

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW	US-072-1(2) UNIT 3	1960	26	77
		BU-072-1(2) UNIT 4	1960	44	118
		BU-065-1(1) UNIT 3	1960	98	115

GENERAL STRUCTURAL NOTES

FOUNDATIONS:

- The elevation of column footings shall be as shown on the plans or established by the Engineer subject to the following requirements:
 - Footing shall be set completely in rock.
 - Length of all columns in one Pier shall not vary more than 20%.
- The elevation of abutment footings shall be as shown on the plans or established by the Engineer subject to the following specific requirements:
 - Abutments footings shall be set completely in rock.

b. Top of all footings shall be level for the length of the entire footing.

CAMBER:

Obtain camber by forming and shoring concrete surfaces above profile grades amount shown in camber diagram.

FORM REMOVAL:

Removal of top slab forms of box girders is optional with contractor. Optional closure slab and diaphragm details shall apply if forms are removed.

PROTECTION OF PROPERTY:

The contractor shall be solely responsible for the protection of adjacent property and structures from damage due to construction and shall repair any damage at his own expense. He shall conduct his work in such a manner and provide such temporary shoring or other measures as may be necessary to insure the safety of adjacent property.

PREMOLDED JOINT FILLER

- Premolded joint filler for bridges, including pedestrian overpassing, shall conform to AASHTO Designation M153.
- Premolded joint filler for retaining walls, shall conform to AASHTO Designation M-33, or AASHTO Designation M153.

UTILITY CONDUITS AND FITTINGS

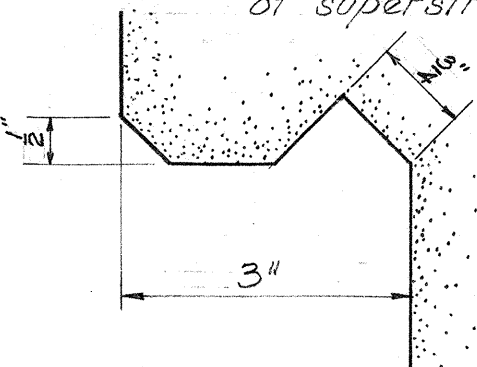
Conduits in bridge structures paid under various utility and highway lighting items.
Concrete jackets and reinforcement for conduits outside of structure paid under separate item.

CONCRETE:

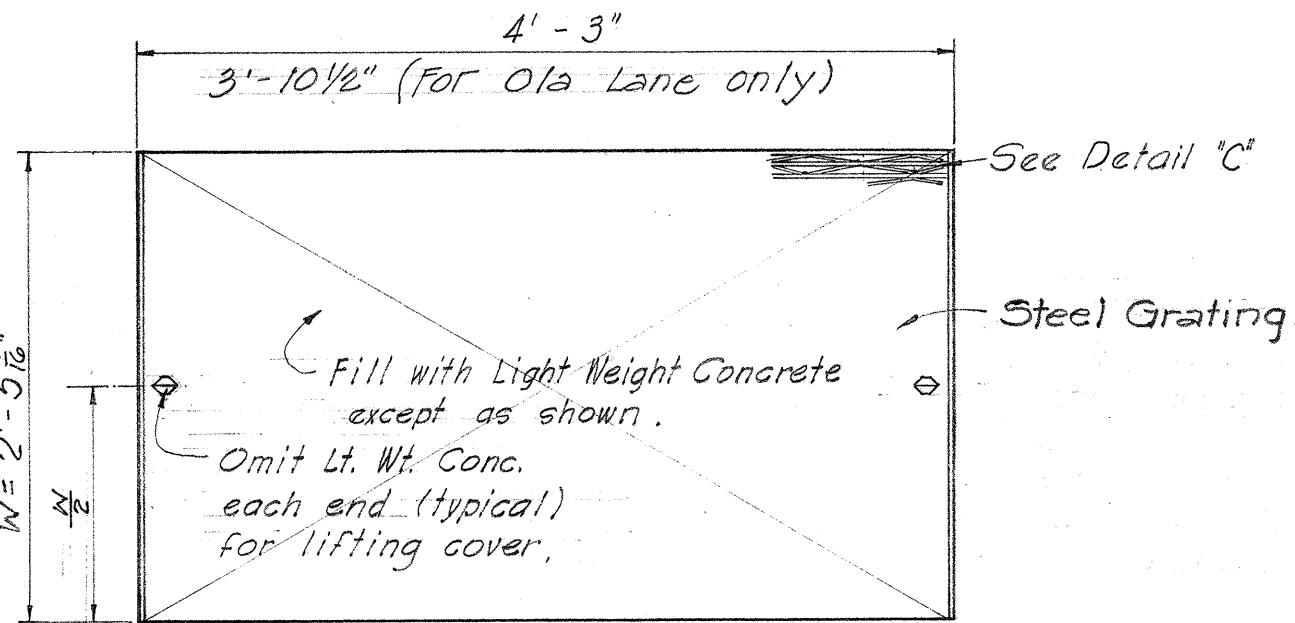
- All concrete shall be Class A-1 unless otherwise noted.
- Surfaces to receive lead base plates shall be poured monolithically with supporting structure. Bearing seats shall be finished with a steel trowel to a smooth level surface at the elevations shown on the plans.
- Cover for reinforcing bars shall be as follows unless noted otherwise:
 - for box girder slabs and stirrups on sides of box girder webs.
 - for slab frames and walls not exposed to ground.
 - for formed walls exposed to ground.
 - to main reinforcing of columns and beams.
 - for footings.
- Reinforcing bars shall be detailed in accordance with ACI, "Manual of Standard Practice for Detailing Reinforced Concrete Highway Structures" unless otherwise noted.
- Reinforcing bars shall be lapped 32 bar diameters, except top bars having more than 12" of concrete below shall be lapped 40 bar diameters, unless shown otherwise.
- Reinforcing bars shall be securely tied at all intersections and splices and shall be held in place during pouring to maintain their proper location as shown on plans.
- Admixture (See Special Provisions).

