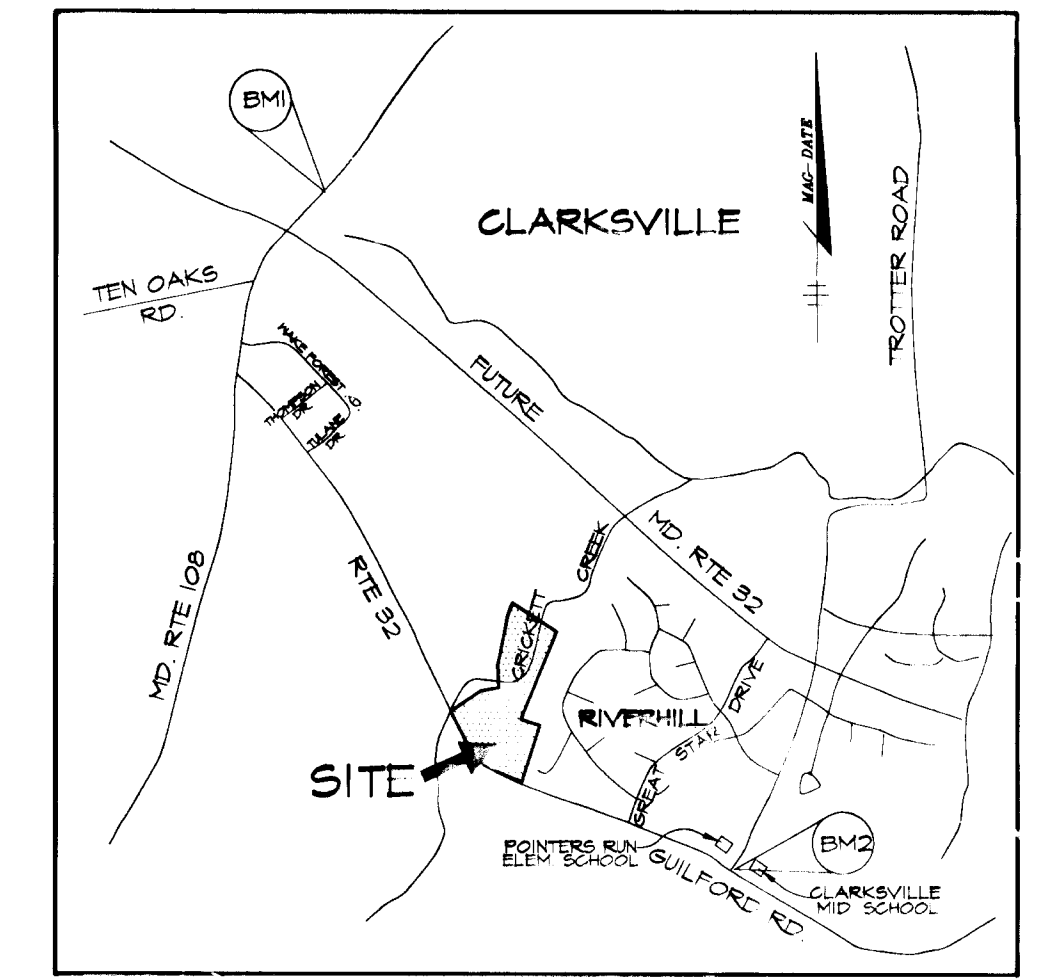


SHEET INDEX	
NO	DESCRIPTION
1	TITLE SHEET
2	PLAN & PROFILES OF WELCOME NIGHT PATH & BURGUNDY LANE
3	GRADINGS, SEDIMENT CONTROL PLAN & DRAINAGE AREA MAP
4	STORM DRAIN & ACCESS DRIVE PROFILES
5	SEDIMENT CONTROL NOTES & DETAILS
6	FOREST CONSERVATION & REFORESTATION PLAN
7	FOREST CONSERVATION & REFORESTATION PLAN
8	FOREST CONSERVATION DETAILS

RETTGER PROPERTY ROADWAYS, STORM DRAINS & STORMWATER MANAGEMENT

LOTS 1-25

5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1" = 2000'

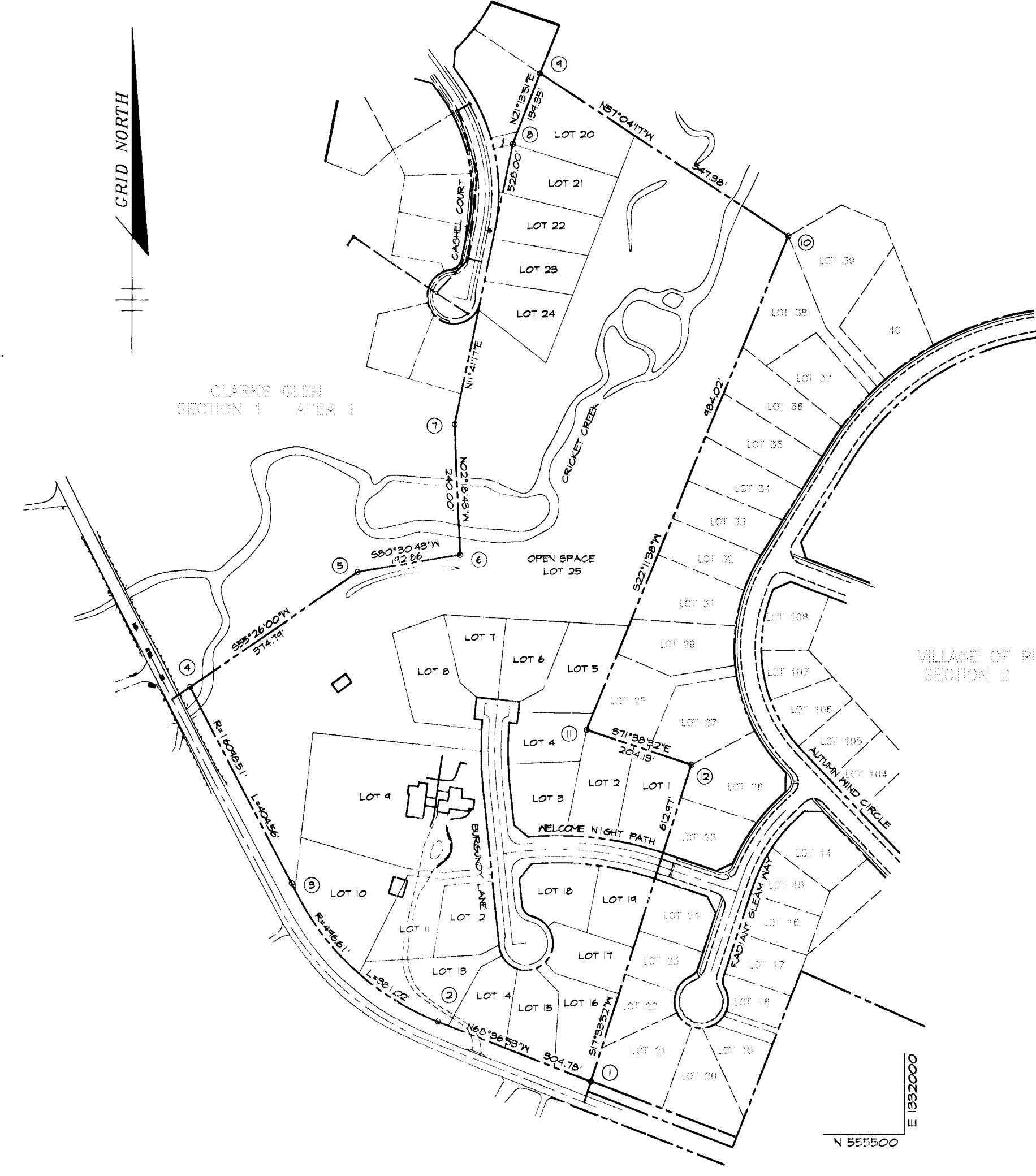
BENCHMARKS

BM1 HOWARD COUNTY MONUMENT NO 2687009
ELEV. 481.25
CONCRETE MONUMENT
BM2 HOWARD COUNTY MONUMENT NO 2487009
ELEV. 472.12
CONCRETE MONUMENT

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- THE CONTRACTOR SHALL TEST FIT EXISTING UTILITIES AT LEAST (3) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTION DIVISION AT (410) 326-8800 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
BELL ATLANTIC TELEPHONE SYSTEM 543-3644
LONG DISTANCE CABLE DIVISION 533-3933 OR 3934
BALTIMORE GAS AND ELECTRIC CO. 534-8000
HOWARD COUNTY BUREAU OF UTILITIES 251-4600
COLONIAL PIPELINE 745-1940
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL LOCAL STREET INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS & SPECIFICATIONS.
- ALL STREET CURB RETURNS SHALL HAVE 25' RADII UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, 10. STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARD.
BURGUNDY LANE 25 M.P.H.
WELCOME NIGHT PATH 30 M.P.H.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T 99.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- SUBJECT PROPERTY ZONED R-12 PER 10-18-85 COMPREHENSIVE ZONING PLAN.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDINGS SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME I OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S. S-44-16, KP-44-195-21.
- STORMWATER QUANTITY CONTROL IS PROVIDED UNDER PL-85-89 APPROVED 5485 WATER QUALITY WILL BE PROVIDED VIA A "POCKET WETLAND". THE FACILITY WILL BE OWNED AND MAINTAINED BY HOA.
- TOPOGRAPHY SHOWN HEREON WAS PERFORMED BY KING AERIAL MAPPING COMPANY, MARCH 1994. ALL CONTOURS ARE TWO FOOT INTERVALS.
- PUBLIC WATER AND SEWER SYSTEMS AS PER CONTRACT NO. 84-28964-D AND TO BE UTILIZED FOR THIS SITE. SEWER SERVICE DRAINAGE AREA, MIDDLE PAYMENT.
- GEOTECHNICAL STUDY FOR STORMWATER MANAGEMENT FOR THIS PROJECT IS PROVIDED BY HERBERT & ASSOCIATES DATED JULY 24, 1995.
- ALL STREET LIGHTS SHALL BE LOCATED BETWEEN 2'-0" AND 4'-0" BEHIND FACE OF CURB.
- STREET LIGHT PLACEMENT AND TYPE OF FIXTURE AND POLE SELECTED SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1995) AS MODIFIED BY THE GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (LATE 1997) WHICH INCLUDES SUGGESTIONS FOR LATERAL AND LONGITUDINAL PLACEMENT. STREET TREES TO BE PLACED 20' FROM STREET LIGHTS.
- THE PAVEMENT DETAILS SHOWN ON THESE PLANS REFLECT THE HOWARD COUNTY MINIMUM STANDARD PAVEMENT SECTIONS AND ARE NOT BASED ON SITE SPECIFIC CONDITIONS. PRIOR TO PAVING, THE FINAL PAVEMENT SECTIONS SHALL BE DETERMINED BY A QUALIFIED GEOTECHNICAL ENGINEER BASED ON IN-SITU TESTING OF THE FINISHED SUBGRADE. ANY PAVEMENT SECTION DETERMINED BY THE GEOTECHNICAL ENGINEER THAT IS LESS THAN THE HOWARD COUNTY MINIMUM STANDARD SHALL FIRST BE APPROVED BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. THE TESTING AND GEOTECHNICAL ENGINEER SHALL BE FURNISHED BY THE OWNER.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- 100-YEAR FLOODPLAIN ELEVATIONS SHOWN ON THIS PLAN ARE TAKEN FROM THE 100-YEAR FLOODPLAIN STUDY PERFORMED FOR THIS SITE DURING THE PRELIMINARY PLAN DESIGN (P-85-27).
- a. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NO. 2687009 AND 2487009 WERE USED FOR THIS PROJECT.
b. THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY RIEMER MUEGGE & ASSOCIATES, DATED MARCH 14, 1994, AND WAS APPROVED ON AUGUST 7, 1995.
c. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP, INC., DATED JANUARY 4, 1995 AND WAS APPROVED JANUARY, 1995.

N 557500
E 1930000



E 1930000
N 555500

COORDINATE LIST

NORTHINGS	EASTINGS
1 N 555546.678	E 193144.742
2 N 555701.860	E 193135.775
3 N 555463.494	E 193063.929
4 N 556322.850	E 193067.652
5 N 556535.442	E 193065.274
6 N 556547.284	E 193175.501
7 N 556807.088	E 193165.814
8 N 557324.140	E 193172.783
9 N 557454.031	E 193123.245
10 N 557186.474	E 193182.688
11 N 556245.364	E 193140.482
12 N 556181.075	E 1931604.724

PLAN
SCALE: 1" = 200'

AS BUILT CERTIFICATE	
3/19/96 DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. <i>Andrew M. Daniels</i> 4-24-96 CHIEF, BUREAU OF HIGHWAYS DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. <i>Richard Blood</i> 6/25/96 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE	
<i>Chris DeWitt</i> 4/20/96 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE	
DATE NO.	REVISION
OWNER REV. JOHN RETTGER C/O RICHARD TALKIN 9175 GUILFORD ROAD COLUMBIA, MD 21046	DEVELOPER LAND DESIGN & DEVELOPMENT 10805 HICKORY RIDGE RD. COLUMBIA, MD 21044 ATTN: DONALD REUKER
PROJECT RETTGER PROPERTY A SINGLE FAMILY DETACHED RESIDENTIAL SUBDIVISION	
AREA TAX MAP NO 35 PARCEL 89 ZONED R-12 5th ELECTION DISTRICT HOWARD COUNTY MARYLAND	
TITLE TITLE SHEET	
RIEMER MUEGGE & ASSOCIATES, INC. Planners & Engineers & Surveyors 8818 Centre Park Drive • Suite 200 • Columbia, MD 21045 410-997-8900 FAX: 410-997-9282	
4.9.96 DATE	DESIGNED BY: JTD DRAWN BY: BLN PROJECT NO: 95B0509 DATE: APRIL 9 1996 SCALE: AS SHOWN DRAWING NO. 1 OF 8
J. Lueck JAYKANT D. PAREKH #19148	

