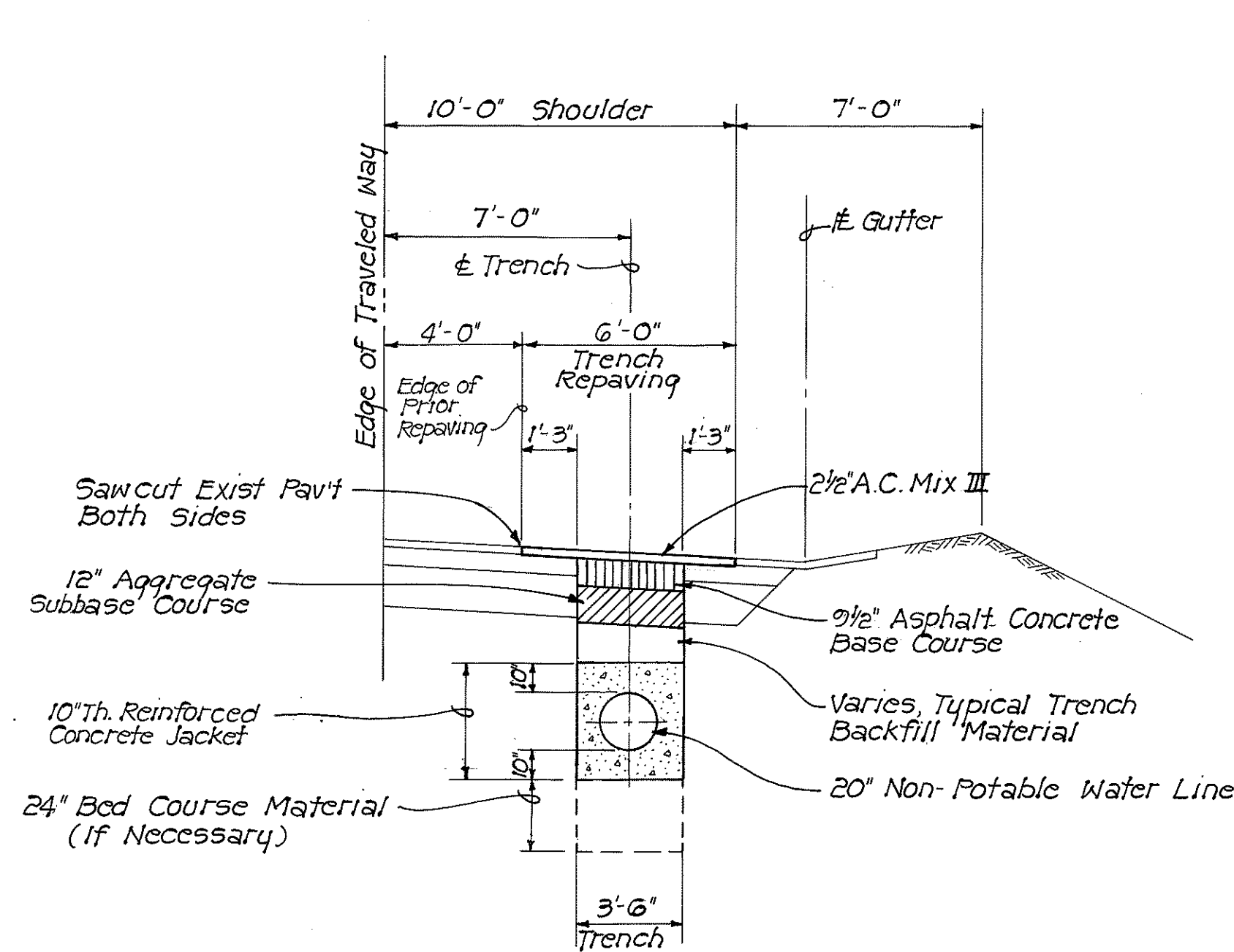
