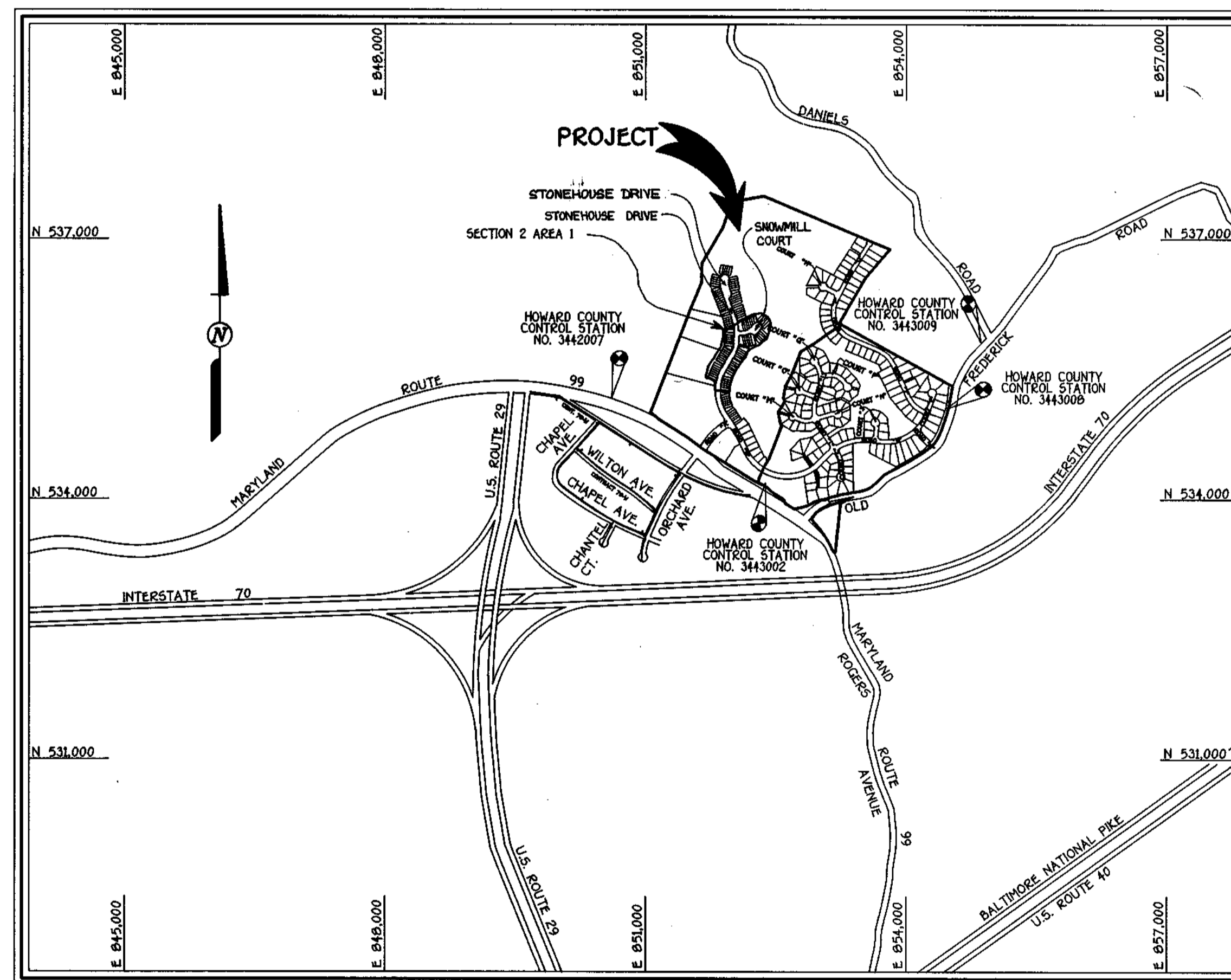


SHEET INDEX	
SHEET No.	SHEET
1	TITLE SHEET
2	STONEHOUSE DRIVE PLAN & PROFILE
3	SNOWMILL COURT PLAN & PROFILE
4-5	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
6	GRADING & SEDIMENT CONTROL PLAN
7-8	DRAINAGE AREA AND LANDSCAPE PLAN
9	STORM DRAIN PROFILES & DETAILS
10	SHALLOW MARSH NOTES, DETAILS & PLANTING
11-12	SEDIMENT CONTROL NOTES AND DETAILS
13-16	FOREST CONSERVATION PLAN

FINAL ROAD CONSTRUCTION, GRADING AND WATER QUALITY PLANS FOR DANIELS MILL OVERLOOK SECTION 2 AREA 1 LOTS 20 THRU 84 TAX MAP NO. 17 PARCEL NOS. 41 AND 547 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

BENCHMARKS			
HOWARD COUNTY CONTROL NO. 3442007	N 535080.370	E 050670.146	ELEV. 470.18
HOWARD COUNTY CONTROL NO. 3443002	N 534193.678	E 052269.574	ELEV. 464.23
HOWARD COUNTY CONTROL NO. 3443008	N 535051.402	E 054471.468	ELEV. 479.13
HOWARD COUNTY CONTROL NO. 3443009	N 535086.602	E 054960.710	ELEV. 464.01



VICINITY MAP
SCALE: 1" = 1200'

GENERAL NOTES

- UNLESS OTHERWISE NOTED, ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE FOLLOWING:
 - HOWARD COUNTY STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.
 - MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, AS AMENDED.
 - SOIL CONSERVATION SERVICE 1983 MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
 - SOIL CONSERVATION SERVICE 1993 MARYLAND STANDARDS AND SPECIFICATION FOR POND CONSTRUCTION (CODE 378).
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF CONSTRUCTION INSPECTION AT 410-313-1800 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY "THIS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.
- TOPOGRAPHY SHOWN HEREON IS FROM AERIAL MAPS PROVIDED BY PHOTO SCIENCE ON A 2' CONTOUR INTERVAL APRIL 13, 1989.
- THIS HORIZONTAL AND VERTICAL DATUM SHOWN ARE BASED ON THE FOLLOWING NAD'83 HOWARD COUNTY CONTROL STATIONS:

HOWARD COUNTY MONUMENT NO. 3443008	N 535051.402	ELEV. = 479.13'
HOWARD COUNTY MONUMENT NO. 3443009	E 054471.468	ELEV. = 464.01'
HOWARD COUNTY MONUMENT NO. 3443002	N 534193.678	ELEV. = 464.23'
HOWARD COUNTY MONUMENT NO. 3443007	N 535086.602	ELEV. = 470.18'
	E 054960.710	E 050670.146
- NOISE STUDY WAS PROVIDED BY M.A. DIRCKS AND CO., INC. ON SEPTEMBER, 1993.
- FOREST DELINEATION WAS PROVIDED BY M.A. DIRCKS AND CO., INC. DATED JUNE, 1993.
- THE 100 Yr. FLOODPLAIN AS SHOWN ON THESE PLANS ARE BASED ON THE FLOODPLAIN STUDY THAT WAS PROVIDED BY FISHER, COLLINS & CARTER, INC.
- THE WETLANDS STUDY WAS PREPARED BY ENVIRONMENTAL SYSTEMS ANALYSIS UNDER 5-95-18 JUNE 15, 1995.
- THE TRAFFIC STUDY WAS PROVIDED BY THE TRAFFIC GROUP ON MARCH 1994.
- THE SOILS INVESTIGATION REPORT WAS PREPARED BY G.T.A. INC. ON NOVEMBER 1995.
- THE SKETCH PLAN 5-95-18 WAS APPROVED ON 6/15/95. PRELIMINARY PLANS WERE SUBMITTED UNDER 5-95-18 ON AUGUST 12, 1996.
- 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 THEIR PLACEMENT OF ANY ASPHALT.
- 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)".
- 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.
- EXISTING UTILITIES ARE BASED ON COUNTY RECORDS.
- 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 W/1-95-94 WAS SUBMITTED UNDER 5-95-18.
- STORMWATER MANAGEMENT ANALYSIS WAS APPROVED ON APRIL 27, 1996 UNDER F-96-128. WATER QUALITY IS PROVIDED BY SHALLOW MARSH AND BY VEGETATIVE BUFFER.
- PREVIOUS FILE NUMBERS: F-96-87 F-96-67 F-96-128 AND SDP-96-22.

ROAD CLASSIFICATION CHART		
ROAD NAME	CLASSIFICATION	R/W WIDTH
SNOWMILL COURT	CUL-DE-SAC	50'
STONEHOUSE DR.	MINOR COLLECTOR	60'
STONEHOUSE DR.	CUL-DE-SAC	50'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Richard Road 2/13/97
CHIEF, DIVISION OF LAND DEVELOPMENT TC DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Michael Diffendal 1/10/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION JTC DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Richard M. Decker 1-20-97
CHIEF, BUREAU OF HIGHWAYS HS DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
871 BALTIMORE NATIONAL PkE, SUITE 100
ELLSWORTH CITY, MARYLAND 21042
410-981-2955

OWNER
DANIELS MILL OVERLOOK, LLC
c/o MR. MICHAEL DIFFENDAL
1100 TECH ROAD
SILVER SPRING, MARYLAND 20904

DEVELOPER
THE RYLAND GROUP
ATTENTION: MR. GARRETT J. DONOVAN
GALLERIA TOWER 33
SUITE 8725
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093



Jayesh Pancholi 8-6-96
JAYESH V. PANCHOLI DATE

DANIELS MILL OVERLOOK

LOTS 20 THRU 84
ZONED: R-ED
TAX MAP No. 17 PARCEL Nos. 41 and 547
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SHEET 1 OF 16

SCALE: AS SHOWN DATE: AUGUST 1996

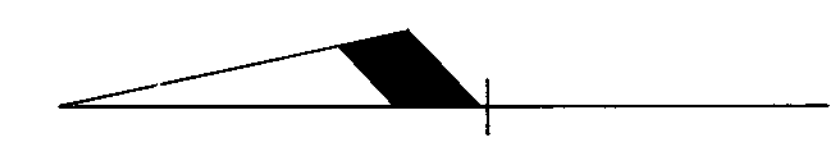
1783

E 1364625

N 5195500

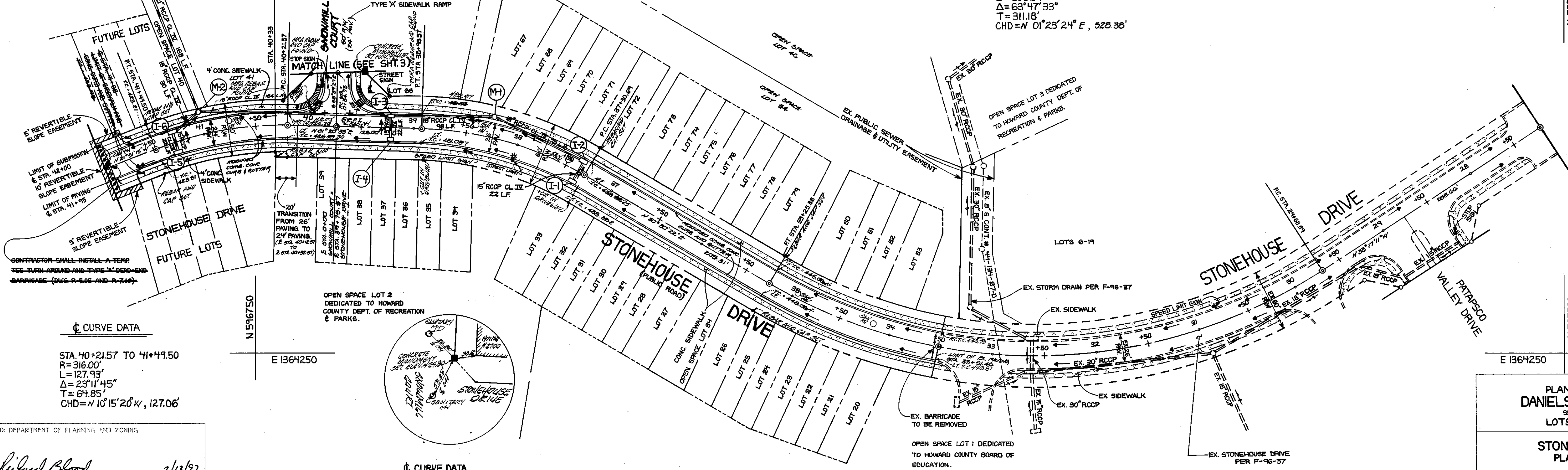
☉ CURVE DATA

STA 29+68.69 TO 35+25.38
 R=500.00'
 L=556.69'
 Δ=63°47'33"
 T=311.18'
 CHD=N 01°23'24" E, 528.36'



FOR CONTINUATION OF STORM DRAIN SYSTEM, SEE SHEET 3

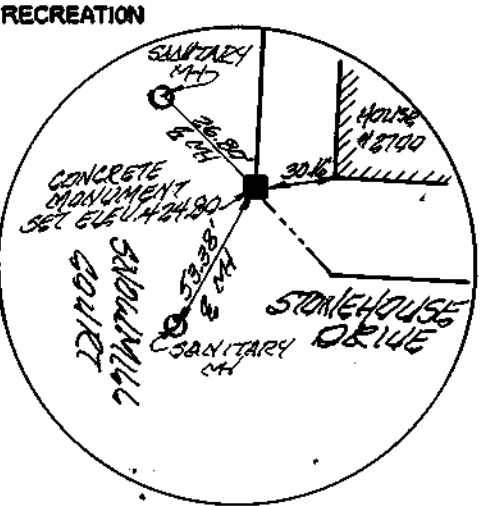
CUL-DE-SAC DESIGN SPEED 30 MPH
 MINOR COLLECTOR DESIGN SPEED 35 MPH



☉ CURVE DATA

STA 40+21.57 TO 41+49.50
 R=316.00'
 L=127.93'
 Δ=23°11'45"
 T=64.85'
 CHD=N 10°15'20" W, 127.06'

E 1364250



☉ CURVE DATA

STA 37+30.69 TO 38+93.57
 R=320.00'
 L=162.88'
 Δ=23°09'50"
 T=83.25'
 CHD=N 15°55'27" E, 161.13'

PLAN
 SCALE: 1"=50'

PLAN AND PROFILE
 DANIELS MILL OVERLOOK
 SECTION 2, AREA 1
 LOTS 20 THRU 84

**STONEHOUSE DRIVE
 PLAN AND PROFILE**

OWNER	DEVELOPER
DANIELS MILL OVERLOOK, LLC C/O MR. MICHAEL DEFERRAL 11900 TECH ROAD SILVER SPRING, MARYLAND 20904	THE RYLAND GROUP % MR. CHARLES O'DONOVAN GALLERIA TOWERS SUITE #705 1417 YORK ROAD LUTHERVILLE, MARYLAND 21093
SCALE: AS SHOWN	DATE: AUGUST 1996
DES: JAVESH PANCHOLI	DRN: LEE MCCULLOUGH
	CHK:

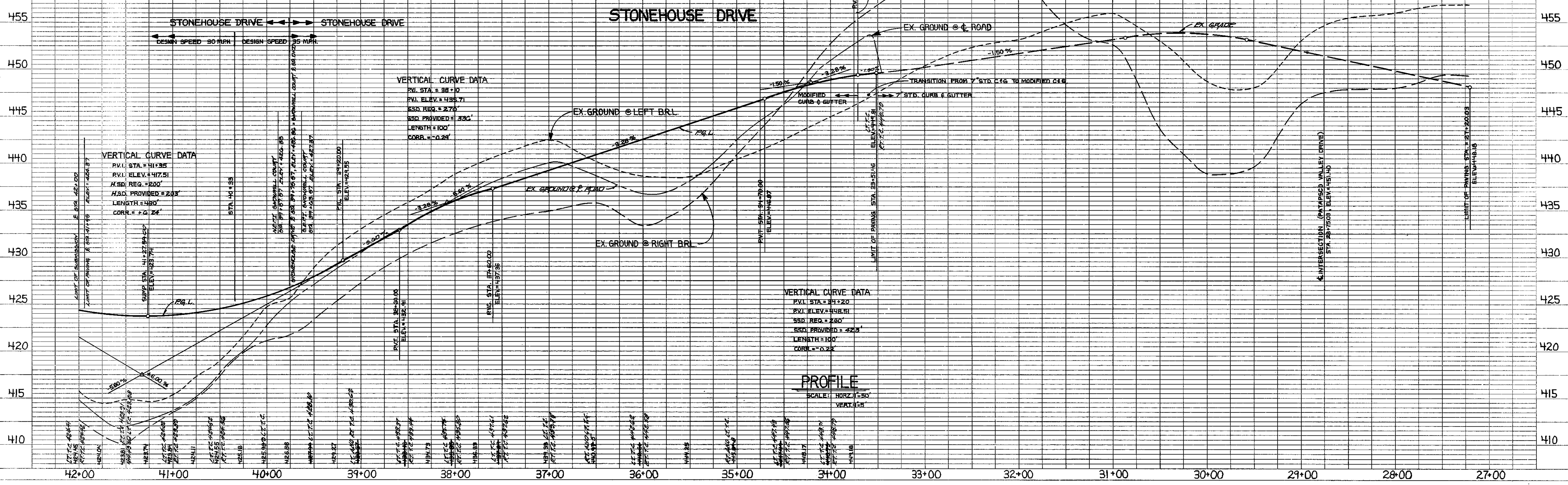


FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 1027 BALTIMORE NATIONAL PARK
 ELICOTT CITY, MARYLAND 21043
 4101 661 - 2655

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Rickard Blood 2/13/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
William D. ... 1/10/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniel 1-20-97
 CHIEF, BUREAU OF HIGHWAYS DATE



VERTICAL CURVE DATA

PVI STA = 38+00
 PVI ELEV = 435.71
 SSD REQ = 270'
 SSD PROVIDED = 230'
 LENGTH = 100'
 CORRECTION = -0.28'

VERTICAL CURVE DATA

PVI STA = 41+35
 PVI ELEV = 417.51
 SSD REQ = 200'
 SSD PROVIDED = 203'
 LENGTH = 100'
 CORRECTION = +0.24'

VERTICAL CURVE DATA

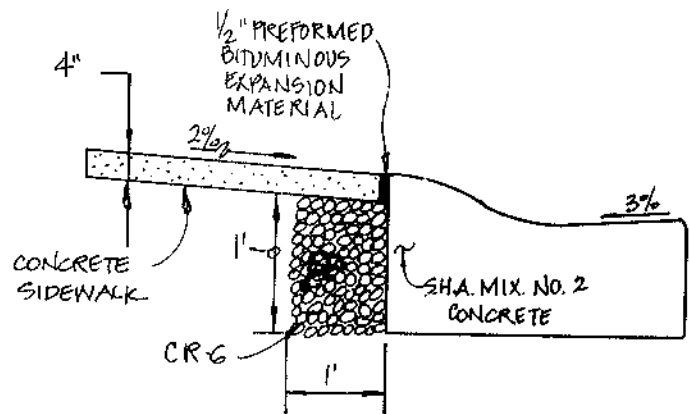
PVI STA = 34+20
 PVI ELEV = 418.51
 SSD REQ = 280'
 SSD PROVIDED = 223'
 LENGTH = 100'
 CORRECTION = -0.28'

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

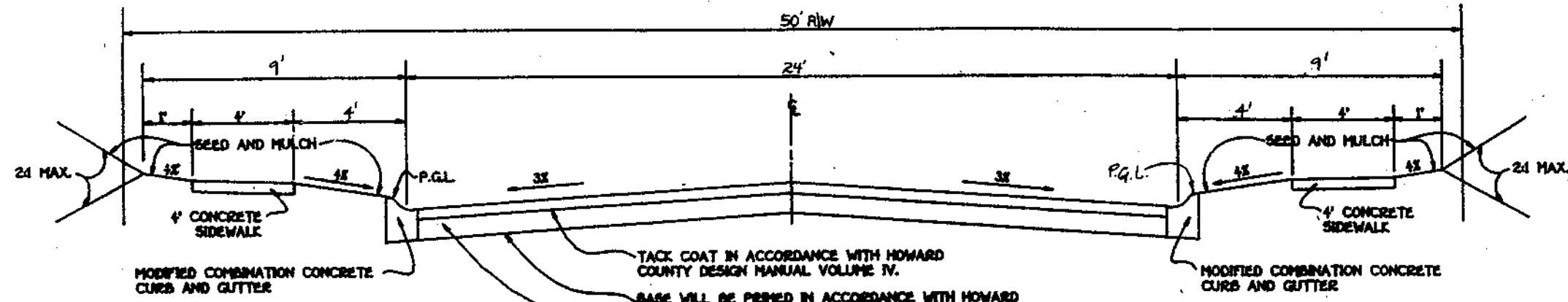
1783

STREET LIGHT CHART			
STREET NAME	STATION	OFF-SET	FIXTURE/POLE TYPE
SNOWMILL COURT	1+60	22'R	100-WATT "TRADITIONAL" HPS VAPOR POST TOP FIXTURE MOUNTED ON 14-FOOT BLACK FIBERGLASS POLE
STONEHOUSE DRIVE	38+00	16'L	100-WATT "TRADITIONAL" HPS VAPOR POST TOP FIXTURE ON 14-FOOT BLACK FIBERGLASS POLE
STONEHOUSE DRIVE	39+18	16'R	100-WATT "TRADITIONAL" HPS VAPOR POST TOP FIXTURE ON 14-FOOT BLACK FIBERGLASS POLE

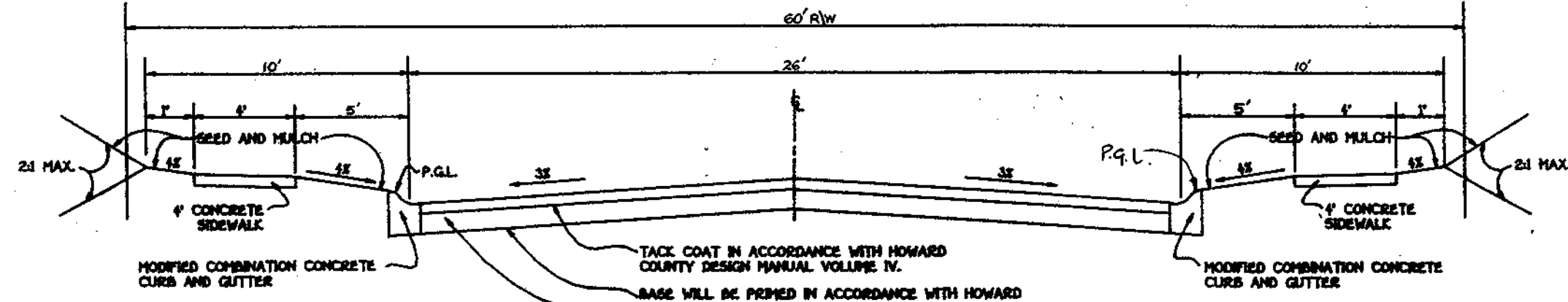
TRAFFIC CONTROL SIGNS				
STREET NAME	STATION	OFFSET	POSTED SIGN	SIGN CODE
SNOWMILL COURT	0+40	14' L	STOP	R1-1
PATAPSCO VALLEY DRIVE	0+40	33' L	STOP	R1-1
STONEHOUSE DRIVE	30+79	17' R	SPEED LIMIT 25	R2-1
STONEHOUSE DRIVE	38+45	17' L	SPEED LIMIT 25	R2-1



