

**CONSTRUCTION NOTES**

- No sediment and erosion control devices may be removed without prior approval from the Howard County Inspector.
- Stabilize any disturbed area as soon as possible by permanent or temporary means.
- All temporary stock piles and excess material shall be removed to an approved spoil site. All borrow material shall be obtained from an approved site.
- It shall be the responsibility of the contractor or subcontractor to notify the engineer of any deviation to these plans prior to any change being made. Any change in these plans without the written authorization for said change from the engineer shall be the responsibility of the contractor or subcontractor.
- Utilities shown on these plans are in accordance with the best information available for the contractor. The contractor shall be responsible for locating and protecting all existing services and mains (public or private). The contractor shall obtain the services of a private utility locator to locate all existing private services and mains. The owner and engineer assume no responsibility for accuracy or completeness of the information shown. Existing mains and services shall be carefully protected and any damage to them caused by the work shall be immediately repaired to the satisfaction of the engineer by the contractor at the contractor's expense, using materials of the kinds damaged.
- The contractor shall call "MISS UTILITY", 1-800-257-7777, a minimum of 48 hours in advance of any excavation, boring, and/or digging to determine the location of underground utilities.
- The contractor shall grade all areas within the area of construction and shall warp paving as necessary to insure positive drainage.
- The Contractor shall be responsible for coordination of his construction with the construction by other contractors and subcontractors.
- All soil erosion control measures shall be in accordance with the "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL".
- Failure to specifically mention items which would normally be required to complete the work and develop this site in accordance with the approved plans, shall not relieve the contractor from performing such work. This work shall be part of the contractor's base bid.

# SITE DEVELOPMENT PLAN

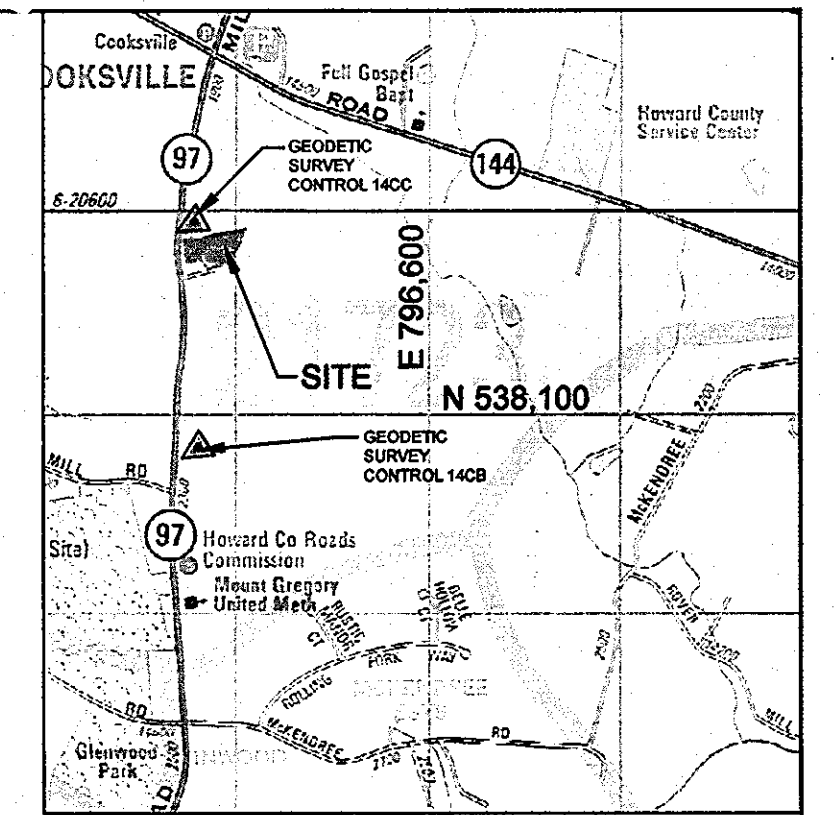
## FOR

# HIGHS @ GLENWOOD +

# GLENWOOD FARM & GARDEN STORE

## 4th ELECTION DISTRICT

# HOWARD COUNTY, MARYLAND



**VICINITY MAP**  
SCALE: 1" = 2000'  
HO. CO. MAP 4692, GRID G10  
ADC PERMIT USE # 21003176

**GENERAL NOTES**  
**NEW SITE DEVELOPMENT PLAN**

- The subject property is zoned B-R per the February 2, 2004 Comprehensive Zoning Plan and the Comp Life Zoning Amendments effective July 28, 2006.
- There are no wetlands on site per Messick & Associates Certification dated January 12, 2010. There are no streams nor forest conservation easements within the boundary of the site.
- This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and the Landscape Manual.
- Financial Surety for the required landscaping has been posted as part of the DPW developer's agreement in the amount of \$32,840 for 63 shade trees, 49 evergreen trees, and 213 shrubs.
- Wolver WP-10-138 to waive Section 16.1202 of the Howard County Code was approved on April 22, 2010. The waiver allows the forest conservation not tract area to be based on the limit of disturbance instead of the total parcel area (13.90 acres). The waiver is approved subject to the following conditions:
  - The limit of disturbance for this project is restricted to the area shown on the Waiver Partition Plan and associated Site Development Plan (SDP-10-054).
  - Further improvements must satisfy the Forest Conservation requirements applicable at that time.
  - Payment of a Fee-in-lieu for Forest Conservation in the amount of \$17,842.00. The fee must be paid with this SDP-10-054.
- Therefore, Forest Conservation obligation has been fulfilled by the payment of a fee-in-lieu in the amount of \$17,842 for 0.54 acres of reforestation. Any improvement proposed beyond the limits of disturbance shown on this SDP will require compliance with the Forest Conservation Act in effect at that time.
- All construction shall be in accordance with the latest standards and specifications of Howard County Code and the Landscape Manual.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
- Traffic control devices, markings and signing shall be in accordance with the latest edition of the Maryland Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
- All plan dimensions are to face of curb unless otherwise noted.
- The existing topography is taken from a survey with two foot contour intervals prepared by Potomac Aerial Surveys dated 1/25/2008 and supplemented by Messick and Associates.
- The coordinates shown hereon are based upon the Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System. Howard County Monument Nos. 14CC & 14CB were used in this project.
- Water is private.
- Sewer is private.
- This is a redevelopment of the existing lease area of the site. Stormwater management will be provided through the use of Environmental Site Design Practices (Bio-swale, micro-bioretentation, and enhance filter) as well as infiltration to meet the water quality and quantity requirements. The facilities will be privately owned and maintained by the owner.
- Existing utilities are based on a survey performed by Messick & Associates & record files provided by Howard County.
- There is no floodplain on this site.
- There are no wetlands on this site.
- The traffic study for this project was prepared by Traffic Concepts Inc. dated June 2009 and was approved on April 13, 2010.
- All outdoor lighting shall comply with the requirements of zoning section 134.
- A decision was rendered on rezoning case ZB 946M March 11, 1994. The rezoning recommendation can be found to the left of these General Notes.
- All sign posts used for traffic control signs installed in the State right-of-way shall be mounted on a 2-1/2" galvanized steel, perforated, square tube post (14 gauge) inserted into a 2-1/2" galvanized steel, perforated, square tube sleeve (12 gauge) - 3' long. A colorized steel pole cap shall be mounted on top of each post.
- The Knox box is located on the right of the building, to the right of the entrance 4' to 5' in height and no more than 6' laterally from the door. The box shall be electronically supervised to notify the owner that it is being accessed (integrated with the fire alarm system). NFPA-1 18.2.2.1.
- The existing potable well is to be properly sealed and abandoned by a well driller licensed in the State of Maryland. New wells shall be drilled and approved prior to building permit approval.

**LEGEND**

- EXISTING CONTOUR
- EXISTING CURB & GUTTER
- EXISTING BUILDING
- EXISTING OVERHEAD WIRE
- EXISTING UTILITY POLE
- EXISTING EDGE OF PAVEMENT
- EXISTING FUEL ISLAND
- EXISTING CONCRETE PAD
- EXISTING CANOPY
- EXISTING WATER LINE
- EXISTING SEWER LINE
- PROPERTY LINE
- BUILDING RESTRICTION LINE
- EXISTING EASEMENT
- EXISTING PAVEMENT TO BE REMOVED
- EXISTING MEAN CENTERLINE OF ROAD
- EXISTING TREE
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING GUY WIRE
- EXISTING FENCE
- EXISTING BOLLARD
- ZONING LINE
- SOILS BOUNDARY
- PROPOSED BUILDING
- PROPOSED CANOPY
- PROPOSED CONTOUR
- PROPOSED CURB & GUTTER
- PROPOSED CONCRETE PAD
- PROPOSED FUEL ISLAND
- PROPOSED SIDEWALK
- PROPOSED SPOT SHOT
- PROPOSED SEWER
- PROPOSED WATER
- PROPOSED BOLLARD
- SCE
- STABILIZED CONSTRUCTION ENTRANCE
- SUPER SILT FENCE
- LIMIT OF DISTURBANCE

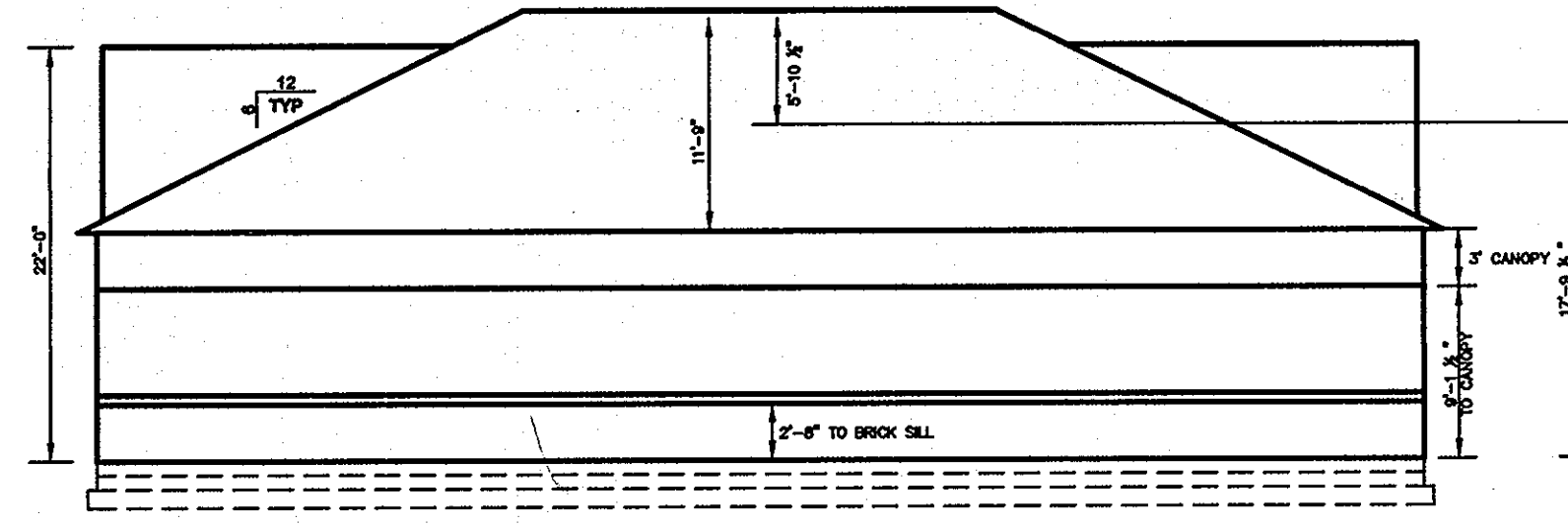
**CONCLUSIONS OF LAW**  
(Per Zoning Board Case No. 1079M)

- The subject property was already rezoned in ZB Case 946M so the Board will not revisit the issues related to Section 117.10.3.b. of the Zoning Regulations because none of the facts related to Section 117.10.3.b. have changed with respect to the subject property. The criteria contained in Section 117.10.3.(a), (c), (d) and (e) would be relevant to the proposed amended PDP development.
  - The Board is required to address whether the proposed additional use, the farm supply store, and the proposed redeveloped gasoline service station and convenience store, meet the criteria of Section 117.10.3. (a), (c), (d) and (e), and does so as follows:
    - The Board concludes that the use of the proposed farm supply store building and the proposed gas pumps and convenience store at the proposed locations on the proposed amended PDP will accomplish the purposes of the BR District. These proposed uses will support the agricultural industry, serve the needs of the rural residential and farming communities, and provide opportunity for a combination of business uses not otherwise permitted in the rural areas of the County. The Board also concludes that there was sufficient evidence presented for the Board to conclude that the proposed uses will be compatible with neighboring land uses, and they so conclude.
    - The Board concludes that the road providing access to the subject property, MD 97, continues to be appropriate for serving the business-related traffic generated by the additional uses proposed subject to addressing the State Highway Administration's comments regarding access.
    - The Board concludes that the issue of the adequacy of sight distance at the proposed point of access must be addressed by the Petitioner to SHA at the site development plan stage of development; and
    - The Board concludes that the submitted landscape plan indicates that the screening along the subject property's boundaries will provide adequate buffering from adjacent properties in accordance with the Howard County Landscape Manual.
- For the foregoing reasons, the Zoning Board of Howard County, Maryland, on this 1st day of December, 2009 hereby GRANTS the Petitioner's request for approval of his proposed amended Preliminary Development Plan for the BR-zoned subject property to construct and use the gasoline service station, convenience store and farm supply store as proposed on the PDP subject to meeting the SHA's comments as noted in this decision.

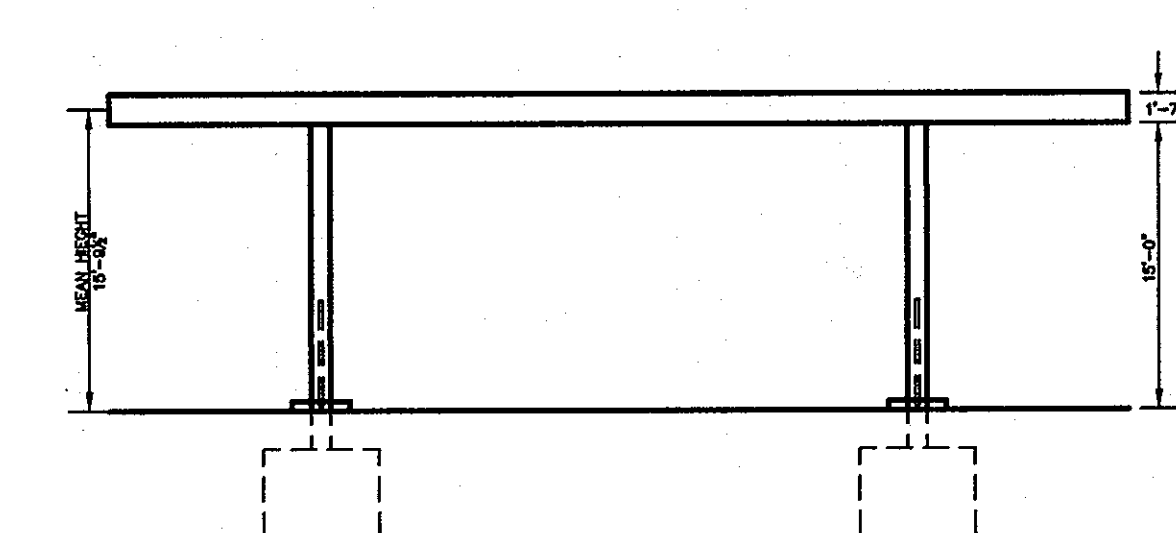
**CASE NO. ZB 1079M**

DPZ RECOMMENDATION -- For the reasons noted above, the Department of Planning and Zoning recommends that the request for an amended Preliminary Development Plan (the "Amended PDP") for a gasoline service station, a 3,500 square foot convenience store and a 12,228 square foot farm supply store as described in the petition and as depicted on the submitted Amended Preliminary Development Plan dated July, 2008 be APPROVED subject to the following condition:

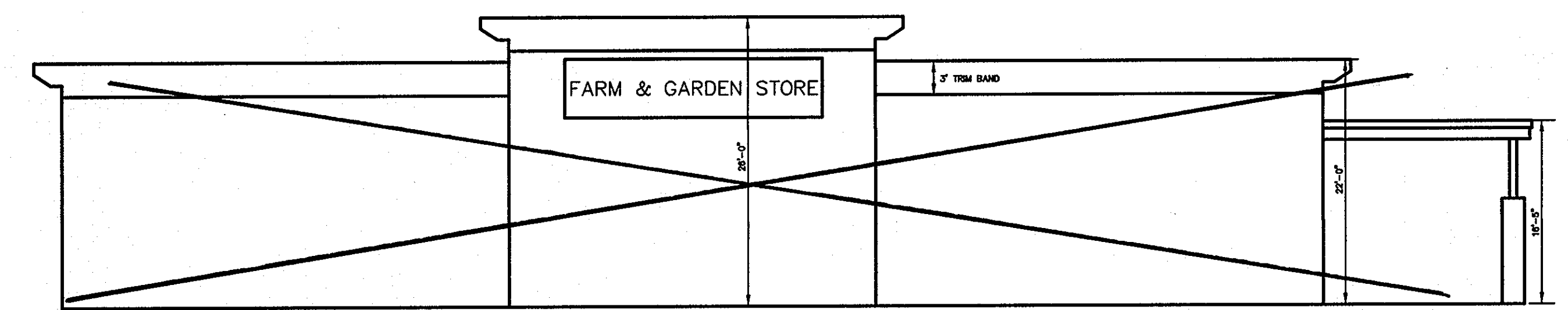
- The petitioner must comply with all agency comments.



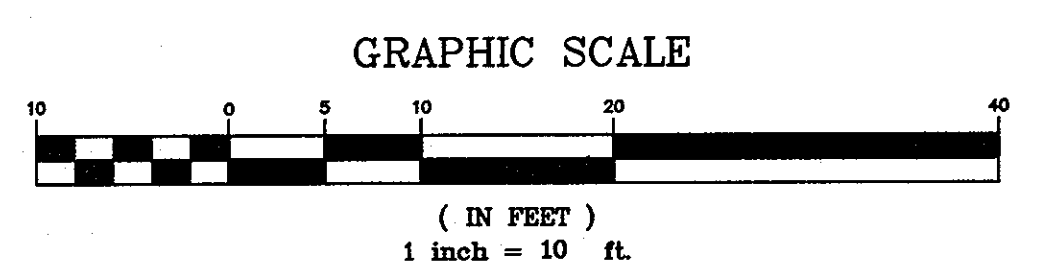
**HIGH'S STORE BUILDING ELEVATION**  
SCALE: 1" = 10'



**FUEL PUMP CANOPY ELEVATION**  
SCALE: 1" = 10'



**FARM & GARDEN STORE BUILDING ELEVATION**  
SCALE: 1" = 10'



**HOWARD COUNTY GEODETIC COORDINATE TABLE**

GEODETIC SURVEY CONTROL No.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	ELLIPTICOIDAL HT.	SCALE FACTOR	CONVERGENCE
14CB	182285.0702 mta	398200.1146 mta	180.1601 mta	39° 18' 31.821" N	77° 01' 15.129" W	148.328 mta	0.9999783565	00° 00' 47.2"
14CC	182885.1964 mta	398227.4076 mta	183.758 mta	39° 18' 50.409" N	77° 01' 13.995" W	151.946 mta	0.9999790374	00° 00' 48.4"

**PARKING CALCULATION**  
(PER SECTION 133 OF THE ZONING REGULATIONS)

CONVENIENCE STORE WITH FUEL PUMPS  
CONVENIENCE STORES W/ GAS SERVICE STATION: (2 SPACES PER 1,000 S.F. OF G.F.A.)  
GROSS FLOOR AREA: 3,500 SQUARE FEET  
SPACES REQUIRED: = [3,500 S.F. X (2 SPACES/1000 S.F.)] = 7.00 SPACES

GASOLINE SERVICE STATION W/O SERVICE BAYS OR CAR WASH: (3 SPACES)  
SPACES REQUIRED: 3 SPACES

TOTAL SPACES REQUIRED = 7 SPACES + 3 SPACES = 10 SPACES

TOTAL SPACES PROVIDED = 21 SPACES (INCLUDES ADA ACCESSIBLE SPACES)

**FARM & GARDEN STORE**  
CONVENIENCE STORES W/ GAS SERVICE STATION: (2 SPACES PER 1,000 S.F. OF G.F.A.)  
GROSS FLOOR AREA: 12,228 SQUARE FEET  
SPACES REQUIRED: = [12,228 S.F. X (2 SPACES/1000 S.F.)] = 24.45 SPACES USE 24 SPACES

BIOPHY-AREA: 1,000 SQUARE FEET  
SPACES REQUIRED: = [1,000 S.F. X (1 SPACES/1000 S.F.)] = 1.00 SPACES USE 2 SPACES

OUTDOOR DISPLAY: (1 SPACES PER 1,000 S.F.)  
BIOPHY-AREA: 1,000 SQUARE FEET  
SPACES REQUIRED: = [1,000 S.F. X (1 SPACES/1000 S.F.)] = 1.00 SPACES USE 2 SPACES

TOTAL SPACES REQUIRED: 24 SPACES + 2 SPACES + 2 SPACES = 28 SPACES  
TOTAL SPACES PROVIDED: 21 SPACES (INCLUDES ADA ACCESSIBLE SPACES)

**SITE ANALYSIS DATA CHART**

TOTAL PROJECT AREA: 13.90 Ac. 605,484 Sq.Ft. (Parcel 256)  
AREA OF PLAN SUBMISSION: 7,169 Ac. 312,282 Sq.Ft. (High's Convenience Store + Farm & Garden Store)  
LIMIT OF DISTURBED AREA: 214,579 Sq. Ft. or 4.93 Ac.  
PRESENT ZONING DESIGNATION: B-R  
PROPOSED USES FOR SITE AND STRUCTURES: High's Convenience Store w/ Fuel Sales + Farm & Garden Store.  
FLOOR SPACE ON EACH LEVEL OF BUILDINGS PER USE: 1 Floor - 3,500 S.F. (HIGH'S STORE)  
1 Floor - 12,228 S.F. (FARM & GARDEN STORE)

MAXIMUM NUMBER OF EMPLOYEES/SHIFT: 2 (HIGH'S STORE) + 0 (FARM & GARDEN STORE)  
NUMBER PARKING SPACES REQUIRED: 10 (HIGH'S STORE) + 0 (FARM & GARDEN STORE)  
NUMBER OF PARKING SPACES PROVIDED ON SITE: 21 (HIGH'S STORE) + 23 (FARM & GARDEN STORE)  
BUILDING COVERAGE OF SITE: 0.00% ACRES AND 0.00% OF GROSS AREA.  
APPLICABLE DPZ FILE REFERENCES: SDP 96-64, ZB 946M, ZB 1079M  
v.080 v.006

NOTE: BASED ON A 7/26/11 INTERPRETATION LETTER BY THE DIVISION OF PUBLIC SERVICE AND ZONING ADMINISTRATION. 8 OR FEWER SEATS WITH THE ASSOCIATED TABLES WILL BE PERMITTED AS AN ACCESSORY USE OF THE PRINCIPAL CONVENIENCE STORE USE.

RECORD DRAWING NOVEMBER 2012

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 4/25/11

CHEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 7/27/11

DIRECTOR: *[Signature]* DATE: 7/27/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

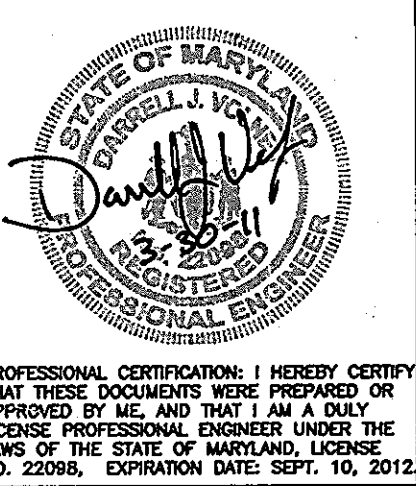
HOWARD COUNTY HEALTH DEPARTMENT: *[Signature]* DATE: 5/24/2011

REV. DATE DESCRIPTION  
3-14-12 CROSSED OUT FARM STORE RENDERING REVISED PARKING CALCULATIONS AND SITE DATA CHART.

**MESSICK & ASSOCIATES**  
CONSULTING ENGINEERS  
PLANNERS & SURVEYORS

2120 RENARD COURT  
ANNAPOLIS, MARYLAND 21401  
PHONE: (410) 266-3212  
FAX: (410) 266-3502

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. 22098, EXPIRATION DATE: SEPT. 10, 2012



OWNER: WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
2125 ROUTE 97  
COOKSVILLE, MD. 21723

DEVELOPER: HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
7477 NEW RIDGE ROAD  
HANOVER, MARYLAND 20794  
410-859-3636

**PERMIT INFORMATION CHART**

SUBDIVISION NAME - COOKSVILLE	SECT./AREA - N/A	PARCEL/LOT - 256
PLAT NO. OR L.P. # - 2457/836	ZONING - B-R	TAX MAP NO. - 4-04
ELECT. DIST. - 5	CENSUS TRACT - 604002	
WATER CODE - PRIVATE	SEWER CODE - PRIVATE	

**ADDRESS CHART**

LOT/PARCEL #	STREET ADDRESS
256 (CURRENT)	2101 ROUTE 97, COOKSVILLE, MD. 21723
256 - BLDG 'A' (NEW)	2091 ROUTE 97, COOKSVILLE, MD. 21723
256 - BLDG 'B' (NEW)	2095 ROUTE 97, COOKSVILLE, MD. 21723

**PROJECT**  
**HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

**TITLE**  
**REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
(PREVIOUS SDP: SDP-06-04)

**TITLE SHEET**  
2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
TAX MAP 14, GRID 5, PARCEL 256, ELECTION DISTRICT NO. 4 LIBER 2457 FOLIO 636  
WATER CONTRACT NO. SEWER CONTRACT NO. DESIGN BY: WAN DRAWN BY: BPO  
HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 1 OF 19

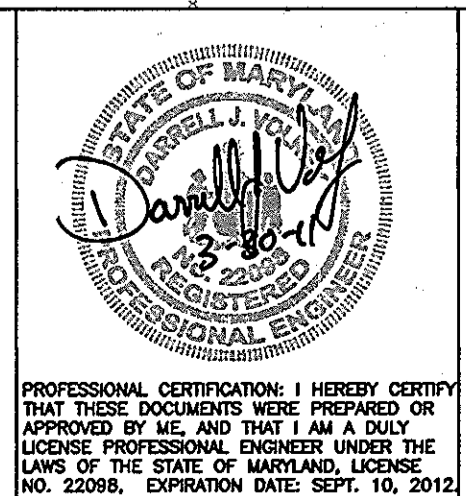


RECORD DRAWING NOVEMBER 2012

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division  
 Date: 4/25/11  
 Chief, Division of Land Development  
 Date: 7/27/11  
 Director  
 Date: 7/27/11  
 Approved: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 County Health Officer  
 Date: 5/24/2011

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 County Health Officer  
 Date: 5/24/2011

**MESSICK & ASSOCIATES\***  
 CONSULTING ENGINEERS  
 PLANNERS & SURVEYORS  
 2120 RENARD COURT  
 ANNAPOLIS, MARYLAND 21401  
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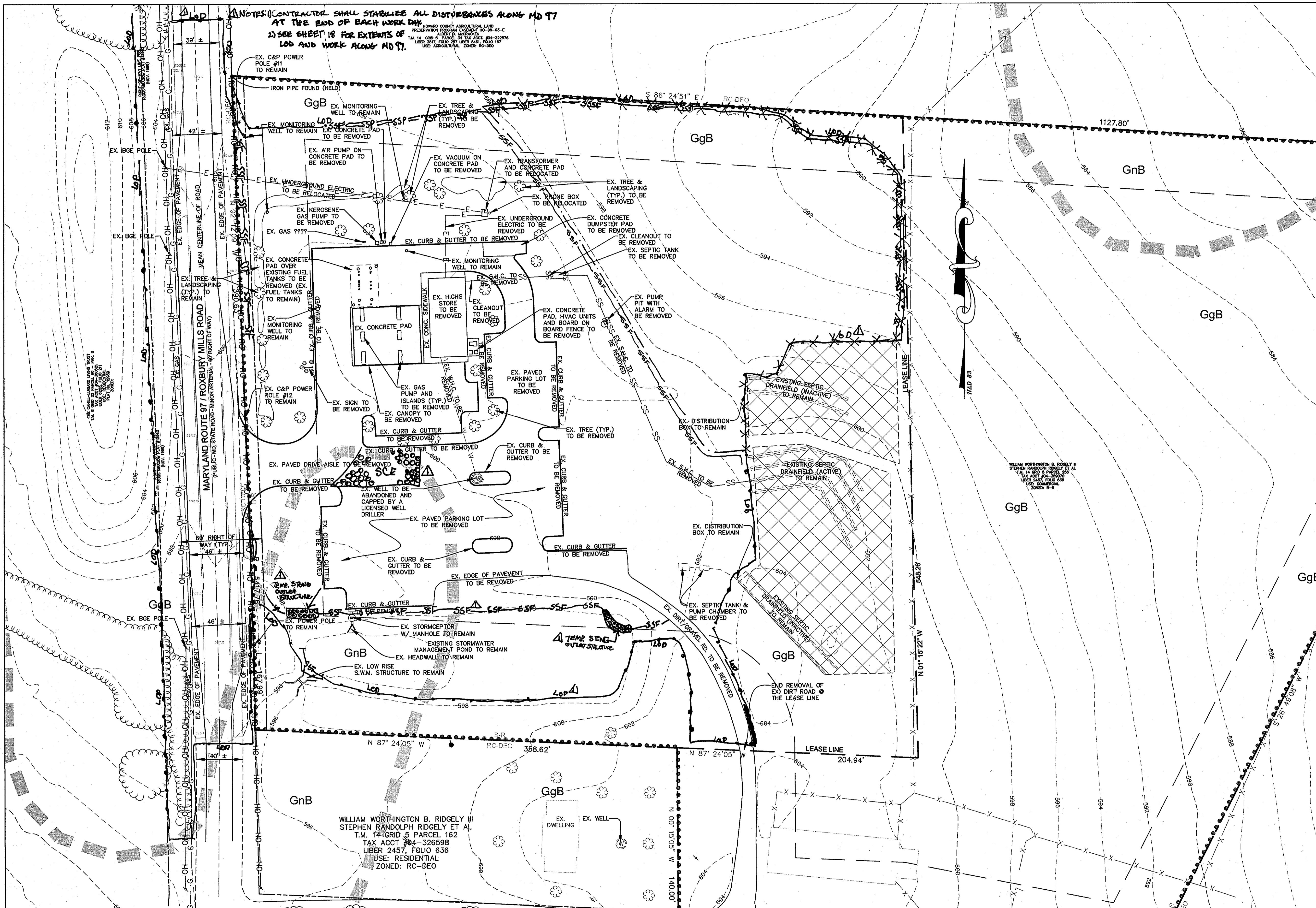
OWNER:  
 WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
 2125 ROUTE 97  
 COOKSVILLE, MD. 21723

DEVELOPER:  
 HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
 7477 NEW RIDGE ROAD  
 HANOVER, MARYLAND 20794  
 410-859-3636

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**HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
 (2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

TITLE  
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**SITE DEVELOPMENT PLAN (SDP-10-054)**  
 (PREVIOUS SDP: SDP-98-64)

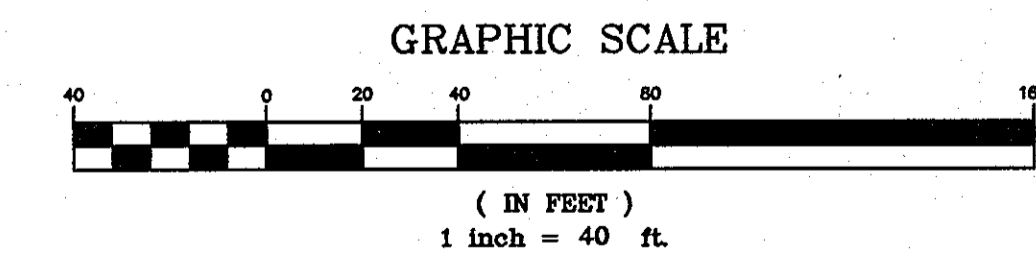
EXISTING CONDITIONS PLAN  
 2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
 TAX MAP 14, GRID 5, PARCEL 256, ELECTION DISTRICT NO. 4 LIBER 2457 FOLIO 636  
 WATER CONTRACT No. SEWER CONTRACT No. DESIGN BY: WAD DRAWN BY: BPO  
 HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 2 OF 19



NOTES: CONTRACTOR SHALL STABILIZE ALL DISTURBANCES ALONG MD 97 AT THE END OF EACH WORK DAY.  
 2) SEE SHEET 18 FOR EXTENTS OF LOD AND WORK ALONG MD 97.

HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM EASEMENT 10-89-03-E  
 T.M. 14 GRID 5 PARCEL 162 TAX ACCT 284-326598 LIBER 2457, FOLIO 636 USE: AGRICULTURAL ZONED: RC-DEO

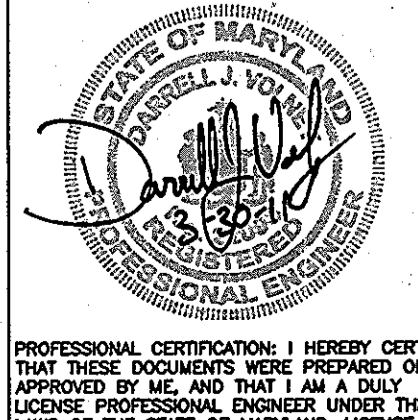
WILLIAM WORTHINGTON B. RIDGELY III  
 STEPHEN RANDOLPH RIDGELY ET AL  
 T.M. 14 GRID 5 PARCEL 162  
 TAX ACCT 284-326598  
 LIBER 2457, FOLIO 636  
 USE: RESIDENTIAL  
 ZONED: B-R



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] DATE 4/27/11  
 [Signature] DATE 7/27/11  
 [Signature] DATE 7/27/11  
 APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 [Signature] DATE 5/14/2011

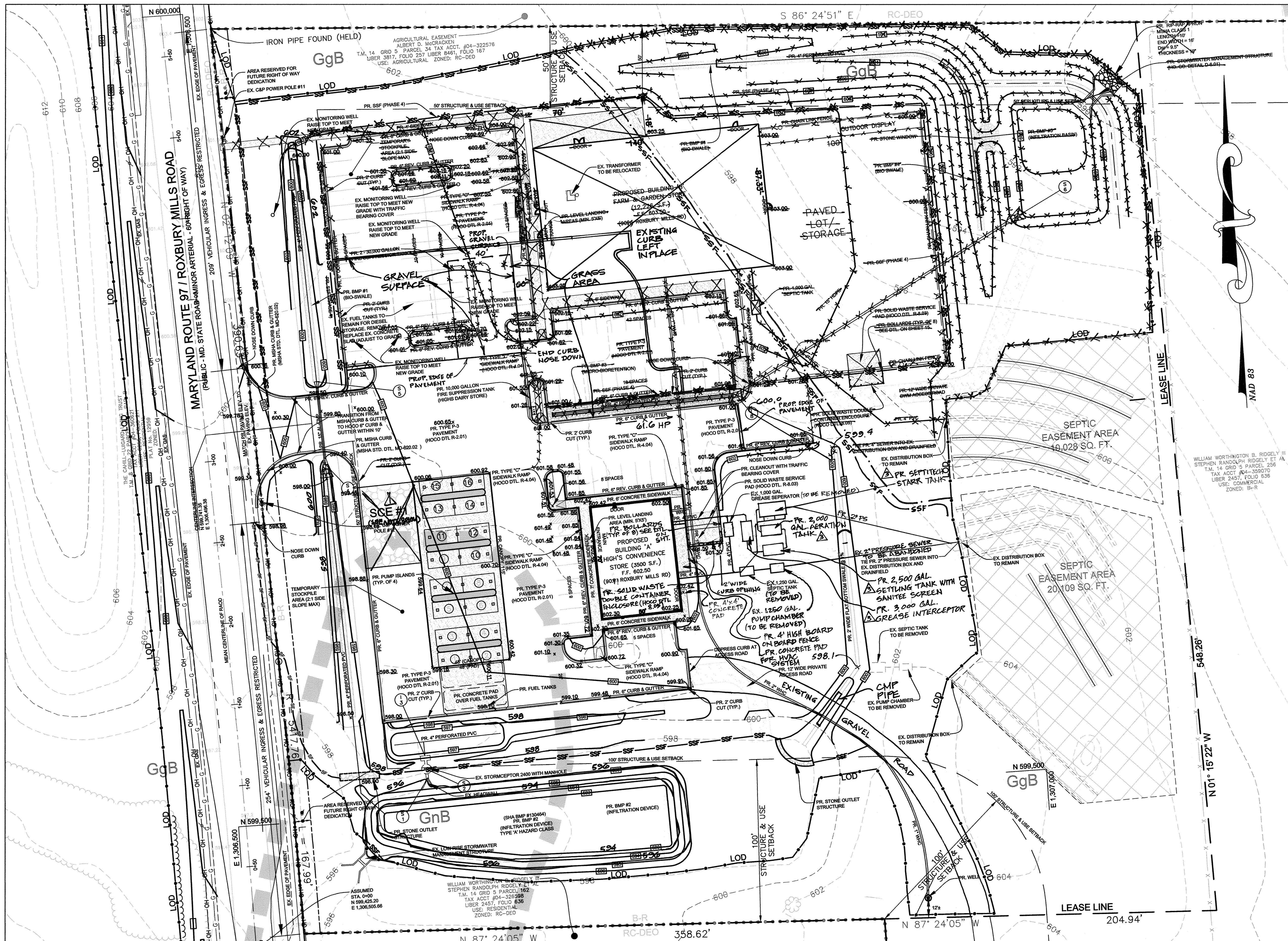
REVISION	DATE	DESCRIPTION
1	12-30-11	ADD LOD AND SEDIMENT CONTROLS (i.e. super 6" H Fence, Temporary Outlet Structures, 6" H Fence, + SCE).
2	3-14-12	REVISED LIMIT OF DISTURBANCE (LOD) AND SUPER SALT FENCE (SSF).

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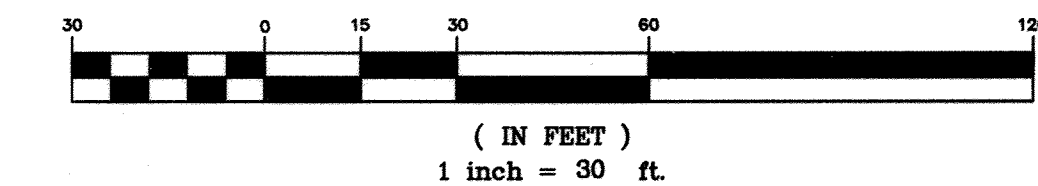
RECORD DRAWING NOVEMBER 2012  
 PROJECT: **HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
 (2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION  
 TITLE: **REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
 (PREVIOUS SDP: SDP-08-64)  
**DEMOLITION PLAN**  
 2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
 TAX MAP 14, GRID 5, PARCEL 256, ELECTION DISTRICT NO. 4 LIBER 2457, FOLIO 636  
 WATER CONTRACT No. SEWER CONTRACT No. DESIGN BY: WAN DRAWN BY: BPO  
 HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 3 OF 19



WORK WITHIN SHA RIGHT OF WAY FOR COMPLETE GRADING AND STABILIZATION REQUIREMENTS, SEE SHEETS 18 AND 19.

