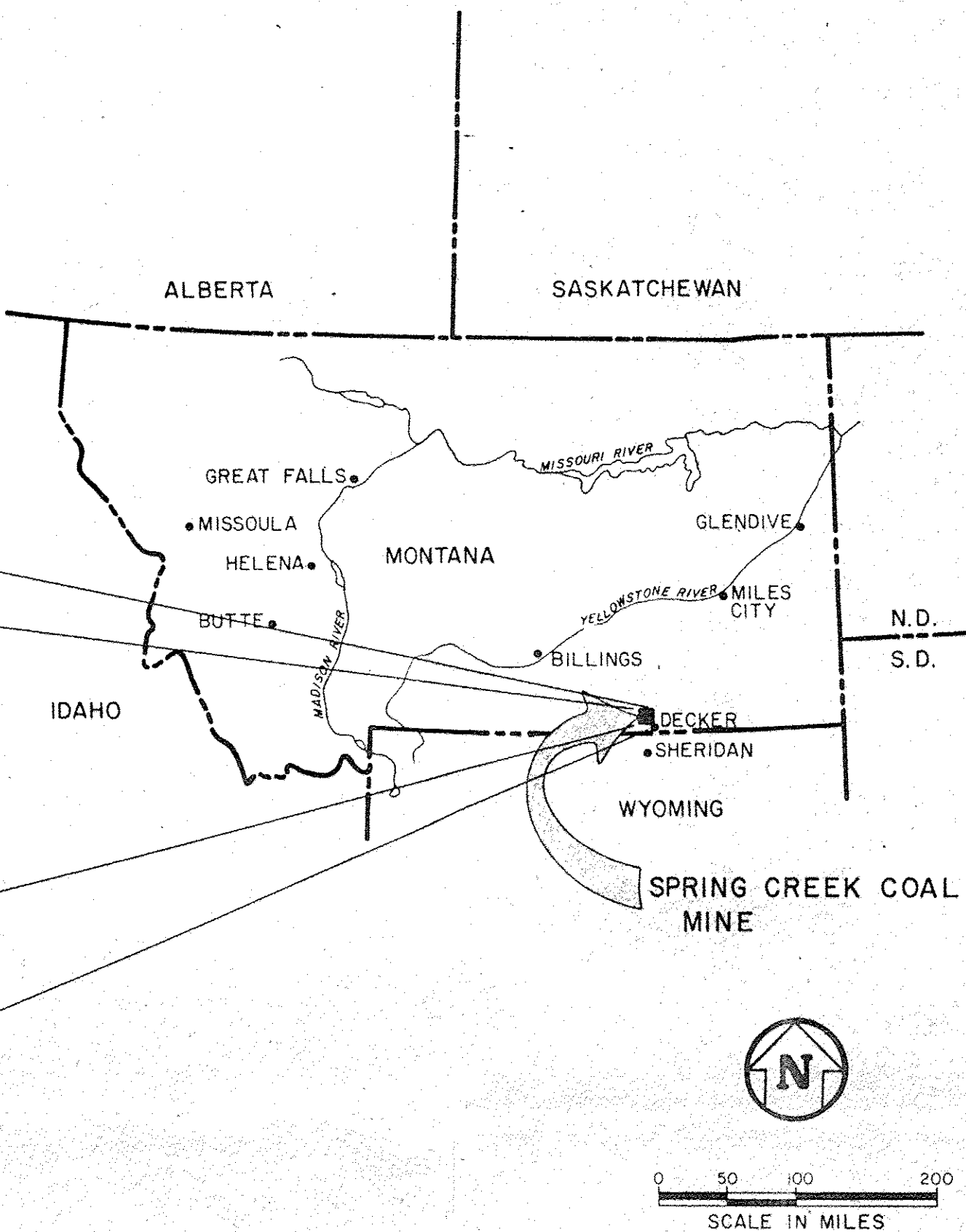
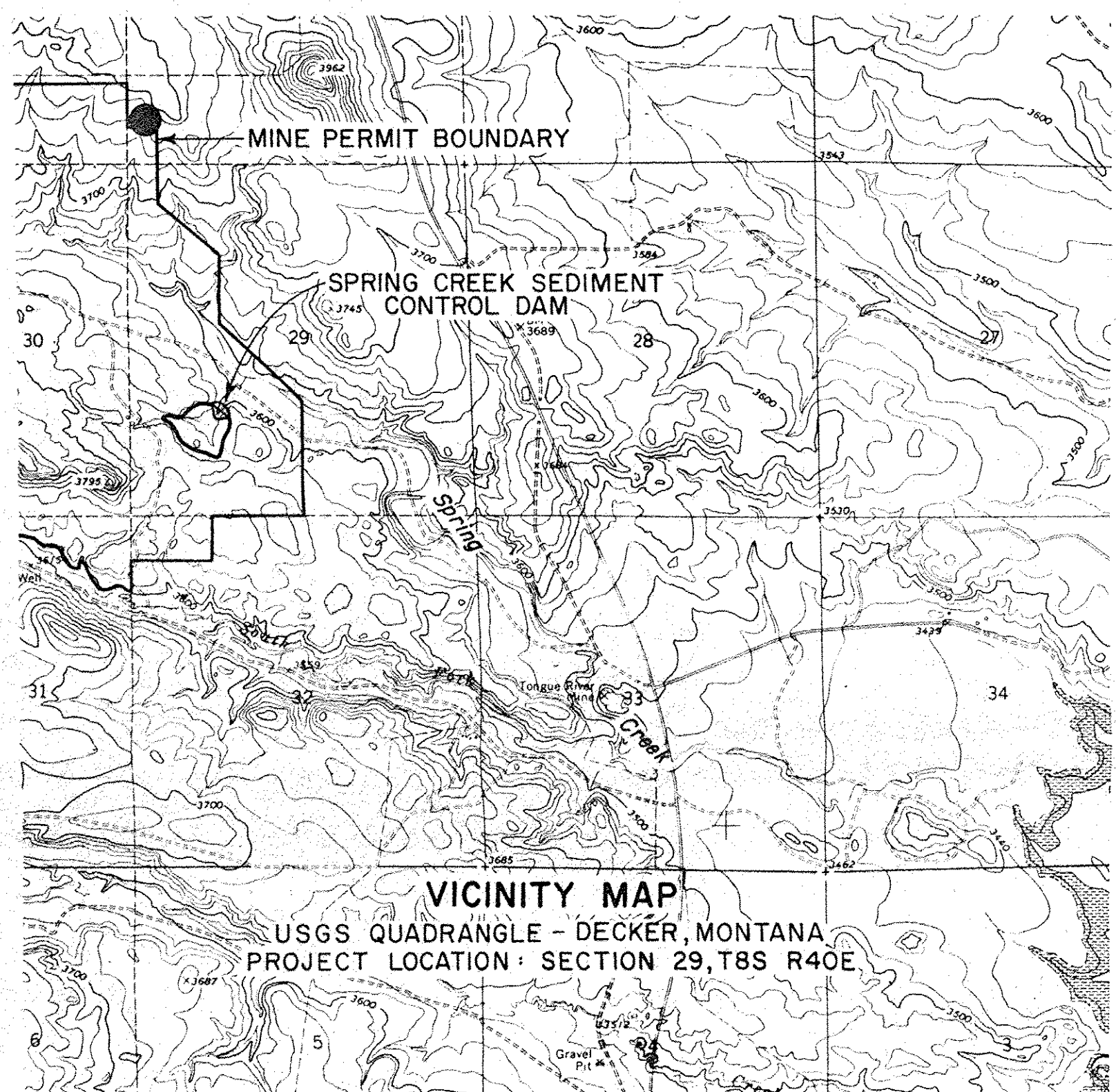


SPRING CREEK SEDIMENT CONTROL DAM

NEAR DECKER, MONTANA
SPRING CREEK COAL COMPANY
Big Horn County, Montana

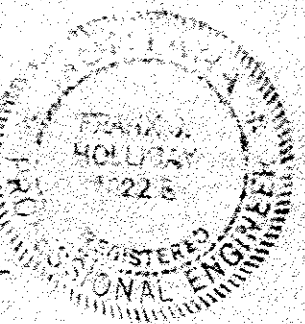
MSHA DESIGNATION
SPRING CREEK MINE No. 24-01457
SEDIMENT CONTROL DAM No. 1211-MT-9-0002



