

SHEET INDEX	
DESCRIPTION	SHEET NO.
Cover Sheet	1 of 14
Site Development Plan	2 of 14
Site Development, Sediment & Erosion Control Plan, & Misc. Details	3 of 14
Sediment and Erosion Control Plan and Details	4 of 14
Sediment and Erosion Control Details and Septic Notes	5 of 14
Storm Drain Drainage Area Map	6 of 14
Storm Drain Profiles and Miscellaneous Details	7 of 14
Stormwater Management Profiles and Details	8 of 14
Landscape Plan	9 of 14
SHA and HZTC Plan	10 of 14
HZTC Plan and Miscellaneous Details	11 of 14
HZTC Plan and Miscellaneous Details	12 of 14
Existing Conditions Drainage Area Map	13 of 14
Developed Conditions Drainage Area Map	14 of 14

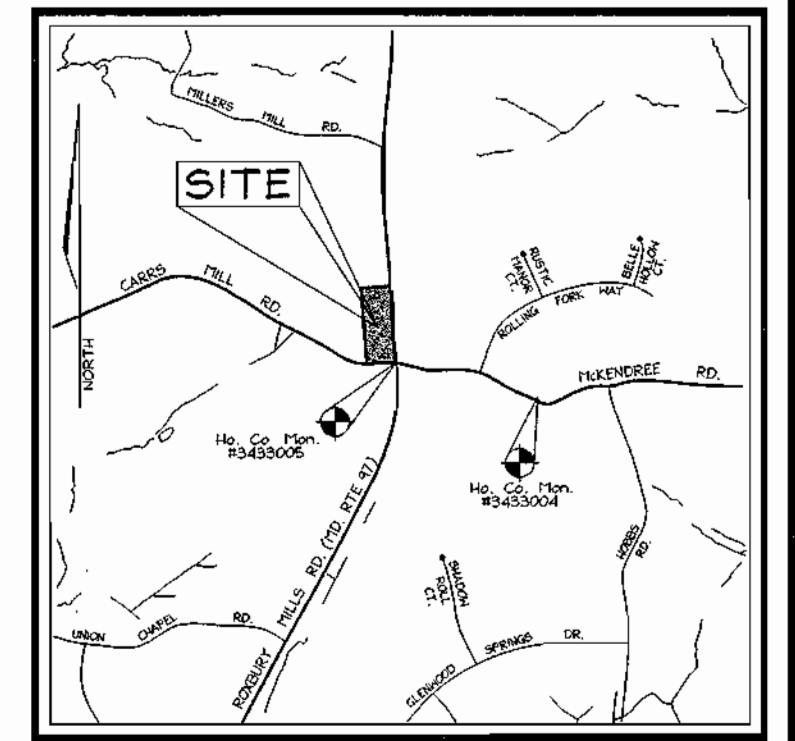
# SITE DEVELOPMENT PLAN GLENWOOD STATION

**LEGEND**

Existing Contour: - - - - -382  
Proposed Contour: - - - - -382  
Spot Elevation: +82.53  
Direction of Flow: ←  
Light Poles: Ⓞ-0-Ⓞ Overhead

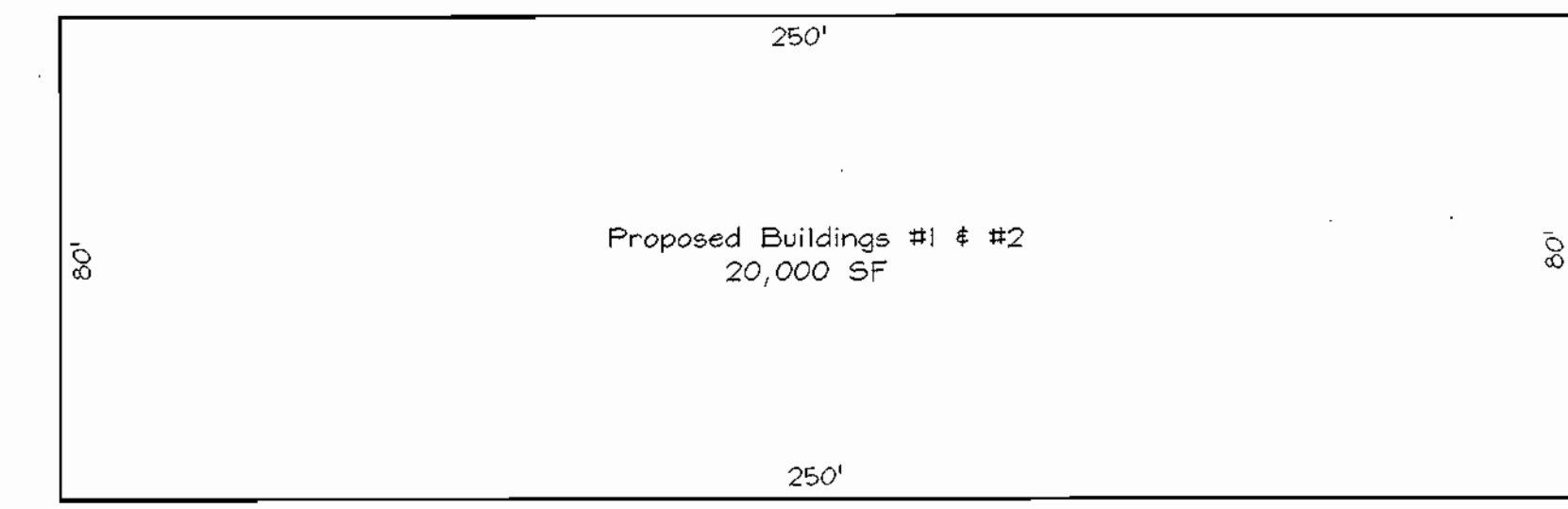
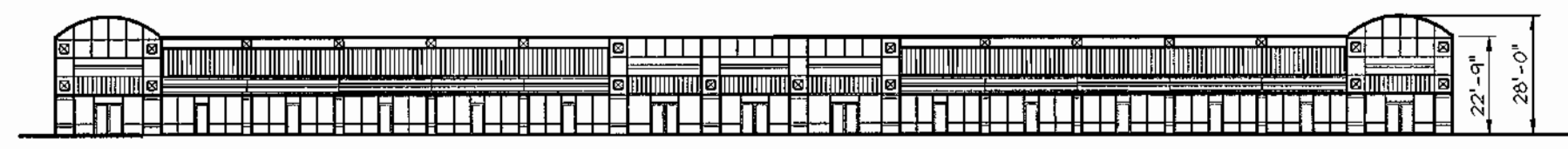
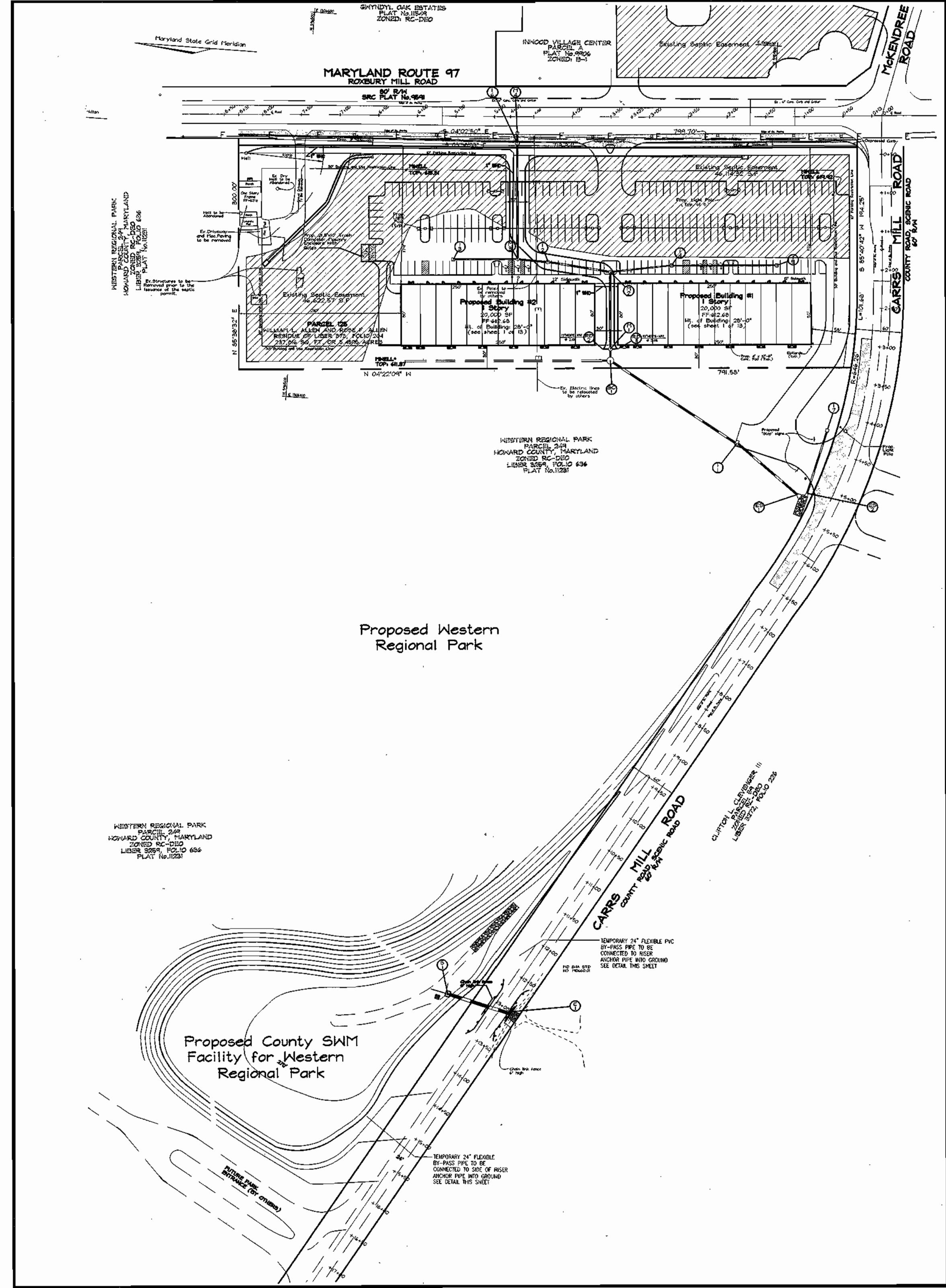
**BENCHMARKS**

Howard County Monument #3439004; Elev.: 597.33  
N 534,653.438 E 795,420.537  
Howard County Monument #3439005; Elev.: 620.07  
N 534,974.172 E 794,062.901

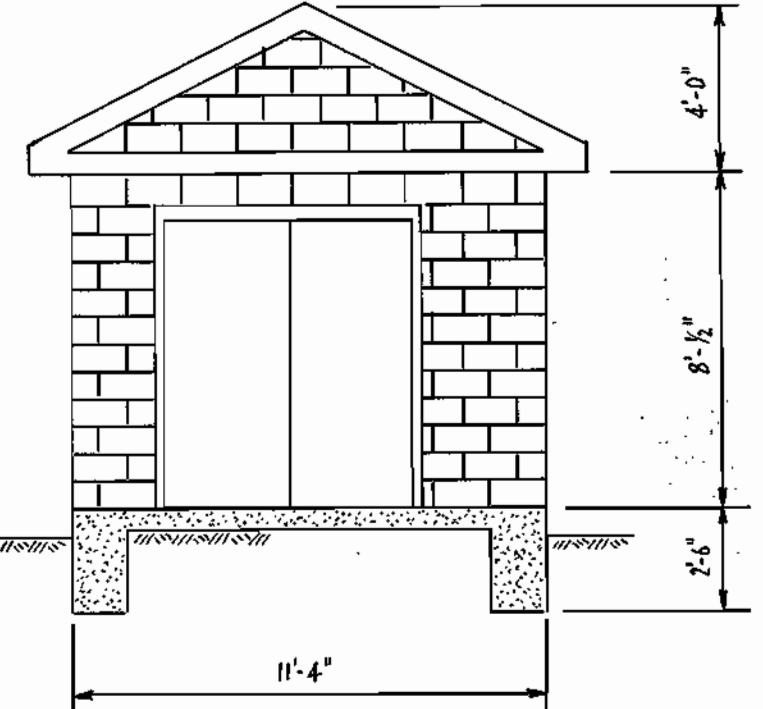


**GENERAL NOTES**

- All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications, if applicable.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- The contractor is to notify the following utilities or agencies at least five days before starting work on these drawings:  
Miss Utility: 1-800-257-7777  
Verizon Telephone Company: 1-410-954-6281  
Howard County Bureau of Utilities: 313-2366  
AT&T Cable Location Division: 393-3553  
B.G.E. Co. Contractor Services: 850-4620  
B.G.E. Co. Underground Damage Control: 787-4620  
State Highway Administration: 531-5553
- Site analysis:  
Area of parcel 125: 5.4595  
Area of parcel 249: 181.08 Acres ±  
Area of Disturbance: 7.95 Acres  
Present zoning: B-2  
Use of structure: Retail and Vehicle Service Establishment  
Building area: 1420,000sf; 2-20,000sf; + PUMPHOUSE = 144 SF = TOTAL = 45,144 SF  
Building coverage on site: 1.04 AC. OR 19% OF GROSS AREA  
Paved parking lot/area: 1.68 AC. OR 31% OF GROSS AREA  
Area of landscape island: 0.05 AC. = 2,000sf  
There are no steep slopes on-site.
- Project background:  
Location: Glenwood, Md.; Tax Map 14, Parcel 125  
Zoning: B-2  
Section/Area: N/A  
Site Area: 5.4595 Acres  
DPZ references: ZB Case No. 951-11, WP-01-136  
This project is grandfathered to the Fourth Edition of the Howard County Sub-division and Land Development Regulations.
- The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to start of work.
- Any damage to public right-of-ways, paving, or existing utilities will be corrected at the contractor's expense.
- Existing utilities located from Field Surveys and available record drawings. Approximate location of existing utilities are shown for the contractors information. Contractor shall locate existing utilities well in advance of construction activities and take all necessary precautions to protect the existing utilities and to maintain uninterrupted service. Any damage incurred due to contractor's operation shall be repaired immediately at the contractor's expense.
- All reinforced concrete for storm drain structures shall have a minimum of 28 days strength of 3,500 p.s.i.
- 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.
- Estimates of earthwork quantities are provided solely for the purpose of calculating fees.
- Soil compaction specifications, requirements, methods and materials are to be in accordance with the recommendations of the project Geotechnical Engineer. Geotechnical Engineer to confirm acceptability of proposed paving section, based on soil test.
- All storm drain pipe bedding shall be Class 'C'.
- Coordinates and elevations are based on Howard County Right-of-Way Monuments.
- A noise study is not required for this project.
- Existing topography is based on field run information performed by The RBA Group, Inc. in May 1998 and by Vogel & Associates, Inc. in September 2000.
- See sheet 2 for paving section details.
- All curb and gutter to be Howard County Standard concrete Detail 3.01 unless otherwise specified.
- Contractor responsible to construct all handicap parking and handicap access in accordance with current ADA requirements.
- Where drainage flows away from curb, contractor to reverse the gutter pan.
- All elevations are to flowline/bottom of curb unless otherwise noted.
- All dimensions are to face of curb unless otherwise noted.
- Private Water to be provided by on-site wells as approved by MDE under Ground Water Appropriation Permit (GWAP) #H02001G009(01). Private septic systems to be provided on-site. Septic fields are based on application #A50344 whose locations are based on perc testing dated 2.22.95 and 4.24.95 and approved on April 26, 2000.
- Stormwater Management is provided by Extended Detention Pond constructed by Glenwood, LLC per SDP-01-108, but owned and maintained by Howard County. Water Quality is provided by on-site Stormceptor to be privately owned and maintained.
- All exterior lighting shall conform to Zoning Regulations Section 134.
- Buildings to have Inside Water Meter settings.
- APFD traffic test was provided by The RBA Group, Inc. on July 07, 2000.
- This site is conditionally exempt from the Forest Conservation requirements with the filing of a DOI for a single lot clearing less than 40,000 sq. ft. of forest in accordance with Section 16.1202 (b)(2)(i) of the Howard County Code. The second parcel is owned by Howard County and the work proposed is the construction of the regional facility for the Western Regional Park, constructed for by Glenwood, LLC.
- Existing storm drain structures/pipes elevations are in accordance with SDP-91-060. Adjustment may be necessary to meet as-built vertical locations of storm drain stubs and structures.
- Contractor to connect all roof drains to storm drain system, see Architectural plans for details.
- Contractor to sod all areas adjacent to building, parking lot islands and area adjacent to entrance drive aisle. All other areas to be seeded and mulched.
- Landscape Surety in the amount of \$25,250.00 will be included in the Developer's Agreement. This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and Landscape Manual.
- The available septic capacity will be allocated as each building permit is processed for the individual uses of each tenant. If total actual discharge from each building exceeds 1,500GPD, (3,000GPD total) then a ground water mounding study is required. For total flow in excess of 5,000GPD, a Ground Water Discharge Permit is required. Microseptic Enviroserver (410.750.7373) units are proposed for septic pre-treatment.
- There are no floodplains or wetlands in the area of the proposed improvements.
- The subject property is zoned "B-2" (Business General) in accordance with the ZB Case No. 951-11, dated September 1, 1994.
- The proposed driveway entrance on MD Route 97 was approved of Waiver Petition WP-01-136 by Howard County on July 19, 2001. The requirements of the Subdivision and Land Development Regulations, Sections 16.119(f)(1) and 16.120(a)(2), which call for a lower classification road access, have been waived by approval.
- The contractor will contact the owner/developer prior to installation of septic system to determine if septic system has been revised.
- A fee-in-lieu of stormwater management pond landscaping was paid by the developer in the amount of \$14,100.00.
- Total Limit of Disturbance: 7.95 Acres



REVISIONS TO MYLARS PREPARED BY:  
LEON A. PODDLAK & ASSOCIATES, LLC  
63 E. MAIN ST. P.O. BOX 266  
WESTMINSTER, MARYLAND 21157  
PHONE: (410) 876-1226



PROPOSED WATER PUMPHOUSE DETAIL  
NOT TO SCALE

OWNER/DEVELOPER  
GLENWOOD, LLC  
751 Frederick Street  
Hanover, PA 17331  
717.632.5300

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 5/6/02  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*[Signature]* 5/6/02  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT  
*[Signature]* 5/6/02  
COUNTY HEALTH OFFICER

LOCATION MAP  
SCALE: 1"=100'

**PARKING TABULATION** (PER SECTION 133 (D)(4)(N))

REQUIRED	PROPOSED
SHOPPING CENTERS: 40,000 S.F. X 5.0 SPACES/1,000 S.F. = 200 spaces	201 spaces
Handicap Spaces = 6 spaces Including 1 Van	6 spaces Including 1 Van

NO.	REVISION	DATE
	REVISE FOND OUTFALL APRON & PERMANENT POOL ELEV.	7-30-09
	PER HOWARD CO. DEVELOPMENT ENGINEERING DIVISION COMMENTS	4-25-09
	SEPTIC SYSTEM REDESIGN & ADDITIONAL PAV'T. ON NORTH SIDE OF BLDG. #2 (SEE SHYS. 2,4,5,11) 3-21-09	
	REVISE PUMPHOUSE LOCATION, SHOW STORAGE TANK, WATERLINE, AND CANOPY (SEE SHEETS 2, 4, 5, 4)	8-26-02

BUILDING #	ADDRESS CHART	STREET ADDRESS
1	2490 MD Rte. 97 (Rowbury Mill Rd.), Cooksville, Maryland	
2	2480 MD Rte. 97 (Rowbury Mill Rd.), Cooksville, Maryland	

PROJECT NAME	SECTION/AREA	PARCEL NUMBER
Glenwood Station	N/A	125

DEED REF.	BLOCK NO.	ZONE	TAX/MAP	ELECT. DIST.	CENSUS TR.
373/204	10	B-2	14	4th	6040

WATER CODE: \_\_\_\_\_ SEWER CODE: \_\_\_\_\_

COVER SHEET  
**GLENWOOD STATION**  
**"RETAIL CENTER"**  
ALLEN PROPERTY  
TAX MAP #14 GRID #10  
4TH ELECTION DISTRICT  
PARCEL 125  
HOWARD COUNTY, MARYLAND

**FREDERICK WARD ASSOCIATES, INC.**  
7125 Riverwood Drive Columbia, Maryland 21046-2354  
Phone: 410-290-9550 Fax: 410-720-6226  
Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: PS  
DRAWN BY: PS/KO  
CHECKED BY: RNW  
DATE: JAN. 9, 2002  
SCALE: AS SHOWN  
W.O. NO.: 2019107.00

1 SHEET OF 14

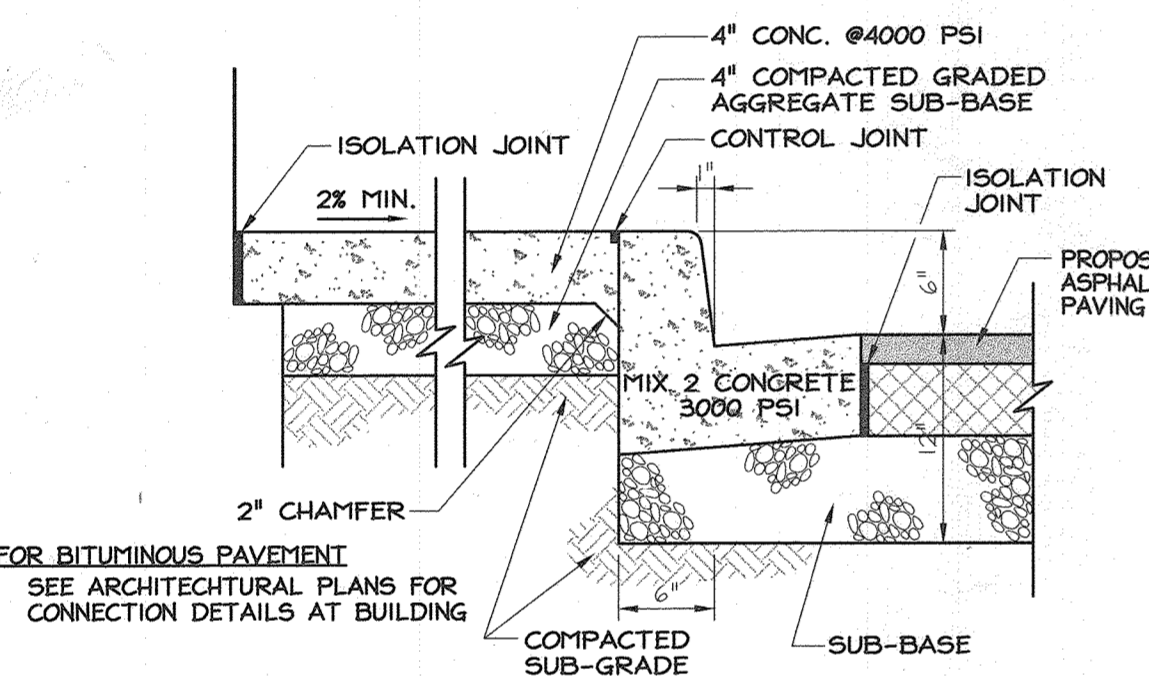
**DEMOLITION NOTES:**

1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE AND VERIFY EXISTING SITE CONDITIONS TO HIS SATISFACTION.
2. CONTRACTOR TO MEET WITH DEVELOPER ON JOB SITE TO IDENTIFY EQUIPMENT, SIGNS AND ITEMS TO BE REMOVED OR RETAINED PRIOR TO THE START OF CONSTRUCTION.
3. CONTRACTOR MUST ADHERE TO ALL SAFETY REGULATIONS GIVEN BY O.S.H.A. AND HOWARD COUNTY.
4. ALL DEMOLISHED MATERIALS TO BE REMOVED TO AN APPROVED LOCATION.
5. ALL UTILITIES AND STRUCTURES WITHIN PUBLIC RIGHTS OF WAY SHALL REMAIN.
6. ALL UTILITIES DAMAGED DURING DEMOLITION AND CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED IN KIND BY THE CONTRACTOR AT HIS OWN EXPENSE.
7. TOPOGRAPHIC BOUNDARY SURVEY INFORMATION SHOWN ON THIS PLAN IS FROM A SURVEY PREPARED BY FREDERICK WARD ASSOC., INC. DATED MARCH 2001.
8. REFER TO DRAWING SHEET 2 OF 14 FOR GENERAL NOTES PERTAINING TO UTILITIES.
9. REFER TO SHEETS 3, 4, 5 AND 6 OF 14 FOR ALL REQUIRED SEDIMENT CONTROL MEASURES.

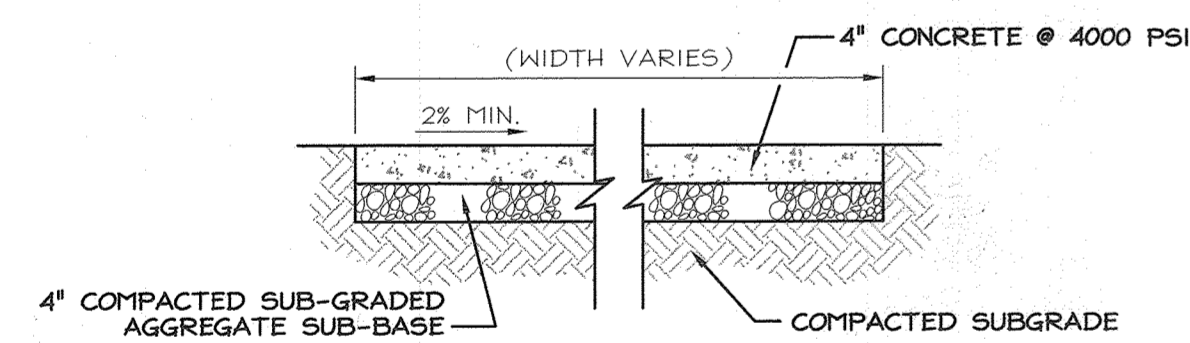
**UTILITY NOTES:**

UTILITIES AND OTHER OBSTRUCTIONS AS SHOWN HEREON HAVE BEEN LOCATED BY ACTUAL FIELD MEASUREMENT, SUPPLEMENTED BY INFORMATION OBTAINED FROM THE VARIOUS AGENCIES INVOLVED. HOWEVER, HE DO NOT GUARANTEE THE ACCURACY NOR THE COMPLETENESS OF THE INFORMATION RECEIVED. IF CONSTRUCTION ON THIS SITE TAKES PLACE, THE CONTRACTOR MUST VERIFY ALL SUCH INFORMATION TO HIS OWN SATISFACTION AND MUST NOTIFY THE COMPANIES INVOLVED PRIOR TO THE START OF CONSTRUCTION.

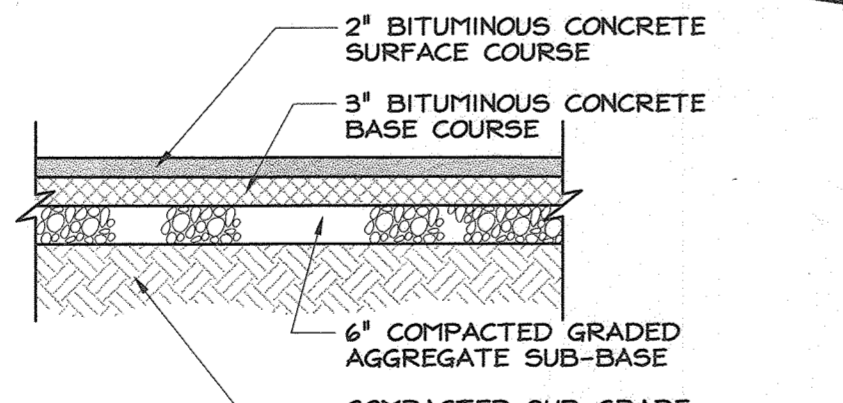
LOCATIONS OF INDIVIDUAL ELECTRIC, TELEPHONE, GAS, WATER AND SANITARY SEWER SERVICE CONNECTIONS, AS SHOWN HEREON, ARE UNCERTAIN. THE LOCATIONS OF SAID CONNECTIONS SHOWN ARE BASED ON PROPOSED SITE PLANS OR AN ESTIMATION OF POSSIBLE LOCATION. SHOULD EXCAVATION BECOME NECESSARY FOR MAINTENANCE OR REPAIR OF THESE LINES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCURATELY DETERMINE THE LOCATION OF THESE LINES BEFORE COMMENCING WORK.



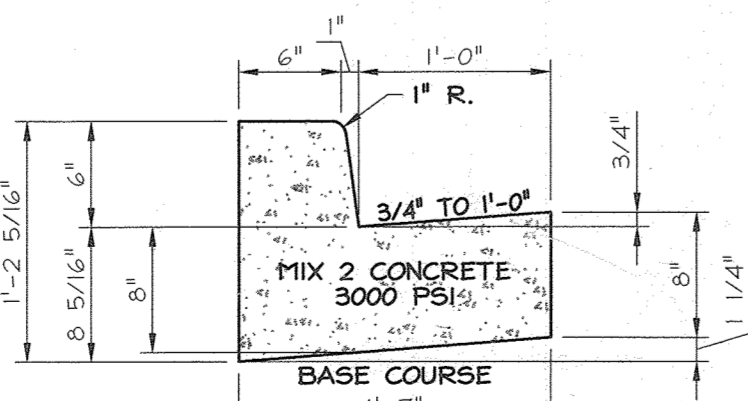
**TYPICAL SIDEWALK AT BUILDING DETAIL**  
(N.T.S.)



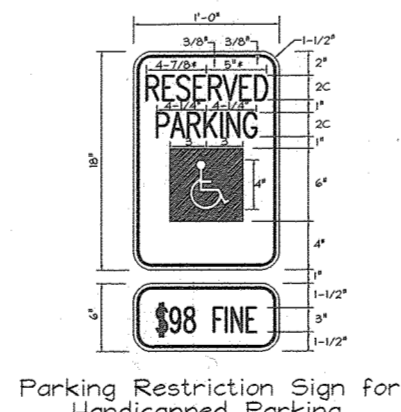
**TYPICAL SIDEWALK DETAIL**  
(N.T.S.)



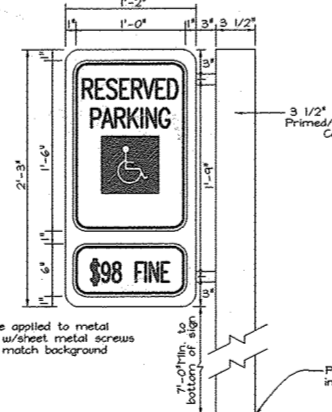
**TYPICAL BITUMINOUS PAVEMENT SECTION (ON-SITE PARKING LOT PAVEMENT)**  
(N.T.S.)



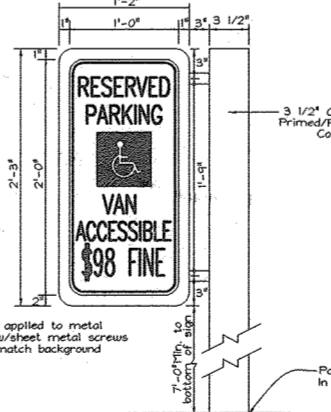
**ON SITE CURB AND GUTTER DETAIL**  
(N.T.S.)



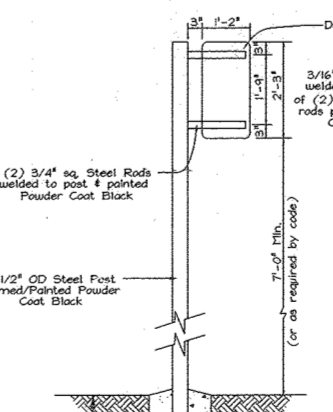
Parking Restriction Sign for Handicapped Parking



Mounting Detail for Handicapped Parking Sign



Mounting Detail for Handicapped Parking Sign



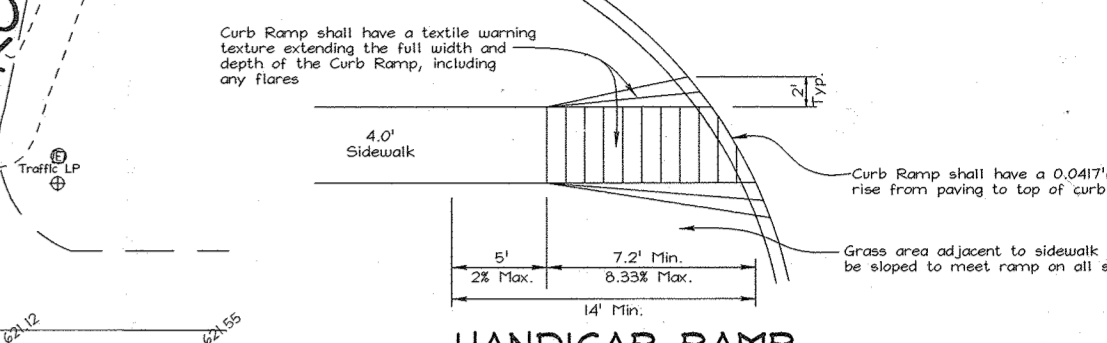
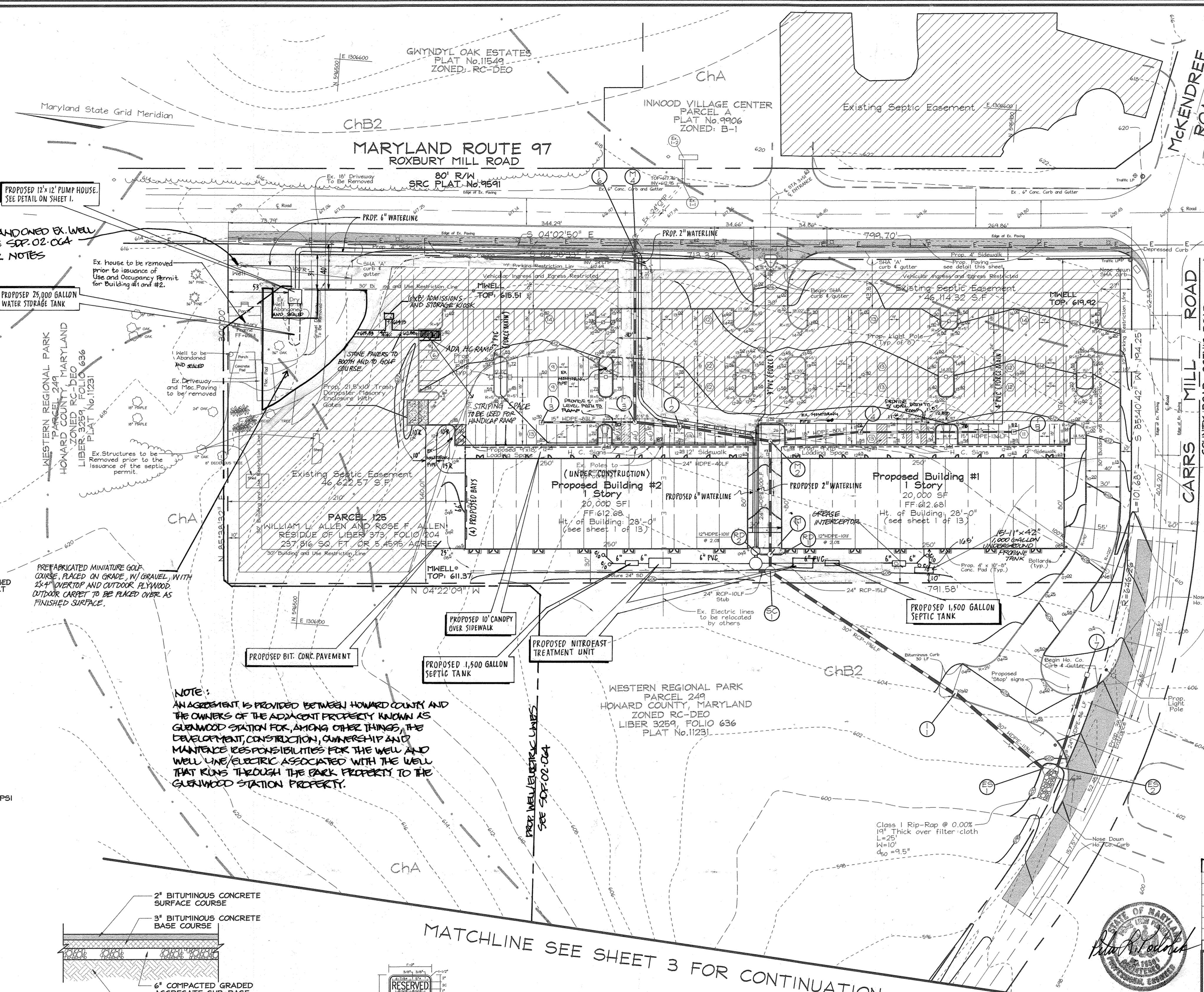
Mounting Detail for Handicapped Parking Sign

Note: Bottom edge of free standing handicapped parking signs shall be a minimum of 7'-6", placement of the additional sign designating the fine can be no lower than 7'-0"

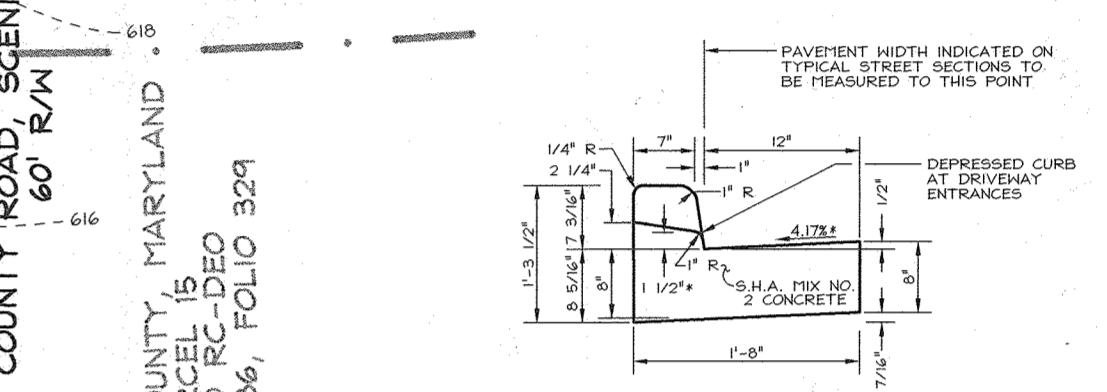
**HANDICAP PARKING SIGNS**  
(N.T.S.)

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT  
*Ray Brown* 5/30/02  
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Chad Deussen* 5/6/02  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Walter Schuch* 6/5/02  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*David R. ...* 6/10/02  
DIRECTOR DATE



**HANDICAP RAMP**  
(N.T.S.)



**STANDARD COMBINATION CURB AND GUTTER**  
HOWARD COUNTY STANDARD R-3-01  
(N.T.S.)

SEE SHEET 5 FOR SEPTIC SYSTEM TRENCH LINE LAYOUT AND SYSTEM DETAILS.

NOTE: EX WELLS TO BE REMOVED AFTER NEW MONITORING WELLS ARE ARE CONSTRUCTED AND FUNCTIONING PROPERLY.

**STREET LIGHT NOTES:**

- 250 WATT HIGH PRESSURE SODIUM VAPOR COBRA (PENDENT MOUNT)
- 30' GALVANIZED STEEL POLE - 12' ARM
- 2' TO 4' BEHIND FACE OF CURB
- (NO STREET TREES TO BE PLACED WITHIN 20' OF STREET LIGHTS)

**GENERAL NOTES FOR GRADING:**

1. COMPACTION IN BUILDING AND PAVEMENT AREAS TO BE AT 95% AND COMPACTION IN LANDSCAPING AREAS TO BE AT 90%, TO MEET ASTM D-1557 REQUIREMENTS.
2. IT IS RECOMMENDED THAT A GEOTECHNICAL ENGINEER BE RETAINED TO MONITOR EARTHWORK ACTIVITIES TO MAKE APPROPRIATE RECOMMENDATIONS AS NECESSARY.

