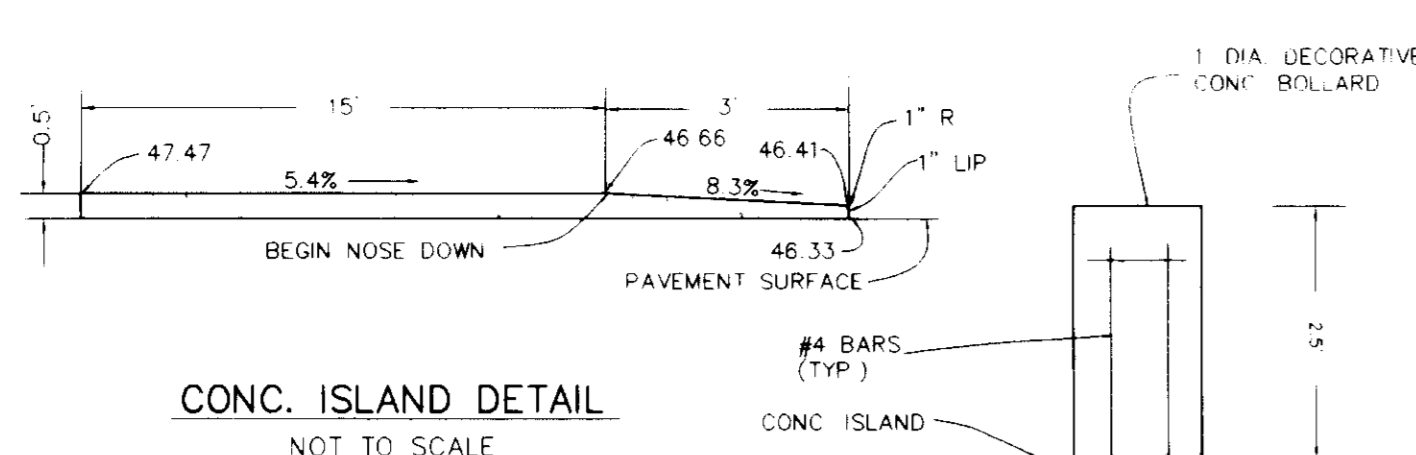
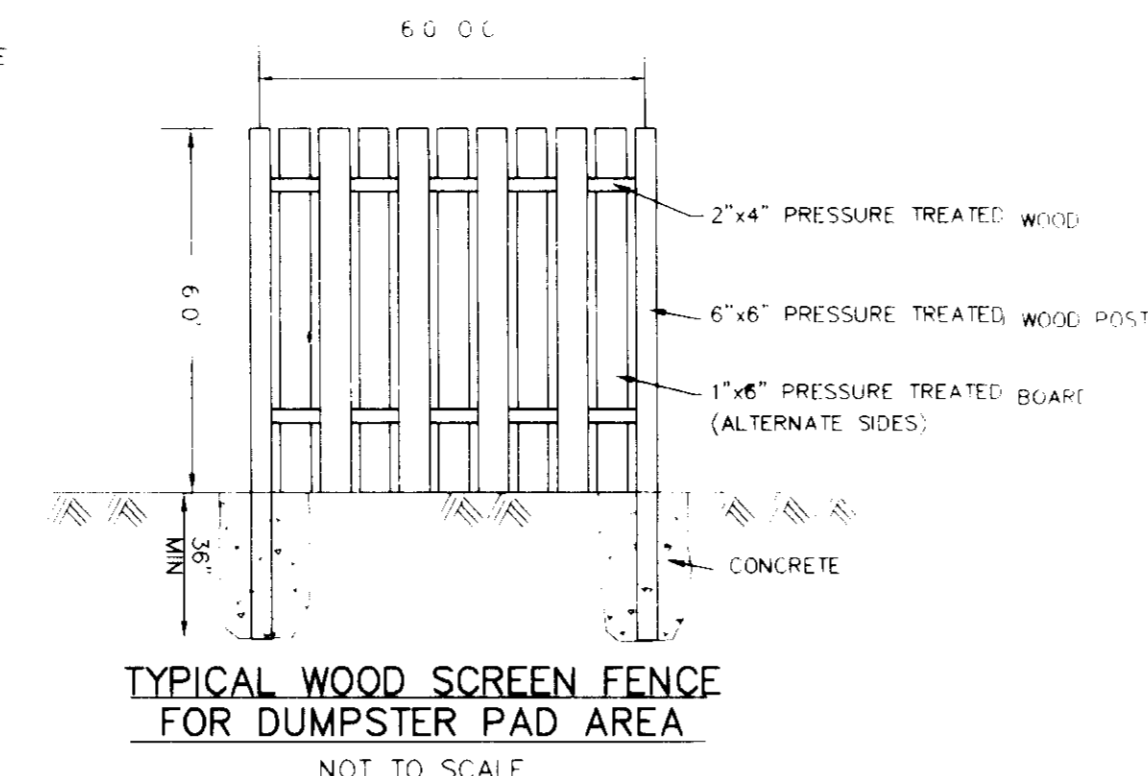


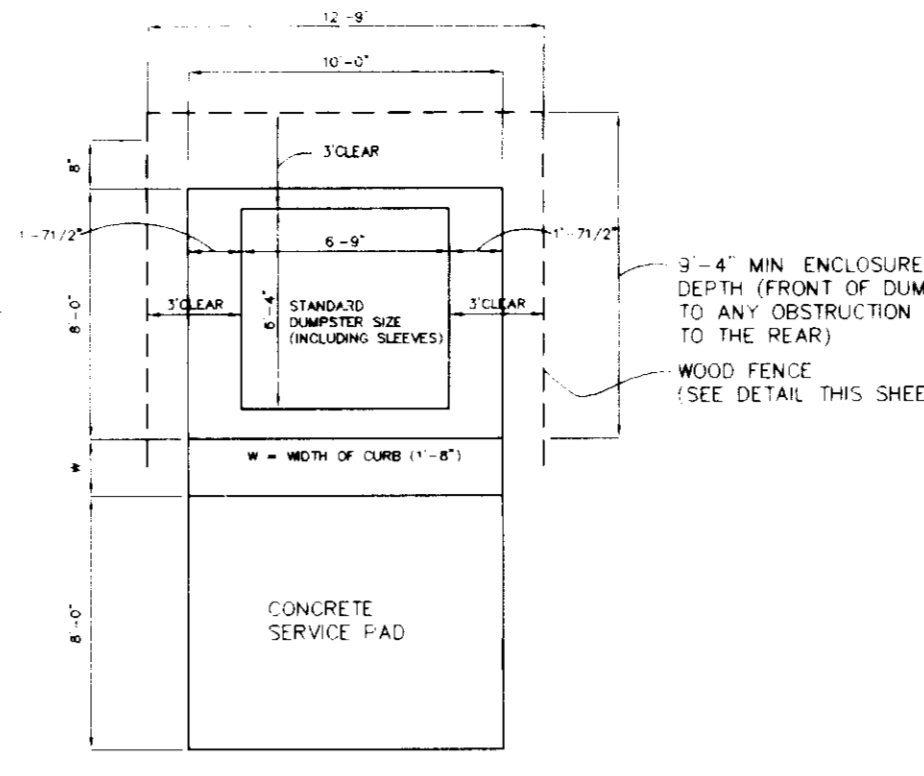
CONC. BOLLARD PLACEMENT DETAIL  
NOT TO SCALE



CONC. ISLAND DETAIL  
NOT TO SCALE



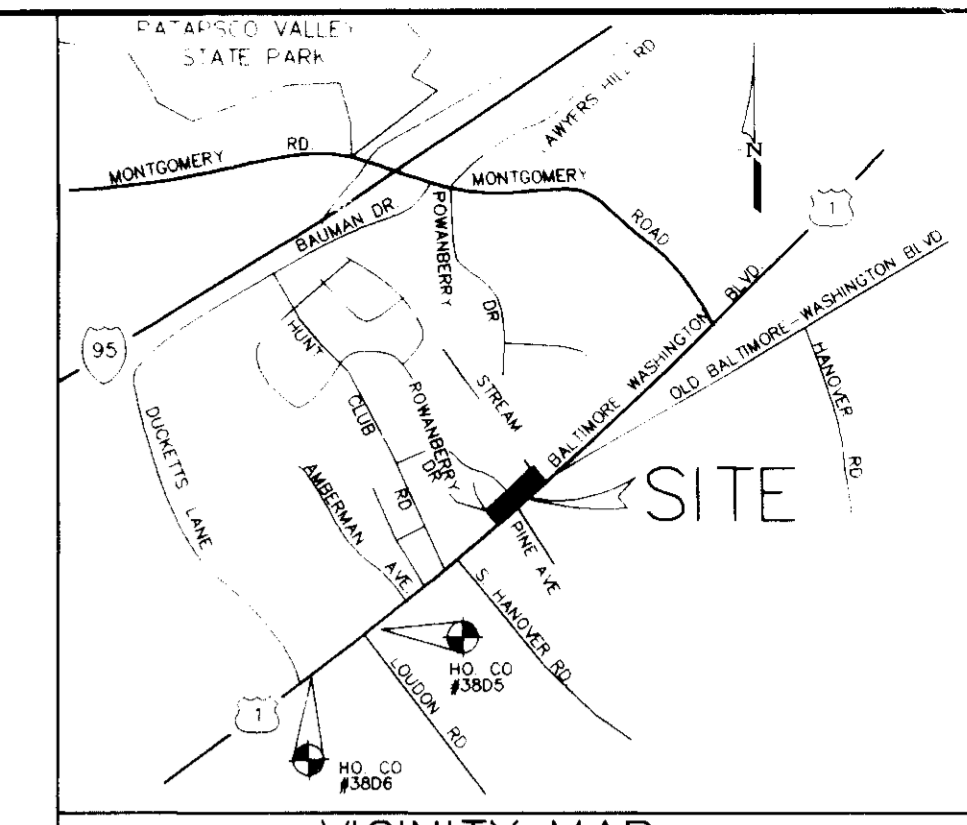
TYPICAL WOOD SCREEN FENCE  
FOR DUMPSTER PAD AREA  
NOT TO SCALE



DUMPSTER PAD DETAIL  
NOT TO SCALE

GENERAL NOTES:

- AREA OF PARCEL 1 9030 ACRES
- ZONE B-1 PER THE 1993 COMPREHENSIVE ZONING PLAN
- PROPOSED USE SHOPPING CENTER
- FLOOR SPACE 11,942 S.F. (MAIN LEVEL)
- NUMBER OF PARKING SPACES REQUIRED:  
5 SPACES/1,000 SF = 60 SPACES  
NUMBER OF PARKING SPACES PROVIDED  
60 TOTAL (INCLUDES 3 HANDICAPPED WITH 1 VAN ACCESSIBLE)
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 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
- THE TOPOGRAPHY SHOWN WAS GENERATED FROM FIELD RUN SURVEY PROVIDED BY TSA GROUP, INC. DATED JUNE 1995. AND CONSISTS OF 2 FOOT CONTOUR INTERVALS.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON MARYLAND GRID SYSTEM NAD 83 - HOWARD COUNTY MONUMENTS NO. 5 3805 AND 3806
- A MAINTENANCE AGREEMENT FOR THE USE-IN-COMMON ACCESS EASEMENT HAS BEEN RECORDED ON JANUARY 31, 1996. IN LIBER 3650 FOLIO 497
- ANY DAMAGE TO COUNTY OWNED RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE
- THE CONTRACTOR SHALL VERIFY LOCATION OF UTILITIES AND EASEMENTS PRIOR TO CONSTRUCTION
- HOWARD COUNTY RELATED REFERENCE PLANS: S-94-40, SDP-91-82 & F-96-07
- WAIVER PETITION WP-95-121 WAS APPROVED ON JULY 25, 1995 TO ALLOW ACCESS FROM THE INTERMEDIATE ARTERIAL ROAD AND TO NOT REQUIRE A PRELIMINARY PLAN SUBMISSION FOR NON-RESIDENTIAL SUBDIVISION
- WAIVER PETITION WP-96-06 WAS APPROVED BY HOWARD COUNTY ON NOV. 9, 1995 TO ALLOW FOR GRADING AND BUILDING ENCROACHMENT WITHIN THE 50' STREAM BUFFER
- SUBJECT SITE SHALL BE PRIVATELY OWNED AND MAINTAINED ALL STORM DRAINS WITHIN THE PROJECT LIMITS SHALL BE PRIVATELY OWNED AND MAINTAINED
- WETLANDS DELINEATION WAS PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. JUNE 1995
- FOREST CONSERVATION DELINEATION WAS PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. JUNE 1995
- DEED REFERENCES FOR THIS PARCEL ARE LIBER 1494 AT FOLIO 374, DATED 3/15/1986, LIBER 1064 AT FOLIO 689 DATED 7/30/1981, AND LIBER 3605 AT FOLIO 401 DATED 11/16/95
- WATER AND SEWER CONNECTIONS SHALL BE PRIVATE CONNECTIONS WILL BE MADE TO THE EXISTING MAINS IN ROWANBERRY DRIVE AND U.S. ROUTE 1 (CONTRACT NO. S 14-3171-D & 348-S). WATER METERS SHALL BE LOCATED OUTSIDE OF THE BUILDING
- TRAFFIC STUDY WAS COMPLETED BY LEE LIVINGSTON & ASSOCIATES, INC. DATED JUNE 1995
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA COUNTY ZONING REGULATIONS DEFINITIVE
- PROPOSED INLET 1-3 SHALL BE PUBLIC
- THE CROSS SLOPE OF PROPOSED BUILDING SIDEWALKS SHALL NOT EXCEED 2% SLOPE
- ALL BUILDINGS SHALL BE EQUIPPED WITH AN AUTOMATIC SPRINKLER SYSTEM
- THERE ARE NO 25% STEEP SLOPES WITHIN THE SITE AS PER HOWARD COUNTY ZONING REGULATIONS DEFINITIVE
- 100 YEAR FLOODPLAIN LIMIT IS BASED ON A STUDY PREPARED BY CLB ASSOC., INC. DATED JUNE 1989
- THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOREST CONSERVATION EASEMENT CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE REQUIRED WETLANDS, WETLAND AND STREAM BUFFERS AND FOREST CONSERVATION EASEMENT UNLESS APPROVED BY A WAIVER
- A BUILDING PERMIT IS REQUIRED FOR THE CONSTRUCTION OF THE RETAINING WALL
- STORM WATER MANAGEMENT (QUANTITY CONTROL) HAS BEEN PROVIDED IN THE SWM POND ON THE ADJACENT RESIDENTIAL SITE. WATER QUALITY SHALL BE PROVIDED ON-SITE VIA THE STORMCATCHER METHOD
- MAINTENANCE EQUIPMENT STORAGE AREA SHALL BE USED FOR ON-SITE EQUIPMENT ONLY. THEREFORE NO ADDITIONAL PARKING IS REQUIRED.



GEODETIC CONTROL STATIONS:

HOWARD CO. BM #3806	N 55.755 4644
CONCRETE MONUMENT 0'5" BELOW SURFACE	E 1384992 2600
HOWARD CO. BM #3805	N 55.8378 5918
CONCRETE MONUMENT 0'1" BELOW SURFACE	E 1386524 1900

SITE ANALYSIS DATA CHART

1. GENERAL SITE DATA	
a) PRESENT ZONING:	B-1
b) APPLICABLE DPZ FILE REFERENCES:	S-94-40, SDP-91-82, WP-95-121, F-96-07
c) PROPOSED USE OF SITE:	SHOPPING CENTER
d) PROPOSED WATER AND SEWER SYSTEMS:	___PUBLIC ___PRIVATE
e) ANY OTHER INFORMATION WHICH MAY BE RELEVANT:	SEE GENERAL NOTE FOR WAIVER REQUESTS
2. AREA TABULATION	
a) TOTAL PROJECT AREA:	19030 AC
b) NET AREA OF SITE:	17030 AC
c) AREA OF THIS PLAN SUBMISSION:	19030 AC
d) LIMIT OF DISTURBANCE:	1.37 AC
e) BUILDING COVERAGE OF SITE:	0.2742 AC
f) OTHER:	N/A
3. UNIT/LOT TABULATION	
a) TOTAL NUMBER OF RESIDENTIAL UNITS/LOTS ALLOWED FOR PROJECT:	N/A
b) TOTAL NUMBER OF RESIDENTIAL UNITS/LOTS PROPOSED ON THIS SUBMISSION:	N/A
c) DENSITY OF PROJECT PER NET ACRE:	N/A
d) TOTAL NUMBER OF NON-RESIDENTIAL LOTS/PARCELS ON THIS SUBMISSION:	2
e) OVERALL TOTAL NUMBER OF LOTS/PARCELS ON THIS SUBMISSION:	2
f) OTHER:	N/A
4. OPEN SPACE DATA	
a) OPEN SPACE ON SITE:	NOT REQUIRED
b) AREA OF RECREATION OPEN SPACE REQUIRED:	N/A
c) OTHER:	OPEN SPACE PROVIDED N/A
5. PARKING SPACE DATA*	
a) FLOOR SPACE PER BUILDING (MAIN LEVEL):	1,925 S.F.
BUILDING No. 1:	10,017 S.F.
BUILDING No. 2:	1,925 S.F.
SHOPPING CENTER TOTAL:	11,942 S.F.
b) MAXIMUM NUMBER OF EMPLOYEES, TENANTS ON SITE PER USE:	UNKNOW
c) NUMBER OF PARKING SPACES REQUIRED BY ZONING REGULATIONS. (5 SPACES PER 1000 S.F.):	60 SPACES
d) NUMBER OF PARKING SPACES PROVIDED:	60 SPACES
e) NUMBER OF HANDICAPPED PARKING SPACES PROVIDED:	3 SPACES

SEWER HOUSE CONNECTION DATA

NOTE: W/H & S/H WILL BE PRIVATE FROM THE PROPERTY LINE TO THE BUILDING.

6" S/H @ 32% INV. OF CONN. AT EX. MH #125 = 131.98  
INV. 5' FROM BUILDING = 134.8  
INV. AT PROPERTY LINE = 132.3

4" D/H @ 3% INV. OF DROP CONN. AT P.L. = 141.4  
INV. 5' FROM BUILDING = 143.75  
INV. AT MAIN = 139.2  
(BETWEEN EX. M#6125 & #6126)

ADDRESS CHART

PARCEL	STREET ADDRESS
2 (Bldg. 2)	6500 WASHINGTON BLVD.
1 (Bldg. 1)	6510 WASHINGTON BLVD.

