

Reviewed for Howard Co. D.C.D.  
 Name Howard Co. D.C.D.  
 and meets Technical Requirements  
 Signature Stephen R. Auler Date 5/29/86  
 U.S. Soil Conservation Service  
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

KEY	PLANT NAME	SIZE	QUANT.	REMARKS
(R)	Acer Rubrum 'Red Sunset'	2 1/2 CAL. MIN.	41	5 1/2 B HEAVY HEADS
(B)	Acer Saccharum 'Green Mountain'	"	21	"

NOTES:  
 1. Contractor shall verify location of underground utilities prior to digging.  
 2. Final location of trees may be adjusted slightly to accommodate field conditions.  
 3. Planting procedure shall comply with "Landscape Specs. for Baltimore-Washington Metropolitan Area."  
 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.

CURB & GUTTER LEGEND  
 Std. 7" C&G  
 Rev. 7" C&G  
 Std. 6" C&G  
 Rev. 6" C&G

**GENERAL NOTES**

- All storm drains & paving shall be constructed in accordance with the latest edition and specifications of Howard County & MDSA.
- Types of storm drainage refer to the Standard Details of Ho. Co. & MDSA.
- Trench compaction for storm drains within road or street right of way limits shall be in accordance with "Ho. Co. Design Manual, Vol. II" (Class C Trench Bedding) to be used for all storm drains, except where shown otherwise.)
- 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.
- All utility companies shall be notified 24 hrs. in advance of construction.
- All traffic services, parking and signing to be done in accordance with the "Manual of Uniform Traffic Control Devices," 1978 Edition.
- Sag and Crest Vertical curves were designed in accordance with "Ho. Co. Design Manual," Vol. III.
- Provide Concrete Sidewalk c/cps. Ho. Co. Std. Type A, R-4.01 where shown in plan.
- Design Speed: 30 mph. Zoning: R-5C
- The contractor or developer shall contact the Construction Inspection/Survey Division 24 hrs. in advance of commencement of work. Ph. 772-7872.
- Storm Water Management Provided in Central Facility in Dorsey Hall Section 2 Area 1 F-85-16.
- Street lamps will be provided: 1) 175-watt Modern mercury vapor lamp post top fixtures on a 12 ft. bronze fiberglass pole located 2'-10" from back of curb at the intersection of Learned Sage & Hallowed Stream 2) 250-watt mercury vapor lamp pendant mounted fixtures on a 30 ft. bronze aluminum pole located no less than 6 ft. from the edge of pavement at the intersection of Learned Sage & Columbia Road.

OWNER: COLUMBIA INDUSTRIAL DEVELOPMENT CORP.  
 10275 Little Patuxent Parkway  
 Columbia, Md. 21044

APPROVED: DEPARTMENT OF PUBLIC WORKS  
Kieran D. Dism 7-2-86  
 Chief, Bureau of Engineering  
 APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
William M. ... 7-2-86  
 Chief, Division of Land Development and Zoning Administration

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

DESIGNED	JLS	SCALE	AS SHOWN
DRAWN	KIW	DRAWING	10F7
CHECKED	JLS	JOB NO.	85-101
DATE	5-29-86	FILE NO.	85-101-D

ROAD CONSTRUCTION PLANS  
 HALLOWED STREAM & PRIVATE COURT  
**DORSEY HALL**  
 SECTION 2 AREA 2  
 2ND ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 FOR: COLUMBIA BUILDERS, INC.  
 3 Lakefront North Suite 200  
 Columbia, Md. 21044

**DEVELOPER'S/BUILDER'S CERTIFICATE**  
 "I hereby 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."

Blue Creefield 5-29-86  
 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.

G. Nelson Clark 5-30-86  
 Professional Engineer Date

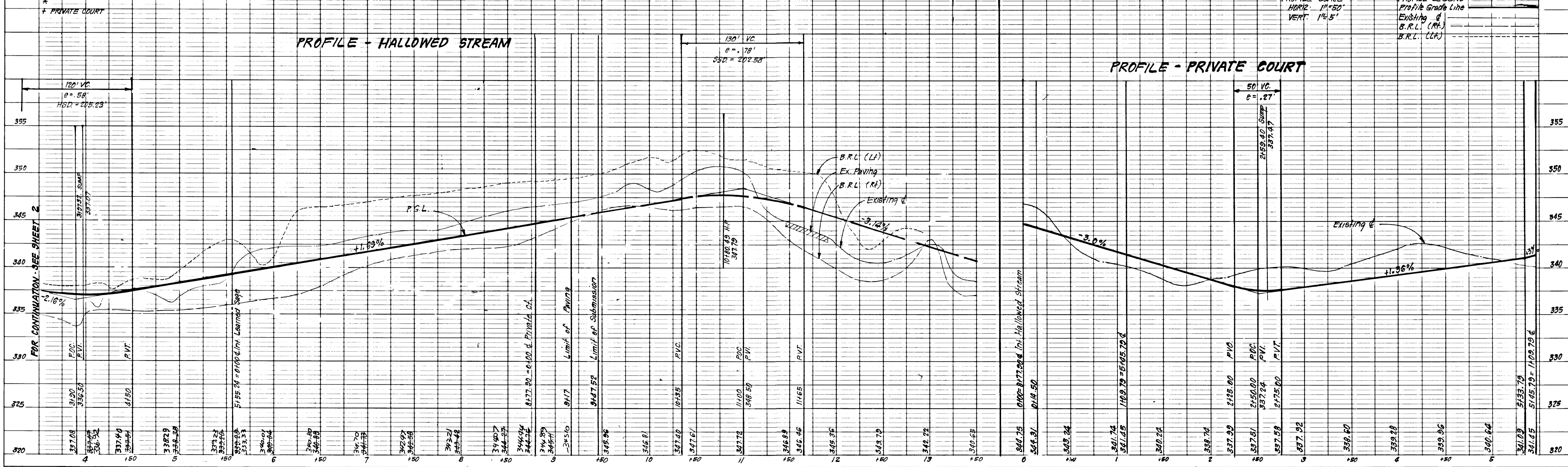


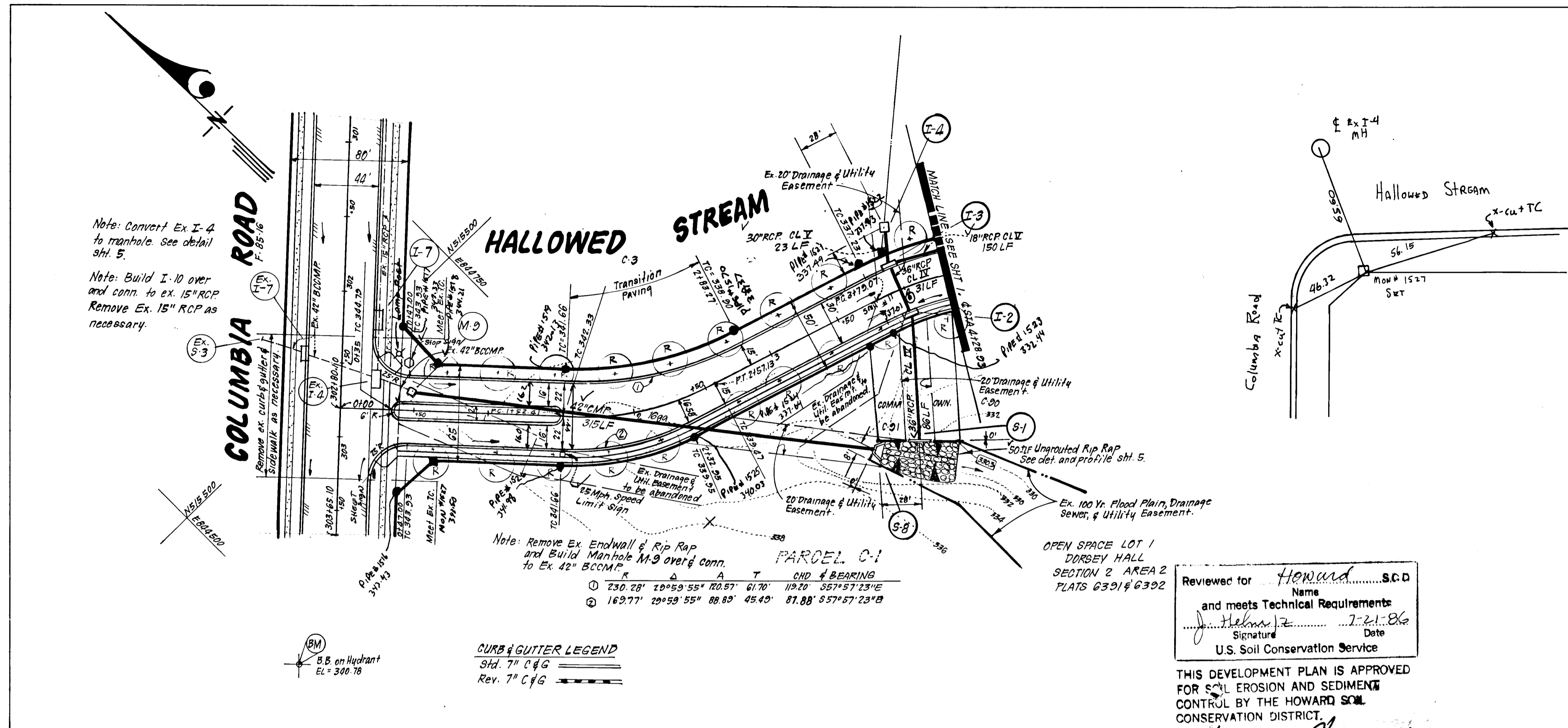
**CENTERLINE CURVE DATA**

STATIONS	RADIUS	Δ	ARC TAN	CHORD & BEARING
PC 1482.41 to PT 2157.13	300.00'	30°00'00"	104.72	53.59' 103.55' S57°57'25"E
PC 3179.07 to PT 5101.24	200.00'	35°00'05"	122.17	63.06' 120.29' S95°27'23"E
PC 6167.90 to PT 11444.38	300.00'	31°00'00"	476.48	305.28' 427.95' S93°27'20"E
PC 10412.96 to PT 11933.60	100.00'	23°34'13"	51.61	26.39' 51.04' S26°43'20"W

**PLAN**  
 SCALE: 1"=50'

OPEN SPACE LOT 1  
 DORSEY HALL  
 SECTION 2 AREA 2  
 PLATS 6301 & 6302  
 AS-BUILT SURVEY CERTIFIED  
 BY DONALD B. SACKETT P.E. No. 6059  
 DECEMBER 8, 1987





NOTE  
AS-BUILT SURVEY CERTIFIED  
BY DONALD B. SACKETT P.E. No 6059  
DECEMBER 8, 1987

OWNER: COLUMBIA INDUSTRIAL DEVELOPMENT CORP.  
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*Blaine Greenfield*  
Signature of Developer/Builder  
5-29-86  
Date

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*John W. MacEachron*  
Chief, Bureau of Engineering  
7-22-86  
Date  
APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
*John W. MacEachron*  
Chief, Division of Land Development and Zoning Administration  
7-22-86  
Date

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

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*John W. MacEachron*  
Signature  
5-30-86  
Date  
Professional Engineer

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

DESIGNED	JLS	SCALE	As Shown
DRAWN	KW	DRAWING	2 OF 7
CHECKED	JLS	JOB NO.	85-101
DATE	5-29-86	FILE NO.	85-101-D

FOR: COLUMBIA BUILDERS, INC.  
3 Lakefront North Suite 200  
Columbia, Md. 21044

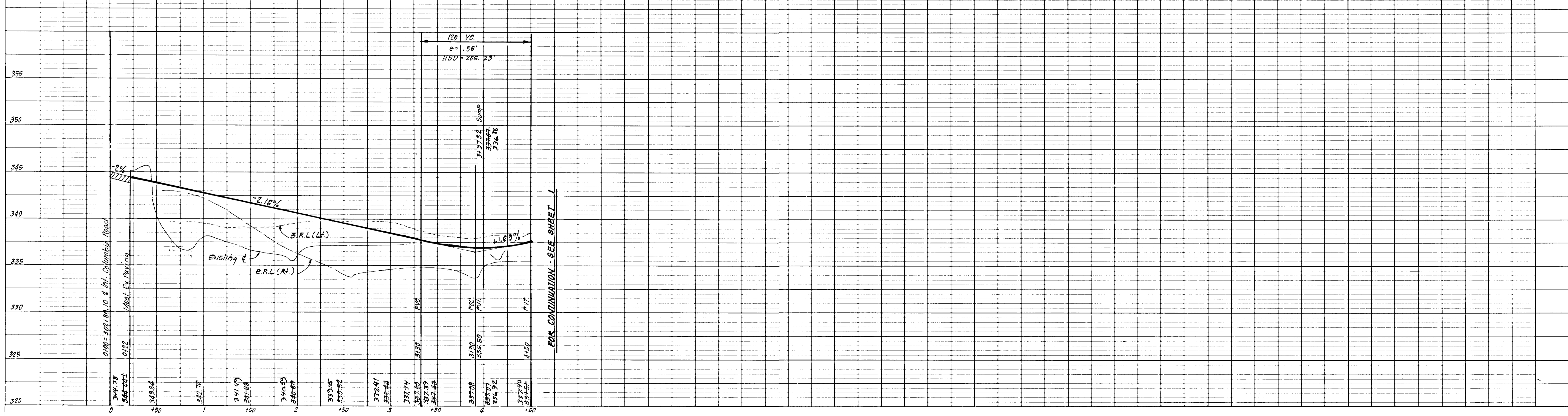
**CENTERLINE CURVE DATA**

STATIONS	RADIUS	Δ	ARC	TAN	CHORD & BEARING
PC 1452.41 to PT 2157.13	200.00'	30°00'00"	104.72'	53.59'	103.53' S57°57'25"E
PC 3179.07 to PT 5101.24	200.00'	35°00'00"	122.17'	63.06'	120.28' S55°27'23"E

