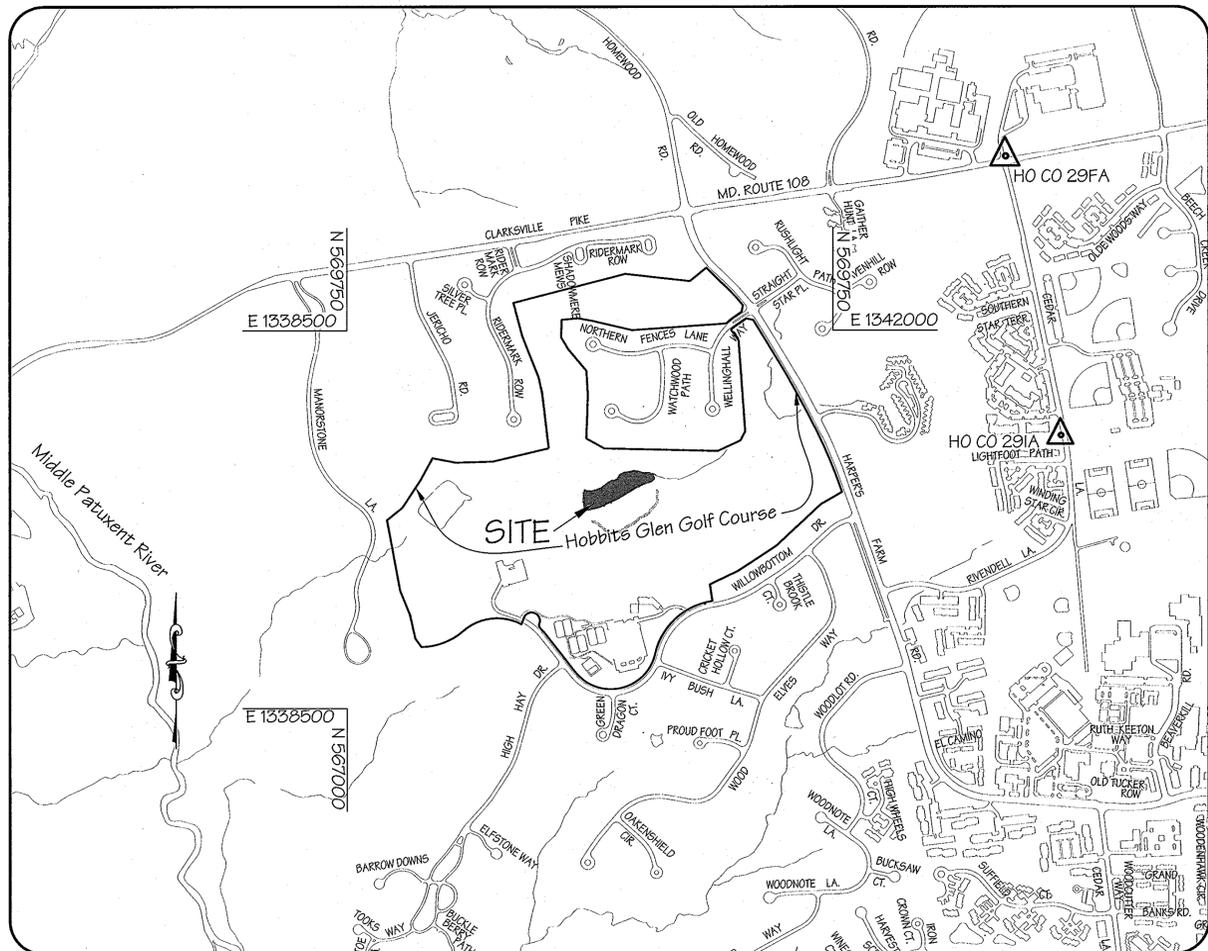


GENERAL NOTES

1. THE PURPOSE OF THIS SITE DEVELOPMENT PLAN IS TO PROVIDE CONSTRUCTION DOCUMENTS FOR THE RENOVATION OF AN EXISTING POND LOCATED ON THE HOBBITS GLEN GOLF COURSE. THE RENOVATIONS INCLUDE THE REMOVAL OF SEDIMENT FROM THE POND AND THE RECONSTRUCTION OF THE EXISTING POND EMBANKMENT, INCLUDING THE REPLACEMENT OF THE RISER AND BARREL STRUCTURES. THE POND DOES NOT SERVE AS A STORMWATER MANAGEMENT POND, BUT AS AN IRRIGATION POND ONLY.
2. All construction shall be in accordance with the latest standards and specifications of Howard County Design Manual Vol. IV and current MDE and MSHA standards & specifications.
3. Project Background:
 - Location: Village of Harpers Choice, Hobbits Glen Golf Course, Columbia, Maryland
 - Map No: 29
 - Tax Map Lot: VHC, Open Space Lot 8
 - Grid: 16
 - Election District: 5th
4. Existing zoning New Town-Open Space Credited, per 10/18/93 Comprehensive Zoning Plan.
5. Current Plat References:
 - VHC, Hobbits Glen Golf Course; Plat Nos. 930B & 930C
6. The Boundary shown hereon is based on the above referenced plats. Plat Nos. 930B & 930C recorded among the Land Records of Howard County on April 16, 1990.
7. Horizontal and vertical datum's are related to the Maryland State Plane Coordinate System as projected from Howard County control stations No. 29FA and 29IA (NAD 83).
8. Any damage caused by the contractor to existing Willowbottom Road public right-of-way, existing paving, existing curb and gutter, existing utilities, etc. shall be corrected at the contractor's expense.
9. The existing utilities shown hereon are located from field surveys and construction drawings of record. The contractor shall locate existing utilities to his own satisfaction and well in advance of any construction activities. Additionally, the contractor shall take all necessary precautions to protect all existing utilities and maintain uninterrupted service. Any damage incurred to utilities or existing features due to contractor's operation shall be repaired immediately at the contractor's expense.
10. There may be additional utilities not shown on these plans. The engineer assumes no responsibility for utility locations not shown and it shall be the responsibility of the contractor to verify the locations of all existing utilities within the limits of construction and notify the engineer of any discrepancies, prior to the start of construction.
11. Site Analysis Data:
 - a. Total Open Space Lot Area: 0.5 Lot 8 - 109.57 Ac
 - b. Area of Plan Submission: 6.00 Acres
 - c. Limit of Disturbed Area: 4.0 Acres
 - d. Present Use: Open Space - Golf Course
 - e. Proposed Use: Open Space - Golf Course
 - f. Applicable DPZ File References: F-93-156, FDP Phase 5-A-II (Plat No. 2054-A-1189 to 1193), GP-04-08 F-87-10, SDF-88-184, SDF-91-86, WF-03-140, WF-04-16
12. A wetland study for the subject site was completed by LDE, Inc. in June 2002.
13. A Wetland Permit and Water Quality Certification from the U.S. Army Corps of Engineers and the Maryland Department of the Environment is required for the proposed disturbances to the onsite nontidal wetlands and wetland buffers prior to beginning construction. The required permit applications have been completed and submitted to MDE. The assigned MDE tracking number is #200204079.
14. This project is located on existing New Town Open Space lots recorded prior to 1992. Therefore, this project is exempt from the forest conservation requirements since the New Town district is a planned unit development which has preliminary development plan approval and was 50% or more developed prior to 12/31/92 in accordance with Section 16.1022(b)(1)(iv) of the Howard County Code.
15. This project is exempt from the Howard County Landscape requirements.
16. Adjustments to the sequence of construction shall be approved by the Howard County Department of Inspections, Licenses and Permits, prior to such adjustments.
17. The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection at (410) 310-1850 at least five (5) working days prior to the start of work.
18. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least forty-eight (48) hours prior to any excavation work.
19. No water or sewer service is required for this project.
20. The subject pond was re-designed as a wet pond in accordance with the original design. The pond is not designed to serve as a stormwater management pond but as an irrigation pond for the surrounding golf course. The pond has been re-designed to conform with the latest MD-378 Pond Specifications and to safely pass the 2, 10 and 100 year storms with the required freeboard. The pond will provide a limited degree of quality and quantity management for its watershed.
21. The pond shall remain privately owned and maintained by the Columbia Association.
22. All fill shall be rolled to a minimum degree of compaction of 95% of the dry unit weight as determined by AASHTO T- 180.
23. The existing "100 Year Floodplain, Drainage and Utility Easement" shown hereon is taken from Howard County record plate 930B & 930C (F-90-156). The pond has been re-designed to hold the permanent pool elevation at nearly the same elevation as the originally designed pond (elev = 595.00). Based on the flood elevations shown on the recorded plats, the 100 year water surface elevation of 598.04 for the re-designed pond is fully contained within the existing easement. Therefore, no additional floodplain easements are required.
24. A Geotechnical Report was completed by Hillis Carnes Engineering Associates, Inc. for the existing pond embankment in December, 2001. Refer to boring logs and recommendations on sheet.
25. Earthwork quantities shown on this plan are estimated and should not be used for bid purposes. Contractors should perform independent earthwork analysis for bid purposes.
26. Deviations from these plans and specifications without prior written consent of the civil engineer may cause the work to be unacceptable.
27. The dimensioned distances shall govern if scaled and dimensioned distances on this plan are found to be in disagreement.
28. No clearing, grading or construction is permitted within the nontidal wetlands or their buffers until the MDE Permit is issued.
29. All unsuitable material excavated from the site (dredge spoils) shall be trucked to an approved offsite location. No Material shall be stockpiled onsite within the wetlands or their buffers.
30. Clearing, grading or construction is not permitted within the limit of wetlands, streams or their required buffers and 100 year floodplain, except as authorized by DPZ and MDE Permit No. 2003064079 as shown on this plan.
31. The existing topography shown hereon within the limits of disturbance is taken from a field run survey with one foot contour intervals prepared by LDE, Inc. in March, 1997 and supplemented in February, 2002. The remainder of the topography shown was compiled from Howard County Aerial Topography.
32. The access road shown off Willowbottom Road is temporary and will be removed upon completion of the construction. The contractor shall be responsible for restoring the golf course to its pre-construction condition.
33. Should the golf course be developed (made more impervious) in the future, a redesign and reconstruction of the pond must be completed before development occurs.
34. On September 5, 2003 the Planning Director approved WF-04-16 to waive Section 16.156(f)(2) for the reactivation of SDF 03-150 to active plan processing status. The waiver allows the revised plan to be resubmitted within 45 days of the waiver approval date.
35. The 200 linear feet of topography below the pond outfall was compiled from a combination of field run topography for the stream channel and county aerial topography for out of bank areas.
36. The Howard County Department of Planning & Zoning and Howard Soil Conservation District determined that the disturbances within the 100 year floodplain, wetlands, stream and required buffers for the proposed pond reconstruction is considered essential or necessary in accordance with Section 16.116(c) of the Subdivision and Land Development Regulations, except for the stream and buffer disturbances cited in the HSCD comments, dated October 23, 2003.



LOCATION MAP

Scale: 1" = 600'

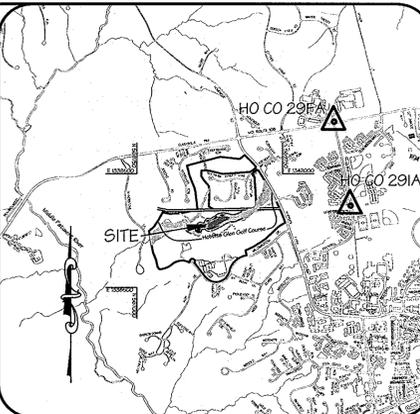
SITE DEVELOPMENT PLAN HOBBITS GLEN GOLF COURSE

Eastern Pond Reconstruction Village of Harpers Choice

Tax Map 29, Grid 16, Parcel 135, Open Space Lot 8
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

BENCHMARKS:

1. Howard County Control Station 29FA, Elevation = 469.50'
NAD 83 Coordinates: N 571017.371, E 1343241.805
Standard stamped disc set on a 3" deep concrete column located at the northeast corner of the intersection of Route 108 and Cedar Lane. The control station is located 16.4' from the southernmost water valve in Cedar Lane, 11.7' from the next water valve in Cedar Lane and 41.2' from the northernmost water valve in Cedar Lane.
2. Howard County Control Station 29IA, Elevation = 482.977
NAD 83 Coordinates: N 568886.048, E 1343640.123
Standard stamped disc set on a 3" deep concrete column located on the south side of Cedar Lane directly opposite Cedar Lane Park at the northeast corner of the intersection of Route 108 and Cedar Lane. The control station is located 59.1' northwest of an existing BGE transformer box, 41.7' east of an existing fire hydrant and 3.9' from the face of the curb on Cedar Lane.