SEWER/W/H DATA

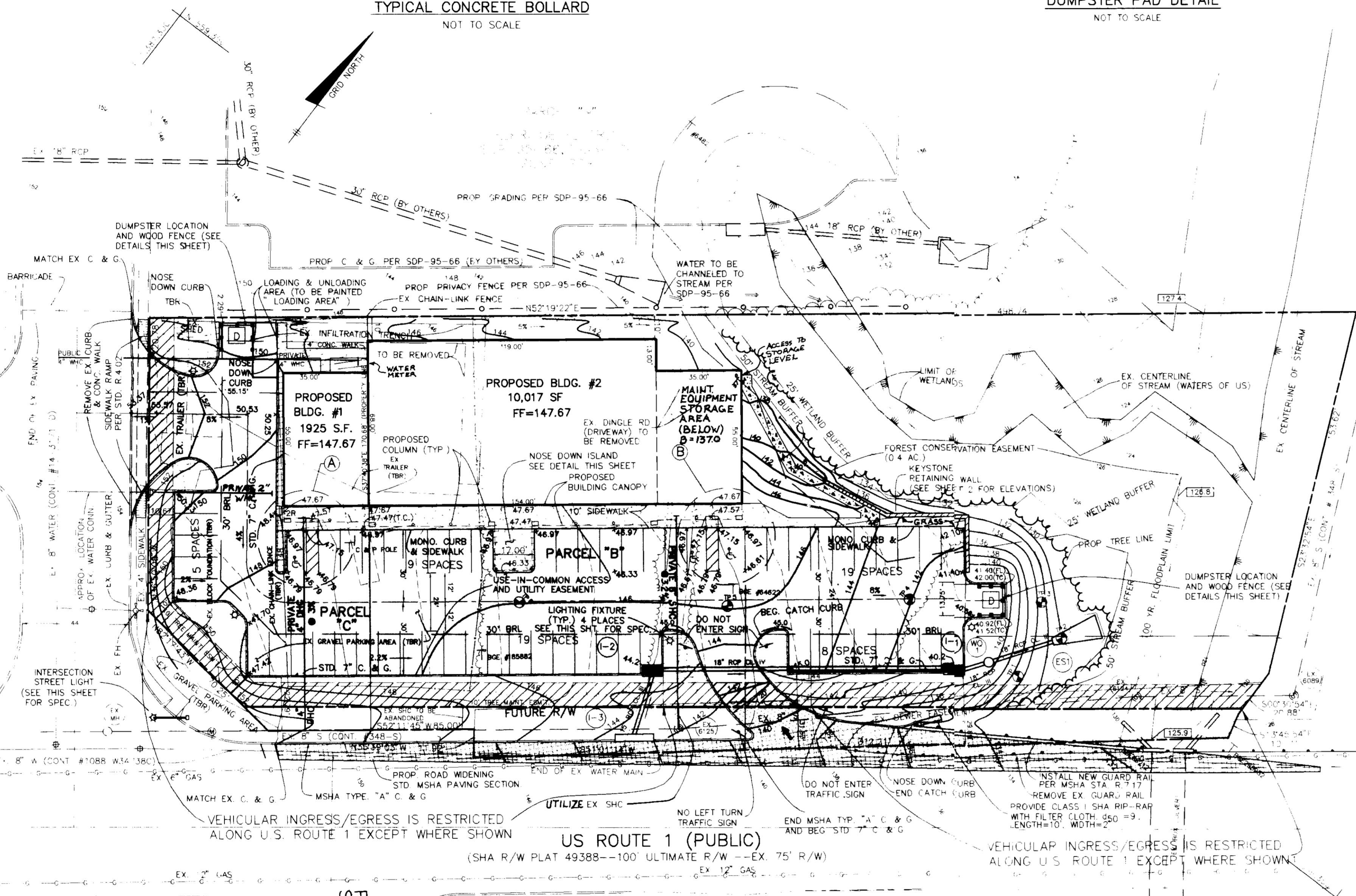
NO.	DATE	REVISION
0	10/95	RE-SUBMISSION TO COUNTY FOR REVIEW AND APPROVAL
0	12/95	REVISE PER COMMENTS - SUBMIT FOR SIGNATURES
1	2/8/97	ADD EQUIPMENT STORAGE AREA AND ASSOCIATED GRADING, REVISE

TSA GROUP, INC.  
planning • architecture • engineering • surveying  
6480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-8100

OWNER/DEVELOPER OF PARCEL "B":  
BEVARD FARM CORPORATION  
P.O. BOX 417  
ELICOTT CITY, MARYLAND 21041  
(410) 465-4244

OWNER OF PARCEL "C":  
NICKOLAOS A. PAPAVASILIS  
6636 PHEASANT DRIVE  
ELK RIDGE, MARYLAND 21227  
(410) 796-8643

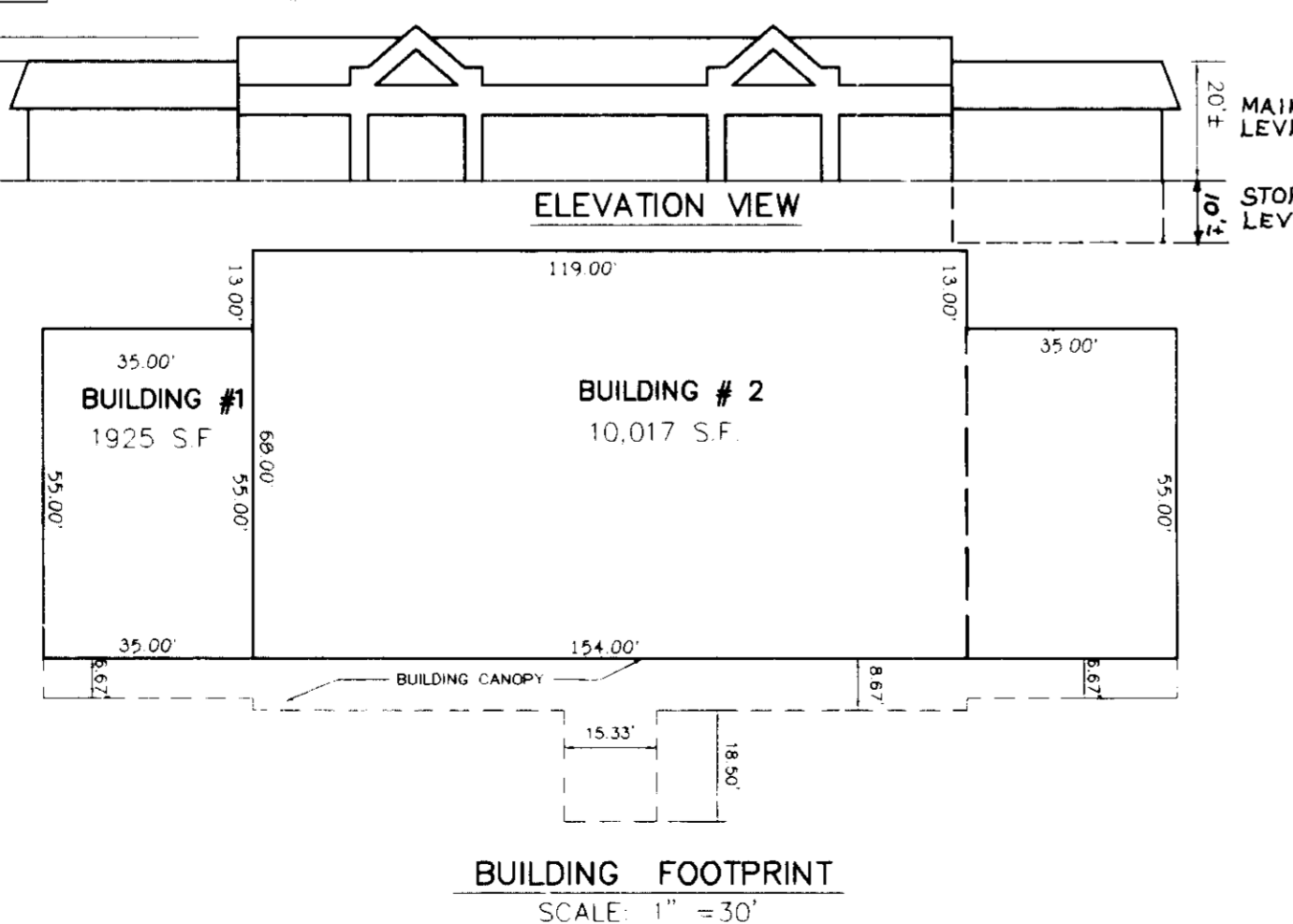
PROJECT: ROWANBERRY CENTER  
LOCATION: 1st ELECTION DISTRICT, HOWARD COUNTY, MARYLAND  
TITLE: SITE DEVELOPMENT PLAN  
DATE: JULY 1995 / APRIL 1, 1996  
PROJECT NO: 0814  
SCALE: 1" = 30'  
DRAWING: 1 OF 2



PLAN VIEW  
SCALE: 1"=30'

LEGEND

- TO BE REMOVED EXISTING CONTOUR PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- DIRECTION OF DRAINAGE
- EXISTING SEWER
- EXISTING WATER MAIN
- EXISTING STORM DRAIN
- PROPOSED TREE LINE
- EXISTING TREE LINE
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- PROP. ROAD WIDENING
- EXISTING EASEMENTS
- FOREST CONSERVATION EASEMENT
- PROP. TREE MAINTENANCE EASEMENT
- PROP. USE-IN-COMMON ACCESS AND UTILITY EASEMENT
- PROP. PAVING



BUILDING FOOTPRINT  
SCALE: 1"=30'

SPECIAL NOTE FOR REMOVAL/RELOCATION OF EXISTING UTILITY POLES:  
ALL EXISTING UTILITY POLES WITHIN THE PARKING / BUILDING AREA WILL BE EITHER REMOVED OR RELOCATED BY THE UTILITY COMPANIES INVOLVED.

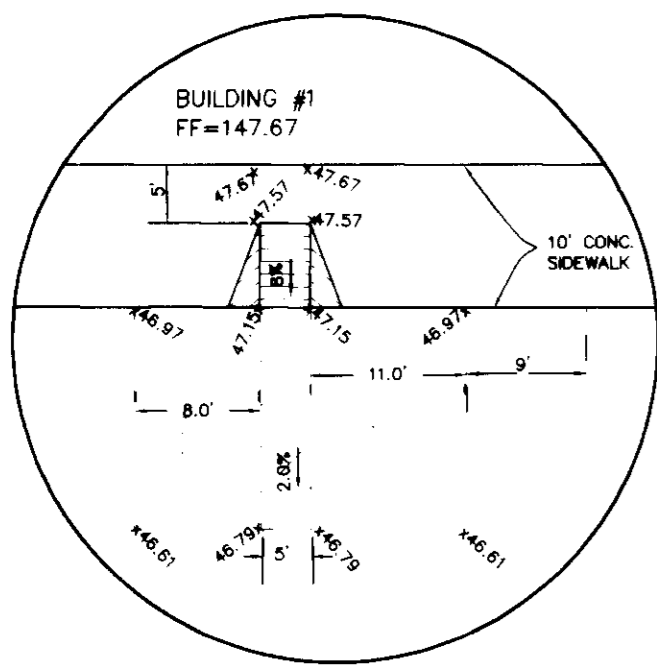
SPECIAL NOTES:  
1. ENTRANCE TO EACH BUILDING WILL BE ACCESSIBLE BY HANDICAPPED PERSONS. PROPOSED ENTRANCES SHALL BE LOCATED ANYWHERE ALONG BUILDING FRONTAGE.  
2. PROVIDE AND INSTALL SIGNS DESIGNATING HANDICAPPED PARKING AND PROMINENTLY DISPLAY THE AMOUNT OF FINE REQUIRED BY LAW AT ALL HANDICAPPED PARKING SPACES (SEE DETAIL BELOW).

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

4/12/96 DATE

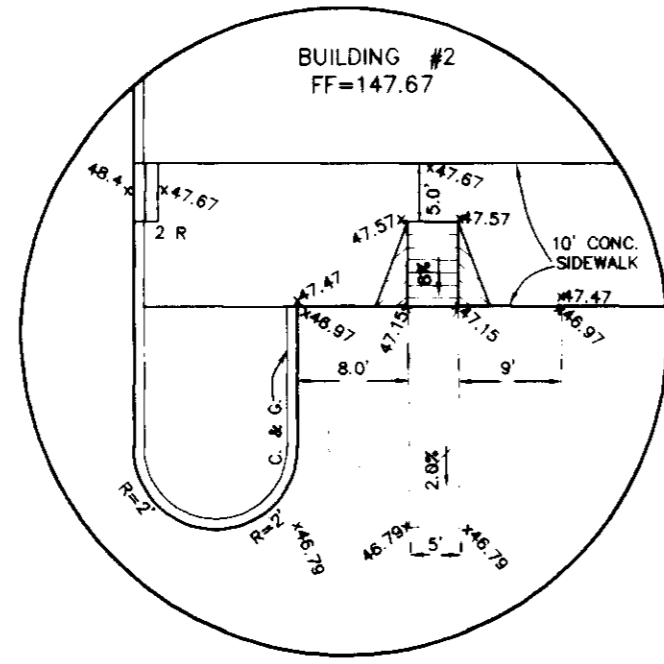
4/12/96 DATE

4/12/96 DATE



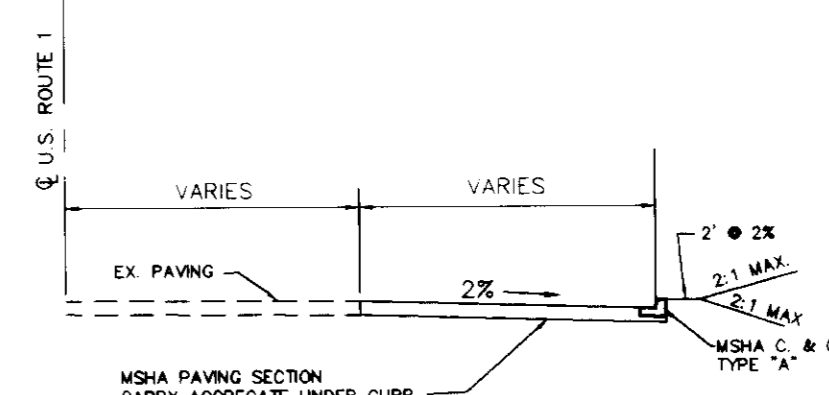
RAMP DETAIL B  
NOT TO SCALE

NOTE: HANDICAPPED PARKING AREA SHALL BE GRADED SO THAT A 2% MAX. SLOPE IS ACHIEVED IN ALL DIRECTIONS.

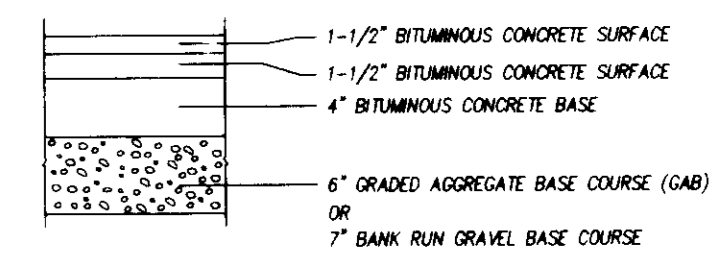


RAMP DETAIL A  
NOT TO SCALE

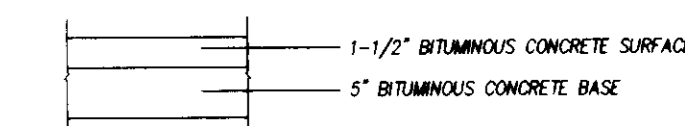
NOTE: HANDICAPPED PARKING AREA SHALL BE GRADED SO THAT A 2% MAX. SLOPE IS ACHIEVED IN ALL DIRECTIONS.



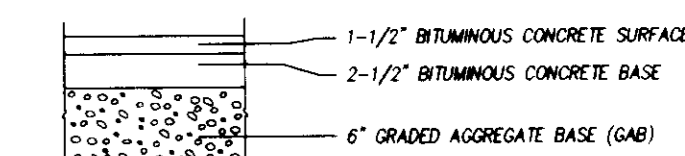
TYPICAL HALF SECTION  
NORTH SIDE OF U.S. ROUTE 1  
NOT TO SCALE



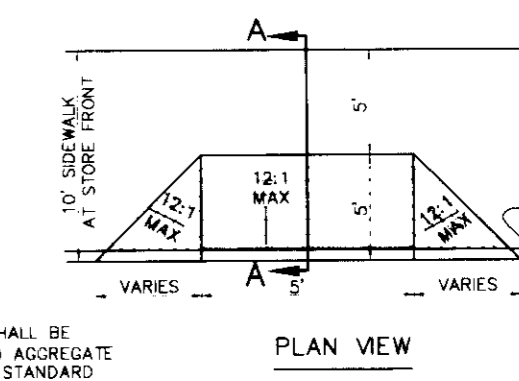
MSHA PAVING SECTION  
(FOR U.S. RTE. 1)  
NOT TO SCALE



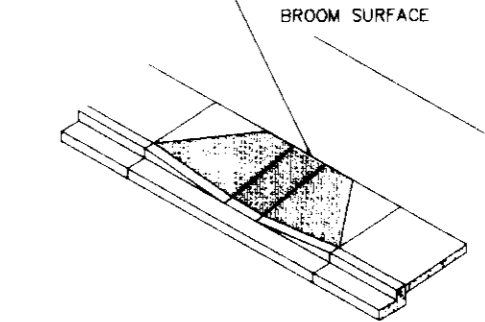
FULL DEPTH BITUMINOUS  
CONCRETE ALTERNATE



GRANULAR BASE ALTERNATE  
PAVING SECTION P-2  
NOT TO SCALE

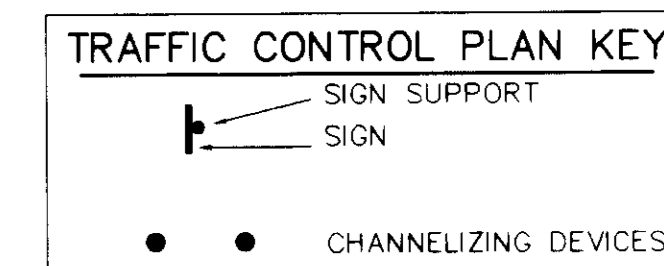


PLAN VIEW

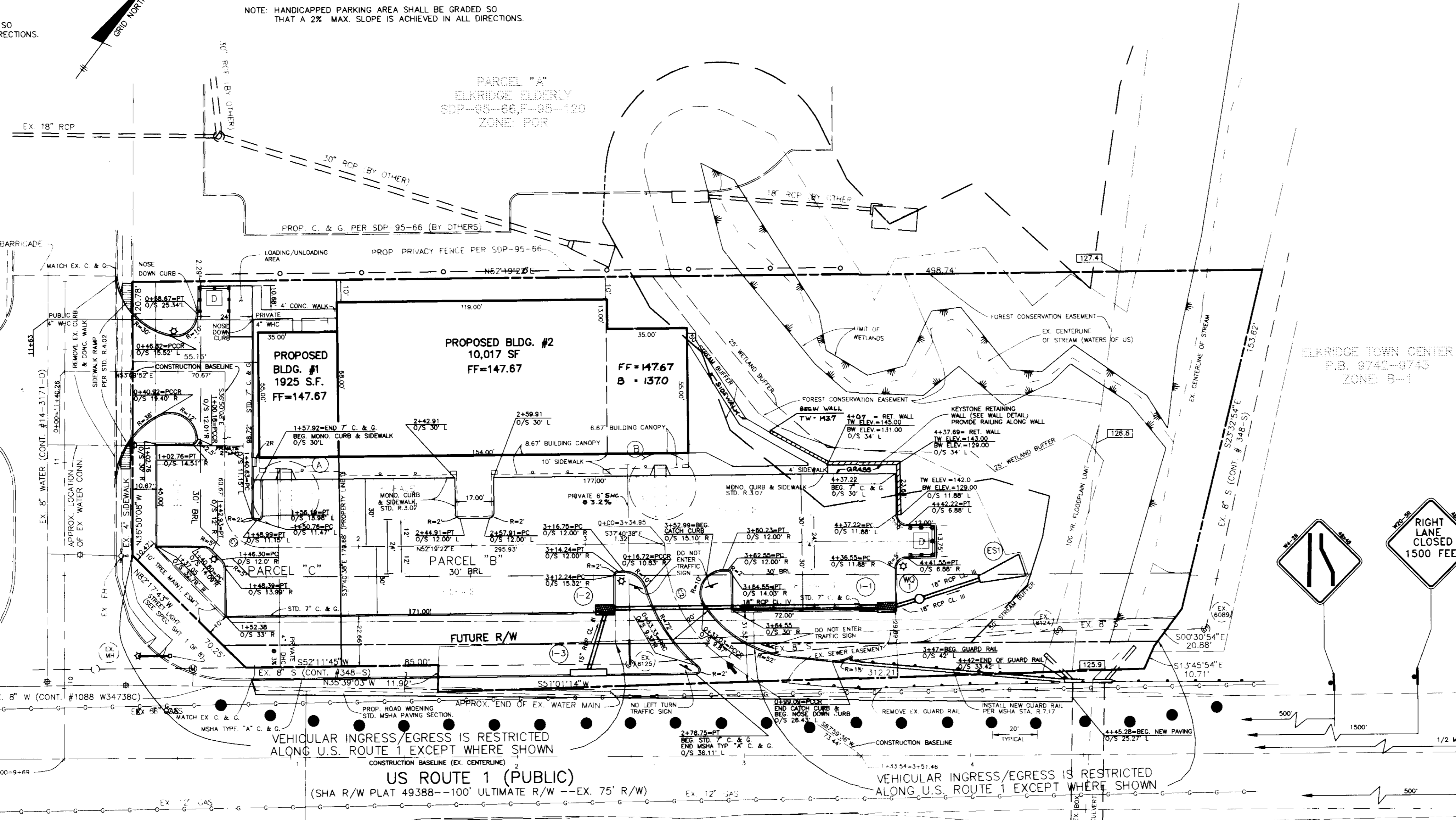


SECTION A-A

HANDICAP RAMP DETAIL  
NOT TO SCALE



TRAFFIC CONTROL PLAN KEY



PLAN VIEW  
SCALE: 1" = 30'

BASELINE CURVE DATA

CURVE	RADIUS	LENGTH	TANGENT	CHORD	DELTA
C1	17.00	28.85	17.35	24.22	90°50'30"
C2	62.00	58.79	31.82	58.81	34°18'49"

SPECIAL NOTE FOR REMOVAL/ RELOCATION OF EXISTING UTILITY POLES:  
ALL EXISTING UTILITY POLES WITHIN THE PARKING / BUILDING AREA WILL BE EITHER REMOVED OR RELOCATED BY THE UTILITY COMPANIES INVOLVED.

