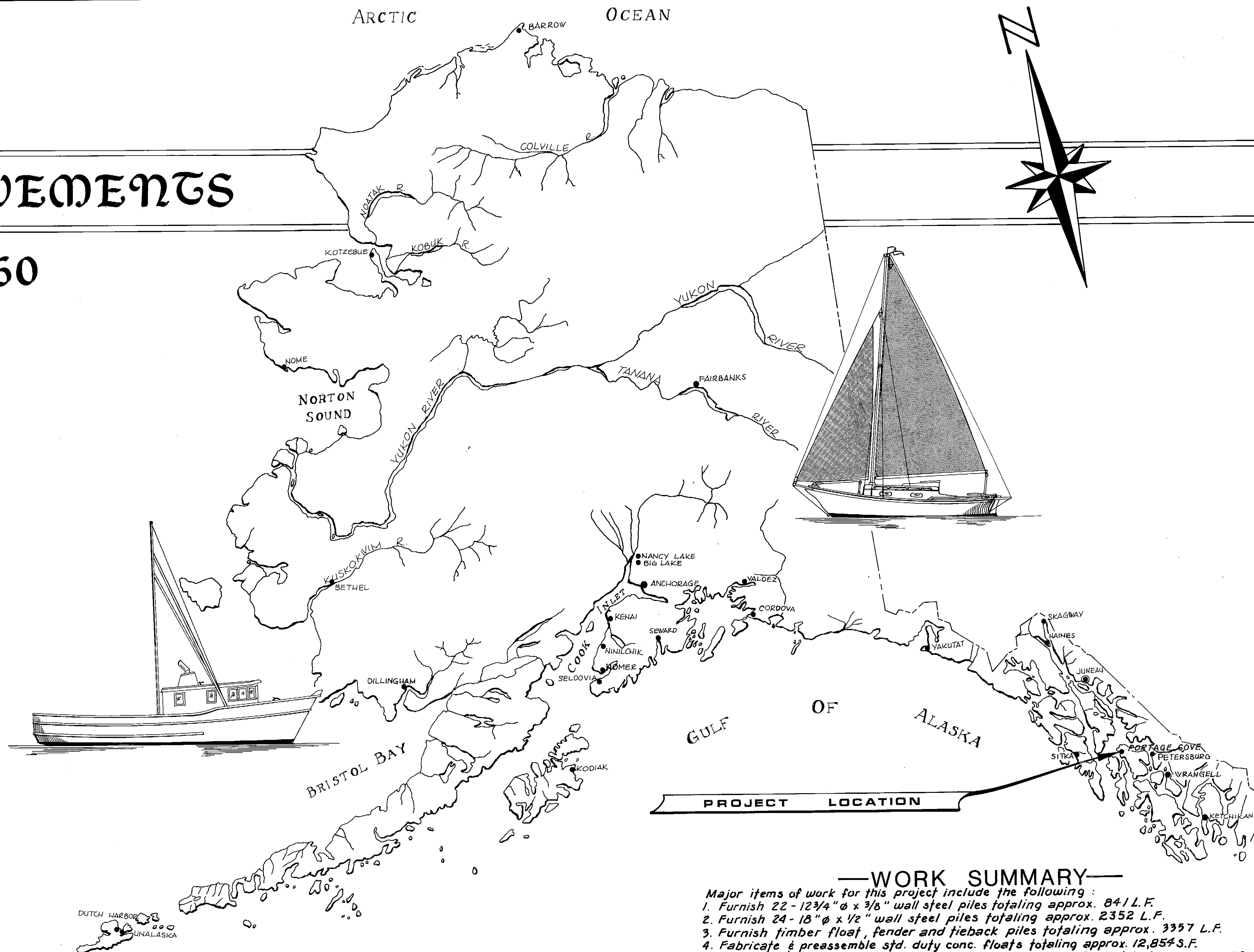


# KAKE PORTAGE COVE

## INTERIM HARBOR IMPROVEMENTS

PROJECT NO. K-93160



### —WORK SUMMARY—

- Major items of work for this project include the following:
1. Furnish 22 - 12 3/4"  $\phi$  x 3/8" wall steel piles totaling approx. 841 L.F.
  2. Furnish 24 - 18"  $\phi$  x 1/2" wall steel piles totaling approx. 2352 L.F.
  3. Furnish timber float, fender and tieback piles totaling approx. 3357 L.F.
  4. Fabricate & preassemble std. duty conc. floats totaling approx. 12,854 S.F.
  5. Fabricate & preassemble heavy duty post tensioned conc. floats totaling approx. 6096 S.F.
  6. Fabricate & furnish grid materials.
  7. Fabricate & furnish conc. launching ramp planks (100 ea.) & assoc. materials.

### INDEX TO SHEETS

1. TITLE SHEET	14. MISC. DETAILS
2. PROJECT LAYOUT	
3. CONCRETE FLOAT LAYOUT	
4. GRID DETAILS	
5. LAUNCH RAMP DETAILS	
6. 12' POST TENSIONED CONC. FLOAT	
7. P-T CONC. FLOAT DETAILS	
8. TYPICAL FLOAT UNITS	
9. TYPICAL STALL FLOAT UNITS	
10. TYPICAL STALL FLOATS	
11. CONC. FLOAT WELDMENTS	
12. COVER R <sup>s</sup> & BRKWTR. PILE COLLAR	
13. MISC. DETAILS	

STATE  
OF  
ALASKA

DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

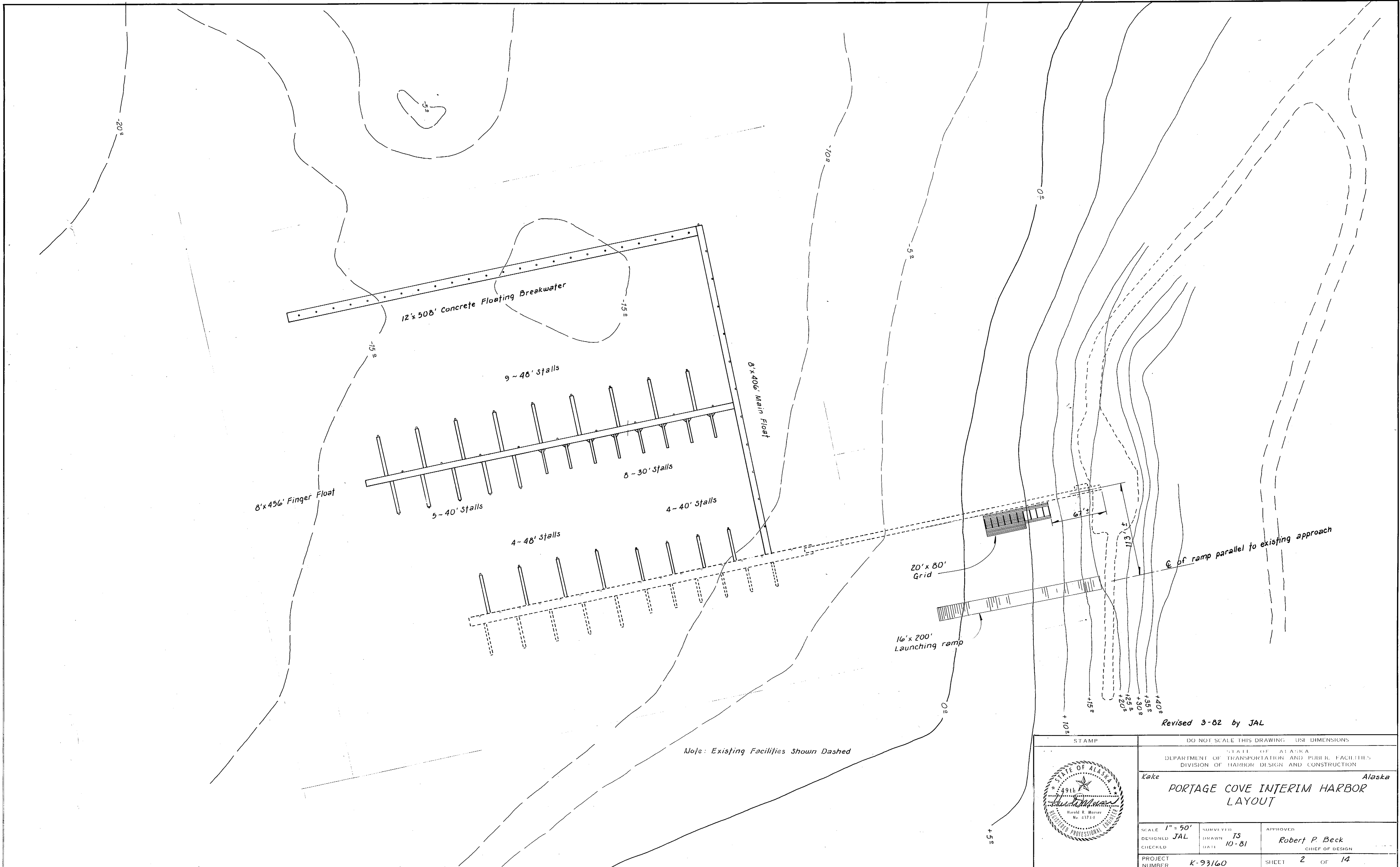
**HARBOR DESIGN & CONSTRUCTION**

**APPROVED**

*Charles E. Stapock*

DATE 10-16-81

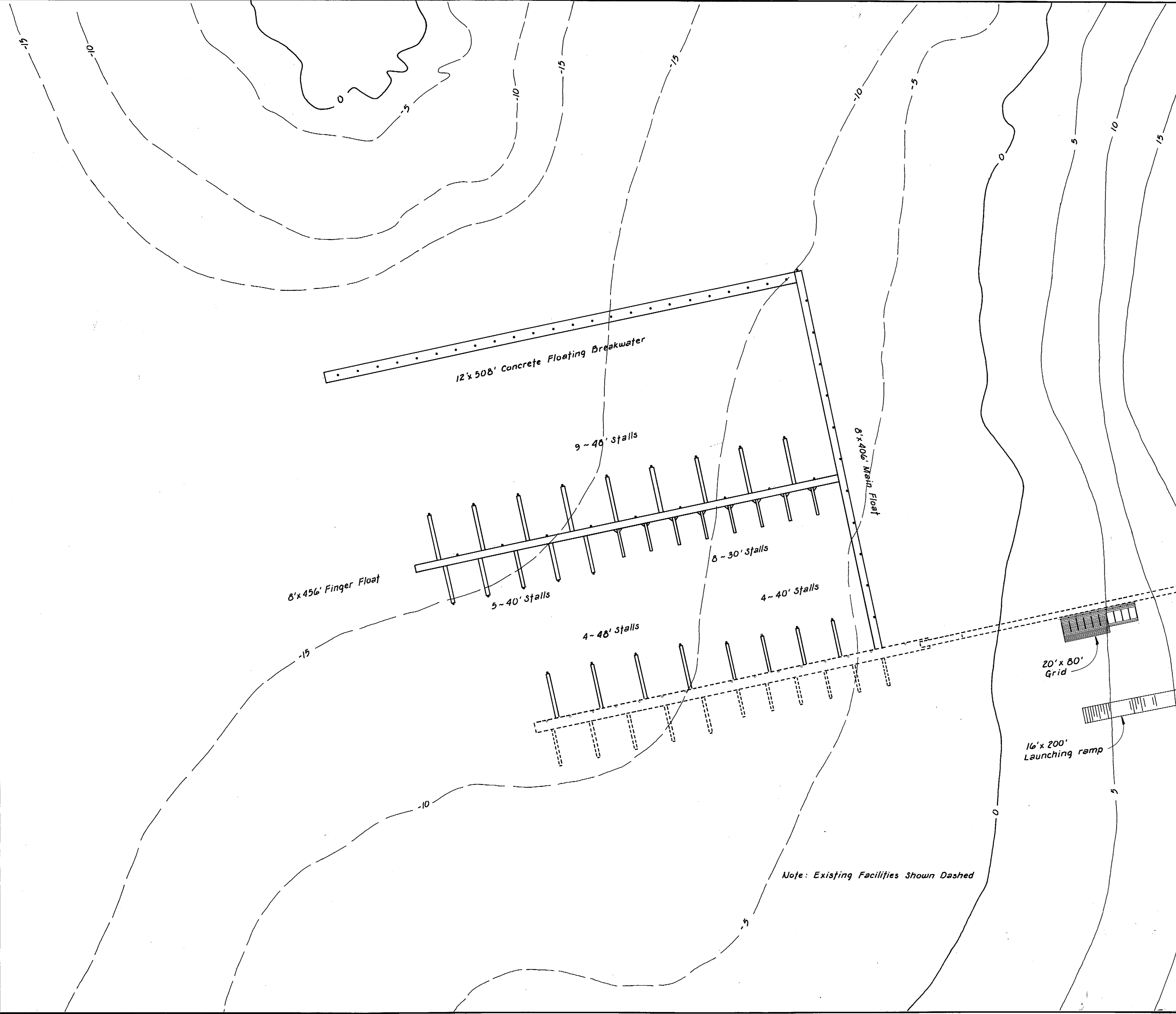
SHEET **1** OF **14**



Note: Existing Facilities Shown Dashed

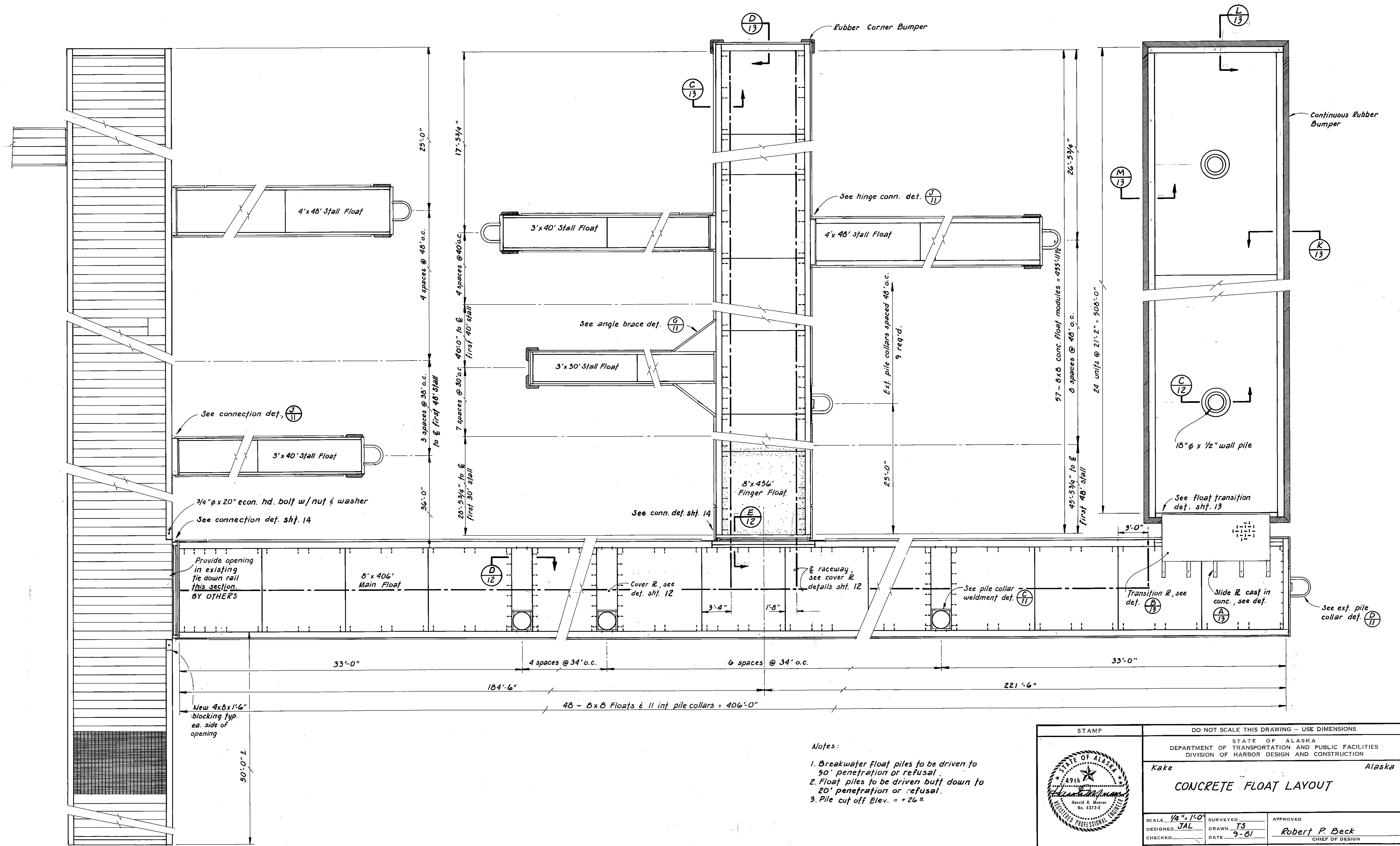
Revised 3-82 by JAL

		DO NOT SCALE THIS DRAWING. USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION	
kake PORTAGE COVE INTERIM HARBOR LAYOUT		Alaska	
SCALE 1" = 50'	DESIGNED JAL	SURVEYED TS	APPROVED Robert P. Beck
CHECKED	DATE 10-81	DATE	CHIEF OF DESIGN
PROJECT NUMBER K-93160	SHEET 2 OF 14		



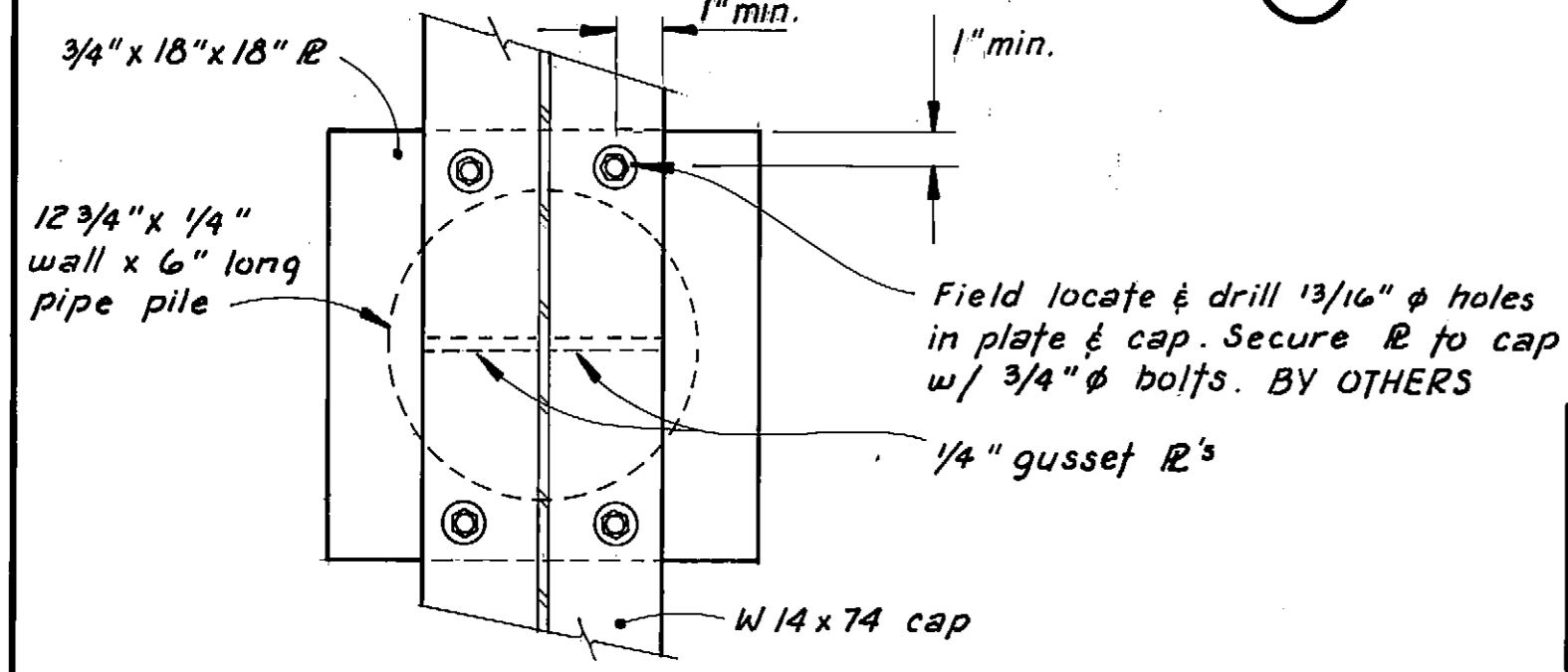
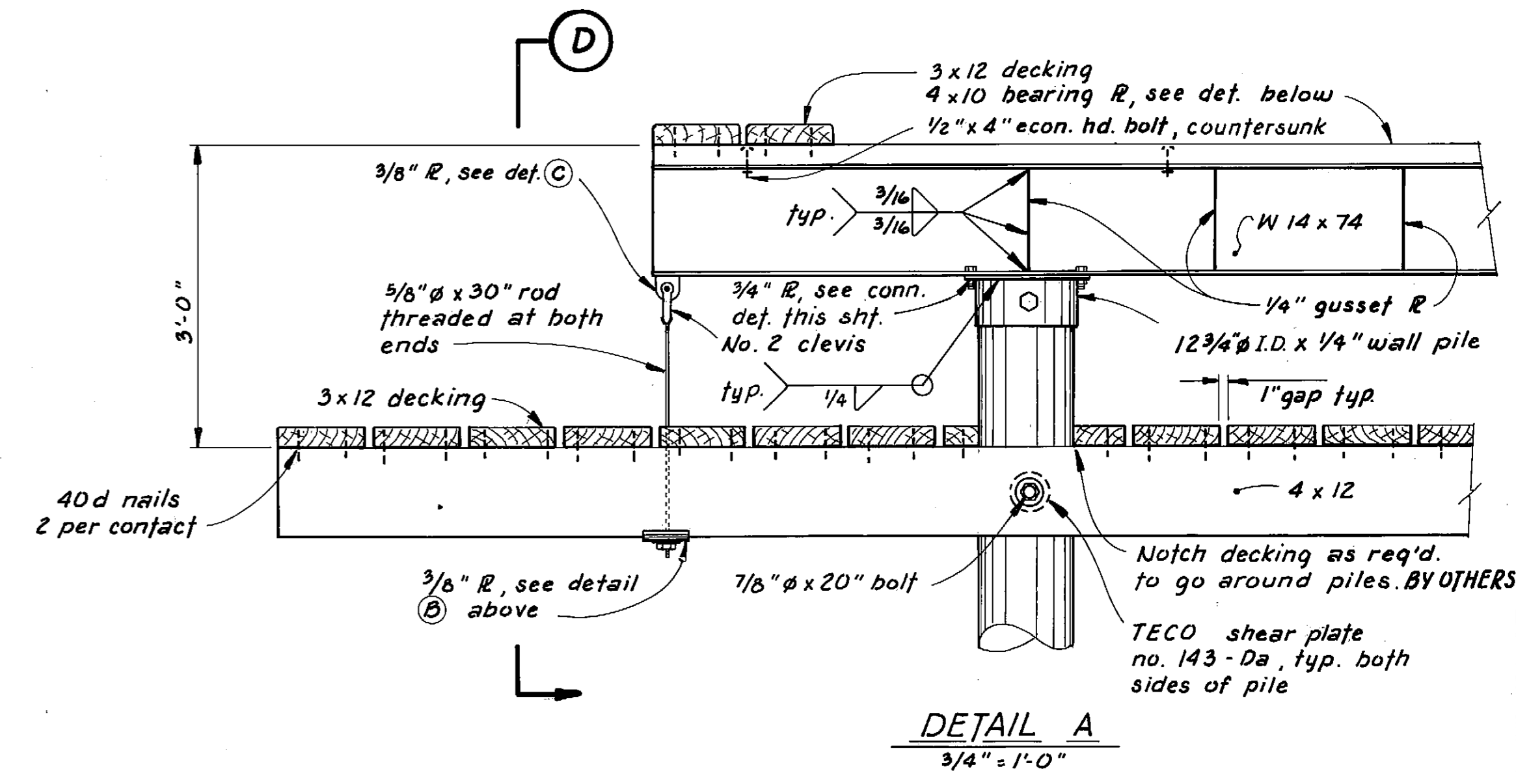
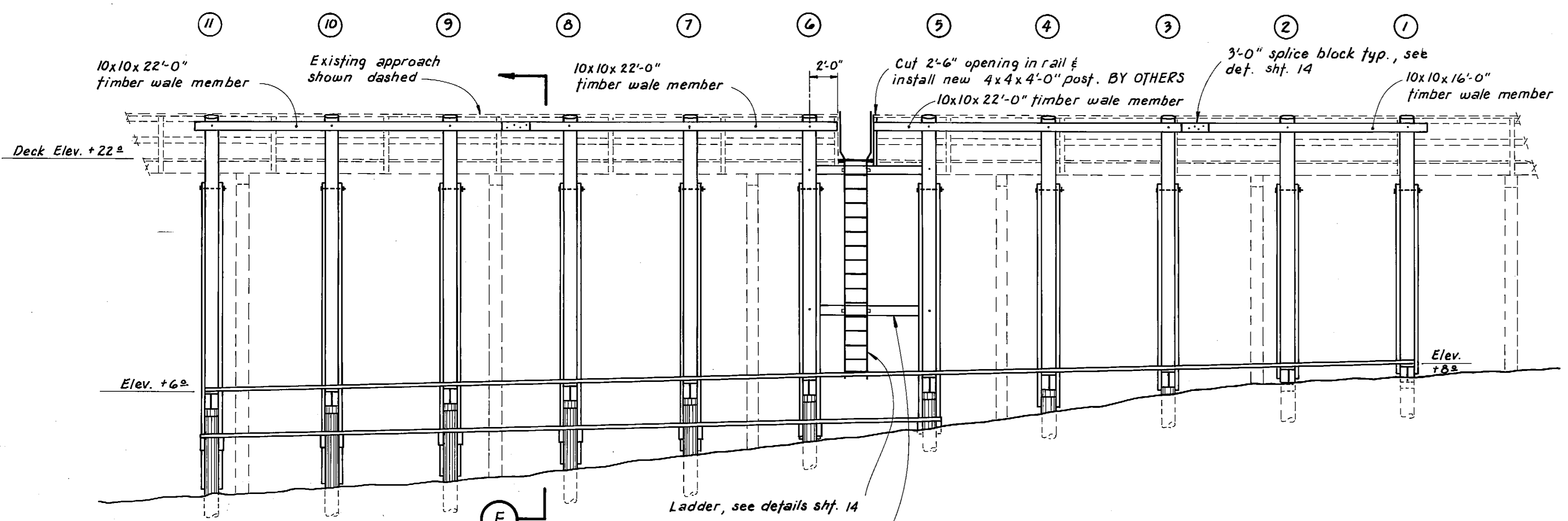
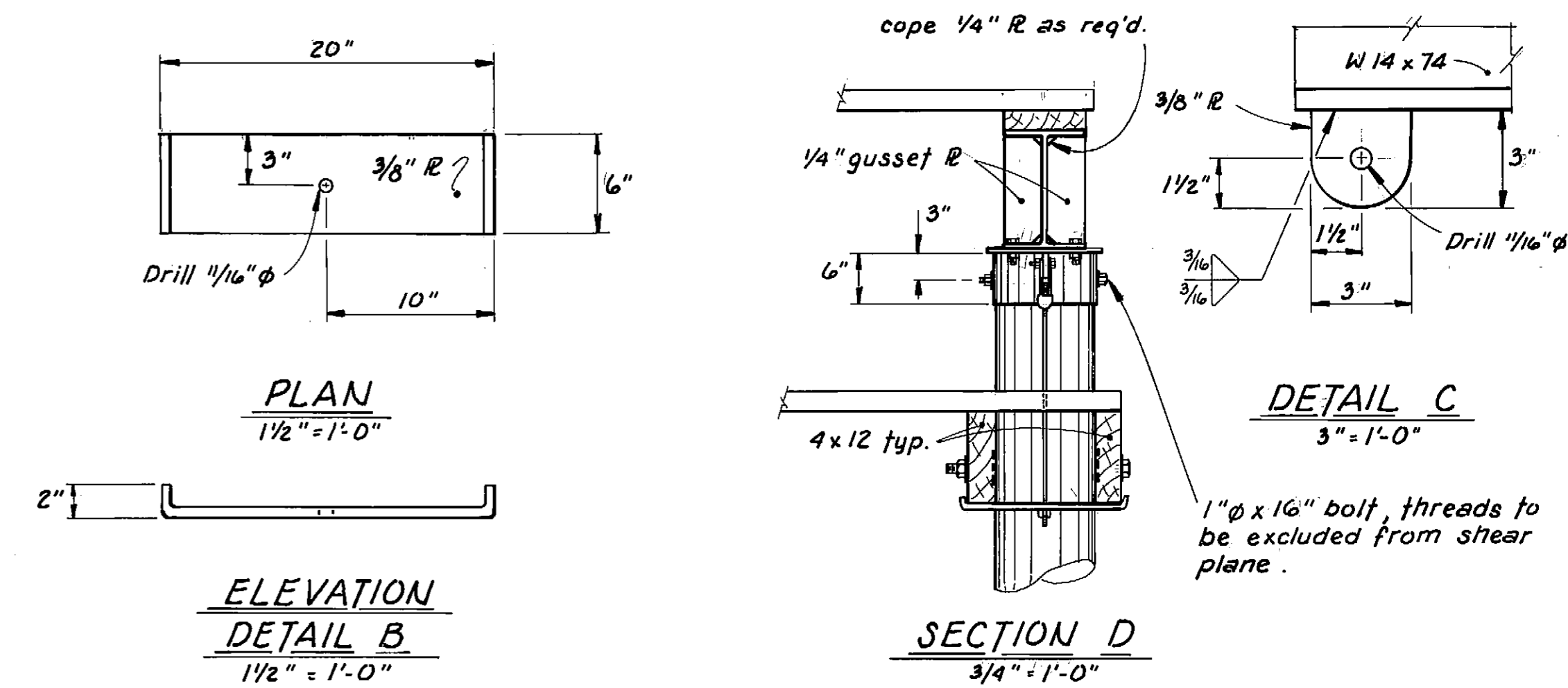
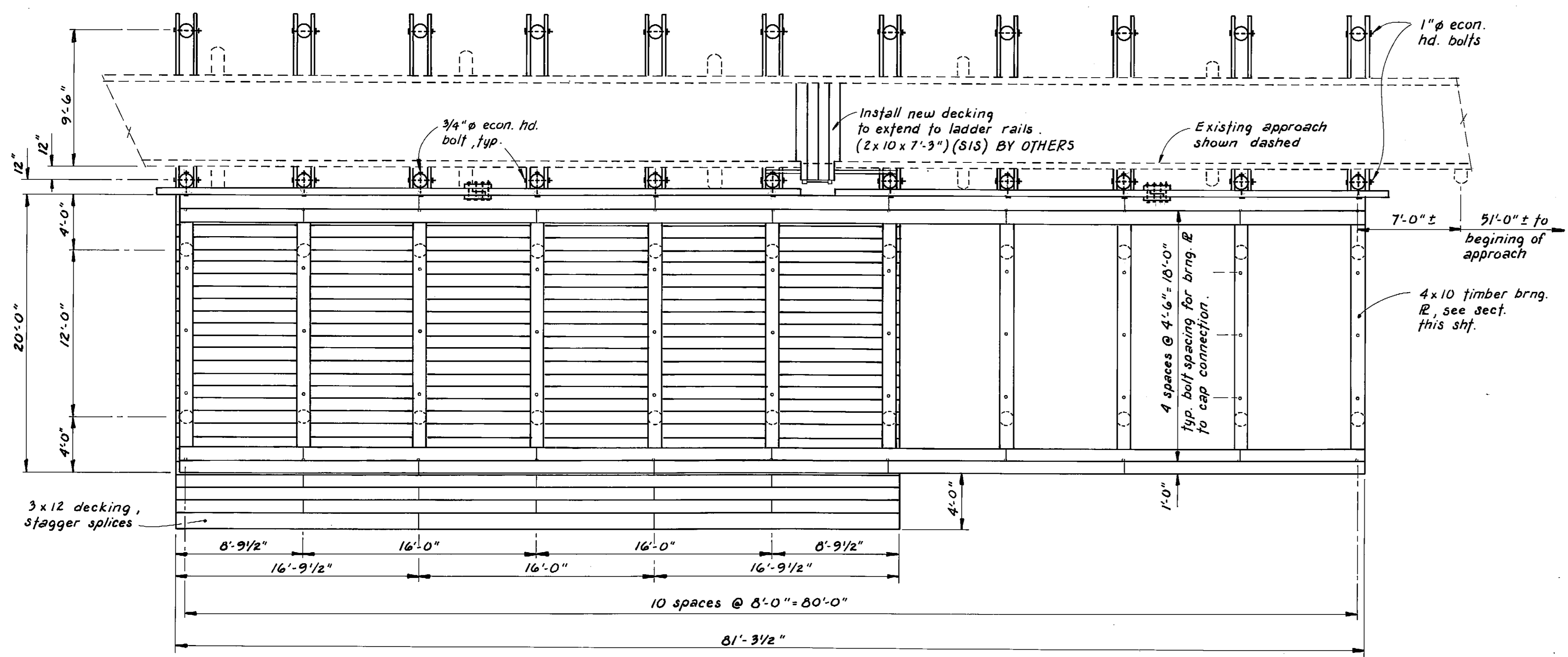
Note: Existing Facilities Shown Dashed

