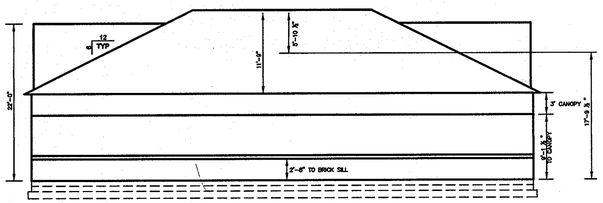
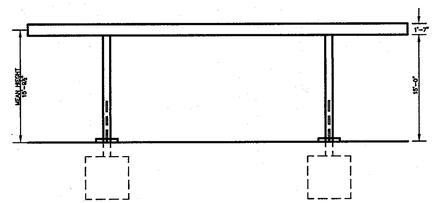
SITE DEVELOPMENT PLAN
FOR
HIGHS @ GLENWOOD +
~~GLENWOOD FARM & GARDEN STORE~~
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

CONSTRUCTION NOTES

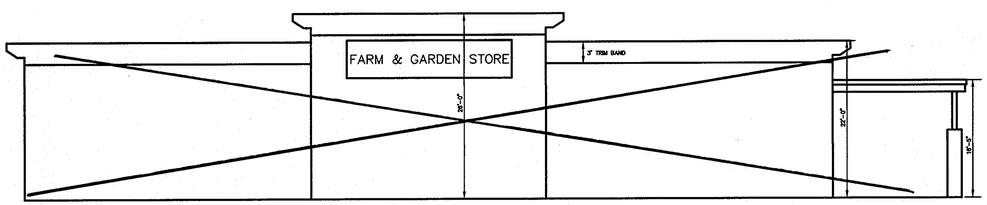
1. No sediment and erosion control devices may be removed without prior approval from the Howard County inspector.
2. Stabilize any disturbed area as soon as possible by permanent or temporary means.
3. All temporary stock piles and excess material shall be removed to an approved spoil site. All borrow material shall be obtained from an approved site.
4. 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.
5. 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 owners 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.
6. 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.
7. The contractor shall grade all areas within the area of construction and shall warp paving as necessary to insure positive drainage.
8. The Contractor shall be responsible for coordination of his construction with the construction by other contractors and subcontractors.
9. All soil erosion control measures shall be in accordance with the "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL".
10. 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 contractors base bid.



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



FUEL PUMP CANOPY ELEVATION
SCALE: 1" = 10'



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

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

HOWARD COUNTY GEODETIC DOORDINATE TABLE

GEODETIC SURVEY CONTROL No.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	ELLIPSOIDAL HT.	SCALE FACTOR	CONVERGENCE
14CB	182295.0702 mts	398200.1146 mts	180.1601 mts	39° 18' 31.921" N	77° 01' 15.129" W	146.328 mts	0.9999783565	00° 00' 47.2"
14CC	182865.1964 mts.	398227.4076 mts	183.756 mts	39° 18' 50.409" N	77° 01' 15.995" W	151.946 mts	0.9999790374	00° 00' 46.4"

REV.	DATE	DESCRIPTION
1	3-14-12	CROSSEDOUT FARM STORE RENDERING, REVISED PARKING CALCULATIONS AND SITE DATA CHART.

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~~

~~FARM & GARDEN STORE (5 SPACES PER 1,000 S.F. OR G.F.A.)~~
~~GROSS FLOOR AREA: 12,226 SQUARE FEET~~
~~SPACES REQUIRED: = [12,226 S.F. X (5 SPACES/1000 S.F.)] 61.13 SPACES - USE 62 SPACES~~

~~OUTDOOR DISPLAY (1 SPACES PER 1,000 S.F.)~~
~~DISPALY AREA: 1,250 SQUARE FEET~~
~~SPACES REQUIRED: = [1,250 S.F. X (1 SPACES/1000 S.F.)] = 1.25 SPACES - USE 2 SPACES~~

~~TOTAL SPACES REQUIRED = 62 SPACES + 2 SPACES = 64 SPACES~~

~~TOTAL SPACES PROVIDED = 72 SPACES (INCLUDES ADA ACCESSIBLE SPACES)~~

THE PRIVATE IMPROVEMENTS WERE CONSTRUCTED AND LOCATED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, EXCEPT AS OTHERWISE NOTED HEREON IN RED.

Darrell J. Volney 7-7-13
DARRELL J. VOLNEY DATE
MESSICK AND ASSOCIATES

STATE OF MARYLAND DARRELL J. VOLNEY No. 22088 REGISTERED PROFESSIONAL ENGINEER

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1. TITLE SHEET
2. EXISTING CONDITIONS PLAN
3. SITE DEMOLITION PLAN
4. GRADING, SEDIMENT AND EROSION CONTROL PLAN
5. SITE DEVELOPMENT PLAN
6. SEPTIC PLAN
7. SEPTIC PROFILE AND DETAILS
8. STORM DRAIN PLAN AND PROFILES
9. STORM DRAIN DRAINAGE AREA MAP
10. STORMWATER MANAGEMENT PLAN
11. STORMWATER MANAGEMENT PROFILES
12. STORMWATER MANAGEMENT PROFILES
13. STORMWATER MANAGEMENT NOTES
14. S.W.M. DRAINAGE AREA MAP
15. SITE DETAILS
16. SEDIMENT CONTROL DETAILS AND NOTES
17. LANDSCAPE & LIGHTING PLAN
18. M.S.H.A. IMPROVEMENTS & SIGHT DISTANCE PROFILE
19. ROAD SECTIONS & TRAFFIC CONTROL PLAN

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. (HIGHS STORE)
~~+ Floor - 12,226 S.F. (FARM & GARDEN STORE)~~
MAXIMUM NUMBER OF EMPLOYEES/SHIFT: 2 (HIGHS STORE) ~~+ 8 (FARM & GARDEN STORE)~~
NUMBER PARKING SPACES REQUIRED: 10 (HIGHS STORE) ~~+ 62 (FARM & GARDEN STORE)~~
NUMBER OF PARKING SPACES PROVIDED ON SITE: 21 (HIGHS STORE) ~~+ 73 (FARM & GARDEN STORE)~~
BUILDING COVERAGE OF SITE: ~~0.06~~ 0.080 ACRES AND ~~0.006~~ 0.006 OF GROSS AREA.
APPLICABLE DPZ FILE REFERENCES: SDP 96-64, ZB 946M, ZB 1079M

LEGEND

632 EXISTING CONTOUR
EXISTING CURB & GUTTER
EXISTING BUILDING
OH OH EXISTING OVERHEAD WIRE
EXISTING UTILITY POLE
EXISTING EDGE OF PAVEMENT
EXISTING FUEL ISLAND
EXISTING CONCRETE PAD
EXISTING CANOPY
W W EXISTING WATER LINE
SS SS EXISTING SEWER LINE
PROPERTY LINE
B.R.L. 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
X X EXISTING FENCE
EXISTING BOLLARD
ZONING LINE
SOILS BOUNDRY
PROPOSED BUILDING
PROPOSED CANOPY
632 PROPOSED CONTOUR
PROPOSED CURB & GUTTER
PROPOSED CONCRETE PAD
PROPOSED FUEL ISLAND
PROPOSED SIDEWALK
633.34 PROPOSED SPOT SHOT
PROPOSED SEWER
PROPOSED WATER
PROPOSED BOLLARD
SCE STABILIZED CONSTRUCTION ENTRANCE
SSF SSF SUPER SILT FENCE
LOD LOD LIMIT OF DISTURBANCE

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

1. The subject property was already rezoned in ZB Case 946M so the Board will not revisit the issues related to Section 117.1G.3.b. of the Zoning Regulations because none of the facts related to Section 117.1B. have changed with respect to the subject property. The criteria contained in Section 117.1G.3.(a), (c), (d) and (e) would be relevant to the proposed amended PDP development.

2. 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 117.1G.3. (a), (c), (d) and (e), and does so as follows:

a. The Board concludes that the used 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;

b. 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;

c. 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

d. 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 its 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.

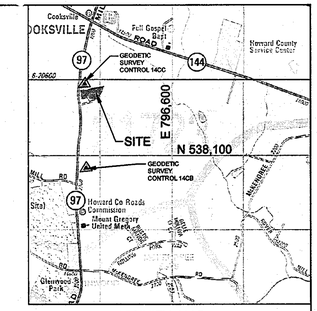
CASE No. ZB 1079M

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 12,226 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:

1. The petitioner most comply with all agency comments.

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



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

GENERAL NOTES
NON-RESIDENTIAL SITE DEVELOPMENT PLAN

1. The subject property is zoned B-R per the February 2, 2004 Comprehensive Zoning Plan and the Comp Lite Zoning Admendments effective July 28, 2006..

2. 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.

3. This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and the Landscape Manual.

4. Financial Surety for the required landscaping has been posted as part of the DPW developer's agreement in the amount of $32,640 for 63 shade trees, 49 evergreen trees, and 213 shrubs.

5. Waiver 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 net tract area 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.

a) The limit of disturbance for this project is restricted to the area shown on the Waiver Petition Plan and associated Site Development Plan (SDP-10-054).
b) Further improvements must satisfy the Forest Conservation requirements applicable at that time.
c) Payment of a Fee-in-lieu for Forest Conservation in the amount of $17,642.00. This 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 $17,642 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.

6. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications if applicable.

7. The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.

8. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work being done.

9. Traffic control devices, markings and signing shall be in accordance with the latest edition of the Maryland Manual of Uniform Traffic Control Devices (MdMUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.

10. All plan dimensions are to face of curb unless otherwise noted.

11. The existing topography is taken from flown survey with two foot contour intervals prepared by Potomac Aerial Surveys dated 1/25/2008 and supplemented by Messick and Associates.

12. 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.

13. Water is private.

14. Sewer is private.

15. 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-bioretention, and enhance filters) as well as infiltration to meet the water quality and quantity requirements. The facilities will be privately owned and maintained by the owners.

16. Existing utilities are based on a survey performed by Messick and Associates & record files provided by Howard County.

17. There is no floodplain on this site.

18. There are no wetlands on this site.

19. The traffic study for this project was prepared by Traffic Concepts Inc. dated June 2009 and was approved on April 13, 2010.

20. All outdoor lighting shall comply with the requirements of zoning section 134.

21. 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.

22. All sign posts used for traffic control signs installed in the State right-of-way shall be mounted on a 2" galvanized steel, perforated, square tube post (14 gauge) inserted into a 2-1/2" galvanized steel, perforated, square tube sleeve (12 gauge) - 3' long. A galvanized steel pole cap shall be mounted on top of each post.

23. The Knox box is located on the front 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.

24. 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.

PERMIT INFORMATION CHART

SUBDIVISION NAME - COOKSVILLE		SECT./AREA - N/A	PARCEL/LOT - 256
PLAT NO. OR L/F 2457/636	GRID # - 5	ZONING - B-R	TAX MAP NO. - 14	ELECT. DIST. - 4-04	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-96-64)

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

SDP-10-054

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 HOWARD COUNTY HEALTH DEPARTMENT	DATE 5/24/2011

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

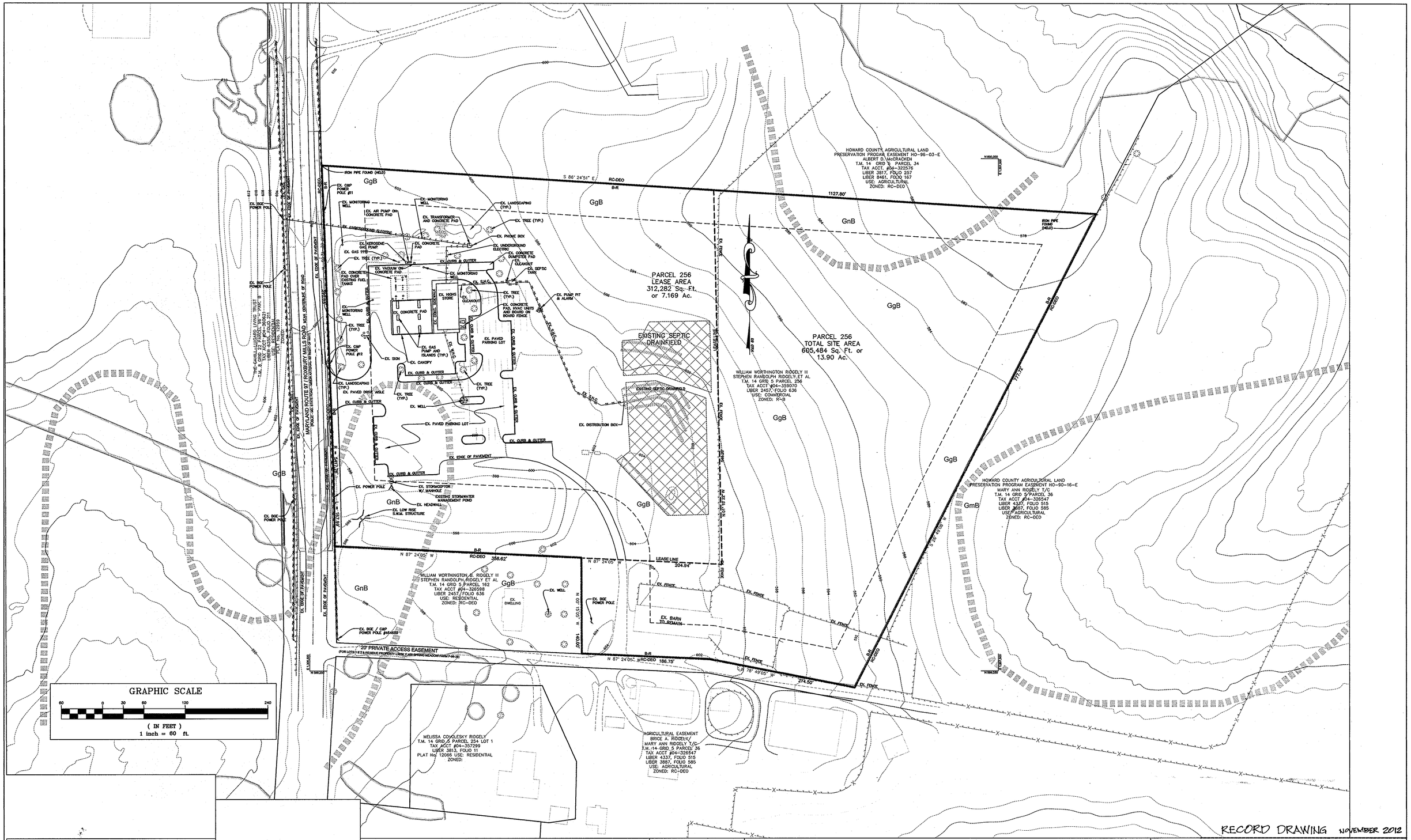
* MESSICK GROUP INC. T/A MESSICK AND ASSOCIATES

STATE OF MARYLAND DARRELL J. VOLNEY No. 22088 REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSE 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



RECORD DRAWING NOVEMBER 2012

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STATE OF MARYLAND — DARRELL J. VOLK — No. 22098 — REGISTERED PROFESSIONAL ENGINEER

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

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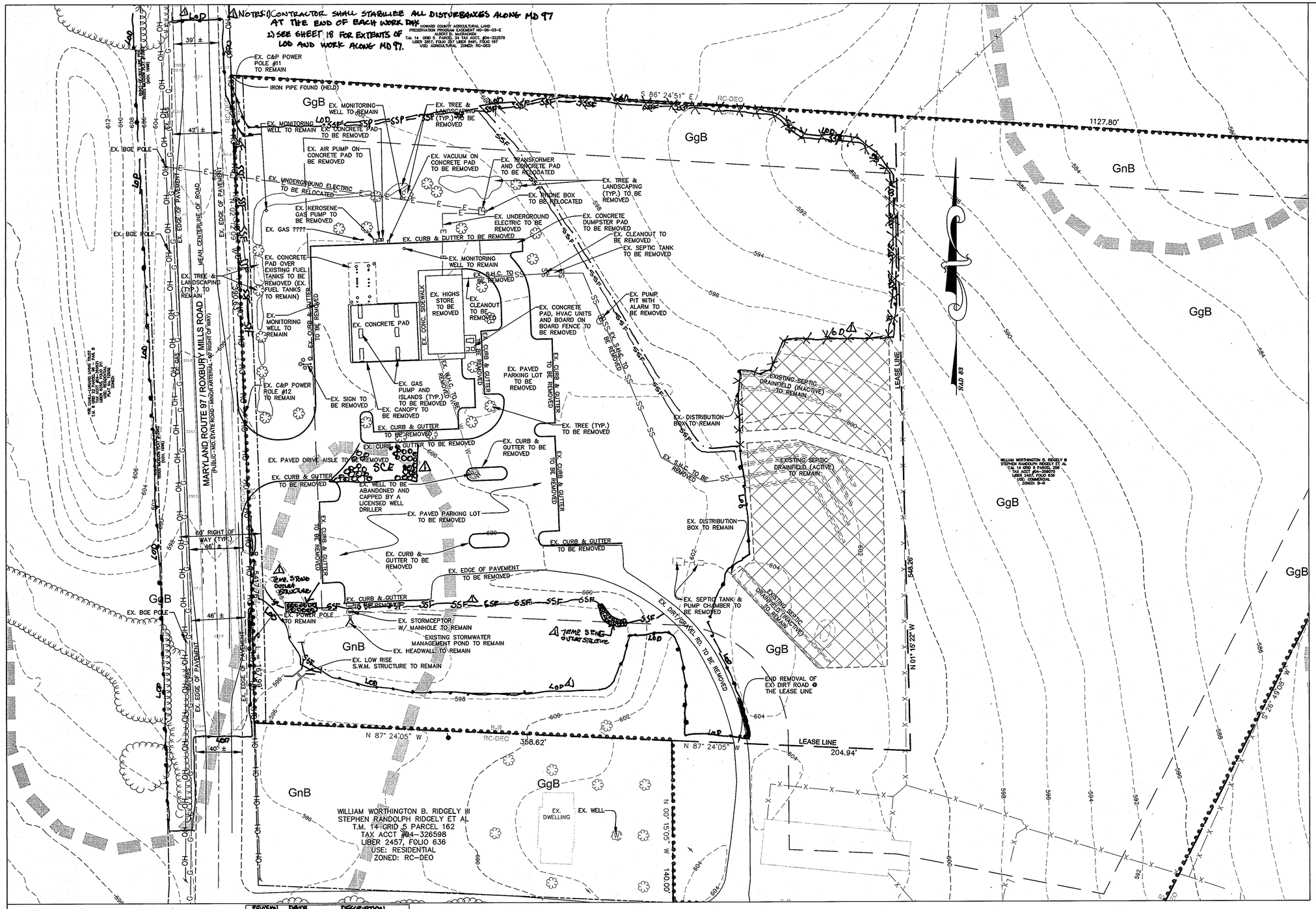
SDP-10-054



GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

RECORD DRAWING NOVEMBER 2012

REVISION	DATE	DESCRIPTION
1	12-30-11	ADD L.O.D AND SEDIMENT CONTROLS (i.e. super silt fence, Temporary Outlet Structures, silt fence, + SCE).
2	3-14-12	REVISED LIMIT OF DISTURBANCE (LOD) AND SUPER SILT FENCE (SSF).

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 HOWARD COUNTY HEALTH DEPARTMENT	DATE 5/24/2011

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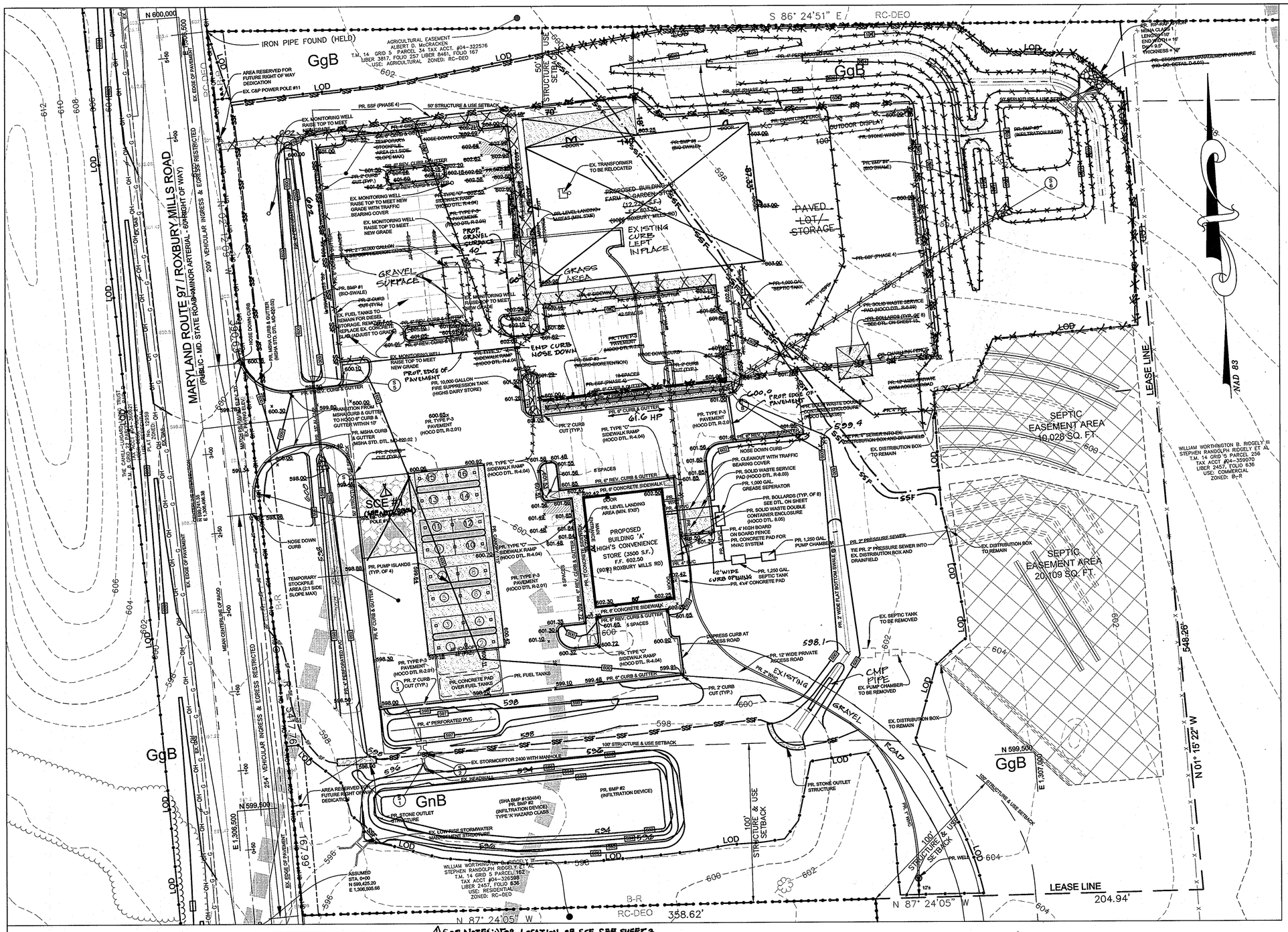
SDP-10-054



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

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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 RAMPS (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
1,250GALLON 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.

