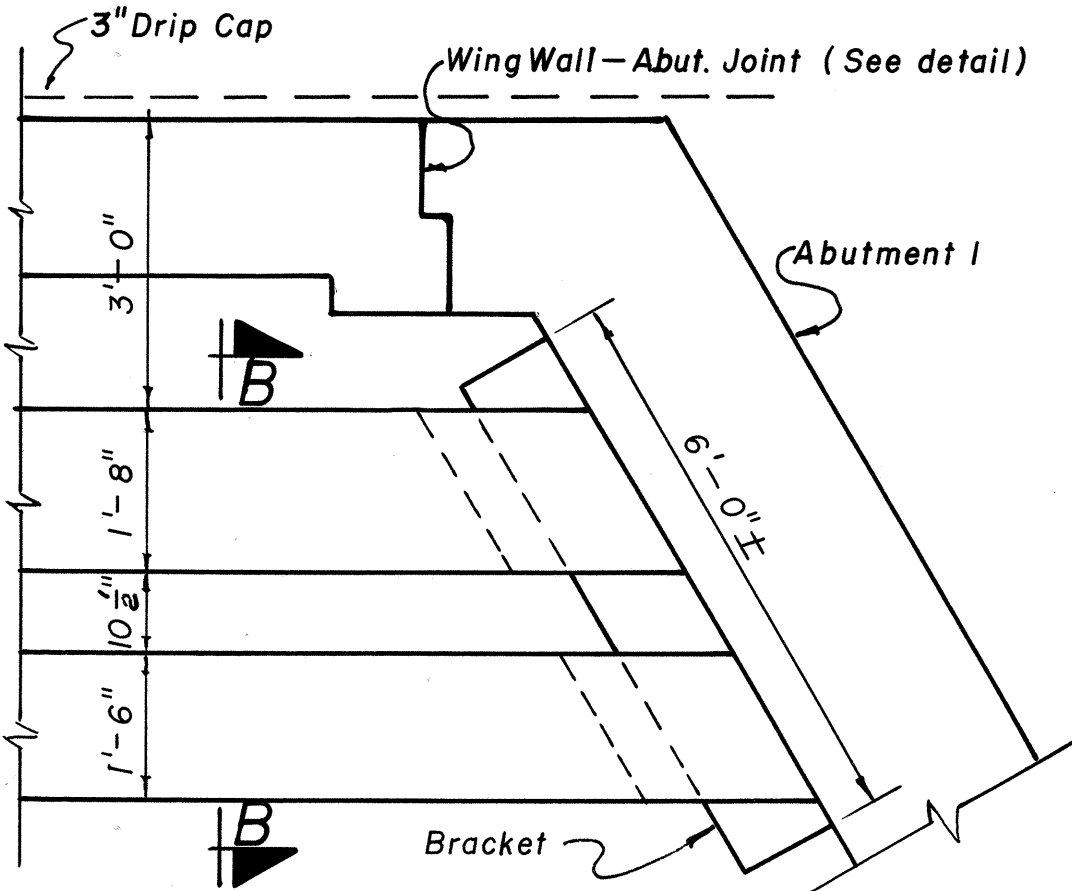
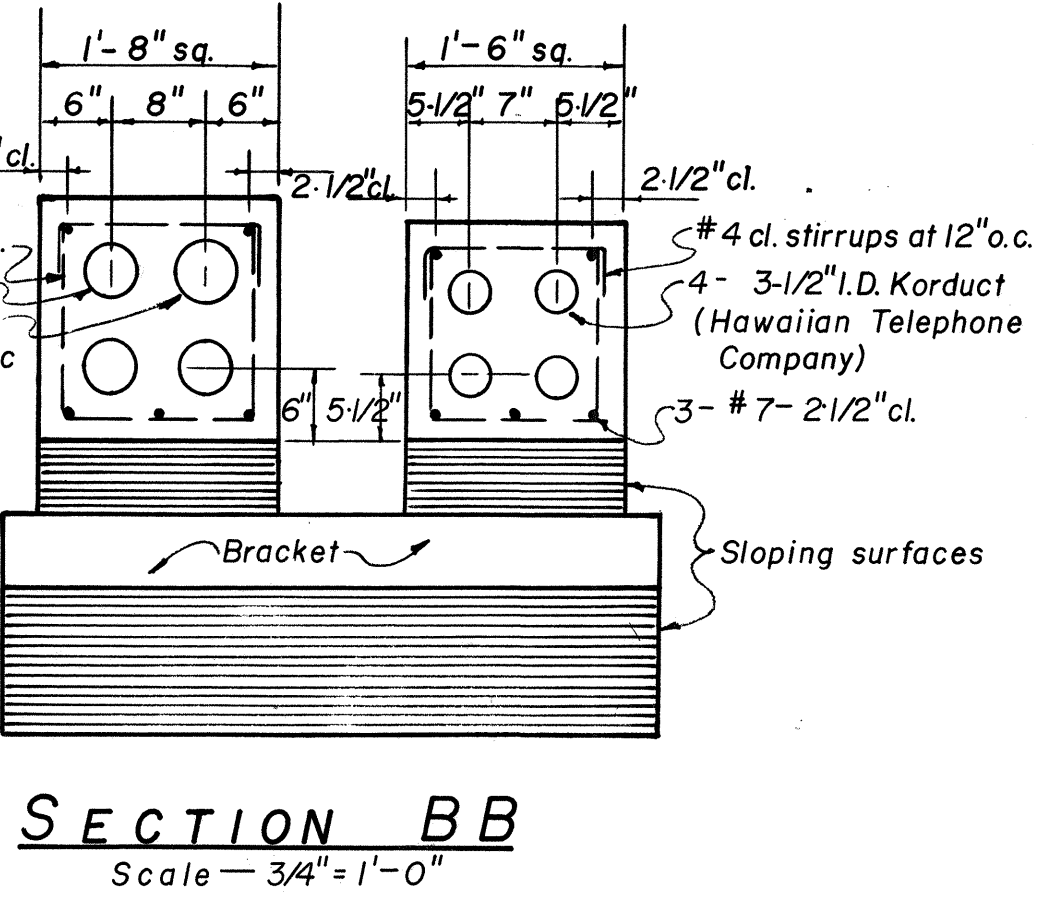
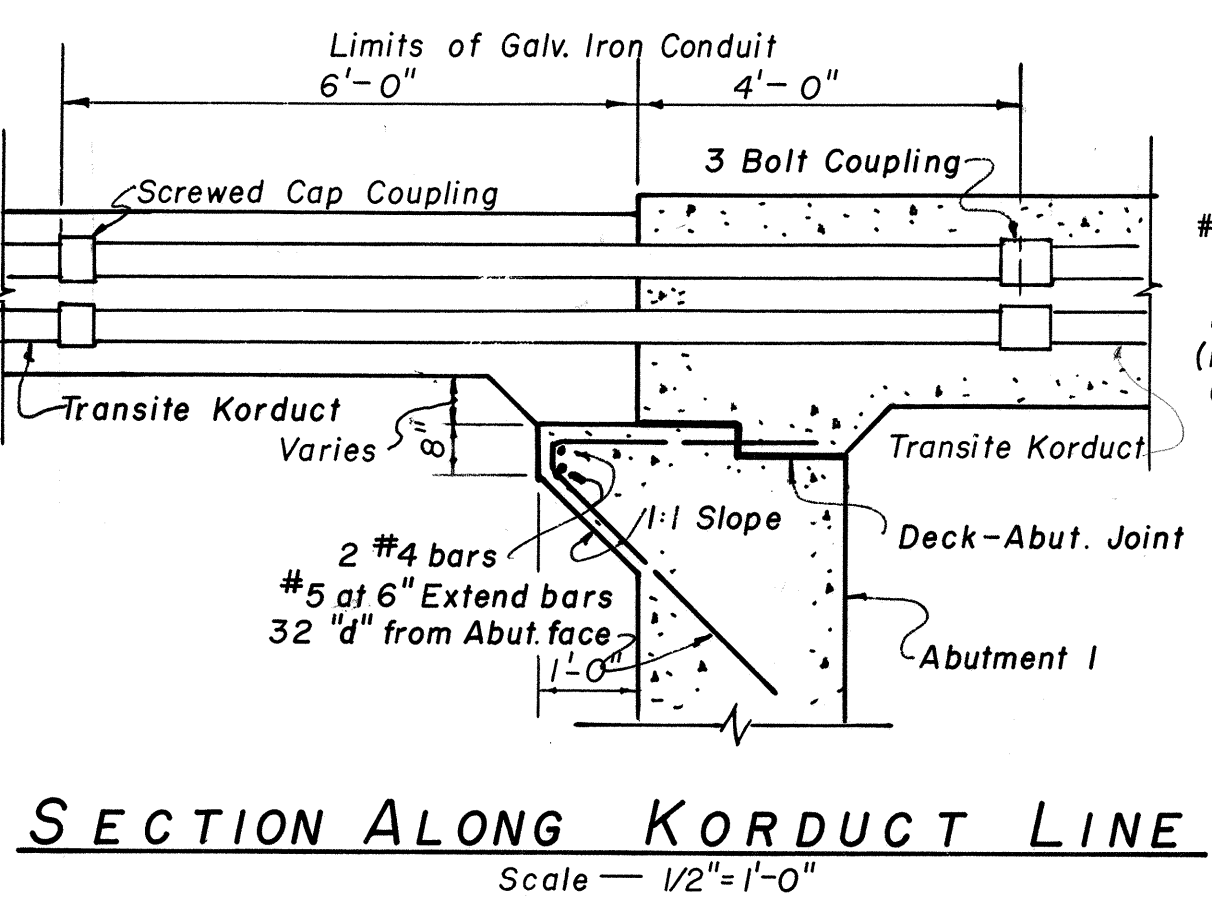