INDEX OF DRAWINGS

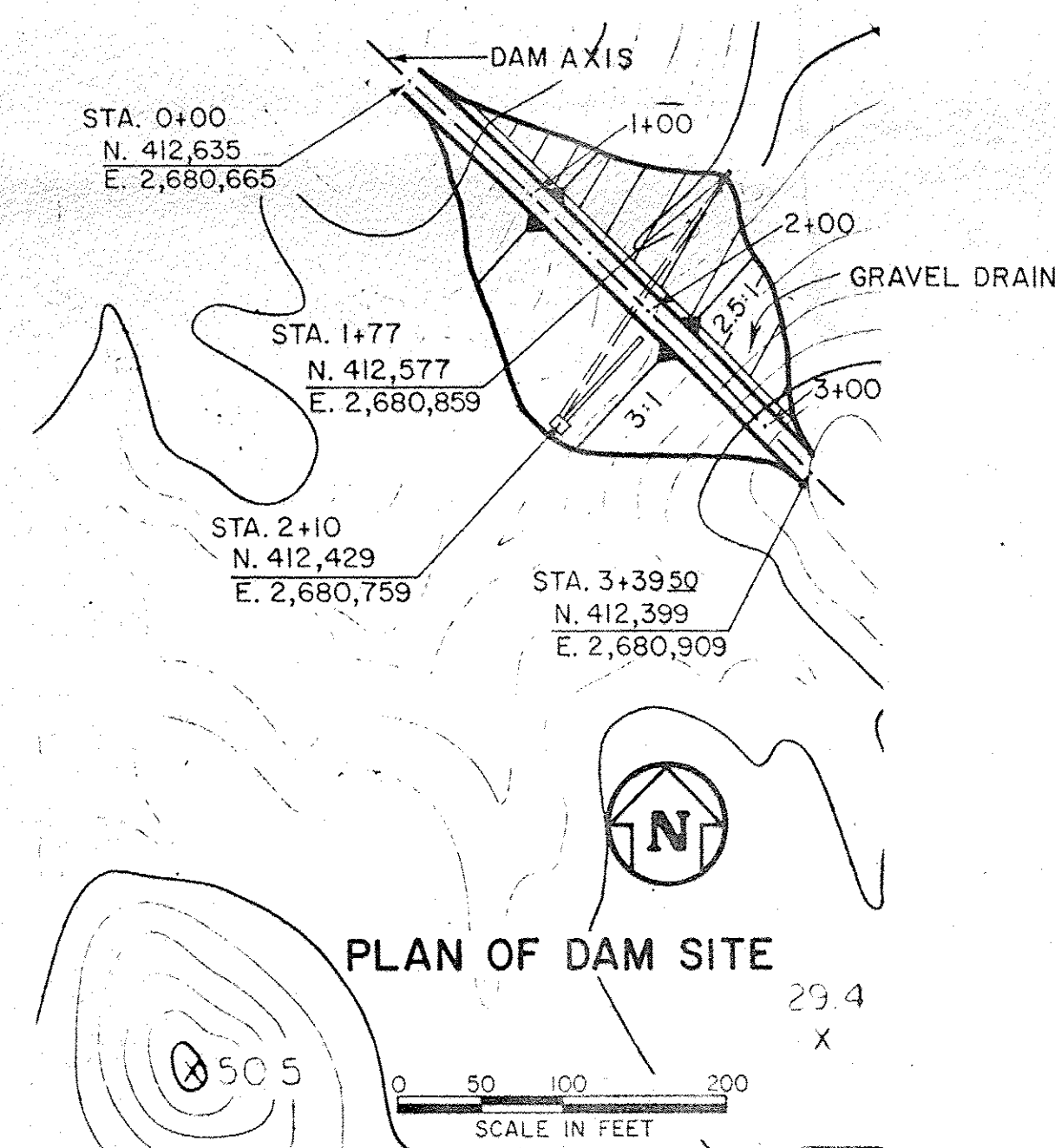
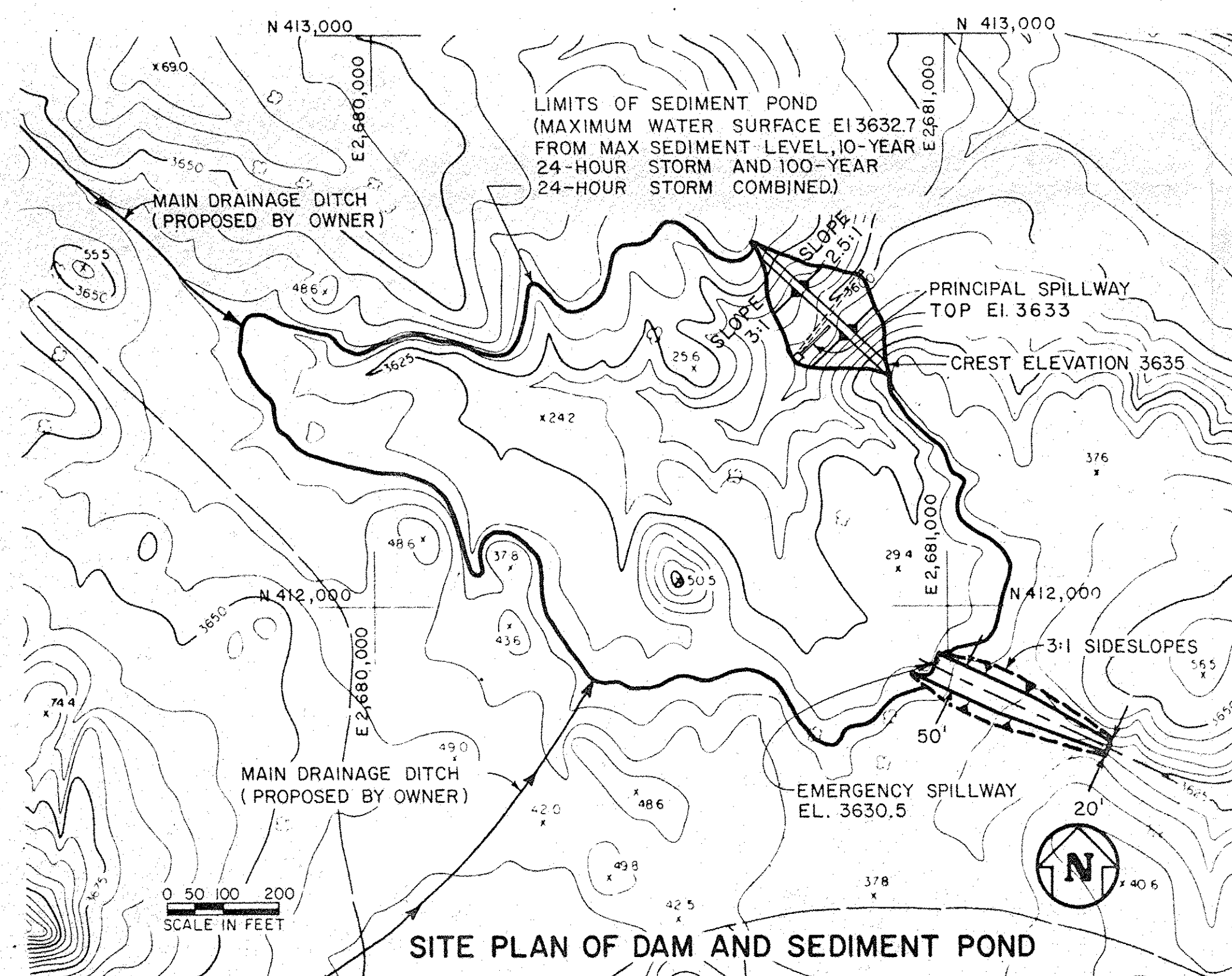
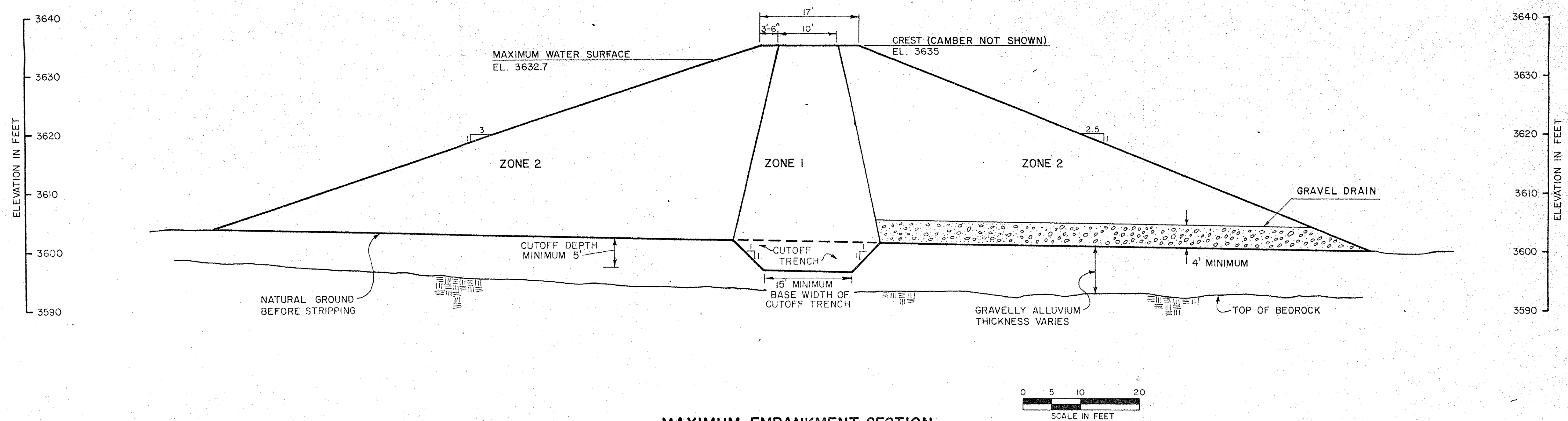
DRAWING NO.	TITLE
1 OF 5	LOCATION MAP AND FILING SHEET
2 OF 5	SITE PLANS AND MAXIMUM EMBANKMENT SECTION
3 OF 5	PROFILE ALONG DAM AXIS, EMERGENCY SPILLWAY DETAILS, INSTRUMENTATION DETAILS AND ELEVATION - CAPACITY CURVE
4 OF 5	PRINCIPLE SPILLWAY WITH STRUCTURAL DETAILS
5 OF 5	OUTLET STRUCTURE WITH STRUCTURAL DETAILS

CERTIFICATION
AS OWNERS THEREOF, WE HEREBY ACCEPT AND APPROVE THESE PLANS FOR THE CONSTRUCTION OF THE SEDIMENT CONTROL DAM.
BY A. Franklin
SPRING CREEK COAL COMPANY
111 SW COLUMBIA AVENUE SUITE 800
PORTLAND, OREGON 97201
CLAIMANT
I HEREBY CERTIFY THAT THESE PLANS FOR THE CONSTRUCTION OF THE SEDIMENT CONTROL DAM WERE PREPARED BY ME (OR UNDER MY DIRECT SUPERVISION) FOR THE OWNERS THEREOF.
Jack J. Sullivan
REGISTERED ENGINEER SEAL
SUBSCRIBED AND SWORN TO BEFORE ME THIS 13TH DAY OF FEBRUARY, 19 80
Don T. Smith
NOTARY PUBLIC SEAL
MY COMMISSION EXPIRES ON THE 27th DAY OF MARCH, 19 82