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION	
		<i>Kake</i> <span style="float: right;"><i>Alaska</i></span> <b>PORTAGE COVE INTERIM HARBOR LAYOUT</b>	
SCALE <b>1" = 50'</b>	SURVEYED <b>TS</b>	APPROVED	
DESIGNED <b>JAL</b>	DRAWN <b>TS</b>	<b>Robert P. Beck</b>	
CHECKED	DATE <b>10-81</b>	CHIEF OF DESIGN	
PROJECT NUMBER <b>K-93160</b>	SHEET <b>2</b> OF <b>14</b>		



- Notes:
1. Breakwater float piles to be driven to 50' penetration or refusal.
  2. Float piles to be driven butt down to 20' penetration or refusal.
  3. Pile cut off Elev. = +26.0

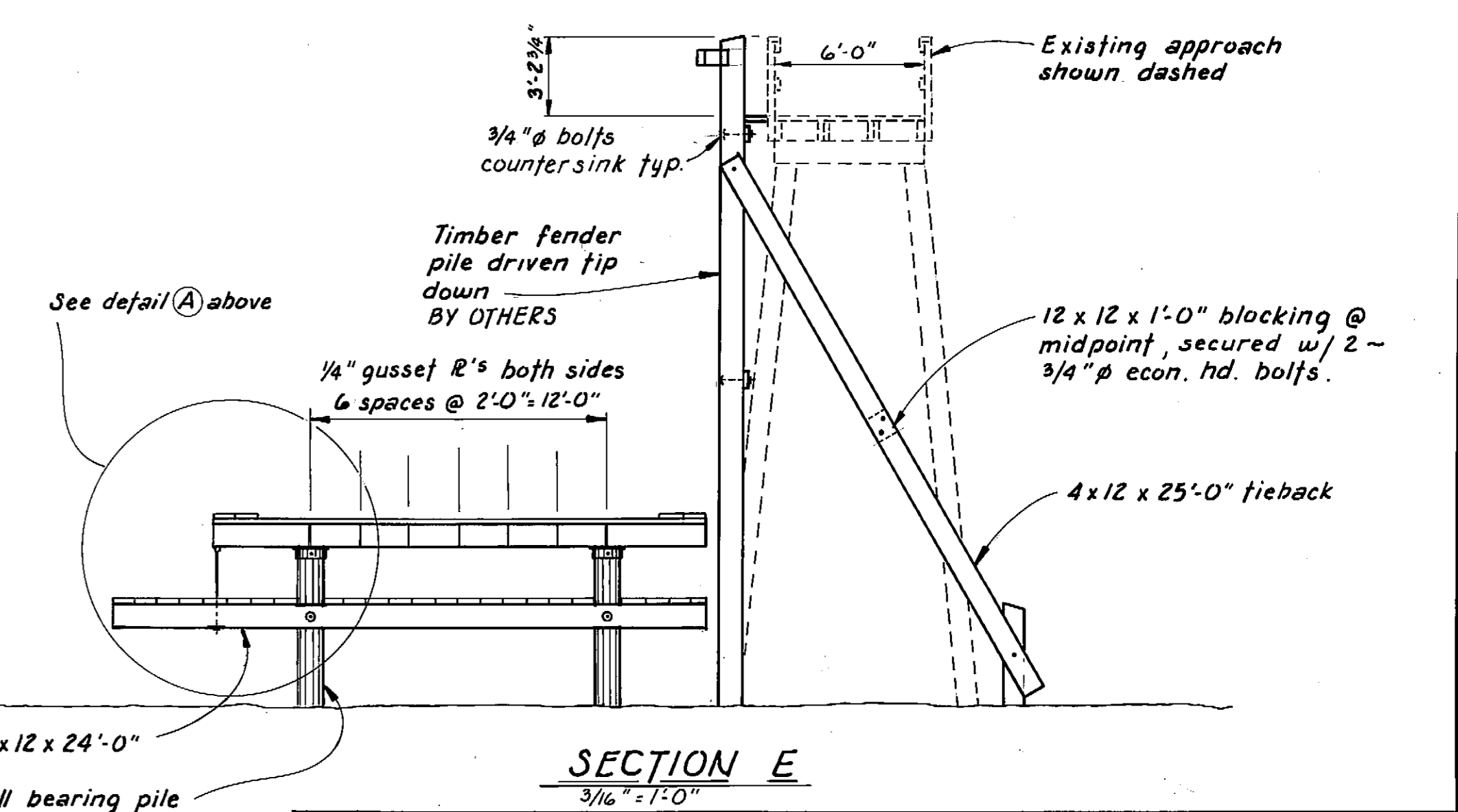
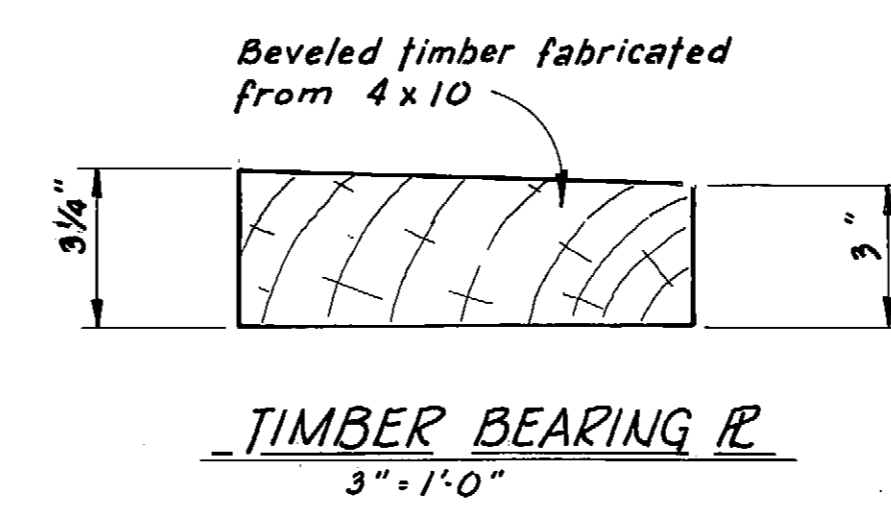
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		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION	
		Kake Alaska  <b>CONCRETE FLOAT LAYOUT</b>	
SCALE $\frac{1}{4}'' = 1'-0''$	SURVEYED	APPROVED	
DESIGNED JAL	DRAWN TS	<b>Robert P. Beck</b> CHIEF OF DESIGN	
CHECKED	DATE 9-81		
PROJECT NUMBER K-93160	SHEET 3 OF 14		



ELEVATION 3/16" = 1'-0"

PILE CUT OFF ELEVATIONS			
BENT#	ELEV.	BENT#	ELEV.
1	6.59	7	5.39
2	6.39	8	5.19
3	6.19	9	4.99
4	5.99	10	4.79
5	5.79	11	4.59
6	5.59	Fender Piles	25.23

- Notes:
- Grid bearing piles to be driven to 35' penetration or refusal. BY OTHERS
  - Fender & tieback piles to be driven buff down to 15' penetration or refusal. BY OTHERS



CAP TO PILE CONN. DETAIL 1 1/2" = 1'-0"

STAMP

DO NOT SCALE THIS DRAWING - USE DIMENSIONS

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION

Kake Alaska

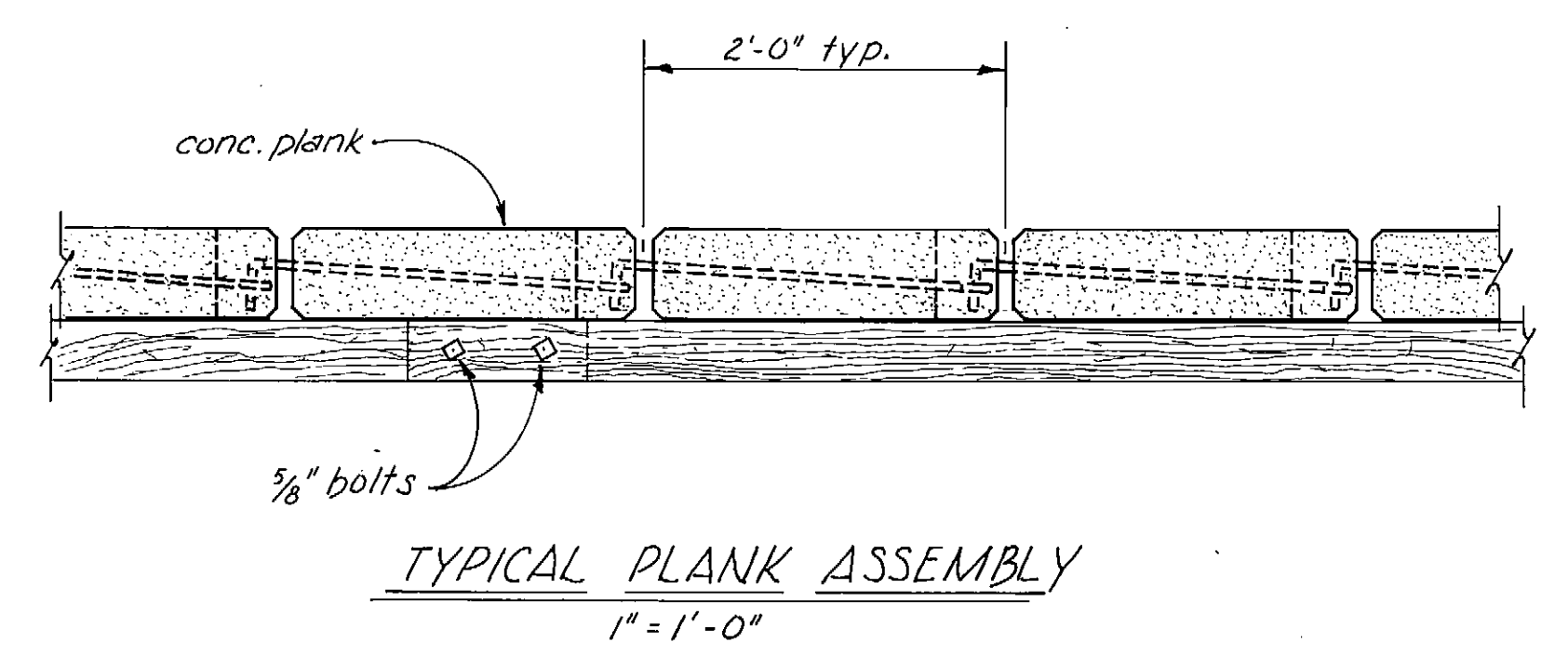
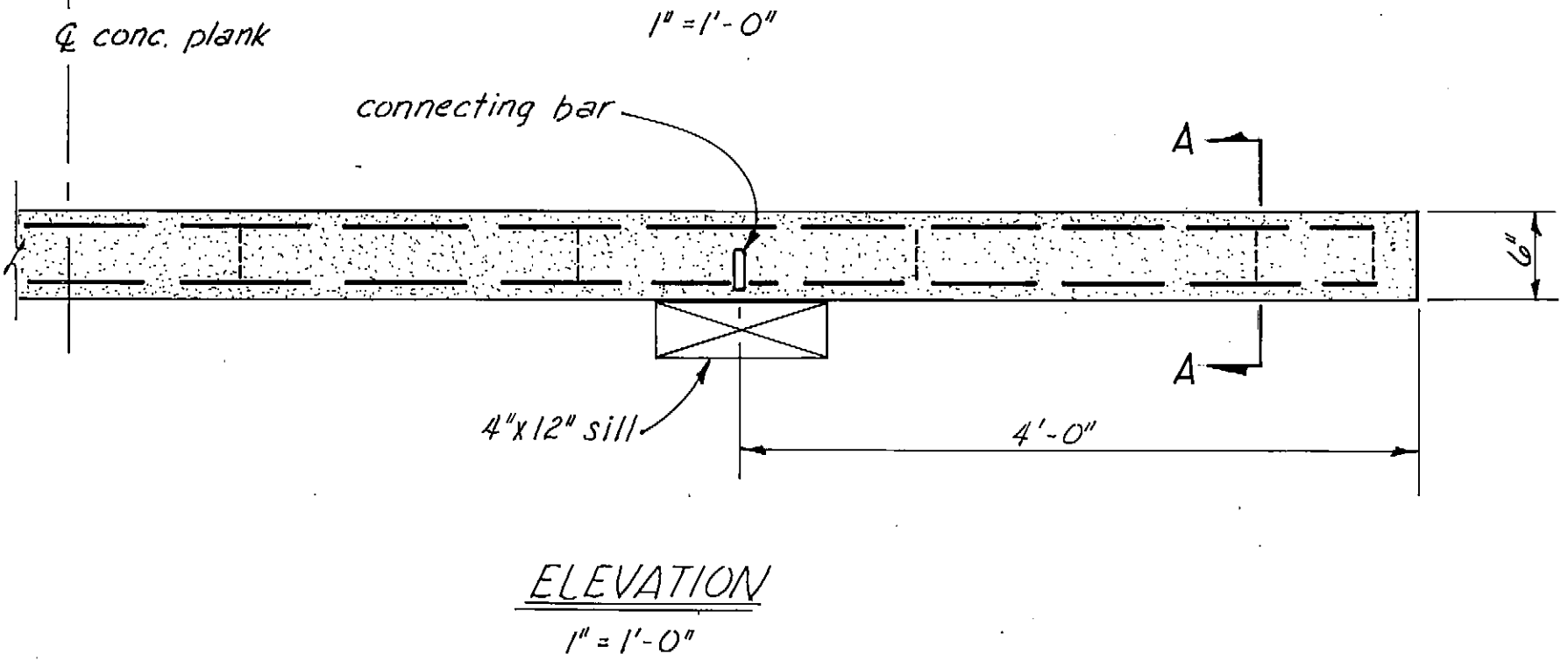
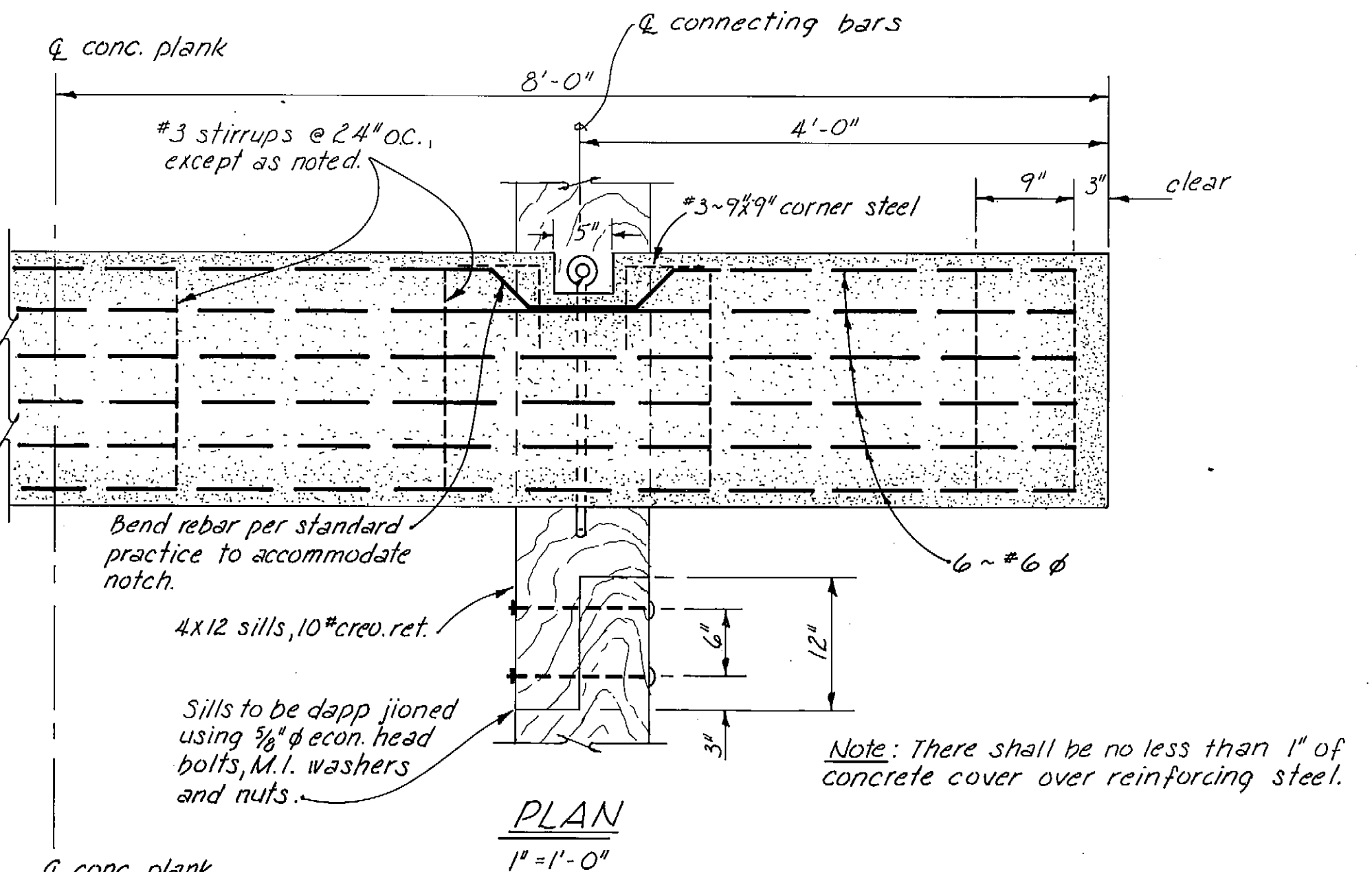
GRID DETAILS

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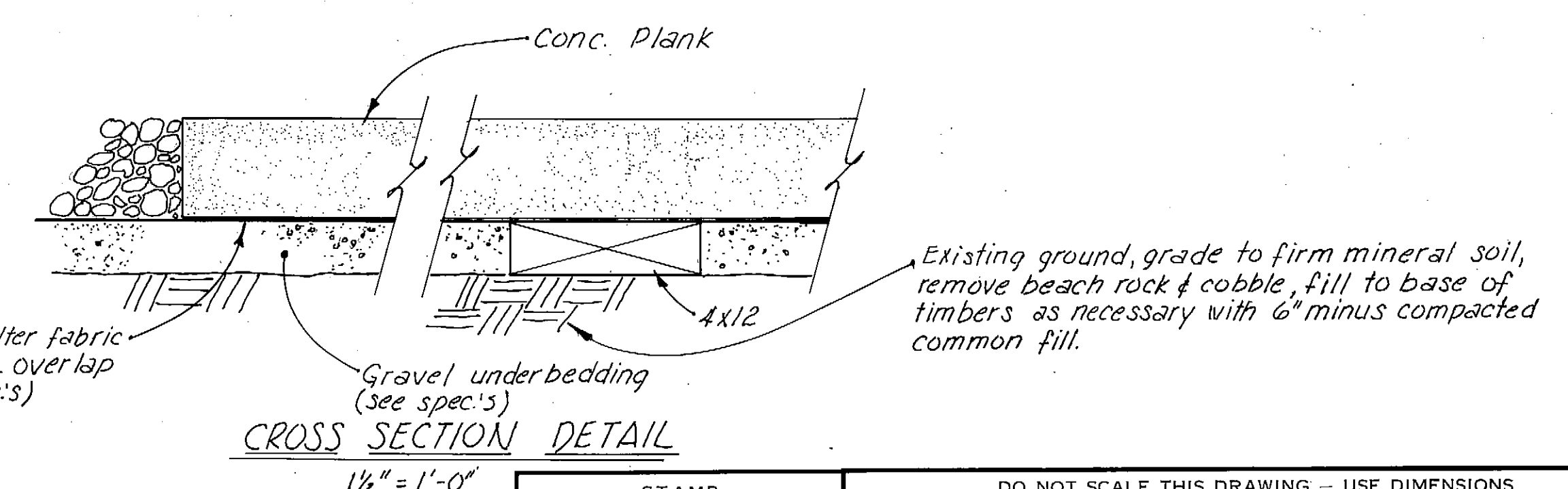
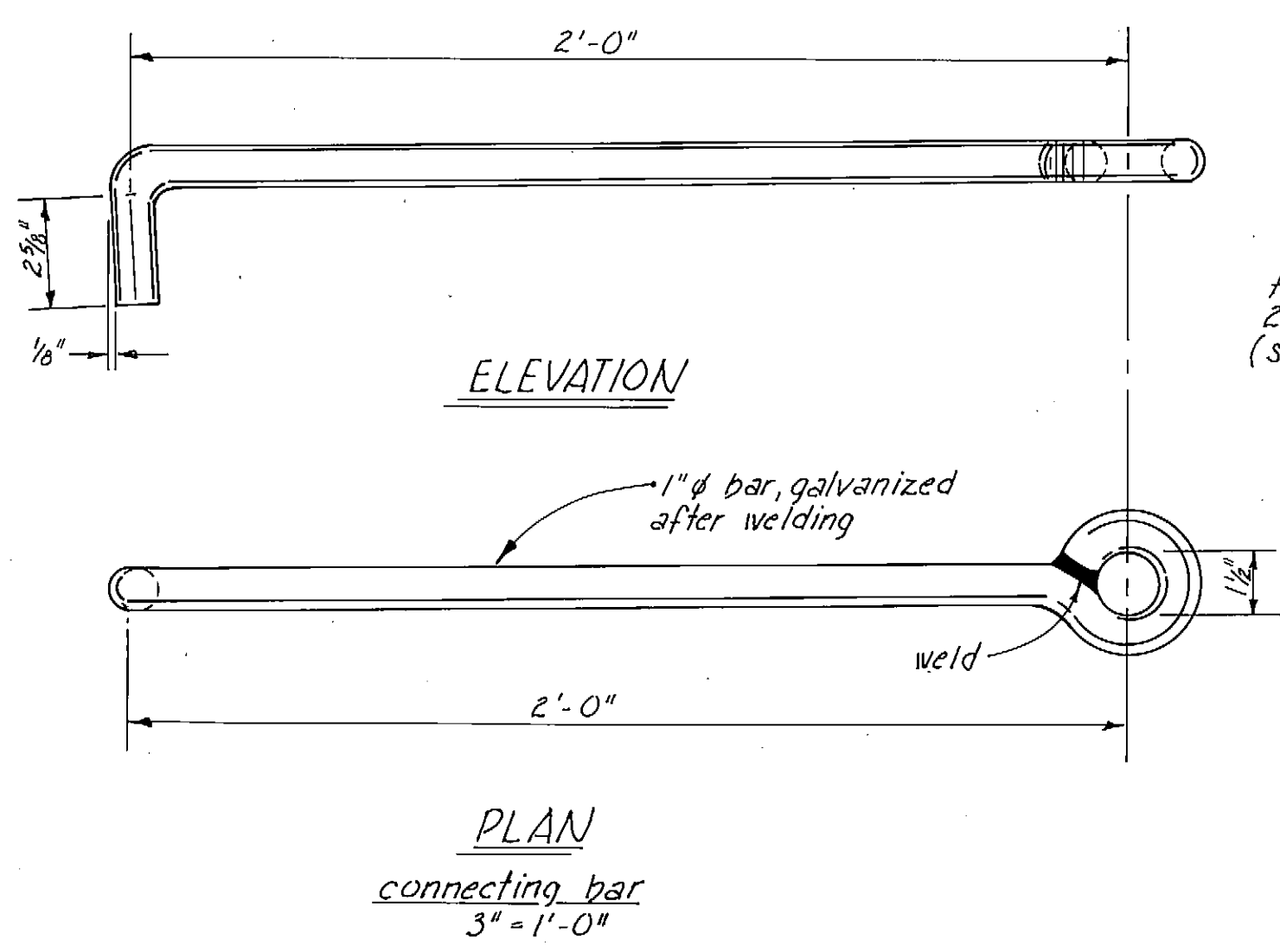
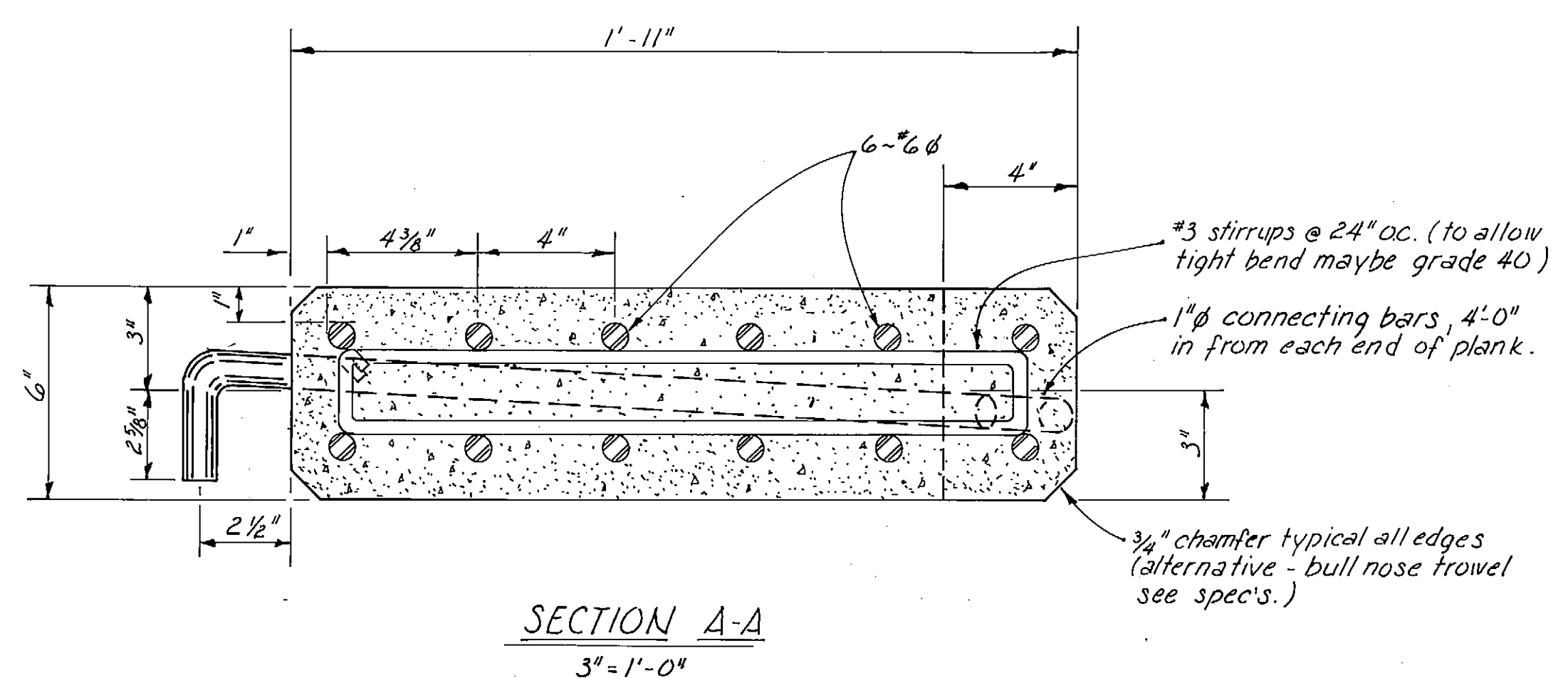
SURVEYED: T3 DATE: 9-81

