SHEET INDEX	
SHEET No.	DESCRIPTION
1	TITLE SHEET
2	SPRING HOLLOW COURT PLAN AND PROFILE
3	HALEY'S COURT PLAN AND PROFILE
4	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
5	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
6	DRAINAGE AREA MAP
7	DRAINAGE AREA MAP
8	STORM DRAIN PROFILES
9	LANDSCAPE PLAN
10	LANDSCAPE PLAN
11	SEDIMENT CONTROL NOTES AND DETAILS
12	STORMWATER MANAGEMENT NOTES AND DETAILS
13	STORMWATER MANAGEMENT NOTES AND TYPICAL ROADWAY SECTIONS

FINAL ROAD CONSTRUCTION, GRADING AND STORMWATER MANAGEMENT PLANS

SPRING HOLLOW

LOTS 1 THRU 30 AND BUILDABLE PRESERVATION PARCEL 'A'

(A Resubdivision Of "Lambert Green", Plat #10523 - Lot 2, "Hardy Green", Plat #10928 - Lots 1,2,3,4 and 5, "Steven's Delight", Plat #10927 - Lots 4 and 5, "Scott's Delight", Plat #10926 - Lots 4 and 5 and Liber 2806 at Folio 626)

ZONED RC-DEO

TAX MAP NO. 7 PARCEL NOS. 522, 394, 341, 144 AND 38

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 3-8-99

APPROVED: DEPARTMENT OF PLANNING AND ZONING

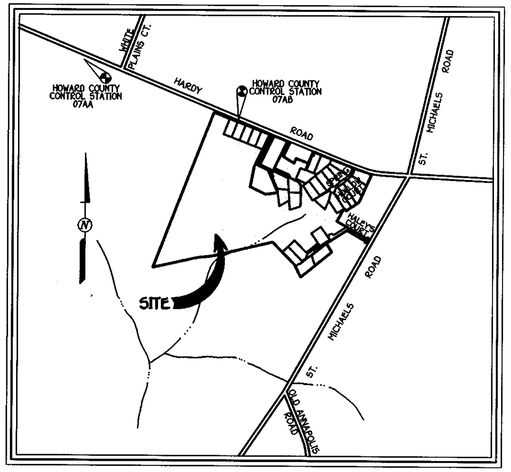
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/15/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/12/99

TRAFFIC CONTROL SIGNS				
ROAD	C.L. STA.	OFFSET	POSTED SIGN	SIGN CODE
SPRING HOLLOW COURT	0+36	23'L	STOP	R1-1
SPRING HOLLOW COURT	1+00	12'R	SPEED LIMIT 25	R2-1
HALEY'S COURT	0+36	23'L	STOP	R1-1
HALEY'S COURT	2+00	30'R	SPEED LIMIT 25	R2-1
SPRING HOLLOW COURT	2+95	---	KEEP RIGHT	R4-7
SPRING HOLLOW COURT	3+74	---	KEEP RIGHT	R4-7

ROAD CLASSIFICATION CHART			
ROAD	CLASSIFICATION	R/W WIDTH	C.L. STA.
SPRING HOLLOW COURT	PUBLIC ACCESS PLACE	40'	0+00 TO 5+43.92
HALEY'S COURT	PUBLIC ACCESS PLACE	40' / 50'	0+00 TO 7+01.40

MINIMUM LOT SIZE CHART				
LOT No.	GROSS AREA	PIPESTEM AREA	REMAINING AREA	MINIMUM LOT SIZE
8	43,671 Sq.Ft.±	2,271 Sq.Ft.±	41,400 Sq.Ft.±	41,400 Sq.Ft.±
9	44,103 Sq.Ft.±	599 Sq.Ft.±	43,504 Sq.Ft.±	43,504 Sq.Ft.±
16	54,803 Sq.Ft.±	6,719 Sq.Ft.±	48,084 Sq.Ft.±	48,084 Sq.Ft.±
17	60,820 Sq.Ft.±	11,626 Sq.Ft.±	49,194 Sq.Ft.±	49,194 Sq.Ft.±
18	56,742 Sq.Ft.±	15,620 Sq.Ft.±	41,122 Sq.Ft.±	41,122 Sq.Ft.±
19	60,641 Sq.Ft.±	1,347 Sq.Ft.±	57,294 Sq.Ft.±	57,294 Sq.Ft.±
20	56,359 Sq.Ft.±	13,290 Sq.Ft.±	43,069 Sq.Ft.±	43,069 Sq.Ft.±
21	56,728 Sq.Ft.±	649 Sq.Ft.±	56,079 Sq.Ft.±	56,079 Sq.Ft.±
22	65,606 Sq.Ft.±	6,716 Sq.Ft.±	58,890 Sq.Ft.±	58,890 Sq.Ft.±
23	60,840 Sq.Ft.±	15,767 Sq.Ft.±	45,073 Sq.Ft.±	45,073 Sq.Ft.±
24	59,155 Sq.Ft.±	9,414 Sq.Ft.±	49,741 Sq.Ft.±	49,741 Sq.Ft.±



VICINITY MAP
SCALE: 1" = 1200'

FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

GENERAL NOTES

1. UNLESS OTHERWISE NOTED, ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE FOLLOWING:
   a. HOWARD COUNTY STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION VOLUME IV.
   b. MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, AS AMENDED.
   c. SOIL CONSERVATION SERVICE 1983 MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
   d. SOIL CONSERVATION SERVICE 1993 MARYLAND STANDARDS AND SPECIFICATION FOR POND CONSTRUCTION (CODE 378)
   e. EXISTING UTILITIES ARE BASED ON FIELD RUN TOPOGRAPHY.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF CONSTRUCTION INSPECTION AT 410-313-1880 AT LEAST (5) WORKING DAYS. PRIOR TO THE START OF CONSTRUCTION.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.
4. SUBJECT PROPERTY ZONED "RC-DEO" PER 10/18/1993 COMPREHENSIVE ZONING.
5. TOTAL AREA OF PROPERTY = 119.37 AC.±
   a) AREA OF PROPOSED BUILDABLE LOTS: 31.17 AC.±
   b) AREA OF ROAD RIGHT-OF-WAY: 1.82 AC.±
   c) TOTAL NO. OF BUILDABLE LOTS: 30
   d) TOTAL NO. OF BUILDABLE PARCELS TO BE RECORDED = 1
6. Coordinates Based On Nad '83 , Maryland Coordinate System As Projected By Howard County Geodetic Control Stations No. 07AA And No. 07AB.
   Sta. 07AA N 196177.3488 E 389177.8418
   Sta. 07AB N 195873.2057 E 389968.0247
7. ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS ALLOWED BY APPROVAL OF A WAIVER PETITION OR DESIGN MANUAL WAIVER.
8. PRIVATE WATER AND SEWER WILL BE USED WITHIN THE PROJECT.
9. THE TRAFFIC STUDY WAS PREPARED BY STREET TRAFFIC STUDIES AND APPROVED BY HOWARD COUNTY UNDER S 98-01 ON 9-18-97.
10. THIS PLAN IS BASED ON AERIAL TOPOGRAPHY FLOWN ON OR ABOUT MAY, 1996.
11. ALL AREAS ARE MORE OR LESS (±)
12. REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE TO BE PROVIDED AT THE JUNCTION OF THE PIPE / FLAG STEM AND THE ROAD R/W AND NOT ONTO THE PIPE / FLAG STEM DRIVEWAY.
13. PREVIOUS FILE NUMBERS: S 98-01, P 98-26 AND WP 98-03.
14. FOREST CONSERVATION IS PROVIDED BY ECO-SCIENCE PROFESSIONALS, INC. DATED JAN. 20, 1998.
15. THE FOREST CONSERVATION EASEMENT(S) HAS BEEN ESTABLISHED TO FULFILL REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, EXCEPT AS SHOWN ON AN APPROVED ROAD CONSTRUCTION DRAWING OR SITE DEVELOPMENT PLAN. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
16. STORMWATER MANAGEMENT FACILITY SHALL BE OWNED AND MAINTAINED BY THE HOMEOWNER'S ASSOCIATION.
17. A WAIVER PETITION (WP 98-03) FOR SECTION 16.120 (b) (6) (i) OF THE SUBDIVISION REGULATIONS WAS APPROVED ON 9-28-97 TO ALLOW FOUR (4) ADJACENT PIPESTEMS LOTS FOR LOTS 17 THRU 20 SUBJECT TO THE FOLLOWING CONDITIONS:
   a) FOLLOWING THE RECORDATION OF THE SUBDIVISION PLAT FOR LOTS 17 THRU 20, THE DEVELOPER SHALL RECORD A SHARED DRIVEWAY MAINTENANCE AGREEMENT.
   b) ON THE FORTHCOMING PLAT, THE ADJACENT PIPESTEMS FOR LOTS 17 THRU 20 SHALL BE ENCUMBERED WITH A SHARED ACCESS EASEMENT (MINIMUM WIDTH, 24 FEET) FOR USE BY THOSE LOTS. WITHIN THIS EASEMENT, THE DEVELOPER SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF A SHARED DRIVEWAY MEETING THE STANDARDS OF THE DEPARTMENT OF PUBLIC WORKS AND THE DEPARTMENT OF FIRE AND RESCUE SERVICES.

   A WAIVER FOR SECTION 16.120 (b) (6) (i) TO ALLOW ADJACENT PIPESTEMS FOR MORE THAN FOUR (4) LOTS FOR LOTS 21 THRU 27 AND SECTION 16.121 (a) (1) AND (2) TO ALLOW OPEN SPACE LOTS TO HAVE 25' FRONTAGE ON A PUBLIC ROAD AND ACCESS TO THE OPEN SPACE LOTS FROM THE RESIDENTIAL LOTS VIA AN EASEMENT WAS DENIED.
18. PERIMETER LANDSCAPING FOR PERIMETERS P19, P20 AND P21 ARE TO BE DEFERRED UNTIL SUCH TIME AS LOTS 26 THRU 30 ARE SOLD AND BUILT ON. THESE PERIMETERS WILL BE INSTALLED UPON APPROVAL OF A GRADING OR BUILDING PERMIT FOR LOTS 26 THRU 30. NO BONDING FOR THESE PERIMETERS IS REQUIRED AS THIS TIME.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

30559title sheet.dwg

OWNER
MR. LAMBERT CISSEL
3425 HIPSLEY HILL ROAD
WOODBINE, MARYLAND 21797

DEVELOPER
HERITAGE LAND DEVELOPMENT
C/O TIMOTHY W. FEAGA
3243 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

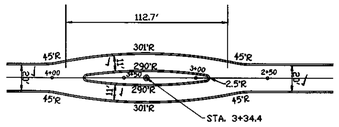
STATE OF MARYLAND — JAYESH VISHNUBHAI PANCHOLI — REGISTERED PROFESSIONAL ENGINEER

Jayesh Pancholi — 8-20-98
JAYESH V. PANCHOLI, P.E. — DATE

SPRING HOLLOW
LOTS 1 THRU 30 AND
BUILDABLE PRESERVATION PARCEL 'A'
(A RESUBDIVISION OF "LAMBERT GREEN", PLAT #10523 - LOT 2, "HARDY GREEN", PLAT #10928 - LOTS 1 THRU 5 "STEVEN'S DELIGHT", PLAT #10927 - LOTS 4 AND 5, "SCOTT'S DELIGHT", PLAT #10926 - LOTS 4 AND 5 AND LIBER 2806 AT FOLIO 626)
ZONED RC-DEO
TAX MAP NO. 7 PARCEL NOS. 522, 394, 341, 144 AND 38
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: NOVEMBER 18, 1998
SHEET 1 OF 13

AS-BUILT 9/15/99

F99-30



SPEED CALMING DEVICE

SCALE: 1" = 50'

NOTE: SHOULDER AND DITCH TO BE PROVIDED ALONG ENTIRE FRONTAGE OF HARDY ROAD. SEE SHEET 3 FOR PLAN LOCATION.

NOTE:
SEE HOWARD COUNTY STD. DETAILS FOR PAVING SECTION.

TYPICAL SECTION AT HARDY ROAD

NO SCALE

SEE TYP. SECTION ON THIS SHEET FOR SHOULDER & DITCH IMPROVEMENT

PLAN

SCALE: 1"=50'

No.	DESCRIPTION	DATE
⚠	REMOVED 4' CONC. SIDEWALK ALONG SPRING HOLLOW COURT	10/22/99
	REVISION	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/15/99

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 8/12/99

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS MS — DATE 3-8-99

SPRING HOLLOW

LOTS 1 THRU 30 AND BUILDABLE PRESERVATION PARCEL 'A'

(A RESUBDIVISION OF "LAMBERT GREEN", PLAT NO. 10523 - LOT 2, "HARDY GREEN", PLAT NO. 10928 - LOTS 1 THRU 5, "STEVEN'S DELIGHT, PLAT NO. 10927 - LOTS 4 AND 5, "SCOTT'S DELIGHT, PLAT NO. 10926 - LOTS 1 AND 5 AND LIBER 2806 AT FOLIO 626)
ZONED RC-DEO

FOURTH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

SPRING HOLLOW COURT
PLAN AND PROFILE

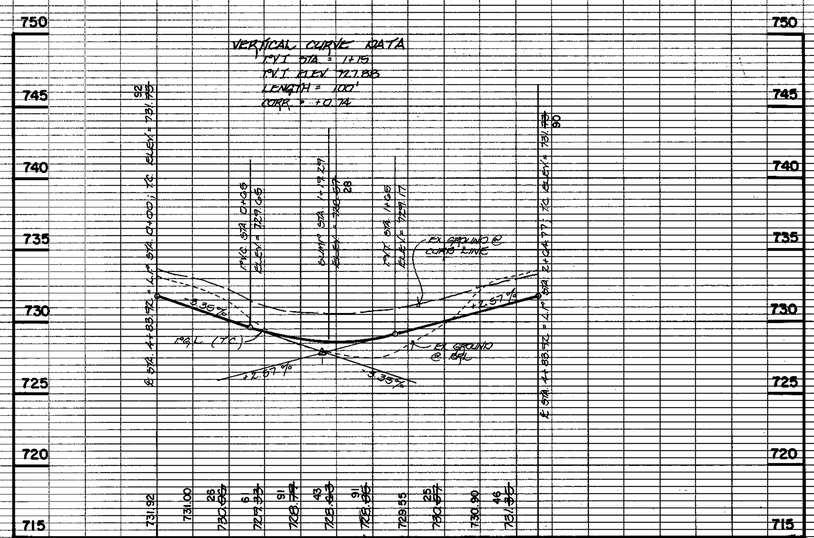
DEVELOPER	OWNER
HERITAGE LAND DEVELOPMENT C/O TIMOTHY W. FEAGA 3243 BETHANY LANE ELLICOTT CITY, MARYLAND 21042	MR. LAMBERT CISSEL 3425 HIPSLEY HILL ROAD WOODBINE, MARYLAND 21797