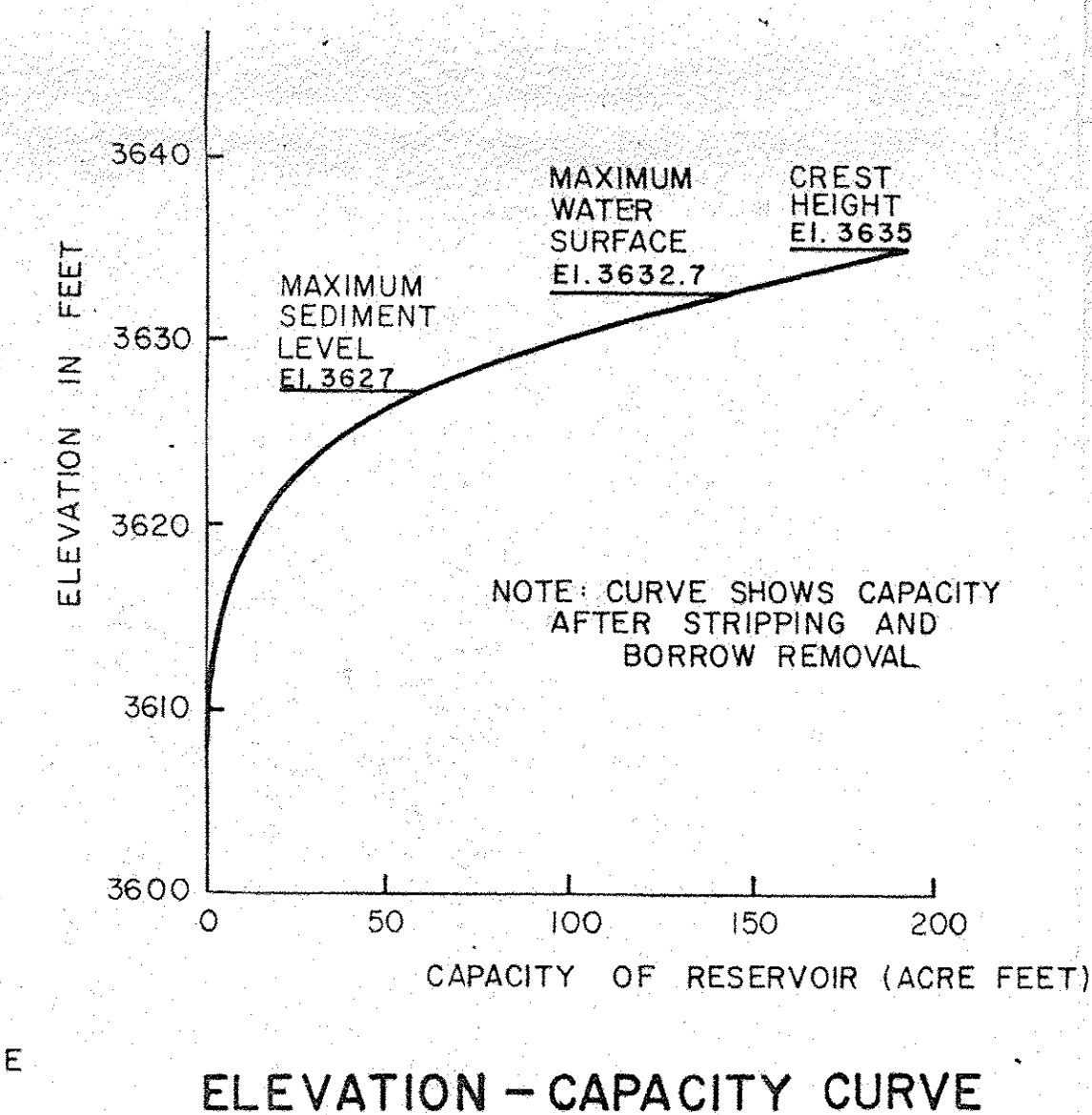
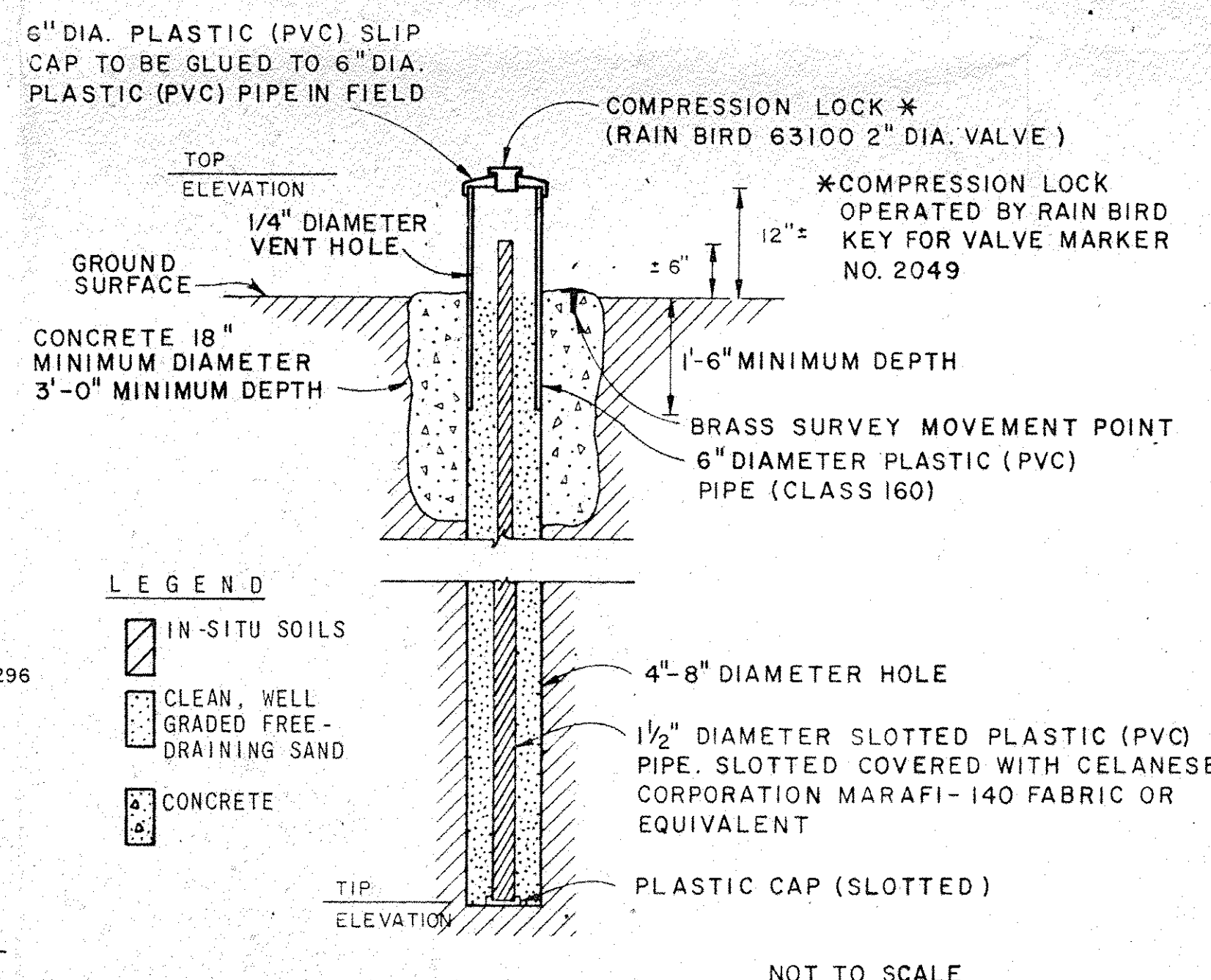
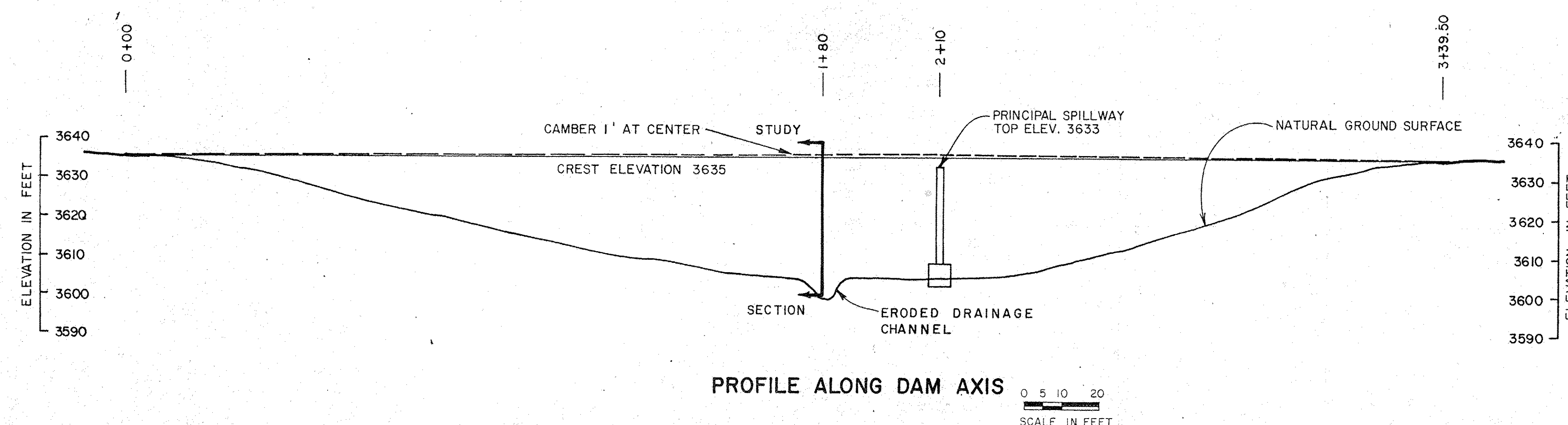
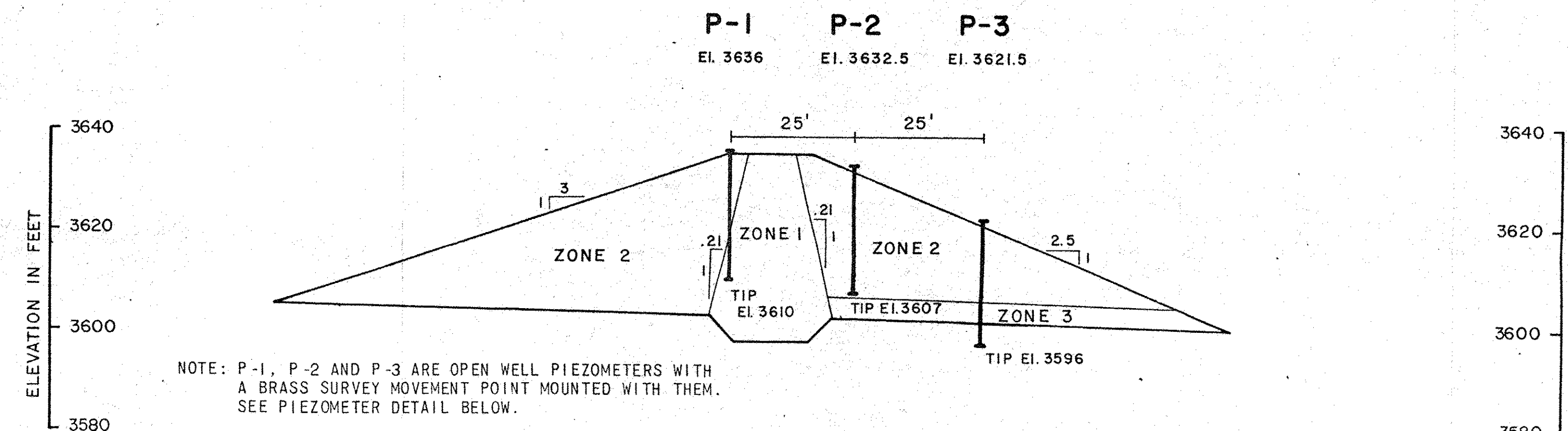
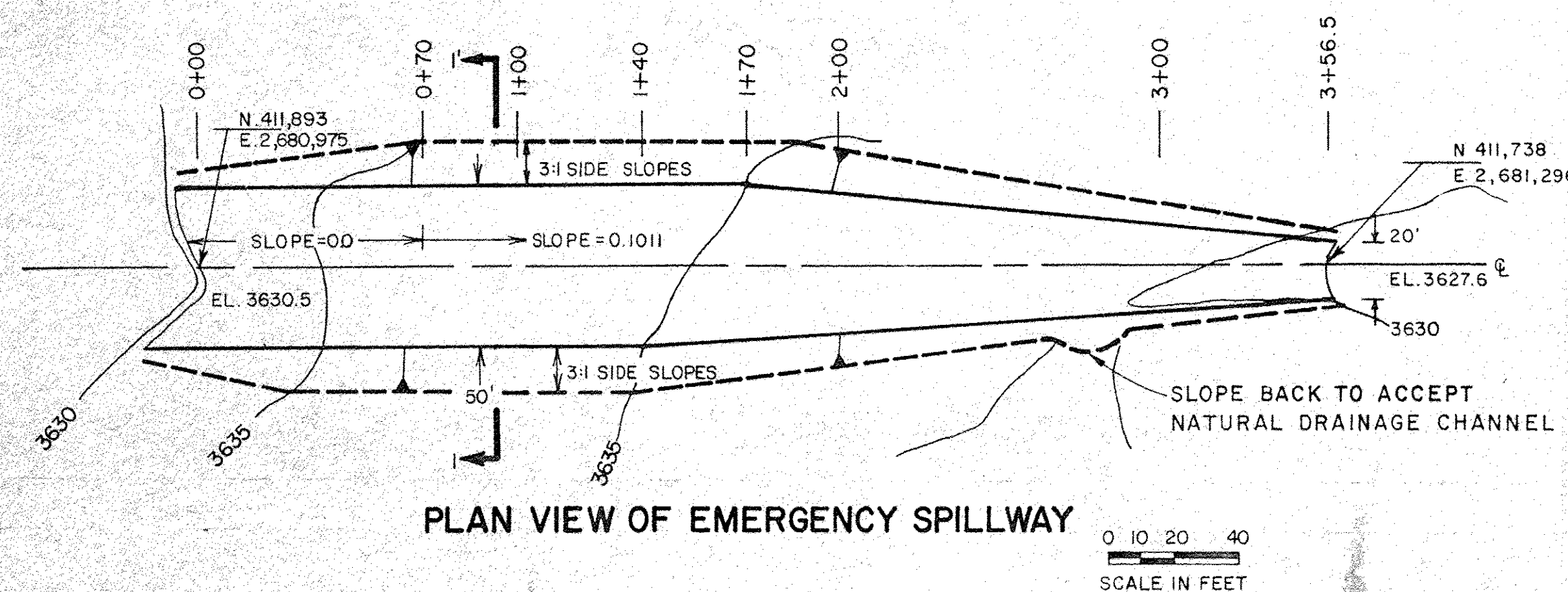
