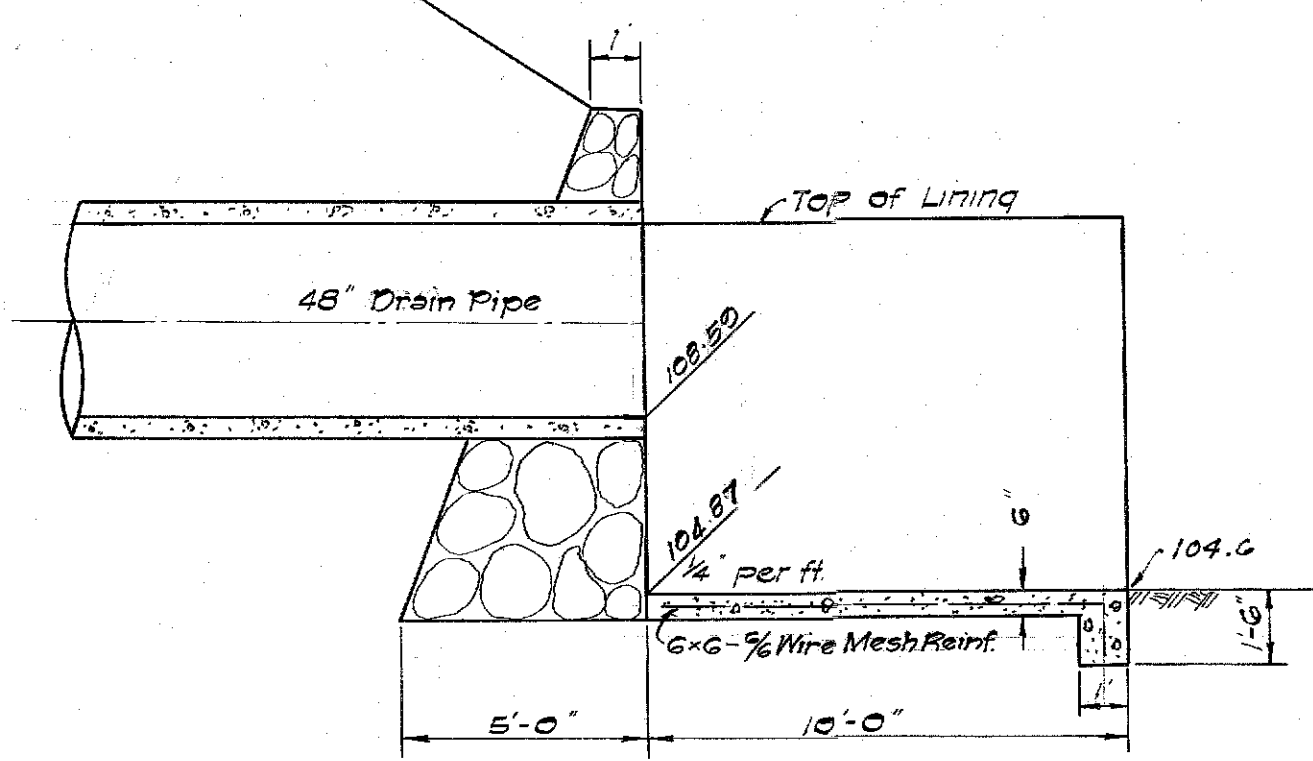
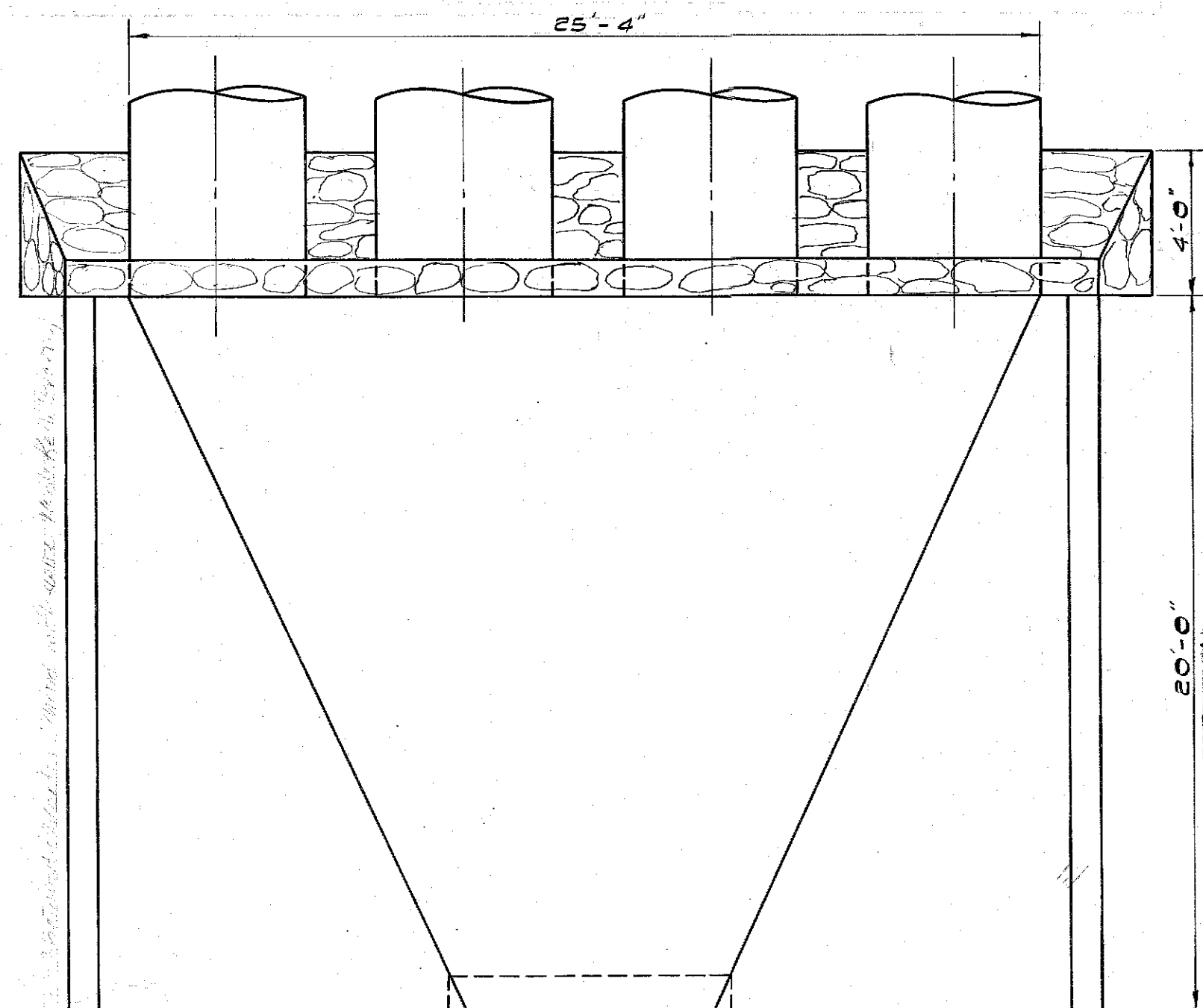
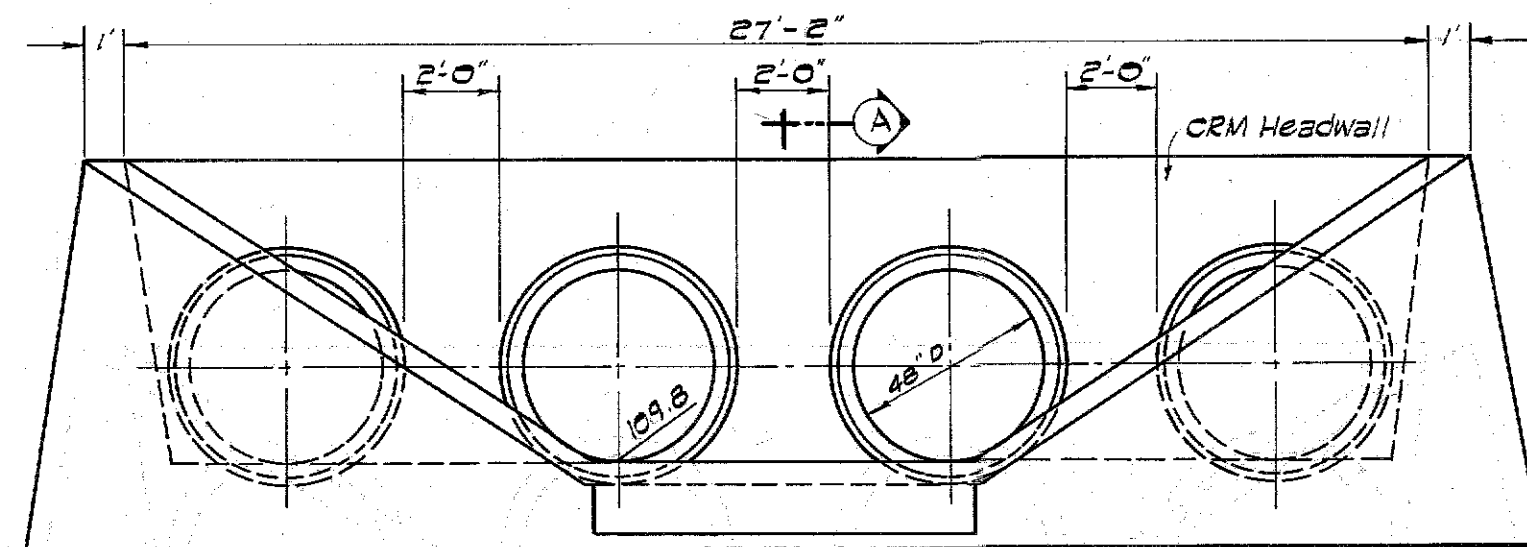


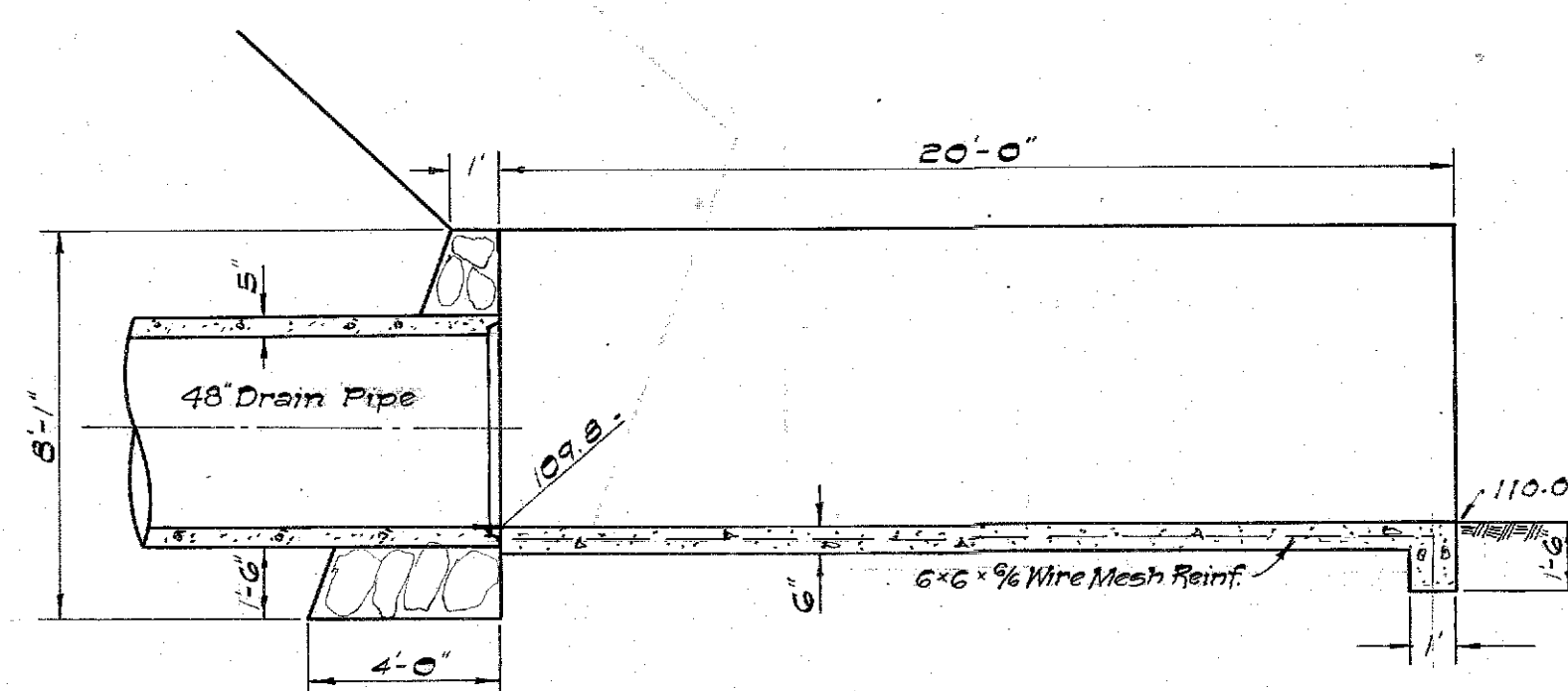


SECTION B

ELEVATION - ENTRANCE

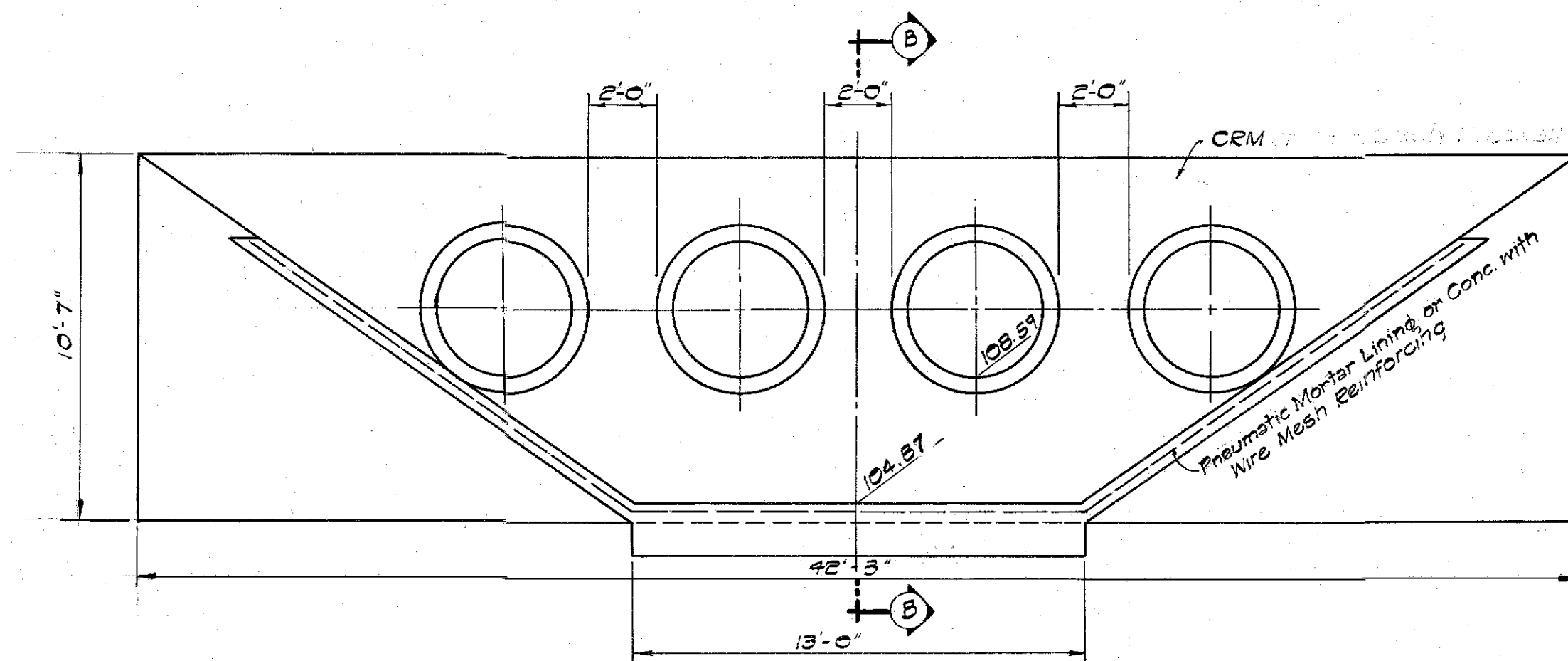


PLAN - ENTRANCE

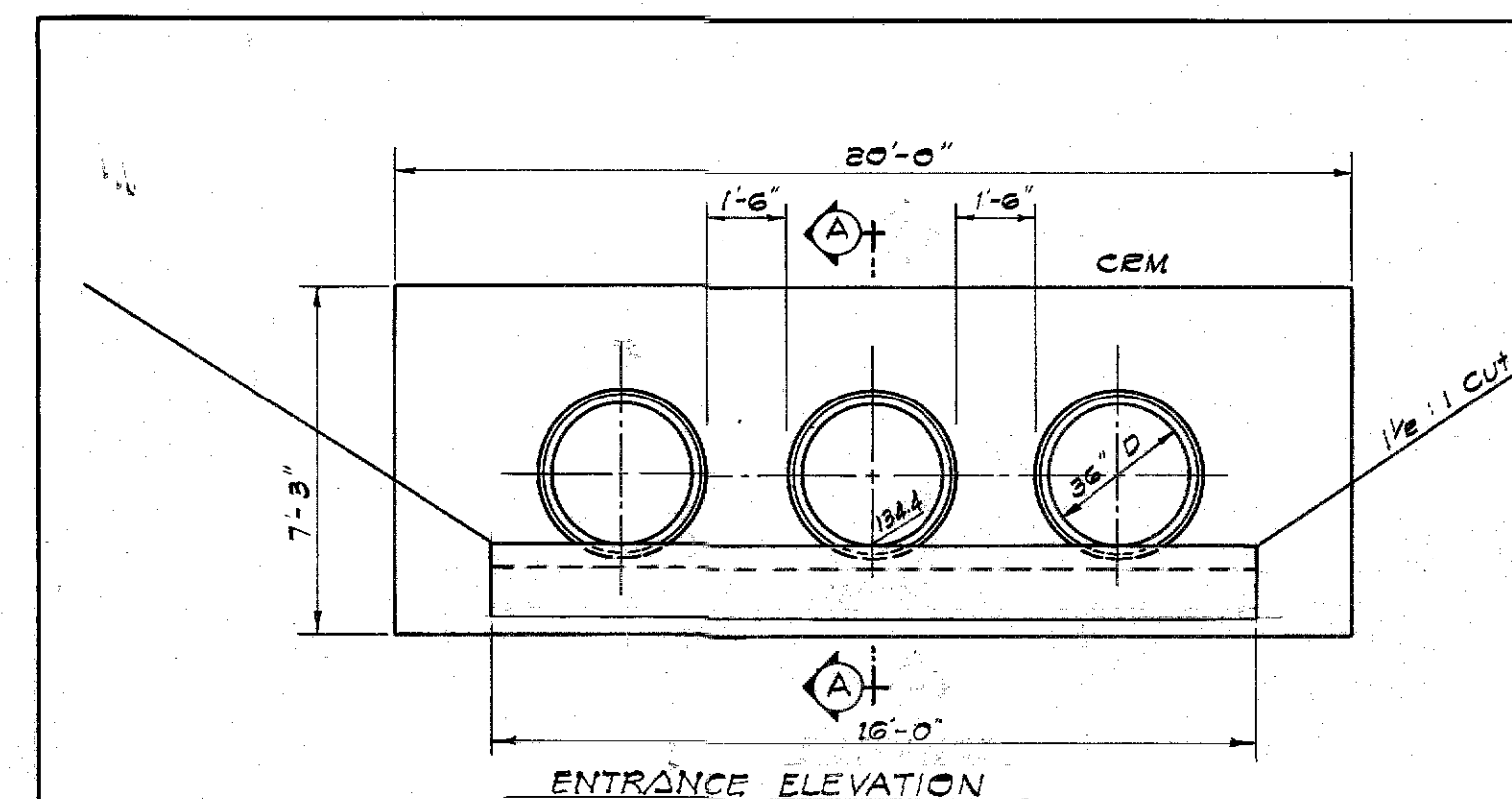


SECTION A

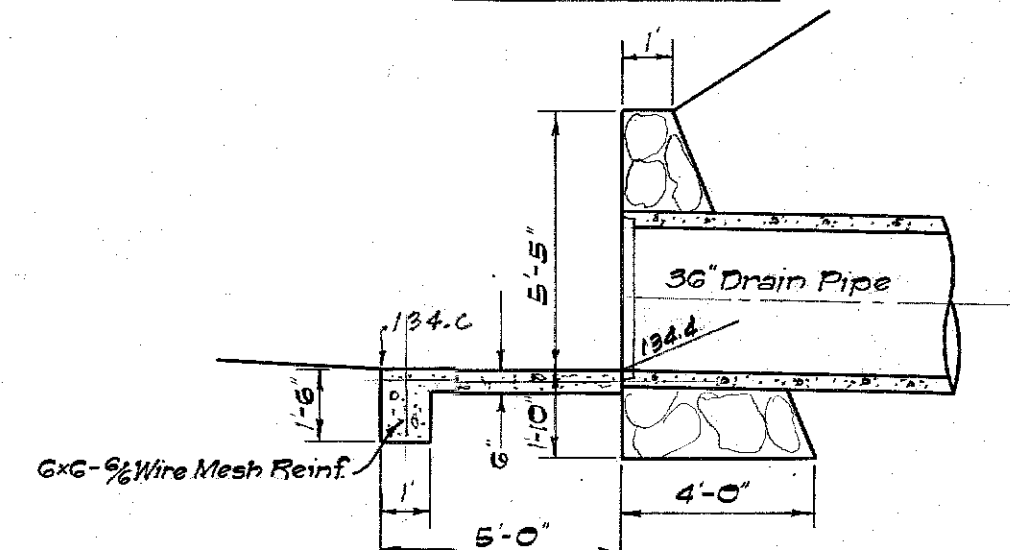
STATION 9+85
Scale: 1/4" = 1'-0"