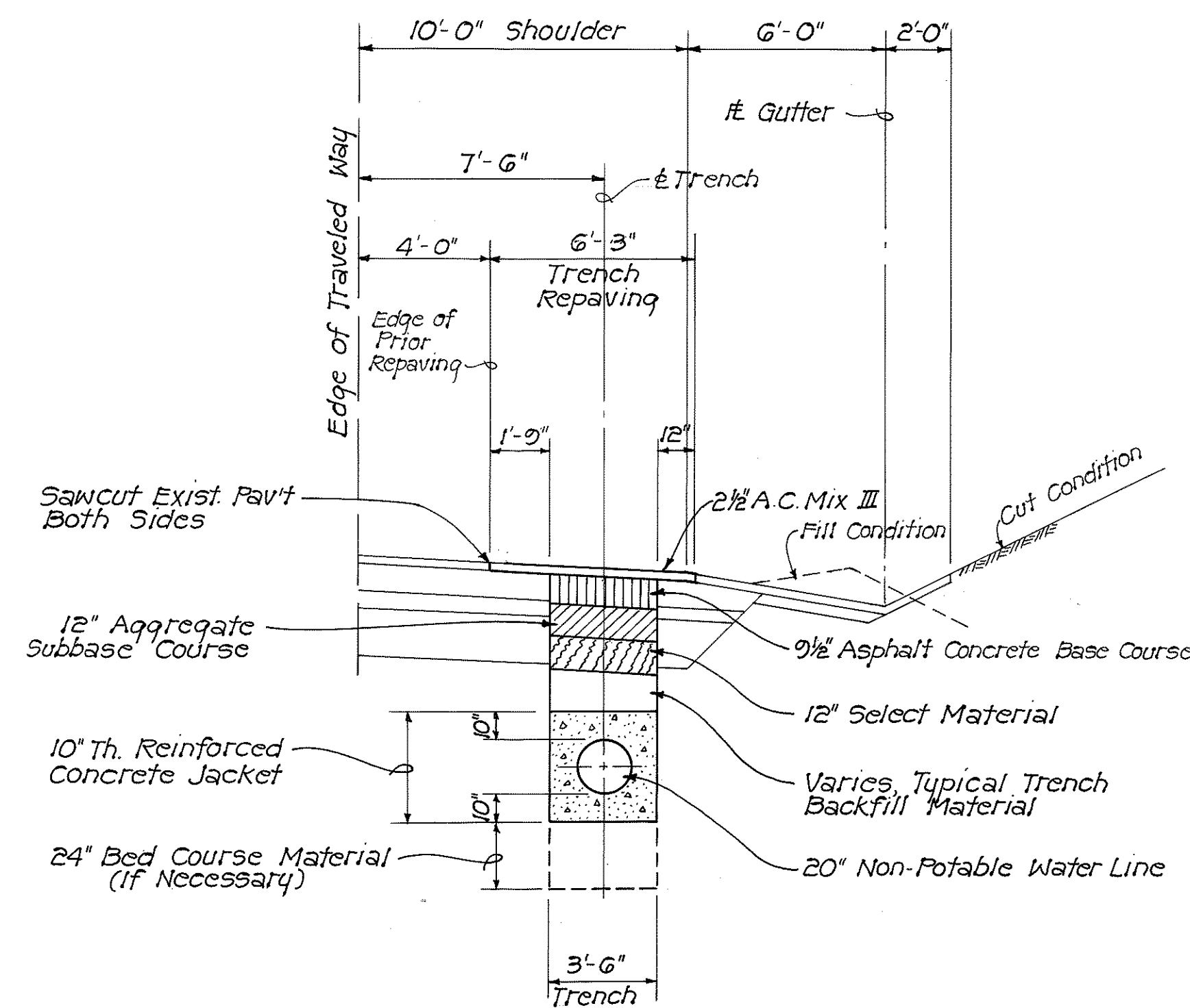


