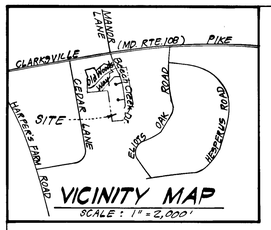
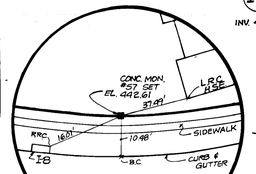
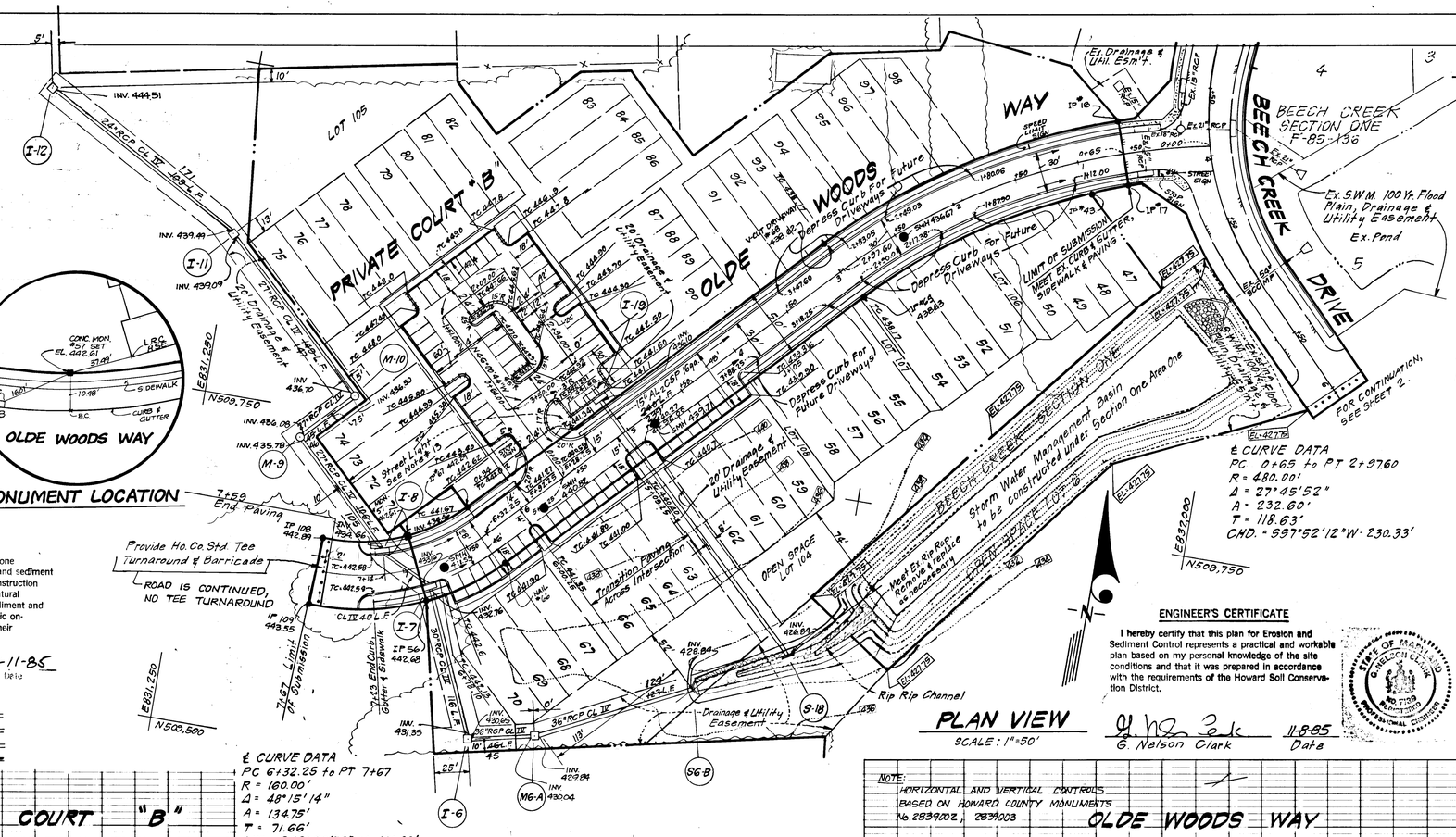






VICINITY MAP
SCALE : 1" = 2,000'

Reviewed for ......Howard...... S.C.D.
Name
and meets Technical Requirements
1-23-86
Signature Date
U.S. Soil Conservation Service

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

Stephen L Hulm 1/23/86
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."

11-11-85
Signature of Developer/Builder Date

CURB & GUTTER LEGEND

Ho.Co.Std. 7" Comb. Curb & Gutter	═
Ho.Co. Reverse 7" Curb & Gutter	▬ ▬ ▬
Ho.Co. Std 6" Comb. Curb & Gutter	╪╪╪
Ho.Co. Reverse 6" Curb & Gutter	▬

℄ CURVE DATA
PC 0+65 to PT 2+97.60
R = 480.00'
Δ = 27°45'52"
A = 232.60'
T = 118.63'
CHD. = S57°52'12"W - 230.33'

℄ CURVE DATA
PC 6+32.25 to PT 7+67
R = 160.00'
Δ = 48°15'14"
A = 134.75'
T = 71.66'
CHD. = S68°06'53"W - 130.80'

PLAN VIEW
SCALE : 1"=50'

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.

G. Nelson Clark 11-8-85
G. Nelson Clark Date

GENERAL NOTES :

1. All storm drain and paving shall be constructed in accordance with the latest Details and Specifications of Howard County & Md. SHA.
2. Types of Storm Drain Structures refer to the Standard Details of Ho.Co. & Md. SHA.
3. Trench compaction for Storm Drains, within Road or Street rights of way limits shall be in accordance with Howard Co. Design Manual Vol. IV (Class C trench bedding to be used for all storm drain, unless shown otherwise.)
4. Information concerning underground utilities was obtained from available records, but the contractor must determine the exact location and elevation of the 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 control devices, 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, Volume III.
8. Provide Concrete Sidewalk Ramps, Ho. Co. Std. Type A, R.4.01 where shown in plan.
9. Design Speed : 30 MPH
10. Zoning : RSC
11. Contractor or Developer shall contract the construction Inspection/Survey Division 24 hrs. before commencing work at 792-7272.
12. Storm Water Management provided in central facility in Beech Creek Section 1 Area 1, F-85-136.
13. Street Lights to be 175-Watt Modern mercury vapor lamp post top. fixtures on a 14' gray fiberglass pole where shown in plan. Street Lights to be located and constructed in accordance with Ho. Co. Design Manual Vol. III.

APPROVED: Department of Public Works

1-27-86
Chief, Bureau of Engineering 1-27-86 Date

APPROVED: Howard County Office of Planning & Zoning

ACTING 1-24-86
Chief, Division of Land Development & Zoning Administration Date

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

DESIGNED J.L.S.	ROAD CONSTRUCTION PLANS OLDE WOODS WAY AND PRIVATE COURT "B"	SCALE As Shown
DRAWN VLB	**BEECH CREEK**	DRAWING 1 OF 8
CHECKED J.L.S.	SECTION ONE AREA TWO 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 84-128
DATE Nov., 1985	FOR: BEECH CREEK ASSOCIATES One Knoll North Drive, #502 Columbia, Maryland 21045	FILE NO. 84-128-D

NOTE:
HORIZONTAL AND VERTICAL CONTROLS BASED ON HOWARD COUNTY MONUMENTS No. 2839002, 2839003

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

PROFILE LEGEND :
Profile Grade Line ━━━
Existing ℄ — - — -
B.R.L. Lt. - - - -
B.R.L. Rt. — — —

AS-BUILT SURVEY CERTIFIED BY DONALD B. SACKETT, MD. P.E. No. 6059, ON 6-10-88

#1164

F-86-89

AS-BUILT 6-10-88

PLAN VIEW

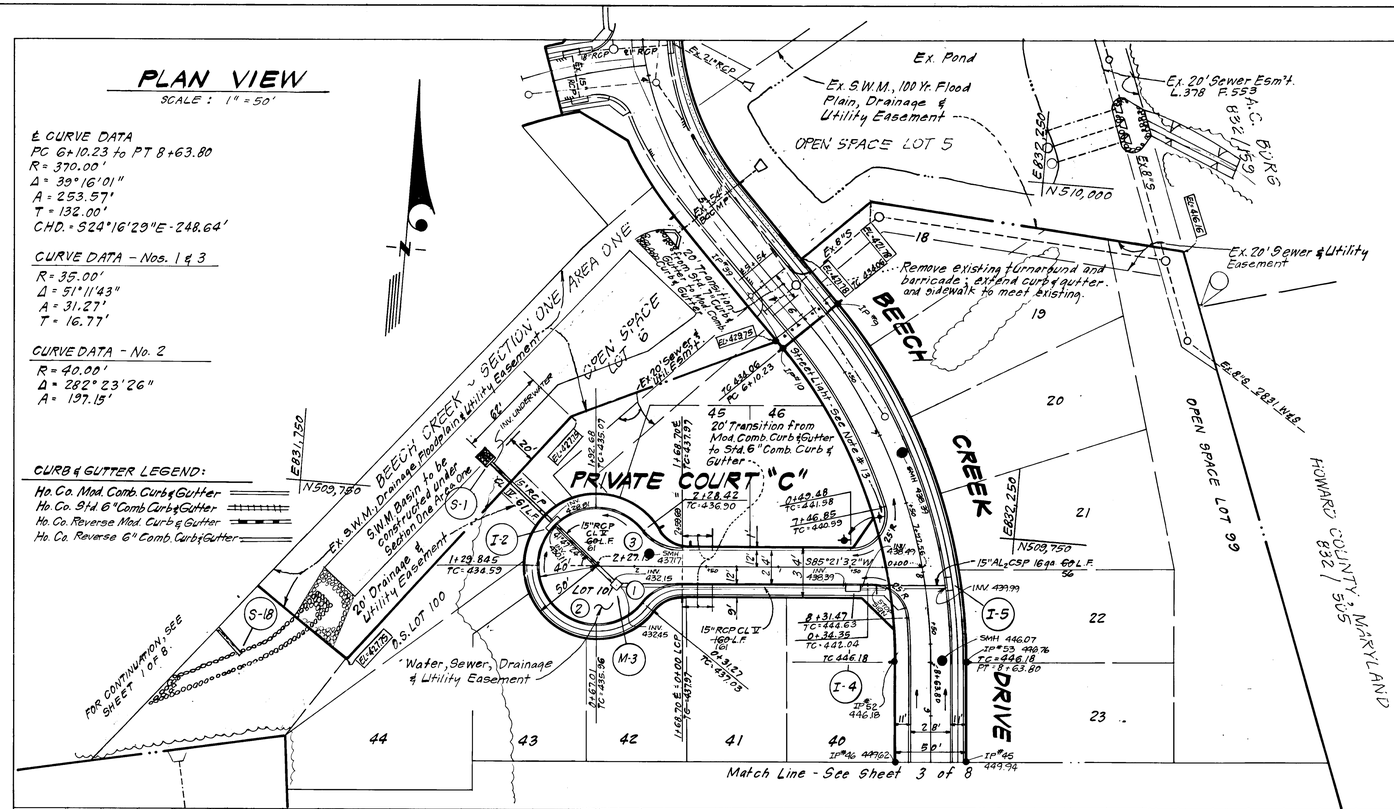
SCALE : 1" = 50'

℄ CURVE DATA
PC 6+10.23 to PT 8+63.80
R = 370.00'
Δ = 39°16'01"
A = 253.57'
T = 132.00'
CHD. = S24°16'29"E - 248.64'

CURVE DATA - Nos. 1 & 3
R = 35.00'
Δ = 51°11'43"
A = 31.27'
T = 16.77'

CURVE DATA - No. 2
R = 40.00'
Δ = 282°23'26"
A = 197.15'

CURB & GUTTER LEGEND:
Ho. Co. Mod. Comb. Curb & Gutter
Ho. Co. 9 1/2 d. 6" Comb. Curb & Gutter
Ho. Co. Reverse Mod. Curb & Gutter
Ho. Co. Reverse 6" Comb. Curb & Gutter



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."

