



VICINITY MAP
SCALE: 1" = 2,000'

BENCHMARKS

171B	ELEV. 516.27	N = 529,194.76	E = 1264,004.81
171C	ELEV. = 418.40	N = 541,084.90	E = 1263,544.62

ADC MAP: 4815 GRID: J5

PRELIMINARY STORMWATER MANAGEMENT REQUIREMENT

DEVELOPMENT AREA:	11.43 AC.
% IMPERVIOUS:	65%
AREA DRAINING TO SWM DEVICES:	11.8 AC.
PRELIMINARY ESDV REQUIRED:	1.25 AC-FT

PRELIMINARY STORMWATER MANAGEMENT PROVIDED BY DEVICE

MICRO-BIORETENTION:	0.06 AC-FT
GRAVEL WETLAND:	0.45 AC-FT
PERVIOUS PAVEMENT:	0.10 AC-FT
GRASS SWALES:	0.003 AC-FT
DRY WELLS:	0.13 AC-FT
PERVIOUS DRIVEWAYS:	0.16 AC-FT
FOREST CONSERVATION EASEMENT:	0.01 AC-FT
ROOFTOP DISCONNECT:	0.004 AC-FT
TOTAL:	0.947 AC-FT

*NOTE: ESDV PROVIDED IS LESS THAN REQUIRED DUE TO 75% OF ESDV STORAGE REQUIRED IN CERTAIN FACILITIES

ESD DESIGN NARRATIVE:
THE STORMWATER MANAGEMENT FOR THE ENTIRE SITE WILL BE HANDLED WITH ENVIRONMENTAL SITE DESIGN. THE SITE WILL BE 65% IMPERVIOUS WITH A FE OF 2' UNLESS IN D SOILS. ALL OF THE TOPHOUSE UNITS WILL BE TREATED BY A PERVIOUS PAVEMENT DRIVEWAY THAT TREATS THE DRIVEWAY AND THE FRONT HALF OF THE HOUSE AND A DRYWELL THAT TREATS THE BACK HALF OF THE HOUSE. OPEN SPACE LOCATED NEAR THE APARTMENT BUILDINGS AND CLUBHOUSE WILL BE USED FOR SMALL MICRO-BIORETENTION FACILITIES TO PROVIDE PARTIAL TREATMENT FOR THE ROOFTOPS AND PATIOS. PERVIOUS PAVEMENT WILL BE PLACED IN LOW TRAFFIC AREAS SUCH AS PARKING SPACES AND DEAD END ALLEYS WITHOUT TRASH COLLECTION. THIS PERVIOUS PAVEMENT WILL PROVIDE PARTIAL TO FULL TREATMENT FOR ALL OF THE AREAS DRAINING TO IT. GRASS SWALES LOCATED BEHIND THE UNITS WILL PROVIDE PARTIAL TREATMENT FOR THE YARD AREAS DRAINING TO THEM. WITH THE EXCEPTION OF THE AREA DRAINING TO MICRO-BIORETENTION FACILITY 3 AND THE EXISTING DRIVE, ALL OF THE DRAINAGE FROM THE SITE WILL BE PIPED TO THE GRAVEL WETLAND LOCATED IN OPEN SPACE NEAR THE STREAM. THIS FACILITY HAS BEEN DESIGNED TO PROVIDE THE REMAINDER OF THE ESDV REQUIRED FOR THE SITE. A SPLITTER WILL DIRECT THE REQUIRED VOLUME TO THE FACILITY AND THE REMAINDER WILL BYPASS. THIS GRAVEL WETLAND PROVIDES 0.45 AC-FT OF STORAGE, WHICH IS EQUIVALENT TO 4 ACRES OF DRAINAGE AT 65% IMPERVIOUS AND 2' FE. SINCE THE NATURAL FLOW PATTERN FOR THE SITE IS TO DRAIN TO THE STREAM HEAD, IT DID NOT SEEM NECESSARY TO SPLIT THE GRAVEL WETLAND INTO TWO FACILITIES, BOTH OUTLETTING AT THE STREAM HEAD. THE EXISTING DRIVE WILL CONTINUE TO DRAIN TO THE TWO STORM DRAIN INLETS NEAR THE INTERSECTION AT NORTH RIDGE ROAD. NO NEW IMPERVIOUS AREA WILL DRAIN TO THESE INLETS UNTREATED.

