CONCEPT PLAN - NARRATIVE:

In accordance with Checklist Item III. Concept Plan - Number II.

a. There are no natural areas on Lot 3 of HARBIN ACRES (To be Resubdivided into Lot 5 & 6) which require preservation. Currently on Lot 3, there exists a house, barns & pool, along with a paved driveway. These existing structures / features will remain on newly created Lot 5 and a new dwelling and driveway will be constructed on Lot 6. A Use-In-Common driveway will be constructed to serve existing Lot 4 and proposed Lots 5 & 6.

b. No dramatic disturbance to the natural drainage patterns are proposed, please refer to the conceptual proposed grading.

c. The conceptual reduction in impervious area through better site design is achieved through the conceptual Environmental Site Design (ESD) for this project. The ESD concept includes Disconnection of Non Rooftop Runoff for the driveways and Disconnection of Rooftop Runoff via overland conveyance at 5% or less.

d. Erosion & Sediment Controls are limited to perimeter controls associated with typical individual lot house construction. Limitations are encouraged as to the type of equipment to be used and the locations where heavy equipment is acceptable.

e. Again, The ESD concept includes Disconnection of Non Rooftop Runoff for the driveways and Disconnection of Rooftop Runoff via overland conveyance. This design scenario shall meet the ESD requirements to the maximum extent practical for this single 3 Acre lot.

f. No Waivers are required for environmental disturbances or stormwater design.

SITE ANALYSIS DATA

- Project Area: 12.38 Ac ±
- Wetland & Wetland Buffer Area: 0.00 Ac ±
- 100 Year Floodplain Area: 0.00 Ac ±
- Forested Area: 0.00 Ac ±
- Steep Slope Area (>15%): 0.00 Ac ± (Lot 5 & 6)
- Erodible Soils Area: 0.00 Ac ±
- Limit of Disturbance: 1.15 Ac ±
- Proposed Site Use: SF - Min. 3 Ac Lots
- Green Open Area: 11.91 Ac ±
- Impervious Area (Existing): 0.16 Ac ±
- Impervious Area (Proposed): 0.16 Ac. + 0.31 Ac ± = 0.47 Ac ±

LEGEND

Existing Contour- (2' Interval)
Existing Contour- (10' Interval) 500
Soils Boundary MaC / GmB
Existing Driveway
Proposed Driveway
Existing Treeline
Existing Tree To Be Retained
Existing Septic Easement
Proposed Septic Easement
Primary Well Site P
Alternate Well Site A
Existing Well
Proposed 2' Contour 538
Proposed 10' Contour 540
Existing Driveway to be Removed
Stabilized Construction Entrance SCE
Super Silt Fence SSF
Silt Fence SF
Limit of Disturbance

SHEET INDEX

NOTE:

There are no onsite contiguous areas of steep slopes located on LOT 6 which comprise an area of 20,000 sf or greater.

LAND DEDICATED TO HOWARD COUNTY, MARYLAND FOR PURPOSES OF A PUBLIC ROAD (348 SF / 0.0078 AC.±).

VICINITY MAP

ADC MAP 4692D6

1" = 2000'

HOCO 08AA; HOCO 08BA; SITE; CAMP MOZERINE RD.; ROUND CT.; OLD FREDERICK RD.; INTERSTATE 70; MORGAN STATION RD.; FREDERICK RD. (MD RTE. 144); MARIETTA

GENERAL NOTES & INFORMATION:

1. There are no natural areas on Lots 3 & 4 of the HARBIN ACRES Plat #19702 which require preservation. Currently there exists homes and appurtenances along with gravel and paved driveways on existing Lots 3 & 4. These existing structures / features will remain. No new buildings, extensions or additions to the existing dwellings, or structures are to be constructed at a distance less than the zoning regulations require.

The conceptual Environmental Site Design (ESD) for this project includes "N-2 - Disconnection of Non Rooftop Runoff" for the proposed driveways (Use-In-Common & Lot 6) and "N-1 - Disconnection of Rooftop Runoff" for the proposed rooftop runoff of Lot 6.