APPROVED: Robert P. Beck CHIEF OF DESIGN SHEET 4 OF 14

Harold R. Moser No. 4373-E REGISTERED PROFESSIONAL ENGINEER

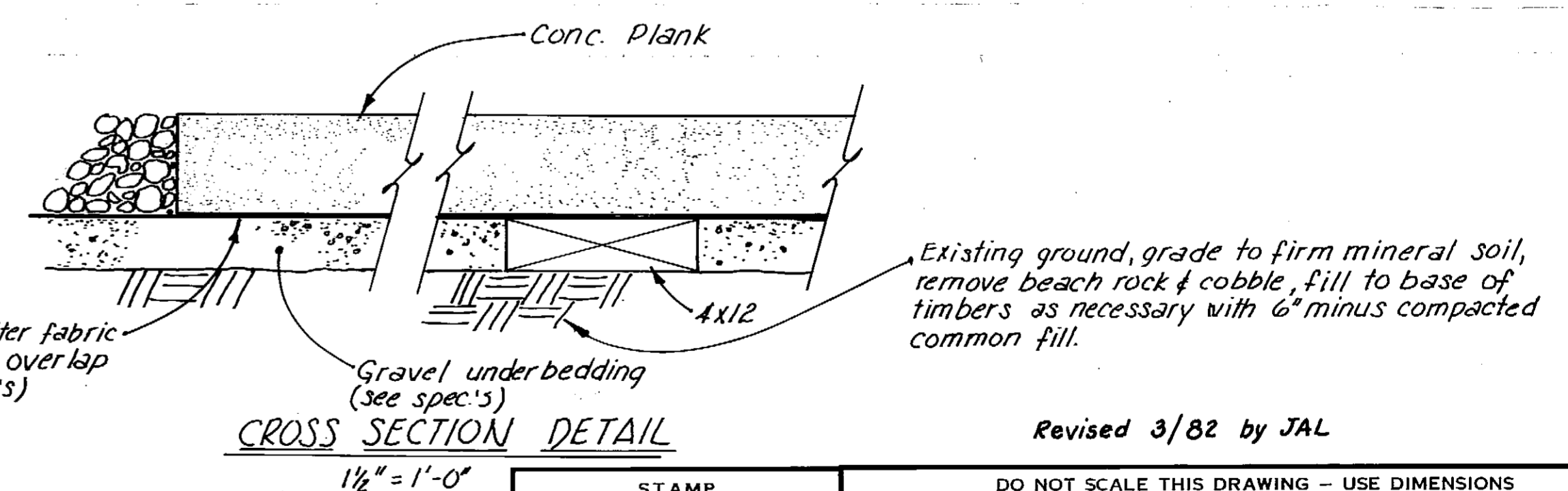
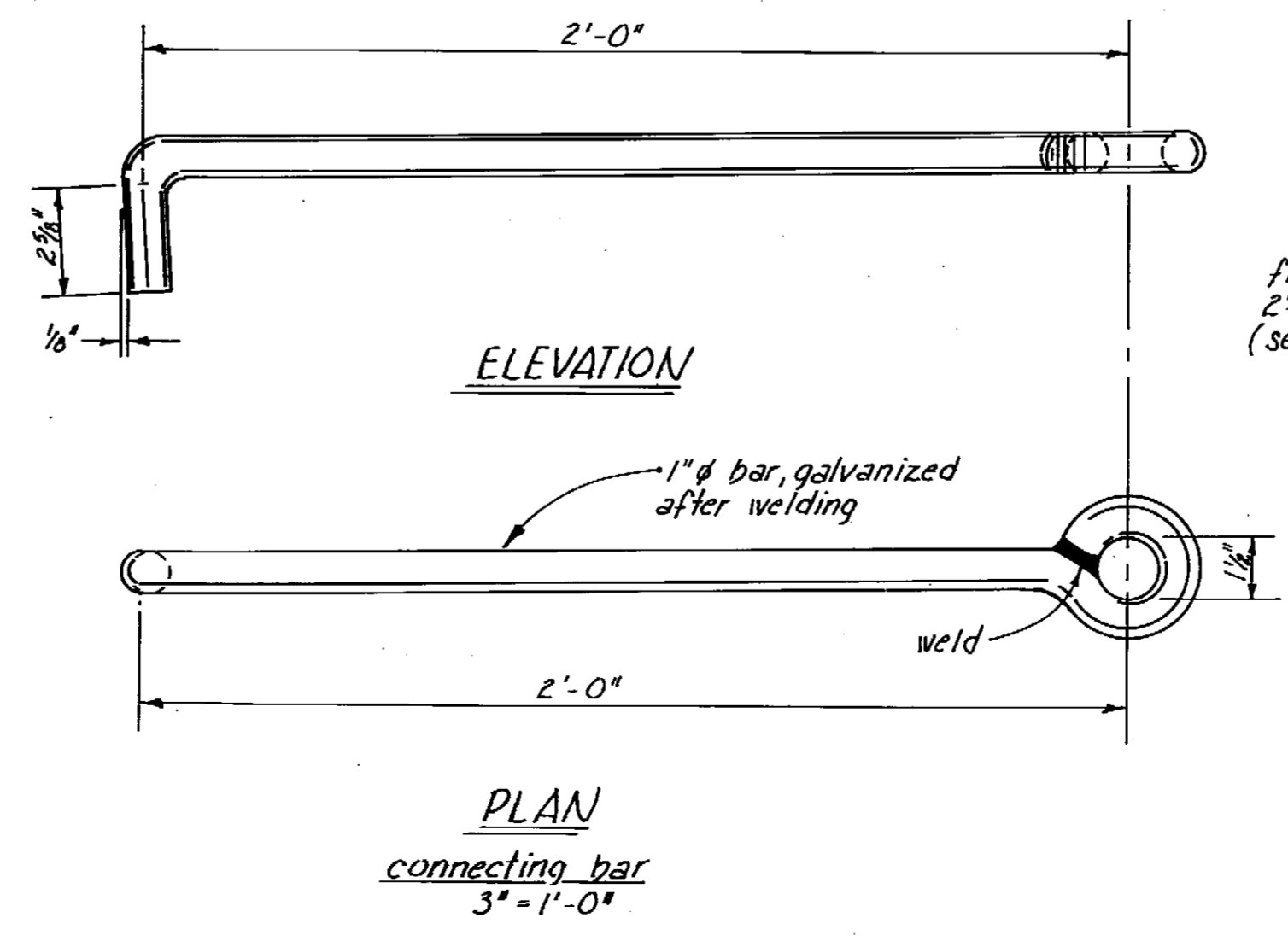
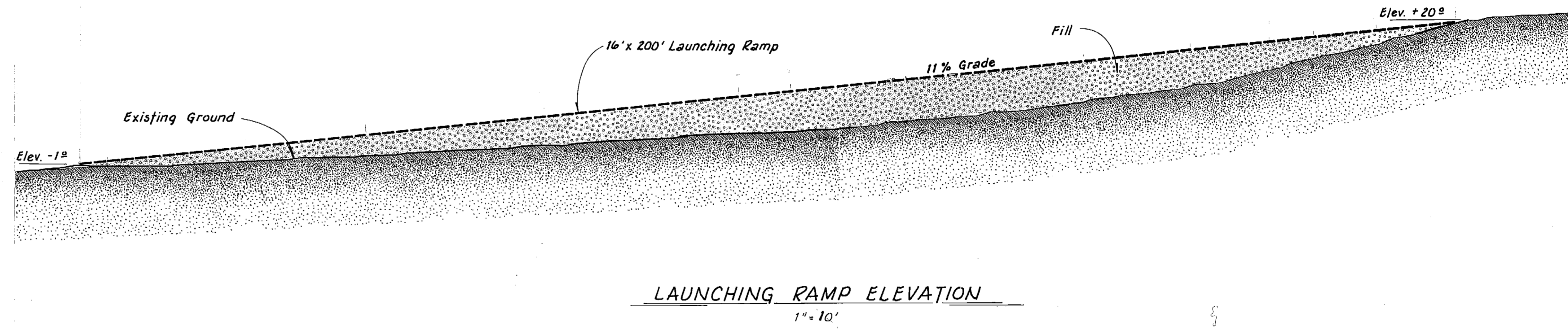
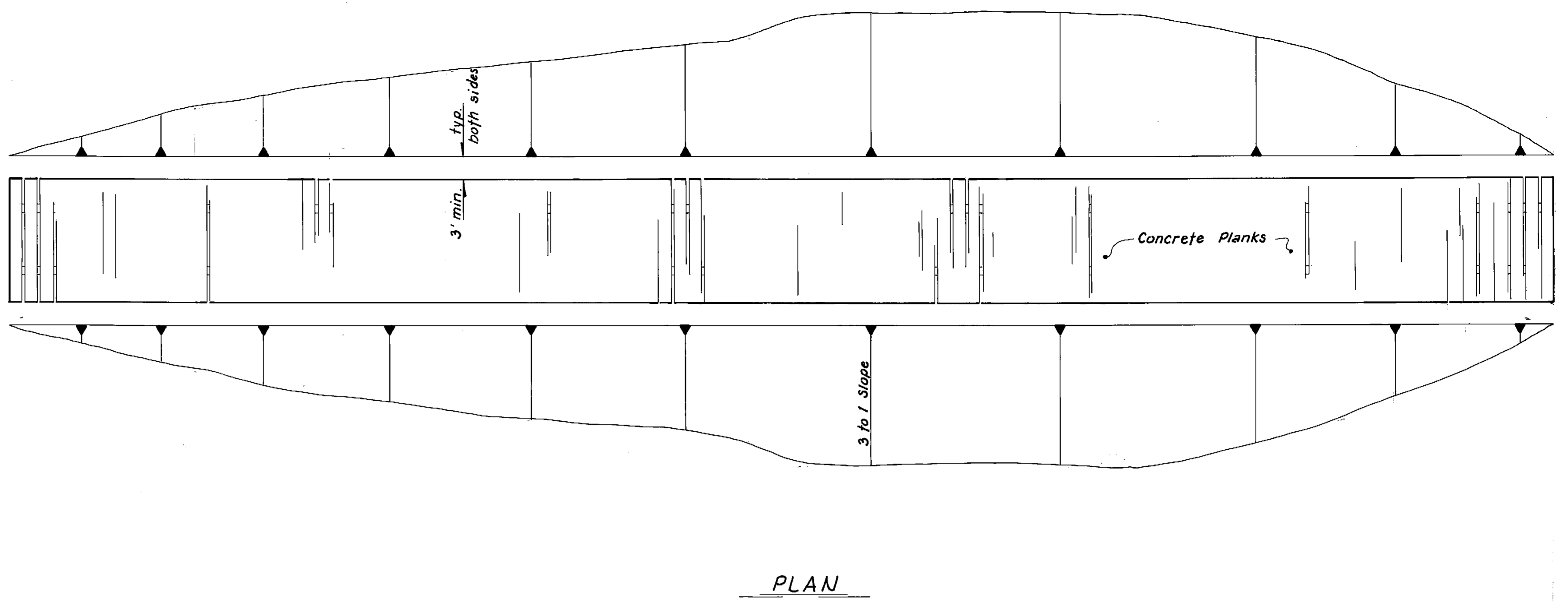
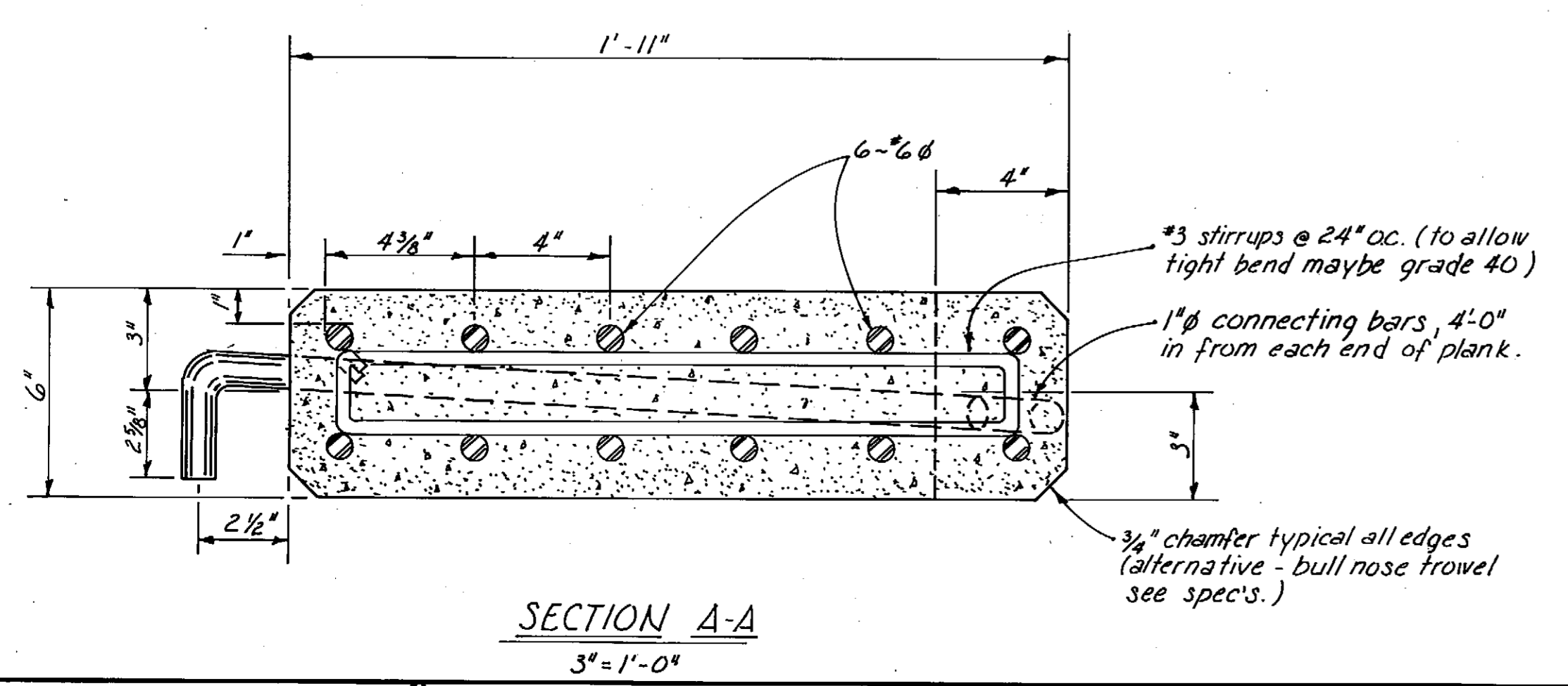
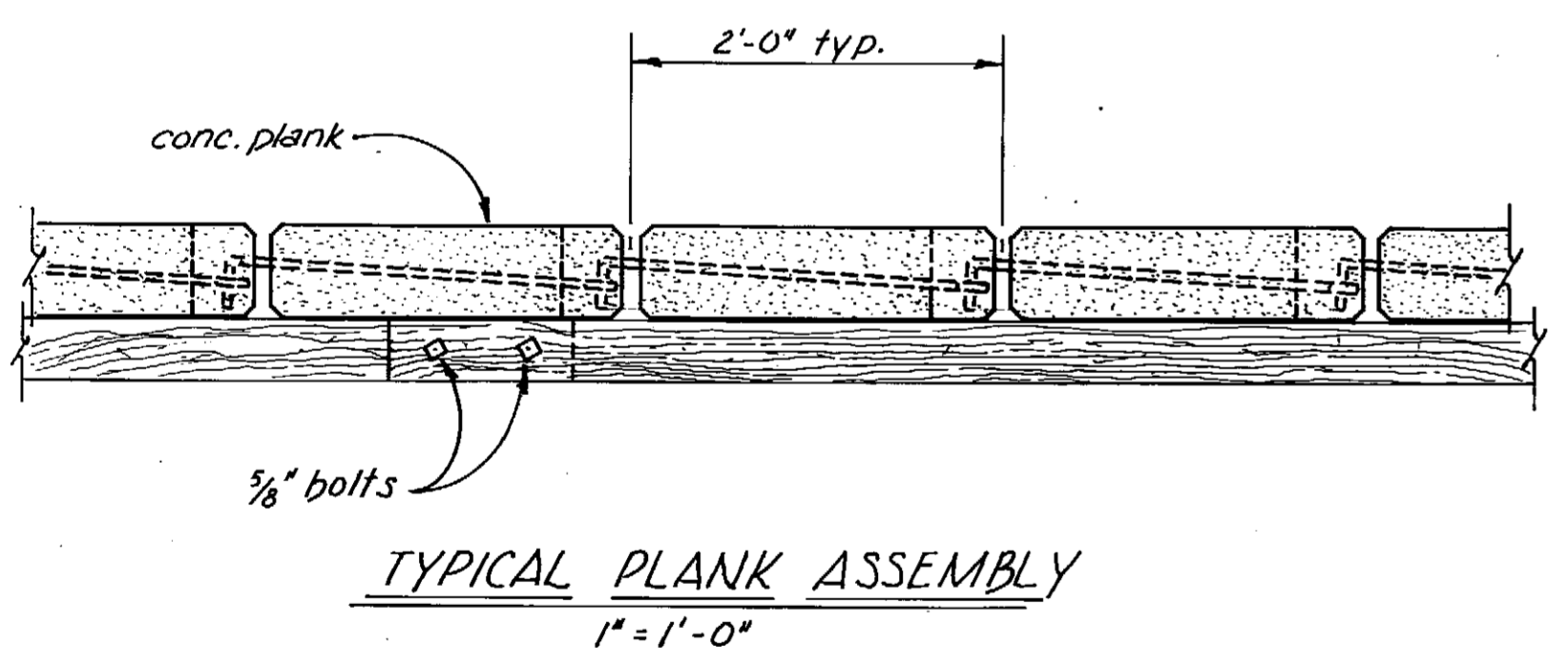
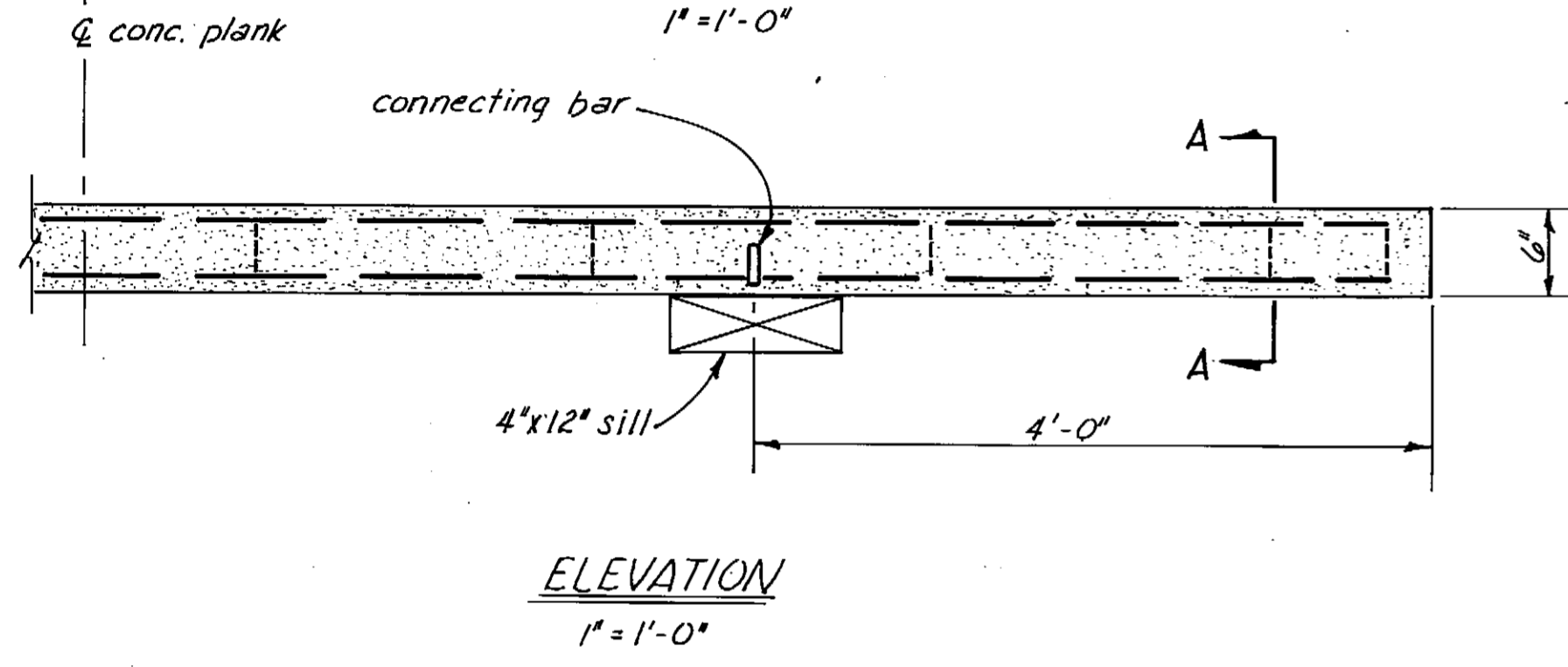
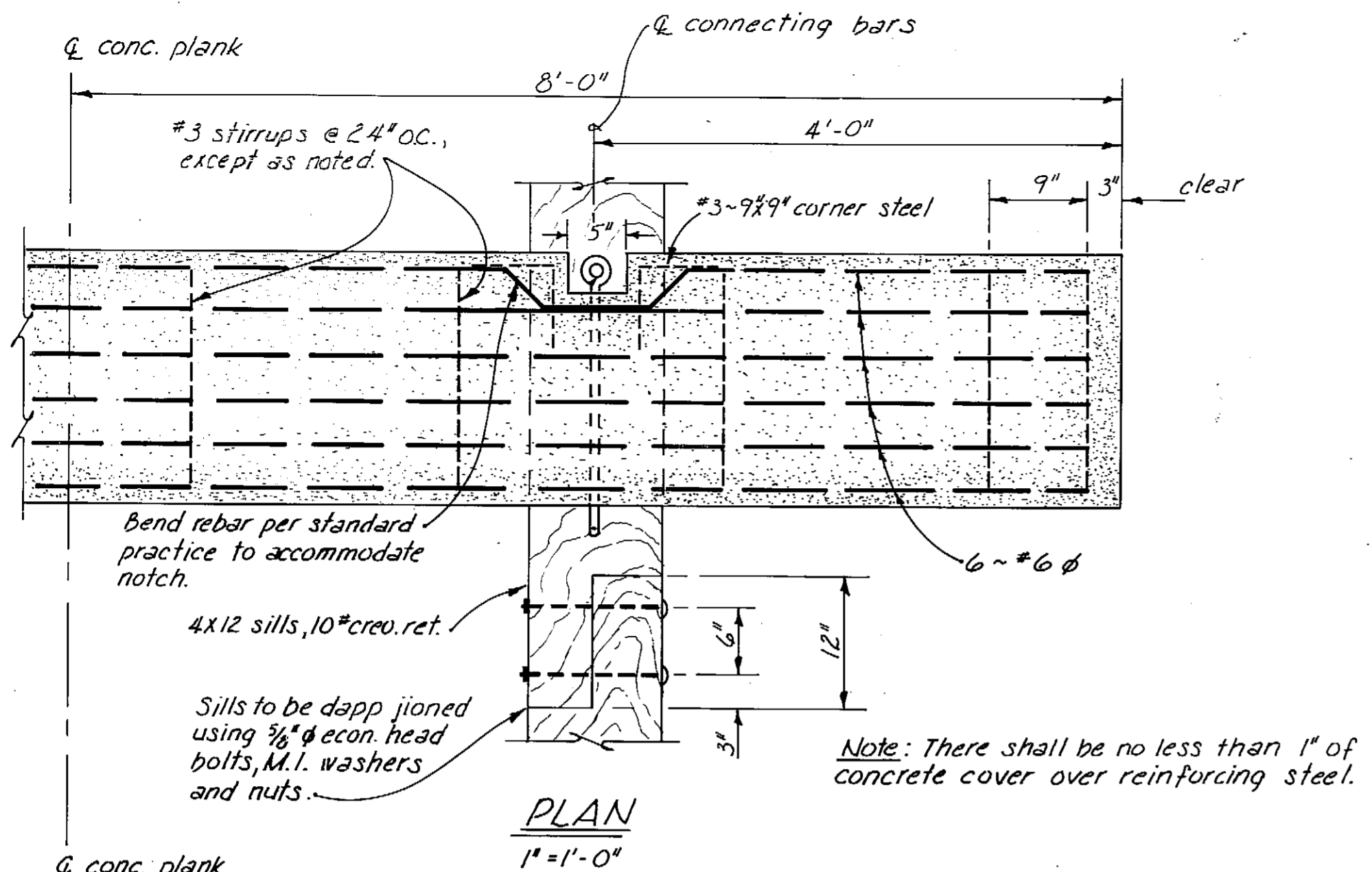


Note: For bidding purposes, each plank requires 4' of 4x12 sill.



Note: Concrete fc = 5000 psi  
Reinforcing steel fc = 60,000 psi

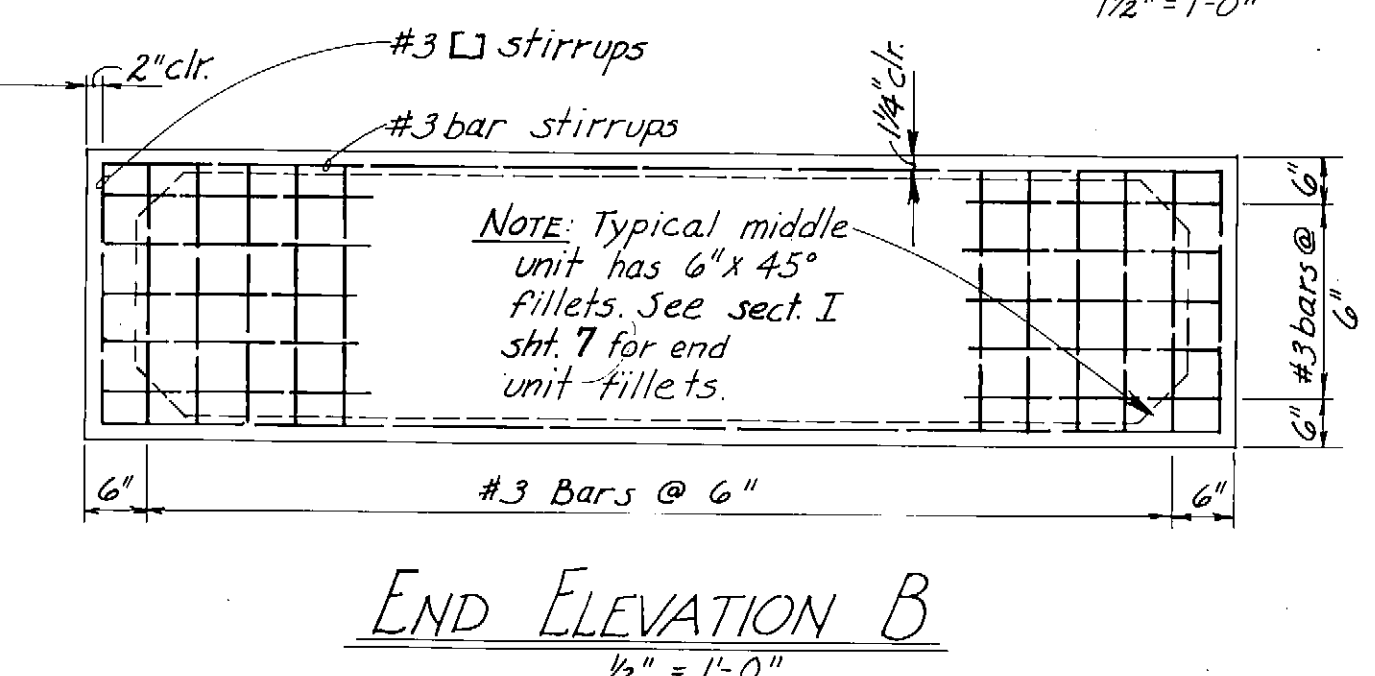
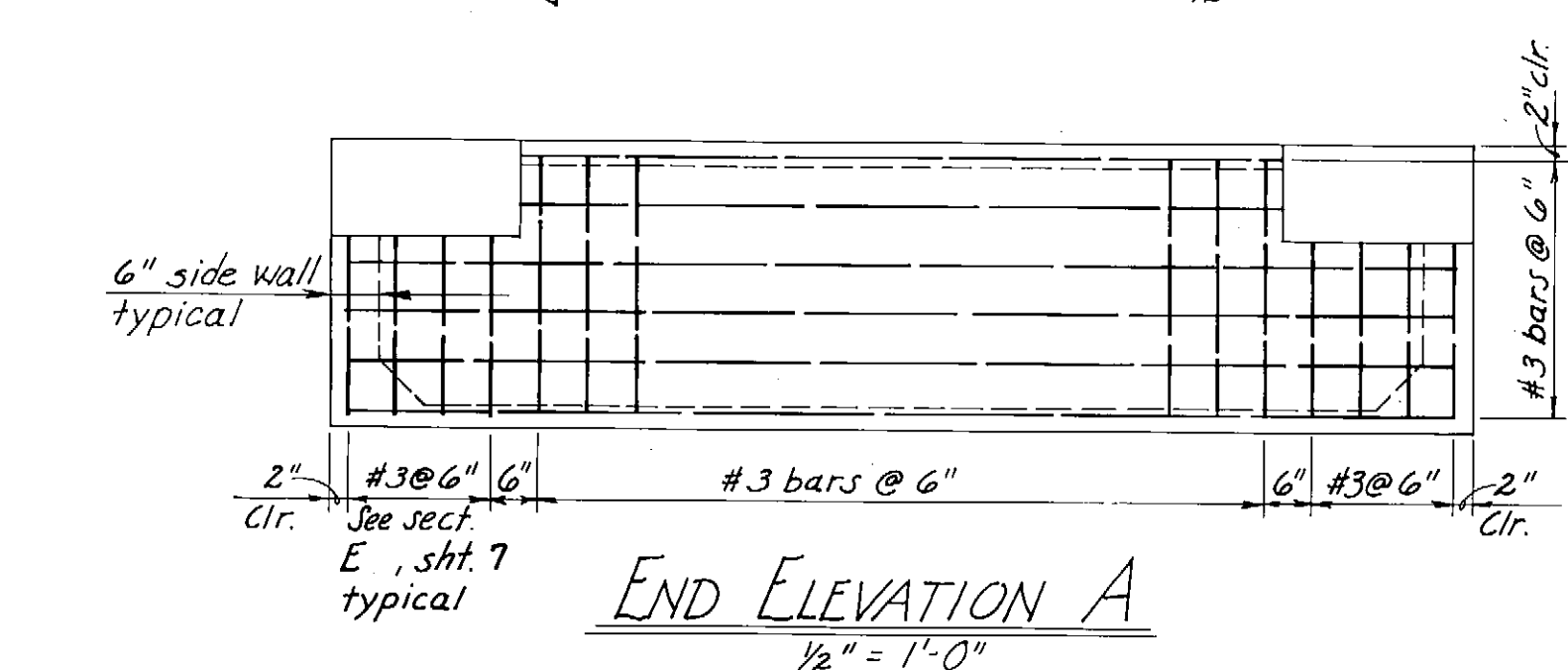
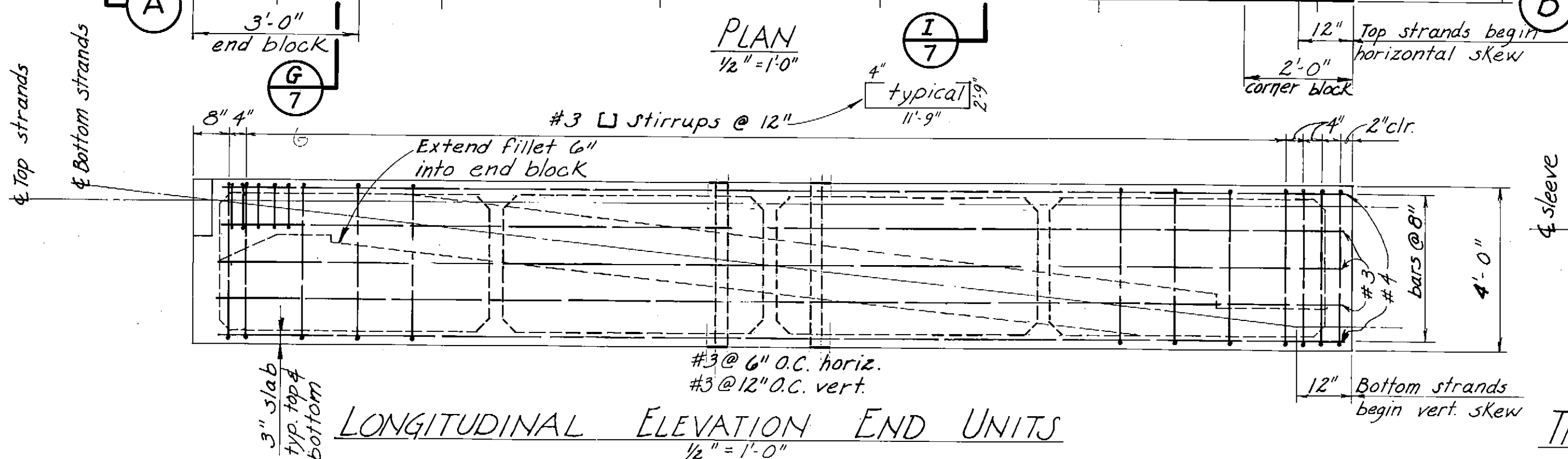
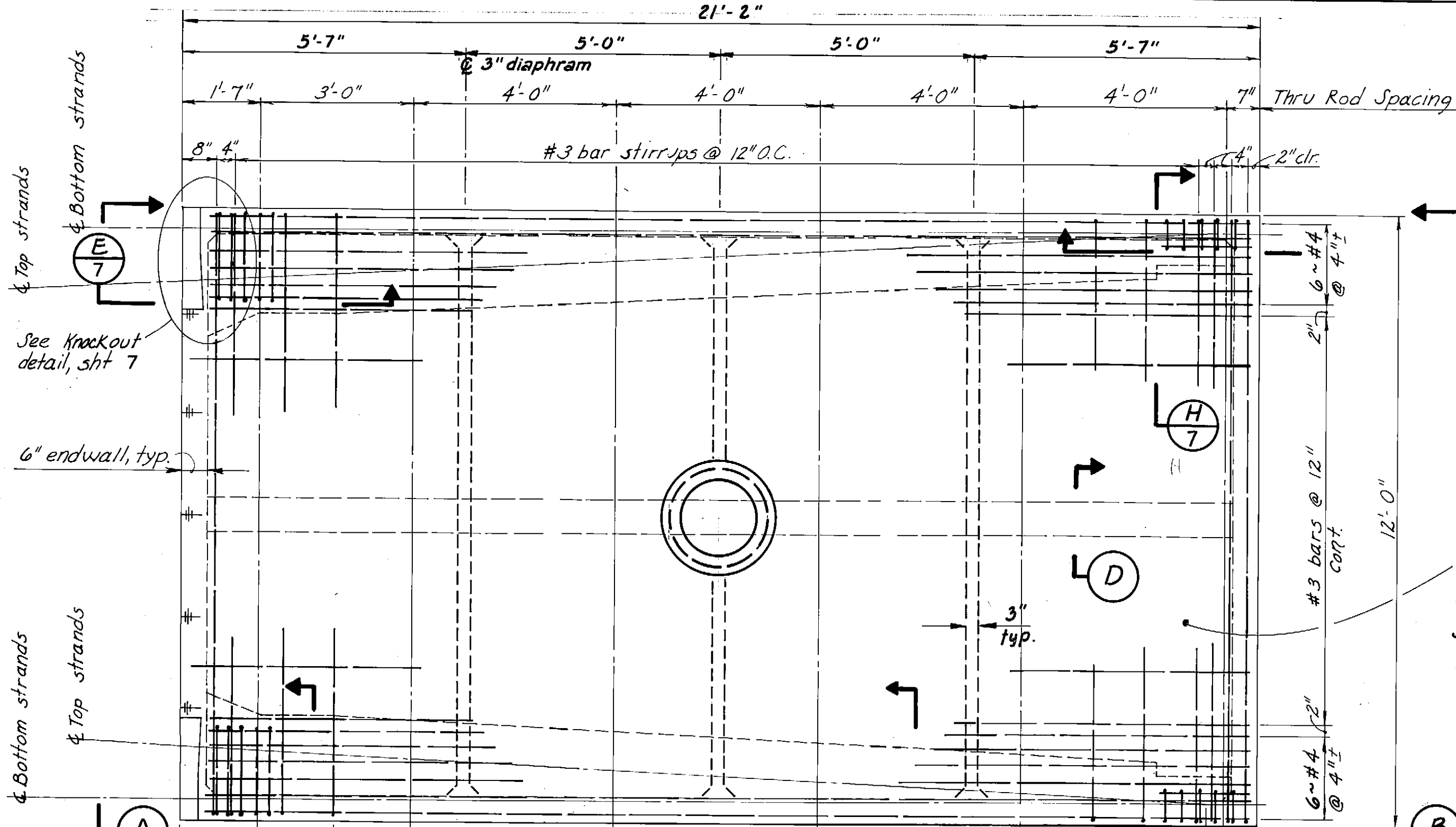
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		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION	
PROJECT NUMBER <b>K-93160</b>		SHEET <b>5</b> OF <b>14</b>	
DESIGNED _____ CHECKED _____	DRAWN <b>G.R.F.</b> DATE <b>Dec. 1978</b>	APPROVED <b>Robert P. Beck</b> DIRECTOR	



