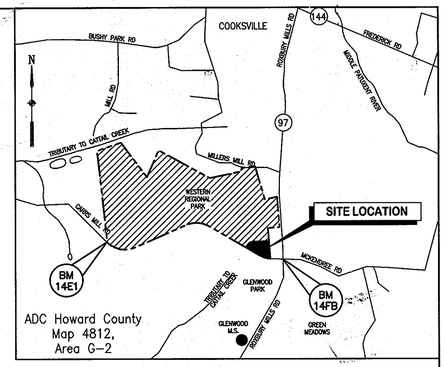
SITE DEVELOPMENT PLAN

GLENWOOD FIRE STATION

CAPITAL PROJECT # F-5962
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND



ADC Howard County Map 4812, Area G-2

VICINITY MAP

SCALE: 1"=2000'

BENCHMARK DATA

B.M. 14E1 — EL. 591.029, N 596,213.616, E 1,301,991.909

A STANDARD STAMPED (BRASS OR ALUMINUM) DISC SET ON TOP OF A 3' DEEP CONCRETE COLUMN.

B.M. 14FB — EL. 620.437, N 595,657.268, E 1,306,552.158

A STANDARD STAMPED (BRASS OR ALUMINUM) DISC SET ON TOP OF A 3' DEEP CONCRETE COLUMN.

ANALYSIS DATA CHART

AREA OF PROPERTY	189.65 AC.
AREA OF SUBMISSION	3.0 AC.±
PRESENT ZONING	RC-DEO
EXISTING USE	RURAL CONSERVATION
PROPOSED USE	FIRE STATION
BUILDING AREA	9,950 SF
BUILDING COVERAGE (% OF SITE)	0.123%
PARKING REQUIRED:	20
PARKING PROVIDED:	20 (INCLUDING 1 HANDICAPPED)

* PROVIDED PARKING COUNT BASED ON FIRE DEPARTMENT'S ESTIMATES TO ACCOUNT FOR 1ST AND 2ND SHIFT PARKING AND VISITORS.

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
T1.0	COVER SHEET
T1.1	LOCATION MAP
C1.0	EXISTING/DEMOLITION SITE PLAN
C2.0	PROPOSED SITE PLAN
C3.0	SITE DETAILS
C4.0	UTILITY PROFILES
C5.0	EROSION & SEDIMENT CONTROL COVER SHEET
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C5.3	EROSION & SEDIMENT CONTROL NOTES
C5.4	EXISTING DRAINAGE AREA MAP
C5.5	PROPOSED DRAINAGE AREA MAP
C5.6	STORM DRAIN TABULATIONS
C6.0	PROPOSED SEPTIC PLAN
C6.1	PUMP CHAMBER DETAILS
C6.2	FORCEMAIN PROFILE
LS1.0	LANDSCAPE PLAN
LS1.1	LANDSCAPE DETAILS
A1.0	ARCHITECTURAL ELEVATIONS & SECTIONS
M1.0	FILTRATION SYSTEM
E-1	SITE LIGHTING PLAN

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, MSHA STANDARDS AND SPECIFICATIONS AND APPLICABLE PORTIONS OF THE PROJECT SPECIFICATIONS PREPARED BY SYMMETRY FIRST ARCHITECTS. FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARDS SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST 5 WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS.

AT&T	1-800-252-1133
BGE (CONSTRUCTION SERVICE)	410-850-4620
BGE (EMERGENCY)	410-685-1400
BUREAU OF UTILITIES	410-313-4900
COLONIAL PIPELINE COMPANY	410-795-1390
MISS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5533
VERIZON	1-800-743-0033/410-224-9210

4. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
5. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
6. THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY McKEE AND ASSOCIATES, DATED OCTOBER 13, 2009 AND BY PHR&A, JANUARY, 2004, AND PROPOSED GRADING INDICATED ON SDP-04-134 FOR GLENWOOD COMMUNITY CENTER.
7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 08GC, 08H5, 14CB, 14CC AND 14FB WERE USED FOR THIS PROJECT. ALL ELEVATIONS SHOWN ARE BASED ON N.A.V.D. 88 DATUM.
8. SITE WILL BE SERVED BY WELL AND SEPTIC.
9. STORMWATER MANAGEMENT QUALITY AND QUANTITY ARE PROVIDED BY A FACILITY OWNED AND MAINTAINED BY HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CONSTRUCTED UNDER SDP-02-64 IN WESTERN REGIONAL PARK.
10. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
11. THERE IS NO 100 YEAR FLOODPLAIN IMPACTING THE DEVELOPMENT AREA OF THIS PROJECT.
12. THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY RICHARD C. PAIS, INC. DATED FEBRUARY, 1998. THERE ARE NO WETLANDS IN THE FIRE STATION AREA OF DEVELOPMENT.
13. NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
14. NO GEOTECHNICAL STUDY FOR STORMWATER MANAGEMENT IS REQUIRED FOR THIS PROJECT.
15. THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY HOWARD COUNTY, DATED APRIL 5, 1998
16. SUBJECT PROPERTY ZONED RC-DEO PER 2-2-04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING AMENDMENTS EFFECTIVE 07/28/06.
17. ALL ELEVATIONS SHOWN ARE BASED ON NAD 83 AND NAVD 88.
18. SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S: F-79-71, SDP-99-21, WP-99-38, SDP-02-64, F-01-174, WP-02-92.
19. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
20. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES AND SAFETY PRECAUTIONS AND PROGRAMS.
21. PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
22. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
23. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
24. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
25. STORM DRAIN TRENCHES WITHIN ROADWAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, i.e., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
26. PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
27. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
28. SITE LIGHTING SHALL BE IN ACCORDANCE WITH THE OUTDOOR LIGHTING REQUIREMENTS OF SECTION 134 OF THE ZONING REGULATIONS AND SHALL DIRECT LIGHT DOWNWARDS AND INWARDS ON-SITE AWAY FROM ADJOINING RESIDENTIAL USE PROPERTIES AND PUBLIC ROADS.
29. LANDSCAPING HAS BEEN PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
30. THE FOREST CONSERVATION REQUIREMENTS FOR THIS PROJECT AREA WERE PREVIOUSLY ADDRESSED UNDER SDP-02-64 AND F-01-174 WITH A BREAK-EVEN OBLIGATION OF 41.77 ACRES MET WITH THE RECORDING OF 42.54 ACRES OF ON-SITE RETENTION EASEMENT.
31. 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 COMPREHENSIVE ZONING PLAN AND REGULATIONS ADOPTED ON FEBRUARY 2, 2004.
32. BUILDING FOOTPRINT IS LESS THAN 10,000 SQUARE FEET THEREFORE COUNTY GREEN BUILDING LAW DOES NOT APPLY.
33. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FOREST CONSERVATION EASEMENT AREAS, OR THE 100 YEAR FLOODPLAIN.
34. NO SURETY FOR FOREST CONSERVATION OR LANDSCAPING IS REQUIRED SINCE THIS IS A CAPITOL PROJECT.
35. ALL SIGNS POSTED 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 POLE SHALL BE MOUNTED ON TOP OF EACH POST.
36. ALL EXTERIOR LIGHT FIXTURES SHALL BE ORIENTED TO DIRECT LIGHT INWARDS AND DOWNWARDS ON-SITE AWAY FROM ALL ADJOINING RESIDENTIAL PROPERTIES AND PUBLIC ROADS IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 4/25/11
DIRECTOR	DATE 5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER — DATE 5/7/2011
HOWARD COUNTY HEALTH DEPARTMENT

ADDRESS CHART	
BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME			SECTION/AREA LOT/PARCEL	PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249			-	PARCEL A WITHIN PARCEL 249
PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	RC-DEO	14	4	6040.02

OWNER/DEVELOPER
HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE
COVERSHEET

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

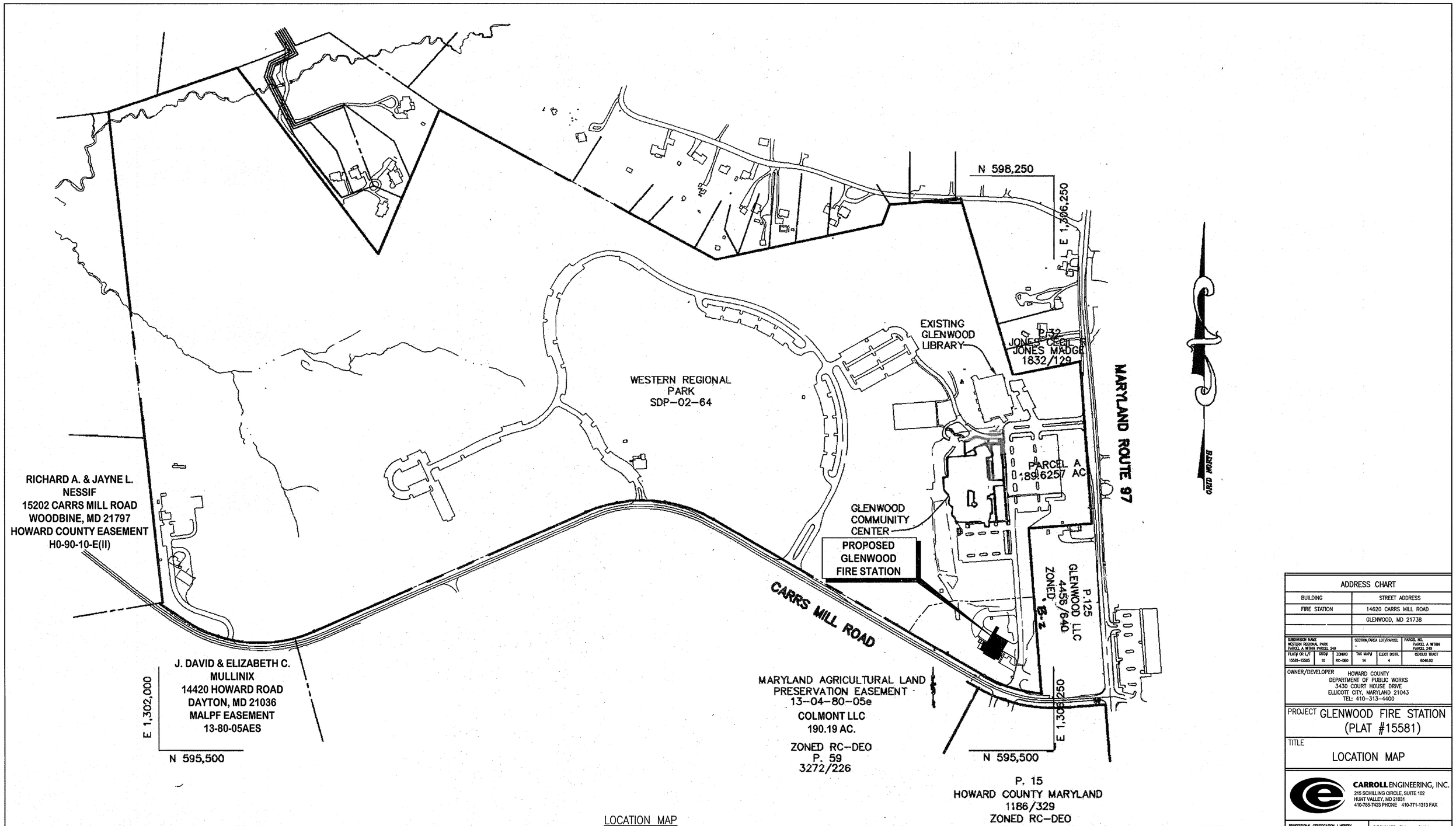
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE No.: 14446
EXPIRATION DATE: 5-25-11

DESIGNED BY:	DWM
DRAWN BY:	DWM
PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	
DRAWING NO.:	1 OF 21

T1.0

SDP-10-049



LOCATION MAP

SCALE: 1" = 200'

200 100 0 200 400

GRAPHIC SCALE IN FEET

ADDRESS CHART	
BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME				SECTION/AREA LOT/PARCEL	PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249				–	PARCEL A WITHIN PARCEL 249
PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	RC-DEO	14	4	6040.02

OWNER/DEVELOPER
HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
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PROJECT GLENWOOD FIRE STATION (PLAT #15581)

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LOCATION MAP

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EXPIRATION DATE: 5-25-11

DESIGNED BY: DWM
DRAWN BY: DWM
PROJECT NO.: 0909.16.00
DATE: MARCH 31, 2011
SCALE:
DRAWING NO.: 2 OF 21

T1.1

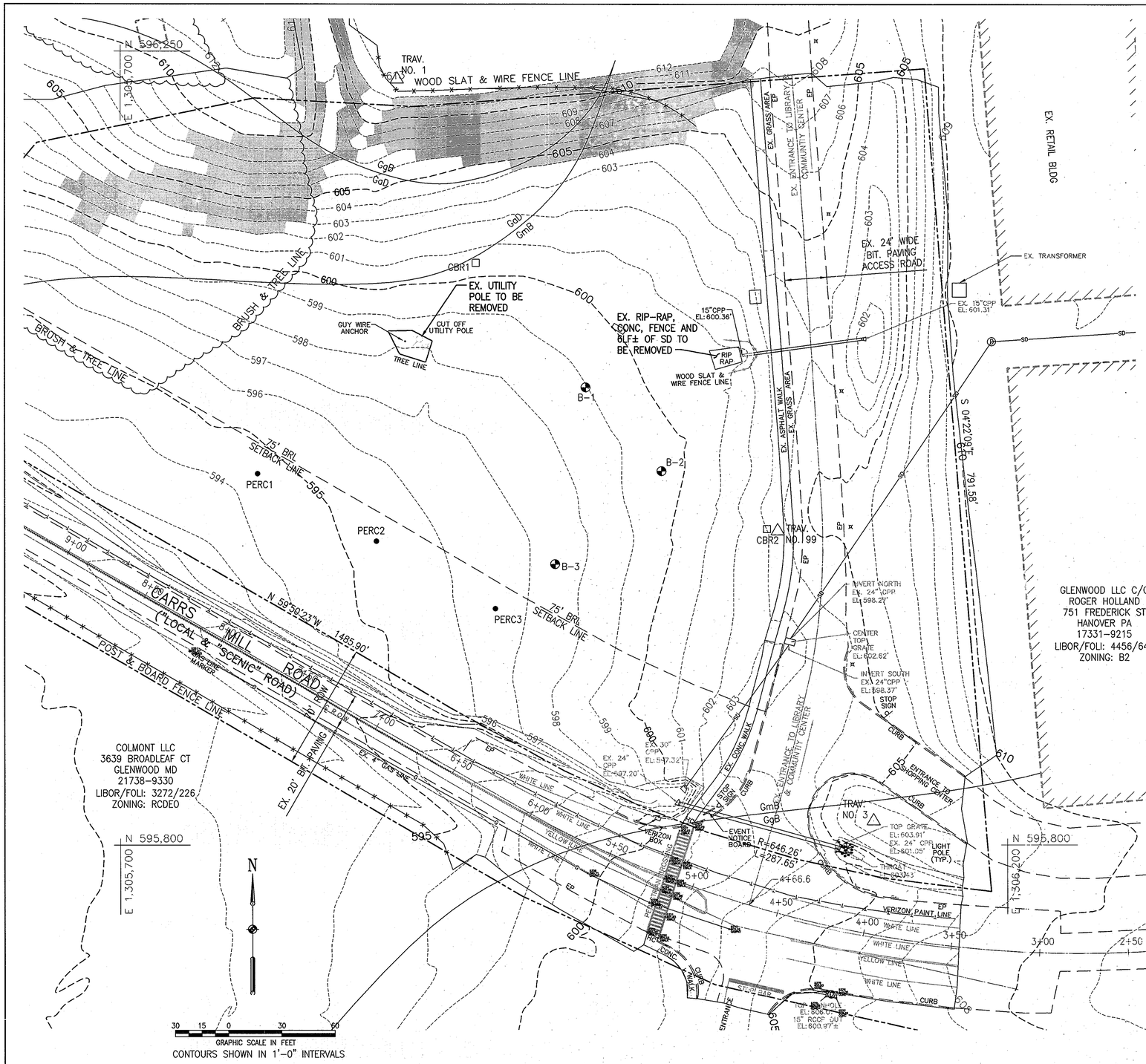
APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/25/11
DIRECTOR — DATE 5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER — DATE 5/3/2011
HOWARD COUNTY HEALTH DEPARTMENT

SDP-10-049



LEGEND

	EXISTING BUILDING
	EXISTING CURB
	EXISTING CURB & GUTTER
100	EXISTING MAJOR CONTOUR
99	EXISTING MINOR CONTOUR
OHE	EXISTING OVERHEAD ELECTRIC
UGE	EXISTING UNDERGROUND ELECTRIC
E	EXISTING ELECTRIC MANHOLE
	EXISTING FENCELINE
	EXISTING FIRE HYDRANT
G	EXISTING GAS
GV	EXISTING GAS VALVE
	EXISTING PROPERTY LINE
	EXISTING PAVING
SS	EXISTING SANITARY
S	EXISTING SANITARY MANHOLE
	EXISTING STEAM
	EXISTING STREET LIGHT
SD	EXISTING STORMDRAIN
D	EXISTING STORMDRAIN MANHOLE
T	EXISTING TELEPHONE
	EXISTING UTILITY POLE
	EXISTING WATERBODY
W	EXISTING WATERLINE
WM	EXISTING WATER METER
WV	EXISTING WATER VALVE
	15% & GREATER SLOPE
B-2	SOIL BORING
CBR1	CALIFORNIA BEARING RATIO TEST
PERC1	PERCOLATION TEST
GaD / GmB	EXISTING SOILS

GENERAL NOTES:

1. CONTRACTOR SHALL PROTECT ALL AREAS BEYOND THE DESIGNATED LIMITS OF DISTURBANCE AND SHALL RESTORE ANY AND ALL AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL OR BETTER CONDITION. SEE EROSION AND SEDIMENT CONTROL PLAN FOR LIMIT OF DISTURBANCE.
2. INFORMATION SHOWN ON THIS DRAWING HAS BEEN PROVIDED AS A GUIDE TO ASSIST THE CONTRACTOR IN ESTABLISHING THE LOCATIONS OF PROPOSED CONSTRUCTION WITH RESPECT TO EXISTING SITE IMPROVEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL CONSTRUCTION SURVEY STAKEOUT REQUIRED AND TO CONFIRM ALL INFORMATION SHOWN HEREON.
3. TOPOGRAPHY OF PROPOSED CONSTRUCTION IS BASED ON A SURVEY PERFORMED BY McKEE AND ASSOC. SURVEY DATED OCTOBER 13, 2009 AND FIELD OBSERVATION AND IS NOT GUARANTEED TRUE & CORRECT, CONTRACTOR SHALL FIELD VERIFY ALL GRADES, ELEVATIONS, DIMENSIONS, ETC. PRIOR TO STARTING CONSTRUCTION.
4. UNDERGROUND UTILITIES ARE SHOWN ON THIS DRAWING FOR THE CONVENIENCE OF THE USER OF THE DRAWING AND THERE IS NO WARRANTY OR GUARANTEE AS TO THE CORRECTNESS OR COMPLETENESS OF THE INFORMATION GIVEN. THE CONTRACTOR SHALL ENGAGE A PRIVATE UTILITY LOCATOR TO LOCATE ALL UNDERGROUND LINES IN THE AREA OF THE WORK. NOT ALL UTILITIES ARE SHOWN. CONTACT MISS UTILITY (800-257-7777) 5 DAYS PRIOR TO DIGGING OR EXCAVATING.

ADDRESS CHART

BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME			SECTION/AREA LOT/PARCEL	PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249			-	PARCEL A WITHIN PARCEL 249
PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	RC-DEO	14	4	6040.02

OWNER/DEVELOPER
HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE EXISTING/DEMOLITION SITE PLAN

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

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.: 14446
EXPIRATION DATE: 5-25-11

DESIGNED BY:	DWM
DRAWN BY:	DWM
PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	1" = 30'
DRAWING NO.:	3 OF 21

C1.0

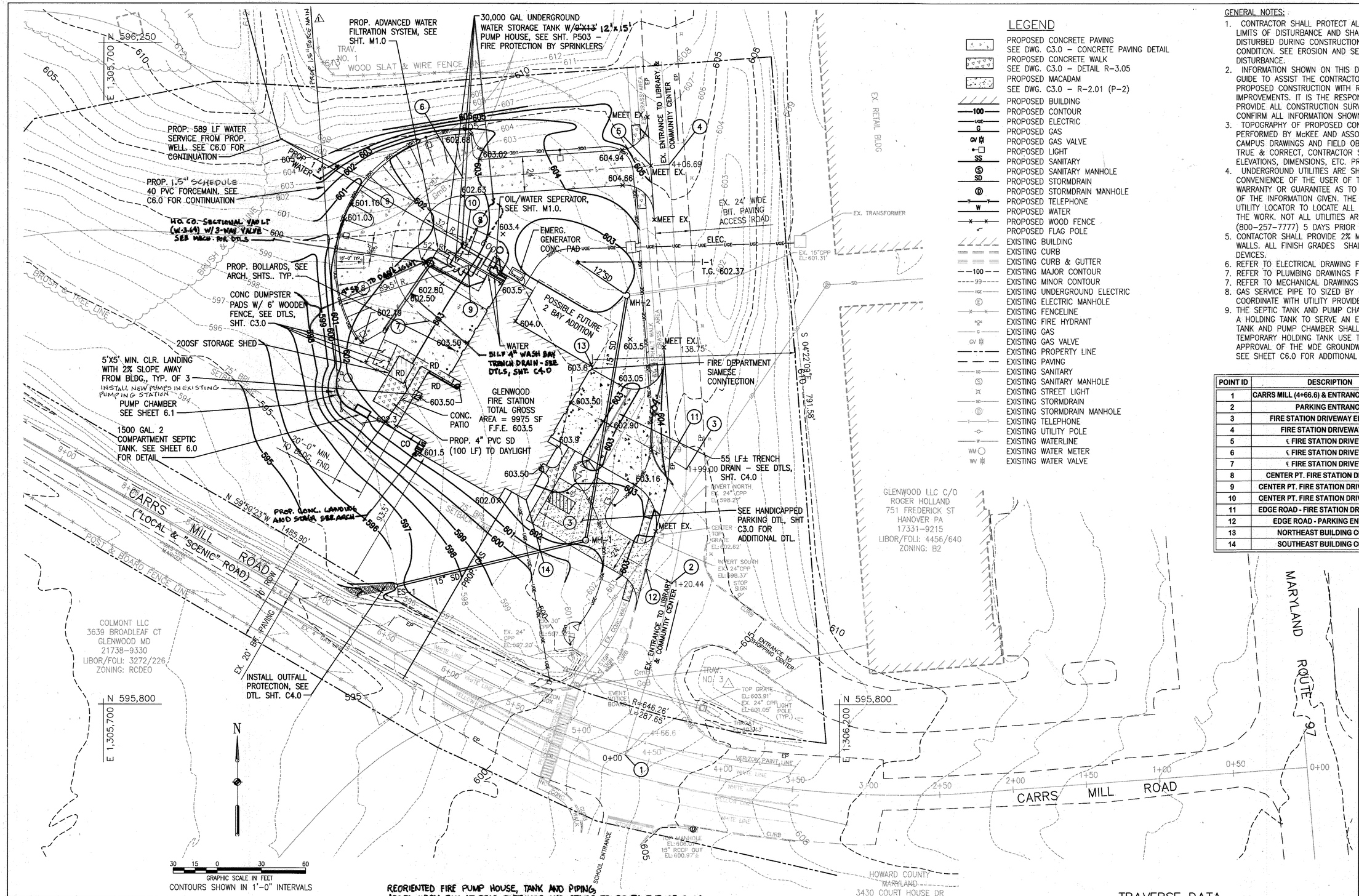
APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5/2/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5/2/11
DIRECTOR	DATE 5/2/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT
DATE 5/9/2011

SDP-10-049



REORIENTED FIRE PUMP HOUSE, TANK AND PIPING. ADDED WASH BAY AT REAR ENTRANCE AND STAIRS TO SOUTH END OF BLDG. REVISED GRADING AT FRONT CONC. APRON.