SINCE THE ENTIRE SITE IS WOODED, IT IS NOT POSSIBLE TO PROTECT ALL OF THE NATURAL RESOURCES ON SITE. THE STREAM ON SITE WILL BE PROTECTED WITH A 50' STREAM BUFFER THAT WILL NOT BE DISTURBED. ALL OF THE WOODED AREA THAT IS CUT DOWN WILL BE REPLACED IN ACCORDANCE WITH THE HOWARD COUNTY FOREST CONSERVATION MANUAL. IF THE ENTIRE FOREST CONSERVATION REQUIREMENT CAN NOT BE MET ON SITE, IT WILL BE PROVIDED AT ANOTHER LOCATION WITHIN HOWARD COUNTY. THE NATURAL FLOW PATTERN FOR THE SITE WILL REMAIN UNCHANGED. THE SITE WILL CONTINUE TO DRAIN TO THE STREAM AT THE EASTERN PART OF THE SITE. THE AREA DRAINING TO NORTH RIDGE ROAD WILL CONTINUE TO DRAIN TO NORTH RIDGE ROAD. THE AMOUNT OF IMPERVIOUS AREA ON SITE HAS BEEN KEPT TO A MINIMUM. ALL OF THE DRIVEWAY, SIDEWALKS AND DRIVE ISLES ARE THE MINIMUM SIZE ALLOWED. PAVEMENT IN LOW TRAFFIC AREAS AND PARKING SPACES WILL BE PERVIOUS. THE SEDIMENT AND EROSION CONTROL HAS BEEN PRELIMINARY DESIGNED SO THAT IT WILL NOT REQUIRE ANY ADDITIONAL DISTURBANCE TO THE SITE.

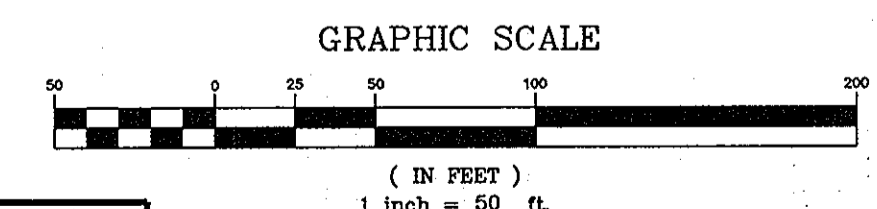
LEGEND

- 600 --- EXISTING CONTOUR
- 500 --- PROPOSED CONTOUR
- SB --- STREAM BUFFER
- CENTERLINE OF STREAM
- LIMIT OF DISTURBANCE
- EXISTING TREELINE
- PROPOSED TREELINE
- FP --- 100 YEAR FLOODPLAIN
- EXISTING PAVEMENT ON SITE
- EXISTING BUILDING
- EXISTING EASEMENT
- PROPOSED BUILDING
- SOIL BOUNDARY
- SOIL TYPE
- STEEP SLOPES 15%-25%
- STEEP SLOPES 25%+
- CURB & GUTTER
- PROP. SEWER LINE
- EX. 8" S --- EX. SEWER MAIN
- WATER LINE
- EX. 8" W --- EX. WATER MAIN
- PROP. STORM DRAIN
- EX. STORM DRAIN
- SIDEWALK
- PAVEMENT
- BUILDING RESTRICTION LINE
- PROPERTY LINE
- EX. EDGE OF PAVEMENT

TYPES OF DEVICES:
 MBR - MICRO-BIORETENTION
 GW - GRAVEL WETLAND
 PP - PERVIOUS PAVEMENT
 S - GRASS SWALE
 D - DRY WELL
 P.D.W. - PERVIOUS DRIVEWAY

ESD DRAINAGE DIVIDE
 TYPE
 P.D.W. - ESD SWM DEVICE

APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF SUBSEQUENT OR ASSOCIATED SUBDIVISION PLANS OR PLATS AND/OR SITE DEVELOPMENT PLANS. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY ZONING AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN STAGES. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.