2. The Subject property is zoned RC-DEO per 2/02/2004 Comprehensive Zoning Plan and per the "Comp Lite" Zoning Regulation Amendments effective 7/28/06.
3. Site Analysis Data:
   THERE ARE NO ENVIRONMENTAL AREAS ONSITE
   a. Total Project Area: 12.3809 Acres (539,312 SF)
   b. Area of Plan Submission: 12.3809 Acres +/-
   c. Limit of Disturbed Area: 1.15 Acres +/-
   d. Proposed Green Open Area: 12.09 Acres+/- (12.3809 - 0.2916 {12,700sf})
   e. Proposed Impervious Area: 5,700 SF+/- (Lot 6) + 7,850 SF+/- (UIC Drive) Existing Impervious Areas on Lot 4 & 5 = 7,000 SF+/-
   f. Present Zoning Designation: RC-DEO
   g. Proposed Site and Structure Use: SFD homes
   h. Total Number Units allowed: 1
   i. Total Number of Units: 3 (1 Proposed & 2 Existing to Remain)
   j. Building coverage of site (Lot6): 5,700 SF (0.1309 Ac) , 4.26% of site (Lot 6) area
   k. Applicable DPZ File References: VP 76-95, F 81-42, WP 07-14, F 07-62
4. Subdivision Name: Harbin Acres - Lots 4, 5, & 6 - A Resubdivision of Lot 3, Harbin Acres
   Tax Map: Map 8 / Grid 9
   Section / Area: N/A
   Lot / Tax Map Parcels: 3 / (Parcel 19) & 4 / (Parcel 19)
   Zoning: RC-DEO
   ZB / BA Reference: N/A
   Election District: 4th
   Final Plan Approval Date: N/A
   DPZ Reference Number: N/A
   Number of Proposed Lots: 3 (Existing Lot 4 and Proposed Lots 5 & 6)
   Max. Lot Coverage Permitted: N/A
   Submission Area: 12.3809 Ac / 539,312 SF
   Improvement to Property: Single Family Detached Dwelling
   Current Deed Reference: Lot 3 Liber 222 Folio 47, Liber 1049 Folio 202
5. The boundary shown hereon is based on a field run boundary survey performed by LDE, Inc. dated Jan 2005.
6. The existing topography is taken from Howard County 2 foot Topography & spot verified by LDE, Inc.
7. The contractor shall locate existing utilities to his own satisfaction and well in advance of any construction activities. Additionally, the contractor shall take all necessary precautions to protect all existing utilities and maintain uninterrupted service. Any damage incurred to utilities or existing features due to contractor's operation shall be repaired immediately at the contractor's expense.
8. The Wetland Investigation was completed by LDE, Inc. dated March, 2010. There are no Wetlands onsite.
9. No 100 Yr. floodplain areas are located within this subdivision.
10. There are no stream or their buffers which encumber this site.
11. This subdivision plan is subject to the Amended Fifth Edition of the Subdivision and Land Development Regulations per Council Bill No. 45-2003 effective October 2nd, 2003. Development or construction on these lots must comply with setback and buffer regulations in effect at the time of submission of the site development plan, waiver petition application or building permit applications.
12. This plan is subject to WP-07-14. On September 15, 2006 the Planning Director approved the request to waive Section 16.119(f) to allow direct driveway access to a major collector road, Old Frederick Road; Section 16.120(a)(1) to allow lots to derive direct access from a major collector road, Old Frederick Road; and Section 16.120(b)(5) which states for residential subdivision a noise study may be required in accordance with the Design Manual. The subdivision layout shall ensure that the noise level in the rear yard does not exceed the standard set in the Design Manual. All of the frontage along Old Frederick Road is restricted for vehicular ingress and egress except for the two approved 24' wide access points for driveway access. If either Lot 3 or 4 is resubdivided, the existing driveways will be shared by the new lots created from Lots 3 and 4. Compliance with all County and State Regulations will be required at the time Lot 3 and 4 are resubdivided. Upon resubdivision of either Lot 3 or Lot 4 to create additional lots, a noise study and appropriate mitigation, Landscaping, Forest Conservation and Storm Water Management will be required.
13. The well for Lot 6 has been drilled and the completion report has been submitted to the Health Department.
14. The lots shown hereon comply with the minimum lot area and ownership width as required by the Maryland Department of the Environment.
15. In accordance with the approval conditions of WP07-14, the required right of way dedication for Old Frederick Road will be provided with a plat, However, the owners retain the ability to use the 10% minimum lot size reduction for the resubdivision of Lot 4 (Future Lots 7 & 8) per Section 16.120.b.2.ii.
16. Forest Stand Delineation report was prepared by LDE, Inc., dated March 2010.
17. Forest Conservation for Lots 4, 5 & 6 will be addressed under the final subdivision plan. The area shown on this plan is a proposed area that is subject to change during the final plan review.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

