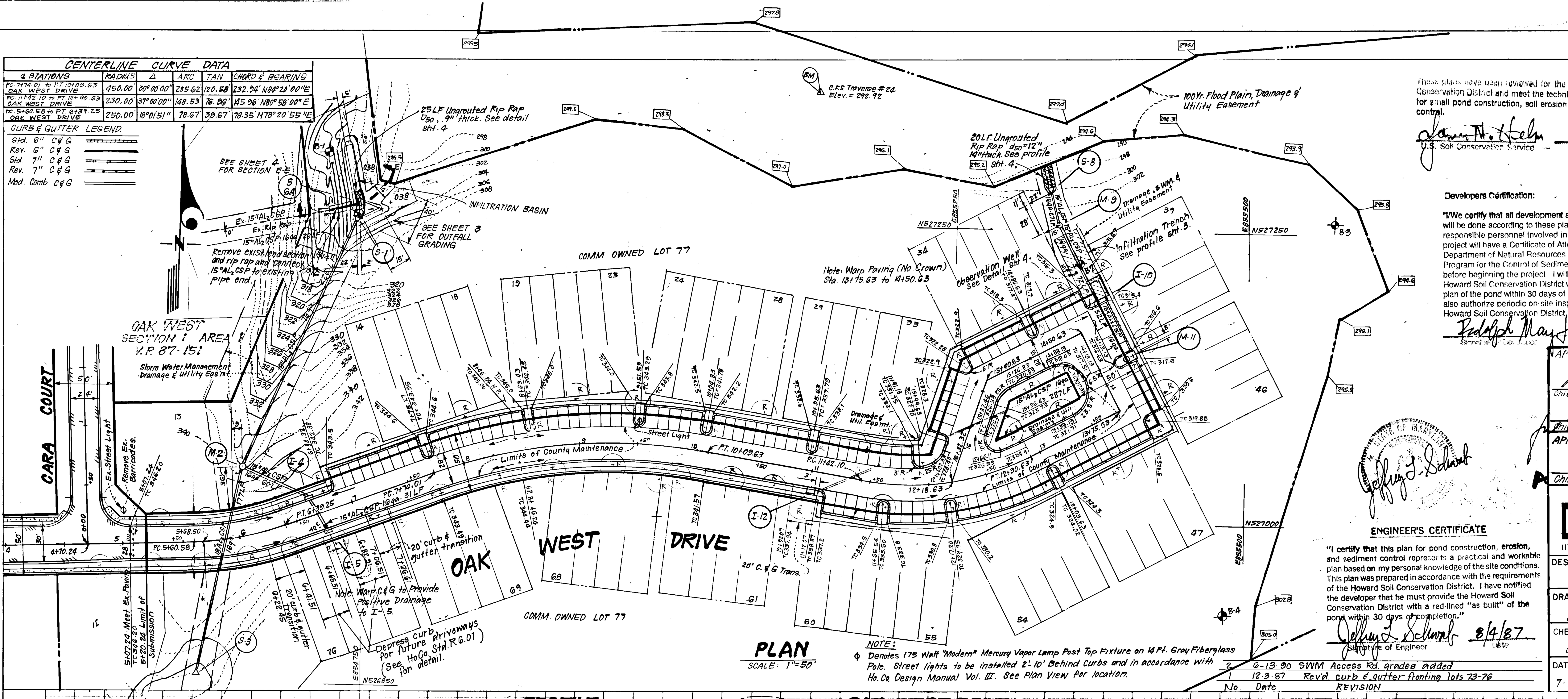
CENTERLINE CURVE DATA					
℄ STATIONS	RADIUS	Δ	ARC	TAN	CHORD & BEARING
P.C. 7+74.01 to P.T. 10+09.63 OAK WEST DRIVE	450.00'	30°00'00"	235.62'	120.58'	232.94' N84°20'00"E
P.C. 11+42.10 to P.T. 12+90.63 OAK WEST DRIVE	230.00'	37°00'00"	148.53'	76.96'	145.96' N80°58'00"E
P.C. 5+60.58 to P.T. 6+39.25 OAK WEST DRIVE	250.00'	18°01'51"	78.67'	39.67'	78.35' N78°20'55"E

CURB & GUTTER LEGEND

- Std. 6" C & G
- Rev. 6" C & G
- Std. 7" C & G
- Rev. 7" C & G
- Mod. Comb. C & G



NOTE:
ϕ Denotes 175 Watt "Modern" Mercury Vapor Lamp Post Top Fixture on 14 Ft. Gray Fiberglass Pole. Street lights to be installed 2'-10' Behind Curbs and in accordance with Ho. Co. Design Manual Vol. III. See Plan View for location.

KEY	PLANT NAME	SIZE	QUANT.	REMARKS
(R)	Acer Rubrum "Red Sunset" Red Sunset Maple	2½ CAL. MIN.	52	B.&B. HEAVY HEADS

PLANT SCHEDULE

NOTES:
1. Contractor shall verify location of underground utilities prior to digging.
2. Final location of trees may be adjusted slightly to accomodate field conditions.
3. Planting procedure shall comply with "Landscape Specs. for Baltimore-Washington Metropolitan Areas."
4. Substitution of the approved species may be permitted provided that the planting is in accordance with the street tree and landscape requirements as specified in Section 16.131 of the Ho. Co. Subdivision Regulations.

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

[signature] 11-2-87
U.S. Soil Conservation Service — Date

Developers Certification:

"I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with an "as built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

[signature] 7/27/87
Signature of Developer — Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Approved [signature] 11/3/87
Howard S.C.D. — Date

[signature]
Plan Number

APPROVED: DEPARTMENT OF PUBLIC WORKS.

[signature] 11-12-87
Chief, Land Development Division — Date

[signature] 11-12-87 [signature] 11/12/87
Chief, Bureau of Engineering — Date — Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING

[signature] 20 Nov 87
Chief, Division of Land Development & Zoning Administration — Date

ENGINEER'S CERTIFICATE

"I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a red-lined "as built" of the pond within 30 days of completion."

[signature] 8/4/87
Signature of Engineer — Date

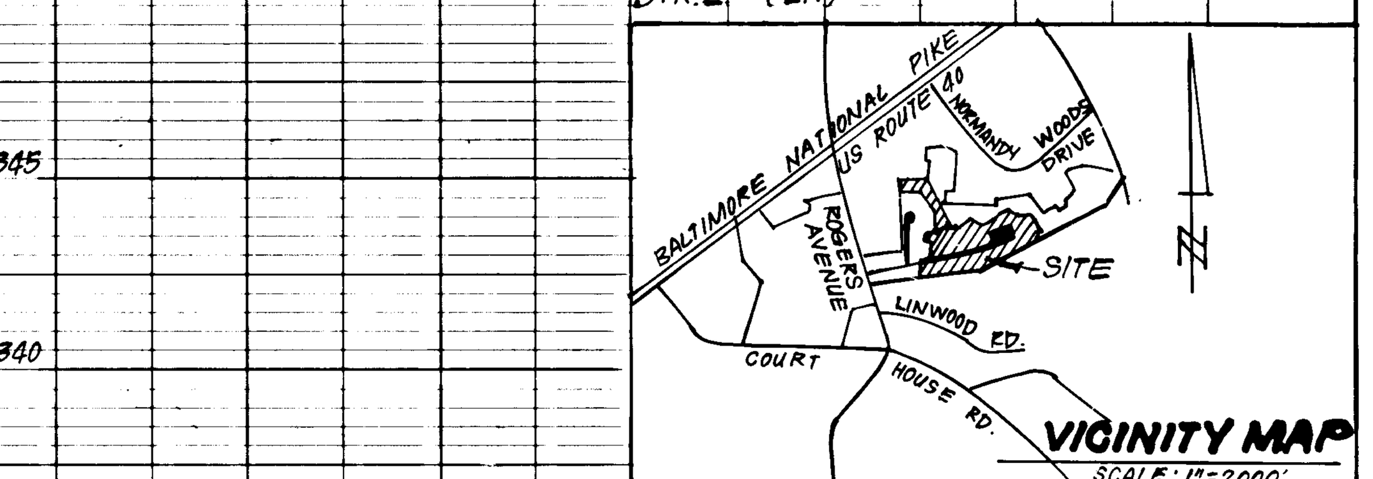
No.	Date	REVISION
2	6-13-90	SWM Access Rd. grades added
1	12-3-87	Rev'd. curb & gutter fronting lots 73-76

CLARK · FINEFROCK & SACKETT INC.
ENGINEERS · PLANNERS · SURVEYORS
11315 LOCKWOOD DRIVE · SILVER SPRING, MARYLAND 20904 · (301) 593-3400

DESIGNED GLB	ROAD CONSTRUCTION PLANS OAK WEST DRIVE	SCALE As Shown
DRAWN KIW	**OAK WEST** SECTION 1 AREA 2 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND	DRAWING 1 of 6
CHECKED GLB		JOB NO. 86-047
DATE 7-27-87	FOR: BRITAM DEVELOPMENT GROUP 9030 Red Branch Rd. #250 Columbia Md. 21045	FILE NO. 86-047-D2

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

PROFILE LEGEND
Profile Grade Line
Existing ℄
B.R.L. (Rt.)
B.R.L. (Lt.)



VICINITY MAP
SCALE: 1"=2000'

GENERAL NOTES

1. All storm drain & paving shall be constructed in accordance with the latest edition of the specifications of Howard County & MDSHA.
2. Types of storm drainage refer to the Standard Details of Ho. Co. & MDSHA.
3. Trench compaction for storm drains within road or street right-of-way limits shall be in accordance with "Ho. Co. Design Manual, Vol. IV" Std. G-2.01.
4. Information concerning underground utilities was obtained from available records, but the contractor must determine the exact location and elevation of mains by digging test pits, by hand, at all utility crossings, well in advance of construction.
5. All utility companies shall be notified 24 hrs. in advance of construction.
6. All traffic services, parking and signing to be done in accordance with the "Manual of Uniform Traffic Control Devices," 1978 Edition.
7. Sag and Crest Vertical Curves were designed in accordance with "Ho. Co. Design Manual," Vol. III.
8. Provide Conc. Sidewalk Ramps, Ho Co. Std. Type A, R-4.01 where shown in plan.
9. Design Speed: See table sht. 3 Zoning: RSC.
10. The contractor or developer shall contact the Construction Inspection/Survey Division 24 hrs. in advance of commencement of work Ph. 772-7272.
11. Flood Plain Elevations derived from Normandy Woods, Sect 1, Parcel A-1 P.B.30 F.95 and Section 2, Plat 4472.
12. [295.5] Denotes 100 Yr. Flood Plain Elevation.
13. See Sheet 2 for Boring Descriptions.
14. All fillet radii 5' unless otherwise shown.
15. Class C Trench bedding to be used for all storm drains except where noted otherwise.

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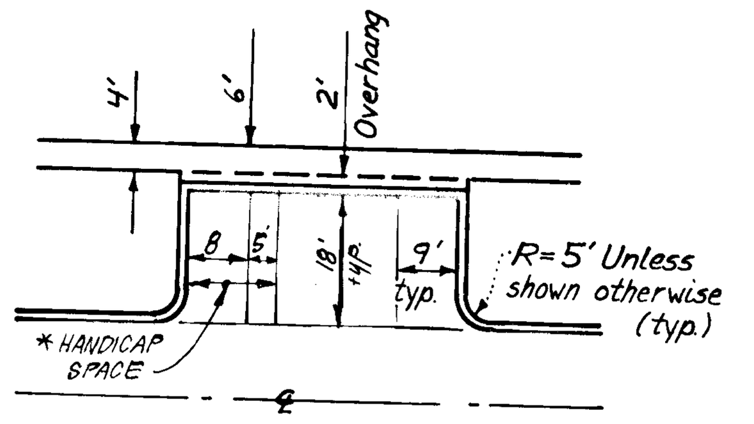
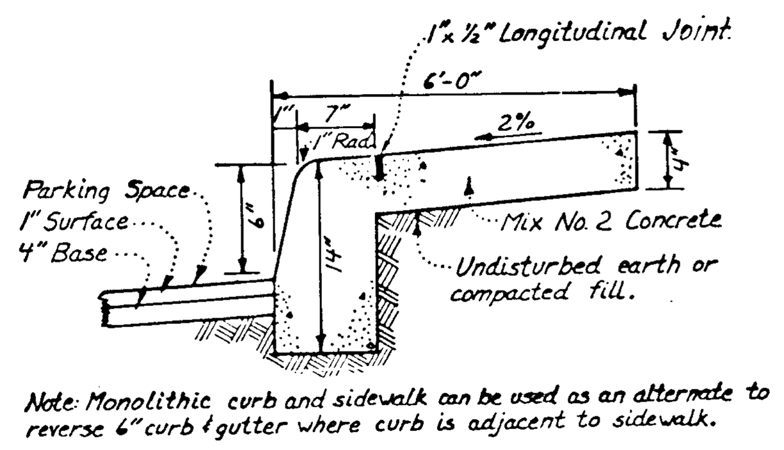
F-88-26

86-047 02



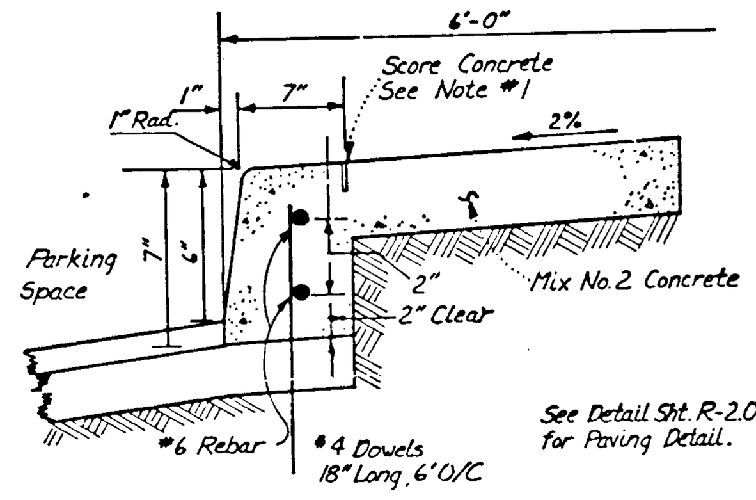
TYPICAL PARKING
NO SCALE
* N/A for this project.