**CURB & GUTTER LEGEND**  
Sht. 7" C & G  
Rev. 7" C & G

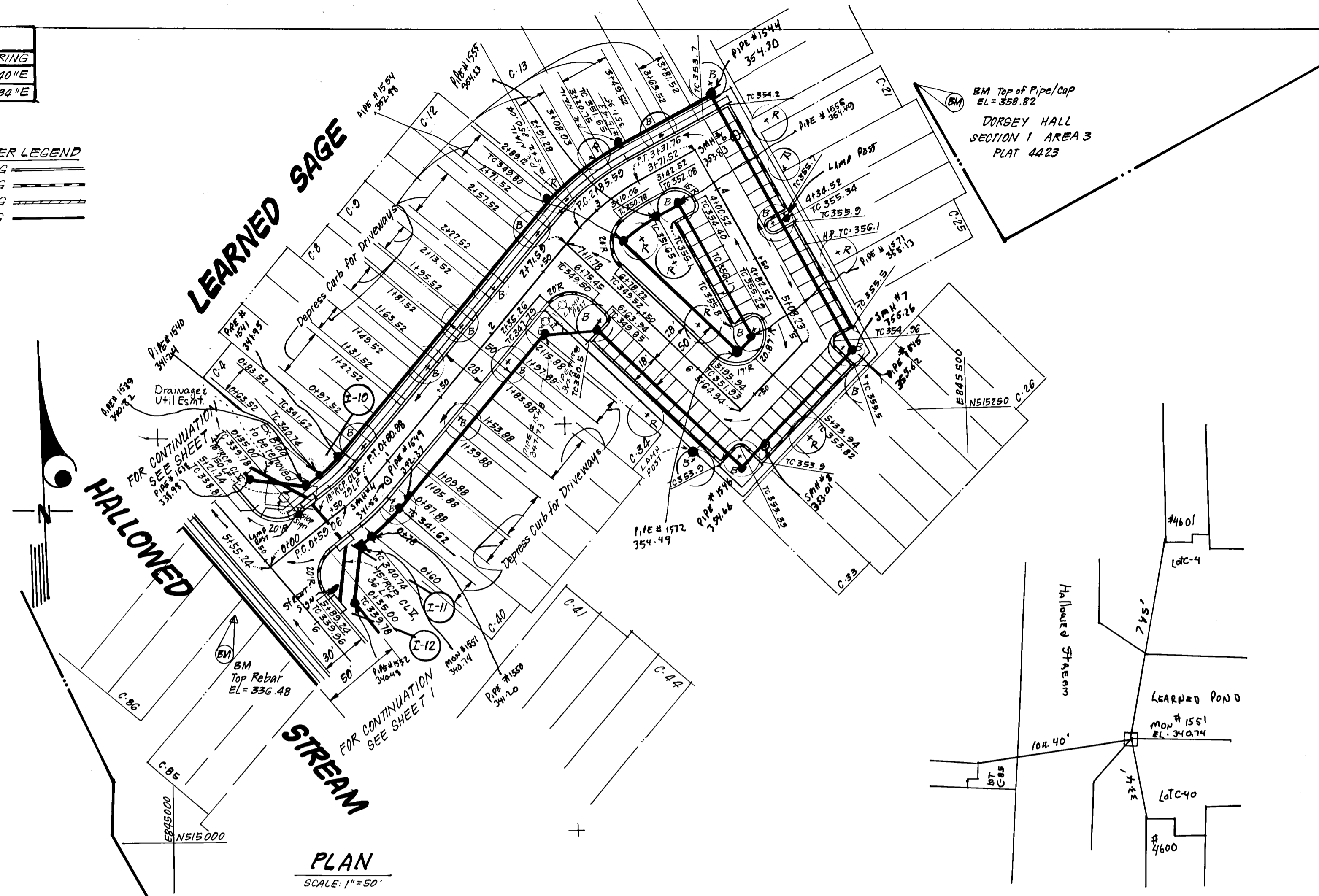
**PLAN**  
SCALE: 1"=50'

**PROFILE - HALLOWED STREAM**



CENTERLINE CURVE DATA					
STATIONS	RADIUS	Δ	ARC	TAN	CHORD & BEARING
PC 0+59.06 to PT 0+80.88	125.00'	10°00'00"	21.82'	10.94'	21.79' N47°02'40"E
PC 2+85.59 to PT 3+131.76	125.00'	21°09'48"	46.17'	23.35'	45.21' N52°37'34"E

**CURB & GUTTER LEGEND**  
 3/4" 7" C & G  
 Rev 7" C & G  
 3/4" 6" C & G  
 Rev 6" C & G



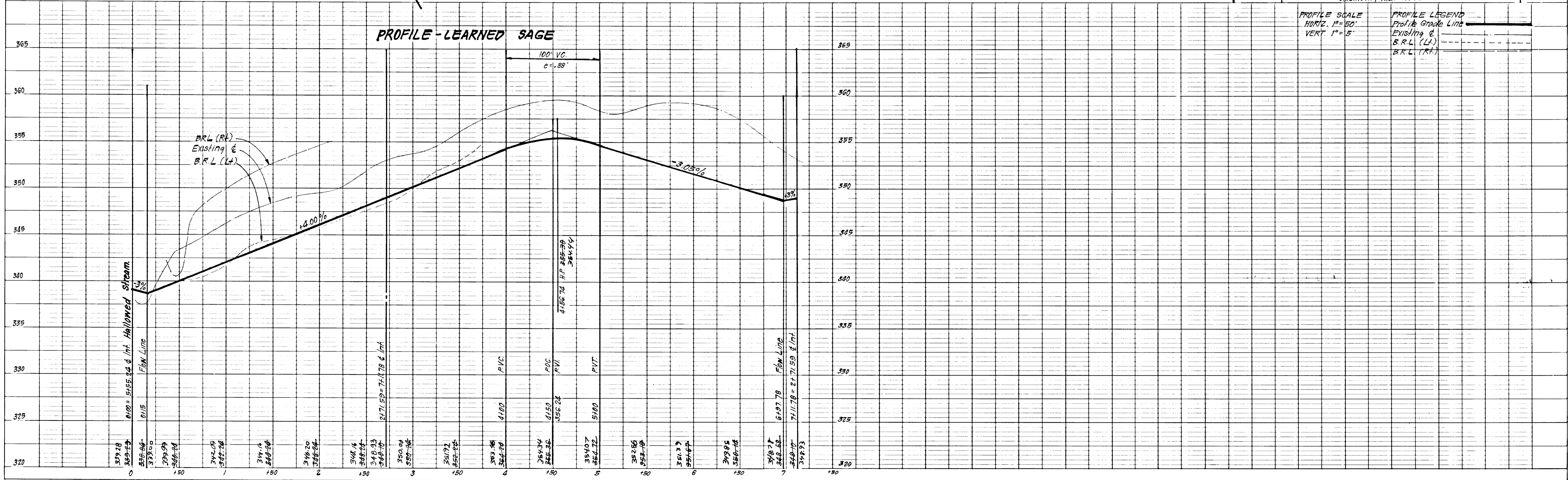
**PLAN**  
SCALE: 1"=50'

**NOTE:**  
 AS-BUILT SURVEY CERTIFIED  
 DONALD B. SACKETT P.E. No. 6059  
 DECEMBER 8, 1987  
 OWNER: COLUMBIA INDUSTRIAL DEVELOPMENT CORP.  
 10275 Little Patuxent Parkway  
 Columbia, Md. 21044

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*John W. Maschman* 7-22-86  
 Chief, Bureau of Engineering  
 APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
*John W. Maschman* 7-22-86  
 Chief, Division of Land Development and Zoning Administration  
**CLARK · FINEFROCK & SACKETT**  
 ENGINEERS · PLANNERS · SURVEYORS  
 11315 LOCKWOOD DRIVE · SILVER SPRING, MARYLAND 20904 · (301) 593-3400  
**ROAD CONSTRUCTION PLANS**  
**LEARNED SAGE**  
**DORSEY HALL**  
 SECTION 2 AREA 2  
 2ND ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 FOR: COLUMBIA BUILDERS, INC.  
 3 Lakefront North Suite 200  
 Columbia, Md. 21044  
 FILE NO. 85-101-D  
 DATE 5-29-86



**PROFILE - LEARNED SAGE**



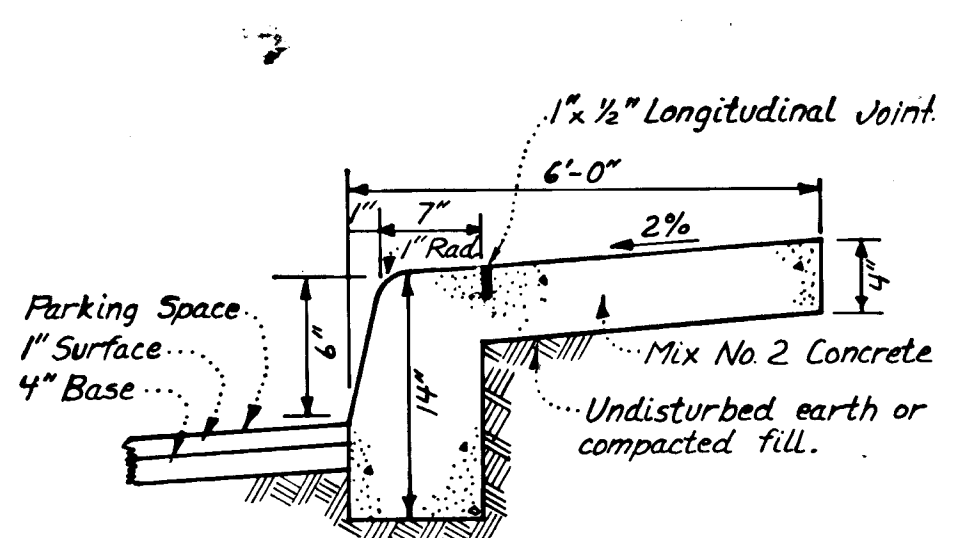
**PROFILE SCALE**  
 HORIZ. 1"=50'  
 VERT. 1"=5'  
**PROFILE LEGEND**  
 Profile Grade Line  
 Existing & B.R.L. (LT)  
 B.R.L. (RT)

# 771

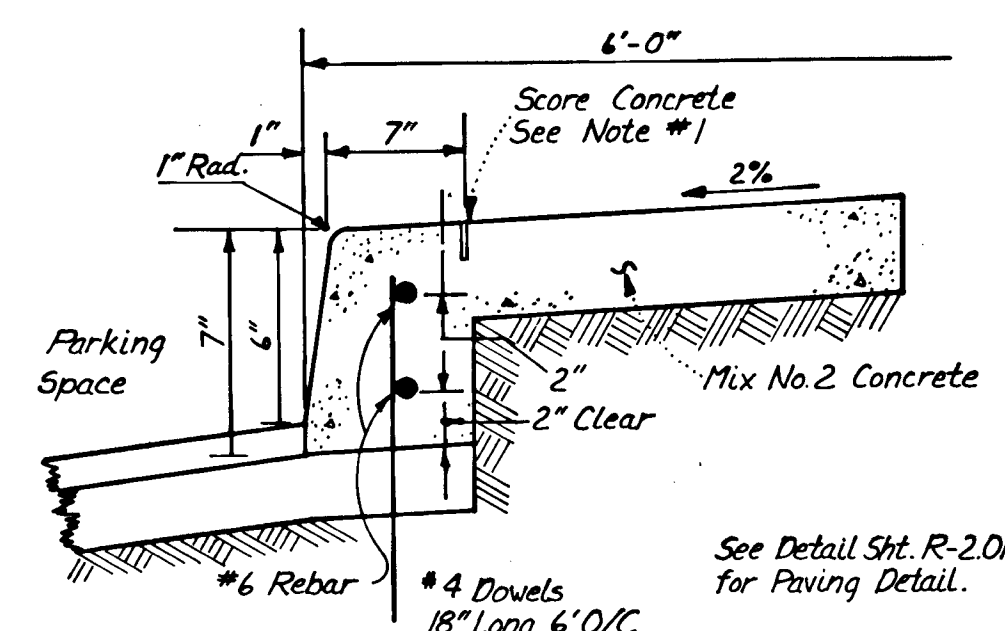
**Notes:**

1. Longitudinal Joint between sidewalk & curb shall be continuous and to a depth of 1/4 the thickness of the sidewalk or 1" max. Individual 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.

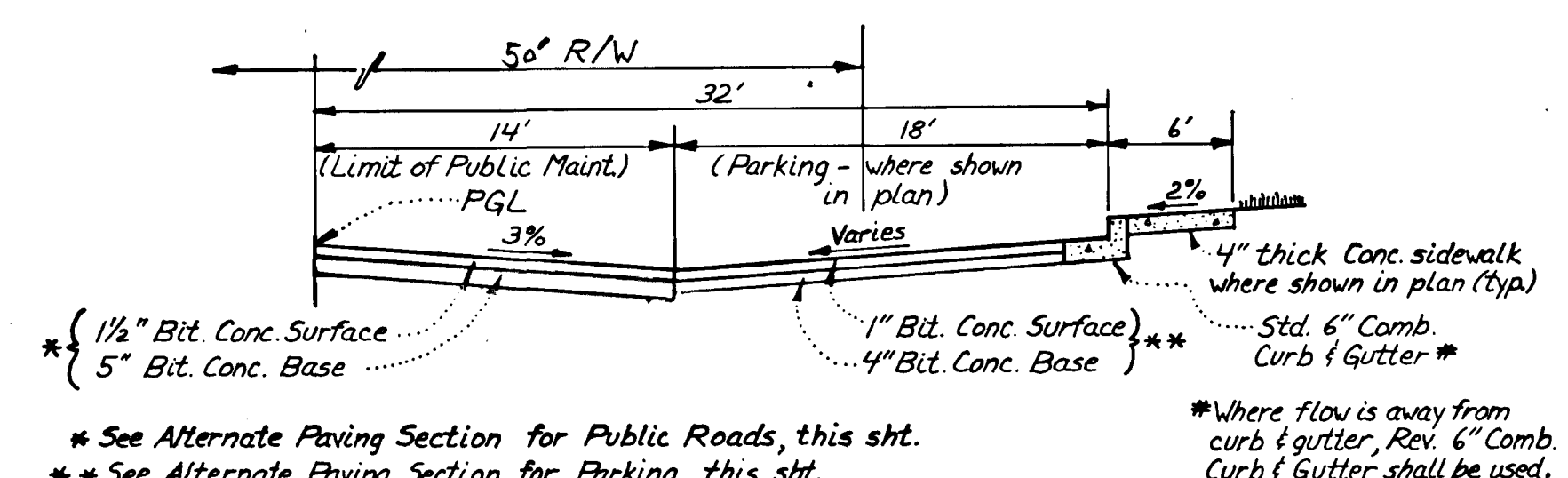
2. Provide 1/2" expansion joints at 15' intervals. In latitudinal joints to full cross-section.