SOILS LEGEND

HYDROLOGIC SOIL GROUP	SOIL SYMBOL	DESCRIPTION	REMARKS
B	GgA	Glenelg loam, 0% - 3% slopes,	-
B	GgB	Glenelg loam, 3% - 8% slopes,	-
B	GgC	Glenelg loam, 8% - 15% slopes,	-
B	UaF	Udorthents, Highway Cuts - 65% slopes	-

The soils on site are designated as Glenelg loam. Glenelg is listed as Hydrologic Soil Group "B". The computations herein will utilize Hydrologic Soil Group "C" for the stormwater analysis.

These areas designate a private sewage easement of at least 10,000 square feet as required by the Maryland Department of the Environment for individual sewage disposal. Improvements of any nature in this area are restricted until public sewage is available. These easements shall become null and void upon connection to a public sewage system. The County Health Officer shall have the authority to grant variances for encroachments into the private sewage easement. Recordation of a modified sewage easement shall not be necessary.

ADDRESS CHART

Lot/Parcel#	Street Address
6 / P/O 19	XXXXX Old Frederick Road
5 / P/O 19	15055 Old Frederick Road - Ex Dwelling to Remain

PERMIT INFORMATION CHART

Subdivision Name: HARBIN ACRES - Lots 3 & 4				Section/Area N/A	Lot/Parcel No. 6 / P/O 19
Plat# or L/F 19702 1049/202	Grid No. 9	Zoning RC-DEO	Tax Map No. 8	Election District 4th	Census Tract 6011.01
Water Code N/A			Sewer Code N/A		

LDE Inc.
Engineers, Surveyors, Planners
9250 Rumsey Road, Suite 106 Columbia, Maryland - 21045
(410)715-1070 - (301)596-3424 - FAX(410)715-9540

DESIGNED EDS	ENVIRONMENTAL CONCEPT PLAN HARBIN ACRES LOTS 4, 5 AND 6	SCALE 1"=50'
DRAWN EDS	A Resubdivision of Harbin Acres Lot 3 and a revision to Lot 4	DRAWING 1 of 3
CHECKED BDB	PLAT #19702 (# 15055 Old Frederick Road) Tax Map No. 8 Grid No. 9 Parcel 19 & 350 4th Election District - Howard County, Maryland Zoned: RC-DEO	JOB NO. 09-003
DATE 8/2010	Previous Submittals: F81-42, VP76-95, WP07-14, F07-62 OWNER/DEVELOPER: George & Shirley Harbin 15055 Old Frederick Road Woodbine, MD 21794 410-489-4158	FILE NO. ECP 11-014

REVISIONS

No.	Date	Description

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 11/17/10

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11-15-10

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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 OF ENGINEER BRUCE D. BURTON, P.E. 19184 — DATE 11/3/10

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER GEORGE HARBIN SHIRLEY HARBIN — DATE 11/11/10

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO: 19184, EXPIRATION DATE: 6/30/11.

STATE OF MARYLAND — BRUCE DAVID BURTON — NO. 19184 — REGISTERED PROFESSIONAL ENGINEER

SIGNED BRUCE D. BURTON

DATE 11/3/10

ECP-11-014

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HOWARD SOIL CONSERVATION DISTRICT
STANDARD 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, (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 most current "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT 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 all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, 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 EROSION AND SEDIMENT CONTROL (Section G.) for permanent seeding, sod, temporary seeding, and mulching. Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
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 Area of Site	12.38	Acres
Area Disturbed	1.15	Acres
Area to be roofed or paved	0.13	Acres
Area to be vegetatively stabilized	1.02	Acres
Total Cut	500	Cu. Yds. *
Total Fill	500	Cu. Yds. *

* Contractor shall complete their own earthwork analysis
Offsite waste/borrow area location N/A

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
11. Trenches for the construction of utilities is limited to three pipe lengths or that which can be back filled and stabilized within one working day, whichever is shorter.