LEGEND

- PROPOSED CONCRETE PAVING — SEE DWG. C3.0 – CONCRETE PAVING DETAIL
- PROPOSED CONCRETE WALK — SEE DWG. C3.0 – DETAIL R-3.05
- PROPOSED MACADAM — SEE DWG. C3.0 – R-2.01 (P-2)
- PROPOSED BUILDING
- 100 PROPOSED CONTOUR
- UGE PROPOSED ELECTRIC
- G PROPOSED GAS
- GV PROPOSED GAS VALVE
- PROPOSED LIGHT
- SS PROPOSED SANITARY
- PROPOSED SANITARY MANHOLE
- SD PROPOSED STORMDRAIN
- PROPOSED STORMDRAIN MANHOLE
- T PROPOSED TELEPHONE
- W PROPOSED WATER
- PROPOSED WOOD FENCE
- PROPOSED FLAG POLE
- EXISTING BUILDING
- EXISTING CURB
- EXISTING CURB & GUTTER
- 100 EXISTING MAJOR CONTOUR
- 99 EXISTING MINOR CONTOUR
- UGE EXISTING UNDERGROUND ELECTRIC
- E EXISTING ELECTRIC MANHOLE
- EXISTING FENCELINE
- EXISTING FIRE HYDRANT
- G EXISTING GAS
- GV EXISTING GAS VALVE
- EXISTING PROPERTY LINE
- EXISTING PAVING
- SS EXISTING SANITARY
- S EXISTING SANITARY MANHOLE
- EXISTING STREET LIGHT
- SD EXISTING STORMDRAIN
- D EXISTING STORMDRAIN MANHOLE
- T EXISTING TELEPHONE
- EXISTING UTILITY POLE
- W EXISTING WATERLINE
- WM EXISTING WATER METER
- WV EXISTING WATER VALVE

GENERAL NOTES:

1. CONTRACTOR SHALL PROTECT ALL AREAS BEYOND THE DESIGNATED LIMITS OF DISTURBANCE AND SHALL RESTORE ANY AND ALL AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL OR BETTER CONDITION. SEE EROSION AND SEDIMENT CONTROL PLAN FOR LIMIT OF DISTURBANCE.
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5. CONTACTOR SHALL PROVIDE 2% MINIMUM SLOPE AWAY FROM BUILDING WALLS. ALL FINISH GRADES SHALL FLOW TOWARDS STORM DRAIN DEVICES.
6. REFER TO ELECTRICAL DRAWING FOR LIGHTING FIXTURE DETAILS.
7. REFER TO PLUMBING DRAWINGS FOR ROOF DRAIN LOCATIONS.
8. REFER TO MECHANICAL DRAWINGS FOR GAS LOCATION.
9. GAS SERVICE PIPE TO SIZED BY UTILITY PROVIDER. CONTRACTOR SHALL COORDINATE WITH UTILITY PROVIDER.
9. THE SEPTIC TANK AND PUMP CHAMBER SHALL BE TEMPORARILY USED AS A HOLDING TANK TO SERVE AN ESSENTIAL PUBIC SERVICE. THE SEPTIC TANK AND PUMP CHAMBER SHALL BE CONVERTED FROM THEIR TEMPORARY HOLDING TANK USE TO THEIR PERMANENT USE UPON APPROVAL OF THE MDE GROUNDWATER DISCHARGE PERMIT CONDITIONS. SEE SHEET C6.0 FOR ADDITIONAL DETAILS.

POINT ID	DESCRIPTION	NORTHING	EASTING
1	CARRS MILL (4+66.6) & ENTRANCE DRIVE (0+00)	595766.04	1306054.06
2	PARKING ENTRANCE	595882.31	1306085.49
3	FIRE STATION DRIVEWAY ENTRANCE	595959.99	1306095.73
4	FIRE STATION DRIVEWAY EXIT	596167.29	1306083.78
5	℄ FIRE STATION DRIVEWAY	596166.44	1306071.32
6	℄ FIRE STATION DRIVEWAY	596157.79	1305944.00
7	℄ FIRE STATION DRIVEWAY	596060.91	1305921.47
8	CENTER PT. FIRE STATION DRIVEWAY ℄	596105.91	1305947.53
9	CENTER PT. FIRE STATION DRIVEWAY EDGE	596098.40	1305947.54
10	CENTER PT. FIRE STATION DRIVEWAY EDGE	596113.82	1305945.85
11	EDGE ROAD - FIRE STATION DRIVEWAY EXIT	595966.62	1306084.27
12	EDGE ROAD - PARKING ENTRANCE	595892.23	1306068.35
13	NORTHEAST BUILDING CORNER	596029.76	1306032.13
14	SOUTHEAST BUILDING CORNER	595938.82	1305987.02

TRAVERSE DATA

TRAV. #1: EL. 612.99 – N596234.24, E1305855.83

TRAV. #3: 607.56 – N595813.72, E 1306124.43

TRAV. #99: 603.46 – N595978.21, E 1306070.39

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5/25/11
DIRECTOR	DATE 5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER — DATE 5/9/2011
HOWARD COUNTY HEALTH DEPARTMENT

REVISION #1 - BLDG (07/29/16)
MODIFIED EX. PUMPING STATIONS, ADDED NEW PUMPING STATIONS AND INSTALLED NEW 1.5" FORCE MAIN.

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, I WONA ROSTEK-ZARSKA, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE No. 21245, EXPIRATION DATE: JUNE 9, 2016.

ADDRESS CHART	
BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME			SECTION/AREA	LOT/PARCEL	PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249			–		PARCEL A WITHIN PARCEL 249
PLAT# OR L/F	BLOCK	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	RC-DEO	14	4	6040.02

OWNER/DEVELOPER
HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE PROPOSED SITE PLAN

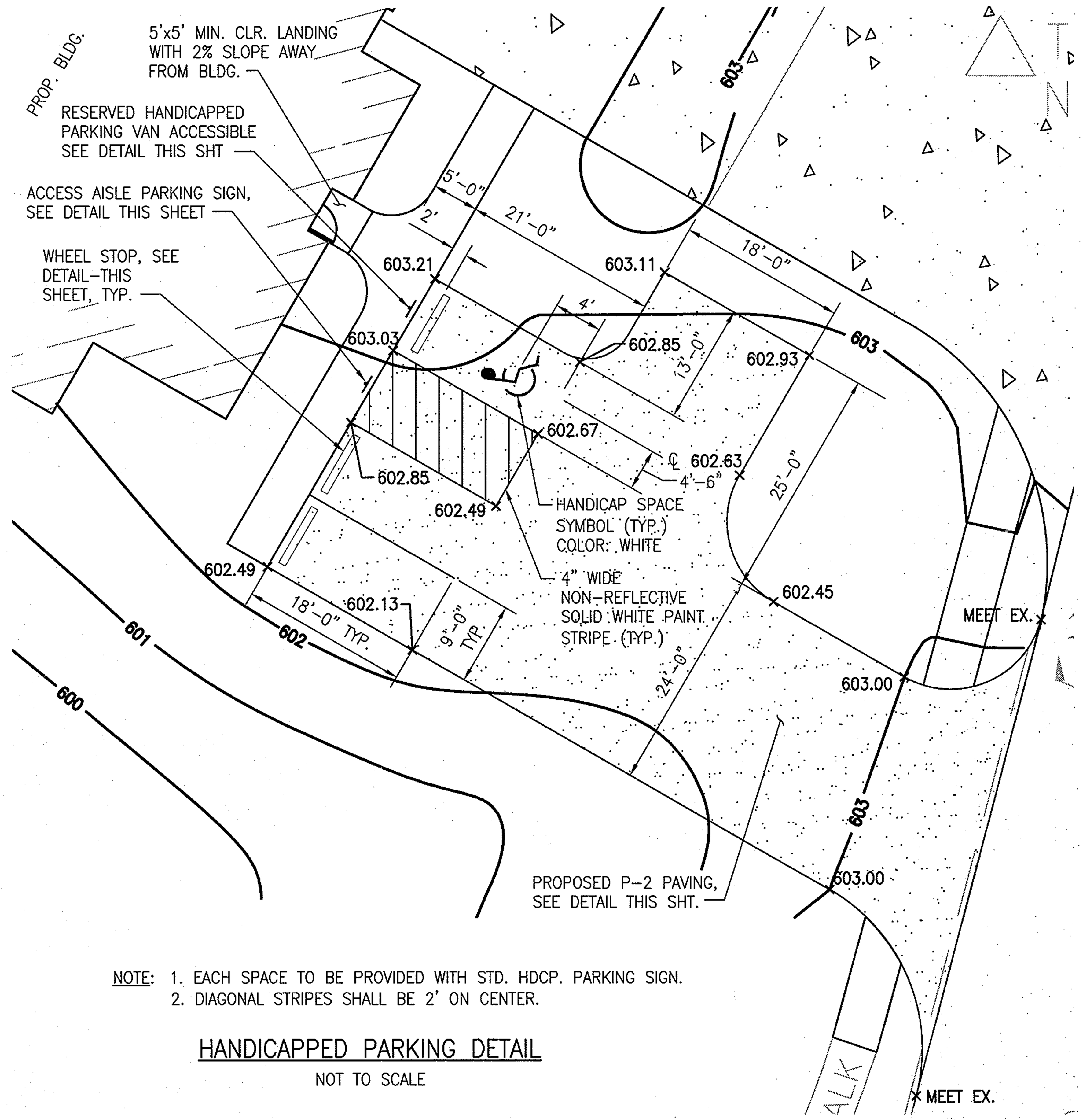
CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

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.: 14446
EXPIRATION DATE: 5-25-11

DESIGNED BY:	DWM
DRAWN BY:	DWM
PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	1" = 30'
DRAWING NO.:	4 OF 21

C2.0

SDP-10-049



NOTE: 1. EACH SPACE TO BE PROVIDED WITH STD. HDCP. PARKING SIGN.
2. DIAGONAL STRIPES SHALL BE 2' ON CENTER.

HANDICAPPED PARKING DETAIL

NOT TO SCALE

RESERVED PARKING — 9 REQ'D — R7-8

VAN ACCESSIBLE — 2 REQ'D — R7-8a

$350 — FINE

COLORS

LEGEND AND BORDER – GREEN
SYMBOL – WHITE ON BLUE BACKGROUND
BACKGROUND – WHITE

EACH ACCESSIBLE PARKING SPACE SHALL BE IDENTIFIED BY AN APPROVED SIGN WITH THE BOTTOM EDGE AT LEAST 7 FEET ABOVE THE GROUND, UNLESS THE SIGN IS PLACED FLUSH AGAINST A BUILDING, STRUCTURE, OR OTHER LOCATION THAT DOES NOT OBSTRUCT VEHICLE OR PEDESTRIAN TRAFFIC, IN WHICH CASE THE SIGN SHALL BE AT LEAST 6 FEET AND NO MORE THAN 10 FEET ABOVE THE GROUND. SIGNS SHALL BEAR THE INTERNATIONAL SYMBOL OF ACCESS AND THE WORDS "RESERVED PARKING" AND SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SIGN MANUAL.

RESERVED HANDICAPPED PARKING SIGN

NOT TO SCALE

NO PARKING IN ACCESS AISLE

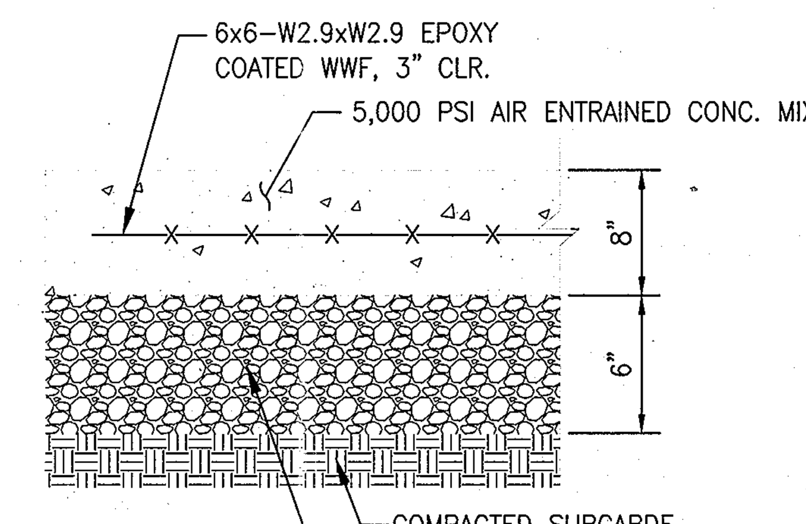
2 REQ'D

1. USE MUTCD SECTION 2B-39
2. APPROPRIATE ARROW PLATE MAY BE USED WHEN IT IS NECESSARY TO OFFSET INSTALLATION LOCATION DUE TO ACCESS RAMP.

COLORS
LEGEND AND BORDER – RED
BACKGROUND – WHITE

ACCESS AISLE PARKING SIGN

NOT TO SCALE

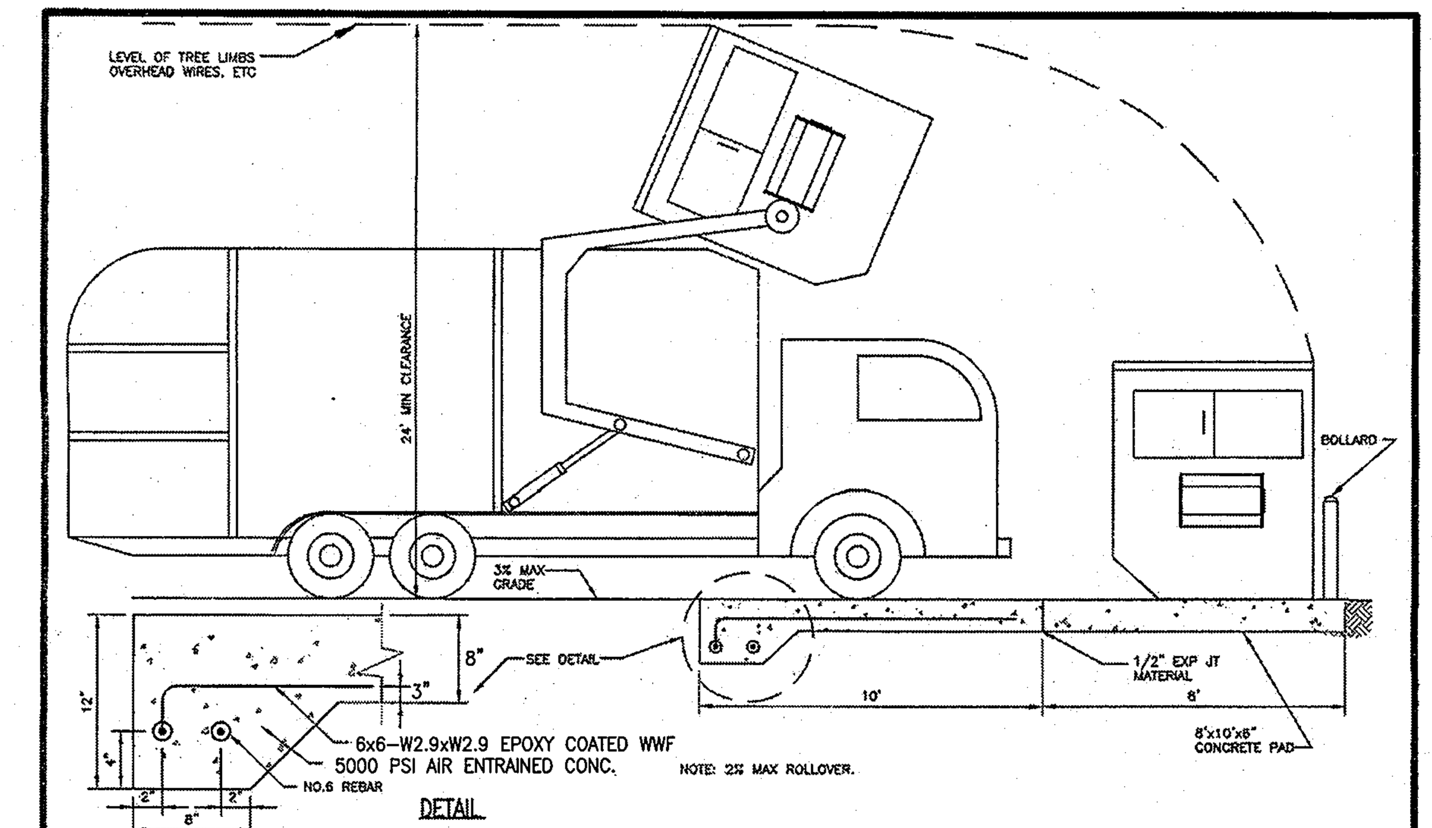


HEAVY-DUTY CONCRETE PAVING DETAIL

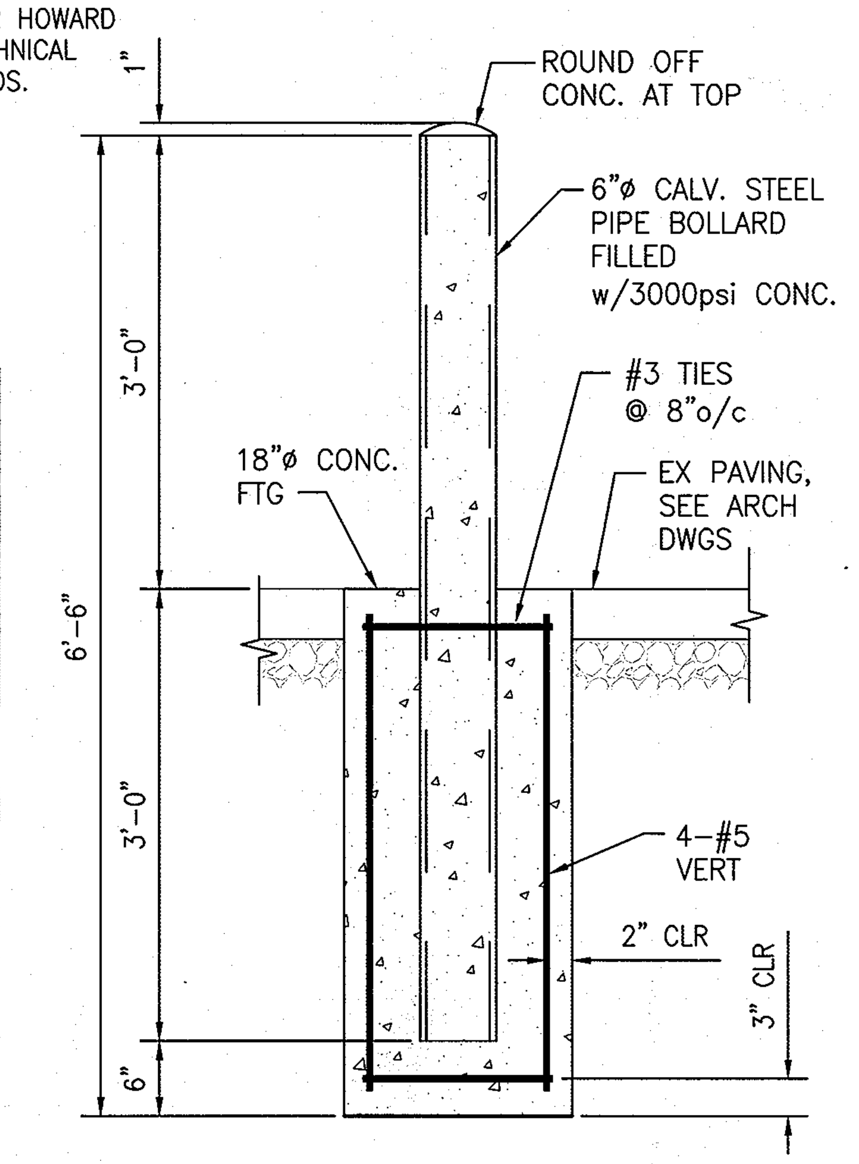
NOT TO SCALE

NOTES:

1. CONTRACTOR TO RETAIN A MARYLAND LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER. ENGINEER TO SUPERVISE AND APPROVE ACCEPTABILITY OF SUBGRADE MATERIAL AND COMPACTION PRIOR TO INSTALLATION OF CONCRETE APRONS. COMPACTION REPORTS SHALL BE PROVIDED TO THE COUNTY.
2. PROVIDE JOINTS IN SLAB AT 15'-0" (MAXIMUM) ON CENTER EACH WAY. DEPTH OF JOINT SHALL BE AT LEAST 1/3 SLAB THICKNESS. PROVIDE 1-1/8" DIAMETER SMOOTH DOWEL BARS (ASTM GRADE 60), 36" LONG, CENTERED IN JOINT. SPACE DOWEL BARS AT 6" ON CENTER AND PLACE AT MID-DEPTH OF SLAB. DOWELS SHALL BE EPOXY COATED.
3. STOP WELDED WIRE FABRIC 3" BACK FROM CENTER OF JOINTS IN BOTH DIRECTIONS.
4. TOP 2' OF SUBGRADE SOILS BENEATH PAVEMENT SHALL HAVE A LIQUID LIMIT LESS THAN 40 AND A PLASITC LIMIT LESS THAN 10 PER HOWARD COUNTY REQUIREMENTS. CONTRACTOR SHALL FURNISH GEOTECHNICAL INSPECTION AND VERIFICATION PER HOWARD COUNTY STANDARDS.

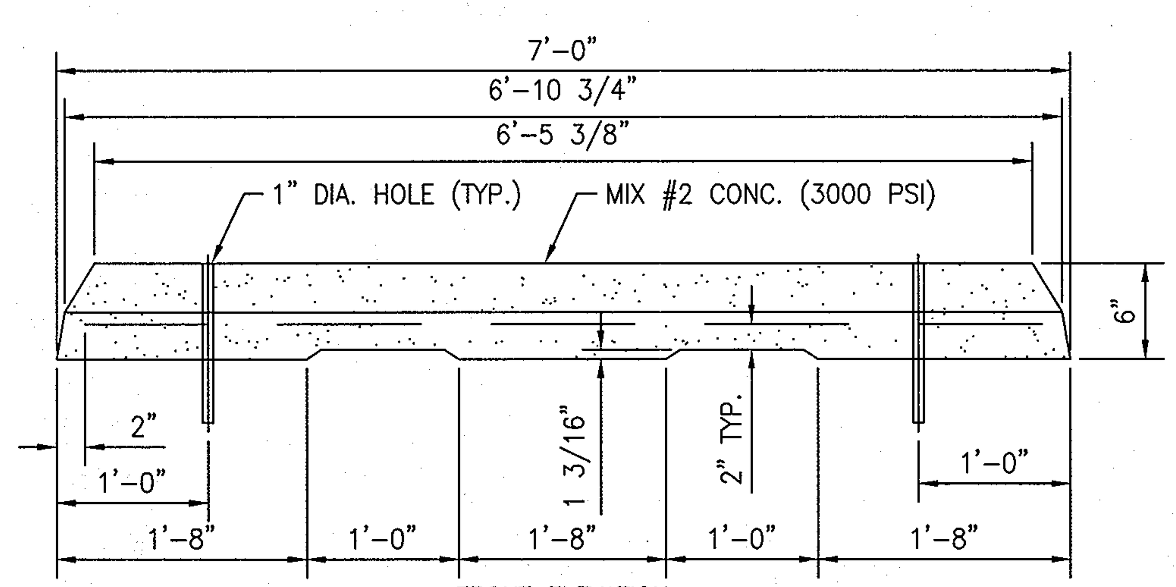


Revised / Revised 5/7/2007 Approved	Howard County, Maryland Department of Public Works — Approved: Chief, Bureau of Engineering	SOLID WASTE Service Pad	Detail R-8.03



TYPICAL PIPE BOLLARD

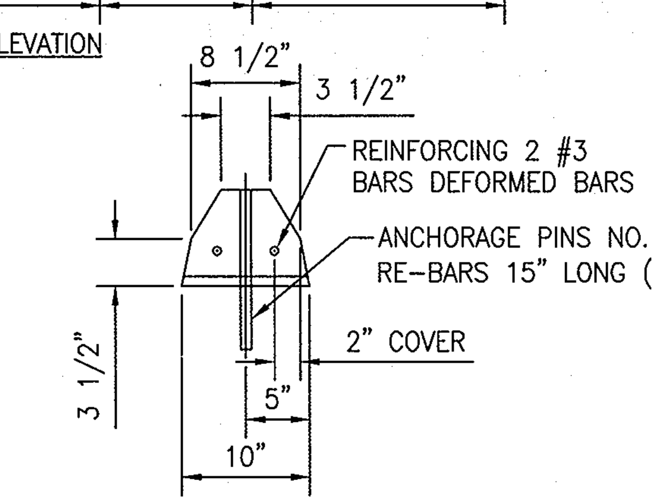
3/4"=1'-0"



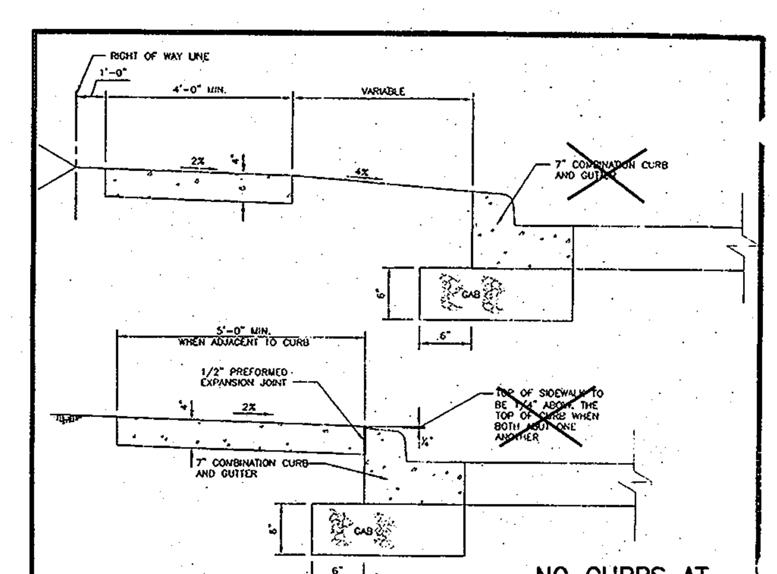
FRONT ELEVATION

TYPE I WHEEL STOP

NOT TO SCALE



SIDE ELEVATION



NO CURBS AT GLENWOOD FIRE STATION

NOTES:

1. SIDEWALK TO BE SCRIBED IN 5'-0" MAXIMUM SQUARES.
2. EXPANSION JOINTS ACROSS THE SIDEWALK NOT TO BE MORE THAN 15' APART.
3. 1/2" PREFORMED EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT 1/4" BELOW SURFACE OF SIDEWALK.
4. CONCRETE TO BE MIX NO.3.
5. WHEN SIDEWALK ABUTS CURB, SIDEWALK SHALL BE 1/4" ABOVE CURB WITH 1/2" PREFORMED EXPANSION JOINT BETWEEN SIDEWALK AND CURB.
6. ON 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 THE EXPANSION JOINT LOCATIONS AND SHALL BE MONOLITHIC WITH THE SIDEWALK.
7. SIDEWALK WIDTH ADJACENT TO CURB SHALL BE 5'-0" MINIMUM EXCEPT SIDEWALK ADJACENT TO CURB IN CUL-DE-SAC BULBS MAY BE 4'-0" WIDE.
8. SIDEWALK LOCATED 2' OR MORE FROM CURB MAY BE 4'-0" IN WIDTH WITH A 5'x5' PAVED SECTION PLACED 200' APART.
9. 4'-0" SIDEWALK REQUIRES A PASSING AREA (SEE DETAIL R-4.01).