NO	DATE	REVISION
0	10/95	RE-SUBMISSION TO COUNTY FOR REVIEW AND APPROVAL
0	12/95	ADDRESS COMMENTS - SUBMIT FOR SIGNATURES
1	2/18/97	ADD EQUIPMENT STORAGE AREA AND ASSOCIATED GRADING, REVISE

SEWER/WHC DATA

TSA GROUP, INC.  
planning • architecture • engineering • surveying  
6480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 488-8106

PERMIT INFORMATION CHART

SUBDIVISION NAME <b>ROWANBERRY CENTER</b>					
SECTION N/A	PARCEL # "B" & "C"	LIBER & FOLIO L1494 F. 374 L. 1064 F. 689	PREVIOUS FILE S-94-40 SDP-91-82 F-96-07	OWNER/DEVELOPER OF PARCEL "C": NICKOLAOS A. PAPAVASILIUS 6636 PHEASANT DRIVE ELKRIDGE, MARYLAND 21227 (410) 796-8643	
PLAT No. 12061	BLOCK No. 8	ZONE B-1	TAX MAP 38	ELEC. DIST. 1st	CENSUS 6012
WATER CODE A01		SEWER CODE 2150533			
SCALE: AS SHOWN		DATE: JULY, 1995			

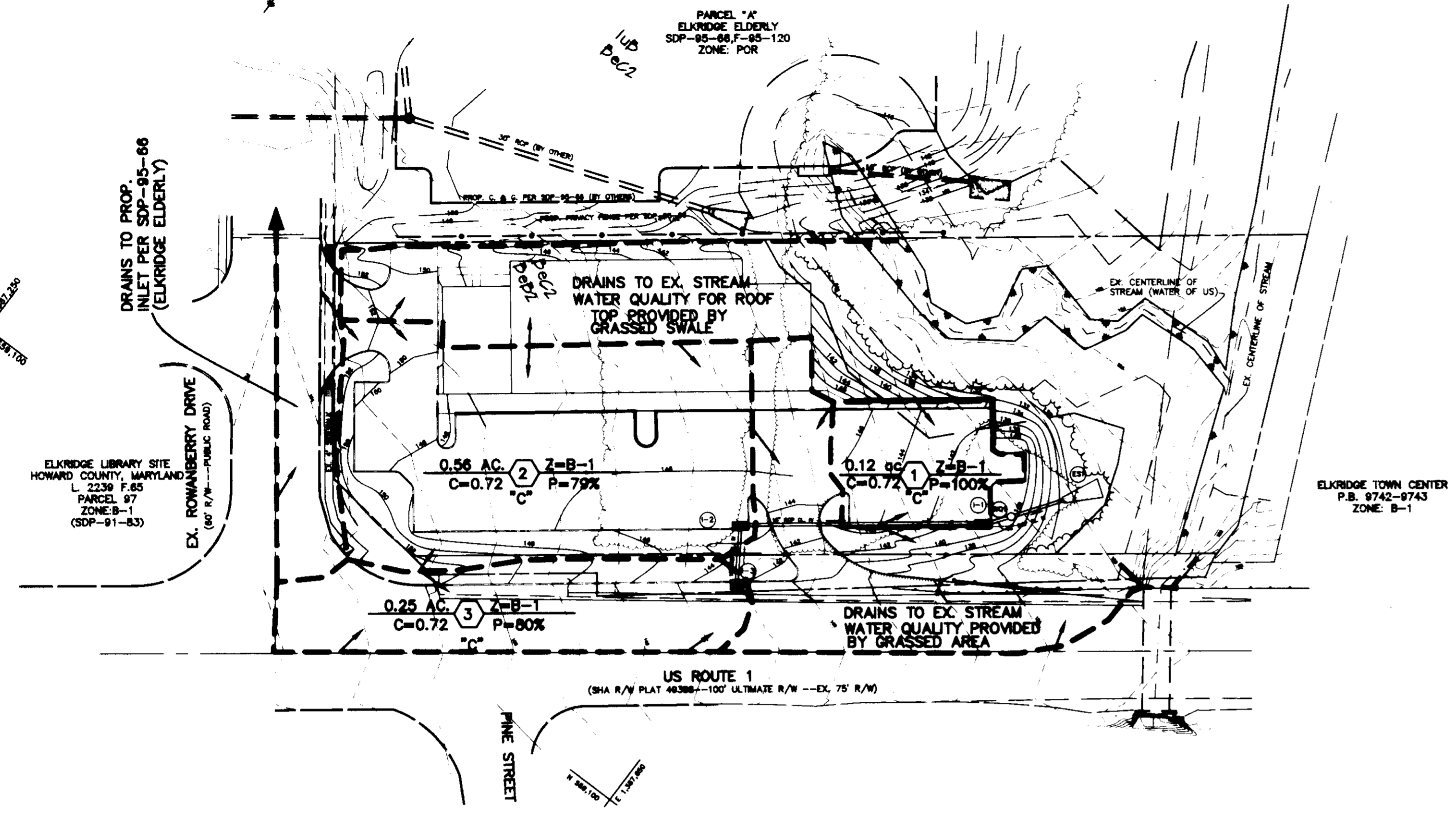
OWNER/DEVELOPER OF PARCEL "B": BEVARD FARM CORPORATION P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 (410) 465-4244	PROJECT: <b>ROWANBERRY CENTER</b>
LOCATION: TAX MAP 38 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: <b>GEOMETRY PLAN / TRAFFIC CONTROL PLAN</b>
DATE: JULY 1995 APRIL 1, 1996	PROJECT NO. 0E14
DESIGN: YSL DRAFT: YSL CHECK: CAM	SCALE: AS SHOWN DRAWING 2 OF 8

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

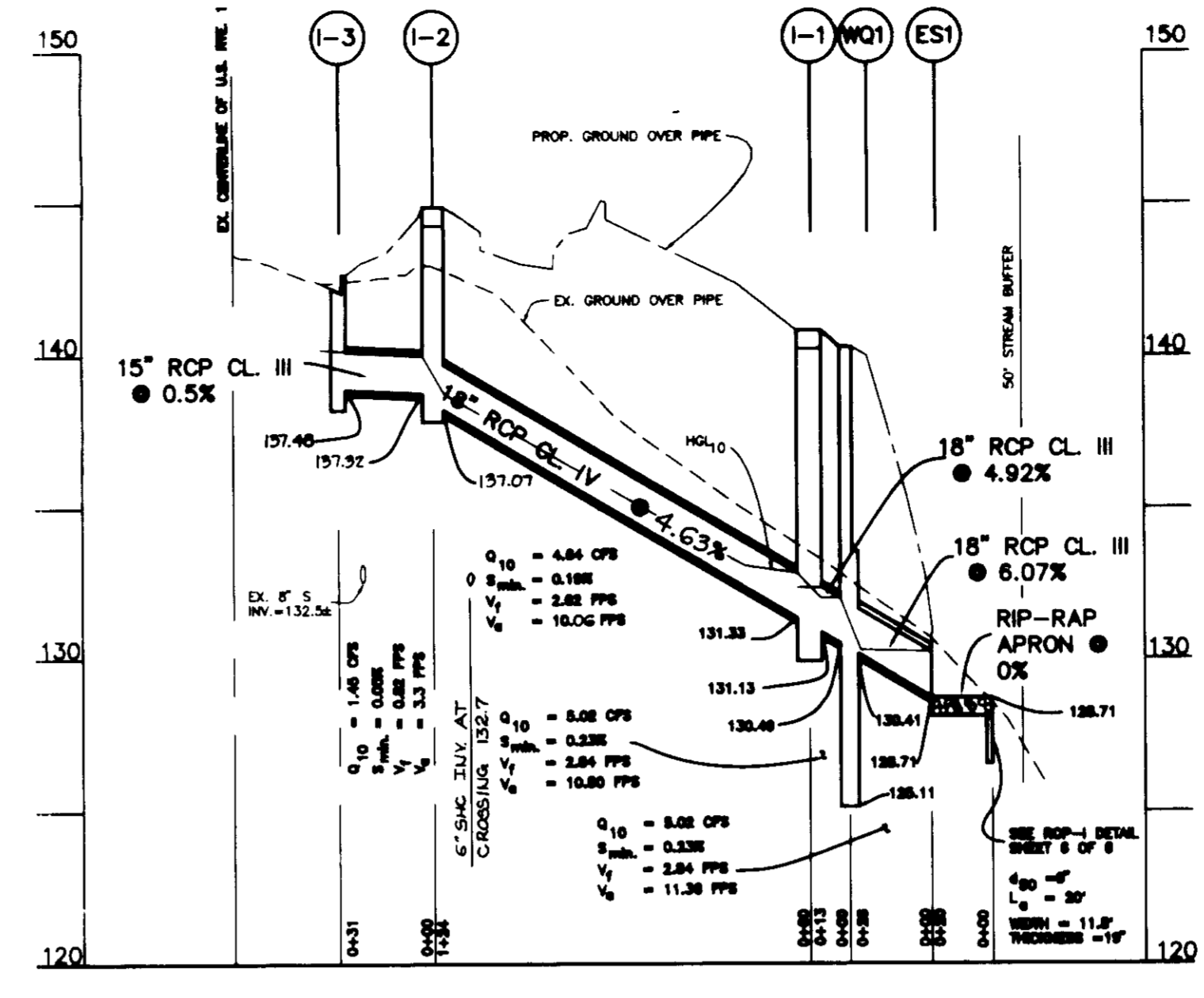
4/12/96  
4/12/96  
4/16/96

**SOIL TYPES AND CHARACTERISTICS**

MAP SYMBOL	SOIL NAME	HYDROLOGIC GROUP	HYDRO INCLUSION	HIGH EROSION POTENTIAL
L1B	ERA LOAM, LOCAL ALLUVIUM	C	YES	NO
D4C2	MELTALLE SILT LOAM	C	YES	YES
D4D2	MELTALLE SILT LOAM	C	YES	NO



**DRAINAGE AREA MAP**  
SCALE: 1" = 50'

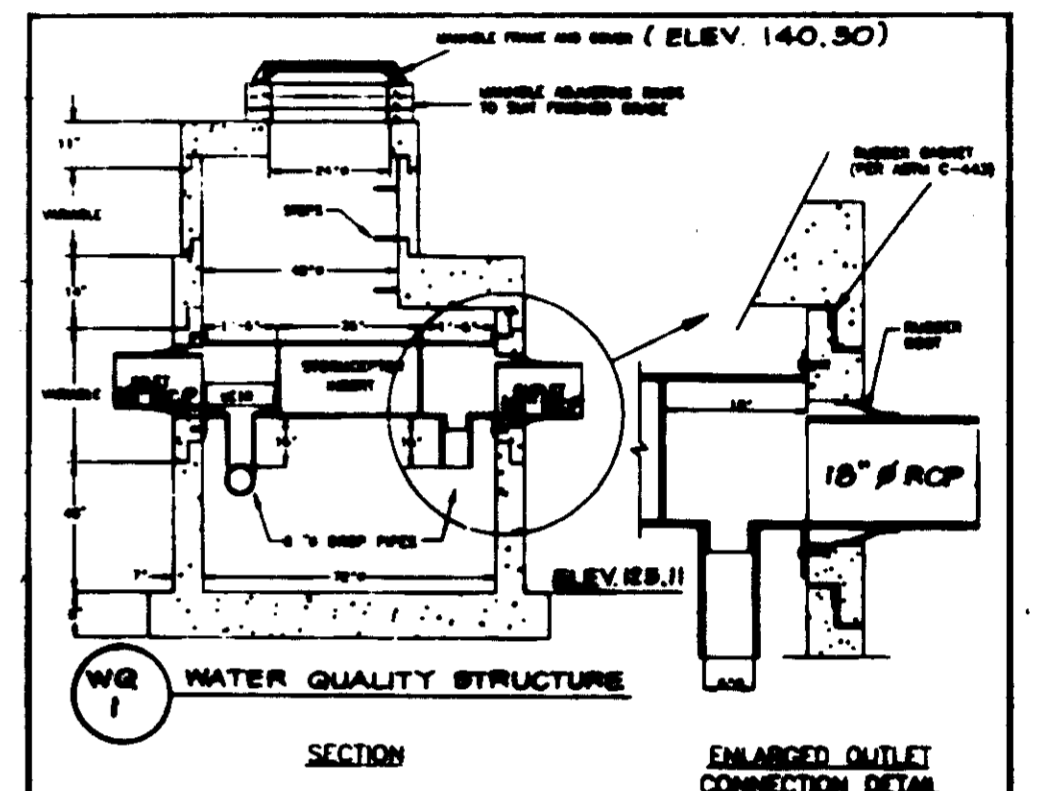


**STORM DRAIN PROFILE**  
SCALE: HOR.: 1" = 50'  
VERT.: 1" = 5'

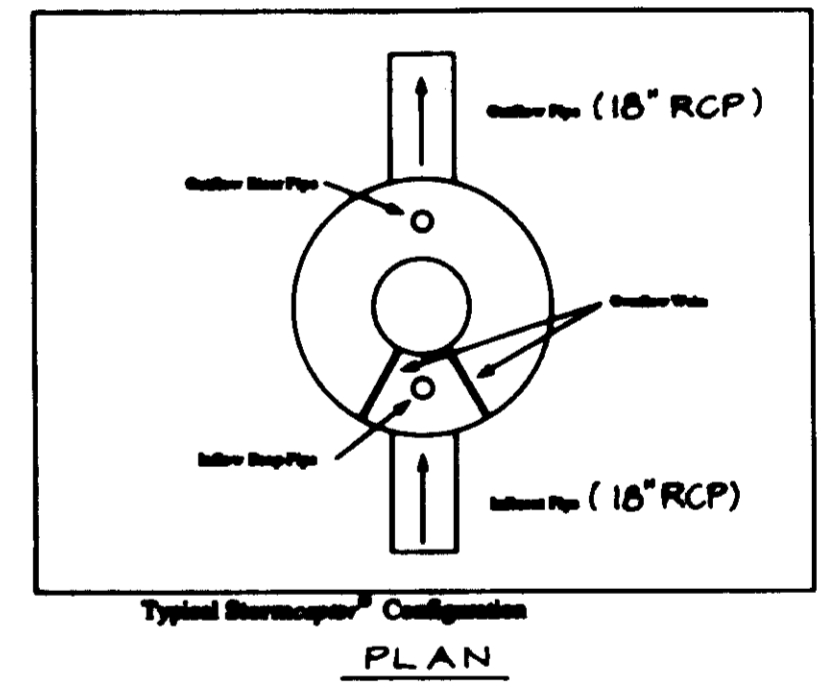
**STORM DRAIN STRUCTURE SCHEDULE**

STRUCTURE NO.	TYPE	LOCATION	INVERT IN	INVERT OUT	TOP ELEVATION	REMARKS
I-1	"S" COMB. SD. 4.34	N 559327.8277 E1387717.7702	131.33	131.13	* 140.2	PRIVATE INLET
I-2	"S" COMB. SD. 4.34	N 559251.6521 E1387819.3389	137.32	137.07	* 144.2	PRIVATE INLET
I-3	MD-374.GI 15'-CO5	N 559224.82 E1387630.54	---	137.45	*** 149.8	PUBLIC INLET
WQ1	STORMCEPTOR	N 559340.3094 E1387728.4619	130.49	130.41	* 140.5	SEE DETAILS THIS SHEET
ES1	SD.5.51	N 559363.1823 E1387742.5647	---	128.71	---	

\* TOP ELEVATION FOR MANHOLE = RIM ELEVATION  
TOP ELEVATION FOR INLET = TOP OF GRATE  
\*\* COORDINATES REFLECT MID-POINT OF INLET AT FACE OF CURB.  
\*\*\* TOP ELEVATION FOR I-3 = TOP OF INLET AT MIDPOINT



**SECTION**  
ENLARGED OUTLET CONNECTION DETAIL  
WQ1 WATER QUALITY STRUCTURE  
SECTION  
ELEV. 140.50  
1. 4" DIA. C-118  
2. 4" DIA. C-443  
3. 4" DIA. 4000' - 0.40 (1000)  
SIC 909 PRECAST CONCRETE STORMCEPTOR  
900 GALLON CAPACITY



Typical Stormceptor Configuration  
**PLAN**

**Installation Procedures (SEE STORMCEPTOR MANUAL - APRIL 1, 1995)  
US PATENT 4,798,148**

**Concrete Stormceptor Installation**

The installation of the concrete Stormceptor<sup>®</sup> should conform to good to state highway or local specifications for the construction of manholes. Selected portions of a general specification that are applicable are summarized in the following tables.

**Excavation**

Excavation for the installation of the Stormceptor<sup>®</sup> should conform to state highway or local specifications. Topsoil that is removed during the excavation for the Stormceptor<sup>®</sup> should be stockpiled in designated areas and should not be mixed with subsoil or other materials. Topsoil, subsoil, and the ground are required for the installation of the Stormceptor<sup>®</sup> should conform to state highway or local specifications.

The Stormceptor<sup>®</sup> should not be installed on frozen ground. Excavation should extend a minimum of 12 inches from the present concrete surface plus an allowance for shoring and bracing when required. If the bottom of the excavation provides an unstable foundation additional protection may be required.

In areas with a high water table, continuous dewatering should be provided to ensure that the excavation is stable and free of water.

**Leveling**

A 4 to 12 inch layer of granular material (conforming to local or state highway or local specifications) should be installed, compacted, and leveled at the bottom of the excavation to the proper elevation for the installation of the Stormceptor<sup>®</sup> base.

**Backfilling**

Backfill material should conform to state highway or local specifications. Generally, backfill material should be placed in uniform layers not exceeding 12 inches in depth. Each layer should be compacted to 95% of the maximum dry density. Backfill is not to contain rocks.

**Stormceptor<sup>®</sup> Construction Sequence**

- The concrete Stormceptor<sup>®</sup> is installed in sections in the following sequence:
1. aggregate base
  2. base slab
  3. concrete chamber section(s)
  4. manhole slab (if required)
  5. by-pass section
  6. manhole inlet and outlet pipes
  7. manhole slab
  8. manhole access cover
  9. base and access cover

The present base should be placed level at the specified grade. The entire base should be in contact with the underlying compacted granular material. Subsequent sections, complete with joint seals, should be installed in accordance with the present concrete manufacturer's recommendations.

Adjustment of the Stormceptor<sup>®</sup> can be performed by lifting the upper section first of the concrete unit, re-leveling the base, and re-installing the section. Damaged sections and gaskets should be replaced. Once the Stormceptor<sup>®</sup> has been constructed, the lift holes should be plugged with mortar.

**Down Pipe and Filter Pipe**

Once the by-pass section has been installed to the treatment chamber the down pipe and filter pipe can be connected. To install down pipes a weather cover on the treatment chamber through the access cover way to the by-pass section.

**ETC 808**

The inlet pipe (pipe with the seal at the end) is installed by covering the outside of the end of the pipe with quick dry PVC cement and pushing the pipe into the opening provided on the underside of the by-pass section. The seal must be extended such that water which enters the treatment chamber is directed completely around the inside walls of the chamber.

The outlet pipe (straight pipe without the seal) is installed in a similar fashion using the quick dry PVC cement and coupling provided underneath the by-pass section near the downpipe pipe.

**Inlet and Outlet Pipes**

Inlet and outlet pipes should be correctly cut to the by-pass chamber using great or approved pipe cutters so that the cut ends are square. Non-45-degree bevels are not acceptable and should be corrected at the time of cutting. The Stormceptor<sup>®</sup> should be installed in the field at the time of cutting (i.e., Stormceptor<sup>®</sup> bevels will not be used) since the bevels are generally included in the pipe operation.

Installation of the Stormceptor<sup>®</sup> should follow the manufacturer's recommendations. As previously mentioned, the bevel will already be attached to the Stormceptor<sup>®</sup> at the access point. Accordingly, the following procedure should be followed to attach the inlet and outlet pipes to the Stormceptor<sup>®</sup> in the field:

1. Center the pipe to the best opening
2. Lubricate the outside of the pipe under both ends of the pipe with the suitable diameter to the same as the inside diameter of the best
3. Push the pipe down in the groove of the base with the cover at the top
4. Tighten the pipe clamp cover to 40 inch pounds
5. On subsequent outside diameter installations lift the base such that it covers the bottom of the pipe while tightening the pipe clamp to ensure even connection of the section.
6. Move the pipe horizontally either vertically to bring it to grade

**Flange and Cover Installation**

Present concrete alignment walls should be installed to seal the flange and cover at the required elevation. The alignment walls should be built to full height of water with manhole walls being joined using rubber gaskets. The Stormceptor<sup>®</sup> should be installed to the cover should be set to a full height of water at the elevation specified.

