FINAL ROAD CONSTRUCTION, GRADING AND STORMWATER MANAGEMENT PLAN

HALL SHOP MANOR

Lots 1 Thru 14, Buildable Preservation Parcel 'A', Non-Buildable Preservation Parcels 'B' And 'C' And Non-Buildable Bulk Parcel 'D'

ZONING: RR-DEO

TAX MAP NO. 41 GRID No. 1 PARCEL No. 138

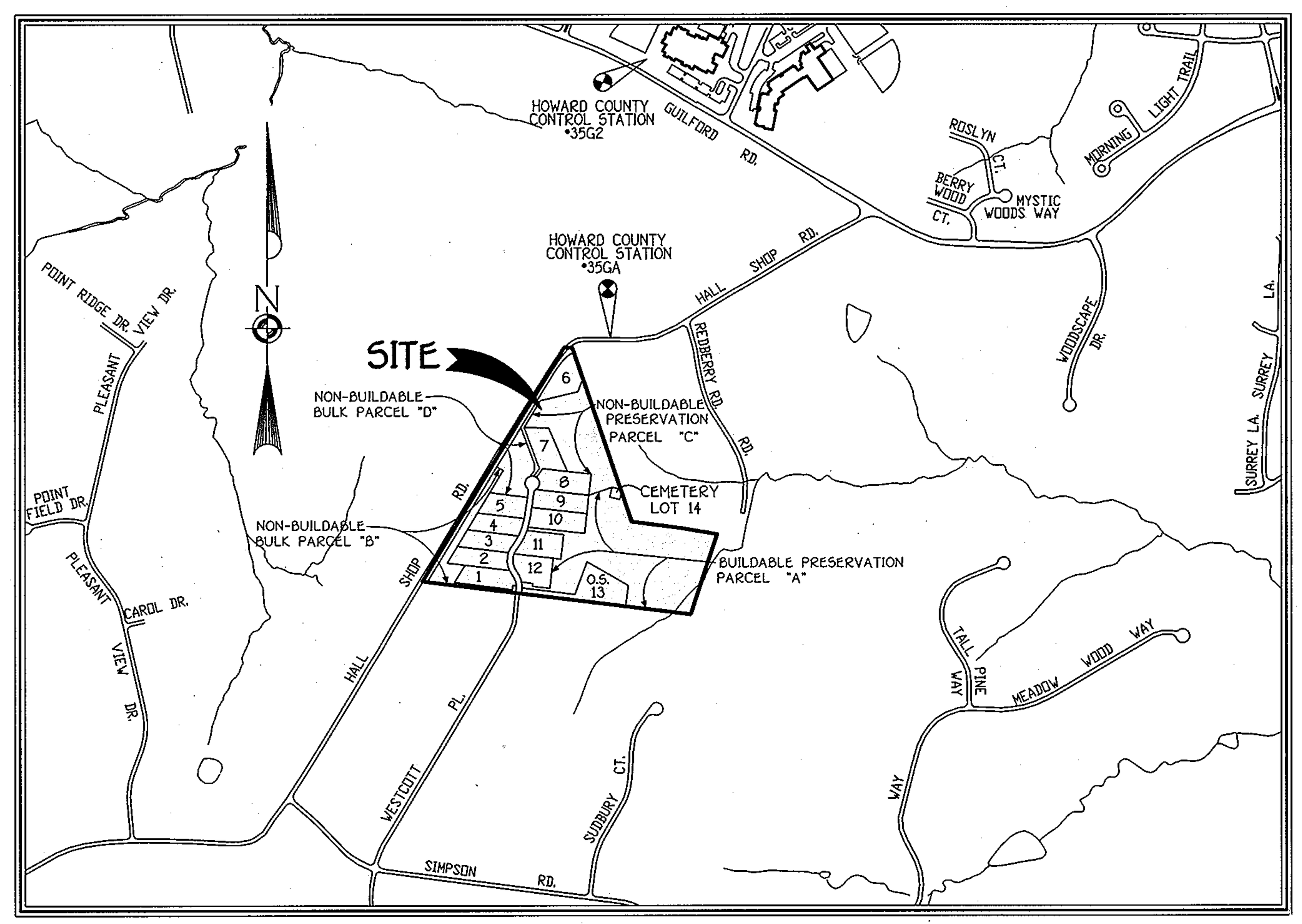
SHEET INDEX

STREET SIGN CHART

STREET NAME	STATION	OFFSET	POSTED SIGN	SIGN CODE
WESTCOTT PLACE	C.L. STA. 20+00	12'R	SPEED LIMIT 25	R2-1

ROADWAY DATA

ROAD NAME	CLASSIFICATION	R/W
WESTCOTT PLACE	PUBLIC ACCESS PLACE	40'



VICINITY MAP
SCALE: 1" = 1200'

FIFTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cindy Hamilton — CHIEF, DIVISION OF LAND DEVELOPMENT — 12/11/03 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 12/8/03 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — 12-2-03 DATE

NO.	REVISION	DATE
1	SEE GENERAL NOTE # 26	8-20-04
2	Added General Note No. 27	11.10.08

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
5. COORDINATES BASED ON NAD'83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 35 GA AND NO. 35 G2

NO. 35 GA	N 186630.8259 (METERS) E 406185.6193 (METERS)	ELEV. 482.25
NO.35 G2	N 169153.8491 (METERS) E 406279.3856 (METERS)	ELEV. 477.66

6. BACKGROUND INFORMATION:
   A. SUBDIVISION NAME: HALL SHOP MANOR
   B. TAX MAP NO.: 41
   C. PARCEL NO.: 138
   D. ZONING: RR-DEO
   E. ELECTION DISTRICT: FIFTH
   F. TOTAL TRACT AREA: 40.342 AC.
   G. NO. OF BUILDABLE LOTS: 12
   H. NO. OF OPEN SPACE LOTS: 1
   I. NO. OF CEMETERY LOTS: 1
   J. NO. OF NON-BUILDABLE PRESERVATION PARCELS: 2
   K. NO. OF BUILDABLE PRESERVATION PARCELS: 1
   L. NO. OF NON-BUILDABLE BULK PARCELS: 1
   M. AREA OF BUILDABLE LOTS: 13.792 AC.±
   N. AREA OF OPEN SPACE LOTS: 2.019 AC.±
   O. AREA OF CEMETERY LOTS: 0.112 AC.±
   P. AREA OF NON-BUILDABLE PRESERVATION PARCELS: 7.135 AC.±
   Q. AREA OF BUILDABLE PRESERVATION PARCELS: 12.961 AC.±
   R. AREA OF NON-BUILDABLE BULK PARCELS: 2.004 AC.±
   S. AREA OF ROADWAY TO BE RECORDED: 2.319 AC.±
   T. PREVIOUS FILE NOS.: S01-14 APPROVAL DATE: 3/02/01, P 02-01 APPROVAL DATE:8/30/02
   U. TOTAL AREA OF OPEN SPACE REQUIRED: (5% OF GROSS ACREAGE) 2.017AC
   V. TOTAL AREA OF CREDITED OPEN SPACE PROVIDED: 2.019 AC.
   W. TOTAL AREA OF ROADWAY TO BE DEDICATED: 3.371 AC.±
7. ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T-180.
8. THE FOREST CONSERVATION EASEMENT(S) HAS BEEN ESTABLISHED TO FULFILL THE 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.
9. STORMWATER MANAGEMENT FACILITY:
   TYPE - MICRO-POOL EXTENDED DETENTION AND DRY SWALE.
   OWNER - HOMEOWNERS ASSOCIATION
   MAINTENANCE - PRIVATELY MAINTAINED
10. THE PROPOSED WATER AND SEWER SYSTEMS SHALL BE PRIVATE.
11. THE SUBJECT PROPERTY IS LOCATED OUTSIDE OF THE METROPOLITAN DISTRICT.
12. TOPOGRAPHIC INFORMATION ESTABLISHED AT TWO FOOT INTERVALS BASED ON AERIAL TOPOGRAPHY PREPARED BY HARFORD AERIAL SURVEYS DATED JUNE 9, 2000.
13. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE IS TO BE PROVIDED AT THE JUNCTION OF THE FLAG OR PIPESTEM AND THE ROAD RIGHT-OF-WAY.
14. WETLAND AND FOREST STAND DELINEATION INFORMATION SHOWN WAS TAKEN FROM REPORTS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED SEPTEMBER, 2000 AND APPROVED UNDER S 01-14.
16. SOILS INFORMATION TAKEN FROM SOIL MAP NO. 28, SOIL SURVEY, HOWARD COUNTY, MARYLAND, JULY 1968 ISSUE.
17. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAM OR THEIR REQUIRED BUFFERS
18. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION WILL BE FULFILLED BY PROVIDING 8.1 ACRES +/- OF ONSITE AFFORESTATION @ $0.50/SF FOR 352,836 S.F. = $176,418.00 AND 3.3 ACRES OF ONSITE FOREST RETENTION @ $0.20/SF FOR 143,748.00 SF. = $28,749.60. TOTAL FOREST CONSERVATION EASEMENT AREA = 11.4 ACRES FOR A TOTAL FOREST SURETY OF $205,167.60.
19. THE LANDSCAPE SURETY IN THE AMOUNT OF $53,400.00 FOR PERIMETER LANDSCAPING REQUIREMENTS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL IS POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS SUBDIVISION.
20. EXISTING HOUSE AND TWO SHEDS (12'x8' & 14'x9') ON LOT 9 TO REMAIN, APPROXIMATE AGE = 52 YEARS
21. TOTAL AREA OF FLOODPLAIN = 1.264 AC.± THE FLOODPLAN STUDY AS SHOWN ON THESE PLANS WAS APPROVED AT THE PRELIMINARY PLAN DESIGN (P02-01).
22. TOTAL AREA OF 25% OR GREATER SLOPES = 0.441 AC.±
23. THERE IS AN EXISTING CEMETERY ,LISTED AS #41-8 IN THE HOWARD CO. CEMETERY INVENTORY, LOCATED ON LOT 14 (AREA = 0.112 AC.) THE PLANNING BOARD APPROVED THE CEMETERY ACCESS AND ACCOMMODATION PLAN FOR THE EXISTING CEMETERY ON FEB 8, 2001. THE LAYOUT AS SHOWN HAS BEEN DETERMINED BY THE DIRECTOR OF DPZ TO BEEN IN COMPLIANCE WITH THE LAYOUT APPROVED BY THE PLANNING BOARD.
24. THIS PORTION OF HALL SHOP ROAD IS NOT A SCENIC ROAD.
25. NON-BUILDABLE BULK PARCEL 'D' RETAINS THE RIGHT TO BE FURTHER SUBDIVIDED IN ACCORDANCE WITH THE DEO CLUSTER REGULATIONS IN SECTION 106 OF THE HOWARD COUNTY ZONING REGULATIONS. THIS RESUBDIVISION OF BULK PARCEL 'D' WILL BE SUBJECT TO TESTING FOR HOUSING ALLOCATIONS AND ADEQUATE SCHOOLS AT THE TIME OF RESUBDIVISION.

SEE CONTINUATION △1

26. THIS REDLINE REVISION WILL REPLACE 1.3 ACRES OF REFORESTATION EASEMENT AREA WITH 0.8 ACRES OF ADDITIONAL RETENTION AREA IN NEW FCE #8 (TOTAL OF 4.1 ACRES) AND 0.5 ACRES OF REFORESTATION IN FCE #3 (TOTAL OF 7.3 ACRES OF REFORESTATION). THE OWNER OF PRESERVATION PARCEL A HAS AMENDED THE DEEDS OF FOREST CONSERVATION EASEMENT, BUT NO CHANGE IS NEEDED FOR THE DEVELOPER'S AGREEMENT OR THE SURETY POSTED BY THE DEVELOPER AS INDICATED IN NOTE #18.

△2 27. The purpose of this revision is to abandon & relocate part of Existing Forest Conservation Easements recorded on a Plat entitled "Plat of Revision - Buildable Preservation Parcel "A" Hall Shop Manor, Plat No's 16871 thru 16875" as follows:
1. Abandon & relocate 2.5 acres of Afforestation in Forest Conservation Easement No. 2 recorded on Buildable Preservation Parcel "A", Hall Shop Manor to an Afforestation Easement off-site and to create Forest Conservation Easement 2A containing 1.8 acres of Afforestation.
2. Abandon & relocate 0.5 acres of Afforestation & 0.1 acres of Retention in Forest Conservation Easement No. 3 recorded on Buildable Preservation Parcel "A", Hall Shop Manor to an Afforestation Easement off-site and to create Forest Conservation Easement 3A containing 0.2 acres Retention.
3. Create new Forest Conservation Easement No. 9 containing 0.4 acres Afforestation.

As Built 9/17/05

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

OWNER AND DEVELOPER

IGLEHART FARM, LLC
c/o LAND DESIGN AND DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

Charles J. Crovo, SR. P.E. — 11/21/03 DATE

HALL SHOP MANOR

Lots 1 Thru 14, Buildable Preservation Parcel 'A', Non-Buildable Preservation Parcels 'B' And 'C' And Non-Buildable Bulk Parcel 'D'

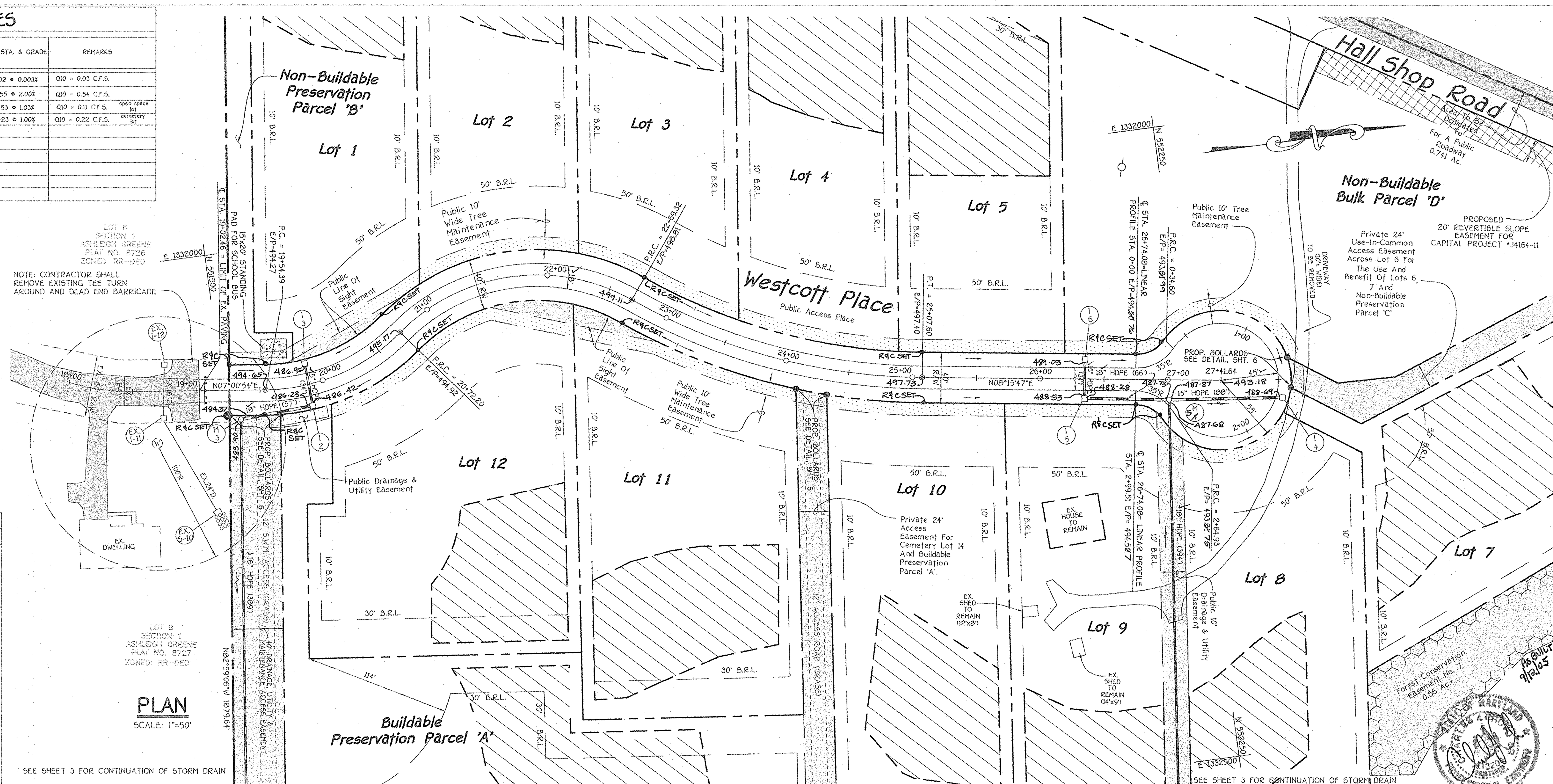
Zoned: RR-DEO
Tax Map: 41 Grid: 1 Parcel: 138
Fifth Election District
Howard County, Maryland
DATE: OCTOBER 20, 2003

F 03-93

AS-BUILT 9-12-05 F-03-93

DRIVEWAY CULVERT SIZES

LOT NO.	PIPE SIZE	ROAD STA. & GRADE	REMARKS	LOT NO.	PIPE SIZE	ROAD STA. & GRADE	REMARKS
1	12"	20+90 @ 2.00%	Q10 = 2.78 C.F.S.	11	12"	23+02 @ 0.003%	Q10 = 0.03 C.F.S.
2	12"	21+78 @ 2.00%	Q10 = 2.25 C.F.S.	12	12"	21+55 @ 2.00%	Q10 = 0.54 C.F.S.
3	12"	22+85 @ 1.00%	Q10 = 0.48 C.F.S.	Build. P.P. A	12"	19+53 @ 1.03%	Q10 = 0.11 C.F.S. open space lot
4	12"	23+78 @ 1.00%	Q10 = 0.34 C.F.S.	Ex. Cemetery	12"	24+23 @ 1.00%	Q10 = 0.22 C.F.S. cemetery lot
5	12"	25+09 @ 1.00%	Q10 = 1.24 C.F.S.				
6	12"	LP 1+56 @ 2.00%	Q10 = 1.34 C.F.S. shared d/w w/ lot 7				
7	12"	LP 1+56 @ 2.00%	Q10 = 1.34 C.F.S. shared d/w w/ lot 6				
8	12"	LP 1+85 @ 4.00%	Q10 = 0.55 C.F.S.				
9	12"	26+12 @ 2.00%	Q10 = 0.71 C.F.S.				
10	12"	25+00 @ 1.00%	Q10 = 0.38 C.F.S.				



℄ CURVE DATA
WESTCOTT PLACE
STA. 19+54.39 TO STA. 20+72.20
RADIUS = 150.00'
ARC LENGTH = 117.81'
DELTA = 45°00'00"
TANGENT = 62.13'
CHORD. = N 15°29'06" W, 114.81'

℄ CURVE DATA
WESTCOTT PLACE
STA. 20+72.20 TO STA. 22+69.32
RADIUS = 150.00'
ARC LENGTH = 197.12'
DELTA = 75°17'43"
TANGENT = 115.71'
CHORD. = N 00°20'15" W, 183.24'

℄ CURVE DATA
WESTCOTT PLACE
STA. 22+69.32 TO STA. 25+07.60
RADIUS = 470.00'
ARC LENGTH = 238.28'
DELTA = 29°02'50"
TANGENT = 121.76'
CHORD. = N 22°47'12" E, 235.73'

REVISIONS		
NO.	DESCRIPTION	DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 12/11/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 12/8/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 12-2-03

HALL SHOP MANOR
Lots 1 Thru 14, Buildable Preservation Parcel 'A', Non-Buildable Preservation Parcels 'B' And 'C' And Non-Buildable Bulk Parcel 'D'

Zoned: RR-DEO

Tax Map: 41 Grid: 1 Parcel: 138

Fifth Election District — Howard County, Maryland

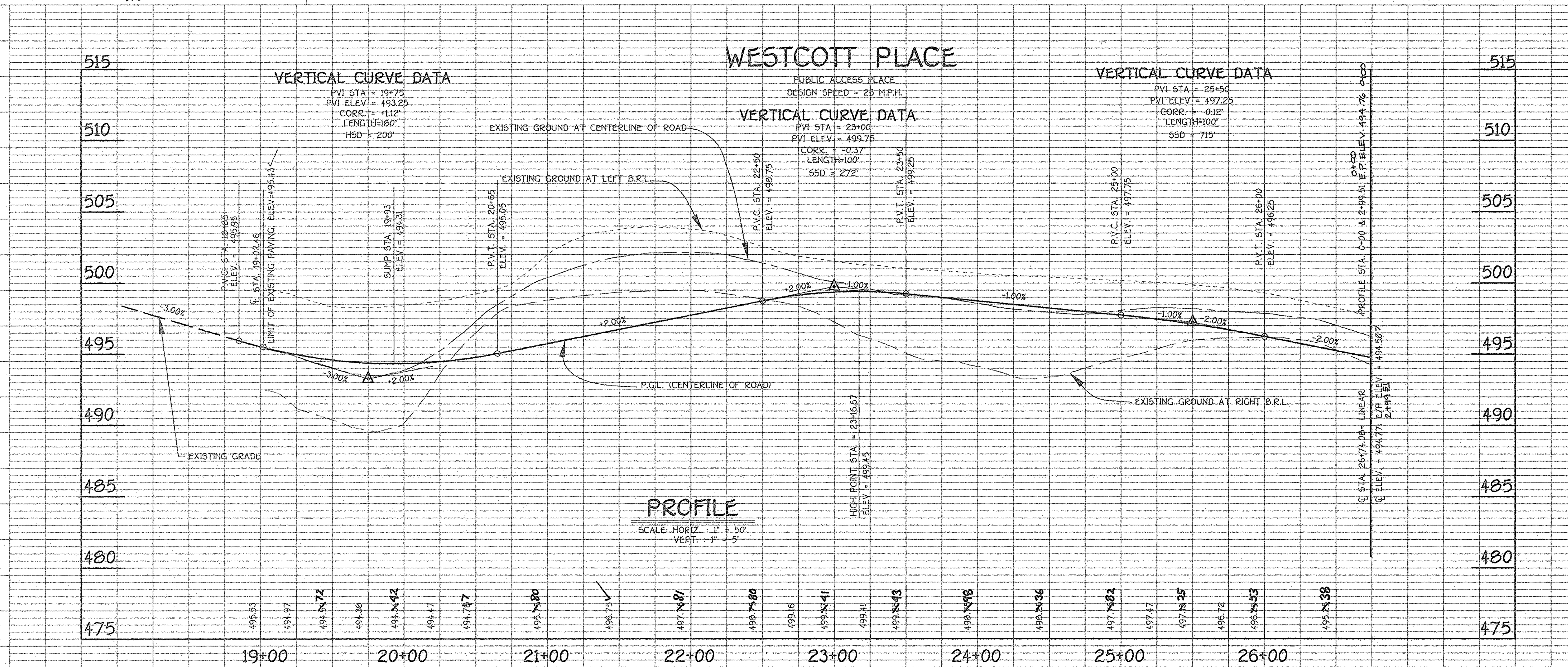
WESTCOTT PLACE
PLAN AND PROFILE

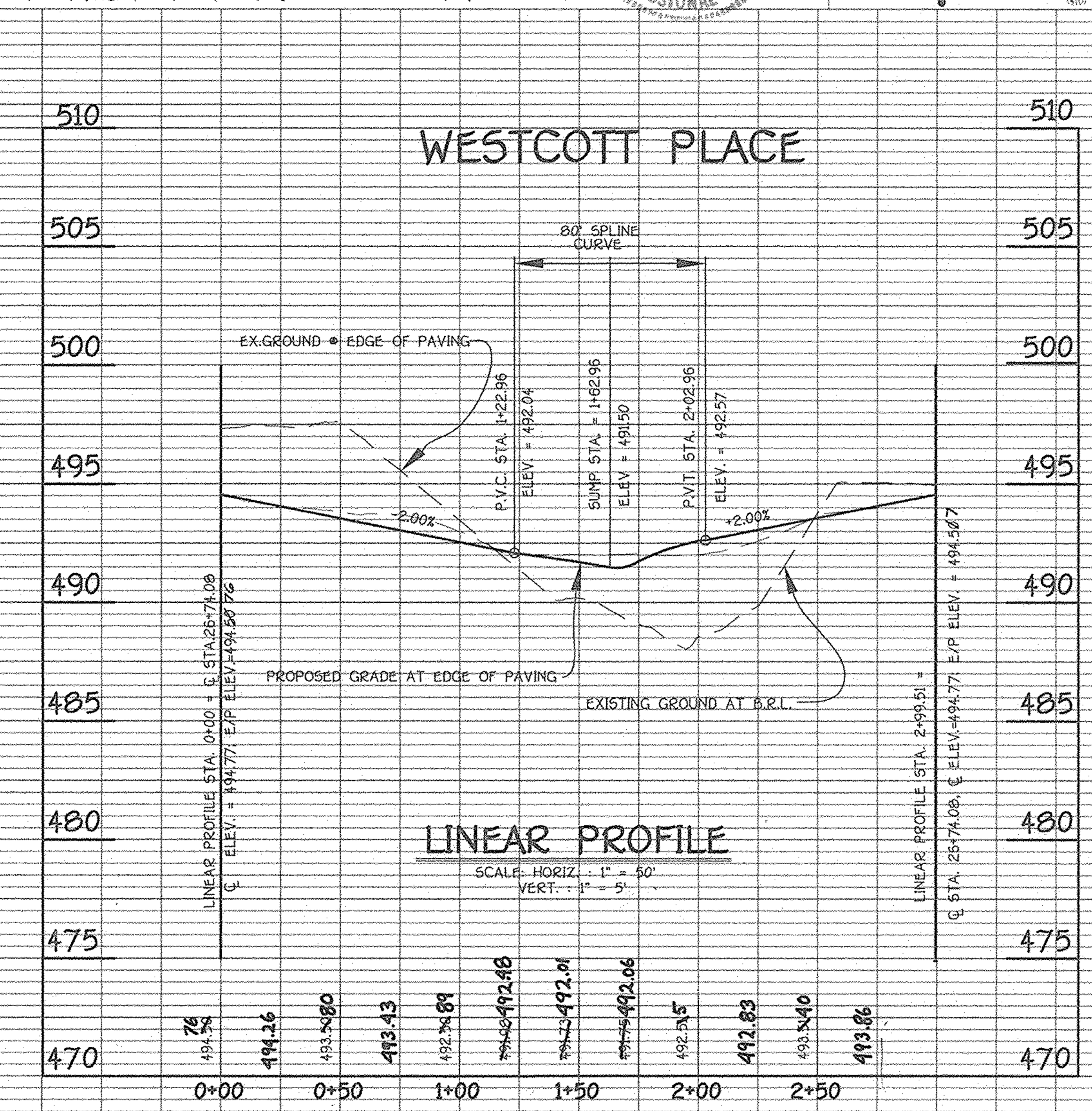
OWNER AND DEVELOPER
IGLEHART FARM, LLC
c/o LAND DESIGN AND DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

SCALE: AS SHOWN	DATE: OCTOBER 20, 2003	DWG. NO. 2 OF 17
DES. R.A.I.	DRN. J.C.L.	CHK. C.J.C.

