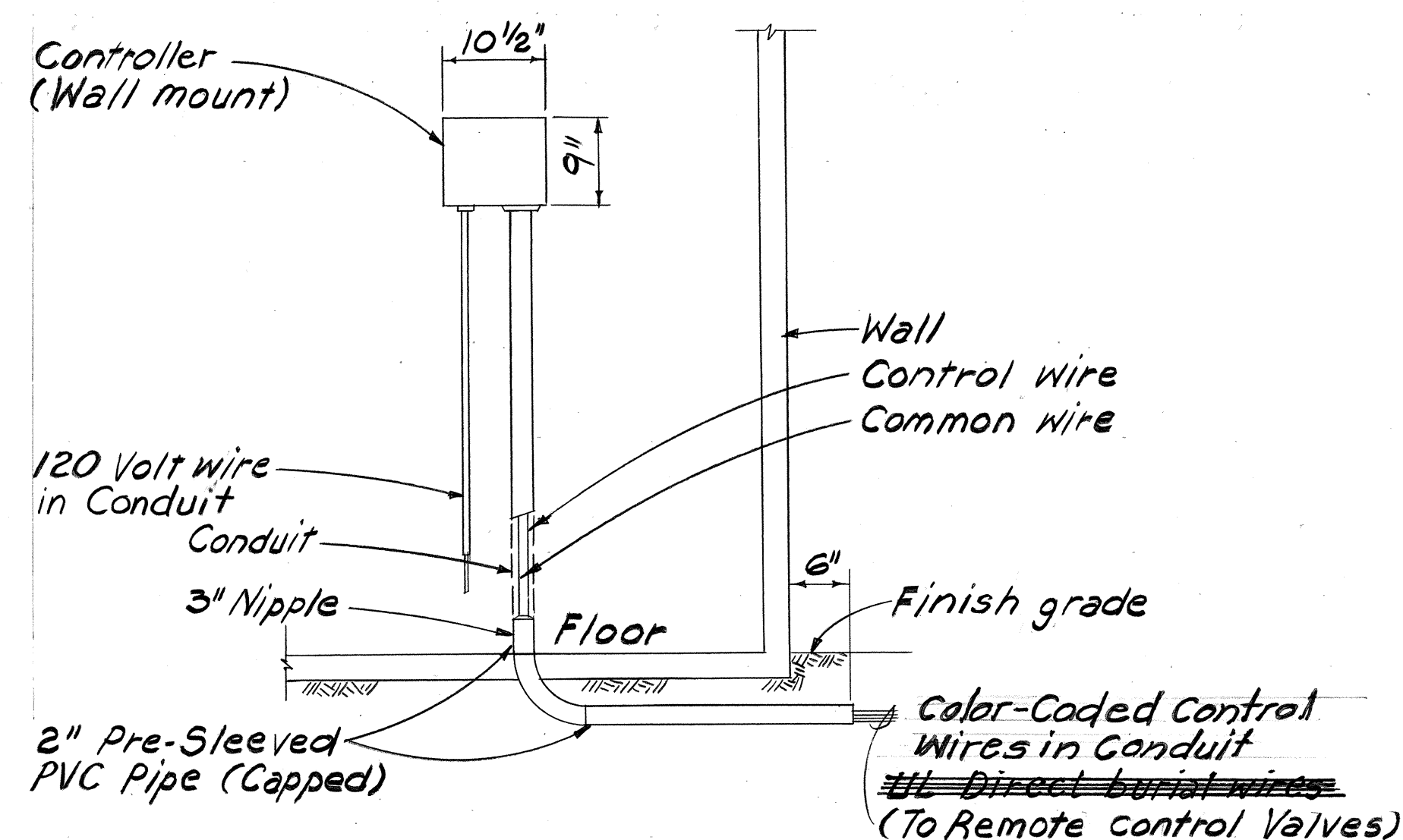
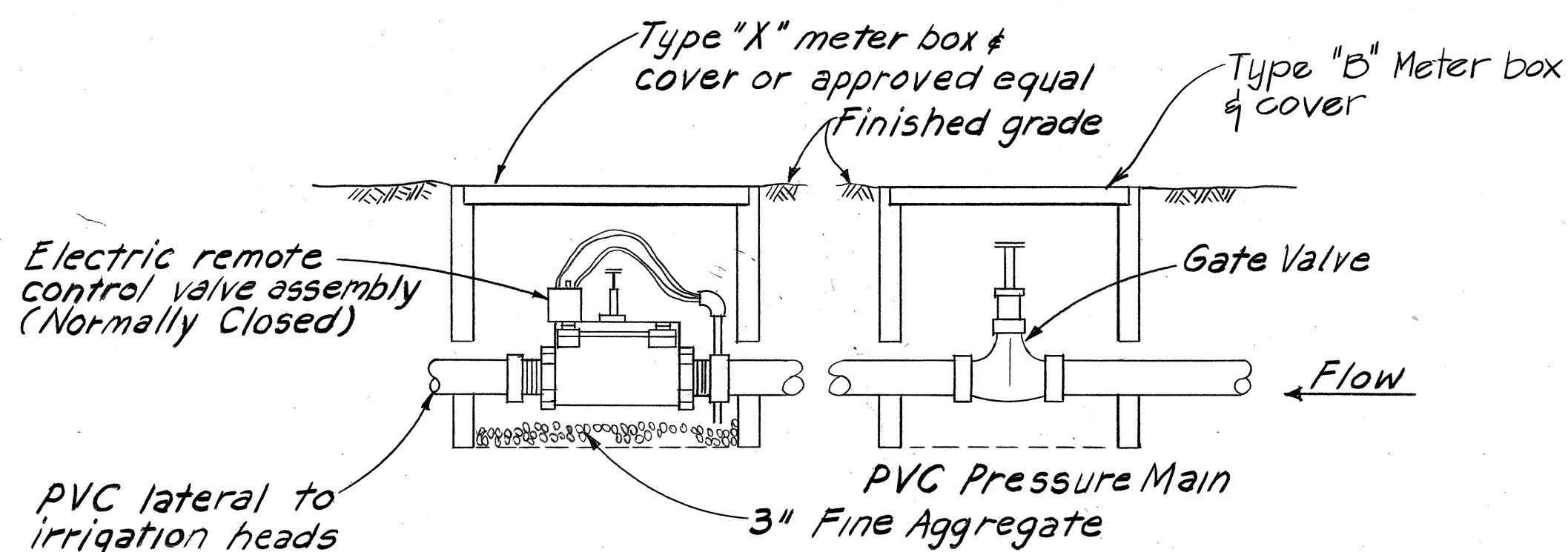