Notes:
1. Longitudinal Joint between sidewalk & curb shall be continuous and to a depth of 1/4 the thickness of the sidewalk or 1" Max. Latitudinal Joints shall run from back edge of sidewalk continuous to the bottom face of curb to a depth of 1/4" and spaced 5' apart.
2. Provide 1/2" expansion joints at 15' intervals. In latitudinal joints to full cross-section.

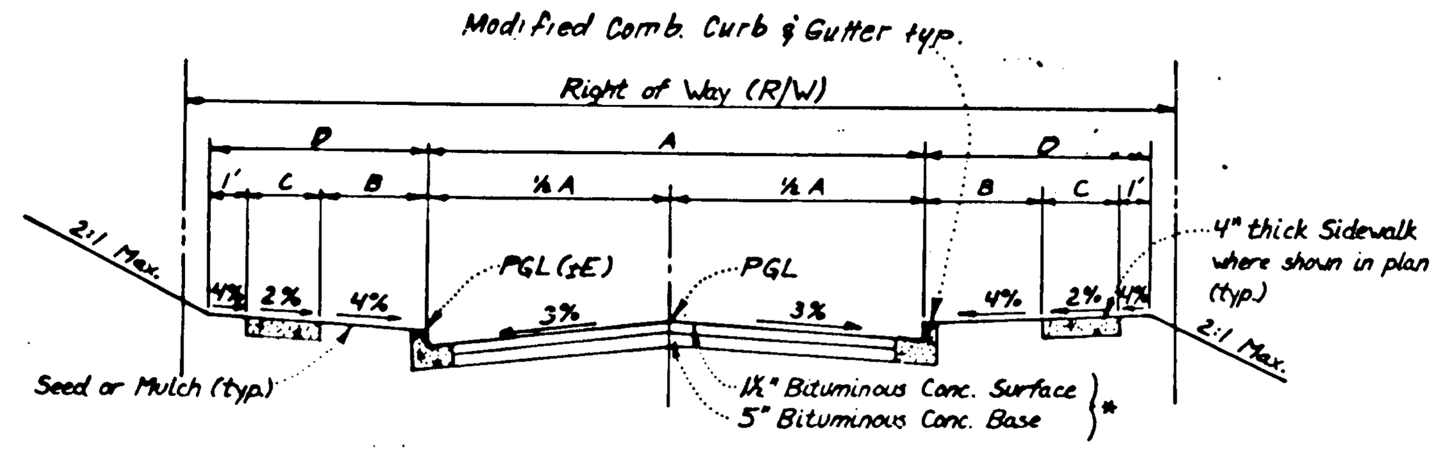


Note: Monolithic curb and sidewalk can be used as an alternate to reverse 6" curb & gutter where curb is adjacent to sidewalk.

MONOLITHIC CURB & SIDEWALK · PRIVATE PARKING AREA
NO SCALE



ALTERNATE SECTION
NO SCALE

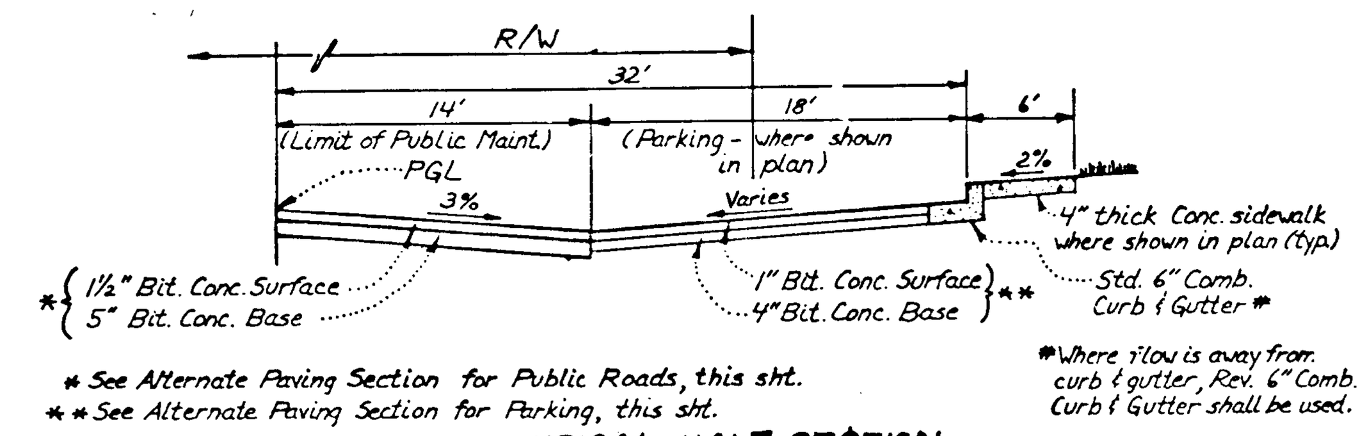


TYPICAL PAVING SECTION · PUBLIC ROADS
NO SCALE
* For Alternate Paving Section - See det. this sht.

STREET NAME & STATION	TYPE OF TRAFFIC	A	B	C	D	R/W	ZONING	DESIGN SPEED	E
OAK WEST DRIVE ℄ Sta. 0+00 to 4+33.24	LOCAL	30'	4'	4'	9'	50'	RSC	30 mph	+.07
* OAK WEST DRIVE Sta. 5+07.24 to 16+32.32	CUL · DE · SAC	28'	4'	4'	9'	50'	RSC	30 mph	#

* Place curb and gutter as follows (See Plan):
- Oak West Drive, Right Side: Mod. Comb. C&G to Sta. 10+92.07
- Oak West Drive, Left Side: Mod. Comb. C&G to Sta. 5+60.58
- See Plan for transitions and C&G for Parking Areas.

\# +.10 with Mod. Comb. Curb & Gutter.
+.14 with Std. 7" Comb. Curb & Gutter.



* See Alternate Paving Section for Public Roads, this sht.
** See Alternate Paving Section for Parking, this sht.
* Where sidewalk is away from curb & gutter, Rev. 6" Comb. Curb & Gutter shall be used.

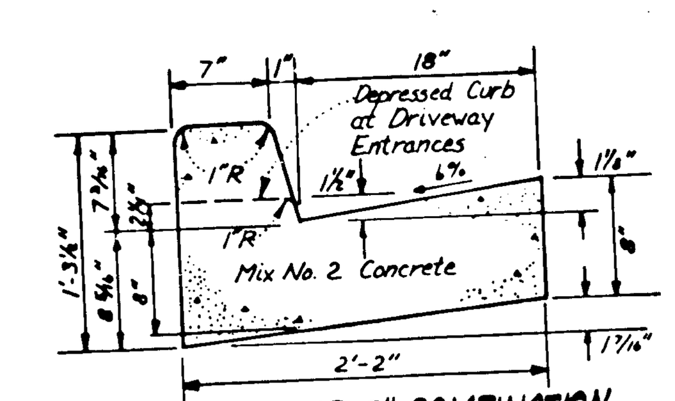
TYPICAL HALF SECTION PARKING ADJACENT TO PUBLIC ROADS
NO SCALE

Bituminous Conc. Surface	1"
Bituminous Conc. Base	2"
Prime 5" Crusher Run Base Course or 4" Dense Graded Stabilized Aggregate Base Course	5" or 4"

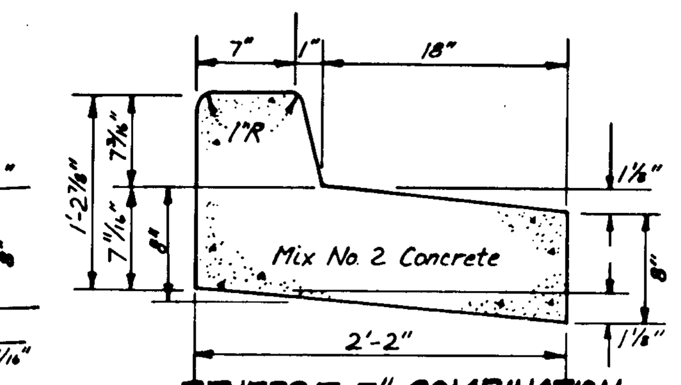
ALTERNATE PAVING SECTION FOR PARKING AREAS
NO SCALE
(SECTION P-1)

Bituminous Conc. Surface	1½"
Bituminous Conc. Base	2½"
Prime 8" Crusher Run Base (Placed in 2 Courses) or 6" Dense Graded Stabilized Aggregate Base Course	8" or 6"

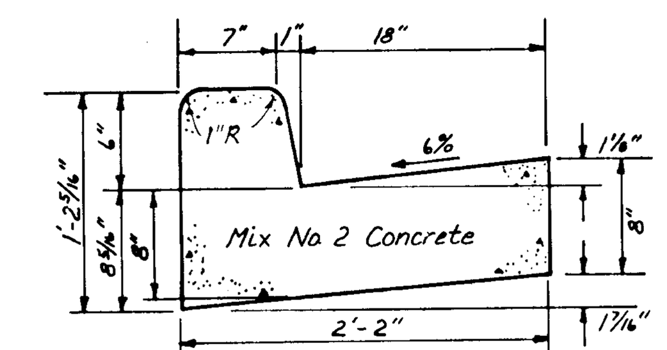
ALTERNATE PAVING SECTION FOR PUBLIC ROADS
NO SCALE
(SECTION P-2)



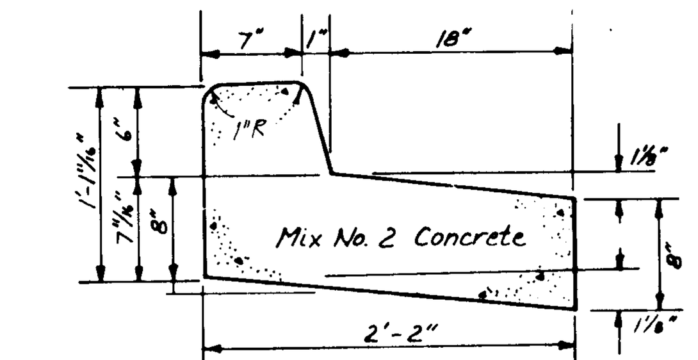
STANDARD 7" COMBINATION CURB & GUTTER
NO SCALE



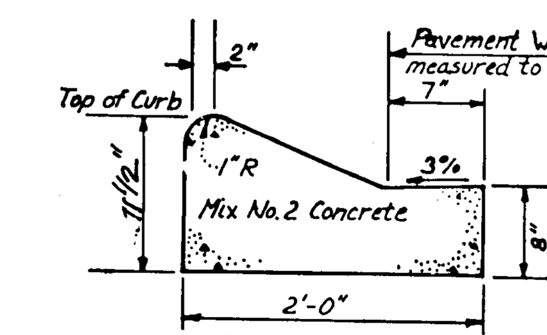
REVERSE 7" COMBINATION CURB & GUTTER
NO SCALE



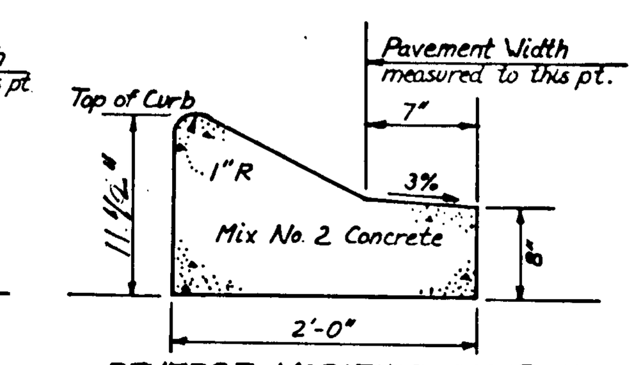
STANDARD 6" COMBINATION CURB & GUTTER
NO SCALE



REVERSE 6" COMBINATION CURB & GUTTER
NO SCALE



MODIFIED COMBINATION CURB & GUTTER
NO SCALE



REVERSE MODIFIED COMBINATION CURB & GUTTER
NO SCALE

SOIL BORING DESCRIPTIONS

BORING #4

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Plasticity, Size, Proportions)	STRA. DEPTH	DEPTH SCALE	BORING & SAMPLING NOTES
305.6	SURFACE	0.0		
	Brown moist soft micaceous silt with some fine sand, trace to some rock fragments	5.0	5	4" topsoil 2.5' water encountered
	Brown to green miost medium dense to dense micaceous fine sand with trace to some silt, weathered rock fragments (decomposed rock)	15.0	10 15	

BORING #3

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Plasticity, Size, Proportions)	STRA. DEPTH	DEPTH SCALE	BORING & SAMPLING NOTES
296.0	SURFACE	0.0		
	Brown and green medium dense micaceous silty sand, trace to some rock fragments	6.0	5	10" topsoil 12.5' water encountered on drill rods
	Light brown and greenish moist soft sandy micaceous silt trace rock	9.0		
	Brown to green moist to wet medium dense to loose micaceous silty fine sand some rock fragments (decomposed rock)	15.0	10 15	

BORING #2

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Plasticity, Size, Proportions)	STRA. DEPTH	DEPTH SCALE	BORING & SAMPLING NOTES
316.3	SURFACE	0.0		
	Brown green moist loose fine sand with some mica, trace silt, rock fragments	7.0	5	8" topsoil
	Green moist dense fine to medium micaceous sand with trace to some rock fragments with trace to some silt (decomposed rock)	17.5	10 15	no water encountered

BORING #1

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Plasticity, Size, Proportions)	STRA. DEPTH	DEPTH SCALE	BORING & SAMPLING NOTES
303.6	SURFACE	0.0		
	Greenish and white moist medium dense to very dense sand with some mica, some to trace silt, trace to some weathered rock fragments (decomposed rock)	15.0	5 10 15	8" topsoil no water encountered

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Approved [signature] 11/3/87
Howard S.C.D. Date

Plan Number

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

[signature] 11-2-87
U.S. Soil Conservation Service Date

Developers Certification:

"I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with an "as built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

[signature] 7-27-87
Date

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER

ENGINEER'S CERTIFICATE

"I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a red-lined "as built" of the pond within 30 days of completion."

