

COLUMBIA

HOWARD COUNTY, MARYLAND

PLAN AND PROFILE

HARPER'S FARM ROAD

STA. 16+70.92 to STA. 56+00

FEBRUARY, 1967

ELECTION DISTRICT 5

OWNER & DEVELOPER
THE HOWARD RESEARCH & DEVELOPMENT CORP.

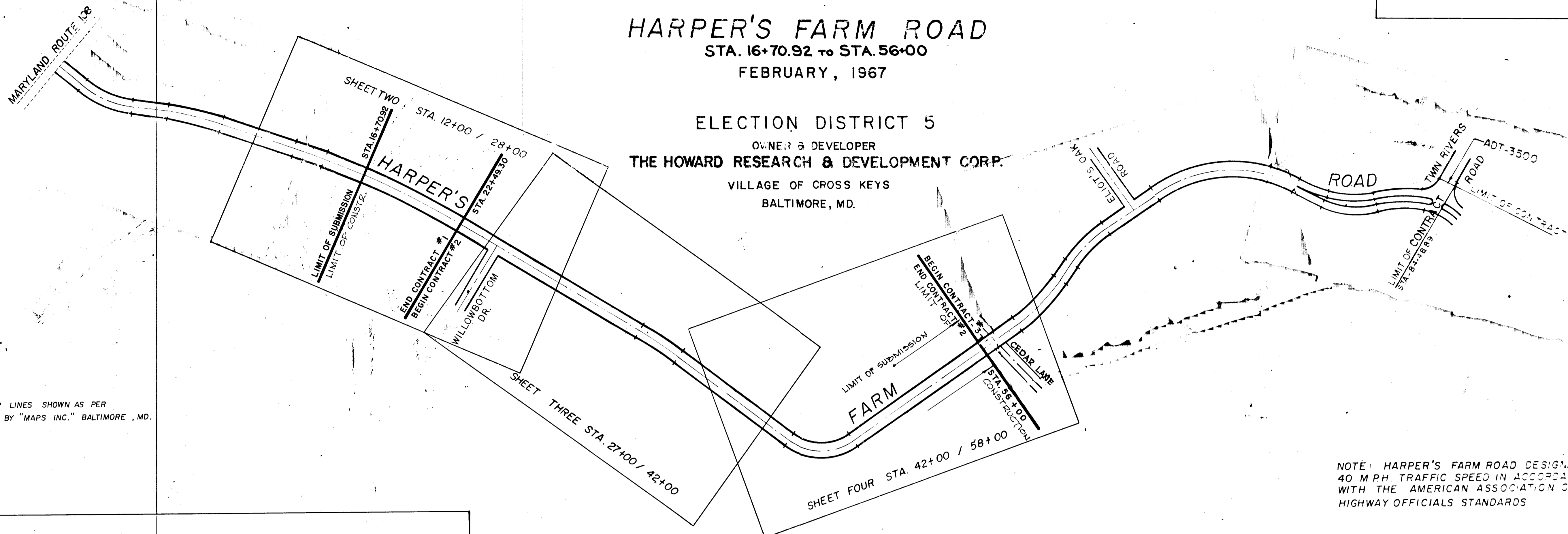
VILLAGE OF CROSS KEYS
BALTIMORE, MD.

APPROVED BY:

HOWARD CO. PLANNING COMM. *J. H. Clawson* 12-7-67
SENIOR ENGINEER DATE

HOWARD CO. ROAD DEPT. *Prunier N. Neiland* 12-8-67
ROAD SUPT. DATE

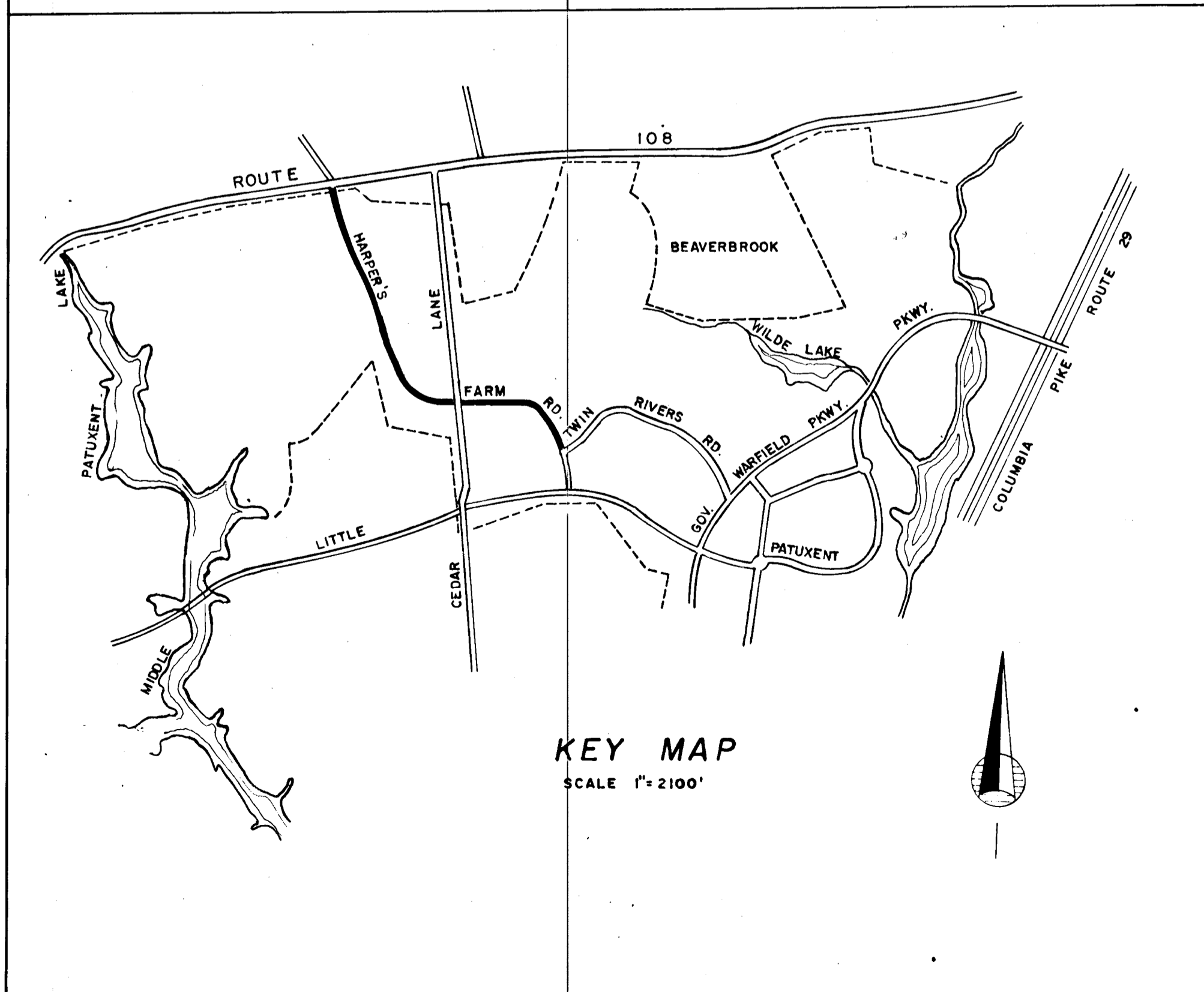
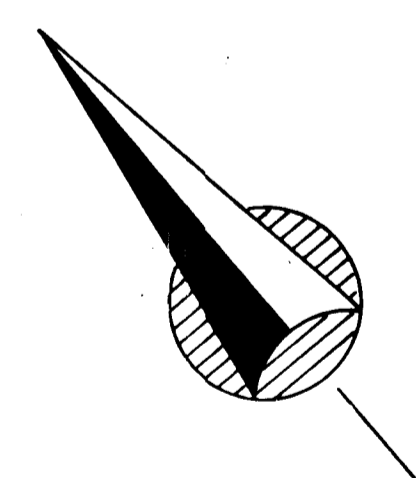
HOWARD CO. METRO COMM. *W. O. P. Hunt* 12-12-67
CHIEF ENGINEER DATE



NOTE: CONTOUR LINES SHOWN AS PER
MAPS COMPILED BY "MAPS INC." BALTIMORE, MD.

NOTE: HARPER'S FARM ROAD DESIGNED FOR
40 M.P.H. TRAFFIC SPEED IN ACCORDANCE
WITH THE AMERICAN ASSOCIATION OF STATE
HIGHWAY OFFICIALS STANDARDS

SCALE: 1" = 300'



ESTIMATE OF QUANTITIES				
ITEM	DESCRIPTION	UNIT	QUANTITY	
			FIRST STAGE CONSTRUCTION	FINAL STAGE CONSTRUCTION
1.	EARTH EXCAVATION	CU YD.		
2.	EARTH FILL (BORROW)	CU YD.		
3.	CONC CURB VERT. CLASS "A"	L.F.		
4.	15" R.C.P. CLASS "4"	L.F.		
5.	18" R.C.P. CLASS "4"	L.F.		
6.	21" R.C.P. CLASS "4"	L.F.		
7.	24" R.C.P. CLASS "4"	L.F.		
8.	30" R.C.P. CLASS "4"	L.F.		
9.	33" R.C.P. CLASS "4"	L.F.		
10.	36" R.C.P. CLASS "4"	L.F.		
11.	39" R.C.P. CLASS "4"	L.F.		
12.	TYPE "F" HEADWALL	EACH		
13.	TYPE "G" HEADWALL	EACH		
14.	MOD "S" COMBO SINGLE GRATE INLET	EACH		
15.	1 1/2" BIT. CONC. SURFACE COURSE	S.Y.		
16.	1 1/2" BIT. CONC. BINDER COURSE	S.Y.		
17.	5" BIT. CONC. BASE COURSE	S.Y.		
18.	TOP SOIL "4" DEEP	S.Y.		

