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1	TITLE SHEET
2	STONEHOUSE DR., GAITHER HOLLOW CT. & MILLERS WAY DR. PLAN & PROFILE
3	MILLERS WAY DRIVE PLAN & PROFILE
4	MILLERS WAY DRIVE PROFILE & TYPICAL ROAD SECTIONS
5	WATER QUALITY, STREET TREE, GRADING & SEDIMENT CONTROL PLAN
6	WATER QUALITY, STREET TREE, GRADING & SEDIMENT CONTROL PLAN
7	DRAINAGE AREA MAP & LANDSCAPE PLAN
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9	STORM DRAIN PROFILES
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13	WATER QUALITY NOTES AND DETAILS

FINAL ROAD CONSTRUCTION AND GRADING PLANS DANIELS MILL OVERLOOK

SECTION 3 AREA 1

LOTS 230 THRU 276 AND PARCELS 'I' & 'J'

(A RESUBDIVISION OF PARCELS 'E' AND 'G' - DANIELS MILL OVERLOOK, SECTION 2, AREA 1, PLAT Nos. 12759 THRU 12766)

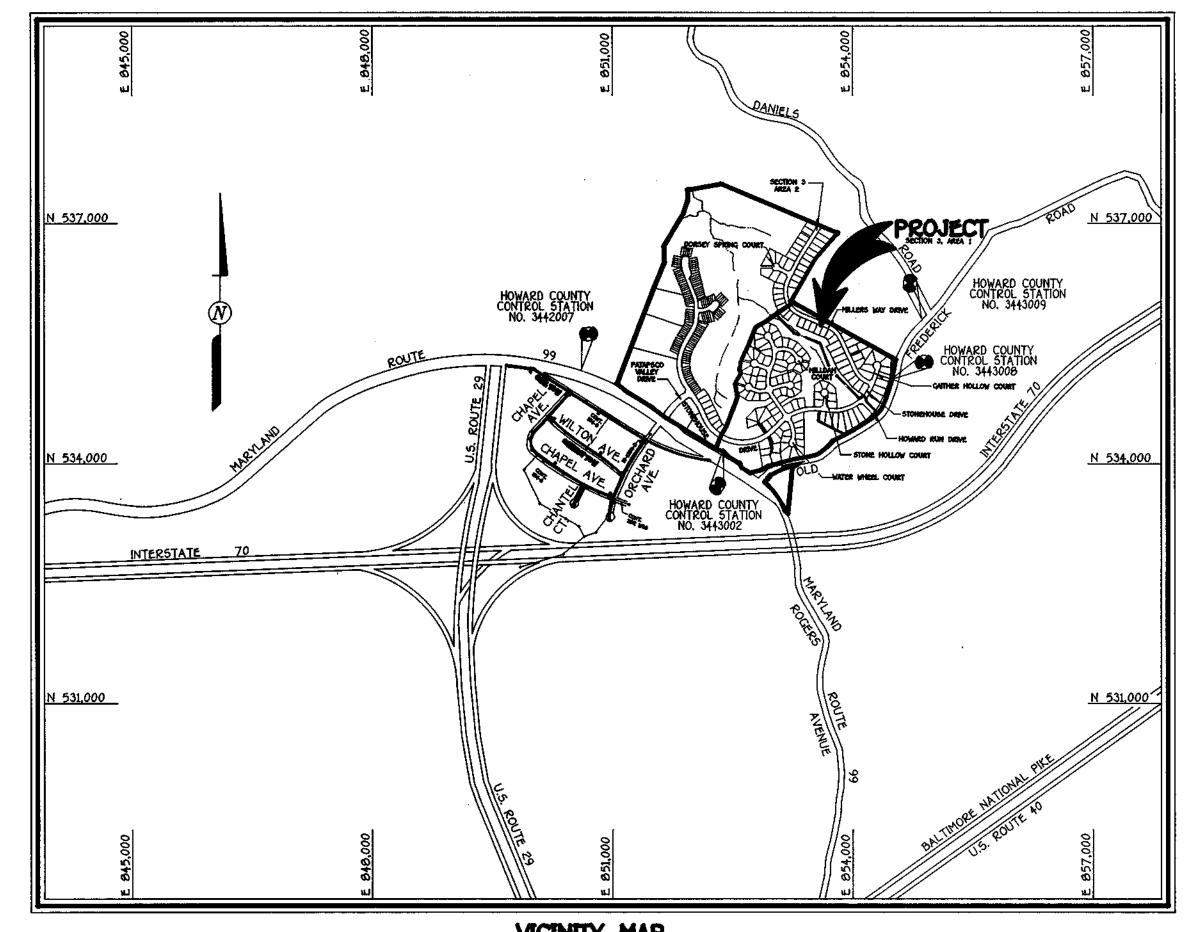
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TAX MAP NO. 17 PART OF PARCEL 41 AND 547
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

		STRE	ET	LIGHT CHART
DWG. No.	STREET NAME	STATION	OFF- SET	FIXTURE/POLE TYPE
2	MILLERS WAY DRIVE	2+87	1G'L	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE
3	MILLERS WAY DRIVE	7+58	16°R	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE
3	MILLERS WAY DRIVE	11+52	16°R	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE
2	GAITHER HOLLOW COURT	0+30	18'L	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE
3	MILLERS WAY DRIVE	15+52	16'R	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE

TRAFFIC CONTROL SIGNS							
STREET NAME	STATION	OFF5£T	POSTED SIGN	SIGN CODE			
MILLERS WAY DRIVE	0+38	15'L	5TOP	RI-1			
MILLERS WAY DRIVE	1+00	15°R	SPEED LIMIT 30	R2-1			
MILLERS WAY DRIVE	11+00	15'R	SPEED LIMIT 30	R2-1			
MILLERS WAY DRIVE	12+40	15°L	SPEED LIMIT 30	R2-1			

ROAD CLASS	ROAD CLASSIFICATION CHART						
ROAD NAME	CLASSIFICATION	R/W WIDTH					
GAITHER HOLLOW COURT	CUL-DE-SAC	50°					
STONEHOUSE DRIVE	LOCAL ROAD	50'					
MILLERS WAY DRIVE	LOCAL ROAD	50'					



VICINITY MAP

GENERAL NOTES

- I. UNLESS OTHERWISE NOTED, ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE FOLLOWING:
 - a. HOWARD COUNTY STANDARD SPECIFICATION AND DETAILS FOR
 - CONSTRUCTION.

 b. MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD
 - SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, AS AMEND
 - SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
 - d. SOIL CONSERVATION SERVICE 1993 MARYLAND STANDARDS AND SPECIFICATION FOR POND CONSTRUCTION (CODE 378)
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF DEPARTMENT OF PUBLIC WORKS, DIVISION OF CONSTRUCTION INSPECTION AT 410-313-1880 AT LEAST (5) WORKING DAYS.
- 3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST
- 40 HOURS PRIOR TO ANY EXCAVATION.
 4. TOPOGRAPHY SHOWN HEREON IS FROM FIELD RUN SURVEY BY FISHER, COLLINS & CARTER, INC.
- 2' CONTOUR INTERVAL AUGUST, 1997.

 5. THIS HORIZONTAL AND VERTICAL DATUM SHOWN ARE BASED ON THE FOLLOWING NAD'83 HOWARD COUNTY CONTROL STATIONS:
- HOWARD COUNTY MONUMENT NO. 3443000 N 535051.402 ELEV. = 479.13 E 854471.460 HOWARD COUNTY MONUMENT NO. 3443009 N 535006.602 ELEV. = 464.01 E 854860.710
- E 854860.710

 HOWARD COUNTY MONUMENT NO. 3443002 N 534193.678 ELEV. = 484.23'
 E 852269.574
- HOWARD COUNTY MONUMENT NO. 3443007 N 535080.370 ELEV. = 470.10' E 850670.146
- 6. NOISE STUDY WAS PROVIDED BY M.A. DIRCKS AND CO., INC. AND APPROVED ON JUNE 15, 1995.
- 7. FOREST DELINEATION AND WAS PROVIDED BY M.A. DIRCKS AND CO., INC. DATED JUNE, 1993. EXISTING FOREST CONSERVATION PER PLAT 12765.

 Ø. THE 100 Yr. FLOODPLAIN AS SHOWN ON THESE PLANS ARE BASED ON THE FLOODPLAIN
- STUDY THAT WAS PROVIDED BY FISHER, COLLINS & CARTER, INC.
- 9. THE WETLANDS STUDY WAS PREPARED BY ENVIRONMENTAL SYSTEMS ANALYSIS UNDER 5-95-10 JUNE 15, 1995. 10. THE TRAFFIC STUDY WAS PROVIDED BY The Traffic Group AND APPROVED ON JUNE 15, 1995.
- 11. THE SOILS INVESTIGATION REPORT WAS PREPARED BY G.T.A. INC. ON NOVEMBER 1995.
- 12. THE SKETCH PLAN 5-95-10 WAS APPROVED ON 6/15/95. PRELIMINARY PLANS WERE WAIVED UNDER WP-97-02 ON AUGUST 12, 1996.
- 13. 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 THER PLACEMENT OF ANY ASPHALT.
- 14. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN
- MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)."

 15. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- 16. PUBLIC WATER AND PUBLIC SEWER WILL BE USED WITHIN THIS DEVELOPMENT.
- 17. EXISTING UTILITIES ARE BASED ON CONTRACT 14-3580-D & 14-3581-D.
- 18. SECTION 16.116(a) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PROHIBITS CLEARING, GRADING OR CONSTRUCTION ACTIVITY WITHIN THE REQUIRED WETLAND OR STREAM BANK BUFFERS. A WAINER WP9-74 HAS BEEN APPROVED FOR GRADING WITHIN THE STREAM BUFFER, AND WETLAND BUFFER ON APPRIL 9, 1998.
- 19. QUANTITY CONTROL, STORMWATER MANAGEMENT ANALYSIS WAS APPROVED ON APRIL 27, 1996 UNDER F-96-128.
- WATER QUALITY IS PROVIDED BY SHALLOW MARSH. WATER QUALITY FACILITY #9 # NO TO BE PRIVATELY OWNED & MAINTAINED BY THE HOMEOWNER'S ASSOC.

20. LETTER OF AUTHORIZATION FOR DISTURBANCE IN WETLAND AND STREAM BUFFER IS 95-NT-0811/199568507.



DANIELS MILL OVERLOOK

LOTS 230 THRU 276 AND PARCELS T & 'J'
ZONED: R-ED

SECTION 3 AREA 1

(A RESUBDIVISION OF PARCELS 'E' AND 'G' - DANIELS MILL OVERLOOK, SECTION 2, AREA 1, PLAT Nos. 12759 THRU 12766)

TAX MAP No. 17 PART OF PARCEL 41 AND 547

SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: OCTOBER 1, 1997

SHEET 1 OF 13

Jeyesh Pancholi 11-14-97
JAYESH V. PANCHOLI DATE

OWNER
RYLAND HOMES AT HOLLIFIELD STATION, L.L.C.

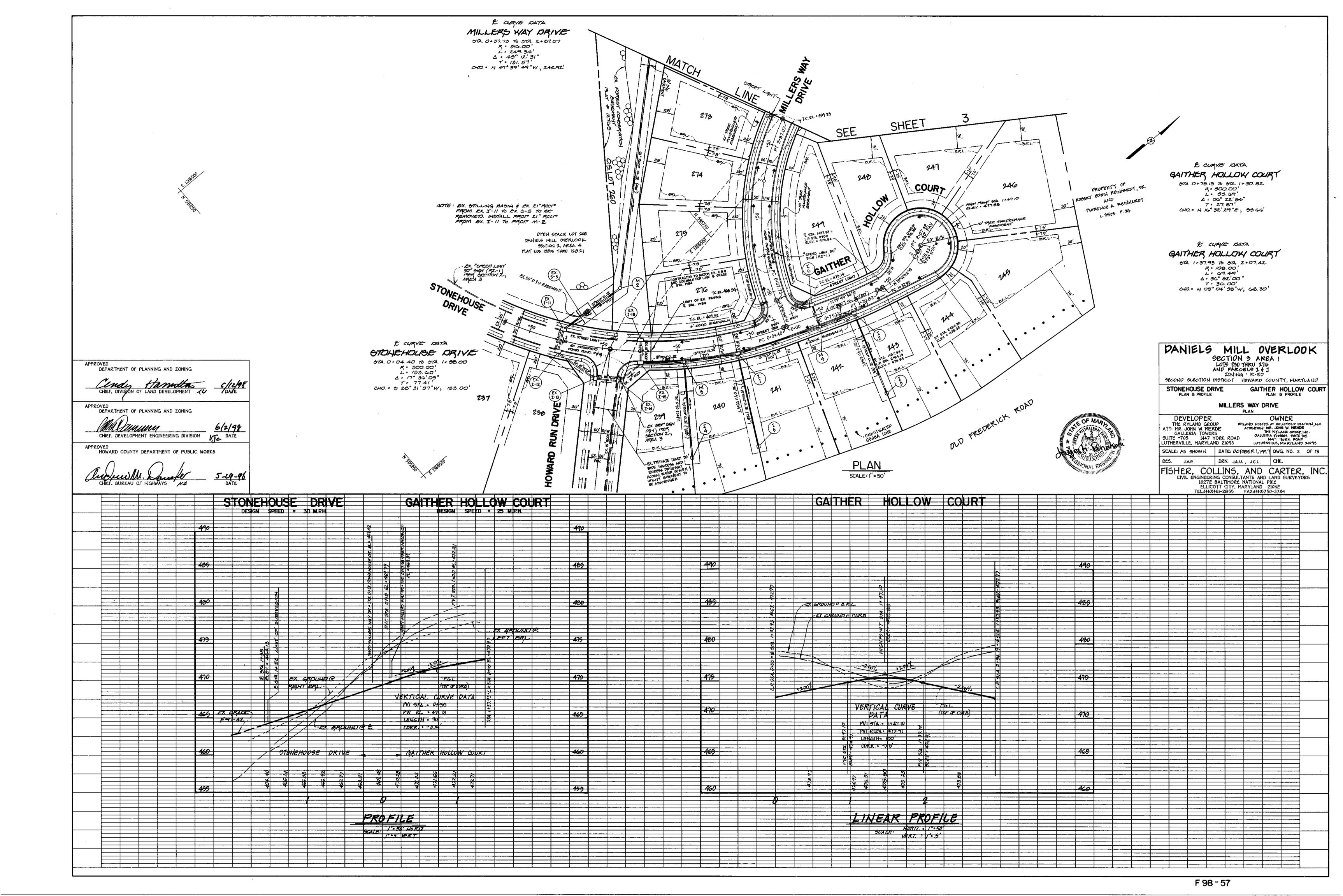
DEVELOPER

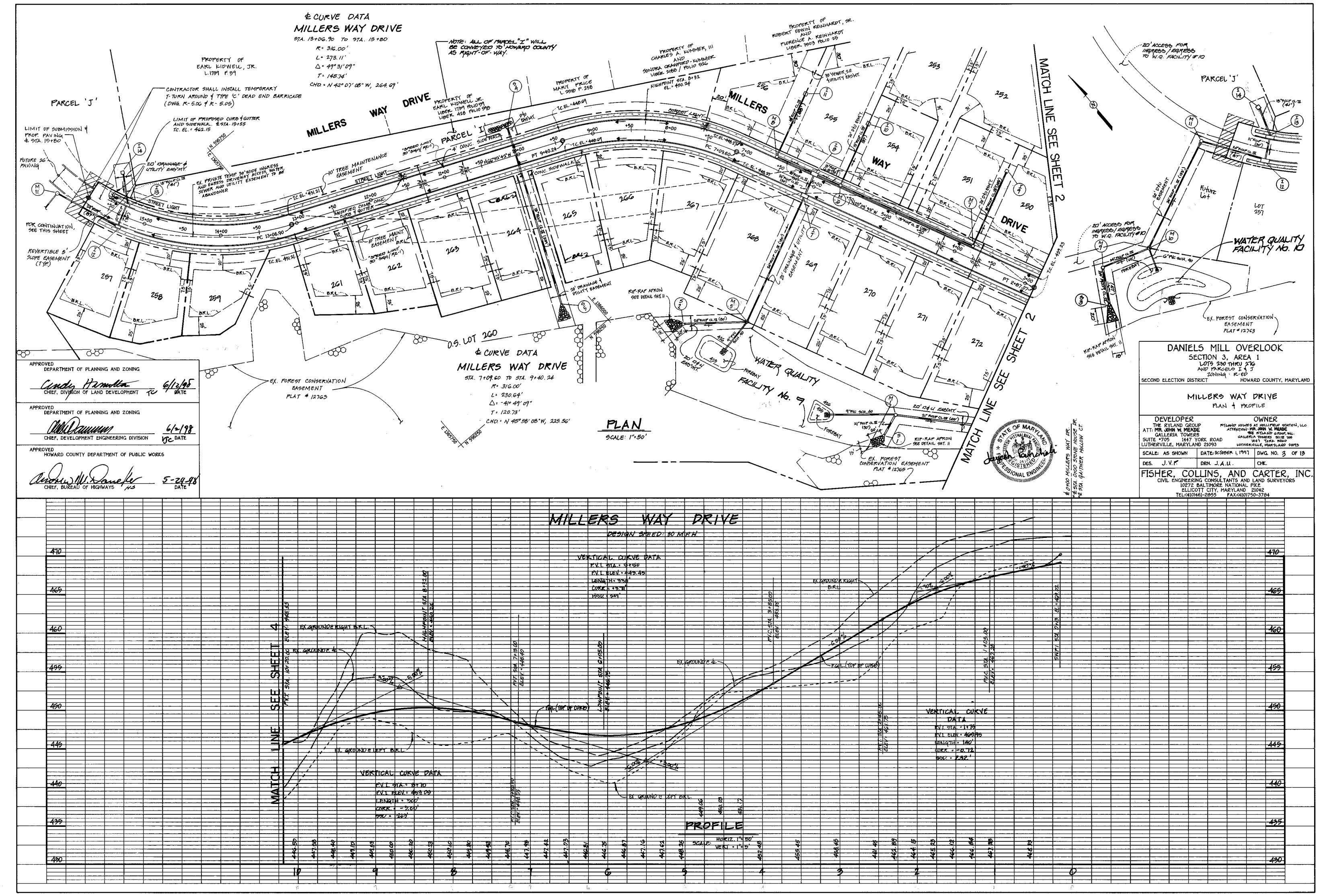
ATTN: MR. JOHN W. MEADE
THE RYLAND GROUP, INC.
THE RYLAND GROUP, INC.
GALLERIA TOWERS
SUITE *705 1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

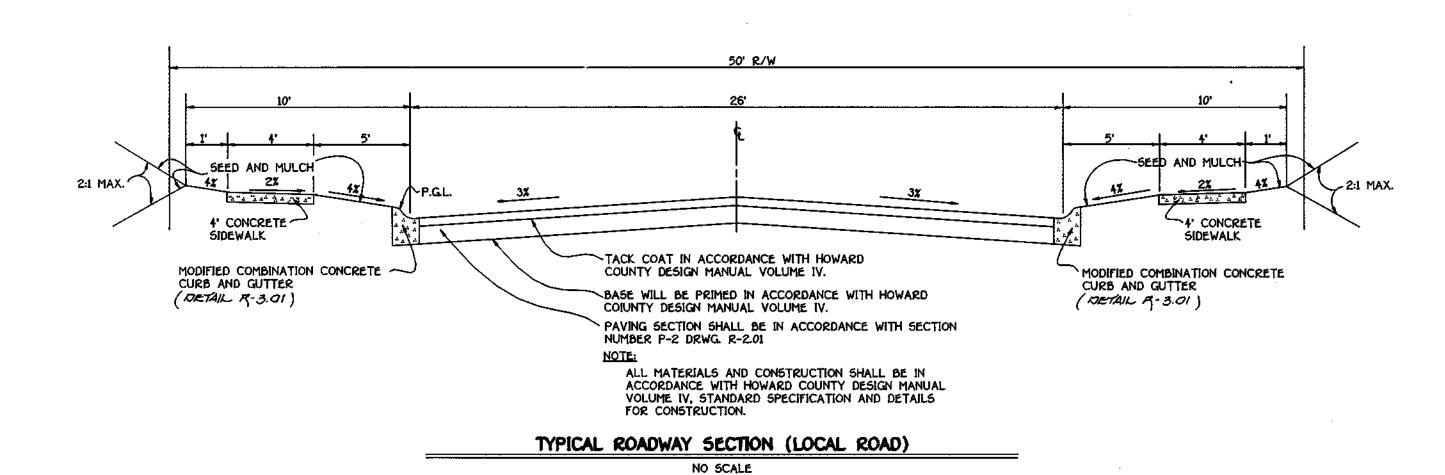
THE RYLAND GROUP, INC.
ATTN: MR. JOHN W. MEADE
GALLERIA TOWERS
SUITE *705 1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855



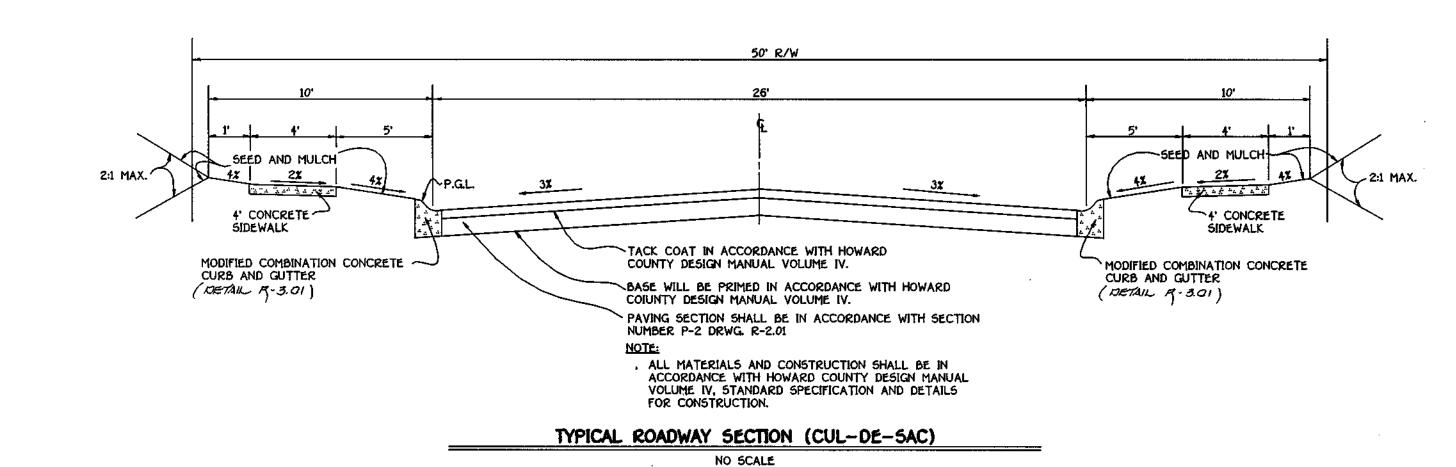




		ROADWAY	INFORMAT	TON CHART	
ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	& STATION LIMITS	PAVING SECTION
STONEHOUSE DRIVE	LOCAL ROAD	30 M.P.H.	R-ED	0+00 TO 1+56	P-2
MILLERS WAY DRIVE	LOCAL ROAD	30 M.P.H.	r-ed	0+00 TO 15+80	P-2