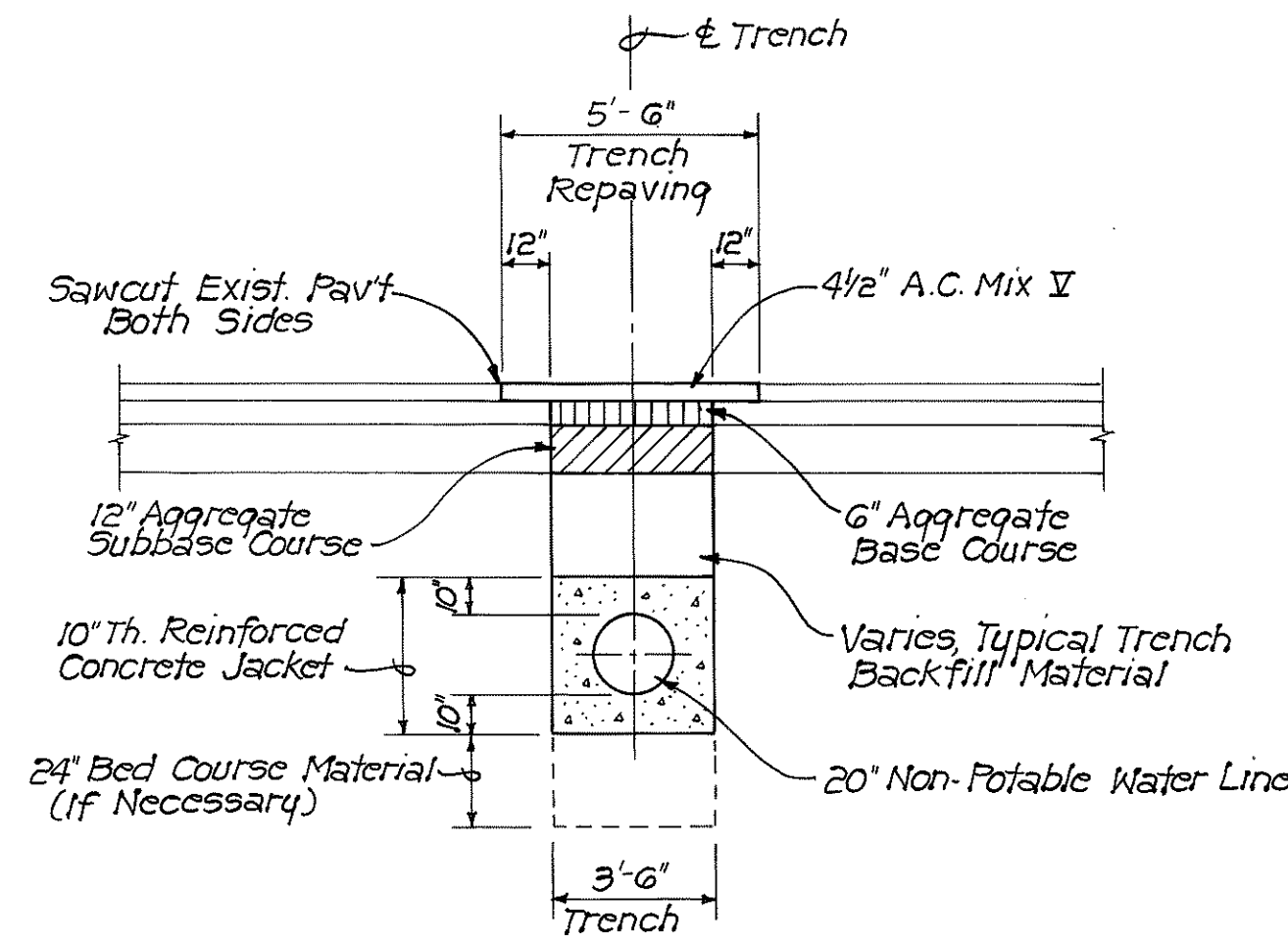
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1 (211)	1989	10	53