NO.	REVISION	DATE
1	ADD PROP. WELL/ELECTRIC LINES	5-8-02
4	ADDITION OF PREFABRICATED MINIATURE GOLF COURSE AND KIOSK	6-1-07
	PER HOWARD CO. DEVELOPMENT ENGINEERING DIVISION COMMENTS	4-23-09
	SEPTIC SYSTEM REVISION AND ADDITIONAL PAVEMENT ON NORTH SIDE OF BUILDING #2	3-21-09
	REVISE PUMP HOUSE LOCATION, SHOW STORAGE TANK, WATERLINE, AND CANOPY	8-26-02
5	ADDITION OF 1,000 GALLON UNDERGROUND PROPPANE TANK	11/21/00

**SITE DEVELOPMENT PLAN**  
**GLENWOOD STATION "RETAIL CENTER"**  
ALLEN PROPERTY  
PARCEL 125  
4TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
TAX MAP #14 GRID #10

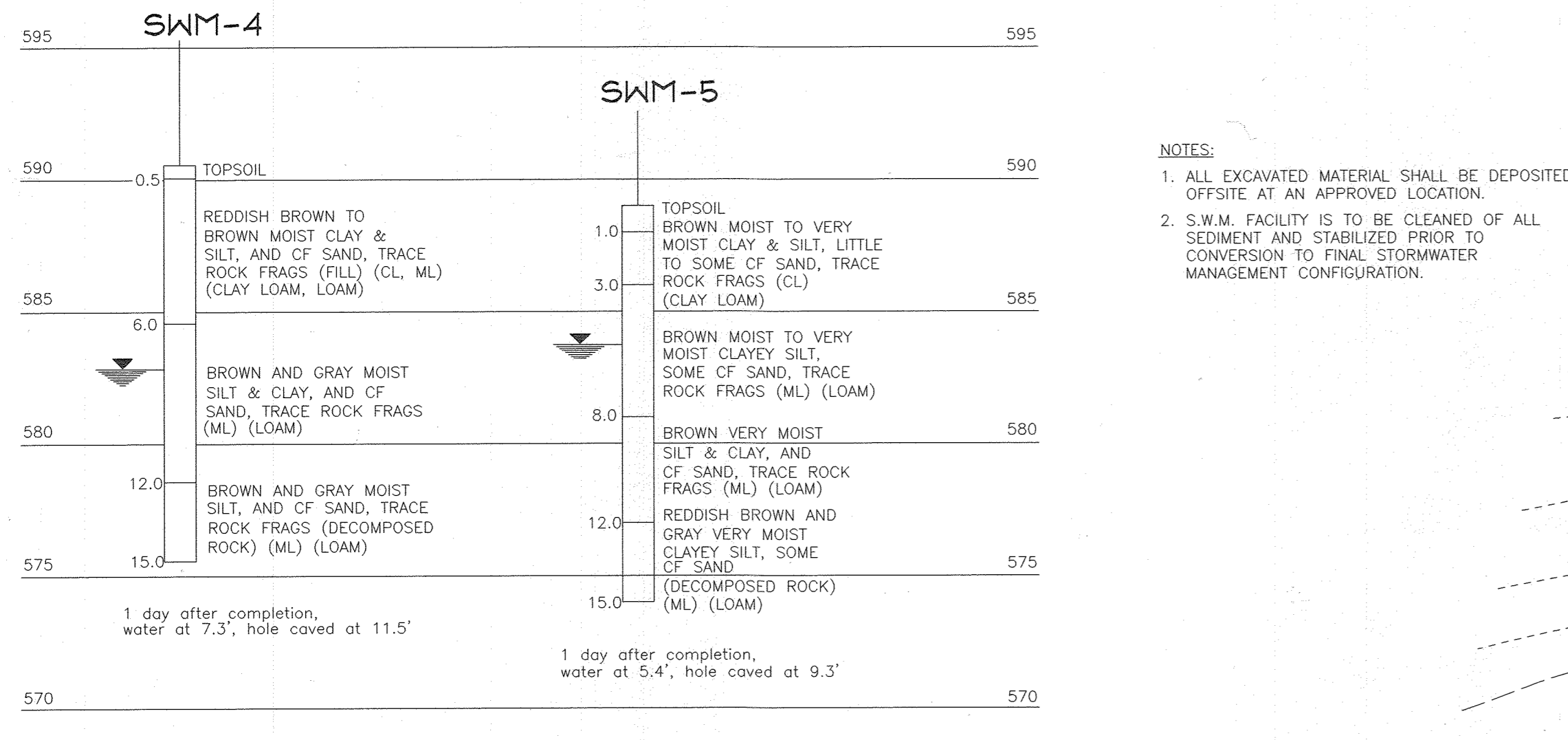
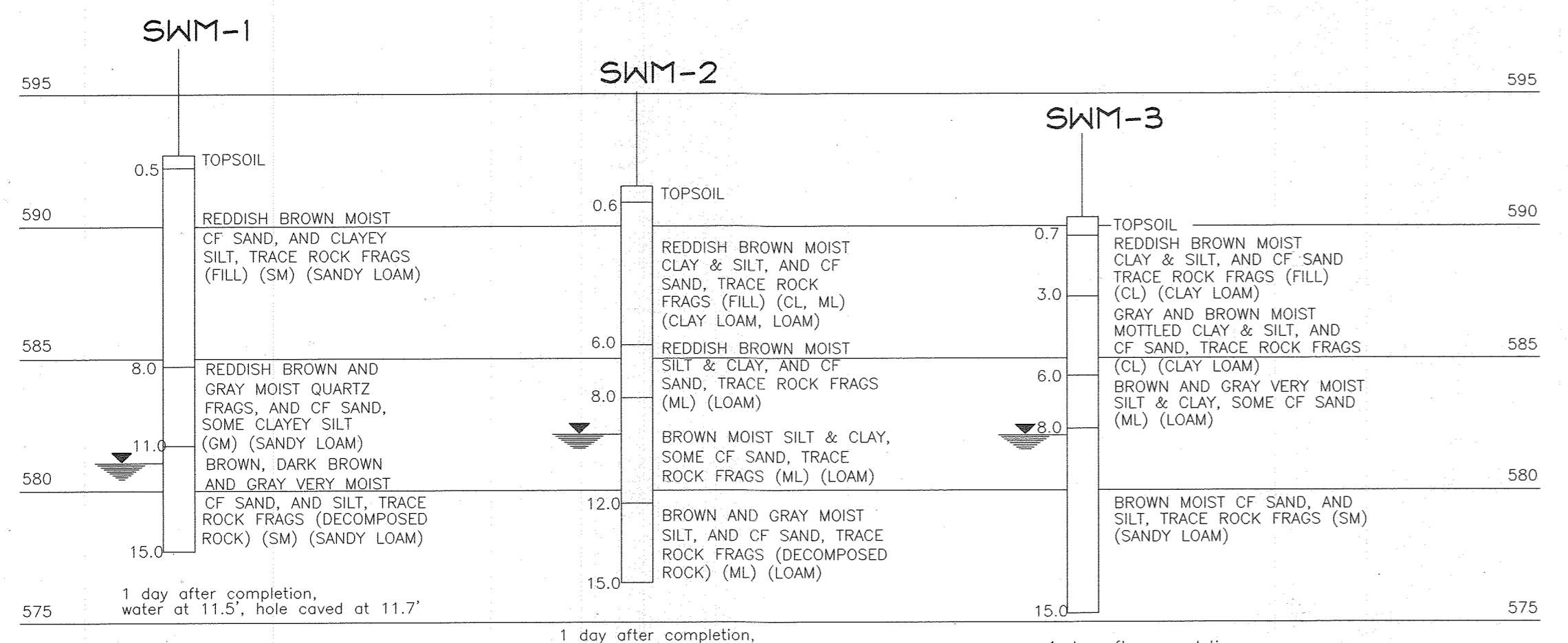
**FREDERICK WARD ASSOCIATES, INC.**  
ENGINEERS 7125 Riverwood Drive Columbia, Maryland 21046-2354  
ARCHITECTS Phone: 410-290-9550 Fax: 410-720-6226  
SURVEYORS Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: PS  
DRAWN BY: PS/KO  
CHECKED BY: RHW  
DATE: JAN. 9, 2002  
SCALE: 1"=50'  
W.O. NO.: 2019107.00  
2 SHEET OF 14



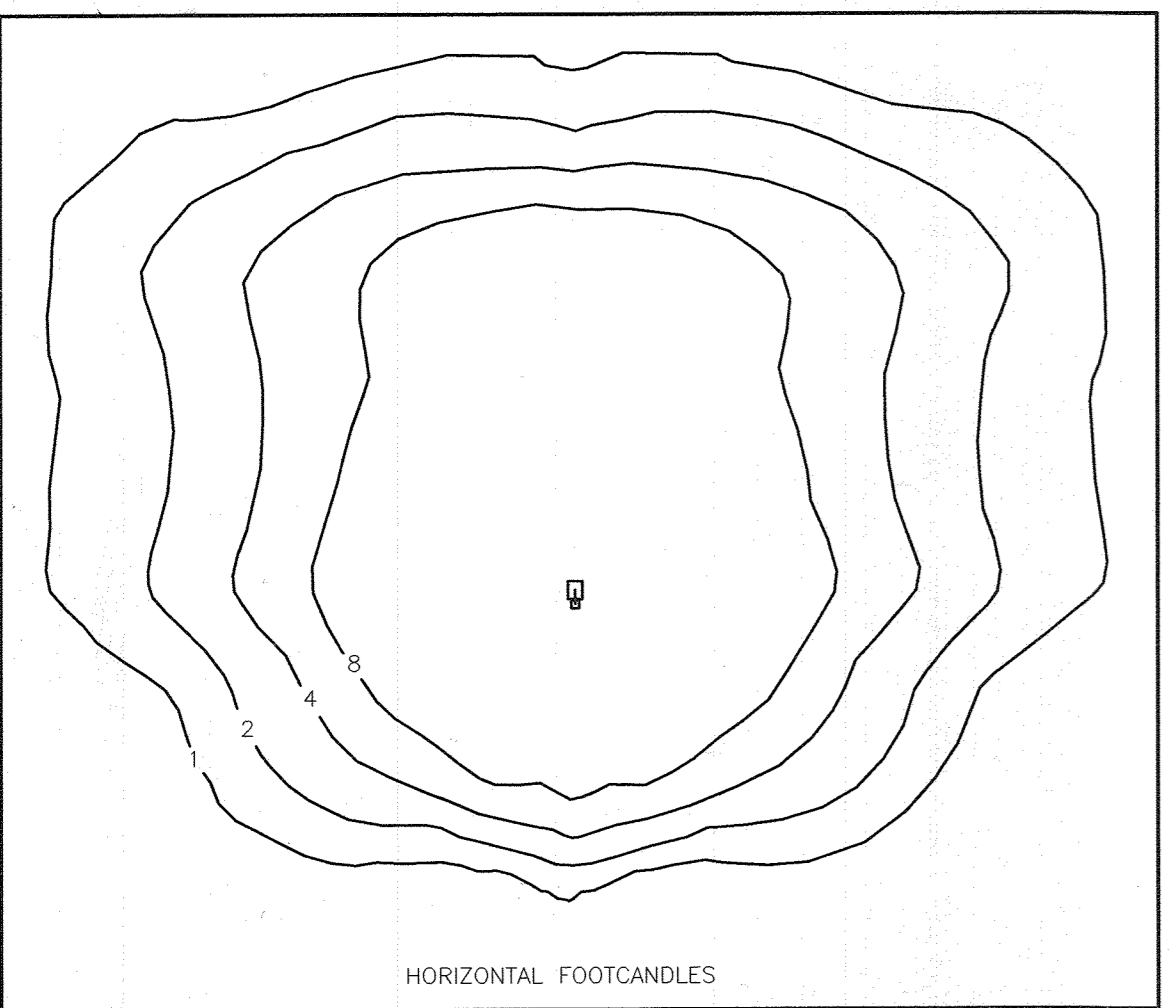
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 22390 Expiration Date: 6-30-21

**OWNER/DEVELOPER**  
GLENWOOD, LLC  
751 Frederick Street  
Hanover, PA 17331  
717.632.5300

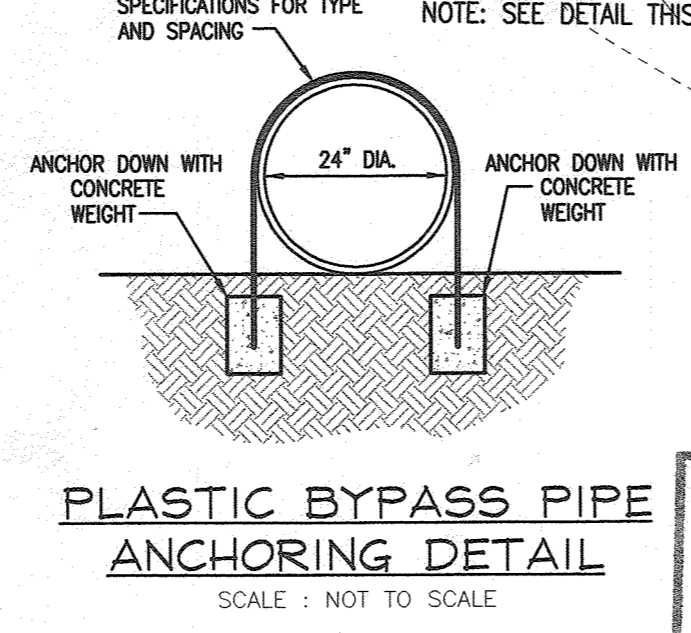
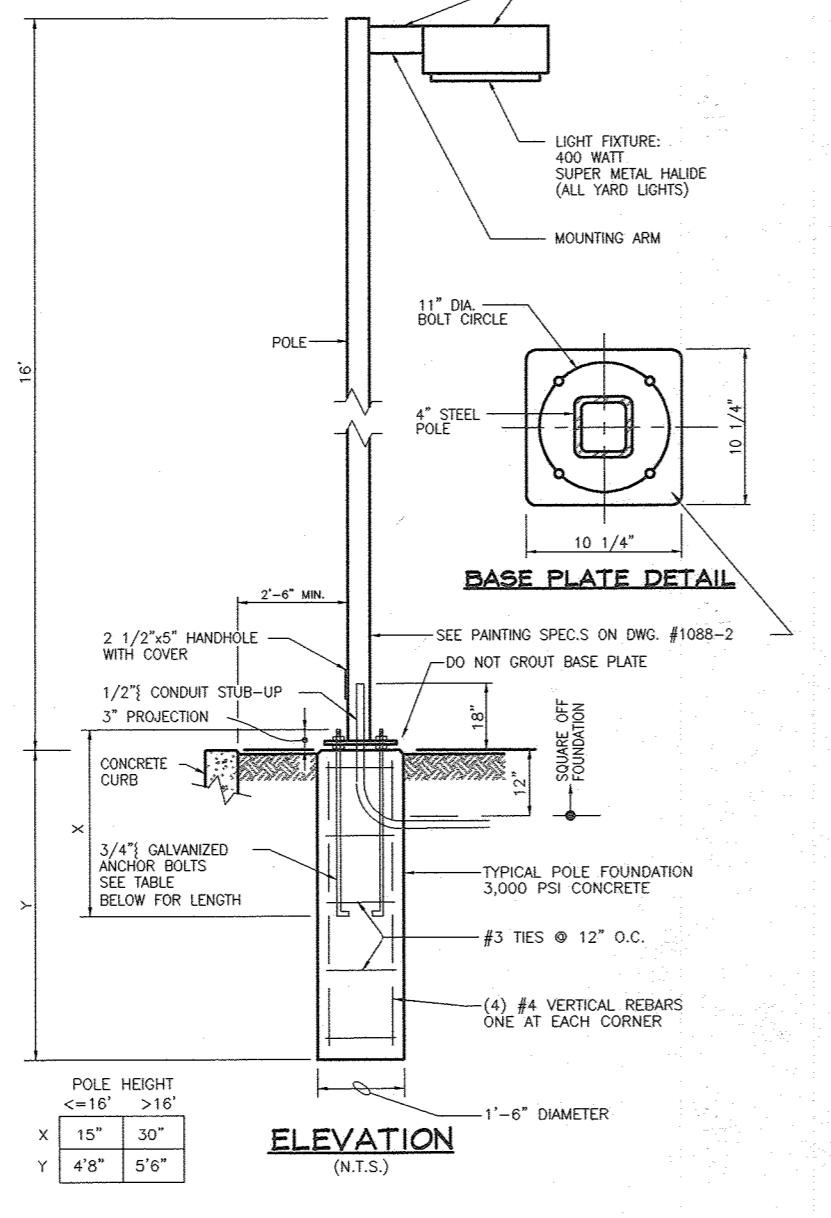


**NOTES:**  
 1. ALL EXCAVATED MATERIAL SHALL BE DEPOSITED OFFSITE AT AN APPROVED LOCATION.  
 2. S.W.M. FACILITY IS TO BE CLEANED OF ALL SEDIMENT AND STABILIZED PRIOR TO CONVERSION TO FINAL STORMWATER MANAGEMENT CONFIGURATION.

**SWM BORING PROFILES**  
 NOT TO SCALE



**STANDARD YARD LIGHT ON 22' POLE**  
 CITATION III BY WHITEWAY  
 SCALE: 1" = 20"



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 HOWARD COUNTY HEALTH DEPARTMENT  
 COUNTY HEALTH OFFICER [Signature] DATE 5/20/02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION [Signature] DATE 5/3/02  
 CHIEF, DIVISION OF LAND DEVELOPMENT [Signature] DATE 6/5/02  
 [Signature] DATE 6/10/02

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.  
 USDA-NATURAL RESOURCES CONSERVATION SERVICE  
 CHIEF, DIVISION OF LAND DEVELOPMENT [Signature] DATE 4/29/02  
 HOWARD SOIL CONSERVATION DISTRICT [Signature] DATE 4/29/02

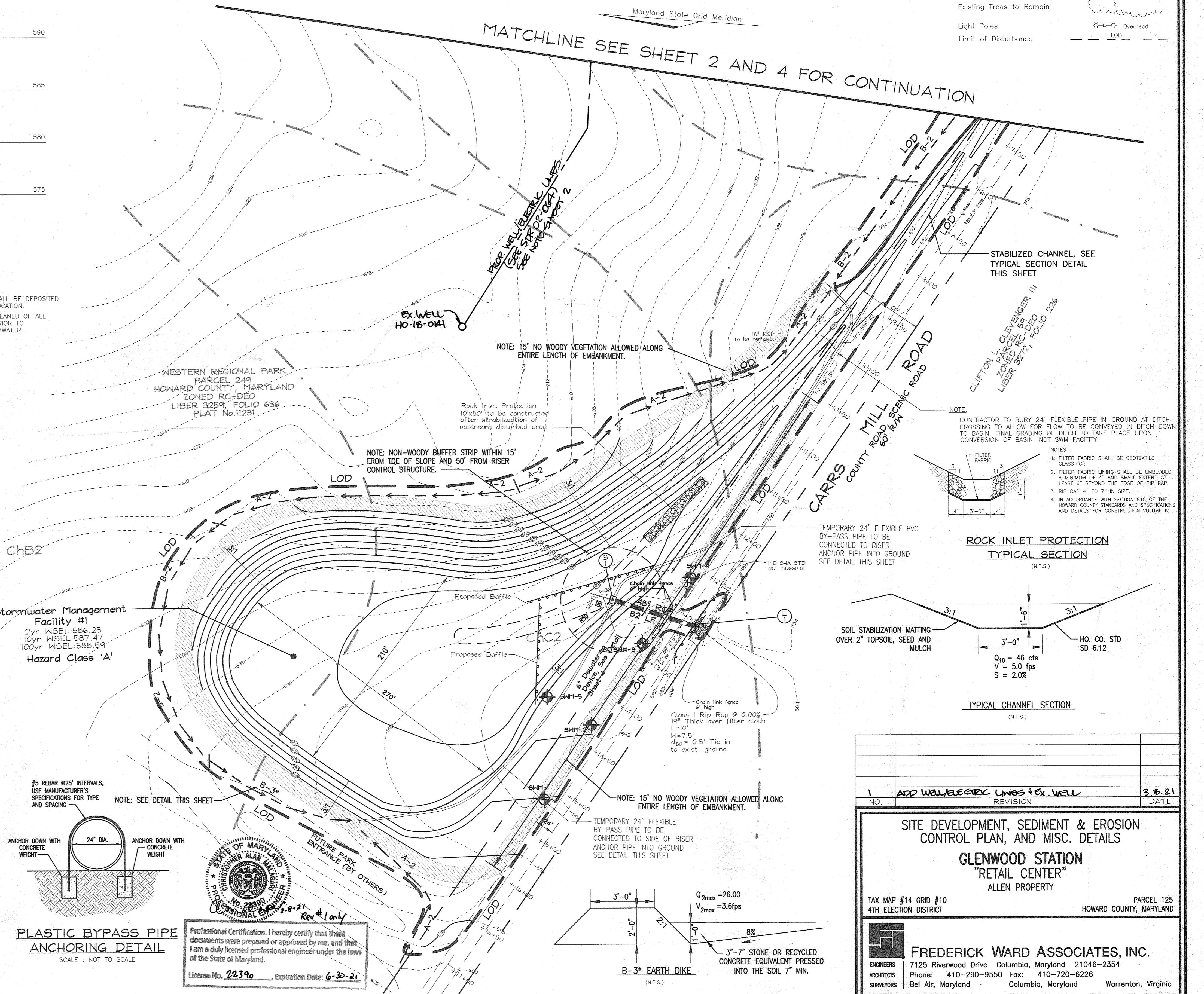
**DEVELOPER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.  
 [Signature] DATE 4-10-02

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.  
 [Signature] DATE 4/11/02

**OWNER/DEVELOPER**  
 GLENWOOD, LLC.  
 751 Frederick Street  
 Hanover, PA 17331  
 717.632.5300

**LEGEND**

Existing Contour	-----	382
Proposed Contour	-----	+82.53
Spot Elevation	○	+82.53
Direction of Flow	→	
Existing Trees to Remain	○	
Light Poles	○	Overhead
Limit of Disturbance	---	LOD



NO.	ADD WELL/ELECTRIC LINES & EX. WELL	3.6.21
REVISION		DATE

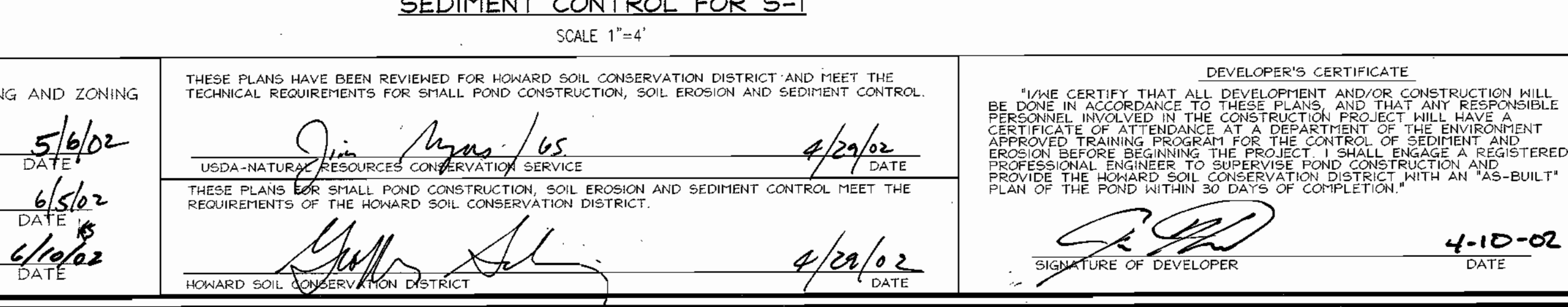
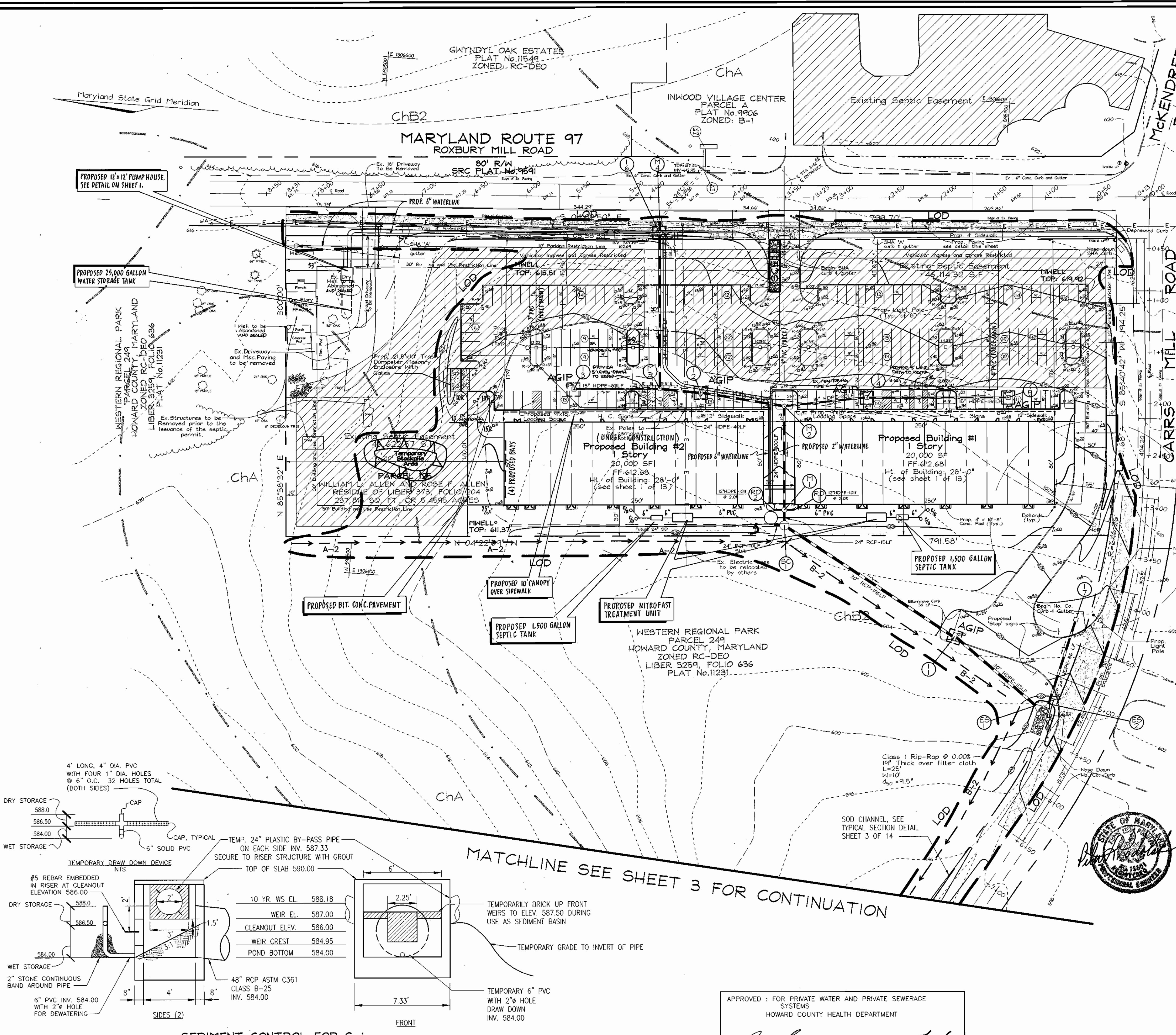
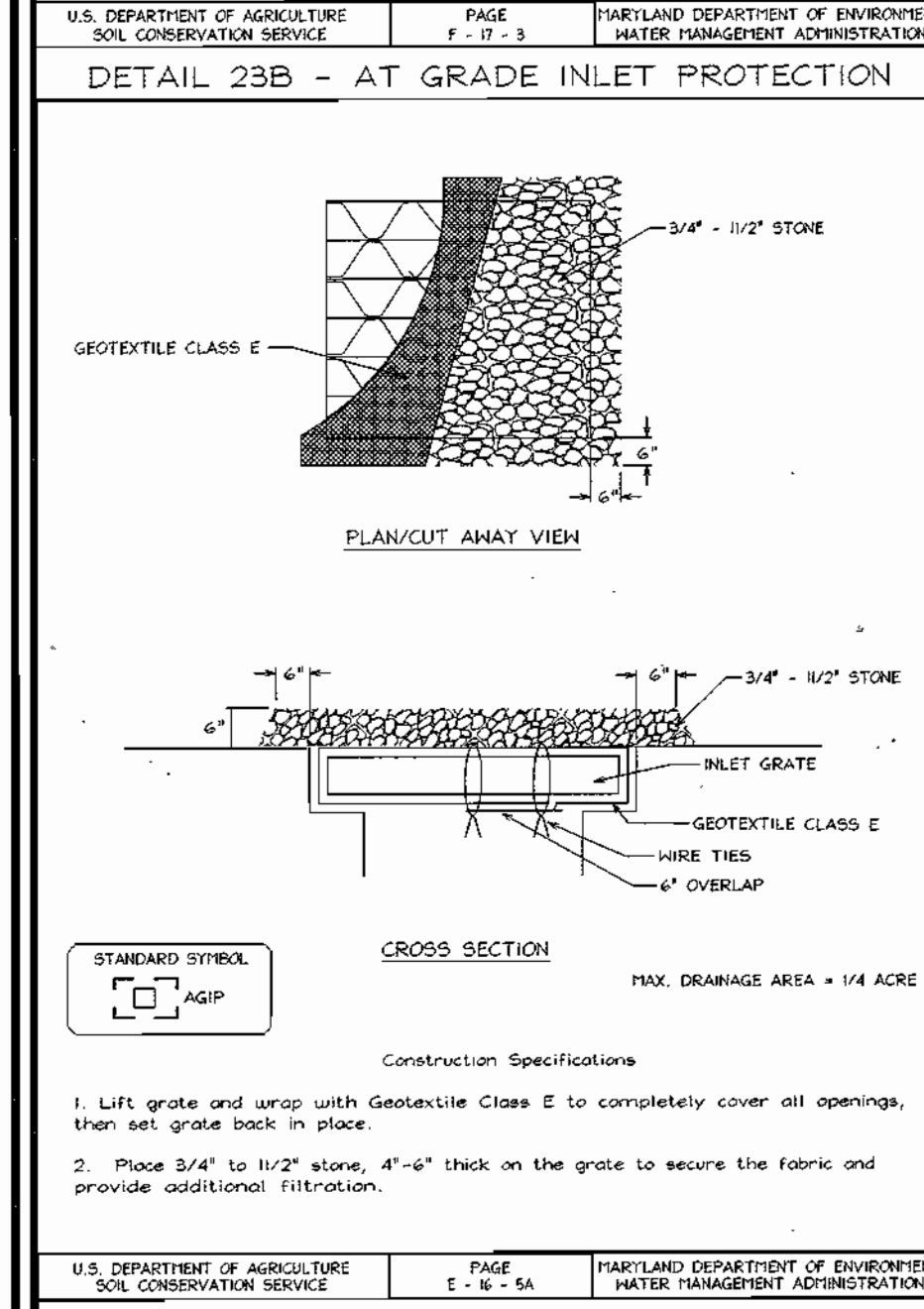
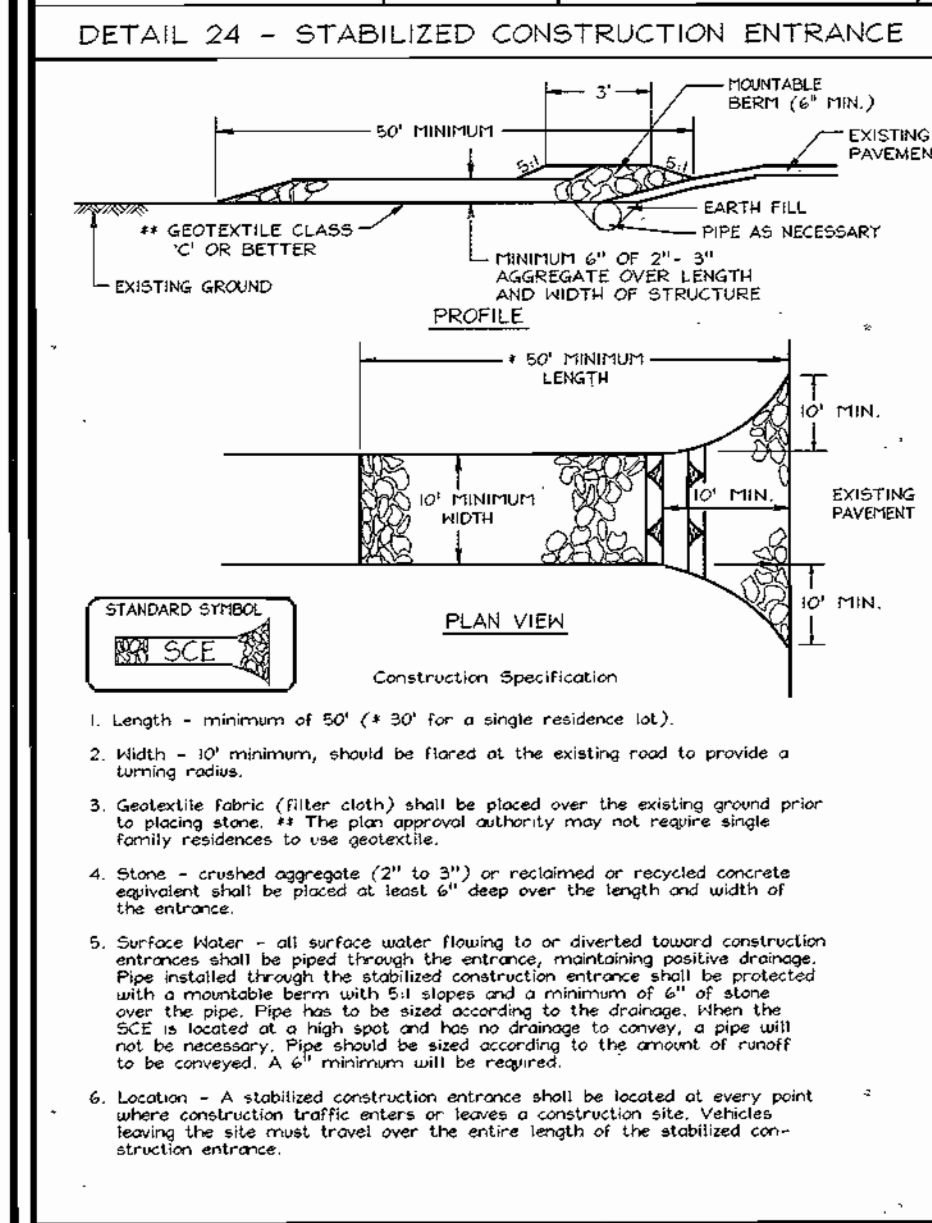
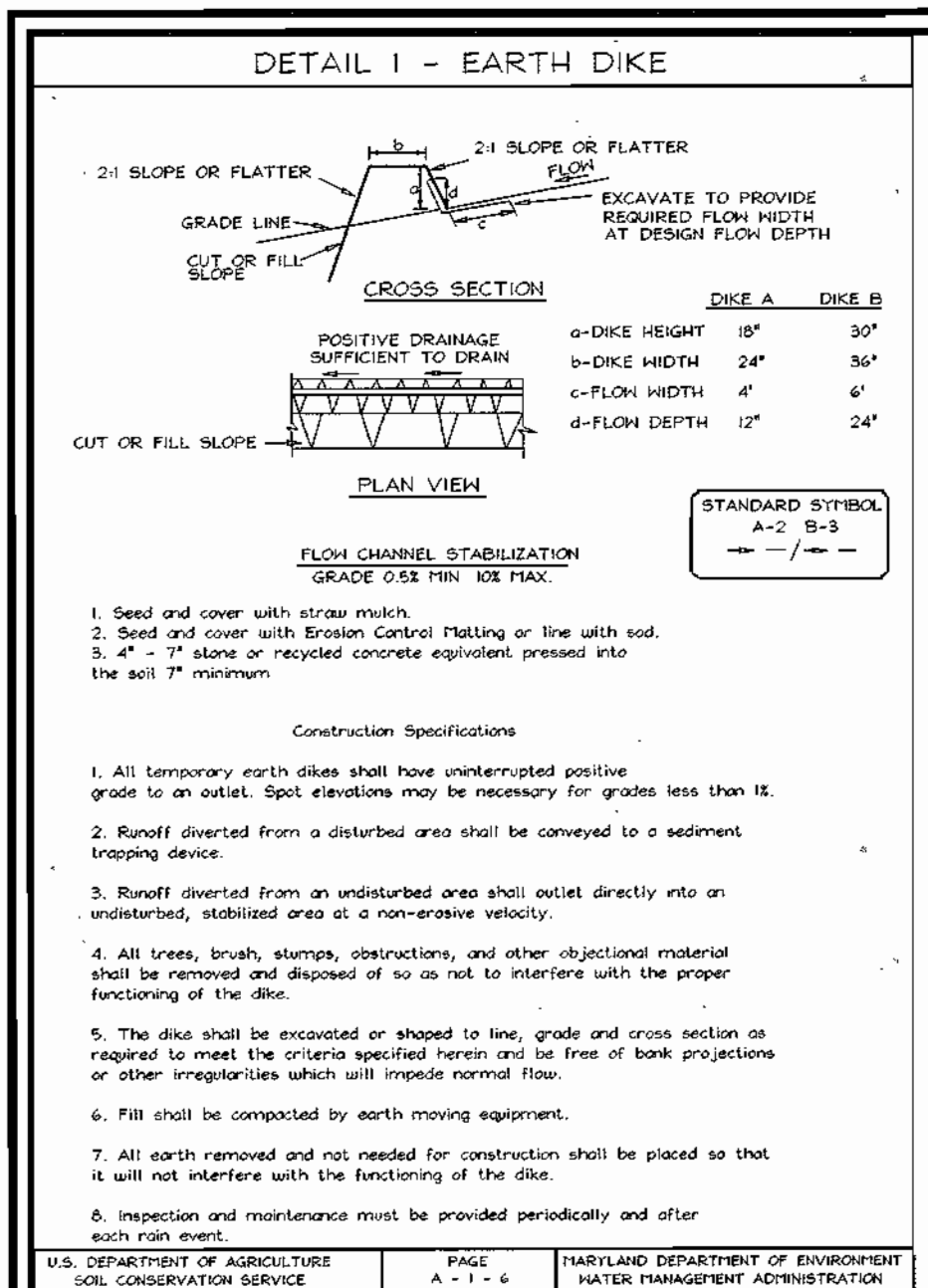
**SITE DEVELOPMENT, SEDIMENT & EROSION CONTROL PLAN, AND MISC. DETAILS**  
**GLENWOOD STATION "RETAIL CENTER"**  
 ALLEN PROPERTY

TAX MAP #14 GRID #10  
 4TH ELECTION DISTRICT  
 PARCEL 125  
 HOWARD COUNTY, MARYLAND

**FREDERICK WARD ASSOCIATES, INC.**  
 7125 Riverwood Drive Columbia, Maryland 21046-2354  
 Phone: 410-290-9550 Fax: 410-720-6226  
 Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

**DESIGN BY:** CM  
**DRAWN BY:** PS/KO  
**CHECKED BY:** RHV  
**DATE:** JAN. 9, 2002  
**SCALE:** 1"=50'  
**W.O. NO.:** 2019107.00

3 SHEET OF 14



### LEGEND

Existing Contour	-382
Proposed Contour	+82
Spot Elevation	+82.5
Direction of Flow	→
Existing Trees to Remain	
Light Poles	⊙ Overhead
Stabilized Construction Entrance	
Silt Fence	—SF—SF—
Super Silt Fence	—SSF—SSF—
Limit of Disturbance	LOD
At Grade Inlet Protection	AGIP

**NOTE:**  
ALL DITCHES TO BE STABILIZED AND STAKED PER HOWARD COUNTY SOIL CONSERVATION STANDARDS. SEE DETAILS, SHEET 3 OF 14.

SEE SHEET 5 FOR SEPTIC SYSTEM TRENCH LINE LAYOUT AND SYSTEM DETAILS



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT  
*Robert H. Vogel*  
COUNTY HEALTH OFFICER DATE 4/10/02

ENGINEER'S CERTIFICATE  
"I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."  
*Robert H. Vogel*  
SIGNATURE OF ENGINEER DATE 4/11/02

OWNER/DEVELOPER  
GLENWOOD, LLC  
751 Frederick Street  
Hanover, PA 17331  
717.632.5300

NO.	REVISION	DATE
	PER HOWARD CO. DEVELOPMENT ENGINEERING DIVISION COMMENTS	4-25-02
	SEPTIC SYSTEM REDesign AND ADDITIONAL DIVISION ON NORTH SIDE OF BUILDING #2	3-21-02
	REVISE PUMP HOUSE LOCATION, SHOW STORAGE TANK, WATERLINE, AND CANOPY	8-24-02

SEDIMENT AND EROSION CONTROL PLAN AND DETAILS  
**GLENWOOD STATION**  
"RETAIL CENTER"  
ALLEN PROPERTY  
TAX MAP #14 GRID #10 PARCEL 125  
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**FREDERICK WARD ASSOCIATES, INC.**  
ENGINEERS 7125 Riverwood Drive Columbia, Maryland 21046-2354  
ARCHITECTS Phone: 410-290-9550 Fax: 410-720-6226  
SURVEYORS Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: PS  
DRAWN BY: PS/KO  
CHECKED BY: RHV  
DATE: JAN. 9, 2002  
SCALE: 1"=50'  
I.C. NO.: 2019107.00  
4 SHEET OF 14

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

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

**Purpose**  
To provide a suitable soil medium for vegetable growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

**Conditions Where Practice Applies**

- This practice is limited to areas having 2:1 or flatter slopes unless:
  - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
  - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
  - The original soil to be vegetated contains material toxic to plant growth.
  - The soil is so acidic that treatment with limestone is not feasible.
- For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plan.

