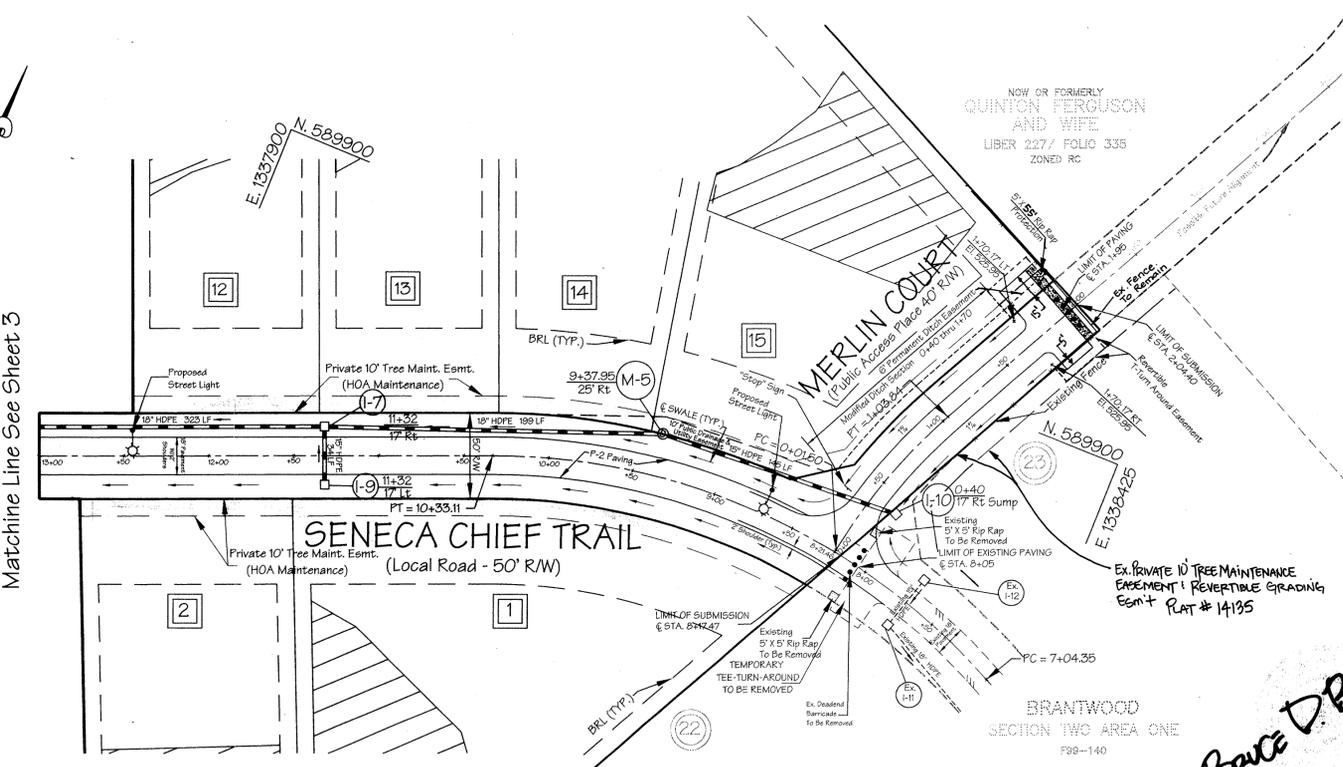




Street Name	Symbol	Station	Offset	Lamp Type	Fixture Type	Pole Type
Seneca Chief Trail	⊙	8+70	15' RT	150 W HPS VAPOR	PERSONAL (color)	30' BRONZE FIBERGLASS - 12' ARM
Seneca Chief Trail	⊙	12+45	15' RT	150 W HPS VAPOR	PERSONAL (color)	30' BRONZE FIBERGLASS - 12' ARM

- NOTES:
- For street tree locations, see sheet 21.
  - All street trees and/or street signs shall be located 5 feet minimum from proposed drainage and utility structures.
  - There shall be a minimum of 20 feet between street lights and street signs.
  - For storm drain profiles refer to sheet 5.
  - All future driveway crossings within the Public R/W shall be Approved at the time of Building Permit.
  - For Traffic Control Sign Location Table, see sheet 4.

Name & Station	Radius	Delta	Length	Tangent	Chord Bearing & Dist.
Seneca Chief Trail - 8+17.47 - 10+33.11	385.00'	32° 05' 31"	215.64'	110.73'	N83° 51' 38" E - 212.84'
Ex. Seneca Chief Trail - 7+04.36 - 10+33.11	385.00'	48° 56' 37"	328.77'	175.16'	N87° 43' 20" W - 318.87'
Merlin Court - 0+01.50 - 1+03.83	330.00'	17° 46' 10"	102.34'	51.59'	N18° 11' 52" E - 101.93'



PLAN  
1" = 50'

- LEGEND:
- Proposed Sewage Disposal Area
  - Drainage Flow and Swale
  - Prop. Lot Nos.
  - Ex. Lot Nos.
  - Ex. Sewage Disposal Area
  - Tree Maint. Esmt.
  - Proposed Storm Drain

- PAVING LEGEND:
- P-2 Paving Section (Howard County)
  - Existing Paving F99-140

APPROVED: Department of Planning & Zoning  
Chief, Division of Land Development

APPROVED: Department of Public Works for Storm Drainage Systems and Roads  
Chief, Bureau of Highways

OWNERS:

Parcel 172  
Brantwood LLC  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045

Parcel 45  
Hugh F. Cole, Jr.  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045

Parcel 205  
Brantwood LLC  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045

LDE, INC.  
9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: EDS  
DRAWN: JLM KBW  
CHECKED: BDB  
DATE: 4/2001

Plan & Profile  
Seneca Chief Trail 8+05 thru 13+00 & Merlin Court 0+00 thru 1+03.83

**BRANTWOOD**  
Section Three - Area One  
Lots 1-16, Preservation Parcels "A" Thru "D"  
Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C"

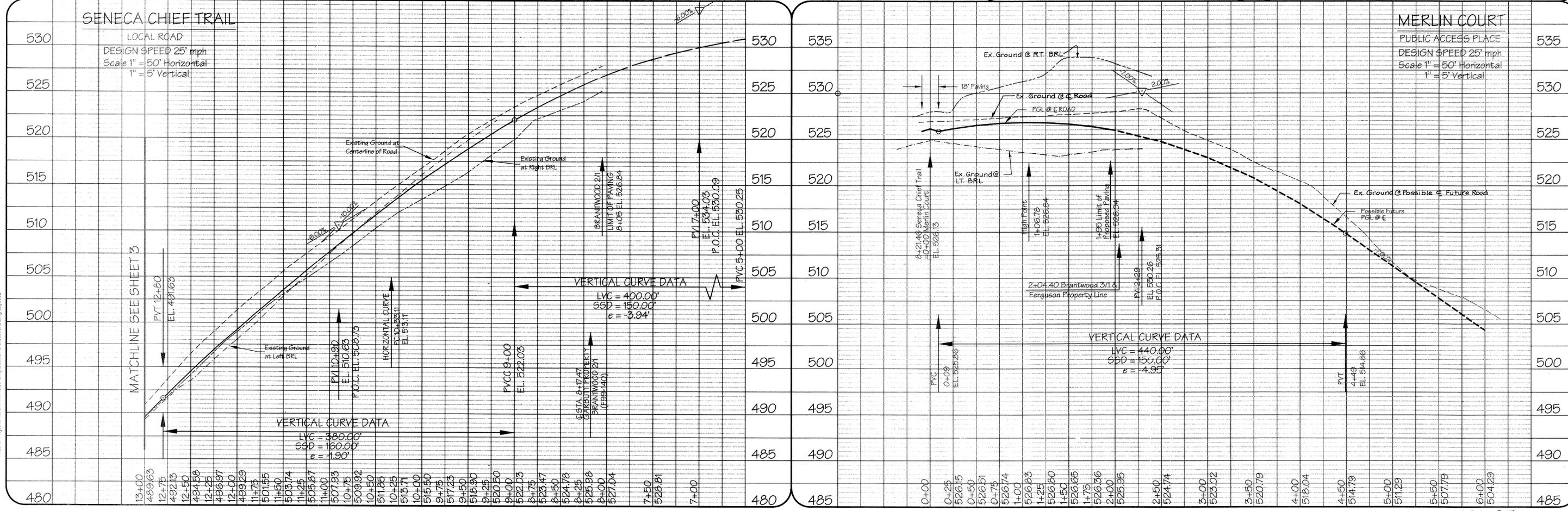
3rd Election District - Howard County, Maryland  
Tax Map No. 16 - Grid No. 21 - Parcels 45, 172 & 205

Previous Submittals: WF 90-96, F 90-128, WF 99-55, F 99-140, S 99-09, WF 00-55, P00-03

Developer: BRANTWOOD, LLC  
8835 P Columbia 100 Parkway  
Columbia, Maryland 21045  
(410) 750-0810

SCALE: AS SHOWN  
DRAWING: 2 of 23  
JOB NO.: 98-040.4  
FILE NO.: F01-67

By	Date	No.	Description
REVISIONS			



FileAnd Project: K2BRANTWOOD\Section 3\AreaOne3.dwg Layout2

- NOTES:
- For street tree locations, see sheet 21.
  - All street trees and/or street signs shall be located 5 feet minimum from proposed drainage and utility structures.
  - There shall be a minimum of 20 feet between street lights and street signs.
  - For storm drain profiles refer to sheet 5.
  - All future driveway crossings within the Public R/W shall be Approved at the time of Building Permit.
  - For Traffic Control Sign Location Table, see sheet 4.

# PLAN

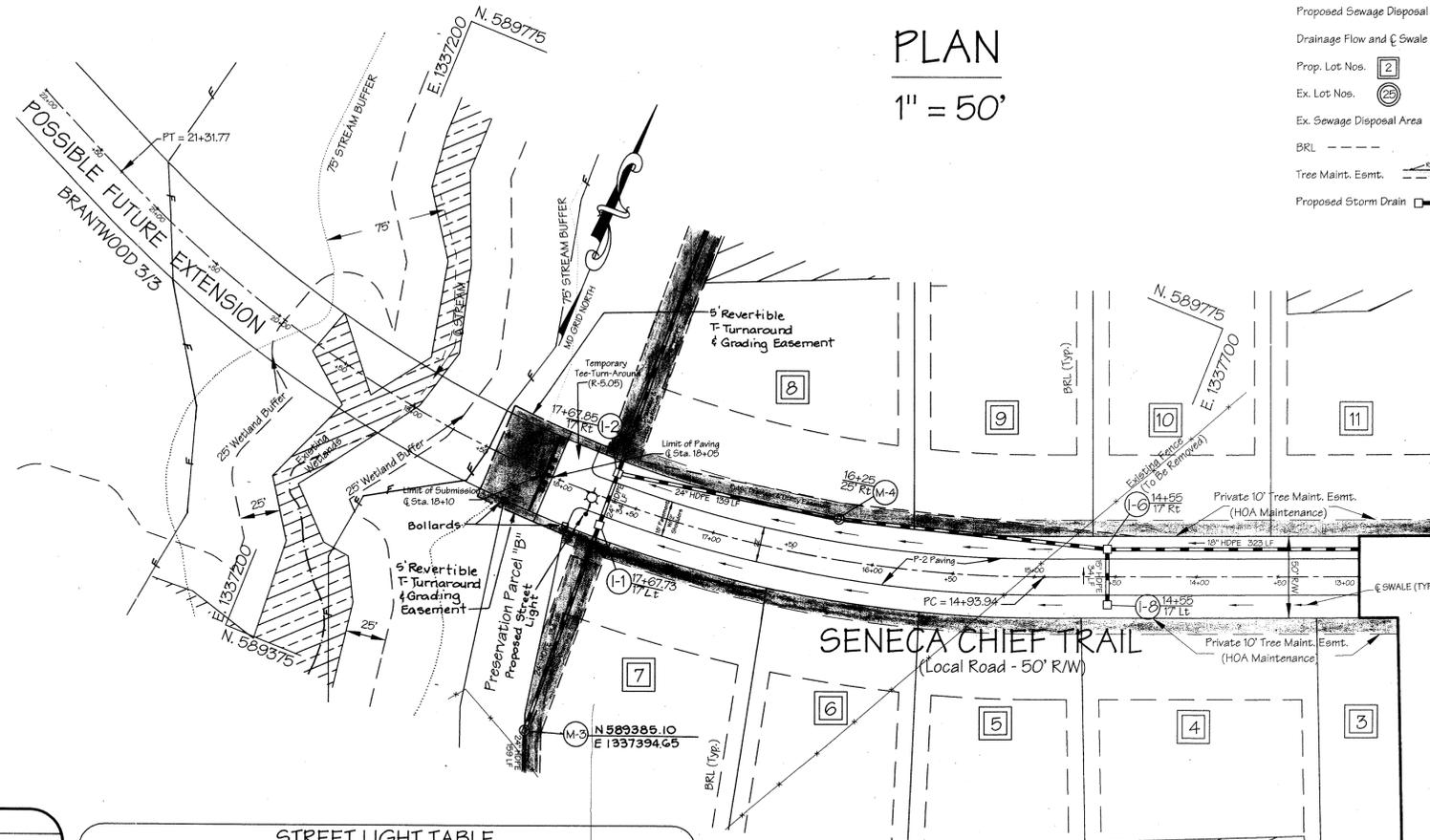
1" = 50'

LEGEND:

- Proposed Sewage Disposal Area
- Drainage Flow and E Swale
- Prop. Lot Nos.
- Ex. Lot Nos.
- Ex. Sewage Disposal Area
- BRL
- Tree Maint. Esmt.
- Proposed Storm Drain

CENTERLINE CURVE DATA					
Name & Station	Radius	Delta	Length	Tangent	Chord Bearing & Dist.
Seneca Chief Trail - 14+93.94 - 21+31.77	775.00'	47°09'16"	637.83'	338.22'	N88°36'30"W - 619.97'

Station	Northing	Easting
PC 14+93.94	589592.7863	1337655.4170
PT 21+31.77	589607.8423	1337035.6250
L.O.P. 18+05	589535.4872	1337351.8002



Matchline See Sheet 2

PAVING LEGEND:  
P-2 Paving Section  
(Howard County)

STREET LIGHT TABLE						
Street Name	Symbol	Station	Offset	Lamp Type	Fixture Type	Pole Type
Seneca Chief Trail		17+75	15 LT	150 W HPS VAPOR	PENDANT FIXTURE (CUT OFF)	30' BRONZE FIBERGLASS - 12' ARM

By	Date	No.	Description
REVISIONS			

APPROVED: Department of Planning & Zoning  
*[Signature]* 5/1/01  
Chief, Division of Land Development

*[Signature]* 5/3/01  
Chief, Development Engineering Division

OWNERS:

Parcel 172  
Brantwood LLC  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045

Parcel 45  
Hugh F. Cole, Jr.  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045

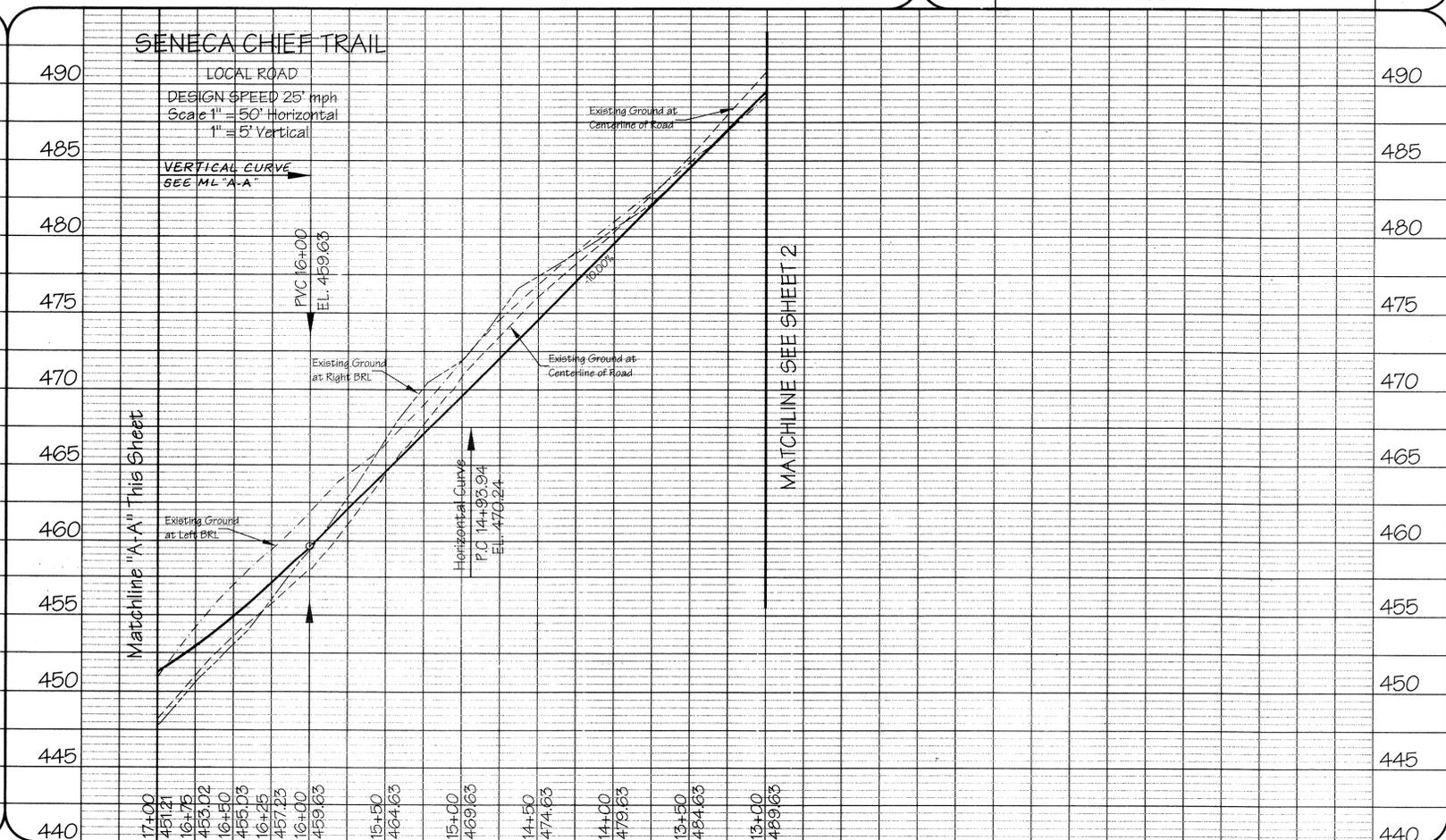
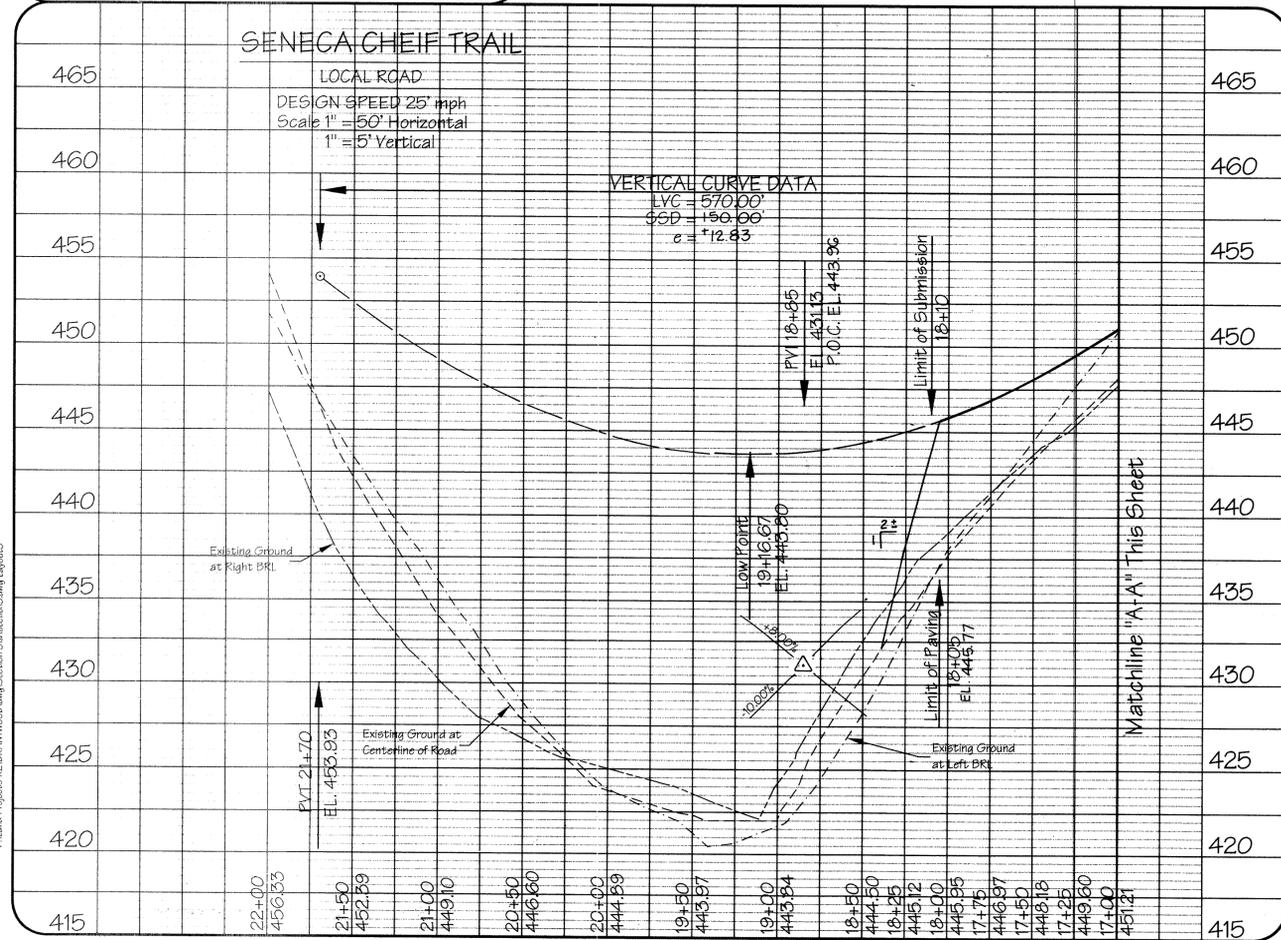
Parcel 205  
Brantwood LLC  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045