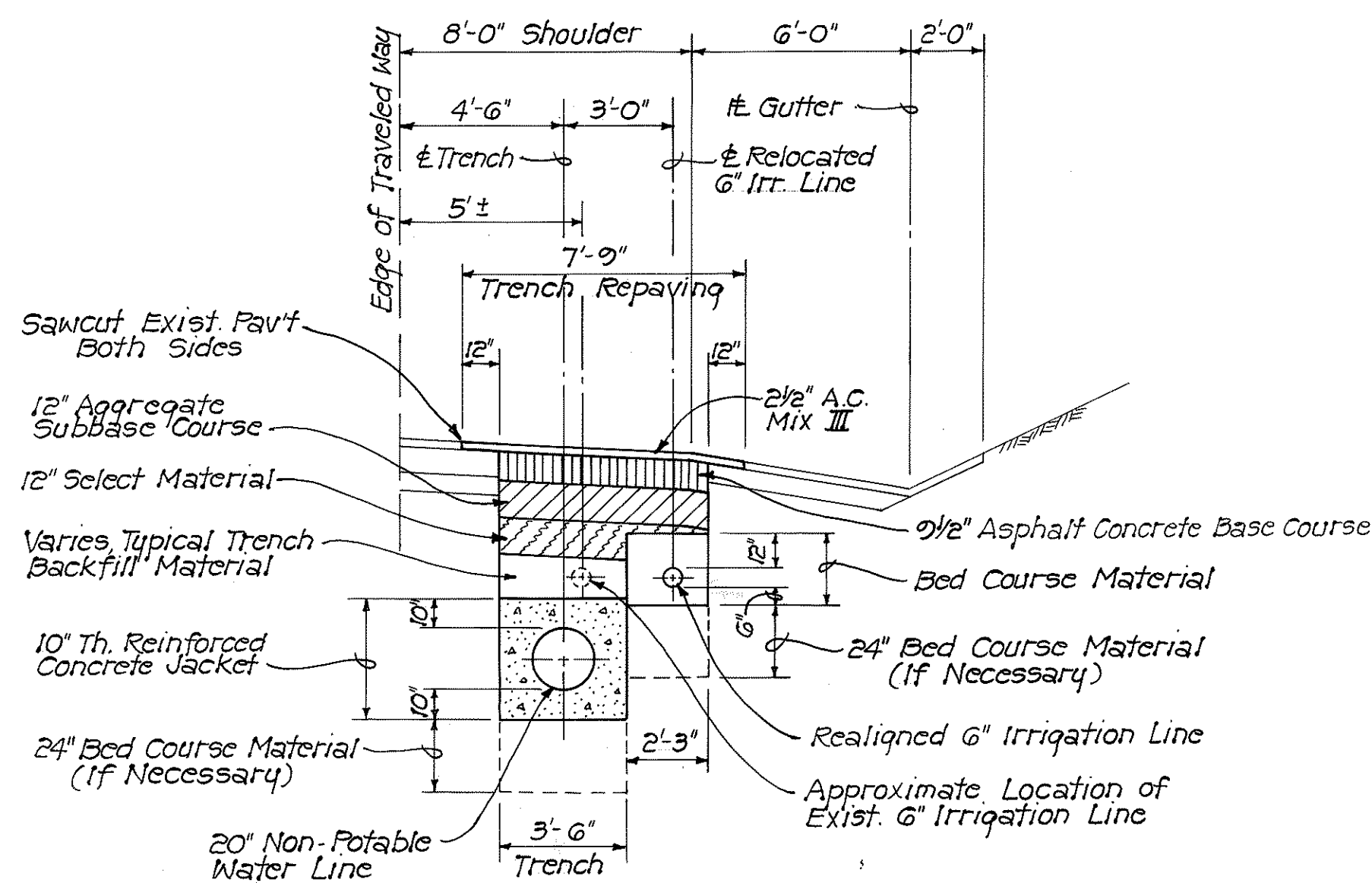
TYPICAL SECTION ~ RAMP "C" & "ES" 1
Scale: 1/4" = 1'-0" C-10, C-8