HANDICAP ACCESS NOTE: THE MAIN ENTRANCES LOCATED AT THE FRONT OF EACH STORE AND DENOTED AS "MAIN ENTRANCE" ARE ADA COMPLIANT AND SHALL BE UTILIZED BY HANDICAP PATRONS.

**GRAPHIC SCALE**



**DETAIL SCHEDULE**

DETAIL	DETAIL REFERENCE	SHEET REF.
PAVEMENT SECTION (TYPE P-1)	HO.CC. DTL. R-2.01	SEE SHEET 15
4" CONCRETE SIDEWALK SECTION	HO.CC. DTL. R-3.05	SEE SHEET 15
SOLID WASTE SERVICE PAD	HO.CC. DTL. R-8.03	SEE SHEET 15
8" COMBINATION CURB & GUTTER DETAIL	HO.CC. DTL. R-9.01	SEE SHEET 15
REVERSE COMBINATION CURB & GUTTER DETAIL	HO.CC. DTL. R-9.01	SEE SHEET 15
DEPRESSED CURB DETAIL	HO.CC. DTL. R-9.01	SEE SHEET 15
CURB & GUTTER TRANSITION	HO.CC. DTL. R-3.02	SEE SHEET 15
2" WIDE CURB OPENING DETAIL	---	SEE SHEET 15
HVAC SYSTEM ENCLOSURE BLOW UP	---	SEE SHEET 15
SOLID WASTE DOUBLE CONTAINER ENCLOSURE	HO.CC. DTL. R-8.05	SEE SHEET 15
HANDICAP RAMPS (TYPE C)	HO.CC. DTL. R-4.04	SEE SHEET 15
STABILIZED CONSTRUCTION ENTRANCE	SCD DETAIL 24	SEE SHEET 16
SUPER SILT FENCE	SCD DETAIL 33	SEE SHEET 16
1,000 # (1,250 GALLON) GREASE TRAP	---	SEE SHEET 7
1,000 GALLON PUMP PIT	---	SEE SHEET 7
DISTRIBUTION BOX	---	SEE SHEET 7
BOLLARD	---	SEE SHEET 15

DEVELOPERS CERTIFICATE:  
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT & EROSION CONTROL, 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 & EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Brian Darnell* 3-30-11  
DEVELOPER: BRIAN DARNELL (HIGHS OF BALT. INC.) DATE

ENGINEERS CERTIFICATE:  
I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Darrell U. Volney* 3-30-11  
ENGINEER: DARRELL U. VOLNEY (MESSICK & ASSOC.) DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*John K. Robertson* 4/6/11  
HOWARD SOIL CONSERVATION DISTRICT DATE

RECORD DRAWING NOVEMBER 2012

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE: 4/25/11  
DATE: 7/23/11  
DATE: 7/23/11  
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
DATE: 5/24/2011

REVISION	DATE	DESCRIPTION
1	12-30-11	CROSSED OUT GRADING, PARKING, STORM DRAIN, STORMWATER MANAGEMENT, WATER, SEPTIC, AND BUILDING ASSOCIATED WITH THE FARM STORE. REVISED LIMIT OF DISTURBANCE AND SUPER SILT FENCE.
2	3-14-12	CROSSED OUT GRADING, PARKING, STORM DRAIN, STORMWATER MANAGEMENT, WATER, SEPTIC, AND BUILDING ASSOCIATED WITH THE FARM STORE. REVISED LIMIT OF DISTURBANCE AND SUPER SILT FENCE.
3	10-30-18	REVISED SEPTIC LAYOUT FOR HIGHS STORE

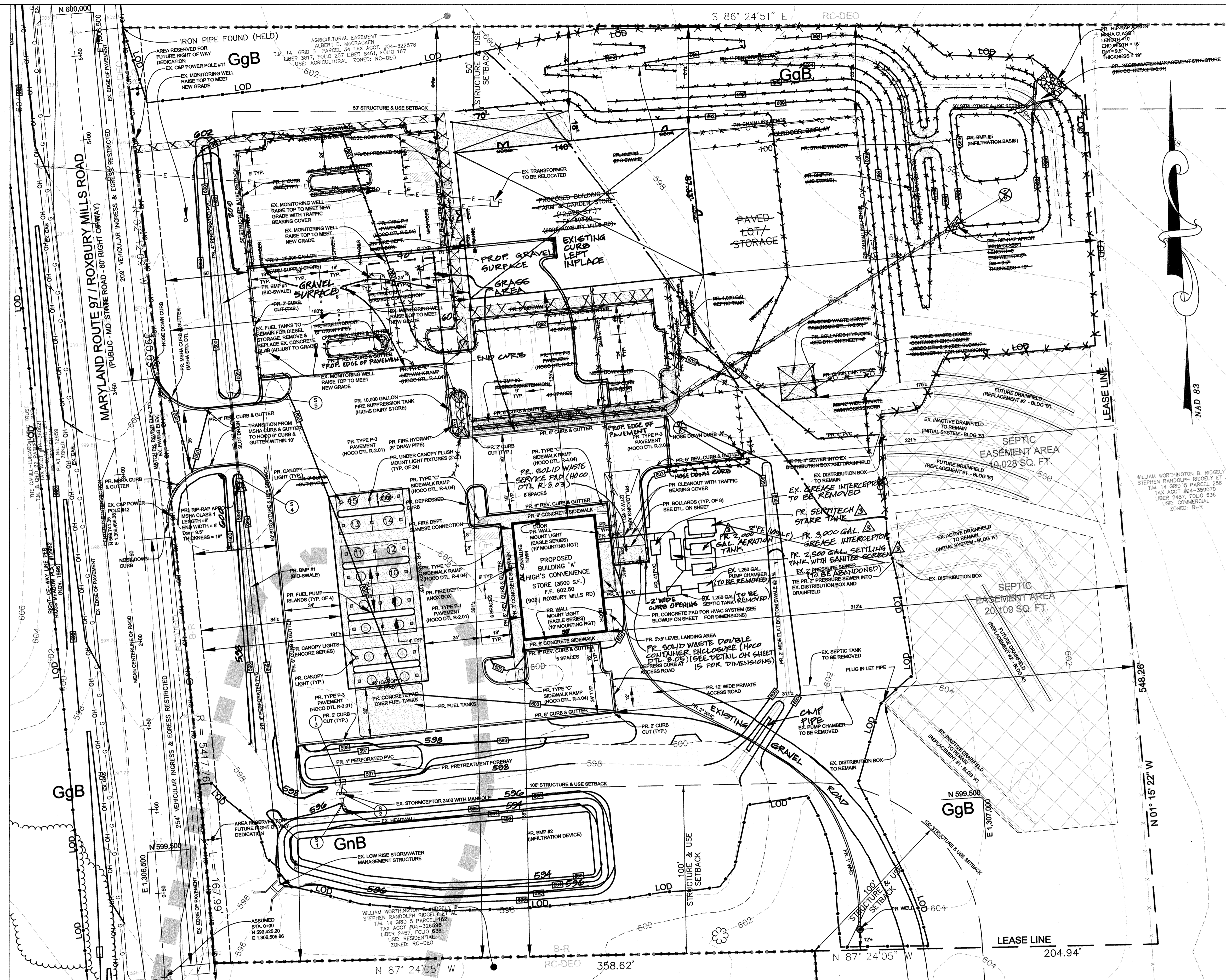
SCB NOTES: 1) FOR LOCATION OF SCE, SEE SHEET 3.  
2) CONTRACTOR SHALL STABILIZE ALL DISTURBANCES ALONG MD 97 AT THE END OF EACH WORK DAY.  
3) SEE SHEET 18 OF EXTENTS OF LOD AND WORK ALONG MD 97.

**MESSICK & ASSOCIATES\***  
CONSULTING ENGINEERS  
PLANNERS & SURVEYORS  
2120 RENARD COURT  
ANNAPOLIS, MARYLAND 21401  
PHONE: (410) 266-3212  
FAX: (410) 266-3502

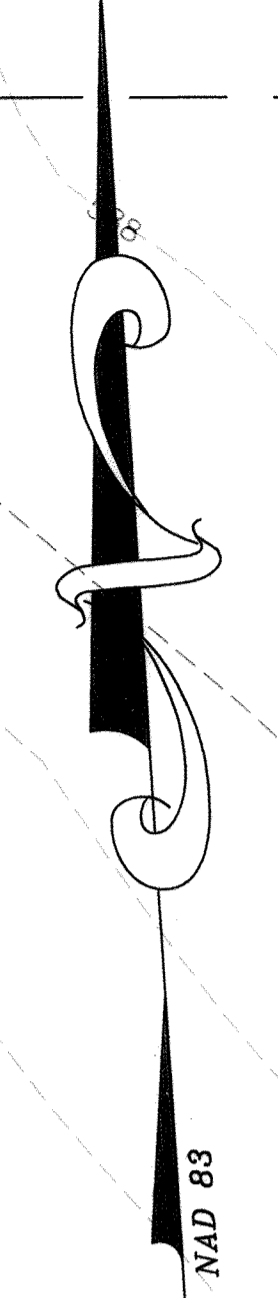
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 22098, EXPIRATION DATE: SEPT. 10, 2012

OWNER: WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
2125 ROUTE 97  
COOKSVILLE, MD. 21723  
DEVELOPER: HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
7477 NEW RIDGE ROAD  
HANOVER, MARYLAND 20794  
410-859-3636

PROJECT: **HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION  
TITLE: **REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
(PREVIOUS SDP: SDP-06-04)  
**GRADING, SEDIMENT & EROSION CONTROL PLAN**  
2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
TAX MAP 14, GRID 5, PARCEL 256, ELECTION DISTRICT NO. 4 LIBER 2457 FOLIO 636  
WATER CONTRACT NO. DESIGN CONTRACT NO. DRAWN BY: WAN  
HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 4 OF 19



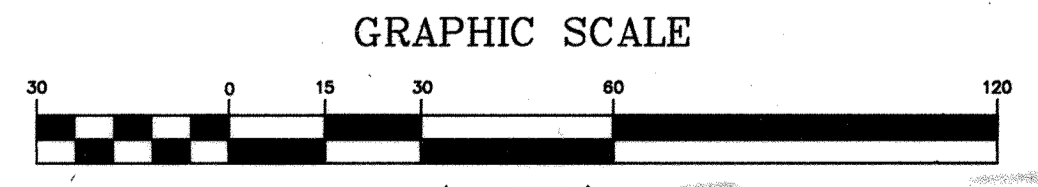
**REVISION 3 PURPOSE:**  
 IN ACCORDANCE WITH HOWARD COUNTY HEALTH DEPARTMENT REQUIREMENTS, THE EXISTING TREATMENT DEVICES FOR THE SEPTIC SYSTEM ARE REQUIRED TO BE REMOVED AND REPLACED TO COMPLY WITH COMAR 26.04.02.



- FIRE DEPARTMENT NOTES:**
1. A KNOX BOX (FIRE DEPARTMENT ACCESS BOX) IS REQUIRED TO BE PLACED ON THE FRONT OF THE BUILDING. IT SHALL BE PLACED TO THE RIGHT OF THE MAIN ENTRANCE AT A RANGE OF 4 TO 5 FEET IN HEIGHT AND NO MORE THAN 6 FEET LATERALLY FROM THE DOOR.
  2. ALL GATE SHALL BE REQUIRED TO HAVE KNOX BOX OR KNOX BOX KEY OVERRIDE CONTROL TO INSURE TIMELY FIRE DEPARTMENT ACCESS.
  3. THE FIRE HYDRANT LOCATED IN THE LANDSCAPE ISLAND NEAR THE FARM STORE SHALL BE CONNECT TO THE FIRE SUPPRESSION TANKS THAT WILL BE INSTALLED.
- HANDICAP ACCESS NOTE:**  
 THE MAIN ENTRANCES LOCATED AT THE FRONT OF EACH STORE AND DENOTED AS "MAIN ENTRANCE" ARE ADA COMPLIANT AND SHALL BE UTILIZED BY HANDICAP PATRONS.

**DETAIL SCHEDULE**

DETAIL	DETAIL REFERENCE	SHEET REF.
PAVEMENT SECTION (TYPE P-1)	HO.CO. DTL. R-2.01	SEE SHEET 15
4" CONCRETE SIDEWALK SECTION	HO.CO. DTL. R-3.05	SEE SHEET 15
SOLID WASTE SERVICE PAD	HO.CO. DTL. R-8.03	SEE SHEET 15
6" COMBINATION CURB & GUTTER DETAIL	HO.CO. DTL. R-9.01	SEE SHEET 15
REVERSE COMBINATION CURB & GUTTER DETAIL	HO.CO. DTL. R-9.01	SEE SHEET 15
DEPRESSED CURB DETAIL	HO.CO. DTL. R-9.01	SEE SHEET 15
CURB & GUTTER TRANSITION	HO.CO. DTL. R-3.02	SEE SHEET 15
2" WIDE CURB OPENING DETAIL	---	SEE SHEET 15
HVAC SYSTEM ENCLOSURE BLOW UP	---	SEE SHEET 15
SOLID WASTE DOUBLE CONTAINER ENCLOSURE	HO.CO. DTL. R-8.05	SEE SHEET 15
HANDICAP RAMP (TYPE C)	HO.CO. DTL. R-4.04	SEE SHEET 15
STABILIZED CONSTRUCTION ENTRANCE	SCD DETAIL 24	SEE SHEET 16
SUPER SILT FENCE	SCD DETAIL 33	SEE SHEET 16
1,000 + 1,250 GALLON SEPTIC TANK	---	SEE SHEET 7
1,000 GALLON GREASE TRAP	---	SEE SHEET 7
1,250 GALLON PUMP PIT	---	SEE SHEET 7
DISTRIBUTION BOX	---	SEE SHEET 7
BOLLARD	---	SEE SHEET 15



**REV. DATE DESCRIPTION**

5-14-12	CROSSED OUT GRADING, PARKING, STORM DRAIN, STORMWATER MANAGEMENT, WATER, SEPTIC, AND BUILDING ASSOCIATED WITH THE FARM STORE. REVISED LIMITS OF DISTURBANCE.
10-30-12	NOTE TO REMOVE EXISTING SEPTIC SYSTEM & SHOW NEW SEPTIC SYSTEM FOR HIGH'S STORE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

4/25/11  
 7/27/11  
 7/27/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

5/24/2011

**MESSICK & ASSOCIATES\***  
 CONSULTING ENGINEERS  
 PLANNERS & SURVEYORS

2120 RENARD COURT  
 ANNAPOLIS, MARYLAND 21401  
 PHONE: (410) 266-3212  
 FAX: (410) 266-3502

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. 22096, EXPIRATION DATE: SEPT. 10, 2012.

OWNER:  
 WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
 2125 ROUTE 97  
 COOKVILLE, MD. 21723

DEVELOPER:  
 HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
 7477 NEW RIDGE ROAD  
 HANOVER, MARYLAND 20794  
 410-859-3636

RECORD DRAWING NOVEMBER 2012

PROJECT  
**HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
 (2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

TITLE  
**REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
 (PREVIOUS SDP: SDP-06-64)

REVISED SITE DEVELOPMENT PLAN

2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
 TAX MAP 14, GRID 5, PARCEL 256 ELECTION DISTRICT NO. 4 LIBER 2457 FOLIO 636  
 WATER CONTRACT NO. SEWER CONTRACT NO. DESIGN BY: WAN DRAWN BY: BPO  
 HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 5 OF 19

# SEPTIC DESIGN

## FARM SUPPLY STORE

Store Type: Retail  
 Rate: 0.05 gpd/sq.ft. of building (See Section 3.807 of the Code)  
 Flow Analysis:  $Q = \text{Building Area (sq. ft.)} \times 0.05 \text{ gpd/sq.ft. (Retail)}$   
 $Q = 12,226 \text{ sq.ft.} \times 0.05 \text{ gpd/sq.ft.}$   
 $Q = 612 \text{ gpd}$

Septic Tank Size =  $1.5 \times Q = 1.5 \times (612) = 918$  gallons  
 USE: min. 1,000 gallon two compartment concrete septic tank

Application Rate, RA = 0.8 gpd/sq.ft.

Trench Area, Ta =  $612 \text{ gpd} / (0.8 \text{ gpd/sq.ft.}) = 765 \text{ sq.ft.}$

Effective Depth of Stone beneath pipe = 2'  
 Reduction factor for effective stone depth exceeding 6" = 0.62  
 (See existing Permit # 57353)

Revised Trench Area Required:  $765 \text{ sq.ft.} \times 0.62 = 475 \text{ sq.ft.}$

Using a 3' wide trench  
 Trench Length Required =  $475 / 3' \text{ TRENCH WIDTH} = 159 \text{ L.F.}$   
 2 Trenches @ 80' if per trench @ 12' c/c

## HIGH'S CONVENIENCE STORE

Store Type: Deli/Convenience Store  
 Flow Analysis: 600 gpd (See Section 3.807 of the Code)  
 SEPTIC TANK =  $V = 1.5Q = 1.5(600) = 900$  gallons  
 USE: 1,000 gal. tank two compartment concrete septic tank  
 Max cover depth = 3' for concrete,

Application Rate, RA = 0.8 gpd/sq. ft.

Trench Area, Ta =  $600 \text{ gpd} / 0.8 \text{ gpd/sq.ft.} = 750 \text{ sq. ft.}$

Effective Depth of Stone beneath pipe = 2'  
 Reduction factor for effective stone depth exceeding 6" = 0.62  
 (See existing permits 57319-A & 57319-B)

Revised Trench Area, Ta =  $750 \text{ sq.ft.} \times 0.62 = 465 \text{ sq.ft.}$

Using A 3' wide trench  
 Trench Length Required, Lt =  $465 \text{ sq.ft.} / 3' = 155 \text{ L.F.}$  of trench  
 2 trenches @ 78 L.F. (12' c/c spacing)

INFLUENT DESIGN DATA : BOD - 1400 MG/L, TSS - 567 MG/L  
 EFFLUENT REQUIREMENT: BOD - 300 MG/L, TSS - 300 MG/L

## GENERAL NOTES:

1. THE EXISTING TOPOGRAPHY WITH 2-FOOT CONTOURS IS BASED ON A AERIAL SURVEY CONDUCTED AND PREPARED BY POTOMAC AERIAL SURVEYS DATED 1/25/2008. ADDITIONAL SPOT ELEVATIONS AND LOCATION SURVEYS WERE CONDUCTED AND SUPPLEMENTED BY MESSICK GROUP, INC. (T/A MESSICK AND ASSOCIATES).
2. ALL EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREA EASEMENTS WITHIN 100-FEET OF THE LEASE AREA BOUNDARIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION AND THROUGH FIELD INVESTIGATION CONDUCTED BY MESSICK GROUP INC.
3. THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP, WIDTH, AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
4. THE PROPOSED WELL AS SHOWN HEREON WILL BE SHARED BY BOTH USES FOR DOMESTIC WATER AS DESCRIBED IN THE APPROVED VARIANCE ON FILE AT THE HOWARD COUNTY HEALTH DEPARTMENT.
5. THE PROPOSED WELL SHALL BE DRILLED AND INSTALLED BY A WELL DRILLER LICENSED IN THE STATE OF MARYLAND PRIOR TO BUILDING PERMIT APPROVAL.
6. THE EXISTING WELL SHALL BE ABANDONED (SEALED) IN ACCORDANCE WITH STATE GUIDELINES PRIOR TO ISSUANCE OF USE & OCCUPANCY PERMIT.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF DEVELOPMENT ENGINEERS DIVISION  
 DATE: 4/25/11  
 CHIEF DIVISION OF LAND DEVELOPMENT  
 DATE: 7/27/11  
 DIRECTOR  
 DATE: 7/27/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 DATE: 5/24/2011

REV.	DATE	DESCRIPTION
1	3-14-12	CROSSED OUT GRADING, PARKING, STORM DRAIN, STORMWATER MANAGEMENT, WATER, SEPTIC AND BUILDING ASSOCIATED WITH THE FARM STORE. REVISED LIMITS OF DISTURBANCE.
2	10-30-10	NOTE TO REMOVE EXISTING SEPTIC SYSTEM & SHOW NEW SEPTIC SYSTEM FOR HIGH'S STORE.

**MESSICK & ASSOCIATES\***  
 CONSULTING ENGINEERS  
 PLANNERS & SURVEYORS  
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 ANNAPOLIS, MARYLAND 21401  
 PHONE: (410) 266-3212  
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OWNER:  
 WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
 2125 ROUTE 97  
 COOKVILLE, MD. 21723

DEVELOPER:  
 HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
 7477 NEW RIDGE ROAD  
 HANOVER, MARYLAND 20794  
 410-859-3636

RECORD DRAWING 1 inch = 30 ft. NOVEMBER 2012

PROJECT: **HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
 (2) NEW BUILDINGS, GAS PUMPS & PARKING LOT EXPANSION

TITLE: **REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
 (PREVIOUS SDP: SDP-98-64)

SEPTIC PLAN

2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
 TAX MAP: 14, GRID 5, PARCEL 256, ELECTION DISTRICT NO. 4, LIBER 2457, FOLIO 636  
 WATER CONTRACT NO. DESIGN BY: WAN DRAWN BY: BPO  
 HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 6 OF 19

## DRAINFIELD SUMMARY - BUILDING A

BUILDING A - HIGH'S DAIRY STORE  
 Initial System - Ex. Active System  
 Permit: 57319-A  
 Date: 10-11-96  
 No. of Trenches - 4  
 Trench Length - 115' per trench  
 Trench Width - 3'  
 Effective Depth of Stone - 2'

Replacement System #1 - Ex. Inactive System  
 Permit: 57319-B  
 Date: 10-11-96  
 No. of Trenches - 2  
 Trench Length - 106' & 110'  
 Trench Width - 2'  
 Effective Depth of Stone - 4'

Replacement System #2 - Future System  
 Permit: n/a  
 Date: n/a  
 No. of Trenches - 2  
 Trench Length - 80' per trench (minimum)  
 Trench Width - 3'  
 Effective Depth of Stone - 2'

## DRAINFIELD SUMMARY - BUILDING B

BUILDING B - FARM SUPPLY STORE  
 Initial System - Ex. Inactive System  
 Permit: 57353  
 Date: 10-26-96  
 No. of Trenches - 2  
 Trench Length - 85' per trench  
 Trench Width - 3'  
 Effective Depth of Stone - 2'

Replacement System #1 - Future System  
 Permit: n/a  
 Date: n/a  
 No. of Trenches - 2  
 Trench Length - 80' per trench (minimum)  
 Trench Width - 3'  
 Effective Depth of Stone - 2'

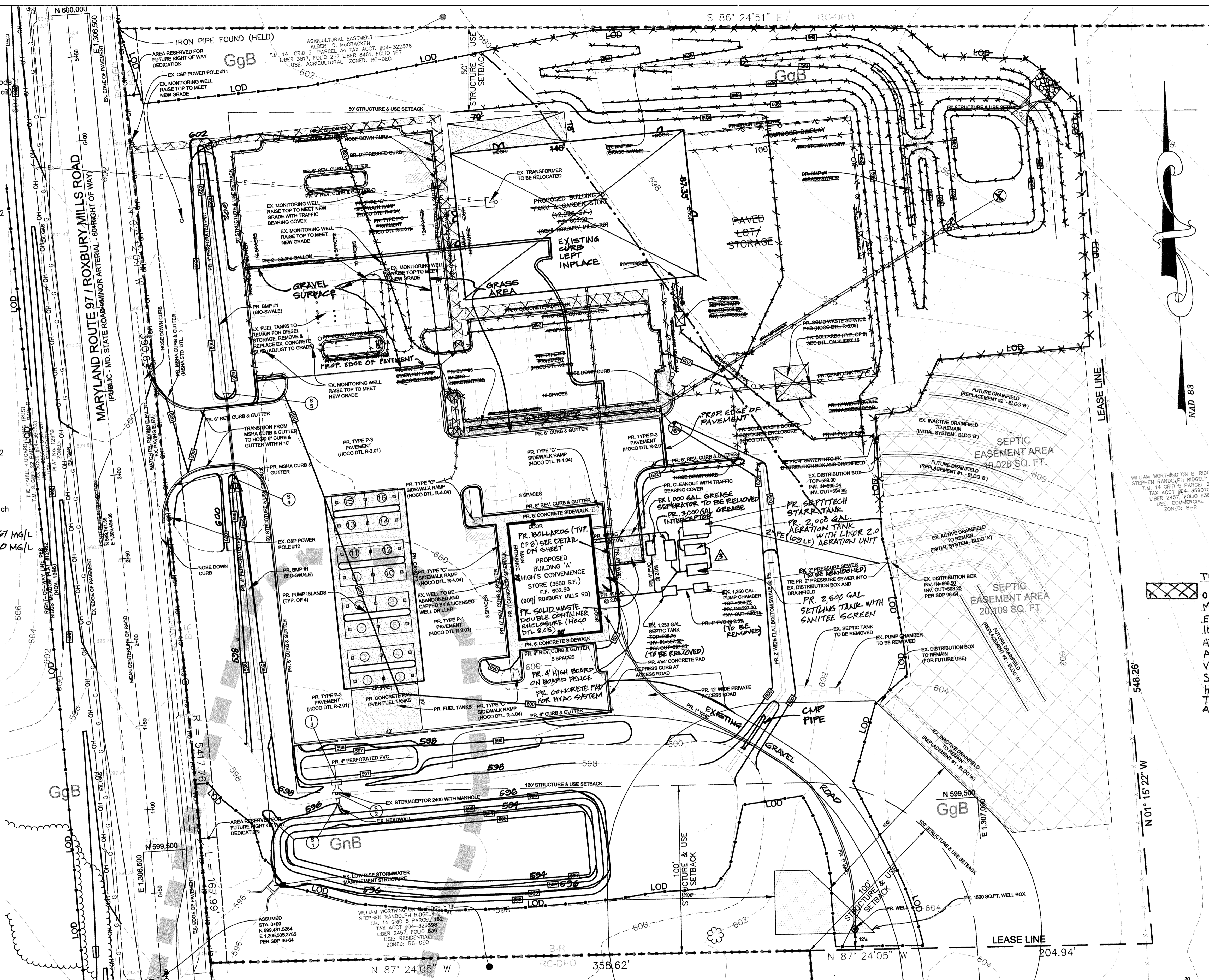
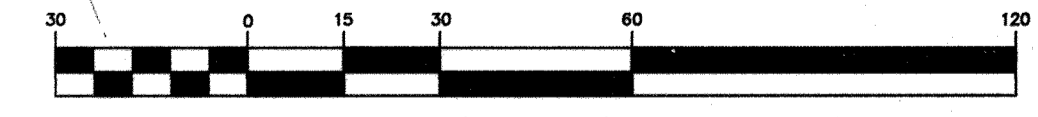
Replacement System #2 - Future System  
 Permit: n/a  
 Date: n/a  
 No. of Trenches - 2  
 Trench Length - 80' per trench (minimum)  
 Trench Width - 3'  
 Effective Depth of Stone - 2'

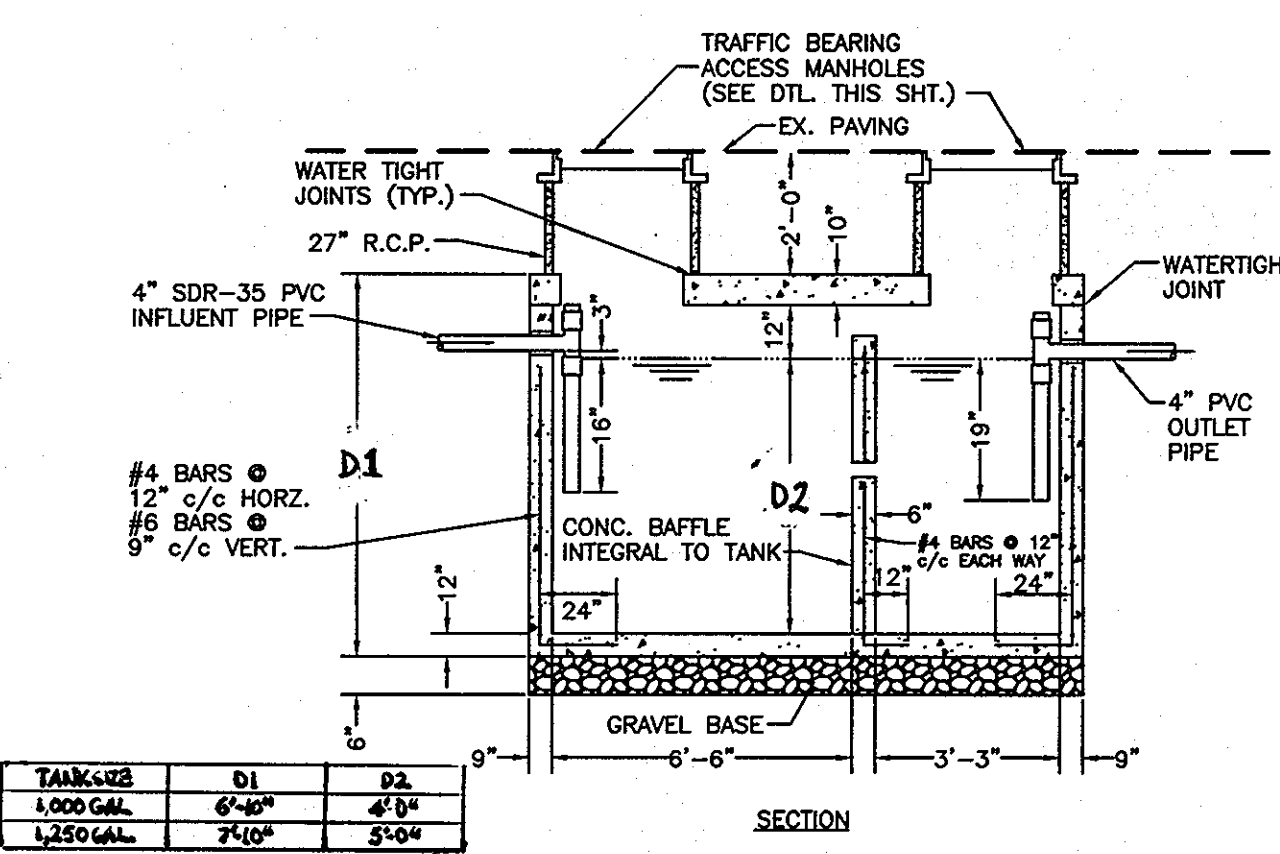
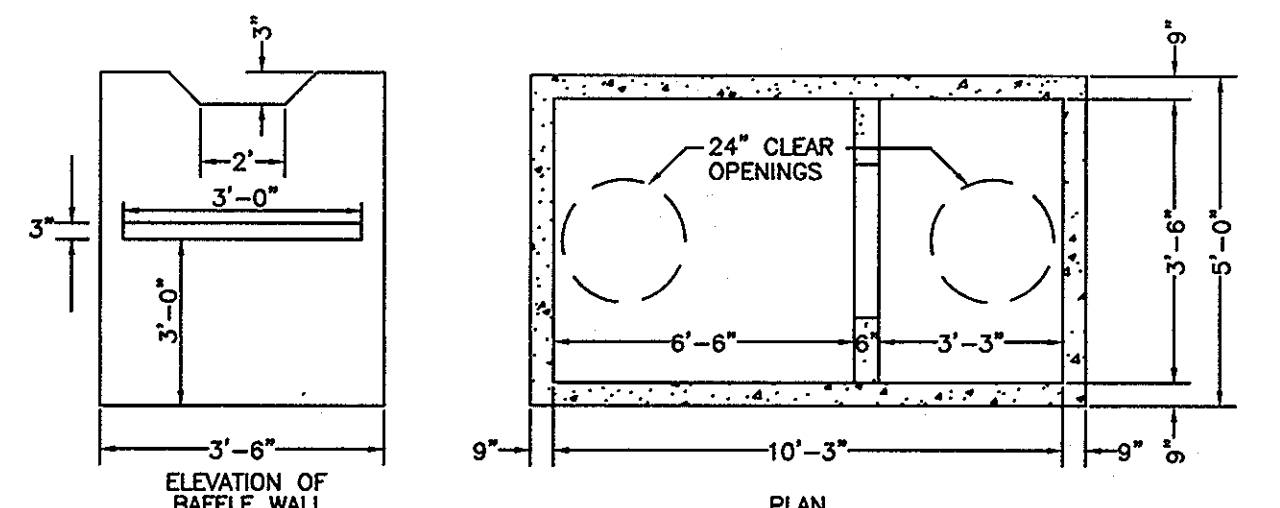
THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST 10,000 SQ. FT. AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THIS AREA SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE AREA. RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY. ALL PATRONS INCLUDING ONE'S WITH DISABILITIES SHALL ACCESS THE STORE THROUGH THE MAIN ENTRANCE LOCATED ON THE FRONT OF THE BUILDING.