**OPERATION AND MAINTENANCE PROCEDURES**

Maintenance of the Stormceptor<sup>®</sup> is performed using various tools. The Stormceptor<sup>®</sup> should be inspected and maintained at least once a year. The Stormceptor<sup>®</sup> should be inspected and maintained at least once a year.

**Maintenance Sequence**

If the Stormceptor<sup>®</sup> is closed based on the guidelines provided in Section 2.4, annual maintenance is recommended. Approximately 15% of the Stormceptor<sup>®</sup> seal thickness evenly will be reduced each year based on the maximum impingement discharge rates recommended in Table 4.

Although annual maintenance is recommended, adequate data on the maintenance of Stormceptor<sup>®</sup> seals is not available. Accordingly, it is recommended that annual maintenance be performed biennially, and the frequency of maintenance be adjusted based on the local conditions (i.e., if the seal is filling up with sediment more quickly than projected, maintenance may be required more frequently; conversely even the site has established maintenance may only be required once every two or three years).

THE DEPTH OF SEDIMENT CAN BE MEASURED FROM THE SURFACE WITHOUT ENTRY INTO THE STORMCEPTOR VIA A DIPSTICK TUBE EQUIPPED WITH A BALL VALVE. MAINTENANCE SHOULD BE PERFORMED ONCE THE SEDIMENT DEPTH EXCEEDS 0.5 FEET.

**DISPOSAL**

DISPOSAL OF THE SEDIMENTS SHOULD BE IN A SANITARY LANDFILL. HAZARDOUS MATERIALS COLLECTED IN THE STORMCEPTOR (OILS, ETC.) SHOULD BE REMOVED BY A LICENSED WASTE MANAGEMENT COMPANY AND DISPOSED OF ACCORDINGLY.

**PERMIT INFORMATION CHART**

SUBDIVISION NAME			
ROWANBERRY CENTER			
SECTION	PARCEL #	LIBER & FOLIO	PREVIOUS FILE:
N/A	"B" & "C"	L1484 F. 374 L 1084 F. 688	S-84-40 SDP-96-06
PLAT No.	BLOCK No.	ZONE	TAX MAP ELEC. DIST. CENSUS
12.061	8	B-1	38 1st 6012
WATER CODE	SEWER CODE		
A01	2190533		
SCALE:	DATE:		
AS SHOWN	JULY, 1995		

NO	DATE	REVISION
0	12/95	REVISE COMMENTS - SUBMIT
1	8/16/97	REVISE SIC CROSSING BASED ON SEWER SERVICE TO STORAGE AREA.

**TSA GROUP, INC.**  
Planning • architecture • engineering • surveying  
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ELICOTT CITY, MARYLAND 21041  
(410) 486-4244

600 Baltimore National Pike • Ellicott City, Maryland 21040 • (410) 486-0100

PROJECT:	
ROWANBERRY CENTER	
LOCATION:	TAX MAP 38 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	STORM DRAIN PROFILE DETAILS AND DRAINAGE AREA MAP
DATE:	JULY 1995
PROJECT NO.	0814
DESIGN:	YSL DRAFT: YSL CHECK: CAM
SCALE:	AS SHOWN
DRAWING	3 OF 8

**APPROVED:** HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*[Signature]* 4/16/96 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 4/12/96 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

*[Signature]* 4/16/96 DATE

DIRECTOR

**PLANT LIST\***

SYMBOL	NAME	QUANTITY
	PYRUS CALLERYANA 'REDSPIRE' (REDSPIRE PEAR)	15
	PINUS STROBUS (EASTERN WHITE PINE)	23
	ACER RUBRUM 'OCTOBER GLORY' (OCTOBER GLORY RED MAPLE)	16
	MANHATTAN EUONYMUS	122

\*NOTE: TREES WITH A MINIMUM OF AT LEAST 2-1/2" CALIPER

**PERIMETER LANDSCAPE EDGE**

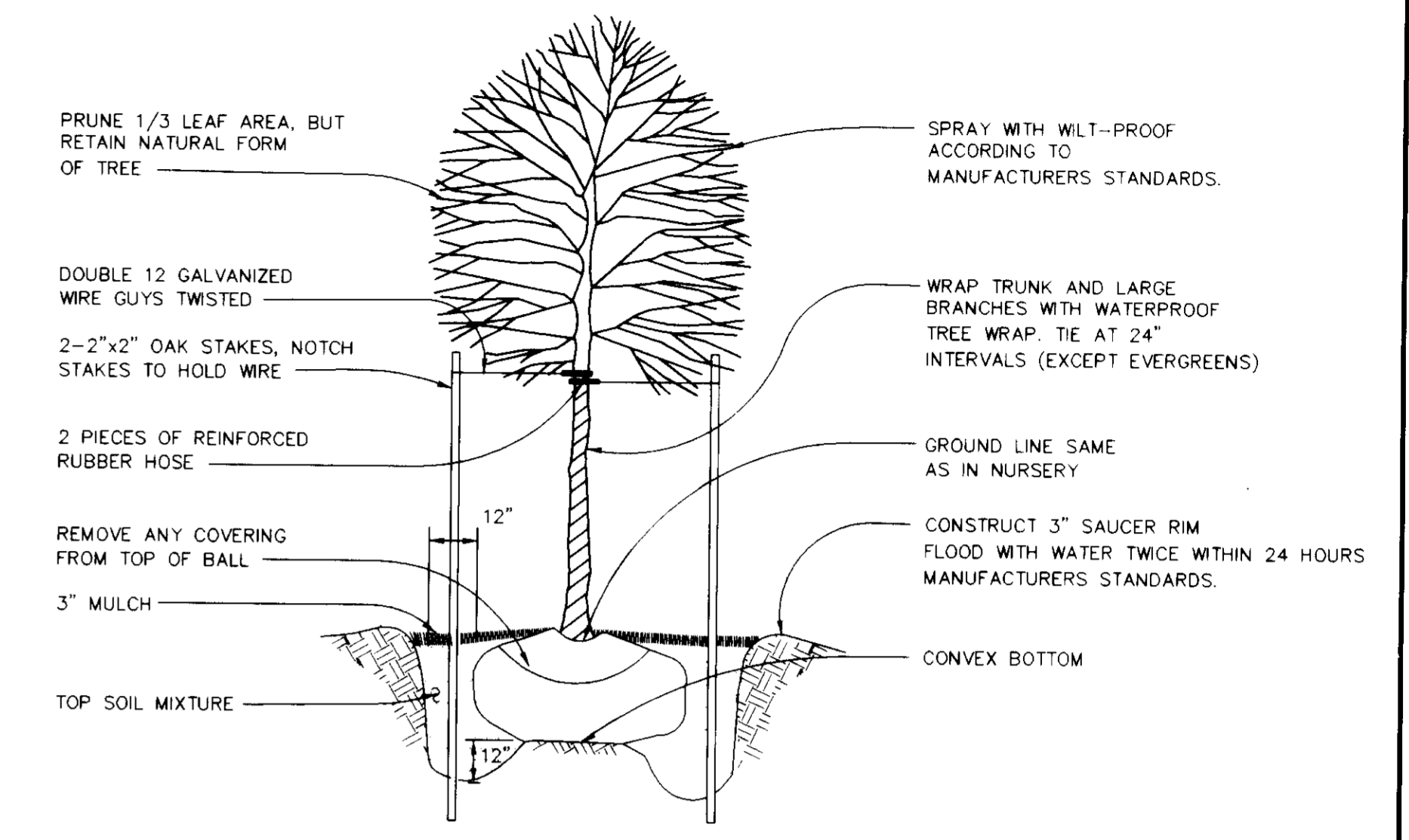
CATEGORY	ADJACENT TO ROADWAY	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	E	D
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	588 L.F.	684 L.F.
CREDIT FOR EXISTING VEGETATION	100 L.F.	450 L.F.
CREDIT FOR WALL, FENCE OR BERM	0	0
NUMBER OF PLANTS REQUIRED	12 (1:40)	4 (1:60)
SHADE TREES	0	23 (1:10)
EVERGREEN TREES	122 (1:4)	0
SHRUBS		
NUMBER OF PLANTS PROVIDED		
SHADE TREES	12	4
EVERGREEN TREES	0	23
SHRUBS	122	0

**PARKING LOT INTERNAL LANDSCAPING**

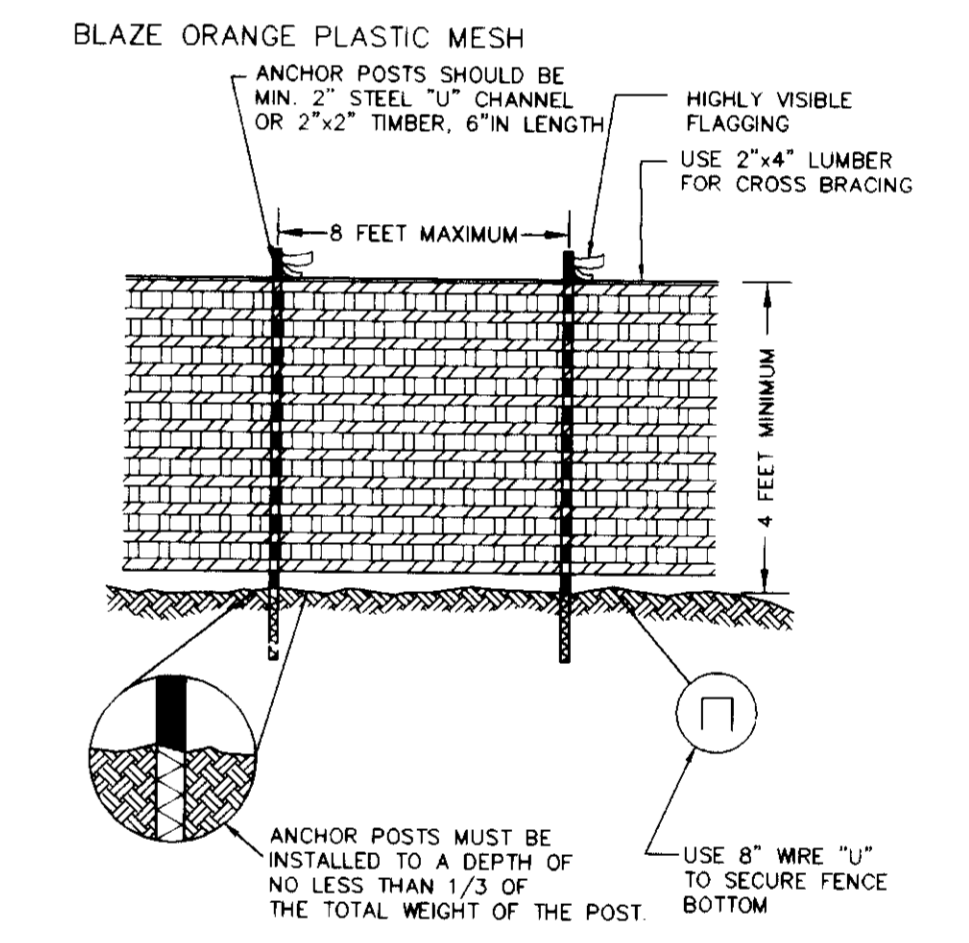
NUMBER OF PARKING SPACES	60
NUMBER OF TREES REQUIRED (1 TREE PER 20 SPACES)	3
NUMBER OF TREES PROVIDED	3

**STREET TREE REQUIREMENT**

REQUIRED: 1 TREE/40' = 15 ( @ 588 L.F. )  
 PROVIDED: 15

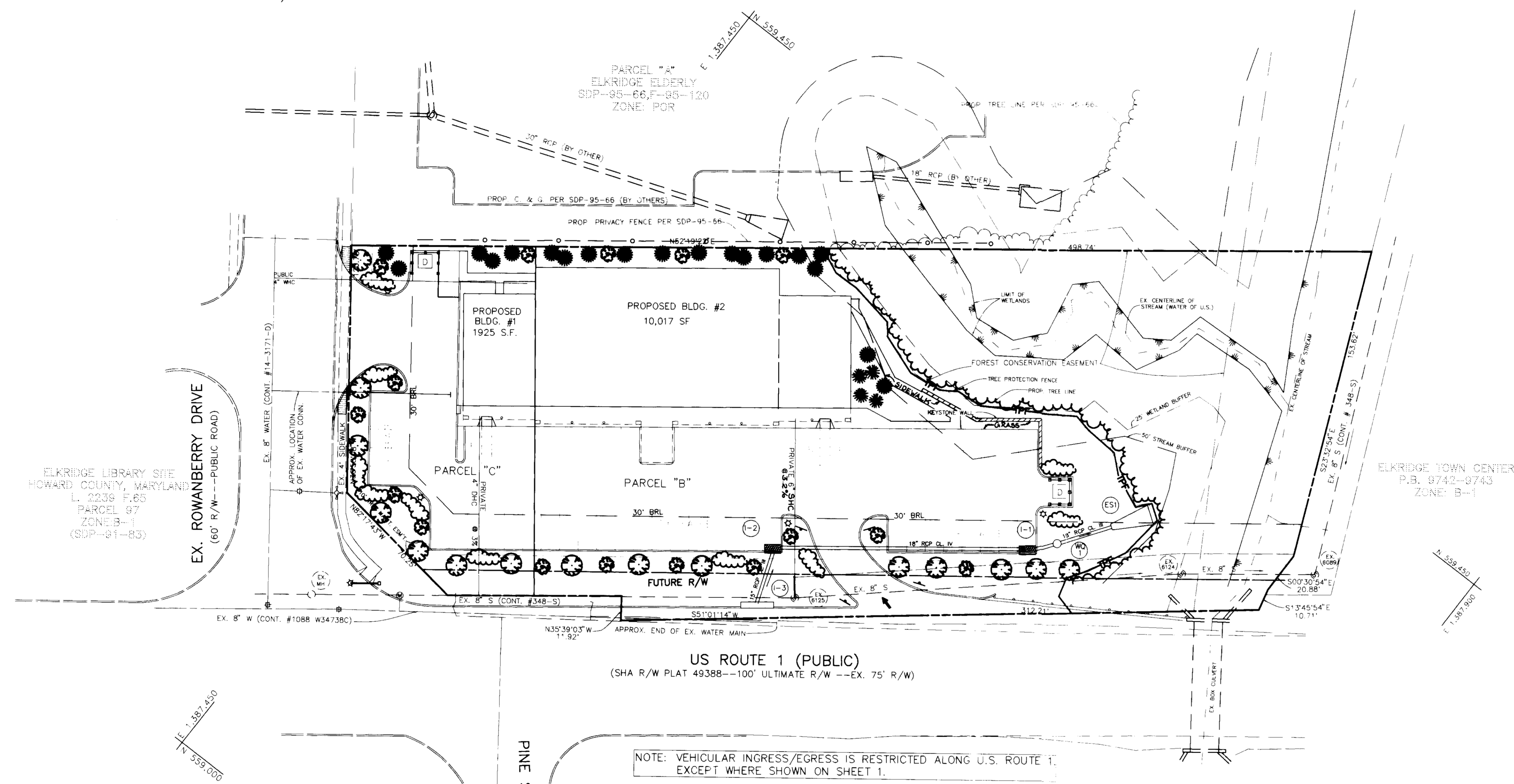


**TREE PLANTING DETAIL**  
NOT TO SCALE



**TEMPORARY TREE PROTECTION FENCE**  
NOT TO SCALE

NOTES:  
 1. FOREST PROTECTION DEVICE ONLY.  
 2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.  
 3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICES.  
 4. AVOID ROOT DAMAGE WHEN PLACING ANCHOR POSTS.  
 5. DEVICE SHOULD BE PROPERLY MAINTAINED DURING CONSTRUCTION.  
 6. PROTECTIVE SIGNAGE IS ALSO REQUIRED.



**PLAN VIEW**  
SCALE: 1"=30'

NOTES:  
 1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.  
 2. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$ 5,400.00.

NO	DATE	REVISION
0	10/95	RE-SUBMISSION TO COUNTY FOR REVIEW AND APPROVAL
0	12/95	REVISED PER COMMENTS - SUBMIT FOR SIGNATURE
1	2/18/97	ADD EQUIPMENT STORAGE AREA AND ASSOCIATED GRADING, REVISE SEWER/WHC DATA

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 8400 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 686-8106

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* 4/16/96  
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH: *[Signature]* 4/16/96  
 DIRECTOR: *[Signature]* 4/16/96

PERMIT INFORMATION CHART

SUBDIVISION NAME: ROWANBERRY CENTER					
SECTION: N/A	PARCEL #: "B" & "C"	LIBER & FOLIO: L.1494 F. 374 L. 1064 F. 689	PREVIOUS FILE: S-94-40 SDP-91-82 F-96-07		
PLAT No: 12061	BLOCK No: 8	ZONE: B-1	TAX MAP: 38	ELEC. DIST.: 1st	CENSUS: 6012
WATER CODE: AD1	SEWER CODE: 2150533	DATE: JULY, 1995			
SCALE: AS SHOWN	DATE: JULY, 1995				

OWNER/DEVELOPER OF PARCEL "B": BEVARD FARM CORPORATION P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 (410) 465-4244	PROJECT: ROWANBERRY CENTER
OWNER OF PARCEL "C": NICKOLAOS A. PAPAVASILIS 8636 PHEASANT DRIVE ELKRIDGE, MARYLAND 21227 (410) 796-8643	LOCATION: 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE: LANDSCAPE PLAN	DATE: JULY 1995
SCALE: AS SHOWN	PROJECT NO. 0814
DRAWING 4 OF 8	

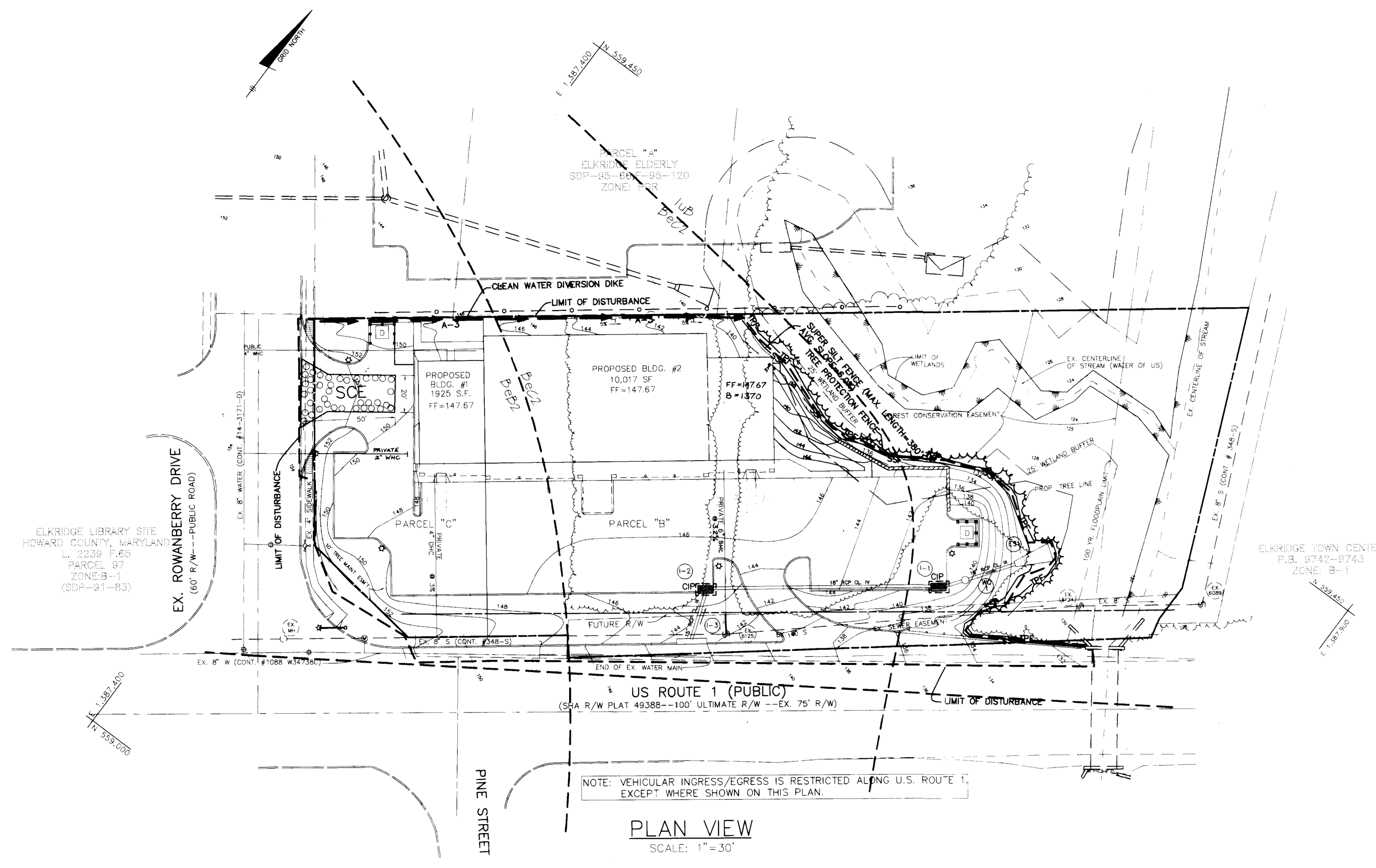
SDP-96-06

SOIL TYPES AND CHARACTERISTICS

MAP SYMBOL	SOIL NAME	HYDROLOGIC GROUP	HYDRIC INCLUSION	HIGH EROSION POTENTIAL
IUP	LIMA LOAM, LOCAL ALLUVIUM	C	YES	NO
DeC2	BELTSVILLE SILT LOAM	C	YES	YES
DeD2	BELTSVILLE SILT LOAM	C	YES	NO

LEGEND

CONTOUR INTERVAL	2 FEET
EXISTING CONTOUR	--- 200' --- 220'
PROPOSED CONTOUR	--- 10' --- 15'
EXISTING SEWER	--- 12" --- 18"
EXISTING WATER MAIN	--- 12" --- 18"
EXISTING STORM DRAIN	--- 12" --- 18"
STABILIZED CONSTRUCTION ENTRANCE	--- 12" --- 18"
PROPOSED EARTH DIKE	--- 12" --- 18"
SUPER SILT FENCE	--- 12" --- 18"
LIMIT OF DISTURBED AREA	--- 12" --- 18"
EXISTING TREE LINE	--- 12" --- 18"
PROPOSED TREE LINE	--- 12" --- 18"
TREE PROTECTION FENCE	--- 12" --- 18"
CURB INLET PROTECTION	--- 12" --- 18"
SOIL LIMIT & TYPE	--- 12" --- 18"



THIS SHEET IS FOR SEDIMENT CONTROL PURPOSES ONLY.

