

SHEET INDEX	
NO.	DESCRIPTION
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3	ENLARGED SITE PLAN A
4	ENLARGED SITE PLAN B

ENVIRONMENTAL CONCEPT PLAN

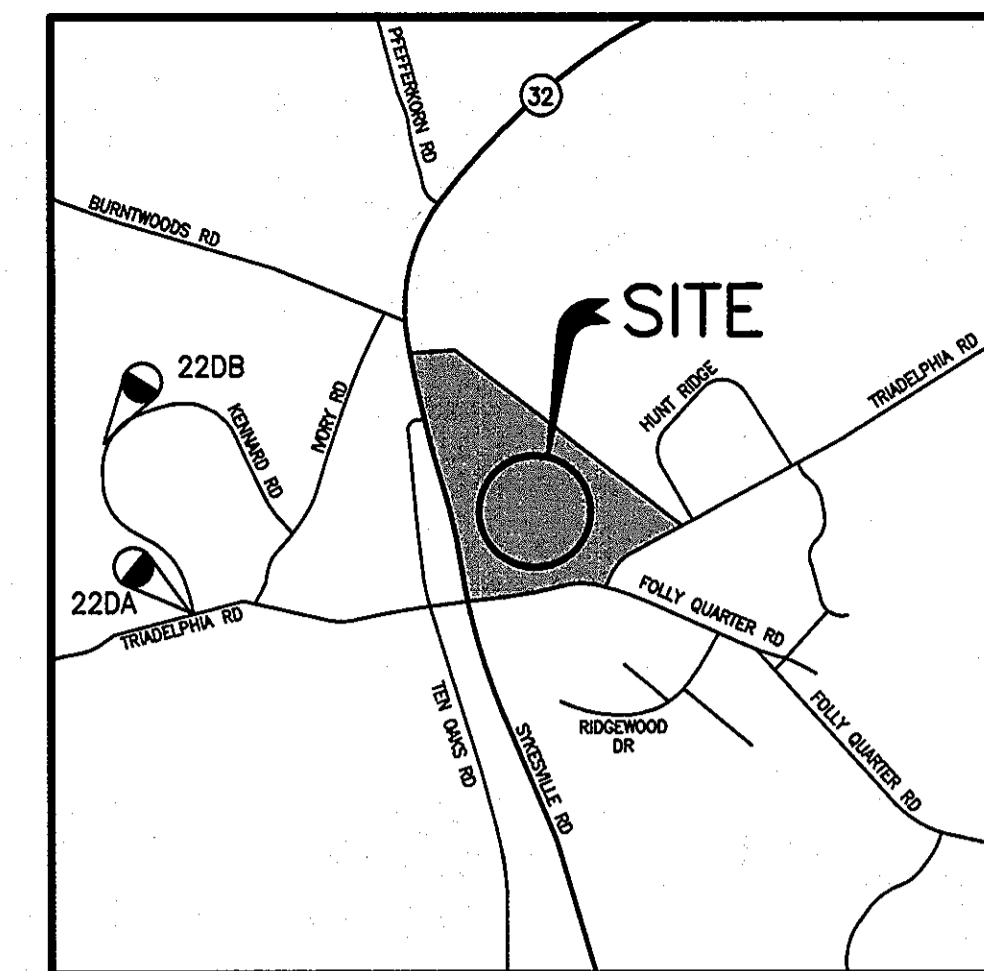
HOWARD COUNTY BOARD OF EDUCATION

FOLLY QUARTER MIDDLE & TRIADELPHIA RIDGE ELEMENTARY SCHOOLS

WASTEWATER TREATMENT FACILITY

3rd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1" = 2,000'

ADC MAP: HOWARD COUNTY, MARYLAND, MAP: 9, GRID J-10,
COORDINATES: 521,500, 805,000.

DESIGN NARRATIVE
The proposed wastewater treatment plant and facilities were located to avoid, to the maximum extent possible, disturbances to the intermittent stream, forest conservation area, and wetland. The design will achieve natural resource protection and enhancement by limiting the direct discharge of runoff from impervious surfaces on the site to the stream and wetland. Runoff from the building will be discharged to a micro bio-retention system and the access road will be constructed with reinforced turf. The proposed site grade has been designed to mimic natural flow patterns. Reinforced turf is being used for the access road in lieu of an impervious surface. Erosion and sediment controls (ESC) will discharge (where possible) to the existing stormwater management pond. All other ESC will be placed to reduce sediment laden discharges to the wetland and intermittent stream. Impacts to the site were reduced by changing the material for the access road and disconnecting roof drains from the building to route them to the micro-bioretenation facility. Stormwater Management systems were selected based on the Maryland Department of the Environment's Stormwater Design Manual. ESD planning techniques and practices were used to the maximum extent practical by using reinforced turf for the access road and the micro-bioretenation facility for runoff from the building. Both practices allow recharge into groundwater sources and treat runoff from impervious surfaces.