Signature of Developer or Builder — 11-11-85 Date

Reviewed for..... Howard S.C.D
Name
and meets Technical Requirements
Signature — 1-23-86 Date
U.S. Soil Conservation Service

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

Approved — 1/23/86 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.

G. Nelson Clark — 11-8-85 Date

STATE OF MARYLAND G. NELSON CLARK No. 7109 PROFESSIONAL ENGINEER

APPROVED: Department of Public Works

Chief, Bureau of Engineering — 1-27-86 Date

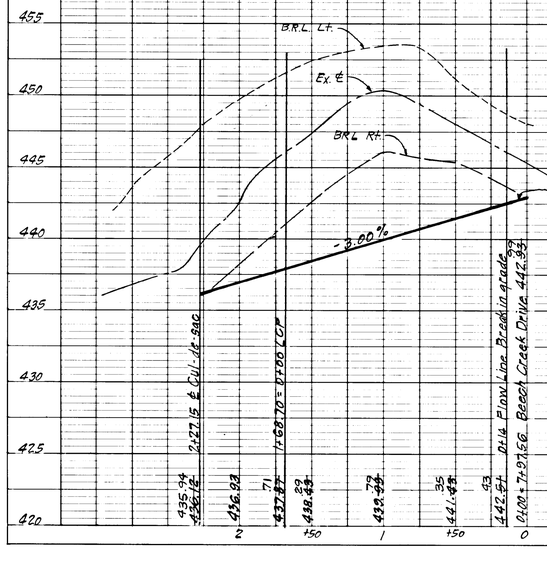
APPROVED: Howard County Office of Planning & Zoning

Acting Chief, Division of Land Development & Zoning Administration — 1-24-86 Date

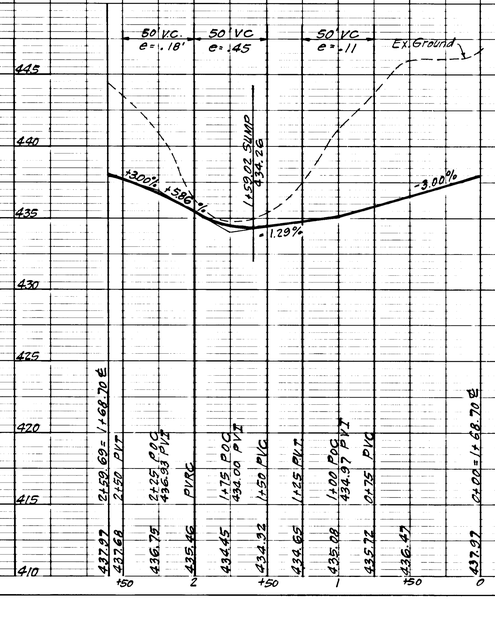
CFS CLARK · FINEFROCK & SACKETT
ENGINEERS · PLANNERS · SURVEYORS
11315 LOCKWOOD DRIVE SILVER SPRING MARYLAND 20904 (301) 593-3400

DESIGNED J.L.S.	ROAD CONSTRUCTION PLANS BEECH CREEK DRIVE	SCALE As Shown
DRAWN V.L.B.	**BEECH CREEK**	DRAWING 2 OF 8
CHECKED J.L.S.	SECTION ONE AREA TWO 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 84-128
DATE Nov., 1985	FOR: BEECH CREEK ASSOCIATES One Knoll North Drive, #302 Columbia, Maryland 21045	FILE NO. 84-128-D

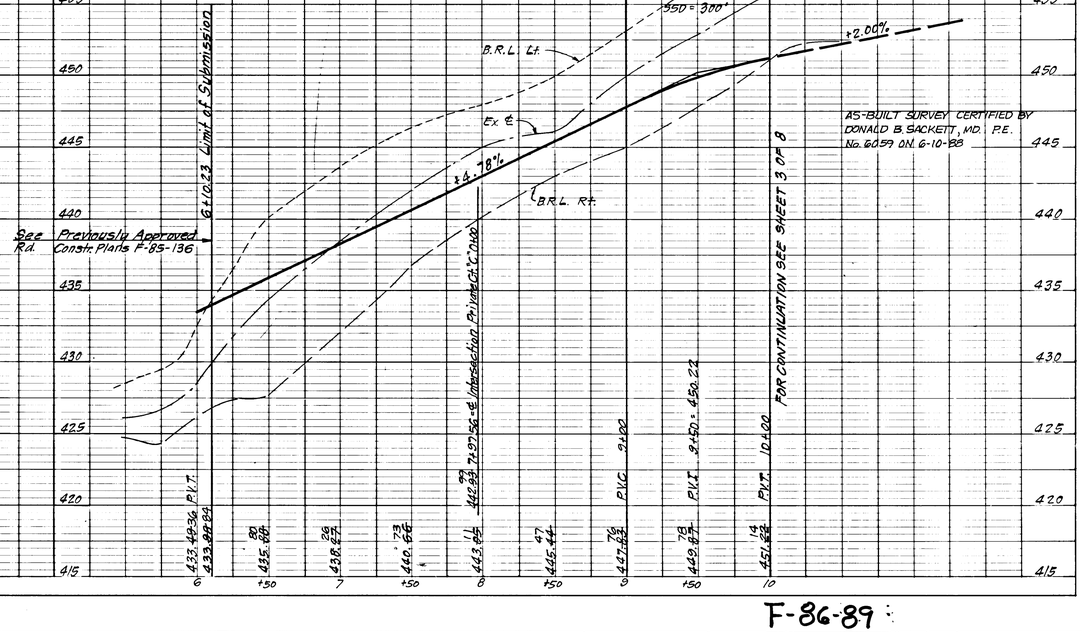
PRIVATE COURT "C"



LINEAR CURB PROFILE-PRIVATE COURT "C"



BEECH CREEK DRIVE



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

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

#1164

F-86-89

AS-BUILT 6-10-88

CURVE DATA - Nos. 1 & 3
R = 35.00'
Δ = 51°11'43"
A = 31.27'
T = 16.77'

CURVE DATA - No. 2
R = 40.00'
Δ = 282°23'26"
A = 197.15'

℄ CURVE DATA
PC 11+24.20 to PT 12+65.92
R = 160.00'
Δ = 50°44'58"
A = 141.72'
T = 75.89'
CHD = S20°44'01"W-137.13'

CURB & GUTTER LEGEND
Ho. Co. Mod. Comb. Curb & Gutter
Ho. Co. Reverse Mod. C & G
Ho. Co. Std. 6" Comb. Curb & Gutter
Ho. Co. Reverse 6" Comb. Curb & Gutter

N509,750
E693,750

MATCH LINE ~ SEE SHEET 2 OF 8

PRIVATE COURT "D"
BEECH CREEK DRIVE
LOT 103
OPEN SPACE LOT 102
Water, Sewer and Utility Easement
HOWARD COUNTY MARYLAND
FUTURE SUBDIVISION BEECH CREEK SECTION ONE AREA THREE
Limit of Submission
Provide Ho. Co. Std. Tee Turnaround and Barricade
End Paving
HOWARD COUNTY MARYLAND
E832,500
N509,500
N509,250
E693,000
N509,500
E832,500
HOWARD COUNTY MARYLAND
105 / 505

HOWARD COUNTY, MARYLAND
108 / 368

MON. LOCATION
HOUSE # 10892
L.R.C.
89.57'
MON. #75 457.75
93.15' TO B.C.
47.72' TO RRC CB
BEECH CREEK DRIVE

PLAN VIEW
SCALE: 1" = 50'

APPROVED: Department of Public Works
Chief, Bureau of Engineering — 1-27-86 Date

APPROVED: Howard County Office of Planning & Zoning
ACTING Louis Fellman — 1-24-86 Date
Chief, Division of Land Development & Zoning Administration

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

DESIGNED J.L.S.	ROAD CONSTRUCTION PLANS BEECH CREEK DRIVE	SCALE As Shown
DRAWN V.L.B.	**BEECH CREEK** SECTION ONE AREA TWO 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	DRAWING 3 OF 8
CHECKED J.L.S.		JOB NO. 84-128
DATE Nov., 1985	FOR: BEECH CREEK ASSOCIATES One Knoll North Drive, #302 Columbia, Maryland 21045	FILE NO. 84-128-D

STATE OF MARYLAND — GARELSON CLARK — No. 7119 — REGISTERED PROFESSIONAL ENGINEER
11-8-85

AS-BUILT SURVEY CERTIFIED BY DONALD B. SACKETT, MD. P.E. No. 6059 ON 6-10-88

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

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

PRIVATE COURT "D"

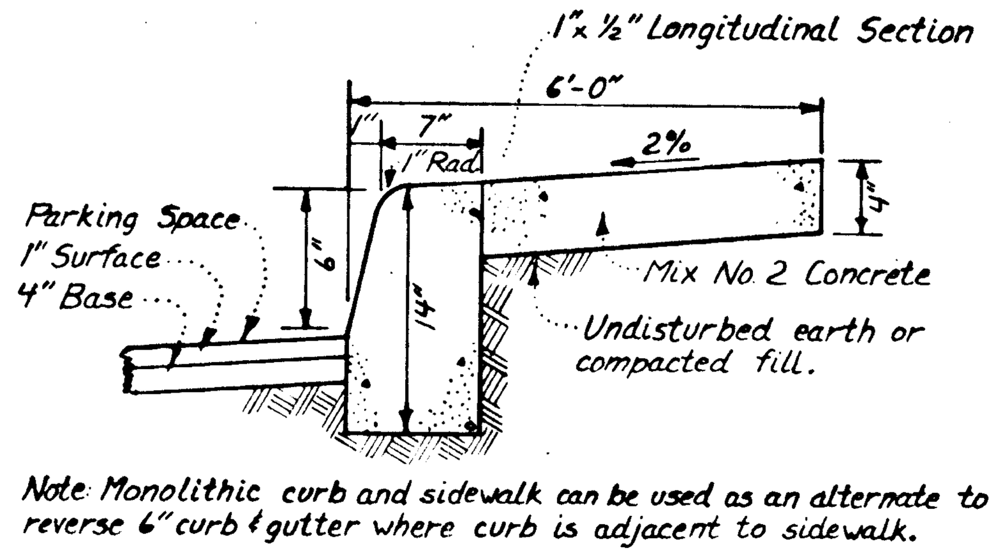
LINEAR CURB PROFILE: PRIVATE COURT "D"