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

AS BUILT 9/12/05





F 03-93

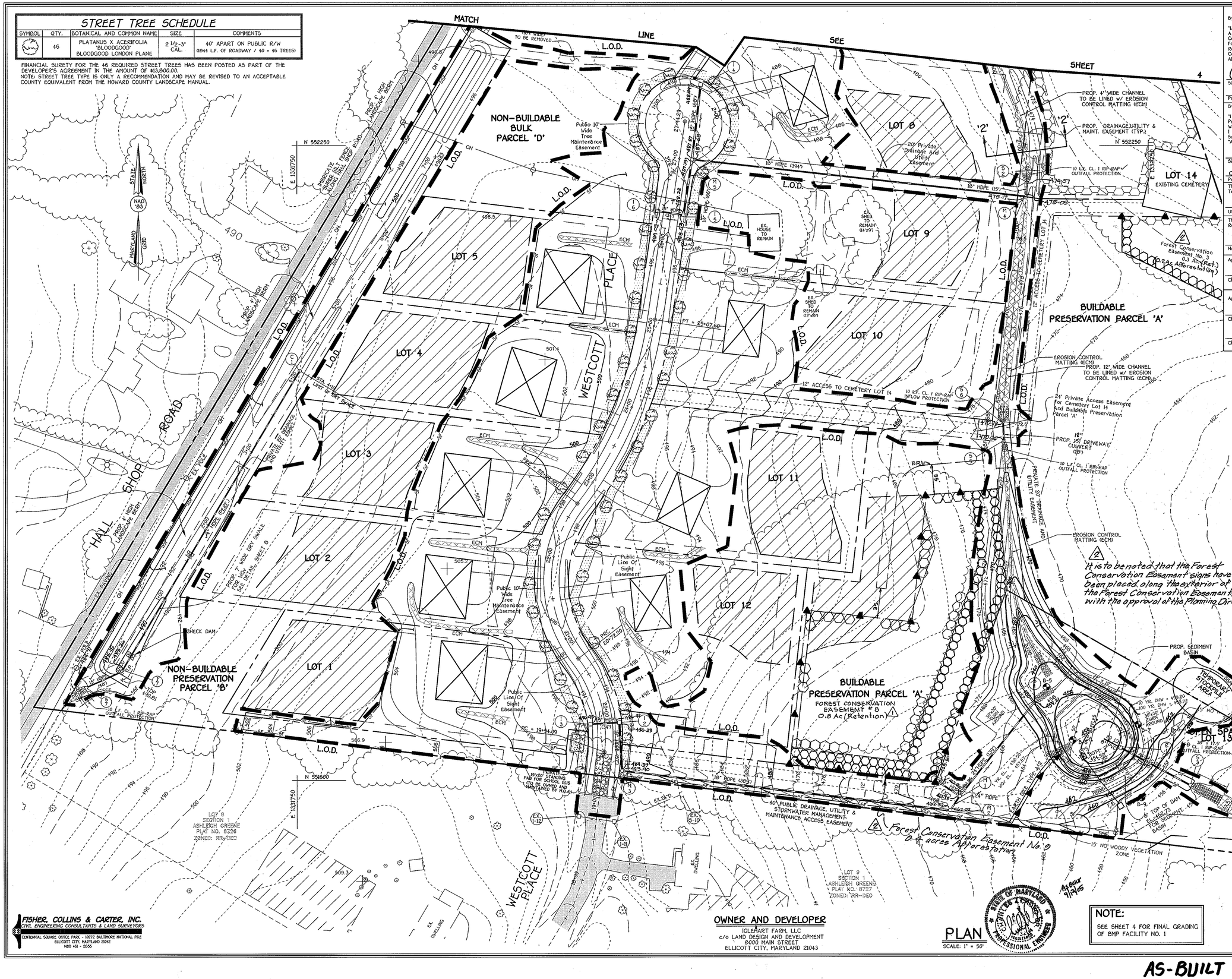
AS-BUILT 9-12-05

F-03-93

STREET TREE SCHEDULE

SYMBOL	QTY.	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	46	PLATANUS X ACERIFOLIA 'BLOODGOOD' BLOODGOOD LONDON PLANE	2 1/2"-3" CAL.	40' APART ON PUBLIC R/W (1844 L.F. OF ROADWAY / 40 = 46 TREES)

FINANCIAL SURETY FOR THE 46 REQUIRED STREET TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $13,800.00.
NOTE: STREET TREE TYPE IS ONLY A RECOMMENDATION AND MAY BE REVISED TO AN ACCEPTABLE COUNTY EQUIVALENT FROM THE HOWARD COUNTY LANDSCAPE MANUAL.



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."

Signature Of Developer — Date: 11/19/03

Printed Name Of Developer: DONALD BEUWER, JR.

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 — Date: 11/21/03

CHARLES J. CROSS SR.
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 — Date: 11/24/03

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

Howard Soil Conservation District — Date: 11/24/03

Approved: Department Of Public Works

Chief Bureau Of Highways — Date: 12-2-03

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date: 12/11/03

Chief, Development Engineering Division — Date: 12/8/03

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. 13204 — Date: 9/9/05

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.

REVISIONS

NO.	DESCRIPTION	DATE
1	SEE GENERAL NOTE #26	8-20-04
2	See expanded Revision Note on Sheets 14 & 16; added note re: placement of Forest Conservation Easement signs	11-10-05

It is to be noted that the Forest Conservation Easement signs have been placed along the exterior of the Forest Conservation Easements with the approval of the Planning Director.

TEMPORARY SEDIMENT BASIN No.1 DATA

INTIAL D.A. = 8.44 Ac.±
FINAL D.A. = 8.99 Ac. ±
STORAGE REQUIRED
WET = 1800 X 9.95 = 16182 Cuft.
DRY = 1800 X 9.95 = 16182 Cuft.
STORAGE PROVIDED
WET = 17139 Cuft. @ ELEV. 459.80
DRY = 16310 Cuft. @ ELEV. 457.95
BOTTOM ELEV. = 454.50
STORAGE DEPTH = 5.0
SIDE SLOPES = 5.0
TOP OF EMBANKMENT = 462.67
CLEAN OUT ELEV. = 456.45
2 YR. CREST ELEV. = 459.80
Q_2 EXIST. = 2.4 C.F.S.
Q_2 PROP. = 2.3 C.F.S.

STATE OF MARYLAND — CHARLES J. CROSS JR. — No. 13204 — REGISTERED PROFESSIONAL ENGINEER

LEGEND

- SUPER-SILT FENCE
- SILT FENCE
- TREE PROTECTION FENCE
- S.C.E. — STABILIZED CONSTRUCTION ENTRANCE
- EARTH DIKE
- DENOTES L.O.D. LIMITS OF DISTURBANCE
- ECM — DENOTES EROSION CONTROL MATTING (TYP. IN ALL ROADWAY DITCHES AND PROPOSED SWALES)
- RPS — DENOTES REMOVABLE PUMPING STATION
- FB — DENOTES FILTER BAG

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN

HALL SHOP MANOR

Lots 1 Thru 14, Buildable Preservation Parcel 'A', Non-Buildable Preservation Parcels 'B' And 'C' And Non-Buildable Bulk Parcel 'D'

Zoned: RR-DEO
Tax Map: 41 Grid: 1 Parcel: 138
Fifth Election District
Howard County, Maryland
DATE: OCTOBER 21, 2003
SHEET 3 OF 17

F 03-93

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

OWNER AND DEVELOPER
IGLEHART FARM, LLC
c/o LAND DESIGN AND DEVELOPMENT
9000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

PLAN
SCALE: 1" = 50'

STATE OF MARYLAND — CHARLES J. CROSS JR. — No. 13204 — REGISTERED PROFESSIONAL ENGINEER — As-Built 9/9/05

NOTE:
SEE SHEET 4 FOR FINAL GRADING OF BMP FACILITY NO. 1

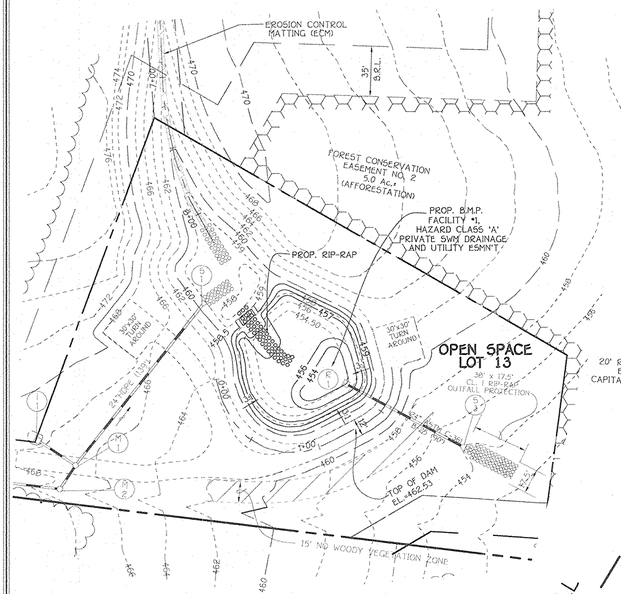
AS-BUILT 9-12-05

F-03-93

STREET TREE SCHEDULE

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

FINANCIAL SURETY FOR THE REQUIRED STREET TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $
NOTE: STREET TREE TYPE IS ONLY A RECOMMENDATION AND MAY BE REVISED TO AN ACCEPTABLE COUNTY EQUIVALENT FROM THE HOWARD COUNTY LANDSCAPE MANUAL.



FINAL GRADING FOR BMP NO. 1
SCALE: 1" = 50'

PLAN
SCALE: 1" = 50'

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITIES

ROUTINE MAINTENANCE

1. Facility shall be inspected annually and after major storms. Inspections shall be preformed 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 and maintenance access should be mowed as needed.
3. Debris and litter shall be removed during regular mowing operations and as needed.
4. Visible signs of erosion in the pond as well as the rip-rap or gabion outlet area shall be repairer as soon as it is noticed.

NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components shall be inspected during routine maintenance operations.
2. Sediment shall be removed from the pond, and forebay, no later than when the capacity of the pond or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.

HOWARD COUNTY SOIL CONSERVATION DISTRICT OPERATION, MAINTENACE 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 SPECIFICATION FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGN SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SUIVELLANCE, 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.

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

OWNER AND DEVELOPER
IGLEHART FARM, LLC
c/o LAND DESIGN AND DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

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."

Signature Of Developer — 11/19/03 Date

DONALD REUCKER, JR.
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 — 11/7/03 Date

CHARLES J. CROSS SR.
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 — 11/20/03 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 — 11/20/03 Date

Approved: Department Of Public Works

Chief, Bureau Of Highways — 12-2-03 Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — 12/11/03 Date

Chief, Development Engineering Division — 12/2/05 Date

AS-BUILT 9/12/05

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 — 13204 P.E. No. — 9/12/05 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.

REVISIONS

NO.	DESCRIPTION	DATE

TEMPORARY SEDIMENT BASIN No.2 DATA

INTIAL D.A. = 11.77 Ac.±
FINAL D.A. = 11.77 Ac. ±
STORAGE REQUIRED
WET = 1800 X 11.77 = 21186 CuFt.
DRY = 1800 X 11.77 = 21186 CuFt.
STORAGE PROVIDED
DRY = 36253 CuFt. @ ELEV. 467.59
WET = 21599 CuFt. @ ELEV. 464.30
BOTTOM ELEV. = 460.0
STORAGE DEPTH = 7.59
SIDE SLOPES = 3:1
TOP OF EMBANKMENT = 472.95
CLEAN OUT ELEV. = 462.45
2 YR. CREST ELEV. = 467.85
Q_2 EXIST. = 3.97 C.F.S.
Q_2 PROP. = 0.2 C.F.S.

LEGEND

- SSF SSF SSF — SUPER-SILT FENCE
- SF SF SF — SILT FENCE
- TP TP TP — TREE PROTECTION FENCE
- S.C.E. — STABILIZED CONSTRUCTION ENTRANCE
- EARTH DIKE
- DENOTES L.O.D. LIMITS OF DISTURBANCE
- DENOTES EROSION CONTROL MATTING (TYP. IN ALL ROADWAY DITCHES AND PROPOSED SWALES)
- ECM RPS — DENOTES REMOVABLE PUMPING STATION
- FB — DENOTES FILTER BAG

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN

HALL SHOP MANOR

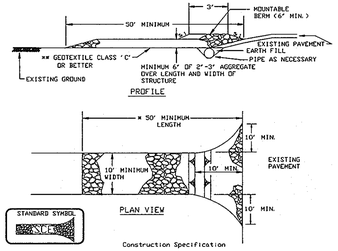
Lots 1 Thru 14, Buildable Preservation Parcel 'A', Non-Buildable Preservation Parcels 'B' And 'C' And Non-Buildable Bulk Parcel 'D'

Zoned: RR-DEO
Tax Map: 41 Grid: 1 Parcel: 138
Fifth Election District
Howard County, Maryland
DATE: OCTOBER 21, 2003
SHEET 4 OF 17

F 03-93

AS-BUILT 9-12-05

F-03-93

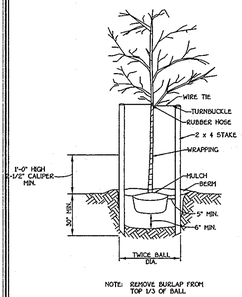


Construction Specification

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

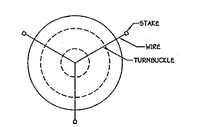
NOT TO SCALE



NOTE: REMOVE BURLAP FROM TOP 1/3 OF BALL

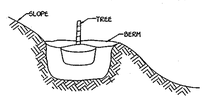
TREE PLANTING

NOT TO SCALE



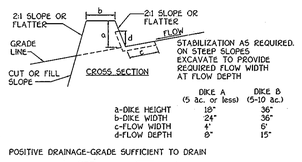
STAKING DETAIL

NOT TO SCALE



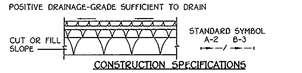
GRADING FOR PLANTING ON SLOPES

NOT TO SCALE



	DIKE A (5 ac. or less)	DIKE B (5-10 ac.)
a-DIKE HEIGHT	18"	36"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	8"	15"

POSITIVE DRAINAGE-GRADE SUFFICIENT TO DRAIN



CONSTRUCTION SPECIFICATIONS

1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

FLOW CHANNEL STABILIZATION

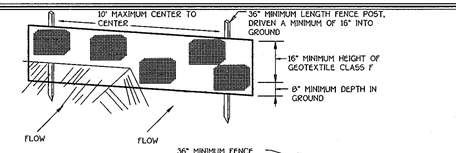
TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSIOR; SOD; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP-RAP 4"-8"
4	8.1-20%	LINED RIP-RAP 4"-8"	ENGINEERING DESIGN

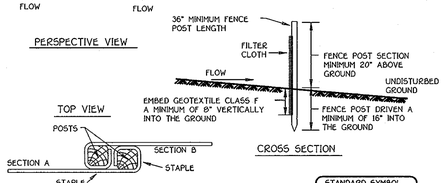
A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.

7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

EARTH DIKE

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:

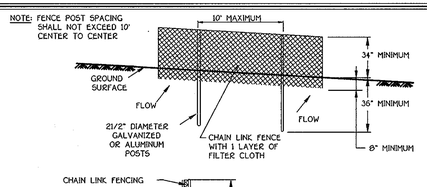
Tensile Strength	50 lbs/in (min)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min)	Test: MSMT 509
Flow Rate	0.3 gal ft / minute (max.)^2	Test: MSMT 322
Filtering Efficiency	75% (min)	Test: MSMT 322

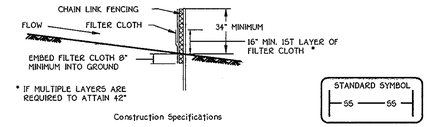
3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

DETAIL 22 - SILT FENCE

NOT TO SCALE

NOTE: FENCE POST SPACING SHALL NOT EXCEED 10' CENTER TO CENTER





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

DETAIL 33 - SUPER SILT FENCE

NOT TO SCALE

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."

SIGNATURE OF DEVELOPER — DATE 10/22/03

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 — DATE 10/23/03

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

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE — DATE 11/20/03

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 11/20/03

APPROVED: DEPARTMENT OF PLANNING AND ZONING

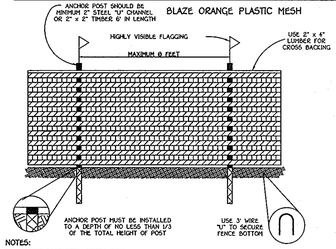
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11/21/03

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 12/8/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 12-2-03



NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

NOT TO SCALE

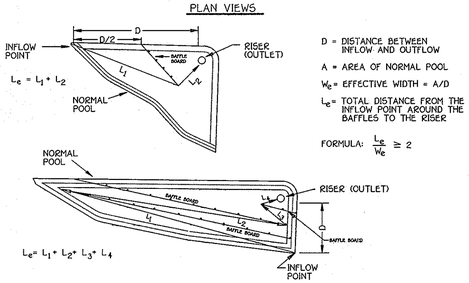
SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES 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: (I) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, (II) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. GRADING NECESSARY TO INSTALL STORM DRAINS, SEDIMENT TRAP AND EARTH DIKES TO BE PERFORMED FIRST. REMAINDER OF THE GRADING TO BE PERFORMED AFTER STORM DRAINS, SEDIMENT TRAP AND EARTH DIKES ARE INSTALLED.
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. 50, 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	40.342	ACRES
AREA DISTURBED	13.05	ACRES
AREA TO BE ROOFED OR PAVED	2.41	ACRES
AREA TO BE VEGETATIVELY STABILIZED	10.64	ACRES
TOTAL CUT	12,000	CU.YDS.
TOTAL FILL	12,000	CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION	N/A	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 LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

PLAN VIEWS



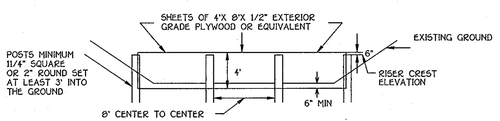
D = DISTANCE BETWEEN INFLOW AND OUTFLOW

A = AREA OF NORMAL POOL

W_e = EFFECTIVE WIDTH = A/D

L_e = TOTAL DISTANCE FROM THE INFLOW POINT AROUND THE BAFFLES TO THE RISER

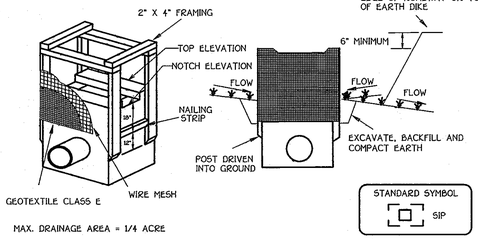
FORMULA: $\frac{L_e}{W_e} \geq 2$



BAFFLE DETAIL

SEDIMENT BASIN BAFFLES

NOT TO SCALE



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 strips 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 geotixtile 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.

STANDARD INLET PROTECTION

NOT TO SCALE

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.

EROSION CONTROL MATTING

NOT TO SCALE

SEQUENCE OF CONSTRUCTION

1. OBTAIN ALL REQUIRED GRADING PERMITS, APPROVALS AND LICENSES FROM APPROPRIATE AGENCIES.
2. NOTIFY HOWARD COUNTY OFFICE OF CONSTRUCTION / INSPECTION DIVISION (410) 313-1870 AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING WORK ON THESE PLANS. NOTIFY "MISS UTILITY" 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777.
3. INSTALL ALL TREE PROTECTION FENCE FOR TREES TO BE UNDISTURBED AS INDICATED ON THE PLANS. (2 DAYS)
4. CLEAR AND GRUB FOR SEDIMENT CONTROL MEASURES ONLY. INSTALL STABILIZED CONSTRUCTION ENTRANCE. (3 DAYS)
5. CONSTRUCT TEMPORARY S.W.M. SEDIMENT BASIN FACILITIES NO. 1 AND NO. 2 FOR T.S.W.M. INSTALL SILT FENCE AND SUPER-SILT FENCE AS SHOWN ON PLANS. OBTAIN PERMISSION FROM THE INSPECTOR TO PROCEED AFTER CONTROLS ARE INSTALLED. STABILIZE WITH TEMPORARY SEEDING. NO BLASTING WILL BE PERMITTED FOR EXCAVATION OF THE PONDS. WHERE NECESSARY, RIPPING AND SACK HAMMERING SHOULD BE UTILIZED IN THE EXCAVATION OF THE FACILITY WITH PERMISSION REQUIRED FROM THE INSPECTOR TO PROCEED. (3 WEEKS)
6. CLEAR AND GRUB THE REMAINDER OF THE SITE. (4 DAYS)
7. GRADE WESTCOTT PLACE TO SUB-GRADE AND GRADE LANDSCAPE BERM ALONG HALL SHOP ROAD. STABILIZE LANDSCAPE BERM AND SWALES WITHIN WESTCOTT PLACE WITH PERMANENT SEEDING. (2 WEEKS)
8. INSTALL STORM DRAIN SYSTEM AND INLET PROTECTION ON ALL INLETS. (2 WEEKS)
9. INSTALL BASE COURSE PAVING FOR WESTCOTT PLACE. (3 DAYS)
10. GRADE ACCESS WAYS BETWEEN LOTS 10 AND 11 AND OPEN SPACE LOT 13. STABILIZE WITH TEMPORARY SEEDING. (4 days)
11. CONSTRUCT SWALE ALONG THE REAR OF LOTS 8 THRU 11 AND ON NON-BUILDABLE PRESERVATION PARCEL 'C'. STABILIZE WITH EROSION CONTROL MATTING. (1 WEEK)
12. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS. REMOVE SEDIMENTS FROM TRAP WHEN CLEANOUT ELEVATION HAS BEEN REACHED. ALL SEDIMENTS MUST BE PLACED UPSTREAM OF AN APPROVED TRAPPING DEVICE.
13. STABILIZE ALL DISTURBED AREAS AND OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTORS TO PROCEED.
14. CONVERT T.S.W.M. BASINS TO PERMANENT S.W.M. FACILITIES. (1 WEEK)
15. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES AND PONDS HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE DEVICE MAY BE REMOVED AND/OR BACKFILLED AND THE REMAINING AREAS BROUGHT TO FINAL DESIGN GRADE. STABILIZE ALL REMAINING AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (10 DAYS)
16. NOTIFY HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS FOR FINAL INSPECTION OF THE COMPLETED PROJECT.