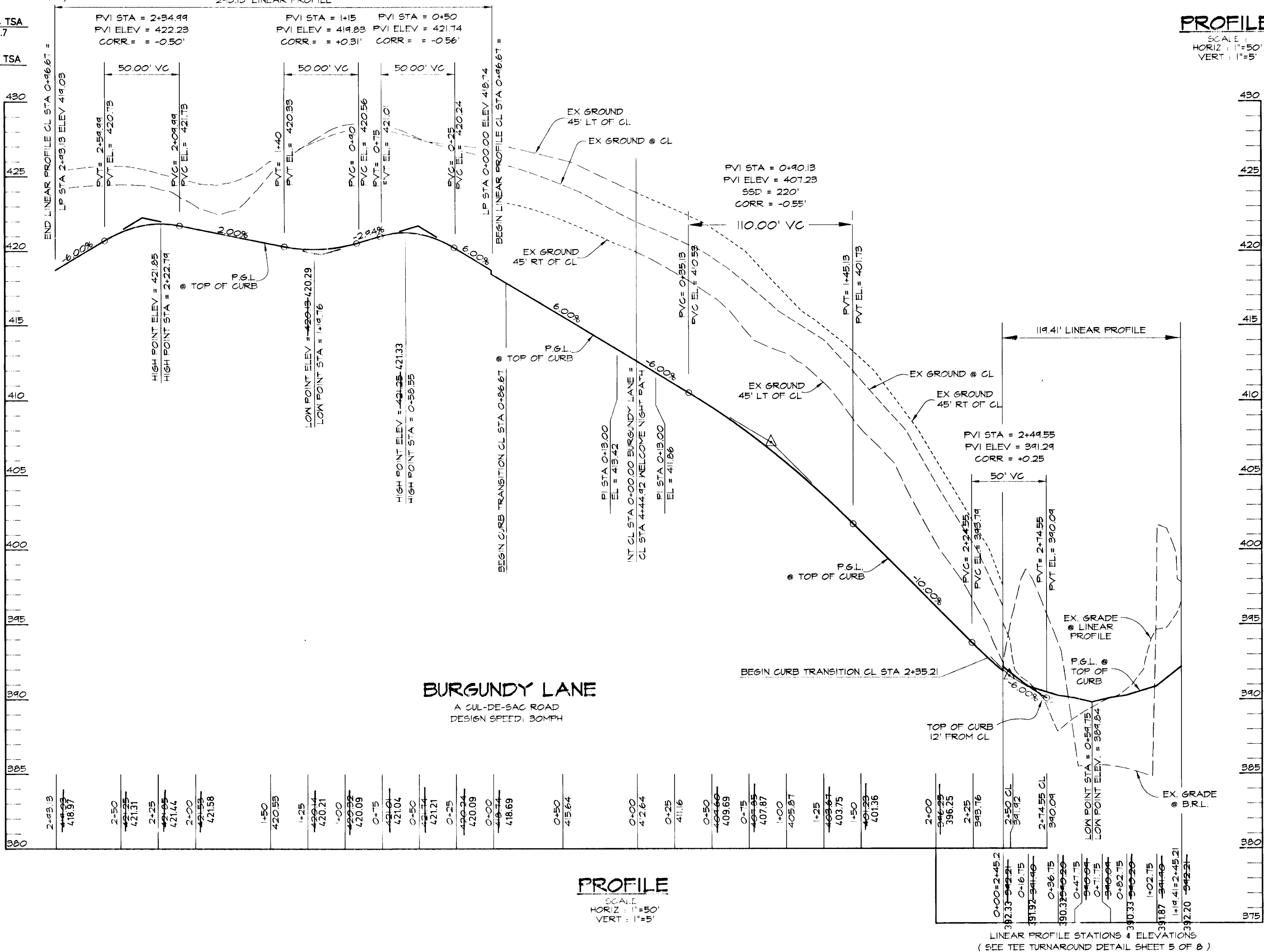
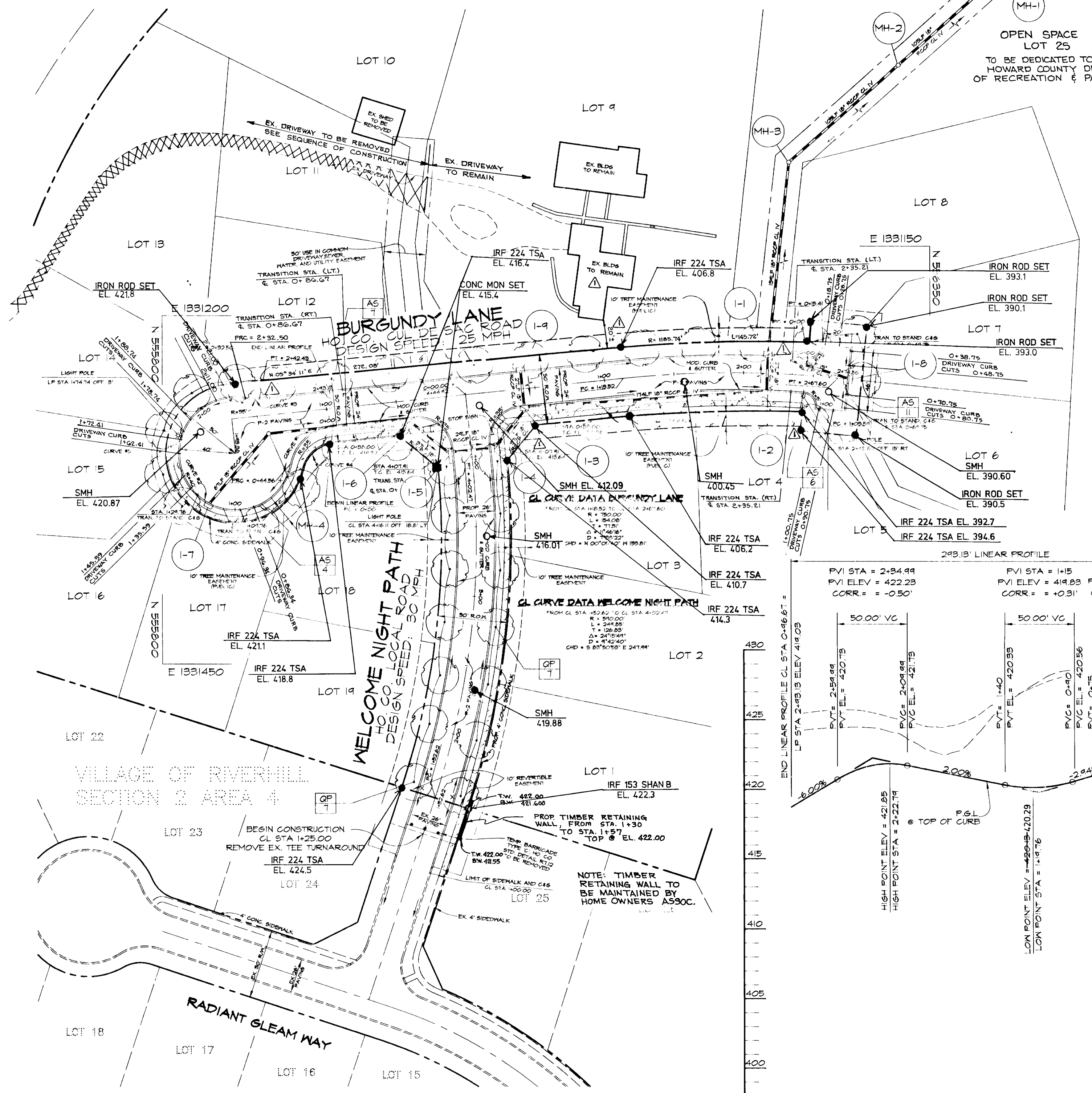
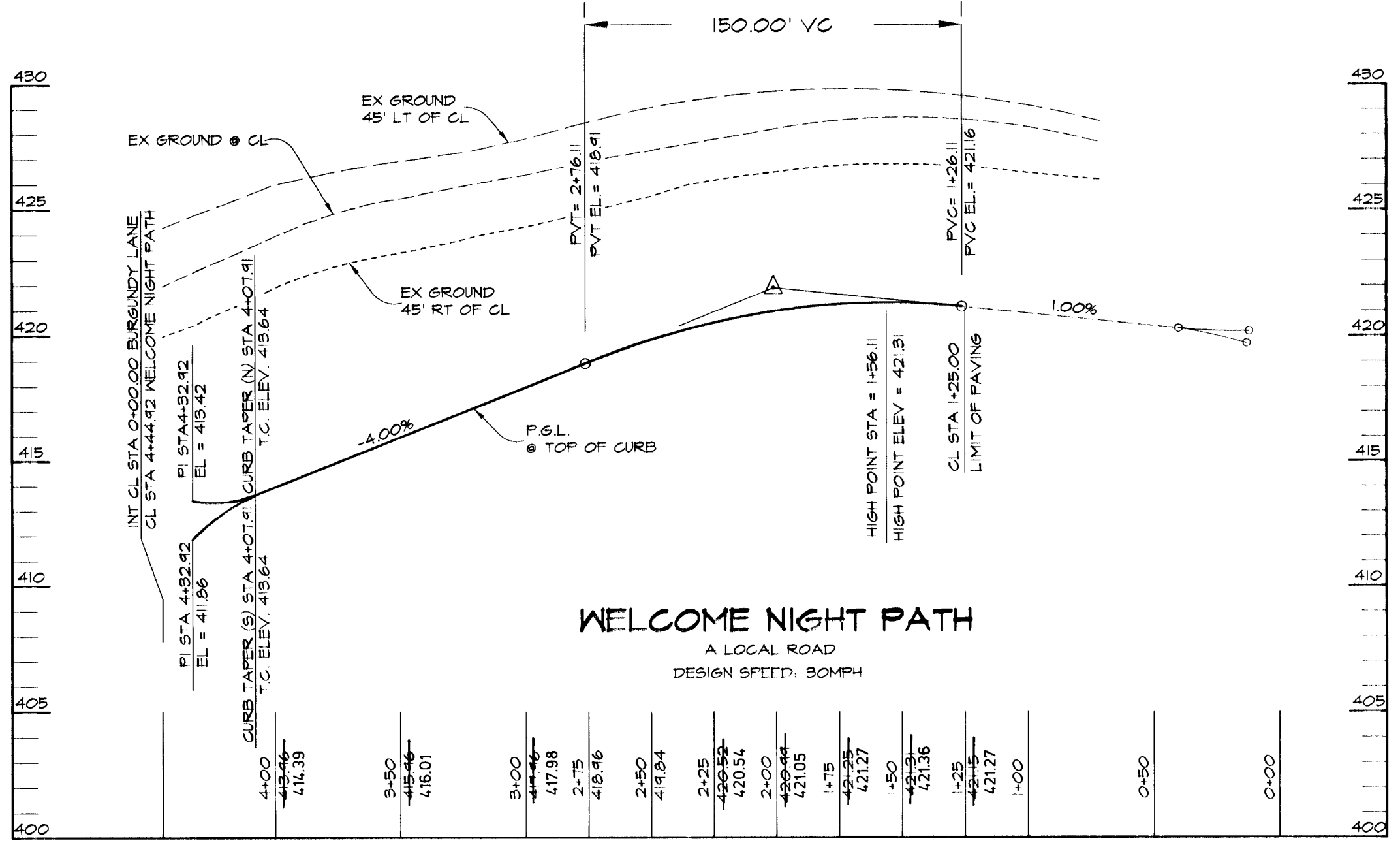
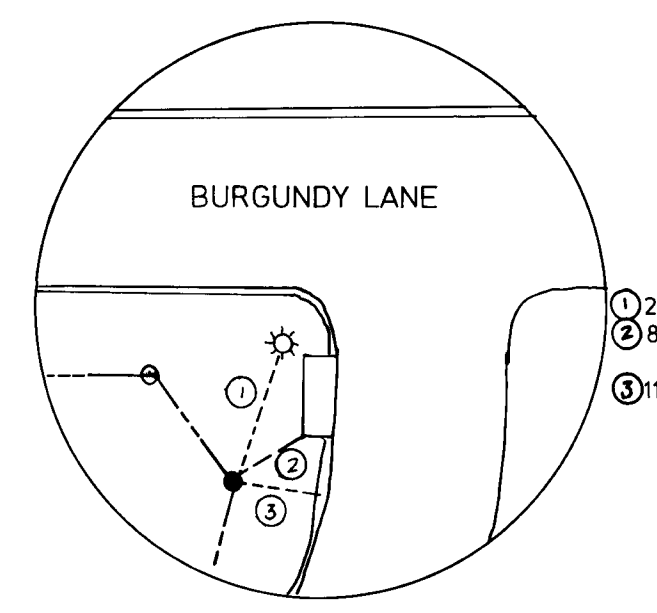
5281

GRID NORTH

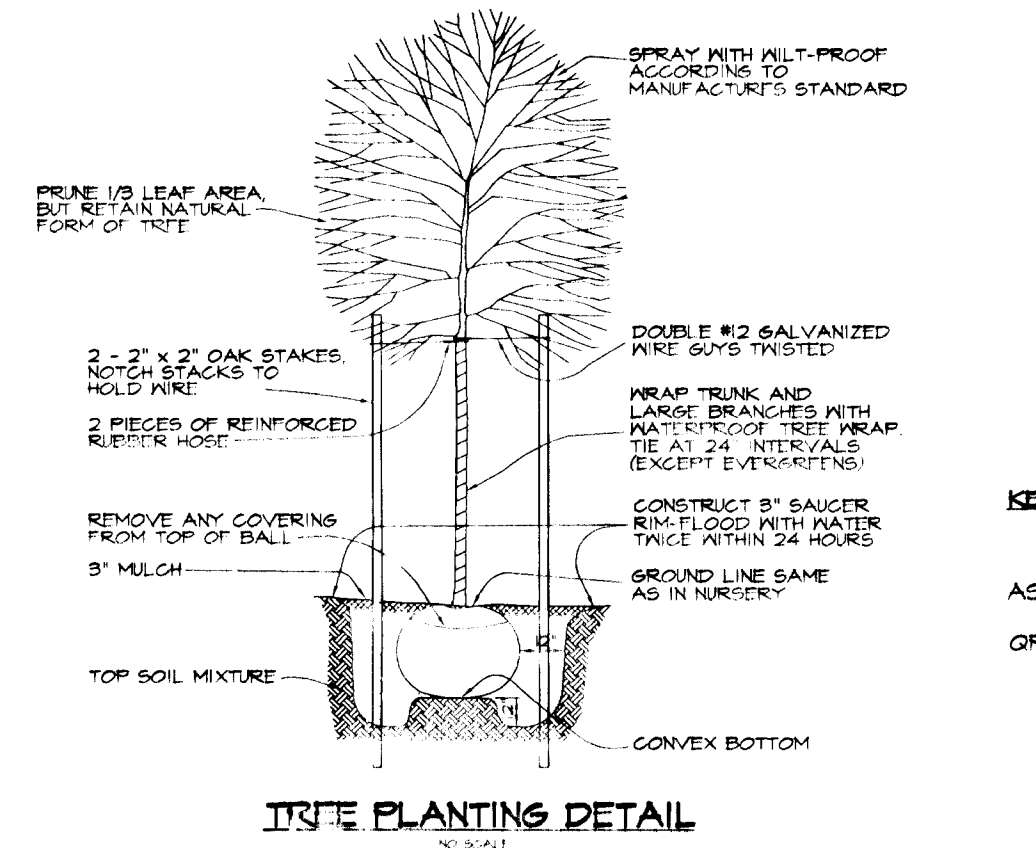
CURVE DATA					
CURVE NUMBER					
	1	2	3	4	5
Δ	12°56'33"	26°12'04"	16°15'31"	10°31'44"	25°01'144"
R	35.00'	40.00'	35.00'	25.00'	50.00'
L	44.56'	181.44'	4.93'	30.71'	218.63'
T	25.87'	40.56'	5.00'	17.68'	70.71'
L.C.	41.61'	56.96'	4.90'	28.87'	81.65'

STREET LIGHT TABLE		
ROAD	CL STA	OFFSET
WELCOME NIGHT PATH	4+16.11	18.8' LT
BURGUNDY LANE	LP 1+74.74	3'
BURGUNDY LANE	2+48.82	15' RT

* NOTE: ALL STREET LIGHTS SHALL BE 100 WATT HPS VAPOR MODERN (BRONZE) POST TOP MOUNTED ON A 14' BRONZT FIBERGLASS POLE.



PLANTING DETAIL



PLANT MATERIAL LIST

KEY	QTY	BOTANICAL & COMMON NAME	SIZE	REMARKS
AS	28	Acer saccharum 'Green Mountain'	2 1/2" - 3" Cal.	D & B
OP	14	Quercus phellos	2 1/2" - 3" Cal.	D & B

AS BUILT CERTIFICATE

3119199 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Andrew M. Daniels 4-24-96 DATE
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Richard Blood 6/25/96 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING

4/26/96 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

12-30-96 Δ SHIFTED R/W LINE, BURGUNDY LANE (BOTH SIDES) IN AN EASTERLY DIRECTION, ADJUSTED TREE BASE, BOTH BY BLDG. TO REMAIN.

DATE NO.	REVISION
OWNER	DEVELOPER
REV. JOHN RETTGER C/O RICHARD TALKIN 9175 GUILFORD ROAD COLUMBIA, MD 21046	LAND DESIGN & DEVELOPMENT 10805 HICKORY RIDGE RD. COLUMBIA, MD 21044 ATTN: DONALD REIMER

PROJECT: RETTGER PROPERTY
A SINGLE FAMILY DETACHED RESIDENTIAL SUBDIVISION

AREA: TAX MAP NO. 35 PARCEL 189
ZONED R-12
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: PLAN AND PROFILES OF WELCOME NIGHT PATH & BURGUNDY LANE

RIEMER MUEGGE & ASSOCIATES, INC.
Planners & Engineers • Surveyors
8818 Centre Park Drive • Suite 200 • Columbia, MD 21045
410-997-8900 FAX: 410-997-9282

4.9.96 DATE

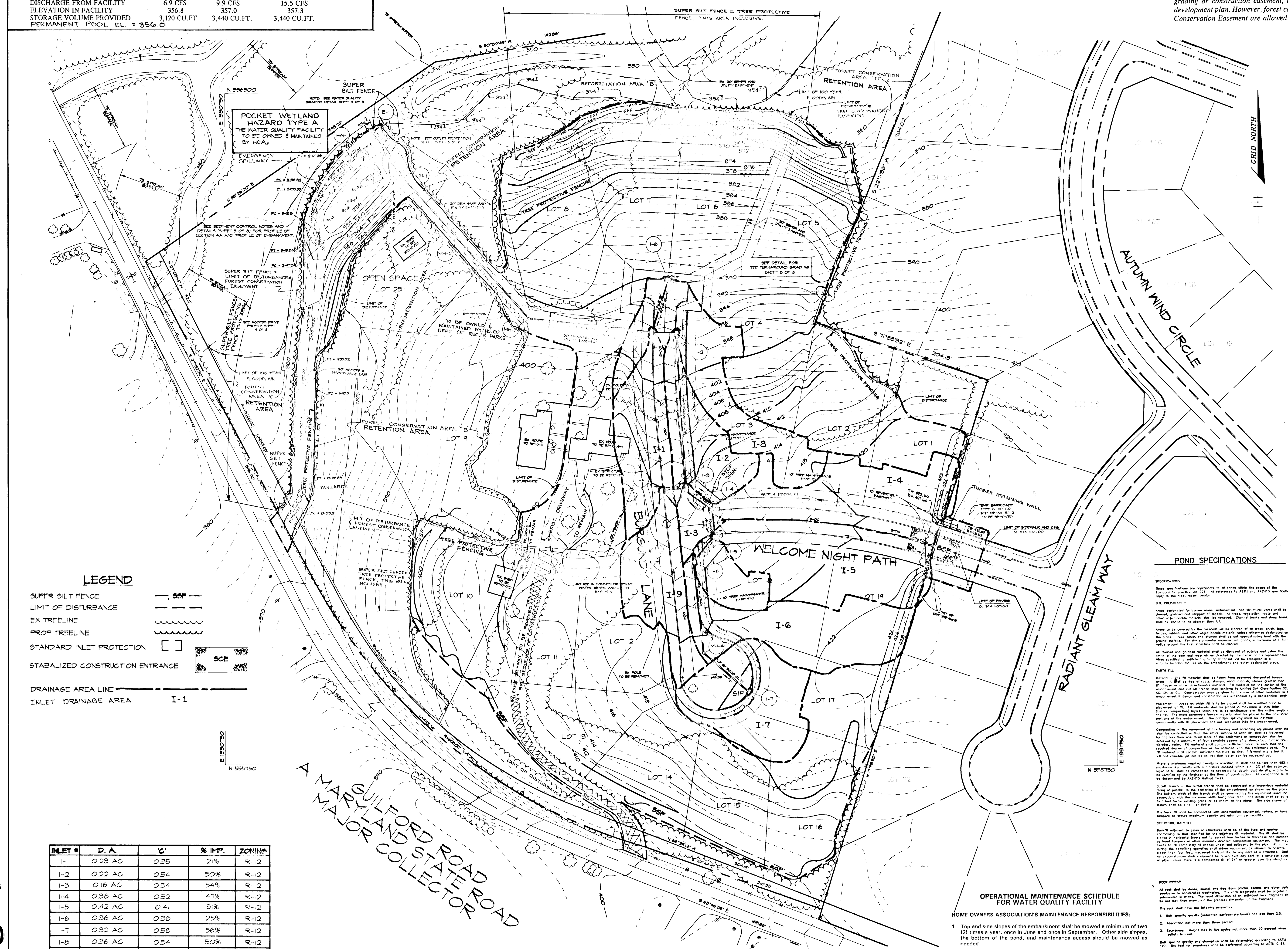
DESIGNED BY: JTD
DRAWN BY: BLW
PROJECT NO: 95H0504
DATE: APRIL 9, 1996
SCALE: AS SHOWN
DRAWING NO. 2 OF 8

J. Parekh
JAYKANT D. PAREKH #19148

18281

DESIGN CRITERIA	2 YEAR	10 YEAR	100 YEAR
ALLOWABLE RELEASE RATE	6.9 CFS	9.9 CFS	15.5 CFS
COMPUTED INFLOW TO FACILITY	6.9 CFS	9.9 CFS	15.5 CFS
DISCHARGE FROM FACILITY	6.9 CFS	9.9 CFS	15.5 CFS
ELEVATION IN FACILITY	356.8	357.3	
STORAGE VOLUME PROVIDED	3,120 CU.FT	3,440 CU.FT.	3,440 CU.FT.
PERMANENT POOL EL. = 356.0			

"The forest conservation easement has been established to fulfill the requirements of Section 16.1200 of the Howard County Code, Forest Conservation Act. No clearing, grading or construction easement, unless shown on an approved road drawing or site development plan. However, forest conservation practices as defined in the Deed of Forest Conservation Easement are allowed."