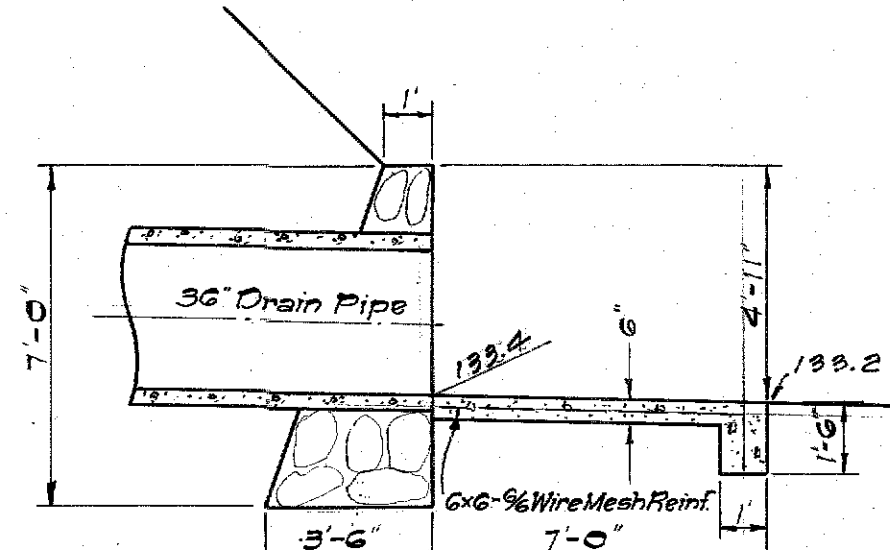
ELEVATION - EXIT



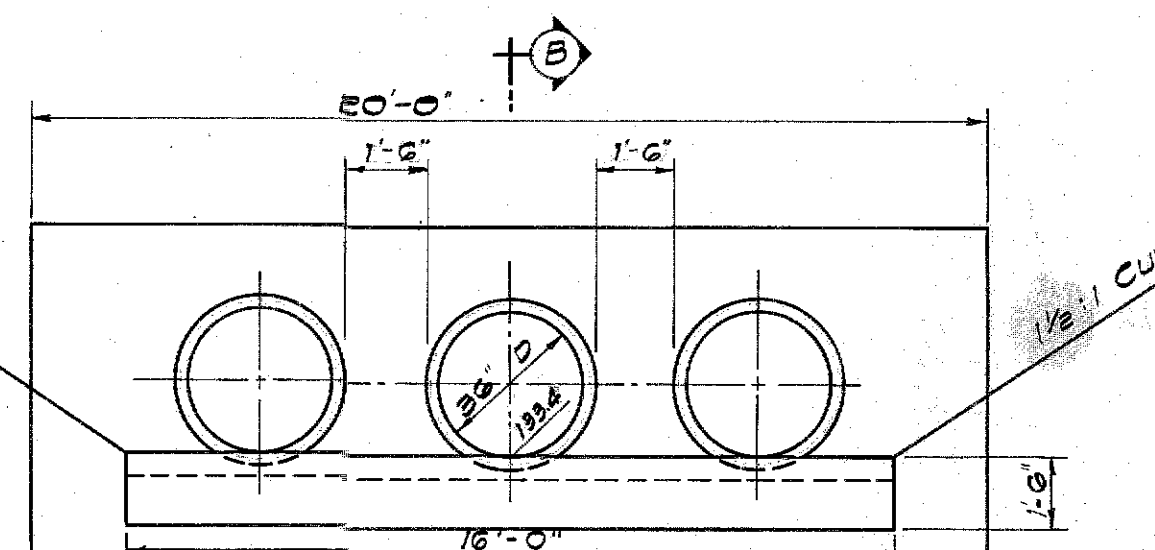
ENTRANCE ELEVATION



SECTION A

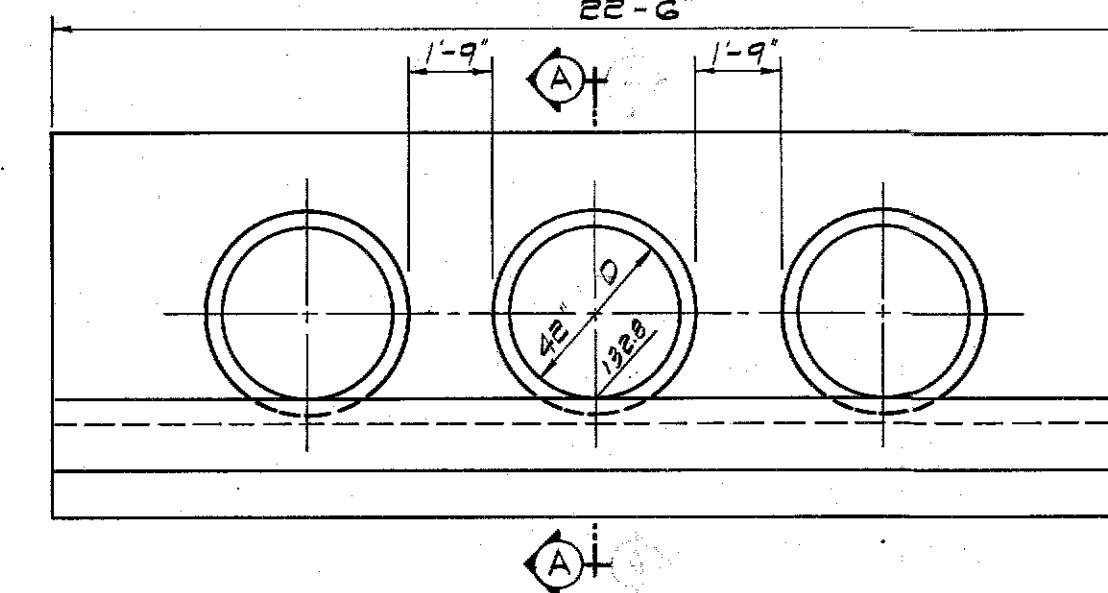


SECTION B

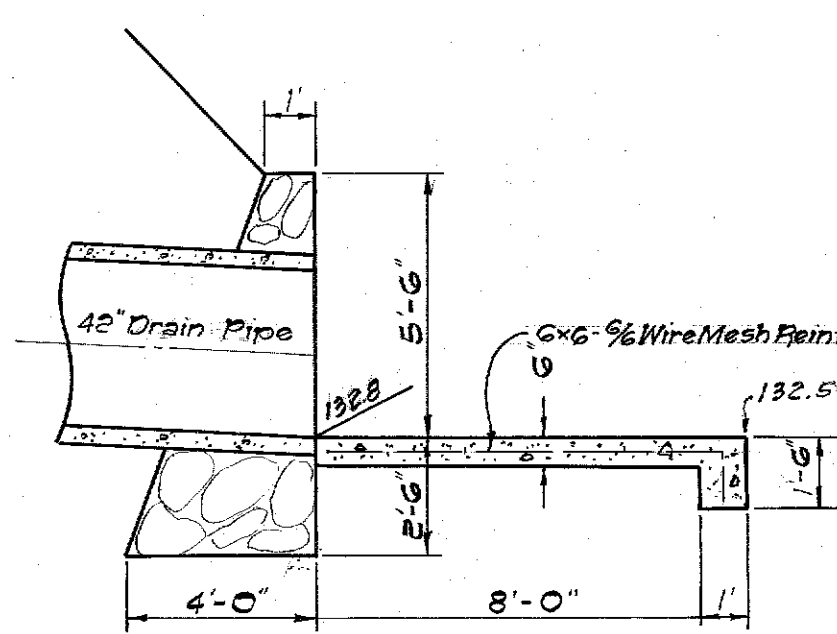


ELEVATION - EXIT

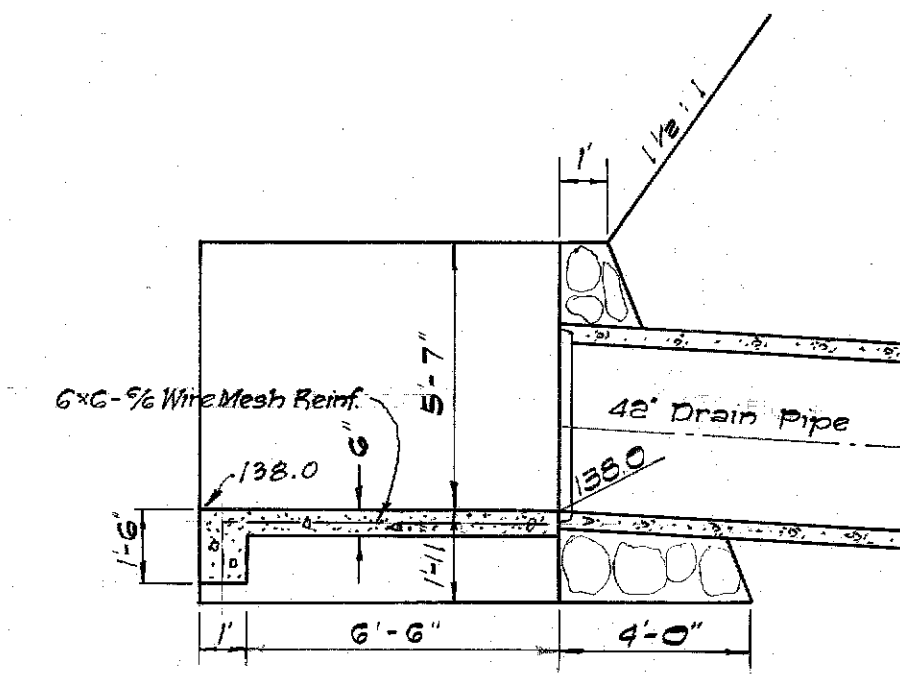
STATION 35+44
Scale: 1/4" = 1'-0"



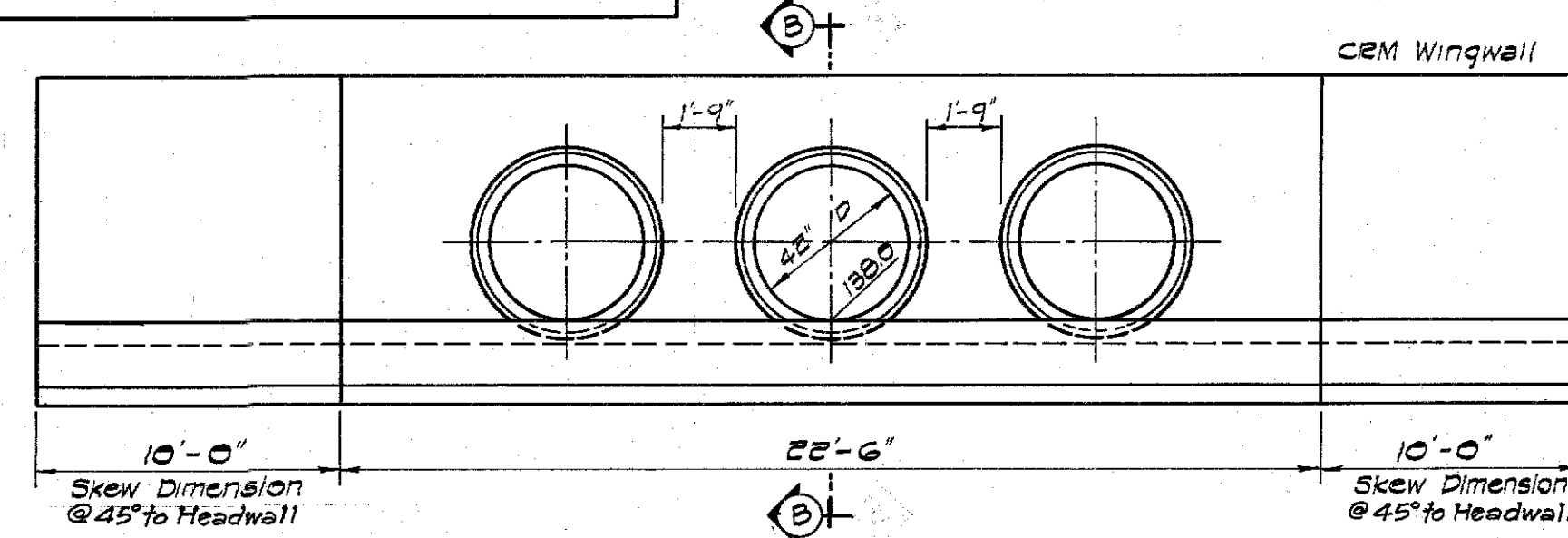
ELEVATION - EXIT



SECTION A

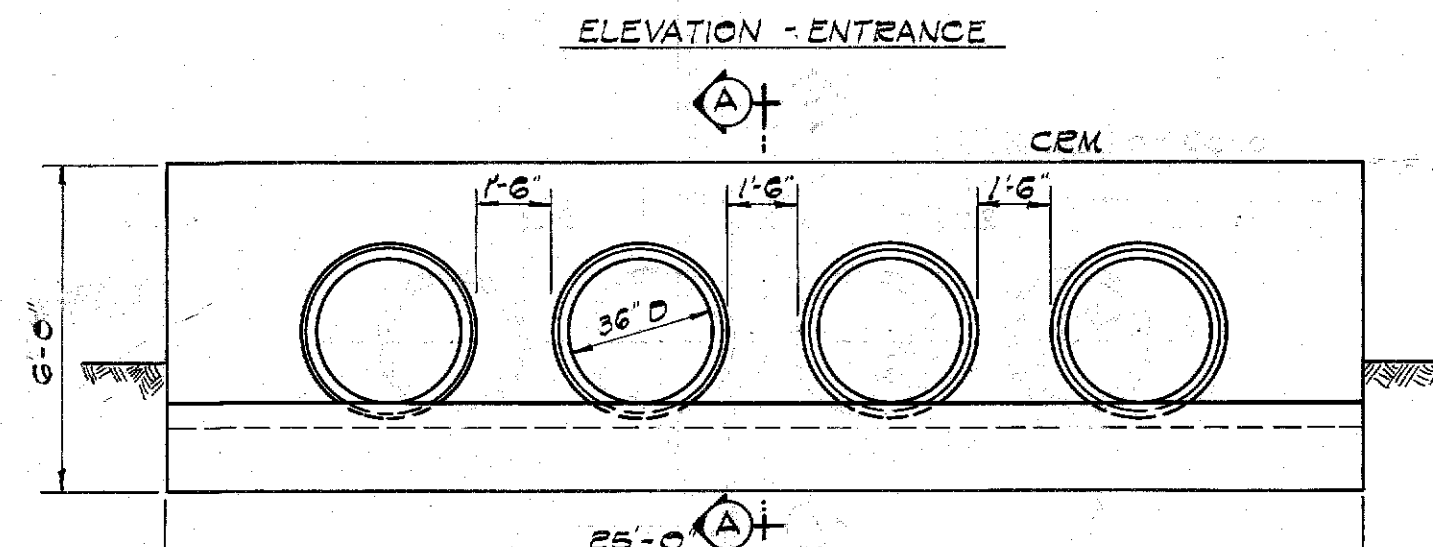


SECTION B

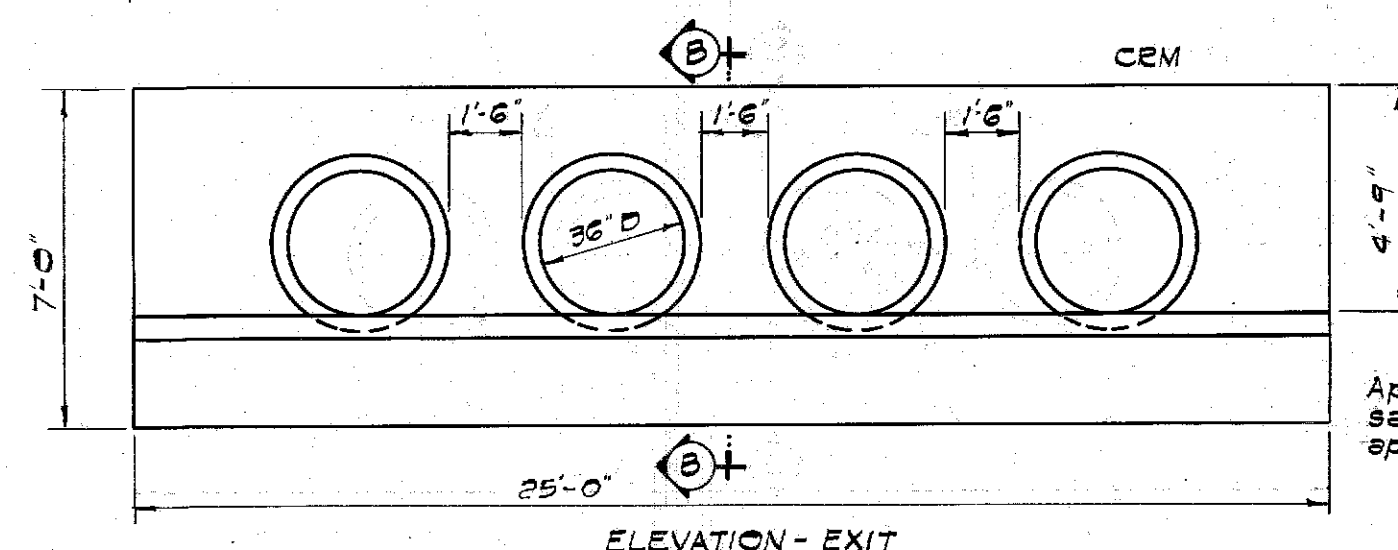


ELEVATION - ENTRANCE

STATION 44+50
Scale: 1/4" = 1'-0"



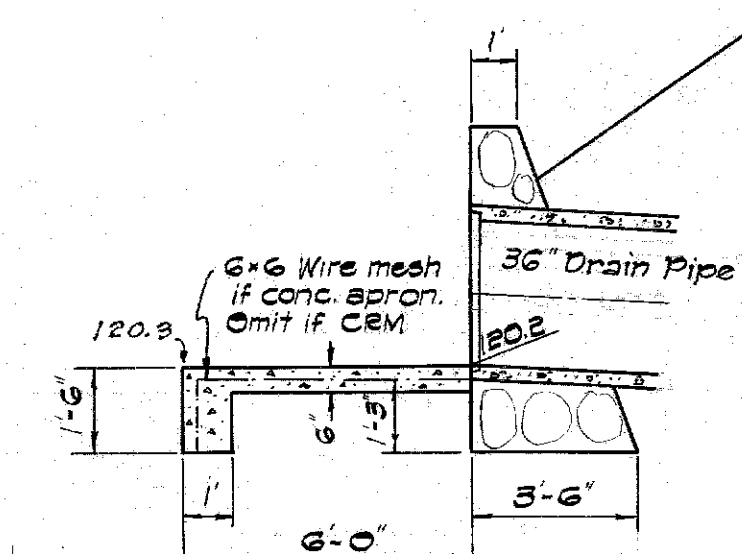
ELEVATION - ENTRANCE



ELEVATION - EXIT

Apron detail same as entrance apron. Elev. at end = 109.2

SECTION B



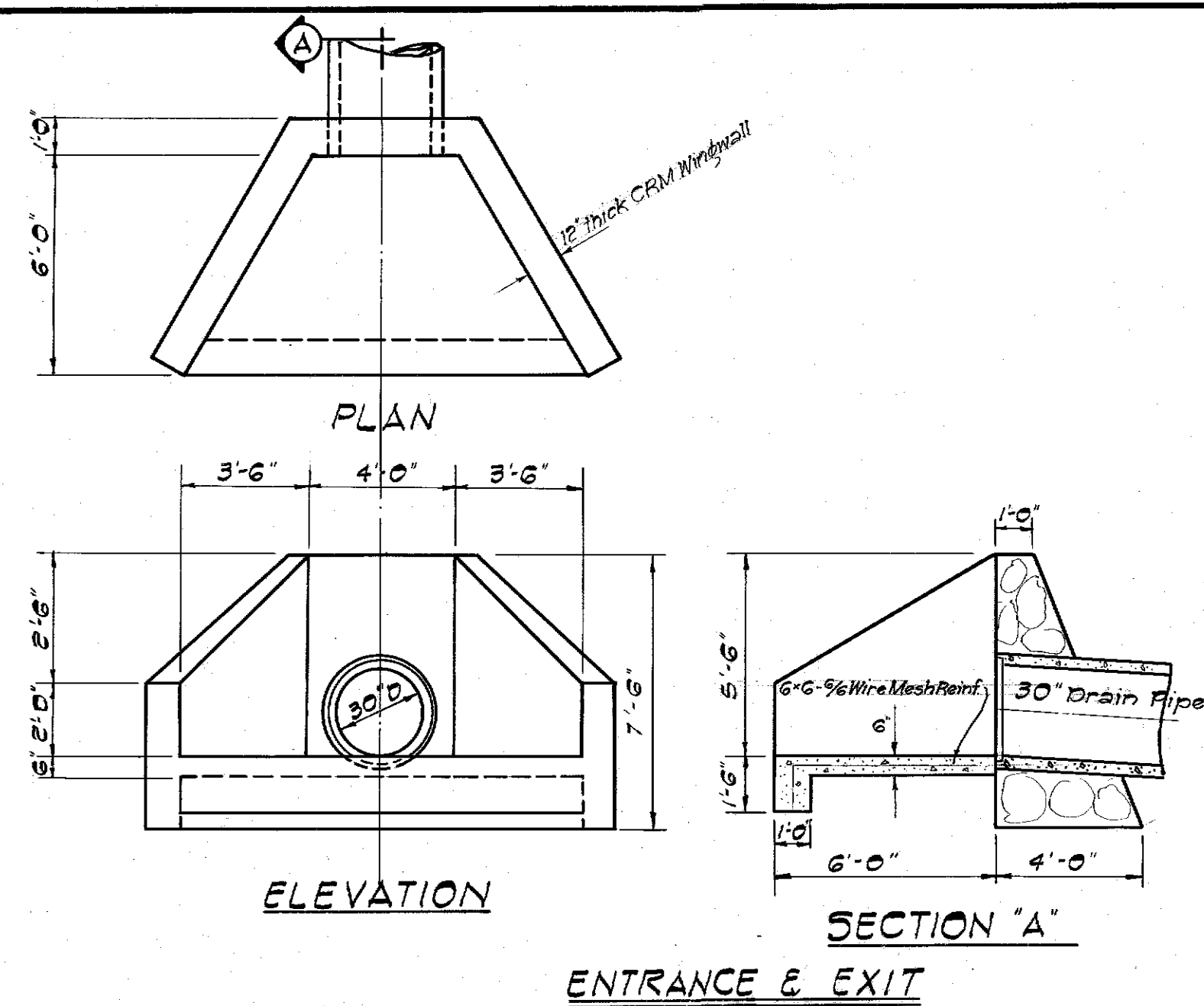
SECTION A

PROPERTY OF DIVISION OF ENGINEERING

STATION 83+50
Scale: 1/4" = 1'-0"