BROWNE · PANDULLO & ASSOCIATES
ENGINEERS · PLANNERS · SURVEYORS

COLUMBIA, MARYLAND

GENERAL REVISIONS 9-27-67 LR
REVISED 9/19/67 WJK

APPROVED
PLANNING COMMISSION
DATE DEC 7 1967

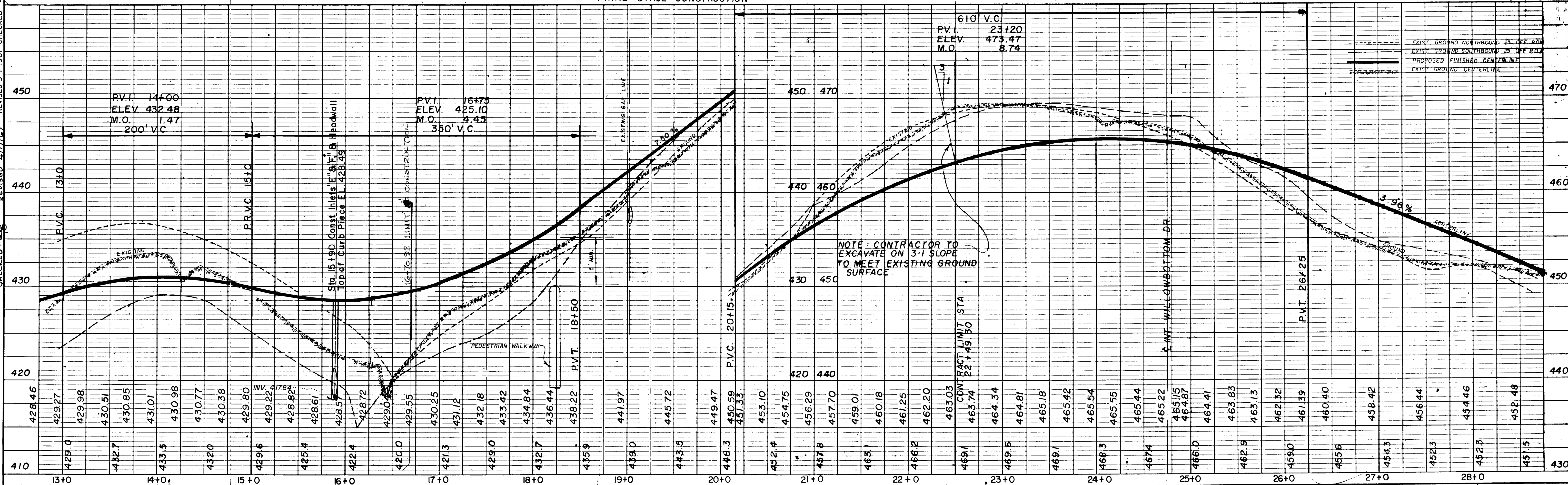
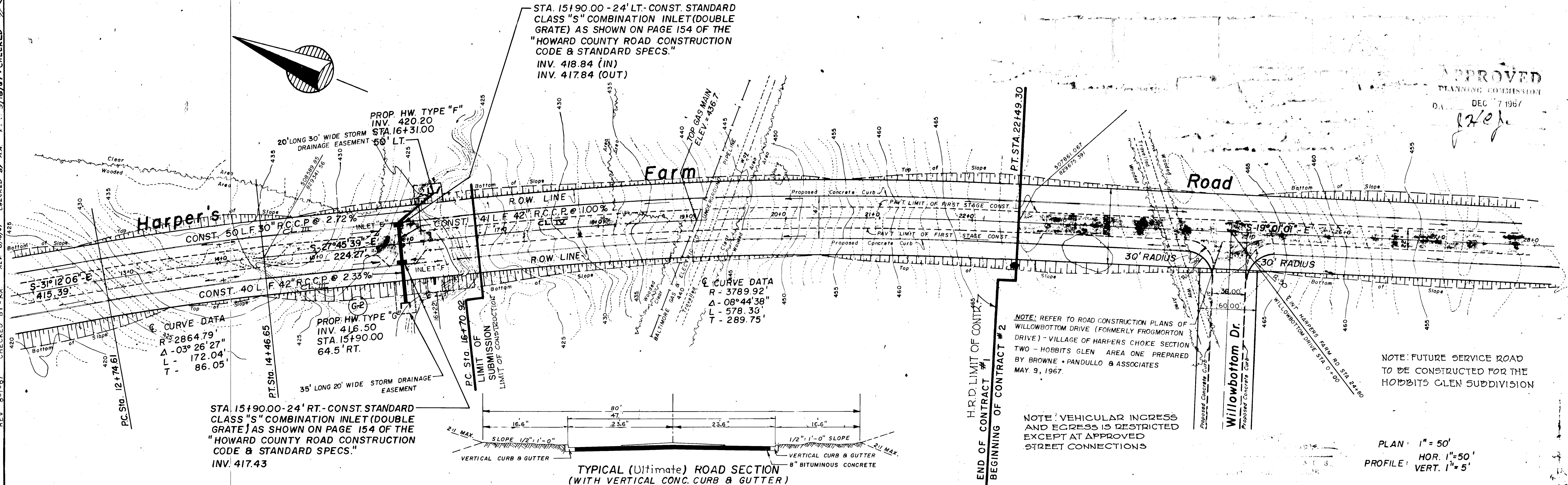
[Signature]

DATE	BY
PLANNED	PK
CHECKED	PK
CHECKED	PK
CHECKED	PK
CHECKED	PK

NO.	REVISED	DATE
1	5-1-67	5-1-67
2	8-1-67	8-1-67
3	9-1-67	9-1-67

DATE	BY
PLANNED	PK
CHECKED	PK
CHECKED	PK
CHECKED	PK
CHECKED	PK

NO.	REVISED	DATE
1	5-1-67	5-1-67
2	4-17-67	4-17-67
3	5-1-67	5-1-67

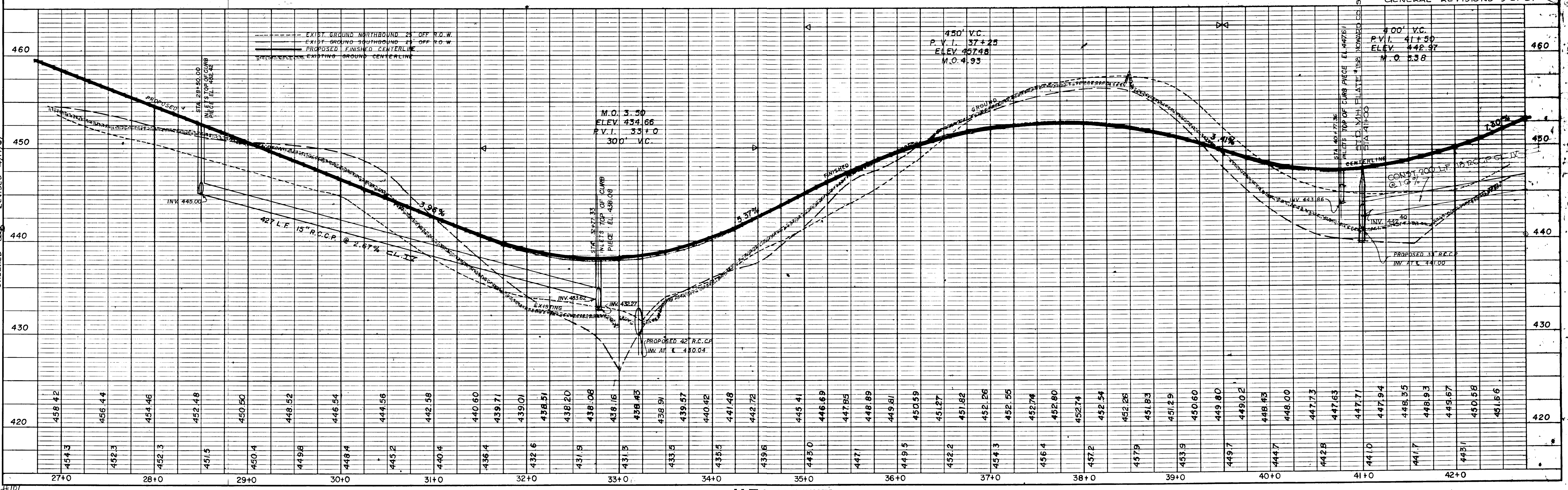
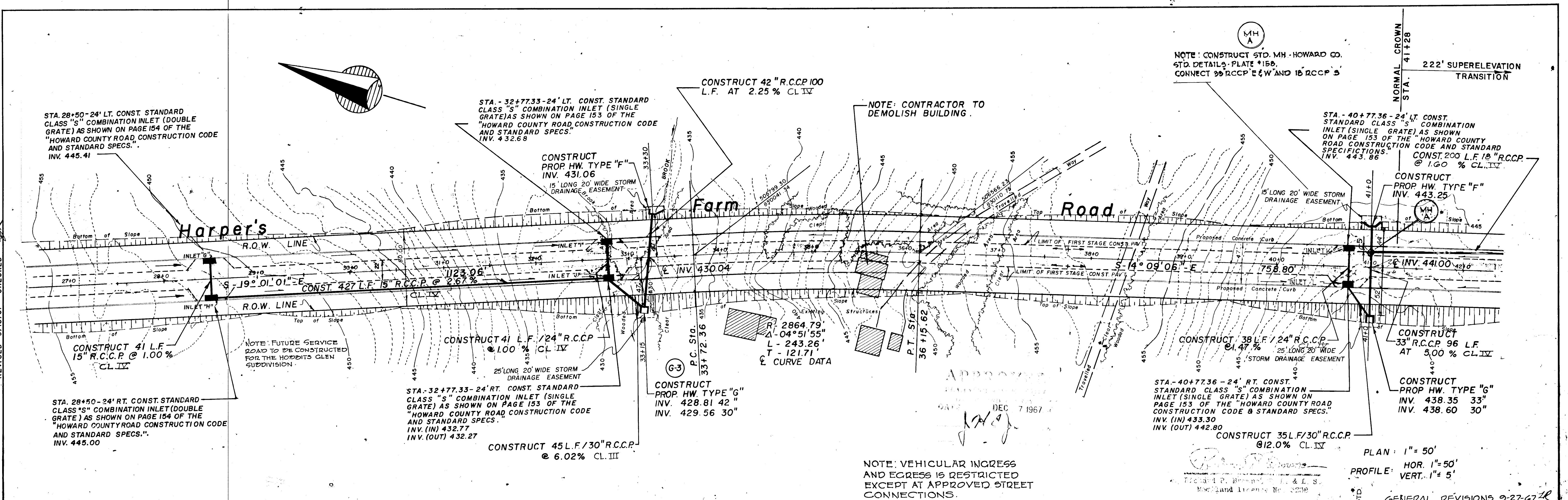