SCALE: AS SHOWN	DATE: AUG. 10, 1998	DWG. NO. 2 OF 13
DES. J.V.P.	DRN. J.C.L.	CHK. T.Y.F.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461-2855

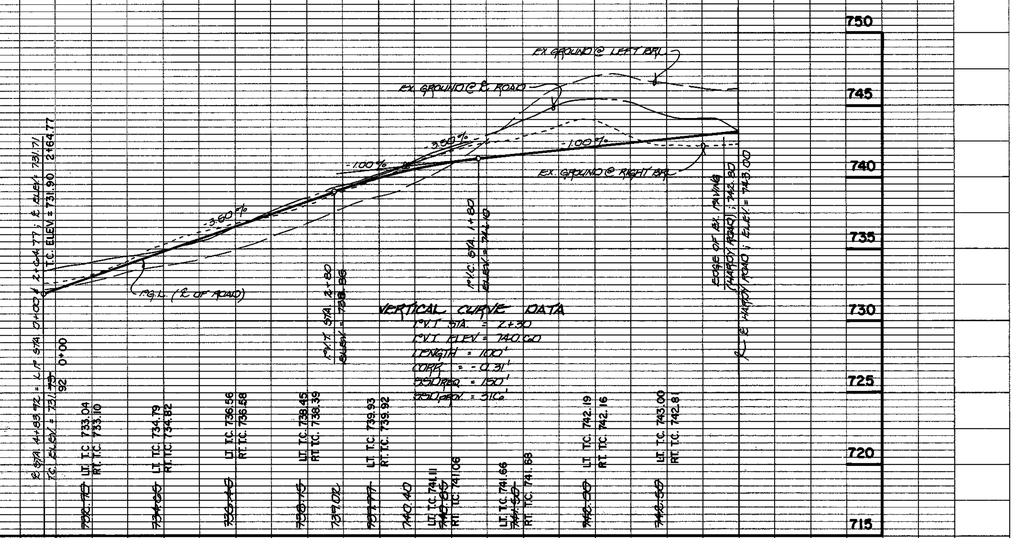
SPRING HOLLOW COURT

LINEAR PROFILE



SPRING HOLLOW COURT

DESIGN SPEED = 25 M.P.H.

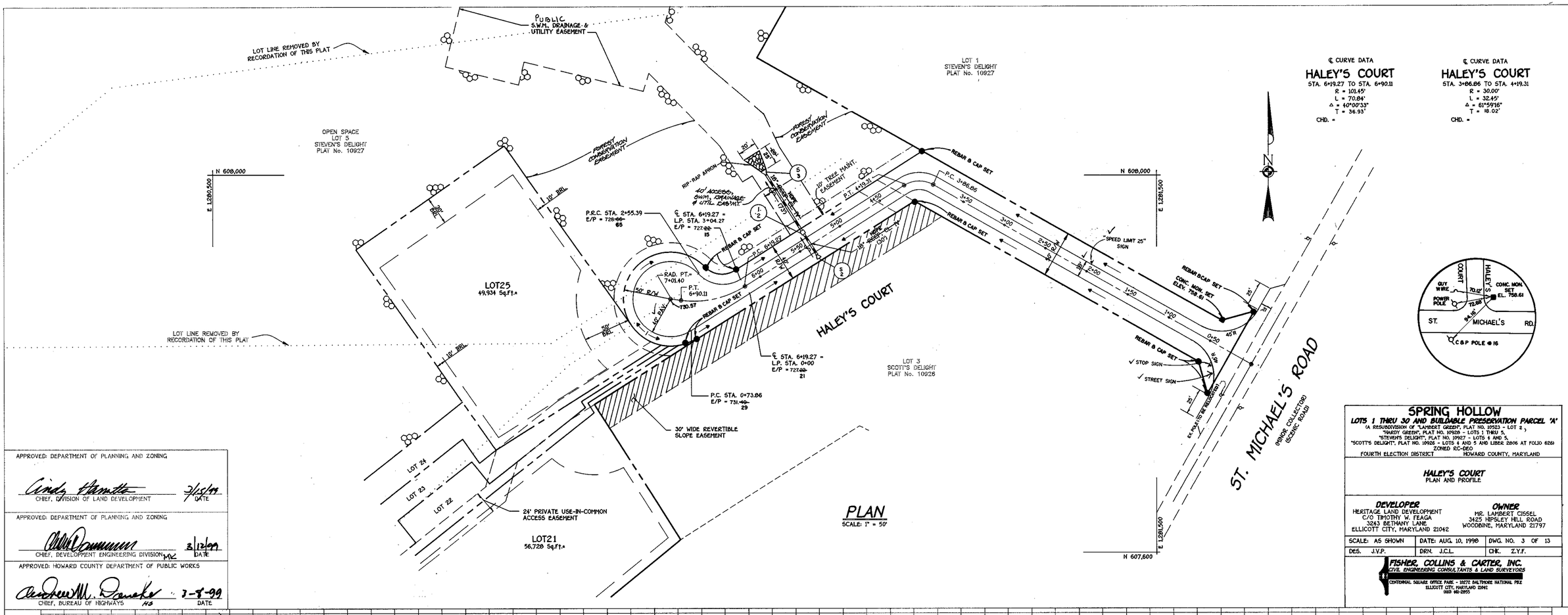


PROFILES

SCALE: HOR.: 1" = 50'
VER.: 1" = 5'

AS-BUILT 9/15/99

F99-30



APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — 3/5/99 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION MC — 3/12/99 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS MS — 3-8-99 DATE

SPRING HOLLOW

LOTS 1 THRU 30 AND BUILDABLE PRESERVATION PARCEL 'A'

(A RESUBDIVISION OF "LAMBERT GREEN", PLAT NO. 10523 - LOT 2, "HARDY GREEN", PLAT NO. 10926 - LOTS 1 THRU 5, "STEVENS DELIGHT", PLAT NO. 10927 - LOTS 4 AND 5, "SCOTT'S DELIGHT", PLAT NO. 10926 - LOTS 6 AND 5 AND LIBER 2806 AT FOLIO 628)

ZONED RC-DEO

FOURTH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

HALEY'S COURT
PLAN AND PROFILE

DEVELOPER
HERITAGE LAND DEVELOPMENT
C/O TIMOTHY W. FEAGA
3243 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

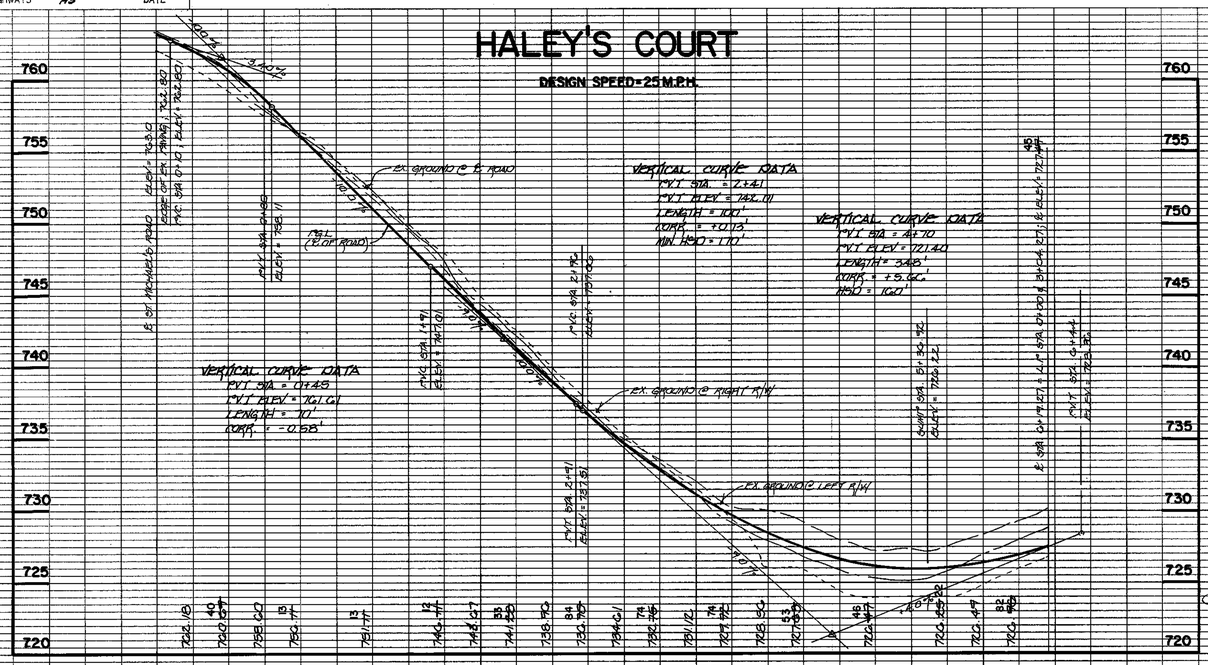
OWNER
MR. LAMBERT CISSEL
3425 HIPSLEY HILL ROAD
WOODBINE, MARYLAND 21797

SCALE: AS SHOWN	DATE: AUG. 10, 1998	DWG. NO. 3 OF 13
DES. J.V.P.	DRN. J.C.L.	CHK. Z.Y.F.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461-2855

HALEY'S COURT

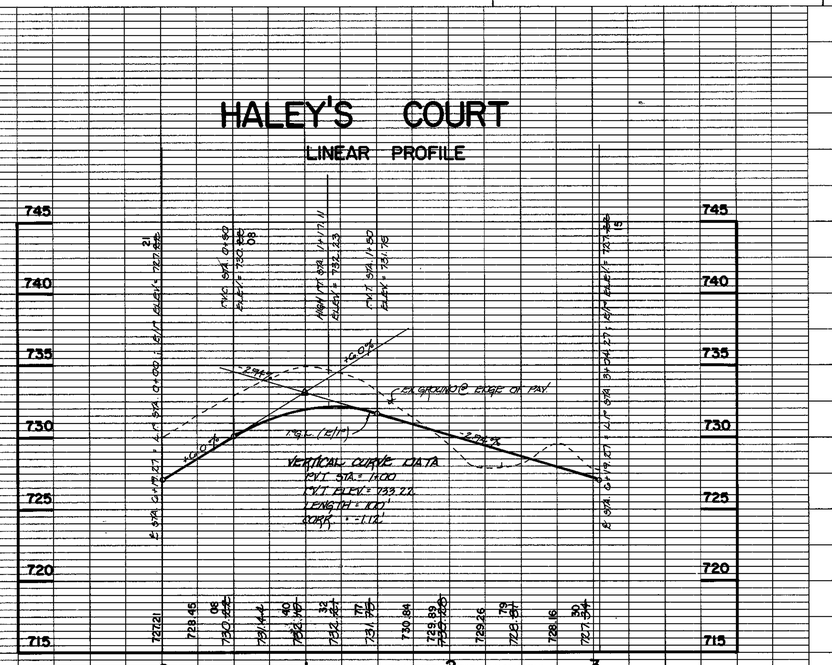
DESIGN SPEED=25 M.P.H.



PROFILES
SCALE: HOR.: 1"=50'
VER.: 1"= 5'

HALEY'S COURT

LINEAR PROFILE



AS-BUILT 9/15/99

F99-30

By The Developer:

"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."

Wilbur Lambert Cissel — 8/24/98
Signature Of Developer — Date

Printed Name Of Developer

By The Engineer:

"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 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 Of Engineer — 8/20/98 Date

Terrell A. Fisher
Printed Name Of Engineer

STATE OF MARYLAND — TERRELL A. FISHER — NO. 9757 — REGISTERED PROFESSIONAL ENGINEER

These Plans Have Been Reviewed For The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Erosion And Sediment Control.

Cheryl Simmons /GS. — 2/26/99
USDA-Natural Resources Conservation Service — Date

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

2/26/99
Howard Soil Conservation District — Date

Approved: Department Of Public Works

Chief Bureau Of Highways MS — 3-8-99 Date

Approved Department Of Planning And Zoning

Chief, Division Of Land Development — 3/15/99 Date

Chief, Development Engineering Division MK — 3/12/99 Date

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 — P.E. No. — Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

LOT 17 60,820 Sq.Ft.± · LOT 8 43,499 Sq.Ft.± · LOT 9 44,103 Sq.Ft.± · LOT 10 42,179 Sq.Ft.± · LOT 11 44,076 Sq.Ft.± · LOT 12 41,235 Sq.Ft.± · LOT 13 44,984 Sq.Ft.± · LOT 7 41,860 Sq.Ft.± · LOT 6 44,004 Sq.Ft.± · LOT 5 43,740 Sq.Ft.± · LOT 4 43,106 Sq.Ft.± · LOT 3 50,000 Sq.Ft.± · LOT 2 44,500 Sq.Ft.± · LOT 1 44,845 Sq.Ft.±

HARDY ROAD · SPRING HOLLOW COURT · STATE ROAD NORTH · MARYLAND GRID

PRIVATE 24' USE-IN-COMMON DRIVEWAY ACCESS EASEMENT ACROSS LOTS 8 AND 9 FOR THE USE AND BENEFIT OF LOTS 8 AND 9.