LEGEND

- SUPER SILT FENCE — SSF —
- LIMIT OF DISTURBANCE — — — — —
- EX TREELINE — — — — —
- PROP TREELINE — — — — —
- STANDARD INLET PROTECTION []
- STABILIZED CONSTRUCTION ENTRANCE []
- DRAINAGE AREA LINE — — — — —
- INLET DRAINAGE AREA I-1

INLET #	D. A.	C'	% IMP.	ZONING
I-1	0.23 AC	0.35	2%	R-2
I-2	0.22 AC	0.54	50%	R-2
I-3	0.6 AC	0.54	54%	R-2
I-4	0.38 AC	0.52	47%	R-2
I-5	0.42 AC	0.4	3%	R-2
I-6	0.36 AC	0.38	25%	R-2
I-7	0.32 AC	0.58	56%	R-2
I-8	0.36 AC	0.54	50%	R-2
I-9	0.24 AC	0.40	29%	R-2

PLAN
SCALE: 1" = 50'

- OPERATIONAL MAINTENANCE SCHEDULE FOR WATER QUALITY FACILITY**
- HOME OWNERS ASSOCIATION'S MAINTENANCE RESPONSIBILITIES:**
- Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance access should be mowed as needed.
 - Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
 - When deemed necessary for aesthetic reasons, sediment should be removed from the pond. Approval of the Department of Public Works is required.

POND SPECIFICATIONS

PREPARATION
Areas designated for basins, embankment and structural works shall be cleared, graded and shaped of topsoil. All trees, vegetation, rocks and other obstructions shall be removed. Obsolete structures and structures shall be removed or repaired as required.

CONSTRUCTION
Areas to be covered by the embankment shall be cleared of trees, brush, logs, rocks, stumps and other obstructions. All structures shall be removed. The ground surface shall be prepared for the construction of the embankment. The embankment shall be constructed in accordance with the specifications of the Department of Public Works. The embankment shall be stabilized with grass seed or other suitable vegetation. The embankment shall be inspected and approved by the Department of Public Works.

OPERATIONAL MAINTENANCE
The embankment shall be inspected and approved by the Department of Public Works. The embankment shall be stabilized with grass seed or other suitable vegetation. The embankment shall be inspected and approved by the Department of Public Works.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Donald R. By 4-10-96
DEVELOPER DATE

BY THE ENGINEER :

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

J. Savelle 4-9-96
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

J. H. Warfield III 4/22/96
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John R. Roberts 4/22/96
HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE

[Seal] 3/19/99
DATE

APPROVED BY HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. Daniels 4-24-96
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED BY HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Richard B. Blood 6/25/96
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

[Signature] 4/26/96
ENGINEERING DIVISION DATE

DATE	NO.	REVISION

OWNER: JOHN RETTGER
C/O RICHARD TALKIN
9175 GUILFORD ROAD
COLUMBIA, MD 21046

DEVELOPER: LAND DESIGN & DEVELOPMENT
10805 HICKORY RIDGE RD.
COLUMBIA, MD 21044
ATTN: DONALD REIMER

PROJECT: RETTGER PROPERTY
A SINGLE FAMILY DETACHED RESIDENTIAL SUBDIVISION

AREA: TAX MAP NO. 35 PARCEL 189
ZONED R-12
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: GRADING, SEDIMENT CONTROL PLAN & DRAINAGE AREA MAP

RIEMER MUEGGE & ASSOCIATES, INC.
Planners • Engineers • Surveyors
8818 Centre Park Drive • Suite 200 • Columbia, MD 21045
410-897-8900 FAX: 410-897-9282

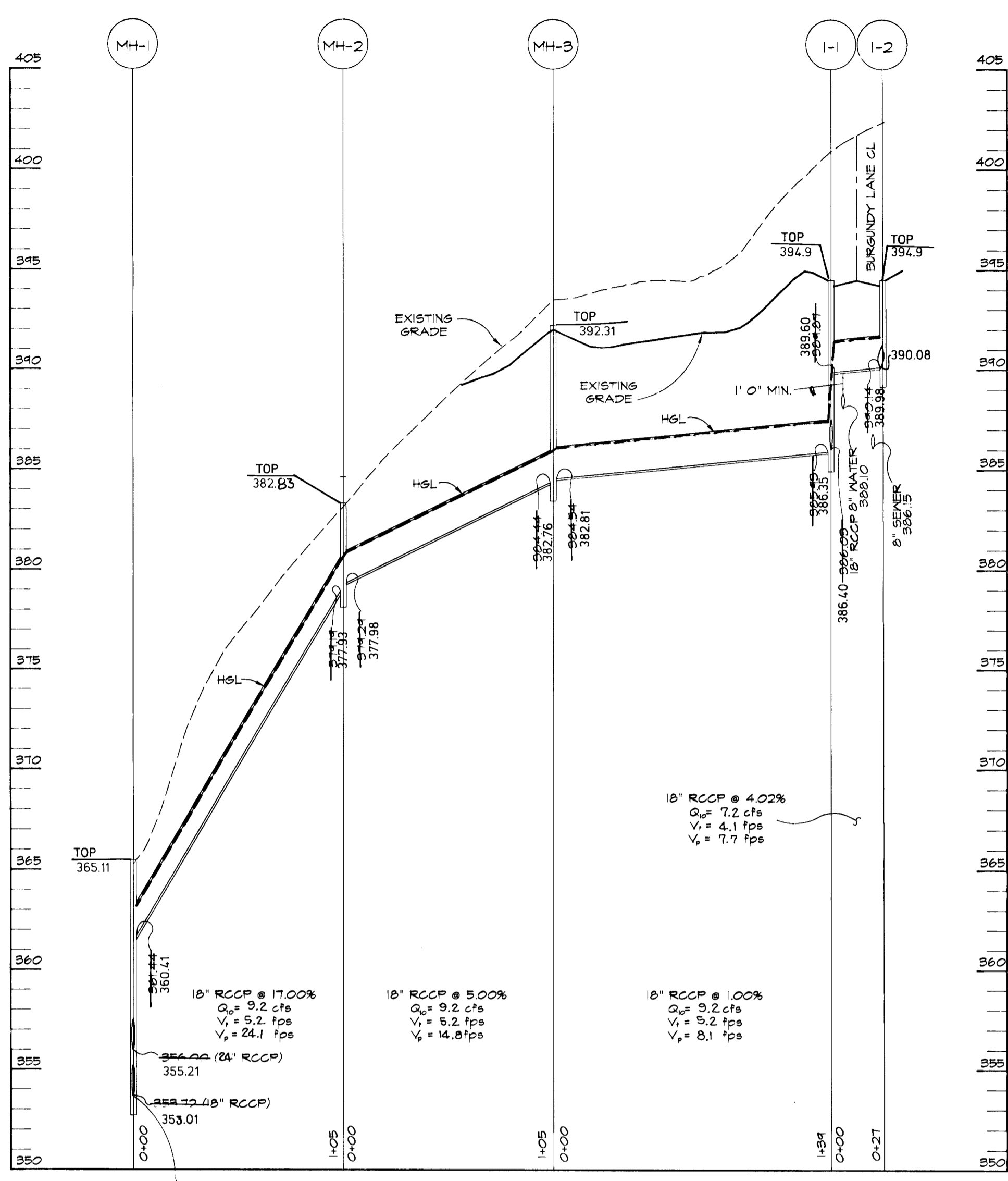
4-9-96 DATE

DESIGNED BY: JTD
DRAWN BY: BLW
PROJECT NO: 9540509
DATE: APRIL 9, 1996
SCALE: AS SHOWN
DRAWING NO: 3 OF 8

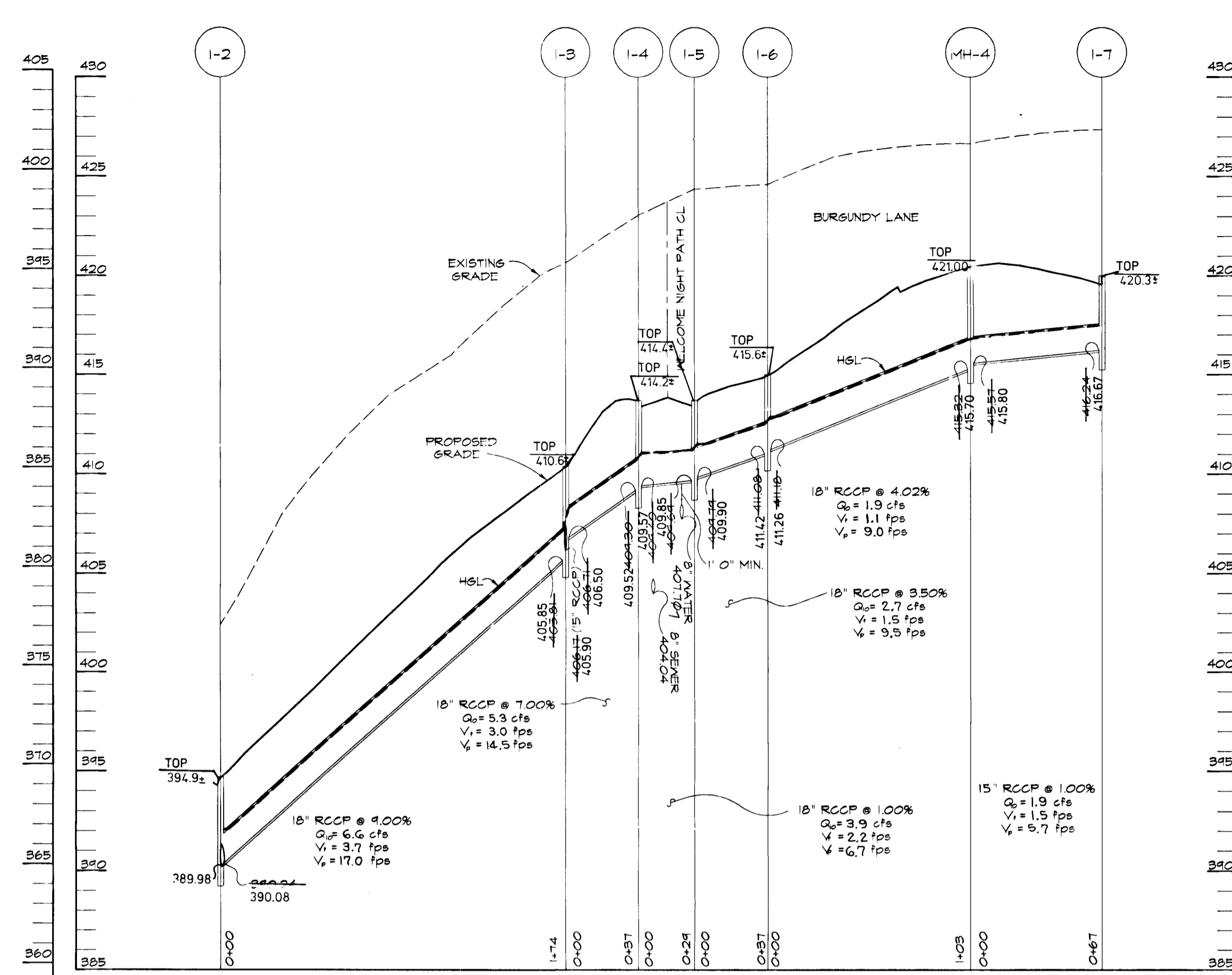
JAYKANT D. PAREKH #19148

1823

1823



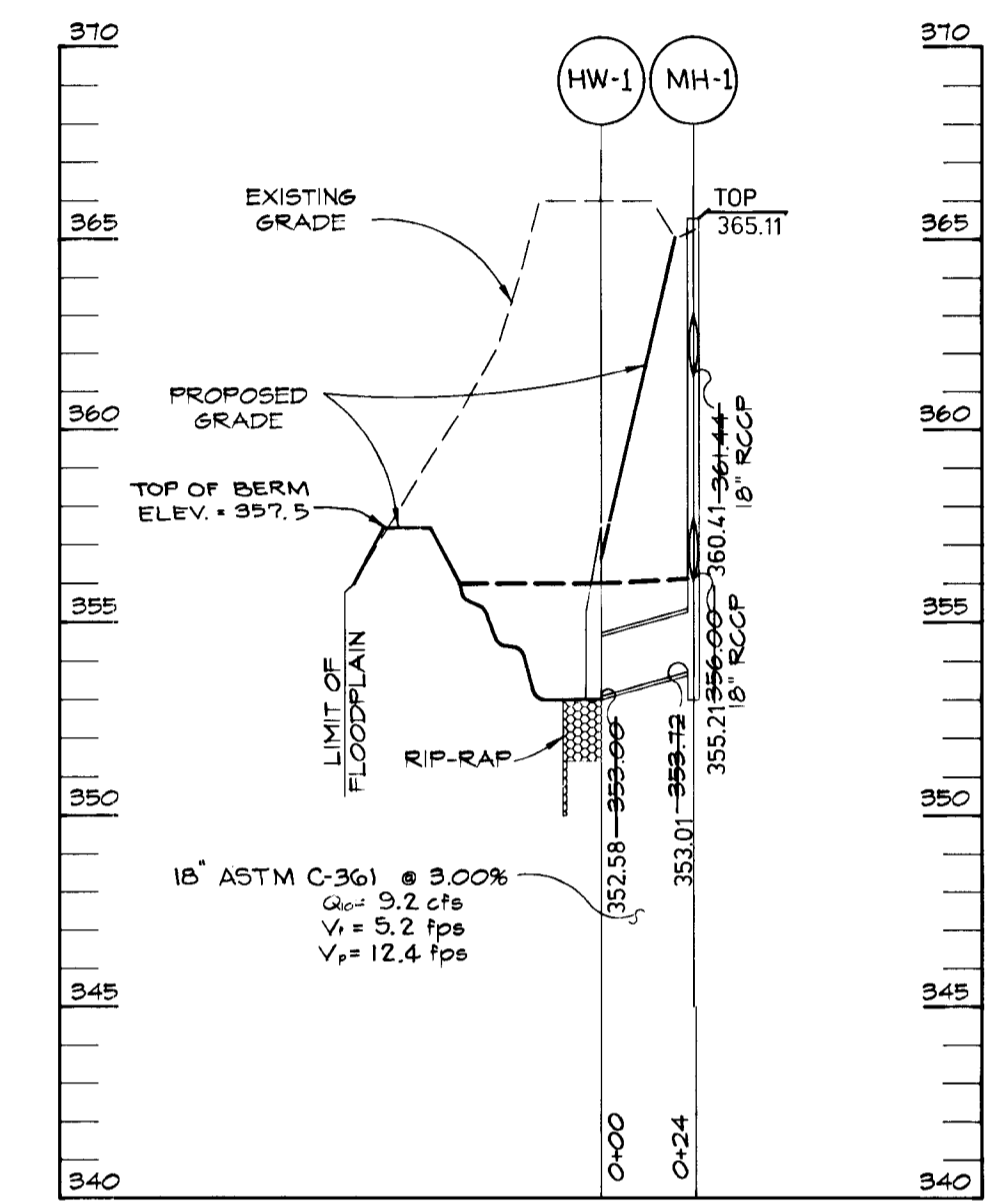
PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'



PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'

STRUCTURE SCHEDULE						
STRUCTURE NUMBER	TYPE	LOCATION	INVERT		TOP ELEV.	HO. CO. STD. DETAIL
			IN	OUT		
MH-1	4 DIA STD MH	N 556406.03 E 1330950.29	360.41	353.01	365.11	6 5.12
MH-2	4 DIA STD MH	N 556321.58 E 1331020.17	377.98	377.93	382.83	6 5.12
MH-3	4 DIA STD MH	N 556249.10 E 1331090.07	382.81	382.76	392.31	6 5.12
I-1	A-5	12.00 LT OF CL STA 2+16.90	387.90	386.35	394.9	SD 4.01
I-2	A-5	12.00 RT OF CL STA 2+16.90	390.08	389.98	394.9	SD 4.01
I-3	A-5	12.00 LT OF CL STA 0+41.00	400.5	405.85	410.62	SD 4.01
I-4	A-10	13.00 RT OF CL STA 4+02.42	409.57	409.52	414.22	SD 4.01
I-5	A-10	13.00 LT OF CL STA 4+02.42	409.90	409.85	414.22	SD 4.02
I-6	A-5	12.00 LT OF CL STA 0+41.00	411.26	411.42	415.62	SD 4.01
MH-4	4 DIA STD MH	CUL-DE-SAC STA 4+09.01	415.80	415.70	421.00	6 5.12
I-7	A-5	CUL-DE-SAC STA 4+19.00	---	416.67	420.32	SD 4.01
I-8	A-5	0 OFF. OF CL AT STA 2+74.55	---	386.79	389.92	SD 4.01
I-9	A-5	12.00 LT OF CL STA 0+41.00	---	406.98	410.52	SD 4.01
E-1	8 CONC ENL SECTION	N 556489.03 E 1330931.44	354.89	---	---	SD 5.5
HA-1	TYPE 1 A	N 556406.90 E 1330926.33	352.58	---	---	SD 5.11

* NOTE: ALL STATIONS ARE REFERENCED FROM BURGUNDY LANE, EXCEPT FOR I.4 & I-5 WHICH ARE REFERENCED FROM WELCOME NIGHT PATH.



PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'

APPROVED: *Richard M. Danner* 4-24-96
CHIEF, BUREAU OF HIGHWAYS MS DATE

APPROVED: *Richard M. Danner* 4/26/96
CHIEF, DIVISION OF PLANNING AND ZONING. DATE

Richard Bluel 6/25/96
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH. DATE

DATE	NO.	REVISION

OWNER: REV. JOHN RETTGER
C/O RICHARD TALKIN
9175 GUILFORD ROAD
COLUMBIA, MD 21046

DEVELOPER: LAND DESIGN & DEVELOPMENT
10805 HICKORY RIDGE RD
COLUMBIA, MD 21044
ATTN: DONALD REIMER

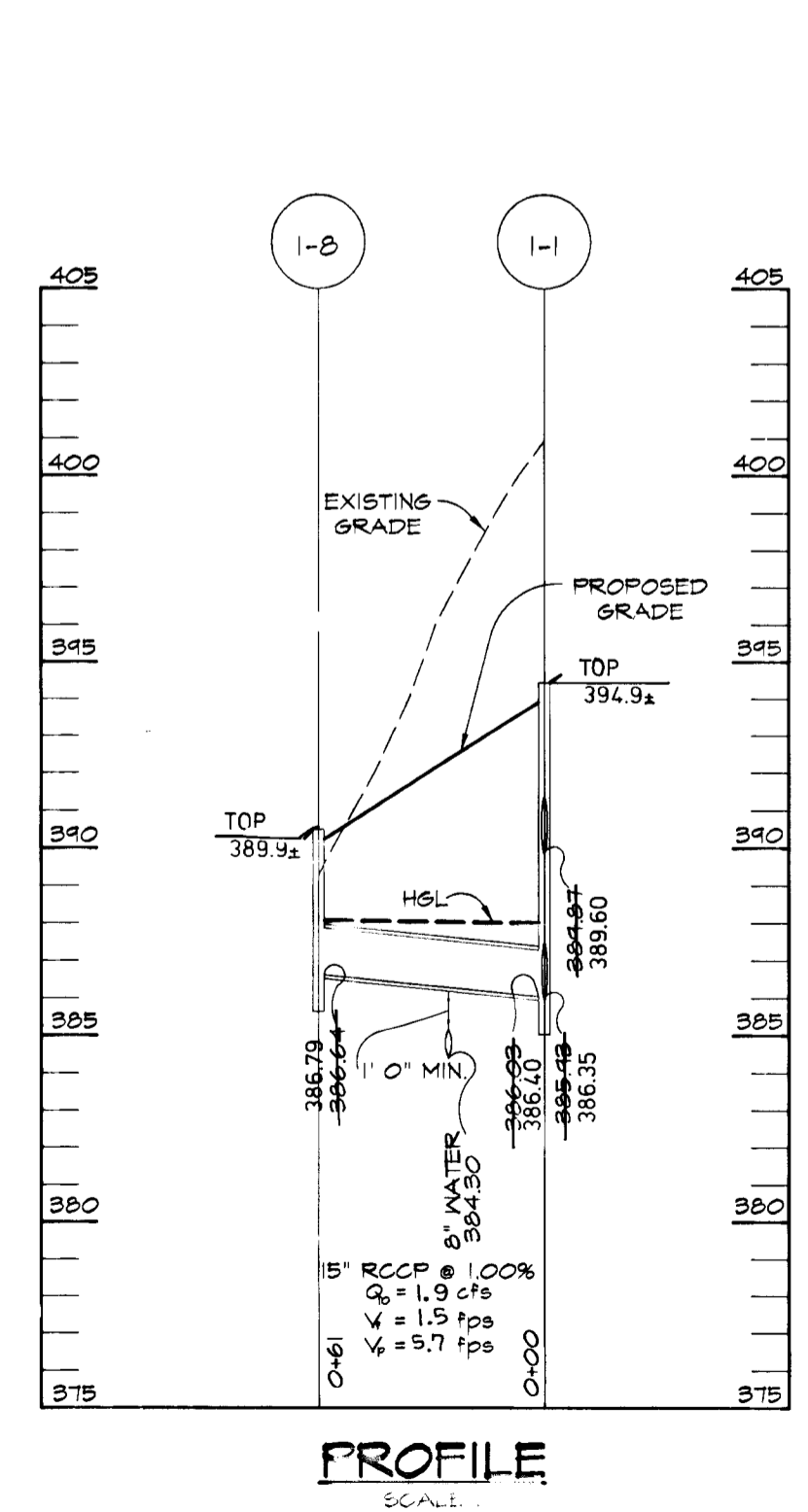
PROJECT: **RETTGER PROPERTY**
A SINGLE FAMILY DETACHED RESIDENTIAL SUBDIVISION

AREA: TAX MAP NO. 35 PARCEL 189
ZONED R-12
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

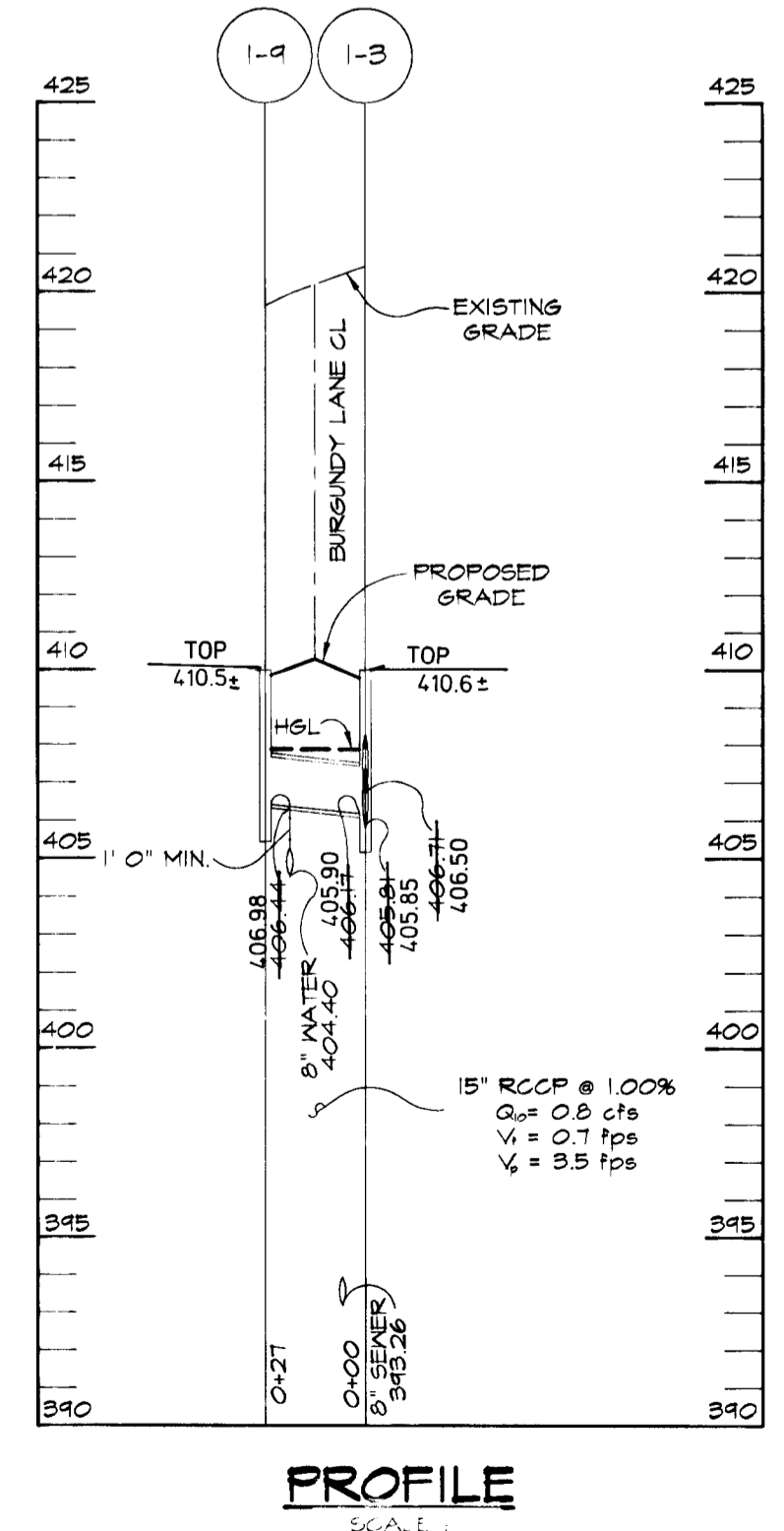
TITLE: **STORMDRAIN & ACCESS DRIVE PROFILES**

RIEMER MUEGGEL & ASSOCIATES, INC.
Planners • Engineers • Surveyors
8818 Centre Park Drive • Suite 200 • Columbia, MD 21045
410-997-8900 FAX: 410-997-9282

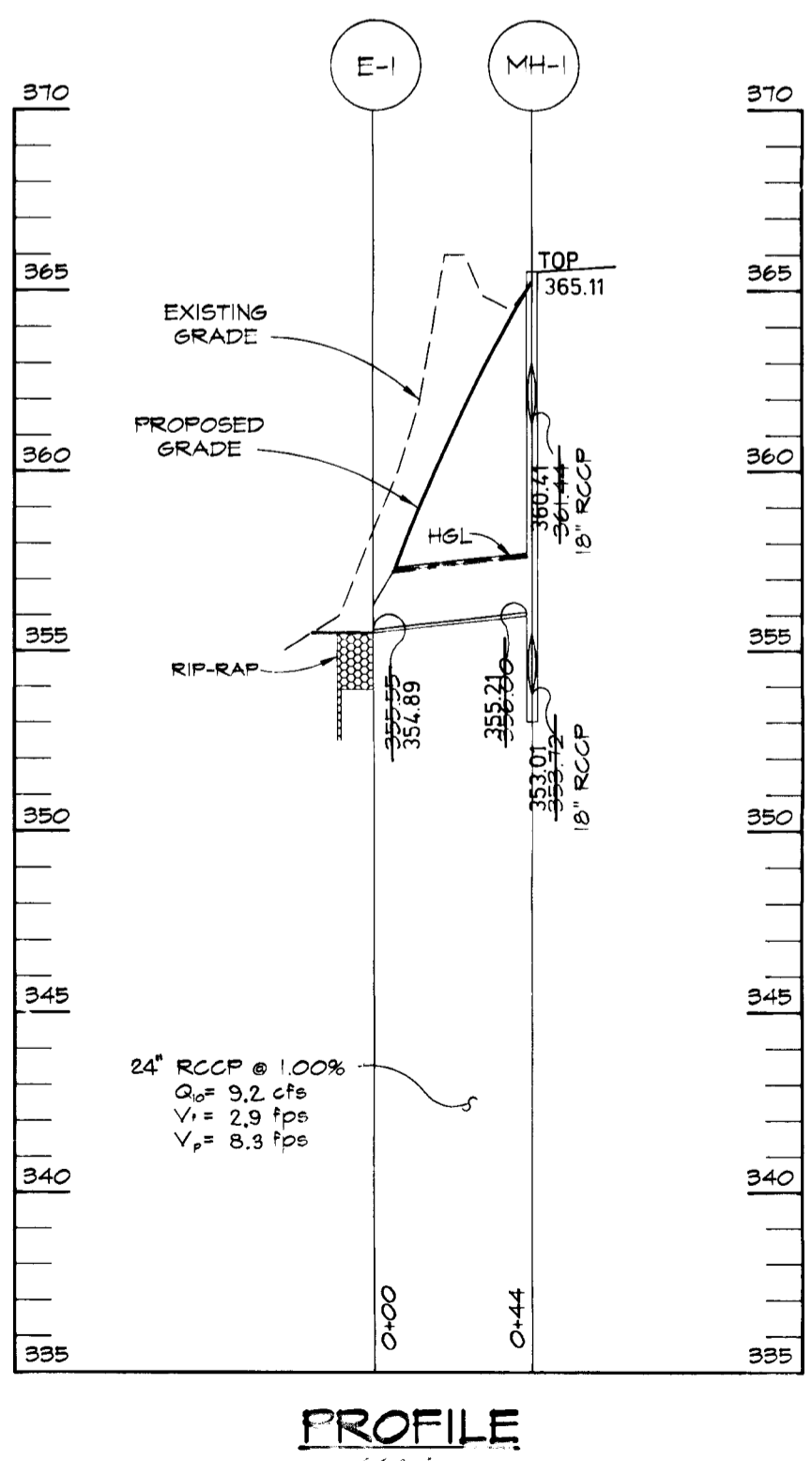
DATE: 4.9.96
DESIGNED BY: JTD
DRAWN BY: BLW
PROJECT NO: 9540509
DATE: APRIL, 9, 1996
SCALE: AS SHOWN
DRAWING NO. 4 OF 8



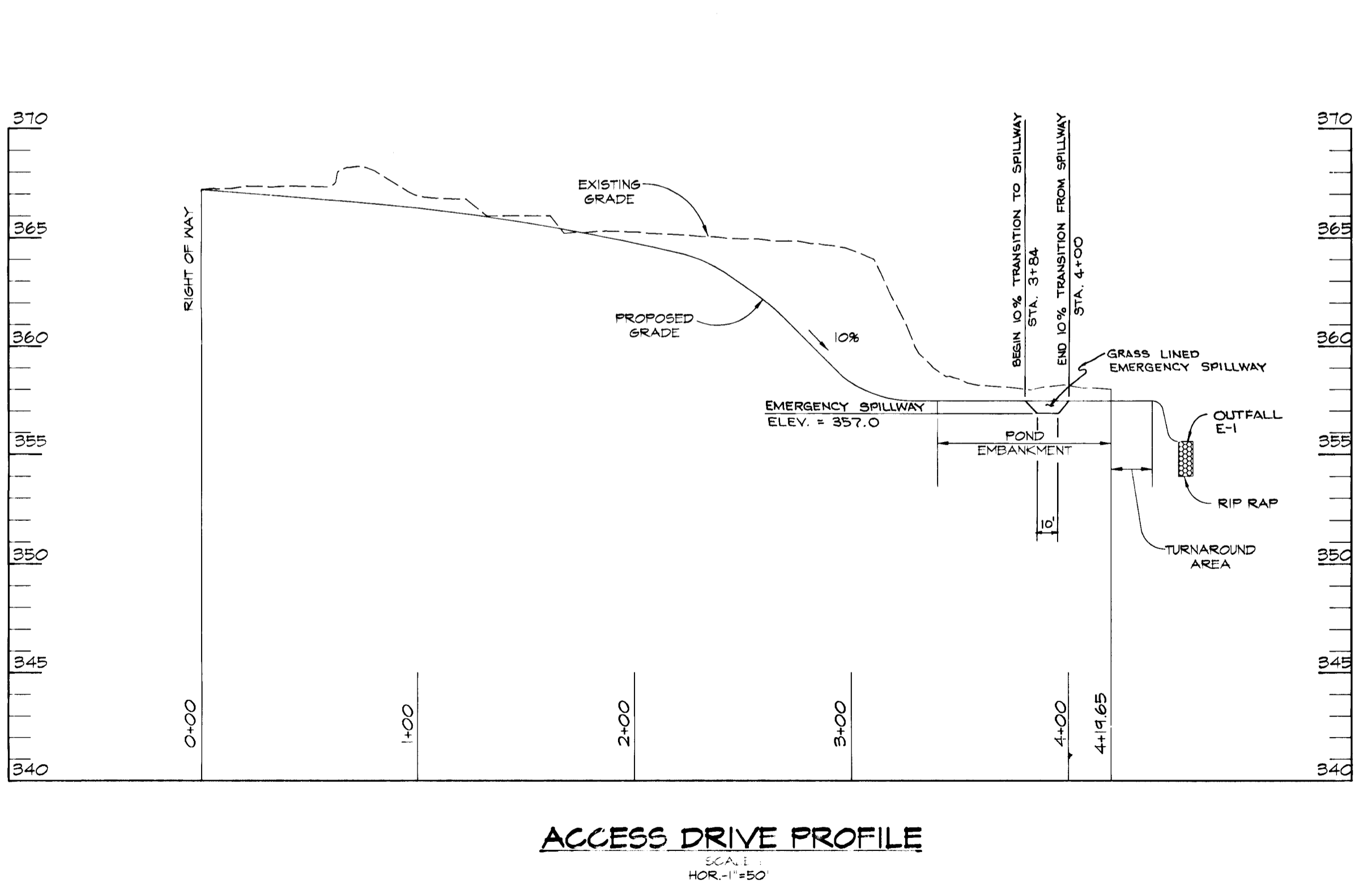
PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'



PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'