BEECH CREEK DRIVE

#1164

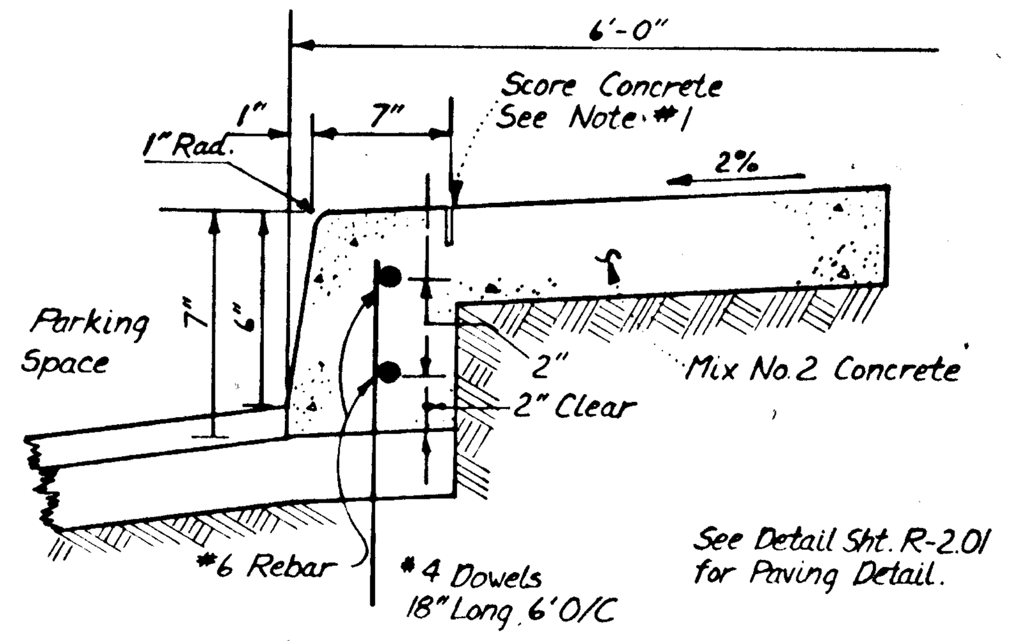
F-86-89
AS-BUILT 6-10-88

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

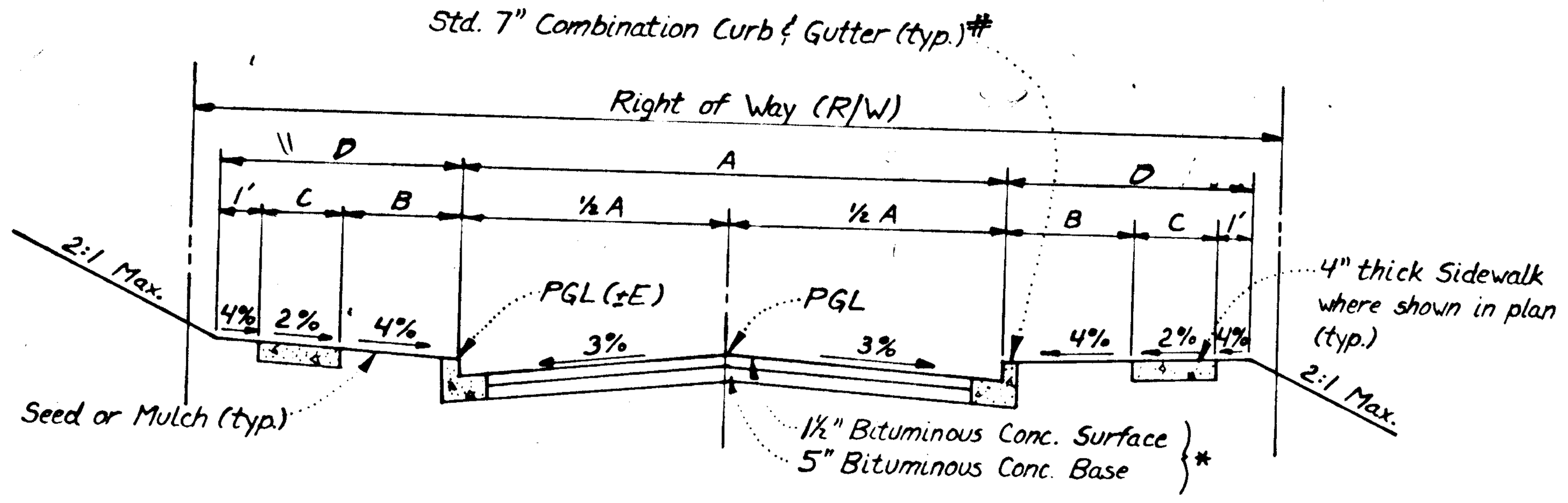


Note: Monolithic curb and sidewalk can be used as an alternate to reverse 6" curb & gutter where curb is adjacent to sidewalk.

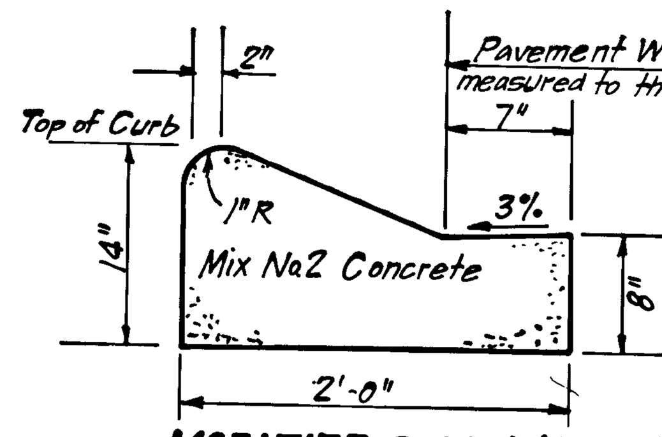
MONOLITHIC CURB & SIDEWALK - PRIVATE PARKING AREA
NO SCALE



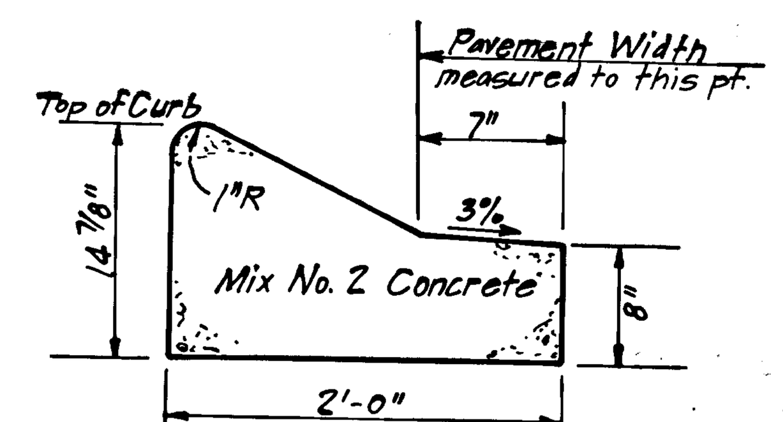
ALTERNATE SECTION
NO SCALE



TYPICAL PAVING SECTION - PUBLIC ROADS
NO SCALE
* For Alternate Paving Section - See det. this sht.
# Modified Comb. Curb & Gutter to be used for Beech Creek Drive

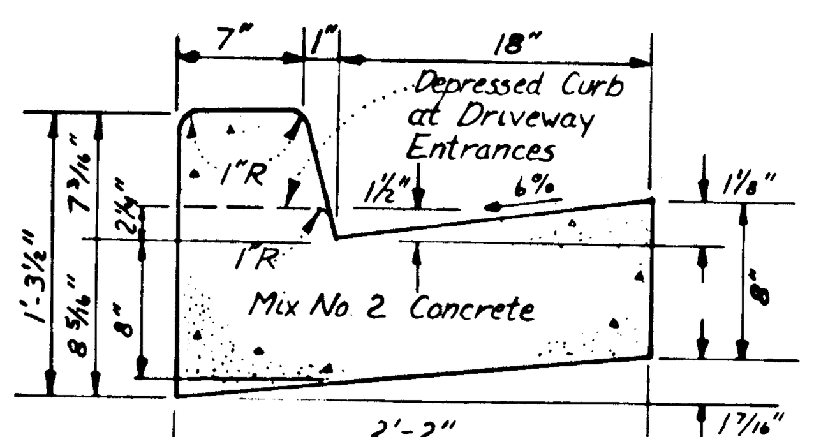


MODIFIED COMBINATION CURB & GUTTER
NO SCALE

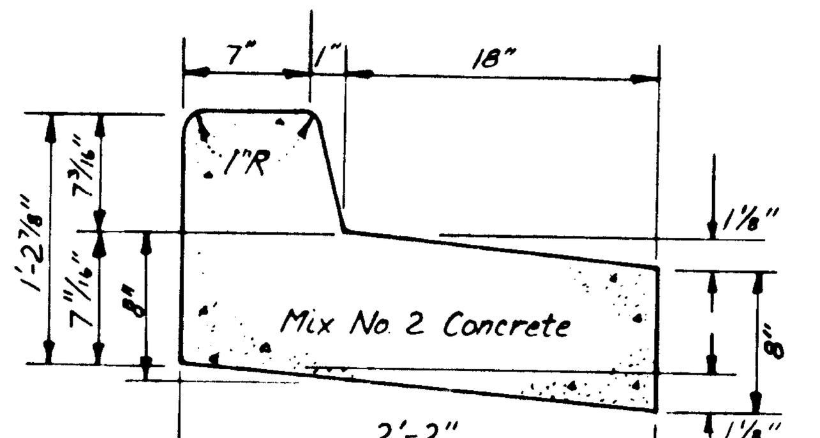


REVERSE MODIFIED COMBINATION CURB & GUTTER
NO SCALE

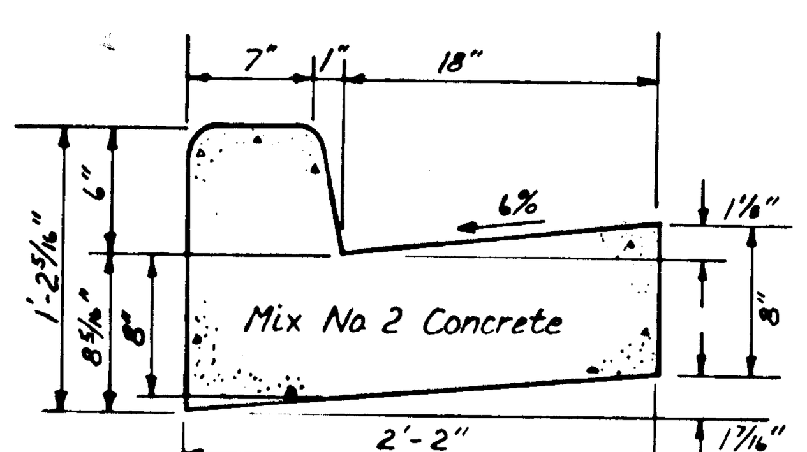
STREET NAME & STATION		TYPE OF TRAFFIC	A	B	C	D	R/W	ZONING	DESIGN SPEED	E
Beech Creek Drive	6+10.23 to 12+65.92	Cul-de-sac	28'	4'	4'	9'	50'	RSC	30 mph	±.08
Olde Woods Way	0+65.00 to 4+05	Local	30'	4'	4'	9'	50'	RSC	30 mph	±.10
Olde Woods Way	6+91.14 to 7+59	Cul-de-sac	28'	4'	4'	9'	50'	RSC	30 mph	±.14



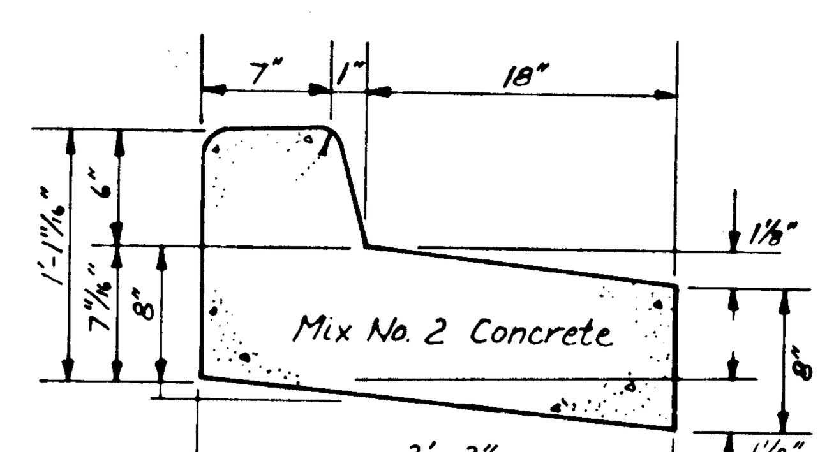
STANDARD 7" COMBINATION CURB & GUTTER
NO SCALE