BUILDABLE PRESERVATION PARCEL 'A'

FOREST CONSERVATION EASEMENT (Reforestation) · 10' TREE MAINTENANCE EASEMENT · 20' DRAINAGE & UTIL. EASEMENT · 10' WIDE ROOF HOPE · 6' x 10' RIP-RAP APRON · 20' D & U EASEMENT

TEMP 18" FLEXIBLE PIPE FOR SEDIMENT CONTROL

12' 10' x 10' RIP-RAP PROTECTION · INV. 699.95 700.00 · 20' STEEL PIPE w/CAP PROVIDE WATER TIGHT CONNECTION · 125 L.F. 3" P.V.C. DEWATERING PIPE AT 0.13 %

FOREST CONSERVATION EASEMENT (Reforestation)

TYPE 18-1 CLEAN WATER DIVERSION DIKE

22' WIDE ROAD TO BE PAVED WITH 1½" SUPERPAVE, 2" BASE & 6" CONC. MOD. STRUCTURE

RIP-RAP APRON · FOREBAY · 100 YR. WSEL = 706.57 · 10 YR. WSEL = 706.17 · 2 YR. WSEL = 705.71 · 20' x 20' TURN AROUND

INV. 700.00 · 6" UNDERDRAIN · 10' UNDERDRAIN EASEMENT

GABION INFLOW PROTECTION NON WOVEN FILTER FABRIC (250 N/M 5 GRAB) = 14" THICKNESS = 19"

PUBLIC S.W.M. POND
HAZARD CLASS 'A'
WATER QUALITY BY RETENTION

S.W.M. DRAINAGE & UTILITY EASEMENT · 12' ACCESS TO SWM FACILITY · PROVIDE EROSION CONTROL MATTING (10' WIDTH.) · GABION FILTER · GABION APRON · DRAINAGE & UTIL. EASEMENT · FOREBAY · RIP-RAP APRON

TYPE 18-1 CLEAN WATER DIVERSION DIKE

STABILIZE ENTIRELY WITH ECM + SEED

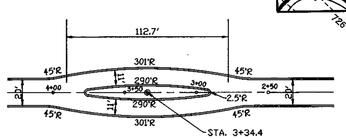
STONE OUTLET SEDIMENT TRAP (ST II)
DRAINAGE AREA = 0.90 AC.±
WET STORAGE REQUIRED = 1,620 C.F.
WET STORAGE PROVIDED = 1,620 C.F.
WET STORAGE ELEV. = 725.5
DRY STORAGE REQUIRED = 1,620 C.F.
DRY STORAGE PROVIDED = 1,620 C.F.
DRY STORAGE ELEV. = 727.00
BOTTOM ELEV. = 725.00
SIDE SLOPES = 3:1
CLEAN-OUT ELEV. = 725.5
WEIR CREST ELEV. = 727.00
WEIR WIDTH = 8'

P.T. 2+45.62A · RAD. PT.= 543.92' · 40' R/W · 30' R/W

N 609,000 · E 1,289,000 · N 608,250 · E 1,288,500

MATCH LINE SEE SHEET 5

MATCH LINE SEE SHEET 5



SPEED CALMING DEVICE
SCALE: 1" = 50'

NOTE: CONTRACTOR MAY NEED TO BORROW CLAY MATERIAL FOR CLAY CORE CONSTRUCTION IF CLAY IS NOT AVAILABLE ON SITE.

PLAN
SCALE: 1" = 50'

LEGEND

- EARTH DIKE
- SILT FENCE
- S.C.E. — STABILIZED CONSTRUCTION ENTRANCE
- LIMIT OF DISTURBANCE
- FOREST CONSERVATION EASEMENT
- STREET TREE
- EROSION CONTROL MATTING

STREET TREE SCHEDULE

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
+	ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W

NOTE: STREET TREES ARE ONLY A RECOMMENDATION. THIS MAY BE REVISED TO A COUNTY ACCEPTABLE EQUIVALENT.

TOTAL NUMBER OF STREET TREES:

+ - 29 TREES

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN

SPRING HOLLOW

LOTS 1 THRU 30 & BUILDABLE PRESERVATION PARCEL 'A'

(A RESUBDIVISION OF "LAMBERT GREEN", PLAT NO. 10523 - LOT 2, "HARDY GREEN", PLAT NO. 10928 - LOTS 1 THRU 5, "STEVEN'S DELIGHT", PLAT NO. 10927 - LOTS 4 AND 5, AND "SCOTT'S DELIGHT", PLAT NO. 10926 - LOTS 4 AND 5 AND LIBER 2806 AT FOLIO 626)

ZONED RC-DEO

TAX MAP NO. 7 — PARCEL NOs. 522, 394, 341, 144 AND 38

FOURTH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

DATE: AUGUST 10, 1998

SHEET 4 OF 13

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.#30559GRADINGIA.DWG

OWNER
MR. LAMBERT CISSEL
3425 HIPSLEY HILL ROAD
WOODBINE, MARYLAND 21797

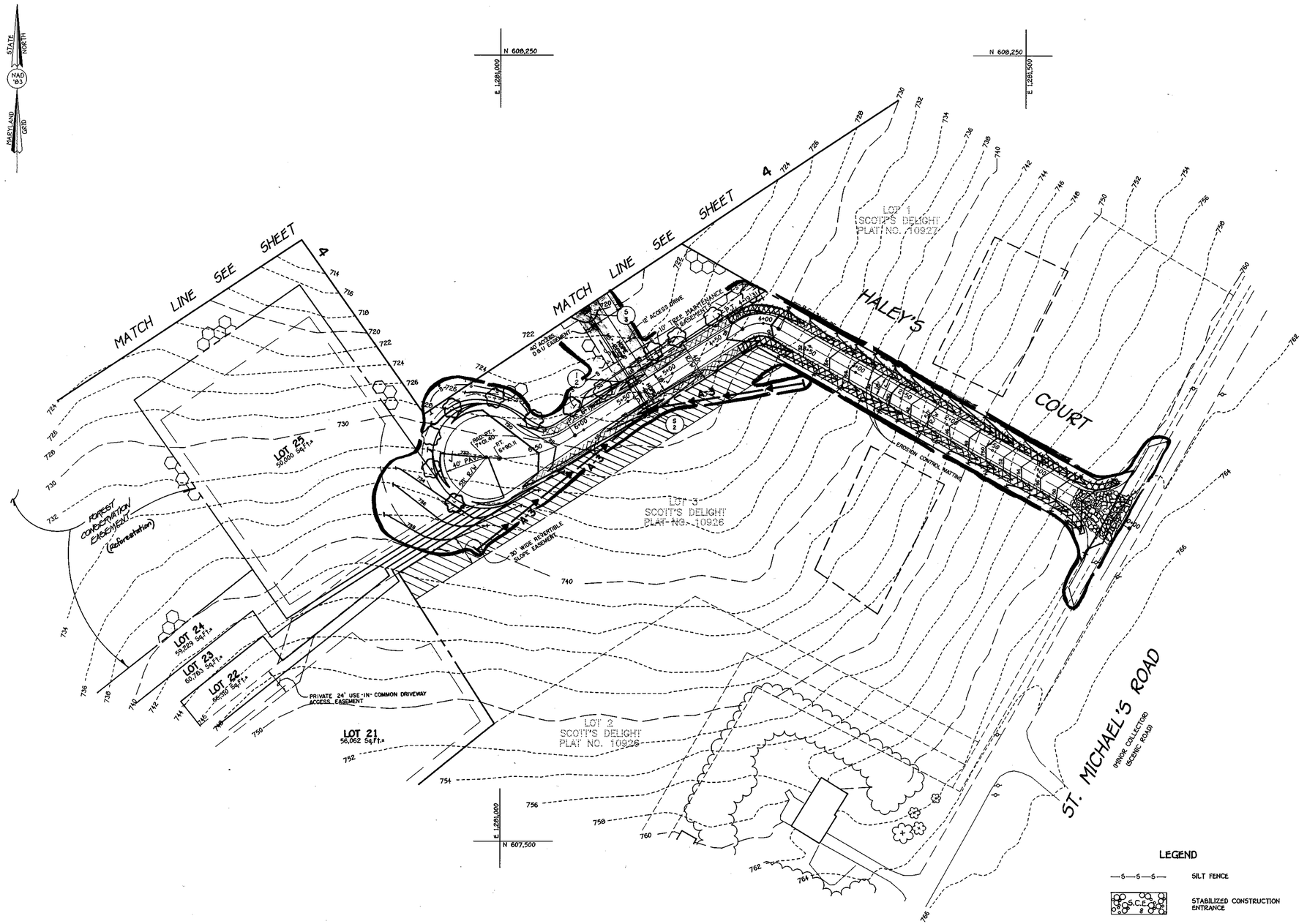
DEVELOPER
HERITAGE LAND DEVELOPMENT
C/O TIMOTHY W. FEAGA
3243 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

No.	DESCRIPTION	DATE
1	REMOVED 4' CONC. SIDEWALK ALONG SPRING HOLLOW COURT	10/22/99

REVISION

AS-BUILT 9/15/99

F99-30



PLAN
SCALE: 1" = 50'

By The Developer:

"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."

Willis Lambert Cissel Jr. — 8/20/98
Signature Of Developer — Date

Printed Name Of Developer

By The Engineer:

"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 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 Of Same."

Signature Of Engineer — 8/20/98 Date

STATE OF MARYLAND — RUSSELL A. FISHER — No. 7901 — REGISTERED PROFESSIONAL ENGINEER

Printed Name Of Engineer — FREDERICK A. FISHER

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.

USDA-Natural Resources Conservation Service — 2/26/99 Date

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Howard Soil Conservation District — 2/26/99 Date

Approved: Department Of Public Works

Chief Bureau Of Highways MS — 3-8-99 Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — 3/15/99 Date

Chief, Development Engineering Division MK — 3/12/99 Date

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 — P.E. No.

Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

STREET TREE SCHEDULE

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	PLATANUS OCCIDENTALIS 'BLOODGOOD' LONDON PLANETREE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W

NOTE: STREET TREES ARE ONLY A RECOMMENDATION. THIS MAY BE REVISED TO A COUNTY ACCEPTABLE EQUIVALENT.

TOTAL NUMBER OF STREET TREES:

- 12 TREES

LEGEND

- SILT FENCE
- S.C.E. — STABILIZED CONSTRUCTION ENTRANCE
- LIMIT OF DISTURBANCE
- I.P. — INLET PROTECTION
- FOREST CONSERVATION EASEMENT
- STREET TREE
- EROSION CONTROL MATTING

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN

SPRING HOLLOW

LOTS 1 THRU 30 & BUILDABLE PRESERVATION PARCEL 'A'

(A RESUBDIVISION OF "LAMBERT GREEN", PLAT NO. 10523 - LOT 2, "HARDY GREEN", PLAT NO. 10928 - LOTS 1 THRU 5, "STEVEN'S DELIGHT", PLAT NO. 10927 - LOTS 4 AND 5, AND "SCOTT'S DELIGHT", PLAT NO. 10926 - LOTS 4 AND 5 AND LIBER 2806 AT FOLIO 626)

ZONED RC-DEO

TAX MAP NO. 7 PARCEL NOs. 522, 394, 341, 144 AND 38

FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: AUGUST 10, 1998

SHEET 5 OF 13

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.*30559GRADINGLB.DWG

OWNER

MR. LAMBERT CISSEL
3425 HIPSLEY HILL ROAD
WOODBINE, MARYLAND 21797

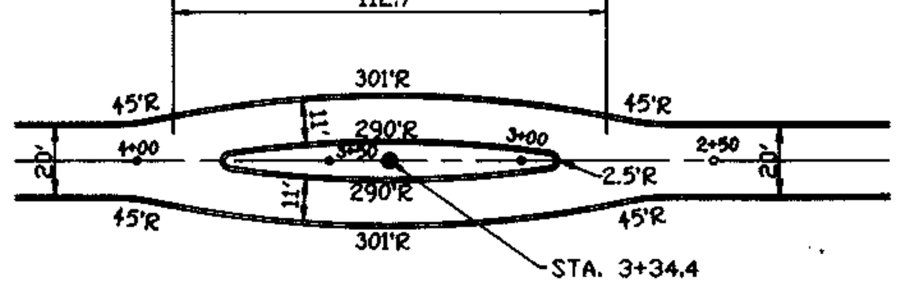
DEVELOPER

HERITAGE LAND DEVELOPMENT
C/O TIMOTHY W. FEAGA
3243 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

AS-BUILT 9/15/99 F99-30

Approved: Department Of Public Works	
Chief Bureau Of Highways	3-8-99 Date
Approved: Department Of Planning And Zoning	
Chief, Division Of Land Development	3/15/99 Date
Chief, Development Engineering Division MK	3/12/99 Date

PLAN
SCALE: 1" = 50'



SPEED CALMING DEVICE
SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
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F.C.C.•30559GRADING1A.DWG

OWNER
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3425 HIPSLEY HILL ROAD
WOODBINE, MARYLAND 21797

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C/O TIMOTHY W. FEAGA
3243 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

No.	DESCRIPTION	DATE
⚠	REMOVED 4' CONC. SIDEWALK ALONG SPRING HOLLOW COURT	10/22/99

REVISION

DRAINAGE AREA MAP

SPRING HOLLOW

LOTS 1 THRU 30 & BUILDABLE PRESERVATION PARCEL 'A'

(A RESUBDIVISION OF "LAMBERT GREEN", PLAT NO. 10523 - LOT 2,
"HARDY GREEN", PLAT NO. 10928 - LOTS 1 THRU 5,
"STEVEN'S DELIGHT", PLAT NO. 10927 - LOTS 4 AND 5,
AND "SCOTT'S DELIGHT", PLAT NO. 10926 - LOTS 4 AND 5 AND LIBER 2806 AT FOLIO 626)
ZONED RC-DEO
TAX MAP NO. 7 PARCEL NOs. 522, 394, 341, 144 AND 38
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: AUGUST 10, 1998
SHEET 6 OF 13

STATE OF MARYLAND — TERRELL A. FISHER — NO. 9757 — REGISTERED PROFESSIONAL ENGINEER

AS-BUILT 9/15/99 F99-30

Approved: Department Of Public Works

Chief Bureau Of Highways — Date 3-8-99

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date

Chief, Development Engineering Division MK — Date 3/12/99

STATE NORTH

NAD '83

MARYLAND GRID

N 608,250
E 1,281,000

N 608,250
E 1,281,500

AREA = 0.48 AC.±
'C' = 0.70

2

% IMP. = 70%
ZONED RC-DEO

MATCH LINE SEE SHEET 6

MATCH LINE SEE SHEET 6

LOT 1
SCOTT'S DELIGHT
PLAT NO. 10927

HALEY'S COURT

D.A. LIMIT TO SWM POND. FOR CLOGGED ROUTING

LOT 3
SCOTT'S DELIGHT
PLAT NO. 10926

LOT 22
50,000 SQ.FT.±

LOT 24
59,229 SQ.FT.±

LOT 23
60,785 SQ.FT.±

LOT 21
56,062 SQ.FT.±

LOT 2
SCOTT'S DELIGHT
PLAT NO. 10926

PRIVATE 24' USE-IN-COMMON DRIVEWAY ACCESS EASEMENT

40' ACCESS D&U EASEMENT

10' TREE MAINTENANCE EASEMENT

30' WIDE REVERTIBLE SLOPE EASEMENT

E 1,281,000
N 607,500

ST. MICHAEL'S ROAD
(MINOR COLLECTOR GEORGIC ROAD)

AREA = 6.20 AC.±
'C' = 0.28

3

% IMP. = 5%
ZONED RC-DEO

NOTE: THIS PLAN FOR DRAINAGE AREA INFORMATION ONLY.