**Construction and Material Specifications**

- Topsoil salvaged from the existing site may be used provided that it meets the standards set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS in cooperation with Maryland Agricultural Experiment Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
  - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 and 1/2" in diameter.
  - Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
  - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
    - For sites having disturbed areas over 5 acres:
      - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
    - For sites having disturbed areas over 5 acres:
      - For soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
        - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
        - Organic content of topsoil shall be not less than 1.5 percent by weight.
        - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
        - No soil containing soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
      - Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
    - Place topsoil (if required) and apply soil amendments specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

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 three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

**SOIL AMENDMENTS:** In lieu of soil test recommendations, use one of the following schedules:

- Preferred - Apply 2 tons per acre dolomitic limestone (82 lbs/1000 sq.ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At the time of seeding, apply 400 lbs per acre 30-0-0 ureiform fertilizer (9 lbs/1000 sq.ft.).
- Acceptable - Apply 2 tons per acre dolomitic limestone (82 lbs/1000 sq.ft.) and apply 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

**SEEDING:** For the periods March 1 thru April 30, and August 1 thru October 15, seed with 3 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.5 lbs/1000 sq.ft.) of weeping lovegrass. During the period of October 16 thru February 29, protect site by applying 2 tons per acre well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use seed, Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

**MULCHING:** Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 200 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 5 feet or higher, use 340 gallons per acre (8.5 gal/1000 sq.ft.) for anchoring.

**MAINTENANCE:** Inspect all seeded areas and make needed repairs, replacements and reseeding.

TEMPORARY SEEDING NOTES

**SEEDBED PREPARATION:** Loosen three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

**SOIL AMENDMENTS:** Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs/1000 sq.ft.).

**SEEDING:** For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushels per acre of annual rye (3.2 lbs/1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs/1000 sq.ft.). For the period November 1 thru February 29, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use seed.

**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 200 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 5 feet or higher, use 340 gallons per acre (8.5 gal/1000 sq.ft.) for anchoring.

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

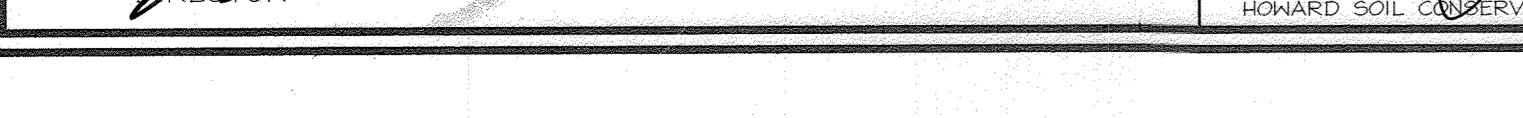
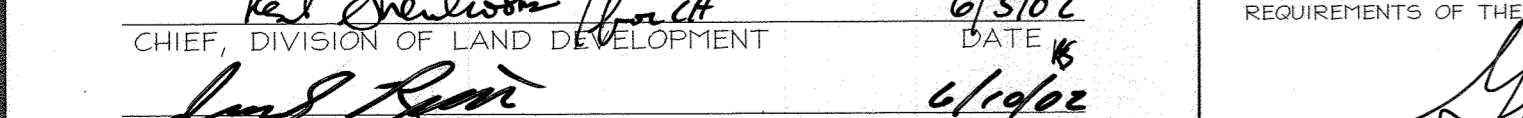
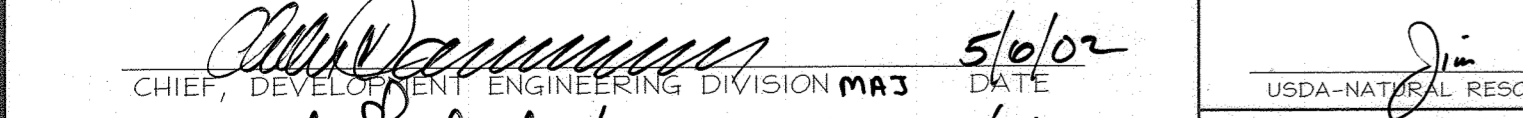
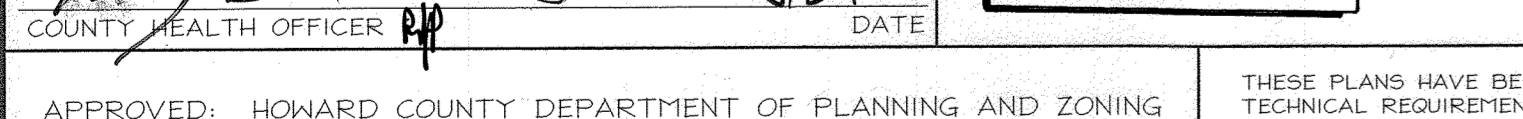
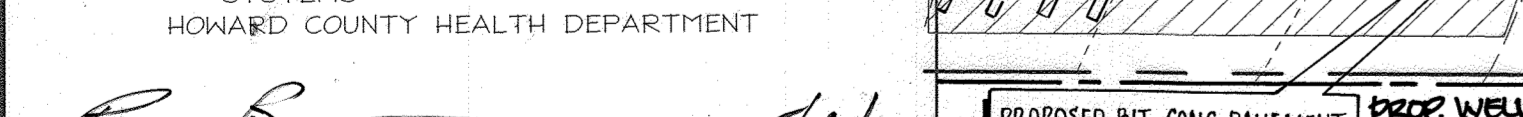
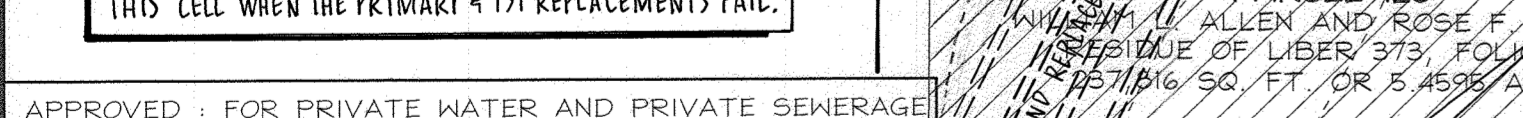
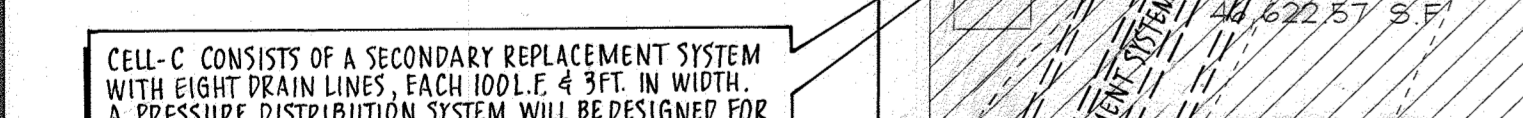
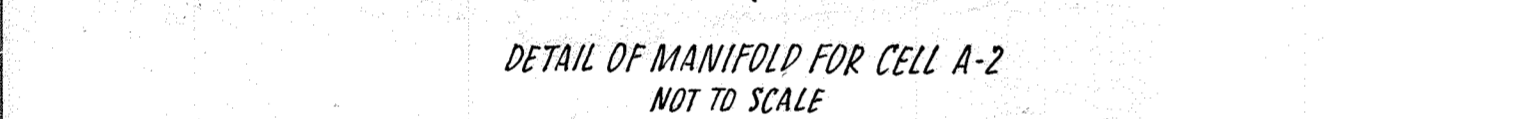
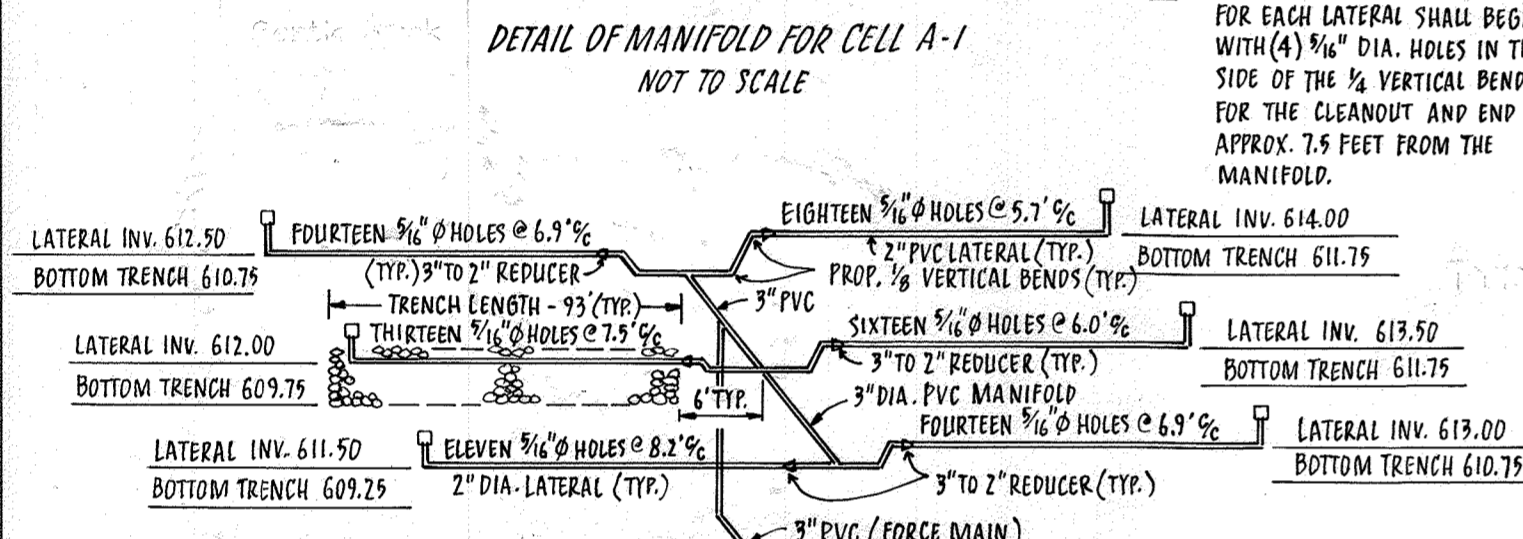
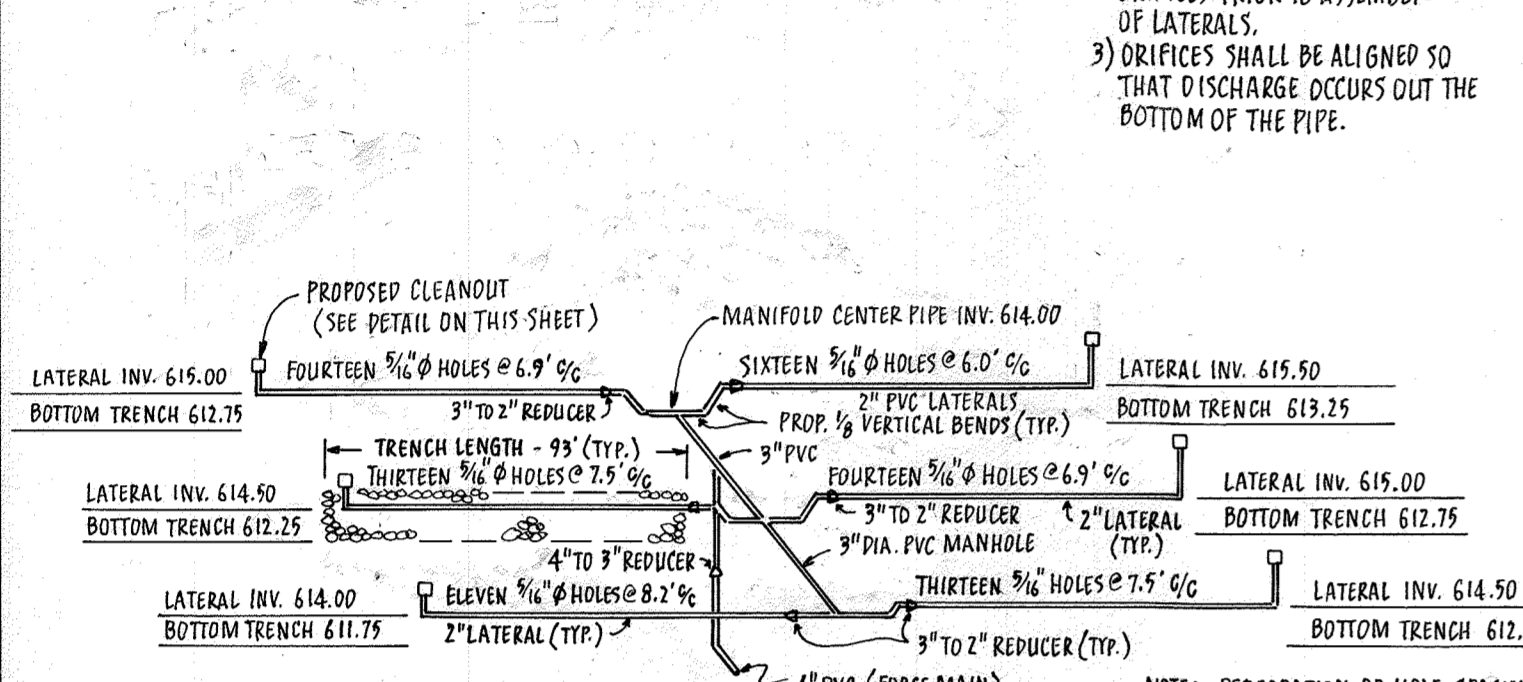
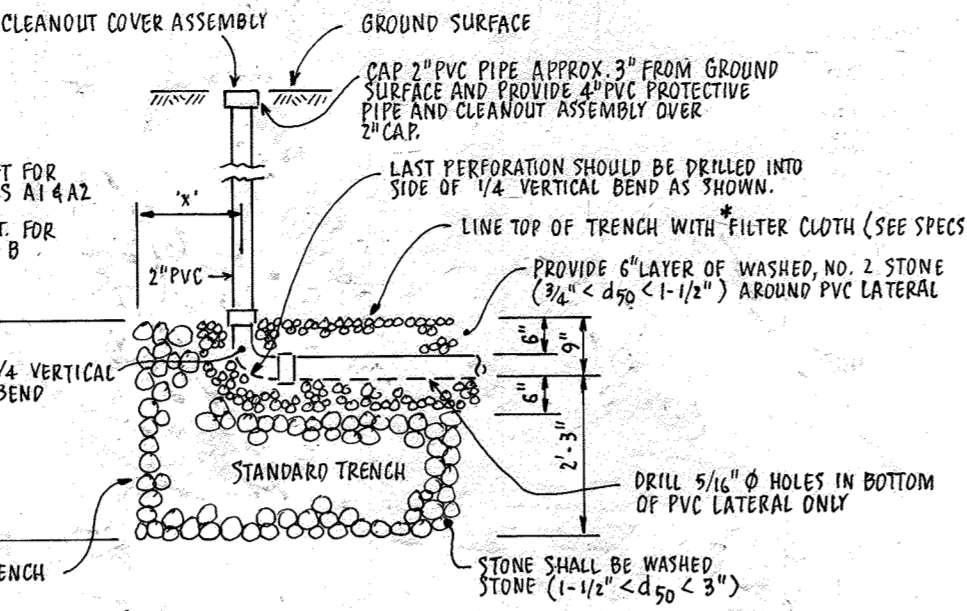
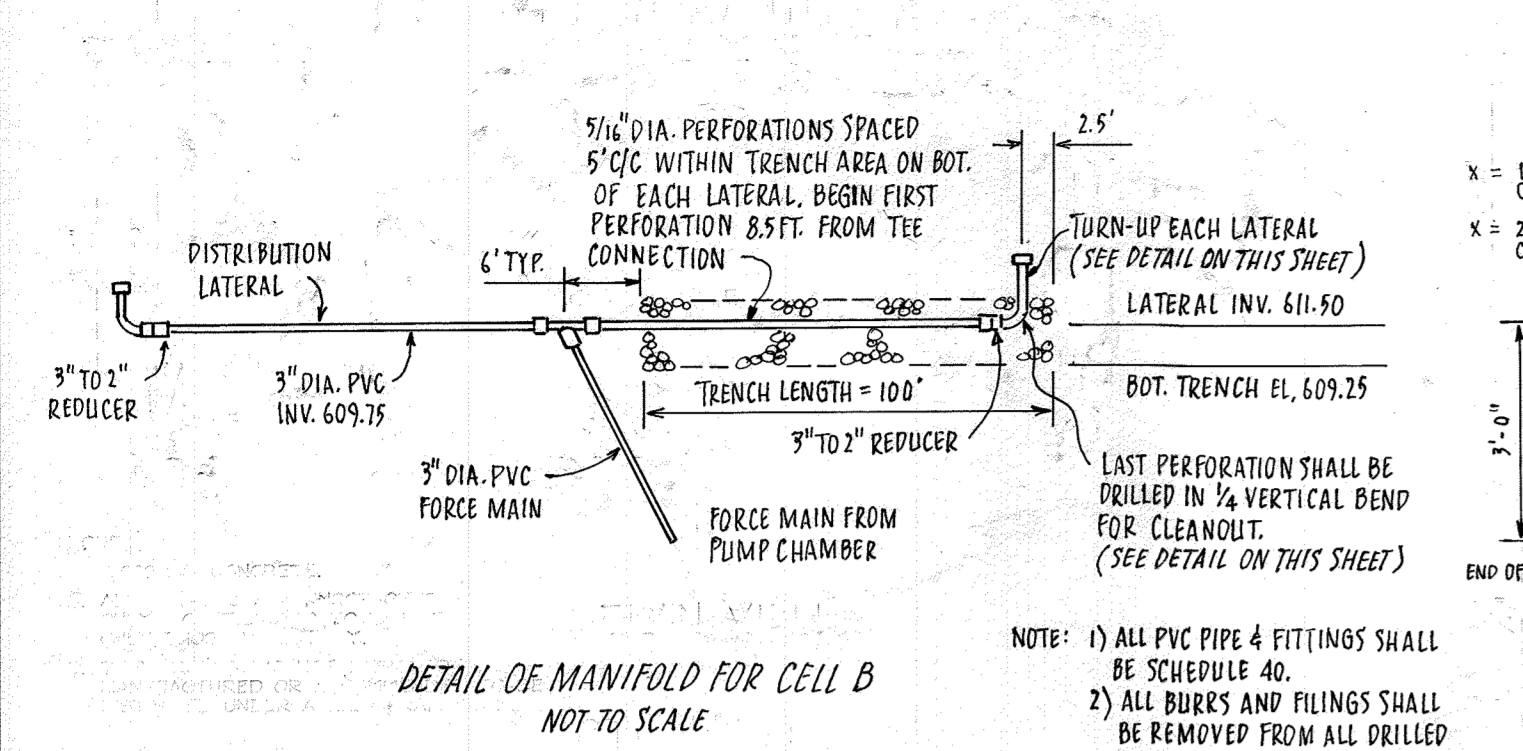
SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (315-1955).
- All vegetation and structural practices are to be installed according to the provisions of this plan and are to be conforming with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
- Following initial soil disturbance or redistribution, 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 on all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding, sod, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operating condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:
 

Total Area	5.46 Acres
Area Disturbed	7.96 Acres
Area to be seeded or paved	3.00 Acres
Area to be vegetatively stabilized	4.96 Acres
Total Cut	4,872 CY
Total Fill	12,984 CY
Offsite waste/borrow area location	
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- All sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized within one working day, whichever is shorter.
- To be determined by contractor, with pre-approval of the Sediment Control Inspector with an approved and active grading permit.

SEQUENCE OF CONSTRUCTION

- Obtain Howard County Grading Permit. (Week 1)
- The contractor or developer shall contact the Construction Inspection Division 24 hours in advance of commencement of work at (410) 315-1880. (Week 1)
- Conduct a pre-construction meeting with the Sediment Control Inspector prior to any land disturbance. (Week 1)
- Install stabilized construction entrance with mountable berm. (Week 2)
- Install all silt fence and super silt fence as indicated on plans. (Week 2)
- Install earth-dike diversion for clean water and temporary by-pass pipes. When riser is installed, attach temporary pipes to riser. (Week 3)
- Install the riser/barrage embankment with deaerating device. Construct stormwater management pond. (Week 3)
- Construct storm drain from E5-1 to M-4. Install inlet protections. Construct permanent silt trap to Silt Facility. (Week 4)
- With permission from the Sediment Control Inspector, rough grade site. (Week 5)
- Stockpile soil. Stabilize stockpile with seed and mulch. (Week 5)
- Complete installation of storm drain system and remaining perimeter utilities. Silt trap storage pipes shall be blocked to prevent sediment from entering the system. (Weeks 6-7)
- Begin building construction. (Week 6)
- Complete building construction. (Week 30)
- Install curb and gutter. (Week 31)
- Install paving base course. Remove inlet protection per the Sediment Control Inspector as work progresses. (Week 32)
- Install paving surface course. (Week 33)
- Fine grade and stabilize remaining site. Install landscaping. (Week 34)
- Clean and flush out storm drain system. Dispose of sediment laden material cleaned out of storm drain in a manner approved by the Sediment Control Inspector. Remove storage pipes blockade. (Week 35)
- Remove all sediment control measures after receiving approval from the Sediment Control Inspector. (Week 36)



\*FILTER CLOTH SPECIFICATIONS  
FILTER CLOTH SHALL MEET OR EXCEED THE FOLLOWING PHYSICAL PROPERTIES:

- PERMEABILITY (ASTM D4918) = 0.1 SEC. (MIN.)
- OPENING SIZE (ASTM D4571-87) = 60 U.S. SEIVE SIZE (MAX.)
- FLOWRATE (ASTM D4451-85) = 10 gpm/ft. (MIN.)
- MULLEN BURST (ASTM D3786) = 200 PSI (MIN.)

NOTE: PERFORATION DR. HOLE SPACING FOR EACH LATERAL SHALL BEGIN WITH (4) 3/4\"/>

NOTE: PERFORATION DR. HOLE SPACING FOR EACH LATERAL SHALL BEGIN WITH (4) 3/4\"/>

NOTE: PERFORATION DR. HOLE SPACING FOR EACH LATERAL SHALL BEGIN WITH (4) 3/4\"/>

NOTE: PERFORATION DR. HOLE SPACING FOR EACH LATERAL SHALL BEGIN WITH (4) 3/4\"/>

NOTE: PERFORATION DR. HOLE SPACING FOR EACH LATERAL SHALL BEGIN WITH (4) 3/4\"/>

NOTE: PERFORATION DR. HOLE SPACING FOR EACH LATERAL SHALL BEGIN WITH (4) 3/4\"/>

NOTE: PERFORATION DR. HOLE SPACING FOR EACH LATERAL SHALL BEGIN WITH (4) 3/4\"/>

NOTE: PERFORATION DR. HOLE SPACING FOR EACH LATERAL SHALL BEGIN WITH (4) 3/4\"/>

NOTE: PERFORATION DR. HOLE SPACING FOR EACH LATERAL SHALL BEGIN WITH (4) 3/4\"/>

NOTE: PERFORATION DR. HOLE SPACING FOR EACH LATERAL SHALL BEGIN WITH (4) 3/4\"/>

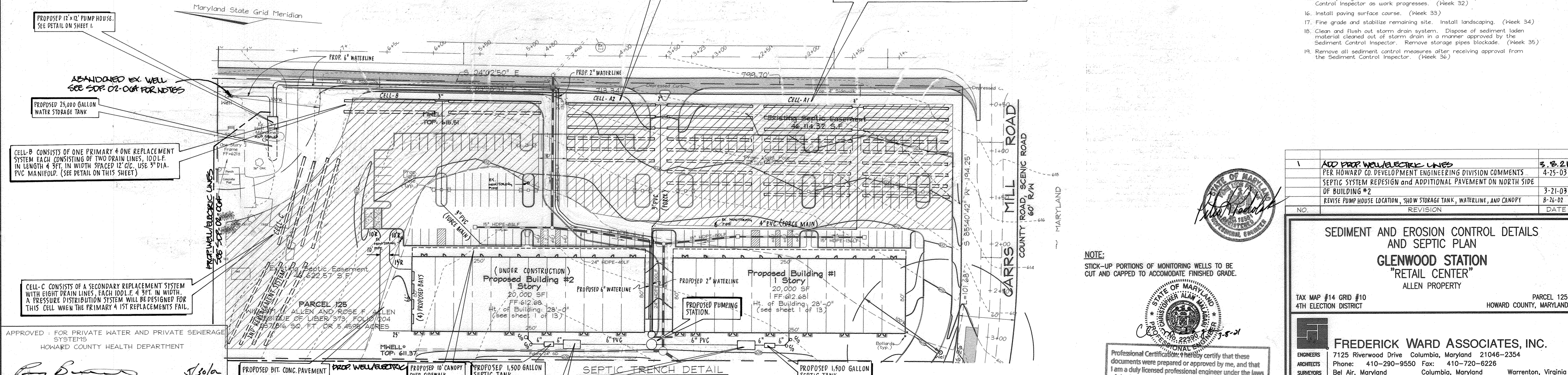
NOTE: PERFORATION DR. HOLE SPACING FOR EACH LATERAL SHALL BEGIN WITH (4) 3/4\"/>

NOTE: PERFORATION DR. HOLE SPACING FOR EACH LATERAL SHALL BEGIN WITH (4) 3/4\"/>

CELL A-2 CONSISTS OF ONE PRIMARY & ONE REPLACEMENT SYSTEM. EACH CONSISTING OF SIX DRAIN LINES, 93'L. IN LENGTH & 3'FT. IN WIDTH SPACED 12\"/>

CELL A-1 CONSISTS OF ONE PRIMARY SYSTEM AND TWO REPLACEMENT SYSTEMS. EACH CONSISTING OF SIX DRAIN LINES, 93'L. IN LENGTH & 3'FT. IN WIDTH SPACED 12\"/>

CELL A-1 CONSISTS OF ONE PRIMARY SYSTEM AND TWO REPLACEMENT SYSTEMS. EACH CONSISTING OF SIX DRAIN LINES, 93'L. IN LENGTH & 3'FT. IN WIDTH SPACED 12\"/>



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER'S CERTIFICATE

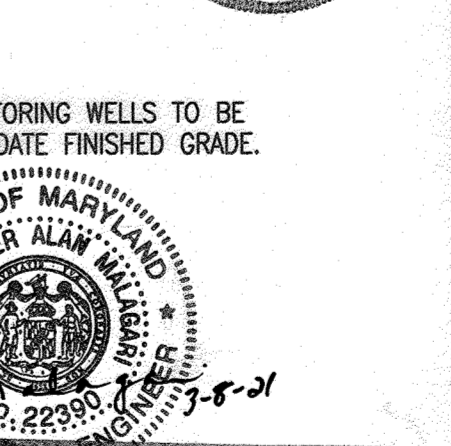
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THE PLANS AND THAT ANY REPRESENTATIVE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENTION AS A DEPARTMENT OF ENVIRONMENT AND PLANNING TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICALLY WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THE ENVIRONMENT AND THAT I AM A REGISTERED PROFESSIONAL ENGINEER WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

OWNER/DEVELOPER

GLENWOOD, LLC.  
75 FREDERICK ROAD  
HANOVER, PA 17331  
717.632.5700



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. 22390 Expiration Date: 6-30-21

ADD PROP. WELL/ELECTRICAL LINES PER HOWARD CO. DEVELOPMENT ENGINEERING DIVISION COMMENTS	3-8-21
SEPTIC SYSTEM REVISION AND ADDITIONAL PAVEMENT ON NORTH SIDE OF BUILDING #2	3-21-03
REVISE PUMP HOUSE LOCATION, SHOW STORAGE TANK, WATERLINE, AND CANOPY	8-26-02
NO. REVISION DATE	

SEDIMENT AND EROSION CONTROL DETAILS AND SEPTIC PLAN  
GLENWOOD STATION "RETAIL CENTER"  
ALLEN PROPERTY

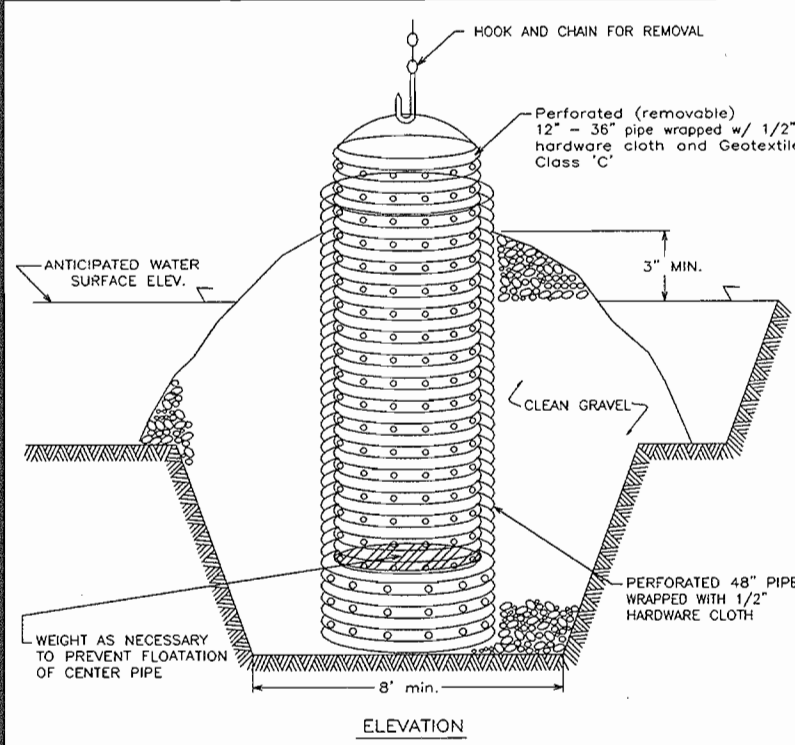
TAX MAP #14 GRID #10 PARCEL 125  
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FREDERICK WARD ASSOCIATES, INC.  
7125 Riverwood Drive Columbia, Maryland 21046-2354  
Phone: 410-290-9550 Fax: 410-720-6226  
Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: PS  
DRAWN BY: PS/KO  
CHECKED BY: RW  
DATE: JAN. 9, 2002  
SCALE: 1"=50'  
W.O. NO.: 2019107.00

5 SHEET OF 14

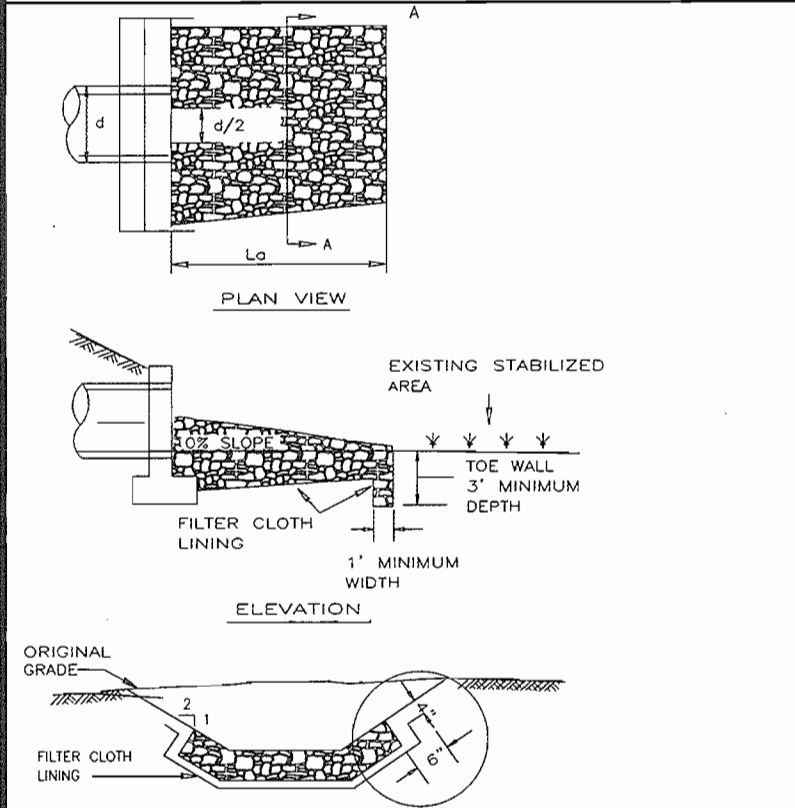
DETAIL 20A - REMOVABLE PUMPING STATION



- Construction Specifications**
- The outer pipe should be 4" dia. or shall in any case be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
  - After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
  - The inside stand pipe (center pipe) should be constructed by perforating a 4" diameter PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" dia. 6" wide or 1" diameter holes 8" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Galvalume Class C.
  - The center pipe should extend 12" to 18" above the anticipated water surface elevation or rise crest elevation when dewatering a basin.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 9-12-4 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 27 - ROCK OUTLET PROTECTION III

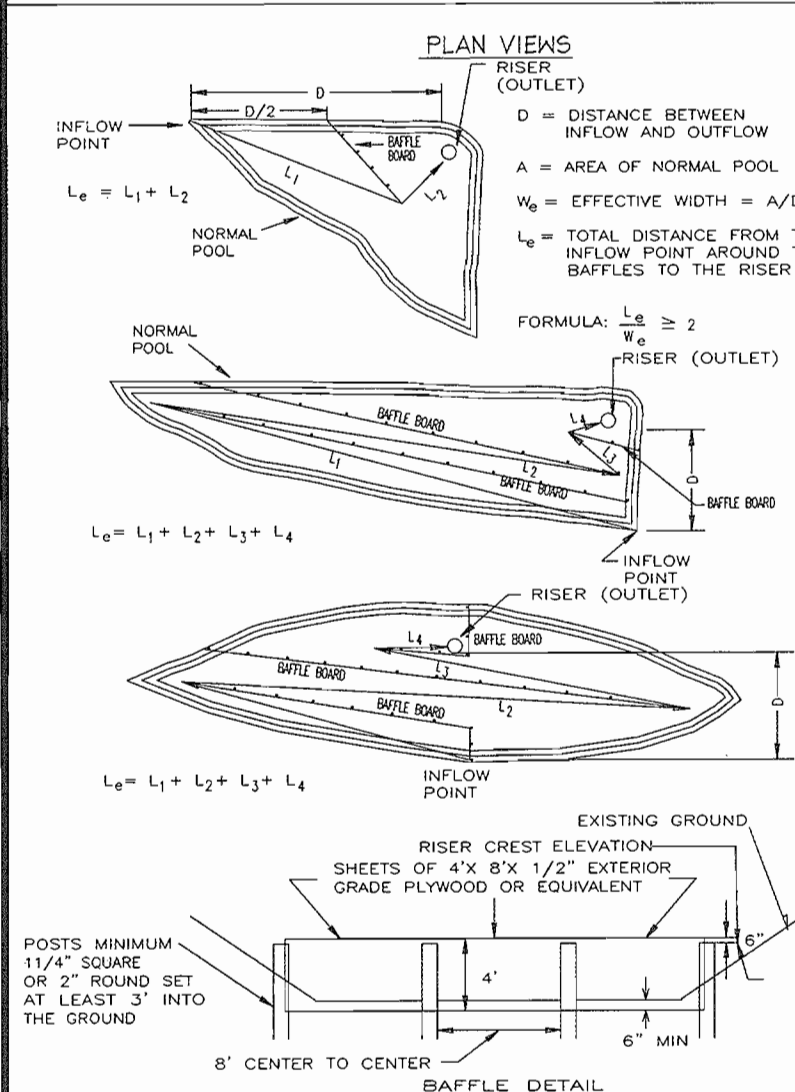


**SECTION A-A** FILTER FABRIC LINING SHALL BE EMBEDDED A MINIMUM OF 4" AND SHALL EXTEND AT LEAST 6" BEYOND THE EDGE OF THE RIP-RAP.

NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 9-9-10 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 18 - SEDIMENT BASIN BAFFLES



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 HOWARD COUNTY HEALTH DEPARTMENT

*Ry Brown*  
 COUNTY HEALTH OFFICER

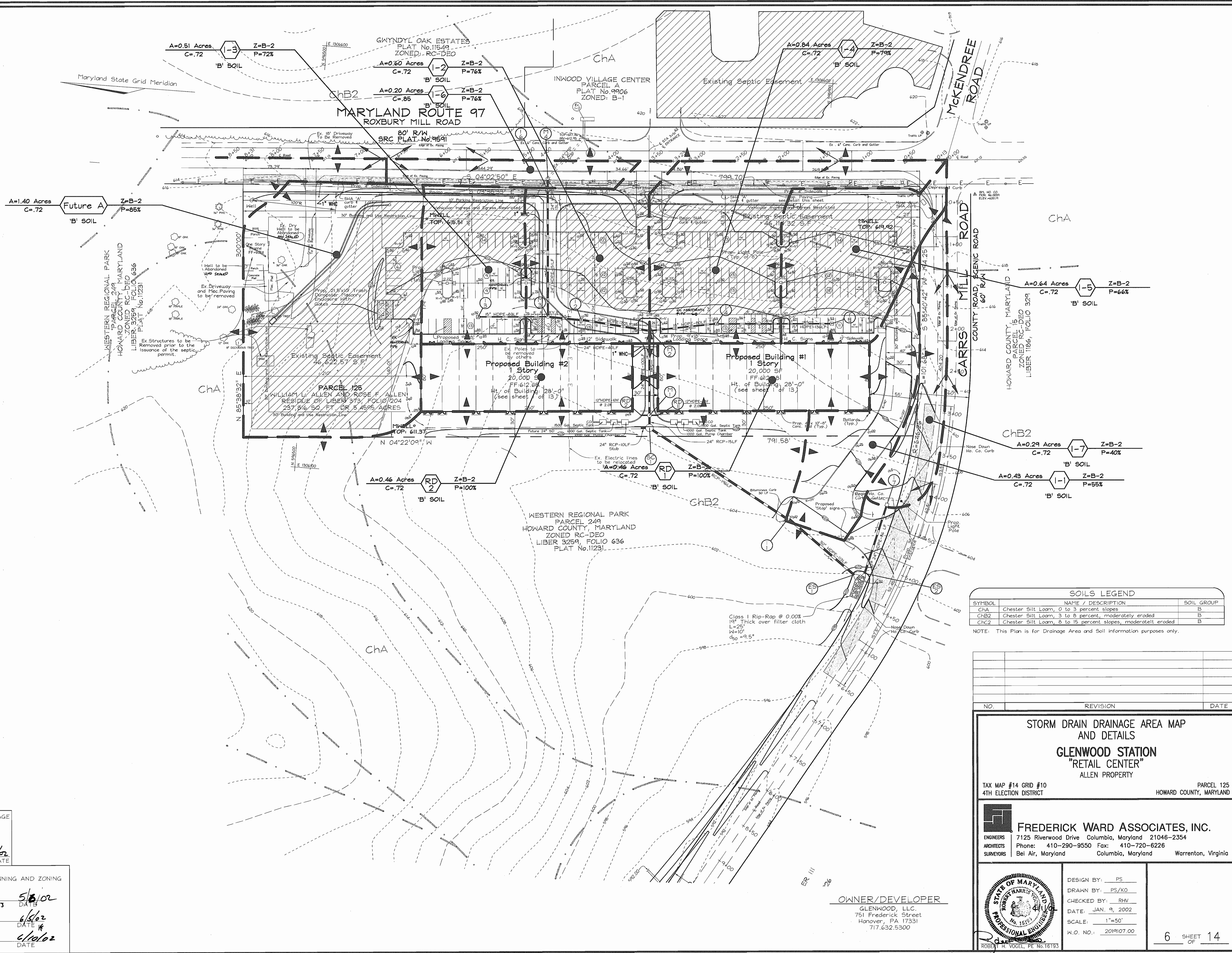
*T. Soler*  
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Michael J. ...*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MAR 5/8/02 DATE

*West ...*  
 CHIEF, DIVISION OF LAND DEVELOPMENT 6/6/02 DATE

*...*  
 DATE 6/16/02



**SOILS LEGEND**

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
ChA	Chester Silt Loam, 0 to 3 percent slopes	B
ChB2	Chester Silt Loam, 3 to 8 percent, moderately eroded	B
ChC2	Chester Silt Loam, 8 to 15 percent slopes, moderately eroded	B

NOTE: This Plan is for Drainage Area and Soil information purposes only.