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1 (203)	1987	49	87

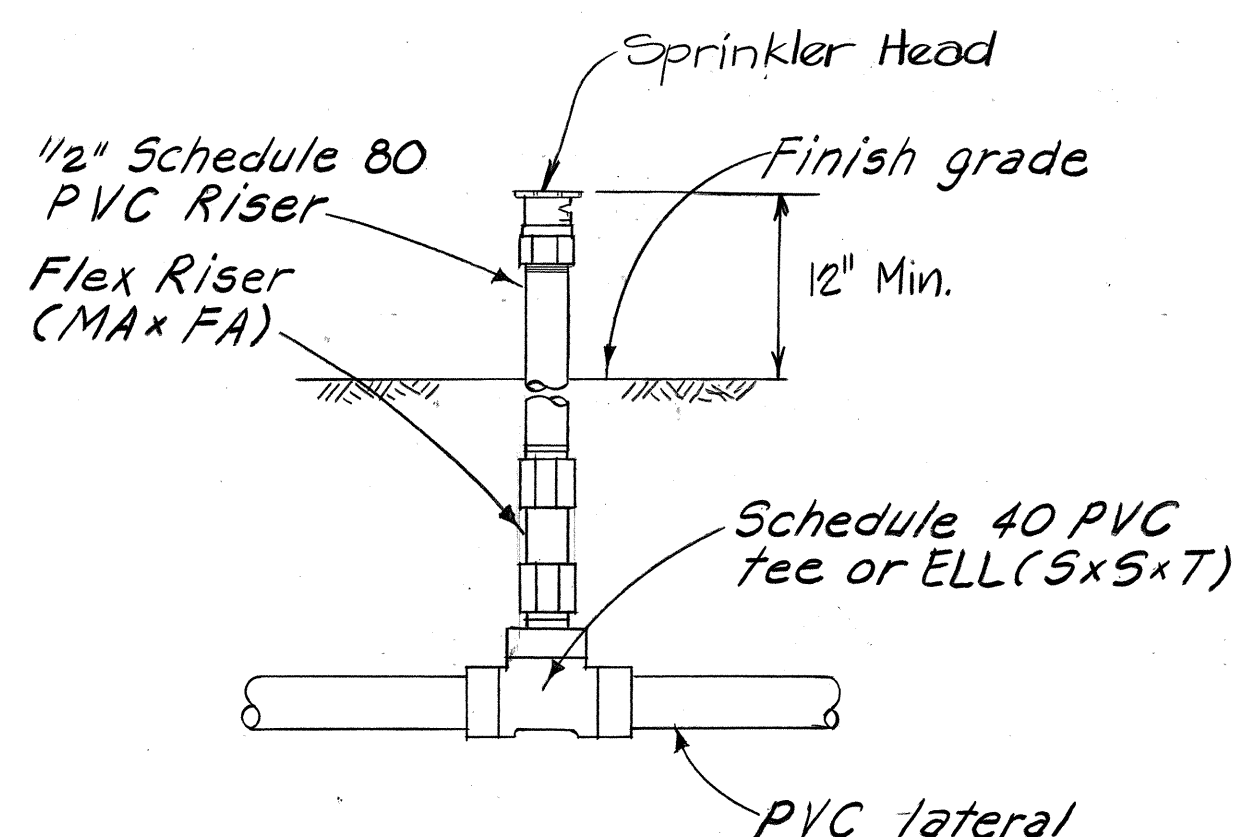


CONTROLLER DETAIL
Not to Scale

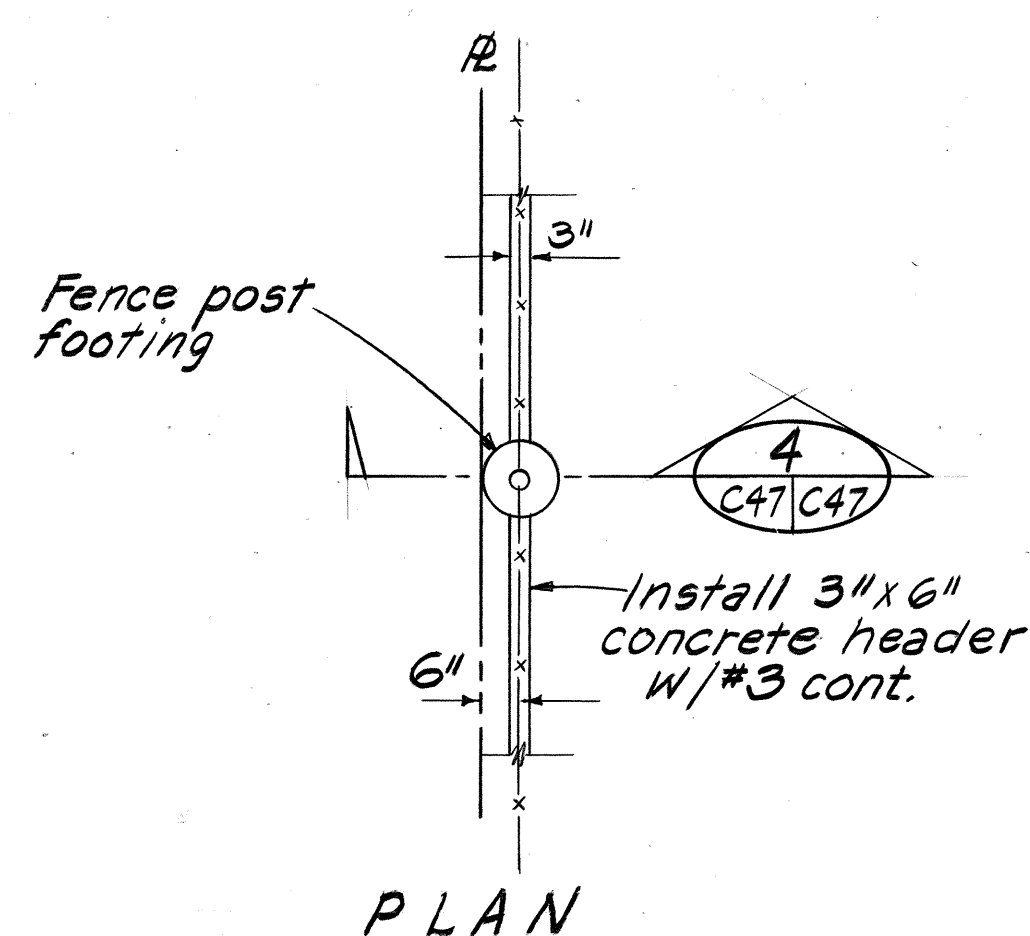


ELECTRIC REMOTE CONTROL VALVE
Not to Scale

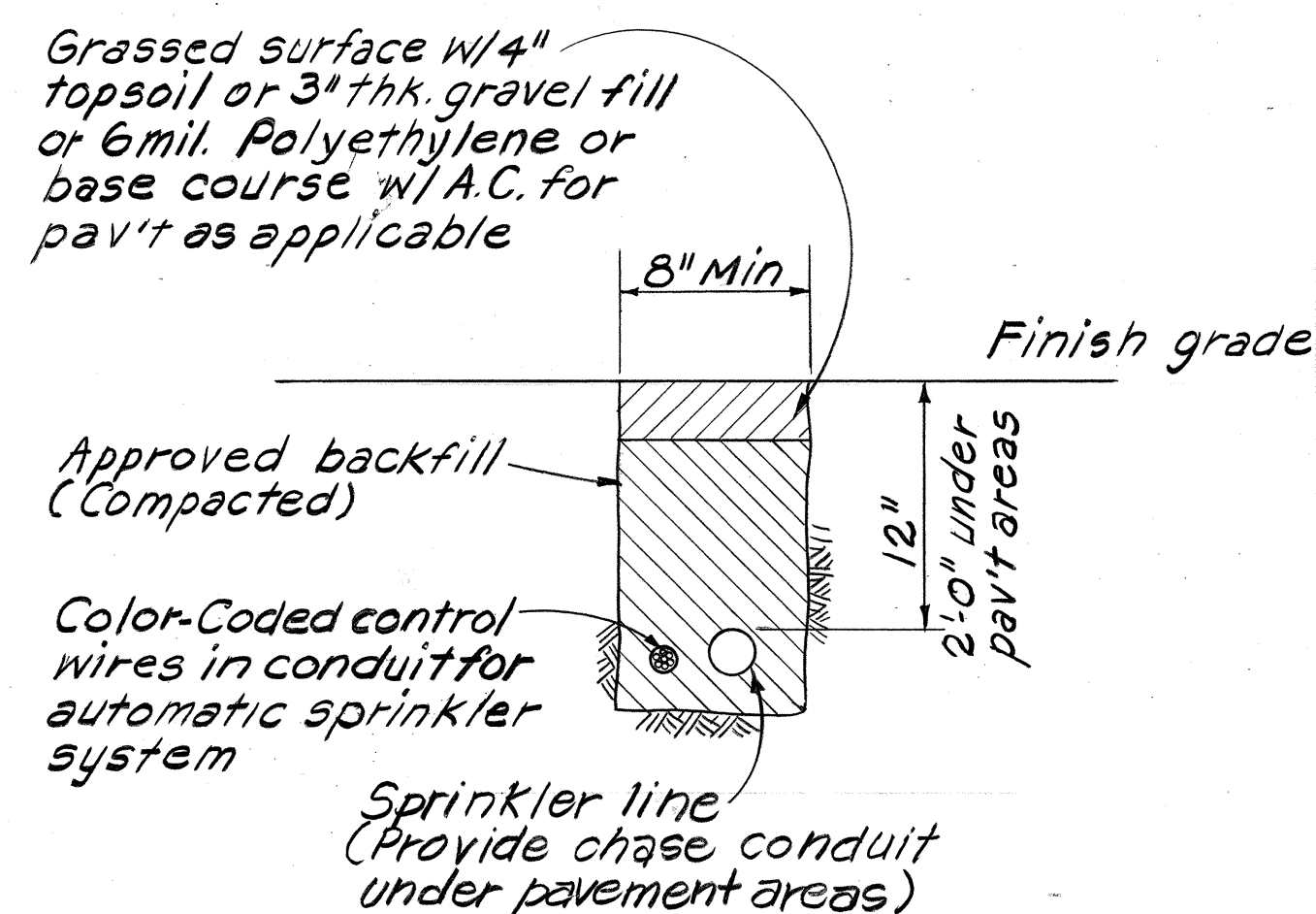
GATE VALVE
Not to Scale



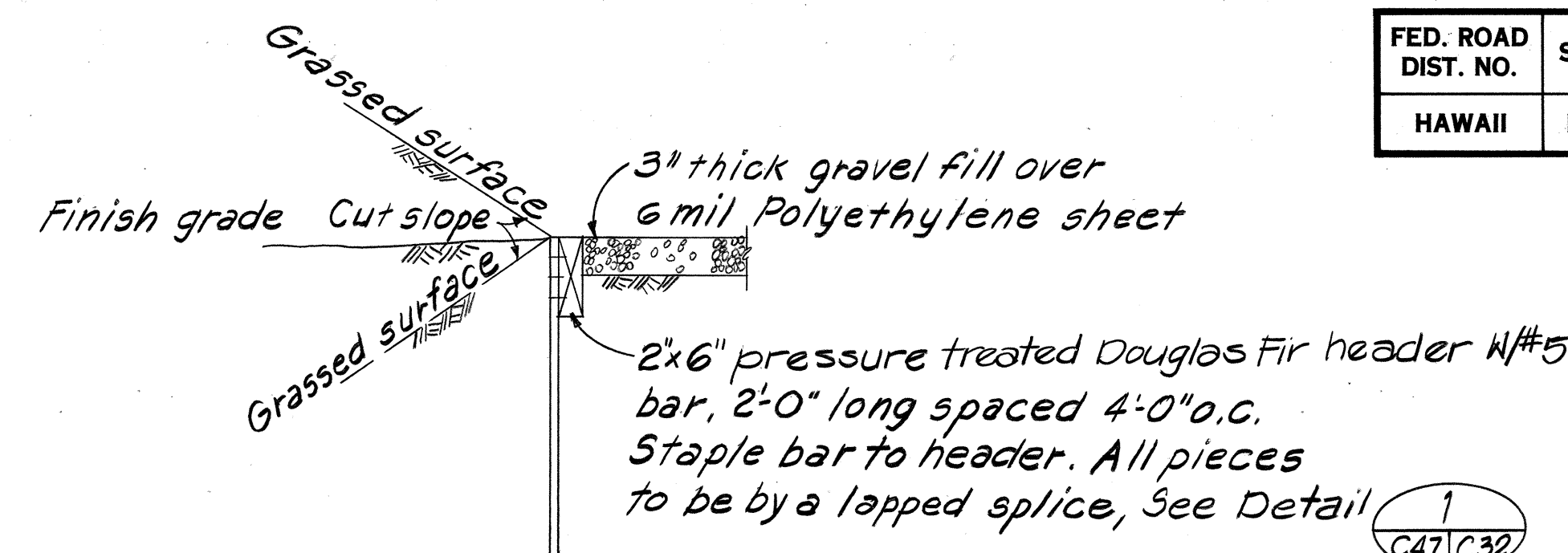
LAWN HEAD
Not to Scale



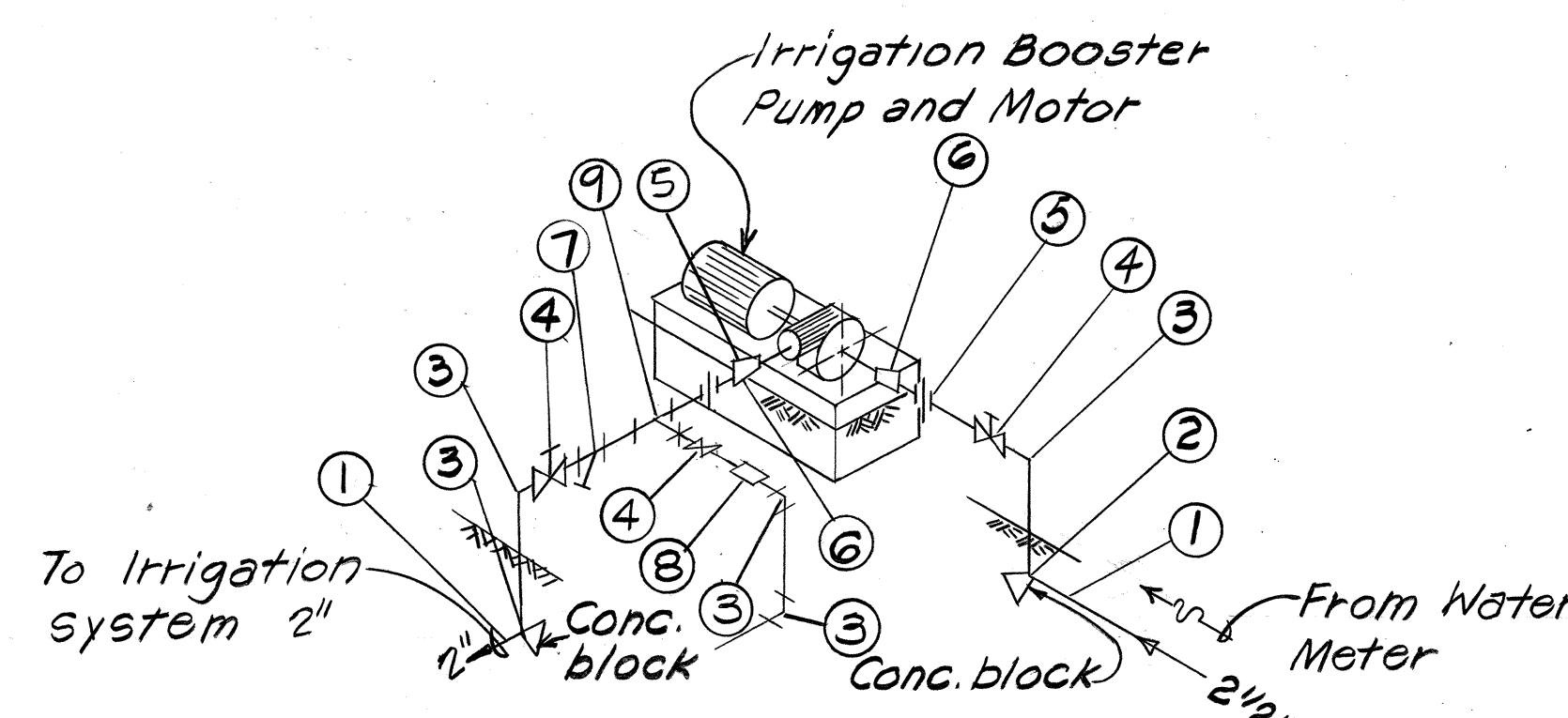
SECTION
Not to Scale



TYPICAL TRENCH DETAIL
Not to Scale



TYPICAL DOUGLAS FIR HEADER INSTALLATION
Not to Scale

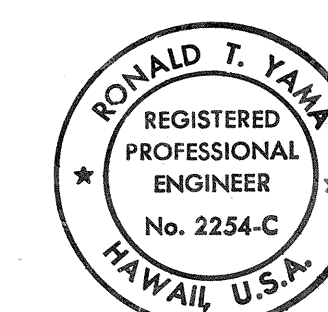