VP 3-30-11
DEVELOPER: BRIAN DARNELL (HIGH'S 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.

3-30-11
ENGINEER: DARRELL J. VOLNEY (MESSICK & ASSOC.) DATE

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

4/6/11
HOWARD SOIL CONSERVATION DISTRICT DATE

REVISION	DATE	DESCRIPTION
1	12-30-11	CROSSOUT SCE + ADDED SCE NOTES.
2	3-14-12	CROSSED OUT GRADING, PARKING, STORM DRAIN, STORM-WATER MANAGEMENT, WATER, SEPTIC, AND BUILDING ASSOCIATED WITH THE FARM STORE. REVISED LIMIT OF DISTURBANCE AND SUPER-SILT FENCE.

1 SCE 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 EXTENT OF LOD AND WORK ALONG MD 97.

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 HOWARD COUNTY HEALTH DEPARTMENT	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. T/A MESSICK AND ASSOCIATES

STATE OF MARYLAND DARRELL J. VOLNEY No. 22098 REGISTERED PROFESSIONAL ENGINEER 3-30-2011

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSE 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

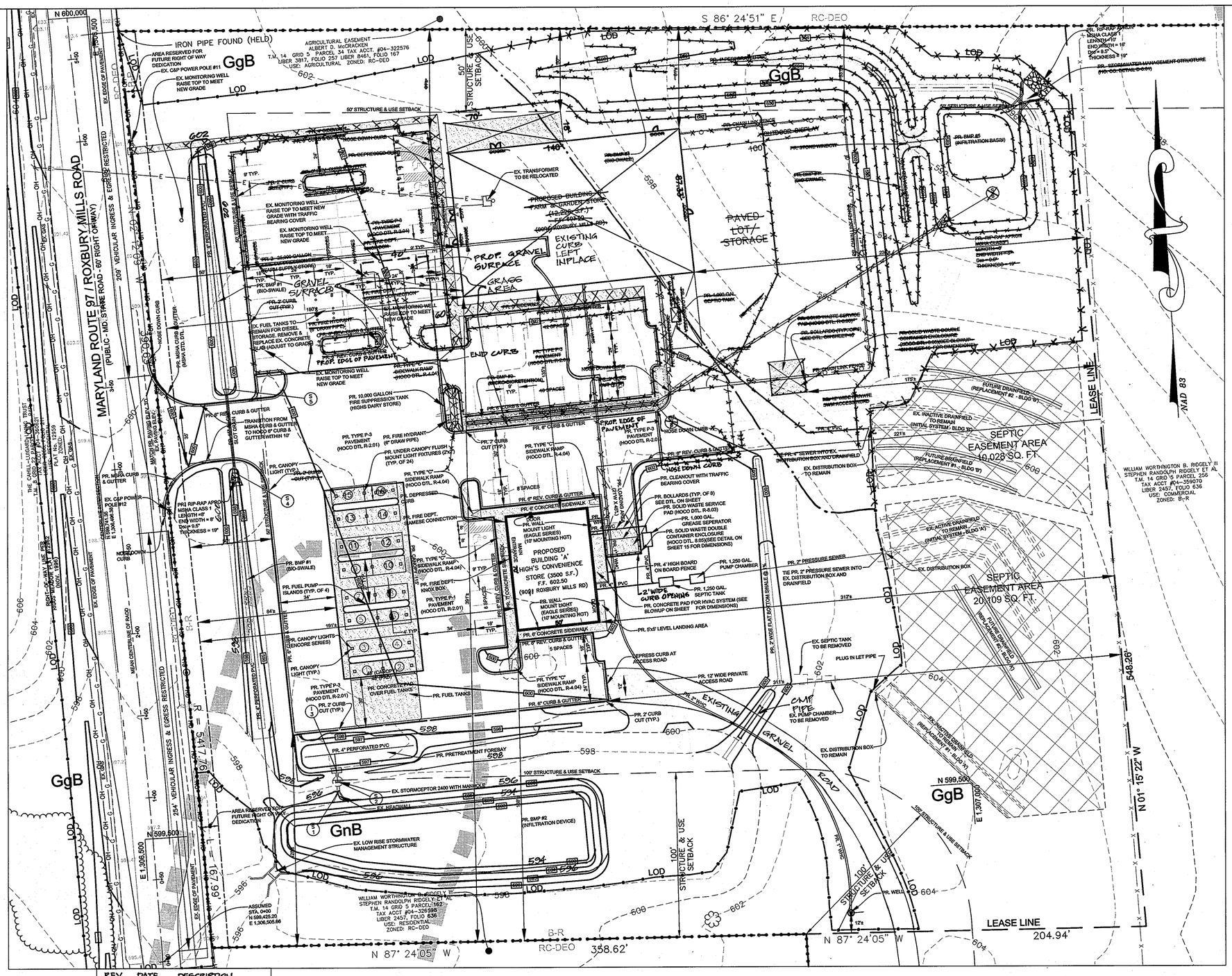
DEVELOPER:
HIGHS OF BALTIMORE INC. / FAIRWAY LEASING LLC
7477 NEW RIDGE ROAD
HANOVER, MARYLAND 20794
410-859-3636

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-96-64)

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. SEWER CONTRACT No. DESIGN BY: WAN DRAWN BY: BPO
HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 4 OF 19



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 KNOW BOX OR KNOW 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 RAMPS (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

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

RECORD DRAWING NOVEMBER 2012

REV.	DATE	DESCRIPTION
2	3-14-12	CROSSED OUT GRADING, PARKING, STORM DRAIN, STORMWATER MANAGEMENT, WATER, SEPTIC, AND BUILDING ASSOCIATED WITH THE FARM STORE. REVISED LIMITS OF DISTURBANCE.

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 HOWARD COUNTY HEALTH DEPARTMENT	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. T/A MESSICK AND ASSOCIATES

STATE OF MARYLAND FARRELL J. VOLPE No. 23257 REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSE 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-96-64)

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

SDP-10-054

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=Building Area (sq. ft.) x 0.05 gpd/sq.ft. (Retail)
Q= 12,226 sq.ft. x 0.05 gpd/sq.ft.
Q= 612 gpd

Septic Tank Size = 1.5 x Q = 1.5 x (612) = 918 gallons
USE: min. 1,000 gallon two compartment concrete spetic tank

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

Trench Area, Ta= 612 gpd/(0.8 gpd/sq.ft) =765 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 sq.ft. x 0.62 = 475 sq.ft.

Using a 3' wide trench
Trench Length Required = 475/3' TRENCH WIDTH = 159 L.F.
2 Trenches @ 80 lf 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,

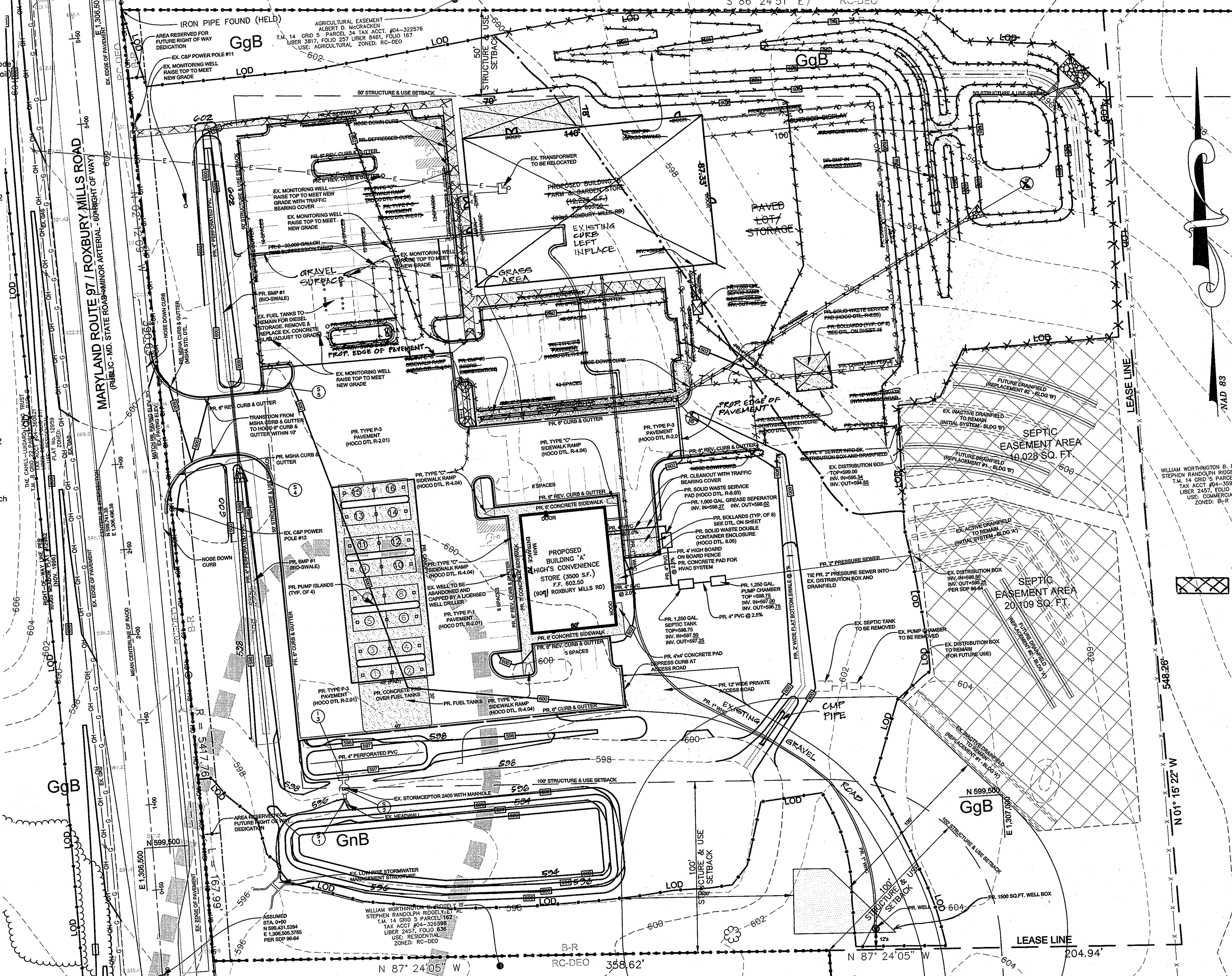
Application Rate, RA= 0.8 gpd/sq. ft.

Trench Area, Ta= 600gpd/0.8 gpd/sq.ft. = 750 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 sq.ft. x 0.62 = 465 sq.ft.

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



DRAINFIELD SUMMARY – BUILDING A

BULDING 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~~

~~BULDING B – FARM SUPPLY STORE~~

~~Initial System – Ex. Inactive System~~
~~Permit: 57353~~
~~Date: 10–25–96~~
~~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 SEWEAGE 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.

HANDICAP ACCESS NOTE:
ALL PATRONS INCLUDING ONE'S WITH DISABILITIES SHALL ACCESS THE STORE THROUGH THE MAIN ENTRANCE LOCATED ON THE FRONT OF THE BUILDING.

GENERAL NOTES:

1. THE EXISTING TOPOGRAPHY WITH 2-FOOT CONTOURS IS BASED ON A AERIAL SURVEY CONDUCTED AND PEPARED BY POTOMAC AERIAL SURVEYS DATED 1/25/2008. ADDITONAL 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.

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
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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

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

RECORD DRAWING NOVEMBER 2012

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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

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

* MESSICK GROUP INC. T/A MESSICK AND ASSOCIATES

STATE OF MARYLAND — DARRELL J. WILEY — REGISTERED PROFESSIONAL ENGINEER — No. 22098

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

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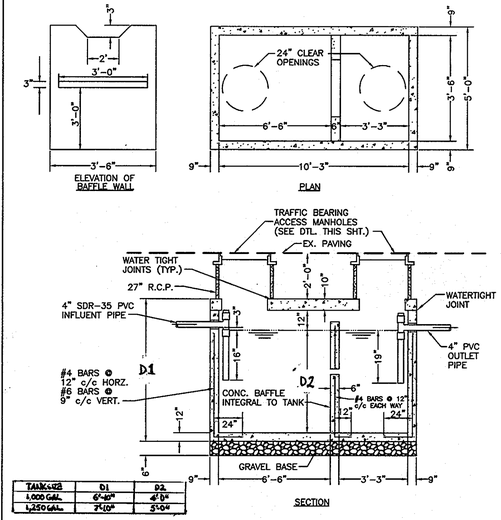
PROJECT **HIGHS @ GLENWOOD**
GLENWOOD FARM & GARDEN STORE
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

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

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. SEWER CONTRACT No. DESIGN BY: WAN DRAWN BY: BPO
HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010

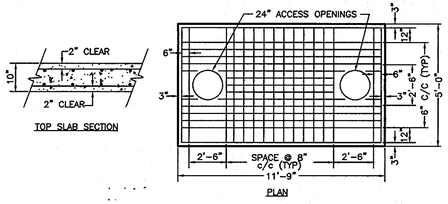
SDP-10-054



TANK SIZE	D1	D2
1,000 GAL	6'-0"	4'-0"
1,250 GAL	7'-0"	5'-0"

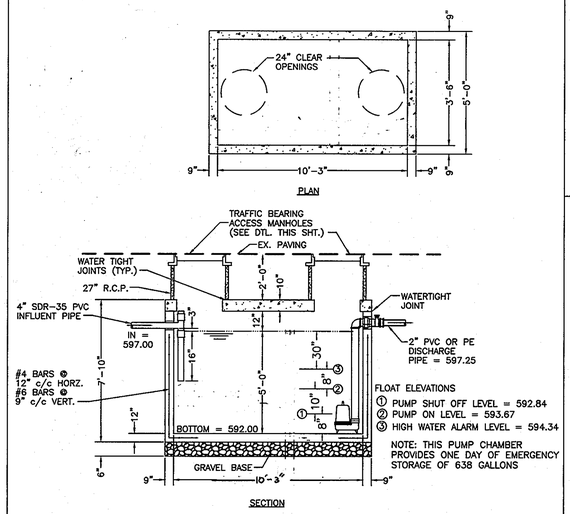
1,000 + 1,250 GALLON SEPTIC DETAIL

N.T.S.



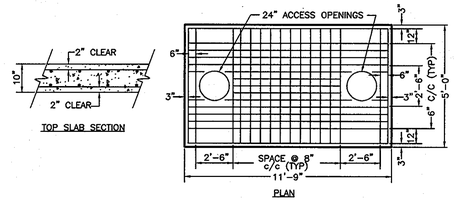
1,000 + 1,250 GALLON SEPTIC TANK TOP SLAB REBAR SPACING DETAIL

N.T.S.



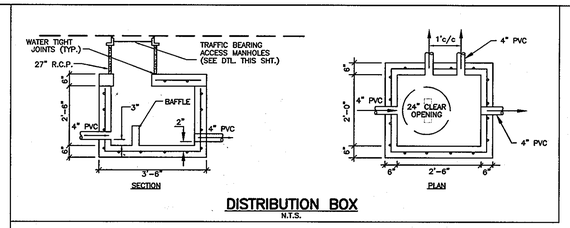
1,250 GALLON PUMP CHAMBER DETAIL

N.T.S.



1,250 GALLON PUMP CHAMBER TOP SLAB REBAR SPACING DETAIL

N.T.S.



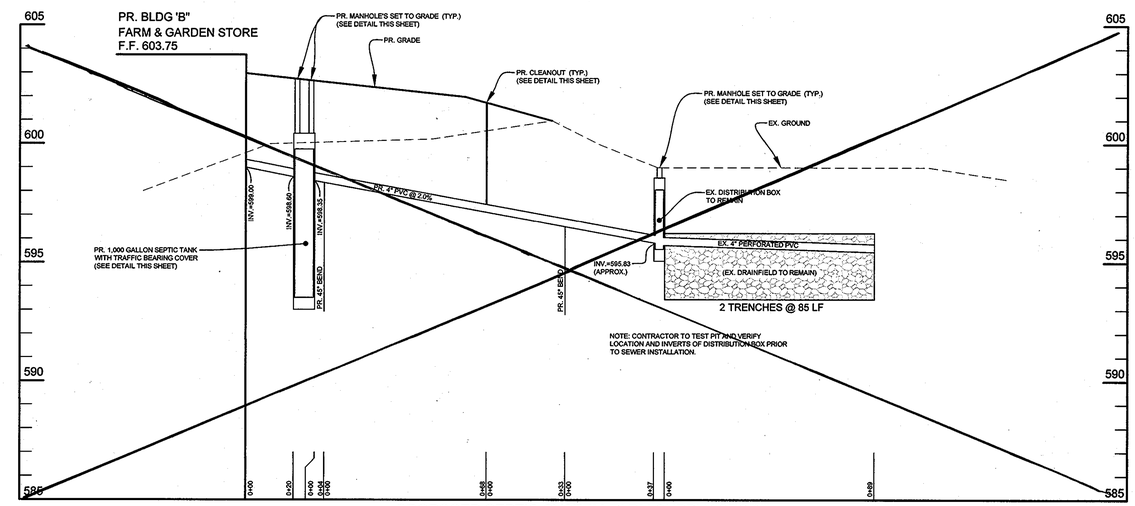
DISTRIBUTION BOX

N.T.S.

GRAPHIC SCALE

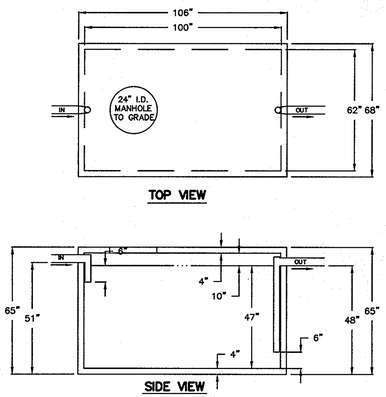
30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.



PROPOSED SEPTIC SYSTEM FARM SUPPLY STORE

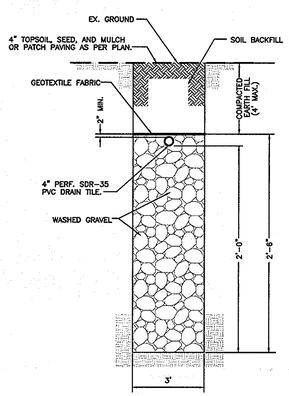
SCALE: 1"=30' HORIZ 1"=3' VERT



NOTE: THIS DEVICE MUST BE A 1000 GAL. TRAFFIC BEARING PRE-CAST CONCRETE GREASE TRAP.

1000 GALLON GREASE RETENTION TANK DETAILS

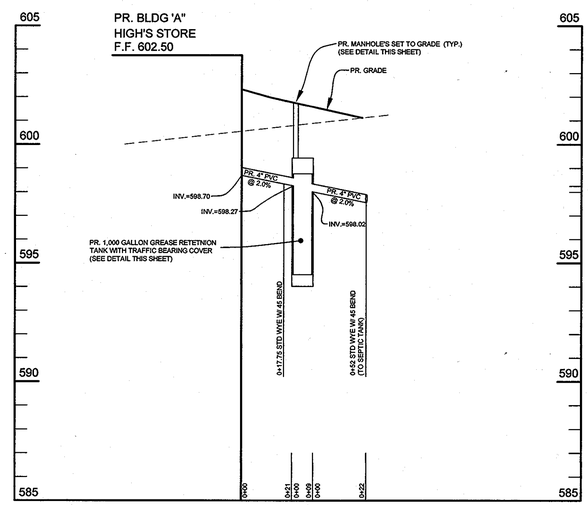
N.T.S.