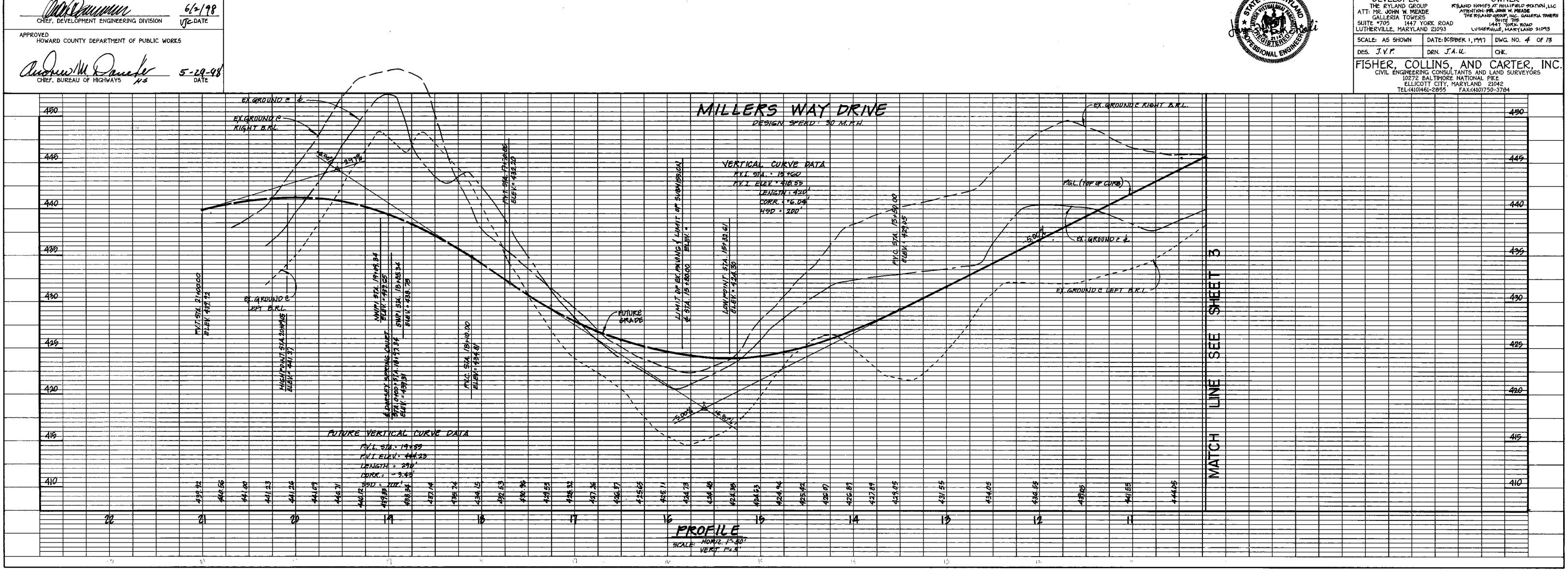
APPROVED

DEPARTMENT OF PLANNING AND ZONING



		ROADWAY	INFORMAT	ON CHART	
ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	& STATION LIMITS	PAVING SECTION
GAITHER HOLLOW COURT	CUL-DE SAC	25 M.P.H.	R-ED	0+00 TO 2+16.43	P-2





DANIELS MILL OVERLOOK SECTION 3, AREA 1 LOTS 230 THRU 276

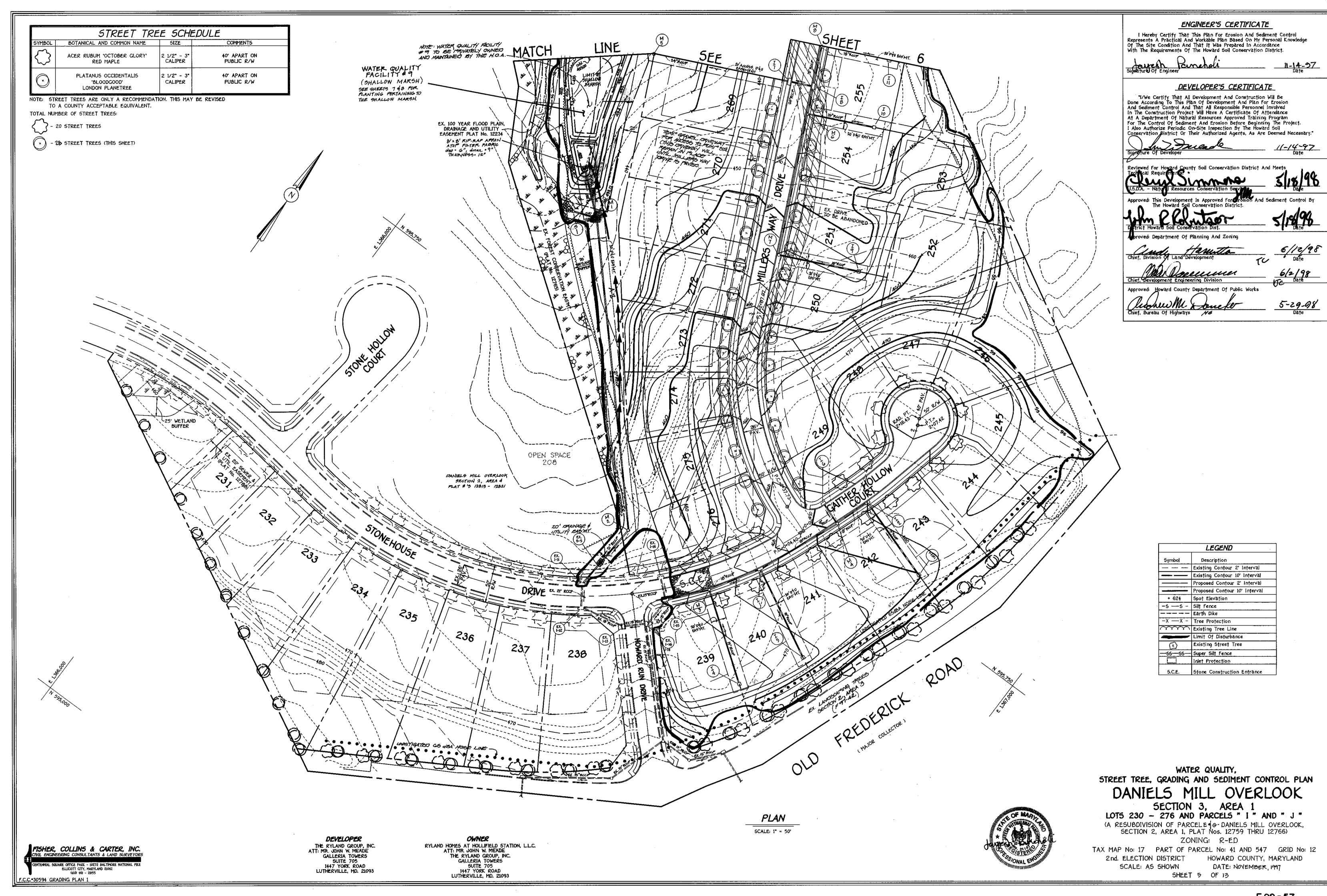
AND PARCELS I & J ZONING : K-ED
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

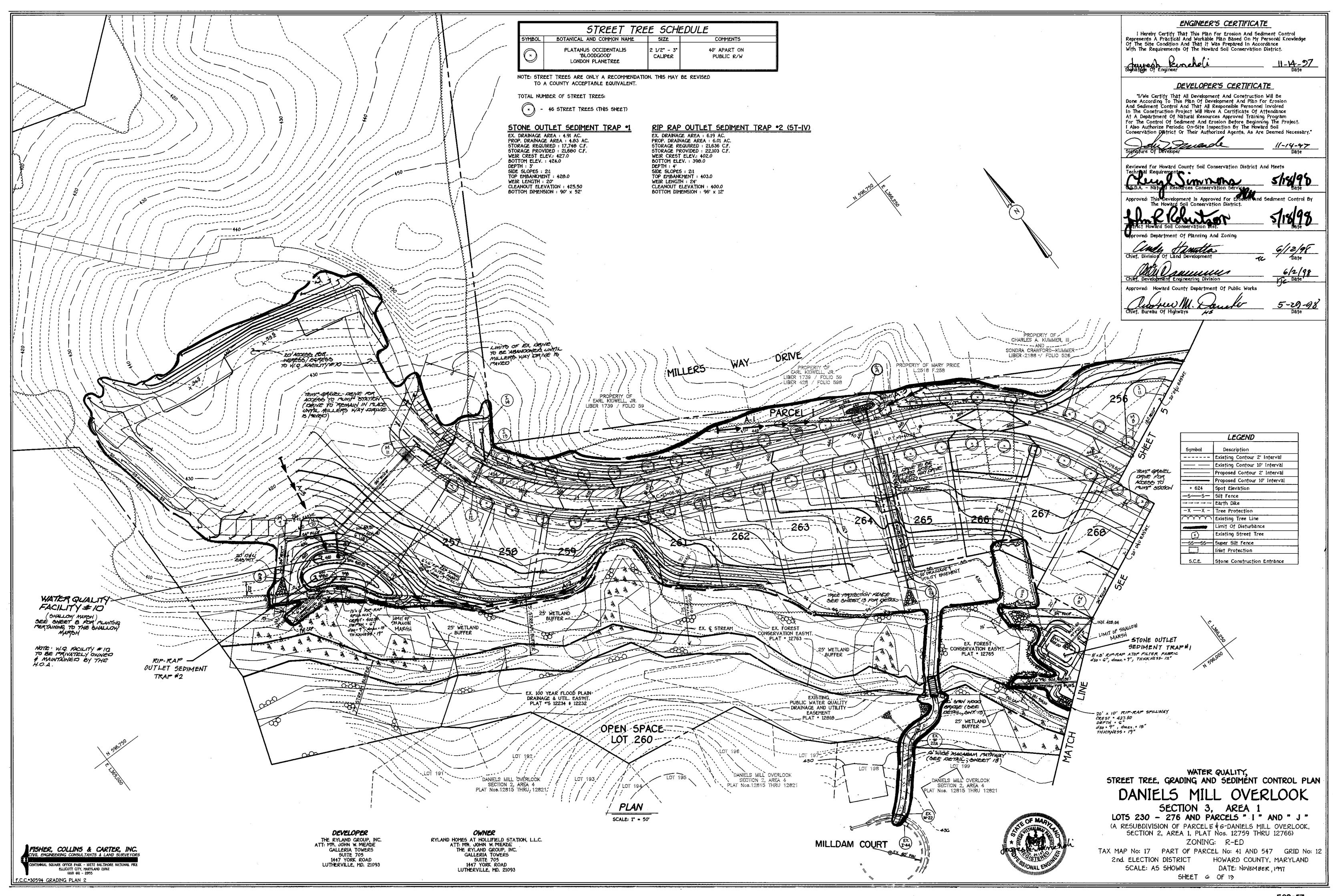
MILLERS WAY DRIVE

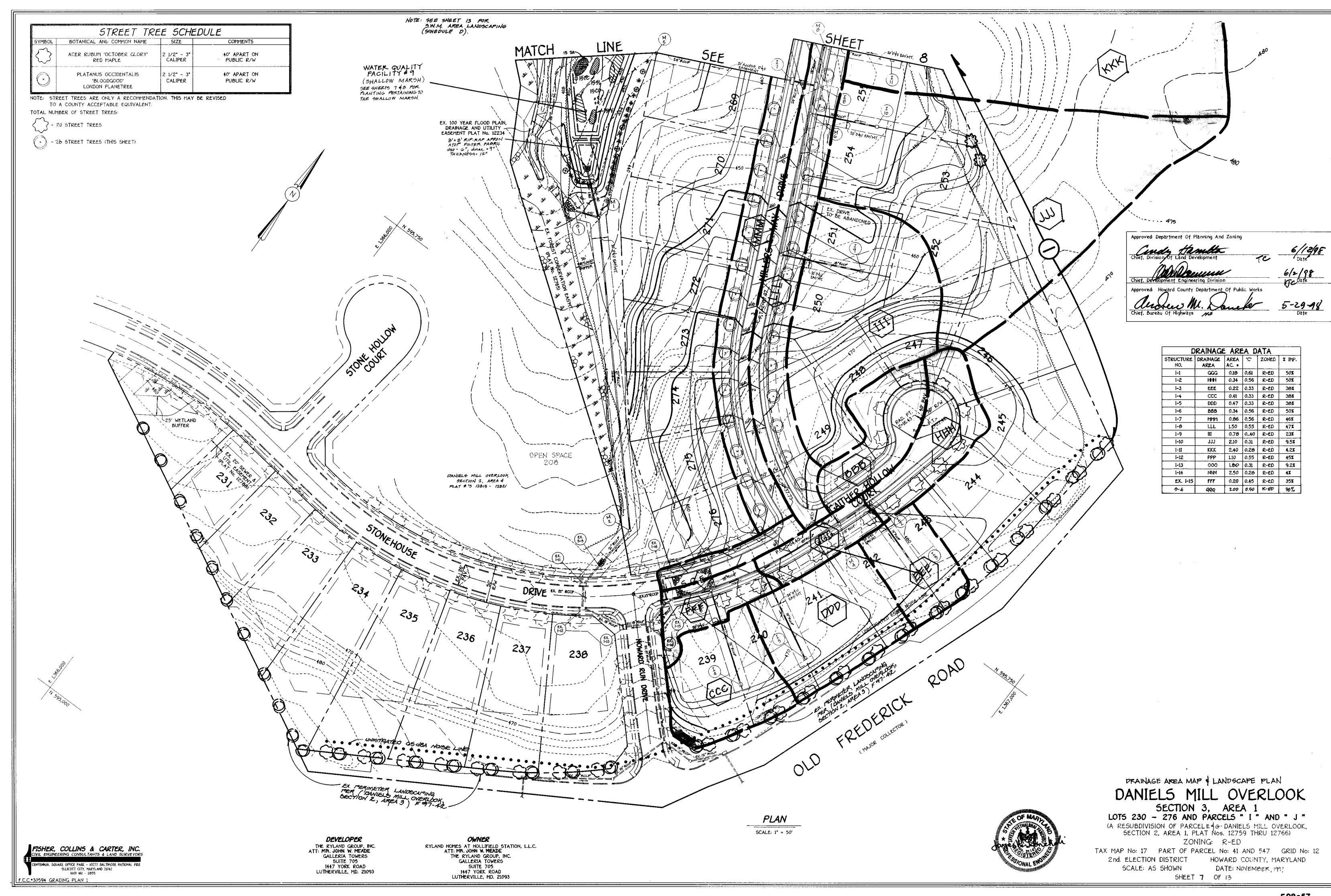
DEVELOPER

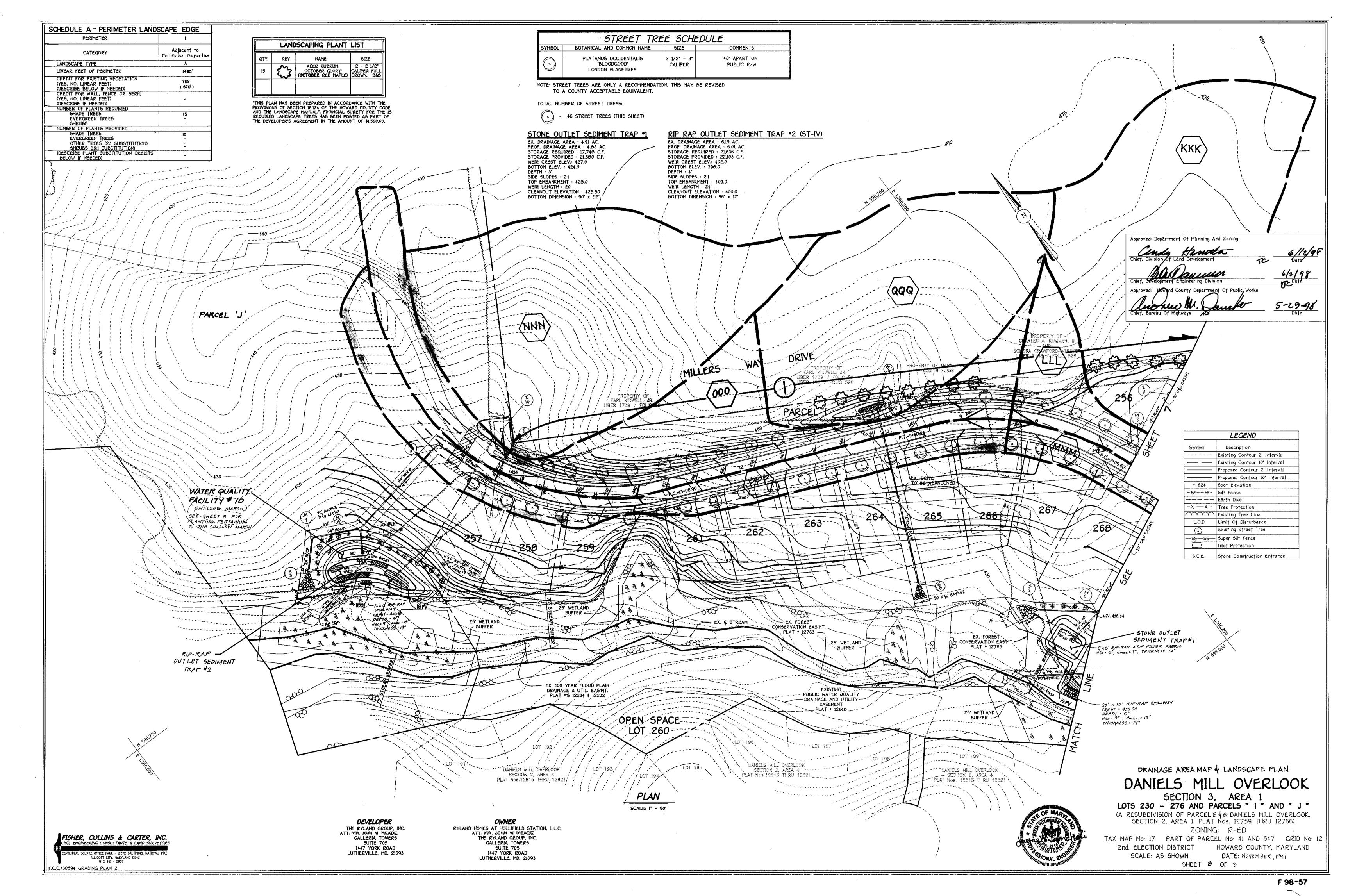
TYPICAL ROADWAY SECTIONS

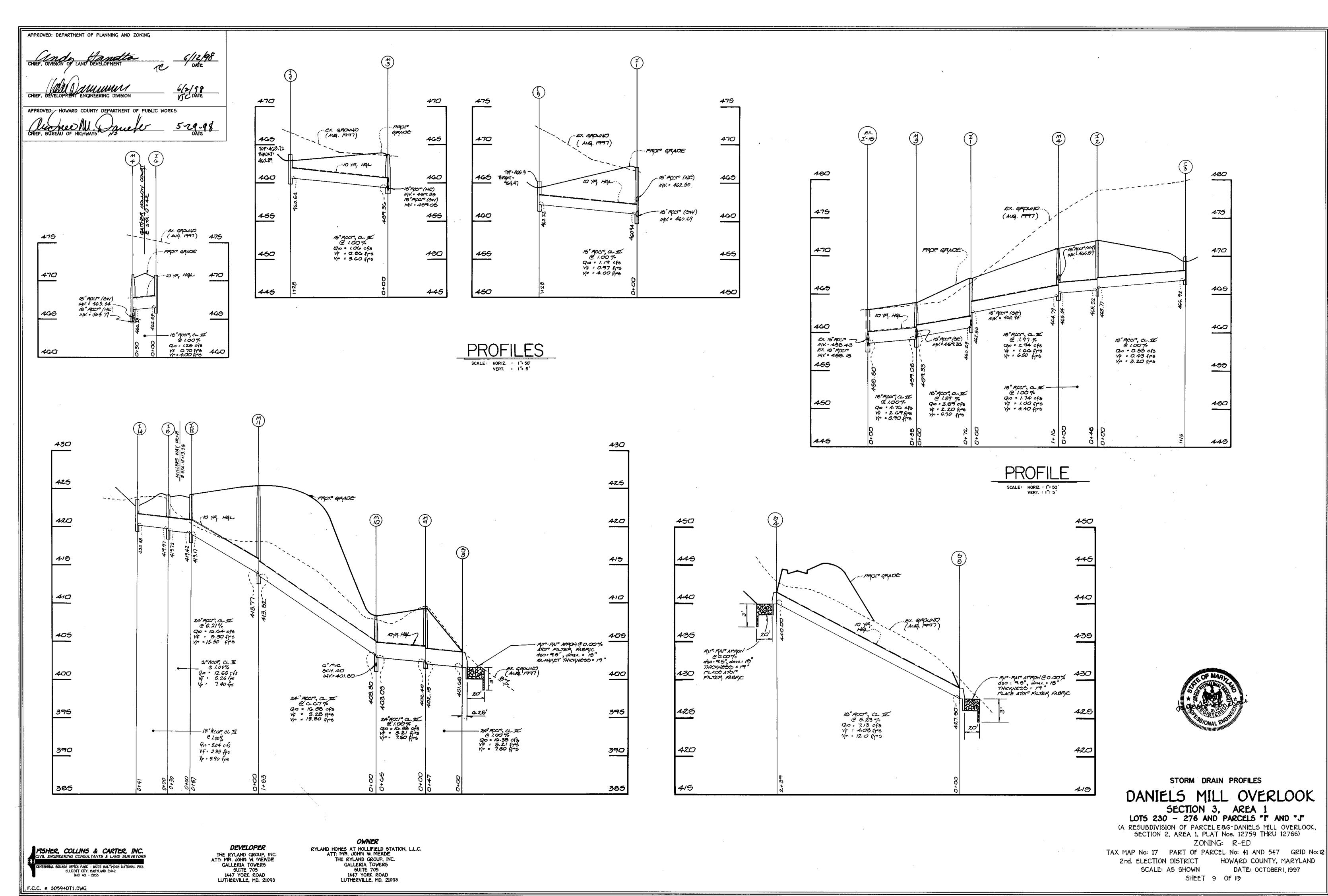
OWNER

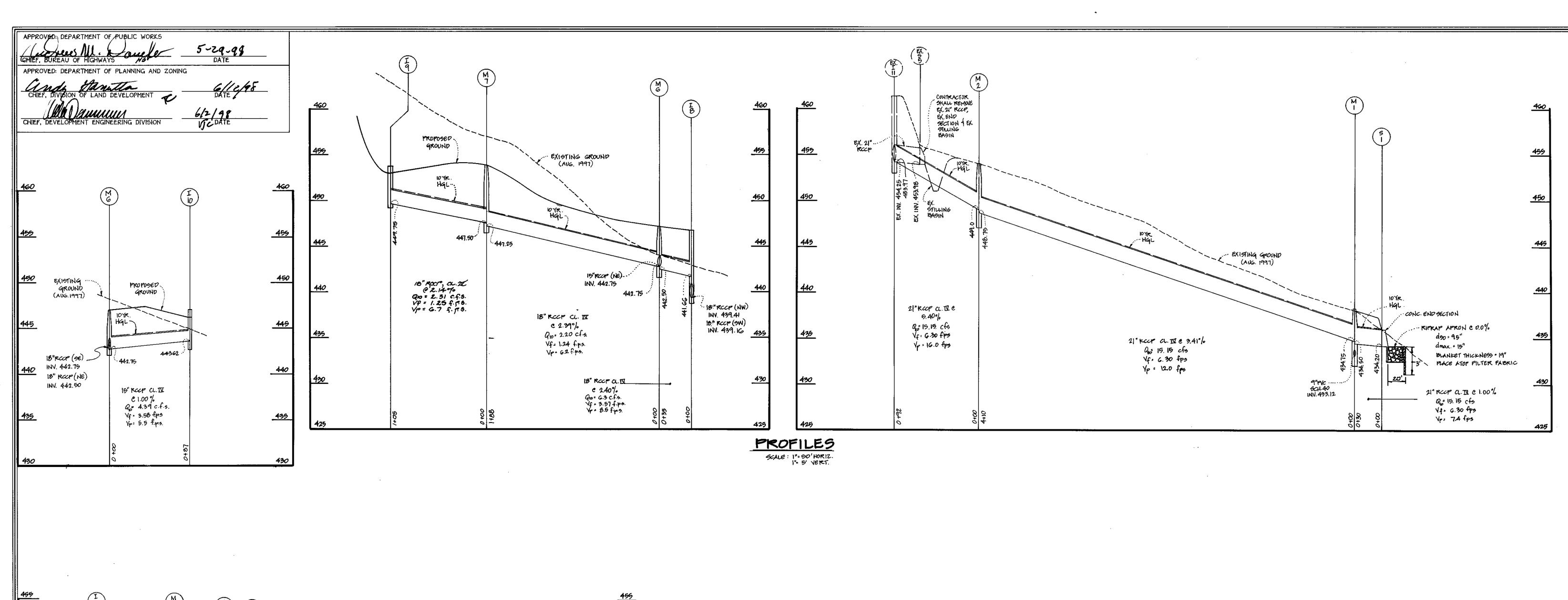


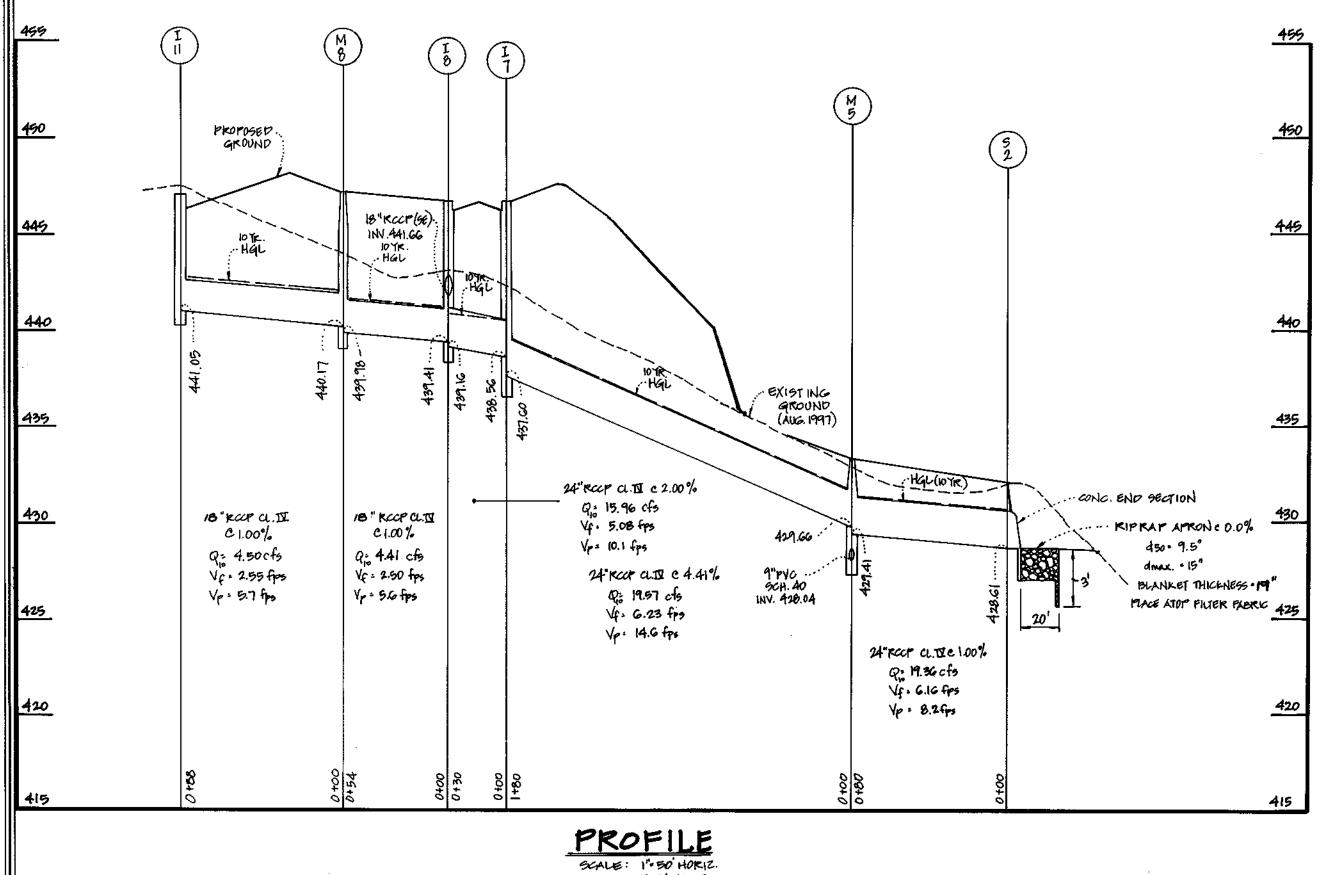












1'.5' VERT.