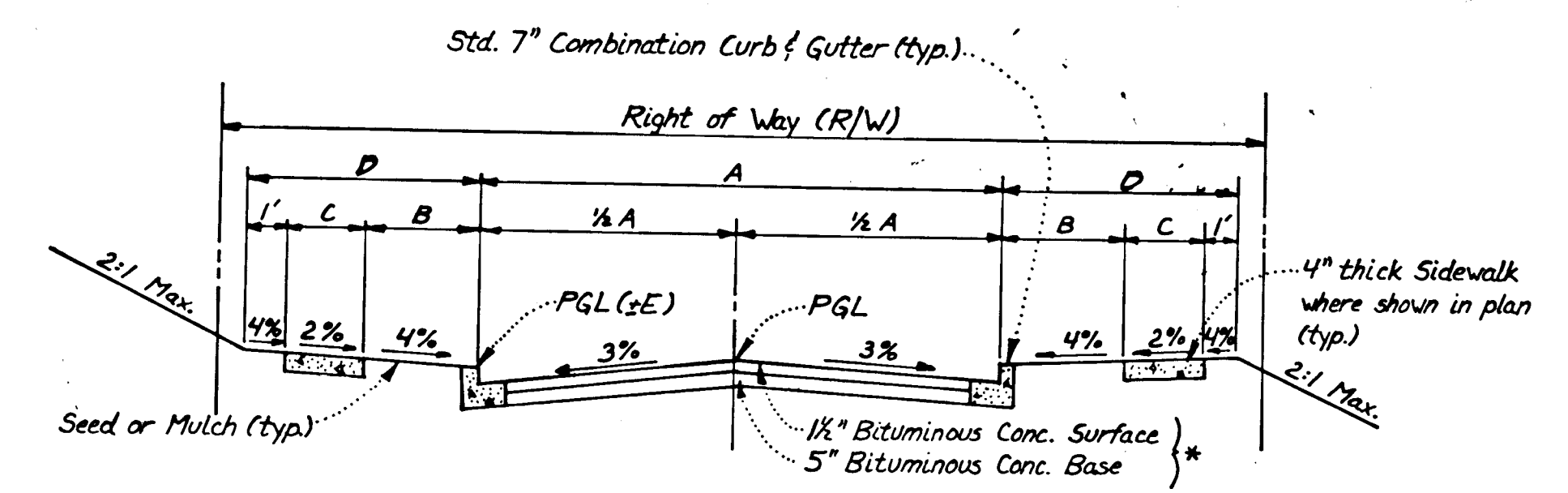
**MONOLITHIC CURB & SIDEWALK - PRIVATE PARKING AREA**  
NO SCALE



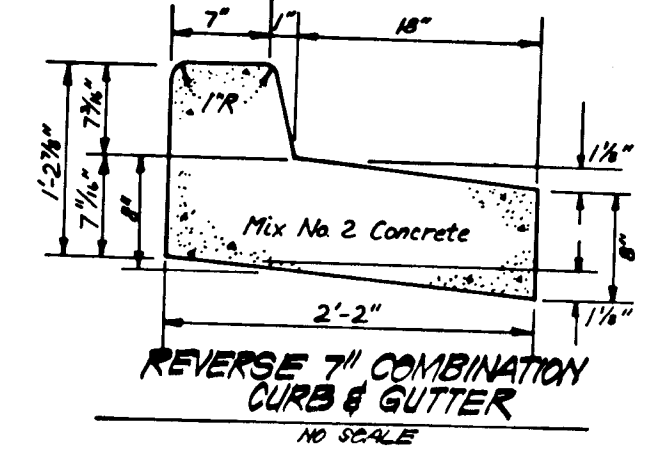
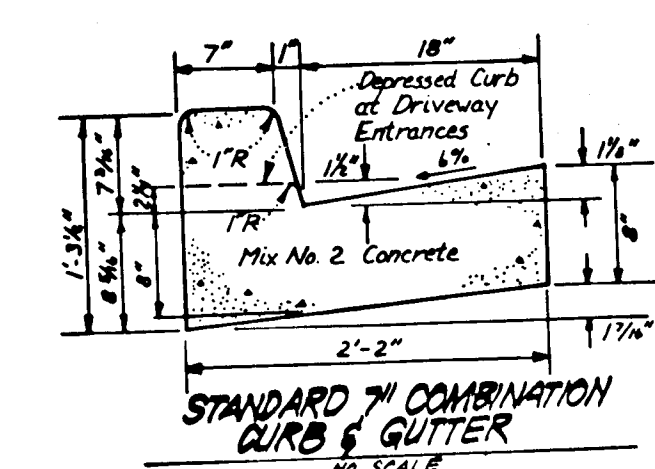
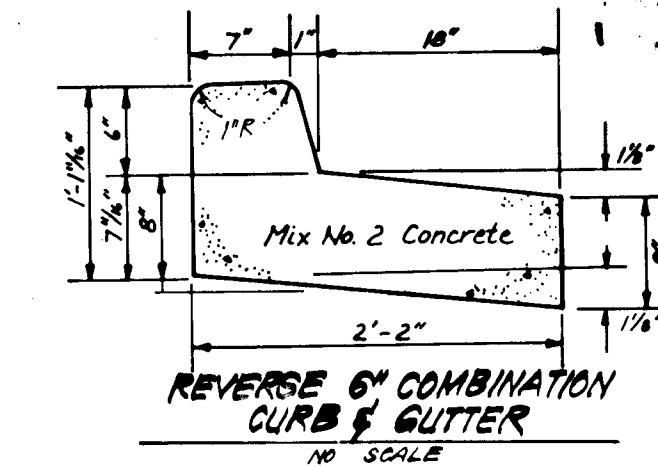
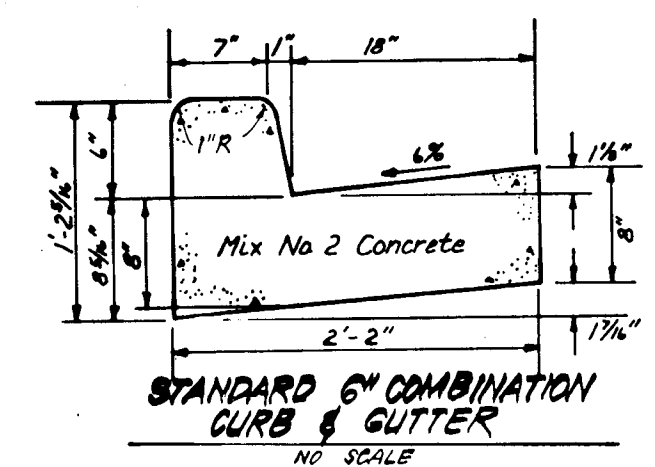
**ALTERNATE SECTION**  
NO SCALE



**TYPICAL HALF SECTION PARKING ADJACENT TO PUBLIC ROADS**  
LEARNED SAGE STA. 3+71.52 TO 6+63.94  
NO SCALE



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

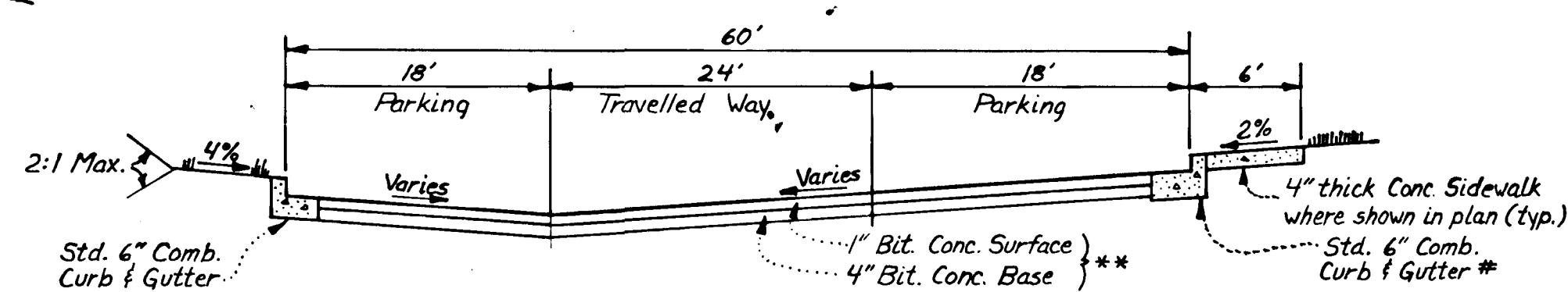


Bituminous Conc. Surface	1 1/2"
Bituminous Conc. Base	2"
Prime	
5" Crusher Run Base Course	5" or 4"
or	
4" Dense Graded Stabilized Aggregate Base Course	

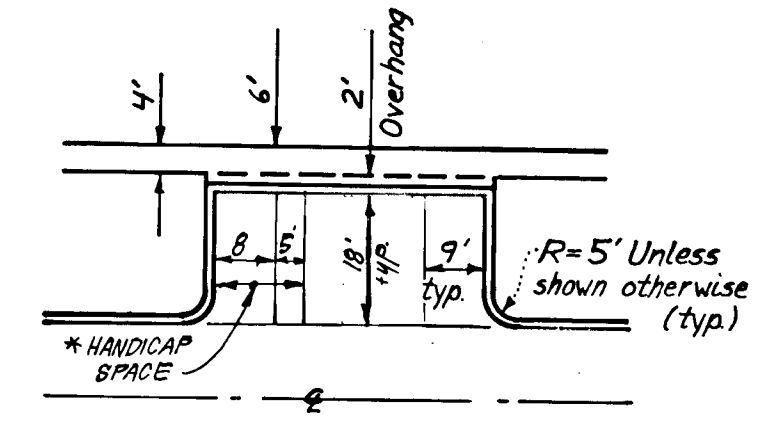
**ALTERNATE PAVING SECTION FOR PARKING AREAS**  
(SECTION P-1)  
NO SCALE

Bituminous Conc. Surface	1 1/2"
Bituminous Conc. Base	2 1/2"
Prime	
8" Crusher Run Base (Placed in 2 Courses)	8" or 6"
or	
6" Dense Graded Stabilized Aggregate Base Course	

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



**TYPICAL SECTION PRIVATE DRIVE & PARKING**  
NO SCALE

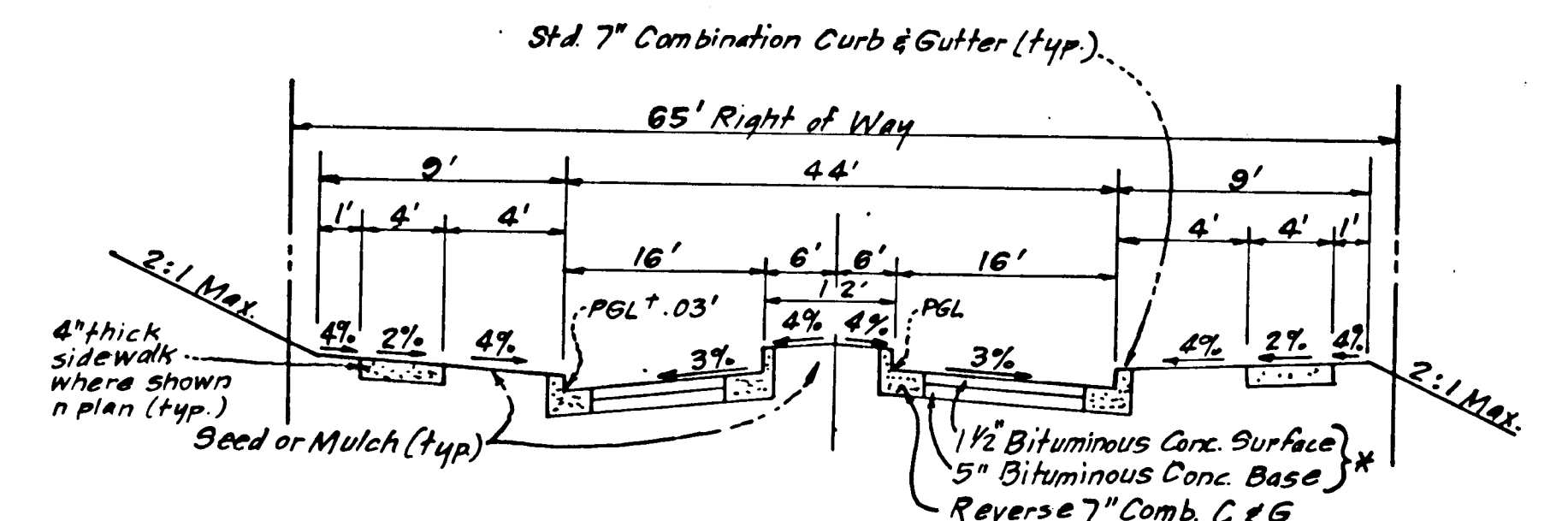


**TYPICAL PARKING**  
NO SCALE

\* Two 8' Handicap Spaces may share one 5' Aisle

STREET NAME & STATION	TYPE OF TRAFFIC	A	B	C	D	R/W	ZONING	DESIGN SPEED	E
* HALLOWED STREAM STA. 1+52.41 to 3+10.71	LOCAL	30'	4'	4'	9'	VARIES 65' L&D	RSC	30	10
HALLOWED STREAM STA. 3+10.71 to 3+11.78	CUL DE SAC	28'	4'	4'	9'	50'	RSC	30	14
LEARNED SAGE STA. 6+63.94 to 7+11.78	CUL DE SAC	28'	4'	4'	9'	50'	RSC	30	14