NOTES:
1. Max. drainfield pipe slope = 4"/100'
2. Min. drainfield pipe slope = 1"/100'

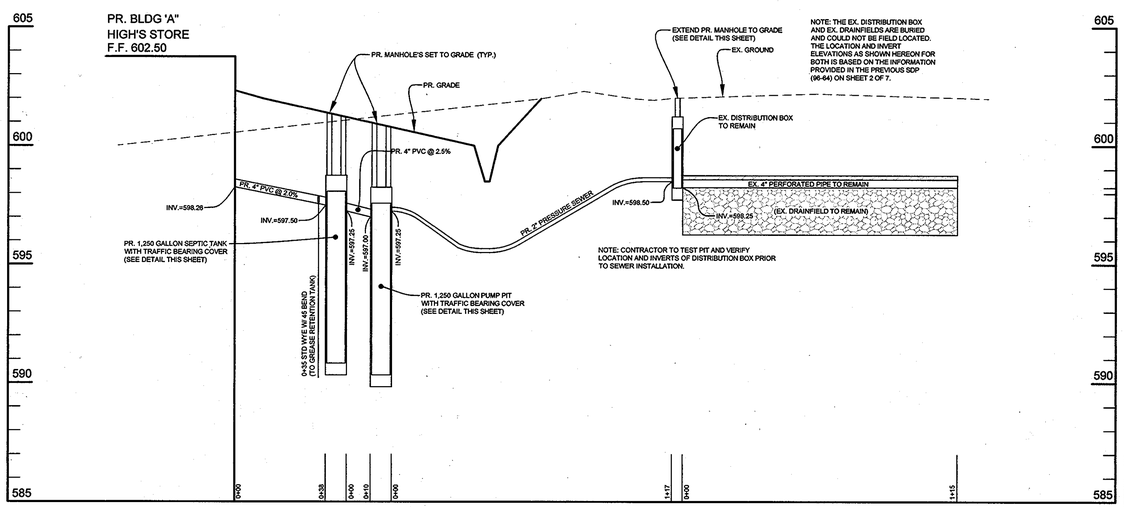
TYPICAL DRAINFIELD TRENCH DETAIL

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

RECORD DRAWING NOVEMBER 2012

REV.	DATE	DESCRIPTION
1	3-14-12	CROSSED OUT FARM STORE SEPTIC PROFILE.

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

HOWARD COUNTY HEALTH DEPARTMENT

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* MESSICK GROUP INC. T/A MESSICK AND ASSOCIATES

STATE OF MARYLAND — DARRELL J. YOUNG — No. 22098 — REGISTERED PROFESSIONAL ENGINEER — 3-30-11

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

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7477 NEW RIDGE ROAD
HANOVER, MARYLAND 20794
410-859-3636

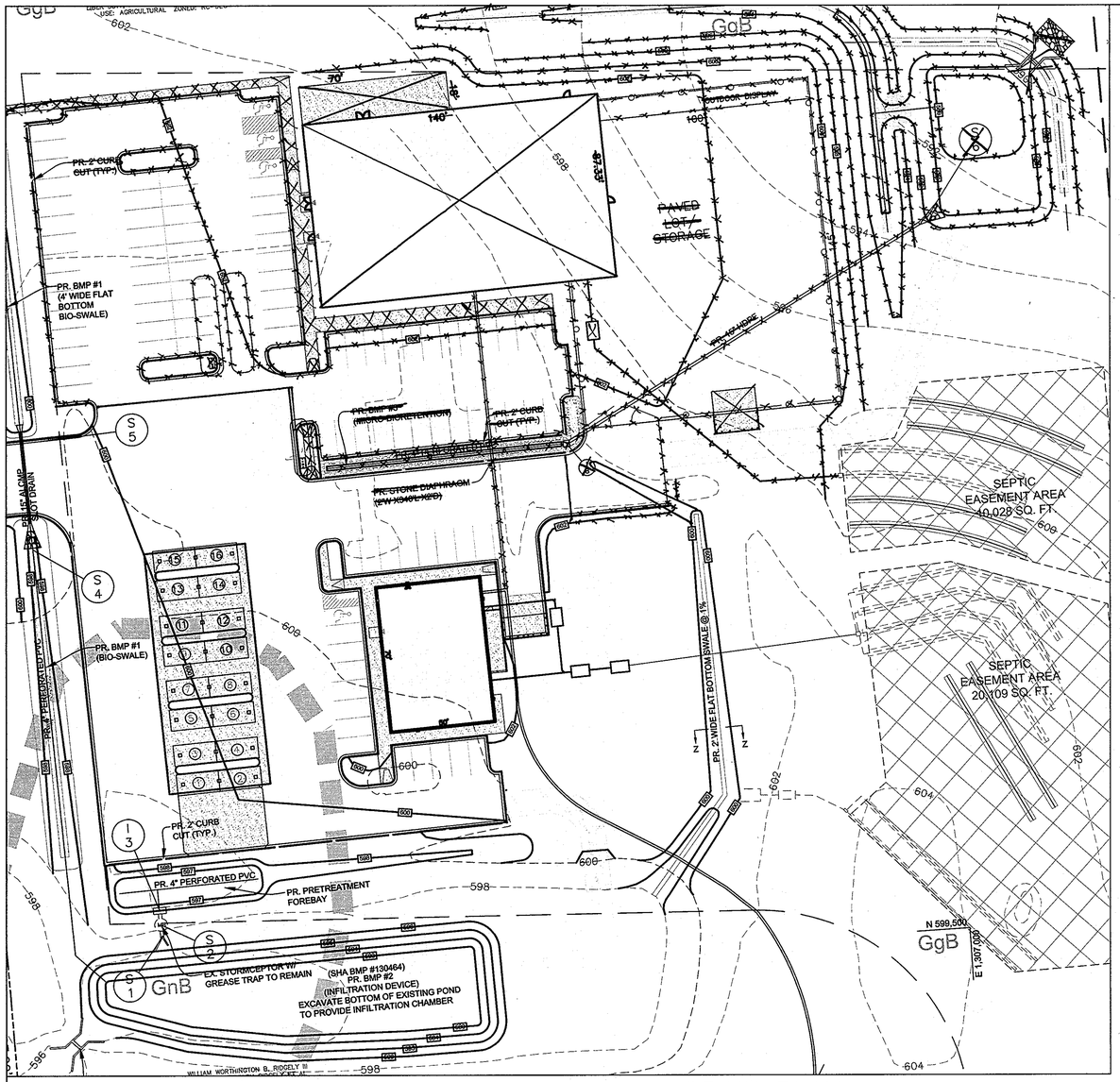
PROJECT **HIGHS @ GLENWOOD**
GLENWOOD FARM & GARDEN STORE
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

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

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: WAN DRAWN BY: BPO
HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 7 OF 19

SDP-10-054



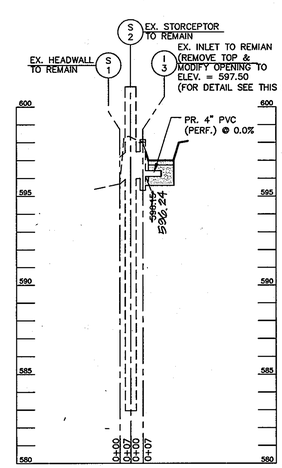
STORM DRAIN PLAN

SCALE: 1" = 40'

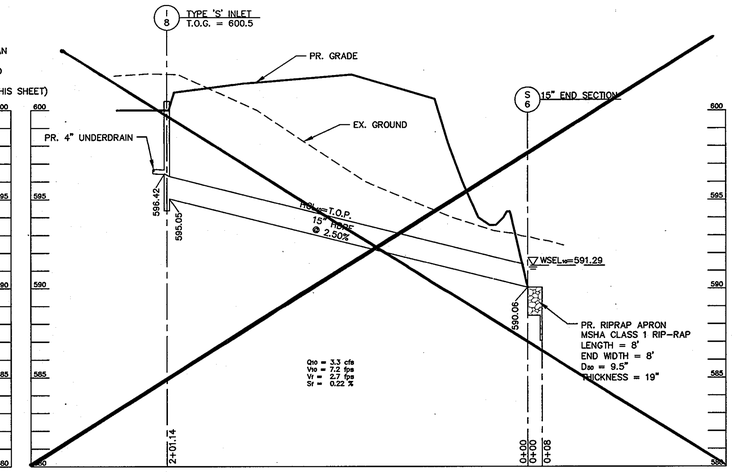
GRAPHIC SCALE

40 0 20 40 80 160

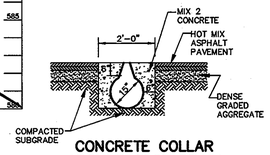
(IN FEET)
1 inch = 40 ft.



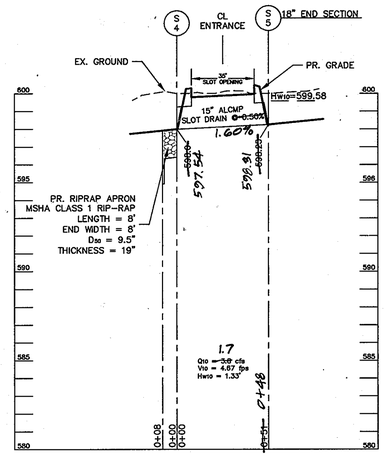
(S1 TO 13)
STORM DRAIN PROFILE
SCALE: H 1"=40'
V: 1"=4'



(S6 TO 18)
STORM DRAIN PROFILE
SCALE: H 1"=40'
V: 1"=4'



CONCRETE COLLAR AROUND SLOT DRAIN
N.T.S.



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

Hancor, Inc. Drainage Handbook , *Specifications ♦ 1-93*

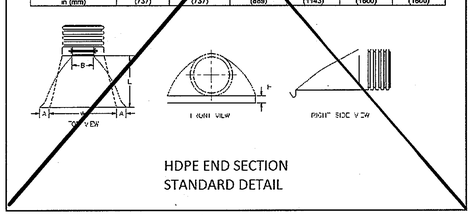
HANCOR HI-Q® FLARED END SECTION SPECIFICATIONS

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

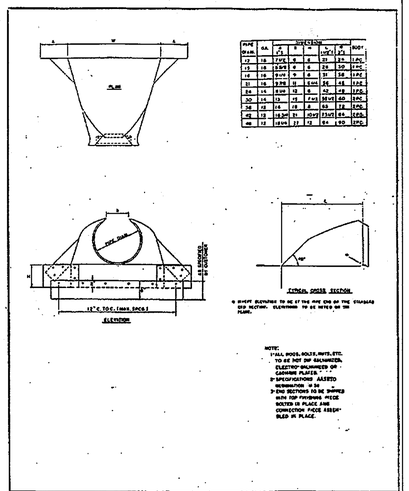
Requirements
The invert of the pipe and the end section shall be at the same elevation. Hi-Q Flared End Section shall be high density polyethylene meeting ASTM D3350 minimum cell classification 213320C, contact manufacturer for additional cell classification information. A stainless steel fastening rod 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 for the latest installation instructions.

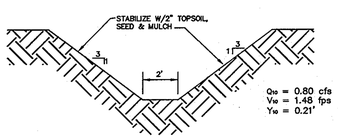
	PIPE DIAMETER, in (mm)					
Diameter in (mm)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)
A in (mm)	6.5 (165)	6.5 (165)	7.5 (191)	7.5 (191)	7.5 (191)	7.5 (191)
B (max) in (mm)	10.0 (254)	10.0 (254)	15.0 (381)	18.0 (475)	22.0 (559)	25.0 (635)
H in (mm)	6.5 (165)	6.5 (165)	8.6 (218)	6.5 (165)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



HDPE END SECTION
STANDARD DETAIL



STANDARD METAL END SECTION
ROUND METAL PIPE



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

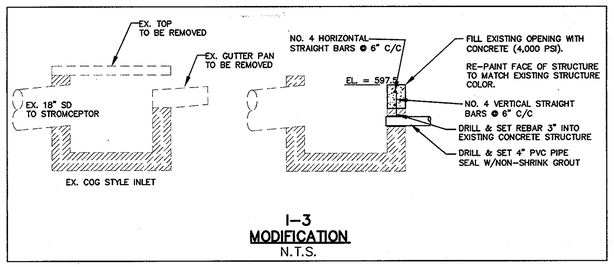
PIPE SCHEDULE			
PIPE SIZE (INCHES)	PIPE TYPE	PIPE CLASSIFICATION	TOTAL LENGTH (LINEAR FEET)
15	AL-CMP	SLOT-DRAIN	~~51~~ 48
~~18~~	~~HDPE~~	~~(N-S.012)~~	~~210~~

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.

STORM DRAIN STRUCTURE SCHEDULE				
STRUCTURE ID	STRUCTURE TYPE	LOCATION (COORDINATES) NORTHING	EASTING	DETAIL REFERENCE
S-1	EXISTING END WALL (TO REMAIN)	599,521	1,306,618	
S-2	EXISTING STORMCEPTOR (TO REMAIN)	599,527	1,306,618	
I-3	EX. INLET (TO BE MODIFIED)	599,534	1,306,618	
S-4	15" AL-CMP END SECTION	599,522	1,306,851	(SEE THIS SHEET)
S-5	15" AL-CMP END SECTION	599,760	1,306,567	(SEE THIS SHEET)
~~S-6~~	~~18" RCP END SECTION~~	~~599,750~~	~~1,306,550~~	~~(SEE TYPE SHEET)~~
~~S-7~~	~~STANDARD TYPE 'S' INLET~~	~~599,745~~	~~1,306,535~~	~~(SEE DETAIL ON PLAN)~~

DETAIL SCHEDULE

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



I-3
MODIFICATION
N.T.S.

RECORD DRAWING NOVEMBER 2012

REV.	DATE	DESCRIPTION
2	3-14-12	CROSSED OUT GRADING, PARKING, STORM DRAIN, STORMWATER MANAGEMENT, WATER, SEPTIC, AND BUILDING, ASSOCIATED WITH THE FARM STORE. REVISED PIPE AND STRUCTURE SCHEDULE.

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, HOWARD COUNTY HEALTH DEPARTMENT — 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. T/A MESSICK AND ASSOCIATES

STATE OF MARYLAND — ARNOLD J. VINAY — No. 22098 — REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSE 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

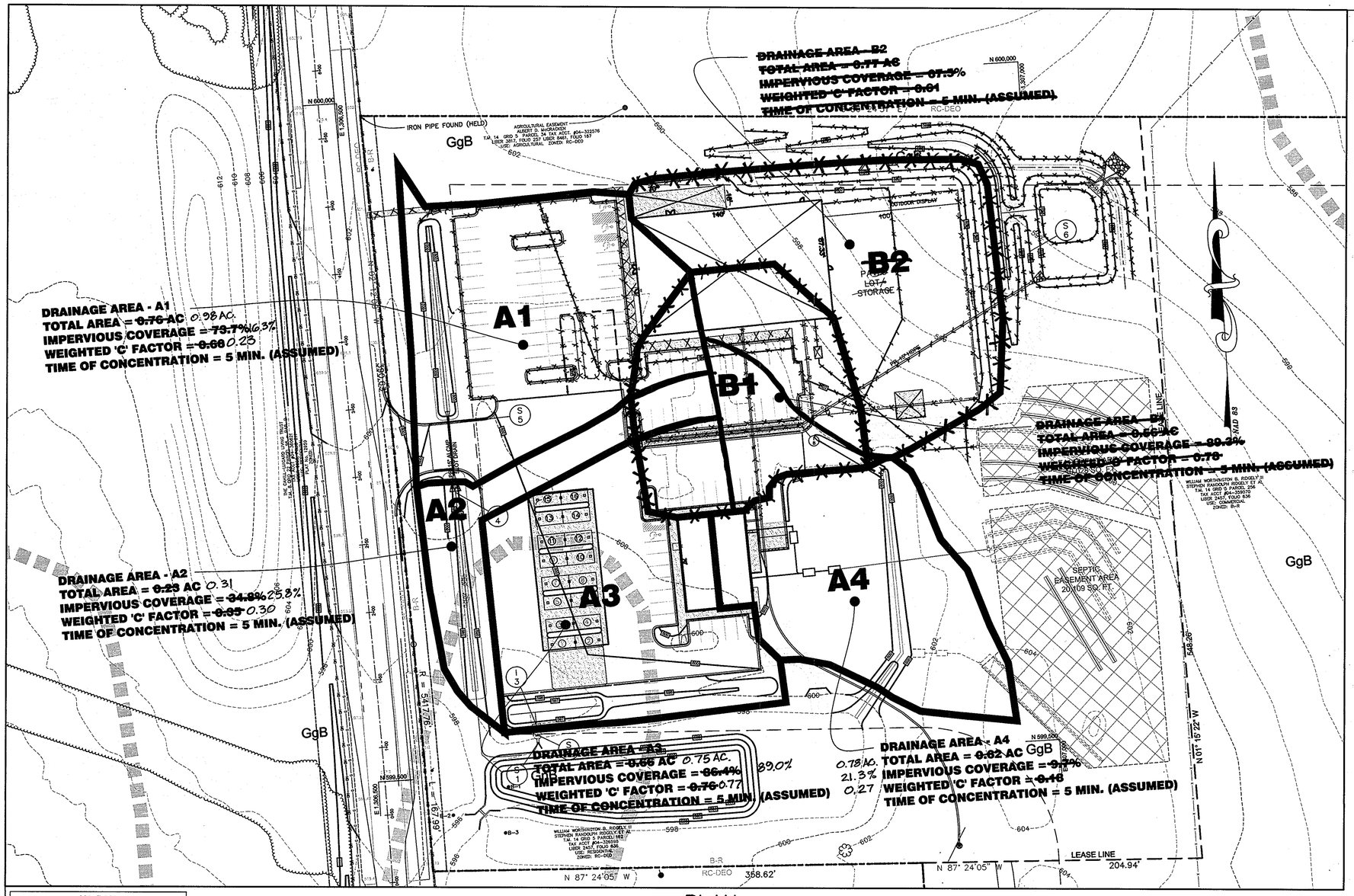
PROJECT **HIGHS @ GLENWOOD**
GLENWOOD FARM & GARDEN STORE
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

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

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 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 8 OF 19

SDP-10-054



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.	ACRES		COEFF.	SUMP	CA	Σ CA	TIME CONC. - MIN.			INTEN	Q = CIA
From	To	AREA ID.	Sub.	Total	"C"	FACTOR	0.25	0.25	Inlet	Drain	Total	"I"	C.F.S
S5	S4	A1	~~0.76~~	~~0.76~~	~~0.66~~	1.10	~~0.66~~	~~0.66~~	5.0		5.0	7.00	~~1.73~~
			0.23	0.23	0.35		0.08	0.08					
			0.76	2.75	0.77		0.65	0.63					
I3	S2	A3	~~0.66~~	~~0.66~~	~~0.76~~	1.10	~~0.55~~	~~0.55~~	5.0		5.0	7.00	~~4.40~~
S2	S1		2.75	~~0.66~~			0.63	~~0.63~~	5.0		5.0	7.00	~~4.40~~
			0.78	0.78	0.27		0.23	0.23					
	SWALE	A4	~~0.62~~	0.62	~~0.18~~	1.10	~~0.12~~	0.12	5.0		5.0	7.00	~~1.60~~
~~"B"~~	~~"C"~~	~~"D"~~	~~0.00~~	~~0.00~~	~~0.70~~	~~1.10~~	~~0.49~~	~~0.47~~	~~0.0~~		~~0.0~~	~~7.00~~	~~3.3~~

ACTUAL PIPE HYDRAULICS						DRAIN TIME	FRICTION		FULL FLOW	PIPE MAX.	
Size (in.)	Type	n	Slope (%)	Vel. (fps)	Lgth. (ft.)	SEC.	Vel. (fps)	Slope (%)	C.F.S.	C.F.S.	SUMP
15	AL-CMP	0.013	1.00%	5.5	51	t=0.2	3.1	0.35%	6.5	6.9	SUMP
18	RCP	0.013	1.00%	5.5	4	t=0.0	2.2	0.13%	10.5	11.3	SUMP
18	RCP	0.013	1.00%	5.5	4	t=0.0	2.2	0.13%	10.5	11.3	
											SUMP
~~15~~	~~HDPE~~	~~0.012~~	~~2.50%~~	~~7.9~~	~~214~~	~~t=0.5~~	~~2.7~~	~~0.22%~~	~~11.1~~	~~11.0~~	SUMP

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	~~0.66~~ 0.23	5.00
A2	~~0.23~~ 0.31	~~0.35~~ 0.30	5.00
A3	~~0.66~~ 0.75	~~0.76~~ 0.77	5.00
A4	~~0.62~~ 0.78	~~0.18~~ 0.27	5.00
~~B1~~	~~0.56~~	~~0.78~~	~~5.00~~
~~B2~~	~~0.77~~	~~0.81~~	~~5.00~~

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

REV.	DATE	DESCRIPTION
2	3-14-12	REVISED DRAINAGE AREAS AND STORM DRAIN COMPUTATIONS

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, HOWARD COUNTY HEALTH DEPARTMENT — DATE 5/24/2011

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2120 RENARD COURT
ANNAPOLIS, MARYLAND 21401
PHONE: (410) 266–3212
FAX: (410) 266–3502
* MESSICK GROUP INC. T/A MESSICK AND ASSOCIATES

STATE OF MARYLAND — RUSSELL J. VON LUHRSDORF — No. 22068 — REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSE 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
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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-96-64)

STORM DRAIN 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 9 OF 19

SDP-10-054

STORMWATER MANAGEMENT PLAN

SCALE: 1" = 40'

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

UNIFIED SIZING AND LOCATION

IDENTIFICATION				VOLUME REQUIRED					VOLUME PROVIDED					LOCATION		NOTES
AREA ID	AREA (AC)	PRACTICE NUMBER	PRACTICE TYPE	WQ_v	Re_v	Cp_v	Qp_{10}	Qf_{100}	WQ_v	Re_v	Cp_v	Qp_{10}	Qf_{100}	NORTH	EAST	
A-1	1.05	BMP #1	M-8	~~2,281~~ C.F. 1,006	~~888~~ C.F. 262	6,062 C.F.	NA	NA	2,281 C.F.	1,188 C.F.	7,180 C.F.	NA	NA	599,778	1,306,567	BIO-SWALE
A-2	2.15	BMP #2	I-2	~~1,902~~ C.F. 2,346	~~646~~ C.F. 623				7,180 C.F.	7,180 C.F.				599,492	1,306,723	INFILTRATION IN EX SWM POND (DRY POND)
A-3	A-3	CREDIT	GCC (M-8)	~~800~~ C.F. 510	~~80~~ C.F. 133				962 C.F.	223 C.F.				NA	NA	
A-4	2.15	BMP #2	I-2	1,120 C.F.	291 C.F.				SEE A2 ABOVE	SEE A2 ABOVE				599,492	1,306,723	INFILTRATION IN EX SWM POND (DRY POND)
~~B-1~~	~~0.88~~	~~BMP #3~~	~~M-6~~	~~1,735 C.F.~~	~~451 C.F.~~	~~4,018 C.F.~~	~~NA~~	~~NA~~	~~3,250 C.F.~~	~~1,200 C.F.~~	~~5,100 C.F.~~	~~NA~~	~~NA~~	~~599,740~~	~~1,306,766~~	~~MICRO-BIORETENTION~~
~~B-2~~	~~0.67~~	~~BMP #4~~	~~M-8~~	~~1,800 C.F.~~	~~478 C.F.~~				~~5,000 C.F.~~	~~4,262 C.F.~~				~~599,860~~	~~1,306,964~~	~~BIO-SWALE~~
~~B-3~~	~~0.89~~	~~BMP #5~~	~~I-2~~	~~496 C.F.~~	~~NA~~				~~3,647 C.F.~~	~~2,544 C.F.~~				~~599,898~~	~~1,307,042~~	~~INFILTRATION~~

STORMWATER MANAGEMENT NOTE:

WATER QUALITY, (WQv)

WATER QUALITY VOLUME (WQv) FOR THE PROJECT WILL BE PROVIDED THROUGH VARIES DEVICES (BIO-SWALE, MICRO-BIORETENTION, ENHANCE 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 STORMCEPTOR 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 SUBSGRADE. THE AREA (A-4) ALONG MD ROUTE 2 WILL DRAIN ALONG THE CURB TO THE EXISTING POND.