GENERAL NOTES

1. SITE ANALYSIS DATA SHEET	14,084 AC.
AREA OF THE SITE	N/A
WETLANDS AND THEIR BUFFER	N/A
FLOODPLAINS AND THEIR BUFFER	N/A
FORESTS	1,254 AC.
STEEP SLOPES 15% AND GREATER	1,254 AC.
ERODIBLE SOILS PROJECT AREA	0.04 AC.
LIMIT OF DISTURBANCE AREA	11.71 AC.
PROPOSED SITE USES	RESIDENTIAL (SENIOR HOUSING)
PROPOSED IMPERVIOUS AREA	7.54 AC.
2. APPLICABLE DPZ FILE REFERENCE:	NONE

SOIL TYPES

BaA	Shale silt loam, 0 to 3 percent slopes
GsB	Shale silt loam, 3 to 8 percent slopes
GsB	Shale silt loam, 8 to 15 percent slopes
Mac	Manor Loam, 0 to 15 percent slopes
VaF	Udorthents, Highway, 0 to 65 percent slopes

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development: *[Signature]* Date: 2/17/12

Chief, Development Engineering Division: *[Signature]* Date: 2/17/12

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 200 - BURTNSVILLE OFFICE PARK
BURTNSVILLE, MARYLAND 20886
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-889-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

PREPARED FOR:
NORTHTRIDGE, LLC
24012 Frederick Road
Suite 200
Clarksburg, Maryland 20871
Jonathan W. Soule
301-428-0800

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 12475
EXPIRATION DATE: MAY 28, 2012