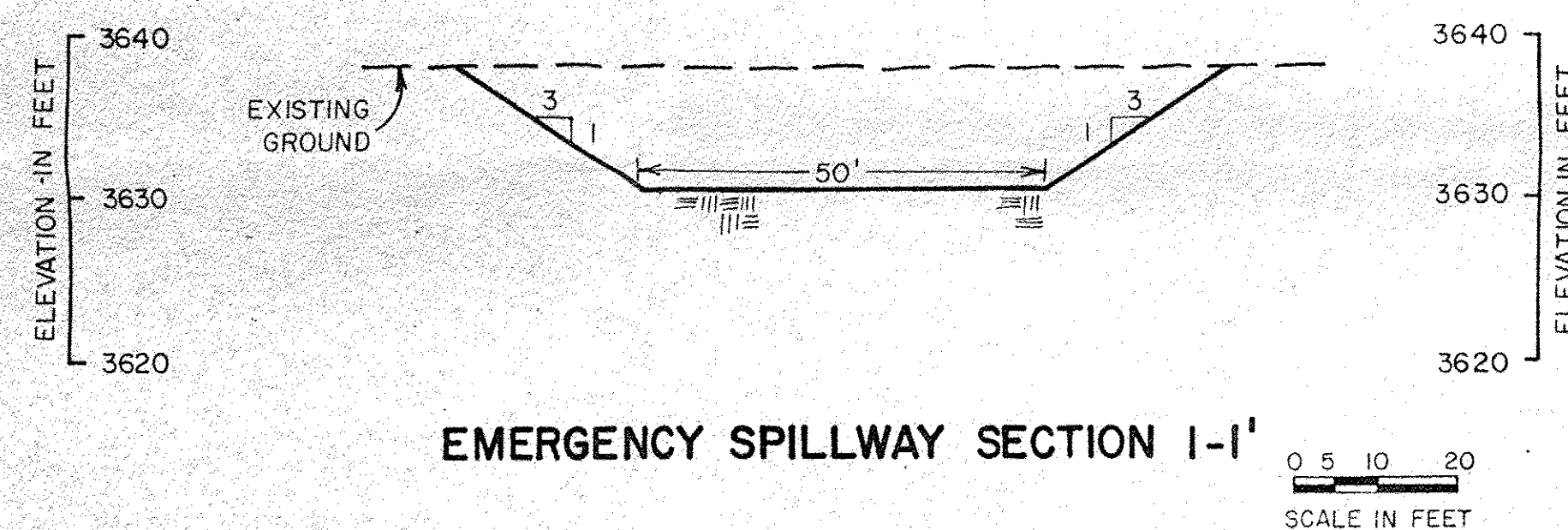
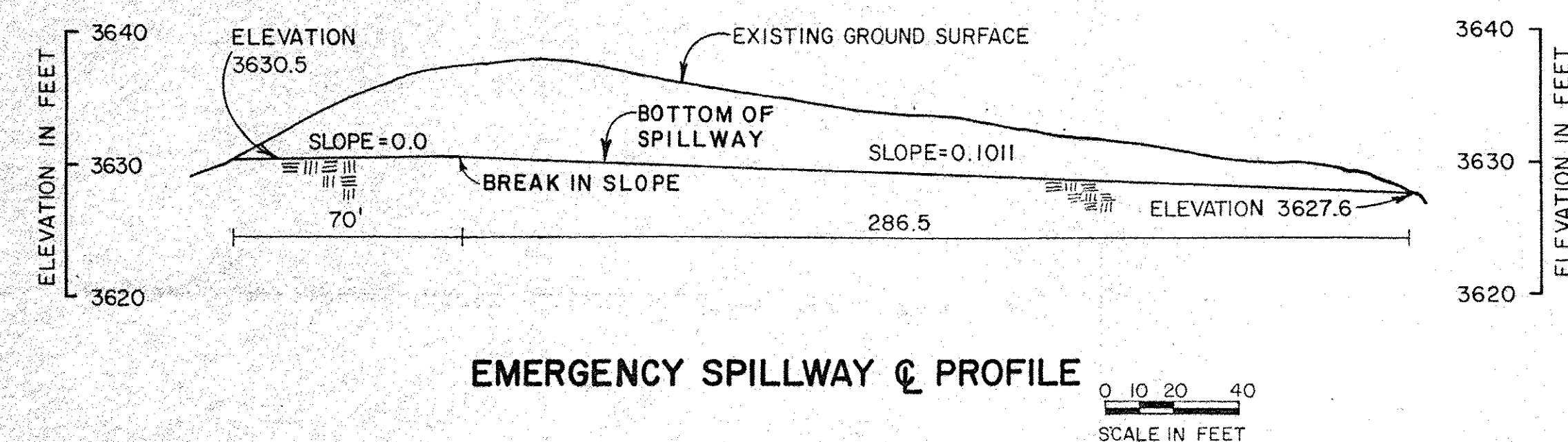
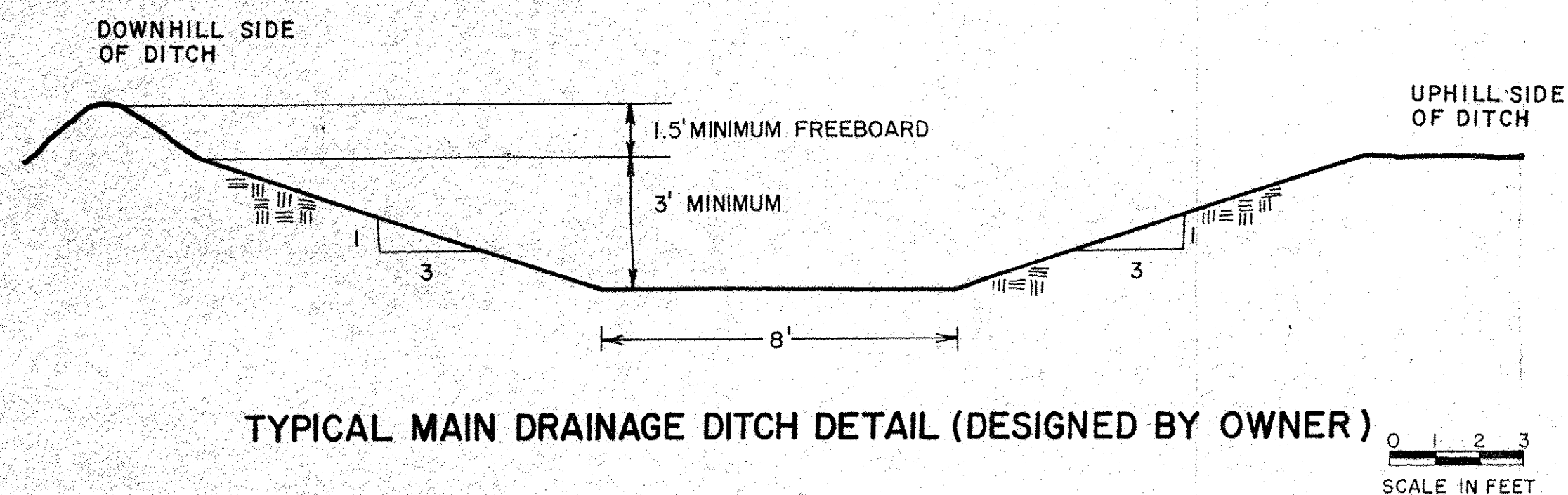
WOODWARD - CLYDE CONSULTANTS
DENVER, COLORADO