- GENERAL NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
 - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
 - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
 - TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 - ALL PLAN DIMENSIONS ARE TO FACE OF CURB, FACE OF BUILDING OR CENTERLINE, UNLESS OTHERWISE NOTED.
 - THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH TWO FOOT CONTOUR INTERVALS PREPARED BY GEORGE MILES & BUHR, LLC, DATED JUNE, 2010, AND HOWARD COUNTY GIS.
 - THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 22DA & 22DB.
 - WATER SERVICE FOR THIS SITE IS PRIVATE.
 - SEWER SERVICE FOR THIS SITE IS PRIVATE.
 - EXISTING UTILITIES ARE BASED ON FIELD RUN SURVEY AND EXISTING SITE DEVELOPMENT PLANS SDP-97-46 AND SDP-01-122.
 - THERE IS NO 100 YR. FLOODPLAIN ON THIS SITE.
 - THE WETLAND DELINEATION STUDY FOR THIS SITE WAS PREPARED BY KLEBASCO ENVIRONMENTAL, DATED JULY, 2010.
 - NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
 - THE SUBJECT PROPERTY IS ZONED RR-DEO PER THE FEBRUARY 2, 2004, COMPREHENSIVE ZONING PLAN.
 - NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN.
 - ADC MAP: HOWARD COUNTY, MARYLAND, MAP: 9, GRID J-10, COORDINATES: 521,500, 805,000.
 - FOREST CONSERVATION EASEMENTS ON THIS SITE HAVE BEEN ESTABLISHED TO FULFILL REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE, FOREST CONSERVATION ACT. NO GRADING OR CONSTRUCTION ARE PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT EXCEPT AS DEFINED IN THE DEED OF FOREST CONSERVATION. OBLIGATIONS HAVE BEEN FULFILLED BY PLACEMENT OF 23.17 ACRES OF EXISTING FOREST AND REGENERATION AREA INTO AN EASEMENT AREA AS SHOWN ON PLAT NO. 15258, RECORDED FEBRUARY 25, 2002.
 - THIS PROJECT DOES NOT REQUIRE LANDSCAPING. PERIMETER LANDSCAPING HAS BEEN PREVIOUSLY ADDRESSED UNDER SDP-97-46 AND SDP-01-122.
 - APPROVAL OF THIS ECP IS FOR EROSION CONTROL MEASURES AND DOES NOT CONSTITUTE APPROVAL OF LOCATION OF STRUCTURES, LANDSCAPING OR FOREST CONSERVATION WHICH SHALL BE FURTHER REVIEWED UNDER REQUIRED SUBDIVISION AND SITE DEVELOPMENT PLANS, AS APPLICABLE.
 - GRADING WITHIN THE STREAM BANK BUFFER IS CONSIDERED ESSENTIAL DISTURBANCE TO INSTALL THE NEW MICRO BIORETENTION FACILITY.



SITE ANALYSIS DATA CHART

TOTAL PROJECT AREA:	78.67 AC.
LIMIT OF DISTURBED AREA:	1.31 AC.
AREA OF PLAN SUBMISSION:	0.26 AC.
ZONING:	RR-DEO
PROPOSED USE:	ON-SITE PRIVATE WASTEWATER TREATMENT FACILITY
BUILDING COVERAGE:	0.05 AC.
NUMBER OF EMPLOYEES:	UNOCCUPIED BUILDING. TWO EMPLOYEES
DPZ FILE REFERENCES:	SDP-97-46, SDP-01-122
WETLANDS/WETLANDS BUFFER (W/IN LOD):	0.00 AC.
100 YR. FLOODPLAIN (W/IN LOD):	0.00 AC.
FOREST (W/IN LOD):	0.00 AC.
15% & GREATER STEEP SLOPES (W/IN LOD):	0.21 AC.
IMPERVIOUS AREA (W/IN LOD):	0.12 AC.
GREEN OPEN AREA (W/IN LOD):	1.19 AC.