PLAN
SCALE: 1" = 50'

DRAINAGE AREA MAP

SPRING HOLLOW

LOTS 1 THRU 30 & BUILDABLE PRESERVATION PARCEL 'A'

(A RESUBDIVISION OF "LAMBERT GREEN", PLAT NO. 10523 - LOT 2,
"HARDY GREEN", PLAT NO. 10928 - LOTS 1 THRU 5,
"STEVEN'S DELIGHT", PLAT NO. 10927 - LOTS 4 AND 5,
AND "SCOTT'S DELIGHT", PLAT NO. 10926 - LOTS 4 AND 5 AND LIBER 2806 AT FOLIO 626)

ZONED RC-DEO

TAX MAP NO. 7 PARCEL NOs. 522, 394, 341, 144 AND 30

FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: AUGUST 10, 1998

SHEET 7 OF 13

STATE OF MARYLAND
LAWRENCE A. FISHER
NO. 9757
REGISTERED
PROFESSIONAL ENGINEER

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
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C/O TIMOTHY W. FEAGA
3243 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

AS-BUILT 9/15/99

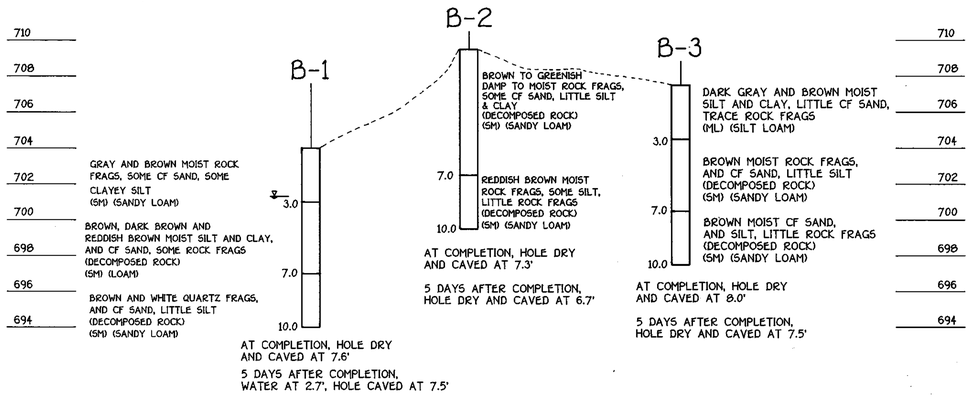
F99-30

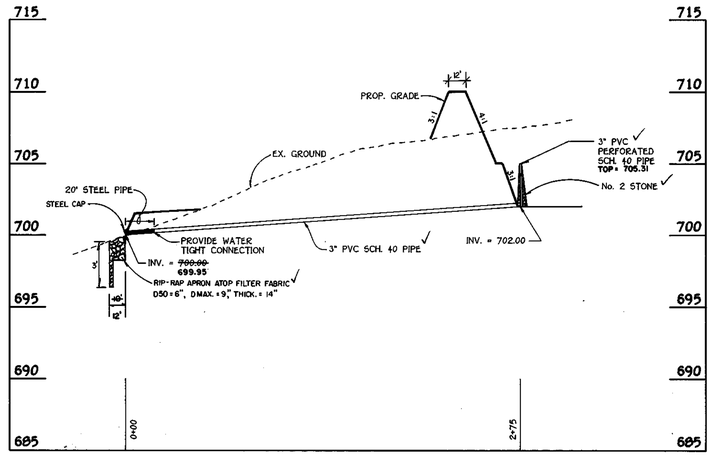
STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-1	~~720.57~~ 728.28	-----	~~705.00~~ 724.58	SPRING HOLLOW COURT	L.P. STA. 1+19.29 ✓	-----	A-10 ✓	S.D. 4.41
I-2	724.79	~~721.00~~ 721.82	~~721.00~~ 720.99	HALEY'S COURT	C.L. STA. 5+36.92 ✓	15'L ✓	"K" INLET ✓	S.D. 4.12 w/ S.D. 4.36
							PLASTIC S-1 THRU S-5	
S-1	~~710.00~~ 712.70	~~711.50~~ 711.20	~~711.50~~ 711.20	-----	N 608,331.31 E 1,290,907.00 ✓	-----	~~CONC.~~ END SECTION	~~S.D. 5.52~~
S-2	~~724.50~~ 723.90	-----	~~723.00~~ 722.40	HALEY'S COURT	C.L. STA. 5+36.92 ✓	15'R ✓	~~CONC.~~ END SECTION	~~S.D. 5.52~~
S-3	719.50 48	~~710.00~~ 717.98	~~710.00~~ 717.98	HALEY'S COURT	C.L. STA. 5+36.92 ✓	90°R ✓	~~CONC.~~ END SECTION	~~S.D. 5.52~~
S-4	~~739.20~~ 738.63	737.70 13	737.70 13	SPRING HOLLOW COURT	C.L. STA. 0+40 ✓	30°R ✓	~~CONC.~~ END SECTION	~~S.D. 5.52~~
S-5	~~739.00~~ 739.62	738.00 12	738.00 12	SPRING HOLLOW COURT	C.L. STA. 0+40 ✓	30°L ✓	~~CONC.~~ END SECTION	~~S.D. 5.52~~

Approved: Department Of Public Works
Chief Bureau Of Highways — Date 3-8-99

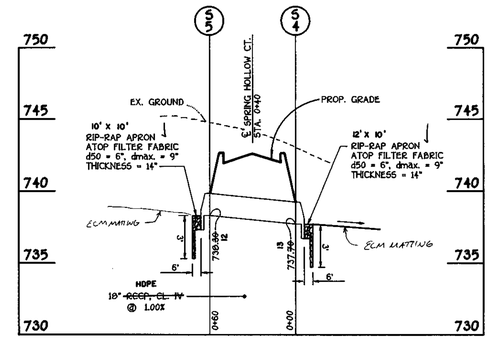
Approved: Department Of Planning And Zoning
Chief, Division Of Land Development — Date 3/15/99
Chief, Development Engineering Division MK — Date 3/12/99





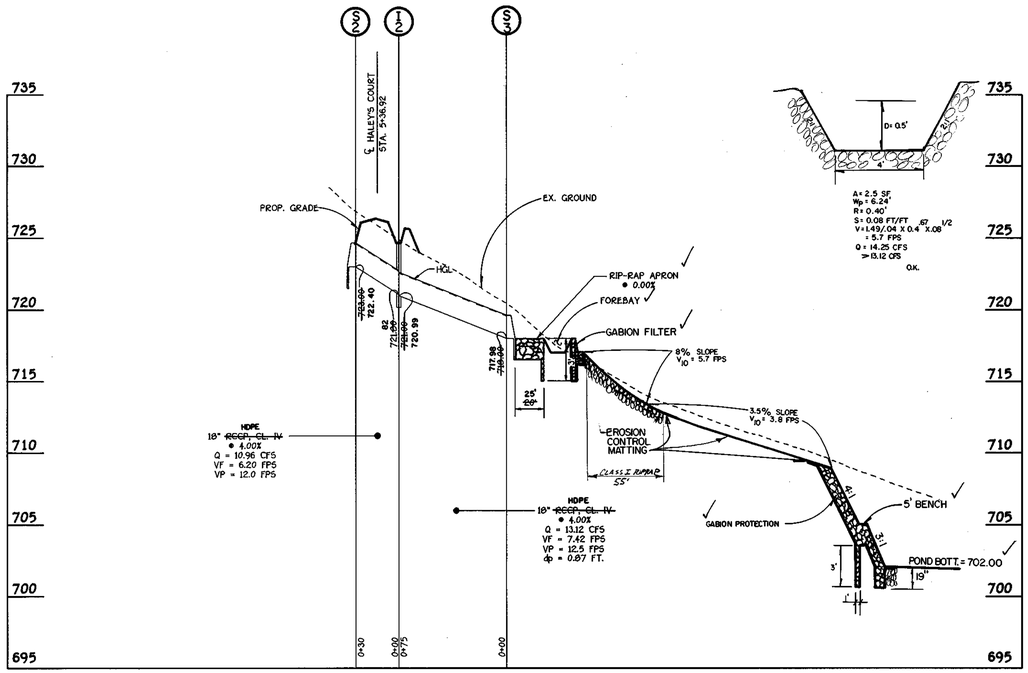
DEWATERING PIPE PROFILE

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



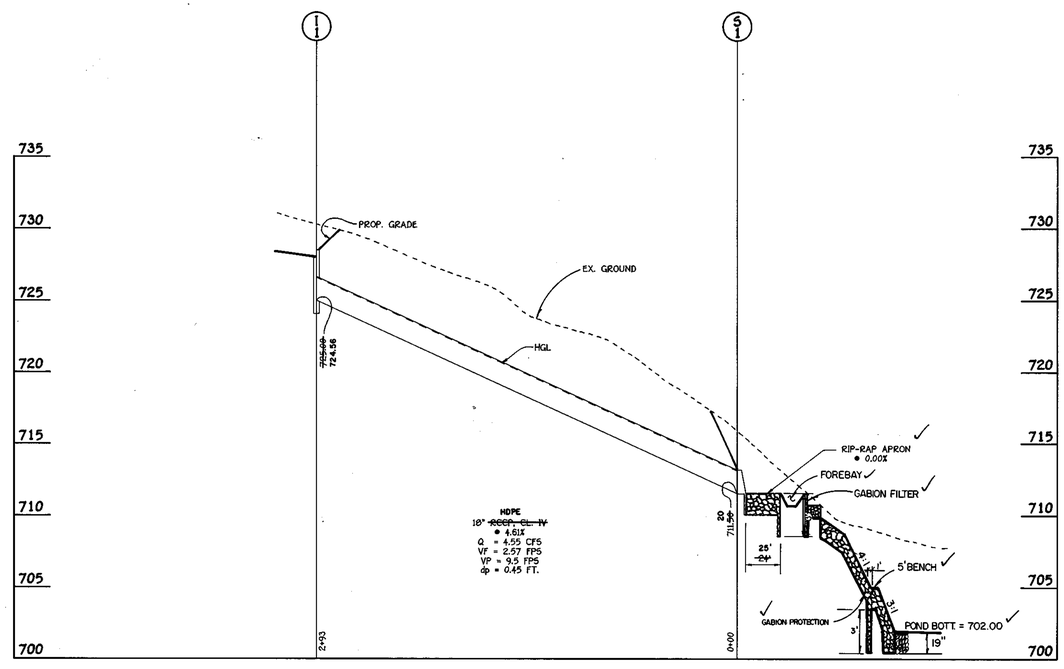
PROFILE

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



PROFILE

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



PROFILE

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

STORM DRAIN PROFILES

SPRING HOLLOW

LOTS 1 THRU 30 & BUILDABLE PRESERVATION PARCEL 'A'

(A RESUBDIVISION OF "LAMBERT GREEN", PLAT NO. 10523 - LOT 2, "HARDY GREEN", PLAT NO. 10928 - LOTS 1 THRU 5, "STEVENS DELIGHT", PLAT NO. 10927 - LOTS 4 AND 5, AND "SCOTT'S DELIGHT", PLAT NO. 10926 - LOTS 4 AND 5 AND LIBER 2806 AT FOLIO 626)
ZONED RC-DEO
TAX MAP NO. 7 PARCEL NOs. 522, 394, 341, 144 AND 30
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: AUGUST 10, 1998
SHEET 8 OF 13

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855
F.C.C.#305595TORMDRAINSDWG

OWNER
MR. LAMBERT CISSEL
3425 HIPSLEY HILL ROAD
WOODBINE, MARYLAND 21797

DEVELOPER
HERITAGE LAND DEVELOPMENT
C/O TIMOTHY W. FEAGA
3243 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

STATE OF MARYLAND — JAMES M. FISHER — No. 4215 — REGISTERED PROFESSIONAL ENGINEER

AS-BUILT 9/15/99

F99-30

SCHEDULE A - PERIMETER LANDSCAPE EDGE

Category	Perimeter Edge																					
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23
Landscape Type	A	C	A	A	A	A	A	A	A	C	C	A	A	A	A	A	A	A	A	A	A	B	B
Linear Feet Or Roadway Frontage/Perimeter	550'	410'	223'	193'	196'	250'	280'	282'	522'	742'	198'	250'	160'	521'	769'	764'	350'	1384'	263'	752'	263'	360'	263'
Credit For Existing Vegetation (Yes, No Linear Feet) (Describe Below If Needed)	YES 306'	NO	NO	NO	NO	NO	NO	YES 250'	YES 522'	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Credit For Wall, Fence Or Berm (Yes, No Linear Feet) (Describe Below If Needed)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Number Of Plants Required & Provided																							
Shade Trees	4	10	3	3	3	4	4	0	0	18	4	4	2	8	13	12	5	27	4	12	4	7	5
Evergreen Trees	--	20	--	--	--	--	--	--	--	37	9	--	--	--	--	--	--	--	--	--	--	9	6
Shrubs	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SEE NOTE BELOW PERTAINING TO PERIMETERS P19-P21

LANDSCAPE SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
13		ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY MAPLE	2 1/2"-3"
156		ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2 1/2"-3"
97		PINUS STROBUS	WHITE PINE	6'-8' HT.