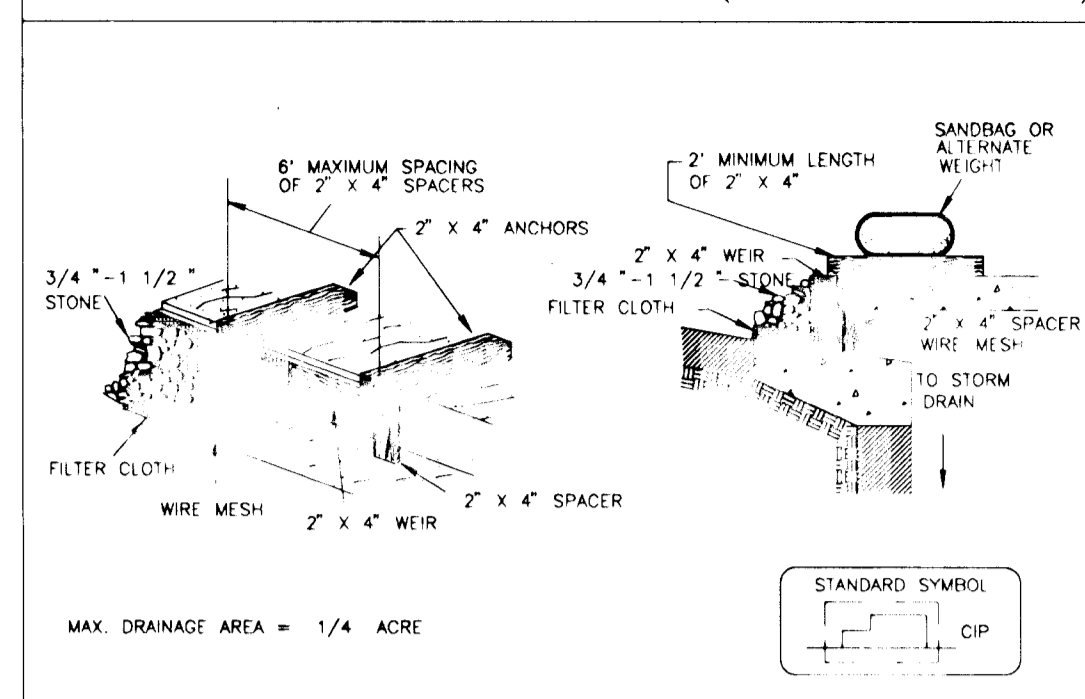


PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'



ACCESS DRIVE PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'

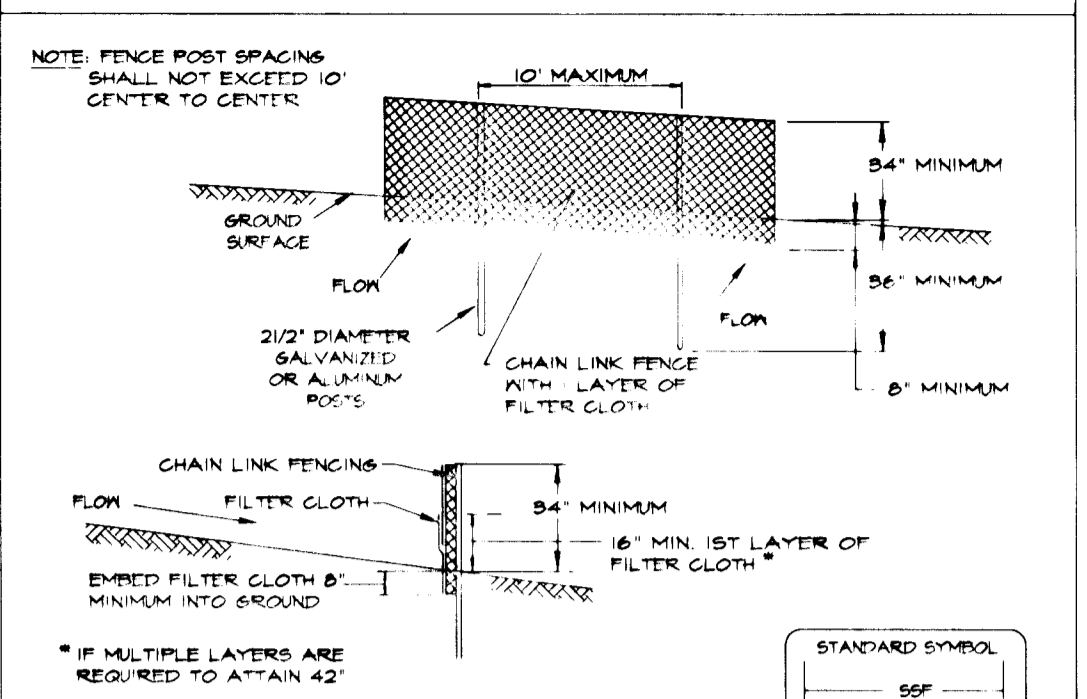
DETAIL 23C - CURB INLET PROTECTION (COG OR COS INLETS)



- 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 top 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 1/2" 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.
 - Ensure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-98 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

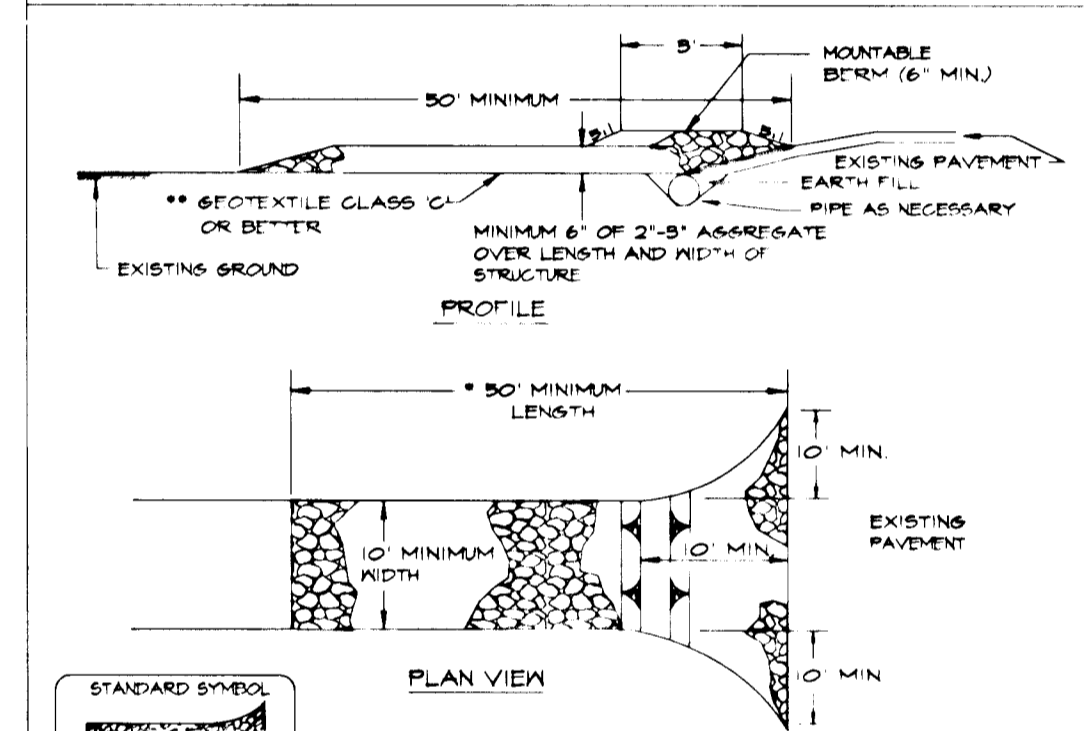
DETAIL 33 - SUPER SILT FENCE



- Construction Specifications
- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used substituting 42" fabric and 6' length posts.
 - Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire brace and truss rods, drive anchors and post caps are not required except at the ends of the fence.
 - 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 all buildup removed when 'boiges' develop in the silt fence or when silt reaches 50% of fence height.
 - Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class E:
- | | | |
|----------------------|-----------------|----------------|
| Tensile Strength | 50 lb/in (min) | Test: MSMT B08 |
| Tensile Modulus | 20 lb/in (min) | Test: MSMT B08 |
| Flow Rate | 0.8 gal/s (min) | Test: MSMT B22 |
| Filtering Efficiency | 75% (min) | Test: MSMT B22 |

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H-26-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



- Construction Specifications
- Length - minimum of 50' (50' for single residence lots)
 - 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 5") 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 moundside berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage when the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
 - 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.

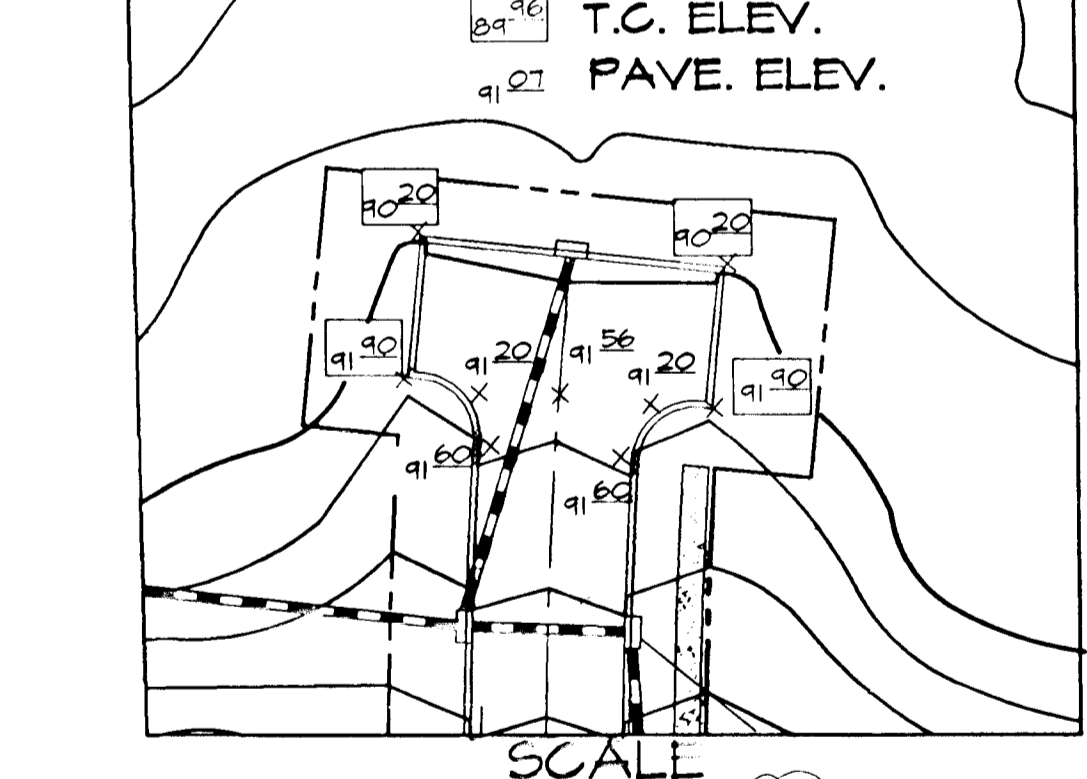
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-17-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SUPER SILT FENCE

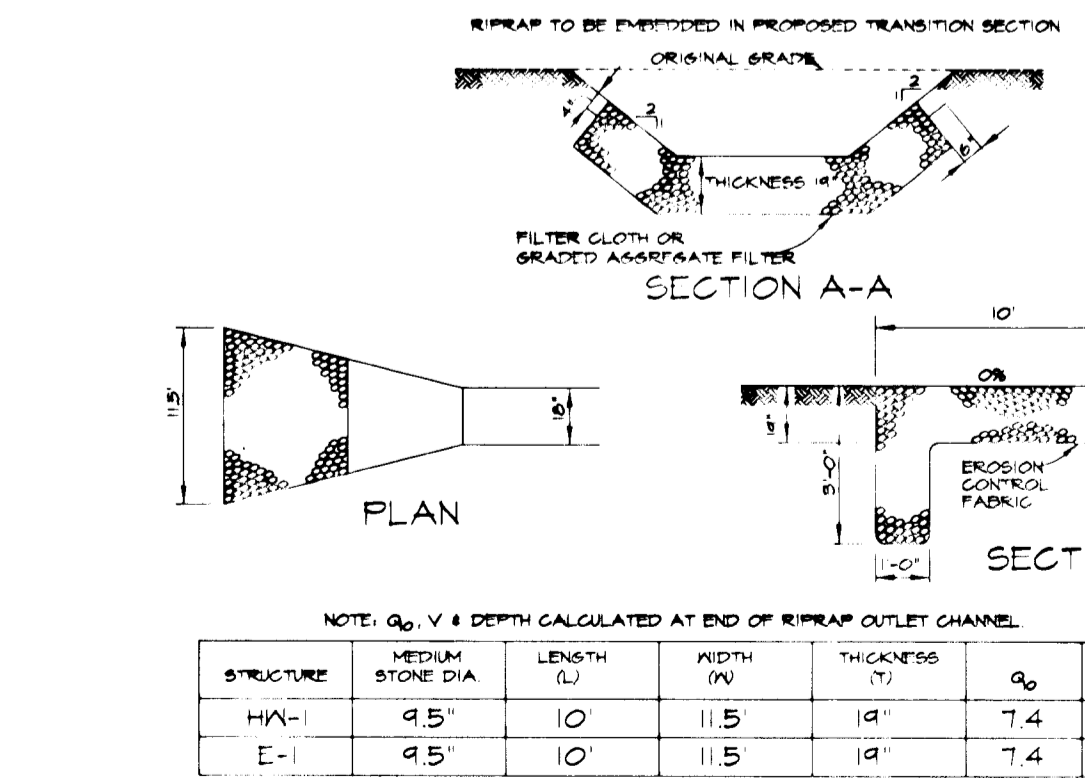
Design Criteria

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	1500 feet
20 - 35%	5:1 - 3:1	100 feet	1000 feet
35 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

TIE TURNAROUND GRADING DETAIL

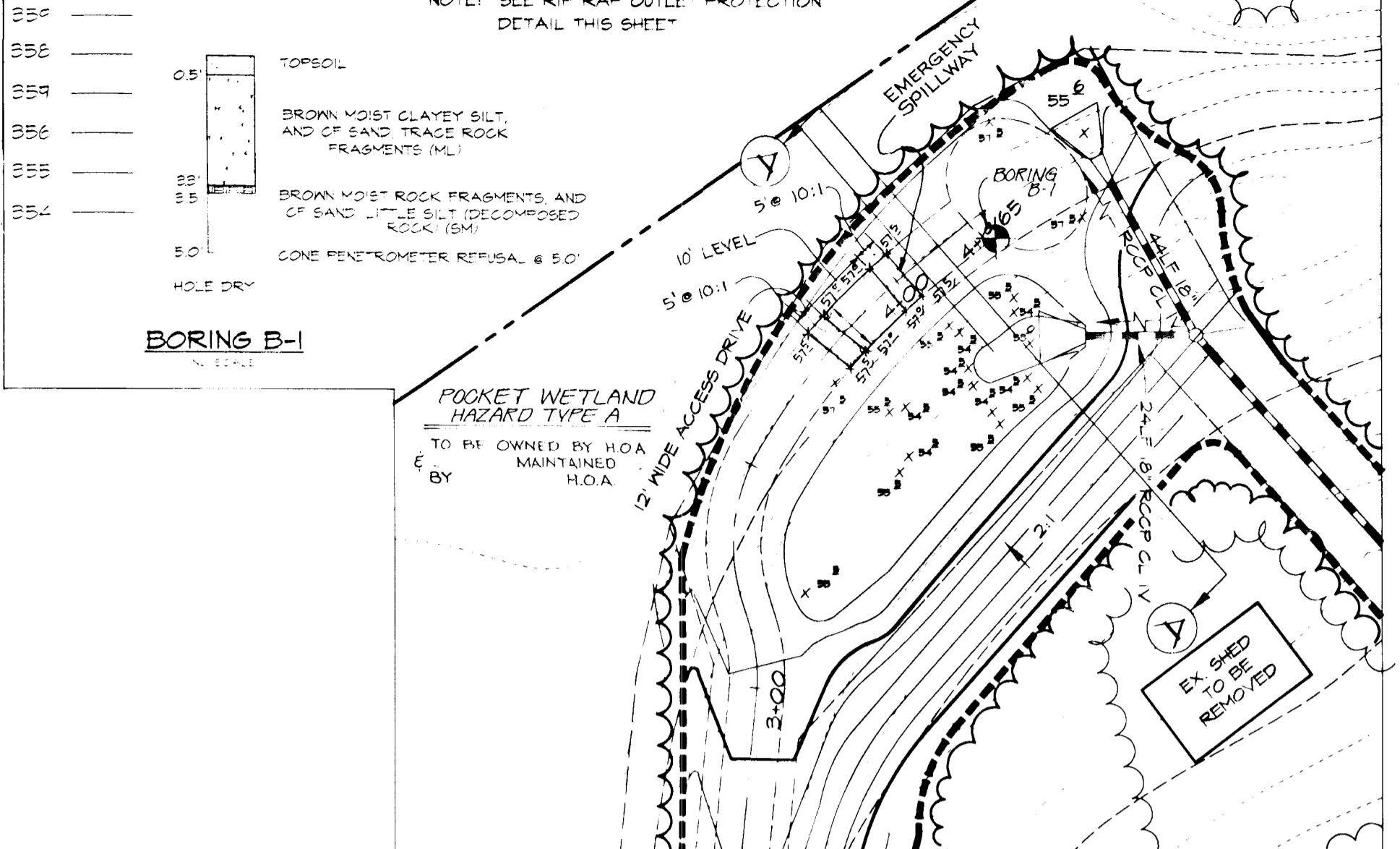


RIPRAP OUTLET PROTECTION DETAIL



NOTE: Q_v V & DEPTH CALCULATED AT END OF RIPRAP OUTLET CHANNEL.

