/OBSERVATION WELLS (SOLID PVC PIPE) AS SHOWN. THE CLEANOUT/OBSERVATION WELL TOP SHALL EXTEND 3" ABOVE TOP OF MULCH.

**MICRO-BIORETENTION FACILITY (M-6) TYPICAL SECTION**

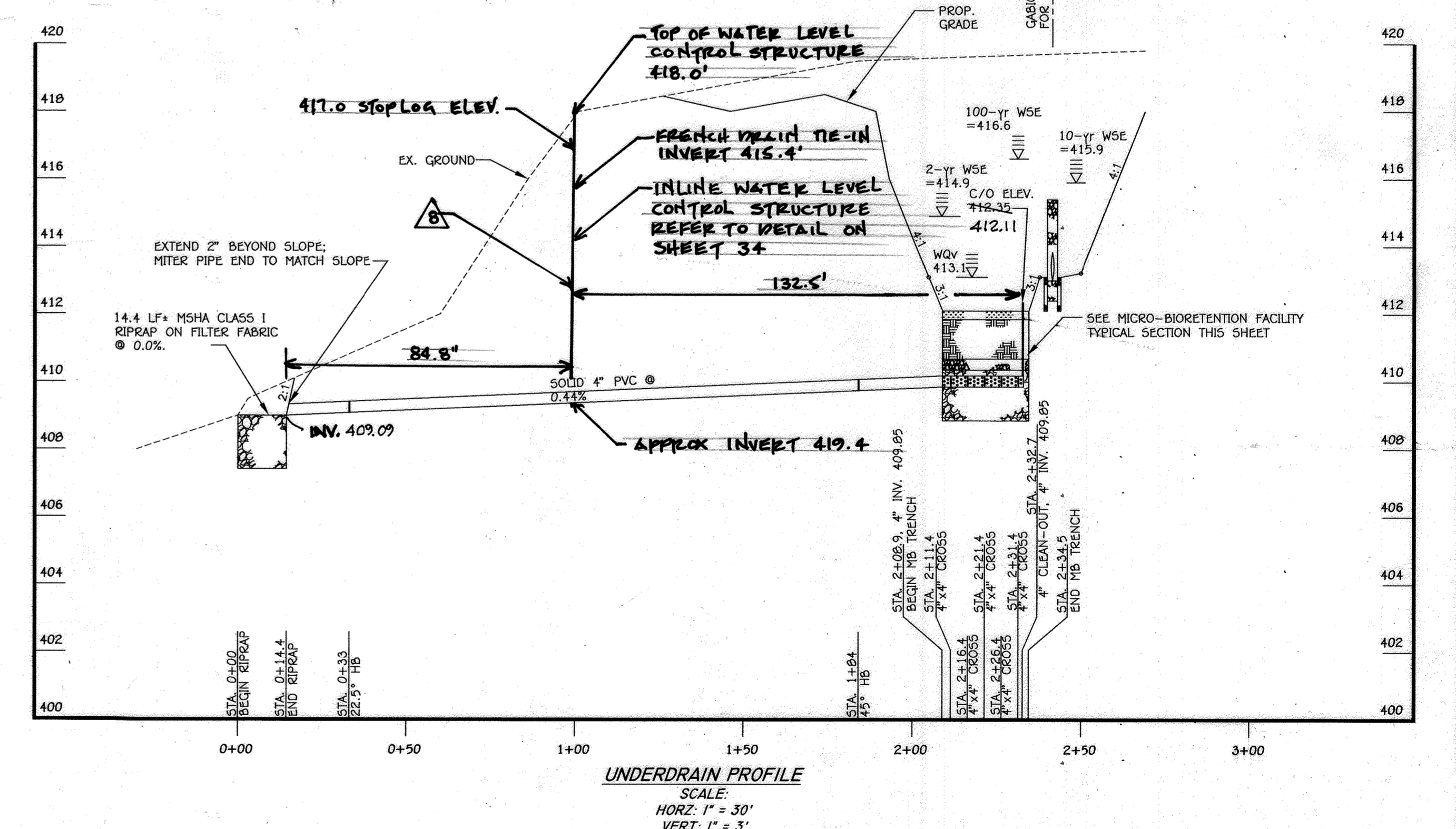


**POND #4 MICRO-BIORETENTION PLANTING SCHEDULE**

PLANT NAME	FORM	KEY	QUANTITY	SYMBOL
SWITCH GRASS ( <i>panicum virgatum</i> )	Grass <sup>a</sup>	SG	50	
FOX SEDGE ( <i>carex vulpinoidea</i> )	Grass <sup>a</sup>	FS	50	
RED OSIER DOGWOOD ( <i>cornus sericea</i> )	Shrub	RD	3	
RED MAPLE ( <i>acer rubrum</i> )	Tree (4-6')	RM	1	
BLACKGUM ( <i>nyssa sylvatica</i> )	Tree (4-6')	BG	1	

<sup>a</sup> Grasses can be planted with plugs, quarts, or gallons (quarts or gallons are recommended in Summer).  
<sup>b</sup> Plant Pond 4 level surface at elevation 412.1 w/ permanent grass seed per NRCS specifications or sod. All areas to be planted with grass or sod shall be on 4" of clean, top-soil on tilled sub-soil.

**SWM POND #4 PLANTING PLAN**  
SCALE: 1" = 10'



**UNDERDRAIN PROFILE**  
SCALE: HORIZ: 1" = 30' VERT: 1" = 3'

**AS-BUILT CERTIFICATION**  
I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.

G. SCOTT SHANABERGER  
PROFESSIONAL S.#10849  
SHANABERGER & LANE  
LICENSE EXPIRATION DATE 12/2016  
AS-BUILT SURVEY DATE 12/14/2015

**NOTE:** THE PURPOSE OF THIS PLAN IS TO ADD A NEW STORMWATER MANAGEMENT FACILITY TO SOLVE A DRAINAGE ISSUE ALONG WITH PROVIDING WATER QUALITY.

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SOURCE OFFICE PARK - 10272 BALDORNE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21042  
(410) 461-2999

**ENGINEER'S CERTIFICATE**  
I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.  
Signature of Engineer: *[Signature]* Date: 10/23/12

**DEVELOPER'S CERTIFICATE**  
I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.  
Signature of Developer: *[Signature]* Date: 10/23/12

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.  
Signature: *[Signature]* Date: 10/14/12  
Howard SCD

5/19/23 APPROV SWM IMPROVEMENTS  
DATE DESCRIPTION REVISION BLOCK  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Director - Department of Planning and Zoning: *[Signature]* Date: 11/23/12  
Chief, Division of Land Development: *[Signature]* Date: 10/23/12  
Chief, Development Engineering Division: *[Signature]* Date: 10/16/12

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 Maryland Route 108  
Ellicott City, Maryland 21042  
Attention: Bruce Gier  
410-313-6805

Address Chart  
Parcel Number: P.265, P.249 & P.292  
Street Address: 6520 FREETOWN ROAD  
COLUMBIA, MD 21044-4002

PROJECT: ATHOLTON HIGH SCHOOL  
SECTION/AREA: N/A  
PARCEL: 269, 249 & 292  
DEED REF: 416/447  
BLOCK NO.: 24  
ZONE: R-5C NT  
TAX MAP: 35  
ELEC. DIST.: FIFTH  
CENSUS TR.: 6056.02  
WATER CODE: E 29  
SEWER CODE: 5324500

**STORMWATER MANAGEMENT FACILITY #4**  
**PLAN, PROFILE, NOTES & DETAILS**  
**"REVISED SITE DEVELOPMENT PLAN"**  
**ATHOLTON HIGH SCHOOL**  
**STORMWATER IMPROVEMENTS**  
PARCEL Nos.: 265,249 & 292  
TAX MAP No.: 35  
GRID No.: 24  
FIFTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN  
DATE: SEPTEMBER 17, 2012  
SHEET 28 OF 36



**STANDARD SEDIMENT CONTROL NOTES**

- A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hour notice to CID must be given at the following stages:
  - Prior to the start of earth disturbance.
  - Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.
  - Prior to the start of another phase of construction or opening of another grading unit.
  - Prior to the removal or modification of sediment control practices.
- 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 this plan.
- 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.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.
- 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-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 ft. must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).
- 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 CID.

Site Analysis:  
 Total Area of Site: 37.16 Acres  
 Area Disturbed: 0.41 Acres  
 Area to be roofed or paved: N/A Acres  
 Area to be vegetatively stabilized: 0.41 Acres  
 Total Cut: 14.03 Cu. Yds.  
 Total Fill: 0.79 Cu. Yds.  
 Offsite waste/borrow area location: SITE WITH AN ACTIVE GRADING PERMIT

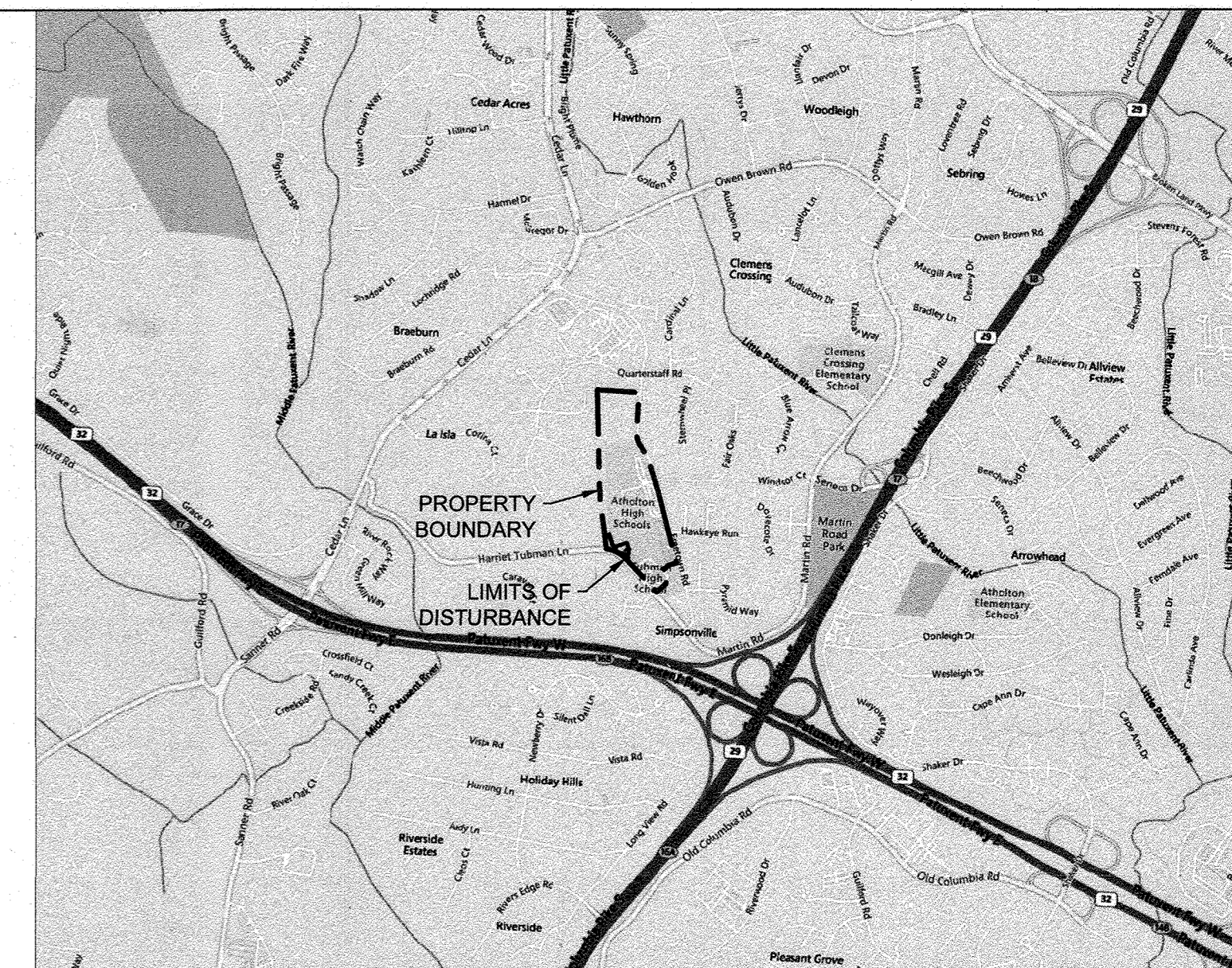
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly, and 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:
  - Inspection date
  - Inspection type (routine, pre-storm event, during rain event)
  - Name and title of inspector
  - Weather information (current conditions as well as time and amount of last recorded precipitation)
  - Brief description of project's status (e.g., percent complete) and/or current activities
  - Evidence of sediment discharges
  - Identification of plan deficiencies
  - Identification of sediment controls that require maintenance
  - Identification of missing or improperly installed sediment controls
  - Compliance status regarding the sequence of construction and stabilization requirements
  - Photographs
  - Monitoring/sampling
  - Maintenance and/or corrective action performed
  - Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
- Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.
- 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.
- 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 acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in 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.
- Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
- Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.
- All Silt Fence and Super Silt Fence shall be placed on-the-contour, or be imbricated at 25' maximum intervals, with lower ends curled uphill by 2' in elevation.
- Stream channels must not be disturbed during the following restricted time periods (inclusive):
  - Use I and IP March 1 - June 15
  - Use III and IIP October 1 - April 30
  - Use IV March 1 - May 31
- 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**

- Prior to clearing, installing sediment control measures, or grading, a pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field (1 day).
- Clear and grub as necessary for the installation of perimeter controls (1 day).
- Install the stabilized construction entrance and silt fence. Add mulch to any areas of the existing access road and grassed access areas if path becomes muddy (2 days).
- If flow is present from Stormwater Pond 4 or the existing roadway swale, install sandbag dikes and pump setups upstream of the work area as shown on this plan. Outlet any clean water discharge from Stormwater Pond 4 or the roadside swale downstream of work area and below the sandbag dike. Install filter bag, and pump and sediment laden water into filter bag, placed downstream of sandbag dike (5 days).
- Notify CID upon completion of the installation of erosion and sediment controls (1 day).
- With the approval from CID, clear and grub any necessary areas within the installed perimeter controls (1 day).
- Install french drain 3 along the sports field and water level control structure according to plan and detail specifications. The proposed water level control structure will be tied into the existing 4" pvc underdrain pipe (3 days).
- Install the 6" Poly Riser-36 HPF to existing low flow orifice in the riser structure according to plan and detail specifications (1 day).
- Notify CID upon completion of the installation of erosion and sediment controls (1 day).
- Install pipe french drains 1 and 2 along the existing access road with gravel added on top according to plan and detail specifications. Add rock outlet protection leading into Stormwater Pond 4 and Stormwater Management IMP #3 at the outlets of french drains 1 and 2 (1 day).
- Grade roadside swale according to plan, profile, and cross-section dimensions (3 days).
- Stabilize all disturbed areas at the end of each working day or within a 3-day dry weather forecast.
- After grading is complete, seed and stabilize any remaining work areas (1 day).
- Notify CID upon completion of work, prior to the removal of sediment controls (1 day).
- Once project site is entirely stabilized with established vegetation and with the approval from CID, remove sediment control devices and stabilize those areas disturbed by this process (1 day).
- Install plant material during appropriate planting dates (2 days).