CORNER SIDEWALK DETAIL
 L.P. STA. 11+16.66 TO L.P. STA. 4+33.92
 NO SCALE

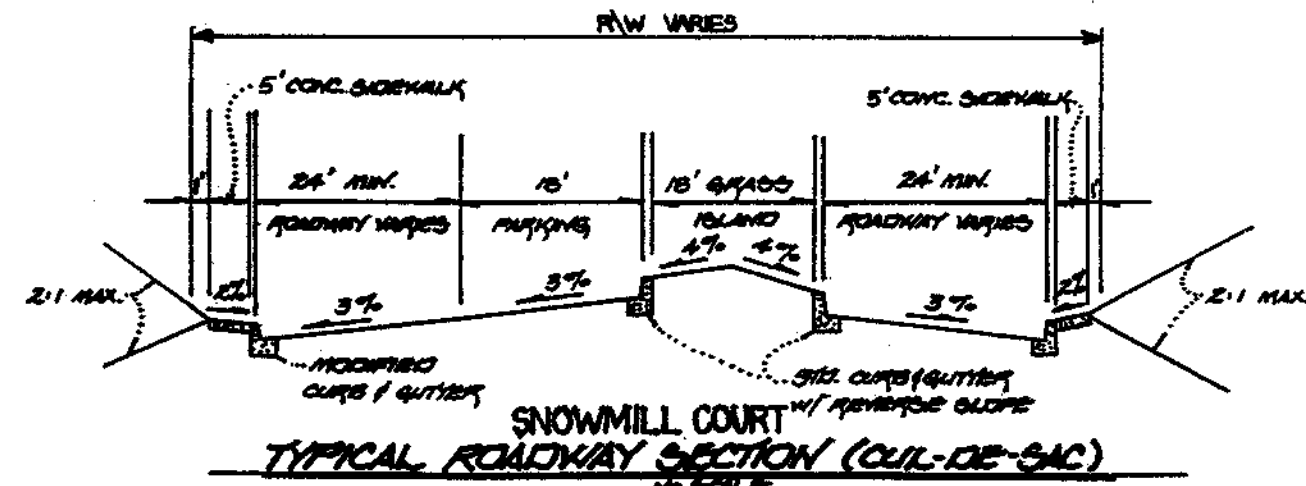


TYPICAL ROADWAY SECTION SNOWMILL COURT
 NO SCALE



TYPICAL ROADWAY SECTION STONEHOUSE DRIVE
 NO SCALE

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	± STA. LIMITS
STONEHOUSE DRIVE	MINOR COLLECTOR	35 MPH	R-ED	STA. 33+51.46 TO STA. 40+33
SNOWMILL COURT	CUL-DE-SAC	30 MPH	R-ED	STA. 0+00 TO STA. 1+13.70
STONEHOUSE DRIVE	CUL-DE-SAC	30 MPH	R-ED	STA. 40+33 TO STA. 42+00

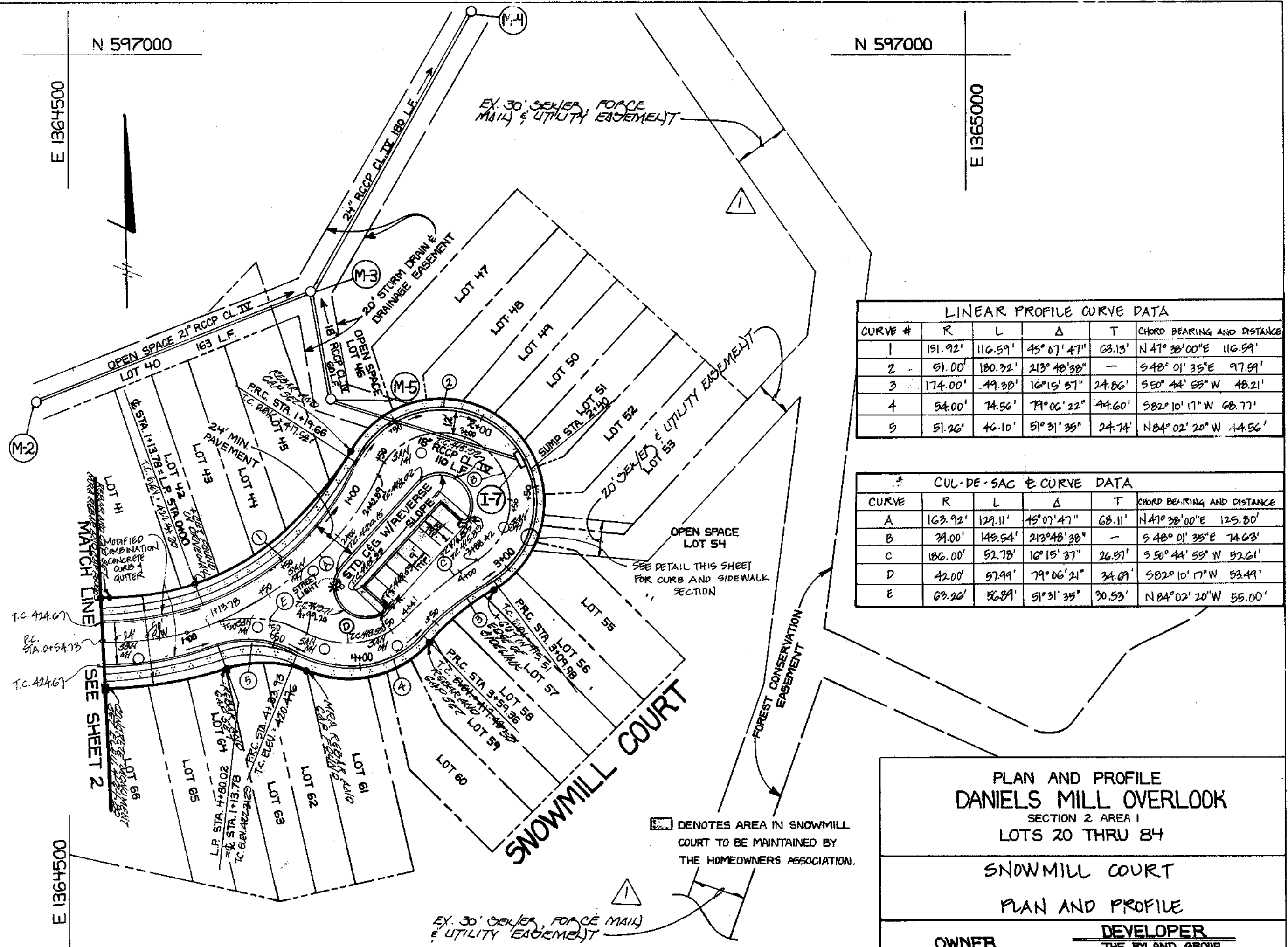


REVISION BLOCK		
NO.	DESCRIPTION	DATE
1	INDICATE & DENOTE EX. 30' CUL-DE-SAC PERMANENT & UTILITY EASEMENT	7/14/97
2	REVISION	DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Richard Blood 2/13/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Michael P. ... 1/10/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard M. Daniels 1-20-97
 CHIEF, BUREAU OF HIGHWAYS DATE



LINEAR PROFILE CURVE DATA						
CURVE #	R	L	Δ	T	CHORD BEARING AND DISTANCE	
1	151.95'	116.51'	45° 07' 47"	68.11'	N41° 36' 00" E 116.51'	
2	51.00'	180.32'	213° 48' 38"	-	S48° 01' 35" E 97.91'	
3	174.00'	49.38'	16° 15' 57"	24.86'	S50° 44' 59" W 48.21'	
4	54.00'	74.56'	79° 06' 22"	44.60'	S82° 10' 17" W 68.77'	
5	51.26'	46.10'	51° 31' 35"	24.74'	N84° 02' 20" W 44.56'	

CUL-DE-SAC CURVE DATA						
CURVE	R	L	Δ	T	CHORD BEARING AND DISTANCE	
A	163.92'	129.11'	45° 07' 47"	68.11'	N41° 36' 00" E 125.80'	
B	34.00'	149.54'	213° 48' 38"	-	S48° 01' 35" E 74.63'	
C	186.00'	52.78'	16° 15' 57"	26.87'	S50° 44' 59" W 52.61'	
D	42.00'	57.91'	79° 06' 22"	34.01'	S82° 10' 17" W 53.49'	
E	69.26'	56.91'	51° 31' 35"	30.59'	N84° 02' 20" W 55.00'	

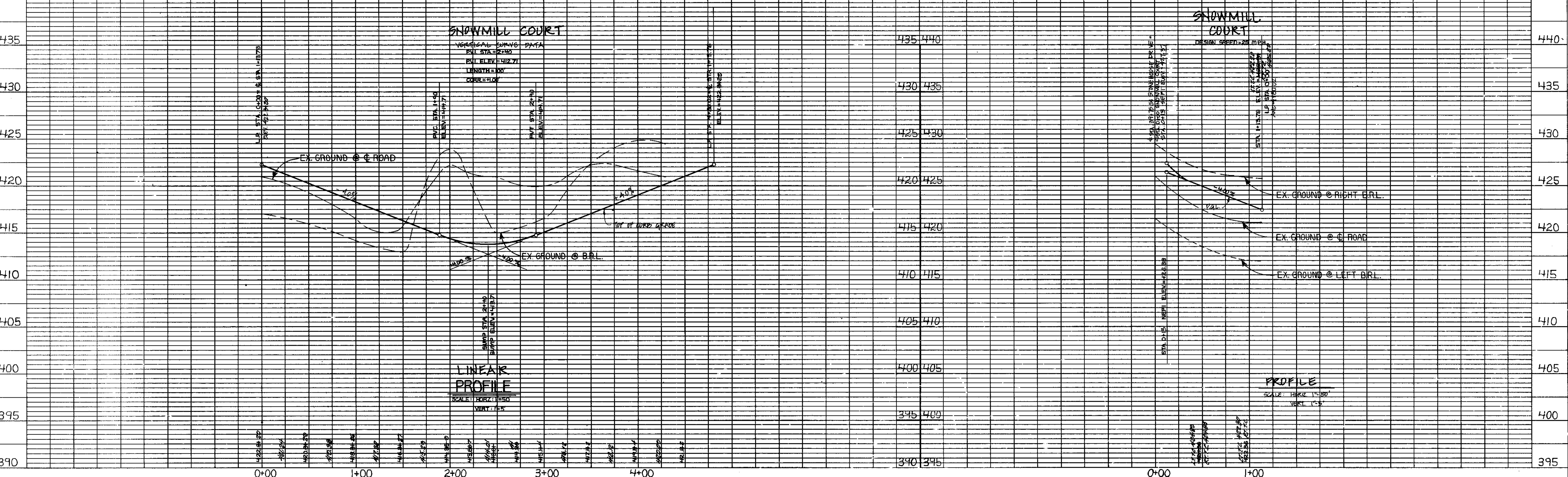
PLAN AND PROFILE
 DANIELS MILL OVERLOOK
 SECTION 2 AREA 1
 LOTS 20 THRU 54
 SNOWMILL COURT
 PLAN AND PROFILE

OWNER: DANIELS MILL OVERLOOK, LLC
 DEVELOPER: THE ROLAND GROUP

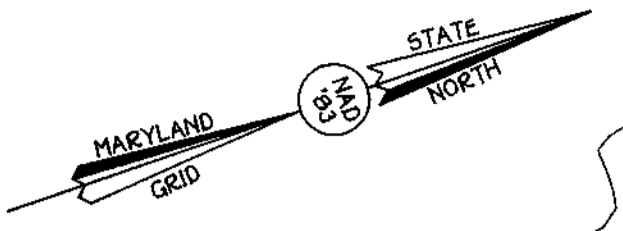
OWNER: 60 MR. MICHAEL DIFFENDAL
 DEVELOPER: GALLERIA TOWERS
 1900 TECH ROAD SUITE 705 1147 YORK ROAD
 SILVER SPRING, MARYLAND 20904 LUTHERVILLE, MARYLAND 21092

SCALE: AS SHOWN DATE: AUGUST 1996 DWG. NO.: 3 OF 18
 DES. JAYESH PANCHOLI DRN. LEE MCCULLOUGH CHK.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 1872 BALTIMORE NATIONAL PKWY
 ELICOTT CITY, MARYLAND 21042
 410-481-2855



1783



STREET TREE SCHEDULE			
SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	ACER RUBRUM, 'OCTOBER GLORY' RED MAPLE	2 1/2" - 3" CALIPER	40' APART ON PUBLIC R/W

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

TOTAL NUMBER OF STREET TREES
 - 52 STREET TREES (THIS SHEET)

ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Joseph Pancholi
 SIGNATURE OF ENGINEER
 12-13-96
 DATE

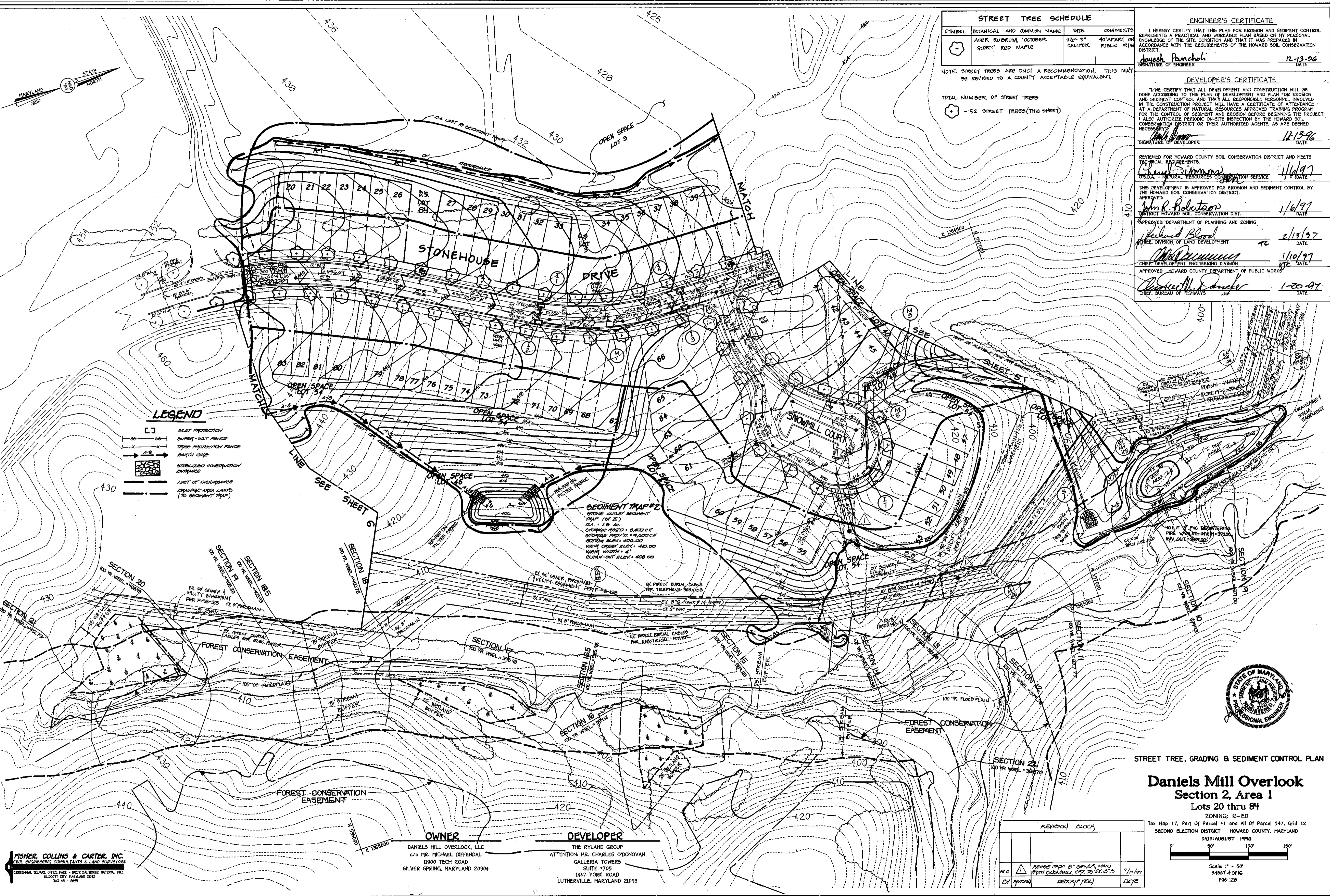
DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL 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 MAY BE DEEMED NECESSARY.
[Signature]
 SIGNATURE OF DEVELOPER
 12-13-96
 DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
Chris Johnson
 U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE
 1/6/97
 DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature]
 DISTRICT HOWARD SOIL CONSERVATION DIST.
 1/6/97
 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Michael Blood
 GENERAL MANAGER
 2/13/97
 DATE

APPROVED: DEPARTMENT OF HIGHWAYS
[Signature]
 CHIEF, BUREAU OF HIGHWAYS
 1-20-97
 DATE



LEGEND

	SILT PROTECTION
	SUPER-SILT FENCE
	THREE PART PROTECTION FENCE
	EARTH DIKE
	STABILIZED CONSTRUCTION ENTRANCE
	LIMIT OF DISTURBANCE
	DRAINAGE AREA LIMITS (70% SEDIMENT TRAP)

SEDIMENT TRAP #2
 STORM OUTLET SEDIMENT TRAP (OF 3)
 D.A. = 1.0 AC.
 STORAGE 192" D. = 8,400 C.F.
 STORAGE 180" D. = 4,000 C.F.
 SECTION SLEW = 400.00
 MAIN CHUTE SLEW = 40.00
 MAIN WIDTH = 4'
 CLEAN-OUT SLEW = 408.00

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELKSPROTT CITY, MARYLAND 21042
 410.461.2200

OWNER
 DANIELS MILL OVERLOOK, LLC
 c/o MR. MICHAEL DIFFENDAL
 11900 TECH ROAD
 SILVER SPRING, MARYLAND 20904

DEVELOPER
 THE RYLAND GROUP
 ATTENTION: MR. CHARLES O'DONOVAN
 GALLEGIA TOWERS
 SUITE 1705
 1447 YORK ROAD
 LUTHERVILLE, MARYLAND 21093

REVISION BLOCK	
REV. NO.	DATE
1	7/14/97
2	04/72

STREET TREE, GRADING & SEDIMENT CONTROL PLAN
Daniels Mill Overlook
Section 2, Area 1
Lots 20 thru 84
 ZONING: R-ED
 Tax Map 17, Part of Parcel 41 and All of Parcel 547, Grid 12
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: AUGUST 1996
 Scale: 1" = 50'
 SHEET 4 OF 16
 F96-128

1783



ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
James P. Buncheli 12-13-96
 SIGNATURE OF ENGINEER DATE

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.
Mark [Signature] 12-13-96
 SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
Clayton Summers 1/6/97
 U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
John R. Robertson 1/6/97
 DISTRICT HOWARD SOIL CONSERVATION DIST. DATE

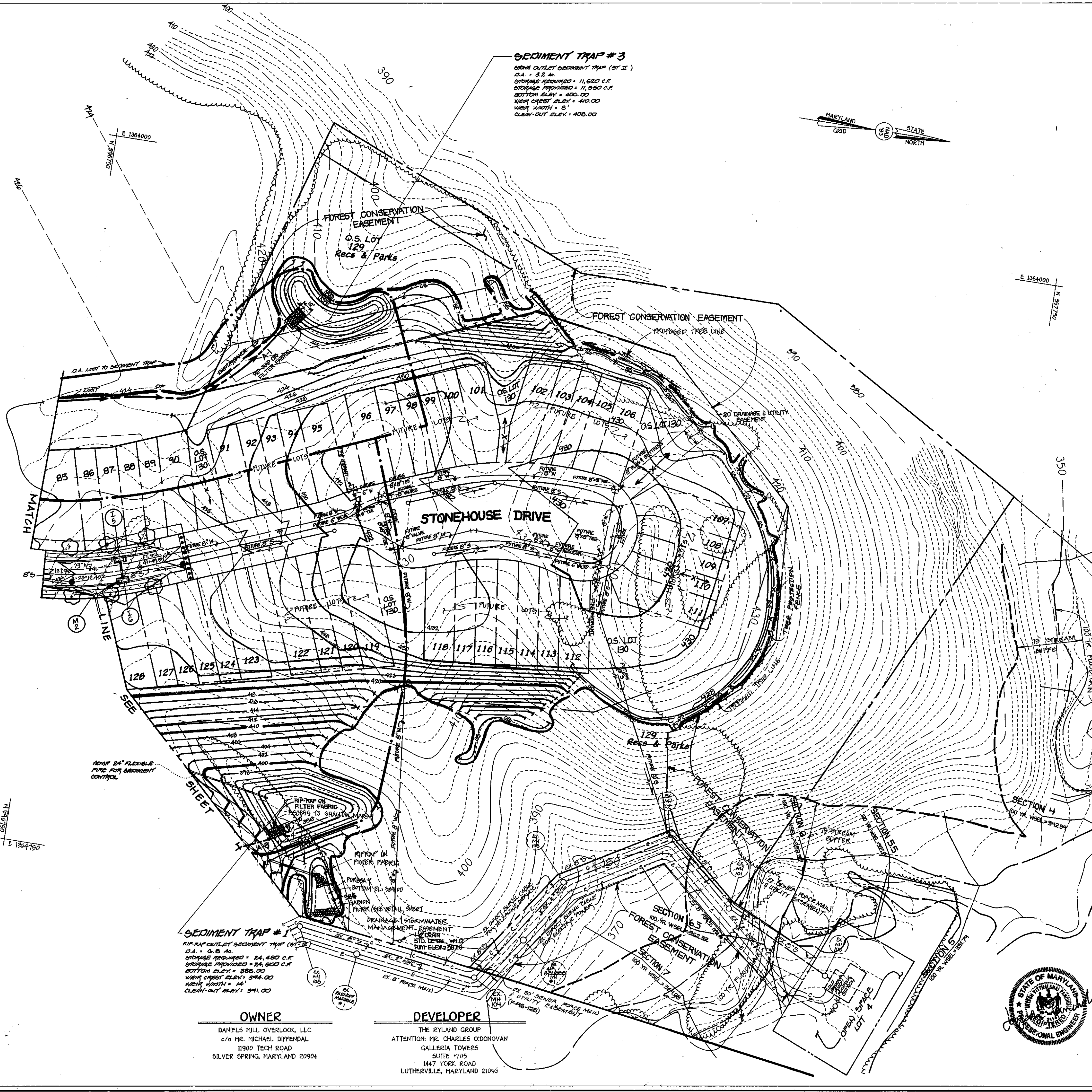
APPROVED DEPARTMENT OF PLANNING AND ZONING
Richard Blahut 2/13/97
 DIST. DIVISION OF LAND DEVELOPMENT DATE

APPROVED DEPARTMENT OF PUBLIC WORKS
Andrew M. [Signature] 1/10/97
 CHIEF, BUREAU OF HIGHWAYS DATE

STREET TREE SCHEDULE

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
(Symbol)	ACER RUBRUM, 'OCTOBER GLORY' RED MAPLE	2 1/2" - 3" CALIPER	40' APART ON PUBLIC R/W

NOTE: STREET TREES ARE ONLY A RECOMMENDATION. THIS MAY BE REVISED TO A COUNTY ACCEPTABLE EQUIVALENT. A MINIMUM SPACING OF 20 SHALL BE MAINTAINED BETWEEN TREE AND STREET LIGHT.
 TOTAL NUMBER OF STREET TREES
 6 - G STREET TREES (THIS SHEET)

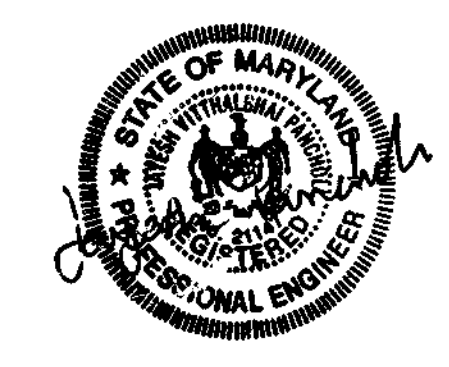


LEGEND

- INLET PROTECTION
- CURBER SALT FENCE
- TREE PROTECTION FENCE
- LIMIT OF DISTURBANCE
- DRAINAGE AREA LIMITS (TO SEDIMENT TRAP)

STREET TREE, GRADING & SEDIMENT CONTROL PLAN

Daniels Mill Overlook
 Section 2, Area 1
 Lots 20 thru 84
 ZONING: R-ED
 Tax Map 17, Part of Parcel 41 and All of Parcel 547, Grid 12
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: AUGUST 1996
 Scale: 1" = 50'
 SHEET 5 OF 16