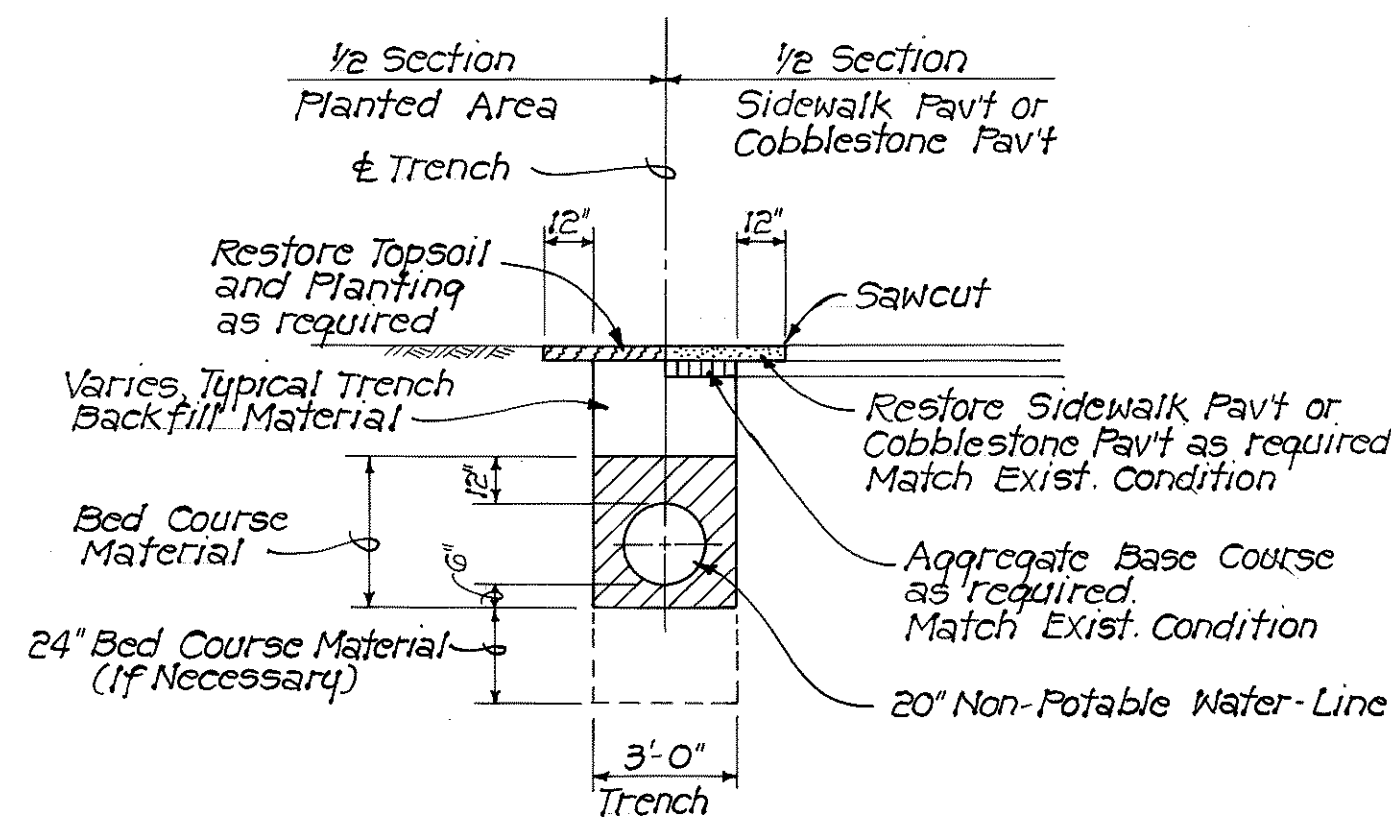
TYPICAL SECTION ~ H-1 FWY IN CUT 2
Scale: 1/4" = 1'-0" C-14, C-15, C-16 C-13, C-8