LEGEND

	EXISTING CONTOUR
	PROPOSED CONTOUR
	EX. WOODS LINE
	DRAINAGE AREA BOUNDARY
	EXISTING STREAM
	EXISTING FOREST CONSERVATION EASEMENT
	LIMITS OF DISTURBANCE

ADDRESS CHART

PARCEL No.	STREET ADDRESS
6	13400 TRIADELPHIA ROAD
6	13500 TRIADELPHIA ROAD

PROJECT:
**HOWARD COUNTY BOARD OF EDUCATION
FOLLY QUARTER MIDDLE &
TRIADELPHIA RIDGE ELEMENTARY SCHOOLS
WASTEWATER TREATMENT FACILITY**

TAX MAP 22 PARCEL 6 ZONED RR-DEO
3rd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE SHEET

DESIGN	JEB	DRAWING NO.	ECP-1
DRAWN	BNA		
CHECKED	JK		
JOB	090254		
DATE	MAY 16, 2011	SHEET	1 OF 4

ECP-11-026

SITE OVERVIEW

SCALE: 1" = 200'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

And Edwards 6-3-11
CHIEF, DEVELOPMENT ENGINEERING DIVISION 4 DATE

Kat Sheehan 6/10/11
CHIEF, DIVISION OF LAND DEVELOPMENT 08 DATE

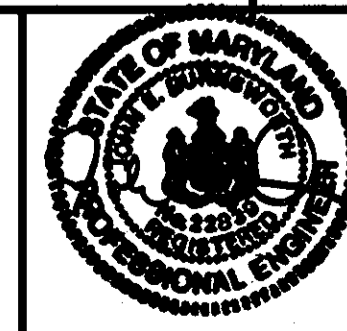
NO.	DATE	REVISIONS

ENGINEER:

GMB
GEORGE, MILES & BUHR, LLC
ARCHITECTS & ENGINEERS
SHERBORN, MARYLAND 21152
120 SPARKS VALLEY ROAD, SUITE A
SPARKS, MARYLAND 21152
PH: 410-329-5005
FAX: 410-329-3881

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. 22839, EXPIRATION DATE 9-19-2012.

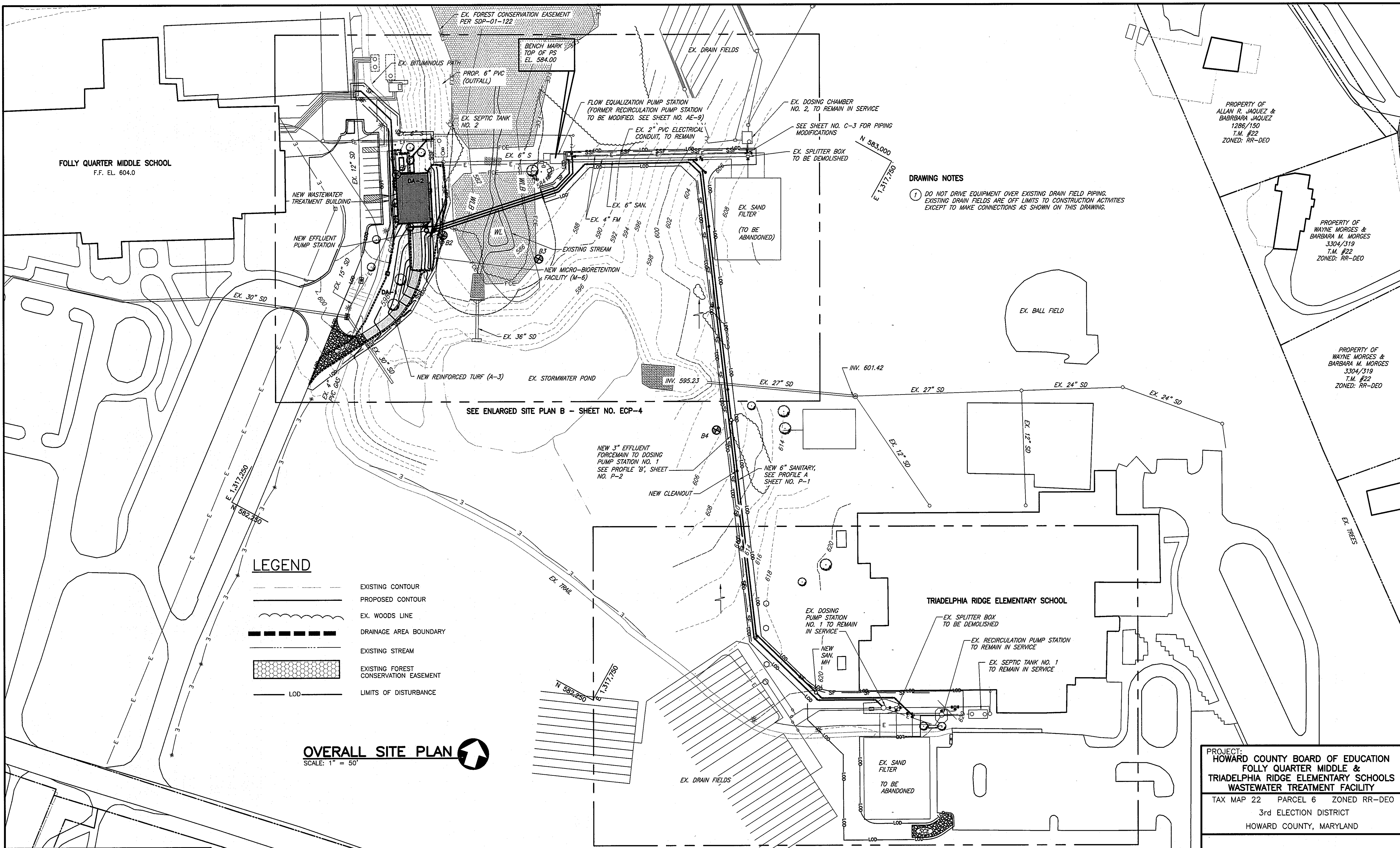
John E. Burnsworth 5/16/11
JOHN E. BURNSTWORTH DATE