VICINITY MAP

Scale: 1" = 1000'

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING STREAM
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING PIPE
- PROPOSED PIPE
- STONE HAUL ROAD
- LIMIT OF DISTURBANCE
- SILT FENCE
- SUPER SILT FENCE
- EARTH DIKE
- NON-TIDAL WETLAND LIMIT
- WETLAND BUFFER LIMIT
- APPROX. 100 YR. FLOOD PLAIN LIMIT
- 75' STREAM BUFFER
- DRAINAGE DIVIDE
- TIME OF CONCENTRATION FLOWPATH
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- NO WOODY VEGETATION ZONE

INDEX OF SHEETS	
No.	Description
1	Cover Sheet
2	Overall Plan
3	Site Development Plan
4	Site Development Plan
5	Grading & Sediment Control Plan
6	Grading & Sediment Control Plan
7	Drainage Area Map & Sediment Control Plans
8	Pond Construction Notes & Profiles
9	Pond Reconstruction Notes & Details
10	Pond Reconstruction Notes & Details
11	Existing Conditions Plan
11a	Tennis Center Sewer Line

This signature is for Revision #1 only.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Mark A. Taylor 9/10/04
DIRECTOR

Cinda Hamilton 9/10/04
CHIEF, DIVISION OF PLANNING AND ZONING

Chris Demunier 9/10/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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

Jim Mays 9/10/04
NATURAL RESOURCE CONSERVATION SERVICE

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

John A. [Signature] 9/10/04
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 RESIDENTS OF THE PROJECT SHOULD CONTACT THE 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.

David D. Burton 8/31/04
SIGNATURE OF ENGINEER

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.

D. Mathey 8/26/04
DATE

STATE OF MARYLAND
PROFESSIONAL ENGINEER
David D. Burton
8/31/04

Address Chart

Lot No.	Street Address
8	11130 Willowbottom Drive

REVISIONS

No.	Date	Description
1	8-4-11	Add Sheet 11a for the prop. Tennis Ctr. Sewer

Subdivision Name: Village of Harpers Choice		Sect/Area: 2/1	Parcel No.: Parcel 135, Lot 8
Deed Ref. Plat No. 930B-930C	Block No. 16	Zone NEW-TOWN	Tax Map No. 29
Water Code		Election District 5th	Census Tract 605502
	N/A	Sewer Code	N/A

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

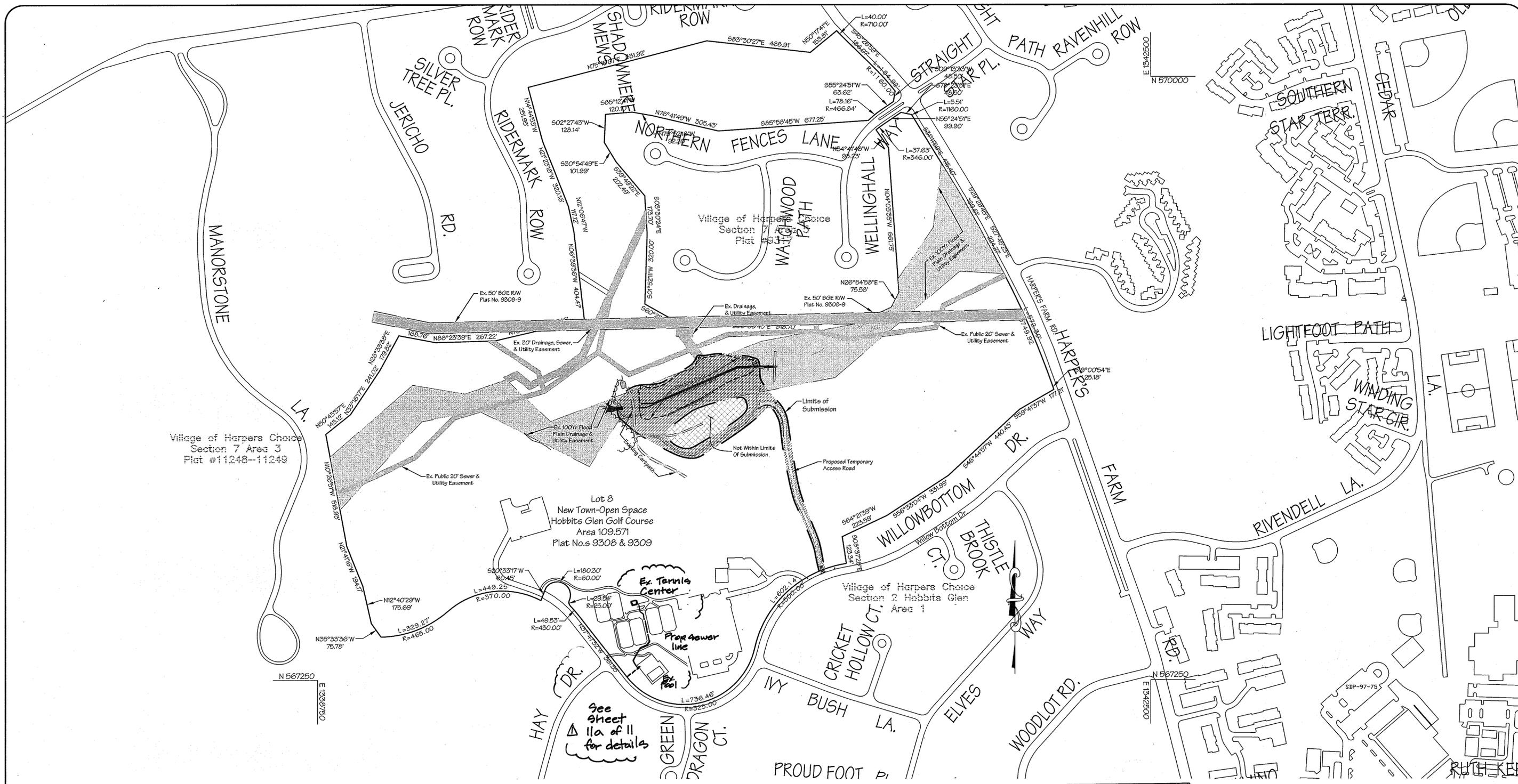
DESIGNED: S.D.H.
DRAWN: J.D.R.
CHECKED: B.D.B.
DATE: 4/2003

HOBBITS GLEN GOLF COURSE
Eastern Pond Reconstruction Village of Harpers Choice
Parcel 135 - Open Space Lot 8
Plat Nos. 930B & 930C
Tax Map 29 Grid 16, 5th Election District
Howard County, Maryland

Previous Submittals: F-87-10, SDF-88-184, SDF-91-86, WF-03-140, WF-04-16, WF-04-16

OWNER/DEVELOPER: COLUMBIA ASSOCIATION
10221 Winopin Circle, Suite 100
Columbia, Maryland 21044-3410
(410) 730-5962

SCALE: As Shown
DRAWING: 1 of 11
JOB NO.: 01-071
FILE NO.:



PLAN
1"=200'

[Signature]
This signature is for
Revision #1 only.

Subdivision Name: Village of Harpers Choice		Sect/Area: 2/1	Parcel No.: Parcel 135, Lot 8
Deed Ref. Plat No.: 9308-9309	Block No.: 16	Zone: NEW-TOWN	Tax Map No.: 29
Water Code: N/A		Election District: 5th	Consolidated Tract: 605502
		Sewer Code: N/A	

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 9/12/04 DATE

[Signature] 9/13/04 DATE

[Signature] 9/16/04 DATE

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

[Signature] 9/12/04 DATE

NATURAL RESOURCE CONSERVATION SERVICE

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

[Signature] 9/16/04 DATE

HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, GRADING AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE OR SHE IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND EROSION CONTROL MEASURES. I HAVE NOTIFIED THE DEVELOPER THAT HE OR SHE IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM 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] 8/31/04 DATE

DEVELOPER'S CERTIFICATE

"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 EMPLOY 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] 9/26/04 DATE

D. Matney
DENNIS MATNEY

[Professional Engineer Seal]

[Signature] 8/24/04

REVISIONS		
No.	Date	Description
1	8/4/11	Add Tennis Ctr. Bldg. & Prop. Sewer Line

DESIGNED: S.D.H.	Overall Plan	SCALE: 1"=200'
DRAWN: J.D.R.	HOBBITS GLEN GOLF COURSE	DRAWING: 2 of 11
CHECKED: B.D.B.	Eastern Pond Reconstruction Village of Harpers Choice	JOB NO.: 01-071
DATE: 4/2003	Parcel 135 - Open Space Lot 8 Plat No.s 9308 & 9309 Tax Map 29 Grid 16, 5th Election District Howard County, Maryland	FILE NO.:
	Previous Submittals: F-87-10, SDP-88-184, SDP-91-86, WF-03-140, WF-04-16, WF-04-16	
	OWNER/DEVELOPER: COLUMBIA ASSOCIATION 10221 Wincopin Circle, Suite 100 Columbia, Maryland 21044-3410 (410) 730-5962	