PUMP PIPING SCHEMATIC DIAGRAM
Not to Scale

Pressure Relief Valve (PRV) Notes:

- The PRV shall meet the following conditions:
 - Maintain constant upstream pressure by by-passing or relieving excess pressure.
 - Maintain close pressure limits without causing surges.
 - Be a hydraulically operated, diaphragm-actuated globe valve.
 - Contain a resilient, synthetic rubber disc, having a rectangular cross-section, contained on three and one-half sides by a disc retainer forming a tight seal against a single removable seat insert.
 - The diaphragm assembly containing a valve stem shall be fully guided at both ends by a bearing in the valve cover and an integral bearing in the valve seat.
 - The diaphragm assembly shall be the only moving part and shall form a sealed chamber in the upper portion of the valve, separating operating pressure from line pressure.
 - The diaphragm shall consist of nylon fabric bonded with synthetic rubber and shall not be used as a seating surface.
 - The packing glands and/or stuffing boxes are not permitted and there shall be no pistons operating the valve or pilot controls.
 - All necessary repairs shall be possible without removing valve from the line.
 - The pilot control shall be a direct-acting, adjustable, spring-loaded, diaphragm valve, designed to permit flow when controlling pressure exceeds spring setting.

- The pilot control system shall operate such that as excess line pressure is dissipated, the main valve shall gradually close to a positive, drip-tight seating.
 - Have a pressure rating of 175 psi and an adjustment range of 20 to 200 psi.
- Adequate support for the PRV and piping shall be provided.