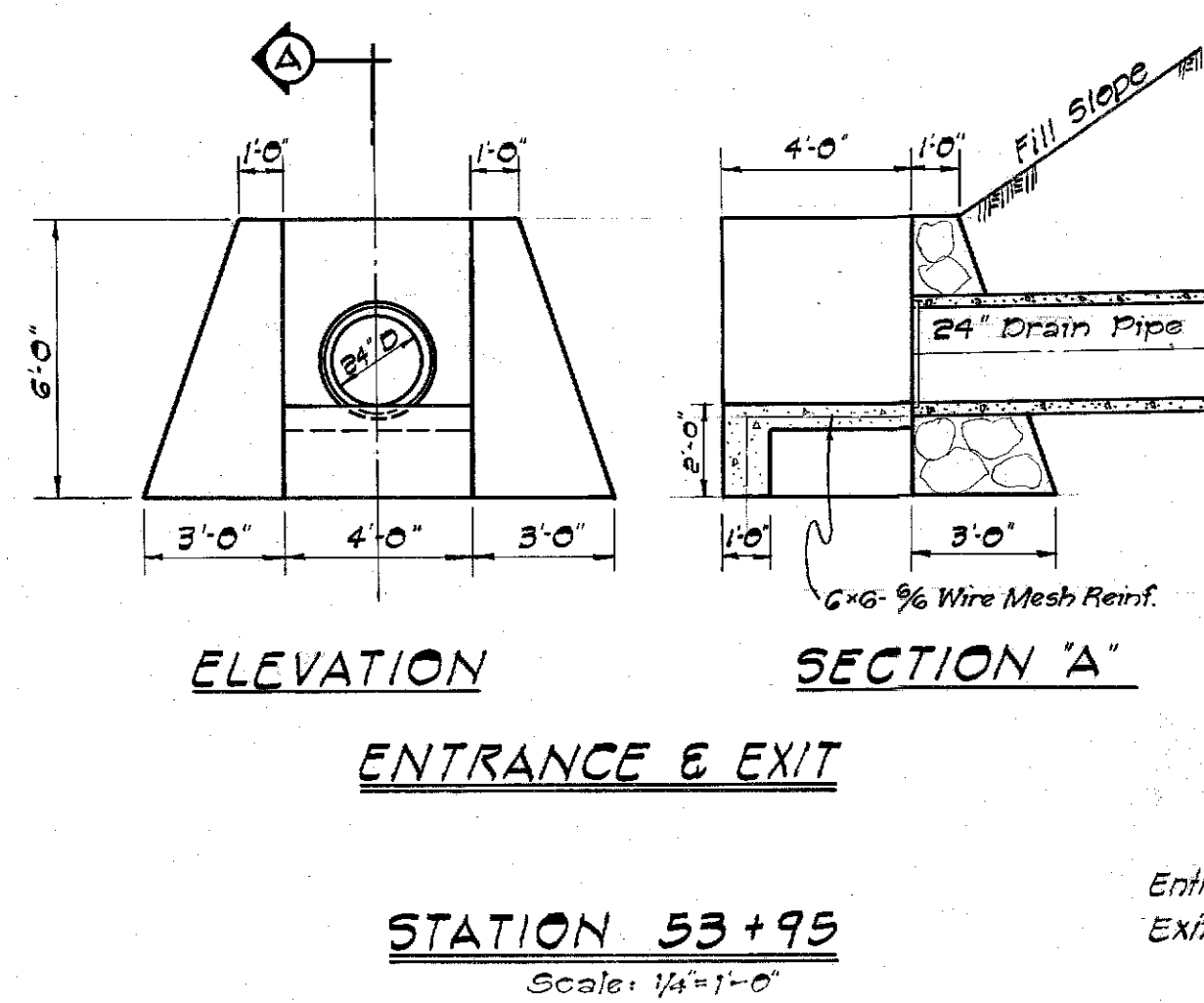
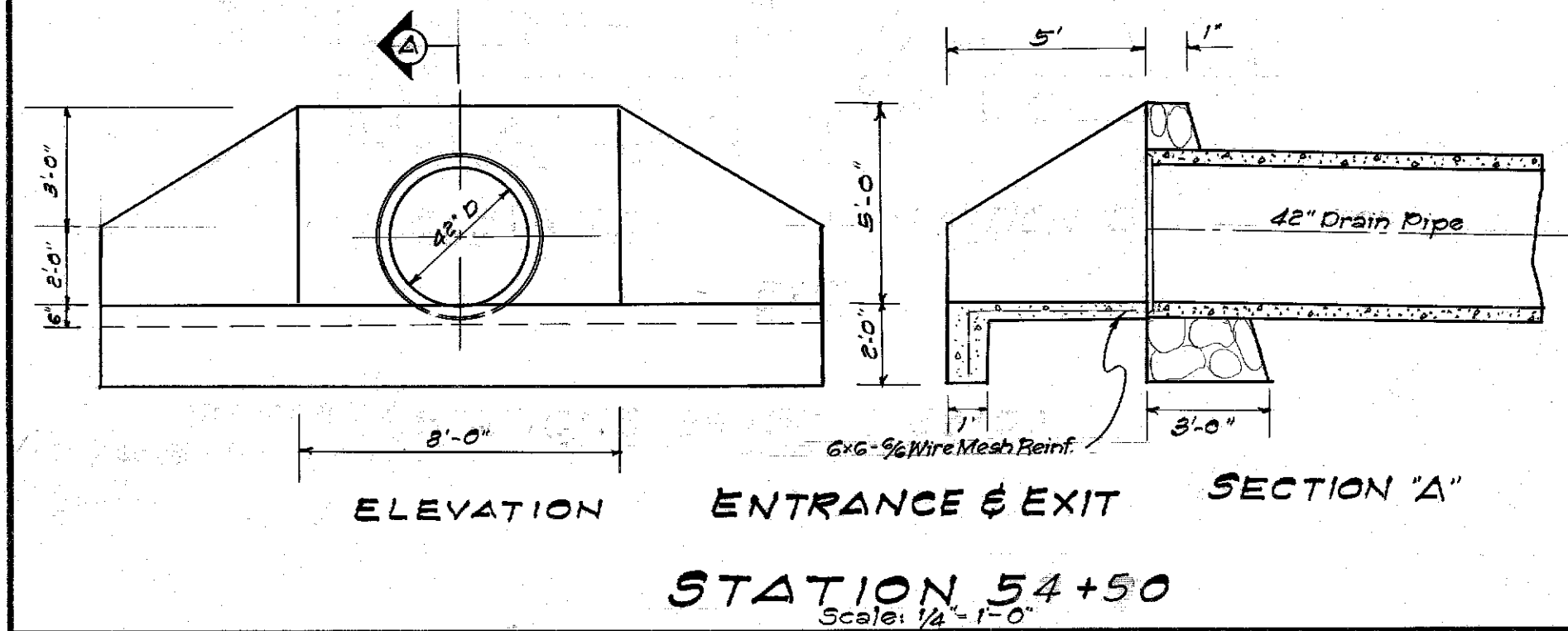
JOB NO. 12-63

REVISION DATE	DESCRIPTION	MADE BY	APPROVED
COMMUNITY PLANNING INCORPORATED CIVIL ENGINEERS - SURVEYORS - CONSULTANT PLANNERS			
DEPARTMENT OF PUBLIC WORKS CITY AND COUNTY OF HONOLULU DIVISION OF ENGINEERING IMPROVEMENT DISTRICT NO. 168 KAHALU GUTOFF ROAD KANEHOE, HAWAII, AHIKAMA & KAHALU, KODLAPOKO, OAHU			
DRAINAGE DETAILS			
ENGINEER	M.H.I.	DATE FINAL REPORT	6-21-62
DRAFTSMAN	R.A.	DATE	6-1-62
SCALE	AS SHOWN	CHECKED BY	S.T.
APPROVED		TRACER	L.A.
CHIEF ENGINEER		APPROVED	9-28-62
CR. SEC.	FS	OF ENGINEERING	
W.M. BY	F.W. BY	S. BY	
APPROVED			

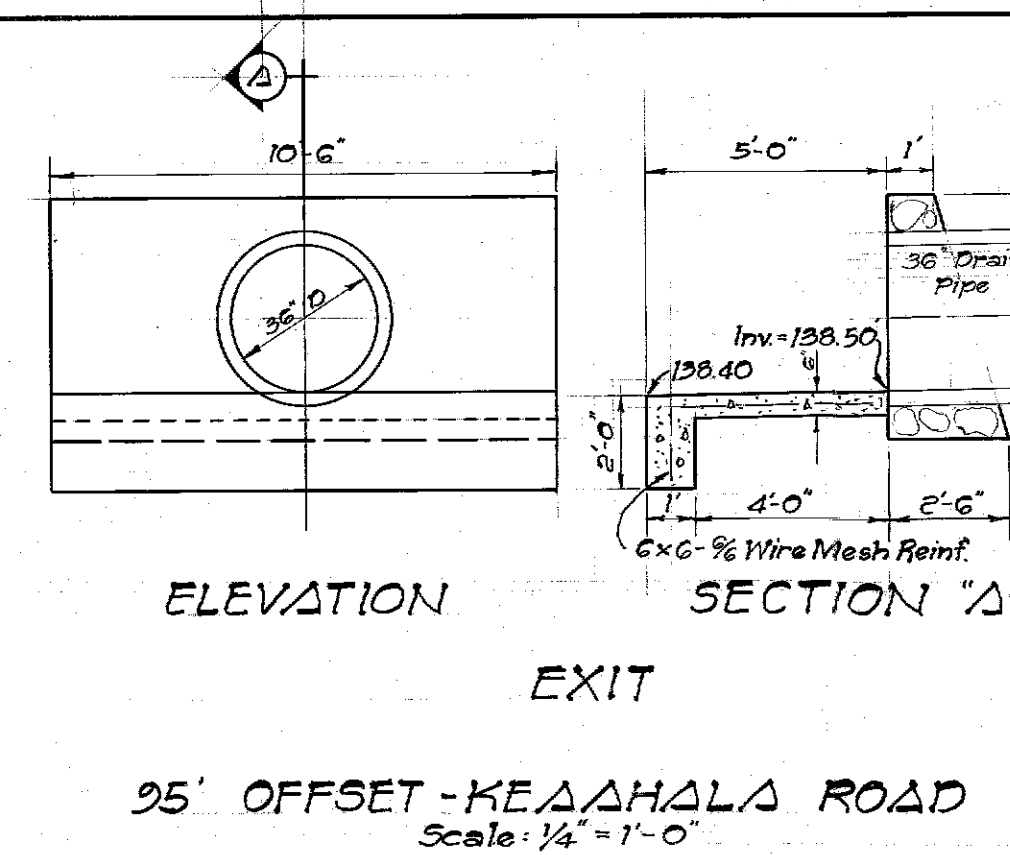
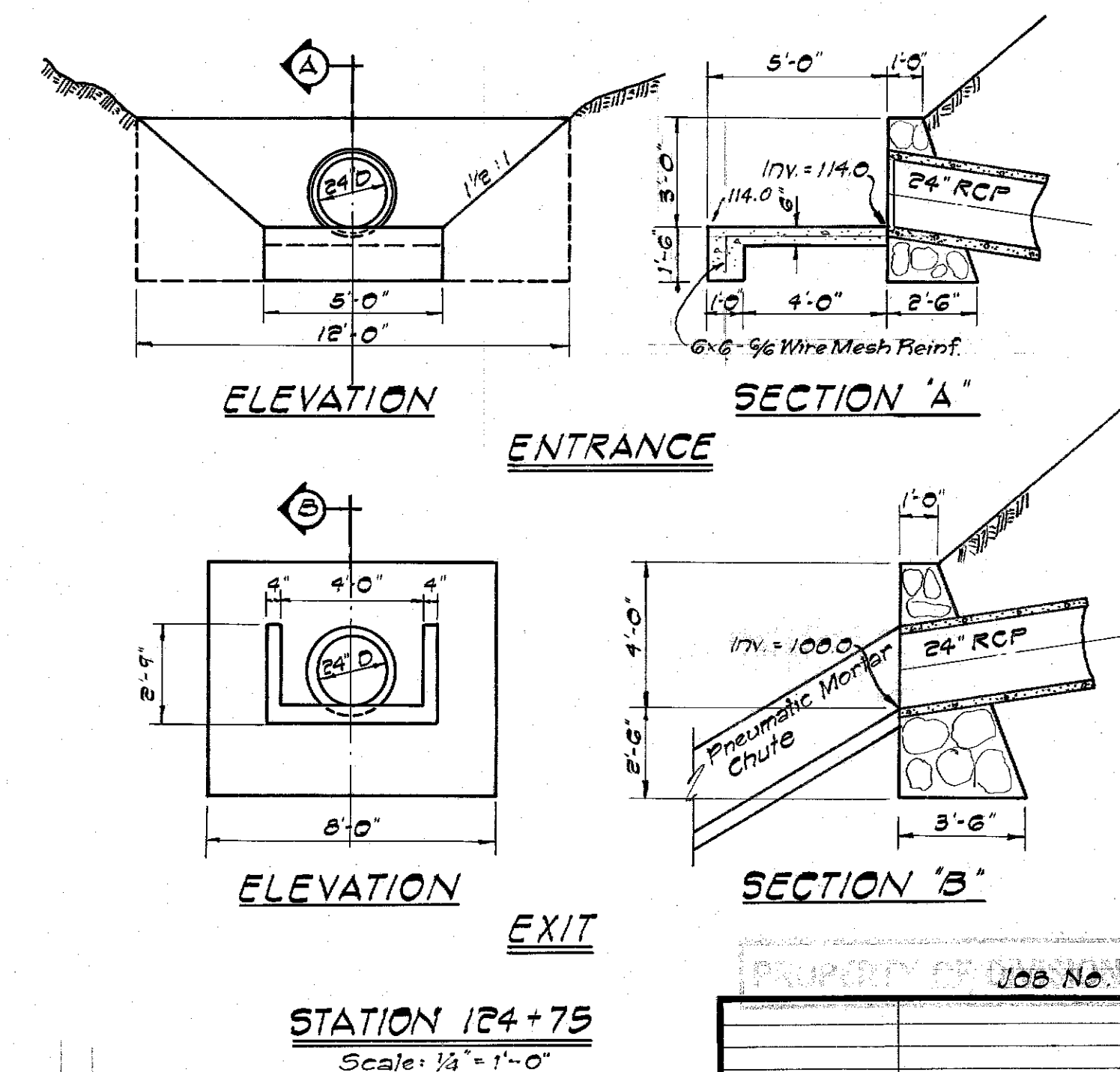
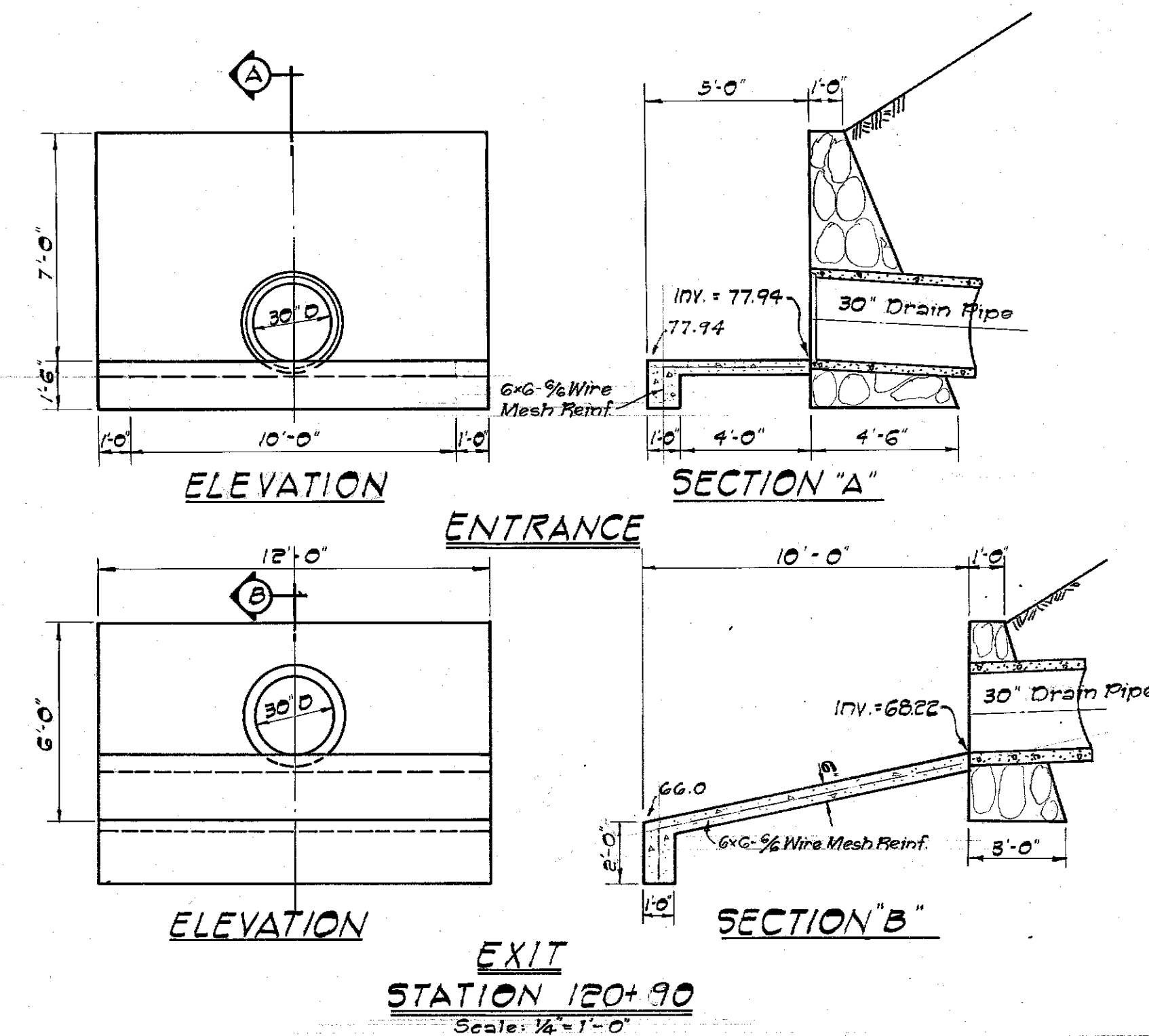
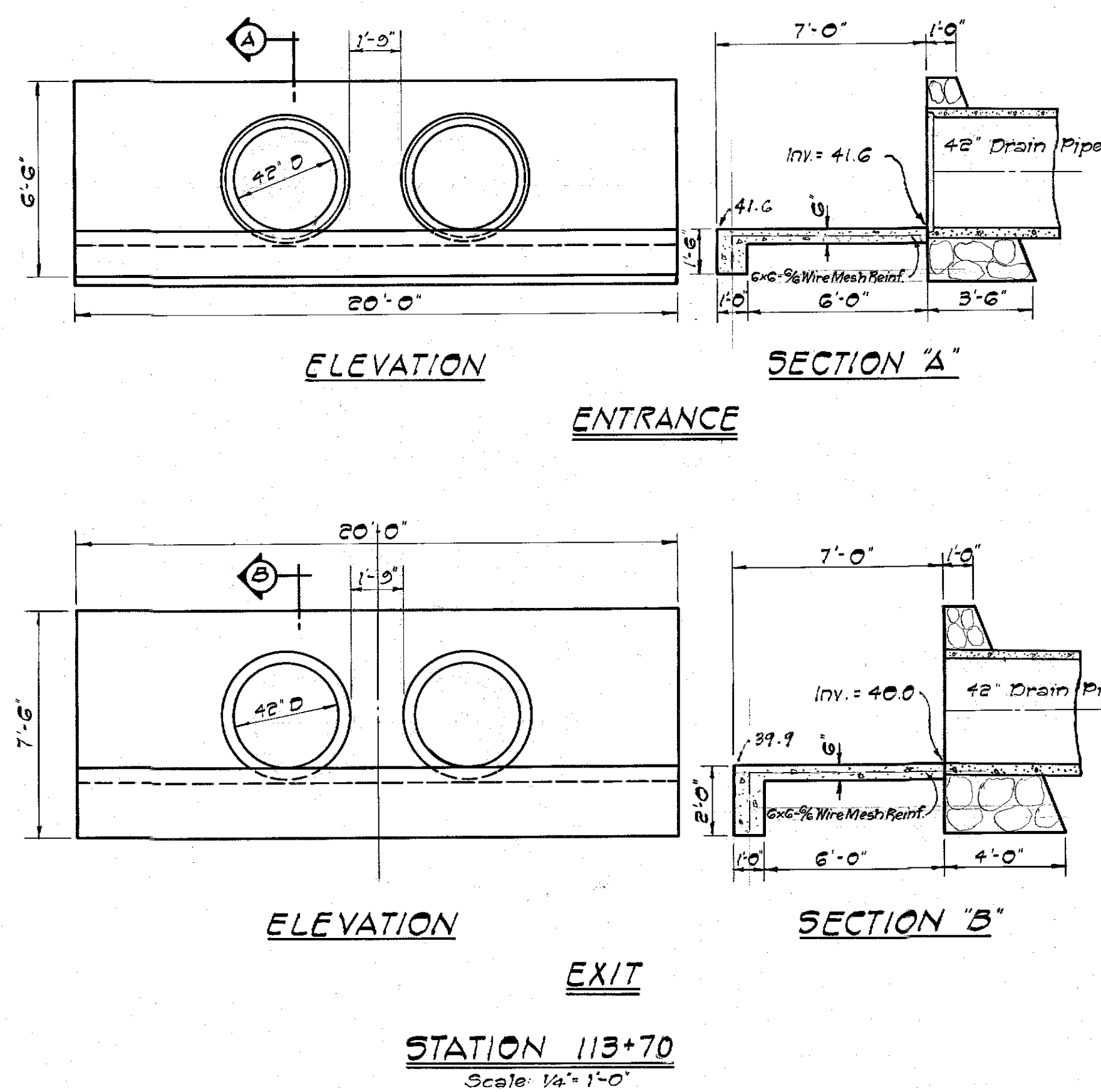
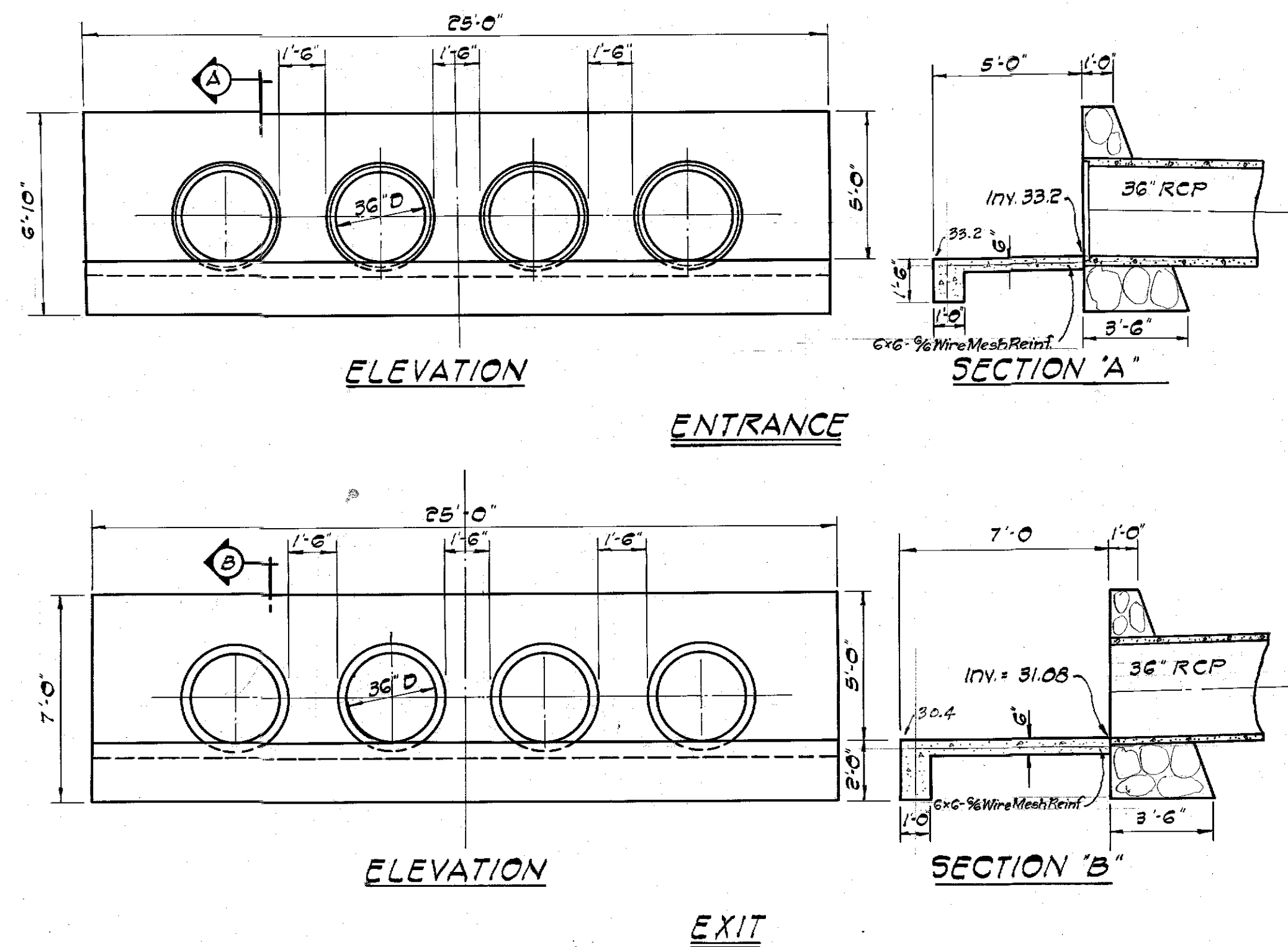