Plans #1
PLANS FOR
CONSTRUCTION OF SEDIMENT CONTROL DAM,
SPRING CREEK COAL MINE
BIG HORN COUNTY, MONTANA
1 OF 5



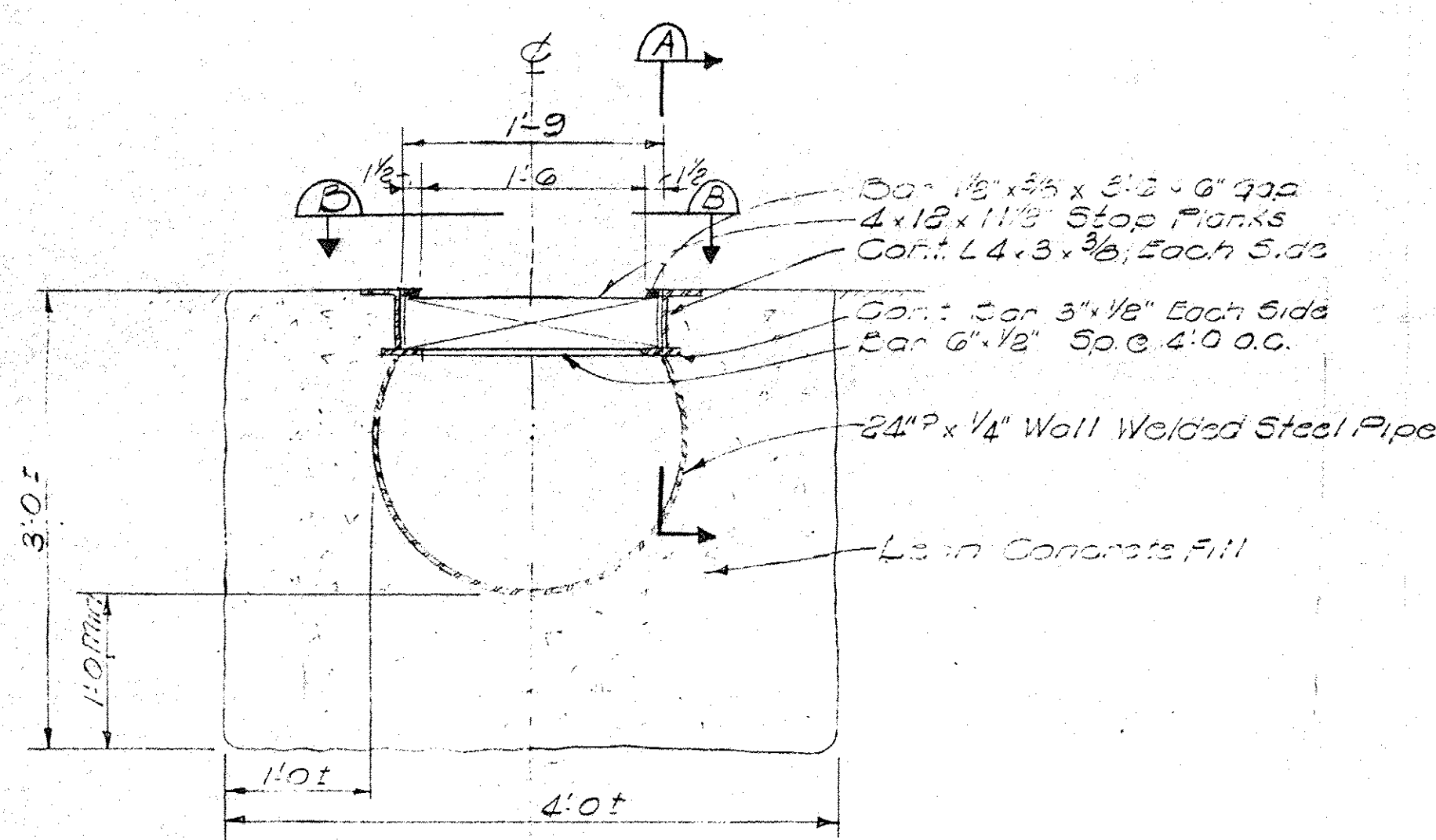
LEGEND		
ZONE	MATERIAL	PLACEMENT
1	INORGANIC CLAYS, SILTS, SILTY AND CLAYEY SANDS, SILTY AND CLAYEY GRAVELS, MAXIMUM SIZE 6" AND A MINIMUM OF 15% FINES PASSING THE NO. 200 SIEVE.	PLACED IN 8-INCH MAXIMUM LOOSE LIFTS AND COMPACTED TO 100% ASTM D-698. THE MOISTURE CONTENT SHOULD BE BETWEEN 1% BELOW OPTIMUM AND A MOISTURE CONTENT THAT WILL PERMIT HAULING, PLACEMENT AND COMPACTION WITHOUT EXCESSIVE DEFORMATION OF THE FILL.
2	SOILS OR BEDROCK THAT WILL BREAK DOWN INTO SIZES NO GREATER THAN 12".	PLACED IN 15-INCH MAXIMUM LOOSE LIFTS AND COMPACTED WITH 6 TREAD COVERAGES OF A CATERPILLAR MODEL D-9 TRACTOR. MOISTURE CONTENT WILL BE THE SAME AS ZONE 1.
GRAVEL DRAIN	A MAXIMUM SIZE OF 6" AND A MAXIMUM OF 5% FINES PASSING THE NO. 200 SIEVE.	PLACED IN 12-INCH MAXIMUM LOOSE LIFTS AND COMPACTED WITH AT LEAST 2 TREAD COVERAGES OF A CATERPILLAR MODEL D-9 TRACTOR.

DRAWN BY: _____		DATE: _____		CHECKED BY: _____		DATE: _____	
AS CONSTRUCTED - CORRECTIONS COMPLETE							
BY: _____ DATE: _____							
REVISIONS							
NO.	DESCRIPTION	DATE	BY				
SITE PLANS AND MAXIMUM EMBANKMENT SECTION WOODWARD - CLYDE CONSULTANTS Consulting Engineers Denver, Colorado							
						DRAWING NO.	OF
						2	5

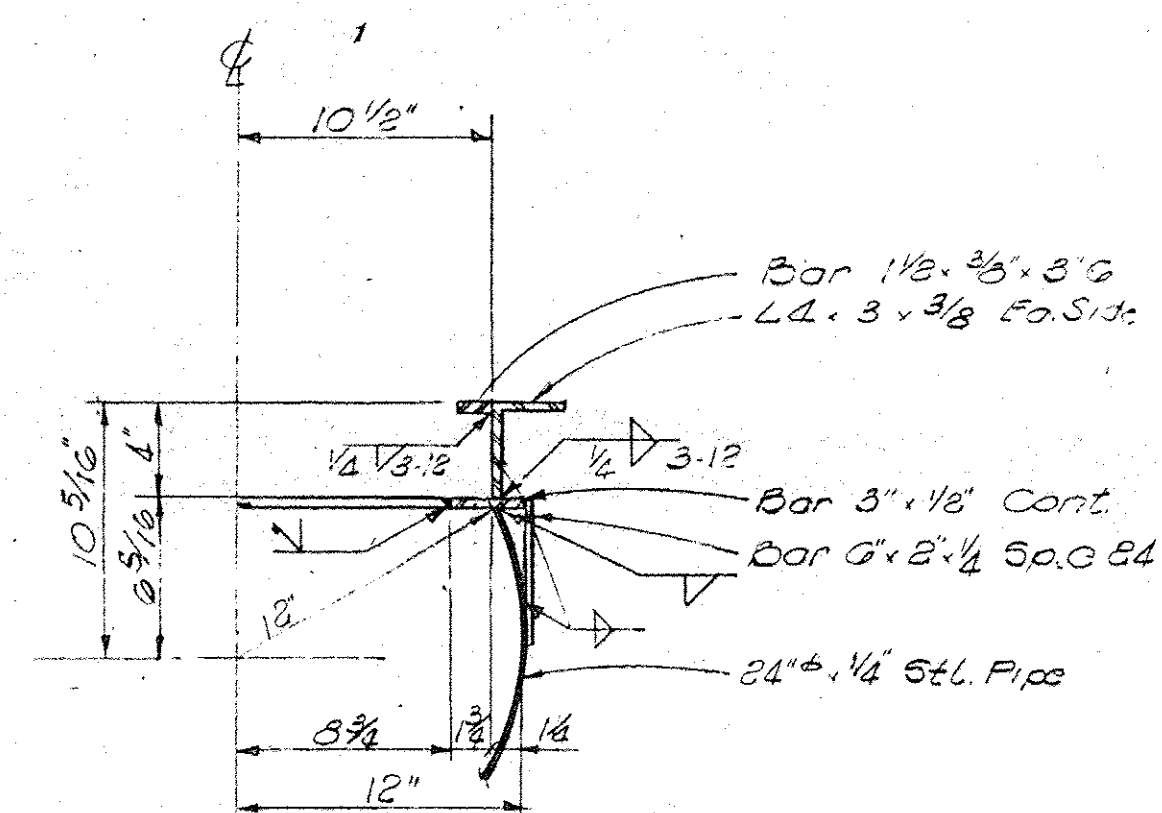


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AS CONSTRUCTED - CORRECTIONS COMPLETE			
BY:	DATE	REVISIONS	
NO.	DESCRIPTION	DATE	BY

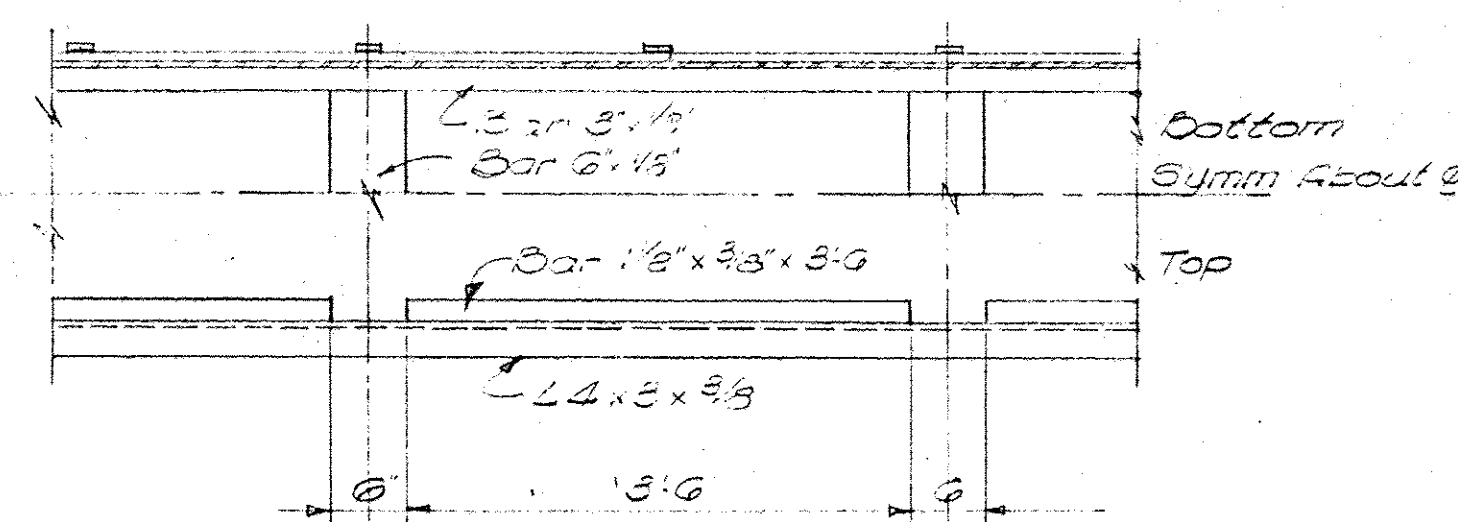
PROFILE ALONG DAM AXIS, EMERGENCY SPILLWAY DETAILS, INSTRUMENTATION DETAILS AND ELEVATION CAPACITY CURVE			
WOODWARD - CLYDE CONSULTANTS Consulting Engineers Denver, Colorado			
DRAWING NO.	OF		
3	5		