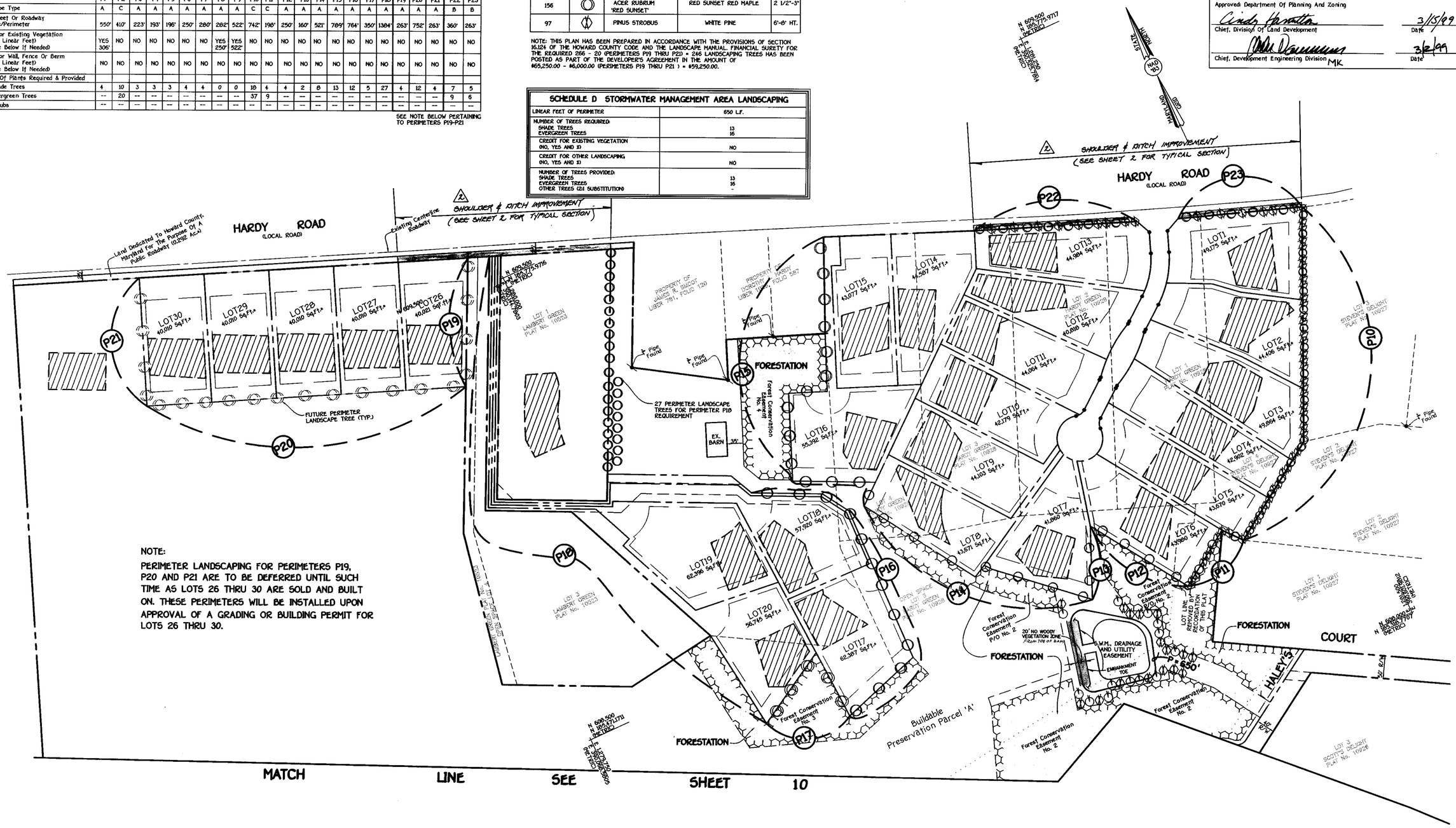
NOTE: THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED 286 - 20 (PERIMETERS P19 THRU P21) = 246 LANDSCAPING TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $65,250.00 - $6,000.00 (PERIMETERS P19 THRU P21) = $59,250.00.

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	650 L.F.
NUMBER OF TREES REQUIRED: SHADE TREES EVERGREEN TREES	13 16
CREDIT FOR EXISTING VEGETATION (NO, YES AND #)	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND #)	NO
NUMBER OF TREES PROVIDED: SHADE TREES EVERGREEN TREES OTHER TREES (21 SUBSTITUTION)	13 16 -

Approved: Department Of Public Works
Chief, Bureau Of Highways — Date 3-8-99

Approved: Department Of Planning And Zoning
Chief, Division Of Land Development — Date 3/15/99
Chief, Development Engineering Division — Date 3/8/99



NOTE:

PERIMETER LANDSCAPING FOR PERIMETERS P19, P20 AND P21 ARE TO BE DEFERRED UNTIL SUCH TIME AS LOTS 26 THRU 30 ARE SOLD AND BUILT ON. THESE PERIMETERS WILL BE INSTALLED UPON APPROVAL OF A GRADING OR BUILDING PERMIT FOR LOTS 26 THRU 30.

DEVELOPER'S / BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANTING MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Willis Lambert Cissel — NAME
8/20/98 — DATE

PLAN
SCALE: 1" = 100'

No.	REVISION	DATE
2	REVISED LIMITS OF SHOULDER & DITCH IMPROVEMENTS ALONG HARDY RD.	10/22/99

OWNER
MR. LAMBERT CISSEL
3425 HIPSLEY HILL ROAD
WOODBINE, MARYLAND 21797

DEVELOPER
HERITAGE LAND DEVELOPMENT
C/O TIMOTHY W. FEAGA
3243 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

STATE OF MARYLAND — JOHN W. RICHARDI — REGISTERED PROFESSIONAL ENGINEER

LANDSCAPE PLAN

SPRING HOLLOW

LOTS 1 THRU 30 & BUILDABLE PRESERVATION PARCEL 'A'

(A RESUBDIVISION OF "LAMBERT GREEN", PLAT NO. 10523 - LOT 2, "HARDY GREEN", PLAT NO. 10928 - LOTS 1 THRU 5, "STEVEN'S DELIGHT", PLAT NO. 10927 - LOTS 4 AND 5, "SCOTT'S DELIGHT", PLAT NO. 10926 - LOTS 4 AND 5 AND LIBER 2606 AT FOLIO 626)
ZONED RC-DEO
TAX MAP NO. 7 PARCEL NOs. 522, 394, 341, 144 AND 38
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: NOVEMBER 18, 1998
SHEET 9 OF 13

AS-BUILT 9/15/99

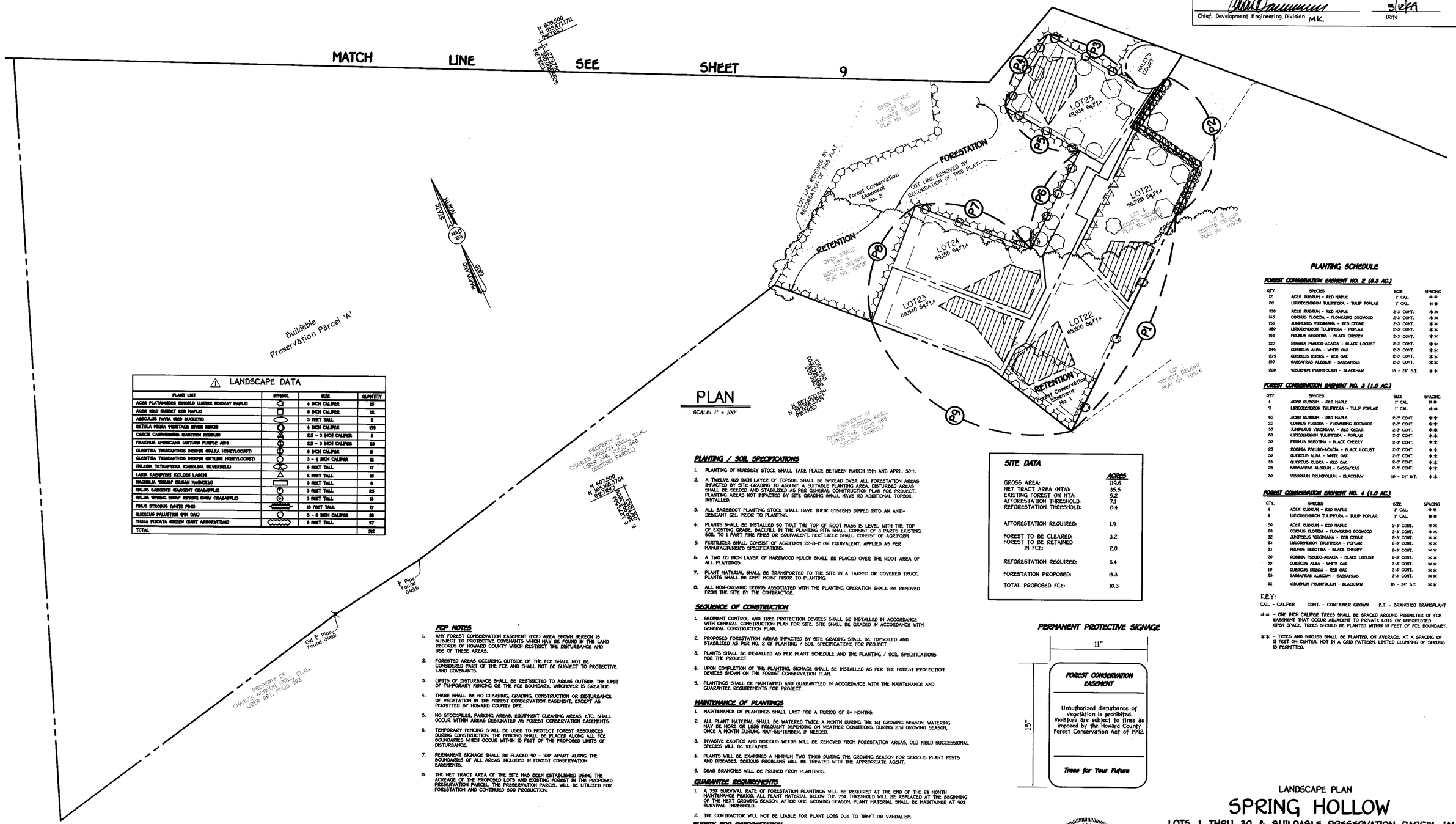
F99-30

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.*30559LANDSCAPEPLAN

Approved: Department Of Public Works
Chief Bureau Of Highways — Date 3-8-99

Approved: Department Of Planning And Zoning
Chief, Division Of Land Development — Date 3/5/99
Chief, Development Engineering Division MK — Date 3/4/99



PLAN
SCALE: 1" = 100'

⚠ LANDSCAPE DATA

PLANT LIST	SYMBOL	SIZE	QUANTITY
ACER PLATANOIDES EMERALD LUSTRE NORWAY MAPLE		6 INCH CALIPER	12
ACER RED SUNSET RED MAPLE		6 INCH CALIPER	12
AESCULUS PAVIA RED BUCKEYE		3 FEET TALL	2
BETULA NIGRA HERITAGE RIVER BIRCH		6 INCH CALIPER	179
CERCIS CANADENSIS EASTERN REDBUD		2.5 - 3 INCH CALIPER	3
FRAXINUS AMERICANA AUTUMN PURPLE ASH		2.5 - 3 INCH CALIPER	23
GLEDITSIA TRIACANTHOS INERMIS HALKA HONEYLOCUST		6 INCH CALIPER	19
GLEDITSIA TRIACANTHOS INERMIS SKYLINE HONEYLOCUST		3 - 4 INCH CALIPER	21
HALESIA TETRAPTERA (CAROLINA SILVERBELL)		6 FEET TALL	17
LAGERSTROEMIA GOLDEN LARCH		6 FEET TALL	18
MAGNOLIA 'SUSAN' (SUSAN MAGNOLIA)		3 FEET TALL	6
MALUS SARGENTII SARGENT CRABAPPLE		3 FEET TALL	25
MALUS 'SPRING SNOW' SPRING SNOW CRABAPPLE		3 FEET TALL	13
PINUS STROBUS WHITE PINE		15 FEET TALL	17
QUERCUS PALUSTRIS PIN OAK		5 - 6 INCH CALIPER	26
THUJA PLICATA GREEN GIANT ARBORVITAE		5 FEET TALL	57
TOTAL			352

FCP NOTES

1. ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
2. FORESTED AREAS OCCURING OUTSIDE OF THE FCE SHALL NOT BE CONSIDERED PART OF THE FCE AND SHALL NOT BE SUBJECT TO PROTECTIVE LAND COVENANTS.
3. LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
4. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
5. NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
6. TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 15 FEET OF THE PROPOSED LIMITS OF DISTURBANCE.
7. PERMANENT SIGNAGE SHALL BE PLACED 50 - 100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS.
8. THE NET TRACT AREA OF THE SITE HAS BEEN ESTABLISHED USING THE ACREAGE OF THE PROPOSED LOTS AND EXISTING FOREST IN THE PROPOSED PRESERVATION PARCEL. THE PRESERVATION PARCEL WILL BE UTILIZED FOR FORESTATION AND CONTINUED SOD PRODUCTION.

PLANTING / SOIL SPECIFICATIONS

1. PLANTING OF NURSERY STOCK SHALL TAKE PLACE BETWEEN MARCH 15th AND APRIL 30th.
2. A TWELVE (12) INCH LAYER OF TOPSOIL SHALL BE SPREAD OVER ALL FORESTATION AREAS IMPACTED BY SITE GRADING TO ASSURE A SUITABLE PLANTING AREA. DISTURBED AREAS SHALL BE SEEDED AND STABILIZED AS PER GENERAL CONSTRUCTION PLAN FOR PROJECT. PLANTING AREAS NOT IMPACTED BY SITE GRADING SHALL HAVE NO ADDITIONAL TOPSOIL INSTALLED.
3. ALL BAREROOT PLANTING STOCK SHALL HAVE THEIR SYSTEMS DIPPED INTO AN ANTI-DESICCANT GEL PRIOR TO PLANTING.
4. PLANTS SHALL BE INSTALLED SO THAT THE TOP OF ROOT MASS IS LEVEL WITH THE TOP OF EXISTING GRADE. BACKFILL IN THE PLANTING PITS SHALL CONSIST OF 3 PARTS EXISTING SOIL TO 1 PART FINE FINES OR EQUIVALENT. FERTILIZER SHALL CONSIST OF AGRIFORM
5. FERTILIZER SHALL CONSIST OF AGRIFORM 22-8-2 OR EQUIVALENT, APPLIED AS PER MANUFACTURER'S SPECIFICATIONS.
6. A TWO (2) INCH LAYER OF HARDWOOD MULCH SHALL BE PLACED OVER THE ROOT AREA OF ALL PLANTINGS.
7. PLANT MATERIAL SHALL BE TRANSPORTED TO THE SITE IN A TARPED OR COVERED TRUCK. PLANTS SHALL BE KEPT MOIST PRIOR TO PLANTING.
8. ALL NON-ORGANIC DEBRIS ASSOCIATED WITH THE PLANTING OPERATION SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.