C. THE AREA BEHIND THE HIGHS 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 THUS QUALITY MANAGEMENT THROUGH GRASS CHANNEL CREDIT (NON-STRUCTURAL PRACTICE).

~~D. THE PARKING AREAS (D-1) BETWEEN THE TWO STORES WILL DRAIN TO A MICRO-BIORETENTION FACILITY LOCATED IN THE CENTER ISLAND.~~

~~E. THE ROOFTOP OF THE FARM SUPPLY STORE AND THE STORE'S STORAGE YARD (AREA D-2) WILL DRAIN TO A BIO-SWALE LOCATED ALONG THE PERIMETER OF THE STORAGE YARD. THE SWALE DRAINS INTO BMP #5.~~

RECHARGE (REv)

THE RECHARGE WILL BE PROVIDED IN A STONE LAYER BENEATH THE (BIO-SWALES AND MICRO-BIORETENTION DEVICE) AND THROUGH THE SUBSOILS IN THE INFILTRATION AREA OF THE EXISTING STORMWATER MANAGEMENT POND.

CHANNEL PROTECTION VOLUME, (CPv)

THE CHANNEL PROTECTION VOLUME (CpV) OR THE ONE-YEAR POST DEVELOPMENT PEAK DISCHARGE WILL BE MANAGED IN EACH OF THE ONSITE BMPS.

OVERBANK FLOOD PROTECTION, Qp

THE OVERBANK FLOOD PROTECTION VOLUME (Qp) OR MANAGEMENT OF THE 10-YEAR STORM IS NOT REQUIRED IN THE CATTAIL CREEK WATERSHED.

EXTREME FLOOD PROTECTION, Qf

THE EXTREME FLOOD PROTECTION VOLUME IS NOT REQUIRED SINCE THE THE SITE OR ADJACENT PROPOERTIES ARE NOT LOCATED IN A FLOODPLAIN AND THERE IS LITTLE TO NO SIGNS OF EROSION IN THE RECIEVING STREAM.

GENERAL STORMWATER MANAGEMENT NOTES:

1. COORDINATES ARE BASED ON THE MARYLAND STATE COORDINATE SYSTEM NAD 83 DATUM PROJECTED BY THE DEPARTMENT OF PUBLIC WORKS OF ANNE ARUNDEL COUNTY, MARYLAND.

2. ELEVATIONS ARE BASED ON U.S.C. AND G.S. 1929 DATUM.

3. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE MOST CURRENT HOWARD COUNTY STANDARD DETAILS FOR CONSTRUCTION OF STORMDRAINS, ROADS, AND STORMWATER MANAGEMENT.

4. THE TOPOGRAPHY & BOUNDARY AS SHOWN HEREON THIS PLAN IS BASED ON A SURVEY CONDUCTED BY MESSICK AND ASSOCIATES.

5. 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.

6. 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.

7. 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.
8. 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.

9. THE CONTRACTOR SHALL NOTIFY THE BGE AT (410) 234-5691 AND C&P TELEPHONE COMPANY AT (301) 393-3648, FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

10. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" 1-800-257-7777 FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

11. 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.

12. PIPE ELEVATIONS REFER TO THE INVERTS UNLESS OTHERWISE NOTED.

13. UNLESS OTHERWISE SPECIFIED, A STORMWATER PRACTICES SHOWN HEREIN ARE PRIVATE AND SHALL BE INSPECTED AND MAINTAINED BY THE OWNER OR HIS REPRESENTATIVE.

BMP SUMMARY TABLE

BMP #	BMP Type	Total Area (acres)	Imperv. Area (acres)
1	BIO-SWALE	1.05 1.26	0.64 0.27
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)

1. The stormwater filtering facility shall be inspected annually and after major storms. Inspections shall be performed during wet weather to if the facility is functioning properly.

2. The top and side slopes shall be mowed a minimum of once per year, when vegetation reaches 18" in height or as needed.

3. 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.

4. Debris and litter shall be removed during regular mowing operations and as needed.

5. Visible signs of erosion in the facility shall be repaired as as its noticed.

6. Remove silt when it exceeds four (4) inches deep.

7. Dead or diseased plant material shall be replaced. Areas devoid of mulch should be re-mulched on an annual basis.

8. 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 materials and liquid must be followed by the owner.

9. A log book shall be maintained to determine the rate at which the facility drains.

10. The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.

11. 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

1. 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.

2. The top and side slopes shall be mowed a minimum of once per year, when vegetation reaches 18" in height or as needed.

3. Debris and litter shall be removed during regular mowing operations and as needed.

4. Visible signs of erosion in the facility shall be repaired as as its noticed.

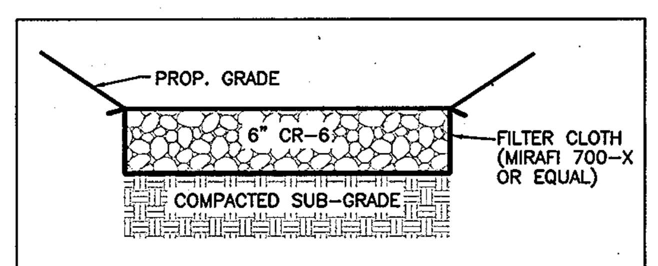
5. Remove silt when it exceeds four (4) inches deep.

6. The bottom of the facility shall be rototilled at least once every two (2) years to insure that the soil maintains the infiltration capability.

8. A log book shall be maintained to determine the rate at which the facility drains.

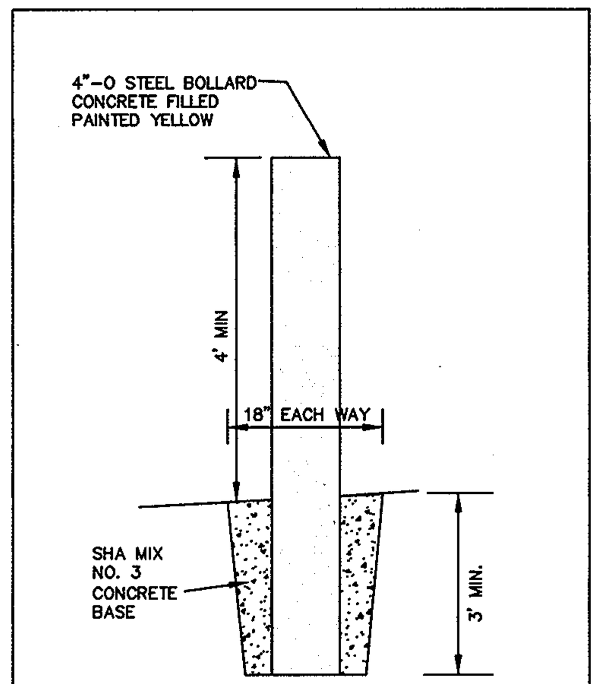
9. The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.

10. 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.



12' WIDE POND ACCES ROAD SECTION

N.T.S.



ACCESS ROAD ENTRANCE BOLLARD DETAIL

NOT TO SCALE

REV.	DATE	DESCRIPTION
2	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.

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

B Nyhan for Peter Beilenson — 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. T/A MESSICK AND ASSOCIATES

STATE OF MARYLAND — DARRELL J. VOLNER — PROFESSIONAL ENGINEER — 3-30-11

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSE 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

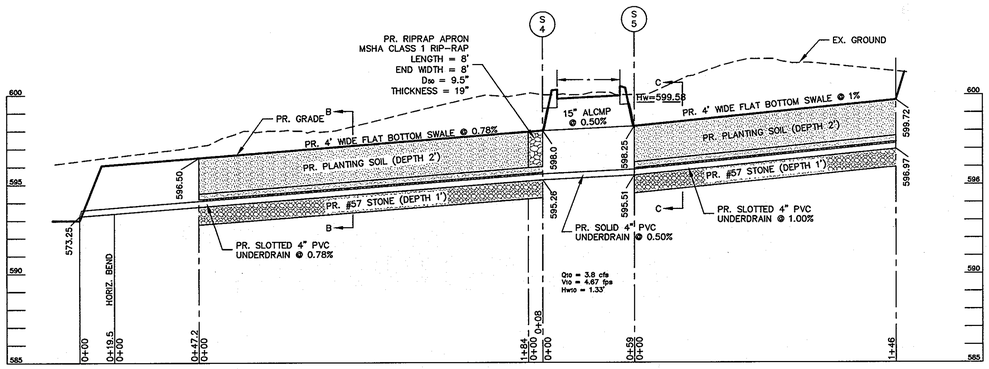
PROJECT **HIGHS @ GLENWOOD**
GLENWOOD FARM & GARDEN STORE
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

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

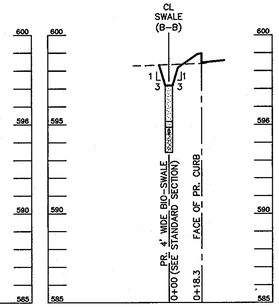
STORMWATER MANAGEMENT PLAN

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

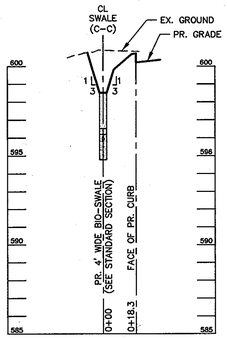
SDP-10-054



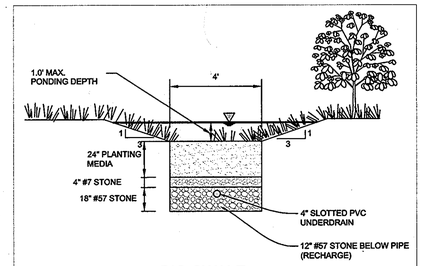
SECTION A–A
(BIO–SWALE)
SCALE: H 1"=40'
V: 1"=4'



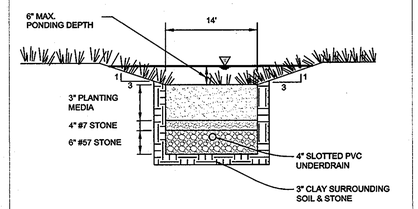
SECTION B–B
(BIO–SWALE)
SCALE: H 1"=40'
V: 1"=4'



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

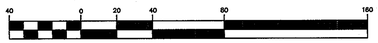


BIO-SWALE
CROSS-SECTION
NOT TO SCALE

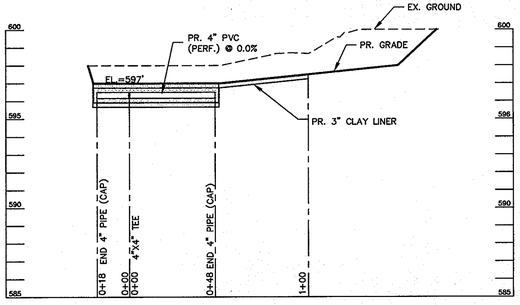


PRETREAMTENT FOREBAY
CROSS-SECTION
NOT TO SCALE

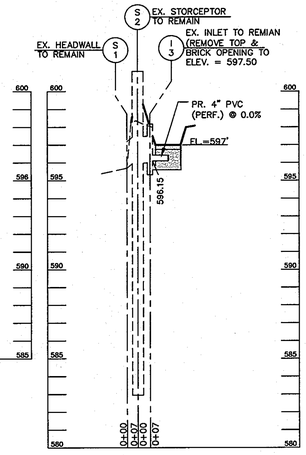
GRAPHIC SCALE



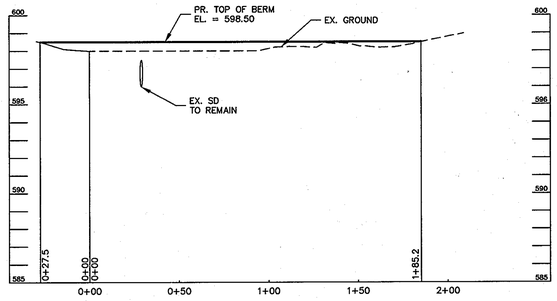
(IN FEET)
1 inch = 40 ft.



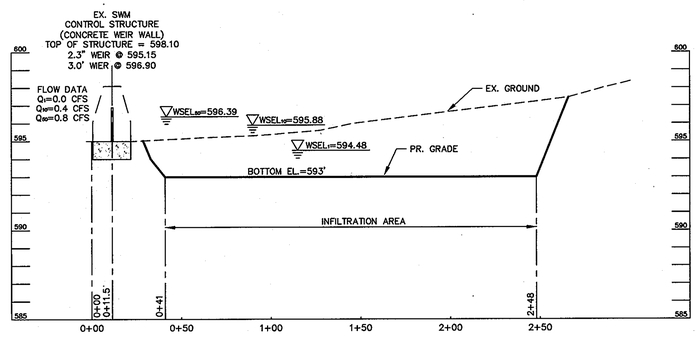
SECTION D–D
PRETREATMENT FOREBAY
SCALE: H 1"=40'
V: 1"=4'



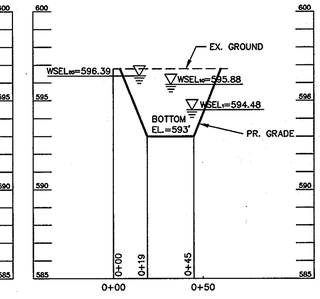
SECTION E–E
PRETREATMENT FOREBAY
SCALE: H 1"=40'
V: 1"=4'



SECTION F–F
PRETREATMENT FOREBAY
SCALE: H 1"=40'
V: 1"=4'



(SHA BMP# 130464)
SECTION G–G
EX. SWM POND
SCALE: H 1"=40'



(SHA BMP#130464)
SECTION H–H
EX. SWM POND
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 StormwaterDesign 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: ⅜" 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.

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 HOWARD COUNTY HEALTH DEPARTMENT	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. T/A MESSICK AND ASSOCIATES

STATE OF MARYLAND — DARRELL J. YOUNG — No. 22098 — PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSE 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

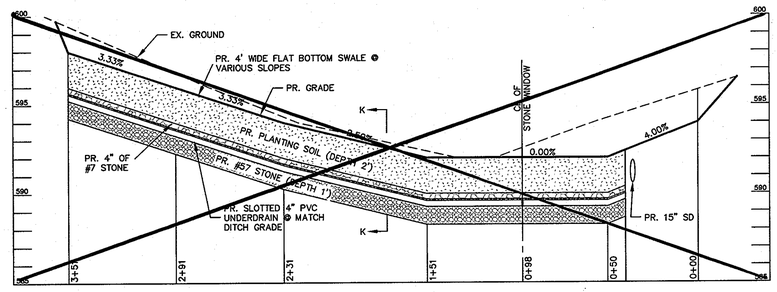
PROJECT **HIGHS @ GLENWOOD**
GLENWOOD FARM & GARDEN STORE
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

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

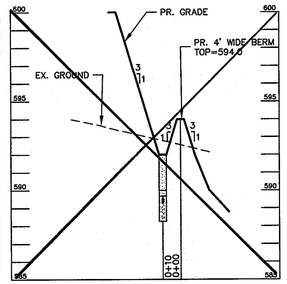
STORMWATER MANAGEMENT PROFILES

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 11 OF 19

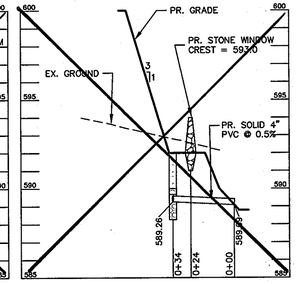
SDP-10-054



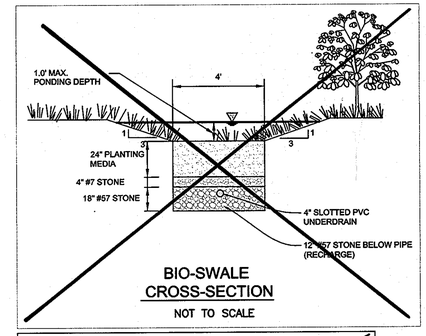
SECTION J–J
(BIO–SWALE)
SCALE: H 1"=40'
V: 1"=4'



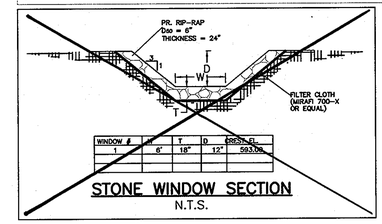
SECTION K–K
(BIO–SWALE)
SCALE: H 1"=40'
V: 1"=4'



SECTION L–L
(BIO–SWALES)
SCALE: H 1"=40'
V: 1"=4'

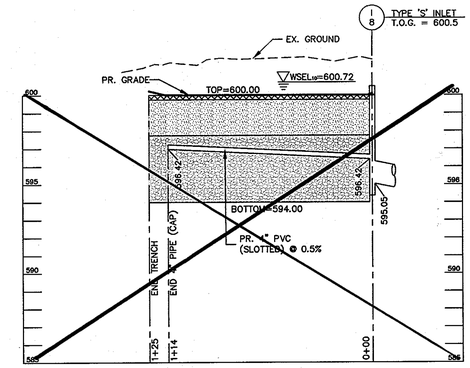


BIO-SWALE
CROSS-SECTION
NOT TO SCALE

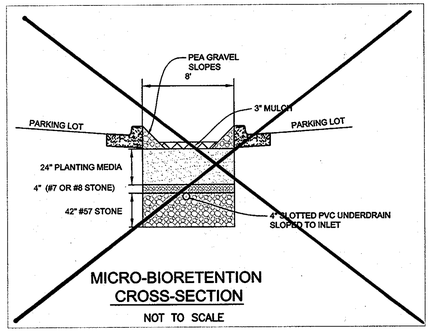


WINDOW #	W	T	D	CRESTEL
1	6'	18"	12"	593.00

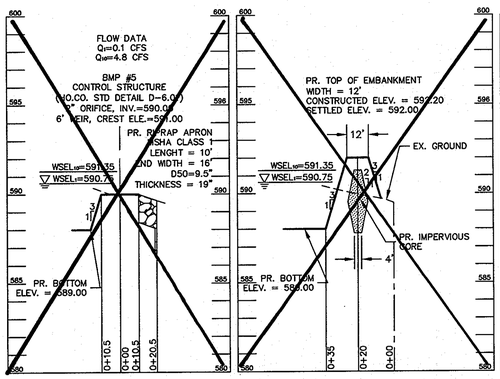
STONE WINDOW SECTION
N.T.S.



SECTION I–I
(MICRO–BIORETENTION)
SCALE: H 1"=40'
V: 1"=4'

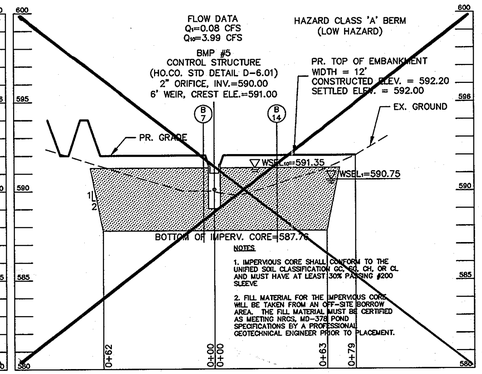


MICRO-BIORETENTION
CROSS-SECTION
NOT TO SCALE



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

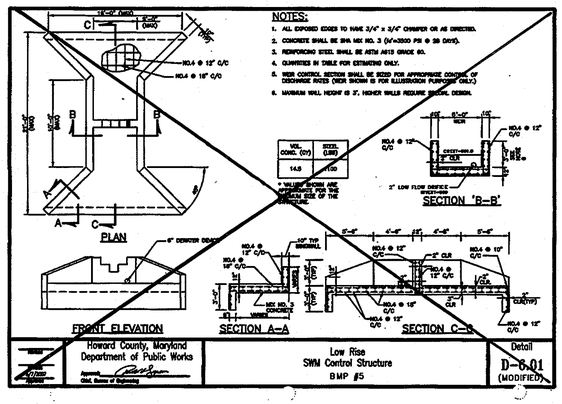
SECTION N–N
(BMP #5)
SCALE: H 1"=40'
V: 1"=4'



NOTES:
1. IMPERVIOUS CORE SHALL CONFORM TO THE UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL AND MUST HAVE AT LEAST 30% PASSING #200 SLEEVE.
2. FILL MATERIAL FOR THE IMPERVIOUS CORE WILL BE TAKEN FROM AN OFF-SITE BORROW AREA. THE FILL MATERIAL MUST BE CERTIFIED AS MEETING NRCS, MD-378 POND SPECIFICATIONS BY A PROFESSIONAL GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.