OWNER/DEVELOPER:

HOWARD COUNTY PUBLIC
SCHOOL SYSTEM
10910 ROUTE 108
ELLCOTT CITY, MARYLAND
21043
PH: 410-313-6600

PROJECT NAME	SECT./AREA	PARCEL
HOWARD COUNTY SCHOOLS	N/A	6
PLAT #	BLOCK # ZONING TAX MAP NO.	ELECT. DIST. CENSUS TRACT
L. 3813, F. 173	8 RR-DEO 22	3 6030
WATER CODE	SEWER CODE	PRIVATE
PRIVATE	PRIVATE	PRIVATE



DRAWING NOTES

1 DO NOT DRIVE EQUIPMENT OVER EXISTING DRAIN FIELD PIPING. EXISTING DRAIN FIELDS ARE OFF LIMITS TO CONSTRUCTION ACTIVITIES EXCEPT TO MAKE CONNECTIONS AS SHOWN ON THIS DRAWING.

LEGEND

	EXISTING CONTOUR
	PROPOSED CONTOUR
	EX. WOODS LINE
	DRAINAGE AREA BOUNDARY
	EXISTING STREAM
	EXISTING FOREST CONSERVATION EASEMENT
	L.O.D.
	LIMITS OF DISTURBANCE

OVERALL SITE PLAN
SCALE: 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Chad Edwards 6-3-11
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Vest Sheehy 6/1/11
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

**TRIADELPHIA ROAD
MAJOR COLLECTOR
R/W WIDTH VARIES**

NO.	DATE	REVISIONS

ENGINEER:

GMB
GEORGE, MILES & BUHR, LLC
ARCHITECTS & ENGINEERS
SHERIDAN - BALTIMORE - WASHINGTON
120 SPARKS VALLEY ROAD, SUITE A
SPARKS, MARYLAND 21152
PH: 410-329-5005
FAX: 410-329-5881

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John E. Burnsworth 5/16/11
JOHN E. BURNSTWORTH DATE



OWNER/DEVELOPER:
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 ROUTE 108
ELLCOTT CITY, MARYLAND 21043
PH: 410-313-6600

PROJECT:
HOWARD COUNTY BOARD OF EDUCATION
FOLLY QUARTER MIDDLE &
TRIADELPHIA RIDGE ELEMENTARY SCHOOLS
WASTEWATER TREATMENT FACILITY

TAX MAP 22 PARCEL 6 ZONED RR-DEO
3rd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OVERALL SITE PLAN

DESIGN	JEB	DRAWING NO.	ECP-2
DRAWN	BNA		
CHECKED	JK		
JOB	090254		
DATE	MAY 16, 2011	SHEET	2 OF 4

ECP-11-026

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- ~ EX. WOODS LINE
- ▬ DRAINAGE AREA BOUNDARY
- EXISTING STREAM
- ▨ EXISTING FOREST CONSERVATION EASEMENT
- LOD — LIMITS OF DISTURBANCE

TRIADELPHIA RIDGE ELEMENTARY SCHOOL

NEW 3" EFFLUENT FORCEMAIN TO DOSING PUMP STATION NO. 1 SEE PROFILE 'B', SHEET NO. P-2.

NEW 6" SANITARY TO FLOW EQUALIZATION PUMP STATION SEE PROFILE 'A', SHEET NO. P-1.

NEW 4" FORCEMAIN SEE PROFILE A, SHEET NO. P-1.
EX. DOSING PUMP STATION NO. 1 TO REMAIN IN SERVICE.