\* Transition Paving from 44' to 30' Sta. 1+52.41 to 2+83.27; Transition Paving from 30' to 28' Sta. 8+5.19 to 9+10.71



**TYPICAL PAVING SECTION - HALLOWED STREAM**  
NO SCALE  
\* For Alternate Paving Section - See detail this sheet

NOTE:  
AS-BUILT SURVEY CERTIFIED  
BY DONALD B. SACKETT P.E. No. 6059  
DECEMBER 8, 1987

OWNER: COLUMBIA INDUSTRIAL DEVELOPMENT CORP.  
10275 Little Patuxent Parkway  
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APPROVED: DEPARTMENT OF PUBLIC WORKS  
Chief, Bureau of Engineering  
APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
Chief, Division of Land Development and Zoning Administration

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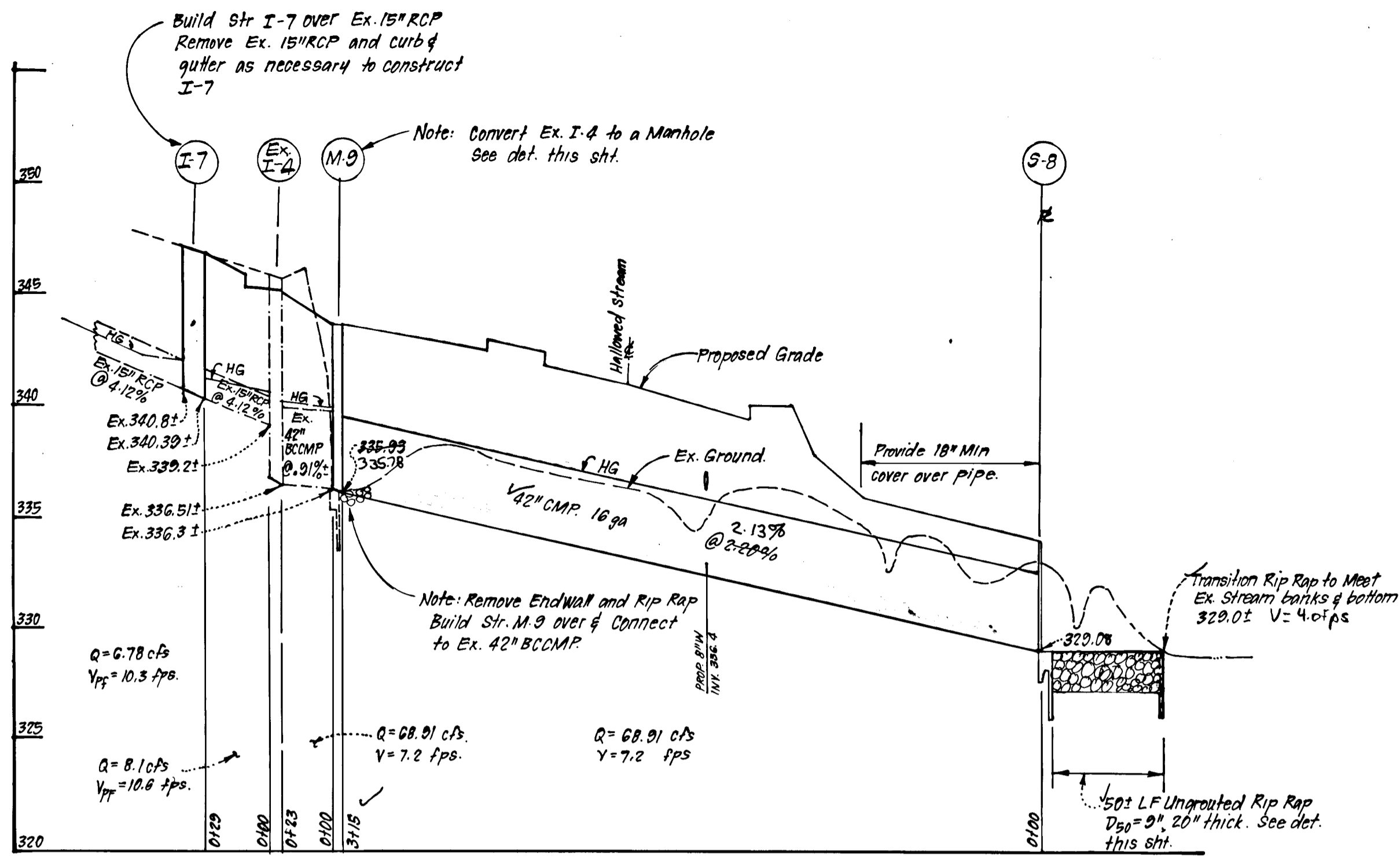
DESIGNED: JLS  
DRAWN: K/W  
CHECKED: JLS  
DATE: 5-29-86

ROAD CONSTRUCTION PLANS  
PAVING DETAILS  
**DORSEY HALL**  
SECTION 2 AREA 2  
2ND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

FOR: COLUMBIA BUILDERS, INC.  
3 Latefront North, Suite 200  
Columbia, Md. 21044