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	U072-1(7)	1958	32	80
		US0630(2)	1958	47	103



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:
 - Footings 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:
 - Abutment footings shall be set completely in rock.
 - Top of all footings shall be level for the length of the entire footing.

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:
 - 1 1/2" for slabs (including rigid frames), stirrups on sides of box girder webs, and walls not exposed to ground.
 - 2" for formed walls exposed to ground.
 - 2 1/2" to main reinforcing of columns and beams.
 - 3" for footings.
- Reinforcing bars shall be detailed in accordance with A.C.I. "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 of "Plastiment" or approved equal shall be added to concrete in accordance with manufacturer's recommendations.

CAMBER:

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

FORM REMOVAL:

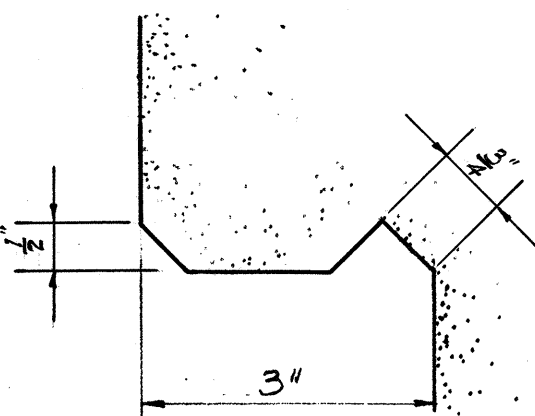
Removal of top slab forms of box girders is optional with contractor. Optional closure slab and diaphragm details shall apply if forms are removed.

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.

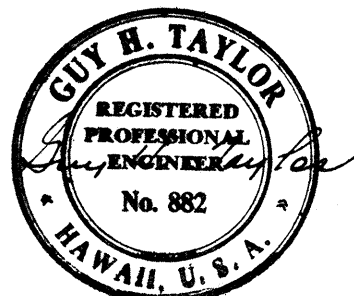
CONSTRUCTION METHODS

- 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 Class D-I fill concrete shall be considered incidental to and covered by the applicable unit prices for "Structural Excavation at Bridges."



TYP. DRIP DETAIL

Half Size



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Civil and Structural Engineers

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

TYPICAL DETAILS AND
GENERAL STRUCTURAL NOTES

LUNALILO FREEWAY U072-1(7)
Unit 3

KALIHI STREET US0630(2)