SEQUENCE OF CONSTRUCTION

1. SEDIMENT CONTROL AND TREE PROTECTION DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH GENERAL CONSTRUCTION PLAN FOR SITE. SITE SHALL BE GRADED IN ACCORDANCE WITH GENERAL CONSTRUCTION PLAN.
2. PROPOSED FORESTATION AREAS IMPACTED BY SITE GRADING SHALL BE TOPSOILED AND STABILIZED AS PER NO. 2 OF PLANTING / SOIL SPECIFICATIONS FOR PROJECT.
3. PLANTS SHALL BE INSTALLED AS PER PLANT SCHEDULE AND THE PLANTING / SOIL SPECIFICATIONS FOR THE PROJECT.
4. UPON COMPLETION OF THE PLANTING, SIGNAGE SHALL BE INSTALLED AS PER THE FOREST PROTECTION DEVICES SHOWN ON THE FOREST CONSERVATION PLAN.
5. PLANTINGS SHALL BE MAINTAINED AND GUARANTEED IN ACCORDANCE WITH THE MAINTENANCE AND GUARANTEE REQUIREMENTS FOR PROJECT.

MAINTENANCE OF PLANTINGS

1. MAINTENANCE OF PLANTINGS SHALL LAST FOR A PERIOD OF 24 MONTHS.
2. ALL PLANT MATERIAL SHALL BE WATERED TWICE A MONTH DURING THE 1st GROWING SEASON. WATERING MAY BE MORE OR LESS FREQUENT DEPENDING ON WEATHER CONDITIONS. DURING 2nd GROWING SEASON, ONCE A MONTH DURING MAY-SEPTEMBER, IF NEEDED.
3. INVASIVE EXOTICS AND NOXIOUS WEEDS WILL BE REMOVED FROM FORESTATION AREAS, OLD FIELD SUCCESSIONAL SPECIES WILL BE RETAINED.
4. PLANTS WILL BE EXAMINED A MINIMUM TWO TIMES DURING THE GROWING SEASON FOR SERIOUS PLANT PESTS AND DISEASES. SERIOUS PROBLEMS WILL BE TREATED WITH THE APPROPRIATE AGENT.
5. DEAD BRANCHES WILL BE PRUNED FROM PLANTINGS.

GUARANTEE REQUIREMENTS

1. A 75% SURVIVAL RATE OF FORESTATION PLANTINGS WILL BE REQUIRED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. ALL PLANT MATERIAL BELOW THE 75% THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE NEXT GROWING SEASON. AFTER ONE GROWING SEASON, PLANT MATERIAL SHALL BE MAINTAINED AT 90% SURVIVAL THRESHOLD.
2. THE CONTRACTOR WILL NOT BE LIABLE FOR PLANT LOSS DUE TO THEFT OR VANDALISM.

SURETY FOR REFORESTATION

1. THE DEVELOPER SHALL POST A SURETY (BOND, LETTER OF CREDIT) TO ENSURE THAT REFORESTATION PLANTINGS ARE COMPLETED. UPON ACCEPTANCE OF THE PLANTINGS BY THE COUNTY, THE BOND SHALL BE RELEASED.

SITE DATA

	ACRES
GROSS AREA:	119.6
NET TRACT AREA (NTA):	35.5
EXISTING FOREST ON NTA:	5.2
AFFORESTATION THRESHOLD:	7.1
REFORESTATION THRESHOLD:	8.4
AFFORESTATION REQUIRED:	1.9
FOREST TO BE CLEARED:	3.2
FOREST TO BE RETAINED IN FCE:	2.0
REFORESTATION REQUIRED:	6.4
FORESTATION PROPOSED:	8.3
TOTAL PROPOSED FCE:	10.3

PERMANENT PROTECTIVE SIGNAGE

11" × 15"

FOREST CONSERVATION EASEMENT

Unauthorized disturbance of vegetation is prohibited. Violators are subject to fines as imposed by the Howard County Forest Conservation Act of 1992.

Trees for Your Future

PLANTING SCHEDULE

FOREST CONSERVATION EASEMENT NO. 2 (6.3 AC.)

QTY.	SPECIES	SIZE	SPACING
12	ACER RUBRUM - RED MAPLE	1" CAL.	##
20	LIRIODENDRON TULIPIFERA - TULIP POPLAR	1" CAL.	##
330	ACER RUBRUM - RED MAPLE	2-3' CONT.	**
145	CORNUS FLORIDA - FLOWERING DOGWOOD	2-3' CONT.	**
150	JUNIPERUS VIRGINIANA - RED CEDAR	2-3' CONT.	**
360	LIRIODENDRON TULIPIFERA - POPLAR	2-3' CONT.	**
155	PRUNUS SEROTINA - BLACK CHERRY	2-3' CONT.	**
120	ROBINIA PSEUDO-ACACIA - BLACK LOCUST	2-3' CONT.	**
245	QUERCUS ALBA - WHITE OAK	2-3' CONT.	**
275	QUERCUS RUBRA - RED OAK	2-3' CONT.	**
150	SASSAFRAS ALBIDUM - SASSAFRAS	2-3' CONT.	**
220	VIBURNUM PRUNIFOLIUM - BLACKHAW	18 - 24" B.T.	**

FOREST CONSERVATION EASEMENT NO. 3 (1.0 AC.)

QTY.	SPECIES	SIZE	SPACING
4	ACER RUBRUM - RED MAPLE	1" CAL.	##
9	LIRIODENDRON TULIPIFERA - TULIP POPLAR	1" CAL.	##
50	ACER RUBRUM - RED MAPLE	2-3' CONT.	**
20	CORNUS FLORIDA - FLOWERING DOGWOOD	2-3' CONT.	**
30	JUNIPERUS VIRGINIANA - RED CEDAR	2-3' CONT.	**
60	LIRIODENDRON TULIPIFERA - POPLAR	2-3' CONT.	**
30	PRUNUS SEROTINA - BLACK CHERRY	2-3' CONT.	**
20	ROBINIA PSEUDO-ACACIA - BLACK LOCUST	2-3' CONT.	**
30	QUERCUS ALBA - WHITE OAK	2-3' CONT.	**
35	QUERCUS RUBRA - RED OAK	2-3' CONT.	**
25	SASSAFRAS ALBIDUM - SASSAFRAS	2-3' CONT.	**
30	VIBURNUM PRUNIFOLIUM - BLACKHAW	18 - 24" B.T.	**

FOREST CONSERVATION EASEMENT NO. 4 (1.0 AC.)

QTY.	SPECIES	SIZE	SPACING
4	ACER RUBRUM - RED MAPLE	1" CAL.	##
4	LIRIODENDRON TULIPIFERA - TULIP POPLAR	1" CAL.	##
50	ACER RUBRUM - RED MAPLE	2-3' CONT.	**
23	CORNUS FLORIDA - FLOWERING DOGWOOD	2-3' CONT.	**
32	JUNIPERUS VIRGINIANA - RED CEDAR	2-3' CONT.	**
63	LIRIODENDRON TULIPIFERA - POPLAR	2-3' CONT.	**
33	PRUNUS SEROTINA - BLACK CHERRY	2-3' CONT.	**
20	ROBINIA PSEUDO-ACACIA - BLACK LOCUST	2-3' CONT.	**
30	QUERCUS ALBA - WHITE OAK	2-3' CONT.	**
40	QUERCUS RUBRA - RED OAK	2-3' CONT.	**
25	SASSAFRAS ALBIDUM - SASSAFRAS	2-3' CONT.	**
32	VIBURNUM PRUNIFOLIUM - BLACKHAW	18 - 24" B.T.	**

KEY:
CAL. - CALIPER CONT. - CONTAINER GROWN B.T. - BRANCHED TRANSPLANT

OWNER
MR. LAMBERT CISSEL
3425 HIPSLEY HILL ROAD
WOODBINE, MARYLAND 21797

DEVELOPER
HERITAGE LAND DEVELOPMENT
C/O TIMOTHY W. FEAGA
3243 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

DEVELOPER'S / BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL.
I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANTING MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Willis Lambert Cissel — NAME
8/20/98 — DATE

NO.	DESCRIPTION	DATE
⚠	ADD LANDSCAPE DATA CHART	3-12-01
	REVISION	

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.*30559LANDSCAPEPLAN

STATE OF MARYLAND — STEVEN M. SILVER — REGISTERED PROFESSIONAL ENGINEER

LANDSCAPE PLAN

SPRING HOLLOW

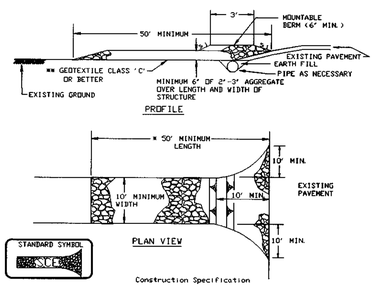
LOTS 1 THRU 30 & BUILDABLE PRESERVATION PARCEL 'A'

(A RESUBDIVISION OF "LAMBERT GREEN", PLAT NO. 10523 - LOT 2
"HARDY GREEN", PLAT NO. 10928 - LOTS 1 THRU 5,
"STEVEN'S DELIGHT", PLAT NO. 10927 - LOTS 4 AND 5,
"SCOTT'S DELIGHT", PLAT NO. 10926 - LOTS 4 AND 5 AND LIBER 2806 AT FOLIO 626)
ZONED RC-DEO

TAX MAP NO. 7 — PARCEL NOs. 522, 394, 341, 144 AND 38
FOURTH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND
DATE: AUGUST 10, 1998
SHEET 10 OF 13

AS-BUILT 9/15/99

F99-30



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (Filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

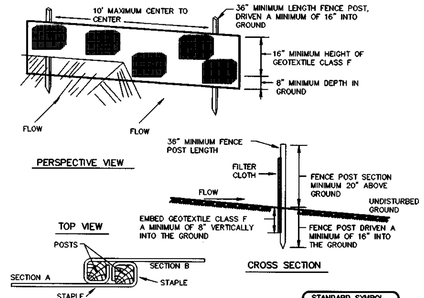
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

STABILIZED CONSTRUCTION ENTRANCE - 2

NOT TO SCALE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

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

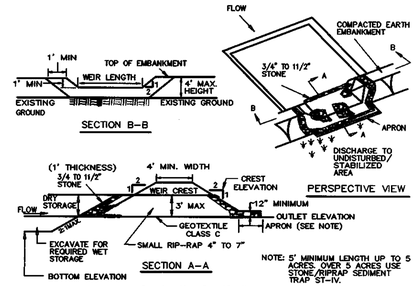
3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

DETAIL 22 - SILT FENCE

NOT TO SCALE

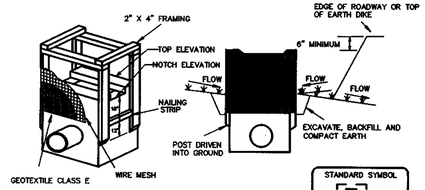
DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II



Construction Specifications

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. All cut and fill slopes shall be 2:1 or flatter.
4. The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1' thick layer of 3/4" to 11/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.
5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
6. The structure shall be inspected periodically and after each rain and repairs made as needed.
7. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentration inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.
8. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.
9. Refer to Section D for specifications concerning trap dewatering.
10. Minimum trap depth shall be measured from the weir elevation.
11. The elevation of the top of any dike directing water into the trap must equal or exceed the elevation of the trap embankment.
12. Geotextile Class C shall be placed over the bottom and sides of the outlet channel prior to the placement of stone. Sections of filter cloth must overlap at least 1' with the section nearest the entrance placed on top. The filter cloth shall be embedded at least 6" into existing ground at the entrance of the outlet channel.
13. Outlet - An outlet shall be provided, including a means of conveying the discharge in an erosion free manner to an existing stable channel.

STANDARD INLET PROTECTION



MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Excavate completely around the inlet to a depth of 18" below the notch elevation.

2. Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail stripe between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.

3. Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.

4. Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.

5. Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.

6. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.

7. The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND THAT ANY RESPONSIBLE PERSONNEL IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY".