Station 54+50 (42" Pipe)
Entrance Inv. = 134.4
Exit Inv. = 131.2

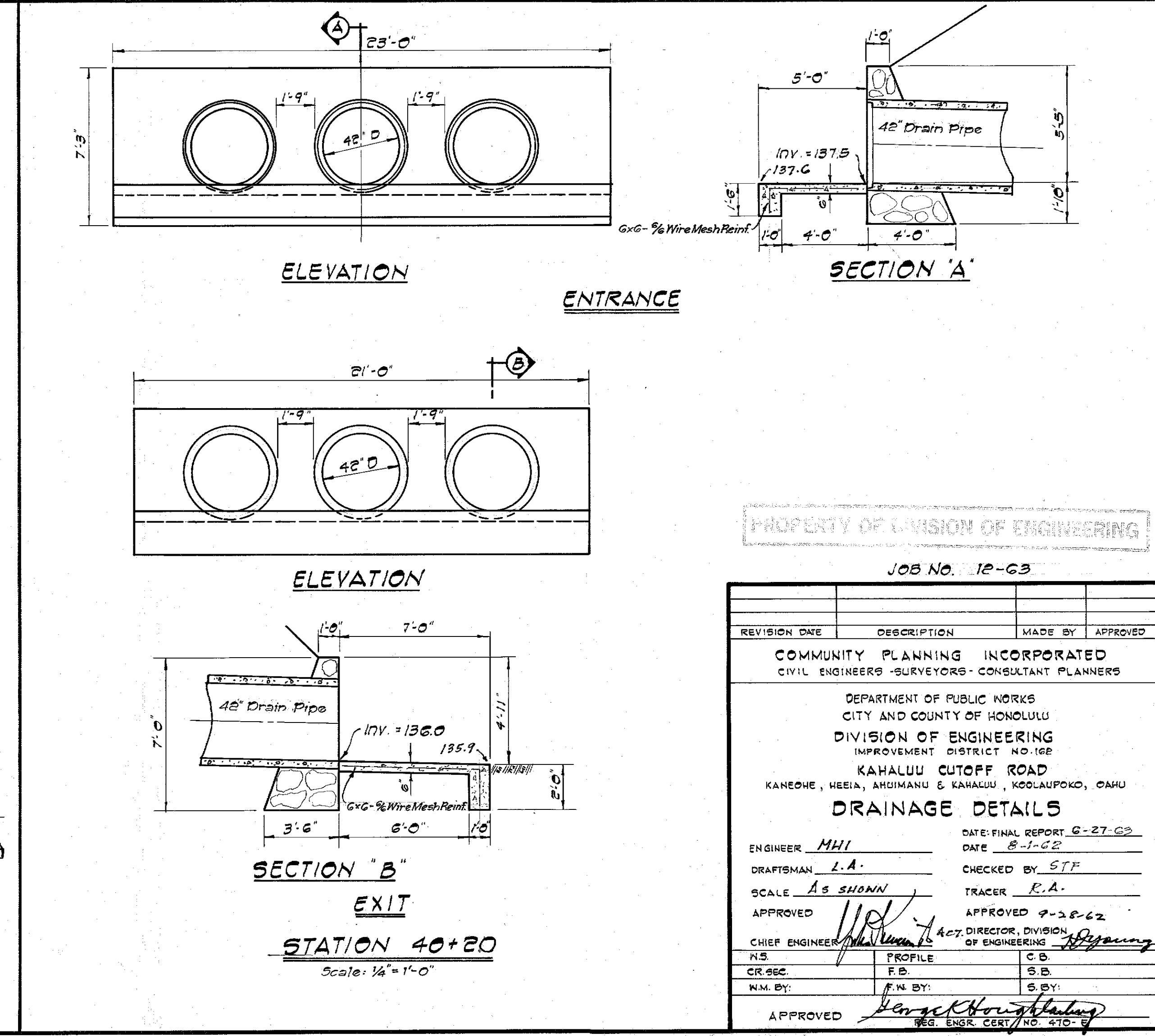
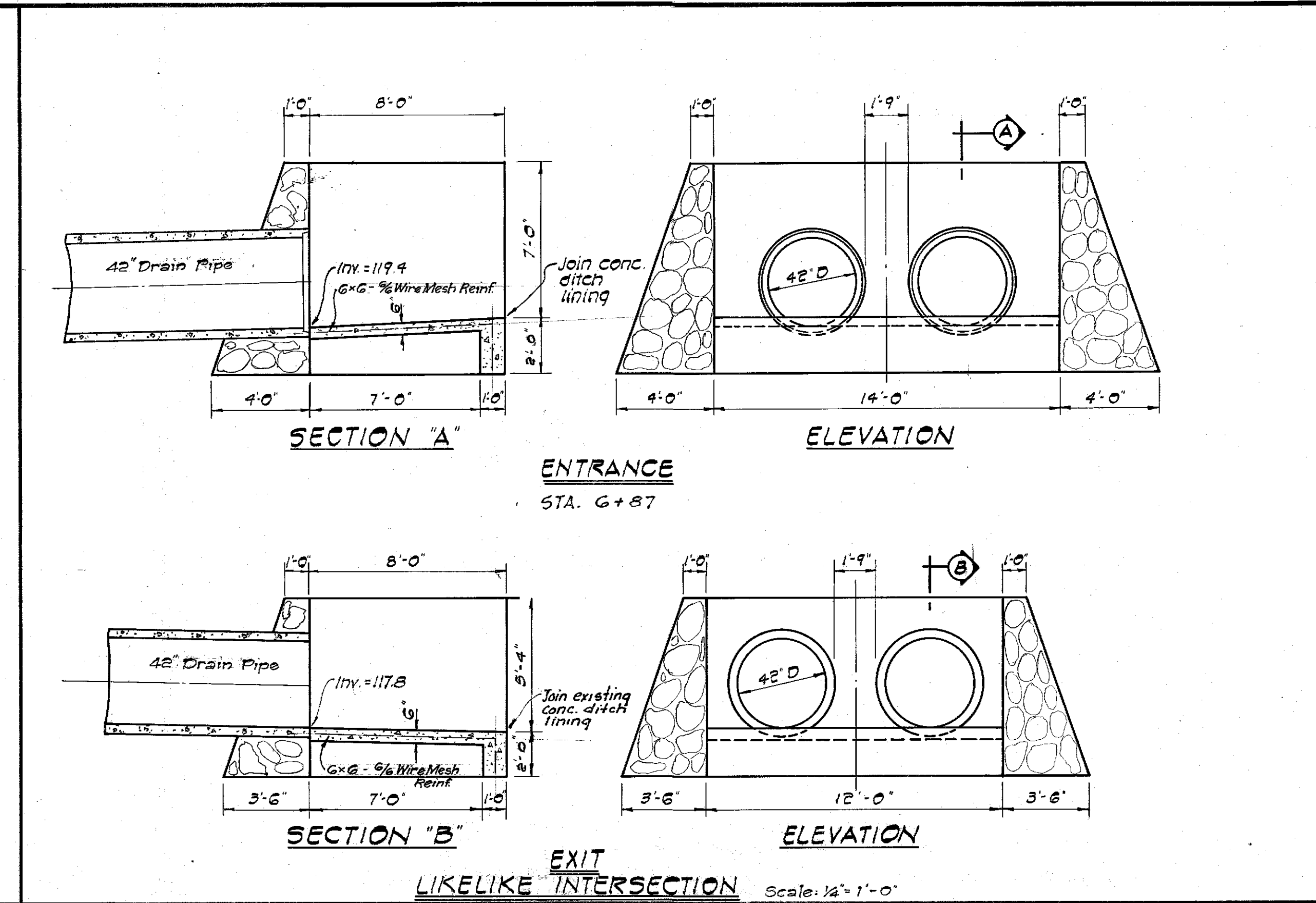
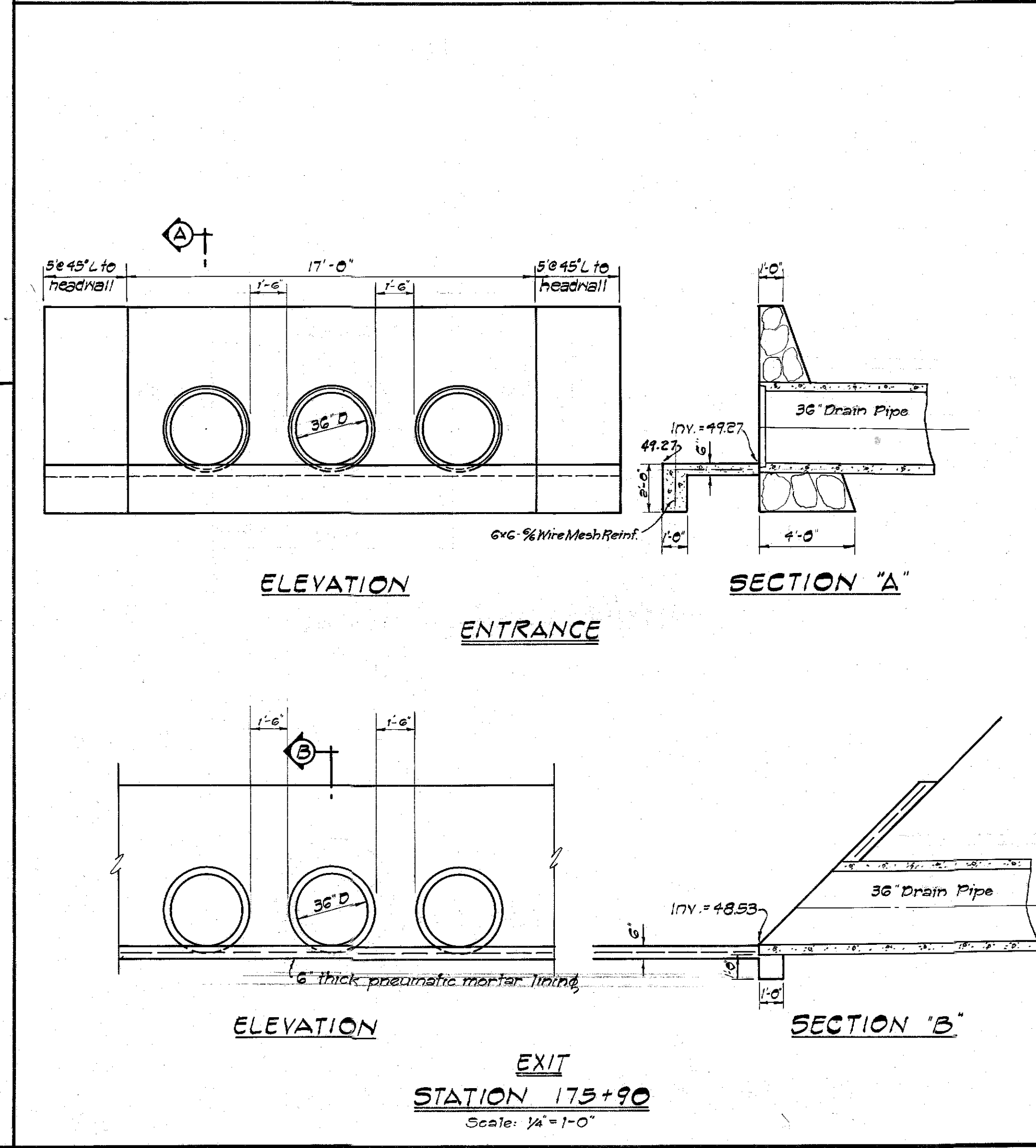
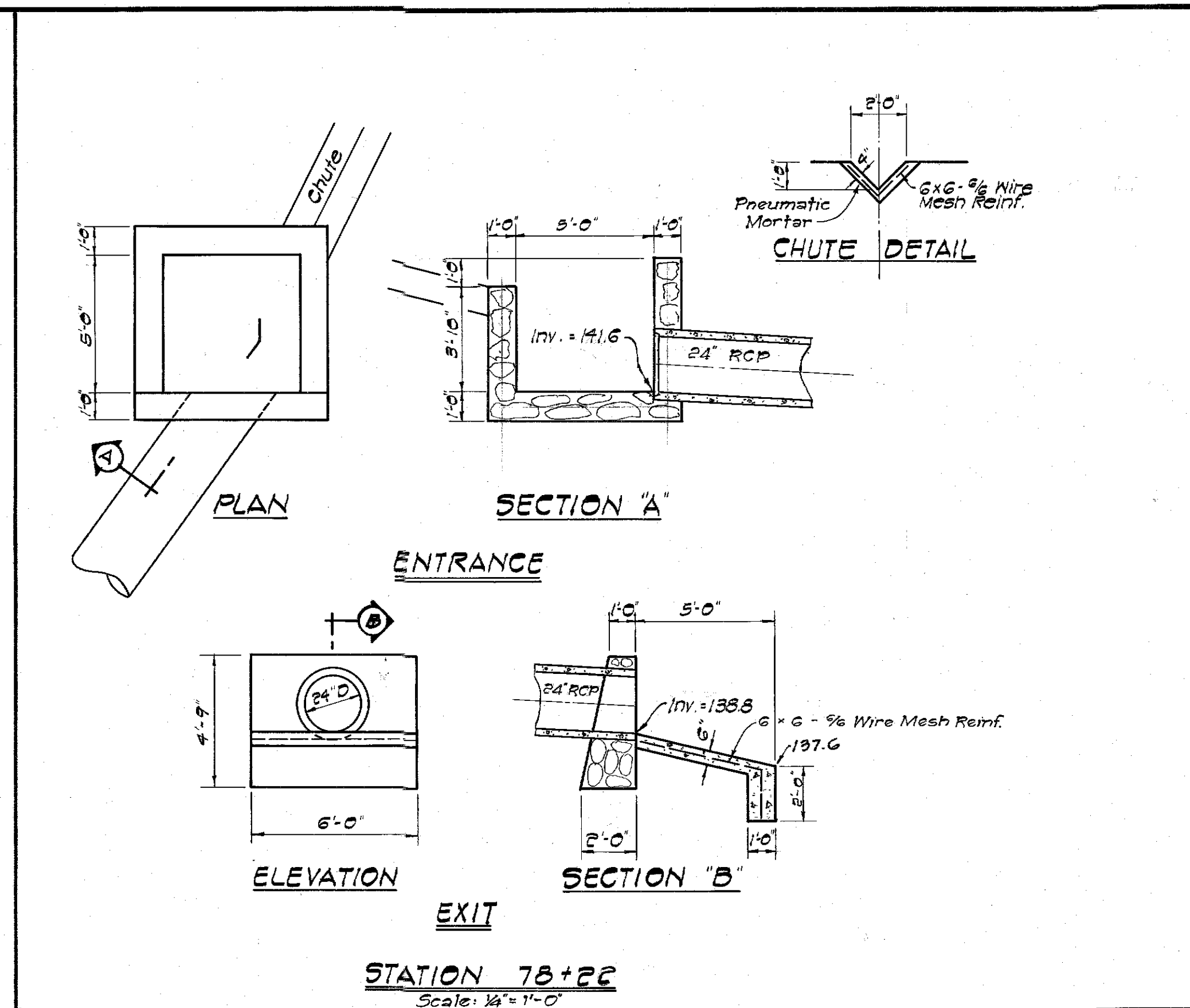
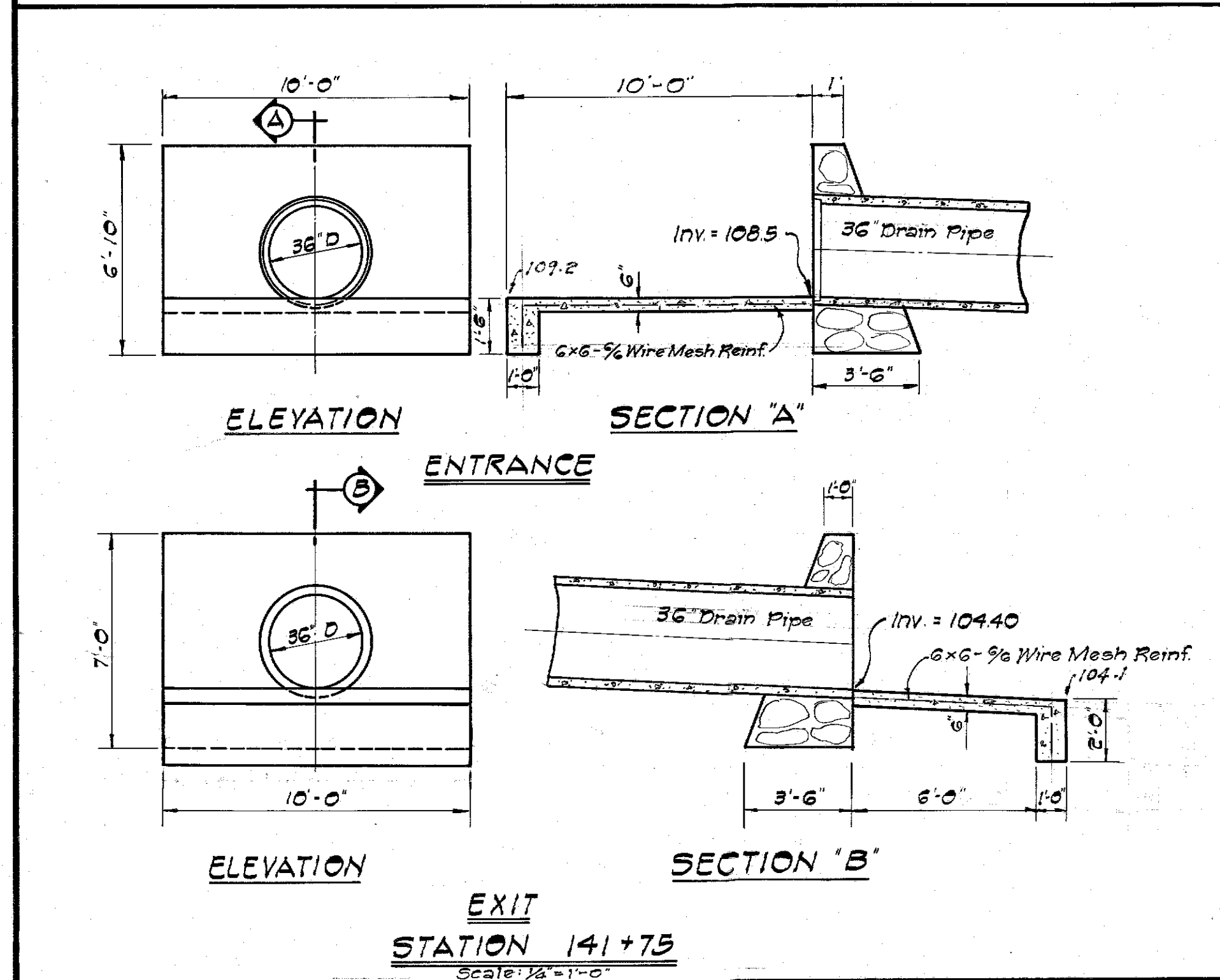
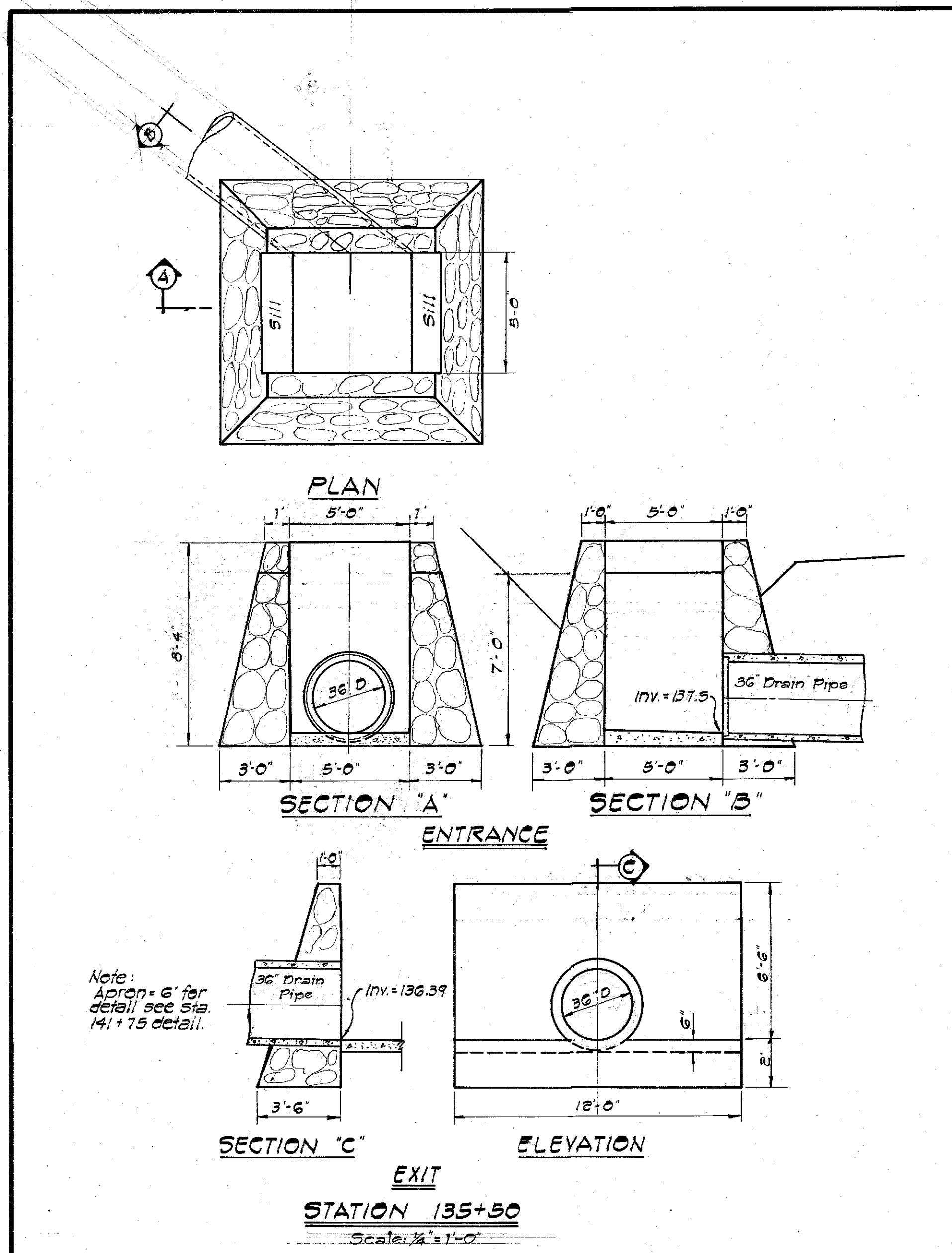
Station 58+00 (30" Pipe)
Entrance Inv. = 144.6
Exit Inv. = 140.24



