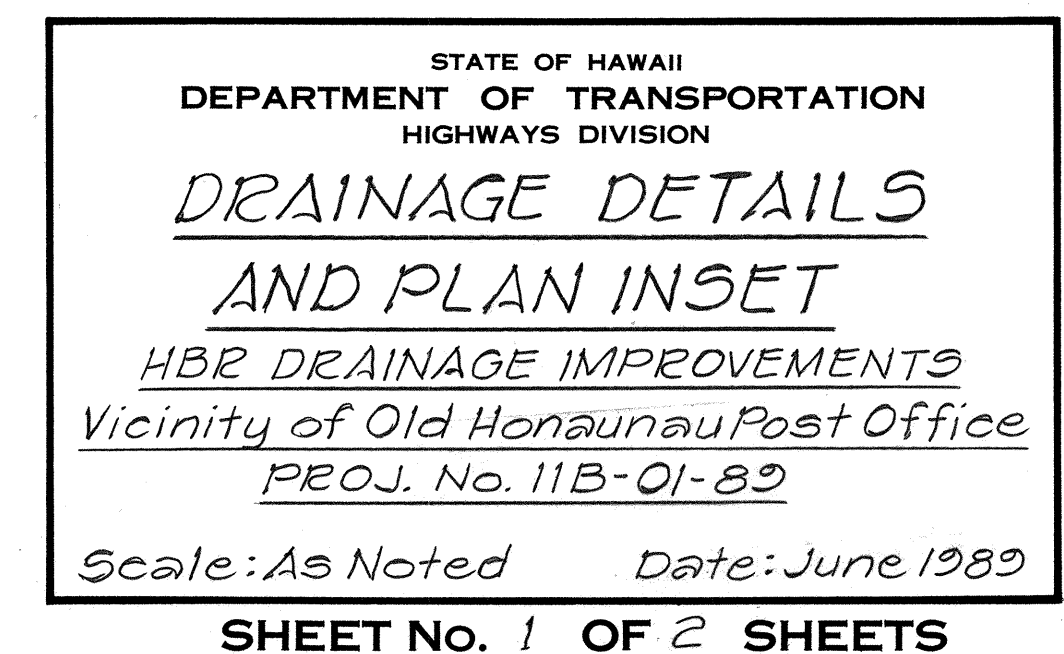


GENERAL NOTES:

-
- The technical drawings illustrate the dimensions and construction of a Type A-9P Steel Grate. The **PLAN (Single Grate)** shows a rectangular grate with a width of 2'-11" and a depth of 3'-3". The frame is 5 1/2" wide on the sides and 3" high. The **CROSS SECTION (Thru Frame & Grate)** shows a grate with a width of 2'-0" and a depth of 1 1/2". The **PLAN** view of the grate itself shows a grid of 8 bars, 3/8" diameter, spaced at 4" on center, flush with the surface. The grate is 3'-15/8" wide and 1'-11 5/8" deep. The **SECTION** view shows the grate with 8 bars, 3/8" diameter, spaced at 4" on center, flush with the surface. The **NOTCH DETAIL** shows a close-up of the grate with a 3/8" notch at 4" on center, and a 3/16" dimension for the notch depth. The **TYPE A-9P STEEL GRATE** is noted as **Not To Scale**.
- PLAN**
(Single Grate)
- CROSS SECTION**
(Thru Frame & Grate)
- PLAN**
- SECTION**
- NOTCH DETAIL**
- TYPE A-9P STEEL GRATE**
Not To Scale



The drawing consists of two parts: a Plan view and a Section A-A view.