SEDIMENT CONTROL NOTES AND DETAILS

HALL SHOP MANOR

Lots 1 Thru 14, Buildable Preservation Parcel 'A', Non-Buildable Preservation Parcels 'B' And 'C' And Non-Buildable Bulk Parcel 'D'

Zoned: RR-DEO
Tax Map: 41 Grid: 1 Parcel: 138
Fifth Election District
Howard County, Maryland
DATE: OCTOBER 20, 2003
SHEET 5 OF 17

F 03-93

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

OWNER AND DEVELOPER

IGLEHART FARM, LLC
c/o LAND DESIGN AND DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

AS-BUILT 9-12-05 F-03-93

STORM WATER MANAGEMENT POND CONSTRUCTION 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. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

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

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

EARTH FILL

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

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

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

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

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

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

Structure Backfill

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

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

Pipe Conduits

All pipes shall be circular in cross section.

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

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

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

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling banks or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

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

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

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

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

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

5. Backfilling shall conform to "Structure Backfill".

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

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

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

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

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire 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 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill".

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

Plastic Pipe

The following criteria shall apply for plastic pipe:

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

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

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

4. Backfilling shall conform to "Structure Backfill".

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

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

Concrete

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

Rock Riprap

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

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

Care of Water during Construction

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

OPERATION AND MAINTENANCE

An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and major repairs needs to be retained in a file. The issuance of a Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or spillway from its original design and specifications is required. A permit is also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs are to be made as soon as practical.

Embankment and Cut-off Trench Construction

THE AREA OF THE PROPOSED SWM POND SHOULD BE STRIPPED OF TOPSOIL AND ANY OTHER UNSUITABLE MATERIALS FROM THE EMBANKMENT OR STRUCTURE AREA IN ACCORDANCE WITH SOIL CONSERVATION GUIDELINES. AFTER STRIPPING OPERATIONS HAVE BEEN COMPLETED, THE EXPOSED SUBGRADE MATERIALS SHOULD BE PROOFROLLED WITH A LOADED DUMP TRUCK OR SIMILAR EQUIPMENT IN THE PRESENCE OF A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE UTILIZING A DYNAMIC CONE PENETROMETER. ANY EXCESSIVELY SOFT OR LOOSE MATERIALS IDENTIFIED BY PROOFROLLING OR PENETROMETER TESTING SHOULD BE EXCAVATED TO SUITABLE FIRM SOIL, AND THEN GRADES RE-ESTABLISHED BY BACKFILLING WITH SUITABLE SOIL.

A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER SHOULD BE PRESENT TO MONITOR PLACEMENT AND COMPACTION OF FILL FOR THE EMBANKMENT AND CUT-OFF TRENCH. IN ACCORDANCE WITH MARYLAND SOIL CONSERVATION SPECIFICATION 378 SOILS CONSIDERED SUITABLE FOR THE CENTER OF EMBANKMENT AND CUT-OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL.

IT IS OUR PROFESSIONAL OPINION THAT IN ADDITION TO THE SOIL MATERIALS DESCRIBED ABOVE A FINE GRAINED SOIL, INCLUDING SILT (ML) WITH A PLASTICITY INDEX OF 10 OR MORE CAN BE UTILIZED FOR THE CENTER OF THE EMBANKMENT AND CORE TRENCH. BASED ON OUR VISUAL CLASSIFICATIONS IT APPEARS THAT SOME OF THE ON-SITE SOILS, ESPECIALLY THE NEAR SURFACE SOILS, WILL BE SUITABLE FOR USE AS CORE TRENCH MATERIAL. IT IS RECOMMENDED THAT ADDITIONAL EXPLORATION AND LABORATORY TESTING BE PERFORMED PRIOR TO POND CONSTRUCTION TO IDENTIFY AND QUANTIFY POTENTIAL BORROW AREAS FOR CORE TRENCH MATERIAL. ALL FILL MATERIALS MUST BE PLACED AND COMPACTED WITH MD SCS 378 SPECIFICATIONS.

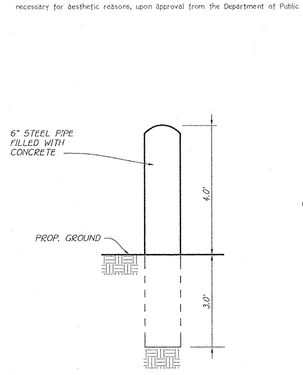
OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITIES FOR SWM POND #2

ROUTINE MAINTENANCE

1. Facility shall be inspected annually and after major storms. Inspections shall be preformed 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 and maintenance access should be mowed as needed.
3. Debris and litter shall be removed during regular mowing operations and as needed.
4. Visible signs of erosion in the pond as well as the rip-rap or gabion outlet area shall be repairer as soon as it is noticed.

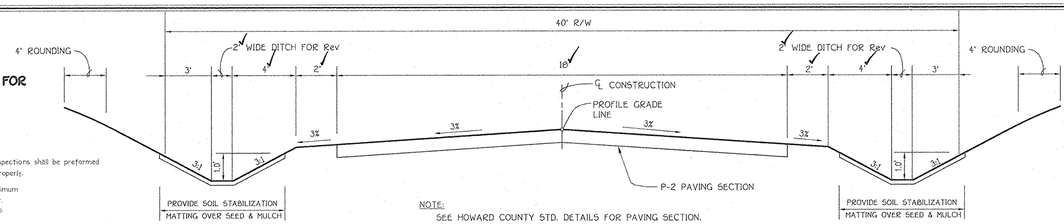
NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components shall be inspected during routine maintenance operations.
2. Sediment shall be removed from the pond, and forebay, no later than when the capacity of the pond or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.



TYPICAL BOLLARD DETAIL

NOT TO SCALE



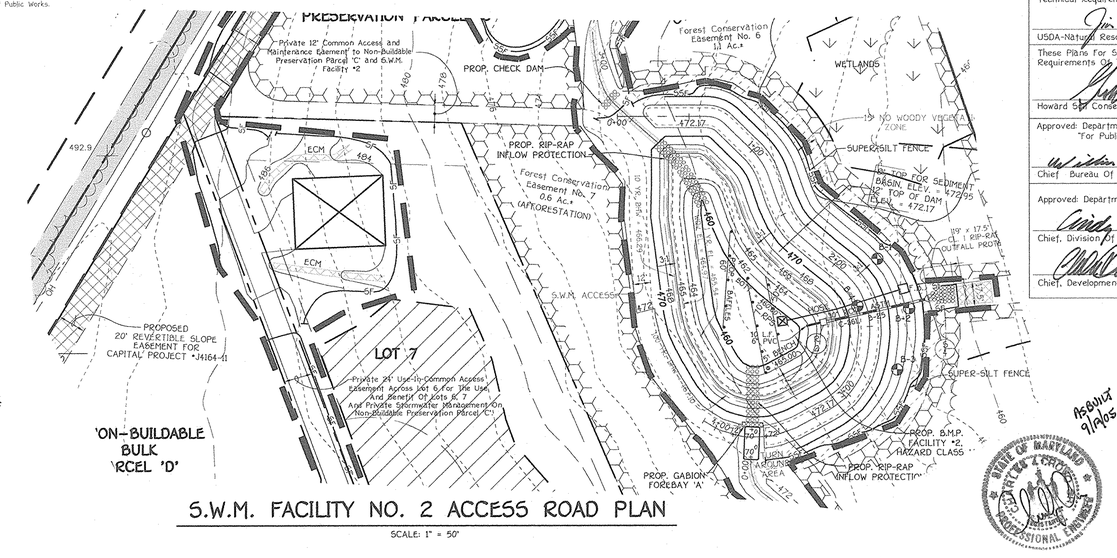
NOTE:
SEE HOWARD COUNTY STD. DETAILS FOR PAVING SECTION.

TYPICAL ROADWAY SECTION

NO SCALE

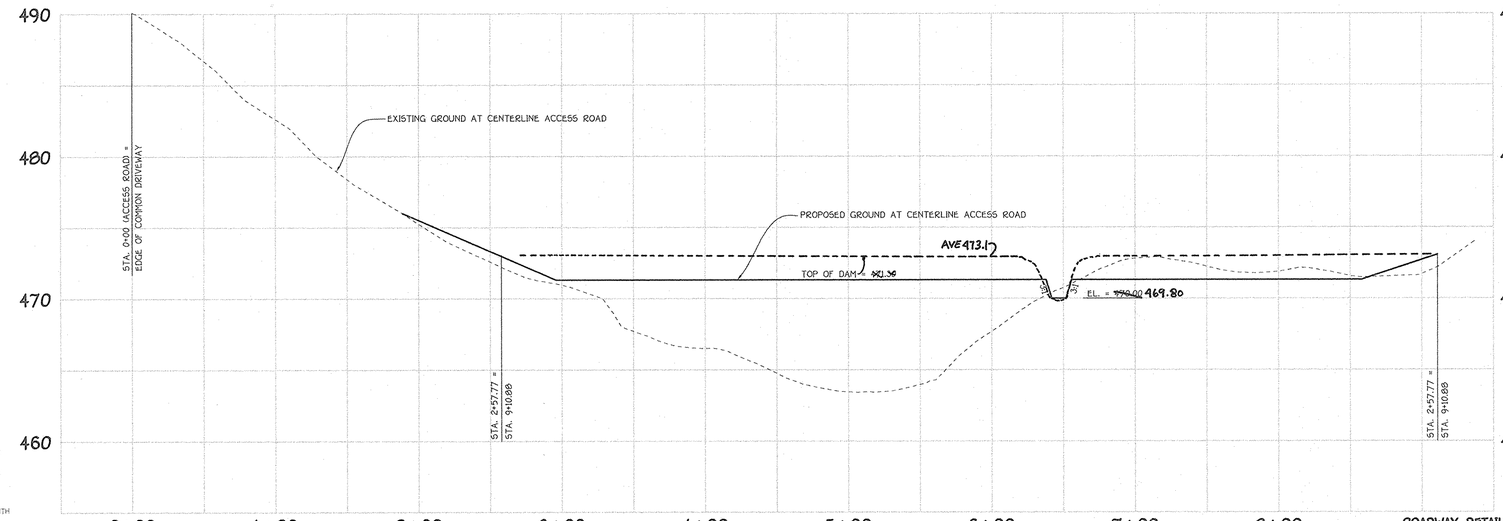
ROADWAY INFORMATION CHART

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	℄ STATION LIMITS	PAVING SECTION
WESTCOTT PLACE	PUBLIC ACCESS PLACE	25 M.P.H.	RR-DEO	19+05 TO 27+42.87	P-2



S.W.M. FACILITY NO. 2 ACCESS ROAD PLAN

SCALE: 1" = 50'



S.W.M. FACILITY NO. 2 ACCESS ROAD PROFILE

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

OWNER AND DEVELOPER

IGLEHART FARM, LLC
c/o LAND DESIGN AND DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

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."

Signature Of Developer — 11/19/03 Date

DONALD IGLEHART, JR.
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 — 11/20/03 Date

CHARLES J. COLE SR.
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 — 11/20/03 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 — 11/20/03 Date

Approved: Department Of Public Works
"For Public Infrastructures Only"

Chief, Bureau Of Highways — 12-2-03 Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — 12/11/03 Date

Chief, Development Engineering Division — 12/8/03 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 — 13204 P.E. No. — 9/12/05 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.

STATE OF MARYLAND — CHARLES JOSEPH COLE — No. 13204 — PROFESSIONAL ENGINEER

ROADWAY DETAIL, STORMWATER MANAGEMENT NOTES AND SWM FACILITY NO. 2 ACCESS ROAD PLAN & PROFILE

HALL SHOP MANOR

Lots 1 Thru 14,
Buildable Preservation Parcel 'A',
Non-Buildable Preservation Parcels 'B' And 'C'
And Non-Buildable Bulk Parcel 'D'

Zoned: RR-DEO
Tax Map: 41 Grid: 1 Parcel: 138
Fifth Election District
Howard County, Maryland
DATE: OCTOBER 20, 2003
SHEET 6 OF 17

F 03-93

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

AS-BUILT 9-12-05 F-03-93

STRUCTURE SCHEDULE

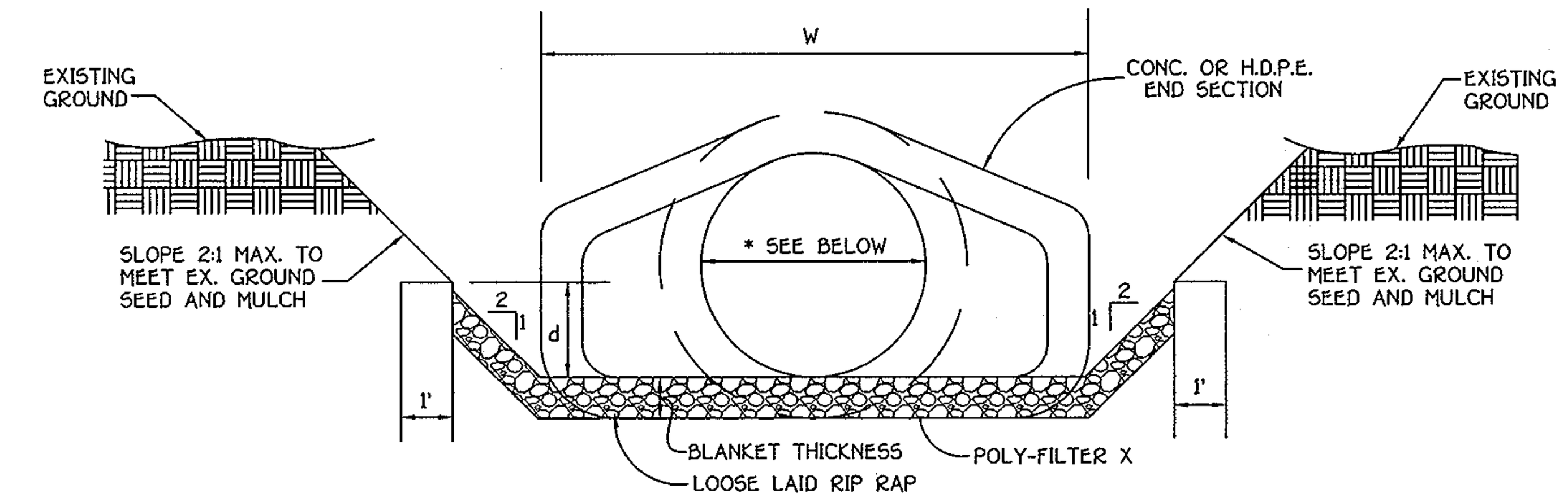
STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	ROAD NAME	℄ ROAD STA.	OFFSET	TYPE	REMARKS
I-1	468.95	-------	463.80	---------	N 551497.75 E 1332502.16		'D' INLET✓	S.D. - 4.11
I-2	493.53	486.42	486.23	WESTCOTT PLACE	19+88	16' R	'D' INLET✓	S.D. - 4.11
I-3	493.64	-------	486.95	WESTCOTT PLACE	19+88	16.00'L	'D' INLET✓	S.D. - 4.11
I-4	491.74	-------	488.69	WESTCOTT PLACE	LP 1+62.34	5.13'L	'D' INLET✓	S.D. - 4.11
I-5	495.38	488.53	488.28	WESTCOTT PLACE	26+36	17'R	'D' INLET✓	S.D. - 4.11
I-6	495.03	-------	489.03	WESTCOTT PLACE	26+33.50	17'L	'D' INLET✓	S.D. - 4.11
I-7	488.96	485.26	485.15	HALL SHOP ROAD	N 551542.33 E 1331769.21		OPEN END GRATE✓	S.D. - 4.36
M-1	467.66	462.86 / 461.70	461.56	---------	N 551480.05 E 1332531.92		STD. MANHOLE✓	G - 5.11
M-2	466.92	462.32	462.02	---------	N 551462.55 E 1332518.09		STD. MANHOLE✓	G - 5.11
M-3	493.93	484.37	483.90	WESTCOTT PLACE	19+35	23.00'R	STD. MANHOLE✓	G - 5.11
M-4	478.49	475.17	475.05	---------	N 552189.45 E 1332607.31		STD. MANHOLE✓	G - 5.11
M-5	493.93	487.73 / 487.87	487.68	WESTCOTT PLACE	LP 2+74.53	5.13'R	STD. MANHOLE✓	G - 5.11
R-1	461.34	-------	453.90	BMP NO. 1	N 551536.68 E 1332718.49		CONCRETE RISER✓	-------
S-1	461.21	459.21	--------	BMP NO. 1	N 551598.56 E 1332617.24		HDPE END SECTION✓	A.D.S. Flared end section
S-2	476.07	474.57	--------	---------	N 552205.63 E 1332607.61		HDPE END SECTION✓	A.D.S. Flared end section
S-3	454.83	452.83	--------	BMP NO. 1	N 551440.95 E 1332802.88		CONC. END SECTION✓	S.D. - 5.51
S-4	461.74	459.74	--------	BMP NO. 2	N 552537.84 E 1332646.11		CONC. END SECTION✓	S.D. - 5.51
S-5	471.61	470.36	--------	ACCESS ROAD TO CEMETERY LOT	N 551899.30 E 1332580.95		CONC. END SECTION✓	S.D. - 5.51
S-6	472.03	--------	470.78	ACCESS ROAD TO CEMETERY LOT	N 551923.20 E 1332579.76		CONC. END SECTION✓	S.D. - 5.51
S-7	485.96	484.71	-------	HALL SHOP ROAD	N 551512.28 E 1331736.82		HDPE END SECTION✓	A.D.S. Flared end section
C-1	491.75	-------	488.05	HALL SHOP ROAD	N 551898.3 E 1331701.91		P.V.C. CLEANOUT✓	see detail sheet 8
R-2	470.04	--------	461.95	BMP NO. 2	N 552520.68 E 1332569.10		CONCRETE RISER✓	-------

A.D.S. - ADVANCED DRAINAGE SYSTEMS
LONDON, OHIO
1-800-733-9554

* DENOTES THROAT ELEVATION

PIPE SCHEDULE

SIZE	CLASS	LENGTH
15"	HDPE	222'
18"	HDPE	968'
24"	HDPE	159'
4"	PVC	410'



RIP RAP CHANNEL DETAIL

NO SCALE

RIP-RAP CHANNEL DESIGN DATA

STRUCTURE	AREA	WETTED PERIMETER	R	R 2/3	S	S 1/2	W	d	N	V (F.P.S.)	Q (C.F.S.)	RIP-RAP SIZE d_{50}	RIP-RAP SIZE d_{MAX}	BLANKET THICKNESS	Q_{10}	DIA.	
S-1	7.70 s.f.	10.34'	0.7447	0.8209	0.50%	0.0707	6.0'	0.97'	0.04	2.55	19.67	9.5"	15"	19"	19.67 cfs	24"HDPE*	
S-2	4.96 s.f.	7.87'	0.6302	0.7339	0.50%	0.0707	4.0'	0.87'	0.04	1.93	9.59	9.5"	15"	19"	9.59 cfs	18"HDPE*	
S-3	13.60 s.f.	12.74'	1.0794	1.0525	0.50%	0.0707	6.0'	1.51'	0.04	2.74	34.0	9.5"	15"	19"	-----	24"RCP*	Q100 = 34.0 cfs
S-4	13.21 s.f.	12.60'	1.048	1.0322	0.50%	0.0707	6.0'	1.48'	0.04	2.71	33.2	9.5"	15"	19"	-----	30"RCP*	Q100 = 33.2 cfs
S-5	2.70 s.f.	6.38'	0.4232	0.5621	0.50%	0.0707	4.0'	0.53'	0.04	1.48	4.00	9.5"	15"	19"	4.00 cfs	15"RCP*	
S-6	2.70 s.f.	6.38'	0.4232	0.5621	0.50%	0.0707	4.0'	0.53'	0.04	1.48	4.00	9.5"	15"	19"	4.00 cfs	15"RCP*	

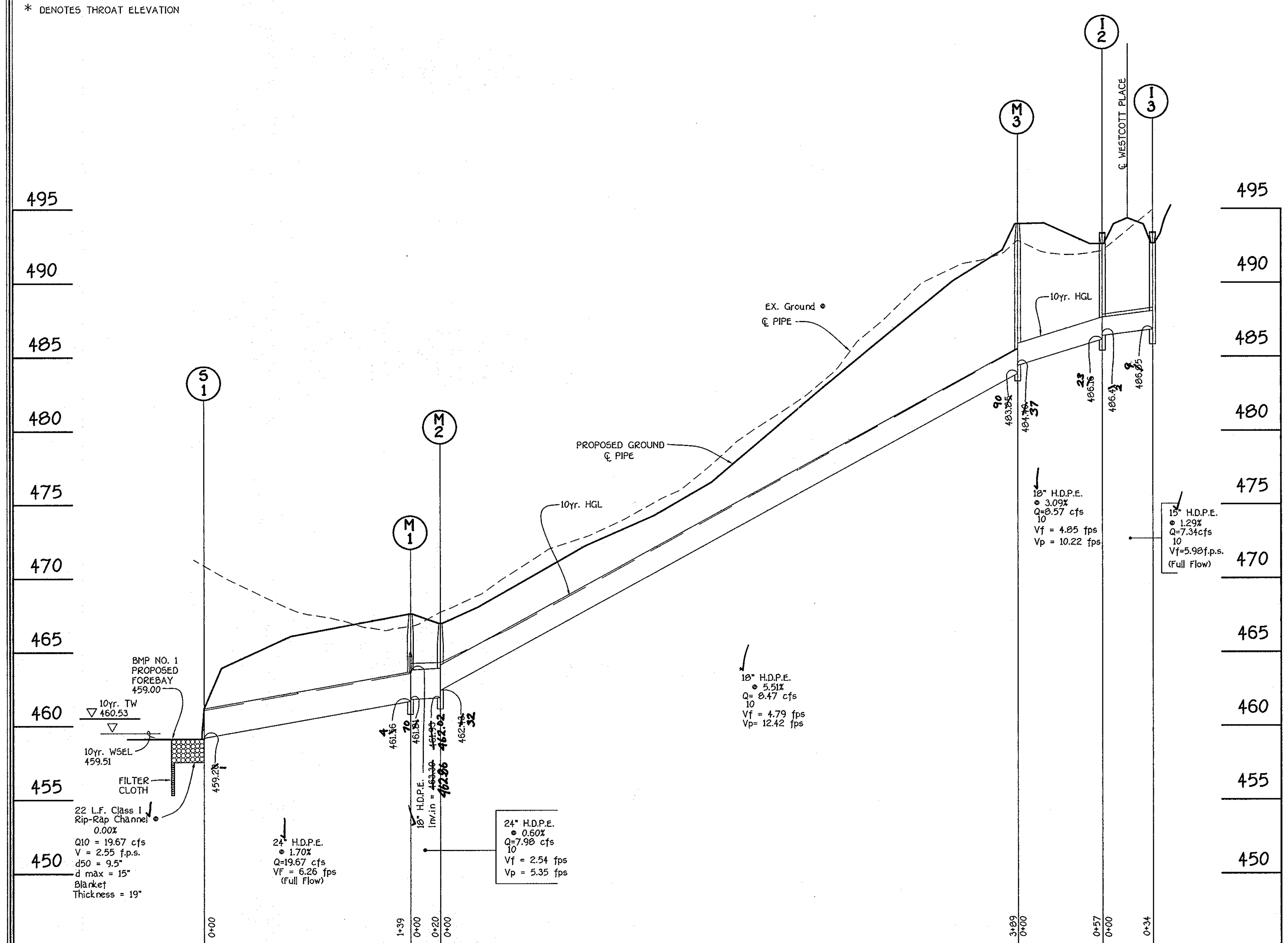
CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

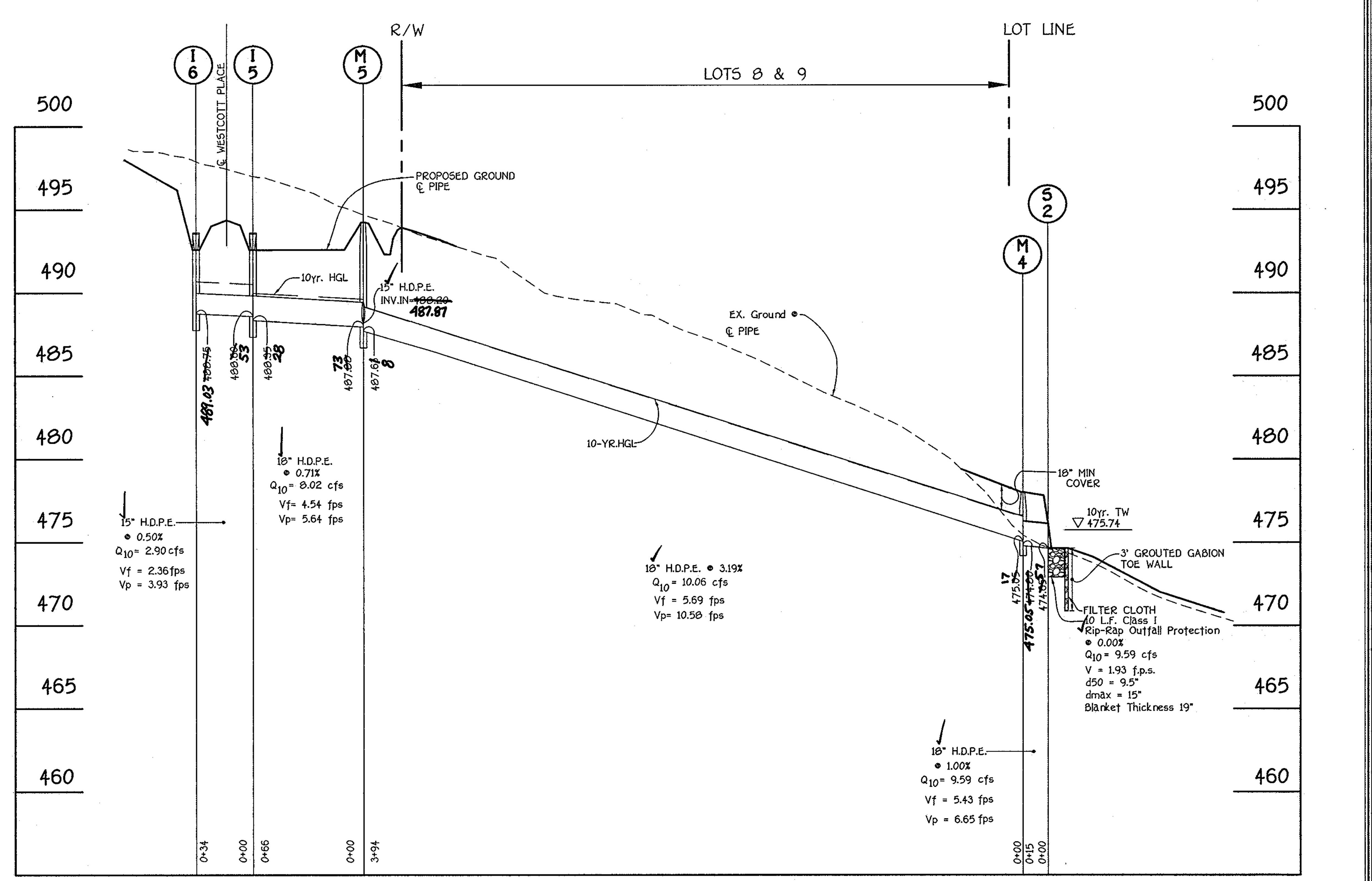
1. The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional shall hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
4. Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

APPROVED: DEPARTMENT OF PUBLIC WORKS	
[signature] CHIEF, BUREAU OF HIGHWAYS	12-2-03 DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
[signature] CHIEF, DIVISION OF LAND DEVELOPMENT HB	12/11/03 DATE
[signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION	12/8/03 DATE

REVISIONS

NO.	DESCRIPTION	DATE





STORM DRAIN PROFILE

SCALE 1" = 50' HOR. 1" = 5 ' VERT.