Revised / Revised 5/7/2007 Approved	Howard County, Maryland Department of Public Works — Approved: Chief, Bureau of Engineering	Concrete Sidewalk	Detail R-3.05

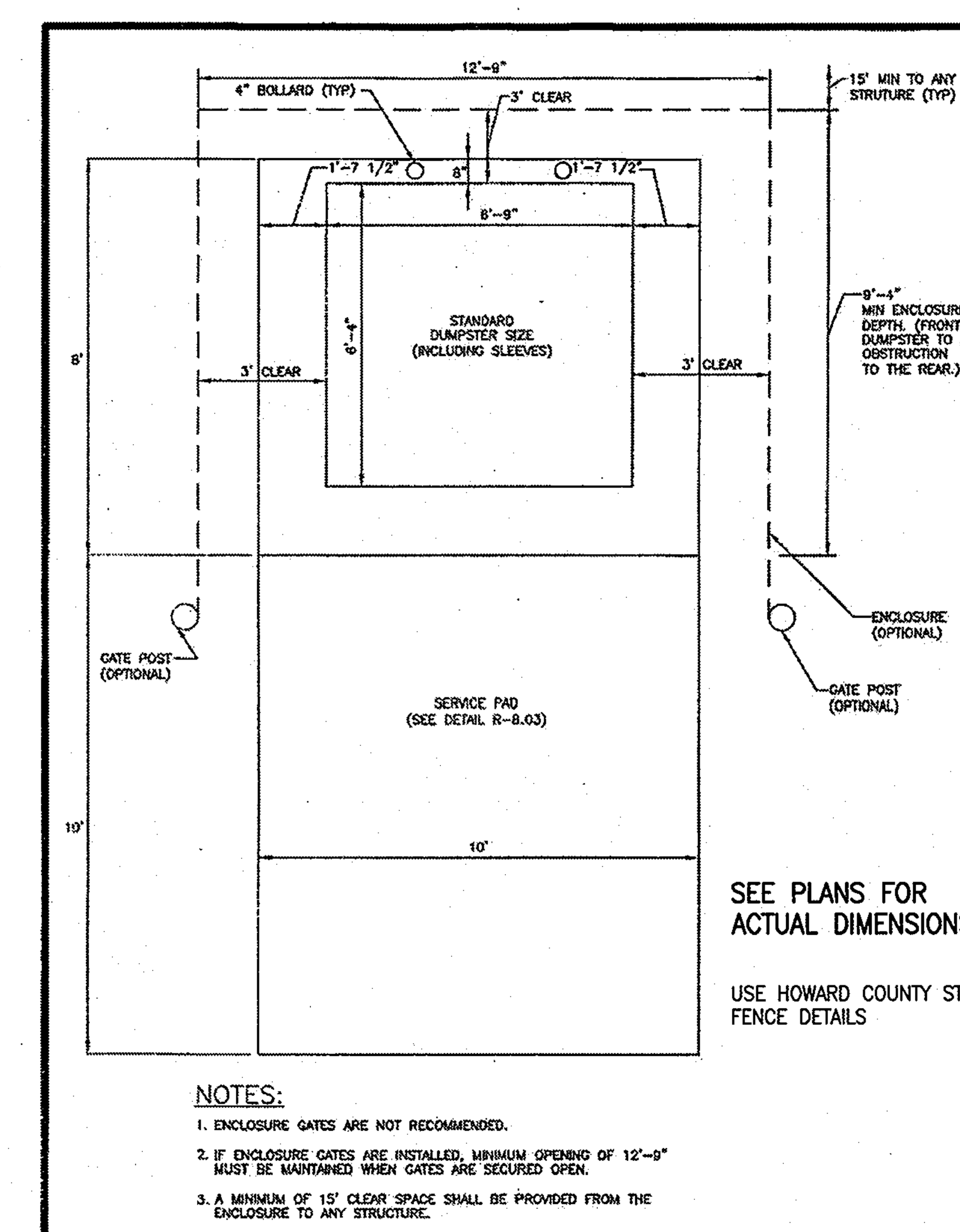
SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR) / PAVEMENT MATERIAL (INCHES)	MIN HMA WITH GAB 3 TO <5	MIN HMA WITH GAB 5 TO <7	MIN HMA WITH GAB ≥ 7	HMA WITH CONSTANT GAB 3 TO <5	HMA WITH CONSTANT GAB 5 TO <7	HMA WITH CONSTANT GAB ≥ 7
P-1	PARKING BAYS: RESIDENTIAL AND NON-RESIDENTIAL; PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 2 HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINAL SURFACE 9.5 MM PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE (NA)	NA	NA	NA	NA	NA	NA
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	3.0	2.5
		GRADED AGGREGATE BASE (GAB)	8.5	7.0	5.0	4.0	4.0	4.0
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY; LOCAL ROADS: ACESS PLACE, ACCESS STREET; CUL-DE-SACS: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	2.0	2.0
		GRADED AGGREGATE BASE (GAB)	6.0	4.0	3.0	4.0	4.0	4.0
P-3	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY; LOCAL ROADS: ACCESS PLACE, ACCESS STREET; CUL-DE-SACS: NON-RESIDENTIAL; MINOR COLLECTORS: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	3.0	3.0	3.0	4.5	3.0	2.0
		GRADED AGGREGATE BASE (GAB)	10.0	6.0	3.0	6.0	6.0	6.0
P-4	MINOR COLLECTORS: NON-RESIDENTIAL; MAJOR COLLECTORS	HMA SUPERPAVE FINAL SURFACE 12.5 MM, PG 64-22, LEVEL 2 (LOW ESAL)	2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE INTERMEDIATE SURFACE 12.5 MM, PG 64-22, LEVEL 2 (LOW ESAL)	2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 2 (LOW ESAL)	4.0	4.0	3.0	6.0	5.0	3.0
		GRADED AGGREGATE BASE (GAB)	13.0	7.0	4.0	8.0	6.0	6.0

Notes:

1) HEAVY TRUCKS ARE DEFINED AS THOSE WITH SIX (6) WHEELS OR MORE INCLUDING GARBAGE TRUCKS.
2) HMA SUPERPAVE LAYERS SHALL BE PLACED IN APPROPRIATE COMPACTED LIFT THICKNESS: 19.0 MM BASE (2.0" MIN TO 4.0" MAX), 12.5 MM SURFACE (1.5" MIN TO 3.0" MAX), AND 9.5 MM SURFACE (1.0" MIN TO 2.0" MAX)
3) GRADED AGGREGATE BASE (GAB) TO BE PLACED AND COMPACTED IN 6" MAX COMPACTED THICKNESS LAYERS.
4) THE INTERMEDIATE SURFACE COURSE LAYER MUST BE PLACED WITHIN 2 WEEKS OF PLACEMENT OF BASE COURSE, AND IS REQUIRED PRIOR TO SUBSTANTIAL COMPLETION INSPECTION AND BOND REDUCTION.
5) IN LIEU OF PLACING THE INTERMEDIATE SURFACE COURSE LAYER FOR COMMERCIAL/INDUSTRIAL ENTRANCE APRONS WITHIN THE COUNTY RIGHT-OF-WAY WHERE AUXILIARY LANES ARE NOT REQUIRED, THE THICKNESS OF THE INTERMEDIATE PAVEMENT LAYER CAN BE ADDED TO THE REQUIRED THICKNESS OF THE BASE ASPHALT LAYER.
6) THE CONSTRUCTION DRAWINGS SHALL SHOW THE PAVING SECTION, ROAD CLASSIFICATION AND CRB VALUE FOR EACH ROADWAY

HMA SUPERPAVE FINAL SURFACE
HMA SUPERPAVE INTERMEDIATE SURFACE
HMA SUPERPAVE BASE
GRADED AGGREGATE BASE (GAB)

Revised / Revised 5/7/2007 Approved	Howard County, Maryland Department of Public Works — Approved: Chief, Bureau of Engineering	PAVING SECTIONS P-1 to P-4	Detail R-2.01



SEE PLANS FOR ACTUAL DIMENSIONS

USE HOWARD COUNTY STD. FENCE DETAILS

NOTES:

1. ENCLOSURE GATES ARE NOT RECOMMENDED.
2. IF ENCLOSURE GATES ARE INSTALLED, MINIMUM OPENING OF 12'-9" MUST BE MAINTAINED WHEN GATES ARE SECURED OPEN.
3. A MINIMUM OF 15' CLEAR SPACE SHALL BE PROVIDED FROM THE ENCLOSURE TO ANY STRUCTURE.

Revised / Revised 5/7/2007 Approved	Howard County, Maryland Department of Public Works — Approved: Chief, Bureau of Engineering	SOLID WASTE Single Container Enclosure	Detail R-8.04

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/25/11
DIRECTOR — DATE 5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER — DATE 5/9/2011
HOWARD COUNTY HEALTH DEPARTMENT

ADDRESS CHART	
BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME			SECTION/AREA LOT/PARCEL		PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249			–		PARCEL A WITHIN PARCEL 249
PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	RC-DEO	14	4	6040.02

OWNER/DEVELOPER HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE SITE DETAILS

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

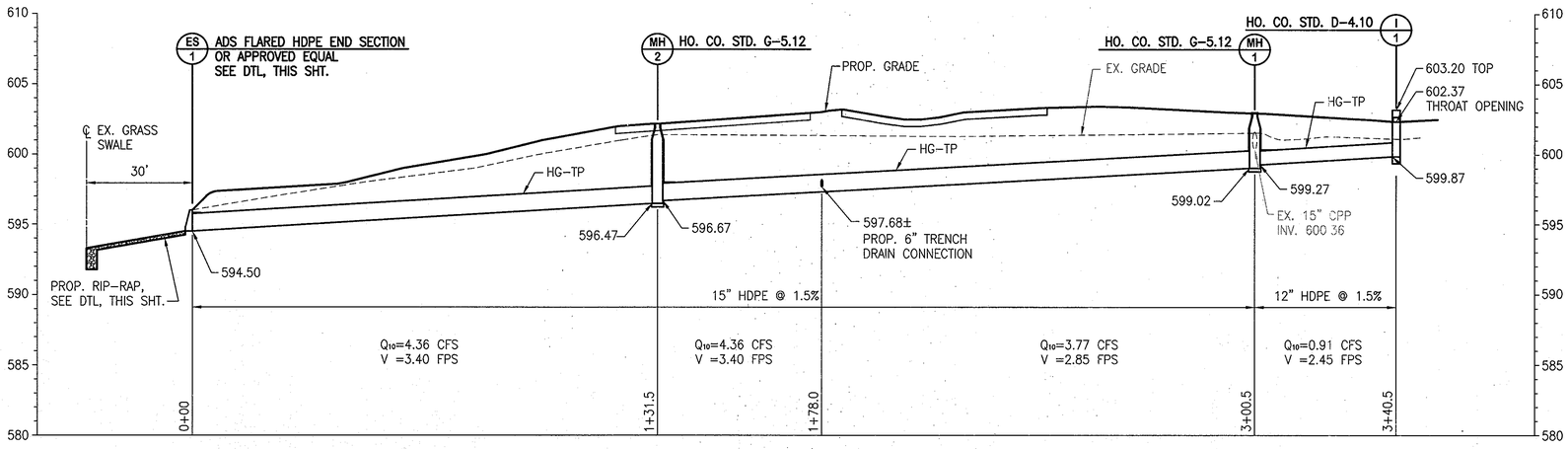
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE No.: 14446
EXPIRATION DATE: 5-25-11

DESIGNED BY:	DWM
DRAWN BY:	DWM
PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	
DRAWING NO.:	5 OF 21

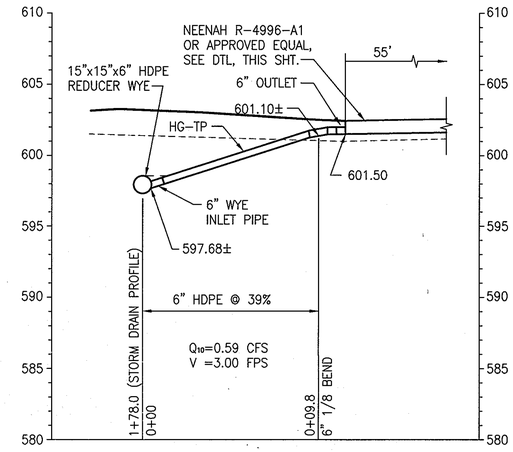
C3.0

SDP-10-049



STORM DRAIN PROFILE

SCALE: HORIZ. 1"=20'
VERT. 1"=5



TRENCH DRAIN PROFILE

HORIZ. 1"=5'
VERT. 1"=5

STORMDRAIN MANHOLE SCHEDULE

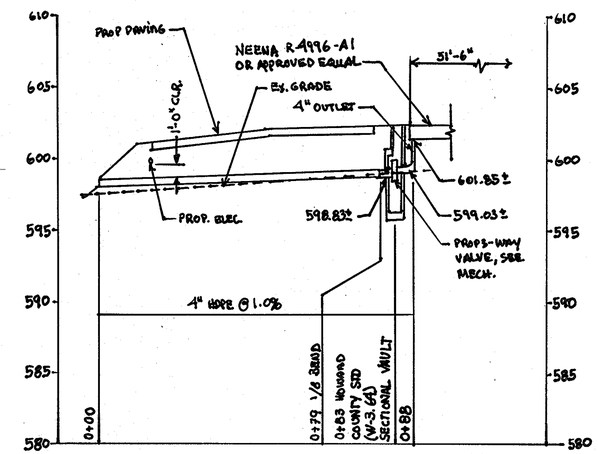
MH NO.	STD. NO.	MH DIA.	NORTHING	EASTING	INV. OUT	TOP EL.
ES-1	NA	NA	595880.88	1305899.60	594.50	595.75
M-1	G-5.12	48"	595911.61	1306927.60	596.47	602.07
M-2	G-5.12	48"	596078.38	1306055.05	599.02	603.04
I-1	D-4.10	NA	596100.79	1306022.04	599.87	602.37

VERIFY ALL STRUCTURES IN FIELD

STORMDRAIN PIPE SCHEDULE

PIPE DIA.	TYPE	TOTAL LENGTH
6" TRENCH DRAIN CONN.	HDPE	16'
12"	HDPE	40'
15"	HDPE	300.5'

VERIFY ALL STRUCTURES IN FIELD



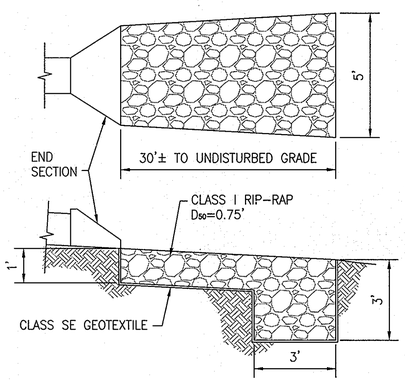
WASH BAY TRENCH DRAIN PROFILE

HORIZ. 1"=20'
VERT. 1"=5'

STORMDRAIN PIPE SCHEDULE

PIPE DIA.	TYPE	TOTAL LENGTH
4" TRENCH DRAIN CONN.	HDPE	88'

VERIFY ALL STRUCTURES IN FIELD



RIP-RAP PROTECTION DETAIL

NOT TO SCALE

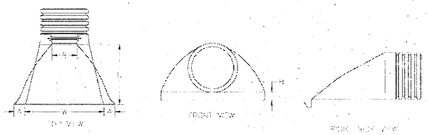
ADS FLARED END SECTION SPECIFICATION

Scope
This specification describes 12- through 36-inch (300 to 900mm) ADS Flared End Sections for use in culvert and drainage outlet applications.

Requirements
The invert of the pipe and the end section shall be at the same elevation. The ADS Flared End Section shall be high density polyethylene meeting ASTM D3350 minimum cell classification 213320C; contact manufacturer for additional cell classification information. When provided, the metal threaded fastening rod shall be stainless steel.

Installation
Installation shall be in accordance with ADS installation instructions and with those issued by state or local authorities. Contact your local ADS representative or visit www.ads-pipe.com for the latest installation instructions.

PIPE DIAMETER, in (mm)						
Diameter in (mm)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)
A in (mm)	6.5 (165)	6.5 (165)	7.5 (191)	7.5 (191)	7.5 (191)	7.5 (191)
B (max) in (mm)	10.0 (254)	10.0 (254)	15.0 (381)	18.0 (475)	22.0 (559)	25.0 (635)
H in (mm)	6.5 (165)	6.5 (165)	6.5 (165)	6.5 (165)	8.6 (218)	8.6 (218)
L in (mm)	25.0 (635)	25.0 (635)	32.0 (813)	36.0 (914)	58.0 (1473)	58.0 (1473)
W in (mm)	29.0 (737)	29.0 (737)	35.0 (889)	45.0 (1143)	63.0 (1600)	63.0 (1600)



Product detail may differ slightly from actual product appearance.

FLARED HDPE END SECTION

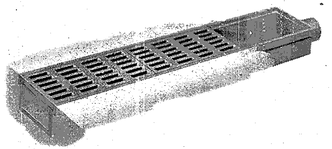
NOT TO SCALE

R-4995 - R-4996 Type M Trench Frame with Solid or Grated Cover Flap and Flush Valve Frame, Lid

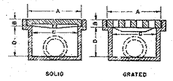
Heavy Duty

Cast Iron Trench Assemblies—Light or Heavy Duty—For Use in Sidewalks, Driveways, Garages, Loading Docks, etc.

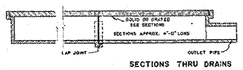
Read Carefully Before Ordering
Specify:
1. Complete catalog number.
2. Light or heavy duty.
3. Overall length of cover required.
4. List solid, flat grated, or diagonally barred convex grate.
5. Location of outlet, size, bottom or end (give dimensional location and pipe size).
6. Whether one end or both ends are to be open or closed.



Illustrating Type M frame with grated cover. Standard with 4-inch outside caulk outlet. Can be equipped for inside caulk if specified.



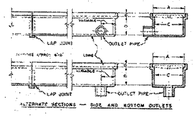
Trench covers are used over areas requiring long drainage assemblies. Can be supplied in a variety of sizes and lengths to meet special needs. For trenches of irregular pattern, arrangements can be made to furnish cover to fit.



SECTIONS THRU DRAINS

Standard 4-inch outlet at end of drain. Special size outlets are available on special order. Side and bottom outlets optional and furnished only when specified.

Sections: Thru Drains, Type M



Dimensions in inches						
Catalog No.	Description	A	B	C	D	Length
Standard Sizes—Light Duty						
R-4995-A1**	with grated cover	11½	3/4	10	6¼	as ordered
R-4995-A3*	with grated cover	7	3/4	5	4¼	as ordered
R-4995-B1	with solid cover	11½	3/4	10	6¼	as ordered
R-4995-B2	with solid cover	7	3/4	5	4¼	as ordered
Standard Sizes—Heavy Duty						
Catalog No.	Description	A	B	C	D	Length
R-4996-A1**	with grated cover	11½	1½	10	6	as ordered
R-4996-A3*	with grated cover	7	1¼	5	4¼	as ordered
R-4996-B1	with solid cover	11½	1½	10	6	as ordered
R-4996-B2	with solid cover	7	1½	5	3¼	as ordered

Above Standard Frames include 4 ft. sections, cut-ins in 2 ft. lengths.
*Available with Type B grate only.
**Also available with type "I" grate.

6" TRENCH DRAIN

NOT TO SCALE

REORIENTED FIRE PUMP HOUSE, TANK AND PIPING.
ADDED WASH BAY AT REAR ENTRANCE AND STAIRS TO SOUTH END OF BLDG.
REVISED GRADING AT FRONT CONC. APRON.

ADDRESS CHART

BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME			SECTION/AREA	LOT/PARCEL	PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249			-		PARCEL A WITHIN PARCEL 249
PLAT# OR L/F	GRID	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15583	10	RC-DEO	14	4	6040.02

OWNER/DEVELOPER HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
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ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

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C4.0

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/2/11
DIRECTOR — DATE 5/2/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER — DATE 5/9/2011
HOWARD COUNTY HEALTH DEPARTMENT

SDP-10-049

EROSION & SEDIMENT CONTROL COVER SHEET

GLENWOOD FIRE STATION

HOWARD COUNTY, MARYLAND

SEQUENCE OF OPERATIONS/CONSTRUCTION

PHASE ONE – SITE IMPROVEMENTS EXCLUDING SEPTIC SYSTEM

1. OBTAIN A GRADING PERMIT
2. NOTIFY HOWARD COUNTY DEPARTMENT OF INSPECTIONS/LICENSES/PERMITS (DILP) AT 410–313–1823 AT LEAST 7 DAYS PRIOR TO COMMENCING WORK FOR ADDITIONAL NOTIFICATIONS AND PRE–CONSTRUCTION MEETING REQUIREMENTS.
3. CONDUCT ON–SITE PRE–CONSTRUCTION MEETING WITH ALL PARTIES TO DISCUSS ISSUES INCLUDING, BUT NOT LIMITED TO PHASES OF CONSTRUCTION RELATIVE TO EROSION AND SEDIMENT CONTROL (ESC), WAYS AND MEANS AND LIMITS OF RESPONSIBILITIES AND WORK, AND TO INSPECT THE SITE FOR ANY UNFORESEEN CONDITIONS AND TO INSTALL DGS/INSPECTION TRAILER(S). ——— 1 DAY
4. INSTALL STABILIZED CONSTRUCTION ENTRANCE AND BITUMINOUS DIVERSION BERM ALONG WEST EDGE OF SERVICE ROAD. ——— 1 DAY
5. INSTALL SILT FENCE. INSTALL INLET PROTECTION AT EXISTING INLET ON ENTRANCE ROAD AND WRAP WITH SUPER SILT FENCE. ——— 1/2 DAY
6. CONSTRUCT STORM DRAIN. CONSTRUCTION OF STORM DRAIN SHALL START AT OUTLET ES–1 AND CONTINUE UPSTREAM TO MANHOLE 1 AND THEN MANHOLE 2. INSTALL INLET I–1 AND TRENCH DRAIN. INSTALL INLET PROTECTION. REMOVE SILT FENCE BELOW RIP–RAP PROTECTION AS SOON AS PROPOSED OUTLET IS FUNCTIONAL. TEMPORARILY STABILIZE DISTURBED AREA AROUND NEW STORM DRAIN UPON COMPLETION. ——— 3 DAY
7. CLEAR AND GRUB AS REQUIRED TO INSTALL EARTH BERMS, SWALE AND SEDIMENT TRAP. INSTALL THE SEDIMENT TRAP AND BERMS TO THE SEDIMENT 7. INSTALL RIP–RAP INFLOW PROTECTION (RRP) INTO THE ESC TRAP. NOTE, SILT FENCE AT RIP–RAP OUTLETS TO BE REMOVED ONCE TRAPS COMPLETED. ——— 3 DAY
8. ADDRESS PERMANENT OR TEMPORARY STABILIZATION WITHIN SEVEN (7) CALENDAR DAYS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL CRITICAL SLOPES GREATER THAN THREE (3) HORIZONTAL TO ONE (1) VERTICAL (3:1). ——— 1 DAY
9. CLEAR AND GRUB SITE, REMOVE UTILITY POLE AS NOTED, WITHIN LIMITS OF DISTURBANCE. ——— 1 DAY
10. ALL INACTIVE AREAS ON THE PROJECT SITE MUST HAVE EITHER PERMANENT OR TEMPORARY STABILIZATION WITHIN FOURTEEN (14) DAYS OF BEING DISTURBED.
11. COMPLETE ROUGH GRADING. ——— 3 DAY
12. COMPLETE CONSTRUCTION OF BUILDING. ——— 120 DAY
13. INSTALL SUPER SILT FENCE. ——— 1/2 DAY
14. COMPLETE WATER, SEPTIC SYSTEM, GAS AND ELECTRIC CONSTRUCTION. ——— 15 DAY
15. TEMPORARILY STABILIZE ALL REMAINING ON–SITE DISTURBED AREAS. UPON RECEIVING PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE DIVERSION EARTH DIKE ALONG SOUTH EDGE OF DISTURBANCE. REMOVE AND BACKFILL SEDIMENT TRAP. NOTE – SILT FENCE TO REMAIN. ——— 3 DAY
16. INSTALL DRIVEWAYS, PARKING AREA PAVEMENTS, AND ALL SIDEWALKS. ——— 7 DAY
17. COMPLETE FINE GRADING AND TOPSOIL OF PROPOSED LAWN AND PLANTING AREAS. INSTALL LANDSCAPE PLANT MATERIAL. COMPLETE SEEDING AND MULCHING OF LAWN AREAS. ——— 10 DAY
18. ONLY UPON RECEIVING PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTRL DEVICES AND IMMEDIATELY STABILIZE ALL AREAS DISTURBED BY DEVICE REMOVAL. ——— 1 DAY

SURVEY REFERENCE NOTES

1. ALL SURVEY CONTROL POINTS WERE PROVIDED BY McKEE & ASSOCIATES, INC.
2. ALL HORIZONTAL SURVEY DATA CONTAINED HEREIN ARE REFERENCED TO NAD 83(1991) DATUM. SEE PLAN FOR TRAVERSE LOCATIONS.
3. ALL VERTICAL SURVEY DATA CONTAINED HEREIN ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM – 1988 (NGVD 88). SEE PLAN FOR TRAVERSE LOCATIONS.