PLAN

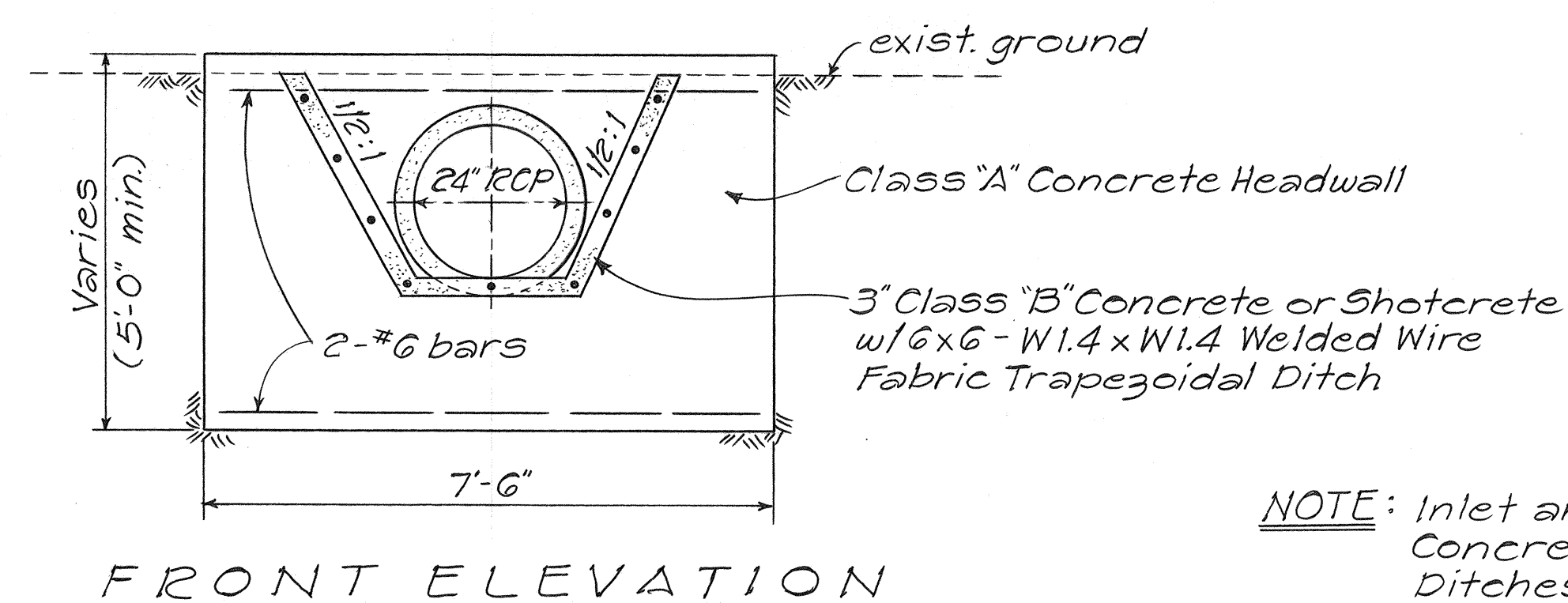
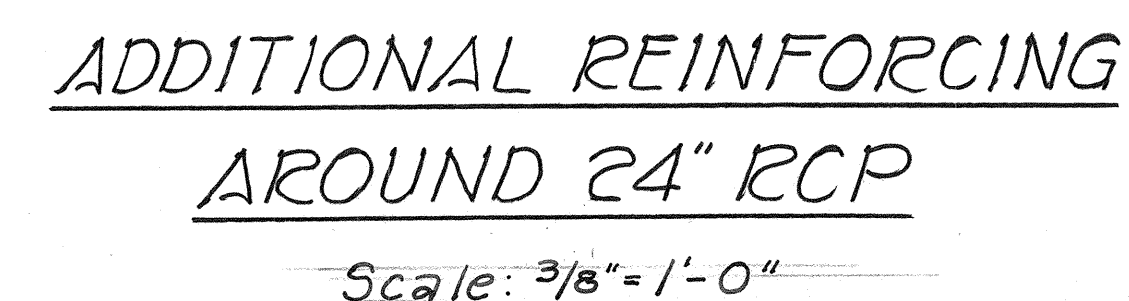
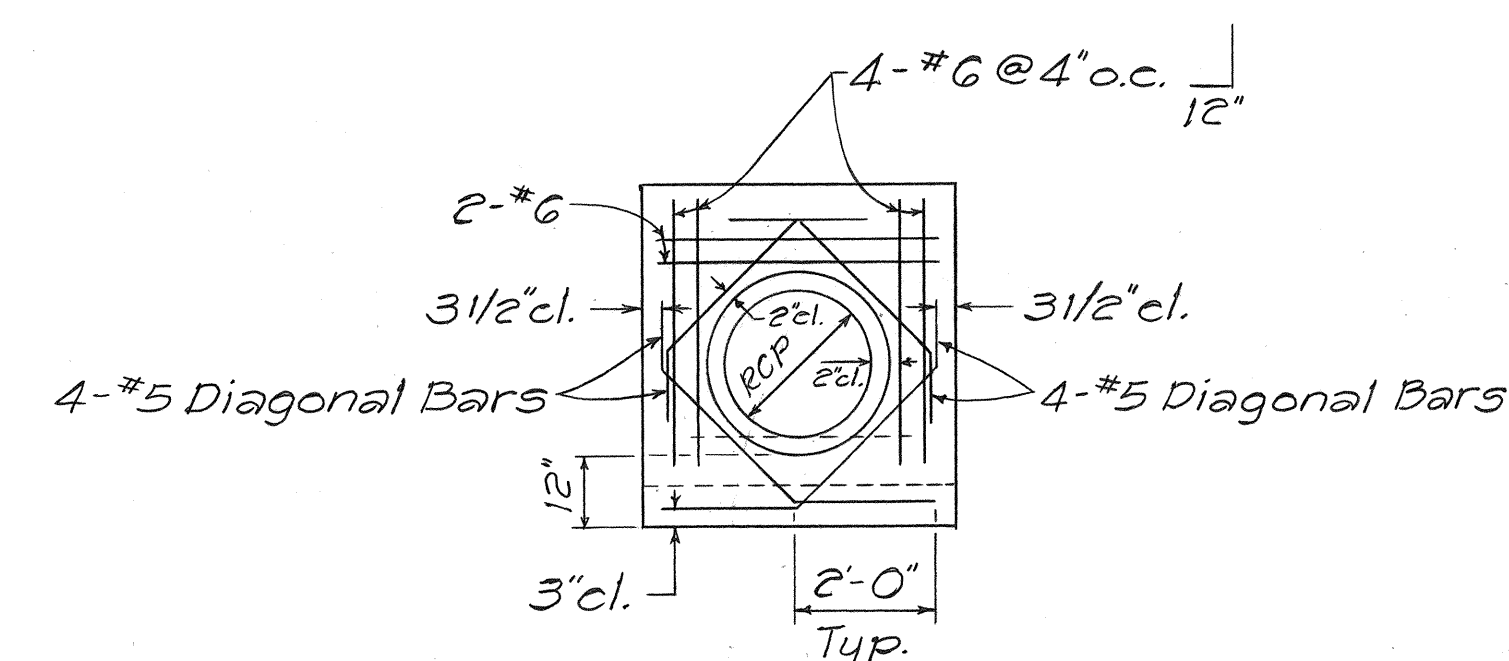
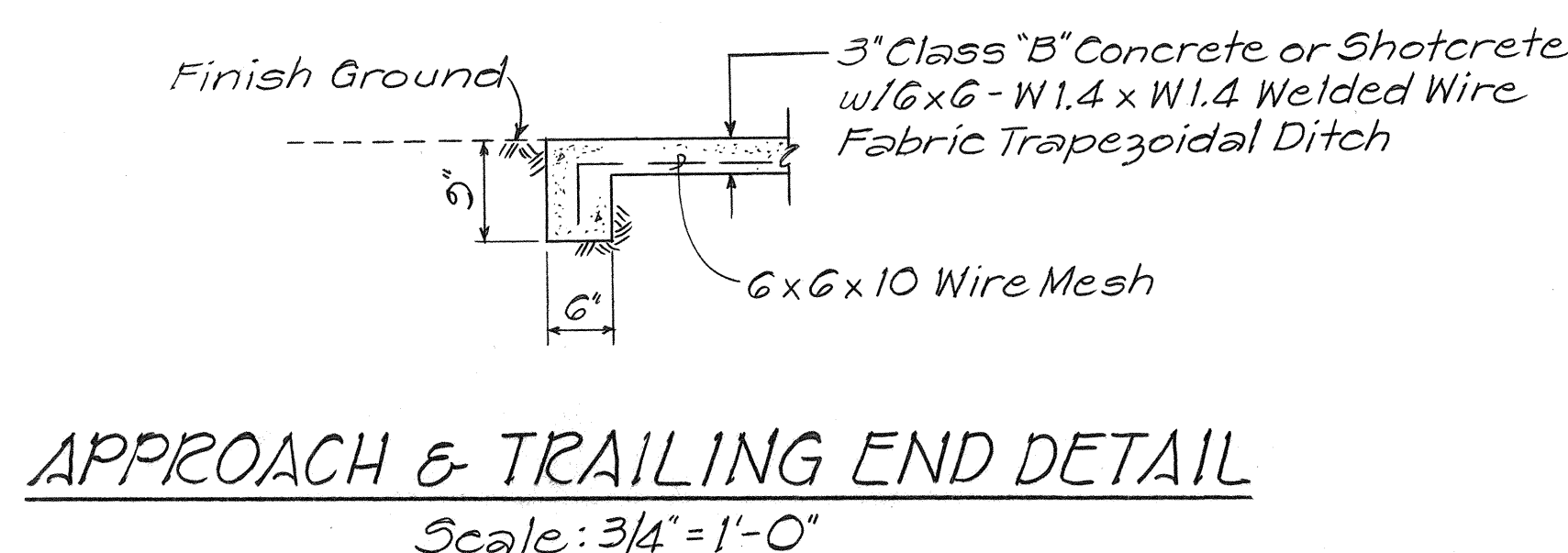