## DETAIL SCHEDULE

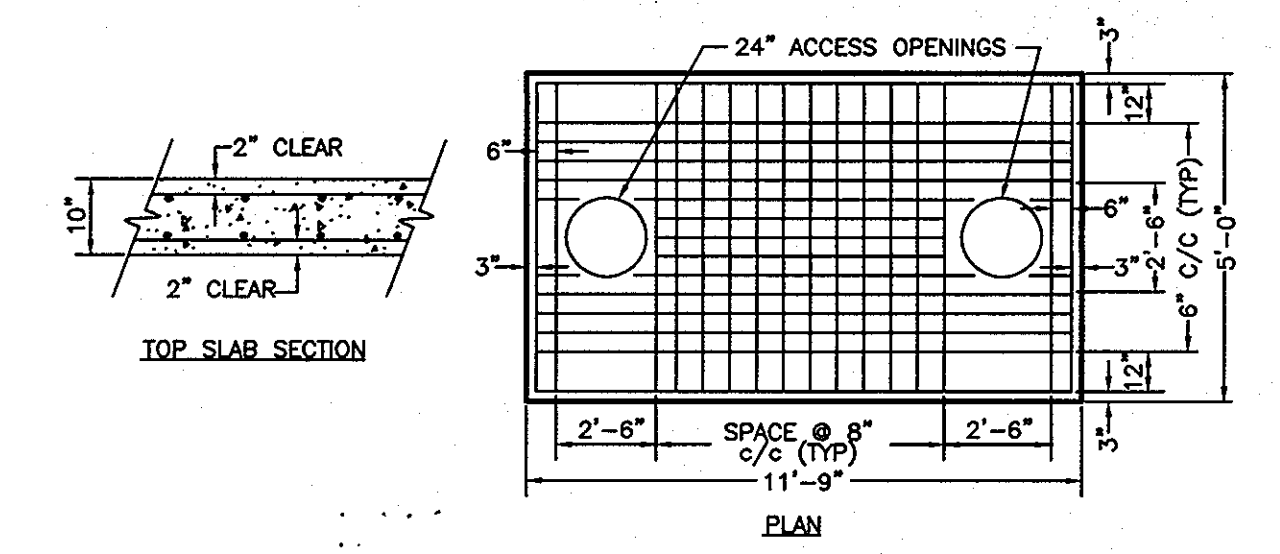
DETAIL	DETAIL REFERENCE	SHEET REF.
PAVEMENT SECTION (TYPE P-1)	HOCO. DTL. R-2.01	SEE SHEET 15
4" CONCRETE SIDEWALK SECTION	HOCO. DTL. R-3.03	SEE SHEET 15
SOLID WASTE SERVICE PAD	HOCO. DTL. R-8.03	SEE SHEET 15
6" COMBINATION CURB & GUTTER DETAIL	HOCO. DTL. R-9.01	SEE SHEET 15
REVERSE COMBINATION CURB & GUTTER DETAIL	HOCO. DTL. R-9.01	SEE SHEET 15
DEPRESSED CURB DETAIL	HOCO. DTL. R-9.01	SEE SHEET 15
CURB & GUTTER TRANSITION	HOCO. DTL. R-3.02	SEE SHEET 15
2" WIDE CURB OPENING DETAIL	---	SEE SHEET 15
HVAC SYSTEM ENCLOSURE BLOW UP	---	SEE SHEET 15
SOLID WASTE DOUBLE CONTAINER ENCLOSURE	HOCO. DTL. R-8.05	SEE SHEET 15
HANDICAP RAMPS (TYPE C)	HOCO. DTL. R-4.04	SEE SHEET 15
STABILIZED CONSTRUCTION ENTRANCE	SCD DETAIL 24	SEE SHEET 16
SUPER SALT FENCE	SCD DETAIL 33	SEE SHEET 16
1,000 & 1,250 GALLON SEPTIC TANK	---	SEE SHEET 7
1,000 GALLON GREASE TRAP	---	SEE SHEET 7
1,250 GALLON PUMP PIT	---	SEE SHEET 7
DISTRIBUTION BOX	---	SEE SHEET 7
BOLLARD	---	SEE SHEET 15

## GRAPHIC SCALE

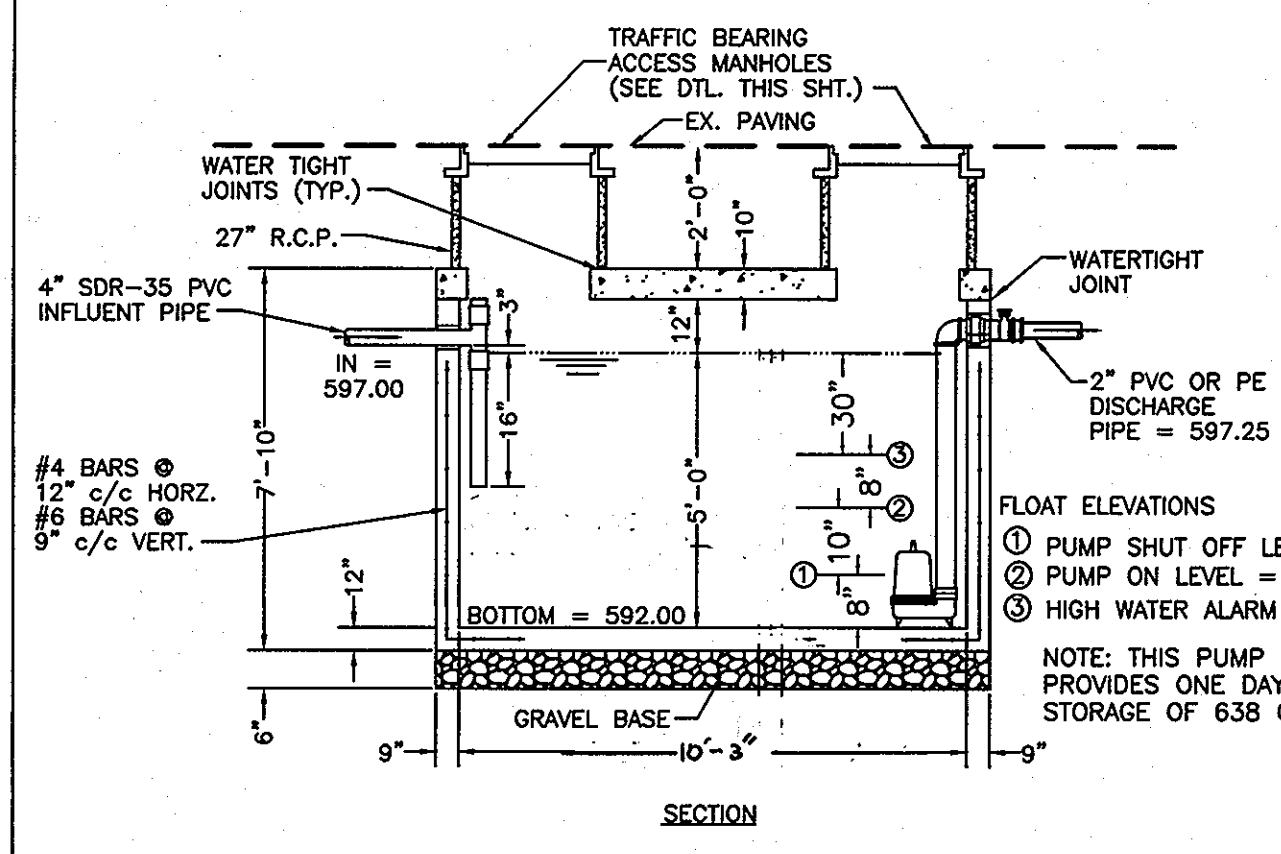
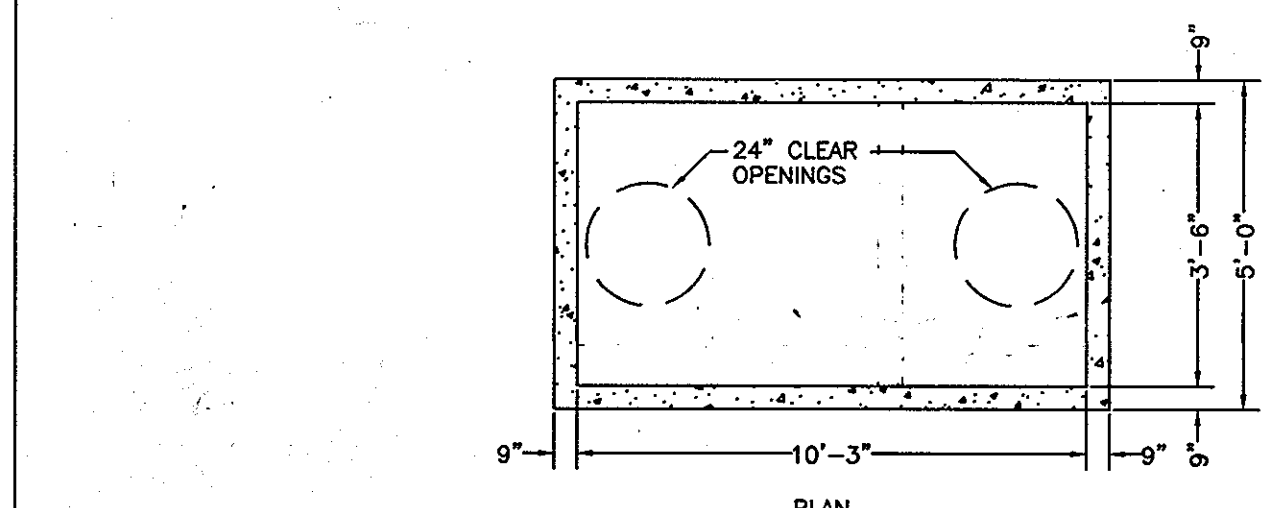




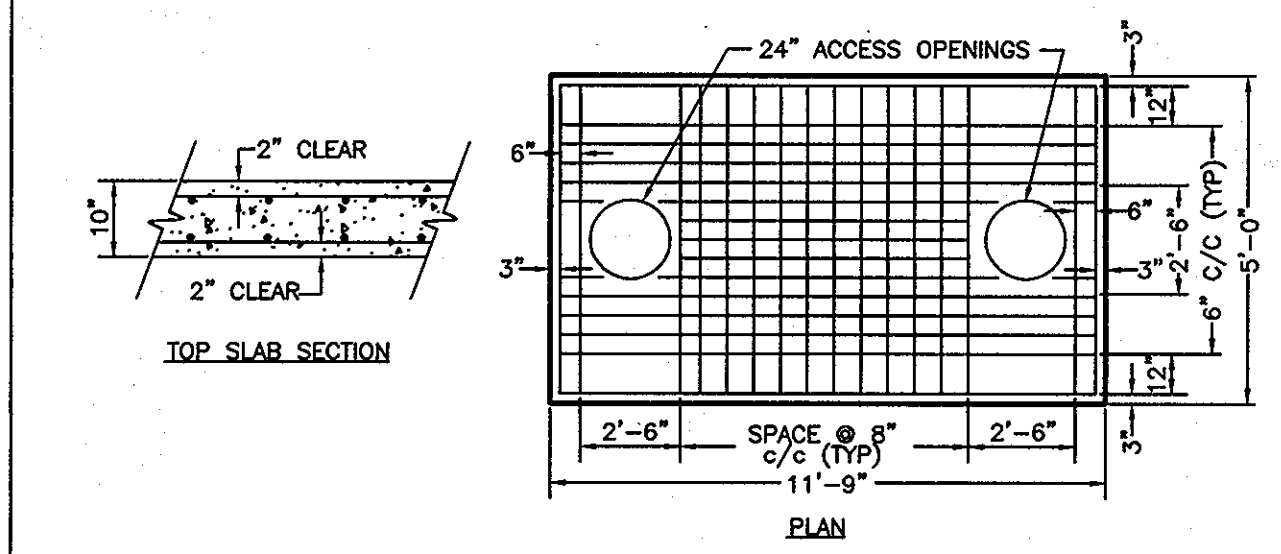
1,000 + 1,250 GALLON SEPTIC DETAIL  
N.T.S.



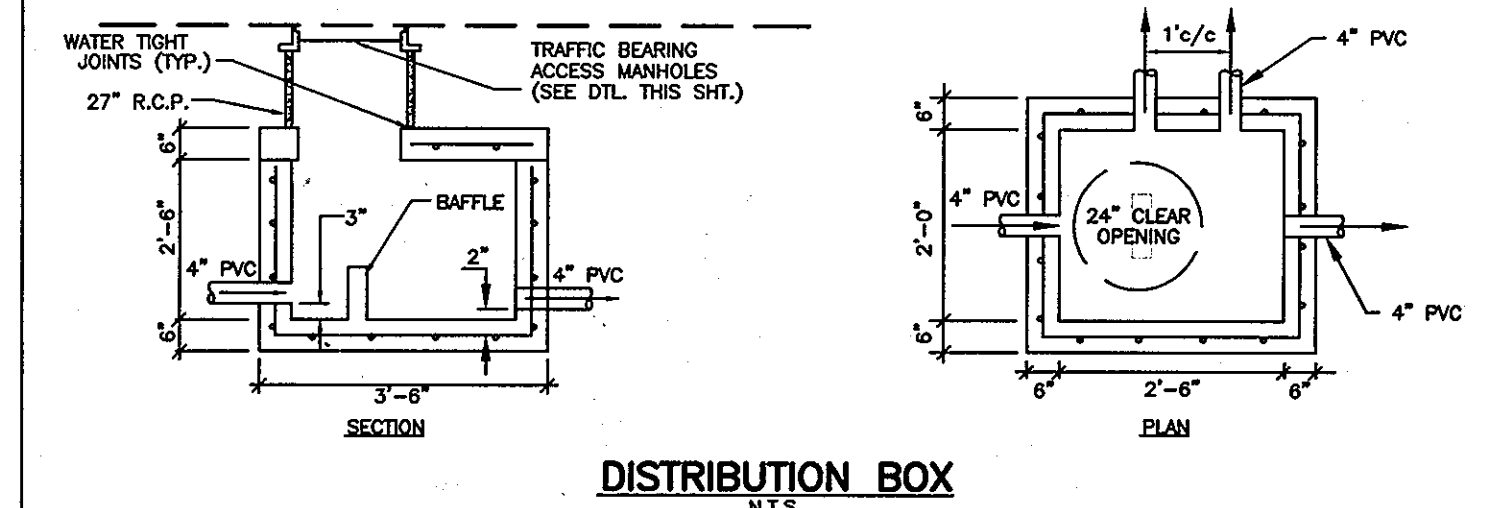
1,000 + 1,250 GALLON SEPTIC TANK TOP SLAB REBAR SPACING DETAIL  
N.T.S.



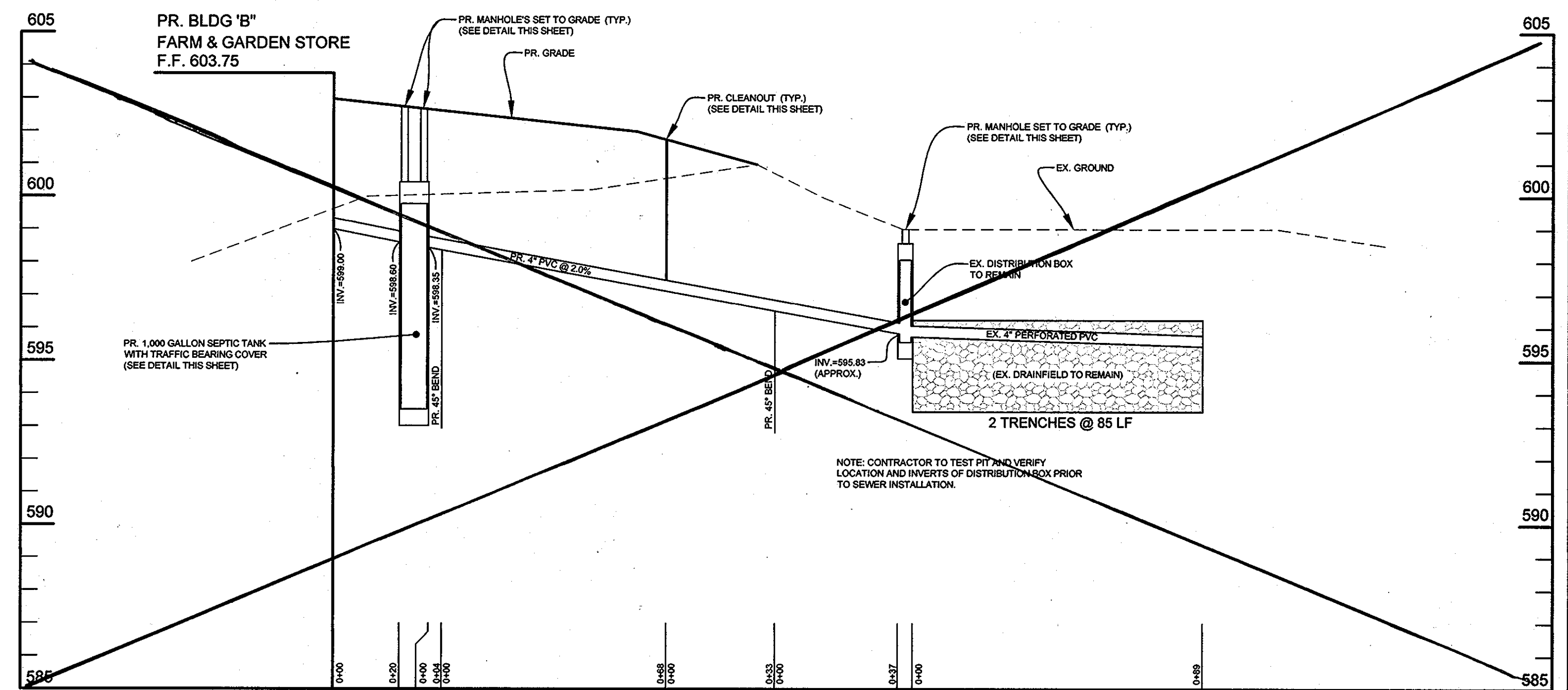
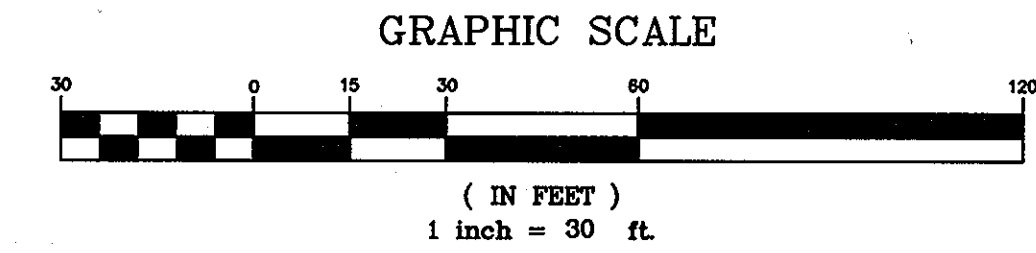
1,250 GALLON PUMP CHAMBER DETAIL  
N.T.S.



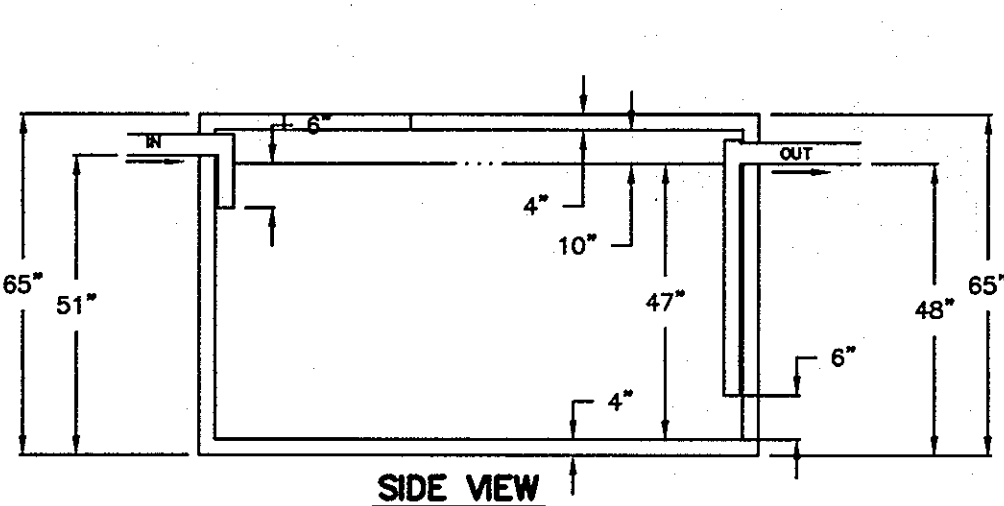
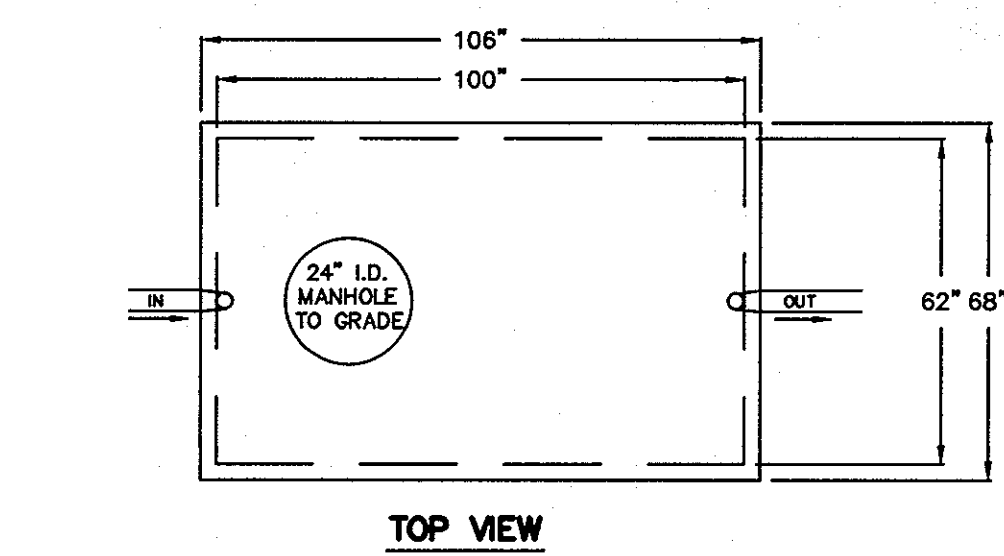
1,250 GALLON PUMP CHAMBER TOP SLAB REBAR SPACING DETAIL  
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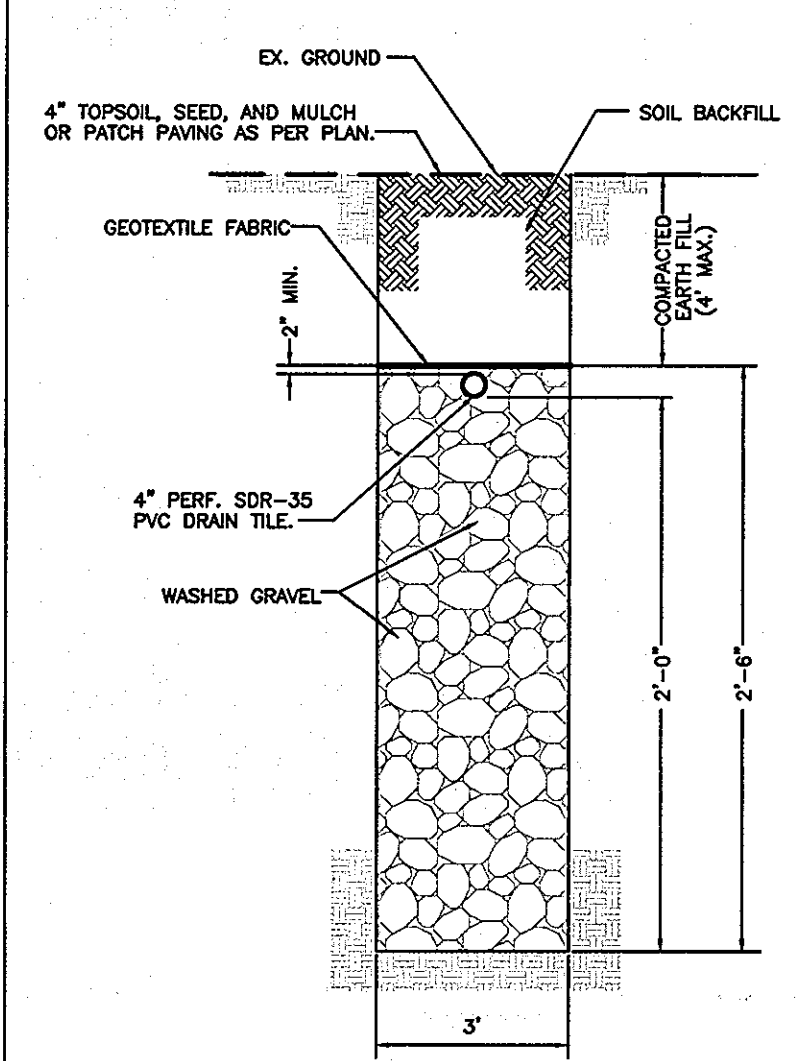
DISTRIBUTION BOX  
N.T.S.



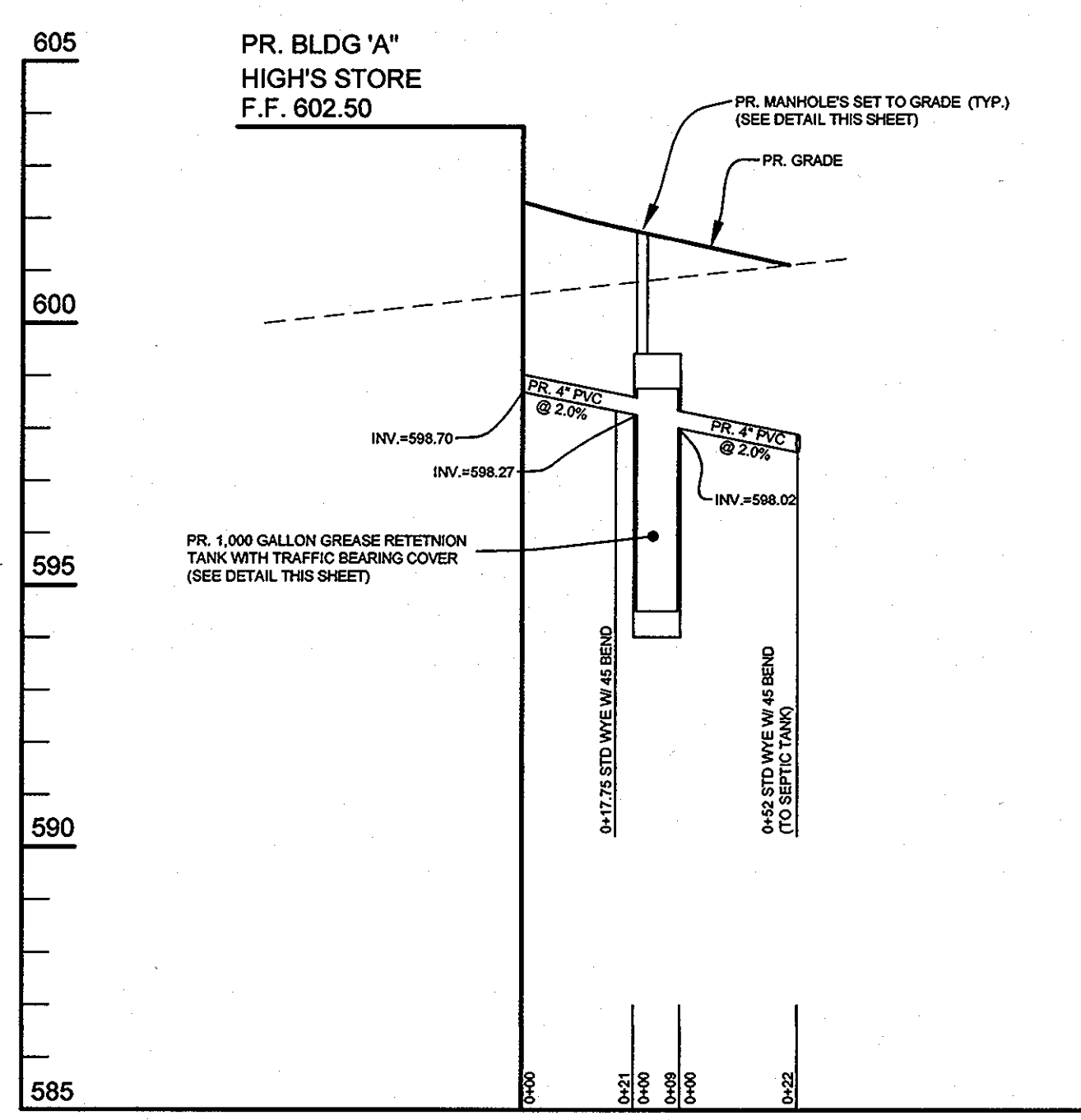
PROPOSED SEPTIC SYSTEM FARM SUPPLY STORE  
SCALE: 1"=30' HORIZ 1"=3' VERT



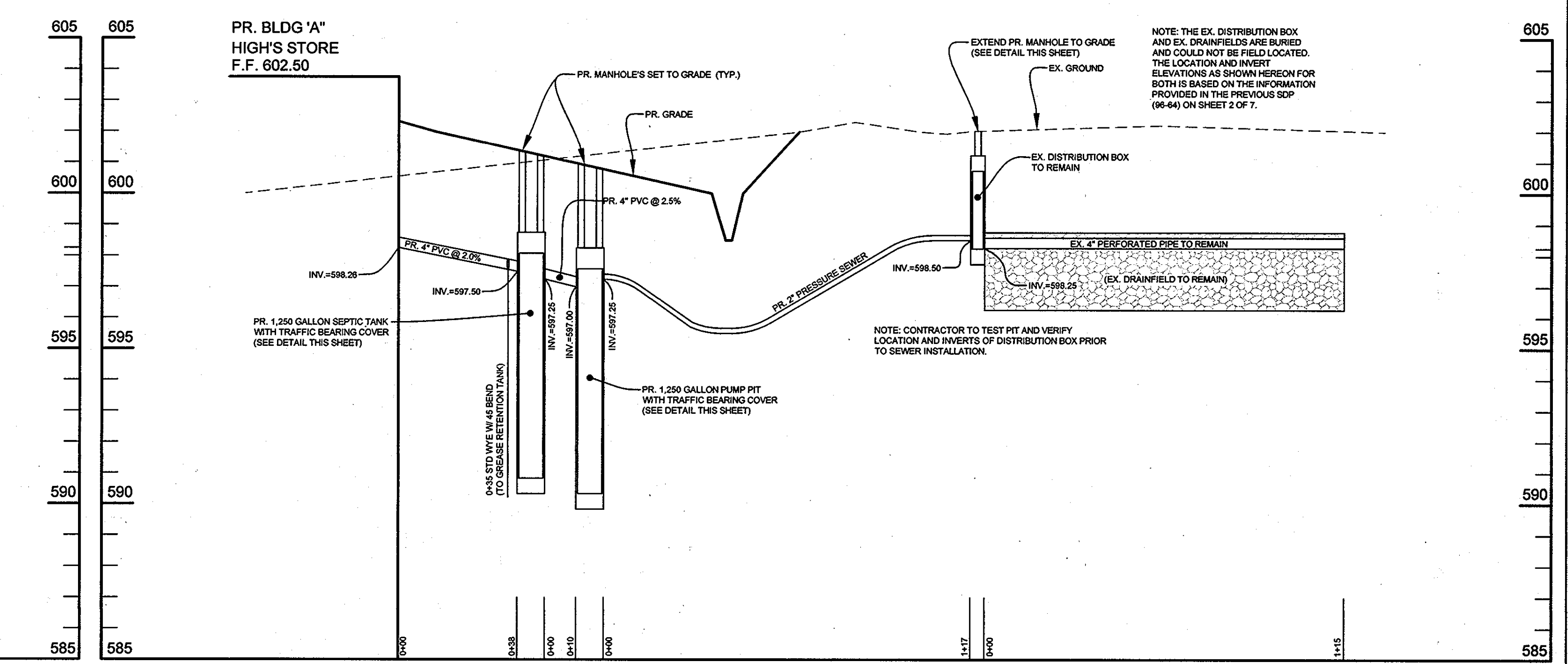
1000 GALLON GREASE RETENTION TANK DETAILS



TYPICAL DRAINFIELD TRENCH DETAIL  
Not to Scale



PROPOSED KITCHEN WASTE LINE  
SCALE: 1"=30' HORIZ 1"=3' VERT

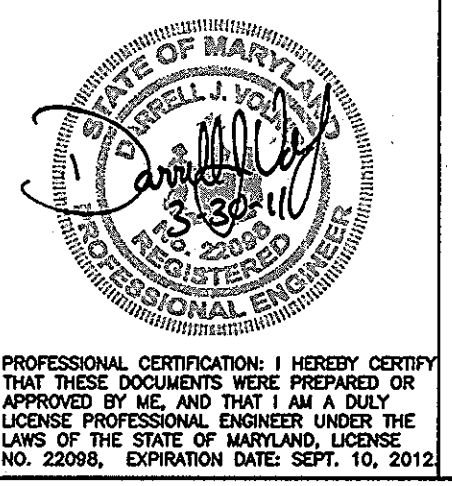


PROPOSED SEPTIC SYSTEM HIGH'S STORE  
SCALE: 1"=30' HORIZ 1"=3' VERT

REV.	DATE	DESCRIPTION
1	9-14-12	CROSSED OUT FARM STORE SEPTIC PROFILE.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 4/25/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 7/27/11  
 DIRECTOR  
 DATE: 7/27/11  
 APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT  
 DATE: 5/29/2011

**MESSICK & ASSOCIATES\***  
 CONSULTING ENGINEERS  
 PLANNERS & SURVEYORS  
 2120 RENARD COURT  
 ANNAPOLIS, MARYLAND 21401  
 PHONE: (410) 266-3212  
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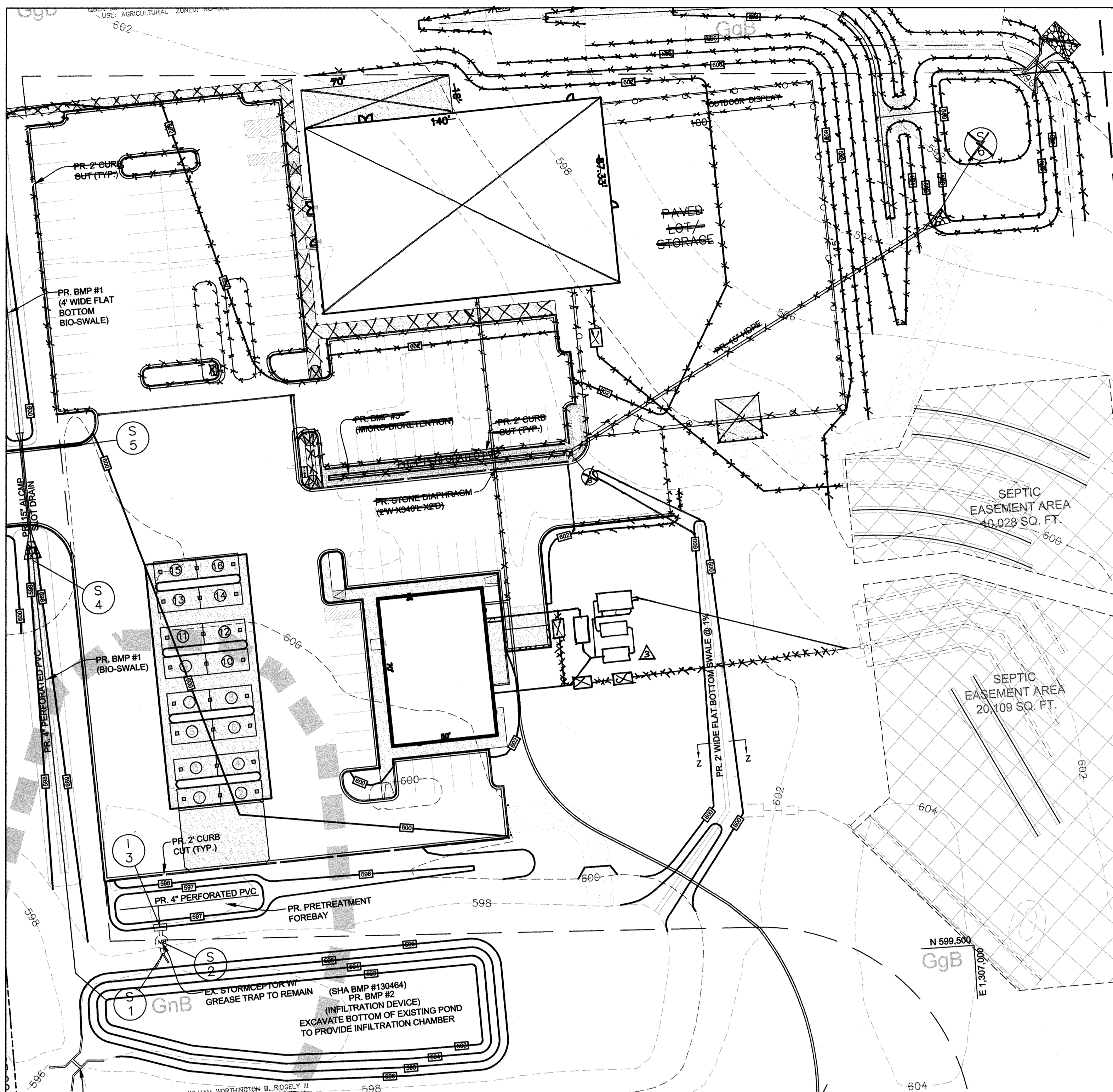


OWNER:  
 WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
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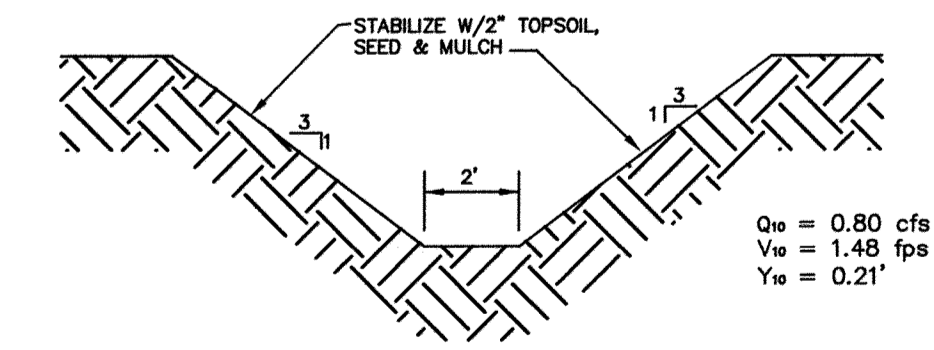
RECORD DRAWING NOVEMBER 2012  
 PROJECT  
**HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
 (2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION  
 TITLE  
**REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
 (PREVIOUS SDP: SDP-06-64)  
**SEPTIC PROFILES AND DETAILS**  
 2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
 TAX MAP 14, GRID 5, PARCEL 256, ELECTION DISTRICT NO. 4 LIBER 2457 FOLIO 636  
 WATER CONTRACT No. SEWER CONTRACT No. DESIGN BY: WAM DRAWN BY: BPO  
 HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 7 OF 19



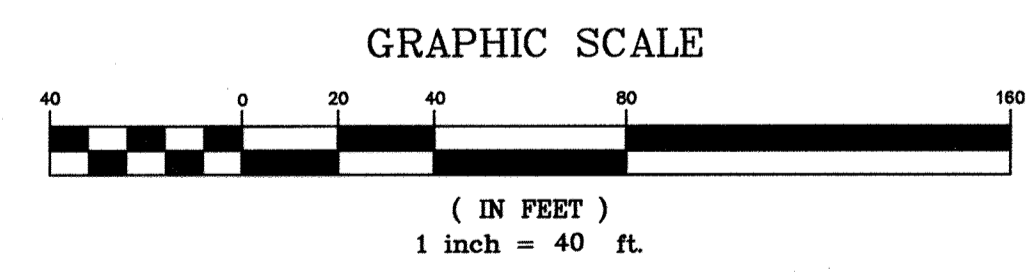




**STORM DRAIN PLAN**  
SCALE: 1" = 40'



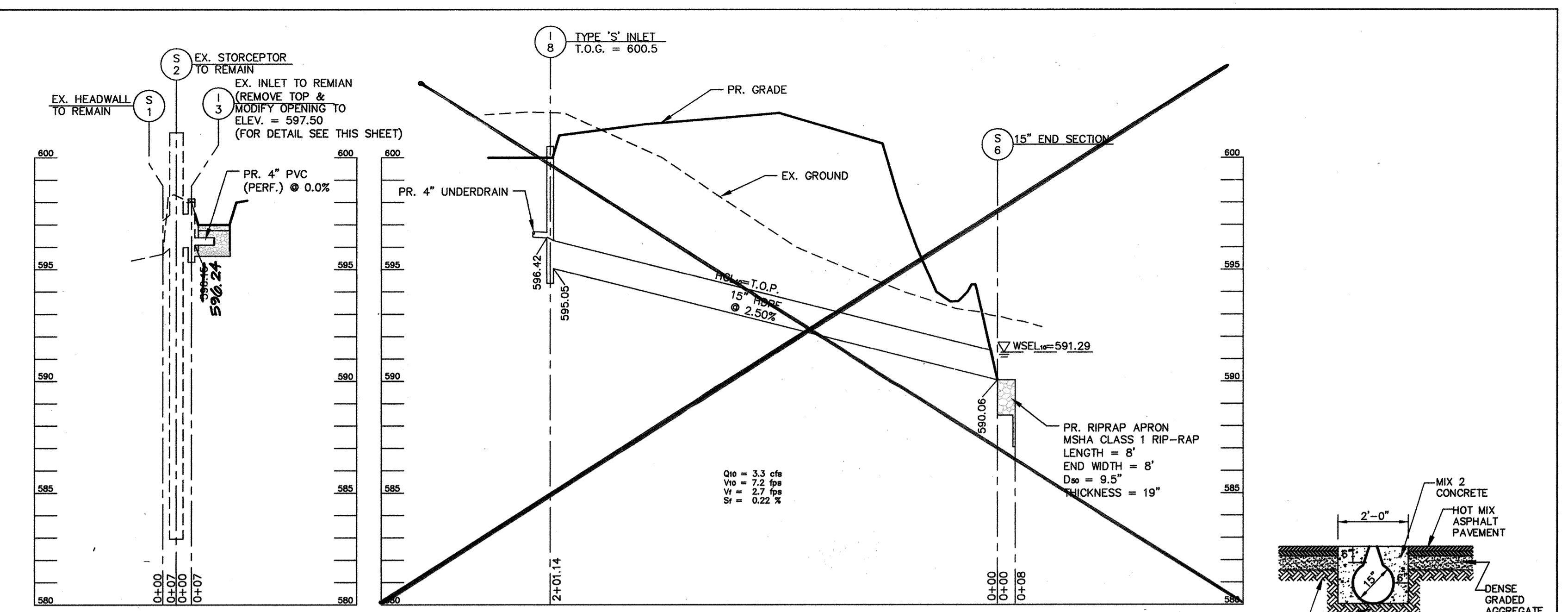
**SECTION Z-Z**  
2' WIDE GRASS-LINED FLAT BOTTOM SWALE  
W/3H: 1V SIDE SLOPES  
NOT TO SCALE



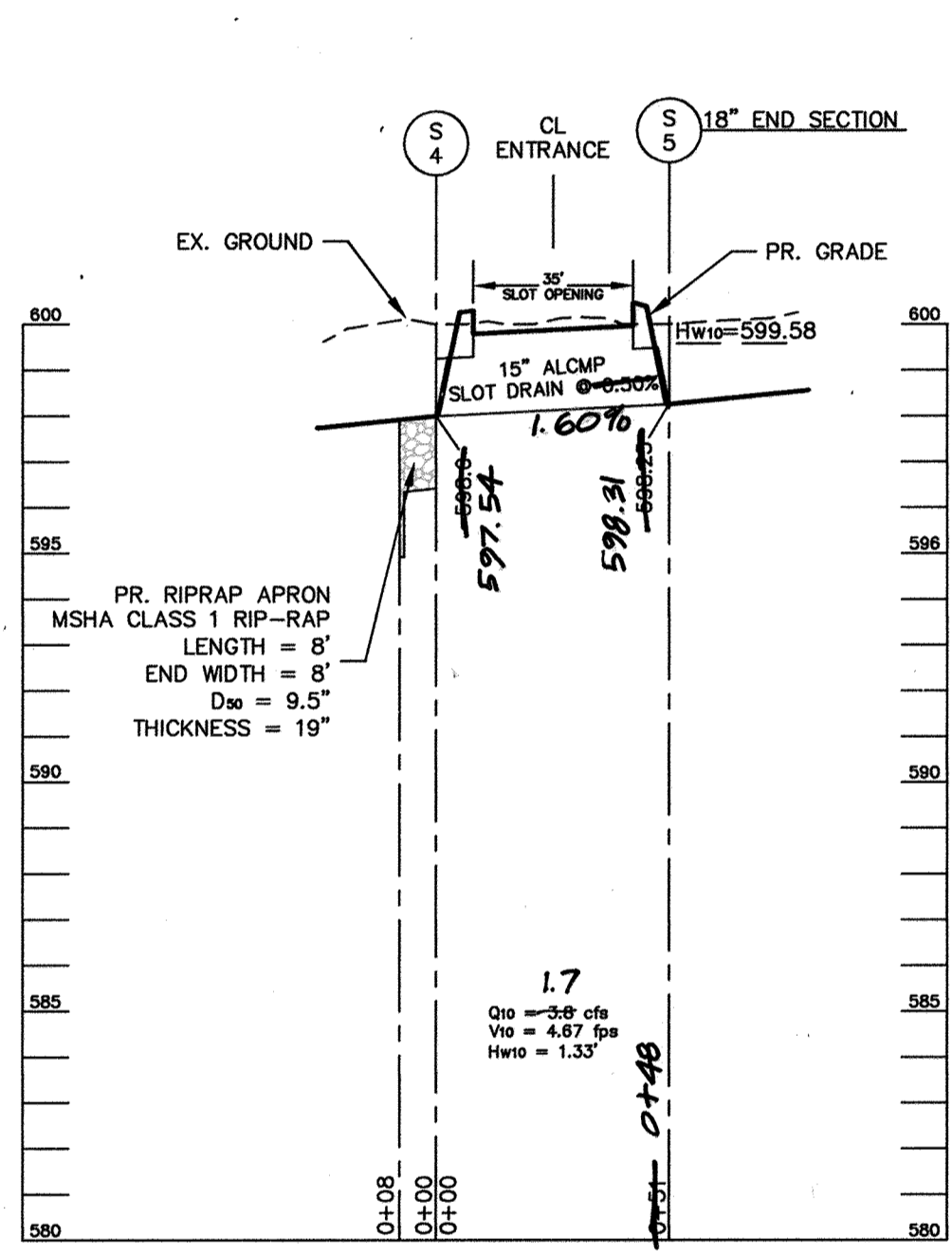
PIPE SCHEDULE			
PIPE SIZE (INCHES)	PIPE TYPE	PIPE CLASSIFICATION	TOTAL LENGTH (LINEAR FEET)
15	AL-CMP	SLOT-DRAIN	54.48
10	HDPE	11-0.012	210

STORM DRAIN NOTES:  
1. ALL AL-CMP PIPES SHALL BE 14 GAUGE CORRUGATED METAL PIPE.  
2. ALL JOINTS SHALL BE WATERTIGHT. ALL JOINTS SHALL BE CORRUGATED BANDS WITH FLAT GASKET.