[signature] 8/4/87
Signature of Engineer Date

APPROVED: DEPARTMENT OF PUBLIC WORKS

[signature] 11-12-87
Chief, Land Development Division Date

[signature] 11/12/87
Chief, Bureau of Highways Date

[signature] 11-12-87
Chief, Bureau of Engineering Date

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING

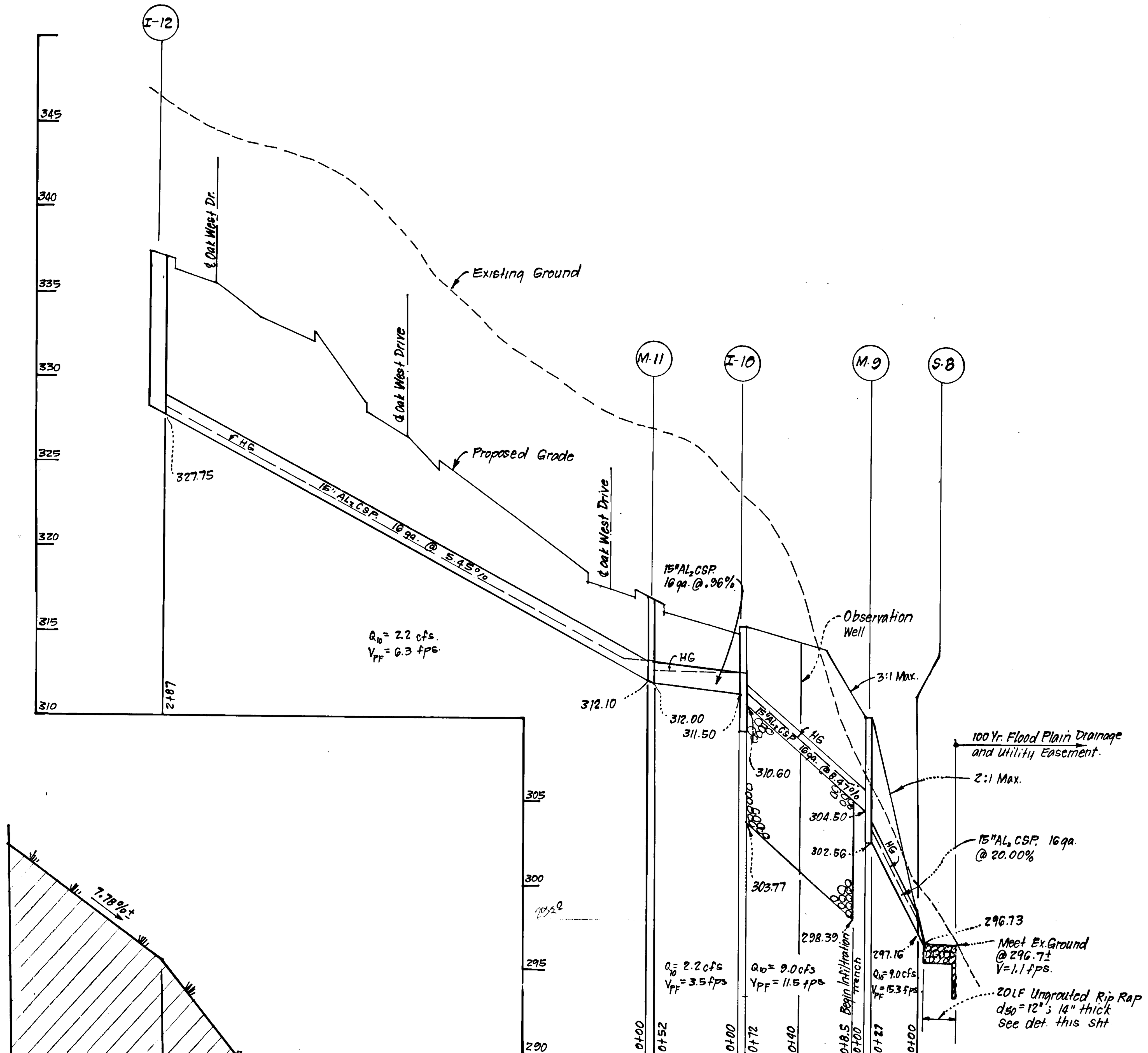
[signature] 20 Nov '87
Chief, Division of Land Development & Zoning Administration Date

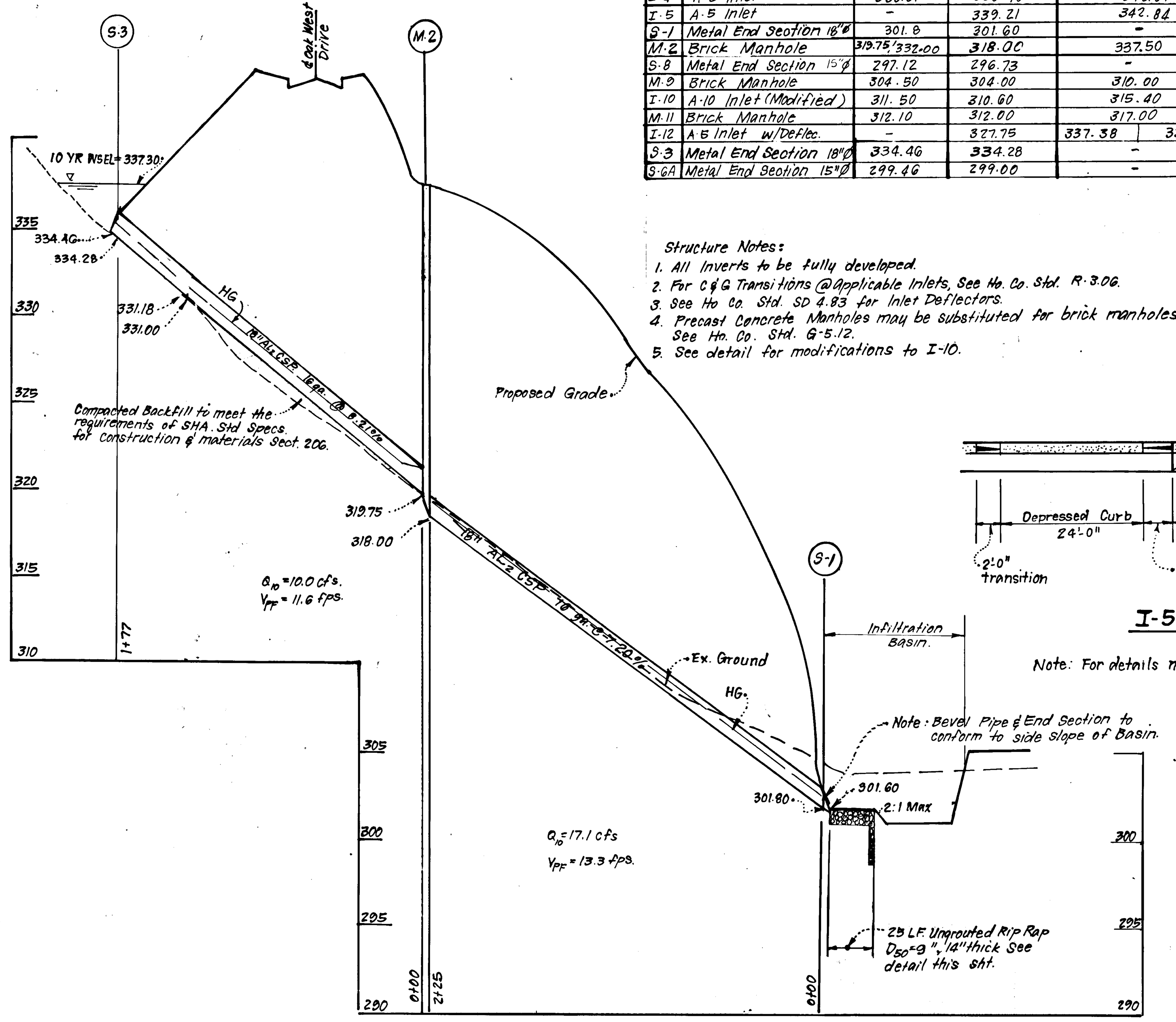
CLARK · FINEFROCK & SACKETT INC.
ENGINEERS · PLANNERS · SURVEYORS
11315 LOCKWOOD DRIVE · SILVER SPRING, MARYLAND 20904 · (301) 593-3400

DESIGNED		SCALE
GLB	ROAD CONSTRUCTION PLANS PAVING DETAILS	As Shown
DRAWN KIW	**OAK WEST** SECTION 1 AREA 2 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND	DRAWING 2 of 6
CHECKED GLB		JOB NO. 86·047
DATE 7-27-87	FOR: BRITAM TEVELOPMENT GROUP 9030 Red Branch Rd. #250 Columbia Md. 21045	FILE NO. 86·047·DZ

F-88-26

1268





Nº	TYPE	INV. IN	INV. OUT	TOP ELEVATION		REMARKS	LOCATION
				UPPER	LOWER		
I-4	A-5 Inlet	338.81	338.40	342.84		Ho. Co. Std. SD 4.01 W=2'-6"	℄ Inlet Sta. 6+66.11 Oak West Dr. 14.83' Lt.
I-5	A-5 Inlet	-	339.21	342.84		" SD 4.01 W=2'-6"	℄ Inlet 6+74.01 Oak West Dr. 14.83' Rt.
S-1	Metal End Section 18"Ø	301.8	301.60	-		" SD 5.61	See Plan
M-2	Brick Manhole	319.75/332.00	318.00	337.50		" G-5.01	" "
S-8	Metal End Section 15"Ø	297.12	296.73	-		" SD 5.61	" "
M-9	Brick Manhole	304.50	304.00	310.00		" G 5.01	" "
I-10	A-10 Inlet (Modified)	311.50	310.60	315.40		Modified SD 4.02 W=2'-6"	" "
M-11	Brick Manhole	312.10	312.00	317.00		Ho. Co. Std. G 5.01	" "
I-12	A-5 Inlet w/Deflec.	-	327.75	337.38	337.04	" SD 4.01 W=2'-6"	℄ Inlet Sta. 11+06.07 Oak West Dr. 14.83' Rt.
S-3	Metal End Section 18"Ø	334.46	334.28	-		" SD 5.61	See Plan
S-6A	Metal End Section 15"Ø	299.46	299.00	-		" SD 5.61	See Plan

Structure Notes:

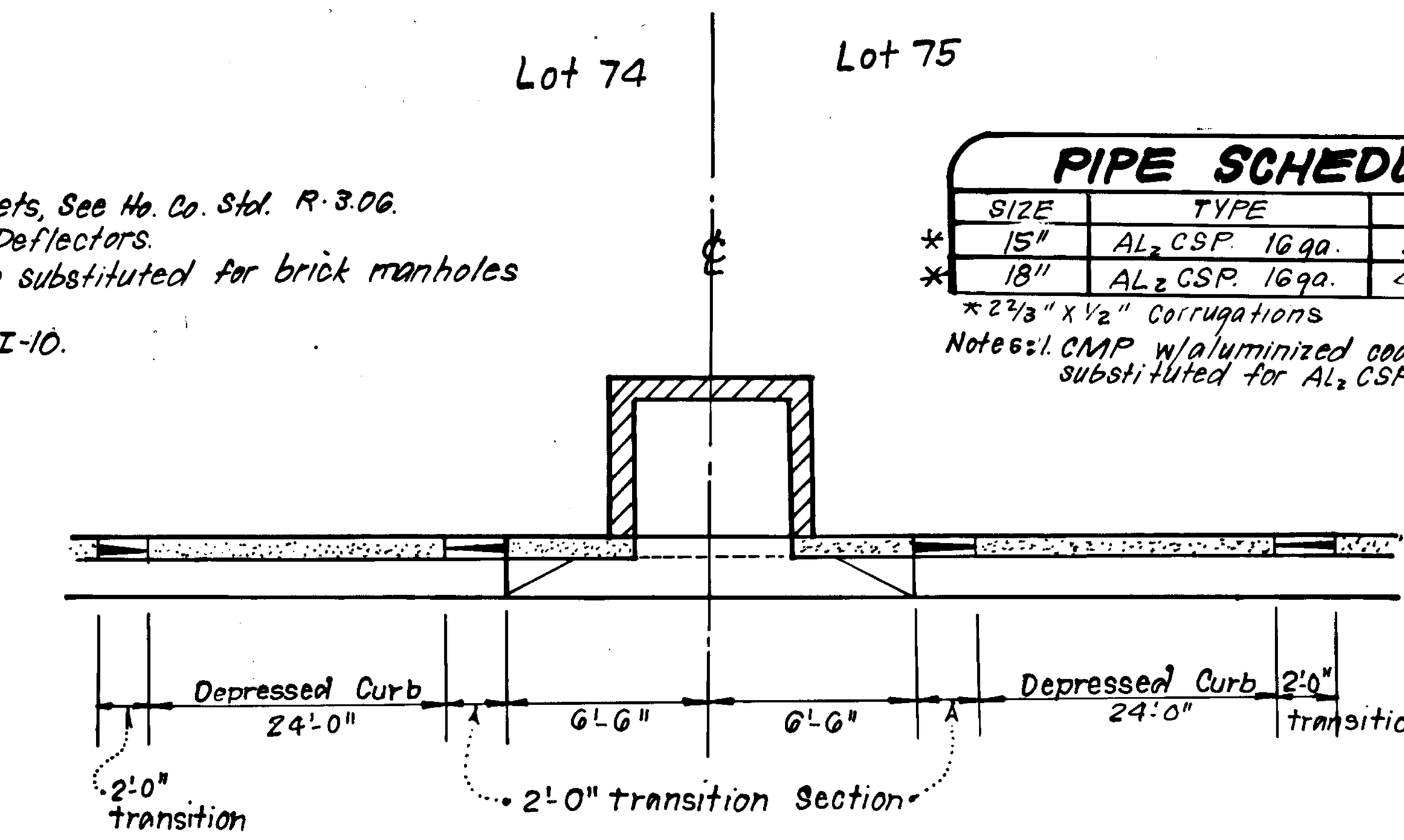
1. All Inverts to be fully developed.
2. For C&G Transitions @ Applicable Inlets, See Ho. Co. Std. R-3.06.
3. See Ho. Co. Std. SD 4.83 for Inlet Deflectors.
4. Precast Concrete Manholes may be substituted for brick manholes See Ho. Co. Std. G-5.12.
5. See detail for modifications to I-10.