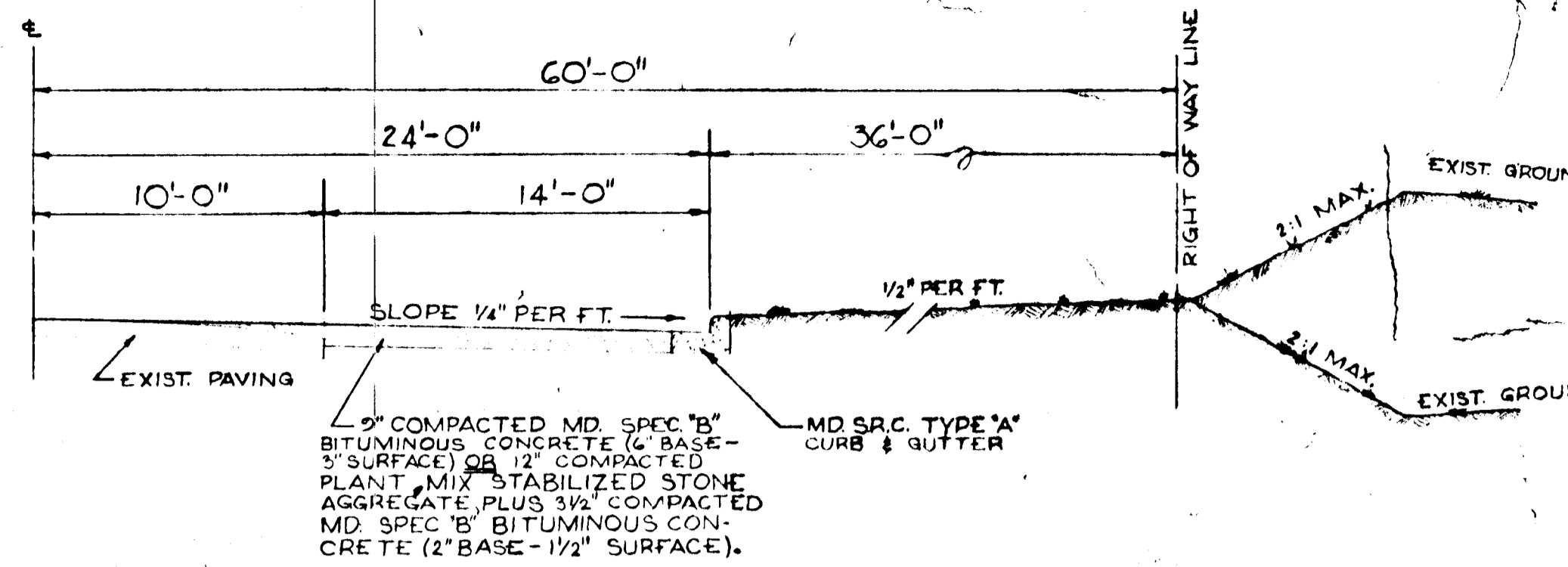
PLAN: 1"=50'
PROFILE: HOR. 1"=50'
VERT. 1"=5'

GENERAL REVISIONS 9-27-67 PK

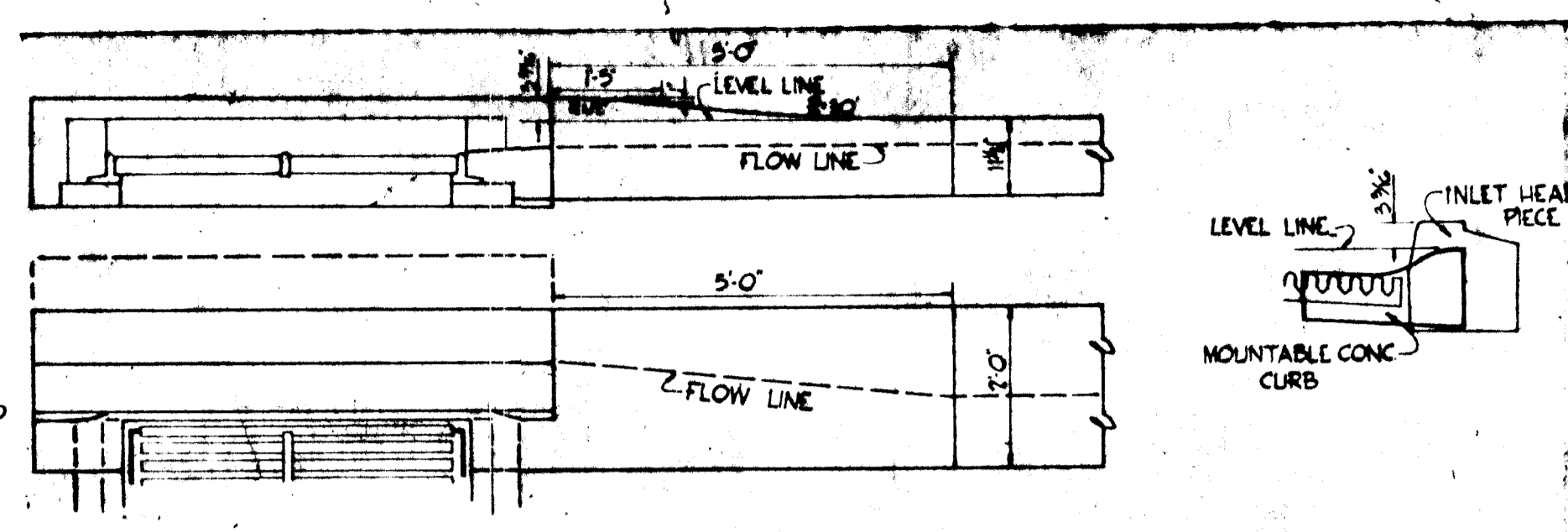
PLAN
 SURVEYED BY DATE
 PLOTTED BY
 CHECKED BY
 REVISIONS

PROFILE
 SURVEYED BY DATE
 PLOTTED BY
 CHECKED BY
 REVISIONS

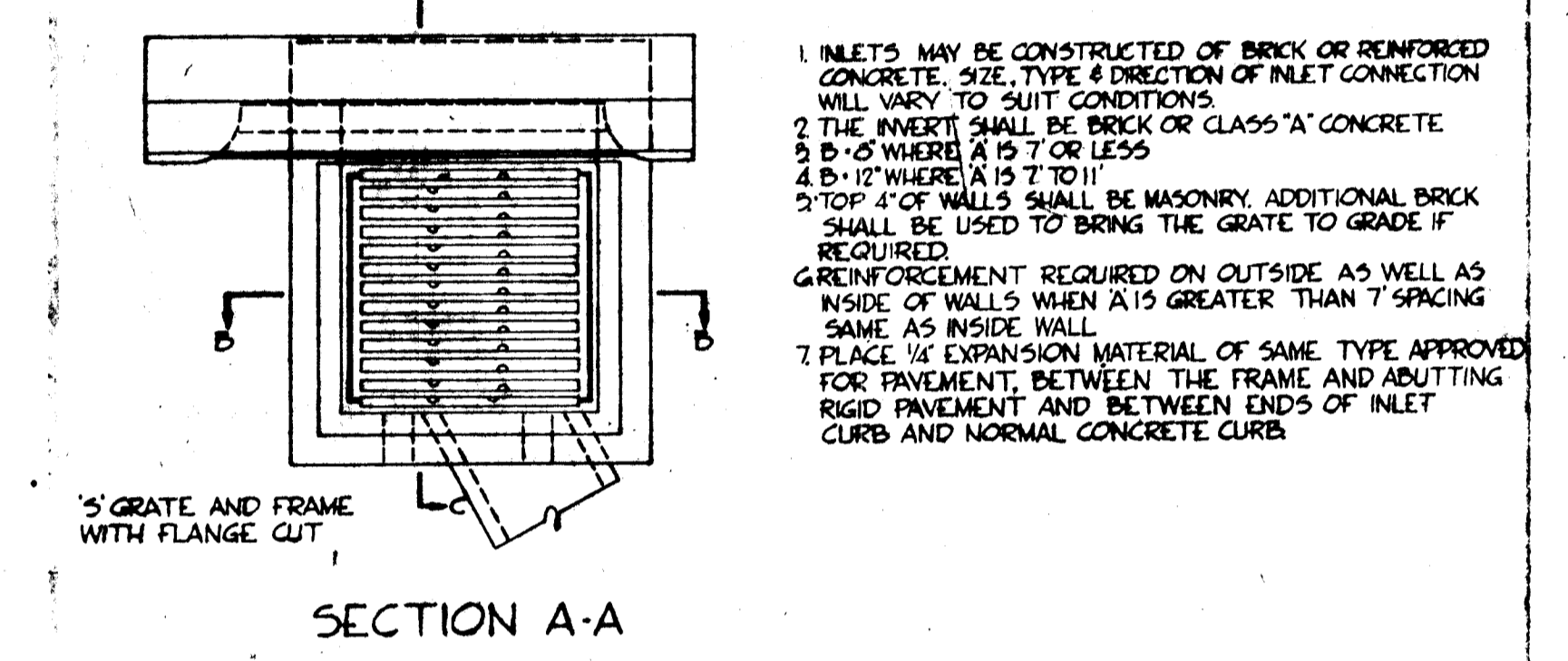
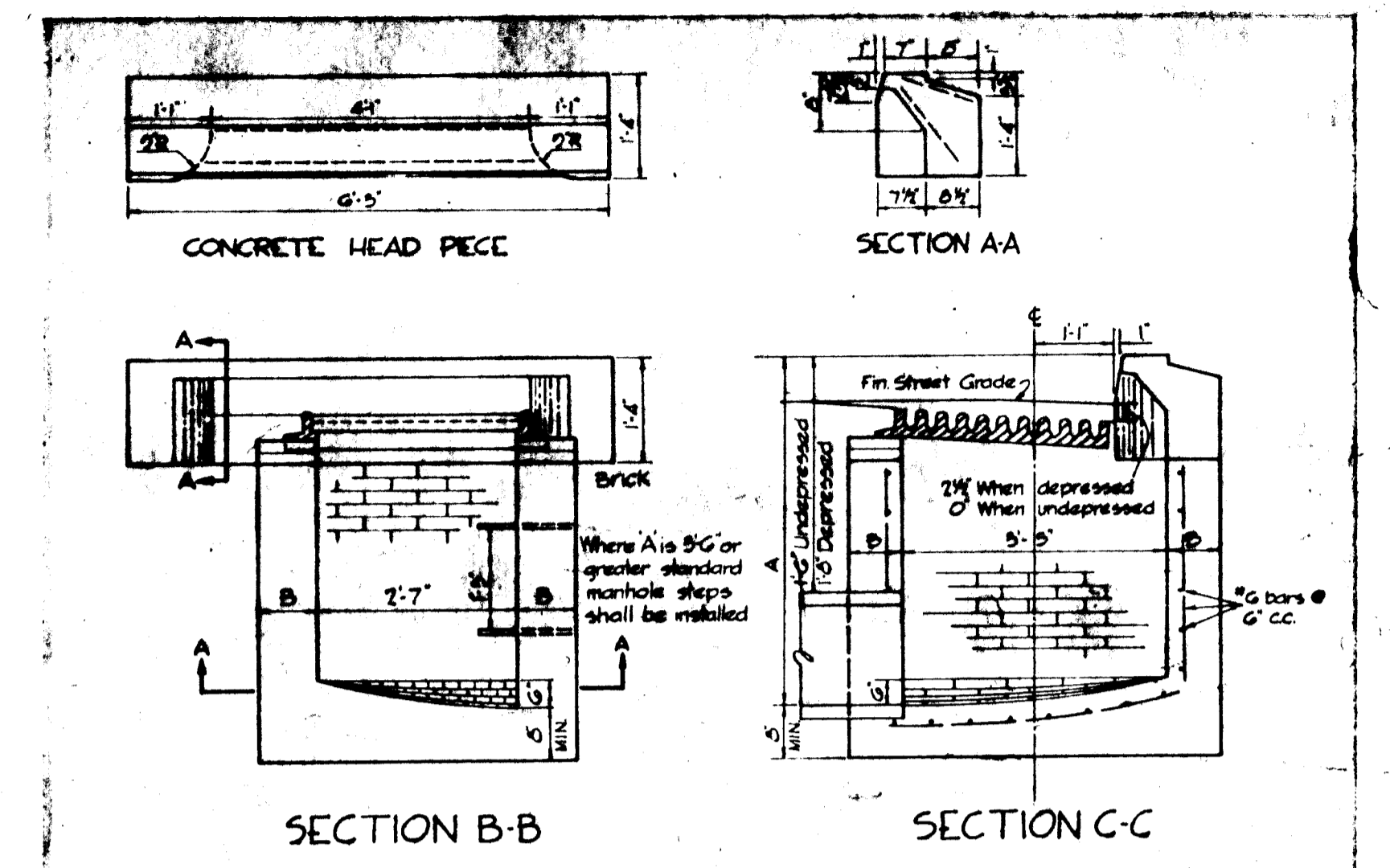