SHEET No. 1 OF 1 SHEETS

5983.32 5984.47

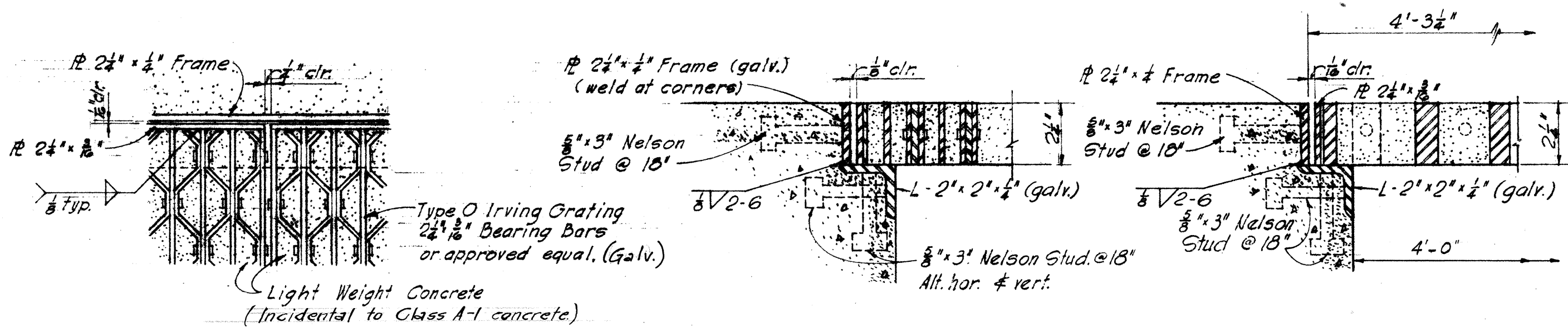
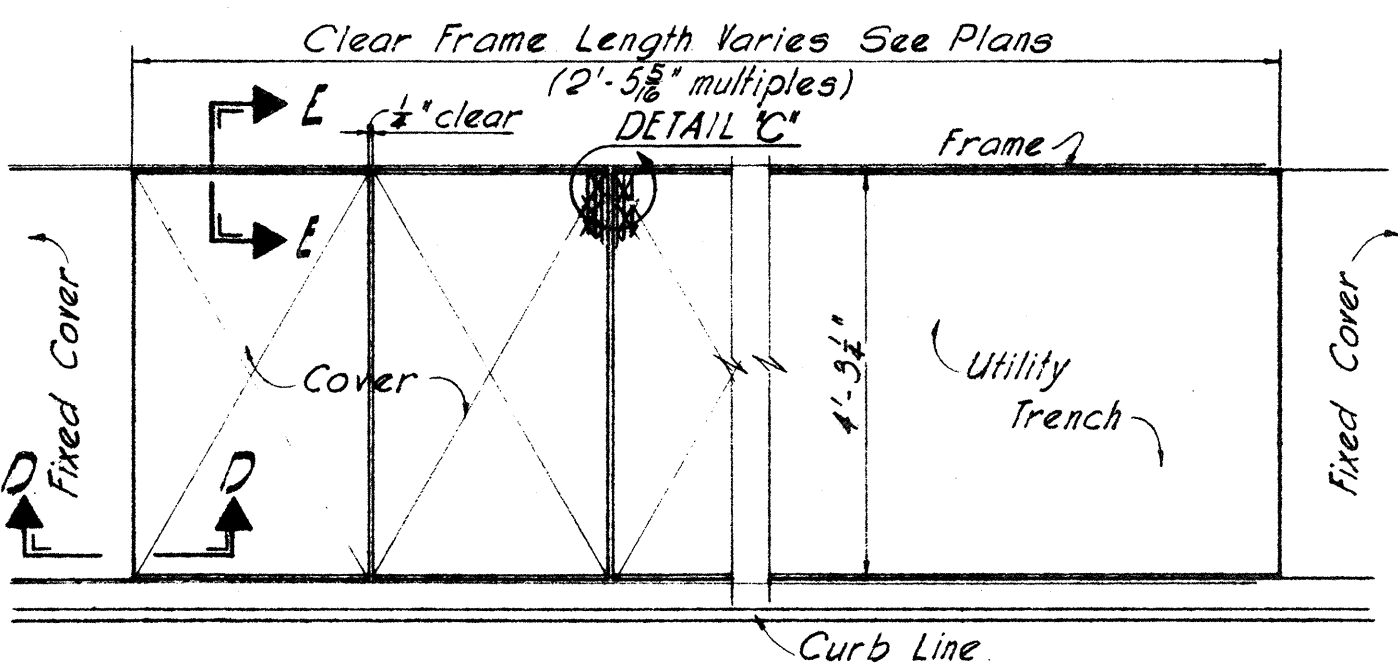
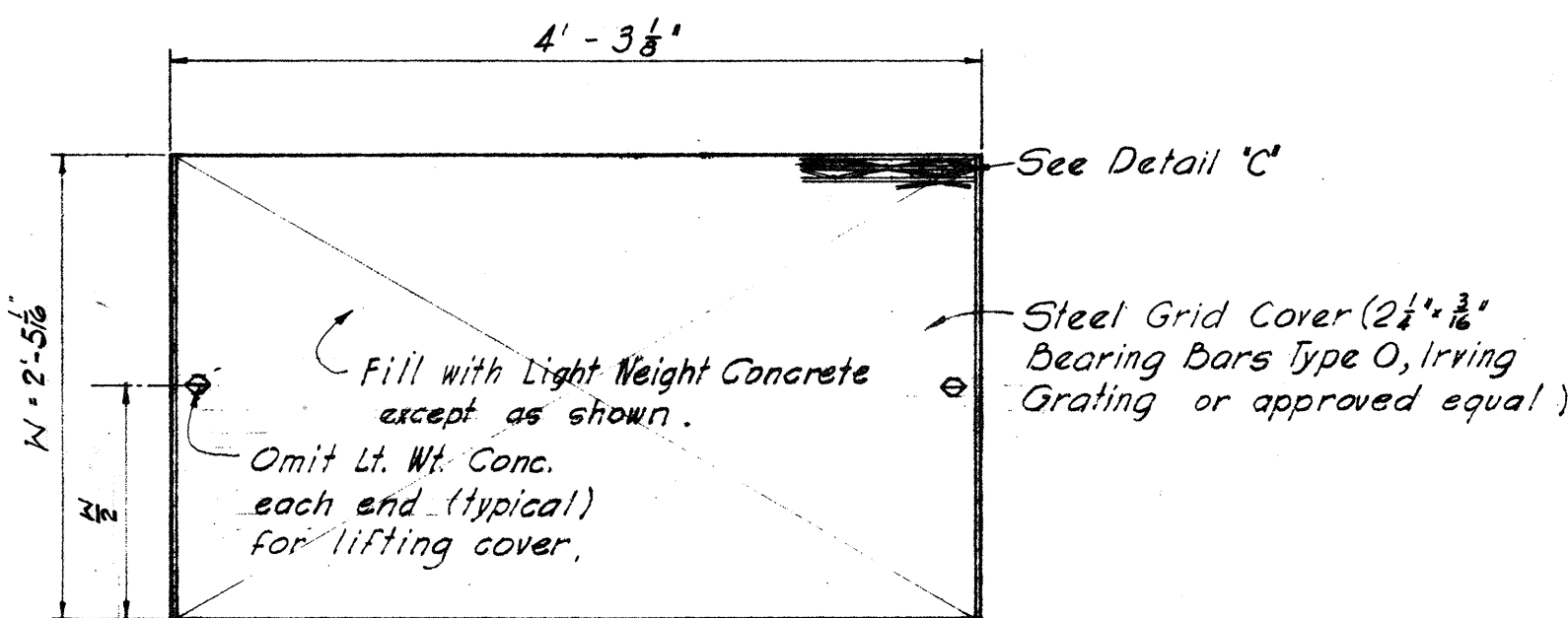
CONF.

NOTE

- Connections at Abutments 1 and 2 similar but with opposite skew angle.
- Carry same encasement on both abutments as shown on plans.
- Galvanized conduit to extend 4' into deck slab and 6' into encasement.
- Same type of encasement and bracket to be used on all structures carrying korducts or pipe lines but with required alterations.