PIPE SCHEDULE

SIZE	TYPE	LENGTH
* 15"	AL_2 CSP 16 ga.	566 LF.
* 18"	AL_2 CSP 16 ga.	403 LF.

* 2 2/3" x 1/2" Corrugations

Notes: 1. CMP w/aluminized coating may be substituted for AL_2 CSP

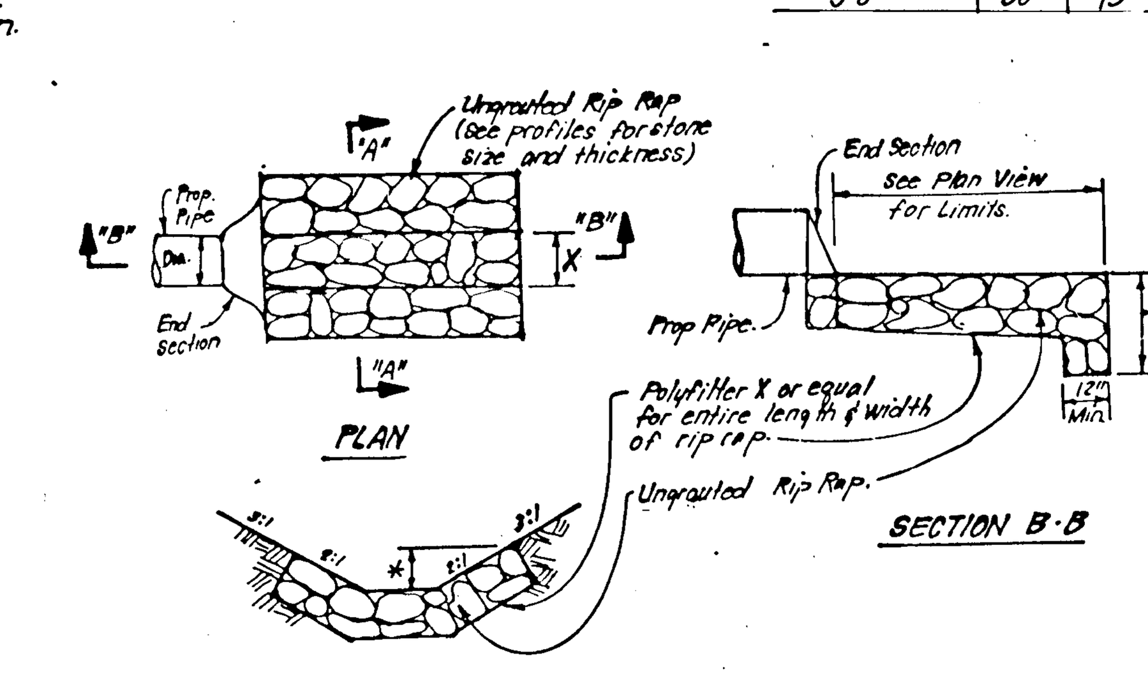


I-5 LOCATION DETAIL

NO SCALE

Note: For details not shown, see Ho. Co. Std. SD4.01

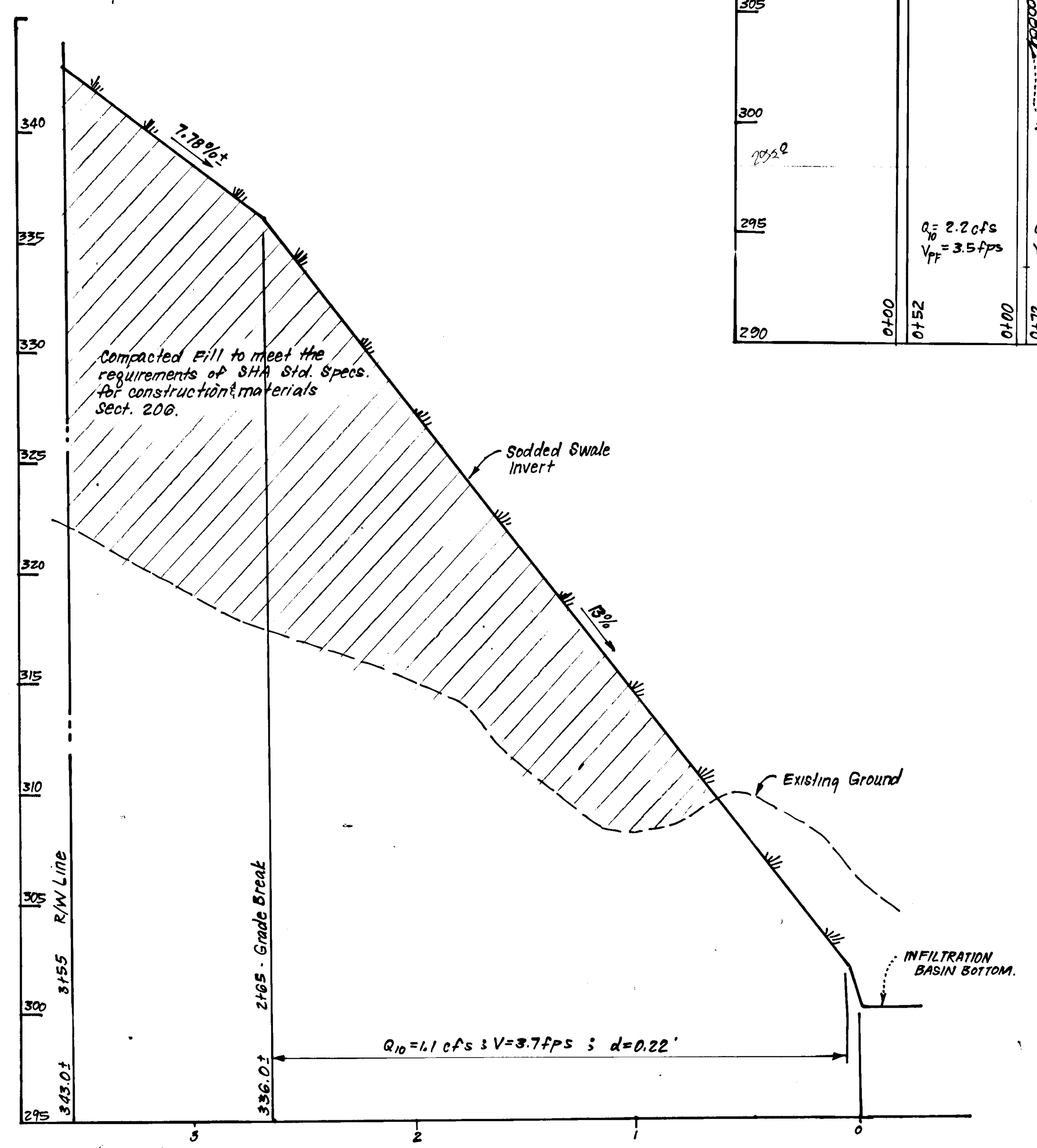
STRUCTURE Nº	X	*
S-1	36"	18"
S-8	30"	15"



SECTION A-A

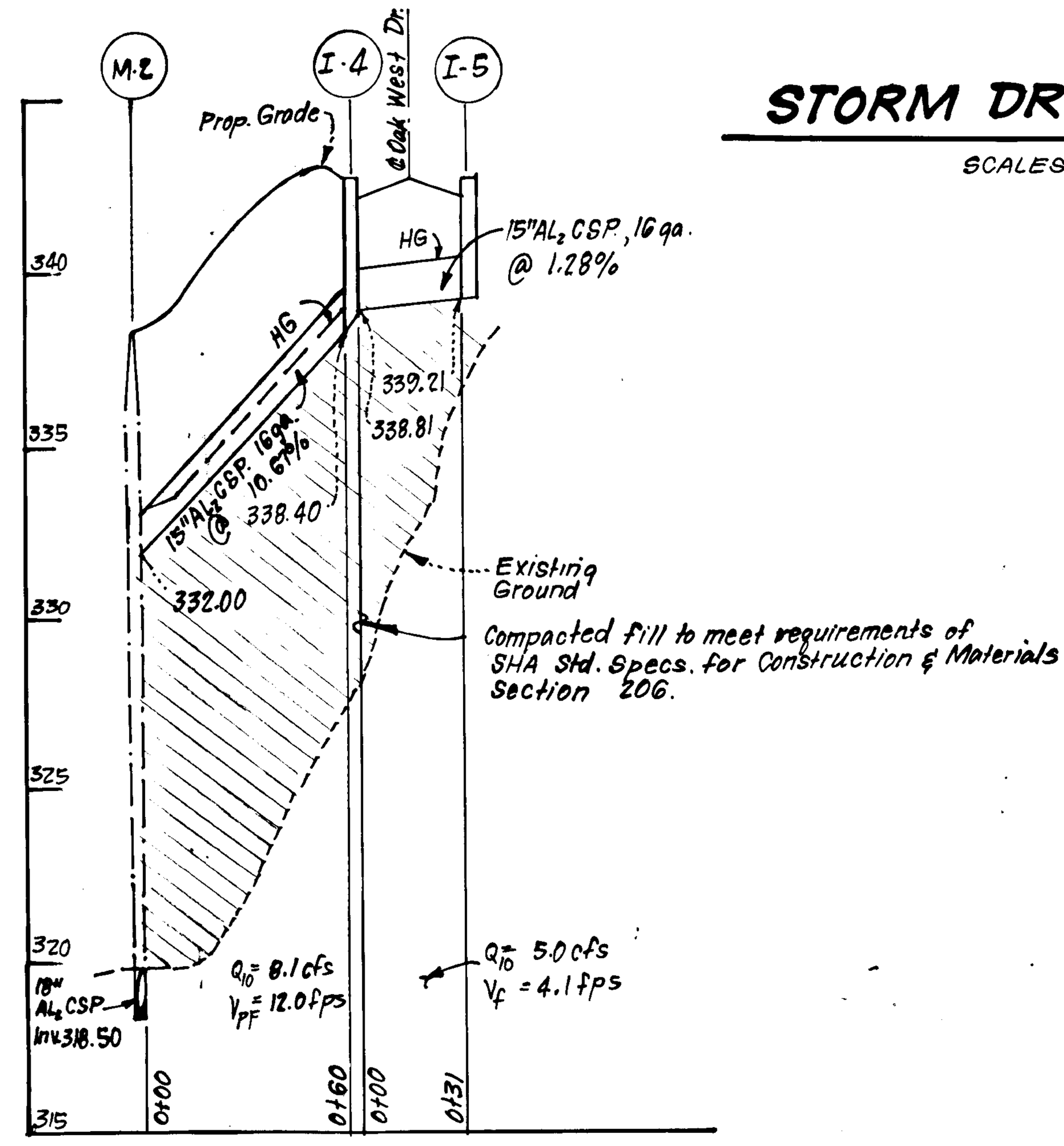
UNGROUTED RIPRAP PAVING DETAILS

NO SCALE



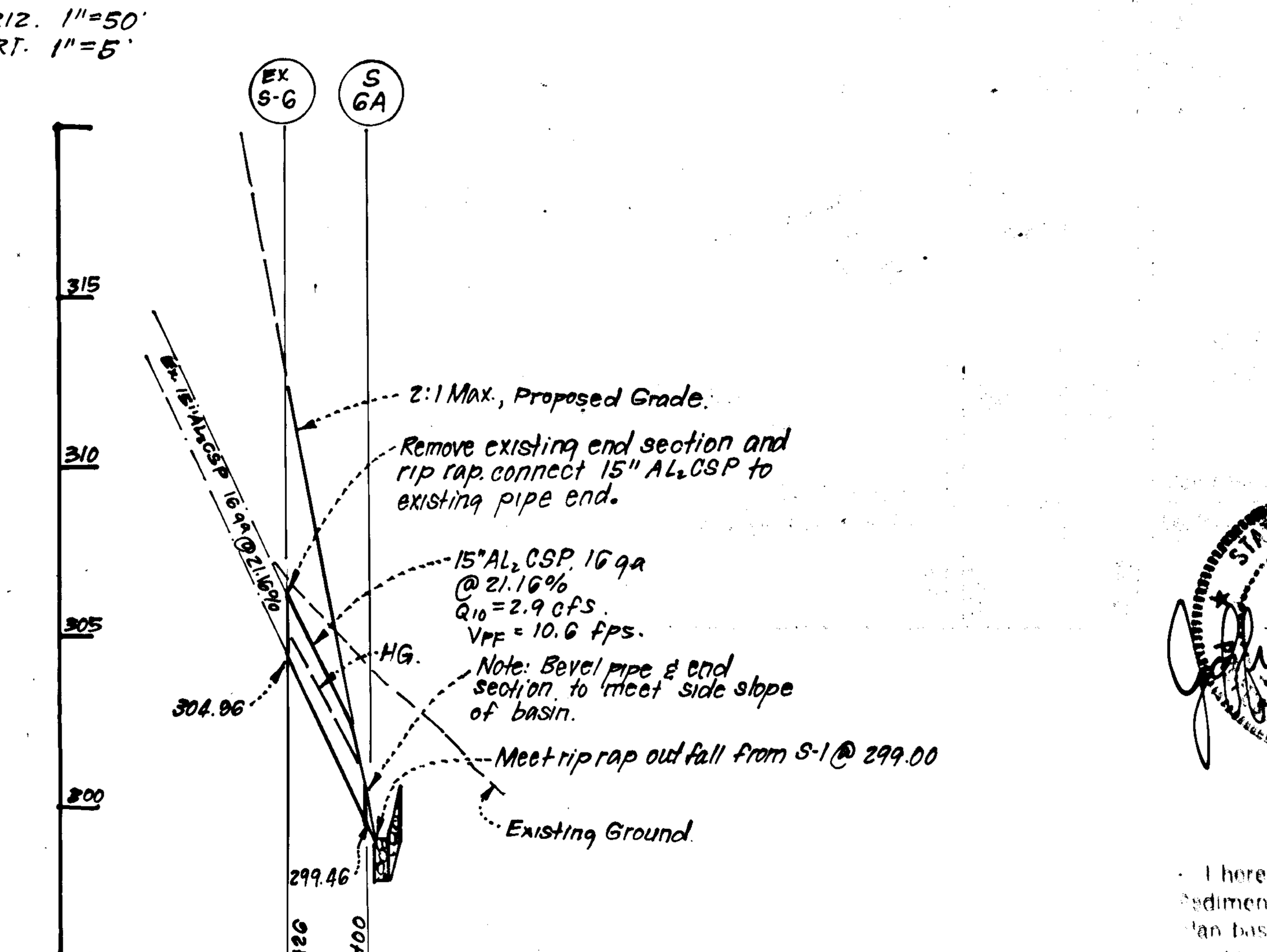
PROFILE - SWALE ADJACENT TO SWM. ACCESS RD.