CONSTRUCTION METHODS:

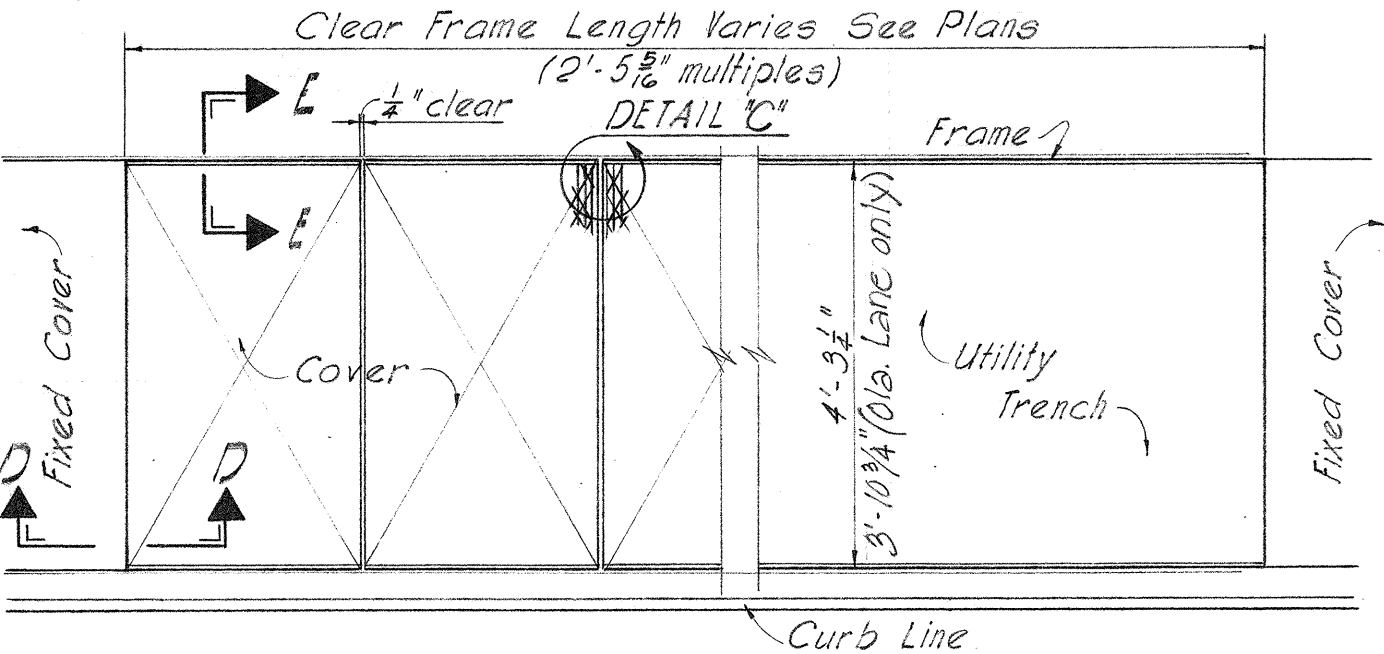
- No backfill shall be placed behind abutments of rigid frame structures until concrete in superstructure has reached a strength of 3000 psi. The backfill must then be placed uniformly and simultaneously at each abutment of a rigid frame structure to avoid unequal lateral earth pressure.
- All footing excavation shall be to neat lines, and the concrete shall be poured against undisturbed material. No additional compensation will be allowed for any extra concrete that is required due to excavation beyond the dimensions indicated on the plans.
- Forms: Forms for all exposed surfaces of separation structures including retaining walls (except round columns) shall be plywood. Forms for round columns shall be made of material that results in a smooth finish and true dimensions as shown in the plans.
- Finish: See standard specifications. All retaining walls exposed to roadway shall be Class 1-Surface Finish.
- All Class D-1 fill concrete shall be considered incidental to and covered by the applicable unit price for "Structural Excavation at Bridges."
- Backfill behind abutments of box girder structures shall be completely placed and compacted prior to construction of superstructure.