Note: Concrete  $f_c \geq 5000$  psi  
Reinforcing steel  $f_c = 60,000$  psi

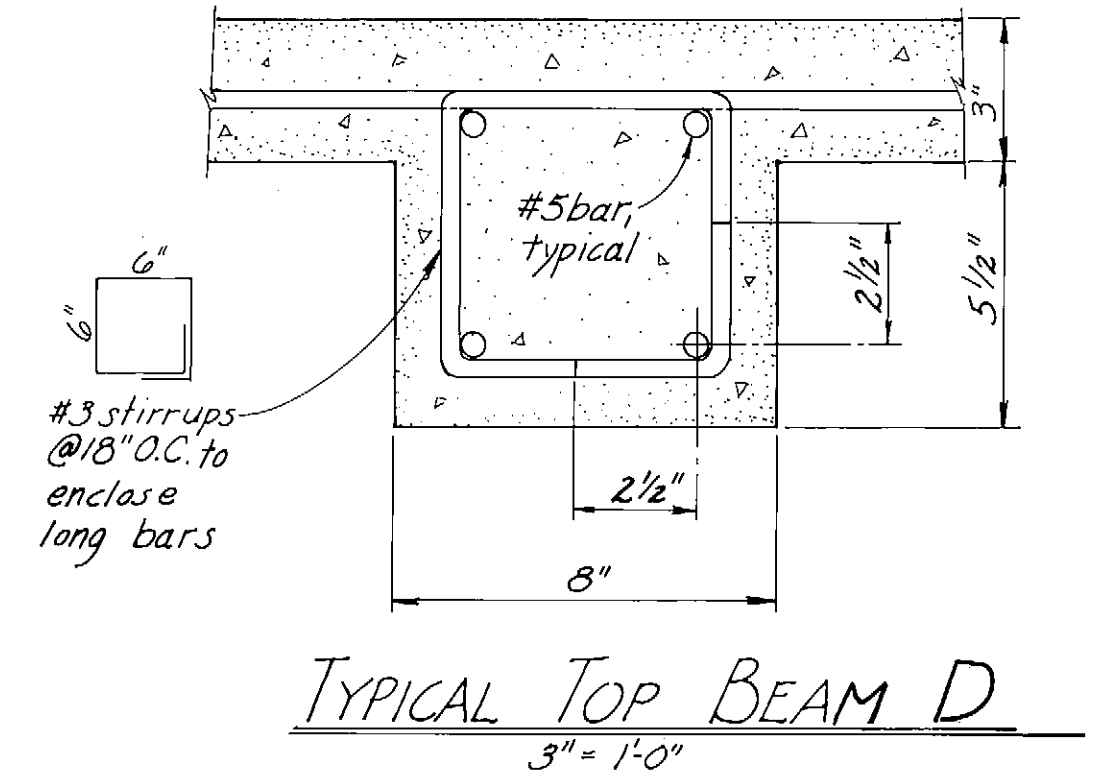
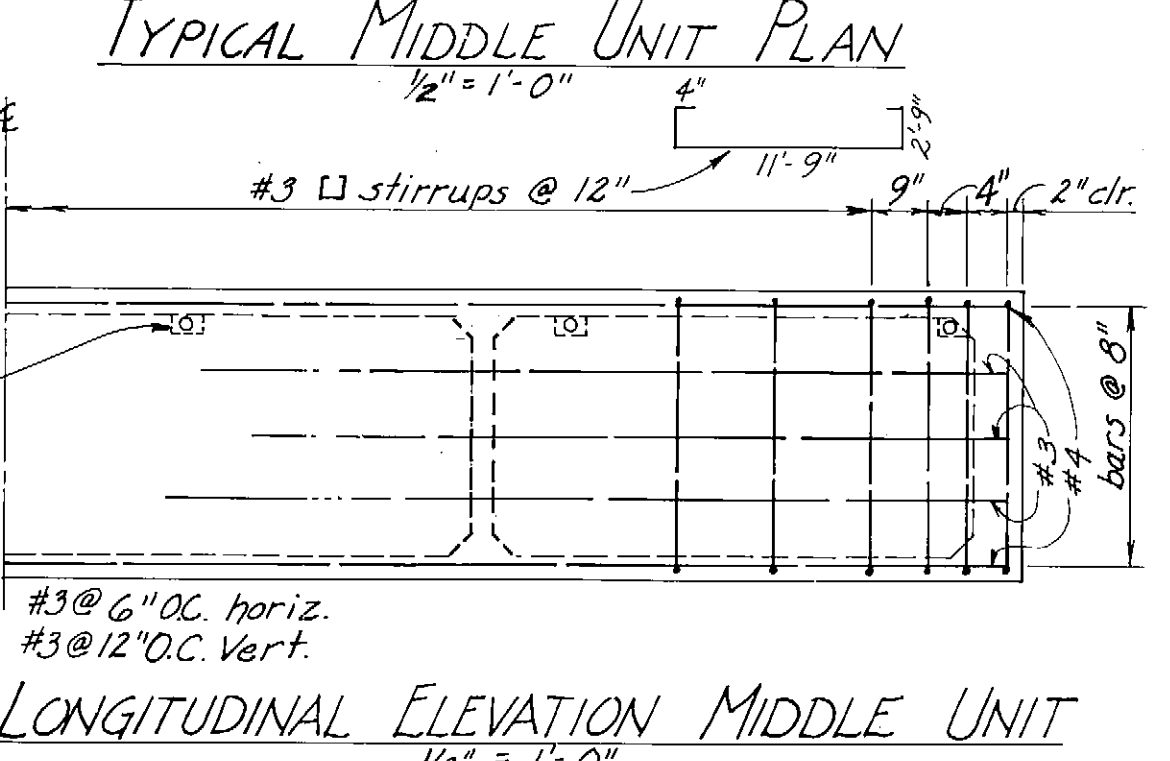
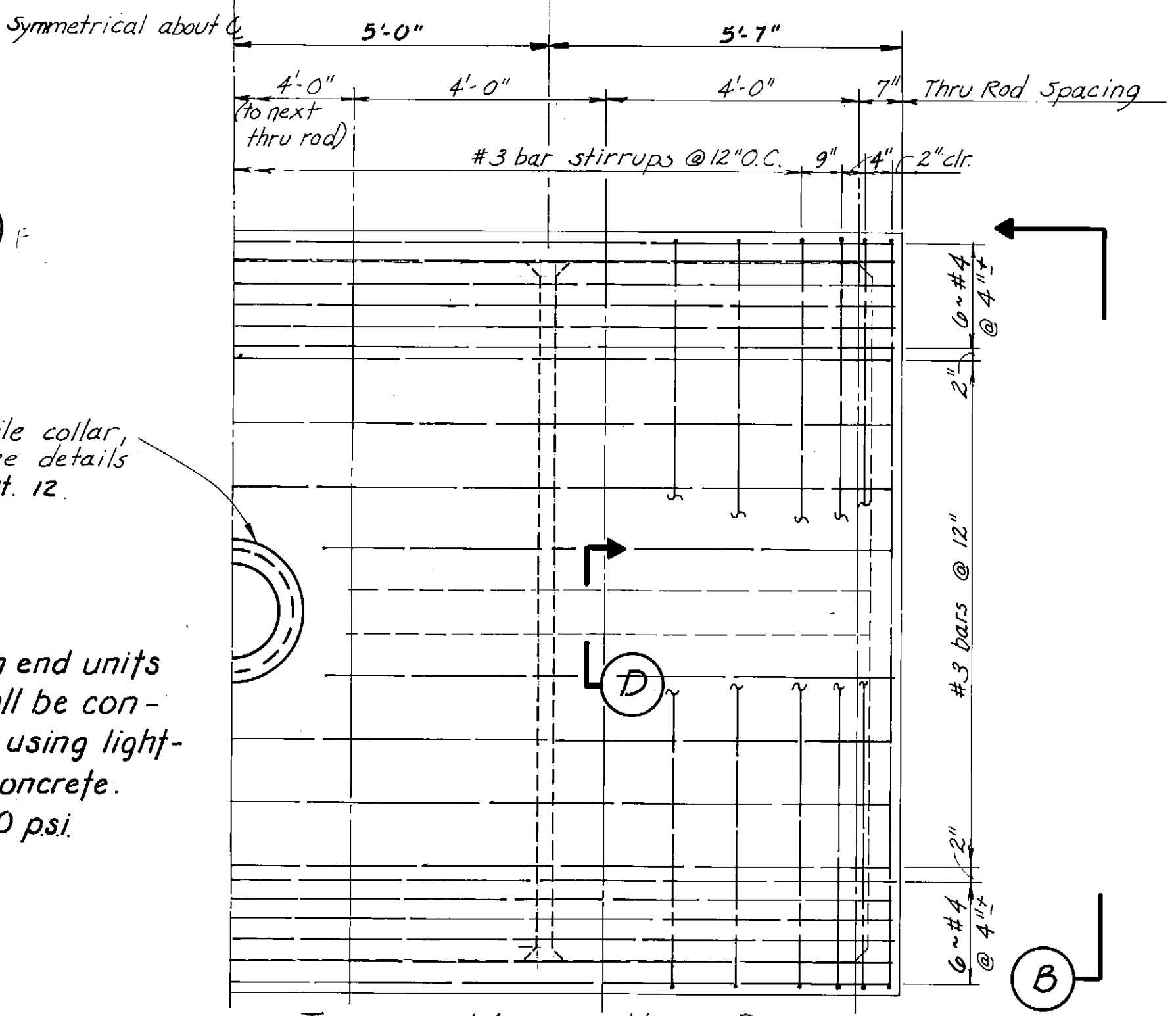
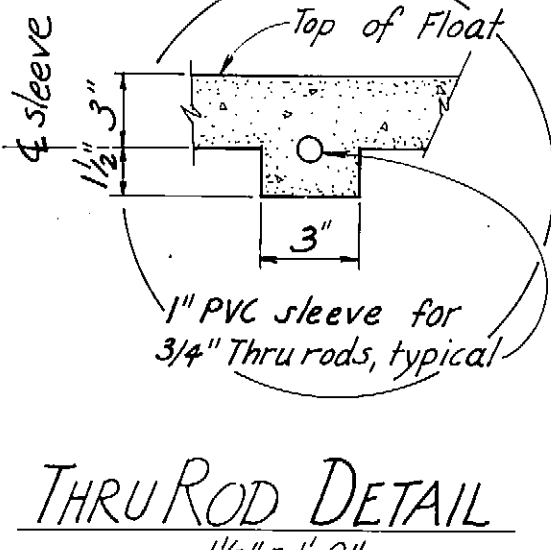
Revised 3/82 by JAL

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION			
LAUNCH RAMP DETAILS			
SCALE: As Noted	SURVEYED:	APPROVED:	
DESIGNED: GRF	DATE: Dec. 1978	DIRECTOR	
CHECKED:			
PROJECT NUMBER: K-93160	SHEET _____ OF _____		



Pile collar, see details sht. 12

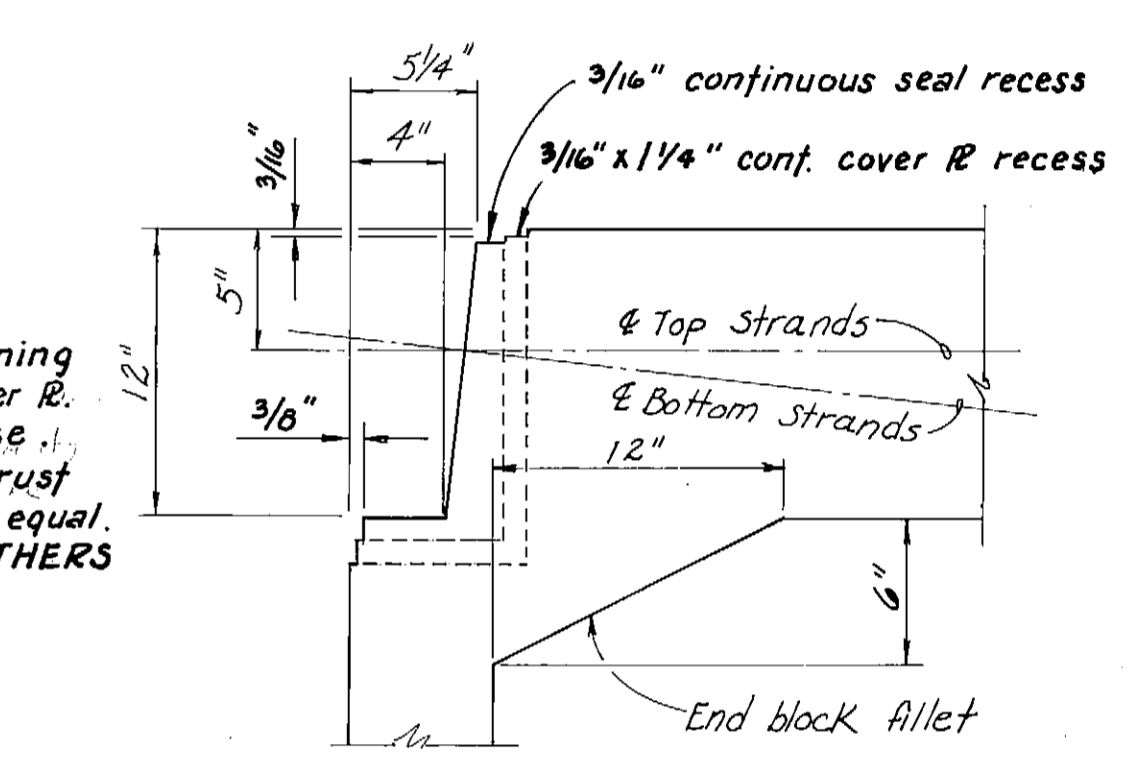
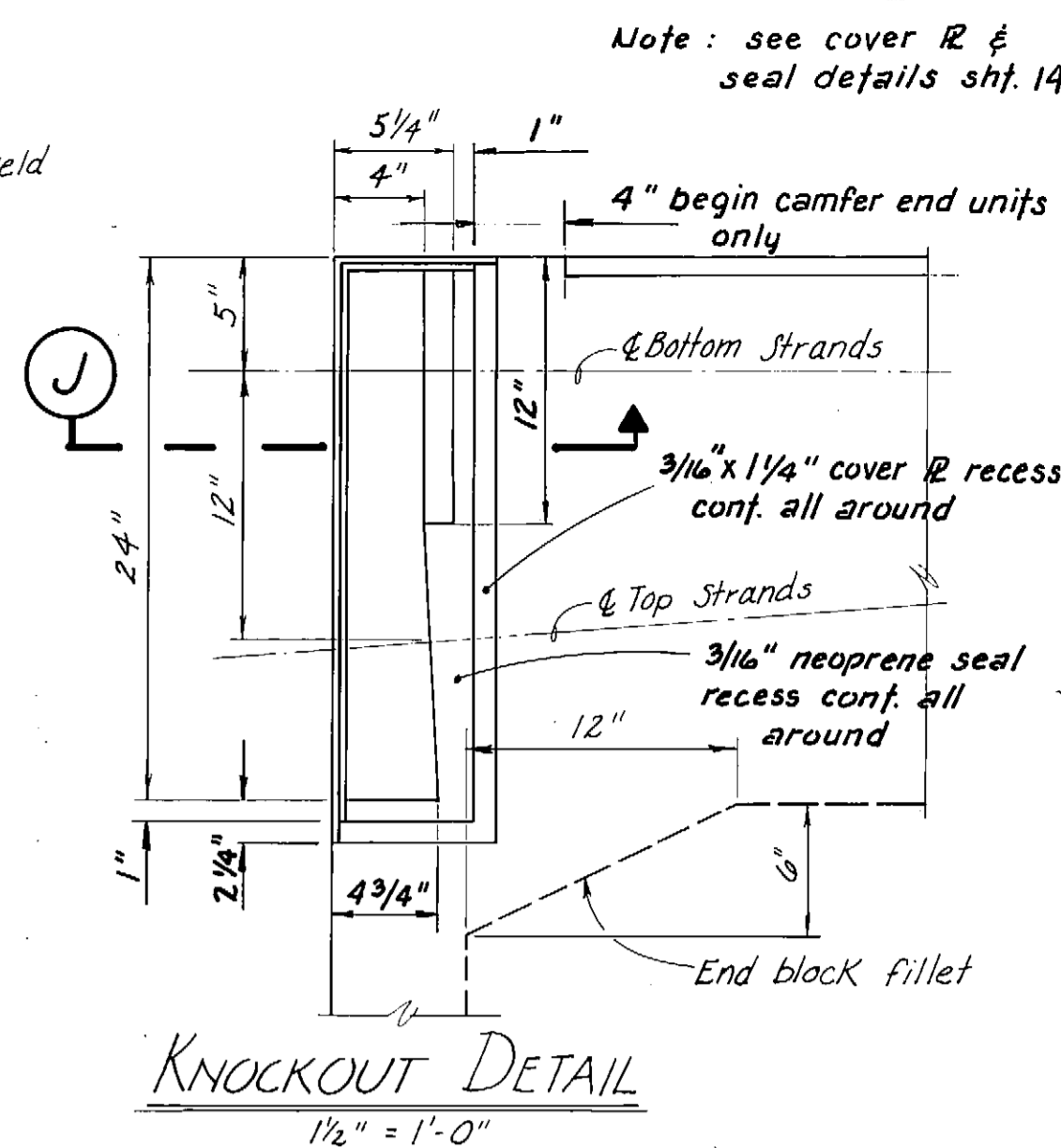
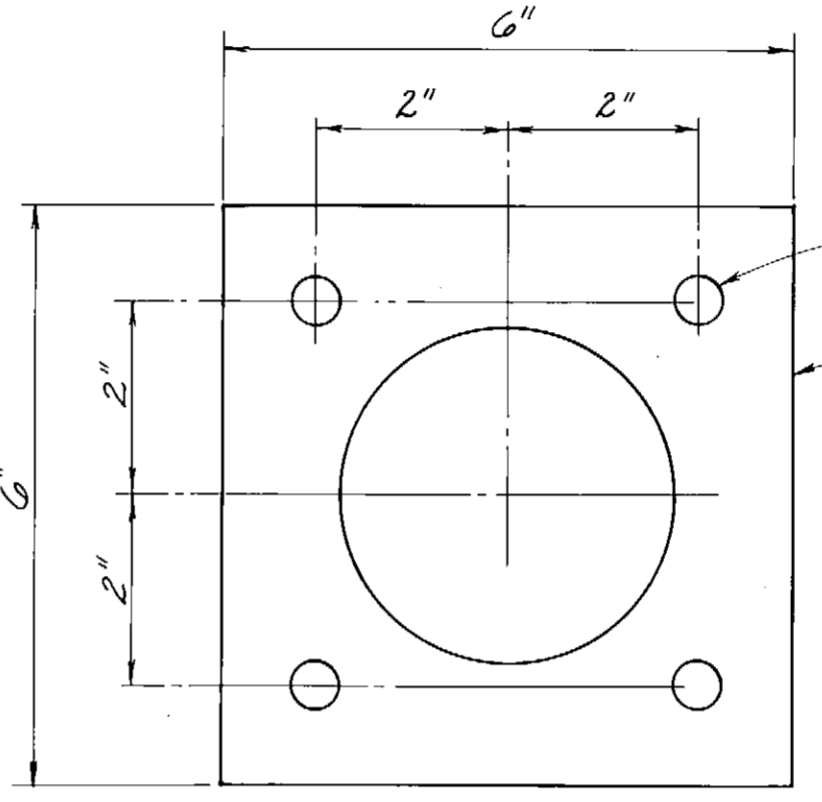
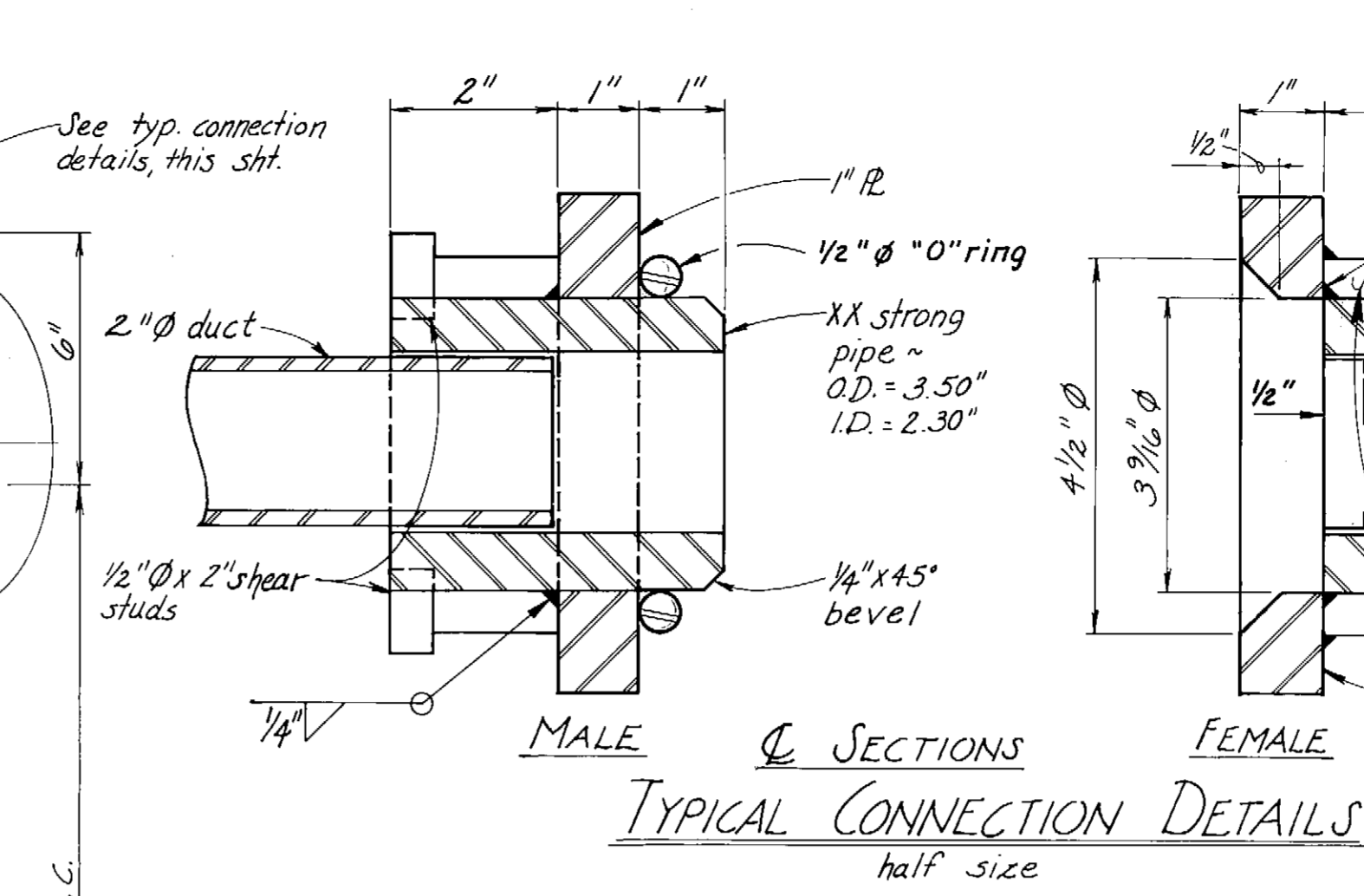
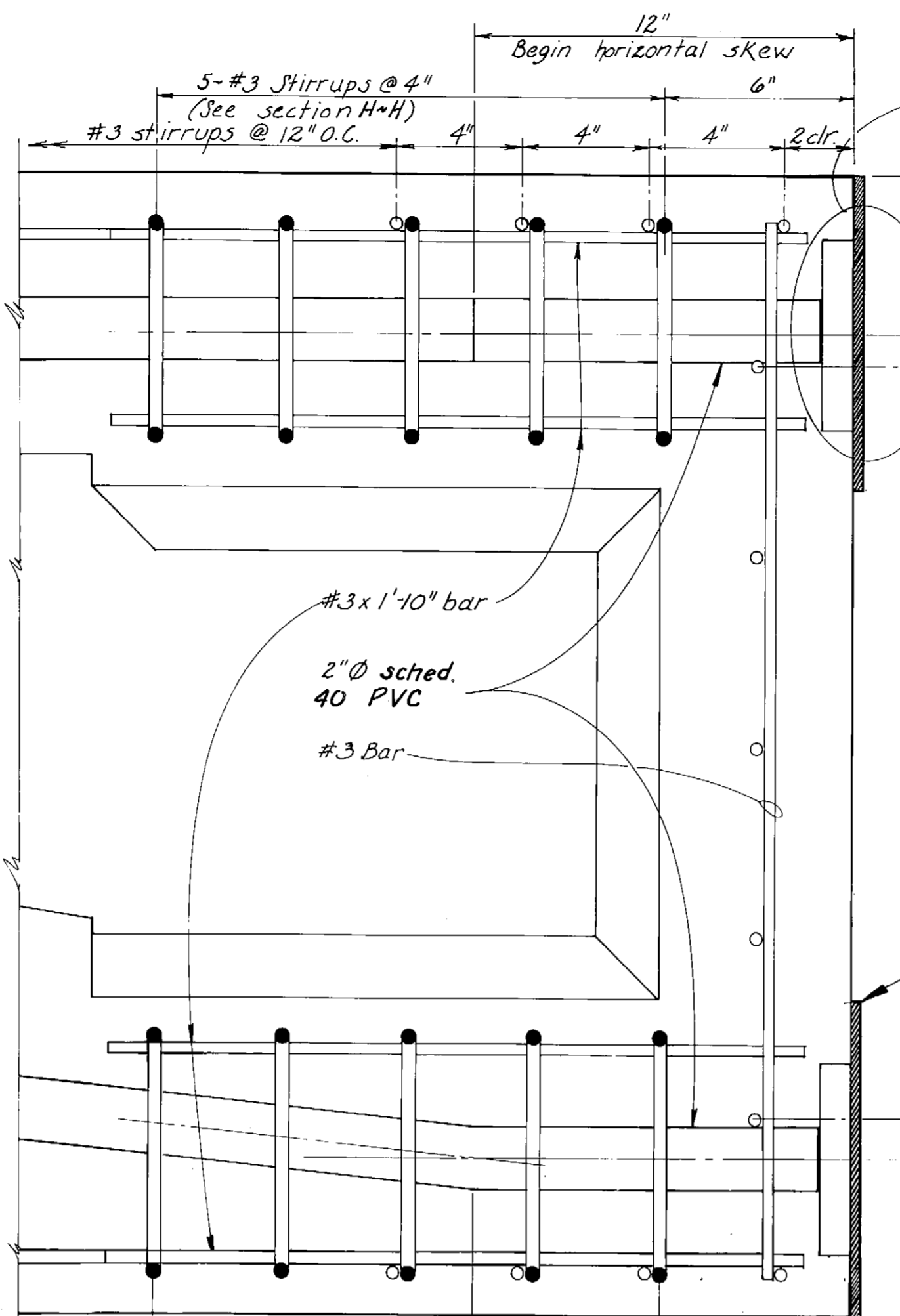
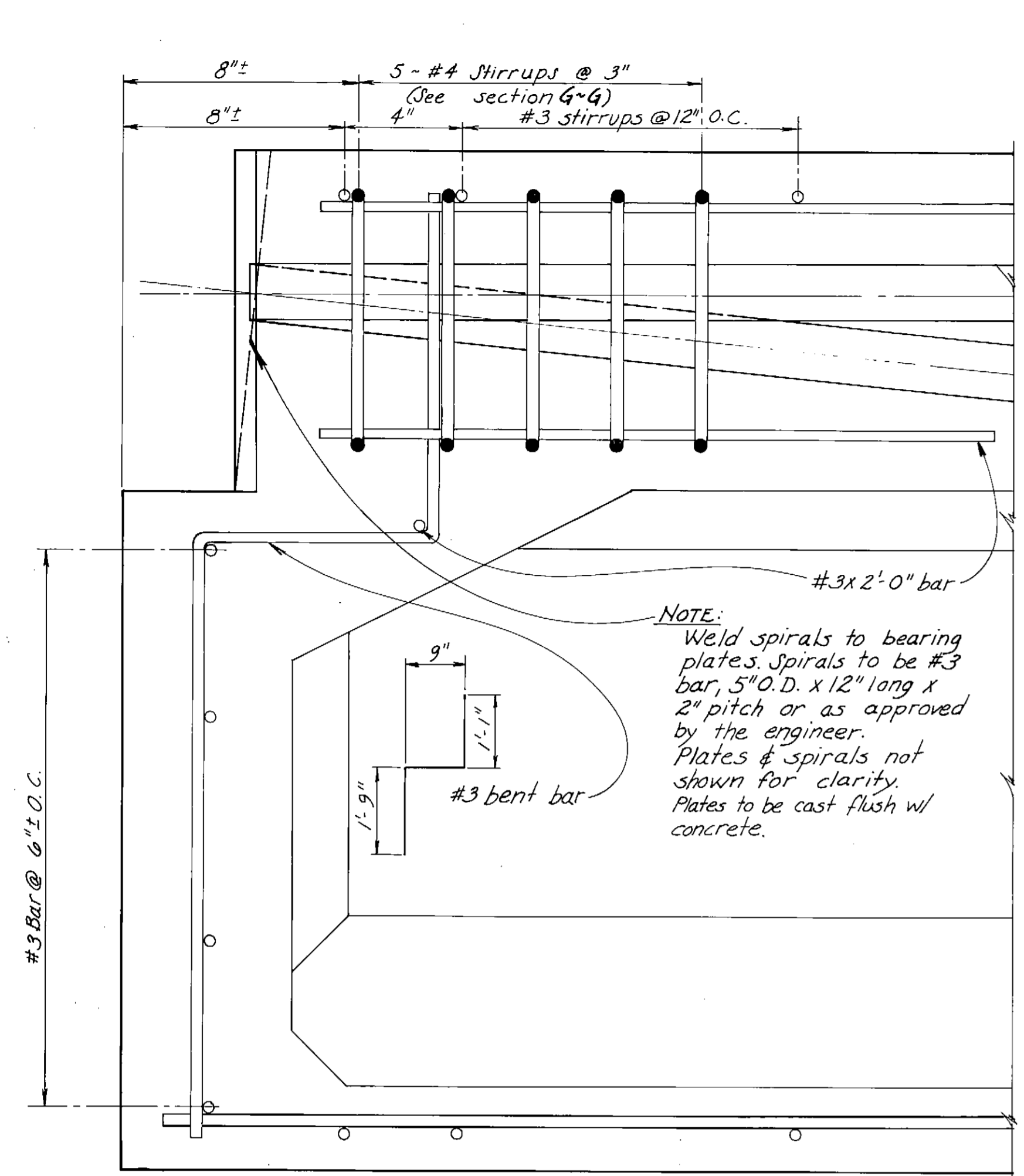
Decks, on end units only, shall be constructed using light-weight concrete.  $f'_c = 5000$  psi.