**LEGEND**

	EX. PROPERTY BOUNDARY		PROP. SILT FENCE
	EX. ADJACENT PROPERTY BOUNDARY		PROP. PUMP HOSE
	EX. TOPOGRAPHY MINOR		PROP. LIMITS OF DISTURBANCE (1.02 AC.)
	EX. TOPOGRAPHY MAJOR		PROP. TOPOGRAPHY MINOR
	EX. SOIL BOUNDARY		PROP. TOPOGRAPHY MAJOR
	EX. ROAD BOUNDARY		PROP. ROADSIDE SWALE CENTERLINE
	EX. BUILDING OUTLINE		PROP. PUMP
	EX. TREE LINE		PROP. STABILIZED CONSTRUCTION ENTRANCE
	EX. FENCE		PROP. SANDBAG DIKE
	EX. GAS LINE (EXACT LOCATION UNKNOWN)		PROP. FILTER BAG
	EX. OVERHEAD ELECTRIC LINE		PROP. PERMANENT SOIL STABILIZATION MATTING SLOPE APPLICATION
	EX. RIPRAP BOUNDARY		



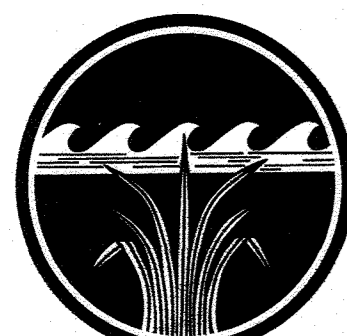
SCALE: 1" = 2000'



**FOREST CONSERVATION NOTE**

Forest Conservation is exempt Per Section 16.1202(b)(iii) of the Forest Conservation Manual - Any property owned by Howard County Public School System in a Planned Unit Development which has preliminary development plan approved and 50 percent or more of the land is recorded and substantially developed.

DEPARTMENT OF PLANNING AND ZONING	
DIRECTOR	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE



25 Old Solomons Island Road, Annapolis, MD 21401  
410-956-9600

**OWNERS/DEVELOPER CERTIFICATION**

"We certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control of erosion and sediment prior to beginning the project. I certify right-of-entry for periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

*Katherine A. Scott* 5/10/23  
 Owner's/Developer's Signature Date  
*A.R. Davis, Director of Facilities*  
 Printed Name & Title

**DESIGN CERTIFICATION**

"I hereby certify that this plan has been designed in accordance with current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

*Katherine A. Scott* 5/10/23  
 Designer's Signature Date  
 MD Registration No. 24016  
 P.E., R.L.S., or R.L.A. (circle one)

**HOWARD SCD SIGNATURE BLOCK**

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.  
*Alexander Brathier* 05/23/23  
 Howard Soil Conservation District Date

05/09/23	ADDED SHEETS 29 - 36
DATE	DESCRIPTION
REVISION BLOCK	
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Maurit Kendall</i> 4/8/23	Date
Director - Department of Planning and Zoning	
<i>Chad</i> 5/31/23	Date
Chief, Development Engineering Division	

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 ELLICOTT CITY, MARYLAND 21042  
 410-313-8805



**ADDRESS CHART**

Parcel Number	Street Address	
P. 265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044 - 4002	
PROJECT	SECTION / AREA	PARCEL
ATHOLTON HIGH SCHOOL	N/A	269, 249, & 292
DEED REF. 416/447	BLOCK NO. 24	ZONE R-SC
201/296	TAX MAP 35	ELEC. DIST. FIFTH
489/494	CENSUS TR. 6056.02	WATER CODE E 29
SEWER CODE	5324500	

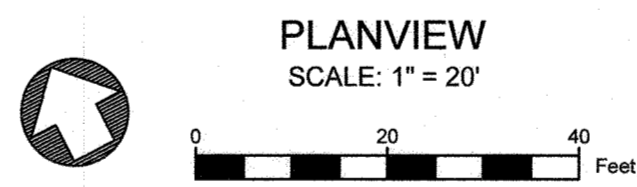
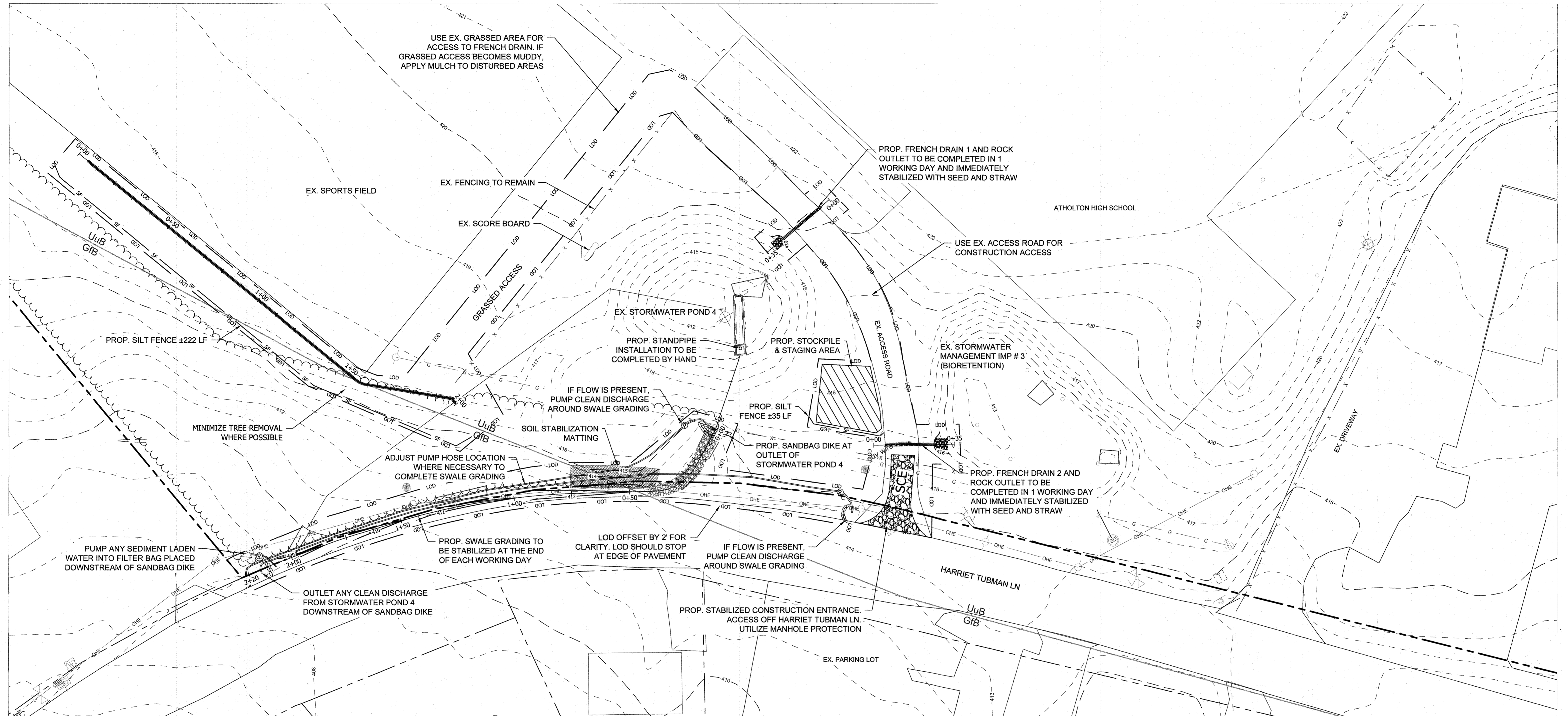
**SEDIMENT & EROSION CONTROL DETAILS & NOTES**

**"REVISED SITE DEVELOPMENT PLAN" ATHOLTON HIGH SCHOOL**

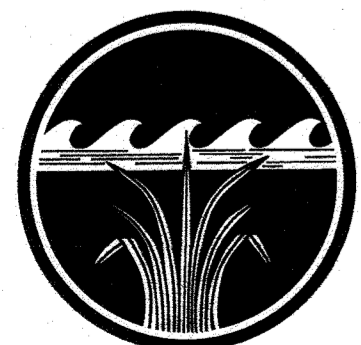
**STORMWATER IMPROVEMENTS**

PARCEL Nos: 265, 249 & 292  
 TAX MAP No.: 35 GRID No.: 24  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: MARCH 2023





SOILS TABLE		
MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP RATING
GfB	GLADSTONE-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	A
UuB	URBAN LAND-UDORTHENTS COMPLEX, 0 TO 8 PERCENT SLOPES	D



**COASTAL RESOURCES INC**  
25 Old Solomons Island Road, Annapolis, MD 21401  
410-956-9000

**OWNERS/DEVELOPER CERTIFICATION**  
"I/We certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control of erosion and sediment prior to beginning the project. I certify right-of-entry for periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."  
*H.R. Scott*  
Owner's/Developer's Signature  
*H.R. Scott, Director of Facilities*  
Printed Name & Title  
5/10/23  
Date

**DESIGN CERTIFICATION**  
"I hereby certify that this plan has been designed in accordance with current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."  
*Kenneth A. Scott*  
Designer's Signature  
Printed Name  
5/10/23  
Date  
MD Registration No. 24026  
P.E., R.L.S., or R.L.A. (circle one)  
**HOWARD SCD SIGNATURE BLOCK**  
This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.  
*Alexander Bantich*  
Howard Soil Conservation District  
05/23/23  
Date

05/09/23  
DATE  
ADDED SHEETS 29 - 36  
DESCRIPTION  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Mary A. Kendall*  
Director - Department of Planning and Zoning  
05/12/23  
Date  
Chief, Development Engineering Division  
5/31/23  
Date

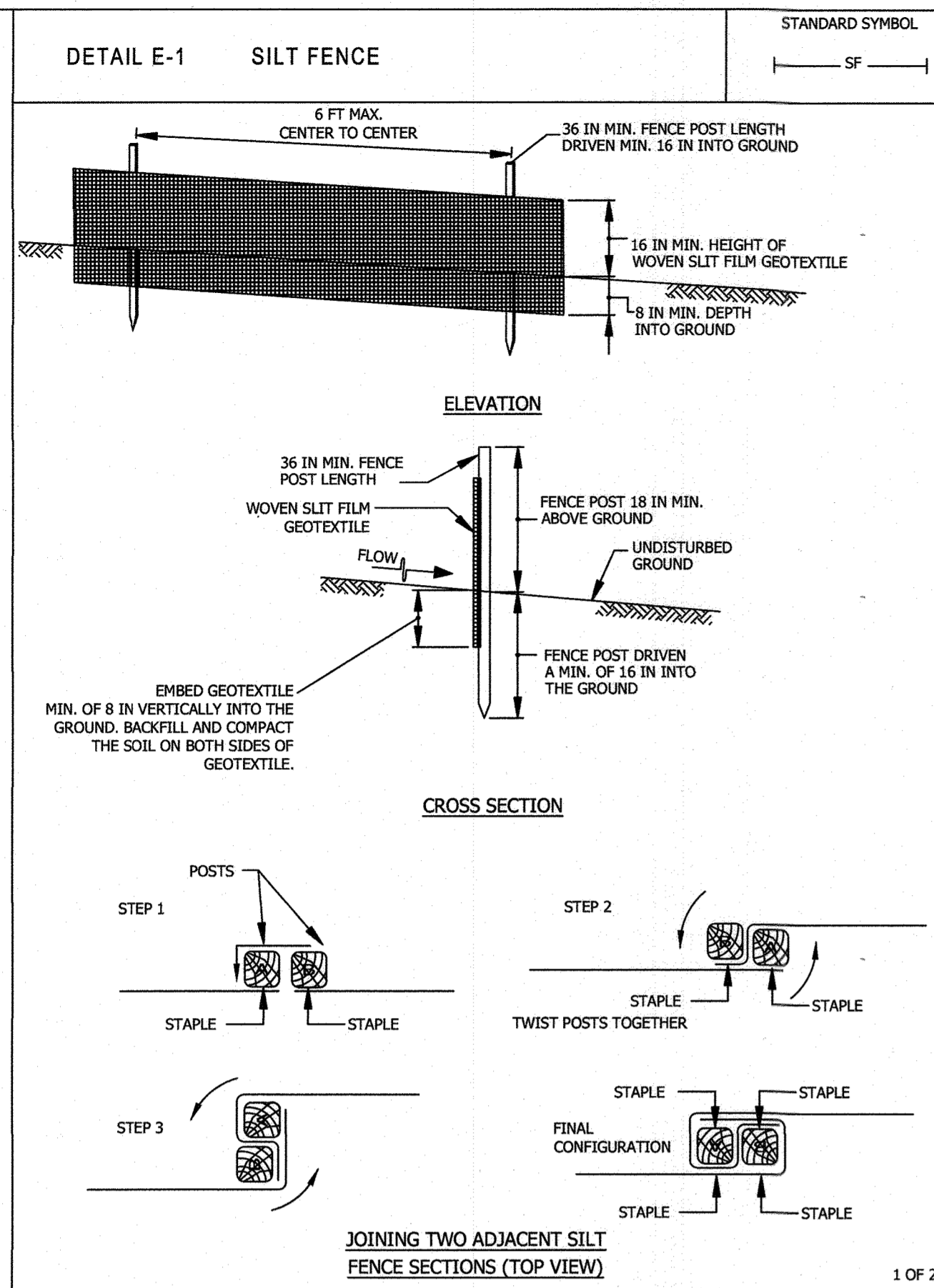
PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
ELLICOTT CITY, MARYLAND 21042  
410-313-8805



ADDRESS CHART					
Parcel Number	Street Address				
P. 265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044 - 4002				
PROJECT	SECTION / AREA	TAX MAP	ELEC. DIST.	CENSUS TR.	PARCEL
ATHOLTON HIGH SCHOOL	N/A	269, 249, & 292	FIFTH	6056.02	
DEED REF: 4181447 201/296 489/494	BLOCK NO. 24	ZONE R-SC NT	TAX MAP 35	ELEC. DIST. FIFTH	CENSUS TR. 6056.02
WATER CODE E 29	SEWER CODE 5324500				

**SEDIMENT & EROSION CONTROL PLAN**  
**"REVISED SITE DEVELOPMENT PLAN"**  
**ATHOLTON HIGH SCHOOL**  
**STORMWATER IMPROVEMENTS**  
PARCEL Nos: 265, 249 & 292  
TAX MAP No.: 35  
GRID No.: 24  
FIFTH ELECTION DISTRICT  
SCALE: AS SHOWN  
HOWARD COUNTY, MARYLAND  
DATE: MARCH 2023  
SHEET 30 OF 36  
SDP-08-050





**DETAIL E-1 SILT FENCE**

CONSTRUCTION SPECIFICATIONS

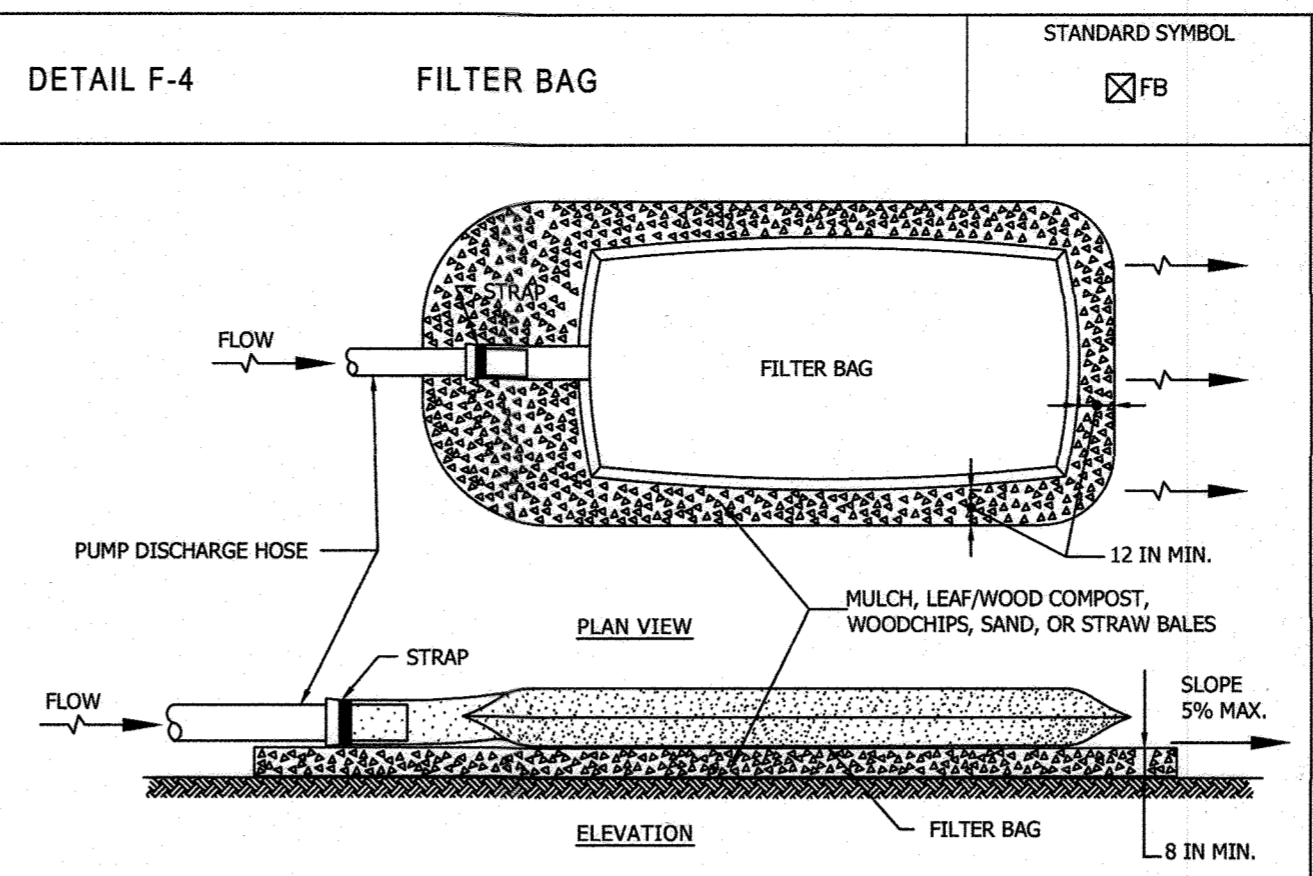
- USE WOOD POSTS 1 3/4 x 1 3/4 ± 1/16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
- USE 3/8 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
- WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
- EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