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

BORING NOTE: FOR BORING LOGS SEE SHEET 13.



SPECIFICATIONS

Material Specifications

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Plantings – See Appendix A, Table A.4 of the 2000 Maryland StormwaterDesign Manual.

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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 Disease 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"

Slotted Underdrain Piping
Test Method – F758, Type PS 28 or AASHTO–M–278
Size – 4" or 6" rigid schedule 40 PVC or SDR35

Concrete (Poured in place) –
MSHA Mix No. 3; f'c=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.

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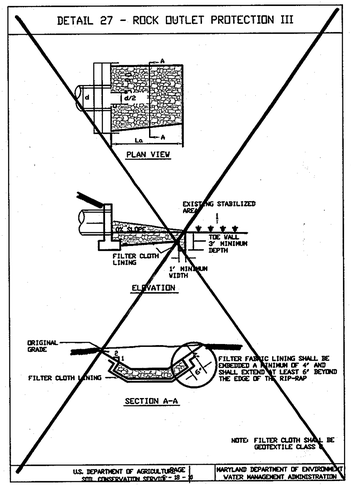


GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

REV	DATE	DESCRIPTION
2	9-14-12	CROSSED OUT ALL PROFILES, DETAILS, AND NOTES.

RECORD DRAWING NOVEMBER 2012

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 4/25/11
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 7/22/11
DIRECTOR	DATE 7/22/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT	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. T/A MESSICK AND ASSOCIATES

STATE OF MARYLAND — MARCELL J. VOLNER — No. 22098 — PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSE 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-96-64)

STORMWATER MANAGEMENT PROFILES

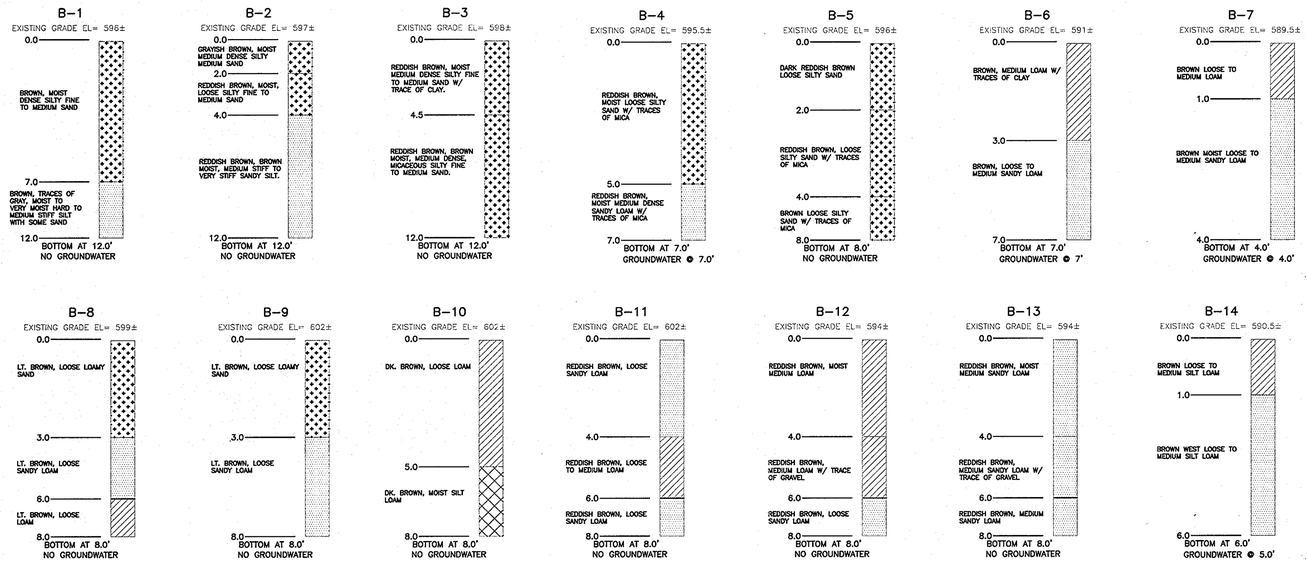
2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-R
TAX MAP 14, GRID 5, PARCEL 256, ELECTION DISTRICT NO. 4 LIBER 2457 FOLIO 636
WATER CONTRACT No. SEWER CONTRACT No. DESIGN BY: WAN DRAWN BY: BPO
HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 12 OF 19

SDP-10-054

SOIL BORINGS

NOT TO SCALE

THE BORING INFORMATION FOR B-1, B-2, AND B-3 AS NOTED HEREON IS FROM THE BORING LOGS SHOWN ON THE PREVIOUS SDP (SDP-98-64). THE BORINGS WERE OBTAINED AND ANALYZED BY HILLIS-CARNES ENGINEERING ASSOCIATES, INC. IN JULY OF 1995.



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

1. 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.
2. 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.
3. Mulch shall be inspected each spring. Remove previous mulch layer before applying new layer once every 2 to 3 years.
4. 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)

1. 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.
2. 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.
3. Debris and litter shall be removed during regular mowing operations and as needed.
4. Visible signs of erosion in the open channel system shall be repaired as soon as it is noticed.
5. Remove silt in the open channel system when it exceeds 25% of the original WQv.

OPERATION AND MAINTENANCE SCHEDULE FOR
PRIVATELY OWNED AND MAINTAINED
STORMCEPTOR WATER QUALITY DEVICE

a. 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.
b. The Stormceptor water quality structure shall be checked and cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agencies.
c. 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.
d. 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.
e. The owner shall retain and make the Stormceptor Inspection/Monitoring Forms available the Howard County officials upon their request.

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

1. 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.
2. The top and side slopes of the embankment shall be mowed a minimum of once per year, when vegetation reaches 18" in height or as needed.
3. Debris and litter shall be removed during regular mowing operations and as needed.
4. Visible signs of erosion in the facility shall be repaired as soon as it is noticed.
5. Remove silt when it exceeds four (4) inches deep in the forebay.
6. The bottom of the facility shall be rototilled at least once every two (2) years to insure that the soil maintains the infiltration capability.
7. 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.
8. 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 _____

(NOTE, THE FOLLOWING AS-BUILT CERTIFICATION IS NOT TO BE EXECUTED UNTIL COMPLETION OF THE POND)

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 _____

~~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 _____

(NOTE, THE FOLLOWING AS-BUILT CERTIFICATION IS NOT TO BE EXECUTED UNTIL COMPLETION OF THE POND)

~~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 CLAY 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 _____

REV.	DATE	DESCRIPTION
2	3-14-12	CROSSED OUT ALL THREE CERTIFICATIONS ASSOCIATION WITH BMP #5.

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. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of 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 on tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 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 is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

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

Embankment Core

The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 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 under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure 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 he 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 compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

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 Pipe, 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 painted 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. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less that 24" inches diameter: flanges on both ends of the pipe, a 12 inch wide standard lap type 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 with 12 inches 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:

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

2. Bedding – Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe 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.
3. Laying Pipe – Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall confirm to "Structural Backfill"

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

Plastic Pipe

– The following criteria shall apply for plastic pipe.

1. Materials – PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to he 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.

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

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

4. Backfilling shall conform to "Structure Backfill"

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

Concrete

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

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

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

Care of Water During Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumps and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom 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 refilled 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 sightly 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

1. 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 inflows and outflows, etc. Inspections should be performed with as-builts in hand.
2. The upper stages, 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 plated wetland areas are not mowed, damaged, or disturbed.
3. Debris and litter removal shall be ensured during regular mowing operations.
4. 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.
5. Sediment removal must be considered as a regular maintenance operation and should be properly disposed of.
6. Any cracking or leakage at outflow pipes will require immediate replacement.
7. Clear vehicular access must be maintained to control structures for regular maintenance responsibilities and operations.

DETAILED SEQUENCE FOR SWM POND/TRAP CONSTRUCTION

1. Divert overland drainage away from pond construction area.
2. Clear and Grub Swm Pond/Trap area. Strip & stockpile topsoil. Immediately stabilize with seed and mulch.
3. Excavate and place cut-off trench to lines and grades shown on approved plans. Carefully follow MD-378 Cut-off Trench installation specifications.
4. 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).
5. Excavate for and install outfall/control structure and place rip-rap below outfall. Install temporary dewatering device. (can be done concurrently with #4 above).
6. Excavate outfall chamber and pretreatment chambers for use as a sediment trap.
7. Stabilize immediately embankment and pond with seed and mulch.
8. 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

9. 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.
10. Re-grade pretreatment and outflow chambers and construct access road to line and grade as shown on the stormwater management plans. Construct earth berm and stone window as shown. Stabilize with seed and mulch.
11. Remove temporary horizontal dewatering device and install permanent inverted dewatering device.

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 HOWARD COUNTY HEALTH DEPARTMENT	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. T/A MESSICK AND ASSOCIATES

STATE OF MARYLAND
DARRELL J. VOLNEY
No. 22098
PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSE 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

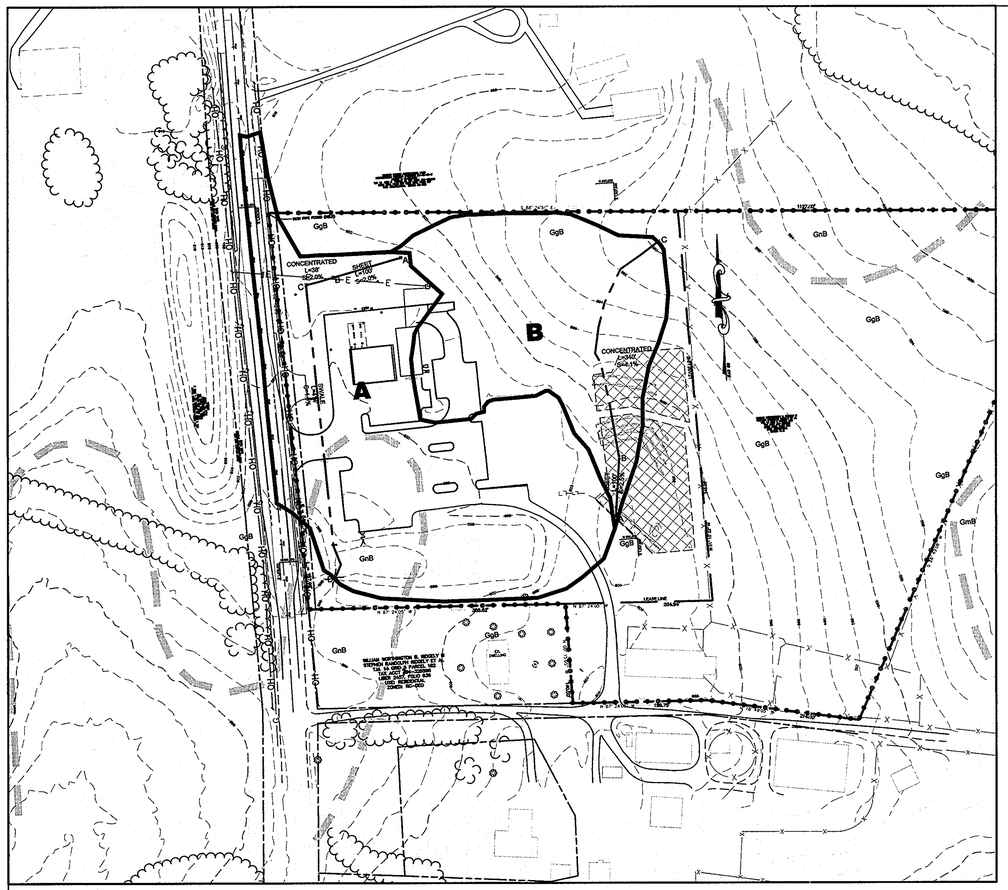
PROJECT **HIGHS @ GLENWOOD**
GLENWOOD FARM & GARDEN STORE
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

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

STORMWATER MANAGEMENT NOTES

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 13 OF 19

SDP-10-054



PRE-DEVELOPED CONDITIONS

SCALE: 1"=100'

POST-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

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

DRAINAGE AREA DESIGN DATA – PROPOSED CONDITIONS

	A1	A2	A3	A4	A (TOTAL)
TOTAL AREA (AC)	~~1.00~~ 1.26	0.75 ~~0.90~~	0.78 ~~0.94~~	1.49	~~0.84~~ 4.28
RUNOFF CURVE NUMBER	~~85~~ 64	94 ~~91~~	61 ~~85~~	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)	~~0.50~~	~~0.07~~	~~0.89~~		~~2.03~~ 1.69
RUNOFF CURVE NUMBER	~~94~~	~~90~~	~~80~~		61
TIME OF CONCENTRATION (HRS)	~~0.10~~	~~0.10~~	~~0.36~~		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

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 WIL BE CONVEYED THROUGH THE SWALE AT A RATE OF LESS THAN 1–FOOT PER SECOND. THIS AREAS 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

REV.	DATE	DESCRIPTION
2	3-14-12	REVISED DRAINAGE AREAS AND STORMWATER MANAGEMENT DATA.

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

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STATE OF MARYLAND — PROFESSIONAL ENGINEER

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410–859–3636

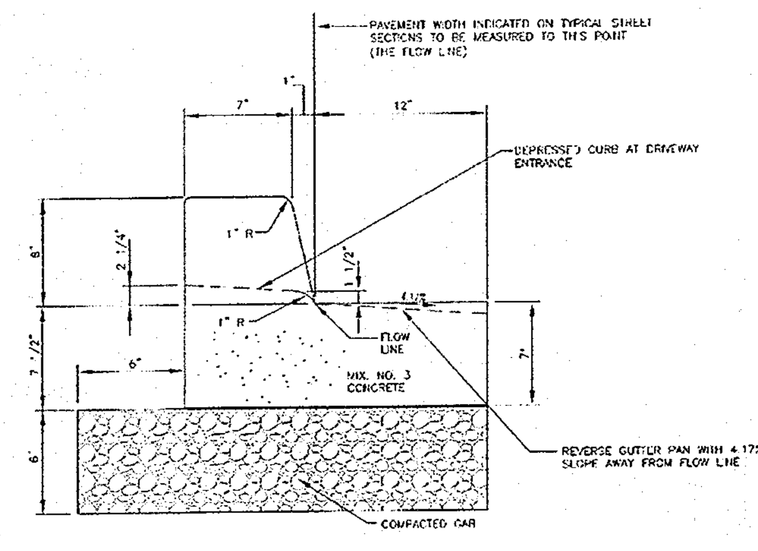
PROJECT **HIGHS @ GLENWOOD**
GLENWOOD FARM & GARDEN STORE
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

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

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

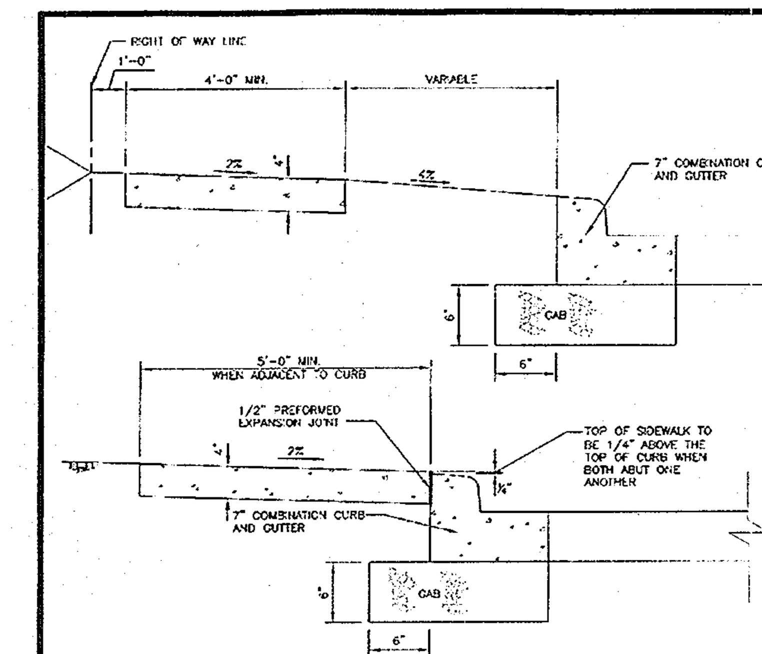
SDP-10-054



6" COMBINATION CURB AND GUTTER

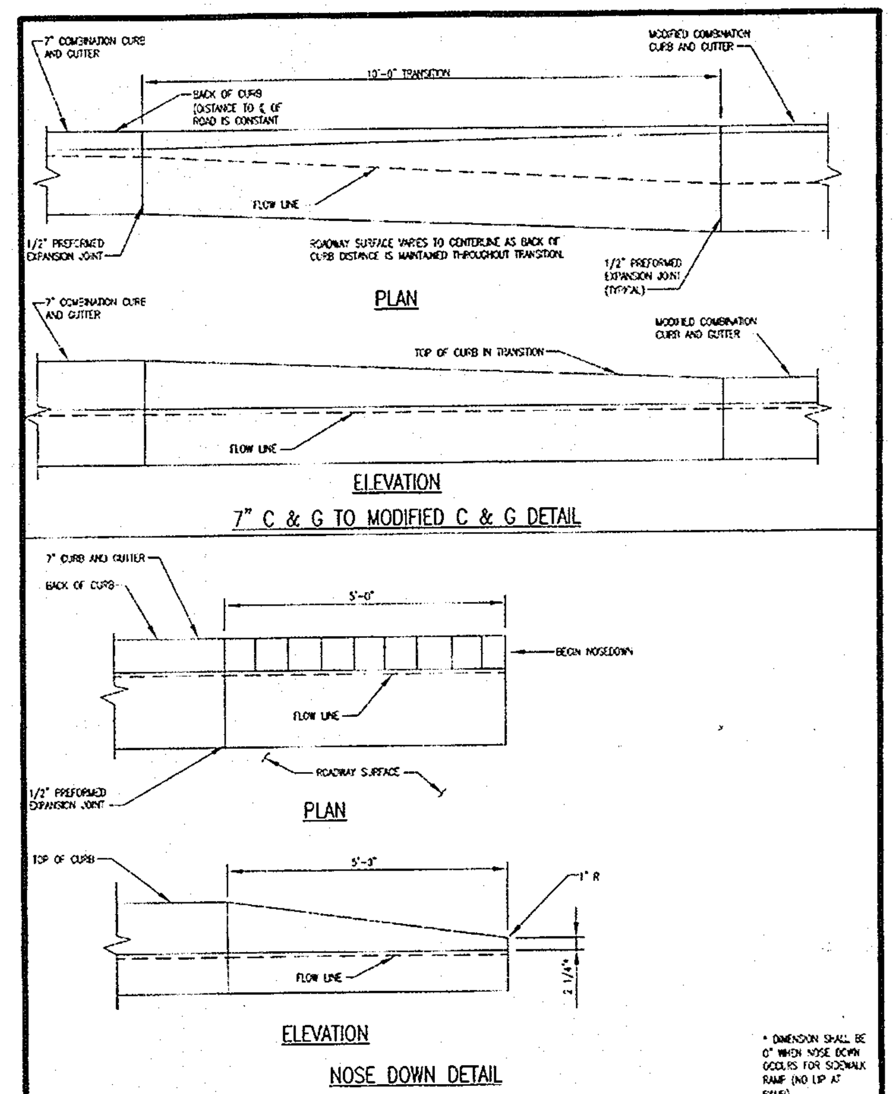
NOTE:
1. GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.