**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 conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District.

*John J. Donaghy*  
Date: 12/14/95

**DEVELOPER'S CERTIFICATE**  
I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this 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 onsite inspection by the Howard County Soil Conservation District or their authorized agents, as are deemed necessary.

*James R. Mofley*  
Signature of Developer Date: 12-14-95

NO	DATE	REVISION
0	10/95	RE-SUBMISSION TO COUNTY FOR REVIEW AND APPROVAL
0	12/95	REVISE PER COMMENTS-- SUBMIT FOR SIGNATURES
1	2/19/97	ADD EQUIPMENT STORAGE AREA AND ASSOCIATED GRADING, REVISE SEWER/W/C DATA.

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6460 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-8106

*John J. Donaghy*

PERMIT INFORMATION CHART

SUBDIVISION NAME <b>ROWANBERRY CENTER</b>				OWNER/DEVELOPER OF PARCEL "B": BEVARD FARM CORPORATION P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 (410) 465-4244		PROJECT: <b>ROWANBERRY CENTER</b>	
SECTION N/A	PARCEL # "B" & "C"	LIBER & FOLIO L.1494 F. 374 L. 1064 F. 689	PREVIOUS FILE: S-94-40 SDP-91-82 F-96-07	OWNER OF PARCEL "C": NICKOLAOS A. PAPAVASILIS 6636 PHEASANT DRIVE ELKRIDGE, MARYLAND 21227 (410) 796-8643		LOCATION: TAX MAP 38 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
PLAT No 12061	BLOCK No. 8	ZONE B-1	TAX MAP 38	ELEC. DIST. 1st	CENSUS 6012	TITLE: <b>EROSION AND SEDIMENT CONTROL PLAN</b>	
WATER CODE A01	SEWER CODE 2150533	DATE: JULY, 1995		DESIGN: YSL	DRAFT: YSL	CHECK: CAM	DATE: JULY 1995
SCALE: AS SHOWN	DATE: JULY, 1995		SCALE: AS SHOWN		DRAWING NO. 0814		

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Alma Stammann* 4/12/96  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE

APPROVED: REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
*J.H. Wolf* 4/9/96  
NATURAL RESOURCES CONSERVATION SERVICE  
DATE

APPROVED: THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
*John P. Robertson* 4/9/96  
HOWARD SOIL CONSERVATION DISTRICT  
DATE

PERMANENT SEEDING NOTES

Apply to graded or cleared area not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding. (If not previously loosened)

Soil Amendments: In lieu of soil test recommendations, use on the following schedules.

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sf) before seeding.
Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sf).

Seeding: For the periods March 1 through April 30 and August 1 through October 15, seed with 60 lbs per acre (1.4 lbs/1000 sf) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.05 lbs/1000 sf) of Weeping Lovegrass. During the period of October 16 through February 28, protect site by: Option 1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2) use sod. Option 3) seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sf) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

SEDIMENT CONTROL NOTES

- 1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections and Permits, Sediment Control Division prior to the start of any construction (313-1855).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current "Maryland Standards and Specifications for Soil Erosion and Sediment Control", and revisions thereto.
3. Following initial soil disturbances or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control devices, perimeter slopes and all slopes greater than 3:1, b) 14 calendar days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the "Howard County Design Manual, Storm Drainage".
5. All disturbed areas must be stabilized within the time period specified above in accordance with the "1991 Maryland Standards and Specifications for Soil Erosion and Sediment Control" for Permanent Seeding (Sec. 51) Sod (Sec. 54), Temporary Seeding (Sec. 50) and Mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. Site Analysis: Total Area of Site: 1.90 acres; Area to be Disturbed: 1.37 acres; Area to be roofed or paved: 0.93 acre; Area to be vegetatively stabilized: 0.44 acre; Total Cut: 1,200 cy; Total Fill: 6,000 cy; Offsite Waste/Borrow Area Location: \*
8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment controls must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
11. Trenches for the construction of utilities is limited to three pipe lengths or that which can be back filled and stabilized within one working day, whichever is shorter.
12. Quantities and estimates shown are for sediment control purposes only. Contractor shall prepare his/her own quantity estimates to his/her satisfaction.
\* It is the responsibility of the contractor to identify the spoil/borrow site and notify and gain approval from the sediment control inspector of the site and its grading permit number at the time of construction.

SEQUENCE OF CONSTRUCTION

- Notify Sediment Control Division 48 hours prior to start of construction.
1. Obtain grading permit - 1
2. Clear and grub the site as indicated in this plan. - 2
3. Install new sediment and erosion control devices and stabilize, including tree protection fence. - 3-4
4. Grade site to subgrade, excavate for foundations, and temporarily stabilize, construct retaining wall. (SEE RETAINING WALL DETAILS & CONSTRUCTION SEQUENCE) - 5-26
5. Construct storm drain/Stormceptor and utilities. - 27-41
6. Construct buildings, curb and gutter, parking area and entrances. - 42-59
7. Final grade and stabilize in accordance with standards and specifications. - 100-104
8. Landscape - 105-107
9. Upon approval of the sediment control inspector, remove sediment and erosion control devices and stabilize. - 108-110

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding. (If not previously loosened)

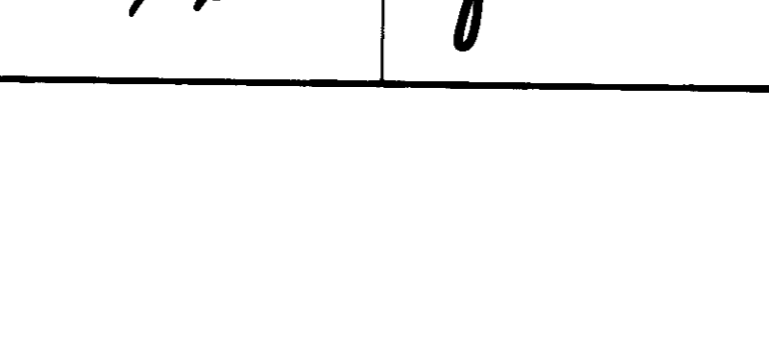
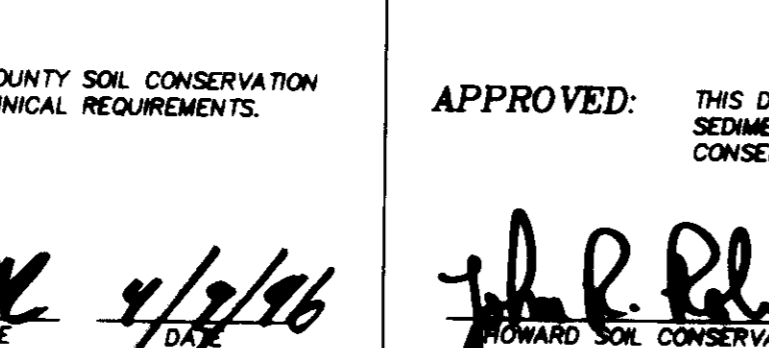
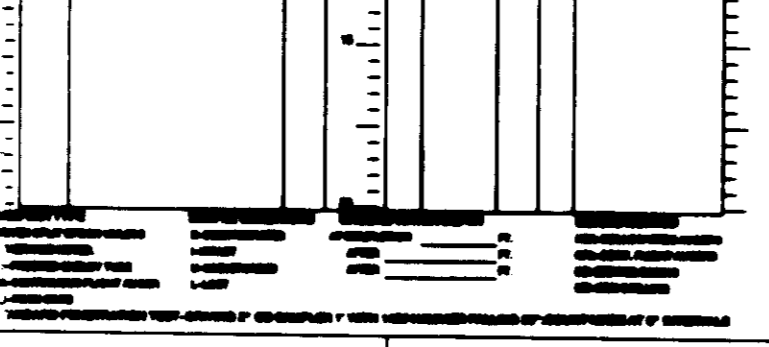
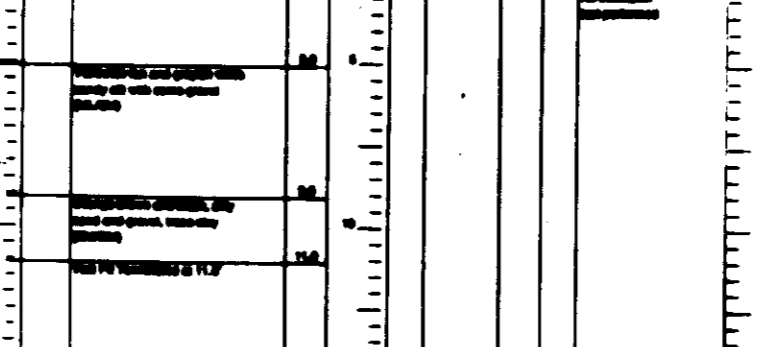
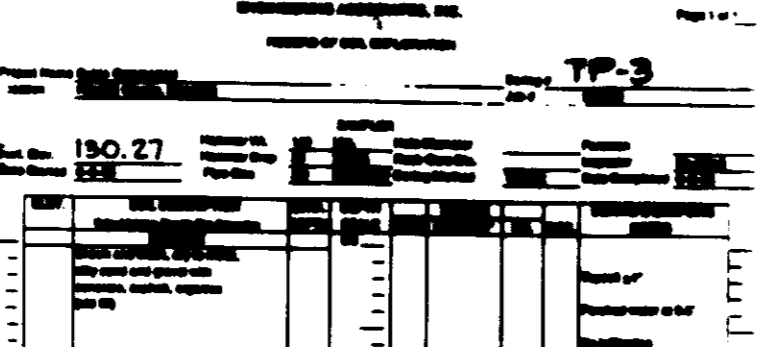
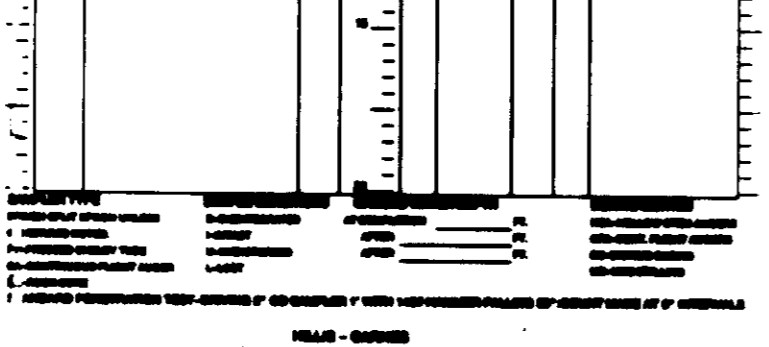
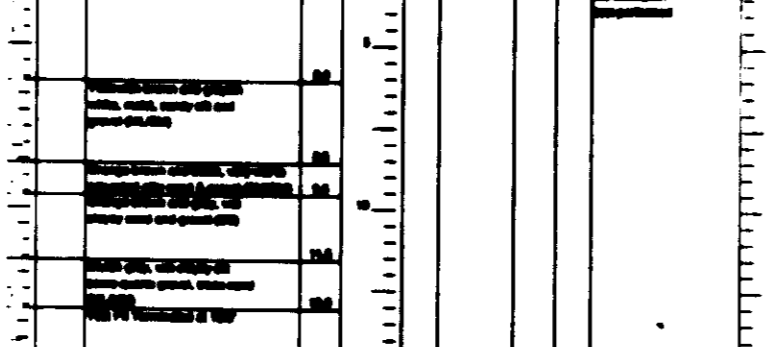
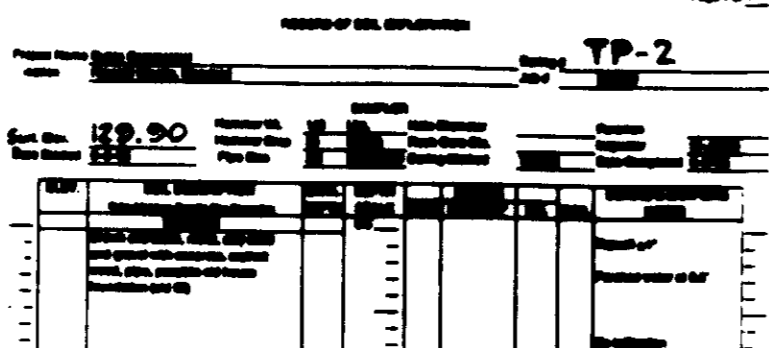
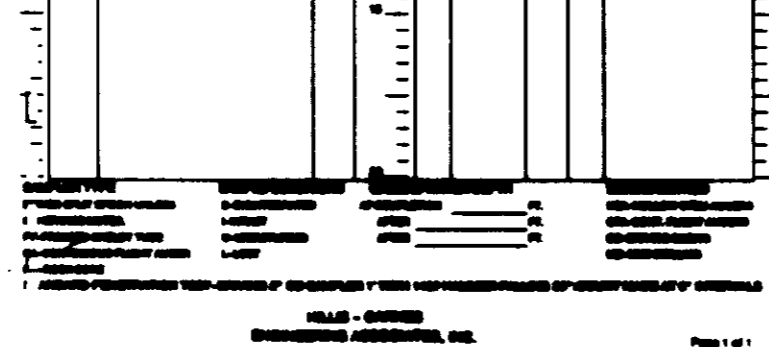
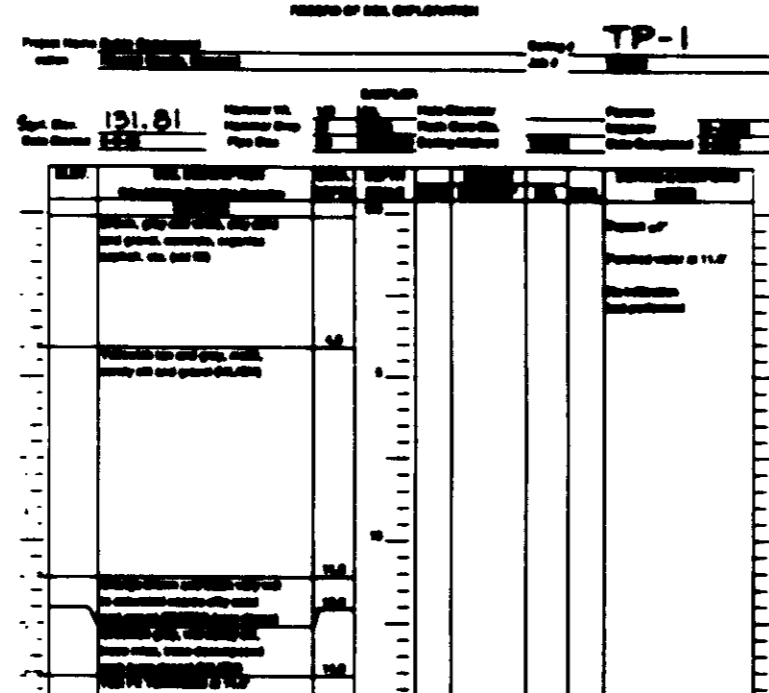
Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sf).