NO.	REVISION	DATE

**STORM DRAIN DRAINAGE AREA MAP AND DETAILS**

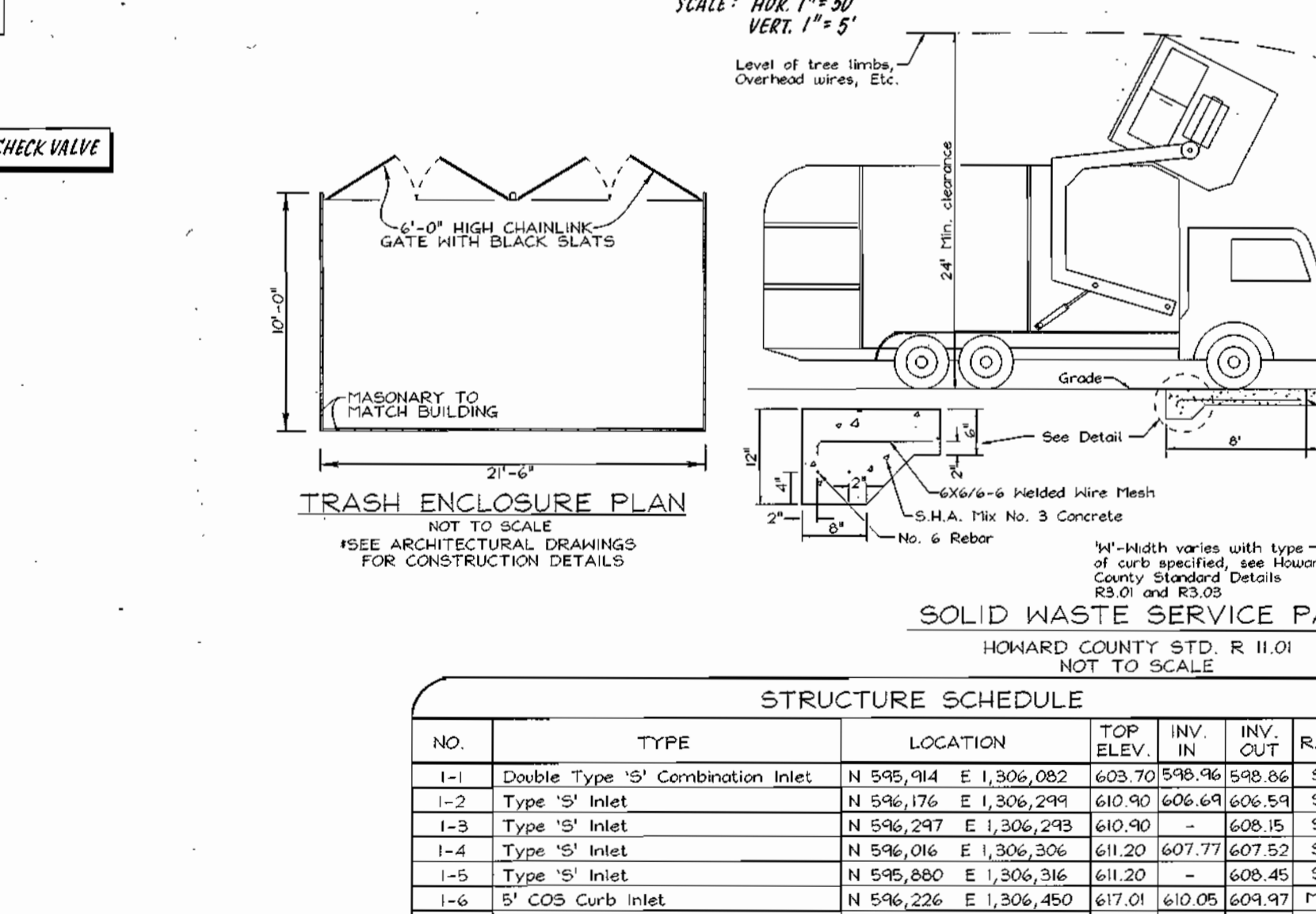
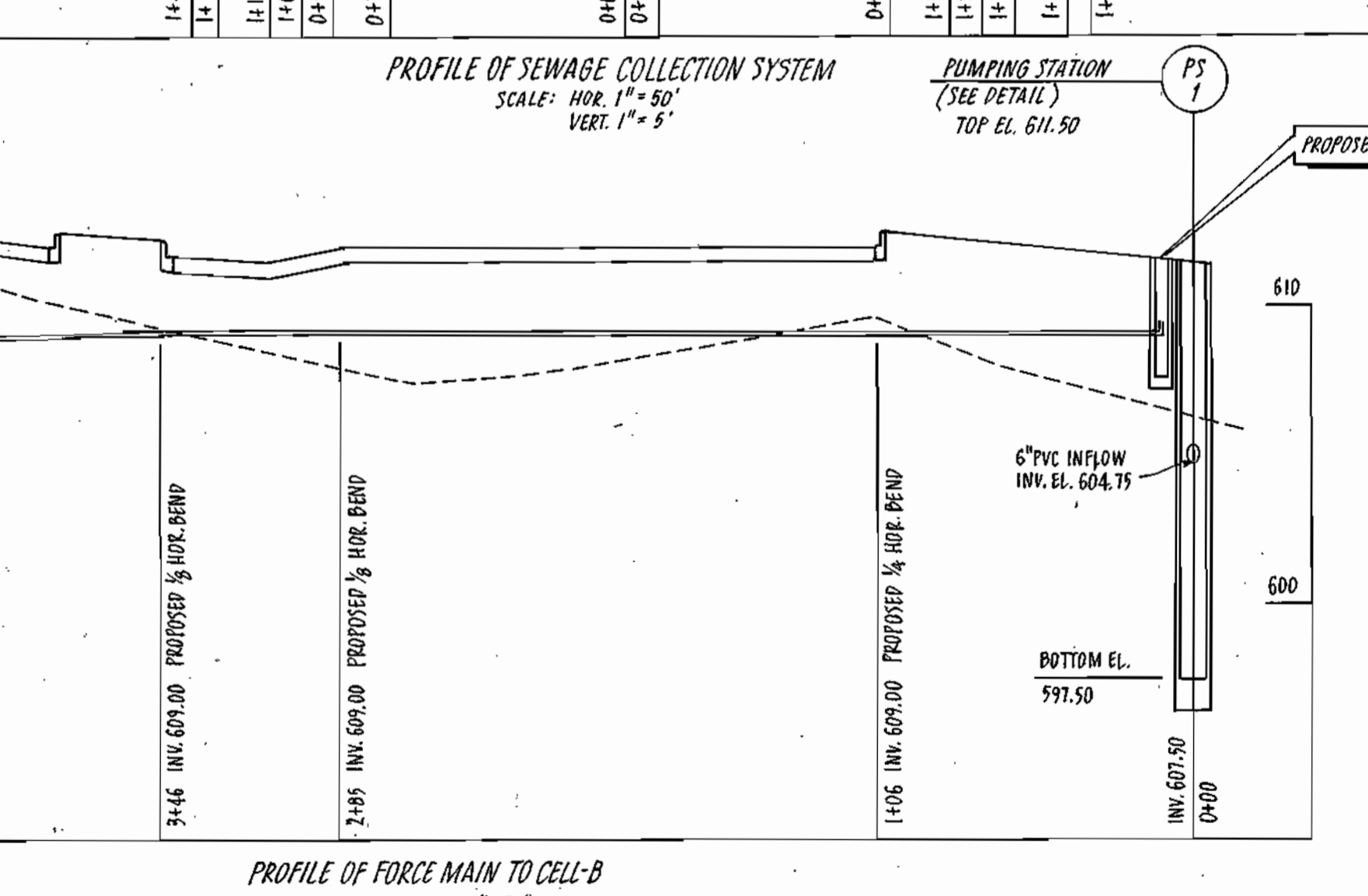
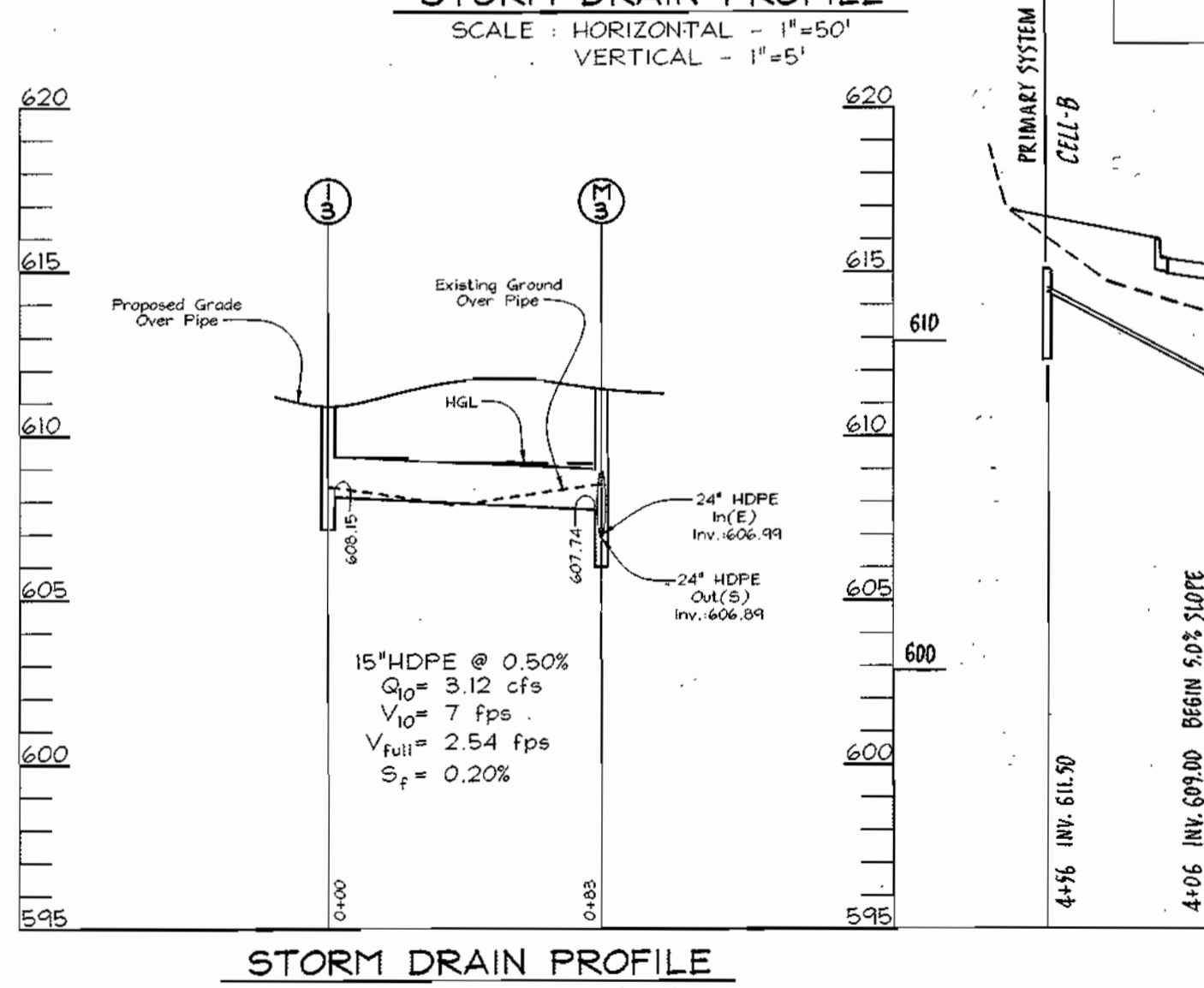
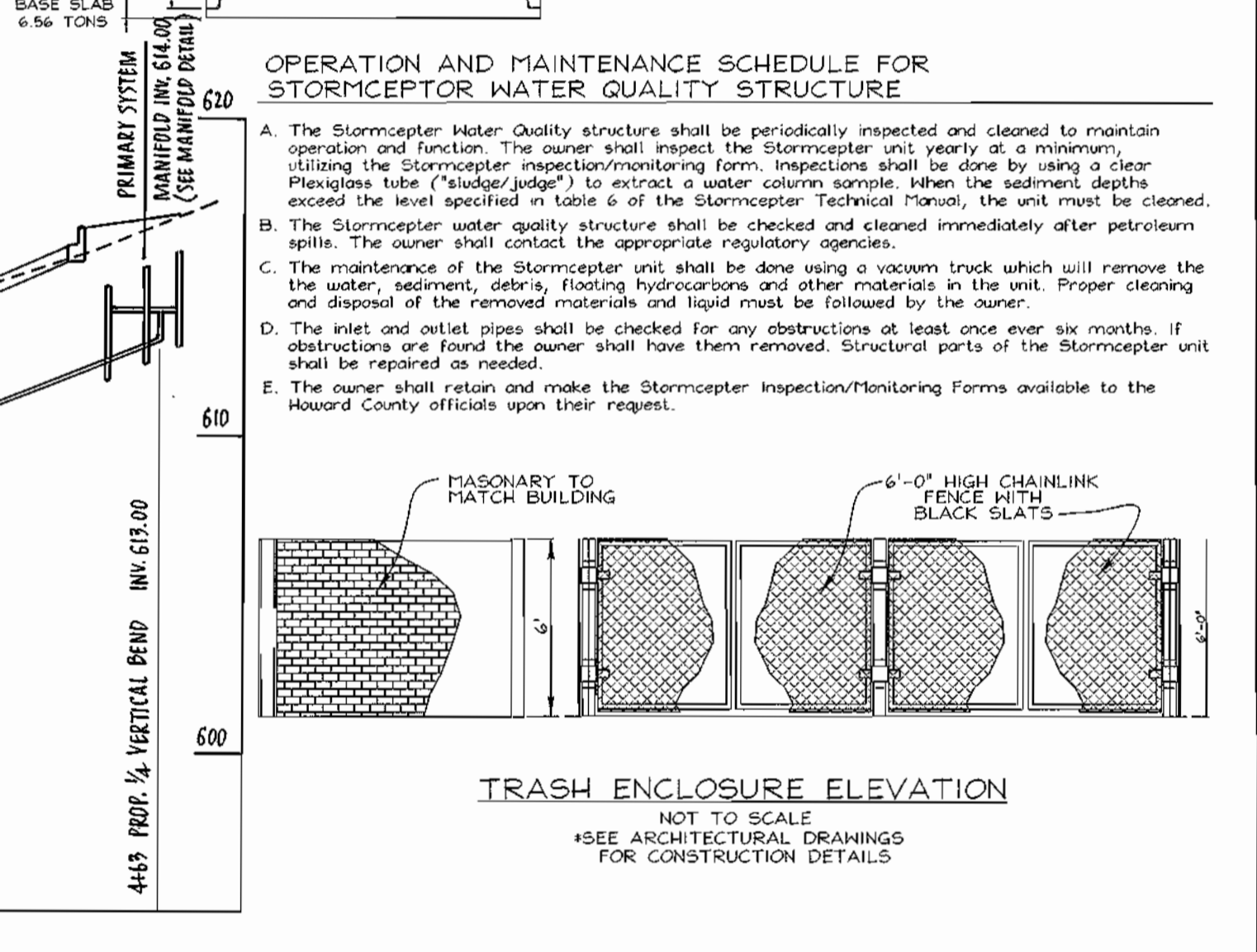
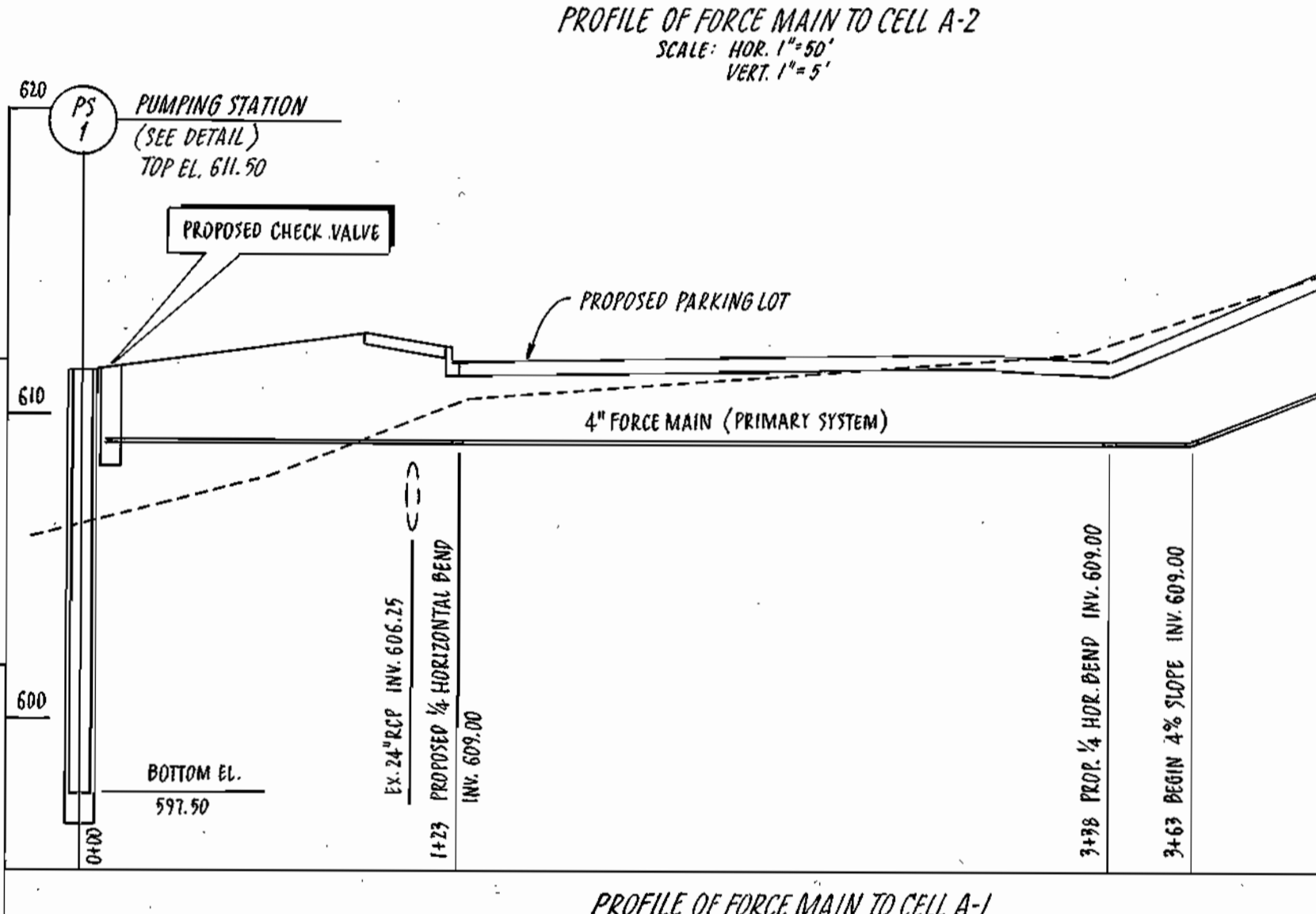
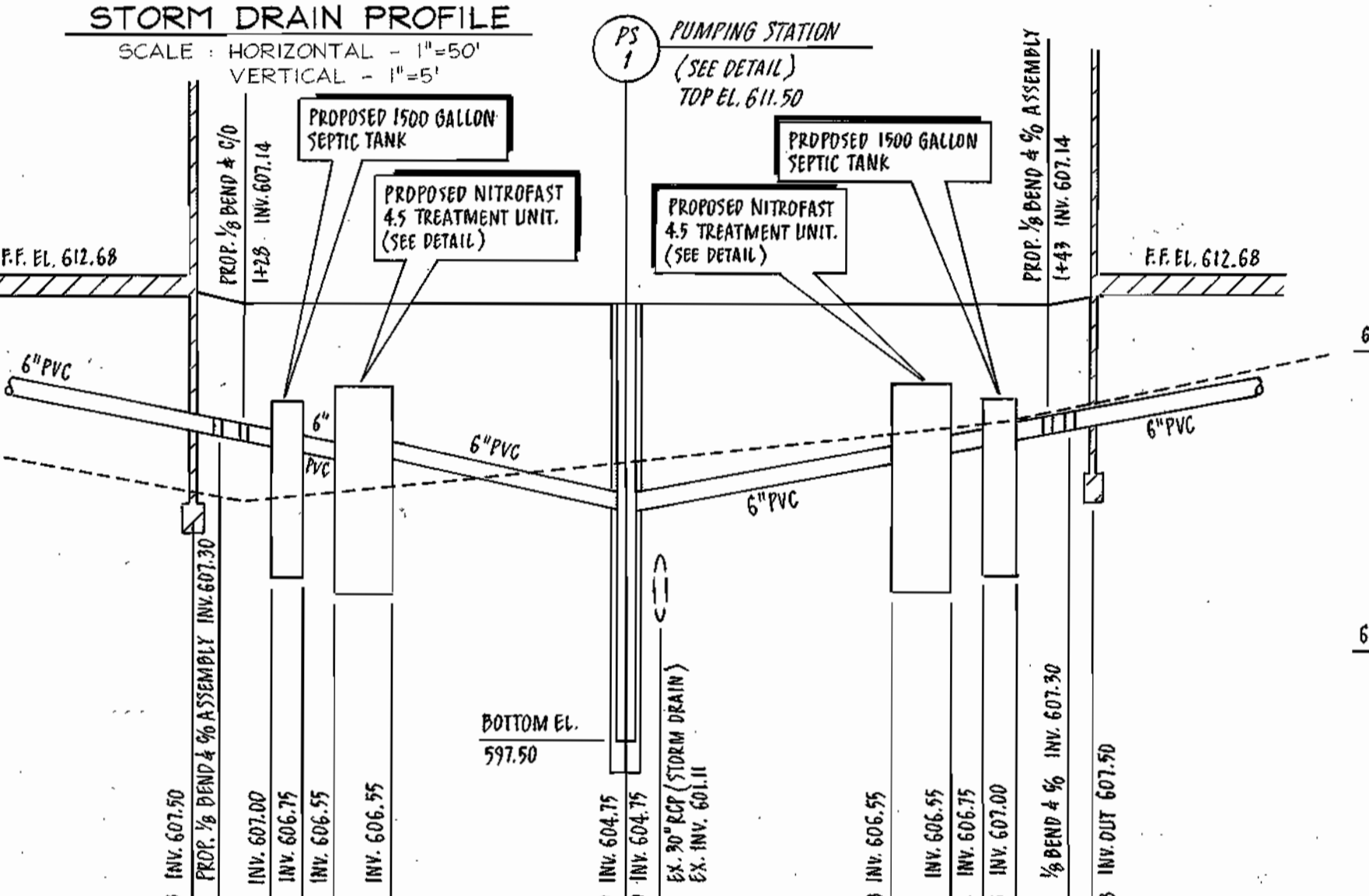
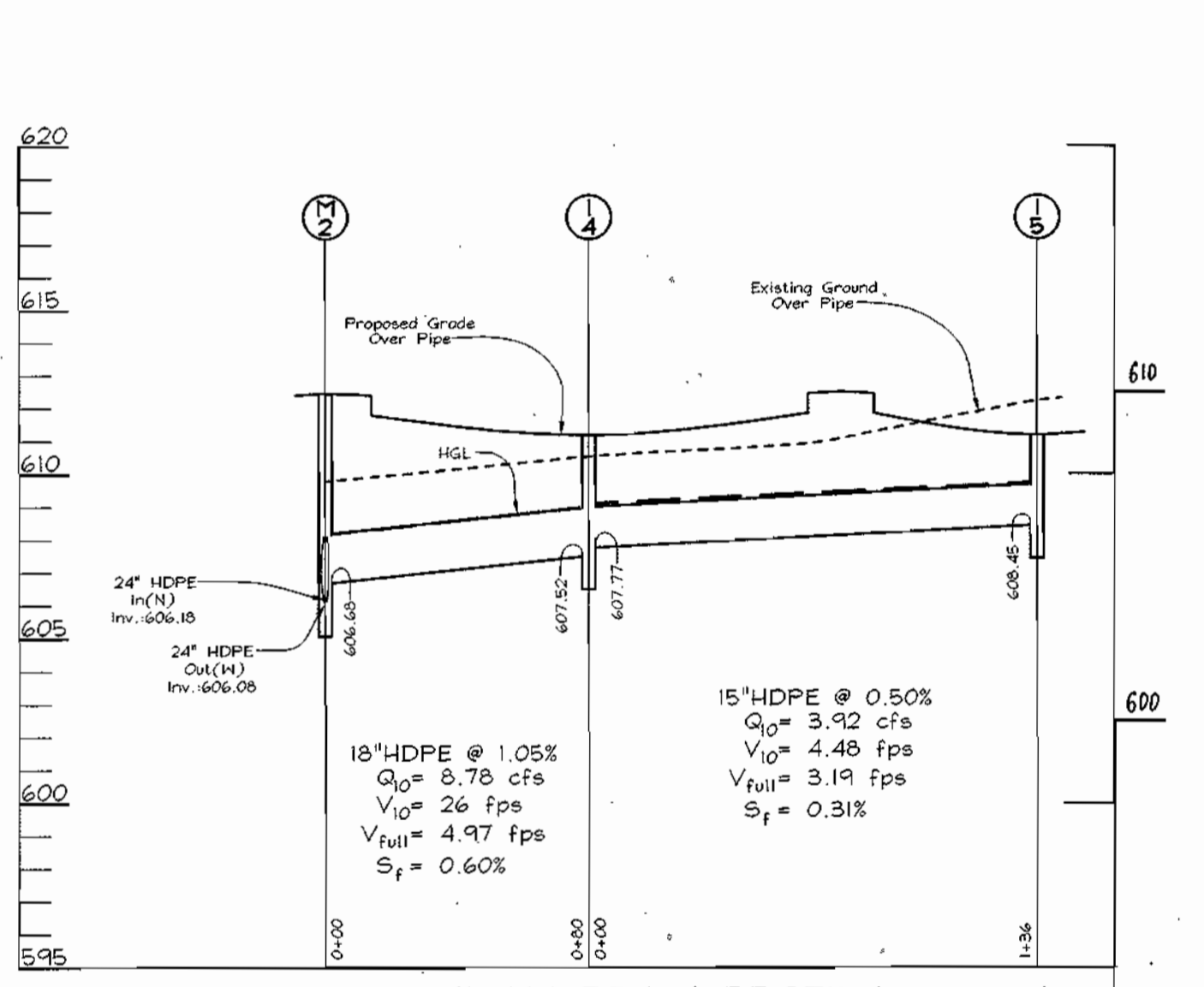
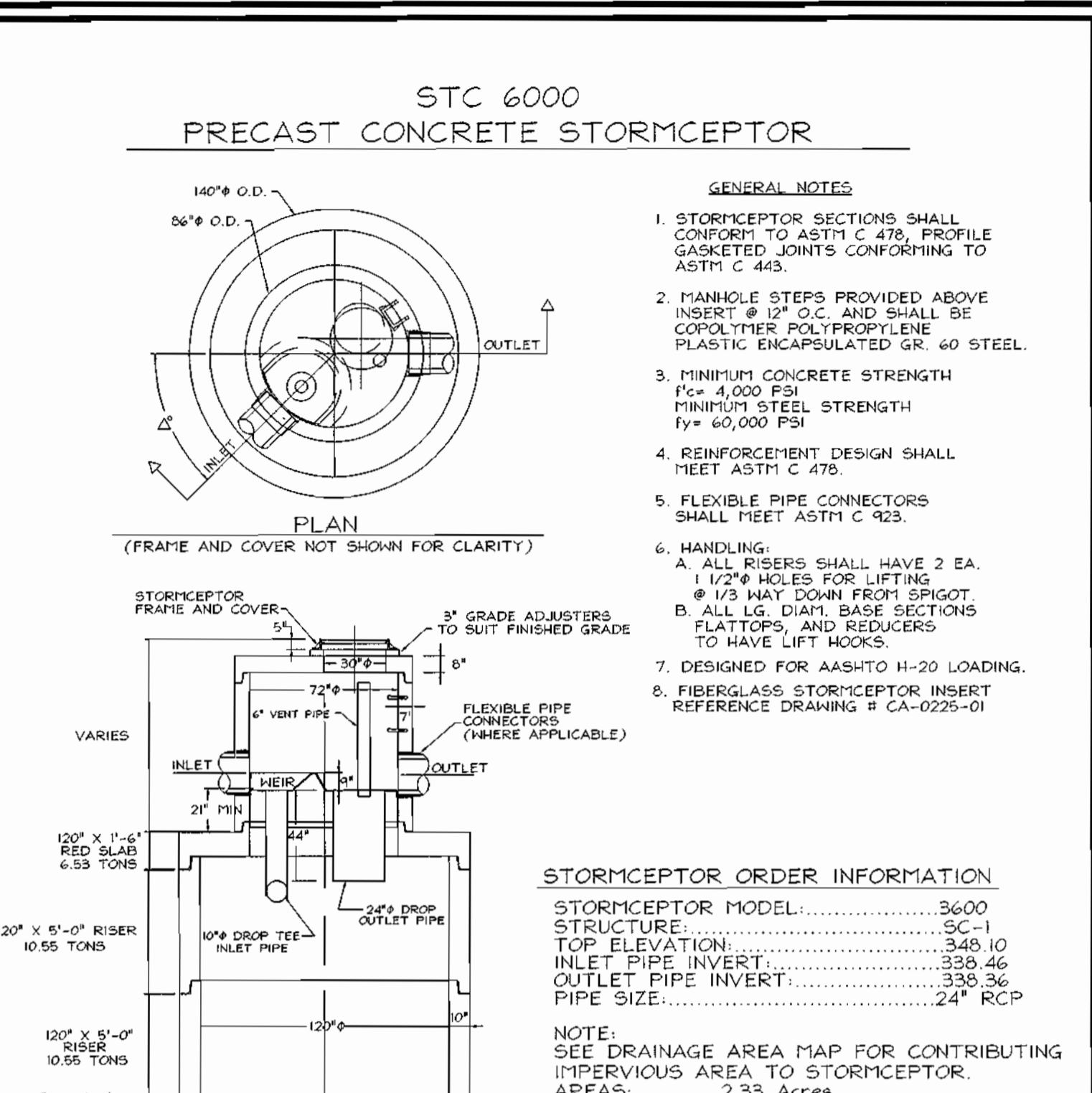
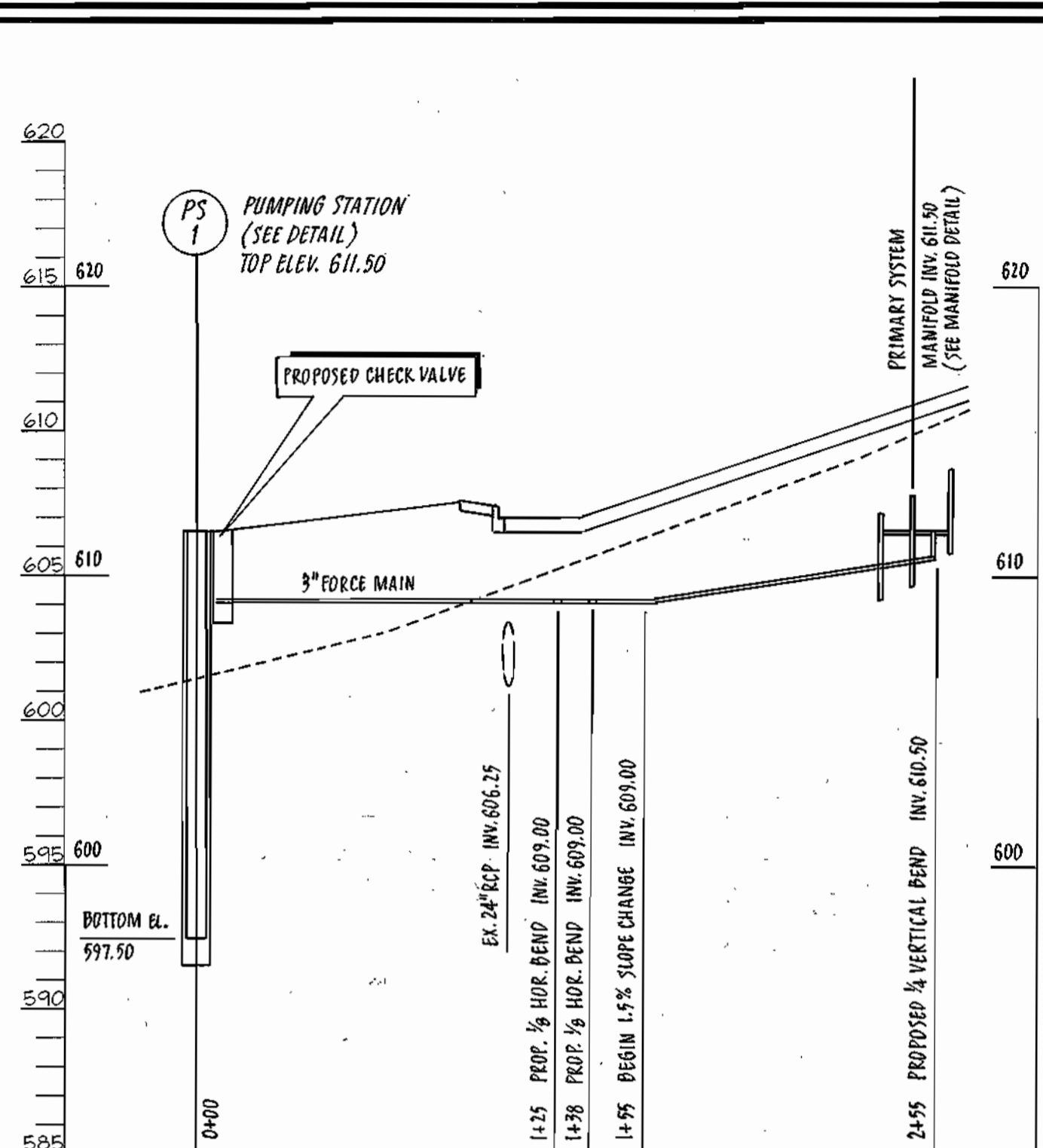
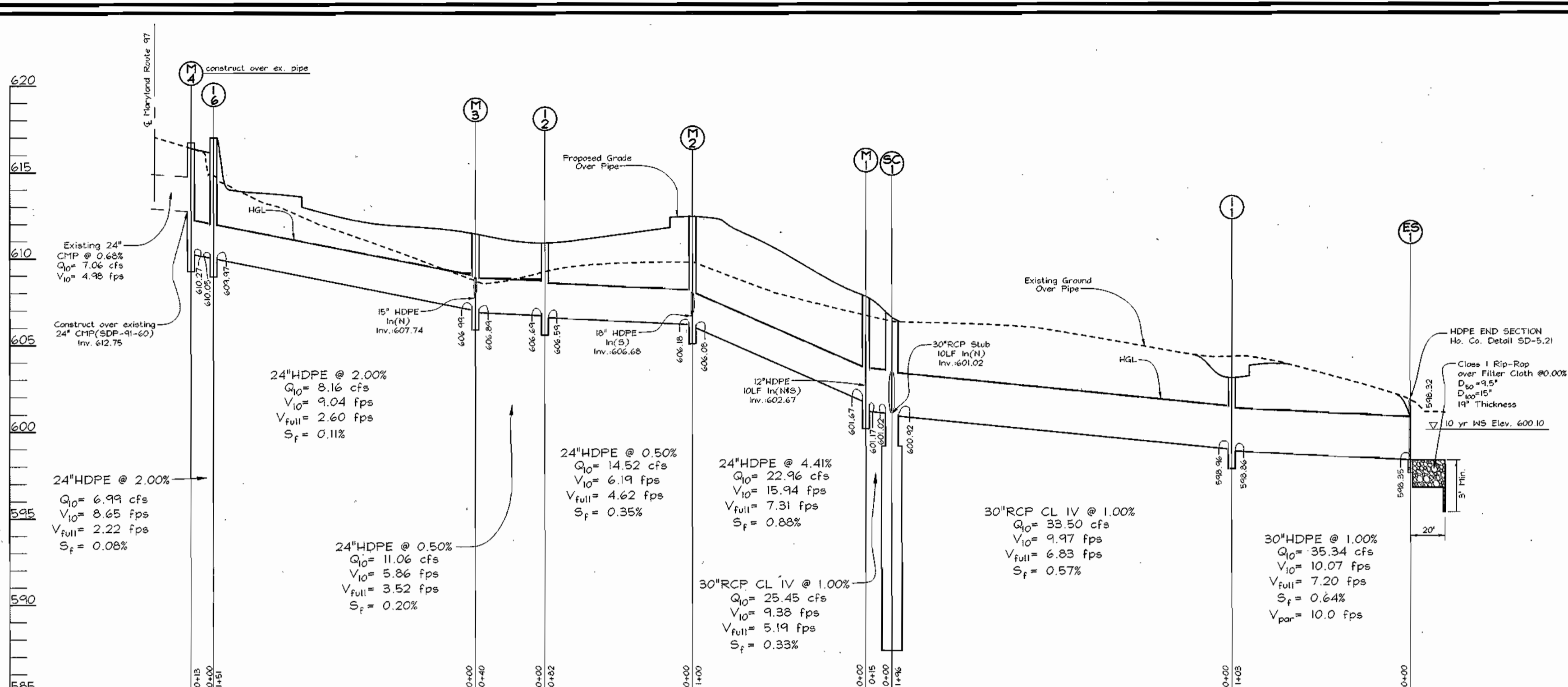
**GLENWOOD STATION**  
 "RETAIL CENTER"  
 ALLEN PROPERTY

TAX MAP #14 GRID #10 PARCEL 125  
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**FREDERICK WARD ASSOCIATES, INC.**  
 7125 Riverwood Drive Columbia, Maryland 21046-2354  
 Phone: 410-290-9550 Fax: 410-720-6226  
 Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: PS  
 DRAWN BY: PS/KO  
 CHECKED BY: RHV  
 DATE: JAN. 9, 2002  
 SCALE: 1"=50'  
 W.O. NO.: 2019107.00

6 SHEET 14



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 5/6/02

OWNER/DEVELOPER  
 GLENWOOD, LLC  
 751 Frederick Street  
 Hanover, PA 17331  
 717.632.5300

STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	REMARKS
I-1	Double Type 'S' Combination Inlet	N 595,914 E 1,306,082	603.70	576.96	578.86	SD 4.33
I-2	Type 'S' Inlet	N 595,176 E 1,306,294	610.40	606.60	608.50	SD 4.22
I-3	Type 'S' Inlet	N 595,247 E 1,306,293	610.90	-	608.15	SD 4.22
I-4	Type 'S' Inlet	N 595,016 E 1,306,306	611.20	607.77	607.52	SD 4.22
I-5	Type 'S' Inlet	N 595,880 E 1,306,316	611.20	-	608.45	SD 4.22
I-6	5' COS Curb Inlet	N 595,226 E 1,306,450	617.01	610.05	609.97	FD 374.61
I-7	Type 'X' Inlet	N 595,798 E 1,306,107	604.90	-	601.65	SD 4.12
M-1	Precast Manhole (4')	N 595,087 E 1,306,192	607.80	599.83	601.17	G 5.12
M-2	Precast Manhole (4')	N 595,094 E 1,306,292	612.45	608.85	608.08	G 5.12
M-3	Precast Manhole (4')	N 595,215 E 1,306,300	611.43	607.20	606.94	G 5.12
M-4	Precast Manhole (4')	N 595,228 E 1,306,463	616.73	612.75	610.27	G 5.12
M-5	Precast Manhole (6')	N 595,187 E 1,305,330	590.50	583.55	578.00	FD-364.05
SC-1	Stormceptor	N 595,086 E 1,306,177	606.40	599.20	600.92	STC 6000
ES-1	END SECTION	N 595,823 E 1,306,046	601.85	598.30	598.30	STD HDPE
E-1	Type 'C' Headwall	N 595,144 E 1,305,320	556.40	557.00	-	FD 354.01
ES-2	END SECTION	N 595,819 E 1,306,024	601.82	-	598.32	STD HDPE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 5/6/02

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 HOWARD COUNTY HEALTH DEPARTMENT  
 COUNTY HEALTH OFFICER  
 DATE: 5/6/02

PIPE SCHEDULE

SIZE	TYPE	LENGTH
15"	HDPE	219 LF
18"	HDPE	80 LF
24"	HDPE	472 LF
30"	RCP CL IV	211 LF
30"	HDPE	103 LF
48"	RCP B-25	85 LF

REVISE SANITARY SEWER FORCE MAIN PROFILES 4-25-03

STORM DRAIN PROFILES AND MISCELLANEOUS DETAILS  
**GLENWOOD STATION**  
 "RETAIL CENTER"  
 ALLEN PROPERTY

TAX MAP #14 GRID #10 4TH ELECTION DISTRICT  
 PARCEL 125 HOWARD COUNTY, MARYLAND

**FREDERICK WARD ASSOCIATES, INC.**  
 ENGINEERS: 7125 Riverwood Drive Columbia, Maryland 21046-2354  
 ARCHITECTS: Phone: 410-290-9550 Fax: 410-720-6226  
 SURVEYORS: Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: PS  
 DRAWN BY: PS/KO  
 CHECKED BY: RNV  
 DATE: JAN. 9, 2002  
 SCALE: 1"=50'  
 N.C. NO.: 2019107.00

7 SHEET 14

# MARYLAND 378 STORMWATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for Practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

**Site Preparation**

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, brush and other objectionable material shall be removed. Channel banks and slump breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 5 feet of the low of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, stumps, rocks and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut off approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

**Earth Fill**

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6" frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CL, or CL and meet heat of at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

**Placement** - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CL, or CL and meet heat of at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

**Compaction** - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 98% of maximum dry density with a moisture content within ±2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

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

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

**Structure Backfill**

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

**Structure Backfill may be flexible fill** meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flexible fill shall have a minimum pit of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that minimum 4" (measured perpendicular to the outside of the pipe) of flexible fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flexibility of the material. The bedding measures shall be taken (sand boss, etc.) to prevent floating the pipe. When using flexible fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flexible fill pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill (flexible fill) shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

**Pipe Conduits**

All pipes shall be circular in cross section.