REVERSE 7" COMBINATION CURB & GUTTER
NO SCALE



STANDARD 6" COMBINATION CURB & GUTTER
NO SCALE



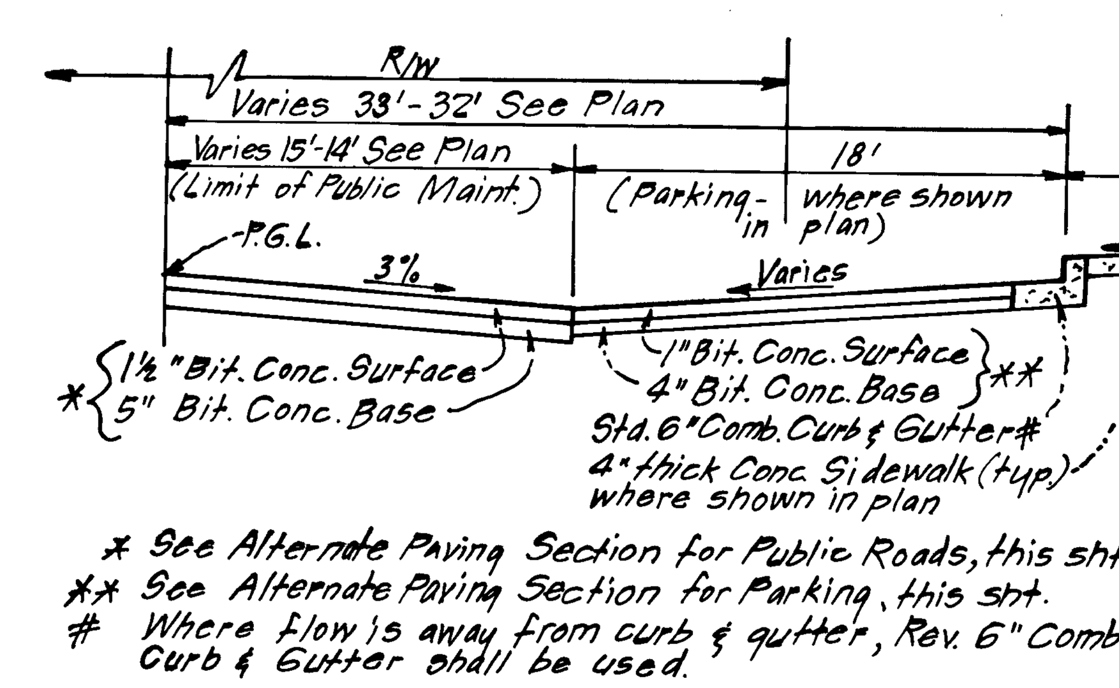
REVERSE 6" COMBINATION CURB & GUTTER
NO SCALE

Bituminous Conc Surface	1 1/2"
Bituminous Conc. Base	2 1/2"
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

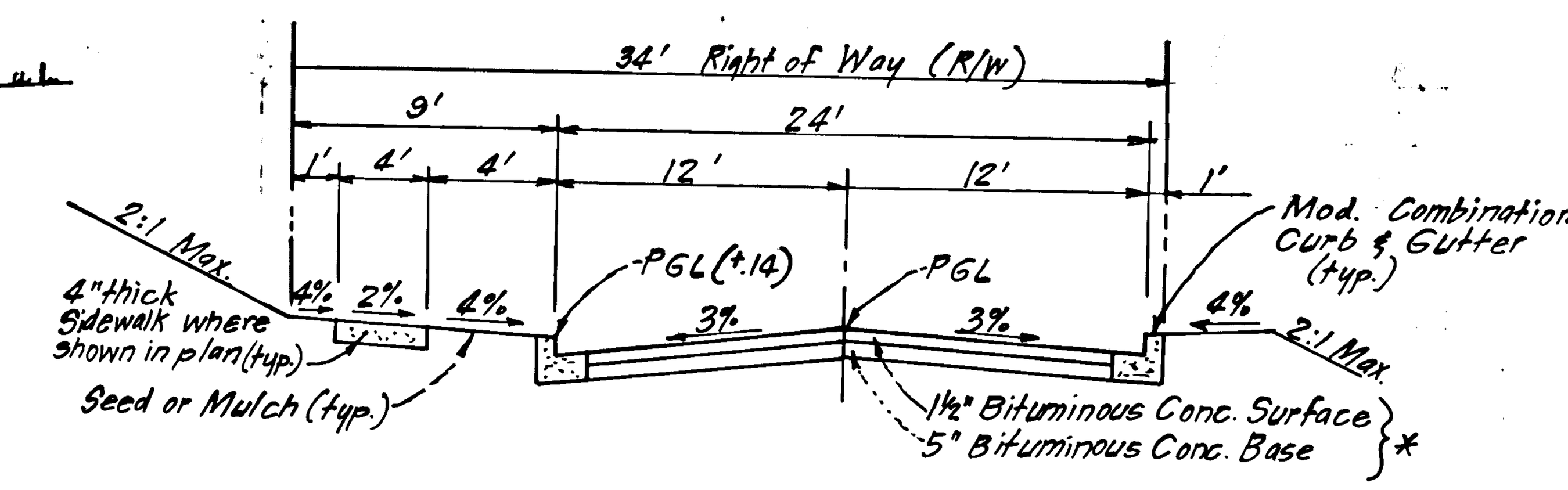
Bituminous Conc Surface	1"
Bituminous Conc. Base	2"
Prime 5" Crusher Run Base Course or 4" Dense Graded Stabilized Aggregate Base Course	5" or 4"

ALTERNATE PAVING SECTION FOR PARKING AREAS
NO SCALE

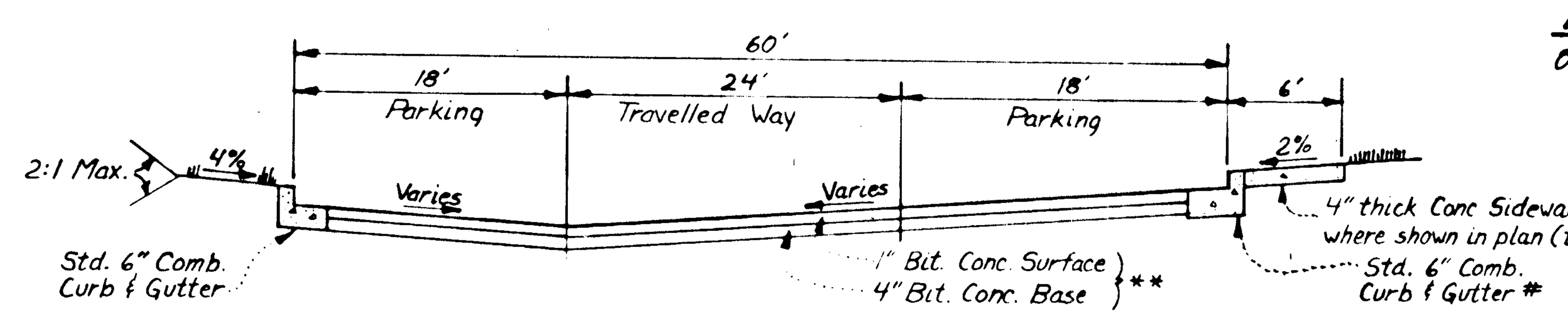


* See Alternate Paving Section for Public Roads, this sht.
** See Alternate Paving Section for Parking, this sht.
# Where flow is away from curb & gutter, Rev. 6" Comb. Curb & Gutter shall be used.

TYPICAL HALF SECTION PARKING ADJACENT TO PUBLIC ROADS
OLDE WOODS WAY (Sta. 4+05 to 6+91.14)
NO SCALE



TYPICAL PAVING SECTION - PRIVATE COURTS C & D
NO SCALE



** See Alternate Paving Section for Parking this sht.

Where flow is away from curb & gutter. Rev. 6" Comb. Curb & Gutter shall be used.

TYPICAL SECTION PRIVATE COURT B & PARKING
NO SCALE

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.

G. Nelson Clark — 11-8-85
Date

Reviewed for Howard S.C.D.
Name
and meets Technical Requirements
1-23-86
Signature — Date
U.S. Soil Conservation Service

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

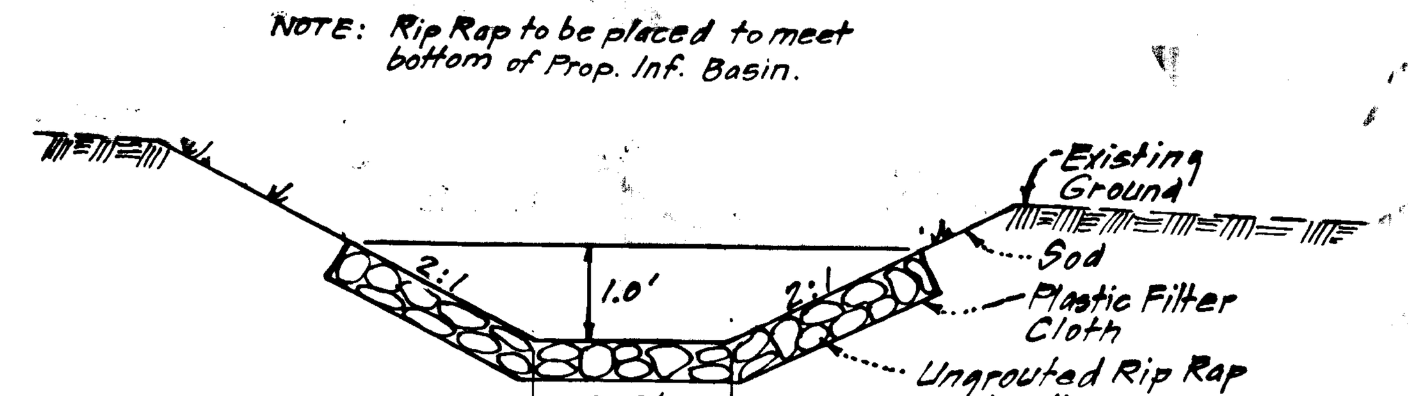
Approved — 1/23/86
Date

DEVELOPER'S/BUILDER'S CERTIFICATE

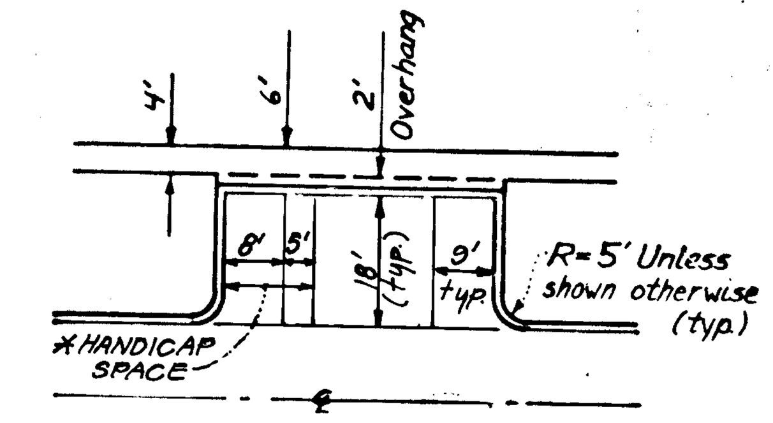
"I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training 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."