SITE ANALYSIS:

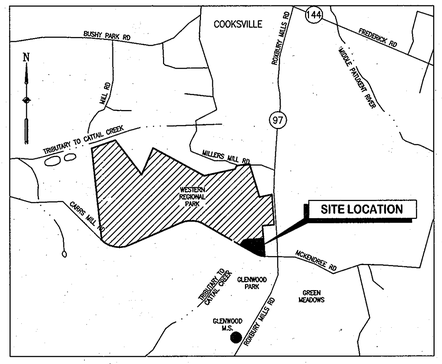
TOTAL AREA OF SITE	183.37	ACRES
AREA DISTURBED	2.71	ACRES
AREA TO BE ROOFED OR PAVED	0.72	ACRES
AREA TO BE VEGETATIVELY STABILIZED	1.99	ACRES
TOTAL CUT	200	CU. YDS.
TOTAL FILL	5600	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION:	–	CU. YDS.

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5/25/11
DIRECTOR	DATE 5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT	DATE 5/9/2011



VICINITY MAP

SCALE: 1"=2000'

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
T1.0	COVER SHEET
C1.0	EXISTING/DEMOLITION SITE PLAN
C2.0	PROPOSED SITE PLAN
C5.0	ESC COVER SHEET
C5.1	EROSION & SEDIMENT CONTROL PLAN
C5.2	EROSION & SEDIMENT CONTROL DETAILS
C5.3	EROSION & SEDIMENT CONTROL NOTES
C5.4	EXISTING DRAINAGE AREA MAP
C5.5	PROPOSED DRAINAGE AREA MAP
C6.0	PROPOSED SEPTIC PLAN

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

Howard SCD — Date 4/14/11

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."

Judith A. Carroll — 5/25/2010
Signature of Engineer (print name below signature) — Date

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a certificate of attendance at a department of the environment approved training program for the control of sediment and erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

David Loudermilk — 5/25/2010
Signature of Developer (print name below signature) — Date

STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE SHALL BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410–313–1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES SHALL BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. REFER TO "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN.
4. FOLLOWING INITIAL SOIL DISTURBANCE OR RE–DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
5. ALL SEDIMENT TRAPS/BASINS SHOWN SHALL BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH CHAPTER 7 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
6. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING AND MULCHING. TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
7. ALL SEDIMENT CONTROL STRUCTURES SHALL REMAIN IN PLACE AND SHALL BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES SHALL BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROL SHALL BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ANY CHANGE TO THE GRADING PROPOSED ON THIS PLAN REQUIRES RE–SUBMISSION TO HOWARD COUNTY SOIL CONSERVATION DISTRICT FOR APPROVAL.
11. DUST CONTROL WILL BE PROVIDED FOR ALL DISTURBED AREAS. REFER TO "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", pg. H–30–1, FOR ACCEPTABLE METHODS AND SPECIFICATIONS FOR DUST CONTROL.
12. ANY VARIATIONS FROM THE SEQUENCE OF OPERATIONS STATED ON THIS PLAN REQUIRES THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE HOWARD COUNTY SOIL CONSERVATION DISTRICT PRIOR TO THE INITIATION OF ANY CHANGE.
13. 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.
16. EXCESS CUT OR BORROW MATERIAL SHALL GO TO, OR COME FROM, RESPECTIVELY, A SITE WITH AN OPEN GRADING PERMIT.

INLET PROTECTION NOTE

THE CONTRACTOR SHALL INSTALL INLET PROTECTION ON ALL STORM DRAIN INLETS WITH THE EXCEPTION OF THE FOLLOWING:

*1. ANY INLET OUTFALLING DIRECTLY INTO A SEDIMENT TRAPPING DEVICE. STORM DRAINS TO BE FLUSHED PRIOR TO TRAPPING DEVICE REMOVAL.
2. INLETS ON PRIVATE OR PUBLIC PAVED ROADWAYS OPEN TO THE PUBLIC. ALL INLET PROTECTION WILL BE INSTALLED AS DIRECTED BY THE INSPECTOR IN ACCORDANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" PAGE E–16–5A OR E–16–5B. THE REMOVAL OF ANY INLET PROTECTION DEVICES WILL REQUIRED APPROVAL FROM THE INSPECTOR.

* STORM DRAINS TO BE FLUSHED PRIOR TO TRAPPING DEVICE REMOVAL.

UTILITY CONSTRUCTION NOTE

1. CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH IS TO REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) THE TRENCH.
2. PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
3. ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

TRAP FLOW DIVERSION NOTE

"TO PREVENT SLOPE EROSION, WITHIN SEDIMENT TRAPPING DEVICES, ADEQUATELY SIZED AND STABILIZED FLOW DIVERSION MEASURES (I.E., EARTH DIKE, TEMPORARY SWALE, PERIMETER DIKE/SWALE) SHALL BE INSTALLED AT THE UPSLOPE EXTENT OF TRAP, AND BASIN STORAGE AREAS TO DIVERT ALL FLOWS TO APPROPRIATE INFLOW PROTECTION DEVICES.

TEMPORARY STOCKPILES

IF TEMPORARY STOCKPILES ARE REQUIRED, THEY SHALL BE:

1. LOCATED WITHIN THE LIMITS OF DISTURBANCE (L.O.D.).
2. DRAIN TO A FUNCTIONING SEDIMENT CONTROL DEVICE.
3. POSITIONED TO NOT IMPEDE UPON, OR IMPAIR THE FUNCTION OF SAID DEVICE.
4. POSITION TO NOT ALTER DRAINAGE DIVIDES.

ADDRESS CHART

BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME			SECTION/AREA LOT/PARCEL	PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249			–	PARCEL A WITHIN PARCEL 249
PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581–15585	10	RC–DEO	14	4	6040.02

OWNER/DEVELOPER
HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410–313–4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE EROSION & SEDIMENT CONTROL COVERSHEET

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

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.

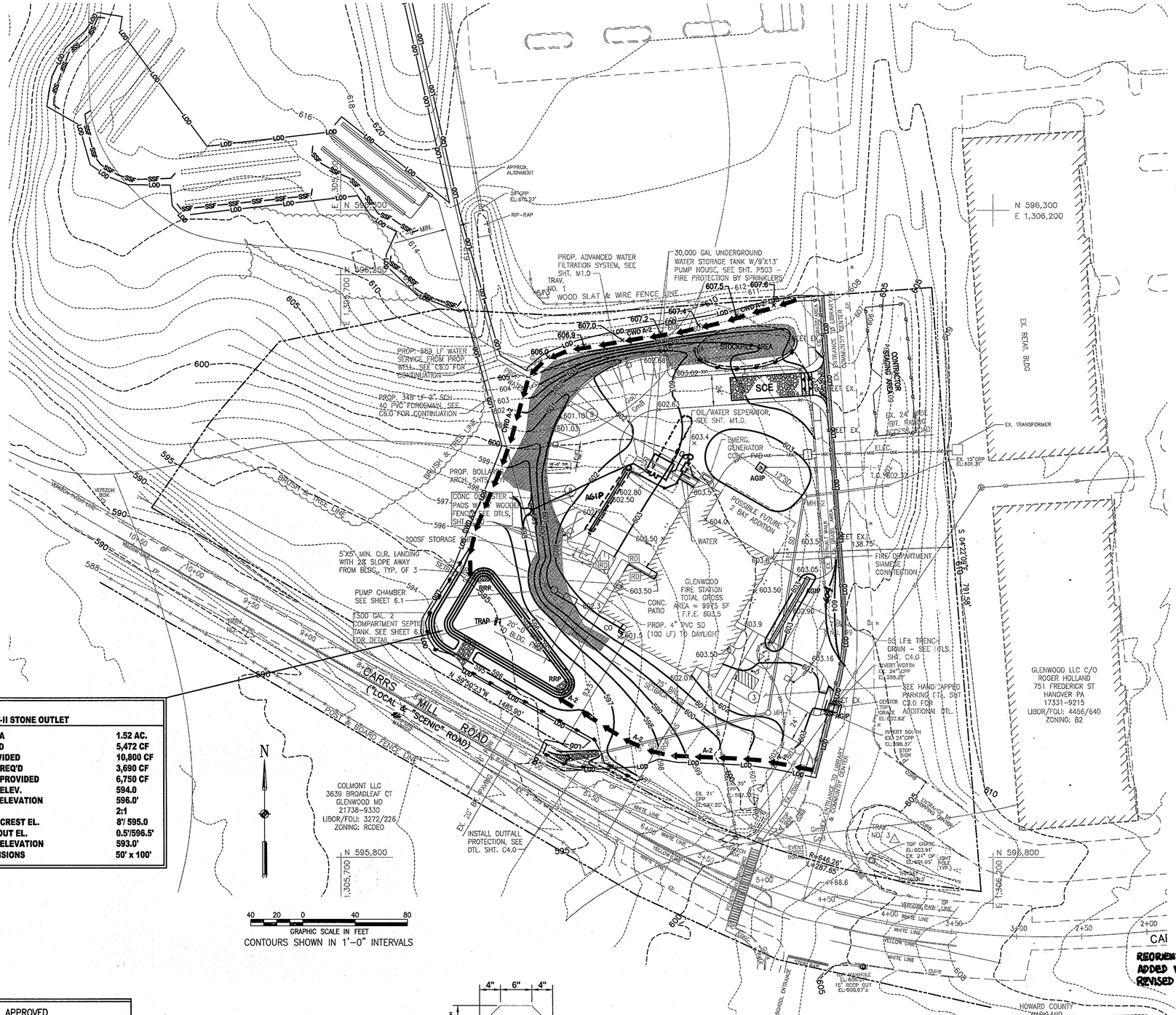
LICENSE No.: 14446
EXPIRATION DATE: 5-25-11

STATE OF MARYLAND — JUDITH ANNE CARROLL — No. 14446 — PROFESSIONAL ENGINEER

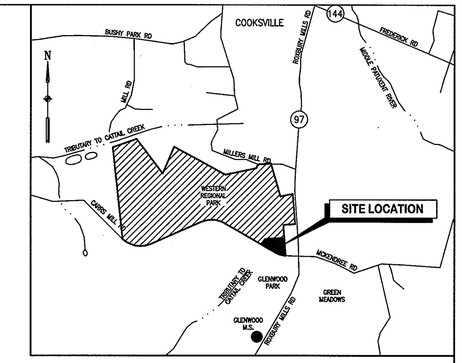
DESIGNED BY:	DWM
DRAWN BY:	DWM
PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	
DRAWING NO.:	7 OF 21

C5.0

SDP-10-049



TRAP #1 TRAP TYPE - ST-II STONE OUTLET	
DRAINAGE AREA	1.52 AC.
STORAGE REQ'D	5,472 CF
STORAGE PROVIDED	10,800 CF
WET STORAGE REQ'D	3,690 CF
WET STORAGE PROVIDED	6,750 CF
WET STORAGE ELEV.	594.0
EMBANKMENT ELEVATION	596.0'
SIDE SLOPE	2:1
WIER LENGTH/ CREST EL.	8'/ 595.0
DEPTH/ CLEANOUT EL.	0.5'/596.5'
TRAP BOTTOM ELEVATION	593.0'
BOTTOM DIMENSIONS	50' x 100'



VICINITY MAP

SCALE: 1"=2000'

LEGEND

- EROSION CONTROL MATTING
- TEMPORARY BITUMINOUS BERM
- CWD A-2 — CLEAN WATER EARTH DIKE
- A-2 — DIVERSION EARTH DIKE
- CF — 8' HIGH C/L CONSTRUCTION FENCE
- LOD — LIMIT OF DISTURBANCE
- SF — SILT FENCE
- AGIP — AT-GRADE INLET PROTECTION
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- RRP — RIP-RAP INFLOW PROTECTION
- PROPOSED BUILDING
- 100 — PROPOSED CONTOUR
- E — PROPOSED ELECTRIC
- PROPOSED ELECTRIC MANHOLE
- PROPOSED FENCELINE
- PROPOSED FIRE HYDRANT
- G — PROPOSED GAS
- GV — PROPOSED GAS VALVE
- SS — PROPOSED SANITARY
- PROPOSED SANITARY MANHOLE
- SD — PROPOSED STORMDRAIN
- PROPOSED STORMDRAIN MANHOLE
- T — PROPOSED TELEPHONE
- W — PROPOSED WATER
- WM — PROPOSED WATER METER
- WV — PROPOSED WATER VALVE
- EXISTING BUILDING
- EXISTING CURB
- EXISTING CURB & GUTTER
- 100 — EXISTING MAJOR CONTOUR
- 99 — EXISTING MINOR CONTOUR
- UGE — EXISTING UNDERGROUND ELECTRIC
- EXISTING ELECTRIC MANHOLE
- EXISTING FENCELINE
- EXISTING FIRE HYDRANT
- G — EXISTING GAS
- GV — EXISTING GAS VALVE
- EXISTING PROPERTY LINE
- EXISTING PAVING
- SS — EXISTING SANITARY
- EXISTING SANITARY MANHOLE
- EXISTING STREET LIGHT
- SD — EXISTING STORMDRAIN
- EXISTING STORMDRAIN MANHOLE
- T — EXISTING TELEPHONE
- EXISTING UTILITY POLE
- W — EXISTING WATERLINE
- WM — EXISTING WATER METER
- WV — EXISTING WATER VALVE

LOD = 2.71 AC. (117,889 SF)

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

John R Robertson — Howard SCD — 4/14/11 Date

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."

Judith A. Carroll — Signature of Engineer (print name below signature) — Judith A. Carroll — 4/8/2011 Date

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a certificate of attendance at a department of the environment approved training program for the control of sediment and erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

David Loudermilk — Signature of Developer (print name below signature) — 4/8/2011 Date

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OWNER/DEVELOPER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, 3430 COURT HOUSE DRIVE, ELLICOTT CITY, MARYLAND 21043, TEL: 410-313-4400

PROJECT: GLENWOOD FIRE STATION (PLAT #15581)

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215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
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PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	1" = 30'
DRAWING NO.:	8 OF 21

C5.1

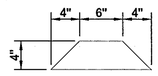
REORIENTED FIRE PUMP HOUSE, TANK AND PIPING.
ADDED WASH BAY AT REAR ENTRANCE AND STAIRS TO SOUTH END OF BLDG.
REVISED GRADING AT FRONT CONC. APRON.

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 4/25/11
DIRECTOR	DATE 5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

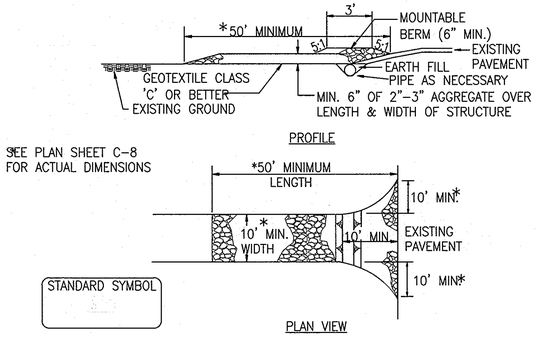
COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT	DATE 5/9/2011



TEMPORARY BITUMINOUS BERM

NOT TO SCALE

SDP-10-049



MAINTENANCE

THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL MINIMIZE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE ADDING STONE OR OTHER REPAIRS AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY BY VACUUM SWEEPING, SCRAPING, OR SWEEPING. WHEN NECESSARY, WHEELS SHALL BE CLEANED OR WASHED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. DAILY INSPECTION AND MAINTENANCE IS REQUIRED.

CONSTRUCTION ENTRANCE

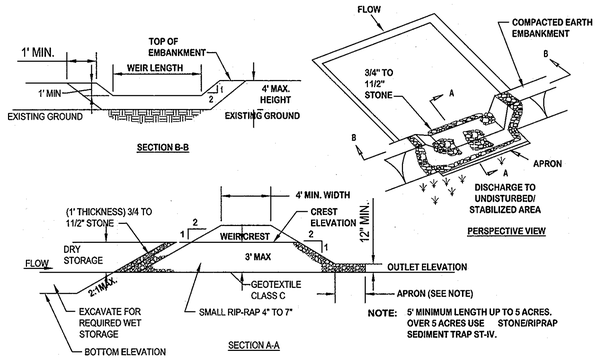
1. LENGTH - MINIMUM OF 50'
2. WIDTH - 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
3. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE.
4. STONE - CRUSHED AGGREGATE (2" TO 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
5. SURFACE WATER - ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 6" OF STONE OVER THE PIPE. PIPE HAS TO BE SIZED ACCORDING TO DRAINAGE. WHEN THE S.C.E. IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE WILL NOT BE NECESSARY. PIPE SHOULD BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MINIMUM WILL BE REQUIRED.
6. LOCATION - A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.

REMOVAL

AFTER CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED, THE STABILIZED CONSTRUCTION ENTRANCE WILL BE REMOVED AND THE AREA STABILIZED UNLESS IT WILL BE USED AS AN UNDERLAYMENT FOR A DRIVEWAY.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



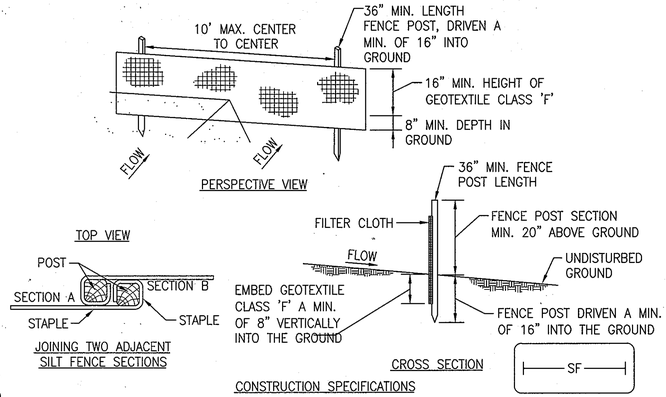
NOTE: 5' MINIMUM LENGTH UP TO 5 ACRES. OVER 5 ACRES USE STONE/RIPRAP SEDIMENT TRAP ST-IV.

CONSTRUCTION SPECIFICATIONS

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
4. THE STONE USED IN THE OUTLET SHALL BE SMALL RIP-RAP 4" TO 7" IN SIZE WITH A 1' THICK LAYER OF ¾" TO 1 ½" WASHED AGGREGATE PLACED ON THE UPSTREAM FACE OF THE OUTLET. STONE FACING SHALL BE AS NECESSARY TO PREVENT CLOGGING. GEOTEXTILE CLASS C MAY BE SUBSTITUTED FOR THE STONE FACING BY PLACING IT ON THE INSIDE FACE OF THE STONE OUTLET.
5. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF OF THE WET STORAGE DEPTH OF THE TRAP. REMOVE SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
6. THE STRUCTURE SHALL BE INSPECTED PERIODICALLY AND AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
7. CONSTRUCTION OF TRAPS SHALL BE CARRIED OUT IN SUCH A MANNER THAT SEDIMENT POLLUTION IS ABATED. ONCE CONSTRUCTED, THE TOP AND OUTSIDE FACE OF THE EMBANKMENT SHALL BE STABILIZED WITH SEED AND MULCH. POINTS OF CONCENTRATION INFLOW SHALL BE PROTECTED IN ACCORDANCE WITH GRADE STABILIZATION STRUCTURE CRITERIA. THE REMAINDER OF THE INTERIOR SLOPES SHOULD BE STABILIZED (ONE ITEM) WITH SEED AND MULCH UPON TRAP COMPLETION AND MONITORED AND MAINTAINED EROSION FREE DURING THE LIFE OF THE TRAP.
8. THE STRUCTURE SHALL BE DEWATERED BY APPROVED METHODS, REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
9. REFER TO SECTION D FOR SPECIFICATIONS CONCERNING TRAP DEWATERING.
10. MINIMUM TRAP DEPTH SHALL BE MEASURED FROM THE WEIR ELEVATION.
11. THE ELEVATION OF THE TOP OF ANY DIKE DIRECTING WATER INTO THE TRAP MUST EQUAL OR EXCEED THE ELEVATION OF THE TRAP EMBANKMENT.
12. GEOTEXTILE CLASS C SHALL BE PLACED OVER THE BOTTOM AND SIDES OF THE OUTLET CHANNEL PRIOR TO THE PLACEMENT OF STONE. SECTIONS OF FILTER CLOTH MUST OVERLAP AT LEAST 1' WITH THE SECTION NEAREST THE ENTRANCE PLACED ON TOP. THE FILTER CLOTH SHALL BE EMBEDDED AT LEAST 6" INTO EXISTING GROUND AT THE ENTRANCE OF THE OUTLET CHANNEL.
13. OUTLET - AN OUTLET SHALL BE PROVIDED, INCLUDING A MEANS OF CONVEYING THE DISCHARGE IN AN EROSION FREE MANNER TO AN EXISTING STABLE CHANNEL.

STONE OUTLET SEDIMENT TRAP ST-II

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. FENCE POSTS SHALL BE A MINIMUM OF 36" LONG, DRIVEN 16" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 1-1/2"x 1-1/2" SQUARE (MIN.) CUT, OR 1-3/4" DIAMETER (MIN.) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD T OR U SECTION WEIGHING NOT LESS THAN 1.00 POUNDS PER LINEAR FOOT.
2. GEOTEXTILE SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:
   - TENSILE STRENGTH: 50 lbs/in (MIN.) — TEST: MSMT 509
   - TENSILE MODULUS: 20 lbs/in (MIN.) — TEST: MSMT 509
   - FLOW RATE: 0.3 gal/ft²/minute (MAX.) — TEST: MSMT 322
   - FILTERING EFFICIENCY: 75% (MIN.) — TEST: MSMT 322
3. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS.
4. SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHES 50% OF THE FABRIC HEIGHT.

SILT FENCE

NOT TO SCALE

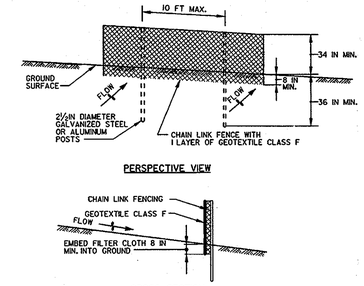
SILT FENCE DESIGN CRITERIA

SLOPE STEEPNESS	(MAXIMUM) SLOPE LENGTH	(MAXIMUM) SILT FENCE LENGTH
FLATTER THAN 50:1	UNLIMITED	UNLIMITED
50:1 TO 10:1	125 FEET	1,000 FEET
10:1 TO 5:1	100 FEET	750 FEET
5:1 TO 3:1	60 FEET	500 FEET
3:1 TO 2:1	40 FEET	250 FEET
2:1 OR 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.

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL — SSF —

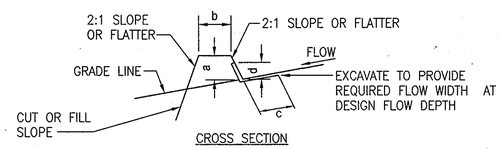


CONSTRUCTION SPECIFICATIONS

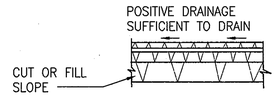
1. PLACE MINIMUM 9 GAUGE FENCING 42 INCHES IN HEIGHT CHAIN LINK FENCING. WHEN 6 FOOT FENCE IS SPECIFIED USE SHA SPECIFICATIONS FOR A 6 FOOT FENCE, SUBSTITUTING 42 INCHES OF GEOTEXTILE AND 6 FOOT LENGTH POSTS. POSTS DO NOT NEED TO BE SET IN CONCRETE. DRIVE 2½ INCH DIAMETER FENCE POST 36 INCHES INTO THE GROUND.
2. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS, AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE.
3. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHEN TWO SECTIONS OF GEOTEXTILE ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD.
5. PERFORM MAINTENANCE AS NEEDED AND REMOVE SILT BUILDUPS WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF THE FENCE HEIGHT.
6. MEET THE REQUIREMENTS FOR GEOTEXTILE CLASS F AS DESCRIBED IN SECTION H-1 MATERIAL SPECIFICATIONS IN THESE STANDARDS AND SPECIFICATIONS.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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



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



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

STANDARD SYMBOL A-2 B-3

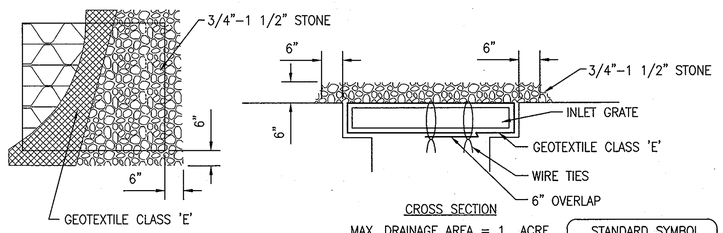
1. SEED AND COVER WITH STRAW MULCH.
2. SEED AND COVER WITH EROSION CONTROL MATTING OR LINE WITH SOD.
3. 4" - 7" STONE OR RECYCLED CONCRETE EQUIVALENT PRESSED INTO THE SOIL 7" MINIMUM

CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY EARTH DIKES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET. SPOT ELEVATIONS MAY BE NECESSARY FOR GRADES LESS THAN 1%.
2. RUNOFF DIVERTED FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENTTRAPPING DEVICE.
3. RUNOFF DIVERTED FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED, STABILIZED AREA AT A NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE DIKE.
5. THE DIKE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILL SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE DIKE.
8. INSPECTION AND MAINTENANCE MUST BE PROVIDED PERIODICALLY AND AFTER EACH RAIN EVENT.