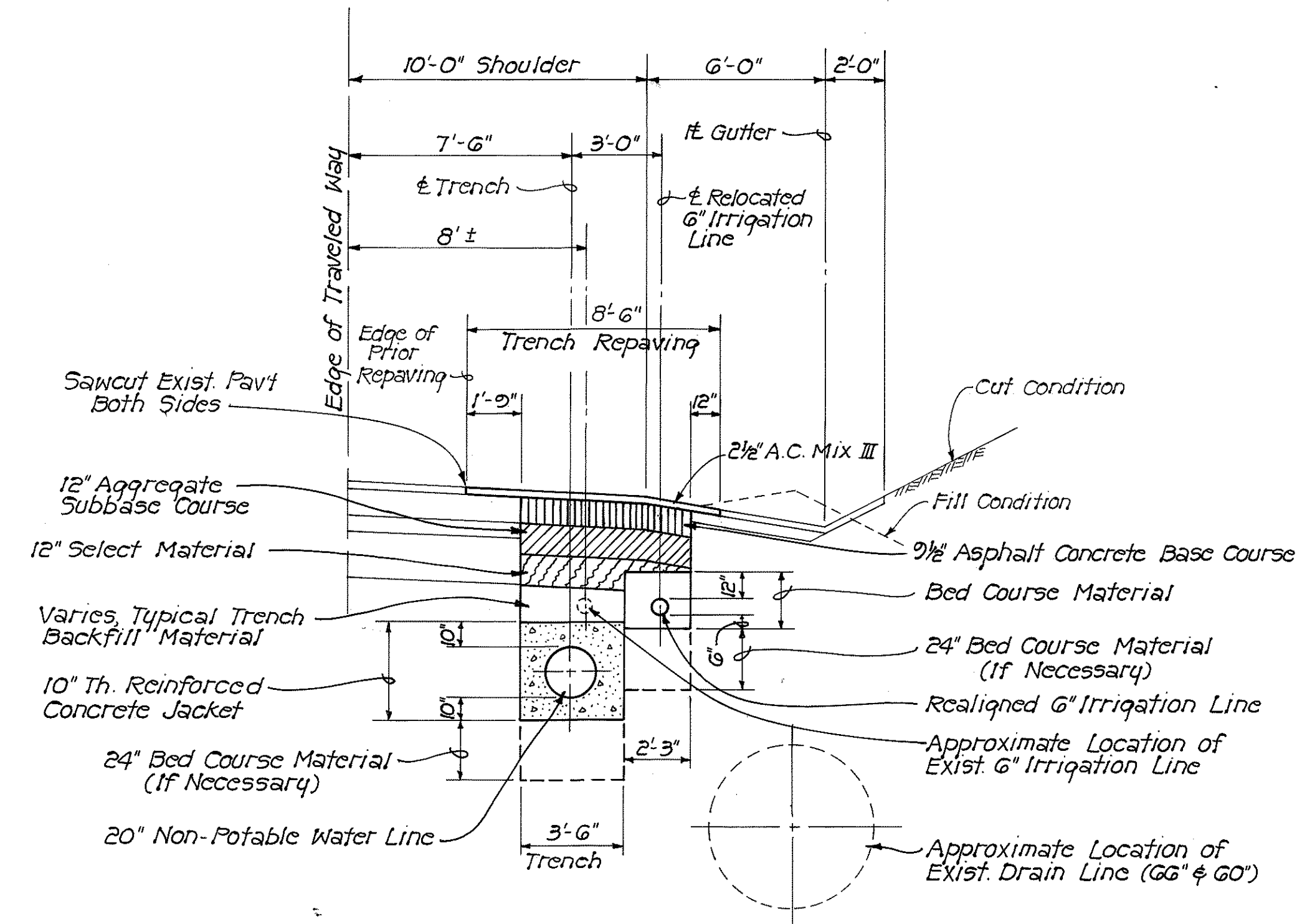
TYPICAL SECTION ~ KAHUAPAANI STREET 3
Scale: 1/4" = 1'-0" C-11, C-8