DEVELOPER

THE RYLAND GROUP, INC. ATT: MR. JOHN W. MEADE

GALLERIA TOWERS SUITE 705

1447 YORK ROAD LUTHERVILLE, MD. 21093

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

F.C.C.•30594 sd1.dwg

OWNER

RYLAND HOMES AT HOLLIFIELD STATION, L.L.C.
ATT: MR. JOHN W. MEADE
THE RYLAND GROUP, INC.
GALLERIA TOWERS
SUITE 705
1447 YORK ROAD
LUTHERVILLE, MD. 21093



STORM DRAIN PROFILES

DANIELS MILL OVERLOOK

SECTION 3, AREA 1

LOTS 230 - 276 AND PARCELS " I " AND " J "

(A RESUBDIVISION OF PARCEL E & G-DANIELS MILL OVERLOOK,
SECTION 2, AREA 1, PLAT Nos. 12759 THRU 12766)

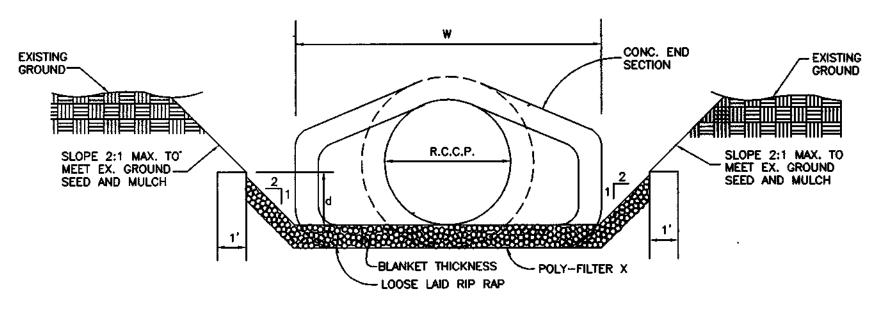
ZONING: R-ED

TAX MAP No: 17 PART OF PARCEL No: 41 AND 547 GRID No: 12
2nd. ELECTION DISTRICT HOWARD COUNTY, MARYLAND
5CALE: AS SHOWN DATE: 0ctober 1,1997

SHEET 10 OF 13

	STRUCTURE SCHEDULE								
STRUCTURE NO.	TOP ELEVATION	NI.VNI	TUO.VNI	ROAD NAME	ROAD STA.	OFF5£T	TYPE	REMARKS	
[-]	467.10	462.50 460.94	460.69	STONEHOUSE DRIVE	C.L. STA. 0+70 (5)	13' LT.	A-5 INLET	5,D. 4.40	
I - 2	472.02	465.77	465.52	GAITHER HOLLOW COURT	C.L. 5TA. 0+91 (N)	13' RT.	A-5 INLET	5.D. 4.40	
I-3	470.00 *469.17		466.92			N 595792.983 E 1366815.662	'D' INLET	5.D. 4.39	
[-4	463.72 *462.09		460.64			N 595616.522 E 1366760.166	'D' INLET	5.D. 4.39	
[-5	465.30 *464.47		462.22			N 595539.656 £ 1366713.926	'D' INLET	5.D. 4.39	
I-6	4 70.79		466.59	GAITHER HOLLOW COURT	C.L. STA. 0+42 (N)	13' LT.	A-5 INLET	5.D. 4.40	
I-7	446.75	430.56	437.60	MILLERS WAY DRIVE	C.L. STA. 6+05	13' LT.	A-10 INLET	5.D. 4.41	
I-8	446.75	439.41	439.16	MILLERS WAY DRIVE	C.L. STA. 6+05	13' RT	A-10 INLET	5.D. 4.41	
1-9	453.03 *453.00		449.75			N 596053.776 E 1366496.197	'D' INLET	5.D. 4.39	
I-10	447.03 +446.20		443.62			N 596225.061 E 1366420.319	'D' INLET	5.D. 4.39	
[-11	447.13 *446.30		441.05			N 596307.013 E 1366363.105	'D' INLET	5.D. 4.39	
I-12	424.30	419.42	419.17	MILLERS WAY DRIVE	C.L. STA. 15+32.61	13' LT.	A-10 INLET	5.D. 4.41	
I-13	424.30	419.97	419.72	MILLERS WAY DRIVE	C.L. STA. 15+32.61	13' RT.	A-10 INLET	5.D. 4.41	
[-14	423.71 *422.88		420.30	<u> </u>		N 596802.791 E 1365643.646	'D' INLET	5.D. 4.39	
M-1	430.25	434.75	434.50 433.12			N 595915.500 E 1366203.500	STD. MANHOLE	G.5.01	
M-2	454.0	449.0	448.75			N 595612.602 E 1366479.620	STD. MANHOLE	G.5.01	
M-3	463.68	459.36 459.33	459.08	STONEHOUSE DRIVE	C.L. STA. 1+41 (5)	16' LT	5TD. MANHOLE	G.5.01	
M-4	470.91	455.04		GAITHER HOLLOW COURT	C.L. 5TA. 0+42 (N)		STD. MANHOLE	G.5.01	
M-5	•	466.59 429.66	120 11	and their modern cook!	<u> </u>	N 596131.411	STD. MANHOLE	G.5.01	
M-6	433.41 447.01	442.75	442.50	MILLERS WAY DRIVE	C.L. STA. 5+69	E 1366135.031	STD. MANHOLE	G.5.01	
		447.50	447.25	MILLERS WAY DRIVE	C.L. 5TA. 3+82	16' RT	STD. MANHOLE	G.501	
M-7	453.95		439.98		C.L. 51A. 5+52	16' RT	STD. MANHOLE	G.501	
M-8	447.25 409.50	440.17		MILLERS WAY DRIVE		N 596839.767 E 1365356.644	STD. MANHOLE	G.501	
M-9	409.30	402.40	402.15			N 596807.707	STD. MANHOLE	G.501	
M-10		403.30	401.80	MILLY OC. 14AV. DOUGE	CI GTA 16:15	£ 1365415.186	· ·		
M-11	4 25.53	413.77	413.52	MILLERS WAY DRIVE	C.L. 5TA. 16+15	16' LT	STD. MANHOLE	G.5.01	
5-1	436.20		434.20			N 595905.720 E 1366175.139	CONC. END SECTION	5.D. 5.52	
5-2	430.96		428.61			N 596164.342 E 1366075.046	CONC. END SECTION	5.D. 5.52	
5-3				-		E 1366075.046 N 596804.956 E 1365327.065		5.D. 5.52	
5-4	403.93	445.5	401. 68			N 596525	CONC. END SECTION	5.D. 5.52	
5- 1 5-5	441.5 429.0	440.0	427.5			£ 1366061 N 596307	CONC. END SECTION	5.D. 5.52	

NOTE: FOR ALL 'D' INLETS LOCATED IN SUMP AREAS. ALL 4 SIDES ARE TO REMAIN OPEN. * DENOTES THROAT ELEVATIONS



RIP RAP CHANNEL DETAIL

			<u></u>	RIP-R	PAP CH	UNNEL	DESK	GN DA	17A							
STRUCTURE	AREA	WETTED PERIMETER	R	R 2/3	s	S 1/2	W	d	N	٧	Q	RSP-RA	D _{MAX}	BLANKET THICKNESS	Q10	DIA.
S1	6.50 SF	6.97	0.72	0.603	0.005	0.0707	4.5'	1.00'	0.035	2.42	15.73 CF5	9.5"	15"	19*	15.15 CFS	21"
S-2	8.00 SF	10.47	0.76	0.633	0.005	0.0707	6.0'	1.00'	0.035	2.51	20.08 FP5	9.5"	15"	19*	19.36 FPS	24"
S-3	7.02 SF	10.02	0.70	0.788	0.005	0.0707	6.0	0.90*	0.035	2.37	16.64 FPS	9.5"	15"	19*	16.30 FP5	24"
																ļ

CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

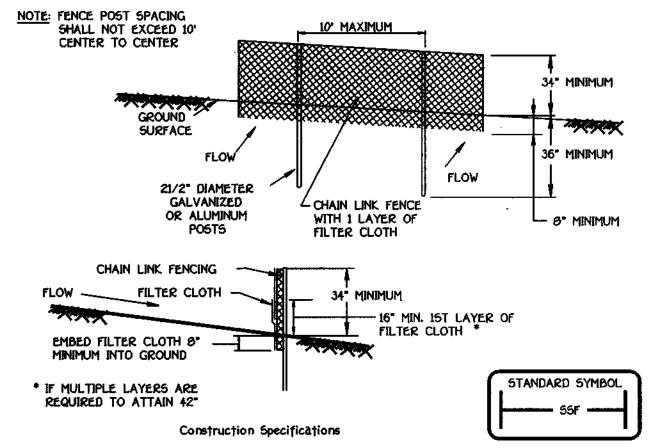
- 1. The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding
- 2. The rock or gravel shall conform to the specified grading limits when installed respectively 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 darnage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

FISHER, COLLINS & CARTER, INC. 'L ENGINEERING CONSULTANTS & LAND SURVEYORS F.C.C. • 30594 detail.dwg

DEVELOPER THE RYLAND GROUP,INC. ATT: MR. JOHN W. MEADE GALLERIA TOWERS SUITE 705 1447 YORK ROAD LUTHERVILLE, MD. 21093

OWNER RYLAND HOMES AT HOLLIFIFIELD STATION, L.L.C. ATT: MR. JOHN W. MEADE THE RYLAND GROUP, INC. GALLERIA TOWERS SUITE 705 1447 YORK ROAD LUTHERVILLE, MD. 21093

DETAIL 33 - SUPER SILT FENCE



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

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: Test: MSMT 509

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

RIP-RAP OUTLET SEDIMENT TRAP - ST IV

PERSPECTIVE VIEW

—SMALL RIP-RAP 4" TO 7".

SECTION A-A

ELEVATION

- GEOTEXTILE - APRON (SEE NOTE)

OUTLET ELEVATION

NOTE: 5' MIN LENGTH UP TO 5 ACRES. OVER 5 ACRES USE 10' MIN

SECTION B-B

GROUND

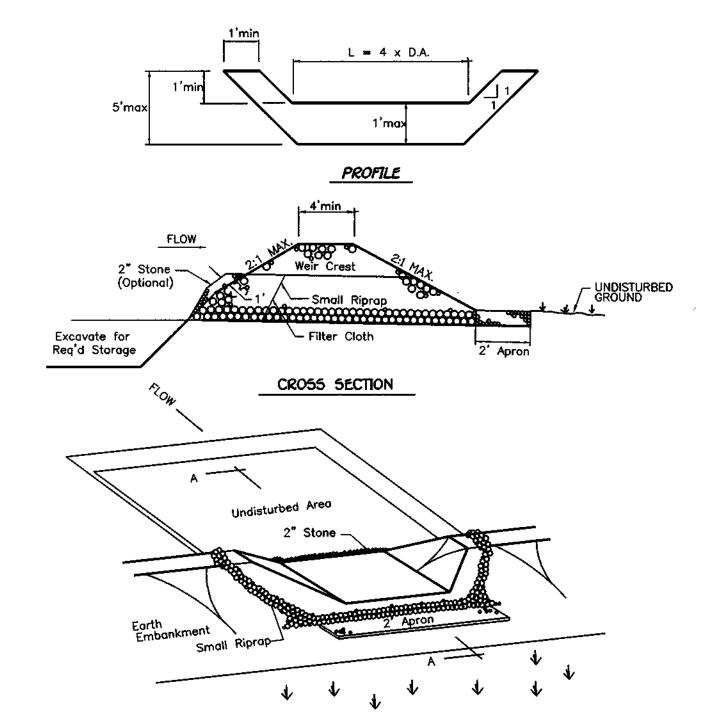
(I' THICKNESS)

EXCAVATE FOR REQUIRED WET STORAGE

- BOTTOM ELEVATION

STORAGE

STONE OUTLET SEDIMENT TRAP ST-VI



PERSPECTIVE VIEW

OPTION: A one foot layer of 2" stone may be placed on the upstream side of the riprop in place of the embedded filter cloth.

- 1. The Area Under Embankment Shall Be Cleared, Grubbed And Stripped Of Any Vegetation And Root Mat. The Pool Area Shall Be Cleared
- 2. The Fill Material For The Embankment Shall Be Free Of Roots Or Other Woody Vegetation As Well As Over—Sized Stones, Rocks, Organic Material Or Other Objectionable Material. The Embankment Shall Be Compacted By Traversing
- 3. All Cut And Fill Slopes Shall Be 2:1 Or Flatter.
- 4. The Stone Used in The Outlet Shall Be Small Riprop 4"-8" Along With A 1' Thickness Of 2" Aggregate Placed On The Up-Grade Side On The Small Riprop Or Embedded Filter Cloth In The Riprop.
- 5. Sediment Shall Be Removed And Trap Restored To Its Original Dimensions When The Sediment Has Accumulated To 1/2 The Design Depth Of The Trap.
- 6. The Structure Shall Be Inspected After Each Rain And Repaired As Needed.
- $^{7\cdot}$ Construction Operations Shall Be Carried Out In Such A Manner That Erosion And Water
- Pollution Is Minimized. 8. The Structure Shall Be Removed And The Area Stabilized When The Drainage Area Has

Constuction Specifications 1. The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots or other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Maximum height of embankment shall be 4', measured at centerline of embankment.

3. All cut and fill slopes shall be 2:1 or flatter.

4. Elevation of the top of any dike directing water into trap must equal or exceed the height of trap embankment.

5. Storage area provided shall be figured by computing the volume measured from top of excavation. (For storage requirements see Table 9).

6. Geotextile Class C shall be placed over the bottom and sides of the outlet channelprior to placement of stone. Section of fabric must overlap at least 1 with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.

7. 4" - 7" stone shall be used to construct the weir and 4" - 12" or Class I rip-rap shall be used to construct the outlet channel.

8. Outlet - An outlet shall include a means of conveying the discharge in an erosion free manner to an existing stable channel. Protection against scour at the discharge point shall be provided as necessary.

9. Outlet channel must have positive drainage from the trap.

10. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 of the wet storage depth of the trap (900 cf/ac). Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

11. The structure shall be inspected periodically after each rain and repaired

12. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentrated inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.

13. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

1. Obtain The Required Grading Permit. (1 DAY)

Sequence Of Construction

2. Notify Miss Utility 40 Hours Before Beginning Any Work (1-000-257-7777). Notify Howard County Constructiom/Inspection Division 24 Hours Before Staring Any Work (410) 313-1870. INSTALL FOREST CONSERVATION PROTECTIVE DEVICES, (I WEEK)

ENGINEER'S CERTIFICATE

DEVELOPER'S CERTIFICATE

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."

//-/4-97

nd Sediment Control By

6/12/98

5-29-98

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.

"I/We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All Responsible Personnel Involved

In The Construction Project Will Have A Certificate Of Attendance

pproved: Department Of Planning And Zoning

MA LOUMMUNI

Approved: Howard County Department Of Public Works

hief, Division Of Land Development

Chief, Development Engineering Division

touch Pencholi trignature of Engineer

- 3A. Install The Required Sediment And Erosion Control Devices As Indicated On The Plan Sheets.
- 4. Install Stormdrain From 5-4 to 5-5. (2 DAYS)
 4A. INSTALL TEMP GRAVEL DRIVE FOR RELOCATION OF PUMP STATION ACCESS ROAD. (2 WEEKS) 5. Grade Site To Subgrade, Stabilize And Install Storm Drains And Install Inlet Protections (3
- 6. 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.
- 7. Sediment Shall Be Removed From The Stone Outlet Sediment Traps Once The Cleanout Elevations Have Been Reached. Sediment Must Be Placed Uphill From The Traps. See Plans For Cleanout Elevations (1 Day).
- 8. Install Road Base Course (5 Days).
- 9. Install Forebay And Shallow Marsh Facility (1 Week).
- 10. Remove Sediment From Roadways And Dress Stone Construction Entrance As Required And Stabilize All Disturbed Areas (2 Days).
- 11. Remove Inlet Protecétions And Flush Storm Drain System To Remove Any Trapped Sediment.
- 12. Apply Tack Coat To Sub-Base And Lay Surface Course (4 Days).
- 13. Remove All Sediment Control Measures Upon Sediment Control Inspectors Approval (2 Days).
- 14. All Disturbed Areas Due To Removal Of Sediment Control Measures Shall Be Graded And Stabilized By Permanent Seeding (2 Days).



DETAIL SHEET DANIELS MILL OVERLOOK SECTION 3, AREA

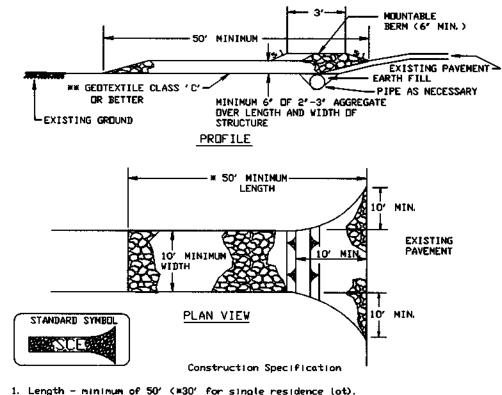
LOTS 230 - 276 AND PARCELS " I " AND " J " (A RESUBDIVISION OF PARCEL E & G - DANIELS MILL OVERLOOK. SECTION 2, AREA 1, PLAT Nos. 12759 THRU 12766) ZONING: R-ED

TAX MAP No: 17 PART OF PARCEL No: 41 AND 547 GRID No: 12 2nd. ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: OCTOBER 1, 1997

SHEET 11 OF 13

F 98 - 57

305540T6.0WG



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

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

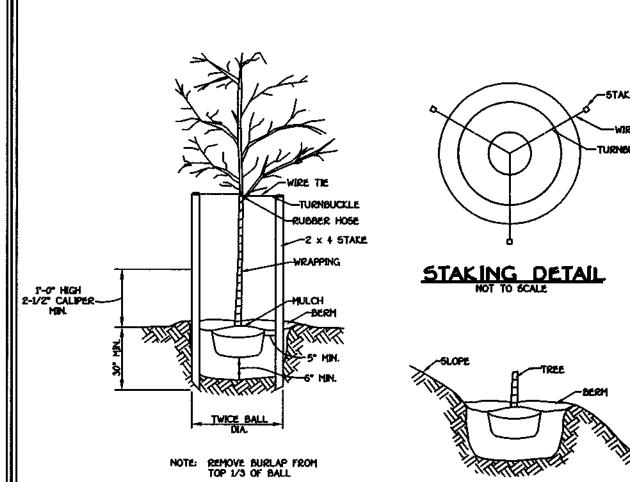
4. Stone - crushed apprepate (2' to 3') or reclaimed or recycled concrete equivalent shall be placed at least 6' deep over the length and width of the

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 bern with 5:1 slopes and a minimum of 6' of stone over the pipe. Pipe ha 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



SEDIMENT CONTROL NOTES

TREE PLANTING

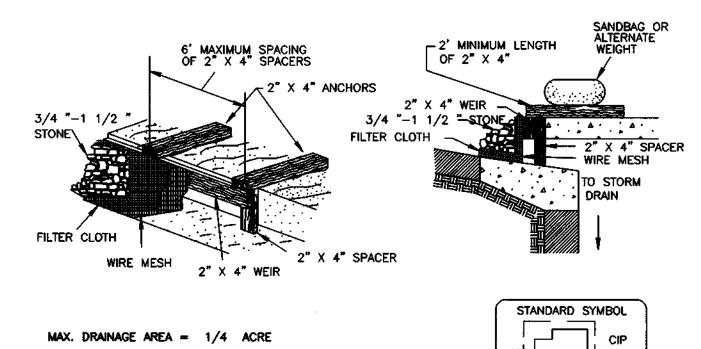
D A MINIMUM OF 40 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY

GRADING FOR PLANTING

ON SLOPES

- 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: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS
- AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. 4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1.
- CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE. 5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT
- CONTROL INSPECTOR. 7) SITE ANALYSIS: TOTAL AREA OF SITE area disturbed ACRES AREA TO BE ROOFED OR PAVED ACRES AREA TO BE VEGETATIVELY STABILIZED 4.78 ACRES TOTAL CUT
- 15,500 CU.YDS 15,500 CU.YDS. OFFSITE WASTE/BORROW AREA LOCATION N/A B) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE
- SAME DAY OF DISTURBANCE 9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR 10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES,
- APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- 11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGHTS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

FISHER. COLLINS & CARTER. INC. IVIL ENGINEERING CONSULTANTS & LAND SURVEYORS Centennial Square office park - 10272 Baltimore national pike ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2955



Construction Specifications

. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4') to the $2" \times 4"$ weir (measuring throat length plus 2') as shown on the standard

2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.

3. Securely noil the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).

4. Place the assembly against the inlet throat and nail (minimum 2' lengths of $2" \times 4"$ to the top of the weir at spacer locations). These $2" \times 4"$ anchors shall extend across the inlet top and be held in place by sandbags or alternate weight. 5. The assembly shall be placed so that the end spacers are a minimum 1' beyond

6. Form the 1/2 " x 1/2 " wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4 " x 1 1/2 " stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.

7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.

both ends of the throat opening.

8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

STANDARD CURB INLET PROTECTION

NOT TO SCALE

20.0 STANDARDS AND SPECIFICATIONS VEGETATIVE STABILIZATION

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

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 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.

 Soil Amendments (Fertilizer and Lime Specifications)
- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
- ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee
- of the producer. iii. Lime materials shall be ground limestone thydrated 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 400 mesh sieve and 90-100% will pass through a 420
- mesh sieve, iv. Incorporate time and fertilizer into the top 3-5" of soil by disking or other suitable means.
- iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

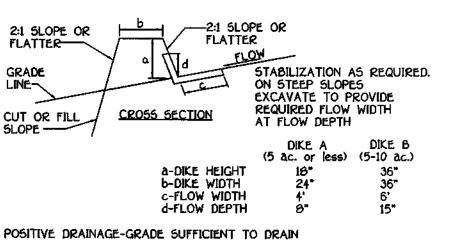
 Seedbed Preparation
 i. Temporary Seeding
 a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should 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. In corporate 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
- - The soil shall contain less than 40% clay, but enough fine grained material 030% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass o serecia lespedezas is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
 - Soil shall contain 1.5% minimum organic matter by weight.