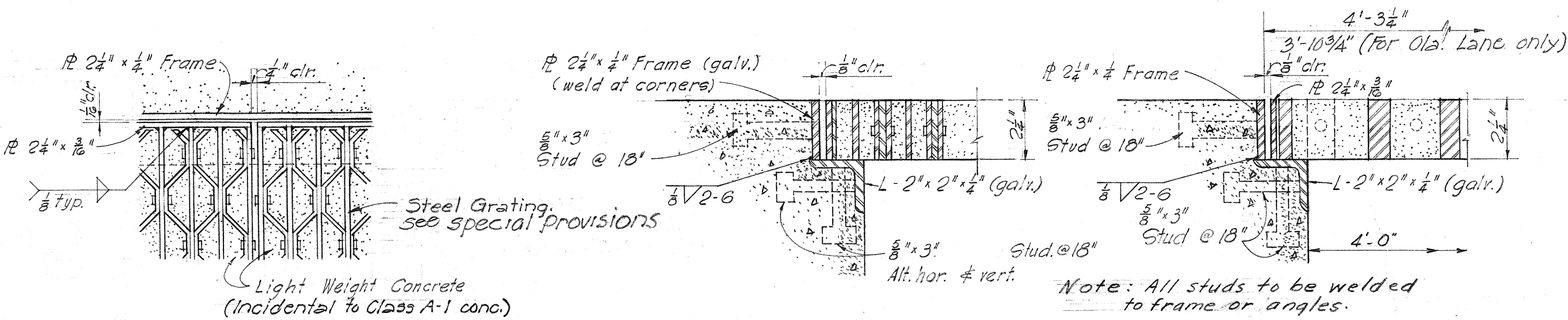
TYP. DRIP DETAIL
Half Size



COVER PLAN
1" = 1'-0"



TRENCH PLAN
1/2" = 1'-0"

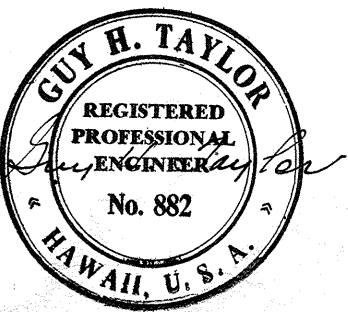


DETAIL "C"
3" = 1'-0"

SECTION D-D
3" = 1'-0"

SECTION E-E
3" = 1'-0"

REMOVABLE TRENCH COVER DETAILS



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Civil and Structural Engineers