DETAIL SCHEDULE		
DETAIL	DETAIL REFERENCE	SHEET REF.
TYPE 'D' INLET	HO.CO. DTL D-4.11	



(S1 TO I3) STORM DRAIN PROFILE SCALE: H 1"=40' V: 1"=4'  
(S6 TO I8) STORM DRAIN PROFILE SCALE: H 1"=40' V: 1"=4'



(S4 TO S5) STORM DRAIN PROFILE SCALE: H 1"=40' V: 1"=4'

**HANCOR HI-Q® FLARED END SECTION SPECIFICATIONS**

Scope: This specification describes 10- through 36-inch (250 to 900mm) HI-Q Flared End Sections for use in culvert and drainage outlet applications.

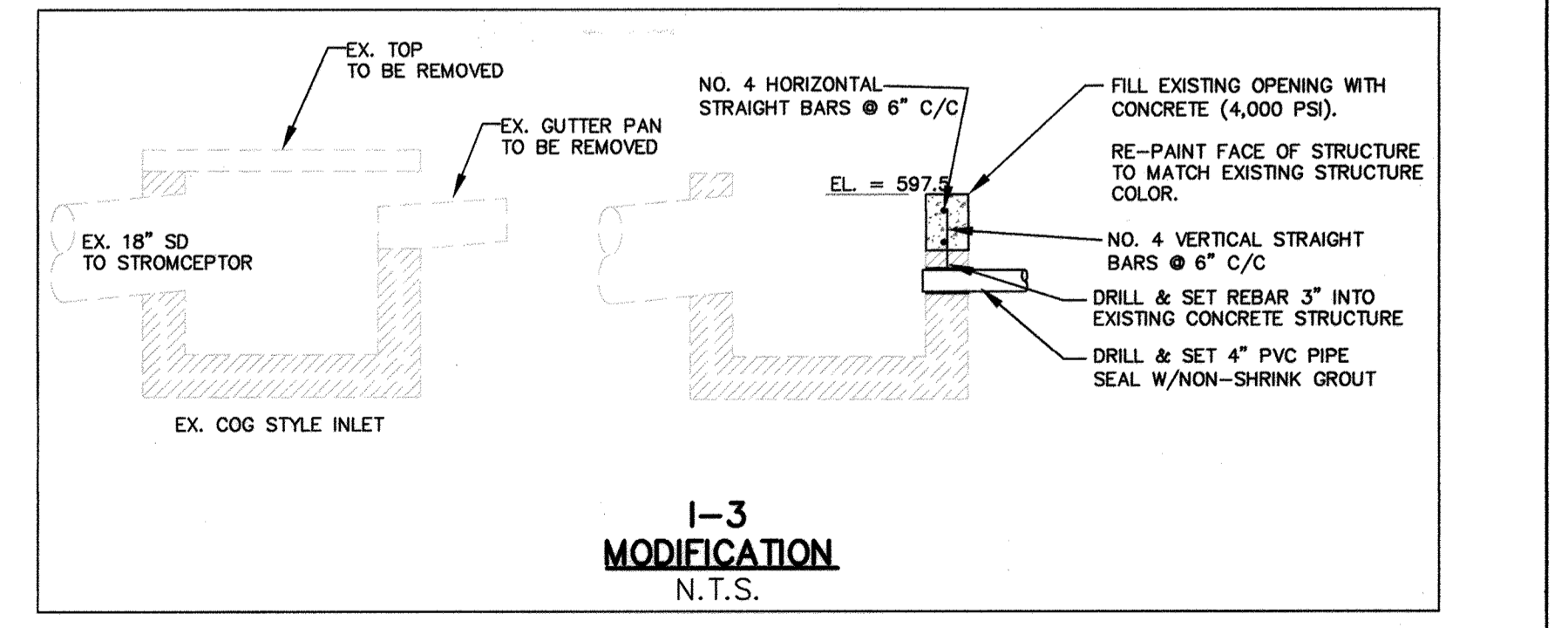
Requirements: The invert of the pipe and the end section shall be at the same elevation. HI-Q Flared End Section shall be high density polyethylene meeting ASTM D3350 minimum cell classification 213320. Contact manufacturer for additional cell classification information. A stainless steel fastening rod shall be provided.

Installation: Installation shall be in accordance with Hancor installation instructions and with those issued by state or local authorities. Contact your local Hancor representative or visit [www.hancor.com](http://www.hancor.com) for the latest installation instructions.

PIPE DIAMETER, in (mm)						
Diameter in (mm)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)
A in (mm)	8.5 (195)	8.5 (195)	7.5 (191)	7.5 (191)	7.5 (191)	7.5 (191)
B (max) in (mm)	10.0 (254)	10.0 (254)	15.0 (381)	18.0 (457)	22.0 (559)	25.0 (635)
H in (mm)	6.5 (165)	6.5 (165)	6.5 (165)	6.5 (165)	6.6 (168)	6.6 (168)
L in (mm)	25.0 (635)	25.0 (635)	32.0 (813)	36.0 (914)	56.0 (1423)	56.0 (1423)
W in (mm)	23.0 (584)	23.0 (584)	35.0 (889)	45.0 (1143)	63.0 (1600)	63.0 (1600)

HDPE END SECTION STANDARD DETAIL

**STANDARD METAL END SECTION ROUND METAL PIPE**



**I-3 MODIFICATION**  
N.T.S.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT DIVISION  
DATE: 4/25/11  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 7/27/11  
DIRECTOR  
DATE: 7/27/11  
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
DATE: 5/24/2011

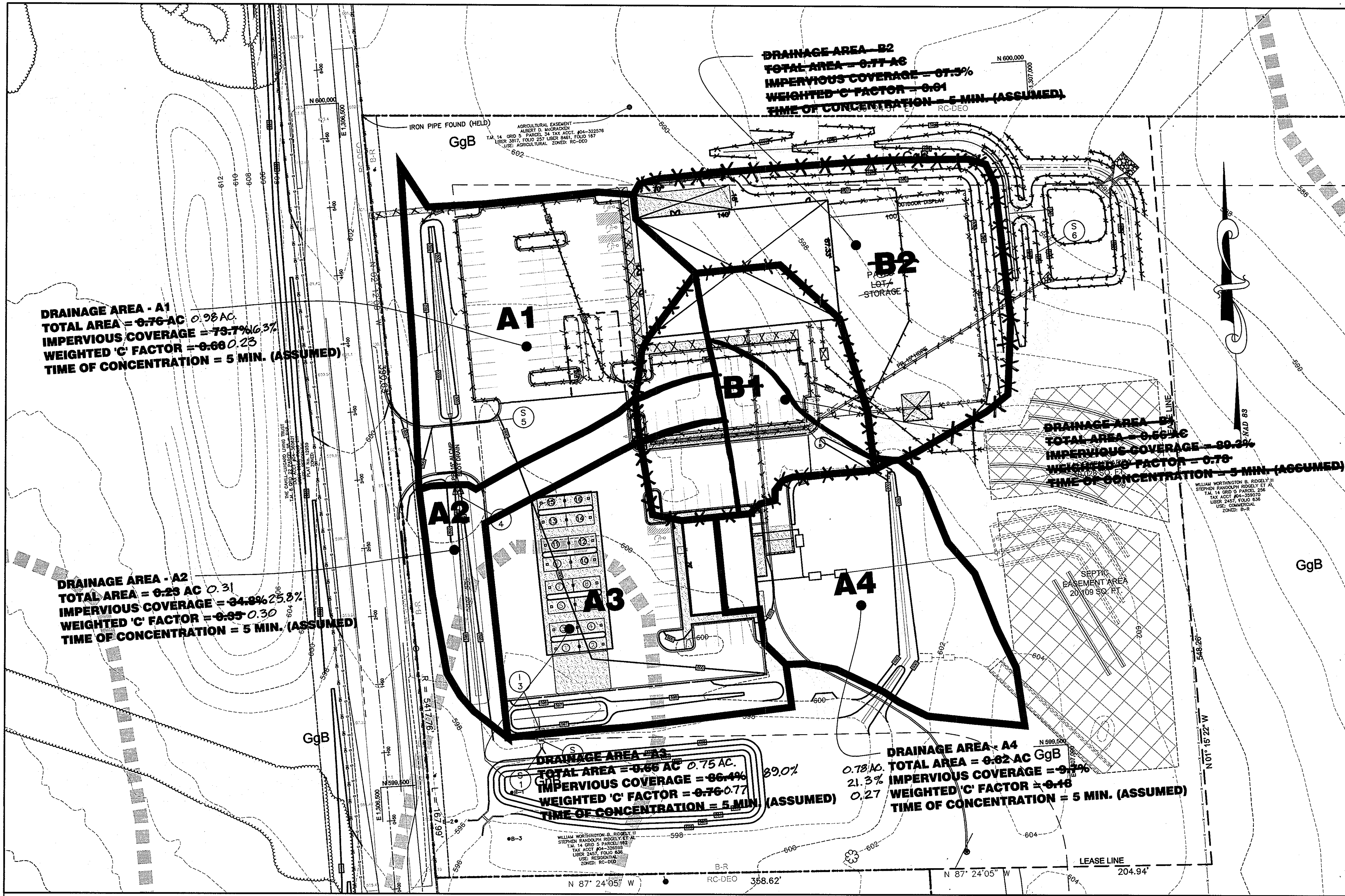
REV. DATE DESCRIPTION  
2 3-14-12 CROSSED OUT GRADING, PARKING STORM DRAIN, STORMWATER MANAGEMENT WITH THE FARM STORE, REVISED PIPE AND STRUCTURE SCHEDULE.  
3 10-30-18 REVISED SEPTIC LAYOUT FOR HIGHS STORE.

**MESSICK & ASSOCIATES\***  
CONSULTING ENGINEERS  
PLANNERS & SURVEYORS  
2120 RENARD COURT  
ANNAPOLIS, MARYLAND 21401  
PHONE: (410) 266-3212  
FAX: (410) 266-3502

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. 22086, EXPIRATION DATE: SEPT. 10, 2012

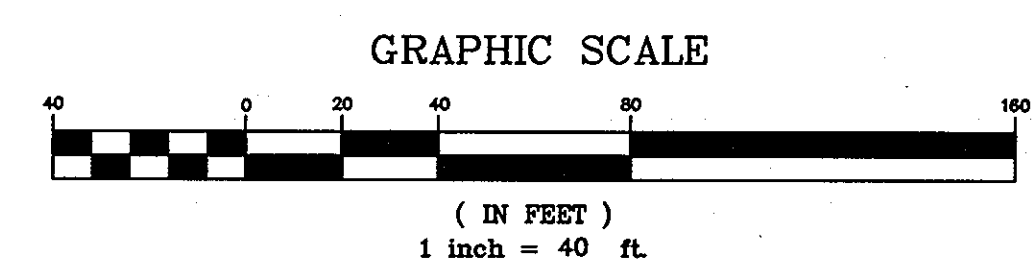
OWNER: WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
2125 ROUTE 97  
COOKVILLE, MD. 21723  
DEVELOPER: HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
7477 NEW RIDGE ROAD  
HANOVER, MARYLAND 20794  
410-859-3636

PROJECT: **HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION  
TITLE: **REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
(PREVIOUS SDP: SDP-06-64)  
**STORM DRAIN PLAN & PROFILES**  
2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
TAX MAP 14, GRID 5, PARCEL 256, ELECTION DISTRICT NO. 4, LIBERTY 2457 FOLIO 638  
WATER CONTRACT NO. SEWER CONTRACT NO. DESIGN BY: WAW DRAWN BY: BPO  
HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 8 OF 19



STORM DRAIN ANALYSIS INPUT SUMMARY			
JOB NAME:	High's @ Glenwood		
LOCATION:	Glenwood, MD		
DATA SUMMARY			
DRAINAGE AREA ID:	TOTAL AREA (AC)	RUNOFF COEFFICIENT "C-FACTOR"	TIME OF CONCENTRATION (MIN)
A1	0.76 0.98	0.68 0.23	5.00
A2	0.23 0.31	0.93 0.30	5.00
A3	0.66 0.75	0.76 0.77	5.00
A4	0.62 0.78	0.46 0.27	5.00
B1	0.77	0.61	5.00
B2	0.56	0.78	5.00
B3	0.56	0.78	5.00

PLAN  
SCALE: 1" = 40'



SOIL TYPES		
SOIL ID	NAME	HYDROLOGIC GROUP
GgB	GLENELG LOAM (3-8% SLOPE)	B
GgC	GLENELG LOAM (8-15% SLOPE)	B
GmB	GLENVILLE SILT LOAM (3-8% SLOPE)	C
GnB	GLENVILLE-BAILE SILT LOAM (0-8% SLOPE)	C

LOCATION	CONTRIB. AREA ID	ACRES	COEFF. 'C'	SUMP FACTOR	CA	Σ CA	TIME CONC. - MIN	INTEN	Q = CIA	ACTUAL PIPE HYDRAULICS					DRAIN TIME SEC.	FRICTION		FULL FLOW		PIPE MAX. C.F.S.	SUMP
										Size (in.)	Type	n	Slope (%)	Vel. (fps)		Lgth. (ft.)	Vel. (fps)	Slope (%)	C.F.S.		
SS S4	A1	0.76	0.68	1.10	0.66	0.66	5.0	7.00	1.73	15	AL-CMP	0.013	1.00%	5.5	51	t=0.2	3.1	0.35%	6.5	6.9	SUMP
IS S2	A3	0.66	0.76	1.10	0.66	0.66	5.0	7.00	4.4	18	RCP	0.013	1.00%	5.5	4	t=0.0	2.2	0.13%	10.5	11.3	SUMP
S2 S1	A3	0.75	0.77	1.10	0.66	0.66	5.0	7.00	4.4	18	RCP	0.013	1.00%	5.5	4	t=0.0	2.2	0.13%	10.5	11.3	SUMP
SWALE	A4	0.78	0.27	1.10	0.23	0.23	5.0	7.00	1.6	15	HDPE	0.012	2.50%	7.5	214	t=0.5	2.7	0.22%	11.1	11.8	SUMP

REV	DATE	DESCRIPTION
2	9-14-12	REVISED DRAINAGE AREAS AND STORM DRAIN COMPUTATIONS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 4/25/11  
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 7/27/11  
 DIRECTOR: *[Signature]* DATE: 7/27/11  
 APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 COUNTY HEALTH OFFICER: *[Signature]* DATE: 5/24/2011  
 HOWARD COUNTY HEALTH DEPARTMENT

**MESSICK & ASSOCIATES\***  
 CONSULTING ENGINEERS  
 PLANNERS & SURVEYORS  
 2120 RENARD COURT  
 ANNAPOLIS, MARYLAND 21401  
 PHONE: (410) 266-3212  
 FAX: (410) 266-3502

*[Professional Engineer Seal]*  
 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. 22086, EXPIRATION DATE: SEPT. 10, 2012

OWNER: WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
 2125 ROUTE 97  
 COOKSVILLE, MD. 21723

DEVELOPER: HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
 7477 NEW RIDGE ROAD  
 HANOVER, MARYLAND 20794  
 410-859-3636

PROJECT: **HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
 (2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

TITLE: **REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
 (PREVIOUS SDP: SDP-98-64)

**STORM DRAIN DRAINAGE AREA MAP**  
 TAX MAP 14, GRID 5, PARCEL 256, ELECTRON DISTRICT NO. 4 - LIBER 2457 FOLIO 636  
 WATER CONTRACT NO. SEWER CONTRACT NO. DESIGN BY: WAN DRAWN BY: BPO  
 HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 9 OF 19

RECORD DRAWING NOVEMBER 2012



UNIFIED SIZING AND LOCATION															
IDENTIFICATION			VOLUME REQUIRED					VOLUME PROVIDED					LOCATION		NOTES
AREA ID	AREA (AC)	PRACTICE NUMBER	WQ <sub>1</sub>	WQ <sub>2</sub>	WQ <sub>3</sub>	CP <sub>10</sub>	CP <sub>100</sub>	WQ <sub>1</sub>	WQ <sub>2</sub>	WQ <sub>3</sub>	CP <sub>10</sub>	CP <sub>100</sub>	NORTH	EAST	
A-1	1.05	BMP #1	M-8	2,281	1,188	6,062	NA	2,281	1,188	6,062	NA	NA	599,778	1,306,567	BIO-SWALE
A-2	2.15	BMP #2	I-2	7,180	7,180	NA	NA	7,180	7,180	NA	NA	NA	599,492	1,306,723	INFILTRATION IN EX SWM POND (DRY POND)
A-3	A-3	CREDIT	GCC	962	223	NA	NA	962	223	NA	NA	NA	NA	NA	INFILTRATION IN EX SWM POND (DRY POND)
A-4	2.15	BMP #2	I-2	1,120	291	NA	NA	1,120	291	NA	NA	NA	599,492	1,306,723	INFILTRATION IN EX SWM POND (DRY POND)
				1,120	291	NA	NA	1,120	291	NA	NA	NA	599,492	1,306,723	MICRO-BIORETENTION
				1,120	291	NA	NA	1,120	291	NA	NA	NA	599,492	1,306,723	BIO-SWALE
				1,120	291	NA	NA	1,120	291	NA	NA	NA	599,492	1,306,723	INFILTRATION

**STORMWATER MANAGEMENT NOTE:**

**WATER QUALITY (WQ):**  
 WATER QUALITY VOLUME (WQV) FOR THE PROJECT WILL BE PROVIDED THROUGH VARIOUS DEVICES: MICRO-BIORETENTION, ENHANCED FILTER, AND INFILTRATION AND A NON STRUCTURAL PRACTICE (GRASS CHANNEL CREDIT).

**A. THE AREA (A-1) IN FRONT OF THE FARM STORE WILL DRAIN TO THE WEST TOWARD ROUTE 97 WILL IT WILL BE COLLECTED IN A BIO-SWALE.**

**B. THE AREA (A-2) IN FRONT OF THE HIGH STORE & GAS PUMPS WILL DRAIN TO THE SOUTHWEST INTO A PRETREATMENT FOREBAY. THE BOTTOM OF THE FOREBAY IS LINE WITH CLAY TO PREVENT INFILTRATION. THE WATER COLLECTED IN THE FOREBAY WILL THEN BE FILTER THROUGH A STORMCCEPTOR DEVICE TRAPPING ANY OILS OR GREASES THAT MAY HAVE WASHED INTO THE SYSTEM. ULTIMATELY, THE RUNOFF WILL ENTER THE EXISTING POND. THE POND WAS EXCAVATED SLIGHTLY TO RETAIN WATER FOR INFILTRATION INTO THE SUBGRADE. THE AREA (A-4) ALONG MD ROUTE 2 WILL DRAIN ALONG THE CURB TO THE EXISTING POND.**

**C. THE AREA BEHIND THE HIGH STORE WILL DRAIN INTO A 2-FOOT WIDE FLAT BOTTOM SWALE. THE VELOCITY OF FLOW FOR THE WATER QUALITY STORM WILL BE LESS THAN 1 FPS THIS QUALITY MANAGEMENT THROUGH GRASS CHANNEL CREDIT (NON-STRUCTURAL PRACTICE).**

BMP SUMMARY TABLE			
BMP #	BMP Type	Total Area (acres)	Imperv. Area (acres)
1	BIO-SWALE	1.05	0.64
2	INFILTRATION BASIN	2.15	0.83
3	MICRO-BIORETENTION	0.56	0.50
4	BIO-SWALE	0.67	0.52
5	INFILTRATION BASIN	0.89	0.00

**OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER FILTERING SYSTEMS (BIORETENTION, MICROBIORETENTION, SAND FILTERS, BIO-SWALES)**

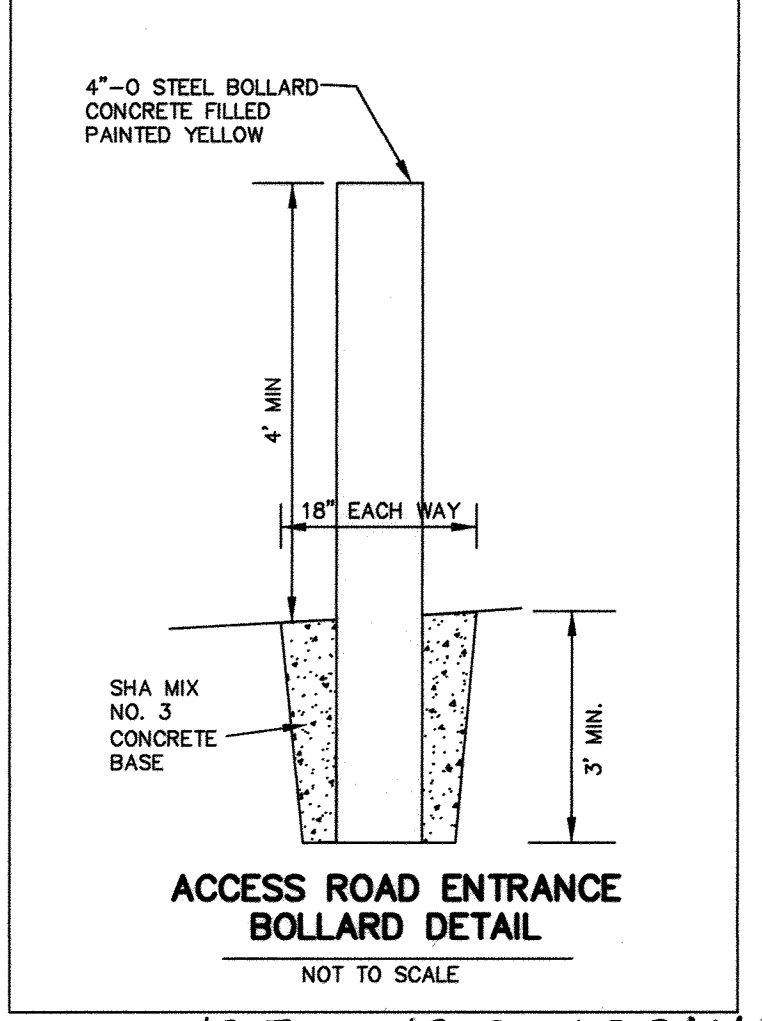
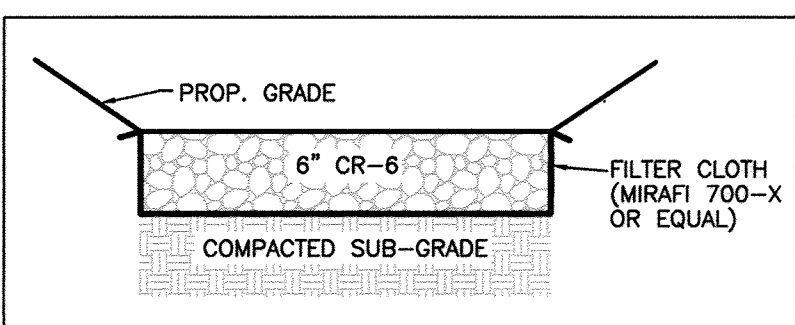
- The stormwater filtering facility shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the facility is functioning properly.
- The top and side slopes shall be mowed a minimum of once per year, when vegetation reaches 18" in height or as needed.
- Filters that have a grass cover shall be mowed a minimum of three (3) times during the growing season to maintain a maximum grass height of less than 12 inches.
- Debris and litter shall be removed during regular mowing operations and as needed.
- Visible signs of erosion in the facility shall be repaired as its noticed.
- Remove silt when it exceeds four (4) inches deep.
- Dead or diseased plant material shall be replaced. Areas devoid of mulch should be re-mulched on an annual basis.
- When water ponds on the surface of the filter bed for more than 72 hours, the top few inches of discolored material shall be replaced with fresh material, proper cleaning and disposal of the removed material and liquid must be followed by the owner.
- A log book shall be maintained to determine the rate at which the facility drains.
- The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.
- Once the performance characteristics of the system have been verified, the monitoring schedule can be reduced to annual basis unless the performance data indicates that a more frequent schedule is required.

**OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER INFILTRATION BASIN**

- The infiltration basin shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the facility is functioning properly.
- The top and side slopes shall be mowed a minimum of once per year, when vegetation reaches 18" in height or as needed.
- Debris and litter shall be removed during regular mowing operations and as needed.
- Visible signs of erosion in the facility shall be repaired as its noticed.
- Remove silt when it exceeds four (4) inches deep.
- The bottom of the facility shall be retotilled at least once every two (2) years to insure that the soil maintains the infiltration capability.
- A log book shall be maintained to determine the rate at which the facility drains.
- The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.
- Once the performance characteristics of the system have been verified, the monitoring schedule can be reduced to annual basis unless the performance data indicates that a more frequent schedule is required.

**GENERAL STORMWATER MANAGEMENT NOTES:**

- COORDINATES ARE BASED ON THE MARYLAND STATE COORDINATE SYSTEM NAD 83 DATUM PROJECTED BY THE DEPARTMENT OF PUBLIC WORKS OF ANNE ARUNDEL COUNTY, MARYLAND.
- ELEVATIONS ARE BASED ON U.S.C. AND G.S. 1929 DATUM.
- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE MOST CURRENT HOWARD COUNTY STANDARD DETAILS FOR CONSTRUCTION OF STORMDRAINS, ROADS, AND STORMWATER MANAGEMENT.
- THE TOPOGRAPHY & BOUNDARY AS SHOWN HEREON THIS PLAN IS BASED ON A SURVEY CONDUCTED BY MESSICK AND ASSOCIATES.
- NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING SERVICES AND MAINS, AND ANY DAMAGE TO THEM DUE TO THEIR NEGLIGENCE SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION BEFORE STARTING CONSTRUCTION. NEITHER THE OWNER NOR HOWARD COUNTY WARRANTS OR GUARANTEES THE COMPLETENESS OF THE CORRECTNESS OF THE INFORMATION GIVEN.
- IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO SPECIFICALLY MENTION ANY WORK, WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT, SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM SUCH WORK.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS' CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY THE BOE AT (410) 234-5601 AND C&P TELEPHONE COMPANY AT (301) 393-3648, FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" 1-800-257-7777 FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- ALL UTILITY POLES SHALL BE BRACED AS NECESSARY AT THE CONTRACTOR'S EXPENSE. UTILITY POLES SHALL BE RELOCATED AT THE OWNER'S EXPENSE IN CASES WHERE THEY WILL INTERFERE WITH CONSTRUCTION.
- PIPE ELEVATIONS REFER TO THE INVERTS UNLESS OTHERWISE NOTED.
- UNLESS OTHERWISE SPECIFIED, A STORMWATER PRACTICES SHOWN HEREIN ARE PRIVATE AND SHALL BE INSPECTED AND MAINTAINED BY THE OWNER OR HIS REPRESENTATIVE.



**STORMWATER MANAGEMENT PLAN**  
 SCALE: 1" = 40'

**GRAPHIC SCALE**  
 (IN FEET)  
 1 inch = 40 ft.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 4/25/11

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 7/27/11

DIRECTOR: *[Signature]* DATE: 7/27/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 COUNTY HEALTH OFFICER: *[Signature]* DATE: 5/24/2011

REV. DATE DESCRIPTION

3-14-12 CROSSED OUT GRADING, PARKING, STORM DRAIN, STORMWATER MANAGEMENT, WATER, SEPTIC AND BUILDING ASSOCIATED WITH THE FARM STORE. REVISED STORMWATER MANAGEMENT TABLE AND NOTES.

10-30-18 REVISED SEPTIC LAYOUT FOR HIGH'S STORE.

**MESSICK & ASSOCIATES\***  
 CONSULTING ENGINEERS  
 PLANNERS & SURVEYORS

2120 RENARD COURT  
 ANNAPOLIS, MARYLAND 21401  
 PHONE: (410) 266-3212  
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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. 22066, EXPIRATION DATE: SEPT. 10, 2012

OWNER:  
 WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
 2125 ROUTE 97  
 COOKVILLE, MD. 21723

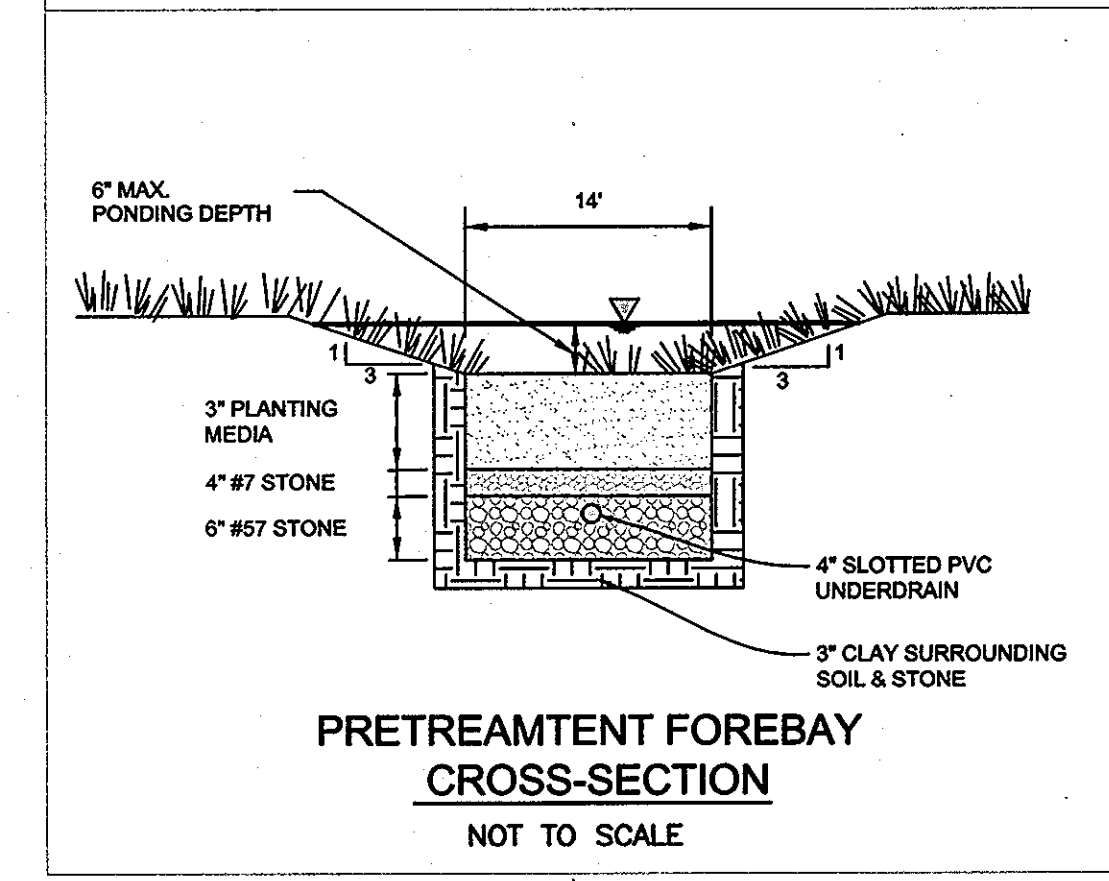
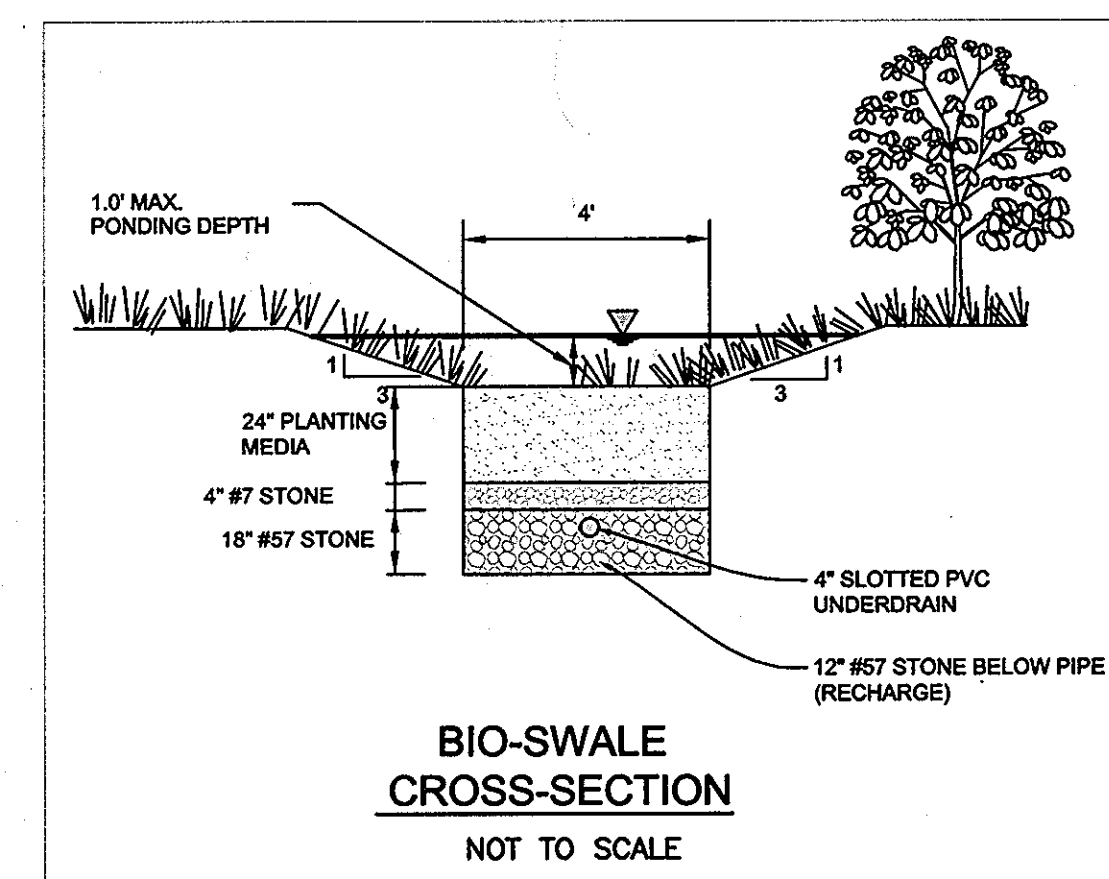
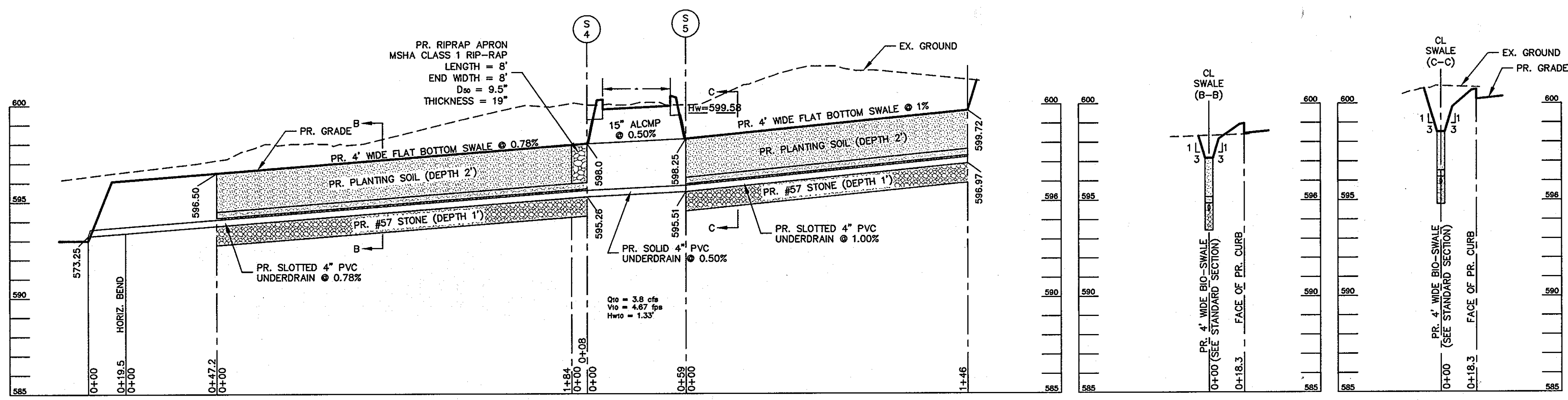
DEVELOPER:  
 HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
 7477 NEW RIDGE ROAD  
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PROJECT: **HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
 (2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

TITLE: **REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
 (PREVIOUS SDP: SDP-06-64)

**STORMWATER MANAGEMENT PLAN**

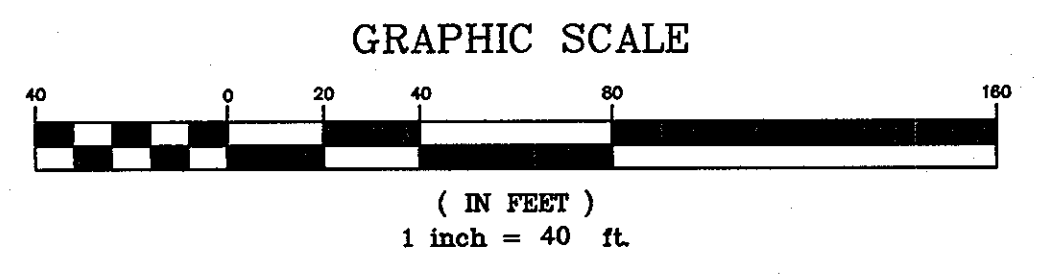
2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
 TAX MAP 14, GRID 5, PARCEL 256, ELECTION DISTRICT NO. 4 LIBER 2457, FOLIO 636  
 WATER CONTRACT NO. SEWER CONTRACT NO. DESIGN BY: WAN DRAWN BY: BPO  
 HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 10 OF 19



**SECTION A-A (BIO-SWALE)**  
SCALE: H 1"=40'  
V 1"=4'

**SECTION B-B (BIO-SWALE)**  
SCALE: H 1"=40'  
V 1"=4'

**SECTION C-C (BIO-SWALE)**  
SCALE: H 1"=40'  
V 1"=4'



**SPECIFICATIONS**

**Material Specifications**

The allowable materials used for bioretention devices are as follows:

Plantings - See Appendix A, Table A.4 of the 2000 Maryland Stormwater Design Manual.