KORDUCT ENCASEMENT & BRACKET

GULICK AVENUE OVERPASS

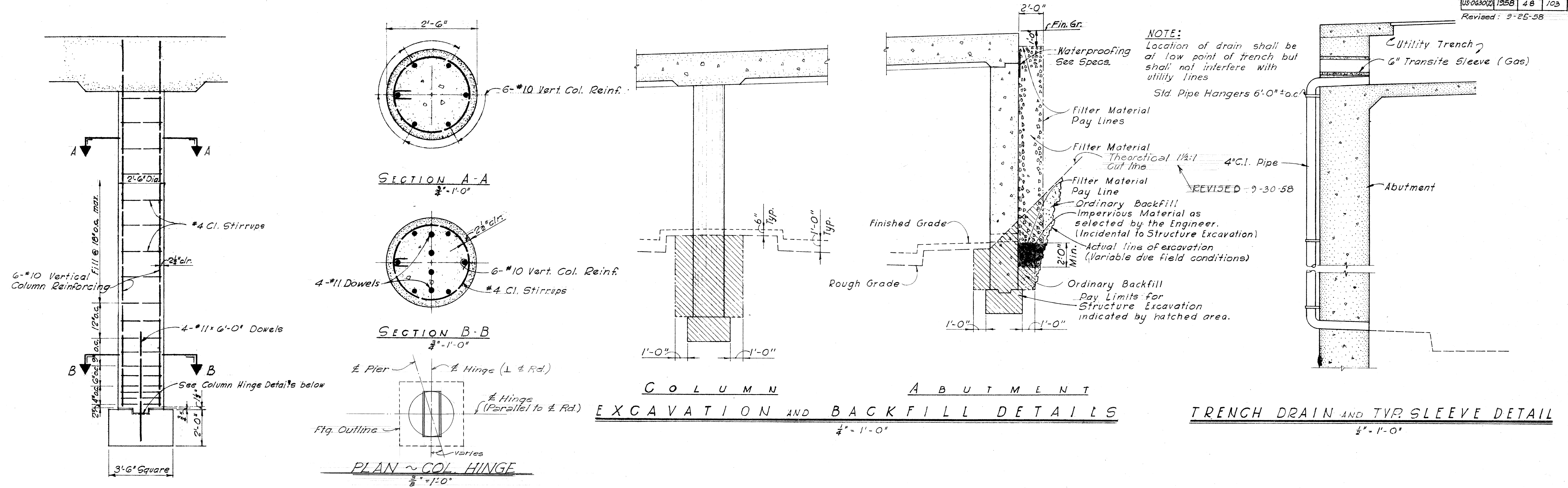


SECTION D-D

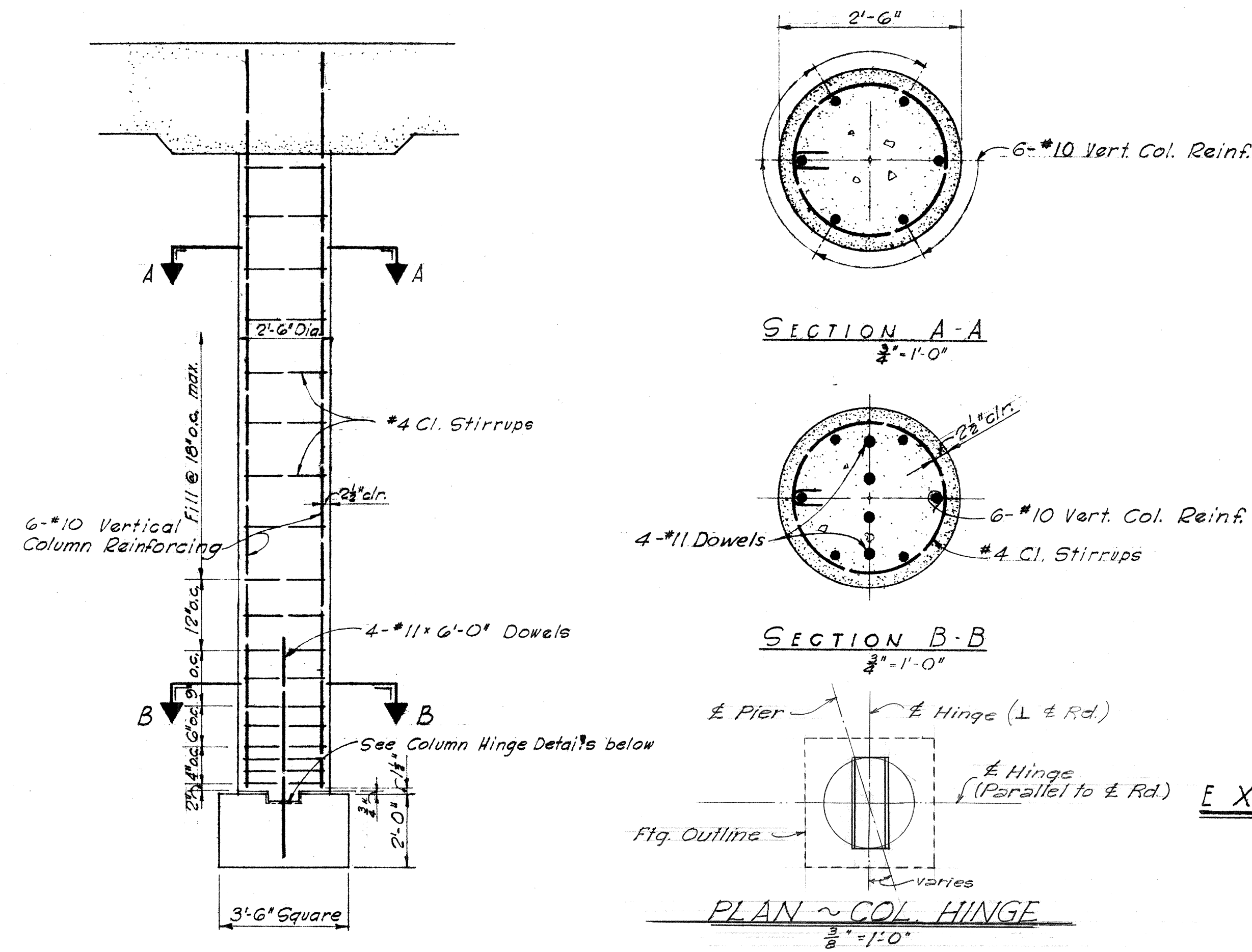
SECTION E-E

REMOVABLE TRENCH COVER DETAILS

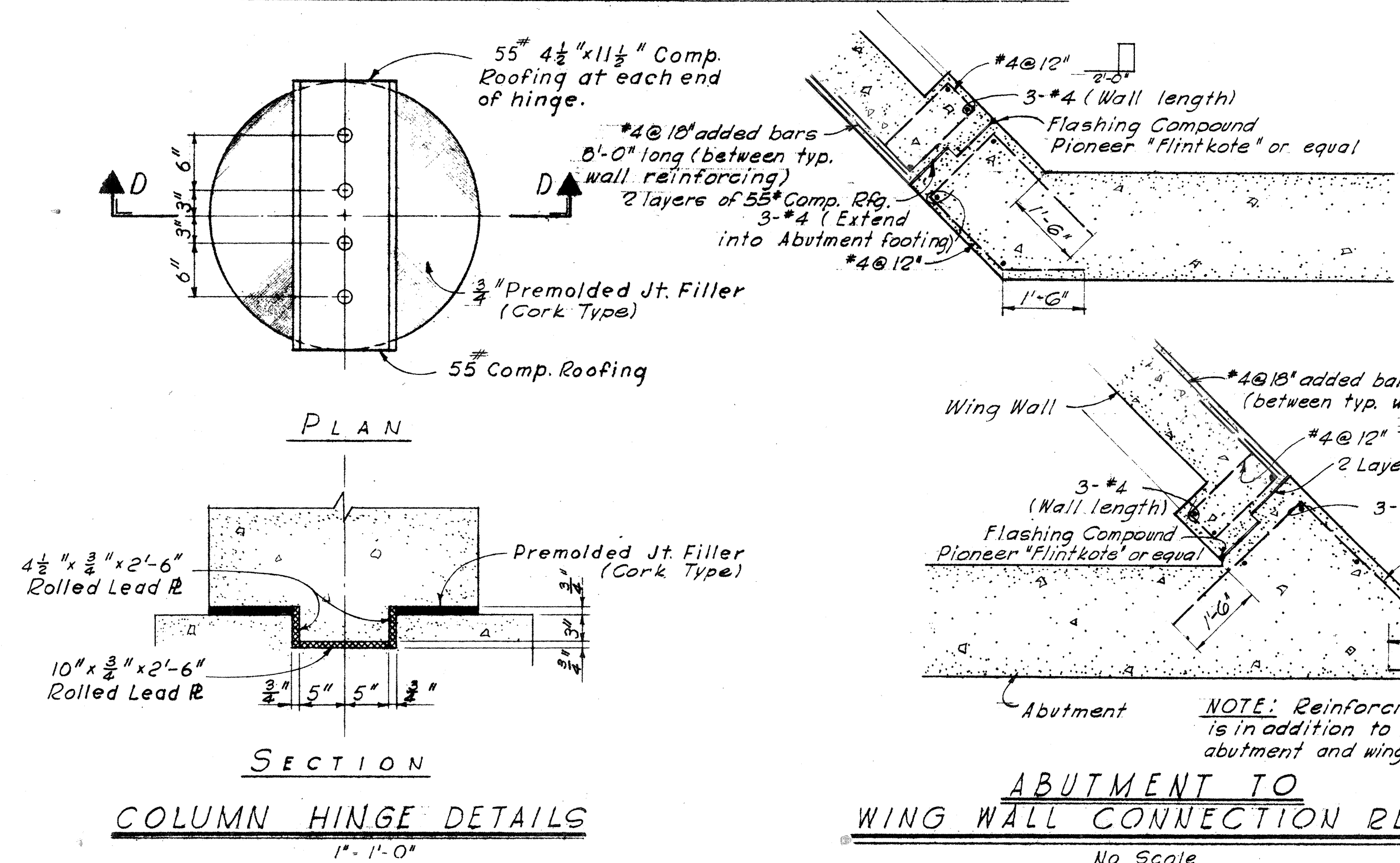
SURVEY PLOTTED BY	DATE	DESIGNED BY	TRACED BY	QUANTITIES BY	CHECKED BY
ORIGINAL PLAN	6-1-57	G. L. TAYLOR	G. L. TAYLOR	G. L. TAYLOR	G. L. TAYLOR
NOTE BOOK No.					