EARTH DIKE

NOT TO SCALE



MAX. DRAINAGE AREA = 1 ACRE

STANDARD SYMBOL AGIP

CONSTRUCTION SPECIFICATIONS

1. LIFT GRATE AND WRAP WITH GEOTEXTILE CLASS 'E' TO COMPLETELY COVER ALL OPENINGS, THEN SET GRATE BACK IN PLACE.
2. PLACE 3/4" TO 1-1/2" STONE, 4"-6" THICK ON THE GRATE TO SECURE THE FABRIC AND PROVIDE ADDITIONAL FILTRATION.

MAINTENANCE

MAINTENANCE REQUIREMENTS FOR STORM DRAINS INLET PROTECTION INTENSE, DUE TO THE SUSCEPTIBILITY TO CLOGGING. WHEN THE STRUCTURE DOES NOT DRAIN COMPLETELY WITHIN 48 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, ACCUMULATED SEDIMENT MUST BE REMOVED AND THE GEOTEXTILE FABRIC AND STONE MUST BE CLEANED OR REPLACED.

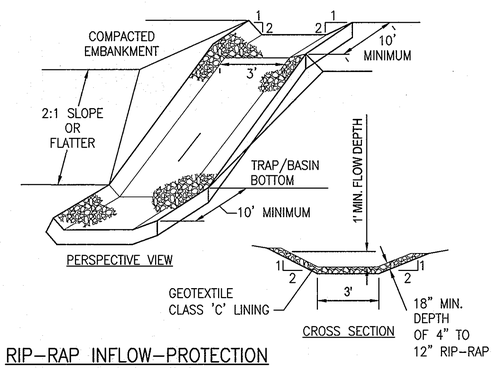
AT GRADE INLET PROTECTION

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

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

STANDARD SYMBOL RRP



RIP-RAP INFLOW-PROTECTION

NOT TO SCALE

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

John R. Robertson — Howard SCD — 4/14/11 Date

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."

Judith A. Carroll — Signature of Engineer (print name below signature) — Judith A. Carroll — 4/8/2011 Date

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a certificate of attendance at a department of the environment approved training program for the control of sediment and erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer (print name below signature) — David Loudermilk — 4/8/2011 Date

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 4/25/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 4/25/11
DIRECTOR	DATE 5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER — DATE 5/9/2011
HOWARD COUNTY HEALTH DEPARTMENT

ADDRESS CHART	
BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME			SECTION/AREA LOT/PARCEL	PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249			-	PARCEL A WITHIN PARCEL 249
PLAT# OR L/F	GRID	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	RC-DEO	14	4	6040.02

OWNER/DEVELOPER HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE EROSION & SEDIMENT CONTROL DETAILS

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

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.: 14446
EXPIRATION DATE: 5-25-11

STATE OF MARYLAND — JUDITH ANNE CARROLL — REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY:	DWM
DRAWN BY:	DWM
PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	
DRAWING NO.:	9 OF 21

C5.2

SDP-10-049

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

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

SEEDING -- FOR THE PERIODS MARCH 1 -- APRIL 30, AND AUGUST 1 -- OCTOBER 15, SEED WITH 60 LBS/ACRE (1.4 LBS/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 -- JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 IBS/ACRE (. 05 LBS/100() SQ. FT.) OF WEEP ING LO VEGRASS. DURING THE PERIOD OF OCTOBER 16 -- FEBRUARY 28, PROTECT SITE BY:

OPTION 1 -- TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING.
OPTION 2 -- USE SOD.
OPTION 3 -- SEER: WITH 60 LBS/ACRE KENTUCKY 30 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING -- APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

MAINTENANCE -- INSPECT ALL SEED ING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEED INGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RE-DISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: -- LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS : -- APPLY 600 LBS/ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.).

SEEDING: -- FOR PERIODS MARCH 1 -- APRIL 30 AND FROM AUGUST 15 -- OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3. 2 LBS/1000 SQ. FT.). FOR THE PERIOD MAY 1 -- AUGUST 14, SEED WITH 3 LBS/ACRE OF WEEP ING LOVEGRASS (.07 LBS/1000 SQ. FT.). FOR THE PERIOD NOVEMBER 16 -- FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS/ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: -- APPLY L-1/2 TO 2 TONS/ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED WEED-FREE, SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

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

Howard SCD — Date 4/14/11

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."

Judith A. Carroll — Judith A. Carroll — 4/8/2011
Signature of Engineer (print name below signature) — Date

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a certificate of attendance at a department of the environment approved training program for the control of sediment and erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

David Laudermilk — 4/8/2011
Signature of Developer (print name below signature) — Date

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5/25/11
DIRECTOR	DATE 5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER — DATE 5/9/2011
HOWARD COUNTY HEALTH DEPARTMENT

ADDRESS CHART

BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL	PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249	-		PARCEL A WITHIN PARCEL 249

PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	RC-DEO	14	4	6040.02

OWNER/DEVELOPER HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE EROSION & SEDIMENT CONTROL NOTES

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

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.

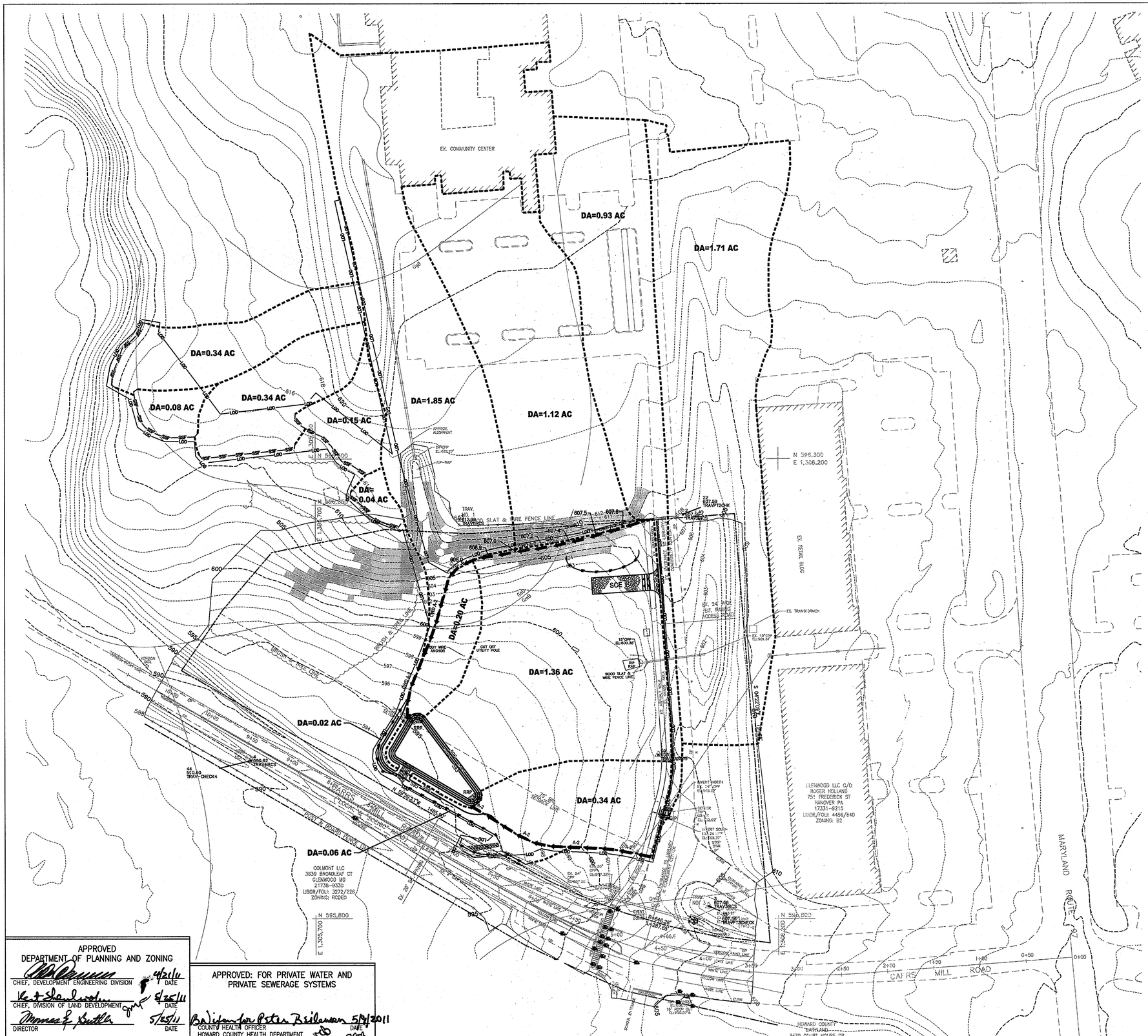
LICENSE No.: 14446
EXPIRATION DATE: 5-25-11

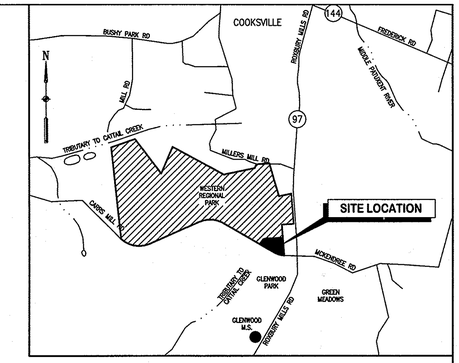
STATE OF MARYLAND — JUDITH ANNE CARROLL — No. 14446 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY:	DWM
DRAWN BY:	DWM
PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	
DRAWING NO.:	10 OF 21

C5.3

SDP-10-049





VICINITY MAP

SCALE: 1"=2000'

N

50 25 0 50 100

GRAPHIC SCALE IN FEET

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

Howard SCD — Date 4/14/11

ADDRESS CHART	
BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME			SECTION/AREA LOT/PARCEL		PARCEL NO.
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DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE EXISTING DRAINAGE AREA MAP

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

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LICENSE No.: 14446
EXPIRATION DATE: 5-25-11

STATE OF MARYLAND — DAVID W. MOSER — REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY:	DWM
DRAWN BY:	DWM
PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	1" = 50'
DRAWING NO.:	11 OF 21

C5.4

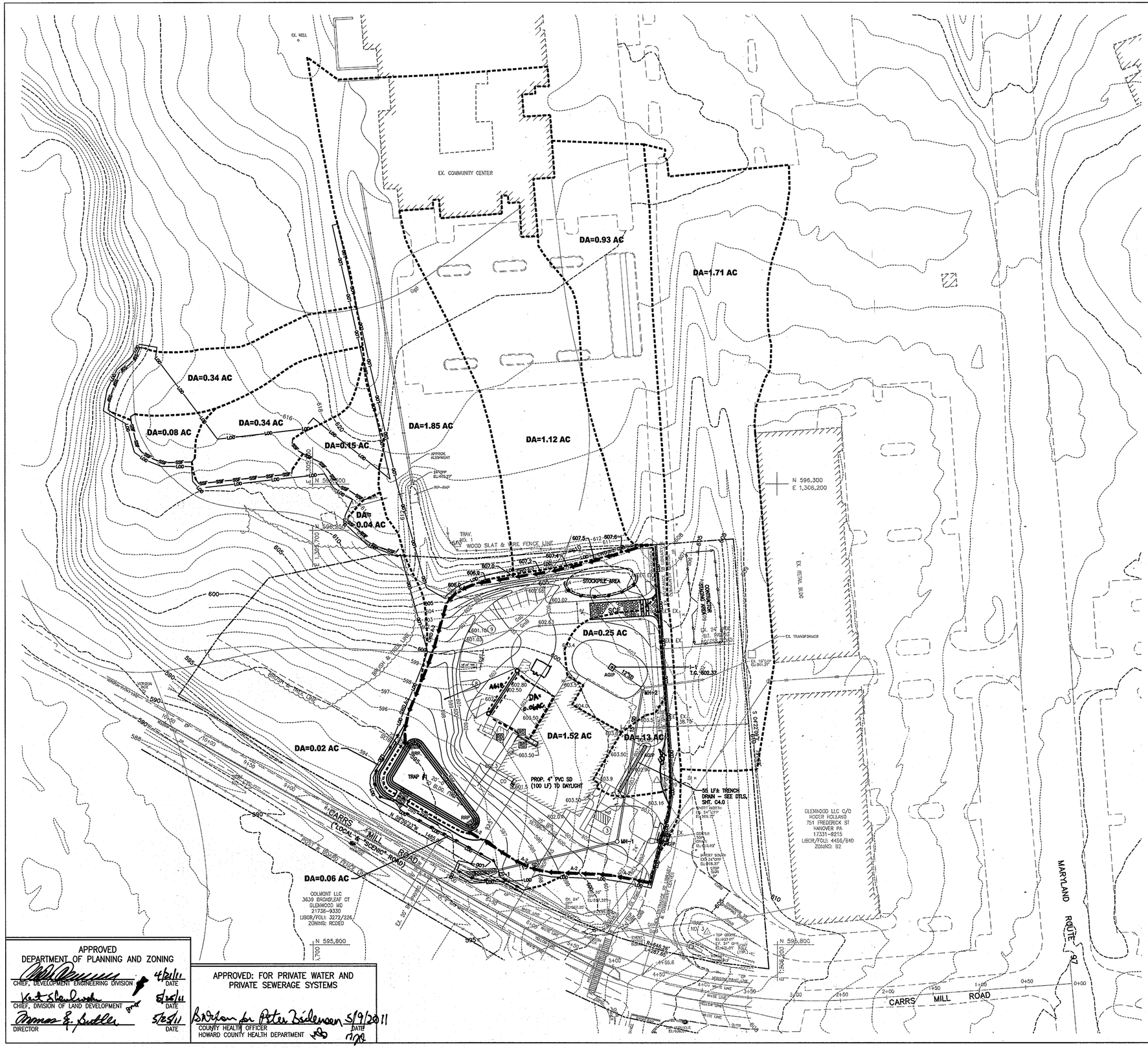
APPROVED
DEPARTMENT OF PLANNING AND ZONING

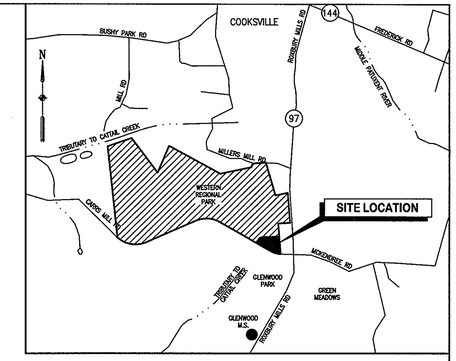
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/25/11
DIRECTOR — DATE 5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER — DATE 5/9/2011
HOWARD COUNTY HEALTH DEPARTMENT

SDP-10-049





VICINITY MAP

SCALE: 1"=2000'

REORIENTED FIRE PUMP HOUSE, TANK AND PIPING.
ADDED WASH BAY AT REAR ENTRANCE AND STAIRS TO SOUTH END OF BLDG.
REVISED GRADING AT FRONT CONC. APRON.

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

Howard SCD Date

N

50 25 0 50 100

GRAPHIC SCALE IN FEET

ADDRESS CHART	
BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME			SECTION/AREA LOT/PARCEL		PARCEL NO.
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3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE PROPOSED DRAINAGE AREA MAP

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

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.: 14446

EXPIRATION DATE: 5-25-11

DESIGNED BY: DWM

DRAWN BY: DWM

PROJECT NO.: 0909.16.00

DATE: MARCH 31, 2011

SCALE: 1" = 50'

DRAWING NO.: 12 OF 21

C5.5

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4/21/11

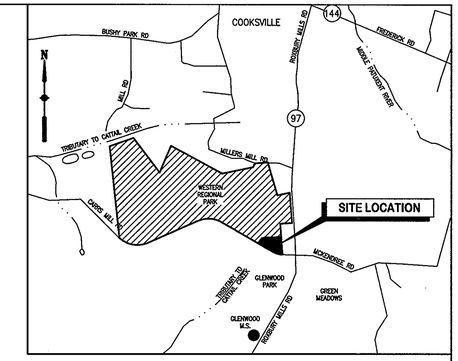
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/25/11

DIRECTOR — DATE 5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER — DATE 5/9/2011
HOWARD COUNTY HEALTH DEPARTMENT

SDP-10-049



VICINITY MAP

SCALE: 1"=2000'

Figure 4.01

STORM DRAIN COMPUTATIONS

PROJ. NAME: GLENWOOD FIRE STATION No. 31
COMP. BY: D.M
DATE: 12-16-10
CHECKED BY: T.R
DATE: 12-16-10
SHEET ____ of ____
DESIGN FREQUENCY: 10 YR.
(SEAL)

FROM NO.	TO NO.	INC. AREA (AC)	TOTAL AREA (AC)	C	CXA	SUM (CXA)	TIME (MIN)	I (INTR)	Q (CFS)	DES. SLOPE (%)	DIAMETER (IN)	VELOCITY (FPS)	LENGTH (FT)	TIME (MIN)	REMARKS
				PIPE											
E.ES	M-1	1.71		0.30	0.51		10.0	5.86	3.01	0.22	15	2.45	63	0.4	
I-1	M-1	0.29		0.41	~~0.12~~ 0.12		5.0	~~6.70~~ 6.70	1.17	0.10	12	1.20	39	0.5	SUMP
M-1	CUT-IN		2.00	-	-	0.65	10.4	5.80	3.77	0.31	15	2.86	124	0.7	
	CUT-IN	0.16		0.82	0.13		5.0	6.60	0.91	-	-	-	-	-	TRENCH DRAIN
CUT-IN	ES-1		2.16	-	-	0.78	11.1	5.60	4.36	0.44	15	3.40	172		

4-31

REORIENTED FIRE PUMP HOUSE, TANK AND PIPING.
ADDED WASH BAY AT REAR ENTRANCE AND STAIRS TO SOUTH END OF BLDG.
REVISED GRADING AT FRONT CONC. APRON.

ADDRESS CHART	
BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL	PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249	-		PARCEL A WITHIN PARCEL 249

PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	RC-DEO	14	4	6040.02

OWNER/DEVELOPER HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE STORM DRAIN TABULATIONS

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

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.: 14446
EXPIRATION DATE: 5-25-11

STATE OF MARYLAND — DAVID M. MARTIN — No. 14446 — PROFESSIONAL ENGINEER

DESIGNED BY:	DWM
DRAWN BY:	DWM
PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	1" = 50'
DRAWING NO.:	13 OF 21

C5.6

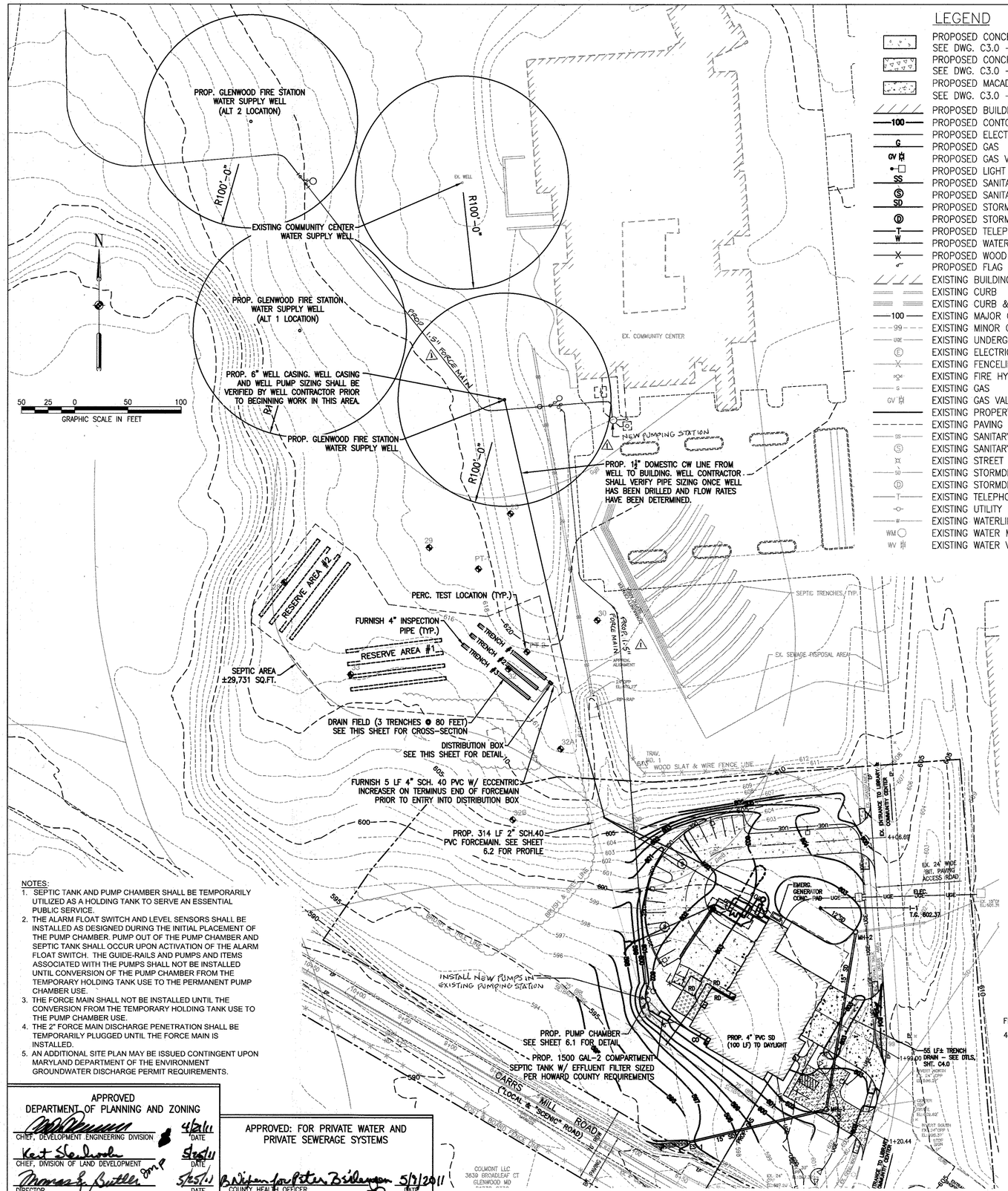
APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5/25/11
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/25/11
DIRECTOR — DATE 5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

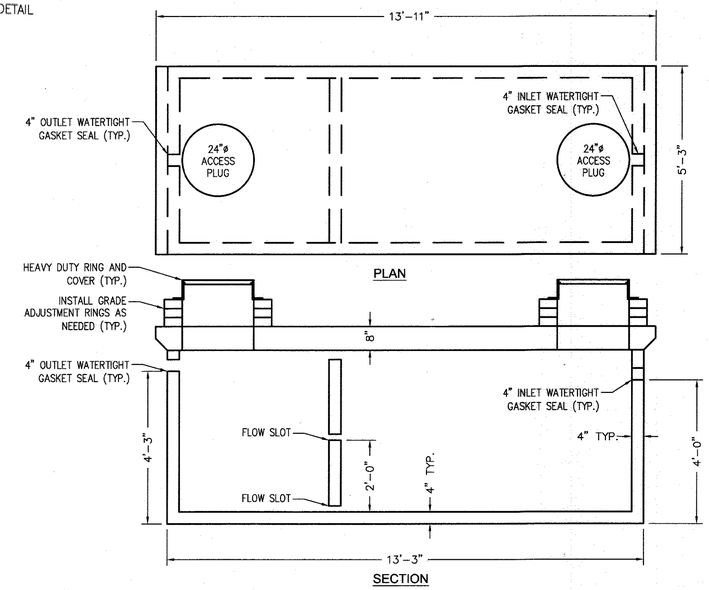
COUNTY HEALTH OFFICER — DATE 5/5/2011
HOWARD COUNTY HEALTH DEPARTMENT

SDP-10-049



LEGEND

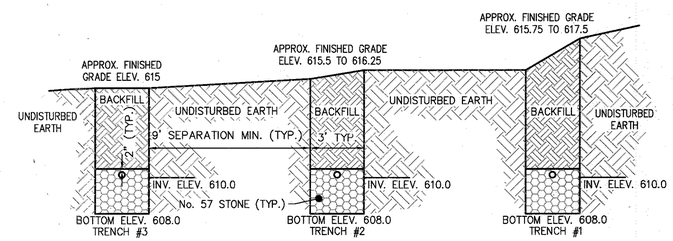
- PROPOSED CONCRETE PAVING — SEE DWG. C3.0 – CONCRETE PAVING DETAIL
- PROPOSED CONCRETE WALK — SEE DWG. C3.0 – DETAIL R-3.05
- PROPOSED MACADAM — SEE DWG. C3.0 – R-2.01 (P-2)
- PROPOSED BUILDING
- 100 PROPOSED CONTOUR
- PROPOSED ELECTRIC
- G PROPOSED GAS
- GV PROPOSED GAS VALVE
- PROPOSED LIGHT
- SS PROPOSED SANITARY
- S PROPOSED SANITARY MANHOLE
- SD PROPOSED STORMDRAIN
- D PROPOSED STORMDRAIN MANHOLE
- T PROPOSED TELEPHONE
- W PROPOSED WATER
- PROPOSED WOOD FENCE
- PROPOSED FLAG POLE
- EXISTING BUILDING
- EXISTING CURB
- EXISTING CURB & GUTTER
- 100 EXISTING MAJOR CONTOUR
- 99 EXISTING MINOR CONTOUR
- UGE EXISTING UNDERGROUND ELECTRIC
- E EXISTING ELECTRIC MANHOLE
- EXISTING FENCELINE
- FDH EXISTING FIRE HYDRANT
- G EXISTING GAS
- GV EXISTING GAS VALVE
- EXISTING PROPERTY LINE
- EXISTING PAVING
- SS EXISTING SANITARY
- S EXISTING SANITARY MANHOLE
- EXISTING STREET LIGHT
- SD EXISTING STORMDRAIN
- D EXISTING STORMDRAIN MANHOLE
- T EXISTING TELEPHONE
- EXISTING UTILITY POLE
- W EXISTING WATERLINE
- WM EXISTING WATER METER
- WV EXISTING WATER VALVE



SEPTIC TANK DETAIL

SCALE: 1"=2'

NOTES:
1. CONTRACTOR TO FURNISH SHOP DRAWINGS TO ENGINEER FOR APPROVAL. MANUFACTURER SHALL FURNISH REBAR DESIGN.
2. SEPTIC TANK SHALL BE A 1500 GALLON TWO COMPARTMENT TANK MEETING ALL REQUIREMENTS OF HOWARD COUNTY.