 Soil must contain sufficient pore space to permit adequate root penetration. If these conditions cannot be met by soils on site, adding topsoil in accordance with Section 21 Standard and Specification for Topsoil.
 - 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
 - to the surface area and to create norizomal erosion check stops to prevent topout that sliding down a slope.

 Apply soil amendments as per soil test or as included on the plans.

 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. newly disturbed areas.



STANDARD SYMBOL Y Y Y Y Y Y Y A-2 B-3 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 II
- 3. FOP 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

FLOW CHANNEL STABILIZATION

TREATMENT	GRADE	DIKE A	<u>DIKE B</u>
1	.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0 x	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSION; SOD; 2" STONE
3	5.1-0.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP-RAP 4"-6"
4	8.1-20x	LINED RIP-RAP 4"-0"	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 B INCHES THICKNESS AND PRESSED INTO THE SOIL.
- C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.

F. Mulch Specifications (In order of preference)

fibrous physical state.

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.

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 mitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective. Methods of Seeding

i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.

a. If fertilizer is being applied at the time of seeding, the application rates amounts will not

a. If fertilizer is being applied at the time of seeding, the application rates amounts will not

without interruption.

ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.

b. Where practical, seed should be applied in two directions perpendicular to each other.

Apply half the seeding rate in each direction.

iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.

b. Where practical, seed should be applied in two directions perpendicular to each other.

Apply half the seeding rate in each direction.

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 uniformy spread slurry WCFM, including dye, shall contain no germination or growth inhibiting factors. 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 sturry. 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. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic.

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 erosing hazard:

application to minimize loss by wind or water. This may be done by one of the following methods (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.

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.

f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.

Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.

i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.

exceed the following: nitrogen; maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous); 200 lbs/ac; K20 (potassium): 200 lbs/ac.
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.
Seed and fertilizer shall be mixed on site and seeding shall be done immediately and

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.

Wood Cellulose Fiber Mulch (WCFM)

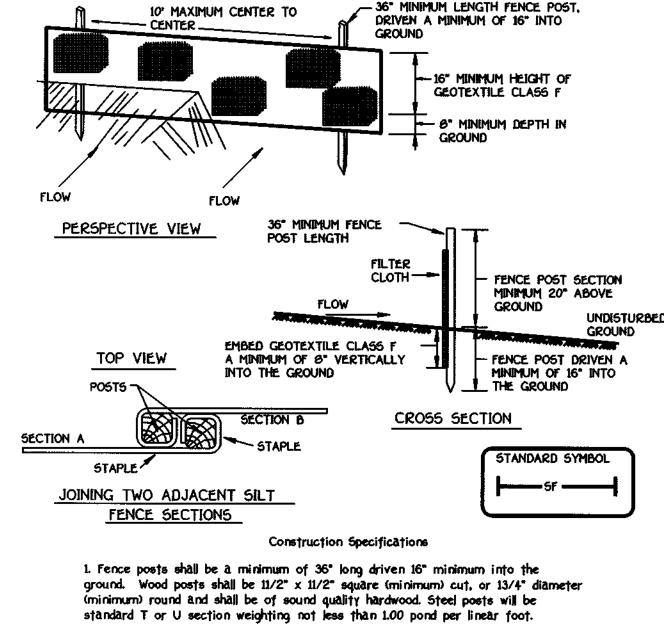
a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrate physical state.

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

EARTH DIKE

D. Seed Specifications

NOT TO SCALE



DETAIL 22 - SILT FENCE

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 (bs/in (min.) Test: MSMT 509 Test: MSMT 322 Flow Rate 0.3 gal ft / minute (max.)* Filtering Efficiency 75% (min.) Test: M5MT 322

folded and stapled to prevent sediment bypass 4. Silt Fence shall be inspected after each rainfall event and maintained when

3. Where ends of geotextile fabric come together, they shall be overlapped.

bulges occur or when sediment accumulation reached 50% of the fabric height.

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):

Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
 Perform Phase 1 excavation, dress, and stabilize.
 Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as

necessary.

Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.

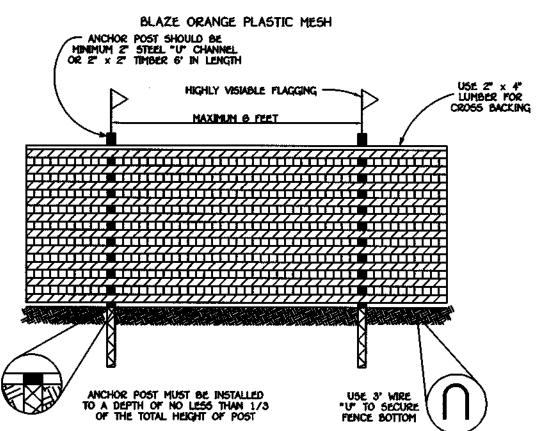
Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.

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, femporary 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.

d. Place final phase embarkment, 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.



NOTES: RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND PLAGGED PRIOR TO INSTALLING DEVICE.
ROOT DAMAGE SHOULD BE AVOIDED. PROTECTIVE SIGNACE MAY ALSO BE USED.
DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION

TREE PROTECTION DETAIL

SEDIMENT CONTROL NOTES AND DETAILS

DANIELS MILL OVERLOOK SECTION 3, AREA 1

LOTS 230 - 276 AND PARCELS " I " AND " J " (A RESUBDIVISION OF PARCEL E AND G - DANIELS MILL OVERLOOK, SECTION 2, AREA 1, PLAT Nos. 12759 THRU 12766)

ZONING: R-ED TAX MAP NO.: 17 PART OF PARCEL NO.: 41 AND 547 GRID NO.: 12 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: OCTOBER 1, 1997 SHEET 12 OF 13

OWNER RYLAND HONES AT HOLLIFIELD STATION, L.L.C. ATTENTION MR. JOHN W. MEADE

DEVELOPER THE RYLAND GROUP, INC. ATTENTION MR. JOHN W. MEADE Galleria Towers Suite 704 1447 York Road LUTHERVILLE, MARYLAND 21093

THE RYLAND GROUP, INC.
GALLERIA TOWERS
SUITE 704
1447 YORK ROAD JUTHERVILLE, MARYLAND 21093

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 11-14-57

<u> 11-14-97</u>

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS

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

ENGINEER'S CERTIFICATE

PROVED: DEPARTMENT OF PLANNING AND ZONING 6/12/98 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

ALL CLEARED AND GRUBBED MATERIAL. SHALL BE DISPOSED OF OUTSIDE. THE LIMITS OF THE DAY AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUFFICIENT GUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUFFICIENT FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

MATERIAL: THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREA OR AREAS. IT SHALL BE FREE OF ROOTS STUMPS, WOOD, RUBBISH, OVERSIZE STONES, FROZEN OR OTHER OBJECTIONALDE MATERIALS, FILL MATERIAL FOR THE CENTER OF THE EMBARKMENT AND CUT OFF TRENCH SHALL CONFORM TO UNITED SOIL CLASSIFICATION GC, SC, CH, OR CL. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBARKMENT IF DESIGN AND CONSTRUCTION ARE SUPERVISED BY A GEOTECHNICAL ENGINEER. PLACEMENT: AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN 3-INCH MAXIMUM THICKNESS (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 EMBANCMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANCMENT.

COMPACTION: THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL. BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPULETE PASSES OF A SHELPSFOOT, RUBBLE TIRED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT.

WHERE A MINIMUM REQUIRED DENSITY IS SPECIFIED, IT SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN <2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY

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 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 FLET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE PIPE UNLESS THERE IS A COMPACTED FILL OF TWENTY-FOUR INCHES OR GREATER OVER THE STRUCTURE OR PIPE.

PPE_CONDUITS: ALL PIPES SHLL, BE CIRCULAR IN CROSS SECTION.

POLYVINYL CHLORIDE (PVC) PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY
FOR POLYVINYL CHLORIDE (PVC) PIPE:

 MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1795 OR ASTM D-2241. 2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY

BEDDING - THE PIPE SHALL BE FIRMLY AN UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOYED AND REPLACED WITH SUUTTABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

4. BACKFELLING SHALL CONFORM TO "STRUCTURE BACKFELL". OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

ROCK RIPRAP
ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF
TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS
FOR CONSTRUCTION AND MATERIALS, SECTION 905.

THE RIPRAP SHALL BE PLACED TO THE REQUIRED THICKNESS IN THE OPERATION. THE ROCK SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE THE RIPRAP IN PLACE SHALL BE REASONABLY HOMOGENEOUS WITH THE LARGER ROCKS UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT ONE TO ANOTHER WITH THE SHALLLER ROCKS FILLING THE VOIDS BETWEEN THE LARGER ROCKS. FILLING THE VOIDS BETWEEN THE FEBRUREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION NAD MATERIALS, SECTION 919.12.

STANDARD SPECIFICATIONS FOR CONSTRUCTION NAD NATERIALS, SECTION 919.12.

CARE OF WATER DURING CONSTRUCTION

ALL WORK ON PERHAMENT STRUCTURES SHALL BE CARRED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVELS, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY

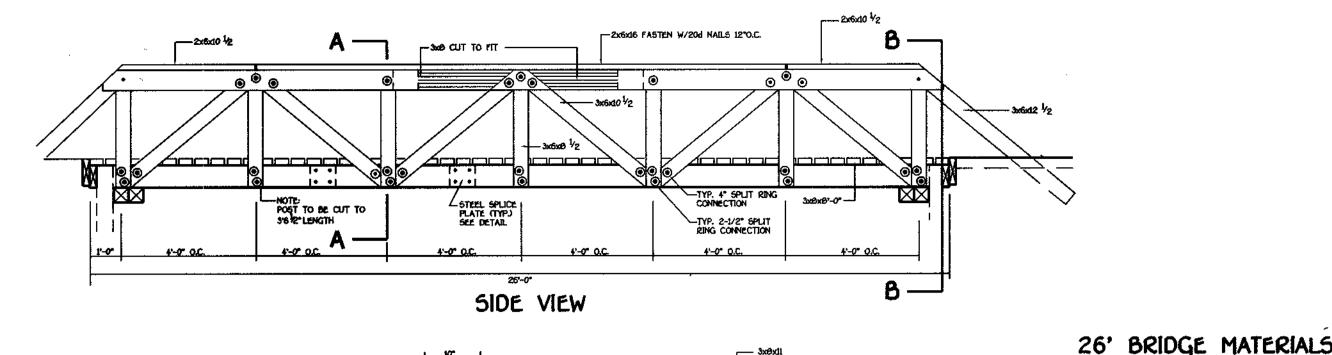
TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE

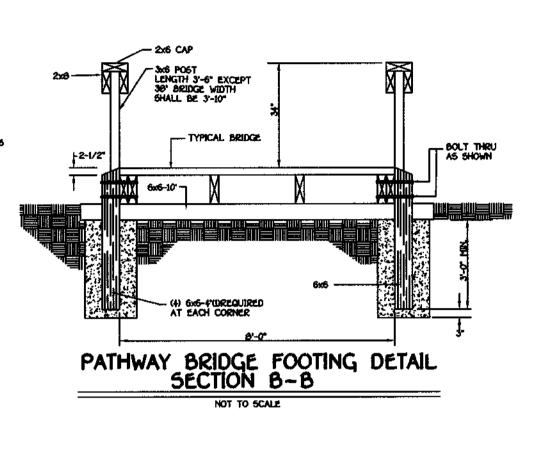
CONTRACTOR SHALL ALSO PURNESH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM THE VARIOUS PARTS OF THE WORK AND FOR MAINTAINES THE EXCAVATIONS, FOUNDATION, AND OTHER FOR CONSTRUCTION EACH PART OF THE WORK AND FOR MAINTAINES OF DIRECTED BY THE ENGINEER FOR CONSTRUCTIONE 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 FOR OUTLET WORKS AND SO AS NOT TO INTERPERE 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 STABILTY OF THE EXCAVATION SOPES AND BOTTOM OF REQUIRED EXCAVATIONS AND 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 REQUIRED EXCAVATIONS, THE WATER TO SUMPS FROM WHICH THE WATER SHALL BE PUMPED.

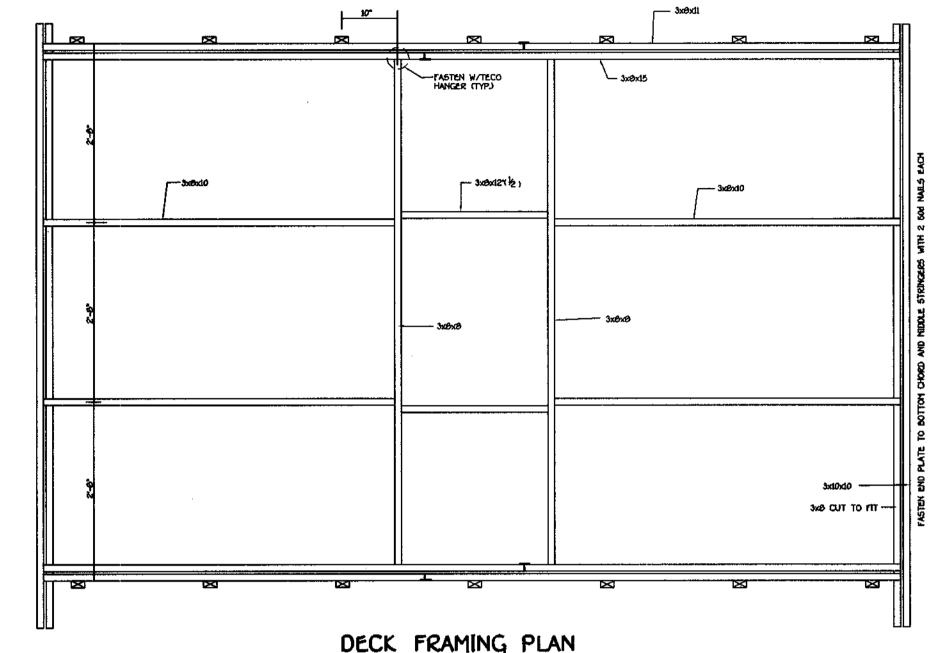
STABILIZATION: ALL BORROW AREAS SHALL BE GRADED TO PROVIDE

STABILIZATION: ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SIGNILY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT.SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SECIENCE LIMITING, PERTILIZING AND MILLIMING AS REGUISED IN ACCORDANCE WITH THE MARYLAND SOIL CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (ND-342) OR AS SHOWN ON THE ACCOMPANYING OPALIBLE.

EROSION & SEDEMENT CONTROL: CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED & WATER & AIR POLLUTION MEMBIZZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS.







2x6x16' 2x8x10' 2x8x16' 3x6x8' 3x6x10' 3x6x12" 3x8x8'P.E.T. 3x8x10" 3x8x12' 3x8x16' 3x10x10* 4" RINGS 2-1/2° RING5 1/2"x6" HEX BOLT 1/2"x6-1/2" HEX BOLT 26 1/2"x0-1/2" HEX BOLT 40 JOIST HANGER 3x8 1/2" FLAT WASHER 1/2" LOCK WASHER 1/2" NUT 7x10 SPLICE PLATE

NO. REQUIRED

MATERIAL

___ TYPICAL BRIDGE -MATCH ANGLE OF TRUSS DIAGONALS BOLT THRU W/ (2)1/2"X12" HEX BOLTS (TYP.) THE ASPHALT (TYP.) ARMOR STREAM BANK W/ PATHWAY BRIDGE FOOTING DETAIL

- EXISTING TREES TO REMAIN

- FENCE WIRE

2'* ORANGE STREAMERS

GROUND 2'

- 6' STEEL "T-BAR" STAKE AT ROOT ZONE OF TREES

DRIVEN INTO GROUND OR

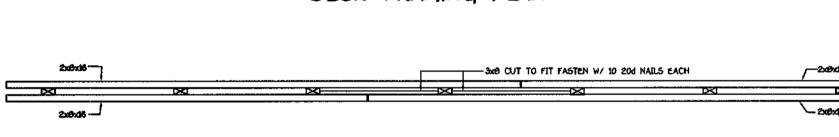
YELLOW PINE POST IN

SILT FENCE (SEE NOTES)

- EXISTING GRADE

SIDE VIEW

NOT TO SCALE



TYPICAL 26' BRIDGE

NOT TO SCALE

TOP CHORD

14' TO 16' 6' TO 8' SEED & MULCH 5.H.A. ROADSIDE MIX SLOPE ex. Grade FOR SHADE AREAS THE R. P. LEWIS CO., LANSING, CLEARED WHERE POSSIBLE 14 BITUMINOUS CONCRETE BAND, BF MODIFIED (OR APPROVED EQUAL) -4" CR-6. COMPACTED & ROLLED COMPACTED SUBGRADE

TYPICAL PATHWAY SECTION

NOT TO SCALE

PRIMARY WETLAND VEGETATION PLANT SPECIES REMARKS SAGGITTARIA LATIFOLIA (5L) ROOTS 36" O.C. DUCK POTATO 36" O.C. SCIRPUS AMERICANUS (5A) ROOTS

SECONDARY WETLAND VEGETATION PLANT SPECIES SIZE REMARKS

- ALTERATIONS TO THE PROPOSED GRADING SHOWN MAY AFFECT THE SUCCESS OF
- 3. CONTRACTOR SHALL VERIFY LOCTAION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.

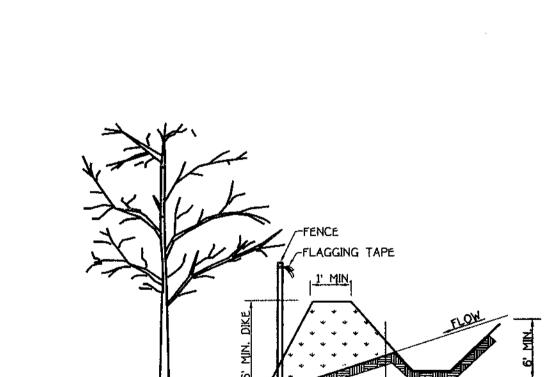
WATER QUALITY AREA LAI	NUSCAPING (SCHI	EDULE 'D')
WATER QUALITY FACILITY NUMBER	9	10
LINEAR FEET OF PERIMETER	700°	490'
NUMBER OF TREES REQUIRED SHADE TREES EVERGREEN TREES	BASED ON 700 L.F. 14 1/50 17 1/40	BASED ON 400 L.F. 9 1/50 12 1/40
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	-	-
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	_	-
NUMBER OF TREES PROVIDED SHADE TREES EVERGREEN TREES	5YMBOL 14 + ++++++++++++++++++++++++++++++++++	5YMBOL 9 12
OTHER TREES (2:1 SUBSTITUTION)	*	1

COMMON THREE SQUARE

CEPHALATHUS OCCIDENT BUTTON BUSH	CEPHALATHUS OCCIDENTALS (CO) OUTTON BUSH			
PELTANDRA VIRGINICA ARROW - ARUM	(PV)	R00T5	36* O.C	
PONTEDERIA CORDATA	(PC)	R00T5	36° O.0	

ALL PLANT MATERIAL TO BE WET GROWN OR ADAPTED TO WETLAND CONDITIONS THE PLANT MATERIAL.

WATER QUALITY AREA LANDSCAPING (SCHEDULE 'D')							
WATER QUALITY FACILITY NUMBER	9	10					
LINEAR FEET OF PERIMETER	700'	490'					
NUMBER OF TREES REQUIRED SHADE TREES EVERGREEN TREES	BASED ON 700 L.F. 14 1/50 17 1/40	BASED ON 400 L.F 9 1/50 12 1/40					
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	-						
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	-	-					
NUMBER OF TREES PROVIDED SHADE TREES EVERGREEN TREES	5YMBOL 14 + + 17 +	5YMBOL 9					
OTHER TREES (2:1 SUBSTITUTION)							



1' MIN.

CRITICAL ROOT ZONE

conservation plan review process.

08;

1. Combine sediment control and forest protection device. 2. Boundaries of Retention Area will be established as part of the forest

3. Boundaries of Retention Area should be staked prior to installing protection device. Root damage should be avoided. 5. Toe of slope should be outside the Critical Root Zone.

6. Equipment is prohibited within Critical Root Zone of Retention Area; place 7. All standard maintenance for earth dikes and swales apply to these details. 8. All standard reclamation practices for earth dikes and swales shall apply to

EARTH DIKE AND SWALE COMBINATION DEVICE



OWNER RYLAND HOMES AT HOLLIFIELD STATION, L.L.C. ATT: MR. JOHN W. MEADE THE RYLAND GROUP, INC. GALLERIA TOWERS, SUITE 70: 1447 YORK ROAD LUTHERVILLE, MD. 21093

1. Silt Fence to be heeled into the soil. 2. Wire, snow fence, etc. for tree protection only.

7. Protection signs are also required, see Figure C-4.

8. Locate fence outside the Crictical Root Zone.

conservation plan review process.

. Boundaries of Retention Area will be established as part of the forest

SILT FENCE AND TREE PROTECTION

4. Boundaries of Retention Area should be staked and flagged prior to

NOT TO SCALE

installing device.
5. Avoid root damage when placing anchor posts.
6. Device should be properly maintained throughout construction.

DEVELOPER THE RYLAND GROUP, INC. ATT: MR. JOHN W. MEADE GALLERIA TOWERS, SUITE 705 1447 YORK ROAD LUTHERVILLE, MARYLAND 21093

WATER QUALITY

30 18

15 9

15 9

CO

FACILITY NUMBER

QTY. KEY SIZE 2" - 21/2" CALIPER 23 ACER RUBRUM (OCTOBER GLORY' OCTOBER RED PINUS STROBUS 6' -8.5' HEIGHT 29 CEASTERN WHITE

PLANT LIST

ENGINEER'S CERTIFICATE

REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL

ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED 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

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS

PROVED: DEPARTMENT OF PLANNING AND ZONING

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

AS-BUILT CERTIFICATION I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED

> PE. NO. _____ DATE _____

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ONSITE INSPECTIONS AND AMTERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION.

STANDARDS. CERTIFY DOES NOT MEANOR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING

OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF POND(5) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNERS(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND

INSPECTION FOREBAY AFTER EACH STORM - IF SEDIMENT BUILDUP EXCEEDS

FOUR (4) INCHES, NOTIFY THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF

REMOVAL OF ACCUMULATED PAPER, TRASH AND DEBRIS AFTER EVERY STORM,

ANNUAL INSPECTION AND REPAIR OF THE GABION STRUCTURES, AS NEEDED. VEGETATION GROWING ON THE EMBANKMENT TOP OR FACES IS NOT ALLOWED

CORRECTIVE MAINTENANCE IS REQUIRED ANYTIME THE FOREBAY DOES NOT

DRAIN DOWN TO THE DESIGNED SURFACE ELEVATION WITHIN 60 HOURS. NOTE: THIS FACILITY IS TO BE JOINTLY MAINTAINED BY THE H.O.A. FOR

DANIELS MILL OVERLOOK AND THE DEPARTMENT OF PUBLIC WORKS.

AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNERS(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.

HIGHWAYS TO FACILITATE CLEANOUT OPERATIONS.

TO EXCEED 10 INCHES IN HEIGHT AT ANYTIME.

AS NECESSARY.

THE ONSITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING

REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING

AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND

CHIEF, DIVISION OF LAND DEVELOPMENT

CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: DEPARTMENT OF PUBLIC WORKS

MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

CHIEF, BUREAU OF ENGINEERING

SPECIFICATIONS.

PLENT IS APPROVED FOR THE ON AND SEDIMENT CONTROL BY

KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN

deutech condition

NECESSARY".

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL

11-14-97 DATE

DATE

5-29-98 DATE

" THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWRAD COUNTY CODE AND THE LANDSCAPE MANUAL." FINANCIAL SURETY FOR THE (52) REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF 52 X 100.00 \$5,200.00.

+ \$1,500,00 \$ 6,700.00 TOTAL

WATER QUALITY NOTES AND DETAILS DANIELS MILL OVERLOOK

SECTION 3, AREA LOTS 230 - 276 AND PARCELS " I " AND " J " (A RESUBDIVISION OF PARCEL E & G - DANIELS MILL OVERLOOK.

SECTION 2, AREA 1, PLAT Nos. 12759 THRU 12766) ZONING: R-ED

TAX MAP No: 17 PART OF PARCEL No: 41 AND 547 GRID No: 12 2nd. ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: OCTOBER 1, 1997 SHEET 13 OF 13

FISHER, COLLINS & CARTER, INC.