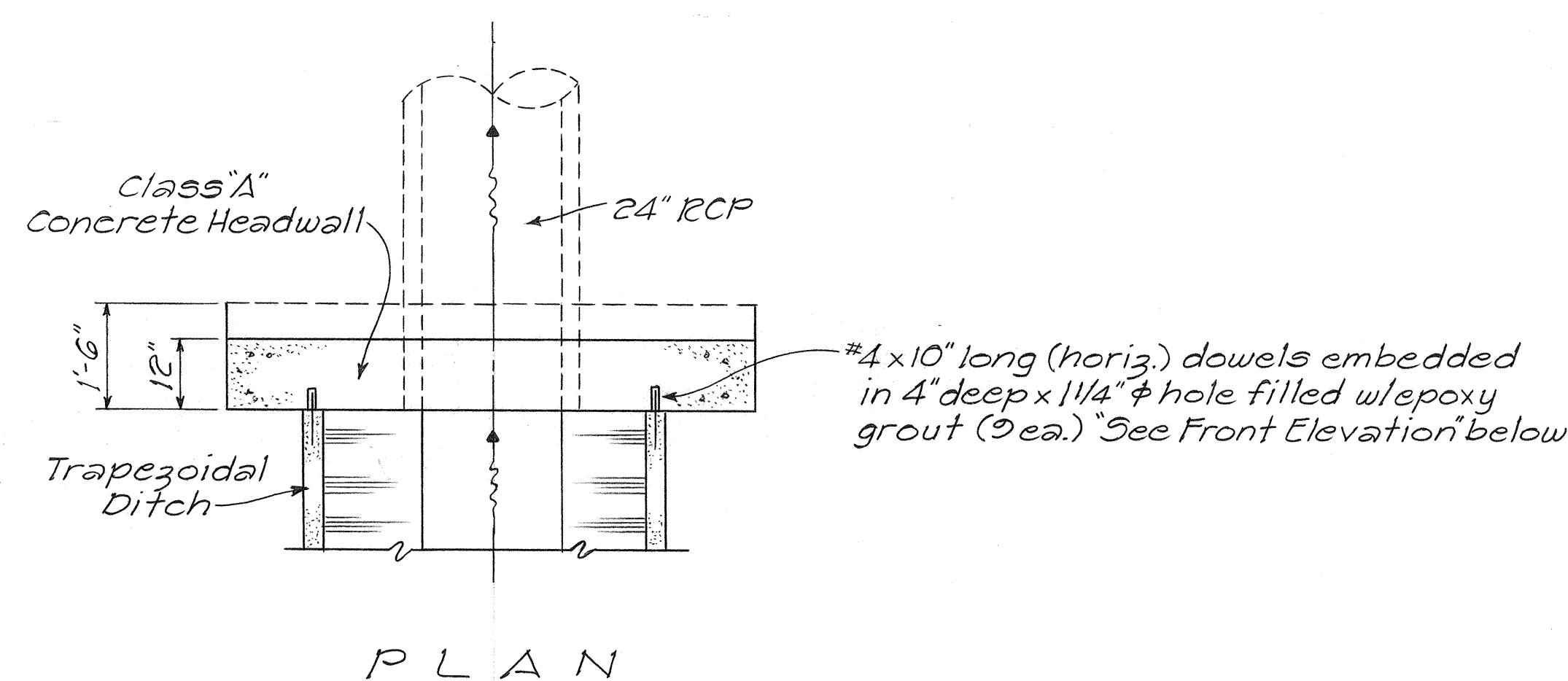
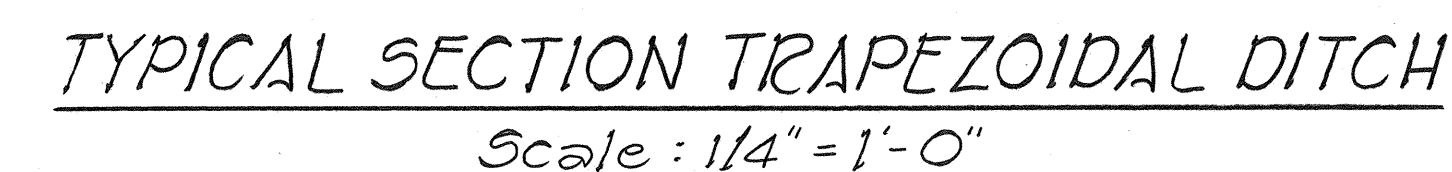
The Plan view shows a rectangular frame with overall dimensions of 3'-4" by 4'-4". The frame is composed of a 2'-0" wide central opening surrounded by an 8" wide border. The border is reinforced with #4 bars at 12" on center (Typ.) in both directions. The frame is labeled "Type A-9P Steel Frame & Grate". The section line "A-A" is indicated with arrows pointing towards the Section A-A view.