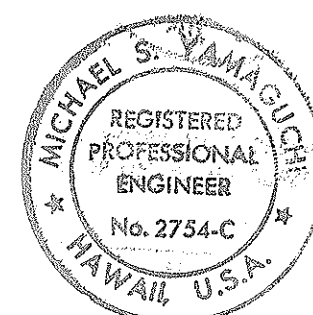
TYPICAL SECTION ~ RAMP "WN" W/
6" IRRIGATION LINE REALIGNMENT 4
Scale: 1/4" = 1'-0" C-18, C-8 C-19



TYPICAL SECTION
EXISTING IMPROVEMENTS RESTORATION 5
Scale: 1/4" = 1'-0" C-11, C-12, C-13, C-19, C-20, C-21, C-22, C-23, C-24, C-25, C-26, C-29, C-30, C-33, C-34 C-10, C-8



TYPICAL SECTION ~ H-1 FWY W/
6" IRRIGATION LINE REALIGNMENT 6
Scale: 1/4" = 1'-0" C-16, C-8 C-17, C-18



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
Signature: *Michael S. Yamaguchi*
Date: 12/12/88

APPROVED:

Michael S. Yamaguchi
CHIEF, PLANNING AND
ENGINEERING DIVISION, BWS
DATE: 12/12/88

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTIONS

H-1 NONPOTABLE WATER SYSTEM
HALAWA INTERCHANGE TO KEEHI INTERCHANGE
F.A.I. PROJ. NO. IR-HI-1 (211)

SCALE: AS SHOWN DATE: 11/23/88

SHEET No. 9 OF 48 SHEETS

The diagram illustrates a cross-section of a trench repaving project. Key components and dimensions include:

- Top Dimensions:**
 - 12'-0" (Total width of the repaved area)
 - 9'-0" (Width of the Median)
- Left Side Dimensions:**
 - 4'-0" (Width of the Trench Repaving area)
 - 12" (Width of Sawcut Exist Pavt on both sides)
- Right Side Dimensions:**
 - 2'-0" (Width of the Trench)
- Layers and Materials:**
 - 2" A.C. Mix V**: Asphalt concrete mix layer.
 - 6" Aggregate Base Course**: Aggregate base layer.
 - Varies Typical Trench Backfill Material**: Material used for backfilling the trench.
 - 6" Non-Potable Water Line**: A utility line located within the trench.
 - Bed Course Material**: Material below the base course.
 - 24" Bed Course Material (If Necessary)**: Additional material layer.
- Other Labels:**
 - ± Trench**: Indicated at the top left.
 - ± Lagoon Drive**: Indicated at the top right.
 - Mauka Bound Lanes**: Indicated on the left side.
 - Median**: Indicated on the right side.