Signature of Developer/Builder — 11-11-85
Date

NOTE: Rip Rap to be placed to meet bottom of Prop. Inf. Basin.



TYPICAL SECTION - UNGROUTED RIP RAP DITCH @ S-1
NO SCALE



TYPICAL PARKING
NO SCALE
* Two 8' Handicap Spaces may share one 5' Aisle.

APPROVED: DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Engineering — 1-27-86
Date

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING

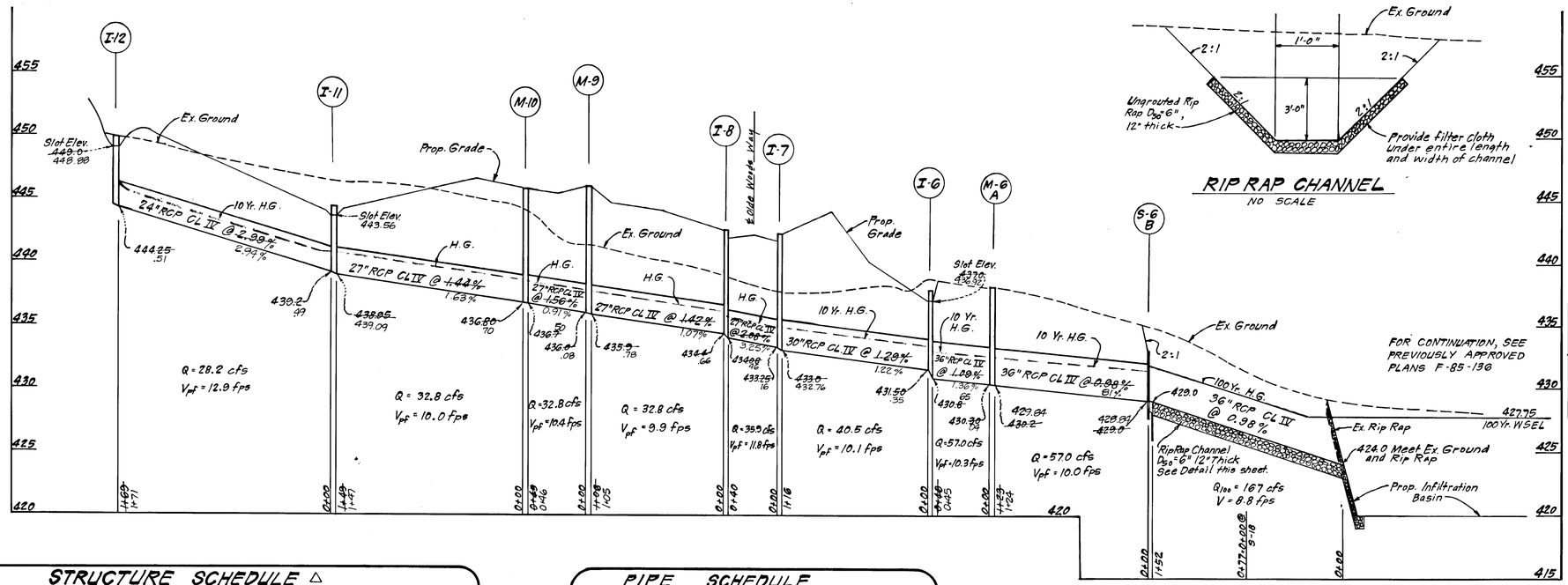
ACTING
Chief, Division of Land Development & Zoning Administration — 1-24-86
Date

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

DESIGNED	ROAD CONSTRUCTION PLANS PAVING & DRAINAGE DETAILS & PROFILES	SCALE
J.L.S.		AS SHOWN
DRAWN	BEECH CREEK	DRAWING
VLB	SECTION ONE AREA TWO	4 OF 8
CHECKED	5TH ELECTION DISTRICT	JOB NO.
J.L.S.	HOWARD COUNTY, MARYLAND	84-128
DATE	FOR: BEECH CREEK ASSOCIATES One Knoll North Drive, #502 Columbia, Maryland 21045	FILE NO.
Nov., 1985		84-128-D

F-86-89

#1164



STRUCTURE SCHEDULE △

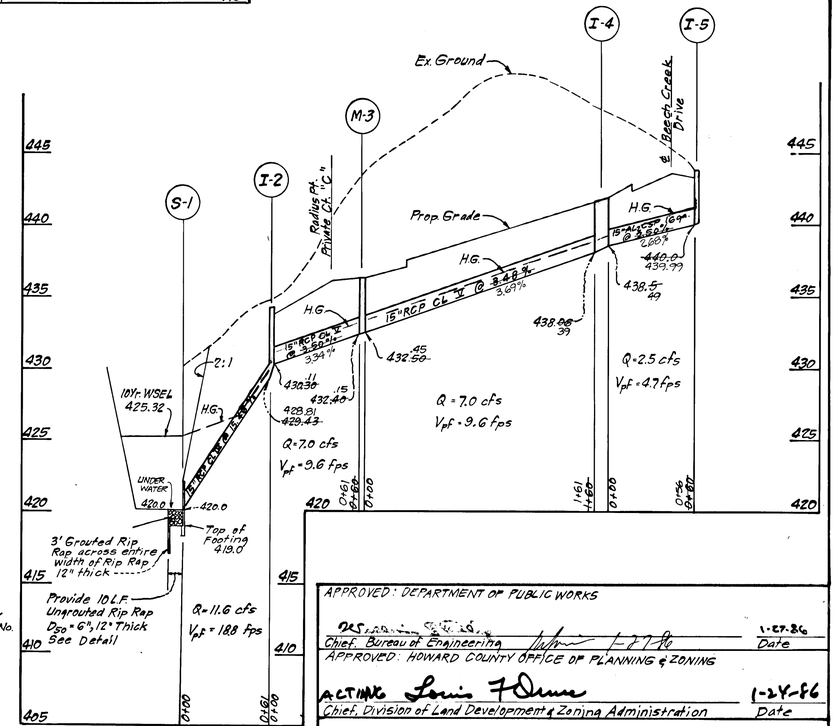
	Nº	TYPE	INV. IN	INV. OUT	TOP ELEVATION UPPER	TOP ELEVATION LOWER	REMARKS		LOCATION
#	S-1	"C" Endwall	420.00	420.00	–		Ho.Co.Std.SD5.21	15"Dia.	See Plan.
	I-2	A-10 Inlet	430.30	420.43	434.26	21	Ho.Co.Std. SD 4.02	W=2'-6"	See Plan.
	M-3	Shallow Brick MH	432.50	432.40	436.33	25	Ho.Co.Std. GS.05	48" SQ.	@ Str. Sta. 2+09.85 14.08' Lt.
□	I-4	A-10 Inlet W/Def.	438.50	438.06	441.95	441.62	Ho.Co.Std. SD 4.02	W=2'-6"	@ Str. Sta. 0+42.85 12.83' Lt.
□	I-5	A-S Inlet W/Def.	–	440.00	443.949	443.66	Ho.Co.Std. SD 4.01	W=2'-6"	@ Str. Sta. 8+16.80 D 14.83' Lt.
	S-6B	A" Endwall	429.00	429.00	429.84	–	Ho.Co.Std. SD 5.11	Dia=36"	See Plan.
	M-6A	Shallow Brick MH	430.30	430.20	438.00	433.64	Ho.Co.Std. GS.05	48" SQ.	See Plan.
*	I-6	"D" Inlet	431.50	430.80	437.83	.75	Ho.Co.Std. SD 4.11	48" SQ.	See Plan.
	I-7	A-10 Inlet	433.25	433.00	442.27	442.16	Ho.Co.Std. SD 4.02	W=2'-6"	@ Str. 6+96.60 Old Woods Way 14' Lt.
	I-8	A-10 Inlet	434.40	434.08	442.56	442.45	Ho.Co.Std. SD 4.02	W=2'-6"	@ Str. 0+14.00 Old Woods Way 14' Rt.
	M-9	Brick Manhole	436.00	435.90	446.00	436.16	Ho.Co.Std. GS.02	5'-0" Rd.	See Plan.
	M-10	Brick Manhole	436.80	436.70	445.80		Ho.Co.Std. GS.02	5'-0" Rd.	See Plan.
*	I-11	"D" Inlet	439.20	438.95	439.09	444.33	Ho.Co.Std. SD 4.11	48" SQ.	See Plan.
*	I-12	"D" Inlet	–	444.25		449.83	Ho.Co.Std. SD 4.11	48" SQ.	See Plan.
#	S-18	"C" Endwall	426.53	426.53	–		Ho.Co.Std. SD 5.21	Dia.=15"	See Plan.
	I-19	A-10 Inlet	–	436.50		441.00	Ho.Co.Std. SD 4.02	W=2'-6"	See Plan.

* Provide Slots in all Sides, modify dimensions to 48" SQ.
\# Increase H Dimension 1' to allow for rip rap construction.
□ See Ho.Co.Std. SD 4.83 for Inlet Deflectors.
△ All inverts to be fully developed.

PIPE SCHEDULE

	TYPE			LENGTH
*	15" AL2CSP	16 ga.	295 L.F.	300 L.F.
	15" RCP	CL IV	222 L.F.	220 L.F.
	15" RCP	CL III		61 L.F.
	24" RCP	CL IV	171 L.F.	169 L.F.
	27" RCP	CL IV	338 L.F.	340 L.F.
	30" RCP	CL IV		116 L.F.
	36" RCP	CL IV		169 L.F.

* 2 2/3 x 1/2 Corrugations
CSP with aluminized coating may be substituted for AL2CSP



AS-BUILT SURVEY CERTIFIED BY DONALD B. SACKETT, MD. P.E. No. 6059, ON 6-10-88

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 SCD CONSERVATION DISTRICT

Approved 1/23/86 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."

Signature of Developer/Builder 11-11-85 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 G. NELSON CLARK

Signature of Engineer 11-8-85 Date

G. Nelson Clark

APPROVED: DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Engineering 1-27-86 Date

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING

ACTING Louis Dunn 1-24-86

Chief, Division of Land Development & Zoning Administration Date

CLARK · FINEFROCK & SACKETT
ENGINEERS · PLANNERS · SURVEYORS
11311 LOCKWOOD DRIVE · SILVER SPRING, MARYLAND 20904 · (301) 593-3400

DESIGNED J.L.S.	ROAD CONSTRUCTION PLANS PAVING & DRAINAGE DETAILS & PROFILES	SCALE As Shown
DRAWN V.L.B.	BEECH CREEK SECTION ONE AREA TWO 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	DRAWING 5 OF 8
CHECKED J.L.S.		JOB NO. 84-128
DATE Nov, 1985	FOR: BEECH CREEK ASSOCIATES One Knoll North Drive, #502 Columbia, Maryland 21045	FILE NO. 84128-D

#11164

AS-BUILT 6-10-88 F-86-89

PLANT SCHEDULE

KEY	PLANT NAME	SIZE	QUAN.	REMARKS
(M)	Acer rubrum 'Sunset' Sunset Maple	2½" Cal. Min.	22	B&B Heavy Heads
(P)	Quercus palustris Pin Oak	2½" Cal. Min.	19	B&B Heavy Heads
(W)	Quercus phellos Willow Oak	2½" Cal. Min.	8	B&B Heavy Heads
(L)	Platanus acerifolia London Planetree	2½" Cal. Min.	25	B&B Heavy Heads
(G)	Fraxinus P. lanceolata 'Marshalls Marshalls Green Ash	2½" Cal. Min.	18	B&B Heavy Heads
(T)	Tilia cordata Littleleaf Linden	2½" Cal. Min.	9	B&B Heavy Heads

NOTES:

1. Contractor shall verify location of underground utilities prior to digging.
2. Final locations of trees may be adjusted slightly to accomodate field conditions.
3. Planting procedures shall comply with "Landscape Specifications for Baltimore-Washington Metropolitan Areas."
4. Substitutions to the above 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 Howard County Subdivision Regulations.