TYPICAL WIDENING OF RTE. 108
SCALE: 1" = 5'

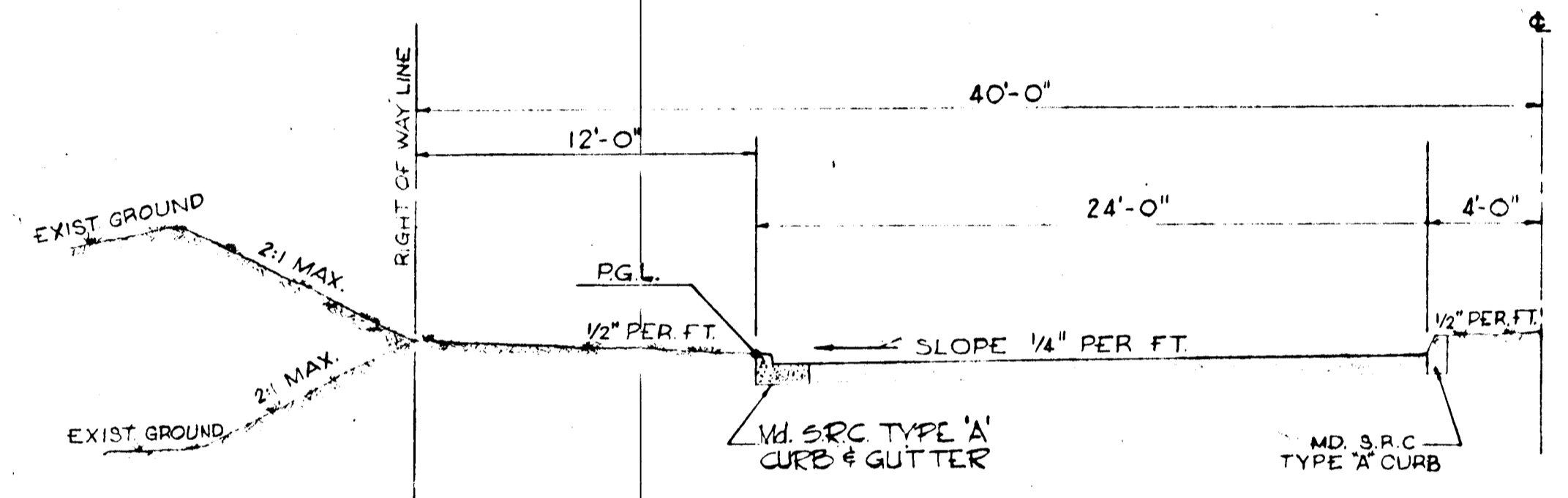


5' CURB TRANSITION
NO SCALE

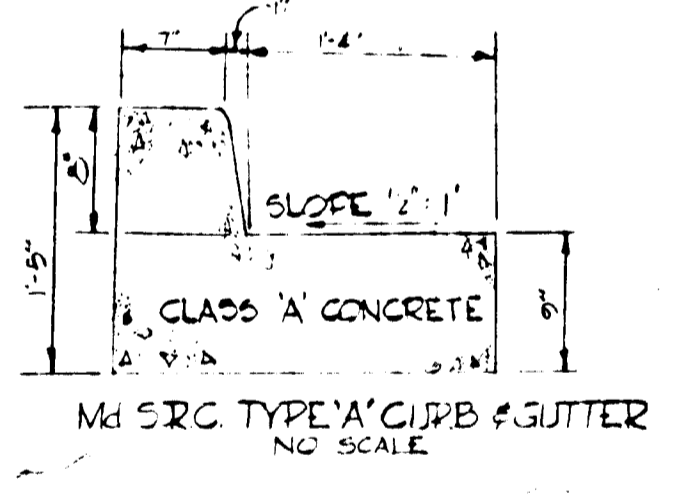


MODIFIED 'S' COMBINATION INLET
NO SCALE

- INLETS MAY BE CONSTRUCTED OF BRICK OR REINFORCED CONCRETE. SIZE, TYPE & DIRECTION OF INLET CONNECTION WILL VARY TO SUIT CONDITIONS.
- THE INVERT SHALL BE BRICK OR CLASS 'A' CONCRETE.
- D = 5' WHERE A IS 7' OR LESS.
- D = 12' WHERE A IS 7' TO 11'.
- TOP 4" OF WALLS SHALL BE MASONRY. ADDITIONAL BRICK SHALL BE USED TO BRING THE GRATE TO GRADE IF REQUIRED.
- REINFORCEMENT REQUIRED ON OUTSIDE AS WELL AS INSIDE OF WALLS WHEN A IS GREATER THAN 7' SPACING SAME AS INSIDE WALL.
- PLACE 1/4" EXPANSION MATERIAL OF SAME TYPE APPROVED FOR PAVEMENT, BETWEEN THE FRAME AND ABUTTING RIGID PAVEMENT AND BETWEEN ENDS OF INLET CURB AND NORMAL CONCRETE CURB.



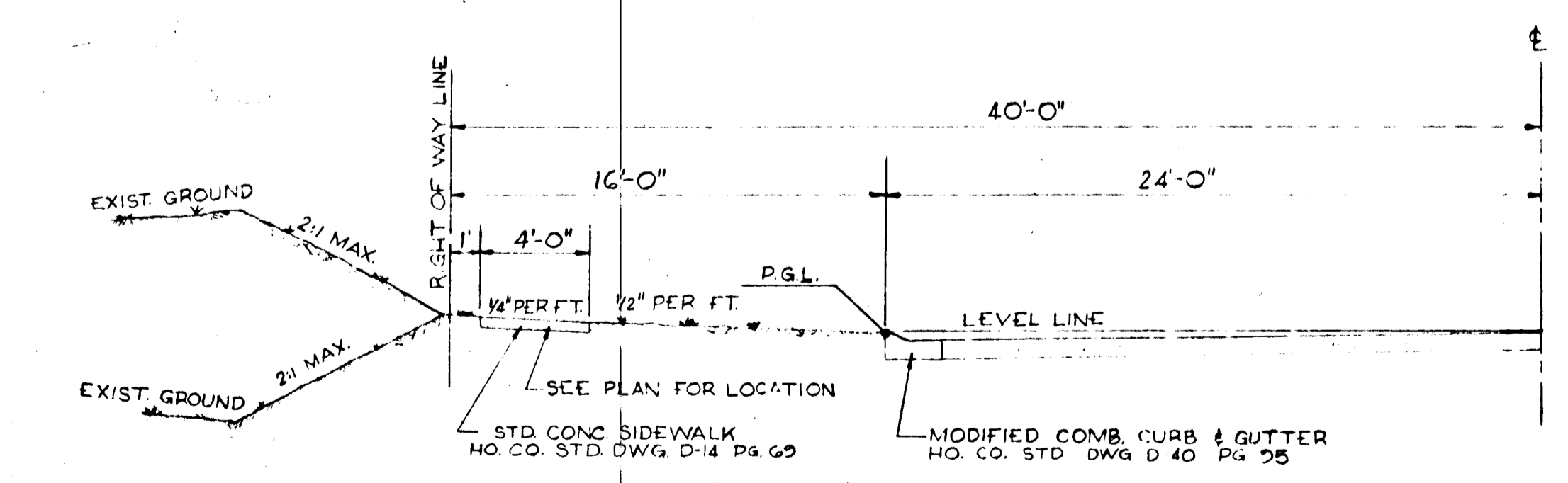
80' R.O.W. TYPICAL HALF - SECTION
SCALE: 1" = 5'