Mulch - Shredded Hardwood (aged 6 months, min.)

Pea Gravel Diaphragm and Curtain Drain -  
Pea Gravel:  
Test Method - ASTM-D-448  
Size - No. 6

Ornamental Stone:  
Washed Cobbles,  
Size - 2" to 5"

Geotextile (Class "C") -  
Test Methods - apparent opening size (ASTM-D-4751)  
- grad tensile strength (ASTM-D-4632)  
- puncture resistance (ASTM-D-4833)

Sand -  
Test Method - AASHTO-M-6 or ASTM-C-33  
Size - 0.02" to 0.04"  
Notes - Sand substitutions such as Diabase and Graystone #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

Underdrain Gravel -  
Test Method - AASHTO-M-43  
Size - 0.375" to 0.75"

Underdrain Piping -  
Test Method - F758, Type PS 28 or AASHTO-M-278  
Size - 4" or 6" rigid schedule 40 PVC or SDR35  
Perforations: 3/8" perf. @ 6" on center, 4 holes per row

Concrete (Poured in place) -  
MSHA Mix No. 3; fc=3500 psi @ 28 days  
Normal Weight  
Air-Entrained  
Reinforcing to meet ASTM-615-60

**Planting Soil**

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than 2 inches. No other materials or substances shall be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.

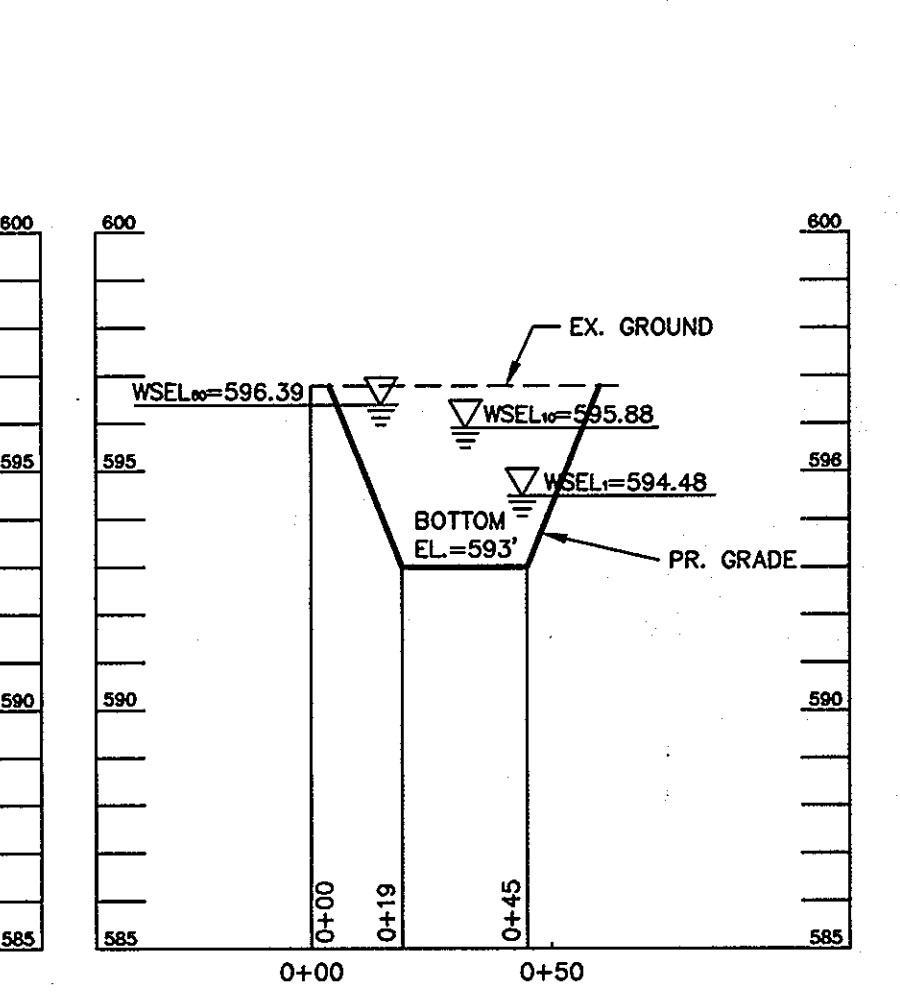
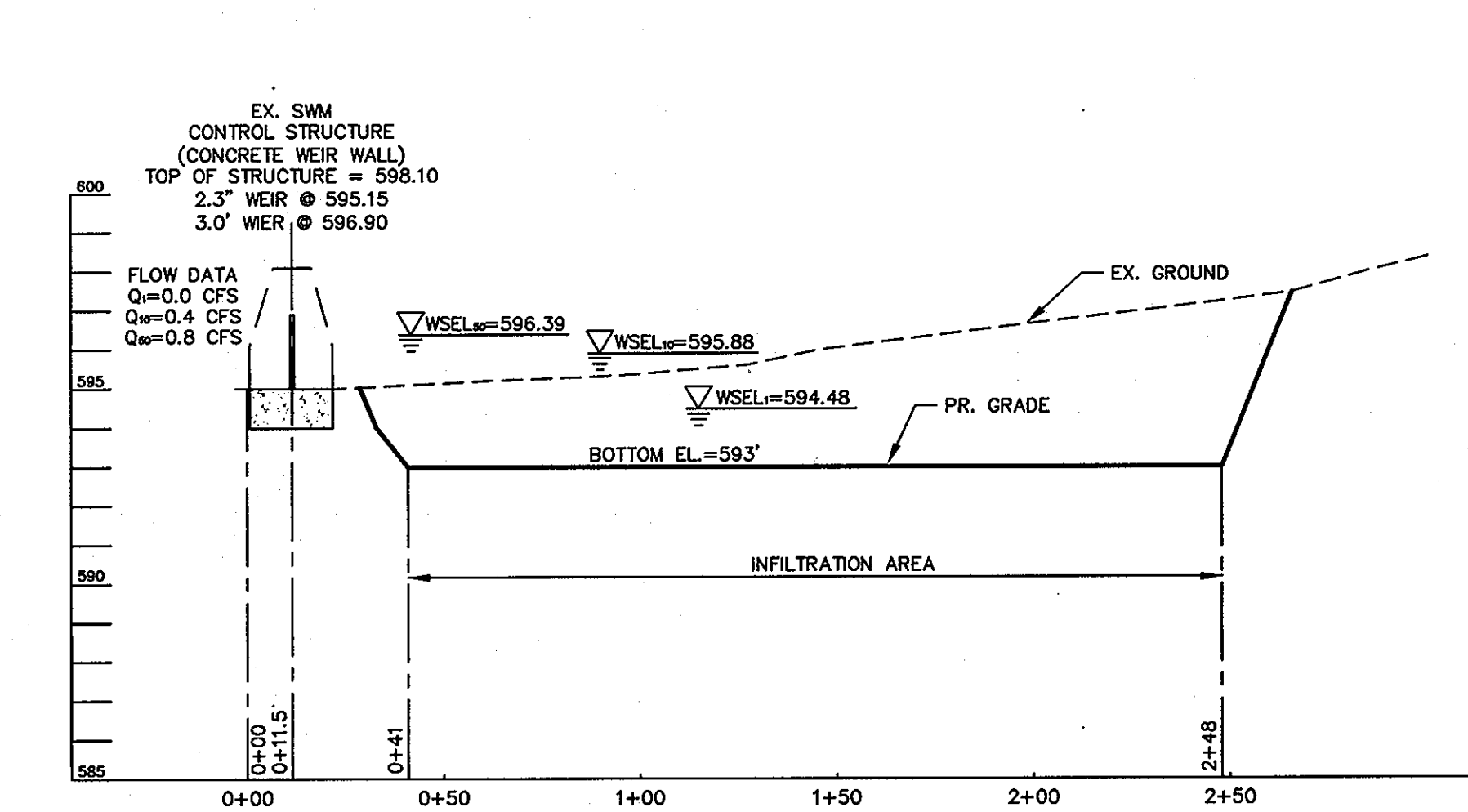
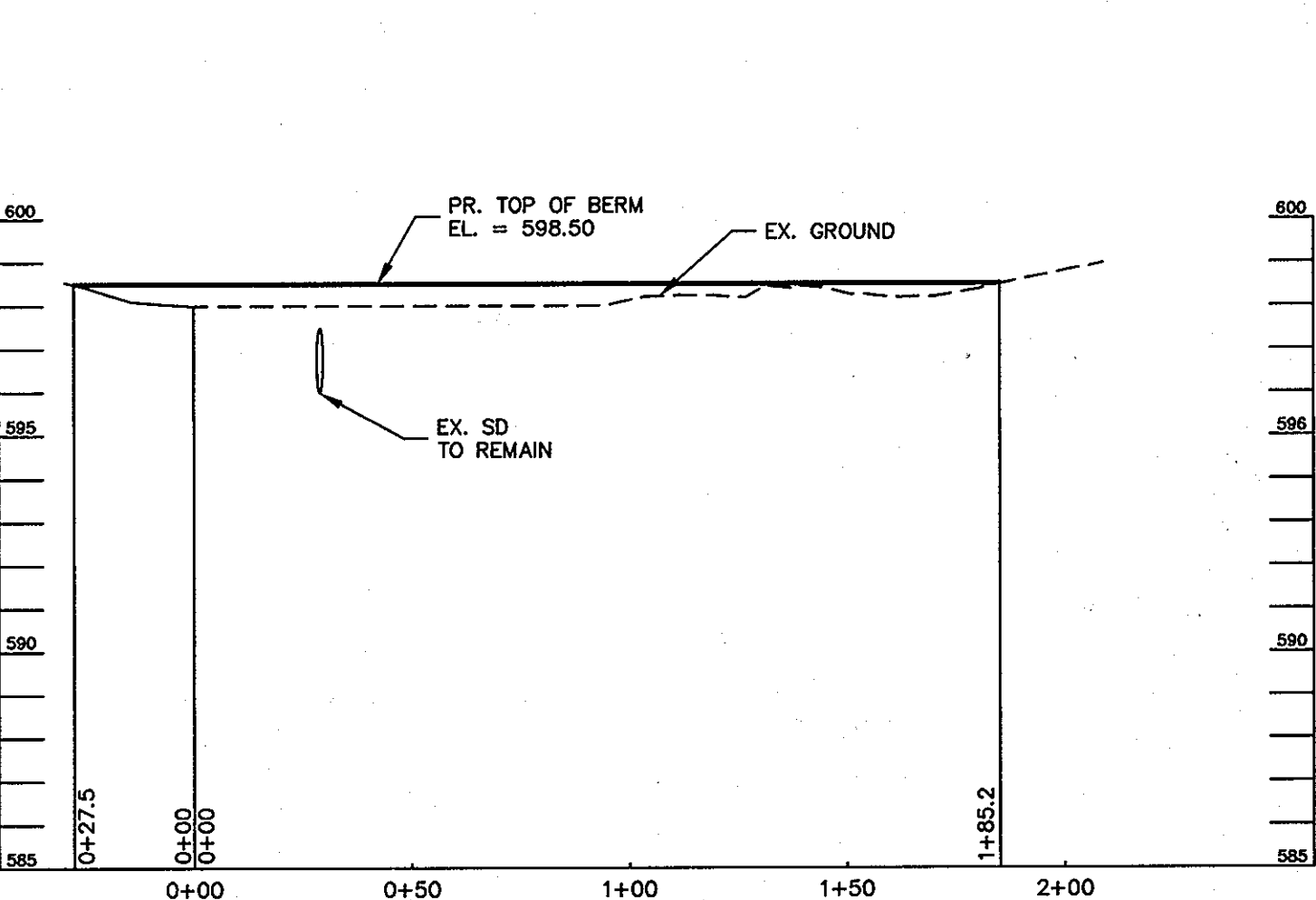
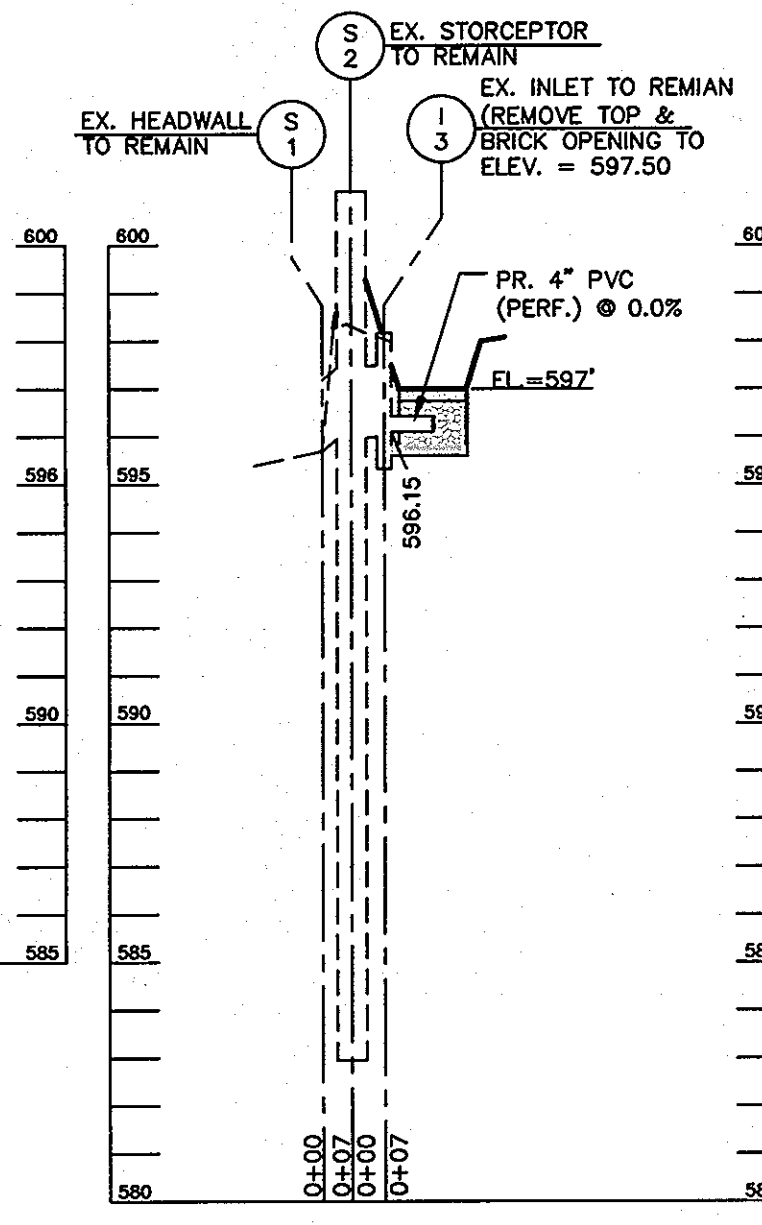
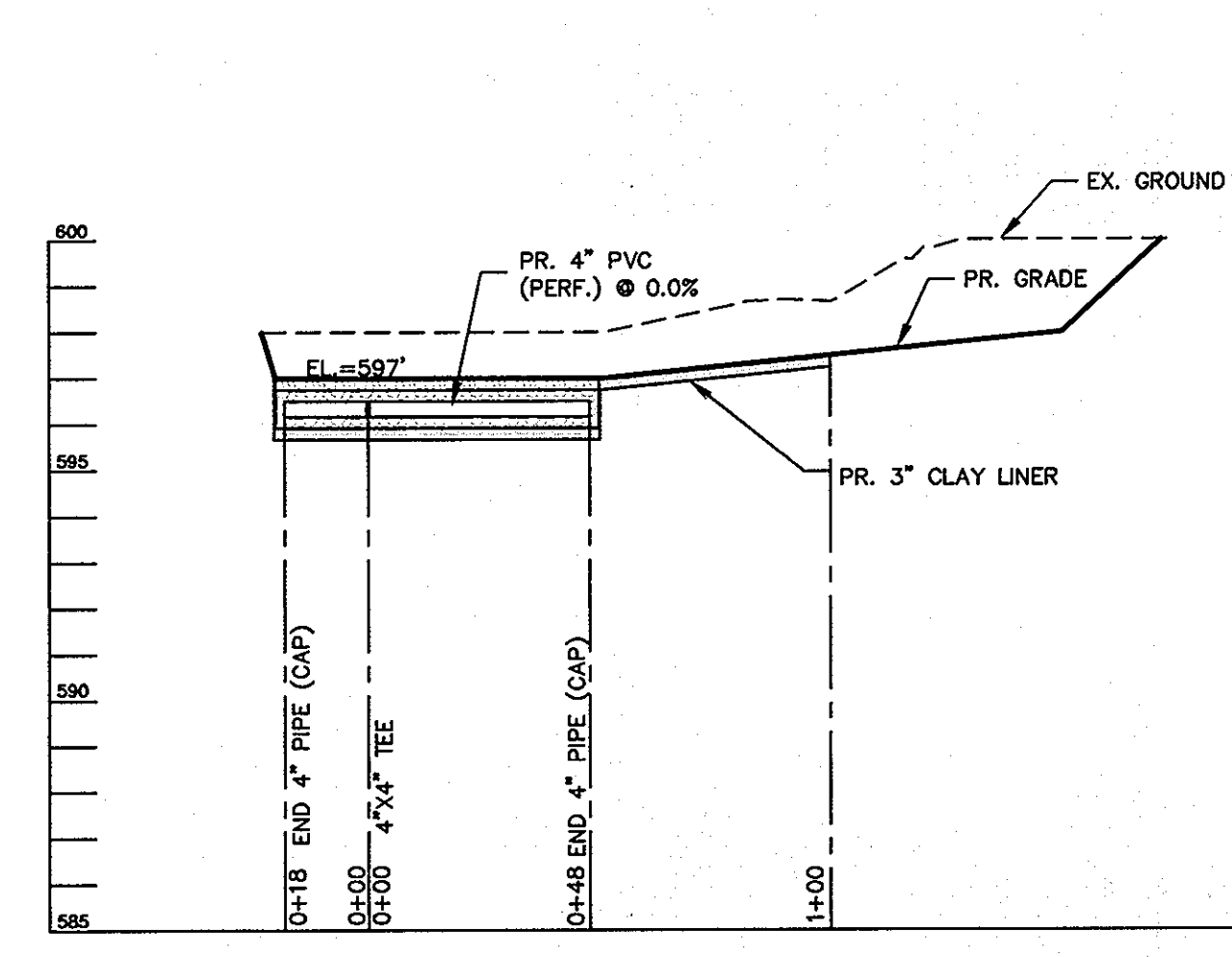
The planting soil shall be tested and shall meet the following criteria:

pH range	5.2 - 7.0
organic matter	1.5 - 4.0% (by weight)
magnesium	35 lb./ac
phosphorus (phosphate)	75 lb./ac
potassium (potash)	85 lb./ac
soluble salts	not to exceed 500 ppm

All bioretention areas shall have a minimum of one test. Each test shall consist of both the standard soil test for pH, phosphorus, and potassium and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiles topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

Since different labs calibrate testing equipment differently, all testing results shall come from the same testing facility.

Should the pH fall out of the acceptable range, it may be modified (higher) with lime or (lower) with iron sulfate plus sulfur.



APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* DATE 4/25/11

*[Signature]* DATE 7/27/11

*[Signature]* DATE 7/27/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

*[Signature]* DATE 5/24/2011

**MESSICK & ASSOCIATES\***  
CONSULTING ENGINEERS  
PLANNERS & SURVEYORS

2120 RENARD COURT  
ANNAPOLIS, MARYLAND 21401  
PHONE: (410) 266-3212  
FAX: (410) 266-3502

*[Logo]*

\* MESSICK GROUP INC. T/A MESSICK AND ASSOCIATES

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A BELIEVING LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 22098, EXPIRATION DATE: SEPT. 10, 2012

OWNER:  
WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
2125 ROUTE 97  
COOKSVILLE, MD. 21723

DEVELOPER:  
HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
7477 NEW RIDGE ROAD  
HANOVER, MARYLAND 20794  
410-859-3636

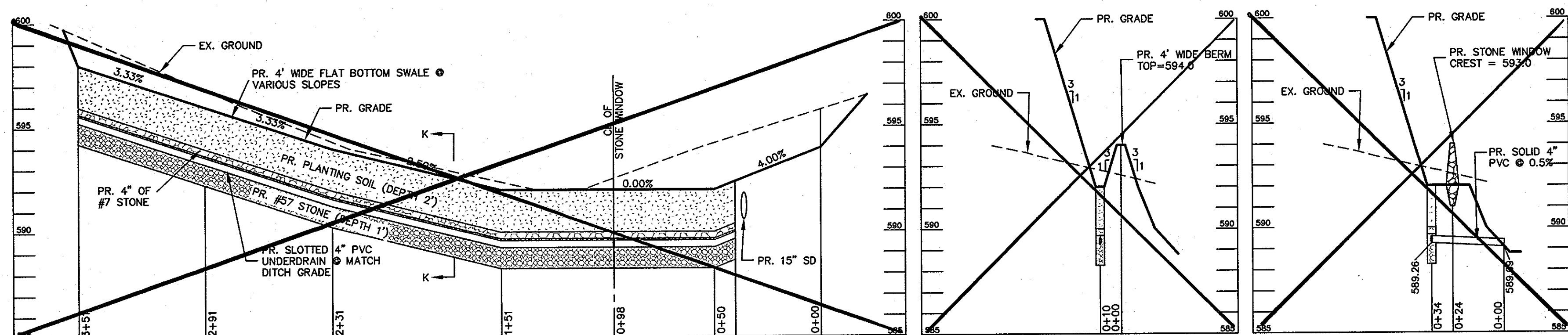
RECORD DRAWING NOVEMBER 2012

PROJECT  
**HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

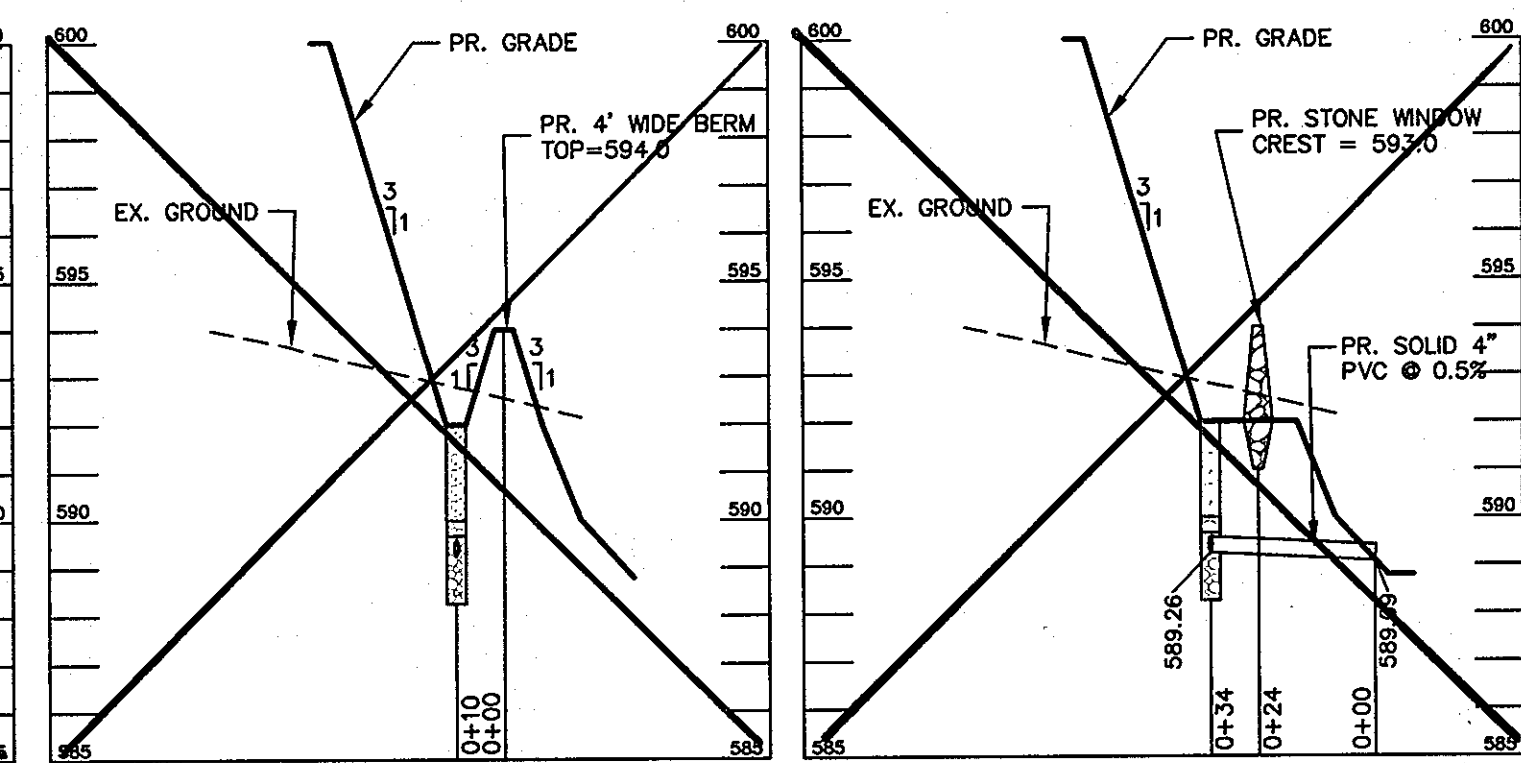
TITLE  
**REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
(PREVIOUS SDP: SDP-06-64)

**STORMWATER MANAGEMENT PROFILES**

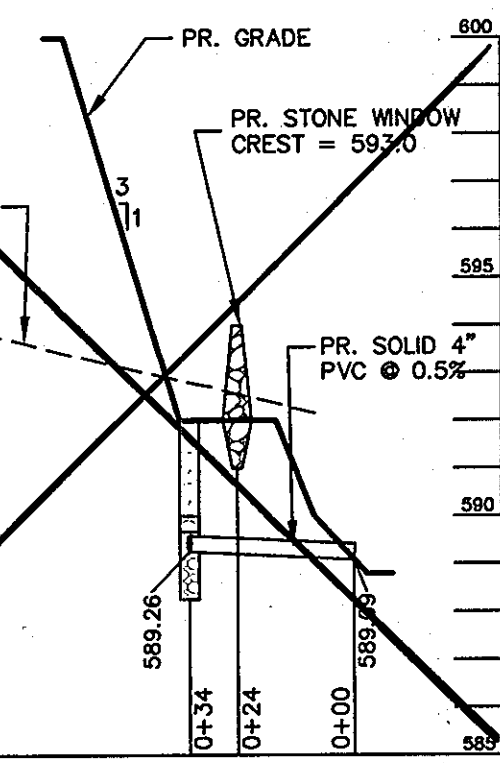
2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
TAX MAP 14, GRID 5, PARCEL 255, ELECTION DISTRICT NO. 4, LIBER 2457 FOLIO 636  
SEWER CONTRACT No. DESIGN BY: WAM DRAWN BY: BFO  
HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 11 OF 19



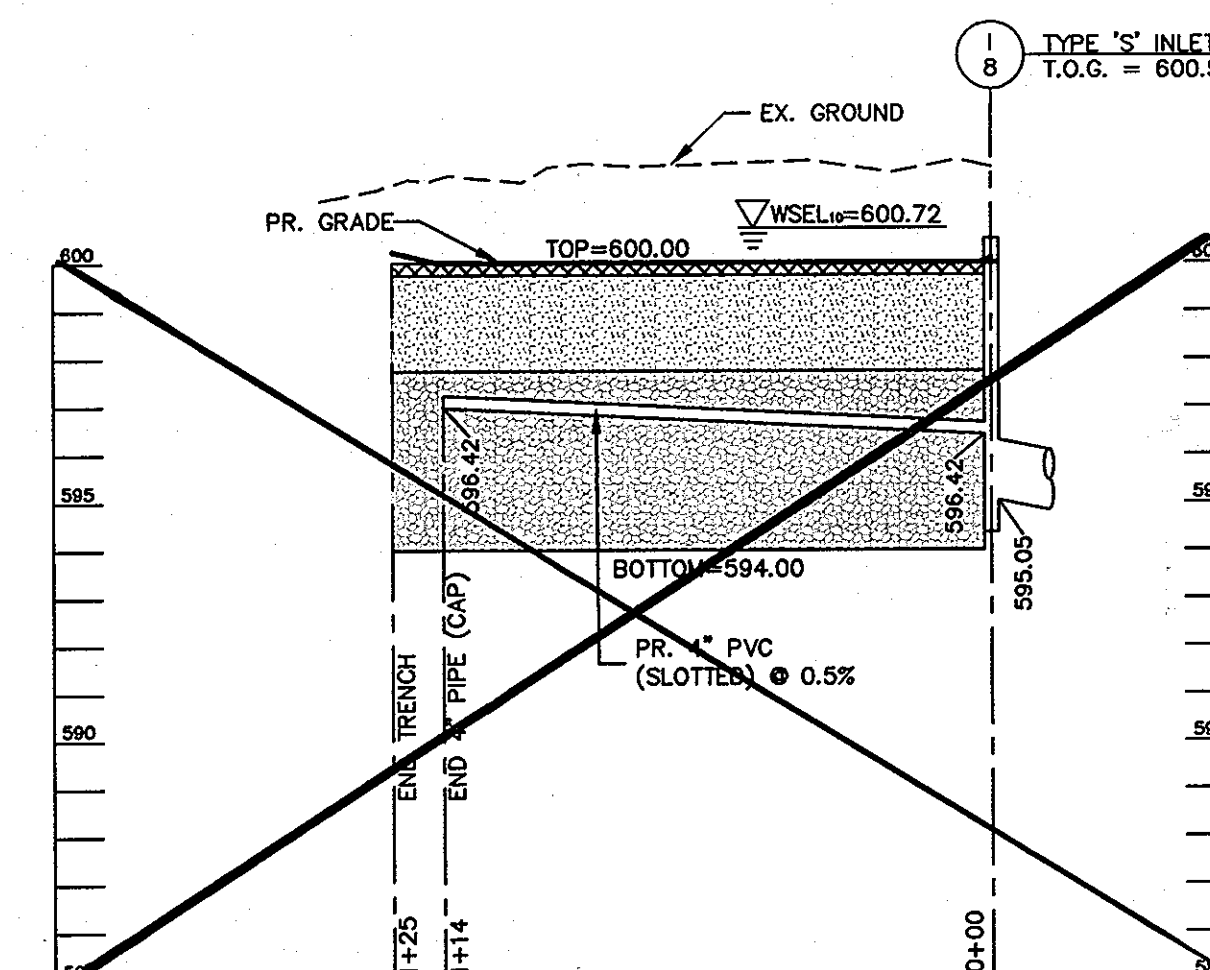
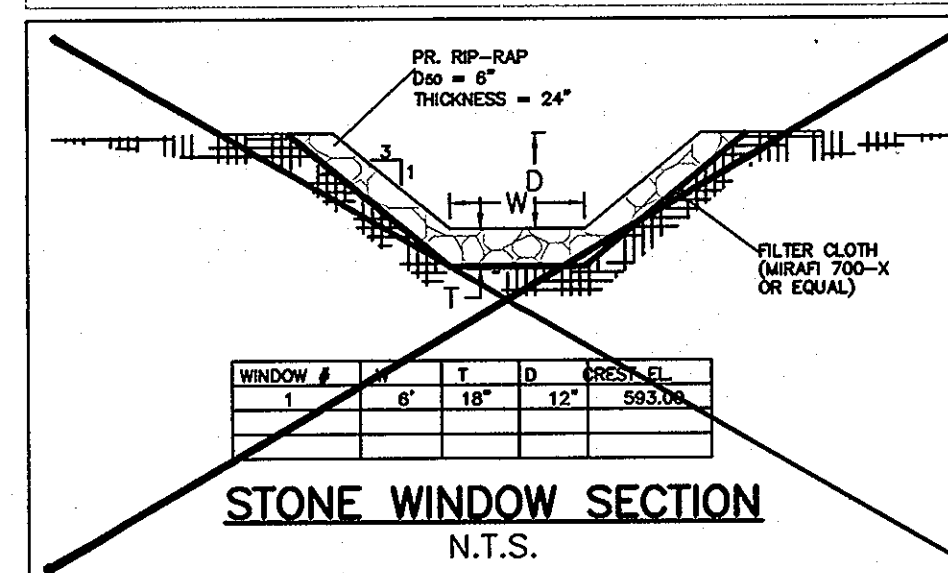
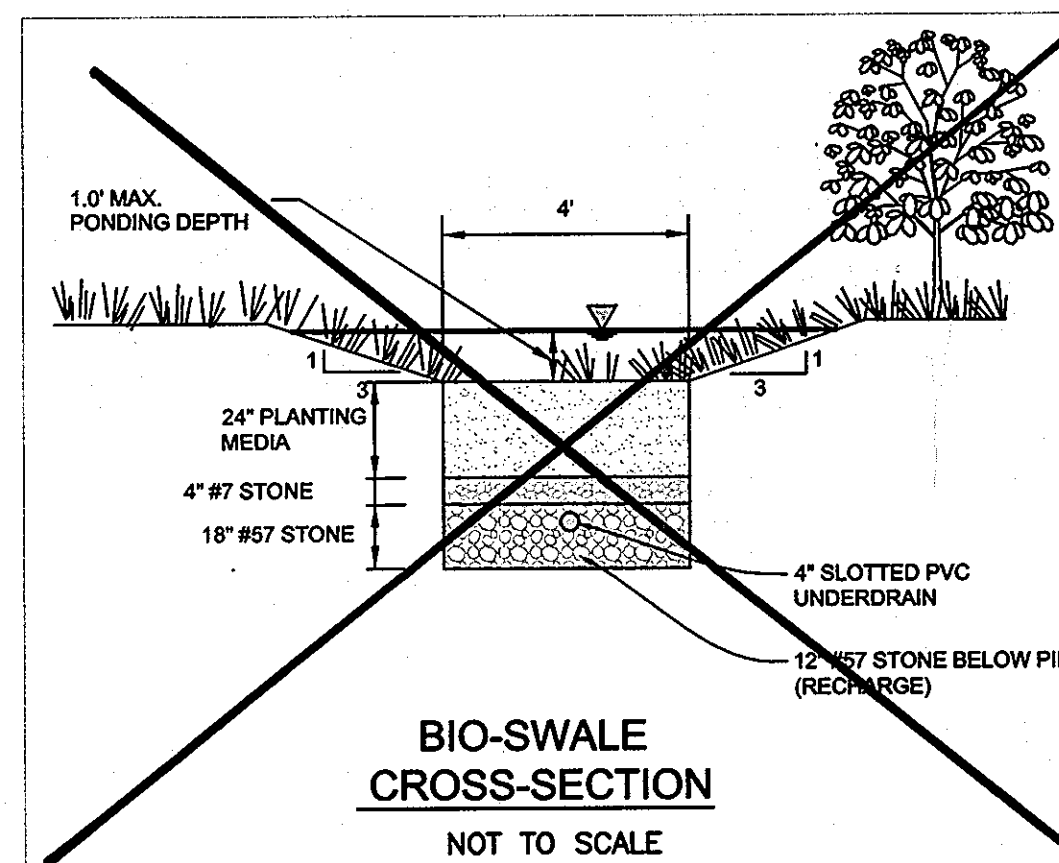
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V: 1"=4'