	SHEET INDEX
SHEET No.	SHEET
1	TITLE SHEET
. 2	STONEHOUSE DR., GAITHER HOLLOW CT. & MILLERS WAY DR. PLAN & PROFILE
3	MILLERS WAY DRIVE PLAN & PROFILE
4	MILLERS WAY DRIVE PROFILE & TYPICAL ROAD SECTIONS
5	WATER QUALITY, STREET TREE, GRADING & SEDIMENT CONTROL PLAN
6	WATER QUALITY, STREET TREE, GRADING & SEDIMENT CONTROL PLAN
7	DRAINAGE AREA MAP & LANDSCAPE PLAN
8	DRAINAGE AREA MAP & LANDSCAPE PLAN
9	STORM DRAIN PROFILES
10	STORM DRAIN PROFILES
11	DETAIL SHEET
12	SEDIMENT CONTROL NOTES & DETAILS
13	WATER QUALITY NOTES AND DETAILS

FINAL ROAD CONSTRUCTION AND GRADING PLANS DANIELS MILL OVERLOOK

SECTION 3 AREA 1

LOTS 230 THRU 276 AND PARCELS 'I' & 'J'

(A RESUBDIVISION OF PARCELS 'E' AND 'G' - DANIELS MILL OVERLOOK, SECTION 2, AREA 1, PLAT Nos. 12759 THRU 12766)

> TAX MAP NO. 17 PART OF PARCEL 41 AND 547 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

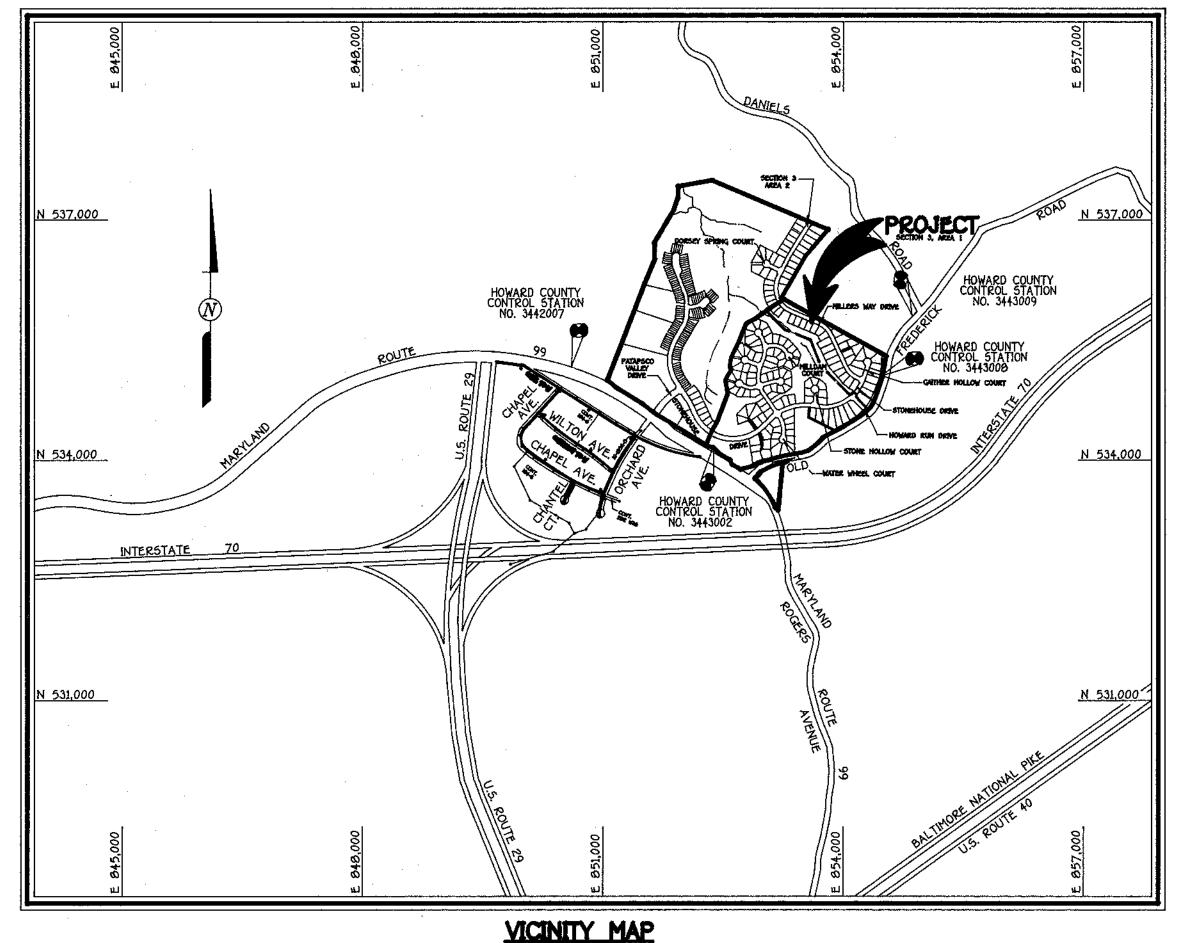
ZONED R-ED

		STRE	ET	LIGHT CHART
DWG. No.	STREET NAME	STATION	OFF- SET	FIXTURE/POLE TYPE
2	MILLERS WAY DRIVE	2+87	16°L	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE
3	MILLERS WAY DRIVE	7+56	16'R	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE
3	MILLERS WAY DRIVE	11+52	16°R	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE
2	GAITHER HOLLOW COURT	0+30	18'L	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE
3	MILLERS WAY DRIVE	15+52	16'R	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE

TRAFFIC CONTROL SIGNS					
STREET NAME	STATION	OFFSET	POSTED SIGN	SIGN CODE	
MILLERS WAY DRIVE	0+38	15″L	5TOP	RI-1	
MILLERS WAY DRIVE	1+00	15'R	SPEED LIMIT 30	R2-1	
MILLERS WAY DRIVE	11+00	15'R	SPEED LIMIT 30	R2-1	
MILLERS WAY DRIVE	12+40	15'L	SPEED LIMIT 30	R2-1	

ROAD CLASS	SIFICATION CH	IART
ROAD NAME	CLASSIFICATION	R/W WIDTH
GAITHER HOLLOW COURT	CUL-DE-SAC	50'
STONEHOUSE DRIVE	LOCAL ROAD	50'
MILLERS MAY DOWE	LOCAL GOAD	50'

PEHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYOR



VCINITY MAP

SCALE: 1' = 1200'

OWNER RYLAND HOMES AT HOLLIFIELD STATION, L.L.C. ATTN: MR. JOHN W. MEADE THE RYLAND GROUP, INC. GALLERIA TOWERS SUITE *705 1447 YORK ROAD LUTHERVILLE, MARYLAND 21093

DEVELOPER THE RYLAND GROUP, INC. ATTN: MR. JOHN W. MEADE GALLERIA TOWERS SUITE *705 1447 YORK ROAD LUTHERVILLE, MARYLAND 21093

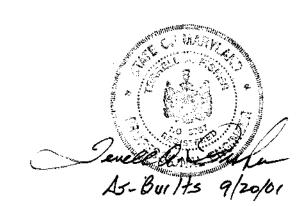
No	Revisions	Dote
	Revise pipe from RCCP to HDPE I-11 to M-2 Sheets 2.5.7410.	3.5.02
1	Revise rip rop apron at 5-8 to rip rop basin sheets 3.6.0411	3.5.02

GENERAL NOTES

- 1. UNLESS OTHERWISE NOTED, ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH
 - a. HOWARD COUNTY STANDARD SPECIFICATION AND DETAILS FOR

 - SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, AS AMENDED
- OF CONSTRUCTION INSPECTION AT 410-313-1880 AT LEAST (5) WORKING DAYS. PRIOR TO THE START OF CONSTRUCTION.

- 2' CONTOUR INTERVAL AUGUST, 1997. THIS HORIZONTAL AND VERTICAL DATUM SHOWN ARE BASED ON THE FOLLOWING NAD'83 HOWARD COUNTY CONTROL STATIONS:
 HOWARD COUNTY MONUMENT NO. 3443008 V N 535051.402
- E 854471.468 HOWARD COUNTY MONUMENT NO. 3443009 V N 535806.602
- HOWARD COUNTY MONUMENT NO. 3443002 ✓ N 534193.678
- HOWARD COUNTY MONUMENT NO. 3443007 N 535080.370 ELEV. = 470.18'
- 6. NOISE STUDY WAS PROVIDED BY M.A. DIRCKS AND CO., INC. AND APPROVED ON JUNE 15, 1995.
- 7. FOREST DELINEATION AND WAS PROVIDED BY M.A. DIRCKS AND CO., INC. DATED JUNE, 1993. EXISTING FOREST CONSERVATION PER PLAT 12765.
- 8. THE 100 Yr. FLOODPLAIN AS SHOWN ON THESE PLANS ARE BASED ON THE FLOODPLAIN STUDY THAT WAS PROVIDED BY FISHER, COLLINS & CARTER, INC.
- 9. THE WETLANDS STUDY WAS PREPARED BY ENVIRONMENTAL SYSTEMS ANALYSIS UNDER 5-95-18 JUNE 15, 1995.
- 10. THE TRAFFIC STUDY WAS PROVIDED BY The Traffic Group AND APPROVED ON JUNE 15, 1995.
- 11. THE SOILS INVESTIGATION REPORT WAS PREPARED BY G.T.A. INC. ON NOVEMBER 1995.
- 12. THE SKETCH PLAN 5-95-18 WAS APPROVED ON 6/15/95. PRELIMINARY PLANS WERE WAIVED UNDER WP-97-02 ON AUGUST 12, 1996. 13. 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
- 14. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN
- MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)."
- 15. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- PUBLIC WATER AND PUBLIC SEWER WILL BE USED WITHIN THIS DEVELOPMENT. 17. EXISTING UTILITIES ARE BASED ON CONTRACT 14-3500-D & 14-3501-D.
- 18. SECTION 16.116(a) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PROHIBITS CLEARING, GRADING OR CONSTRUCTION ACTIVITY WITHIN THE REQUIRED WETLAND OR STREAM BANK BUFFERS. A WAIVER WP95-74 HAS BEEN APPROVED FOR GRADING WITHIN THE STREAM BUFFER, AND WETLAND BUFFER ON APRIL 9, 1998.
- 19. QUANTITY CONTROL, STORMWATER MANAGEMENT ANALYSIS WAS APPROVED ON APRIL 27, 1996 UNDER F-96-128.
- WATER QUALITY IS PROVIDED BY SHALLOW MARSH. WATER QUALITY FACILITY # 9 \$ #10 TO BE PRIVATELY OWNED \$ MAINTAINED BY THE HOMEOWNER'S ASSOCI 20. LETTER OF AUTHORIZATION FOR DISTURBANCE IN WEILAND AND STREAM BUFFER IS 95-NT-0811/199568507.



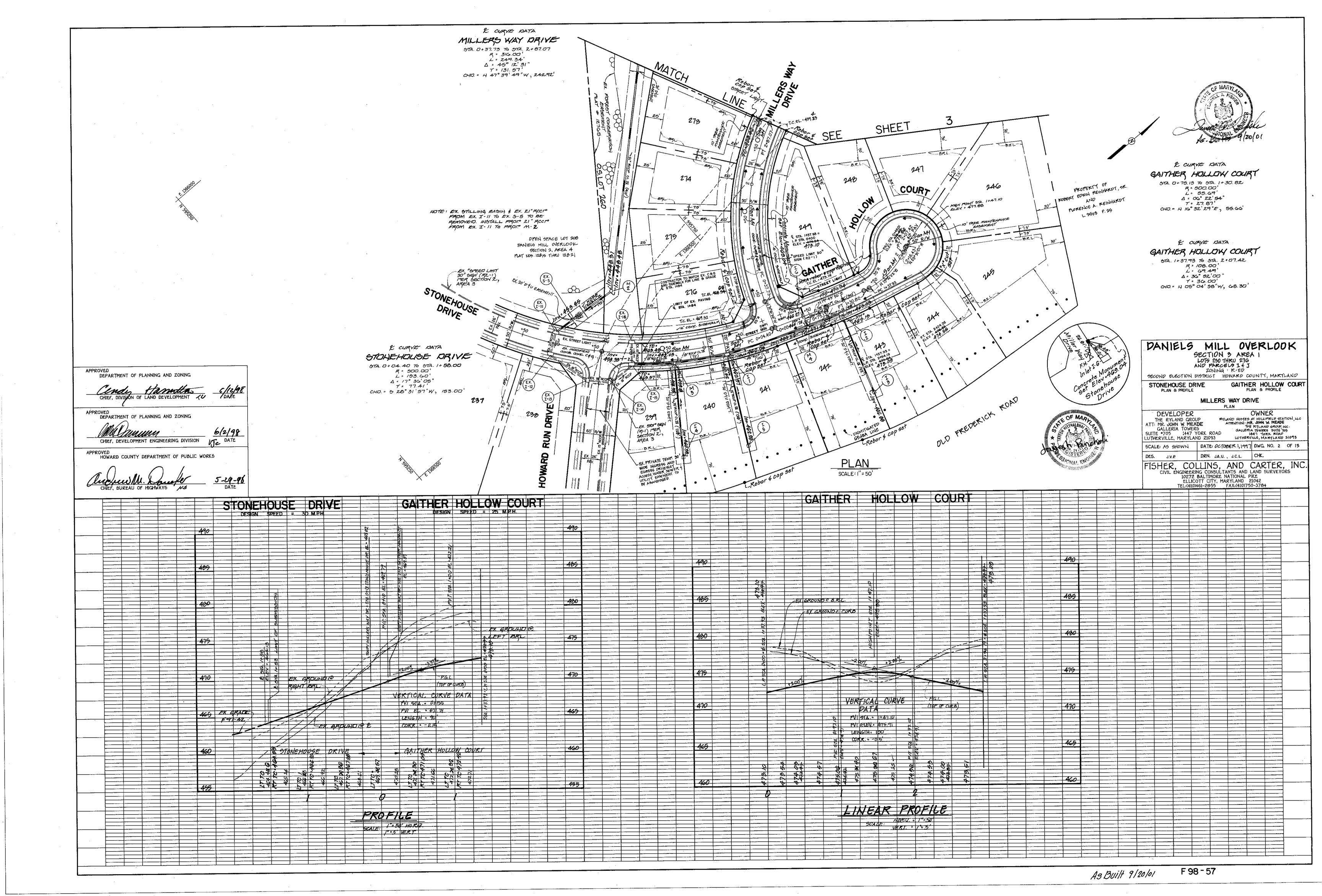


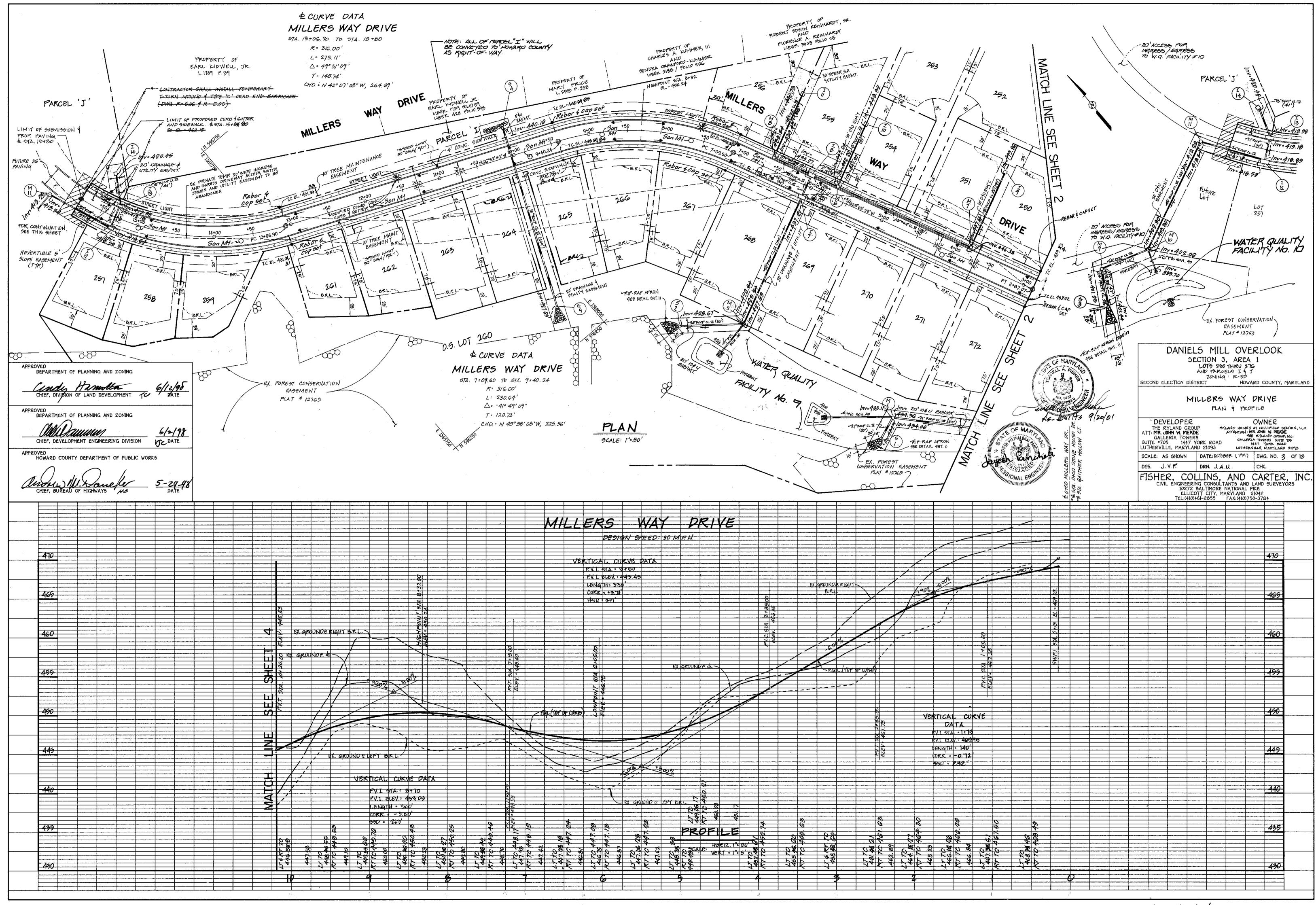
DANIELS MILL OVERLOOK

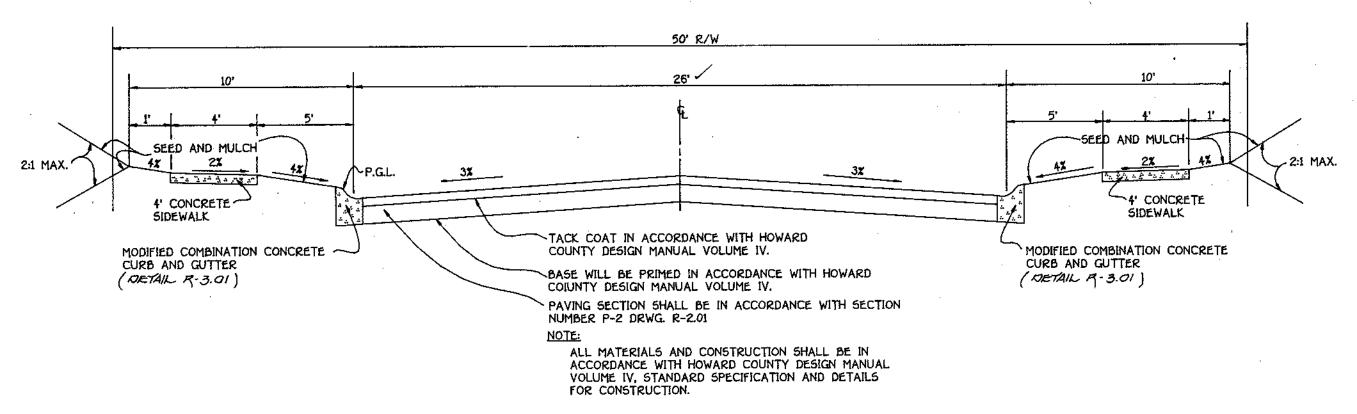
LOTS 230 THRU 276 AND PARCELS T & 'J'

ZONED: R-ED (A RESUBDIVISION OF PARCELS 'E' AND 'G' - DANIELS MILL OVERLOOK, SECTION 2, AREA 1, PLAT Nos. 12759 THRU 12766) TAX MAP No. 17 PART OF PARCEL 41 AND 547 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: OCTOBER 1, 1997

5-29-98







TYPICAL ROADWAY SECTION (LOCAL ROAD)

NO SCALE

DEPARTMENT OF PLANNING AND ZONING

APPROVED
DEPARTMENT OF PLANNING AND ZONING

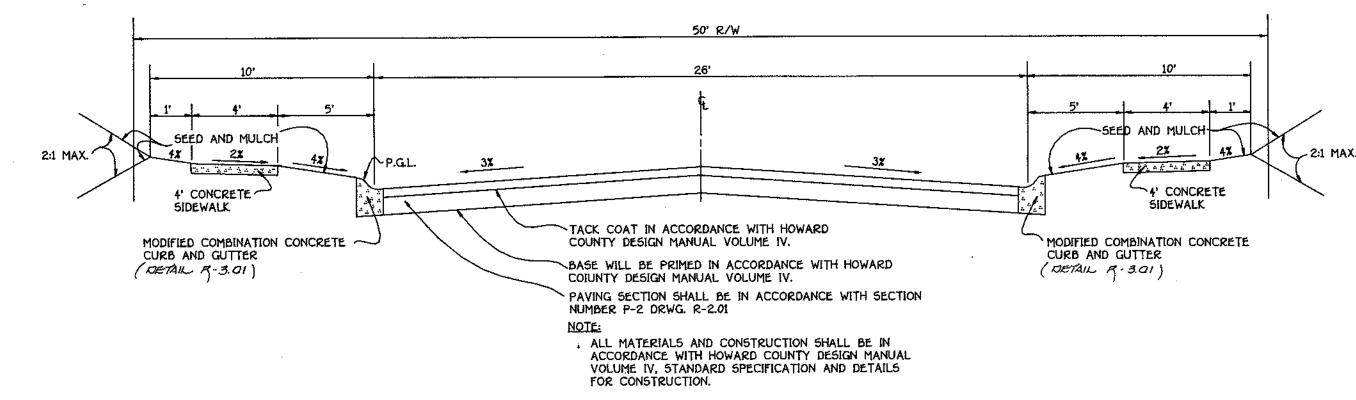
CHIEF, DIVISION OF LAND DEVELOPMENT TO

CHIEF, DEVELOPMENT ENGINEERING DIVISION

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

ITC-DATE

		ROADWAY	INFORMATIO	N CHART	
ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	& STATION LIMITS	PAVING SECTION
STONEHOUSE DRIVE	LOCAL ROAD	30 M.P.H.	R-ED	0+00 TO 1+58	P-2
MILLERS WAY DRIVE	LOCAL ROAD	30 M.P.H.	R-ED	0+00 TO 15+80	P-2



TYPICAL ROADWAY SECTION (CUL-DE-SAC)

NO SCALE

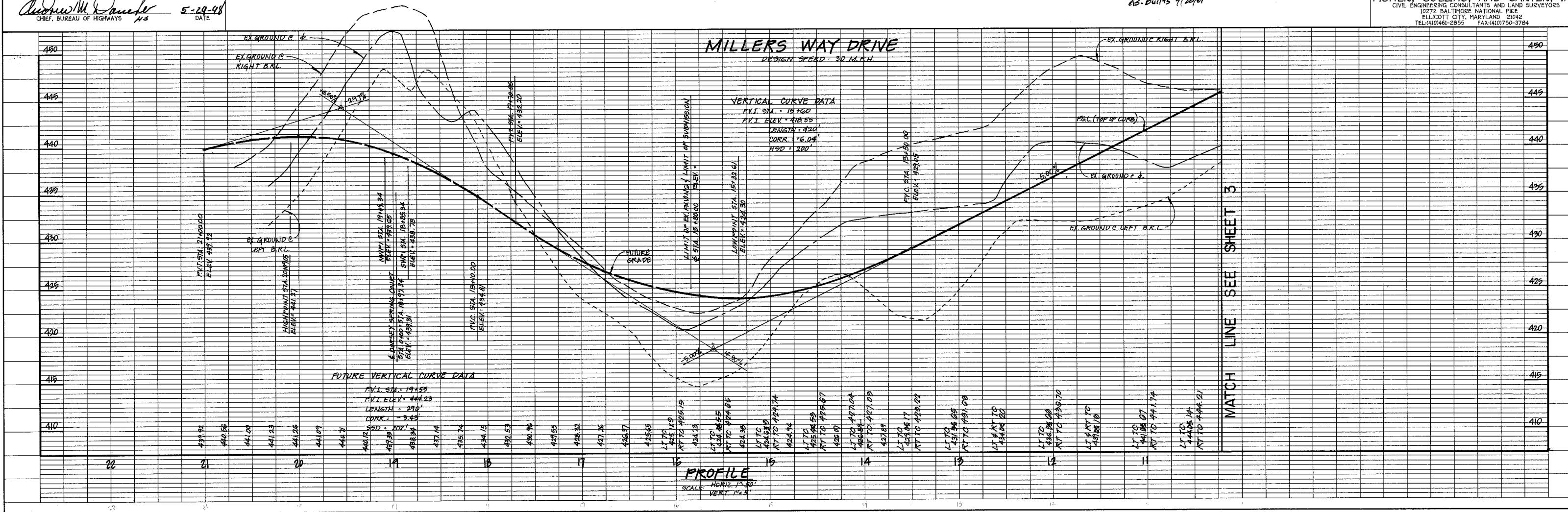
ROADWAY INFORMATION CHART					
ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	& STATION LIMITS	PAVING SECTION
GAITHER HOLLOW COURT	CUL-DE SAC	25 M.P.H.	R-ED	0+00 TO 2+16.43	P-2