HOWARD SOIL CONSERVATION DISTRICT
PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

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

SOIL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules:
1) PREFERRED Apply 2 tons per acres dolomitic limestone (92 lbs/1000sq.ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000sq.ft.)
2) ACCEPTABLE Apply 2 tons per acre dolomitic limestone (92 lbs/1000sq.ft.) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

SEEDING For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs per acre (1.4 lbs/1000sq. ft.) of Kentucky 31, Tall Fescue and 2 lbs. per acre (.05lbs/1000sq. ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) - 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) - Use sod. Option (3) - Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch 2 tons / acre well anchored straw.

MULCHING Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000sq. ft.) for anchoring.

MAINTENANCE Inspect all seeding areas and make needed repairs, replacements and reseedings.

HOWARD SOIL CONSERVATION DISTRICT
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, disking, or other acceptable means before seeding, if not previously loosened.

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

SEEDING For periods March 1 thru April 30, and from August 15 thru October 15 seed with 2-12 bushels per acre of annual rye (3.2 lbs/1000sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs/1000sq. 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/1000sq. ft.) of unrotted weed free small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

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 Experimental 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 1½" 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 the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

III. 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.

IV. 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 used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

   Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soilscientist 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 compact 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:

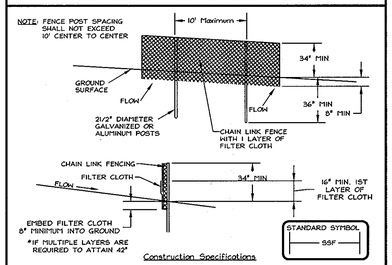
i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
   a. Composted sludge shall be supplied by, or originate from, 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 percent potassium and have a PH of 7.0 to 8.0. If composted does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
   c. Composted sludge shall be applied a rate of 1 ton / 1,000 square feet.

ii. 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.

U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE	PAGE G-21-1 thru 3	MARYLAND DEPARTMENT OF ENVIRONMENT - WATER MANAGEMENT ADMINISTRATION

DETAIL 33 - SUPER SILT FENCE



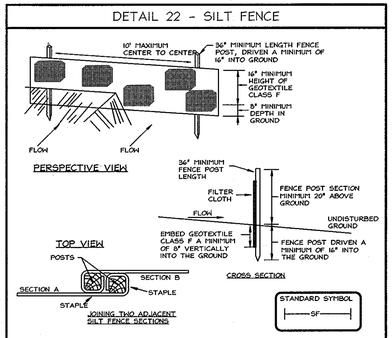
Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
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, they 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, or when ⅓ of fence height silt reaches 50
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft/minute(max.)	Test: MSMT 322
Filtering Efficiency	75 % (min.)	Test: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H-26-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22 - SILT FENCE



Construction Specifications

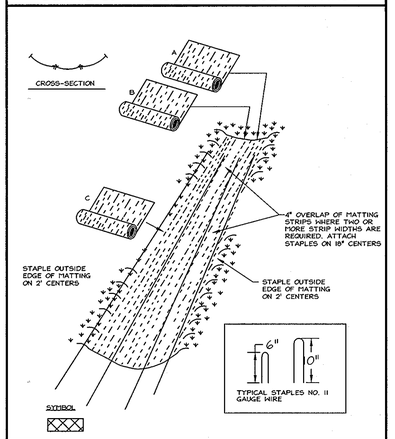
1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1½" x 1½" square (minimum) cut, or 1¾" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft. / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-19-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 - EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G-22-2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

EROSION CONTROL MATTING

Construction Specifications

1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
2. Staple the 4" overlap in the channel center using an 18" spacing between staples.
3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
4. Staples shall be placed 2" apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

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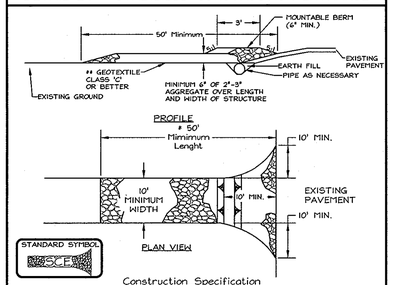
CONCEPTUAL SEQUENCE OF CONSTRUCTION

NOTE:

Contractor shall contact the Construction Inspection Division 24 hours in advance of commencement of work at 410-313-1880