SCALE: 1" = 50'

LEGEND:

1. Existing Contour
2. Proposed Contour
3. Inlet Protection
4. Stabilized Construction Entrance
5. Spot Elevation
6. Direction of Drainage
7. Earth Dike

I.P.D. — SCE — +50.5 — E.D. A-1

VICINITY MAP
SCALE: 1" = 2,000'

NOTE: See Sheet 7 of 8 for Drainage Areas not shown.

INSET
SCALE: 1" = 50'
(See Plan this sheet, far left)

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."

Signature of Developer/Builder — Date 11-11-85

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.

G. Nelson Clark — 11-8-85
G. Nelson Clark — Date

Reviewed for H.O.W.A.R.D. S.C.D. 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.

Approved — Date

APPROVED: Department of Public Works

Chief, Bureau of Engineering — 1-27-86 — Date

APPROVED: Howard County Office of Planning & Zoning

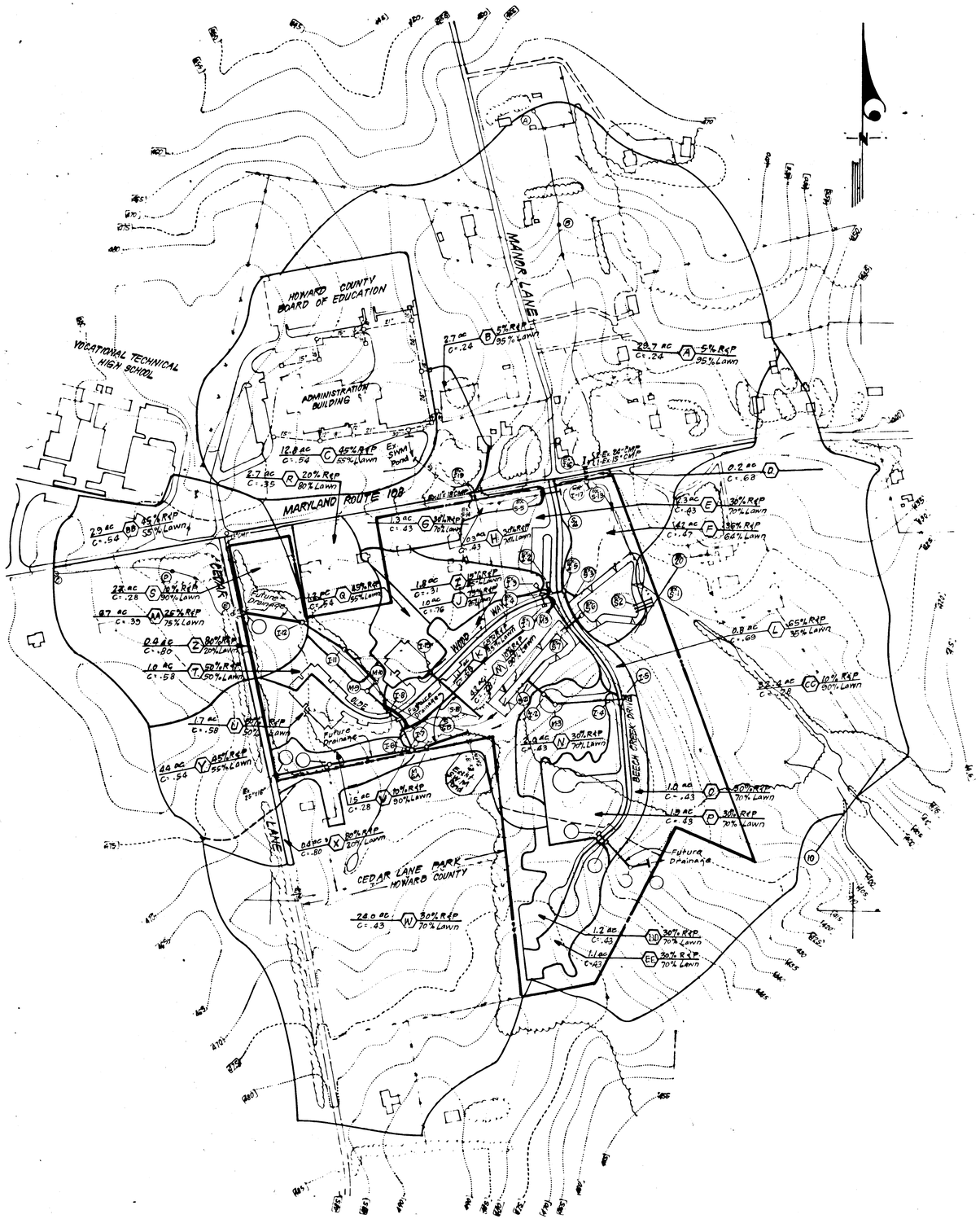
ACTING Chief, Division of Land Development & Zoning Administration — 1-24-86 — Date

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

DESIGNED J.L.S.	ROAD CONSTRUCTION PLANS SEDIMENT & EROSION CONTROL PLANS	SCALE As Shown
DRAWN V.L.B.	BEECH CREEK SECTION ONE AREA TWO 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	DRAWING 6 OF 8
CHECKED J.L.S.		JOB NO. 84-128
DATE Nov., 1985	FOR: BEECH CREEK ASSOCIATES One Knoll North Drive, #502 Columbia, Maryland 21045	FILE NO 84-128-D

#1164

F-86-89



DRAINAGE AREA MAP

APPROVED: Department of Public Works

Chief, Bureau of Engineering — 1-27-86 Date

APPROVED: Howard County Office of Planning & Zoning

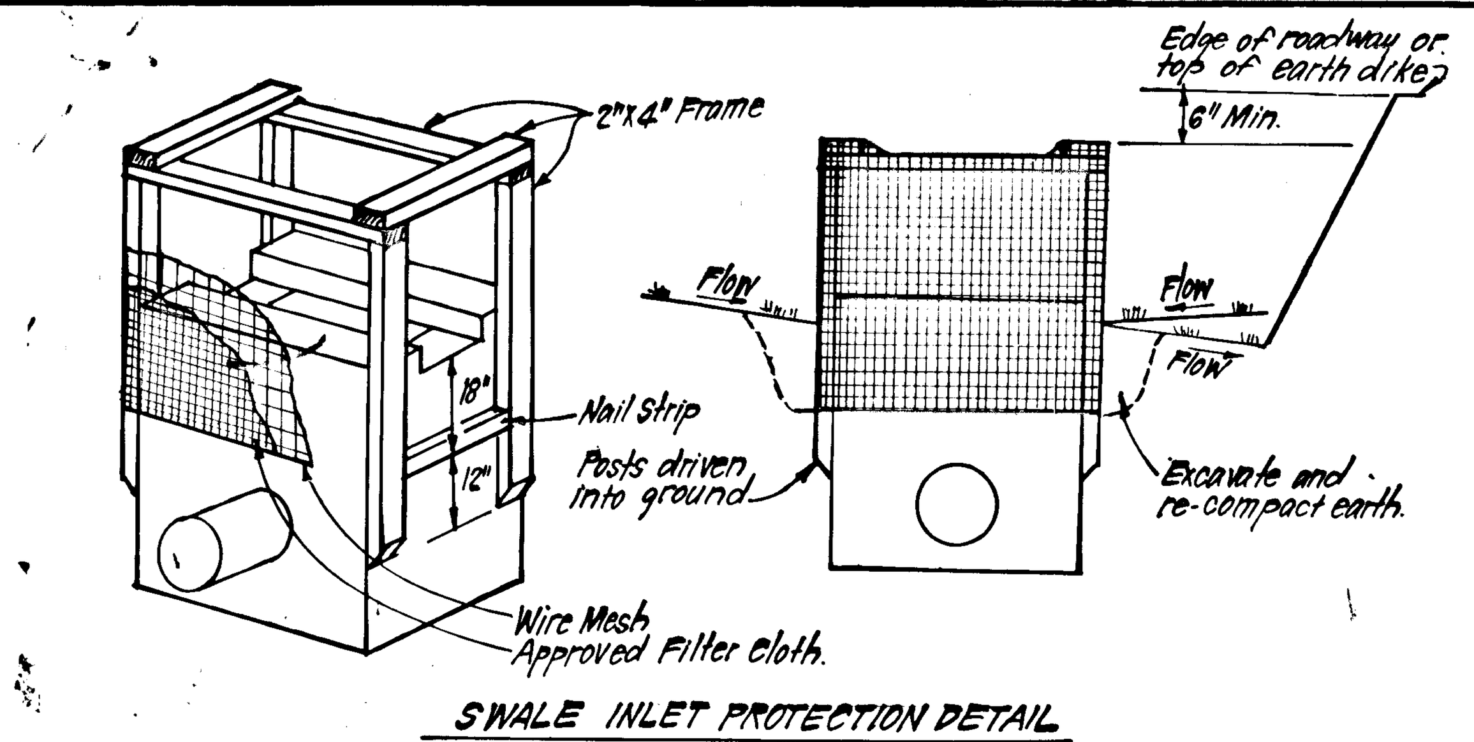
ACTING Chief, Division of Land Development and Zoning Administration — 1-24-86 Date

CLARK • FINEFROCK & SACKETT
ENGINEERS • PLANNERS • SURVEYORS
SILVER SPRING, MARYLAND 20904 · 301-593-1400

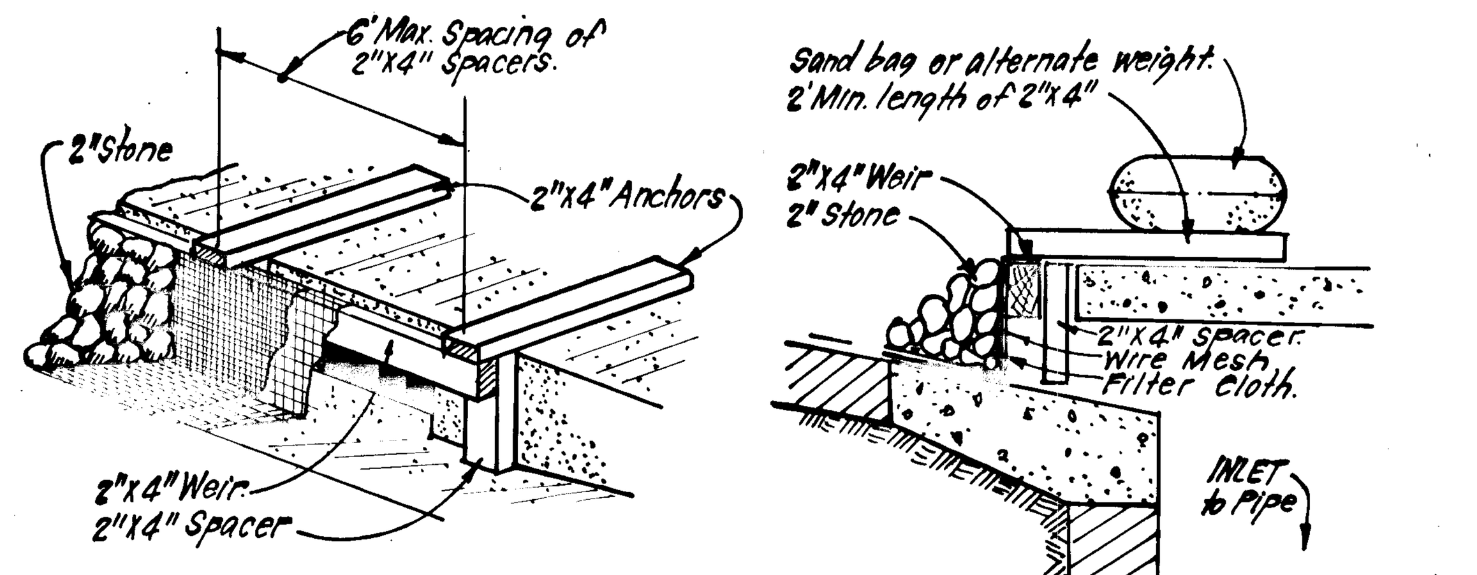
DESIGNED JLS.	ROAD CONSTRUCTION PLAN DRAINAGE AREA MAP FOR STORM DRAINAGE & 100 YR FLOOD PLAIN	SCALE 1"=200'
DRAWN V.L.M KIW	**BEECH CREEK** SECTION 1 AREA 2 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	DRAWING 7 OF 8
CHECKED JLS		JOB NO 82.128
DATE Nov.-85	FOR: BEECH CREEK ASSOCIATES 3967 Ducks Foot Lane Ellicott City, Md. 21043	FILE NO 82-128-D