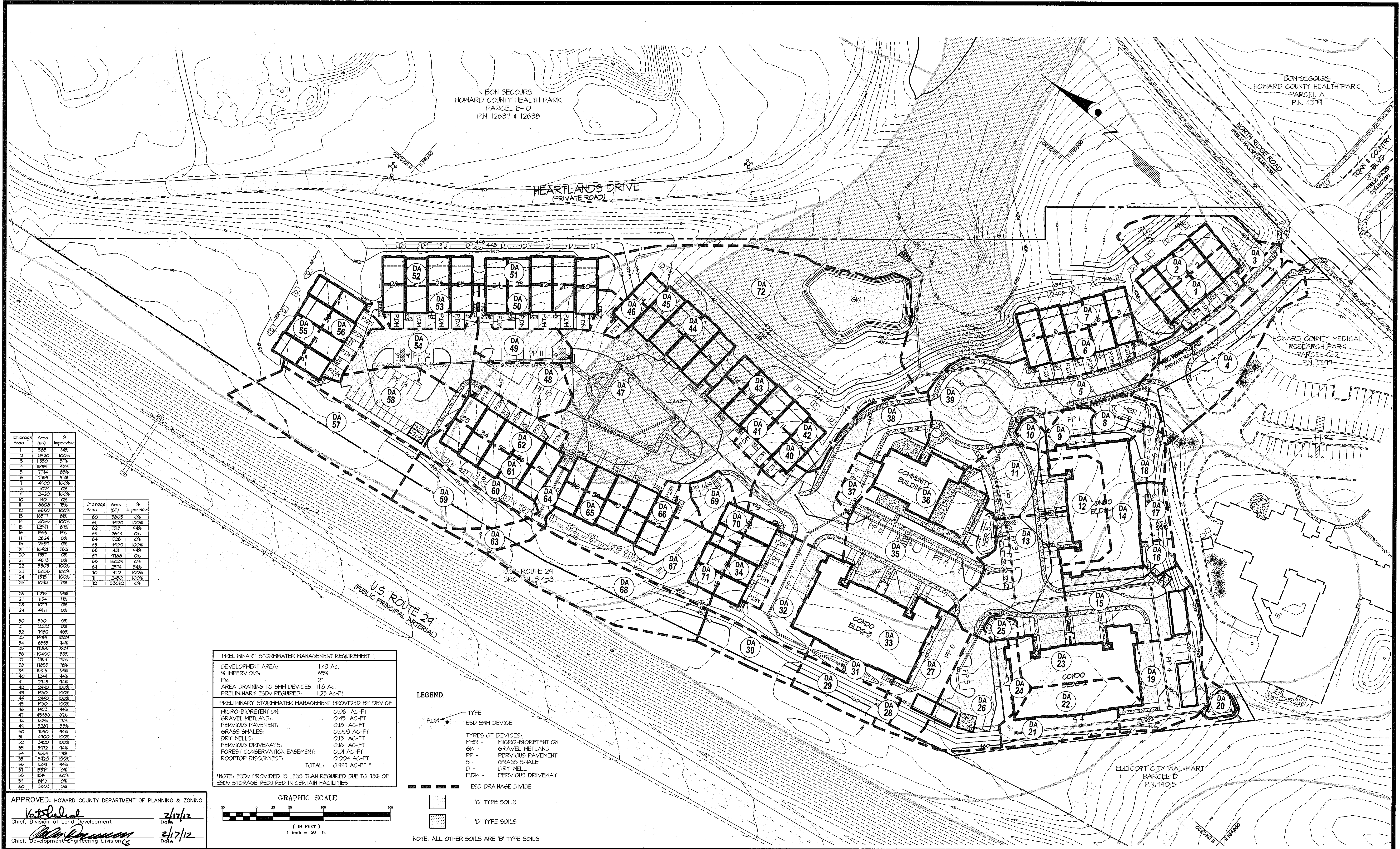


ENVIRONMENTAL CONCEPT PLAN

HOWARD COUNTY MEDICAL RESEARCH PARK
PARCEL C-4
PLAT NO: 11833

SCALE: 1"=50'
ZONING: POR
DATE: FEB., 2012
TAX MAP - GRID: 17 - 23
G. L. W. FILE No.: 11005
SHEET: 1 OF 3

HOWARD COUNTY, MARYLAND
ELECTION DISTRICT No. 2



Drainage Area	Area (SF)	% Impervious
1	583	44%
2	3420	100%
3	1850	31%
4	1518	42%
5	1784	29%
6	7491	94%
7	4900	100%
8	4024	0%
9	2420	100%
10	1140	0%
11	6508	79%
12	6660	100%
13	16911	81%
14	3059	100%
15	12941	21%
16	1836	14%
17	2624	0%
18	2691	0%
19	1043	56%
20	1991	0%
21	4613	0%
22	3009	100%
23	5056	100%
24	1915	100%
25	1045	0%
26	11215	61%
27	764	71%
28	271	0%
29	4711	0%
30	5601	0%
31	2932	0%
32	2882	46%
33	14714	100%
34	6399	94%
35	11299	29%
36	10420	25%
37	2854	13%
38	7895	76%
39	1925	63%
40	1244	44%
41	2445	44%
42	2440	100%
43	1960	100%
44	2440	100%
45	1820	100%
46	1423	44%
47	4546	67%
48	6248	76%
49	5267	28%
50	3900	44%
51	4900	100%
52	3420	100%
53	5172	44%
54	3554	79%
55	5420	100%
56	3841	44%
57	1937	0%
58	1094	60%
59	816	0%
60	3903	0%