**Corrugated Metal Pipe** - All of the following criteria shall apply for corrugated metal pipe:

1. Materials - (Polymer Coated Steel Pipe) - Steel pipes with polymeric coating shall have a minimum coating thickness of 0.015 inch (0.4 mil) on both sides of the pipe. The pipe and its appurtenances shall conform to the requirements of AASHTO Specification H-24 for pipe with underlayment coating bands or flanges. Aluminum Coated Steel Pipe - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification H-274 with underlayment coating bands or flanges. Aluminum Coated Steel Pipe, when used with flexible fill or when soil and/or water conditions warrant, the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification H-274 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be primed with one coat of zinc chromate primer or two coats of asphalt.

	2 YEAR	10 YEAR	100 YEAR
FLOW INTO POND	29 c.f.s.	84 c.f.s.	158 c.f.s.
FLOW OUT OF POND	11 c.f.s.	31 c.f.s.	70 c.f.s.
W.S. ELEVATION	586.25	587.47	588.59
STORAGE VOLUME	0.80 AC FT	2.30 AC FT	3.00 AC FT

### OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS, "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification H-274 with underlayment coating bands or flanges. Aluminum Pipe, when used with flexible fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification H-274 Type A. Aluminum surfaces that are to be in contact with concrete shall be primed with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti-seep collars, and sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 inches in thickness.

3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight. All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24 inches diameter: Flanges on both ends of the pipe with a circular 3/8 inch thick closed circle neoprene gasket; and a 12-inch wide lugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long angle corrugated band using a minimum of 4(#6) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed circle neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8-inch closed circle gaskets shall be installed with 12 inches on the end of each pipe. Flanged joints with 3/8-inch closed circle gaskets shall have the full width of the flange is also acceptable. Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

5. Backfilling shall conform to Structure Backfill. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

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

2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe to at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flexible fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill".

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

Plastic Pipe - The following criteria shall apply for plastic pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings, shall conform to the following: 4" -10" inch pipe shall meet the requirements of AASHTO H252 Type 5, and 12" through 24" inch shall meet the requirements of AASHTO H254 Type 5.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to "Structure Backfill".

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

Drainage Diaphragm - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete - Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Title M, 3.

Rock Riprap - Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 510, Class C.

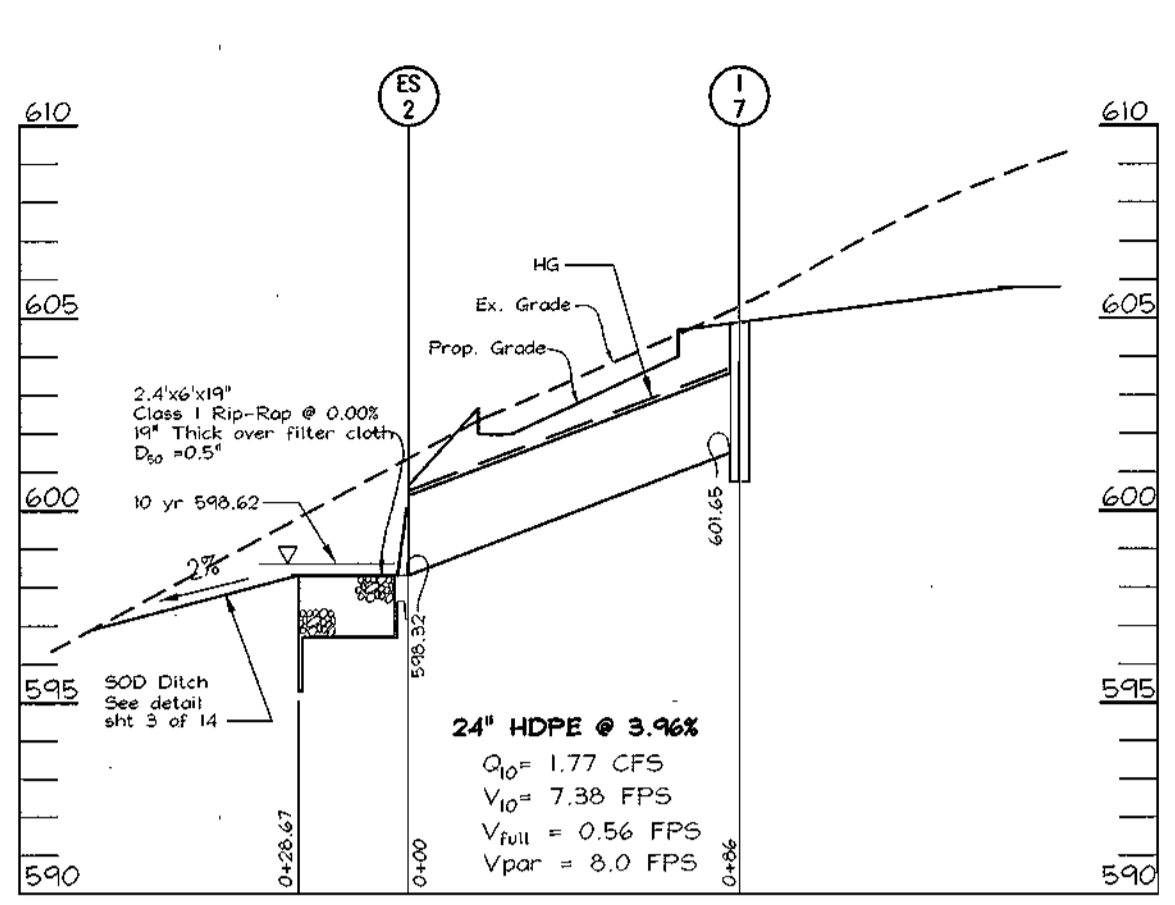
Geotextile - Geotextile shall be placed under all riprap and shall meet requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 510, Class C.

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

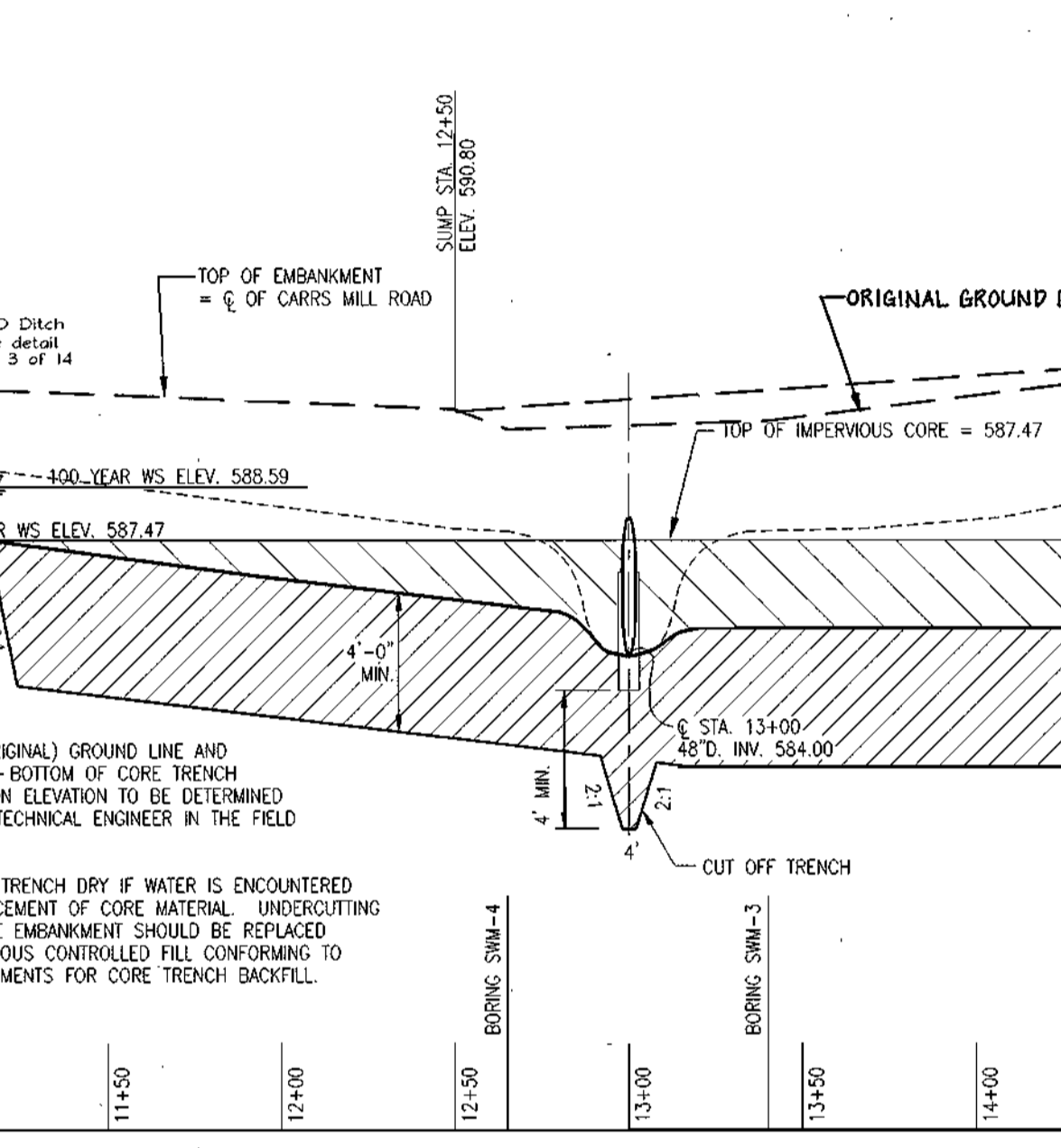
Erosion and Sediment Control - Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

POND BOTTOM SOIL CONDITIONS

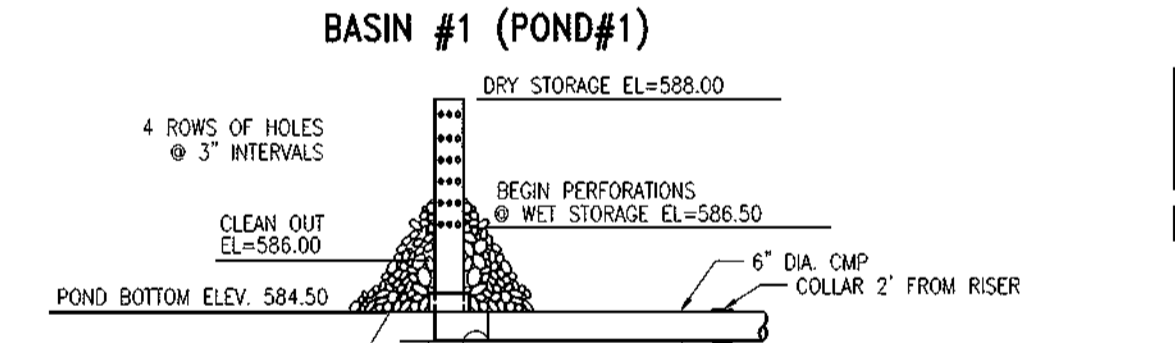
If broken rock fragments are encountered at finished pond bottom, under cut a minimum of 12" below both vertical and horizontal distance of at least 10' beyond each side of the broken rock and backfill with fine-grained fill or CL soils compacted to a firm condition. This procedure should be performed under the supervision of the project Geotechnical Engineer.



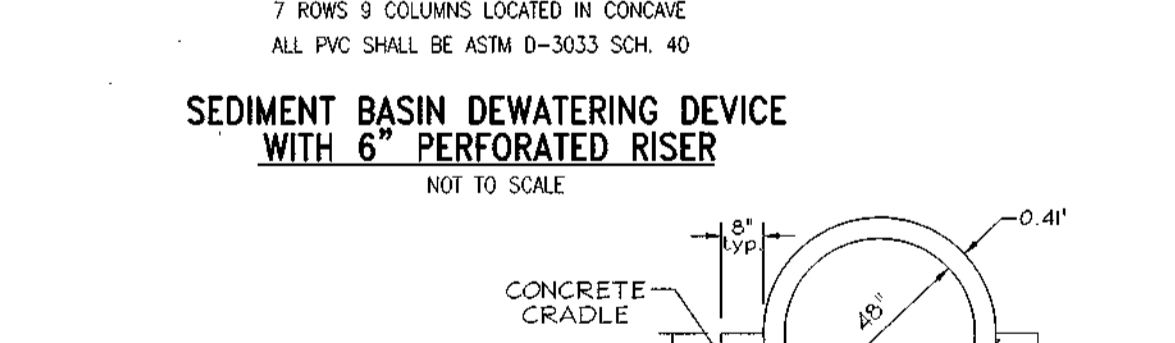
CULVERT PROFILE  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



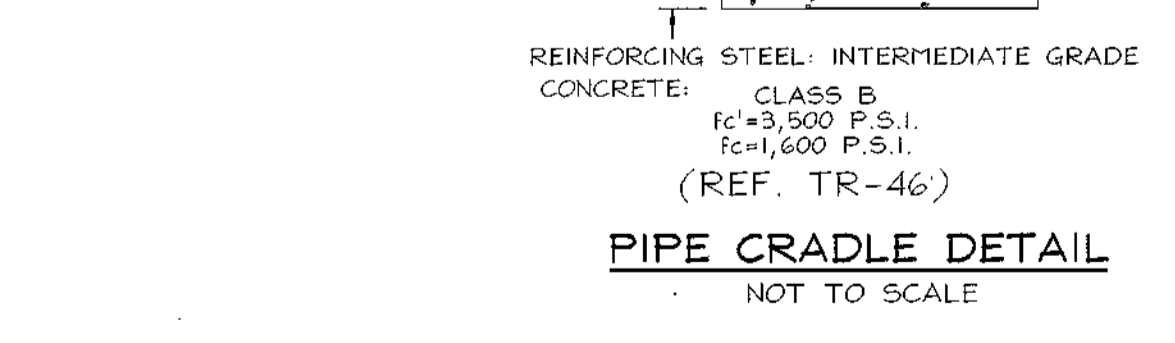
PROFILE ALONG CENTERLINE EMBANKMENT  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



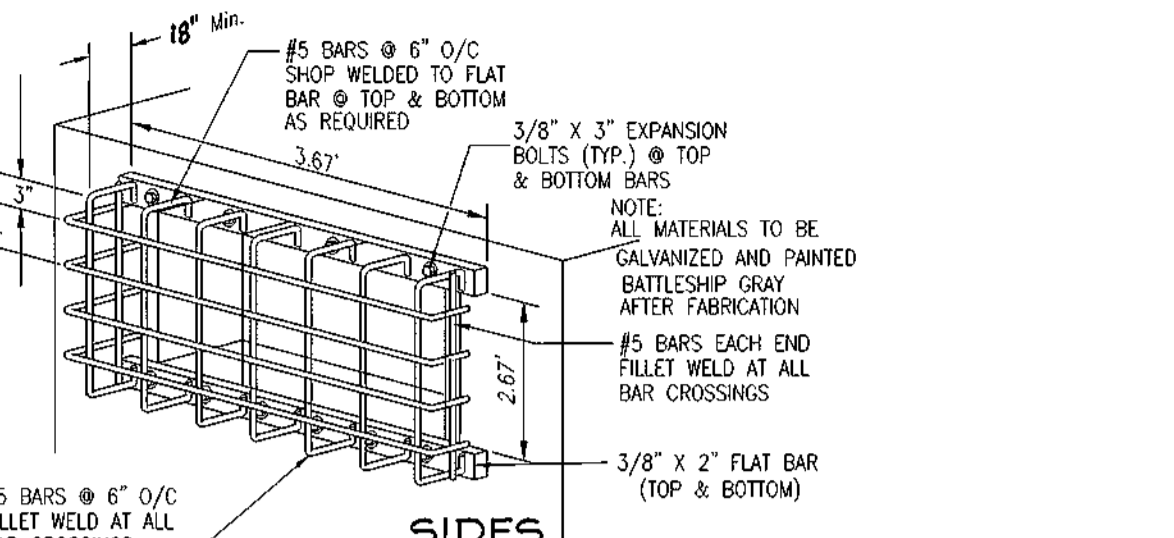
BASIN #1 (POND#1)



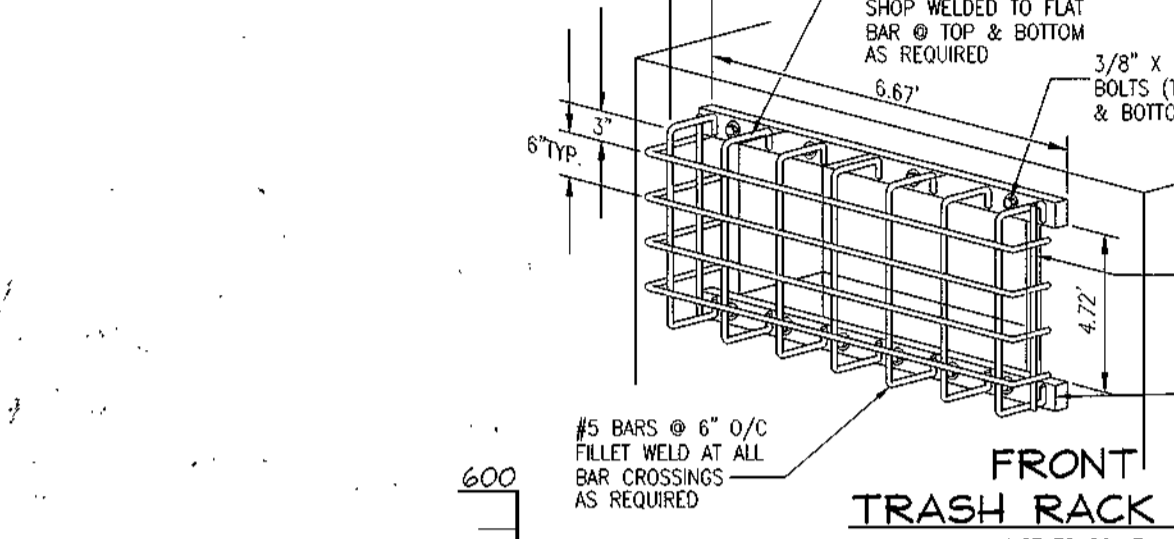
SEDIMENT BASIN DEWATERING DEVICE WITH 6" PERFORATED RISER



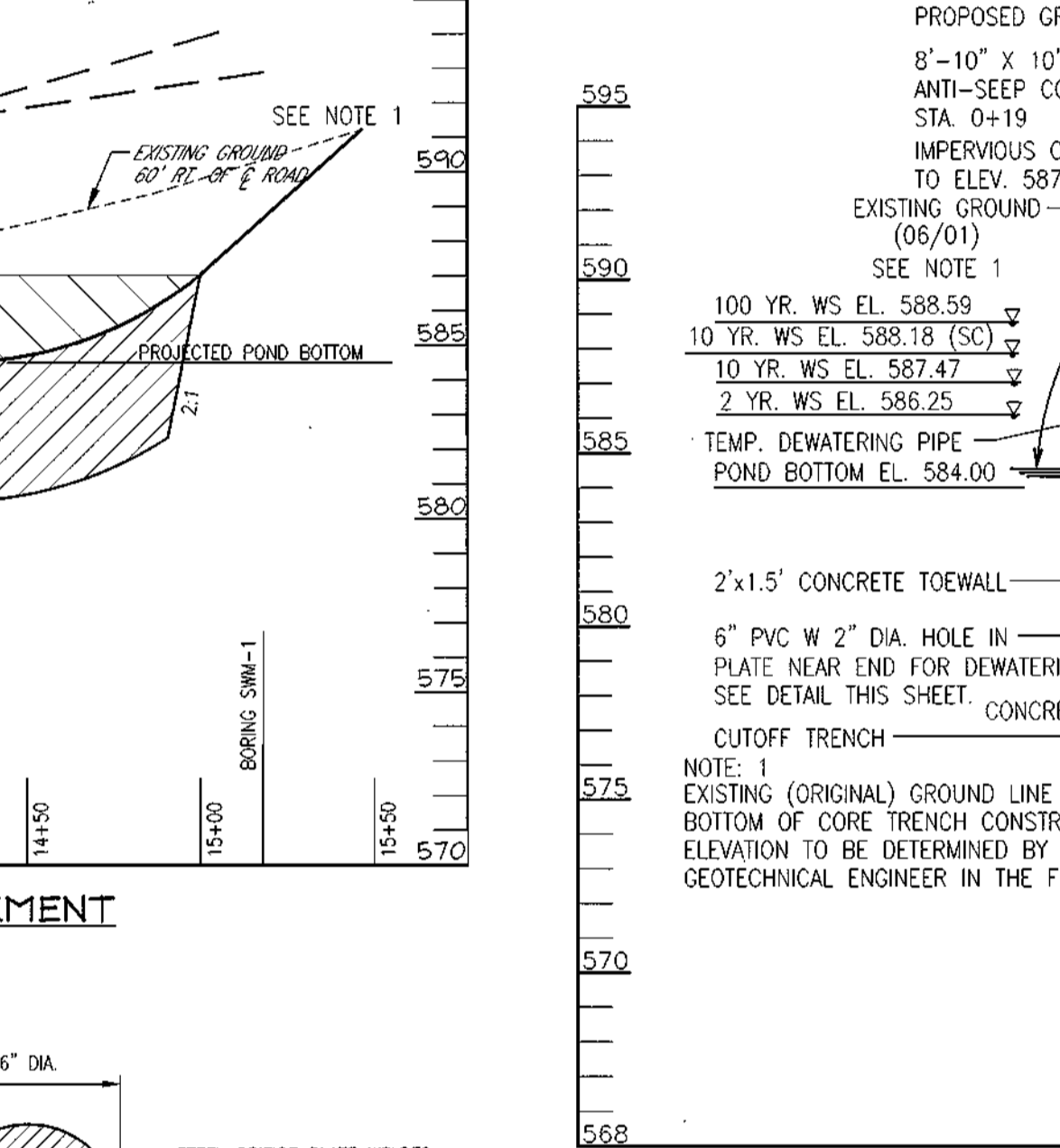
PIPE CRADLE DETAIL  
NOT TO SCALE



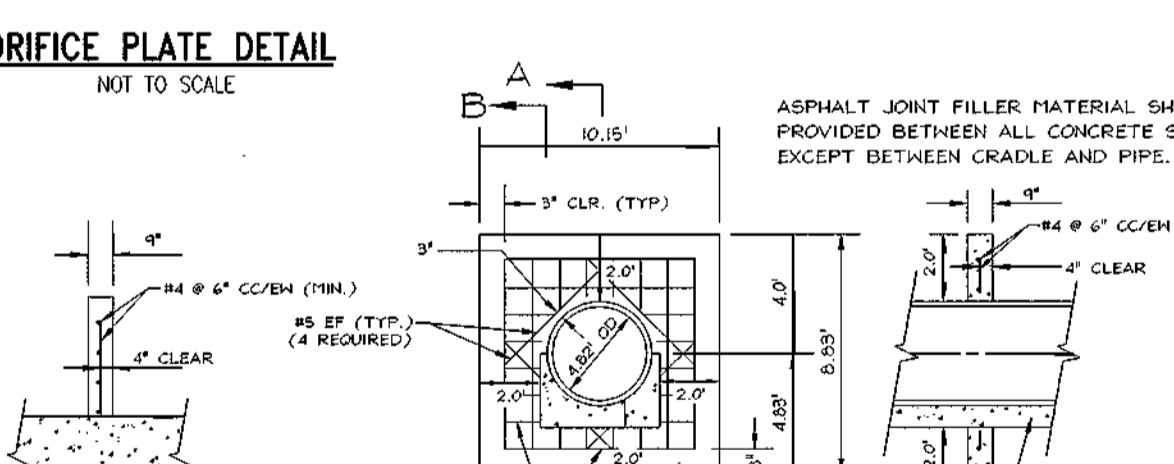
TRASH RACK DETAIL (SIDES)  
NOT TO SCALE



TRASH RACK DETAIL (FRONT)  
NOT TO SCALE



SECTION THROUGH PRINCIPAL SPILLWAY  
SCALE: HORIZONTAL - 1"=30'  
VERTICAL - 1"=5'



ORIFICE PLATE DETAIL  
NOT TO SCALE



CONCRETE ANTI-SEEP COLLAR DETAIL  
NOT TO SCALE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE  
HOWARD COUNTY HEALTH DEPARTMENT  
COUNTY HEALTH OFFICER

PRECAST STRUCTURE S-1 DETAIL  
SCALE: 1"=4'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL EMPLOYED IN THE CONSTRUCTION OF THIS PROJECT WILL BE TRAINED AND SUPERVISED BY A REGISTERED PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION ACT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND FEASIBLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION ACT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

OWNER/DEVELOPER  
GLENWOOD, LLC  
751 Frederick Street  
Hanover, PA 17331  
717.632.5300

NO. REVISION DATE

STORMWATER MANAGEMENT PROFILES AND DETAILS  
GLENWOOD STATION "RETAIL CENTER"  
ALLEN PROPERTY

TAX MAP #14 GRID #10  
4TH ELECTION DISTRICT

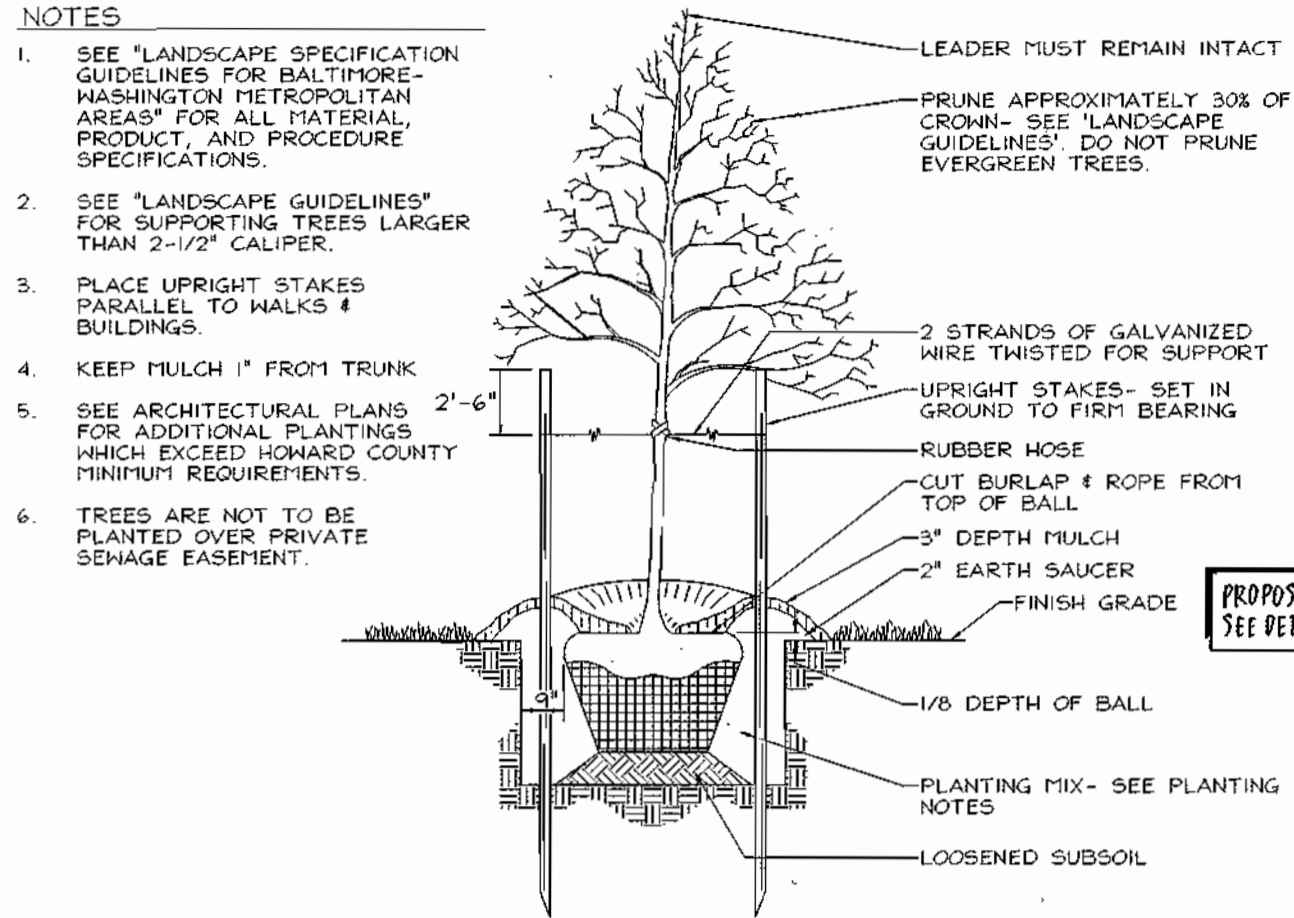
PARCEL 125  
HOWARD COUNTY, MARYLAND

FREDERICK WARD ASSOCIATES, INC.  
7125 Riverwood Drive Columbia, Maryland 21046-2354  
Phone: 410-290-9550 Fax: 410-720-6226  
Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

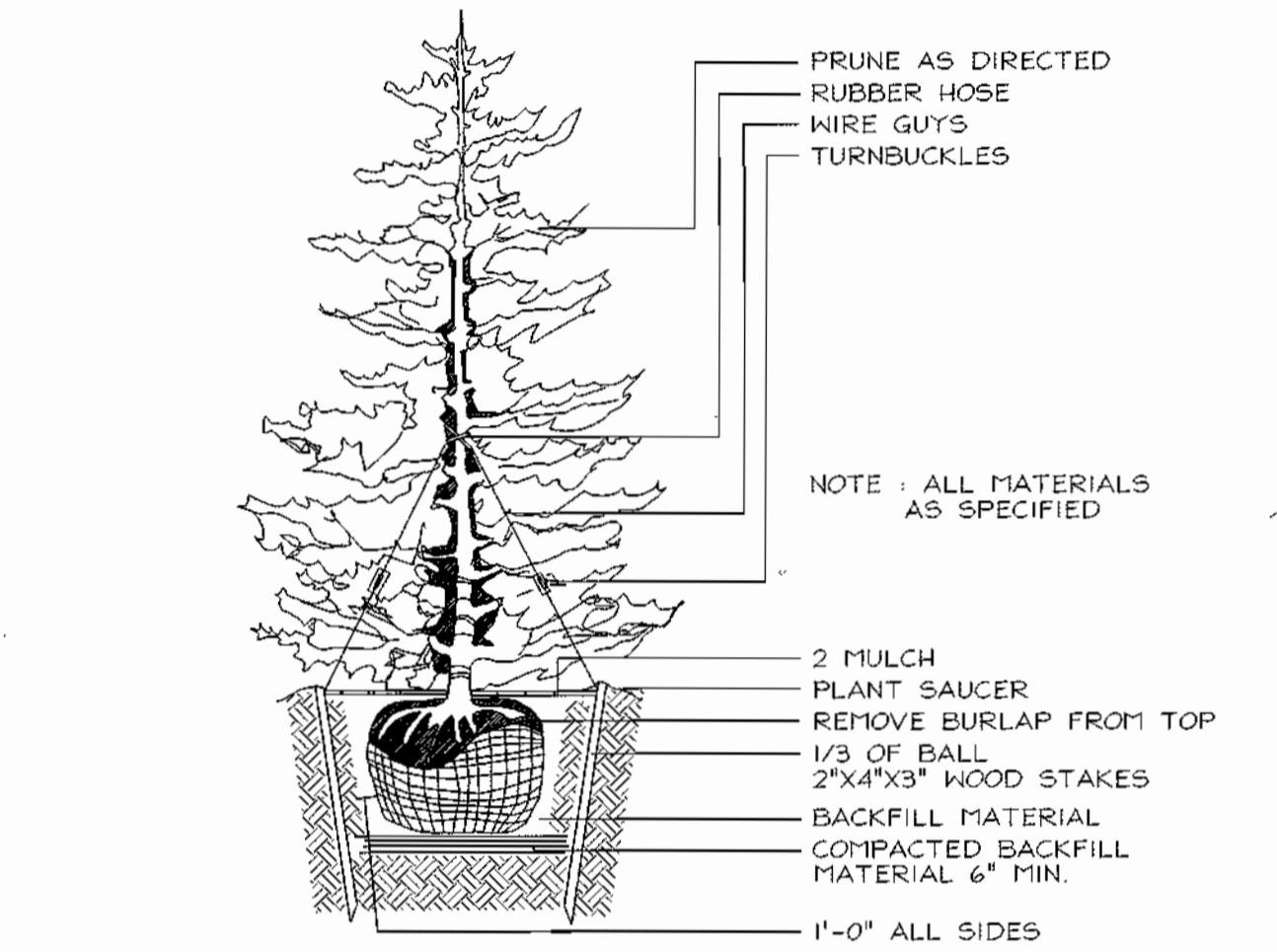
DESIGN BY: CW  
DRAWN BY: CO/KO  
CHECKED BY: RHW  
DATE: JAN. 9, 2002  
SCALE: AS SHOWN  
N.O. NO.: 2019107.00

8 SHEET OF 14





**TREE PLANTING AND STAKING**  
DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE



**TYPICAL EVERGREEN TREE PLANTING DETAIL**  
NOT TO SCALE

**SCHEDULE A PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJACENT TO ROADWAYS								ADJACENT TO PER. PROPERTIES							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Perimeter/Frontage Designation	B	E	E	E	D	B	A	A	A	A	A	A	A	A	A	A
Linear Feet of Roadway	195	265	294	121	44	120	15	300								
Credit for Existing Vegetation (Yes, No, Linear Feet Describe below if needed)	No	No	No	No	No	No	No	Yes* 60'								
Credit for Wall, Fence or Berm (Yes, No, Linear Feet Describe below if needed)	No	No	No	No	No	No	No	No								
Number of Plants Required	1:50	1:40	1:40	1:40	1:50	1:50	1:60	1:60	1:60	1:60	1:60	1:60	1:60	1:60	1:60	1:60
Shade Trees	4	7	8	3	1	3	1	13	4							
Evergreen Trees	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Trees (2:1 Substitution)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shrubs (10:1 Substitution)	-	66	74	37	-	-	12	-	-	-	-	-	-	-	-	-
Describe Plant Substitution Credits Below if needed																

\* Existing 36" Oak to Remain

**GENERAL NOTES**

- Financial Surety for the required landscaping must be posted as part of the Developer's Agreement in the amount of \$23,250.00 for 55 shade trees, 11 evergreen trees, and 170 shrubs.
- This plan has been prepared in accordance with provisions of Section 16.124 of the Howard County Code and the Landscape Manual.

**LANDSCAPE SCHEDULE**

KEY	QUAN.	BOTANICAL NAME	SIZE	REMARKS
AG	173	Abelia x grandiflora	30"-36" Ht.	B 4 B
FF	46	Phlox x Frosenii	3' - 3.5' Ht.	B 4 B
TC	13	Tilia cordata 'Greenspire'	2 1/2" - 3" Cal.	B 4 B
QR	4	Quercus rubra	2 1/2" - 3" Cal.	B 4 B
FP	39	Fraxinus pennsylvanica 'Patmore'	2 1/2" - 3" Cal.	B 4 B
CL	67	Leyland Cypress	5'-6' Ht.	Cont.

**NOTE:**

- The landscape contractor shall be advised not to plant the shrubs immediately adjacent to the parking spaces so as to leave enough space for the two (2) feet bumper overhang of parked cars.
- At the time of plant installation, all shrubs and trees as listed and approved hereunder, shall be of the proper height requirement in accordance with the Howard County Landscape Manual. In addition, no substitutions or relocations 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 are made to the applicable plans and certifications.
- To obtain approval for substitutions, the contractor shall request written authorization from the Department of Planning and Zoning, prior to installation of plant materials.