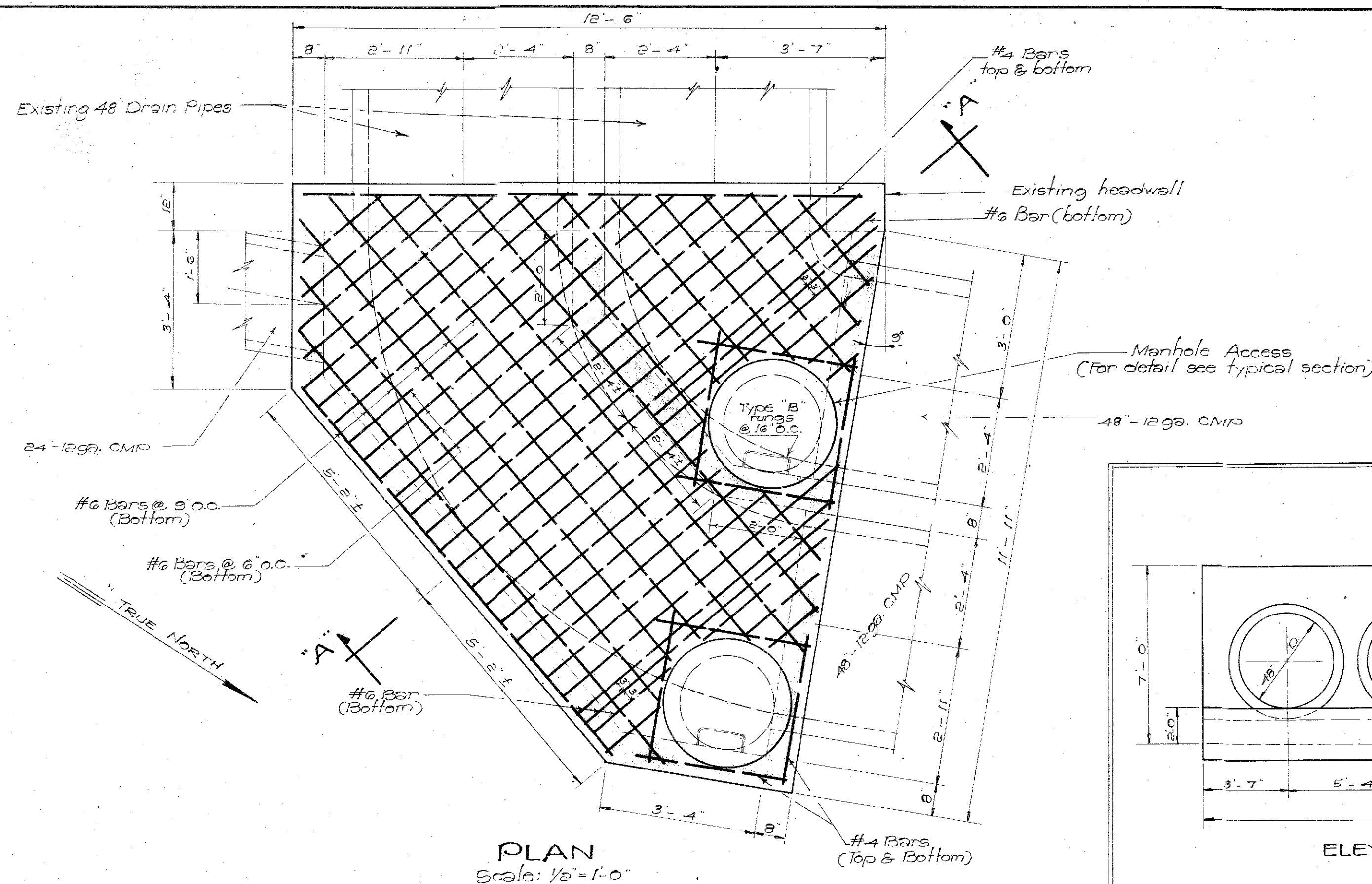
Entrance Inv = 133.5
Exit Inv. = 130.48



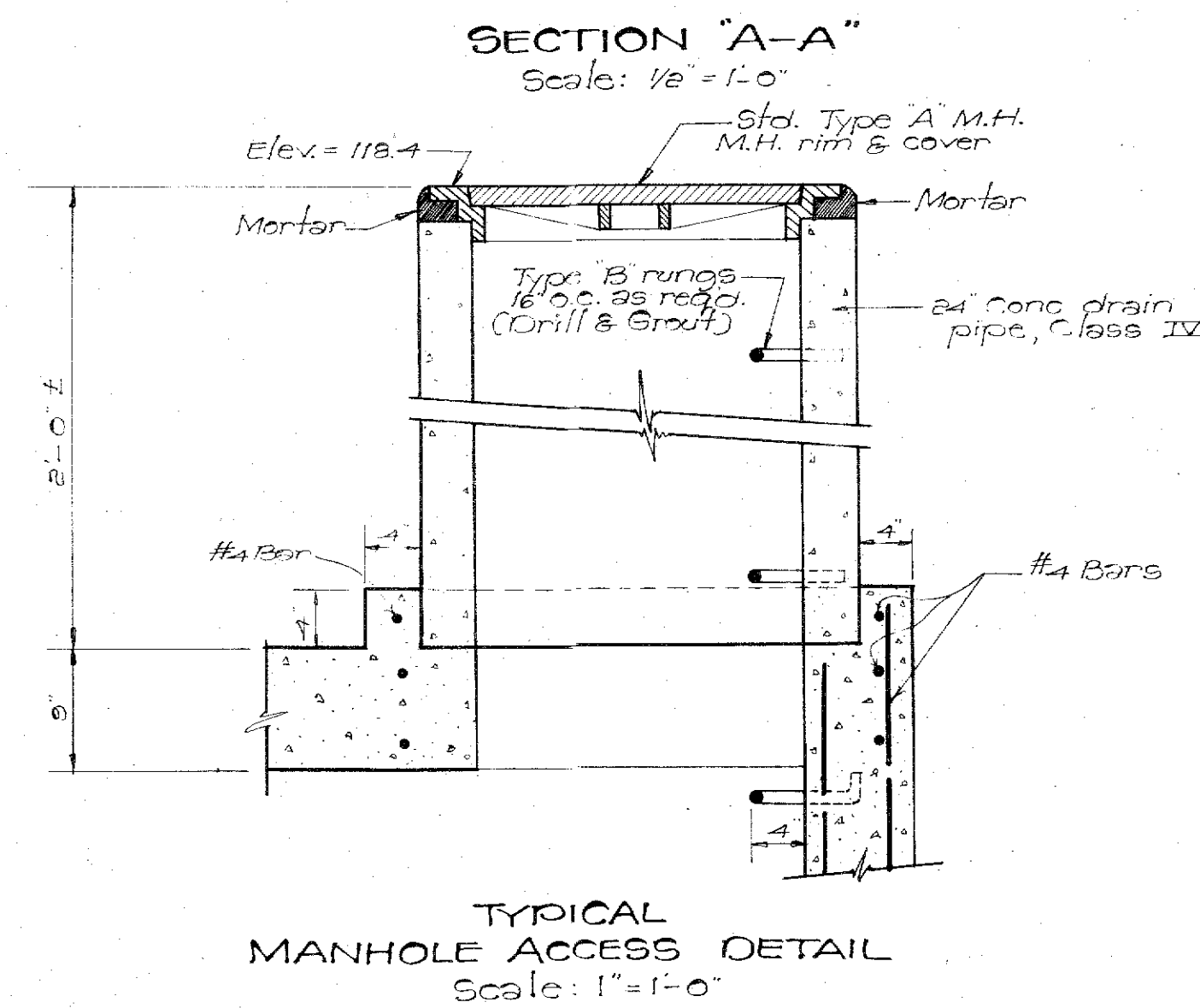
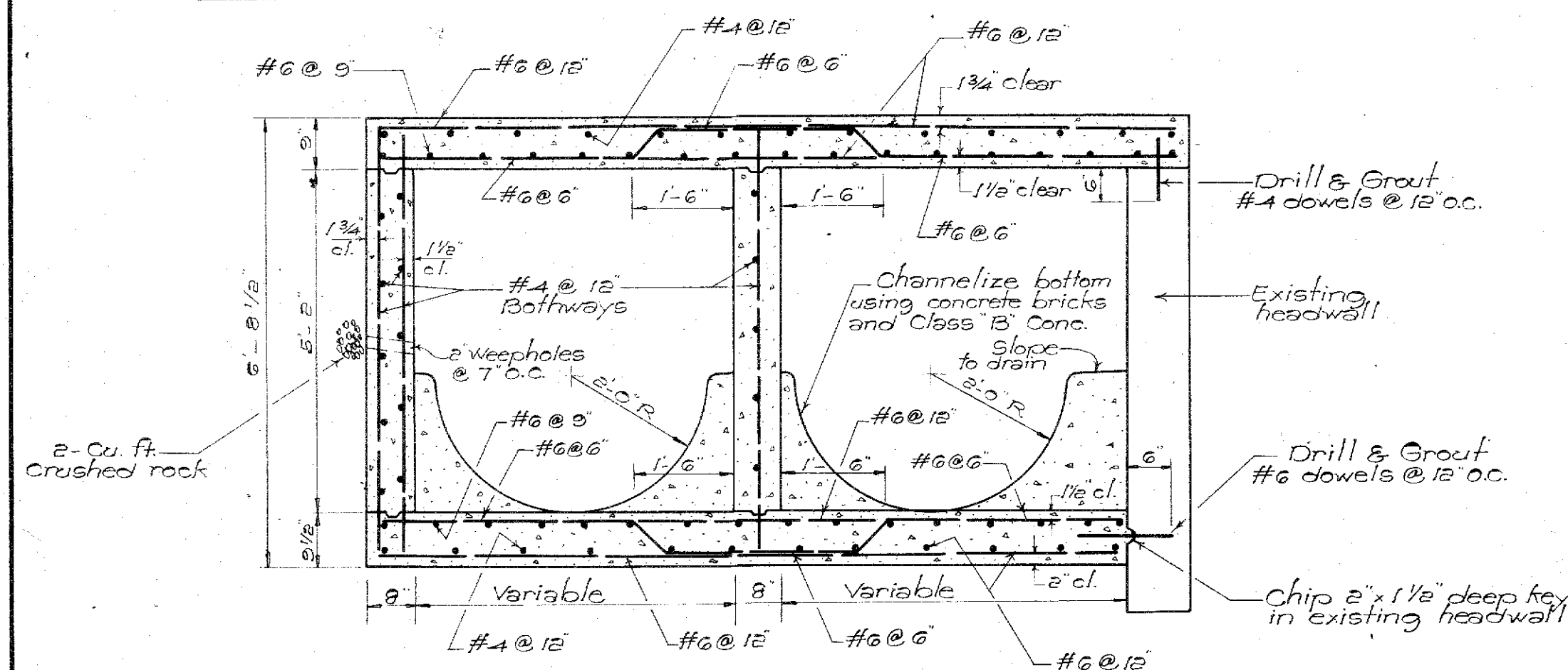
REVISION DATE	DESCRIPTION	MADE BY	APPROVED
COMMUNITY PLANNING INCORPORATED CIVIL ENGINEERS - SURVEYORS - CONSULTANT PLANNERS			
DEPARTMENT OF PUBLIC WORKS CITY AND COUNTY OF HONOLULU DIVISION OF ENGINEERING IMPROVEMENT DISTRICT NO. 168 KAHALUU CUTOFF ROAD KANEHEHE, WEEIA, AHUIMANU & KAHALUU, KODLAPOKO, OAHU			
DRAINAGE DETAILS			
ENGINEER <u>MHI</u>	DATE: FINAL REPORT <u>6-27-68</u>		
DRAFTSMAN <u>R.A.</u>	DATE <u>8-1-68</u>		
SCALE <u>As SHOWN</u>	CHECKED BY <u>STF</u>		
APPROVED	TRACER <u>L.A.</u>		
CHIEF ENGINEER <u>[Signature]</u>	APPROVED <u>9/28/68</u>		
	ACT. DIRECTOR, DIVISION OF ENGINEERING <u>[Signature]</u>		
W.S.	PROFILE	C.B.	
CR. SEC.	F. D.	S.B.	
W.M. BY:	F. W. BY:	S. BY:	
APPROVED <u>[Signature]</u> ASB ENGR. CERT. NO. 476-2			



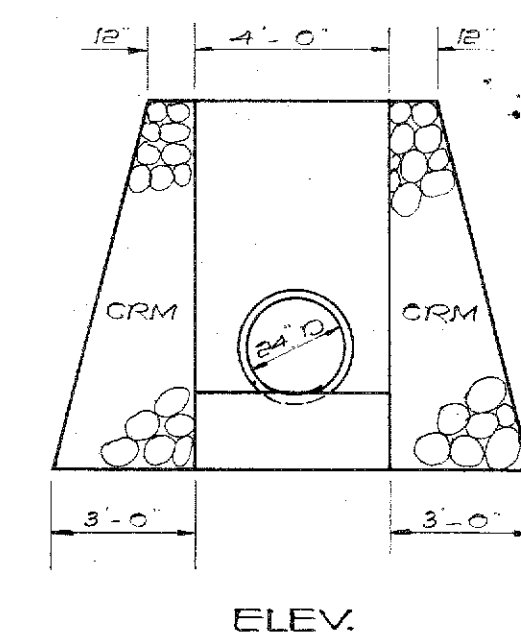
PROPERTY OF DIVISION OF ENGINEERING			
JOB NO. 12-G3			
REVISION	DATE	DESCRIPTION	APPROVED
1			
COMMUNITY PLANNING INCORPORATED			
CIVIL ENGINEERS - SURVEYORS - CONSULTANT PLANNERS			
DEPARTMENT OF PUBLIC WORKS			
CITY AND COUNTY OF HONOLULU			
DIVISION OF ENGINEERING			
IMPROVEMENT DISTRICT NO. 162			
KAHALU CUTOFF ROAD			
KANEHE, WHEEL, AHOIMANU & KAHALU, KOOLAPOKO, OAHU			
DRAINAGE DETAILS			
ENGINEER	MHI	DATE: FINAL REPORT 6-27-62	
DRAFTSMAN	L.A.	CHECKED BY	STP
SCALE	AS SHOWN	TRACER	R.A.
APPROVED		APPROVED 9-28-62	
CHIEF ENGINEER		CHIEF DIRECTOR, DIVISION OF ENGINEERING	
N.S.	PROFILE	C.B.	
CR. SEC.	F.B.	S.B.	
N.M. BY:	F.N. BY:	S.B.Y.	
APPROVED <i>[Signature]</i>			
REG. ENGR. CERT. NO. 410-6			



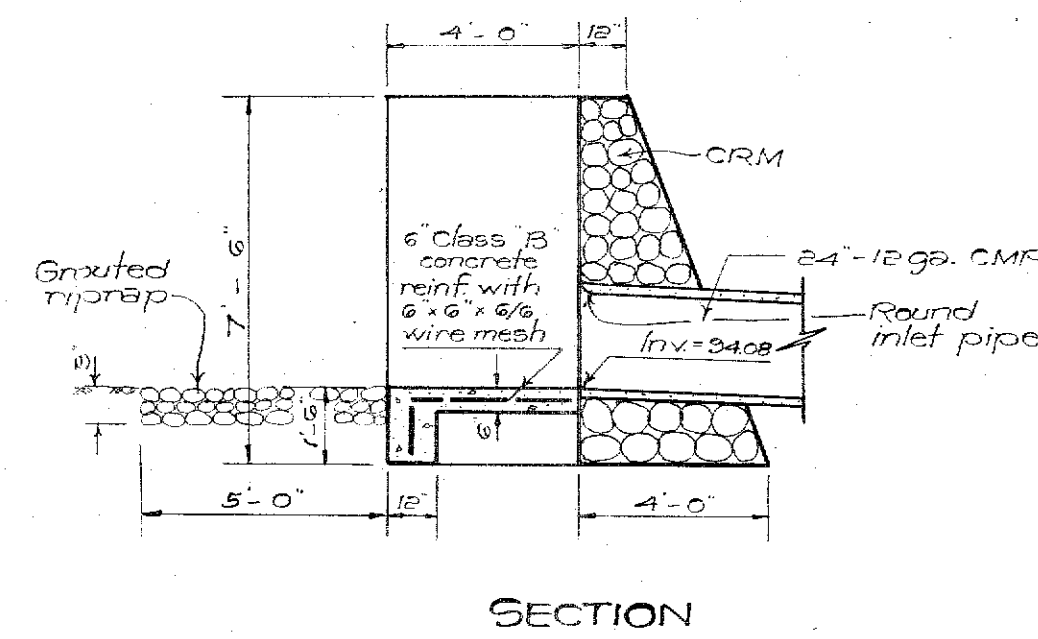
STATION 141+81.76 JUNCTION BOX DETAILS



STRUCTURAL DESIGN DATA
 Design Specification: AASHTO - 1961
 Loading: H20-S16
 Stresses: $f'_c = 3000$ psi at 28 days (C&C, class "A")
 $f'_c = 0.4 f'_c = 1200$ psi
 $f'_s = 20,000$ psi (intermediate grade)
 Reinforcing Steel Cover:
 Top slab & walls - Outside = $1\frac{3}{4}$ " clear
 Inside = $1\frac{1}{2}$ " clear
 Bottom slab - Outside = 2" clear
 Inside = $1\frac{1}{2}$ " clear

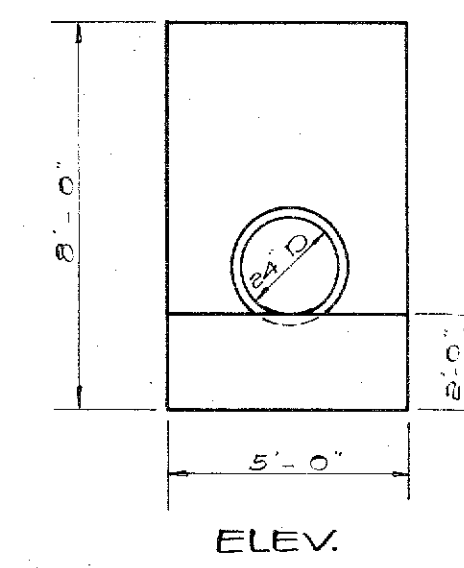


ENTRANCE

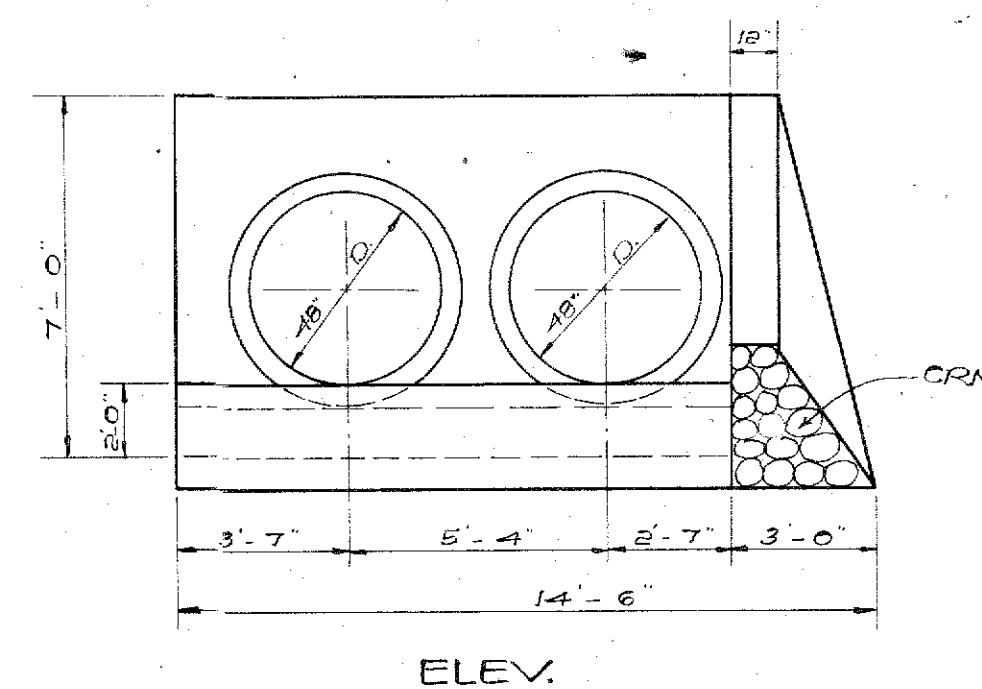
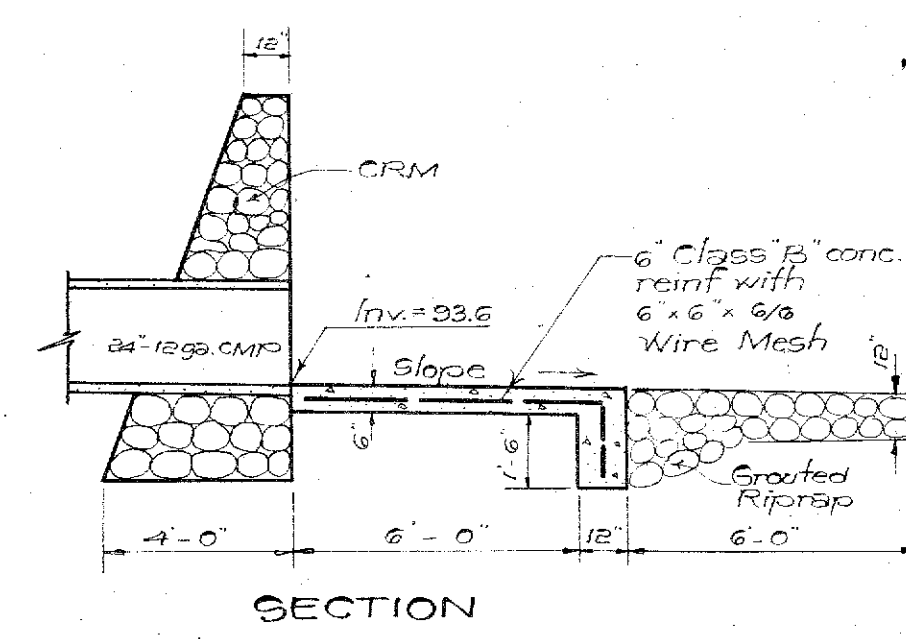