Howard County, Maryland Department of Public Works	CURB AND GUTTER 6" Combination Curb and Gutter Private	Detail R-9.01
Revised 5/7/2007 Approved: Chief, Bureau of Engineering		

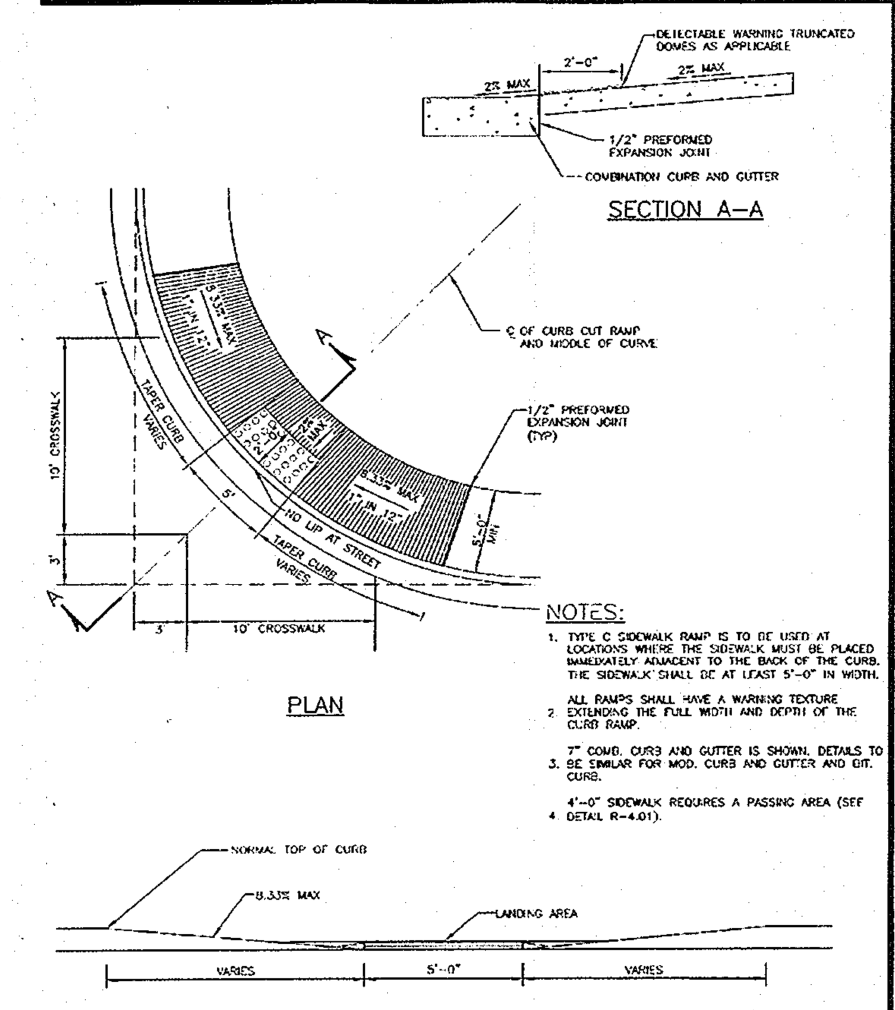


NOTES:
1. SIDEWALK TO BE SCRIBED IN 5'-0" MAXIMUM SQUARES.
2. EXPANSION JOINTS ACROSS THE SIDEWALK NOT TO BE MORE THAN 15' APART.
3. 1/2" PREFORMED EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT 1/4" BELOW SURFACE OF SIDEWALK.
4. CONCRETE TO BE MIX NO.3.
5. WHEN SIDEWALK ABUTS CURB, SIDEWALK SHALL BE 1/4" ABOVE CURB WITH 1/2" PREFORMED EXPANSION JOINT BETWEEN SIDEWALK AND CURB.
6. ON LONGITUDINAL SIDEWALK GRADES OF 5% OR GREATER, A CONCRETE HEADER, 6" THICK AND 6" DEEP BELOW THE NORMAL 4" SIDEWALK THICKNESS SHALL BE CONSTRUCTED FOR THE FULL WIDTH OF THE SIDEWALK AT INTERVALS OF 48 FEET. THE HEADERS SHALL BE PLACED AT THE EXPANSION JOINT LOCATIONS AND SHALL BE MONOLITHIC WITH THE SIDEWALK.
7. SIDEWALK WIDTH ADJACENT TO CURB SHALL BE 5'-0" MINIMUM EXCEPT SIDEWALK ADJACENT TO CURB IN CUL-DE-SAC BULBS MAY BE 4'-0" WIDE.
8. SIDEWALK LOCATED 2' OR MORE FROM CURB MAY BE 4'-0" IN WIDTH WITH A 5'x5' PAVED SECTION PLACED 200' APART.
9. 4'-0" SIDEWALK REQUIRES A PASSING AREA (SEE DETAIL R-4.01)

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



Howard County, Maryland Department of Public Works	CURB AND GUTTER 7" Transition to Modified & Nose Down	Detail R-3.02
Revised 5/7/2007 Approved: Chief, Bureau of Engineering		



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. ALL RAMPS SHALL HAVE A WARNING TEXTURE EXTENDING THE FULL WIDTH AND DEPTH OF THE CURB RAMP.
3. 7" COMB. CURB AND GUTTER IS SHOWN. DETAILS TO BE SIMILAR FOR MOD. CURB AND GUTTER AND GIT. CURB.
4. 4'-0" SIDEWALK REQUIRES A PASSING AREA (SEE DETAIL R-4.01).

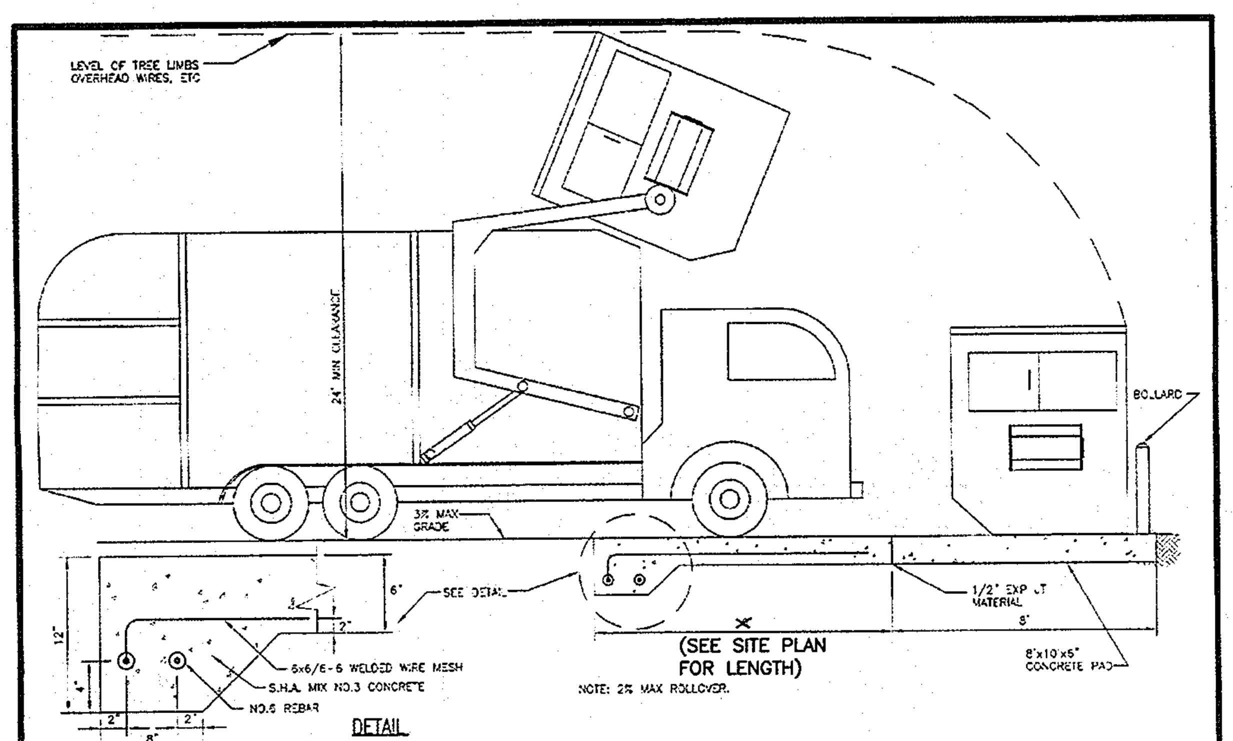
Howard County, Maryland Department of Public Works	SIDEWALK RAMP Type C	Detail R-4.04
Revised 5/7/2007 Approved: Chief, Bureau of Engineering		

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR) / PAVEMENT MATERIAL (INCHES)	MIN HMA WITH GAB 3 TO <5	MIN HMA WITH GAB 5 TO <7	MIN HMA WITH GAB ≥ 7	HMA WITH CONSTANT GAB 3 TO <5	HMA WITH CONSTANT GAB 5 TO <7	HMA WITH CONSTANT GAB ≥ 7
P-1	PARKING BAYS: RESIDENTIAL AND NON-RESIDENTIAL; PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 2 HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINAL SURFACE 9.5 MM PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE (NA)	NA	NA	NA	NA	NA	NA
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	3.0	2.5
		GRADED AGGREGATE BASE (GAB)	8.5	7.0	5.0	4.0	4.0	4.0
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY; LOCAL ROADS: ACESS PLACE, ACCESS STREET; CUL-DE-SACS: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	2.0	2.0
		GRADED AGGREGATE BASE (GAB)	8.0	4.0	3.0	4.0	4.0	4.0
P-3	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY; LOCAL ROADS: ACCESS PLACE, ACCESS STREET; CUL-DE-SACS: NON-RESIDENTIAL; MINOR COLLECTORS: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	3.0	3.0	3.0	4.5	3.0	2.0
		GRADED AGGREGATE BASE (GAB)	10.0	6.0	3.0	6.0	6.0	6.0
P-4	MINOR COLLECTORS: NON-RESIDENTIAL; MAJOR COLLECTORS	HMA SUPERPAVE FINAL SURFACE 12.5 MM, PG 64-22, LEVEL 2 (LOW ESAL)	2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE INTERMEDIATE SURFACE 12.5 MM, PG 64-22, LEVEL 2 (LOW ESAL)	2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 2 (LOW ESAL)	4.0	4.0	3.0	6.0	5.0	3.0
		GRADED AGGREGATE BASE (GAB)	12.0	7.0	4.0	6.0	6.0	6.0

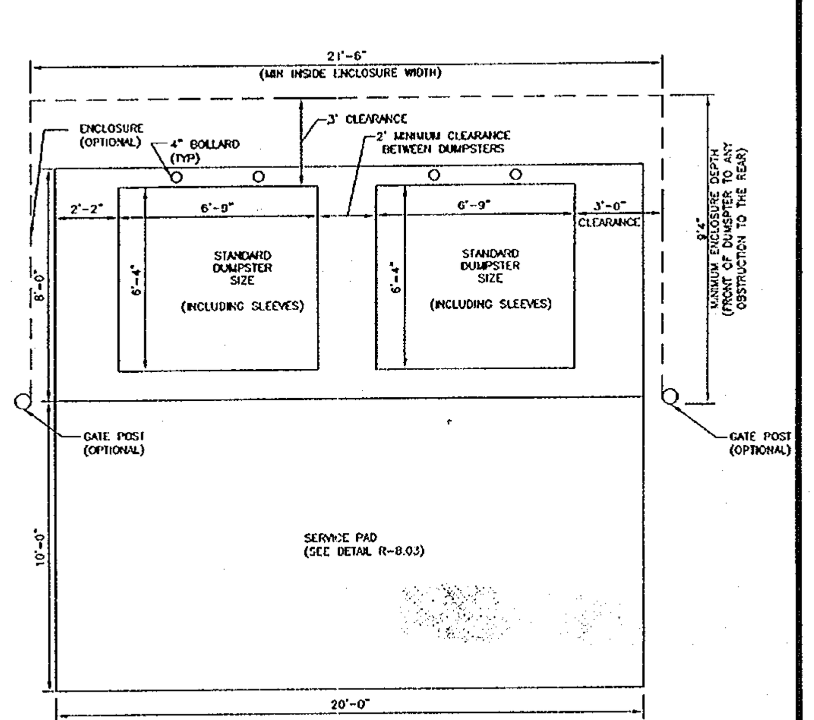
Notes:
1) HEAVY TRUCKS ARE DEFINED AS THOSE WITH SIX (6) WHEELS OR MORE INCLUDING GARBAGE TRUCKS.
2) HMA SUPERPAVE LAYERS SHALL BE PLACED IN APPROPRIATE COMPACTED LIFT THICKNESS: 19.0 MM BASE (2.0" MIN TO 4.0" MAX), 12.5 MM SURFACE (1.5" MIN TO 3.0" MAX), AND 9.5 MM SURFACE (1.0" MIN TO 2.0" MAX)
3)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

Legend: HMA SUPERPAVE FINAL SURFACE; HMA SUPERPAVE INTERMEDIATE SURFACE; HMA SUPERPAVE BASE; GRADED AGGREGATE BASE (GAB)

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

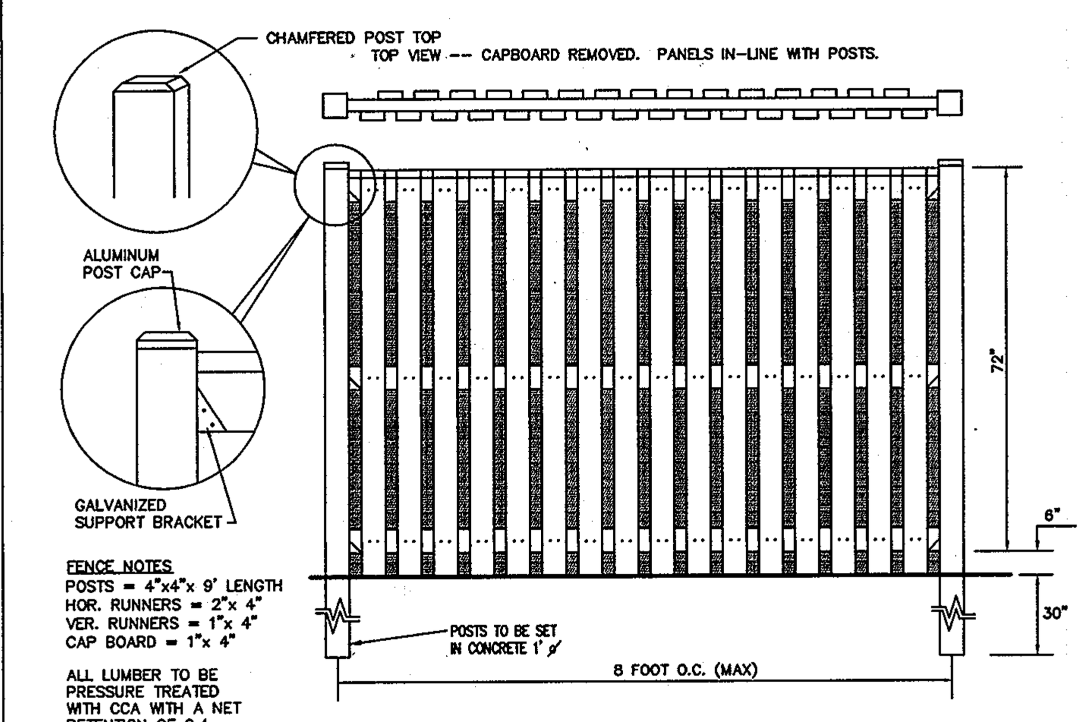


Howard County, Maryland Department of Public Works	SOLID WASTE Service Pad (MODIFIED)	Detail R-8.03
Revised 5/7/2007 Approved: Chief, Bureau of Engineering		



NOTES:
1. ENCLOSURE GATES ARE NOT RECOMMENDED.
2. IF ENCLOSURE GATES ARE INSTALLED, MINIMUM OPENING OF 21'-6" MUST BE PROVIDED WHEN GATES ARE OPENED. ONLY 2 GATE SYSTEMS WITH NO CENTER POST ARE ALLOWED.
3. A MINIMUM OF 15' CLEAR SPACE SHALL BE PROVIDED FROM THE ENCLOUSURE TO ANY STRUCTURE.

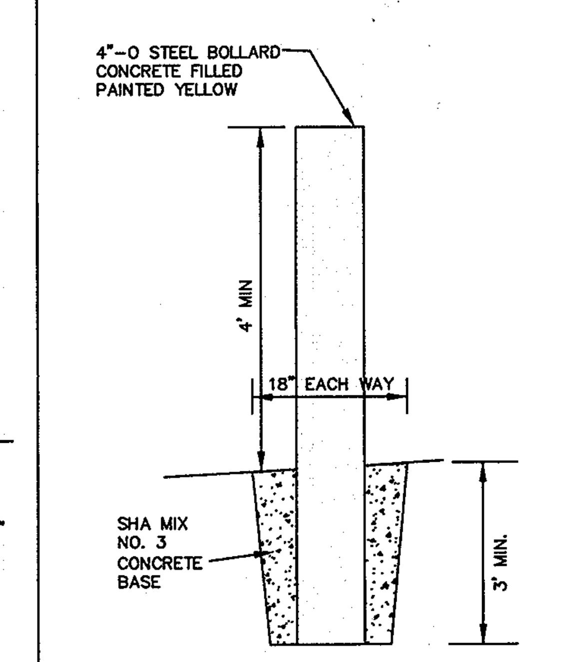
Howard County, Maryland Department of Public Works	SOLID WASTE Double Container Enclosure 2 Gate System	Detail R-8.05
Revised 5/7/2007 Approved: Chief, Bureau of Engineering		



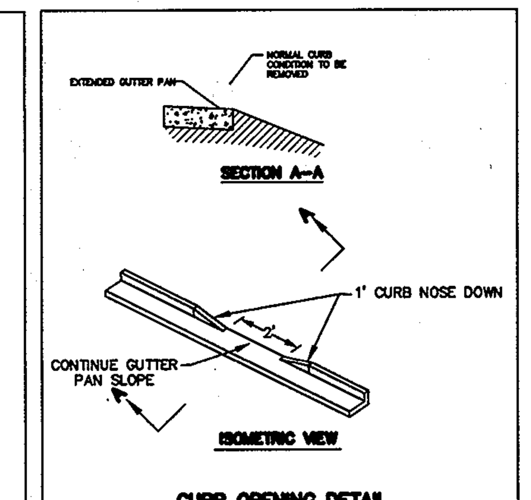
FENCE NOTES
POSTS = 4"x4"x 9' LENGTH
HOR. RUNNERS = 2"x 4"
VER. RUNNERS = 1"x 4"
CAP BOARD = 1"x 4"

ALL LUMBER TO BE PRESSURE TREATED WITH CCA WITH A NET RETENTION OF 0.4 lbs/c.f.

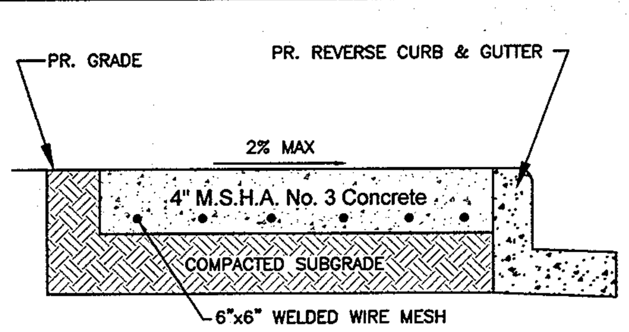
WOODEN BOARD ON BOARD FENCE AROUND DUMPSTER PAD
N.T.S.



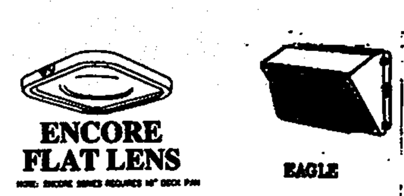
BOLLARD DETAIL
NOT TO SCALE



CURB OPENING DETAIL
NTS

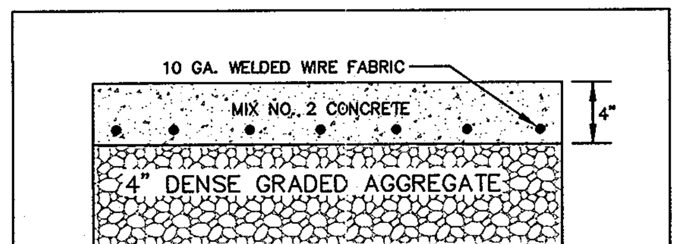


TYPICAL SIDEWALK DETAIL
NOT TO SCALE

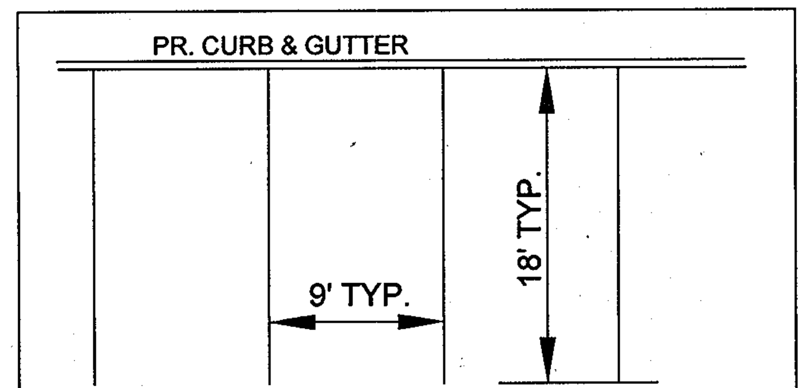


LIGHTING SUMMARY TABLE

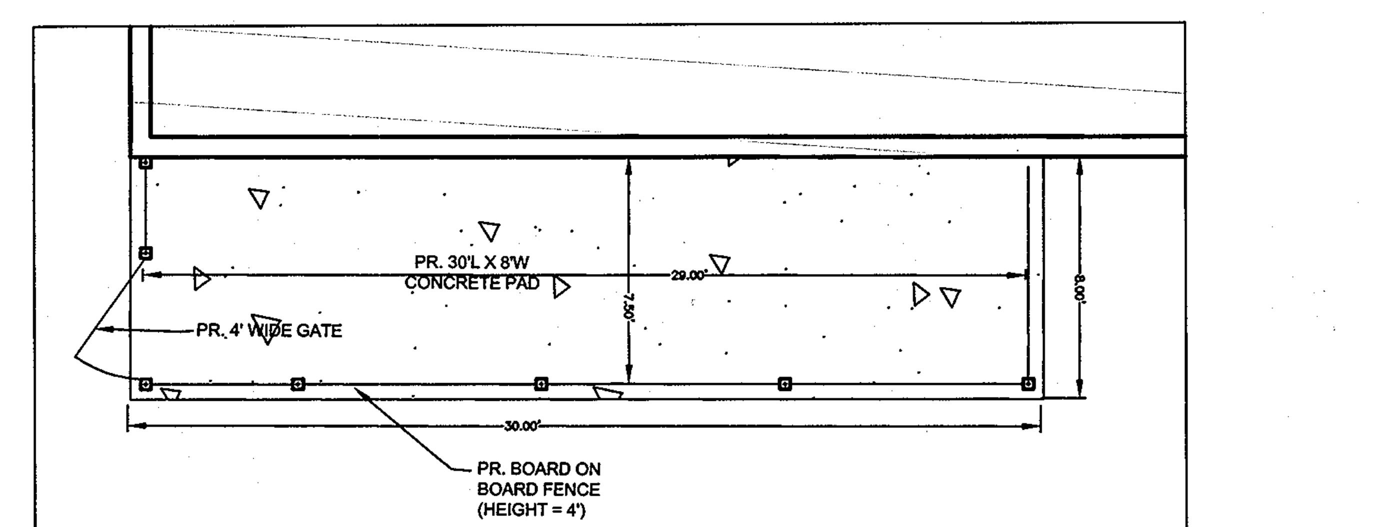
LABEL	QTY	TYPE	ARRANGEMENT	DESCRIPTION
CANOPY	18	ENCORE	SINGLE	EC-S-250-PSMV-F - 23.750 LOADS - DOWN LIGHT UNDER CANOPY
WALL MOUNT	2	EAGLE	SINGLE	EGM-WB-250-SMH-PG - 20.000 LOADS - DOWN LIGHT ON BUILDING (GENERAL AREA LIGHTING)



CONCRETE PAD SECTION FOR MECHANICAL (HVAC SYSTEMS)
NOT TO SCALE



PARKING SPACE DETAIL
NOT TO SCALE



HVAC SYSTEM ENCLOSURE BLOW-UP
SCALE 1" = 5'

RECORD DRAWING NOVEMBER 2012

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.