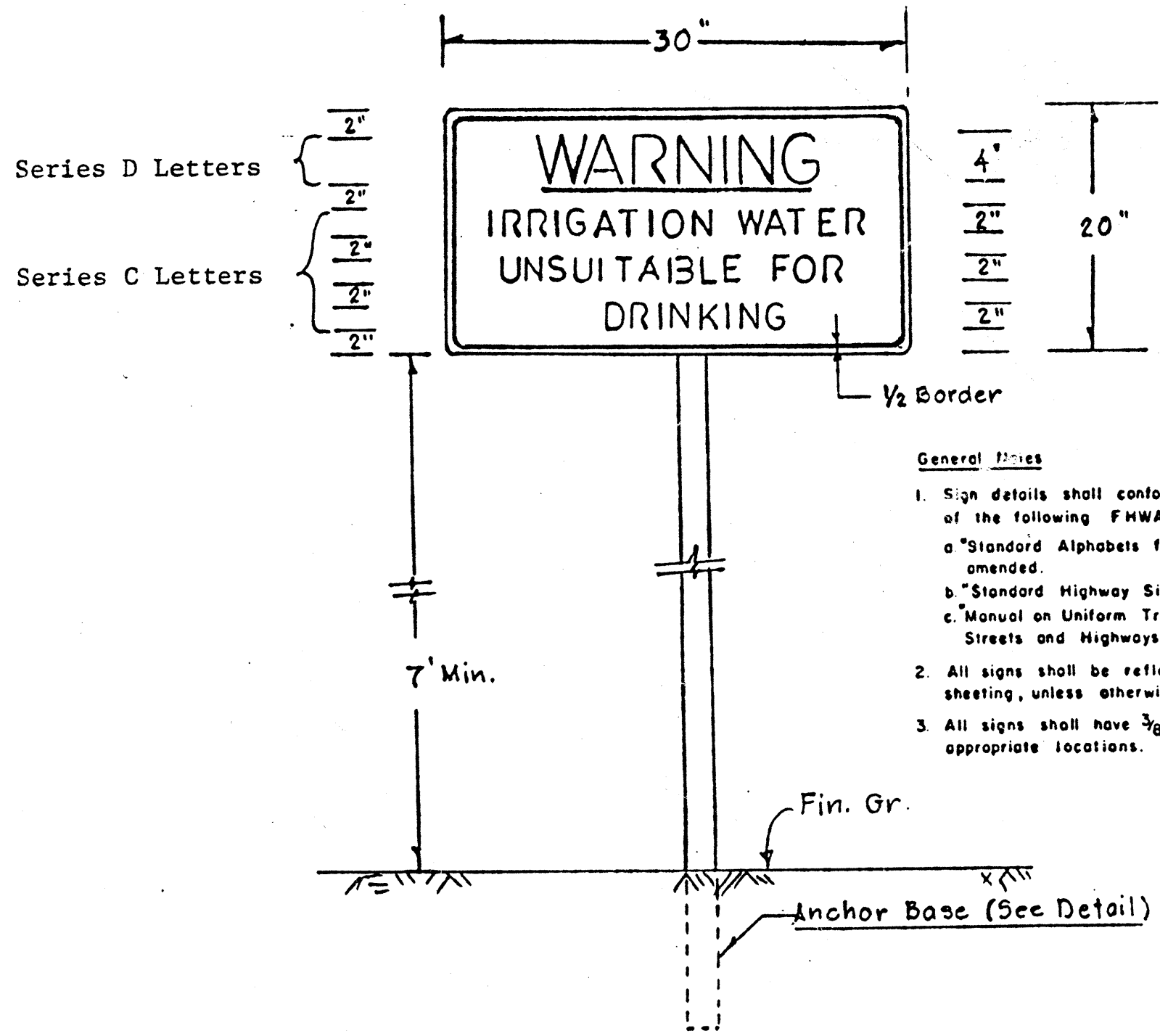
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Ronald T. Yama

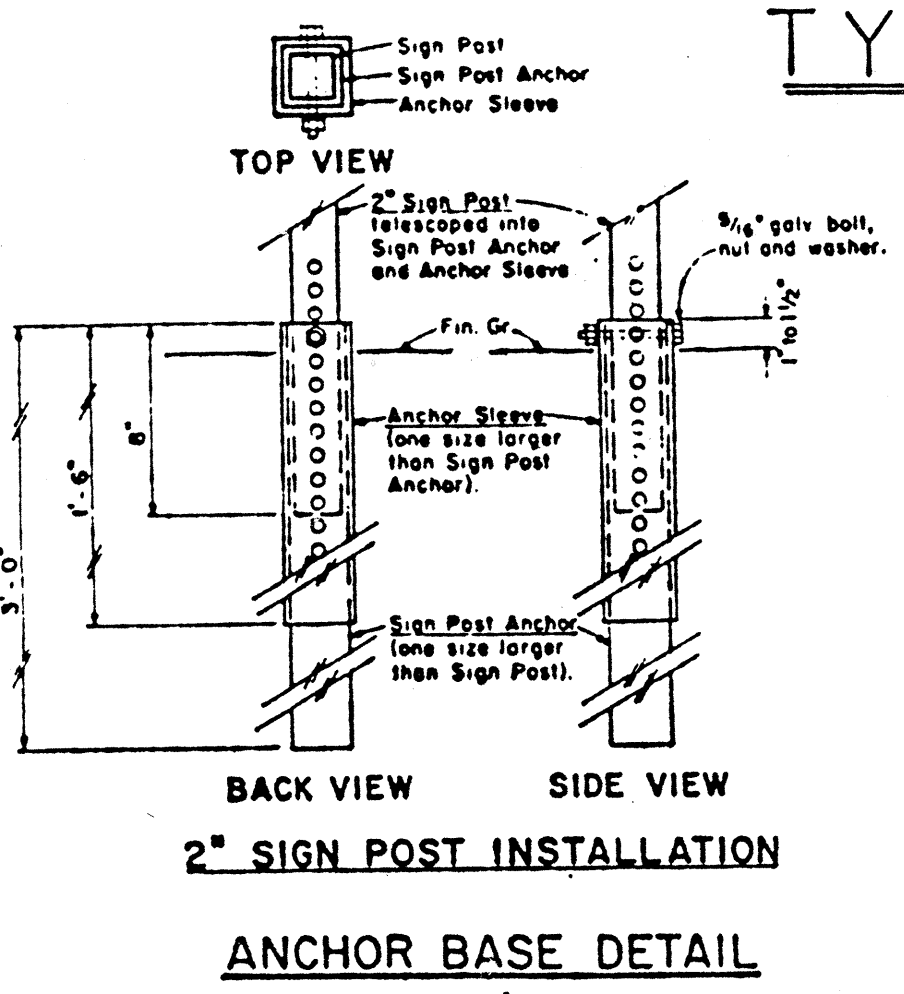
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
LANDSCAPING AND IRRIGATION DETAILS	
H-I NON-POTABLE WATER SYSTEM KALAUAO SPRINGS TO HALAWA RESERVOIR F.A.I. PROJ. NO. IR-HI-1 (203)	
SCALE: AS SHOWN	DATE: 1/20/87
SHEET No. C-47 OF 64 SHEETS	