STATION 148+90

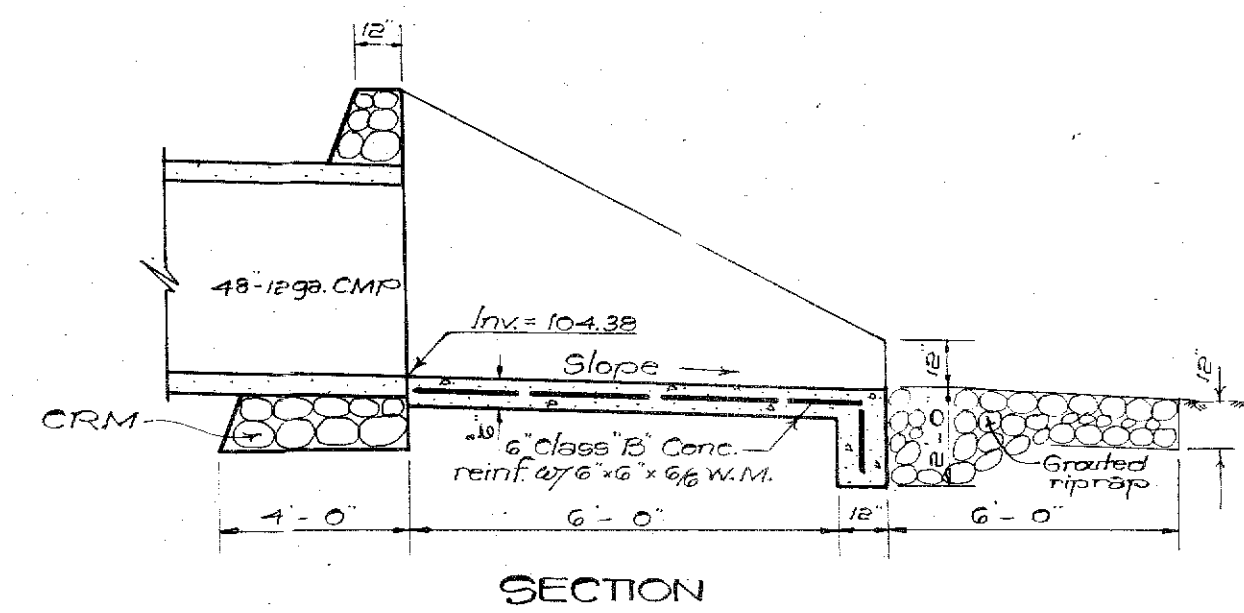
Scale: $\frac{1}{4}" = 1'-0"$



EXIT

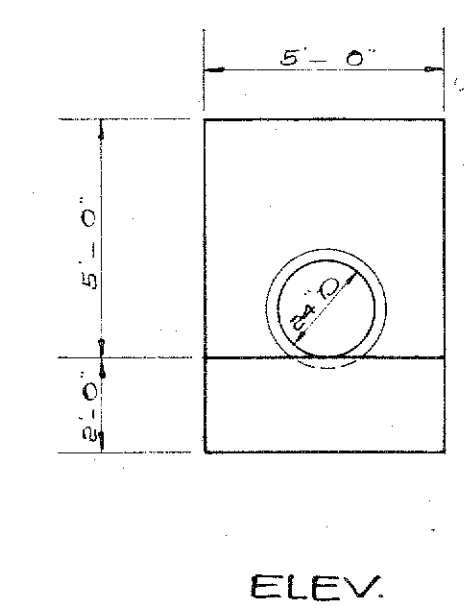


EXIT

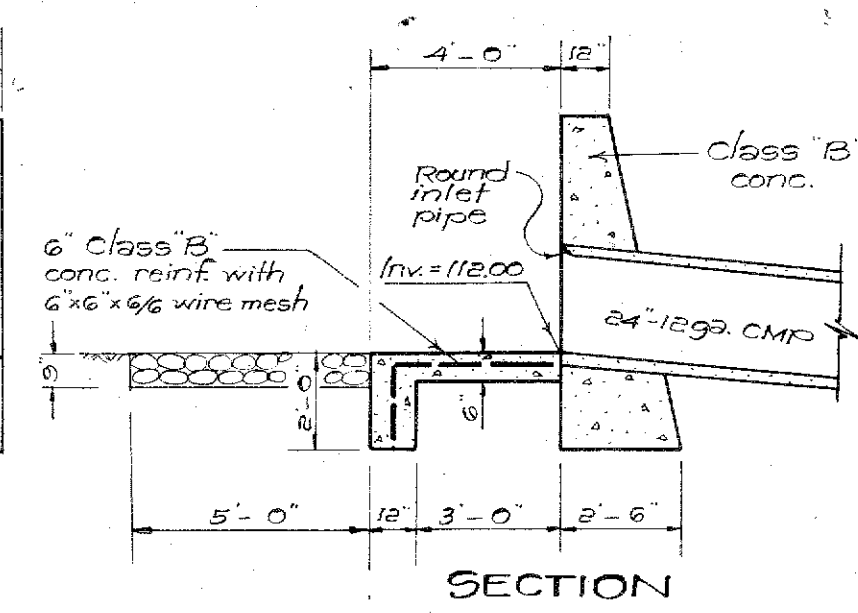


STATION 141+81.76

Scale: $\frac{1}{4}" = 1'-0"$

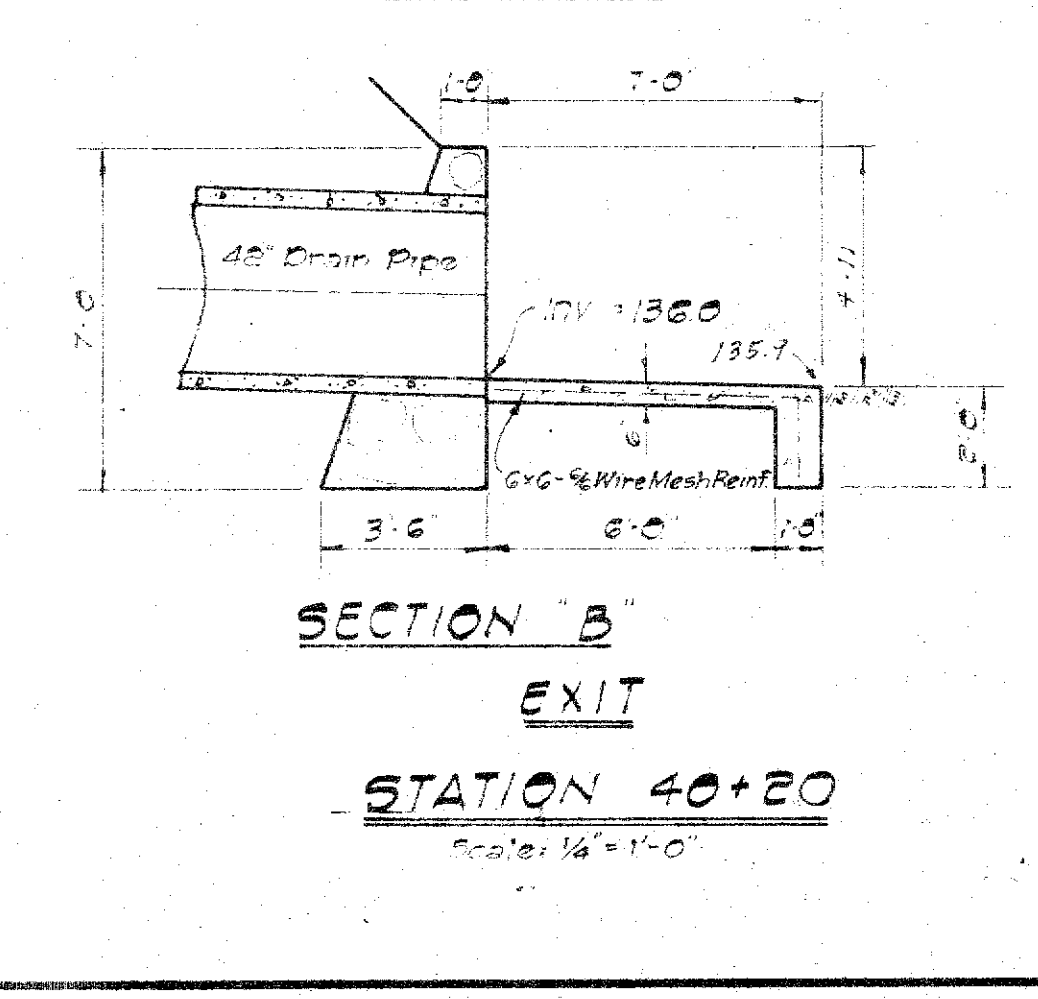
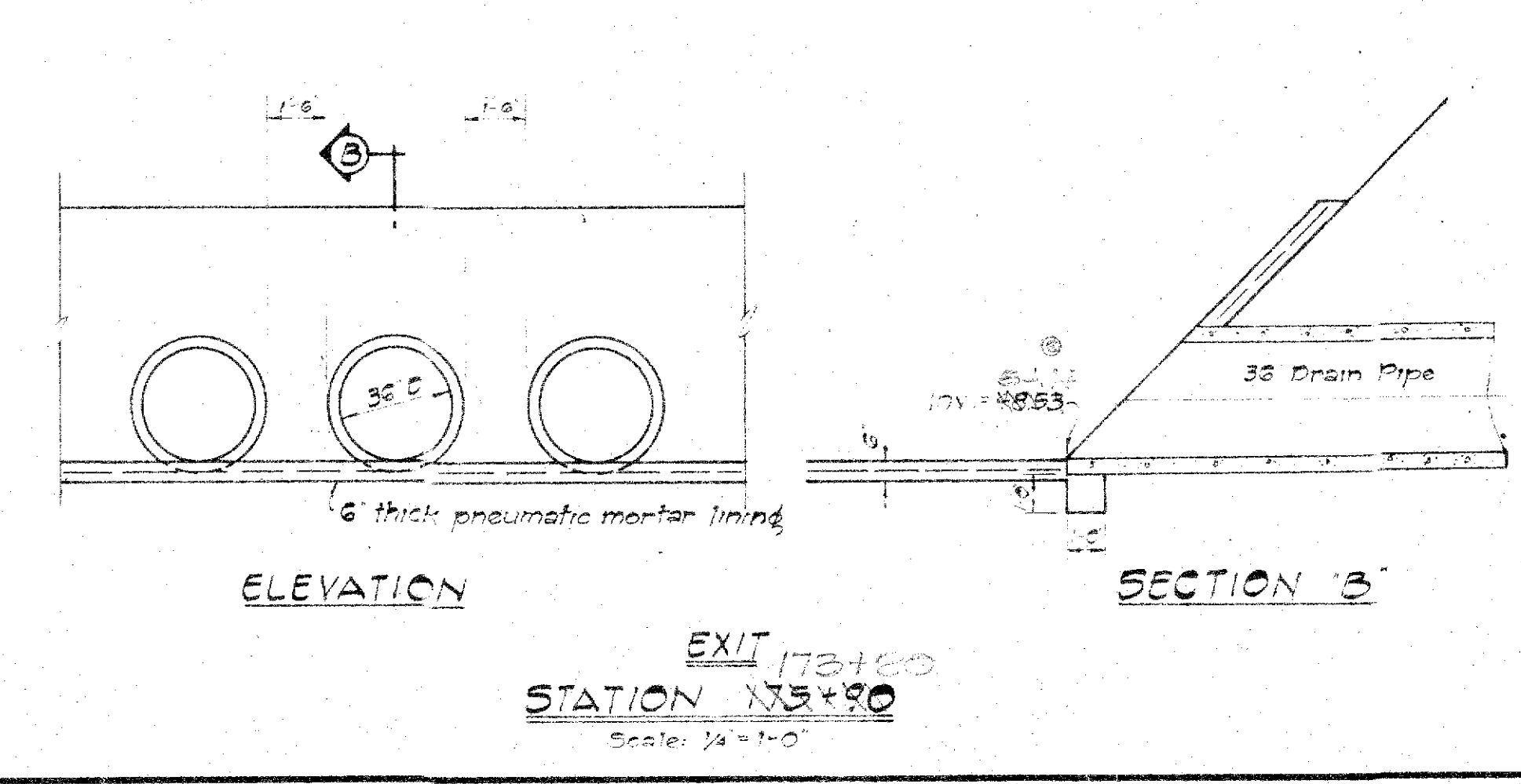
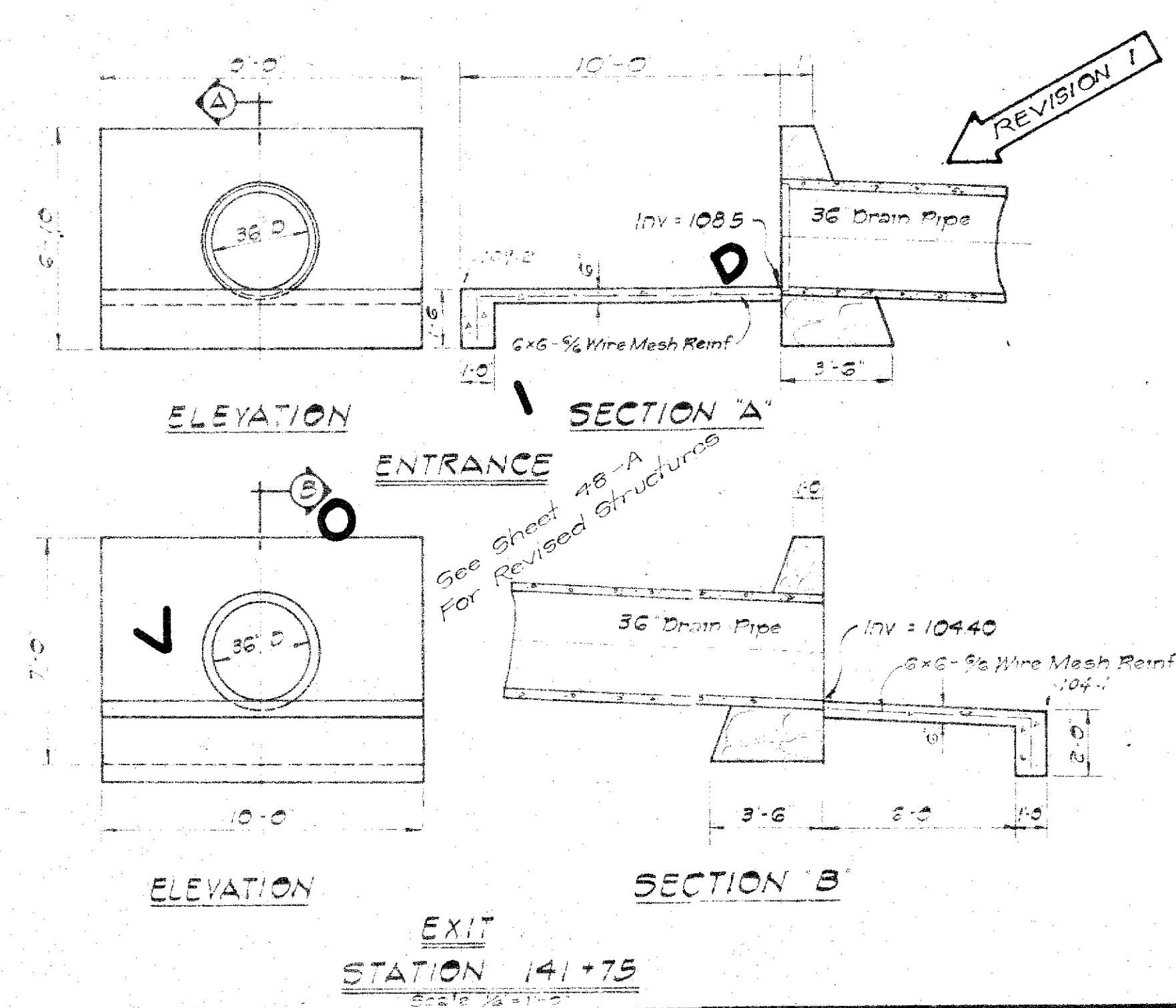
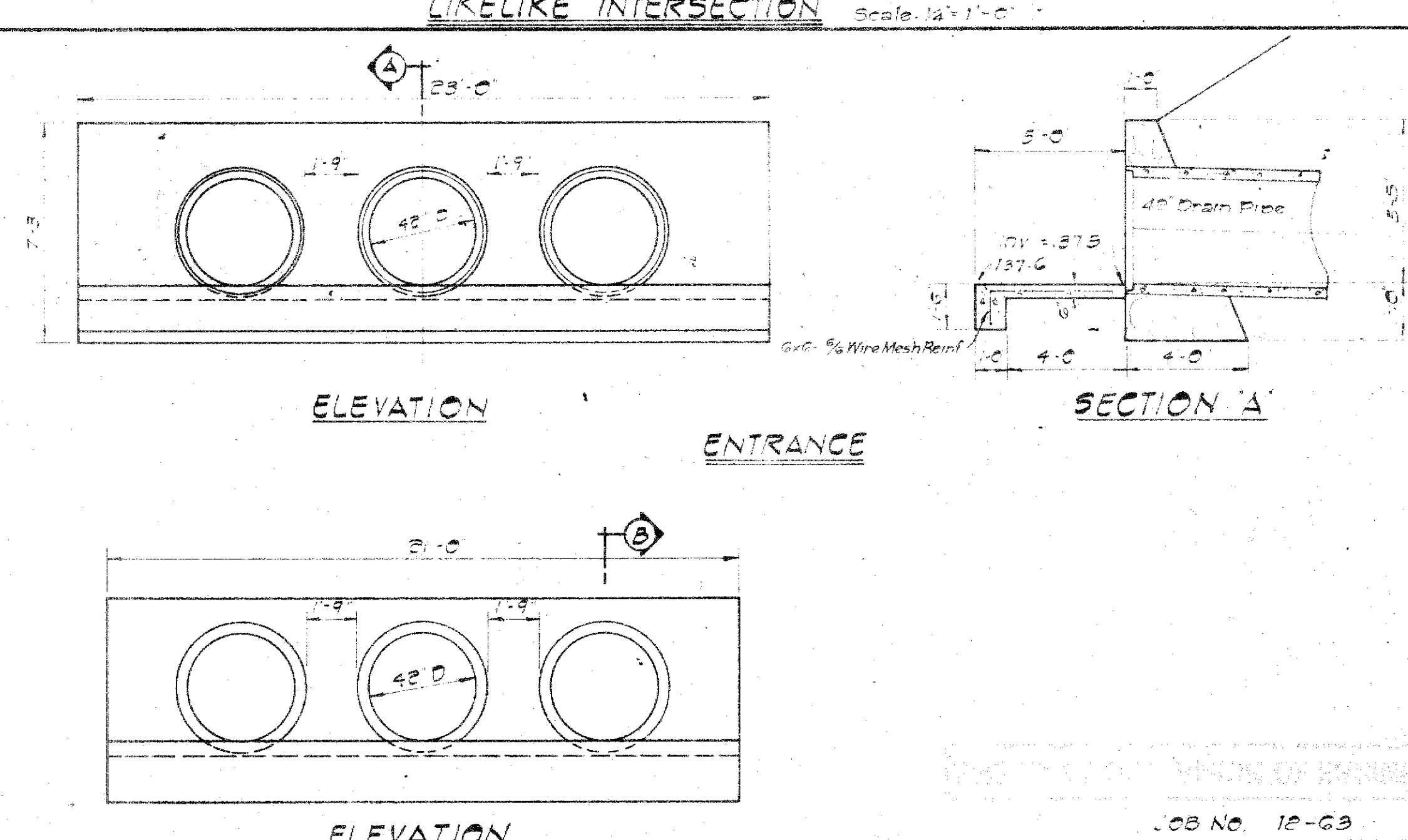
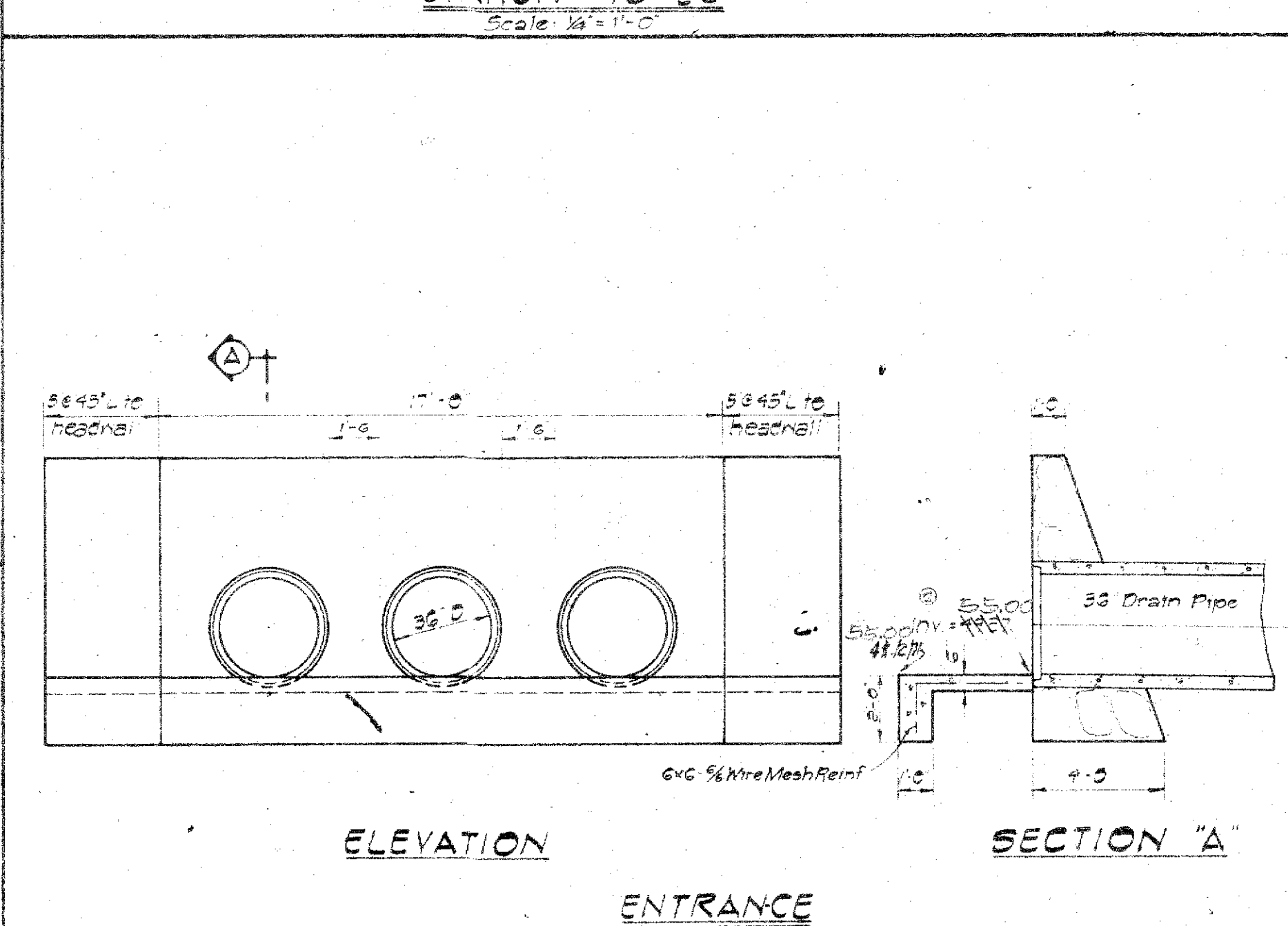
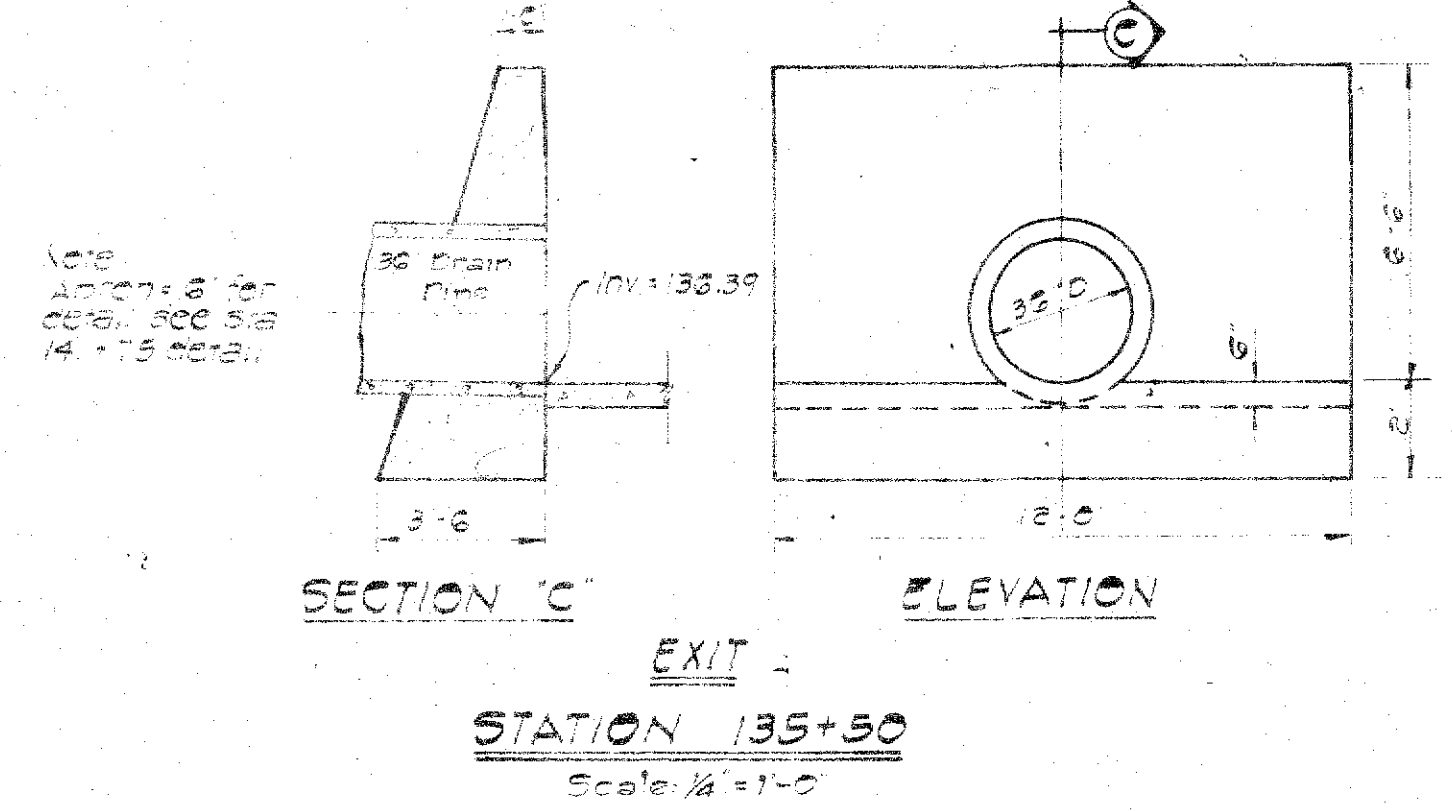
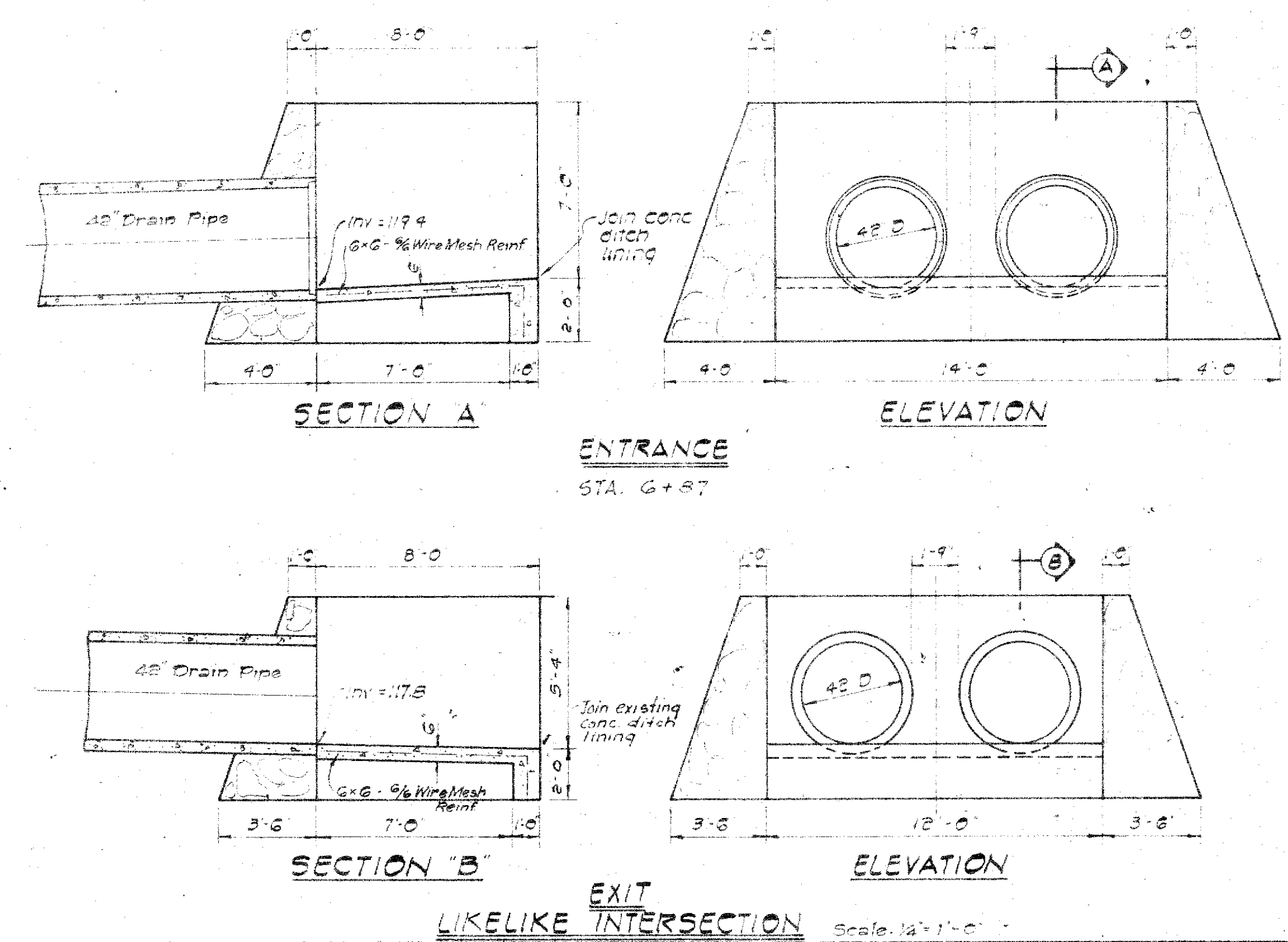
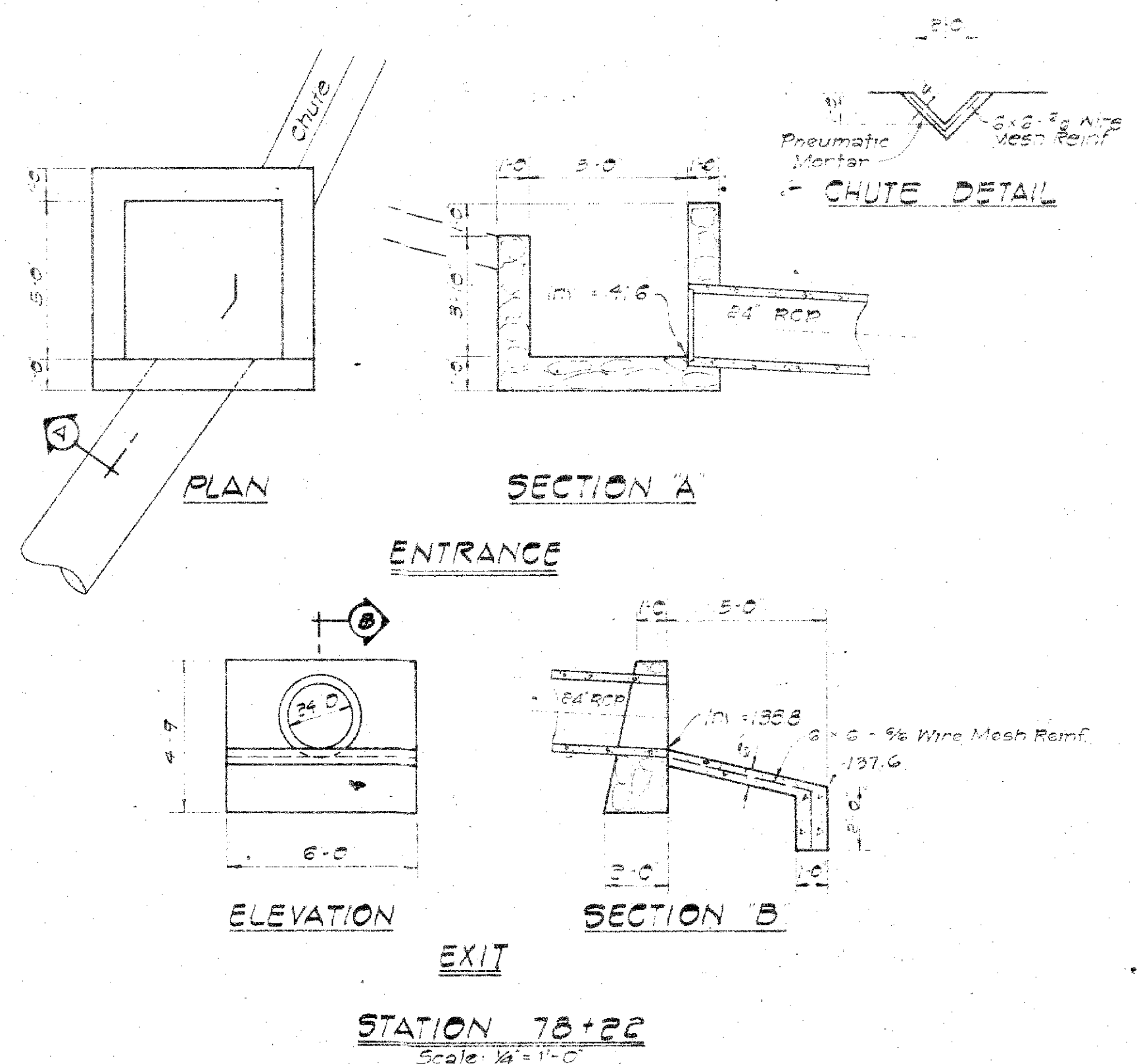
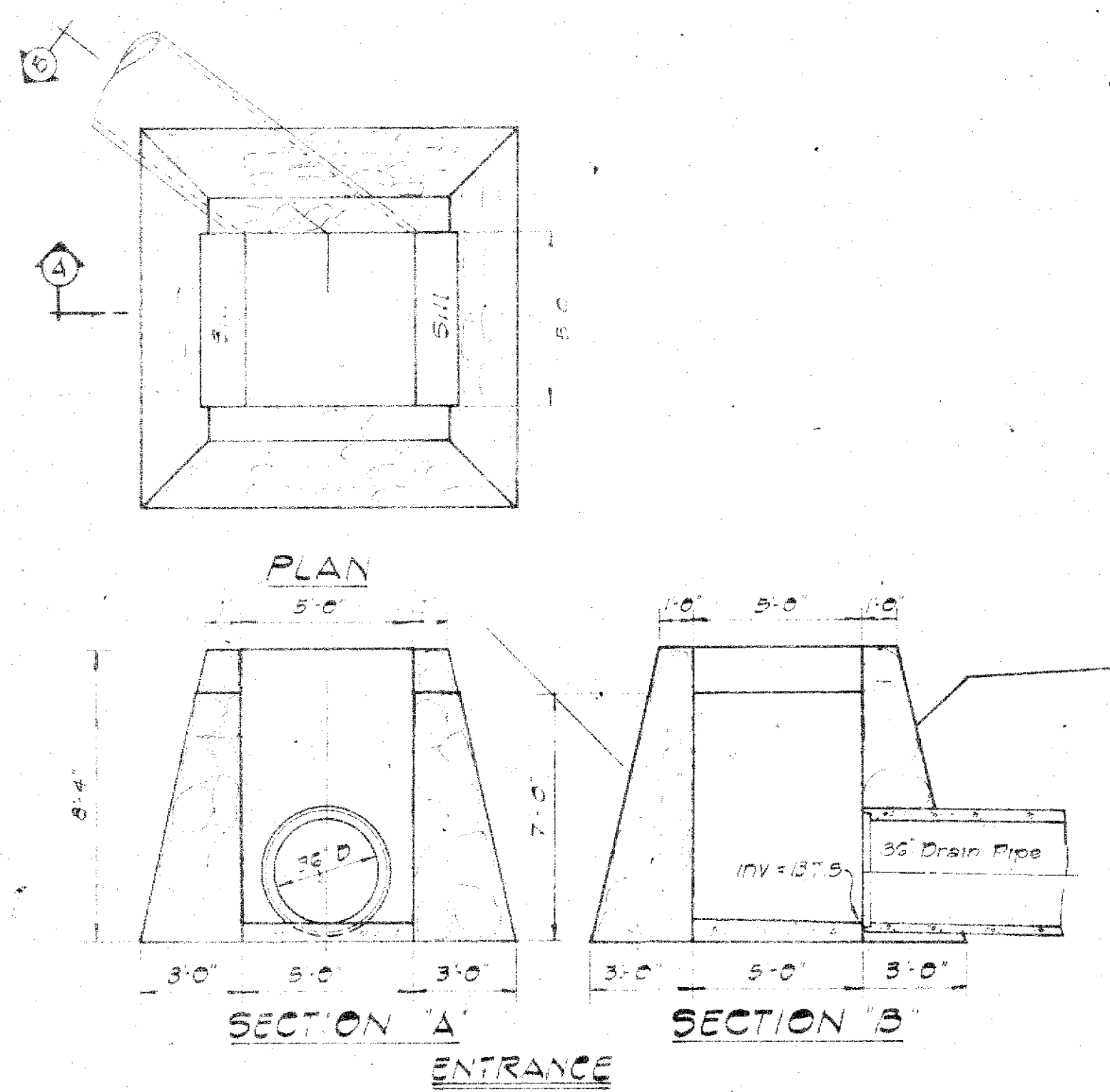