[signature], VP 4/1/11
DEVELOPER: BRIAN DARNEL (HIGH'S 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.

[signature] 3-30-11
ENGINEER: DARRELL J. 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

[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

B. Wilson for Peter Beilenson 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. T/A MESSICK AND ASSOCIATES

STATE OF MARYLAND DARRELL J. VOLNEY REGISTERED PROFESSIONAL ENGINEER 3-30-11

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSE 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-96-64)

SITE 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: WAN DRAWN BY: BPO
HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 15 OF 19

SDP-10-054

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, if not previously loosened.

Soil Amendments: Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq. ft.

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs.per 1000 sq. ft.) For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq. ft.) For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Refer to the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for rate and methods not covered.

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. If not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

1) Preferred – Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs. per 1000 sq.ft.).

2) Acceptable – Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (25 lbs. per 1000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding: for the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:

1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.

2) Use sod.

3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

BORROW SITE INFORMATION

The name and/or location of a borrow site is not know 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

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

Purpose

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

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:

a) The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimentation Station.

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

I. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1-1/2" in diameter.

II. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

III. Where subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

For sites having disturbed areas under 5 acres:

I. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization – Section I – Vegetative Stabilization Methods and Materials.

III. For sites having disturbed areas over 5 acres:

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.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals for weed control until sufficient time has elapsed (14 days minimum) to permit dissipation of phyto-toxic materials.

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

II. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization – Section I – Vegetative Stabilization Methods and Materials.

V. Topsoil Application

I. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

II. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" – 8" higher in elevation.

III. Topsoil shall be uniformly distributed in a 4" – 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

IV. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for permanent seeding – Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

1. Composted sludge material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for site having disturbed areas under 5 acres shall conform to the following requirements:

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percentp potassium and have a pH of 7.0 to 8.0 If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

d. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding. MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

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.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1; B) 14 DAYS AS TO OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL FOR PERMANENT SEEDINGS (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDINGS (SEC.50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS

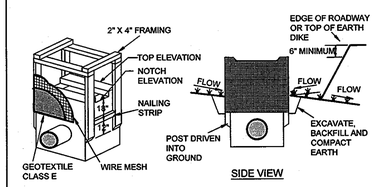
TOTAL SITE AREA		13.90 ACRES
AREA DISTRUBED	5.28	~~5.57~~ ACRES (INCLUDES OFFSITE DISTURBANCE)
AREA TO BE ROOFED AND PAVED	1.83	~~2.32~~ ACRES
AREA TO BE VEGETATIVELY STABILIZED	3.45	~~3.05~~ ACRES
TOTAL CUT		4,350± CU. YDS.
TOTAL FILL (contractor to check quantities)		4,800± CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION		A SITE WITH AN ACTIVE GRADING PERMIT, APPROVED BY THE COUNTY INSPECTOR

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
11. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 AC., APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
12. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACKFILLED AND STABILIZED BY THE END OF EACH WORKING DAY, WHICHEVER IS SHORTER.

△ 13. INSTALL NEW ENTRANCE AND MD 97 IMPROVEMENTS, SLIT DRAIN AND INSTALL TEMPORARY SWALE FROM S-4 TO EXISTING STORMWATER MANAGEMENT POND. STABILIZE AREA IMMEDIATELY (2 WEEKS)

14. INSTALL NEW WELL FOR CONVENIENCE STORE

DETAIL 23A - STANDARD INLET PROTECTION



MAX. DRAINAGE AREA = 1/4 ACRE

ISOMETRIC VIEW

STANDARD SYMBOL SIP

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. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.
3. Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
4. Stretch the Geotextile Class E tightly over the wire mesh with the geotixtile extending from the top of thé frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.
5. Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.
6. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.
7. The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

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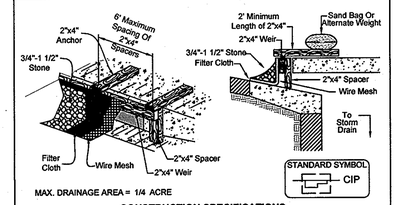
DETAIL 23C - CURB INLET PROTECTION (COG OR COS INLETS)



MAX. DRAINAGE AREA = 1/4 ACRE

CONSTRUCTION SPECIFICATIONS

1. ATTACH A CONTINUOUS PIECE OF WIRE MESH (30" MINIMUM WIDTH BY THROAT LENGTH PLUS 4') TO THE 2" x 4" WEIR (MEASURING THROAT LENGTH PLUS 2) AS SHOWN ON THE STANDARD DRAWING.
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.
3. SECURELY NAIL THE 2" x 4" WEIR TO A 9" LONG VERTICAL SPACER TO BE LOCATED BETWEEN THE WEIR AND THE INLET FACE (MAX. 4' APART).
4. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL (MINIMUM 2' LENGTHS OF 2" x 4" TO THE TOP OF THE WEIR AT SPACER LOCATIONS). THESE 2" X 4" ANCHORS SHALL EXTEND ACROSS THE INLET TOP AND BE HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHT.
5. THE ASSEMBLY SHALL BE PLACED SO THAT THE END SPACERS ARE A MINIMUM 1' BEYOND BOTH ENDS OF THE THROAT OPENING.
6. FORM THE 1/2" x 1/2" WIRE MESH AND THE GEOTEXTILE FABRIC TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN 3/4" x 1 1/2" STONE OVER THE WIRE MESH AND GEOTEXTILE IN SUCH A MANNER TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE.
7. THIS TYPE OF PROTECTION MUST BE INSPECTED FREQUENTLY AND THE FILTER CLOTH AND STONE REPLACED WHEN CLOGGED WITH SEDIMENT.
8. ASSURE THAT STORM FLOW DOES NOT BYPASS THE INLET BY INSTALLING A TEMPORARY EARTH OR ASPHALT DIKE TO DIRECT THE FLOW TO THE INLET.

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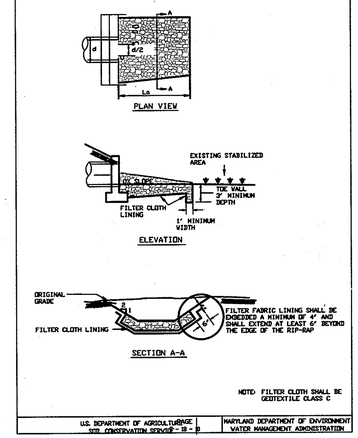
DETAIL 27 - ROCK OUTLET PROTECTION III



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SEQUENCE OF CONSTRUCTION

Phase 1 – General

1. Contractor shall obtain all necessary approvals and the grading permit prior to beginning construction. The contractor shall notify the Howard County Department of Inspections & Permits, Miss Utility at least 48 hours prior to beginning construction.
2. The contractor shall schedule a pre construction meeting with the respective agencies to review the plans and permits.
3. Install new entrance and MD 97 Improvements, slot drain, and install temporary swale from S-4 to existing stormwater management pond. Stabilize area immediately. (2 weeks).
   Note: once new entrance is installed. Block off old entrance.
4. Install new well for convenience store and provide a temporary connection to existing store and abandon existing well. (1 week).

Phase 2 – New Convenience Store

3. Clear only for and install stabilized construction entrance. Install silt fence, super silt fence and temporary stone outlet structures as shown on the plans. (3 days)
4. Saw cut as needed and remove existing building and pavement. (3 days)
5. Clear and grub phase 2 area only as needed. (1 day)
6. Strip and stockpile topsoil. (2 days)
7. Rough grade phase 2 area except infiltration basin (BMP #2). (1 week)
8. Begin Building Construction and stub out utilities. (4 months)
9. Install Septic Service down to existing distribution box. (2 weeks)
10. Install tanks and pump islands. (2 weeks)
11. Fine grade phase 2 area. (3 days)
12. Install curb and gutter and stone subbase. (2 weeks)
13. Install sidewalks and concrete pads. (3 days)
14. Install bituminous concrete. (2 days)
15. Install Bio-swale from existing pond up to end section S-4. Modify existing inlet (I-3) and install Pretreatment Forebay (2 weeks).
16. Connect water service into new building AND ABANDON EXISTING WELL
17. Final all inspections and obtain U&O from county for convenience store.
18. Open new store for business.

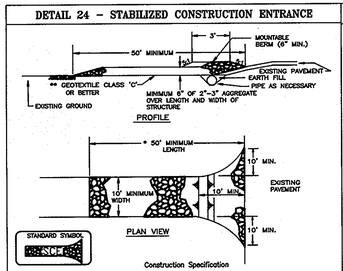
~~Phase 3 – Lawn & Garden Store Area (Grading, Storm Drain & SWM Only)~~

21. ~~Demolish and remove existing Building, curb, pavement, and pump islands. Stabilize any disturbance immediately with seed and mulch (3 weeks).~~
22. ~~Excavated Infiltration basin BMP #2. Permanently stabilize with seed and mulch. (1week)~~
23. ~~Rough Grade phase 3 except infiltration basin BMP #5. Stabilize areas immediately. (2 weeks) – may be done concurrently with item #23.~~
24. ~~Install storm drain pipe from S-8 to I-8. Place inlet protection around inlet immediately.~~
25. ~~Install micro-bioretention device and bio swale. (2 weeks)~~
26. ~~Once the site is stabilized, Excavate and install infiltration basin BMP #5, control structure, and rip rap. Permanently stabilize with seed and mulch. (1 week)~~
27. ~~With the sediment control inspectors approval, remove all temporary sediment controls, flush out outfall structure. Re-stabilize all minor disturbance an vegetative growth is not established. (2 days)~~

△ ~~Phase 4 – Future Construction Lawn & Garden Building – Parking~~

28. ~~Install silt fence around building envelope & along BMP #5 (microbioretention) & inlet protection around I-8. (1 week)~~
29. ~~Begin building construction for Lawn & Garden store. Stub out utilities. (6 months).~~
30. ~~Install fire suppression tanks, septic services, and connect water line. (2 weeks).~~
31. ~~Install curb and gutter and dense graded aggregate. (2 weeks)~~
32. ~~Install concrete aprons, concrete dumpster pad and sidewalks. (2 weeks)~~
33. ~~Place and fine grade topsoil as needed to provide positive drainage. Stabilize with seed and mulch. (1 week)~~
34. ~~Install bituminous concrete. (1 week).~~
35. ~~Install landscaping. (2 weeks)~~
36. ~~Stabilize all remaining disturbed areas with seed & mulch. (1 day)~~
37. ~~With the sediment control inspectors approval, remove all temporary sediment controls, flush out outfall structure. Re-stabilize all minor disturbance an vegetative growth is not established. (2 days)~~
38. ~~Open Lawn & Garden Store for business.~~

DETAIL 24 – STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length – minimum of 50' (*30' 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 stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone – crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water – all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location – A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

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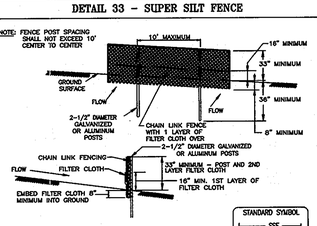
DETAIL 33 – SUPER SILT FENCE



Construction Specifications

Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6 foot fence shall be used, substituting 42 inch fabric and 8 foot length posts.

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.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, the shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence.

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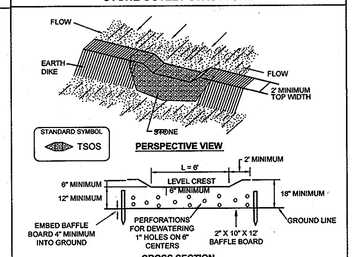
STONE OUTLET STRUCTURE



CONSTRUCTION SPECIFICATIONS

1. Crushed stone shall be used. Gravel may be used if crushed stone is not available. The stone shall be 2"-3" in size.
2. The crest of the stone dike shall be at least 6" lower than the lowest elevation of the top of the earth dike and shall be level.
3. The stone outlet structure shall be embedded into the soil a minimum of 4".
4. The minimum length of the crest of the stone outlet structure shall be 6'.
5. The stone outlet structure shall be inspected after each rain. Stone shall be replaced when the structure ceases to function and ponding results.
6. The baffle board shall be extended one foot into the dike, staked and embedded 4" into the existing ground.
7. The drainage area to this structure shall be less than 1/2 acre.

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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.

3-30-11

DEVELOPER: BRIAN DARNELL (HIGH'S 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.

3-30-11

ENGINEER: DARRELL J. VOLNEY (MESSICK & ASSOC.) DATE

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

4/6/11

HOWARD SOIL CONSERVATION DISTRICT DATE

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 HOWARD COUNTY HEALTH DEPARTMENT	DATE 5/24/2011

REVISION	DATE	DESCRIPTION
1	12-30-11	REVISE SEQUENCE OF CONSTRUCTION
2	3-14-12	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
* MESSICK GROUP INC. T/A MESSICK AND ASSOCIATES

STATE OF MARYLAND DARRELL J. VOLNEY No. 22098 PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSE 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-96-64)

SEDIMENT CONTROL DETAILS & NOTES

2101 ROXBURY MILLS ROAD, GLENWOOD, MARYLAND 21723 ZONING: B-2
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 16 OF 19

SDP-10-054

SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES			
LANDSCAPE TYPE	#1. E	#2. C	#2. A	#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 EVERGREEN TREES SHRUBS	 14 0 140	 9 18 0	 4 0 0	 9 0 0	 14 29 0
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	 13 3 0 140	 9 22 0 0	 4 0 0 0	 9 0 0 0	 14 30 0 0

SCHEDULE B
PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES REQUIRED	21 ~~72~~ SPACES
NUMBER OF TREES REQUIRED	1 PER/ 20 SPACES = 2 ~~4~~ REQUIRED
NUMBER OF TREES PROVIDED	3 ~~15~~ DECIDUOUS TREE'S PROVIDED

FOREST CONSERVATION WORKSHEET

NET TRACT AREA
A. Total Tract Area (no 100 year floodplain on site) A= 13.90 acres
B. Non-Leased Area B= -6.73 acres*
C. Other Deductions C= -3.60 acres*
D. Net Tract Area (A-B-C) D= 3.57 acres*

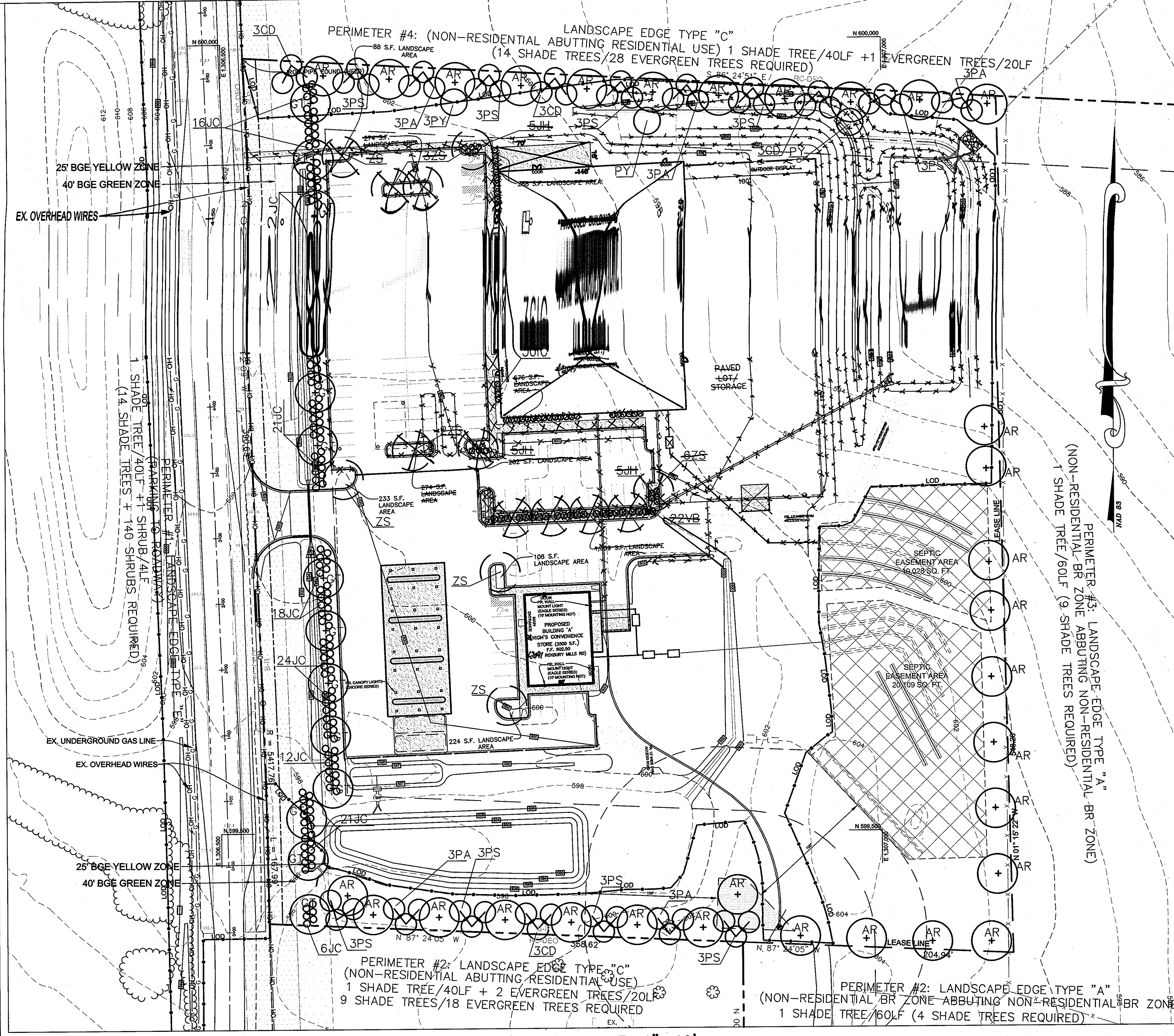
LAND USE CATAGORY: (Commercial Use: BR Zone)
E. Afforestation Threshold (net tract x 15 % E= 0.54 acres
F. Conservation Threshold (net tract x 20 % F= 0.71 acres

EXISTING FOREST COVER
G. Ex. Forest cover within Net Tract Area G= 0.00 acres
H. Area of Forest above Conserv. Threshold H= 0.00 acres
If Ex. forest cover is > Conserv. Threshold, then
H = Existing forest cover (G)- Conserv. threshold.

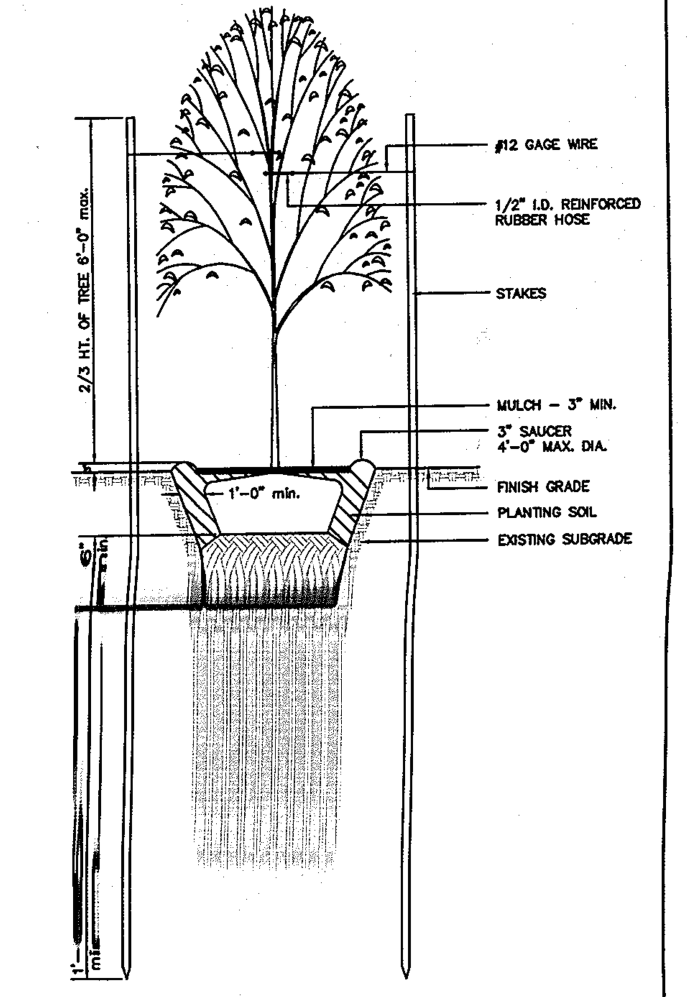
BREAK EVEN POINT I= 0.00 acres
I. Amount of forest retained so no mitig. is required
If area above Conserv. Threshold is > zero, then I =
(0.2 x area of forest above Cons. Thresh. (H) +
Conservation threshold (F)
J. Forest clearing permitted w/o mitigation J= 0.00 acres
J = Ex.forest cover (G) - Break even point (I)

PROPOSED FOREST CLEARING
K. Total area of forest to be cleared (on site) K= 0.00 acres
L. Total Forest Conservation Easement L= 0.00 acres

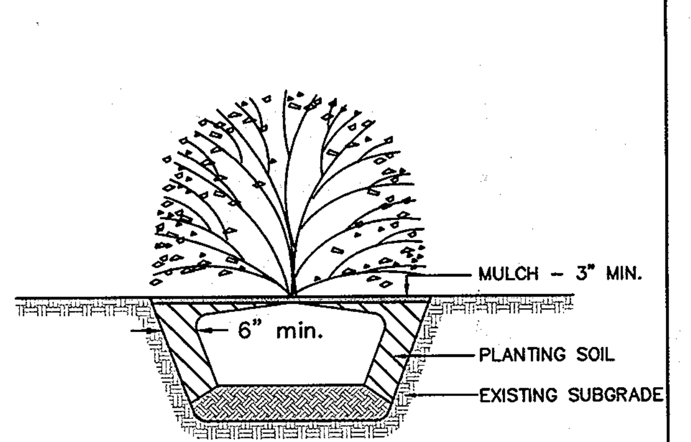
PLANTING REQUIREMENTS
Retaining forest at or > break even point (I), no planting req.
If not calculate replanting requiements below.
M. *Reforestation for Clearing above Conserv. Threshold (CT)* M= 0.00 acres
(1) If total area of forest to be retained (L) is > or = to the Conservation Threshold (F), 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.* N= 0.00 acres
(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* P= 0.00 acres
If area of forest to be retained (L) is > CT (F), the P = L-F
Q. *Total Reforestation required Q = M + N - P* Q= 0.00 acres
R. *Total Afforestation required* R= 0.54 acres
(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) - the Ex. forest cover (G) + (2 x forest to be cleared (K)
S. *Total Planting requirement S=Q+R (Forest Conservation Act)* S= 0.54 acres
T. Proposed On-Site Reforestation T= 0.00 acres
U. Proposed Fee in Lieu @ $0.75 / s.f. U= 0.54 acres**
*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



SCALE: 1"=40'



TREE PLANTING DETAIL – LESS THAN 4" CAL.