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



STORM DRAIN PROFILES

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



Reviewed for Howard S.C.D.
Name
and meets Technical Requirements
11-2-87
Signature Date
U.S. Soil Conservation Service

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

Approved Date

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

Rodolph May 7/27/87
Signature of Developer/Builder Date

APPROVED: DEPARTMENT OF PUBLIC WORKS.

11-12-87
Chief, Land Development Division Date

11-12-87 Granville W. Weeland 11/12/87
Chief, Bureau of Engineering Date Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING

20 NOV 87
Chief, Division of Land Development & Zoning Administration Date

A

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 Soil Conservation District.

Jeffrey L. Schwab 8/4/87
Date

No.	Date	REVISION
2	6-13-90	Pipe slope, outfall elevation S-1; prop. grades over pipe M-2 → I-4. S-1 → M-2
1	12-2-87	Rev'd description of Location for I5

CLARK · FINEFROCK & SACKETT INC.
ENGINEERS · PLANNERS · SURVEYORS
11315 LOCKWOOD DRIVE · SILVER SPRING, MARYLAND 20904 · (301) 593-3400

DESIGNED GLB	ROAD CONSTRUCTION PLANS STORM DRAIN PROFILES	SCALE As Shown
DRAWN KIW	**OAK WEST** SECTION 1 AREA 2 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND	DRAWING 3 OF 6
CHECKED GLB		JOB NO. 86-047
DATE 7-27-87	FOR: BRITAIN DEVELOPMENT GROUP 9030 Red Branch Rd. # 250 Columbia Md 21045	FILE NO. 86-047 D2

1268

F-88-26

INFILTRATION BASIN NOTES

I. SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface.

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

II. EARTH FILL

Material

The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversize stones, frozen or other objectionable materials. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased above the design elevation (including freeboard) as shown on the plans.

Placement

Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of the embankment.

Compaction

The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.

Where a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer.

Cutoff Trench

Where specified, a cutoff trench shall be excavated along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be as shown on the drawings, with the minimum width being four feet. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the cutoff trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

III. STRUCTURAL BACKFILL

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

STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications or as shown on the accompanying drawings.

EROSION AND SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.

INFILTRATION TRENCH NOTES

1. Timing

An infiltration trench shall not be constructed or placed in service until all of the contributing drainage area has been stabilized and approved by the responsible inspector.

2. Trench Preparation

Excavate the trench to the design dimensions. Excavated materials shall be placed away from the trench sides to enhance trench wall stability. Large tree roots must be trimmed flush with the trench sides in order to prevent fabric puncturing or tearing during subsequent installation procedures. The side walls of the trench shall be roughened where sheared and sealed by heavy equipment.

3. Fabric Laydown

The filter fabric roll must be cut to the proper width prior to installation. The cut width must include sufficient material to conform to trench perimeter irregularities and for a 6-inch minimum top overlap. Place the fabric roll over the trench and unroll a sufficient length to allow placement of the fabric down into the trench. Stones or other anchoring objects should be placed on the fabric at the edge of the trench to keep the lined trench open during windy periods. When overlaps are required between rolls, the upstream roll should lap a minimum of 2 feet over the downstream roll in order to provide a shingled effect. The overlap ensures fabric continuity or to ensure that the fabric conforms to the excavation surface during aggregate placement and compaction.

4. Stone Aggregate Placement and Compaction

The stone aggregate should be placed in lifts and compacted using plate compactors. As a rule of thumb, a maximum loose lift thickness of 12 inches is recommended. The compaction process ensures fabric conformity to the excavation sides, thereby reducing the potential for soil piping, fabric clogging, and settlement problems.

5. Overlapping and Covering

Following the stone aggregate placement, the filter fabric shall be folded over the stone aggregate to form a 6" minimum longitudinal lap. The desired fill soil or stone aggregate shall be placed over the lap at sufficient intervals to maintain the lap during subsequent backfilling.

6. Contamination

Care shall be exercised to prevent natural or fill soils from intermixing with the stone aggregate. All contaminated stone aggregate shall be removed and replaced with uncontaminated stone aggregate.

7. Voids Behind Fabric

Voids can be created between the fabric and excavation sides and shall be avoided. Removing boulders or other obstacles from the trench walls is one source of such voids. Natural soils should be placed in these voids at the most convenient time during construction to ensure fabric conformity to the excavation sides. Soil piping, fabric clogging, and possible surface subsidence will be avoided by this remedial process.

8. Unstable Excavation Sides

Vertically excavated walls may be difficult to maintain in areas where the soil moisture is high or where soft cohesive or cohesionless soils predominate. These conditions may require laying back of the side slopes to maintain stability; trapezoidal rather than rectangular cross sections may result.

9. Traffic Control

Heavy equipment and traffic shall be restricted from travelling over the infiltration areas to minimize compaction of the soil.

10. Observation Well

An observation well, as described in subsection 3.3.4.8 and Figure 3-5 shall be provided. The depth of the well at the time of installation will be clearly marked on the well cap.

11. Maintenance

Infiltration trenches shall be designed to minimize maintenance. However, it is recognized that all infiltration facilities are subject to clogging by sediment, oil, grease, grit and other debris. In addition, the performance and longevity of these structures is not well documented. Consequently, a monitoring observation well is required for all infiltration structures.

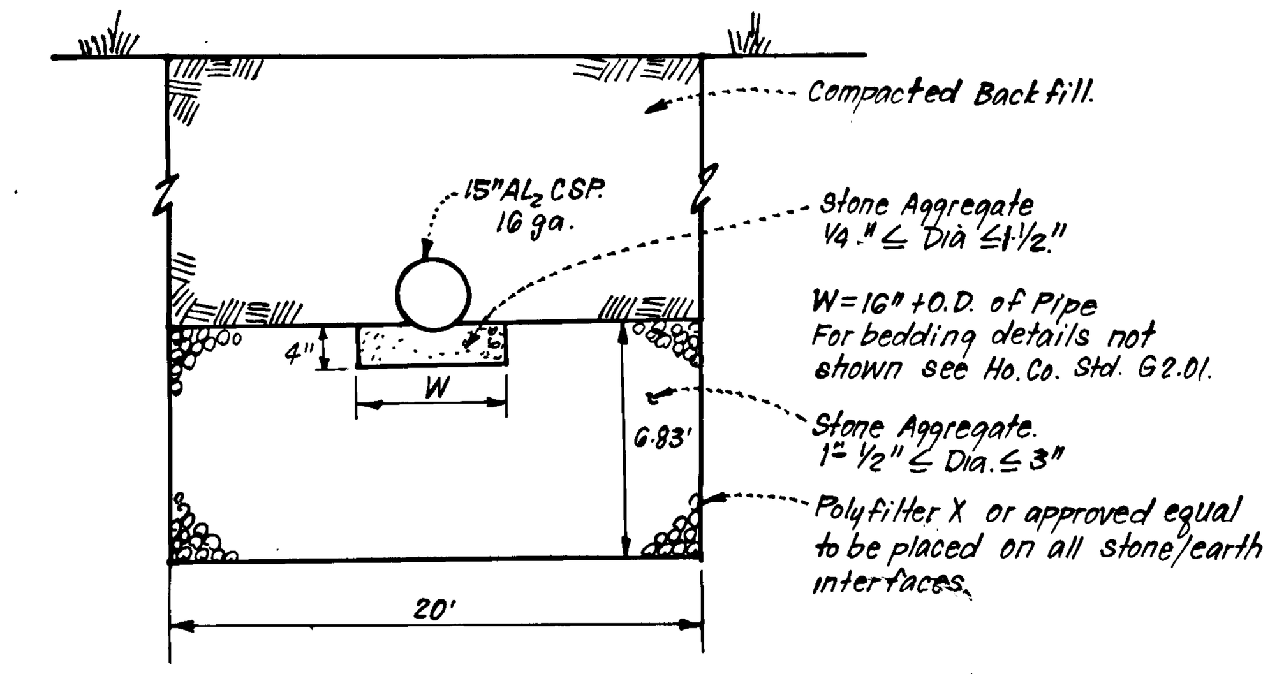
The observation well shall be monitored periodically. For the first year after completion of construction, the well should be monitored on a quarterly basis and after every large storm. It is recommended that a log book be maintained indicating the rate at which the facility dewaters after large storms and the depth of the well for each observation. Once the performance characteristics of the structure have been verified, the monitoring schedule can be reduced to an annual basis, unless the performance data indicate that a more frequent schedule is required.

Sediment build-up in the top foot of stone aggregates or the surface inlet should be monitored on the same schedule as the observation well. A monitoring well in the top foot of stone aggregate will be required when the trench has a stone surface. Sediment deposited shall not be allowed to build up to the point where it will reduce the rate of infiltration into the trench.

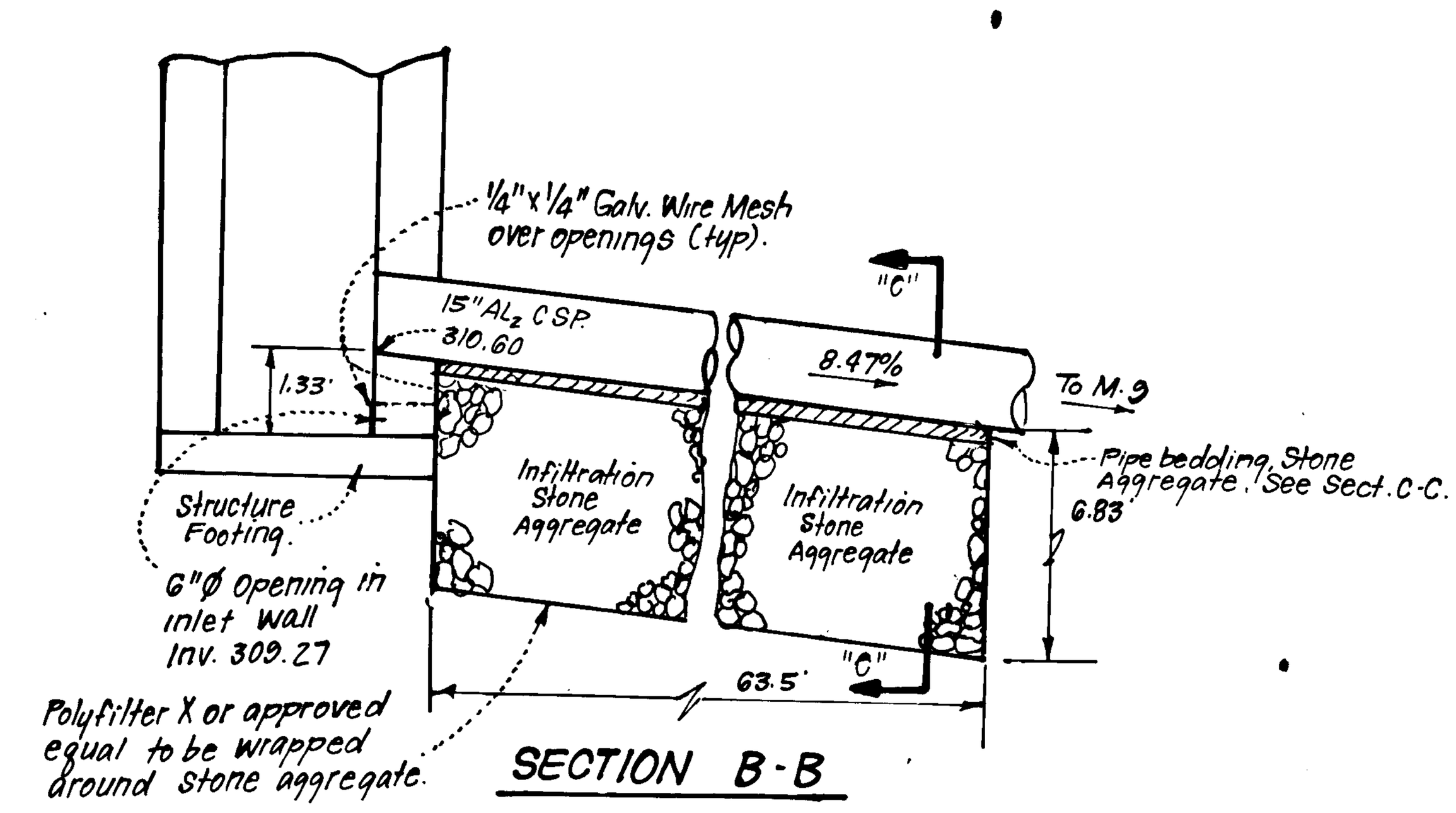
12. Backfill Material

The aggregate material for the infiltration trench shall consist of a clean aggregate with a maximum diameter of 3" and a minimum diameter of 1-1/2". The aggregate should be graded such that there will be few aggregates smaller than the selected size. Void space for these aggregates are assumed to be between the range of 30 to 40 percent.