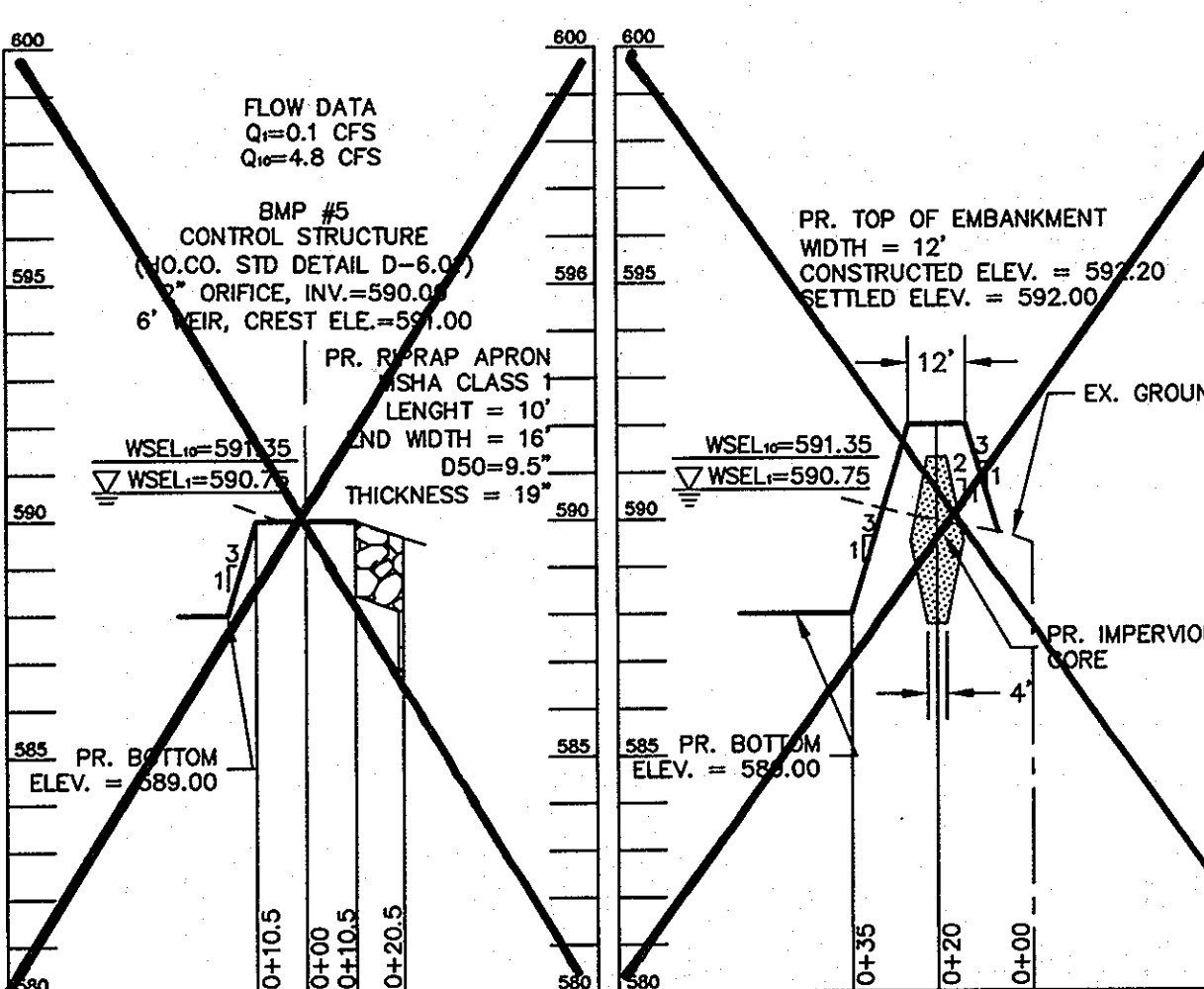
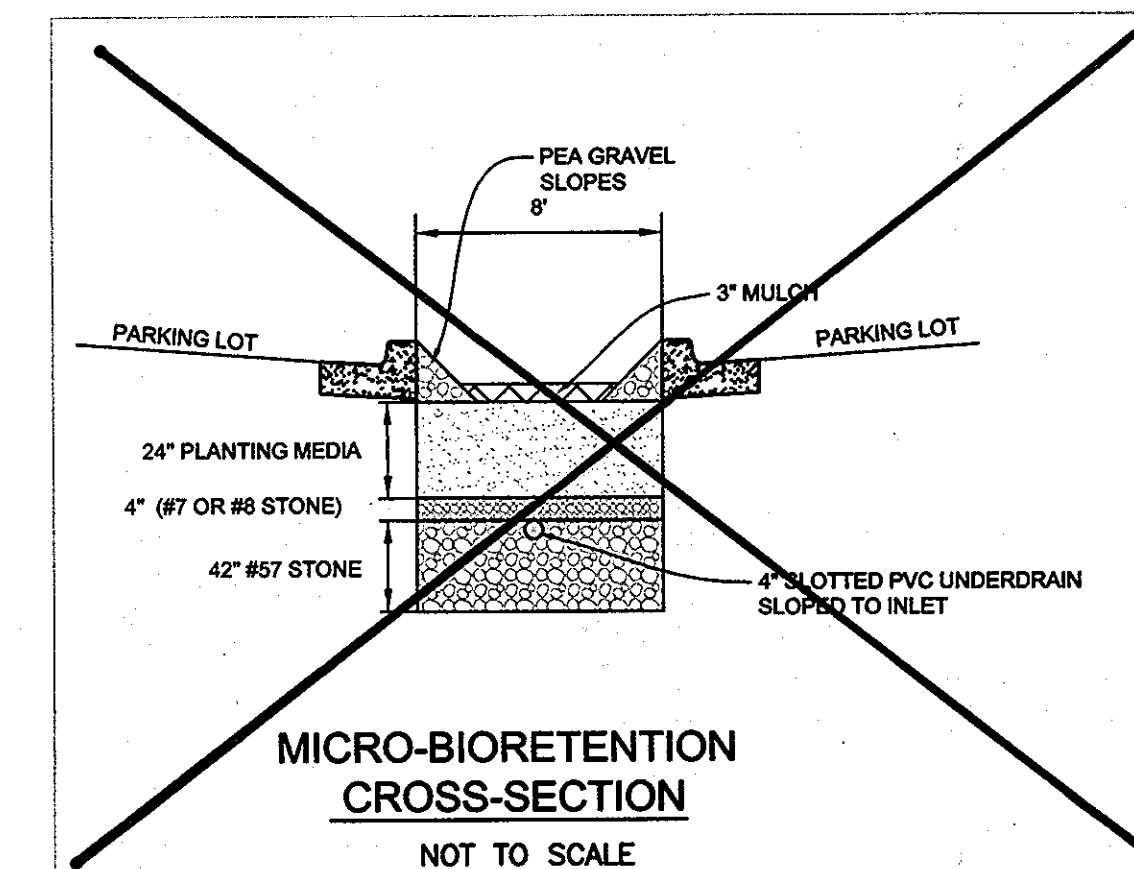
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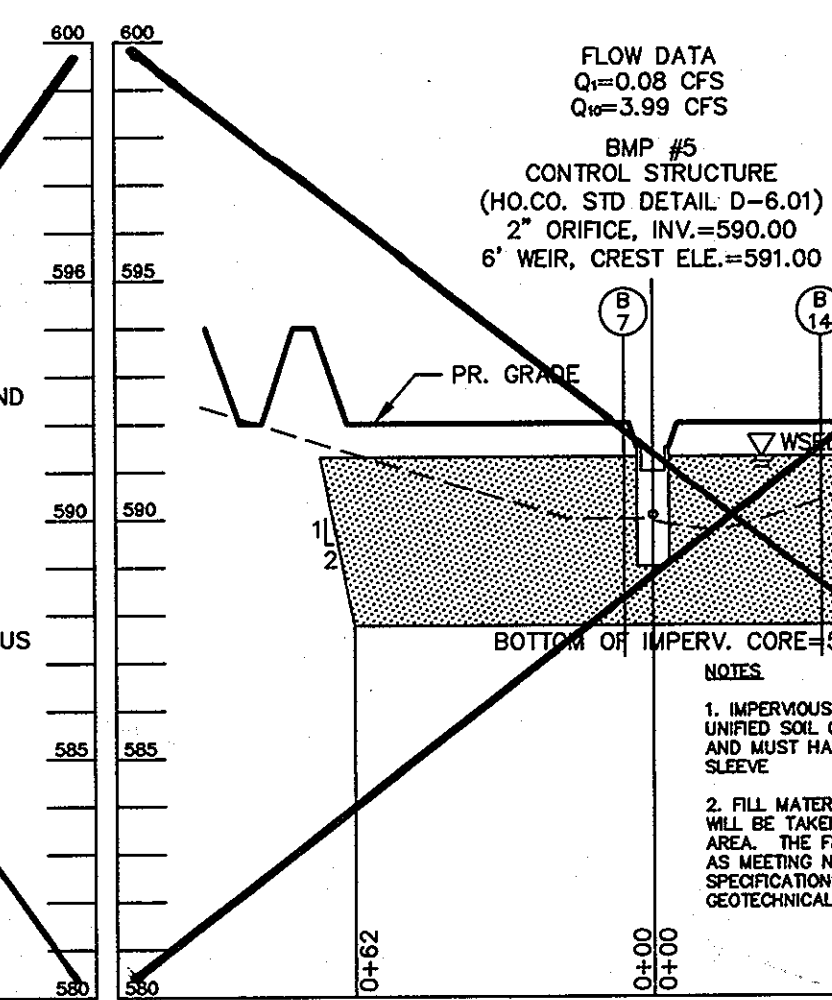
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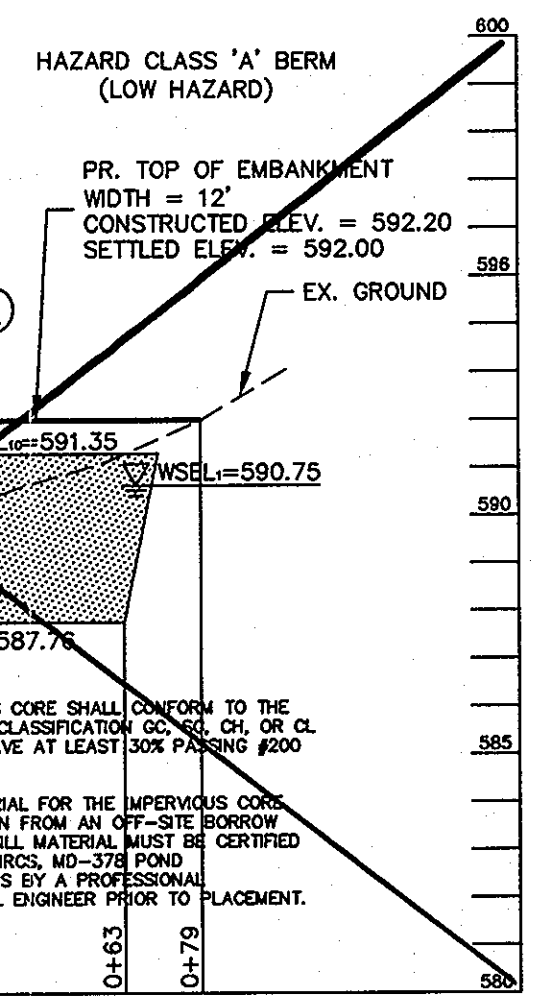
SECTION I-I  
(MICRO-BIORETENTION)  
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SECTION M-M  
(BMP #5)  
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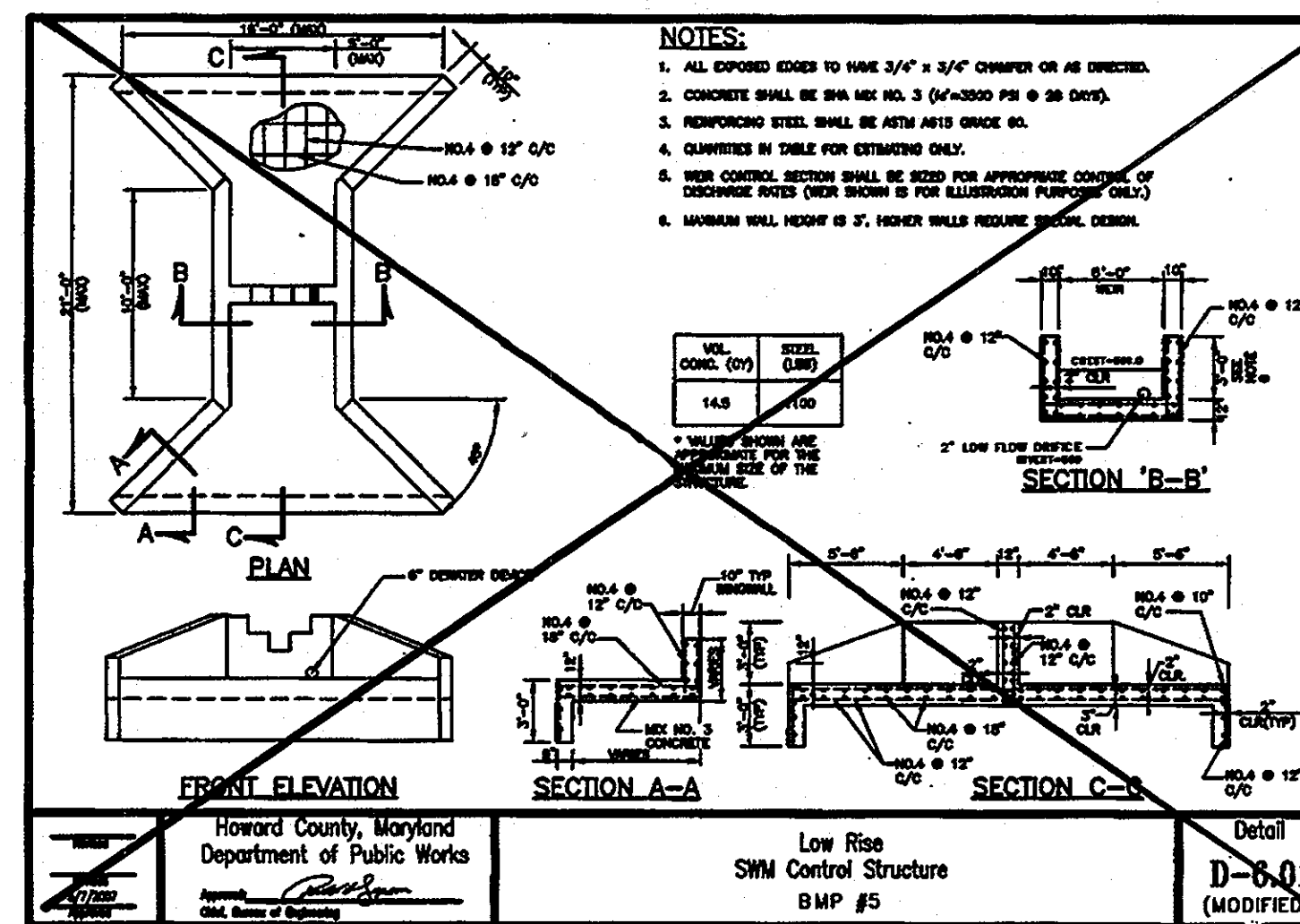


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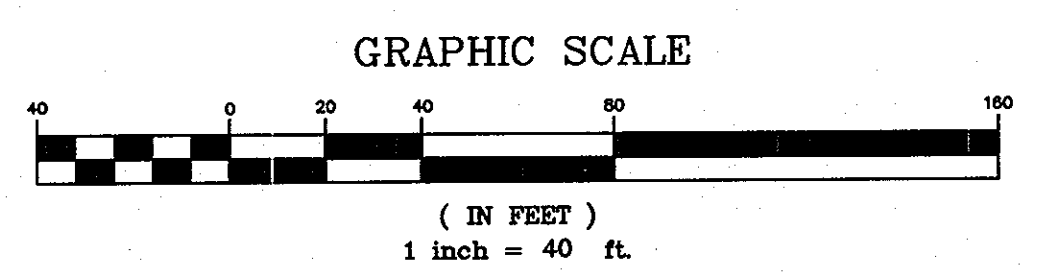
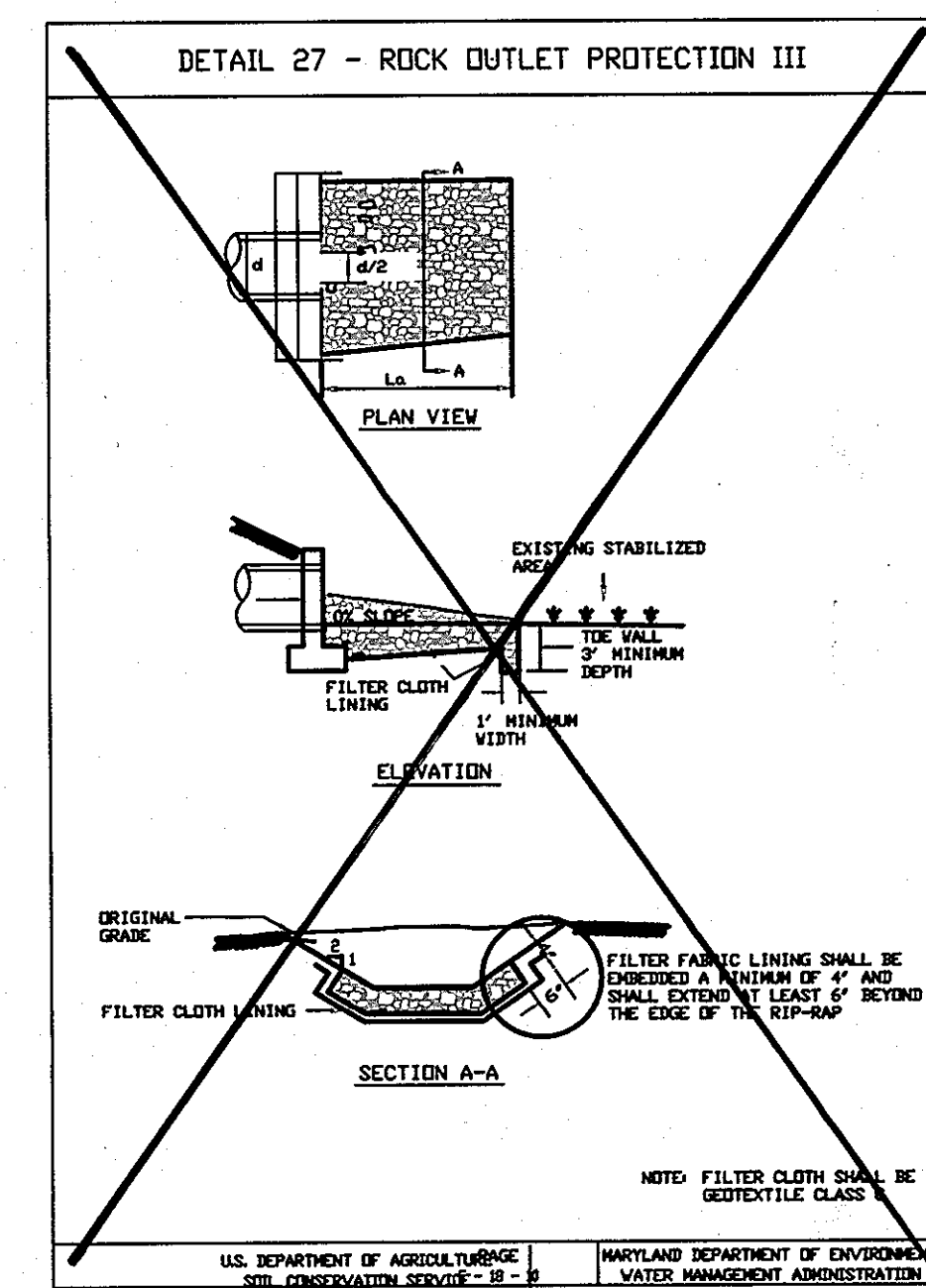
SECTION O-O  
(BMP #5)  
SCALE: H 1"=40'  
V: 1"=4'

BORING NOTE: FOR BORING LOGS  
SEE SHEET 13.



- NOTES:
- ALL EXPOSED EDGES TO HAVE 3/4" x 3/4" CURB OR AS DIRECTED.
  - CONCRETE SHALL BE MIN. 4000 PSI @ 28 DAYS.
  - REINFORCING STEEL SHALL BE #4 @ 18" ON CENTER.
  - QUANTITIES IN TABLE FOR ESTIMATING ONLY.
  - SEAL COORDINATION SHALL BE USED FOR APPROPRIATE COORDINATION OF INTERFERING DEVICES (SEE SCHEDULE FOR ALTERNATIVE MATERIALS ONLY).
  - WORKMAN SHALL VERIFY IF 2" VERTICAL WALLS REQUIRE SPECIAL DESIGN.

- SPECIFICATIONS
- Material Specifications**
- The allowable materials used for bioretention devices are as follows:
- Plantings - See Appendix A, Table A.4 of the 2000 Maryland Stormwater Design Manual.
- Mulch - Shredded Hardwood (aged 6 months, min.)
- Pea Gravel, Diaphragm and Curved Drain -  
Pea Gravel: Test Method - ASTM-D-448, Size - No. 6  
Ornamental Stone: Washed Cobble, Size - 2" to 5"
- Geotextile (Class 1) -  
Test Methods - apparent opening size (ASTM-D-4751), grad tensile strength (ASTM-D-4632), puncture resistance (ASTM-D-4833)
- Sand -  
Test Method - AASHTO-M-6 or ASTM-C-83, Size - 0.02" to 0.04"  
Notes - Sand substitutions such as Diabase and Graystone #10 are not acceptable. No calcium carbonate or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
- Underdrain Gravel -  
Test Method - AASHTO-M-43, Size - 0.375" to 0.75"
- Slotted Underdrain Piping -  
Test Method - F756, Type PS 25 or AASHTO-M-278, Size - 4" or 6" rigid schedule 40 PVC or SDR35
- Concrete (Poured in place) -  
ASTM Mix No. 3, f<sub>c</sub>=3500 psi @ 28 days  
Normal Weight  
Air-Entrained  
Reinforcing to meet ASTM-615-60
- Planting Soil
- The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than 2 inches. All other materials or substances shall be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.
- The planting soil shall be tested and shall meet the following criteria:
- |                        |                        |
|------------------------|------------------------|
| pH range               | 5.2 - 7.0              |
| organic matter         | 1.5 - 4.0% (by weight) |
| magnesium              | 35 lb./ac              |
| phosphorus (phosphate) | 75 lb./ac              |
| potassium (potash)     | 85 lb./ac              |
| soluble salt           | not to exceed 500 ppm  |
- All bioretention areas shall have a minimum of one test. Each test shall consist of both the standard soil test for pH, phosphorus, and potassium and additional tests of organic matter, and soluble salts. A textual analysis is required from the site stockpiles topsoil. If topsoil is imported, then a texture analysis shall be performed in each location where the topsoil was excavated.
- Since different labs calibrate testing equipment differently, all test results shall come from the same testing facility.
- Should the pH fall out of the acceptable range, it may be modified (higher) with lime or (lower) with iron sulfate plus sulfur.



REV	DATE	DESCRIPTION
1	9-14-12	CROSSED OUT ALL PROFILES, DETAILS, AND NOTES.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DATE: 4/25/11

DATE: 7/27/11

DATE: 7/22/11

DATE: 5/24/2011

**MESSICK & ASSOCIATES\***

CONSULTING ENGINEERS  
PLANNERS & SURVEYORS

2120 RENARD COURT  
ANNAPOLIS, MARYLAND 21401  
PHONE: (410) 266-3212  
FAX: (410) 266-3502

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. 22098, EXPIRATION DATE: SEPT. 10, 2012

OWNER:  
WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
2125 ROUTE 97  
COOKSVILLE, MD. 21723

DEVELOPER:  
HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
7477 NEW RIDGE ROAD  
HANOVER, MARYLAND 20794  
410-859-3636

RECORD DRAWING NOVEMBER 2012

PROJECT: **HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

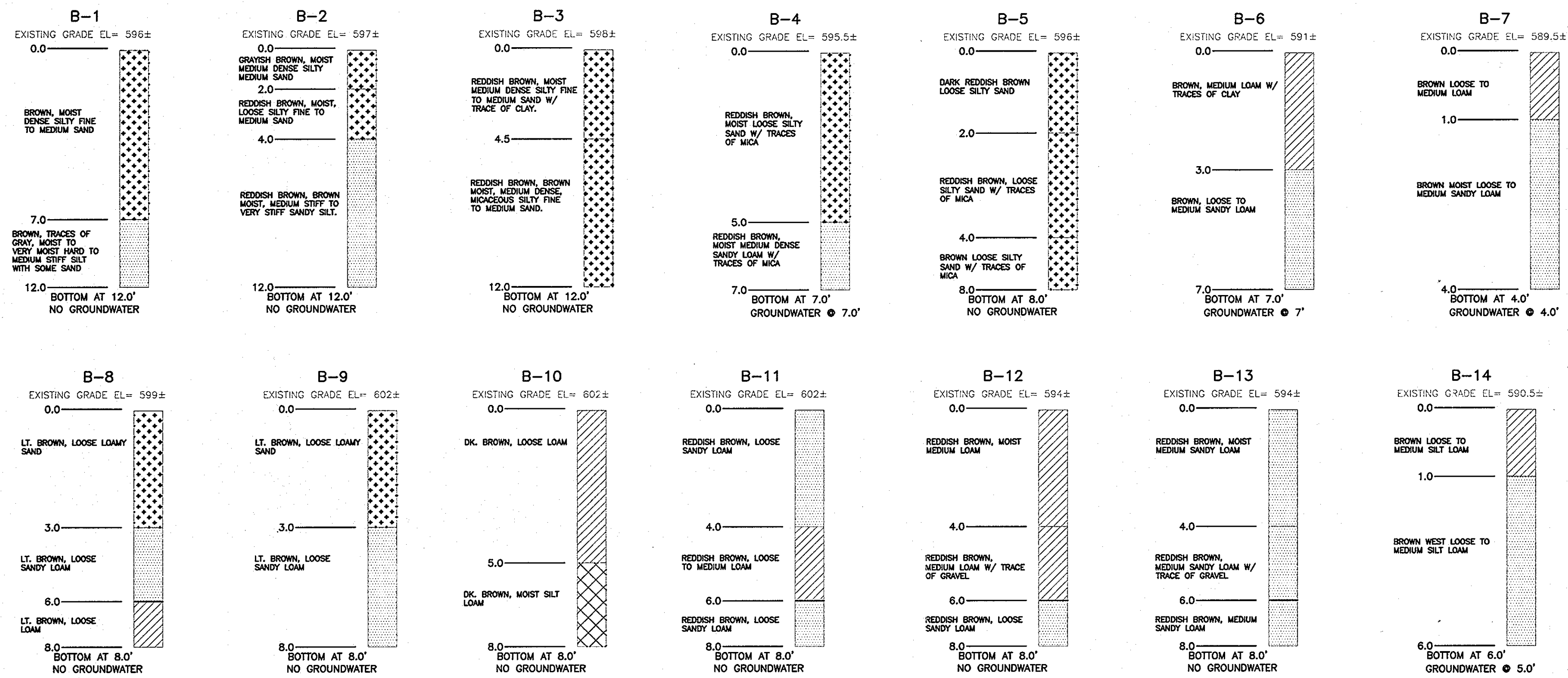
TITLE: **REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
(PREVIOUS SDP: SDP-98-04)

**STORMWATER MANAGEMENT PROFILES**

2101 ROWBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
TAX MAP 14, GRID 5, PARCEL 256, ELECTION DISTRICT NO. 4, LIBER 2457, FOLIO 636  
WATER CONTRACT NO. SEWER CONTRACT NO. DESIGN BY: WAN DRAWN BY: BPO  
HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 12 OF 19

**SOIL BORINGS**  
NOT TO SCALE

THE BORING INFORMATION FOR B-1, B-2, AND B-3 AS NOTED HEREIN IS FROM THE BORING LOGS SHOWN ON THE PREVIOUS SDP (SDP-98-64). THE BORINGS WERE OBTAINED AND ANALYZED BY HILLS-CARNEY ENGINEERING ASSOCIATES, INC. IN JULY OF 2005.



**OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (F-6)**

- Annual maintenance of plant material, mulch layer and soil layer is required. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning.
- Schedule of plant inspection will be twice a year in spring and fall. This inspection will include removal of dead and diseased vegetation considered beyond treatment, treatment of all diseased trees and shrubs and replacement of all deficient stakes and wires.
- Mulch shall be inspected each spring. Remove previous mulch layer before applying new layer every 2 to 3 years.
- Soil erosion to be addressed on an as needed basis, with a minimum of once per month and after heavy storm events.

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED OPEN CHANNEL SYSTEMS (O-1 AND O-2)**

- The open channel system shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the facility is functioning properly.
- The open channel shall be mowed a minimum of as needed during the growing season to maintain a maximum grass height of less than 6 inches.
- Debris and litter shall be removed during regular mowing operations and as needed.
- Visible signs of erosion in the open channel system shall be repaired as soon as it is noticed.
- Remove silt in the open channel system when it exceeds 25% of the original V<sub>90</sub>.

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMSEPTOR WATER QUALITY DEVICE**

- The Stormceptor water quality structure shall be periodically inspected and cleaned to maintain operation and function. The owner shall inspect the Stormceptor unit yearly at a minimum, utilizing the Stormceptor Inspection/Monitoring Form. Inspections shall be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When the sediment depths exceed the level specified in Table 6 of the Stormceptor Technical Manual, the unit must be cleaned.
- The Stormceptor water quality structure shall be checked and cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agencies.
- The maintenance of the Stormceptor unit shall be done using a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in the unit. Proper cleaning and disposal of the removed materials and liquid must be followed by the owner.
- The inlet and outlet pipes shall be checked for any obstructions at least once every six months. If obstructions are found the owner shall have them removed. Structural parts of the Stormceptor unit shall be repaired as needed.
- The owner shall retain and make the Stormceptor Inspection/Monitoring Forms available to the Howard County officials upon their request.

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER INFILTRATION BASINS (I-2)**

- The infiltration basin shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the facility is functioning properly.
- The top and side slopes of the embankment shall be mowed a minimum of once per year, when vegetation reaches 18" in height or taller.
- Debris and litter shall be removed during regular mowing operations and as needed.
- Visible signs of erosion in the facility shall be repaired as soon as it is noticed.
- Remove silt when it exceeds four (4) inches deep in the forebay.
- The bottom of the facility shall be retoliated at least once every two (2) years to insure that the soil maintains the infiltration capability.
- A logbook shall be maintained to determine the rate at which the facility drains. The maintenance logbook shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.
- Once the performance characteristics of the infiltration basin have been verified, the monitoring schedule can be reduced to an annual basis unless the performance data indicates that a more frequent schedule is required.

**POND DESIGN CERTIFICATION (BMP #1)**

I CERTIFY THAT THIS DESIGN PLAN FOR THE MODIFICATIONS TO THE CONTROL STRUCTURE AND EXCAVATION OF THE POND BOTTOM WERE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATURAL RESOURCE CONSERVATION SERVICE'S MARYLAND STANDARDS AND SPECIFICATIONS BASED ON THE MODIFICATION, THE POND AND ITS EMBANKMENT STILL MEETS THE REQUIREMENTS OF A HAZARD CLASS 'A' POND.

SIGNATURE \_\_\_\_\_ P.E.  
NAME (PRINTED) DARRELL J. VOLNEY MD LICENSE # 22098 DATE \_\_\_\_\_  
ADDRESS 2120 RENARD COURT  
ANNAPOLIS, MD. 21401  
PHONE # (410) 266-3212 P.E. SEAL

**AS-BUILT CERTIFICATION (BMP #1)**

I CERTIFY THAT THIS AS-BUILT IS ACCURATE AND COMPLETE AND THAT THE POND AS CONSTRUCTED MEETS THE REQUIREMENTS OF THE NATURAL RESOURCE CONSERVATION SERVICE'S MARYLAND STANDARDS AND SPECIFICATIONS FOR PONDS, (MD-378).

SIGNATURE \_\_\_\_\_ P.E.  
NAME (PRINTED) \_\_\_\_\_ MD LICENSE # \_\_\_\_\_ DATE \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
PHONE # \_\_\_\_\_ P.E. SEAL

REV.	DATE	DESCRIPTION
1	3-14-12	CROSSED OUT ALL THREE CERTIFICATIONS ASSOCIATION WITH BMP #5.

~~**POND DESIGN CERTIFICATION (BMP #5)**~~

~~I CERTIFY THAT THIS DESIGN PLAN FOR THE MODIFICATIONS TO THE CONTROL STRUCTURE AND EXCAVATION OF THE POND BOTTOM WERE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATURAL RESOURCE CONSERVATION SERVICE'S MARYLAND STANDARDS AND SPECIFICATIONS BASED ON THE MODIFICATION, THE POND AND ITS EMBANKMENT STILL MEETS THE REQUIREMENTS OF A HAZARD CLASS 'A' POND.~~

~~SIGNATURE \_\_\_\_\_ P.E.  
NAME (PRINTED) DARRELL J. VOLNEY MD LICENSE # 22098 DATE \_\_\_\_\_  
ADDRESS 2120 RENARD COURT  
ANNAPOLIS, MD. 21401  
PHONE # (410) 266-3212 P.E. SEAL~~

~~**AS-BUILT CERTIFICATION (BMP #5)**~~

~~I CERTIFY THAT THIS AS-BUILT IS ACCURATE AND COMPLETE AND THAT THE POND AS CONSTRUCTED MEETS THE REQUIREMENTS OF THE NATURAL RESOURCE CONSERVATION SERVICE'S MARYLAND STANDARDS AND SPECIFICATIONS FOR PONDS, (MD-378).~~

~~SIGNATURE \_\_\_\_\_ P.E.  
NAME (PRINTED) \_\_\_\_\_ MD LICENSE # \_\_\_\_\_ DATE \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
PHONE # \_\_\_\_\_ P.E. SEAL~~

~~**GEOTECHNICAL CERTIFICATION (BMP #5)**~~

~~I CERTIFY THAT THE SOIL CORE, EMBANKMENT, AND CONCRETE STRUCTURES AS CONSTRUCTED MEETS THE REQUIREMENTS OF THE SOIL CONSERVATION SERVICE - MARYLAND STANDARDS AND SPECIFICATIONS FOR PONDS, (MD-378).~~

~~SIGNATURE \_\_\_\_\_ P.E.  
NAME (PRINTED) \_\_\_\_\_ MD LICENSE # \_\_\_\_\_ DATE \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
PHONE # \_\_\_\_\_ P.E. SEAL~~

**MD378 SPECIFICATIONS**

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

**Site Preparation**

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation roots and other objectionable material shall be removed. Grubbing and strip breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment. Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of 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**

Materials - The fill material shall be taken from approved, designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stone greater than 6" frozen or other objectionable materials. Fill material for the center of the embankment shall conform to Unified Soil Classification GC, SC, CH or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of the fill. Fill materials shall be placed in maximum 8" thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

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

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within ±2% optimum. Each layer of fill shall be compacted as necessary to obtain that density, and it 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 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 the structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be over (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 12" to 18" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

**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 coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating. Aluminum surfaces that are to be in contact with concrete shall be pointed 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.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum pipes, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be pointed 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, end sections, etc. must be composed of the same materials coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils 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. Simple bands are 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 band width. The following pipe connections are acceptable for pipes less than 24" inside diameter: flanges on both ends of the pipe, a 12 inch wide standard top pipe band with 12 inch wide by 3/8 inch thick closed cell circular neoprene gasket; and a 12 inch wide hugger 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 inches long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24 inch wide by 3/8 inch thick closed cell circular neoprene gasket will be installed on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

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

- Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.
- Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.
- 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.
- Backfilling shall conform to "Structure Backfill"
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

**Plastic Pipe** - The following criteria shall apply for plastic pipe.

- 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 M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.
- Joints and connections to anti-seep collars shall be completely watertight.
- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Backfilling shall conform to "Structure Backfill"
- Other details anti-seep collars, valves, etc. shall be as shown on the drawings.

**Concrete**

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

**Rock Riprap**

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

**Care of Water During Construction**

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

**Stabilization**

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing, and mulching in accordance with the Maryland Soil 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 to be employed during the construction process.

**PRIVATE STORMWATER MANAGEMENT PRACTICES MAINTENANCE AND INSPECTION NOTES**

- STORMWATER MANAGEMENT PONDS**
- Wet weather inspections must be conducted after major storm events during the first year after construction then annually thereafter to ensure that the pond is operating as designed and intended. Inspections shall examine for evidence of clogging, excessive flow rate, erosion, condition of embankment, cracking, leakage or tree growth on embankment, sedimentation, adequacy of inlets and outlets, etc. Inspections should be performed with as-builts in hand.
  - The upper slopes, buffer, side slopes, embankment, emergency spillway of a pond must be mowed at least twice a year to prevent woody growth and control weeds. More frequent mowing may be required in residential areas as needed. Extreme caution shall be provided to ensure that the planted wetland areas are not mowed, damaged, or disturbed.
  - Debris and litter removal shall be ensured during regular mowing operations.
  - Any slumping or erosion of pond side slopes, emergency spillway and embankment will require immediate repair. Additional regarding revegetation and repair or replacement of rip-rap aprons may be required as necessary to address the erosion problems.
  - Sediment removal must be considered as a regular maintenance operation and should be properly disposed of.
  - Any cracking or leakage at outflow pipes will require immediate replacement.
  - Clear vehicular access must be maintained to control structures for regular maintenance and operations.

**DETAILED SEQUENCE FOR SWM POND/TRAP CONSTRUCTION**

- Divert overland drainage away from pond construction area.
- Clear and Grub Swm Pond/Trap area. Strip & stockpile topsoil. Immediately stabilize with seed and mulch.
- Excavate and place cut-off trench to lines and grades shown on approved plans. Carefully follow MD-378 Cut-off Trench installation specifications.
- Construct remainder of dam structure by placing structural fill up to the lines and grades shown on the approved plans (can be done concurrently with #3).
- Excavate for and install outfall/control structure and place rip-rap below outfall. Install temporary dewatering device. (can be done concurrently with #4 above).
- Excavate outfall chamber and pretreatment chambers for use as a sediment trap.
- Stabilize immediately embankment and pond with seed and mulch.
- Conduct preliminary survey of swm pond/trap and submit interim as-builts to County.

- BASIN CONVERSION** - THE SEDIMENT TRAP CAN ONLY BE CONVERTED TO THE FINAL INFILTRATION BASIN AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR
- If needed, dewater sediment basin and remove all accumulated sediment. All sediment shall be hauled from the site to an site with an active grading permit.
  - Re-grade pretreatment and outfall chambers and construct access road to line and grade as shown on the stormwater management plans. Construct earth berm on stone window as shown. Stabilize with seed and mulch.
  - Remove temporary horizontal dewatering device and install permanent inverted dewatering device.