APPROVED: Department of Public Works for Storm Drainage Systems and Roads  
*[Signature]*

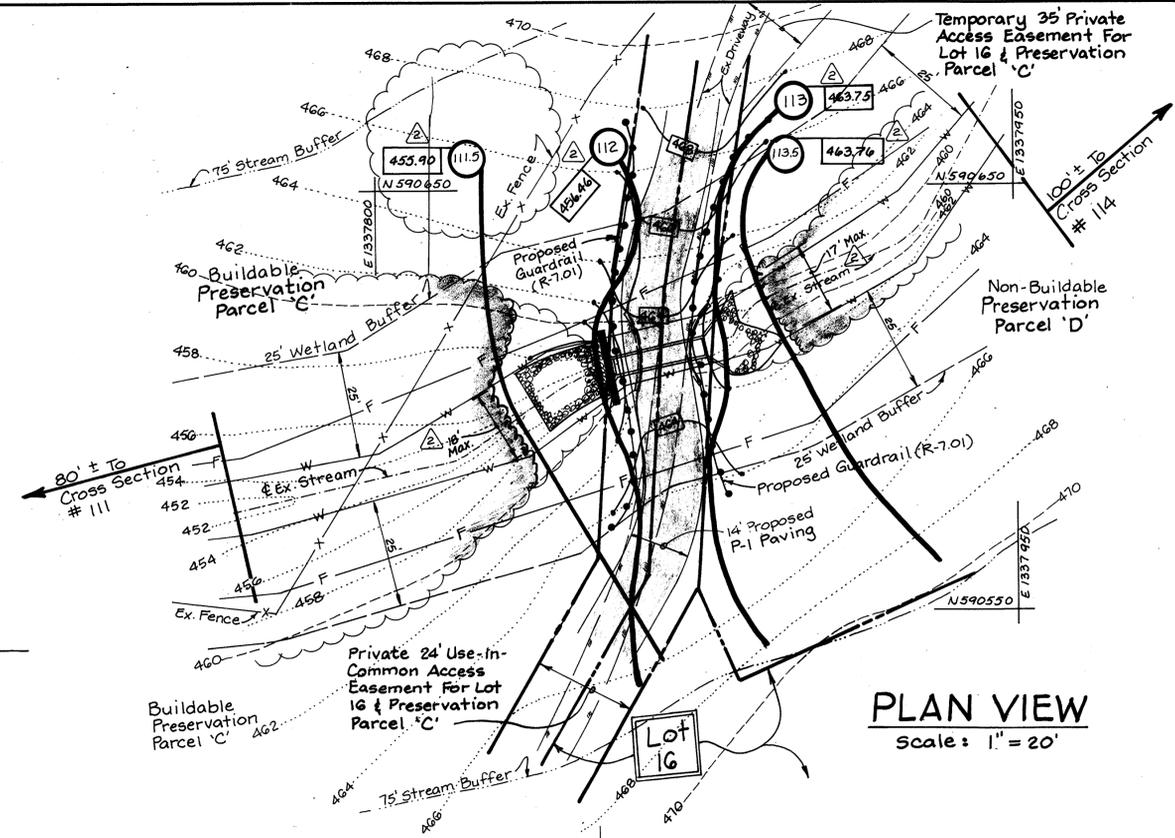
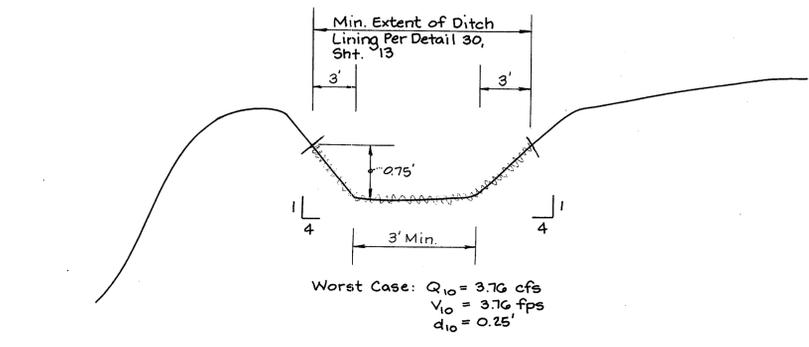
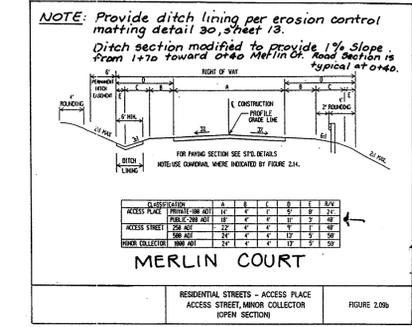
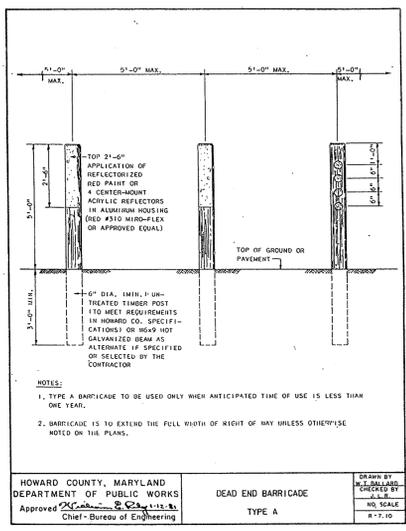
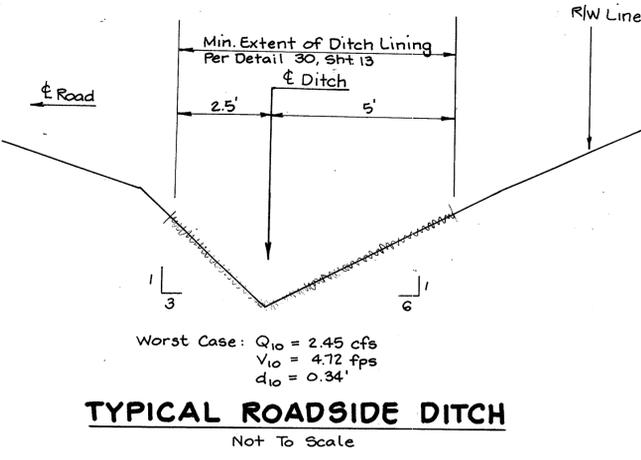
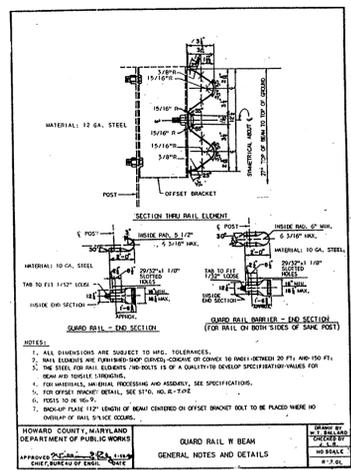
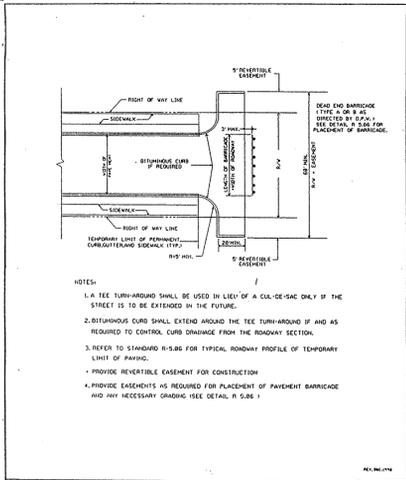
LDE, INC.  
9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

*Brace D. Bupp*  
4/1/01

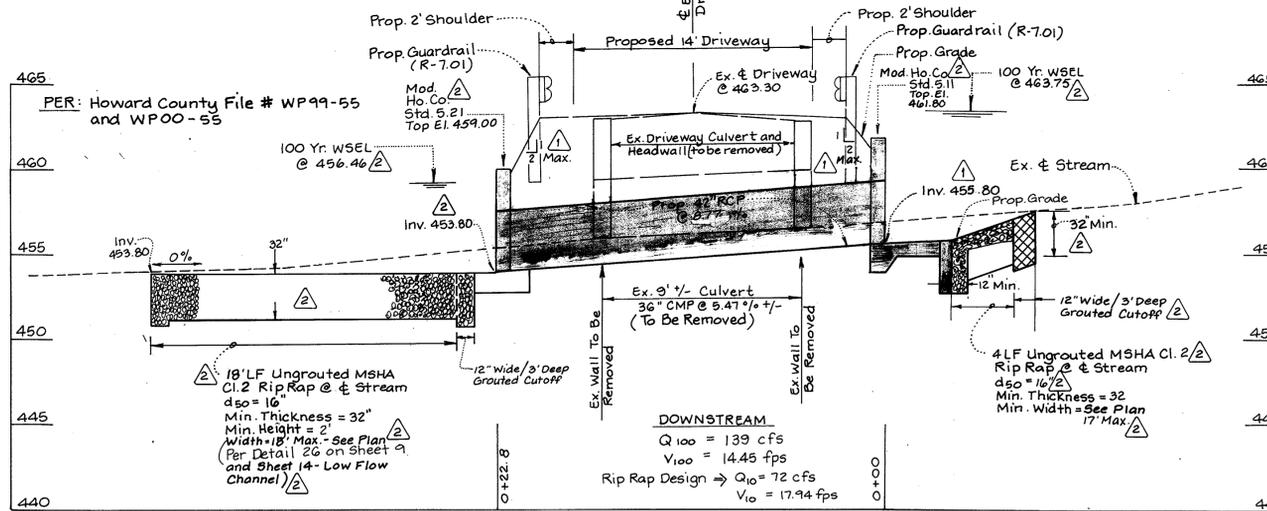
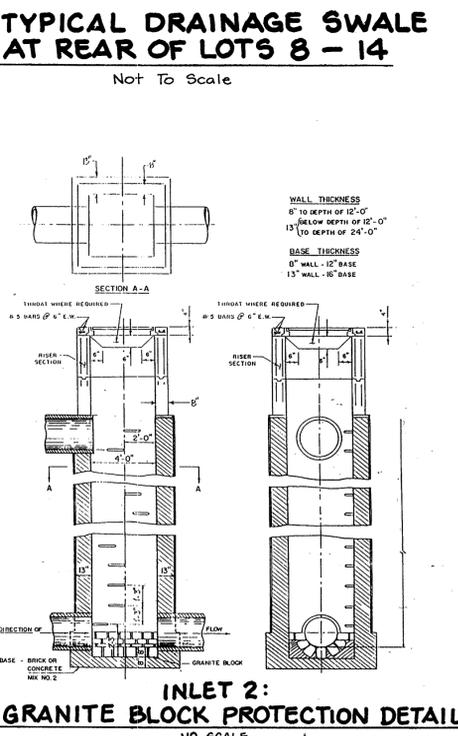
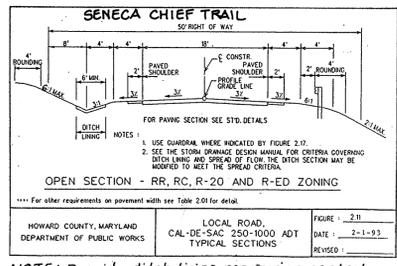
DESIGNED	EDS	SCALE	AS SHOWN
DRAWN	JLM KBW	DRAWING	3 of 23
CHECKED	BDB	JOB NO.	98-040.4
DATE	4/1/2001	FILE NO.	F01-67



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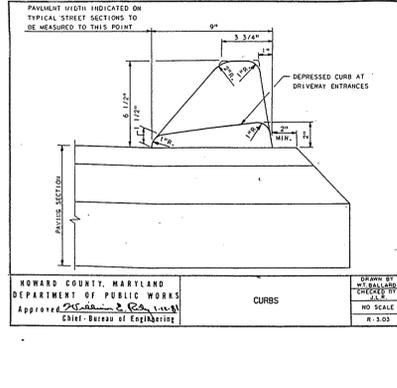


Road Name	Station to Station	Class	R/W	Design Speed	Paving Section
Seneca Chief Trail	8+05 - 18+05	Local	50	25	P-2
Merlin Court	0+00 - 1+35	Public Access Place	40	25	P-2



Symbol	Street Name	Station	Offset	Type
▲	Merlin Court	0+35	15' LT	RT-1, "Stop Sign, 30" x 30" Octagon

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIALS
P-2	RESIDENTIAL ZONES LOCAL, COLLECTOR, ALLEYS AND PRIVATE, ROAD SERVICE (PROVIDE TRAVELWAYS AND COMMERCIAL INDUSTRIAL ZONES WITH NO MORE THAN 10 HIGH TRUCK TIR DEEP)	FULL DEPTH BIT. CONC. ALTERNATE: 1 1/2" BIT. CONC. SURFACE 3" BIT. CONC. BASE GRANULAR BASE ALTERNATES: 1 1/2" BIT. CONC. SURFACE 2 1/2" BIT. CONC. BASE 6" GRADED AGGREGATE BASE 16A



Inlet No.	Type	Inv. In	Inv. Out	Top Elevation	Detail	Location	Remarks
I-1	"D"	430.10	430.00	446.40	SD 4.39	17-67.75 - 17' Lt	Throat 3 Sides - No New Downhill Side
I-2	"D"	438.50 / 431.82	431.32	446.40	SD 4.39	17-67.85 - 17' Rt	Throat 3 Sides - No New Downhill Side
I-3	"D"	436.00	435.90	442.50	SD 4.39	N 58990.41 E 133793.99	Throat 4 Sides
I-4	"D"	444.25	444.00	450.85	SD 4.39	N 58990.36 E 133793.32	Throat 4 Sides
I-5	"D"		455.75	462.50	SD 4.39	N 59007.28 E 133793.15	Throat 4 Sides
I-6	"D"	465.74 / 468.60	465.50	475.25	SD 4.39	14+25 - 17' Rt	Throat 3 Sides - No New Downhill Side
I-7	"D"	497.75 / 497.60	497.50	504.40	SD 4.39	11+32 - 17' Rt	Throat 3 Sides - No New Downhill Side
I-8	"D"		466.43	475.25	SD 4.39	+4.55 - 17' Lt	Throat 3 Sides - No New Downhill Side
I-9	"D"		498.43	504.40	SD 4.39	+32 - 17' Lt	Throat 3 Sides - No New Downhill Side
I-10	"D"		519.50	525.50	SD 4.39	0+40 - 17' Rt	Throat 4 Sides
M-1	Manhole	422.80	422.70	428.50	G 5.12	N 58996.01 E 133748.50	Cover @ Center Structure
M-2	Manhole	426.95	426.85	443.00	G 5.12	N 599236.99 E 133745.71	Cover @ Center Structure
M-3	Manhole	428.65	428.55	442.50	G 5.12	N 589835.10 E 1337994.65	Cover @ Center Structure
M-4	Manhole	451.00	450.50	456.25	G 5.12	16+25 - 25' Rt	Station @ Center Structure
M-5	Manhole	514.00	513.75	519.20	G 5.12	9+37.95 - 25' Rt	Station @ Center Structure
EW-1	"A" Headwall	422.50	422.50	426.00	SD-5.11	N 589928.19 E 133746.64	Cover @ Face Structure 0.5'
EW-4	"A" Headwall	416.00	416.00	419.50	SD-5.11	N 589958.02 E 133752.13	Cover @ Face Structure 0.5'
MH-4	Manhole	416.11	416.01	425.80	G 5.12	N 589968.08 E 133754.12	Cover @ Center Structure
S-4	SWM Pond Riser	416.35	416.35	424.33		N 589004.25 E 1337969.56	See Sheet 16 & 17

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 5/3/01

APPROVED: DEPARTMENT OF PUBLIC WORKS

*[Signature]* 4/27/01

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

*[Signature]* 4/19/01

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

*[Signature]* 4/19/01

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE IS TO ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 90 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 4/10/01

DEVELOPER'S CERTIFICATE

"I ME CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 90 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 4/19/01

NO SCALE

*[Signature]* 4/10/01

LDE, INC.