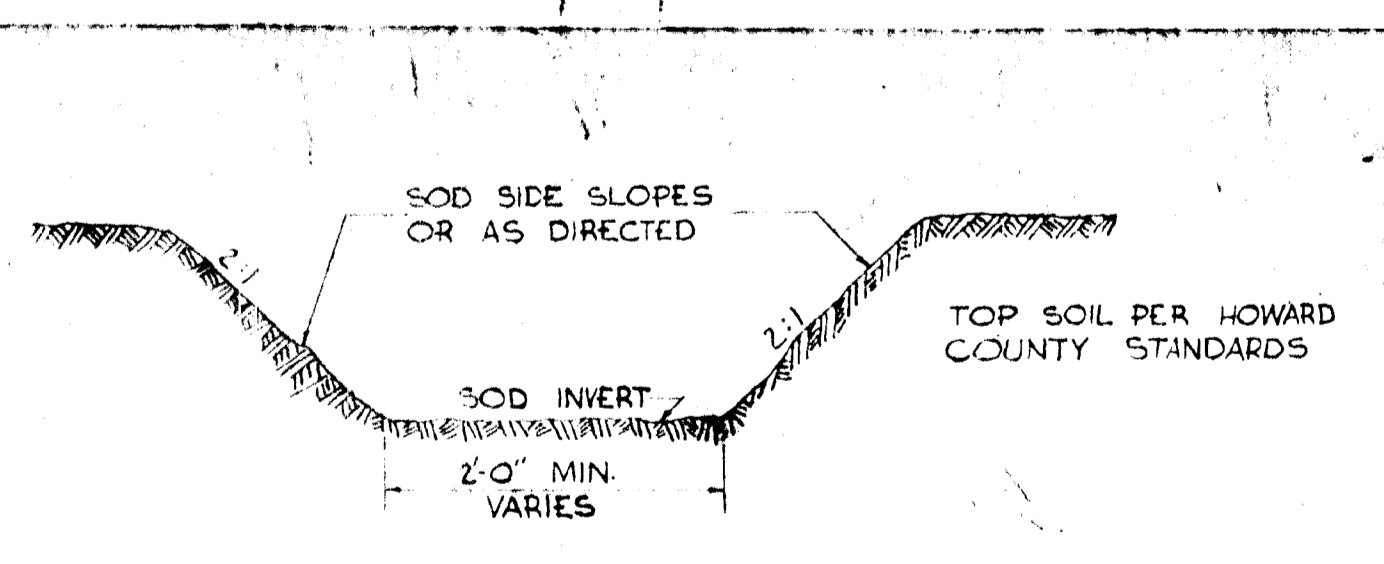
BITUMINOUS CONCRETE SURFACE	3"	BAND C-3	FINAL PHASE
BITUMINOUS CONCRETE BINDER	1"	BAND A-3	
BITUMINOUS CONCRETE BASE PLACED IN ONE COURSE	10"	BAND C-2 OR G-3	FIRST PHASE

CLEARING AND GRADING ARTICLE C-1
 SUBGRADE ARTICLE C-2
 BASE COURSE ARTICLE C-3 OR G-3
 BINDER COURSE ARTICLE C-3
 SURFACE COURSE ARTICLE C-4
 NOTES
 PAVEMENT TO BE CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS PAGE G3 DRAWING 10

8" PAVEMENT DETAIL
NO SCALE

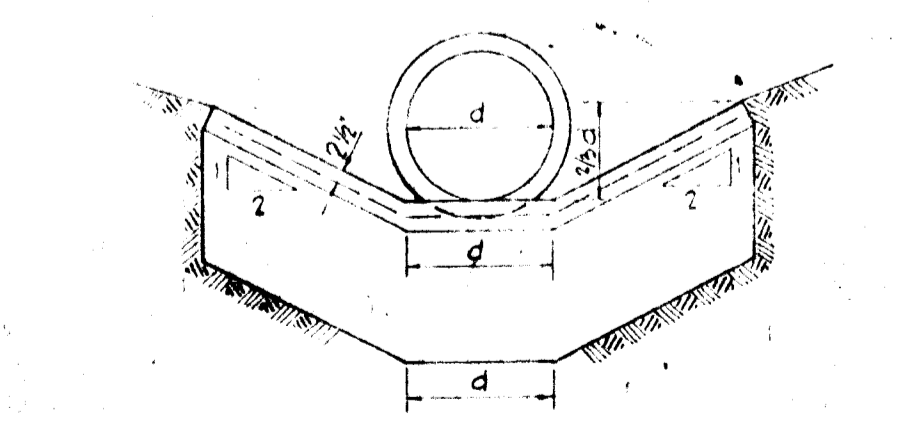
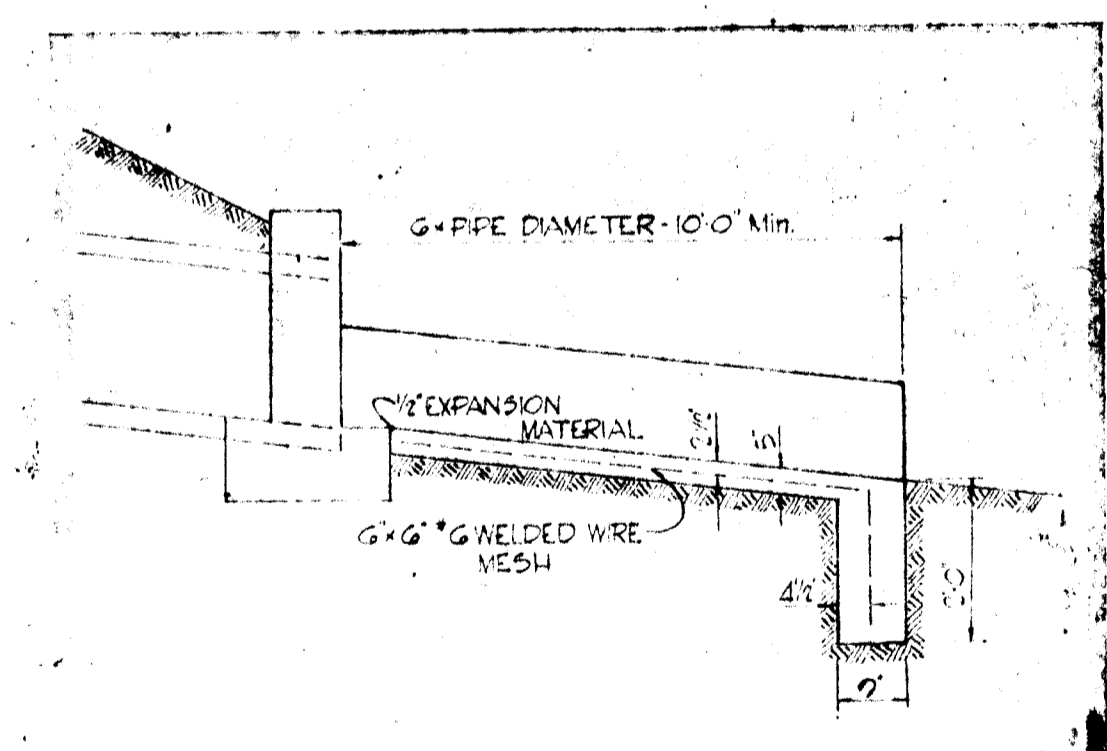


80' R.O.W. TYPICAL HALF - SECTION
SCALE: 1" = 5'



NOTE: ALL EXISTING DITCHES APPROACHING PROPOSED ENDWALLS SHALL BE TRIMMED IN ACCORDANCE WITH ARTICLE C-6 OF THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS.

TYPICAL DRAINAGE DITCH
NO SCALE



TYPICAL CONCRETE CHANNEL and CUTOFF WALL
NO SCALE



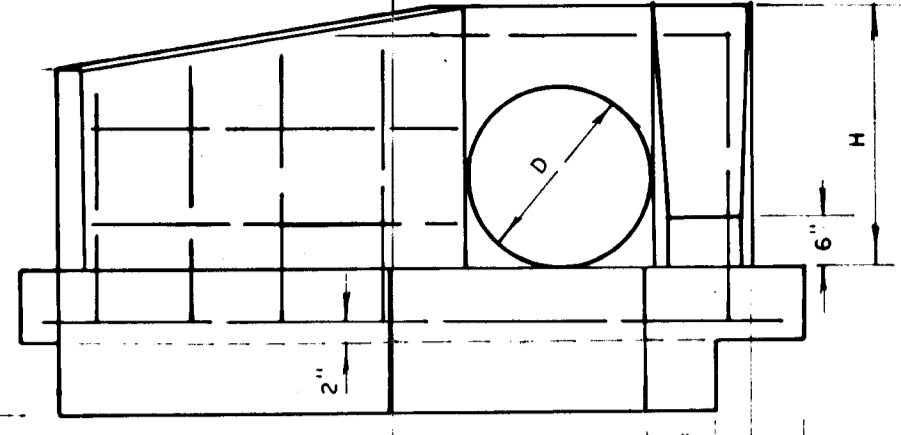
Richard P. Browne
RICHARD P. BROWNE PE & LS #5238

RICHARD P. BROWNE ASSOCIATES CONSULTING ENGINEERS - PLANNERS COLUMBIA, MARYLAND		
Rev Date	Rev No	Revision Description
COLUMBIA 5TH ELECTION DISTRICT HOWARD COUNTY MARYLAND OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORP. THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210		
PROJECT AREA HARPER'S FARM ROAD		
PROJECT TITLE ROADWAY DETAILS		
Des By T.S.	Scale AS SHOWN	Dwg No 4 of 5
Drn By	Date 27 JAN. 69	C.C.F. No
Chk By J.B.	Approved	

REV. PROJECT CHECKED BY R.A. REC 7/11/67. CHECKED BY W.K.