ENTRANCE



SECTION

REVISION DATE	DESCRIPTION	MADE BY	APPROVED
R.M. TOWILL CORPORATION CIVIL ENGINEERS-SURVEYORS			
DEPARTMENT OF PUBLIC WORKS CITY AND COUNTY OF HONOLULU DIVISION OF ENGINEERING IMPROVEMENT DISTRICT NO. 162 KAHALUHI CUTOFF ROAD KANEHOE, HEEA, AHIOMANU & KAHALUHI, KEOALUPONO, OAHU			
DRAINAGE DETAILS			
ENGINEER	R.S.	DATE	2-20-64
DRAFTSMAN	G.C.	CHECKED BY	R.S.
SCALE	As Shown	TRACER	G.C.
APPROVED			
CHIEF ENGINEER		DIRECTOR, DIVISION OF ENGINEERING	
W.S.	PROJ. ENGR.	C.B.	
C.R. SEC.	P.B.	S.B.	
W.M. BY	P.W. BY	S.B.	
APPROVED: <i>[Signature]</i>			
REG. ENGR. CERT. NO. 844			
FILE	PROJECT	FOUNDER	NO.
12	9	3	48A



JOB No. 12-63

REVISION DATE DESCRIPTION MADE BY APPROVED

COMMUNITY PLANNING INCORPORATED
CIVIL ENGINEERS - SURVEYORS - CONSULTANT PLANNERS

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
DIVISION OF ENGINEERING
IMPROVEMENT DISTRICT NO. 10
KAHALU CUTOFF ROAD
KANEHE, HEEA, AHIOMANI & KAHALU, KOOLAPOKAI, OAHU

DRAINAGE DETAILS

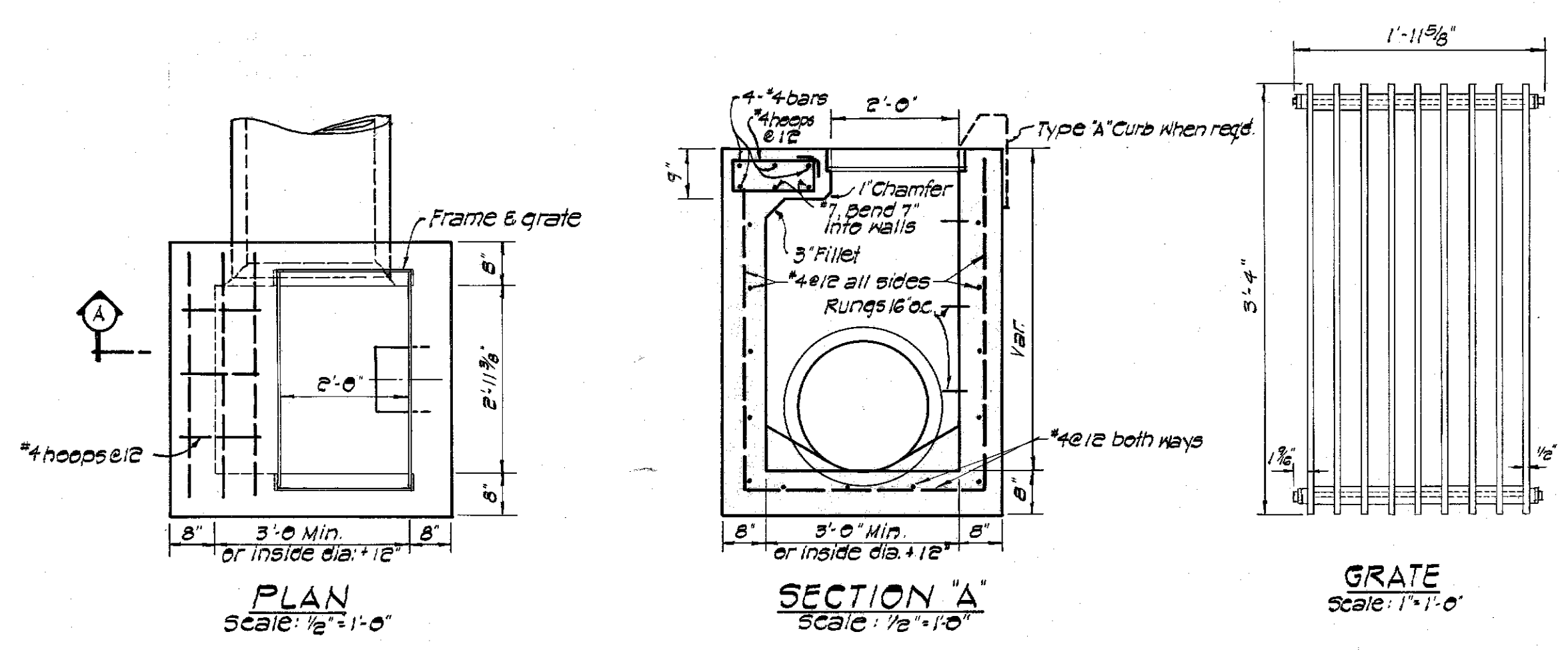
ENGINEER M.H.I.
DRAFTSMAN L.A.
SCALE 1/8" = 1'-0"
APPROVED J.P.R.
CHIEF ENGINEER J.P.R.
NS J.B.
CR J.B.
WM BY J.B.

DATE FINAL REPORT 6-27-62
DATE 6-27-62
CHECKED BY J.P.R.
TRACER L.A.
APPROVED J.P.R.
ACT. DIRECTOR DIVISION OF ENGINEERING J.P.R.
C.D. J.B.
S.D. J.B.

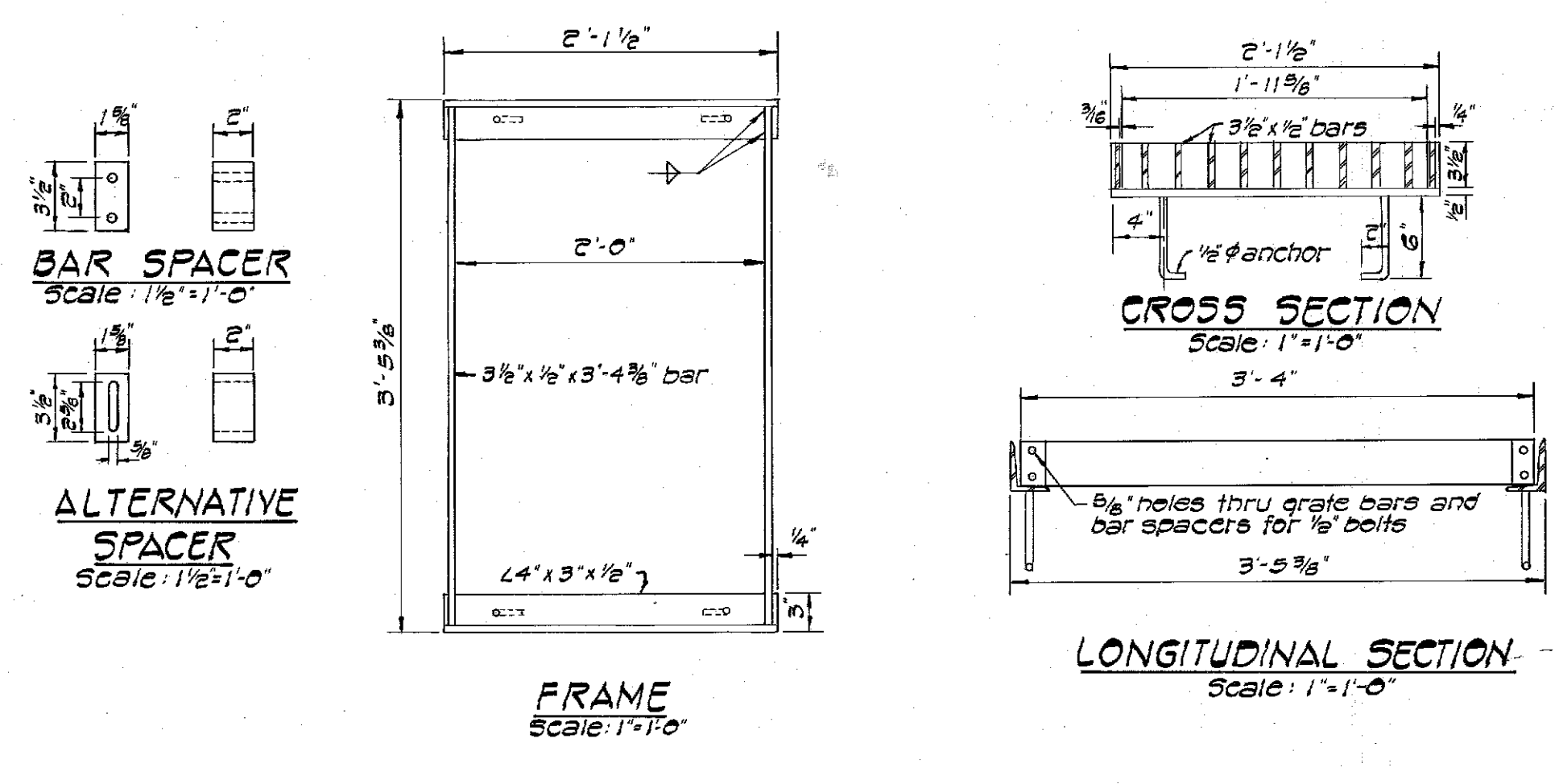
APPROVED J.P.R.