**SCHEDULE B PARKING LOT INTERNAL LANDSCAPING**

Number of parking spaces	201
Number of trees and islands required	10
Number of trees and islands provided	
Shade Trees	12
Other Trees (2:1 Substitution)	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 5/6/02  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

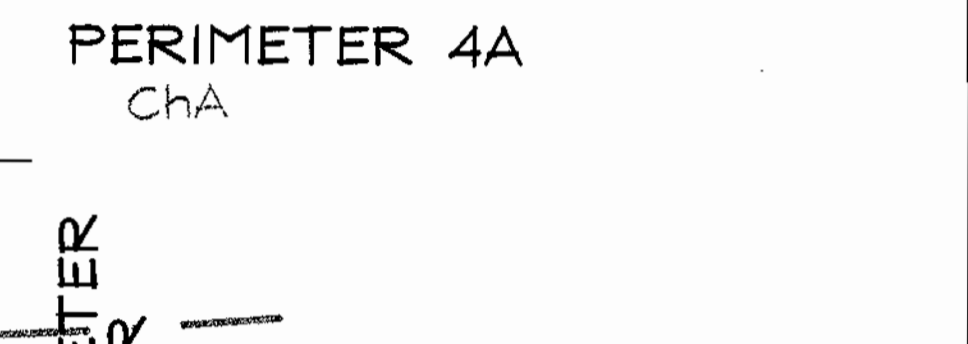
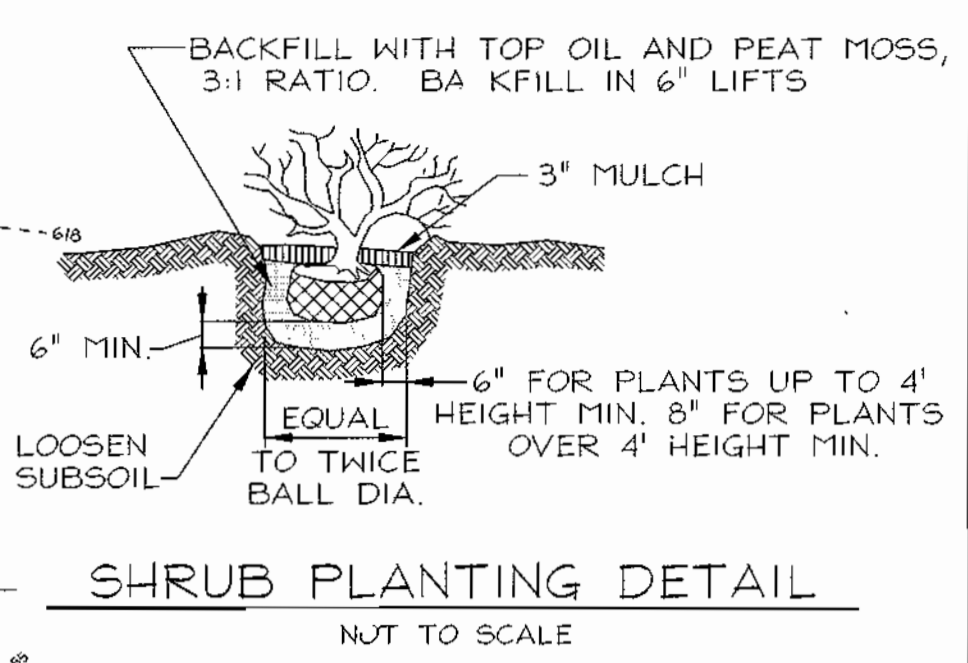
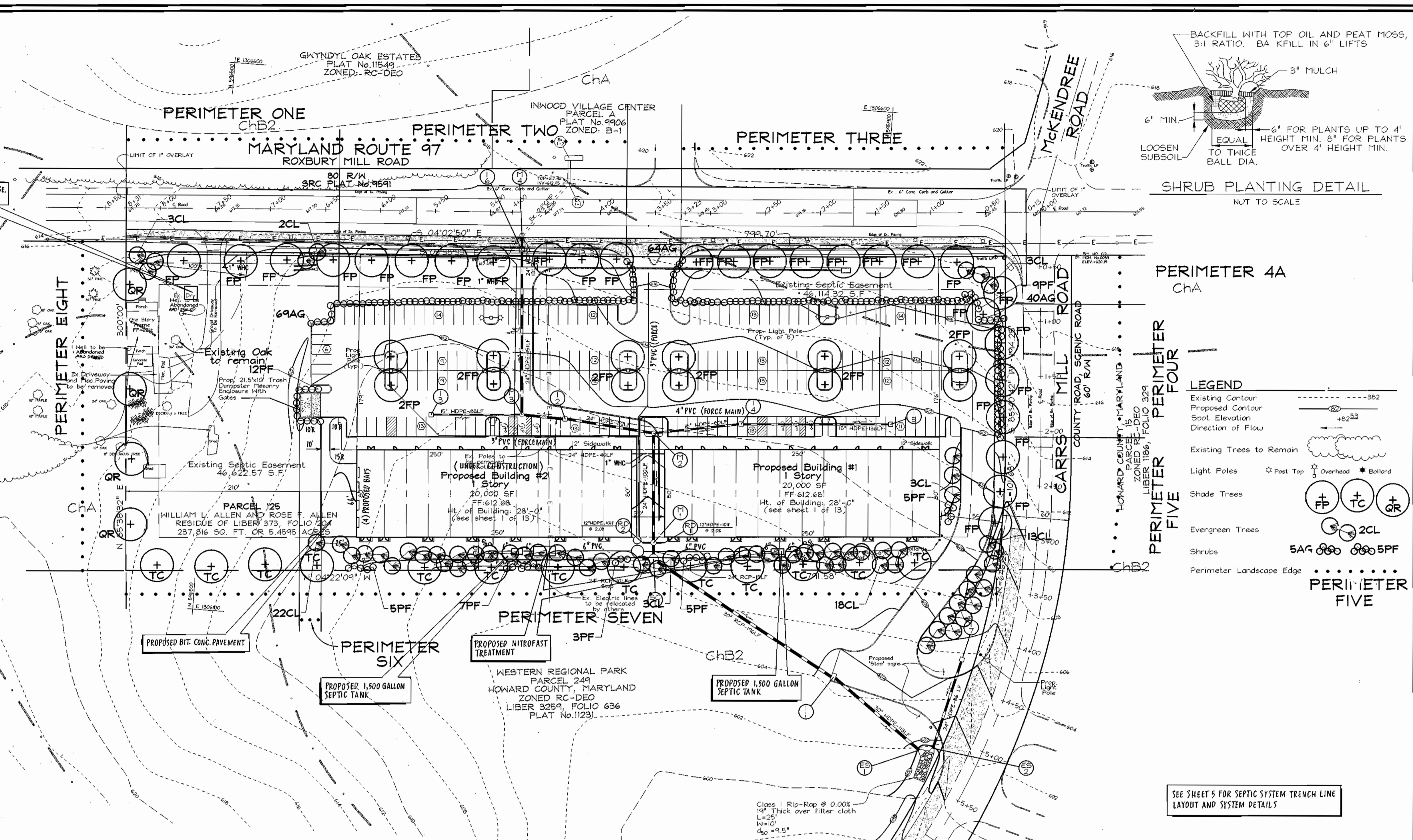
*[Signature]* 6/5/02  
CHIEF, DIVISION OF LAND DEVELOPMENT

*[Signature]* 6/5/02  
DIRECTOR

DEVELOPER'S BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 4-10-02  
SIGNATURE OF DEVELOPER



**LEGEND**

- Existing Contour
- Proposed Contour
- Spot Elevation
- Direction of Flow
- Existing Trees to Remain
- Light Poles
- Shade Trees
- Evergreen Trees
- Shrubs
- Perimeter Landscape Edge

NO.	REVISION	DATE
	PER HOWARD CO. DEVELOPMENT ENGINEERING DIVISION COMMENTS	4-25-03
	SEPTIC SYSTEM REDESIGN AND ADDITIONAL PAVEMENT ON NORTH SIDE OF BUILDING #2	3-21-03
	PUMP HOUSE LOCATION	8-24-02

**LANDSCAPE PLAN**

**GLENWOOD STATION "RETAIL CENTER"**  
ALLEN PROPERTY

TAX MAP #14 GRID #10  
4TH ELECTION DISTRICT

PARCEL 125  
HOWARD COUNTY, MARYLAND

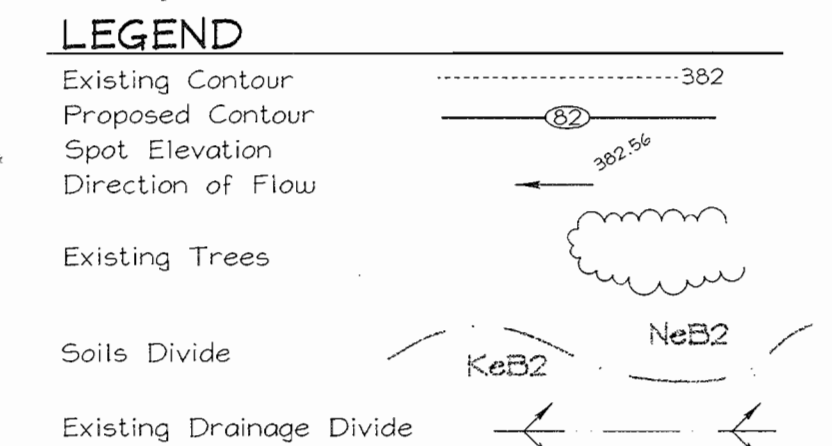
**FREDERICK WARD ASSOCIATES, INC.**  
ENGINEERS 7125 Riverwood Drive Columbia, Maryland 21046-2354  
ARCHITECTS Phone: 410-290-9550 Fax: 410-720-6226  
SURVEYORS Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: MIM  
DRAWN BY: PS/KO  
CHECKED BY: BNV  
DATE: JAN. 9, 2002  
SCALE: 1"=50'  
H.C. NO.: 2019107.00

9 SHEET OF 14

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
ChA	Chester Silt Loam, 0 to 3 percent slopes	B
ChB2	Chester Silt Loam, 3 to 8 percent, moderately eroded	B
ChC2	Chester Silt Loam, 8 to 15 percent slopes, moderately eroded	B

NOTE: This Plan is for Drainage Area and Soil information purposes only.



**STORM WATER MANAGEMENT (TR-20 INPUT)  
TC PATH INFORMATION**

ONSITE		OFFSITE		
DRAINAGE AREA 'A'	Area: 20.6 Acres RCN: 69 TC: 0.21 HRS	COMMERCIAL 6.6 AC. 88	MEADOW 15.1 AC. 58	ROAD 0.9 AC. 98
A-B Sheet Flow	75' @ 5.0%	B-C 45' Shallow Concentrated In Paved @ 5.0%	C-D 120' Shallow Concentrated In Paved @ 1.3%	D-E 700' Channel (Pipe) 4.0 Fps (avg)
DRAINAGE AREA 'B'	Area: 18.5 Acres RCN: 62 TC: 0.27	A-B Sheet Flow 75' @ 3.0%	B-C Shallow Concentrated 1050' @ 4.1%	E-F Open Channel 750' @ 6.0 Fps

**SEDIMENT CONTROL DATA**

AREA 'A' NOT ROUTED	DA = 8.1 AC.± RCN = 58 Tc = 0.20 HR.
AREA 'B' NOT ROUTED	DA = 15 AC.± RCN = 58 Tc = 0.30 HR.
AREA 'A/B' ROUTED	DA = 3.84/12.16 AC.± RCN = 65/81 Tc = 0.30/0.15 HR.

**SEDIMENT BASIN DATA**

BASIN		1
Proposed drainage area (Ac.)		16.0
Ex. drainage (Ac.)		16.0
Total storage required (cf)		57,600
Total storage provided (cf)		57,600
Bottom dimensions		270'x210'
Bottom elevation		584.00
Riser crest elevation		587.50
Pipe length		85'
Wet storage elevation		586.50
Dry storage elevation		587.60
Total storage depth		2.5'
Top of embankment		590.80'
Cleanout elevation		586.00'
Side slopes		3:1
Q2 (Ex.) (cfs)		13.2
Q2 (Prop.) (cfs)		3.0
Design High Water (10 Yr.)		588.18

POND HAZARD CLASS A  
OWNED & MAINTAINED BY HOWARD COUNTY  
2 YR. WSE = 587.70  
10 YR. WSE = 588.18  
Q<sub>10</sub> = 10 cfs



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT  
*Ray Brown*  
COUNTY HEALTH OFFICER  
DATE: 5/10/02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR  
*Michael J. ...*  
DATE: 5/10/02  
*Paul ...*  
DATE: 6/10/02

OWNER/DEVELOPER  
GLENWOOD, LLC.  
751 Frederick Street  
Hanover, PA 17331  
717.632.5300

NO.	REVISION	DATE

STORMWATER MANAGEMENT DRAINAGE AREA MAP  
DEVELOPED SEDIMENT CONTROL CONDITIONS  
**GLENWOOD STATION**  
"RETAIL CENTER"  
ALLEN PROPERTY  
TAX MAP #14 GRID #10  
4TH ELECTION DISTRICT  
PARCEL 125  
HOWARD COUNTY, MARYLAND

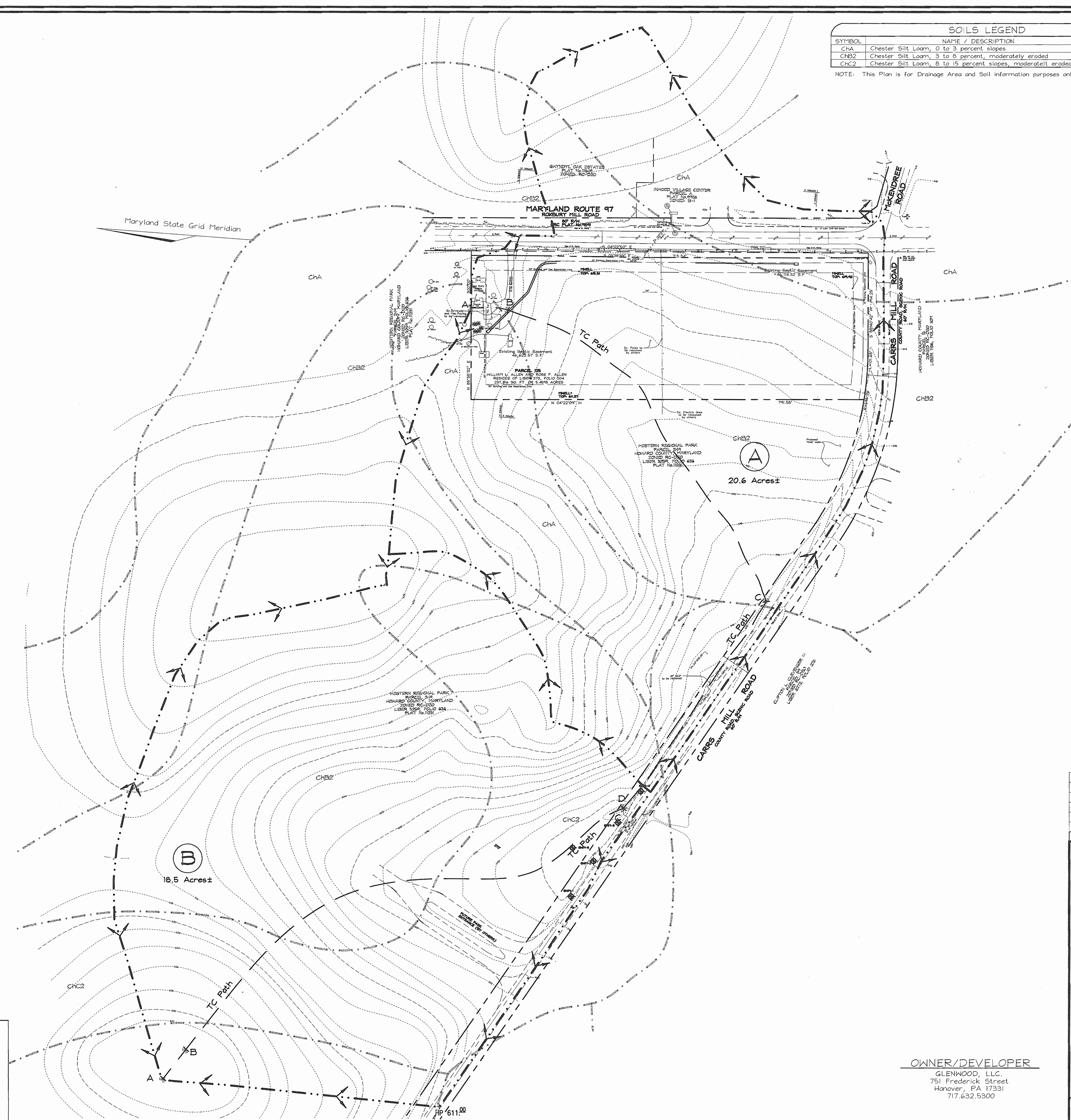
**FREDERICK WARD ASSOCIATES, INC.**  
ENGINEERS: 7125 Riverwood Drive Columbia, Maryland 21046-2354  
Phone: 410-290-9550 Fax: 410-720-6226  
ARCHITECTS: Bel Air, Maryland  
SURVEYORS: Columbia, Maryland Warrenton, Virginia

DESIGN BY: CM  
DRAWN BY: PS/KO  
CHECKED BY: RHW  
DATE: JAN. 9, 2002  
SCALE: 1"=100'  
W.O. NO.: 2019107.00  
14 SHEET OF 14

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
CHA	Chester Silt Loom, 0 to 3 percent slopes	B
CHB2	Chester Silt Loom, 3 to 8 percent, moderately eroded	B
CHC2	Chester Silt Loom, 8 to 15 percent slopes, moderately eroded	B

NOTE: This Plan is for Drainage Area and Soil information purposes only.

LEGEND	
Existing Contour	
Proposed Contour	
Spot Elevation	
Direction of Flow	
Existing Trees	
Soils Divide	
Existing Drainage Divide	



**TC PATH INFORMATION**

DRAINAGE AREA 'A'		
Area - 20.6 Acres		
RCN - 61		
TC - 0.26		
A-B	B-C	C-D
Sheet Flow	Shallow Concentrated	Channel side ditch
75' @ 3.5%	840' @ 2.9%	500'
DRAINAGE AREA 'B'		
Area - 18.5 Acres		
RCN - 59		
TC - 0.25		
A-B	B-C	
Sheet Flow	Shallow Concentrated	
75' @ 3.0%	1030' @ 4.1%	

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 HOWARD COUNTY HEALTH DEPARTMENT  
 COUNTY HEALTH OFFICER: *[Signature]* DATE: 5/30/02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 5/30/02  
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 6/10/02  
 DIRECTOR: *[Signature]* DATE: 6/10/02

OWNER/DEVELOPER  
 GLENWOOD, LLC  
 751 Frederick Street  
 Hanover, PA 17331  
 717.632.5300

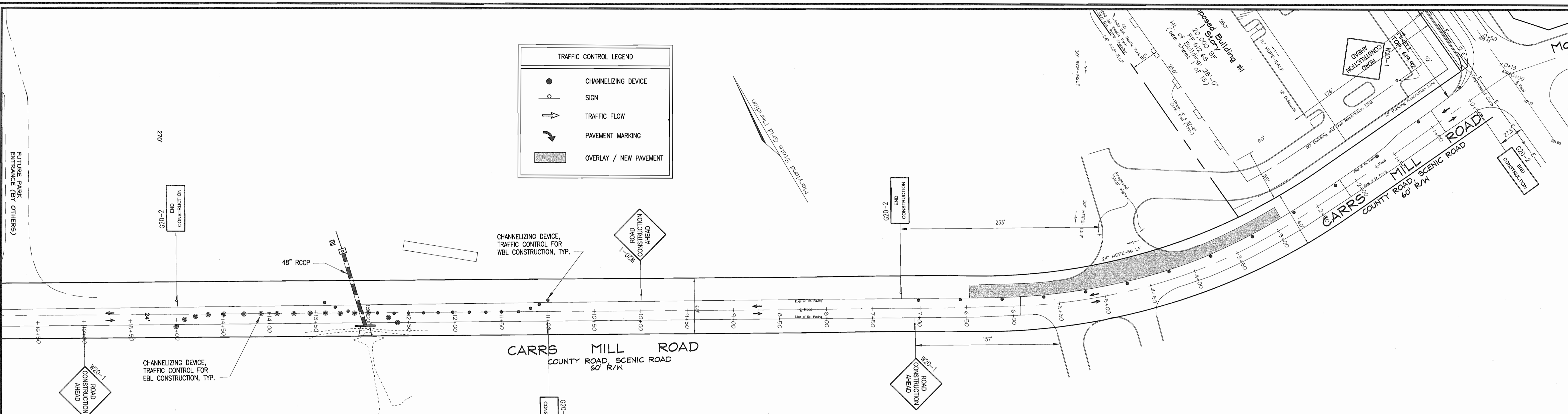
NO.	REVISION	DATE

STORMWATER MANAGEMENT DRAINAGE AREA MAP  
 EXISTING CONDITIONS  
**GLENWOOD STATION**  
 "RETAIL CENTER"  
 ALLEN PROPERTY  
 TAX MAP #14 GRID #10 PARCEL 125  
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

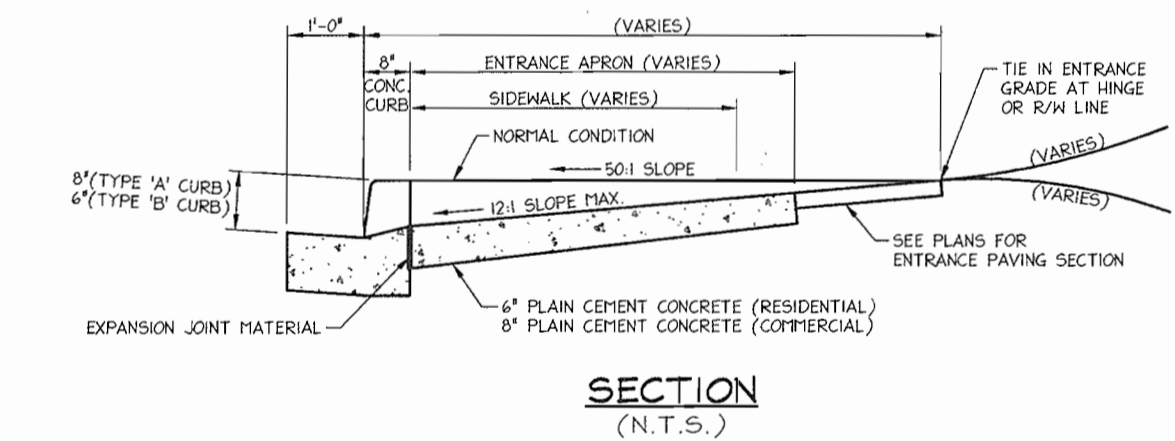
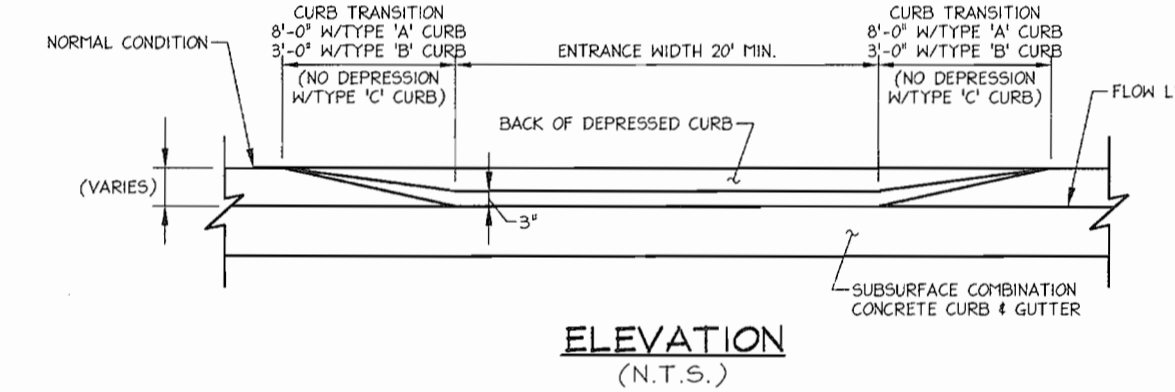
**FREDERICK WARD ASSOCIATES, INC.**  
 ENGINEERS 7125 Riverwood Drive Columbia, Maryland 21046-2354  
 ARCHITECTS Phone: 410-290-9550 Fax: 410-720-6226  
 SURVEYORS Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

	DESIGN BY: <u>CM</u>	13 SHEET OF 14
	DRAWN BY: <u>PS/KD</u>	
	CHECKED BY: <u>RHV</u>	
	DATE: <u>JAN 9, 2002</u>	
	SCALE: <u>1"=100'</u>	
W.O. NO.: <u>2019107.00</u>		

TRAFFIC CONTROL LEGEND	
	CHANNELIZING DEVICE
	SIGN
	TRAFFIC FLOW
	PAVEMENT MARKING
	OVERLAY / NEW PAVEMENT

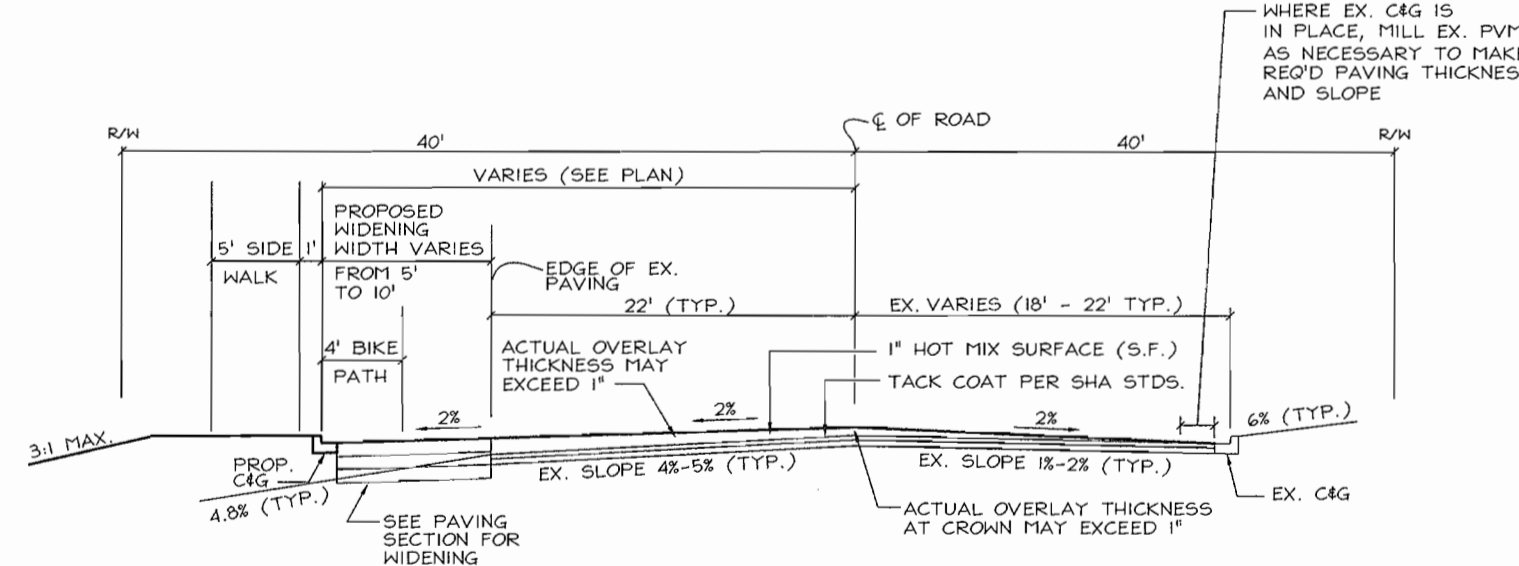
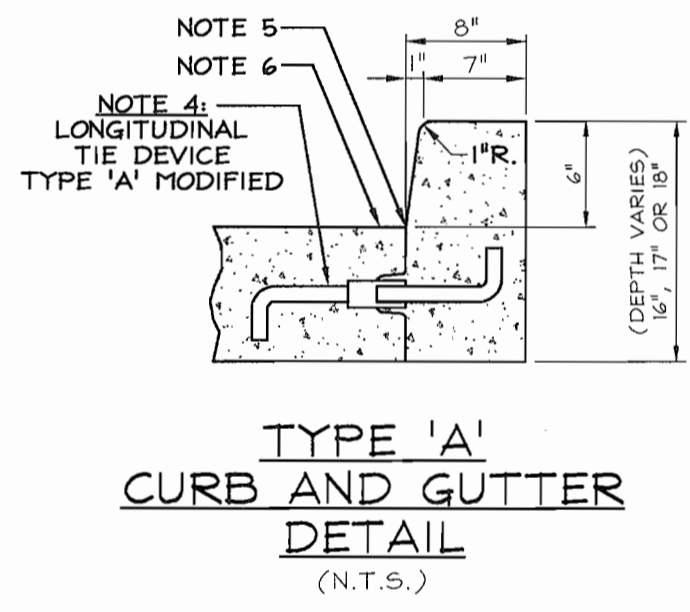


**CARRS MILL ROAD  
WIDENING PLAN**  
SCALE: 1" = 50'



- NOTES:**
- FOR COMBINATION CONCRETE CURB AND GUTTER TYPES 'A', 'B' AND 'C' SEE STD. NO. 620.02. FOR SIDEWALK EXPANSION JOINTS SEE STD. NO. 655.01.
  - WHEN AN EXISTING ENTRANCE IS LESS THAN 20' IN WIDTH, A UNIFORM TAPER SHALL BE CONSTRUCTED TO TIE INTO THE EXISTING ENTRANCE AS DIRECTED BY THE ENGINEER.
  - WHEN SIDEWALK IS USED IN SOME CASES, THE BACK EDGE OF THE SIDEWALK MAY HAVE TO BE DEPRESSED SO THAT THE ENTRANCE APRON GRADE WILL NOT EXCEED 1/2" (0.393") WITHIN THE SIDEWALK AREA.

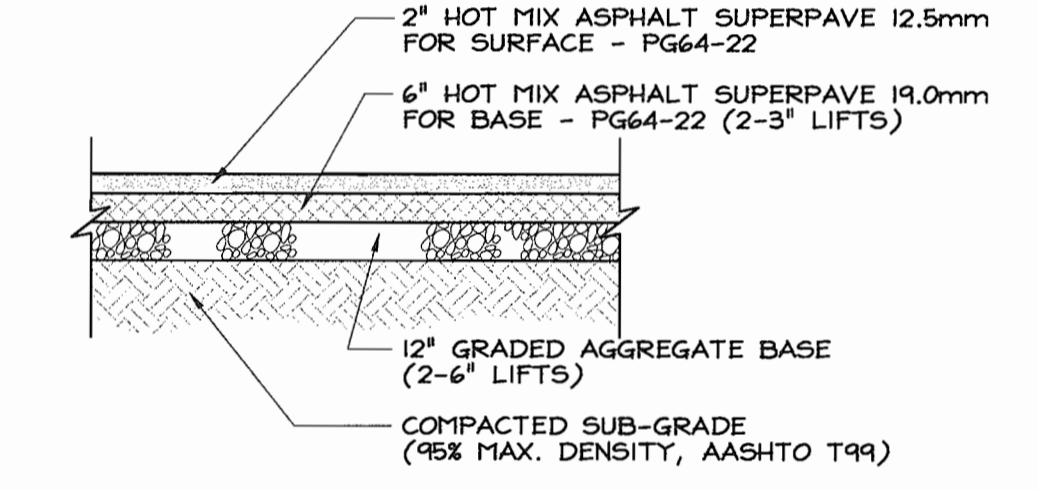
**DEPRESSED COMBINATION  
CONCRETE CURB AND GUTTER  
DETAILS**



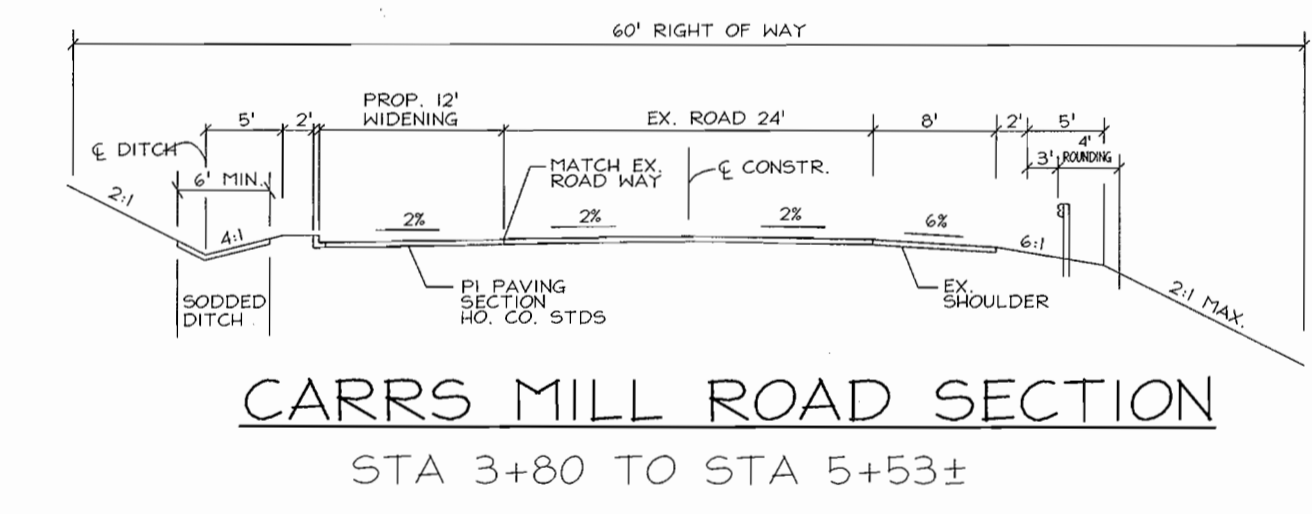
**MD ROUTE 97 (ROXBURY MILL RD)  
SECTION**  
STA. 0+13 TO 8+31

Standard EAPD Paving Sections for  
Routine Site Access Improvements

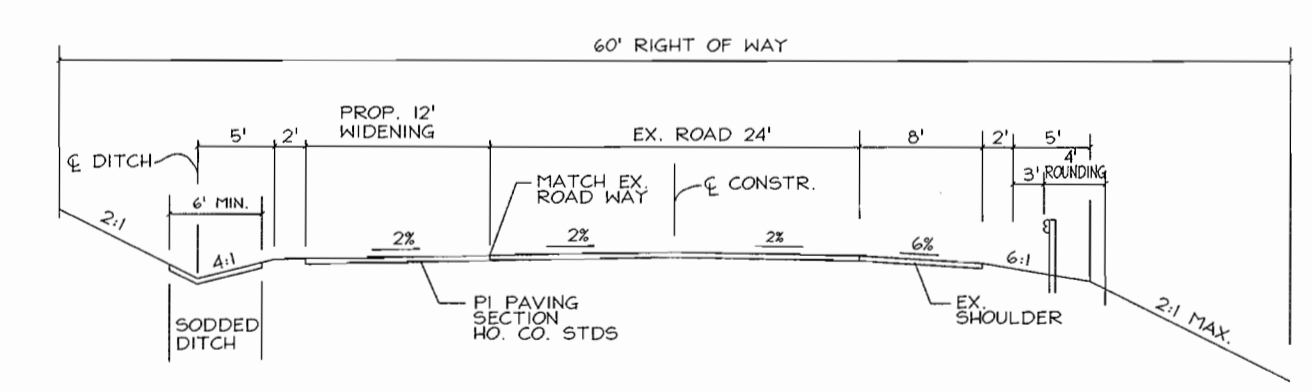
Functional Classification: Collector or Lower ADT: 10,000 or less	
A	1 1/2" Hot Mix Asphalt Superpave 9.5 mm - PG 64-22, Low ESAL's 6" Hot Mix Asphalt Superpave 19.0 mm for Base - PG 64-22, Low ESAL's (2-3" lifts) 6" Base Course Using Graded Aggregate
B	1 1/2" Hot Mix Asphalt Superpave 9.5 mm - PG 64-22, Low ESAL's 8" Hot Mix Asphalt Superpave 19.0 mm for Base - PG 64-22, Low ESAL's (1-3" lift and 2-2.5" lifts) Note: Use of this option is limited to entrances proper and where well-drained, sandy soils are present.
C	1 1/2" Hot Mix Asphalt Superpave 9.5 mm - PG 64-22, Low ESAL's 6" Hot Mix Asphalt Superpave 19.0 mm for Base - PG 64-22, Low ESAL's (2-3" lifts) 12" Capping Borrow



**PAVING SECTION  
(MD RTE. 97 WIDENING SECTION)**  
(N.T.S.)



**CARRS MILL ROAD SECTION  
STA 3+80 TO STA 5+53±**



**CARRS MILL ROAD SECTION  
STA 2+90 TO STA 3+80 ±  
STA 5+53± TO STA 6+45 ±**

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT  
*[Signature]*  
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 5/6/02  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*[Signature]* 6/5/02  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*[Signature]* 6/10/02  
DIRECTOR DATE

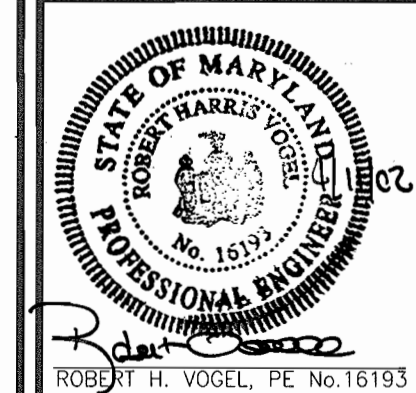
**OWNER/DEVELOPER**  
GLENWOOD, L.L.C.  
751 Frederick Street  
Hanover, PA 17331  
717.632.5300

NO.	REVISION	DATE

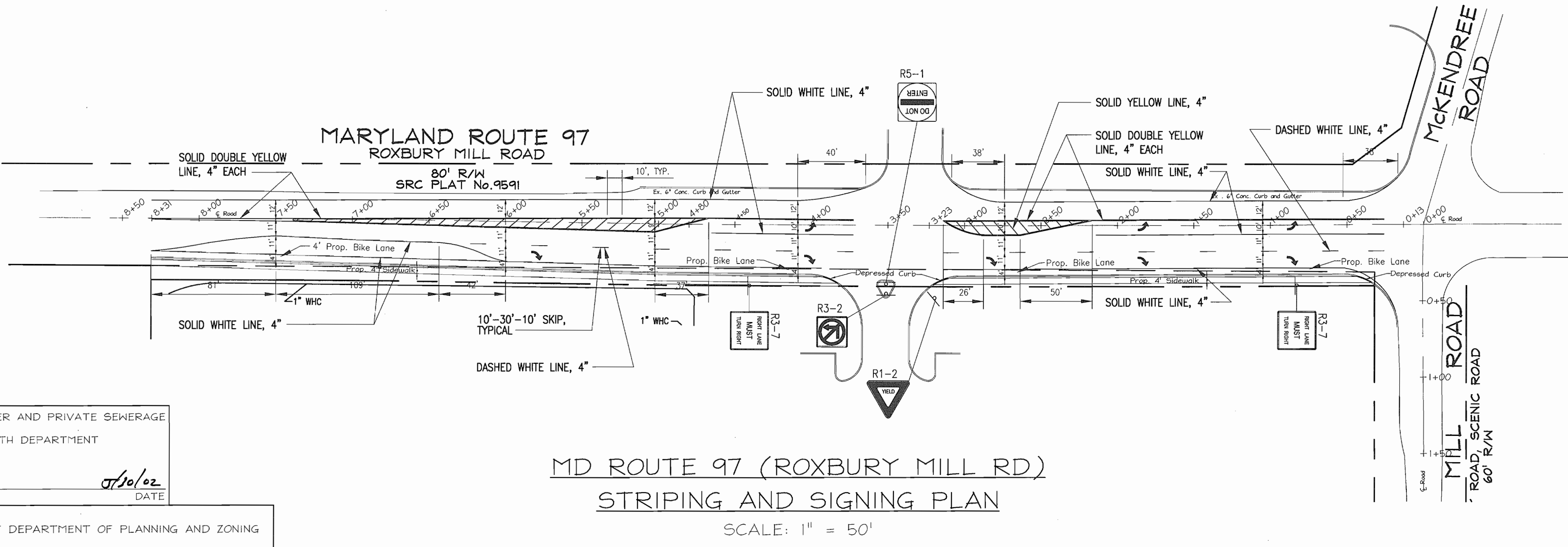
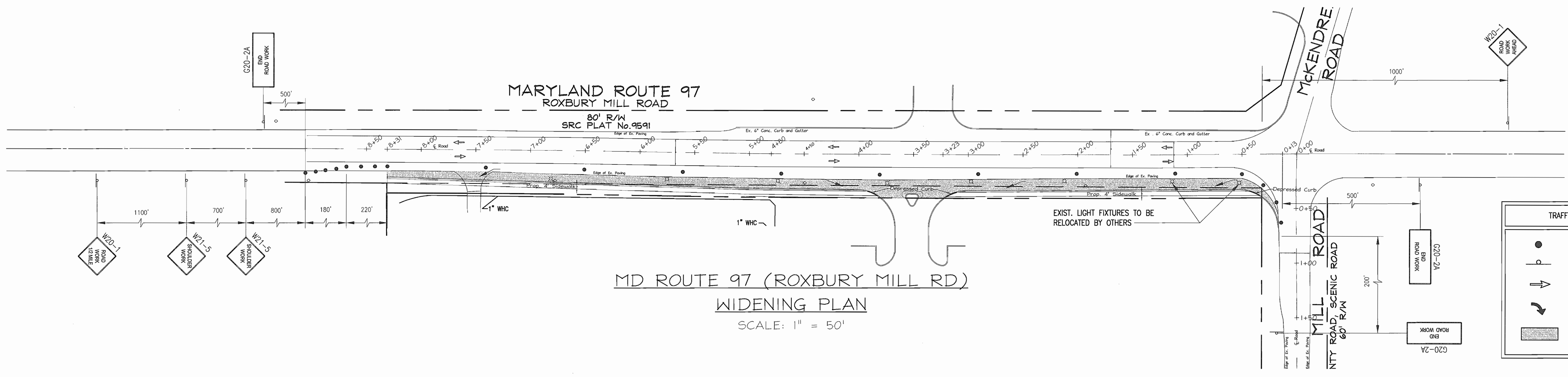
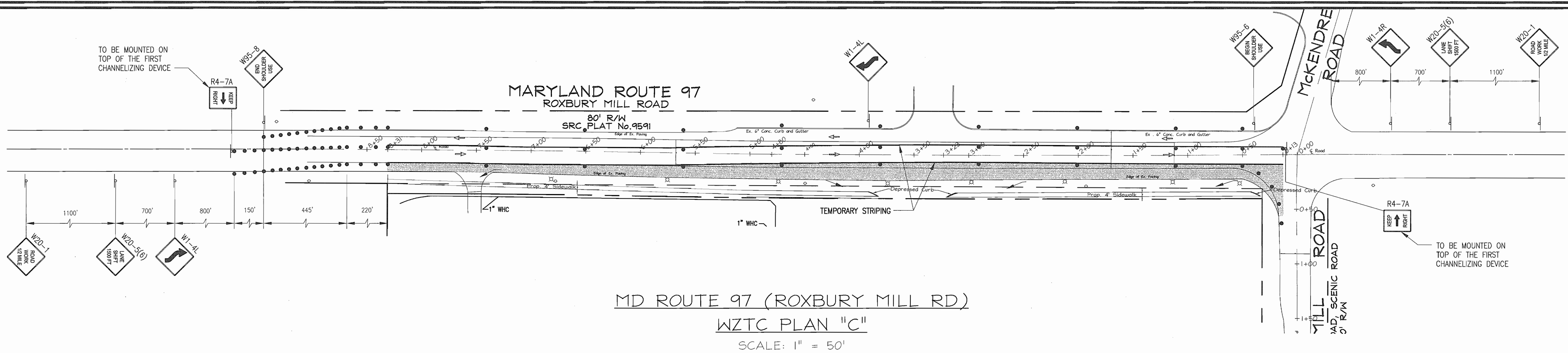
**SHA, WZTC PLAN AND  
MISCELLANEOUS DETAILS  
GLENWOOD STATION  
"RETAIL CENTER"  
ALLEN PROPERTY**