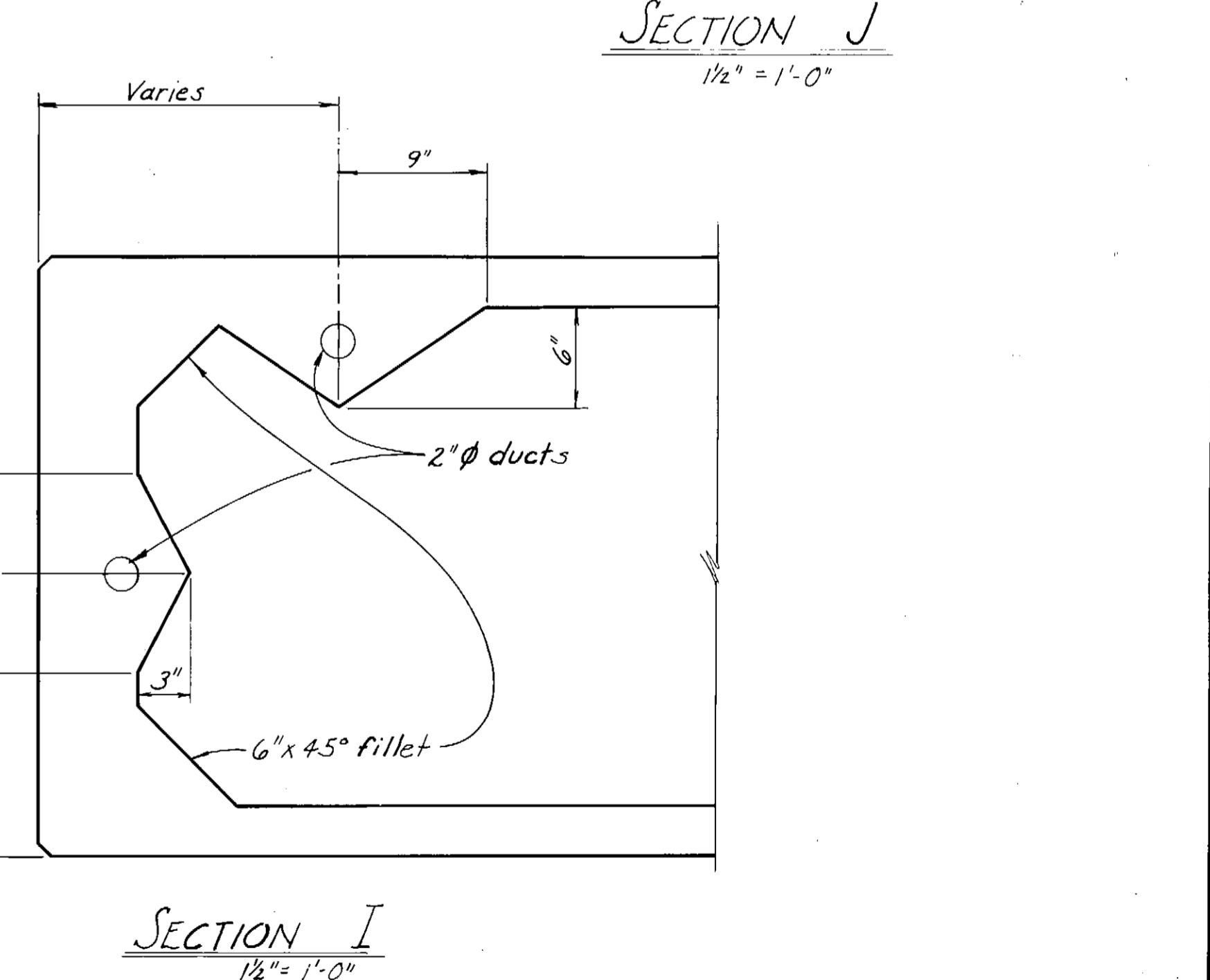
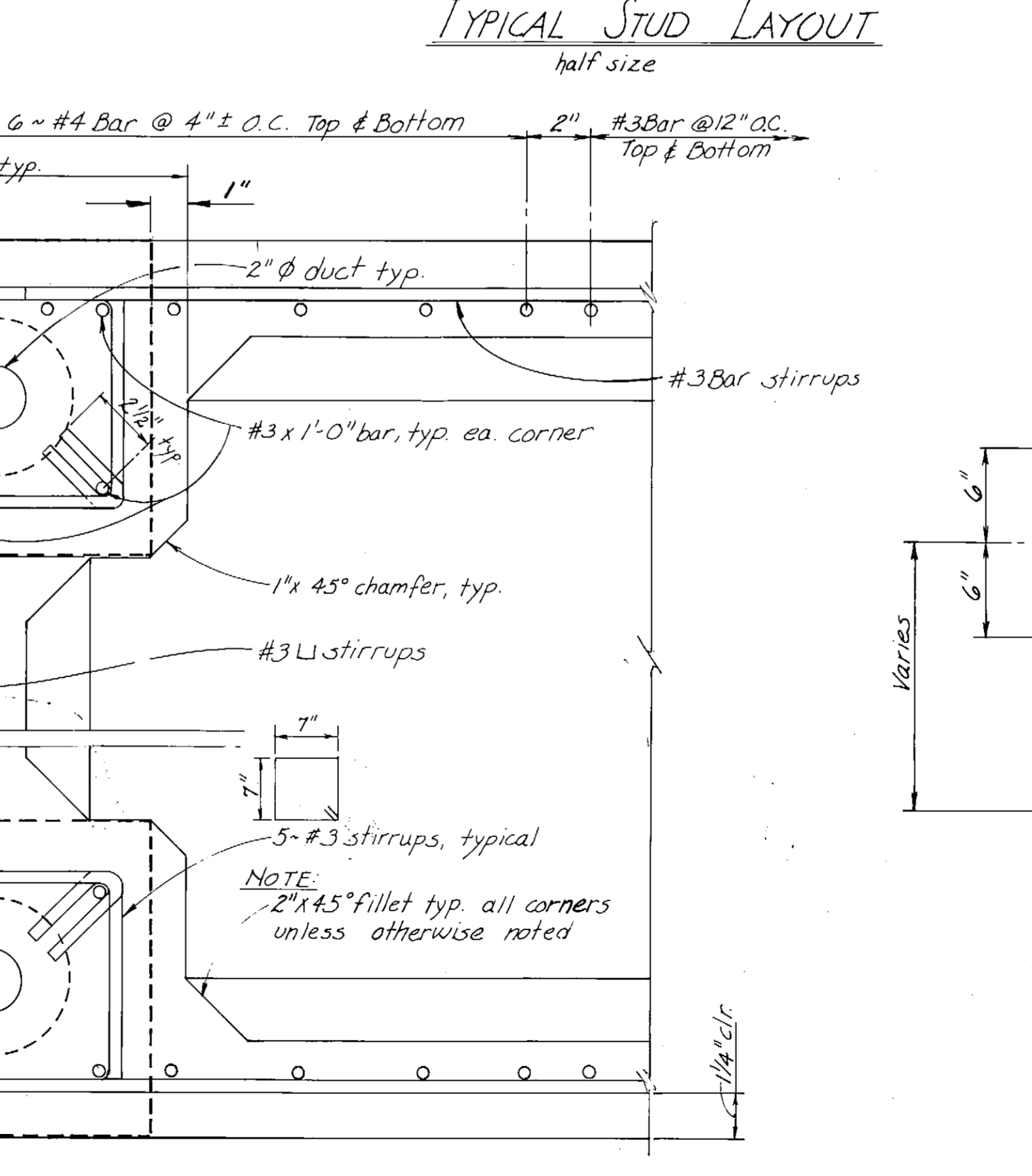
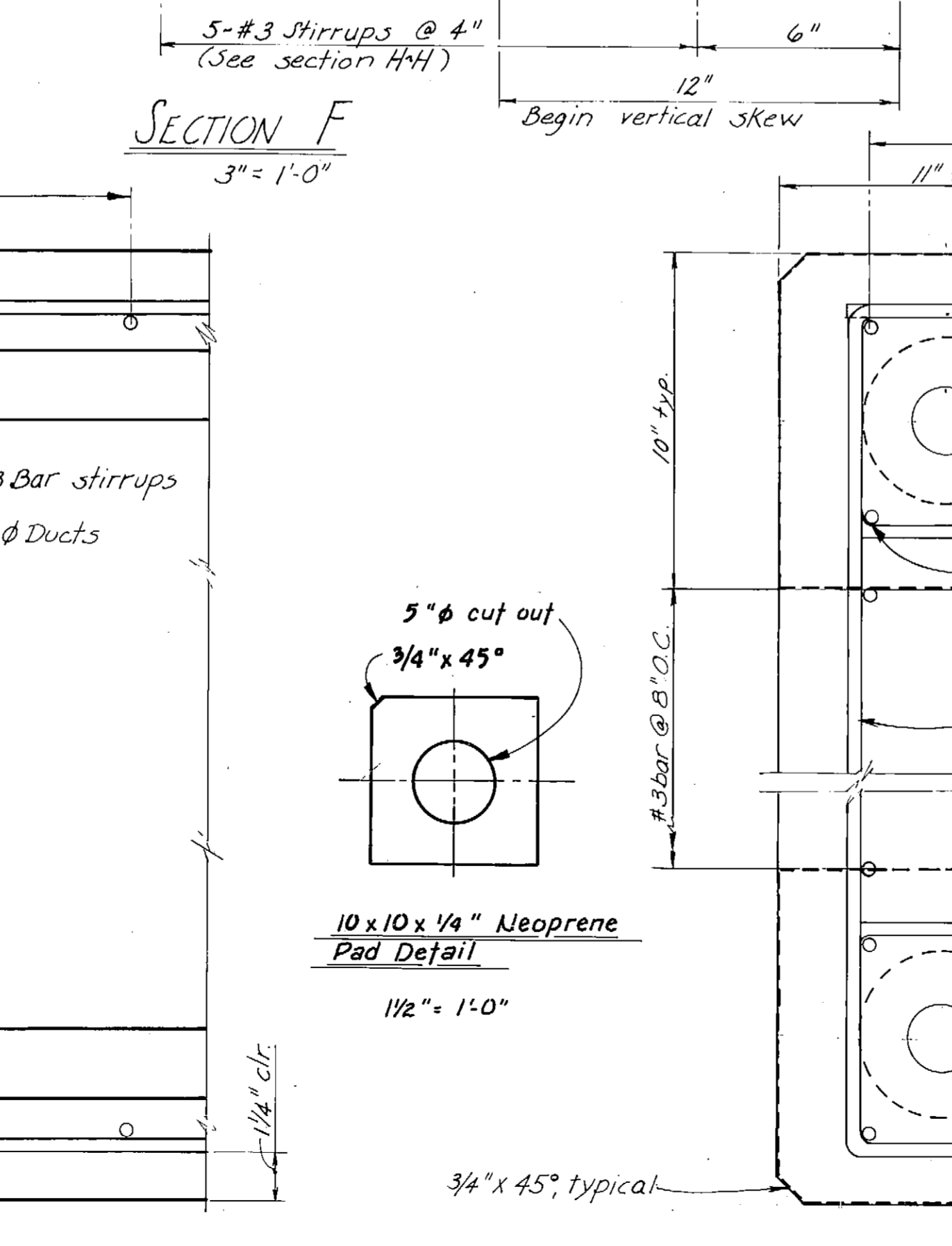
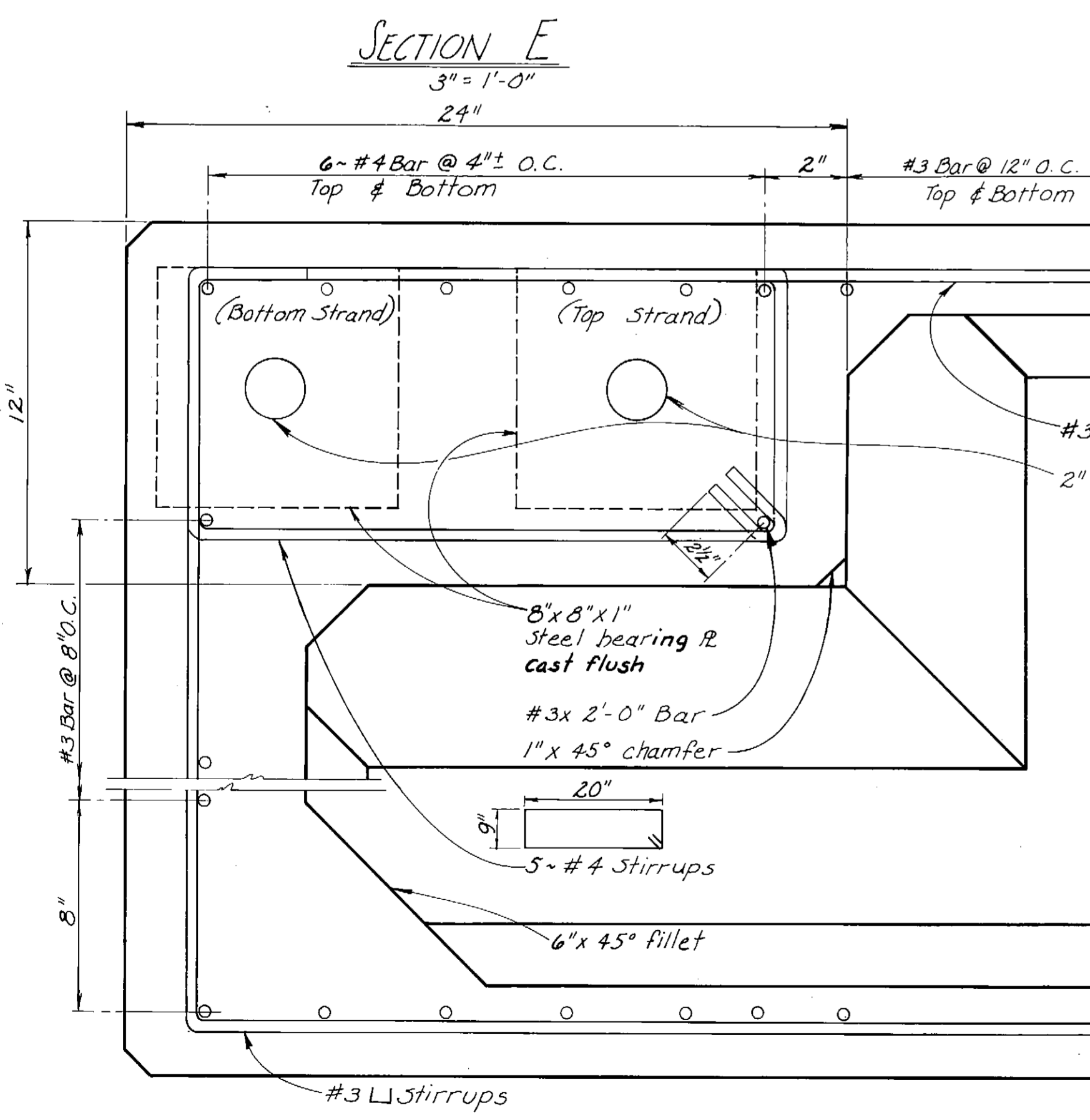
- GENERAL NOTES**
- Four 0.5"  $\phi$ , 7 wire strands to be used per tendon.
  - Concrete  $f'_c = 4000$  psi minimum @ stressing  
 $f'_c = 5000$  psi at 28 days  
 $w_f = 144$  lb/ft<sup>3</sup>  $\pm$  3 lb/ft<sup>3</sup> standard w.f.  
 $w_f = 115$  lb/ft<sup>3</sup>  $\pm$  3 lb/ft<sup>3</sup> light w.f.
  - Float units shall be match cast.

	DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION	
	Kake	Alaska
	12' POST TENSIONED CONCRETE FLOAT	
SCALE As NOTED	SURVEYED	APPROVED
DESIGNED S.L.	DRAWN SJS	Robert P. Beck
CHECKED	DATE 9-81	Chief of Design
PROJECT NUMBER K-93160	SHEET 6	OF 14

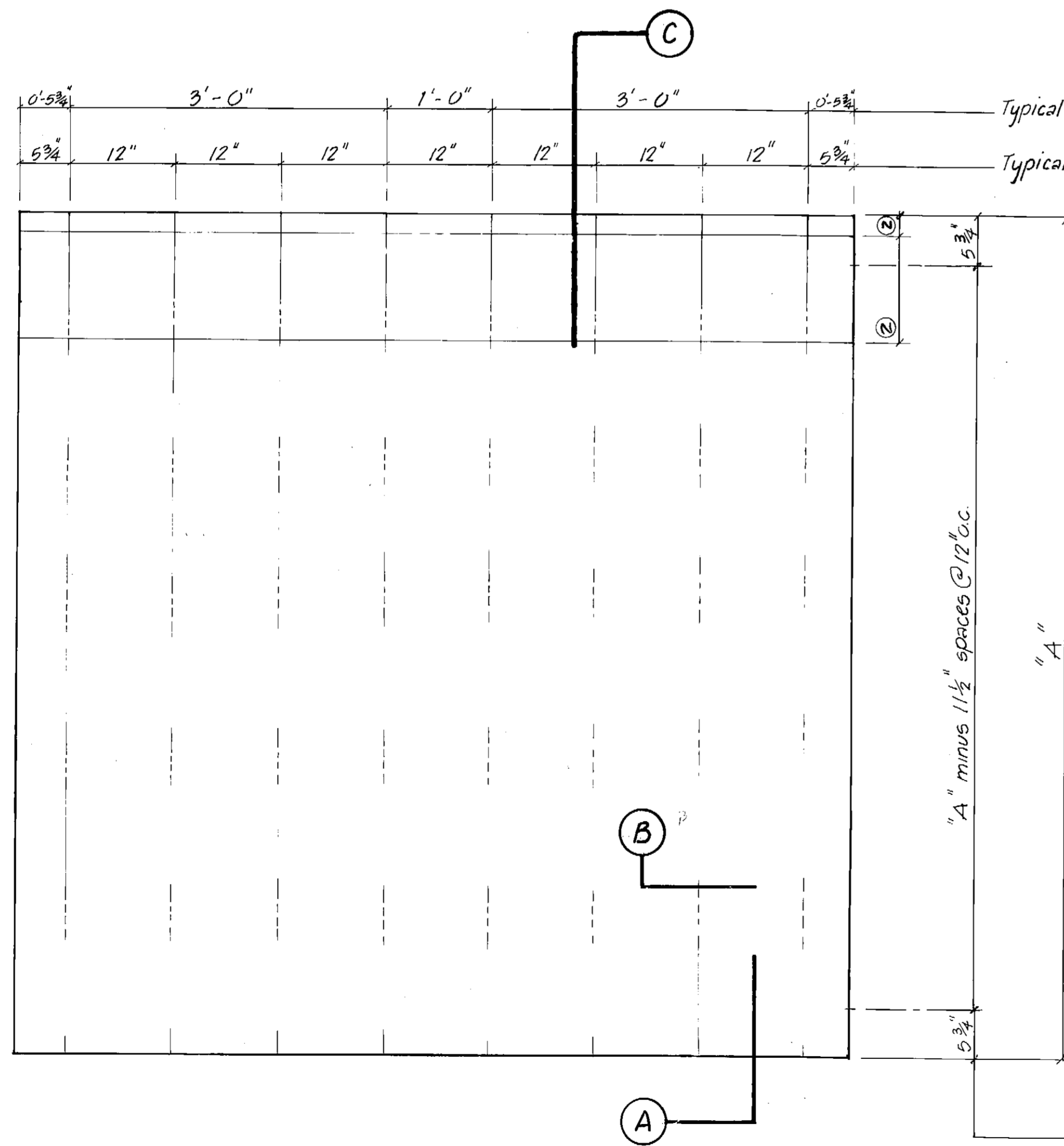
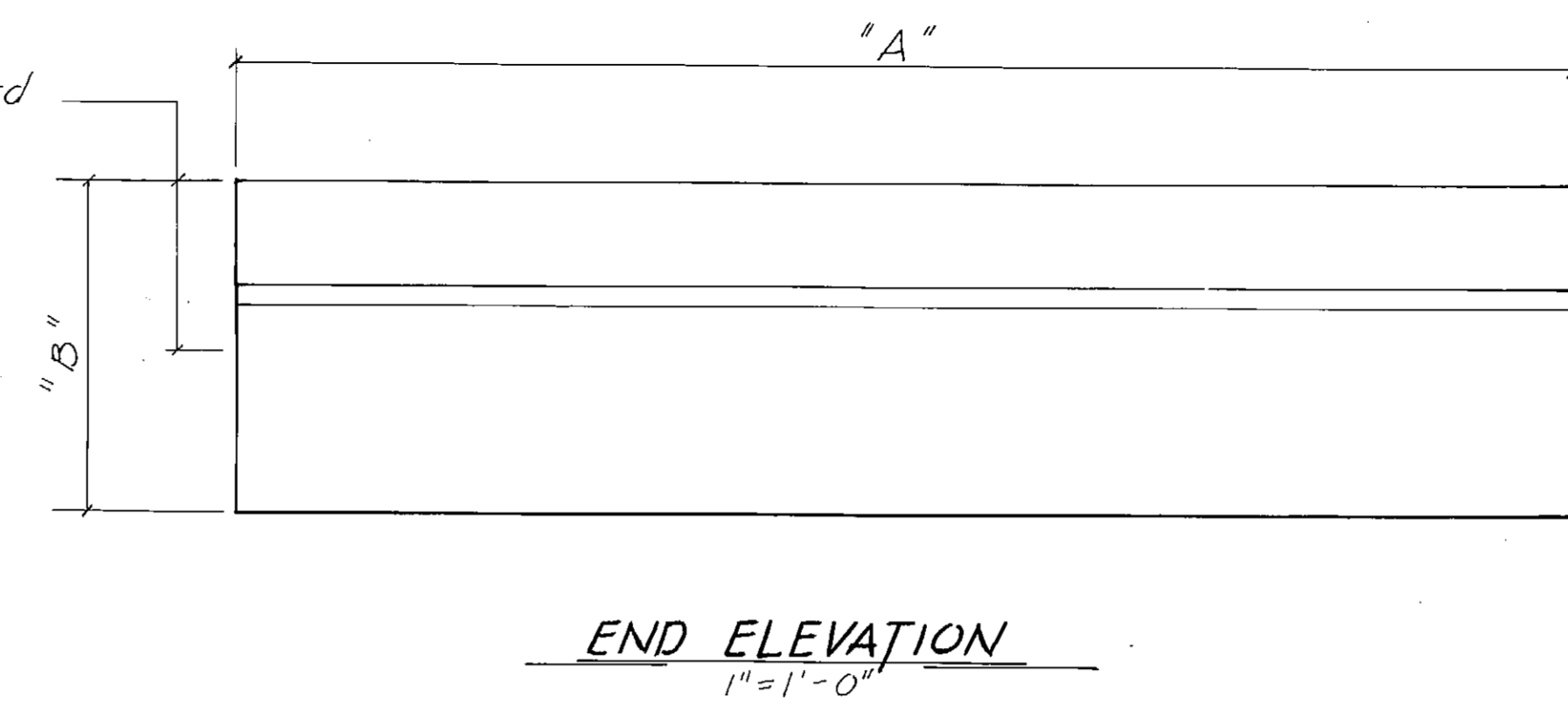
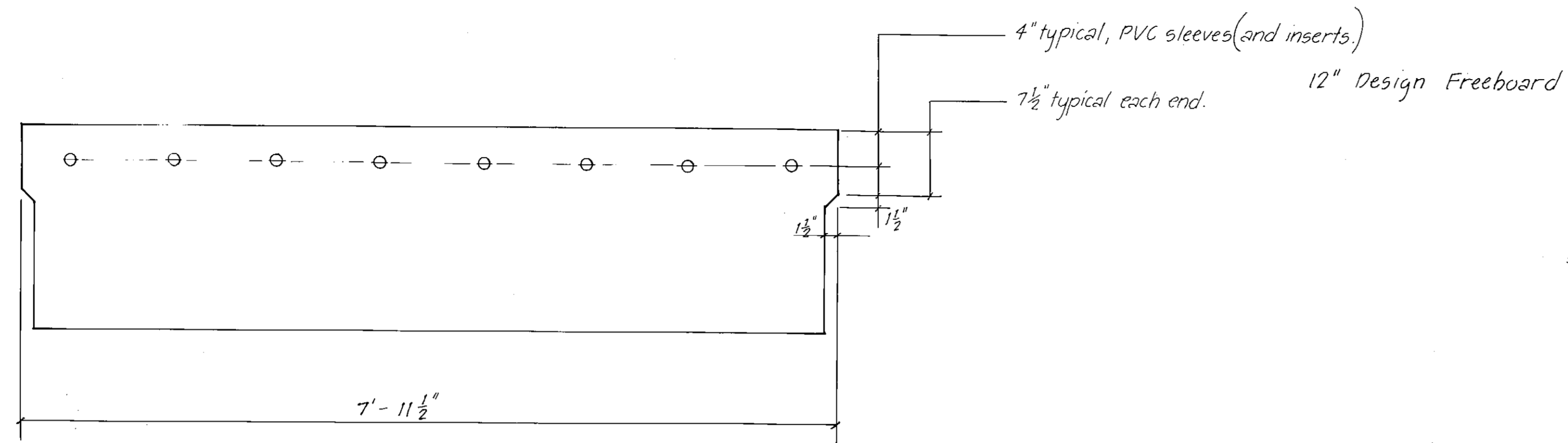
Note: see cover R & seal details shf. 14



Note: Subsequent to post tensioning secure neoprene seal & cover R. Fill cavity w/ marine grease. Marine grease to be Visconrust 2090 P-4 Casing Filler or equal. **POST TENSIONING BY OTHERS**



STAMP		DO NOT SCALE THIS DRAWING USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION			
Kake		Alaska	
<b>DETAILS ~</b> <b>12' POST TENSIONED CONCRETE FLOAT</b>			
SCALE As NOTED	SURVEYED	APPROVED	
DRAWN S.L.	DATE 6-1-79	<b>Robert P. Beck</b> Chief of Design	
PROJECT NUMBER K-93160	SHEET 7 OF 14		

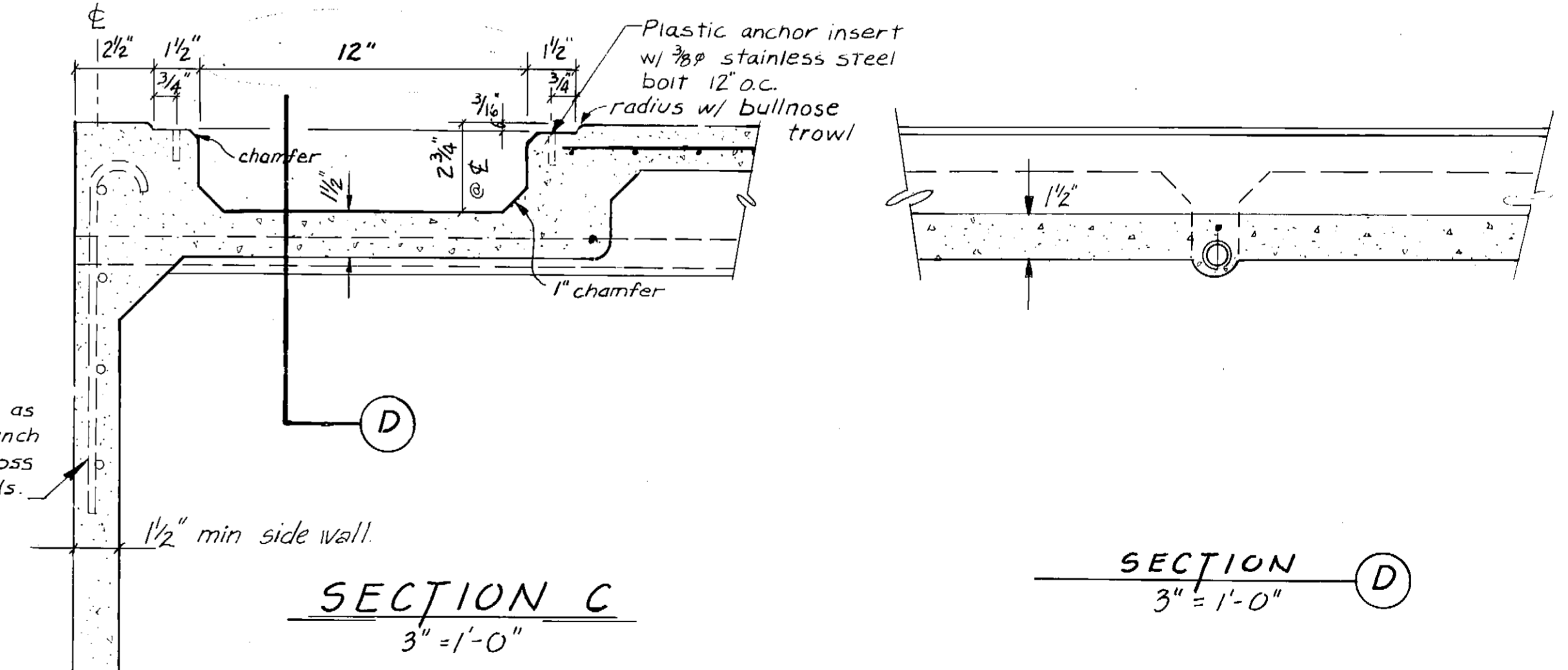
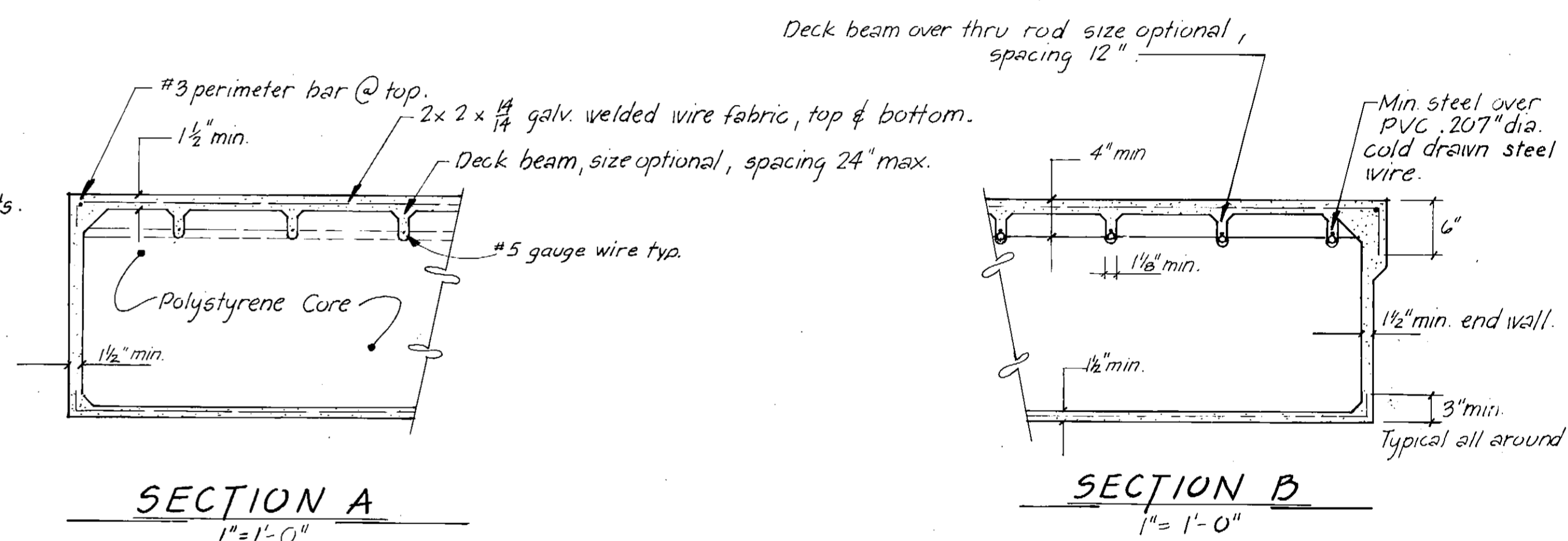


Typical thru rod spacing, see plan for additional rod requirements.  
 Typical 3/4" PVC sleeve spacing.