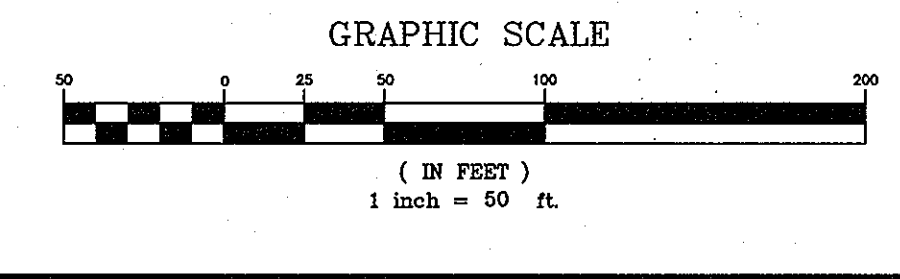
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 Chief, Development Engineering Division

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TOTAL:	0.997 AC-FT*

*NOTE: ESDV PROVIDED IS LESS THAN REQUIRED DUE TO 15% OF ESDV STORAGE REQUIRED IN CERTAIN FACILITIES



LEGEND

TYPE
 P.D.W. - ESD SHM DEVICE

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ESD DRAINAGE DIVIDE

'C' TYPE SOILS
 'D' TYPE SOILS

NOTE: ALL OTHER SOILS ARE 'B' TYPE SOILS

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
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DATE	REVISION	BY	APP'R

PREPARED FOR:
 NORTHRIDGE, LLC
 24012 Frederick Road
 Suite 200
 Clarksburg, Maryland 20871
 Jonathan W. Soule
 301-428-0800

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 12479
 EXPIRATION DATE: MAY 26, 2012



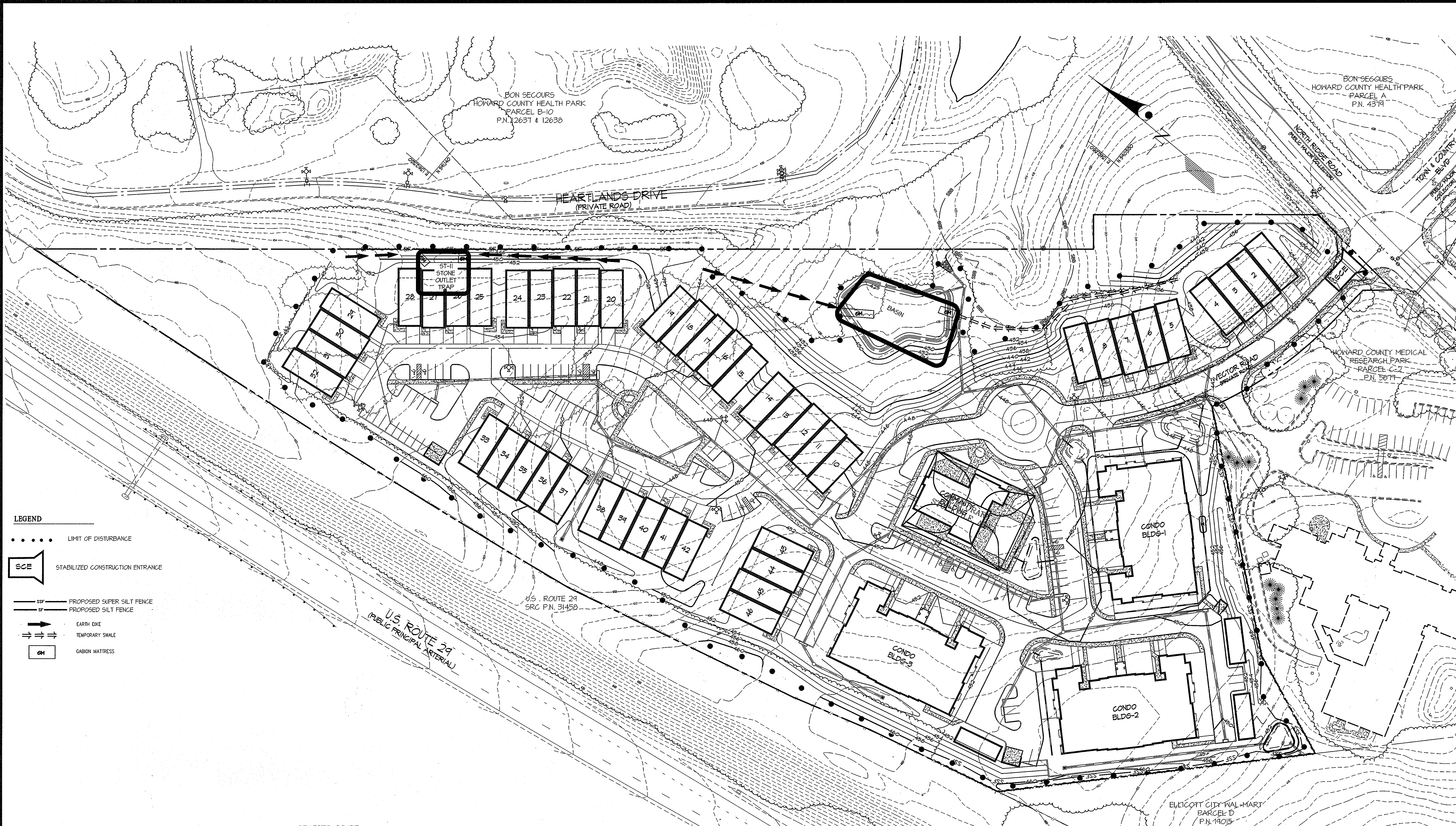
ENVIRONMENTAL CONCEPT PLAN - DRAINAGE AREA MAP