DRAIN FIELD TRENCH CROSS-SECTION

SCALE: 1"=4'

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

Howard SCD — Date

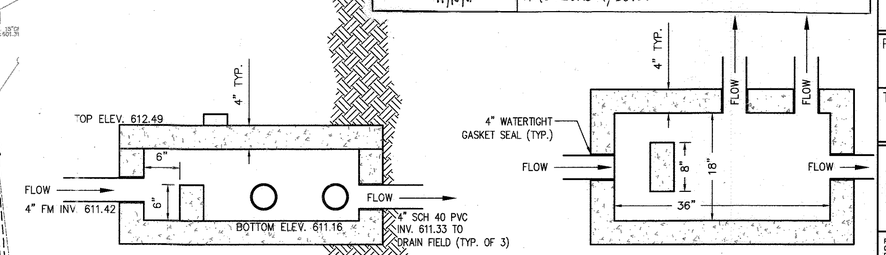
FINISHED GRADE ELEV. ±615.5

REVISION #1 - BLDG (07/29/16)
MODIFIED EX. PUMPING STATIONS, ADDED NEW PUMPING STATIONS AND INSTALLED NEW 1.5" FORCE MAIN.

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, IWONA ROSTEK-ZARSKA, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE No. 21249, EXPIRATION DATE: JUNE 9, 2018.

11/18/16



SECTION — PLAN

DISTRIBUTION BOX DETAIL

SCALE: 1"=1'

REORIENTED FIRE PUMP HOUSE, TANK AND PIPING.
ADDED WASH BAY AT REAR ENTRANCE AND STAIRS TO SOUTH END OF BLDG.
REVISED GRADING AT FRONT CONC. APRON.

NOTES:
1. SEPTIC TANK AND PUMP CHAMBER SHALL BE TEMPORARILY UTILIZED AS A HOLDING TANK TO SERVE AN ESSENTIAL PUBLIC SERVICE.
2. THE ALARM FLOAT SWITCH AND LEVEL SENSORS SHALL BE INSTALLED AS DESIGNED DURING THE INITIAL PLACEMENT OF THE PUMP CHAMBER. PUMP OUT OF THE PUMP CHAMBER AND SEPTIC TANK SHALL OCCUR UPON ACTIVATION OF THE ALARM FLOAT SWITCH. THE GUIDE-RAILS AND PUMPS AND ITEMS ASSOCIATED WITH THE PUMPS SHALL NOT BE INSTALLED UNTIL CONVERSION OF THE PUMP CHAMBER FROM THE TEMPORARY HOLDING TANK USE TO THE PERMANENT PUMP CHAMBER USE.
3. THE FORCE MAIN SHALL NOT BE INSTALLED UNTIL THE CONVERSION FROM THE TEMPORARY HOLDING TANK USE TO THE PUMP CHAMBER USE.
4. THE 2" FORCE MAIN DISCHARGE PENETRATION SHALL BE TEMPORARILY PLUGGED UNTIL THE FORCE MAIN IS INSTALLED.
5. AN ADDITIONAL SITE PLAN MAY BE ISSUED CONTINGENT UPON MARYLAND DEPARTMENT OF THE ENVIRONMENT GROUNDWATER DISCHARGE PERMIT REQUIREMENTS.

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5/5/11
DIRECTOR	DATE 5/5/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT — DATE 5/2/2011

ADDRESS CHART	
BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME			SECTION/AREA LOT/PARCEL	PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249			-	PARCEL A WITHIN PARCEL 249
PLAT# OR L/F	GRID	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	RC-DEO	14	4	6040.02

OWNER/DEVELOPER
HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE PROPOSED SEPTIC PLAN

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

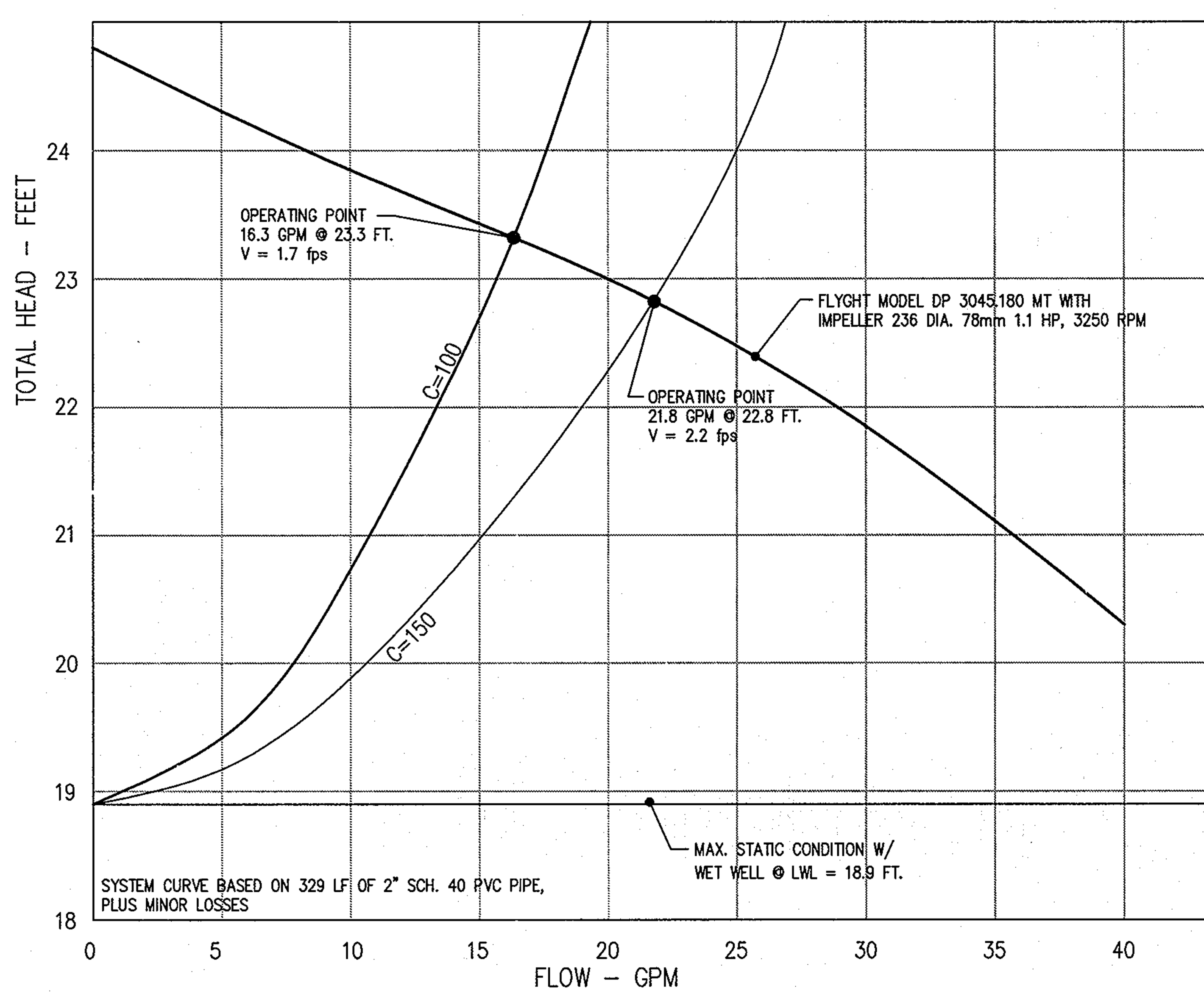
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE No.: 14446
EXPIRATION DATE: 5-25-11

DESIGNED BY:	DWM
DRAWN BY:	DWM
PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	1" = 30'
DRAWING NO.:	14 OF 21

C6.0

SDP-10-049



PUMP AND SYSTEM CURVE

DESIGN CRITERIA

PROJECTED WASTEWATER FLOW

SERVICE AREA

ONSITE – GLENWOOD FIRE STATION

SIZED FOR 6 BEDROOMS @ 150 GPD PER BEDROOM

AVERAGE DAILY FLOW:
Qa= 150 GPD/BEDROOM   Qa= 150 GPD x 6 BEDROOMS =   Qa = 900 GPD

PEAK DESIGN FLOW:
Qp=Qa x 3.5 = 900 x 3.5   Qp = 3,150 GPD
Qp = 2.2 GPM
PUMP RATE > 2.2 GPM

PUMPING UNITS

PROVIDED: 2 @ 14 GPM @ 23.5 FEET TDH EACH
MOTOR: 1.1 HP, 3265 RPM
SELECTION FOR PUMP AND SYSTEM CURVE: FLYGHT MODEL
No. DP 3045.180 MT (12–08–2AA) WITH IMPELLER NO. 236 (78 mm), 2" DISCHARGE
230 VOLT, 1 PHASE, 2 POLE

WET WELL – 5 FT. I.D.

OPERATING STORAGE = 0.5' = 73.5 GAL.
REQUIRED Qa STORAGE ABOVE HW ALARM = 600.84 (BOTTOM OF LID) – 594.00 (HW ALARM) = 6.84 FEET
VOLUME PROVIDED = 6.84 FEET x 147 GAL./FOOT = 1005 GAL.

LIFT STATION CALCULATIONS

Glenwood Fire Station

V. Calculation of System Head Curve:

Total Static Head = 18.90 Feet

	K-Value	Station Piping No.	Tot K	2" FM No.	Tot K	No.	Tot K
Pipe Length		15		314		0	
Pipe Inside Dia. (inches)		2		2		8	
Pipe Area (Sq.-Ft.)		0.022		0.022		0.349	
Roughness C		100		100		100	
Fittings:							
Discharge Conn.	1.0	1	1	1	1	0	0
90 Deg. Bend	0.6	2	1.2	0	0	0	0
45 Deg. Bend	0.4	2	0.8	2	0.8	0	0
22.5 Deg. Bend	0.25	0	0	0	0	0	0
11.25 Deg. Bend	0.15	0	0	2	0.3	0	0
Expansion	0.5	0	0	1	0.5	0	0
Gate Valve	0.5	1	0.5	0	0	0	0
Check Valve	2.5	0	0	0	0	0	0
Wye Branch	0.5	2	1	0	0	0	0
Contraction	0.5	0	0	1	0.5	0	0
Total K-Value			4.5		3.1		0.0

System Head Curve

FLOW	V (fps)	Pipe	Fittings	Pipe	Fittings	Pipe	Fittings	Total	TDH (feet)
		Friction Losses in Feet							
15.50	1.6	0.17	0.18	3.55	0.12	0.00	0.00	4.02	22.92
15.55	1.6	0.17	0.18	3.58	0.12	0.00	0.00	4.04	22.94
15.60	1.6	0.17	0.18	3.60	0.12	0.00	0.00	4.07	22.97
15.65	1.6	0.17	0.18	3.62	0.12	0.00	0.00	4.09	22.99
15.70	1.6	0.17	0.18	3.64	0.12	0.00	0.00	4.12	23.02
15.75	1.6	0.17	0.18	3.66	0.12	0.00	0.00	4.14	23.04
15.80	1.6	0.18	0.18	3.68	0.13	0.00	0.00	4.17	23.07
15.85	1.6	0.18	0.18	3.70	0.13	0.00	0.00	4.19	23.09
15.90	1.6	0.18	0.18	3.73	0.13	0.00	0.00	4.21	23.11
15.95	1.6	0.18	0.19	3.75	0.13	0.00	0.00	4.24	23.14
16.00	1.6	0.18	0.19	3.77	0.13	0.00	0.00	4.26	23.16
16.05	1.6	0.18	0.19	3.79	0.13	0.00	0.00	4.29	23.19
16.10	1.6	0.18	0.19	3.81	0.13	0.00	0.00	4.31	23.21
16.15	1.6	0.18	0.19	3.84	0.13	0.00	0.00	4.34	23.24
16.20	1.7	0.18	0.19	3.86	0.13	0.00	0.00	4.36	23.26
16.25	1.7	0.19	0.19	3.88	0.13	0.00	0.00	4.39	23.29
16.30	1.7	0.19	0.19	3.90	0.13	0.00	0.00	4.41	23.31
16.35	1.7	0.19	0.19	3.92	0.13	0.00	0.00	4.44	23.34
16.40	1.7	0.19	0.20	3.95	0.14	0.00	0.00	4.47	23.37
16.45	1.7	0.19	0.20	3.97	0.14	0.00	0.00	4.49	23.39
16.50	1.7	0.19	0.20	3.99	0.14	0.00	0.00	4.52	23.42
16.55	1.7	0.19	0.20	4.01	0.14	0.00	0.00	4.54	23.44
16.60	1.7	0.19	0.20	4.04	0.14	0.00	0.00	4.57	23.47
16.65	1.7	0.19	0.20	4.06	0.14	0.00	0.00	4.59	23.49
16.70	1.7	0.19	0.20	4.08	0.14	0.00	0.00	4.62	23.52
16.75	1.7	0.20	0.20	4.10	0.14	0.00	0.00	4.64	23.54
16.80	1.7	0.20	0.21	4.13	0.14	0.00	0.00	4.67	23.57

* ADF = Average Daily Flow.
* PDF = Peak Daily Flow.

Operating Point = 16.3 @ 23.3 ft. Head
Pumps: Flyght DP 3045 MT 1.1hp (12-08-2AA)
2" Discharge, 3265 rpm, impeller 78mm
230v / 1 phase, 2 pole

Wet Well Area =	19.63	sf	Inflow =	2.2	gpm
Pump On El. =	593.00	ft	Outflow =	16.3	gpm
Pump Off El. =	592.50	ft			
Storage Volume =	9.82	cf			
	73.44	gal			
Pump On Time =	5.21	minutes (Peak Conditions)			
Pump Off Time =	33.38	minutes (Peak Conditions)			

LIFT STATION CALCULATIONS

Glenwood Fire Station

V. Calculation of System Head Curve:

Total Static Head = 18.90 Feet

	K-Value	Station Piping No.	Tot K	2" FM No.	Tot K	No.	Tot K
Pipe Length		15		314		0	
Pipe Inside Dia. (inches)		2		2		8	
Pipe Area (Sq.-Ft.)		0.022		0.022		0.349	
Roughness C		150		150		100	
Fittings:							
Discharge Conn.	1.0	1	1	1	1	0	0
90 Deg. Bend	0.6	2	1.2	0	0	0	0
45 Deg. Bend	0.4	2	0.8	2	0.8	0	0
22.5 Deg. Bend	0.25	0	0	0	0	0	0
11.25 Deg. Bend	0.15	0	0	2	0.3	0	0
Expansion	0.5	0	0	1	0.5	0	0
Gate Valve	0.5	1	0.5	0	0	0	0
Check Valve	2.5	0	0	0	0	0	0
Wye Branch	0.5	2	1	0	0	0	0
Contraction	0.5	0	0	1	0.5	0	0
Total K-Value			4.5		3.1		0.0

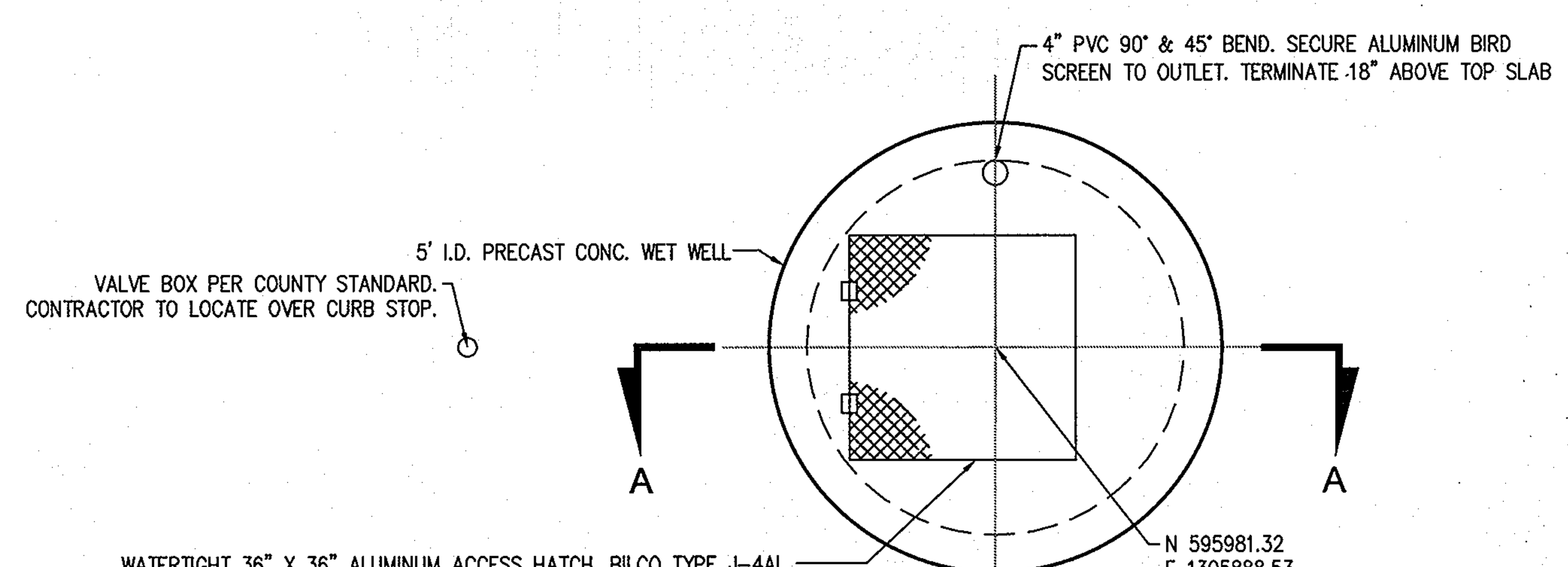
System Head Curve

FLOW	V (fps)	Pipe	Fittings	Pipe	Fittings	Pipe	Fittings	Total	TDH (feet)
		Friction Losses in Feet							
21.00	2.1	0.14	0.32	2.94	0.22	0.00	0.00	3.63	22.53
21.05	2.1	0.14	0.32	2.96	0.22	0.00	0.00	3.64	22.54
21.10	2.2	0.14	0.32	2.97	0.22	0.00	0.00	3.66	22.56
21.15	2.2	0.14	0.33	2.98	0.22	0.00	0.00	3.68	22.58
21.20	2.2	0.14	0.33	3.00	0.23	0.00	0.00	3.69	22.59
21.25	2.2	0.14	0.33	3.01	0.23	0.00	0.00	3.71	22.61
21.30	2.2	0.14	0.33	3.02	0.23	0.00	0.00	3.72	22.62
21.35	2.2	0.14	0.33	3.04	0.23	0.00	0.00	3.74	22.64
21.40	2.2	0.15	0.33	3.05	0.23	0.00	0.00	3.76	22.66
21.45	2.2	0.15	0.34	3.06	0.23	0.00	0.00	3.77	22.67
21.50	2.2	0.15	0.34	3.07	0.23	0.00	0.00	3.79	22.69
21.55	2.2	0.15	0.34	3.09	0.23	0.00	0.00	3.81	22.71
21.60	2.2	0.15	0.34	3.10	0.23	0.00	0.00	3.82	22.72
21.65	2.2	0.15	0.34	3.11	0.24	0.00	0.00	3.84	22.74
21.70	2.2	0.15	0.34	3.13	0.24	0.00	0.00	3.86	22.76
21.75	2.2	0.15	0.34	3.14	0.24	0.00	0.00	3.87	22.77
21.80	2.2	0.15	0.35	3.15	0.24	0.00	0.00	3.89	22.79
21.85	2.2	0.15	0.35	3.17	0.24	0.00	0.00	3.91	22.81
21.90	2.2	0.15	0.35	3.18	0.24	0.00	0.00	3.92	22.82
21.95	2.2	0.15	0.35	3.19	0.24	0.00	0.00	3.94	22.84
22.00	2.2	0.15	0.35	3.21	0.24	0.00	0.00	3.96	22.86
22.05	2.3	0.15	0.35	3.22	0.24	0.00	0.00	3.97	22.87
22.10	2.3	0.15	0.36	3.24	0.25	0.00	0.00	3.99	22.89
22.15	2.3	0.16	0.36	3.25	0.25	0.00	0.00	4.01	22.91
22.20	2.3	0.16	0.36	3.26	0.25	0.00	0.00	4.02	22.92
22.25	2.3	0.16	0.36	3.28	0.25	0.00	0.00	4.04	22.94
22.30	2.3	0.16	0.36	3.29	0.25	0.00	0.00	4.06	22.96

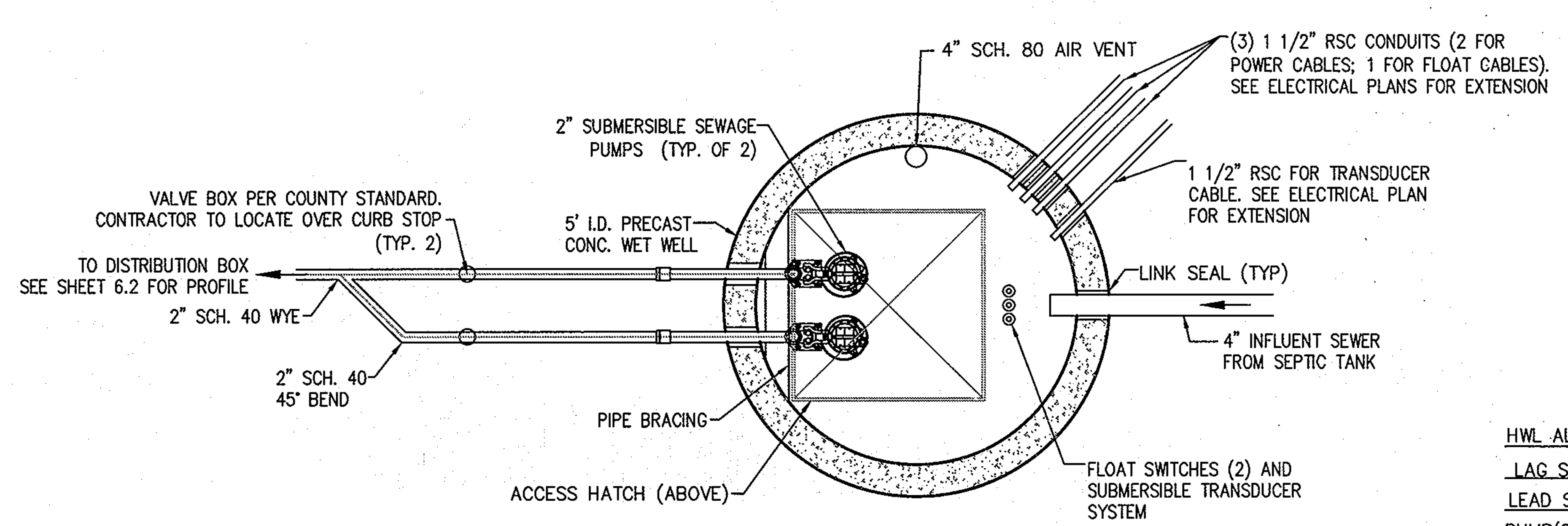
* ADF = Average Daily Flow.
* PDF = Peak Daily Flow.