SCALE: As Shown  
DRAWING: 4 OF 7  
JOB NO.: 85-101  
FILE NO.: 85-101-D



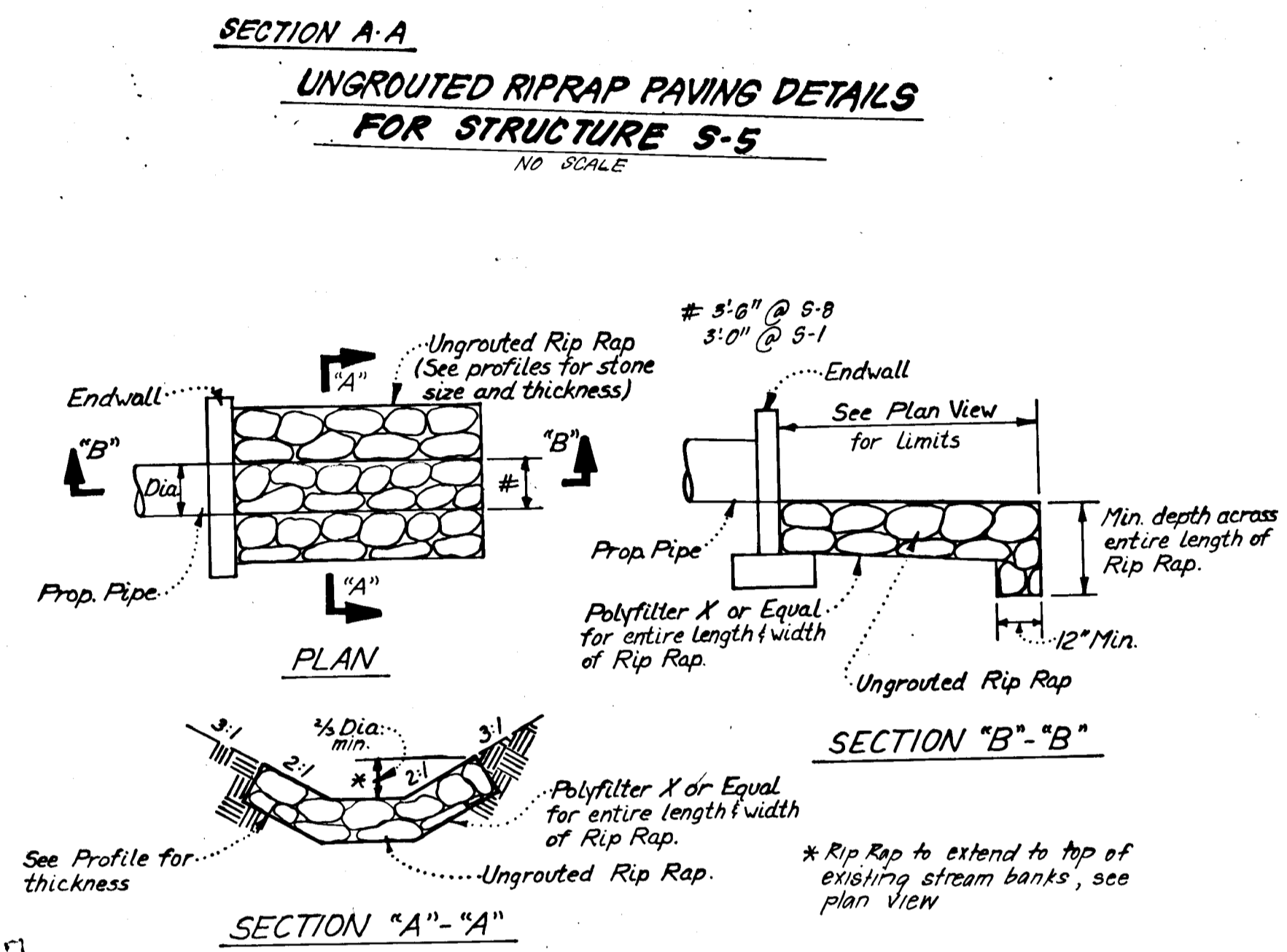
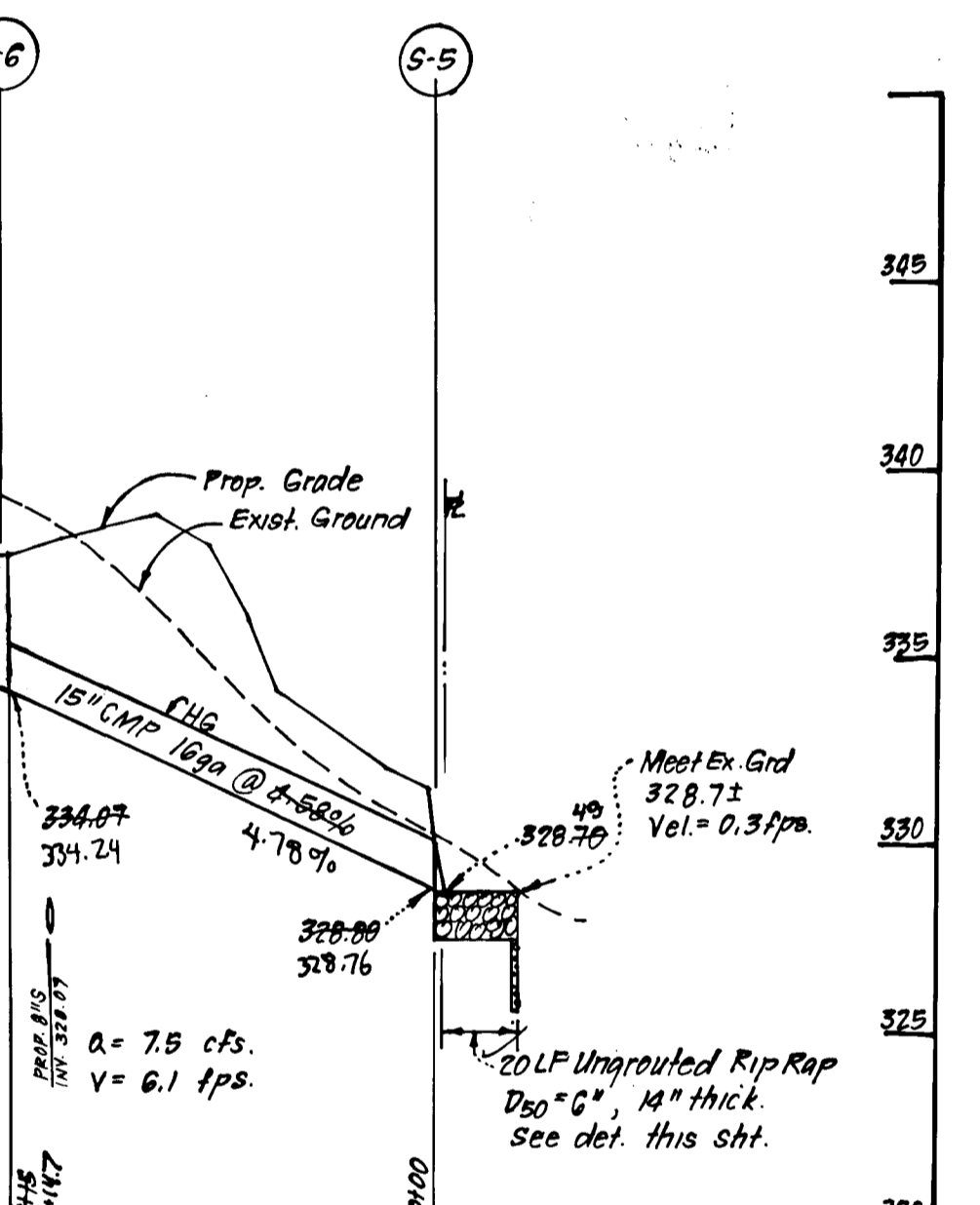
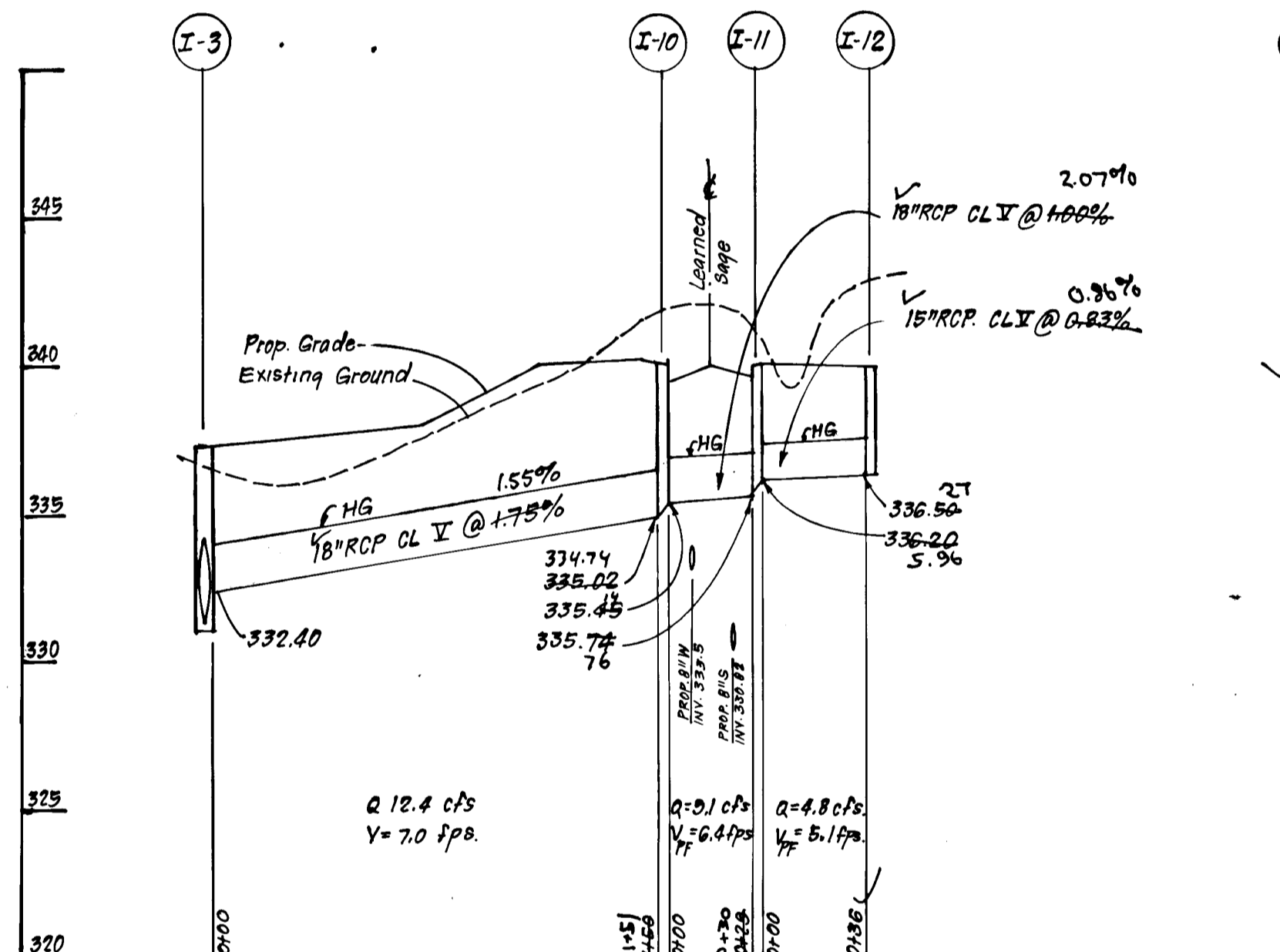
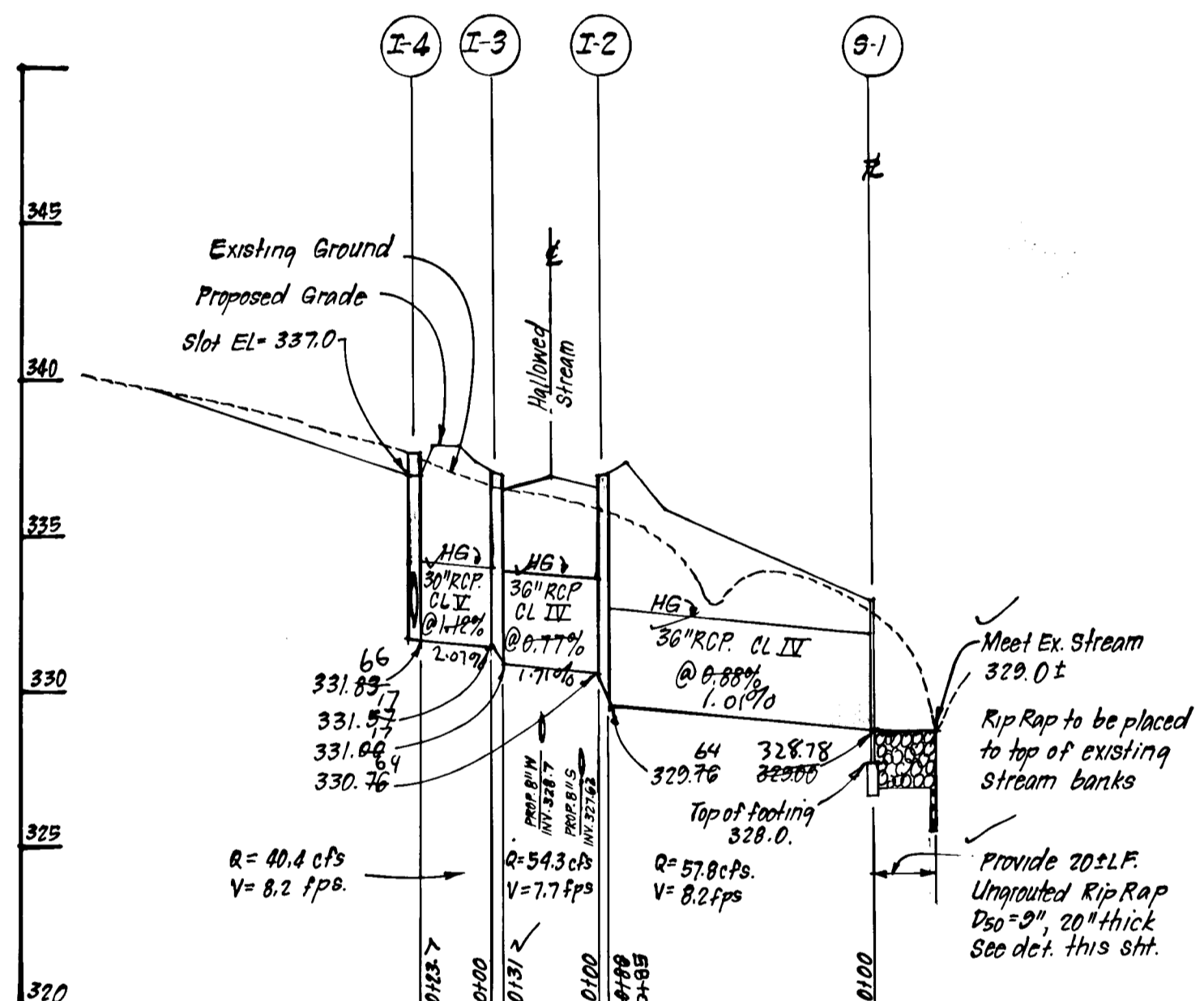
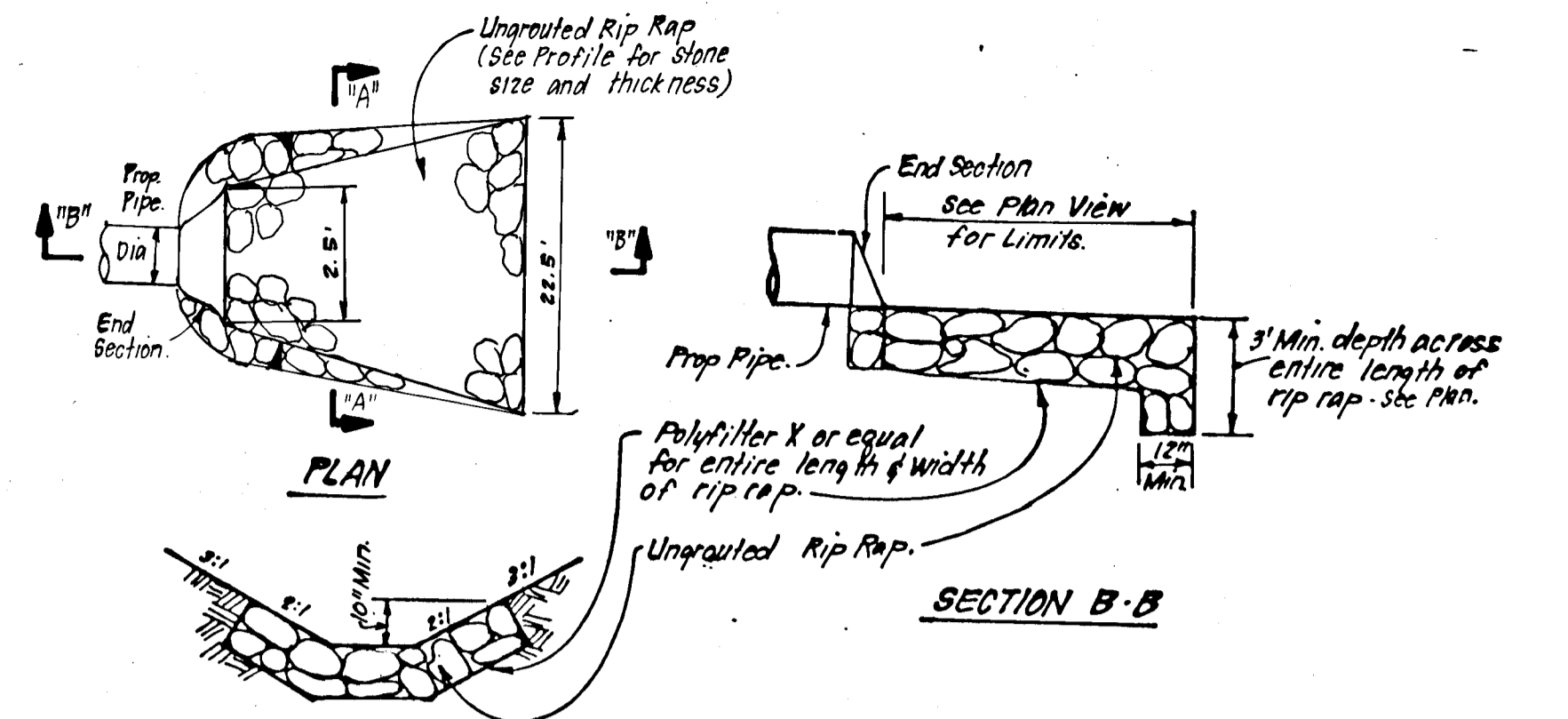


No.	TYPE	INV. IN	INV. OUT	TOP ELEVATION		REMARKS	LOCATION
				UPPER	LOWER		
I-1	C-Endwall	328.78	328.00	328.00	-	No. Co. Std. SD 5.21 Dia=36"	See Plan
I-2	A-10 Inlet	330.76	329.96	329.96	329.96	SD 4.02 W=2'6"	4 Str. Sls. 3197.32 Hollowed Str. 15' Lt.
I-3	A-10 Inlet	331.00	331.00	331.00	331.00	SD 4.02 W=3'0"	4 Str. Sls. 3197.32 Hollowed Str. 15' Lt.
I-4	D Inlet	331.00	331.00	331.00	331.00	SD 4.11 48" Sq.	See Plan
I-5	Metal End Section	328.00	328.00	328.00	328.00	SD 5.61 Dia=15"	See Plan
I-6	A-10 Inlet	334.00	333.67	333.67	333.67	SD 4.02 W=2'6"	4 Str. Sls. 2186.28 Private CA 12' Lt.
I-7	A-10 Inlet	340.00	340.00	340.00	340.00	SD 4.02 W=2'6"	4 Str. Sls. 3021.24 Columbia 22 Lt.
I-8	A-Endwall	329.00	329.00	329.00	329.00	SD 5.11 Dia=42"	See Plan
M-9	Shallow Brick Manhole	336.30	335.00	335.00	335.00	G-5.05 S-0" Sq.	4 Str. Sls. 0140 Hollowed Str. 13' Lt.
I-10	A-10 Inlet w/Deflectors	335.00	335.00	335.00	335.00	SD 4.02 W=2'6"	4 Str. Sls. 0143.50 Learned Sane 14' Lt.
I-11	A-10 Inlet w/Deflectors	336.20	335.74	335.74	335.74	SD 4.02 W=2'6"	4 Str. Sls. 0143.50 Learned Sane 14' Lt.
I-12	A-10 Inlet	336.50	340.00	340.00	340.00	SD 4.02 W=2'6"	4 Str. Sls. 5197.74 Hollowed Str. 15' Lt.

△ All Inverts to be fully developed.  
 \* Provide slots in all sides. Modify inside dimension to 4'-0" Sq.  
 # See No. Co. Std. SD 4.83 for inlet deflectors.  
 † Increase H dimension 12" to allow for rip rap construction.  
 ‡ Build Str. I-7 over Ex. 15" RCP and remove Ex. 15" RCP and Curb & Gutter as necessary. Top slab and throat to be constructed to meet Ex. Curb & Gutter.