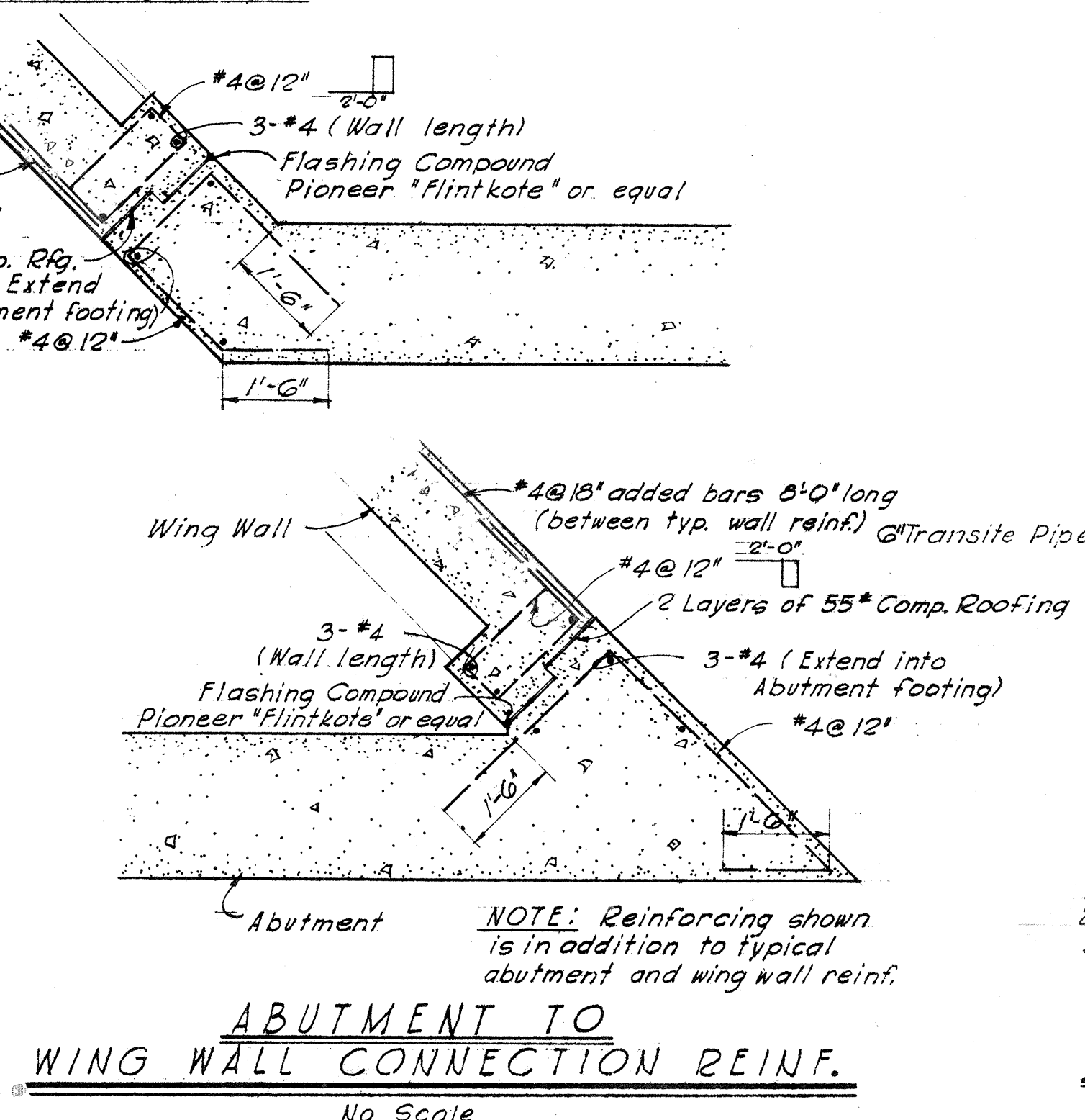
TRENCH DRAIN AND TYP. SLEEVE DETAIL
1/2" = 1'-0"



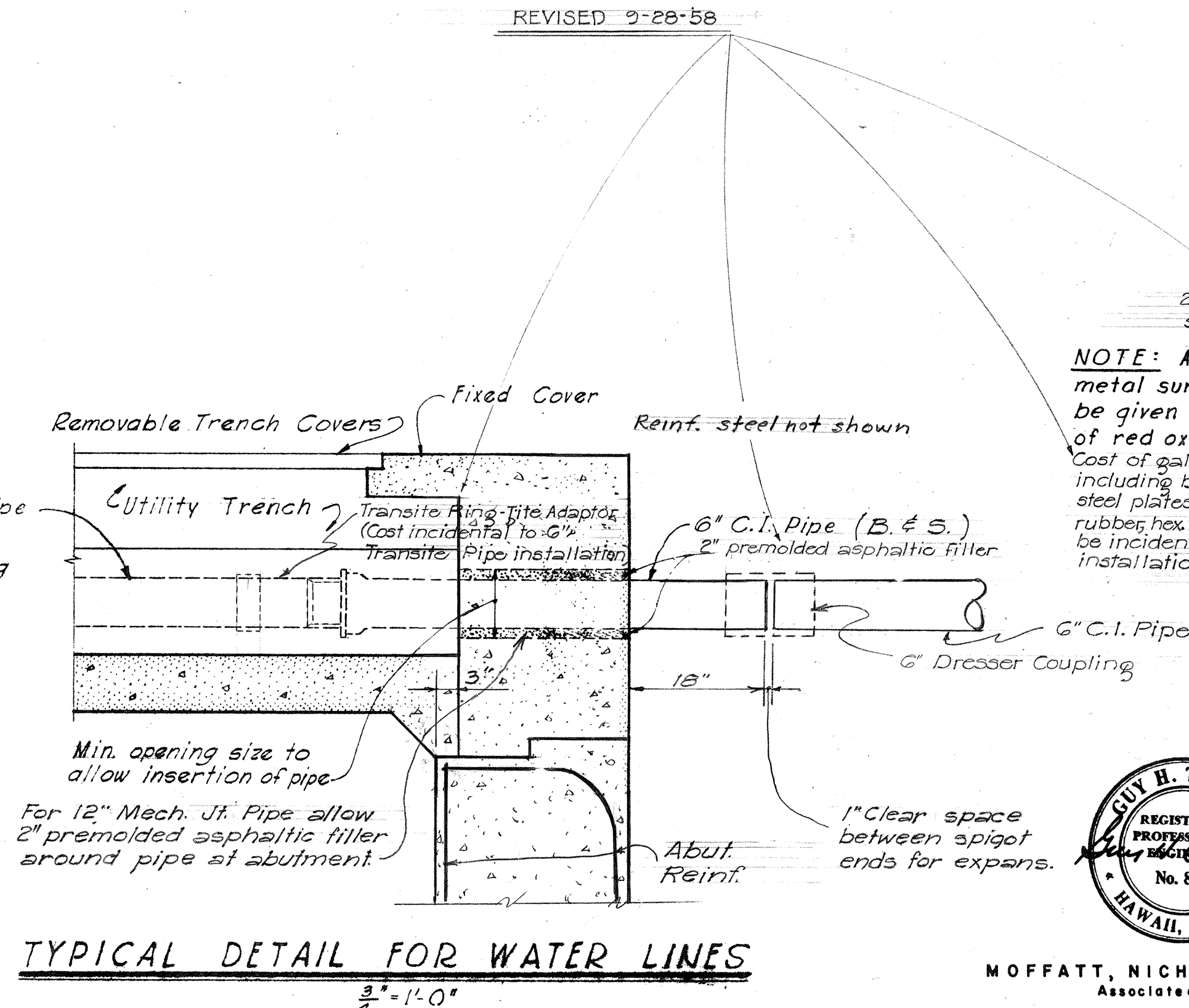
COLUMN REINFORCING DETAILS
1/8" = 1'-0"