Wesley Lambert Cissell 8/20/98
SIGNATURE OF DEVELOPER — DATE

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER — 2-3-99 DATE

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE — 2/26/99 DATE

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

APPROVED: HOWARD SOIL CONSERVATION DISTRICT — 2/26/99 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

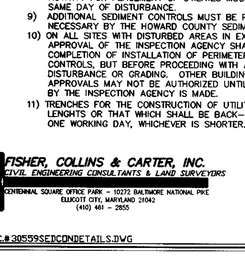
CHIEF, DIVISION OF LAND DEVELOPMENT — 3/15/99 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — 3/12/99 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

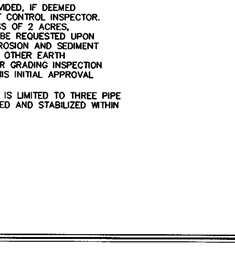
CHIEF, BUREAU OF HIGHWAYS — 3-8-99 DATE



NOTE: REMOVE BURLAP FROM TOP 1/3 OF BALL

TREE PLANTING

NOT TO SCALE



STAKING DETAIL

NOT TO SCALE

GRADING FOR PLANTING ON SLOPES

NOT TO SCALE

SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICSENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7) SITE ANALYSIS:

TOTAL AREA OF SITE	119.37	ACRES
AREA DISTURBED	4.20	ACRES
AREA TO BE ROOFED OR PAVED	1.00	ACRES
AREA TO BE VEGETATIVELY STABILIZED	3.20	ACRES
TOTAL CUT	8,000	CU.YDS.
TOTAL FILL	8,000	CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION	0	CU.YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGHTS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (one to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

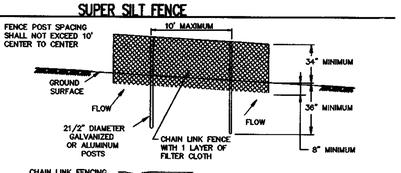
EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and support plant growth.
Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.
Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation
   I. Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
   II. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
   III. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
B. Soil Amendments (Fertilizer and Lime Specifications)
   I. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
   II. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
   III. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through a #20 mesh sieve.
   iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
C. Seedbed Preparation
   I. Temporary Seeding
      a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
      b. Apply fertilizer and lime as prescribed on the plans.
      c. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
   II. Permanent Seeding
      a. Minimum soil conditions required for permanent vegetative establishment:
         1. Soil pH shall be between 6.0 and 7.0.
         2. Soluble salts shall be less than 500 parts per million (ppm).
         3. The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lowergrass or sereciá leapedeza is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
         4. Soil shall contain 1.5% minimum organic matter by weight.
         5. Soil must contain sufficient pore space to permit adequate root penetration.
         If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
      b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
      c. Apply soil amendments as per soil test or as included on the plans.
      d. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.
D. Seed Specifications
   I. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.
   Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
   II. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80° F. can weaken bacteria and make the inoculant less effective.
E. Methods of Seeding
   I. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
      a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen; maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous); 200 lbs/ac K20 (potassium); 200 lbs/ac.
      b. Lime - use only ground agricultural limestone (fifty (50) to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
   II. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
      a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
   III. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
      a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm before planting.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
F. Mulch Specifications (in order of preference)
   I. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decomped, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
   II. Wood Cellulose Fiber Mulch (WCFM)
      a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
      b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
      c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
      d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
      e. WCFM material shall contain no elements or compounds at concentration levels that will be phytal-toxic.
      f. WCFM must conform to the following physical requirements; fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.
   Note: Only sterile straw mulch should be used in areas where one species of grass is desired.
   Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately following seeding.
G. Maintenance
   I. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
   II. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
   III. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
H. Securing Straw Mulch (Mulch Anchoring) - Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
   I. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
   II. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a minimum net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
   III. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petrosetl, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
   Iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

SUPER SILT FENCE



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

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

I Incremental Stabilization - Cut Slopes
   i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
   ii. Construction sequence (Refer to Figure 3 below):
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
      b. Perform Phase 1 excavation, dress, and stabilize.
      c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
      d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.
   Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.
J. Incremental Stabilization of Embankments - Fill Slopes
   i. Embankments shall be constructed in lifts as prescribed on the plans.
   ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15', or when the grading operation ceases as prescribed in the plans.
   iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
   iv. Construction sequence: Refer to Figure 4 (below).
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.
      b. Place Phase 1 embankment, dress and stabilize.
      c. Place Phase 2 embankment, dress and stabilize.
      d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.
   Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

SEDIMENT CONTROL NOTES AND DETAILS

SPRING HOLLOW

LOTS 1 THRU 30 & BUILDABLE PRESERVATION PARCEL 'A'

(A RESUBDIVISION OF "LAMBERT GREEN", PLAT NO. 10523 - LOT 2, "HARDY GREEN", PLAT NO. 10928 - LOTS 1 THRU 5 "STEVEN'S DELIGHT", PLAT NO. 10927 - LOTS 4 AND 5, "SCOTT'S DELIGHT", PLAT NO. 10926 - LOTS 4 AND 5 AND LIBER 2806 AT FOLIO 626)

ZONED RC-DEO

TAX MAP NO. 7 — PARCEL NOs. 522, 394, 341, 144 AND 38

FOURTH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

DATE: AUGUST 10, 1998

SHEET 11 OF 13

OWNER

MR. LAMBERT CISSEL
3425 HIPSLEY HILL ROAD
WOODBINE, MARYLAND 21797

DEVELOPER

HERITAGE LAND DEVELOPMENT
C/O TIMOTHY W. FEAGA
3243 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

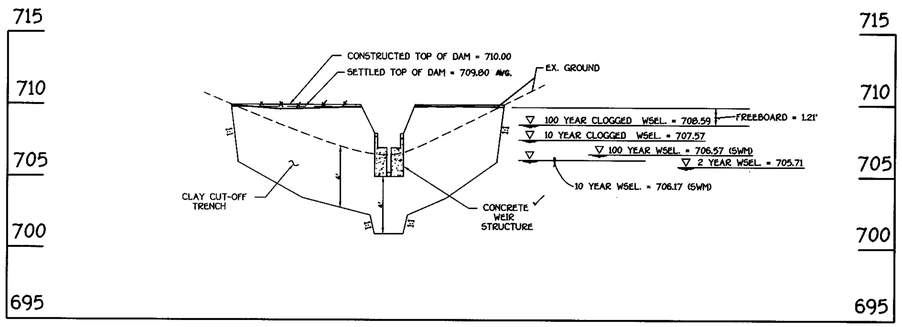
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.#30559SEDCONDETAILS.DWG

STATE OF MARYLAND — TIMOTHY WILLIAM FEAGA — No. 21403 — REGISTERED PROFESSIONAL ENGINEER

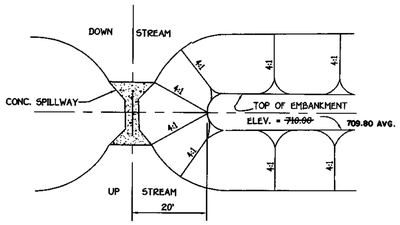
AS-BUILT 9/15/99

F99-30



PROFILE THRU ℄ OF DAM

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



EARTH TRANSITION DETAIL

NOT TO SCALE

OPERATION AND MAINTENANCE SCHEDULE
OF HOME OWNERS ASSOCIATION OWNED AND MAINTAINED
STORMWATER MANAGEMENT FACILITY
WET POND

HOME OWNERS ASSOCIATION'S MAINTENANCE RESPONSIBILITIES:

1. 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.
2. Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
3. When deemed necessary for aesthetic reasons, sediment should be removed from the pond. Approval of the Department of Public Works is required.

OPERATION AND MAINTENANCE SPECIFICATIONS

I hereby certify that I will operate and maintain the completed pond in accordance with the following:

1) Periodic inspections of the facility will be made to identify potential problems that may affect its safety. These inspections will be made after periods of heavy rainfall and at least twice annually. Inspection reports shall be kept until the next subsequent inspection. Inspection items to be looked at include:

A. Spillway and outlet works
B. Rip-rap
C. Vegetative cover
D. Cracks in the fill
E. Slope failures; And
F Seepage and other signs of distress.

2) Problems identified during inspections will be promptly corrected. Major problems will be brought to the attention of the soil conservation district and the dam safety division of the Maryland Water Resources Administration. As a very minimum, grassy vegetation will be maintained in a dense and healthy state, and woody vegetation will not be permitted to grow on the embankment.

NOTES

1. Concrete shall conform to the Maryland D.O.T.S.H.A. Standard Spec's for construction and materials, 1982 Mix No. 6, except that TY. III Cement and A.S.T.M. C 33 No. 8 coarse AGG. Shall be used.

By The Developer:
"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."

Willis Lambert Cissel Jr. — 8/20/98
Signature Of Developer — Date

Printed Name Of Developer

By The Engineer:
"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 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 Of Engineer — 2-3-99 Date

Printed Name Of 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.

USDA-Natural Resources Conservation Service — 2/26/99 Date

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Howard Soil Conservation District — 2/26/99 Date

Approved: Department Of Public Works

Chief Bureau Of Highways — 3-8-99 Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — 3/15/99 Date

Chief, Development Engineering Division — 3/12/99 Date

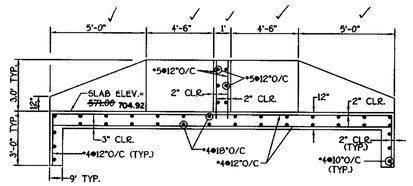
AS-BUILT CERTIFICATION

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.

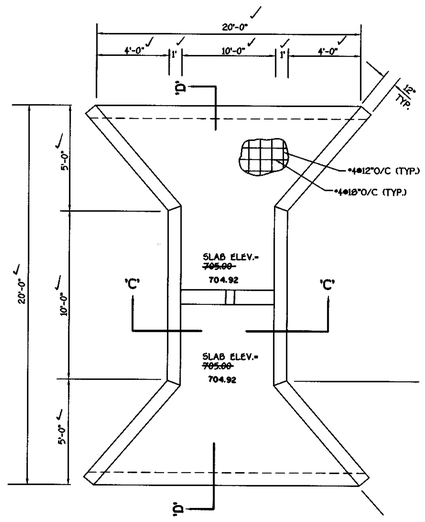
Signature — P.E. No.

Date:

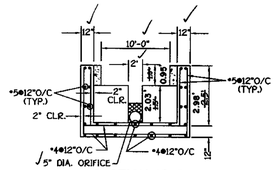
Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.



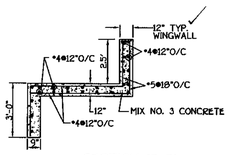
SECTION 'D-D'



PLAN



SECTION 'C-C'



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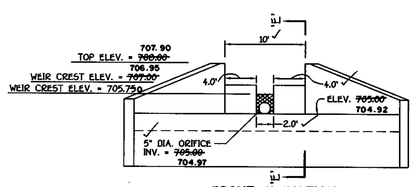
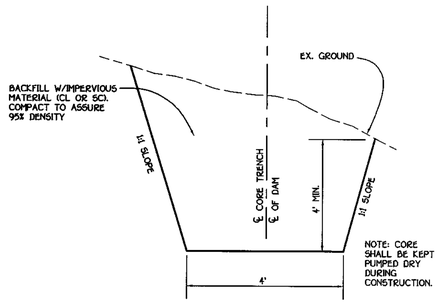


FRONT ELEVATION

(MODIFIED HOWARD COUNTY STD. DTL. 5.0-7.00)

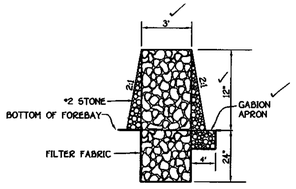
CONCRETE WEIR STRUCTURE DETAIL

NOT TO SCALE



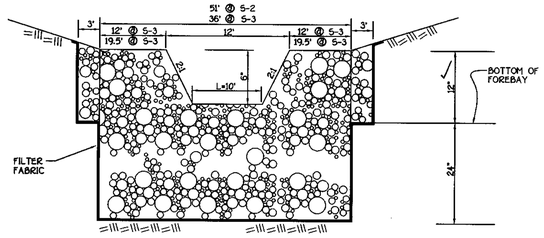
CORE TRENCH DETAIL

NOT TO SCALE



GABION FILTER DETAIL

NOT TO SCALE



GABION WEIR SECTION

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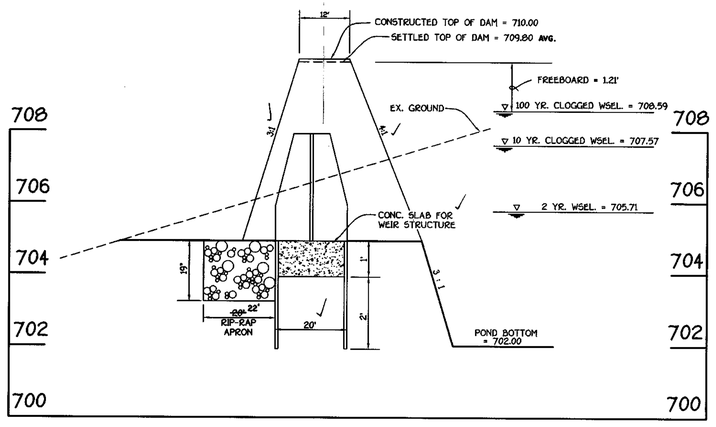
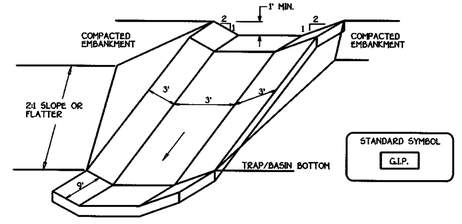


SECTION THRU CONCRETE WEIR

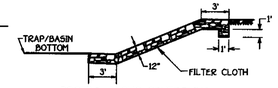
SCALE: HORIZ. : 1" = 20'
VERT. : 1" = 2'

GABION INFLOW PROTECTION

NOT TO SCALE



PERSPECTIVE VIEW



PROFILE ALONG CENTERLINE

Construction Specifications

1. Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.
2. Geotextile Class C shall be installed under all gabion baskets.
3. The stone used to fill the gabion baskets shall be 4" - 7".
4. Gabions shall be installed in accordance with manufacturers recommendations.
5. Gabion inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

305295WM DETAILS AND NOTES.DWG

OWNER
MR. LAMBERT CISSEL
3425 HIPSLEY HILL ROAD
WOODBINE, MARYLAND 21797

DEVELOPER
HERITAGE LAND DEVELOPMENT
C/O TIMOTHY W. TRAGA
3243 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

STATE OF MARYLAND — JAMES M. FISHER — REGISTERED PROFESSIONAL ENGINEER

STORMWATER MANAGEMENT NOTES AND DETAILS

SPRING HOLLOW

LOTS 1 THRU 30 & BUILDABLE PRESERVATION PARCEL 'A'

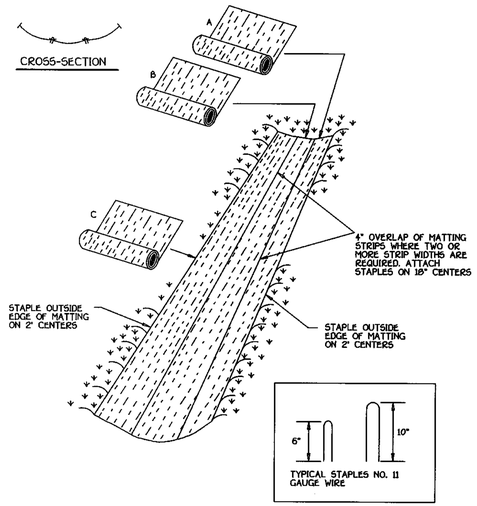
(A RESUBDIVISION OF "LAMBERT GREEN", PLAT NO. 10523 - LOT 2, "HARDY GREEN", PLAT NO. 10928 - LOTS 1 THRU 5, "STEVEN'S DELIGHT", PLAT NO. 10927 - LOTS 4 AND 5, "SCOTT'S DELIGHT", PLAT NO. 10926 - LOTS 4 AND 5 AND LIBER 2806 AT FOLIO 626)

ZONED RC-DEO
TAX MAP NO. 7 PARCEL NOs. 522, 394, 341, 144 AND 38
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: NOVEMBER 18, 1998
SHEET 12 OF 13

AS-BUILT 9/15/99

F99-30

EROSION CONTROL MATTING



EROSION CONTROL MATTING

Construction Specifications

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

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

378 - 12 Pond

SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

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

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 50 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 Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the eritire length of the fil. 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 the 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.