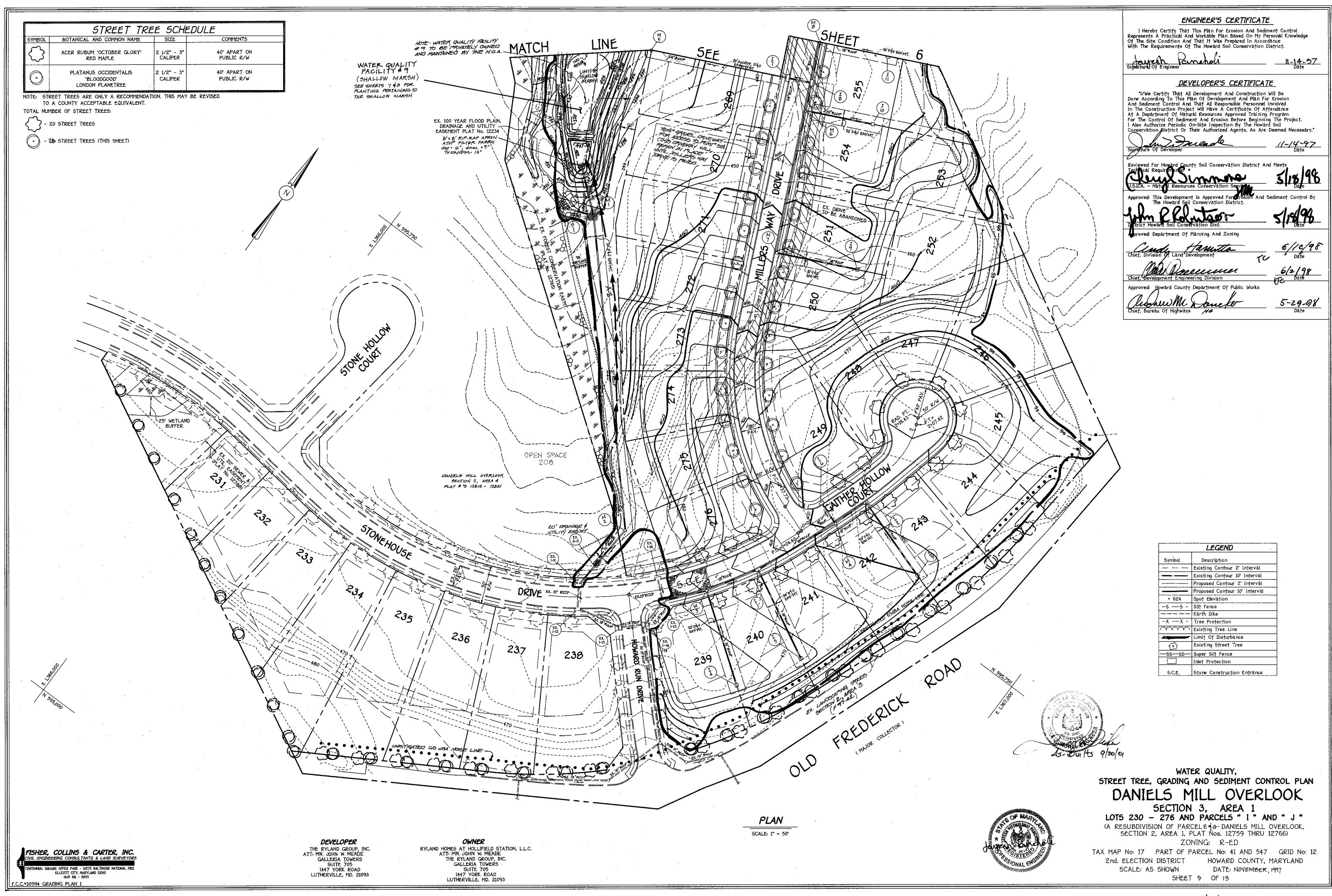


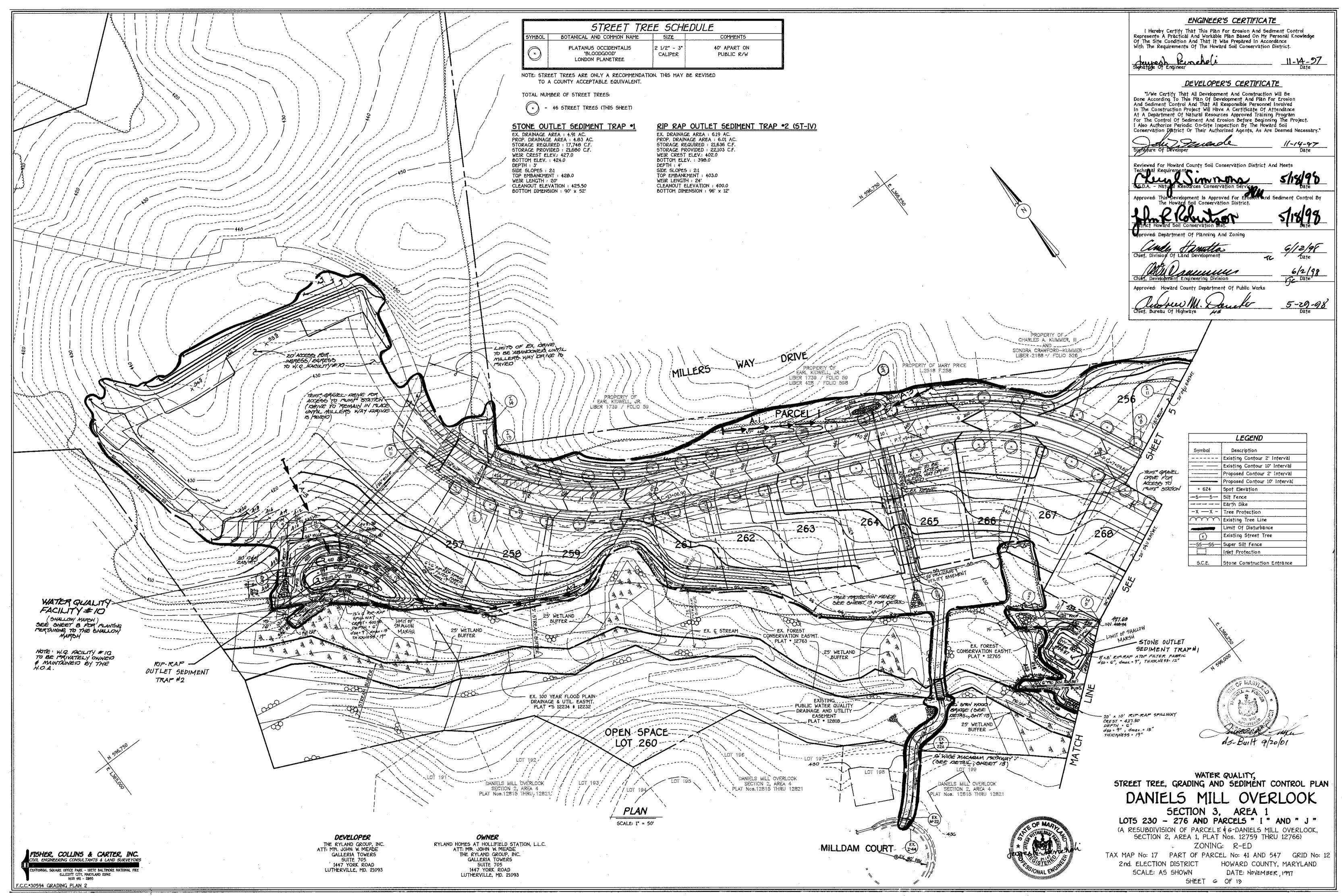


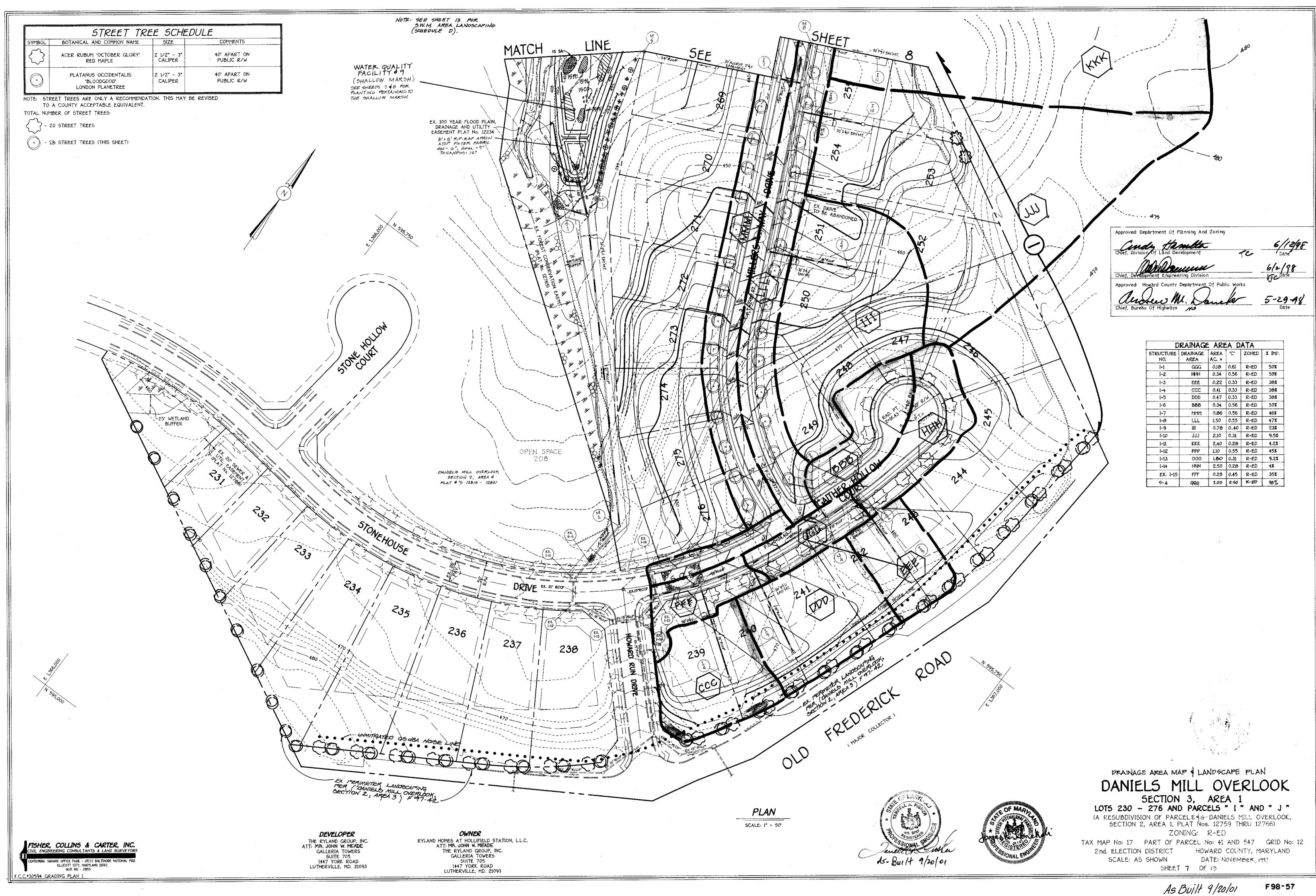
Dranel		CLOOK			
55	SECTION 3, AREA 1				
	LOTS 230 THRU 276				
	AND PARCELS I & J ZONING: K-ED				
SECOND ELECTION DIST		RD COUNTY, MARYLAND			
MIL	LERS WAY D	RIVE			
	PROFILE				
-	MPICAL ROADWAY	SECTIONS			
DEVELOPER		OWNER			
THE RYLAND GROU	JP KYLAND HOMES DE ATTENTION: ME	AT HOLLIFIELD STATION, LLC			
ATT: MR. JOHN W. MEA GALLERIA TOWER	THE KYLAND	GROUP, INC. GALLERIA TOWERS			
SUITE •705 1447 Y LUTHERVILLE, MARYLAN	ORK ROAD 1. ID 21093 LUTHER	SOITE TOS 447 TORK ROAD IWE, MAKYLAND 21093			
SCALE: AS SHOWN	DATE: OCTOBER 1, 1997	DWG. NO. 4 OF 13			
DES. J.V.P.	DRN. J.A. U.	CHK.			
FISHER, COI	LINS, AND (CARTER, INC.			
CIVIL ENGINEERI	NG CONSULTANTS AND L BALTIMORE NATIONAL PI	AND SURVEYORS			
£LLICO	OTT CITY, MARYLAND 2	1042			
TEL:(410)	161-2 8 55 FAX:(410)75(0-3784			

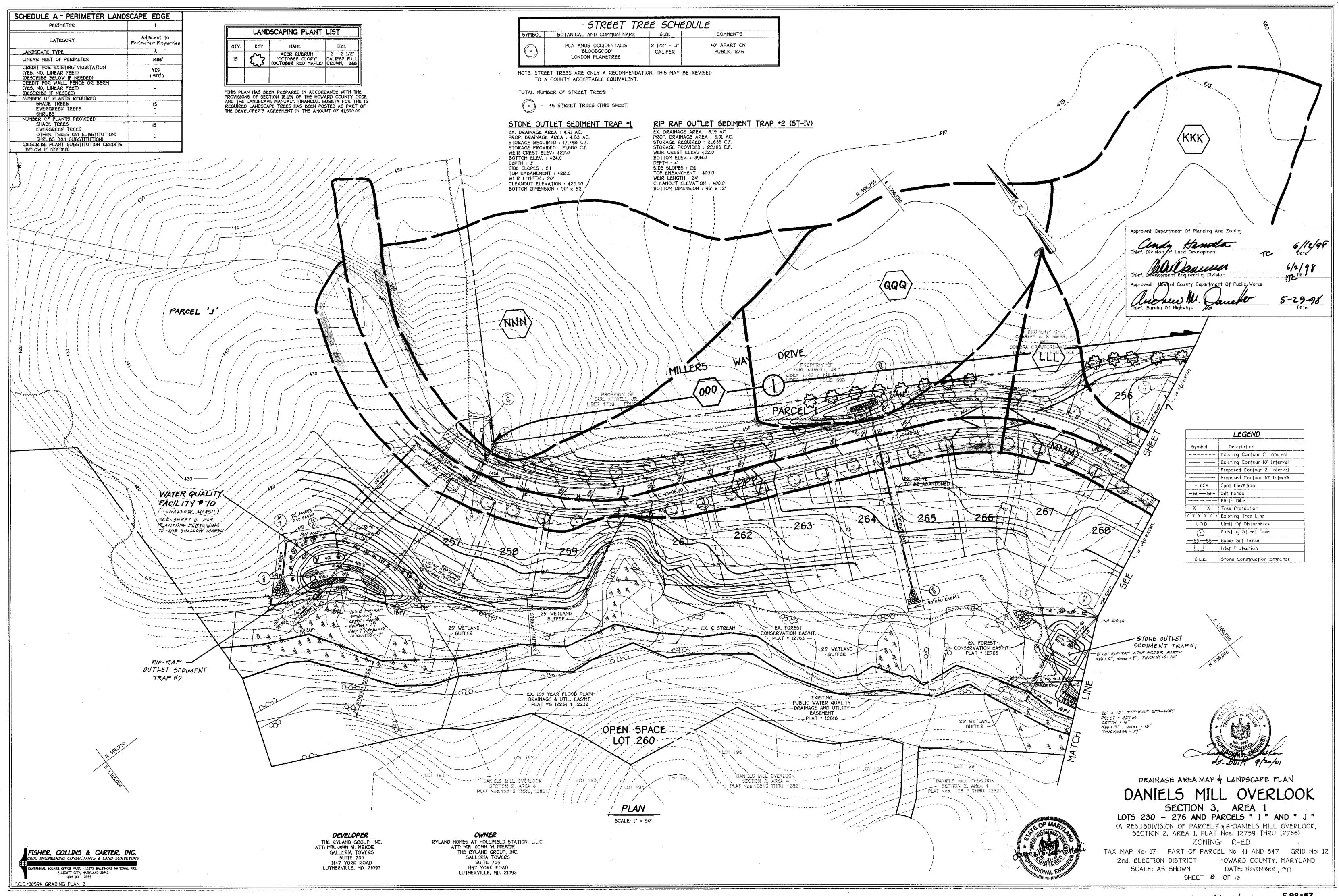
DANIELS MILL OVERLOOK

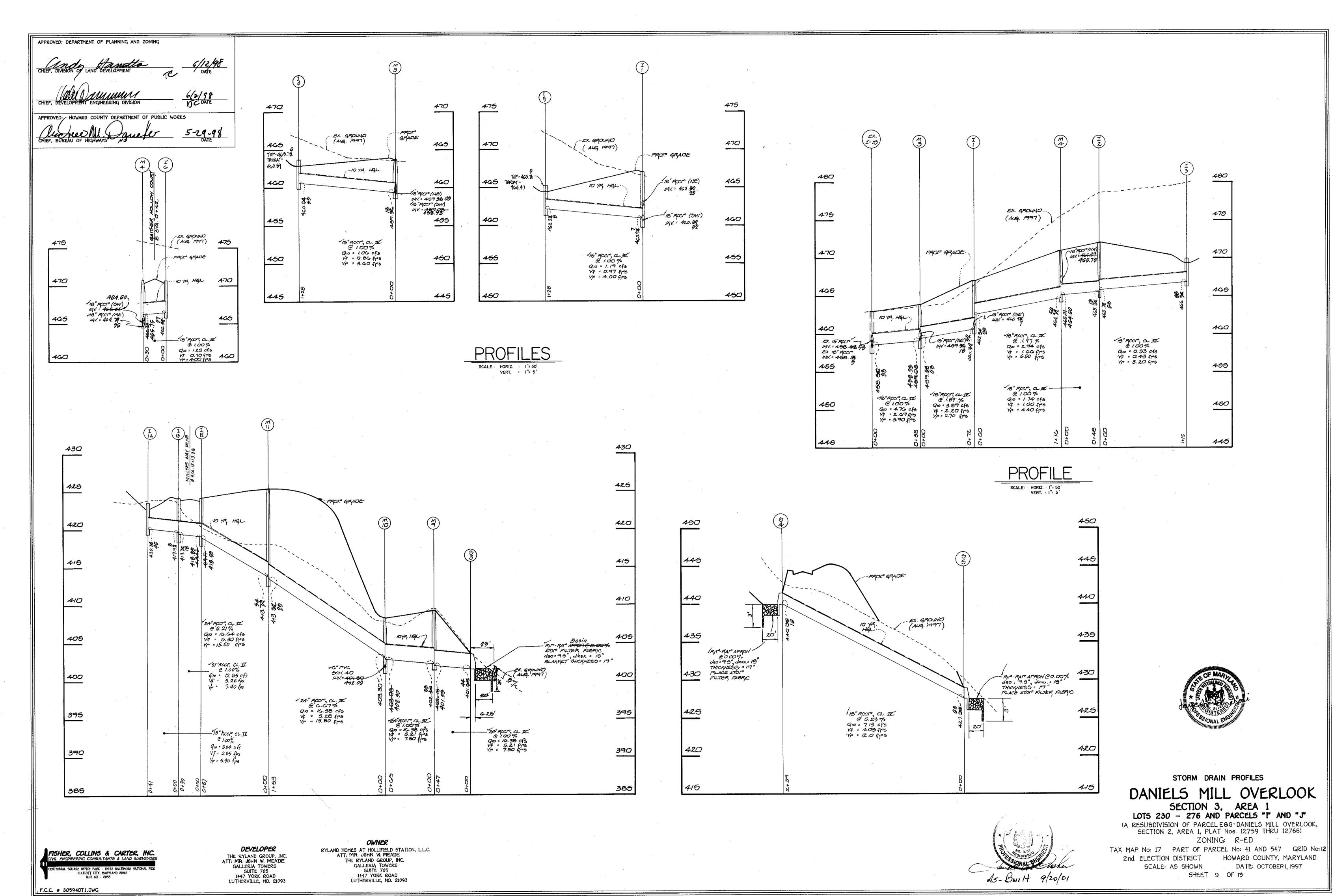


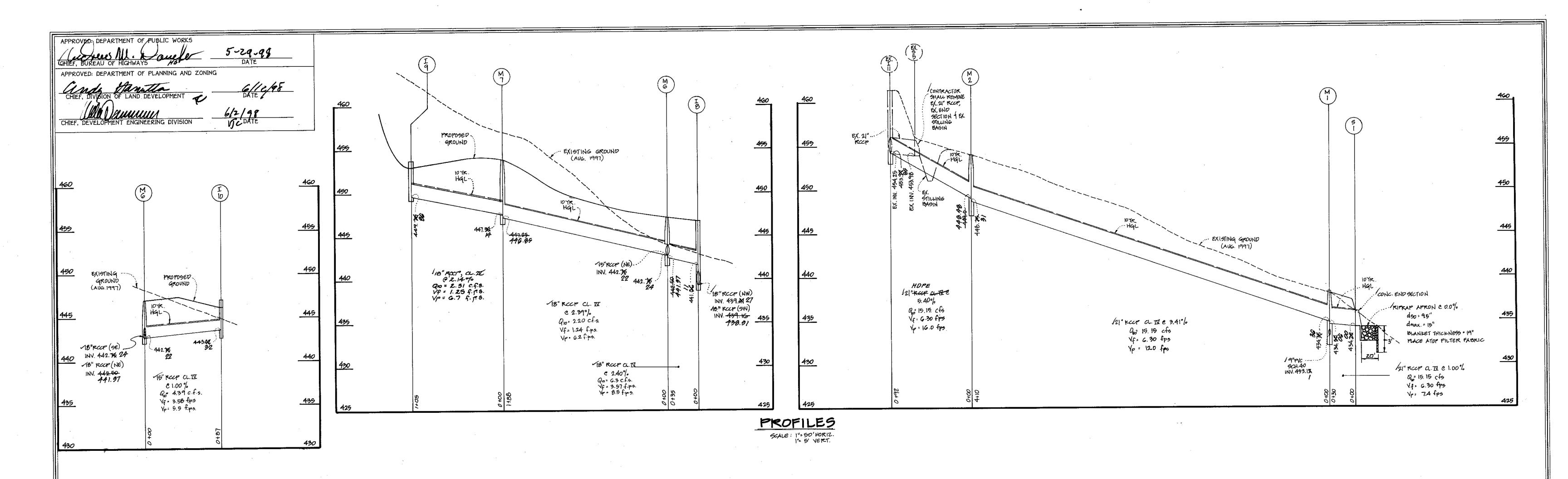


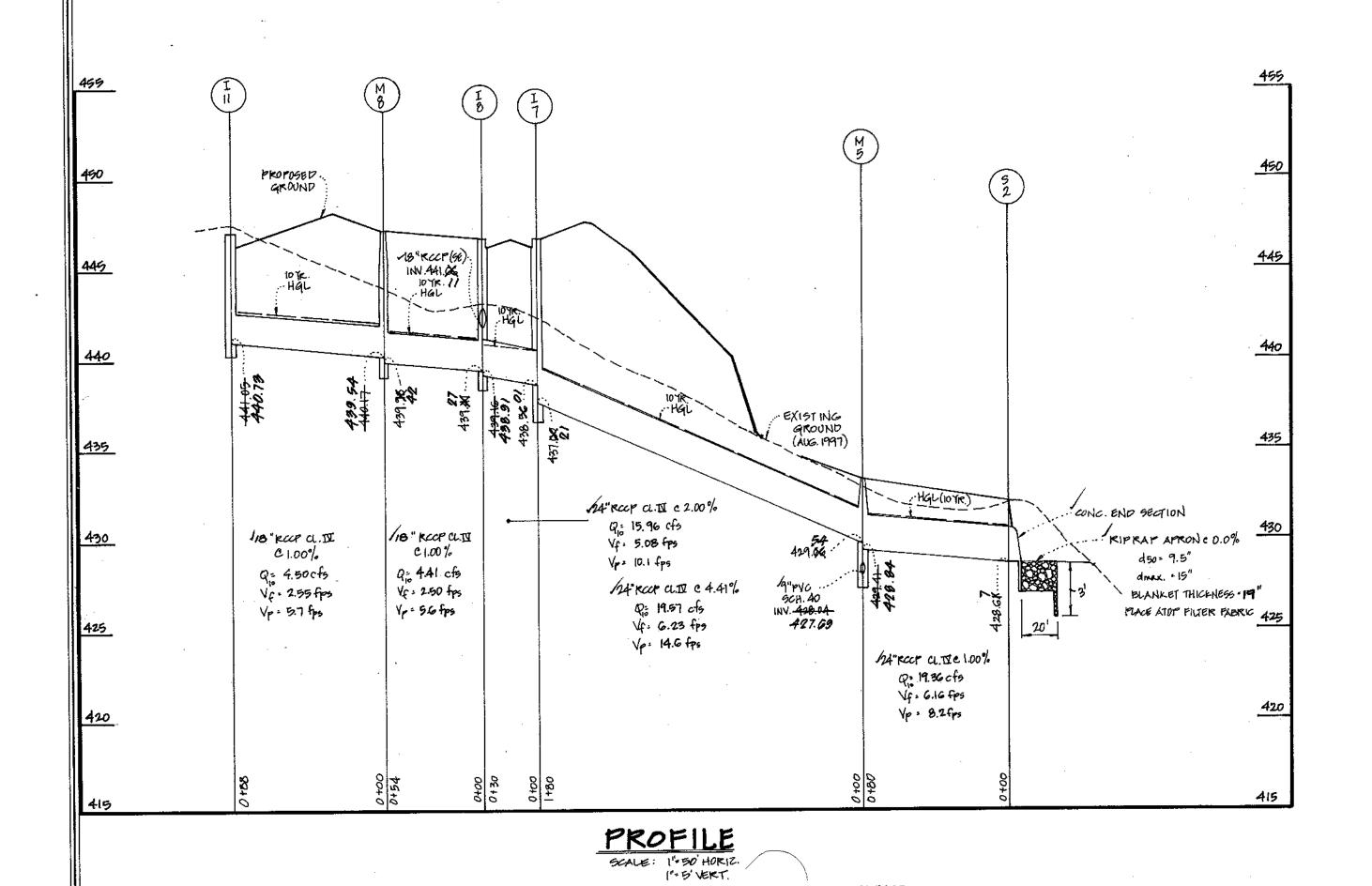












DEVELOPER

THE RYLAND GROUP, INC. ATT: MR. JOHN W. MEADE GALLERIA TOWERS SUITE 705

1447 YORK ROAD LUTHERVILLE, MD. 21093

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

F.C.C.•30594 sdl.dwg

SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855

OWNER

RYLAND HOMES AT HOLLIFIELD STATION, L.L.C.
ATT: MR. JOHN W. MEADE
THE RYLAND GROUP, INC.
GALLERIA TOWERS
SUITE 705
1447 YORK ROAD
LUTHERVILLE, MD. 21093