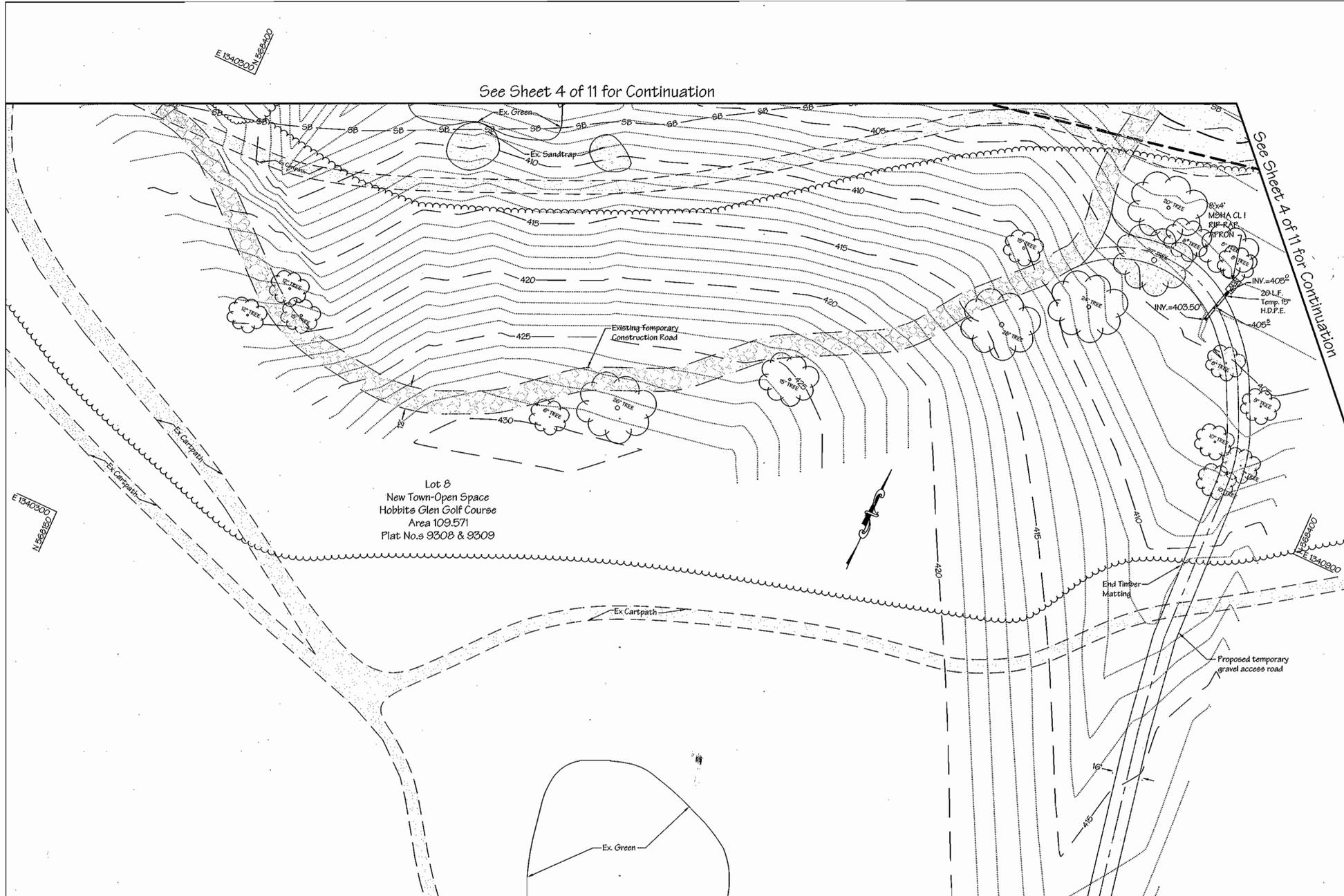
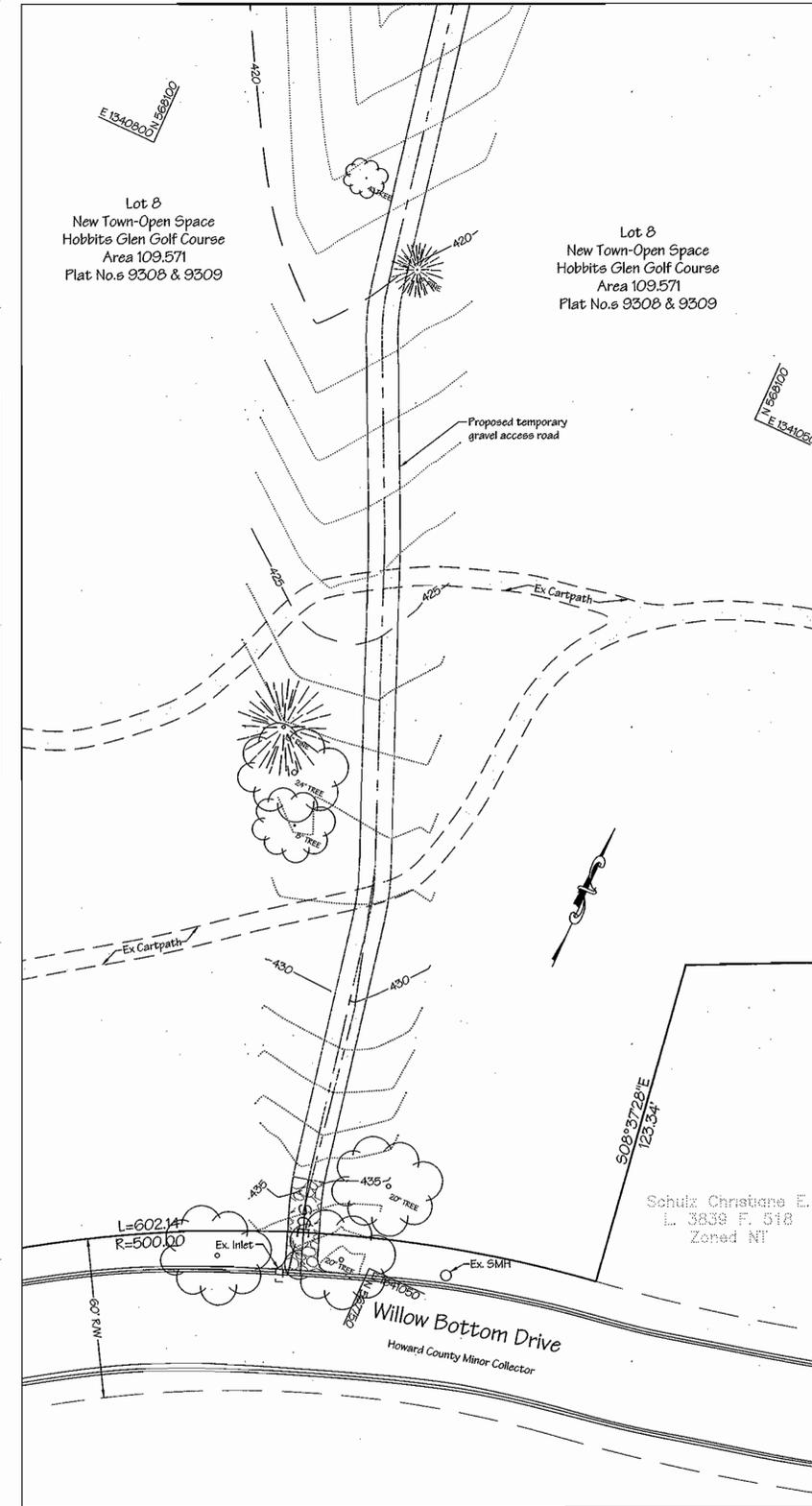
FILED: C:\Working\07-07\OVERALL.dwg, Overall: 8/20/2004 9:58:05 AM

See This Sheet for Continuation

See Sheet 4 of 11 for Continuation

See Sheet 4 of 11 for Continuation

See This Sheet for Continuation



Subdivision Name: Village of Harpers Choice			Sect./Area: 2/1	Parcel No. Parcel 135, Lot 8
Deed Ref. Plat No. 9308-9309	Block No. 16	Zone NEW-TOWN	Tax Map No. 29	Election District 5th
Water Code N/A	Sewer Code N/A		Census Tract 605502	

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Frank A. Loyell 9/13/04
DIRECTOR DATE

Colanmiter 9/13/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chris Pannunzi 9/16/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

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

Jim Myrland 9/16/04
NATURAL RESOURCE CONSERVATION SERVICE DATE

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

Yvonne L. [Signature] 9/16/04
HOWARD SOIL CONSERVATION DISTRICT DATE

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION CONTROL, GRADING, AND SEDIMENTATION 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 THESE PLANS ARE SUBJECT TO THE SUPERVISORY JURISDICTION OF THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 90 DAYS OF COMPLETION.

Bruce D. Burton 8/3/04
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 90 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

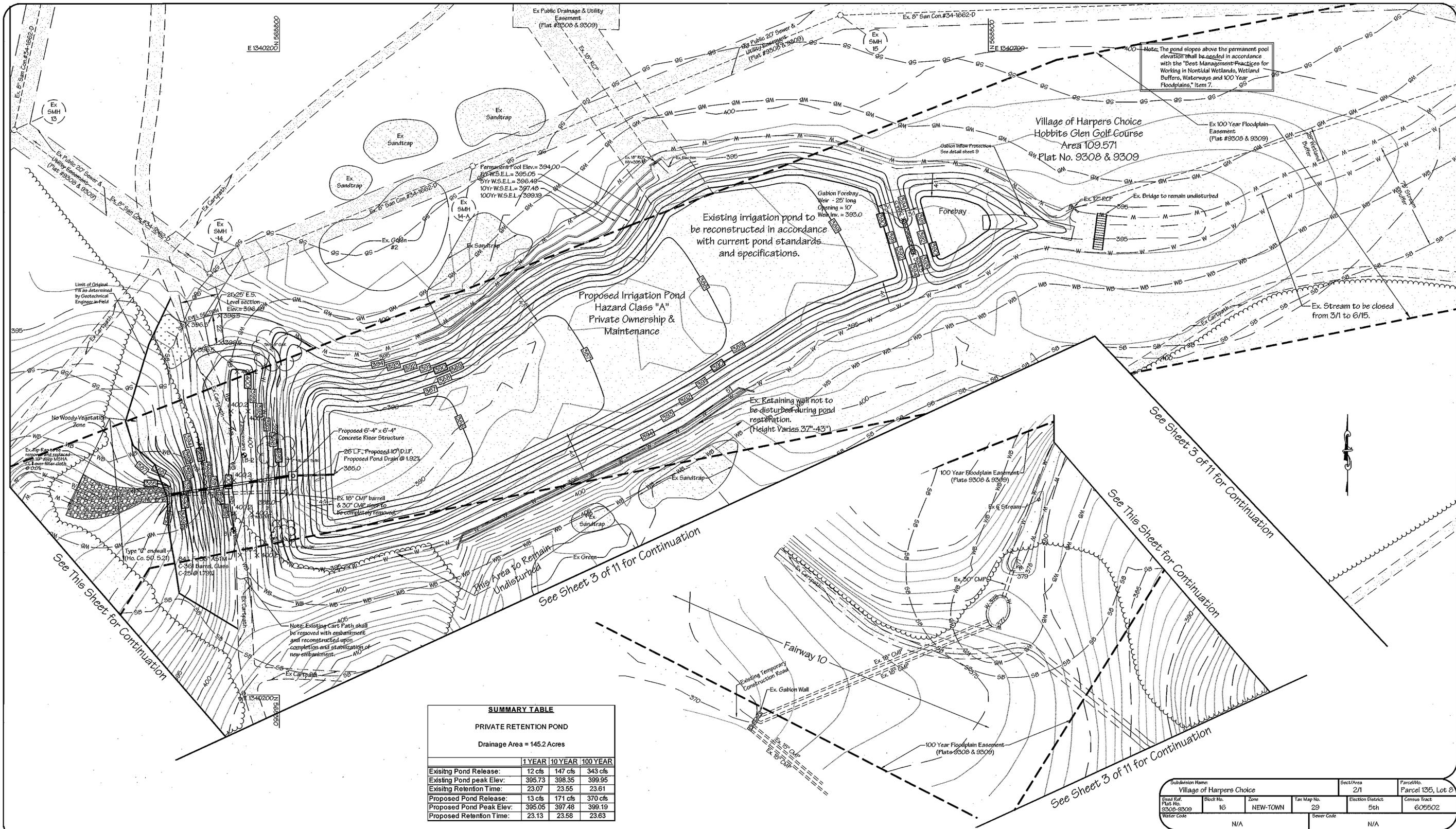
D. Mathey 8/26/04
DATE



REVISIONS		
No.	Date	Description

DESIGNED S.D.H.	Site Development Plan HOBBITS GLEN GOLF COURSE Eastern Pond Reconstruction Village of Harpers Choice Parcel 135 - Open Space Lot 8 Plat No.s 9308 & 9309 Tax Map 29 Grid 16, 5th Election District Howard County, Maryland	SCALE 1"=30'
DRAWN J.D.R.		DRAWING 3 of 11
CHECKED B.D.B.		JOB NO. 01-071
DATE 4/2003		FILE NO.
OWNER/DEVELOPER COLUMBIA ASSOCIATION 10221 Winocoin Circle, Suite 100 Columbia, Maryland 21044-3410 (410) 730-5962		

F:\0177\map\01-071\SDP_Aug_50' (1, 6/30/2003) 5/2/2006 AM



SUMMARY TABLE

PRIVATE RETENTION POND

Drainage Area = 145.2 Acres

	1 YEAR	10 YEAR	100 YEAR
Existing Pond Release:	12 cfs	147 cfs	343 cfs
Existing Pond peak Elev:	395.73	398.35	399.95
Existing Retention Time:	23.07	23.55	23.61
Proposed Pond Release:	13 cfs	171 cfs	370 cfs
Proposed Pond Peak Elev:	395.05	397.48	399.19
Proposed Retention Time:	23.13	23.58	23.63

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howell & Coyle 9/10/04
DIRECTOR DATE

C. Williams 9/10/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mr. Dammann 9/10/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

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

Jim Myers 9/1/04
NATURAL RESOURCE CONSERVATION SERVICE DATE

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

Yuh Shih 9/1/04
HOWARD SOIL CONSERVATION DISTRICT DATE

ENGINEER'S CERTIFICATE

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Bruce D. Burt 8/31/04
REGISTERED PROFESSIONAL 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. ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

D. Matney 8/26/04
DATE



REVISIONS

No.	Date	Description

Subdivision Name: Village of Harpers Choice				Sect./Area: 2/1	Parcel No.: Parcel 135, Lot B
Block No.: 16	Zone: NEW-TOWN	Tax Map No.: 29	Election District: 5th	Census Tract: 605502	
Water Code: N/A					