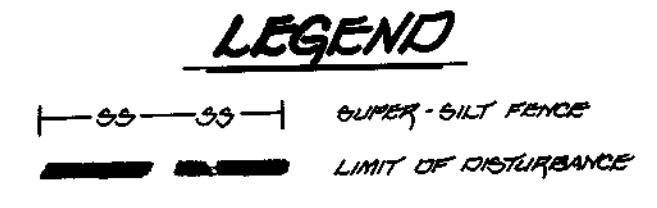


OWNER
 DANIELS MILL OVERLOOK, LLC
 c/o MR. MICHAEL DIFFENDAL
 11900 TECH ROAD
 SILVER SPRING, MARYLAND 20904

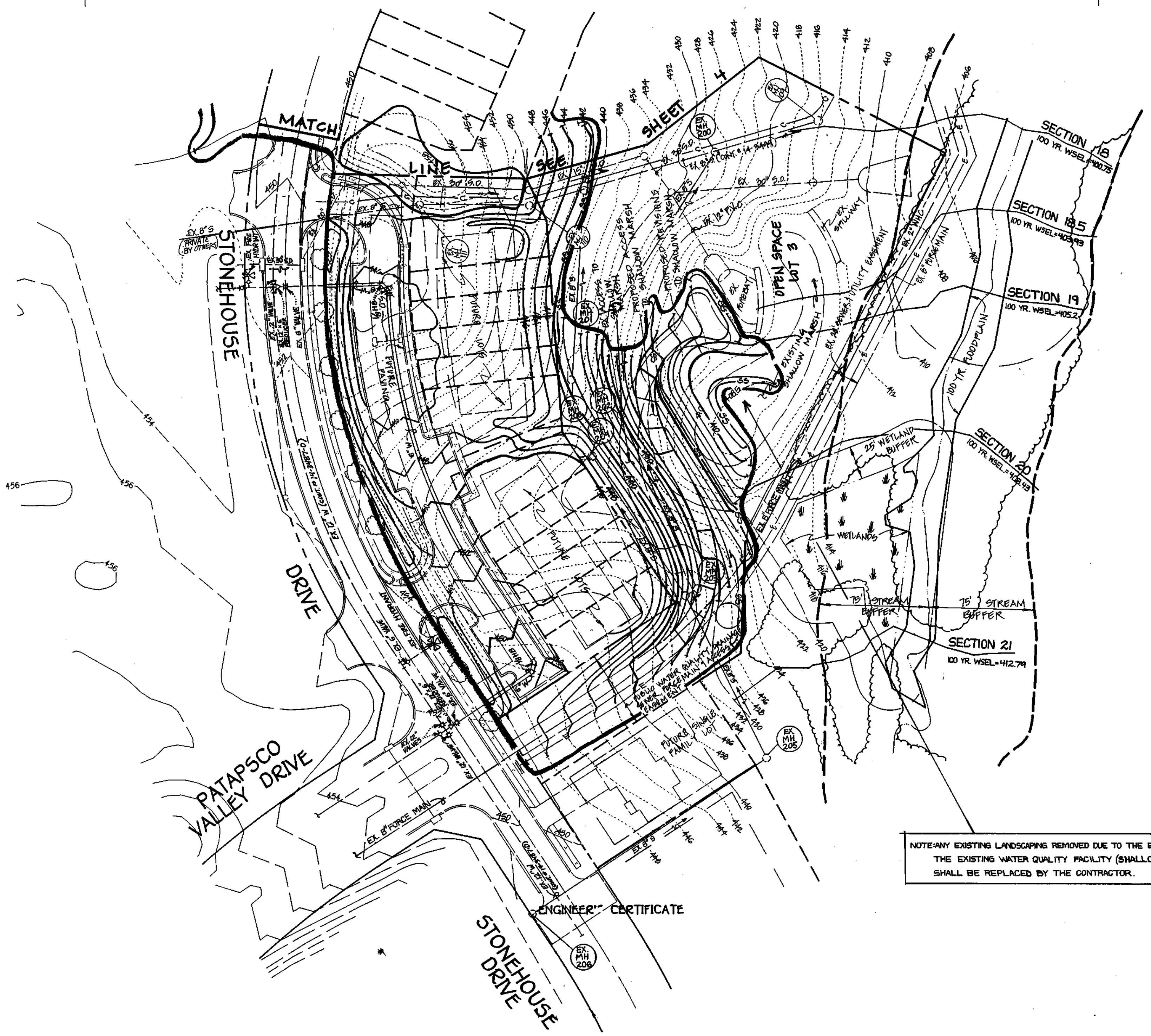
DEVELOPER
 THE RYLAND GROUP
 ATTENTION: MR. CHARLES O'DONOVAN
 GALLERIA TOWERS
 SUITE 705
 1447 YORK ROAD
 LUTHERVILLE, MARYLAND 21093

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 18075 BALTIMORE NATIONAL PIKE
 ELKLOTT CITY, MARYLAND 20942
 410-461-2895

1783



N 596250
E 1384100
N 596250
E 1384650



ENGINEER'S CERTIFICATE	
I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.	
<i>Joseph Bunch</i> SIGNATURE OF ENGINEER	12-13-96 DATE
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.	
<i>Michael...</i> SIGNATURE OF DEVELOPER	12-13-96 DATE
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.	
<i>Cheryl...</i> U.S.D.A. - NATIONAL RESOURCES CONSERVATION SERVICE	1/6/97 DATE
THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.	
<i>John R. Robertson</i> DISTRICT HOWARD SOIL CONSERVATION DIST.	1/6/97 DATE
APPROVED DEPARTMENT OF PLANNING AND ZONING	
<i>Richard Blood</i> CHIEF, DIVISION OF LAND DEVELOPMENT	2/13/97 DATE
<i>...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	1/10/97 DATE
APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>Richard M. ...</i> CHIEF, BUREAU OF HIGHWAYS	1-20-97 DATE



GRADING & SEDIMENT CONTROL PLAN

Daniels Mill Overlook
Section 2, Area 1
Lots 20 thru 84

ZONING: R-ED
Tax Map 17, Part Of Parcel 41 and All Of Parcel 547, Grid 12
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: AUGUST 1998

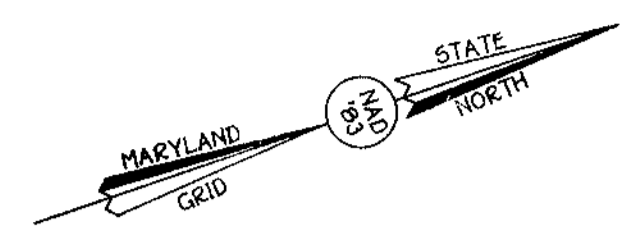
Scale: 1" = 50'
SHEET 6 OF 16

OWNER
DANIELS MILL OVERLOOK, LLC
c/o MR. MICHAEL DIFFENDAL
11900 TECH ROAD
SILVER SPRING, MARYLAND 20904

DEVELOPER
THE RYLAND GROUP
ATTENTION: MR. CHARLES O'DONOVAN
GALLERIA TOWERS
SUITE #705
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

1783

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21117
(410) 661-2855



STREET TREE SCHEDULE			
SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	ACER RUBRUM, 'OCTOBER GLORY' RED MAPLE	2 1/2" - 3" CALIPER	40' APART ON PUBLIC R/W

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

TOTAL NUMBER OF STREET TREES
 - 52 STREET TREES (THIS SHEET)

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE 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 EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY.

[Signature] 8-1-96
 SIGNATURE OF DEVELOPER DATE

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

[Signature] 8-6-96
 SIGNATURE OF ENGINEER DATE

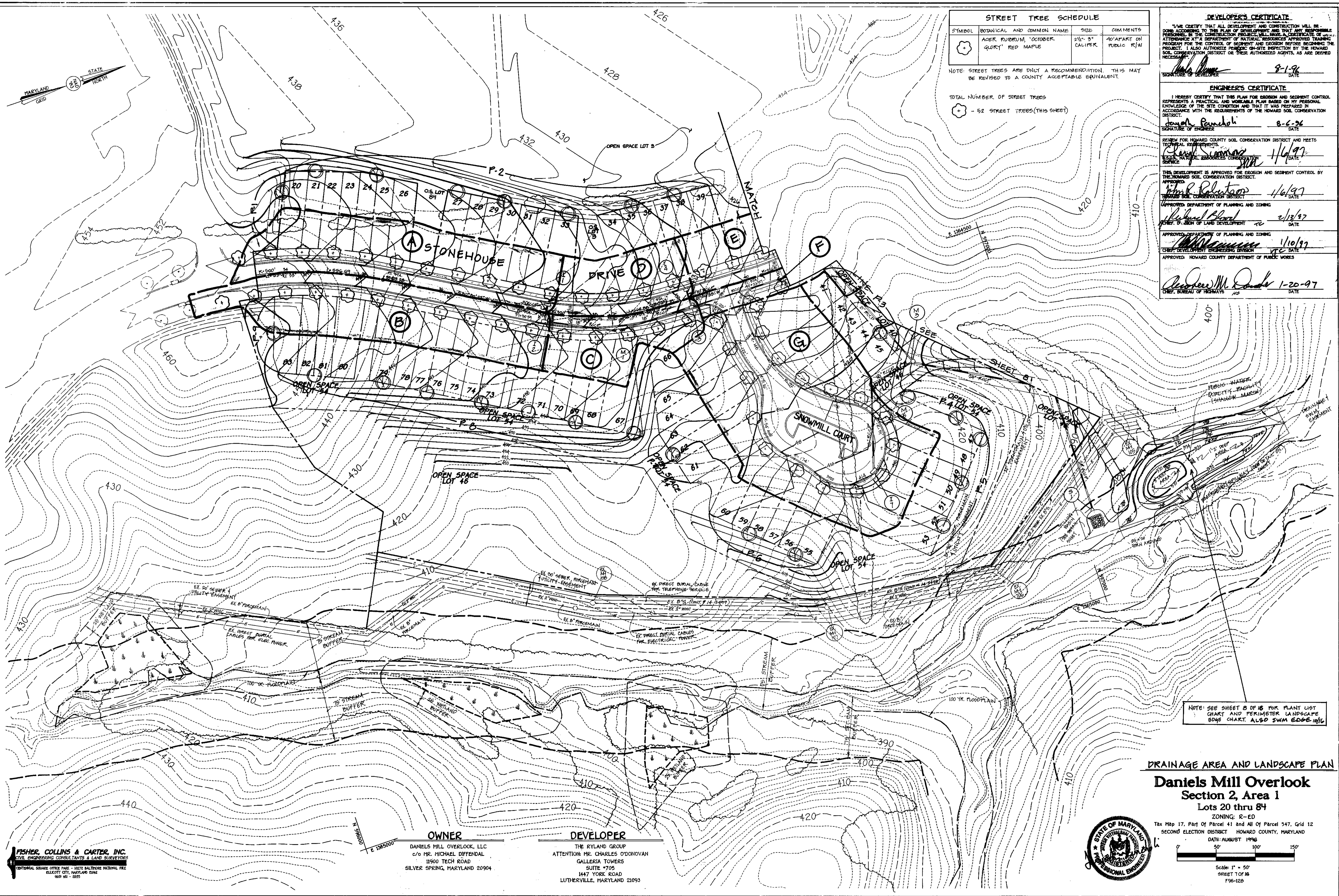
REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
[Signature] 11/6/97
 REVIEWER, NATIONAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 11/6/97
 APPROVED, HOWARD COUNTY SOIL CONSERVATION DISTRICT DATE

APPROVED DEPARTMENT OF PLANNING AND ZONING
[Signature] 2/13/97
 APPROVED, DEPARTMENT OF PLANNING AND ZONING DATE

APPROVED DEPARTMENT OF PLANNING AND ZONING
[Signature] 11/10/97
 APPROVED, DEPARTMENT OF PLANNING AND ZONING DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 1-20-97
 APPROVED, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS DATE



NOTE: SEE SHEET B OF 15 FOR PLANT LIST CHART AND PERIMETER LANDSCAPE BDAE CHART. ALSO SWM EDGE 10/16

DRAINAGE AREA AND LANDSCAPE PLAN

Daniels Mill Overlook
 Section 2, Area 1
 Lots 20 thru 84
 ZONING: R-ED
 Tax Map 17, Part Of Parcel 41 And All Of Parcel 547, Grid 12
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: AUGUST 1996
 SCALE: 1" = 50'
 SHEET 1 OF 16
 F96-126

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 NATIONAL SQUARE OFFICE PARK - 10272 BALDWIN NATIONAL FEE
 BELLEVILLE CITY, MARYLAND 21042
 410-661-1255

OWNER
 DANIELS MILL OVERLOOK, LLC
 c/o MR. MICHAEL DIFFENDAL
 11900 TECH ROAD
 SILVER SPRING, MARYLAND 20904

DEVELOPER
 THE RYLAND GROUP
 ATTENTION: MR. CHARLES O'DONOVAN
 GALLERIA TOWERS
 SUITE #705
 1447 YORK ROAD
 LUTHERVILLE, MARYLAND 21093

1783

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THE PLAN OF DEVELOPMENT AND THAT ANY RESPONSIBLE PERSONNEL IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.
 Signature of Developer: *Charles D. Jones* DATE: 9-1-96

ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature of Engineer: *Joseph P. Borsari* DATE: 8-6-96

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
 Signature: *Joseph P. Borsari* DATE: 1/6/97
 TITLE: NATURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: *John R. Robertson* DATE: 1/6/97
 TITLE: SOIL CONSERVATION DISTRICT

APPROVED DEPARTMENT OF PLANNING AND ZONING
 Signature: *Richard Blood* DATE: 2/13/97
 TITLE: CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED DEPARTMENT OF PLANNING AND ZONING
 Signature: *William J. ...* DATE: 1/10/97
 TITLE: CHIEF, DEVELOPMENT ENGINEERING DIVISION

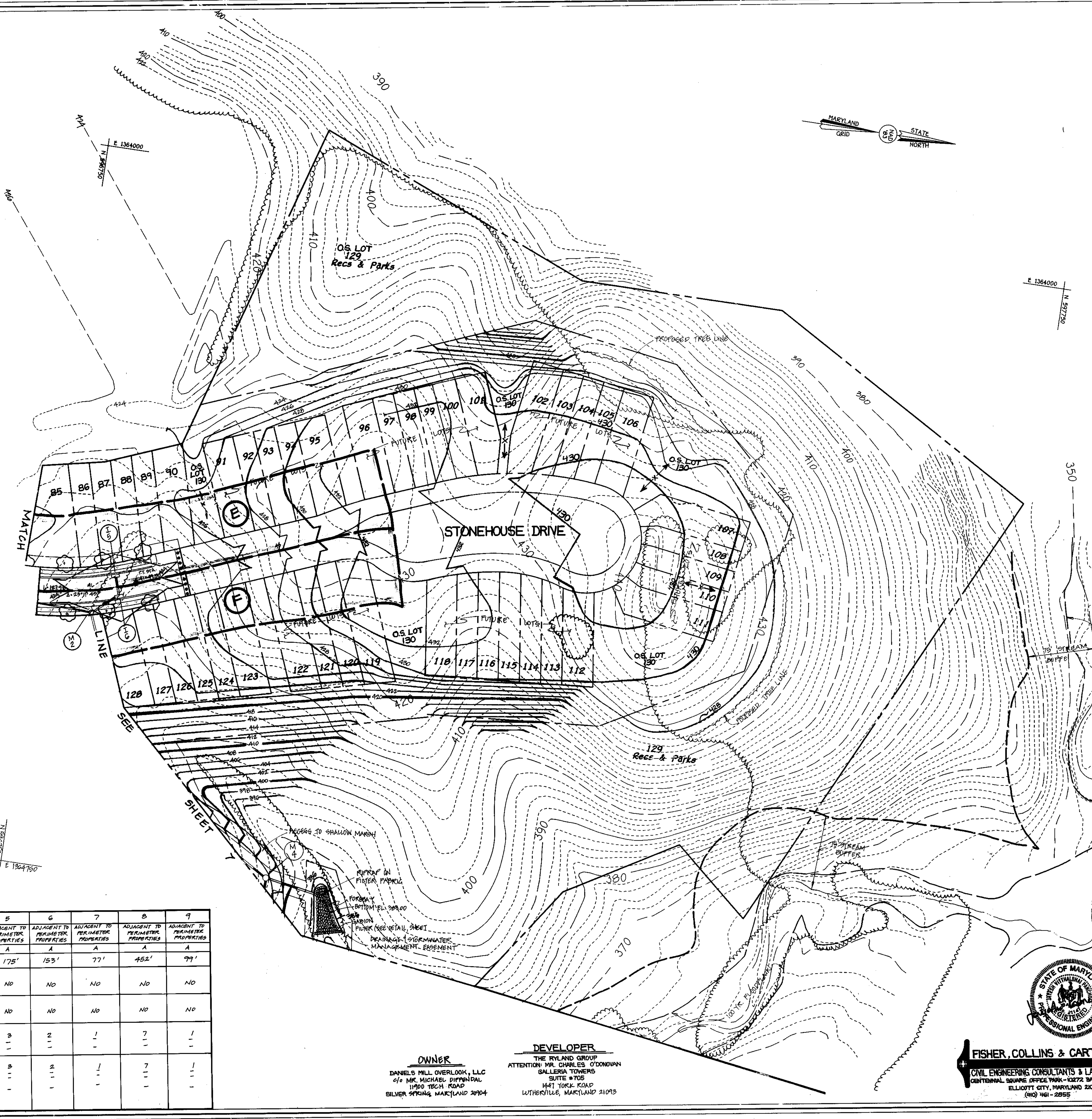
APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Signature: *Andrew M. ...* DATE: 1-20-97
 TITLE: CHIEF, BUREAU OF HIGHWAYS

STREET TREE SCHEDULE

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
☉	ACER RUBRUM 'OCTOBER GLORY'	2 1/2" - 3" CALIPER	40' APART ON PUBLIC R/W
☉	QUERCUS RUBRA		

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

TOTAL NUMBER OF STREET TREES
 ☉ - G STREET TREES (THIS SHEET)



DRAINAGE AREA DATA

INLET	DRAINAGE AREA	AREA (ACRES)	'C'	ZONED	PERCENT IMP.
I-1	A	0.71	0.71	R-ED	65%
I-2	B	0.73	0.71	R-ED	65%
I-3	C	0.33	0.71	R-ED	65%
I-4	D	0.30	0.71	R-ED	65%
I-5	E	0.85	0.71	R-ED	65%
I-6	F	0.71	0.71	R-ED	65%
I-7	G	1.43	0.71	R-ED	65%

"THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL." FINANCIAL SURETY FOR THE 90 TOTAL REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$8000.

PLANT LIST

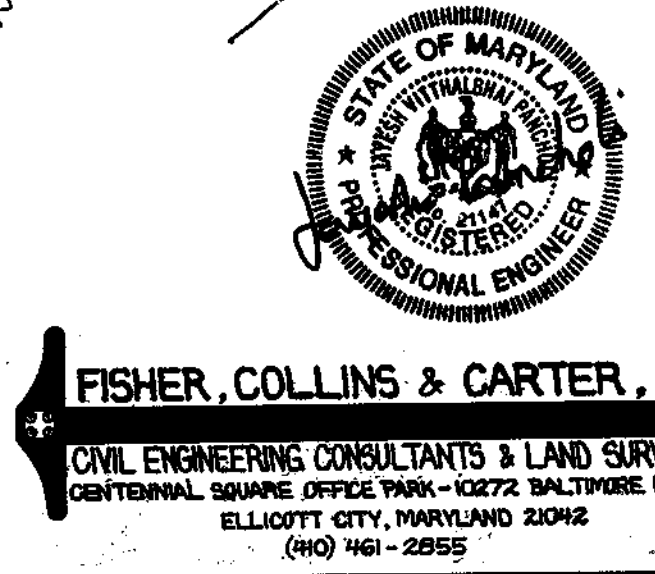
QTY	KEY	NAME	SIZE
12	☉	ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2 1/2" CALIPER FULL CROWN B1B
13	☉	PINUS STROBUS (EASTERN WHITE PINE)	6'8" HEIGHT

SCHEDULE 'A' - PERIMETER LANDSCAPE EDGE

PERIMETER CATEGORY	1	2	3	4	5	6	7	8	9
LANDSCAPE TYPE	A	A	A	A	A	A	A	A	A
LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	101'	487'	142'	120'	175'	153'	77'	452'	99'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR) DESCRIBE BELOW IF NEEDED	YES (15')	YES (50')	YES (42')	NO	NO	NO	NO	NO	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR) DESCRIBE IF NEEDED	NO	NO	NO	NO	NO	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED	1	7	1	2	3	2	1	7	1
SHADE TREES	-	-	-	-	-	-	-	-	-
EVERGREEN TREES	-	-	-	-	-	-	-	-	-
SHRUBS	-	-	-	-	-	-	-	-	-
NUMBER OF PLANTS PROVIDED	1	7	1	2	3	2	1	7	1
SHADE TREES	-	-	-	-	-	-	-	-	-
EVERGREEN TREES	-	-	-	-	-	-	-	-	-
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-	-	-	-	-	-
SHRUBS (2:1 SUBSTITUTION)	-	-	-	-	-	-	-	-	-
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED									

OWNER
 DANIELS MILL OVERLOOK, LLC
 c/o MR. MICHAEL DIFFENDAL
 1190 TECH ROAD
 SILVER SPRING, MARYLAND 20904

DEVELOPER
 THE RYLAND GROUP
 ATTENTION: MR. CHARLES O'DONOVAN
 GALLERIA TOWERS
 SUITE #705
 1441 YORK ROAD
 WITHERVILLE, MARYLAND 21093