1. Obtain Grading Permit. - 1 day
2. Stakeout limits of disturbance. - 1 day
3. Install stabilized construction entrance (SCE) where shown hereon.
4. Install super silt fence (SSF) and silt fence (SF) as shown hereon. 2 days
5. Clear & grub as required. - 1 day
6. Complete grading operations necessary for construction of use-in-common driveway and place driveway to base course pavement minimum. - 5 days
7. Stabilize driveway construction with permanent seeding mixture and straw mulch. - 1 day
8. Begin excavation for house foundation as shown hereon. Material shall be used to backfill existing house and proposed foundation. - 1 day
9. Grading should occur in accordance with the requirements of the Dust Control specifications shown on sheet 3. - Daily
10. Begin house construction. Roof Downspouts shall be located and directed as shown & detailed hereon - 90 days
11. Install septic system as shown hereon up to proposed house. - 5 days
12. The Contractor shall inspect and provide necessary maintenance on the sediment and erosion control structures shown hereon after each rainfall and on a daily basis. - Daily
13. Upon house construction completion, fine grade around house as shown hereon and stabilize with permanent seeding mixture and straw mulch. Front yard / driveway disconnection areas shall be graded per the spot elevations hereon. Per the "Disconnection of Non-Rooftop Runoff" practice, and prior to final stabilization, scarify surface or rototill any compacted soil to a min. depth of 4" to ensure soil permeability. If applicable, tight, clayey soils may require soil amendments. "Disconnection of Non-Rooftop Runoff" area criteria is detailed on Sheet 3. - 2 days
14. Install surface / finish coat pavement to use-in-common driveway. Backfill edges as necessary with topsoil and stabilize with permanent seeding mixture and straw mulch - 3 days
15. With permission from sediment control inspector, remove any remaining perimeter controls and stabilize any disturbed areas with permanent seed mixture & straw mulch or sod. - 1 day

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length - minimum of 50' (*50' 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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SECTION 30.0 - DUST CONTROL

30.0 DUST CONTROL

Definition

Controlling dust blowing and movement on construction sites and roads.

Purpose

To prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.

Conditions Where Practice Applies

This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

Specifications

Temporary Methods

1. Mulches- See standards for vegetative stabilization with mulches only. Mulch should be crimped or tacked to prevent blowing.
2. Vegetative Cover- See standards for temporary vegetative cover.
3. Tillage- To roughen surface and bring clods to the surface. This is and emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12" apart, spring- toothed harrows, and similar plows are examples of equipment which may produce the desired effect.
4. Irrigation- This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed. At no time should the site be irrigated to the point that runoff begins to flow.
5. Barriers- Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 10 times their height are effective in controlling soil blowing.
6. Calcium Chloride- Apply at rates that will keep surface moist. May need retreatment.

Permanent Methods

1. Permanent Vegetation- See standards for permanent vegetative cover, and permanent stabilization with sod. Existing trees or large shrubs mat afford valuable protection if left in place.
2. Topsoiling- Covering with less erosive materials. See standards for topsoiling.
3. Stone - Cover surface with crushed stone or coarse gravel.

References

1. Agriculture Handbook. Wind erosion Forces in the United States and Their Use in Predicting Soil Loss.
2. Agriculture Information Bulletin 354, How to Control Wind Erosion, USDA-ARS.

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NOTE:

Quantities are provided for informational purposes only and are based upon comparison of existing ground to proposed grades shown hereon. Contractor to make his own analysis prior to placing a bid on grading work / earthwork.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 11/17/10

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11-15-10

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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 OF ENGINEER: BRUCE D. BURTON, P.E. 19184 — DATE 11/3/10

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER: George & Shirley Harbin — DATE 11/11/10

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO: 19184, EXPIRATION DATE: 9/30/2011.

STATE OF MARYLAND — BRUCE DAVID BURTON — NO. 19184 — REGISTERED — PROFESSIONAL ENGINEER

SIGNED: BRUCE D. BURTON

DATE 11/3/10

REVISIONS

No.	Date	Description

LDE Inc.
Engineers, Surveyors, Planners
9250 Rumsey Road, Suite 106 Columbia, Maryland - 21045
(410)715-1070 - (301)596-3424 - FAX(410)715-9540