Seeding: For periods March 1 through April 30 and from August 15 through November 15, seed with 2-1/2 bushel per acre of annual ryegrass (3.2 lbs/1000 sf). For the period May 1 through August 14, seed with 3 lbs per acre of Weeping Lovegrass (0.07 lbs/1000 sf). For the period November 16 through February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

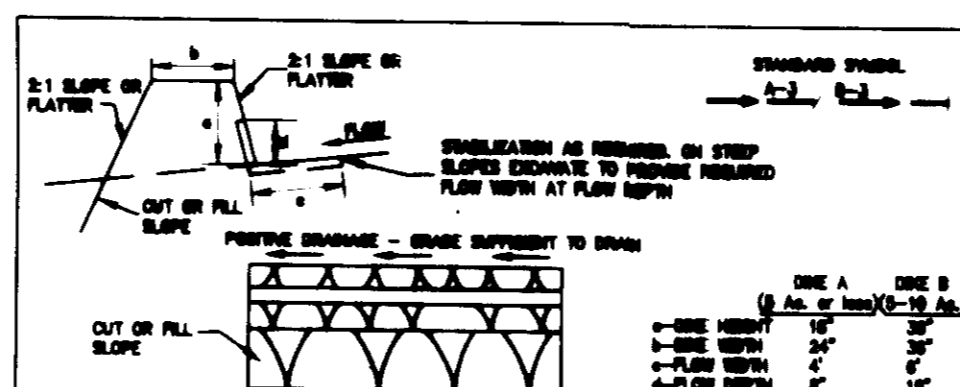
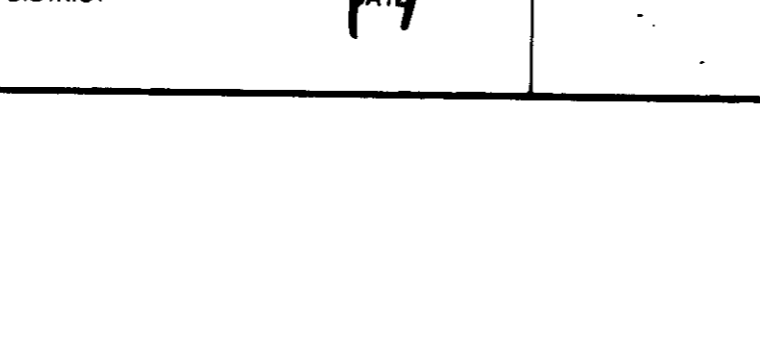
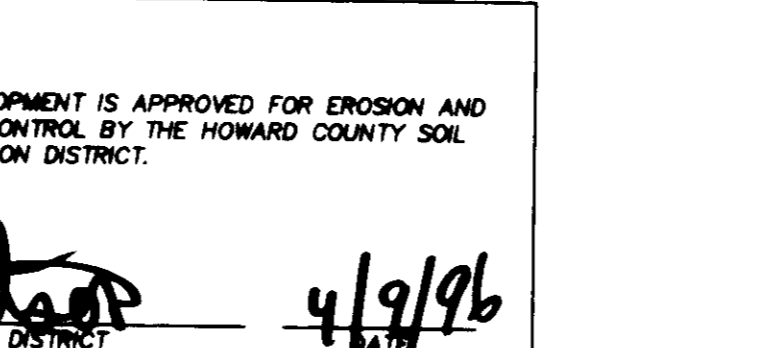
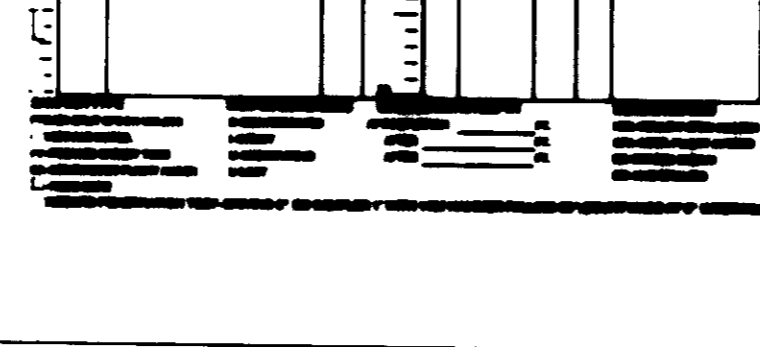
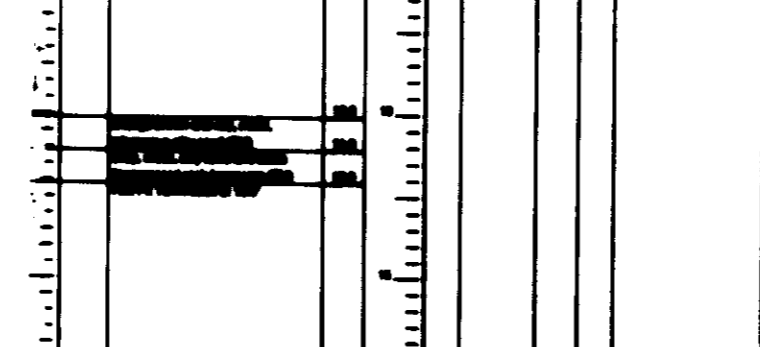
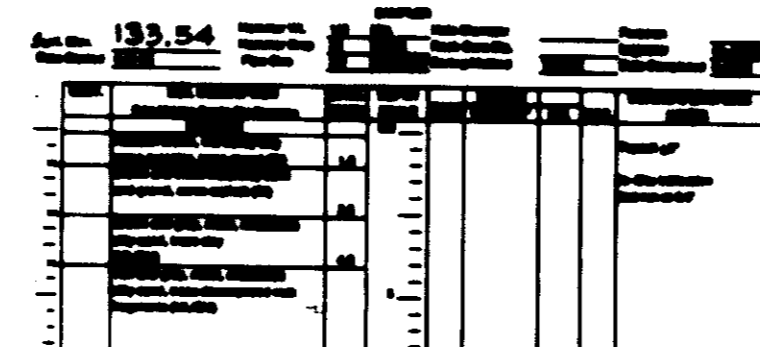
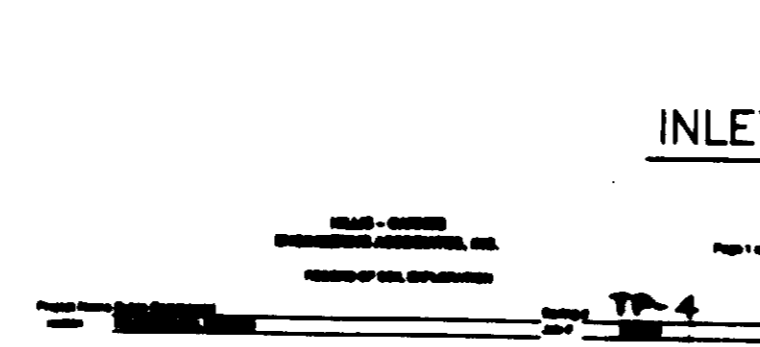
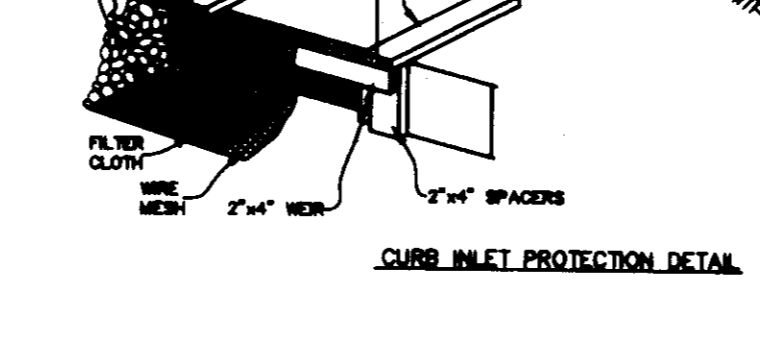
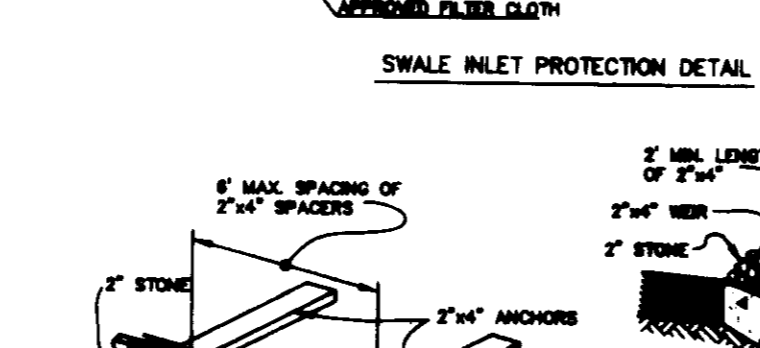
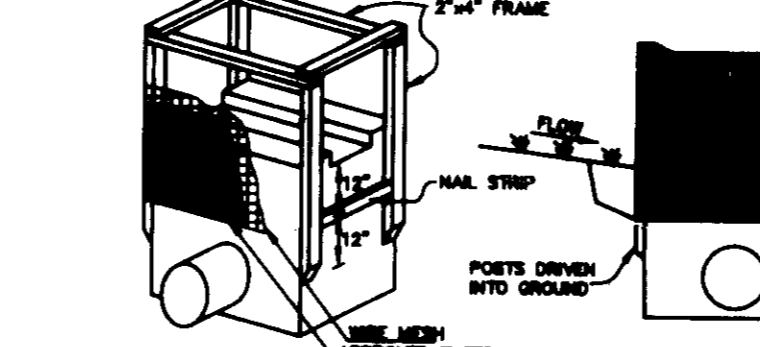
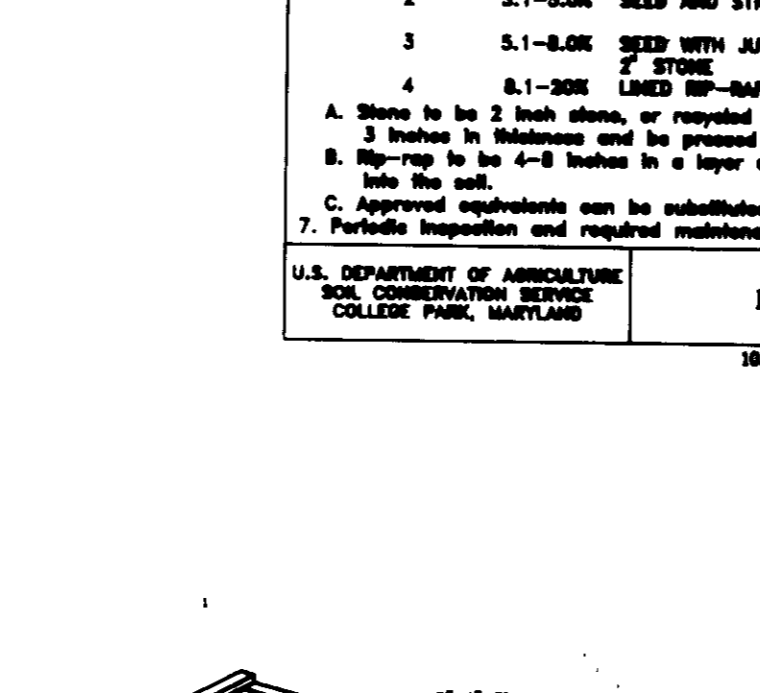
Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sf) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

Refer to the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for rate and methods not covered.

TP-1



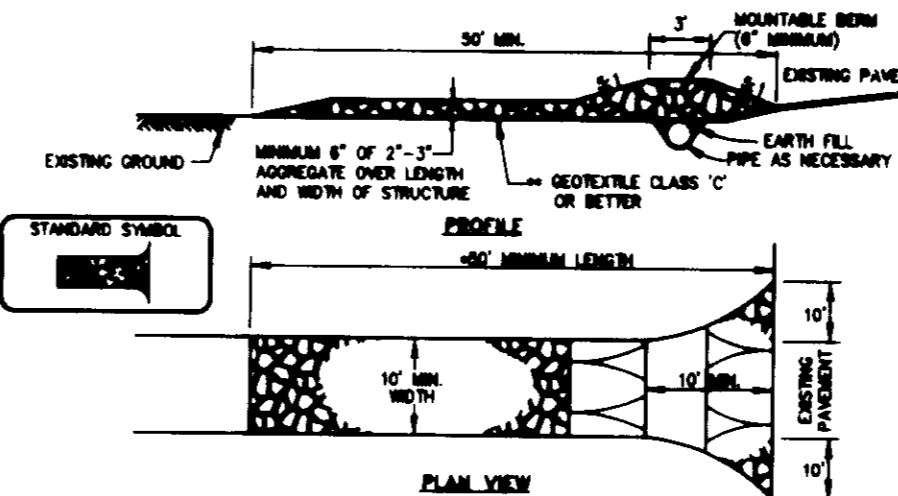
TP-1



- 1. All sites shall be completed by earth-retaining methods.
2. All sites shall have positive drainage to an outlet.
3. Top width may be wider and side slopes may be flatter if desired to facilitate construction methods.
4. Field location should be adjusted as needed to utilize a stabilized safe outlet.
5. Earth sites shall have an outlet that functions with a minimum of erosion.
6. Outlet shall be surveyed to a standard datum such as a national high or other acceptable datum.
7. Outlet shall be constructed to a standard datum such as a national high or other acceptable datum.
8. Outlet shall be constructed to a standard datum such as a national high or other acceptable datum.

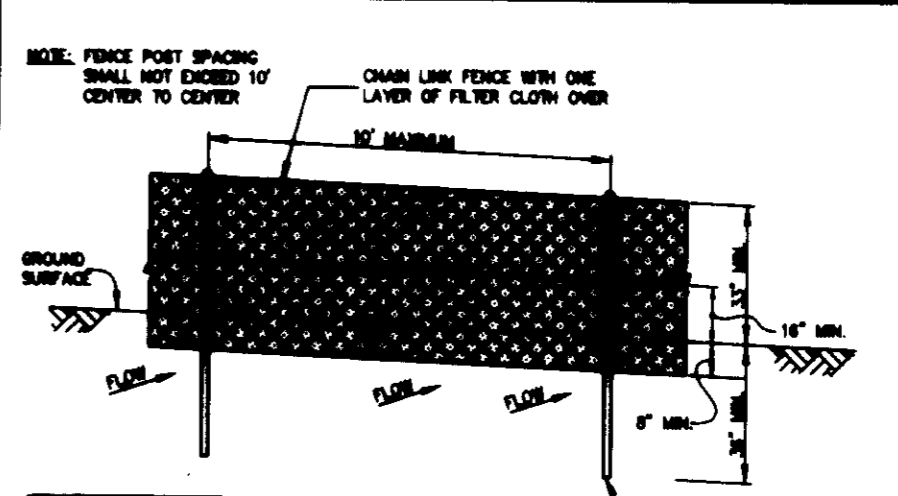
Table with columns for TYPE OF TREATMENT, CHANNEL, and SPECIFICATIONS. Includes details for stone, straw mulch, and geotextile treatments.

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



- 1. Length - minimum of 50' (30' for single residence lot).
2. Width - 10' minimum, should be flared the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone.
4. Stone - crushed aggregate (3/4" to 2") or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrance shall be piped through the entrance, maintaining positive drainage.
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

DETAIL 33 - SUPER SILT FENCE

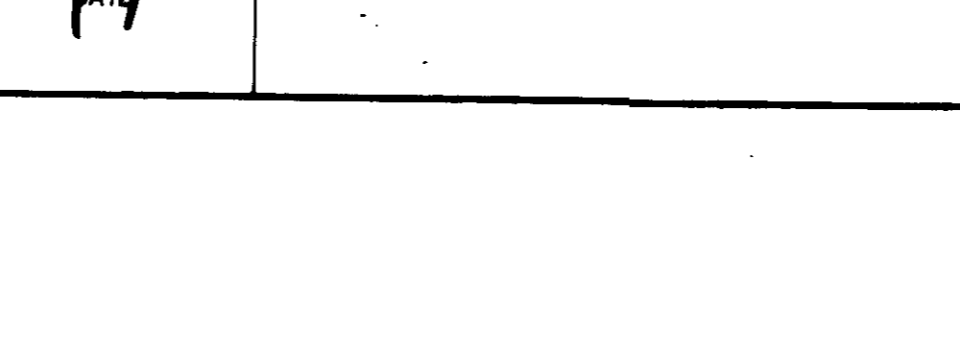
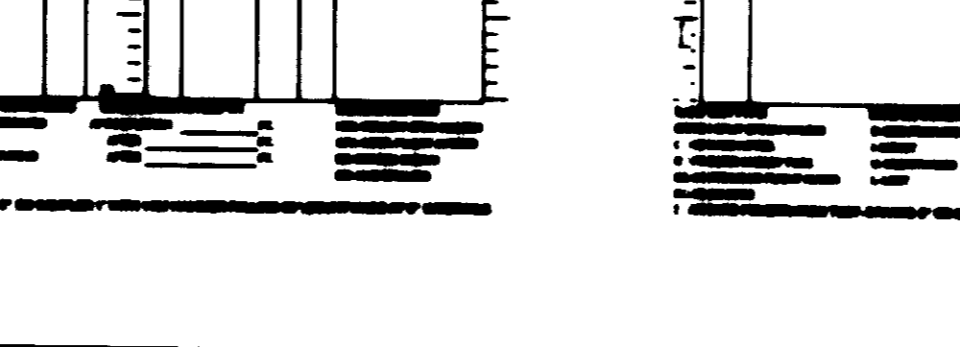
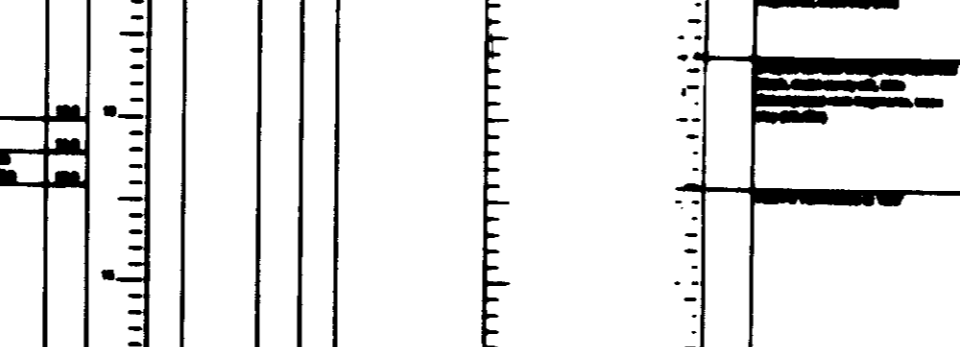
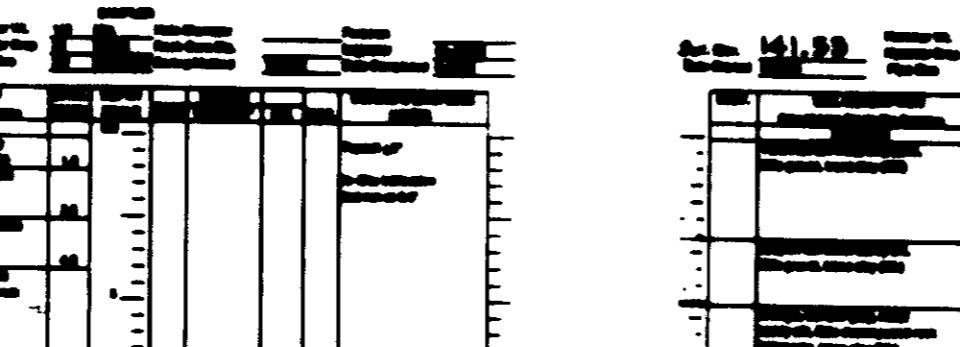
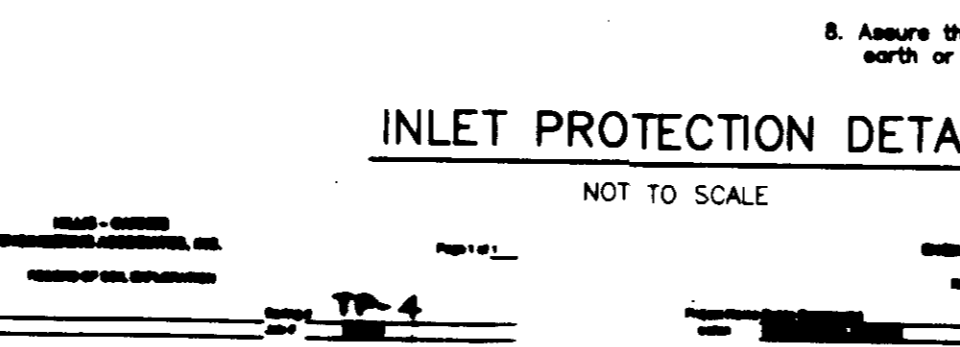
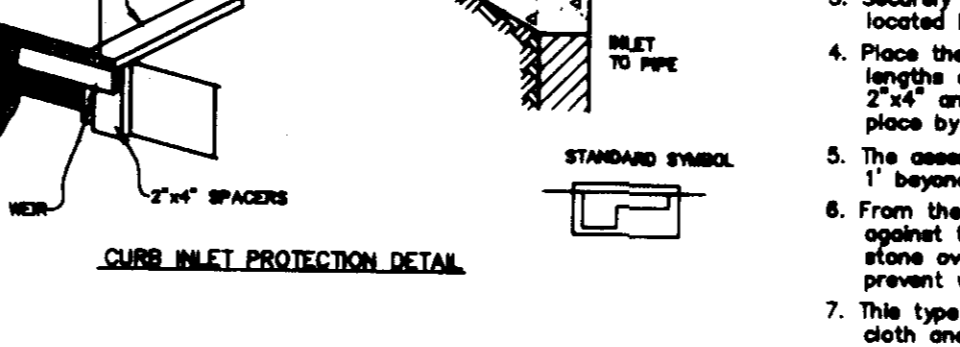
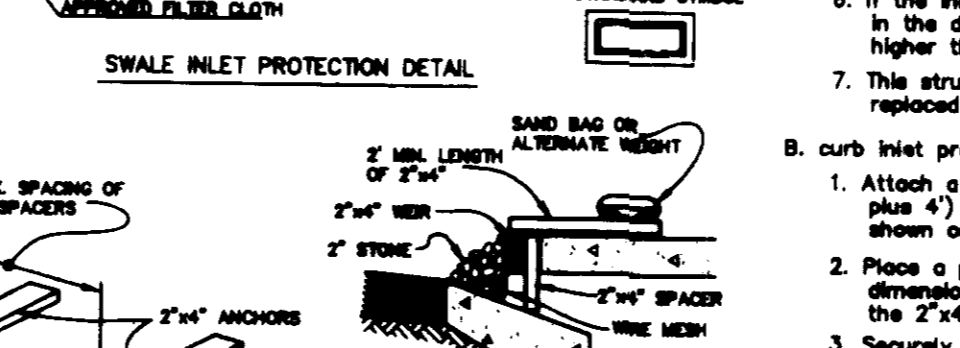
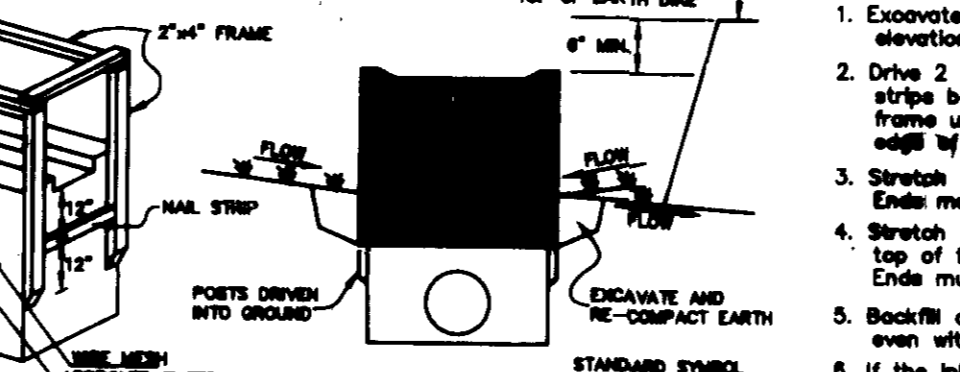