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

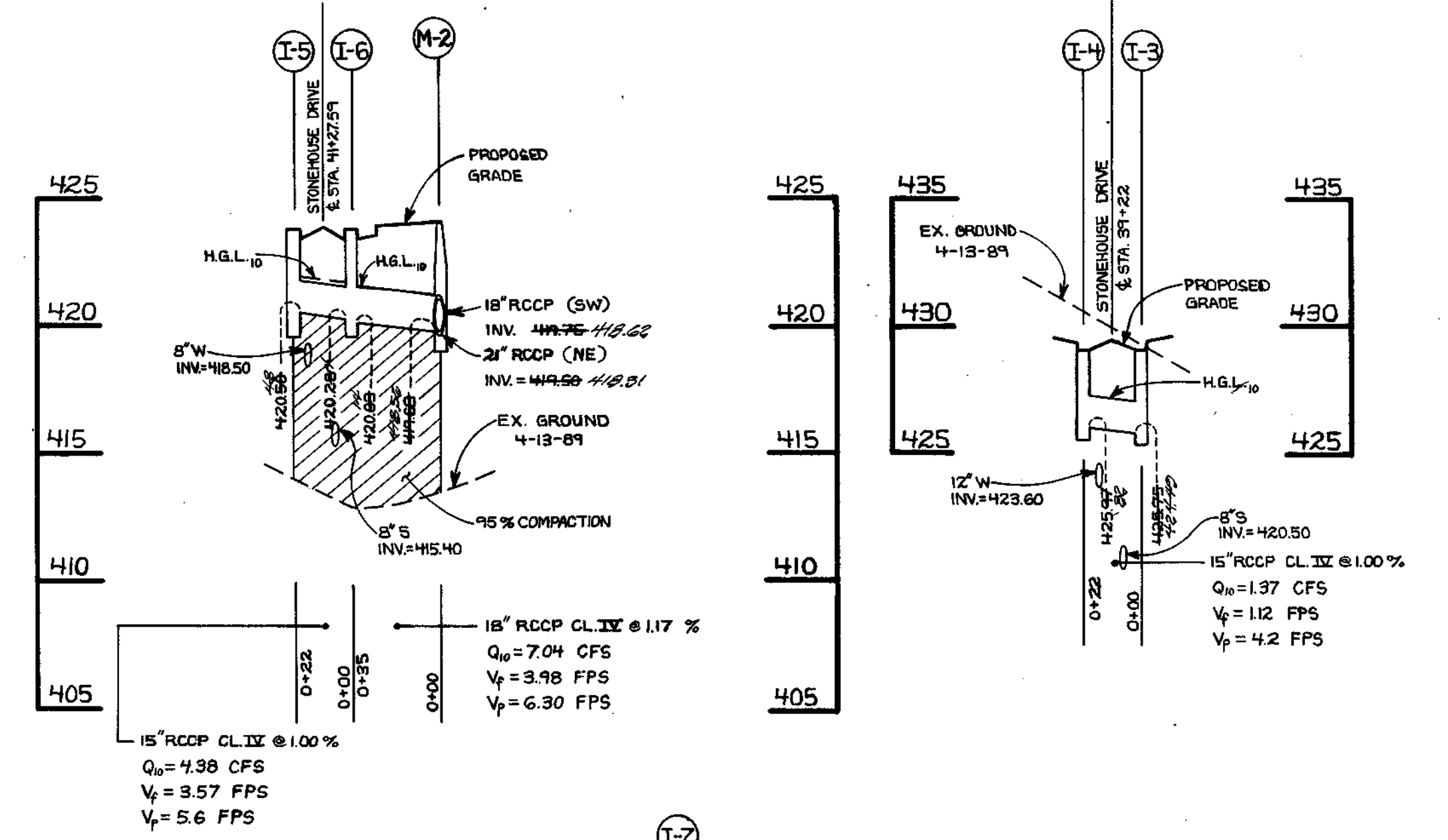
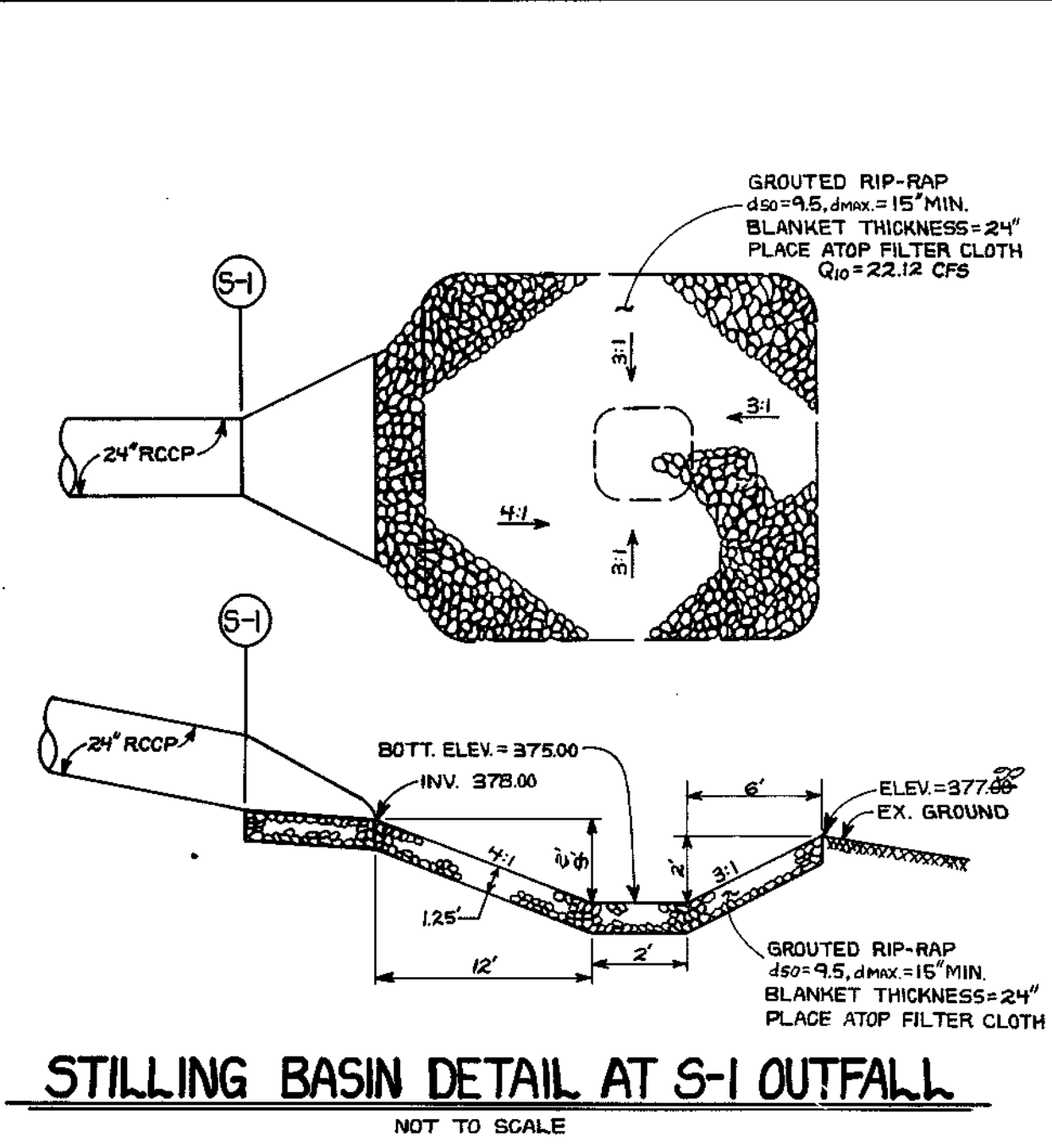
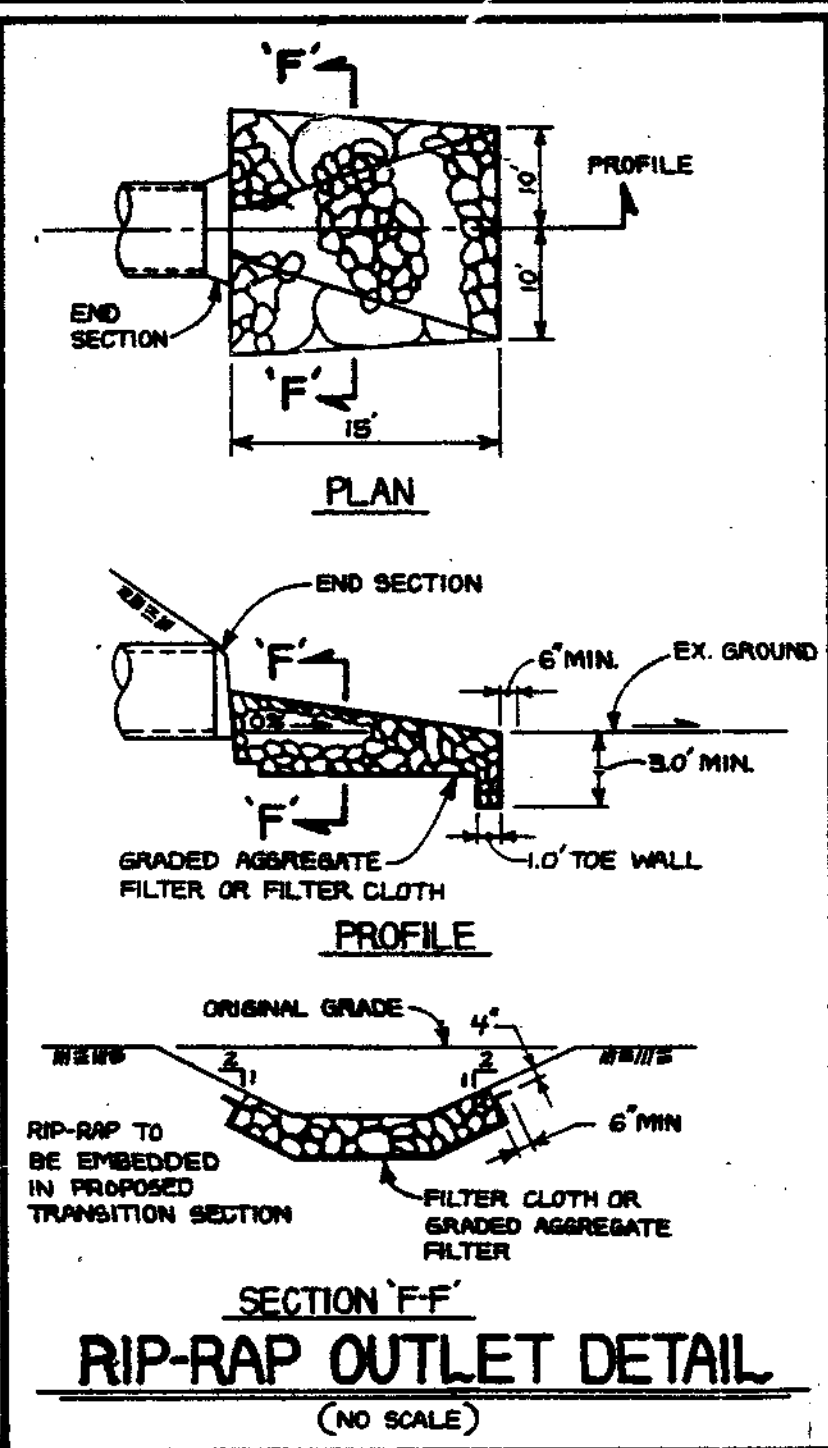
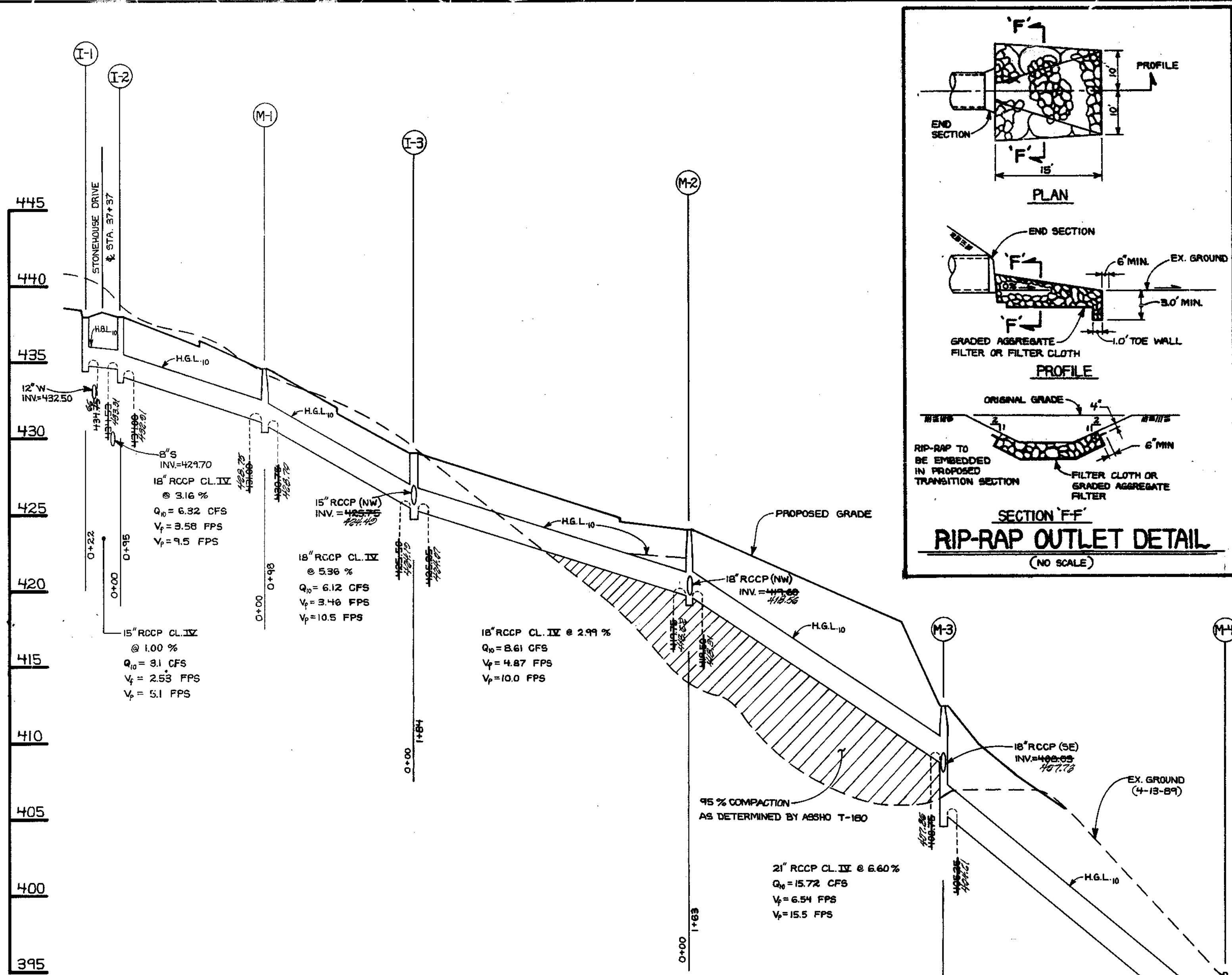
DRAINAGE AREA AND LANDSCAPE PLAN
Daniels Mill Overlook
 Section 2, Area 1
 Lots 20 thru 84
 ZONING: R-ED
 Tax Map 17, Part Of Parcel 41 and All Of Parcel 547, Grid 12
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: AUGUST 1996
 Scale: 1" = 50'
 SHEET 8 OF 16

1783

APPROVED DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE 1-20-97

APPROVED DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE 1/18/97

DATE 1/10/97
 DATE



STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-1	TOP OF GRATE = 437.761		434.766	STONEHOUSE DRIVE	37 + 316.52	11' L	DOUBLE 'S' WITH RETICULAR GRATE	HO. CO. STD. DETAIL S.D. 4.23 & 4.93
I-2	TOP OF GRATE = 437.761		434.761	STONEHOUSE DRIVE	37 + 316.52	11' R	DOUBLE 'S' WITH RETICULAR GRATE	S.D. 4.23 & 4.93
I-3	TOP OF GRATE = 429.4427		426.4427	STONEHOUSE DRIVE	39 + 280	11' R	TYPE 'S' WITH RETICULAR GRATE	S.D. 4.22 & 4.93
I-4	TOP OF GRATE = 429.16		426.16	STONEHOUSE DRIVE	39 + 22	11' L	TYPE 'S' WITH RETICULAR GRATE	S.D. 4.22 & 4.93
I-5	TOP OF GRATE = 423.44 84		420.44 84	STONEHOUSE DRIVE	41 + 27.99 20	11' L	DOUBLE 'S' WITH RETICULAR GRATE	S.D. 4.23 & 4.93
I-6	TOP OF GRATE = 423.44 30		420.44 30	STONEHOUSE DRIVE	41 + 27.99 20	11' R	DOUBLE 'S' WITH RETICULAR GRATE	S.D. 4.23 & 4.93
I-7	TOP OF GRATE = 413.94 40		410.94 28	SNOWPILL COURT	L.P. STA. 2.40	11' L		S.D. 4.23 & 4.93
M-1	434.54-73	433.75	432.75	STONEHOUSE DRIVE	38 + 27	20' R	STD. MANHOLE	G. 5.11
M-2	424.44-26	423.75	422.75				STD. MANHOLE	G. 5.11
M-3	412.44 20	411.75	410.75				STD. MANHOLE	G. 5.11
M-4	396.44-82	395.75	394.75				STD. MANHOLE	G. 5.11
M-5	384.44-28	383.75	382.75				STD. MANHOLE	G. 5.11
S-1	380.25	378.00	378.00				CONC. END SECTION	S.D. 5.51
S-2	385.44-10	384.627	384.627				PVC END SECTION	

STORM DRAIN PROFILES
 SCALE: 1/50' HORIZ. 1/5' VERT.

OWNER: DANIELS MILL OVERLOOK, LLC
 c/o MR. MICHAEL DIFFENDAL
 11900 TECH ROAD
 SILVER SPRING, MARYLAND 20904

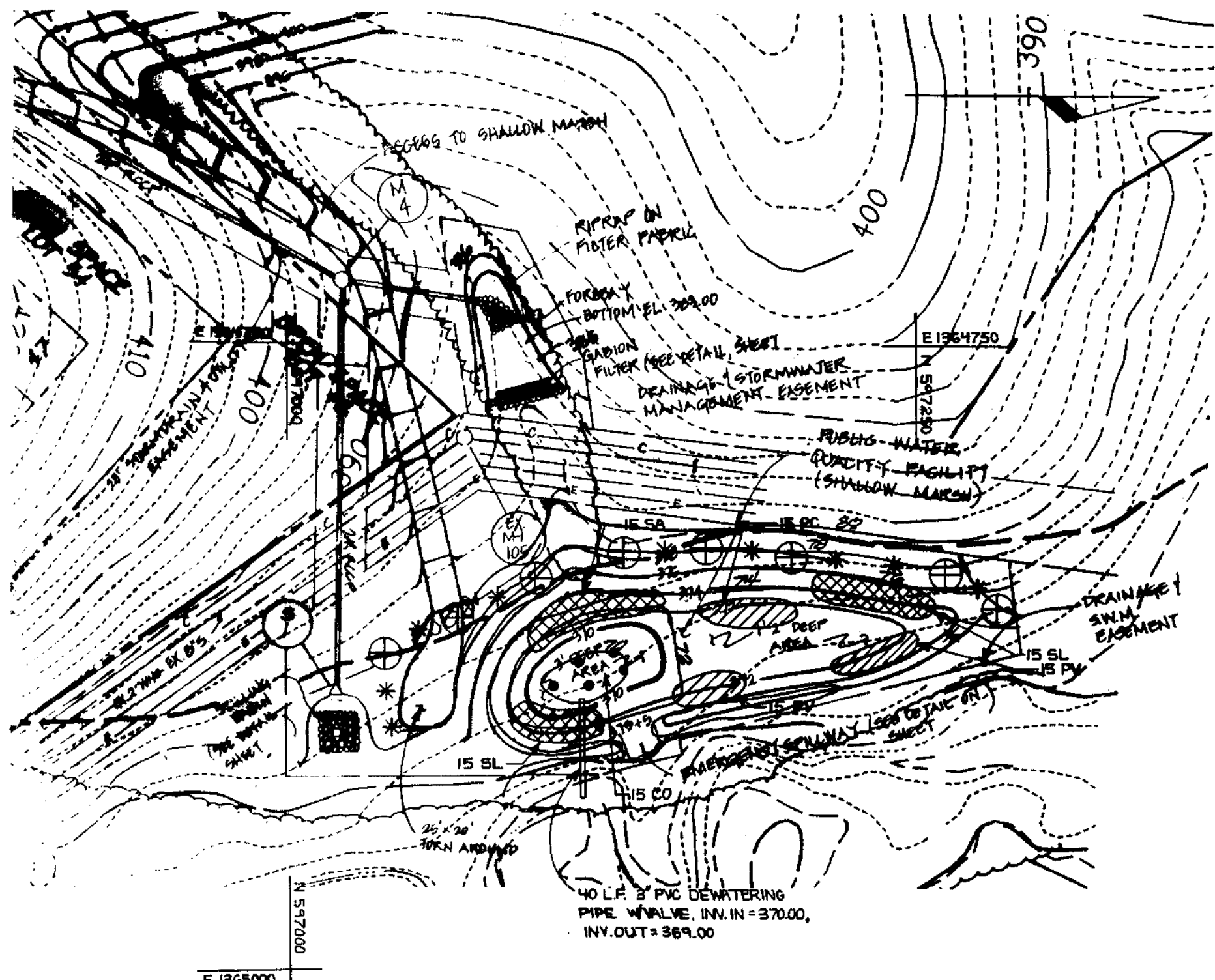
DEVELOPER: THE RYLAND GROUP
 ATTENTION: MR. CHARLES O'DONOVAN
 GALLERIA TOWERS
 SUITE #705
 1147 YORK ROAD
 LUTHERVILLE, MARYLAND 21093



STORM DRAIN PROFILES
 DANIELS MILL OVERLOOK
 SECTION 2 AREA 1
 LOTS 20 THRU 84
 ZONED: R-ED
 TAX MAP No. 17 PARCEL Nos. 41 AND 547
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SHEET 9 OF 16
 DATE: AUGUST 1996

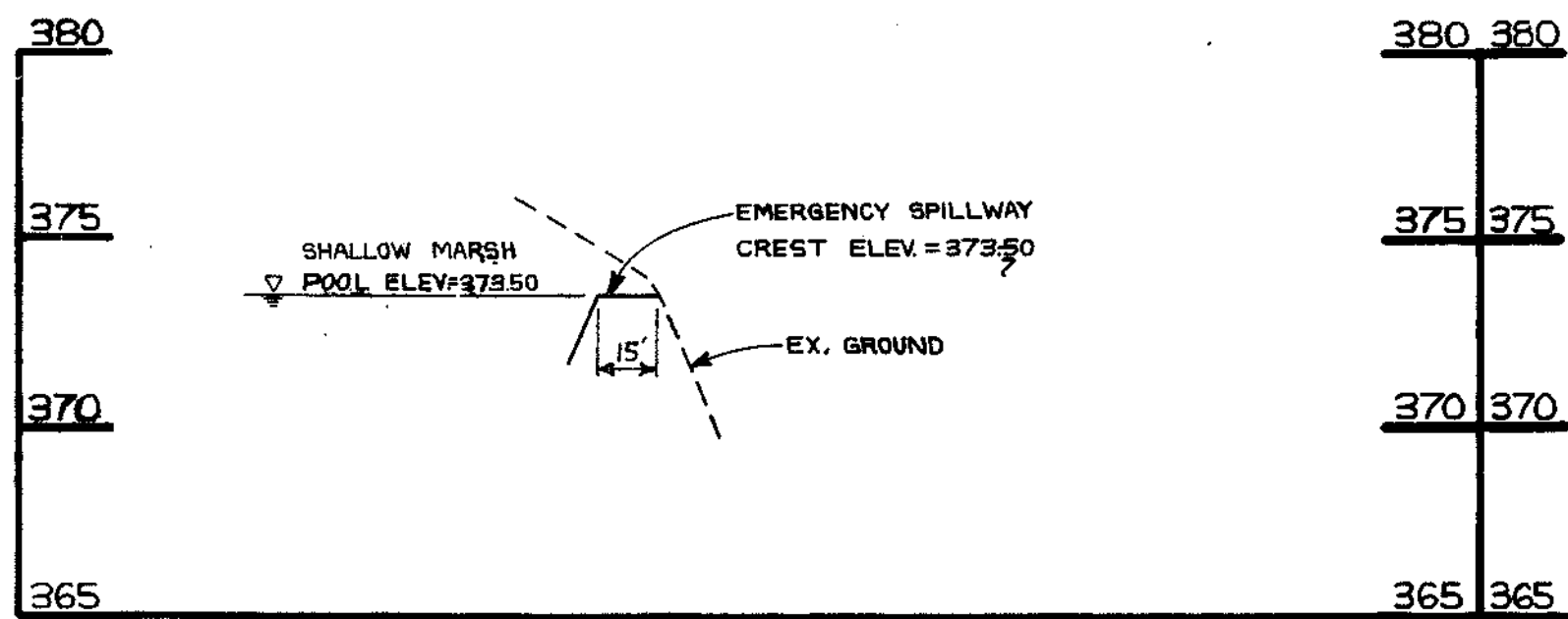
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FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10725 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 410.461.3225



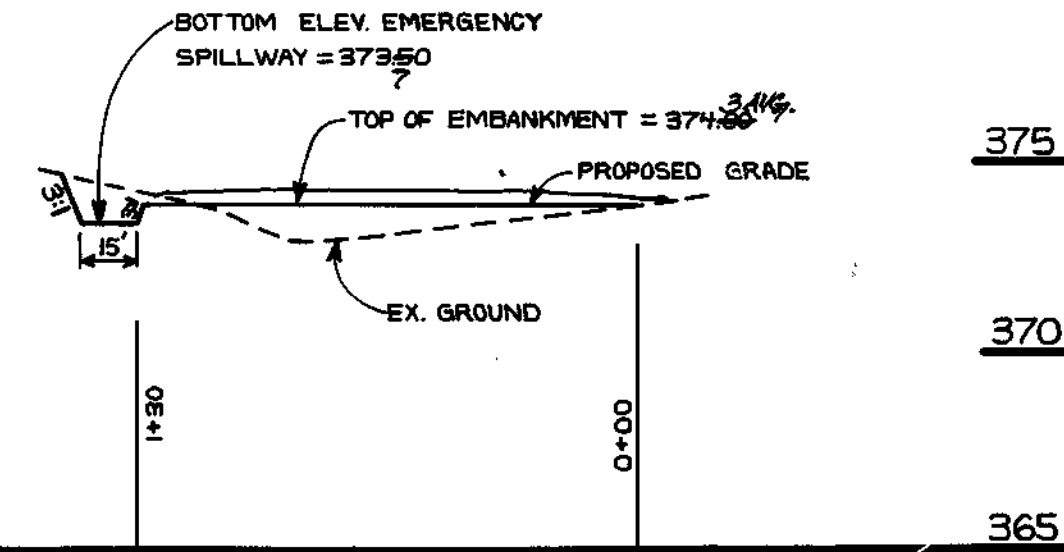
WATER QUALITY FACILITY (SHALLOW MARSH)