APPROVED: *David A. Muallem* 9/3/86
CHIEF, PLANNING & ENGINEERING DIV., BWS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(203)	1987	495-1	

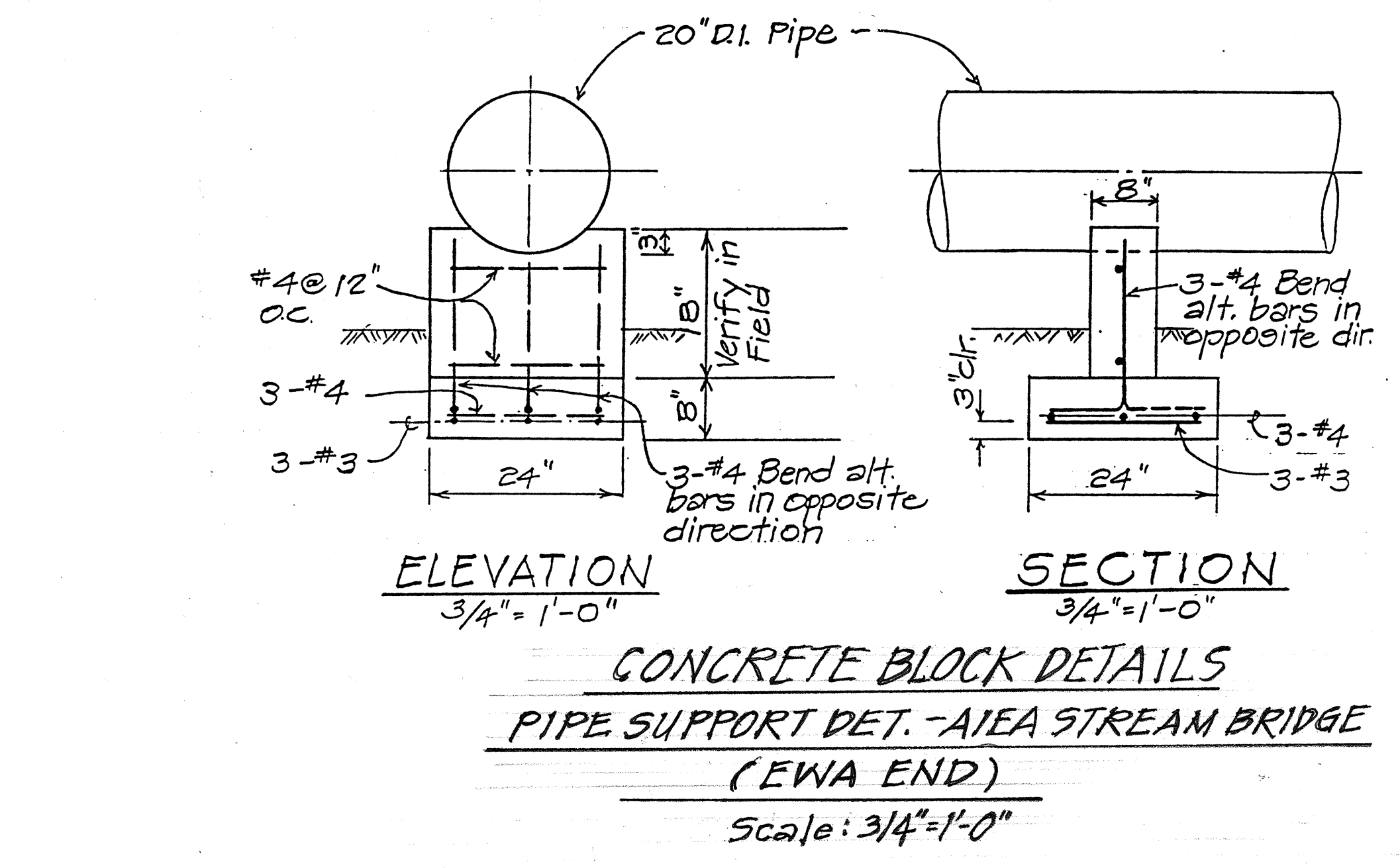


- General Notes
1. Sign details shall conform to the latest editions of the following FHWA publications:
a. "Standard Alphabets for Highway Signs," and as amended.
b. "Standard Highway Signs," and as amended.
c. "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
 2. All signs shall be reflectorized with reflective sheeting, unless otherwise specified.
 3. All signs shall have $\frac{3}{8}$ " bolt holes drilled at appropriate locations.