CHECKED - 208 REVISED 2/17/67

F-67-68
Sheet 2
Howard County



ELEVATION

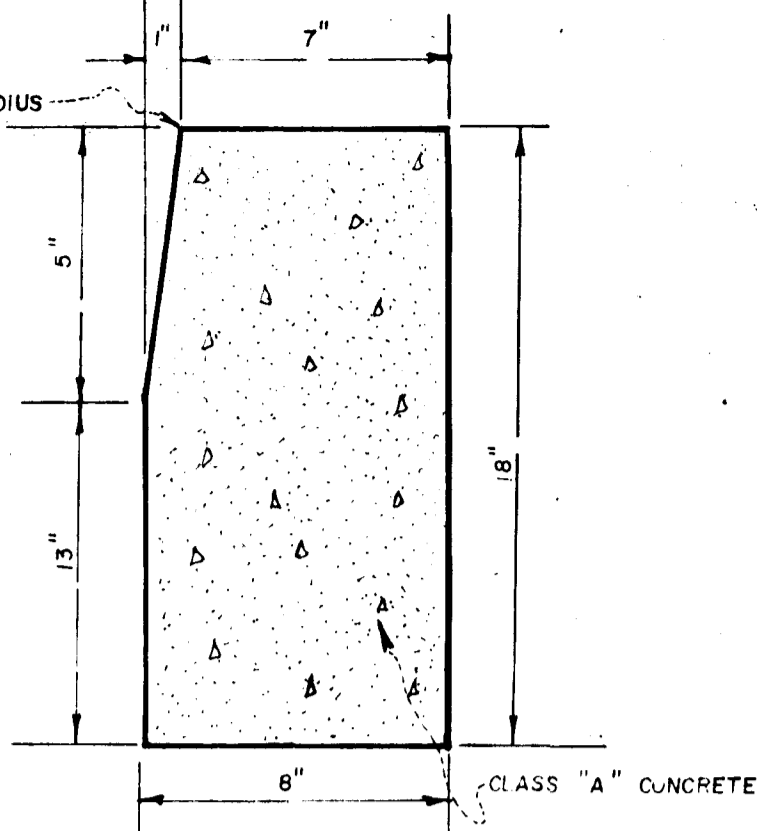
PIPE DIA. D.	SQ. FT. AREA	SLOPE 2:1										QUANTITIES	
		ENDWALL					WINGS					CONC. CU. YDS.	STEEL LBS.
L	B	F	H	W	X	Z	K	K	P				
12"	0.79	1'-9"	9"	1'-7"	2'-3"	0'-2"	9"	7"	1'-3"			0.55	38
15"	1.23	2'-0"	9"	1'-11"	2'-6"	2'-2"	9"	8"	1'-5"			0.73	46
16"	1.39	2'-1"	9"	1'-11"	2'-6"	2'-2"	9"	8"	1'-5"			0.75	46
18"	1.78	2'-3"	9"	2'-2"	3'-0"	2'-7"	9"	8"	1'-7"			0.89	57
24"	3.14	3'-0"	12"	2'-9"	4'-0"	3'-5"	12"	11"	2'-1"			1.64	82
30"	4.91	3'-6"	12"	3'-4"	4'-8"	3'-2"	12"	11"	2'-6"			2.14	113
36"	7.07	4'-0"	12"	3'-10"	5'-4"	3'-7"	12"	11"	3'-0"			2.48	132
42"	9.62	4'-6"	12"	4'-5"	6'-4"	4'-6"	12"	11"	3'-2"			3.30	163
48"	12.57	5'-0"	12"	4'-11"	7'-0"	5'-6"	12"	11"	3'-6"			3.85	193

NOTE: (STEEL IN WINGS)
VERT 3/4" BARS 12" C.C.
HOR 1/2" BARS 12" C.C.
HOOKED ON ONE END

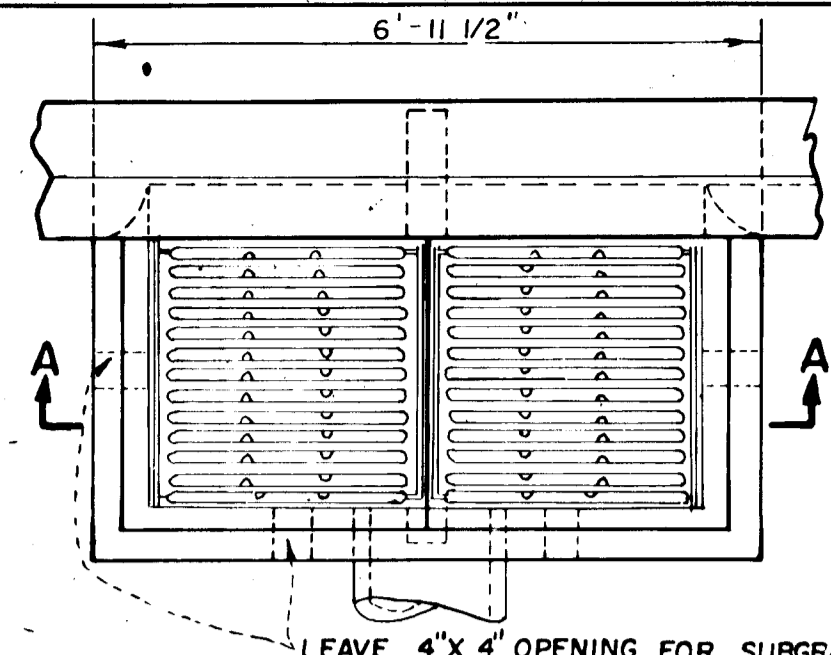
NOTE: CHAMFER ALL EXPOSED EDGES
1" x 1" OR AS DIRECTED.

STANDARD TYPE "F" ENDWALL

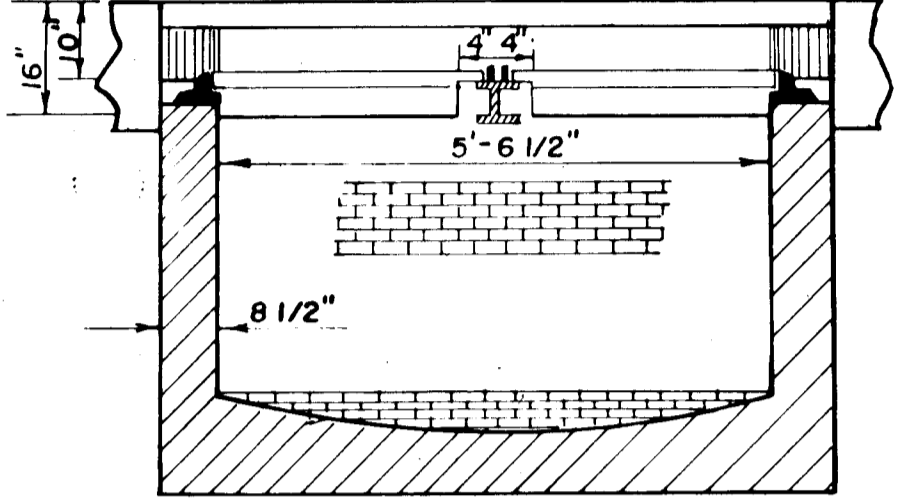
NOTE: 1. ENDWALLS WILL BE SET IN THE FIELD BY THE ENGINEER DURING CONSTRUCTION.
2. ENDWALL FOR 33" PIPE SHALL BE CONSTRUCTED TO THE DIMENSIONS FOR 36" PIPE DIAMETER.
3. WINGWALLS FOR TYPE "F" ENDWALLS SHALL BE CONSTRUCTED TO CONFORM TO THE ALIGNMENT OF EXISTING BROOK CHANNELS.