RECORD DRAWING NOVEMBER 2012

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 4/25/11  
 DATE: 7/27/11  
 DATE: 7/27/11  
 APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 DATE: 5/14/2011

APPROVED: COUNTY HEALTH OFFICER  
 DATE: 5/14/2011

**MESSICK & ASSOCIATES\***  
 CONSULTING ENGINEERS  
 PLANNERS & SURVEYORS  
 2120 RENARD COURT  
 ANNAPOLIS, MARYLAND 21401  
 PHONE: (410) 266-3212  
 FAX: (410) 266-3502

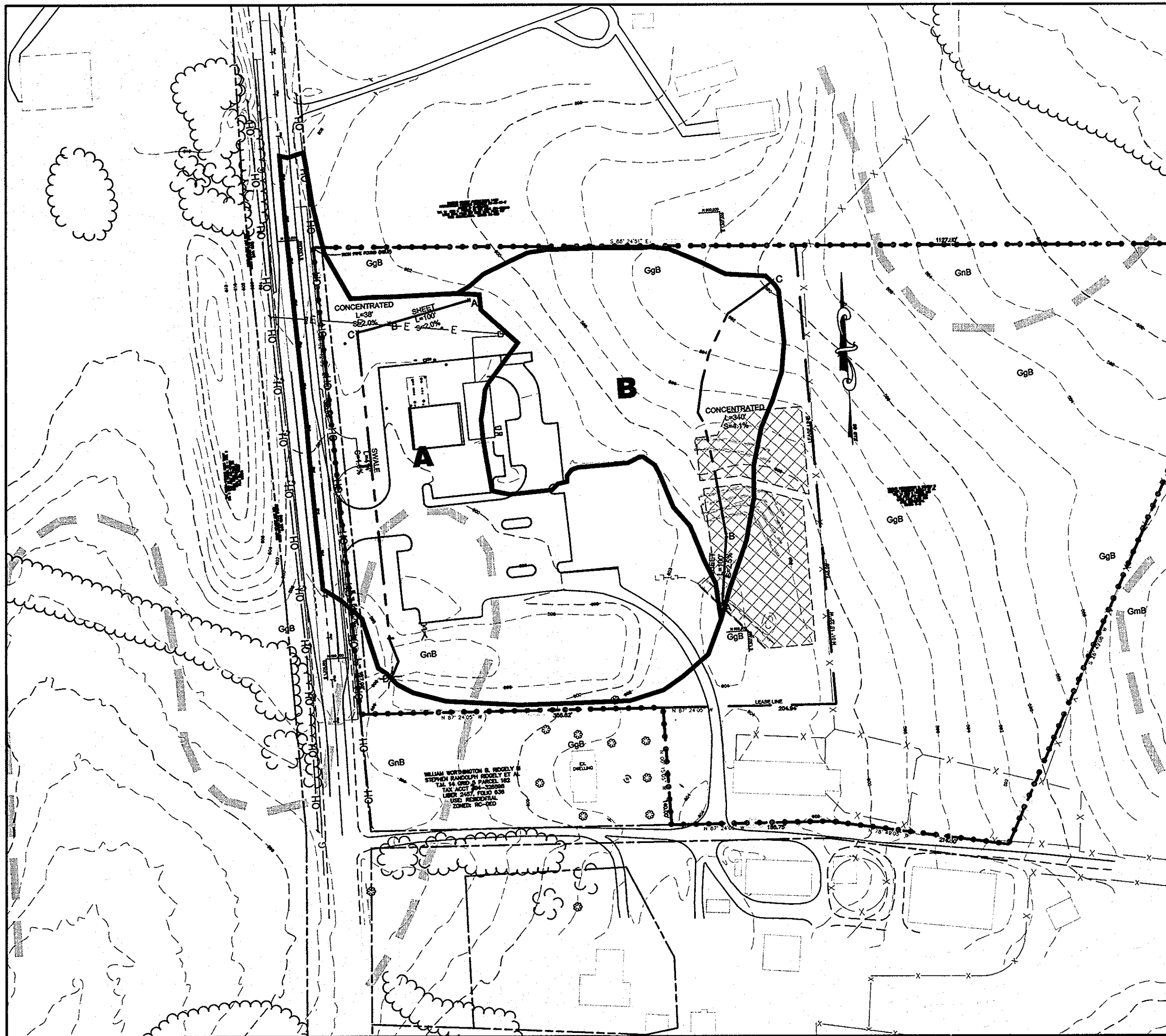
OWNER:  
 WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
 2125 ROUTE 97  
 COOKSVILLE, MD. 21723

DEVELOPER:  
 HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
 7477 NEW RIDGE ROAD  
 HANOVER, MARYLAND 20794  
 410-859-3636

PROJECT  
**HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
 (2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

TITLE  
**REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
 (PREVIOUS SDP-98-64)

**STORMWATER MANAGEMENT NOTES**  
 2101 ROCKBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
 TAX MAP 14, GRID 5, SECTION 25E, ELECTION DISTRICT NO. 4 LIBER 2457 FOLIO 636  
 WATER CONTRACT NO. \_\_\_\_\_ DESIGNER: \_\_\_\_\_ DRAWN BY: BPO  
 HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 13 OF 19



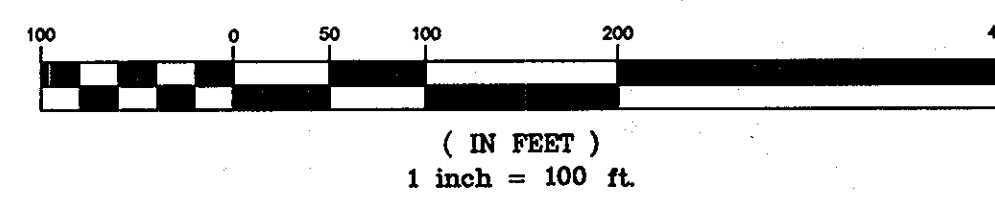
**PRE-DEVELOPED CONDITIONS**  
SCALE: 1"=100'

DRAINAGE AREA DESIGN DATA - EXISTING CONDITIONS

	A	B
TOTAL AREA (AC)	4.02	1.92
RUNOFF CURVE NUMBER	58	55
TIME OF CONCENTRATION (HRS)	0.28	0.36

SOIL TYPES		
SOIL ID	NAME	HYDROLOGIC GROUP
GgB	GLENELG LOAM (3-8% SLOPE)	B
GgC	GLENELG LOAM (8-15% SLOPE)	B
GmB	GLENVILLE SILT LOAM (3-8% SLOPE)	C
GnB	GLENVILLE-BAILE SILT LOAM (0-8% SLOPE)	C

GRAPHIC SCALE



**POST-DEVELOPED CONDITIONS**  
SCALE: 1"=100'

DRAINAGE AREA DESIGN DATA - PROPOSED CONDITIONS

	A1	A2	A3	A4	A (TOTAL)
TOTAL AREA (AC)	<del>1.00</del> 1.26	<del>0.75</del> 0.80	<del>0.78</del> 0.64	1.49	<del>4.04</del> 4.28
RUNOFF CURVE NUMBER	<del>58</del> 64	<del>54</del> 54	<del>61</del> 58	66	74
TIME OF CONCENTRATION (HRS)	0.10	0.10	0.31	0.10	0.10

DRAINAGE AREA DESIGN DATA - PROPOSED CONDITIONS

	B1	B2	B3	B (TOTAL)
TOTAL AREA (AC)	<del>0.56</del> 0.56	<del>0.67</del> 0.67	<del>0.69</del> 0.69	<del>2.00</del> 1.69
RUNOFF CURVE NUMBER	<del>54</del> 54	<del>55</del> 55	<del>55</del> 55	61
TIME OF CONCENTRATION (HRS)	0.10	0.10	0.36	0.36

GRASS CHANNEL CREDIT

AREA A3 (0.64 ACRES) OF THE PROPOSED COMMERCIAL LAYOUT DRAIN THROUGH A 2-FOOT WIDE SWALE SLOPED AT 1% A TOTAL OF 0.14 CFS WILL BE CONVEYED THROUGH THE SWALE AT A RATE OF LESS THAN 1-FOOT PER SECOND. THIS AREA WILL BE USED AS NON-STRUCTURAL STORMWATER MANAGEMENT PRACTICE (GRASS CHANNEL CREDIT). THIS CREDIT WILL 100% OF THE REQUIRED WATER QUALITY VOLUME FOR THIS AREA. THE AREA RECEIVING THIS CREDIT ARE DENOTED BY [Hatched Box]

REV	DATE	DESCRIPTION
1	3-14-12	REVISED DRAINAGE AREAS AND STORMWATER MANAGEMENT DATA.

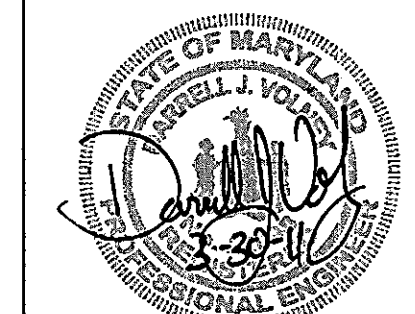
APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 4/25/11  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*[Signature]* 7/27/11  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*[Signature]* 7/27/11  
 DIRECTOR

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

*[Signature]* 5/24/2011  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT

**MESSICK & ASSOCIATES\***  
 CONSULTING ENGINEERS  
 PLANNERS & SURVEYORS  
 2120 RENARD COURT  
 ANNAPOLIS, MARYLAND 21401  
 PHONE: (410) 266-3212  
 FAX: (410) 266-3502



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. 22068, EXPIRATION DATE: SEPT. 10, 2012

OWNER:  
 WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
 2125 ROUTE 97  
 COOKSVILLE, MD. 21723

DEVELOPER:  
 HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
 7477 NEW RIDGE ROAD  
 HANOVER, MARYLAND 20794  
 410-859-3636

RECORD DRAWING NOVEMBER 2012

PROJECT  
**HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
 (2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

TITLE  
**REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
 (PREVIOUS SDP: SDP-96-64)

**STORMWATER MANAGEMENT - DRAINAGE AREA MAP**  
 2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
 TAX MAP 14, GRID 5, PARCEL 256, ELECTION DISTRICT NO. 4 LIBER 2457, FOLIO 636  
 WATER CONTRACT NO. SEWER CONTRACT NO. DESIGN BY: WAN DRAWN BY: BPO  
 HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 14 OF 19

**6" COMBINATION CURB AND GUTTER**

NOTES:  
 1. CURB FIN AT THE MIDLINE EDGE OF INTERMEDIATE DRIVEWAYS OR THE HIGH SIDE OF DRIVEWAY SECTIONS SHALL BE TOPPED AT THE SAME RATE AND IN THE SAME MANNER AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WITH CURB IF LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN THE SLOPE OF CURB AND GUTTER.

PROJECT	Howard County, Maryland Department of Public Works	DETAIL	CURB AND GUTTER 6" Combination Curb and Gutter Private	R-9.01
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**Concrete Sidewalk**

NOTES:  
 1. SIDEWALK TO BE SLOPED IN 5'-0" MAXIMUM SQUARES.  
 2. EXPANSION JOINTS ACROSS THE SIDEWALK NOT TO BE MORE THAN 15' APART.  
 3. 1/2" PREFORMED EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT 1/4" FROM SURFACE OF SIDEWALK.  
 4. CONCRETE TO BE MIX NO.3.  
 5. WHEN SIDEWALK ADJUTS CURB, SIDEWALK SHALL BE 1/4" ABOVE CURB WITH 1/2" PREFORMED EXPANSION JOINT BETWEEN SIDEWALK AND CURB.  
 6. ON LONGITUDINAL SIDEWALK GRADES OF 5% OR GREATER, A CONCRETE HEADER, 6" THICK AND 6" DEEP BELOW THE NORMAL 4" SIDEWALK THICKNESS SHALL BE CONSTRUCTED FOR THE FULL WIDTH OF THE SIDEWALK AT INTERVALS OF 24 FEET. THE HEADERS SHALL BE PLACED AT THE EXPANSION JOINT BETWEEN THE SIDEWALK AND THE SIDEWALK WITH THE SIDEWALK WITH THE SIDEWALK.  
 7. SIDEWALK WIDTH ADJUTING TO CURB SHALL BE 5'-0" MINIMUM EXCEPT SIDEWALK ADJUTING TO CURB IN CURB-DE-SAC BUILT MAY BE 4'-0" WIDE.  
 8. SIDEWALK LOCATED 2' OR MORE FROM CURB MAY BE 4'-0" IN WIDTH WITH A 5'-0" WIDE SECTION PLACED 2' AWAY.  
 9. 4'-0" SIDEWALK REQUIRES A PARKING AREA (SEE DETAIL R-4.03)

PROJECT	Howard County, Maryland Department of Public Works	DETAIL	Concrete Sidewalk	R-3.05
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**7" CURB AND GUTTER**

NOTES:  
 1. DIMENSION SHALL BE 7" HIGH WITH 2" WIDE DOWN SLOPE FOR DOWN SLOPE (NO 10' 12" MAX)

PROJECT	Howard County, Maryland Department of Public Works	DETAIL	CURB AND GUTTER 7" Transition to Modified & Nose Down	R-3.02
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**Sidewalk Ramp**

NOTES:  
 1. TYPE C SIDEWALK RAMP IS TO BE USED AT LOCATIONS WHERE THE SIDEWALK MUST BE PLACED IMMEDIATELY ADJACENT TO THE BACK OF THE CURB. THE SIDEWALK SHALL BE AT LEAST 5'-0" IN WIDTH.  
 2. SIDEWALK SHALL HAVE A WARNING TEXTURE.  
 3. SIDEWALK SHALL BE 4'-0" WIDE AND 4'-0" HIGH.  
 4. 4'-0" SIDEWALK REQUIRES A PARKING AREA (SEE DETAIL R-4.03)

PROJECT	Howard County, Maryland Department of Public Works	DETAIL	SIDEWALK RAMP Type C	R-4.04
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SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)					
		3 TO 4.5	4.5 TO 7	7 TO 9	9 TO 12	12 TO 15	15 TO 20
P-1	PAVING RATE RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 7' HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINE SURFACE 9.5 MM PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE BASE 19.0 MM PG 64-22, LEVEL 1 (ESAL)	3.0	3.0	3.0	3.0	3.0
		GRADED AGGREGATE BASE (GAB)	4.0	4.0	4.0	4.0	4.0
P-2	PARKING DRIVEABLE RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 15 HEAVY TRUCKS PER DAY LOCAL ROADS ACCESS PLACE ACCESS STREET	HMA SUPERPAVE FINE SURFACE 9.5 MM PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE BASE 19.0 MM PG 64-22, LEVEL 1 (ESAL)	3.0	3.0	3.0	3.0	3.0
		GRADED AGGREGATE BASE (GAB)	4.0	4.0	4.0	4.0	4.0
P-3	PARKING DRIVEABLE RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 15 HEAVY TRUCKS PER DAY LOCAL ROADS ACCESS PLACE ACCESS STREET	HMA SUPERPAVE FINE SURFACE 9.5 MM PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE BASE 19.0 MM PG 64-22, LEVEL 1 (ESAL)	3.0	3.0	3.0	3.0	3.0
		GRADED AGGREGATE BASE (GAB)	4.0	4.0	4.0	4.0	4.0
P-4	URGE COLLECTORS NON-RESIDENTIAL HAULY COLLECTORS	HMA SUPERPAVE FINE SURFACE 9.5 MM PG 64-22, LEVEL 2 (LOW ESAL)	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM PG 64-22, LEVEL 2 (LOW ESAL)	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE BASE 19.0 MM PG 64-22, LEVEL 2 (LOW ESAL)	3.0	3.0	3.0	3.0	3.0
		GRADED AGGREGATE BASE (GAB)	4.0	4.0	4.0	4.0	4.0

Notes:  
 1) HEAVY TRUCKS ARE DEFINED AS THOSE WITH GVW 30,000 LBS OR MORE INCLUDING GARAGE TRUCKS.  
 2) HMA SUPERPAVE LAYERS SHALL BE PLACED IN SEPARATE COURSES. LIFT THICKNESS: 1.5" MIN TO 4.0" MAX.  
 3) 1.5" HMA SUPERPAVE LAYER SHALL BE PLACED IN SEPARATE COURSES. LIFT THICKNESS: 1.5" MIN TO 2.0" MAX.  
 4) GRADED AGGREGATE BASE (GAB) TO BE PLACED AND COMPACTED IN 6" MAX COMPACTED THICKNESS LAYERS.  
 5) THE INTERMEDIATE SURFACE COURSE LAYERS SHALL BE PLACED WITHIN 2' WEIRS OF PLACEMENT OF BASE COURSE, AND IS REQUIRED PRIOR TO SUBSEQUENT COMPACTION, INSPECTION AND SIGNING.  
 6) IN LAYERS OF PLACING THE INTERMEDIATE SURFACE COURSE LAYER FOR SUBSEQUENT PERIODIC SURVEYS, THE THICKNESS OF THE INTERMEDIATE SURFACE COURSE LAYER SHALL BE AS SHOWN IN THE DRAWING.  
 7) THE THICKNESS OF THE INTERMEDIATE SURFACE COURSE LAYER SHALL BE AS SHOWN IN THE DRAWING.  
 8) THE CONSTRUCTION DRAWINGS SHALL SHOW THE PAVING SECTION, ROAD CLASSIFICATION AND CURB VALUE FOR EACH ROADWAY.

PROJECT	Howard County, Maryland Department of Public Works	DETAIL	PAVING SECTIONS P-1 to P-4	R-2.01
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**Solid Waste Enclosure**

NOTES:  
 1. ENCLOSURE GATES ARE NOT RECOMMENDED.  
 2. IF ENCLOSURE GATES ARE INSTALLED, MINIMUM OPENING OF 21'-0" MUST BE PROVIDED WHEN GATES ARE OPENED. ONLY 2 GATE SYSTEMS WITH NO CENTER POSTS ARE ALLOWED.  
 3. A MINIMUM OF 15' CLEAR SPACE SHALL BE PROVIDED FROM THE ENCLOSURE TO ANY STRUCTURE.

PROJECT	Howard County, Maryland Department of Public Works	DETAIL	SOLID WASTE Service Pad (MODIFIED)	R-8.03
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**Solid Waste Enclosure**

NOTES:  
 1. ENCLOSURE GATES ARE NOT RECOMMENDED.  
 2. IF ENCLOSURE GATES ARE INSTALLED, MINIMUM OPENING OF 21'-0" MUST BE PROVIDED WHEN GATES ARE OPENED. ONLY 2 GATE SYSTEMS WITH NO CENTER POSTS ARE ALLOWED.  
 3. A MINIMUM OF 15' CLEAR SPACE SHALL BE PROVIDED FROM THE ENCLOSURE TO ANY STRUCTURE.

PROJECT	Howard County, Maryland Department of Public Works	DETAIL	SOLID WASTE Double Container Enclosure 2 Gate System	R-8.05
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**WOODEN BOARD ON BOARD FENCE AROUND DUMPSTER PAD**

N.T.S.

NOTES:  
 1. ALL LUMBER TO BE PRESSURE TREATED WITH CCA WITH A NET RETENTION OF 0.4 lbs/cu ft.

**BOLLARD DETAIL**

NOT TO SCALE

**TYPICAL SIDEWALK DETAIL**

NOT TO SCALE

**ENCORE FLAT LENS**

EXAMPLE

LIGHTING SUMMARY TABLE		DESCRIPTION	
LABEL	QTY	TYPE	ARRANGEMENT
CANOPY	18	ENCORE	SINGLE
WALL MOUNT	2	EAGLE	SINGLE

DESCRIPTION:  
 EC-S-250-PSM-V-F - 23,750 LOADS - DOWN LIGHT UNDER CANOPY  
 EGM-WB-250-SM-H-PS - 20,000 LOADS - DOWN LIGHT ON BUILDING (GENERAL AREA LIGHTING)

**CONCRETE PAD SECTION FOR MECHANICAL (HVAC SYSTEMS)**

NOT TO SCALE

**PARKING SPACE DETAIL**

NOT TO SCALE

**PR. CURB & GUTTER**

NOT TO SCALE

**HVAC SYSTEM ENCLOSURE BLOW-UP**

SCALE 1"=5'

**DEVELOPERS CERTIFICATE:**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT & EROSION CONTROL, 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 & EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Brian Darnel* 4/11/11  
 DEVELOPER: BRIAN DARNEL (HIGHS OF BALT. INC.) DATE

**ENGINEERS CERTIFICATE:**  
 I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Darrell Volney* 3-30-11  
 ENGINEER: DARRELL VOLNEY (MESSICK & ASSOC.) DATE

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

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 4/25/11

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 7/27/11

DIRECTOR: *[Signature]* DATE: 7/27/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

*[Signature]* DATE: 5/24/2011

**MESSICK & ASSOCIATES\***

CONSULTING ENGINEERS  
 PLANNERS & SURVEYORS

2120 RENARD COURT  
 ANNAPOLIS, MARYLAND 21401  
 PHONE: (410) 266-3212  
 FAX: (410) 266-3502

\* MESSICK GROUP INC. 17/A MESSICK AND ASSOCIATES

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. 22088, EXPIRATION DATE: SEPT. 10, 2012

OWNER:  
 WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
 2125 ROUTE 97  
 COOKSVILLE, MD. 21723

DEVELOPER:  
 HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
 7477 NEW RIDGE ROAD  
 HANOVER, MARYLAND 20794  
 410-859-3636

PROJECT  
**HIGHS @ GLENWOOD  
 GLENWOOD FARM & GARDEN STORE**  
 (2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

TITLE  
**REDEVELOPMENT OF THE RIDGELY PROPERTY  
 SITE DEVELOPMENT PLAN (SDP-10-054)  
 (PREVIOUS SDP: SDP-96-64)**

SITE DETAILS  
 2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
 TAX MAP 14, GRID 5, PARCEL 255, ELECTION DISTRICT NO. 4, LUBER 2457, FOLIO 636  
 SEWER CONTRACT NO. DESIGN BY: WAN DRAWN BY: BPO  
 HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 15 OF 19



TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed. Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding...

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed. Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding...

BORROW SITE INFORMATION

The name and/or location of a borrow site is not known at this time. The contractor shall submit all necessary paper work or information to Howard SCD or its legal representative for approval.

21.0 Standard and Specifications for Topsoil

Definition: Topsoil is the soil layer immediately above the subsoil. Purpose: To provide a suitable soil medium for vegetative growth. Conditions Where Practice Applies: This practice is limited to areas having 2:1 or flatter slopes where:

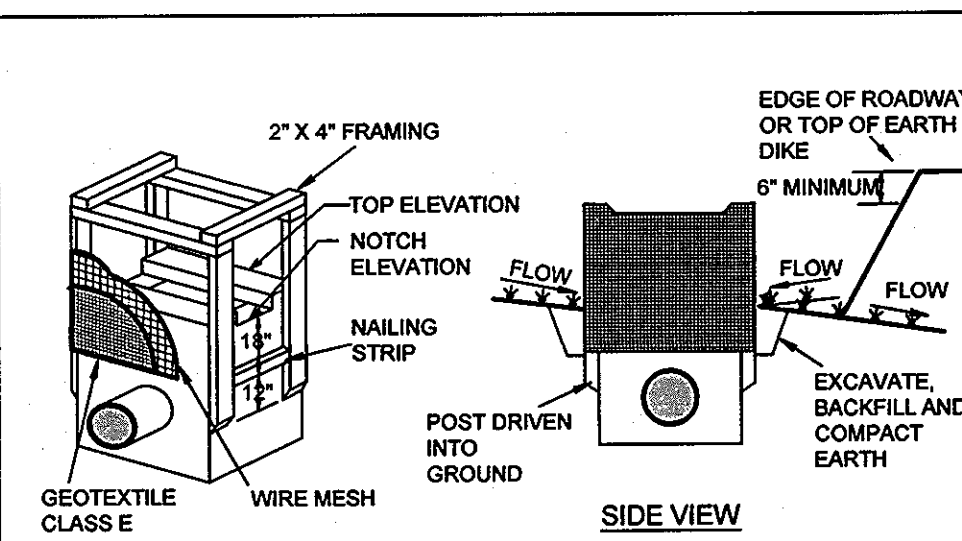
I. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

- a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher. b. Organic content of topsoil shall be not less than 1.5 percent by weight.

SEDIMENT CONTROL NOTES

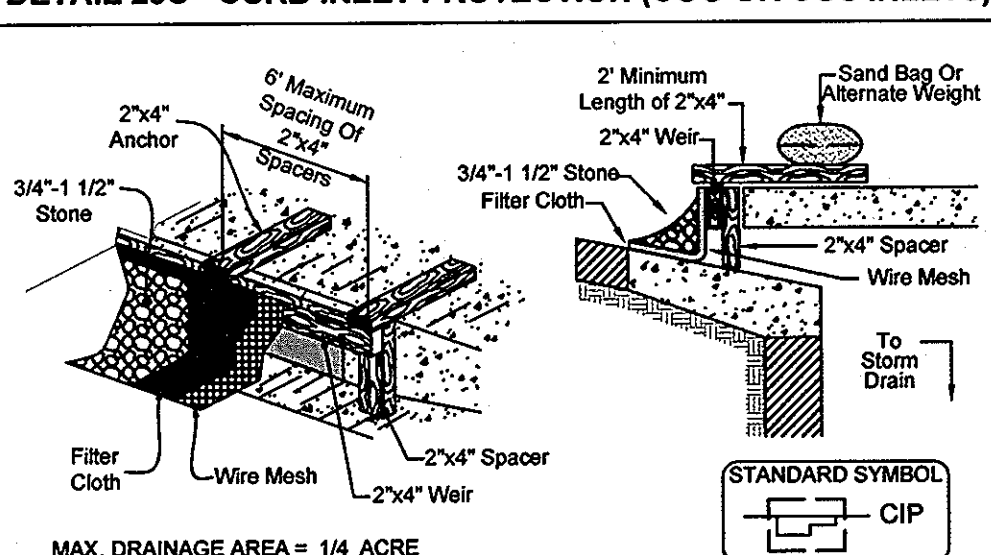
- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES, AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410) 313-1855. 2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL, AND REVISIONS THERETO.

DETAIL 23A - STANDARD INLET PROTECTION



CONSTRUCTION SPECIFICATIONS: 1. Excavate completely around the inlet to a depth of 18" below the notch elevation. 2. Drive the 2' x 4' construction grade lumber posts 1" into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet.

DETAIL 23C - CURB INLET PROTECTION (COG OR COS INLETS)

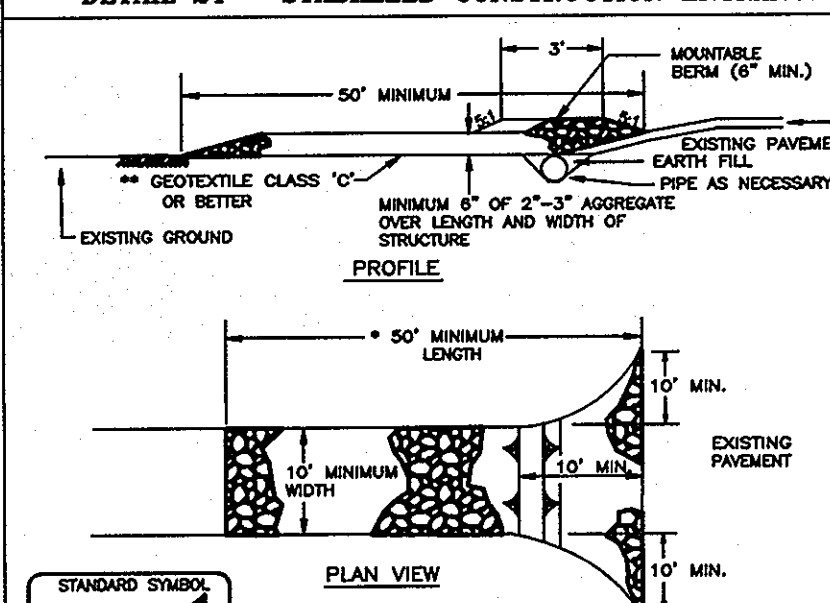


CONSTRUCTION SPECIFICATIONS: 1. ATTACH A CONTINUOUS PIECE OF WIRE MESH (THROAT LENGTH PLUS THROAT LENGTH PLUS 4") TO THE 2' x 4" WEIR (MEASURING THROAT LENGTH PLUS 2") AS SHOWN ON THE STANDARD DRAWING. 2. PLACE A CONTINUOUS PIECE OF GEOTEXTILE CLASS E THE SAME DIMENSIONS AS THE WIRE MESH OVER THE WIRE MESH AND SECURELY ATTACH IT TO THE 2' x 4" WEIR.

SEQUENCE OF CONSTRUCTION

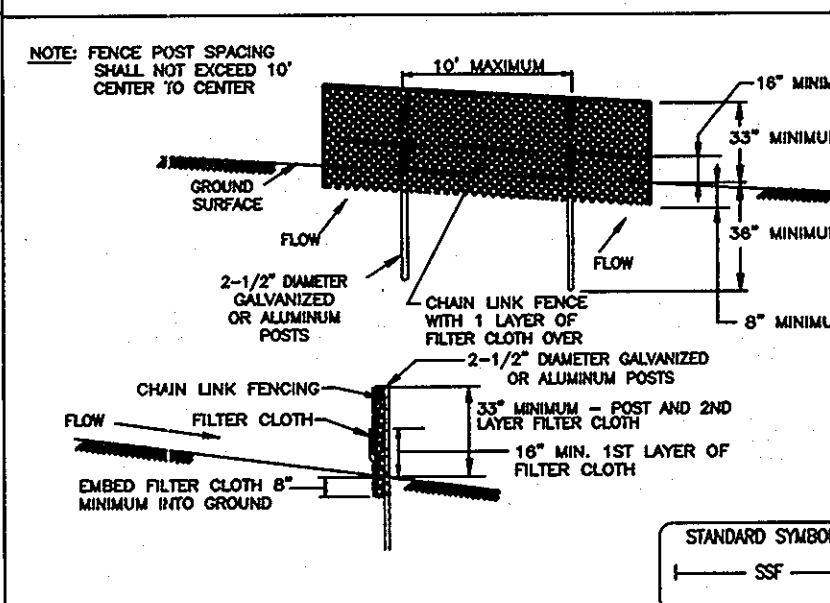
- Phase 1 - General: 1. Contractor shall obtain all necessary approvals and the grading permit prior to beginning construction. 2. The contractor shall notify the Howard County Department of Inspections & Permits, Miss Utility at least 48 hours prior to beginning construction. 3. The contractor shall schedule a pre construction meeting with the respective agencies to review the plans and permits.

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



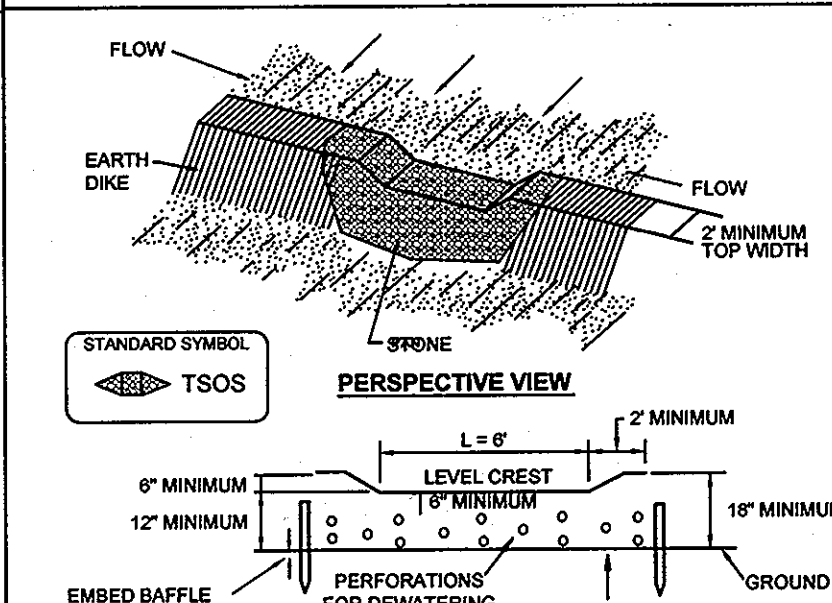
CONSTRUCTION SPECIFICATIONS: 1. Length - minimum of 50' (90' for single residence lot). 2. Width - 10' minimum, should be flared at the existing road to provide a turning radius. 3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stones.

DETAIL 33 - SUPER SILT FENCE



CONSTRUCTION SPECIFICATIONS: 1. The poles do not need to be set in concrete. 2. Chain link fence shall be fastened securely to the fence posts with wire ties or staples.

STONE OUTLET STRUCTURE



CONSTRUCTION SPECIFICATIONS: 1. Crushed stone shall be used. Gravel may be used if crushed stone is not available. The stone shall be 2\"/>

Table with columns: REVIEWED, DATE, DESCRIPTION. It shows two review entries: one dated 12-30-11 for 'REVISED SEQUENCE OF CONSTRUCTION' and another dated 3-4-12 for 'REVISED SEQUENCE OF CONSTRUCTION & SITE ANALYSIS'.

MESSICK & ASSOCIATES CONSULTING ENGINEERS PLANNERS & SURVEYORS. 2120 RENARD COURT ANNAPOLIS, MARYLAND 21401. PHONE: (410) 266-3212. FAX: (410) 266-3502.

OWNER: WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY 2125 ROUTE 97 COOKSVILLE, MD. 21723. DEVELOPER: HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC 7477 NEW RIDGE ROAD HANOVER, MARYLAND 20794 410-859-3636

DEVELOPERS CERTIFICATE: I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT & EROSION CONTROL... ENGINEERS CERTIFICATE: I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN... PROJECT: HIGHS @ GLENWOOD GLENWOOD FARM & GARDEN STORE (2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION. TITLE: REDEVELOPMENT OF THE RIDGELY PROPERTY SITE DEVELOPMENT PLAN (SDP-10-054) (PREVIOUS SDP: SDP-06-64).

**SCHEDULE A  
PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJACENT TO ROADWAYS				ADJACENT TO PERIMETER PROPERTIES			
	#1. E	#2. C	#3. A	#4. C	#1. E	#2. C	#3. A	#4. C
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	359'±	360'±	205'±	549'±	571'±			
CREDIT OF EX. VEGETATION (YES/NO LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO			
CREDIT OF WALL, FENCE OR BERM (YES/NO LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO			
NUMBER OF PLANTS REQ. SHADE TREES	14	9	4	9	14			
EVERGREEN TREES SHRUBS	0	140	0	0	0			
NUMBER OF PLANTS PROVIDED SHADE TREES	13	9	4	9	14			
EVERGREEN TREES SHRUBS (2:1 SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	3	22	0	0	30			

**SCHEDULE B  
PARKING LOT INTERNAL LANDSCAPING**

NUMBER OF PARKING SPACES REQUIRED	21 ± SPACES
NUMBER OF TREES REQUIRED	1 PER / 20 SPACES ± REQUIRED
NUMBER OF TREES PROVIDED	3 ±+ DECIDUOUS TREES PROVIDED

**FOREST CONSERVATION WORKSHEET**

NET TRACT AREA	A= 13.90 acres
A. Total Tract Area (no 100 year floodplain on site)	B= 5.73 acres*
B. Non-Leased Area	C= 3.60 acres*
C. Other Deductions	D= 3.57 acres*
D. Net Tract Area (A-B-C)	

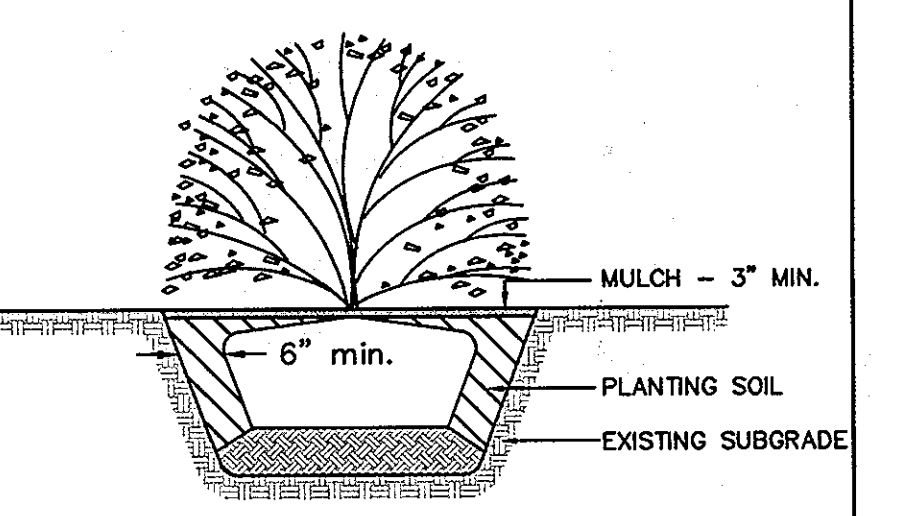
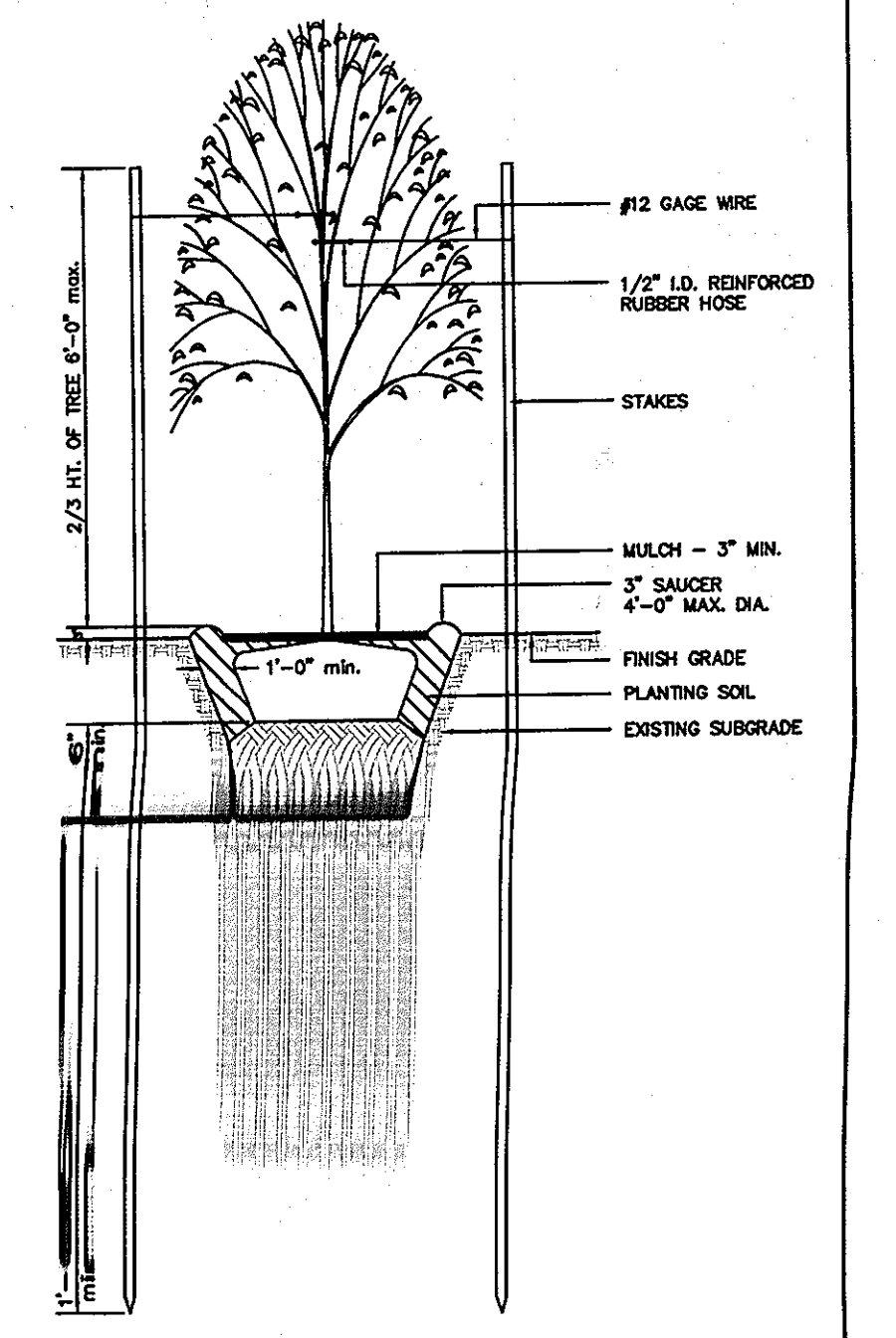
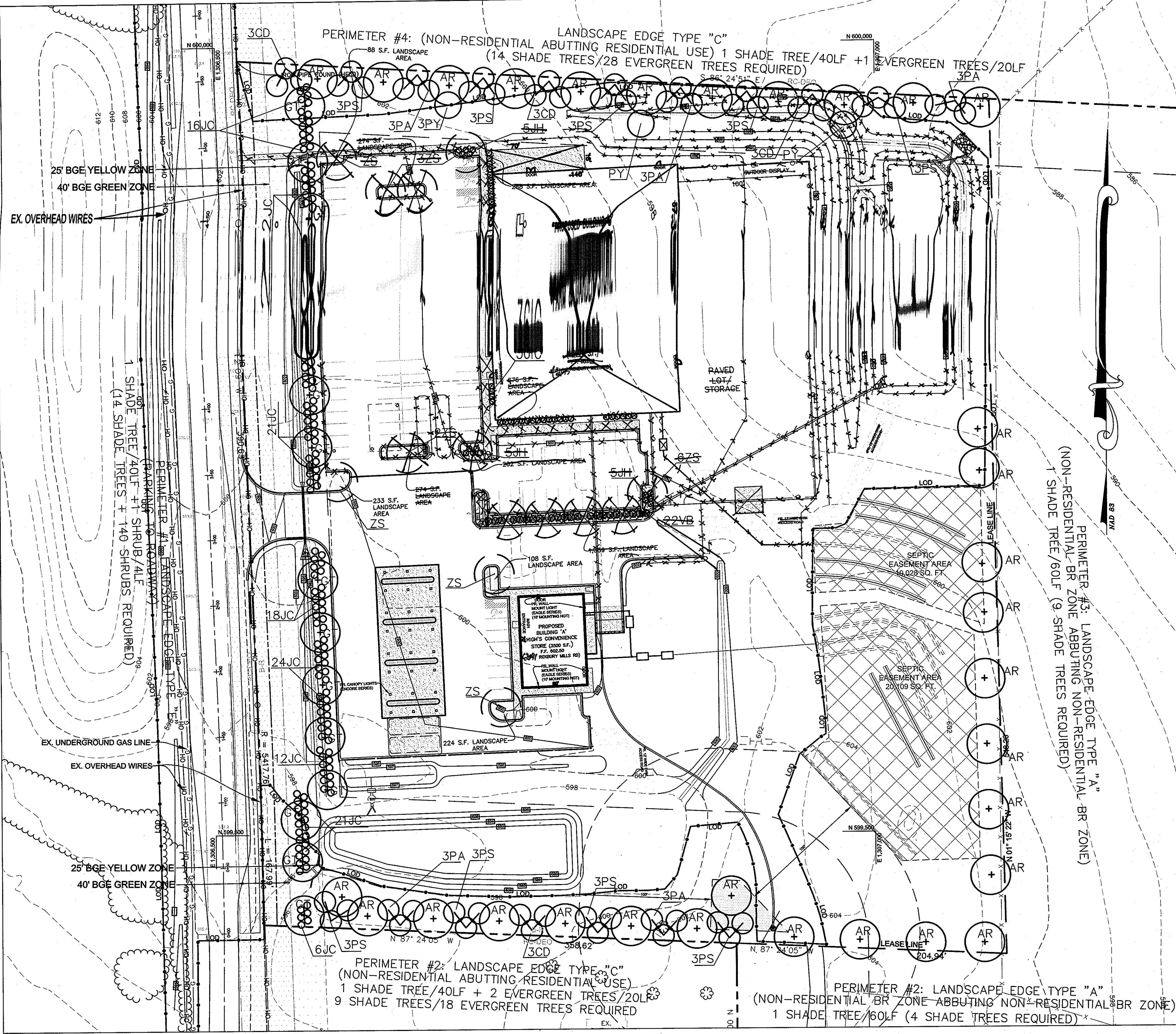
LAND USE CATEGORY: (Commercial Use: BR Zone)	
E. Afforestation Threshold (net tract x 15% E=)	0.54 acres
F. Conservation Threshold (net tract x 20% F=)	0.71 acres