9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: EDS  
 DRAWN: JLM, KBW  
 CHECKED: BDB  
 DATE: 4/1/2001

REVISIONS

LDE	Date	No.	Description
12/01			Address MDE Comments
9/01			Lower Driveway Culvert Per MDE & Revise Floodplain Elevations

BRANTWOOD  
 Section Three - Area One  
 Buildable Parcels 'A' & 'B' and Non-Buildable Parcel 'C'

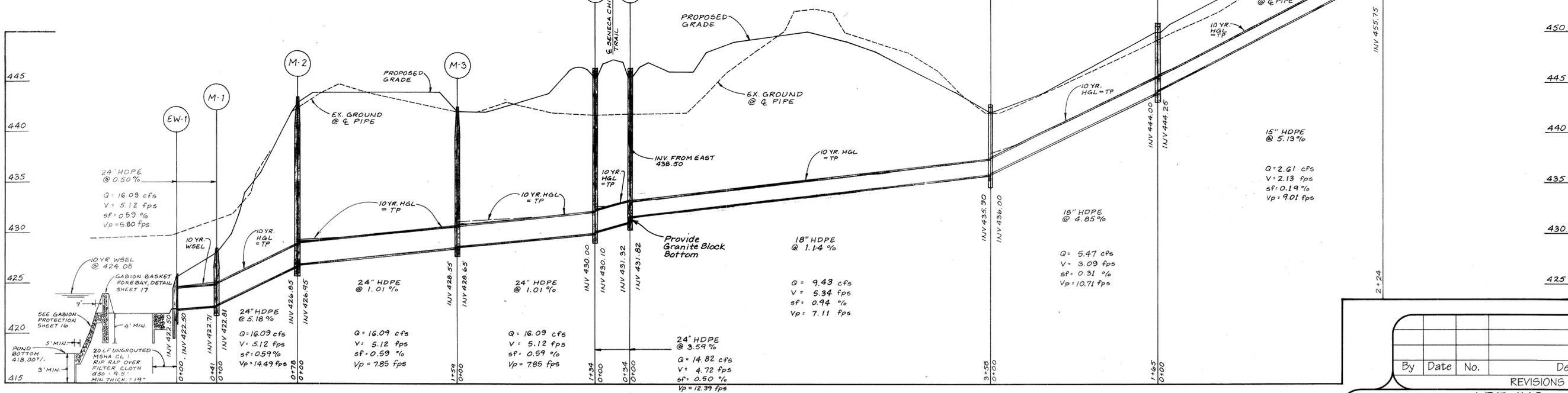
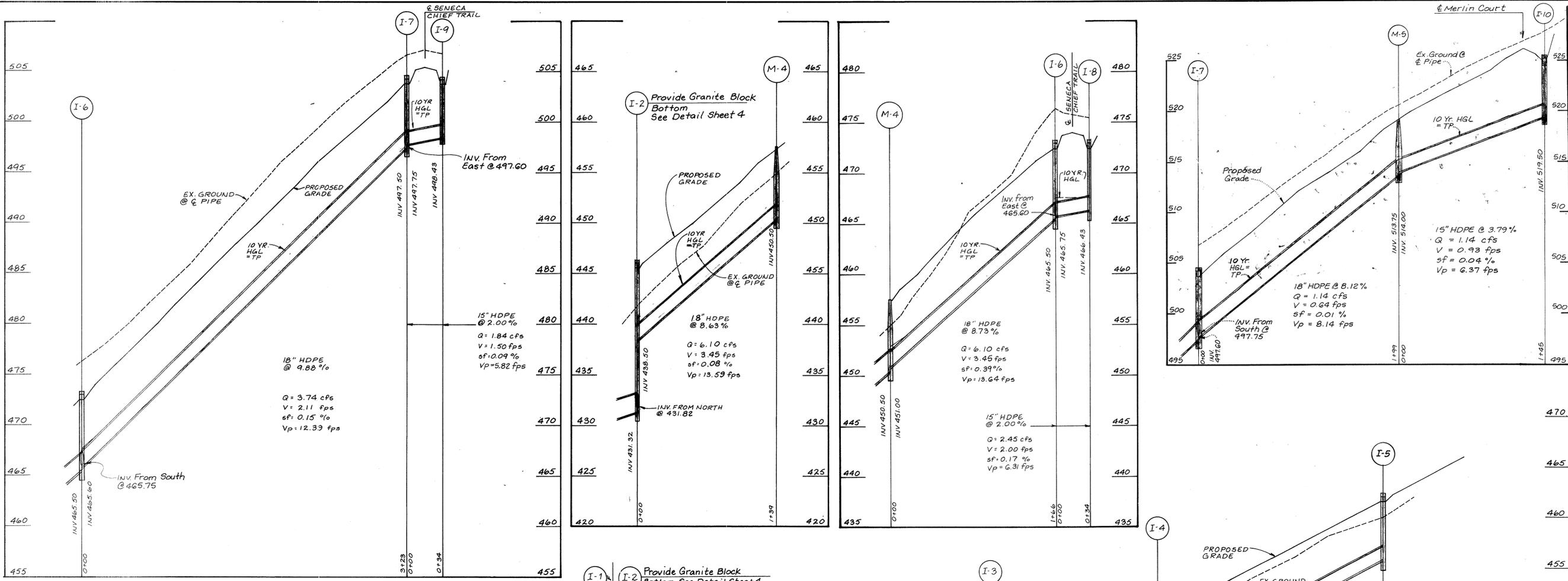
3rd Election Districts - Howard County, Maryland  
 Tax Map No. 16 - Grid No. 21 - Parcels 45, 172 & 205

Previous Submittals: WP 90-96, F 90-128, WP 93-55, S 99-03, WP 00-55, P00-03

BRANTWOOD, LLC  
 8825 F Columbia Road Parkway  
 Columbia, Maryland 21045  
 (410) 730-0810

SCALE: As Shown  
 DRAWING: 4 of 23  
 JOB NO.: 98-040.4  
 FILE NO.: F01-G7

FILED PROJECTS: E:\BRANTWOOD\Section 3\Subsections\Area ROAD DETAILS



APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 5/3/01  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 5/4/01  
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PUBLIC WORKS

*[Signature]* 4/19/01  
 CHIEF, BUREAU OF HIGHWAYS

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

*[Signature]* 4/19/01  
 NATURAL RESOURCE ZONE PROTECTION SECTION

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

*[Signature]* 4/19/01  
 HOWARD SOIL CONSERVATION DISTRICT

**ENGINEER'S CERTIFICATE**

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

*[Signature]* 4/19/01  
 SIGNATURE OF ENGINEER

**DEVELOPER'S CERTIFICATE**

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE FIELD ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 4/19/01  
 SIGNATURE OF DEVELOPER

*[Signature]* 4/19/01

Size	Class	Total Length
15"	HDPE Smooth Interior	437
18"	HDPE Smooth Interior	1350
24"	HDPE Smooth Interior	446

\* The total length of pipe does not take into account the slope of the pipe. This total is for linear feet only.

**NOTE:** SEE SHEET 4 OF 23 FOR STRUCTURE SCHEDULE.

By	Date	No.	Description

REVISIONS

LDE, INC.  
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: EDS  
 DRAWN: JLM, STB  
 CHECKED: BDB  
 DATE: 4/1/2001

Storm Drain Profiles

**BRANTWOOD**  
 Section Three - Area One  
 Lots 1-16, Preservation Parcels "A" Thru "D"  
 Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C"

3rd Election District - Howard County, Maryland  
 Tax Map No. 16 - Grid No. 21 - Parcels 45, 172 & 205  
 Previous Submittals: WP 90-96, F 90-128, WP 99-55, S 99-08, WP 00-55, P00-03

DEVELOPER: BRANTWOOD, LLC  
 8835 - F Columbia 100 Parkway  
 Columbia, Maryland 21045  
 (410) 730-0810

SCALE: HORIZ: 1"=50'  
 VERT: 1"=5'

DRAWING: 5 of 23  
 JOB NO.: 98-040.4  
 FILE NO.: F01-67

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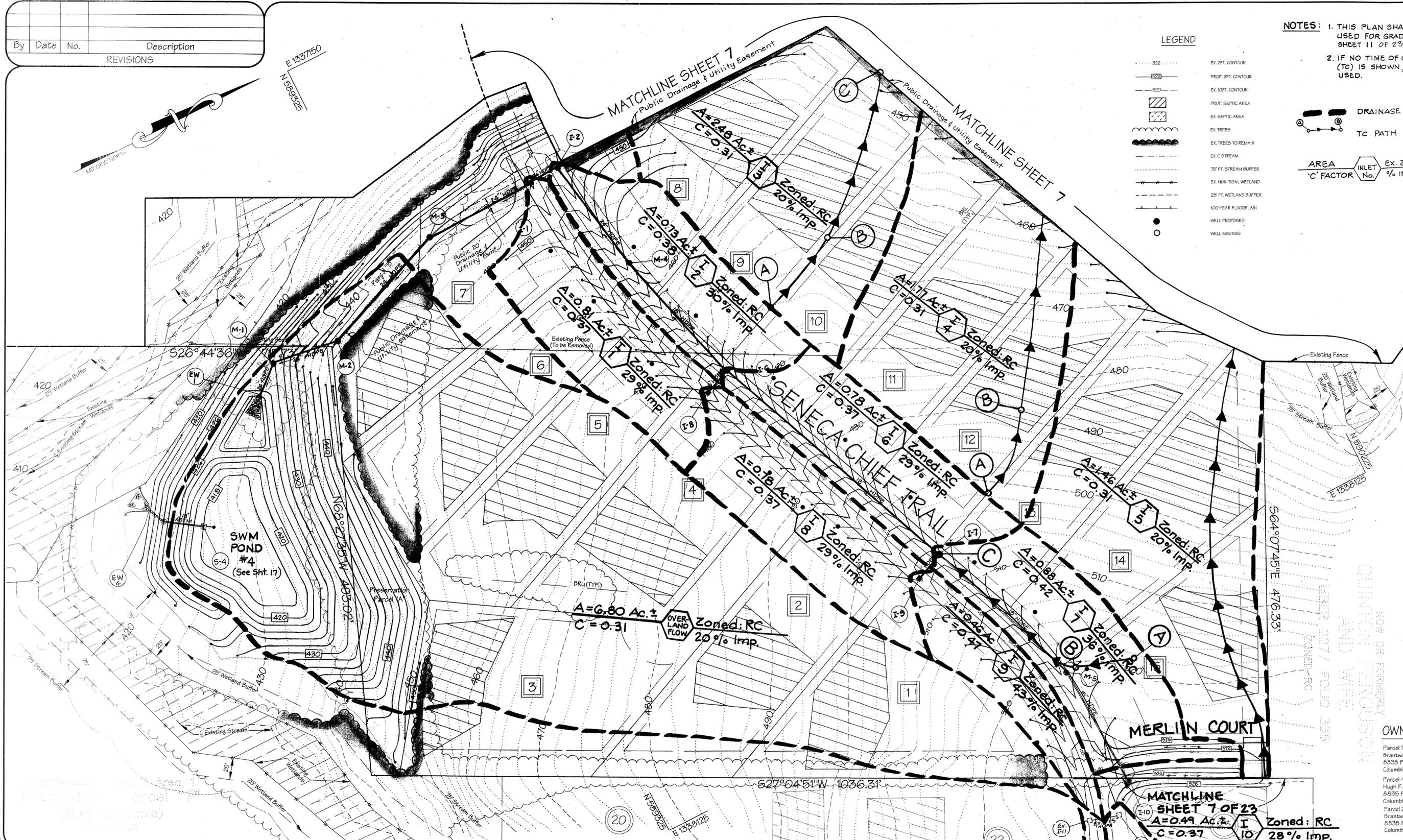
By	Date	No.	Description
REVISIONS			

E 1337150  
N 539325

**NOTES:** 1. THIS PLAN SHALL NOT BE USED FOR GRADING (SEE SHEET 11 OF 23)  
2. IF NO TIME OF CONCENTRATION (TC) IS SHOWN, 5 MIN. TC WAS USED.

**LEGEND**

- 522 --- EX. 2FT. CONTOUR
- 520 --- PROP. 2FT. CONTOUR
- 520 --- EX. 10FT. CONTOUR
- ▨ PROP. SEPTIC AREA
- ▨ EX. SEPTIC AREA
- ~ EX. TREES
- ~ EX. TREES TO REMAIN
- EX. C. STREAM
- 75' FT. STREAM BUFFER
- EX. NON-TIDAL WETLAND
- 25' FT. WETLAND BUFFER
- 100 YEAR FLOODPLAIN
- WELL PROPOSED
- WELL EXISTING



NOW OR FOREVER

**OWNERS:**  
Parcel 172  
Brantwood LLC  
8835 P. Columbia 100 Pkwy.  
Columbia, Md. 21045  
Parcel 45  
Hugh F. Cole, Jr.  
8835 P. Columbia 100 Pkwy  
Columbia, Md. 21045  
Parcel 205  
Brantwood LLC  
8835 P. Columbia 100 Pkwy  
Columbia, Md. 21045

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

*[Signature]* 5/3/01  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 5/4/01  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

**APPROVED: DEPARTMENT OF PUBLIC WORKS**

*[Signature]* 4/27/01  
CHIEF, DIVISION OF HIGHWAYS DATE

**STATE OF MARYLAND**  
DEPARTMENT OF THE ENVIRONMENT  
NATURAL RESOURCES CONSERVATION SERVICE

*[Signature]* 4/10/01  
DATE

**ENGINEER'S CERTIFICATE**

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION CONTROL, SEDIMENT CONTROL, AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTICED THE DEVELOPER THAT THIS PLAN DOES NOT CONSTITUTE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND THAT THE HOWARD SOIL CONSERVATION DISTRICT IS AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZED PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 4/10/01  
SIGNATURE OF ENGINEER

**DEVELOPER'S CERTIFICATE**

I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZED PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 4/10/01  
SIGNATURE OF DEVELOPER

**BRANTWOOD SECTION TWO AREA ONE**  
PLAT #14105  
F39-140

**LDE, INC.**  
9250 Rumsy Road, Suite 106, Columbia, MD. 21045  
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

**Drainage Area Map**  
**BRANTWOOD**  
Section Three - Area One  
Lots 1-16, Preservation Parcels "A" Thru "D"  
Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C"

DESIGNED: EDS  
DRAWN: JLM, KBW  
CHECKED: BDB  
DATE: 4/1/2001

SCALE: 1"=50'  
DRAWING: G of 23  
JOB NO.: 98-040.4  
FILE NO.: F01-67

DEVELOPER: BRANTWOOD, LLC  
8835 P. Columbia 100 Parkway  
Columbia, Maryland 21045  
(410) 730-0810

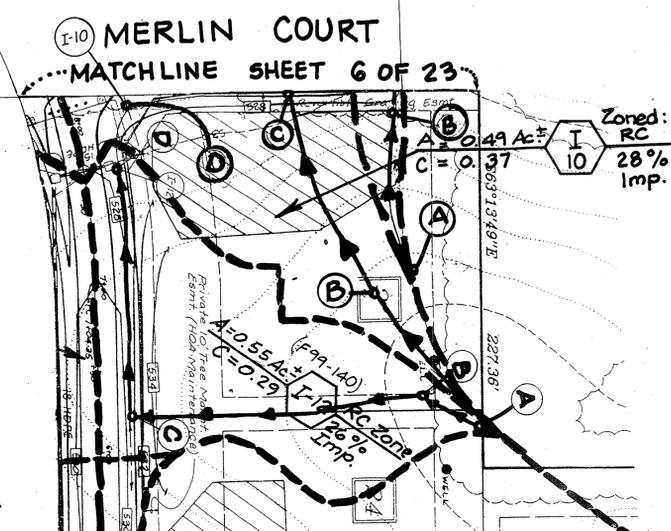
File Land Projects: PDR/PAINTWOOD/Planning Section: Subdivision/Map/Erosion Control

NOW OR FORMERLY  
HOWARD COUNTY  
BOARD OF EDUCATION  
LIBER 2450 / FOLIO 281  
ZONED: RC

NOW OR FORMERLY  
HOWARD COUNTY  
RECREATION & PARKS  
LIBER 2227 / FOLIO 110  
ZONED: RC

LEGEND

- 2 FT. CONTOUR
- PROP. 2 FT. CONTOUR
- EX. 10 FT. CONTOUR
- PROP. SEPTIC AREA
- EX. SEPTIC AREA
- EX. TREES
- EX. TREES TO REMAIN
- EX. STREAM
- 75' FT. STREAM BUFFER
- EX. NON-TIDAL WETLAND
- 25' FT. WETLAND BUFFER
- 100 YEAR FLOODPLAIN
- WELL PROPOSED
- WELL EXISTING
- DRAINAGE DIVIDE
- TC PATH



OWNERS:

Parcel 172  
Brantwood LLC  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045  
Parcel 45  
Hugh F. Cole, Jr.  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045  
Parcel 205  
Brantwood LLC  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045

By	Date	No.	Description
REVISIONS			

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 5/3/01  
CHIEF, DIVISION OF ENGINEERING SERVICES  
*[Signature]* 5/1/01  
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PUBLIC WORKS

*[Signature]*  
BRUCE D. BURTON  
ENGINEER

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

NATURAL RESOURCE CONSERVATION SERVICE \_\_\_\_\_ DATE \_\_\_\_\_

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

ENGINEER'S CERTIFICATE

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

*[Signature]* 4/10/01  
SIGNATURE OF ENGINEER DATE

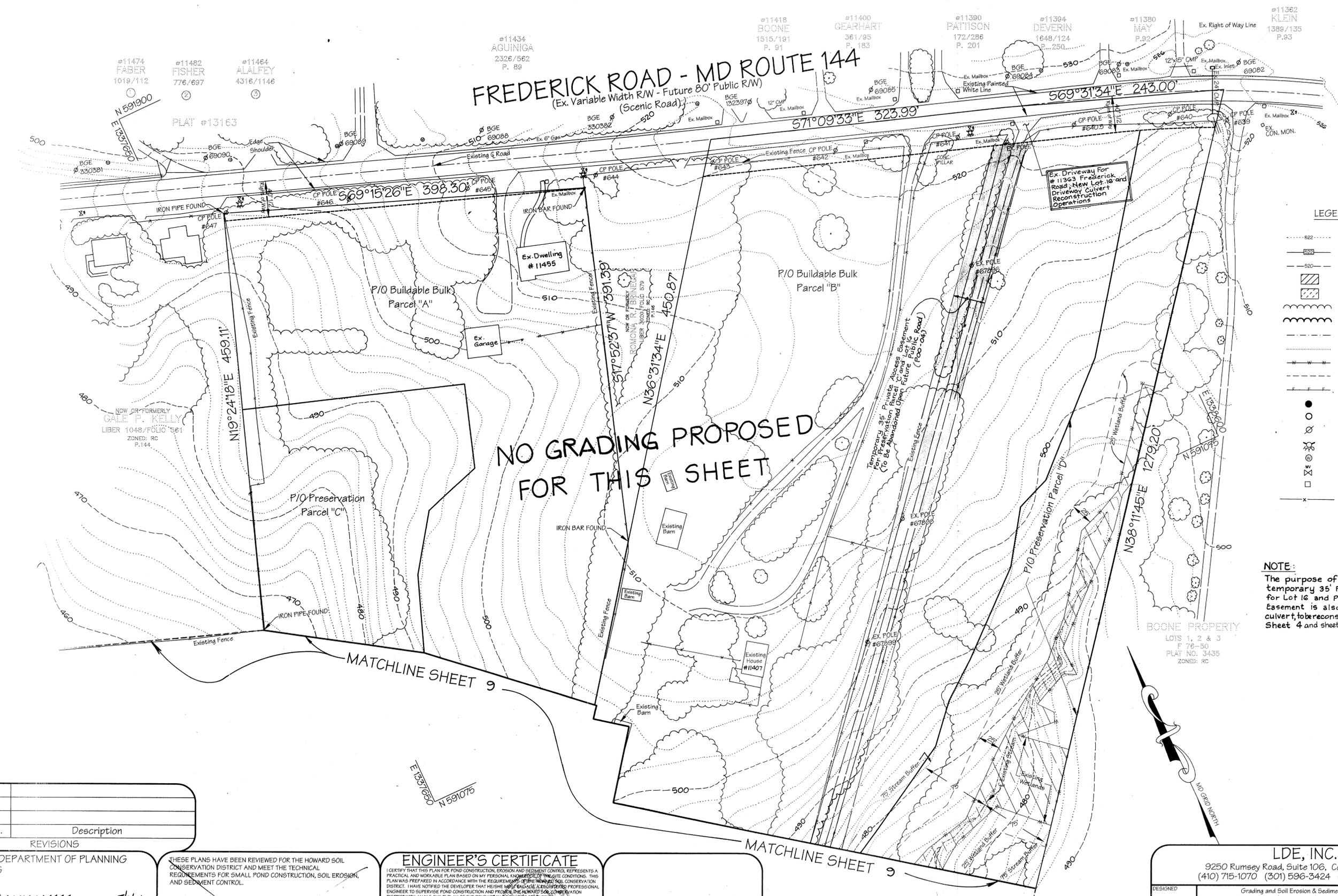
DEVELOPER'S CERTIFICATE

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

- NOTES: 1. THIS PLAN SHALL NOT BE USED FOR GRADING PURPOSES. (SEE SHEET 10 OF 23)  
2. IF NO TIME OF CONCENTRATION (Tc) IS SHOWN 5 MIN. Tc WAS USED.

LDE, INC.  
9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED EDS	<b>Drainage Area Map</b> <b>BRANTWOOD</b> Section Three - Area One Lots 1-16, Preservation Parcels "A" Thru "D" Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C" 3rd Election District - Howard County, Maryland Tax Map No. 16 - Grid No. 21 - Parcels 45, 172 & 205 Previous Submittals: WP 90-96, F 90-128, WP 99-55, S 99-08, WP 00-55, P00-03	SCALE 1"=50'
DRAWN JLM KBW		DRAWING 7 of 23
CHECKED BDB		JOB NO. 98-040.4



**NO GRADING PROPOSED FOR THIS SHEET**

**LEGEND**

	EX. 2FT. CONTOUR
	PROP. 2FT. CONTOUR
	EX. 10FT. CONTOUR
	PROP. SEPTIC AREA
	EX. SEPTIC AREA
	EX. TREES
	EX. TREES TO REMAIN
	EX. STREAM
	75' FT. STREAM BUFFER
	EX. NON-TIDAL WETLAND
	25' FT. WETLAND BUFFER
	100 YEAR FLOODPLAIN
	WELL PROPOSED
	WELL EXISTING
	TELEPHONE POLE
	FIRE HYDRANT
	WATER METER
	WATER VALVE
	CONCRETE MONUMENT
	EX. FENCE LINES

**NOTE:**  
The purpose of this sheet is to show the temporary 35' Private Access Easement for Lot 16 and Preservation Parcel "C". This Easement is also the access to the driveway culvert, to be reconstructed per the Details on Sheet 4 and sheet 14.