HAWAII STATE HIGHWAY DEPARTMENT

STATE OF HAWAII

TYPICAL DETAILS AND
GENERAL STRUCTURAL NOTES

LUNALILO FREEWAY BU-072-1(2) UNIT 4
MOANALUA ROAD US-0720 (3) UNIT 3
MIDDLE STREET BU-065-1(1) UNIT 3

SHEET No. 1 OF 1 SHEETS

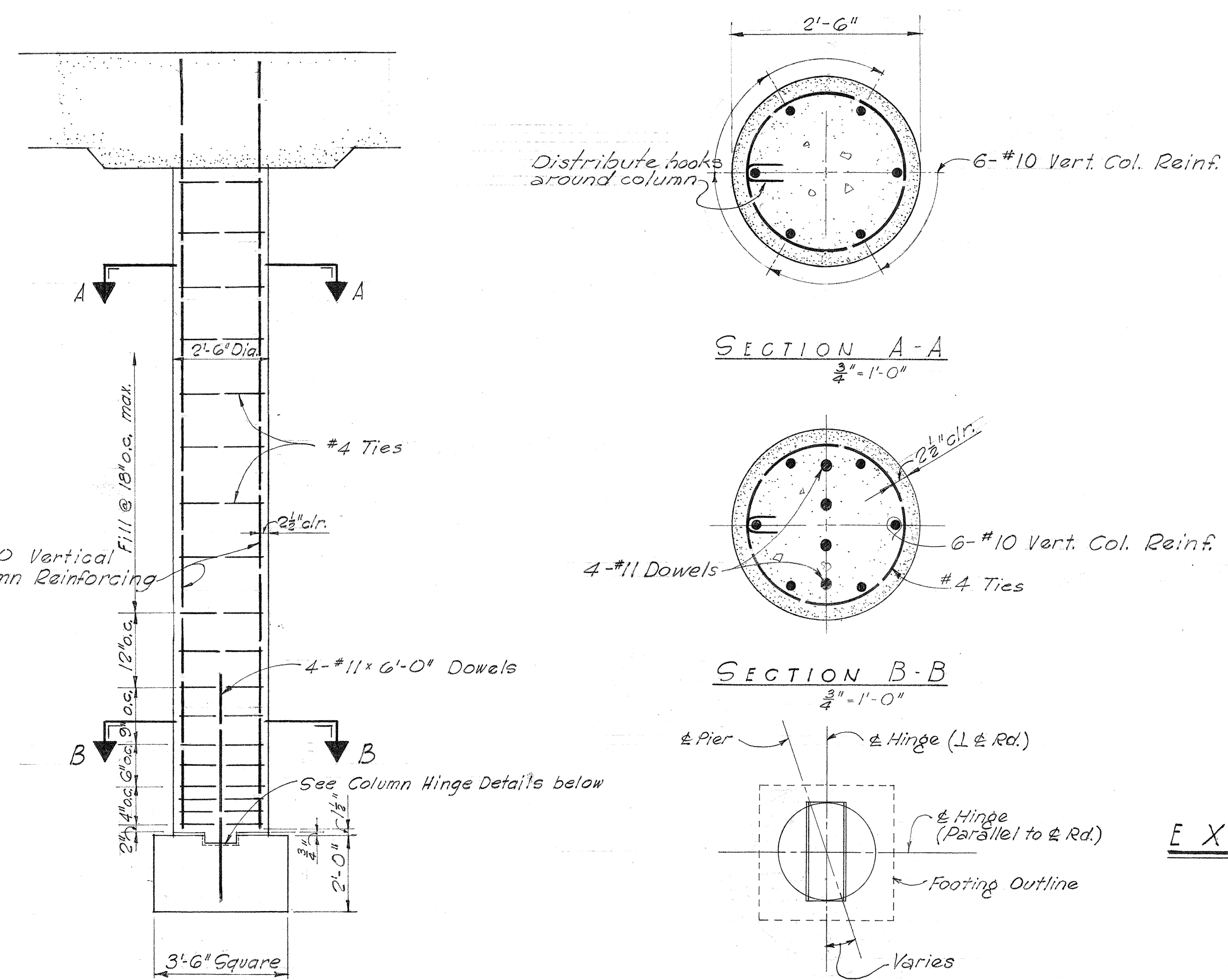
8526.26

8174.44