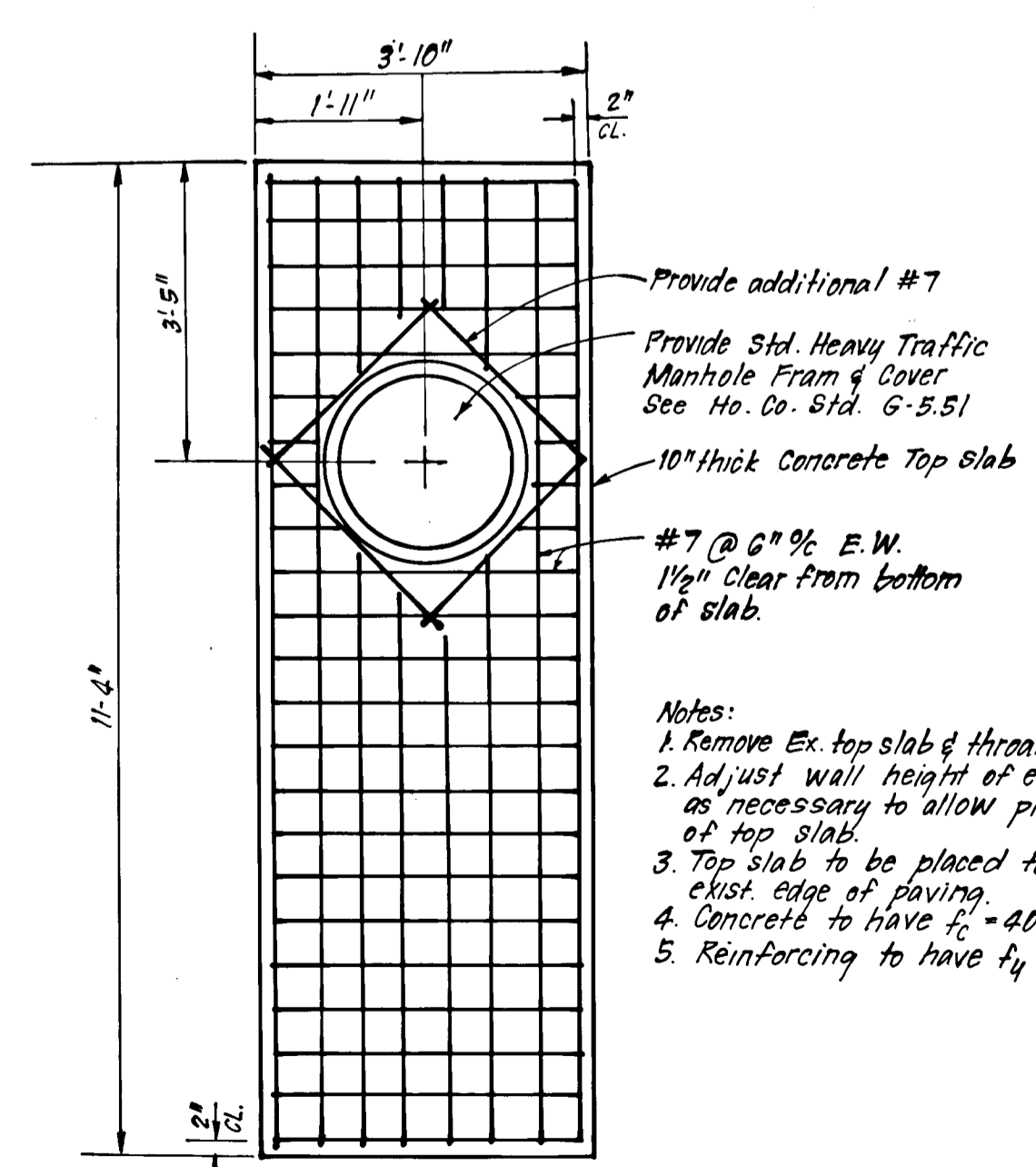
SIZE	TYPE	LENGTH	
15"	RCP Class IV	36 LF	
15"	CMP 16 gage	17-8 LF	114.7 LF
18"	RCP Class IV	17-8 LF	181 LF
30"	RCP Class IV	12 LF	23.7 LF
42"	CMP 16 gage	315 LF	116 LF

\* 2 2/8" x 1/2" Corrugations.  
 # 3" x 1" Corrugations.



**STORM DRAINAGE PROFILES**

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



Provide additional #7  
 Provide Std. Heavy Traffic Manhole Fram & Cover  
 See Ho. Co. Std. G-5.51  
 10" thick Concrete Top slab  
 #7 @ 6" E.W.  
 1/4" Clear from bottom of slab.

Notes:  
 1. Remove Ex. top slab & throat section.  
 2. Adjust wall height of exist. inlet as necessary to allow placement of top slab.  
 3. Top slab to be placed to meet exist. edge of paving.  
 4. Concrete to have f<sub>c</sub> = 4000 psi.  
 5. Reinforcing to have f<sub>y</sub> = 60,000 psi.

Reviewed for *[Signature]* Name *[Name]*  
 and meets Technical Requirements  
*[Signature]* Date *[Date]*  
 U.S. Soil Conservation Service  
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*[Signature]* Date *[Date]*  
 Chief, Bureau of Engineering

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*[Signature]* Date *[Date]*  
 Chief, Division of Land Development and Zoning Administration

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DESIGNED JLS	ROAD CONSTRUCTION PLANS STORM DRAINAGE PROFILES	SCALE As Shown
DRAWN K/W		DRAWING 5 OF 7
CHECKED JLS		JOB NO. 85-101
DATE 5-29-86		FILE NO. 85-101-D

**DORSEY HALL**  
 SECTION 2 AREA 2  
 2ND ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND.

FOR: COLUMBIA BUILDERS, INC.  
 3 Lakefront North, Suite 200  
 Columbia, Md. 21044

SEDIMENT TRAP TABLE										
TRAP NO.	TYPE OF TRAP	DRAINAGE AREA	STORAGE REQUIRED	STORAGE PROVIDED	DEPTH	CREST ELEV.	BOTTOM ELEV.	CLEANOUT ELEV.	BOTTOM DIMENSIONS	TOP BERM ELEV.
1	S.I.S.T. ST-VI	1.6 AC	2880 CF	2880 CF	4'	327.0	323.0	325.0	22' X 16'	327.25
2	R.O.S.T. ST-VI	5.6 AC	10,080 CF	10,080 CF	4'	324.0	319.0	321.0	20.3' X 16'	322.00
3	R.O.S.T. ST-VI	9.2 AC	16,560 CF	16,560 CF	4'	328.0	323.0	325.0	20.3' X 16'	332.00

**LEGEND**

- Existing Contour
- Proposed Contour
- Earth Dike
- Straw Bale Dike or Silt Fence
- Inlet Protection Detail

NOTE: Extreme care to be utilized when working in the area of the Colonial Pipeline Easement.

**CONSTRUCTION SEQUENCE:**

- |  |     |
|--|-----|
| 1. Obtain Grading Permit.  | 2   |
| 2. Install Traps 2 & 3 and SBD/S.  | 7   |
| 3. Construct storm drainage I-7 thru S-8 and I-4 thru S-1 and construct Trap #1, Temp. 30" CMP and I.P.D.      | 28  |
| 4. Clear remainder of site.  | 30  |
| 5. Rough Grade Site.   | 30  |
| 6. Construct remaining storm drainage and construct I.P.D.   | 30  |
| 7. Construct Utilities.  | 120 |
| 8. Fine grade and construct paving.  | 120 |
| 9. Stabilize all disturbed areas on-site in accordance with stds. and specs.                                   | 14  |
| 10. Upon approval of the sediment control inspector, remove sediment & erosion control measures and stabilize. | 28  |

AS-BUILT SURVEY CERTIFIED BY DONALD B. SACKETT P.E. No. 6059 DECEMBER 8, 1987

**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: *Blair...* Date: 5-29-86

Reviewed for: *Howard* S.C.D. Name and meets Technical Requirements  
Signature: *J. Helms* Date: 7-21-86  
U.S. Soil Conservation Service

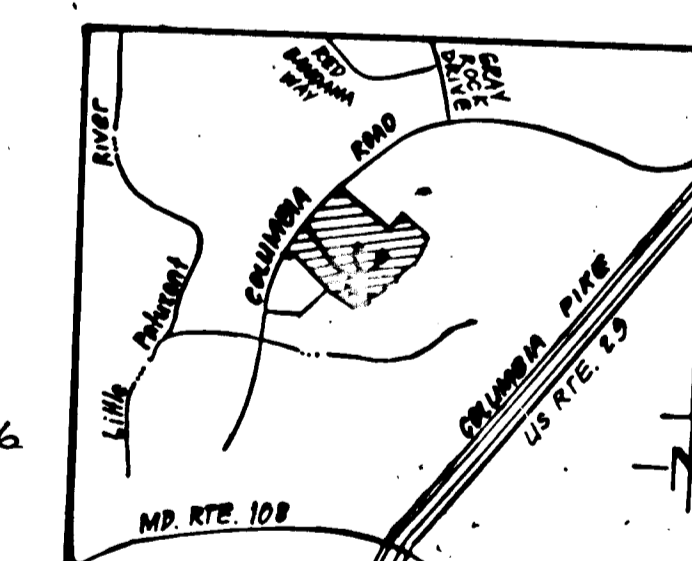
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: *Stephen C. Hecker* Date: Approved

**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: *John Nelson* Date: 5-30-86  
Professional Engineer

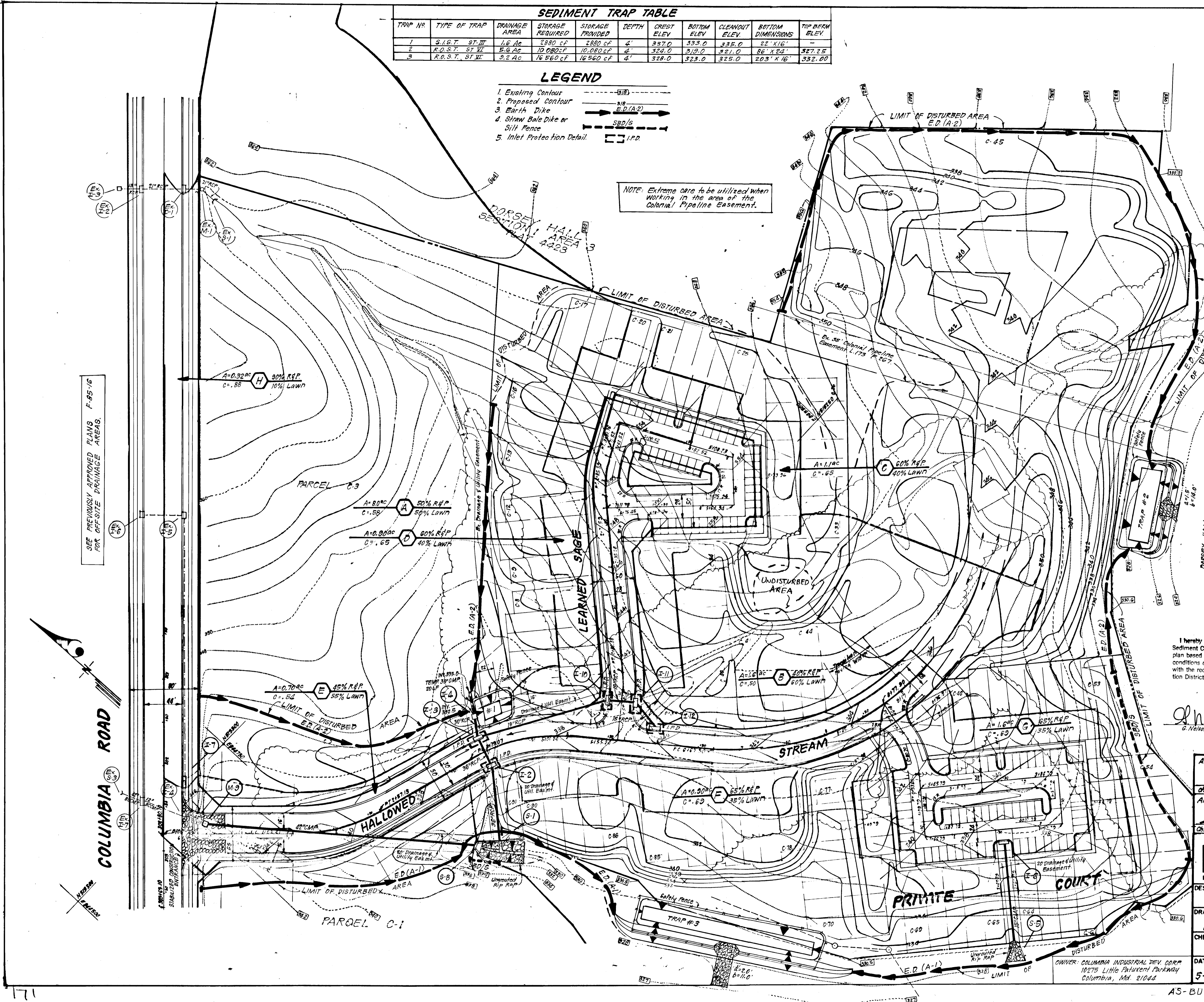


APPROVED: DEPARTMENT OF PUBLIC WORKS  
Signature: *William S. R...* Date: 7-25-86  
APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
Signature: *John W. M...* Date: 7-22-86

**CLARK · FINEFROCK & SACKETT**  
ENGINEERS · PLANNERS · SURVEYORS  
1515 LOCKWOOD DRIVE · SILVER SPRING, MARYLAND 20904 · (301) 593-3400

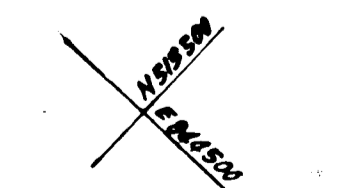
DESIGNED	JLS	ROAD CONSTRUCTION PLANS SEDIMENT & EROSION CONTROL PLAN AND DRAINAGE AREA MAP	SCALE	As Shown
DRAWN	KIN		DRAWING	60F7
CHECKED	JLS		JOB NO.	85-101
DATE	5-29-86		FILE NO.	85-101-D

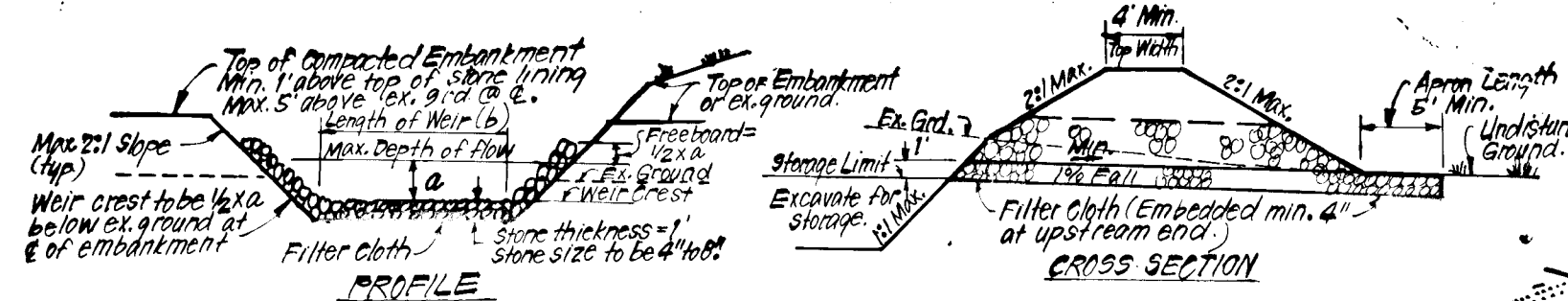
OWNER: COLUMBIA INDUSTRIAL DEV. CORP.  
10275 Little Patuxent Parkway  
Columbia, Md. 21044



SEE PREVIOUSLY APPROVED PLANS F-85-1/G FOR OFF-SITE DRAINAGE AREAS.