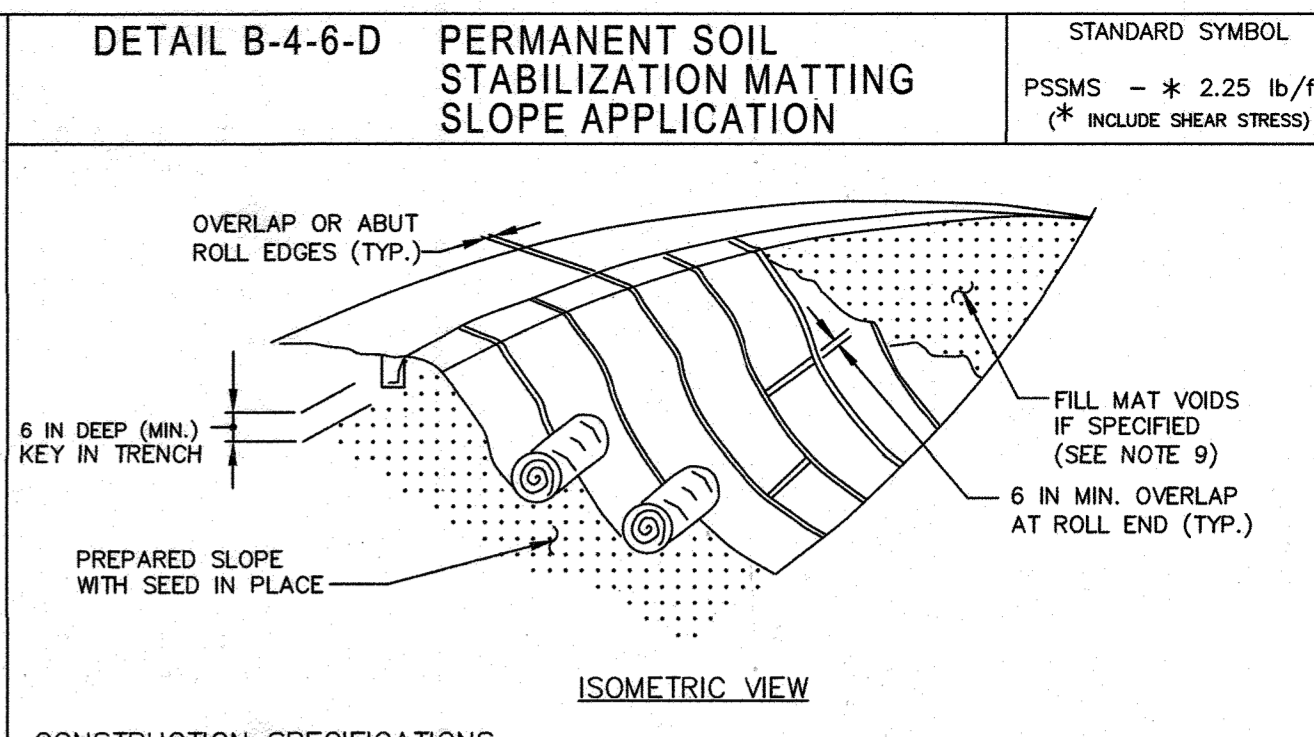
**DETAIL F-4 FILTER BAG**

CONSTRUCTION SPECIFICATIONS

- TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
- PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
- CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
- REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
- USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



**DETAIL B-4-6-D PERMANENT SOIL STABILIZATION MATTING SLOPE APPLICATION**

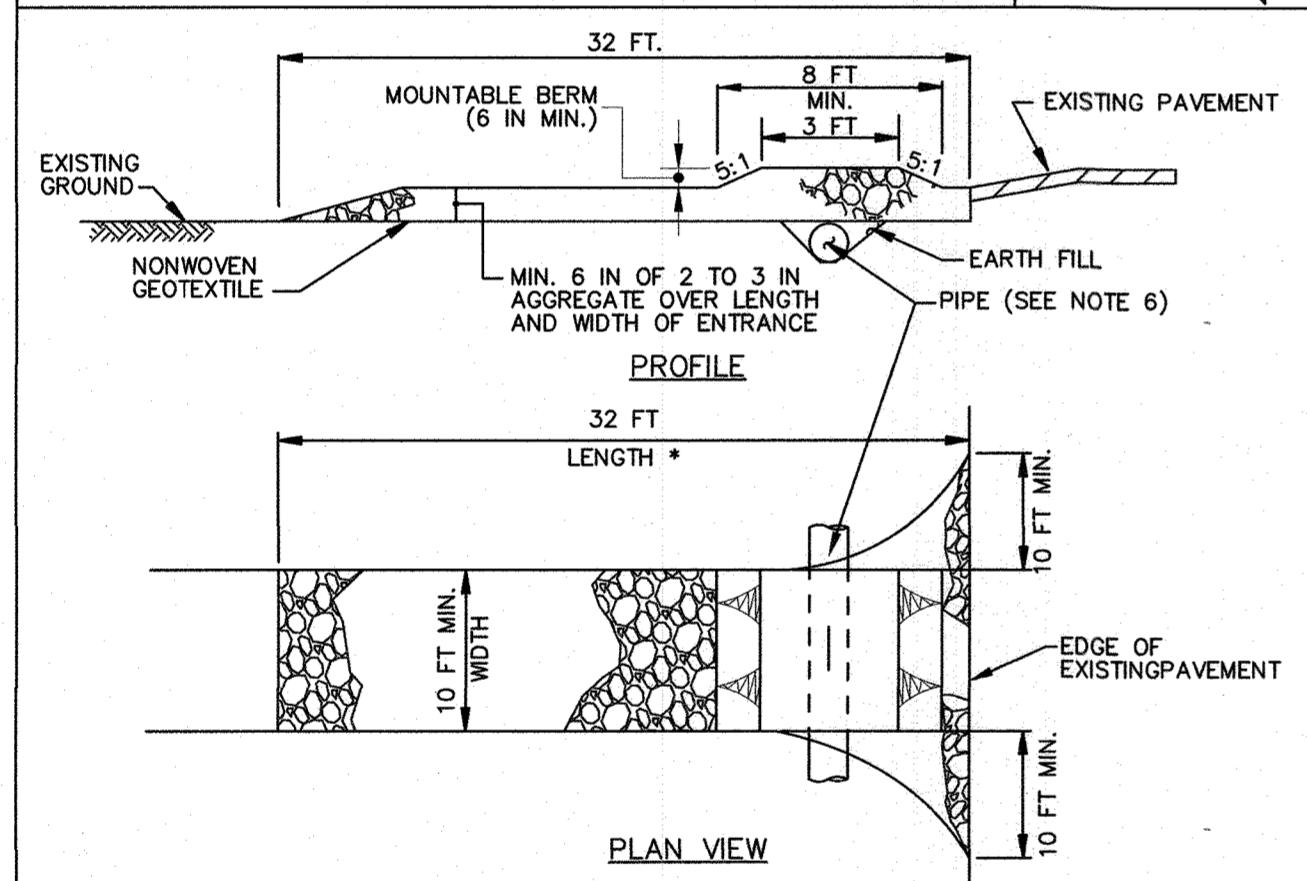
CONSTRUCTION SPECIFICATIONS

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2-2.2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDING PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- UNROLL MATTING DOWN SLOPE. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
- OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
- KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYPED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
- ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE**



**CONSTRUCTION SPECIFICATIONS**

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. \*DUE TO LIMITED AREA, THE SCE IS LIMITED TO 32 FEET. FLARE SCE TO 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

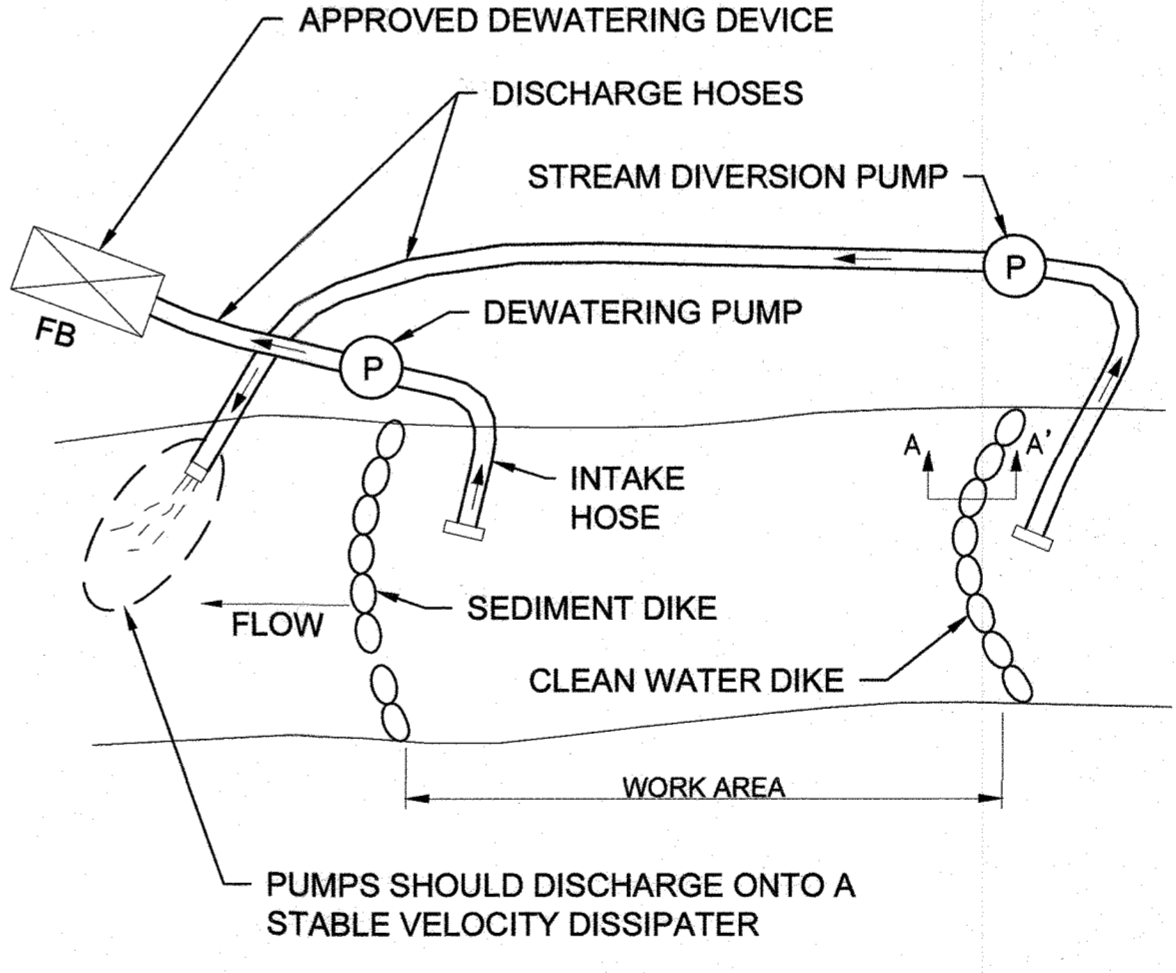
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**PUMP-AROUND PRACTICE**

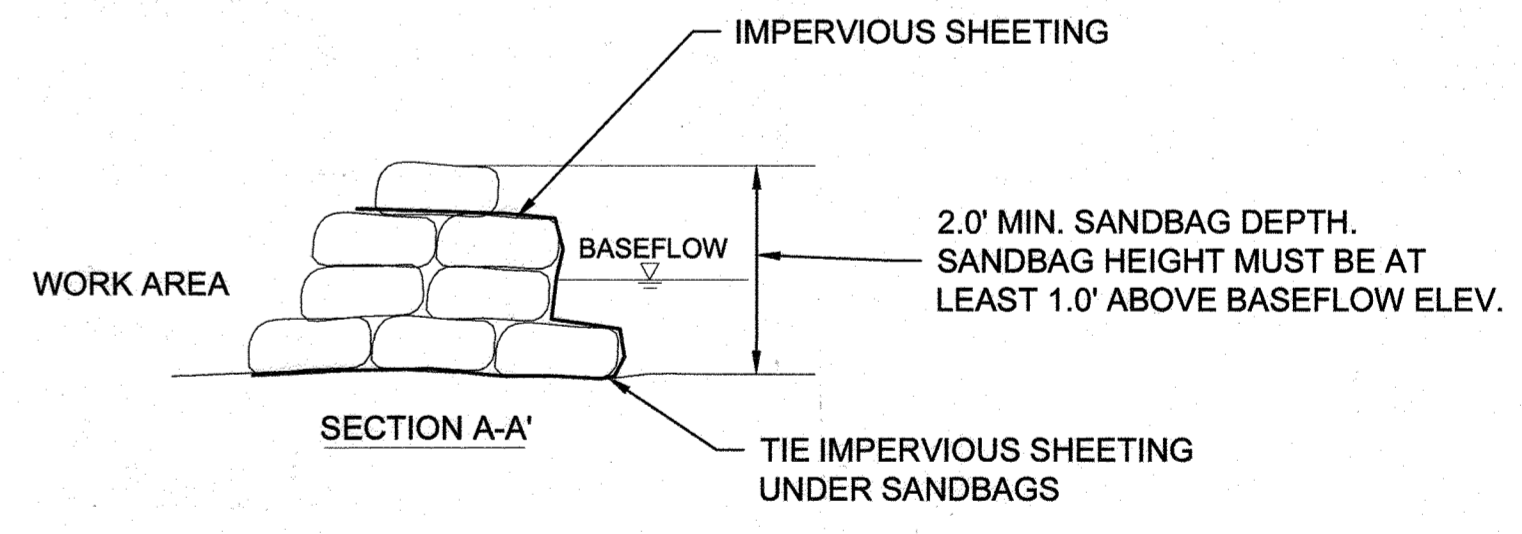
DESCRIPTION: THE WORK SHALL CONSIST OF INSTALLING A TEMPORARY PUMP AROUND AND SUPPORTING MEASURES TO DIVERT FLOW AROUND IN-STREAM CONSTRUCTION SITES.