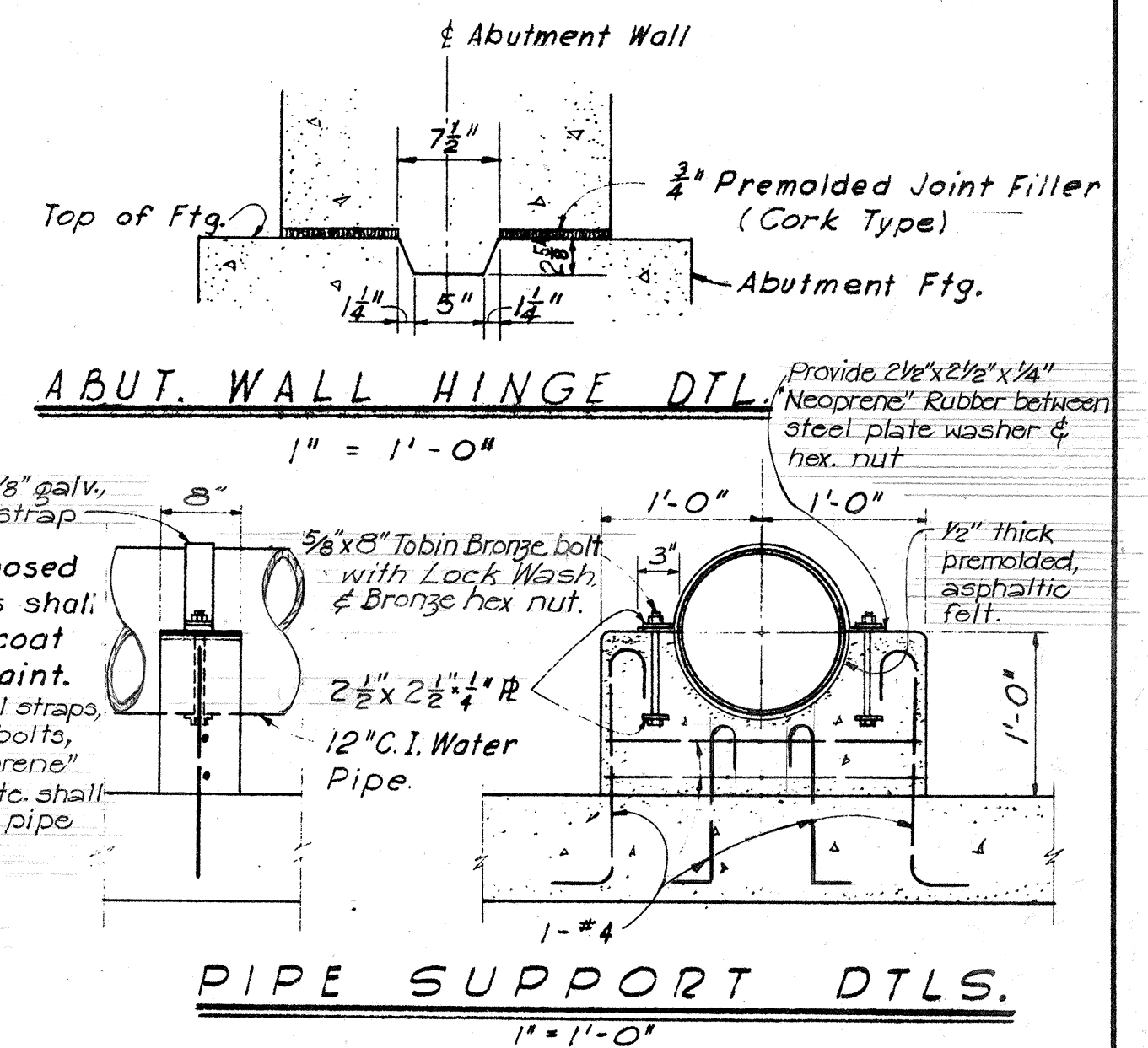
COLUMN HINGE DETAILS
1" = 1'-0"



ABUTMENT TO WING WALL CONNECTION REINF.
No Scale



TYPICAL DETAIL FOR WATER LINES
3/4" = 1'-0"



PIPE SUPPORT DTLs.
1" = 1'-0"

NOTE: All exposed metal surfaces shall be given one coat of red oxide paint. Cost of galv. steel straps, including bronze bolts, steel plates, "Neoprene" rubber, hex nuts, etc. shall be incidental to pipe installation.



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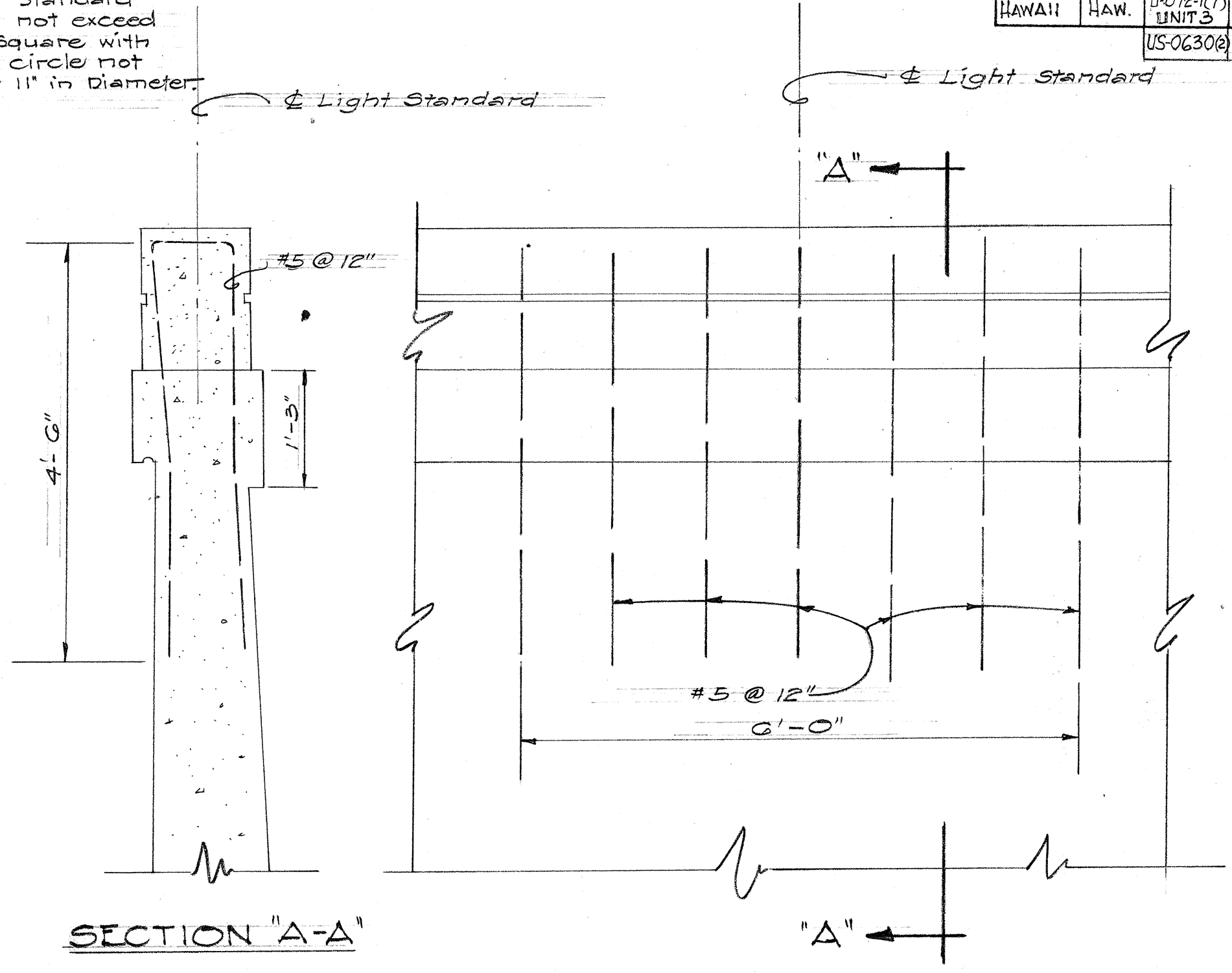
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
TYP. RIGID FRAME DTLs.
LUNALILO FREEWAY U-072-1(7) UNIT 3
KALIHI STREET US 0630 (2)