STORM DRAIN PROFILE

SCALE 1" = 50' HOR. 1" = 5 ' VERT.

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

OWNER AND DEVELOPER
IGLEHART FARM, LLC
c/o LAND DESIGN AND DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

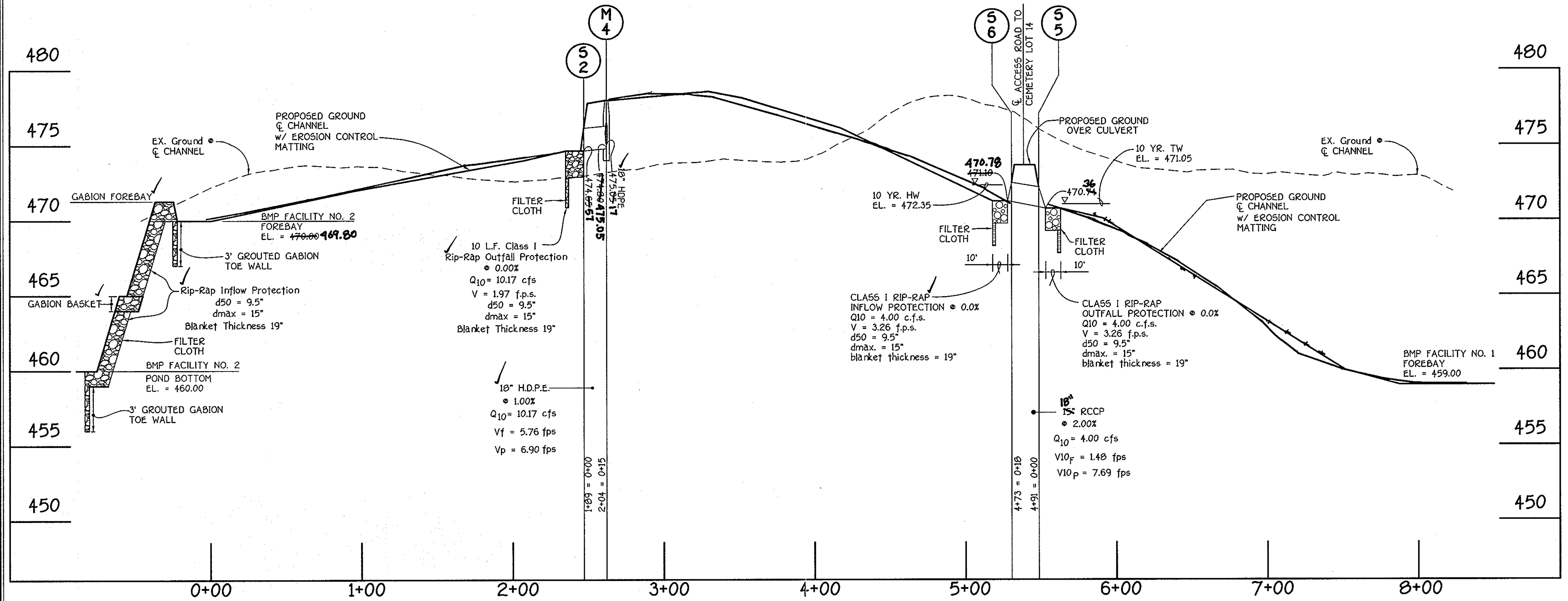
STATE OF MARYLAND — PROFESSIONAL ENGINEER (seal) AS BUILT 9/12/05

STATE OF MARYLAND — PROFESSIONAL ENGINEER (seal)

STORM DRAIN PROFILES
HALL SHOP MANOR
Lots 1 Thru 14,
Buildable Preservation Parcel 'A',
Non-Buildable Preservation Parcels 'B' And 'C'
And Non-Buildable Bulk Parcel 'D'

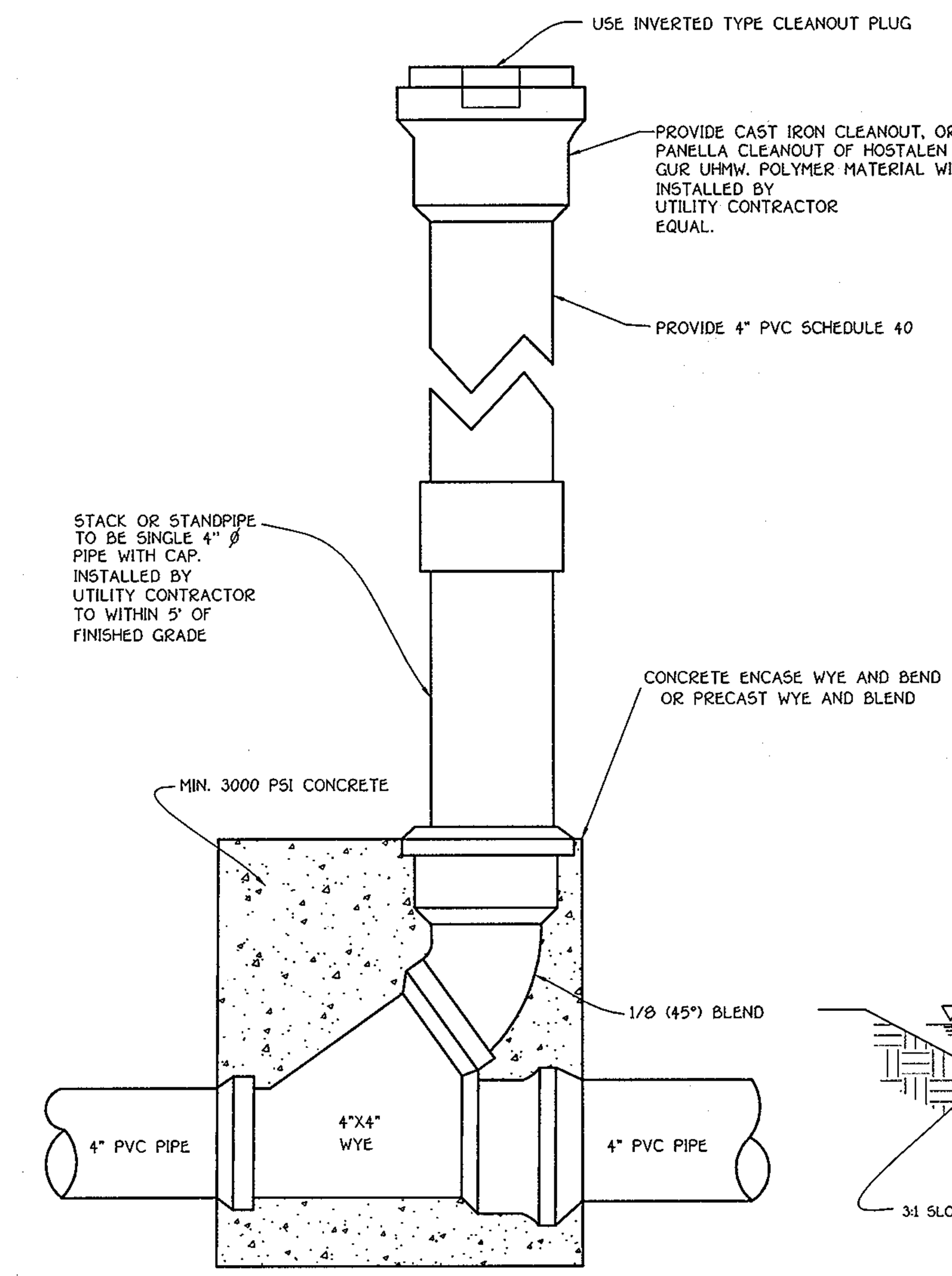
Zoned: RR-DEO
Tax Map: 41 Grid: 1 Parcel: 138
Fifth Election District
Howard County, Maryland
DATE: OCTOBER 20, 2003

AS-BUILT 9-12-05 F-03-93



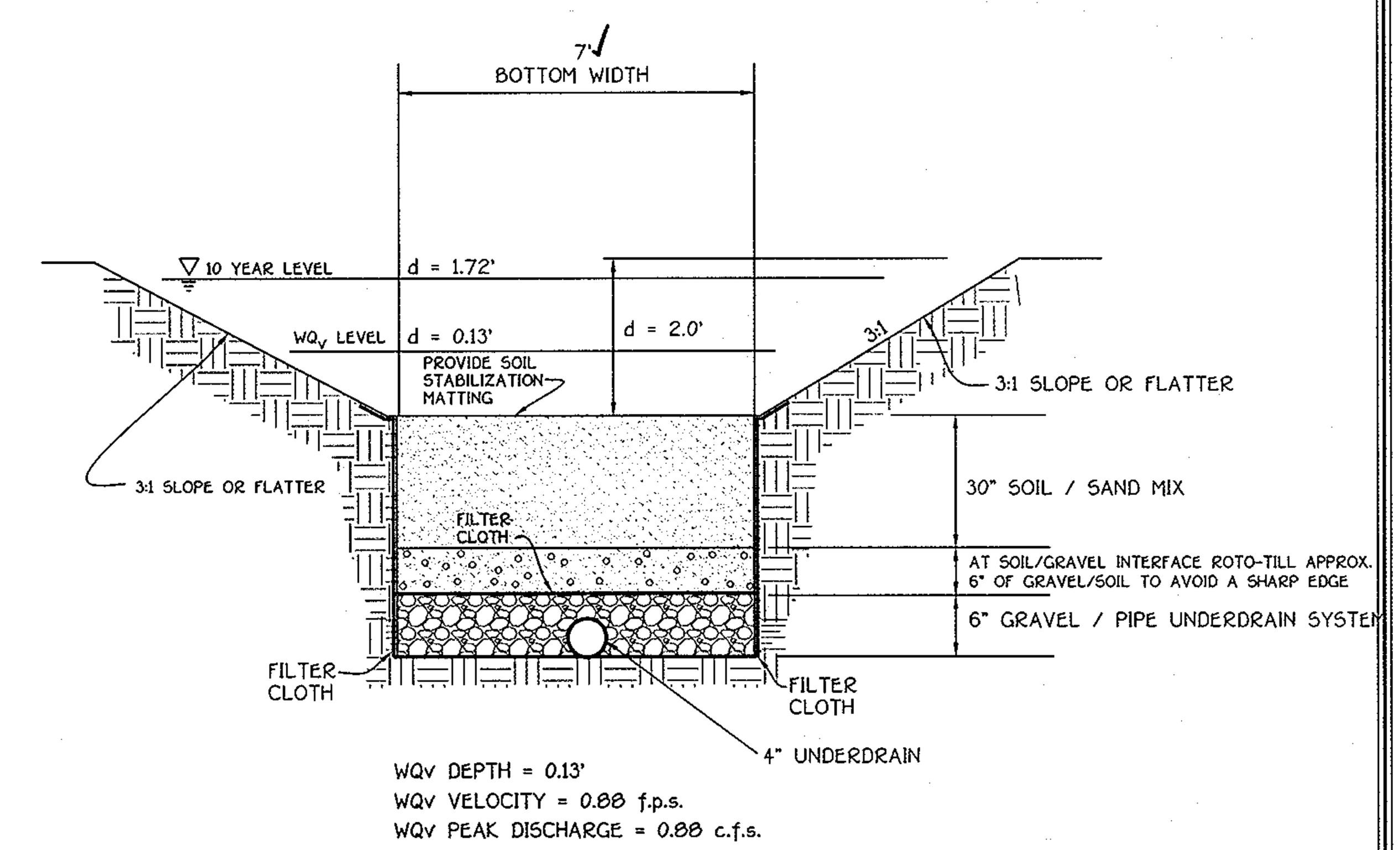
CHANNEL PROFILE

SCALE 1" = 50' HOR. 1" = 5' VERT.



DRY SWALE UNDER DRAIN CLEAN-OUT

NO SCALE

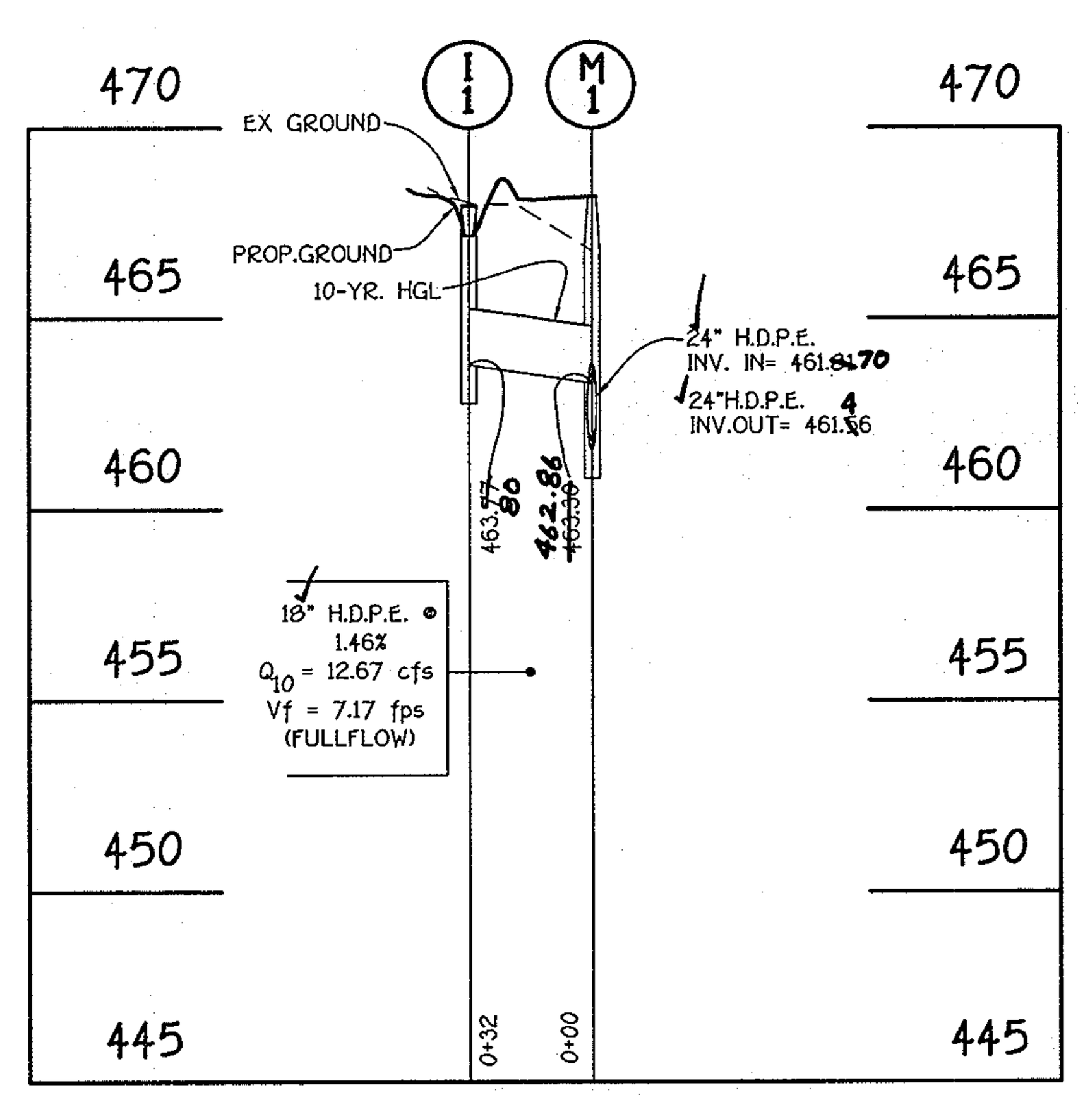


DRY SWALE CROSS SECTION

NO SCALE

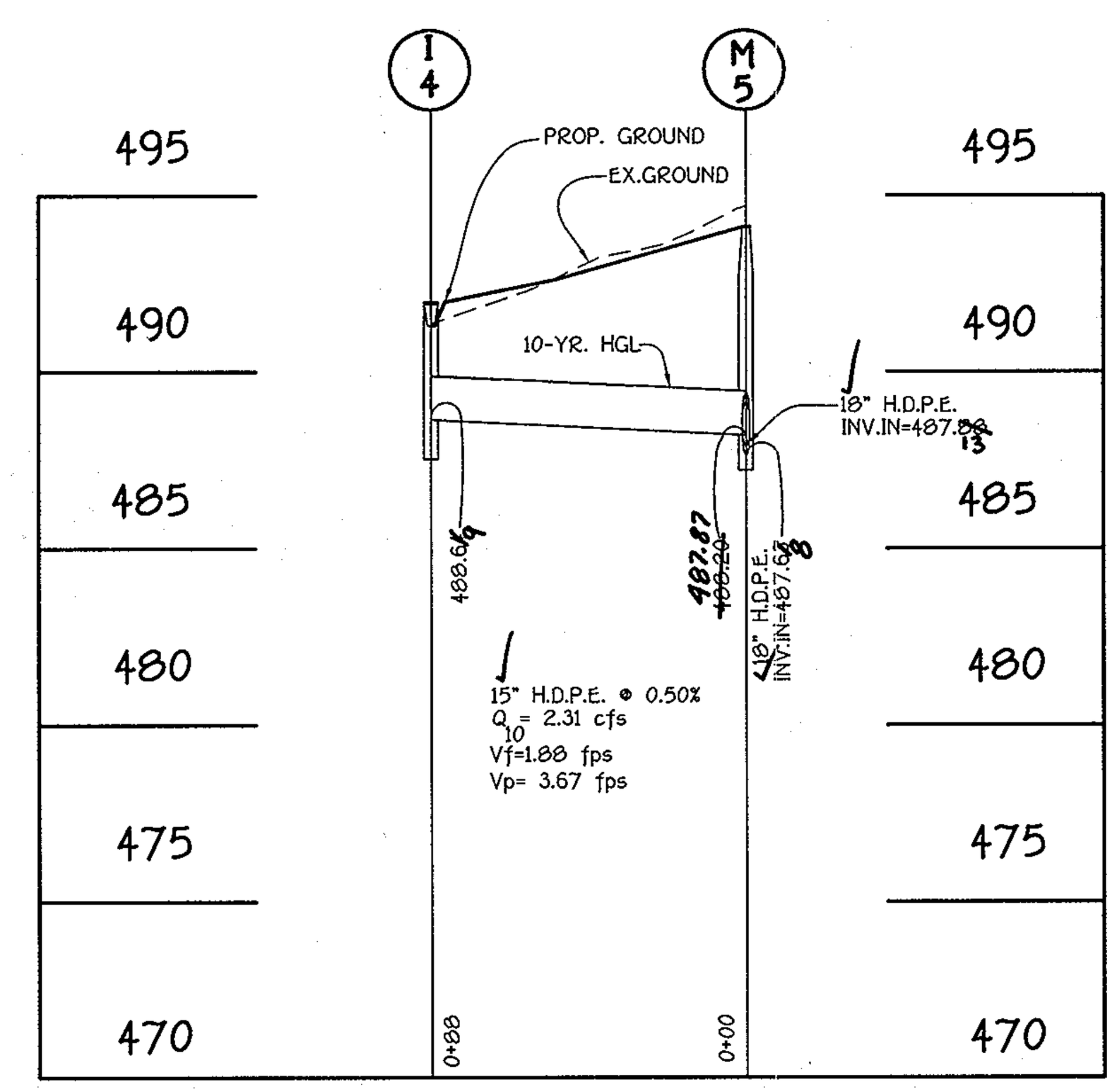
OPEN CHANNEL MAINTENANCE CRITERIA - DRY SWALE

1. OPEN CHANNEL SYSTEMS AND GRASS FILTER STRIPS SHOULD BE MOWED AS REQUIRED DURING THE GROWING SEASON TO MAINTAIN GRASS HEIGHTS IN THE 4 TO 6 INCH RANGE. SEDIMENT BUILD - UP WITHIN THE BOTTOM OF THE CHANNEL OR FILTER STRIP SHALL BE REMOVED WHEN 25% OF THE ORIGINAL WQv HAS BEEN EXCEEDED.
2. PLEASE REFER TO APPENDIX B.3 OF THE MDE MANUAL FOR CONSTRUCTION SPECIFICATIONS FOR OPEN CHANNEL SYSTEMS.



STORM DRAIN PROFILE

SCALE 1" = 50' HOR. 1" = 5' VERT.