IMPLEMENTATION SEQUENCE SEDIMENT CONTROL MEASURES AND PUMP-AROUND PRACTICES SHALL BE COMPLETED IN THE FOLLOWING SEQUENCE (REFER TO DETAIL THIS PAGE):

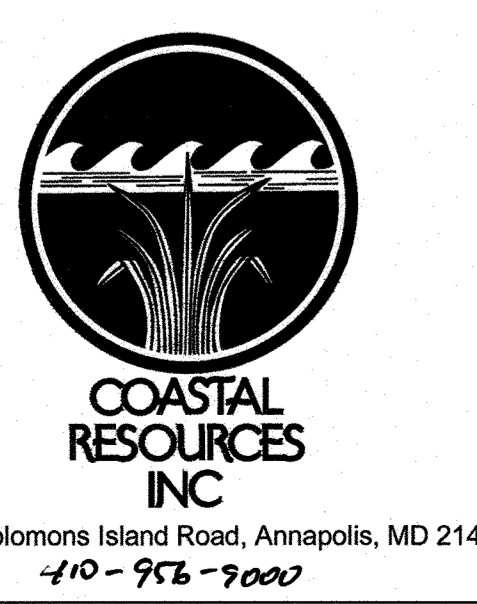
- PUMP-AROUND EXTENTS SHOWN ON SEDIMENT CONTROL CONCEPT ARE SUGGESTED PUMP SET UPS. THE CONTRACTOR MAY DETERMINE THE NECESSARY PUMP-AROUND SETUP LENGTH SO LONG AS THE NECESSARY SEDIMENT CONTROLS ARE IN PLACE FOR EACH SET UP.
- SANDBAG DIKES SHALL BE SITUATED AT THE UPSTREAM AND DOWNSTREAM ENDS OF EACH PUMP-AROUND SETUP AS SHOWN ON THE PLANS, AND STREAM FLOW SHALL BE PUMPED AROUND THE WORK AREA. THE PUMP SHALL DISCHARGE ONTO A STABLE VELOCITY DISSIPATER MADE OF RIPRAP SANDBAGS, OR HDPE PIPE AS A TEMPORARY MEASURE FOR DEWATERING IN CHANNEL CONSTRUCTION SITES.
- WATER FROM THE WORK AREA SHALL BE PUMPED TO A SEDIMENT FILTERING MEASURE SUCH AS A DEWATERING BASIN, FILTER BAG, OR OTHER APPROVED SOURCE. THE MEASURE SHALL BE LOCATED SUCH THAT THE WATER DRAINS BACK INTO THE CHANNEL BELOW THE DOWNSTREAM SANDBAG DIKE.
- TRAVERSING A CHANNEL REACH WITH EQUIPMENT WITHIN THE WORK AREA WHERE NO WORK IS PROPOSED SHALL BE AVOIDED. IF EQUIPMENT HAS TO TRAVERSE SUCH A REACH FOR ACCESS TO ANOTHER AREA, THEN TIMBER MATS OR SIMILAR MEASURES SHALL BE USED TO MINIMIZE DISTURBANCE TO THE CHANNEL. TEMPORARY STREAM CROSSINGS SHALL BE USED ONLY WHEN NECESSARY AND SHALL BE USED ONLY WHERE NOTED ON THE PLANS OR SPECIFIED.
- AFTER AN AREA IS COMPLETED AND STABILIZED, THE CLEAN WATER DIKE SHALL BE REMOVED. AFTER THE FIRST SEDIMENT FLUSH, A NEW CLEAN WATER DIKE SHALL BE ESTABLISHED UPSTREAM FROM THE OLD SEDIMENT DIKE. FINALLY, UPON ESTABLISHMENT OF A NEW SEDIMENT DIKE BELOW THE OLD ONE, THE OLD SEDIMENT DIKE SHALL BE REMOVED.
- IF, IN THE JUDGMENT OF THE ENGINEER, INADEQUATE ENERGY DISSIPATION OR CHANNEL BED EROSION IS OCCURRING, THE CONTRACTOR SHALL BE REQUIRED TO INCREASE THE MATERIAL OR PLACEMENT SIZE OF THE OUTFALL PROTECTION AT THE DIRECTION OF THE ENGINEER.
- THE CONDITION OF THE OUTLET PROTECTION SANDBAGS IS TO BE CHECKED TWICE PER DAY (START OF WORK DAY AND MID-DAY) TO ENSURE THAT SAND IS NOT ESCAPING BAGS. DAMAGED OR LEAKING BAGS ARE TO BE REMOVED AND REPLACED.
- OUTFALL PROTECTION MATERIALS AND GEOTEXTILE SHALL BE REMOVED FROM THE CHANNEL AT THE COMPLETION OF EACH PUMP AROUND STAGE.



**PUMP AROUND DETAIL**



NOT TO SCALE



**OWNERS/DEVELOPER CERTIFICATION**

"I/We certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control of erosion and sediment prior to beginning the project. I certify right-of-entry for periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

*Katherine A. Scott*  
 Owner's/Developer's Signature  
 H.P. Davis, Director of Facilities  
 Printed Name & Title

5/16/2023  
 Date

**DESIGN CERTIFICATION**

"I hereby certify that this plan has been designed in accordance with current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

*Katherine A. Scott*  
 Designer's Signature  
 Katherine A. Scott  
 Printed Name

MD Registration No. 24826  
 P.E., R.L.S., or R.L.A. (circle one)

**HOWARD SCD SIGNATURE BLOCK**

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

*Alexander Bratcher*  
 Howard Soil Conservation District

05/23/23  
 Date

05/09/23	ADDED SHEETS 29 - 36
DATE	DESCRIPTION
	REVISION BLOCK
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Maura Kendall</i>	6/16/23
Director - Department of Planning and Zoning	Date
<i>Cheryl</i>	5-31-23
Chief, Division of Land Development	Date
<i>Cheryl</i>	5/10/23
Chief, Development Engineering Division	Date

PREPARED FOR  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 ELLICOTT CITY, MARYLAND 21042  
 410-313-8805

STATE OF MARYLAND PROFESSIONAL ENGINEER  
 No. 24825  
 5/10/23

**ADDRESS CHART**

Parcel Number	Street Address
P. 265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044 - 4002

**PROJECT**

ATHOLTON HIGH SCHOOL	SECTION / AREA N/A	PARCEL 269, 249, & 292
DEED REF. 415447	BLOCK NO. 24	ZONE R-SC NT
TAX MAP 201/296 489/494	TAX MAP 35	ELEC. DIST. FIFTH
WATER CODE E 29	SEWER CODE 5324500	CENSUS TR. 6056.02

**SEDIMENT & EROSION CONTROL PLAN**

**"REVISED SITE DEVELOPMENT PLAN"**  
 ATHOLTON HIGH SCHOOL

**STORMWATER IMPROVEMENTS**

PARCEL Nos: 265, 249 & 292  
 TAX MAP No.: 35 GRID No.: 24  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: MARCH 2023

SHEET 31 OF 36

SDP-08-050



**B-4-2 STANDARDS AND SPECIFICATIONS**

**FOR**

**SOIL PREPARATION, TOP SOILING, AND SOIL AMENDMENTS**

- A. Soil Preparation
1. Temporary Stabilization
    - a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
    - b. Apply fertilizer and lime as prescribed on the plans.
    - c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
  2. Permanent Stabilization
    - a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
      - i. Soil pH between 6.0 and 7.0.
      - ii. Soluble salts less than 500 parts per million (ppm).
      - iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: If lovegrass will be planted, then a sandy soil (less than 30 percent silt plus 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 conditions.
    - c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
    - d. Apply soil amendments as specified on the approved 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 disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter 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. Seedbed loosening may be unnecessary on newly disturbed areas.
- B. Topsoiling
1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is 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.
  2. Topsoil salvaged from an existing site may be used provided 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-NRCS.
  3. Topsoiling 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.
    - e. Areas having slopes steeper than 2:1 require special consideration and design.
  4. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
    - a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter.
    - b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
    - c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
  5. Topsoil Application
    - a. Erosion and sediment control practices must be maintained when applying topsoil.
    - b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to 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 must be corrected in order to prevent the formation of depressions or water pockets.
    - c. Topsoil must not be placed if 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.
- C. Soil Amendments (Fertilizer and Lime Specifications)
1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
  2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
  3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
  4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
  5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

**B-4-3 STANDARDS AND SPECIFICATIONS**

**FOR**

**SEEDING AND MULCHING**

- A. Seeding
1. Specifications
    - a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
    - b. Much 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. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
    - d. Sod or seed must not 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.
  2. Application
    - a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
      - i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
      - ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.
      - iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
      - iv. Cutpacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
    - b. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
    - c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
      - i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P205 (phosphorus), 200 pounds per acre; K2O (potassium), 200 pounds per acre.
      - ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      - iii. Mix seed and fertilizer on site and seed immediately and without interruption.
      - iv. When hydroseeding do not incorporate seed into the soil.
- B. Mulching
1. Mulch Materials (in order of preference)
    - a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. **Note: Use only sterile straw mulch in areas where one species of grass is desired.**
    - b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
      - i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
      - ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
      - iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
      - iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic.
      - v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
  2. Application
    - a. Apply mulch to all seeded areas immediately after seeding.
    - b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
    - c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
  3. Anchoring
    - a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
      - i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
      - ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
      - iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petrosel, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. **Use of asphalt binders is strictly prohibited.**
      - iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

**B-4-8 STANDARDS AND SPECIFICATIONS**

**FOR**

**STOCKPILE AREA**

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

- Criteria
1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
  2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
  3. Runoff from the stockpile area must drain to a suitable sediment control practice.
  4. Access the stockpile area from the upgrade side.
  5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
  6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
  7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
  8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

**Maintenance**

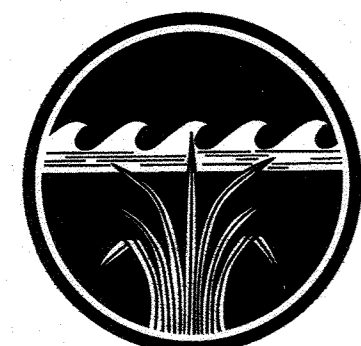
The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

**Table B-1: Temporary Seeding Summary**

Hardiness Zone (from Figure B.3): 6b					Fertilizer Rate (10-20-20)	Lime Rate
Seed Mixture (from Table B.1)						
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
	Annual Rye Grass ( <i>Lolium perenne</i> spp. <i>multiflorum</i> )	40	3/1 - 5/15 8/1 - 10/15	.5 in.	436 lb/ac (10 lb/1000 sf)	2 tons / ac. (90 lb/1000 sf)
	Foxtail Millet ( <i>Setaria italica</i> )	30	5/16 - 7/31			

**Permanent Seeding Summary**

Refer to the Landscape Plan on Sheet 35 for permanent seeding mixtures and locations.



**COASTAL RESOURCES INC**

25 Old Solomons Island Road, Annapolis, MD 21401  
410-956-9000

**OWNERS/DEVELOPER CERTIFICATION**

"I/We certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control of erosion and sediment prior to beginning the project. I certify right-of-entry for the control on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

*NRD*  
Owner's/Developer's Signature  
*H.R. Davis Director of Facilities*  
Printed Name & Title  
5/10/2023  
Date

**DESIGN CERTIFICATION**

"I hereby certify that this plan has been designed in accordance with current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

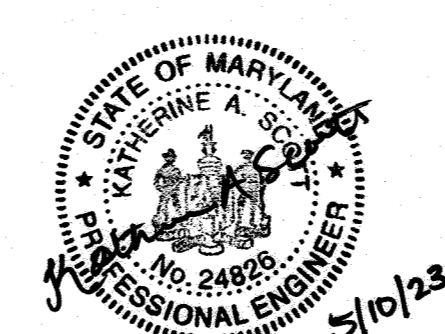
*Katherine A. Scott*  
Designer's Signature  
5/10/23  
Date  
Katherine A. Scott  
Printed Name  
MD Registration No. 24826  
P.E., R.L.S., or R.L.A. (circle one)

**HOWARD SCD SIGNATURE BLOCK**

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.  
*Alexander Bantue*  
Howard Soil Conservation District  
05/23/23  
Date

05/09/23	ADDED SHEETS 29 - 36
DATE	DESCRIPTION
	REVISION BLOCK
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Maura Kendall</i>	6/18/23
Director - Department of Planning and Zoning	Date
<i>DL</i>	6/18/23
Chief, Division of Land Development	Date
<i>DL</i>	5/31/23
Chief, Development Engineering Division	Date

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
ELLCOTT CITY, MARYLAND 21042  
410-313-6805



**ADDRESS CHART**

Parcel Number	Street Address			
P. 265, P.249 & P.292	6520 FREETOWN ROAD COLUMBIA, MD 21044 - 4002			
PROJECT	SECTION / AREA	PARCEL		
ATHOLTON HIGH SCHOOL	N/A	269, 249, & 292		
DEED REF: 416/447 201/296 489/484	BLOCK NO. 24	ZONE R-SC NT	TAX MAP 35	ELEC. DIST. FIFTH CENSUS TR. 6056.02
WATER CODE	E 29		SEWER CODE	5324500

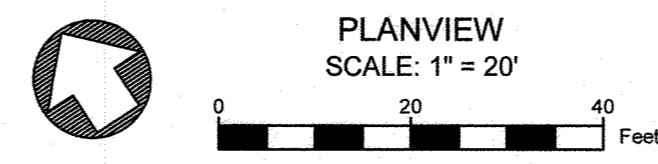
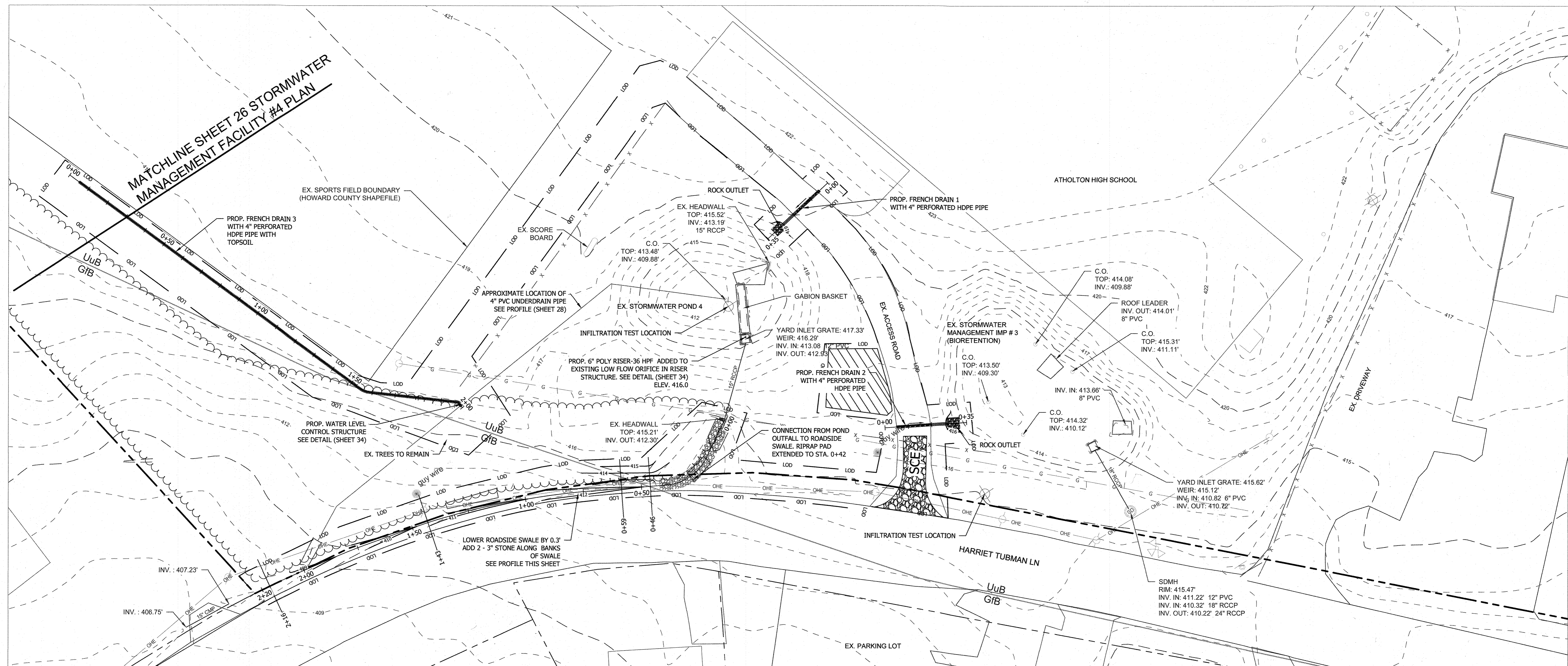
**SEDIMENT & EROSION CONTROL PLAN**