PLAN
SCALE: 1" = 50'



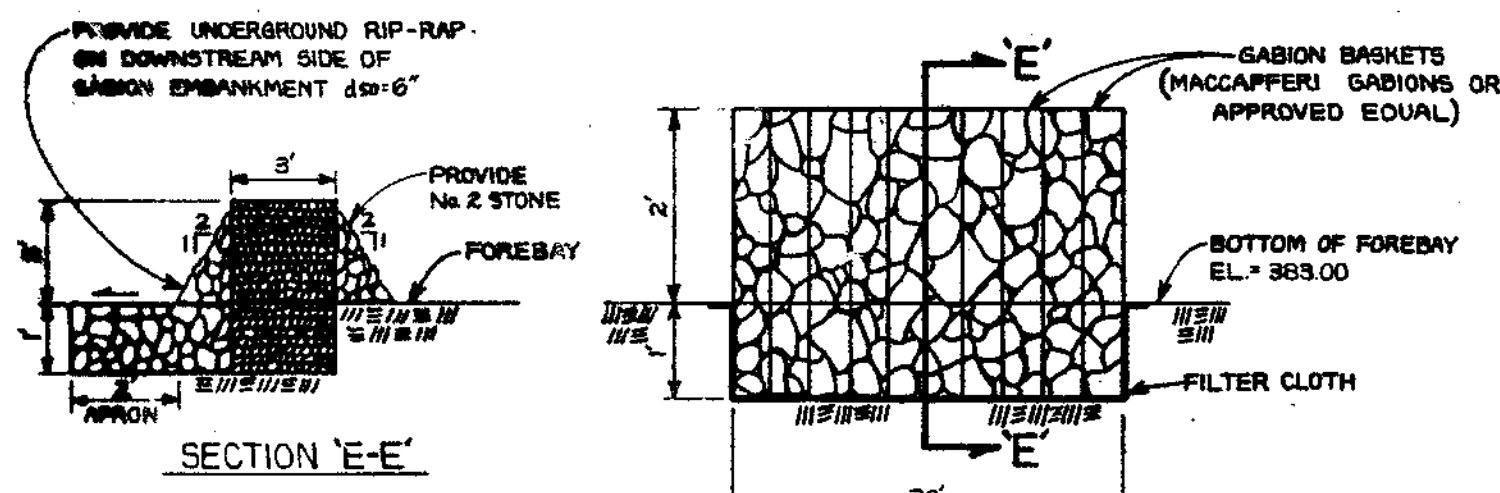
PROFILE THRU EMERGENCY SPILLWAY AT SHALLOW MARSH

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



PROFILE ALONG SHALLOW MARSH EMBANKMENT

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



GABION FILTER AT FOREBAY
(NO SCALE)

**SCHEDULE D
STORMWATER MANAGEMENT AREA LANDSCAPING**

LINEAR FEET OF PERIMETER	720'
NUMBER OF TREES REQUIRED SHADE TREES EVERGREEN TREES	BASED ON 100 L.F. 8 (1/50) 10 (1/40)
CREDIT FOR EXISTING VEGETATION (NO. TREES AND %)	320'
CREDIT FOR OTHER LANDSCAPING (NO. TREES AND %)	---
NUMBER OF TREES PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION)	8 SYMBOL \oplus 10 \ast

PLANT LIST FOR WATER QUALITY FACILITY, SHALLOW MARSH

KEY	QTY.	PLANT SPECIES	SIZE	REMARKS
PRIMARY WETLAND VEGETATION				
SL	30	SAGITTARIA LATIFOLIA DUCK POTATO	ROOTS	36" OC
SA	15	SCIRPUS AMERICANUS COMMON THREE SQUARE	ROOTS	36" OC
SECONDARY WETLAND VEGETATION				
CO	15	CEPHALOTHUS OCCIDENTALIS BUTTON BUSH	ROOTS	5 CLUMPS OF 3
PV	30	PELTANDRA VIRGINICA ARROW-ARUM	ROOTS	36" OC
PC	15	PONTEDERIA CORDATA PICKEREL WEED	ROOTS	36" OC

- 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 LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.

ENGINEER'S CERTIFICATE

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

Signature: *James P. Daniels*
DATE: 12-13-96

DEVELOPER'S CERTIFICATE

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

Signature: *James P. Daniels*
DATE: 12-13-96

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
Signature: *David Summers*
DATE: 1/6/97

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Signature: *John R. Robertson*
DATE: 1/6/97

APPROVED DEPARTMENT OF PLANNING AND ZONING
Signature: *Richard Beard*
DATE: 2/13/97

APPROVED DEPARTMENT OF PUBLIC WORKS
Signature: *William J. Williams*
DATE: 1/10/97

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Signature: *Robert M. Daniels*
DATE: 1-20-97

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

SIGNATURE: _____ PE NO. _____ DATE: _____

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

OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF PONDS 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-579), THE POND OWNERS' AND ANY HEREIN, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNERS 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.

HOMEOWNER'S ASSOCIATION MAINTENANCE RESPONSIBILITIES FOR SHALLOW MARSH

- 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 ANY TIME.
- 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.

WATER QUALITY CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds and structures to be constructed in accordance with the requirements of the Standard for practice MD-279. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation
Area designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, rocks and other objectionable material shall be removed. Channel banks and steep banks shall be sloped to no steeper than 1:1.
Area to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For city stormwater management ponds, a minimum of a 50 foot radius around the inlet structure shall be cleared.
All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully continuous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any burrless coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nepon, Plast-Coat, Iso-Black, and Bio-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.
Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.
Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum surfaces that are to be in contact with concrete shall be primed with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soil shall be between 4 and 9.
Structural Bedding
Bedding adjacent to pipes of structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the bedding operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure at peak unless there is a compacted fill of 24" or greater over the structure or pipe.
Pipe Connections
All pipe shall be circular in cross section.
Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:
1. Materials - Reinforced concrete pipe shall have bed and support joints with rubber gaskets and shall equal or exceed ASTM Designation C-301.
2. Bedding - All reinforced concrete pipe conduits shall be laid in a dry-fit bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.
3. Layer pipe - Bed and spigot pipe shall be placed with the bed and upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are placed for the entire line, the bedding shall be placed on the all spaces under the pipe and bed. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the near.
4. Backfilling shall conform to "Structure Bedding".

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:
1. Materials - Reinforced concrete pipe shall have bed and support joints with rubber gaskets and shall equal or exceed ASTM Designation C-301.
2. Bedding - All reinforced concrete pipe conduits shall be laid in a dry-fit bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.
3. Layer pipe - Bed and spigot pipe shall be placed with the bed and upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are placed for the entire line, the bedding shall be placed on the all spaces under the pipe and bed. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the near.
4. Backfilling shall conform to "Structure Bedding".

Concrete
Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608, Mix No. 3.
Rock Riprap
Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608.
Soil
The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be thoroughly interpenetrated with the larger rocks uniformly distributed and firm. In contact one to another with the smaller rocks filling voids between the larger rocks. Filter cloth shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 918.12.
Care of Water Quality Construction
All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The Contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavation, foundation, and other parts of the work free from water as required or directed by the engineer for commencing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the upflow or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the location being refilled shall be maintained below the bottom of the excavation in such locations which may require draining the water to pumps from which the water shall be pumped.

Erosion and Sediment Control
Construction operations will be carried out in such a manner that erosion will be controlled and water and sediment control measures will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.
Drainage and Erosion Control
All borrow areas shall be graded to provide proper drainage and left in a sloppy condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, lining, tenting and mulching in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the drawings.

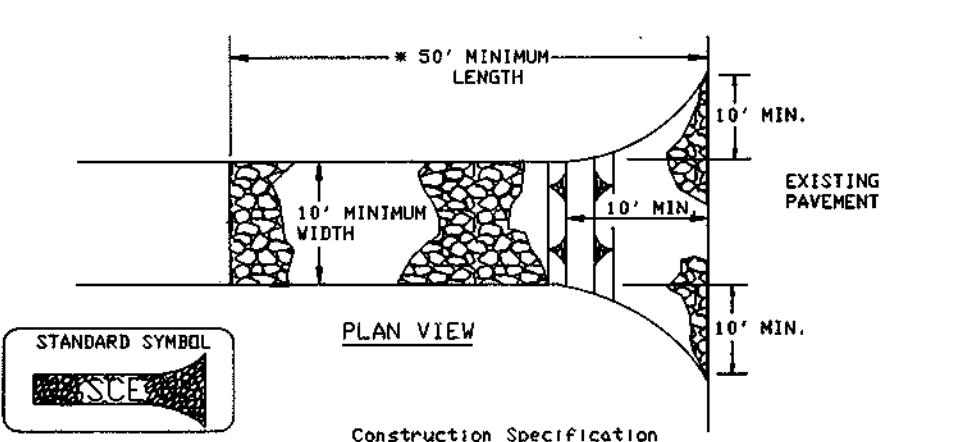
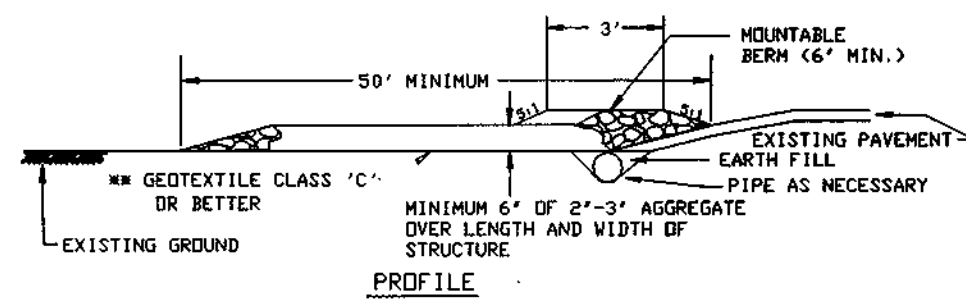
FISHER, COLLINS & CARTER, INC.
THE ENGINEERING CONSULTANTS & LAND SURVEYORS
1900 TECH ROAD
SILVER SPRING, MARYLAND 20904

OWNER
DANIELS MILL OVERLOOK, LLC
% MR. MICHAEL DIFFENDAL
1900 TECH ROAD
SILVER SPRING, MARYLAND 20904

DEVELOPER
THE RYLAND GROUP
ATTENTION: MR. CHARLES O'DONOVAN
GALLERIA TOWERS
SUITE #705
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

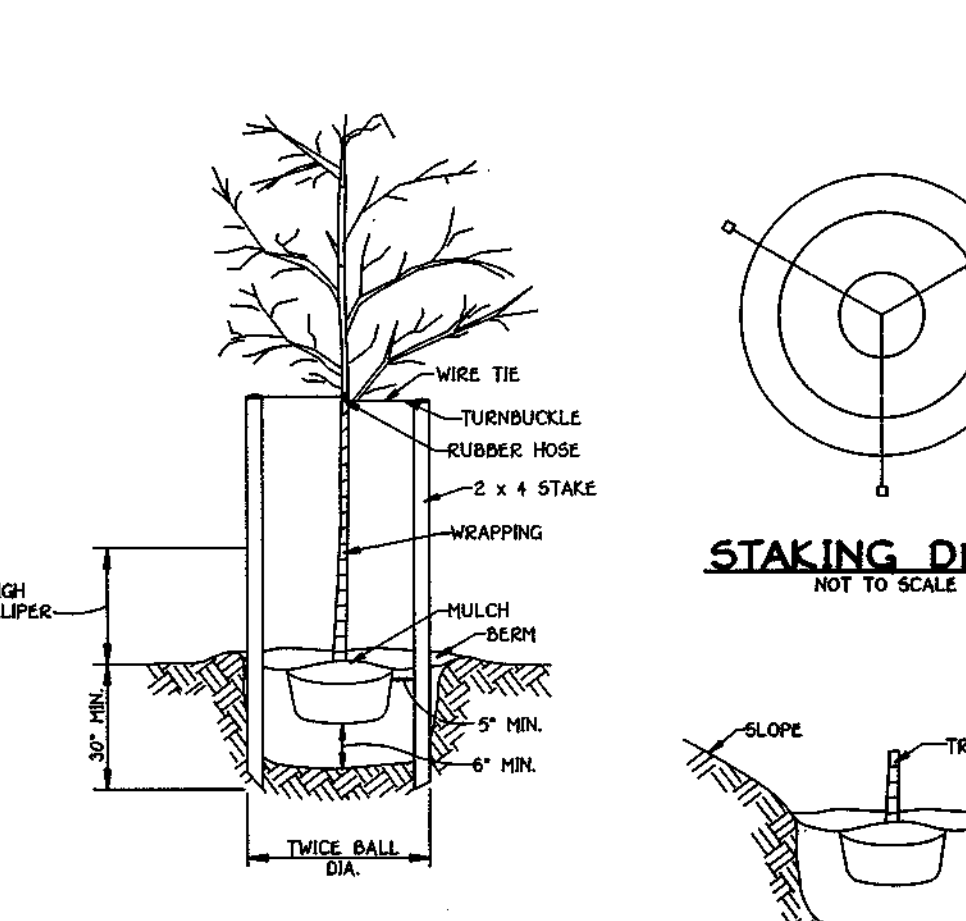


SHALLOW MARSH NOTES, DETAILS AND PLANTING.
DANIELS MILL OVERLOOK
SECTION 2 AREA 1
LOTS 20 THRU 84
ZONED: R-ED
TAX MAP No. 17 PARCEL Nos. 41 AND 547
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SHEET 10 OF 16
DATE: AUGUST 1996



- Construction Specifications**
- Length - minimum of 50' (#30' for single residence lot).
 - Width - 10' minimum, should be flared at the existing road to provide a turning radius.
 - Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residences to use geotextile.
 - Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
 - 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 pipe 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.
 - 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.

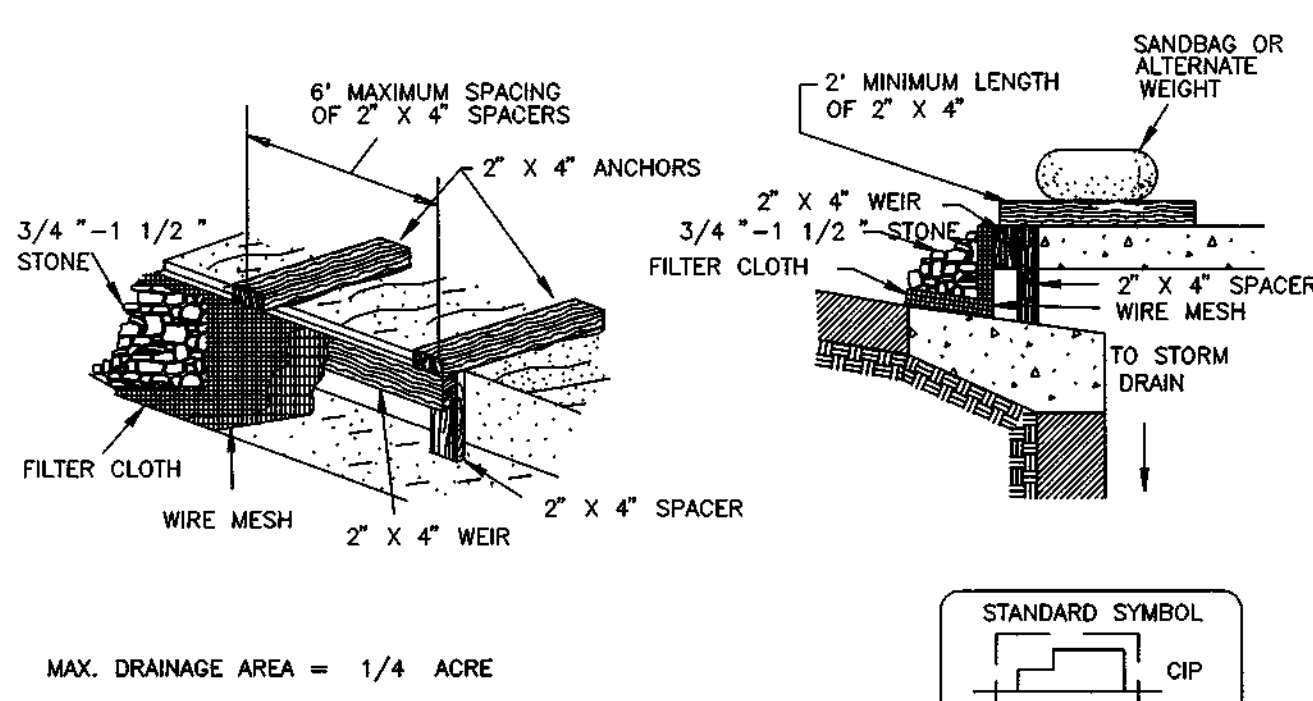
STABILIZED CONSTRUCTION ENTRANCE - 2
NOT TO SCALE



SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (10-10-95).
- 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 THERE TO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT CONTROL STRUCTURES MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 50), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	21.5	ACRES
AREA DISTURBED	5.4	ACRES
AREA TO BE ROOFED OR PAVED	5.5	ACRES
AREA TO BE VEGETATIVELY STABILIZED	14.9	ACRES
TOTAL CUT	16,300	CU.YDS.
TOTAL FILL	46,300	CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION		CU.YDS.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERMETER 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.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

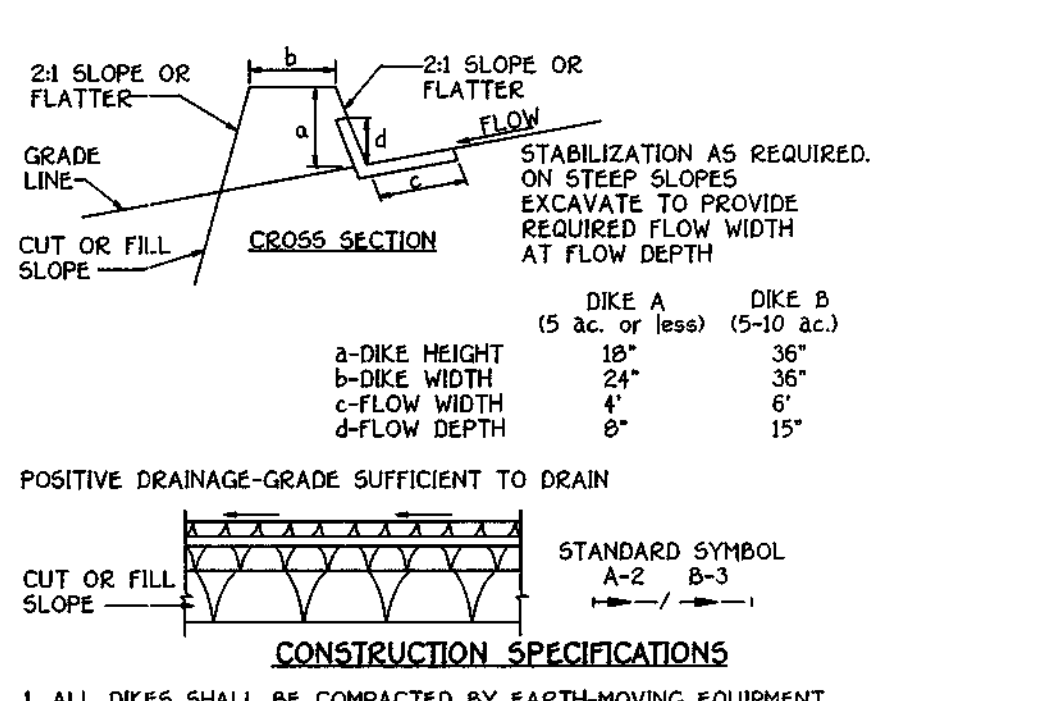


- Construction Specifications**
- Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
 - Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
 - 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).
 - 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.
 - The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
 - 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.
 - This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
 - 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 FOR VEGETATIVE STABILIZATION**
- DEFINITION**
Using vegetation as cover for barren soil to protect it from forces that cause erosion.
- PURPOSE**
Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.
- GENERAL PRACTICE APPLIES**
This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stabilization, clearance left side 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, seeded preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

- SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS**
- Site Preparation**
 - Install erosion and sediment control structures (either temporary or 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)**
 - 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 analysis.
 - 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 warranty of the producer.
 - 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 99-100% will pass through a #20 mesh sieve.
 - Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
 - Seeded Preparation**
 - Temporary Seeding**
a">
 - Seeded 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.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
 - Permanent Seeding**
a">
 - Minimum soil conditions required for permanent vegetative establishment:
 - Soil shall be less than 500 parts per million (ppm).
 - Soluble salts shall be less than 40% cation, but enough fine grained material (30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or sericea lespedeza is to be planted, then a sandy soil (50% silt plus clay) would be acceptable.
 - Soil shall contain 1% 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 soil by dragging with a heavy chain or other equipment to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
 - Apply soil amendments as per soil test or as included on the plans.
 - 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 seeded 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. Seeding loosening may not be necessary on newly disturbed areas.



Construction Specifications

- 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.
- FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
- 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.
- STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	5-3.0X	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0X	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELLENCE SOD 2" STONE
3	5.1-8.0X	SEED WITH JUTE, OR SOD	LINED RIP-RAP 4"-6"
4	8.1-20X	LINED RIP-RAP 4"-8"	ENGINEERING DESIGN

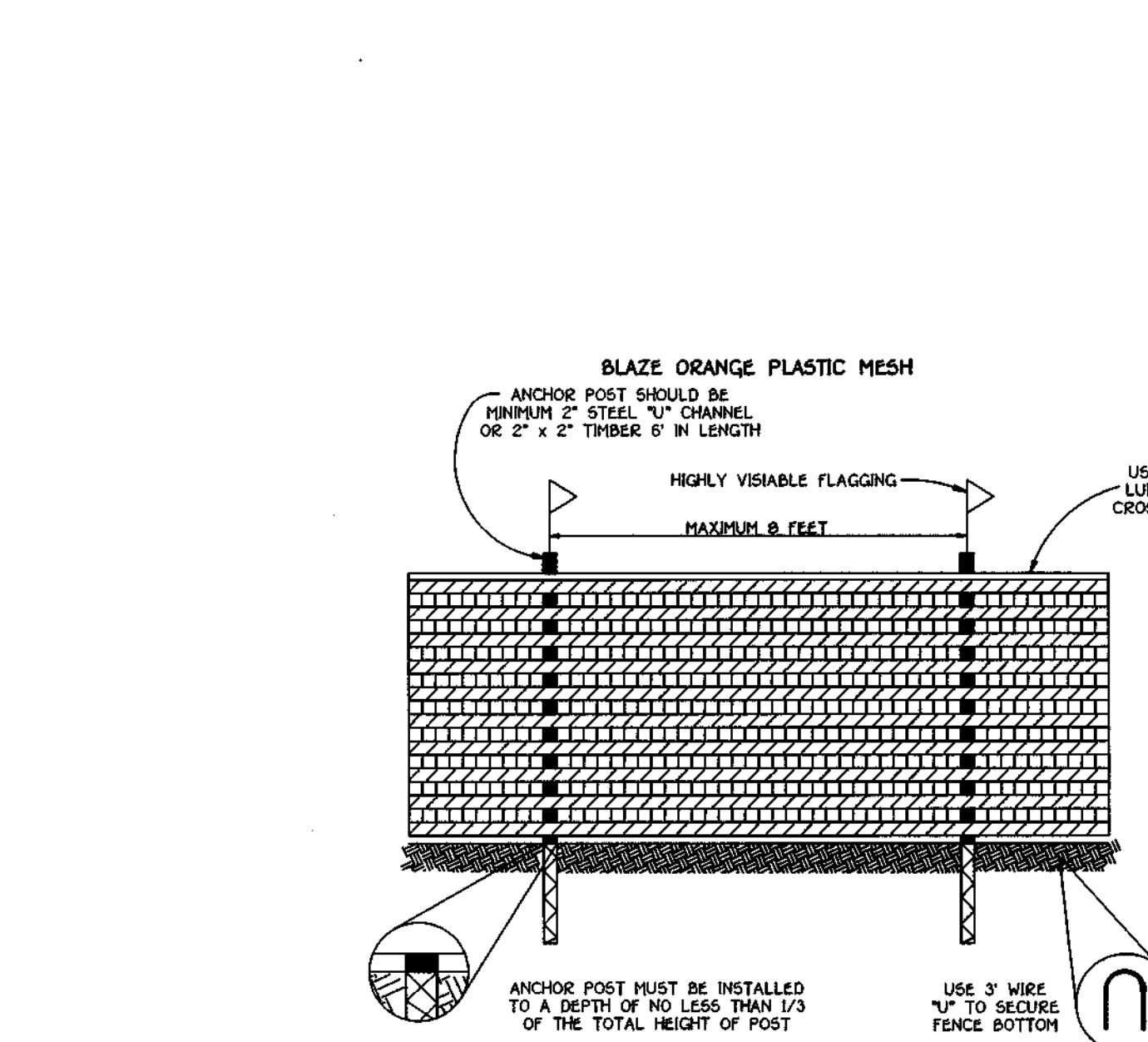
FLOW CHANNEL STABILIZATION

- 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.
- RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
- APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.