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

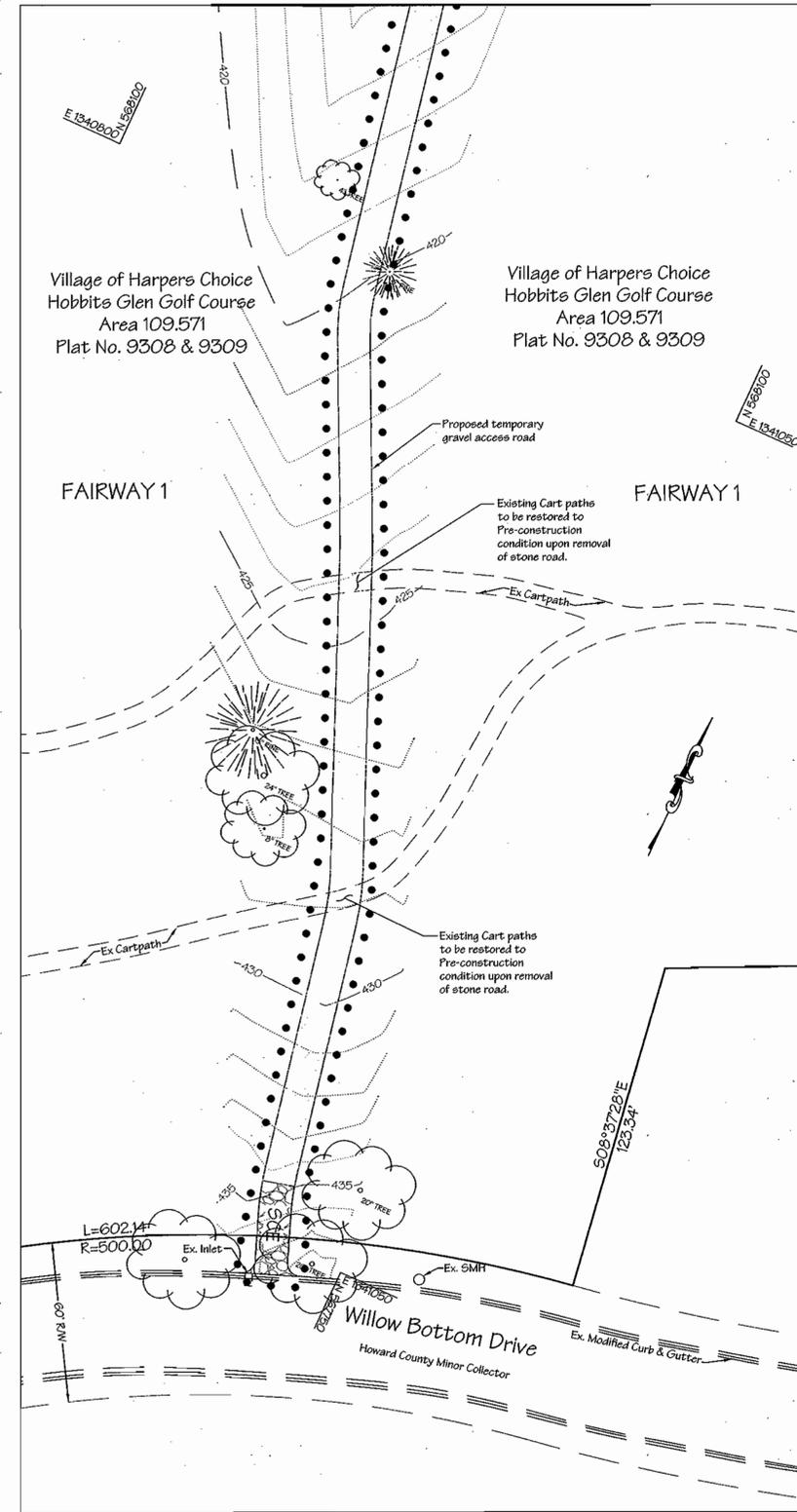
DESIGNED: S.D.H.
DRAWN: J.D.R.
CHECKED: B.D.B.
DATE: 4/2003

Site Development Plan
HOBBITS GLEN GOLF COURSE
Eastern Pond Reconstruction Village of Harpers Choice
Parcel 135 - Open Space Lot B
Plat No.s 9308 & 9309
Tax Map 29 Grid 16, 5th Election District
Howard County, Maryland

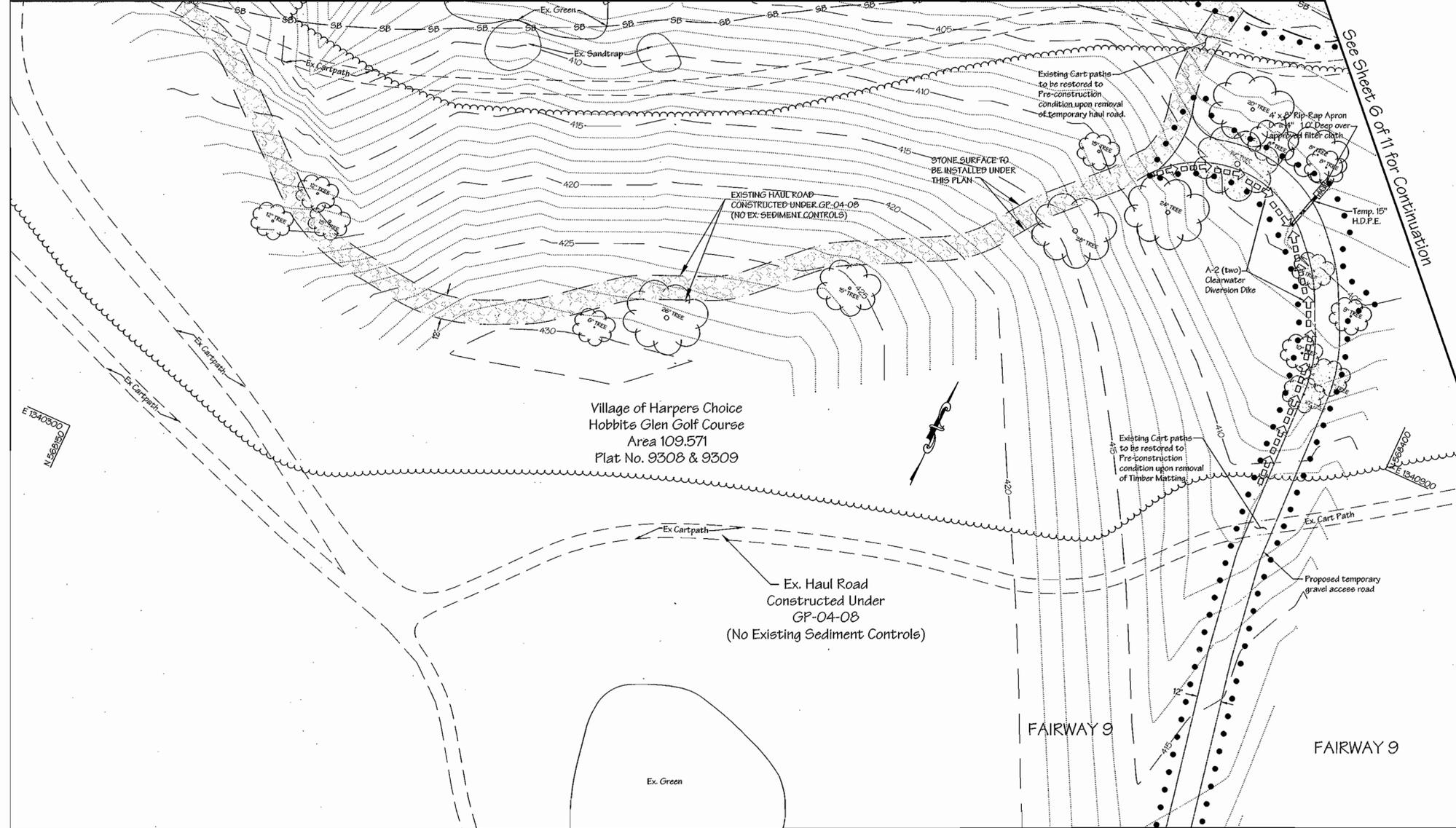
SCALE: 1"=30'
DRAWING: 4 of 11
JOB NO.: 01-071
FILE NO.:

Previous Submittals: F-87-10, SDP-88-184, SDP-91-86, WP-03-140, WP-04-16, WP-04-16
OWNER/DEVELOPER: COLUMBIA ASSOCIATION
10221 Winopin Circle, Suite 100
Columbia, Maryland 21044-3410
(410) 730-5962

See This Sheet for Continuation



See Sheet 6 of 11 for Continuation



See Sheet 6 of 11 for Continuation

See This Sheet for Continuation

Curt all silt fence and super silt fence at ends uphill by 2' in elevation.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Director: *Deborah D. Weyell* 9/10/04
 Chief, Division of Land Development: *Conrad Hambley* 9/10/04
 Chief, Development Engineering Division: *Chris Deussen* 9/10/04

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS, FOR POND CONSTRUCTION, GRADING & SEDIMENT CONTROL.
 Natural Resource Conservation Services: *Jim Meyer* 9/10/04
 THIS DEVELOPMENT PLAN IS APPROVED FOR POND CONSTRUCTION SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Howard Soil Conservation District: *Mark Stig* 9/10/04

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 AND CONDITIONS. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HEARSING & COMPANY, INC. IS A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND HAS BEEN ADVISED OF THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 Bruce D. Burton, Registered Professional Engineer, 8/21/04
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.
 D. Mathey, 8/26/04



REVISIONS		
No.	Date	Description

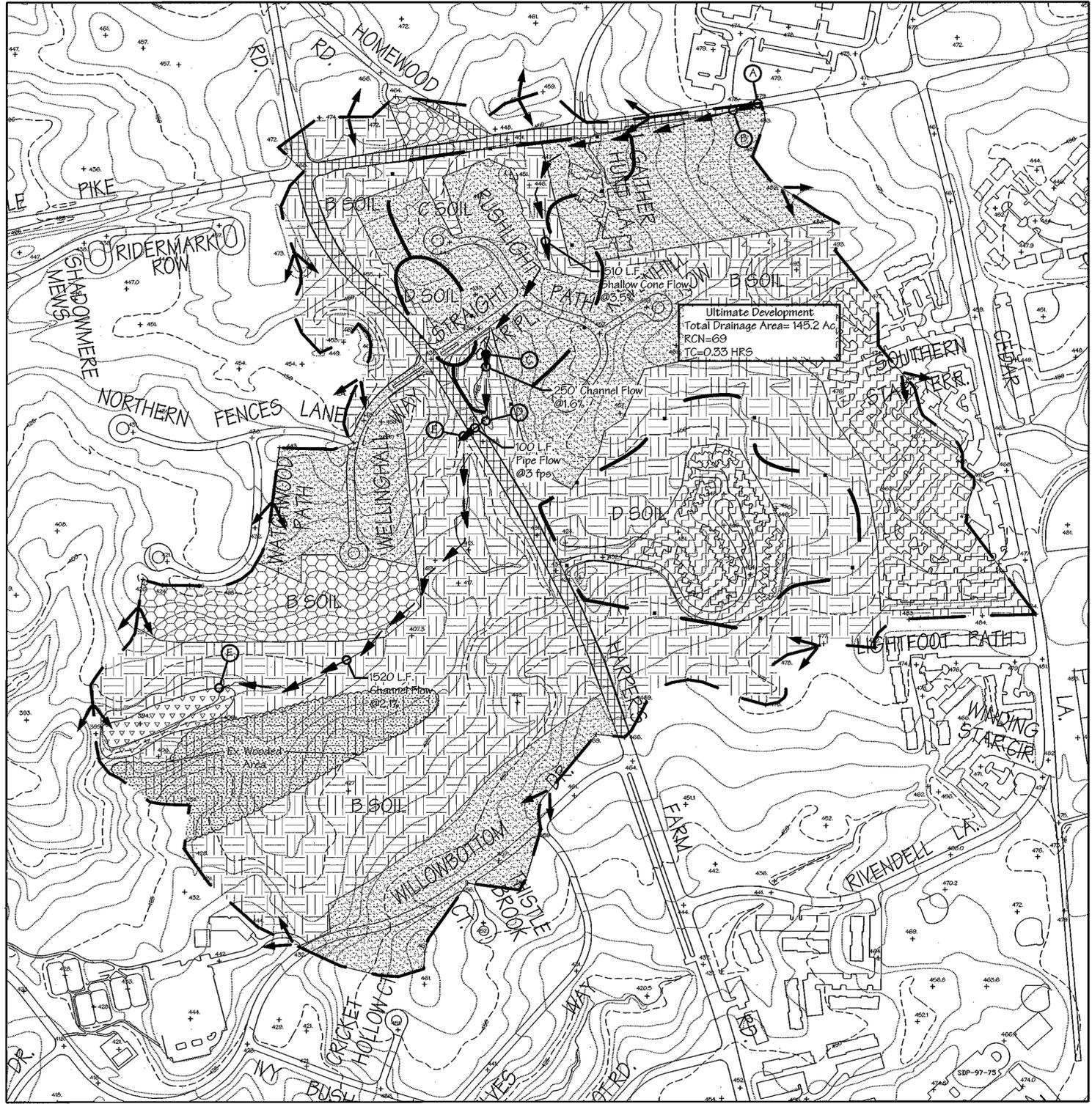
Subdivision Name: Village of Harpers Choice		Section/Area: 2/1	Parcel No.: Parcel 135, Lot 8
Block No.: 16	Zone: NEW-TOWN	Tax Map No.: 29	Election District: 5th
Dead Ref. Plat No.: 9308-9309	Water Code: N/A	Sewer Code: N/A	Census Tract: 605502