STORM DRAIN PROFILE

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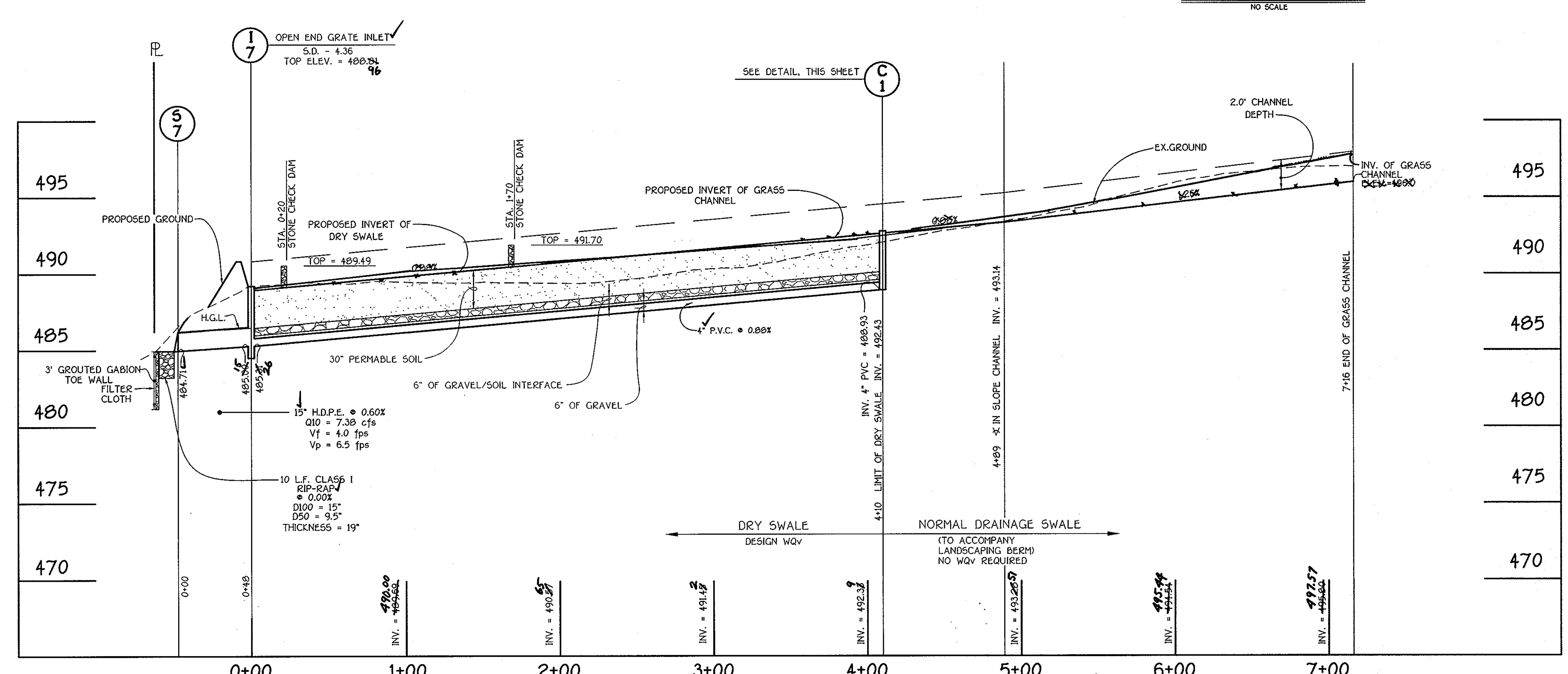

DRY SWALE PROFILE

SCALE 1" = 50' HOR. 1" = 5' VERT.

AS-BUILT 9/12/05

APPROVED: DEPARTMENT OF PUBLIC WORKS	
CHIEF, BUREAU OF HIGHWAYS	DATE 12-2-03
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 12/11/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 12/8/03

REVISIONS

NO.	DESCRIPTION	DATE

OWNER AND DEVELOPER

IGLEHART FARM, LLC
c/o LAND DESIGN AND DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

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

STORM DRAIN PROFILES

HALL SHOP MANOR

Lots 1 Thru 14,
Buildable Preservation Parcel 'A',
Non-Buildable Preservation Parcels 'B' And 'C'
And Non-Buildable Bulk Parcel 'D'

Zoned: RR-DEO
Tax Map: 41 Grid: 1 Parcel: 138
Fifth Election District
Howard County, Maryland
DATE: OCTOBER 20, 2003
SHEET 8 OF 17

F 03-93

AS-BUILT 9-12-05 F-03-93

Approved: Department Of Public Works

William J. [signature] 12-2-03
Chief Bureau Of Highways HB — Date

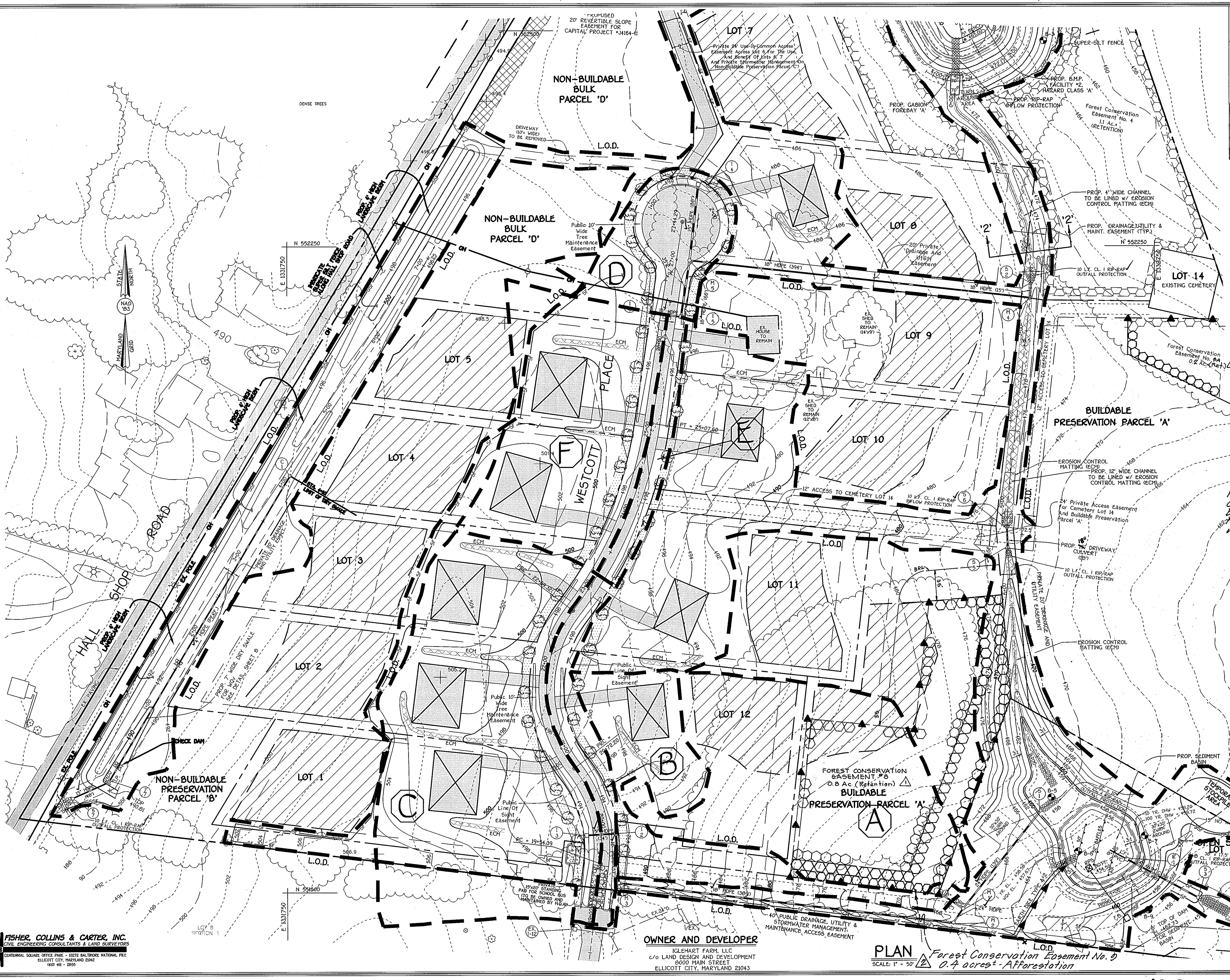
Approved: Department Of Planning And Zoning

Cindy Hamilton 12/11/03
Chief, Division Of Land Development HB — Date

[signature] 12/8/03
Chief, Development Engineering Division — Date AG

NO	REVISION	DATE
1 (triangle)	SEE GENERAL NOTE # 26	8-20-04
2	See expanded Revision Note on Sheets 14 & 16; added note re: placement of Forest Conservation Easement signs.	11.10.08

DRAINAGE AREA DATA				
SYMBOL	DRAINAGE AREA	'C' FACTOR	IMP. AREA	% IMP.
(A)	AREA = 2.15 Ac.±	0.37	0.37	17%
(B)	AREA = 0.28 Ac.±	0.62	0.15	53%
(C)	AREA = 2.13 Ac.±	0.46	0.62	29%
(D)	AREA = 0.47 Ac.±	0.65	0.27	57%
(E)	AREA = 0.20 Ac.±	0.58	0.09	47%
(F)	AREA = 1.16 Ac.±	0.38	0.22	19%



PLAN
SCALE: 1" = 50'

(2) Forest Conservation Easement No. 9
0.4 acres± - Afforestation

(2) It is to be noted that the Forest Conservation Easement signs have been placed along the exterior of the Forest Conservation Easements with the approval of the Planning Director.

OWNER AND DEVELOPER

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(410) 461 - 2855

STATE OF MARYLAND — CHARLES J. CROVO, SR. — REGISTERED PROFESSIONAL ENGINEER
AS BUILT 9/12/05

STORM DRAIN
DRAINAGE AREA MAP

HALL SHOP MANOR

LOTS 1 THRU 14,
NON-BUILDABLE PRESERVATION PARCELS 'A' & 'B'
AND NON-BUILDABLE BULK PARCELS 'C' & 'D'

ZONING: RR-DEO
TAX MAP NO. 41 GRID No. 1 PARCEL No. 138
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: OCTOBER 20, 2003

F 03-93

AS-BUILT 9-12-05 F-03-93

STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:
   a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
   b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
   c. The original soil to be vegetated contains material toxic to plant growth.
   d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:
   i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½" in diameter.
   ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnson grass, nutsedge, poison ivy, thistle, or others as specified.
   iii. where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having, disturbed areas under 5 Acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

III For sites having disturbed areas over 5 acres:

i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
   a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
   b. Organic content of topsoil shall be not less than 1.5 percent by weight.
   c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
   d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

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

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

V. Topsoil Application
   i. When top soiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
   ii. Grades on the areas to be top soiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
   iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from top soiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
   iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
   i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
      a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
      b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a PH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
      c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
   iv. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding. MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

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 (up 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 subsequent 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 1 - 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. Fertilizer 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 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 lovegrass or sericia lespedeza 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.
         6. 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. The inoculant 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 seeder, 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 P2O5 (phosphorous) 200 lbs/Ac. K2O (potassium) 200 lbs/Ac.
      b. Lime - use only ground agricultural limestone. Up 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 26S 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 after 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, decayed, 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 phyto-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.

G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
   i. If grading is completed outside of the seeding season, mulch alone 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 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 Petroset, 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.

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 in the 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.

SECTION 2 - TEMPORARY SEEDING

Vegetation - Annual grass or grain used to provide cover on disturbed areas for up to 12 months.
For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed mixtures - Temporary Seeding
   i. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary seeding summary below, along with application rates, seeding dates and seeding depths. If this summary is not put on the plans and completed, then Table 26 must be put on the plans.
   ii. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

Seed Mixture (Hardiness Zone 6b From Table 25)					Fertilizer Rate (10-10-10)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
1	BARLEY	122	3/1 - 5/15, 8/15 - 10/15	1" - 2"	600 lb/ac (5 lb/1000sf)	2 tons/ac (100 lb/1000sf)
	OATS	96		1" - 2"		
	RYE	140		1" - 2"		

SECTION 3 - PERMANENT SEEDING

Seeding grass and legumes to establish ground cover for a minimum of one year on disturbed areas generally receiving low maintenance.

A. Seed mixtures - Permanent Seeding
   i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342 - Critical Area Planting. For special lawn maintenance areas, see Sections IV Sod and V Turfgrass.
   ii. For sites having disturbed area over 5 areas, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.
   iii. For areas receiving low maintenance, Apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

Seed Mixture (Hardiness Zone 6b From Table 25)					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
3	TALL FESCUE (85%) PERENNIAL RYE GRASS (10%) KENTUCKY BLUEGRASS (5%)	125 15 10	3/1 - 5/15, 8/15 - 10/15	1" - 2"	90 lb/ac (2.0 lb/1000sf)	175 lb/ac (4 lb/1000sf)	175 lb/ac (4 lb/1000sf)	2 tons/ac (100 lb/1000sf)
10	TALL FESCUE (90%) HARD FESCUE (10%)	120 30	3/1 - 5/15, 8/15 - 10/15	1" - 2"				

OPERATION AND MAINTENANCE SCHEDULE FOR PUBLICLY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITIES FOR SWM POND #1

ROUTINE MAINTENANCE

1. Facility shall be inspected annually and after major storms. Inspections shall be preformed 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 and maintenance access should be mowed as needed.
3. Debris and litter shall be removed during regular mowing operations and as needed.
4. Visible signs of erosion in the pond as well as the rip-rap or gabion outlet area shall be repairer as soon as it is noticed.

NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components shall be inspected and maintained by Howard County.
2. Sediment shall be removed from the pond, and forebay, no later than when the capacity of the pond or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.

DRY SWALE SPECIFICATIONS

A. PERMEABLE SOIL MIXTURE (20" TO 30" DEEP) SHOULD MEET THE BIO-RETENTION "PLANTING" SOIL SPECIFICATIONS.
B. CHECK DAMS, IF REQUIRED, SHALL BE PLACED AS SPECIFIED.
C. SYSTEM TO HAVE 6" OF FREEBOARD, MINIMUM ABOVE 2 YEAR WATER SURFACE ELEVATION.
D. SIDE SLOPES TO BE 3:1 MAXIMUM (4:1 OR FLATTER IS PREFERRED).
E. NO GRAVEL OR PERFORATED PIPE IS TO PLACED UNDER DRIVEWAYS.
F. BOTTOM OF FACILITY TO BE ABOVE THE SEASONALLY HIGH WATER TABLE PER TABLE 2 OF APPENDIX D.1.
G. SEED WITH FLOOD/DROUGHT RESISTANT GRASSES; SEE APPENDIX A, SECTION 2.4.
H. LONGITUDINAL SLOPE TO BE 4% MAXIMUM.
I. BOTTOM WIDTH TO BE 8' MAXIMUM TO AVOID BRAIDING; LARGER WIDTHS MAY BE USED IF PROPER BERMING IS SUPPLIED. WIDTH TO BE 2' MINIMUM.

SWM SUMMARY TABLE

TYPE OF REQUIREMENT	VOLUME REQUIRED	VOLUME PROVIDED AND NOTES
$R_{e_{vol}}$ Recharge Vol. for Entire Site)	1.06 Acres or 0.0993 Acre-feet	1.35 Acres w/ 1 Area Method
WQ_{vol}		
Study Point #1	0.1723 Acre-feet	0.1723 Ac. Ft. • BMP Facility #1
Study Point #2	0.1918 Acre-feet	0.1918 Ac. Ft. • BMP Facility #2
Study Point #3	N/A	No Development (Pres. Parcel)
CP_{vol}		
Study Point #1	0.2058 Acre-feet	0.2528 Ac. Ft. • BMP Facility #1
Study Point #2	0.2491 Acre-feet	0.2491 Ac. Ft. • BMP Facility #2
Study Point #3	N/A	< 2.0 cfs

NOTE: Both Qp (Overbank Flood Protection or 10-year storm) and Qf (Extreme Flood Volume of 100-year storm) are not required for this since this watershed area is not classified as one of the sensitive watershed areas for Howard County.

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."

Signature Of Developer — Date: 11/19/03

Printed Name Of Developer: RONALD REUWER, JR.

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 — Date: 11/24/03

Printed Name Of Engineer: CHARLES N. CROSBY

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 — Date: 11/24/03

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

Howard Soil Conservation District — Date: 11/24/03

Approved: Department Of Public Works

Chief, Bureau Of Highways — Date: 12-2-03

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date: 12/11/03

Chief, Development Engineering Division — Date: 12/8/03

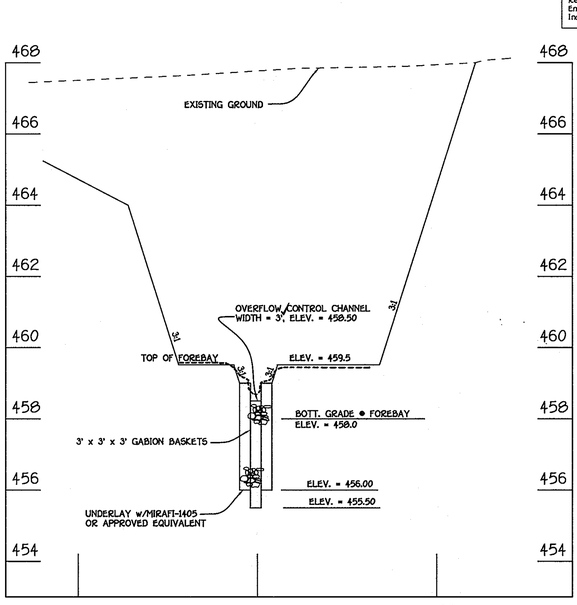
AS-BUILT CERTIFICATION

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. 13204 — Date: 9/12/05

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.

AS-BUILT 9/12/05



BMP FACILITY NO. 1 - GABION FOREBAY PROFILE

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

SEDIMENT AND EROSION CONTROL NOTES & DETAILS

HALL SHOP MANOR

Lots 1 Thru 14,
Buildable Preservation Parcel 'A',
Non-Buildable Preservation Parcels 'B' And 'C'
And Non-Buildable Bulk Parcel 'D'

Zoned: RR-DEO
Tax Map: 41 Grid: 1 Parcel: 138
Fifth Election District
Howard County, Maryland
DATE: OCTOBER 20, 2003
SHEET 10 OF 17

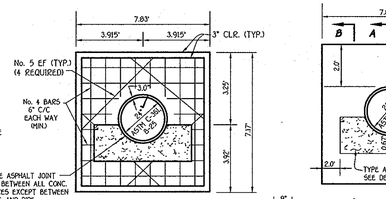
F 03-93

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

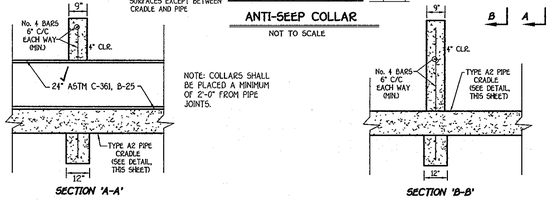
OWNER AND DEVELOPER
IGLEHART FARM, LLC
c/o LAND DESIGN AND DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

AS-BUILT 9-12-05 F-03-93

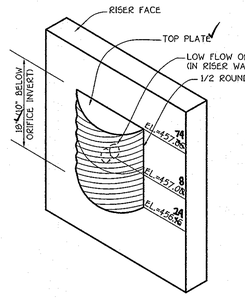
NOTES:
1. CONCRETE SHALL BE MSHA MIX No. 3 (f'c > 3,500 P.S.I)
2. REINFORCING STEEL: GRADE 60
3. FOR WALLS OF STRUCTURE SHALL UTILIZE L.M. SCOFIELD CO. T-1935 FORM LINERS (RANDOM SPLIT-FACE ROCK) OPTIONAL.
4. PROVIDE ROUGH BROOM FINISH.
5. ANCHOR BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 6.07.03.59 OF THE MSHA STANDARDS AND SPECS.
6. ALL REINFORCING SPLICES SHALL BE LAP SPLICES OF 30 BAR DIA. UNLESS OTHERWISE SHOWN.



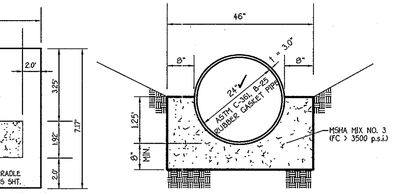
ANTI-SEEP COLLAR
NOT TO SCALE



TYPICAL SECTION THROUGH BARREL, CRADLE AND ANTI-SEEP COLLAR
(NO SCALE)

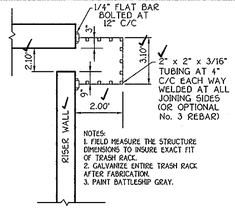


(FOR PROTECTION OF LOW FLOW ORIFICE)
HALF ROUND CMP PIPE-HOOD
NOT TO SCALE

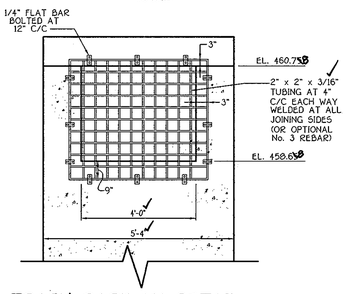


NOTE:
CONC. CRADLE TO BE POURED DIRECTLY AGAINST EARTH BANKS. IF BOTTOM OF TRENCH IS WIDER THAN THE CRADLE, SLOPING SIDES (FRAMED) SHALL BE USED.

A2 CRADLE
NOT TO SCALE



TRASH RACK 'A' DETAIL
(NO SCALE)



TRASH RACK 'A' DETAIL
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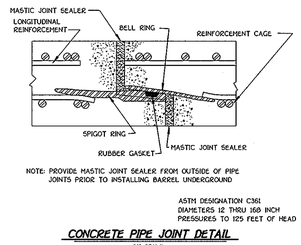
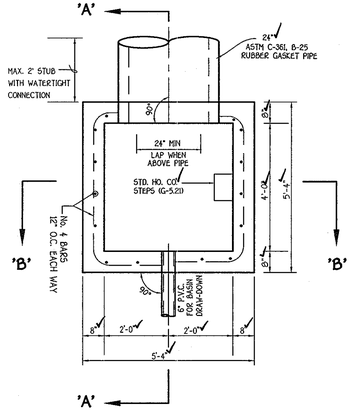


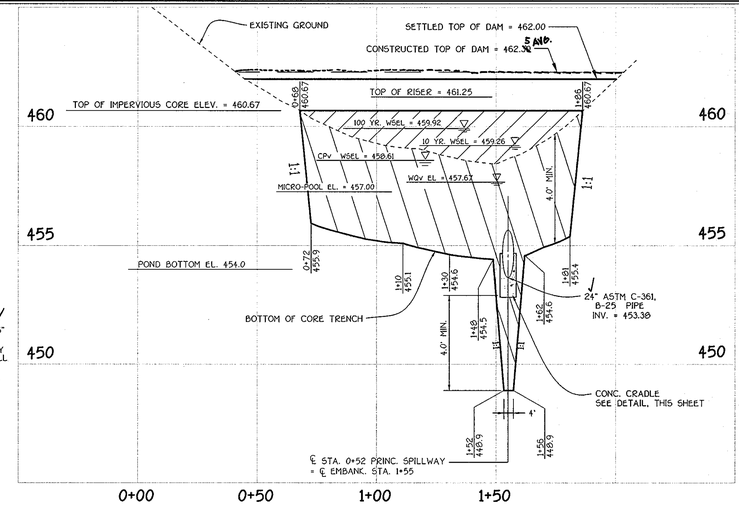
NOTE: PROVIDE MASTIC JOINT SEALER FROM OUTSIDE OF PIPE JOINTS PRIOR TO INSTALLING BARREL UNDERGROUND

ASTM DESIGNATION C361
DIAMETERS 12 THRU 168 INCH
PRESSURES TO 125 FEET OF HEAD

CONCRETE PIPE JOINT DETAIL
(NO SCALE)



RISER PLAN VIEW
NO SCALE



PERMANENT
S.W.M. BMP FACILITY NO. 1 PROFILE ALONG ℄ EMBANKMENT
SCALE: HORIZ. 1" = 30'
VERT. 1" = 3'

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."

Signature Of Developer — 11/06/03 Date

DONALD KELLNER, JR.
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 — 11/6/03 Date

CHARLES J. CROSBY
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 — 11/20/03 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 — 11/20/03 Date

Approved: Department Of Public Works

Chief, Bureau Of Highways — 12-2-03 Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — 12/1/03 Date

Chief, Development Engineering Division — 12/8/03 Date

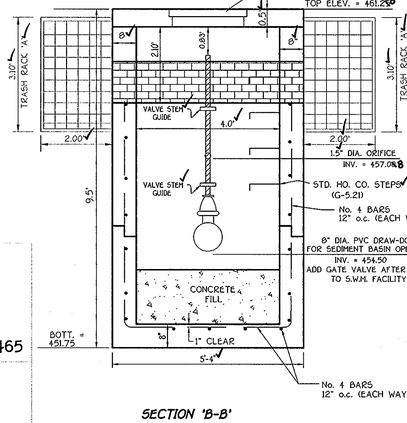
AS-BUILT 9/12/05

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 — 13304 Reg. No. — 9/12/05 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.