Diagram illustrating the cross-section of a trench restoration project. The diagram shows the following components and dimensions:

- Top Boundary:** Aalele Street Right-of-Way
- Horizontal Dimensions:**
 - 6'-0" (Total width of the restoration area)
 - Varies (Width of the existing ditch)
 - Varies (Width of the existing ground)
- Vertical Dimensions:**
 - 12" (Depth of the trench)
 - 12" (Depth of the trench)
 - 8" (Depth of the bed course material)
 - 24" (Depth of the bed course material, if necessary)
- Key Features:**
 - Exist. Fence @ R/W Line
 - Limits of Restoration
 - Restore Exist. Surface
 - Unlined Section
 - Exist. Ground
 - 8" Non-Potable Water Line
 - Varies Typical Trench Backfill Material
 - Bed Course Material
 - 24" Bed Course Material (If Necessary)
 - 2'-0" Trench

Diagram illustrating the cross-section of a trench repair structure, showing the following components and dimensions:

- Trench Repaving:** The top layer of the repair, with a total width of 5'-6".
- Existing Pav't Sides:** The existing pavement on either side of the repair.
- Sawcut Both Sides:** The edges of the repair area.
- 12" Trench:** The width of the trench opening.
- 3" A.C. Mix X:** The top layer of the repair material.
- 18" Aggregate Subbase Course:** The middle layer of the repair material.
- 6" Aggregate Base Course:** The bottom layer of the repair material.
- Varies, Typical Trench Backfill Material:** The material used to backfill the trench.
- 10" Th. Reinforced Concrete Jacket:** The outer layer of the trench structure.
- 20" Non-Potable Water Line:** The water line passing through the trench.
- 24" Bed Course Material (If Necessary):** The base material for the trench.
- 3'-6" Trench:** The width of the trench opening.

The diagram illustrates a cross-section of a road repair project. At the top, the 'Makai Bound Lanes' are shown with a width of 12'. To the right is a '10'-0" Shoulder'. A 'Trench' is cut into the pavement, with a width of 12' at the top and 12" at the bottom. The 'Trench Repairing' area is indicated. A 'Sawcut Exist. Pavement' is shown on the left side of the trench. The 'Exist. Edge of Pavt' is marked on the right. The repair consists of a '2" A.C. Mix II' layer, followed by a '6" Aggregate Base Course', and 'Varies, Typical Trench Backfill Material'. A '6" Non-Potable Water Line' is shown below the backfill. The 'Bed Course Material' is shown on the left, with a thickness of 4" and 19". A '24" Bed Course Material (If Necessary)' is also indicated. The 'Trench' is 2'-0" deep.

[illegible]

Diagram illustrating the cross-section of a trench repair structure. The diagram shows a central trench with a width of 5'-0" at the top, labeled "Trench Repaving". The trench is flanked by "2" A.C. Mix V" on both sides. Below the trench, there is a "6" Aggregate Base Course" and a "Varies, Typical Trench Backfill" Material. The bottom of the trench is labeled "20" Non-Potable Water Line". The total width of the structure at the bottom is 3'-0" and is labeled "Trench". The diagram also shows "Bed Course Material" and "Sawcut Exist. Pav't Both Sides". Dimensions include 12" for the width of the trench flanks, 8 1/4" for the depth of the aggregate base course, and 8" for the depth of the bed course material.

APPROVED:
(FOR CONSTRUCTION WITHIN CITY & COUNTY
OF HONOLULU ROADS)
M. Fukagawa 12/13/88
CHIEF, DIVISION OF ENGINEERING &
DPW DATE

Diagram illustrating the cross-section of a trench repair structure. The diagram shows a central trench with a diameter of 4'-6". The trench is lined with 12" Non-Potable Water Line. The trench is surrounded by 24" Bed Course Material (if necessary). The trench is covered by a 7" Asphalt Concrete Base Course, which varies in typical trench backfill material. The top layer is A.C. Pavement (2 1/2" Mix II, 2 1/2" Mix III). The trench is also surrounded by Sawcut Exist. Pav't Both Sides. The trench is lined with 12" Th. Reinforced Conc. Jacket. The trench is also surrounded by 12" Th. Reinforced Conc. Jacket. The trench is also surrounded by 12" Th. Reinforced Conc. Jacket.



TYPICAL SECTIONS

SCALE: AS SHOWN DATE: 11/23/88

SHEET No. C-2 OF 48 SHEETS