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

DESIGNED: S.D.H.	Grading and Sediment Control Plan HOBBITS GLEN GOLF COURSE Eastern Pond Reconstruction Village of Harpers Choice Parcel 135 - Open Space Lot 8 Plat No.s 9308 & 9309 Tax Map 29 Grid 16, 5th Election District Howard County, Maryland	SCALE: 1"=30'
DRAWN: J.D.R.		DRAWING: 5 of 11
CHECKED: B.D.B.		JOB NO.: 01-071
DATE: 4/2003		FILE NO.:

Previous Submittals: F-87-10, SDP-88-184, SDP-91-86, WP-07-140, WP-04-16, WP-04-16
 OWNER/DEVELOPER: COLUMBIA ASSOCIATION
 10221 Wincopin Circle, Suite 100
 Columbia, Maryland 21044-3410
 (410) 730-5962

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DRAINAGE AREA MAP
SCALE: 1" = 200'

**HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES**

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction, (303-19555).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in accordance with the most current "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", and revisions thereto.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (Section G) for permanent seeding, sod, temporary seeding, and mulching. Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

Total Area of Site	3,000 Acres
Area to be roofed or paved	1,500 Acres
Area to be vegetatively stabilized	1,500 Acres
Total Cut	50,000 Cu. Yds.
Total Fill	20,000 Cu. Yds.

 Offsets water/borrow area location: 6000 yd to be trucked offsite to a site with an approved sediment control plan.

**HOWARD SOIL CONSERVATION DISTRICT
PERMANENT SEEDING NOTES**

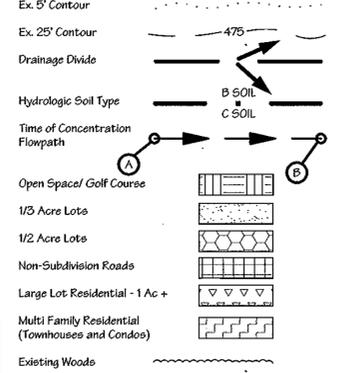
- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-term vegetative cover is needed.
- SEEDBED PREPARATION:** Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding, if not previously loosened.
- SOIL AMENDMENTS:** In lieu of soil test recommendations, use one of the following schedules:
- PREFERRED** -- Apply 2 tons per acre dolomitic limestone (92 lb/1000sq. ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lb/1000sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs per acre 32-0-0 ureaform fertilizer (9 lb/1000sq. ft.).
 - ACCEPTABLE** -- Apply 2 tons per acre dolomitic limestone (92 lb/1000sq. ft.) and 1000 lbs per acre 10-10-10 fertilizer (22 lb/1000sq. ft.) before seeding. Harrow or disk into upper three inches of soil.
- SEEDING** -- For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (14 lb/1000sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs per acre (14 lb/1000sq. ft.) of Kentucky 31 Tall Fescue and 2 lbs. per acre (.05 lb/1000sq. ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) - 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) - Use sod. Option (3) - Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch 2 tons / acre well anchored straw.
- MULCHING** -- Apply 1/2 to 2 tons per acre (70 to 90 lb/1000sq. ft.) of untreated weed free small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 210 gallons per acre (5 gal/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 3 feet or higher, use 340 gallons per acre (8 gal/1000sq. ft.) for anchoring.
- MAINTENANCE** -- Inspect all seeding areas and make needed repairs, replacements and reseedings.

**HOWARD SOIL CONSERVATION DISTRICT
TEMPORARY SEEDING NOTES**

- Apply to graded or cleared areas likely to be re-disturbed where a short-vegetative cover is needed.
- SEEDBED PREPARATION:** -- Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding, if not previously loosened.
- SOIL AMENDMENTS:** -- Apply 600 lbs per acre 10-10-10 fertilizer (14 lb/1000sq. ft.).
- SEEDING** -- For periods March 1 thru April 30, and from August 15 thru October 15 seed with 2-12 bushels per acre of annual ryegrass (3-2 lb/1000sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lb/1000sq. ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
- MULCHING** -- Apply 1/2 to 2 tons per acre (70 to 90 lb/1000sq. ft.) of untreated weed free small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 210 gallons per acre (5 gal/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 3 feet or higher, use 340 gallons per acre (8 gal/1000sq. ft.) for anchoring.

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

DRAINAGE AREA MAP LEGEND



210 STANDARD AND SPECIFICATIONS FOR TOPSOIL

- Definition:** Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.
- Purpose:** To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
- Conditions Where Practice Applies:**
- This practice is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
 - For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
- Topsoil Specifications - Soil to be used as topsoil must be the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
 - Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, dandelion, or others as specified.
 - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1000 square feet) prior to the placement of topsoil. Limestone shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas under 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
 - For sites having disturbed areas over 5 acres:
 - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - Organic content of topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 5000 parts per million shall not be used.
 - No soil or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min) to permit dissipation of phytotoxic materials.
 - Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of topsoil.
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

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

VI. Topsoil Application

- When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
- Grades on the areas to be topsoiled, which have been previously established, shall be maintained, unless 4" or higher in elevation.
- Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
- Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
- Alternative for Permanent Seeding - Instead of applying the full amount of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
 - Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
 - Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
 - Composted sludge shall contain at least 1 percent nitrogen, 15 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - Composted sludge shall be applied at a rate of 1 ton/1000 square feet.
 - Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1000 square feet, and 1/2 the normal lime application rate.

Reference: Guidelines Specifications, Soil Preparation and Sodding. MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1975.

SEQUENCE OF CONSTRUCTION

- Obtain grading permit and MDE permit. 1 Day
 - Notify the Howard County Department of Public Works Construction Inspection Division at 410-313-1855 at least 48 hours prior to beginning construction. 1 Day
 - Field stake limits of disturbance in accordance with the approved grading and sediment control plan. 1 Day
 - Note: MDE requires the closure of the onsite streams from March 1 through June 15. No in-stream work is allowed during the closure period. (Permit Tracking No. 200706478)
 - Open gate valve on existing pond to drain pond. The pond should be lowered no more than 12" - 18" per week in accordance with MDE requirements. Drain Time 3 - 5 Weeks
 - Install SCE, silt fence and temporary culvert for haul road. 2 Days
 - Install gravel access roads from Willowbottom Drive to staging area. 1 Week
 - Install remaining sediment control devices, including silt fence in vicinity of pond, temporary dam in channel above pond and temporary diversion pipe. Cut hole in bottom of existing metal riser and insert end of diversion pipe. Clean water shall be allowed to flow through the pond during construction via the temporary diversion pipe. 3 Days
 - Proposed dam shall not be constructed until:
 - The body of the pond is dredged, formed and permanently stabilized.
 - All barrel risers, endwalls and other principal spillway materials are onsite.
 - There is a 5 day clear (no precipitation) weather forecast from the National Weather Service (permission is granted by the sediment control inspector to proceed).
 - With permission from the Sediment Control Inspector, install embankment core trench.
 - Install pond riser and barrel (5'-1 to 5'-2), anti-seep collars, endwall, and concrete riser base in accordance with the notes and specifications.
 - Once new riser and barrel are installed move the temporary diversion pipe to outfall in new riser.
 - Remove old riser and barrel.
 - Install embankment cutoff trench and remainder of embankment to constructed top elevation.
 - Remove accumulated sediment from pond, load onto sealed trucks and transport to the approved disposal location with an active grading permit. 6 Weeks
 - Grade pond bottom in accordance with the approved grading plan, including forebay. 2 Weeks
 - Stabilize all pond slopes not to be permanently inundated. 2 Days
 - Grade remainder of basin/pond, including emergency spillway, in accordance with the approved grading plan. Immediately stabilize all disturbed areas in accordance with the temporary seeding notes. 4 Days
 - Install new cart path over top of pond embankment. 1 Day
 - Install trashrack on all four (4) faces of concrete riser structure. 1 Day
 - Once all disturbed areas are completely stabilized in accordance with the Permanent Seeding notes and with the permission of the sediment control inspector, remove the temporary diversion pipe and temporary dam; close gate valve on new riser and allow pond to fill to normal pool elevation. 3 Days
 - Remove temporary haul road, stabilize all remaining disturbed areas in accordance with the permanent seeding notes. With the permission of the sediment control inspector, remove all remaining sediment control devices, including silt fence. 4 Days
- Total Estimated Construction Time: 31 1/2 Months

NOTES:

- The temporary sandbagged stone dam and diversion pipe shall be checked after every storm event to insure they are operating properly. The temporary diversion pipes shall remain in place until all disturbed areas are completely stabilized and the basin is converted to a permanent pond.
- The unsuitable material from the existing pond and vicinity shall be directly loaded into trucks and taken to an approved offsite disposal location. Material shall not be trucked within the nontidal wetlands, wetland buffers, stream buffers or 100 year floodplain. With the permission of the sediment control inspector, material may be temporarily stockpiled within the existing pond bed.

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

- No access fill, construction material, or debris shall be stockpiled or stored in nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
- Place materials in a location and manner that does not adversely impact surface or subsurface water flow into or out of nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
- Do not use the excavated material as backfill if it contains waste metal products, unsightly debris, toxic material, or any other deleterious substance. If additional backfill is required, use clean material free of waste metal products, unsightly debris, toxic material, or any other deleterious substance.
- Place heavy equipment on mats or suitably operate the equipment to prevent damage to nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
- Repair and maintain any sensitive structure or fill so there is no permanent loss of nontidal wetlands, nontidal wetland buffers, or waterways, or permanent modification of the 100-year floodplain in excess of that lost under the originally authorized structure or fill.
- Locate any nontidal wetlands, wetland buffers, waterways, or 100-year floodplain temporarily impacted by any construction.
- All stabilization in the nontidal wetland and nontidal wetland buffer shall consist of the following species: Annual Ryegrass (Lolium multiflorum), Millet (Setaria italica), Barley (Hordeum sp.), Oats (Avena sp.), and/or Rye (Secale cereale). These species will allow for the stabilization of the site while also allowing for the voluntary revegetation of natural wetland species. Other non-persistent vegetation may be acceptable, but must be approved by the Nontidal Wetlands and Waterways Division. Kentucky 31 fescue shall not be utilized in wetland or buffer areas. The area should be seeded and mulched to reduce erosion after construction activities have been completed.
- After installation has been completed, make post-construction grades and elevations the same as the original grades and elevations in temporarily impacted areas.
- To protect aquatic species, in-stream work is prohibited as determined by the classification of the stream. Use 1 water: in-stream work shall not be conducted during the period March 1 through June 15, inclusive, during any year.
- Stormwater runoff from impervious surfaces shall be controlled to prevent the washing of debris into the waterways.
- Culverts shall be constructed and any silt placed so as not to obstruct the movement of aquatic species, unless the purpose of the activity is to impound water.