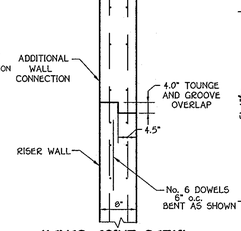


SECTION 'B-B'

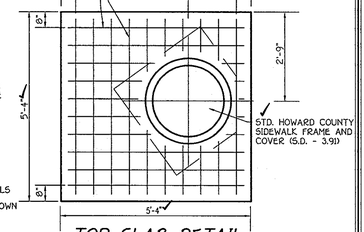
FOR SEDIMENT BASIN OPERATION, TEMPORARILY BRICK WEIR TO EL. 459.80 ON 3 SIDES

PERMANENT SWM WEIR EL. = 458.63 (3 SIDES)

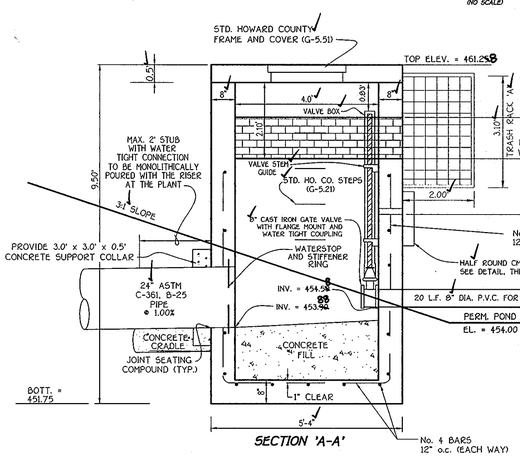
R 1 CONCRETE RISER DETAIL
SCALE: 1" = 2'



KEYED JOINT DETAIL
WALL SECTION TO WALL SECTION
(NO SCALE)

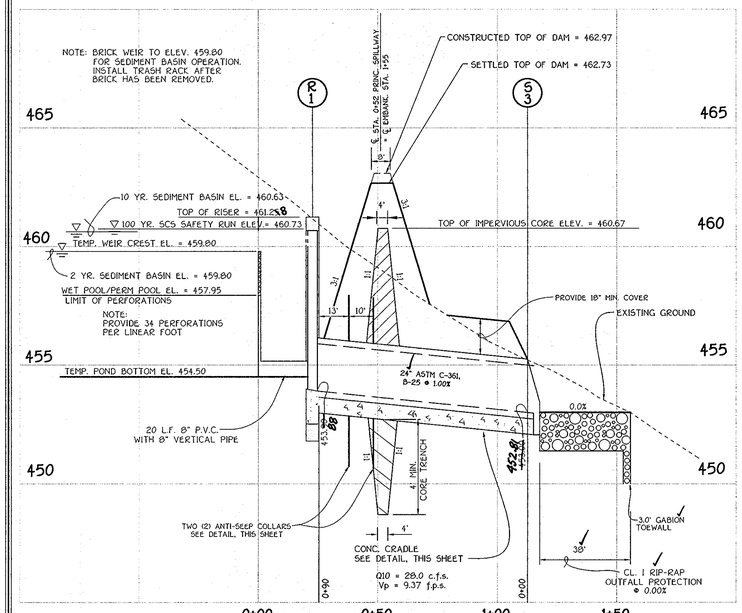


TOP SLAB DETAIL

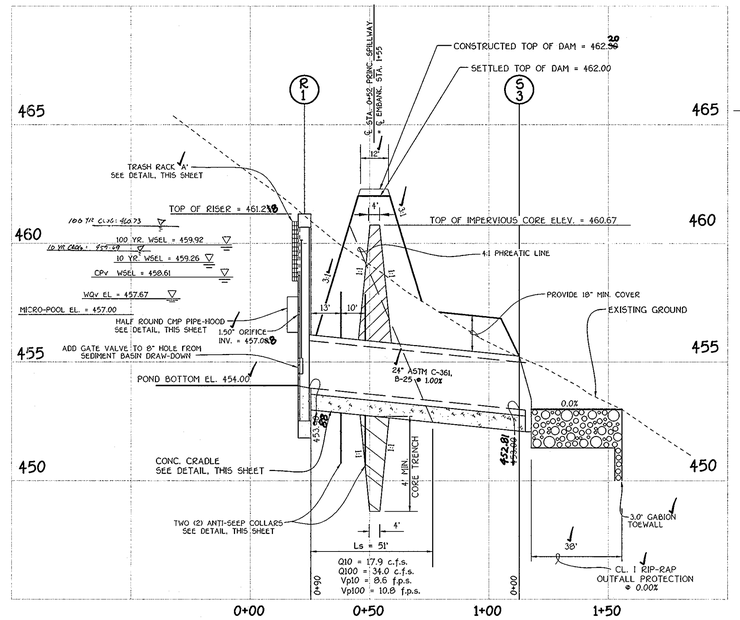


SECTION 'A-A'

R 1 CONCRETE RISER DETAIL
SCALE: 1" = 2'



TEMPORARY
S.W.M. BMP FACILITY NO. 1
PRINCIPLE SPILLWAY PROFILE
SCALE: HOR. : 1" = 30'
VER. : 1" = 3'



PERMANENT
S.W.M. BMP FACILITY NO. 1
PRINCIPLE SPILLWAY PROFILE
SCALE: HOR. : 1" = 30'
VER. : 1" = 3'

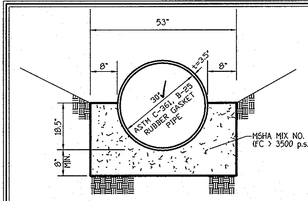
OWNER AND DEVELOPER
IGLEHART FARM, LLC
c/o LAND DESIGN AND DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

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

Stormwater Management Details – BMP Facility No. 1
HALL SHOP MANOR
Lots 1 Thru 14,
Buildable Preservation Parcel 'A',
Non-Buildable Preservation Parcels 'B' And 'C'
And Non-Buildable Bulk Parcel 'D'
Zoned: RR-DEO
Tax Map: 41 Grid: 1 Parcels: 138
Fifth Election District Howard County, Maryland
DATE: OCTOBER 20, 2003
SHEET 11 OF 17

F 03-93

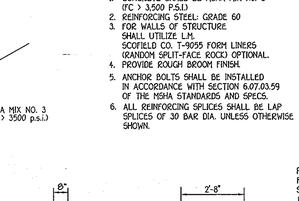
AS-BUILT 9-12-05 F-03-93



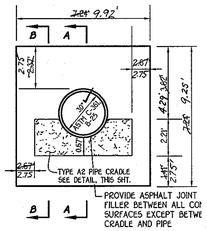
NOTE:
CONC. CRADLE TO BE POURED DIRECTLY AGAINST EARTH BANKS. IF BOTTOM OF TRENCH IS WIDER THAN THE CRADLE, SLOPING SIDES (FRAMED) SHALL BE USED.

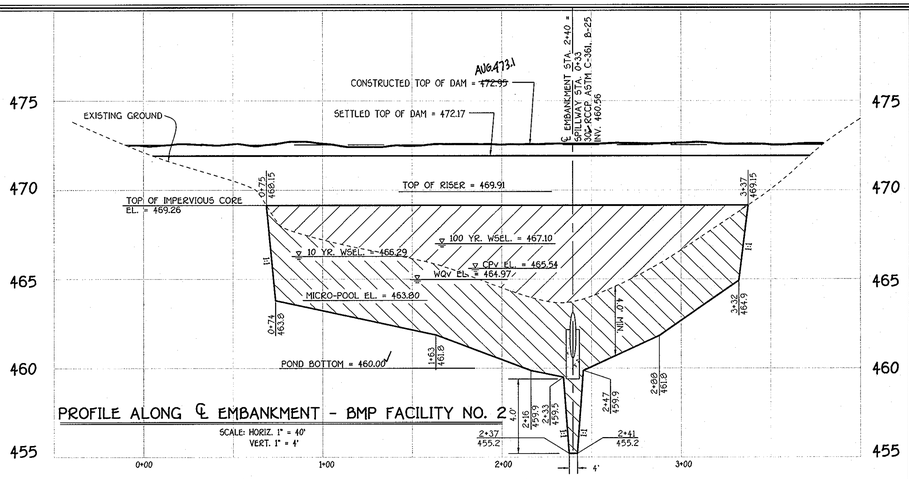
A2 CRADLE
NOT TO SCALE

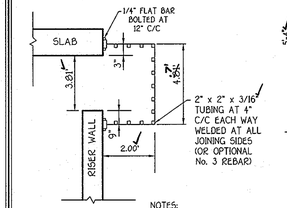
NOTES:
1. CONCRETE SHALL BE MSHA MIX No. 3 (f'c > 3,500 P.S.I.)
2. REINFORCING STEEL: GRADE 60
3. FOR WALLS OF STRUCTURE SHALL UTILIZE L.M. SCOFIELD CO. T-9055 FORM LINERS (RANDOM SPLIT-FACE ROCK) OPTIONAL.
4. PROVIDE ROUGH BROOM FINISH.
5. ANCHOR BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 6.07.03.59 OF THE MSHA STANDARDS AND SPECS.
6. ALL REINFORCING SPLICES SHALL BE LAP SPLICES OF 30 BAR DIA. UNLESS OTHERWISE SHOWN.



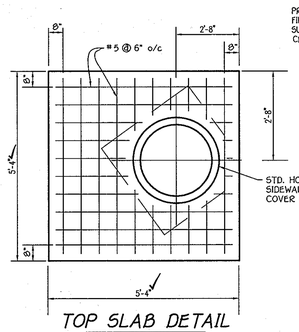
ANTI-SEEP COLLAR
NOT TO SCALE



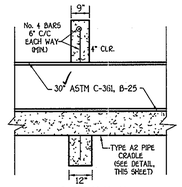




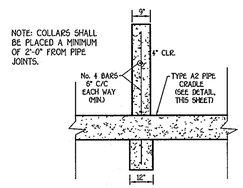
NOTES:
1. FIELD MEASURE THE STRUCTURE DIMENSIONS TO INSURE EXACT FIT OF TRASH RACK.
2. GALVANIZE ENTIRE TRASH RACK AFTER FABRICATION.
3. PAINT BATTLESHIP GRAY.



TOP SLAB DETAIL

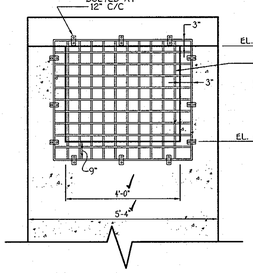


SECTION 'A-A'

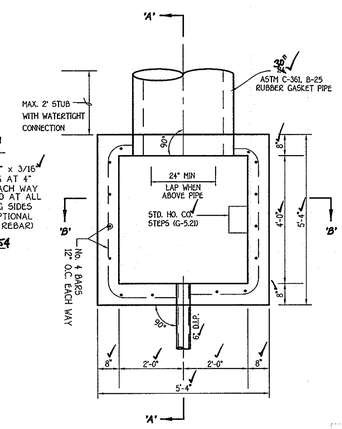


SECTION 'B-B'

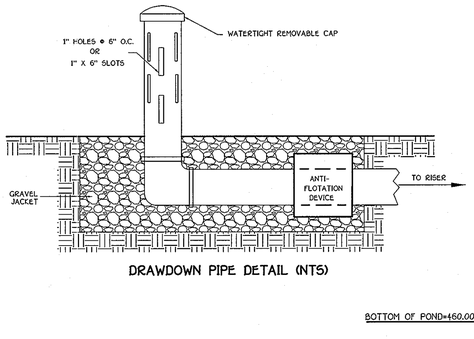
TYPICAL SECTION THROUGH BARREL, CRADLE AND ANTI-SEEP COLLAR
(NO SCALE)



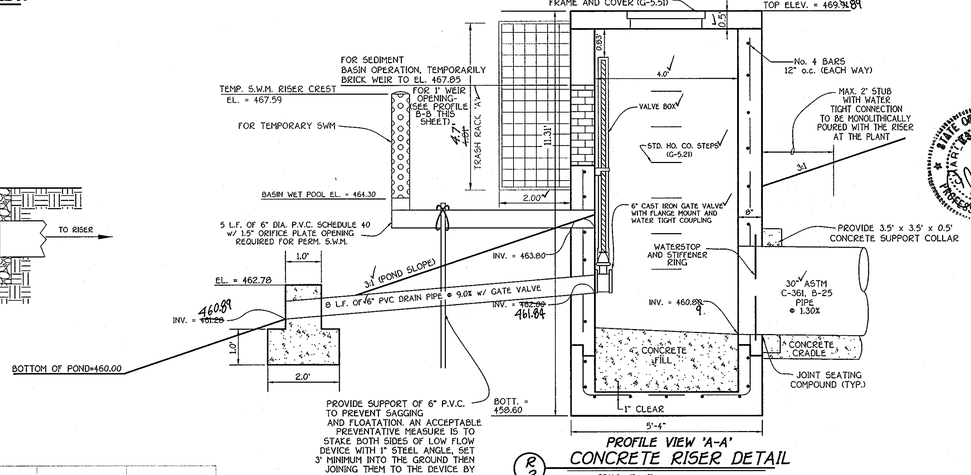
TRASH RACK 'A' DETAIL
(NO SCALE)



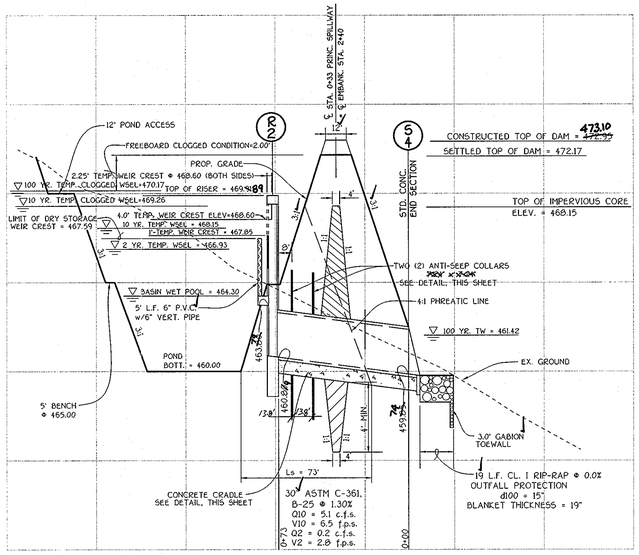
RISER PLAN VIEW
NO SCALE



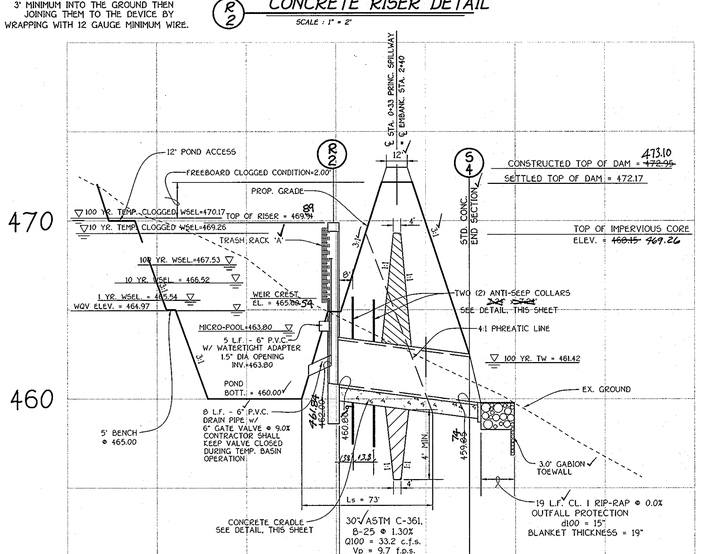
DRAWDOWN PIPE DETAIL (NTS)



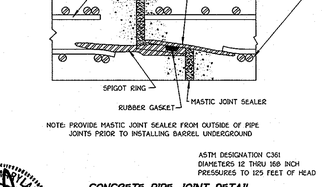
PROFILE VIEW 'A-A'
CONCRETE RISER DETAIL
SCALE : 1" = 2'



TEMP. S.W.M. (BMP FACILITY NO. 2) PRINCIPLE SPILLWAY PROFILE
SCALE: HOR. : 1" = 40'
VER. : 1" = 4'



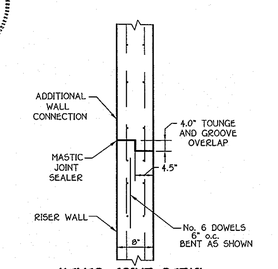
PERM. S.W.M. (BMP FACILITY NO. 2) PRINCIPLE SPILLWAY PROFILE
SCALE: HOR. : 1" = 40'



NOTE: PROVIDE MASTIC JOINT SEALER FROM OUTSIDE OF PIPE JOINTS PRIOR TO INSTALLING BARREL UNDERGROUND

ASTM DESIGNATION C361
DIAMETERS 12 THRU 168 INCH
PRESSURES TO 125 FEET OF HEAD

CONCRETE PIPE JOINT DETAIL
(NO SCALE)



KEYED JOINT DETAIL
WALL SECTION TO WALL SECTION
(NO SCALE)

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."

Signature Of Developer — 11/19/03 Date

DONALD REUWER, JR.
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 — 11/24/03 Date

CHARLES J. CROSBY
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 — 11/26/03 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 — 11/26/03 Date

Approved: Department Of Public Works

Chief Bureau Of Highways — 12-2-03 Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — 12/11/03 Date

Chief, Development Engineering Division — 12/8/03 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 — 13204 P.E. No. — 9/12/05 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.

STATE OF MARYLAND — CHARLES J. CROSBY — No. 13204 — REGISTERED PROFESSIONAL ENGINEER

AS-BUILT 9/12/05

STATE OF MARYLAND — CHARLES J. CROSBY — No. 13204 — REGISTERED PROFESSIONAL ENGINEER

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

OWNER AND DEVELOPER
IGLEHART FARM, LLC
c/o LAND DESIGN AND DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

STORMWATER MANAGEMENT DETAILS - BMP FACILITY NO. 2
HALL SHOP MANOR
Lots 1 Thru 14,
Buildable Preservation Parcel 'A',
Non-Buildable Preservation Parcels 'B' And 'C'
And Non-Buildable Bulk Parcel 'D'
Zoned: RR-DEO
Tax Map: 41 Grid: 1 Parcel: 138
Fifth Election District
Howard County, Maryland
DATE: OCTOBER 20, 2003
SHEET 12 OF 17

F 03-93

AS-BUILT 9-12-05

F-03-93

APPROVED: DEPARTMENT OF PUBLIC WORKS

William F. Malacko Jr. (signature) — 12-2-03
CHIEF, BUREAU OF HIGHWAYS — DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cindy Hamilton (signature) — 12/11/03
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

(signature) — 12/8/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION

Page 1 of 1

Project Name: Hall Shop Manor SWM — Boring Number: B-1
Location: Howard County, Maryland — Job #: 01437A

SAMPLER
Datum — Hammer Wt. 140 Lbs. — Hole Diameter 8" — Foreman Palmer Stephens
Surf. Elev. 462.56 — Hammer Drop 30 Inches — Rock Core Dia. - — Inspector
Date Started 09-19-01 — Pipe Size 2.0 Inches OD — Boring Method HSA — Completed 09-19-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
462.56	SURFACE		0.0					
	Brown, red, gray, black, dry to wet, loose to medium dense, silty SAND, with rock fragments							3" Topsoil
				D	3-5-5	1	12"	Groundwater encountered at 9.0' while drilling
			5.0	D	2-3-3	2	12"	Caved in at 9.0' at Completion
				D	7-6-7	3	10"	Caved in at 5.0' after 72 hrs
			10.0	D	2-4-4	4	12"	
		12.0		D	4-5-6-5	5	18"	
	Bottom of Test Hole at 12.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 72 hrs 3.5 FT.; AFTER ___ FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION

Page 1 of 1

Project Name: Hall Shop Manor SWM — Boring Number: B-2
Location: Howard County, Maryland — Job #: 01437A

SAMPLER
Datum — Hammer Wt. 140 Lbs. — Hole Diameter 8" — Foreman Palmer Stephens
Surf. Elev. 461.13 — Hammer Drop 30 Inches — Rock Core Dia. - — Inspector
Date Started 09-21-01 — Pipe Size 2.0 Inches OD — Boring Method HSA — Completed 09-21-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
461.13	SURFACE		0.0					
	Brown and gray, dry to moist, medium dense to very loose silty SAND, with mica							4" Topsoil
				D	4-5-7	1	3"	No groundwater encountered while drilling
			5.0	D	3-3-3	2	5"	Caved in at 8.8' at Completion
				D	2-1-2	3	6"	Caved in at 5.0' after 72 hrs
		8.0						
	Brown and tan, moist, medium stiff, sandy SILT, with some mica		10.0	I	2-3-3	4	5"	
		12.0		I	1-2-3-3	5	18"	
	Bottom of Test Hole at 12.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION 8.5 FT.; AFTER 72 hrs 3.5 FT.; AFTER ___ FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION

Page 1 of 1

Project Name: Hall Shop Manor SWM — Boring Number: B-3
Location: Howard County, Maryland — Job #: 01437A

SAMPLER
Datum — Hammer Wt. 140 Lbs. — Hole Diameter 8" — Foreman Palmer Stephens
Surf. Elev. 462.97 — Hammer Drop 30 Inches — Rock Core Dia. - — Inspector
Date Started 09-21-01 — Pipe Size 2.0 Inches OD — Boring Method HSA — Completed 09-21-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
462.97	SURFACE		0.0					
	Brown, tan, dry, loose, silty SAND with rock fragments and mica							4" Topsoil
				D	3-3-3	1	14"	No groundwater encountered while drilling
			5.0	D	8-4-2	2	10"	Caved in at 6.6' at Completion
		5.5						
	Brown and black, dry, medium stiff, micaceous sandy SILT			I	2-2-3	3	6"	Caved in at 5.0' after 72 hrs
			10.0	I	1-3-3	4	15"	
		12.0		I	2-3-4-4	5	18"	
	Bottom of Test Hole at 12.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 72 hrs 4.0 FT.; AFTER ___ FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION

Page 1 of 1

Project Name: Hall Shop Manor SWM — Boring Number: B-4
Location: Howard County, Maryland — Job #: 01437A

SAMPLER
Datum — Hammer Wt. 140 Lbs. — Hole Diameter 8" — Foreman Palmer Stephens
Surf. Elev. 463.50 — Hammer Drop 30 Inches — Rock Core Dia. - — Inspector
Date Started 09-21-01 — Pipe Size 2.0 Inches OD — Boring Method HSA — Completed 09-21-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
463.50	SURFACE		0.0					Offset 5.0' towards B-3
	Brown, light gray, dry, loose, silty SAND with mica and rock fragments							
				D	4-2-3	1	16"	6" Topsoil
			5.0	D	2-4-6	2	12"	No groundwater encountered while drilling
				D	2-2-2	3	12"	Caved in at 7.8' at Completion
		8.0						
	Light gray, brown, black, dry to moist, medium stiff SILT with some mica and rock fragments		10.0	I	2-2-3	4	12"	Caved in at 5.5' after 72 hrs
		12.0		I	1-4-5-5	5	18"	
	Bottom of Test Hole at 12.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION 6.5 FT.; AFTER 72 hrs 4.5 FT.; AFTER ___ FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION

Page 1 of 1

Project Name: Hall Shop Manor SWM — Boring Number: B-5
Location: Howard County, Maryland — Job #: 01437A

SAMPLER
Datum — Hammer Wt. 140 Lbs. — Hole Diameter 8" — Foreman Palmer Stephens
Surf. Elev. 470.33 — Hammer Drop 30 Inches — Rock Core Dia. - — Inspector
Date Started 09-21-01 — Pipe Size 2.0 Inches OD — Boring Method HSA — Completed 09-21-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
470.33	SURFACE		0.0					
	Brown, dry, medium dense to loose, micaceous silty SAND with traces of rock fragments							4" Topsoil
				D	3-6-8	1	12"	No groundwater encountered while drilling
	(S#2 = dense - possible boulder)		5.0	D	13-20-18	2	10"	Caved in at 12.0' at Completion
				D	3-5-5	3	16"	Caved in at 11.5' after 72 hrs
			10.0	D	3-4-4	4	18"	
		11.0						
	Gray, brown, red, black, dry to moist, medium stiff, micaceous, sandy SILT		15.0	I	4-5-5	5	18"	
	Bottom of Test Hole at 20.0'	20.0	20.0	I	3-4-6	6	18"	

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 72 hrs Dry FT.; AFTER ___ FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION

Page 1 of 1

Project Name: Hall Shop Manor SWM — Boring Number: B-5
Location: Howard County, Maryland — Job #: 01437A