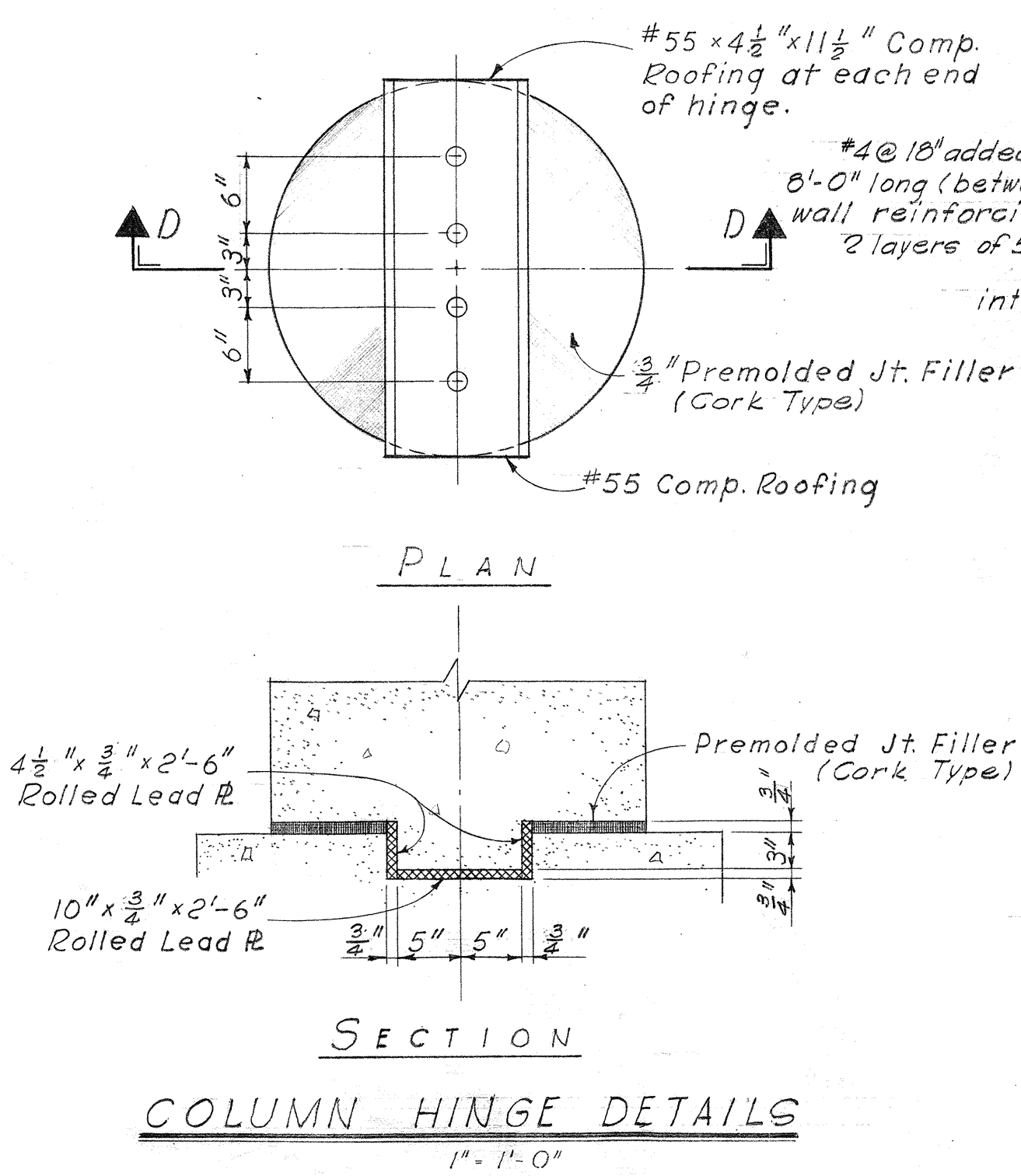
8161.42

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW	055-07203	1960	27	77
		UNIT 3	1960	96	118
		UNIT 4	1960	97	119
		UNIT 5	1960	98	120

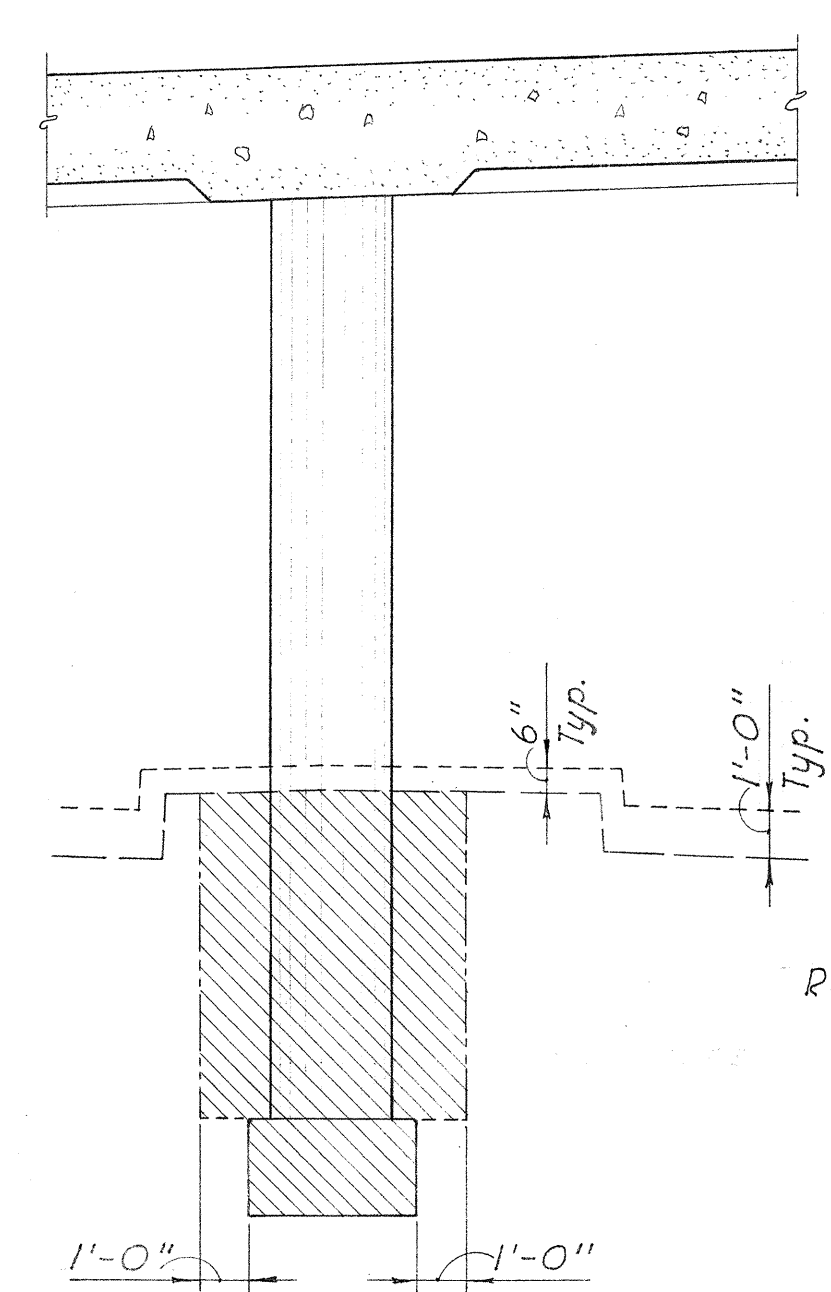
June 14 1960
Aug. 2, 1960
(See Ola Lane Overpass.)