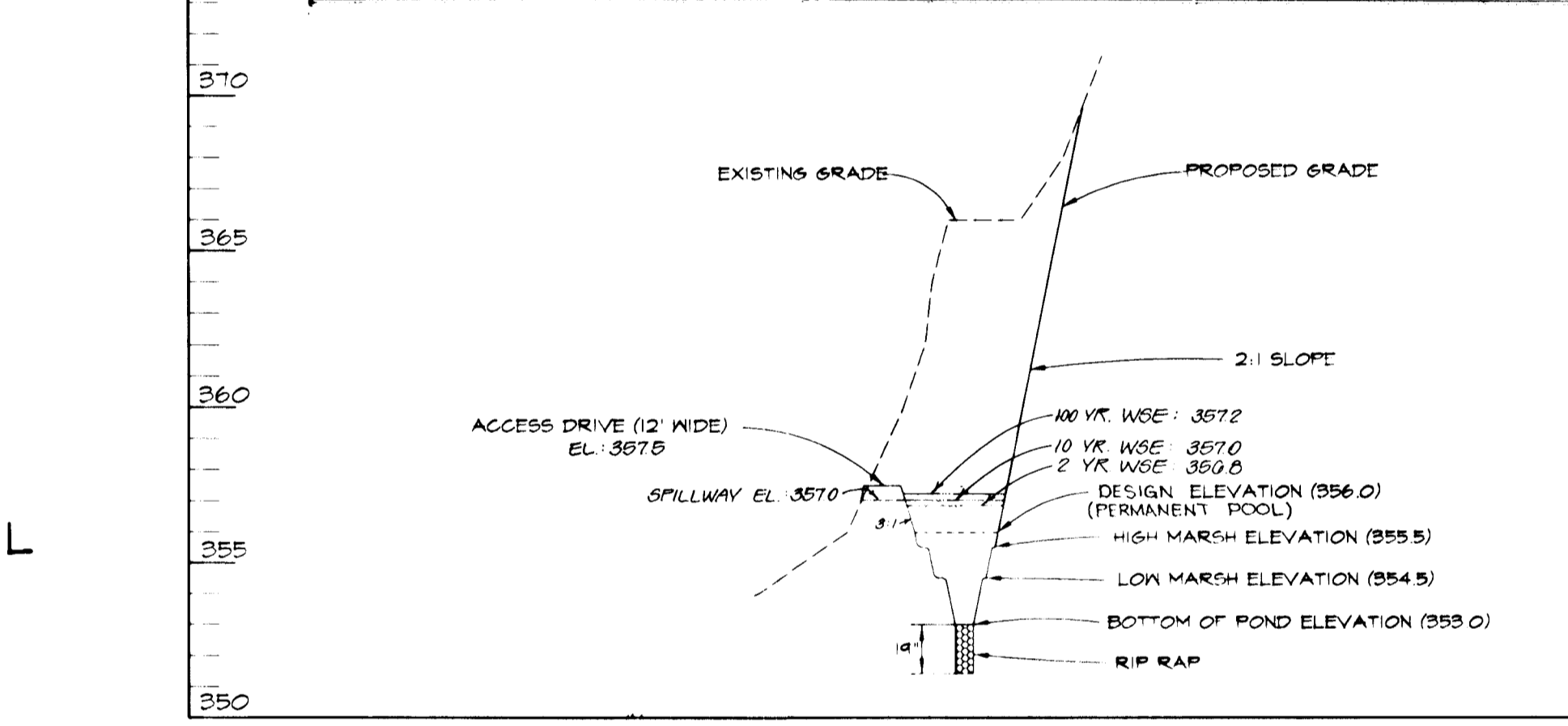
STRUCTURE	WIDTH (W)	DEPTH (D)	Q _v	V
H-1	4.5'	1.0'	11.5	7.4
E-1	4.5'	1.0'	11.5	7.4



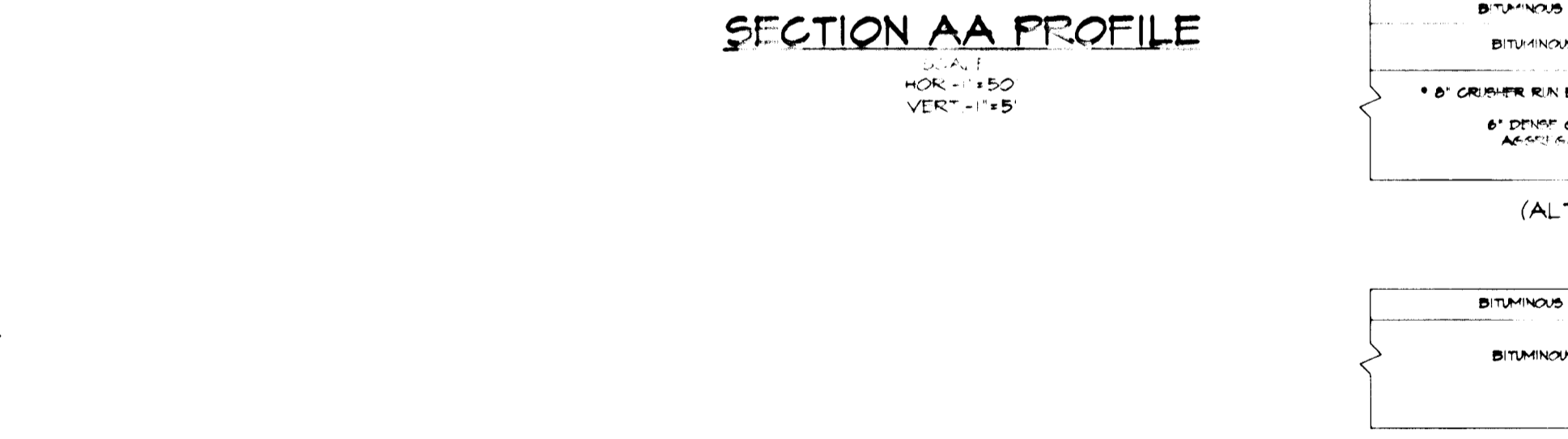
WATER QUALITY GRADING DETAIL

SCALE 1" = 30'

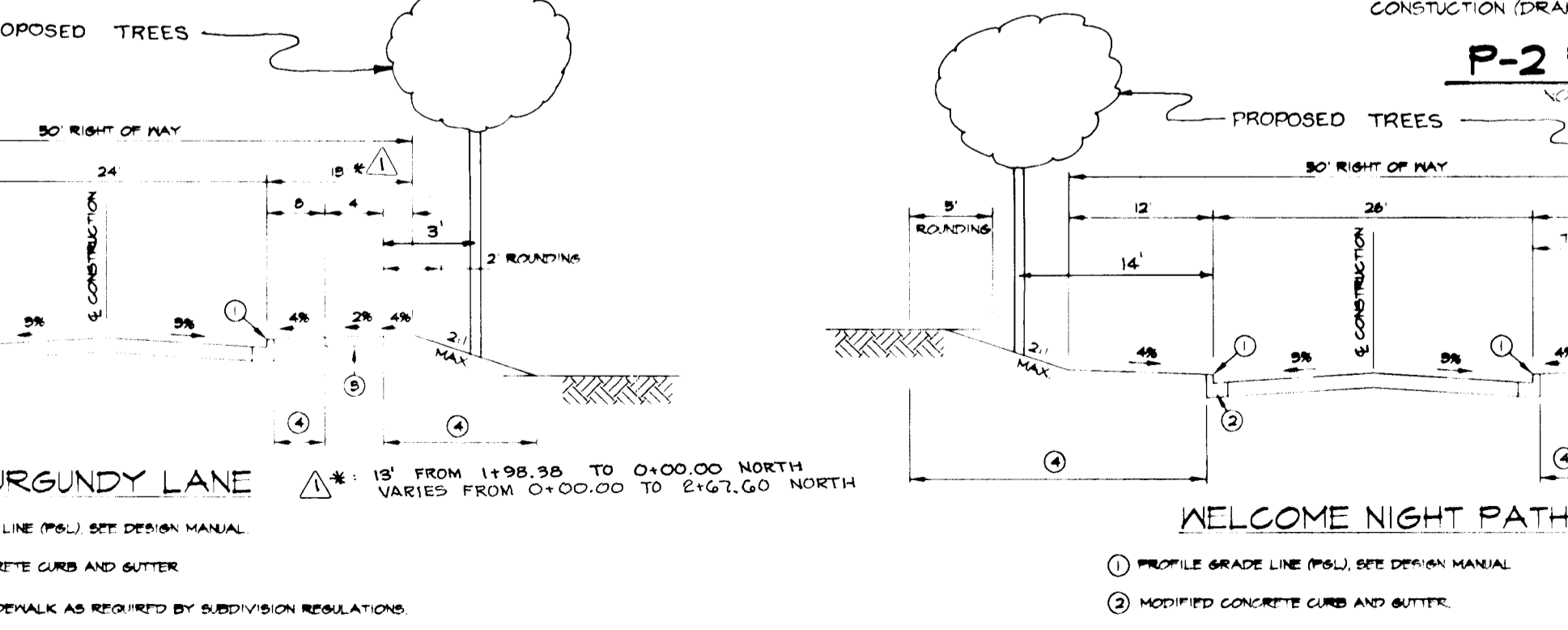
DESIGN CRITERIA	2 YEAR	10 YEAR	100 YEAR
ALLOWABLE RELEASE RATE COMPUTED INFLOW TO FACILITY	6.9 CFS	9.9 CFS	15.5 CFS
DISCHARGE FROM FACILITY	6.9 CFS	9.9 CFS	15.5 CFS
ELEVATION IN FACILITY	356.8	357.0	357.3
STORAGE VOLUME PROVIDED PERMANENT T.O.O.L. EL. = 356.0	3,120 CU.FT.	3,440 CU.FT.	3,440 CU.FT.



SECTION AA PROFILE



BURGUNDY LANE



TYPICAL 24' SECTION LOCAL ROAD DESIGN SPEED = 25 MPH NO SCALE

SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (800-855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN COMPLIANCE WITH THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL AND REVISIONS THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RECONSTRUCTION PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS FOR ALL PERMANENT STRUCTURE CONTROL STRUCTURES, DRAIN PERFORMS, SLOPES AND ALL SLOPES AND ALL SLOPES EXCEPT THOSE SLOPES THAT ARE TO OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRANSFER AREAS MUST BE FENCED AND MARKING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH SECTION 12.02 OF THE HOWARD COUNTY DESIGN MANUAL (SECTION 12.02).
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL. FOR PERMANENT SETTINGS (SEE CIP, SEE REF. 34) TEMPORARY SETTINGS (SEE CIP) AND ALL CHANGING (SEE CIP) TEMPORARY SETTINGS (SEE CIP) SHALL BE DONE IN ACCORDANCE WITH THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL. SETTING DATES DO NOT ALLOW FOR PERMIT TERMINATION AND REVISIONS THEREOF.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAVE BEEN OBTAINED FROM THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS.
- SITE ANALYSIS:

TOTAL AREA OF SITE	22.6 ACRES
AREA TO BE STABILIZED OR PAVED	12 ACRES
AREA TO BE TEMPORARILY STABILIZED	10 ACRES
TOTAL CIP	41,200 GALLONS
TOTAL FILL	22,500 GALLONS
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED OR DAMAGED BY PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED IF DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS.
- SITE GRADING WILL BE PERMITTED ONLY AFTER ALL PERMANENT SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
- SEDIMENT WILL BE REMOVED FROM TRAILS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
- CUT AND FILL QUANTITIES PROVIDED ABOVE ARE ANALYSES DO NOT REPRESENT 80 QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL STRUCTURAL FILL OR PERMANENT MATERIAL. HOW DO THE DIFFERENT QUANTITIES OF PERMANENT MATERIAL OR REMOVAL OF PERMANENT MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONDITIONS WHICH MAY AFFECT THE WORK.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 AC. APPROVAL OF THE INSPECTIONS AND PERMITS SHALL BE OBTAINED UPON COMPLETION OF INSTALLATION OF PERMANENT VEGETATION OR PERMANENT SEDIMENT CONTROL MEASURES WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER EROSION OR GRADING MEASURES APPROVED BY THE INSPECTIONS AND PERMITS SHALL BE AUTHORIZED UNTIL THE INITIAL APPROVAL BY THE INSPECTIONS AGENCY IS MADE.
- TRUCKS FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE FIVE LENGTHS OR THAT WHICH CAN BE BACKLIFTED AND STABILIZED WITHIN ONE WORKING DAY. EXCEPT AS SHOWN.

TEMPORARY SEEDING NOTES

- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent vegetative cover is needed.
- Seeding Practices: Loosen upper three inches of soil by raking, grading or other methods before seeding if not already loosened.
- Soil Amendments: Apply 600 lbs. per acre 10-10-10 fertilizer. Use one of the following rates of soil:
- Seeding: For periods March 1 thru April 30 and from August 1 thru November 15, apply 10 lbs. per acre of dormant seed (10 lbs. per 1000 sq. ft.) for the period May 1 thru August 15, apply 5 lbs. per acre of dormant seed (5 lbs. per 1000 sq. ft.). For the period November 16 thru February 28, apply 2 lbs. per acre of dormant seed (2 lbs. per 1000 sq. ft.) for the period March 1 thru April 30, apply 2 lbs. per acre of dormant seed (2 lbs. per 1000 sq. ft.).
- Seeding: Apply 1/2 lb. to 2 lbs. per acre dormant seed (1/2 lb. to 2 lbs. per 1000 sq. ft.) of an extra small grain straw immediately after seeding. Another mix containing other species may be used according to the following table. On slopes 6% or higher, use 547 gal. per acre (10 gal. per 1000 sq. ft.) for anchoring.

PERMANENT SEEDING NOTES

- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent vegetative cover is needed.
- Seeding Practices: Loosen upper three inches of soil by raking, grading or other methods before seeding if not already loosened.
- Soil Amendments: Use one of the following rates of soil:
- Seeding: For periods March 1 thru April 30 and from August 1 thru November 15, apply 10 lbs. per acre dormant seed (10 lbs. per 1000 sq. ft.) for the period May 1 thru August 15, apply 5 lbs. per acre of dormant seed (5 lbs. per 1000 sq. ft.). For the period November 16 thru February 28, apply 2 lbs. per acre of dormant seed (2 lbs. per 1000 sq. ft.) for the period March 1 thru April 30, apply 2 lbs. per acre of dormant seed (2 lbs. per 1000 sq. ft.).
- Seeding: Apply 1/2 lb. to 2 lbs. per acre dormant seed (1/2 lb. to 2 lbs. per 1000 sq. ft.) of an extra small grain straw immediately after seeding. Another mix containing other species may be used according to the following table. On slopes 6% or higher, use 547 gal. per acre (10 gal. per 1000 sq. ft.) for anchoring.
- Maintenance: Mow all seeded areas and make needed repairs, replanting and reseedings.

SEQUENCE OF CONSTRUCTION

- OBTAIN A GRADING PERMIT AND ALL OTHER NECESSARY PERMITS.
- INSTALL SUPER SILT FENCE & TREE PROTECTIVE FENCE (2 WEEKS)
- CLEAR AND GRUB SITE AS NECESSARY (1/2 WEEK)
- ROUGH GRADE SITE, AREA AROUND EXISTING DRIVEWAY TO LOT 9 TO REMAIN UNDISTURBED UNTIL COMMON ACCESS DRIVE IS COMPLETE (3 WEEKS)
- INSTALL UTILITIES AND INLET PROTECTION (8 WEEKS)
- INSTALL CURB AND GUTTER AND BEGIN PAVING OF ROADS. FINISH GRADE COMMON DRIVEWAY AND PAVEMENT. UPON COMPLETION OF COMMON DRIVEWAY, REMOVE EXISTING DRIVEWAY TO LIMITS SHOWN, FINISH GRADE, AND STABILIZE AREAS DISTURBED IN MONTHS.
- FINISH SITE GRADING, PROVIDE SIGNAGE & BEGIN REFORESTATION; STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (3 WEEKS)
- WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE ALL REMAINING DISTURBED AREAS.

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

David R. Kelly 4-10-96
DEVELOPER DATE

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

J. Sarell 4-9-96
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

J. H. W. ... 4/22/96
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John K. ... 4/22/96
HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE

... 3/19/99
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. ... 4-24-96
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

John B. ... 6/25/96
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

... 4/26/96
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

12/30/96 MODIFIED LOCAL SECTION DETAIL - BURGUNDY LANE

OWNER	DEVELOPER
REV. JOHN RETTGER C/O RICHARD TALKIN 9175 GULLFORD ROAD COLUMBIA, MD 21046	LAND DESIGN & DEVELOPMENT 10805 HICKORY RIDGE RD. COLUMBIA, MD 21044 ATTN: DONALD REUKER

PROJECT: RETTGER PROPERTY

A SINGLE FAMILY DETACHED RESIDENTIAL SUBDIVISION

AREA: TAX MAP NO. 35, PARCEL 189
ZONED R-12
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT CONTROL NOTES & DETAILS

RIEMER MUEGGE & ASSOCIATES, INC.
Planners • Engineers • Surveyors
8818 Centre Park Drive • Suite 200 • Columbia, MD 21045
410-897-8900 FAX: 410-897-9282

4-9-96 DATE 5-01-04 P-65-27

DESIGNED BY: JTD
DRAWN BY: BLK
PROJECT NO.: #580509

DATE: APRIL 9, 1996
SCALE: AS SHOWN

J. Sarell
JAYKANT D. PAREKH #19148 DRAWING NO. 5 OF 8

1823

F-96-60

MATCH LINE SEE SHEET 7

REFORESTATION AREA C
 TOTAL THIS SHEET:
 ±3,192.16 S.F.
 ±0.06 AC.
 SEE SHEET 7 OF 8 FOR CONTINUATION.