SAMPLER
Datum — Hammer Wt. 140 Lbs. — Hole Diameter 8" — Foreman Palmer Stephens
Surf. Elev. 470.33 — Hammer Drop 30 Inches — Rock Core Dia. - — Inspector
Date Started 09-21-01 — Pipe Size 2.0 Inches OD — Boring Method HSA — Completed 09-21-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
470.33	SURFACE		0.0					
	Brown, dry, medium dense to loose, micaceous silty SAND with traces of rock fragments							4" Topsoil
				D	3-6-8	1	12"	No groundwater encountered while drilling
	(S#2 = dense - possible boulder)		5.0	D	13-20-18	2	10"	Caved in at 12.0' at Completion
				D	3-5-5	3	16"	Caved in at 11.5' after 72 hrs
			10.0	D	3-4-4	4	18"	
		11.0						
	Gray, brown, red, black, dry to moist, medium stiff, micaceous, sandy SILT		15.0	I	4-5-5	5	18"	
	Bottom of Test Hole at 20.0'	20.0	20.0	I	3-4-6	6	18"	

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 72 hrs Dry FT.; AFTER ___ FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION

Page 1 of 1

Project Name: Hall Shop Manor SWM — Boring Number: B-7
Location: Howard County, Maryland — Job #: 01437A

SAMPLER
Datum — Hammer Wt. 140 Lbs. — Hole Diameter 8" — Foreman Palmer Stephens
Surf. Elev. 462.13 — Hammer Drop 30 Inches — Rock Core Dia. - — Inspector
Date Started 09-21-01 — Pipe Size 2.0 Inches OD — Boring Method HSA — Completed 09-21-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
462.13	SURFACE		0.0					
	Brown, dry, medium dense, silty SAND with some mica and rock fragments							6" Topsoil
				D	4-6-10	1	10"	No groundwater encountered while drilling
			5.0	D	7-8-4	2	14"	Caved in at 8.7' at Completion
		8.0						
	Brown, gray, red, black, dry, very stiff, micaceous sandy SILT			I	6-8-13	3	16"	Caved in at 8.8' after 72 hrs
			10.0	I	7-12-16	4	16"	
		12.5						
	Brown, gray, red, black, dry dense, micaceous silty SAND	15.0	15.0	D	13-21-23	5	16"	
	Bottom of Test Hole at 15.0'		20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 72 hrs 7.5 FT.; AFTER ___ FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION

Page 1 of 1

Project Name: Hall Shop Manor SWM — Boring Number: B-8
Location: Howard County, Maryland — Job #: 01437A

SAMPLER
Datum — Hammer Wt. 140 Lbs. — Hole Diameter 8" — Foreman Palmer Stephens
Surf. Elev. 457.83 — Hammer Drop 30 Inches — Rock Core Dia. - — Inspector
Date Started 09-21-01 — Pipe Size 2.0 Inches OD — Boring Method HSA — Completed 09-21-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
457.83	SURFACE		0.0					
	Brown, gray, black, dry, medium dense to loose to medium dense, micaceous silty SAND with trace of rock fragments							6" Topsoil
				D	6-6-6	1	14"	No groundwater encountered while drilling
			5.0	D	4-4-5	2	16"	Caved in at 6.2' at Completion
				D	3-4-4	3	18"	Caved in at 6.0' after 72 hrs
		10.0	10.0	D	9-9-9	4	18"	
	Bottom of Test Hole at 10.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 72 hrs Dry FT.; AFTER ___ FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION

Page 1 of 1

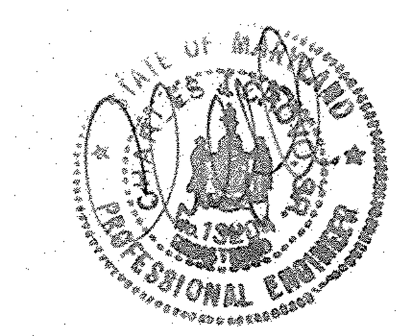
Project Name: Hall Shop Manor SWM — Boring Number: B-9
Location: Howard County, Maryland — Job #: 01437A

SAMPLER
Datum — Hammer Wt. 140 Lbs. — Hole Diameter 8" — Foreman Palmer Stephens
Surf. Elev. 456.81 — Hammer Drop 30 Inches — Rock Core Dia. - — Inspector
Date Started 09-21-01 — Pipe Size 2.0 Inches OD — Boring Method HSA — Completed 09-21-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
456.81	SURFACE		0.0					
	Brown, gray, black, dry, medium dense to loose to medium dense, micaceous silty SAND with trace of rock fragments							6" Topsoil
				D	3-5-9	1	16"	No groundwater encountered while drilling
			5.0	D	2-1-3	2	8"	Caved in at 7.0' at Completion
				D	3-3-4	3	14"	Caved in at 5.0' after 72 hrs
		10.0	10.0	D	4-7-6	4	18"	
	Bottom of Test Hole at 10.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 72 hrs 4.0 FT.; AFTER ___ FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS



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

OWNER AND DEVELOPER

IGLEHART FARM, LLC
c/o LAND DESIGN AND DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

SOIL BORING PROFILES & DETAILS

HALL SHOP MANOR

Lots 1 Thru 14,
Buildable Preservation Parcel 'A',
Non-Buildable Preservation Parcels 'B' And 'C'
And Non-Buildable Bulk Parcel 'D'

Zoned: RR-DEO
Tax Map: 41 Grid: 1 Parcel: 138
Fifth Election District
Howard County, Maryland
DATE: OCTOBER 20, 2003
SHEET 13 OF 17

F 03-93

AS-BUILT 9-12-05 F-03-93

SEE FOREST CONSERVATION NOTES AND DETAILS ON SHEET 15

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cindy Hamilton — 12/11/03
CHIEF, DIVISION OF LAND DEVELOPMENT HB — DATE

[signature] — 12/3/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

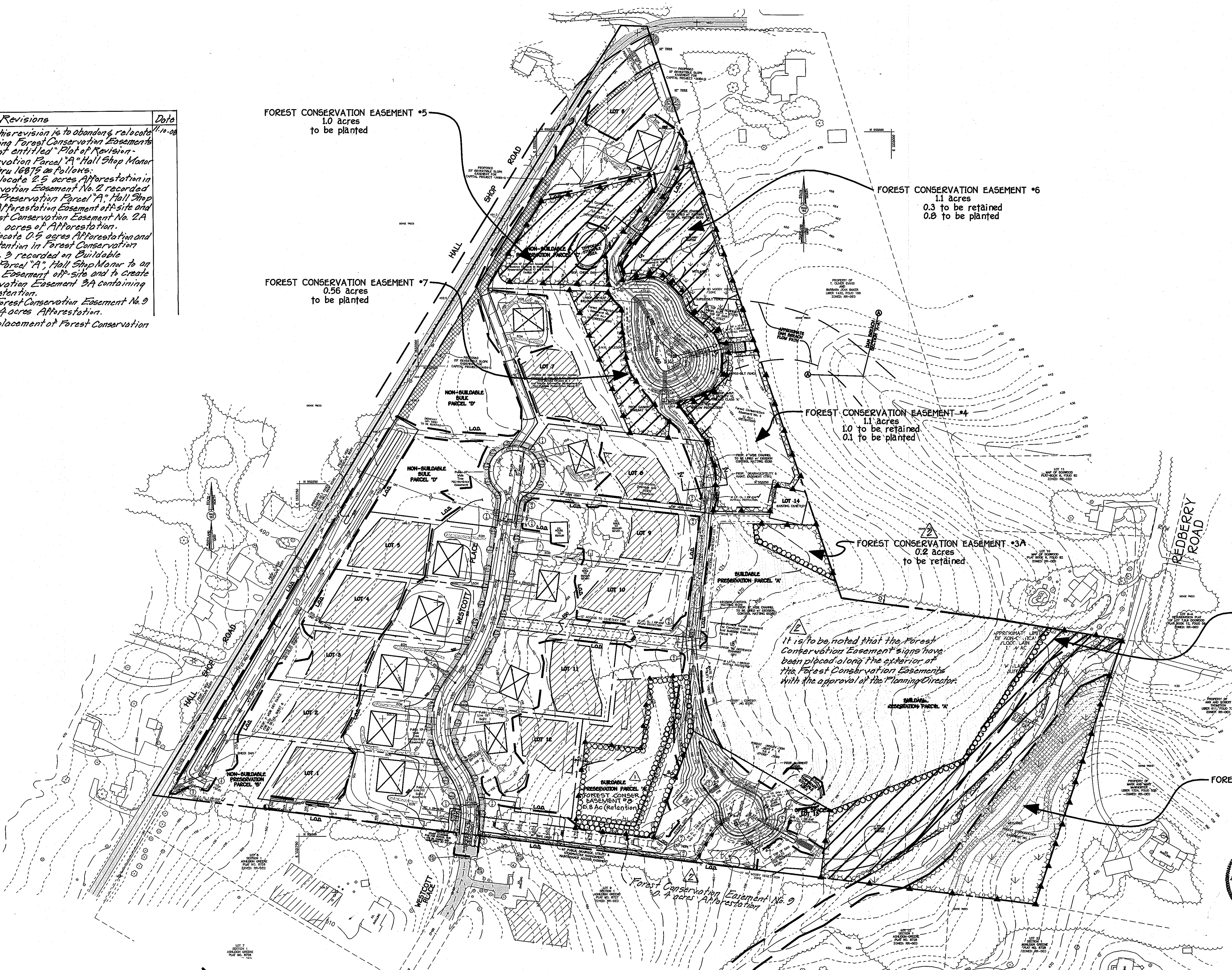
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[signature] — 12-2-03
CHIEF, BUREAU OF HIGHWAYS — DATE

NO	REVISION	DATE
1	SEE GENERAL NOTE #26	

No.	Revisions	Date
2	The purpose of this revision is to abandon & relocate part of the existing Forest Conservation Easements recorded on a plat entitled "Plat of Revision - Buildable Preservation Parcel "A" Hall Shop Manor Plat No's 16871 thru 16875 as follows: 1. Abandon & relocate 2.5 acres Afforestation in Forest Conservation Easement No. 2 recorded on Buildable Preservation Parcel "A", Hall Shop Manor to an Afforestation Easement off-site and to create Forest Conservation Easement No. 2A containing 1.8 acres of Afforestation. 2. Abandon & relocate 0.5 acres Afforestation and 0.1 acres Retention in Forest Conservation Easement No. 3 recorded on Buildable Preservation Parcel "A", Hall Shop Manor to an Afforestation Easement off-site and to create Forest Conservation Easement 3A containing 0.2 acres Retention. 3. Create new Forest Conservation Easement No. 9 containing 0.4 acres Afforestation.	11.10.08

Added note re: placement of Forest Conservation signs.



FCP LEGEND

- TP—TP - DENOTES TREE PROTECTION FENCE
- ▲ - DENOTES FOREST CONSERVATION SIGNAGE
- ▨ - DENOTES FOREST CONSERVATION PLANTING AREA
- — — - DENOTES LIMIT OF DISTURBANCE

TEMPORARY SEDIMENT BASIN No.1 DATA

AS BUILT 9/12/05

STATE OF MARYLAND — CHARLES J. FOVO JR. — No. 13204 — REGISTERED PROFESSIONAL ENGINEER

FOREST CONSERVATION PLAN

HALL SHOP MANOR

Lots 1 Thru 14,
Buildable Preservation Parcel 'A',
Non-Buildable Preservation Parcels 'B' And 'C'
And Non-Buildable Bulk Parcel 'D'

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Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B
JOHN P. CANOLES 11/19/03

PLAN

SCALE: 1" = 100'

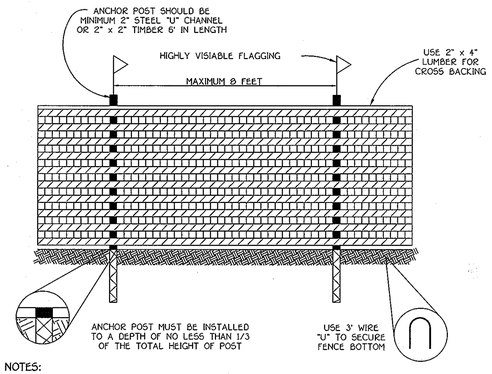
OWNER AND DEVELOPER
IGLEHART FARM, LLC
c/o LAND DESIGN AND DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

AS-BUILT 9-12-05 F-03-93

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. THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE, FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
3. FORESTED AREAS OCCURRING OUTSIDE OF THE FCE SHALL NOT BE CONSIDERED PART OF THE FCE AND SHALL NOT BE SUBJECT TO PROTECTIVE LAND COVENANTS.
4. LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
5. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
6. NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
7. 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.
8. PERMANENT SIGNAGE SHALL BE PLACED 50' - 100' APART ALONG BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS.

BLAZE ORANGE PLASTIC MESH



NOTES:

1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

NOT TO SCALE

PLANTING SCHEDULE

PLANTING AREA - FCE 6 (0.80 ACRE)

QTY.	SPECIES	SIZE	SPACING
35	ACER RUBRUM - RED MAPLE	2-3' WHIP	**
35	*Acer Saccharinum- Silver Maple*	2-3' WHIP	**
25	LIRIODENDRON TULIPIFERA - POPLAR	2-3' WHIP	**
25	NYSSA SYLVATICA - BLACK GUM	2-3' WHIP	**
20	PLATANUS OCCIDENTALIS - SYCAMORE	2-3' WHIP	**
20	QUERCUS ALBA - WHITE OAK	2-3' WHIP	**
20	QUERCUS PALUSTRIS - PIN OAK	2-3' WHIP	**
15	CORNUS AMOMUM - SILKY DOGWOOD	2-3' B.T.	**
15	VIBURNUM DENTATUM - ARROWWOOD	2-3' B.T.	**

PLANTING AREA - FCE 5 (1.0 ACRE)

QTY.	SPECIES	SIZE	SPACING
50	ACER RUBRUM - RED MAPLE	2-3' WHIP	**
80	*Acer saccharinum- Silver Maple*	2-3' WHIP	**
80	LIRIODENDRON TULIPIFERA - POPLAR	2-3' WHIP	**
40	NYSSA SYLVATICA - BLACK GUM	2-3' WHIP	**
70	PLATANUS OCCIDENTALIS - SYCAMORE	2-3' WHIP	**
50	QUERCUS ALBA - WHITE OAK	2-3' WHIP	**
70	QUERCUS PALUSTRIS - PIN OAK	2-3' WHIP	**
50	VIBURNUM DENTATUM - ARROWWOOD	2-3' B.T.	**

2

PLANTING AREA - FCE 2A (1.0 ACRES)

1

QTY.	SPECIES	SIZE	SPACING
120	ACER RUBRUM - RED MAPLE	2-3' WHIP	**
80	*Acer Saccharinum- Silver Maple*	2-3' WHIP	**
80	*Carpinus caroliniana-Amer. Hornbeam*	2-3' WHIP	**
80	NYSSA SYLVATICA - BLACK GUM	2-3' WHIP	**
90	PLATANUS OCCIDENTALIS - SYCAMORE	2-3' WHIP	**
110	*Salix nigra - Black Willow*	2-3' WHIP	**
80	QUERCUS PALUSTRIS - PIN OAK	2-3' WHIP	**

PLANTING AREA - FCE 4 (0.10 ACRE)

QTY.	SPECIES	SIZE	SPACING
5	ACER RUBRUM - RED MAPLE	2-3' WHIP	**
5	FRAXINUS PENNSYLVANICA - GREEN ASH	2-3' WHIP	**
3	LIRIODENDRON TULIPIFERA - POPLAR	2-3' WHIP	**
3	NYSSA SYLVATICA - BLACK GUM	2-3' WHIP	**
2	PLATANUS OCCIDENTALIS - SYCAMORE	2-3' WHIP	**
2	QUERCUS ALBA - WHITE OAK	2-3' WHIP	**
2	QUERCUS PALUSTRIS - PIN OAK	2-3' WHIP	**
1	CORNUS AMOMUM - SILKY DOGWOOD	2-3' B.T.	**
1	VIBURNUM DENTATUM - ARROWWOOD	2-3' B.T.	**

Key:

** Plantings to be spaced on 11 foot centers, plantings should be installed in rows to facilitate future maintenance. Where possible rows should be made along contour. Shelter required

b.f. - branched transplant

2

~~PLANTING AREA - FCE 3 (0.5 ACRES)~~

	SPECIES	SIZE	SPACING
25	ACER RUBRUM - RED MAPLE	2'-3' WHIP	**
40	FRAXINUS PENNSYLVANICA - GREEN ASH	2'-3' WHIP	**
1 40	LIRIODENDRON TULIPIFERA - POPLAR	2'-3' WHIP	**
20	NYSSA SYLVATICA - BLACK GUM	2'-3' WHIP	**
35	PLATANUS OCCIDENTALIS - SYCAMORE	2'-3' WHIP	**
25	QUERCUS ALBA - WHITE OAK	2'-3' WHIP	**
25	QUERCUS PALUSTRIN - PIN OAK	2'-3' WHIP	**
25	VIBURNUM DENTATUM - ARROWWOOD	2'-5' B.T	**

PLANTING AREA - FCE 9 (0.4 ACRES)

2

Qty	Species	Size	Spacing
20	Acer rubrum - Red Maple	8'-4'	11' Random
20	Acer saccharinum - Silver Maple	"	"
20	Carpinus caroliniana - Amer. Hornbeam	"	"
20	Nyssa sylvatica - Black Gum	"	"
20	Platanus occidentalis - Amer. Sycamore	"	"
20	Quercus palustris - Pin Oak	"	"
20	Salix nigra - Black Willow	"	"

PLANTING/SOIL SPECIFICATIONS

1. PLANTING OF NURSERY STOCK SHALL TAKE PLACE BETWEEN MARCH 15th. AND APRIL 30th. OR SEPTEMBER 15th. AND NOVEMBER 15th.
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 ROOT 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 PINE FINES OR EQUIVALENT.
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 PLANS.
2. PROPOSED FORESTATION AREAS IMPACTED BY SITE GRADING SHALL BE TOPSOILED AND STABILIZED AS PER NOTE 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 26 MONTHS.
2. ALL PLANT MATERIAL SHALL BE WATERED TWICE A MONTH DURING THE 1st. GROWING SEASON. WATERING MAY BE MORE OR LESS FREQUENT DEPENDING IN 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 PERCENT SURVIVAL RATE OF FORESTATION PLANTINGS WILL BE REQUIRED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. ALL PLANT MATERIAL BELOW THE 75 PERCENT THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE NEXT GROWING SEASON.

SURETY FOR FORESTATION

1. THE DEVELOPER SHALL POST A SURETY (BOND, LETTER OF CREDIT) TO ENSURE THAT FORESTATION PLANTINGS ARE COMPLETED. UPON ACCEPTANCE OF THE PLANTINGS BY THE COUNTY, THE BOND SHALL BE RELEASED.
2. SURETY FOR ON-SITE RETENTION (3.3 AC. x 0.20 = $28,749.60), ON-SITE AFFORESTATION (8.3 AC. x 0.50 = $180,774.00).
   TO BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS SUBDIVISION. TOTAL FOREST CONSERVATION SURETY AMOUNT FOR THIS SUBDIVISION IS $209,523.60.

FOREST CONSERVATION WORKSHEET VERSION 1.0

BASIC SITE DATA:

A. TOTAL TRACT AREA	=	40.0
B. AREA WITHIN 100 YEAR FLOODPLAIN	=	1.26
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION	=	0.0
D. NET TRACT AREA	=	39.08

LAND USE CATEGORY: RR-DEO

INFORMATION FOR CALCULATIONS:

E. AFFORESTATION THRESHOLD	20% x D =		7.82
F. FOREST CONSERVATION THRESHOLD	25% x D =		9.77

EXISTING FOREST COVER:

G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)	=	7.2
H. AREA OF FOREST ABOVE REFORESTATION THRESHOLD	=	0
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD:	=	0

BREAK EVEN POINT:

J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION	=	7.20
K. CLEARING PERMITTED WITHOUT MITIGATION	=	0

PROPOSED FOREST CLEARING:

L. TOTAL AREA OF FOREST TO BE CLEARED	=	3.7
M. TOTAL AREA OF FOREST TO BE RETAINED	=	3.3

PLANTING REQUIREMENTS:

N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD	=	0
P. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD	=	7.40
Q. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD	=	0.0
R. TOTAL REFORESTATION REQUIRED	=	7.40
S. TOTAL AFORESTION REQUIRED	=	0.62
T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED	=	8.02

FOREST CONSERVATION AREA PROVIDED = 11.4 AC.; 8.1 AC. PLANTING; 3.3 RETENTION

FOREST CONSERVATION SURETY:

PLANTING : 8.1 Ac. x 352,836 = SQ.FT. x 0.50 / SQ. FT. = $176,418.00.
RETENTION : 3.3 Ac. x 43560 = 143,748 SQ.FT. x 0.20 / SQ. FT. = $28,749.60.
TOTAL FOREST CONSERVATION SURETY REQUIRED = $205,167.60

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 12-2-03

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 12/11/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 12/8/03

REVISIONS

NO.	DESCRIPTION	DATE
1	SEE GENERAL NOTE #26	8-20-04
2	Changed Forest Conservation Easement (FCE) Planting Area 2 to 2A, revised acreage & planting info; eliminated FCE Planting Area 3 & added FCE Planting Area 8.	11.11.05

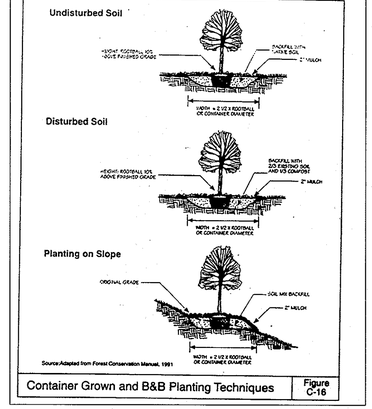
15" MINIMUM

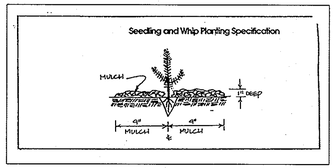
FOREST CONSERVATION EASEMENT

UNAUTHORIZED DISTURBANCE OF VEGETATION IS PROHIBITED. VIOLATORS SUBJECT TO PENALTIES UNDER THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1991.

TREES FOR YOUR FUTURE

11" MINIMUM





FOREST CONSERVATION NOTES & DETAILS

HALL SHOP MANOR

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AS-BUILT 9-12-05 F-03-93

NO	REVISION	DATE
1	SEE GENERAL NOTE #26	8-20-04

Approved: Department Of Public Works
[signature] 12-2-03
Chief, Bureau Of Highways — Date

Approved: Department Of Planning And Zoning
[signature] 12/11/03
Chief, Division Of Land Development — Date

[signature] 12/8/03
Chief, Development Engineering Division — Date

SCHEDULE D S.W.M. LANDSCAPING (BMP NO. 1)

LINEAR FEET OF PERIMETER	D1: 360'	D2: 145'	D3: 333'	D4: 242'
NUMBER OF TREES REQUIRED: SHADE TREES EVERGREEN TREES	 7 9	 3 4	 7 8	 5 6
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	NO	NO	NO	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO	NO	NO	NO
NUMBER OF TREES PROVIDED: SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION)	 7 9 -	 3 4 -	 7 8 -	 5 6 -

SCHEDULE D S.W.M. LANDSCAPING (BMP NO. 2)

LINEAR FEET OF PERIMETER	D5: 685'
NUMBER OF TREES REQUIRED: SHADE TREES EVERGREEN TREES	 14 17
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)	 14 17 -

No	Revision	Date
2	The purpose of this revision is to abandon & relocate part of existing Forest Conservation Easements recorded on a Plat entitled "Plot of Revision - Buildable Preservation Parcel "A" Hall Shop Manor, Plat No's 16871 thru 16875 as follows: 1. Abandon & relocate 2.5 acres of Afforestation in Forest Conservation Easement No. 2 recorded on Buildable Preservation Parcel "A", Hall Shop Manor to an Afforestation Easement off-site and to create Forest Conservation Easement 2A containing 1.8 acres of Afforestation. 2. Abandon & relocate 0.5 acres of Afforestation & 0.1 acres Retention in Forest Conservation Easement No. 3 recorded on Buildable Preservation Parcel "A", Hall Shop Manor to an Afforestation Easement off-site and to create Forest Conservation Easement 3A containing 0.2 acres of Retention. 3. Create new Forest Conservation Easement No. 9 containing 0.4 acres of Afforestation. Added note re: placement of Forest Conser. Easement signs.	11-11-08

PLAN
SCALE: 1" = 100'

SCHEDULE A PERIMETER LANDSCAPE EDGE

PERIMETER	CATEGORY (PROPERTIES/ ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED AND PROVIDED		
						SHADE TREES	EVERGREEN TREES	SHRUBS
P-1	ADJACENT TO PERIMETER	A	573'	NO	NO	10	-	-
P-2	ADJACENT TO PERIMETER	A	220'	NO	NO	4	-	-
P-3	ADJACENT TO PERIMETER	A	440'	NO	NO	7	-	-
P-4	ADJACENT TO PERIMETER	A	418'	NO	NO	7	-	-
P-5	ADJACENT TO PERIMETER	A	710'	NO	NO	12	-	-
P-6	ADJACENT TO PERIMETER	A	667'	NO	NO	11	-	-
P-7	ADJACENT TO PERIMETER	A	191'	YES 143'	NO	1	-	-
P-8	ADJACENT TO ROADWAY	B	1769'	NO	YES 300' (BERM) *	35	44	-
P-9	ADJACENT TO PERIMETER	A	256'	NO	NO	4	-	-
P-10	ADJACENT TO PERIMETER	A	395'	NO	NO	7	-	-

* CREDIT FOR THE PROPOSED BERM DOES NOT APPLY TOWARDS THE SHADE TREE REQUIREMENT FOR P-8.