TAX MAP #14 GRID #10 PARCEL 125  
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**FREDERICK WARD ASSOCIATES, INC.**  
ENGINEERS 7125 Riverwood Drive Columbia, Maryland 21046-2354  
ARCHITECTS Phone: 410-290-9550 Fax: 410-720-6226  
SURVEYORS Bel Air, Maryland Columbia, Maryland Warrenton, Virginia



DESIGN BY: CM  
DRAWN BY: PS/KG  
CHECKED BY: RHW  
DATE: JAN. 9, 2002  
SCALE: 1"=50'  
H.O. NO.: 2019107.00



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT

*[Signature]*  
COUNTY HEALTH OFFICER

07/10/02  
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]*  
CHIEF, DIVISION OF LAND DEVELOPMENT

*[Signature]*  
DIRECTOR

5/10/02  
DATE

6/5/02  
DATE

6/10/02  
DATE

OWNER/DEVELOPER  
GLENWOOD, LLC  
751 Frederick Street  
Hanover, PA 17331  
717.632.5300

NO.	REVISION	DATE

SHA, WZTC PLAN AND MISCELLANEOUS DETAILS  
GLENWOOD STATION "RETAIL CENTER"  
ALLEN PROPERTY

TAX MAP #14 GRID #10  
4TH ELECTION DISTRICT

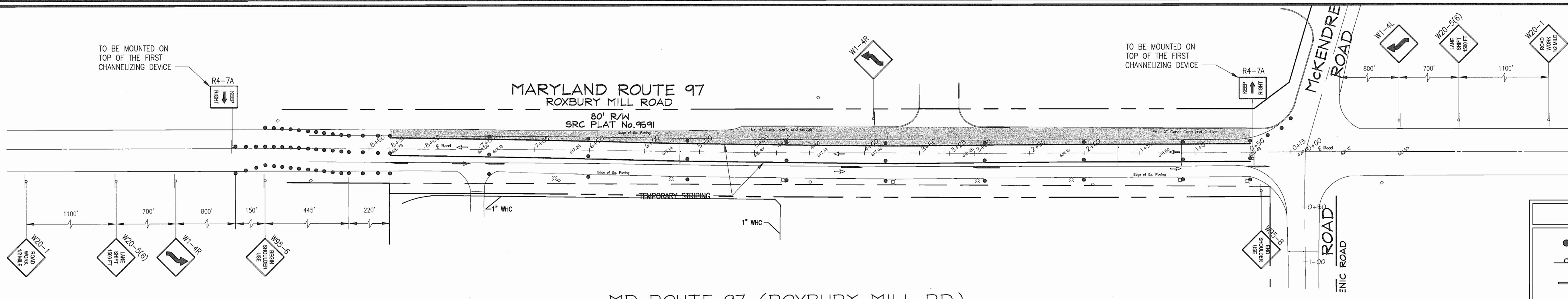
PARCEL 125  
HOWARD COUNTY, MARYLAND

**FREDERICK WARD ASSOCIATES, INC.**  
ENGINEERS 7125 Riverwood Drive Columbia, Maryland 21046-2354  
ARCHITECTS Phone: 410-290-9550 Fax: 410-720-6226  
SURVEYORS Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: CM  
DRAWN BY: PS/KO  
CHECKED BY: RHW  
DATE: JAN 9, 2002  
SCALE: 1"=50'  
W.O. NO.: 2019107.00

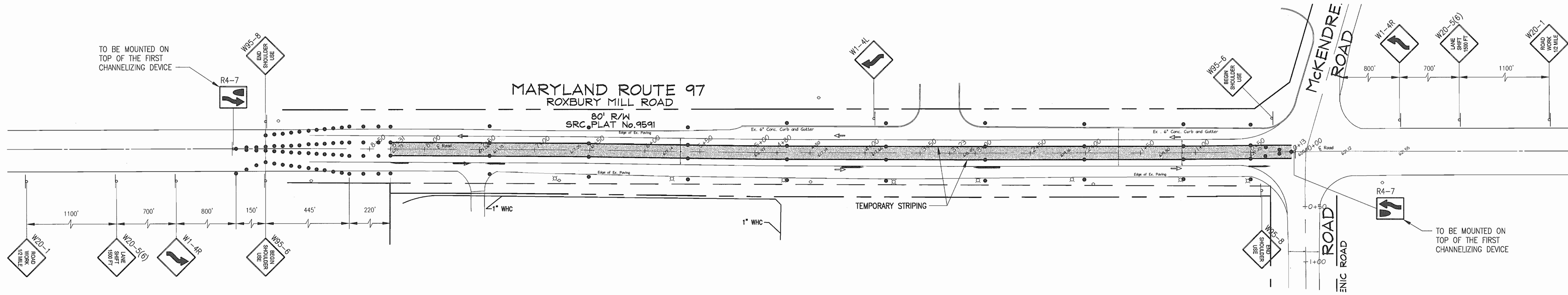
*[Professional Seal]*  
ROBERT H. VOGEL, PE No. 16193

11 SHEET OF 14

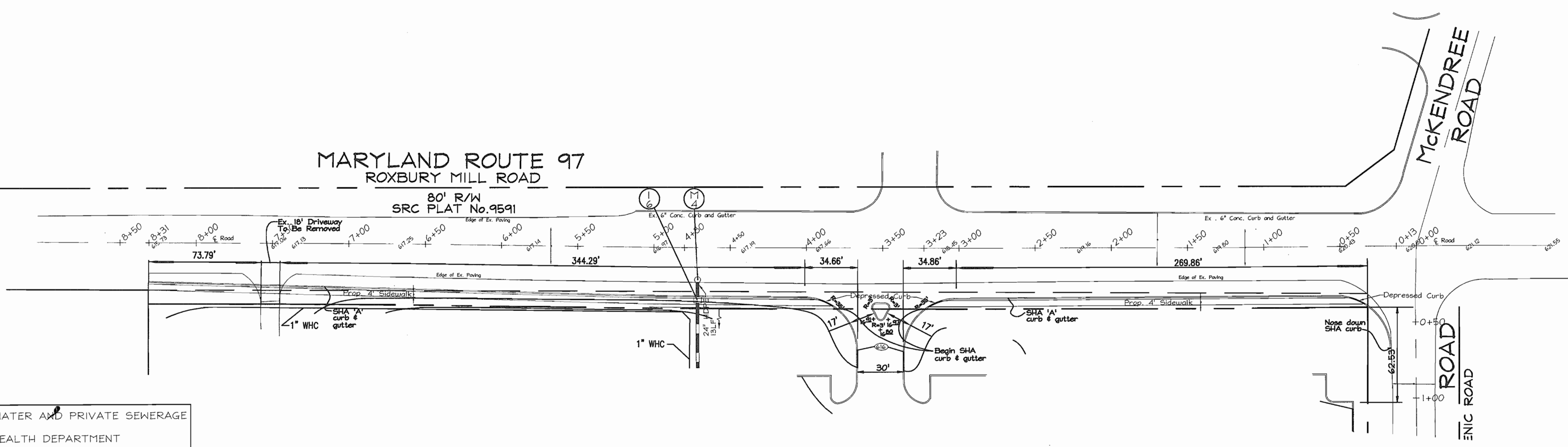


MD ROUTE 97 (ROXBURY MILL RD)  
WZTC PLAN "A"  
SCALE: 1" = 50'

TRAFFIC CONTROL LEGEND	
	CHANNELIZING DEVICE
	SIGN
	TRAFFIC FLOW
	PAVEMENT MARKING
	OVERLAY / NEW PAVEMENT



MD ROUTE 97 (ROXBURY MILL RD)  
WZTC PLAN "B"  
SCALE: 1" = 50'



MD ROUTE 97 (ROXBURY MILL RD)  
SHA ROAD PLAN  
SCALE: 1" = 50'

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT  
*Peggy Brown*  
COUNTY HEALTH OFFICER DATE: 5/6/02

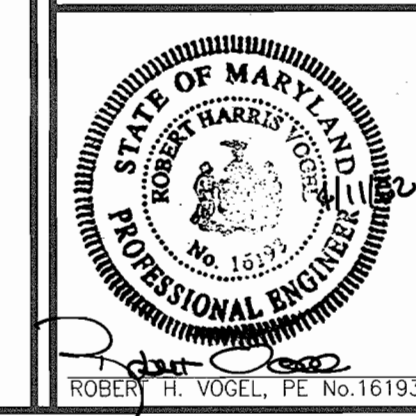
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 5/6/02  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 4/5/02  
DIRECTOR DATE: 5/6/02

OWNER/DEVELOPER  
GLENWOOD, LLC  
751 Frederick Street  
Hanover, PA 17331  
717.632.5300

NO.	REVISION	DATE

SHA PLAN AND WZTC PLANS  
GLENWOOD STATION  
"RETAIL CENTER"  
ALLEN PROPERTY  
TAX MAP #14 GRID #10  
4TH ELECTION DISTRICT  
PARCEL 125  
HOWARD COUNTY, MARYLAND

FREDERICK WARD ASSOCIATES, INC.  
ENGINEERS 7125 Riverwood Drive Columbia, Maryland 21046-2354  
ARCHITECTS Phone: 410-290-9550 Fax: 410-720-6226  
SURVEYORS Bel Air, Maryland Columbia, Maryland Warrenton, Virginia



DESIGN BY: CM  
DRAWN BY: PS/KO  
CHECKED BY: RHV  
DATE: JAN. 9, 2002  
SCALE: AS SHOWN  
W.O. NO.: 2019107.00

10 SHEET OF 14

SHEET INDEX	
DESCRIPTION	SHEET NO.
Cover Sheet	1 of 14
Site Development Plan	2 of 14
Site Development, Sediment & Erosion Control Plan, & Misc. Details	3 of 14
Sediment and Erosion Control Plan and Details	4 of 14
Sediment and Erosion Control Details and Septic Notes	5 of 14
Storm Drain Drainage Area Map	6 of 14
Storm Drain Profiles and Miscellaneous Details	7 of 14
Stormwater Management Profiles and Details	8 of 14
Landscape Plan	9 of 14
SHA and WZTC Plan	10 of 14
WZTC Plan and Miscellaneous Details	11 of 14
WZTC Plan and Miscellaneous Details	12 of 14
Existing Conditions Drainage Area Map	13 of 14
Developed Conditions Drainage Area Map	14 of 14

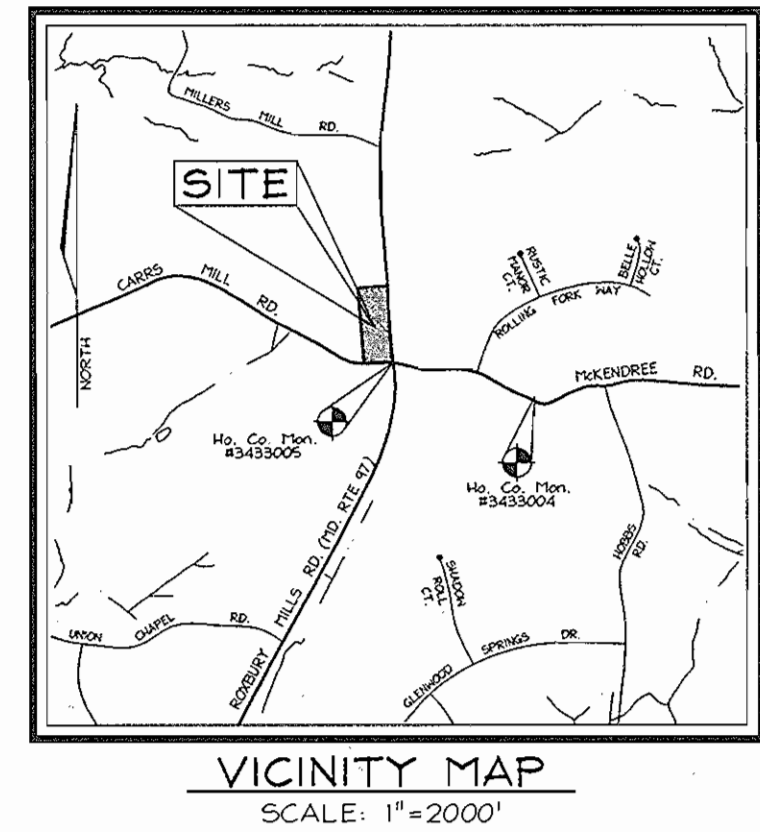
# SITE DEVELOPMENT PLAN GLENWOOD STATION

**LEGEND**

Existing Contour: -362  
Proposed Contour: +0.253  
Spot Elevation: +0.253  
Direction of Flow: Overhead:

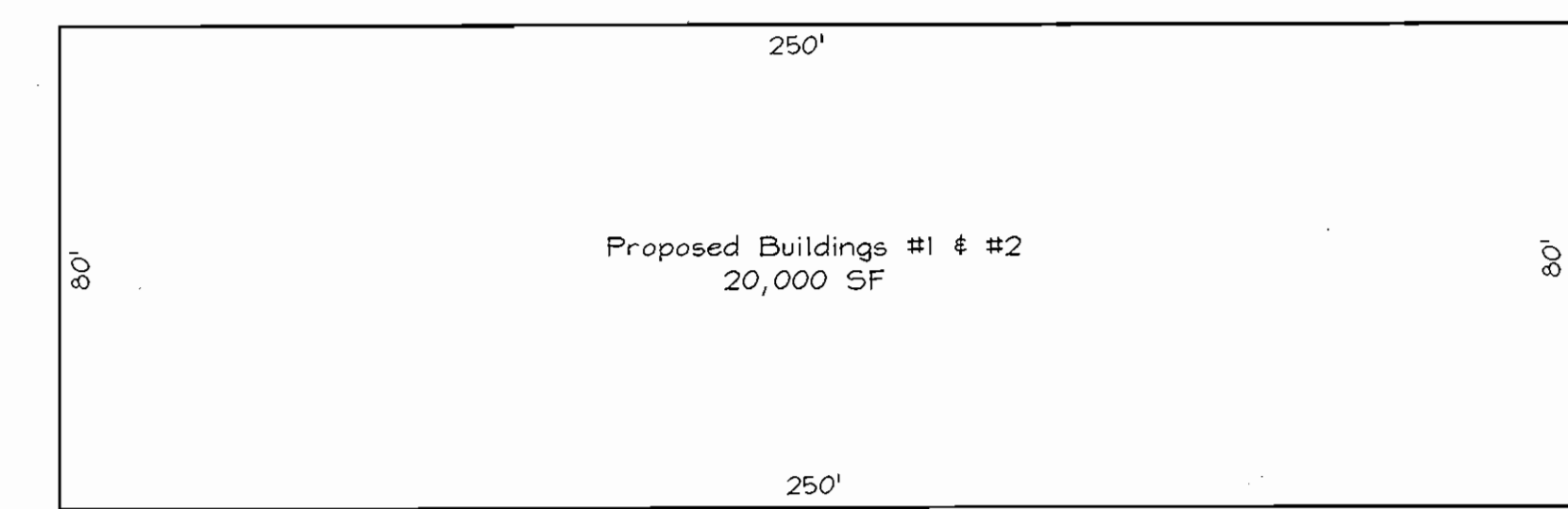
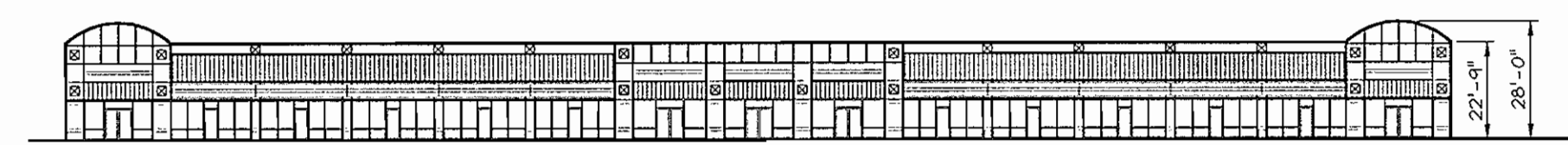
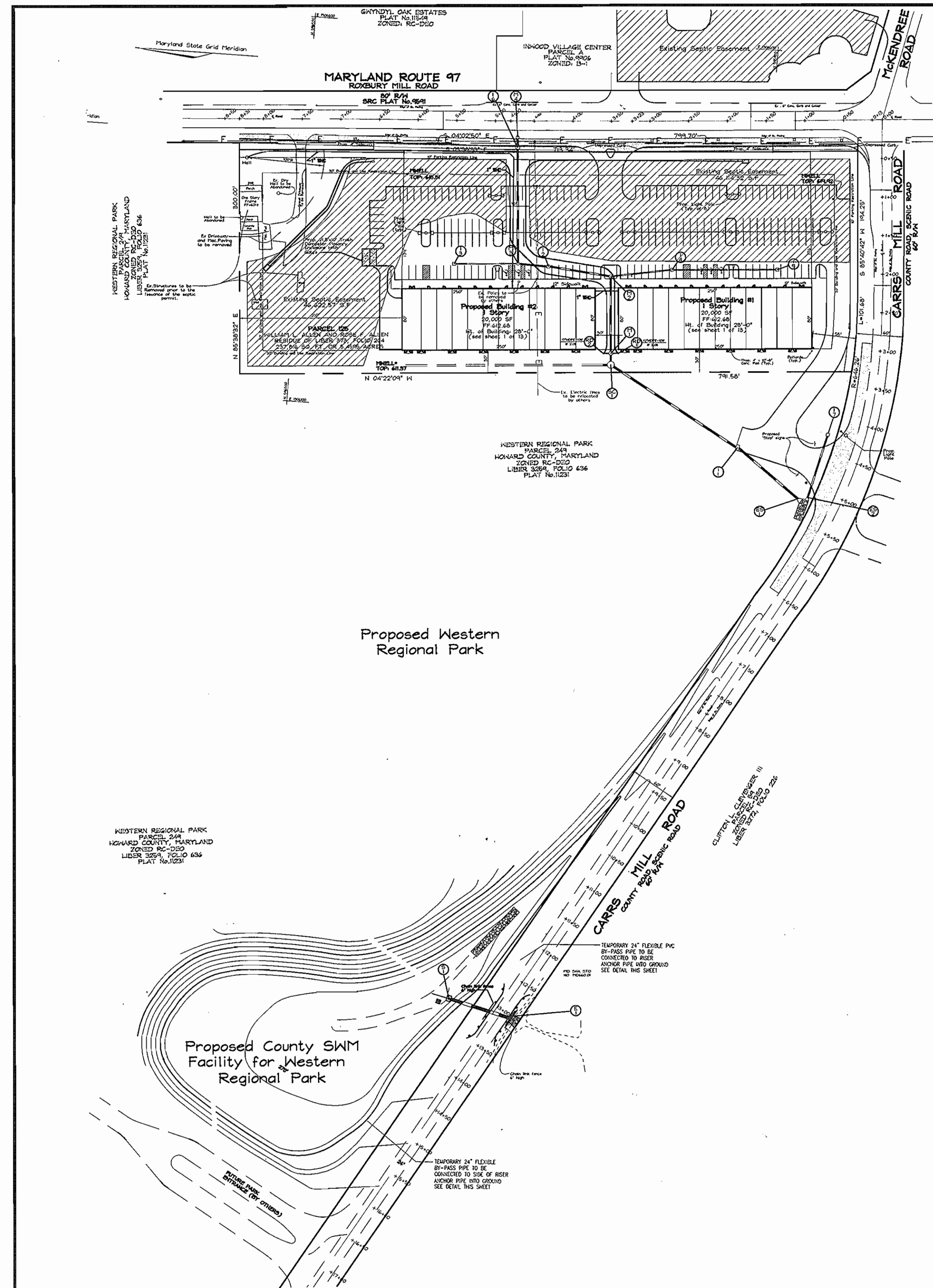
**BENCHMARKS**

Howard County Monument #3433004; Elev.: 597.33  
N 534,653.438 E 795,420.537  
Howard County Monument #3433005; Elev.: 620.07  
N 534,974.172 E 794,062.901

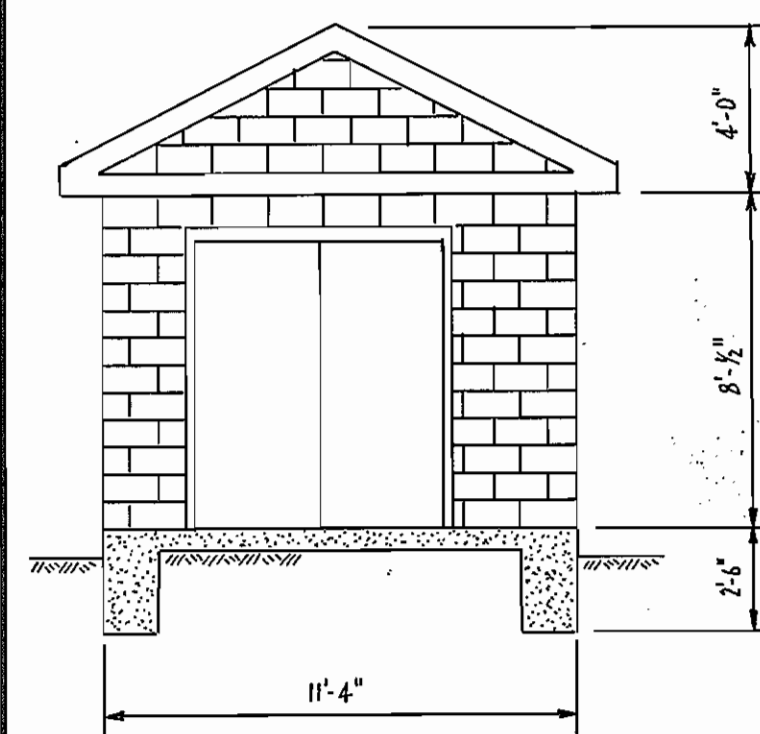


**GENERAL NOTES**

- All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications, if applicable.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- The contractor is to notify the following utilities or agencies at least five days before starting work on these drawings:  
Miss Utility: 1-800-257-7777  
Verizon Telephone Company: 1-410-954-6281  
Howard County Bureau of Utilities: 313-2366  
AT&T Cable Location Division: 313-3553  
B.G.E. Co. Contractor Services: 850-4620  
B.G.E. Co. Underground Damage Control: 787-4620  
State Highway Administration: 531-5533
- Site analysis:  
Area of parcel 125: 5,4595  
Area of parcel 249: 181.08 Acres ±  
Area of Disturbance: 7.95 Acres  
Present zoning: B-2  
Use of structure: Retail and Vehicle Service Establishment, MINIATURE GOLF COURSE  
Building area: 1420,000sf; 2-220,000sf + PUMPHOUSE = 144 SF = TOTAL = 45,144 SF  
Building coverage on site: 1.04 AC. OR 19% OF GROSS AREA  
Paved parking lot/area: 1.68 AC. OR 31% OF GROSS AREA  
Area of landscape island: 0.05 AC. = 2,000sf  
There are no steep slopes on-site.
- Project background:  
Location: Glenwood, Md.; Tax Map 14, Parcel 125  
Zoning: B-2  
Section/Area: N/A  
Site Area: 5,4595 Acres  
DPZ references: ZB Case No. 951-M, WP-01-136  
This project is grandfathered to the Fourth Edition of the Howard County Sub-division and Land Development Regulations.
- The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to start of work.
- Any damage to public right-of-ways, paving, or existing utilities will be corrected at the contractor's expense.
- Existing utilities located from Field Surveys and available record drawings. Approximate location of existing utilities are shown for the contractors information. Contractor shall locate existing utilities well in advance of construction activities and take all necessary precautions to protect the existing utilities and to maintain uninterrupted service. Any damage incurred due to contractor's operation shall be repaired immediately at the contractor's expense.
- All reinforced concrete for storm drain structures shall have a minimum of 28 days strength of 3,500 p.s.i.
- 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.
- Estimates of earthwork quantities are provided solely for the purpose of calculating fees.
- Soil compaction specifications, requirements, methods and materials are to be in accordance with the recommendations of the project Geotechnical Engineer. Geotechnical Engineer to confirm acceptability of proposed paving section, based on soil test.
- All storm drain pipe bedding shall be Class 'C'.
- Coordinates and elevations are based on Howard County Right-of-Way Monuments.
- A noise study is not required for this project.
- Existing topography is based on field run information performed by The RBA Group, Inc. in May 1998 and by Vogel & Associates, Inc. in September 2000.
- See sheet 2 for paving section details.
- All curb and gutter to be Howard County Standard concrete Detail 3.01 unless otherwise specified.
- Contractor responsible to construct all handicap parking and handicap access in accordance with current ADA requirements.
- Where drainage flows away from curb, contractor to reverse the gutter pan.
- All elevations are to flowline/bottom of curb unless otherwise noted.
- All dimensions are to face of curb unless otherwise noted.
- Private Water to be provided by on-site wells as approved by MDE under Ground Water Appropriation Permit (GWAP) #H02001G009(01). Private septic systems to be provided on-site. Septic fields are based on application #A50344 whose locations are based on perc testing dated 2.22.95 and 4.24.95 and approved on April 28, 2000.
- Stormwater management is provided by Extended Detention Pond constructed by Glenwood, LLC per SDP-01-108, but owned and maintained by Howard County. Water Quality is provided by on-site Stormceptor to be privately owned and maintained.
- All exterior lighting shall conform to Zoning Regulations Section 134.
- Buildings to have Inside Water Meter settings.
- APFD traffic test was provided by The RBA Group, Inc. on July 07, 2000.
- This site is conditionally exempt from the Forest Conservation requirements with the filing of a DOI for a single lot clearing less than 40,000 sq. ft. of forest in accordance with Section 16.1202 (b)(2)(i) of the Howard County Code. The second parcel is owned by Howard County and the work proposed is the construction of the regional facility for the Western Regional Park, constructed for the County by Glenwood, LLC.
- Existing storm drain structures/pipes elevations are in accordance with SDP-91-060. Adjustment may be necessary to meet as-built vertical locations of storm drain stubs and structures.
- Contractor to connect all roof drains to storm drain system, see Architectural plans for details.
- Contractor to sod all areas adjacent to building, parking lot islands and area adjacent to entrance drive aisle. All other areas to be seeded and mulched.
- Landscape Surety in the amount of \$23,250.00 will be included in the Developer's Agreement. This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and Landscape Manual.
- The available septic capacity will be allocated as each building permit is processed for the individual uses of each tenant. If total actual discharge from each building exceeds 1,500GPD, (3,000GPD total) then a ground water mounding study is required. For total flow in excess of 5,000GPD, a Ground Water Discharge Permit is required. Microseptec Enviroservier (410.750.7373) units are proposed for septic pre-treatment.
- There are no floodplains or wetlands in the area of the proposed improvements.
- The subject property is zoned 'B-2' (Business General) in accordance with the ZB Case No. 951-M, dated September 1, 1994.
- The proposed driveway entrance on MD Route 97 was approved of Waiver Petition WP-01-136 by Howard County on July 19, 2001. The requirements of the Subdivision and Land Development Regulations, Sections 16.119(f)(1) and 16.120(a)(2), which call for a lower classification road access, have been waived by approval.
- The contractor will contact the owner/developer prior to installation of septic system to determine if septic system has been revised.
- A fee-in-lieu of stormwater management pond landscaping was paid by the developer in the amount of \$14,100.00.
- Total Limit of Disturbance: 7.95 Acres  
TO THE BUILDING 2 PARKING TABULATION IS BASED ON APRIL 2007 DATA. PARKING REQUIREMENTS OF SDP-01-108 WERE ESTABLISHED USING THE GENERAL RETAIL RATE OF 5 SPACES PER 1,000 SQ. FT. THE PROPERTY OWNER HAS BEEN ADVISED BY DEPARTMENT OF PLANNING AND ZONING TO CONSIDER ADEQUACY OF PARKING WHEN NEGOTIATING FUTURE BUILDING USES.



REVISIONS TO MYLARS PREPARED BY:  
LEON A. PODOLAK & ASSOCIATES, LLC  
63 E. MAIN ST. P.O. BOX 266  
WESTMINSTER, MARYLAND 21157  
PHONE: (410) 876-1226



**OWNER/DEVELOPER**  
GLENWOOD, LLC  
751 Frederick Street  
Hanover, PA 17331  
717.632.5300

NO.	REVISION	DATE
1	REVISE POND OUTFALL APRON & PERMANENT POOL ELEV.	7-30-03
2	ADDITION OF PREFABRICATED MINIATURE GOLF COURSE AND KIOSK	6-1-07
3	PER HOWARD CO. DEVELOPMENT ENGINEERING DIVISION COMMENTS	4-25-03
4	SEPTIC SYSTEM REDESIGN & ADDITIONAL PAVT. ON NORTH SIDE OF BLDG #2 (SEE SHYS. 2,4,5,13) 3-21-03	
5	REVISE PUMP HOUSE LOCATION, SHOW STORAGE TANK, WATERLINE, AND CANOPY (SEE SHEETS 2, 4, 5, 4 3)	8-26-02

BUILDING #	ADDRESS CHART
1	2490 MD Rte. 97 (Roxbury Mill Rd.), Cooksville, Maryland
2	2490 MD Rte. 97 (Roxbury Mill Rd.), Cooksville, Maryland

PROJECT NAME	SECTION/AREA	PARCEL NUMBER
Glenwood Station	N/A	125

DEED REF.	BLOCK NO.	ZONE	TAX/MAP	ELECT. DIST.	CENSUS TR.
373/204	10	B-2	14	4th	6040

WATER CODE:	SEWER CODE:

**COVER SHEET**  
**GLENWOOD STATION**  
"RETAIL CENTER"  
ALLEN PROPERTY

TAX MAP #14 GRID #10  
4TH ELECTION DISTRICT

PARCEL 125  
HOWARD COUNTY, MARYLAND

**FREDERICK WARD ASSOCIATES, INC.**  
ENGINEERS: 7125 Riverwood Drive Columbia, Maryland 21046-2354  
ARCHITECTS: Phone: 410-290-9550 Fax: 410-720-6226  
SURVEYORS: Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: PS	1	SHEET	14
DRAWN BY: PS/KO		OF	
CHECKED BY: RHW			
DATE: JAN. 9, 2002			
SCALE: AS SHOWN			
W.O. NO.: 2019107.00			

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*John J. ...* 5/6/02  
CHIEF, DEVELOPMENT ENGINEERING DIVISION (DATE)

*...* 6/8/02  
CHIEF, DIVISION OF LAND DEVELOPMENT (DATE)

*...* 6/10/02  
DIRECTOR (DATE)

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT

*...* 5/6/02  
COUNTY HEALTH OFFICER (DATE)

**PARKING TABULATION CONTINUED**

BUILDING 2 -	REQUIRED	PROPOSED
VEHICLE SERVICE (5,000 SF) 3BAYS	12	12
PERSONAL SERVICE (3,000 SF)	21	21
RETAIL GENERAL (4,000 SF)	20	20
DRY CARE (3,000 SF)	9	9
OUTDOOR MINIATURE GOLF COURSE (10 HOLES)	21	21

**LOCATION PLAN**  
SCALE: 1"=100'

**PARKING TABULATION**

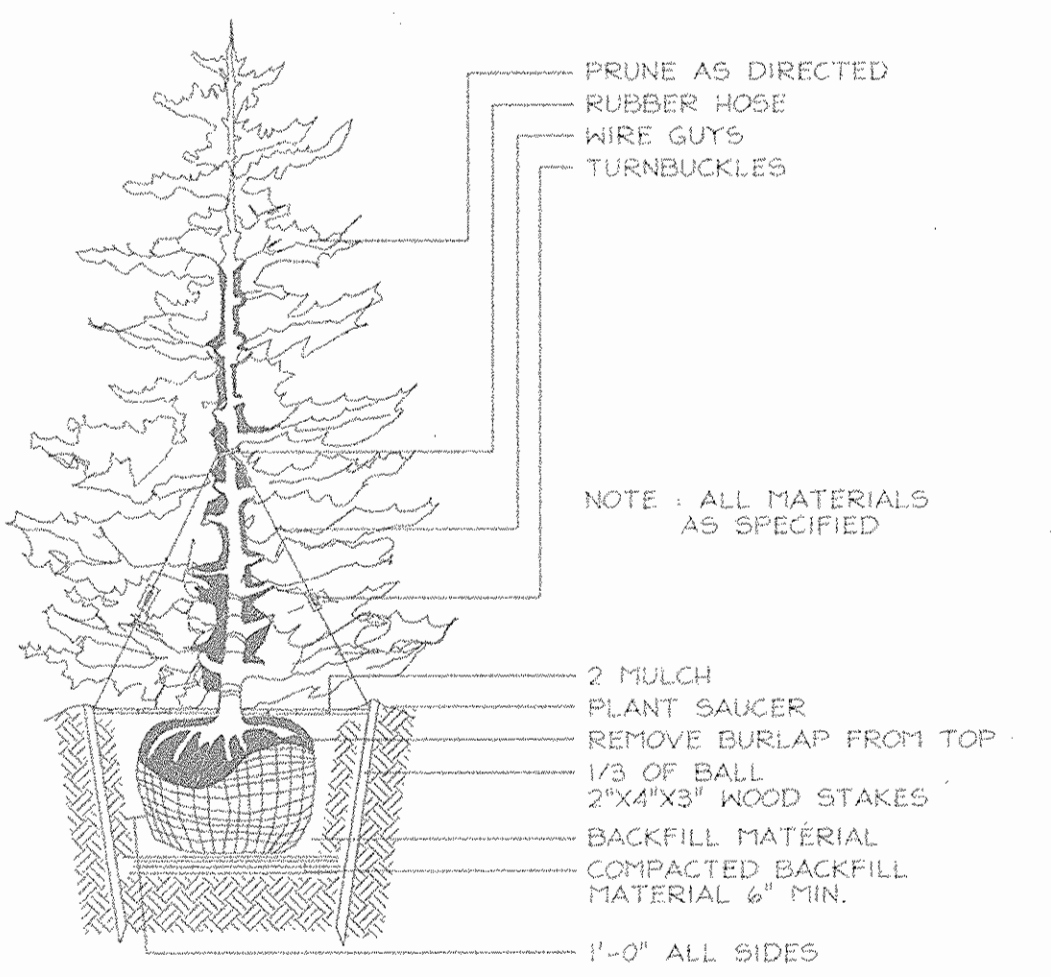
(PER SECTION 133 (D)(4)(N))

REQUIRED	PROPOSED
BUILDING 1 - SHOPPING CENTER: 20,000 S.F. X 5.0 SPACES/1,000 S.F. = 100 spaces	105 spaces
TOTAL PARKING = 195 SPACES	210 SPACES
HANDICAP = 6 SPACES (1 VAN)	6 SPACES (1 VAN)

**NOTES**

- SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" FOR ALL MATERIAL, PRODUCT, AND PROCEDURE SPECIFICATIONS.
- SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
- PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
- KEEP MULCH 1" FROM TRUNK.
- SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
- TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE EASEMENT.

**TREE PLANTING AND STAKING**  
DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE



**TYPICAL EVERGREEN TREE PLANTING DETAIL**  
NOT TO SCALE

CATEGORY	PERIMETER LANDSCAPE EDGE							
	1	2	3	4	5	6	7	8
Perimeter/Frontage Designation	1	2	3	4	5	6	7	8
Linear Feet of Roadway	188	265	294	121	44	150	15	300
Frontage/Perimeter								
Credit for Existing Vegetation (Yes, No, Linear Feet)	No	No	No	No	No	No	No	Yes 60'
Credit for Wall, Fence or Berm (Yes, No, Linear Feet)	No	No	No	No	No	No	No	No
Number of Plants Required								
Shade Trees	150	4	140	7	140	3	150	1
Evergreen Trees	140	5	14	66	14	74	57	12
Number of Plants Provided								
Shade Trees	4	7	8	3	1	3	1	15
Evergreen Trees	5	-	-	-	1	1	3	4
Other Trees (2:1 Substitution)	-	-	-	-	-	-	-	-
Shrubs (10:1 Substitution)	-	-	-	-	-	-	-	-
Describe Plant Substitution Credits Below if needed								

**GENERAL NOTES**

- Financial Surety for the required landscaping must be posted as part of the Developer's Agreement in the amount of \$23,250.00 for 55 shade trees, 11 evergreen trees, and 170 shrubs.
- This plan has been prepared in accordance with provisions of Section 16.124 of the Howard County Code and the Landscape Manual.

KEY	QUAN.	BOTANICAL NAME	SIZE	REMARKS
AG	173	Abelia x grandiflora	30"-36" Ht.	B & B
PF	46	Philadelphus x frossii	3' - 3.5' Ht.	B & B
TC	13	Tilia cordata 'Greenspire'	2 1/2"-3" Cal.	B & B
OR	4	Quercus rubra	2 1/2"-3" Cal.	B & B
FP	39	Fraxinus pennsylvanica 'Palmetto'	2 1/2"-3" Cal.	B & B
CL	67	Cupressocyparis Leylandii	5'-6" Ht.	Cont.

**NOTE:**

- The landscape contractor shall be advised not to plant the shrubs immediately adjacent to the parking spaces so as to leave enough space for the two (2) feet bumper overhang of parked cars.
- At the time of plant installation, all shrubs and trees as listed and approved herewith, shall be of the proper height requirement in accordance with the Howard County Landscape Manual. In addition, no substitutions or relocations 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 are made to the applicable plans and certifications.
- To obtain approval for substitutions, the contractor shall request written authorization from the Department of Planning and Zoning, prior to installation of plant materials.