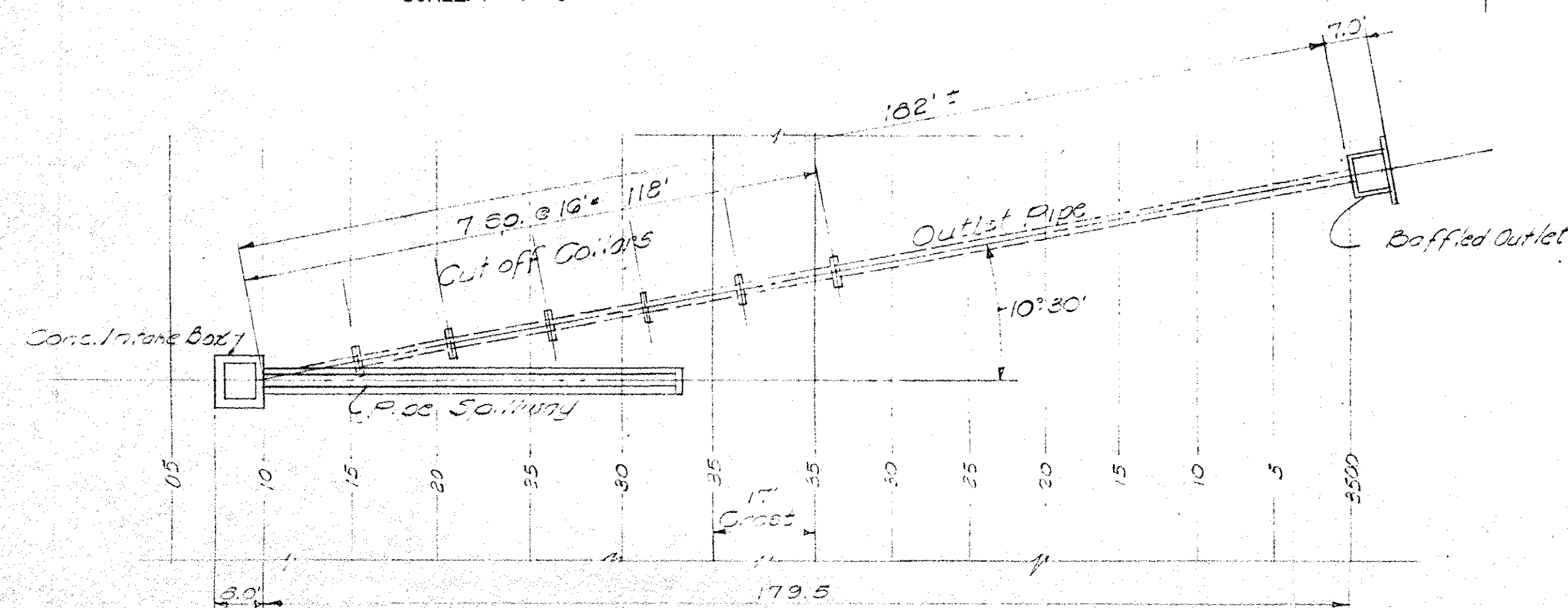
SPILLWAY SECTION
SCALE: 1" = 1'-0"



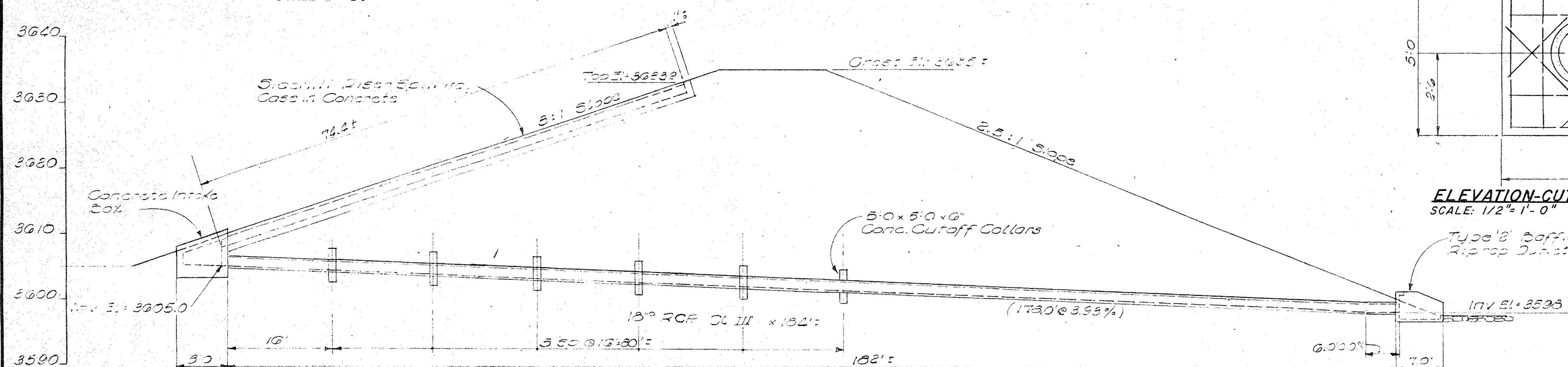
DETAIL (A)
SCALE: 1 1/2" = 1'-0"



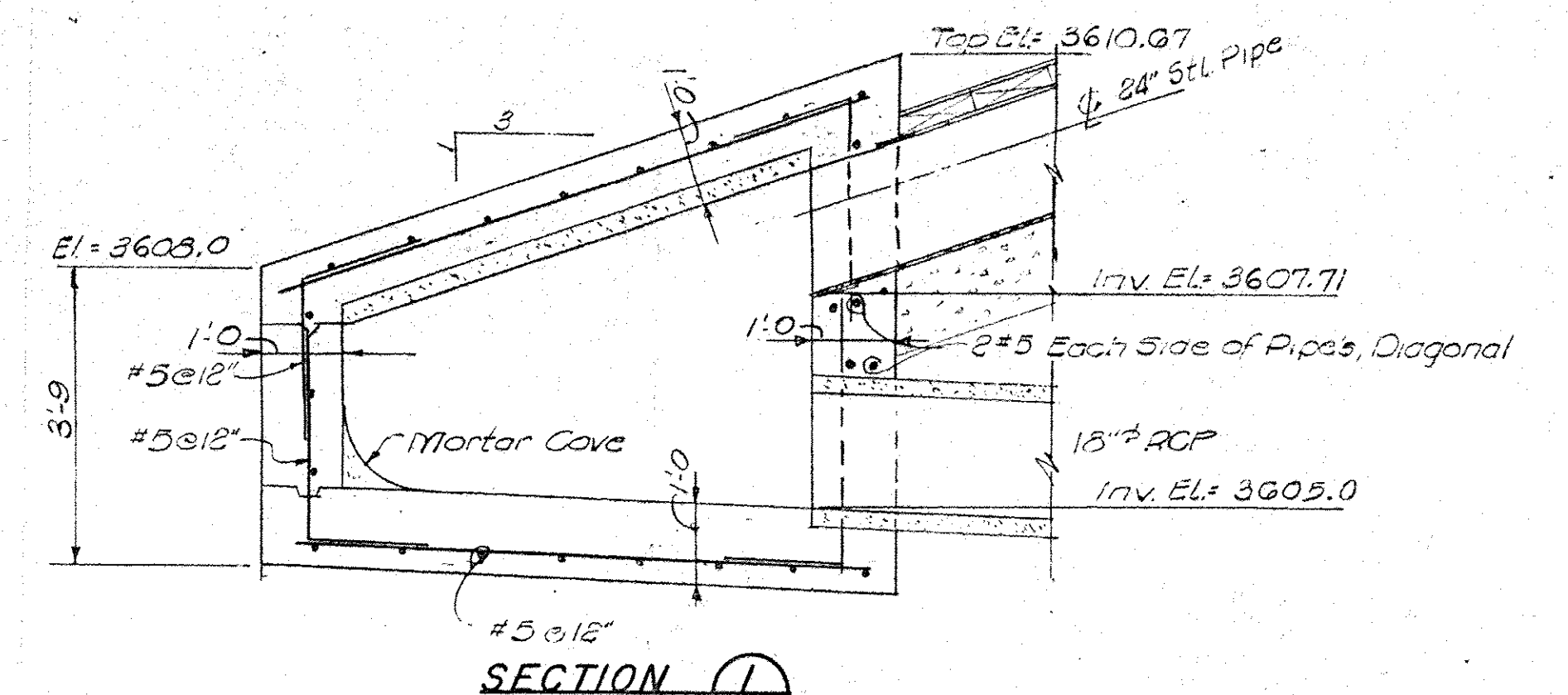
PARTIAL PLAN-DETAIL (B)
SCALE: 3/4" = 1'-0"



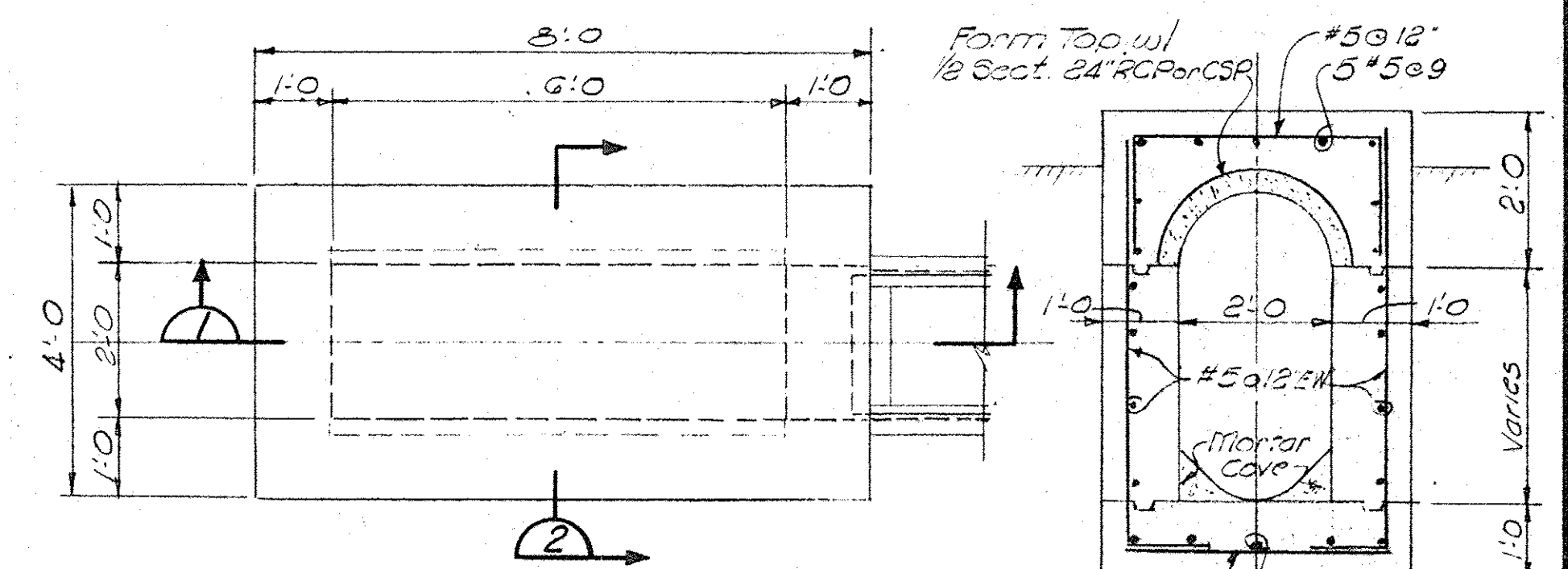
PARTIAL SITE PLAN
SCALE: 1" = 20'