BOONE PROPERTY  
LOTS 1, 2 & 3  
P. 78-80  
PLAT NO. 3435  
ZONED: RC

**OWNERS:**

Parcel 172  
Brantwood LLC  
8835 P. Columbia 100 Pkwy  
Columbia, Md. 21045

Parcel 45  
Hugh F. Cole, Jr.  
8835 P. Columbia 100 Pkwy  
Columbia, Md. 21045

Parcel 205  
Brantwood LLC  
8835 P. Columbia 100 Pkwy  
Columbia, Md. 21045

By	Date	No.	Description
REVISIONS			

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 5/3/01  
DATE

*[Signature]* 5/4/01  
DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

*[Signature]* 4/10/01  
DATE

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

NATURAL RESOURCE CONSERVATION SERVICE

DATE

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

HOWARD SOIL CONSERVATION DISTRICT

DATE

**ENGINEER'S CERTIFICATE**

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

*[Signature]* 4/10/01  
DATE

**DEVELOPER'S CERTIFICATE**

I WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 4/10/01  
DATE

*[Signature]* 4/10/01

LDE, INC.  
9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED EDS	Grading and Soil Erosion & Sediment Control Plan <b>BRANTWOOD</b> Section Three - Area One Lots 1-16, Preservation Parcels "A" Thru "D" Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C" 3rd Election District - Howard County, Maryland Tax Map No. 16 - Grid No. 21 - Parcels 45, 172 & 205 Previous Submittals: WP 90-96, F 90-128, WP 99-55, S 99-09, WP 00-55, P00-03	SCALE 1"=50'
DRAWN JLM KBW		DRAWING 8 of 23
CHECKED BDB		JOB NO. 98-0404
DATE 4/1/2001		FILE NO. F01-G7

DEVELOPER  
BRANTWOOD, LLC  
8835 - P. Columbia 100 Parkway  
Columbia, Maryland 21045  
(410) 730-0810



NOW OR FORMERLY  
HOWARD COUNTY  
BOARD OF EDUCATION  
LIBER 2450, FOLIO 281  
ZONED: RC

NOW OR FORMERLY  
HOWARD COUNTY  
RECREATION & PARKS  
LIBER 2227, FOLIO 110  
ZONED: RC

LEGEND

- 522 --- EX. 2FT. CONTOUR
- 520 --- PROP. 2FT. CONTOUR
- 500 --- EX. 10FT. CONTOUR
- 500 --- PROP. SEPTIC AREA
- 500 --- EX. SEPTIC AREA
- 500 --- EX. TREES
- 500 --- EX. TREES TO REMAIN
- 500 --- EX. STREAM
- 500 --- 75' FT. STREAM BUFFER
- 500 --- EX. NON-TIDAL WETLAND
- 500 --- 25' FT. WETLAND BUFFER
- 500 --- 100 YEAR FLOODPLAIN
- WELL PROPOSED
- WELL EXISTING
- SF --- SILT FENCE
- SSF --- SUPER SILT FENCE
- 5 --- LIMIT OF DISTURBANCE  
(TO BE INSTALLED PERPENDICULAR TO  
AND AGAINST SILT FENCE STAKE)
- 100 440.70 100 YEAR FLOODPLAIN CROSS  
SECTION & ELEVATION

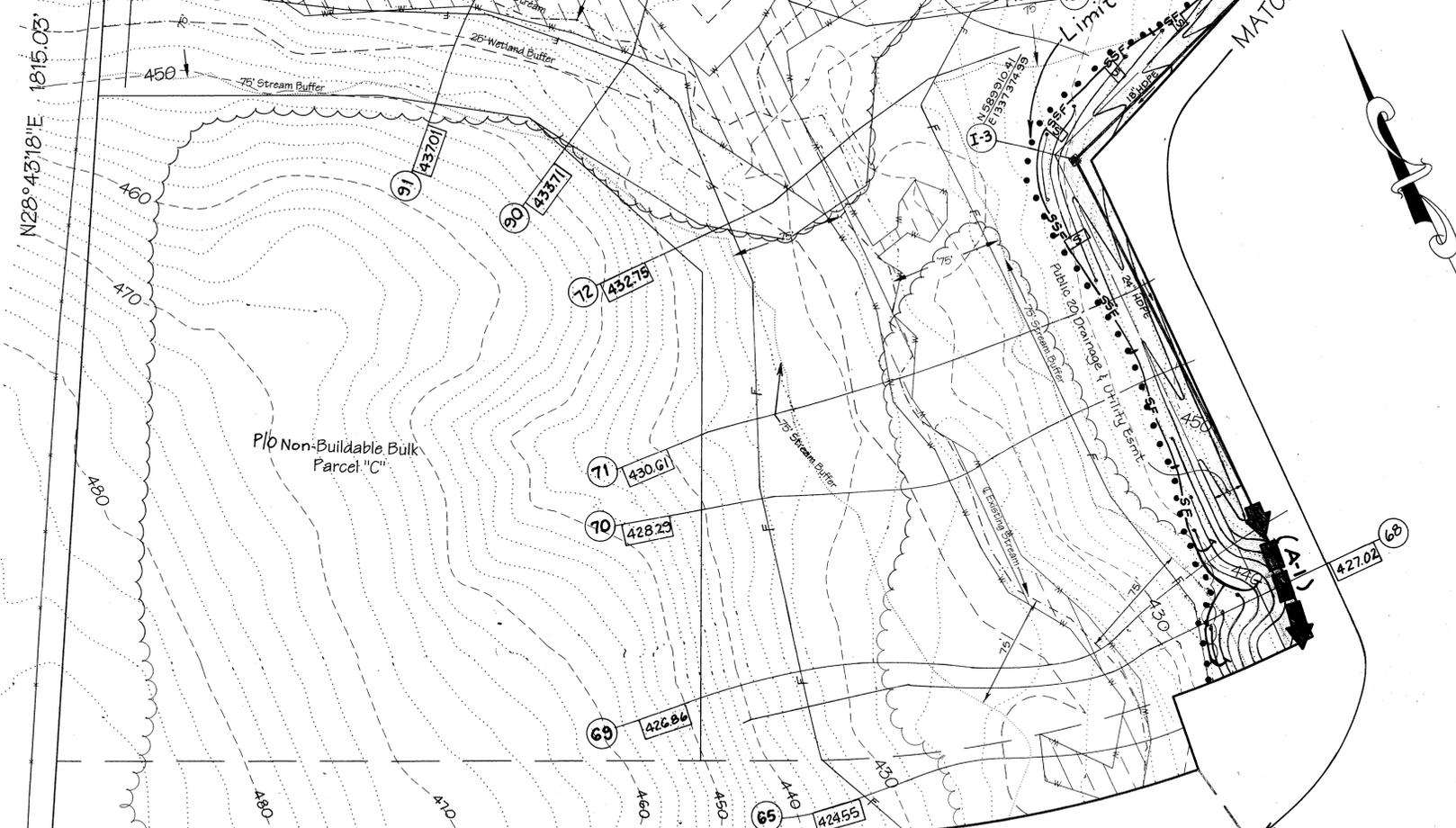
NOTE: SWALE SHALL BE STABILIZED WITH EROSION CONTROL MATTING PER DETAIL ON SHEET 13.

CONSTRUCTION SEQUENCE

NOTE: For Construction Sequence common to the driveway culvert re-construction work in the area shown on sheet 9, refer to sheet 14

1. Obtain Grading Permit - 1 day
2. Install stabilized construction entrance - 1 day
3. Stake-out limits of disturbance - 3 days
4. Install Tree Protection Fence (TPF) where shown - 1 week
5. Install Silt Fence (SF), Super Silt Fence (SSF), and other E/S controls at the limit of disturbance or where shown - 2 days
6. Clear & grub area common to Basin #4 for the construction of Basin #4 per the MD 270 specifications, shown hereon. The riser shall be constructed per the Sediment Basin Details shown on sheets 15. Obtain permission from the sediment control inspector to proceed - 3 weeks
7. Construct Earth Dike where shown. Obtain permission from the sediment control inspector to proceed with construction operations - 2 days
8. Clear & grub remainder of site - 2 days
9. Complete grading required for the installation of storm drain system SW-1 through SW-5. Install inlet protection and construct swale shown on sheet 10.
- NOTE: Swale at rear of proposed lots B-14 shall remain as a permanent feature existing toward Pond #4, and should be constructed and established per details sheet 4 and Detail 2 - sheet 13.
10. With permission of the sediment control inspector, complete remainder of the site grading, install remainder of storm drain system and cut preliminary road-side swales; providing positive drainage toward the intake Basin - 3 weeks
11. The sediment shall be removed from the Sediment Basin when the cleanup elevation has been reached - 2 days
12. The contractor shall "shape" and provide necessary maintenance on the sediment and erosion controls shown hereon after each rainfall and on a daily basis - 1 day
13. The sediment basin shall be dewatered by pumping. The accumulated sediment from the basin shall be placed up grade from the structure in such a manner as not to interfere with construction operations or cause erosion down grade from the structure - 2 days
14. Install all road base course and fine grade road-side swale grading - 2 weeks
15. With permission of the sediment control inspector, complete any remaining grading, add topsoil per the specifications shown hereon, line road-side swales with erosion control matting and stabilize disturbed areas with permanent seeding mixture and straw mulch - 1 week
16. After all upgrade areas from Basin #4 have been stabilized and permission has been given by Sediment Control Inspector, flush the storm drain system into the Basin #4 - 1 day
17. After permission has been given by Sediment Control Inspector, remove earth dike, backfill Basin #4 per the Ultimate Pond grades shown on sheet 17 and stabilize the disturbed areas with permanent seeding mixture and straw mulch - 3 days
18. Complete conversion of Basin #4 to POND #4 per the details on sheet 16. The temporary riser components are to remain in place during the grading of the pond body. Full stabilization must be achieved prior to the removal of the temporary riser components - 1 week
19. Convert riser (B-4) by removing vertical draw-down device, installing permanent low flow and installing the Ultimate Trash Racks and Riser Frame & Cover - 1 week
20. After permission has been given by Sediment Control Inspector, remove E/S controls stabilize the disturbed areas from the aforementioned disturbances with permanent seeding mixture and straw mulch - 1 week

N28°43'18"E 1815.03'



TYPICAL EROSION CONTROL MATTING PER DETAIL SHEET 4

WELL NOTE: TREE PROTECTION FENCE (TPF) OF ORANGE BLAZE FENCE SHALL BE PLACED AROUND ALL WELLS UPON COMPLETION OF DRILLING OPERATIONS. WELL DRILLING SHALL NOT OCCUR UNTIL THE PROPOSED GRADES SHOWN HEREON ARE ESTABLISHED. THE TPF SHOULD SURROUND THE WELL AT A 10 FOOT RADIUS MINIMUM.

OWNERS:

- Parcel 172  
Brantwood LLC  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045
- Parcel 45  
Hugh F. Cole, Jr.  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045
- Parcel 205  
Brantwood LLC  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045

By	Date	No.	Description
REVISIONS			

MATCHLINE SHEET 21

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*John P. ...* 5/18/01  
*Kat ...* 5/14/01

APPROVED: DEPARTMENT OF PUBLIC WORKS

*Howard ...* 4/27/01

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

*Jim ...* 4/19/01

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

*Yuh ...* 4/19/01

ENGINEER'S CERTIFICATE

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

DEVELOPER'S CERTIFICATE

I HAVE CERTIFIED THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO ADVISE THE PERSON ON-SITE INSPECTING BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Bruce D. Bump* 4/10/01  
*Bruce D. Bump* 4/10/01

LDE, INC.  
 9250 Rumsey Road, Suite 106, Columbia, Md. 21045  
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED EDS	Grading and Soil Erosion & Sediment Control Plan <b>BRANTWOOD</b> Section Three - Area One Lots 1-16, Preservation Parcels "A" Thru "D" Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C" 3rd Election District - Howard County, Maryland Tax Map No. 16 - Grid No. 21 - Parcels 45, 172 & 205 Previous Submittals: WP 90-96, F 90-128, WP 99-55, S 99-09, WP 00-55, P00-03	SCALE 1"=50'
DRAWN JLM KBW		DRAWING 10 of 23
CHECKED BDB		JOB NO. 98-040.4
DATE 4/1/2001		DEVELOPER BRANTWOOD LLC 8835 P Columbia 100 Parkway Columbia, Maryland 21045 (410) 730-0810

By	Date	No.	Description
			REVISIONS

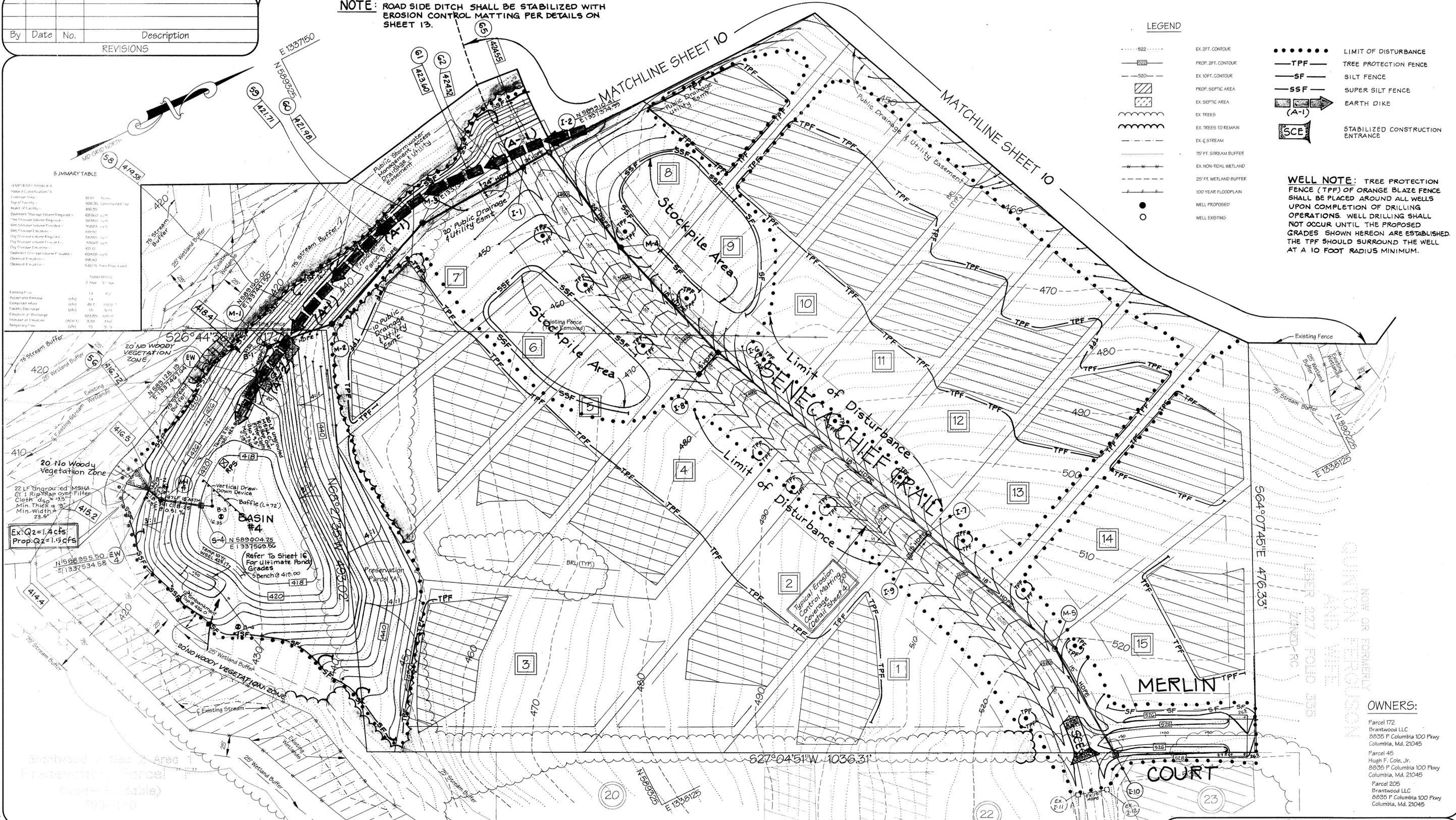
**NOTE:** ROAD SIDE DITCH SHALL BE STABILIZED WITH EROSION CONTROL MATTING PER DETAILS ON SHEET 13.

LEGEND			
--- 522 ---	EX. 2FT. CONTOUR	.....	LIMIT OF DISTURBANCE
--- 520 ---	PROP. 2FT. CONTOUR	— TPF —	TREE PROTECTION FENCE
--- 500 ---	EX. 10FT. CONTOUR	— SF —	SILT FENCE
[Hatched Box]	PROP. SEPTIC AREA	— SSF —	SUPER SILT FENCE
[Hatched Box]	EX. SEPTIC AREA	[Dashed Arrow]	EARTH DIKE
[Wavy Line]	EX. TREES	[Arrow]	STABILIZED CONSTRUCTION ENTRANCE
[Wavy Line]	EX. TREES TO REMAIN		
---	EX. STREAM		
---	75' FT. STREAM BUFFER		
---	EX. NON-TIDAL WETLAND		
---	25' FT. WETLAND BUFFER		
---	100 YEAR FLOODPLAIN		
○	WELL PROPOSED		
○	WELL EXISTING		

**WELL NOTE:** TREE PROTECTION FENCE (TPF) OF ORANGE BLAZE FENCE SHALL BE PLACED AROUND ALL WELLS UPON COMPLETION OF DRILLING OPERATIONS. WELL DRILLING SHALL NOT OCCUR UNTIL THE PROPOSED GRADES SHOWN HEREON ARE ESTABLISHED. THE TPF SHOULD SURROUND THE WELL AT A 10 FOOT RADIUS MINIMUM.

**SUMMARY TABLE**

Item	Quantity	Unit
Construction	486.70	Sq. Yds.
Stormwater	486.70	Sq. Yds.
Grading	486.70	Sq. Yds.
Excavation	486.70	Sq. Yds.
Fill	486.70	Sq. Yds.
Retaining Wall	486.70	Sq. Yds.
Drainage	486.70	Sq. Yds.
Septic	486.70	Sq. Yds.
Wetland	486.70	Sq. Yds.
Stream	486.70	Sq. Yds.
Vegetation	486.70	Sq. Yds.
Other	486.70	Sq. Yds.



APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 5/10/01  
 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

*[Signature]* 4/19/01  
 DATE

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

*[Signature]* 4/19/01  
 DATE

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

*[Signature]* 4/19/01  
 DATE

**ENGINEER'S CERTIFICATE**

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

*[Signature]* 4/10/01  
 SIGNATURE OF ENGINEER DATE

**DEVELOPER'S CERTIFICATE**

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 4/10/01  
 SIGNATURE OF DEVELOPER DATE

*[Signature]* 4/10/01

**LDE, INC.**  
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED	EDS	Grading and Soil Erosion & Sediment Control Plan	SCALE	1"=50'	
DRAWN	JLM KBW	<b>BRANTWOOD</b> Section Three - Area One Lots 1-16, Preservation Parcels "A" Thru "D" Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C"	DRAWING	11 of 23	
CHECKED	BDB		JOB NO.	98-040.4	
DATE	4/1/2001	DEVELOPER	BRANTWOOD, LLC 8835 F. Columbia 100 Parkway Columbia, Maryland 21045 (410) 730-0810	FILE NO.	F01-67

**OWNERS:**

Parcel 172  
 Brantwood LLC  
 8835 F. Columbia 100 Pkwy  
 Columbia, Md. 21045

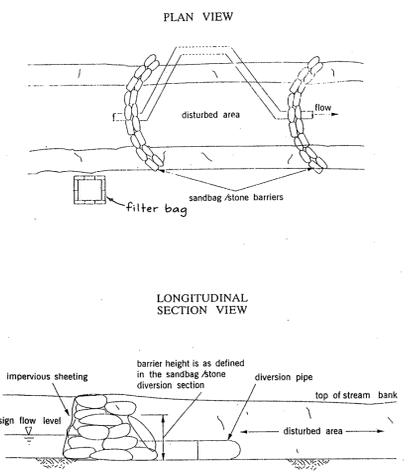
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 Hugh F. Cole, Jr.  
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Parcel 205  
 Brantwood LLC  
 8835 F. Columbia 100 Pkwy  
 Columbia, Md. 21045





Maryland's Guidelines To Waterway Construction  
DETAIL 1.4: DIVERSION PIPE



TEMPORARY INSTREAM CONSTRUCTION MEASURES REVISED NOVEMBER 2000 MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION GUIDELINES

MGWC 1.4: DIVERSION PIPE

Temporary measure for diverting in-channel construction sites

DESCRIPTION

The work should consist of installing flow diversion pipes in combination with sandbag or stone diversions when construction activities occur within the stream channel.