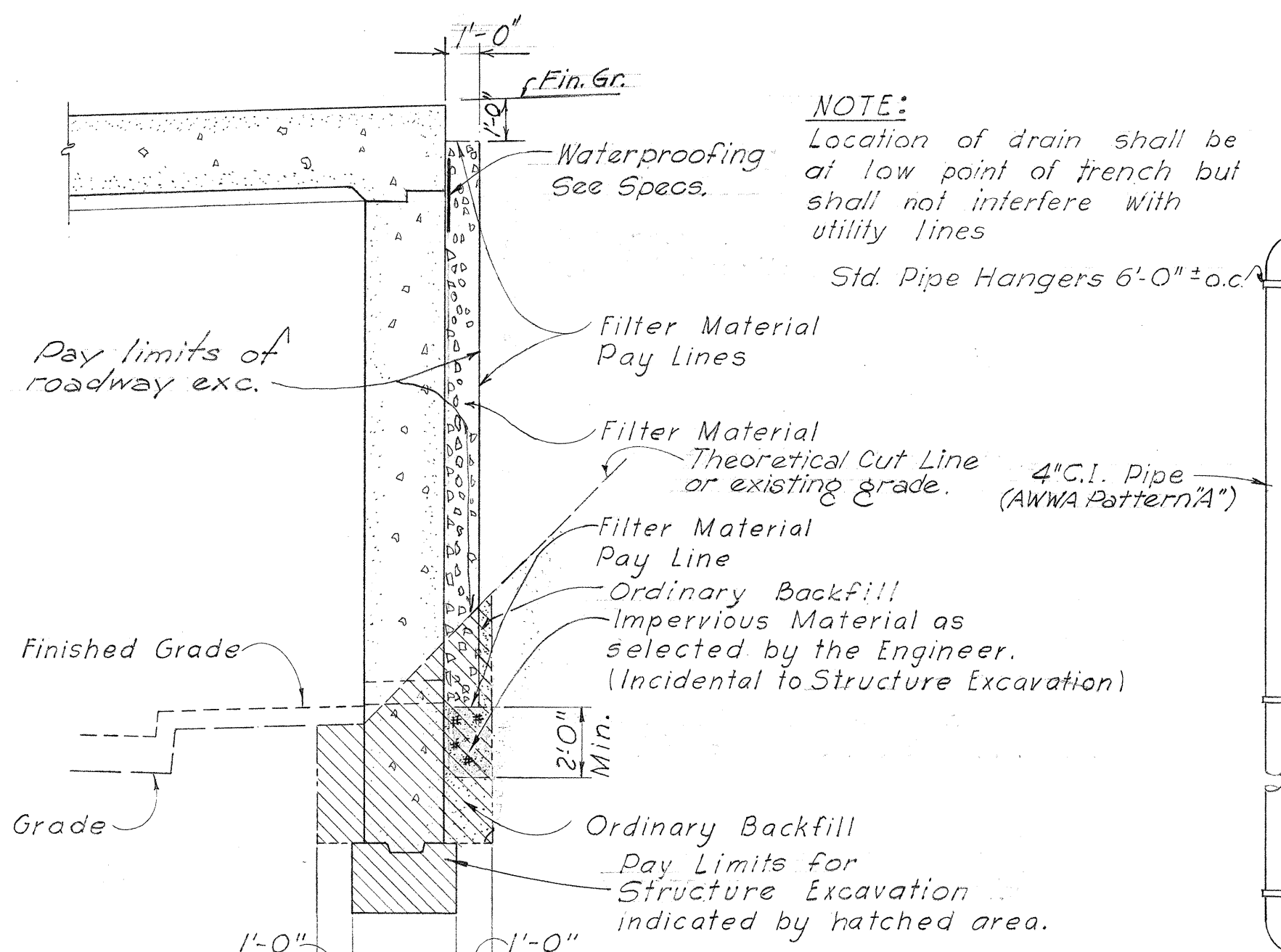
ELEVATION
3/8" x 1'-0"
COLUMN REINFORCING DETAILS