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	US-06308	1958	34	80
		US-06308	1958	49	103

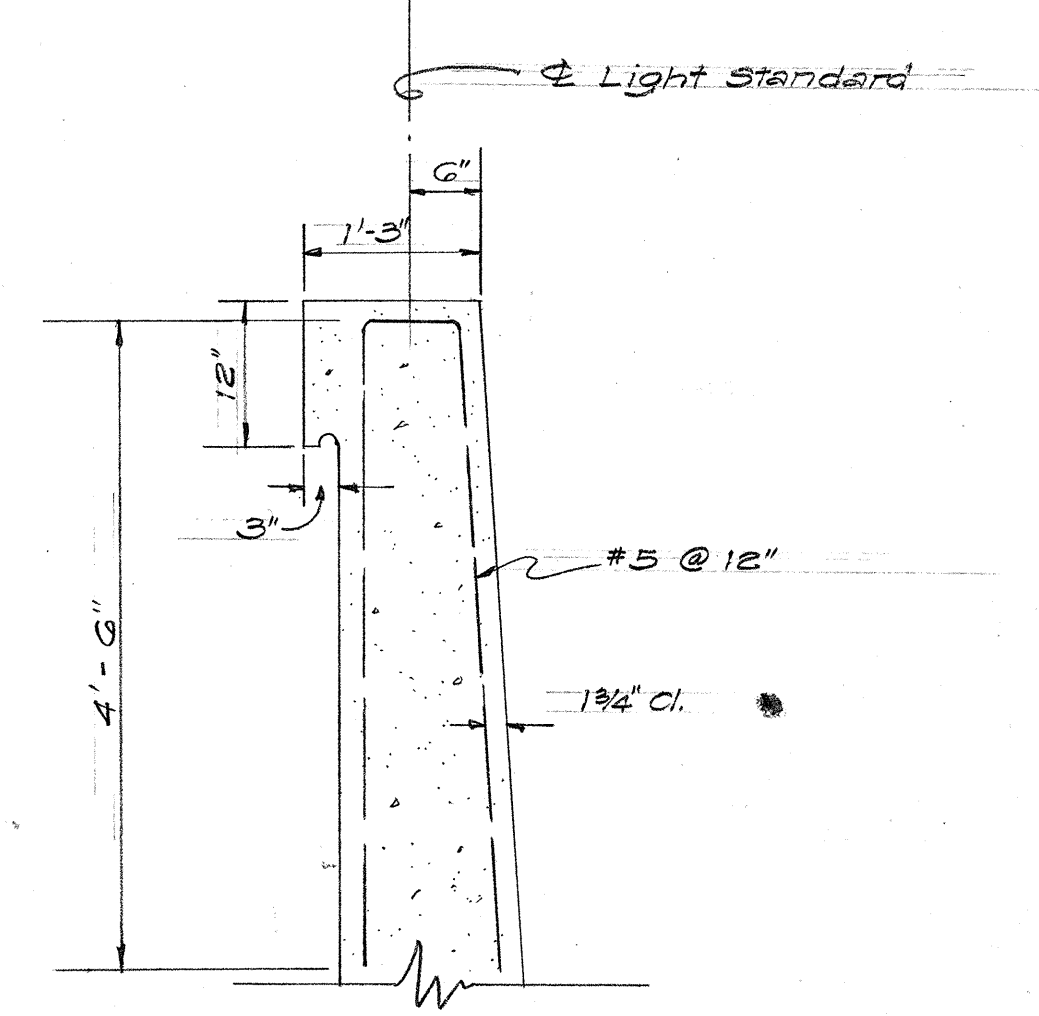
NOTE:

Anchor base for Light Standard shall not exceed 11 1/2" square with bolt circle not over 11" in diameter



SECTION "A-A"

LIGHT STANDARD ON PARAPET OF ALUMINUM RAILING
SCALE: 3/4" = 1'-0"



LIGHT STANDARD ON RET. WALL
SCALE: 3/4" = 1'-0"

SECTIONS
Scale - 3/8" = 1'-0"

SPECIFICATION FOR ALUMINUM RAILING

ITEM	DESCRIPTION	ALLOY	UNIT WT.
Top Rail	Al. Pipe - 4" o.d. x 1/8" thick wall	6061 - T6	1.70 #/ft.
Bot. Rail	Al. Pipe - 3 1/2" o.d. x 1/8" thick wall	6061 - T6	1.33 #/ft.
* Rail Post	Alcoa No. 2001 Permanent Mold Casting or approved equal. Set screw to have No. 205 Alumilite finish.	Post 356-T6 Bot. Sc. 2024-T4	17.0 #/ea.
Rail Cap	Alcoa No. 7172-4.0 (Top Rail) and Alcoa No. 7172-3.5 (Bot. Rail) or approved equal. Set screw to have No. 205 Alumilite finish.	Cap 356-T6 Bot. Sc. 2024-T4	Top - 1.4 #/ea. Bot. - 1.0 #/ea.
Bolts	Alcoa No. 93-1139 or approved equal with hexagon nut and plain washer. Bolt to have No. 205 Alumilite finish.	Bolt 2024-T4 Nut 6061-T6 Wash. 2024-T4	

* Rail Post Finish: Front, top and rear faces of post shall receive a standard scratch brush finish, Alcoa or approved equal.