SECTION "A-A"

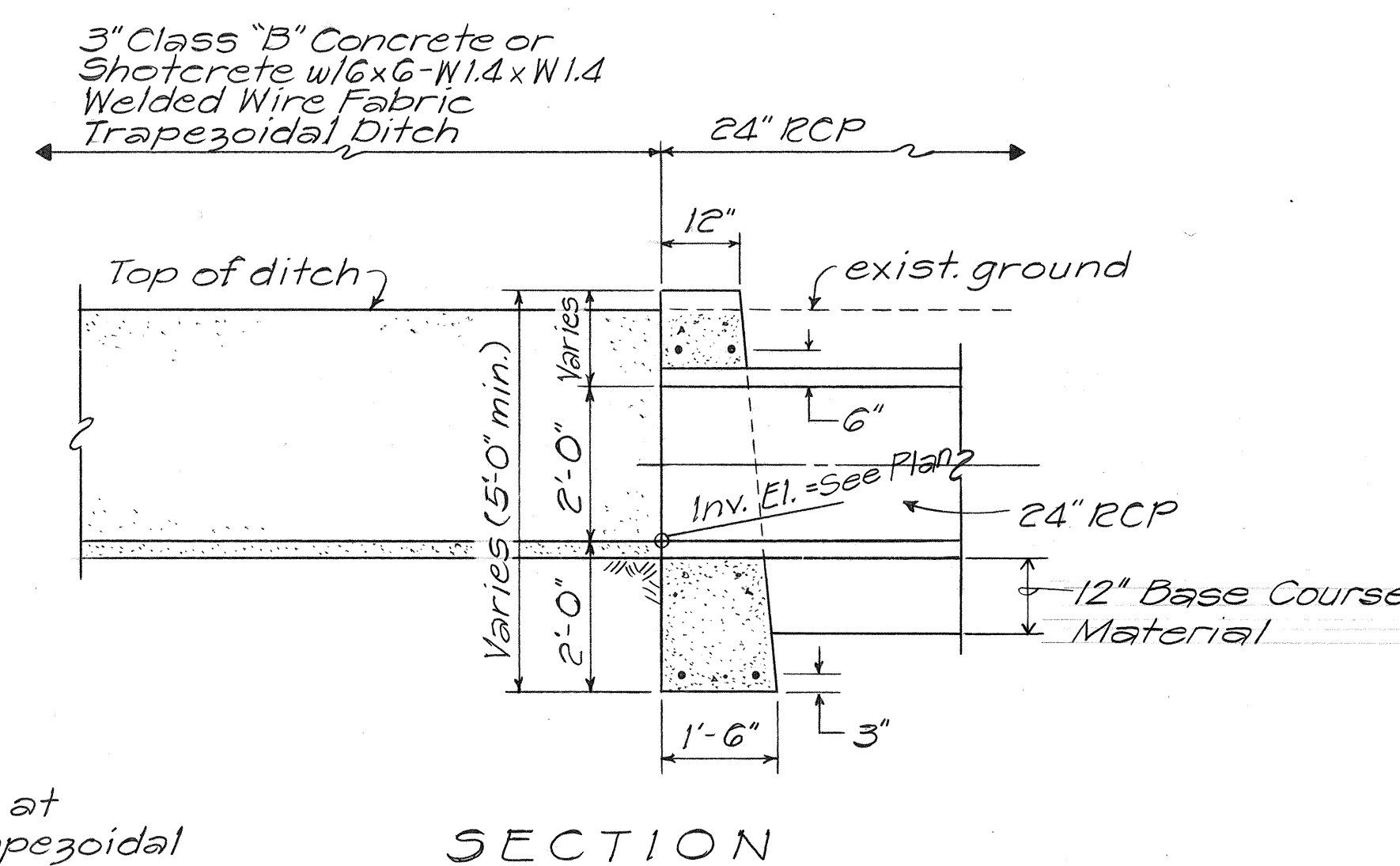
The Section A-A view shows the frame and grate assembly. The grate is 3/2" thick and is supported by a 1 1/2" deep frame. The frame is reinforced with #4 bars at 12" on center (Typ.) in both directions. The section is labeled "Type A-9P Steel Frame & Grate". The height of the frame is indicated as "Height Varies". The section is shown at two elevations: Sta. 66+46 Rt. Top El. = 1091.50 and Sta. 66+72 Rt. Top El. = 1091.03. The bottom of the frame is at Sta. 66+46 Rt. Inv. El. = 1088.16 and Sta. 66+72 Rt. Inv. El. = 1088.37. The section is shown at a 3" depth.

TYPE A-9P STEEL FRAME & GRATE

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



NOTE: Inlet and Outlet Connection at Concrete Headwalls and Trapezoidal Ditches are similar.



CONCRETE HEADWALL AT TRAPEZOIDAL DITCH CONNECTION
Scale: $1/2" = 1'-0"$

ORIGINAL PLAN	SURVEY PLOTTED BY _____ DATE _____
NOTE BOOK	DRAWN BY _____
	TRACED BY _____
	DESIGNED BY _____
	QUANTITIES BY _____
No. _____	CHECKED BY _____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

HBR DRAINAGE IMPROVEMENTS

Vicinity of Old Honaunau Post Office

PEOJ. No. 11B-01-B3

South Kona, Hawaii

Scale: As Noted Date: June 1989

SHEET No. 2 OF 2 SHEETS