SECTION-SPILLWAY & OUTLET PIPE
SCALE: 1" = 10'



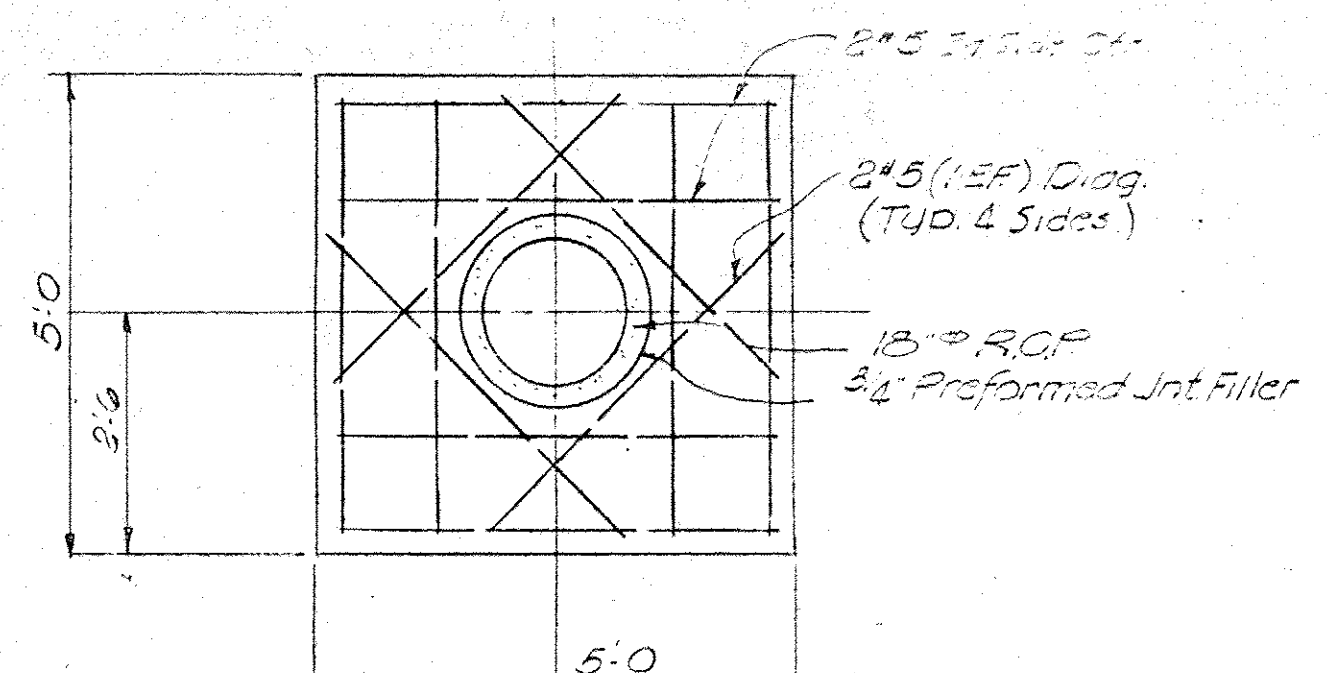
SECTION (1)



ROOF PLAN

SECTION (2)

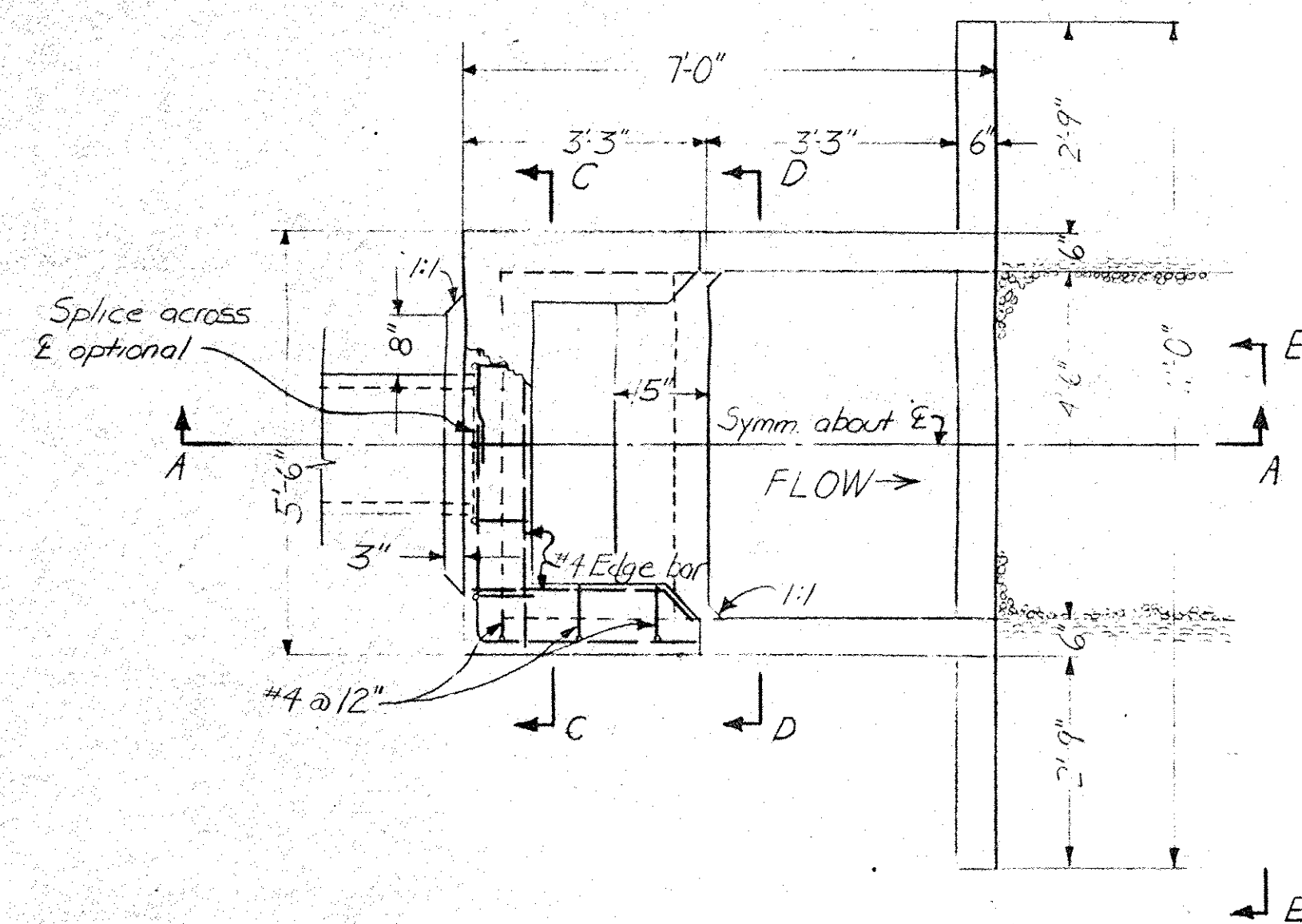
CONCRETE INTAKE BOX
SCALE: 1/2" = 1'-0"



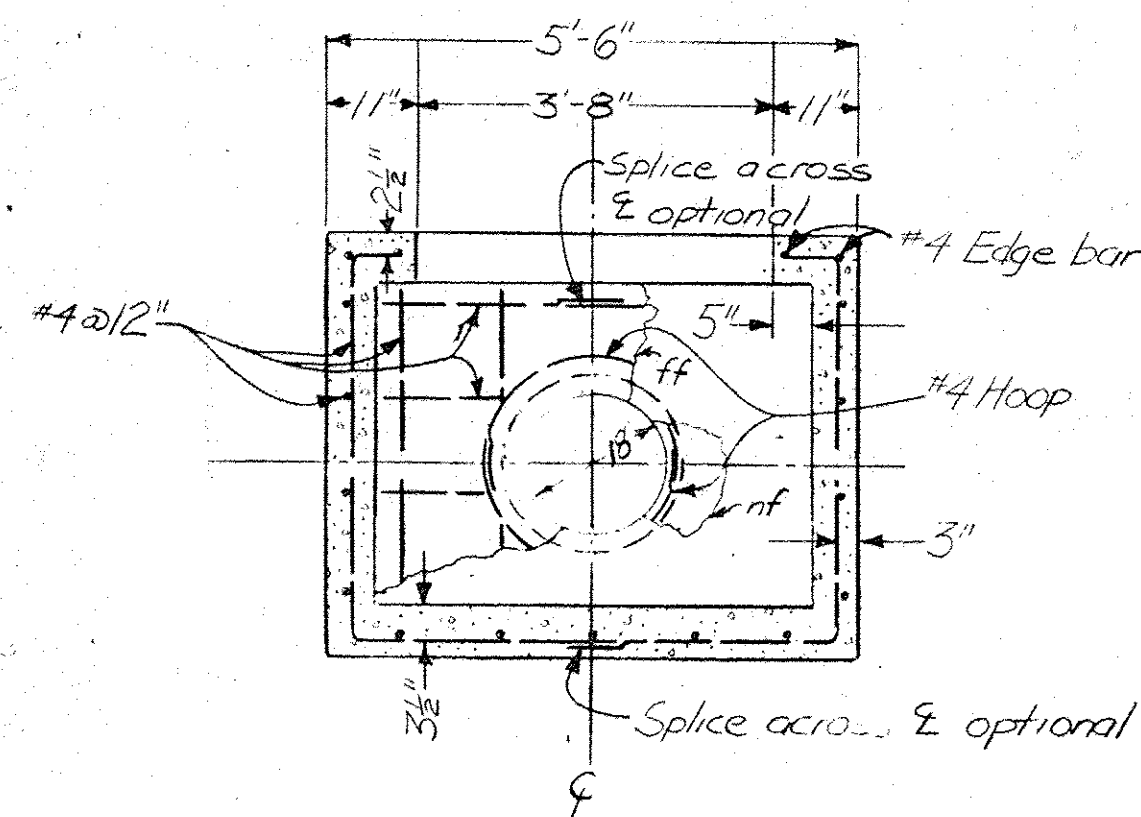
ELEVATION-CUTOFF COLLAR
SCALE: 1/2" = 1'-0"

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AS CONSTRUCTED — CORRECTIONS COMPLETE							
BY: _____		DATE: _____					
REVISIONS							
NO.	DESCRIPTION			DATE	BY		