LANDSCAPING PLANT LIST

QTY.	KEY	NAME	SIZE
98		ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2 1/2" - 3" CALIPER FULL CROWN, B&B
36		QUERCUS RUBRA RED OAK	2 1/2" - 3" CALIPER FULL CROWN, B&B
88		PINUS STROBUS EASTERN WHITE PINE	6' - 8' HT.

"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 222 REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $53,400.00.

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

OWNER AND DEVELOPER
IGLEHART FARM, LLC
c/o LAND DESIGN AND DEVELOPMENT
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

LANDSCAPE PLAN

HALL SHOP MANOR

Lots 1 Thru 14, Buildable Preservation Parcel 'A', Non-Buildable Preservation Parcels 'B' And 'C' And Non-Buildable Bulk Parcel 'D'

Zoned: RR-DEO
Tax Map: 41 Grid: 1 Parcel: 138
Fifth Election District
Howard County, Maryland
DATE: OCTOBER 20, 2003
SHEET 16 OF 17

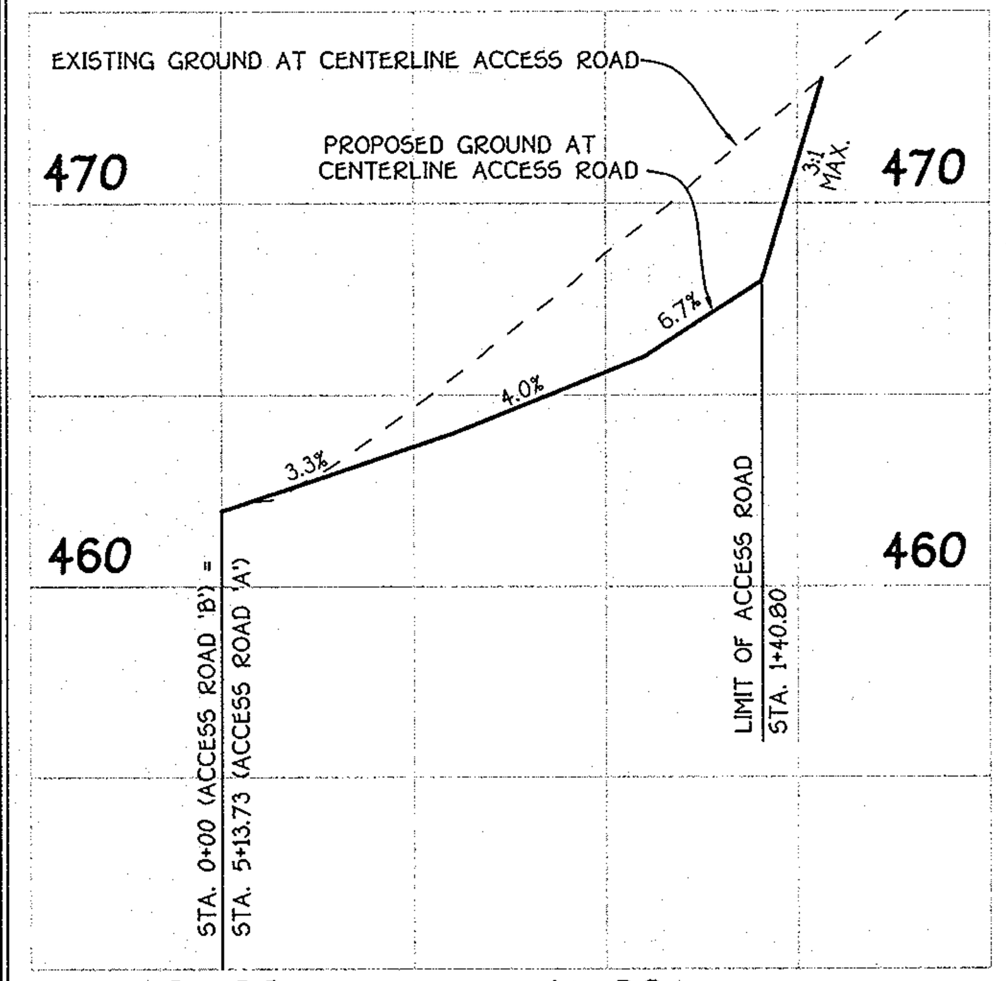
F 03-93

AS-BUILT 9-12-05

F-03-93

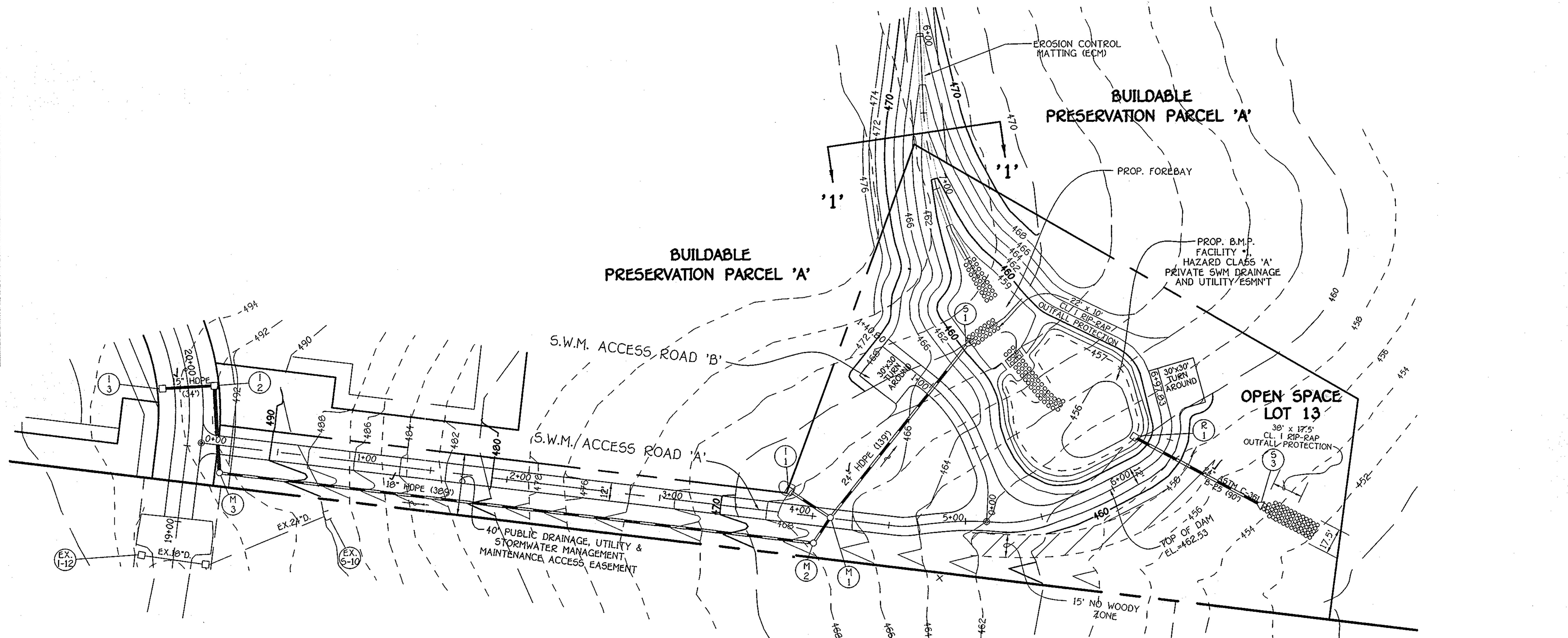
Approved: Department Of Public Works
Chief, Bureau Of Highways — 12-2-03 Date

Approved: Department Of Planning And Zoning
Chief, Division Of Land Development — 12/11/03 Date
Chief, Development Engineering Division — 12/8/03 Date



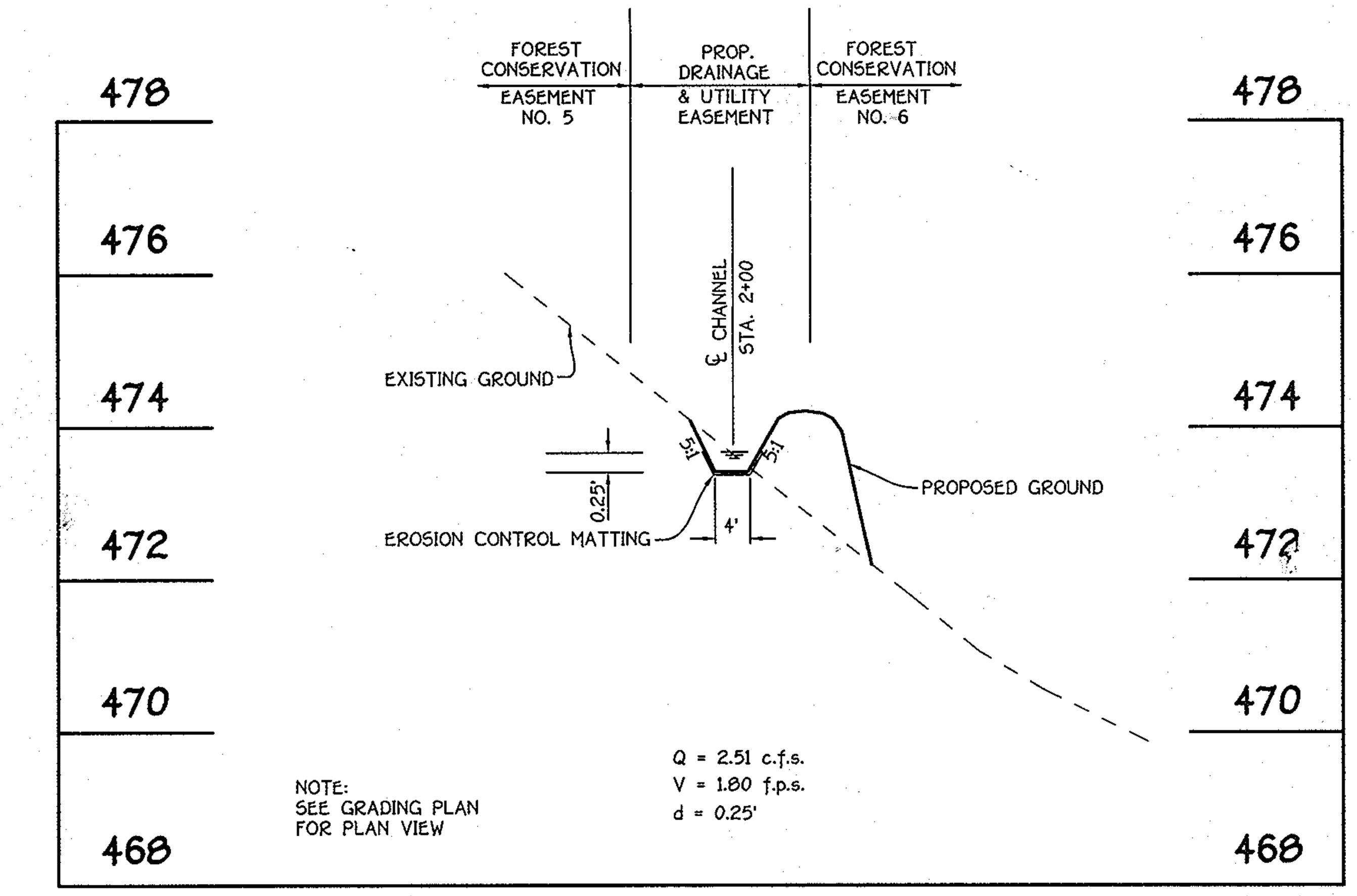
S.W.M. FACILITY NO. 1 ACCESS ROAD 'B' PROFILE

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



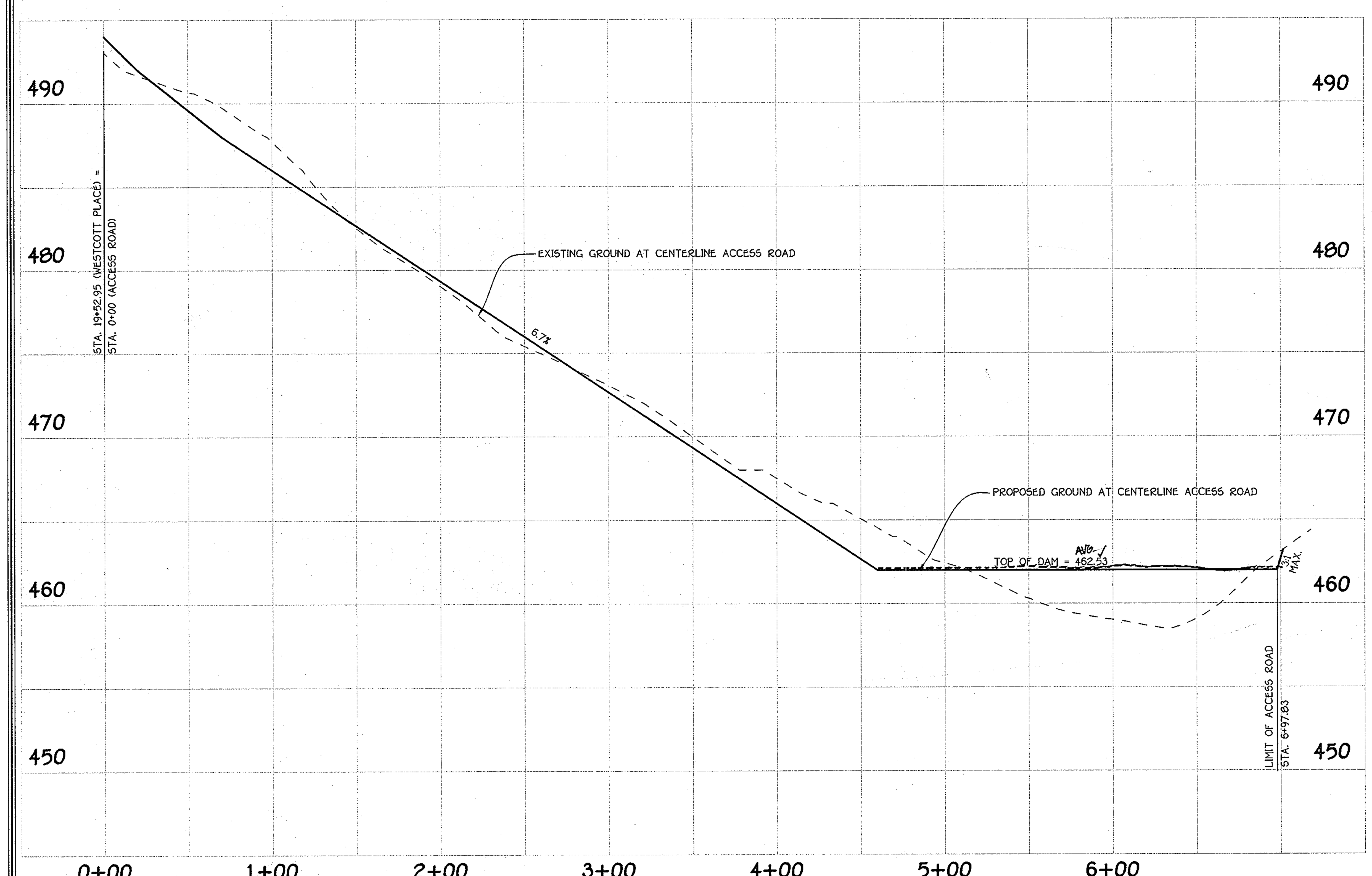
S.W.M. FACILITY NO. 1 ACCESS ROAD PLAN

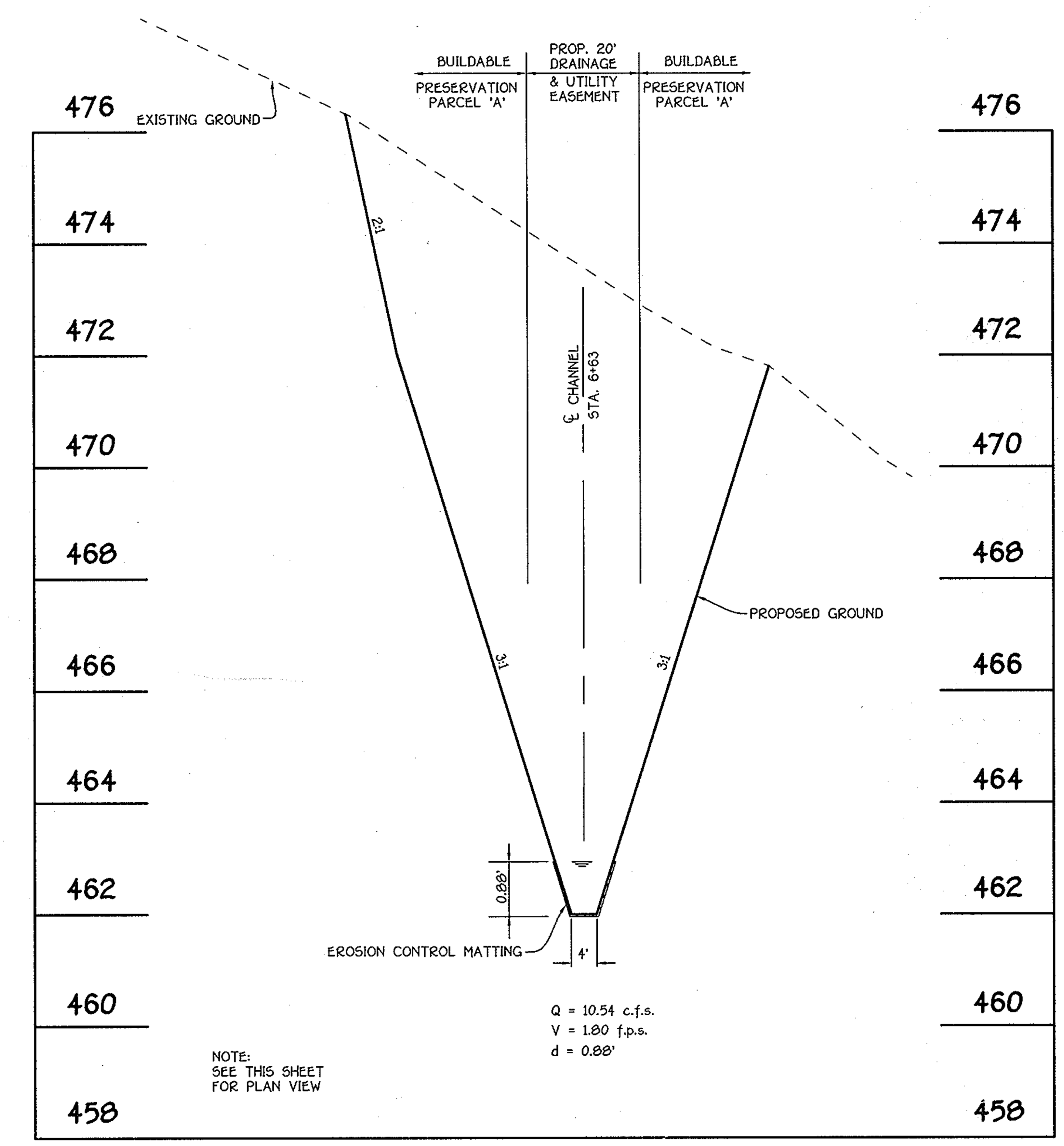
SCALE: 1" = 50'

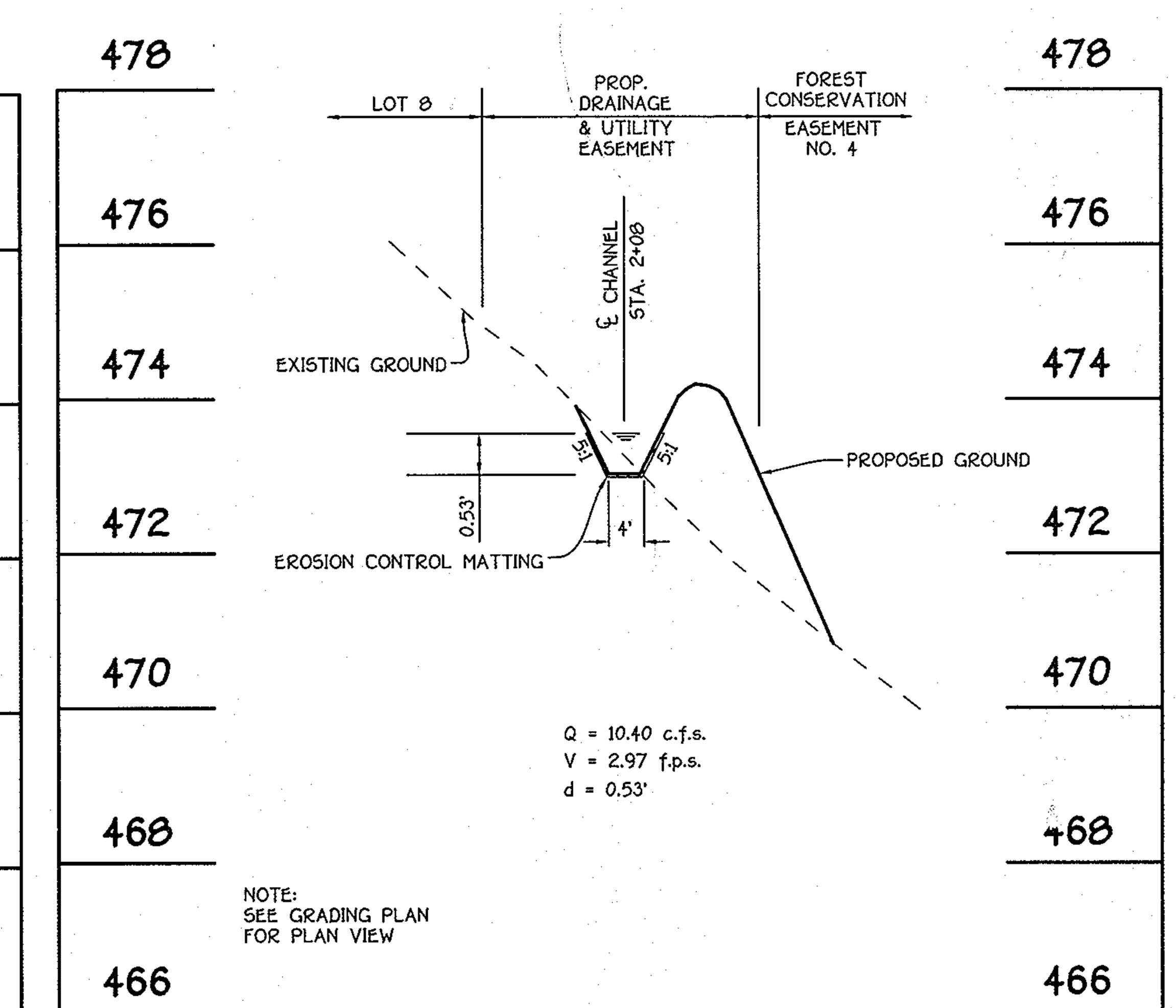


CROSS-SECTION '3-3' @ CHANNEL NO. 3

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







CROSS-SECTION '2-2' @ CHANNEL NO. 2

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

CROSS-SECTION '1-1' @ CHANNEL NO. 1

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

S.W.M. FACILITY NO. 1 ACCESS ROAD 'A' PROFILE

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

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BMP FACILITY NO. 2 ACCESS ROAD - PLAN AND PROFILE
AND S.W.M. CHANNEL CROSS-SECTIONS

HALL SHOP MANOR

Lots 1 Thru 14,
Buildable Preservation Parcel 'A',
Non-Buildable Preservation Parcels 'B' And 'C'
And Non-Buildable Bulk Parcel 'D'

Zoned: RR-DEO
Tax Map: 41 Grid: 1 Parcel: 130
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