FOREST CONSERVATION AREA D
 TOTAL THIS SHEET:
 ±13,291.56 S.F.
 ±0.31 AC.

REFORESTATION AREA B
 ±4,124.95 S.F.
 ±0.09 AC.

FOREST CONSERVATION AREA A
 ±8,983.14 S.F.
 ±0.21 AC.

FOREST CONSERVATION AREA C
 ±18,033.20 S.F.
 ±0.40 AC.

REFORESTATION AREA A
 ±7,640.47 S.F.
 ±0.18 AC.

FOREST CONSERVATION AREA B
 ±68,680.14 S.F.
 ±1.57 AC.

LEGEND

- EXISTING WOODS
- WOODS REMAINING, INCLUDED IN FOREST CONSERVATION
- NONTIDAL WETLAND & 25' BUFFER
- STREAM & 75' BUFFER
- 100 YEAR FLOODPLAIN
- FOREST CONSERVATION AREA
- FOREST RETENTION SIGNAGE
- REFORESTATION SIGNAGE
- REFORESTATION AREA
- PROTECTIVE TREE FENCING
- LIMIT OF DISTURBANCE (L.O.D.)

FOREST CONSERVATION AREAS

FOREST RETENTION AREA A	0.21 AC.
FOREST RETENTION AREA B	1.57 AC.
FOREST RETENTION AREA C	0.40 AC.
FOREST RETENTION AREA D	0.31 AC.
FOREST RETENTION AREA E	0.68 AC.
CONTINUED	
FOREST RETENTION AREA F	1.23 AC.

TOTAL FOREST RETENTION 4.40 AC.

REFORESTATION AREA A	0.18 AC.
REFORESTATION AREA B	0.09 AC.
REFORESTATION AREA C	0.06 AC.
REFORESTATION AREA D	0.07 AC.
CONTINUED	
REFORESTATION AREA E	1.23 AC.

TOTAL REFORESTATION 0.40 AC.

TOTAL REFORESTATION REQUIRED: 0.33 AC.

TOTAL FOREST CONSERVATION 4.73 AC.

TOTAL FOREST CONSERVATION SHOWN: 4.80 AC.

NOTE: THE LANDSCAPE BUFFER OBLIGATION FOR 44 TREES (\$4,400.00) WILL BE BONDED WITH THE DEVELOPER'S AGREEMENT. DESIGN OF THE BUFFER WILL BE PROVIDED ON THE SITE DEVELOPMENT PLANS BY THE DEVELOPER.

HOWARD COUNTY FOREST CONSERVATION WORKSHEET

I. BASIC SITE DATA

GROSS SITE AREA	22.84 AC.
AREA WITHIN 100 YEAR FLOODPLAIN	2.89 AC.
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)	0.00 AC.
NET TRACT AREA	17.15 AC.
LAND USE CATEGORY (R-RLD, R-RND, R-S, C/V, I)	R-12

II. INFORMATION FOR CALCULATIONS

NET TRACT AREA	17.15 AC.
REFORESTATION THRESHOLD (20% X A)	3.43 AC.
EXISTING FOREST ON NET TRACT AREA	3.60 AC.
FOREST AREAS TO BE CLEARED	3.20 AC.
FOREST AREAS TO BE RETAINED	3.40 AC.

III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION

1. REFORESTATION
 IF EXISTING FOREST AREAS EQUAL OR EXCEED THE AFFORESTATION MINIMUM (IF D EQUALS OR IS MORE THAN C) AND CLEARING OF FOREST AREAS IS PROPOSED, REFORESTATION REQUIREMENTS MAY APPLY.
 GO TO SECTION IV

IF EXISTING FORESTS EXCEED THE AFFORESTATION MINIMUM (IF D EQUALS OR IS MORE THAN C) AND NO CLEARING OF EXISTING FOREST RESOURCES IS PROPOSED, NO REFORESTATION IS REQUIRED. NO FURTHER CALCULATIONS ARE NEEDED.

2. AFFORESTATION
 IF EXISTING FOREST AREAS ARE LESS THAN THE AFFORESTATION MINIMUM (IF D IS LESS THAN C), AFFORESTATION REQUIREMENTS APPLY.
 GO TO SECTION V

IV. REFORESTATION CALCULATIONS

A. NET TRACT AREA	17.15 AC.
B. REFORESTATION THRESHOLD (20% X A)	3.43 AC.
C. EXISTING FOREST ON NET TRACT AREA	3.60 AC.
D. FOREST AREAS TO BE CLEARED	3.20 AC.
E. FOREST AREAS TO BE RETAINED	3.40 AC.
F. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (D-F, IF F EQUALS OR IS GREATER THAN B, ALTERNATE 1) (D-F, IF F IS LESS THAN B, ALTERNATE 2)	0.00 AC.
G. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD (B-F, IF APPLICABLE)	0.97 AC.
H. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD (F-B, RETENTION CREDIT, IF APPLICABLE)	0.00 AC.

SELECT THE ALTERNATIVE THAT APPLIES:

1. CLEARING ABOVE THE THRESHOLD ONLY
 IF FOREST AREAS TO BE RETAINED EQUAL OR ARE GREATER THAN THE REFORESTATION THRESHOLD (IF F EQUALS OR IS GREATER THAN B), THE FOLLOWING CALCULATIONS APPLY:

REFORESTATION FOR CLEARING ABOVE THRESHOLD (G X 1/4)	1.30 AC.
CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD (I = RETENTION CREDIT)	0.00 AC.
TOTAL REFORESTATION REQUIRED (G X 1/4) - I	0.33 AC.

IF THE TOTAL REFORESTATION REQUIREMENT IS EQUAL TO OR LESS THAN D, NO REFORESTATION IS REQUIRED.

2. CLEARING BELOW THE THRESHOLD
 IF FOREST AREAS TO BE RETAINED ARE LESS THAN THE REFORESTATION THRESHOLD (IF F IS LESS THAN B), THE FOLLOWING CALCULATIONS APPLY:

REFORESTATION FOR CLEARING ABOVE THRESHOLD (G X 1/4)	0.00 AC.
REFORESTATION FOR CLEARING BELOW THRESHOLD (H X 2)	0.00 AC.
TOTAL REFORESTATION REQUIRED (G X 1/4) + (H X 2)	0.00 AC.

PLAN
 SCALE: 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature]
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
 4/25/96 DATE



DATE NO.	REVISION
OWNER	DEVELOPER
REV. JOHN RETTGER C/O RICHARD TALKIN 9175 GUILFORD ROAD COLUMBIA, MARYLAND 21046	LAND DESIGN & DEVELOPMENT 10805 HICKORY RIDGE ROAD COLUMBIA, MARYLAND 21044
PROJECT	RETTGER PROPERTY
AREA	TAX MAP NO. 35 PARCEL 189 ZONED R-12 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE	FOREST CONSERVATION & REFORESTATION PLAN
RIEMER MUEGGE & ASSOCIATES, INC. ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING 8818 Centre Park Drive • Suite 200 • Columbia, MD 21045 410-997-8900 FAX: 410-997-9282	
4-10-96 DATE	DESIGNED BY: RR
	DRAWN BY: RR
	PROJECT NO.: 95P80507
	DATE:
	SCALE: 1" = 50'
	DRAWING NO. 6 OF 8

1823

F-96-60

PROJECT: 08-19-06-01 SITE/CORNER/CONTOUR/AREA 1



MATCH LINE SEE SHEET 6

REFORESTATION AREA C CONT.
± 4,653.82 S.F.
± 0.11 AC.

FOREST CONSERVATION AREA E
± 53,561.61 S.F.
± 1.23 AC.

FOREST CONSERVATION AREA D CONT.
± 29,819.63 S.F.
± 0.68 AC.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Richard D. Blood 6/25/96
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH JA DATE

DATE NO. REVISION
OWNER OWNER

REV. JOHN RETTGER LAND DESIGN & DEVELOPMENT
C/O RICHARD TALKIN 19805 HICKORY RIDGE ROAD
9175 GUILFORD ROAD COLUMBIA, MARYLAND 21044
COLUMBIA, MARYLAND 21046

PROJECT
RETTGER PROPERTY

AREA TAX MAP NO. 35 PARCEL 189
ZONED R-12
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION & REFORESTATION PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive • Suite 200 • Columbia, MD 21045
410-997-8900 FAX : 410-997-9282

4-10-96
DATE

DESIGNED BY : RR
DRAWN BY : RR
PROJECT NO : 95P80507
DATE :
SCALE: 1" = 50'
DRAWING NO. 7 OF 8

Douglas R. Koepcke
CORR 08/19/06.01
DOUGLAS R. KOECKE



1823

FOREST CONSERVATION PROGRAM

SITE PREPARATION

SEQUENCE OF CONSTRUCTION

1. INSTALL PROTECTIVE TREE FENCING AND SIGNAGE ALONG FOREST RETENTION AREAS BEFORE ANY GRADING HAS COMMENCED ON SITE.
2. MOW OR BRUSH HOG THE SITE WITHIN THE LIMITS OF THE PROPOSED REFORESTATION AREA. DO NOT REMOVE OR DAMAGE ANY EXISTING TREES OR SAPLINGS UNLESS OTHERWISE INDICATED.
*THERE SHALL BE NO STAGING, STORAGE, OR STOCKPILING OF MATERIALS WITHIN THE NONTIDAL WETLANDS OR 25' NONTIDAL WETLANDS BUFFER.
3. REMOVE OR TREAT WITH AN EXCEPTIONAL METHOD, NOXIOUS PLANT MATERIAL SUCH AS MULTIFLORA ROSE AND THEARTIUMBE BEFORE INSTALLING REFORESTATION PLANTS.
4. INSTALL TREE PROTECTION SIGNAGE AND IMPLEMENT TREE PROTECTION METHODS AS SHOWN.
5. INSTALL REFORESTATION PLANT MATERIAL AS PER THE PLANTING PLAN & DETAIL. RANDOMLY SPACE TREES SO THAT NO MORE THAN 5 (1" CALIPER) OR 7 (TREE WHIPS) OF ANY PARTICULAR SPECIES ARE PLANTED IN SUCCESSION - SEE TREE PLANTING DETAIL.
6. STABILIZE ANY DISTURBED AREAS USING THE SPECIFIED STABILIZATION MIXTURE WHICH ALLOWS FOR NATURAL REVEGETATION OF FOREST COMMUNITIES.
7. MAINTAIN REFORESTATION IN ACCORDANCE WITH THE POST-CONSTRUCTION REQUIREMENTS.

POST CONSTRUCTION MANAGEMENT PRACTICE:

OBJECTIVE:

IT IS THE OBJECTIVE OF THE REFORESTATION PLAN FOR THE RETTGER PROPERTY TO RETAIN ENVIRONMENTAL INTEGRITY BY PRESERVING A LARGE PORTION OF THE EXISTING FOREST ON SITE, AND BY REFORESTING OPEN AREAS IN THE FOREST CANOPY TO CREATE A WOODED CORRIDOR ALONG CRUCKETT CREEK.

MANAGEMENT PRACTICE SCHEDULE:

IT IS THE INTENT OF THE FOREST CONSERVATION PROGRAM FOR THE RETTGER PROPERTY TO PROTECT AREAS STATED IN THE OBJECTIVE.

THE FOLLOWING MANAGEMENT PRACTICES ARE RECOMMENDED:

- 1) TRAIL SYSTEMS THROUGH FORESTED AREAS ARE ACCEPTABLE IN THE FOREST CONSERVATION EASEMENT. HOWEVER, IF A TRAIL SYSTEM IS IMPLEMENTED, IT SHOULD DISTURB AS LITTLE VEGETATION AS POSSIBLE. A TRAIL SYSTEM THROUGH A REFORESTATION AREA IS NOT ACCEPTABLE UNTIL THE FOREST BECOMES ESTABLISHED AS DETERMINED BY A REGISTERED FORESTER, LANDSCAPE ARCHITECT, OR OTHER STATE QUALIFIED PROFESSIONAL.
- 2) TREE CUTTING IS ALLOWED FOR SAFETY AND ROUTINE MAINTENANCE OF EXISTING FORESTED AREAS.
- 3) SENSITIVE AREAS SUCH AS STEEP SLOPES, WETLANDS, STREAMS AND THEIR ASSOCIATED BUFFERS AND WILDLIFE CORRIDORS ARE CONSIDERED INACCESSIBLE FOR SELECTIVE TIMBER HARVESTING AND SHOULD BE LEFT TO CONTINUE UNDER NATURAL FOREST SUCCESSION.
- 4) THE FOREST CONSERVATION AREAS SHOULD BE REASSESSED BY A REGISTERED FORESTER, LANDSCAPE ARCHITECT OR OTHER STATE QUALIFIED PROFESSIONAL TO DETERMINE ITS CONDITION AND MAKE RECOMMENDATIONS FOR CONTINUAL STRUCTURAL FOREST GROWTH.

A TWO (2) YEAR POST-CONSTRUCTION AND MANAGEMENT PROGRAM TO ENSURE PROBABILITY OF A HIGH SURVIVAL RATE INCLUDES THE FOLLOWING:

- MAINTENANCE OF SIGNS, FENCES AND TREE PROTECTION DEVICES TO PREVENT UNWARRANTED INTRUSIONS AND DAMAGE.
- CAREFUL REMOVAL OF ALL TEMPORARY STRUCTURES AFTER CONSTRUCTION.
- ROUTINE INSPECTIONS OF FOREST CONSERVATION EASEMENTS.
- PROVIDE SUITABLE THINNING, WATERING AND FERTILIZING TO ENSURE PROPER GROWTH AND SURVIVAL.
- REMOVAL AND REPLACEMENT OF DEAD OR DAMAGED REFORESTATION MATERIAL.
- CERTIFICATION THAT THE REQUIRED SURVIVAL RATES HAVE BEEN MET.

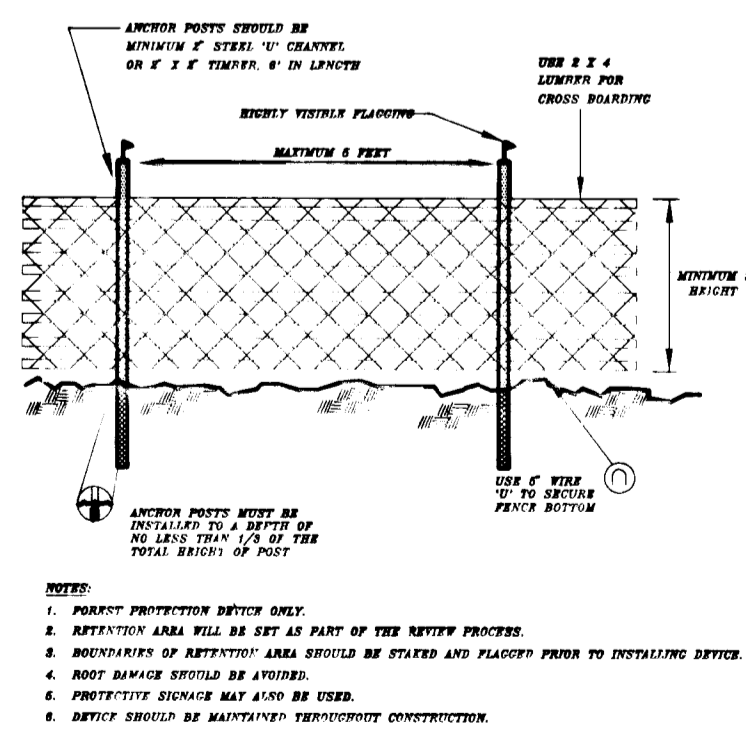
GENERAL NOTES:

1. RANDOMLY SPACE TREES SO THAT NO MORE THAN 5 (1" CALIPER) OR 7 (TREE WHIPS) OF ANY PARTICULAR SPECIES ARE PLANTED IN SUCCESSION.
2. THERE WILL BE NO STAGING OR STORING OF EQUIPMENT WITHIN THE LIMIT OF THE NONTIDAL WETLANDS OR THE 25' BUFFER.
3. ALL STABILIZATION IN THE REFORESTATION AREAS SHALL BE THE FOLLOWING SPECIES: ANNUAL BRYESS (LULIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (Avena SP.) AND/OR RYE (SECALE CERALE). THESE SPECIES ALLOW FOR THE VOLUNTARY REVEGETATION OF THE REFORESTATION SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE BUT MUST BE APPROVED BY THE ENVIRONMENTAL PLANNER. KENTUCKY ST. FESCUE SHALL NOT BE UTILIZED IN THE REFORESTATION AREAS. THE AREA MUST BE SEEDING AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION.

GUARANTEE & REPLACEMENT WARRANTY

A TWO (2) YEAR REPLACEMENT WARRANTY IS REQUIRED AS FOLLOWS:
END OF FIRST GROWING SEASON, 90% SURVIVAL REQUIRED.
END OF SECOND GROWING SEASON, 75% SURVIVAL REQUIRED.

BLAZE ORANGE PLASTIC MESH



PROTECTIVE TREE FENCING

N.T.S.

PLANT SCHEDULE

REFORESTATION AREA A

QTY.	BOTANICAL/COMMON NAME	SIZE	STATE	REMARKS
6	ACER RUBRUM Red Maple	1" CAL.	Cont.	
13	ACER RUBRUM Red Maple	SEEDLINGS	Cont.	
3	CORNUS FLORIDA Flowering dogwood	1" CAL.	Cont.	
10	CORNUS FLORIDA Flowering dogwood	SEEDLINGS	Cont.	
8	LIRIODENDRON TULIPIFERA Tulip Poplar	1" CAL.	Cont.	
15	LIRIODENDRON TULIPIFERA Tulip Poplar	SEEDLINGS	Cont.	
5	QUERCUS RUBRA Red Oak	1" CAL.	Cont.	
11	QUERCUS RUBRA Red Oak	SEEDLINGS	Cont.	