**"REVISED SITE DEVELOPMENT PLAN"  
ATHOLTON HIGH SCHOOL**

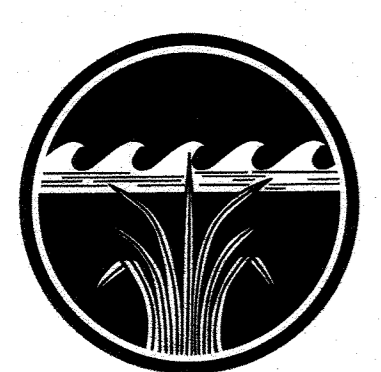
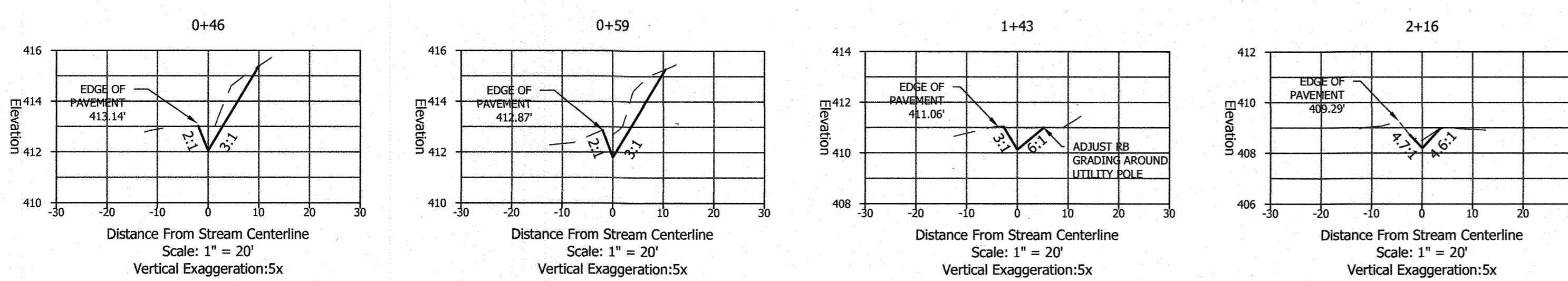
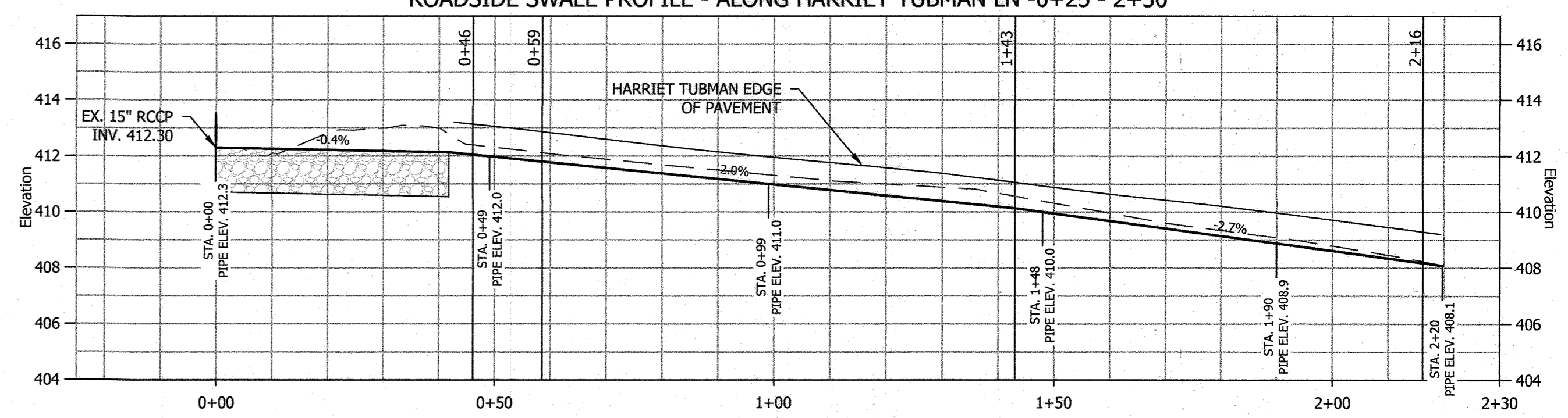
**STORMWATER IMPROVEMENTS**

PARCEL Nos: 265, 249 & 292  
TAX MAP No.: 35  
GRID No.: 24  
FIFTH ELECTION DISTRICT  
SCALE: AS SHOWN  
HOWARD COUNTY, MARYLAND  
DATE: MARCH 2023





ROADSIDE SWALE PROFILE - ALONG HARRIET TUBMAN LN -0+25 - 2+30



**COASTAL RESOURCES INC**  
25 Old Solomons Island Road, Annapolis, MD 21401  
410-956-9000

05/09/23	ADDED SHEETS 29 - 36
DATE	DESCRIPTION
	REVISION BLOCK
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Maura Kendall</i>	01/18/23
Director - Department of Planning and Zoning	Date
<i>Chief of Planning and Development</i>	01/18/23
Chief, Development Engineering Division	Date

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
ELLICOTT CITY, MARYLAND 21042  
410-313-8805

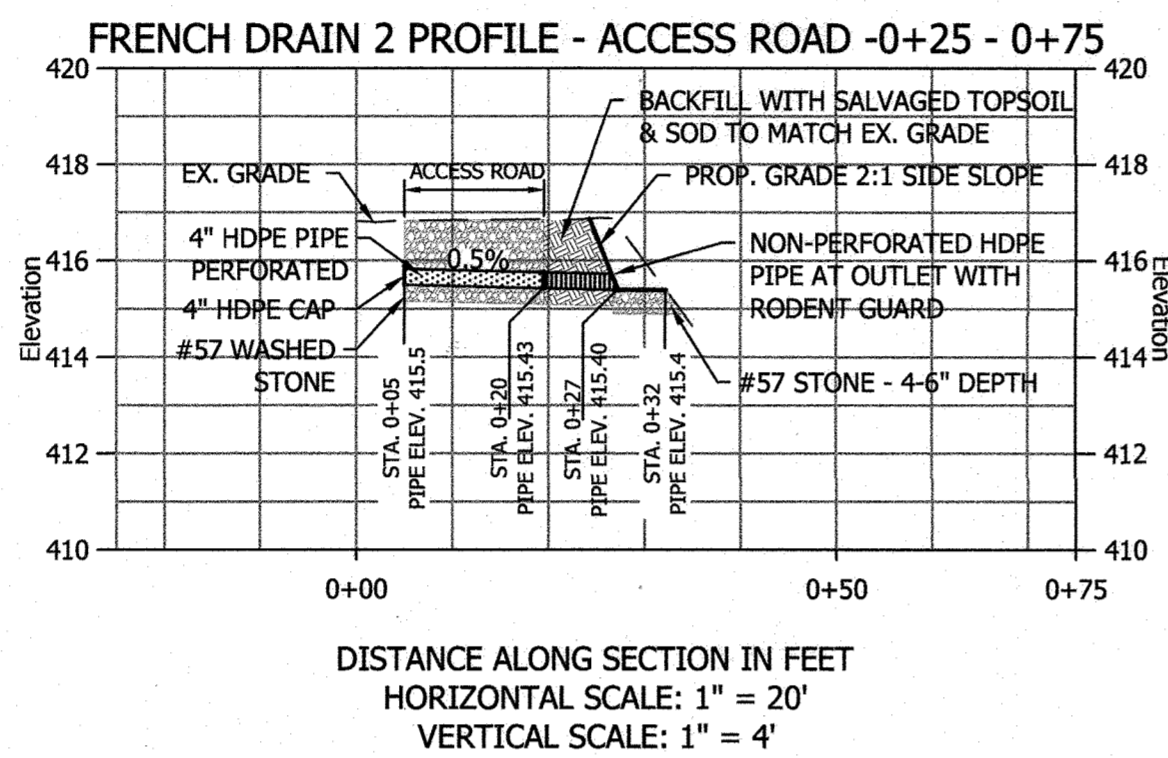
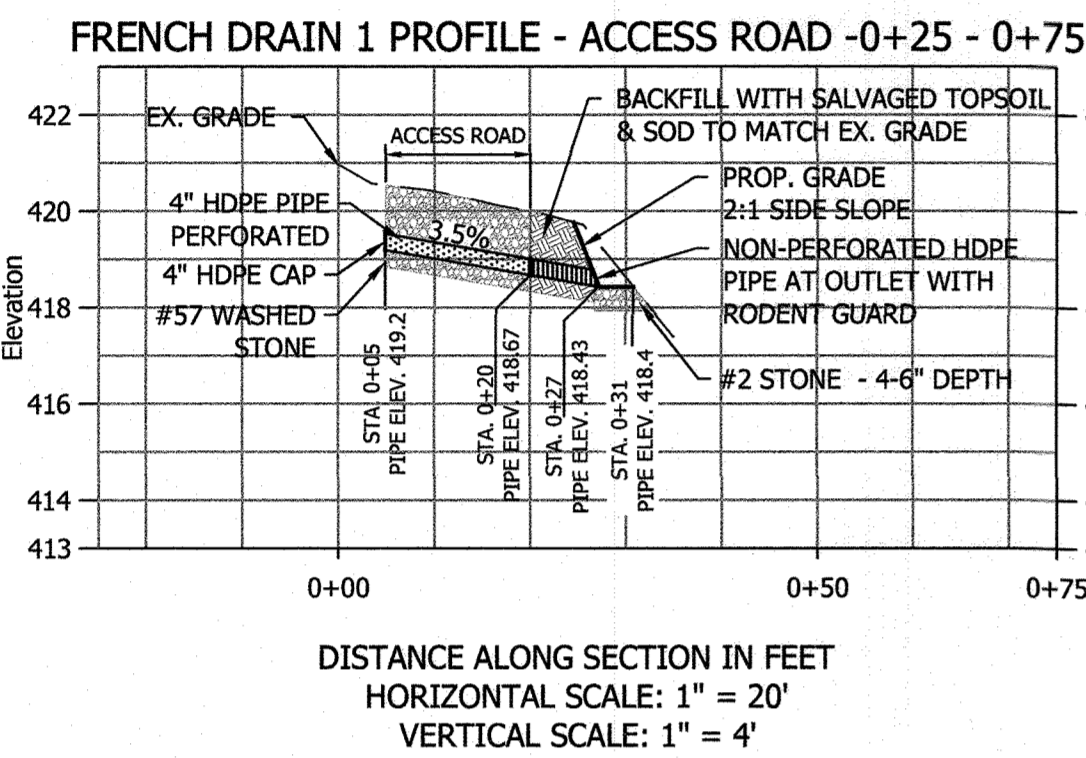
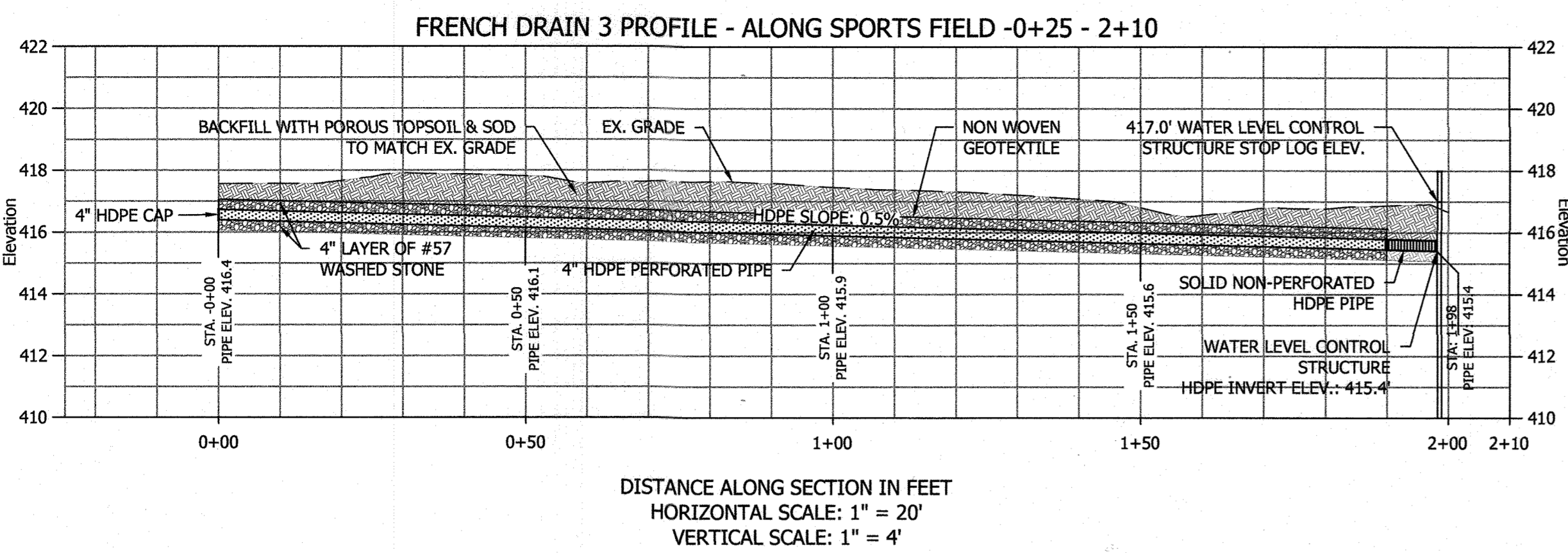


ADDRESS CHART					
Parcel Number	Street Address				
P. 265, P. 249 & P. 292	6520 FREETOWN ROAD				
	COLUMBIA, MD 21044 - 4002				
PROJECT	SECTION / AREA	PARCEL			
ATHOLTON HIGH SCHOOL	N/A	269, 249, & 292			
DEED REF. 418447	BLOCK NO. 24	ZONE R-SC NT	TAX MAP 35	ELEC. DIST. FIFTH	CENSUS TR. 6056.02
201/026 489/494					
WATER CODE E 29	SEWER CODE	5324500			