Subdivision Name: Village of Harkers Choice	Section/Area: 2/1	Parcel No.: Parcel 135, Lot 8
Block No.: 16	Zone: NEW-TOWN	Tax Map No.: 29
Block No.: 9308-8308	Election District: 5th	Census Tract: 605502
Water Code: N/A	Shower Code: N/A	

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

DESIGNED: S.D.H.	SCALE: As Shown
DRAWN: M.B.J.	DRAWING: 7 of 11
CHECKED: B.D.B.	JOB NO.: 01-071
DATE: 4/2003	FILE NO.:
OWNER/DEVELOPER: COLUMBIA ASSOCIATION 10221 Whipcord Circle, Suite 101 Columbia, Maryland 21044-3410 (410) 720-5962	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

David A. Caylor 3/12/04
DIRECTOR DATE

C. Williams 9/14/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chris Demmon 9/16/04
CHIEF, DIVISION OF PERMITTING AND INSPECTION DATE

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

J. McPherson 9/1/04
NATURAL RESOURCE CONSERVATION SERVICE DATE

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

Chris Saly 9/1/04
HOWARD SOIL CONSERVATION DISTRICT DATE

ENGINEER'S CERTIFICATE

CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, GRADING 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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE NOTIFIED THE DEVELOPER THAT I AM A REGISTERED PROFESSIONAL ENGINEER IN SUPERVISE POND CONSTRUCTION AND I AM A REGISTERED PROFESSIONAL ENGINEER IN SUPERVISE POND CONSTRUCTION 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.

Bruce P. Butler 8/31/04
REGISTERED PROFESSIONAL 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 90 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

D. Matney 8/26/04
DENNIS MATNEY DATE

STATE OF MARYLAND

David Williams 8/26/04
REGISTERED PROFESSIONAL ENGINEER DATE

REVISIONS

No.	Date	Description

POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-37B. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment and structural works shall be cleared grubbed, and stripped of topsoil. All trees, vegetation, roots, and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish, and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level to the ground surface. For dry stormwater management ponds, a minimum of a 25 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

EARTH FILL

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

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

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

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

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

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

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

STRUCTURAL BACKFILL

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent flowing the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

PIPE CONDUITS

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mill) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

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

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-196 or M211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specifications M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti seep-collars, end sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mills in thickness.

3. Connections - All connections with pipes must be completely watertight. The drain or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 24" in diameter: flanges on both ends of the pipe, with a circular 3/8" closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12 inch wide standard lap type band with 12" wide by 3/8" thick closed cell circular neoprene gasket; and a 12 inch wide hugger type band with O-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugated depth. Pipes 24" in diameter and larger shall be connected by a 24" long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24" wide by 3/8" thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8" closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

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

5. Backfilling shall conform to "Structure Backfill."

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

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

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

2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in "Structure Backfill" section of this standard. Gravel bedding is not permitted.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire length, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill."

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

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

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" shall meet the requirements of AASHTO M294 Type S.

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

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

4. Backfilling shall conform to "Structure Backfill."

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

DRAINAGE DIAPHRAGMS - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

CONCRETE:

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

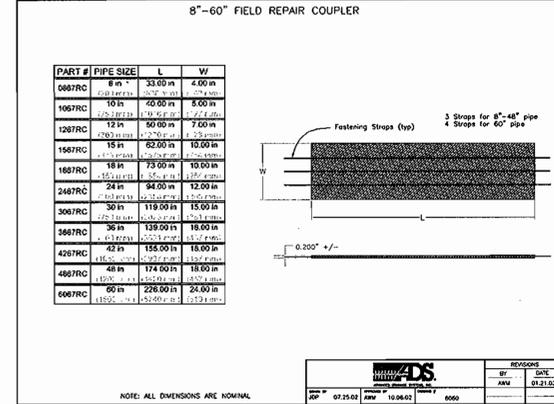
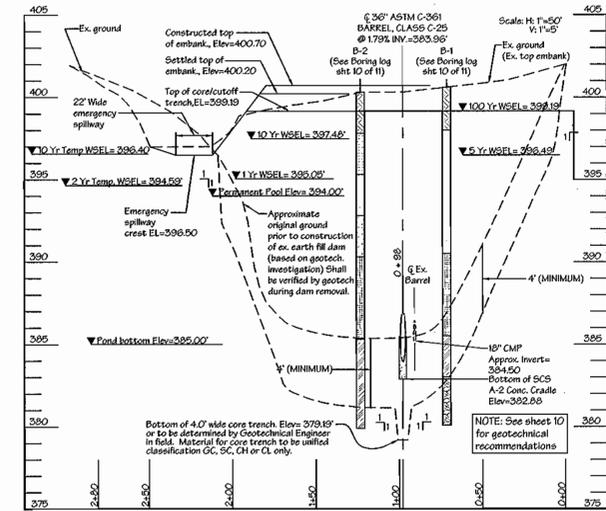
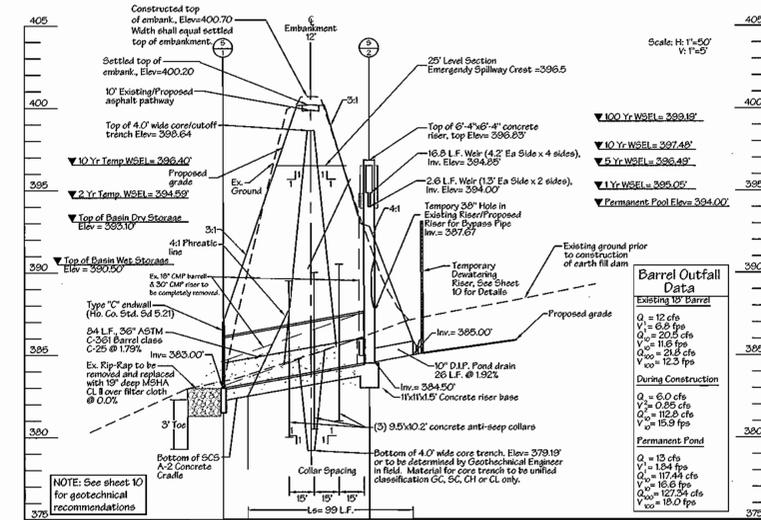
ROCK RIPRAP:

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

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

CARE OF WATER DURING CONSTRUCTION:

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



Detail for 30" H.D.P.E. Connection To Metal Riser

OPERATION, MAINTENANCE, AND INSPECTION

Inspection of the pond shown hereon 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 AND MAINTENANCE SCHEDULE

WET POND
PRIVATELY OWNED
OWNERS MAINTENANCE RESPONSIBILITIES:

- 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, and maintenance access should be mowed as needed.
- Debris and litter shall be removed during regular mowing operations as needed.
- When deemed necessary for aesthetic reasons, sediment should be removed from the pond. Approval of the Howard County Department of Public Works and Maryland Department of the Environment is required.

Subdivision Name: Village of Harpers Choice	Sect/Area: 2/1	Parcel/No: Parcel 135, Lot 8
Deed Ref. Plat No. 8909-8909	Block No. 16	Zone NEW-TOWN
Tax Map No. 29	Election District 5th	Census Tract 605502
Water Code N/A	Sewer Code N/A	

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

DESIGNED S.D.H.	Pond Reconstruction Notes & Details HOBBITS GLEN GOLF COURSE Eastern Pond Reconstruction Village of Harpers Choice Parcel 135 - Open Space Lot 8 Plat No. 8909 & 9309 Tax Map 29 Grid 16, 5th Election District Howard County, Maryland	SCALE As Shown
DRAWN J.D.R.		DRAWING 8 of 11
CHECKED B.D.B.		JOB NO. 01-071
DATE 4/20/03		FILE NO. OWNER/DEVELOPER COLUMBIA ASSOCIATION 10221 Wincopin Circle, Suite 100 Columbia, Maryland 21044-3410 (410) 730-5962

Previous Submittals: F-87-10, SDP-88-104, SDP-91-28, WP-03-140, WP-04-16, WP-04-16

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard D. Layzell 2/12/04
DIRECTOR DATE

John M. ... 9/13/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

... 9/10/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

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

John M. ... 9/1/04
NATURAL RESOURCE CONSERVATION SERVICE DATE

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

... 9/1/04
HOWARD SOIL CONSERVATION DISTRICT DATE

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION... 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 IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 90 DAYS OF COMPLETION.

BRUCE D. BURTON 8/31/04
SIGNATURE OF ENGINEER DATE

DEVELOPER'S CERTIFICATE

"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 AS 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."