DRAWING NOTES
 ① DO NOT DRIVE EQUIPMENT OVER EXISTING DRAIN FIELD PIPING. EXISTING DRAIN FIELDS ARE OFF LIMITS TO CONSTRUCTION ACTIVITIES EXCEPT TO MAKE CONNECTIONS AS SHOWN ON THIS DRAWING.

ENLARGED SITE PLAN A
 SCALE: 1" = 20'

PROJECT:
 HOWARD COUNTY BOARD OF EDUCATION
 FOLLY QUARTER MIDDLE &
 TRIADDELPHIA RIDGE ELEMENTARY SCHOOLS
 WASTEWATER TREATMENT FACILITY
 TAX MAP 22 PARCEL 6 ZONED RR-DEO
 3rd ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

ENLARGED SITE PLAN A

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 [Signature] 6.3.11
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 6/1/11
 CHIEF, DIVISION OF LAND DEVELOPMENT

NO.	DATE	REVISIONS

ENGINEER:
GMB
 GEORGE, MILES & BUHR, LLC
 ARCHITECTS & ENGINEERS
 120 SPARKS VALLEY ROAD, SUITE A
 SPARKS, MARYLAND 21152
 PH: 410-329-5005
 FAX: 410-329-5881

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 [Signature] 5/16/11
 JOHN E. BURNSTWORTH DATE



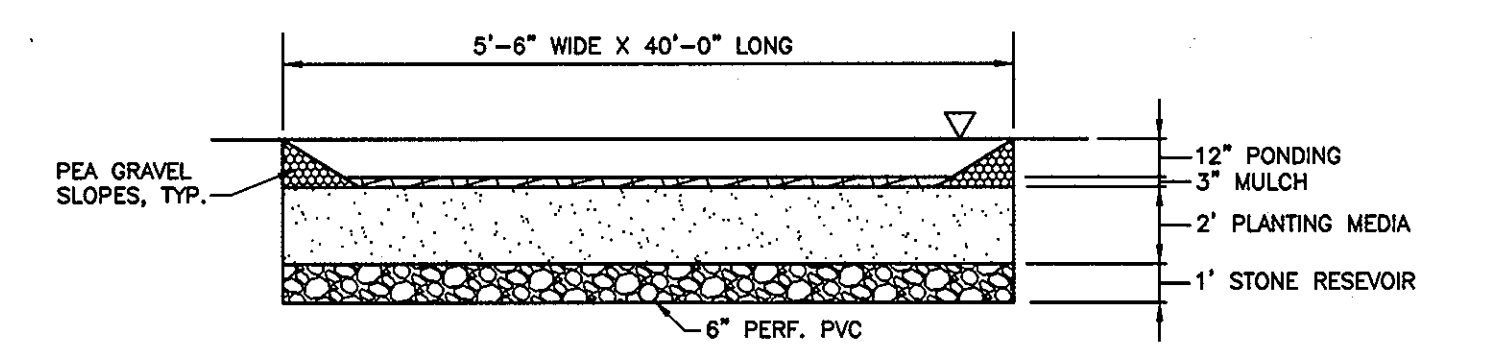
OWNER/DEVELOPER:
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM
 10910 ROUTE 108
 ELLICOTT CITY, MARYLAND 21043
 PH: 410-313-6600