DIMENSIONS		IMMERSION CONSTANT
Nominal Float	"A" "B"	Pounds per linear ft.
6 x 8	5' - 11 1/2" Note ①	30.6
8 x 8	7' - 11 1/2" "	40.8
10 x 8	9' - 11 1/2" "	51.0
12 x 8	11' - 11 1/2" "	61.2

- General Notes:  
 ① Pontoon supplier to provide float unit w/ required Freeboard. Allow 35 lbs. per linear foot for wales, bumper & utilities.  
 ② See sections of float w/ wale, tie down rail & bumper, shft. 13  
 ③ Utility raceway location shown on layout drawings

12" cont. 3x6" - W3x W3, shape as shown side trough only. Haunch typical all troughs. Cut cross wires to go around thru rods. See note ③



STAMP

DO NOT SCALE THIS DRAWING USE DIMENSIONS

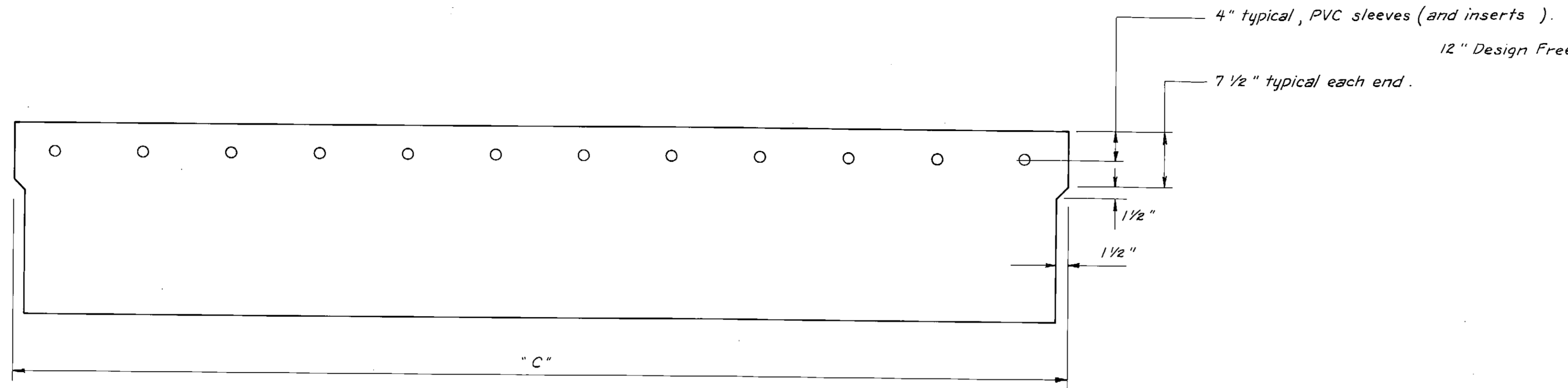
STATE OF ALASKA  
 DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
 DIVISION OF HARBOR DESIGN AND CONSTRUCTION

Kake Alaska

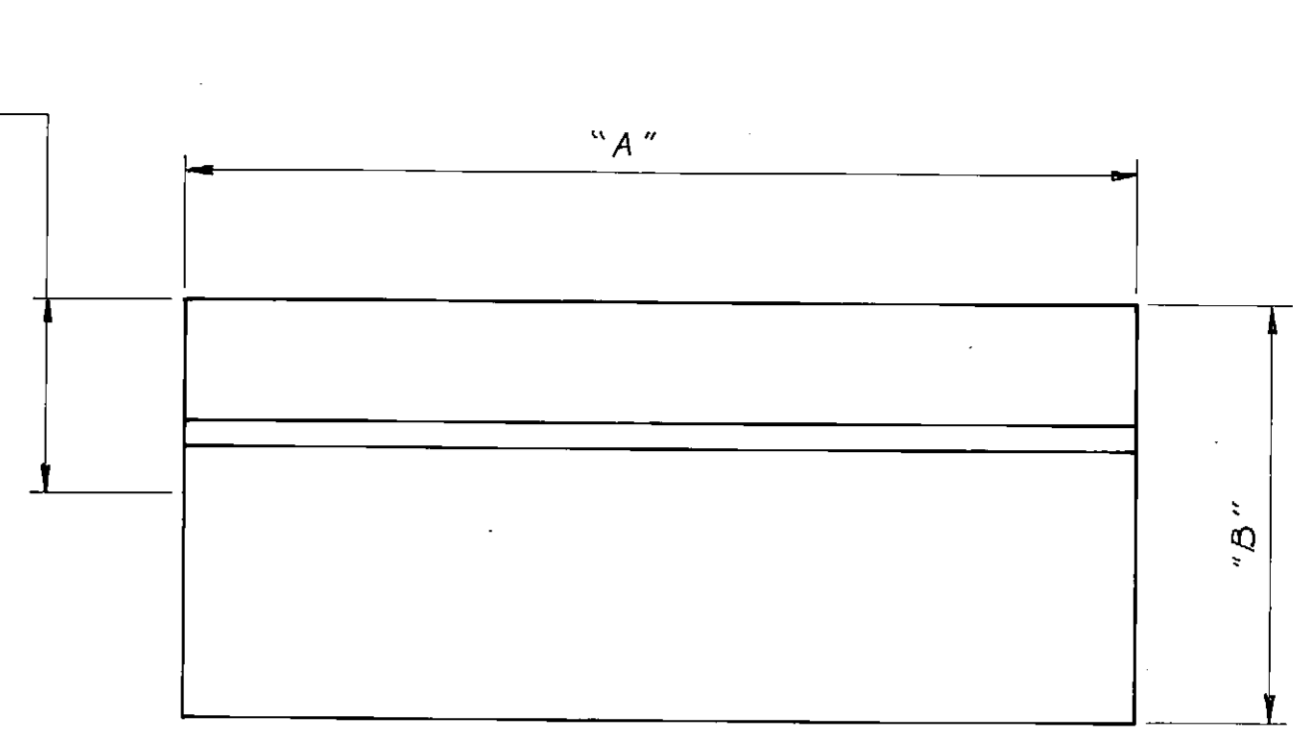
**TYPICAL FLOAT UNITS**

SCALE As Shown SURVEYED APPROVED  
 DESIGNED DRAWN Robert P Beck  
 CHECKED DATE 11-80 CHIEF OF DESIGN  
 PROJECT NUMBER K-93160 SHEET 8 OF 14

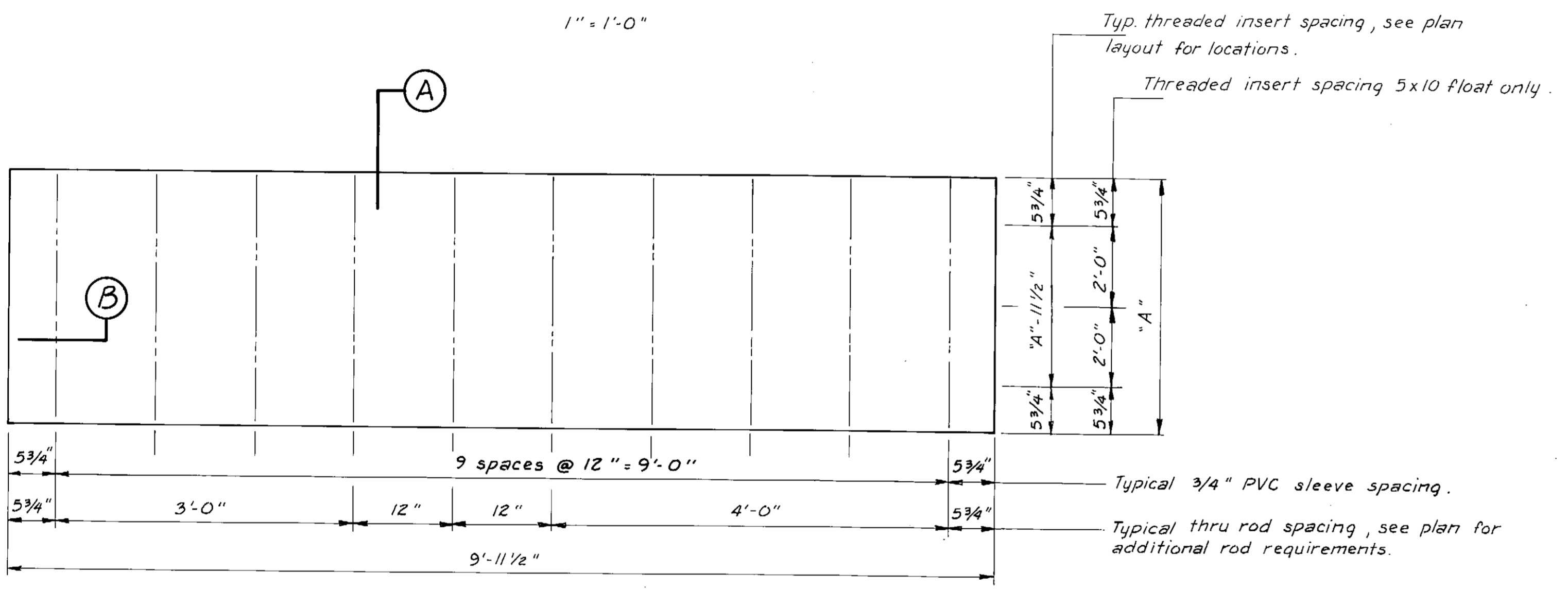
Harold R. Mosser  
 No. 4373-E  
 REGISTERED PROFESSIONAL ENGINEER



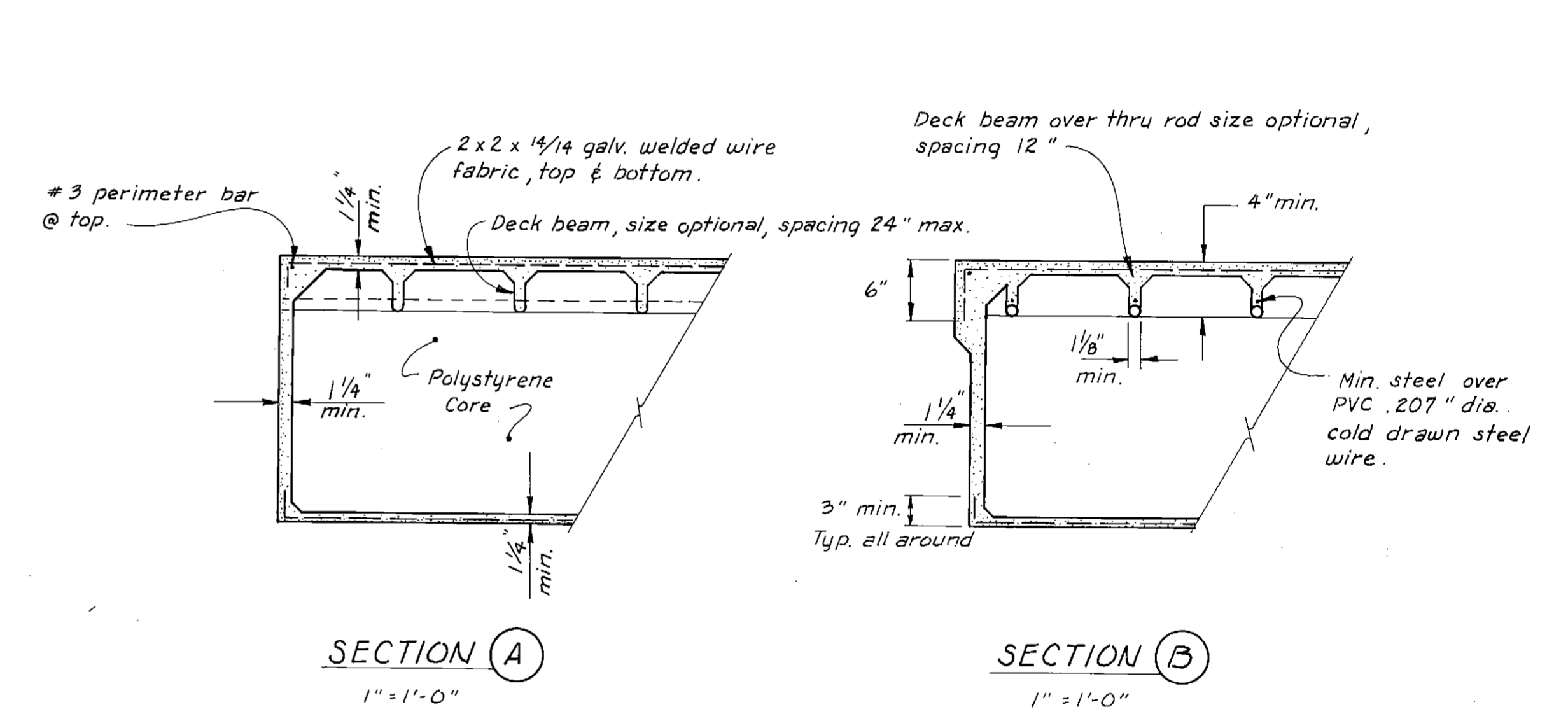
**OUTBOARD ELEVATION**  
1" = 1'-0"



**END ELEVATION**  
1" = 1'-0"

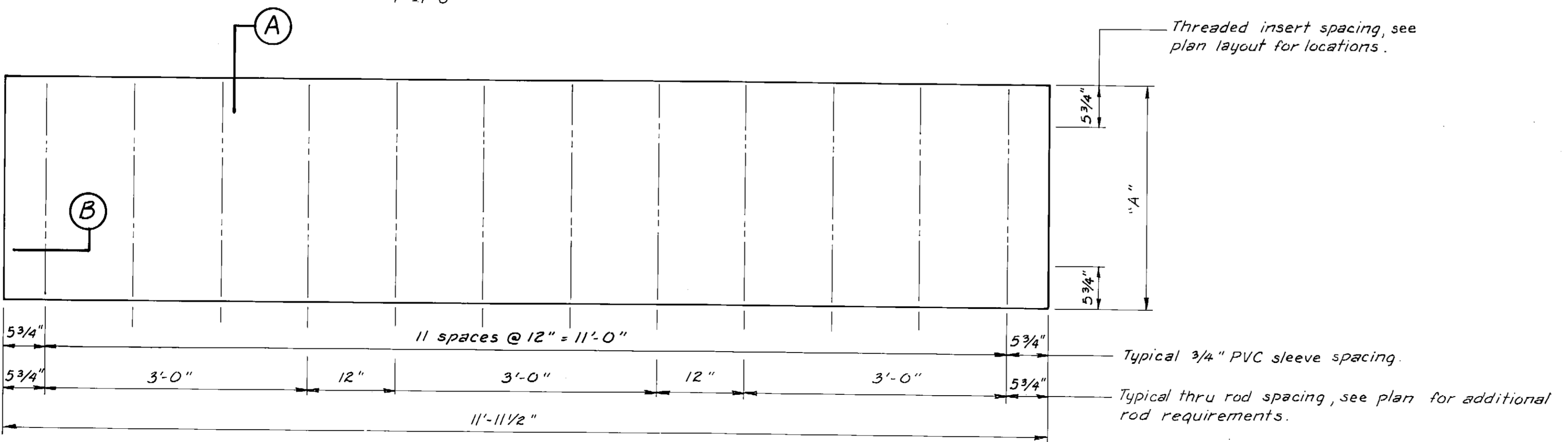


**PLAN**  
1" = 1'-0"



**SECTION A**  
1" = 1'-0"

**SECTION B**  
1" = 1'-0"



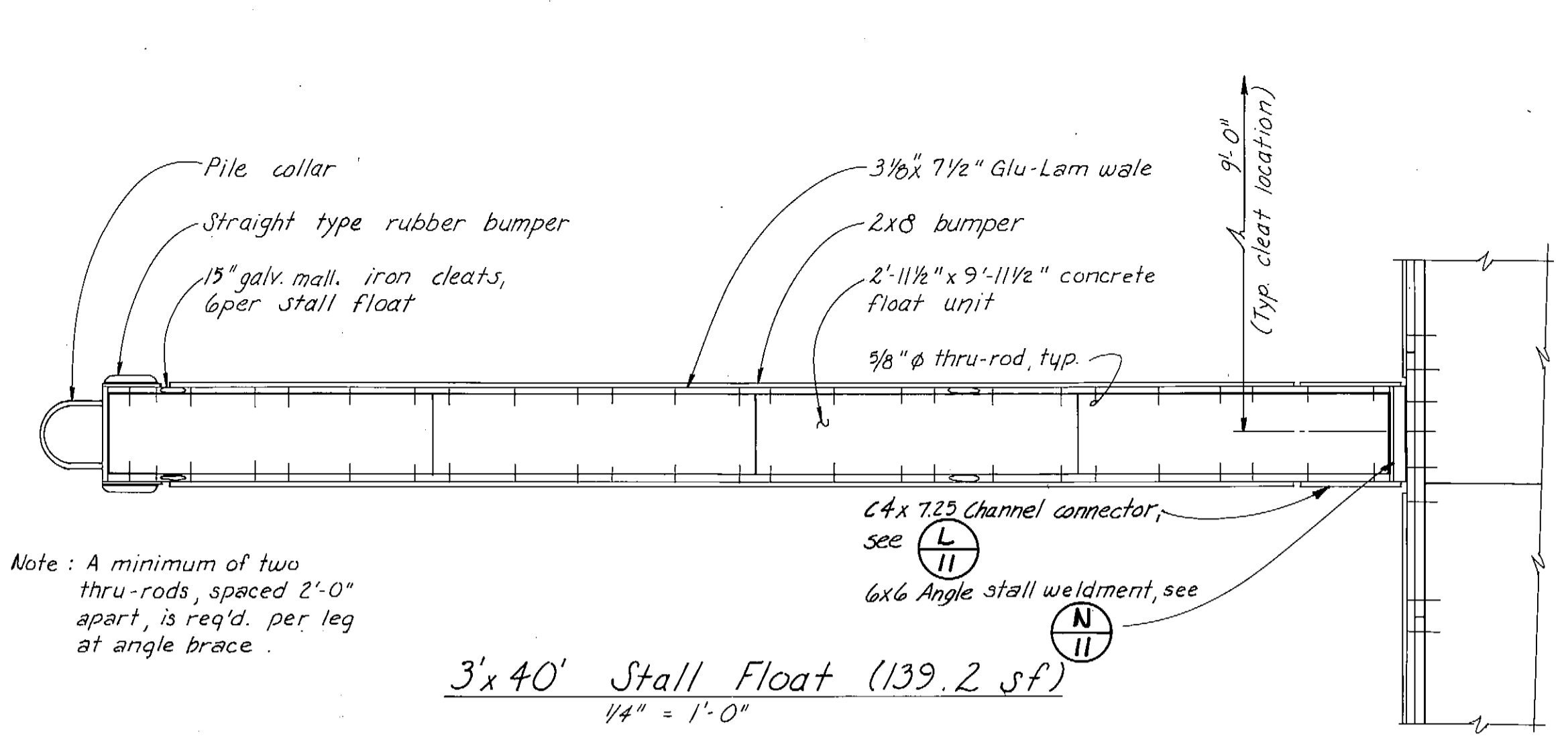
**PLAN**  
1" = 1'-0"

**General Notes:**  
 ① Pontoon supplier to provide float unit w/ required freeboard. Allow 16.4 lbs. per lin. ft. for 3' wide float and 26.0 lbs. per lin. ft. for 4' & 5' wide floats for wales & bumpers.

Nom. Float	DIMENSIONS			IMMERSION CONSTANT
	"A"	"B"	"C"	Pounds per linear ft.
3 x 10	2'-7"	Note 1	9'-11 1/2"	13.4
3 x 12	2'-7"	"	11'-11 1/2"	13.4
4 x 12	3'-11 1/2"	"	11'-11 1/2"	20.6
5 x 10	4'-11 1/2"	"	9'-11 1/2"	21.4
3 x 10	2'-11 1/2"	"	9'-11 1/2"	15.8

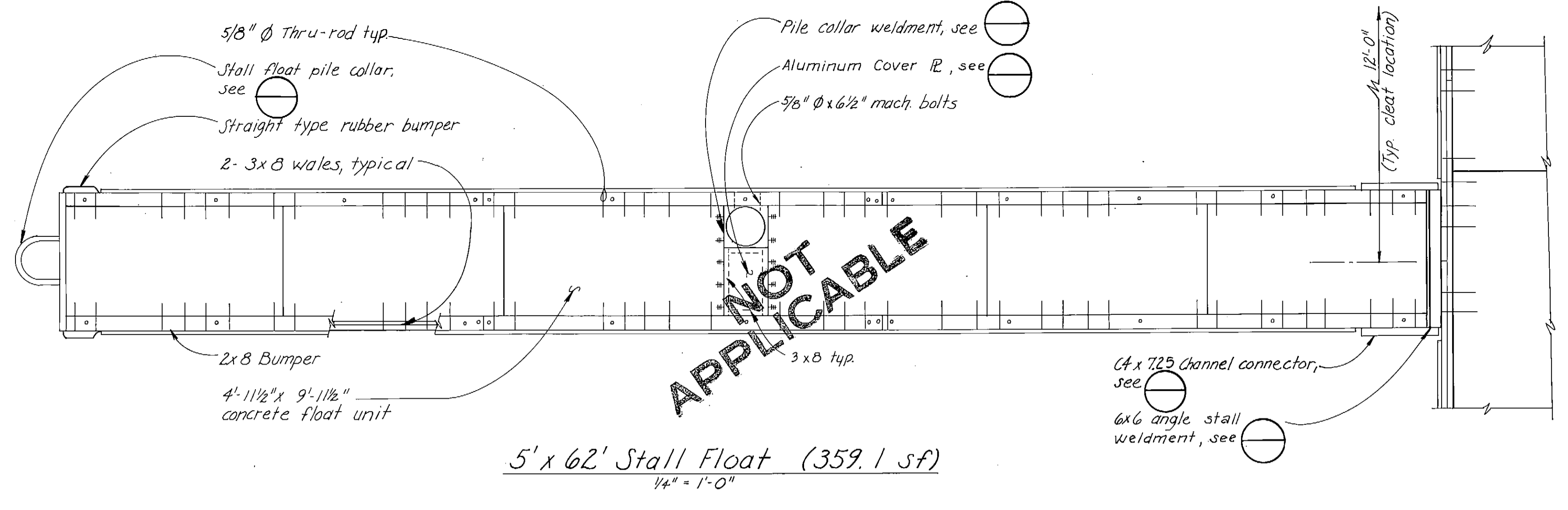
Design Freeboard 12" ①  
 Maximum Freeboard 14"  
 Minimum Freeboard 11"

	DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION	
	Kake Alaska <b>TYPICAL STALL FLOAT UNITS</b>	
SCALE: As Noted	SURVEYED: TS	APPROVED: Robert P. Beck
DESIGNED: _____	DRAWN: 10/80	CHIEF OF DESIGN
CHECKED: _____	DATE: _____	
PROJECT NUMBER: K-93160	SHEET 9 OF 14	



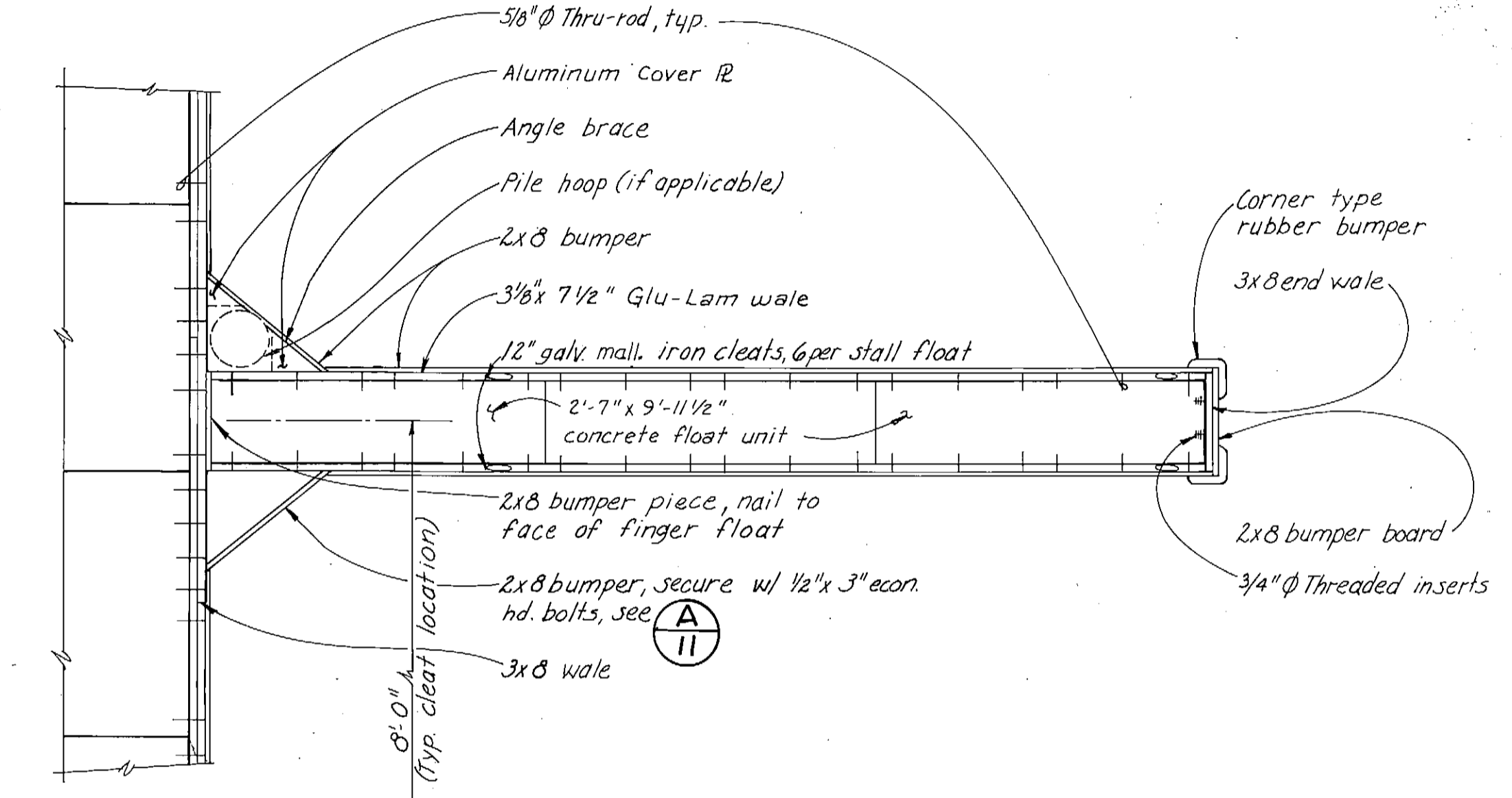
Note: A minimum of two thru-rods, spaced 2'-0\"/>

**3' x 40' Stall Float (139.2 sf)**  
1/4\"/>

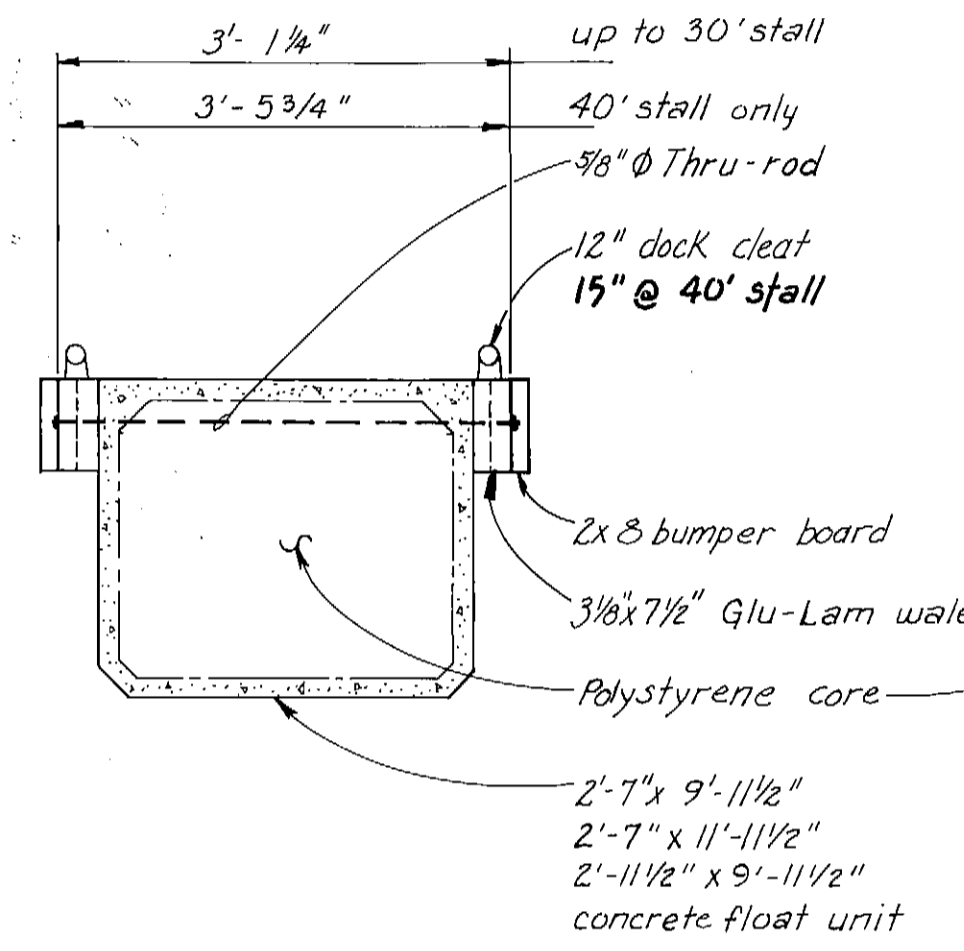


**5' x 62' Stall Float (359.1 sf)**  
1/4\"/>

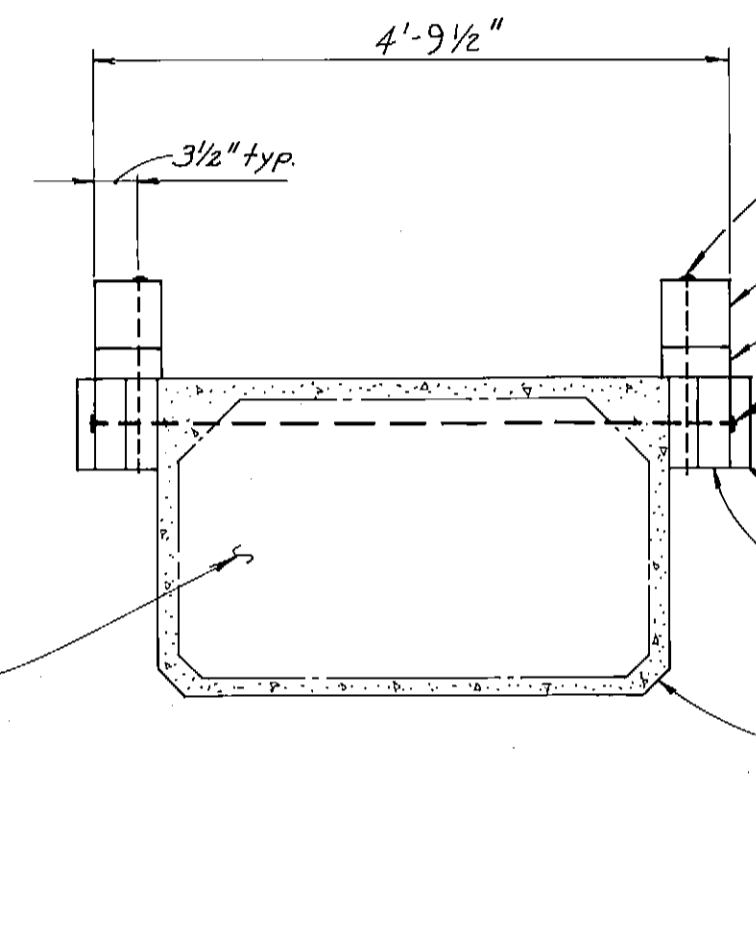
**NOT APPLICABLE**



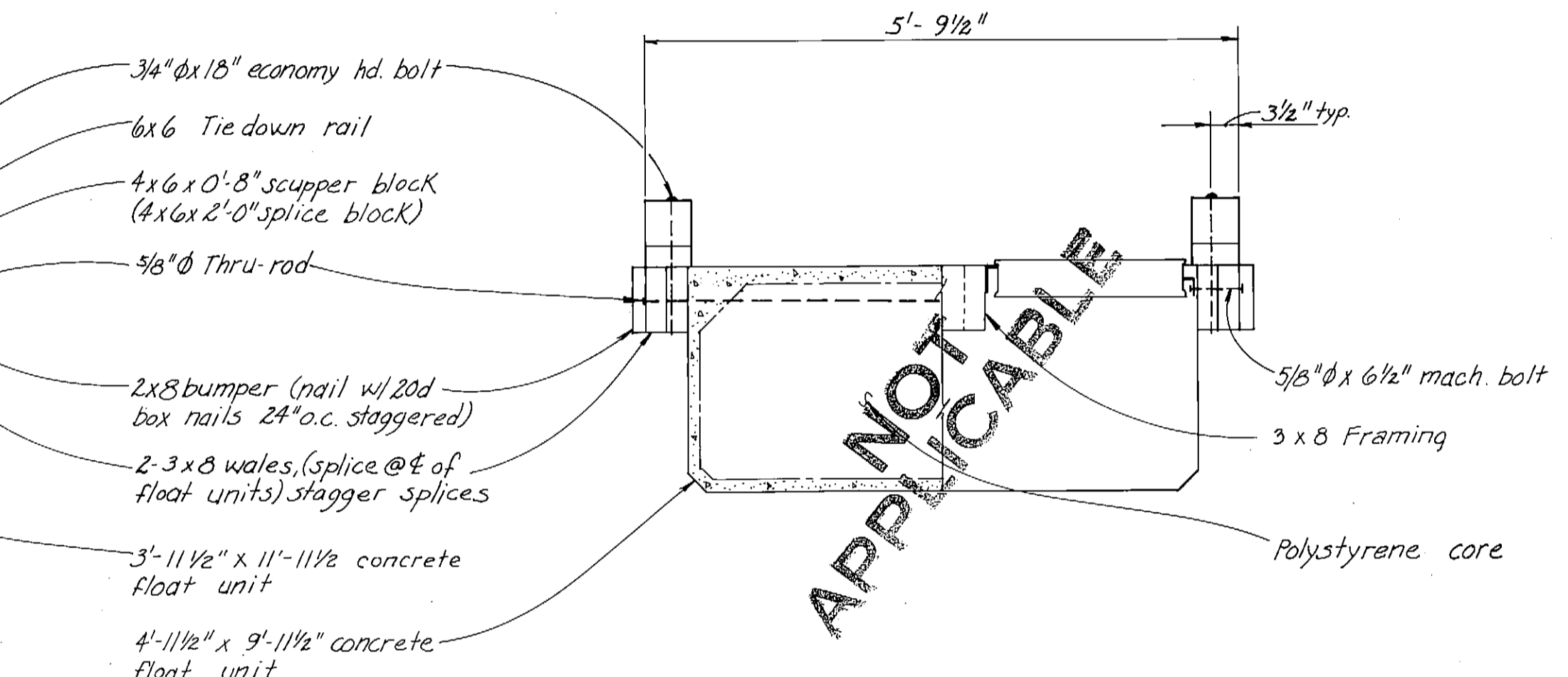
**3' x 30' Stall Float (105.1 sf)**  
1/4\"/>