#1169

F-86-89



SWALE INLET PROTECTION DETAIL



CURB INLET PROTECTION DETAIL

CONSTRUCTION SPECIFICATIONS:

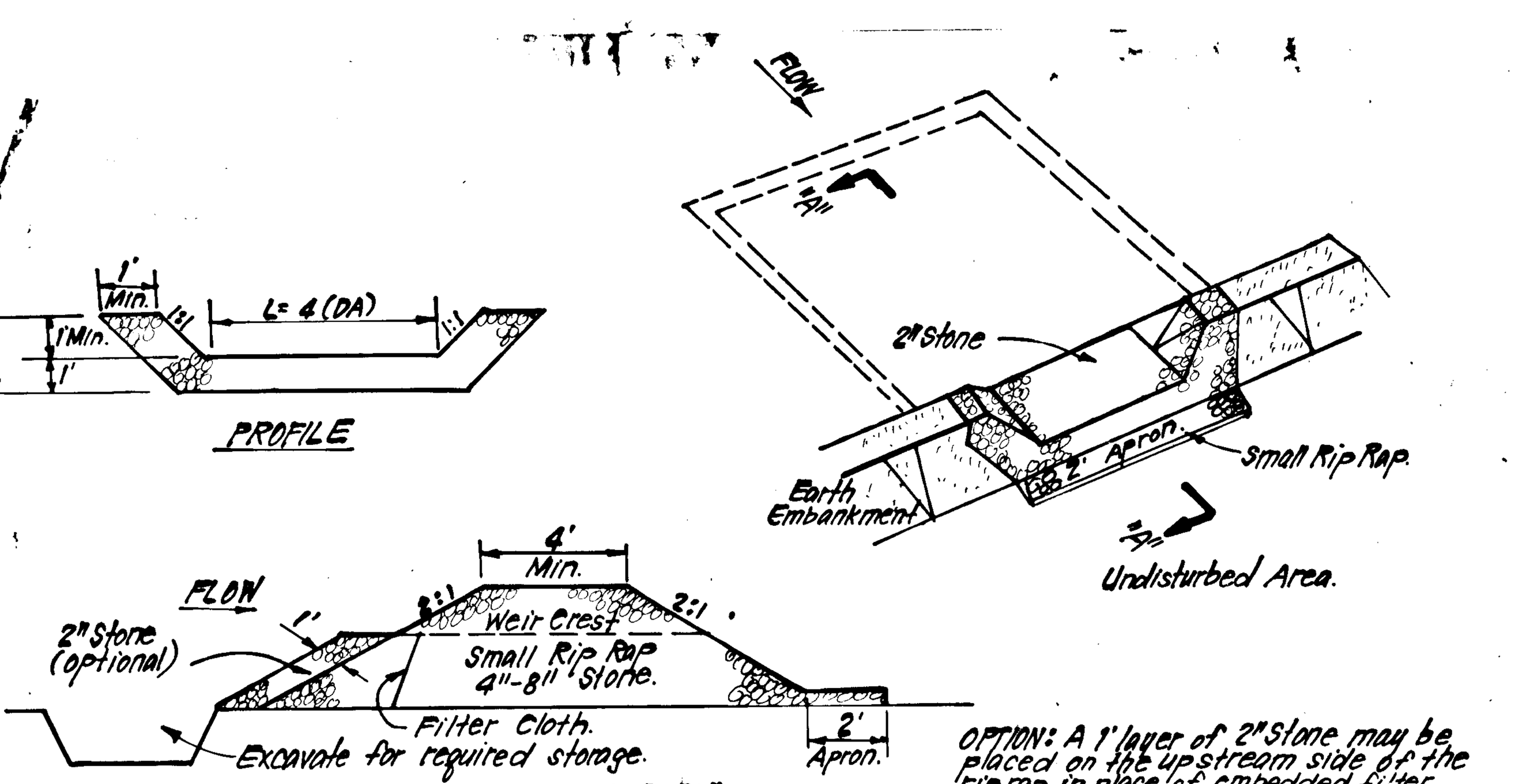
I MATERIALS:
A. Wooden frame is to be constructed of 2"x4" construction grade lumber.
B. Wire mesh must be of sufficient strength to support filter fabric, and stone for curb inlets, with water fully impounded against it.
C. Filter cloth must be of a type approved for this purpose; resistant to sunlight with sieve size, EOS, 40-85, to allow sufficient passage of water and removal of sediment.
D. Stone is to be 2" in size and clean, since fines would clog the cloth.

II PROCEDURE: SWALE, DITCHLINE OR YARD INLET PROTECTION
1. Excavate completely around inlet to a depth of 18" below notch elevation.
2. Drive 2x4 post 1' into ground at four corners of inlet. Place nail strips between posts on ends of inlet. Assemble top portion of 2x4 frame using overlap joint shown. Top of frame (weir) must be 6" below edge of roadway adjacent to inlet.
3. Stretch wire mesh tightly around frame and fasten securely. Ends must meet at post.
4. Stretch filter cloth tightly over wire mesh, the cloth must extend from top of frame to 18" below inlet notch elev. Fasten securely to frame. Ends must meet at post, be overlapped and folded, then fastened down.
5. Backfill around inlet in compacted 6" layers until layer of earth is even with notch elevation on ends and top elevation on sides.
6. If the inlet is not in a low point, construct a compacted earth dike in the ditch line below it. The top of this earth dike is to be at least 6" higher than the top of frame (weir).
7. The structure must be inspected frequently and filter fabric replaced when clogged.

II PROCEDURE: CURB INLET PROTECTION
1. Attach a continuous piece of wire mesh (30" min. width by throat length plus 4') to the 2x4" weir (measuring throat length plus 2') as shown on std. drawing.
2. Place a piece of approved filter cloth (40-85 sieve) of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2"x4" weir.
3. Securely nail the 2"x4" weir to 9" long vertical spacers to be located between the weir and inlet face (max 6' apart).
4. Place the assembly against the inlet throat and nail (min. 2' lengths of 2"x4" to the top of the weir at spacer locations. These 2"x4" anchors shall extend accross the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a min 1' beyond both ends of throat opening.
6. From the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place clean 2" stone over the wire mesh and filter fabric in such a manner as to prevent water from entering the inlet under or around the filter cloth.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow to inlet.

INLET PROTECTION DETAIL (I.P.D.)

NO SCALE



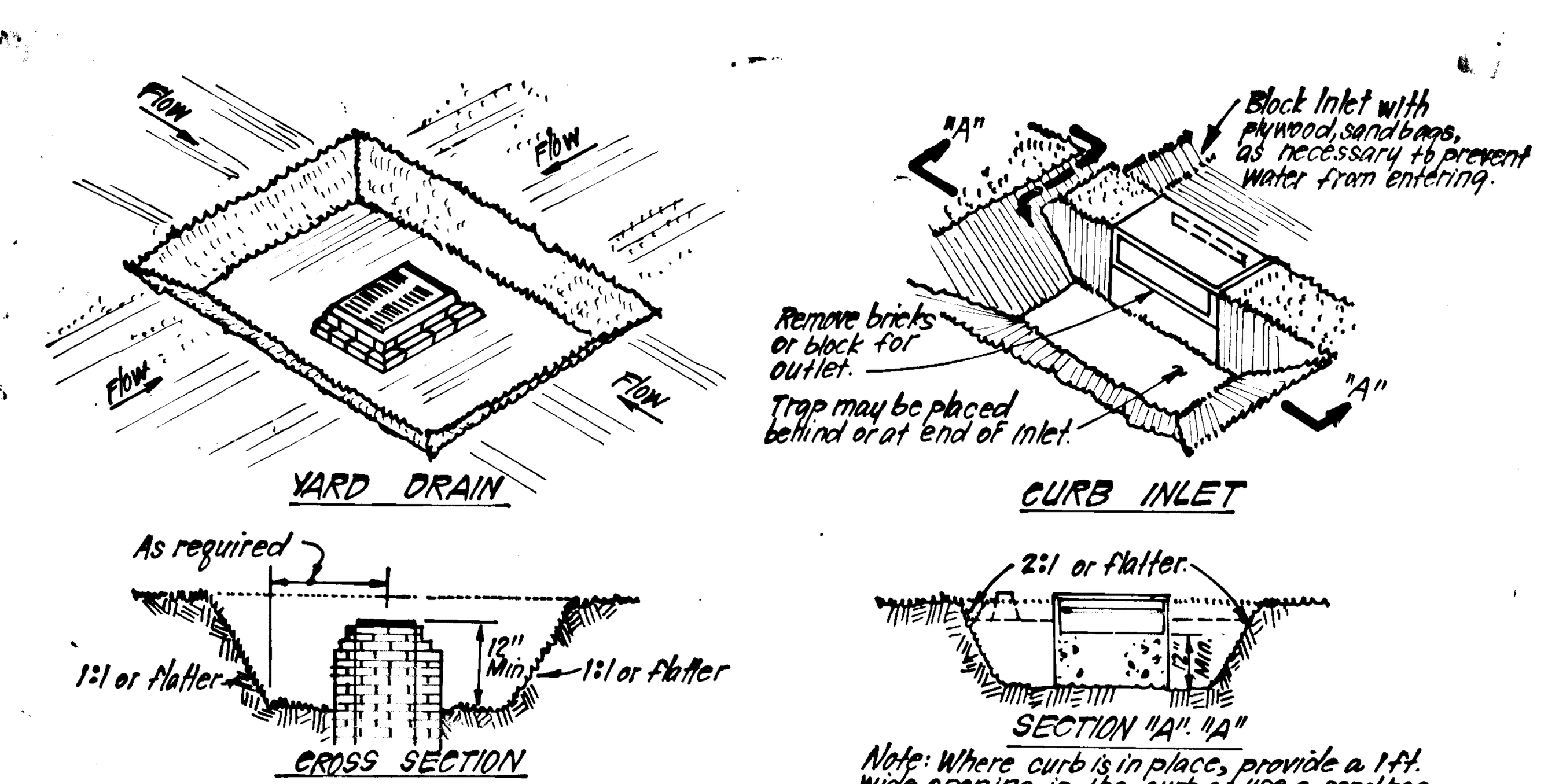
OPTION: A 1' layer of 2" Stone may be placed on the upstream side of the rip rap in place of embedded filter cloth.