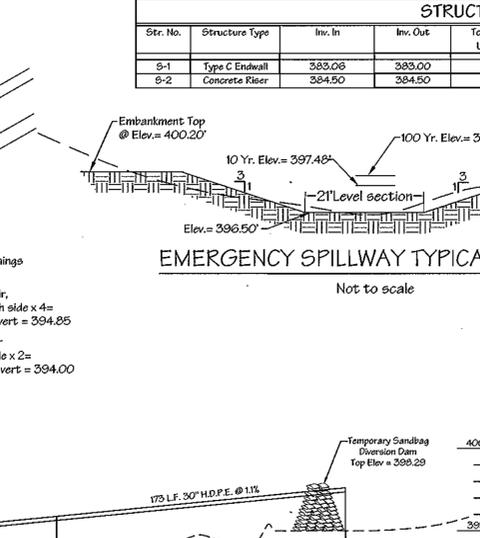
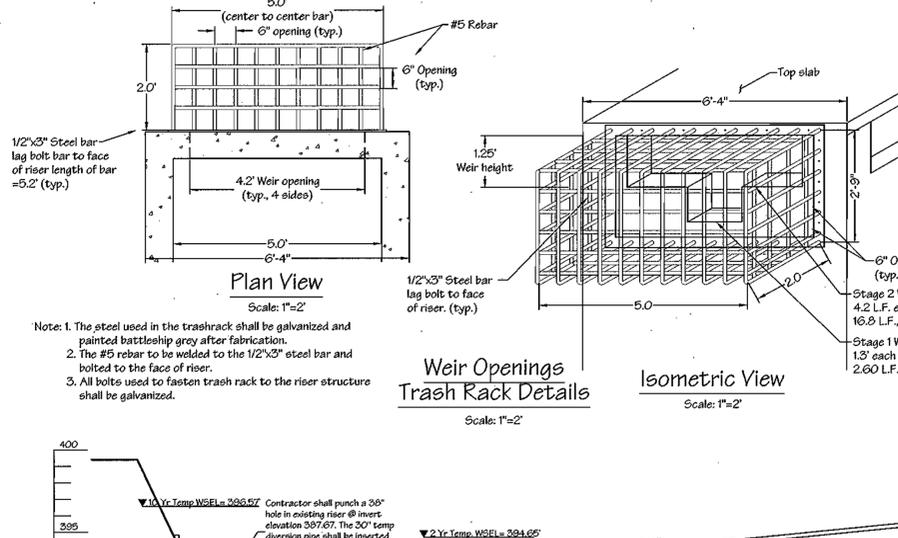
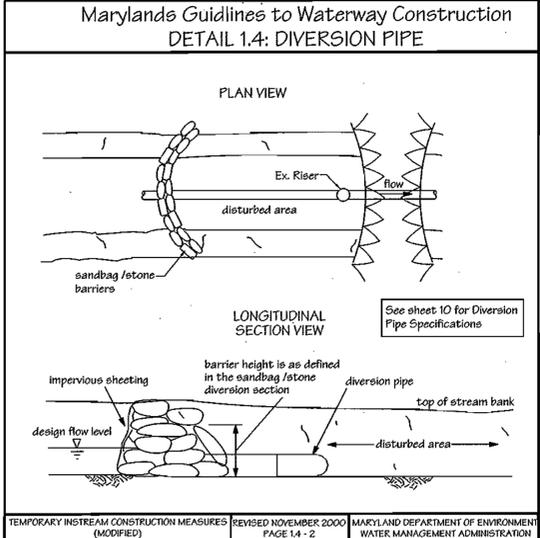
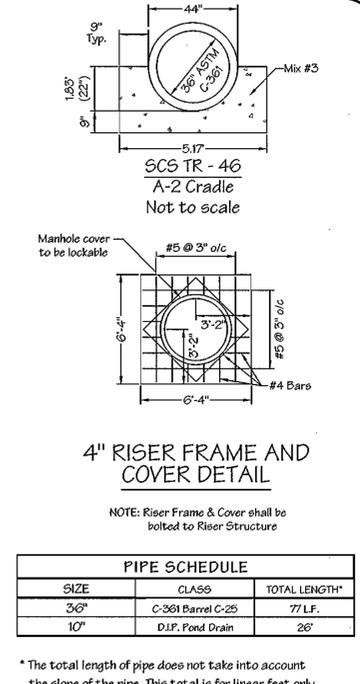
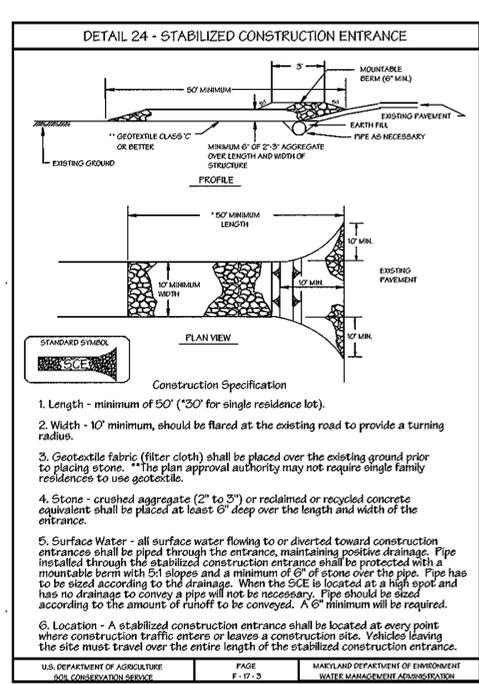
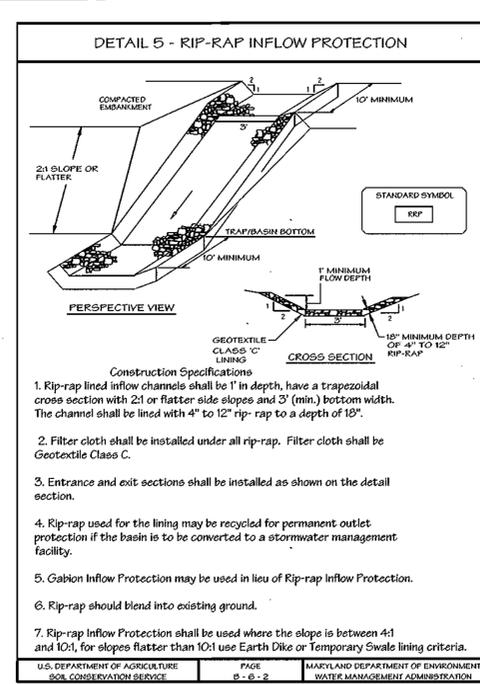
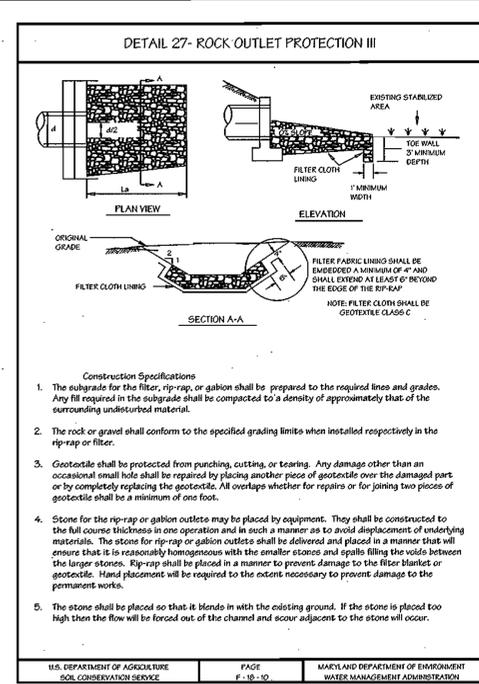
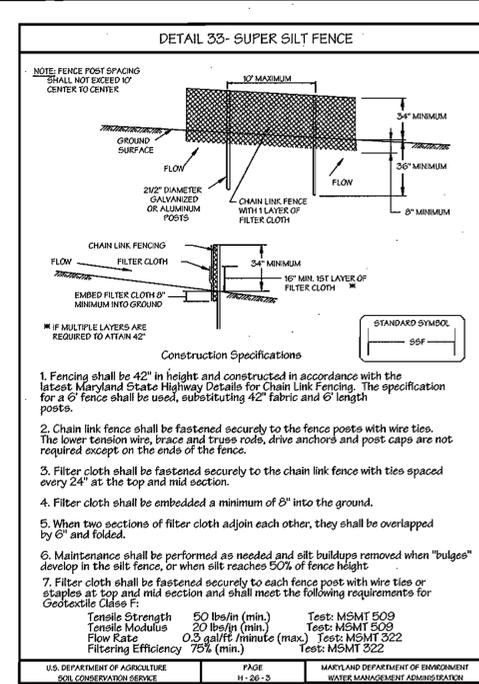
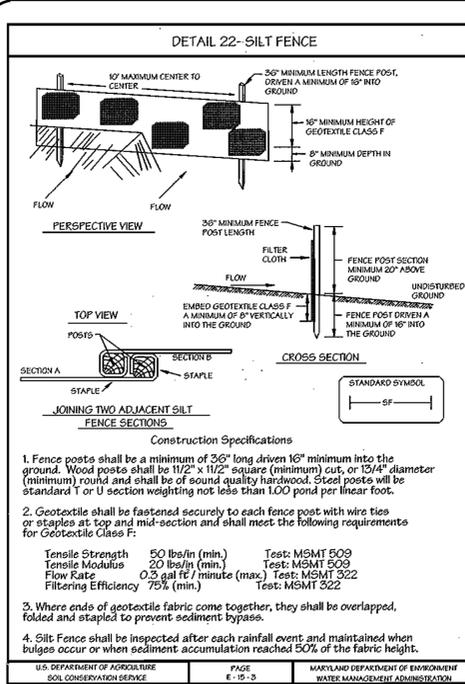
D. Matley 8/25/04
DENNIS MATLEY DATE

STATE OF MARYLAND
DAVID J. HARRIS
REGISTERED PROFESSIONAL ENGINEER
No. 19184
EXPIRES 12/31/07

... 8/31/04

REVISIONS

No.	Date	Description



STRUCTURE SCHEDULE

Str. No.	Structure Type	Inv. In	Inv. Out	Top Elevation or Upper / Lower	Detail	Location	Remarks
9-1	Type C Endwall	383.08	383.00			N568490.2012E 1340122.5790	
9-2	Concrete Riser	384.50	384.50	396.83		N568492.6213E 1340229.5583	

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE B-6-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

RECYCLX™ TRM MATERIAL SPECIFICATIONS

Materials: 100% Recycled Post Consumer Polyester Fiber, Polypropylene Netting, Polypropylene Stitching Thread

Roll Size: Width: 80" (2.0 m), Length: 900' (274 m), Area: 80.0 sq ft (66.9 m²), Weight: 50.0 lb (22.7 kg)

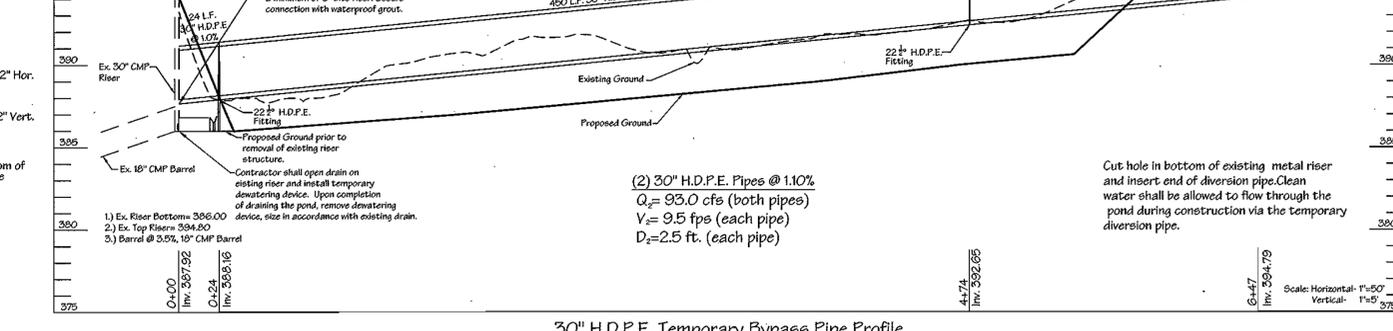
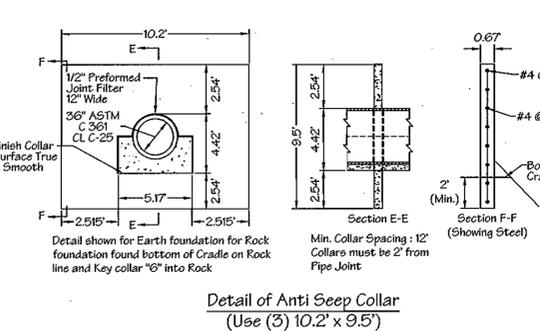
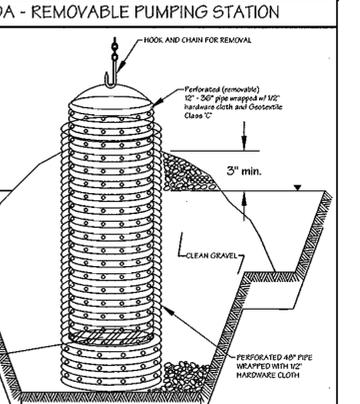
Description: Recyclx TRM is a three dimensional Trif Reinforcement Mat specifically designed to provide permanent structural support for vegetation root systems (soil reinforcement) and/or surface support underneath vegetation (soil reinforcement). Recyclx may be installed, and used, to allow the germination of restricted vegetation above, and a permanent, structural root system to grow into its matrix below. In addition, Recyclx may be installed as "road armor" over top soil and rock, which allows vegetation to grow up through its permanent matrix. Recyclx rolls are furnished in polyethylene bags to protect against the elements prior to installation, and may be stored in Matrix Piles of twelve rolls banded together to minimize handling requirements.

Physical Properties: 100% Recycled Post Consumer Polyester, 30% of fibers a minimum of 5" (15.7 cm) long, 480 Denier Polyester, 0.25" (6.35 mm) dia, 10% UV Polypropylene with UV stabilizer additive, Thread Material: 1.7" x 1.7" (4.3 cm x 4.3 cm) x 1.1 cm, Thread Weight: Polypropylene extra heavy duty black - top, Polypropylene heavy duty black - bottom, 0.75" wide x 1.07" long (19.1 mm x 25.4 mm) - top, 0.75" wide x 1.07" long (19.1 mm x 25.4 mm) - bottom

Net Configuration: Top and bottom

Turf Reinforcement Matting Specifications

850 Avenue H East • P.O. Box 2667 • Annapolis, Texas 78606-2667
Phone 1-800-777-3038 • Fax 817-335-3355 • www.Dorco.com



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

David H. Weyler 7/2/04 DATE
DIRECTOR

Robert M. ... 9/3/04 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

... 9/10/04 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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

Jim ... 9/1/04 DATE
NATURAL RESOURCE CONSERVATION SERVICE

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

... 9/1/04 DATE
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 PROFESSIONAL ENGINEERING REGULATIONS OF THE DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT THE HOWARD SOIL CONSERVATION DISTRICT HAS REVIEWED THE PLAN AND APPROVED 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.