SHRUB PLANTING DETAIL

Financial Surety for the required landscaping has been posted as part of the DPW developer's agreement in the amount of $32,640.00 for 63 shade trees, 49 evergreen trees and 213 shrubs.

At the time of installment, 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 relocation 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.

LIGHTING SUMMARY TABLE

LABEL	QTY	TYPE	ARRANGEMENT	DESCRIPTION
CANOPY	18	ENCORE	SINGLE	EC-S-250-PSMV-F - 23.750 LOADS - DOWN LIGHT UNDER CANOPY
WALL MOUNT	2	EAGLE	SINGLE	EGM-WB-250-SMH-PG - 20.000 LOADS - DOWN LIGHT ON BUILDING (GENERAL AREA LIGHTING)

ENCORE FLAT LENS
NOTE: ENCORE SERIES REQUIRES 16" DECK PAN
CANOPY LIGHT

EAGLE
WALL MOUNT LIGHT

LEGEND
INTERIOR PLANTING AREA
INTERIOR PLANTING

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

LANDSCAPE SCHEDULE

QTY.	SYMBOL	SIZE	BOTANICAL NAME	COMMON NAME	SPACING	ROOT	UNIT COST	EXTENDED COST
31	Ar	2-1/2" Cal.	Acer rubrum ' October Glory'	October Glory Red Maple	as shown	B & B	$300	$9,300
12	Cd	6' Ht.	Cedurs deodara	Deodara Cedar	15' o.c.	B & B	$150	$1,800
36	Ic	2' Ht.	Ilex crenata 'compacta'	Compact Japanese Holly	4' o.c.	Cont.	$30	$1,080
140	Jc	2' Ht.	Juniperus chinensis 'Pfitzeriana Compacta'	Compact Pfitzer Juniper	5' o.c.	Cont.	$30	$4,200
0 ~~15~~	Jh	18" Ht.	Juniperus horizontalis 'Bar Harbor'	Bar Harbor Juniper	3' o.c.	Cont.	$30	$450
15	Pa	6' Ht.	Picea abies	Norway Spurce	15' o.c.	B & B	$150	$2,250
27	Ps	6' Ht.	Pinus strobus	Eastern White Pine	15' o.c.	B & B	$150	$4,050
3	Py	6' Ht.	Prunus yedoensis	Yoshino Cherry	25' o.c.	B & B	$300	$900
0 ~~22~~	Vb	2-3' Ht.	Viburnum X burkwoodii	Burkwood Viburnum	5' o.c.	Cont.	$30	$660
3 ~~14~~	ZS	2-1/2" Cal.	Zelkova serrata	Japanese Zelkova	as shown	B & B	$300	$4,200
13	GT	2-1/2" Cal.	Gleditsia triacanthos inermis 'Imperial'	Imperial Thornless Honey Locust	35-40' o.c.	B & B	$300	$3,900
						TOTAL		$32,790

REV.	DATE	DESCRIPTION
2	3-14-12	CROSSED OUT LANDSCAPING FOR PROPOSED BUILDING 'B' AND BMP #3. REVISED PARKING LOT INTERNAL LANDSCAPING CALCULATIONS AND LANDSCAPE SCHEDULE.

RECORD DRAWING NOVEMBER 2012

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 4/25/11
[signature] CHIEF, DIVISION OF LAND DEVELOPMENT DATE 7/27/11
[signature] DIRECTOR DATE 7/27/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
B Nichols for Peter Beilenson COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT 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. T/A MESSICK AND ASSOCIATES

STATE OF MARYLAND — DARRELL J. VOLAND — PROFESSIONAL ENGINEER — 22098

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSE 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

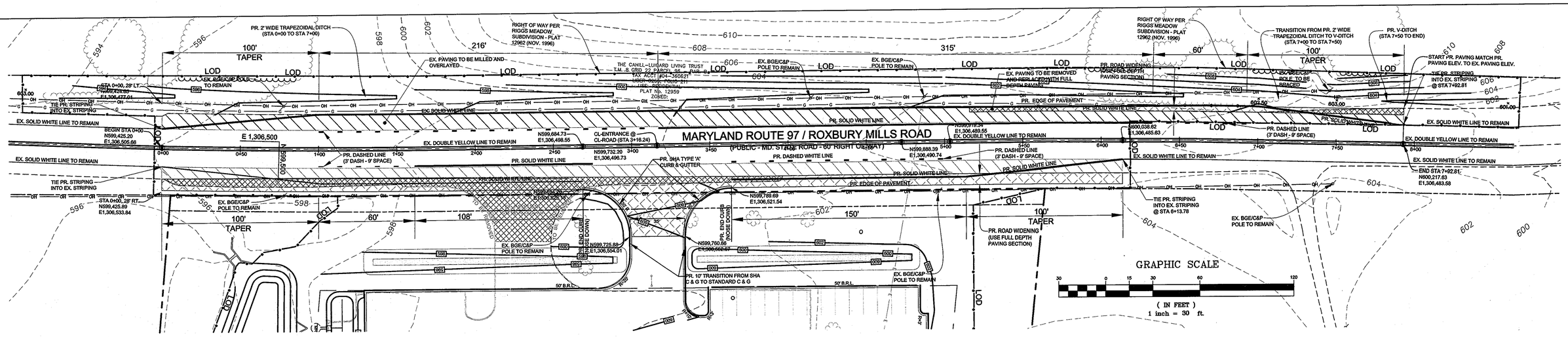
PROJECT **HIGHS @ GLENWOOD**
GLENWOOD FARM & GARDEN STORE
(2) NEW BUILDINGS, GAS PUMPS + PARKING LOT EXPANSION

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

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 CONTRACT No. DESIGN BY: WAN DRAWN BY: BPO
HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 17 OF 19

SDP-10-054



STATE HIGHWAY IMPROVEMENTS PLAN

SCALE: 1" = 30'

SIGNAGE AND STRIPING NOTES:

1. ALL STRIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M&MUTCD)". ALL STRIPING SHALL BE 5" WIDE AND SHALL MATCH THE EXISTING MATERIALS. UNLESS OTHERWISE SPECIFIED.

2. FOR BYPASS LANE MARKINGS REFER "M&MUTCD".

3. ALL SIGNS SHALL CONFORM TO THE "SHA SIGN STNADARD 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 SAMPLE 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.

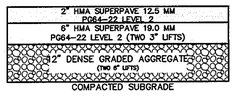
2. THE CONTRACTOR SHALL UPGRADE THE PAVEMENT SECTION ALONG THE LINE OF WORK AS DIRECTED BY THE STATE HIGHWAY ADMINISTRATION.

LEGEND

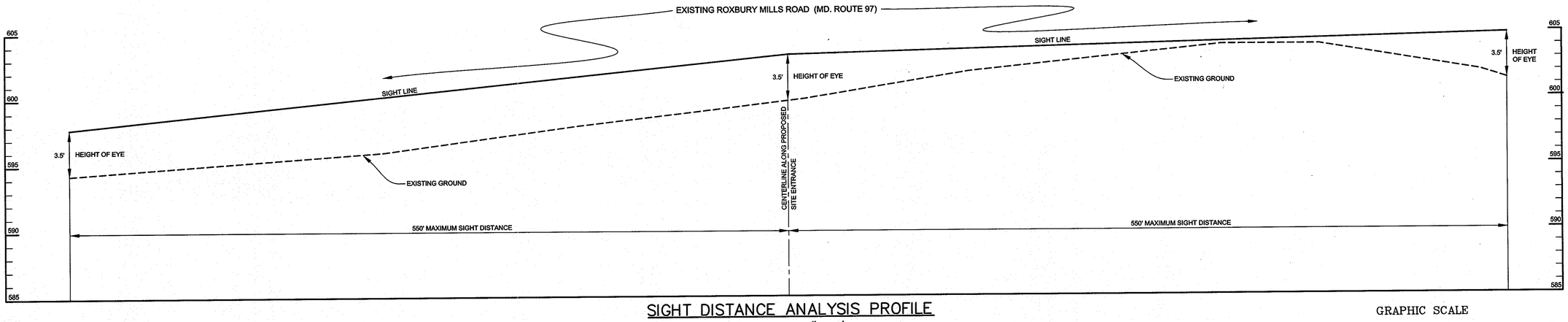
- EX. PAVEMENT TO BE REMOVED
- PR. FULL DEPTH PAVEMENT
- PR. MILL & OVERLAY

ROAD SECTION:

1. FOR ROAD SECTIONS, SEE SHEET 19.



FULL DEPTH SHA PAVING SECTION
NOT TO SCALE



SIGHT DISTANCE ANALYSIS PROFILE

SCALE: H: 1"=40'
V: 1"=4'

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

RECORD DRAWING NOVEMBER 2012

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DIRECTOR — DATE 7/27/11
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 7/27/11

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER, HOWARD COUNTY HEALTH DEPARTMENT — DATE 5/24/2011

MESSICK & ASSOCIATES*

CONSULTING ENGINEERS
PLANNERS & SURVEYORS
2120 RENARD COURT
ANNAPOLIS, MARYLAND 21401
PHONE: (410) 266-3212
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* 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 DULY LICENSE PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 22068, EXPIRATION DATE: SEPT. 10, 2012.

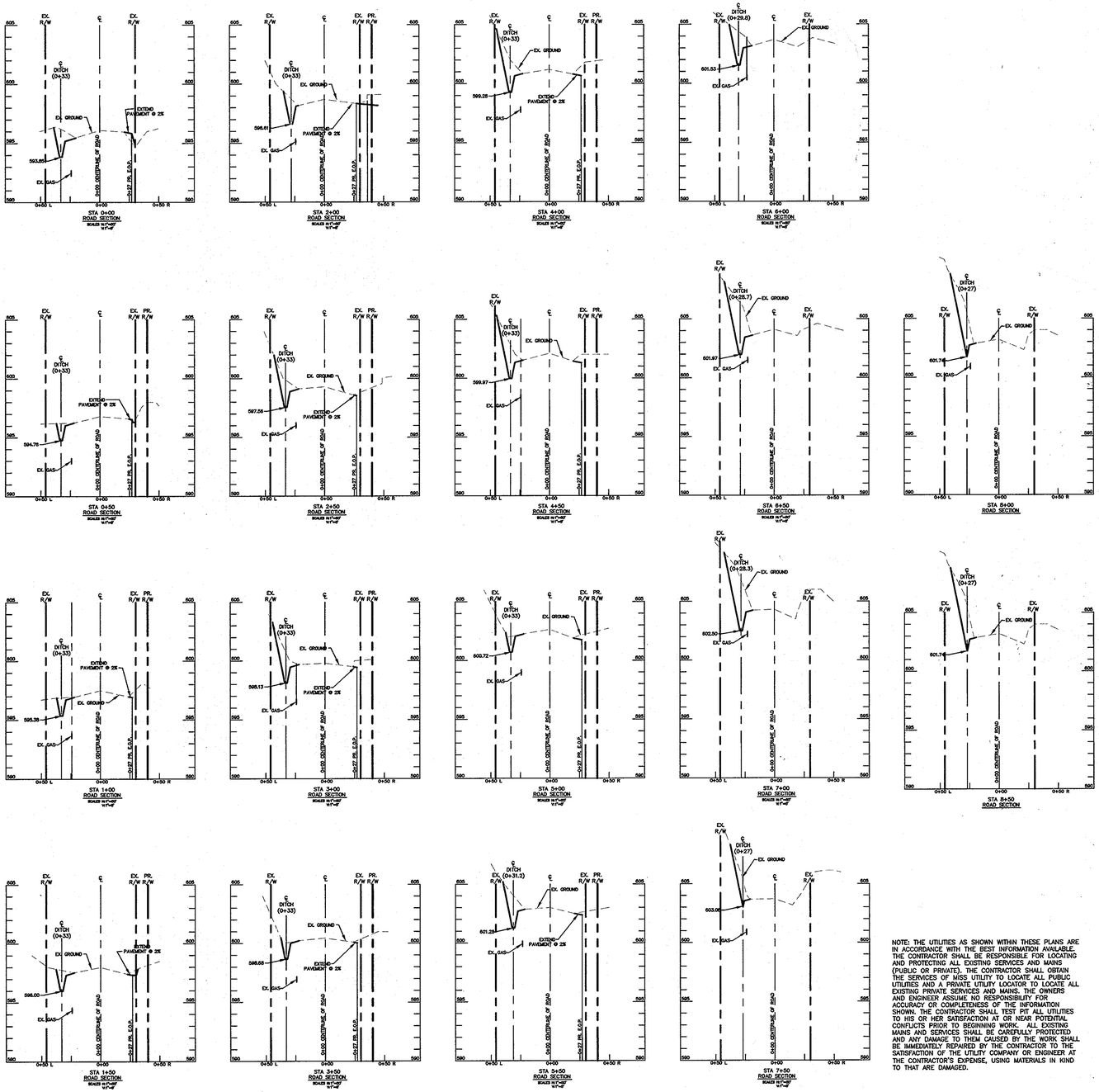
OWNER:
WILLIAM W. RIDGELY III / STEPHEN R. RIDGELY
2125 ROUTE 97
COOKSVILLE, MD. 21723

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

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)

M.S.H.A. IMPROVEMENTS & SIGHT DISTANCE PROFILE
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 18 OF 19



NOTE: THE UTILITIES AS SHOWN WITHIN THESE PLANS ARE IN ACCORDANCE WITH THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING SERVICES AND MAINS (PUBLIC OR PRIVATE). THE CONTRACTOR SHALL OBTAIN THE SERVICES OF MISS UTILITY TO LOCATE ALL PUBLIC UTILITIES AND A PRIVATE UTILITY LOCATOR TO LOCATE ALL EXISTING PRIVATE SERVICES AND MAINS. THE OWNERS AND ENGINEER ASSUME NO RESPONSIBILITY FOR ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL TEST PIT ALL UTILITIES TO HIS OR HER SATISFACTION AT OR NEAR POTENTIAL CONFLICTS PRIOR TO BEGINNING WORK. ALL EXISTING MAINS AND SERVICES SHALL BE CAREFULLY PROTECTED AND ANY DAMAGE TO THEM CAUSED BY THE WORK SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE UTILITY COMPANY OR ENGINEER AT THE CONTRACTOR'S EXPENSE, USING MATERIALS IN KIND TO THAT ARE DAMAGED.

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 (MdMUTCD) Section 6c-6 to protect all vehicular traffic on the traveled lane.

ACCESS TO RESIDENCES/PROPERTIES

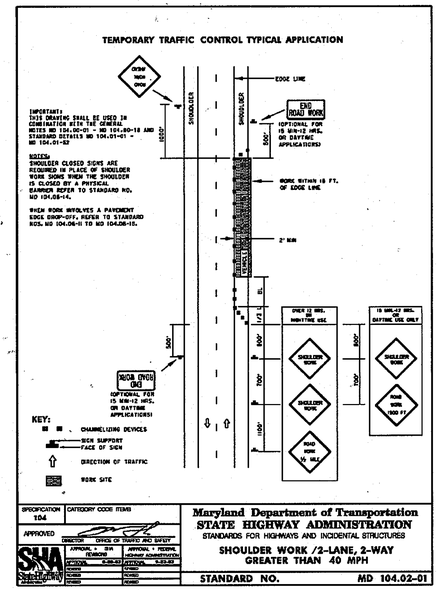
The contractor shall schedule and execute his work in such a way that emergency vehicles have access to all abutting properties at all times. The contractor may during daytime or working hours be required to provide a temporary means of ingress and egress to the properties as the need arises. During 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 shall not be blocked by the storage of materials.

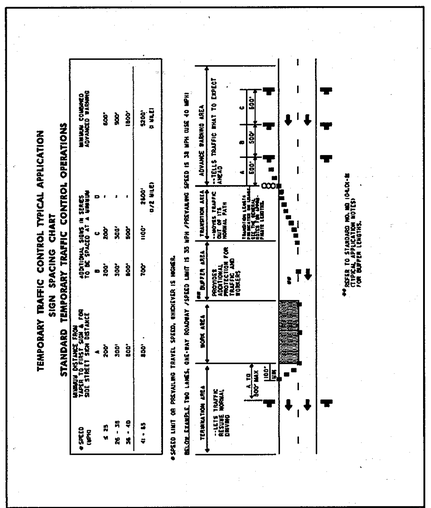
STOCKPILE OF EXCAVATED MATERIAL

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 stockpiles in a way that impedes sight distance and visibility.



SPECIFICATION 104	CATEGORY CODE ITEMS
APPROVED DIRECTOR, OFFICE OF TRAFFIC AND SAFETY	
APPROVAL + SHA REVISIONS	APPROVAL + FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 6-28-93	APPROVAL 6-23-93
REVISED	REVISED
REVISED	REVISED
REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
SHOULDER WORK /2-LANE, 2-WAY GREATER THAN 40 MPH
STANDARD NO. MD 104.02-01



SPECIFICATION	CATEGORY CODE ITEMS
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APPROVAL + SHA REVISIONS	APPROVAL + FEDERAL HIGHWAY ADMINISTRATION
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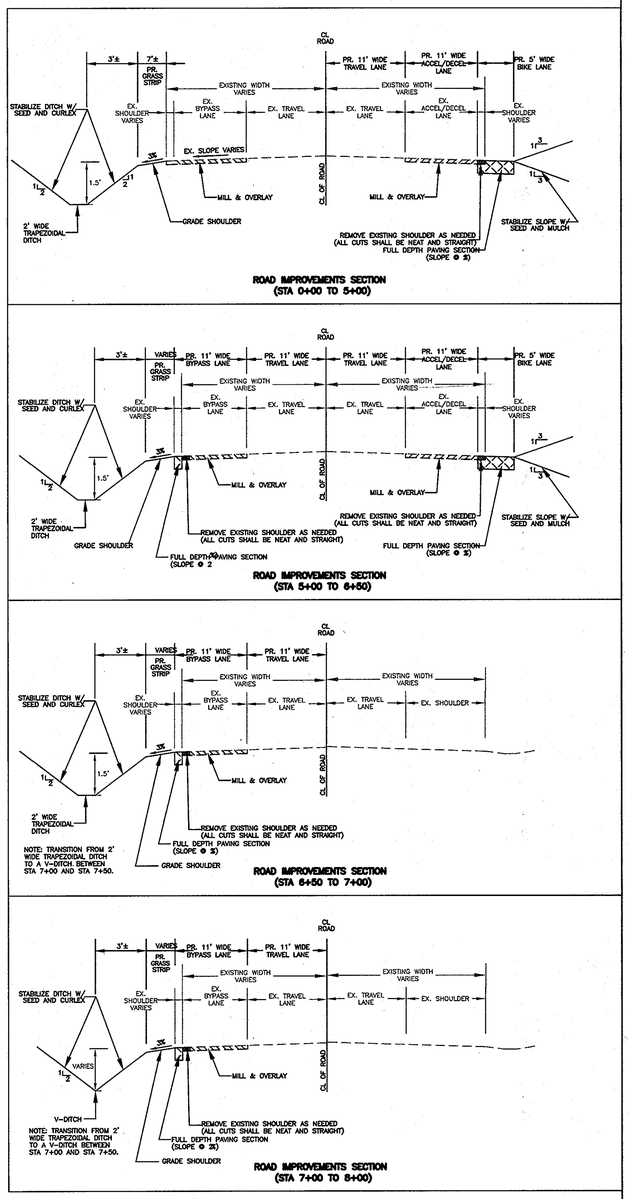
REVISED	REVISED
REVISED	REVISED
REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
SIGN SPACING CHART
STANDARD NO. MD 104.01-02



ROAD IMPROVEMENTS SECTION (STA 0+00 TO 5+00)

ROAD IMPROVEMENTS SECTION (STA 5+00 TO 6+50)

ROAD IMPROVEMENTS SECTION (STA 6+50 TO 7+00)

ROAD IMPROVEMENTS SECTION (STA 7+00 TO 8+00)

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 HOWARD COUNTY HEALTH DEPARTMENT	DATE 5/24/2011

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STATE OF MARYLAND — DARNELL J. VON ALMEN — No. 22098 — PROFESSIONAL ENGINEER

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DEVELOPER:
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(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)

ROAD SECTIONS & TRAFFIC CONTROL PLAN

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TAX MAP 14, GRID 5, PARCEL 256, ELECTION DISTRICT NO. 4 LIBER 2457 FOLIO 636
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HOWARD COUNTY MARYLAND SCALE: AS SHOWN DATE: SEPT. 2010 SHEET 19 OF 19

SDP-10-054