EFFECTIVE USES & LIMITATIONS

Diversion pipes with an insufficient flow capacity can cause the channel diversion to fail thereby resulting in severe erosion of the disturbed channel section under construction. Therefore, in-channel construction activities should occur only during periods of low flow.

MATERIAL SPECIFICATIONS

Materials for stream diversions should meet the following requirements:

- Riprap: Stone should be washed and have a minimum diameter of 6 inches (15 centimeters).
- Sandbags: Sandbags should consist of materials which are resistant to ultra-violet radiation, tearing, and puncture and should be woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
- Sheeting: Sheeting should consist of polyethylene or other material which is impervious and resistant to puncture and tearing.

INSTALLATION GUIDELINES

All erosion and sediment control devices including mandatory dewatering basins should be installed in the first order of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to downstream during low flow conditions. If necessary, silt fence or straw bales should be installed around the perimeter of the work area.

Diversion pipes with sandbag or stone barriers should be completed as follows (refer to Detail 1.4):

- Sandbag/stone barriers should be sized and installed as detailed in MGWC 1.5: Sandbag/Stone Diversion. The materials should be sized to withstand baseflow velocities.
- All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.
- Sediment-laden water from the construction area should be pumped to a filter bag.
- The diversion pipe should have a minimum capacity sufficient to convey the 2-year flow for projects with a duration of two weeks or greater. For projects of shorter duration, the capacity of the pipe can be reduced accordingly.
- If necessary, silt fence or straw bales should be installed around the perimeter of the work area.
- Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal.

TEMPORARY INSTREAM CONSTRUCTION MEASURES MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION GUIDELINES REVISED NOVEMBER 2000

MGWC 1.2: PUMP-AROUND PRACTICE

Temporary measure for diverting in-channel construction sites

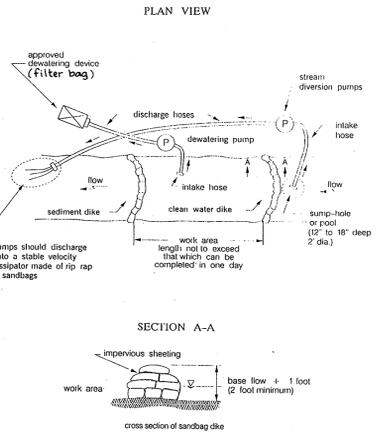
DESCRIPTION

The work should consist of installing a temporary pump around and supporting measures to divert flow around in-stream construction sites.

IMPLEMENTATION SEQUENCE

- Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements and/or right-of-way have been acquired. All existing utilities should be marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and should repair the damage at his/her own expense to the county's or utility company's satisfaction.
- The contractor should notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor should inform the local environmental protection and resource management inspection and enforcement division and the provider of local utilities a minimum of 48 hours before starting construction.
- The contractor should conduct a pre-construction meeting on site with the WMA sediment control inspector, the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. The contractor should make on all limits of disturbance prior to the pre-construction meeting so they may be reviewed. The participants will also designate the contractor's staging areas and flag all trees within the limit of disturbance which will be removed for construction access. Trees should not be removed within the limit of disturbance without approval from the WMA or local authority.
- Construction should not begin until all sediment and erosion control measures have been installed and approved by the engineer and the sediment control inspector. The contractor should stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.
- Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor should only begin work in an area which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work should not be conducted in the channel during rain events.
- Sandbag dikes should be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow should be pumped around the work area. The pump should discharge onto a stable velocity dissipater made of riprap or sandbags.
- Water from the work area should be pumped to a sediment filtering measure such as a dewatering basin, sediment bag, or other approved source. The measure should be located such that the water drains back into the channel below the downstream sandbag dike.
- Traversing a channel reach with equipment within the work area where no work is proposed should be avoided. If equipment has to traverse such a reach for access to another area, then timber mats or similar measures should be used to minimize disturbance to the channel. Temporary stream crossings should be used only when necessary and only where noted on the plans or specified. (See Section 4, Stream Crossings, Maryland Guidelines to Waterway Construction).
- All stream restoration measures should be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross-sections. All grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.
- After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike should be established upstream from the old sediment dike. Finally, upon establishment of a new sediment dike below the old one, the old sediment dike should be removed.
- A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work area. This should be accomplished by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity dissipater used for the main stem pump around.
- If a tributary is to be restored, construction should take place on the tributary before work on the main stem reaches the tributary confluence. Construction in the tributary, including pump around practices, should follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed, work on the main stem should resume. Water from the tributary should continue to be pumped around the work area in the main stem.
- The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.
- After construction, all disturbed areas should be regraded and revegetated as per the planting plan.

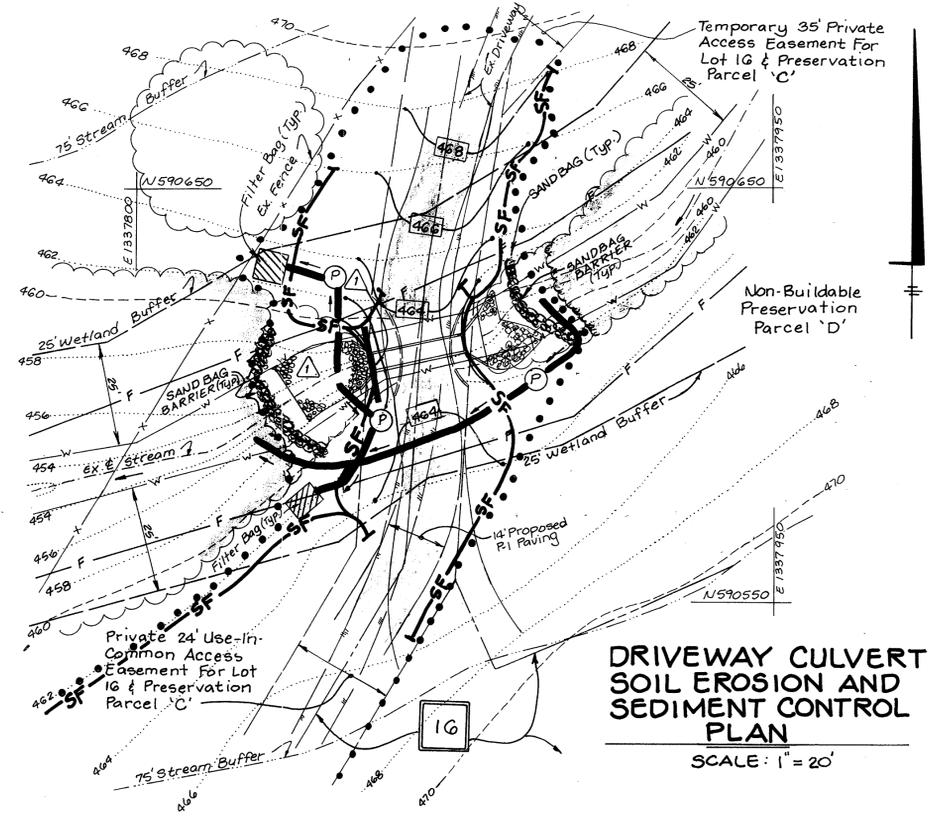
Maryland's Guidelines To Waterway Construction  
DETAIL 1.2: PUMP-AROUND PRACTICE



TEMPORARY INSTREAM CONSTRUCTION MEASURES REVISED NOVEMBER 2000 MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION GUIDELINES

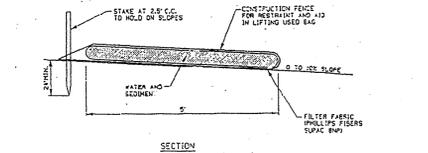
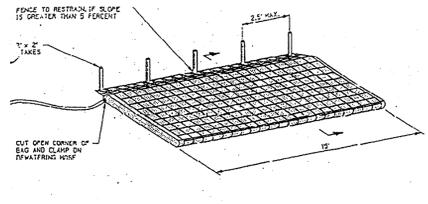
DRIVEWAY CULVERT CONSTRUCTION SEQUENCE

- NOTES:
- Culvert Replacement Construction shall occur during periods of dry weather, after June 15<sup>th</sup> and before October 1<sup>st</sup>.
  - Driveway Access to the existing house on Preservation Parcel "C" shall be maintained at all times during culvert replacement operations.
  - Per details & specification, sheet 14, construction should be completed within 5 calendar days.
- DAY 1
- Stakeout limits of disturbance.
  - Install Silt Fence (SF), Super Silt Fence (SSF), and other E/S controls at the limit of disturbance or where shown.
  - After sediment controls are in place, obtain permission from the sediment control inspector to proceed.
- DAY 2
- Clear & grub site required for improvement.
  - Initiate the "Pump Around Practice", per detail and specifications shown on sheet 14, while excavation is underway for the installation of "Diversion Pipes", per detail and specifications shown on sheet 14.
  - Install "Diversion Pipes".
  - Remove existing headwalls and culvert.
  - Driveway Access to the existing house on Preservation Parcel "C" shall be maintained at all times during culvert replacement operations.
  - Complete new culvert construction, under permit # 01-6433-15 & per the details on sheet 4, 9, and 14.
  - Once again, initiate the "Pump Around Practice", per detail and specifications shown on sheet 14. And relocate the "Diversion Pipes" through the new culvert. Sediment controls shall be in place as shown hereon and required by the onsite Sediment Control Inspector.
  - Reestablish minimum grade over new culvert for traffic to & from the existing dwelling on Preservation Parcel "C".
- Any "DIRTY WATER" from within the limits of construction operations shall be pumped from the work area per the specifications shown on the "Pump Around Practice" detail and filtered before re-entering the natural stream system through the use of "Filter Bags" per the detail shown on sheet 14.
- DAY 3
- Complete construction of headwall & toe-wall per the details on sheet 14.
  - Any "DIRTY WATER" from within the limits of construction operations shall be pumped from the work area per the specifications shown on the "Pump Around Practice" detail and filtered before re-entering the natural stream system through the use of "Filter Bags" per the detail shown on sheet 14.
- DAY 4
- Once culvert construction and rip rap protection is completed and in place and permission has been obtained from the onsite Sediment Control Inspector, complete filling operations over new culvert up to proposed driveway elevations as shown hereon.
  - Upon completion of filling operations, and permission has been obtained from the onsite Sediment Control Inspector, begin removal of "Diversion Pipes".
  - Initiate the "Pump Around Practice", per detail and specifications shown on sheet 14.
  - Remove sand bags from downstream area first, shorten length of "Diversion Pipes" so that any flows are directed across rip rap protection.
  - Remove sand bags from upstream end from the center of stream outward toward the channel banks. Completely remove "Diversion Pipes".
  - Sediment control shall remain in place until permission from the onsite Sediment Control Inspector is given.
- DAY 5
- Upon the completion above, complete driveway surfacing, and installation of guardrails, per details on sheet 4.
  - Re-establish existing grades in the areas disturbed and stabilize disturbances with permanent seeding mixture and straw mulch.
  - Upon approval of the Sediment control inspector, remove all remaining sediment controls and stabilize disturbed areas with permanent seeding mixture and straw mulch.



LEGEND

- DIVERSION PUMP & HOSE
- FILTER BAG (Typ.)
- SILT FENCE
- SANDBAG BARRIER (Typ.)
- FLOW ARROW



- NOTES:
- Filter bag shall be placed on a floating up level well spaced lateral site such that water will flow away from device and any work areas.
  - Width and length shall be as shown in the table.
  - The filter bag must be staked in place and secured to the pump discharge line.
  - Filter bag shall not be used for discharge flows greater than 100 GPM.
  - Device shall be removed and disposed of after bag is filled with sediment. Sediment from bag shall be spread on an upland area.

AVAILABLE FROM:  
BRAIN VALLEY INDUSTRIES, INC.  
25015 RICE RD.  
JOHNSON CITY, NEW YORK 13790  
800-655-5111

PRICE & QUANTITY:  
1' x 10' 15.00  
1' x 20' 25.00  
1' x 30' 35.00

FILTER BAG TEMPORARY EROSION CONTROL MEASURE (EB)

LDE	12/01	1	Add Flow Channel Detail Per MDE
By	Date	No.	Description
REVISIONS			

LDE, INC.  
9250 Rumsay Road, Suite 106, Columbia, MD. 21045  
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: EDS  
DRAWN: JLM, KBW  
CHECKED:

Driveway Culvert Construction Details  
**BRANTWOOD**  
Section Three - Area One  
Lots 1-16, Preservation Parcels "A" Thru "D"  
Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C"

SCALE: As Shown  
DRAWING: 14 of 23  
JOB NO:

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 5/3/01  
DATE

*[Signature]* 5/4/01  
DATE

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

*[Signature]* 4/19/01  
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER'S CERTIFICATE

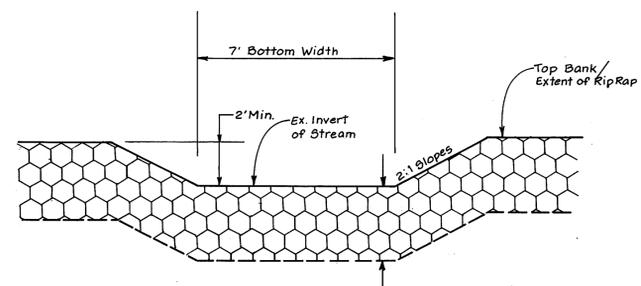
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE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

*[Signature]* 4/19/01  
DATE

DEVELOPER'S CERTIFICATE

I HAVE CERTIFIED THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE

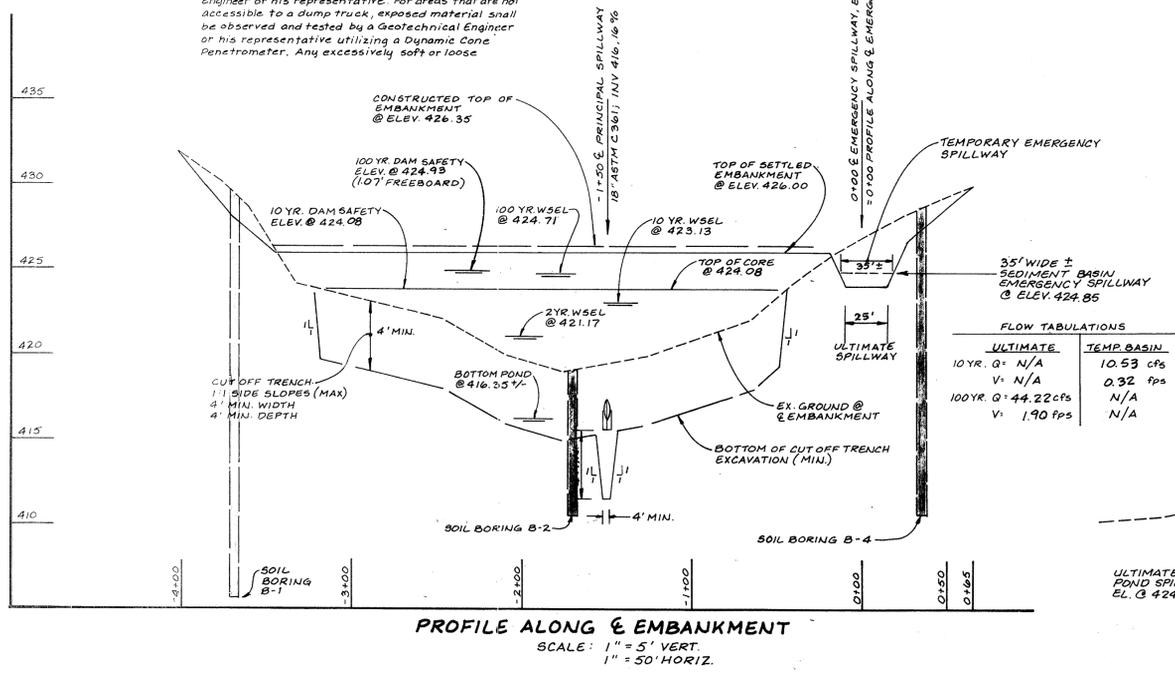
*[Signature]*





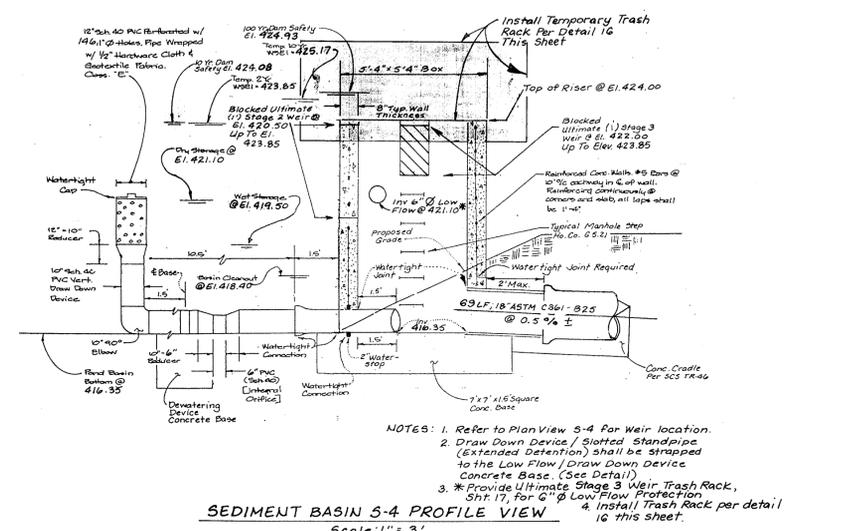
NOTES: 1. A Geotechnical Engineer is to be present on site to supervise the construction of the core trench, per MD 378 Specifications.  
 2. Cutoff Trench shall be dewatered prior to the placement of County Approved fill material.  
 3. The site shall be stripped of topsoil and any other unsuitable materials from the embankment of structure area in accordance with Soil Conservation Guidelines. After stripping operations have been completed, the exposed subgrade materials should be proofrolled with a loaded dump truck or similar equipment in the presence of a Geotechnical Engineer or his representative. For areas that are not accessible to a dump truck, exposed material shall be observed and tested by a Geotechnical Engineer or his representative utilizing a Dynamic Cone Penetrometer. Any excessively soft or loose

materials identified by proofrolling or penetrometer testing should be excavated to suitably firm soil, and then re-established by backfilling with suitable soil.

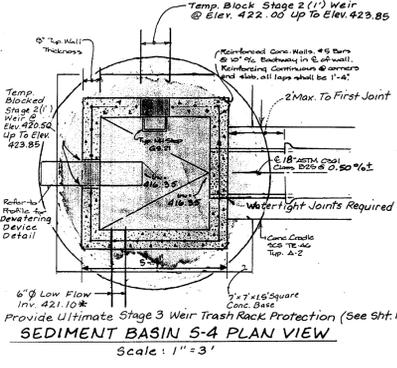
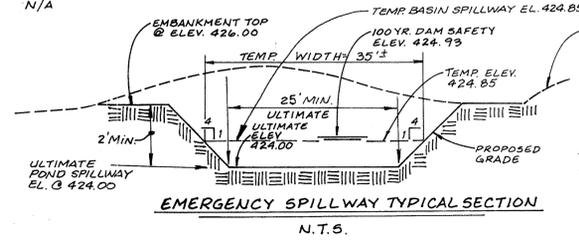


FLOW TABULATIONS

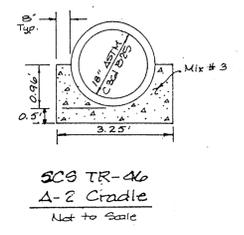
	ULTIMATE	TEMP. BASIN
10YR. Q:	N/A	10.53 cfs
V:	N/A	0.32 fps
100YR. Q:	44.22 cfs	N/A
V:	1.90 fps	N/A



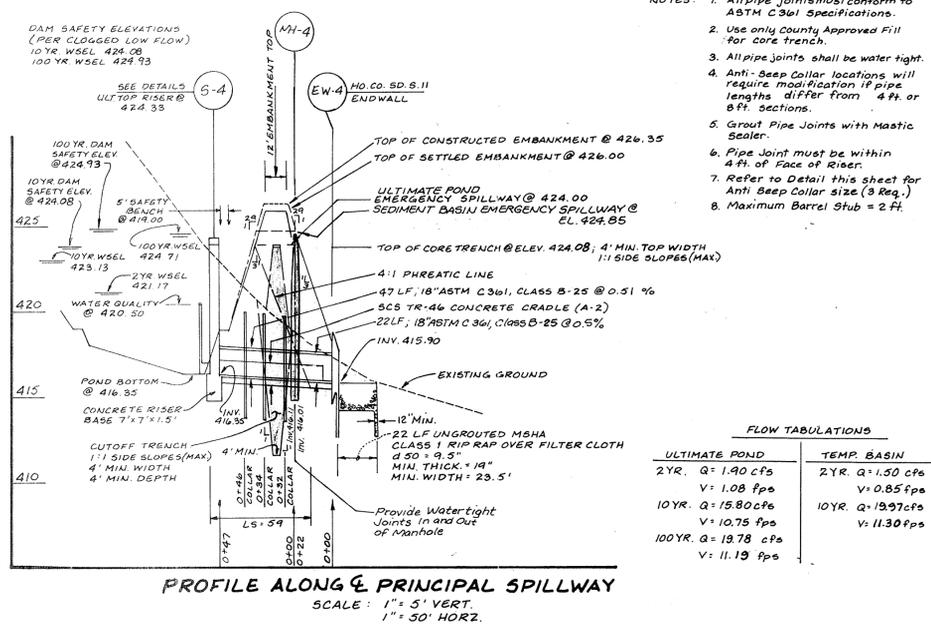
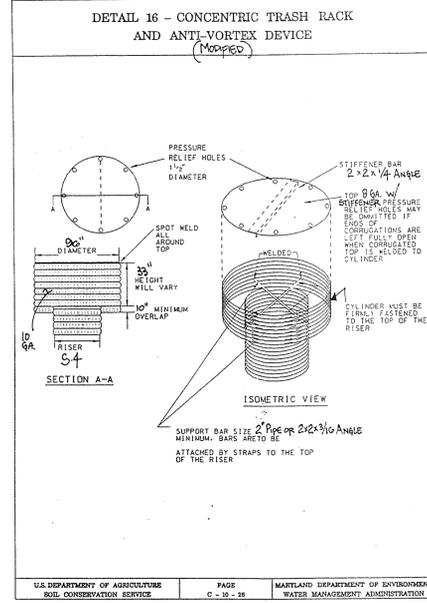
NOTES: 1. Refer to Plan View 5-4 for Weir location.  
 2. Draw Down Device / Slotted Standpipe (Extended Detention) shall be strapped to the Low Flow / Draw Down Device Concrete Base. (See Detail)  
 3. Provide Ultimate Stage 3 Weir Trash Rack, Sht. 17, for 6" Low Flow Protection  
 4. Install Trash Rack per detail 16 on this sheet.