- 1. Fencing shall be 42" in height and constructed with the latest Maryland Super Silt Fence Detail for Chain Link Fencing.
2. Chain link fence shall be fastened securely to the fence posts with wire ties.
3. Filter cloth shall be fastened securely to the chain link fence with the speed every 24" of the top and mid sections.
4. Filter cloth shall be embedded a minimum of 6" into the ground.
5. When no sections of filter cloth remain, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed on a regular basis and all bulging removed when 'bulges' develop in the fence or when all sections are not in contact with the ground.
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

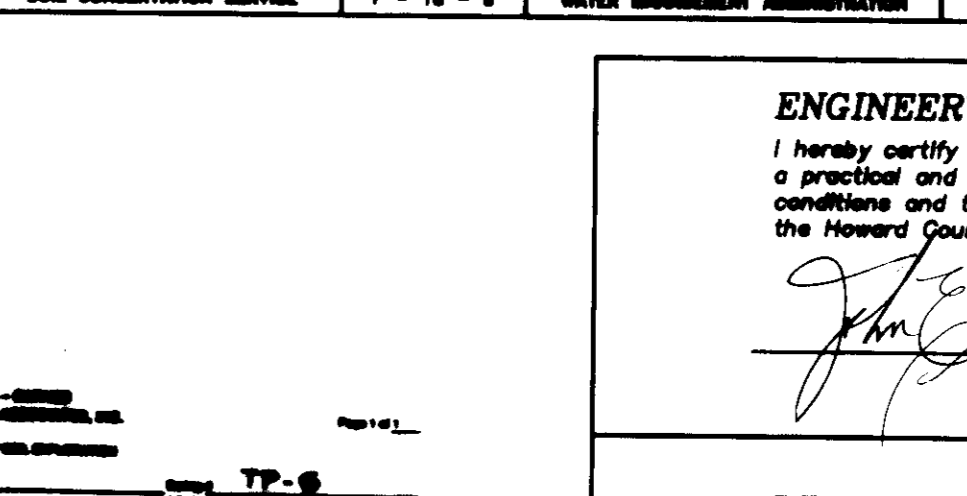
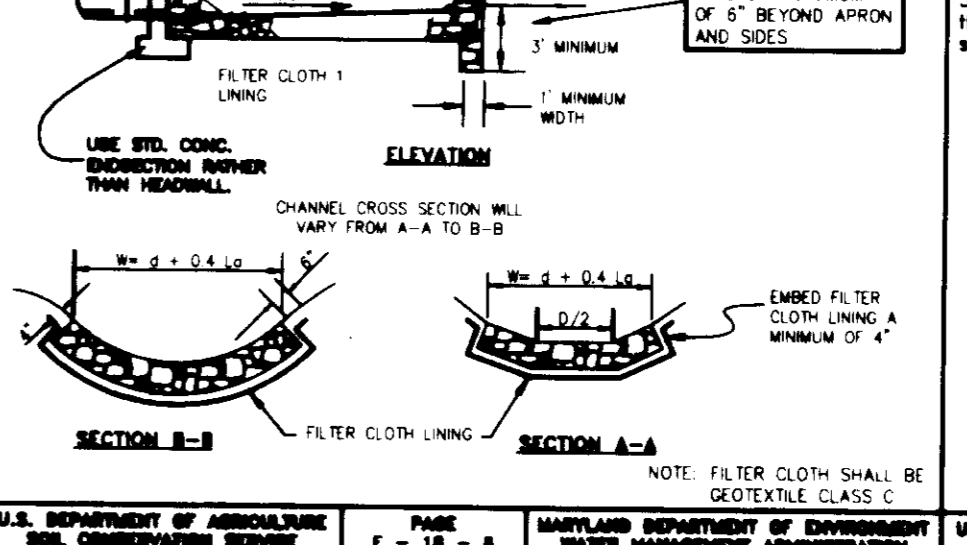
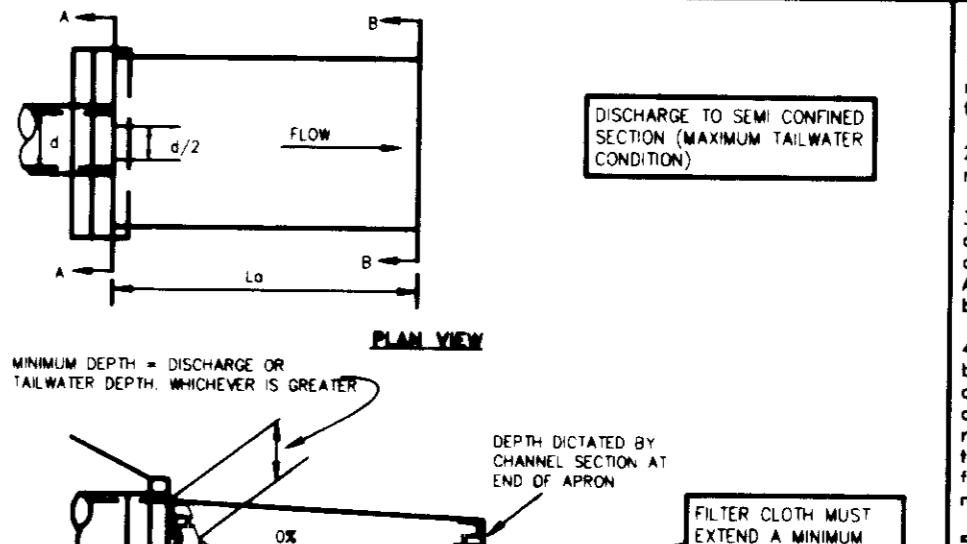
SUPER SILT FENCE

Table with columns for Geotextile Specifications and Super Silt Fence Design Criteria. Includes material requirements and design parameters like slope and length.

CONSTRUCTION SPECIFICATIONS FOR IP-1



DETAIL 25 - ROCK OUTLET PROTECTION I



ROCK OUTLET PROTECTION I

- 1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades.
2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
3. Geotextile shall be protected from punching, cutting, or tearing.
4. Stone for the rip-rap or gabion outlets may be placed by equipment.
5. The stone shall be placed so that it blends in with the existing ground.

Table with columns for Geotextile Specifications and Rock Outlet Protection I. Includes material requirements and design parameters.

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 conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District.

DEVELOPER'S CERTIFICATE
I/we certify that all development and construction will be done in accordance with this plan and that all responsible personnel involved in the construction of this project will have a certificate of attendance at a Department of the Environment approved training program for the control of erosion and sediment before beginning the project.

Table with columns for NO, DATE, REVISION, and REVISION. Includes a row for revision 1 on 12/95.

TSA GROUP, INC. logo and seal of the State of Maryland Professional Engineer.

ROWANBERRY CENTER project information including owner details, location, title, date, and scale.

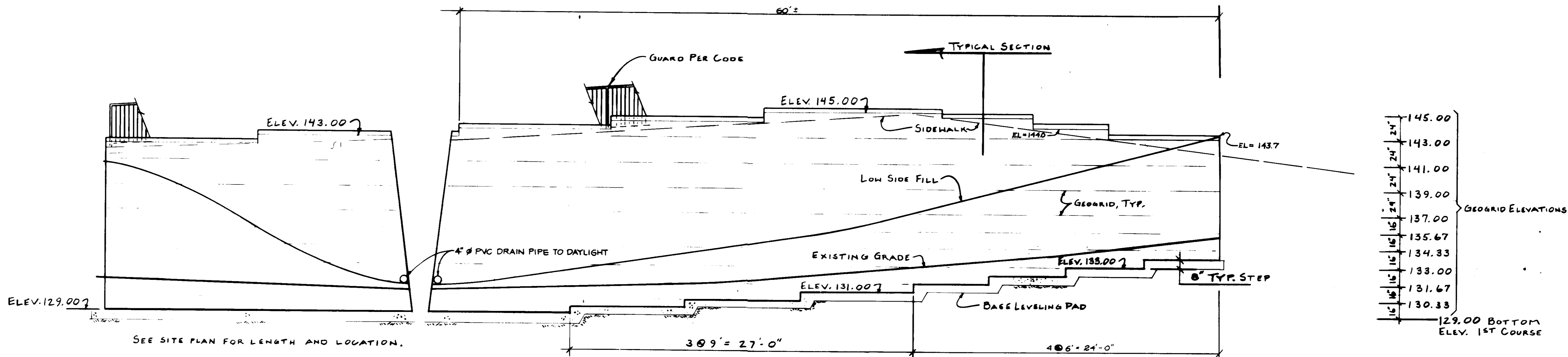
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING. Includes signature of John J. Williams, Director.

APPROVED: REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS. Includes signature of J.A. Warfield.

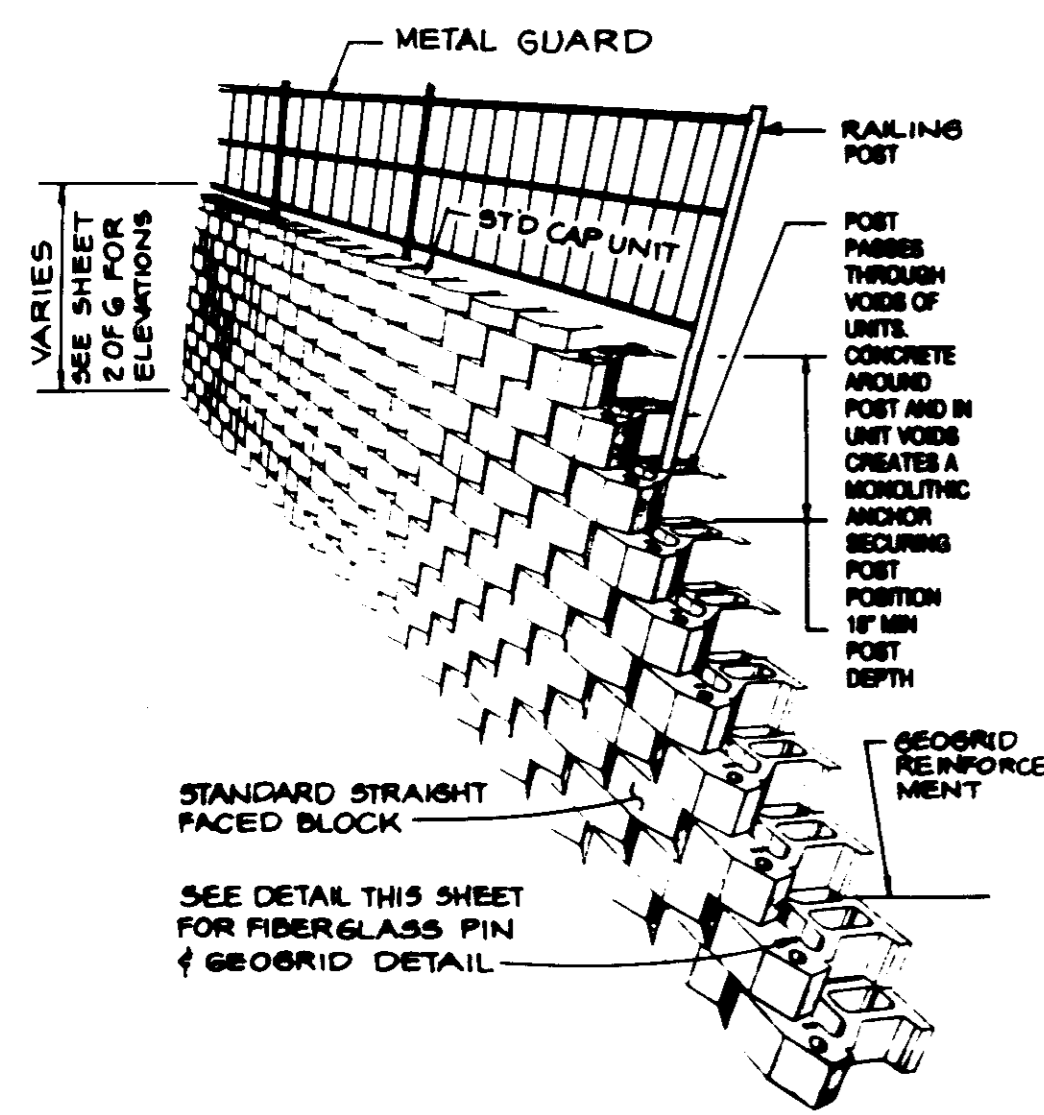
APPROVED: THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. Includes signature of John P. Robertson.

PERMIT INFORMATION CHART table with columns for SUBDIVISION NAME, SECTION, PARCEL #, LIBER & FOLIO, PREVIOUS FILE, PLAT No., BLOCK No., ZONE, TAX MAP, ELEC. DIST., CENSUS, WATER CODE, SEWER CODE, SCALE, and DATE.

SDP-96-06



ELEVATIONS SCALE 1/4" = 1'-0"



TYPICAL KEYSTONE RETAINING WALL DETAIL N.T.S.

- NOTE:
1. PROVIDE RAILING ON TOP OF RETAINING WALL ALONG PROPOSED SIDEWALK.
  2. THE WALL BATTER (VERTICAL TILT) SHALL BE 7.1° OR 1:8 BATTER (SEE DETAIL THIS SHEET).

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

DATE: 4/1/96

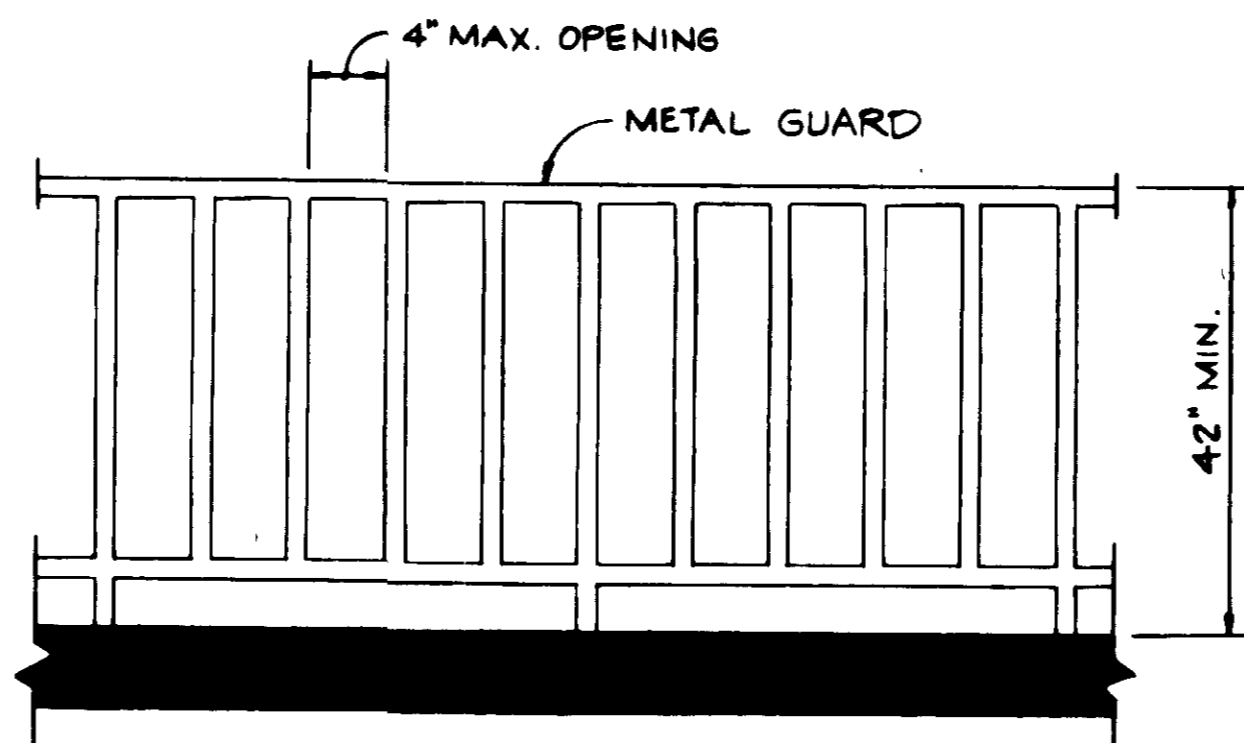
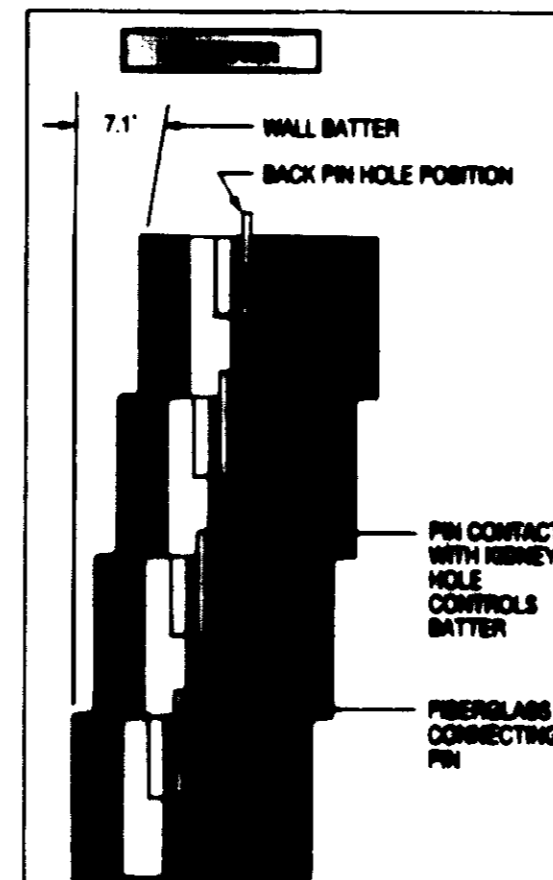
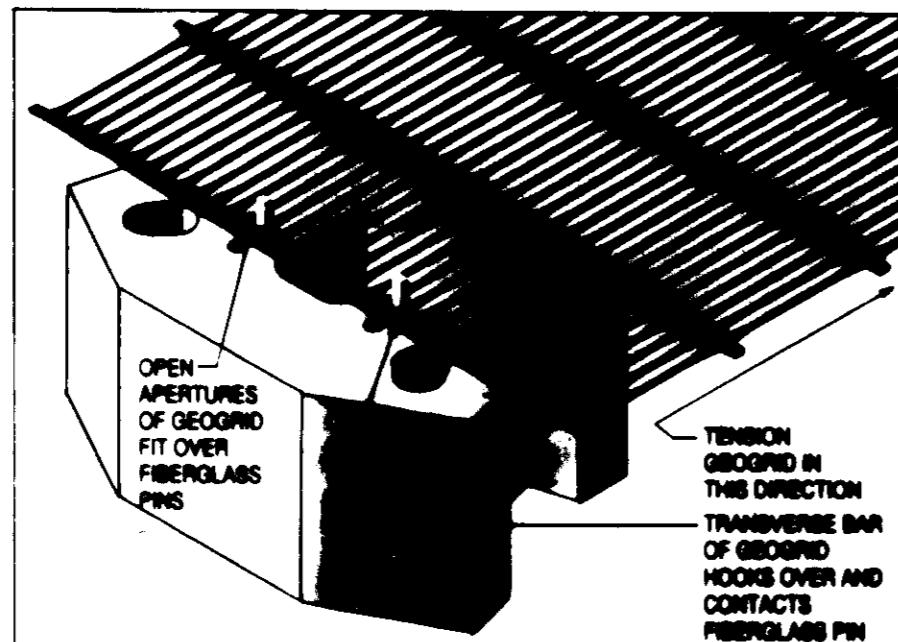
DATE: 4/12/96

DATE: 4/16/96

SEQUENCE OF CONSTRUCTION FOR KEYSTONE RETAINING WALL\*

1. Remove all surface vegetation and debris.
2. Excavate base trench to allow for base leveling pad and first course of keystone unit.
3. Place and compact base leveling pad.
4. Set and align base course.
5. Insert fiberglass connecting pins.
6. Place unit/drainage material. Drainage material shall be 3/4" crushed stone or as directed by the keystone manufacturer. Do not operate compaction equipment directly over the keystone unit. Install Geogrid reinforcement at intervals indicated on wall detail.
7. Backfill and compact all soils placed between the unit/drainage material and the retained backfill.
8. Sweep top of units clean prior to placement of the next course.
9. Install additional courses of keystone unit as indicated in above steps 5-9.
10. Install metal railing.
11. Position and secure cap units.
12. Finish grading.