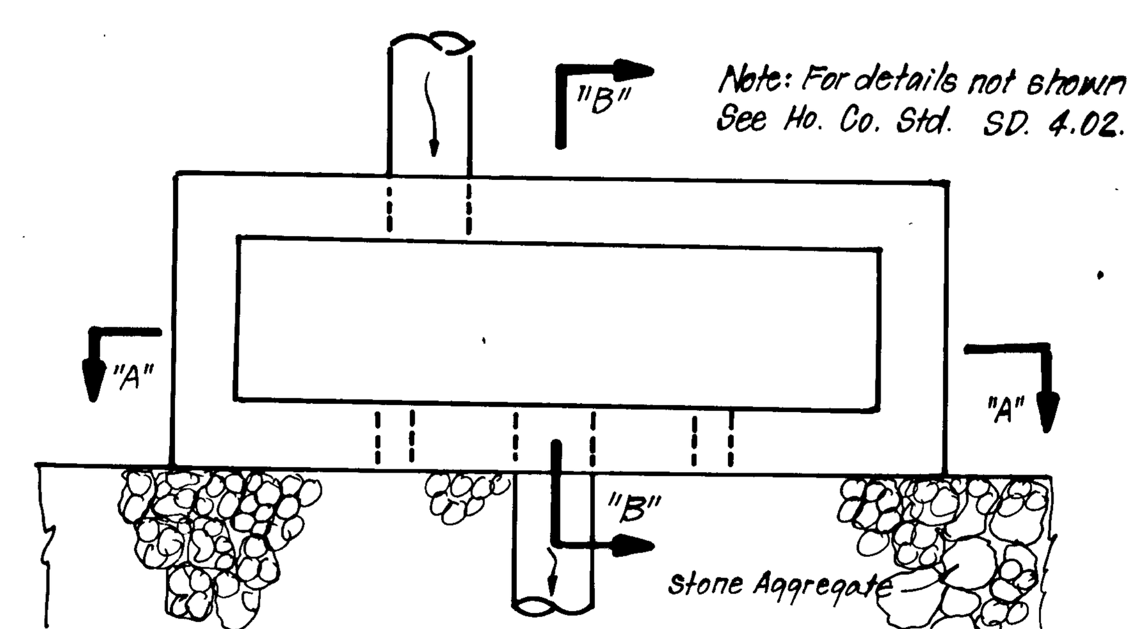
The aggregate fill material shall be completely surrounded as shown in Figure 3-4 with an engineering filter fabric. In the case of an aggregate surface, filter fabric should surround all of the aggregate fill material except for the top one foot.



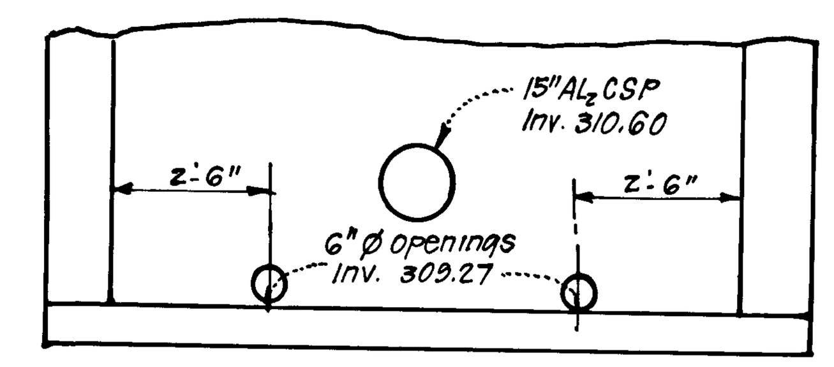
SECTION C-C



SECTION B-B



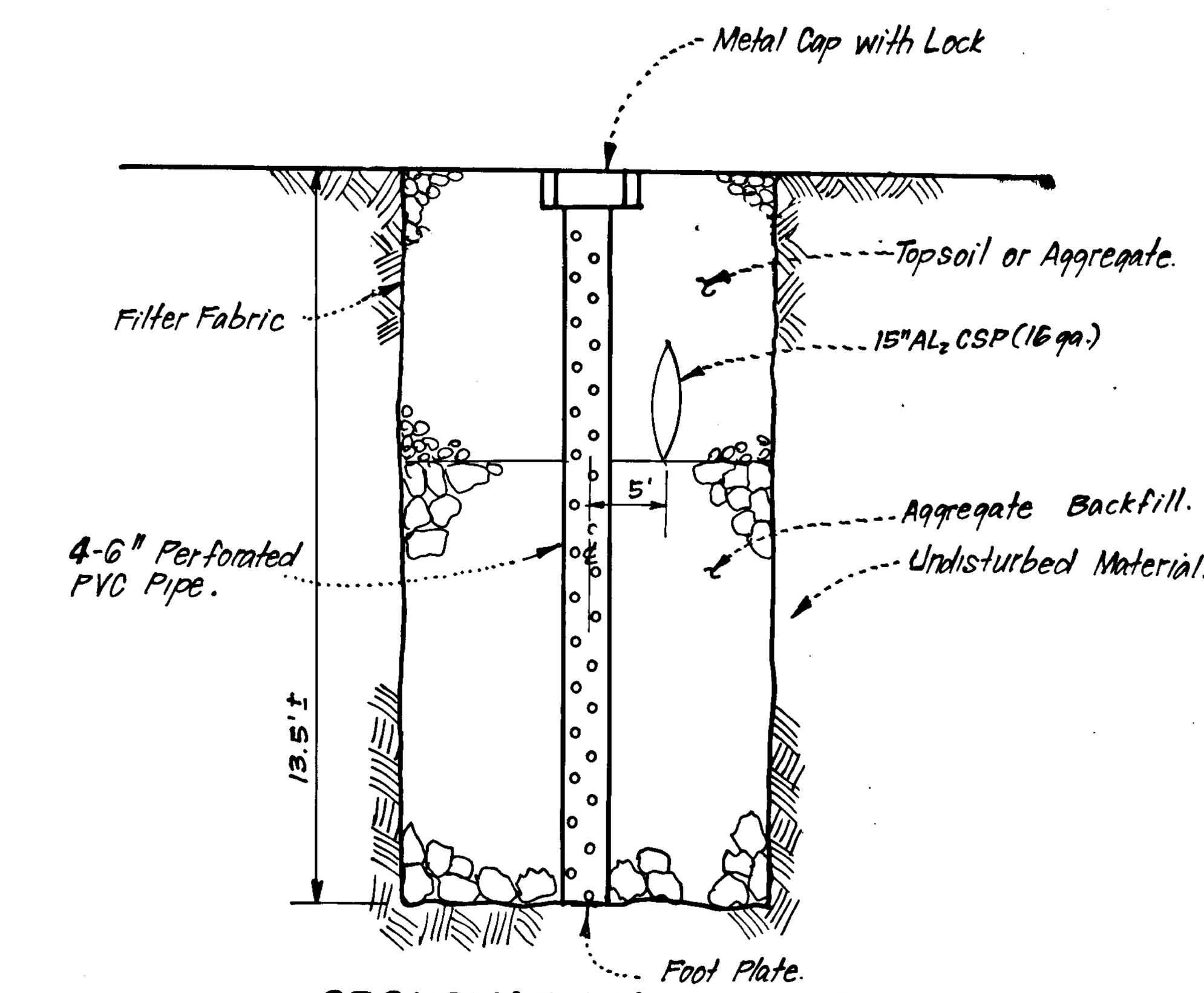
PLAN



SECTION A-A

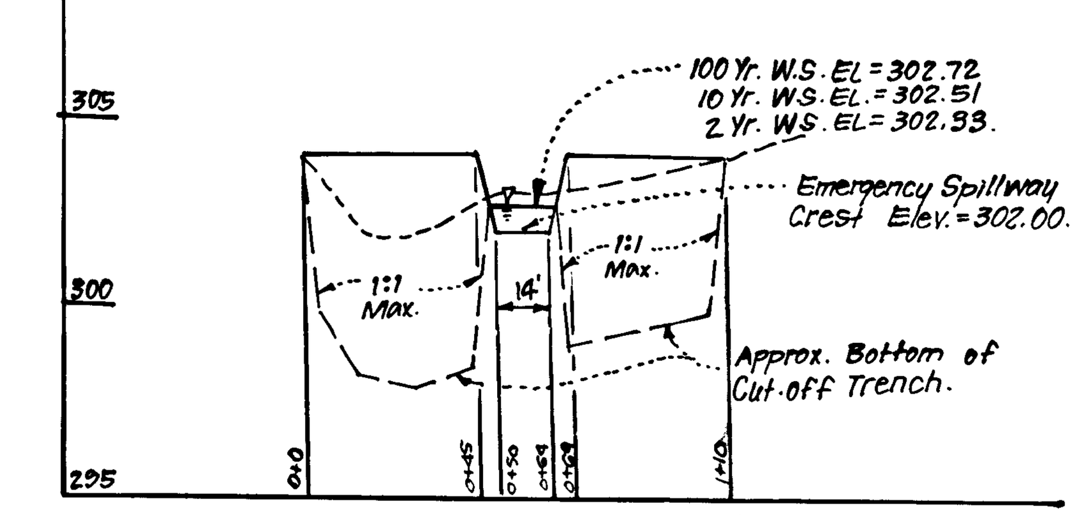
DETAIL- SPECIAL STRUCTURE I-10.

NO SCALE



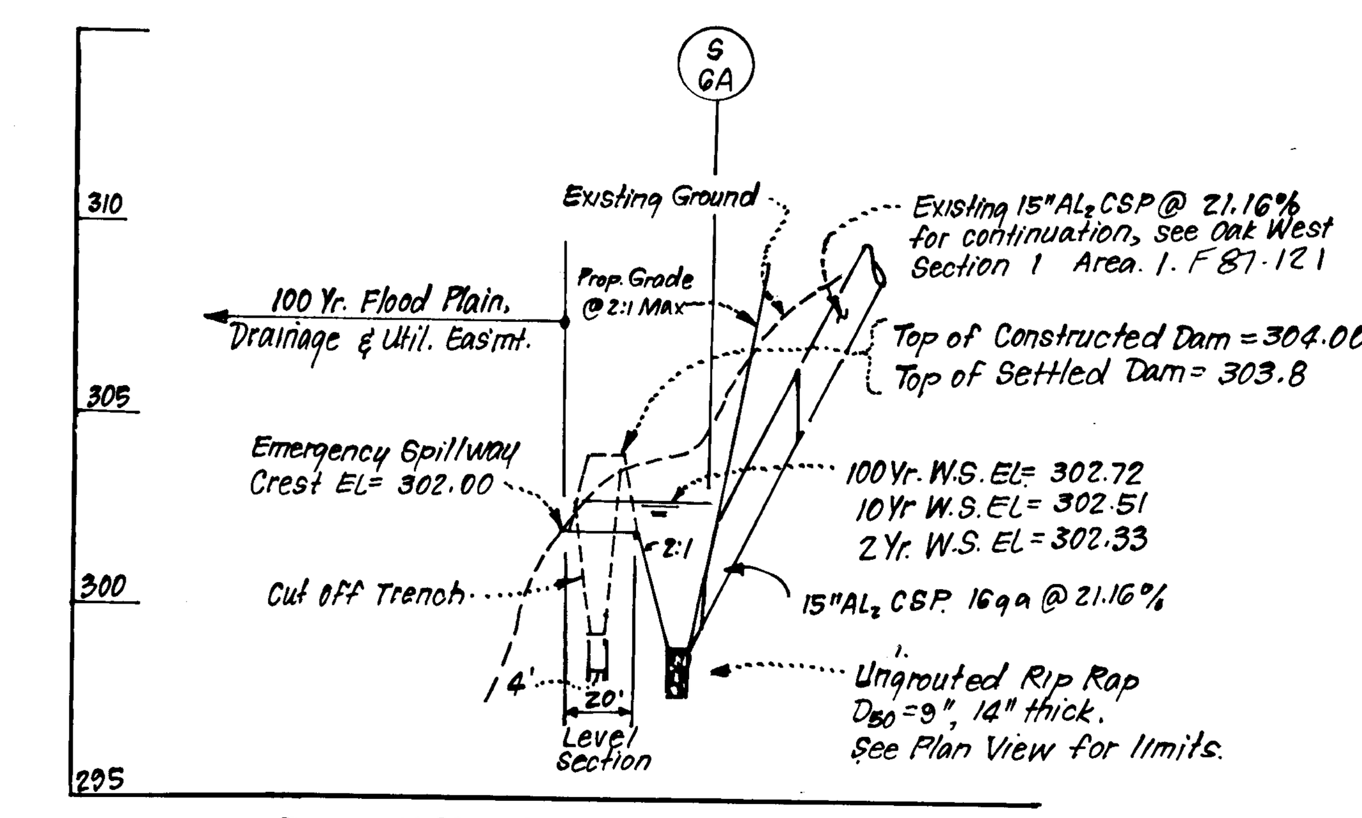
OBSERVATION WELL DETAIL

NO SCALE



PROFILE ALONG ℄ DAM

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



PROFILE OF EMERGENCY SPILLWAY (SECTION E-E)

SCALES: HORIZ. 1"=60' VERT. 1"=5'

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

[signature] 11-2-87

U.S. Soil Conservation Service — Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Approved [signature] 11/3/87

Howard S.C.D. — Date

Plan Number

Developers Certification:

"I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with an "as built" plan of the pond within 30 days of completion. I also authorize periodic on site inspections by the Howard Soil Conservation District."