STORM DRAIN PROFILES

DANIELS MILL OVERLOOK

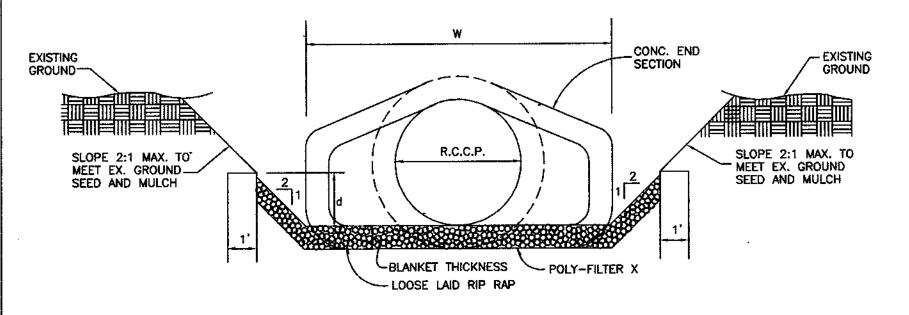
SECTION 3, AREA 1 LOTS 230 - 276 AND PARCELS " I " AND " J " (A RESUBDIVISION OF PARCELE&G-DANIELS MILL OVERLOOK, SECTION 2, AREA 1, PLAT Nos. 12759 THRU 12766)

ZONING: R-ED TAX MAP No: 17 PART OF PARCEL No: 41 AND 547 GRID No: 12 2nd. ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: OCTOBER 1,1997

SHEET 10 OF 13

STRUCTURE SCHEDULE REMARKS OFFSET TYPE INV.OUT ROAD NAME INV.IN ELEVATION 462.**50** 22__ STONEHOUSE DRIVE C.L. STA. 0+702(S) 13' LT. A-5 INLET 5.D. 4.40 467.10 21 460.**59** *52* I-1 13' RT. ~ A-5 INLET + 5.D. 4.40 472.02 23 465.7*4 53* 465.52 13 GAITHER HOLLOW COURT C.L. STA. 0+91 (N i-2 70.**¢**0 *469.17 'D' INLET 5.D. 4.39 466.**92** *66* I-3 ്C'D' INLET 5.D. 4.39 460.84 53 I-4 463.7**26** *462.89 _____ _____ がか,'D' INLET レ 5.D. 4.39 465.**30***50* *****464.47 462.2**%** I-5 C.L. STA. 0+4% (N) 13' LT. A-5 INLET ~ 5.D. 4.40 466.**59** 27 GAITHER HOLLOW COURT 470,79471.01 1-6 MILLERS WAY DRIVE C.L. STA. 6+0%6.56 A-10 INLET. 5.D. 4.41 446.75.447.06 438.**96**01 437.8027 1-7 A-10 INLET 5.D. 4.41 439.4 C.L. STA. 6+0**56.50** +46.75447.04 +39:16*438.91* MILLERS WAY DRIVE الله INLET الله 449.75866 5.D. 4.39 453.8379*453.00 [-9 'D' INLET ~ 5.D. 4.39 443.**62***32* I-10 446.400 447.03 *446.20 -----'D' INLET ~ 5.D. 4.39 441.05440.70 I-11 446.90 447.13 *446.30 ----A-10 INLET C.L. 5TA. 15+32.61 13' LT. 5.D. 4.41 419.17418.59 MILLERS WAY DRIVE 424.30 59 419.42 418.89 [-12 A-10 INLET 4 419.97*8* MILLERS WAY DRIVE C.L. STA. 15+32.61 13' RT. 5.D. 4.41 424.3@ 73 419.74/0 I-13 'D' INLET 🗸 5.D. 4.39 420.36.45 423.7487*422.88 ____ 434.5006 STD. MANHOLE G.5.01 438.25 G1 434.75*36* M-1 STD. MANHOLE G.5.01 449.0448.48 448.7531 M-2 454.8(7) _____ 459.36.18 459.38 43 459.08458.93 G.5.01 46**X**68 STD. MANHOLE STONEHOUSE DRIVE C.L. STA. 1+41 (S) 161'7 LT M-3 165.04764.60 466.75 464.79.56 C.L. STA. 0+4% (N) 1872 STD. MANHOLE G.5.01 GAITHER HOLLOW COURT 470.9**\$**0 M-4 STD. MANHOLE G.5.01 429.**56** 54 M-5 433.41*494.44* __-___ STD. MANHOLE G.5.01 112.50.441.07 C.L. STA. 5+64 70 15.546' RT 447.01.446.40 29 442.75 24 MILLERS WAY DRIVE M-6 147.25 446.85 C.L. STA. 3+8累多 STD. MANHOLE G.501 447.50 14 MILLERS WAY DRIVE 1167 RT 453.95*454.06* M-7 STD. MANHOLE G.501 C.L. STA. 6+59.40 17.5 08' RT 447.25 20 440.17.439.54 439.95.42 MILLERS WAY DRIVE M-8 STD. MANHOLE G.501 409.5Ø*3* os402, 15*401, 93* -----402.**50** 33 M-9 365358.644 STD. MANHOLE G.501 408.**30**.00 403.30 -101.80 402.00 M-10 1365415.186 C.L. STA. 16+1**5**6 413.7854 413.58 29 MILLERS WAY DRIVE 5TD. MANHOLE G.5.01 425.**5**% *20* M-11 5.D. 5.52 436.**20**00 CONC. END SECTION 5-1 434.20.00 CONC. END SECTION 5.D. 5.52 5-2 430.8667 428.617 # N 596804.956 ONC. END SECTION 5.D. 5.52 5-3 401. 98.44 ____ 1 596528 6.00 CONC. END SECTION 5.0. 5.52 5-4 441.*% 66* 440.00*16* N 59630% 3.50 CONC. END SECTION 5.D. 5.52 427.8 *69* 5-5 429.Ø*19*

NOTE: FOR ALL 'D' INLETS LOCATED IN SUMP AREAS. ALL 4 SIDES ARE TO REMAIN OPEN. * DENOTES THROAT ELEVATIONS



RIP RAP CHANNEL DETAIL

- "		. •	RIP-A	PAP CH	IANNEL	DESIC	N D	ATA							
AREA	WETTED PERIMETER	R	R 2/3	s	S 1/2	W	d	N	٧	Q	RIP-RAI	P SIZE	BLANKET THICKNESS	Q10	DIA.
6.50 SF	8.97	0.72	0.803	0.005	0.0707	4.5'	1.00'	0.035	2.42	15.73 CFS	9.5"	15"	19*	15.15 CFS	21*
6.00 SF		0.76	0.833	0.005	0.0707	6.0'	1.00	0.035	2.51	20.08 FPS	9.5"	15"	19*	19.36 FP5	24"
7.02 SF	10.02	-0.70 -	-0.766 -	- 0.005	0.0707	-6.0'-	0.90 ′	0.035	2.37 -	16:64 FPS	9.5*	15"	19*	16.30 TP5	24*
															
	6.50 SF 8.00 SF	PERIMETER 6.50 SF 8.97 8.00 SF 10.47	PERIMETER 6.50 SF Ø.97 0.72 Ø.00 SF 10.47 0.76	AREA WETTED R R 2/3 PERIMETER 0.72 0.803 8.00 SF 10.47 0.76 0.833	AREA WETTED R R 2/3 S 6.50 SF 8.97 0.72 0.803 0.005 8.00 SF 10.47 0.76 0.833 0.005	AREA WETTED R R 2/3 S S 1/2 6.50 SF 8.97 0.72 0.803 0.005 0.0707 8.00 SF 10.47 0.76 0.833 0.005 0.0707	AREA WETTED R R 2/3 S S 1/2 W 6.50 SF 8.97 0.72 0.803 0.005 0.0707 4.5' 8.00 SF 10.47 0.76 0.833 0.005 0.0707 6.0'	AREA WETTED R R 2/3 S S 1/2 W d 6.50 SF 8.97 0.72 0.803 0.005 0.0707 4.5 1.00 8.00 SF 10.47 0.76 0.833 0.005 0.0707 6.0 1.00	AREA WETTED R R 2/3 S S 1/2 W d N 6.50 SF 8.97 0.72 0.803 0.005 0.0707 4.5' 1.00' 0.035 8.00 SF 10.47 0.76 0.833 0.005 0.0707 6.0' 1.00' 0.035	AREA WETTED R R 2/3 S S 1/2 W d N V 6.50 SF 8.97 0.72 0.803 0.005 0.0707 4.5 1.00 0.035 2.42 8.00 SF 10.47 0.76 0.833 0.005 0.0707 6.0 1.00 0.035 2.51	AREA WETTED R R 2/3 S S 1/2 W d N V Q 6.50 SF 8.97 0.72 0.803 0.005 0.0707 4.5' 1.00' 0.035 2.42 15.73 CFS 8.00 SF 10.47 0.76 0.833 0.005 0.0707 6.0' 1.00' 0.035 2.51 20.08 FPS	AREA WETTED R R 2/3 S S 1/2 W d N V Q RIP-RA D 50	AREA WETTED R R 2/3 S S 1/2 W d N V Q RIP-RAP SIZE D 0 D D D D D D D D D D D D D D D D D	AREA WETTED PERIMETER R R 2/3 S S 1/2 W d N V Q RIP-RAP SIZE BLANKET THICKNESS 6.50 SF 8.97 0.72 0.803 0.005 0.0707 4.5' 1.00' 0.035 2.42 15.73 CF6 9.5' 15" 19" 8.00 SF 10.47 0.76 0.833 0.005 0.0707 6.0' 1.00' 0.035 2.51 20.00 FP5 9.5" 15" 19"	AREA WETTED R R 2/3 S S 1/2 W d N V Q RIP-RAP SIZE BLANKET THICKNESS Q10 6.50 SF 8.97 0.72 0.803 0.005 0.0707 4.5' 1.00' 0.035 2.42 15.73 CF6 9.5" 15" 19" 15.15 CF6 8.00 SF 10.47 0.76 0.833 0.005 0.0707 6.0' 1.00' 0.035 2.51 20.08 FP5 9.5" 15" 19" 19.36 FP5

CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

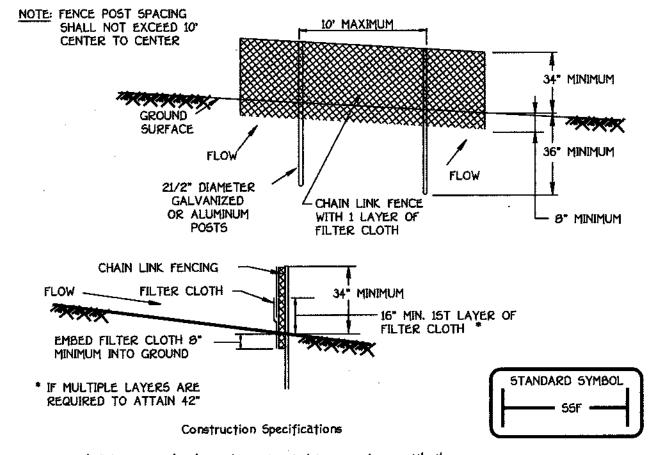
- 1. The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- 2. The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
- 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.

FISHER, COLLINS & CARTER, INC. IVIL ENGINEERING CONSULTANTS & LAND SURVEYOR are office park - 10272 baltimore national pre F.C.C.•30594 detail.dwg

DEVELOPER THE RYLAND GROUP, INC. ATT: MR. JOHN W. MEADE GALLERIA TOWERS 1447 YORK ROAD LUTHERVILLE, MD. 21093

OWNER RYLAND HOMES AT HOLLIFIFIELD STATION, L.L.C. ATT: MR. JOHN W. MEADE THE RYLAND GROUP, INC. GALLERIA TOWERS SUITE 705 1447 YORK ROAD LUTHERVILLE, MD. 21093

DETAIL 33 - SUPER SILT FENCE



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

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 "bulaes" 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

Test: MSMT 509

Test: MSMT 509

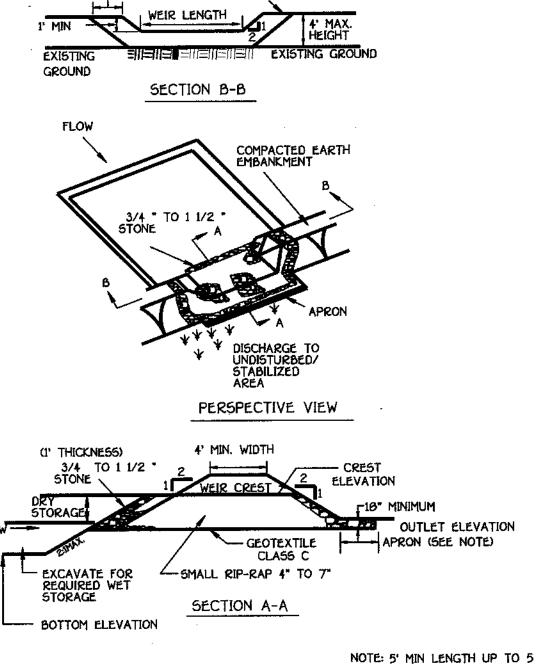
Test: MSMT 322

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

Rip Rop Bosin Outfolles-3 10' No Scale
402.1- 16'
401.1 8'400.6, Loose loid 7224.0

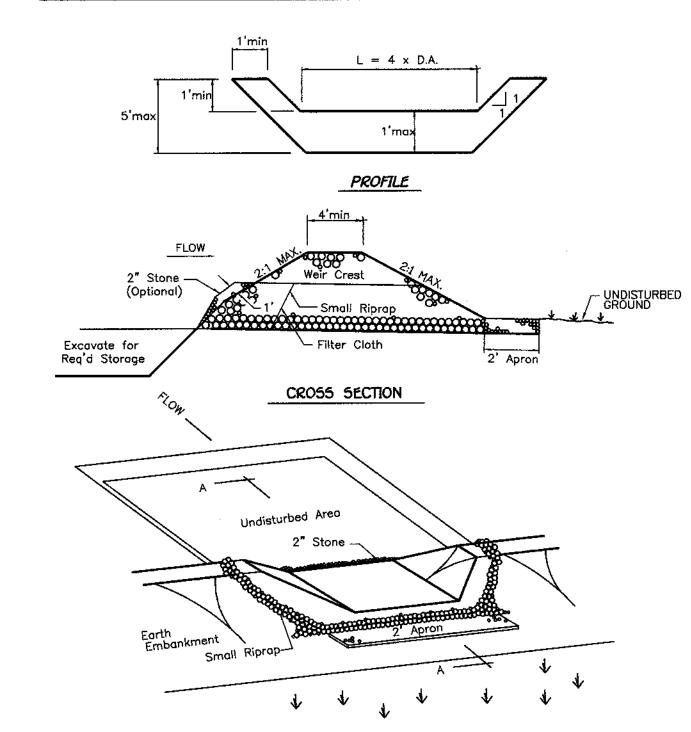
RIP-RAP OUTLET SEDIMENT TRAP - ST IV

TOP OF EMBANKMENT



NOTE: 5' MIN LENGTH UP TO 5 ACRES. OVER 5 ACRES USE

STONE OUTLET SEDIMENT TRAP ST-VI



PERSPECTIVE VIEW

OPTION: A one foot layer of 2" stone may be placed on the upstream side of the riprop in place of the embedded filter cloth.

- 1. The Area Under Embankment Shall Be Cleared, Grubbed And Stripped Of Any Vegetation And Root Mat. The Pool Area Shall Be Cleared.
- 2. The Fill Material For The Embankment Shall Be Free Of Roots Or Other Woody Vegetation As Well As Over-Sized Stones, Rocks, Organic Material Or Other Objectionable Material. The Embankment Shall Be Compacted By Traversing
- 3. All Cut And Fill Slopes Shall Be 2:1 Or Flatter.
- 4. The Stone Used In The Outlet Shall Be Small Riprap 4"-8" Along With A 1' Thickness Of 2" Aggregate Placed On The Up—Grade Side On The Small Riprop Or Embedded Filter Cloth in The Riprop.
- 5. Sediment Shall Be Removed And Trap Restored To Its Original Dimensions When The Sediment Has Accumulated To 1/2 The Design Depth Of The Trap.
- 6. The Structure Shall Be inspected After Each Rain And Repaired As Needed.
- 7. Construction Operations Shall Be Carried Out In Such A Manner That Erosion And Water
- 8. The Structure Shall Be Removed And The Area Stabilized When The Drainage Area Has

Been Properly Stabilized.

1. The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

Constuction Specifications

2. The fill material for the embankment shall be free of roots or other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Maximum height of embankment shall be 4', measured at centerline of embankment.

3. All cut and fill slopes shall be 2:1 or flatter.

4. Elevation of the top of any dike directing water into trap must equal or exceed the height of trap embankment.

5. Storage area provided shall be figured by computing the volume measured from top of excavation. (For storage requirements see Table 9).

6. Geotextile Class C shall be placed over the bottom and sides of the outlet channelprior to placement of stone. Section of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.

7. 4" - 7" stone shall be used to construct the weir and 4" - 12" or Class I rip-rap shall be used to construct the outlet channel.

B. Outlet - An outlet shall include a means of conveying the discharge in an erosion free manner to an existing stable channel. Protection against scour at the discharge point shall be provided as necessary.

9. Outlet channel must have positive drainage from the trap.

10. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 of the wet storage depth of the trap (900 cf/ac). Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

11. The structure shall be inspected periodically after each rain and repaired

12. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentrated inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.

13. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

Sequence Of Construction

- 1. Obtain The Required Grading Permit. (1 DAY)
- 2. Notify Miss Utility 40 Hours Before Beginning Any Work (1-000-257-7777). Notify Howard County Constructiom/Inspection Division 24 Hours Before Staring Any Work (410) 313-1070.

ENGINEER'S CERTIFICATE

DEVELOPER'S CERTIFICATE

l 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.

"I/We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All Responsible Personnel Involved

In The Construction Project Will Have A Certificate Of Attendance

At A Department Of Natural Resources Approved Training Program

Reviewed For Howard County Soil Conservation District And Meets

Development is Approved for 5

proved: Department Of Planning And Zoning

MALLEUMINION ...

Approved: Howard County Department Of Public Works

Chief, Development Engineering Division

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."

11-14-97

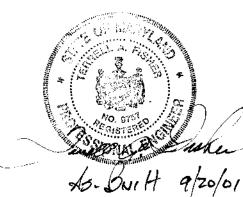
kad Sediment Control By

6/12/98

Date

5-29-98

- INSTALL FOREST CONSERVATION PROTECTIVE DEVICES, () WEEK) 3A. Install The Required Sediment And Erosion Control Devices As Indicated On The Plan Sheets.
- 4. Install Stormdrain From 5-4 to 5-5. (2 DAYS)
 4A. INSTALL TEMP GRAVEL DRIVE FOR RELOCATION OF PUMP STATION ACCESS ROAD. (2 WEEKS) 5. Grade Site To Subgrade, Stabilize And Install Storm Drains And Install Inlet Protections (3
- 6. 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. 7. Sediment Shall Be Removed From The Stone Outlet Sediment Traps Once The Cleanout Elevations Have Been Reached. Sediment Must Be Placed Uphill From The Traps. See Plans
- For Cleanout Elevations (1 Day).
- 8. Install Road Base Course (5 Days).
- 9. Install Forebay And Shallow Marsh Facility (1 Week).
- 10. Remove Sediment From Roadways And Dress Stone Construction Entrance As Required And Stabilize All Disturbed Areas (2 Days).
- 11. Remove Inlet Protecotions And Flush Storm Drain System To Remove Any Trapped Sediment.
- 12. Apply Tack Coat To Sub-Base And Lay Surface Course (4 Days).
- 13. Remove All Sediment Control Measures Upon Sediment Control Inspectors Approval (2 Days).
- 14. All Disturbed Areas Due To Removal Of Sediment Control Measures Shall Be Graded And Stabilized By Permanent Seeding (2 Days).



DETAIL SHEET

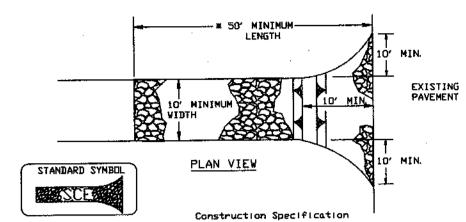
DANIELS MILL OVERLOOK

SECTION 3, AREA 1 LOTS 230 - 276 AND PARCELS " I " AND " J " (A RESUBDIVISION OF PARCEL E & G - DANIELS MILL OVERLOOK, SECTION 2, AREA 1, PLAT Nos. 12759 THRU 12766)

ZONING: R-ED TAX MAP No: 17 PART OF PARCEL No: 41 AND 547 GRID No: 12 2nd. ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: OCTOBER 1, 1997

SHEET 11 OF 13



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

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 mentextile.

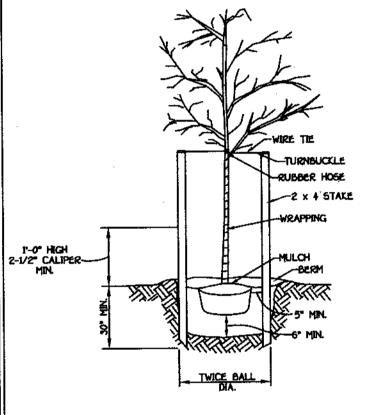
4. Stone - crushed aggregate (2' to 3') or reclaimed or recycled concrete equivalent shall be placed at least 6' deep over the length and width of the

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.

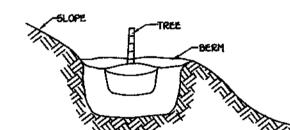
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

STABILIZED CONSTRUCTION ENTRANCE - 2

NOT TO SCALE



TREE PLANTING



STAKING DETAIL

GRADING FOR PLANTING ON SLOPES

SEDIMENT CONTROL NOTES

DEPARTMENT OF INSPECTIONS, LISCENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1055).

2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.

3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1. CHAPTER 12. OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT

CONTROL INSPECTOR. 7) SITE ANALYSIS: TOTAL AREA OF SITE AREA DISTURBED AREA TO BE ROOFED OR PAVED

TOTAL CUT

ACRES ACRES AREA TO BE VEGETATIVELY STABILIZED 4.78 ACRES 15.500 15,500 CU.YDS.