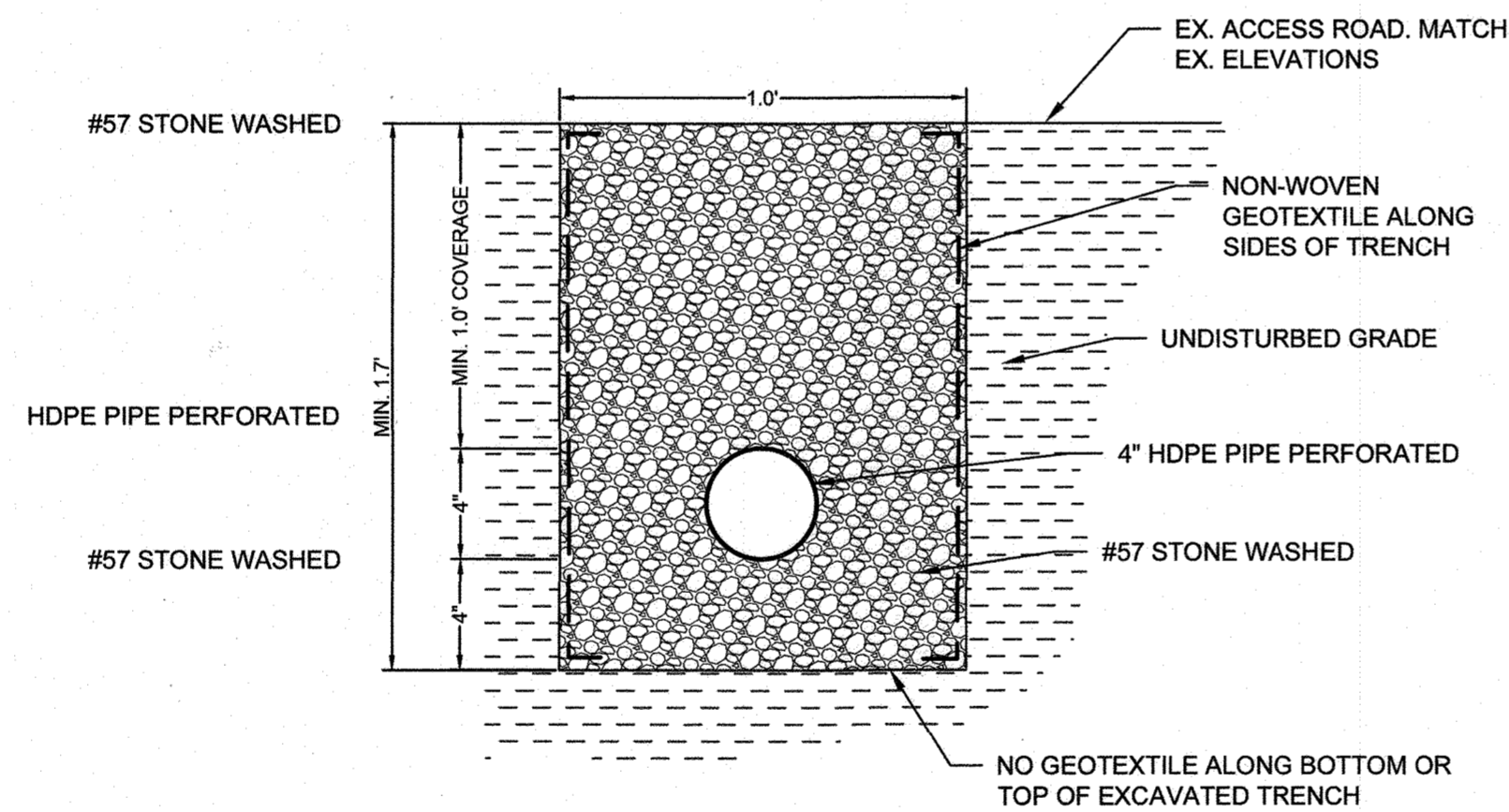
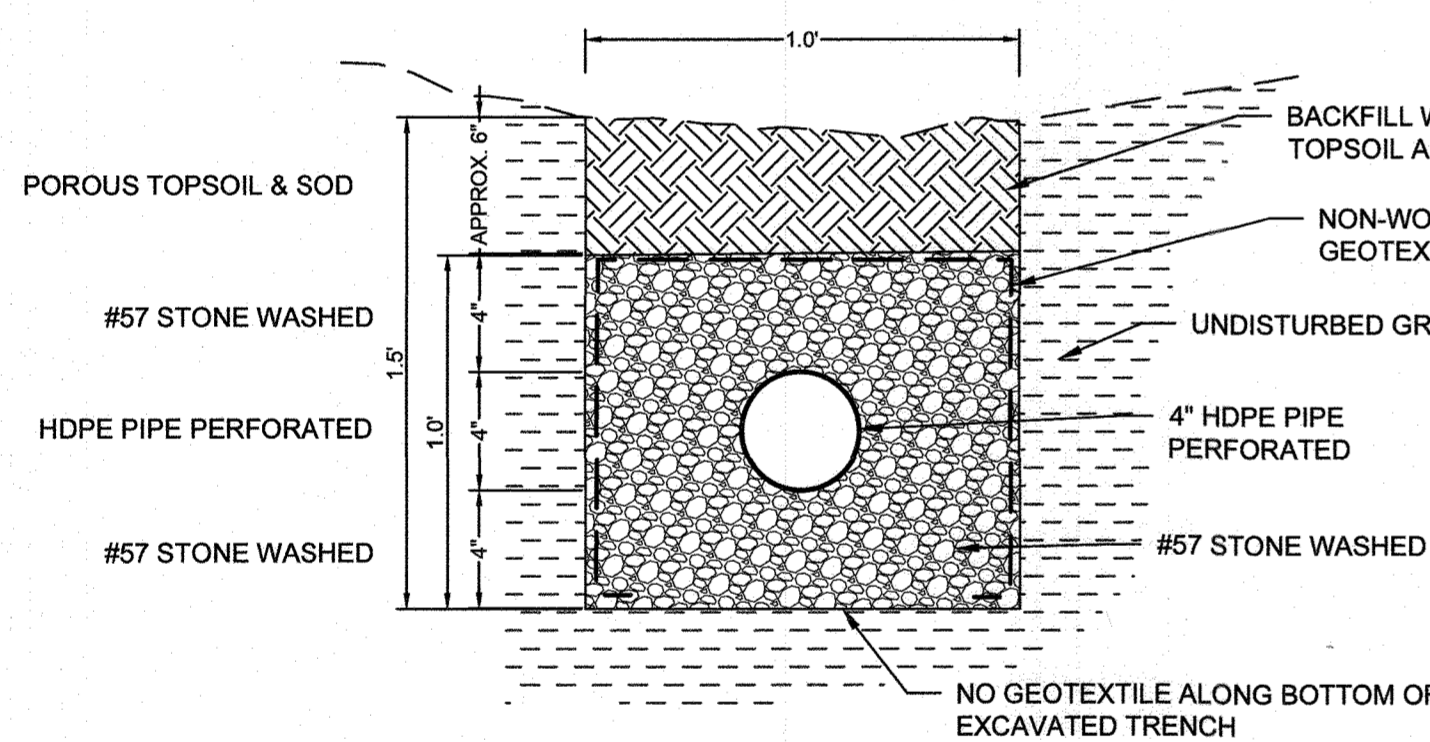
STORMWATER MANAGEMENT DESIGN	
<b>"REVISED SITE DEVELOPMENT PLAN"</b>	
<b>ATHOLTON HIGH SCHOOL</b>	
STORMWATER IMPROVEMENTS	
PROJECT	PARCEL Nos: 265, 249 & 292
TAX MAP No.: 35	GRID No.: 24
FIFTH ELECTION DISTRICT	HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN	DATE: MARCH 2023
SHEET 33 OF 36	

SDP-08-050





**FRENCH DRAIN DETAIL**  
NOT TO SCALE



**FRENCH DRAIN DETAIL - WITH TOPSOIL & TURFGRASS**  
NOT TO SCALE

**FRENCH DRAIN DETAIL - ACCESS ROAD AREAS**  
NOT TO SCALE

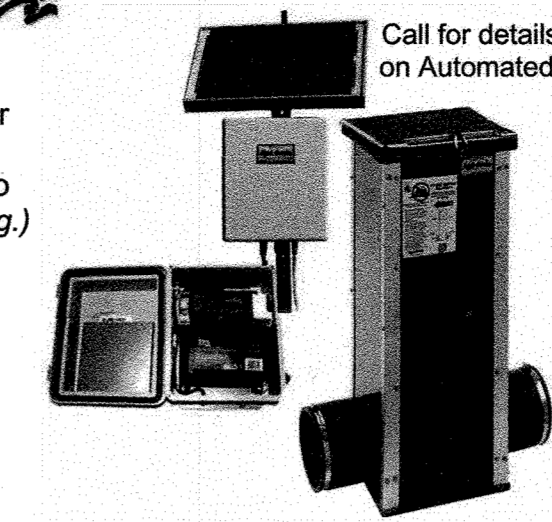
**FRENCH DRAIN NOTES:**

- 4" PERFORATED HDPE PIPE SHALL BE USED. DEFORMED, WARPED, OR OTHERWISE DAMAGED PIPE SHALL NOT BE UTILIZED.
- LAY ALL SUBSURFACE DRAINS TO A UNIFORM SLOPE AND COVER WITH ENVELOPE MATERIAL. MAKE CONNECTIONS WITH MANUFACTURED COUPLING DEVICES COMPARABLE IN STRENGTH WITH SPECIFIED PIPE OR TUBING.
- ENVELOPE MATERIAL SHALL CONSIST OF WASHED #57 STONE.
- PLACE NON-WOVEN GEOTEXTILE ALONG THE SIDES OF THE EXCAVATED TRENCH. GEOTEXTILE SHOULD BE PLACED ABOVE THE WASHED #57 STONE IF TOPSOIL IS SPECIFIED. NO GEOTEXTILE SHOULD BE PLACED AT THE BOTTOM OF THE EXCAVATED TRENCH IN ORDER TO PROMOTE INFILTRATION.
- CAP THE UPPER END OF EACH SUBSURFACE DRAIN LINE WITH A TIGHT FITTING CAP OF THE SAME MATERIAL AS THE CONDUIT OR OTHER DURABLE MATERIAL UNLESS CONNECTED TO A STRUCTURE.
- USE A NON-PERFORATED SOLID SECTION OF 4" HDPE PIPE AT THE OUTLET END OF THE LINE WITH NO ENVELOPE MATERIAL AROUND THE 7'-10" SECTION OF PIPE.
- PLACE ENVELOPE MATERIAL IN THE TRENCH IN SUCH A MANNER THAT DISPLACEMENT OF THE DRAIN WILL NOT OCCUR.
- WHERE SUBSURFACE WATER IS ENTERING THE SYSTEM, PROVIDE A SWING TYPE ANIMAL GUARD AT THE PIPE OUTLET SECTION OF THE SYSTEM.
- KEEP POINT OF DISCHARGE FREE OF EROSION AND MAINTAIN ANIMAL GUARD AT OUTLET.
- FRENCH DRAIN 3 ALONG THE SPORTS FIELD WILL OUTLET INTO A PROPOSED INLINE WATER LEVEL CONTROL STRUCTURE. FRENCH DRAINS 1 AND 2 ALONG THE ACCESS ROAD WILL OUTLET TO AN APPROXIMATE 4' X 4' STONE PAD COMPRISED OF #57 STONE OR #2 STONE WHERE PIPE SLOPE IS GREATER THAN 0.5% (FRENCH DRAIN 1). THE STONE PAD SHOULD HAVE A DEPTH BETWEEN 4" - 6".

Manufactured by:  
**Agri Drain CORPORATION**  
PO Box 458 · 1462 340<sup>th</sup> Street · Adair, Iowa 50002  
Phone: 1-800-232-4742 · Fax: 1-800-282-3353  
www.agridrain.com · email: info@agridrain.com

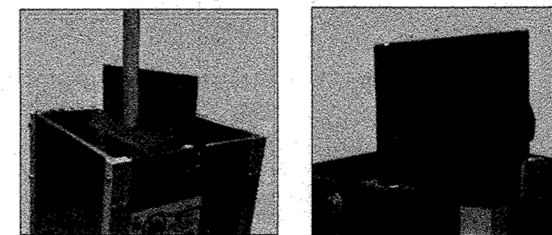
**Inline Water Level Control Structure™**

- Available in manual or automated.
- Constructed of rugged 1/2" PVC with lockable plastic lid.
- Stainless steel screws and custom anodized aluminum corner extrusions used for strength and durability.
- Flexible couplers allow PVC, plastic pipe, or other materials to be easily attached. (Please specify type of pipe when ordering.)
- Rugged injection molded stoplogs in 5" and 7" heights for adjustability (included in structures with 4" through 12" pipe sizes).
- PVC stoplogs with metal hooks in 5" and 7" heights for adjustability (included in structures with 15" through 24" pipe sizes).
- Stoplog maintenance recommended: Remove stoplogs and grease seal with Ultra Lube (included). Ensure there is no debris in the tracks or along the bottom of the structure. Replace stoplogs after greasing, ensuring bottom stoplog is installed first.
- To minimize seepage, align stoplogs firmly against one side of the stoplog track.
- Stoplogs must remain in track during structure installation.
- Structures are intended for gravity flow; some seepage may occur.
- 5-year warranty on all standard structures.



US Patent No. 6,715,608 B2  
US Patent No. 6,785,234 B2  
Canadian Patent No. 2,403,456  
Canadian Patent No. 2,458,976

Comes with a handle to install and remove stoplogs. Stoplog seal ensures a tight fit to prevent leakage.



Rugged injection molded stoplogs used in structures with 4", 6", 8", 10", and 12" pipe sizes.

PVC stoplogs with stainless steel lifting hooks used in structures with 15", 18", and 24" pipe sizes.

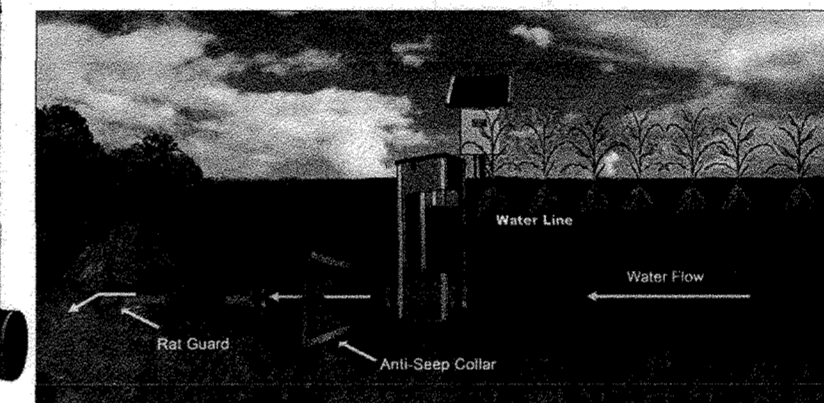
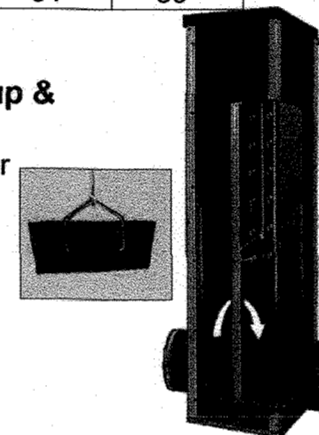
**Inline Water Level Control Structure™**

Pipe Size	Available Heights	Width	Depth
4"	2' - 12"	8"	10"
6"	2' - 12"	8"	10"
8"	2' - 12"	11 5/8"	12"
10"	2' - 12"	14"	16"
12"	2' - 12"	16"	20"
15"	2' - 12"	20"	24"
18"	2' - 12"	24"	28"
24"	3' - 10"	31"	39"

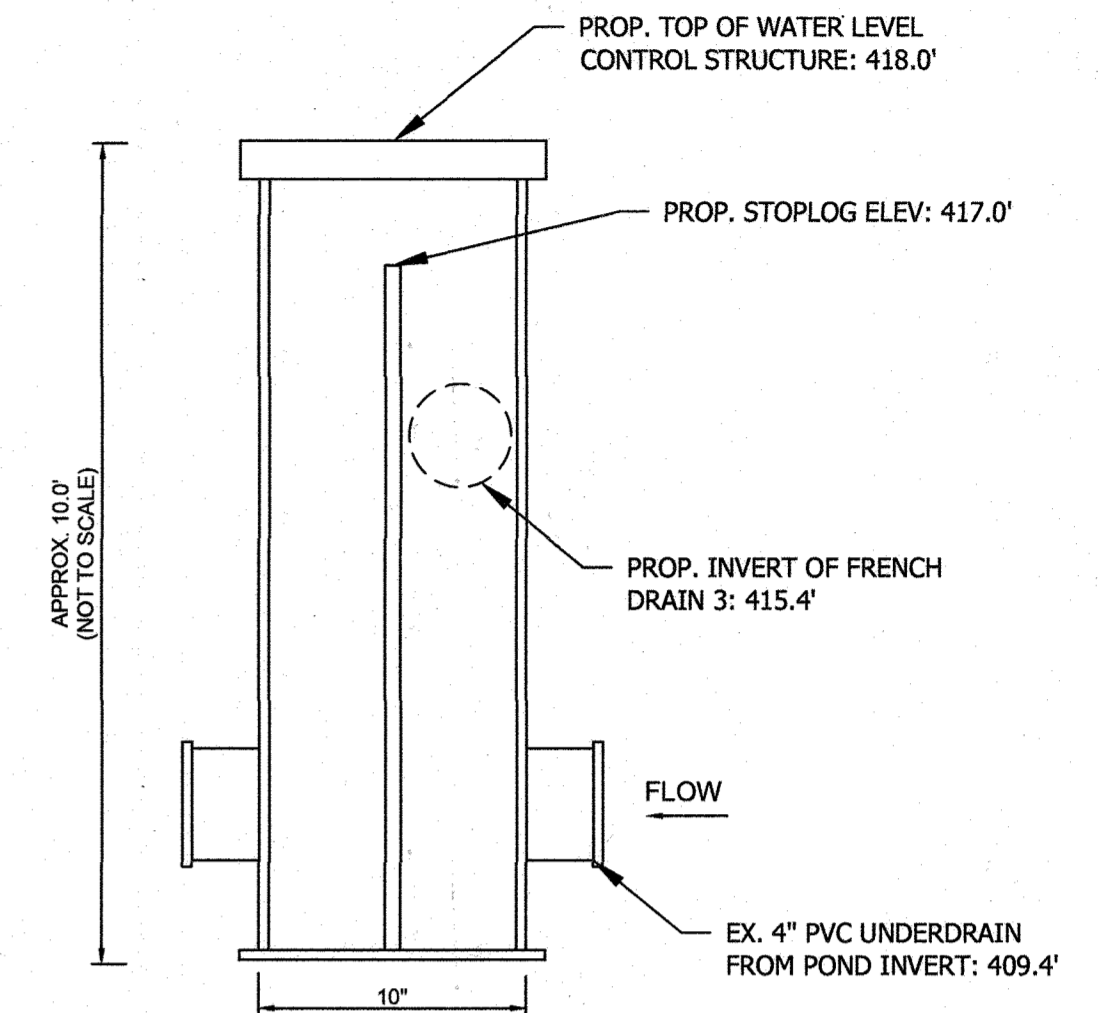
**Stoplog Retainer**

Hold extra stoplogs up & out of the way!