DESIGNED: EDS
DRAWN: LDE
CHECKED: BDB
DATE: 8/2010

ENVIRONMENTAL CONCEPT PLAN
GRADING, SOIL EROSION & SEDIMENT CONTROL PLAN - DETAILS
HARBIN ACRES
LOTS 4, 5 AND 6
A Resubdivision of Harbin Acres Lot 3 and a revision to Lot 4
PLAT #19702 (# 15055 Old Frederick Road)
Tax Map No. 8 Grid No. 9 Parcel 19 & 350
4th Election District - Howard County, Maryland
Zoned: RC-DEO
Previous Submittals: F81-42, VP76-95, WP07-14, F07-62

OWNER/DEVELOPER: George & Shirley Harbin, 15055 Old Frederick Road, Woodbine, MD 21794, 410-489-4158

SCALE: As Shown
DRAWING: 2 OF 3
JOB NO.: 09-003
FILE NO.: ECP 11-

ECP-11-014

F:\09-003\dwg\09-003 (2) ECP.dwg, 8/20 DET, 11/2/2010 4:48:07 PM

INSPECTION CHART FOR DISCONNECTION OF ROOFTOP RUNOFF

STAGE	Engineer's Approval	
	Initials	Date
1. Prior to stabilization, scarify surface or retotill any compacted soil to a min. depth of 4" to ensure soil permeability. Tight, clayey soils may require soil amendments		
2. Prior to Use & Occupancy, verify sizing for treatment areas area met		
3. Prior to Use & Occupancy, verify permanent stabilization has been established		

Please notify certifying engineer 48 hours prior to commencing construction

Engineer's Name: LDE, Inc.

Phone Number: 410-715-1070

MAINTENANCE CRITERIA FOR DISCONNECTION OF ROOFTOP RUNOFF

MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION.

INSPECTION CHART FOR DISCONNECTION OF NON ROOFTOP RUNOFF

STAGE	Engineer's Approval	
	Initials	Date
1. Prior to Use & Occupancy, verify treatment areas		
2. Prior to Use & Occupancy, verify permanent stabilization has been established		

Please notify certifying engineer 48 hours prior to commencing construction

Engineer's Name: LDE, Inc.

Phone Number: 410-715-1070

CONSTRUCTION CRITERIA FOR DISCONNECTION OF NON-ROOFTOP RUNOFF

1. Erosion and Sediment control practices shall not be located in areas designated for non-rooftop disconnections.

2. Prior to stabilization, scarify surface or retotill any compacted soil to a min. depth of 4" to ensure soil permeability. Tight, clayey soils may require soil amendments

MAINTENANCE CRITERIA FOR DISCONNECTION OF NON-ROOFTOP RUNOFF

MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION.

INSPECTION CHART FOR DRY WELLS

STAGE	Engineer's Approval	
	Initials	Date
1. During excavation to subgrade.		
2. During placement of backfill and perforated inlet pipe and observation well.		
3. During placement of geotextiles and all filter media		
4. During construction of the appurtenant conveyance.		
5. Upon completion of final grading and establishment of permanent stabilization.		

Please notify certifying engineer 48 hours prior to commencing construction

Engineer's Name: LDE, Inc.

Phone Number: 410-715-1070

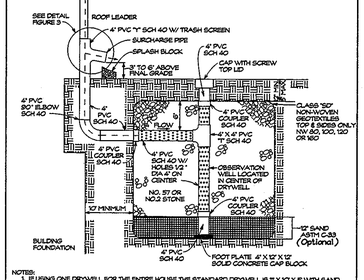
CONSTRUCTION CRITERIA FOR DRY WELLS

1. Final grading for installation should not take place until surrounding site is stabilized. If this can not be accomplished, runoff from disturbed areas shall be diverted around proposed pavement location.
2. Excavation shall be conducted in dry conditions with equipment located outside of the practice to minimize bottom and sidewall compaction. Construction of a dry well shall be performed with lightweight, wide tracked equipment to minimize disturbance and compaction. Excavated materials shall be placed in a contained area
3. A subsurface prefabricated chamber may be used.
4. The bottom shall be as level as possible to minimize pooled water in small areas that may reduce overall infiltration and longevity
5. Filter cloth shall not be installed on the bottom of the well. Non woven filter cloth should be used to line the top and sides of the dry well to prevent the pore space between the stones from being blocked by the surrounding native material
6. The aggregate shall be composed of an 18 to 48 inch layer of clean washed, open graded material with 40% porosity (ASTM D448 4, 5 or 6 stone or equal.