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 orginal 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

#1164

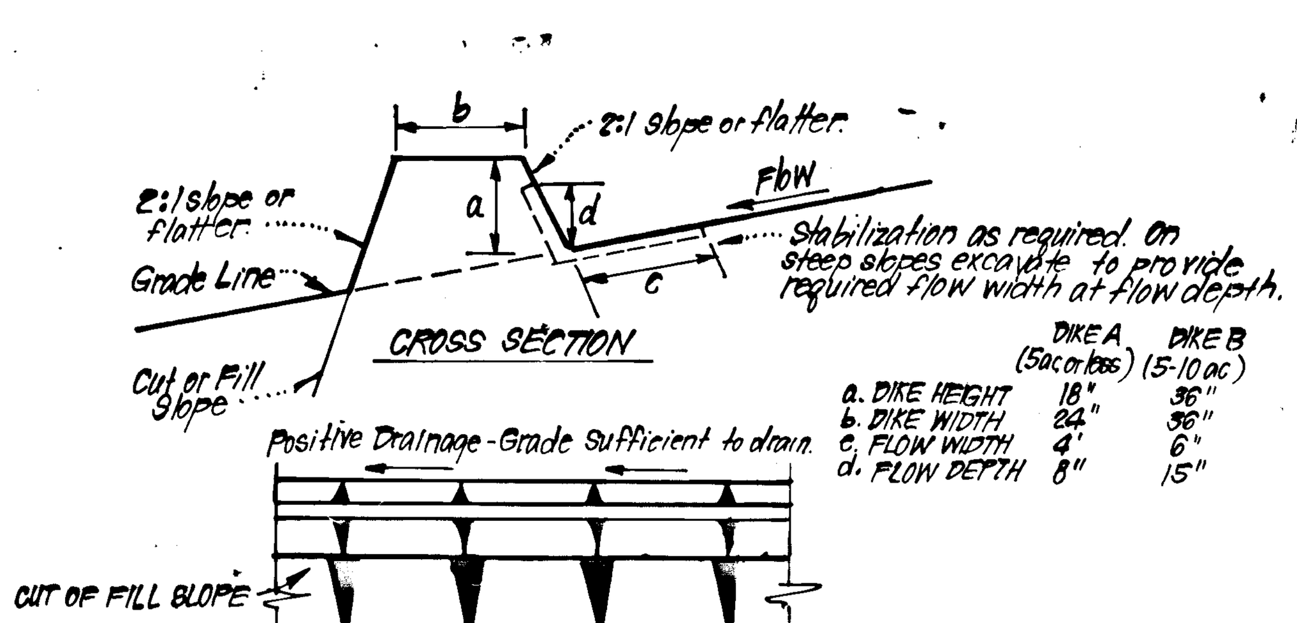


Note: Where curb is in place, provide a 1 ft. wide opening in the curb or use a sand bag dam to force water over the curb to trap.

CONSTRUCTION SPECIFICATIONS:
1. Sediment shall be removed and the trap restored to its original dimensions when 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.
2. The volume of sediment storage shall be 1800 c.f./acre of contributory drainage.
3. The structure shall be inspected after each rain and repairs made as needed.
4. Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
5. The sediment trap shall be removed and the area stabilized when the constructed drainage area has been propetly stabilized.
6. All cut slopes shall be 1:1 or flatter.

STORM INLET SEDIMENT TRAP (S.I.ST.) ST III

NO SCALE



	DIKE A (5ac or less)	DIKE B (5-10 ac)
a. DIKE HEIGHT	18"	36"
b. DIKE WIDTH	24"	36"
c. FLOW WIDTH	4'	6'
d. FLOW DEPTH	8"	15"

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

SEDIMENT TRAPS									
NO.	DRAINAGE AREA	STORAGE REQUIRED	STORAGE PROVIDED	DEPTH	TOP OF STONE CREST	BOTTOM ELEV.	BOTTOM DIMENSION	CLEAN OUT ELEV.	TYPE OF TRAP
1	1.1 ac.	1980 cf.	1980 cf.	3'	425.0	421.0	24'x16'	422.5	SOST ST V
2	4.2 ac.	7560 cf.	7560 cf.	4'	433.0	428.0	37'x10'	430.0	SOST ST V
3	3.2 ac.	5760 cf.	5760 cf.	4'	435.0	430.0	40'x22'	432.0	SOST ST V
4	2.7 ac	4860 cf.	4860 cf.	4'	443.5 *	439.5	37'x19'	441.5	SIST ST III
5	1.8 ac	3240 cf.	3240 cf.	3'	431.5 *	428.5	See Plan	430.0	SIST ST III
6	2.6 ac	4680 cf.	4680 cf.	4'	430.0	425.0	37'x18'	427.0	SOST ST V

* Slot Elev. of Yard Inlet

Reviewed for Howard S.C.D.
Name
and meets Technical Requirements
[signature] 1-23-86
Signature Date
U.S. Soil Conservation Service

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

[signature] 1/23/86
Approved Date

DEVELOPER'S/BUILDER'S CERTIFICATE

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[signature] 11-11-85

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.

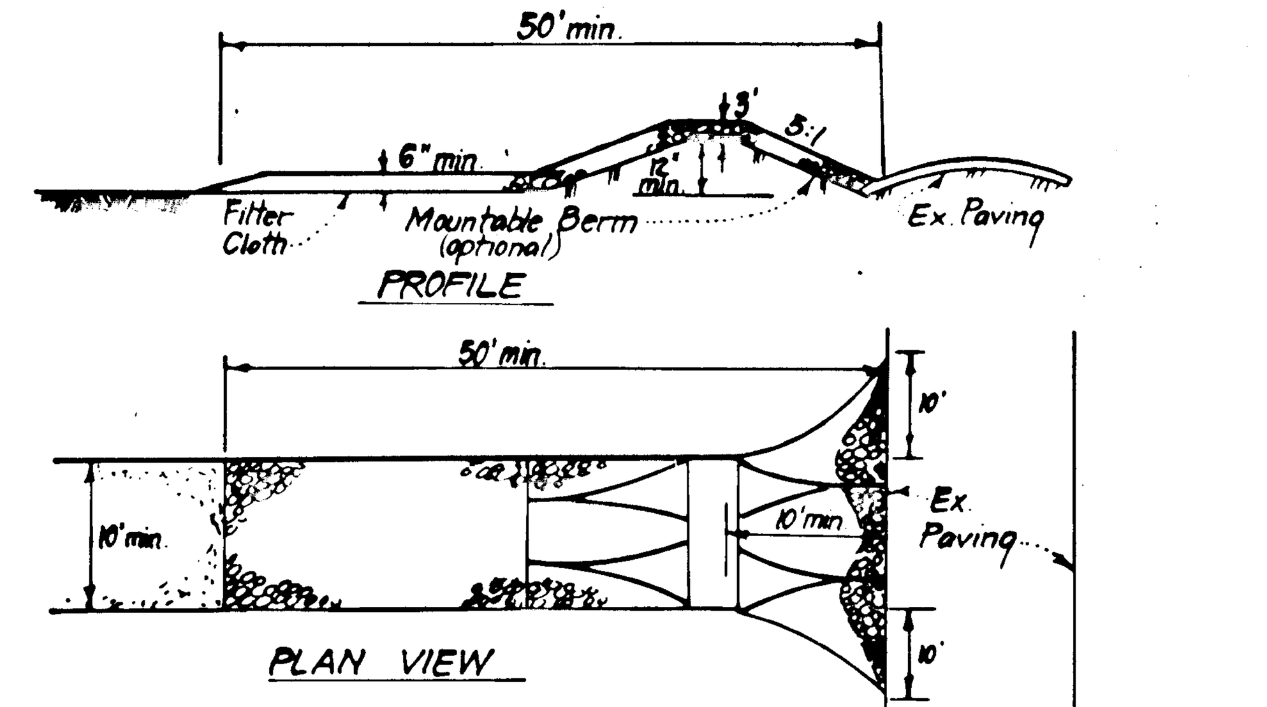
Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

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.



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)

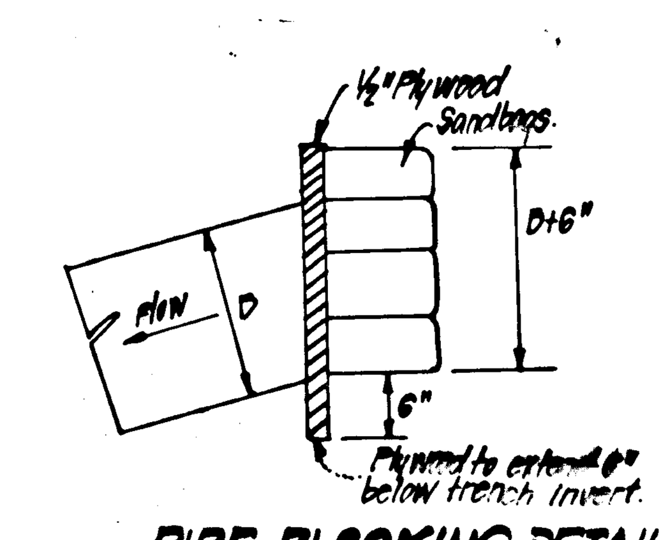
NO SCALE

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.

[signature] G. Nelson Clark — 11-8-85 Date

STATE OF MARYLAND G. NELSON CLARK NO. 7139 REGISTERED



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 16.2578 Acres
Area Disturbed 10.46 Acres
Area to be roofed or paved 2.16 Acres
Area to be vegetatively stabilized 8.30 Acres
Total Cut 27,420 Cu. yds
Total Fill 14,320 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 -0- L.F.

14) Construction Sequence:

Step	# of Days
1. Obtain grading permit	2
2. Install sediment & erosion control measures (except Trap #4)	14
3. Construct Storm Drainage I-12 thru S-6B and install Trap #4 & I.P.D. Immediately stabilize areas disturbed below Earth Dike after drainage is in place	14
4. Clear and rough grade site	30
5. Construct remainder of storm drainage except I-2 to S-1. Install Temp. 15" CMP @ I-2 and temporarily end 15" AL2CSP from I-19 to S-18 where shown in plan.	14
6. Construct Utilities	60
7. Fine grade & construct paving	90
8. Stabilize all disturbed areas on site in accordance with Standards & specs.	14
9. Upon approval of the sediment control inspector remove sediment & erosion control measures and stabilize	14
10. Construct the remaining storm drainage and rip rap ditch. This construction is to be coordinated with the construction of the infiltration basin in Beech Creek Section 1 Area 1. The infiltration basin is not to be constructed to final grades until all disturbed areas draining to the basin have been stabilized.	14

APPROVED: Department of Public Works
[signature] 1-27-86
Chief, Bureau of Engineering [signature] 1-27-86 — Date

APPROVED: Howard County Office of Planning & Zoning
ACTING [signature] 1-24-86
Chief, Division of Land Development & Zoning Administration — Date

CLARK • FINEFROCK & SACKETT
ENGINEERS • PLANNERS • SURVEYORS
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DESIGNED J.L.S.	ROAD CONSTRUCTION PLANS SEDIMENT & EROSION CONTROL PLANS	SCALE As Shown
DRAWN VLB	BEECH CREEK	DRAWING 8 OF 8
CHECKED J.L.S	SECTION ONE AREA TWO 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 84-128
DATE Nov. 1985	FOR: BEECH CREEK ASSOCIATES One Knoll North Drive, #502 Columbia, Maryland 21045	FILE NO. 84-128-D

F-86-89