LOW FLOW / DRAW DOWN DEVICE CONCRETE BASE DETAIL. No Scale.



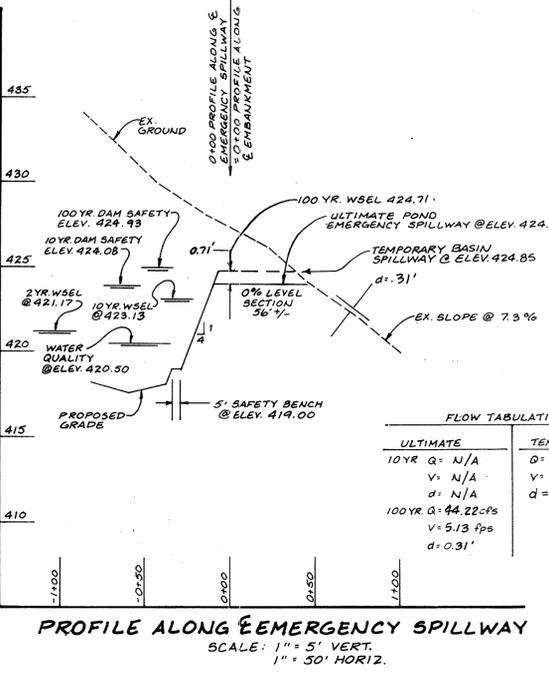
CUTOFF / CORE TRENCH TYP SECTION. No Scale.



NOTES: 1. All pipe joints must conform to ASTM C361 Specifications.  
 2. Use only County Approved Fill for core trench.  
 3. All pipe joints shall be water tight.  
 4. Anti-Seep Collar locations will require modification if pipe lengths differ from 4 ft. or 8 ft. sections.  
 5. Grout Pipe Joints with Mastic Sealer.  
 6. Pipe Joint must be within 4 ft. of Face of Embankment.  
 7. Refer to Detail this sheet for Anti-Seep Collar size (3 Req.)  
 8. Maximum Barrel Stub = 2 ft.

FLOW TABULATIONS

	ULTIMATE POND	TEMP. BASIN
2YR. Q:	1.40 cfs	2YR. Q: 1.50 cfs
V:	1.08 fps	V: 0.85 fps
10YR. Q:	15.80 cfs	10YR. Q: 19.97 cfs
V:	10.75 fps	V: 11.30 fps
100YR. Q:	19.78 cfs	V: 11.10 fps



FLOW TABULATIONS

	ULTIMATE	TEMP. BASIN
10YR. Q:	N/A	Q: 10.53 cfs
V:	N/A	V: 2.85 fps
d:	N/A	d = 0.11'
100YR. Q:	44.22 cfs	N/A
V:	5.13 fps	N/A
d:	0.31'	N/A

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature]  
 DATE: 5/3/01

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature]  
 DATE: 4/27/01

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL.  
 [Signature]  
 DATE: 4/19/01

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 [Signature]  
 DATE: 4/19/01

ENGINEER'S CERTIFICATE  
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD COUNTY SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.  
 [Signature]  
 DATE: 4/19/01

DEVELOPER'S CERTIFICATE  
 "I" CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD COUNTY SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERSONNEL ON-SITE INSPECTIONS BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 [Signature]  
 DATE: 4/19/01

AS-BUILT CERTIFICATION  
 I HEREBY certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meets the approved plans and specifications.  
 [Signature]  
 DATE: \_\_\_\_\_

REVISIONS

By	Date	No.	Description

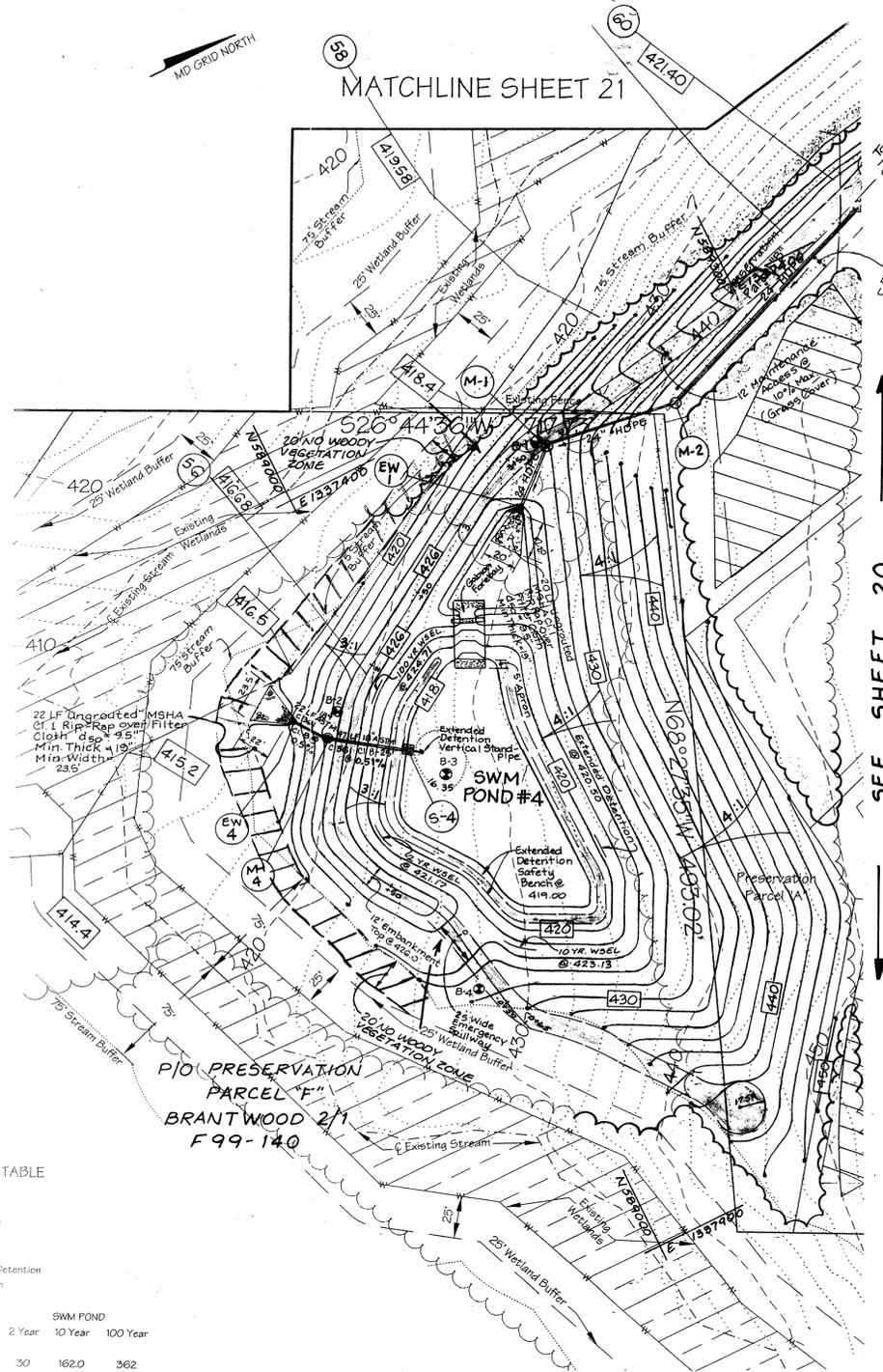
DESIGNED: EDS  
 DRAWN: JLM, STB  
 CHECKED: BDB  
 DATE: 4/1/2001

SCALE: As Shown  
 DRAWING: 16 of 23  
 JOB NO.: 98-040.4  
 FILE NO.: F01-67

LDE, INC.  
 9250 Ramsey Road, Suite 106, Columbia, MD. 21045  
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

Pond #4 Construction Details  
**BRANTWOOD**  
 Section Three - Area One  
 Lots 1-16, Preservation Parcels "A" Thru "D"  
 Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C"  
 3rd Election District - Howard County, Maryland  
 Tax Map No. 16 - Grid No. 21 - Parcels 45, 172 & 205  
 Previous Submittals: WP 90-96, F 90-128, F 90-55, S 99-05, S 99-05, P00-03

BRANTWOOD, LLC  
 8825 F Columbia 100 Parkway  
 Columbia, Maryland 21045  
 (410) 730-0810



**SUMMARY TABLE**

PUBLIC POND # 4  
 Joint Public / Private H.O.A. Maintenance  
 Hazard Classification "A"  
 Drainage Area = 19.10 Acres  
 Water Quality Management - Extended Detention  
 Water Quantity Management - Detention

	SWM POND	2 Year		
		10 Year	100 Year	
Total Existing Flow (cfs)	30	162.0	362	
Unmanaged Flow (cfs)	24	123	273	
Acceptable Release (cfs)	2.0	16.0	61.0	
Facility Discharge (cfs)	32.4	70.2	114.7	
Elevation at Discharge (cfs)	1.9	15.8	64.0	
Storage at Elevation (ACFT)	421.7	423.13	424.71	
Total Developed Flow (cfs)	25	134	344	

**ULTIMATE POND #4 PLAN VIEW**  
 SCALE: 1" = 50'

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 5/10/01  
 CHIEF DEVELOPMENT ENGINEER & SUPERVISOR

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 4/19/01  
 CHIEF, DIVISION OF HIGHWAYS

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

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

**ENGINEER'S CERTIFICATE**  
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION CONTROL, AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HIS OR HER OWNERSHIP OF THE POND CONSTRUCTION PROJECT IS SUBJECT TO THE SUPERVISORY OVERSIGHT AND INSPECTION OF THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND BY THE DISTRICT.

*[Signature]* 4/19/01  
 SIGNATURE OF ENGINEER

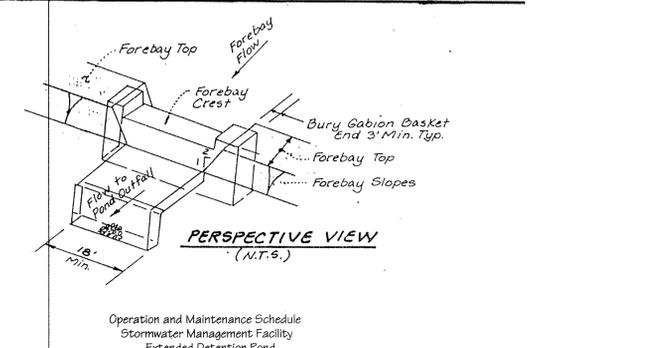
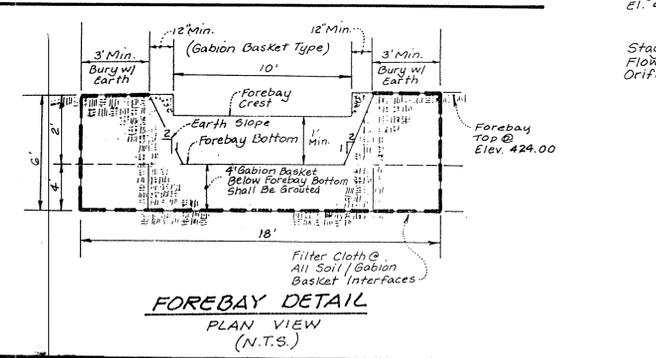
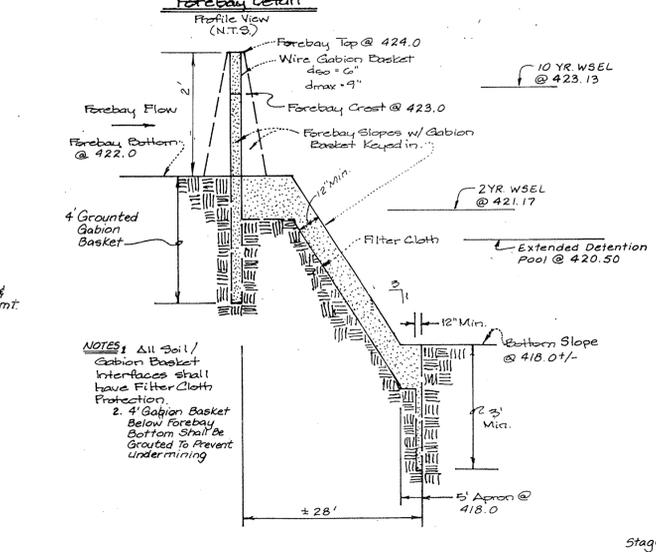
**DEVELOPER'S CERTIFICATE**  
 I HAVE CERTIFIED THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 4/19/01  
 SIGNATURE OF DEVELOPER

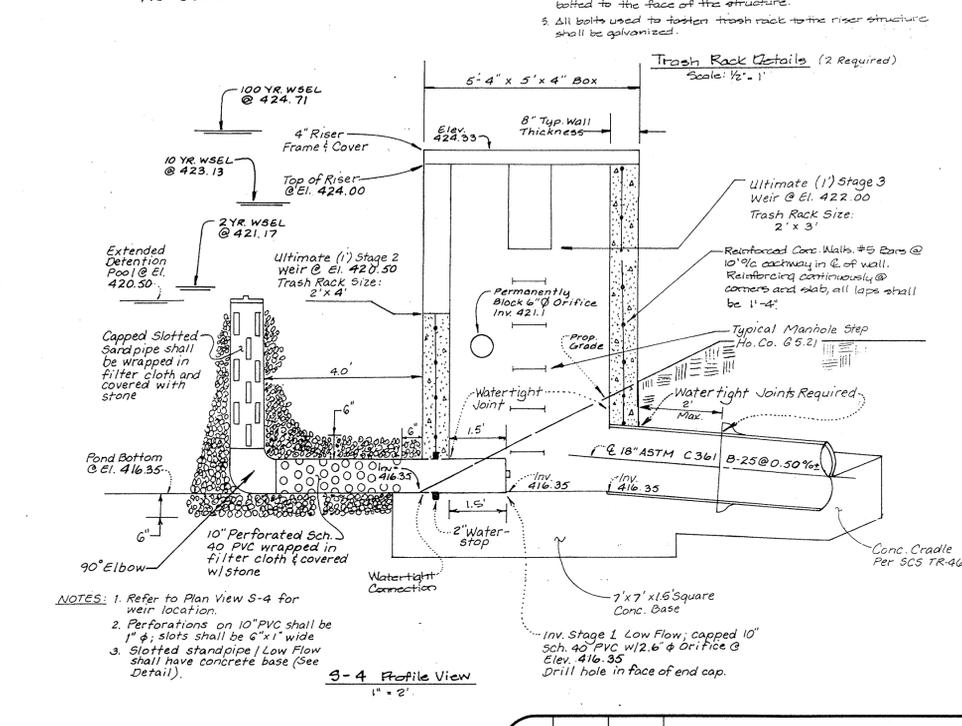
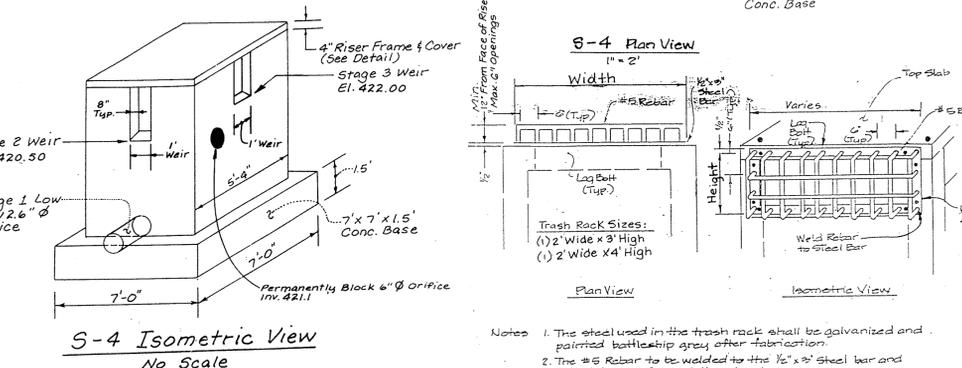
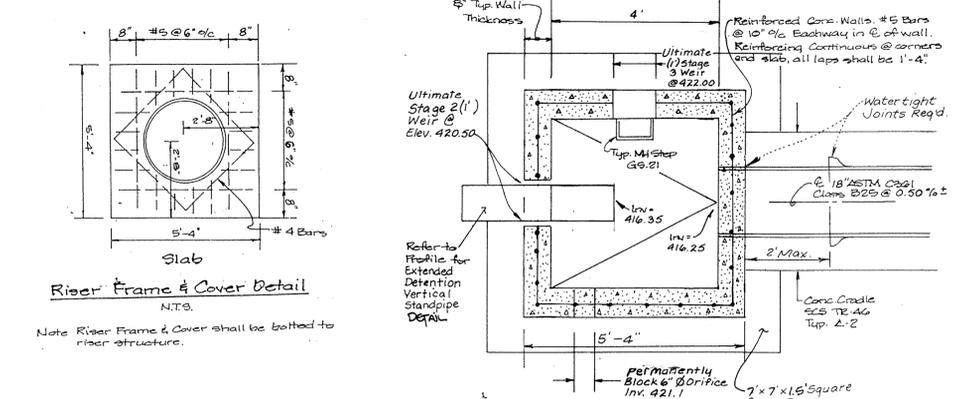


Inspection of the pond shown herein shall be performed at least annually, in accordance with the checklist and requirements contained within USDA, SCS "Standards And Specifications For Ponds" (MD 37B). The pond owner(s) and their heirs, successors, or assigns shall be responsible for the safety of the pond and the continued operation, surveillance, inspection, and maintenance thereof. The pond owner(s) shall promptly notify the Soil Conservation District of any unusual observations that may be indications of distress such as excessive seepage, turbid seepage, sliding or slumping.

- OPERATION, MAINTENANCE, AND INSPECTION**
- Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance access should be mowed as needed.
  - Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
  - When deemed necessary for aesthetic reasons, sediment should be removed from the pond. Approval of the Department of Public Works is required.



- OPERATION, MAINTENANCE, AND INSPECTION**
- Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance access should be mowed as needed.
  - Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
  - When deemed necessary for aesthetic reasons, sediment should be removed from the pond. Approval of the Department of Public Works is required.



**REVISIONS**

By	Date	No.	Description

Maintenance Requirements

- Removal of silt when accumulation exceeds six (6) inches in basins without forebays. In basins with forebays, removal of silt shall occur when the accumulation exceeds four (4) inches in the forebay.
- Removal of accumulated paper, trash and debris as necessary.
- Vegetation growing on the embankment top and faces is not allowed to exceed 18 inches in height at any time.
- Annual inspection and repair of the structure.
- Corrective maintenance is required any time an extended detention basin does not drain the equivalent of the Water Quality Volume within 60 hours (i.e., no standing water is allowed).
- Corrective maintenance is required any time the forebay does not drain down completely within 60 hours (i.e., no standing water is allowed).