[signature] 7-27-87

Signature of Developer — Date

ENGINEER'S CERTIFICATE

"I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a red-lined "as built" of the pond within 30 days of completion."

[signature] 8/4/87

Signature of Engineer — Date

APPROVED: DEPARTMENT OF PUBLIC WORKS

[signature] 11-12-87 — Chief, Land Development Division — Date

[signature] 11/12/87 — Chief, Bureau of Highways — Date

[signature] 11-12-87 — Chief, Bureau of Engineering — Date

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING

[signature] 20 NOV 87 — Chief, Division of Land Development & Zoning Administration — Date

CLARK · FINEFROCK & SACKETT INC.

ENGINEERS · PLANNERS · SURVEYORS

11315 LOCKWOOD DRIVE · SILVER SPRING, MARYLAND 20904 · (301) 593-3400

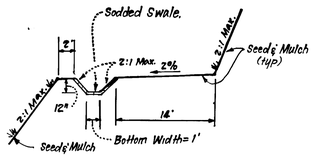
DESIGNED GLB	ROAD CONSTRUCTION PLANS STORM WATERMANAGEMENT DETAILS OAK WEST SECTION 1 AREA 2 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE As Shown
DRAWN KJW		DRAWING 4 OF 6
CHECKED GLB		JOB NO. 86-047
DATE 7-27-87	FOR: BRITAM DEVELOPMENT GROUP 9030 Red Branch Rd. #250 Columbia Md. 21045	FILE NO. 86-047-C2

F-88-26

1268

LEGEND:

1. Contour Interval — 2 Ft.
2. Existing Contour — (340)
3. Proposed Contour — 340
4. Earth Dike — E.D.
5. Existing Straw Bale Dike or Silt Fence — EX. SBD/S
6. Proposed Straw Bale Dike or Silt Fence — SBD/S
7. Proposed Inlet Protection — I.P.D.
8. Proposed Storm Drain — 15"RCP.
9. 100 Yr. Flood Plain Elevation — (295.5)



TYPICAL SECTION- S.W.M. ACCESS ROAD.
NO SCALE

GENERAL SODDING NOTES:

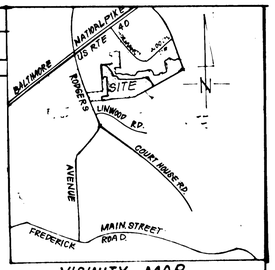
1. Apply 10-10-10 Fertilizer @ 1000# /acre. (25#/1000 sf).
2. Apply Ground Agricultural Limestone @ 2000#/acre (50#/1000 sf).
3. Incorporate both Lime and Fertilizer into soil by discing. Firm up after incorporation.
4. Lay sod to a tight fit. Roll to insure contact with underlying soil. Water as necessary for 1st 2 weeks, in summer, to ensure establishment.
5. All sod to be used must be certified by the state of Maryland.
6. Sod to be pegged and stapled.

No	REVISION	Date
1	SWM access road - grades added.	6-17-90

SEDIMENT TRAP TABLE

TRAP No	TYPE OF TRAP	DRAINAGE AREA	STORAGE REQ'D	STORAGE PROVIDED	DEPTH	TOP OF CREST ELEV	BOTTOM ELEV	CLEAN OUT ELEV	BOTTOM DIMENSIONS	OUTFALL
* G	S.O.S.T. ST V	4.8 Ac.	8640 cf	8668 cf	Varies	303.0	See Plan	+	See Plan	L=20'

* 1:1 Slopes.
+ for bottom elev. of 298; clean out elev = 300.00
for bottom elev of 299.5; clean out elev = 300.75



VICINITY MAP
SCALE: 1" = 2000'

Reviewed for Howard S.C.D.
Name
and meets Technical Requirements
Signature Date
U.S. Soil Conservation Service

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

Robert W. Zichum 11/3/87
Approved Date

1268

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

Rodney A. Mayle 7/27/87
Signature of Developer/Builder Date

ENGINEER'S CERTIFICATE

I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

STATE OF MARYLAND — JEFFREY L. SCHWAB — CIVIL ENGINEER

Jeffrey L. Schwab 9/21/87
JEFFREY L. SCHWAB DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

Chief, Land Development Division — 11-12-87 Date

Chief, Bureau of Highways — 11/12/87 Date

Chief, Bureau of Engineering — 11-11-87 Date

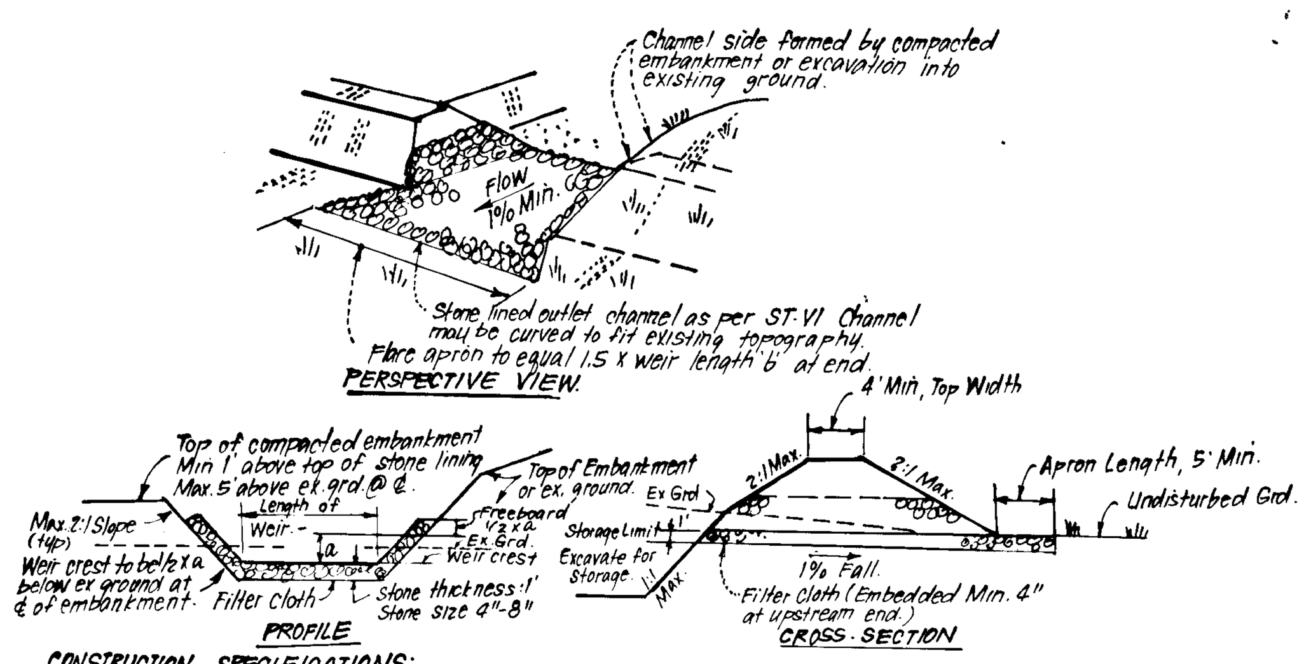
APPROVED HOWARD COUNTY OFFICE OF PLANNING & ZONING

P D Fields — 20 NOV 87
Chief, Division of Land Development & Zoning Administration — Date

CLARK · FINEFROCK & SACKETT INC.
ENGINEERS · PLANNERS · SURVEYORS
11315 LOCKWOOD DRIVE · SILVER SPRING, MARYLAND 20904 · (301) 593-3400

DESIGNED GLB	ROAD CONSTRUCTION PLANS SEDIMENT & EROSION CONTROL PLAN & DRAINAGE AREA MAP	SCALE As Shown
DRAWN KIW	OAK WEST SECTION 1 AREA 2 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND	DRAWING 5 of 6
CHECKED GLB		JOB NO 86.047
DATE 9-22-87	FOR BRITAM DEVELOPMENT GROUP 9030 Red Branch Rd #250 Columbia Md 21045	FILE NO 86.047 D2

F-88-26

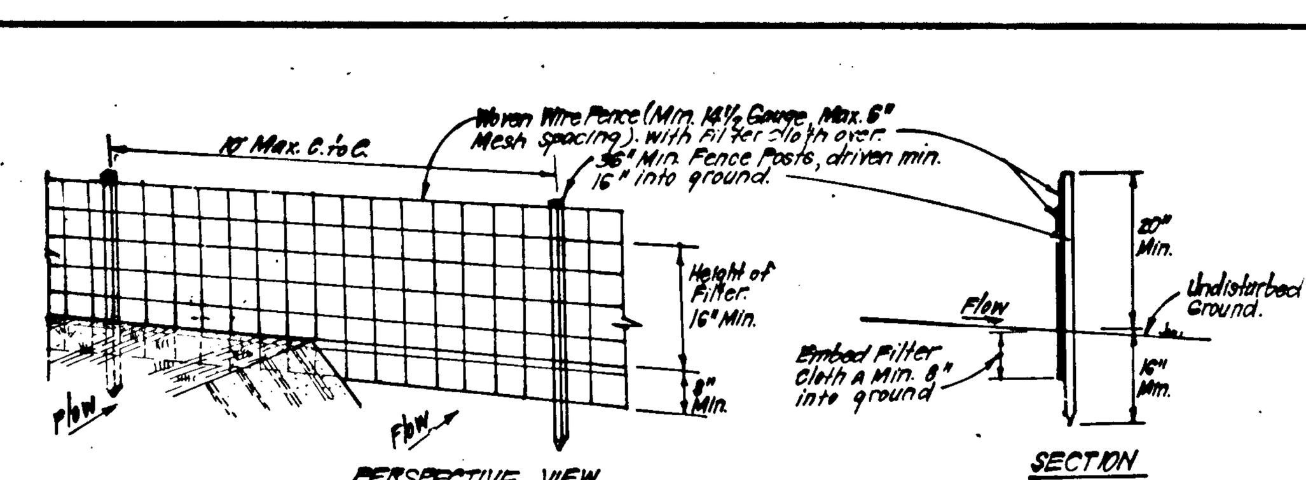


CONSTRUCTION SPECIFICATIONS:

1. The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots or other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equip. while it is being constructed. Max. height of embankment shall be 5' measured at ℄ of embankment.
3. All fill slopes shall be 2:1 or flatter; cut slopes 1:1 or flatter.
4. Elevation of the top of any dike directing water into trap must equal or exceed height of embankment.
5. Storage area provided shall be figured by computing the volume available behind the outlet channel up to an elevation of 1' below the lower weir crest.
6. Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Sections of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.
7. Stone used in the outlet channel shall be 4" to 8" rip rap. To provide a filtering effect, a layer of filter cloth shall be embedded 1' back into the upstream face of the outlet stone or a 1' thick layer of 2" or finer aggregate shall be placed on the upstream face of the outlet.
8. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
9. The structure shall be inspected after each rain and repaired as needed.
10. Construction operations shall be carried out in such a manner that erosion and water pollution are maintained.
11. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
12. Drainage area for this practice is limited to 15 acres or less.

RIPRAP OUTLET SEDIMENT TRAP · ST·VI

NO SCALE



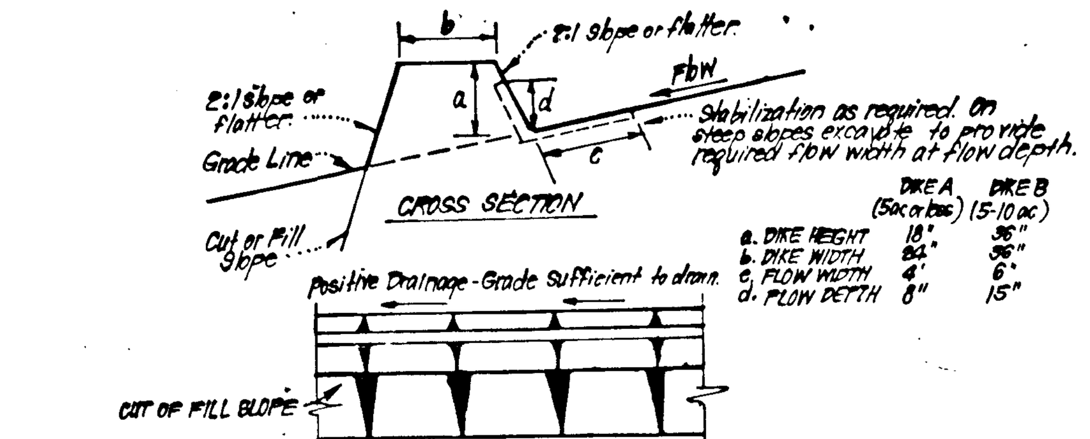
CONSTRUCTION SPECIFICATIONS:

1. Woven wire fence to be fastened securely to fence posts with wire ties or staples.
2. Filter Cloth to be fastened securely to woven wire fence with ties spaced every 24" at top and mid section.
3. When 2 sections of filter cloth adjoin each other they shall be overlapped by 6" and folded.
4. Maintenance shall be performed as needed and material removed when "Bulges" develop in Silt Fence.

POSTS: Steel either T or U Type or 2" Hardwood.
FENCE: Woven Wire, 14½ Gage 6" Max. Mesh Opening.
FILTER CLOTH: Filter X, Mirafi 100X, Stablinka, T140N or Approv. equal
PREFABRICATED UNIT: Geofab, Envirofence, or Approv. equal.