HOWARD COUNTY MEDICAL RESEARCH PARK
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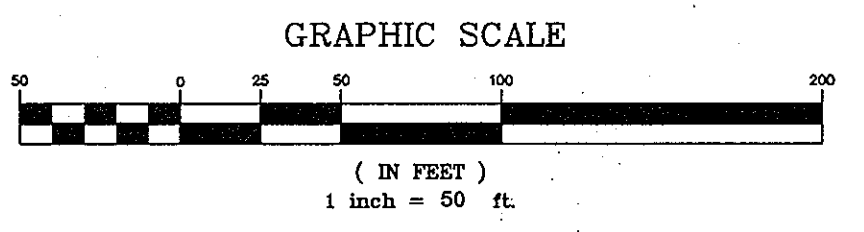
SCALE: 1"=50'
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 TAX MAP - GRID: 17 - 23
 SHEET: 2 OF 3

G. L. W. FILE NO. 11005

HOWARD COUNTY, MARYLAND



- LEGEND**
- LIMIT OF DISTURBANCE
 - SCE STABILIZED CONSTRUCTION ENTRANCE
 - SSF PROPOSED SUPER SILT FENCE
 - SF PROPOSED SILT FENCE
 - EARTH DIKE
 - TEMPORARY SWALE
 - GM GABION MATRESS



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Keith L. ... 2/17/12
 Chief, Division of Land Development Date

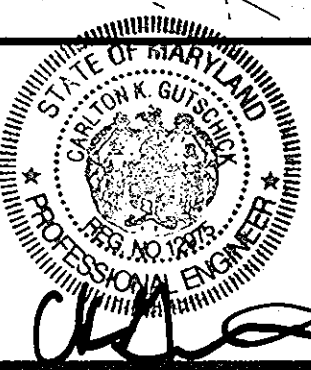
... 2/17/12
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 LICENSE NO. 12478
 EXPIRATION DATE: MAY 28, 2012



SEDIMENT CONTROL CONCEPT PLAN

HOWARD COUNTY MEDICAL RESEARCH PARK
PARCEL C-4
 PLAT NO: 11833

ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	POR	11005
DATE	TAX MAP - GRID	SHEET
FEB, 2012	17 - 23	3 OF 3