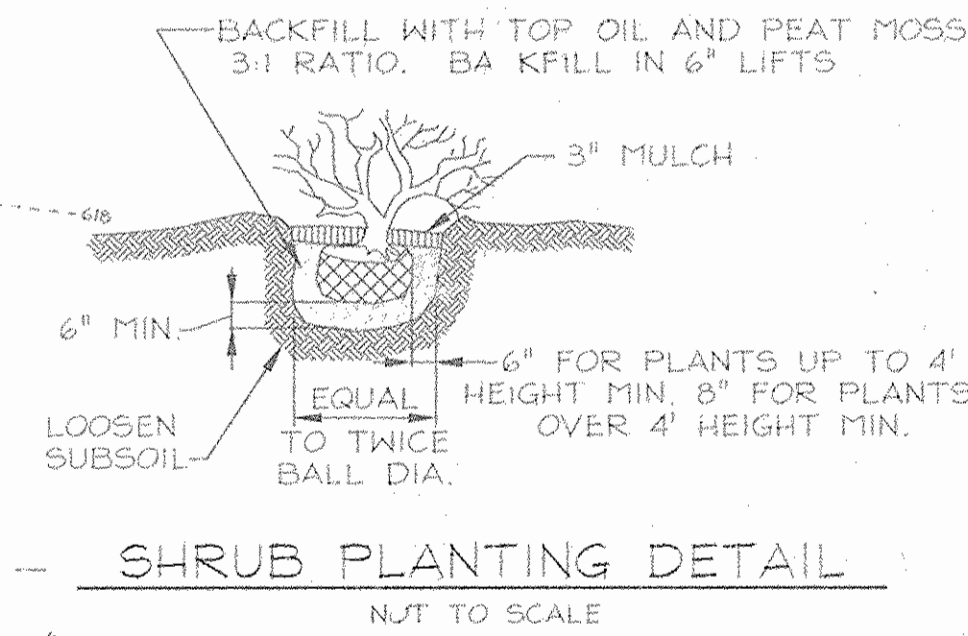
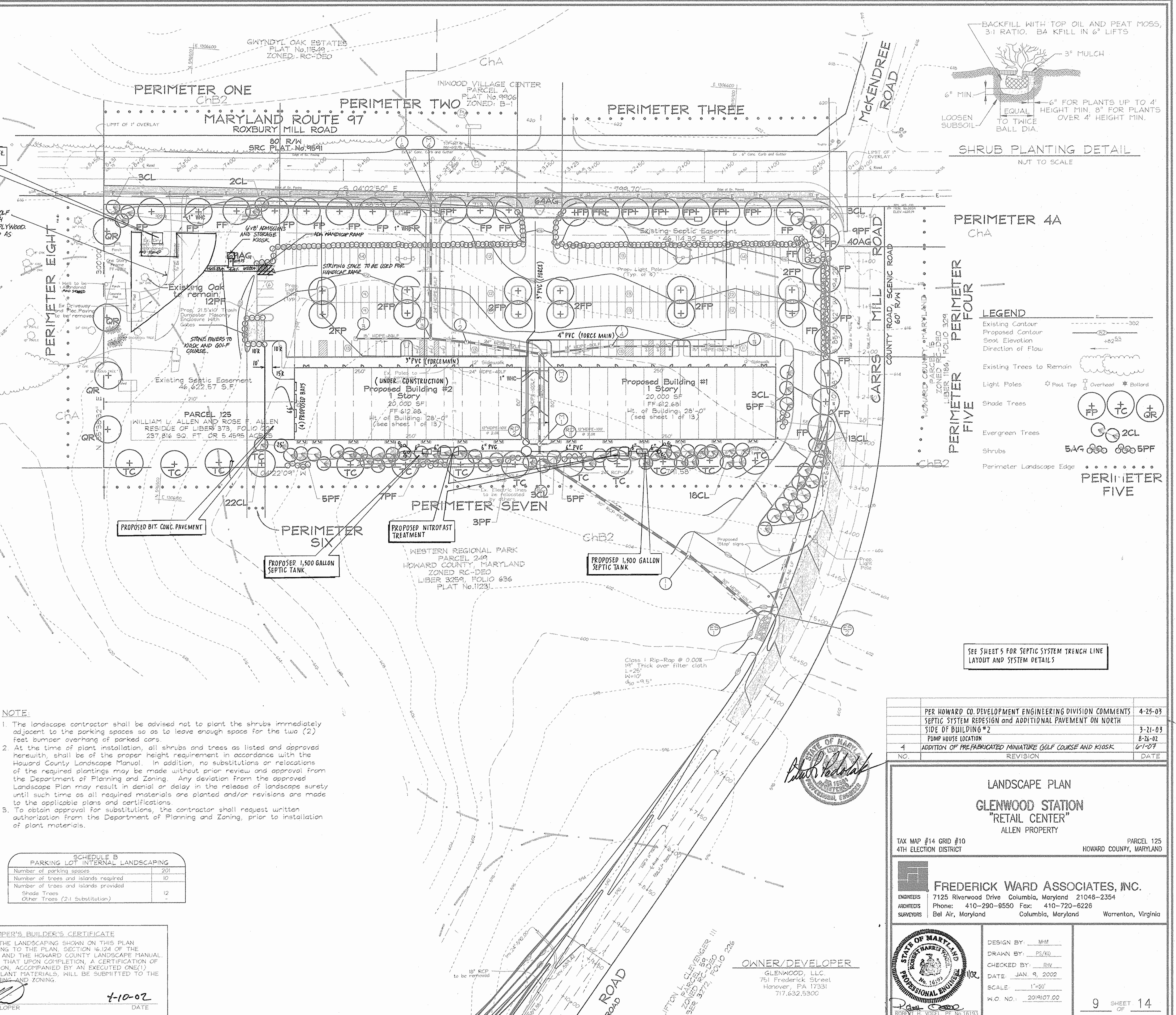
SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
Number of parking spaces	201
Number of trees and islands required	10
Number of trees and islands provided	12
Shade Trees	
Other Trees (2:1 Substitution)	

**DEVELOPER'S BUILDER'S CERTIFICATE**

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SIGNATURE OF DEVELOPER: *[Signature]* DATE: 4-10-02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 5/6/02  
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 4/5/02  
*[Signature]* DATE: 4/10/02



**LEGEND**

- Existing Contour
- Proposed Contour
- Spot Elevation
- Direction of Flow
- Existing Trees to Remain
- Light Poles
- Shade Trees
- Evergreen Trees
- Shrubs
- Perimeter Landscape Edge

**PERIMETER FIVE**

NO.	REVISION	DATE
1	PER HOWARD CO. DEVELOPMENT ENGINEERING DIVISION COMMENTS	4-25-03
2	SEPTIC SYSTEM REDESIGN AND ADDITIONAL PAVEMENT ON NORTH SIDE OF BUILDING #2	3-21-03
3	PUMP HOUSE LOCATION	8-26-02
4	ADDITION OF PRE-FABRICATED MINIATURE GOLF COURSE AND KIOSK	6-1-07

**LANDSCAPE PLAN**  
**GLENWOOD STATION**  
 "RETAIL CENTER"  
 ALLEN PROPERTY

TAX MAP #14 GRID #10  
 4TH ELECTION DISTRICT

PARCEL 125  
 HOWARD COUNTY, MARYLAND

**FREDERICK WARD ASSOCIATES, INC.**  
 ENGINEERS ARCHITECTS SURVEYORS  
 7125 Riverwood Drive Columbia, Maryland 21046-2354  
 Phone: 410-290-9550 Fax: 410-720-6226  
 Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: *[Signature]*  
 DRAWN BY: *[Signature]*  
 CHECKED BY: *[Signature]*  
 DATE: JAN. 9, 2002  
 SCALE: 1"=50'  
 W.C. NO.: 2010107.00

9 SHEET OF 14



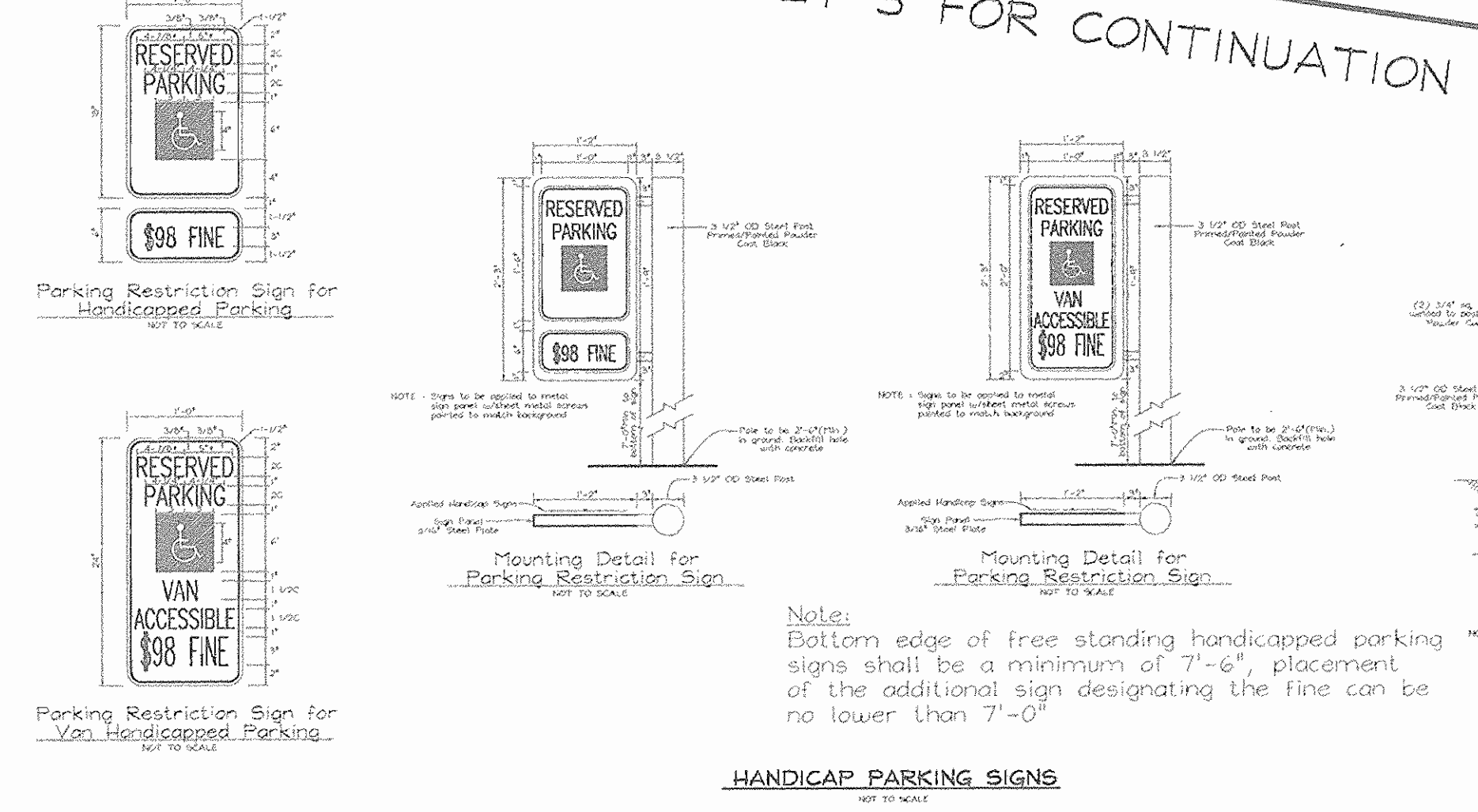
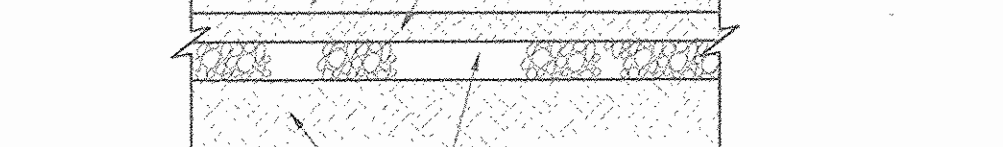
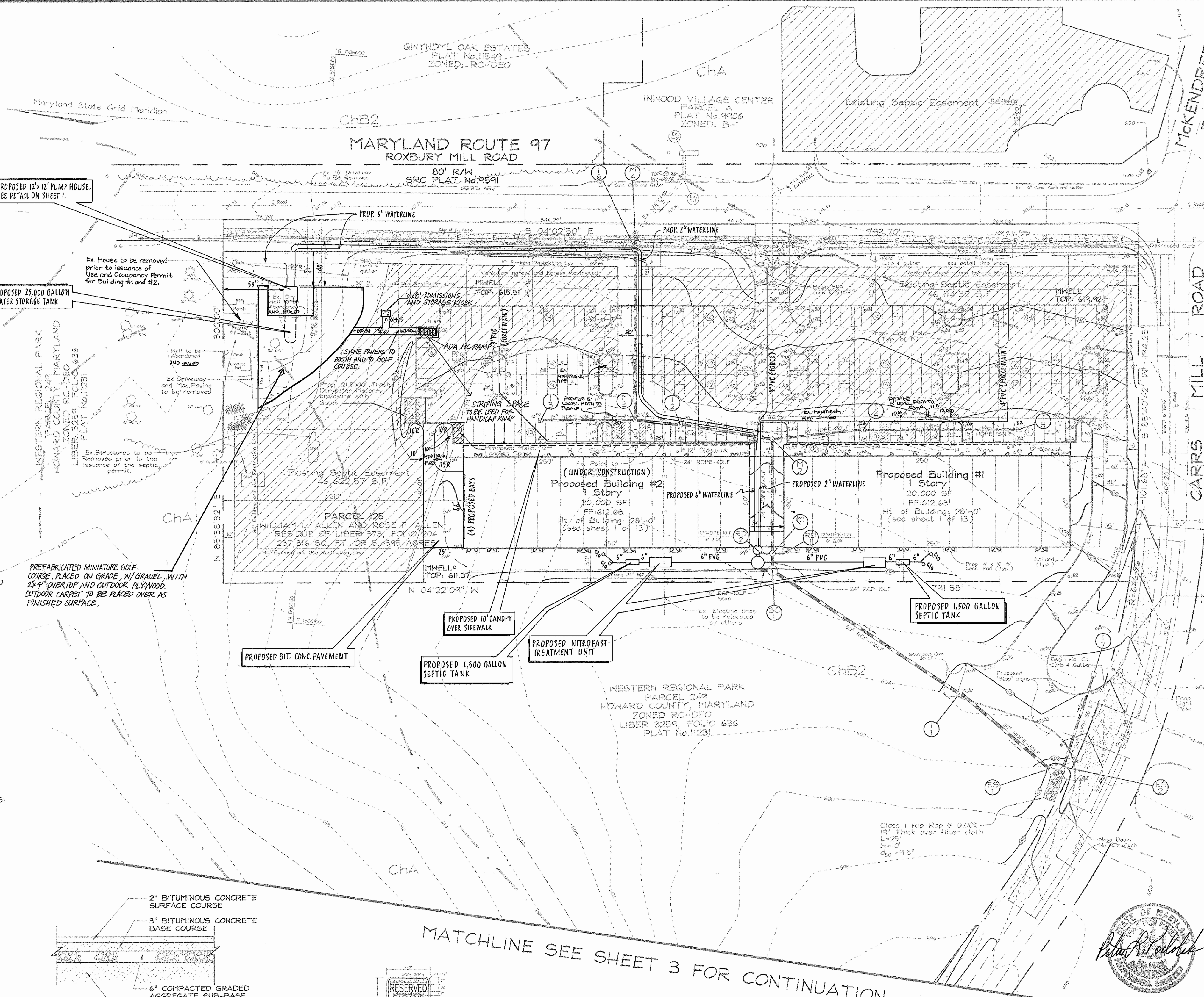
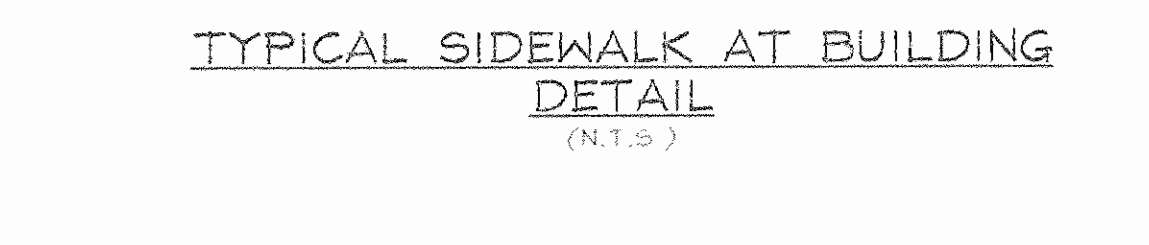
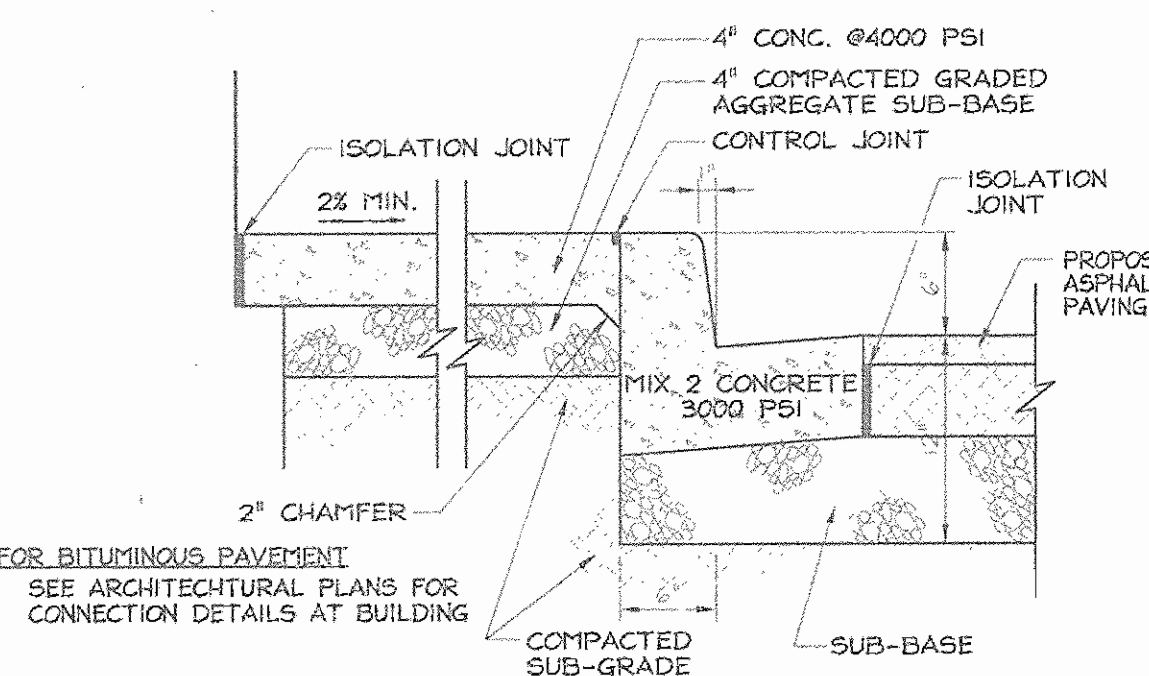
**DEMOLITION NOTES:**

1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE AND VERIFY EXISTING SITE CONDITIONS TO HIS SATISFACTION.
2. CONTRACTOR TO MEET WITH DEVELOPER ON JOB SITE TO IDENTIFY EQUIPMENT, SIGNS AND ITEMS TO BE REMOVED OR RETAINED PRIOR TO THE START OF CONSTRUCTION.
3. CONTRACTOR MUST ADHERE TO ALL SAFETY REGULATIONS GIVEN BY O.S.H.A. AND HOWARD COUNTY.
4. ALL DEMOLISHED MATERIALS TO BE REMOVED TO AN APPROVED LOCATION.
5. ALL UTILITIES AND STRUCTURES WITHIN PUBLIC RIGHTS OF WAY SHALL REMAIN.
6. ALL UTILITIES DAMAGED DURING DEMOLITION AND CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED IN KIND BY THE CONTRACTOR AT HIS OWN EXPENSE.
7. TOPOGRAPHIC BOUNDARY SURVEY INFORMATION SHOWN ON THIS PLAN IS FROM A SURVEY PREPARED BY FREDERICK WARD ASSOC., INC. DATED MARCH 2001.
8. REFER TO DRAWING SHEET 2 OF 14 FOR GENERAL NOTES PERTAINING TO UTILITIES.
9. REFER TO SHEETS 3, 4, 5 AND 6 OF 14 FOR ALL REQUIRED SEDIMENT CONTROL MEASURES.

**UTILITY NOTES:**

UTILITIES AND OTHER OBSTRUCTIONS AS SHOWN HEREON HAVE BEEN LOCATED BY ACTUAL FIELD MEASUREMENT, SUPPLEMENTED BY INFORMATION OBTAINED FROM THE VARIOUS AGENCIES INVOLVED. HOWEVER, WE DO NOT GUARANTEE THE ACCURACY NOR THE COMPLETENESS OF THE INFORMATION RECEIVED. IF CONSTRUCTION ON THIS SITE TAKES PLACE, THE CONTRACTOR MUST VERIFY ALL SUCH INFORMATION TO HIS OWN SATISFACTION AND MUST NOTIFY THE COMPANIES INVOLVED PRIOR TO THE START OF CONSTRUCTION.

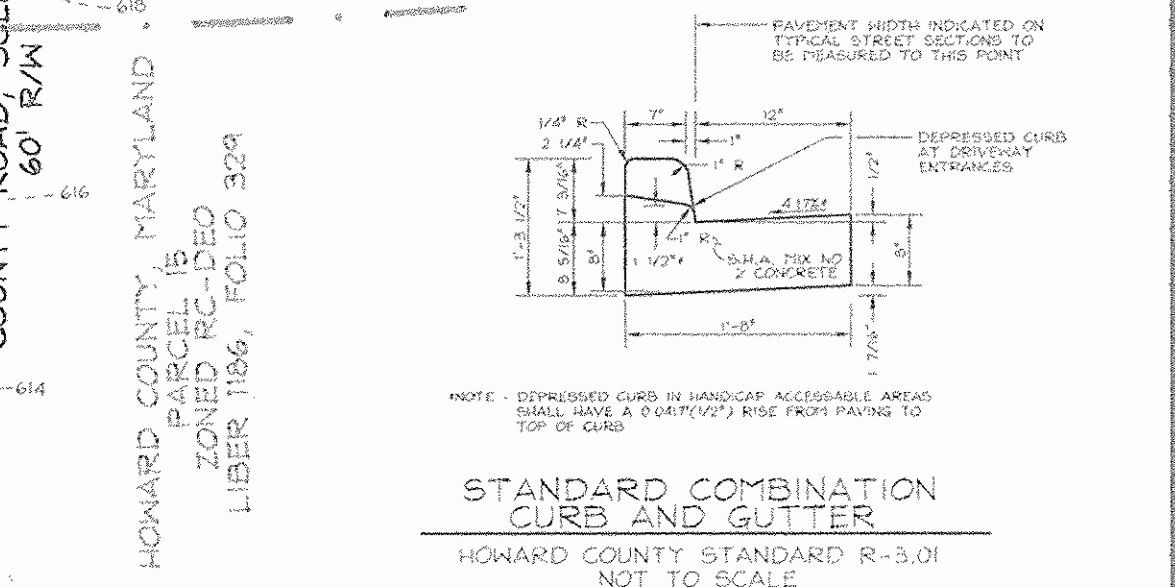
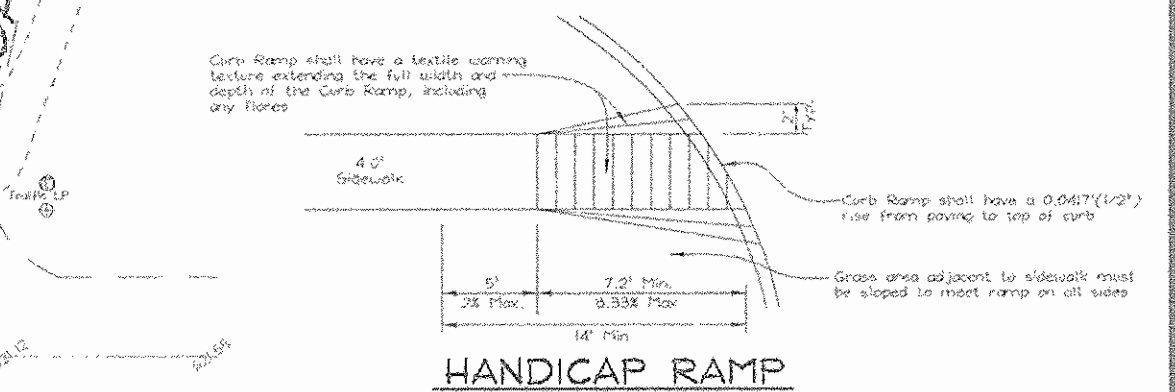
LOCATIONS OF INDIVIDUAL ELECTRIC, TELEPHONE, GAS, WATER AND SANITARY SEWER SERVICE CONNECTIONS, AS SHOWN HEREON, ARE UNCERTAIN. THE LOCATIONS OF SAID CONNECTIONS SHOWN ARE BASED ON PROPOSED SITE PLANS OR AN ESTIMATION OF POSSIBLE LOCATION. SHOULD EXCAVATION BECOME NECESSARY FOR MAINTENANCE OR REPAIR OF THESE LINES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCURATELY DETERMINE THE LOCATION OF THESE LINES BEFORE COMMENCING WORK.



APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DATE: 5/16/02  
DATE: 6/5/02  
DATE: 6/10/02



**SEE SHEET 5 FOR SEPTIC SYSTEM TRENCH LINE LAYOUT AND SYSTEM DETAILS.**

**STREET LIGHT NOTES:**

250 WATT HIGH PRESSURE SODIUM VAPOR COBRA (PENDENT MOUNT)  
30' GALVANIZED STEEL POLE - 12' ARM  
2' TO 4' BEHIND FACE OF CURB  
(NO STREET TREES TO BE PLACED WITHIN 20' OF STREET LIGHTS)

**GENERAL NOTES FOR GRADING:**

1. COMPACTION IN BUILDING AND PAVEMENT AREAS TO BE AT 95% AND COMPACTION IN LANDSCAPING AREAS TO BE AT 90%, TO MEET ASTM D-1557 REQUIREMENTS.
2. IT IS RECOMMENDED THAT A GEOTECHNICAL ENGINEER BE RETAINED TO MONITOR EARTHWORK ACTIVITIES TO MAKE APPROPRIATE RECOMMENDATIONS AS NECESSARY.

NO.	REVISION	DATE
4	ADDITION OF PREFABRICATED MINIATURE GOLF COURSE AND KIOSK	6-1-07
	PER HOWARD CO. DEVELOPMENT ENGINEERING DIVISION COMMENTS	4-25-09
	SEPTIC SYSTEM REDESIGN AND ADDITIONAL PAVEMENT ON NORTH SIDE OF BUILDING #2	3-21-09
	REVISE PUMP HOUSE LOCATION, SHOW STORAGE TANK, WATERLINE, AND CANDPY	8-26-02

**SITE DEVELOPMENT PLAN**  
**GLENWOOD STATION "RETAIL CENTER"**  
ALLEN PROPERTY

TAX MAP #14 GRID #10  
4TH ELECTION DISTRICT

PARCEL 125  
HOWARD COUNTY, MARYLAND

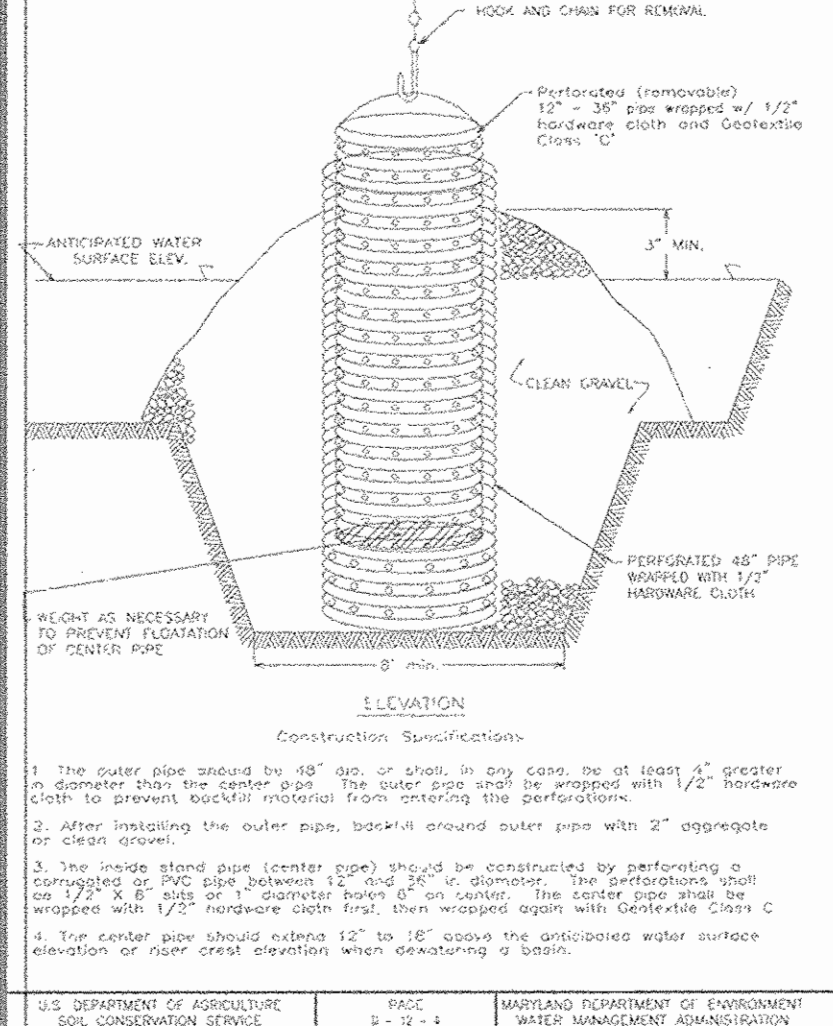
**FREDERICK WARD ASSOCIATES, INC.**  
ENGINEERS ARCHITECTS SURVEYORS  
7125 Riverwood Drive Columbia, Maryland 21046-2354  
Phone: 410-290-9550 Fax: 410-720-6226  
Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

**GLENWOOD, LLC.**  
751 Frederick Street  
Hanover, PA 17331  
717-632-5300

DESIGN BY: PS  
DRAWN BY: PS/KG  
CHECKED BY: RMV  
DATE: JAN 9, 2002  
SCALE: 1"=50'  
N.O. NO.: 2019107.00

2 SHEET OF 14

DETAIL 26A - REMOVABLE PUMPING STATION



1. The water table should be 48" or more above the 12" diameter riser pipe. The riser pipe shall be wrapped with 1/2" black poly to prevent moisture ingress from exterior. The riser pipe shall be wrapped with 1/2" black poly to prevent moisture ingress from exterior. The riser pipe shall be wrapped with 1/2" black poly to prevent moisture ingress from exterior.

2. After installing the riser pipe, install around riser pipe with 3" aggregate or clean gravel.

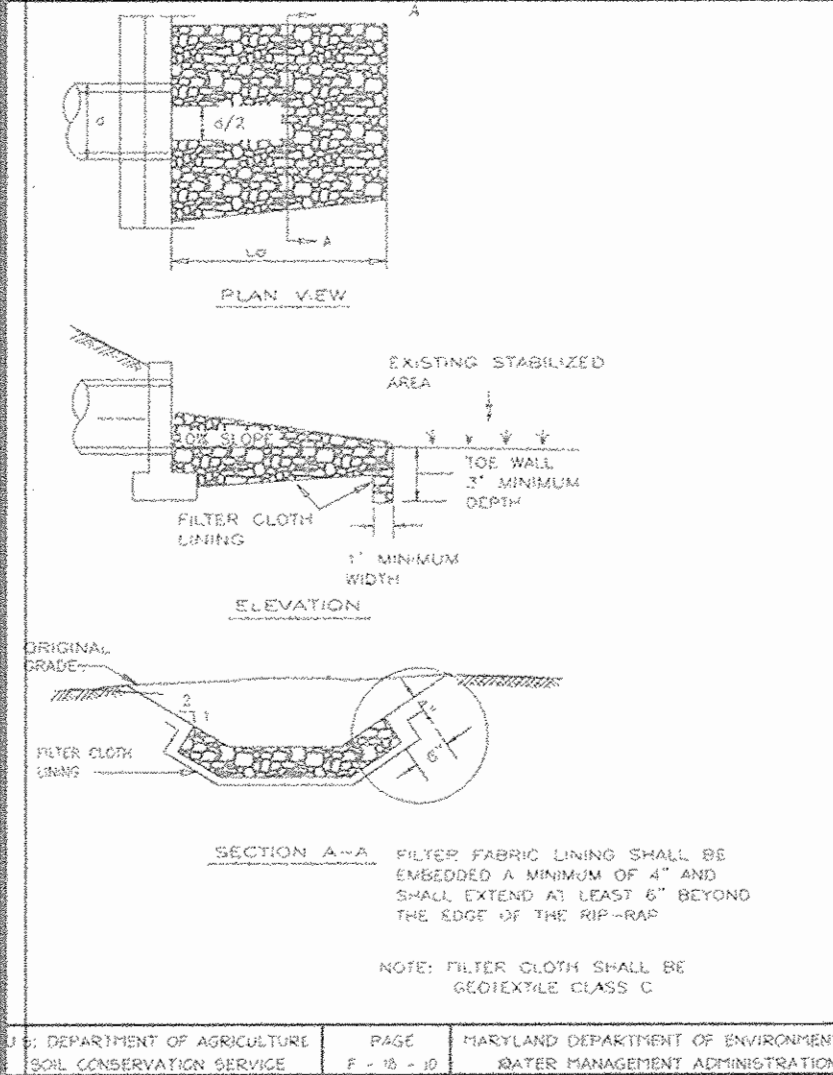
3. The inside stand pipe (center pipe) should be constructed by perforating a 1/2" diameter riser pipe with 1/2" holes spaced every 12" along its length. The center pipe shall be wrapped with 1/2" black poly to prevent moisture ingress from exterior.

4. For center pipe should extend 12" to 18" above the anticipated water surface elevation at any given time when operating a pump.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 2 OF 2

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 27 - ROCK OUTLET PROTECTION III

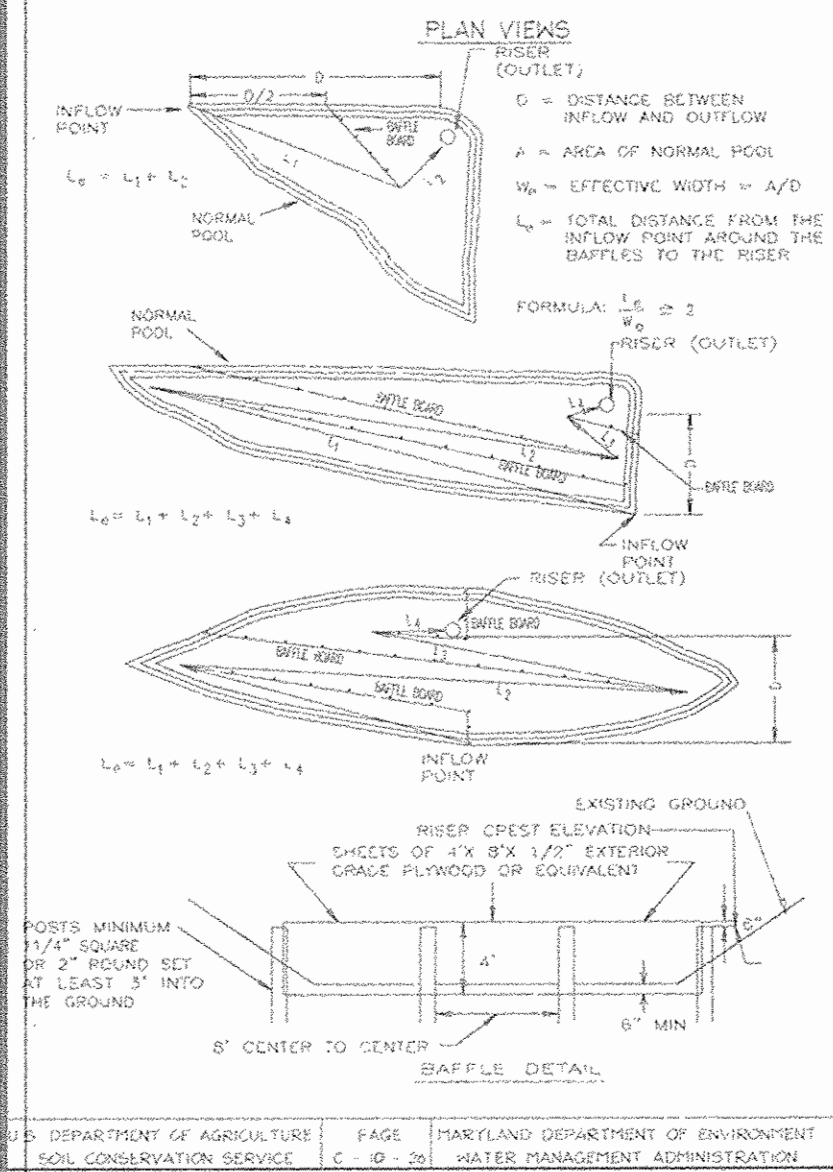


NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 2 OF 2

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 18 - SEDIMENT BASIN BAFFLES



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 2 OF 2

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

HOWARD COUNTY HEALTH DEPARTMENT

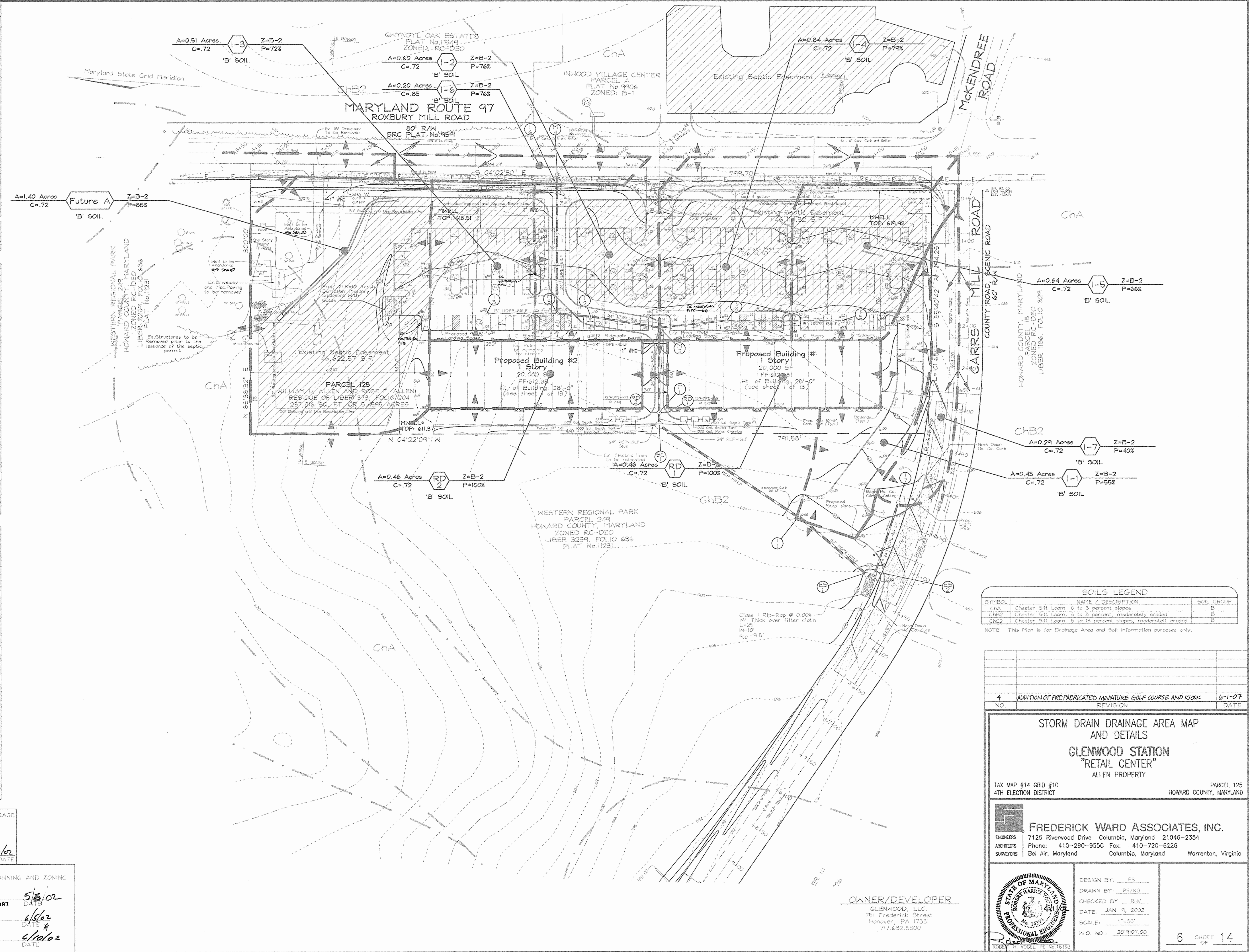
*Ryan Brown* COUNTY HEALTH OFFICER DATE *1/30/02*

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*John Drummond* CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE *5/3/02*

*Walt Shulman* CHIEF, DIVISION OF LAND DEVELOPMENT DATE *6/5/02*

*Paul R. Smith* DIRECTOR DATE *6/10/02*



SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
ChA	Chester Silt Loom, 0 to 3 percent slopes	B
ChB2	Chester Silt Loom, 3 to 8 percent, moderately eroded	B
ChK2	Chester Silt Loom, 8 to 15 percent slopes, moderately eroded	B

NOTE: This Plan is for Drainage Area and Soil information purposes only.

NO.	REVISION	DATE
1	ADDITION OF PRE-FABRICATED MINIATURE GOLF COURSE AND KIOSK	6-1-07

STORM DRAIN DRAINAGE AREA MAP AND DETAILS  
**GLENWOOD STATION**  
**"RETAIL CENTER"**  
 ALLEN PROPERTY

TAX MAP #14 GRID #10 PARCEL 125  
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**FREDERICK WARD ASSOCIATES, INC.**  
 ENGINEERS 7125 Riverwood Drive Columbia, Maryland 21046-2354  
 ARCHITECTS Phone: 410-290-9550 Fax: 410-720-6226  
 SURVEYORS Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: PS  
 DRAWN BY: PS/KO  
 CHECKED BY: RHV  
 DATE: JAN. 9, 2002  
 SCALE: 1"=50'  
 W.O. NO.: 2019107.00

6 SHEET OF 14