Prince D. Burt 8/31/04 DATE
REGISTERED PROFESSIONAL ENGINEER

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 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

D. Matney 9/24/04 DATE
DENNIS MATNEY

... 8/31/04 DATE
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

No.	Date	Description

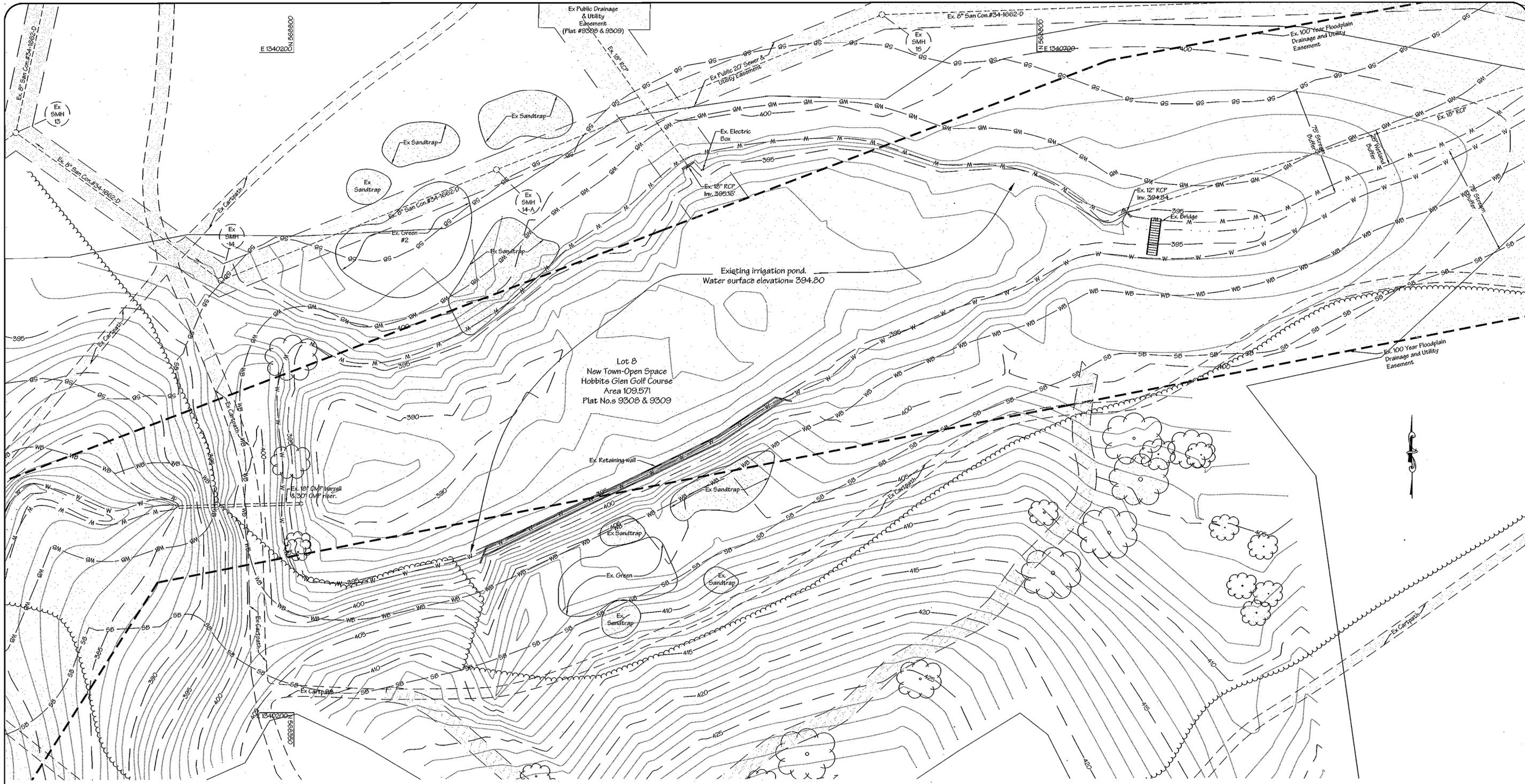
LDE, INC.
9250 Rumsley Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: S.D.H. SCALE: As Shown
DRAWN: J.D.R. DRAWING: 9 of 11
CHECKED: B.D.E. JOB NO.: 01-017
DATE: 4/2003 OWNER/DEVELOPER: FILE NO.:

Sediment Control and Pond Reconstruction Details
HOBBITS GLEN GOLF COURSE
Eastern Pond Reconstruction Village of Harpers Choice
Parcel 135 - Open Space Lot 6
Plat No. 9308 & 9309
Tax Map 29 Grid 16, 5th Election District
Howard County, Maryland

Previous Submittals: F-87-10, SDP-88-184, SDP-91-86, WP-03-140, WP-04-16, WP-04-16

COLUMBIA ASSOCIATION
10221 Wincopin Circle, Suite 100
Columbia, Maryland 21044-3410
(410) 730-5962



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Mark A. Coyle 7/10/04
DIRECTOR DATE

C. Williams 9/1/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John P. Williams 9/1/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

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

Jim Mapples 9/1/04
NATURAL RESOURCE CONSERVATION SERVICE DATE

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

Scott Selby 9/1/04
HOWARD SOIL CONSERVATION DISTRICT DATE

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, GRADING AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL SURVEY OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT THE HOWARD SOIL CONSERVATION DISTRICT ENGINEER TO SUPERVISE POND CONSTRUCTION SHALL BE PROVIDED 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.

BRUCE D. BURTON 8/31/04
REGISTERED PROFESSIONAL ENGINEER DATE

DEVELOPER'S CERTIFICATE

"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 EMPLOY 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."

D. Matney 8/26/04
DENNIS MATNEY DATE



REVISIONS		
No.	Date	Description

Subdivision Name: Village of Harpers Choice		Sect/Area: 2/1	Parcel No.: Parcel 135, Lot 8
Block No.: 16	Zone: NEW-TOWN	Tax Map No.: 29	Election District: 5th
Plat No.: 9308-9309	Water Code: N/A	Drainage Code: N/A	Census Tract: 605502

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

DESIGNED: S.D.H. SCALE: 1"=30'

DRAWN: J.D.R. DRAWING: 11 of 11

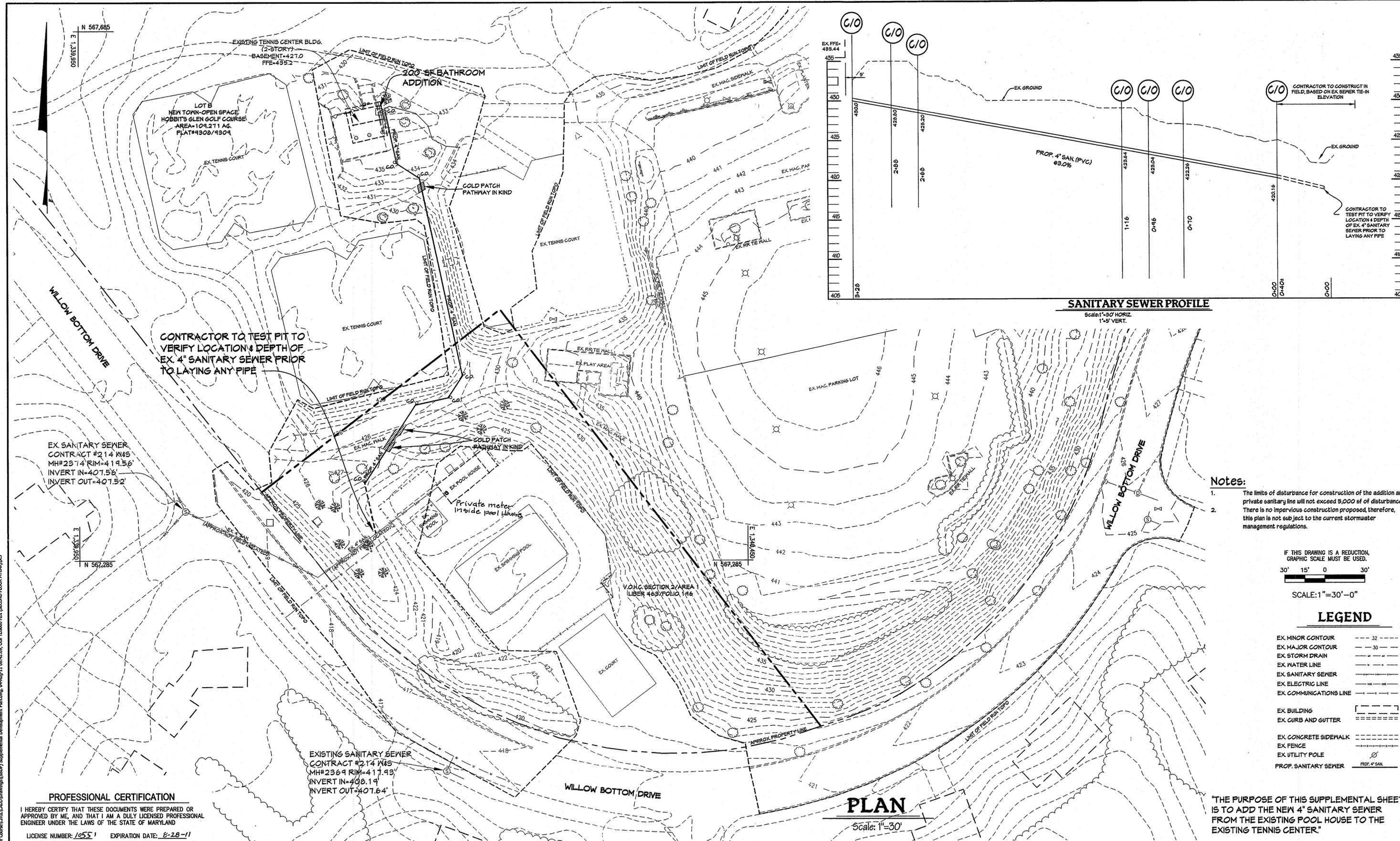
CHECKED: B.D.E. JOB NO.: 01-071

DATE: 4/2003 FILE NO.:

Existing Conditions Plan
HOBBITS GLEN GOLF COURSE
Eastern Pond Reconstruction Village of Harpers Choice
Parcel 135 - Open Space Lot 8
Plat No.s 9308 & 9309
Tax Map 29 Grid 16, 5th Election District
Howard County, Maryland

Previous Submittals: F-87-10, SDP-88-184, SDP-91-86, WP-03-140, WP-04-16, WP-04-19

OWNER/DEVELOPER: COLUMBIA ASSOCIATION
10221 Wincopin Circle, Suite 100
Columbia, Maryland 21044-3410
(410) 730-8962



CONTRACTOR TO TEST PIT TO VERIFY LOCATION & DEPTH OF EX. 4" SANITARY SEWER PRIOR TO LAYING ANY PIPE

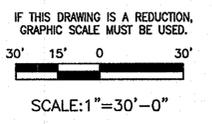
EX. SANITARY SEWER CONTRACT #214 M45 MH#2374 RIM=419.56' INVERT IN=407.52' INVERT OUT=407.52'

EXISTING SANITARY SEWER CONTRACT #214 M45 MH#2369 RIM=417.93' INVERT IN=408.19' INVERT OUT=407.64'

SANITARY SEWER PROFILE

Scale: 1"=30' HORIZ. 1"=5' VERT.

- Notes:**
1. The limits of disturbance for construction of the addition and private sanitary line will not exceed 5,000 sf of disturbance.
 2. There is no impervious construction proposed, therefore, this plan is not subject to the current stormwater management regulations.



LEGEND

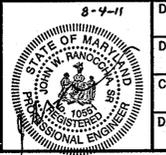
- EX. MINOR CONTOUR --- 32 ---
- EX. MAJOR CONTOUR --- 30 ---
- EX. STORM DRAIN --- ---
- EX. WATER LINE --- ---
- EX. SANITARY SEWER --- ---
- EX. ELECTRIC LINE --- ---
- EX. COMMUNICATIONS LINE --- ---
- EX. BUILDING [---]
- EX. CURB AND GUTTER [---]
- EX. CONCRETE SIDEWALK [---]
- EX. FENCE [---]
- EX. UTILITY POLE [---]
- PROP. SANITARY SEWER [---]

"THE PURPOSE OF THIS SUPPLEMENTAL SHEET IS TO ADD THE NEW 4" SANITARY SEWER FROM THE EXISTING POOL HOUSE TO THE EXISTING TENNIS CENTER."

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NUMBER: 10551 EXPIRATION DATE: 8-28-11

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Chief, Division of Land Development

CENTURY ENGINEERING
 CONSULTING ENGINEERS - PLANNERS
 10710 Gilroy Road, Hunt Valley, MD 21031
 Phone: 443.589.2400 Fax: 443.589.2401



DESIGN BY:	K.A.D.		
DRAWN BY:	R.D.T.		
CHECKED BY:	M.J.P.		
DATE:	08/04/2011		
BY	NO.	REVISION	DATE

COLUMBIA ASSOCIATION
 11130 WILLOW BOTTOM DRIVE
 COLUMBIA, MARYLAND 21044
 410-730-5262

SUPPLEMENTAL SHEET
REVISED SITE DEVELOPMENT PLAN
HOBBIT'S GLEN COUNTRY CLUB
 TAX MAP: 29 VHC, 2/1, LOT 8 PARCEL: 135
 ELECTION DISTRICT 5-02 HOWARD COUNTY, MARYLAND
 SHEET 11A OF 11

C.E.I. PROJECT NUMBER: 101192.00
 SCALE: AS SHOWN