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

EARTH DIKE
NOT TO SCALE

- Seed Specifications**
 - 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 seeding for this project.
 - Incubant - The incubant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria. Incubants shall not be used for the date indicated on the container. Use four times the recommended rate when hydroseeding. Note: It is very important to keep incubant as cool as possible until used. Incubant above 70-80°F can weaken bacteria and make the incubant less effective.
 - Methods of Seeding
 - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded.
 - If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: Nitrogen: maximum of 100 lbs. per acre total of soluble nitrogen P205 (phosphorus): 200 lbs/acre K2O (potassium): 200 lbs/acre.
 - 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 without interruption.
 - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
 - Seed spread dry shall be incorporated into the soil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 205 or 206. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
 - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
 - Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
 - Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeding must be firm after planting.
 - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
 - Mulch Specifications (in order of preference):
 - Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
 - Wood Cellulose Fiber Mulch (WCFM)
 - WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - 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 mulch.
 - 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 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 seed.
 - WCFM material shall contain no elements or compounds at concentration levels that will be phytotoxic.
 - 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 10% maximum and moisture content to be increased to 2.5 tons/acre.
 - 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. If grading is completed outside of the seeding season, mulch 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.



- Tree Protection Detail**
NOT TO SCALE
- NOTES:**
- FOREST PROTECTION DEVICE ONLY.
 - SECTION 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.

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):
 - 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.
 - Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil if required and permanent seed and mulch. Any interruptions in the operation or completion of the seeding season will necessitate the application of temporary stabilization.
 - Incremental Stabilization of Embankments - Fill Slopes
 - Embankments shall be constructed in lifts as prescribed on the plans.
 - 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.
 - At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
 - Construction sequence: Refer to Figure 4 (below):
 - Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the fill. Construct slope soil fabric on low slope areas as necessary.
 - Place Phase 1 embankment, dress and stabilize.
 - Place Phase 2 embankment, dress and stabilize.
 - 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 completion of the seeding season will necessitate the application of temporary stabilization.

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 COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Signature of Developer: *[Signature]* Date: 8-1-96

ENGINEER'S CERTIFICATE

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

Signature of Engineer: *[Signature]* Date: 8-6-96

Signature of Engineer: *[Signature]* Date: 1/6/97

Signature of Engineer: *[Signature]* Date: 1/6/97

Signature of Engineer: *[Signature]* Date: 2/13/97

Signature of Engineer: *[Signature]* Date: 1/10/97

Signature of Engineer: *[Signature]* Date: 1-20-97

- SECTION 9 - STONE OUTLET SEDIMENT TRAP - ST II**
- Construction Specifications**
- Area under embankment shall be cleared, grubbed and stripped of all vegetation and root mat. The pool area shall be cleared.
 - The fill material for the embankment shall be free of roots and other woody vegetation as well as oversized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
 - All cut and fill slopes shall be 2:1 or flatter.
 - The stone used in the outlet shall be small riprap 4" to 7" in diameter, depending upon the slope. If this size with 3/4" to 1 1/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.
 - Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

SEDIMENT CONTROL NOTES AND DETAILS

DANIELS MILL OVERLOOK

SECTION 2 AREA 1
LOTS 20 THRU 84

ZONED: R-ED

TRAP MAP No. 17 PARCEL Nos. 41 and 547

SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: AUGUST 1996

SHEET 11 OF 16

DEVELOPER
THE RYLAND GROUP
ATTENTION: MR. CHARLES O'DONOVAN
GALLERIA TOWERS
SUITE #702
100 YORK ROAD
LUTHERVILLE, MARYLAND 21093

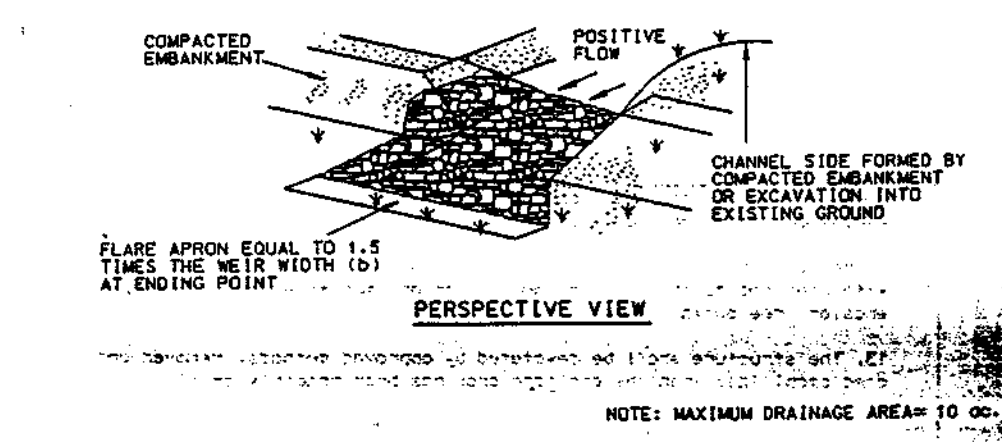
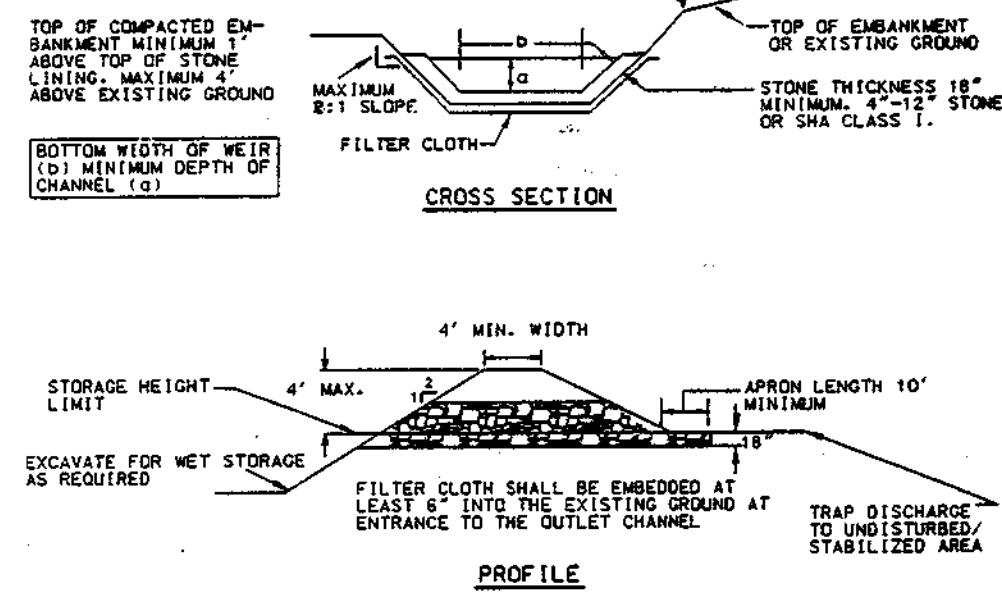
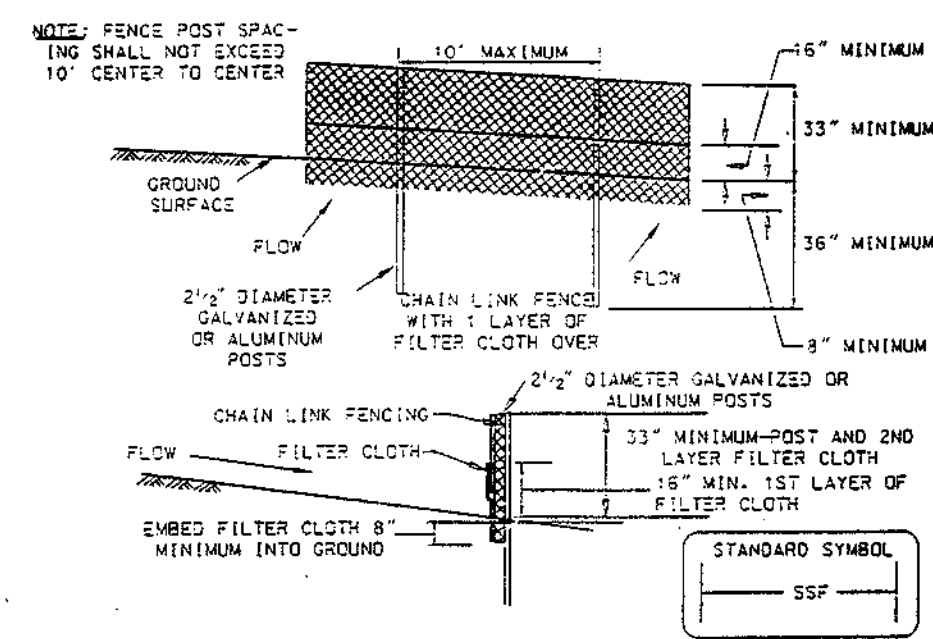
OWNER
DANIELS MILL OVERLOOK, LLC
60 MC MICHAEL DRIVE
1900 TECH ROAD
SILVER SPRING, MARYLAND 20914

STATE OF MARYLAND PROFESSIONAL ENGINEER

1783

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

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



Construction Specifications

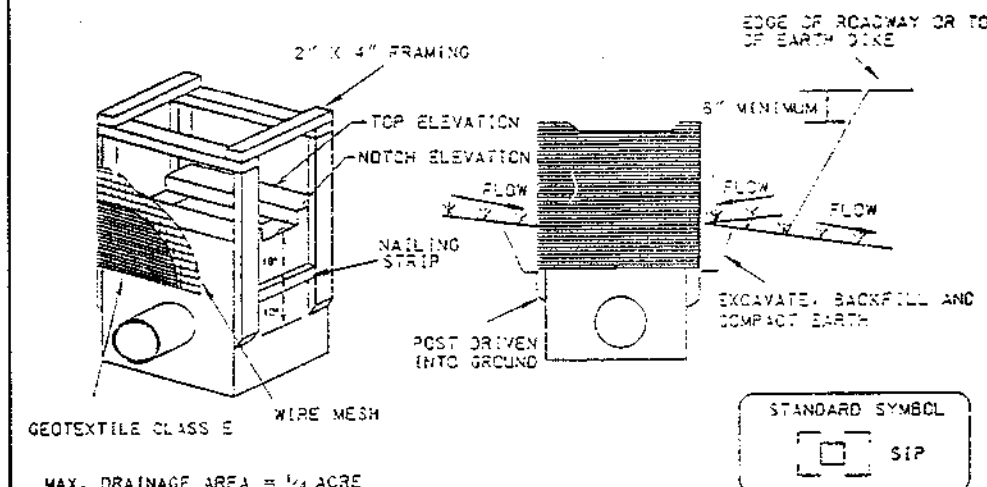
Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6 foot fence shall be used, substituting 42 inch fabric and 6 foot length posts.

- The posts do not need to set in concrete.
- Chain link fence shall be fastened securely to the fence posts with wire ties or staples.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
- Filter cloth shall be embedded a minimum of 6" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt buildup removed when "bulges" develop in the silt fence.

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	50 feet	500 feet
50% +	2:1 +	50 feet	250 feet

SUPER SILT FENCE
NOT TO SCALE



Construction Specifications

- Excavate completely around the inlet to a depth of 18" below the notch elevation.
- Drive the 2" x 4" construction grade lumber posts 1" into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on detail 23A. The top of the frame (width) must be 6" below adjacent roadways where flooding and safety issues may arise.
- Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
- Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.
- Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.
- If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.
- The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

STANDARD INLET PROTECTION
NOT TO SCALE

Construction Specifications

- The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized 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.
- All cut and fill slopes shall be 2:1 or flatter.
- Elevation of the top of any dike directing water into trap must equal or exceed the height of trap embankment.
- Storage area provided shall be figured by computing the volume measured from top of excavation. (For storage requirements see Table 10).
- Filter cloth shall be placed over the bottom and sides of the outlet channel prior 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.
- Stone used in the outlet channel shall be 4" - 7" placed 18" thick.
- Outlet - An outlet shall be provided, which includes a means of conveying the discharge in an erosion free manner to an existing stable channel. Protection against scour at the discharge and shall be provided as necessary.
- Outlet channel must have positive drainage from the trap.
- 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 (1550 cfs/cft). Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The structure shall be inspected periodically after each rain and repaired as needed.
- 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. Pockets 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.
- The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

RIPRAP OUTLET SEDIMENT TRAP
NOT TO SCALE

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT (1 DAY).
- NOTIFY "MISS UTILITY" 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777 NOTIFY HOWARD COUNTY OFFICE OF CONSTRUCTION INSPECTION DIVISION (410)313-1870, 24 HOURS BEFORE STARTING ANY WORK (1 DAY).
- INSTALL SEDIMENT CONTROL MEASURES: STONE CONSTRUCTION ENTRANCE, STONE OUTLET SEDIMENT TRAPS, EARTH DIKES AND SILT FENCE, STABILIZE TRAPS AND DIKES WITH TEMPORARY SEEDING, INSTALL TREE PROTECTIVE DEVICES (FENCING AND SIGNAGE) (1 WEEK).
- GRADE SITE TO SUBGRADE, STABILIZE AND INSTALL STORM DRAINS AND INSTALL INLET PROTECTIONS (3 WEEKS).
- 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.
- SEDIMENT SHALL BE REMOVED FROM THE STONE OUTLET SEDIMENT TRAPS ONCE THE CLEANOUT ELEVATIONS HAVE BEEN REACHED, SEDIMENT MUST BE PLACED UP HILL FROM THE TRAPS. SEE PLANS FOR CLEANOUT ELEVATIONS (1 DAY).
- INSTALL ROAD BASE COURSE (5 DAYS).
- INSTALL FOREBAY AND SHALLOW MARSH FACILITY (1 WEEK).
- REMOVE SEDIMENT FROM ROADWAYS AND DRESS STONE CONSTRUCTION ENTRANCE AS REQUIRED AND STABILIZE ALL DISTURBED AREAS (2 DAYS).
- REMOVE INLET PROTECTIONS AND FLUSH STORM DRAIN SYSTEM TO REMOVE ANY TRAPPED SEDIMENT.
- APPLY TACK COAT TO SUB-BASE AND LAY SURFACE COURSE (4 DAYS).
- REMOVE ALL SEDIMENT CONTROL MEASURES UPON SEDIMENT CONTROL INSPECTORS APPROVAL (2 DAYS).
- ALL DISTURBED AREAS DUE TO REMOVAL OF SEDIMENT CONTROL MEASURES SHALL BE GRADED AND STABILIZED BY PERMANENT SEEDING (2 DAYS).

ENGINEER'S CERTIFICATE

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

Signature of Engineer: *Joseph Bunchali* DATE: 12-13-96

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.

Signature of Developer: *Michael Blum* DATE: 12-13-96

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
Signature: *Charles Scammell* DATE: 1/1/97
U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Signature: *John P. Robertson* DATE: 1/6/97
DISTRICT HOWARD SOIL CONSERVATION DIST.

APPROVED DEPARTMENT OF PLANNING AND ZONING
Signature: *Richard Blum* DATE: 2/13/97
CHIEF, DIVISION OF LAND DEVELOPMENT

Signature: *John Scammell* DATE: 1/10/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED DEPARTMENT OF PUBLIC WORKS
Signature: *Richard Blum* DATE: 2/13/97
CHIEF, BUREAU OF ENGINEERING

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Signature: *Richard M. Daniels* DATE: 1-20-97
CHIEF, BUREAU OF HIGHWAYS



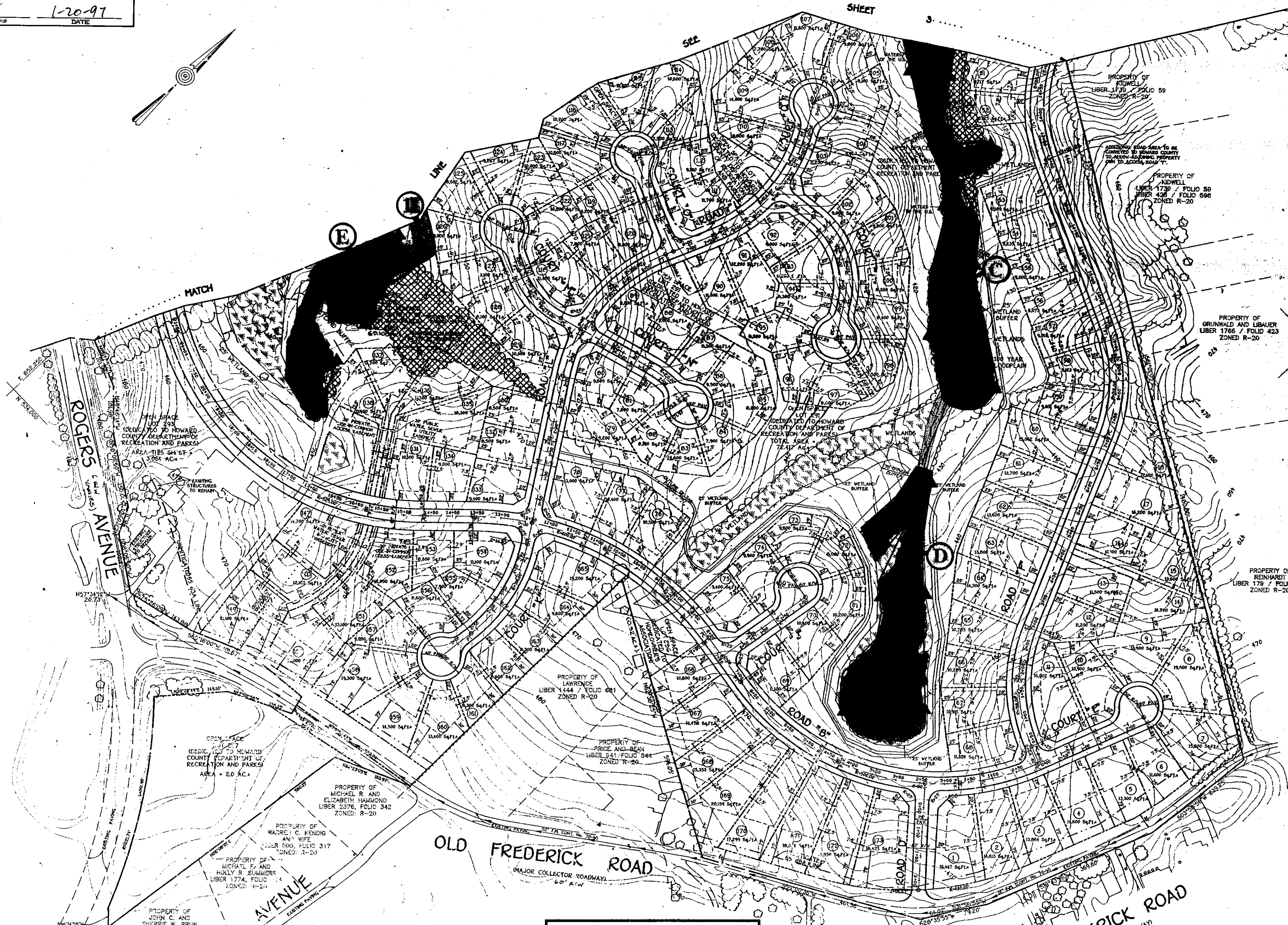
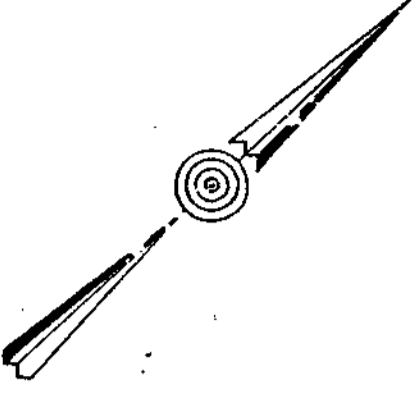
SEDIMENT CONTROL NOTES AND DETAILS
DANIELS MILL OVERLOOK

SECTION 2 AREA 1
LOTS 20 THRU 24
ZONED: R-ED
TAX MAP No. 17 PARCEL Nos. 41 and 547
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SHEET 12 OF 16
SCALE: AS SHOWN DATE: AUGUST 1996

OWNER
DANIELS MILL OVERLOOK, LLC
c/o MR. MICHAEL DEFFENDAL
1900 TECH ROAD
SILVER SPRING, MARYLAND 20904

DEVELOPER
THE RYLAND GROUP
ATTENTION: MR. CHARLES O'DONOVAN
GALLERIA TOWERS
SUITE #705
847 YORK ROAD
LUTHERVILLE, MARYLAND 21043

APPROVED: DEPARTMENT OF PLANNING & ZONING
Richard Blood 2/12/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
 APPROVED: DEPARTMENT OF PUBLIC WORKS
Michael J. Dougherty 1/10/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
 APPROVED: DEPARTMENT OF PUBLIC WORKS
Richard M. Dougherty 1-20-97
 CHIEF, BUREAU OF HIGHWAYS DATE



LEGEND

- PROPOSED FOREST PRESERVATION
- PROPOSED FOREST CLEARING
- TREE PROTECTIVE FENCING/ LIMIT OF DISTURBANCE
- PERMANENT FOREST CONSERVATION SIGNAGE
- PROPOSED AFFORESTATION/ REFORESTATION AREAS

1783

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 871 BALTIMORE NATIONAL BLDG. SUITE 100
 ELKSPITE CITY, MARYLAND 22041
 (410) 481-2255

PLAN PREPARED BY:

Environmental Systems Analysis, Inc.
 48 Maryland Avenue, Annapolis, Maryland 21401
 (410) 257-0495 Fax: (410) 267-0496

LEGEND

- DENOTES WATERS OF THE U.S.
- DENOTES WETLAND AREA
- DENOTES 100 YEAR FLOODPLAIN
- DENOTES UNMITIGATED 65DBA LINE

Kevin Kelly Kevin Kelly 12-6-96
 DNR APPROVED QUALIFIED PROFESSIONAL DATE
 FOR PSD'S AND FCP'S

PLAN
 SCALE: 1" = 100'

OWNER
 DANIELS MILL OVERLOOK, LLC
 c/o MR. MICHAEL DIFFENDAL
 11900 TECH ROAD
 SILVER SPRING, MARYLAND 20904

DEVELOPER
 THE RYLAND GROUP
 ATTENTION: MR. CHARLES O'DONOVAN
 GALLERIA TOWERS
 SUITE #705
 1447 YORK ROAD
 LUTHERVILLE, MARYLAND 21095

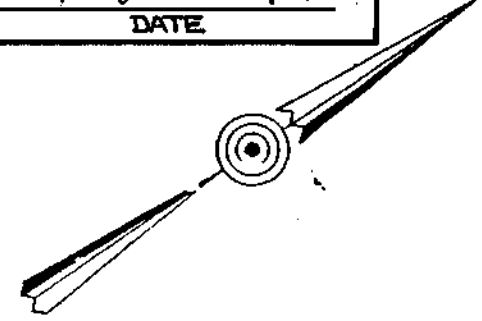
Terrell A. Fisher 2/16/98
 TERRELL A. FISHER DATE

FINAL FOREST CONSERVATION PLAN
DANIELS MILL OVERLOOK
 LOTS 1 - 298 AND PARCEL 'A'
 ZONED: R-ED
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 MAY 5, 1995
 SHEET 13 OF 16
 SCALE: AS SHOWN
 TAX MAP 47 PARCELS # 41 & #5-7

APPROVED: DEPARTMENT OF PLANNING & ZONING
Richard Blood 2/13/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Michael D. Dammann 1/10/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Richard A. Douke 1-20-97
 CHIEF, BUREAU OF HIGHWAYS DATE