COLUMBIA ROAD

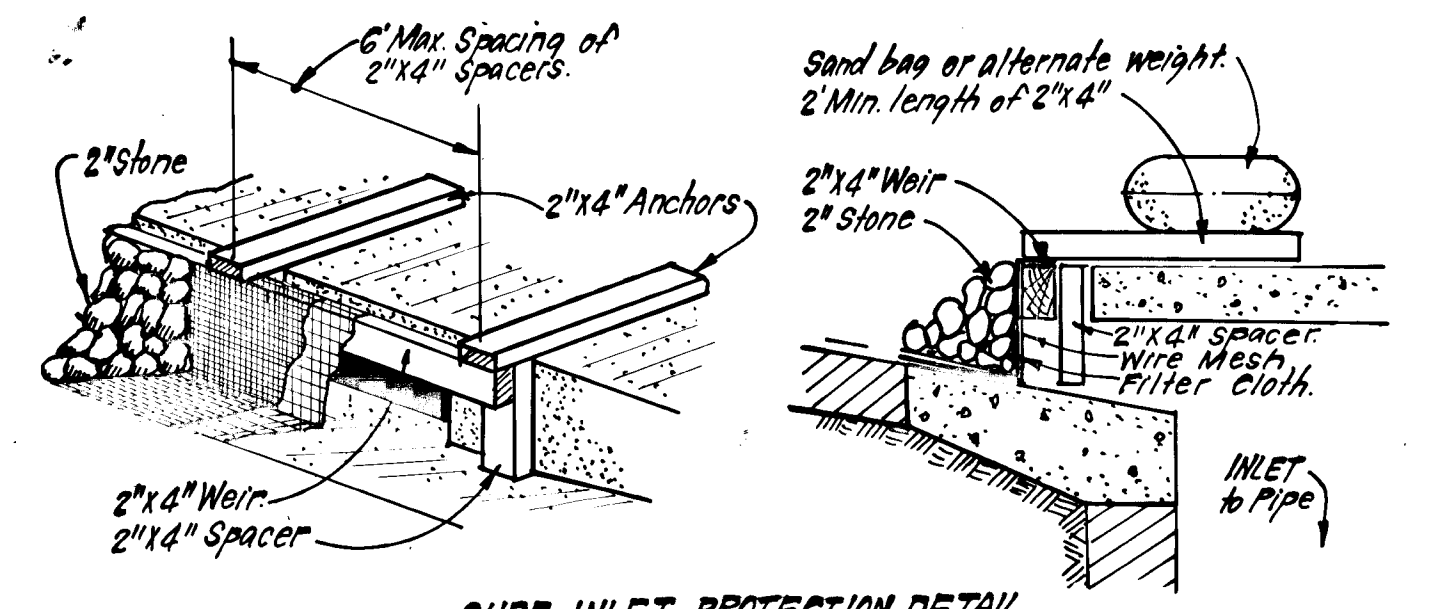




**CONSTRUCTION SPECIFICATIONS:**

- The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The soil shall be compacted.
- 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 traveling with equipment while it is being constructed. Max. height of embankment shall be 5' measured at 90° of embankment.
- All fill slopes shall be 2:1 or flatter's cut slopes 1:1 or flatter.
- Elevation of the top of any dike directing water into trap must equal or exceed height of embankment.
- 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.
- 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 bedded at least 6" into existing ground at entrance of outlet channel.
- Stone used in the outlet channel shall be of size 2" to 4" 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.
- 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.
- The structure shall be inspected after each rain and repaired as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
- The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
- Drainage area for this practice is limited to 15 acres or less.

**RIP RAP OUTLET SEDIMENT TRAP - ST-VI**  
NO SCALE



**CONSTRUCTION SPECIFICATIONS:**

- 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 #20, 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.

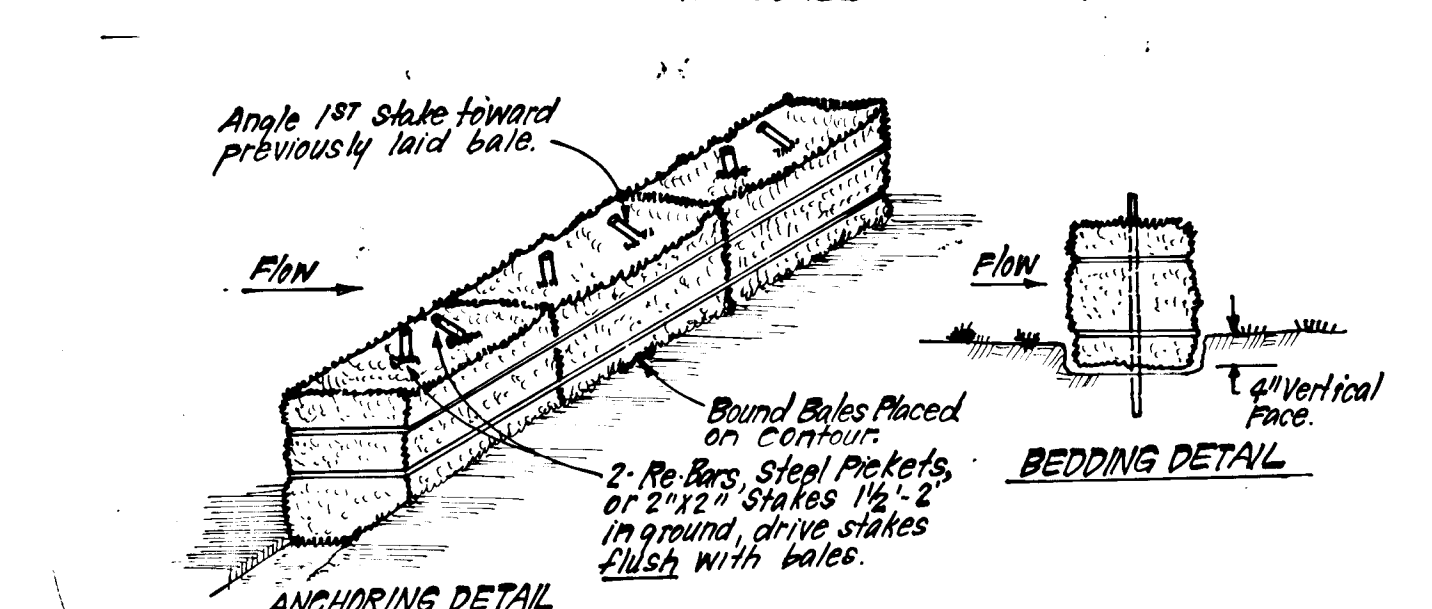
**II. PROCEDURE: SWALE, DITCHLINE OR YARD INLET PROTECTION**

- Excavate completely around inlet to a depth of 18" below notch elevation.
- 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.
- Stretch wire mesh tightly around frame and fasten securely. Ends must meet at post.
- Stretch filter cloth tightly over wire mesh. The cloth must extend from top of frame to the bottom of inlet. Fasten securely to frame. Ends must meet at post, be overlapped and folded, then fastened down.
- Backfill around inlet in compacted 6" layers until layer of earth is even with notch elevation on ends and top elevation on sides.
- 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).

**III. PROCEDURE: CURB INLET PROTECTION**

- 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.
- 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 2x4" weir.
- Securely nail the 2x4" weir to 3" long vertical spacers to be located between the weir and inlet face (max 6" apart).
- Place the assembly against the inlet throat and nail (min 2" lengths of 2x4" to the top of the weir at spacer locations. These 2x4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
- The assembly shall be placed so that the end spacers are a min 1' beyond both ends of throat opening.
- 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.
- This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
- Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow to inlet.

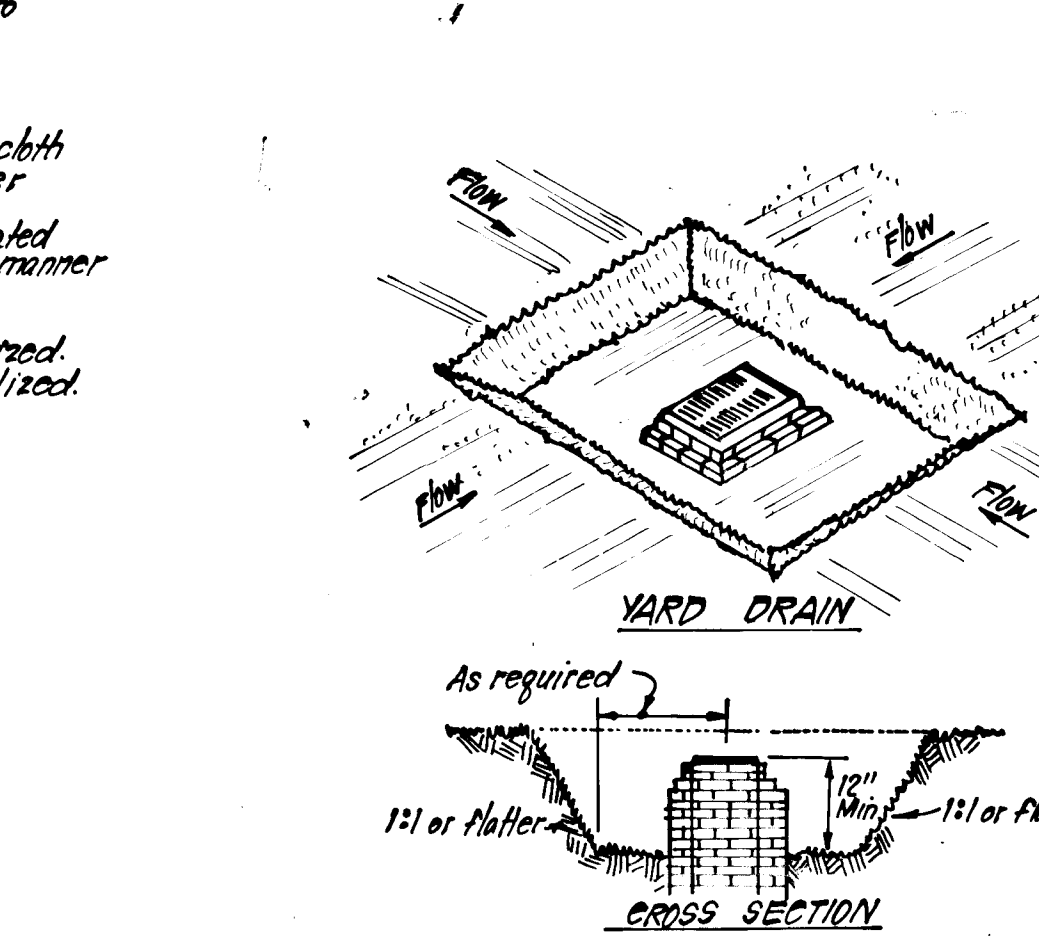
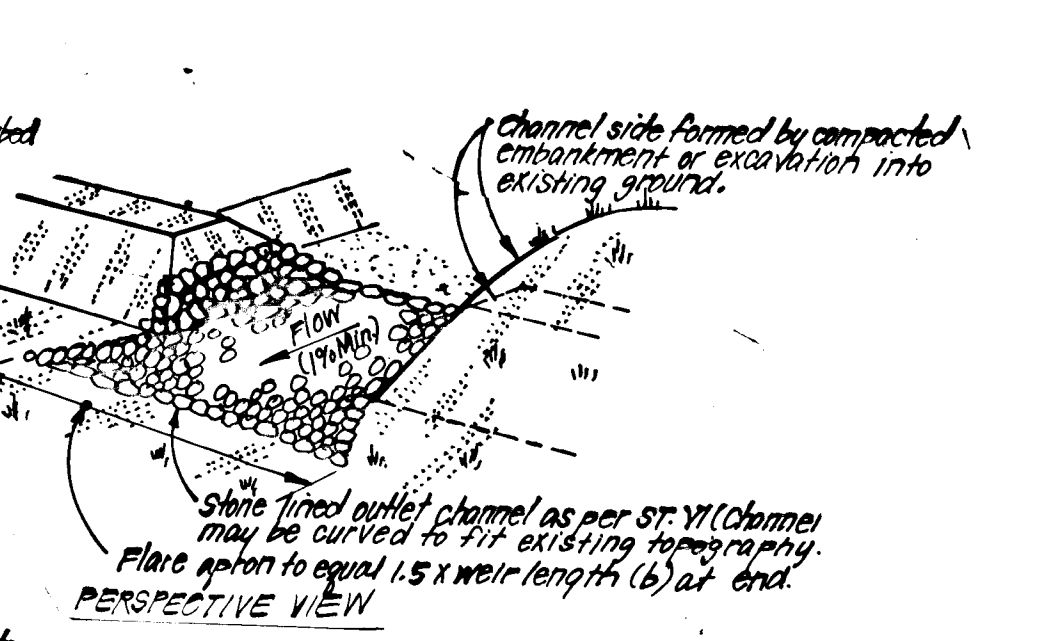
**INLET PROTECTION DETAIL (I.P.D.)**  
NO SCALE



**CONSTRUCTION SPECIFICATIONS:**

- 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.
- Each bale shall be embedded in the soil a min of 4" and placed so the bindings are horizontal.
- Bales shall be securely anchored in place by either 2 stakes or re-bars driven thru the bale.
- The 2nd 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.
- Inspection shall be frequent and repair replacement shall be made promptly as needed.
- Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.