DESIGNED: EDS  
 DRAWN: JLM, KBW, STB  
 CHECKED: BDB  
 DATE: 4/20/01

SCALE: As Shown  
 DRAWING: 17 of 23  
 JOB NO.: 98-040  
 FILE NO.: FO1-G7

Ultimate Pond #4 Plan View & Details  
**BRANTWOOD**  
 Section Three - Area One  
 Lots 1-16, Preservation Parcels "A" Thru "D"  
 Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C"  
 3rd Election District - Howard County, Maryland  
 Tax Map No. 16 - Grid No. 21 - Parcels 45, 172 & 205  
 Previous Submittals: WF 90-36, F 90-128, WF 99-56, S 99-03, WF 00-55, P00-03  
 BRANTWOOD, LLC  
 8835 - T, Columbia 100 Parkway  
 Columbia, Maryland 21045  
 (410) 730-0810



**LEGEND**

---	EX. 2FT. CONTOUR
---	PROP. 2FT. CONTOUR
---	EX. 10FT. CONTOUR
---	PROP. SEPTIC AREA
---	EX. SEPTIC AREA
---	EX. TREES
---	EX. TREES TO REMAIN
---	EX. STREAM
---	75' FT. STREAM BUFFER
---	EX. NON-TOTAL WETLAND
---	25' FT. WETLAND BUFFER
---	100 YEAR FLOODPLAIN
○	WELL PROPOSED
○	WELL EXISTING
○	TELEPHONE POLE
○	FIRE HYDRANT
○	WATER METER
○	WATER VALVE
□	CONCRETE MONUMENT
---	FOREST CONSERVATION EASEMENT FENCING WITH SIGNAGE

**FCE # 2 TABULATION**  
 TOTAL GROSS AREA = 16.55 Ac. ±  
 AREA THIS SHEET = 0.70 Ac. ±  
 AREA OF FLOODPLAIN = 0.00 Ac. ±  
 TOTAL NET RETENTION ESMT. = 0.70 Ac. ±

By	Date	No.	Description
REVISIONS			

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 5/16/01  
 CHIEF, DIVISION OF PLANNING AND ZONING

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 4/27/01  
 CHIEF, Bureau of Highways



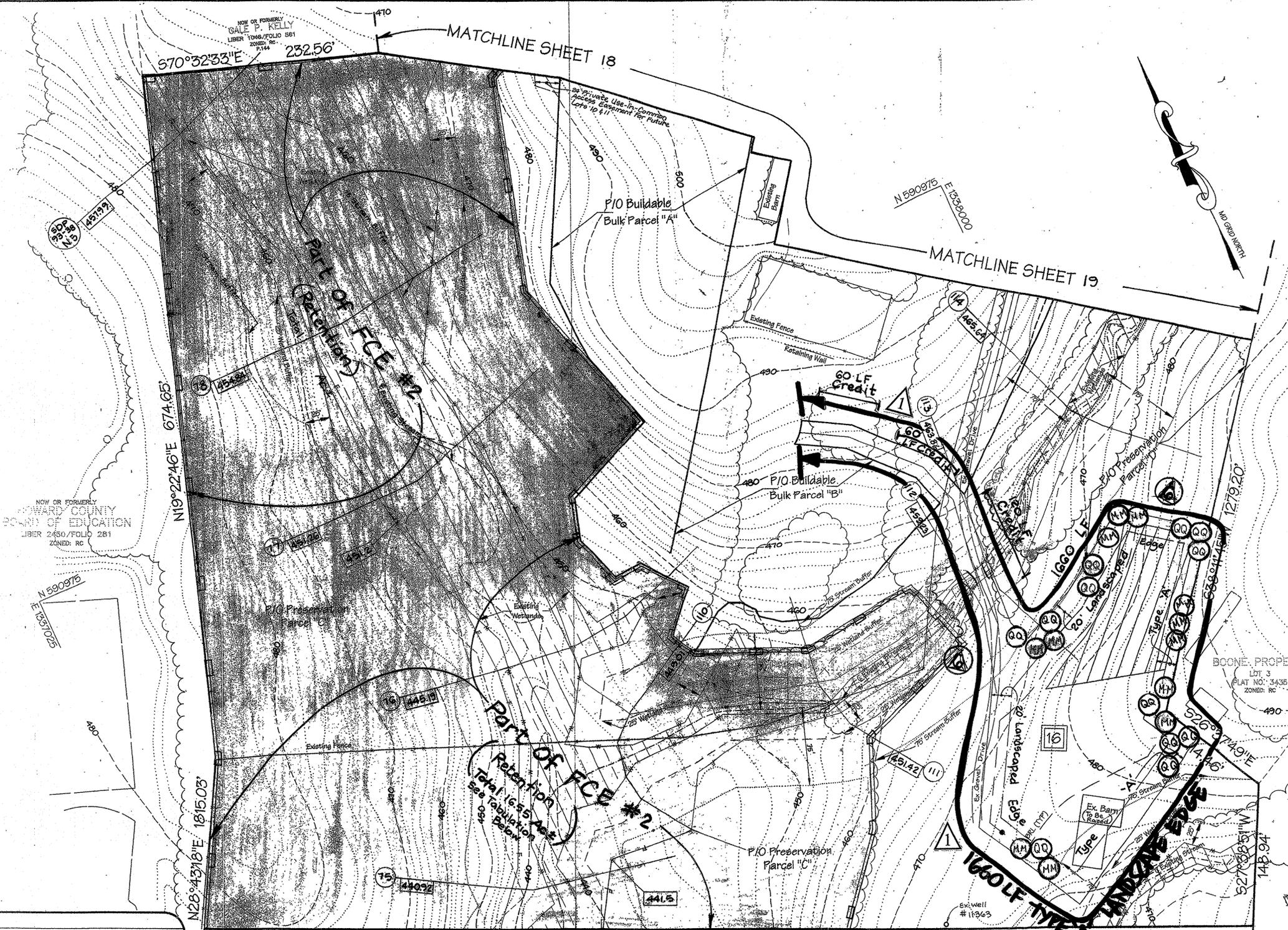
**FOREST CONSERVATION EASEMENT STANDARD NOTES:**  
 The Forest Conservation Easement has been established to fulfill the requirements of Section 16-1200 of the Howard County Code, Forest Conservation Act. No clearing, grading or construction is permitted within the Forest Conservation Easement; however, forest management practices as defined in the Deed of Forest Conservation Easement are allowed.

**OWNERS:**  
 Parcel 172  
 Brantwood LLC  
 8335 P Columbia 100 Pkwy  
 Columbia, Md. 21045  
 Parcel 45  
 Hugh F. Cole, Jr.  
 8835 P Columbia 100 Pkwy  
 Columbia, Md. 21045  
 Parcel 205  
 Brantwood LLC  
 8835 P Columbia 100 Pkwy  
 Columbia, Md. 21045

**LDE, INC.**  
 9250 Rumsy Road, Suite 106, Columbia, MD. 21045  
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED EDS	Landscape, Forest Conservation & Street Tree Planting Plan <b>BRANTWOOD</b> Section Three - Area One Lots 1-16, Preservation Parcels "A" Thru "D" Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C" 3rd Election District - Howard County, Maryland Tax Map No. 16 - Grid No. 21 - Parcels 45, 172 & 205 Previous Submittals: WF 90-96, F 90-128, WF 99-55, S 99-09, WF 00-55, P00-03	SCALE 1"=50'
DRAWN JLM KBW		DRAWING 18 of 23
CHECKED BDB		JOB NO. 98-040.4
DATE 4/2001		FILE NO. F01-67

DEVELOPER: **BRANTWOOD, LLC**  
 8835 P Columbia 100 Parkway  
 Columbia, Maryland 21045  
 (410) 730-0810



**LEGEND**

---	EX. 2FT. CONTOUR
---	PROP. 2FT. CONTOUR
---	EX. 10FT. CONTOUR
---	PROP. SEPTIC AREA
---	EX. SEPTIC AREA
---	EX. TREES
---	EX. TREES TO REMAIN
---	EX. STREAM
---	75 FT. STREAM BUFFER
---	EX. NON-TIDAL WETLAND
---	25' FT. WETLAND BUFFER
---	100 YEAR FLOODPLAIN
○	WELL PROPOSED
○	WELL EXISTING
---	FOREST CONSERVATION EASEMENT FENCING WITH SIGAGE
---	100 YEAR FLOODPLAIN CROSS SECTION AND ELEVATION

NOW OR FORMERLY  
GALE P. KELLY  
LIBER 1046/FOLIO 861  
ZONED: RC  
P144

NOW OR FORMERLY  
HOWARD COUNTY  
BOARD OF EDUCATION  
LIBER 2450/FOLIO 281  
ZONED: RC

BOONE PROPERTY  
LOT 3  
PLAT NO. 3435  
ZONED: RC

NOW OR FORMERLY  
QUINTIN FERGUSON  
LIBER 227/FOLIO 335  
ZONED: RC

By	Date	No.	Description
CF	10/1/10	1	LANDSCAPING REVISIONS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: DEPT OF PUBLIC WORKS  
*[Signature]*  
CHIEF, BUREAU OF HIGHWAYS

**FCE #2 TABULATION**  
TOTAL GROSS AREA = 10.65 AC. ±  
AREA THIS SHEET = 9.44 AC. ±  
AREA OF FLOODPLAIN = 2.14 AC. ±  
TOTAL NET RETENTION EBMT. = 7.30 AC. ±

I hereby certify that the landscaping plans were prepared or approved by me, and that I am a duly licensed professional landscape architect under the laws of the state of Maryland, License Number 906, expiration date 3.0.12



**DEVELOPER'S CERTIFICATE**  
I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a certificate of attendance at a Department of the Environment Approved Training Program for the control of erosion and erosion before beginning the project. I shall assign a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also will make periodic on-site inspections by Howard Soil Conservation District.

*[Signature]*  
Signature of Developer

*[Date]*  
Date

**NOTES:** 1. THIS SHEET SHALL NOT BE USED FOR GRADING PURPOSES. REFER TO SHEET 9 OF 23.

Note: The landscaping plantings have been revised (as shown on this sheet). All revisions were made in accordance with the Howard County Landscape Manual and have been approved by Howard County.

**FOREST CONSERVATION EASEMENT STANDARD NOTES:**

The Forest Conservation Easement has been established to fulfill the requirements of Section 16-1200 of the Howard County Code, Forest Conservation Act. No clearing, grading or construction is permitted within the Forest Conservation Easement; however, forest management practices as defined in the Deed of Forest Conservation Easement are allowed.

**OWNERS:**

- Parcel 172  
Brantwood LLC  
8835 F Columbia 100 Pkwy  
Columbia, Md. 21045
- Parcel 45  
Hugh F. Cole, Jr.  
8935 F Columbia 100 Pkwy  
Columbia, Md. 21045
- Parcel 205  
Brantwood LLC  
8835 F Columbia 100 Pkwy  
Columbia, Md. 21045

**LDE, INC.**  
9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED	EDS	SCALE	1"=50'
DRAWN	JLM	DRAWING	19 of 23
CHECKED	KBW	JOB NO.	98-040.4
DATE	4/1/2001	FILE NO.	F01-67

**BRANTWOOD**  
Section Three - Area One  
Lots 1-16, Preservation Parcels "A" Thru "D"  
Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C"  
3rd Election District - Howard County, Maryland  
Tax Map No. 16 - Grid No. 21 - Parcels 45, 172 & 205  
Previous Submittals: WF 90-96, F 90-120, WF 98-55, S 99-09, WF 00-55, F00-03

DEVELOPER: **BRANTWOOD, LLC**  
8835 F Columbia 100 Parkway  
Columbia, Maryland 21045  
(410) 730-0810

**FOREST PROTECTION PROCEDURES - PRECONSTRUCTION PHASE**

Stress Reduction and Protection of Specimen Trees Isolated from Forest Retention Areas and General Forest Retention Areas (As They May Apply)

1) The edge of the woods to be protected will be marked (staked or flagged) in the field per the limits of disturbance shown on this approved Final Construction Plan prior to the start of construction activity. All areas within protective fences are to be considered "off limits" to any construction activities. The protective fencing shall be installed at the outside edge of forested areas and specimen trees to be retained and should be combined with sediment control devices when possible. The limit of the critical root zone and therefore the location of the protective devices is to be determined as follows:

Isolated Specimen Trees - 1.5 feet of protective radius per inch of DBH  
 Edge of Forested Area - 1 foot of protective radius/inch of DBH or an eight-foot protective radius, whichever is greater.

2) Construction activities expressly prohibited within the preservation area are:

- Placing or stockpiling backfill or top soil in protected areas
- Falling trees into protected areas
- Driving construction equipment into or through protected areas
- Dumping or in close proximity to protected areas
- Stacking or storing supplies of any kind
- Concrete wash-off areas
- Conducting trenching operations
- Grading beyond the limits of disturbance
- Parking vehicles or construction equipment
- Removal of root mat or topsoil
- Siting and construction of: Utility lines
- Access roads

3) Protective fencing (see Figure "Protective Fencing") shall be the responsibility of the general contractor. The general contractor shall affix signs to the fencing at 25' minimum intervals indicating that these areas are "Forest Retention Area" or "Specimen Tree" (see Figures "Signage"). The general contractor shall take great care to assure the restricted areas are not violated and that root systems are protected from smothering, flooding, excessive wetting from de-watering operations, off-site run-off, spillage, and drainage or solutions containing materials hazardous to tree roots.

4) The general contractor shall be responsible for any tree damaged or destroyed within the preservation areas whether caused by the contractor, his agents, employees, sub-contractors, or licensees.

5) Foot traffic shall be kept to a minimum in the protective areas.

6) All trees which are not to be preserved within fifty feet of any tree preservation areas are to be removed in a manner that will not damage those trees that are designated for preservation. It is highly recommended that tree stumps within this fifty foot area be ground out with a stump grinding machine to minimize damage.

7) The general contractor shall designate a "wash out" area on-site for concrete trucks which will not drain toward a protected area.

8) A pre-construction meeting shall be held with local authorities before any disturbance has taken place on site.

**FOREST PROTECTION PROCEDURES - CONSTRUCTION PHASE**

Forest and tree conditions should be monitored during construction and corrective measures taken when appropriate.

The following shall be monitored:

- a) Soil compaction
- b) Root injury - prune and monitor crown reduction
- c) Limb injury - prune and monitor
- d) Flooded conditions - drain and monitor correct problem
- e) Drought conditions - water and monitor correct problem
- f) Other stress signs - determine reason, correct and monitor

Note: The landscaping plantings have been revised (as shown on this sheet). All revisions were made in accordance with the Howard County Landscape Manual and have been approved by Howard County.

**DEVELOPER'S CERTIFICATE**

I hereby certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a certificate of attendance at a Department of the Environment Approved Training Program for the control of sediment and erosion. I have reviewed the project and I shall ensure it complies with the "no-build" plan of the site within 30 days of completion. I also authorize periodic on-site inspections by Howard County Conservation District.

Signature of Developer: *[Signature]* Date: 10/19/10

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 10/26/10  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 10/26/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPT OF PUBLIC WORKS

*[Signature]* 10/27/10  
 CHIEF, BUREAU OF HIGHWAYS

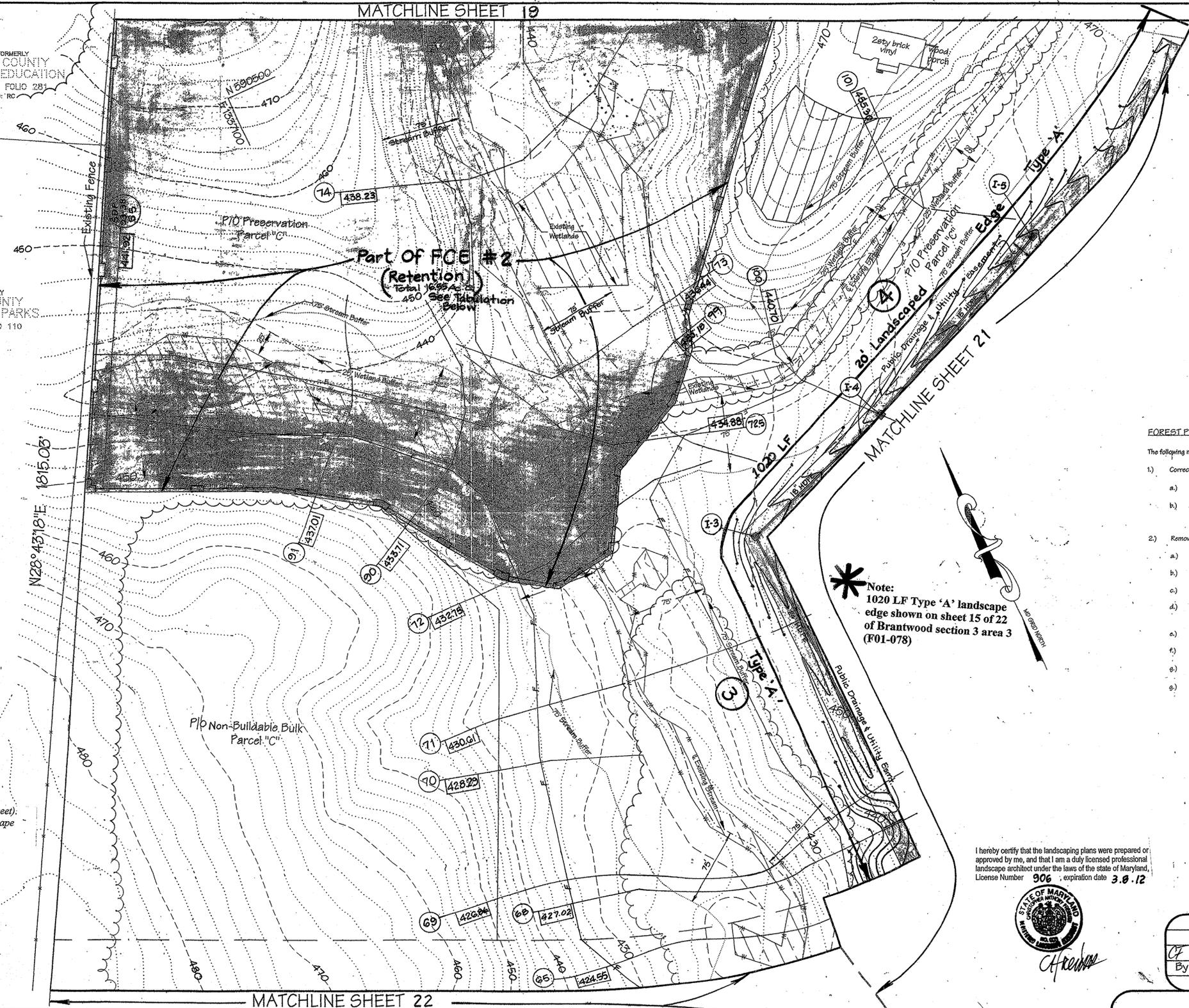
NOW OR FORMERLY  
**HOWARD COUNTY  
 BOARD OF EDUCATION**  
 LIBER 2480 / FOLIO 28  
 ZONED: RC

NOW OR FORMERLY  
**HOWARD COUNTY  
 RECREATION & PARKS**  
 LIBER 2227 / FOLIO 110  
 ZONED: RC

MATCHLINE SHEET 19

MATCHLINE SHEET 22

MATCHLINE SHEET 21



**LEGEND**

- 522 --- EX 2FT. CONTOUR
- 520 --- PROP. 2FT. CONTOUR
- 520 --- EX 10FT. CONTOUR
- 520 --- PROP. SEPTIC AREA
- 520 --- EX SEPTIC AREA
- 520 --- EX TREES
- 520 --- EX TREES TO REMAIN
- 520 --- EX STREAM
- 520 --- 75' FT. STREAM BUFFER
- 520 --- EX NON-TIDAL WETLAND
- 520 --- 25' FT. WETLAND BUFFER
- 520 --- 100 YEAR FLOODPLAIN
- WELL PROPOSED
- WELL EXISTING
- 520 --- FOREST CONSERVATION EASEMENT FENCING WITH SIGNAGE
- 73 43622 100 YEAR FLOODPLAIN CROSS SECTION AND ELEVATION

**FOREST PROTECTION PROCEDURES - POST CONSTRUCTION PHASE**

The following measures shall be taken:

- 1) Corrective measures if damages were incurred due to negligence:
  - a) Stress reduction
  - b) Removal of dead or dying trees. This may be done only if trees pose an immediate safety hazard
- 2) Removal of temporary structures:
  - a) No burial of discarded materials will occur on-site within the conservation area.
  - b) No open burning within 200 feet of a wooded area.
  - c) All temporary forest protection structures will be removed after construction.
  - d) Remove temporary roads by removing stone or broadcasting mulch; pre-construction elevation should be maintained.
  - e) Aerate compacted soil.
  - f) Replant disturbed sites with trees, shrubs and/or herbaceous plants.
  - g) Retain signs for retention areas or specimen trees.
  - h) A County official shall inspect the entire site.