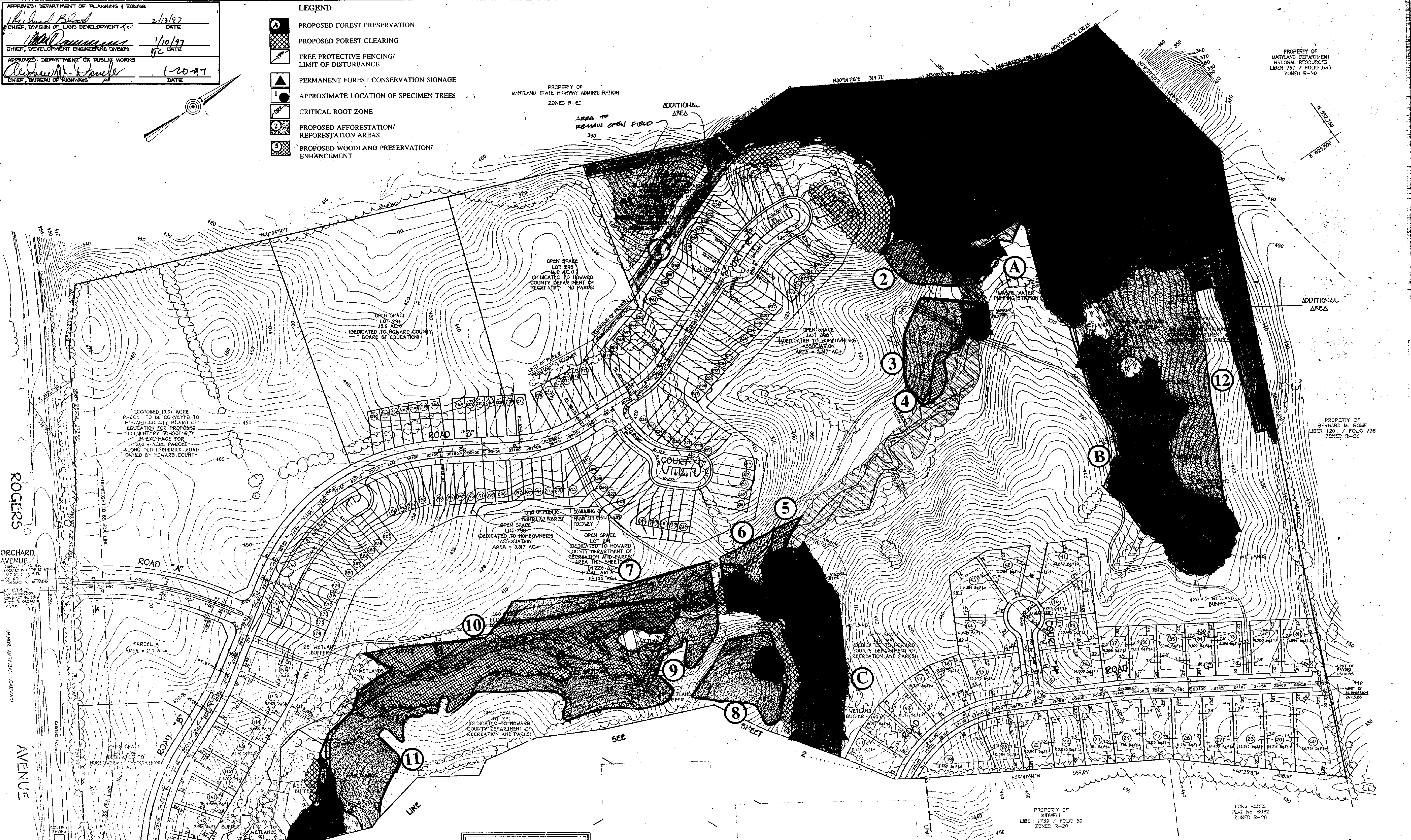


- LEGEND**
- PROPOSED FOREST PRESERVATION
 - PROPOSED FOREST CLEARING
 - TREE PROTECTIVE FENCING/ LIMIT OF DISTURBANCE
 - PERMANENT FOREST CONSERVATION SIGNAGE
 - APPROXIMATE LOCATION OF SPECIMEN TREES
 - CRITICAL ROOT ZONE
 - PROPOSED AFFORESTATION/ REFORESTATION AREAS
 - PROPOSED WOODLAND PRESERVATION/ ENHANCEMENT

PROPERTY OF MARYLAND STATE HIGHWAY ADMINISTRATION
 ZONED R-ED

PROPERTY OF MARYLAND DEPARTMENT OF NATURAL RESOURCES
 LIBER 756 / FOLIO 533
 ZONED R-20

PROPERTY OF BERNARD M. ROME
 LIBER 1201 / FOLIO 738
 ZONED R-20



1783

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 471 BALTIMORE NATIONAL PK. SUITE 200
 ELKTON CITY, MARYLAND 21921
 (410) 461-2015

PLAN PREPARED BY:
Environmental Systems Analysis, Inc.
 48 Maryland Avenue, Annapolis, Maryland 21401
 (410) 267-0495 Fax: (410) 267-0496

LEGEND:

- DENOTES WATER OF THE U.S.
- DENOTES WETLAND AREA
- DENOTES 100 YEAR FLOODPLAIN
- DENOTES UNREGULATED 65DBA LINE

PLAN
 SCALE: 1" = 100'

OWNER
 DANIELS MILL OVERLOOK, LLC
 c/o MR. MICHAEL DIFENDAL
 11900 TECH ROAD
 SILVER SPRING, MARYLAND 20904

DEVELOPER
 THE RYLAND GROUP
 ATTENTION: MR. CHARLES O'DONOVAN
 GALLERIA TOWERS
 SUITE 4705
 1147 YORK ROAD
 LUTHERVILLE, MARYLAND 21093

Kevin Kelly Kevin Kelly
 DNR APPROVED QUALIFIED PROFESSIONAL
 FOR FSD's AND FCP's
 12-6-96
 DATE

Terrell A. Fisher 2/14/95
 TERRELL A. FISHER DATE

FINAL FOREST CONSERVATION PLAN
DANIELS MILL OVERLOOK
 LOTS 1 - 298 AND PARCEL 'A'
 ZONING "R-ED"
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 MAY 5, 1995
 SHEET 14 OF 16
 SCALE: AS SHOWN
 TAX MAP #17 PARCELS #41 AND #42

NARRATIVE

Daniels Mill Overlook (the Stirm Property) is a 160.7 acre, residentially zoned property (R-ED), located off of Frederick Road in eastern Howard County. Forested acreage on the property totals 21.83 acres, with 3.38 acres located within the 100 year floodplain. To meet the forest conservation requirements for the property, the following strategy is proposed:

- 16.1 acres of existing forest located outside of the 100 year floodplain will be placed into a conservation easement.
- 7.02 acres of reforestation/afforestation will be performed and placed into a conservation easement.
- 2.47 acres of existing wooded areas will be enhanced with the planting of trees and shrubs and placed into a conservation easement.

All preservation and afforestation/reforestation areas have been selected to buffer the existing streams, stabilize slopes greater than 25%, and preserve and enhance large contiguous forest stands.

GENERAL NOTES

- This forest conservation plan has been prepared in accordance with the requirements set forth by the Forest Conservation Act of Howard County. The preparation of this plan, the notes and details were prepared using the guidelines of the Howard County Forest Conservation Manual.
- Base sheet information was provided by Fisher, Collins and Carter, Inc. The Limits of Disturbance for Sections 1 and 2 of the development were taken from the final grading plans prepared by Fisher, Collins, and Carter, Inc.
- All appropriate bonds shall be posted prior to the issuance of any permits per Howard County Forest Conservation Act. These bonds will be retained as surety until all required activities have been satisfied.
- Reforestation planting and related work must be performed by a contractor who is knowledgeable and experienced in reforestation planting techniques and proper plant handling.

FOREST PROTECTION MEASURES

- After the limits of disturbance (LOD) and the location of all Tree Protection Devices (TPD's) have been staked and/or flagged in the field, an on-site pre-construction meeting shall be held. During this meeting, the limits of clearing specified on the approved plan shall be field-verified and authorization shall be given for the installation of TPD's with any necessary adjustments. This meeting shall include the owner or their representative, the on-site foreman in charge of land disturbance, ESA, Inc., and the appropriate county inspectors. Upon approval of the flagged or staked locations by Howard County, installation may begin. TPD installation shall be completed prior to installation of initial Sediment Controls. No cutting or clearing of trees may begin before final approval of TPD installation.
- If necessary, SPECIMEN TREE STRESS REDUCTION MEASURES shall be undertaken as specified below.
- Blaze orange fencing shall be the short-term forest protection device and will be located along the limit of clearing as identified on these plans. Refer to this plan set for the appropriate details and installation notes.
- Permanent signs shall be installed along the limits of tree clearing immediately after the short-term forest protection device has been installed. These signs shall have their own supports. They shall not be anchored or attached to the trees to be saved.
- Short-term forest protection devices and permanent signs shall be installed prior to any land clearing or grading and shall be maintained during the entire construction phase including fine grading and final seeding.
- Equipment, machinery, vehicles, materials, or debris shall not be allowed within the forest protection areas.
- After construction activities have been completed, an on-site inspection by Howard County will be conducted to evaluate the remaining trees for damage or impacts which may have occurred during the construction process. If trees along the forest perimeter are found to be damaged or dead as a direct result of the construction process, corrective action must be taken. The measures may include the following and must be carried out by a qualified tree professional:
 - Removal of dead or dying trees located within 20 feet of the limits of disturbance which are potentially hazardous. Dead or dying trees which are not potentially hazardous shall be left to provide wildlife habitat. Removal should be authorized by Howard County.
 - Pruning of dead or declining limbs
 - Soil aeration
 - Fertilizing
 - Watering
 - Wound repair
 - Clean-up retention areas
- Prior to removing the temporary forest protection devices, authorization from Howard County shall first be given.
- When removing the temporary tree protection devices, care shall be taken to not disturb or clear additional area within the limit of disturbance. Hand removal of vines, excessive dead material and trash is permitted. The burial of discarded materials is not permitted on the site. Clearing for the purpose of sodding or planting grass is not permitted within the forest conservation area.
- It is the responsibility of the present Owner to educate the occupants/owners of the new development about the proper use of the forest preservation areas, about the need for the Owner/Developer to carry out the post-construction management program, and the eventual transfer of long-term responsibilities to the new owners or occupants.
- A total of 2.56 acres of reforestation and 23.28 acres of forest preservation is proposed for long-term forest retention and will be subject to a recorded Conservation Easement. The forest conservation boundary is shown on this Forest Conservation Plan, and the forest conservation easement shall be depicted on the Final Plat and the Site Development Plan. These areas of forest preservation shall be permanently protected and recorded at record plat as non-developable open space.
- A signed agreement detailing these post-construction activities shall be submitted for approval as part of the developers agreements for the project. The agreement shall also include bonding covering all costs of the necessary protection and management activities required by the post-construction program.

SPECIMEN TREE STRESS REDUCTION MEASURES

Two specimen trees were identified in the Forest Stand Delineation report prepared for the Stirm Property (Daniels Mill Overlook) by M.A. Dircks & Co., Inc. These specimen trees were not field located and their location on this Forest Conservation Plan is only approximate based on the Forest Stand Delineation Report. The species, DBH (diameter breast height), CRZ (critical root zone), and preservation recommendations for these two specimens are as follows:

SPECIMEN TREE TABLE			
Specimen #	DBH	CRZ	Preservation Technique
1	49"	49"	Stress Reduction (see below)
2	63"	63"	No stress reduction recommended due to the extremely poor condition of the tree.

The CRZ of a tree is the zone in which approximately 95% of the tree's roots exist. The majority of the root systems of most trees will be found in the upper 12"-18" of the soil within the critical root zone. The total amount of a tree's roots are generally proportional to the volume of the tree's canopy.

The Critical Root Zone for both specimen trees equals one foot of root zone radius for every inch of trunk diameter measured at breast height. This is the CRZ formula for trees located within existing forest stands.

Sequence of Stress Reduction Measures

- This protection measure applies to specimen tree #1 only.
- During the flagging of the Limits of Disturbance, every possible step shall be taken in the field to avoid disturbance to the CRZ of Specimen Tree #1. If avoidance is determined to be impossible, then root pruning shall be conducted.
- Root pruning
 - Trench the area 1' beyond the limit of disturbance and excavate with a 4-6" trencher, approximately 24" deep. Refer to this sheet for the Root Pruning Detail and Note.
 - Immediately after trenching and cutting through all roots in the trench area, prune the root so as to provide good clean cuts. Backfill the trench with the excavated material or other high organic soil.
 - Water the backfilled trench immediately, until trench overflows. Settled areas should be filled with backfill until level with the existing ground.
- Apply 3" of mulch to the trees critical root zone within the limit of forest clearing.
- Continue with the forest protection measures in the FOREST PROTECTION MEASURES section identified above.

REFORESTATION

Quality Assurance

- Names of plant material listed conform with names accepted by the nursery trade. The contractor is to provide stock true to botanical name. Varieties will not be accepted unless specified or approved by Environmental Systems Analysis, Inc.
- Plant stock shall meet or exceed the selection, sizing, transportation, and protection requirements of the American Standard for Nursery Stock published by the American Association of Nurserymen.
- All plant material shall be nursery grown and obtained within a 200 mile radius of the planting site.
- 3' to 4' Container Stock shall meet the following criteria: 1/2" to 3/4" caliper with a top length of at least 36"; diameter of the root collar shall be at least 5/8"; roots shall be well-developed and completely fill container, but shall not encircle the plant.
- If leafed-out, all plant stock shall appear healthy with no foliage spots, discoloration, wilting or other evidence of the presence of disease or insects.
- If any specified material can not be located or is unavailable, requests for the substitution of equivalent plant material must be submitted in writing to Environmental Systems Analysis, Inc. for evaluation and approval. Substitutions must be native to the Maryland Piedmont region.
- Source Quality Control - plant materials are subject to inspection and approval upon delivery for conformity to specification requirements (i.e., size, quality, and variety). Such approval shall not impair the right of inspection during the progress of work or the right of rejection due to damage suffered in handling or transportation. Rejected plants shall be removed immediately from the site and replaced with acceptable plant material.

Product Specifications

Fertilizer:

A complete fertilizer in granular, packet or pellet form shall be used with a minimum analysis of 10% nitrogen, 6% phosphorus and 4% potassium. 35% to 80% of the total nitrogen shall be in a slow release form. Fertilizer shall be applied in the Fall after the first growing season if plant conditions indicate the need.

Organic Matter:

Leaf Compost - thoroughly shredded, well-composted leaf material, free of trash
Peat Moss - Type I sphagnum peat moss; finely divided with a pH of 3.1 to 5.0
Composted Sewage Sludge - approved, screened, polymer-dewatered sewage sludge with a pH of 6.2 - 7.2

Backfill Mixture:

Backfill for all tree and 3' to 4' container stock shall be 2/3 existing soil mixed with 1/3 organic material.

Mulch:

Material shall be well aged, fine shredded hardwood, dark brown in color, or approved equal. Material shall be mulching grade, uniform in size and free of foreign matter.

Pre-Planting Specifications

- Allow six (6) weeks in advance to order materials and plants.
- Ideal planting weather is cloudy and cool. The recommended planting period is September 15th to November 15th. Planting may also be undertaken from March 15th to June 15th, however, the risk of drought stress is greater on woody plants installed in this spring window.
- Planting shall not take place in sub-freezing temperatures, when the soil is too wet or too dry, or under any environmental constraints generally accepted by the Landscape Contractor's Association (Maryland, District of Columbia, and Virginia) as unsuitable for planting.
- All planting areas shall be stabilized prior to planting to minimize soil erosion. While soil stabilization and seeding are not part of these plan documents, the use of Tall Fescue (*Festuca arundinacea*) to stabilize reforestation areas shall be strictly forbidden.
- Reforestation areas shall be free of noxious weeds (e.g., *Rosa multiflora*) prior to planting. If noxious weeds are present, they should be removed or treated with a herbicide (e.g., "Roundup") according to the manufacturer's specifications.
- The landscape contractor shall notify ESA, Inc., (410) 267-0495, 48 hours prior to the start of construction to arrange a pre-planting meeting.
- Planting should occur within 24 hours of plant material delivery to the site. Plant materials left unplanted for more than 24 hours shall be protected from direct sun and weather and kept moist. Nursery stock shall not be left unplanted for more than 2 weeks.
- When conditions detrimental to plant growth are encountered (e.g., rubble fill, poor drainage, obstructions), the landscape contractor shall notify the Owner's representative before planting.
- The landscape contractor is responsible for the location of all existing underground utilities. Repair of utilities during planting shall be at the landscape contractor's expense.

Planting Specifications

- Planting and staking of all tree and container stock shall be conducted according to the latest edition of the Landscape Specification Guidelines published by the Landscape Contractors Association (Maryland, District of Columbia, and Virginia) along with the specifications contained in this plan set.
- Tree stock shall be planted along the edge of each reforestation area to clearly mark the transition from maintained open space to no-maintenance reforestation areas.
- 3' to 4' and understory plant stock shall be planted in a random pattern over the entire reforestation area with trees spaced no closer than 10 feet apart and shrubs no closer than 5' apart.
- Excavation for the planting of all container stock shall be accomplished using manual methods or equipment such as shovels, planting bars, dibble bars, or mattocks.
- Backfill shall be firmly tamped and thoroughly watered until the soil is saturated to eliminate any air pockets. Watering shall be performed even if it is raining.
- If considered necessary by the Owner's representative, container stock shall be sprayed with a suitable animal repellent mixture in the fall. A second application will be made in mid-winter if necessary.
- All tags, labels, strings, and wire shall be removed from the trees.
- Permanent signs identifying the reforestation areas (see detail on this sheet) shall be installed along the appropriate boundary lines of the forest conservation easements. These devices shall not be anchored or attached to existing or planted trees.

Guarantee and Replacement

- All plant material shall be guaranteed by the planting contractor to remain alive and in a healthy, vigorous condition for a period of one year following planting.
- At the end of the warranty period, inspection of the plant material will be made by the Owner's representative. Plant material which is dead or in an unhealthy condition shall be removed from the site and replaced at the expense of the planting contractor.
- A tree shall be considered dead when the main leader has died back, or 25% of the crown is dead.
- Plant material replacements shall be of the same type, size and variety as specified in the plant legend or as accepted in writing as substitutes before original planting. Plants shall be furnished, planted and mulched as specified herein and at the expense of the planting contractor.

WOODLAND PRESERVATION/ENHANCEMENT

Supplementary planting shall be performed within these areas to enhance the understory and canopy layers. Plants shall be installed in open areas within these woodlands where aggressive shrubs have not colonized. A small portion of the plants scheduled for adjacent reforestation areas shall be used to enhance these woodlands. Planting within woodland preservation/enhancement areas shall be conducted according to the specifications and procedures contained in the REFORESTATION section of these plans.

FOREST MANAGEMENT PROGRAM

Two Year Post-Construction Management Plan

- The Owner of the Daniels Mill Overlook property is responsible for maintaining the designated reforestation/afforestation areas. Maintenance may include some or all of the following: watering, fertilizing, pruning, removal of dead material and the control of pests and competing vegetation.
- The Owner is required to inspect the reforestation areas for a period of two years per the Howard County Forest Conservation Manual. These inspections shall be performed to evaluate the health and vigor of the plantings and to specify any actions needed to correct problems. The following inspection schedule shall be carried out:
Year 1 & 2: Two Inspections per year - inspect at the beginning of the growing season (May or June) and the end of the growing season (September or October).
At the end of the second year the survival rate shall be a minimum of 75% of the total number of trees planted under the approved Forest Conservation Plan. If the survival rate is below 75% of the total trees planted, plant material will be needed to guarantee the required survival rate.
- A signed agreement detailing these post-construction activities shall be submitted for approval as part of the developers agreements for the project. The agreement shall also include bonding covering all costs of the necessary protection and management activities required by the post-construction program.
- At the end of the management period the Owner or Owner's representative shall convey to the administrator of the Howard County Forest Conservation Program a certification that the required reforestation/afforestation survival rate has been achieved.

Long Term Management Plan

- Refer to the Howard County Forest Conservation Manual, Appendix J, for activities permitted within the forest conservation easement and long-term management practices.
- The periodic removal of vines and/or other invasive and non-native vegetation along the perimeter of the forest conservation area may be necessary to control the intrusion and development of such vegetation and maintain forest productivity.
- Woody vegetation located within 20' from the forest perimeter susceptible to windthrow and dead or diseased trees along the forest perimeter shall be selectively thinned if potentially hazardous.

Daniels Mill Overlook Forest Conservation Worksheet

Input Parameter:	Enter:
Tract Area	160.7
100-Year Floodplain Area	5.84
Other ROW/Easements to be Excluded from Net Tract Area	0
Disturbance within Floodplain to be added to Net Tract Area	0.053
Existing Forest Area within Net Tract Area	18.45
Afforestation Threshold Percentage	0.15
Conservation Threshold Percentage	0.2
Total Area of Forest to be Cleared	2.35

Calculated Parameters:	Enter:
Net Tract Area	154.913
Afforestation Threshold	23.23695
Conservation Threshold	30.9826
Area of Forest Above Afforestation Threshold	0
Area of Forest Above Conservation Threshold	0
Break Even Point	N/A
Clearing Permitted with no Mitigation	0
Total Area of Forest to be Retained	16.1
Reforestation for Clearing Above Conservation Threshold	0
Reforestation for Clearing Below the Conservation Threshold	4.7
Credit for Retention Above the Conservation Threshold	0
Total Reforestation Required	4.7
Total Afforestation Required	4.78695
TOTAL Afforestation/Reforestation Required	9.48695