**3' Stall Section**  
3/4\"/>

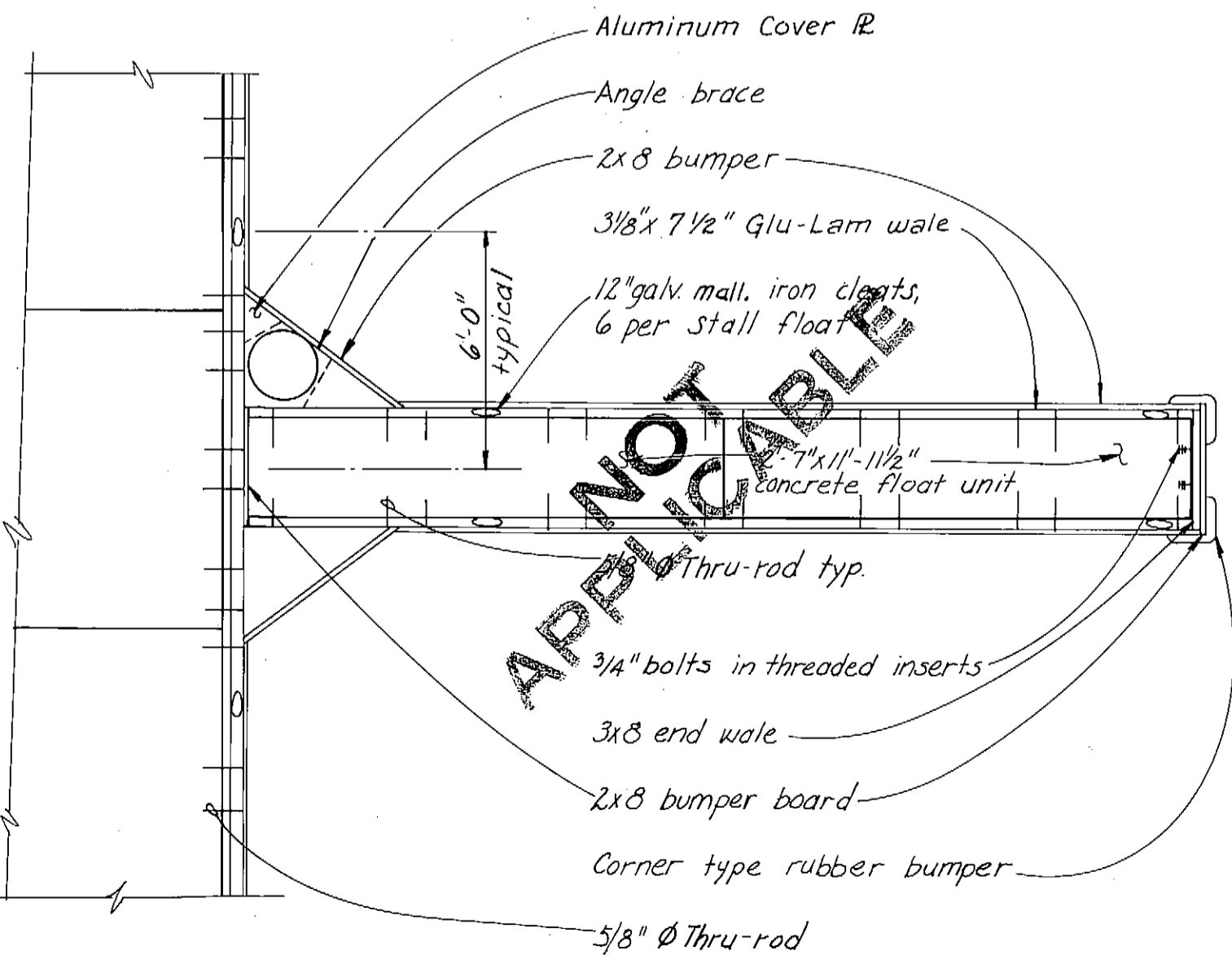


**4' Stall Section**  
3/4\"/>

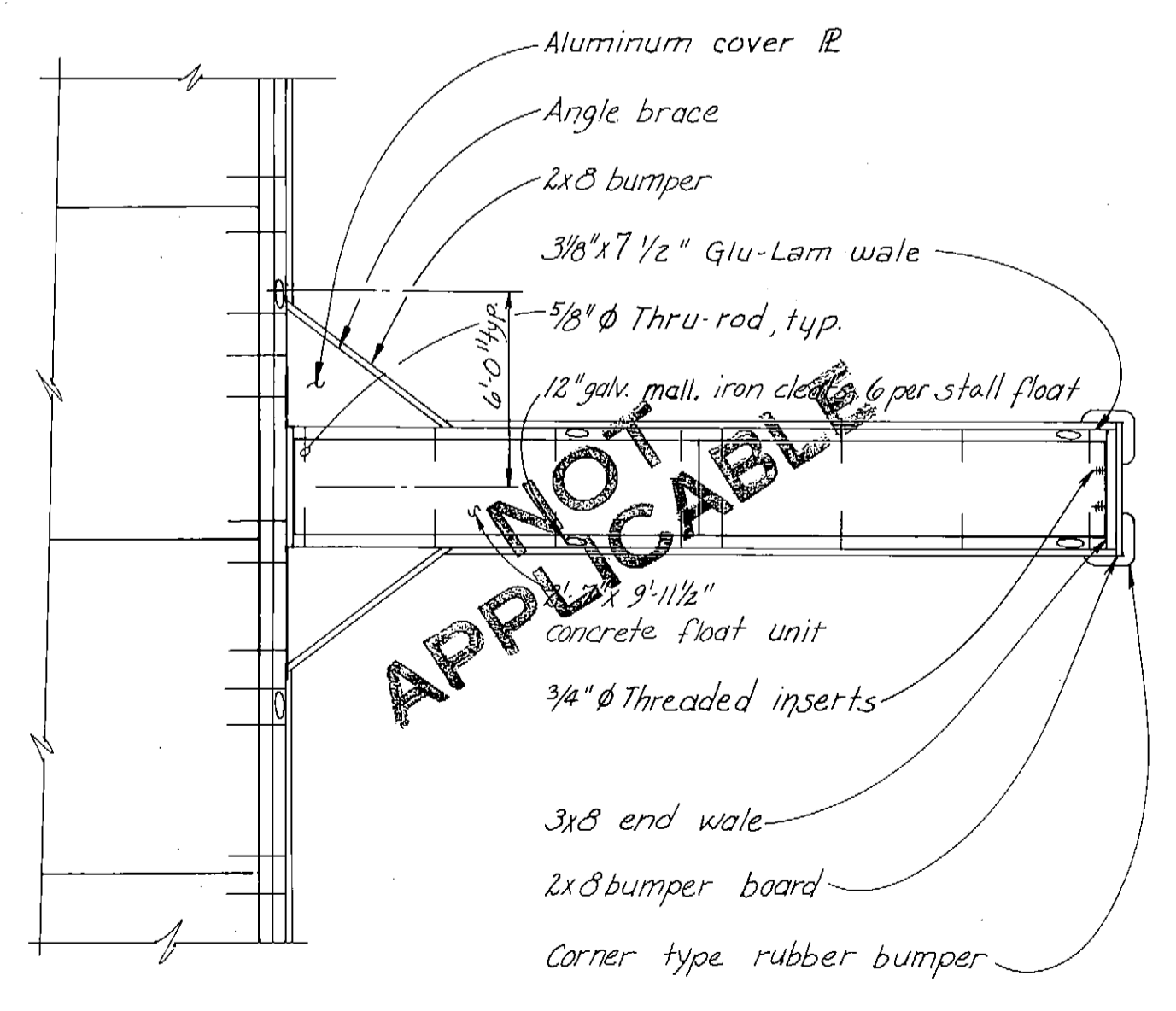


**5' Stall Section**  
3/4\"/>

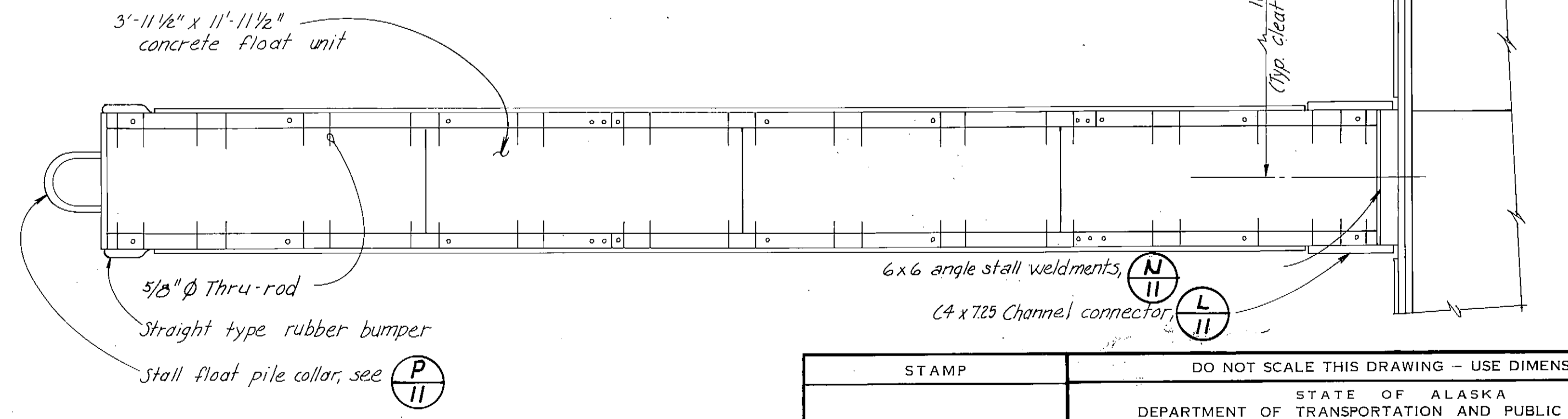
**NOT APPLICABLE**



**3' x 24' Stall Floats (86.5 sf)**  
1/4\"/>

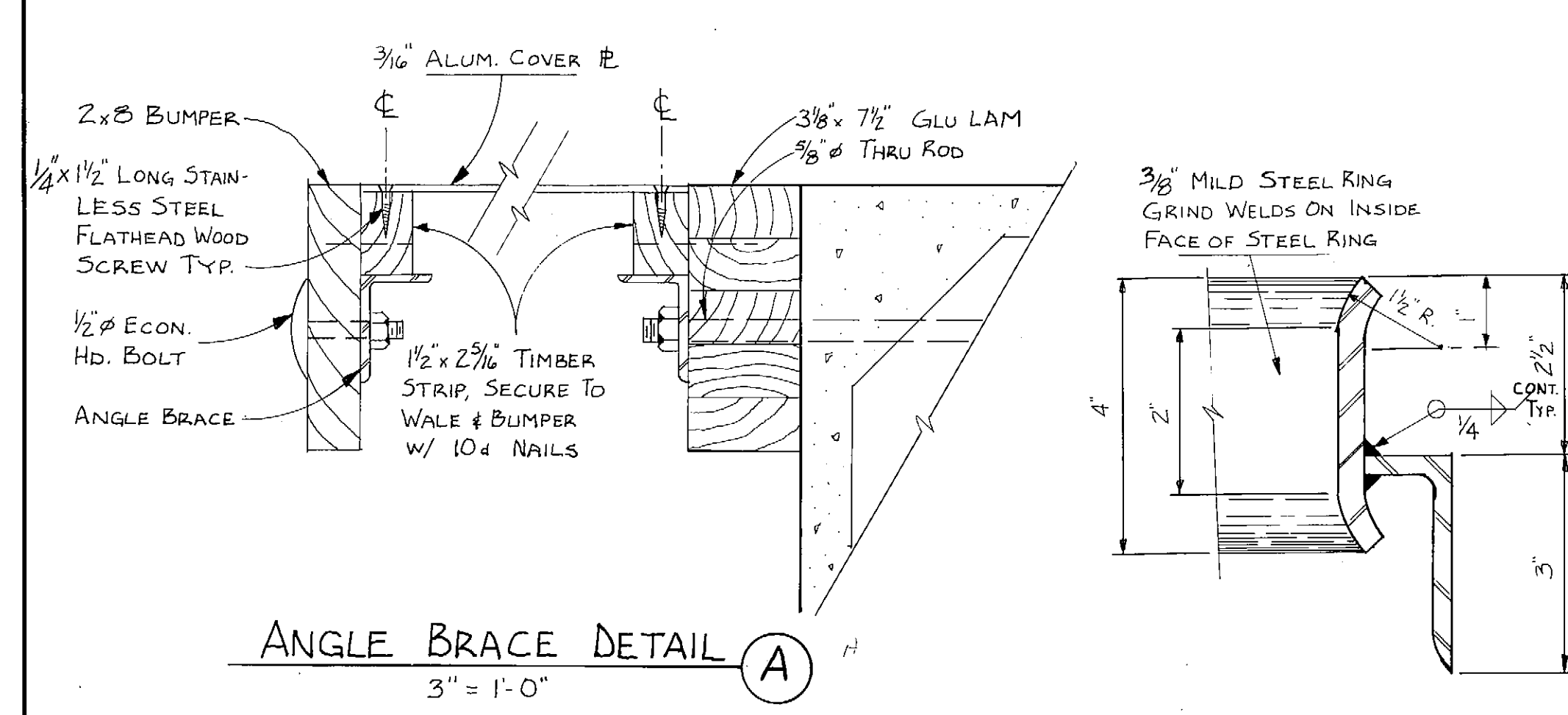


**3' x 20' Stall Floats (74.1 sf)**  
1/4\"/>



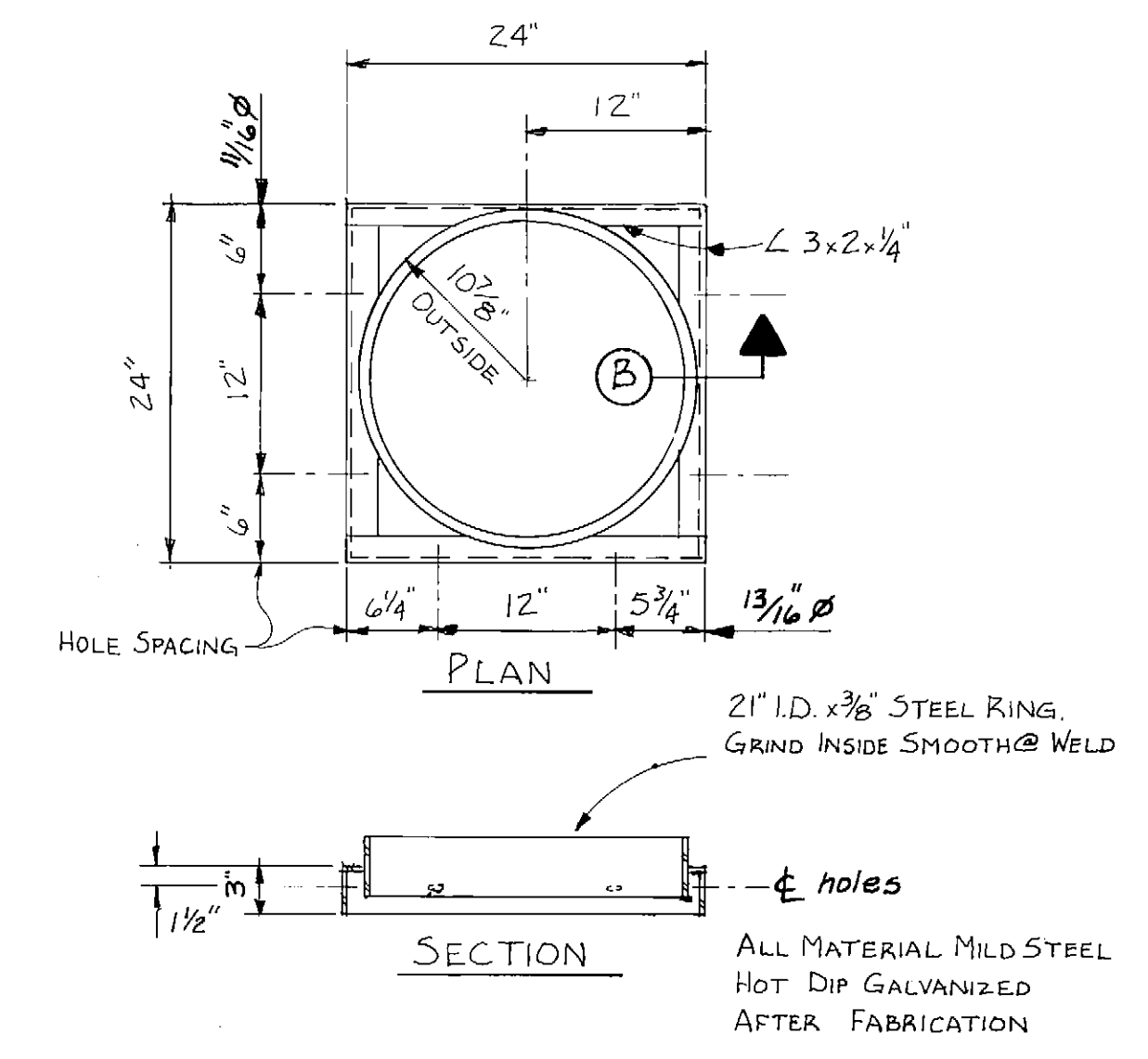
**4' x 48' Stall Floats (230.0 sf)**  
1/4\"/>

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION	
		Kake Alaska <b>TYPICAL STALL FLOATS</b>	
SCALE As Noted	SURVEYED	APPROVED	
DESIGNED	DRAWN SJS	<b>Robert P. Beck</b> CHIEF OF DESIGN	
CHECKED	DATE	PROJECT NUMBER <b>K-93160</b>	
		SHEET <b>10</b> OF <b>14</b>	

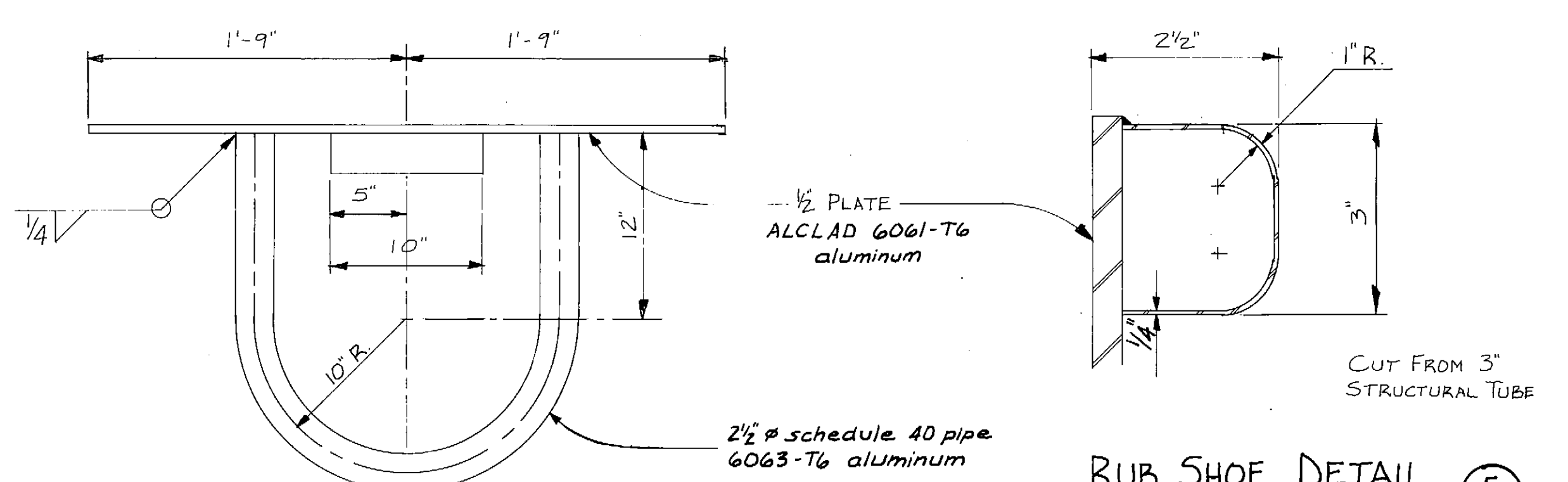


ANGLE BRACE DETAIL (A)  
3" = 1'-0"

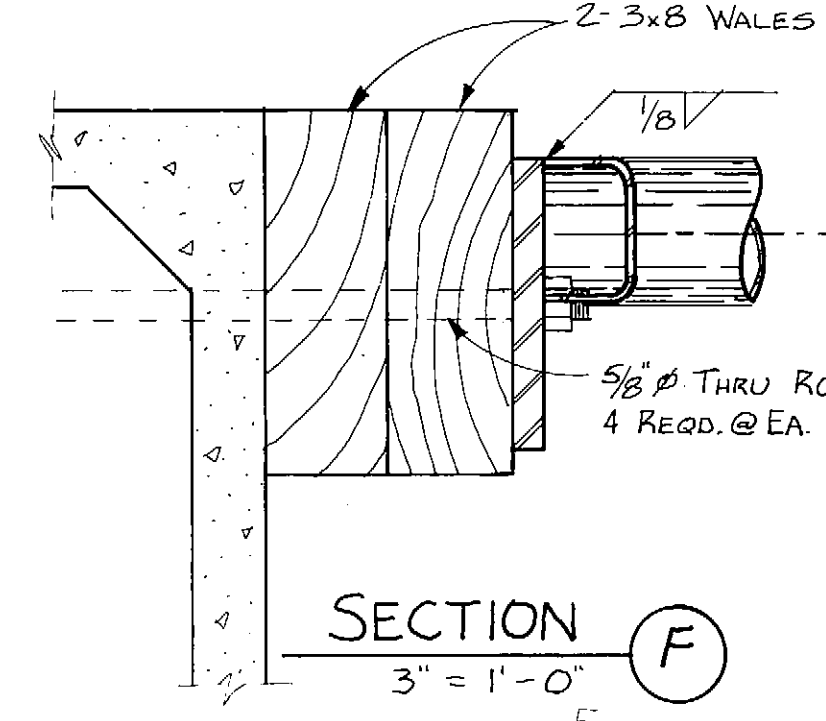
SECTION (B)  
HALF SIZE



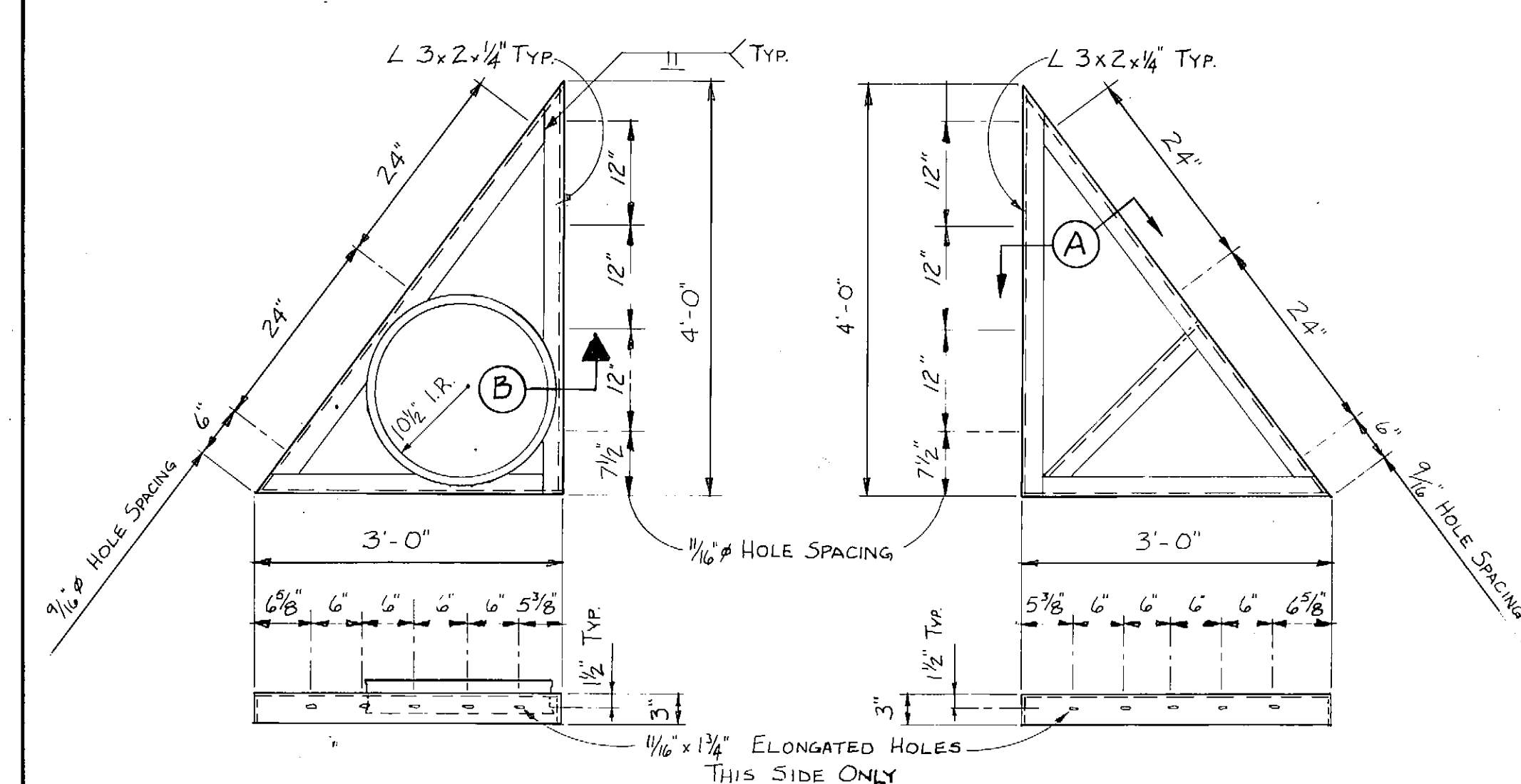
PILE COLLAR WELDMENT DETAILS (C)  
1" = 1'-0"



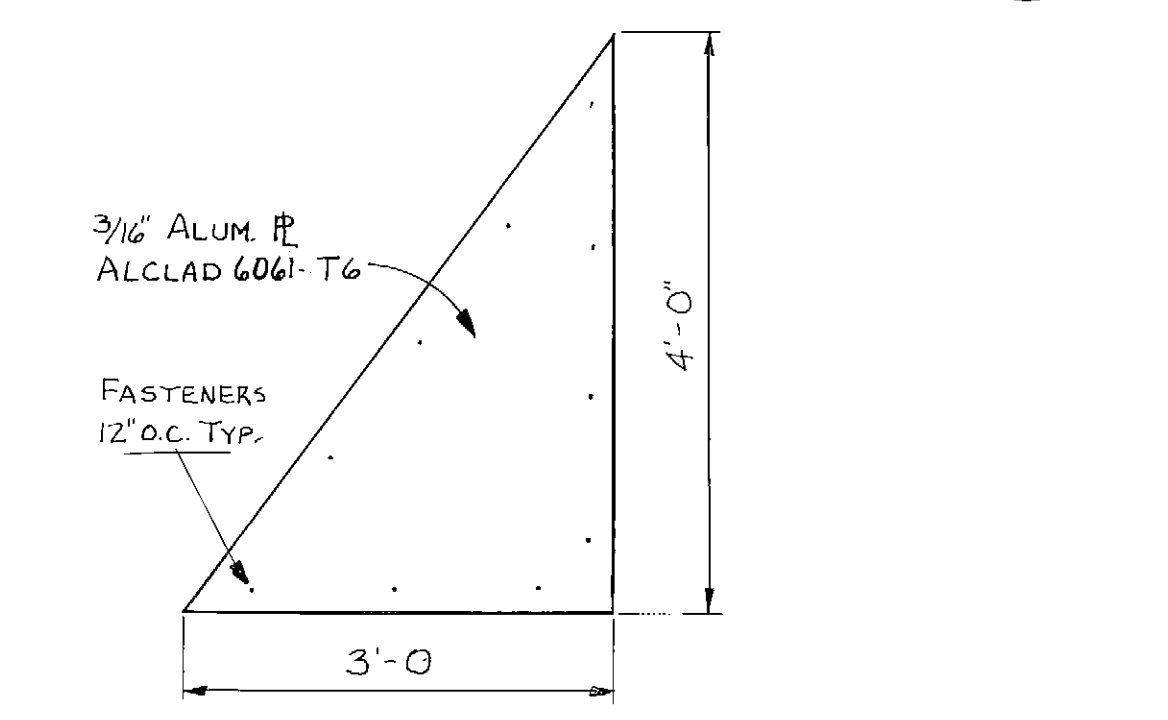
RUB SHOE DETAIL (E)  
HALF SIZE



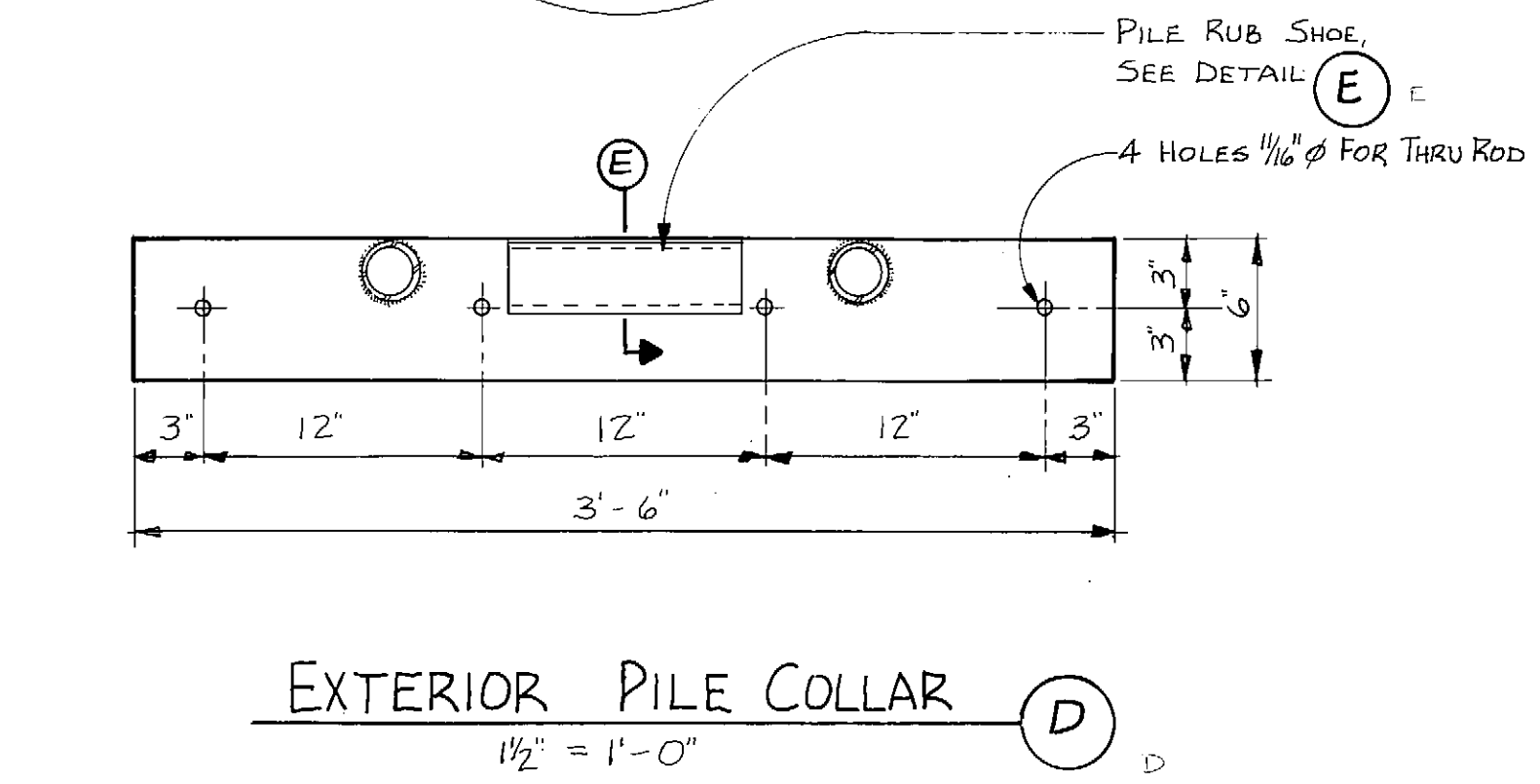
SECTION (F)  
3" = 1'-0"