SILT FENCE DETAIL (9)

NO SCALE



CONSTRUCTION SPECIFICATIONS:

1. All dikes shall be compacted by earth-moving equipment.
2. All dikes shall have positive drainage to an outlet.
3. Top width may be wider and side slopes may be flatter if desired, to facilitate crossing by construction traffic.
4. Field location should be adjusted as needed to utilize a stabilized safe outlet.
5. Earth dikes shall have an outlet that functions with a minimum of erosion. Runoff shall be conveyed to a sediment trapping device such as a sediment trap or sediment basin where either the dike channel or the drainage area above the dike are not adequately stabilized.
6. Stabilization shall be: (A) In accordance with standard specifications for seed and straw mulch or straw mulch if not in seeding season, (B) flow channel as per chart below.

FLOW CHANNEL STABILIZATION

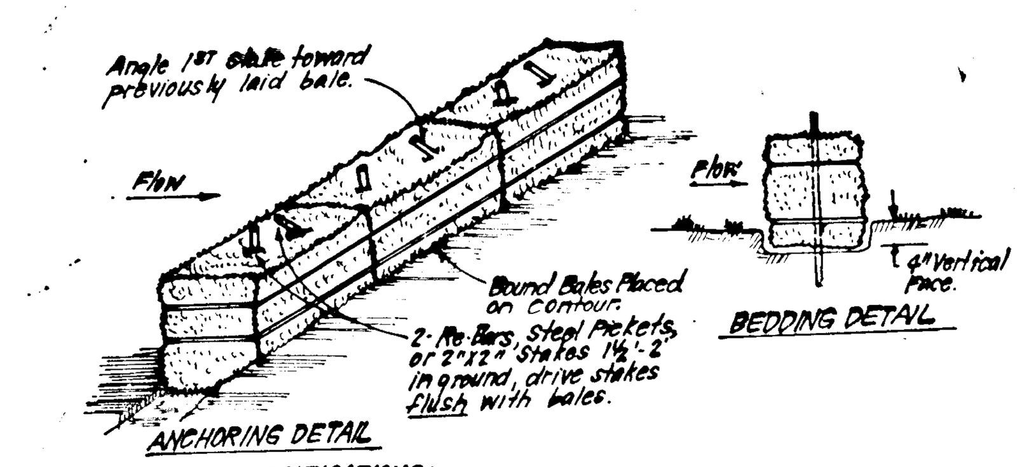
TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1.	0.5-3.0%	Seed & Straw Mulch	Seed or Straw Mulch
2.	3.1-5.0%	Seed & Straw Mulch	Seed w/Jute, or Excelsior; Sod; 2" Stone
3	5.1-8.0%	Seed w/Jute, or Sod; 2" Stone	Lined Rip Rap 4"-8" Stone
4	8.1-20.0%	Lined Rip Rap 4"-8" Stone	Engineering Design

A. Stone to be 2" Stone, or recycled concrete equivilent, in a layer at least 3" thick and be pressed into soil with construction equipment.
B. Rip Rap to be 4"-8" in a layer at least 8" thick, pressed into soil.
C. Approved equivalents can be substituted for any of the above materials.

7. Periodic Inspection and Required Maintenance must be provided after each rain.

EARTH DIKE DETAIL (E.D.)

NO SCALE

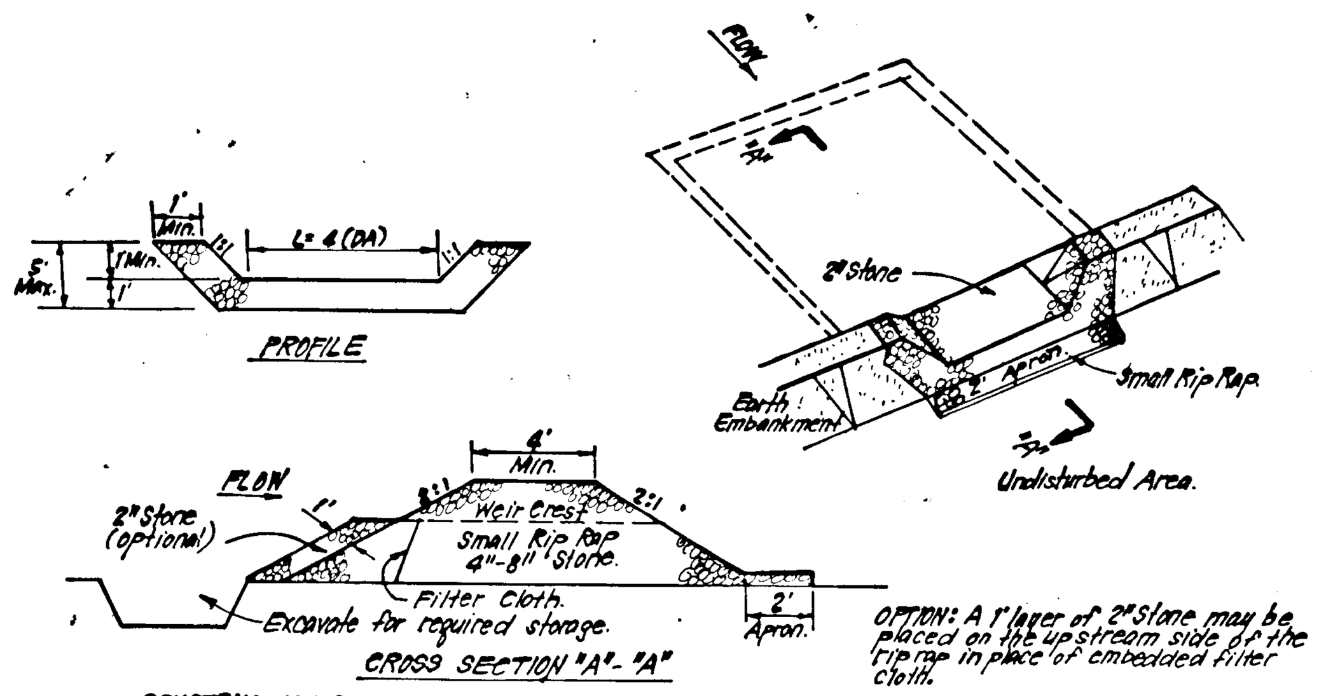


CONSTRUCTION SPECIFICATIONS:

1. Bales shall be placed at the Top of a Slope or on the contour and in a row with ends tightly abutting the adjacent bales.
2. Each bale shall be embedded in the soil a min. of 4" and placed so the bindings are horizontal.
3. Bales shall be securely anchored in place by either 2 stakes or re-bars driven thru the bale. The 1st stake in each bale shall be driven toward the previously laid bale at an angle to force the bales together. Stakes shall be driven flush with the bale.
4. Inspection shall be frequent and repair replacement shall be made promptly as needed.
5. Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.

STRAW BALE DIKE DETAIL (SBD)

NO SCALE



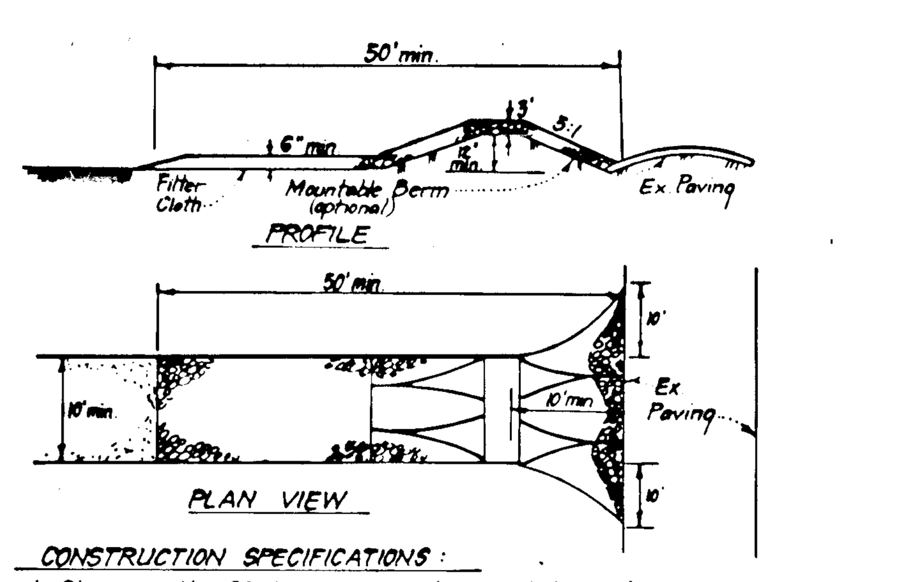
OPTION: A 1' layer of 2" Stone may be placed on the upstream side of the rip rap in place of embedded filter cloth.

CONSTRUCTION SPECIFICATIONS:

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. All cut and fill slopes shall be 2:1 or flatter.
4. The stone used in the outlet shall be small rip-rap 4"-8" along with 1' thickness of 2" aggregate placed on the up-grade side on the small rip rap or embedded filter cloth in the rip rap.
5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap.
6. The structure shall be inspected after each rain and repairs made as needed.
7. Construction operations shall be carried out in such a manner than erosion and water pollution is minimized.
8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

STONE OUTLET SEDIMENT TRAP (S.O.ST.) ST·V.

NO SCALE

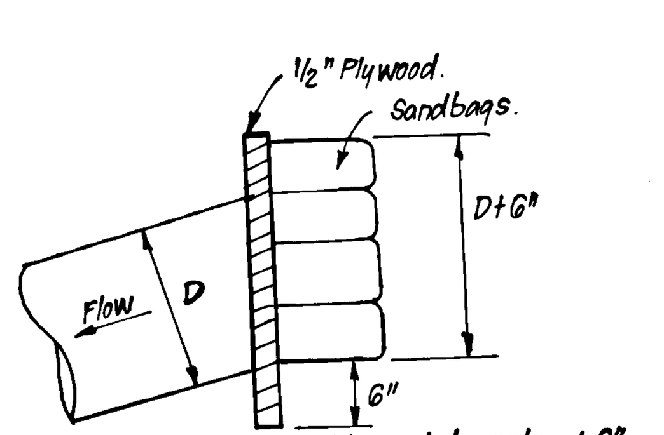


CONSTRUCTION SPECIFICATIONS:

1. Stone size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply.
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

STABILIZED CONSTRUCTION ENTRANCE (SCE)

NO SCALE



PIPE BLOCKING DETAIL

NO SCALE

SEDIMENT CONTROL NOTES

1) A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)
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 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
3) Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
4) All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chaper 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 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (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 26.66 Acres
   - Area Disturbed 11.95 Acres
   - Area to be roofed or paved 1.67 Acres
   - Area to be vegetatively stabilized 10.28 Acres
   - Total Cut 50,000 Cu. yds
   - Total Fill 50,000 Cu. yds
   - Offsite waste/borrow area location N/A
8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9) Additional sediment control 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) If houses are to be constructed on an "As-Sold" basis, at random, Single Lot Sediment Control as shown below shall be implemented. N/A
12) All pipes to be blocked at the end of each day (see detail below).
13) The total amount of straw bale dikes/silt fence equals 750 L.F.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas 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.

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

1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square ft) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) 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 sq ft).
2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil.

Seeding - For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thre July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru 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 1½ to 2 tons per acre (70 to 90 lbs/1000 sq ft) 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 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq ft) for anchoring.

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

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed 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.

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

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2½ bushel per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru 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 1½ to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes, 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

INFILTRATION BASIN STABILIZATION

Basin to be stabilized according to planting plan approved by Md. State Health Dept. or permanent seeding above.

* Construction Sequence	# of days
1. Obtain grading permit	2
2. Adjust/repair existing sediment controls to be utilized as necessary (See gp 87-45) and install S.C.E.	2
3. Install structure I-10 & construct infiltration trench brick shut 6" ⌀ openings in I-10	5
4. Install trap #6. Remove existing S-G & rip rap. Temp. grade as required.	
5. Install storm drainage: I-12 to M-9 & temp pipe; S-3 to S-1 see plan for special treatment	10
6. Rough grade as required. Note: all 2:1 slopes to be stabilized within 7 days of initial grading	25
7. Install storm drainage I-5 to M-2	5
8. Construct paving, C&G, sidewalks & utilities	90
9. Fine grade as required & stabilize site	10
10. Flush storm drains & remove brick from 6" ⌀ openings in I-10	1
11. Construct remaining storm drainage M-9 to S-8	5
12. Upon approval of sediment control inspector remove sediment controls	5
13. Construct infiltration basin, remaining pipe & Rip Rap @ S-1. Construct remaining pipe & S&A to meet Rip Rap at S-1.	15
14. Stabilize infiltration basin as required	1

*Site previously mass graded under gp 87-45

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

Rodolph Mayer Jr. — 7/27/87
Signature of Developer/Builder — Date

Reviewed for Howard S.C.D.
and meets Technical Requirements
[signature] 11-2-87
Signature — Date
U.S. Soil Conservation Service

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

Robert W. Zehner — 11/3/87
Approved — Date

ENGINEER'S CERTIFICATE

I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Jeffrey L. Schwab — 8/4/87
Date

APPROVED: DEPARTMENT OF PUBLIC WORKS.

[signature] — 11-12-87
Chief, Land Development Division — Date

Granville W. Wehland — 11/12/87
Chief, Bureau of Highways — Date

[signature] — 11-12-87
Chief, Bureau of Engineering — Date

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING

PD Fields — 20 NOV 87
Chief, Division of Land Development & Zoning Administration — Date

CLARK · FINEFROCK & SACKETT INC.
ENGINEERS · PLANNERS · SURVEYORS
11315 LOCKWOOD DRIVE · SILVER SPRING, MARYLAND 20904 · (301) 593-3400

DESIGNED	ROAD CONSTRUCTION PLANS SEDIMENT & EROSION CONTROL DETAILS	SCALE
GLB		As Shown
DRAWN	OAK WEST	DRAWING
KIW	SECTION 1 AREA 2	6 of 6
CHECKED	2ND ELECTION DISTRICT	JOB NO.
GLB	HOWARD COUNTY, MARYLAND	86-047
DATE	FOR: BRITAM DEVELOPMENT GROUP, 9030 Red Branch Rd. #250, Columbia Md. 21045	FILE NO.
7-27-87		86-047-E2

F-88-26

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