SHEET 46 OF 62 SHEETS

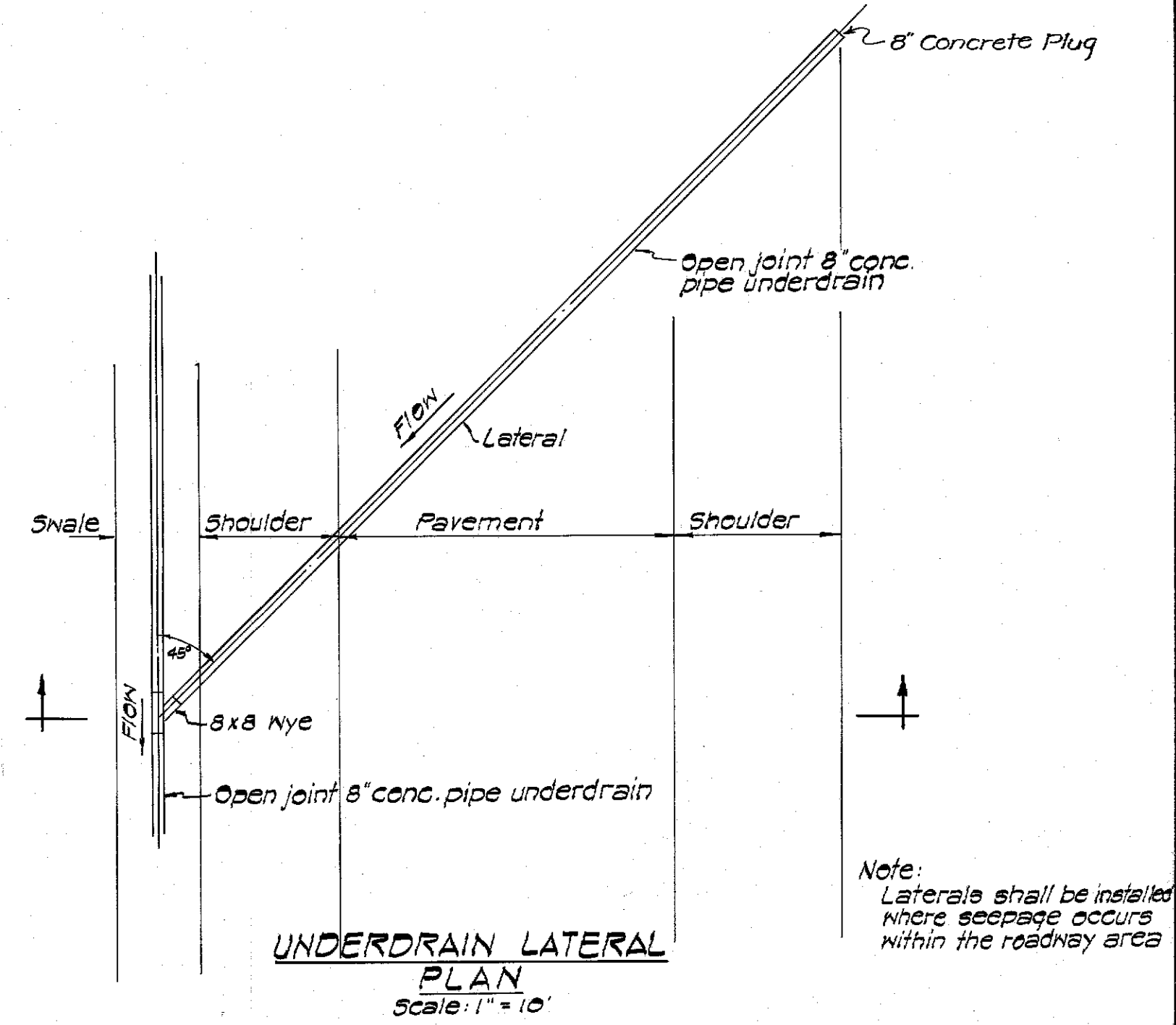
FILE 12
PROJECT 9
FOLDER 3
NO. 468



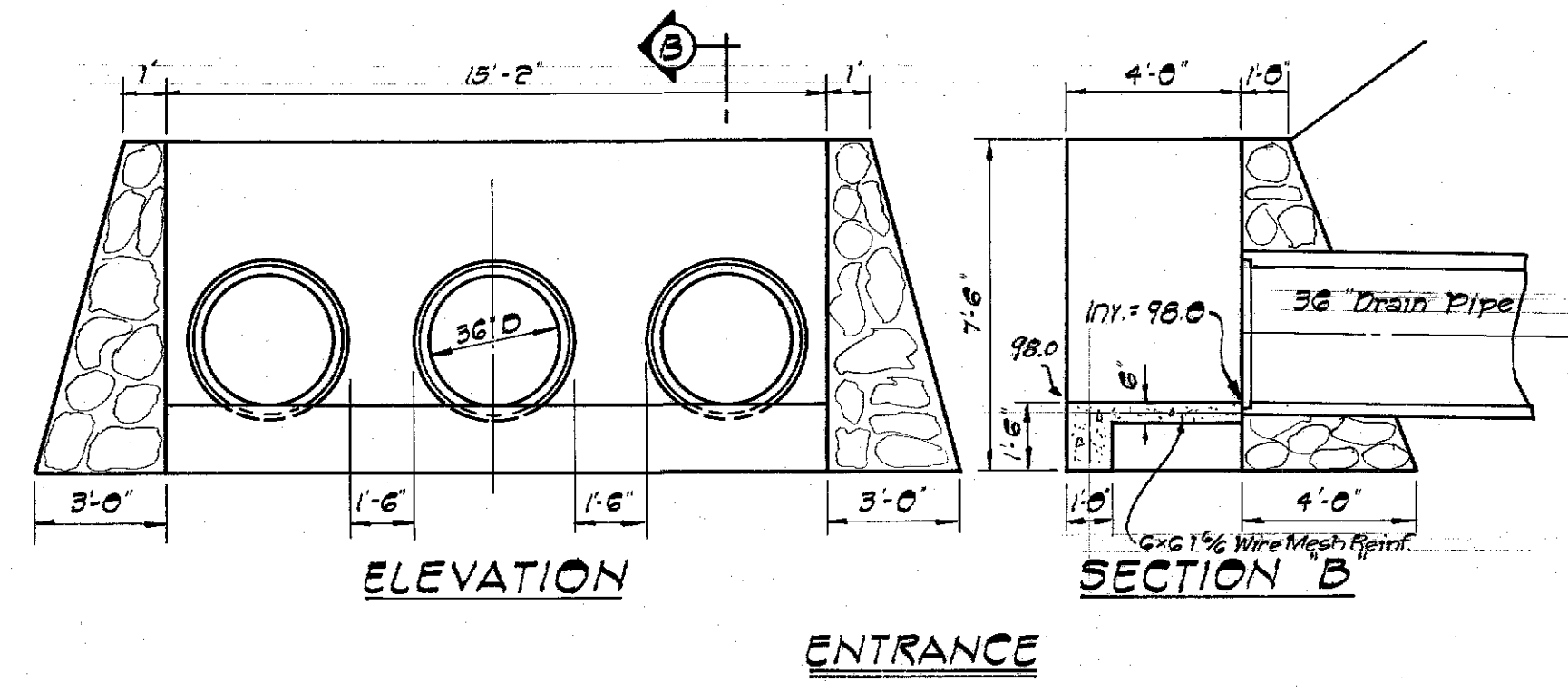
DROP INLET DETAILS
Scale: As noted



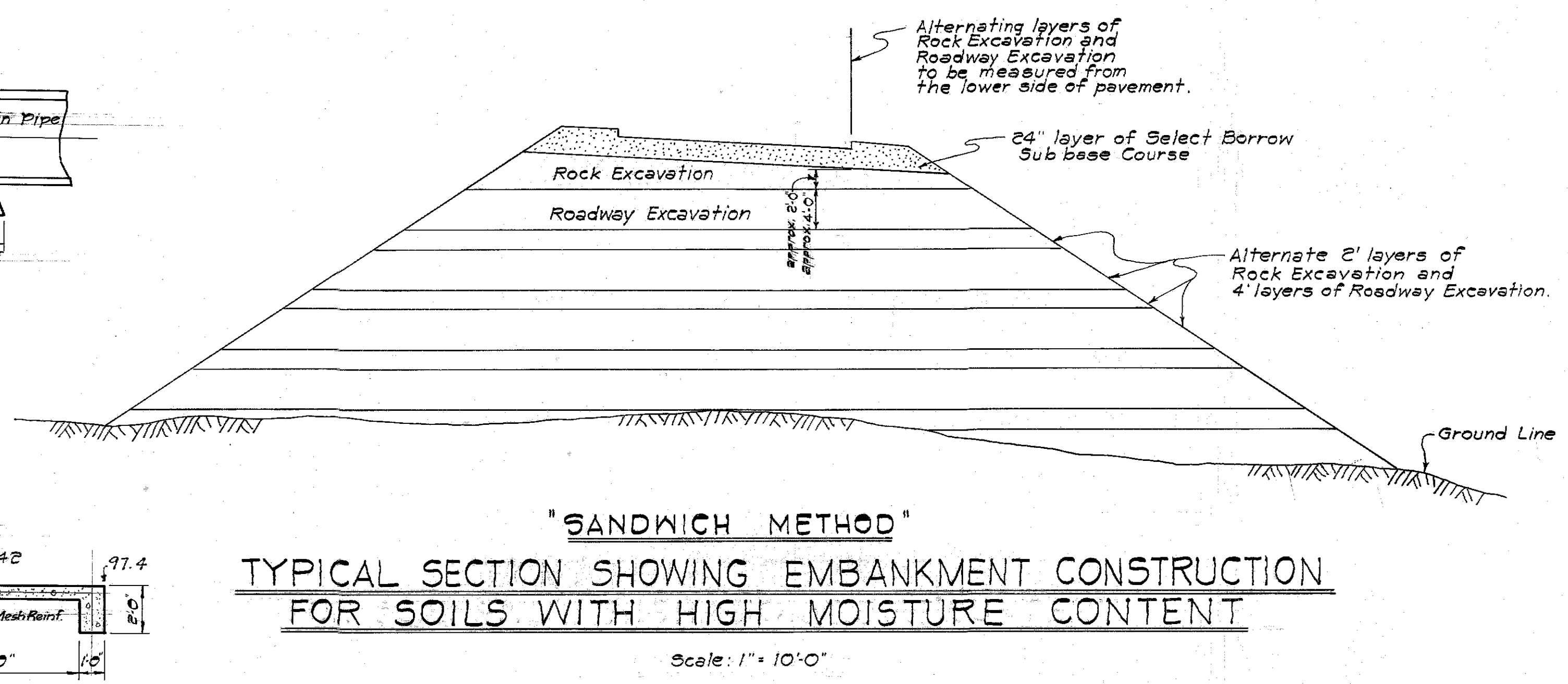
GRATE AND FRAME DETAILS
Scale: As noted



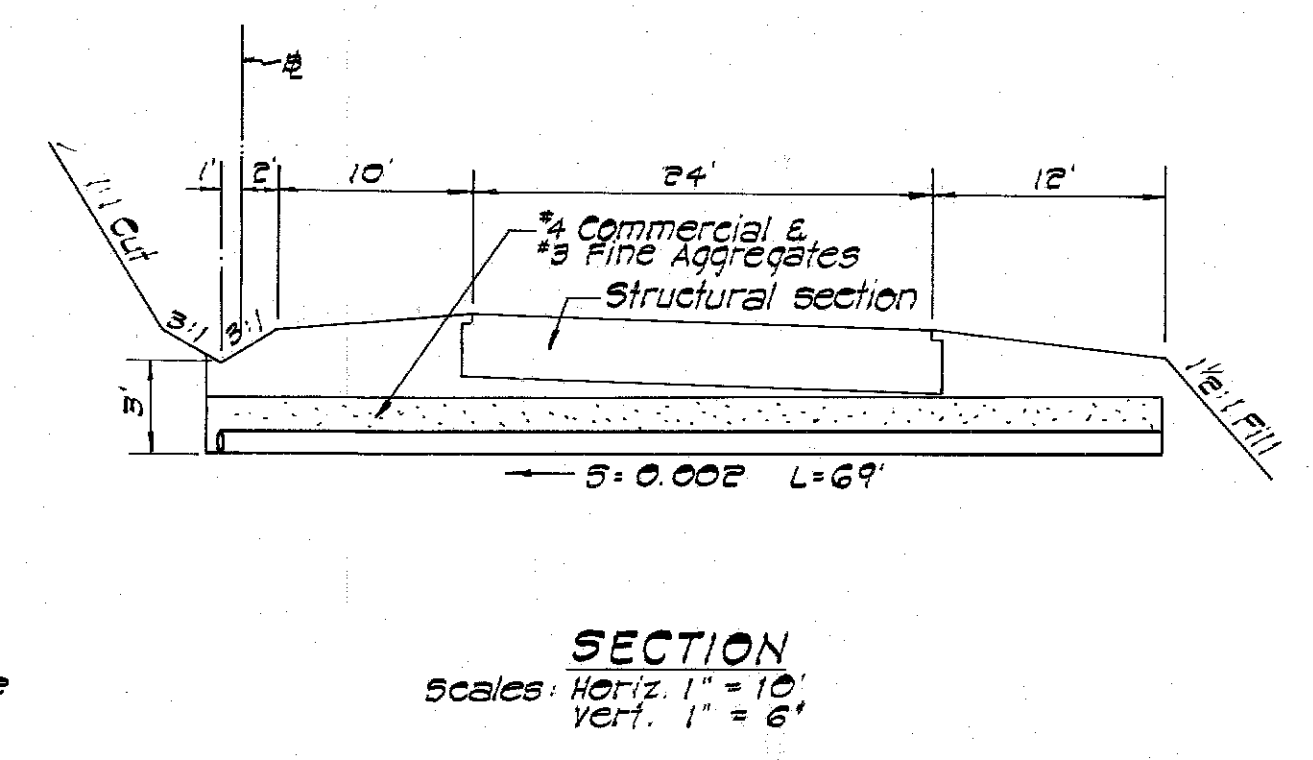
Note: Laterals shall be installed where seepage occurs within the roadway area



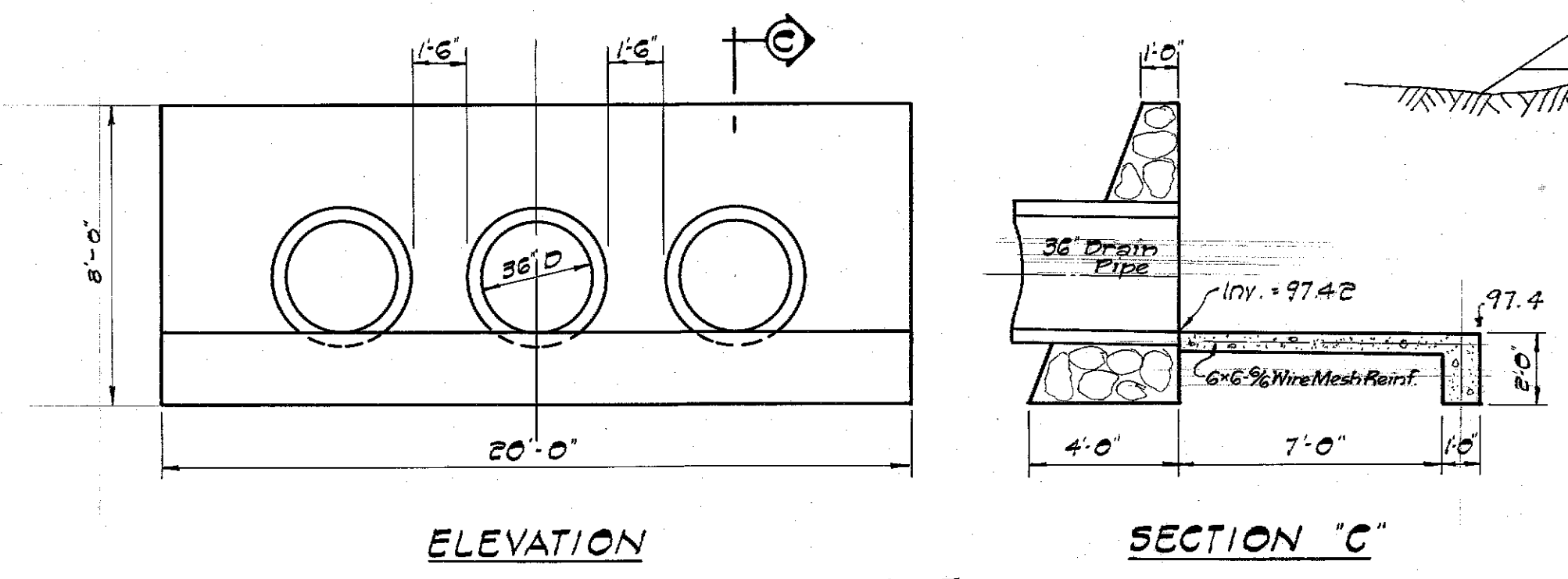
ENTRANCE



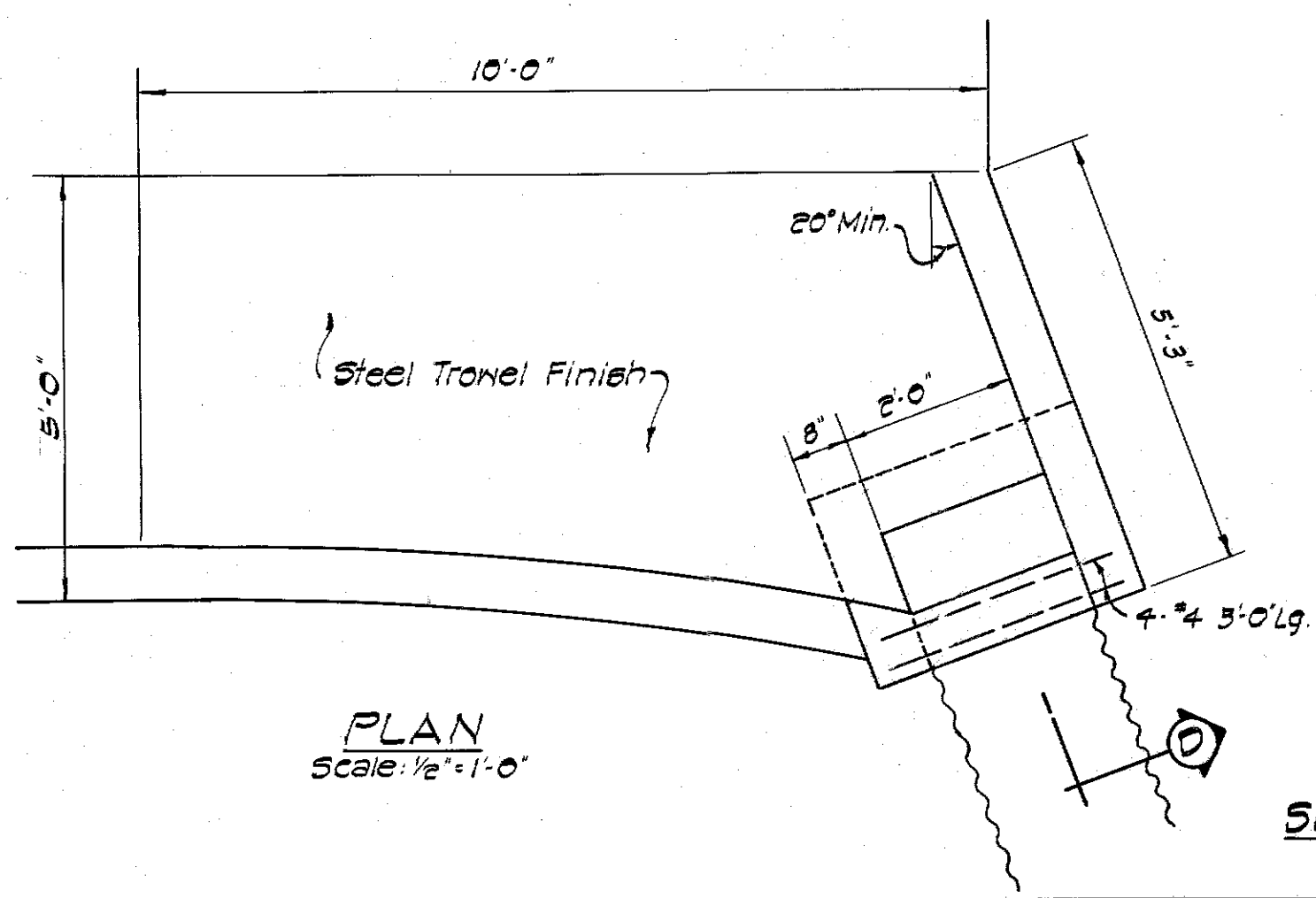
"SANDWICH METHOD"
TYPICAL SECTION SHOWING EMBANKMENT CONSTRUCTION FOR SOILS WITH HIGH MOISTURE CONTENT
Scale: 1" = 10'-0"



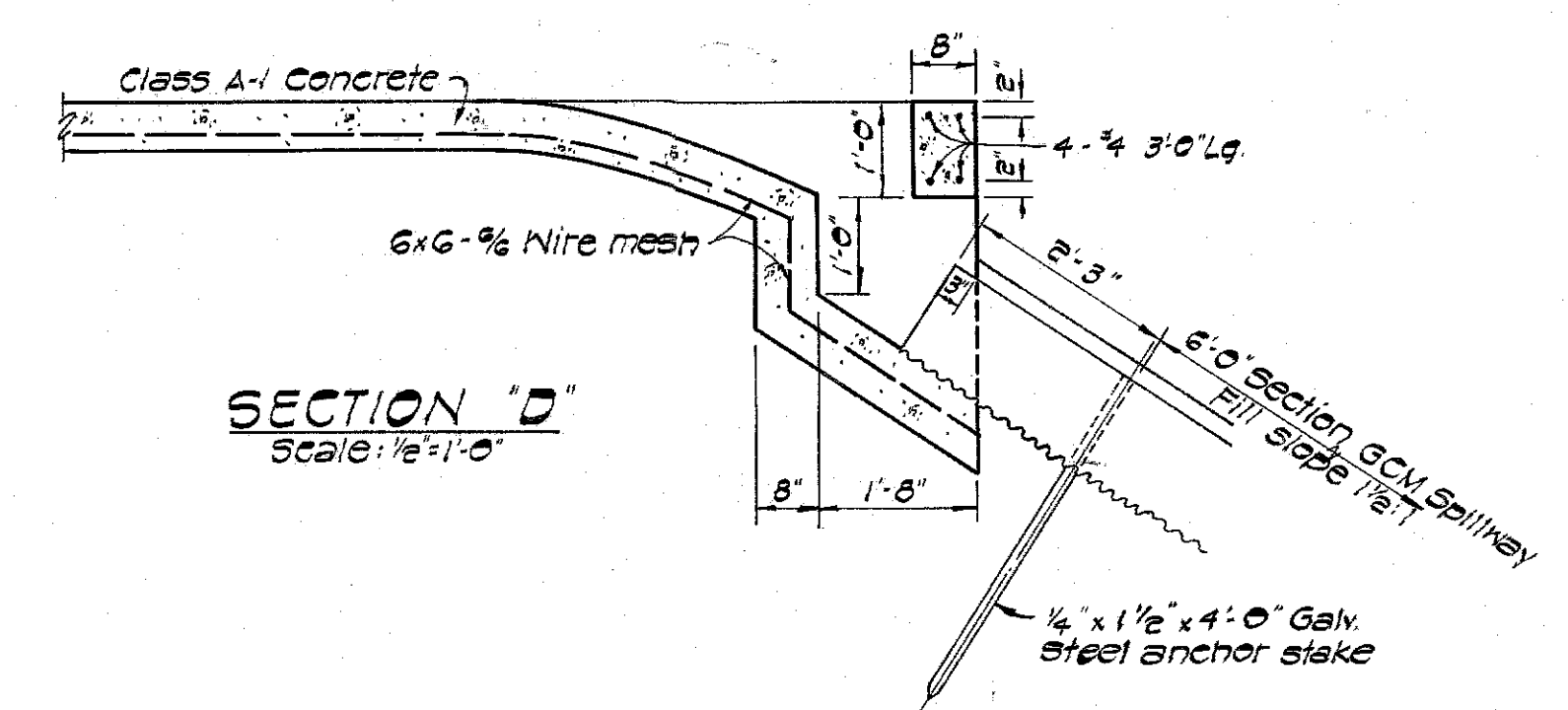
SECTION
Scale: Horiz. 1" = 10', Vert. 1" = 6'



EXIT

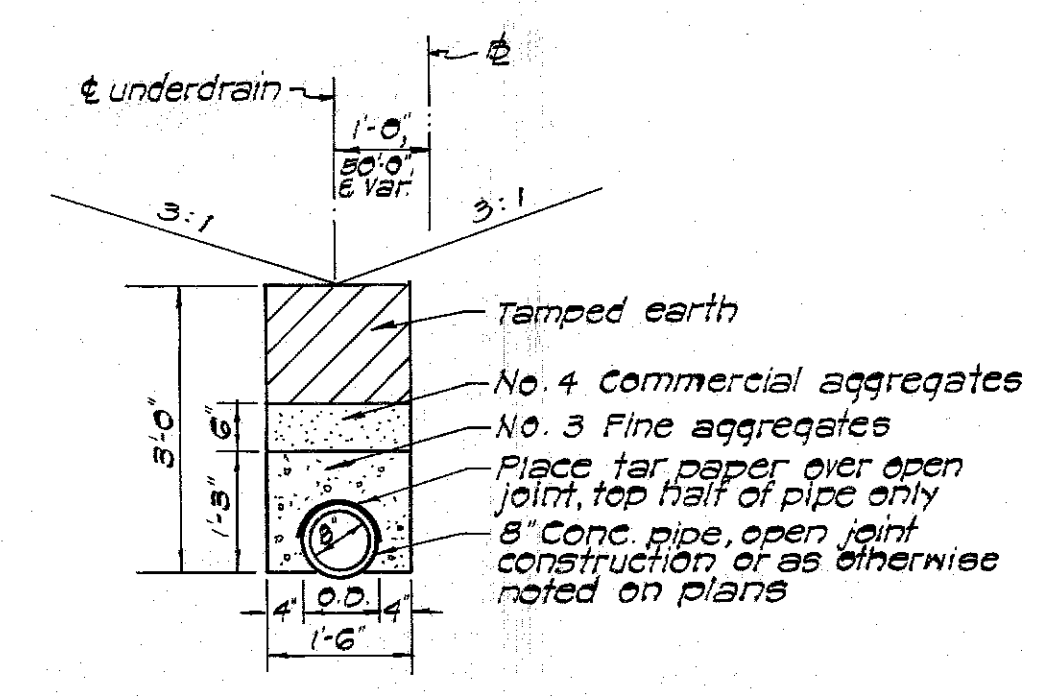


PLAN
Scale: 1/2" = 1'-0"



SECTION 'D'
Scale: 1/2" = 1'-0"

INLET DETAIL OF SPILLWAY FOR TYPE 'F' GUTTER



UNDERDRAIN TYPICAL SECTION
Scale: 1/2" = 1'-0"

PROPERTY OF DIVISION OF ENGINEERING

JOB NO. 12-63

REVISION DATE	DESCRIPTION	MADE BY	APPROVED
COMMUNITY PLANNING INCORPORATED CIVIL ENGINEERS - SURVEYORS - CONSULTANT PLANNERS			
DEPARTMENT OF PUBLIC WORKS CITY AND COUNTY OF HONOLULU DIVISION OF ENGINEERING IMPROVEMENT DISTRICT NO. 12 KAHALU CUTOFF ROAD KANEHOE, HEEA, AHUIMANU & KAHALU, KOOLAUPOKO, OAHU			
DRAINAGE DETAILS & EMBANKMENT CONSTRUCTION DETAILS			
ENGINEER	N.K.	DATE FINAL REPORT	6-27-62
DRAFTSMAN	R.A.	DATE	8-1-62
SCALE	AS SHOWN	CHECKED BY	STP
APPROVED		TRACER	L.A.
CHIEF ENGINEER	W.H. Young	ACT. DIRECTOR, DIVISION OF ENGINEERING	W.H. Young
W.S.	PROFILE	C.D.	
CR. SEC.	F.D.	S.D.	
W.M. BY:	F.N. BY:	S. BY:	
APPROVED <i>George K. H. Young</i> REG. ENGR. CERT. NO. 470-8			