Operating Point = 21.8 @ 22.8 ft. Head
Pumps: Flyght DP 3045 MT 1.1hp (12-08-2AA)
2" Discharge, 3265 rpm, impeller 78mm
230v / 1 phase, 2 pole

Wet Well Area =	19.63	sf	Inflow =	2.2	gpm
Pump On El. =	593.00	ft	Outflow =	21.8	gpm
Pump Off El. =	592.50	ft			
Storage Volume =	9.82	cf			
	73.44	gal			
Pump On Time =	3.75	minutes (Peak Conditions)			
Pump Off Time =	33.38	minutes (Peak Conditions)			



TOP PLAN

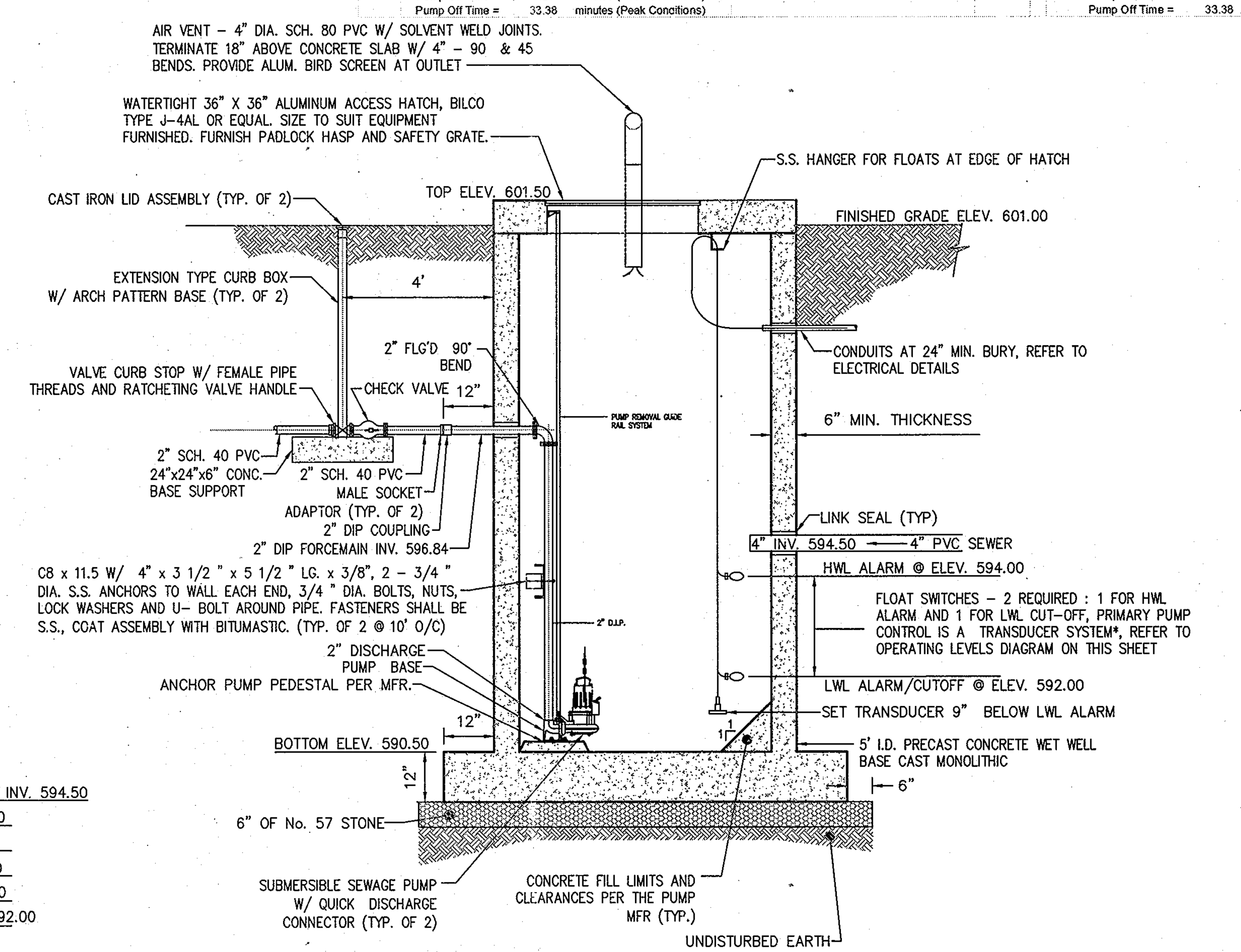


LOWER PLAN

DESIGN SETTINGS
4" SAN. @ INV. 594.50
HWL ALARM @ EL. 594.00
LAG START @ EL. 593.50
LEAD START @ EL. 593.00
PUMP(S) OFF @ EL. 592.50
LWL ALARM/CUT-OFF @ EL. 592.00

WET WELL BOTTOM @ ELEV. 590.50

PUMP OPERATING LEVELS



SECTION A-A

CONTRACTOR TO FURNISH SHOP DRAWINGS FOR WET WELL TO ENGINEER FOR APPROVAL. MANUFACTURER SHALL FURNISH REBAR DESIGN.

DETAIL -SEWAGE PUMP CHAMBER

SCALE: 1"=2'

APPROVED
DEPARTMENT OF PLANNING AND ZONING

[signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION	4/21/11 DATE
[signature] CHIEF, DIVISION OF LAND DEVELOPMENT	5/25/11 DATE
[signature] DIRECTOR	5/25/11 DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

[signature] for Peter Bislenson 5/9/2011
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT
DATE

ADDRESS CHART

BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME	SECTION/AREA LOT/PARCEL	PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249	–	PARCEL A WITHIN PARCEL 249

PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	RC-DEO	14	4	6040.02

OWNER/DEVELOPER HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE PUMP CHAMBER DETAIL

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

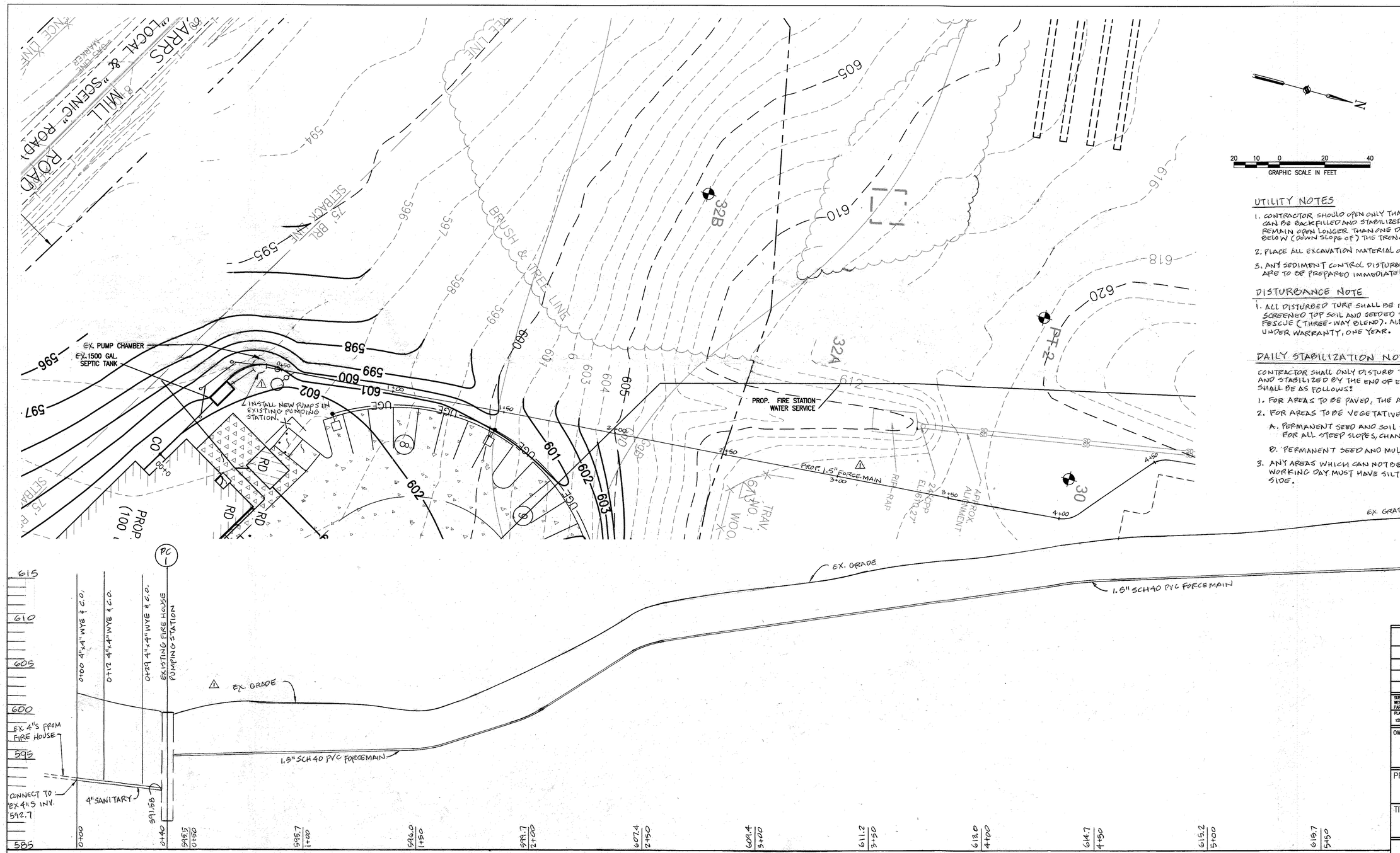
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE No.: 14446
EXPIRATION DATE: 5-25-11

STATE OF MARYLAND JUDITH ANNE CARROLL PROFESSIONAL ENGINEER

DESIGNED BY:	DWM
DRAWN BY:	DWM
PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	1" = 30'
DRAWING NO.:	15 OF 21

C6.1

SDP-10-049



UTILITY NOTES

1. CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWN SLOPE OF) THE TRENCH.
2. PLACE ALL EXCAVATION MATERIAL ON UPHILL SIDE OF TRENCH.
3. ANY SEDIMENT CONTROL DISTURBED BY UTILITY CONSTRUCTION ARE TO BE PREPARED IMMEDIATELY.

DISTURBANCE NOTE

1. ALL DISTURBED TURF SHALL BE REPLACED WITH FOUR INCHES OF SCREENED TOP SOIL AND SEEDED WITH 100% TALL TURF TYPE FESCUE (THREE-WAY BLEND). ALL TURF SHALL BE ESTABLISHED UNDER WARRANTY, ONE YEAR.

DAILY STABILIZATION NOTE

CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY. STABILLIZATION SHALL BE AS FOLLOWS:

1. FOR AREAS TO BE PAVED, THE APPLICATION OF STONE BASE.
2. FOR AREAS TO BE VEGETATIVELY STABILIZED.
   A. PERMANENT SEED AND SOIL STABILIZATION MATTING OR SOD FOR ALL STEEP SLOPES, CHANNELS, OR SWALES
   B. PERMANENT SEED AND MULCH FOR ALL OTHER AREAS.
3. ANY AREAS WHICH CAN NOT BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWN SLOPE SIDE.

ADDRESS CHART	
BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME			SECTION/AREA LOT/PARCEL	PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249			--	PARCEL A WITHIN PARCEL 249
PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	RC-DEO	14	4	6040.02

OWNER/DEVELOPER
HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE FORCEMAIN PROFILE

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

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.: 14446
EXPIRATION DATE: 5-25-11

DESIGNED BY:	DWM
DRAWN BY:	DWM
PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	1" = 30'
DRAWING NO.:	16 OF 21

C6.2

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5/25/11
DIRECTOR	DATE 5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT
DATE 5/9/2011

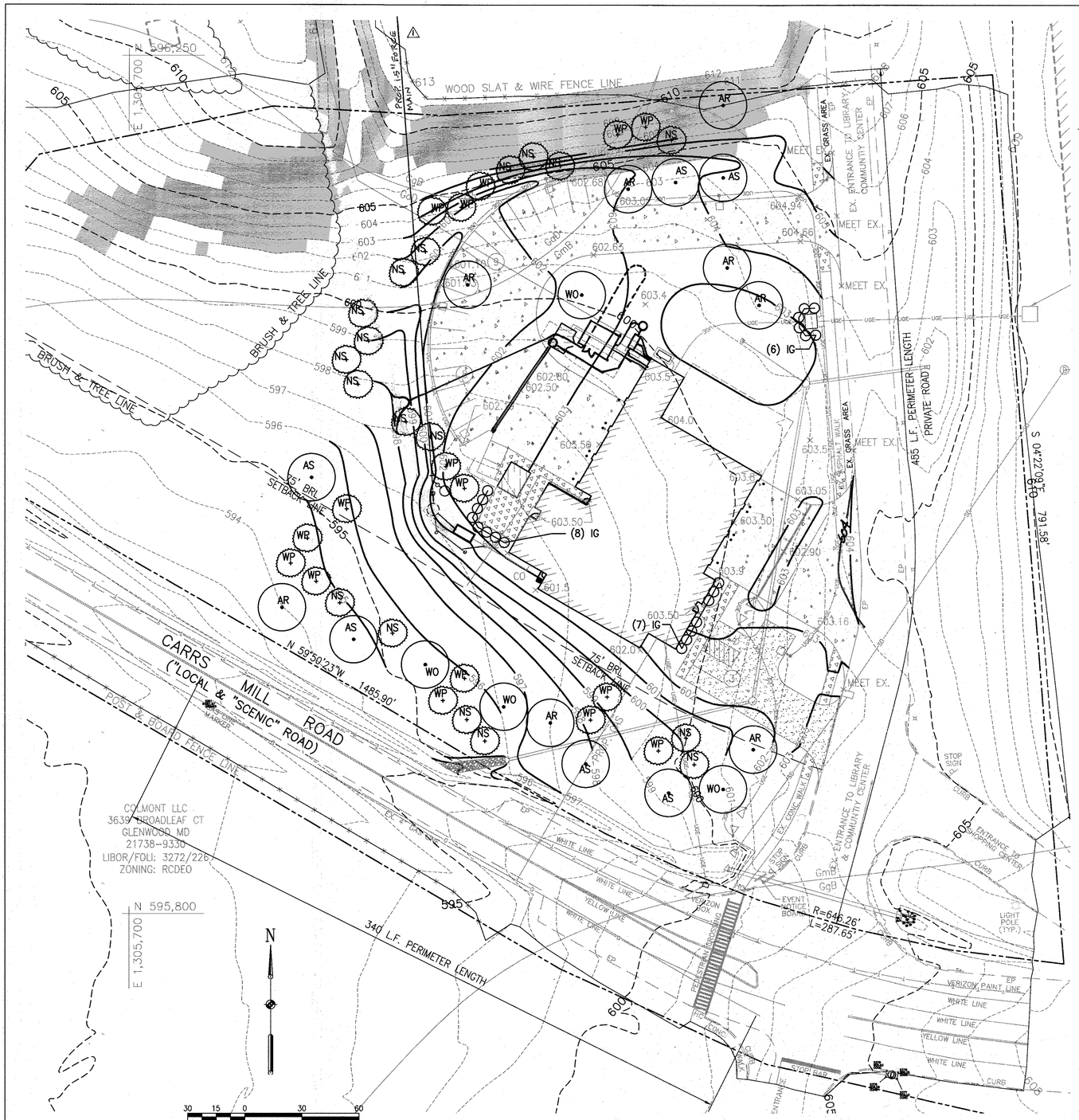
REVISION #1 - BLDG (07/29/16)
MODIFIED EX. PUMPING STATIONS ADDED NEW PUMPING STATIONS AND INSTALLED NEW 1.5" FORCE MAIN.

PROFESSIONAL CERTIFICATION
THEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, IWONA ROSTEK-ZARSKA, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2018.

11/18/16

FORCEMAIN PROFILE
SCALE: HORIZ. 1"=20'
VERT. 1"=5'

SDP-10-049



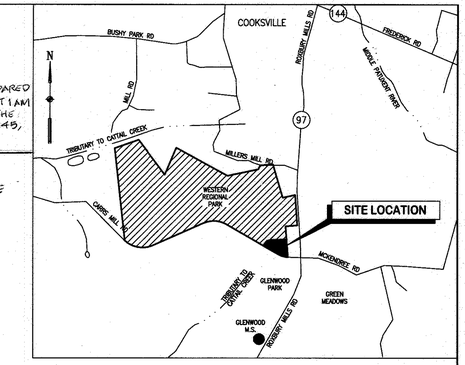
REVISION #1 - BLDG(8/29/16)
MODIFIED EX. PUMPING STATIONS, ADDED NEW PUMPING STATIONS AND INSTALLED NEW 1.5" FORCE MAIN.

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, I WONA ROSTEK-ZARSKA, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE No. 21249, EXPIRATION DATE : JUNE 9, 2018.

LANDSCAPE NOTE

1. IF REQUIRED, REPLACE ANY EXISTING LANDSCAPE TREE(S) REMOVED FOR THE LINE INSTALLATION IN A LOCATION IN PROXIMITY OF THE ORIGINAL TREE OR AS SHOWN ON THE PLANS.



VICINITY MAP

SCALE: 1"=2000'

LEGEND

- DECIDUOUS TREES
- EVERGREEN TREES
- SHRUBS
- PROPOSED CONCRETE PAVING
  SEE DWG. C3.0 - CONCRETE PAVING DETAIL
- PROPOSED CONCRETE WALK
  SEE DWG. C3.0 - DETAIL R-3.05
- PROPOSED MACADAM
  SEE DWG. C3.0 - R-2.01 (P-2)
- PROPOSED BUILDING
- 100 PROPOSED CONTOUR
- UGE PROPOSED ELECTRIC
- G PROPOSED GAS
- GV PROPOSED GAS VALVE
- PROPOSED LIGHT
- SS PROPOSED SANITARY
- S PROPOSED SANITARY MANHOLE
- SD PROPOSED STORMDRAIN
- D PROPOSED STORMDRAIN MANHOLE
- T PROPOSED TELEPHONE
- W PROPOSED WATER
- PROPOSED WOOD FENCE
- PROPOSED FLAG POLE
- EXISTING BUILDING
- EXISTING CURB
- EXISTING CURB & GUTTER
- 100 EXISTING MAJOR CONTOUR
- 99 EXISTING MINOR CONTOUR
- UGE EXISTING UNDERGROUND ELECTRIC
- E EXISTING ELECTRIC MANHOLE
- EXISTING FENCELINE
- EXISTING FIRE HYDRANT
- G EXISTING GAS
- GV EXISTING GAS VALVE
- EXISTING PROPERTY LINE
- EXISTING PAVING
- SS EXISTING SANITARY
- S EXISTING SANITARY MANHOLE
- EXISTING STREET LIGHT
- SD EXISTING STORMDRAIN
- D EXISTING STORMDRAIN MANHOLE
- T EXISTING TELEPHONE
- EXISTING UTILITY POLE
- W EXISTING WATERLINE
- WM EXISTING WATER METER
- WV EXISTING WATER VALVE

NOTES:

1. AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/ OR REVISIONS MADE TO THE APPLICABLE PLANS.
2. THE OWNER, TENANTS AND/ OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
3. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.

REORIENTED FIRE PUMP HOUSE, TANK AND PIPING.
ADDED WASH BAY AT REAR ENTRANCE AND STAIRS TO SOUTH END OF BLDG.
REVISED GRADING AT FRONT CONC. APRON.

SCHEDULE A
PERIMITER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	B	
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	795 LF	NON-ROADWAY ADJACENT PROPERTIES ARE PART OF THE SAME PARCEL AND THEREFORE LANDSCAPING IS NOT REQUIRED.
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	0	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	0	
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	 16 20	
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	 18 34 21	

SCHEDULE B
PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES	20
NUMBER OF TREES REQUIRED	1
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	 1

PLAN PREPARED: RICHARD S. EVANS
REGISTERED LANDSCAPE ARCHITECT #330

PLANT SCHEDULE

KEY	QUAN.	BOTANICAL NAME	COMMON NAME	ROOT	SIZE
AR	8	ACER RUBRUM	RED MAPLE	B&B	3" - 3-1/2" CAL.
AS	6	ACER SACCHARAM	SUGAR MAPLE	B&B	3" - 3-1/2" CAL.
WO	4	QUERCUS PHELLOS	WILLOW OAK	B&B	3" - 3-1/2" CAL.
NS	18	PICEA ABIES	NORWAY SPRUCE	B&B	6' - 8'
WP	16	PINUS STROBUS	EASTERN WHITE PINE	B&B	6' - 8'
IG	21	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY	B&B	24" - 30" HT.

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5/25/11
DIRECTOR	DATE 5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER — DATE 5/9/2011
HOWARD COUNTY HEALTH DEPARTMENT

ADDRESS CHART	
BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL	PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249	-	-	PARCEL A WITHIN PARCEL 249

PLAT# OR L/F	GRID	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	RC-DEO	14	4	6040.02

OWNER/DEVELOPER
HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE LANDSCAPE PLAN

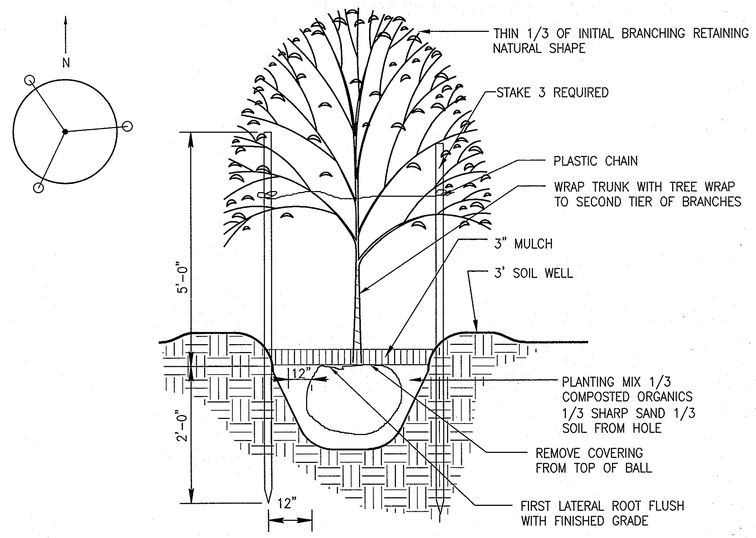
CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

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.: 14446
EXPIRATION DATE: 5-25-11

DESIGNED BY:	DWM
DRAWN BY:	DWM
PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	1" = 30'
DRAWING NO.:	17 OF 21

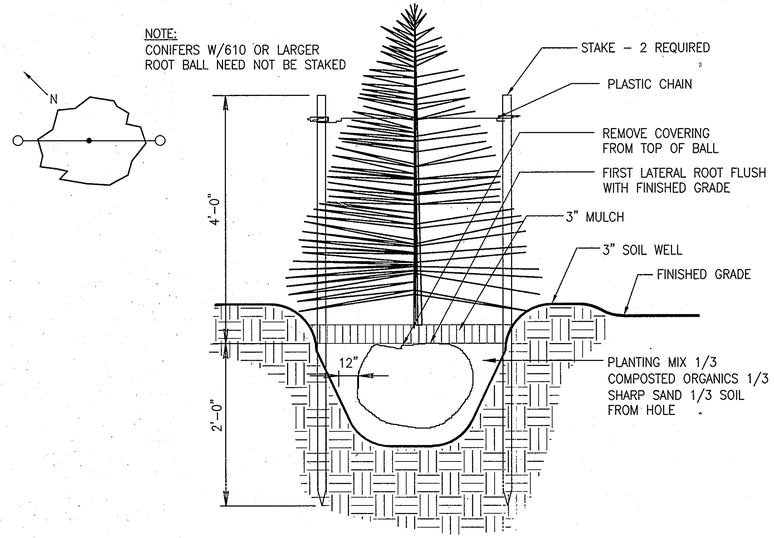
LS1.0

SDP-10-049



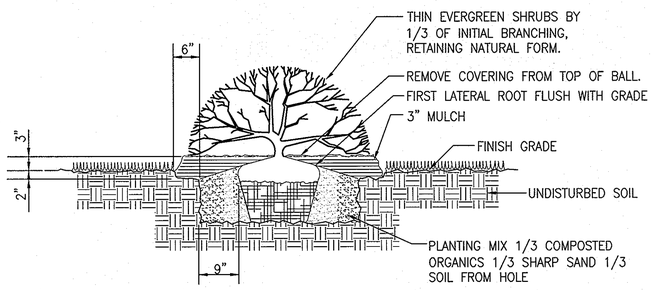
DECIDUOUS TREE PLANTING

N.T.S.



CONIFEROUS TREE PLANTING

N.T.S.



SHRUB DETAIL

N.T.S.

LANDSCAPE NOTES:

1. QUANTITIES SHOWN ON THE PLANT LIST ARE FOR THE CONTRACTOR'S CONVENIENCE ONLY. SYMBOLS ON THE PLAN SHALL TAKE PRECEDENCE OVER QUANTITIES NOTED FOR ALL PLANT MATERIALS EXCEPT FOR GROUNDCOVERS, ANNUALS, AND PERENNIALS. CONTRACTOR SHALL CONFIRM ALL PLANT QUANTITIES TO HIS OWN SATISFACTION AND NOTIFY THE LANDSCAPE ARCHITECT IF THERE IS A DIFFERENCE IN QUANTITIES NOTED AND SYMBOLS SHOWN ON THE DRAWINGS.
2. PROPOSED PLANT MATERIAL SUBSTITUTIONS ARE SUBJECT TO WRITTEN APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO DELIVERY AND INSTALLATION.
3. ALL SHRUB AREAS SHALL BE PLANTED IN CONTINUOUS, PREPARED BEDS AND MULCHED WITH SHREDDED HARDWOOD MULCH AS DETAILED AND AS SPECIFIED.
4. PLANTING BEDS SHALL HAVE POSITIVE DRAINAGE, WITH A MINIMUM 2 PERCENT SLOPE, AWAY FROM BUILDINGS AND STRUCTURES.
5. CONTRACTOR SHALL VERIFY ACCURACY OF INFORMATION SHOWN ON THE DRAWINGS AND EXISTING CONDITIONS IN THE FIELD TO HIS OWN SATISFACTION. THE LANDSCAPE BID SHALL BE BASED ON ACTUAL SITE CONDITIONS AT THE TIME OF PLANTING. NO EXTRA CHARGES SHALL BE PAID FOR WORK ARISING FROM ACTUAL SITE CONDITIONS WHICH DIFFER FROM THOSE INDICATED ON DRAWINGS AND SPECIFICATIONS, UNLESS APPROVED BY THE OWNER'S REPRESENTATIVE.
6. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 A MINIMUM OF TWO WORKING DAYS PRIOR TO BEGINNING PLANTING OPERATIONS. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS AND DEPTHS TO HIS OWN SATISFACTION, PRIOR TO BEGINNING PLANTING.
7. DAMAGE TO EXISTING CONDITIONS AND NEW CONSTRUCTION SHALL BE REPAIRED AND RESTORED AT THE SOLE EXPENSE OF THE CONTRACTOR.
8. ALL PLANT MATERIAL SHALL BE NURSERY GROWN AND SHALL COMPLY WITH THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION, PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION (ANLA).
9. ALL PLANTING PROCEDURES SHALL COMPLY WITH THE LATEST EDITION OF "LANDSCAPE CONTRACTOR ASSOCIATION GUIDELINES FOR THE BALTIMORE/WASHINGTON METROPOLITAN AREA," LATEST EDITION, UNLESS NOTED OTHERWISE IN THE PROJECT MANUAL SPECIFICATIONS.
10. CONTRACTOR SHALL NOT PLANT ANY LANDSCAPING ITEMS WITHIN 10'-0" OF THE PROPOSED SAND MOUND SEPTIC FIELD SHOW ON THE THE PLAN.