MAINTENANCE CRITERIA FOR DRY WELLS

- Dry Wells shall have a maintenance plan and shall be protected by easement, deed restriction, ordinance, or other legal measures preventing its neglect, adverse alteration and removal.
- Dry Wells shall be inspected and cleaned annually; to include pipes, gutters, downspouts and all filters.
- Ponding, standing water or algal growth on the top of a dry well may indicate failure due to sedimentation in the gravel media. If water ponds for more than 48 hours after a major storm or more than 6 inches of sediment has accumulated, the gravel media should be excavated and replaced.

FIGURE 2
STANDARD DRYWELL

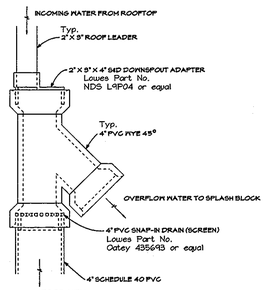


NOTES:
1. IF USING ONE DRYWELL FOR THE ENTIRE HOUSE THIS STANDARD DRYWELL IS 9' X 10' X 8' WITH SAND FILLING THE BOTTOM FOOT. THIS PROVIDES MINIMUM 850 (?) STORMWATER CONTROL FOR 2000 SQUARE FEET OF ROOFTOP.

PROPOSED DRY WELL 7' X 7' X 4' Deep, sized for 825 SF Imp +/-

2. MINIMUM SETBACKS:
   A. 100 FT FROM WELLS
   B. 25 FT FROM SEPTIC AREAS
   C. 10 FT FROM BUILDINGS
3. FROM THE DOWNSPOUT TO THE DRYWELL THE DRAIN PIPE MUST BE AT LEAST 6' BELOW GRADE.
4. THE LOCATIONS AND SIZE OF ALL DRYWELLS MUST BE SHOWN ON THE GRADING PLOT PLAN.

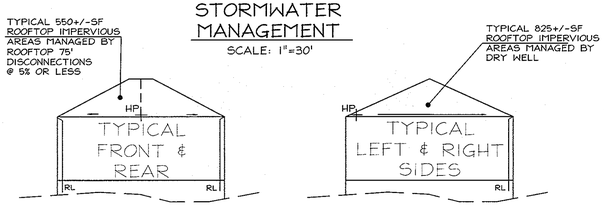
FIGURE 3
STANDARD DRYWELL DOWNSPOUT FITTINGS



NOTES:
1. THE SNAP IN SCREEN IS REQUIRED TO PREVENT CLOGGING OF THE DRYWELL WITH DEBRIS.