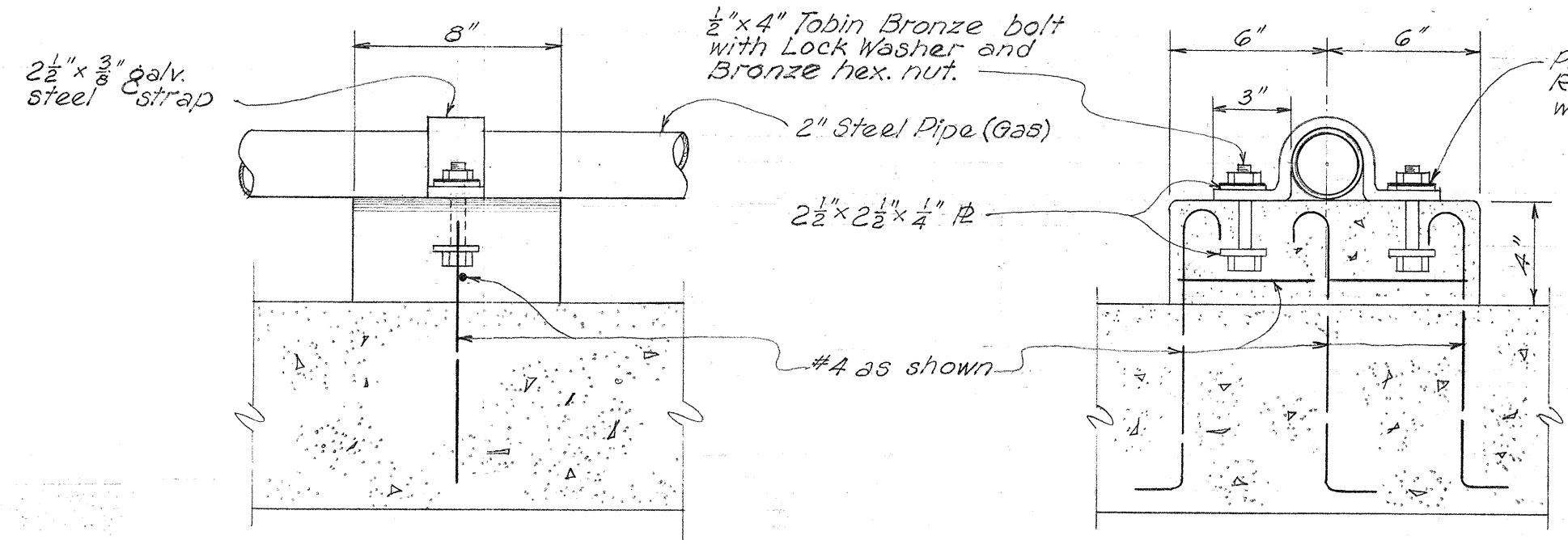
SECTION
1" = 1'-0"
COLUMN HINGE DETAILS



COLUMN
EXCAVATION AND BACKFILL DETAILS
1/4" = 1'-0"

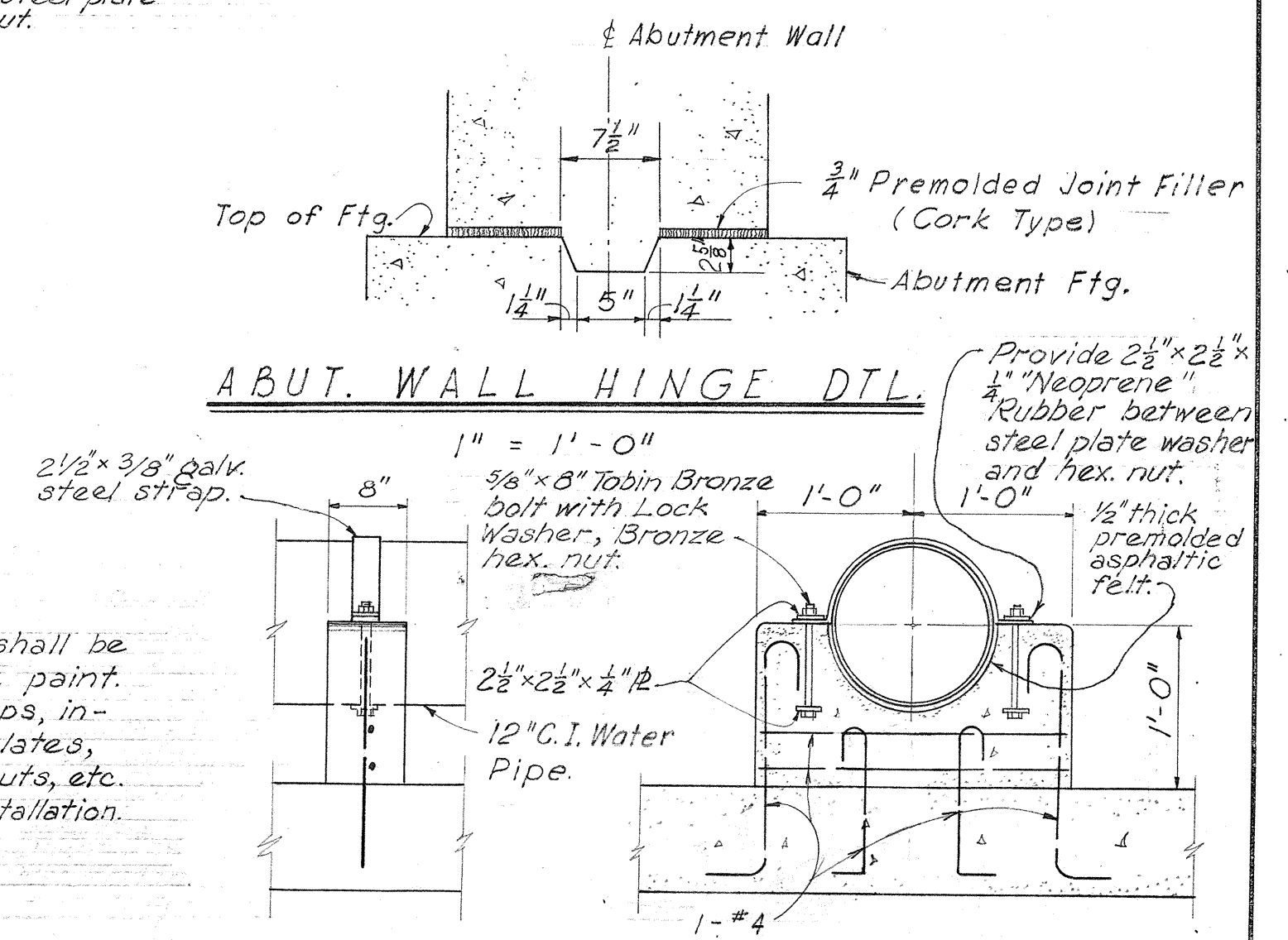


TRENCH DRAIN AND TYP SLEEVE DETAIL
1/4" = 1'-0"