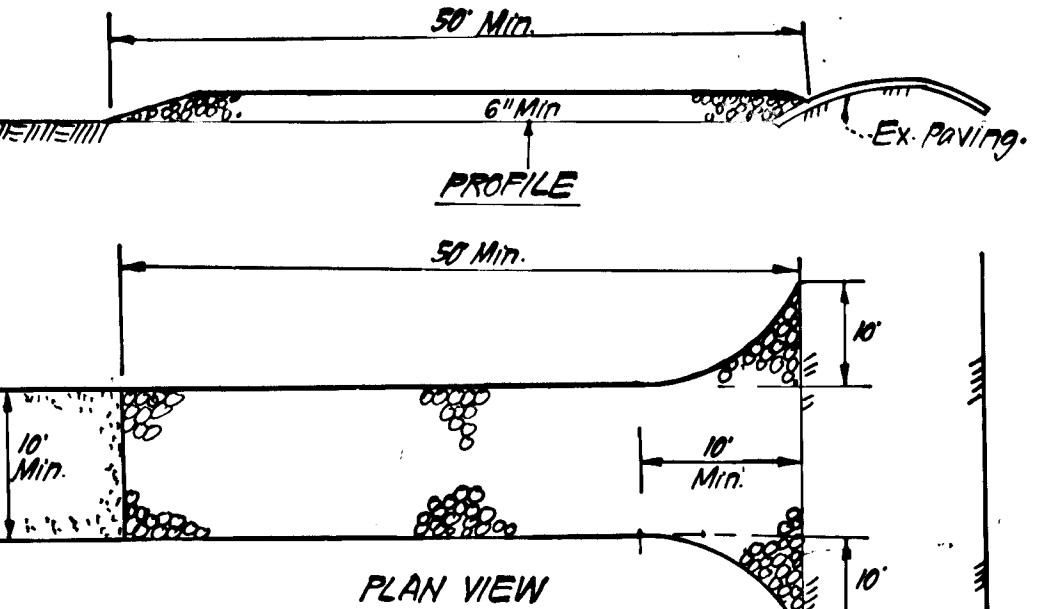
**STRAW BALE DIKE DETAIL (SBD)**  
NO SCALE



**CONSTRUCTION SPECIFICATIONS:**

- 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.
- The volume of sediment storage shall be 1800 cu ft/acre of contributing drainage.
- The structure shall be inspected after each rain and repairs made as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
- The sediment trap shall be removed and the area stabilized when the constructed drainage area has been properly stabilized.
- All cut slopes shall be 1:1 or flatter.

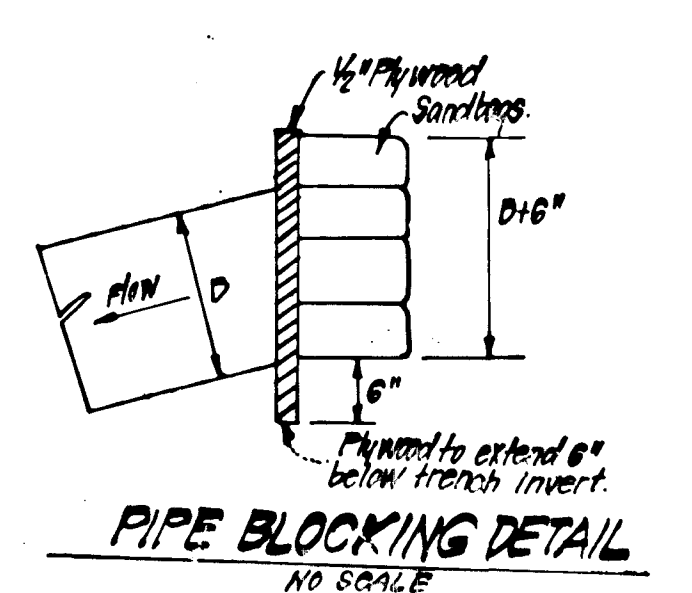
**STORM INLET SEDIMENT TRAP (S/ST) ST-III**  
NO SCALE



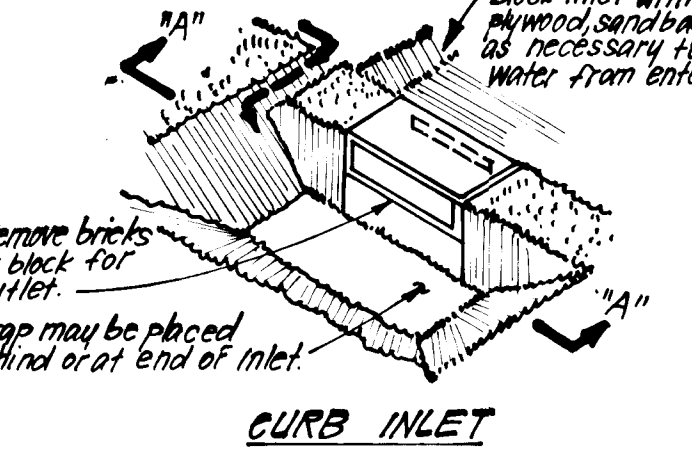
**CONSTRUCTION SPECIFICATIONS:**

- Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
- Length - As required, but not less than 50 feet (except on a single residence lot where a 30' min. length would apply).
- Thickness - Not less than 6".
- Width - Ten foot min, but not less than the full width at point where ingress of excess occurs.
- 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.
- Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance.
- 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 cleanup of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
- 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.
- Periodic inspection and needed maintenance shall be provided after each rain.

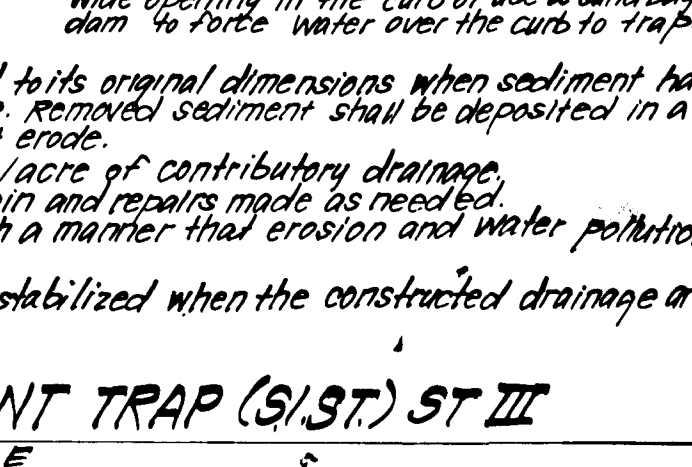
**STABILIZED CONSTRUCTION ENTRANCE (S.C.E.)**  
NO SCALE



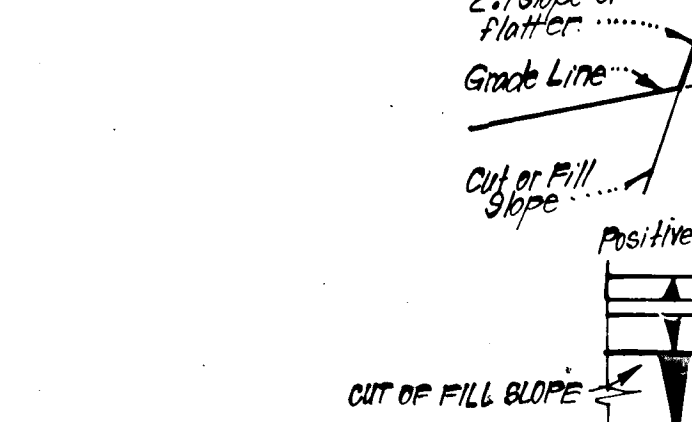
**PIPE BLOCKING DETAIL**  
NO SCALE



**YARD DRAIN**  
NO SCALE



**CURB INLET**  
NO SCALE



**CONSTRUCTION SPECIFICATIONS:**

- All dikes shall be compacted by earth-moving equipment.
- All dikes shall have positive drainage to an outlet.
- Top width may be wider and side slopes may be flatter if desired, to facilitate crossing by construction traffic.
- Field location should be adjusted as needed to utilize a stabilized safe outlet.
- Earth dikes shall have an outlet that functions with a minimum of erosion. Runoff shall be conveyed to a sediment 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.
- 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.

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 white, or Excelsior's Sed, 2" Stone
3	5.1 - 8.0%	Seed white, or Sed, 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 equivalent, 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

Reviewed for \_\_\_\_\_ S.C.D. Name \_\_\_\_\_ and meets Technical Requirements \_\_\_\_\_ Date 7-21-86 Signature \_\_\_\_\_ U.S. Soil Conservation Service

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

Signature \_\_\_\_\_ Date 5-29-86

**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:

- 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).
- 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 thru 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 1 1/2 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 28 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.

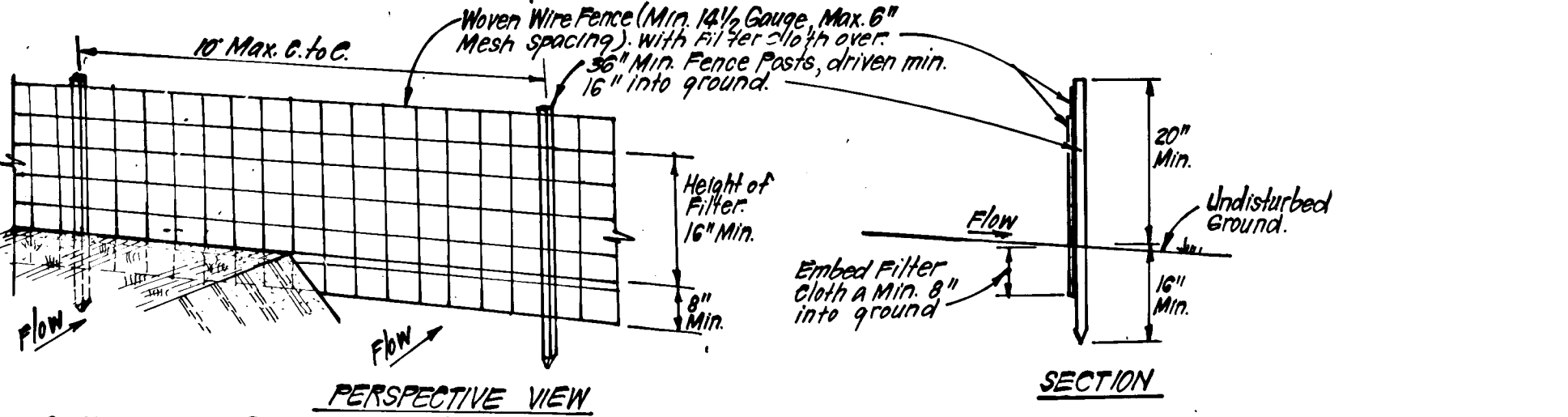
**Mulching:** Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes, 8 ft or higher,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

**SEDIMENT CONTROL NOTES**

- 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)
- 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.
- Following initial soil disturbance or redistribution, 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.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 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.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:
 

Total Area of Site	20,2532 Acres
Area Disturbed	16.50 Acres
Area to be roofed or paved	2.10 Acres
Area to be vegetatively stabilized	14.40 Acres
Total Cut	35,700 Cu. yds
Total Fill	48,370 Cu. yds
Offsite waste/borrow area location	N/A
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County DPW sediment control inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of 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.
- 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
- All pipes to be blocked at the end of each day (see detail below).
- The total amount of straw bale dikes/silt fence equals 275 L.F.



**CONSTRUCTION SPECIFICATIONS:**

- Woven wire fence to be fastened securely to fence posts with wire ties or staples.
- Filter cloth to be fastened securely to woven wire fence with ties spaced every 24" at top and mid section.
- When 2 sections of filter cloth adjoin each other they shall be overlapped by 6" and folded.
- 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, 14 1/2 Gauge  
**MAX. MESH OPENING:** 6"  
**FILTER CLOTH:** Filter-X, Mirafix 100X, Shalinks, T140N or approved equal.  
**PREFABRICATED UNIT:** Geo-Fab, Enviro-Fence, or approved equal.

**SILT FENCE DETAIL (S)**  
NO SCALE

AS-BUILT SURVEY CERTIFIED BY DONALD B. SACKETT P.E. No. 6059 DECEMBER 8, 1987

**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 \_\_\_\_\_ Date 5-30-86

APPROVED: DEPARTMENT OF PUBLIC WORKS

Signature \_\_\_\_\_ Date 7-25-86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING

Signature \_\_\_\_\_ Date 7-22-86

**CLARK • FINEFROCK & SACKETT**  
ENGINEERS • PLANNERS • SURVEYORS  
11515 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 593-3400

DESIGNED	JLS	SCALE	As Shown
DRAWN	KIW	DRAWING	7 OF 7
CHECKED	JLS	JOB NO.	85-101
DATE	5-29-86	FILE NO.	85-101-D

**DORSEY HALL**  
SECTION 2 AREA 2  
2ND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

FOR: COLUMBIA BUILDERS, INC.  
3 Lakefront North Suite 200  
Columbia, Md. 21044

AS-BUILT 12-B-87