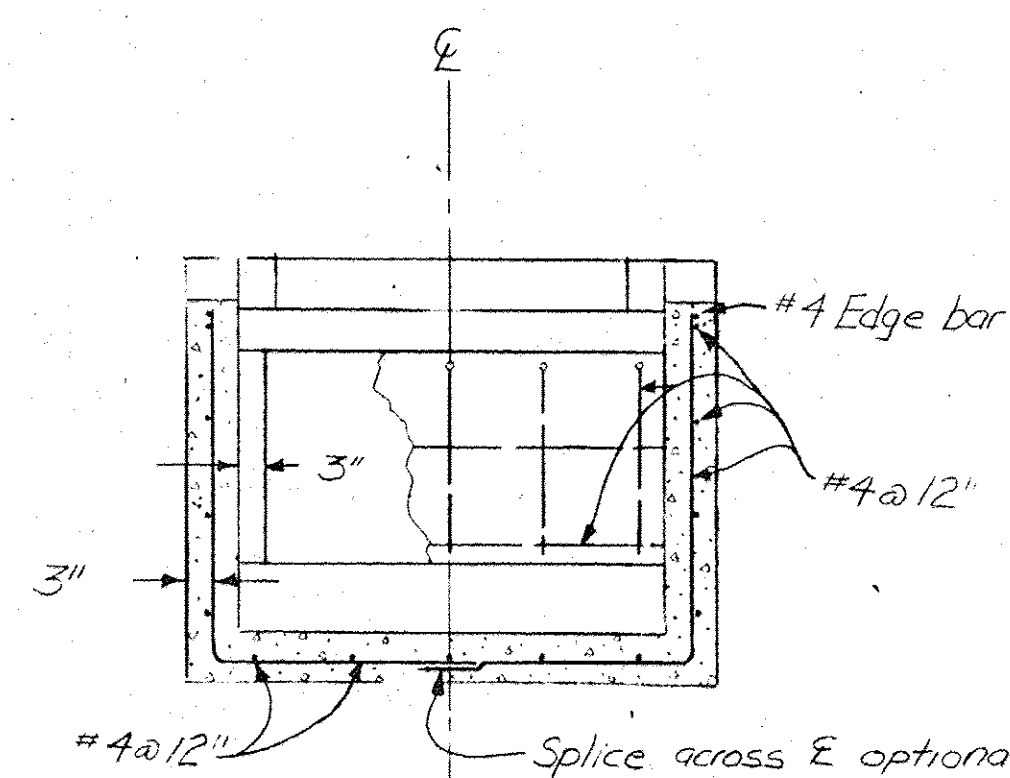
PRINCIPAL SPILLWAY WITH STRUCTURAL DETAILS			
WOODWARD — CLYDE CONSULTANTS			
Consulting Engineers			Denver, Colorado
DRAWING NO.			OF
4			5



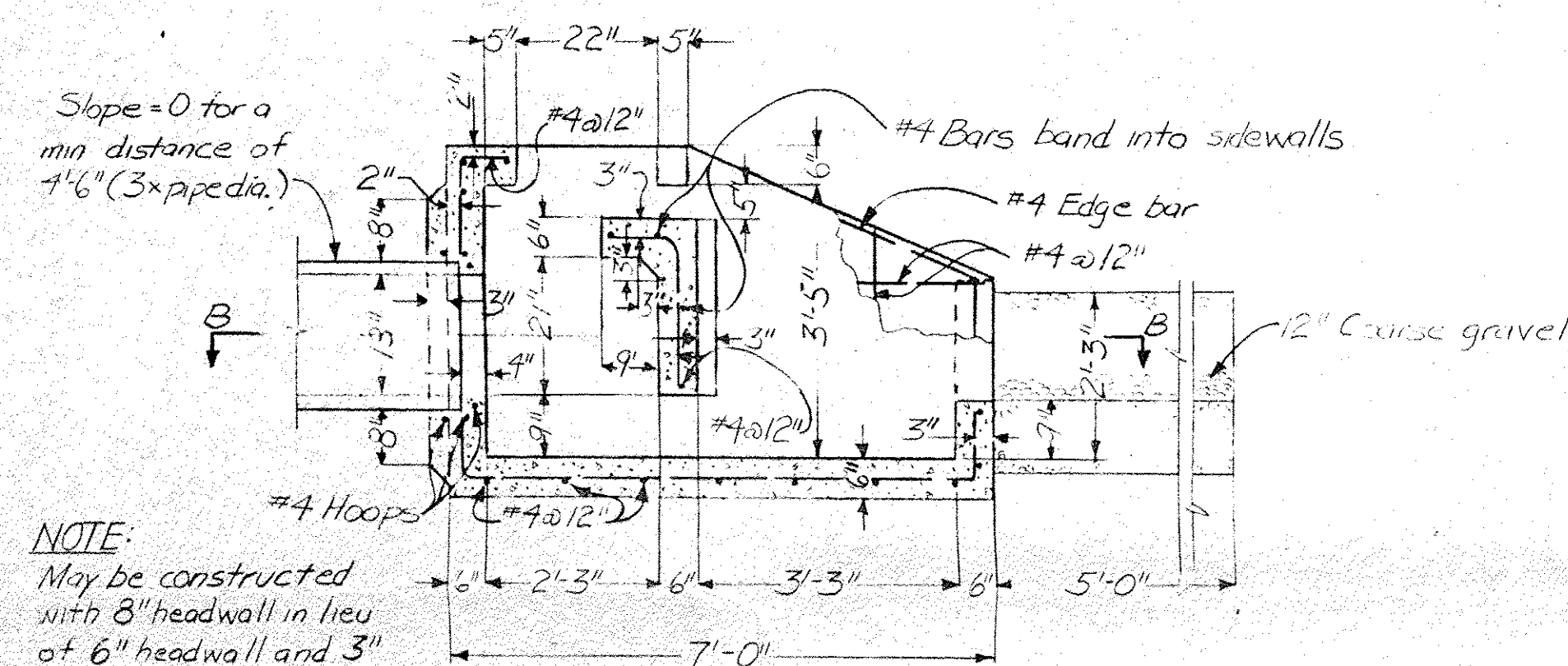
PLAN OF OUTLET STRUCTURE



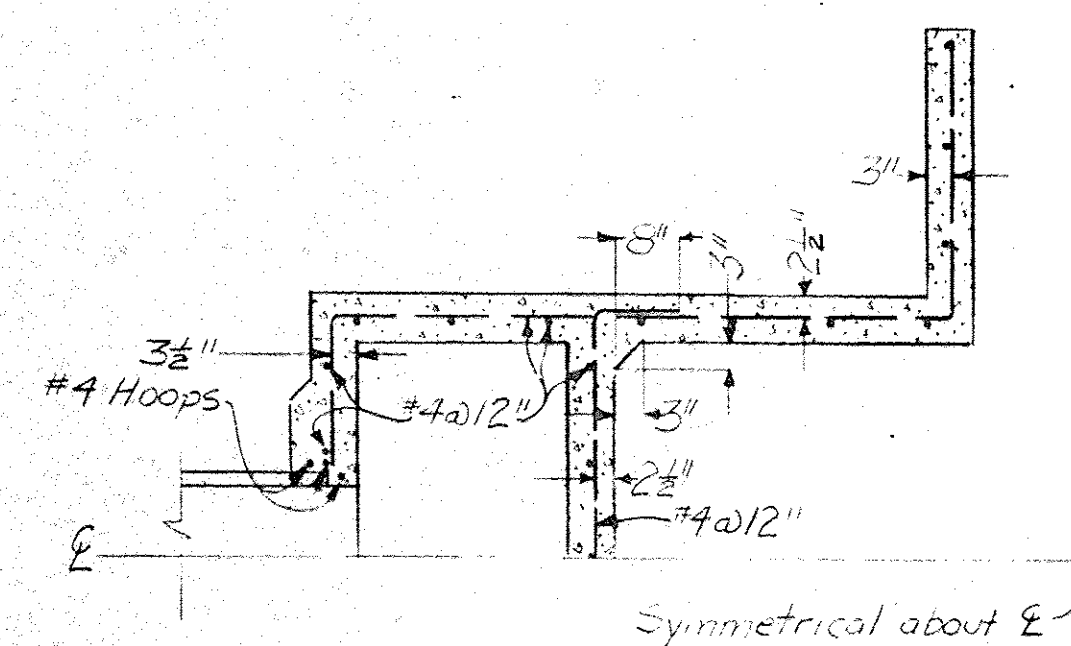
SECTION C-C



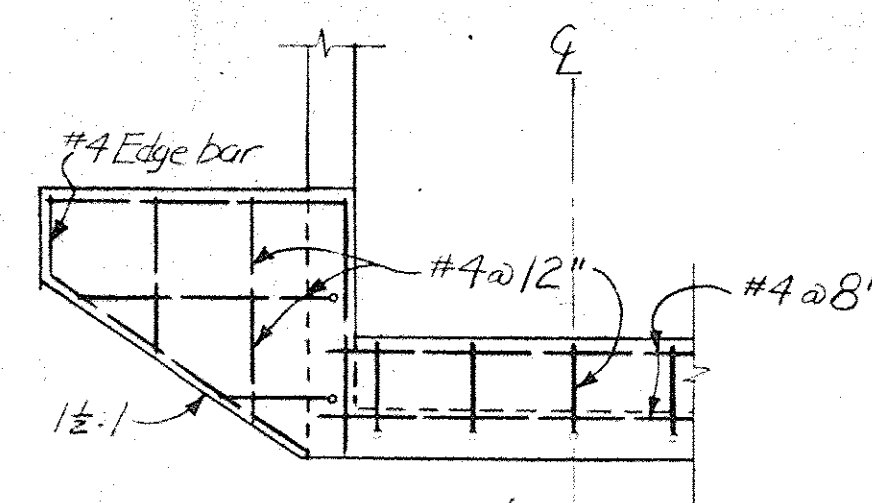
SECTION D-D



SECTION A-A



SECTION B-B



ELEVATION E-E

GENERAL NOTES

- Concrete for Inlet Structure and Baffled Outlet Structure shall develop a compressive strength of 4000 psi at 28 days. Air Entrain 6%±1%. Lean concrete fill shall develop a compressive strength of 1000 psi at 28 days.
- Structural steel shall conform to ASTM A-36. Shop paint steel with primer. Field paint with asphalt or coal tar enamel. Steel pipe shall be welded. Joint in pipe shall be field welded.
- Wood stop planks shall be Douglas Fir Tongue and groove tank stock per West Coast Lumber Inspection Bureau Spec. 167-B. Use only material without splits.
- All reinforcing steel for concrete shall conform to ASTM Standard Specification A615 and shall be Grade 40 or better. Minimum cover requirements shall be in all cases 2 1/2" when cast against earth and 1 1/2" when cast against forms.

SCALE: 1/2" = 1'-0"

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AS CONSTRUCTED — CORRECTIONS COMPLETE							
BY: _____		DATE: _____					
R E V I S I O N S							
NO.		DESCRIPTION				DATE	BY