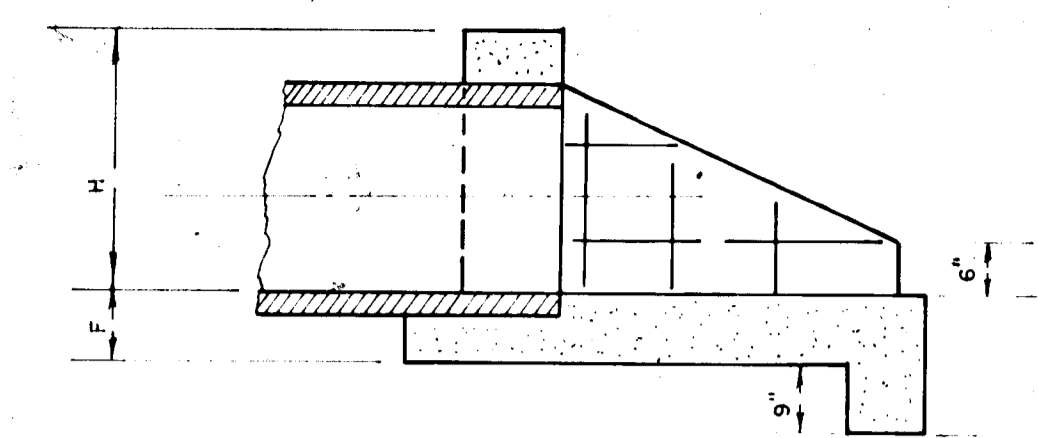
VERTICAL CURB
NO SCALE



"S" COMBINATION INLET
(DOUBLE GRATE)
NO SCALE



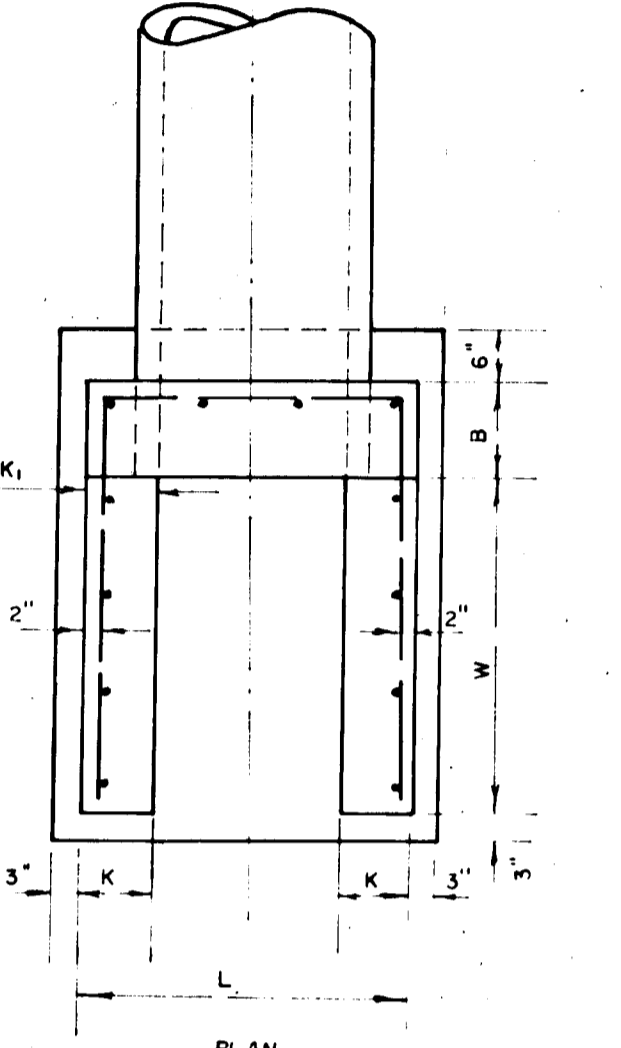
SECTION "A-A"
NO SCALE
D-99 Page 154



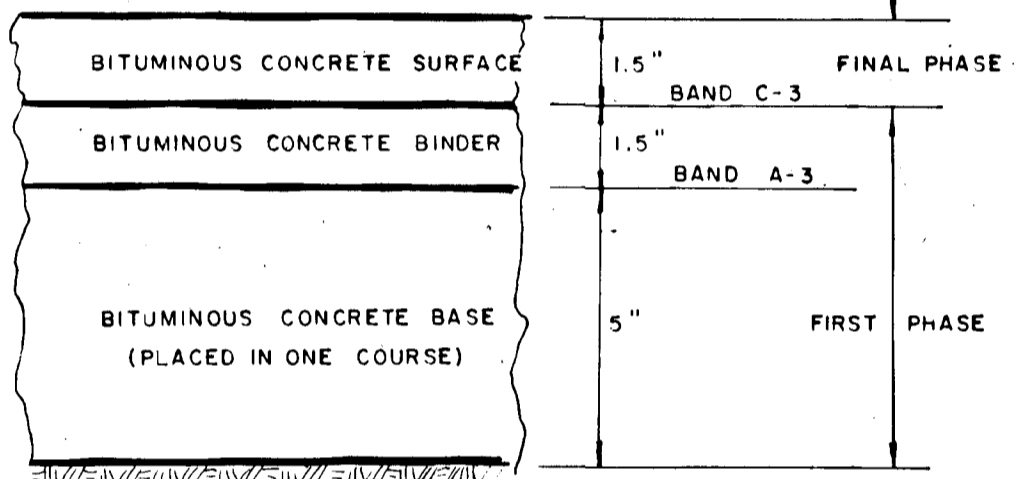
ELEVATION

PIPE DIA. D.	SQ. FT. AREA	SLOPE 2:1										QUANTITIES	
		ENDWALL					WINGS					CONC. CU. YDS.	STEEL LBS.
L	B	F	H	W	X	Z	K	K	P				
12"	0.79	2'-0"	9"	1'-7"	1'-4"	6"	6"					0.36	34
15"	1.23	2'-3"	9"	1'-11"	1'-11"	6"	6"					0.47	37
16"	1.39	2'-4"	9"	1'-11"	2'-0"	6"	6"					0.50	38
18"	1.78	2'-6"	9"	2'-2"	2'-6"	6"	6"					0.61	53
24"	3.14	3'-6"	12"	2'-9"	3'-6"	9"	9"					1.17	71
30"	4.91	4'-0"	12"	3'-4"	4'-7"	9"	9"					1.62	91
36"	7.07	4'-6"	12"	3'-10"	5'-8"	9"	9"					2.12	116
42"	9.62	5'-0"	12"	4'-5"	6'-9"	9"	12"					3.15	141
48"	12.57	5'-6"	12"	4'-11"	7'-0"	9"	12"					3.88	174

STANDARD TYPE "G" ENDWALL



PLAN



CLEARING AND GRADING ARTICLE C-1
SUBGRADE ARTICLE C-2
BASE COURSE ARTICLE C-31 OR C-33
BINDER COURSE ARTICLE C-31
SURFACE COURSE ARTICLE C-31

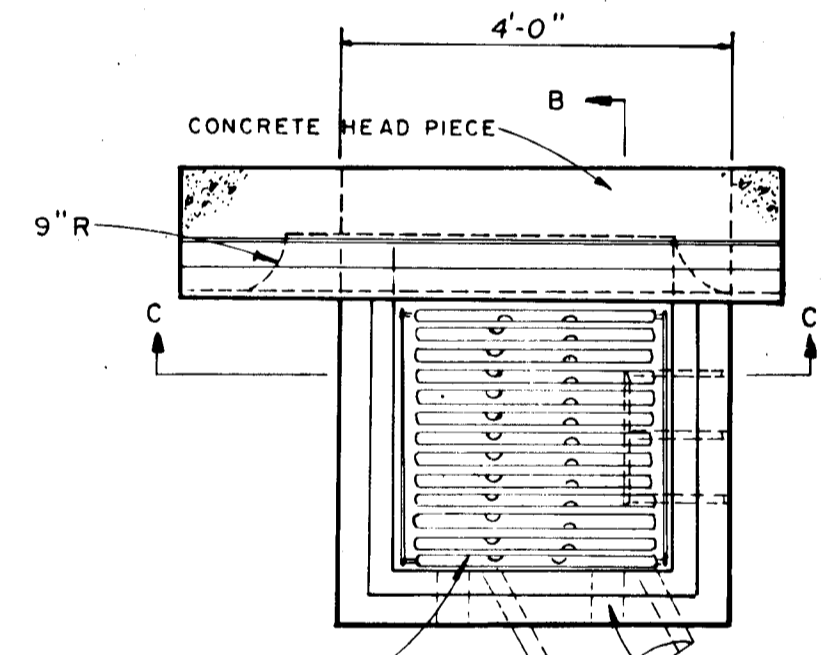
TO BE CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS.

PAVEMENT SECTION
NO SCALE

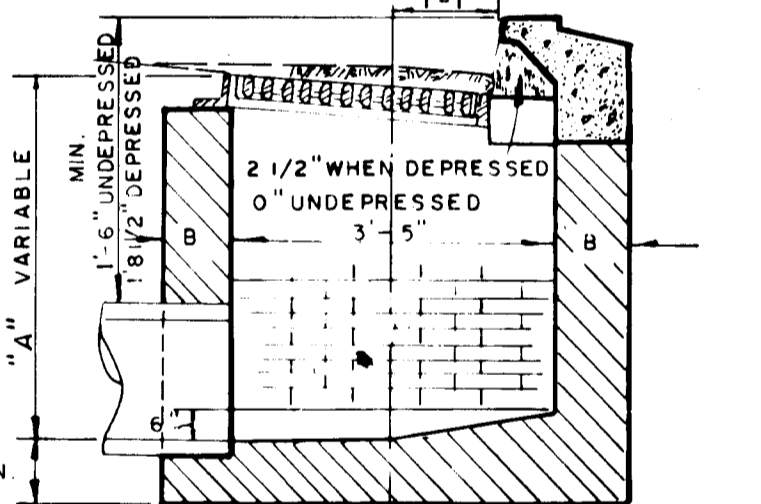
DIMENSIONS FOR ENDWALLS RECEIVING MORE THAN ONE PIPE

ENDWALL NO.	"L" DIMENSION
G-1	7'-0"
G-2	7'-0"
G-3	9'-8"
G-4	8'-8"
F-1	7'-5"

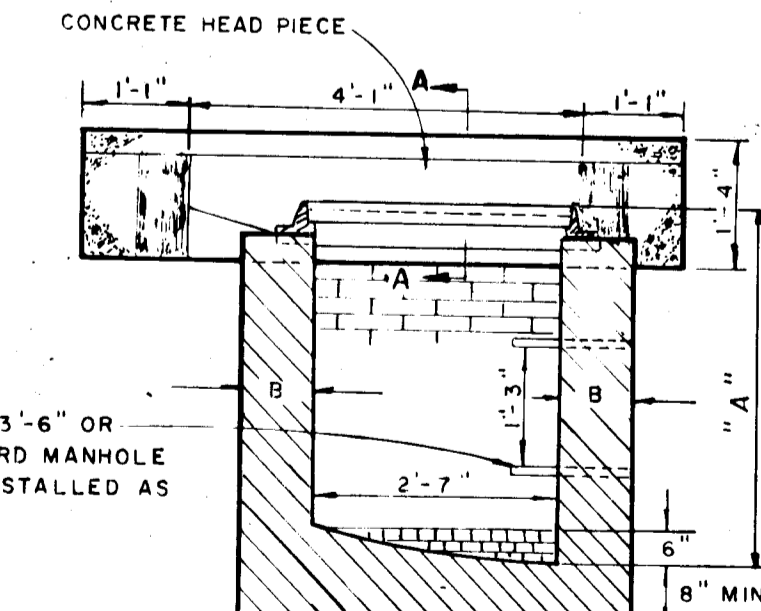
NOTE: ALL OTHER DIMENSIONS REMAIN THE SAME AS SPECIFIED FOR STANDARD ENDWALLS.