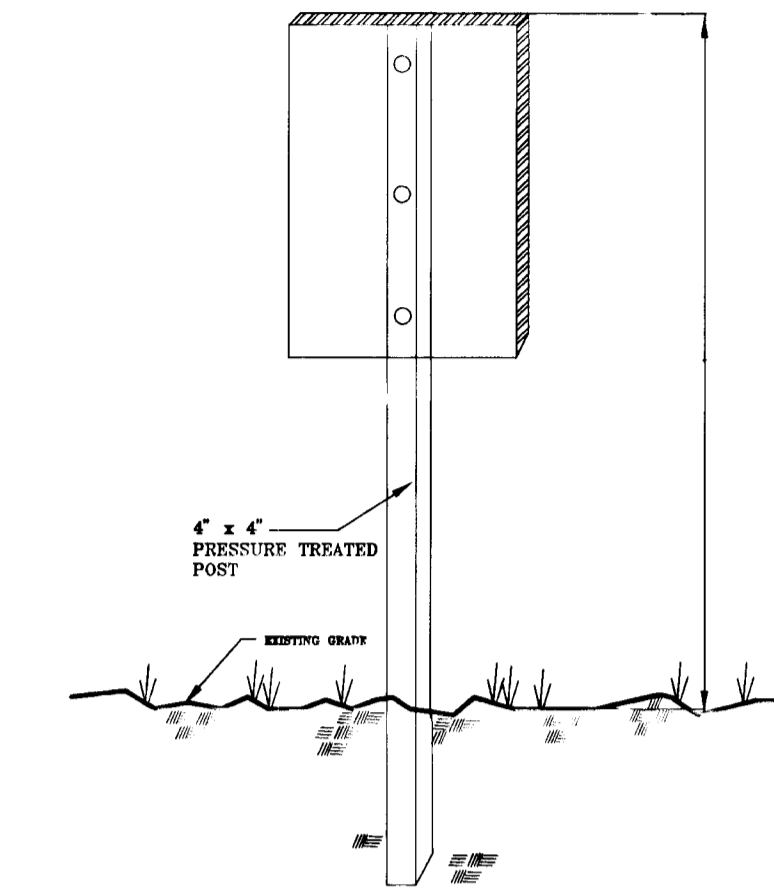
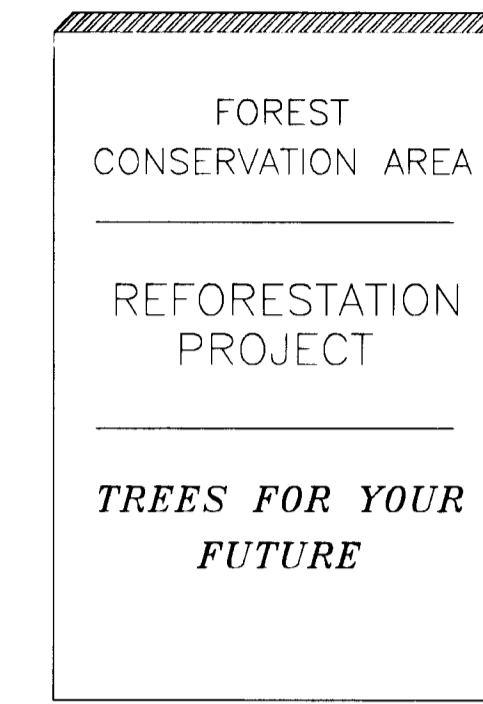
REFORESTATION AREA B

QTY.	BOTANICAL/COMMON NAME	SIZE	STATE	REMARKS
2	ACER RUBRUM Red Maple	1" CAL.	Cont.	
6	ACER RUBRUM Red Maple	SEEDLINGS	Cont.	
3	CORNUS FLORIDA Flowering Dogwood	1" CAL.	Cont.	
5	CORNUS FLORIDA Flowering Dogwood	SEEDLINGS	Cont.	
3	LIRIODENDRON TULIPIFERA Tulip Poplar	1" CAL.	Cont.	
7	LIRIODENDRON TULIPIFERA Tulip Poplar	SEEDLINGS	Cont.	
5	QUERCUS RUBRA Red Oak	1" CAL.	Cont.	
9	QUERCUS RUBRA Red Oak	SEEDLINGS	Cont.	

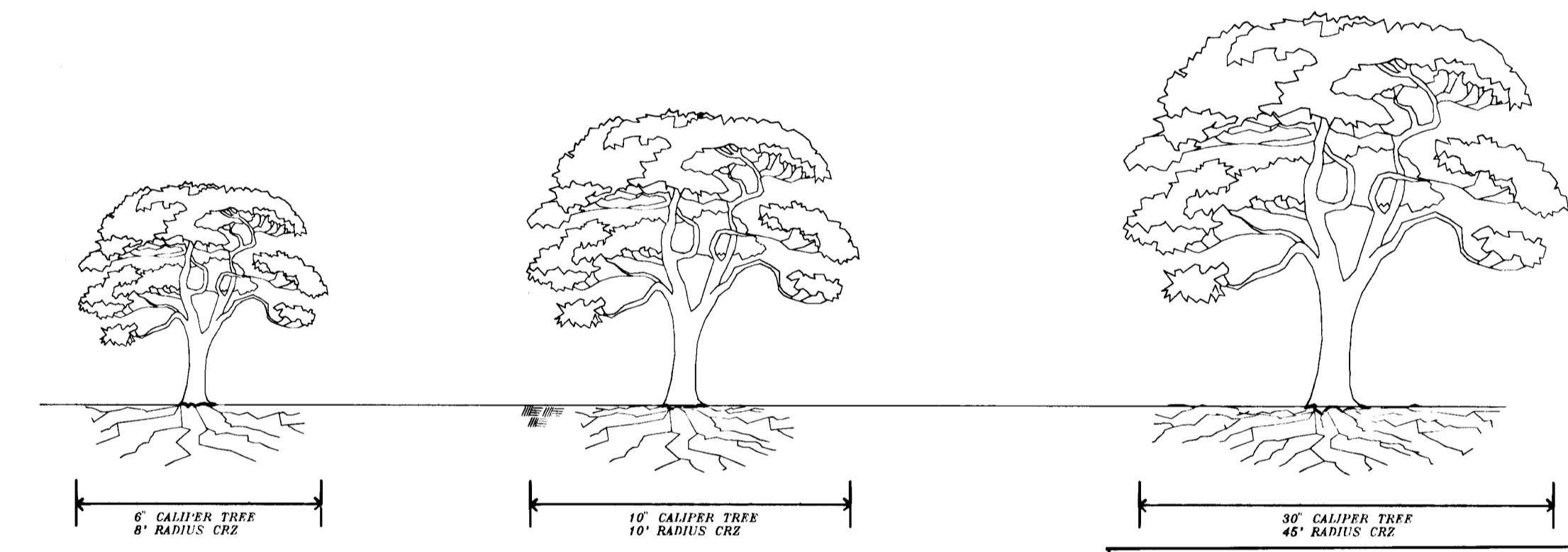
REFORESTATION AREA C

QTY.	BOTANICAL/COMMON NAME	SIZE	STATE	REMARKS
5	ACER RUBRUM Red Maple	1" CAL.	Cont.	
9	ACER RUBRUM Red Maple	SEEDLINGS	Cont.	
7	PINUS VIRGINIANA Virginia Pine	1" CAL.	Cont.	
10	PINUS VIRGINIANA Virginia Pine	SEEDLINGS	Cont.	
3	LIRIODENDRON TULIPIFERA Tulip Poplar	1" CAL.	Cont.	
5	LIRIODENDRON TULIPIFERA Tulip Poplar	SEEDLINGS	Cont.	
5	QUERCUS RUBRA Red Oak	1" CAL.	Cont.	
15	QUERCUS RUBRA Red Oak	SEEDLINGS	Cont.	

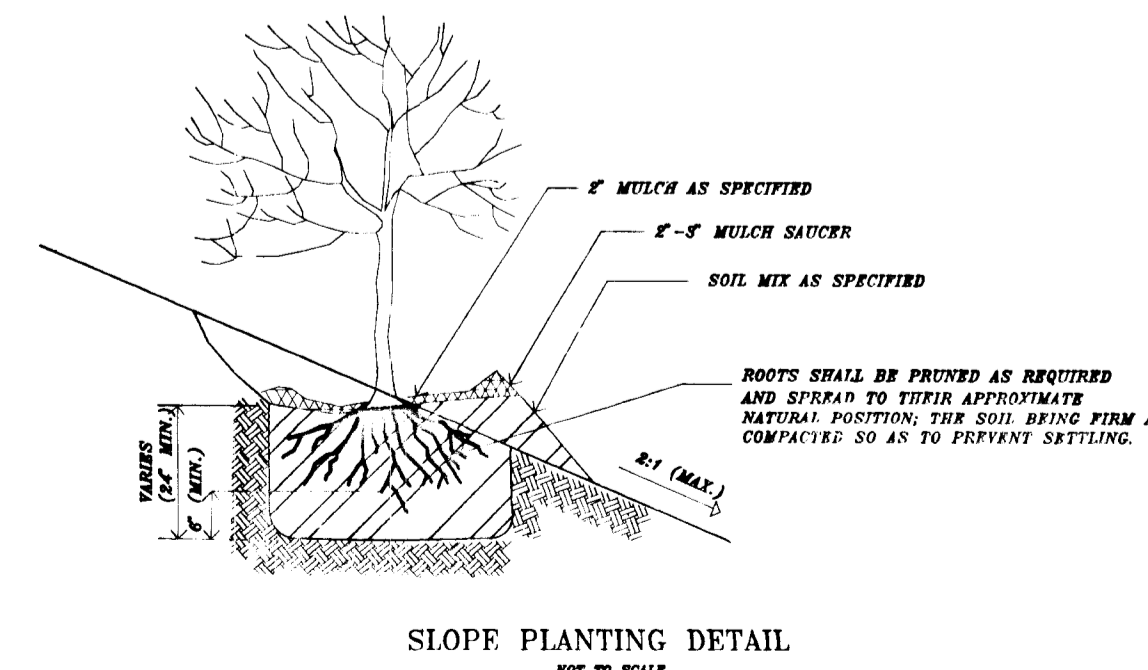
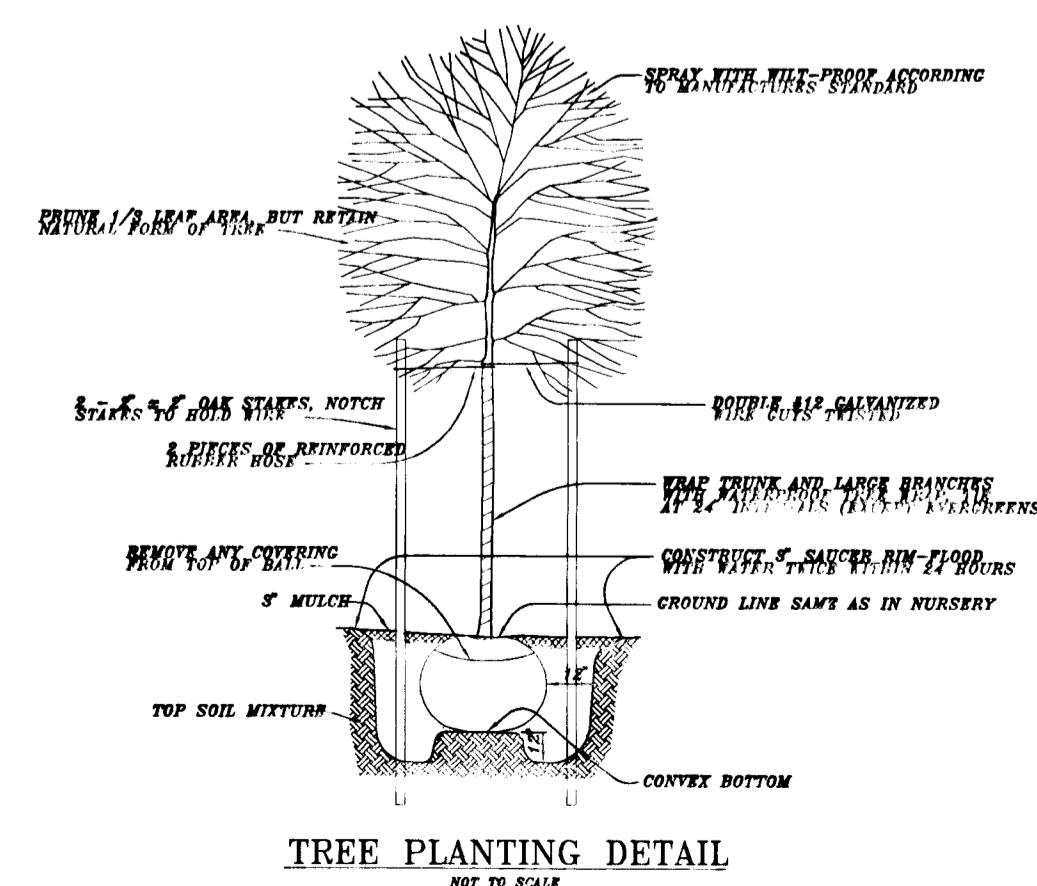
TREE PROTECTION
FOREST RETENTION &
REFORESTATION SIGN DETAIL



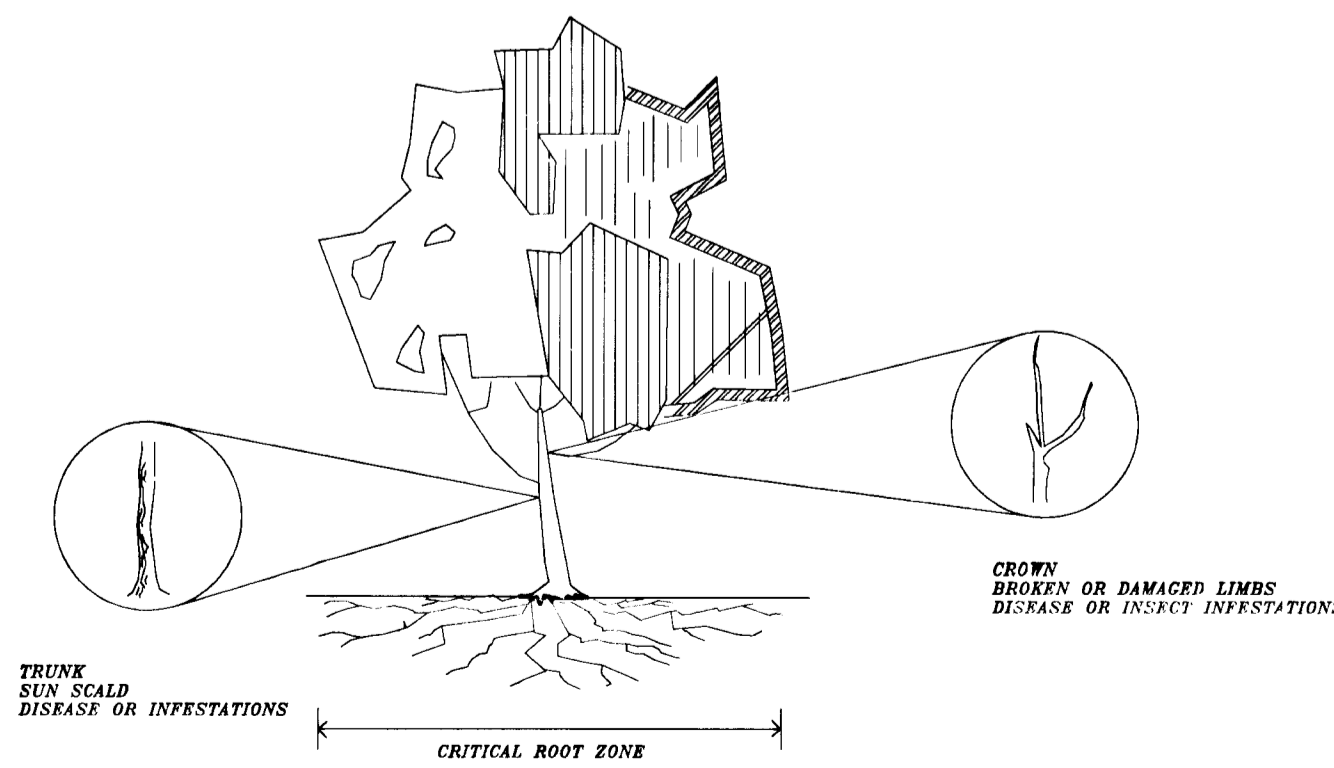
CRITICAL ROOT ZONE



TREE PLANTING DETAILS



CONSTRUCTION ACTIVITIES:
POTENTIAL IMPACT TO TREES



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Richard B. Borel
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

DATE: 4/10/96 REVISION: DATE: 4/25/96

OWNER: REV. JOHN RETTGER, C/O RICHARD TALKIN, 9175 GUILFORD ROAD, COLUMBIA, MARYLAND 21044
DEVELOPER: LAND DESIGN & DEVELOPMENT, 10805 HICKORY RIDGE ROAD, COLUMBIA, MARYLAND 21044

PROJECT: RETTGER PROPERTY

AREA: TAX MAP NO. 35 PARCEL 189, ZONED R-12, 5TH ELECTION DISTRICT, HOWARD COUNTY, MD

TITLE: FOREST CONSERVATION DETAILS

RIEMER MUEGGEL & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive • Suite 200 • Columbia, MD 21045
410-997-8900 FAX: 410-997-9282

DATE: 4-10-96
DESIGNED BY: RR
DRAWN BY: RR
PROJECT NO: 95P90507
DATE: SCALE: AS SHOWN
DRAWING NO. 8 OF 8

COM. 08.19.06.01
DOUGLAS R. KOPECK

18281

F-96-60