- Stainless steel retainer hooks to lowest stoplog that you want to hold up within your Inline Water Level Control Structure™.

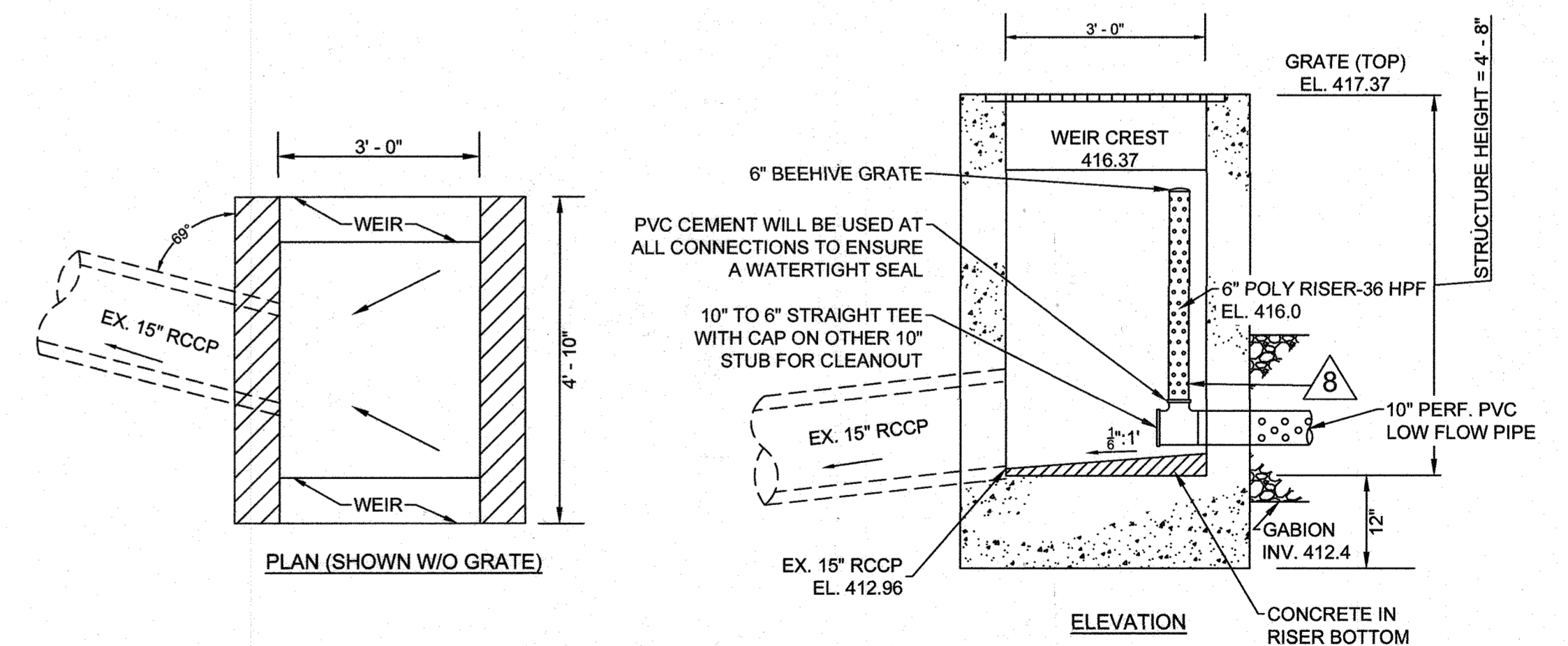


**INLINE WATER LEVEL CONTROL STRUCTURE DETAIL**  
NOT TO SCALE



**PERFORATED RISER DETAIL ADDED TO EXISTING MODIFIED K-INLET STRUCTURE**  
NOT TO SCALE

**DETAIL NOTE:** EXISTING MODIFIED K-INLET STRUCTURE CONDITIONS SHOWN IN BLACK. THE PROPOSED PERFORATED RISER AND ASSOCIATED NOTES ARE SHOWN IN RED.



05/09/23	ADDED SHEETS 29 - 36
DATE	DESCRIPTION
	REVISION BLOCK
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Mary A. Kandal</i>	Date: 6/18/23
Director - Department of Planning and Zoning	
<i>John P. ...</i>	Date: 5/31/23
Chief, Development Engineering Division	

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
ELLICOTT CITY, MARYLAND 21042  
410-313-6805

**ADDRESS CHART**

Parcel Number	Street Address
P. 265, P. 249 & P. 292	6520 FREETOWN ROAD COLUMBIA, MD 21044 - 4002

PROJECT	SECTION / AREA	PARCEL
ATHOLTON HIGH SCHOOL	N/A	269, 249, & 292
DEED REF. 416847 201/296 489/484	BLOCK NO. 24 ZONE R-SC TAX MAP NT 35 ELEC. DIST. FIFTH	CENSUS TR. 6056.02
WATER CODE E 29	SEWER CODE 5324500	

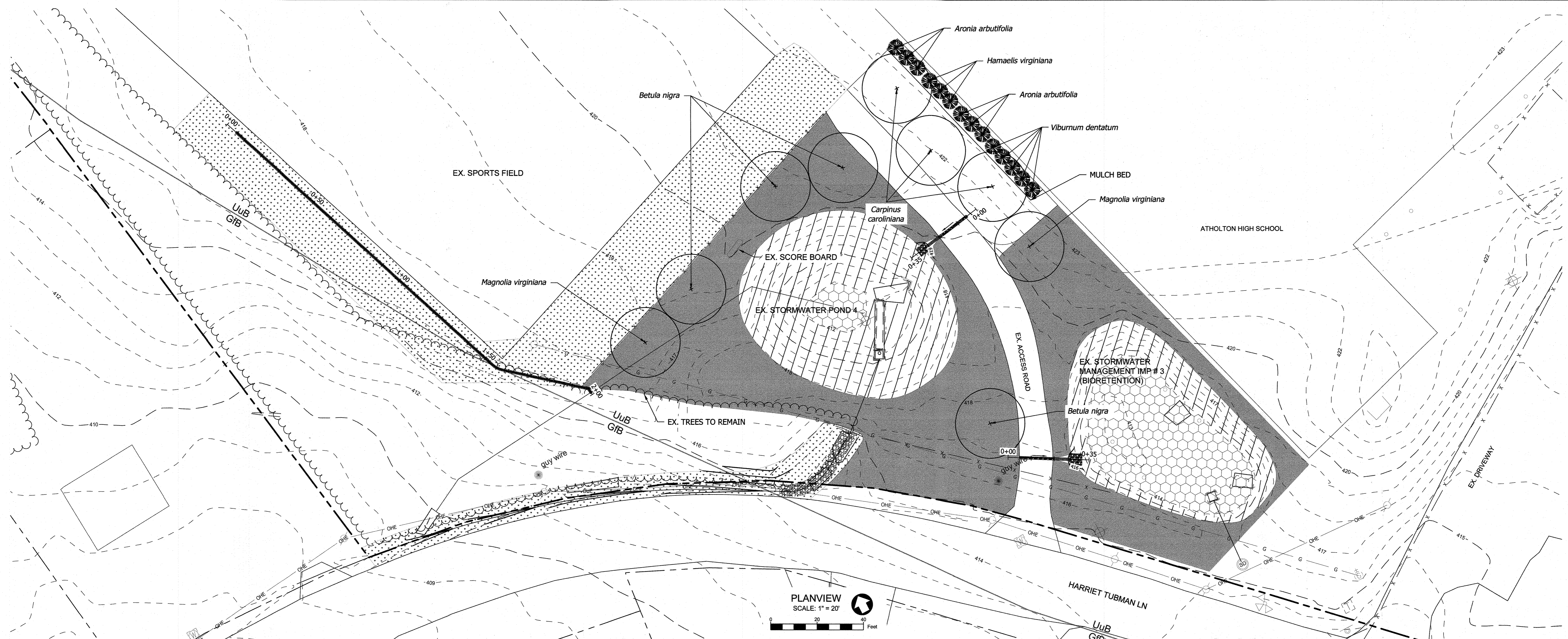
**STORMWATER MANAGEMENT DESIGN**  
**"REVISED SITE DEVELOPMENT PLAN"**  
**ATHOLTON HIGH SCHOOL**  
**STORMWATER IMPROVEMENTS**

PARCEL Nos: 265, 249 & 292  
TAX MAP No.: 35  
FIFTH ELECTION DISTRICT  
SCALE: AS SHOWN

GRID No.: 24  
HOWARD COUNTY, MARYLAND  
DATE: MARCH 2023


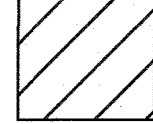
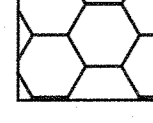
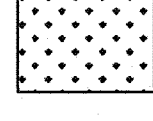
SHEET 34 OF 36  
SDP-08-CSD





PLANVIEW  
SCALE: 1" = 20'  
0 20 40 Feet

**LEGEND**

-  PROP. ERNMX-172 MARYLAND UPLAND MIX - NO PLUGS (0.36 AC.)
-  PROP. ERNMX-183 NATIVE DETENTION AREA (0.17 AC.)
-  PROP. ERNMX-126 RETENTION BASIN FLOOR MIX - LOW MAINTENANCE (0.08 AC.)
-  PROP. TURFGRASS SEED ESTABLISHMENT (0.29 AC.)

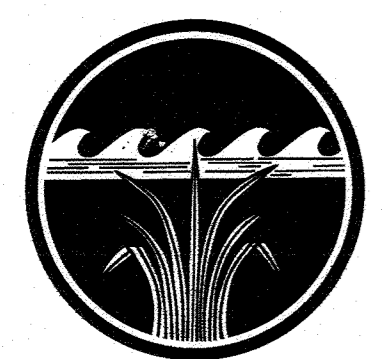
PLANTING LIST				
QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	RATE
TREES				
2	<i>Magnolia virginiana</i>	Sweet Bay	5' height, 1" - 1.5" caliper	5' OC
3	<i>Carpinus caroliniana</i>	Ironwood	5' height, 1" - 1.5" caliper	
4	<i>Betula Nigra</i>	River Birch	5' height, 1" - 1.5" caliper	
SHRUBS				
6	<i>Aronia arbutifolia</i>	Red Chokeberry	container grown	5' OC
5	<i>Viburnum dentatum</i>	Southern Arrowwood	container grown	
3	<i>Hamamelis virginiana</i>	Witch-hazel	container grown	
GRASSES - SWM POND SLOPES				
568	<i>Panicum virgatum</i>	Switchgrass	Plugs	2' OC
566	<i>Andropogon virginicus</i>	Broomsedge	Plugs	
566	<i>Eupatorium purpureum</i>	Spotted Joe Pye Weed	Plugs	
GRASSES - SWM POND BOTTOM				
266	<i>Juncus effusus</i>	Soft Rush	Plugs	2' OC
266	<i>Carex vulpinoidea</i>	Fox Sedge	Plugs	
266	<i>Panicum virgatum</i>	Switchgrass	Plugs	

ERNMX-126 RETENTION BASIN FLOOR MIX LOW MAINTENANCE		
PERCENT OF MIX	BOTANICAL NAME	COMMON NAME
20%	<i>Panicum clandestinum</i>	Deertongue
20%	<i>Puccinellia distans</i>	Alkaligrass
18%	<i>Elymus virginicus</i>	Virginia Wildrye
15%	<i>Agrostis stolonifera</i>	Creeping Bentgrass
15%	<i>Poa palustris</i>	Fowl Bluegrass
10%	<i>Carex vulpinoidea</i>	Fox Sedge
1%	<i>Carex scorparia</i>	Blunt Broom Sedge
1%	<i>Juncus effusus</i>	Soft Rush


SHA TURFGRASS SEED MIX (0.29 AC.)		
PERCENT OF MIX	BOTANICAL NAME	COMMON NAME
95%	<i>Schedonorus arundinaceus</i> (Schreb.) Dumort., nom. coms.	Tall Fescue
5%	<i>Poa pratensis</i> L. ssp. pratensis	Kentucky Bluegrass

ERNMX-172 MARYLAND UPLAND MIX		
PERCENT OF MIX	BOTANICAL NAME	COMMON NAME
70.1%	<i>Schizachyrium scoparium</i>	Little Bluestem
17.0%	<i>Elymus virginicus</i>	Virginia Wildrye
3.0%	<i>Chamaecrista fasciculata</i>	Partridge Pea
3.0%	<i>Rudbeckia hirta</i>	Blackeyed Susan
2.0%	<i>Senna hebecarpa</i>	Wild Senna
0.8%	<i>Aster lateriflorus</i>	Calico Aster
0.8%	<i>Aster pilosus</i>	Heath Aster
0.8%	<i>Pycnanthemum tenuifolium</i>	Narrowleaf Mountainmint
0.5%	<i>Asclepias tuberosa</i>	Butterfly Milkweed
0.5%	<i>Penstemon digitalis</i>	Tall White Beardtongue
0.4%	<i>Monarda fistulosa</i>	Wild Bergamot
0.4%	<i>Solidago nemoralis</i>	Gray Goldenrod
0.3%	<i>Oenothera fruticosa</i> var. fruticosa	Sundrops
0.2%	<i>Penstemon hirsutus</i>	Hairy Beardtongue
0.2%	<i>Solidago juncea</i>	Early Goldenrod

ERNMX-183 NATIVE DETENTION AREA MIX		
PERCENT OF MIX	BOTANICAL NAME	COMMON NAME
26%	<i>Panicum clandestinum</i>	Deertongue
25%	<i>Panicum virgatum</i>	Switchgrass
22%	<i>Carex vulpinoidea</i>	Fox Sedge
22%	<i>Elymus virginicus</i>	Virginia Wildrye
3%	<i>Juncus effusus</i>	Soft Rush
1%	<i>Juncus tenuis</i>	Path Rush
1%	<i>Panicum rigidulum</i>	Redtop Panicgrass



**COASTAL RESOURCES INC.**  
25 Old Solomons Island Road, Annapolis, MD 21401  
410-953-9000

05/09/23  ADDED SHEETS 29 - 36

DATE DESCRIPTION REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Mauff Kendall* 4/18/23 Date  
Director - Department of Planning and Zoning

*[Signature]* 4/11/23 Date  
Chief, Division of Land Development

*[Signature]* 5/31/23 Date  
Chief, Development Engineering Division

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
ELLCOTT CITY, MARYLAND 21042  
410-313-6805