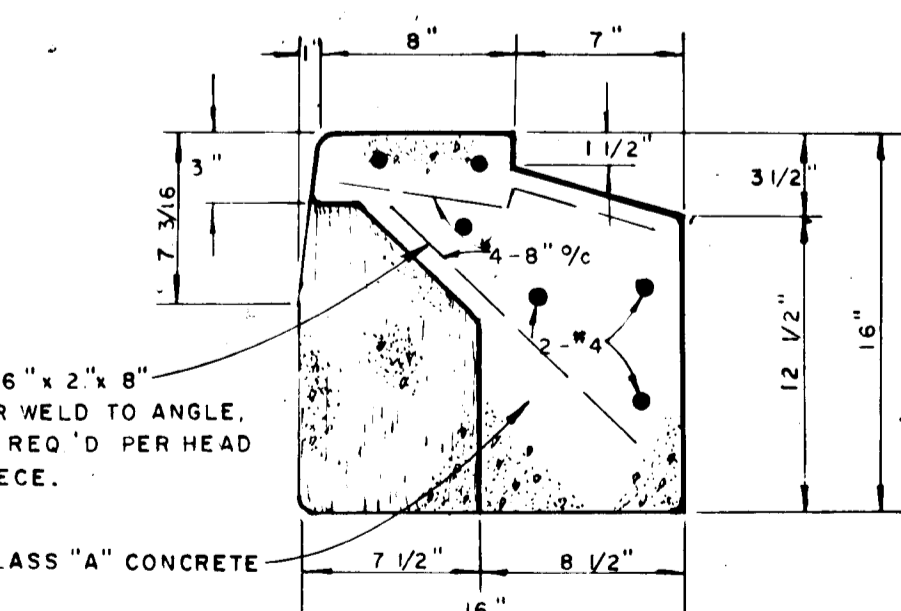
PLAN



SECTION "B-B"



SECTION "C-C"

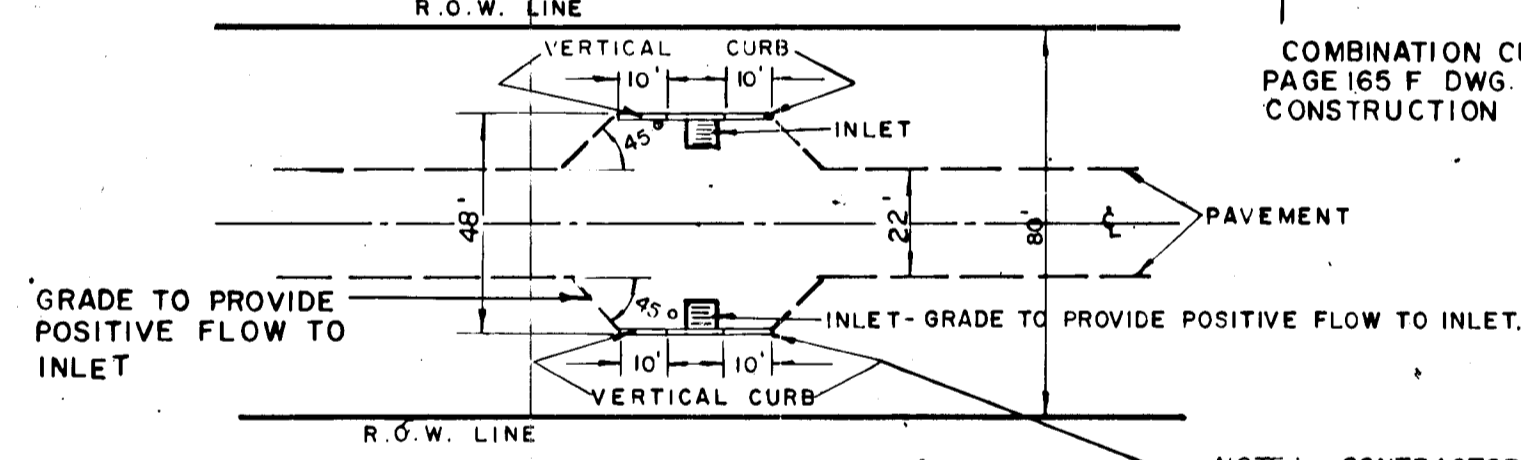


SECTION "A-A"

WHERE DEPTH IS 3'-6" OR GREATER STANDARD MANHOLE STEP SHALL BE INSTALLED AS SHOWN.

NOTE:
1. THE WALLS AND INVERT SHALL BE BRICK OR REINF. CLASS "A" CONCRETE.
2. B = 8" WHERE A IS 7' OR LESS.
B = 12" WHERE A IS 7' TO 11'.
3. TOP 4" OF WALLS SHALL BE BRICK MASONRY. ADDITIONAL BRICK SHALL BE USED TO BRING THE GRATE TO EXISTING GRADE IF REQUIRED.
4. WHERE BRICK IS USED INVERT SHALL BE LAID ON EDGE.

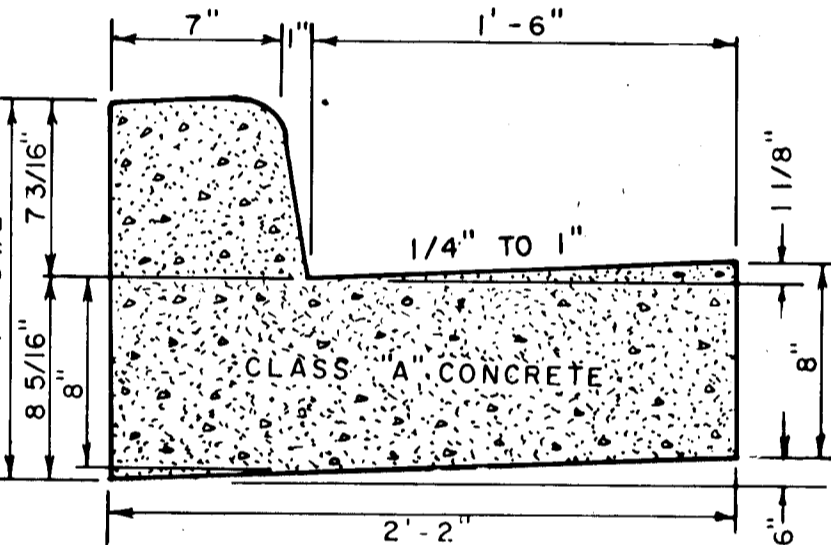
"S" COMBINATION INLET DETAIL
MODIFIED
(SINGLE GRATE)
NO SCALE



PAVEMENT DETAIL

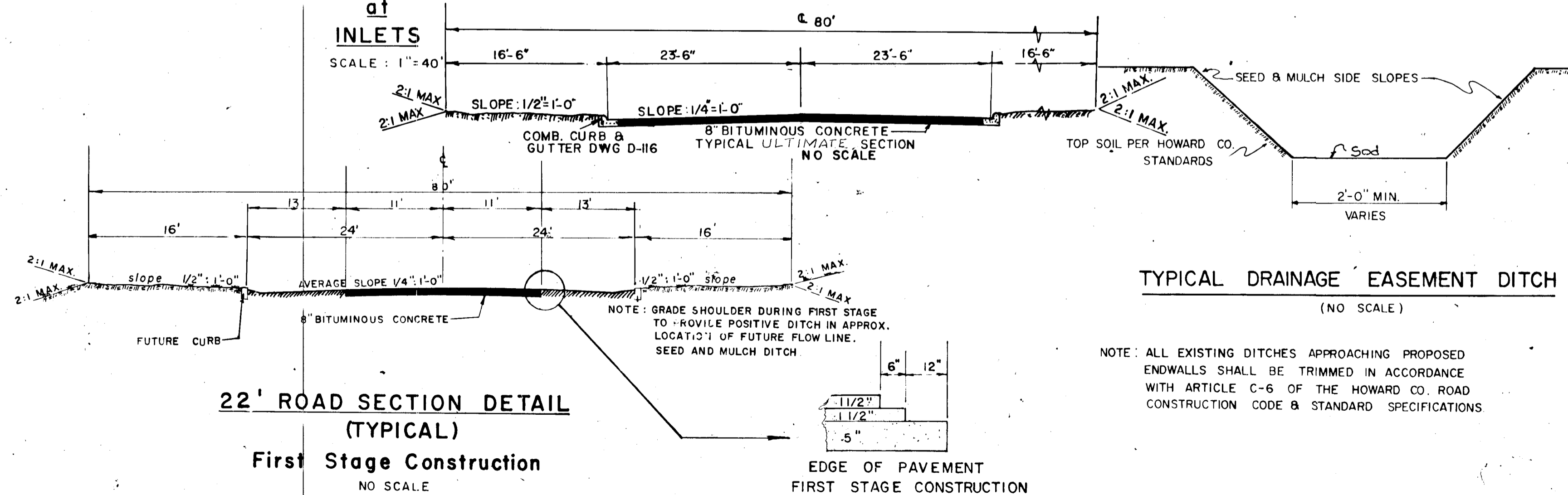
NOTE: CONTRACTOR TO CONSTRUCT 10' OF VERT. CURB ON EACH SIDE OF PROPOSED INLETS AS SHOWN.

COMBINATION CURB & GUTTER (no scale)
PAGE 165 F DWG D-116 H.C. ROAD CONSTRUCTION CODE



TYPICAL DRAINAGE EASEMENT DITCH
(NO SCALE)

NOTE: ALL EXISTING DITCHES APPROACHING PROPOSED ENDWALLS SHALL BE TRIMMED IN ACCORDANCE WITH ARTICLE C-6 OF THE HOWARD CO. ROAD CONSTRUCTION CODE & STANDARD SPECIFICATIONS



22' ROAD SECTION DETAIL
(TYPICAL)
First Stage Construction
NO SCALE

EDGE OF PAVEMENT
FIRST STAGE CONSTRUCTION

APPROVED
PLANNING COMMISSION
HOWARD COUNTY
DATE DEC 7 1967