Where a minimum required density is specified, it 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.

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.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoinng 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 a compacted fill of 24' or greater over the structure or pipe.

Pipe Conduits

All pipes shall be circular in cross section.

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 - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 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.

Polyvinyl Chloride (PVC) Pipe - All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

1. Materials-PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.

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

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608; 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 905.

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth 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 919.12.

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 of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.

STORMWATER MANAGEMENT POND MAINTENANCE SCHEDULE

A. ROUTINE MAINTENANCE

1. Facility shall be inspected annually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.
2. 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.
3. Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
4. Visible signs of erosion in the pond as well as rip-rap outlet area shall be repaired as soon as it is noticed.

B. NON-ROUTINE MAINTENANCE

1. Structural components of teh pond such as the dam, riser structure and the pipes shall be repaired upon the detectionof any damage. The components should be inspected during maintenance operations.
2. Sediment should be removed when its accumulation significantly reduces the design storage, interferes with the function of the riser, when deemed necessary for aesthetic reasons, or when deemed necessary by the Howard County's Department of Public Works.

By The Developer:

"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."

Willis Lambert Cissell Jr — 8/20/98

Signature Of Developer — Date

Printed Name Of Developer

By The Engineer:

"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 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 Of Engineer — 2-3-99 Date

Printed Name Of 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.

USDA-Natural Resources Conservation Service — 2/26/99 Date

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Howard Soil Conservation District — 2/26/99 Date

Approved: Department Of Public Works

Chief Bureau Of Highways — 3-8-99 Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — 3/15/99 Date

Chief, Development Engineering Division MK — 3/12/99 Date

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.

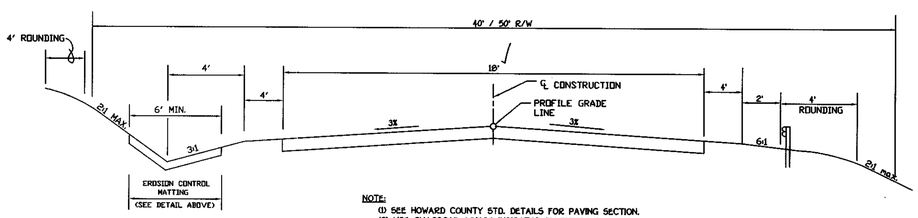
Signature — P.E. No.

Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

OPERATION, MAINTENANCE AND INSPECTION

Inspection of the pond(s) 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-378). The pond owner(s) and any 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.



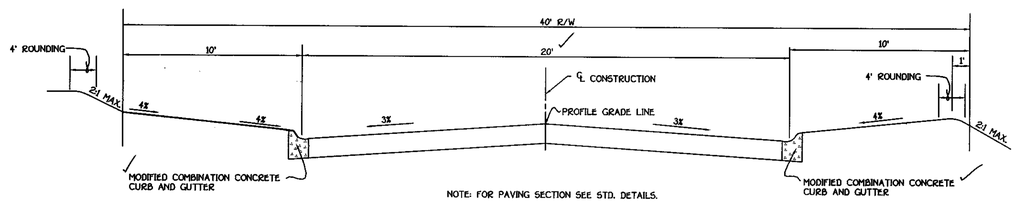
NOTE:
(1) SEE HOWARD COUNTY STD. DETAILS FOR PAVING SECTION.
(2) USE GUARDRAIL WHERE INDICATED BY FIGURE 2.14

TYPICAL ROADWAY SECTION FOR HALEY'S COURT

NO SCALE

ROADWAY INFORMATION CHART

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	℄ STATION LIMITS	PAVING SECTION
HALEY'S COURT	PUBLIC ACCESS PLACE	25 M.P.H.	RC-DEO	0+00 TO 7+01.40	P-2



NOTE: FOR PAVING SECTION SEE STD. DETAILS.

TYPICAL ROADWAY SECTION FOR SPRING HOLLOW COURT

NO SCALE

ROADWAY INFORMATION CHART

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	℄ STATION LIMITS	PAVING SECTION
SPRING HOLLOW COURT	PUBLIC ACCESS PLACE	25 M.P.H.	RC-DEO	0+00 TO 5+43.92	P-2

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. NOTIFY "MISS UTILITY" 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY HOWARD COUNTY OFFICE OF CONSTRUCTION /INSPECTION DIVISION AT (410) 313-1880, 24 HOURS BEFORE STARTING WORK.
3. INSTALL SEDIMENT CONTROL MEASURES: STONE CONSTRUCTION ENTRANCE, SEDIMENT TRAP, EARTH DIKES, SILT FENCE AND TREE PROTECTION FENCE. INSTALL STORM DRAIN FROM S-2 TO S-3. STABILIZE DIKES WITH TEMP. SEEDING. (1 WEEK)
4. GRADE SITE TO SUBGRADE. STABILIZE AND INSTALL ~~STORM DRAINS UP TO M.H. 1~~ INSTALL FLEXIBLE PIPES, DO NOT INSTALL STORM DRAINS FROM I-1 TO S-1 YET. (3 WEEKS)
5. SEDIMENT SHALL BE REMOVED FROM SEDIMENT TRAP ONCE THE CLEAN-OUT ELEVATION HAS BEEN REACHED. (1 DAY)
6. INSTALL ROAD BASE COURSE. (1 WEEK)
7. REMOVE SEDIMENT FROM ROADWAYS AND DRESS STONE CONSTRUCTION ENTRANCE AS REQUIRED AND STABILIZE ALL DISTURBED AREAS. INSTALL STORM DRAIN FROM I-1 TO S-1. (2 DAYS)
8. FLUSH STORM DRAIN SYSTEM TO REMOVE ANY TRAPPED SEDIMENT. (2 DAYS)
9. APPLY TACK COAT TO SUBBASE AND LAY SURFACE COURSE. (4 DAYS)
10. CONSTRUCT S.W.M./WATER QUALITY FACILITY. STABILIZE WITH PERMANENT SEEDING. (3 WEEKS)
11. REMOVE ALL SEDIMENT CONTROL MEASURES UPON SEDIMENT CONTROL INSPECTORS APPROVAL. (2 DAYS)
12. ALL DISTURBED AREAS DUE TO REMOVAL OF SEDIMENT CONTROL MEASURES SHALL BE GRADED AND STABILIZED BY PERMANENT SEEDING. (3 DAYS)

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.*305595\WMDETAIL51.DWG

OWNER
MR. LAMBERT CISSEL
3425 HIGSLEY HILL ROAD
WOODBINE, MARYLAND 21797

DEVELOPER
HERITAGE LAND DEVELOPMENT
C/O TIMOTHY W. FEAGA
3243 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

STATE OF MARYLAND — JAMES W. WITMER, III — REGISTERED PROFESSIONAL ENGINEER

STORMWATER MANAGEMENT NOTES
AND TYPICAL ROADWAY SECTIONS

SPRING HOLLOW

LOTS 1 THRU 30 & BUILDABLE PRESERVATION PARCEL 'A'

(A RESUBDIVISION OF "LAMBERT GREEN", PLAT NO. 10523 - LOT 2, "HARDY GREEN", PLAT NO. 10928 - LOTS 1 THRU 5, "STEVEN'S DELIGHT", PLAT NO. 10927 - LOTS 4 AND 5, "SCOTT'S DELIGHT", PLAT NO. 10926 - LOTS 4 AND 5 AND LIBER 2806 AT FOLIO 626)
ZONED RC-DEO

TAX MAP NO. 7 PARCEL NOs. 522, 394, 341, 144 AND 38
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: NOVEMBER 18, 1998
SHEET 13 OF 13

AS-BUILT 9/15/99

F99-30

SCHEDULE A - PERIMETER LANDSCAPE EDGE																							
Category	Perimeter Edge																						
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23
Landscape Type	A	C	A	A	A	A	A	A	A	C	C	A	A	A	A	A	A	A	A	A	A	B	B
Linear Feet Or Roadway Frontage/Perimeter	550'	410'	223'	193'	196'	250'	280'	282'	522'	742'	198'	250'	160'	521'	789'	764'	350'	1384'	263'	752'	263'	360'	263'
Credit For Existing Vegetation (Yes, No Linear Feet) (Describe Below If Needed)	YES 306'	NO	NO	NO	NO	NO	NO	YES 250'	YES 522'	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Credit For Wall, Fence Or Berm (Yes, No Linear Feet) (Describe Below If Needed)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Number Of Plants Required & Provided																							
Shade Trees	4	10	3	3	3	4	4	0	0	18	4	4	2	8	13	12	5	27	4	12	4	7	5
Evergreen Trees	--	20	--	--	--	--	--	--	--	37	9	--	--	--	--	--	--	--	--	--	--	9	6
Shrubs	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

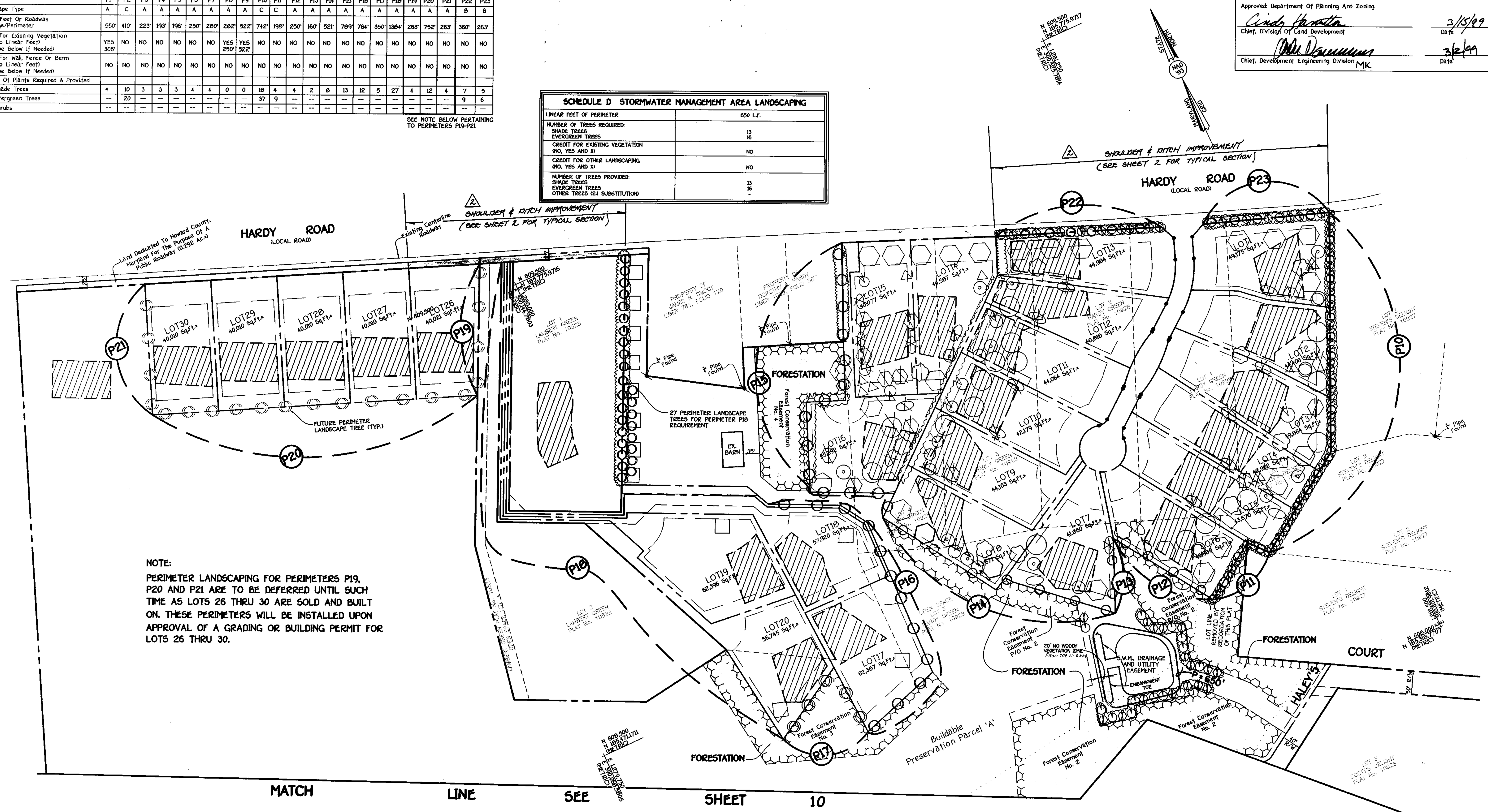
SEE NOTE BELOW PERTAINING TO PERIMETERS P19-P21

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING	
LINEAR FEET OF PERIMETER	650 L.F.
NUMBER OF TREES REQUIRED: SHADE TREES EVERGREEN TREES	 13 16
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO
NUMBER OF TREES PROVIDED: SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION)	 13 16 -

Approved: Department Of Public Works
[signature] 3-8-99
Chief Bureau Of Highways — Date

Approved: Department Of Planning And Zoning
[signature] 3/15/99
Chief, Division Of Land Development — Date

[signature] 3/2/99
Chief, Development Engineering Division MK — Date



NOTE:

PERIMETER LANDSCAPING FOR PERIMETERS P19, P20 AND P21 ARE TO BE DEFERRED UNTIL SUCH TIME AS LOTS 26 THRU 30 ARE SOLD AND BUILT ON. THESE PERIMETERS WILL BE INSTALLED UPON APPROVAL OF A GRADING OR BUILDING PERMIT FOR LOTS 26 THRU 30.

PLAN

SCALE: 1" = 100'

DEVELOPER'S / BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANTING MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

[signature] Willis Lambert Cissel — NAME
8/20/98 — DATE

NO.	DESCRIPTION	DATE
3	REVISE PERIMETER LANDSCAPING	3-12-01
2	REVISED LIMITS OF SHOULDER & DITCH IMPROVEMENTS ALONG HARDY RD.	10/22/99

REVISION

FISHER, COLLINS & CARTER, INC.
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CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
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F.C.C.•30559LANDSCAPEPLAN

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LANDSCAPE PLAN

SPRING HOLLOW

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F99-30