**OWNERS:**

Parcel 172  
 Brantwood LLC  
 8835 P. Columbia 100 Parkway  
 Columbia, Md. 21045  
 Parcel 45  
 Hugh F. Cole, Jr.  
 8835 P. Columbia 100 Parkway  
 Columbia, Md. 21045  
 Parcel 208  
 Brantwood LLC  
 8835 P. Columbia 100 Parkway  
 Columbia, Md. 21045

I hereby certify that the landscaping plans were prepared or approved by me, and that I am a duly licensed professional landscape architect under the laws of the state of Maryland. License Number 906, expiration date 3.8.12



By	Date	No.	Description
CF	10/10	1	LANDSCAPING REVISIONS

**LDE, INC.**  
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED	EDS	Landscaping, Forest Conservation & Street Tree Planting Plan	SCALE	1"=50'	
DRAWN	JLM KBW	<b>BRANTWOOD</b> Section Three - Area One Lots 1-16, Preservation Parcels "A" Thru "D" Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C"	DRAWING	20 OF 23	
CHECKED	BDB		JOB NO.	98-040.4	
DATE	4/1 2001	DEVELOPER	BRANTWOOD, LLC 8835 P. Columbia 100 Parkway Columbia, Maryland 21045 (410) 720-0810	FILE NO.	F01-G7

**FOREST CONSERVATION EASEMENT STANDARD NOTES:**

The Forest Conservation Easement has been established to fulfill the requirements of Section 16.1200 of the Howard County Code, Forest Conservation Act. No clearing, grading or construction is permitted within the Forest Conservation Easement; however, forest management practices as defined in the Deed of Forest Conservation Easement are allowed.

**FCE #2 TABULATION**

TOTAL GROSS AREA = 16.55 Ac.±
AREA THIS SHEET = 6.41 Ac.±
AREA OF FLOODPLAIN = 2.29 Ac.±
TOTAL NET RETENTION ESMT. = 4.12 Ac.±

**NOTES:** 1. THIS SHEET SHALL NOT BE USED FOR GRADING PURPOSES. REFER TO SHEET 10 OF 23.

By	Date	No.	DESCRIPTION
CP	10/10/10	1	LANDSCAPE REVISIONS
REVISIONS			



**OWNERS:**

Parcel 172  
George & Gertrude Garbutt  
11525 Frederick Road  
Ellicott City, Md. 21042

Parcel 45  
Hugh F. Cole, Jr.  
8835 P Columbia 100 Play  
Columbia, Md. 21045

Parcel 205  
Wendy E. Takacs  
11407 Frederick Road  
Ellicott City, Md. 21042

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

10/20/10  
DATE

**DEVELOPER'S CERTIFICATE**

I/We certify that all development and/or construction will be done according to these plans and that any responsible personnel involved in the construction project will have a certificate of attendance at a Department of the Environment Approved Training Program for the control of sediment and erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" site of the pond within 30 days of completion. I also authorize periodic on-site inspections by Howard Soil Conservation District.

*[Signature]*  
Signature of Developer

*[Signature]*  
Date

I hereby certify that the landscaping plans were prepared or approved by me, and that I am a duly licensed professional landscape architect under the laws of the state of Maryland, License Number **906**, expiration date **3.8.12**

*[Signature]*

APPROVED: DEPARTMENT OF PUBLIC WORKS

*[Signature]*  
Chief, Bureau of Highways

10-22-10  
DATE

**LDE, INC.**  
9250 Rumsey Road, Suite 106, Columbia, MD, 21045  
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: EDS  
DRAWN: JLM, KBW  
CHECKED: BDB  
DATE: 4/2001

BRANTWOOD SECTION TWO AREA ONE  
PLAT #14135  
F89-140

**BRANTWOOD**  
Section Three - Area One  
Lots 1-16, Preservation Parcels "A" Thru "D"  
Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C"  
3rd Election District - Howard County, Maryland  
Tax: Map No. 16 - Grid No. 21 - Parcels 45, 172 & 205  
Previous Submittals: WP 90-96, F 90-123, WP 99-55, S 99-08, WP 00-55, P00-03

DEVELOPER: BRANTWOOD, LLC  
8835 P Columbia 100 Parkway  
Columbia, Maryland 21045  
(410) 720-0810

SCALE: 1"=50'  
DRAWING: 21 of 23  
JOB NO.: 98-040.4  
FILE NO.: F01- G7

*Note: The landscaping plantings have been revised (as shown on this sheet). All revisions were made in accordance with the Howard County Landscape Manual and have been approved by Howard County.*

MATCHLINE SHEET 20

LEGEND

- 522 --- EX. 2FT. CONTOUR
- 522 --- PROP. 2FT. CONTOUR
- 520 --- EX. 10FT. CONTOUR
- [Hatched Box] PROP. SEPTIC AREA
- [Hatched Box] EX. SEPTIC AREA
- [Wavy Line] EX. TREES
- [Wavy Line] EX. TREES TO REMAIN
- EX. STREAM
- 75' FT. STREAM BUFFER
- EX. NON-TIDAL WETLAND
- 25' FT. WETLAND BUFFER
- 100 YEAR FLOODPLAIN
- WELL PROPOSED
- WELL EXISTING
- [Box with Signage] FOREST CONSERVATION EASEMENT FENCING WITH SIGNAGE
- [Circle with 59] 100 YEAR FLOODPLAIN CROSS SECTION AND ELEVATION

**NOTE: FOREST CONSERVATION PROPOSED FOR THIS SHEET**

P10 Non-Buildable Bulk Parcel "C"

FCE #1 (Retention) 0.9226 Ac.±

FCE #3 (Retention) 0.919 Ac.± This Sheet

NOW OR FORMERLY HOWARD COUNTY RECREATION AND PARKS LIBER 2270 / FOLIO 110 ZONED RC

HAWKSFIELD ESTATES LOT 14 PLAT NO. 1044E ZONED RC

WALTER AND JANET REEF AGRICULTURAL LAND PRESERVATION EASEMENT #HC85-01E LIBER 925 / FOLIO 42 ZONED RC

BRANTWOOD SECTION TWO AREA ONE PRESERVATION PARCEL "F" F98-140 Plat #14135

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Mark Dammann* 5/10/01  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Kentley L.../for* 5/10/01  
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PUBLIC WORKS

*Howard S... for* 4/10/01  
 CHIEF, OFFICE OF HIGHWAYS

*BRUCE D. BROWN*  
 4/10/01

OWNERS:

- Parcel 172  
Brantwood LLC  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045
- Parcel 45  
Hugh F. Cole, Jr.  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045
- Parcel 205  
Brantwood LLC  
8835 P Columbia 100 Pkwy  
Columbia, Md. 21045

LDE, INC.  
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

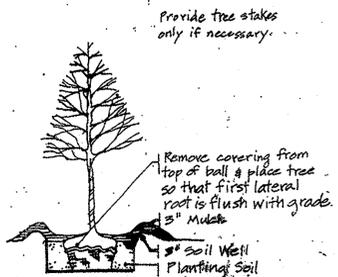
DESIGNED EDS	Scale 1"=50'
DRAWN JLM KBW	DRAWING 22 of 23
CHECKED BDB	JOB NO. 98-040.4
DATE 4/1/2001	DEVELOPER BRANTWOOD, LLC 8835 - P Columbia 100 Parkway Columbia, Maryland 21045 (410) 730-0810
FILE NO. F01-G7	

By	Date	No.	Description
REVISIONS			

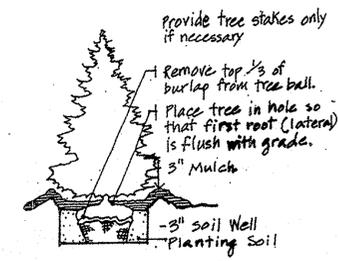
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# TREE PLANTING NOTES

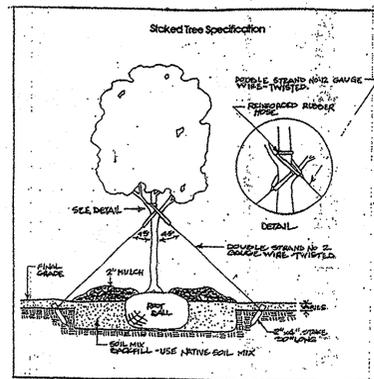
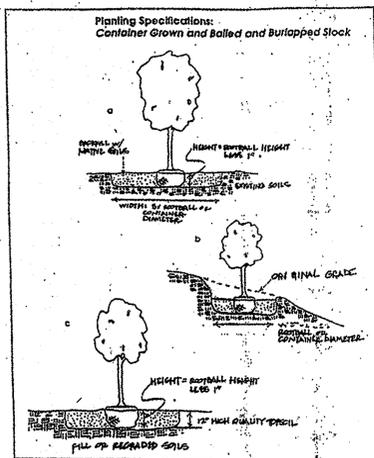
- Notify "Miss Utility" 72 hours prior to installation of all plant material.
- Plant installation must conform to the minimum standards cited in the latest edition of Landscape Specification Guidelines, published by the Landscape Contractors Association.
- Plants to be located in the field by the owner or owner's representative. Notify owner 72 hours in advance of planting.
- A Certification of Landscape Installation is required as per the Howard County Landscape Ordinance.
- The number, size, location of plants shall not be changed without the approval of the Landscape Architect. Substitutions must be included in the recommended plant list in the Howard County Landscape Ordinance.
- Street tree locations may be adjusted for final location of driveways. Trees to be located a minimum of 10 feet from driveways.
- Street trees may not be planted within 5 feet of drain inlets, 5 feet of an open space access strip and 10 feet of a driveway.
- Street tree planting must conform to the Subdivision and Land Development Regulations and the Department of Public Works Design Manual of Howard County.
- Balled and burlapped plant material shall not be accepted if ball is cracked or broken before or during planting. Protect all plants from drying by either sun or wind.
- Tree pits shall be backfilled with 50% topsoil, 25% peat 25% sand with one pound of 10-10-10 fertilizer per pit.
- Top soil shall be sandy loam soil free from noxious weeds or grasses, roots, clay clumps, stones, sticks, etc. Peat moss shall be commercial with pi 4.5 to 5.5, free of woody material or harmful minerals.
- All plants shall be watered at planting with weekly watering thereafter for the first 90 days. Watering shall continue bi-monthly or as necessary to maintain plants in a healthy condition during the guarantee period.
- Maintain the site in an orderly manner. Streets and sidewalks shall be swept clean. All rejected or dead materials shall be immediately removed from the site.
- Plant material to be alive and healthy at the time of the guarantee period (one year), as specified in the Howard County Landscape Ordinance.
- Maintenance shall begin immediately after planting and continue to the end of guarantee period.
- Maintenance consist of pruning, watering, weeding, re-mulching, resetting plants to proper grades as needed and repairing guys and stakes as needed.
- There shall be a minimum of 20 feet between street lights and street trees. All street trees shall be maintained by the HOA (Homeowners Association) end of guarantee period.



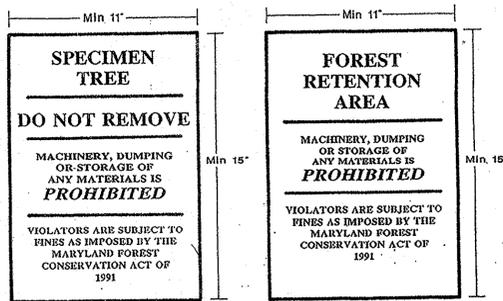
DECIDUOUS TREE PLANTING DETAIL N.T.S.



EVERGREEN TREE PLANTING DETAIL N.T.S.



## Signage

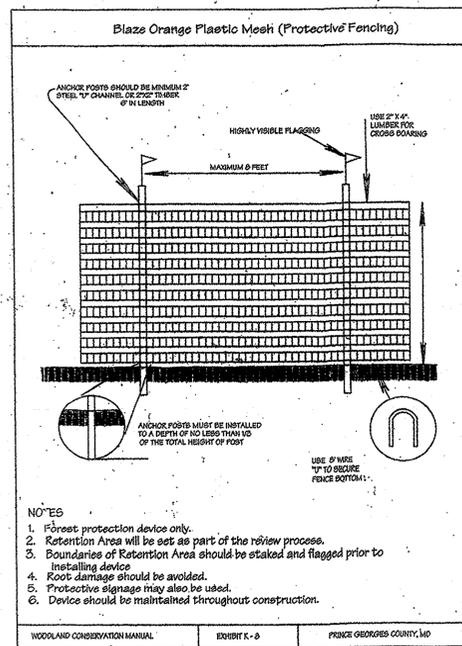


Area #	Type	Sheet #	# LF	Trees Required	Credit for Existing	Total Trees Required	Proposed Trees
1	A	19 of 23	1660	1660 / 60 = 28	240 / 60 = 4	28 + 4 = 32	24 Shade
2	A	21 of 23	400	400 / 60 = 7	0	7 - 0 = 7	7 Shade
3	A	21 of 23	300	300 / 60 = 5	200 / 60 = 3	5 - 3 = 2	2 Shade
4	B	21 of 23 (Shade)	1935	1935 / 60 = 32	1115 / 60 = 19	32 - 19 = 13	13 Shades
	B	21 of 23 (Evergreen)	1935	1935 / 40 = 48	1115 / 40 = 28	48 - 28 = 20	20 Evergreens

From Appendix "E"

### II. INFORMATION FOR CALCULATIONS

A. Net Tract Area	43.78
B. Reforestation Threshold (25% x A)	10.95
C. Afforestation Minimum (20% x A)	8.76
D. Existing Forest on Net Tract Area	17.41
E. Forest Areas to be Cleared	4.50
F. Forest Areas to be Retained	12.91
Break Even Point Calculation	
Reforestation Threshold (25% x A)	10.95
Existing Forest on Net Tract Area	17.41
Maximum "Break Even Point" Clearing	6.47
Proposed Forests to be Retained in Easement on Tract Area	12.96
Forest Areas Cleared Above Reforestation Threshold	6.47
Forest Areas Retained Above Reforestation Threshold (Retention Credits)	1.62
Since less clearing on the "Net Tract Area" is proposed than the "Break Even Point" clearing:	
Reforestation Required =	0.00



### NOTES

- Forest protection device only.
- Retention Area will be set as part of the review process.
- Boundaries of Retention Area should be staked and flagged prior to installing device.
- Root damage should be avoided.
- Protective signage may also be used.
- Device should be maintained throughout construction.

# GENERAL NOTES

- This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and Landscape Manual.
- The Owner/Developer is responsible for the planting of all plants material required to meet the standards established by the Howard County Landscape Manual.
- Financial Surety for the required landscaping has been posted as part of the Department of Public Works Developer's Agreement in the amount of \$28,800.
- Financial Surety for the required street trees has been posted in the amount of \$16,800.

## APPENDIX E - FOREST CONSERVATION WORKSHEET

### I. BASIC SITE DATA

Gross Site Area	84.59
Area Within 100' Year Floodplain (Wooded) = 9.79 (Total) - 0.92 (Meadow) = 8.87	8.87
Area Within Agricultural Use or Preservation Parcel (If Applicable)	21.94
Net Tract Area	43.78
Land Use Category (R-RLD, R-RMO, R-S, C/IO, I)	R-310D

### II. INFORMATION FOR CALCULATIONS

A. Net Tract Area	43.78
B. Reforestation Threshold (25% x A)	10.95
C. Afforestation Minimum (20% x A)	8.76
D. Existing Forest on Net Tract Area (20.28 Ac. (FSD "F1" "F4") - 8.87 (Floodplain))	17.41
E. Forest Areas to be Cleared	4.50
F. Forest Areas to be Retained	12.91

### III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION

#### 1. REFORESTATION

If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and clearing of forest resources is proposed, reforestation requirements may apply.

GO TO SECTION IV

If existing forests exceed the afforestation minimum (if D equals or is more than C), and no clearing of existing forest resources is proposed, no reforestation is required. No further calculations are needed.

#### 2. AFFORESTATION

If existing forest areas are less than the afforestation minimum (if D is less than C), afforestation requirements apply.

GO TO SECTION IV

### IV. REFORESTATION CALCULATIONS

A. Net Tract Area	43.78
B. Reforestation Threshold (25% x A)	10.95
D. Existing Forest on Net Tract Area	17.41
E. Forest Areas to be Cleared (F01-F07, F01-F07 & F01-F08)	4.50
F. Forest Areas to be Retained	12.91
G. Forest Areas Cleared Above Reforestation Threshold (D-E, if F equals or is greater than D, Alternate 2)	16.47
H. Forest Areas Cleared Below Reforestation Threshold (D-E, if applicable)	N/A -1.97
I. Forest Areas Retained Above Reforestation Threshold (F-E, Retention Credits, if applicable)	1.97

#### SELECT THE ALTERNATIVE THAT APPLIES:

##### 1. CLEARING ABOVE THE THRESHOLD ONLY

If forest areas to be retained equal or are greater than the reforestation threshold (if F equals or is greater than B), the following calculations apply:

12.91 > 10.95	
Reforestation for clearing above threshold	1.62
Credit for forest areas retained above threshold	1.97
1+ Retention Credits	
Total Reforestation required	0.25
(G x 1/4) - I	

If the total reforestation requirement is equal to or less than 0, no reforestation is required.

NO reforestation is required

### STREET TREE CALCULATIONS

3/1 Limit of Paving	18+06	Seneca Chief Trail
3/1 Limit of Submission	8+17	968' Road
3/1 Merlin Court	= 195' Paving	
908/40 = 24.7 X2	195/40 = 4.9 X2	
= 49	= 9	
= 58 Trees Required / 58 Provided*		

\* 58 Provided + 2 Credit for Brantwood 2/1 F99-140 = 58 Provided

### OWNERS:

Parcel 172  
Brantwood LLC  
8835 P. Columbia 100 Pkwy  
Columbia, Md. 21045

Parcel 45  
Hugh F. Cole, Jr.  
8835 P. Columbia 100 Pkwy  
Columbia, Md. 21045

Parcel 205  
Brantwood LLC  
8835 P. Columbia 100 Pkwy  
Columbia, Md. 21045

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]*  
10/26/10  
DATE

*[Signature]*  
10/26/10  
DATE

APPROVED: DEPT OF PUBLIC WORKS

*[Signature]*  
10-22-10  
DATE

### DEVELOPER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a certificate of attendance of a Department of the State's approved Training Program for the Control of Erosion and Sedimentation before beginning the project. I/We engage a registered professional engineer to inspect the construction and certify to the Department of Public Works that the construction complies with the approved plans. I also authorize periodic on-site inspections by the Department of Public Works. I/We certify that the construction complies with the approved plans. I/We certify that the construction complies with the approved plans.

*[Signature]*  
10/14/10  
Date



I hereby certify that the landscaping plans were prepared or approved by me, and that I am a duly licensed professional landscape architect under the laws of the state of Maryland, License Number 906, expiration date 3.8.12

Note: The landscaping plantings have been revised (as shown on this sheet). All revisions were made in accordance with the Howard County Landscape Manual and have been approved by Howard County.

LDE, INC.  
9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED BY: EDS  
DRAWN BY: JLM  
CHECKED BY: BDB  
DATE: 4/1/2001

REVISIONS

REVISIONS

BRANTWOOD  
Section Three - Area One  
Lots 1-16, Preservation Parcels "A" Thru "D"  
Buildable Bulk Parcels "A" & "B" and Non-Buildable Bulk Parcel "C"

3rd Election District - Howard County, Maryland  
Tax Map No. 16 - Grid No. 21 - Parcel 45, 172 & 205

Previous Submittals: WP 90-96, F 90-123, WF 99-55, F 99-140, S 99-08, WF 00-55, P00-03

BRANTWOOD, LLC  
8835 P. Columbia 100 Parkway  
Columbia, Maryland 21045  
(410) 752-2810

SCALE: As Shown  
DRAWING: 23 of 23  
JOB NO.: 98-040.4  
FILE NO.: F01-67