DESIGN	JEB	DRAWING NO.	ECP-3
DRAWN	BNA		
CHECKED	JK		
JOB	090254		
DATE	MAY 16, 2011	SHEET	3 OF 4

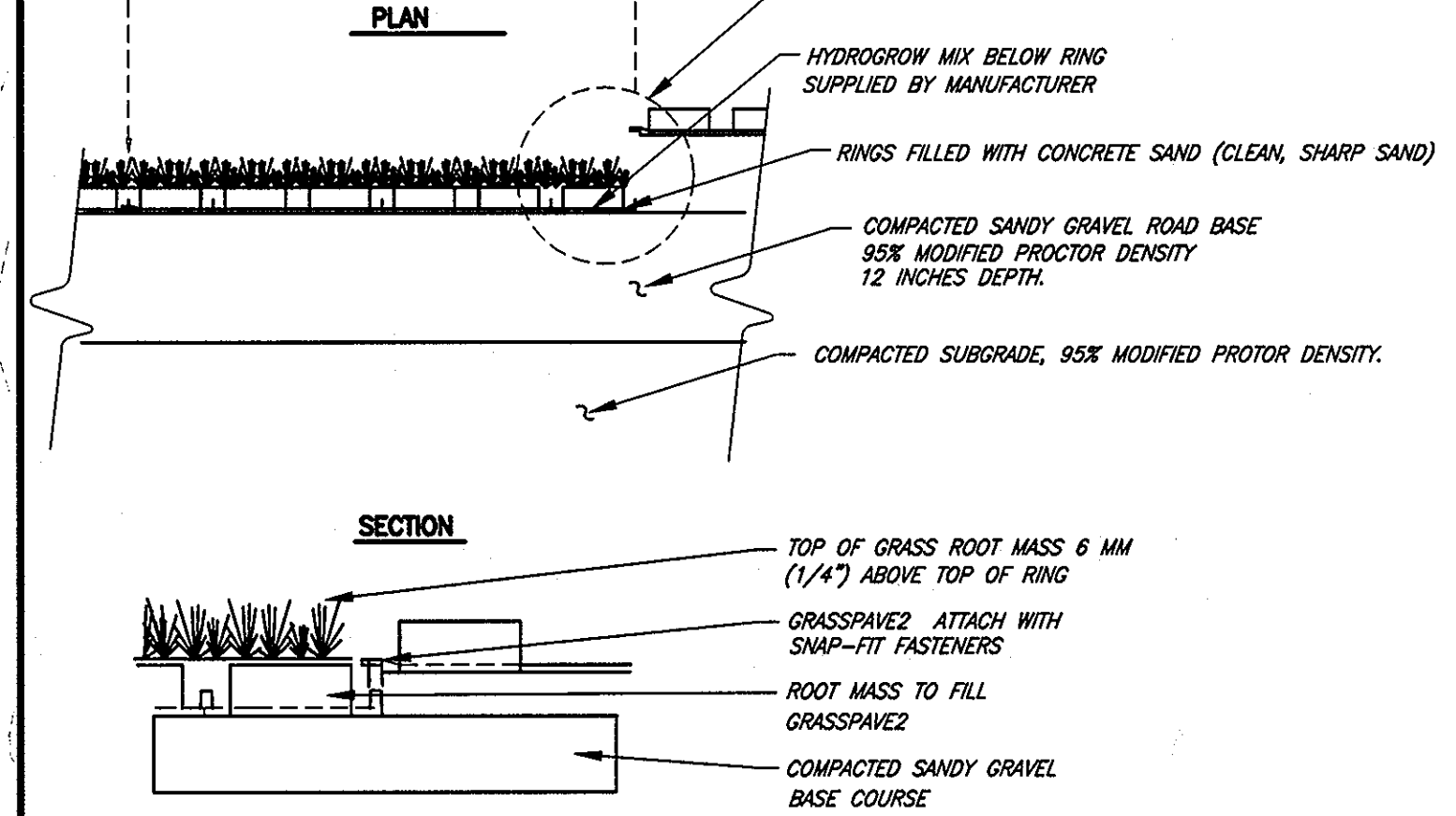
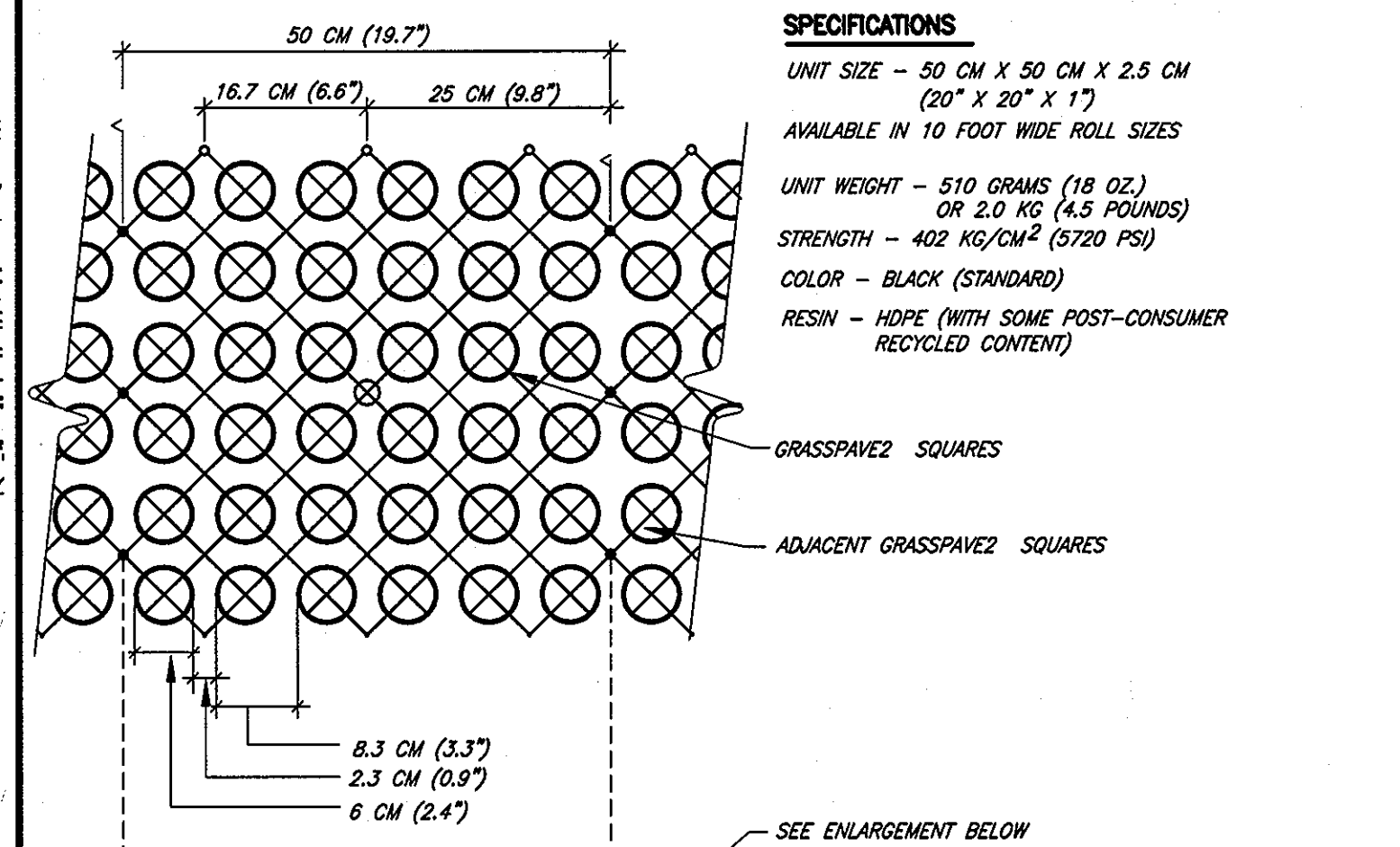
ECP-11-026