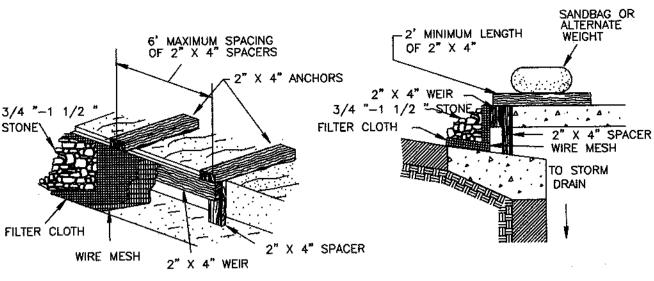
OFFSITE WASTE/BORROW AREA LOCATION N/A 8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING

ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE. 9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED

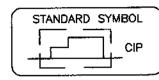
NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. 10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL

BY THE INSPECTION AGENCY IS MADE. 11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGHTS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.





MAX. DRAINAGE AREA = 1/4 ACRE



Construction Specifications

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard

2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.

3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).

4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.

5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.

6. Form the 1/2 " x 1/2 " wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4 " x 1 1/2 " stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.

7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.

8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

STANDARD CURB INLET PROTECTION

NOT TO SCALE

20.0 STANDARDS AND SPECIFICATIONS VEGETATIVE STABILIZATION

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

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 this practice shall be used on dehuced areas as specified on the plans and may be used on highly erodicle of critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration O(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 Install erosion and sediment control structures (either temporary of permanent) such as diversions,

grade stabilization structures, berms, waterways, or sediment control basins. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.

Schedule required soil tests to determine soil amendment composition and application rates for sites

having disturbed area over 5 acres.

Soil Amendments (Fertilizer and Lime Specifications)

i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.

ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee

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 90-100% will pass through a *20

mesh sieve. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means. Seedbed Preparation

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 suitable agricultural or construction equipment. 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. In corporate lime and fertilizer into the top 3-5° of soil by disking or other suitable means.

Permanent Seeding

Minimum soil conditions required for permanent vegetative establishment:

1. Soil pH shall be between 6.0 and 7.0.

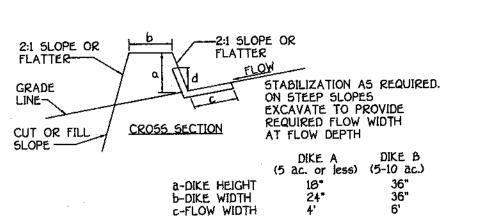
2. Soluble salts shall be less than 500 parts per million (ppm). The soil shall contain less than 40% clay, but enough fine grained material (330% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedezas is to be planted, then a sandy soil (30% silt plus clay) would be acceptable.

Soil shall contain 1.5% minimum organic matter by weight. Soil must contain sufficient pore space to permit adequate root penetration. If these conditions cannot be met by soils on site, adding topsoil is required

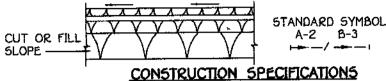
in accordance with Section 21 Standard and Specification for Topsoil. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil o the surface area and to create horizontal erosion check slots to prevent topsoil from

Apply soil amendments as per soil test or as included on the plans.

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.



POSITIVE DRAINAGE-GRADE SUFFICIENT TO DRAIN



d-FLOW DEPTH

. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET. 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

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	5.1-0.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP-RAP 4"-8"
4	8.1-20%	LINED RIP-RAP 4"-0"	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

C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS 7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER

EARTH DIKE

EACH RAIN EVENT.

NOT TO SCALE

Seed Specifications

Mulch Specifications (In order of preference)

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.

Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.

ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective.

If fertilizer is being applied at the time of seeding, the application rates amounts will a exceed the following: nitrogen, maximum of 100 lbs. per acre total of soluble nitrogen, P205 (phosphorous); 200 lbs/ac, K20 (potassium): 200 lbs/ac.

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.

Seed and fertilizer shall be mixed on site and seeding shall be done immediately and

Straw shall consist of thoroughly threshed wheat, rue 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.

Methods of Seeding

i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.

c. Seed and ferfulzer shall be mixed on size and seeding shall be done intriculting without interruption.

ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.

b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.

b. Where practical, seed should be applied in two directions perpendicular to each other.

Apply half the seeding rate in each direction.

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. WCFM, including dye, shall contain no germination or growth inhibiting factors. 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.

WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic.

. 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.

application to minimize loss by wind or water. This may be done by one of the following methods upreference), 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 Ta

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.

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

will be phytol-toxic.

f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., ph range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.

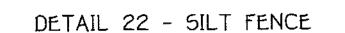
Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

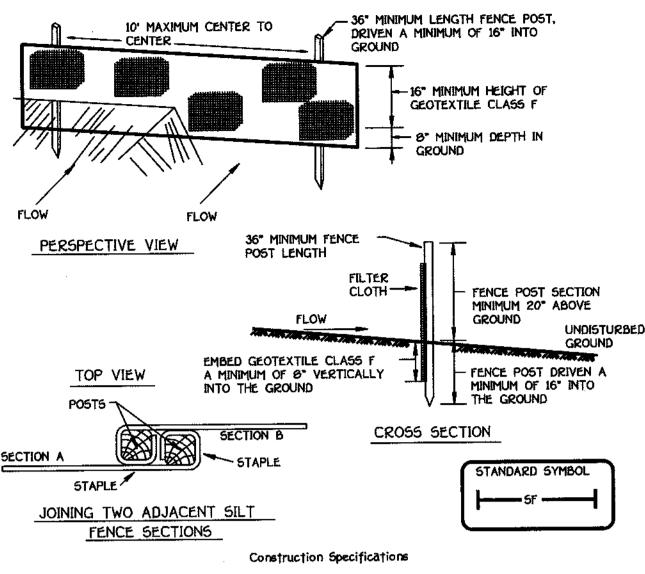
Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.

i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.

ii. Wood Cellulose Fiber Mulch (WCFM)

a. WCFM shall consist of specially prepared wood cellulose processed into a uniform





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:

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

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.

3. Where ends of geotextile fabric come together, they shall be overlapped,

I Incremental Stabilization - Cut Slopes 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".

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.

Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.

Perform final phase excavation, dress and stabilize. Overseed previously seeded

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions int he operation of completing the operation ason will necessitate the application of temporary stabilization.

J. Incremental Stabilization of Embankments - Fill Slopes 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-crosive manner to

of the embankment to intercept surface fund) and collect the slope in a table of a sediment trapping device.

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.

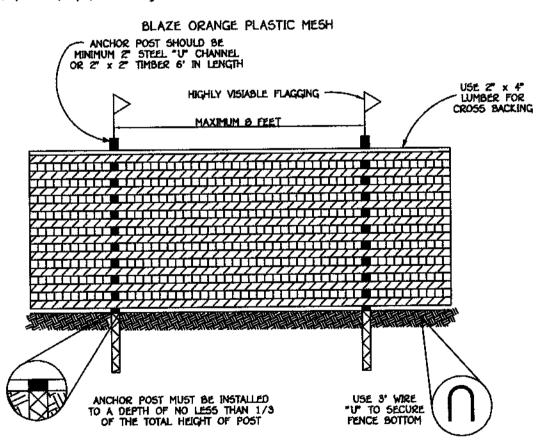
b. Place Phase 1 embankment, dress and stabilize.

c. Place Phase 2 embankment, dress and stabilize.

Overseed previously seeded

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



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

TREE PROTECTION DETAIL

SEDIMENT CONTROL NOTES AND DETAILS

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

ENGINEER'S CERTIFICATE

REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL

ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION

KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS

PROVED: DEPARTMENT OF PLANNING AND ZONING

APPROVED: DEPARTMENT OF PLANNING AND ZONING

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, DEVELOPMENT ENGINEERING DIVISION

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL

11-14-57

6/12/98

FOR EROSION AND SEDIMENT CONTROL BY

PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD

SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS. AS ARE DEEMED

SIGNATURE OF DEVELOPER



DANIELS MILL OVERLOOK SECTION 3, AREA

LOTS 230 - 276 AND PARCELS " I " AND " J " (A RESUBDIVISION OF PARCEL E AND G - DANIELS MILL OVERLOOK, SECTION 2, AREA 1, PLAT Nos. 12759 THRU 12766)

ZONING: R-ED TAX MAP NO. : 17 PART OF PARCEL NO. : 41 AND 547 GRID NO. : 12 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: OCTOBER 1, 1997 5HEET 12 OF 13

EYLAND HOMES AT HOLLIFTELD STATION, L.L.C ATTENTION: MR. JOHN W. MEADE THE RYLAND GROUP, INC. GALLERIA TOWERS

DEVELOPER THE RYLAND GROUP, INC. ATTENTION: MR. JOHN W. MEADE GALLERIA TOWERS SUITE 704 1447 YORK ROAD LUTHERVILLE, MARYLAND 21093

As Built 9/20/01

ALL CLEARED AND GRUBBED MATERIAL SHALL SE DISPOSED OF OUTSIDE THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE, WHIS PECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANCMENT AND OTHER DESIGNATED AREAS.

MATERIAL: THE TILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREA OR AREAS. IT SHALL BE FREE OF ROOTS STUMPS, WOOD, RUBBISH, OVERSIZE STONES, FROZEN OR OTHER OBJECTIONALBE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT AND CUT OFF TRENCH SHALL CONFORM TO UNITED SOIL CLASSIFICATION GC, SC, CH, OR CL. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGN AND CONSTRUCTION OF SUBPROVISION BY A CEPTICHMENAL FACILITIES.

PLACEMENT: AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN 9-INCH MAXIMUM THICKNESS (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 EMBANCHENT. THE PRINCIPAL SPILLWAY MEST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANCHENT.

COMPACTION: THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MEMBRUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT HOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT. WHERE A HIMMUM REQUIRED DENSITY IS SPECIFIED, IT SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN & X OF THE OPTIMUM EACH LAYER OF FILL SHALL BE COMPACTED AS NECESARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY ANALYZED.

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 EQUIPMENT. THE HATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO THE DURING THE BACKFILING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, HEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE PIPE UNLESS THERE IS A COMPACTED FILL OF TWENTY-FOUR INCHES OR GREATER OVER THE STRUCTURE OF PIPE.

PIPE CONDUITS: ALL PIPES SHILL BE CIRCULAR IN CROSS SECTION

POLYVINYL CHLORIDE (PVC) PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY
FOR POLYVINYL CHLORIDE (PVC) PIPE:

 MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY

BEDDING - THE PIPE SHALL BE FIRMLY AN UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOYED AND REPLACED WITH SUUTABLE 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.

CONCRETE
CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF
TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS
FOR CONSTRUCTION AND MATERIALS, SECTION 506, MIX NO. 3.

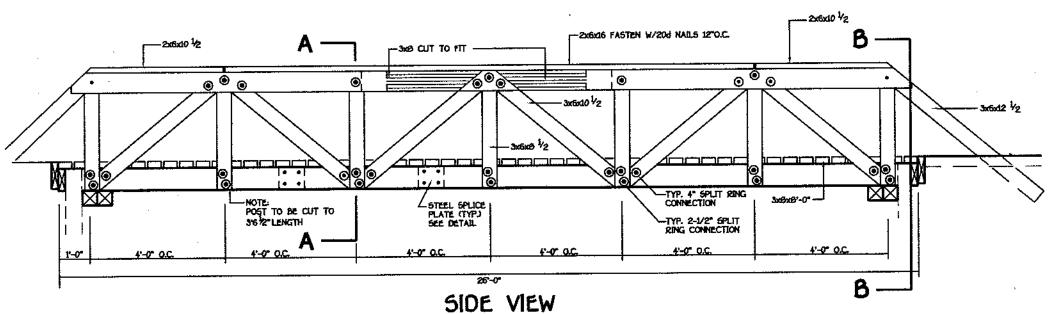
ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 905. THE RIPRAP SHALL BE PLACED TO THE REQUIRED THICKNESS IN THE OPERATION.
THE ROCK SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE
THE RIPRAP IN PLACE SHALL BE REASONABLY HOMOGENEOUS WITH THE LARGER
ROCKS UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT ONE TO ANOTHER WITH
THE SHALLER ROCKS FILLING THE VOIDS BETWEEN THE LARGER ROCKS. FILTER
CLOTH SHALL BE PLACED LINDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS
OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION
STANDARD SPECIFICATIONS FOR CONSTRUCTION NAD MATERIALS, SECTION 919.12.

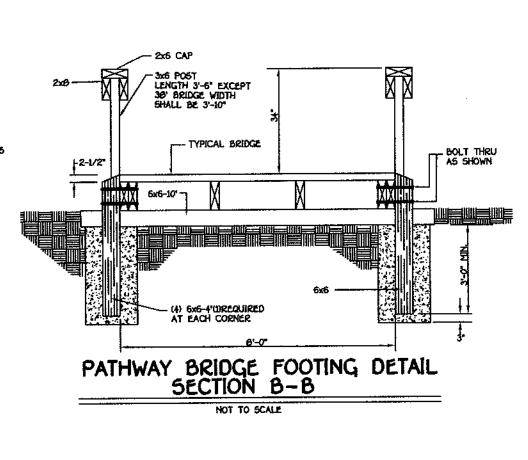
STANDARD SPECIFICATIONS FOR CONSTRUCTION NAD MATERIALS, SECTION 919.12.

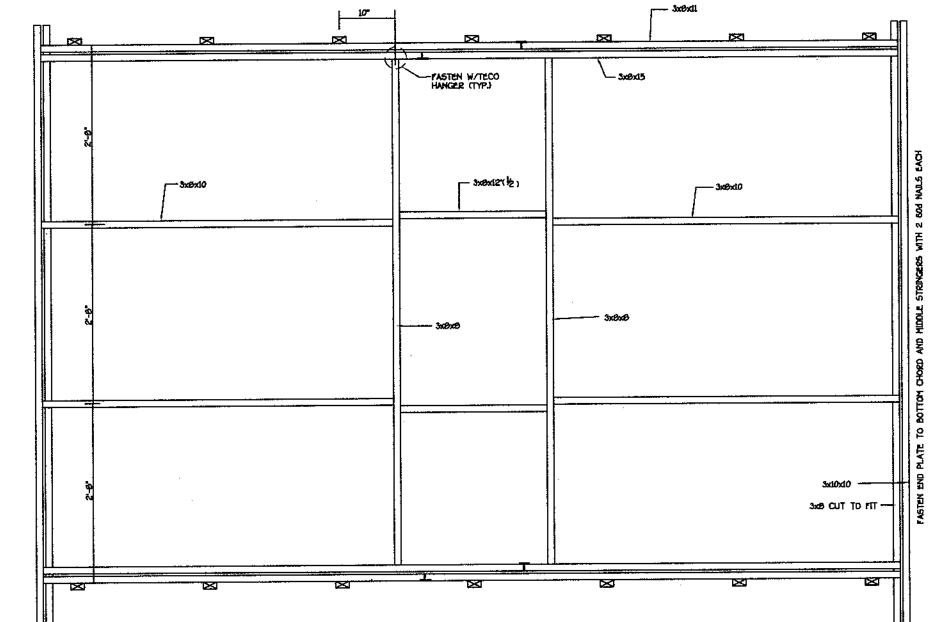
CARE OF WATER DURING CONSTRUCTION
ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM
WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES,
LEVEES, CONTERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS INCESSARY
TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE
CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL INCESSARY
PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM THE VARIOUS
PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER
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 PREVIENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE
FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN
ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS
SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT
WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION
SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN
STABILITY OF THE EXCAVATED SLOPES AND BOTTOM OF REQUIRED EXCAVATIONS. DURING
THE PLACING AND COMPACTING OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER
LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BETOM THE WATER
TO SUMPS FROM WHICH THE WATER SHALL BE FRANCE DRAINING THE WATER
TO SUMPS FROM WHICH THE WATER SHALL BE GRADED TO PROVIDE

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 LIMBNG, FERTILIZING AND HILLOHING AS REQUIRED IN ACCORDANCE WITH THE MARYLAND SOIL CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING 01D-342) OR AS SHOWN ON THE ACCOMPANYING DRAWBYCES.

EROSION & SEDIMENT CONTROL: CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED & WATER & AIR POLLUTION MAINTZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS.







26' BRIDGE MATERIALS NO. REQUIRED MATERIAL 2x6x16' 2x8x10" 2x8x16' 3x6x8' 3x6x10' 3x6x12' 3x8x8'P.E.T. 3x8x8' 3x8x10' 3x8x12' 3x10x101 4" RINGS 2-1/2" RINGS 1/2"x6" HEX BOLT 1/2"x6-1/2" HEX BOLT 26 1/2"xØ-1/2" HEX BOLT 40 JOIST HANGER 3XB 1/2" FLAT WASHER 1/2" LOCK WASHER 1/2" NUT 7x10 SPLICE PLATE

..... TYPICAL BRIDGE MATCH ANGLE OF TRUSS _ BOLT THRU W/ (2)1/2*x12* HEX BOLTS (TYP.) F-4" ASPHALT (TYP.) (2)6x6-10'----ARMOR STREAM BANK W/ CLASS II RIP-RAP

EXISTING TREES TO REMAIN

-FENCE WIRE

- 2'+ ORANGE STREAMERS

GROUND 2'

- 6' STEEL "T-BAR" STAKE

AT ROOT ZONE OF TREES

DRIVEN INTO GROUND OR

YELLOW PINE POST IN

SILT FENCE (SEE NOTES)

- EXISTING GRADE

PATHWAY BRIDGE FOOTING DETAIL

SIDE VIEW

1. Silt Fence to be heeled into the soil.

conservation plan review process.

installing device.

2. Wire, snow fence, etc. for tree protection only.

7. Protection signs are also required, see Figure C-4.B. Locate fence outside the Crictical Root Zone.

3. Boundaries of Retention Area will be established as part of the forest

SILT FENCE AND TREE PROTECTION

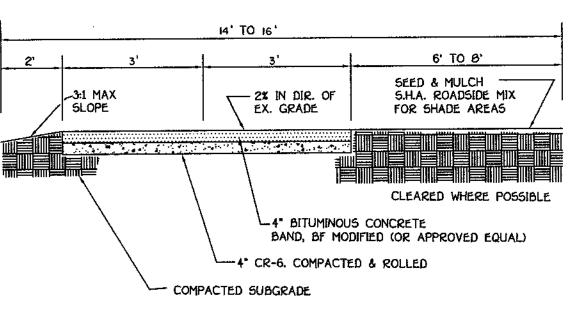
NOT TO SCALE

4. Boundaries of Retention Area should be staked and flagged prior to

5. Avoid root damage when placing anchor posts.
6. Device should be properly maintained throughout construction.

DECK FRAMING PLAN 3x8 CUT TO FIT FASTEN W/ 10 20d NAILS EACH TOP CHORD

> TYPICAL 26' BRIDGE NOT TO SCALE



TYPICAL PATHWAY SECTION NOT TO SCALE

WATER QUALITY

30 18

15 9

30 18

15

15

FACILITY NUMBER

PRIMARY WETLAND VEGETATION REMARKS PLANT SPECIES 36" O.C. SAGGITTARIA LATIFOLIA (SL) DUCK POTATO 36* O.C. SCIRPUS AMERICANUS (5A) COMMON THREE SQUARE

SECONDARY WETLAND VEGETATION SIZE REMARKS PLANT SPECIES CEPHALATHUS OCCIDENTALS (CO) ROOTS BUTTON BUSH PELTANDRA VIRGINICA ARROW - ARUM PONTEDERIA CORDATA (PC) PICKEREL WEED

NOTES:

- 1. ALL PLANT MATERIAL TO BE WET GROWN OR ADAPTED TO WETLAND CONDITIONS. 2. ALTERATIONS TO THE PROPOSED GRADING SHOWN MAY AFFECT THE SUCCESS OF
- THE PLANT MATERIAL. 3. CONTRACTOR SHALL VERIFY LOCTAION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.

WATER QUALITY AREA LAP	NDSCAPING (SCH	EDULE 'D')
WATER QUALITY FACILITY NUMBER	9	10
LINEAR FEET OF PERIMETER	700'	490'
NUMBER OF TREES REQUIRED SHADE TREES EVERGREEN TREES	BASED ON 700 L.F. 14 1/50 17 1/40	BASED ON 400 L.F 9 1/50 12 1/40
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	-	_
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)		-
NUMBER OF TREES PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION)	5YMBOL 14 + + 17 +	5YMBOL 9 () 12

DEVELOPER'S CERTIFICATE "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED 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". 11-14-97 DATE GNATURE OF DEVELOPER

ENGINEER'S CERTIFICATE

REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL

ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION

KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL

11-14-97 DATE

REVIEWED FOR HOWARS COUNTY SOIL CONSERVATION DISTRICT AND MEETS TO MICAL REQUIREMENTS. L PIENT IS APPROVED FOR THE ON AND SEDIMENT CONTROL BY TRICT HOWARD SOIL CONSERVATION DIST PPROVED: DEPARTMENT OF PLANNING AND ZONING

Genella CHIEF, DEVELOPMENT ENCINEERING APPROVED: DEPARTMENT OF PUBLIC WORKS

DATE CHIEF, BUREAU OF ENGINEERING APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 5-29-98 HIGHWAYS

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.

PE. NO. _____ DATE _____ SIGNATURE

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ONSITE INSPECTIONS AND AMTERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ONSITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEANOR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF POND(5) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNERS(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNERS(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.

INSPECTION FOREBAY AFTER EACH STORM - IF SEDIMENT BUILDUP EXCEEDS FOUR (4) INCHES, NOTIFY THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF HIGHWAYS TO FACILITATE CLEANOUT OPERATIONS. REMOVAL OF ACCUMULATED PAPER, TRASH AND DEBRIS AFTER EVERY STORM., AS NECESSARY.

ANNUAL INSPECTION AND REPAIR OF THE GABION STRUCTURES, AS NEEDED. VEGETATION GROWING ON THE EMBANKMENT TOP OR FACES IS NOT ALLOWED TO EXCEED 18 INCHES IN HEIGHT AT ANYTIME. CORRECTIVE MAINTENANCE IS REQUIRED ANYTIME THE FOREBAY DOES NOT

DRAIN DOWN TO THE DESIGNED SURFACE ELEVATION WITHIN 60 HOURS. NOTE: THIS FACILITY IS TO BE JOINTLY MAINTAINED BY THE H.O.A. FOR DANIELS MILL OVERLOOK AND THE DEPARTMENT OF PUBLIC WORKS.

> PLANT LIST KEY 5IZE QTY. NAME 2" - 2"2" CALIPER 23 ACER RUBRUM (OCTOBER GLORY' OCTOBER RED MAPLE) 6' -8.5' HEIGHT PINUS STROBUS CEASTERN WHITE

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWRAD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE (52) REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF 52 X 100.00 \$5,200.00.

+ \$1,500,00 \$ 6,700.00 TOTAL

WATER QUALITY NOTES AND DETAILS

DANIELS MILL OVERLOOK SECTION 3, AREA

SHEET 13 OF 13

SCALE: AS SHOWN

LOTS 230 - 276 AND PARCELS " I " AND " J " (A RESUBDIVISION OF PARCEL E & G - DANIELS MILL OVERLOOK. SECTION 2, AREA 1, PLAT Nos. 12759 THRU 12766)

ZONING: R-ED TAX MAP No: 17 PART OF PARCEL No: 41 AND 547 GRID No: 12 2nd. ELECTION DISTRICT HOWARD COUNTY, MARYLAND DATE: OCTOBER 1, 1997

FENCE FLAGGING TAPE 1' MIN 3' MIN. 3' MIN. 3' MIN.
CRITICAL ROOT ZONE

1. Combine sediment control and forest protection device. 2. Boundaries of Retention Area will be established as part of the forest conservation plan review process.

3. Boundaries of Retention Area should be staked prior to installing

protection device. 4. Root damage should be avoided. 5. Toe of slope should be outside the Critical Root Zone. 6. Equipment is prohibited within Critical Root Zone of Retention Area: place

7. All standard maintenance for earth dikes and swales apply to these details. 8. All standard reclamation practices for earth dikes and swales shall apply to

EARTH DIKE AND SWALE COMBINATION DEVICE



OWNER RYLAND HOMES AT HOLLIFIELD STATION, L.L.C. ATT: MR. JOHN W. MEADE

THE RYLAND GROUP. INC.

GALLERIA TOWERS, SUITE 705 1447 YORK ROAD

LUTHERVILLE, MD. 21093

DEVELOPER THE RYLAND GROUP, INC. ATT: MR. JOHN W. MEADE GALLERIA TOWERS, SUITE 705 1447 YORK ROAD LUTHERVILLE, MARYLAND 21093

CO

IFISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS ELLICOTT CITY, MARYLAND 21042

As Built 9/20/01 F 98-57