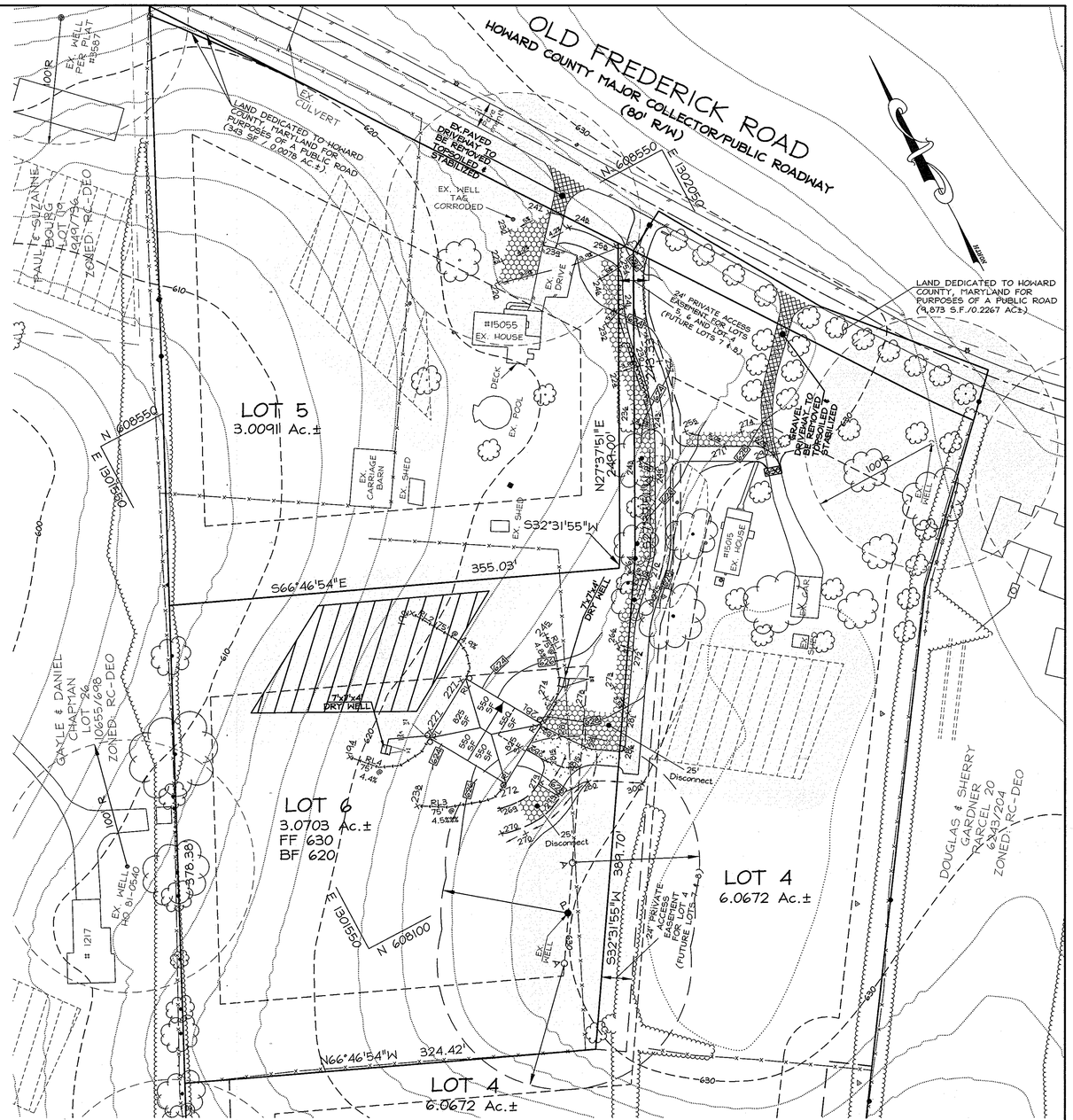
HARBIN STORMWATER MANAGEMENT

SCALE: 1"=30'



SWM LEGEND

- NON-PERMEABLE PAVEMENT (LOT 6 DRIVE)
- NON-ROOFTOP DISCONNECTION AREAS
- NON-PERMEABLE PAVEMENT (UIC DRIVE)
- ROOFTOP DISCONNECTION FROM ROOF LEADER 500 SF MAX. (RL ⊙···· 75' @ 5%+/-)
- HEALTH DEPARTMENT STORMWATER MANAGEMENT SETBACK / EXCLUSION ZONE



STORMWATER MANAGEMENT PLAN VIEW

Scale 1" = 50'

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 11/17/10

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11-15-10

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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 OF ENGINEER: BRUCE D. BURTON, P.E. 19184 — DATE 11/3/10

DEVELOPER'S CERTIFICATE

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SIGNATURE OF DEVELOPER: George E. Harbin, Shirley Harbin — DATE 11/11/10

George Harbin, Shirley Harbin

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19184, EXPIRATION DATE: 6/30/11.

STATE OF MARYLAND · BRUCE DAVID BURTON · NO. 19184 · REGISTERED PROFESSIONAL ENGINEER

SIGNED Bruce D. Burton

BRUCE D. BURTON

DATE 11/3/10

REVISIONS

No.	Date	Description

LDE Inc.
Engineers, Surveyors, Planners
9250 Rumsey Road, Suite 106 Columbia, Maryland - 21045
(410)715-1070 - (301)596-3424 - FAX(410)715-9540

DESIGNED: EDS	ENVIRONMENTAL CONCEPT PLAN STORMWATER MANAGEMENT NOTES & DETAILS **HARBIN ACRES** **LOTS 4, 5 AND 6** A Resubdivision of Harbin Acres Lot 3 and a revision to Lot 4 PLAT #19702 (# 15055 Old Frederick Road) Tax Map No. 8 Grid No. 9 Parcel 19 & 350 4th Election District - Howard County, Maryland Zoned: RC-DEO Previous Submittals: F81-42, VP76-95, WP07-14, F07-62
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ECP-11-014