APPROVED: _____ DATE: _____

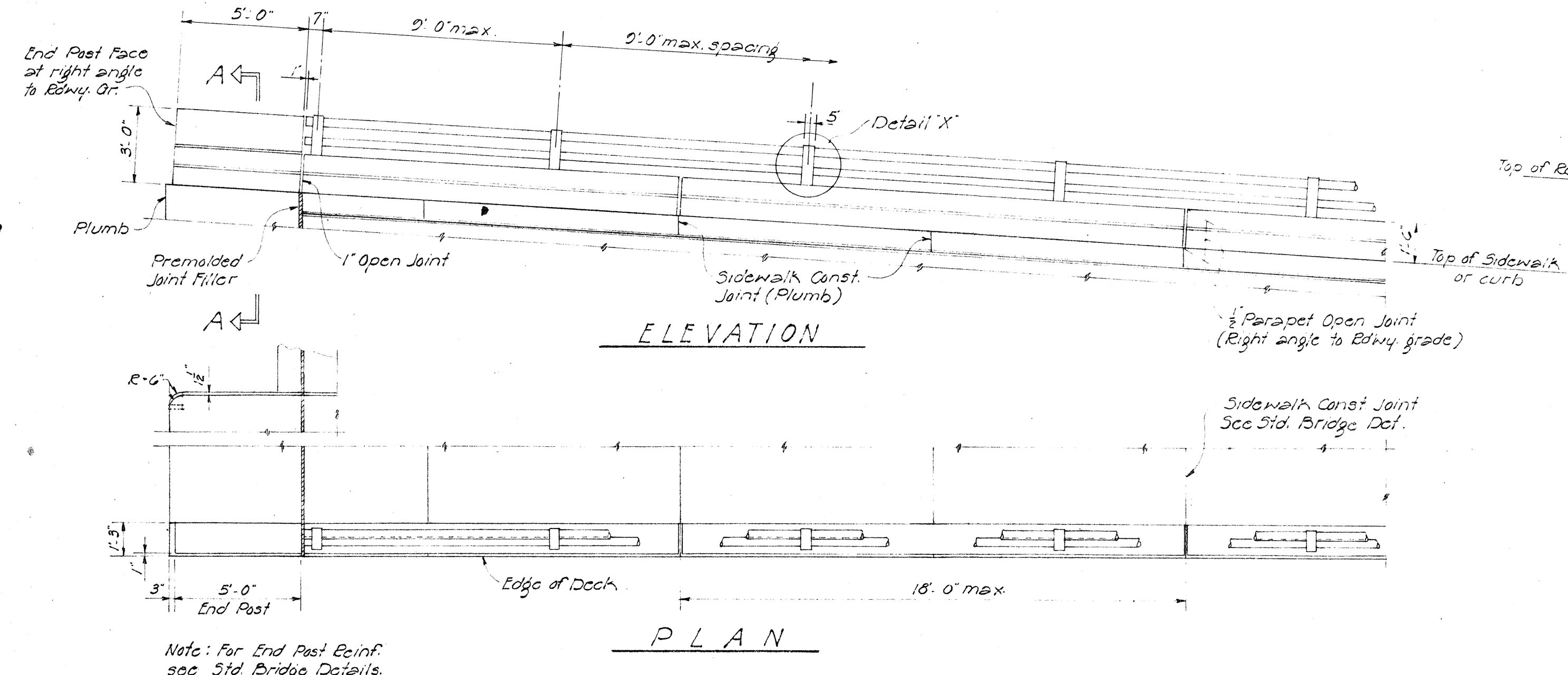
TERRITORIAL HIGHWAY ENGINEER

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD DETAILS
ALUMINUM RAILING

SCALE AS NOTED

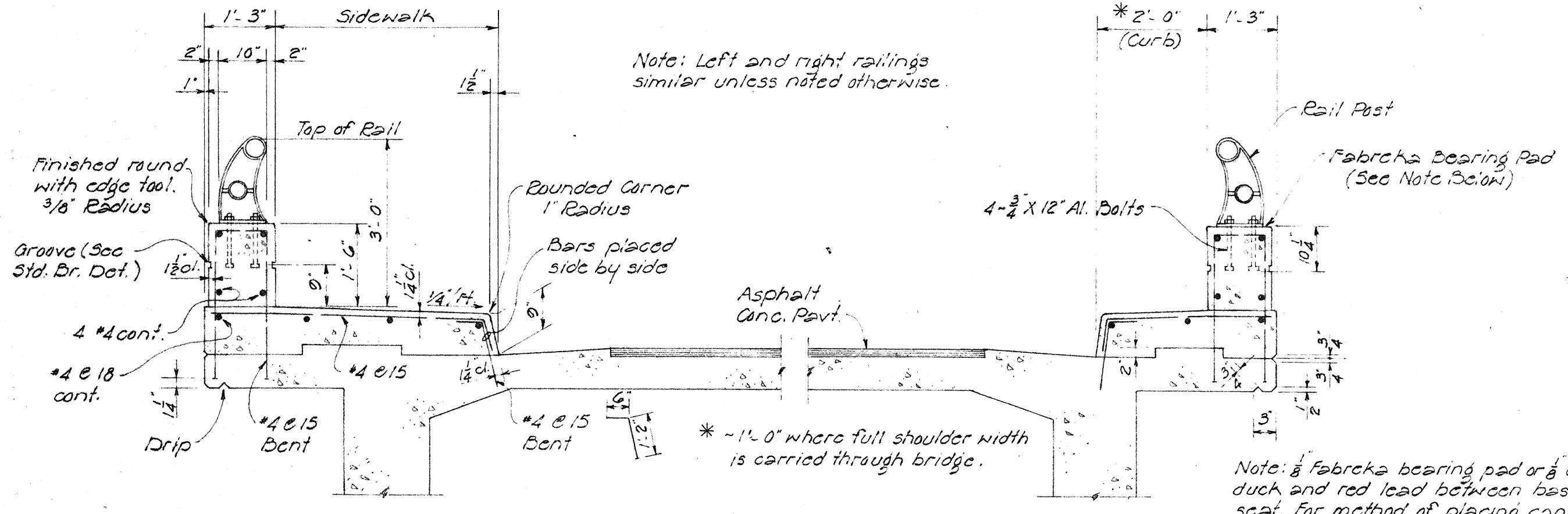
SHEET NO. | OF | SHEETS



ALUMINUM RAILING DETAIL
Scale - 1/4" = 1'-0"

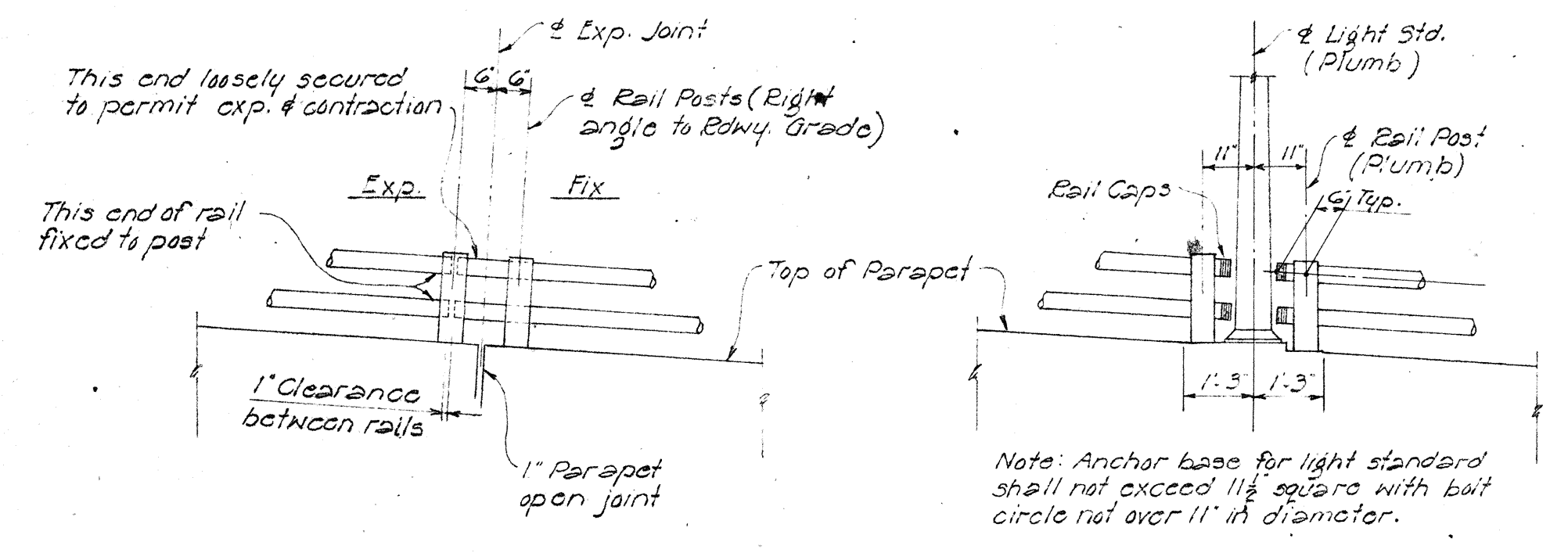
TREATMENT OF RAILING ON RETAINING WALL
Scale - 1/4" = 1'-0"

DETAIL "X"
Scale - 3/4" = 1'-0"



TYPICAL SECTION
Scale - 1/2" = 1'-0"

Note: a fabric bearing pad or a canvas duck and red lead between base 12 and seat. For method of placing canvas duck and red lead see Section 44.3(F)(6) of the Standard Specification.



TREATMENT OF RAILING AT EXP. JOINT
Scale - 3/8" = 1'-0"

TREATMENT OF RAILING AT LIGHT STD.
Scale - 3/8" = 1'-0"

LIGHT STD. BASE DETAIL
Scale - 1" = 1'-0"

SURVEY PLOTTED BY: _____ DATE: _____

PLAN _____

TRACED BY: _____

QUANTITIES CHECKED BY: _____

NOTE BOOK _____

NO. _____