FINAL LANDSCAPE PLAN
OWNER CERTIFICATION FORM

I CERTIFY THAT I HAVE REVIEWED THIS FINAL LANDSCAPE PLAN; THAT I AM AWARE OF THE REGULATIONS PRESENTED IN THE HOWARD COUNTY LANDSCAPE MANUAL; AND I AGREE TO COMPLY WITH THESE REGULATIONS AND ALL APPLICABLE POLICY, GUIDELINES AND ORDANCES. I AGREE TO CERTIFY THE IMPLEMENTATION OF THIS APPROVED FINAL LANDSCAPE PLAN UPON COMPLETION OF THE LANDSCAPE INSTALLATION PRIOR TO PWA CLOSEOUT IF APPLICABLE OR NOT LATER THAN ONE (1) YEAR FROM THE DATE OF APPROVAL OF THIS PLAN..

	3-31-2011	David Loudermilk
APPLICANT SIGNATURE	DATE	PRINT NAME
3450	Courthouse Drive	
ADDRESS (PRINT)	STREET	
Ellicott City	Maryland	21043
CITY	STATE	ZIP

ADDRESS CHART	
BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME			SECTION/AREA LOT/PARCEL		PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249			-		PARCEL A WITHIN PARCEL 249
PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	P7-DEO	14	4	6040.02

OWNER/DEVELOPER HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE LANDSCAPE NOTES AND DETAILS

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

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LICENSE No.: 14446
EXPIRATION DATE: 5-25-11

STATE OF MARYLAND — JUDITH ANNE CARROLL — No. 14446 — PROFESSIONAL ENGINEER

DESIGNED BY:	DWM
DRAWN BY:	DWM
PROJECT NO.:	0909.16.00
DATE:	MARCH 31, 2011
SCALE:	
DRAWING NO.:	18 OF 21

LS1.1

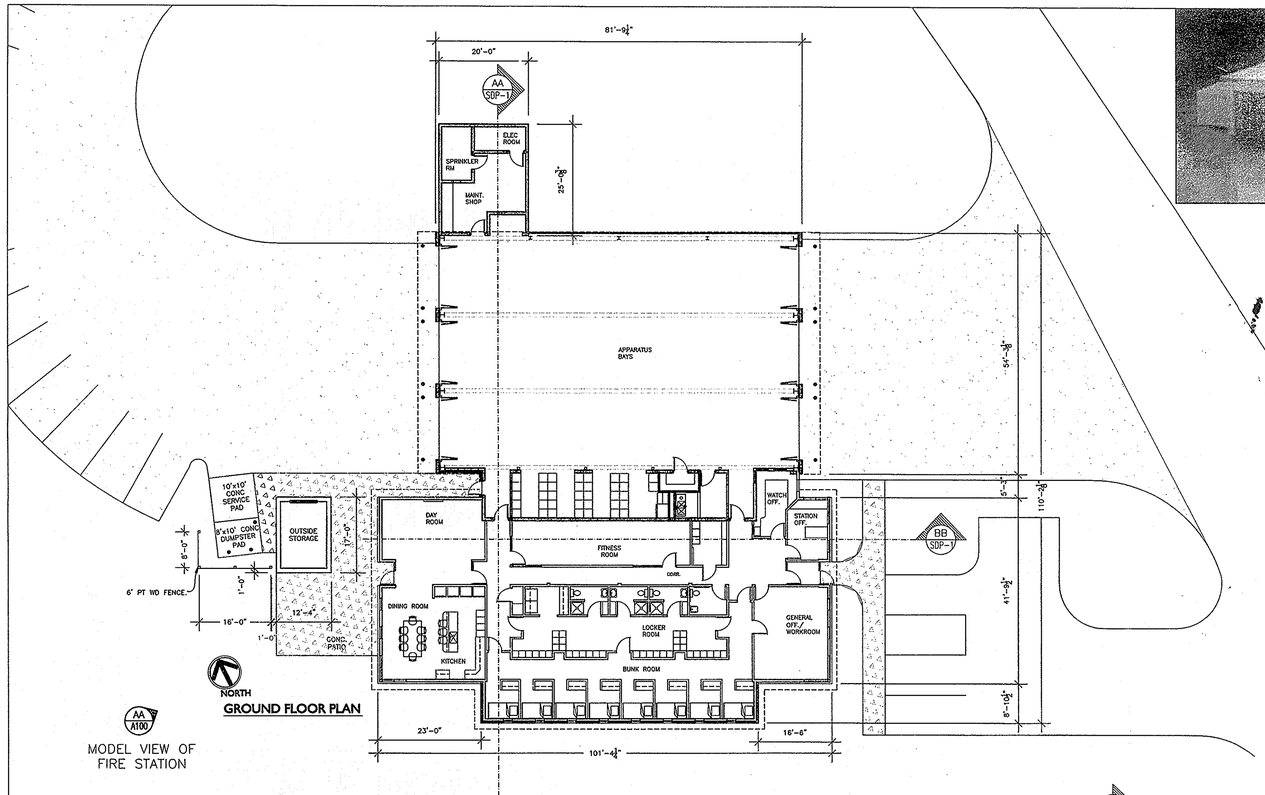
APPROVED
DEPARTMENT OF PLANNING AND ZONING

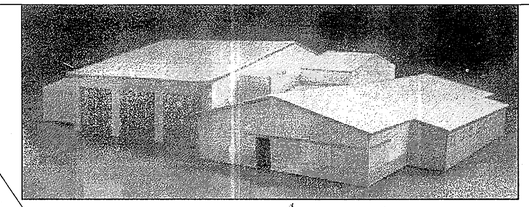
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5/25/11
DIRECTOR	DATE 5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

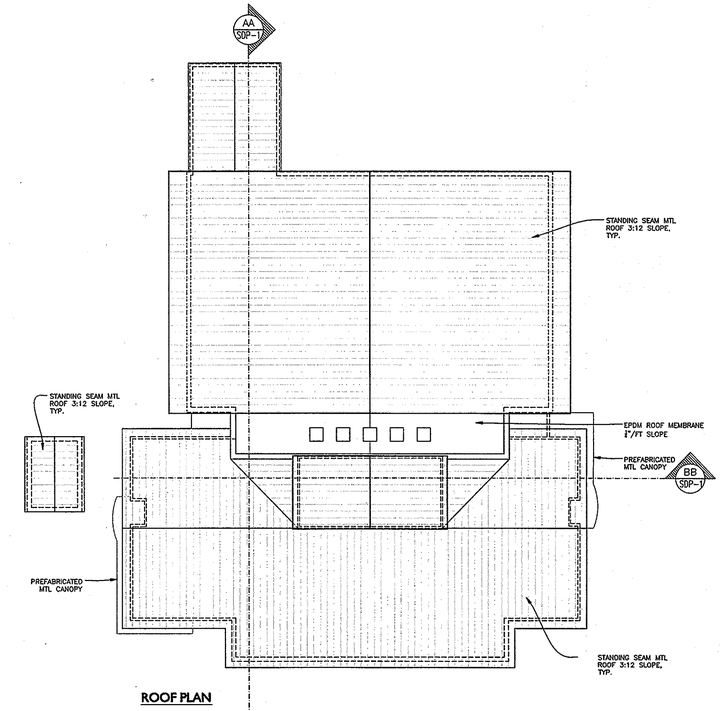
B Wilson for Peter Beilenson COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT	DATE 5/9/2011

SDP-10-049

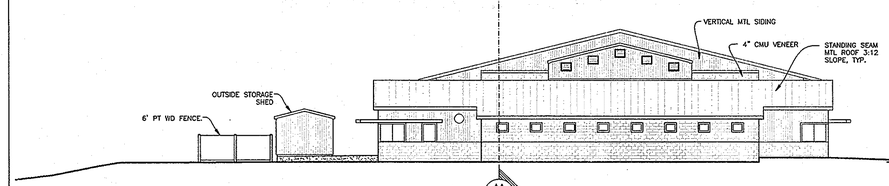




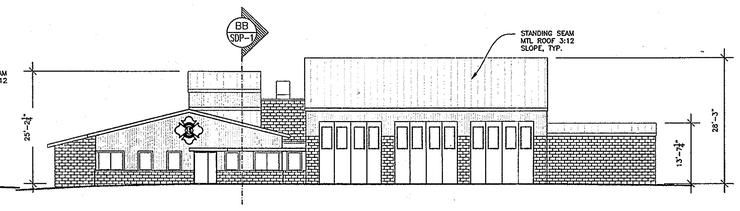
AA A100
MODEL VIEW OF FIRE STATION



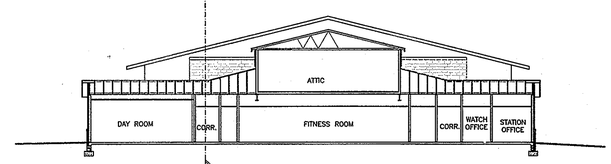
ROOF PLAN



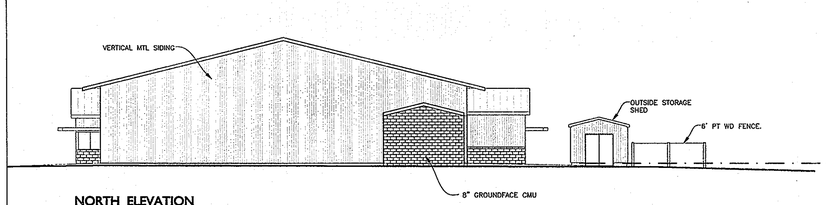
SOUTH ELEVATION (FACING CARR'S MILL ROAD)



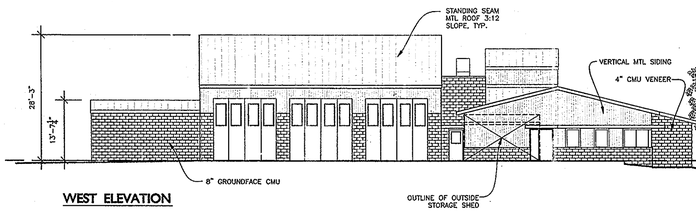
EAST ELEVATION (FACING SERVICE ROAD)



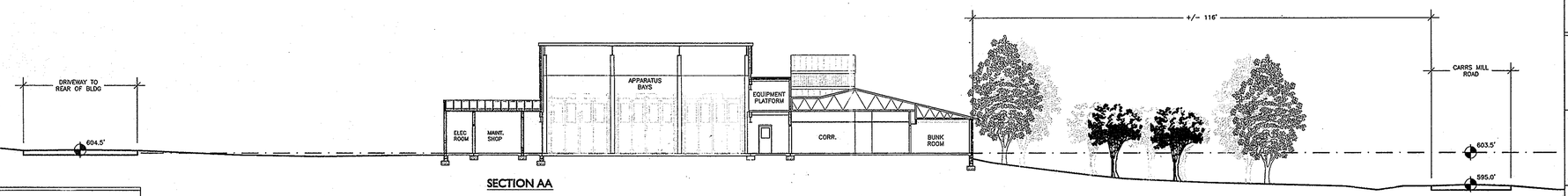
SECTION BB
AA SDP-1



NORTH ELEVATION



WEST ELEVATION



SECTION AA

ADDRESS CHART	
LOT/PARCEL#	STREET ADDRESS

SUBDIVISION NAME			SECTION/AREA LOT/PARCEL		NO.
WESTERN REGIONAL PARK			15581/A		249
PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15583	10	RO-DEO	14	4	6040.02

OWNER/DEVELOPER
HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT
GLENWOOD FIRE STATION

TITLE
BUILDING PLAN, SECTIONS AND ELEVATIONS

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

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.: _____
EXPIRATION DATE: _____

DESIGNED BY:	KM
DRAWN BY:	KM
PROJECT NO.:	0909.16.00
DATE:	4-29-2010
SCALE:	1/16" = 1'-0"
DRAWING NO.:	19 OF 21

STATE OF MARYLAND
CHERYNE MCCULLOUGH
REG. 9721
BOARD OF ARCHITECTS

A1.0

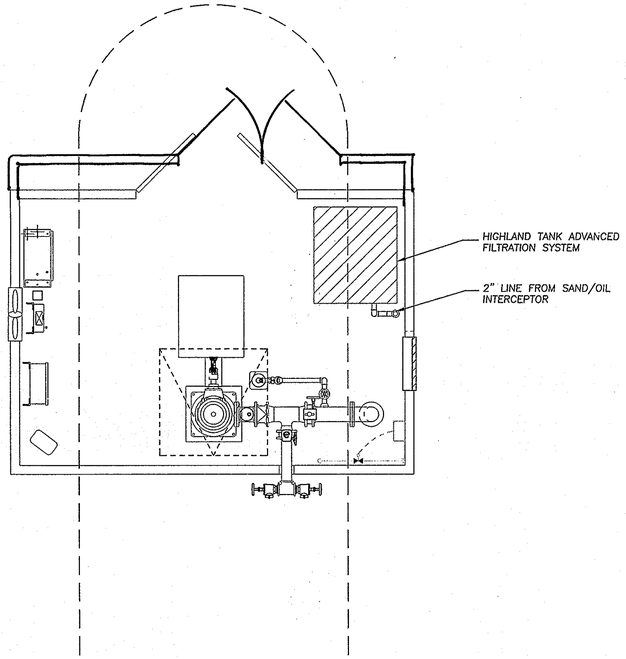
APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	4/21/11 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	5/25/11 DATE
DIRECTOR	5/25/11 DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

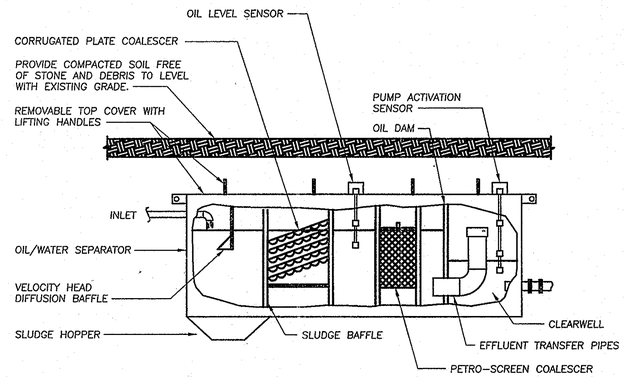
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT
DATE 5/9/2011

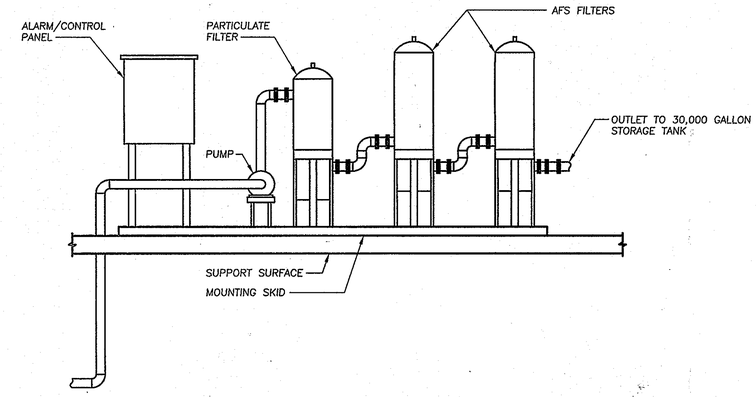
1/16" 0 0 1'-0"
GRAPHICAL SCALE: 1/16" = 1'-0"



FIRE PUMP HOUSE DETAIL

SCALE: 3/8" = 1'-0" 0 1' 2' 3' 4'





SAND/OIL INTERCEPTOR AND ADVANCED FILTRATION SYSTEM DETAIL

NO SCALE

REORIENTED FIRE PUMP HOUSE, TANK AND PIPING.
ADDED WASH BAY AT REAR ENTRANCE AND STAIRS TO SOUTH END OF BLDG.
REVISED GRADING AT FRONT CONC. APRON.

ADDRESS CHART	
BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	WOODBINE, MD 21797

SUBDIVISION NAME			SECTION/AREA LOT/PARCEL		PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITH PARCEL 249			-		PARCEL A WITH PARCEL 249
PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	RC-DEO	14	4	6040.02

OWNER/DEVELOPER HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (15581)

TITLE FILTRATION SYSTEM

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

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.: 22792
EXPIRATION DATE: 8/04/12

DESIGNED BY:	PK
DRAWN BY:	PK
PROJECT NO.:	0909.16.00
DATE:	APR. 30, 2010
SCALE:	
DRAWING NO.:	20 OF 21

M1.0

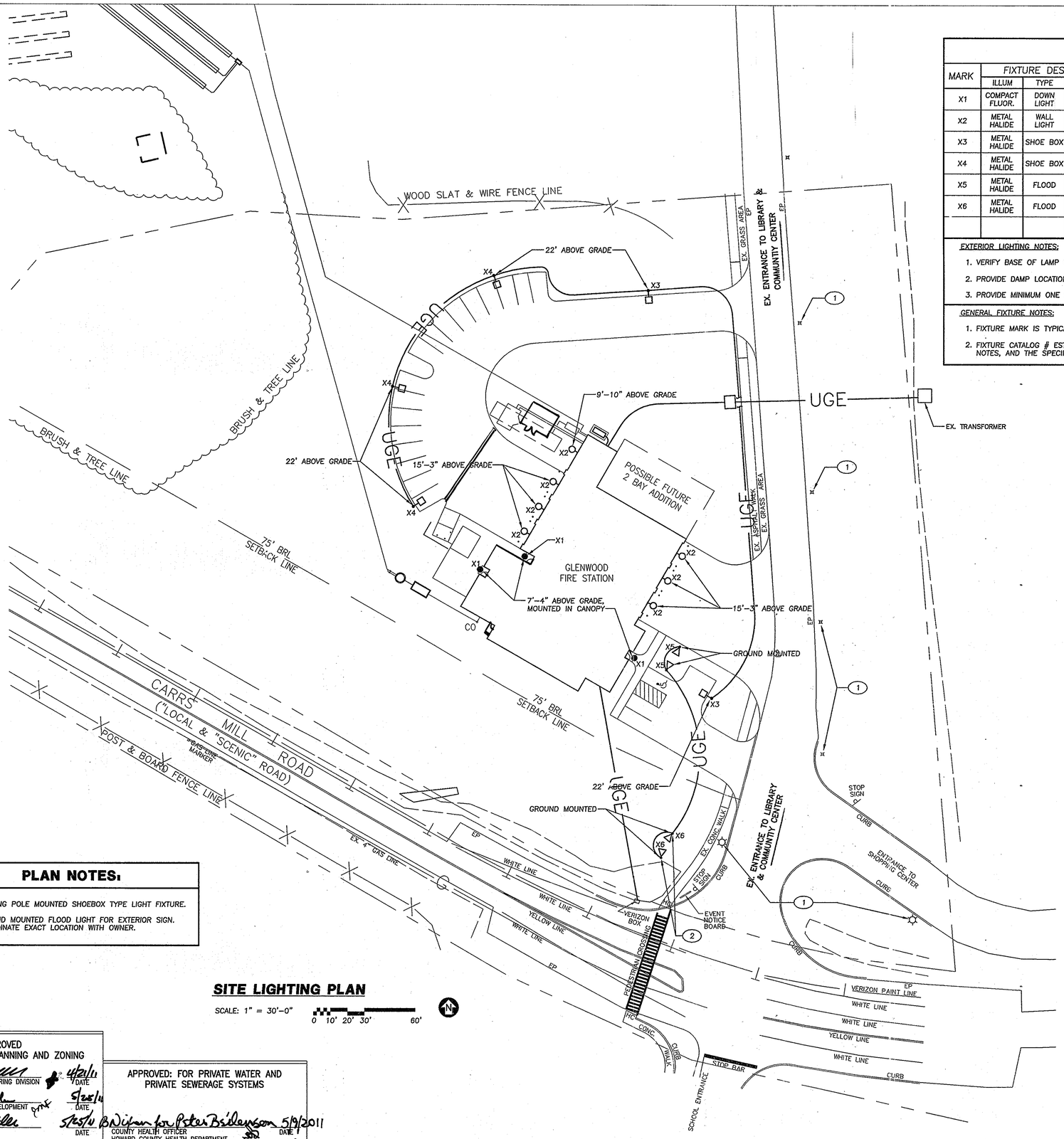
APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	4/21/11 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	5/25/11 DATE
DIRECTOR	5/25/11 DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

B. Wilson for Peter Beilenson, COUNTY HEALTH OFFICER, HOWARD COUNTY HEALTH DEPARTMENT	5/9/2011 DATE

SDP-10-049



EXTERIOR LIGHTING FIXTURE SCHEDULE

MARK	FIXTURE DESCRIPTION			REMARKS	MOUNTING	LAMPS			MANUFACTURER	TYPICAL LOCATION
	ILLUM	TYPE	DISTRIBUTION			QTY	TYPE	LUMENS		
X1	COMPACT FLUOR.	DOWN LIGHT	LOW INTENSITY	7" APERTURE, EMERGENCY BALLAST (NOTE 2)	RECESSED	1	32 WATT TRIPLE	2400	H.E. WILLIAMS #PV75-132T-EB-GX24q-3-UNV	CANOPY
X2	METAL HALIDE	WALL LIGHT	FULL CUTOFF	ARCHITECTURAL STYLE	SURFACE	1	150 WATT P.S.M.H.	13,000	H.E. WILLIAMS #WPTZ-PSMH-150-MED-BLK-120	BUILDING
X3	METAL HALIDE	SHOE BOX	SEMI-CUTOFF	ARCHITECTURAL STYLE, TYPE II DISTRIBUTION	SEE POLE BASE DETAIL	1	250 WATT P.S.M.H.	23,500	H.E. WILLIAMS #OER2121-250 PSMH120-T2-S-SQ-WHT	SITE
X4	METAL HALIDE	SHOE BOX	FULL CUTOFF	ARCHITECTURAL STYLE, FORWARD THROW DISTRIBUTION	SEE POLE BASE DETAIL	1	250 WATT P.S.M.H.	23,500	H.E. WILLIAMS #OER2121-250 PSMH120-TFT-S-SQ-WHT	SITE
X5	METAL HALIDE	FLOOD	SPOT LIGHT	FLOODLIGHT, SPOT DISTRIBUTION	GROUND (NOTE 3)	1	100 WATT P.S.M.H.	9000	G.E. LIGHTING #CFSX-10-P-1-A-1-4-BLCK	FLAGPOLES
X6	METAL HALIDE	FLOOD	FLOOD LIGHT	FLOODLIGHT	GROUND (NOTE 3)	1	70 WATT P.S.M.H.	6200	H.E. WILLIAMS #FLR-PSMH-70-MED-120	SIGN

EXTERIOR LIGHTING NOTES:

1. VERIFY BASE OF LAMP WITH FIXTURE SUPPLIER.
2. PROVIDE DAMP LOCATION LISTED EMERGENCY BALLAST, BODINE #BDL940.
3. PROVIDE MINIMUM ONE CUBIC YARD CONCRETE BASE FOR FIXTURE.

GENERAL FIXTURE NOTES:

1. FIXTURE MARK IS TYPICAL FOR ALL FIXTURES OF THE SAME SYMBOL TYPE WITHIN THE SAME ROOM OR AREA U.N.O.
2. FIXTURE CATALOG # ESTABLISHES THE MANUFACTURER'S SERIES # – COMPLETE CATALOG # SHALL BE DETERMINED BY THE SCHEDULE DESCRIPTION, PLAN NOTES, AND THE SPECIFICATIONS.

PLAN NOTES:

1. EXISTING POLE MOUNTED SHOEBOX TYPE LIGHT FIXTURE.
2. GROUND MOUNTED FLOOD LIGHT FOR EXTERIOR SIGN. COORDINATE EXACT LOCATION WITH OWNER.

SITE LIGHTING PLAN

SCALE: 1" = 30'-0" 0 10' 20' 30' 60'

REORIENTED FIRE PUMP HOUSE, TANK AND PIPING.
ADDED WASH BAY AT REAR ENTRANCE AND STAIRS TO SOUTH END OF BLDG.
REVISED GRADING AT FRONT CONC. APRON.

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE	4/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE	5/25/11
DIRECTOR	DATE	5/25/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT	DATE	5/9/2011

ADDRESS CHART

BUILDING	STREET ADDRESS
FIRE STATION	14620 CARRS MILL ROAD
	GLENWOOD, MD 21738

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL	PARCEL NO.
WESTERN REGIONAL PARK PARCEL A WITHIN PARCEL 249	–		PARCEL A WITHIN PARCEL 249
PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT
15581-15585	10	RO-DEO	14	4	6040.02

OWNER/DEVELOPER
HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043
TEL: 410-313-4400

PROJECT GLENWOOD FIRE STATION (PLAT #15581)

TITLE SITE LIGHTING PLAN

CARROLL ENGINEERING, INC.
215 SCHILLING CIRCLE, SUITE 102
HUNT VALLEY, MD 21031
410-785-7423 PHONE 410-771-1313 FAX

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.: 22798
EXPIRATION DATE: 6/04/12

DESIGNED BY:	
DRAWN BY:	
PROJECT NO.:	0909.16.00
DATE:	FEBRUARY 23, 2011
SCALE:	1" = 30'
DRAWING NO.:	21 OF 21

E-1

SDP-10-049