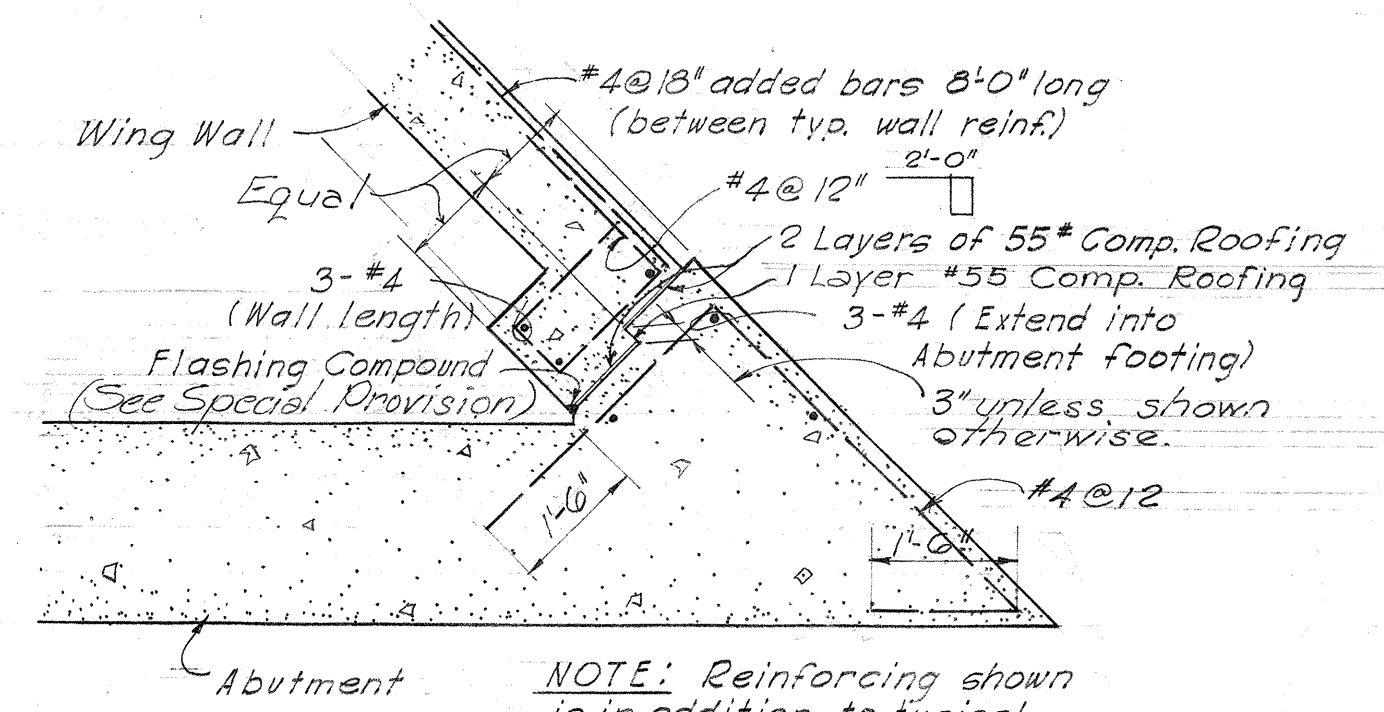


PIPE SUPPORT DTLS. (2" Gas)
2" = 1'-0"

Note:
All exposed metal surfaces shall be given one coat of red oxide paint. Cost of galvanized steel straps, including bronze bolts, steel plates, 'Neoprene' rubber, hexagon nuts, etc. shall be incidental to pipe installation.

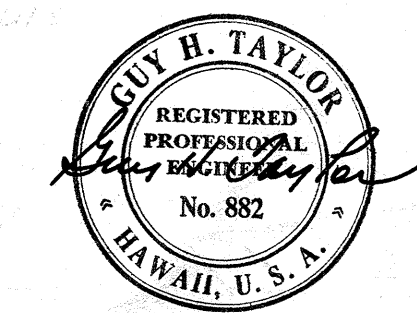


ABUT. WALL HINGE DTL.
(12" Water) PIPE SUPPORT DTLS.
1" = 1'-0"



ABUTMENT TO
WING WALL CONNECTION REINF.
No Scale

GENERAL NOTE
Except where detailed otherwise in the plans, all details on this sheet govern.



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HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
TYP. RIGID FRAME DTLS.
LUNALILO FREEWAY
MOANALUA ROAD
MIDDLE STREET
BU-072-1(2) UNIT 4
US-5-0720(3) UNIT 3
BU-065-1(1) UNIT 3