EXISTING FOREST COVER	G= 0.00 acres
G. Ex. Forest cover within Net Tract Area	H= 0.00 acres
H. Area of Forest above Conserv. Threshold	I= 0.00 acres
I. If ex. forest cover is > Conserv. Threshold, then H = Existing forest cover (G) - Conserv. threshold.	J= 0.00 acres
J. Forest clearing permitted w/o mitigation	K= 0.00 acres
K. Ex. forest cover (G) - Break even point (I)	L= 0.00 acres
L. Total Forest Conservation Easement	

BREAK EVEN POINT	M= 0.00 acres
M. Amount of forest retained so no mitig. is required if area above Conserv. Threshold is > zero, then I = (0.2 x area of forest above Conserv. Thresh. (H) + Conservation threshold (F))	N= 0.00 acres
N. Forest clearing permitted w/o mitigation	O= 0.00 acres
O. Ex. forest cover (G) - Break even point (I)	P= 0.00 acres
P. Total Reforestation required Q = M + N - P	Q= 0.00 acres
Q. Total Reforestation required	R= 0.54 acres
R. Total Afforestation required	S= 0.00 acres
S. If Ex. forest cover (G) is < Afforest. threshold (E) then R = the Afforestation Threshold (E) - Ex. forest cover (G)	T= 0.00 acres
T. If Ex. forest cover (G) is > Afforest. threshold (E) and you are clearing forest, then R = the Afforestation Threshold (E) - Ex. forest cover (G) + (2 x forest to be cleared (K))	U= 0.54 acres*
U. Total Reforestation required S = Q + R (Forest Conservation Act)	

PLANTING REQUIREMENTS	
Retaining forest at or > break even point (I), no planting req. if not calculate replanting requirements below.	
M. Reforestation for clearing above Conserv. Threshold (CT)	
(1) If total area of forest to be retained (L) is > or = to the Conservation Threshold (F), then M = area of forest to be cleared (K) x 0.25	
(2) If the forest to be retained (L) is < the CT (F), then M = area of forest above CT x 0.25	
N. Reforestation for clearing below the Conserv. Threshold.	
(1) If Existing Forest Cover (G) is > CT (F) and the forest to be retained (L) is < the CT (F) then N = 2.0 x (the CT (F) - the forest area to be retained (L))	
(2) If Ex. forest is < / = to CT, then N = 2 x Forest cleared (K)	
P. Credit for retention above Conservation Threshold	
If area of forest to be retained (L) is > CT (F), the P = L - F	
Q. Total Reforestation required Q = M + N - P	
R. Total Afforestation required	
(1) If Ex. forest cover (G) is < the Afforest. threshold (E) then R = the Afforestation Threshold (E) - Ex. forest cover (G)	
(2) If Ex. forest cover (G) is > Afforest. threshold (E) and you are clearing forest, then R = the Afforestation Threshold (E) - Ex. forest cover (G) + (2 x forest to be cleared (K))	
S. Total Reforestation requirement S = Q + R (Forest Conservation Act)	
T. Proposed On-Site Reforestation	
U. Proposed Fee in Lieu @ \$0.75 / s.f.	

\*Note: Reduction in net tract area subject to a waiver application currently under review  
\*Note: Subject to the approval of a fee in lieu request



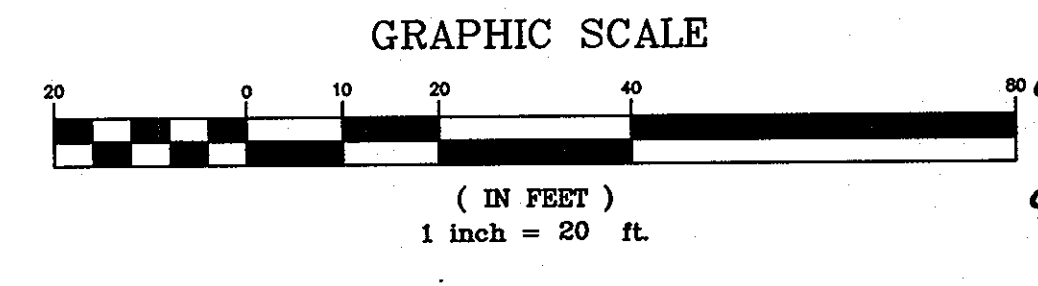
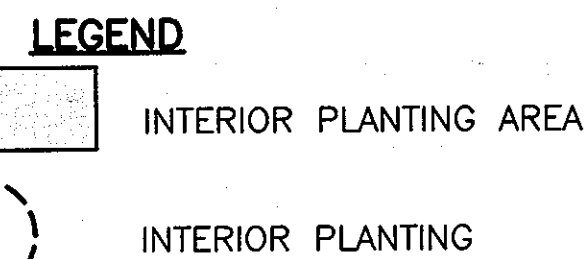
Financial Surety for the required landscaping has been posted as part of the DPW developer's agreement in the amount of \$32,000.00 for 63 shade trees, 49 evergreen trees and 213 shrubs.

At the time of installation, all shrubs and other plantings herewith listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscape Manual. In addition, no substitutions or re location of required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from this 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 applicable plans and certifications.

SCALE: 1" = 40'

LIGHTING SUMMARY TABLE

LABEL	QTY	TYPE	ARRANGEMENT	DESCRIPTION
CANOPY	18	ENCORE	SINGLE	EC-8-250-PMV-F - 23,750 LOADS - DOWN LIGHT UNDER CANOPY
WALL MOUNT	2	EAGLE	SINGLE	EQM-WB-250-SMH-FG - 20,000 LOADS - DOWN LIGHT ON BUILDING (GENERAL AREA LIGHTING)



**LANDSCAPE SCHEDULE**

QTY.	SYMBOL	SIZE	BOTANICAL NAME	COMMON NAME	SPACING	ROOT	UNIT	EXTENDED COST
31	Ar	2-1/2" Cal.	Acer rubrum 'October Glory'	October Glory Red Maple	as shown	B & B	\$18,300	
12	Gd	5" Ht.	Cedrus deodara	Deodara Cedar	16' o.c.	B & B	\$150	
38	lc	2" Ht.	Ilex crenata 'compacta'	Compact Japanese Holly	4' o.c.	Cont.	\$30	
140	Jc	2" Ht.	Juniperus chinensis 'Pfitzeriana Compacta'	Compact Pfitzer Juniper	5' o.c.	Cont.	\$30	
45	Jh	18" Ht.	Juniperus horizontalis 'Bar Harbor'	Bar Harbor Juniper	3' o.c.	Cont.	\$450	
15	Pa	6" Ht.	Pinus strobus	Norway Spruce	16' o.c.	B & B	\$150	
27	Pa	6" Ht.	Pinus strobus	Eastern White Pine	16' o.c.	B & B	\$150	
3	Py	6" Ht.	Prunus yedoensis	Yoshino Cherry	25' o.c.	B & B	\$900	
3	Vb	2-3" Ht.	Viburnum X burkwoodii	Burkwood Viburnum	5' o.c.	Cont.	\$30	
12	Zs	2-1/2" Cal.	Zelkova serrata	Japanese Zelkova	as shown	B & B	\$300	
13	GT	2-1/2" Cal.	Gleditsia tricanthos inermis 'Imperial'	Imperial Thornless Honey Locust	35-40' o.c.	B & B	\$3,900	
							<b>TOTAL</b>	<b>\$32,790</b>

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE: 4/25/11  
DATE: 7/27/11  
DATE: 7/27/11

ENCORE FLAT LENS  
EAGLE  
CANOPY LIGHT  
WALL MOUNT LIGHT

**MESSICK & ASSOCIATES\***  
CONSULTING ENGINEERS  
PLANNERS & SURVEYORS  
2120 RENARD COURT  
ANNAPOLIS, MARYLAND 21401  
PHONE: (410) 266-3212  
FAX: (410) 266-3502

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. 22096, EXPIRATION DATE: SEPT. 10, 2012

OWNER: WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
2125 ROUTE 97  
COOKSVILLE, MD. 21723

DEVELOPER: HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
7477 NEW RIDGE ROAD  
HANOVER, MARYLAND 20794  
410-859-3636

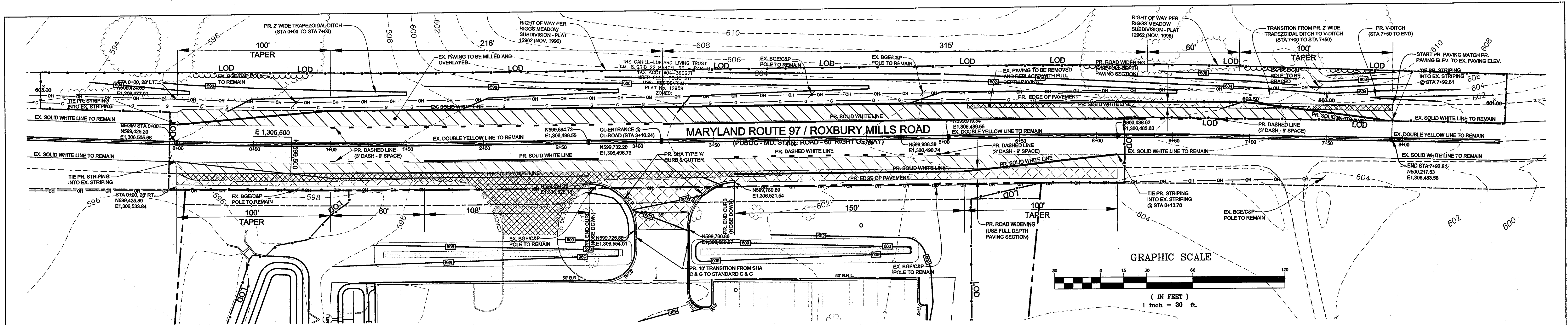
RECORD DRAWING NOVEMBER 2012

PROJECT: **HIGHS @ GLENWOOD  
GLENWOOD FARM & GARDEN STORE**  
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

TITLE: **REDEVELOPMENT OF THE RIDGELY PROPERTY  
SITE DEVELOPMENT PLAN (SDP-10-054)**  
(PREVIOUS SDP: SDP-06-04)

**LANDSCAPE & LIGHTING PLAN**

2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
TAX MAP 14, GRID 5, PARCEL 256 ELECTION DISTRICT NO. 4 LIBER 2457 FOLIO 636  
WATER CONTRACT NO. SEWER DISTRICT NO. DESIGN BY: WAN DRAWN BY: BPO  
HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 17 OF 19



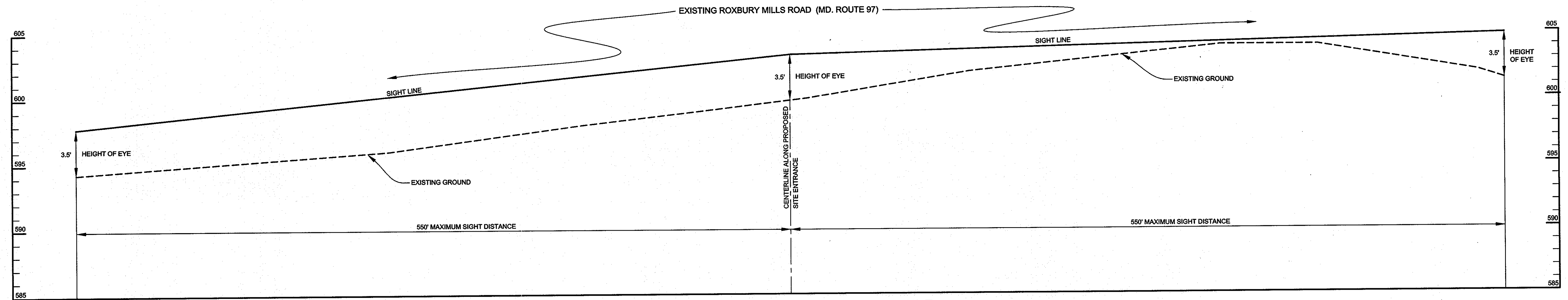
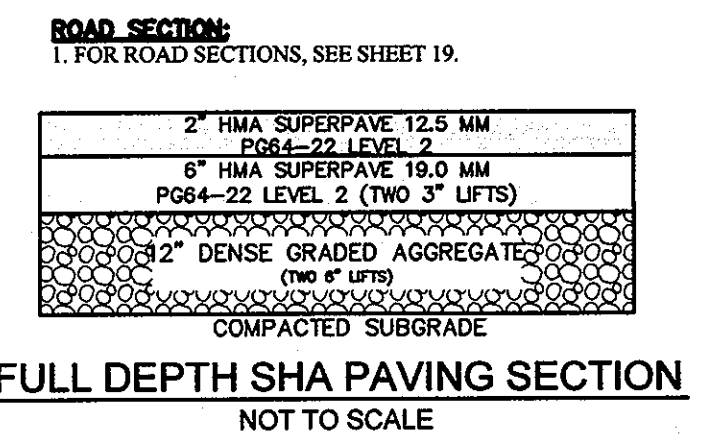
**STATE HIGHWAY IMPROVEMENTS PLAN**  
SCALE: 1" = 30'

**STRIPING AND STRIPING NOTES**  
1. ALL STRIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD)". ALL STRIPING SHALL BE 6" WIDE AND SHALL MATCH THE EXISTING MATERIALS, UNLESS OTHERWISE SPECIFIED.  
2. FOR BYPASS LANE MARKINGS REFER "MMUTCD".  
3. ALL SIGNS SHALL CONFORM TO THE "SHA SIGN STANDARD BOOK" AND INSTALLED IN ACCORDANCE WITH THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

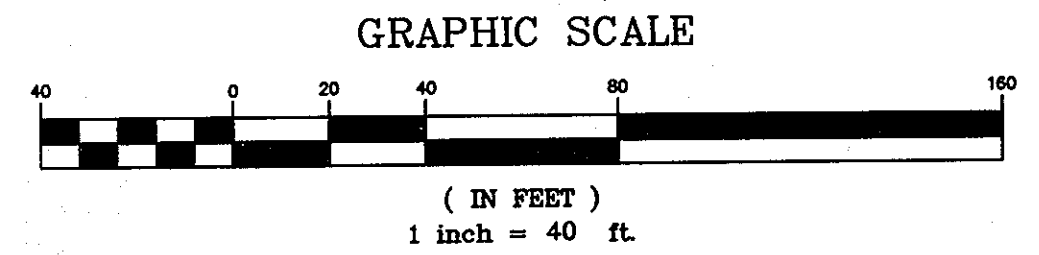
**PAVEMENT CORE NOTES**  
1. THE CONTRACTOR SHALL OBTAIN THE SERVICE OF A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF MARYLAND TO PROVIDE CORE SAMPLES OF THE EXISTING SHOULDER AND/OR BYPASS LANE ALONG THE LINE OF WORK. THE CORE SAMPLES SHALL BE COORDINATED WITH THE STATE HIGHWAY ADMINISTRATIONS RESIDENT ENGINEER.  
2. THE CONTRACTOR SHALL UPGRADE THE PAVEMENT SECTION ALONG THE LINE OF WORK AS DIRECTED BY THE STATE HIGHWAY ADMINISTRATION.

**LEGEND**

- EX. PAVEMENT TO BE REMOVED
- PR. FULL DEPTH PAVEMENT
- PR. MILL & OVERLAY



**SIGHT DISTANCE ANALYSIS PROFILE**  
SCALE: H: 1" = 40'  
V: 1" = 4'



APPROVED: DEPARTMENT OF PLANNING AND ZONING

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
*William Peter Brileyman* DATE: 5/24/2011

APPROVED: 4/25/11

APPROVED: 7/27/11

**MESSICK & ASSOCIATES\***

CONSULTING ENGINEERS  
PLANNERS & SURVEYORS  
2120 RENARD COURT  
ANNAPOLIS, MARYLAND 21401  
PHONE: (410) 266-3212  
FAX: (410) 266-3502

STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION

OWNER:  
WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY

2125 ROUTE 97  
COOKSVILLE, MD. 21723

DEVELOPER:  
HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
7477 NEW RIDGE ROAD  
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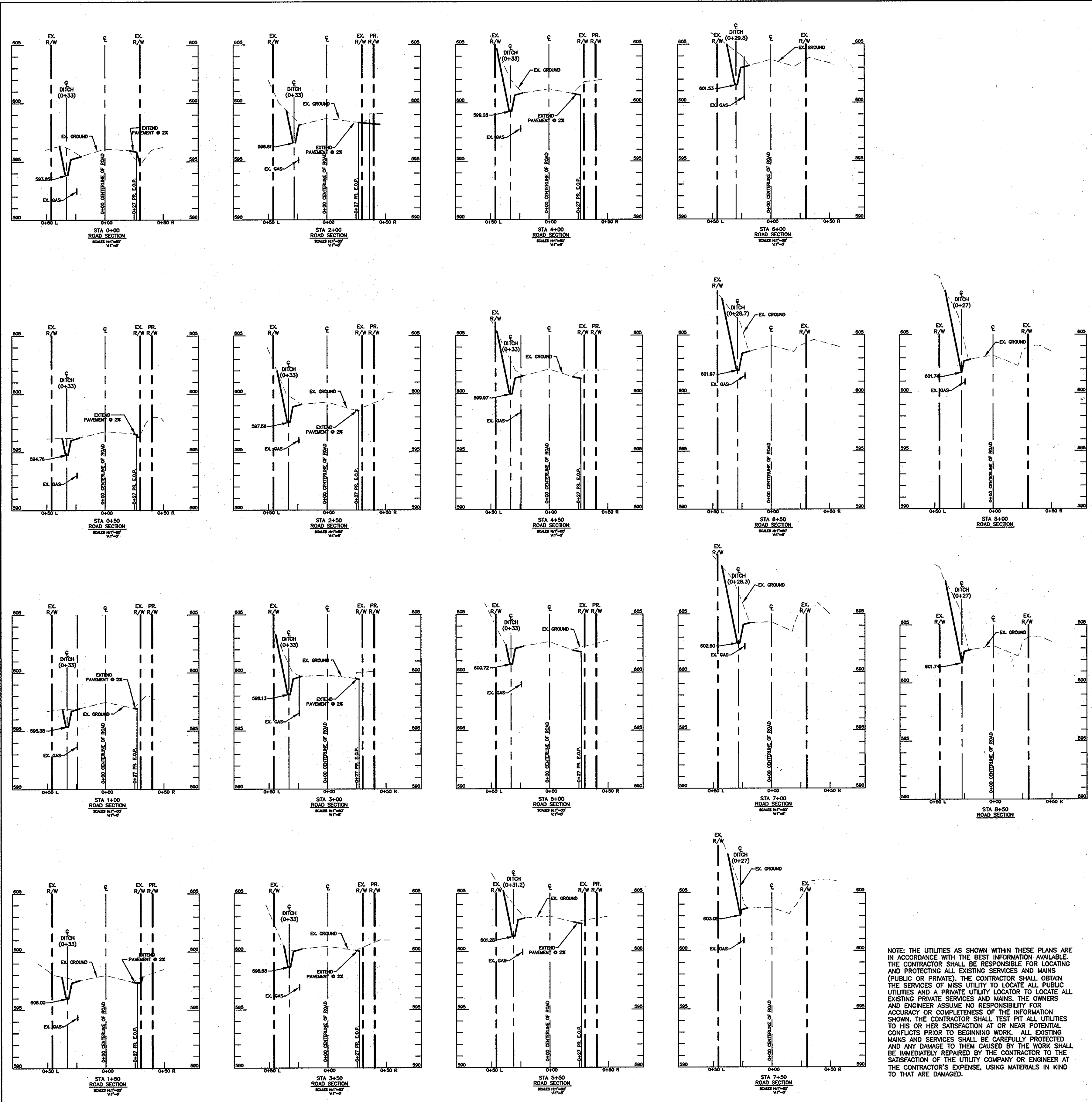
RECORD DRAWING NOVEMBER 2012

PROJECT  
**HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

TITLE  
**REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
(PREVIOUS SDP: SDP-06-04)

**M.S.H.A. IMPROVEMENTS & SIGHT DISTANCE PROFILE**

2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: R-8  
TAX MAP: 14, GRID: 5, PARCEL: 256, ELECTION DISTRICT NO.: 4 LIBER: 2457 FOLIO: 636  
WATER CONTRACT NO.: SEWER CONTRACT NO.: DESIGN BY: WAN DRAWN BY: BPO  
HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 18 OF 19



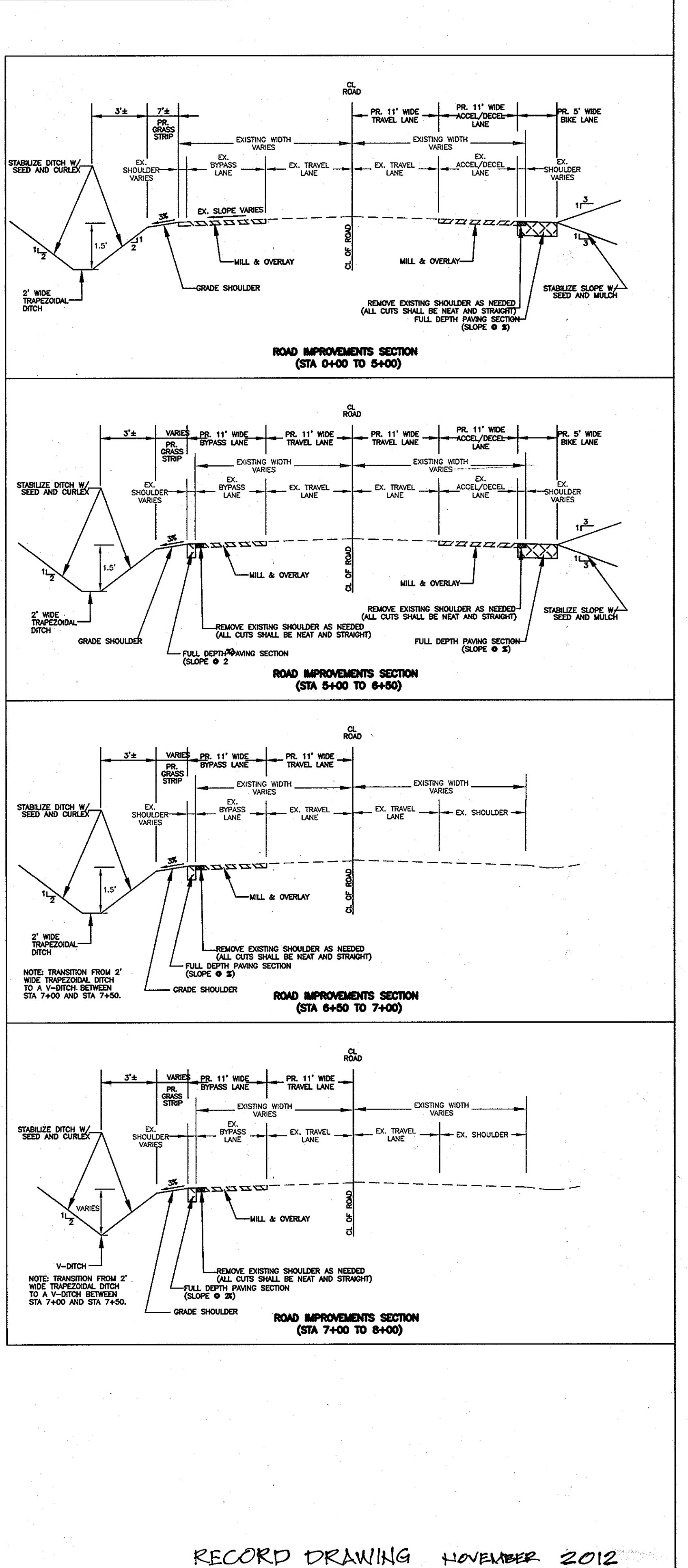
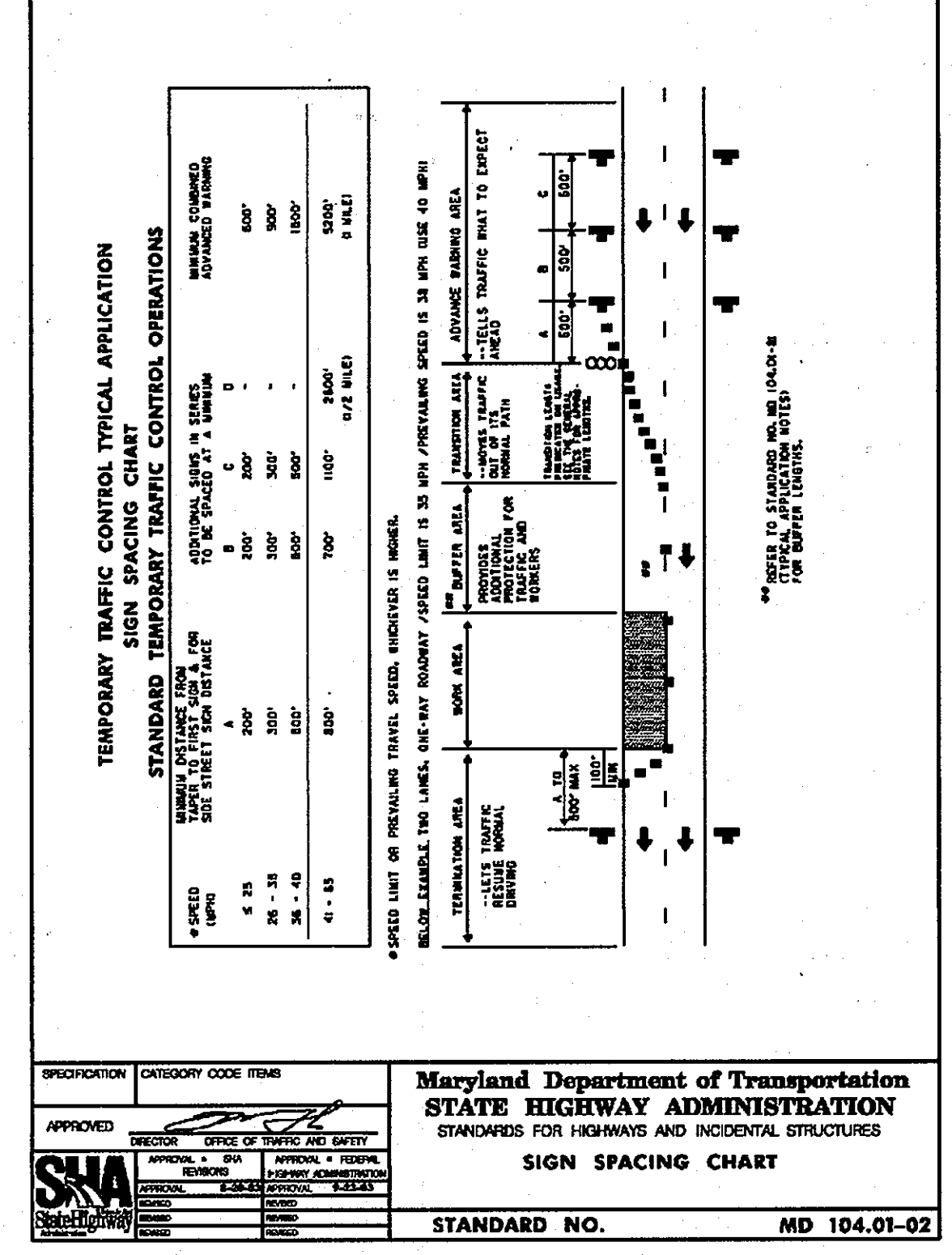
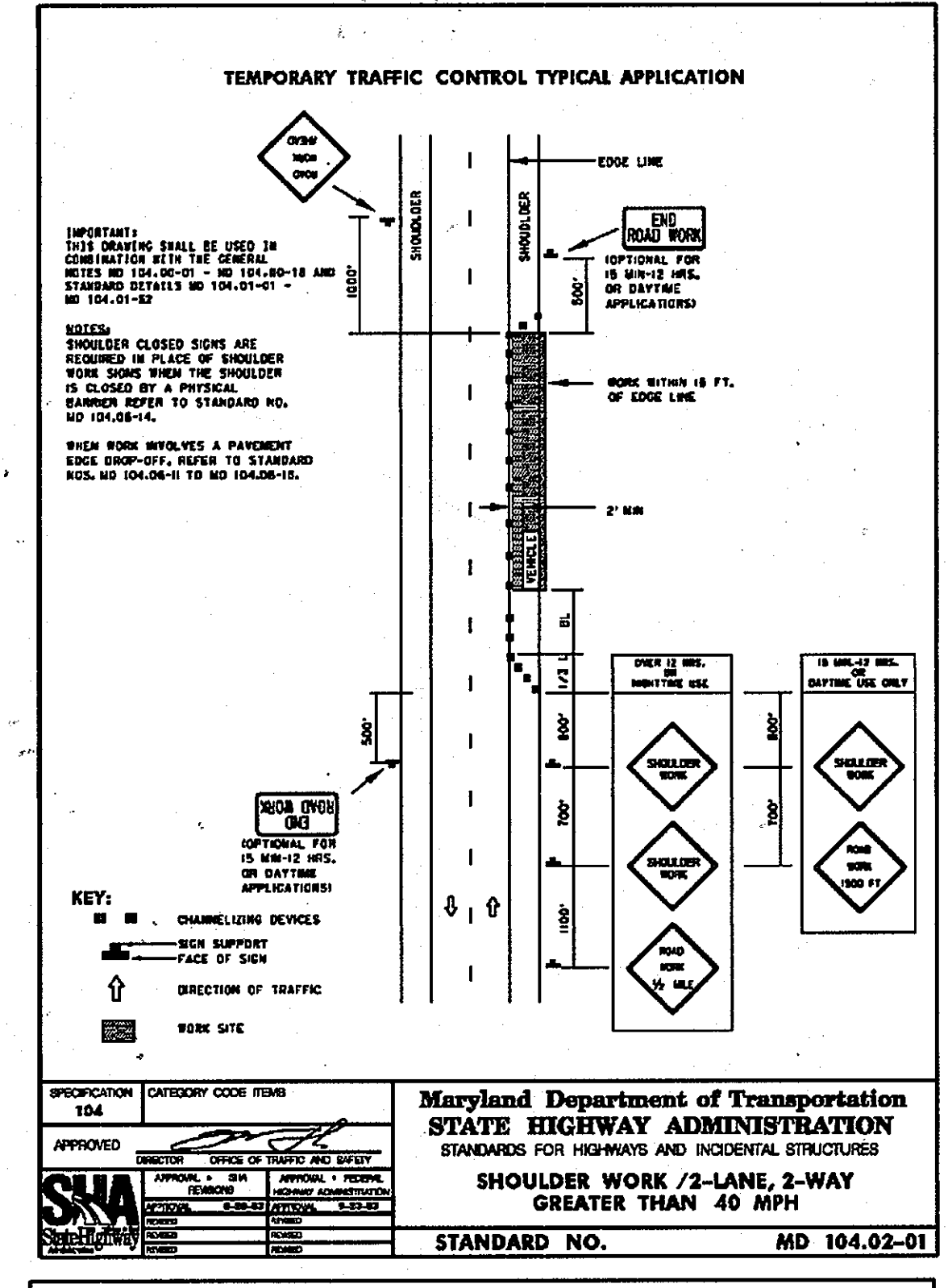
**TRAFFIC CONTROL NOTES**

**MAINTENANCE OF TRAFFIC GENERAL INTENT**  
 During construction of this project, the contractor shall confine the work zone to area shown on the plans and confine his work to one lane at a time. The contractor shall provide adequate protection by means of drums or other approved channelization devices placed along the edge of the traveled way. Channelizing devices shall be as specified in the Maryland Manual of Uniform Traffic Control Devices (MMUTCD) Section 6-6 to protect all vehicular traffic on the traveled lane.

**ACCESS TO RESIDENCES/PROPERTIES**  
 The contractor shall schedule and execute his work in such a way that emergency vehicles have access to all abutting properties at all times. The contractor may during daytime or working hours be required to provide a temporary means of ingress and egress to the properties as the need arises. During non-working hours the contractor shall provide a means of access around or through the work zones.

**DELIVERY OF MATERIALS**  
 Construction materials may not be laid out or stored along either roadway. Access to properties either vehicular or pedestrian shall not be blocked by the storage of materials.

**STOCKPILE OF EXCAVATED MATERIAL**  
 The contractor may not store excavated material, borrow material, or gravel, etc. in the section of the roadway that he has opened for construction. Material shall not be stockpiled in any place where it will impede traffic or impede access to properties. Further, material will not be stockpiled in a way that impedes sight distance and visibility.

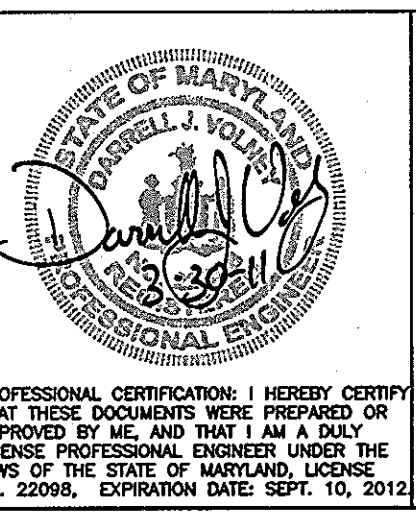


APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] DATE: 4/25/11  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] DATE: 7/27/11  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] DATE: 7/27/11  
 DIRECTOR  
 APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
 [Signature] DATE: 5/24/2011  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: [Signature] DATE: 5/24/2011  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT

**MESSICK & ASSOCIATES\***  
 CONSULTING ENGINEERS  
 PLANNERS & SURVEYORS  
 2120 RENARD COURT  
 ANNAPOLIS, MARYLAND 21401  
 PHONE: (410) 266-3212  
 FAX: (410) 266-3502

\* MESSICK GROUP INC. / A MESSICK AND ASSOCIATES



OWNER: WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY  
 2125 ROUTE 97  
 COOKSVILLE, MD. 21723

DEVELOPER: HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC  
 7477 NEW RIDGE ROAD  
 HANOVER, MARYLAND 20794  
 410-859-3636

RECORD DRAWING NOVEMBER 2012

PROJECT: **HIGHS @ GLENWOOD**  
**GLENWOOD FARM & GARDEN STORE**  
 (2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

TITLE: **REDEVELOPMENT OF THE RIDGELY PROPERTY**  
**SITE DEVELOPMENT PLAN (SDP-10-054)**  
 (PREVIOUS SDP-98-64)

ROAD SECTIONS & TRAFFIC CONTROL PLAN  
 2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R  
 TAX MAP 14, GRID 5, PARCEL 256, ELECTION DISTRICT NO. 4 LIBER 2457 FOLIO 636  
 WATER CONTRACT NO. SEWER CONTRACT NO. DESIGN BY: WAN DRAWN BY: BPO  
 HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 19 OF 19