\* BRYCO block products Inc. (1-800-486-2312) is the local representative for this product. Developer shall contact BRYCO for a list of qualified contractors to install the keystone retaining wall system.



TYPICAL GUARD DETAIL N.T.S.

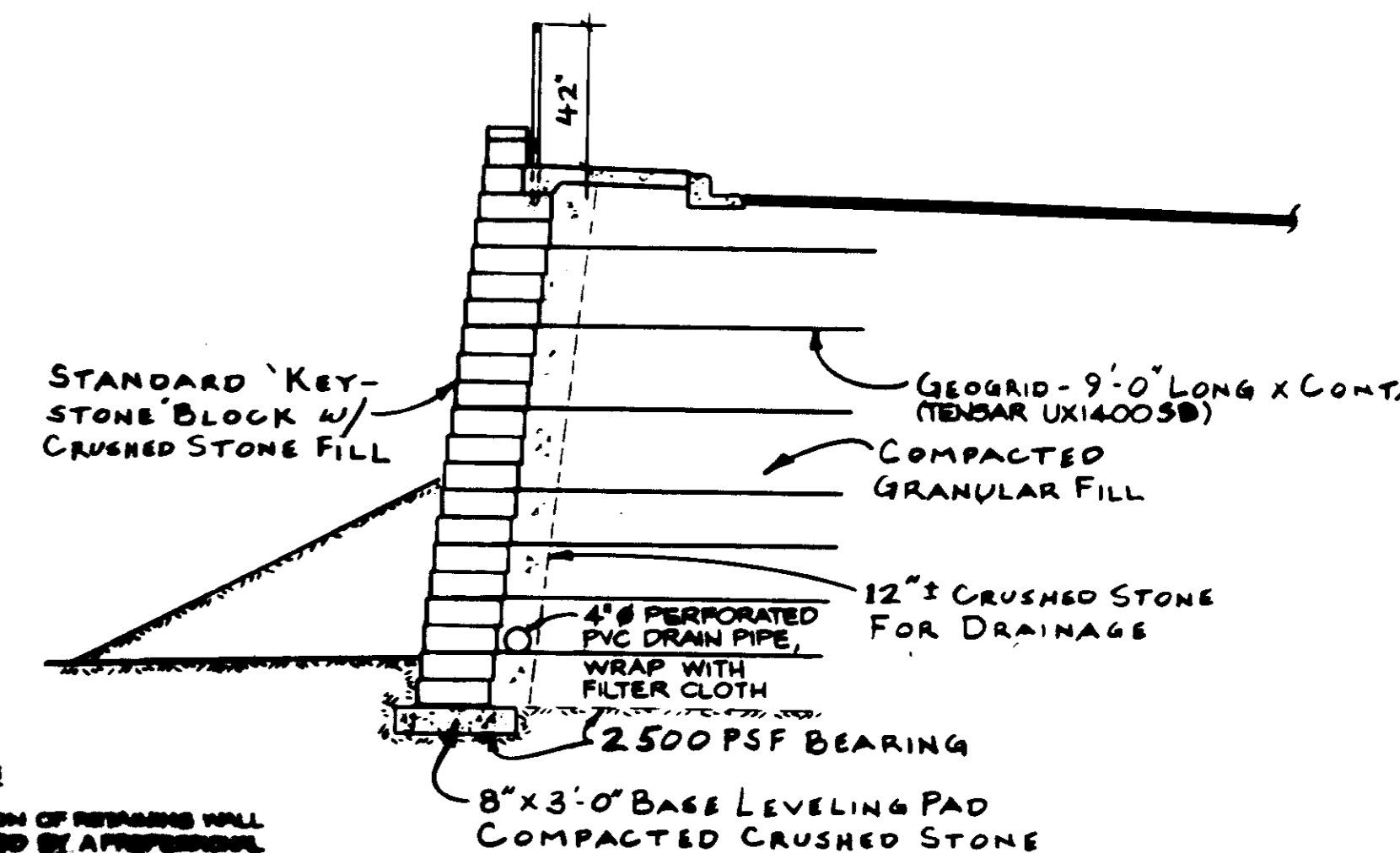
SECTION 101.0 GENERAL

101.1 General: Where required by the provisions of Sections 481.5, 481.7, 1005.5, 1006.7, 1016.5 and 1023.5, guards shall be designed and constructed in accordance with the requirements of this section and Section 101.3. A guardrail system is a system of building components located near the open sides of elevated walking surfaces for the purpose of minimizing the possibility of an unbalanced fall from the walking surface to the lower level.

101.3 Height: The guards shall be at least 42 inches (1067 mm) in height measured vertically above the leading edge of the tread of the walking surface.

- Exceptions:
1. In either case compliance in Use Group R, guards shall not be less than 34 inches (864 mm) in height above the leading edge of the tread along stairs which are not more than 30 inches (762 mm) in height or which reverse direction at an intermediate landing with 12 inches (305 mm) or less unenclosed horizontally between successive flights.
  2. Guards along open-sided floor areas, mezzanines and landings in compliance to Use Group R-3 shall not be less than 36 inches (914 mm) in height.

101.3 Openings: In compliance to Use Groups A, B, B-1, 1, 2, M and R, and in profile openings and open parking structures, open gaps between members or be of solid material such that a sphere with a diameter of 4 inches (102 mm) cannot pass through any opening. Guards shall not have an ornamental pattern that would provide a ladder effect.



STRUCTURAL NOTES

1. ALL EARTH WORK AND CONSTRUCTION OF RETAINING WALL SHALL BE SUPERVISED AND CERTIFIED BY A PROFESSIONAL ENGINEER EMPLOYED BY A GEOTECHNICAL CONSULTING COMPANY LICENSED BY THE CONTRACTOR.
2. The following soil parameters were assumed for design and must be verified at the site:  
Granular fill - Soil friction angle - 30 degrees.  
Unit weight - 110 to 125 lb/cu ft.  
Backfill shall be compacted to a minimum 95% Standard Proctor with proper equipment (ASTM D-698).  
Minimum allowable bearing pressure is 2500 psf. If bearing is found to be inadequate, areas under wall and reinforced backfill must be removed and replaced with appropriate material at the direction of the geotechnical engineer.
3. Base leveling pad, and unit/drainage material shall be 3/4" maximum crushed stone. Leveling pad shall be compacted.
4. Wall shall be standard keystone units and pins. Corner units shall be saw cut. Caps and corner units shall be secured with flexible epoxy based adhesive such as Hysol-Tone Epoxi-1.
5. Geogrid shall be Fencor GE100000.
6. Work shall be performed per Sequence Construction Manual by a qualified, experienced contractor.

PERMIT INFORMATION CHART

SUBDIVISION NAME					
ROWANBERRY CENTER					
SECTION	PARCEL #	LIBER & FOLIO	PREVIOUS FILE		
N/A	"B" & "C"	L1484 F. 374 L. 1084 F. 608	S-94-40 SP-91-35		
PLAT No.	BLOCK No.	ZONE	TAX MAP	ELEC. DIST.	CENSUS
12.061	B	B-1	38	1st	6012
WATER CODE	SEWER CODE				
A01	2150533				
SCALE:	AS SHOWN	DATE:	JULY 1995		

NO	DATE	REVISION
0	12/95	REVISE AND SUBMIT
1	2/15/97	REVISE WALL DUE TO ADDING SIDEWALK TO LOWER EQUIPMENT STORAGE AREA.

TSA GROUP, INC.  
planning • architecture • engineering • surveying  
500 Baltimore National Pike • Ellicott City, Maryland 21041 • (410) 485-6444



OWNER/DEVELOPER FOR PARCEL "B":		PROJECT:
BEVARD FARM CORP. P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 (410) 485-4244		ROWANBERRY CENTER
OWNER FOR PARCEL "C":		LOCATION:
NICKOLAOS A. PAPAVALIUS 8636 PHEASANT DRIVE ELKRIDGE, MARYLAND 21227 (410) 796-8643		TAX MAP 38 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:		
RETAINING WALL DETAILS & NOTES		
DATE:	JULY 1995	PROJECT NO. 0814
SCALE:	AS SHOWN	DRAWING 7 OF 9

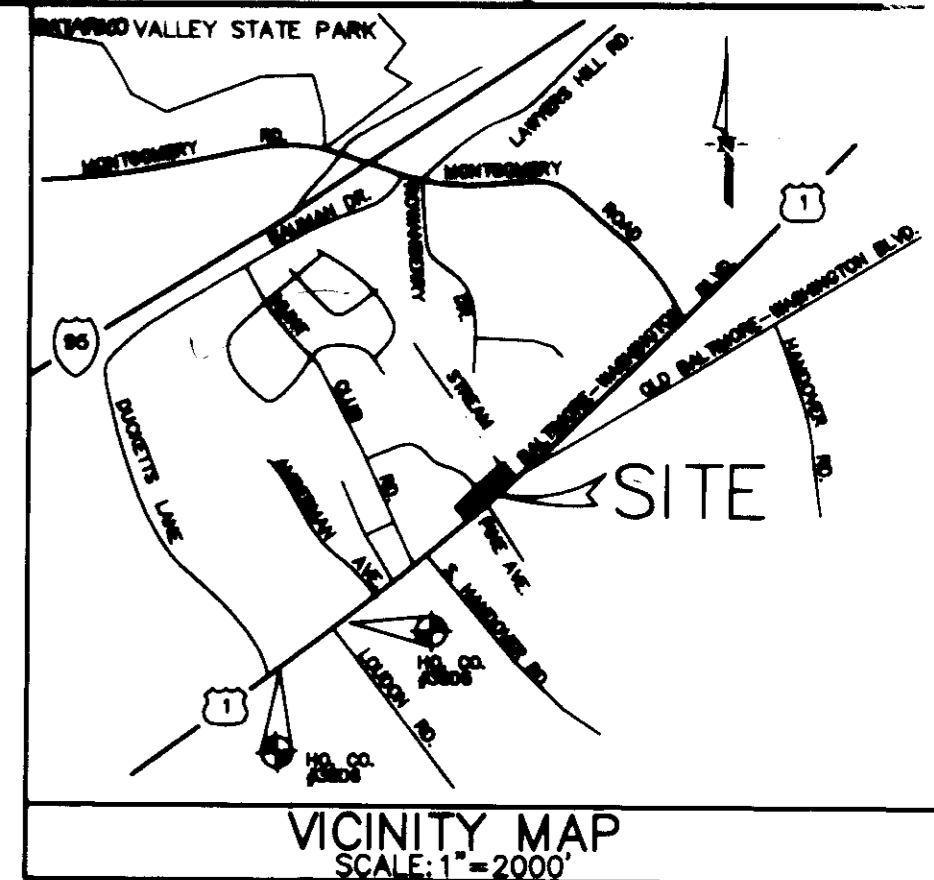
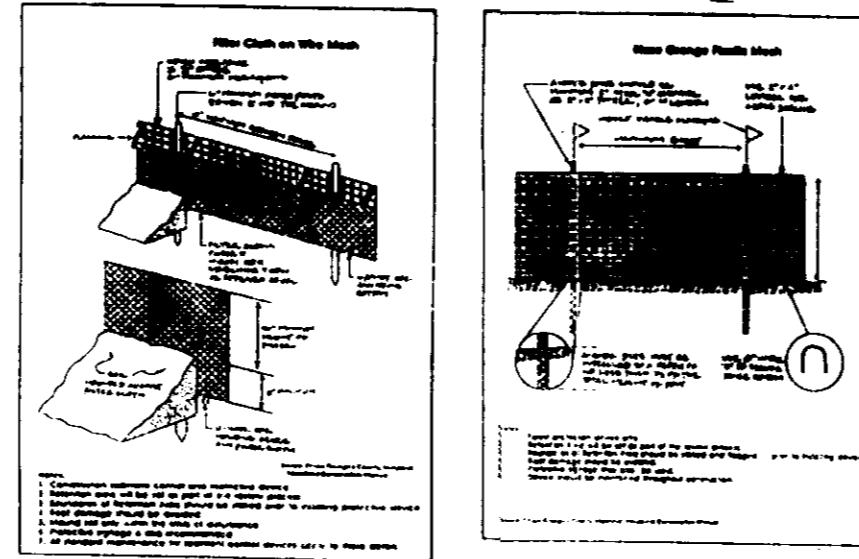
Permanent Protective Signage

**FOREST CONSERVATION AREA**

Unauthorized disturbance of vegetation is prohibited. Violators subject to penalties under the Howard County Forest Conservation Act of 1992.

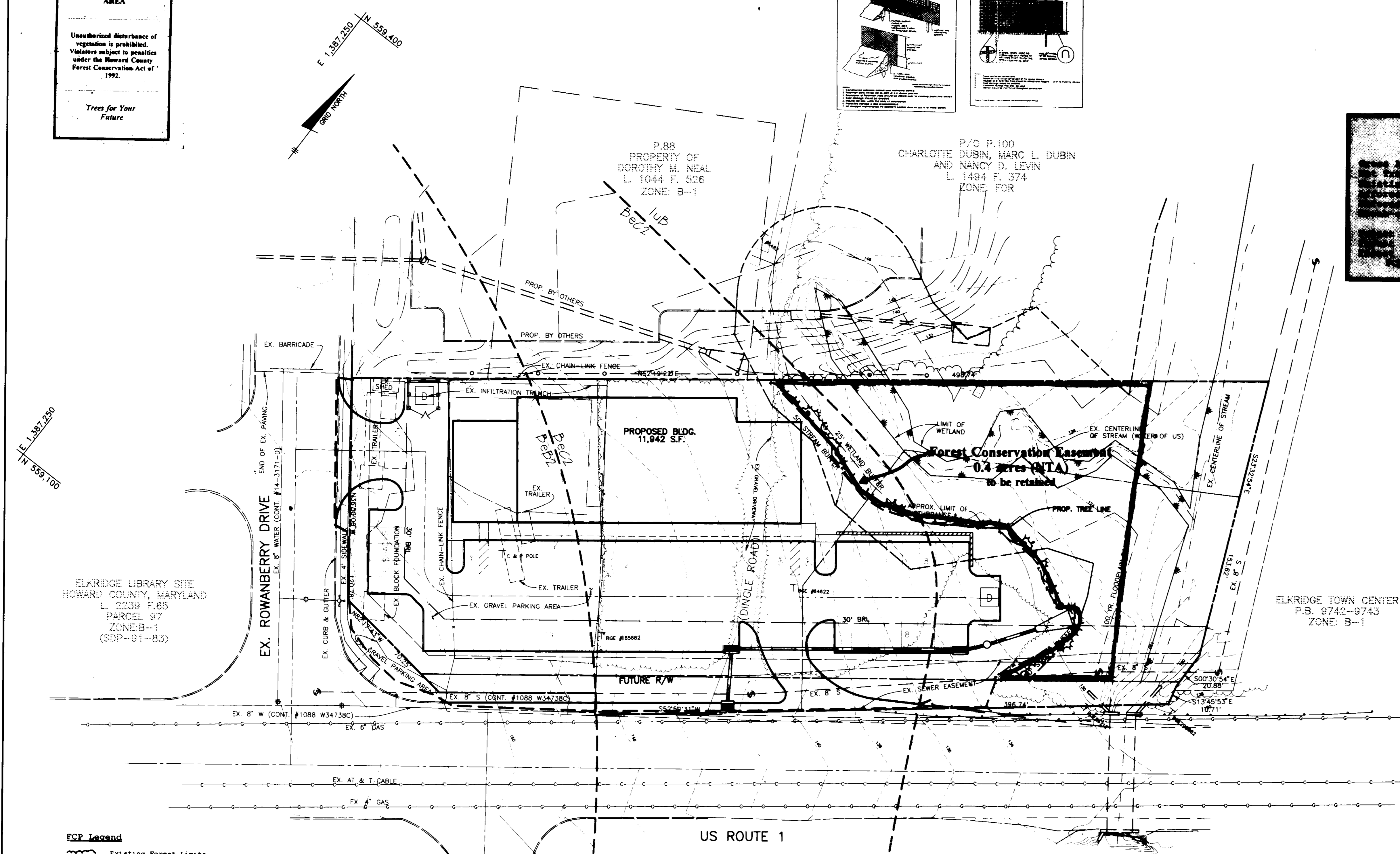
Trees for Your Future

Temporary Protective Fencing



**FOREST DATA**

Area	Acres
Forest Area:	1.2
Dist. Forest Area (DFA):	1.7
Disturbance Footprint (DF):	0.8
Disturbance Footprint (DF):	0.3
Disturbance Footprint (DF):	0.3
Disturbance Footprint (DF):	0.4
Disturbance Footprint (DF):	0.1
Disturbance Footprint (DF):	0.4



FCP NOTES

- Any Forest Conservation Easement (FCE) area shown hereon is subject to protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.
- Forested area occurring outside of the FCE shall not be considered part of the FCE and shall not be subject to protective land covenants.
- Limits of disturbance shall be restricted to areas outside the limit of temporary fencing or the FCE boundary, whichever is greater.
- There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.
- No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.
- Temporary fencing shall be used to protect forest resources during construction. The fencing shall be placed along all FCE boundaries which occur within 25 feet of the proposed limits of disturbance.
- Permanent signage shall be placed 50-100' apart along the boundaries of all areas included in Forest Conservation Easements.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 4/12/96

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE 4/12/96

DIRECTOR DATE 4/16/96

**FCP Legend**

	Existing Forest Limits
	Proposed Forest Limits
	Limits of Forest Conservation Easement
	Temporary Protective Fencing
	Permanent Protective Signage

PLAN VIEW  
SCALE: 1"=30'

OWNER OF PARCEL 99:  
NICKOLAOS A. PAPAVALIS  
6636 PHEASANT DRIVE  
ELKRIDGE, MARYLAND 21227  
(410) 796-8643

OWNERS OF PARCEL 295 & P/O PARCEL 100:  
CHARLOTTE DUBIN, MARC L. DUBIN  
& NANCY D. LEVIN  
1802 REISTERSTOWN ROAD  
PIKESVILLE, MARYLAND 21208

NO	DATE	REVISION
1	12/95	SUBMISSION TO COUNTY FOR REVIEW AND APPROVAL.

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9400 Baltimore National Pike • Ellicott City, Maryland 21041 • (410) 485-6800

SOIL TYPES AND CHARACTERISTICS

MAP SYMBOL	SOIL NAME	HYDROLOGIC GROUP	HYDRIC INCLUSION	HIGH EROSION POTENTIAL
IuB	IUKA LOAM, LOCAL ALLUVIUM	C	YES	NO
DeC2	BELTSVILLE SILT LOAM	C	YES	YES
DeB2	BELTSVILLE SILT LOAM	C	YES	NO

Eco-Science Professionals, Inc.  
CONSULTING ECOLOGISTS

MD 2488 Qualified Professional  
USACOE Professional Wetland Delimitation  
Certification # WBCP33MD061004482

John F. Conner

P.O. Box 5006 Glen Arm, MD 21057 (410) 592-6752

PERMIT INFORMATION CHART

SUBDIVISION NAME					
ROWANBERRY CENTER					
PARCELS 99, 295 & P/O PARCEL 100					
SECTION	PARCEL #	LIBER & FOLIO	PREVIOUS FILE:		
N/A	99, 295, & P/O 100		S-94-40		
PLAT No.	BLOCK No.	ZONE	TAX MAP	ELEC. DIST.	CENSUS
12061	8	B-1	38	1st	8012
WATER CODE			SEWER CODE		
A01			2150533		
SCALE:	AS SHOWN		DATE:		
			JULY, 1995		

CONTRACT PURCHASER: BEVARD FARM CORP. P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 (410) 465-4244		PROJECT: <b>ROWANBERRY CENTER</b> PARCELS 99, 295 & P/O PARCEL 100
LOCATION: TAX MAP 38 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND		TITLE: <b>FOREST CONSERVATION PLAN</b>
DATE: JULY 1995	PROJECT NO. 0814	
DESIGN:	DRAFT:	CHECK:
SCALE: AS SHOWN	DRAWING <b>B</b> OF <b>5</b>	

SDP-96-06