G:\DRAWINGS\090254 HOWARD COUNTY SCHOOLS\CURRENT\ENVIRONMENTAL CONCEPT\2.dwg, 5/25/2011 10:13:19 AM, JP

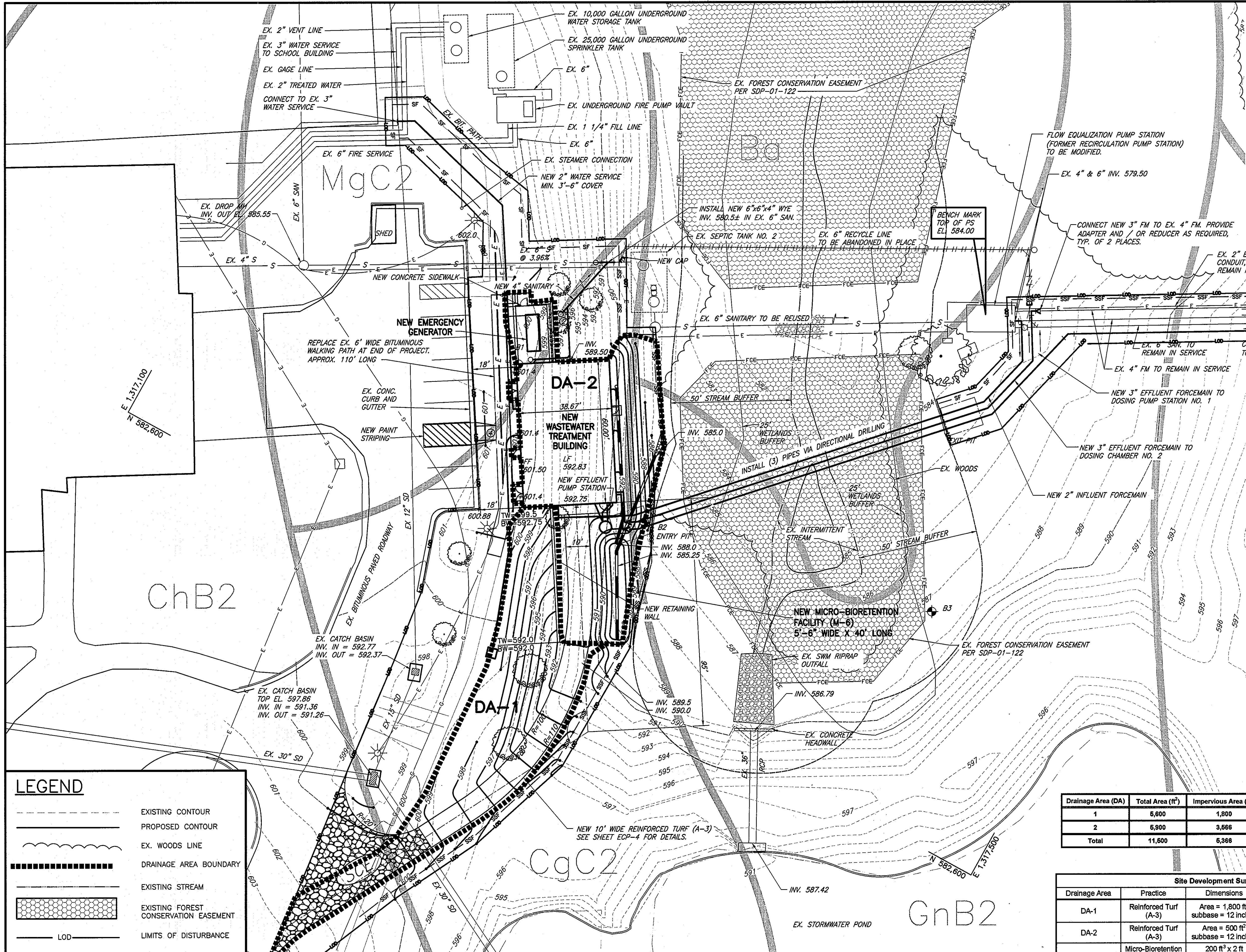
CONCEPT PLAN NARRATIVE
 THE PROPOSED WASTEWATER TREATMENT FACILITY HAS BEEN SITED TO MINIMIZE THE DISTURBANCE TO NATURAL RESOURCES. GRADING HAS BEEN DESIGNED TO MIMIC NATURAL FLOW PATTERNS. THE IMPERVIOUS AREA WAS REDUCED BY USING REINFORCED TURF FOR THE ENTRANCE ROAD TO THE WASTEWATER TREATMENT FACILITY. RUNOFF FROM THE TREATMENT BUILDING IS DIRECTED TO A MICRO-BIORETENTION FACILITY FOR QUALITY TREATMENT.



MICRO-BIORETENTION FACILITY DETAIL
 NO SCALE



REINFORCED TURF
 NOT TO SCALE



LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EX. WOODS LINE
- DRAINAGE AREA BOUNDARY
- EXISTING STREAM
- EXISTING FOREST CONSERVATION EASEMENT
- LOD --- LIMITS OF DISTURBANCE

Drainage Area (DA)	Total Area (ft ²)	Impervious Area (ft ²)	% Impervious	Target ESD _v (ft ³)	Proposed ESD _v (ft ³)
1	6,600	1,800	32%	395	363
2	5,900	3,566	60%	416	494
Total	11,500	5,366	47%	811	847

Site Development Summary

Drainage Area	Practice	Dimensions	Area Treated	Volume (ESD _v)
DA-1	Reinforced Turf (A-3)	Area = 1,800 ft ² subbase = 12 inches	5,600 ft ²	353 ft ³
DA-2	Reinforced Turf (A-3)	Area = 500 ft ² subbase = 12 inches	—	98 ft ³
	Micro-Bioretenion (M-6)	200 ft ² x 2 ft w/1 ft ponding	5,900 ft ²	396 ft ³
			Total	847 ft³
			ESD _v Required	811 ft ³

PROJECT:
 HOWARD COUNTY BOARD OF EDUCATION
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 WASTEWATER TREATMENT FACILITY
 TAX MAP 22 PARCEL 6 ZONED RR-DEO
 3rd ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

ENLARGED SITE PLAN B

DESIGN	JEB	DRAWING NO.	
DRAWN	BNB		ECP-4
CHECKED	JK		
JOB	090254		
DATE	MAY 16, 2011	SHEET	4 OF 4

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 Chief, Development Engineering Division 6-3-11
 Chief, Division of Land Development 6/1/11

NO.	DATE	REVISIONS

ENGINEER: **GMB**
 GEORGE, MILES & BUHR, LLC
 ARCHITECTS & ENGINEERS
 120 SPARKS VALLEY ROAD, SUITE A
 SPARKS, MARYLAND 21152
 PH: 410-329-5005
 FAX: 410-329-3981

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 JOHN E. BURNWORTH 5/16/11
 DATE



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 10910 ROUTE 108
 ELLICOTT CITY, MARYLAND 21043
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