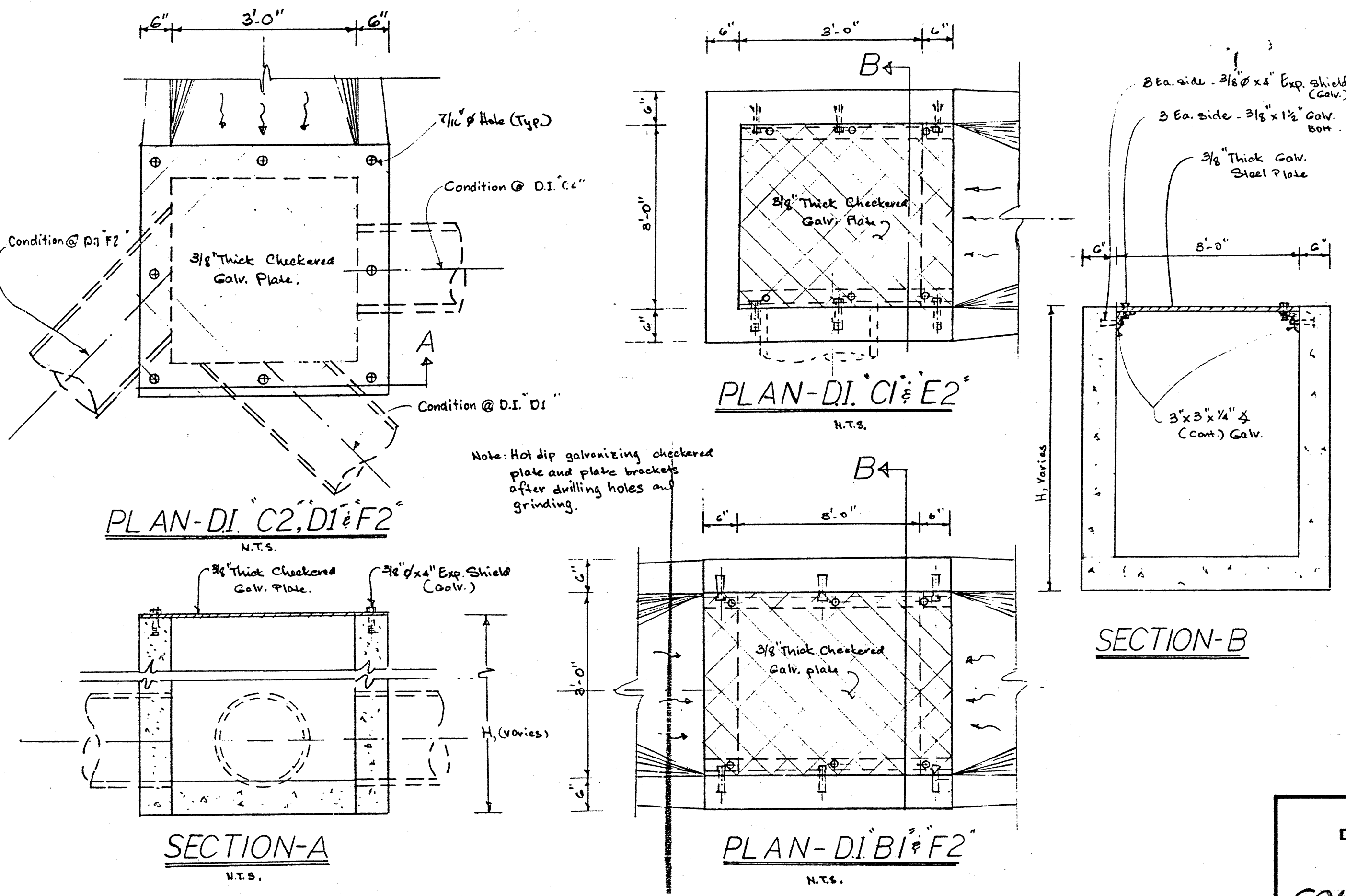


TYPICAL WARNING SIGN DETAILS
N.T.S.

- Notes:
1. Word WARNING & underscore shall be red.
 2. All others and border shall be black.
 3. Signs shall be aluminum with white reflective background.



CONCRETE BLOCK DETAILS
PIPE SUPPORT DET. - AIEA STREAM BRIDGE
(EWA END)
Scale: 3/4" = 1'-0"



SKETCH NO. 13
CHANGE ORDER NO. 13
DRAINAGE DETAILS
N.T.S.

NOTE:
This tracing/detail prepared during "As-Built" posting.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONCRETE BLOCK DETAILS
TYPICAL WARNING SIGN DETAILS
DRAINAGE DETAILS
F.A.I. PROJ. NO. IR-HI-1(203)
Scale As Noted

SHEET NO. OF SHEETS