ADDRESS CHART					
Parcel Number	Street Address				
P. 265, P. 249 & P. 292	6520 FREETOWN ROAD COLUMBIA, MD 21044 - 4002				
PROJECT	SECTION / AREA	PARCEL			
ATHOLTON HIGH SCHOOL	N/A	269, 249, & 292			
DEED REF. 4180447, 2110285, 489494	BLOCK NO. 24	ZONE R-SC NT	TAX MAP 35	ELEC. DIST. FIFTH	CENSUS TR. 6056.02
WATER CODE E 29	SEWER CODE 5324500				

**LANDSCAPE PLAN**

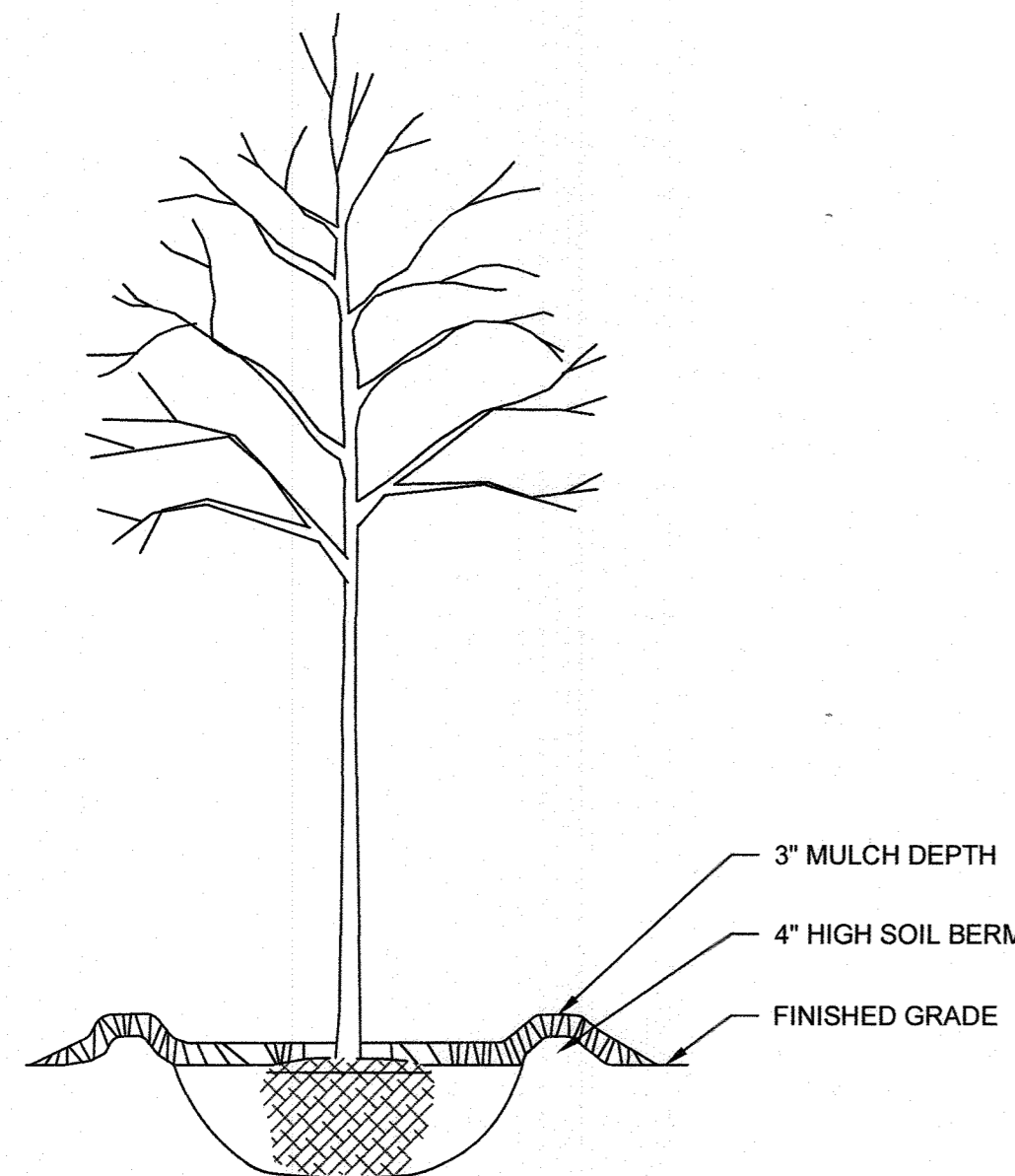
**"REVISED SITE DEVELOPMENT PLAN"**  
**ATHOLTON HIGH SCHOOL**

**STORMWATER IMPROVEMENTS**

PARCEL Nos: 265, 249 & 292  
TAX MAP No.: 35 GRID No.: 24  
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: MARCH 2023

SHEET 35 OF 36  
SDP-06-05D

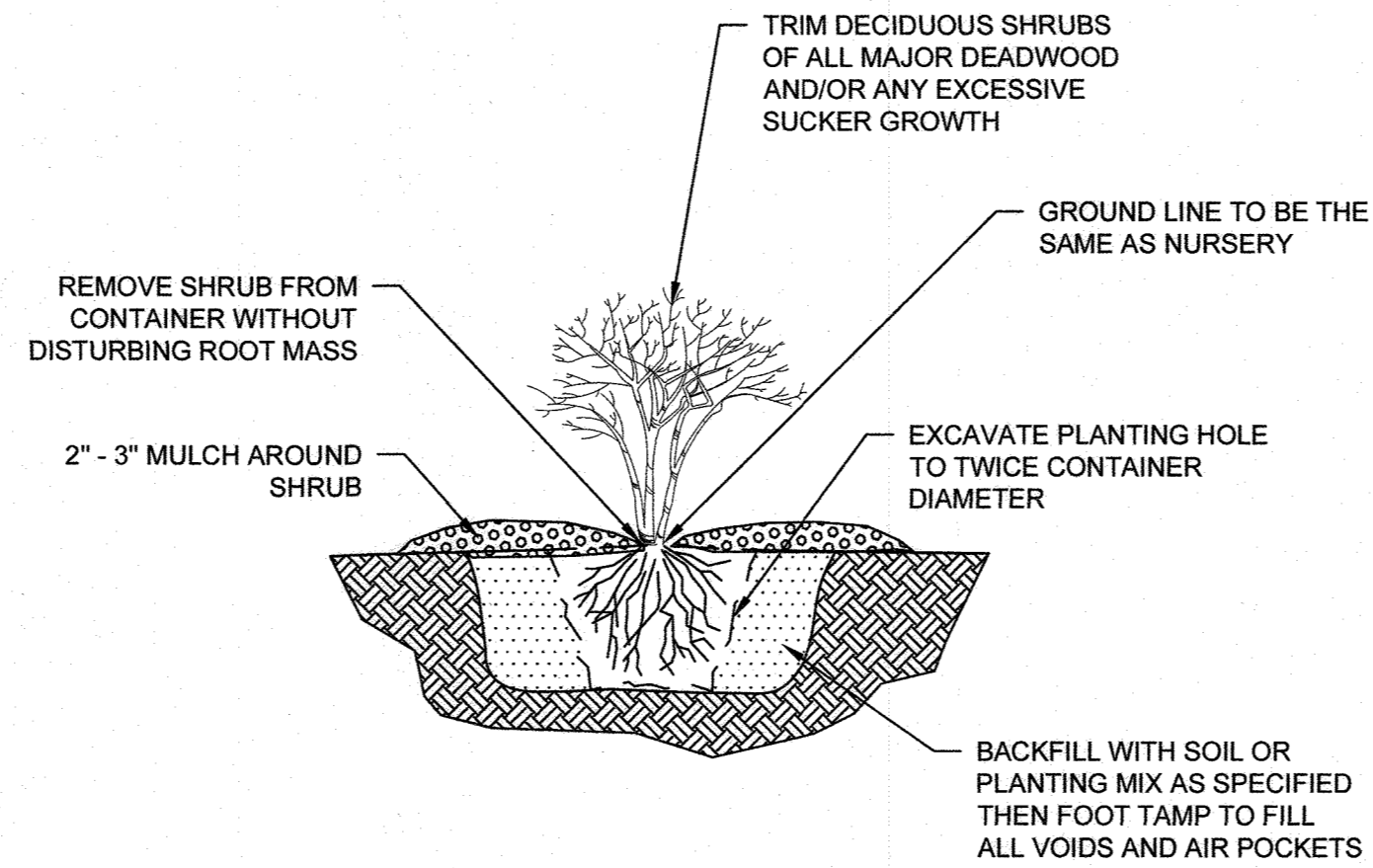




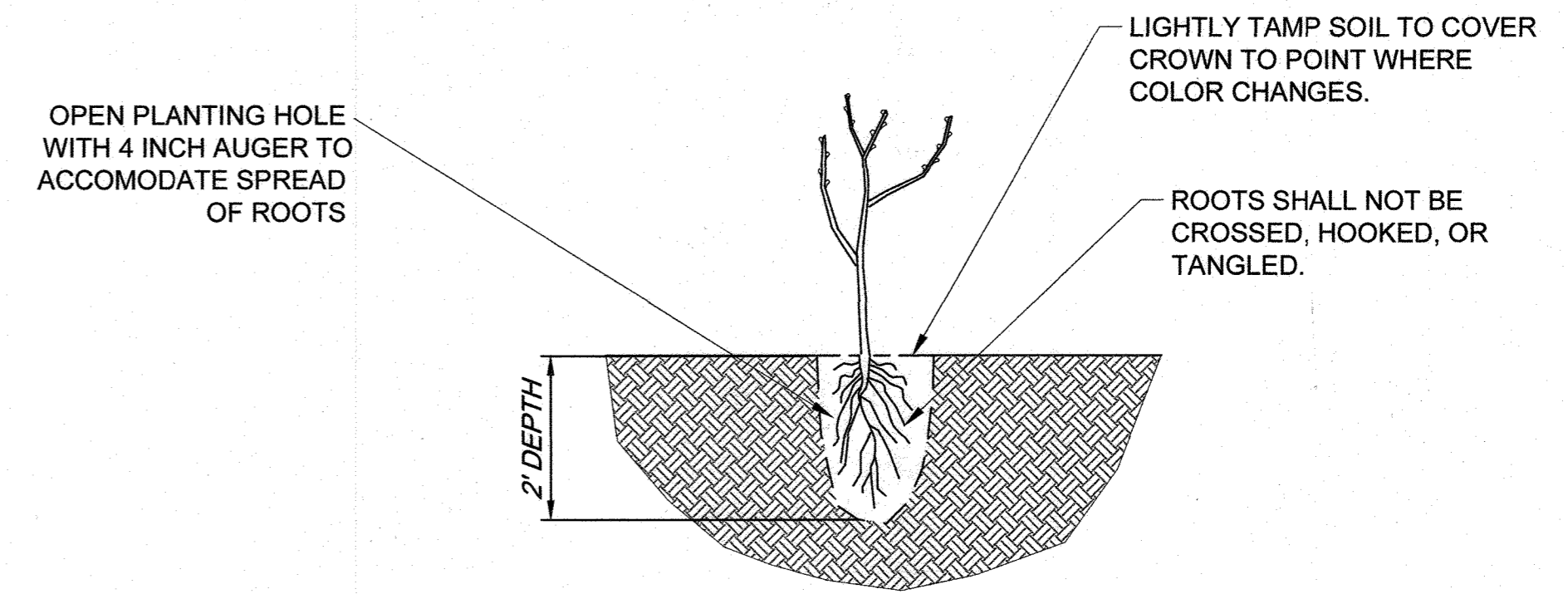
SECTION VIEW

NOTE:  
CENTER TREE IN PLANTING PIT.

**TREE PLANTING 3.0' - 5.0' CONTAINER**  
NOT TO SCALE



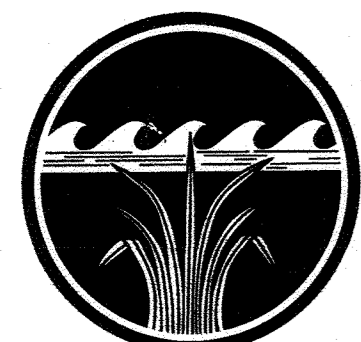
**SHRUB PLANTING - CONTAINER GROWN**  
NOT TO SCALE



**GRASS PLANTING - PLUG**  
NOT TO SCALE

**STANDARD SEEDING NOTES**

- All areas disturbed by construction shall be covered with topsoil in a six (6) inch to eight (8) inch layer and lightly compacted to a minimum thickness of 4 inches; and seeded in accordance with the landscape plan seed mixtures.
- All areas to be seeded shall conform to the finished grades as specified on the plans and be free of all weeds, trash, debris, brush, loose rocks and other foreign materials larger than 3 inches in diameter or length that would interfere with seeding. All gullies, washes or disturbed areas that develop subsequent to final dressing shall be repaired prior to seeding.
- Specialty seed mixes shall be applied in accordance with the manufacturer's recommendations. If applied in the fall, the Contractor shall be responsible for the maintenance of the mulch until germination occurs in the spring. Areas which wash out or fail to germinate shall be reseeded at no cost to the client.
- If planting cannot be accomplished within the dates as specified on the Contract Drawings, apply temporary seeding and mulch.
- Unless otherwise recommended by the seed supplier, no seeding shall be performed on frozen ground or when the temperature is 32°F/0°C or lower.
- Contractor shall install Soil Stabilization Matting over any seeded area with finished slopes steeper than or equal to 3H:1V. Soil Stabilization Matting shall be installed as described on page B-39 of the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control. Soil Stabilization Matting shall be placed and "pinned" immediately after placement of the seed but in no case, more than 24 hours after seed placement.
- Areas that are to be seeded as directed by the landscape plan AND have not been graded or otherwise had the soil exposed, will require some site preparation. A light disking or rototilling ONLY 1 inch deep is all that is needed and it is important to stay outside the Critical Root Zone (CRZ) of trees.
- Immediately after seeding, the site shall be watered lightly but thoroughly so that the top 4 inches of soil is saturated.
- It shall be the responsibility of the Contractor to select the most appropriate mulch material for the areas being seeded and to maintain the mulch material until vegetation has become established.
- The Contractor shall be responsible for the removal of all trash and any other materials incidental to the project and disposing of them off-site.
- Inspect all areas and make repairs. Replace and reseed as required to produce an acceptable stabilized area. Do not mow seed mix areas at any time after the completion of seeding or re-seeded areas during maintenance period.



COASTAL RESOURCES INC

25 Old Solomons Island Road, Annapolis, MD 21401  
410-958-8200

05/09/23	ADDED SHEETS 29 - 36
DATE	DESCRIPTION
	REVISION BLOCK
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Maura Kendall</i>	6/8/23
Director - Department of Planning and Zoning	Date
<i>[Signature]</i>	5/24/23
Chief, Development Engineering Division	Date

PREPARED FOR  
HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
ELLCOTT CITY, MARYLAND 21042  
410-313-6905



ADDRESS CHART					
Parcel Number	Street Address				
P. 265, P. 249 & P. 292	6520 FREETOWN ROAD COLUMBIA, MD 21044 - 4002				
PROJECT	SECTION / AREA	PARCEL			
ATHOLTON HIGH SCHOOL	N/A	269, 249, & 292			
DEED REF. 410/447 201/296 489/494	BLOCK NO. 24	ZONE R-SC NT	TAX MAP 35	ELEC. DIST. FIFTH	CENSUS TR. 6056.02
WATER CODE E 29			SEWER CODE 5324500		

LANDSCAPE NOTES & DETAILS	
<b>"REVISED SITE DEVELOPMENT PLAN" ATHOLTON HIGH SCHOOL</b>	
STORMWATER IMPROVEMENTS	
PARCEL Nos: 265, 249 & 292	TAX MAP No.: 35
FIFTH ELECTION DISTRICT	GRID No.: 24
SCALE: AS SHOWN	HOWARD COUNTY, MARYLAND DATE: MARCH 2023
SHEET 36 OF 36	
SDP-08-050	