OWNER

DANIELS MILL OVERLOOK, LLC
c/o MR. MICHAEL DIFFENDAL
11900 TECH ROAD
SILVER SPRING, MARYLAND 20904

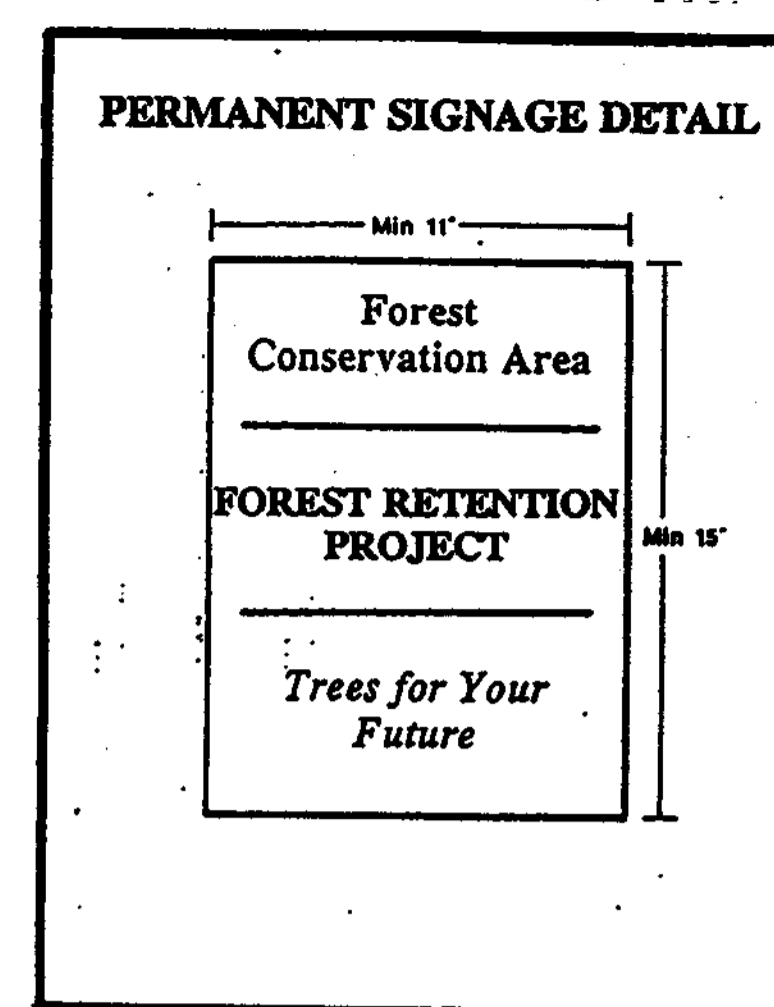
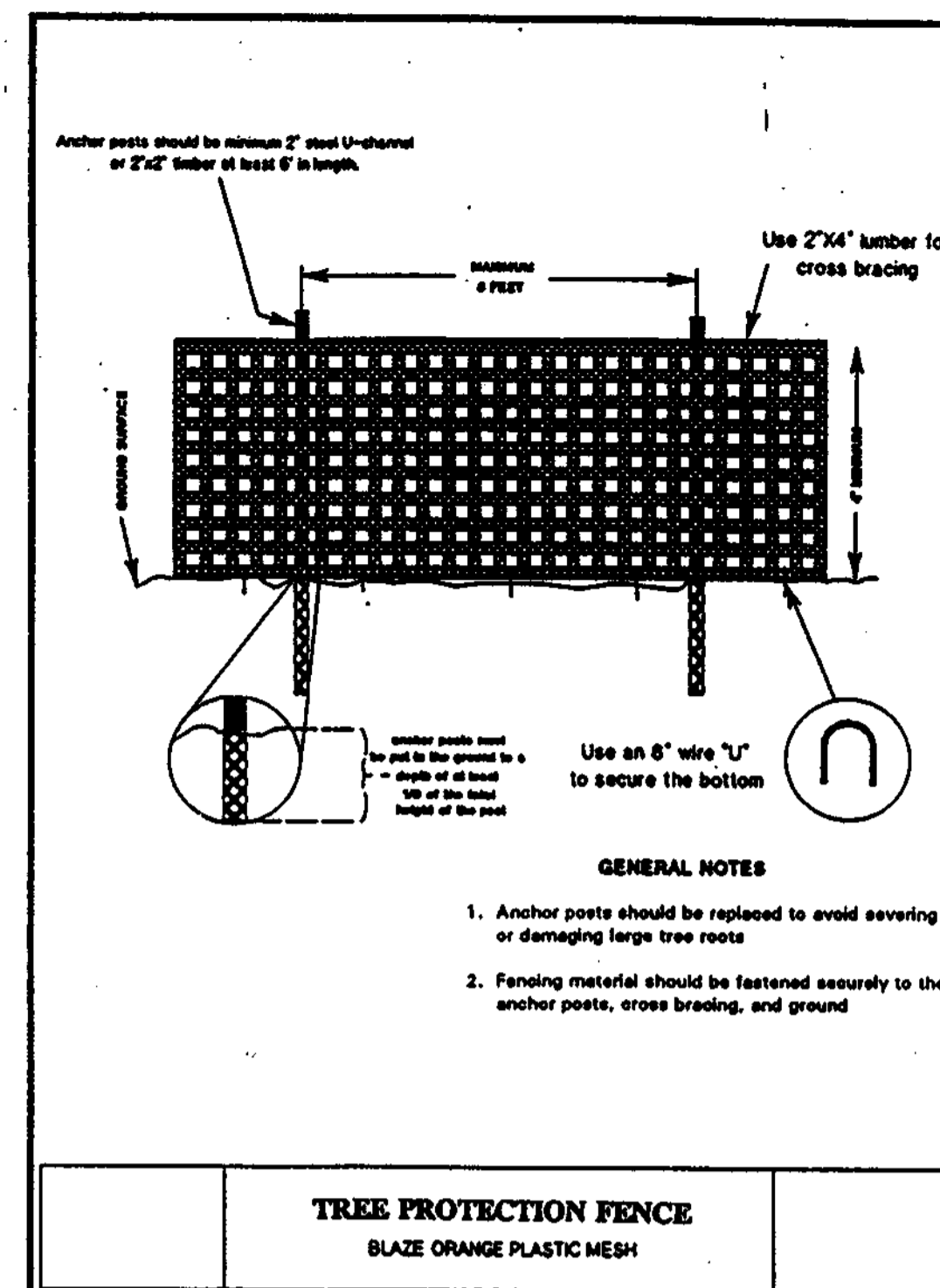
DEVELOPER

THE RYLAND GROUP
ATTENTION: MR. CHARLES O'DONOVAN
GALLERIA TOWERS
SUITE #705
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

Kevin Kelly
DNR APPROVED QUALIFIED PROFESSIONAL
FOR PSD'S AND FCP'S
Kevin Kelly
12-6-96
DATE

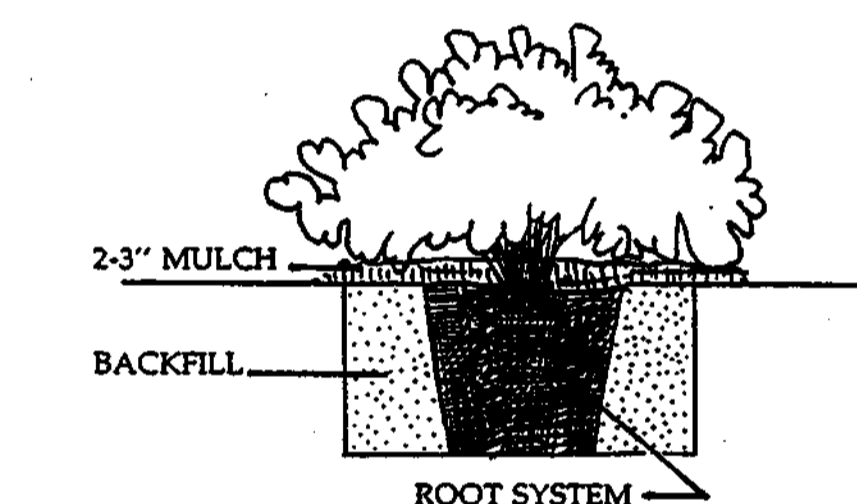
PLAN PREPARED BY:

Environmental Systems Analysis, Inc.
48 Maryland Avenue, Annapolis, Maryland 21401
(410) 267-0495 Fax: (410) 267-0496



APPROVED: DEPARTMENT OF PLANNING & ZONING
Richard Blood 1/13/97
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
David Harrison 1/10/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
APPROVED: DEPARTMENT OF PUBLIC WORKS
Richard M. Danville 1-20-97
CHIEF, BUREAU OF HIGHWAYS DATE

PLANTING DETAIL FOR ALL CONTAINER-GROWN TREES & SHRUBS



FOREST CONSERVATION AREAS			
Area	Type	Acreage	Notes
A	Forest Retention	10.93	Stream Buffer and Steep Slopes
B	Forest Retention	2.19	Stream Buffer
C	Forest Retention	3.46	Stream Buffer and Steep Slopes
D	Forest Retention	1.38	Stream Buffer
E	Forest Retention	1.33	Stream Buffer
1	Reforestation	0.43	12' Random Spacing of Mixed Cont. Stock
2	Reforestation	0.28	12' Random Spacing of Mixed Cont. Stock
3	Reforestation	0.57	12' Random Spacing of Mixed Cont. Stock
4	Woodland Enhancement	0.09	Stream Buffer
5	Woodland Enhancement	0.06	Stream Buffer
6	Reforestation	0.19	12' Random Spacing of Mixed Cont. Stock
7	Reforestation	0.68	12' Random Spacing of Mixed Cont. Stock
8	Reforestation	0.57	12' Random Spacing of Mixed Cont. Stock
9	Reforestation	1.07	12' Random Spacing of Mixed Cont. Stock
10	Woodland Enhancement	2.47	Stream Buffer
11	Reforestation	0.92	12' Random Spacing of Mixed Cont. Stock
12	Reforestation	2.31	12' Random Spacing of Mixed Cont. Stock

**FINAL FOREST CONSERVATION PLAN
DETAIL SHEET
DANIELS MILL OVERLOOK**
Howard County, Maryland
No Scale December 1996
Sheet 15 of 16

APPROVED: DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 DATE 2/13/97
 APPROVED: DEPARTMENT OF PUBLIC WORKS
 Chief, Development Engineering Division
 DATE 1/10/97
 APPROVED: DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 DATE 1-20-97

MASTER PLANTING SCHEDULE				
1" CALIPER TREES				
Qty	Botanical Name	Common Name	Size	Condition
64	<i>Acer rubrum</i>	Red Maple	1" cal.	Cont. or B&B
35	<i>Betula nigra</i> *	River Birch	1" cal.	Cont. or B&B
25	<i>Cercis canadensis</i>	Redbud	1" cal.	Cont. or B&B
8	<i>Cornus florida</i>	Flowering Dogwood	1" cal.	Cont. or B&B
36	<i>Platanus occidentalis</i> *	American Sycamore	1" cal.	Cont. or B&B
56	<i>Liriodendron tulipifera</i>	Tulip Poplar	1" cal.	Cont. or B&B
20	<i>Quercus alba</i>	White Oak	1" cal.	Cont. or B&B
21	<i>Quercus palustris</i> *	Pin Oak	1" cal.	Cont. or B&B
89	<i>Quercus rubra</i>	Red Oak	1" cal.	Cont. or B&B
3 TO 4' CONTAINER STOCK				
240	<i>Acer rubrum</i>	Red Maple	3-4'	Cont.
165	<i>Betula nigra</i> *	River Birch	3-4'	Cont.
86	<i>Cercis canadensis</i>	Redbud	3-4'	Cont.
80	<i>Cornus florida</i>	Flowering Dogwood	3-4'	Cont.
90	<i>Platanus occidentalis</i> *	American Sycamore	3-4'	Cont.
227	<i>Liriodendron tulipifera</i>	Tulip Poplar	3-4'	Cont.
135	<i>Quercus alba</i>	White Oak	3-4'	Cont.
100	<i>Quercus palustris</i> *	Pin Oak	3-4'	Cont.
325	<i>Quercus rubra</i>	Red Oak	3-4'	Cont.
UNDERSTORY				
75	<i>Aronia arbutifolia</i> *	Red Chokeberry	24"-30"	Cont.
70	<i>Aronia melanocarpa</i>	Black Chokeberry	24"-30"	Cont.
40	<i>Alnus serrulata</i> *	Smooth Alder	24"-30"	Cont.
122	<i>Rhus copallina</i>	Winged Sumac	24"-30"	Cont.
95	<i>Viburnum dentatum</i> *	Arrowwood	24"-30"	Cont.

* Wetland and Stream Buffer Species - to be located at lower elevations within reforestation areas.

REFORESTATION AREA #1 (0.45 ACRE)				
1" CALIPER TREES				
Qty	Botanical Name	Common Name	Size	Condition
5	<i>Acer rubrum</i>	Red Maple	1" cal.	Cont. or B&B
5	<i>Cercis canadensis</i>	Redbud	1" cal.	Cont. or B&B
5	<i>Liriodendron tulipifera</i>	Tulip Poplar	1" cal.	Cont. or B&B
8	<i>Quercus rubra</i>	Red Oak	1" cal.	Cont. or B&B
3 TO 4' CONTAINER STOCK				
20	<i>Acer rubrum</i>	Red Maple	3-4'	Cont.
5	<i>Cercis canadensis</i>	Redbud	3-4'	Cont.
10	<i>Cornus florida</i>	Flowering Dogwood	3-4'	Cont.
15	<i>Liriodendron tulipifera</i>	Tulip Poplar	3-4'	Cont.
10	<i>Quercus alba</i>	White Oak	3-4'	Cont.
25	<i>Quercus rubra</i>	Red Oak	3-4'	Cont.
UNDERSTORY				
10	<i>Aronia melanocarpa</i>	Black Chokeberry	24"-30"	Cont.
10	<i>Rhus copallina</i>	Winged Sumac	24"-30"	Cont.
5	<i>Viburnum dentatum</i>	Arrowwood	24"-30"	Cont.

REFORESTATION AREA #2 (0.28 ACRE)				
1" CALIPER TREES				
Qty	Botanical Name	Common Name	Size	Condition
4	<i>Acer rubrum</i>	Red Maple	1" cal.	Cont. or B&B
3	<i>Liriodendron tulipifera</i>	Tulip Poplar	1" cal.	Cont. or B&B
7	<i>Quercus rubra</i>	Red Oak	1" cal.	Cont. or B&B
3 TO 4' CONTAINER STOCK				
10	<i>Acer rubrum</i>	Red Maple	3-4'	Cont.
6	<i>Cercis canadensis</i>	Redbud	3-4'	Cont.
7	<i>Liriodendron tulipifera</i>	Tulip Poplar	3-4'	Cont.
15	<i>Quercus alba</i>	White Oak	3-4'	Cont.
25	<i>Quercus rubra</i>	Red Oak	3-4'	Cont.
UNDERSTORY				
7	<i>Rhus copallina</i>	Winged Sumac	24"-30"	Cont.
5	<i>Viburnum dentatum</i>	Arrowwood	24"-30"	Cont.

REFORESTATION AREA #3 (0.57 ACRE)				
1" CALIPER TREES				
Qty	Botanical Name	Common Name	Size	Condition
5	<i>Acer rubrum</i>	Red Maple	1" cal.	Cont. or B&B
10	<i>Betula nigra</i>	River Birch	1" cal.	Cont. or B&B
3	<i>Cornus florida</i>	Flowering Dogwood	1" cal.	Cont. or B&B
6	<i>Platanus occidentalis</i>	American Sycamore	1" cal.	Cont. or B&B
6	<i>Quercus palustris</i>	Pin Oak	1" cal.	Cont. or B&B
3 TO 4' CONTAINER STOCK				
10	<i>Acer rubrum</i>	Red Maple	3-4'	Cont.
30	<i>Betula nigra</i>	River Birch	3-4'	Cont.
10	<i>Cercis canadensis</i>	Redbud	3-4'	Cont.
10	<i>Cornus florida</i>	Flowering Dogwood	3-4'	Cont.
20	<i>Platanus occidentalis</i>	American Sycamore	3-4'	Cont.
10	<i>Liriodendron tulipifera</i>	Tulip Poplar	3-4'	Cont.
10	<i>Quercus alba</i>	White Oak	3-4'	Cont.
20	<i>Quercus palustris</i>	Pin Oak	3-4'	Cont.
5	<i>Quercus rubra</i>	Red Oak	3-4'	Cont.
UNDERSTORY				
10	<i>Aronia arbutifolia</i>	Red Chokeberry	24"-30"	Cont.
10	<i>Alnus serrulata</i>	Smooth Alder	24"-30"	Cont.
5	<i>Viburnum dentatum</i>	Arrowwood	24"-30"	Cont.

REFORESTATION AREA #6 (0.19 ACRE)				
1" CALIPER TREES				
Qty	Botanical Name	Common Name	Size	Condition
3	<i>Cercis canadensis</i>	Redbud	1" cal.	Cont. or B&B
3	<i>Liriodendron tulipifera</i>	Tulip Poplar	1" cal.	Cont. or B&B
4	<i>Quercus rubra</i>	Red Oak	1" cal.	Cont. or B&B
3 TO 4' CONTAINER STOCK				
5	<i>Acer rubrum</i>	Red Maple	3-4'	Cont.
5	<i>Cercis canadensis</i>	Redbud	3-4'	Cont.
10	<i>Liriodendron tulipifera</i>	Tulip Poplar	3-4'	Cont.
5	<i>Quercus alba</i>	White Oak	3-4'	Cont.
15	<i>Quercus rubra</i>	Red Oak	3-4'	Cont.
UNDERSTORY				
10	<i>Rhus copallina</i>	Winged Sumac	24"-30"	Cont.

REFORESTATION AREA #7 (0.68 ACRE)				
1" CALIPER TREES				
Qty	Botanical Name	Common Name	Size	Condition
10	<i>Acer rubrum</i>	Red Maple	1" cal.	Cont. or B&B
5	<i>Betula nigra</i>	River Birch	1" cal.	Cont. or B&B
5	<i>Cornus florida</i>	Flowering Dogwood	1" cal.	Cont. or B&B
10	<i>Platanus occidentalis</i>	American Sycamore	1" cal.	Cont. or B&B
5	<i>Quercus palustris</i>	Pin Oak	1" cal.	Cont. or B&B
3 TO 4' CONTAINER STOCK				
20	<i>Acer rubrum</i>	Red Maple	3-4'	Cont.
40	<i>Betula nigra</i>	River Birch	3-4'	Cont.
10	<i>Cornus florida</i>	Flowering Dogwood	3-4'	Cont.
15	<i>Platanus occidentalis</i>	American Sycamore	3-4'	Cont.
15	<i>Liriodendron tulipifera</i>	Tulip Poplar	3-4'	Cont.
15	<i>Quercus alba</i>	White Oak	3-4'	Cont.
20	<i>Quercus palustris</i>	Pin Oak	3-4'	Cont.
UNDERSTORY				
20	<i>Aronia arbutifolia</i>	Red Chokeberry	24"-30"	Cont.
10	<i>Rhus copallina</i>	Winged Sumac	24"-30"	Cont.
15	<i>Viburnum dentatum</i>	Arrowwood	24"-30"	Cont.

REFORESTATION AREA #8 (0.57 ACRE)				
1" CALIPER TREES				
Qty	Botanical Name	Common Name	Size	Condition
5	<i>Cercis canadensis</i>	Redbud	1" cal.	Cont. or B&B
10	<i>Liriodendron tulipifera</i>	Tulip Poplar	1" cal.	Cont. or B&B
15	<i>Quercus rubra</i>	Red Oak	1" cal.	Cont. or B&B
3 TO 4' CONTAINER STOCK				
20	<i>Acer rubrum</i>	Red Maple	3-4'	Cont.
15	<i>Cercis canadensis</i>	Redbud	3-4'	Cont.
5	<i>Cornus florida</i>	Flowering Dogwood	3-4'	Cont.
30	<i>Liriodendron tulipifera</i>	Tulip Poplar	3-4'	Cont.
10	<i>Quercus alba</i>	White Oak	3-4'	Cont.
40	<i>Quercus rubra</i>	Red Oak	3-4'	Cont.
UNDERSTORY				
15	<i>Aronia melanocarpa</i>	Black Chokeberry	24"-30"	Cont.
15	<i>Rhus copallina</i>	Winged Sumac	24"-30"	Cont.

REFORESTATION AREA #9 (1.07 ACRE)				
1" CALIPER TREES				
Qty	Botanical Name	Common Name	Size	Condition
10	<i>Acer rubrum</i>	Red Maple	1" cal.	Cont. or B&B
10	<i>Betula nigra</i>	River Birch	1" cal.	Cont. or B&B
5	<i>Platanus occidentalis</i>	American Sycamore	1" cal.	Cont. or B&B
10	<i>Liriodendron tulipifera</i>	Tulip Poplar	1" cal.	Cont. or B&B
5	<i>Quercus alba</i>	White Oak	1" cal.	Cont. or B&B
15	<i>Quercus rubra</i>	Red Oak	1" cal.	Cont. or B&B
3 TO 4' CONTAINER STOCK				
25	<i>Acer rubrum</i>	Red Maple	3-4'	Cont.
50	<i>Betula nigra</i>	River Birch	3-4'	Cont.
15	<i>Cornus florida</i>	Flowering Dogwood	3-4'	Cont.
30	<i>Platanus occidentalis</i>	American Sycamore	3-4'	Cont.
20	<i>Liriodendron tulipifera</i>	Tulip Poplar	3-4'	Cont.
10	<i>Quercus palustris</i>	Pin Oak	3-4'	Cont.
50	<i>Quercus rubra</i>	Red Oak	3-4'	Cont.
UNDERSTORY				
15	<i>Aronia arbutifolia</i>	Red Chokeberry	24"-30"	Cont.
10	<i>Alnus serrulata</i>	Smooth Alder	24"-30"	Cont.
25	<i>Rhus copallina</i>	Winged Sumac	24"-30"	Cont.
30	<i>Viburnum dentatum</i>	Arrowwood	24"-30"	Cont.

REFORESTATION AREA #11 (0.92 ACRE)				
1" CALIPER TREES				
Qty	Botanical Name	Common Name	Size	Condition
5	<i>Acer rubrum</i>	Red Maple	1" cal.	Cont. or B&B
10	<i>Betula nigra</i>	River Birch	1" cal.	Cont. or B&B
5	<i>Platanus occidentalis</i>	American Sycamore	1" cal.	Cont. or B&B
10	<i>Liriodendron tulipifera</i>	Tulip Poplar	1" cal.	Cont. or B&B
5	<i>Quercus alba</i>	White Oak	1" cal.	Cont. or B&B
10	<i>Quercus rubra</i>	Red Oak	1" cal.	Cont. or B&B
3 TO 4' CONTAINER STOCK				
30	<i>Acer rubrum</i>	Red Maple	3-4'	Cont.
45	<i>Betula nigra</i>	River Birch	3-4'	Cont.
15	<i>Cercis canadensis</i>	Redbud	3-4'	Cont.
15	<i>Platanus occidentalis</i>	American Sycamore	3-4'	Cont.
20	<i>Liriodendron tulipifera</i>	Tulip Poplar	3-4'	Cont.
10	<i>Quercus alba</i>	White Oak	3-4'	Cont.
20	<i>Quercus palustris</i>	Pin Oak	3-4'	Cont.
40	<i>Quercus rubra</i>	Red Oak	3-4'	Cont.
UNDERSTORY				
15	<i>Aronia arbutifolia</i>	Red Chokeberry	24"-30"	Cont.
10	<i>Alnus serrulata</i>	Smooth Alder	24"-30"	Cont.
10	<i>Rhus copallina</i>	Winged Sumac	24"-30"	Cont.
15	<i>Viburnum dentatum</i>	Arrowwood	24"-30"	Cont.

REFORESTATION AREA #12 (2.3) ACRES				
1" CALIPER TREES				
Qty	Botanical Name	Common Name	Size	Condition
25	<i>Acer rubrum</i>	Red Maple	1" cal.	Cont. or B&B
10	<i>Cercis canadensis</i>	Redbud	1" cal.	Cont. or B&B
10	<i>Platanus occidentalis</i>	American Sycamore	1" cal.	Cont. or B&B
20	<i>Liriodendron tulipifera</i>	Tulip Poplar	1" cal.	Cont. or B&B
10	<i>Quercus alba</i>	White Oak	1" cal.	Cont. or B&B
10	<i>Quercus palustris</i>	Pin Oak	1" cal.	Cont. or B&B
30	<i>Quercus rubra</i>	Red Oak	1" cal.	Cont. or B&B
3 TO 4' CONTAINER STOCK				
100	<i>Acer rubrum</i>	Red Maple	3-4'	Cont.
30	<i>Cercis canadensis</i>	Redbud	3-4'	Cont.
20	<i>Cornus florida</i>	Flowering Dogwood	3-4'	Cont.
10	<i>Platanus occidentalis</i>	American Sycamore	3-4'	Cont.
100	<i>Liriodendron tulipifera</i>	Tulip Poplar	3-4'	Cont.
60	<i>Quercus alba</i>	White Oak	3-4'	Cont.
30	<i>Quercus palustris</i>	Pin Oak	3-4'	Cont.
125	<i>Quercus rubra</i>	Red Oak	3-4'	Cont.
UNDERSTORY				
15	<i>Aronia arbutifolia</i>	Red Chokeberry	24"-30"	Cont.
45	<i>Aronia melanocarpa</i>	Black Chokeberry	24"-30"	Cont.
10	<i>Alnus serrulata</i>	Smooth Alder	24"-30"	Cont.
35	<i>Rhus copallina</i>	Winged Sumac	24"-30"	Cont.
20	<i>Viburnum dentatum</i>	Arrowwood	24"-30"	Cont.

PLAN PREPARED BY:
 Environmental Systems Analysis, Inc.
 48 Maryland Avenue, Annapolis, Maryland 21401
 (410) 267-0495 Fax: (410) 267-0496

Kevin Kelly
 Kevin Kelly
 DNR APPROVED QUALIFIED PROFESSIONAL
 FOR FSD'S AND FCP'S
 DATE 12-6-96

OWNER
 DANIELS MILL OVERLOOK, LLC
 c/o MR. MICHAEL DIFFENDAL
 11900 TECH ROAD
 SILVER SPRING, MARYLAND 20904

DEVELOPER
 THE RYLAND GROUP
 ATTENTION: MR. CHARLES O'DONOVAN
 GALLERIA TOWERS
 SUITE #705
 1147 YORK ROAD
 LUTHERVILLE, MARYLAND 21095

FINAL FOREST CONSERVATION PLAN
 DETAIL SHEET
 DANIELS MILL OVERLOOK
 Howard County, Maryland
 No Scale December 1996
 Sheet 16 of 16