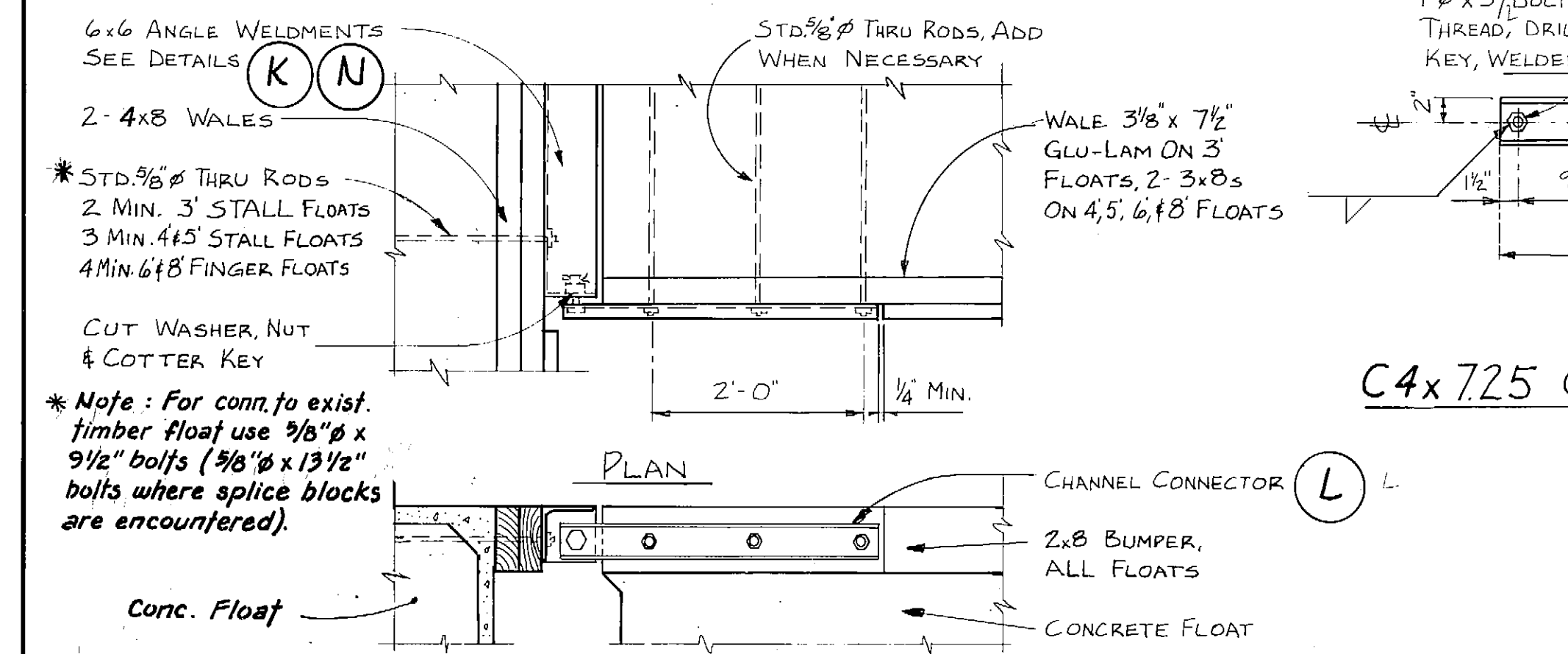
ANGLE BRACE (G)  
3/4" = 1'-0"



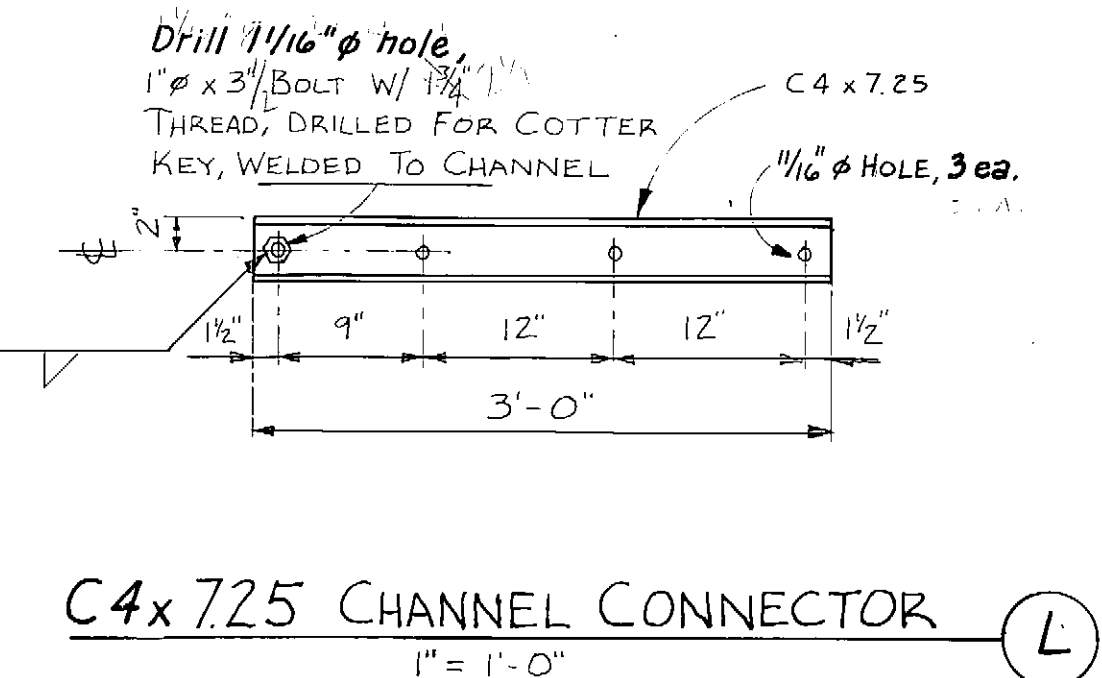
ANGLE BRACE COVER PLATE (H)  
3/4" = 1'-0"



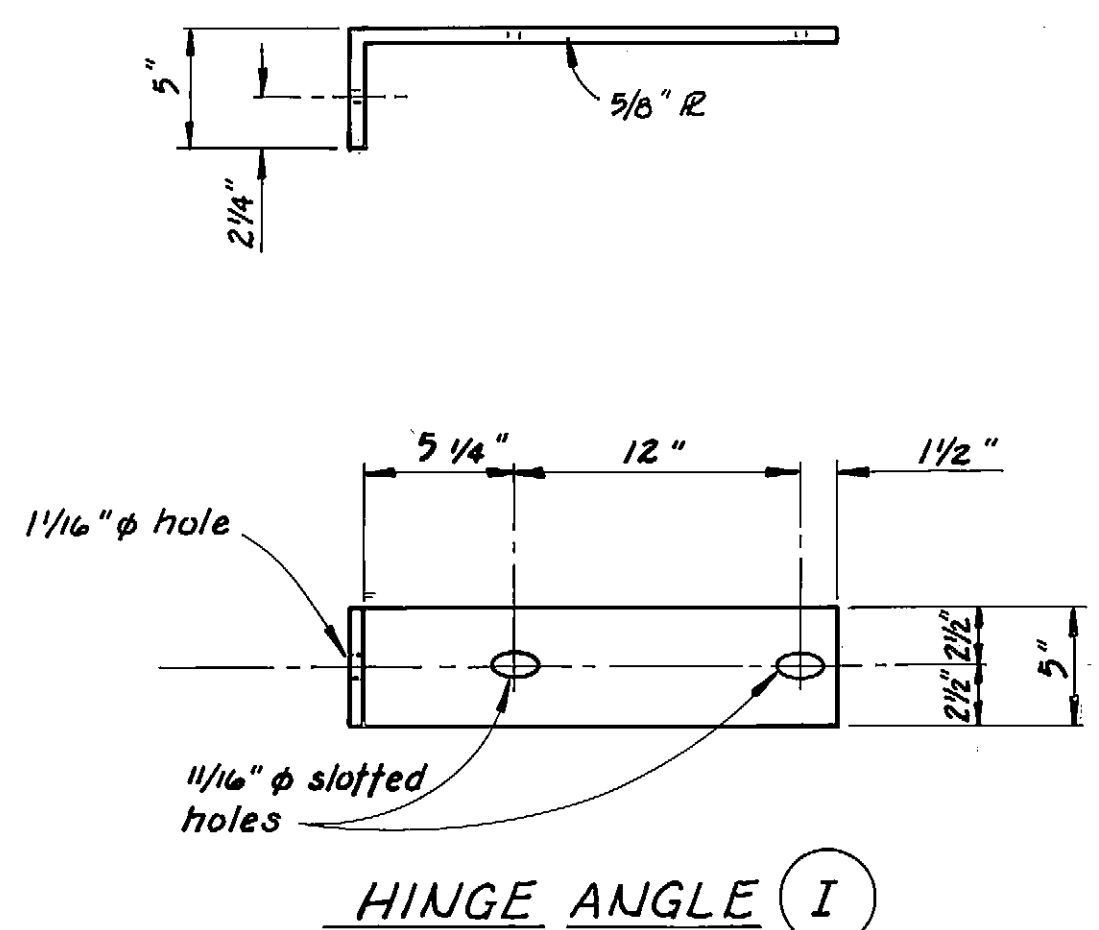
EXTERIOR PILE COLLAR (D)  
1/2" = 1'-0"



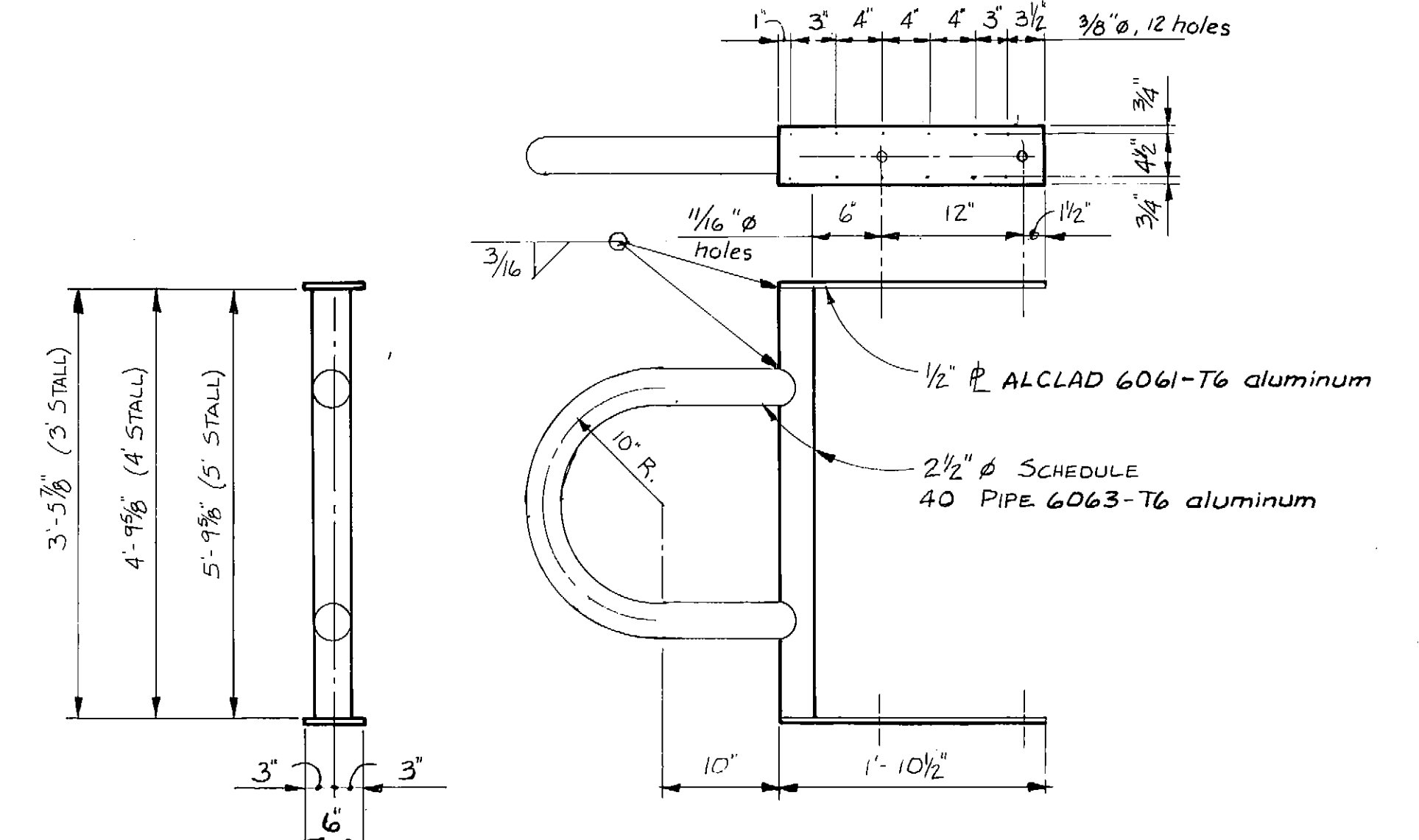
CONC. FLOATS HINGE CONNECTION DETAILS (J)  
3/4" = 1'-0"



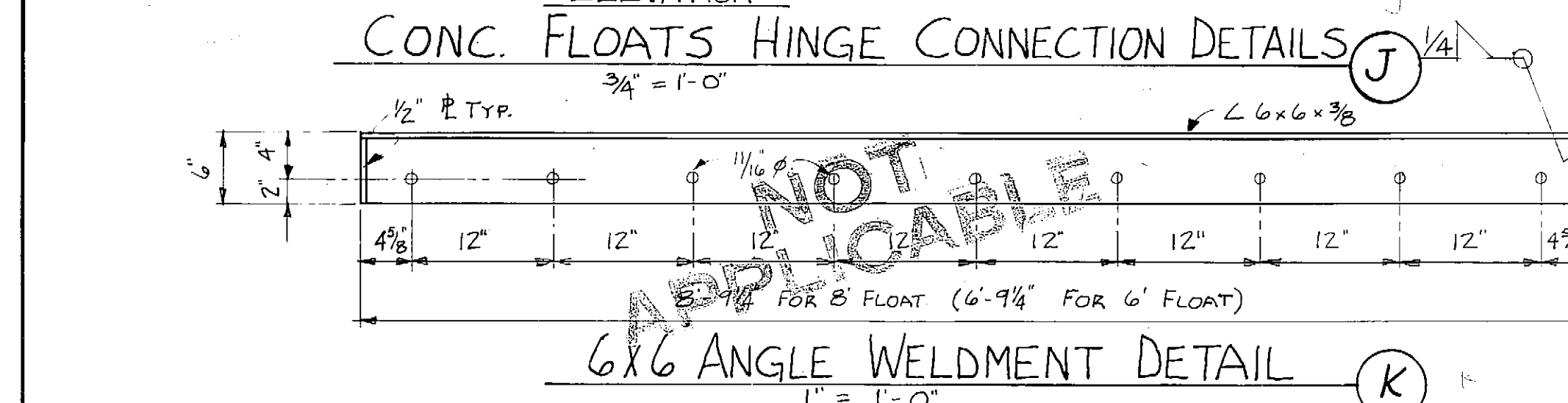
C4x7.25 CHANNEL CONNECTOR (L)  
1" = 1'-0"



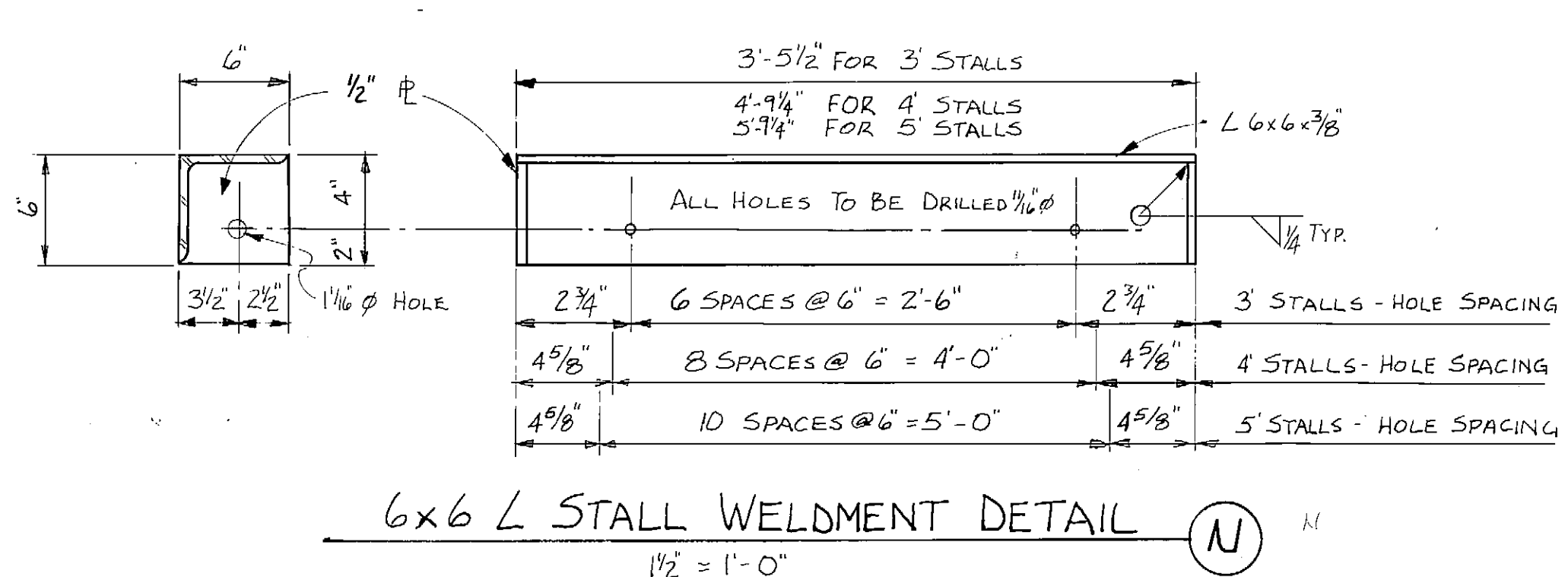
HINGE ANGLE (I)



STALL FLOAT PILE COLLAR (P)  
1" = 1'-0"



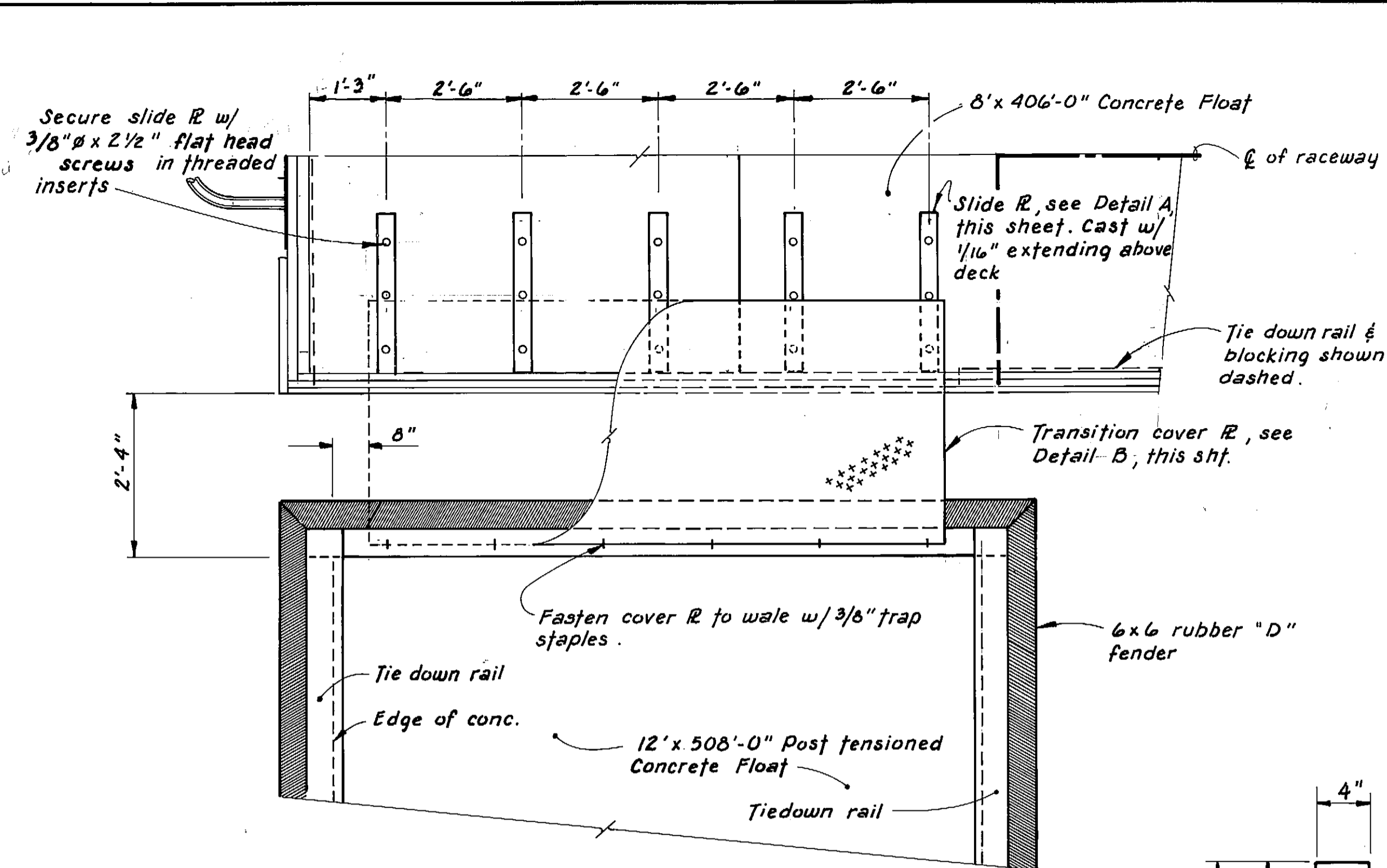
6x6 ANGLE WELDMENT DETAIL (K)  
1" = 1'-0"



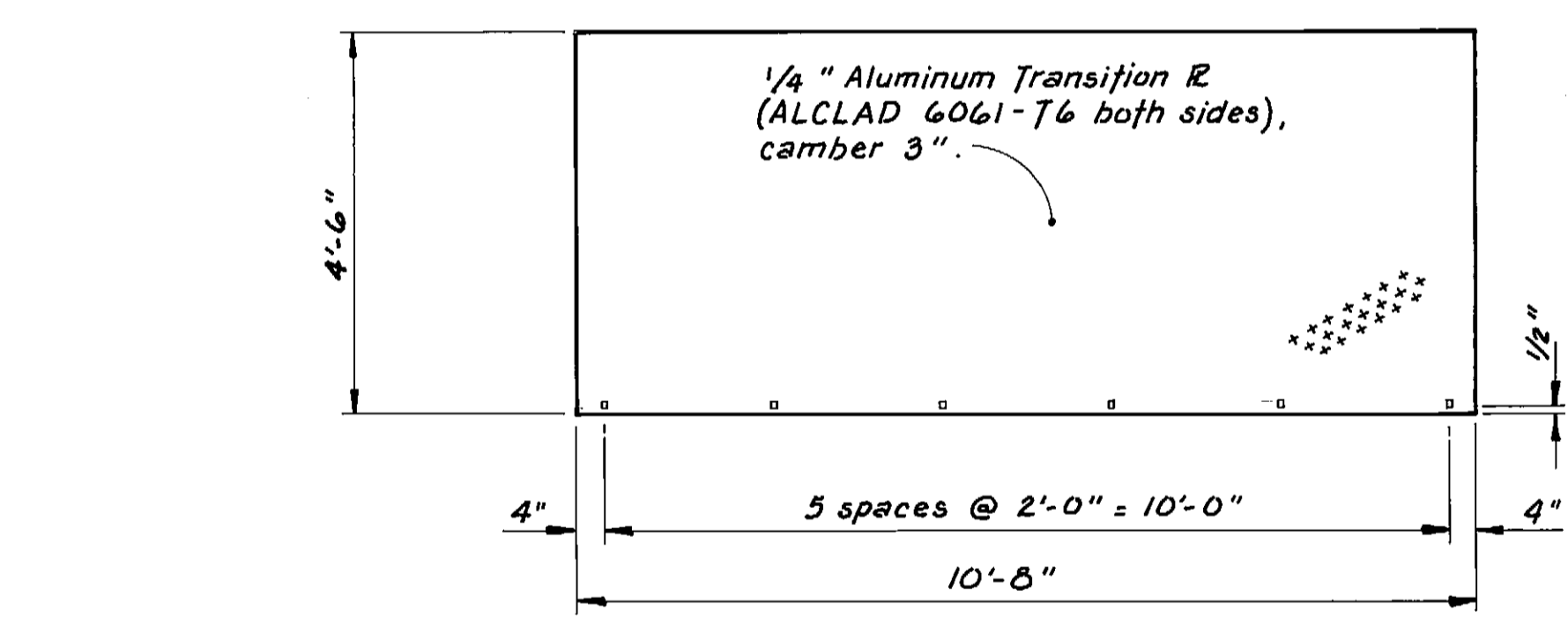
6x6 L STALL WELDMENT DETAIL (N)  
1/2" = 1'-0"

STAMP		DO NOT SCALE THIS DRAWING USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION			
Kake		Alaska	
CONCRETE STALL FLOAT WELDMENTS & MISCELLANEOUS DETAILS			
SCALE AS NOTED	SURVEYED	APPROVED	
DESIGNED	DRAWN BJT	Robert P. Beck CHIEF OF DESIGN	
CHECKED J	DATE		
PROJECT NUMBER	K-93160	SHEET	11 OF 14

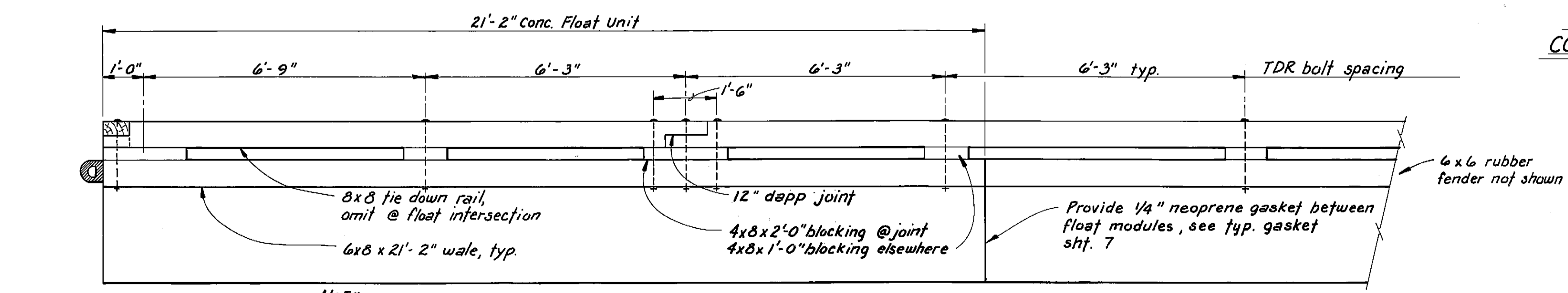




**PLAN - FLOAT TRANSITION**  
8' CONCRETE FLOAT to 12' CONCRETE BREAKWATER  
1/2" = 1'-0"

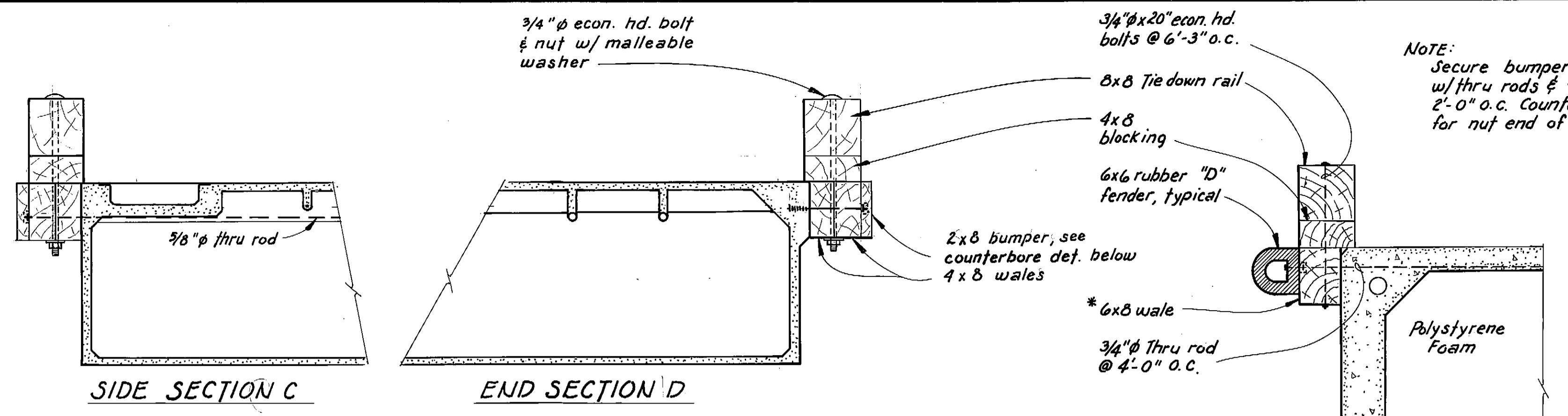


**TRANSITION COVER PLATE**  
DETAIL B  
1/2" = 1'-0"



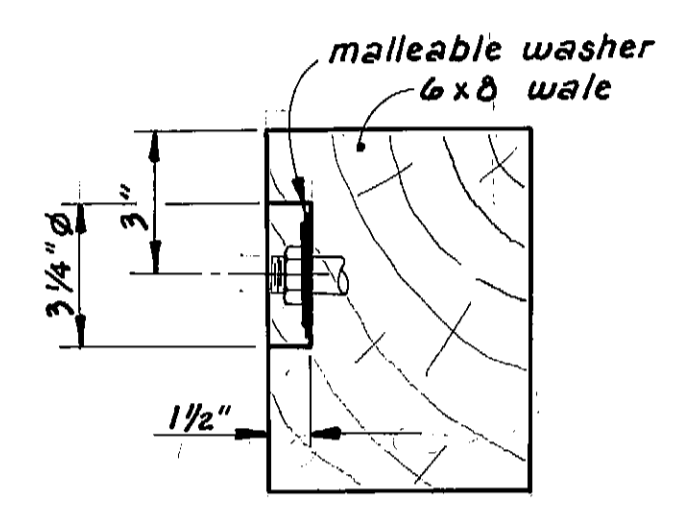
**NOTE:**  
Install wales for end unit after cover R's have been installed.  
Buff joint end & side wales.

**TIE DOWN RAIL AND WALE LAYOUT**  
1/2" = 1'-0"

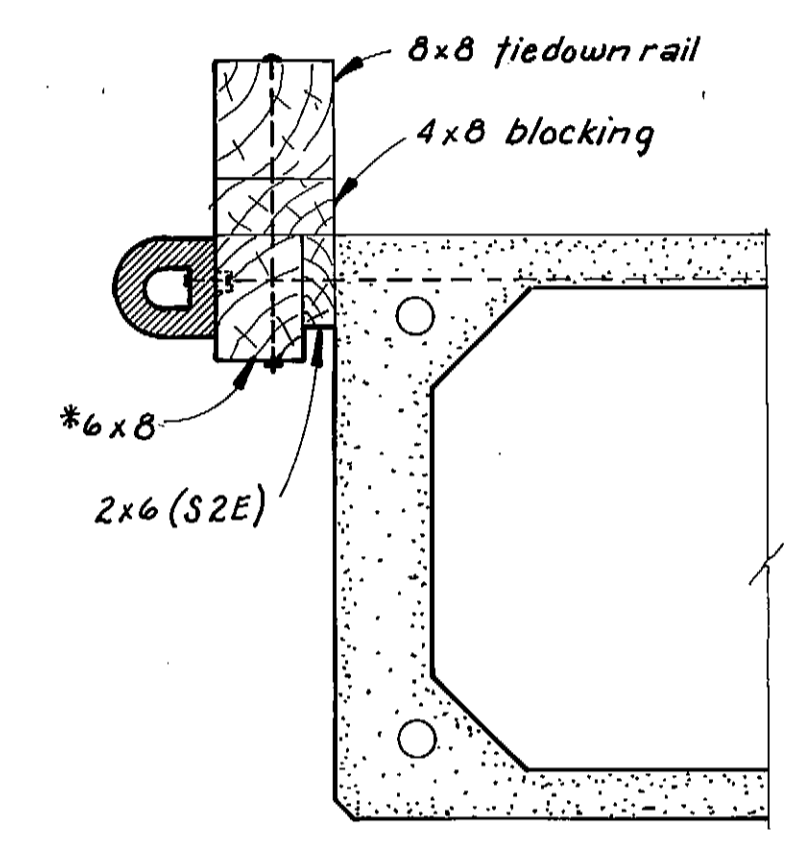


**TYPICAL 8'-0" FLOAT SECTIONS**  
1" = 1'-0"

**NOTE:**  
Secure bumpers alternately w/ thru rods & 3/4" tag bolts @ 2'-0" o.c. Counterbore wale for nut end of thru rods.

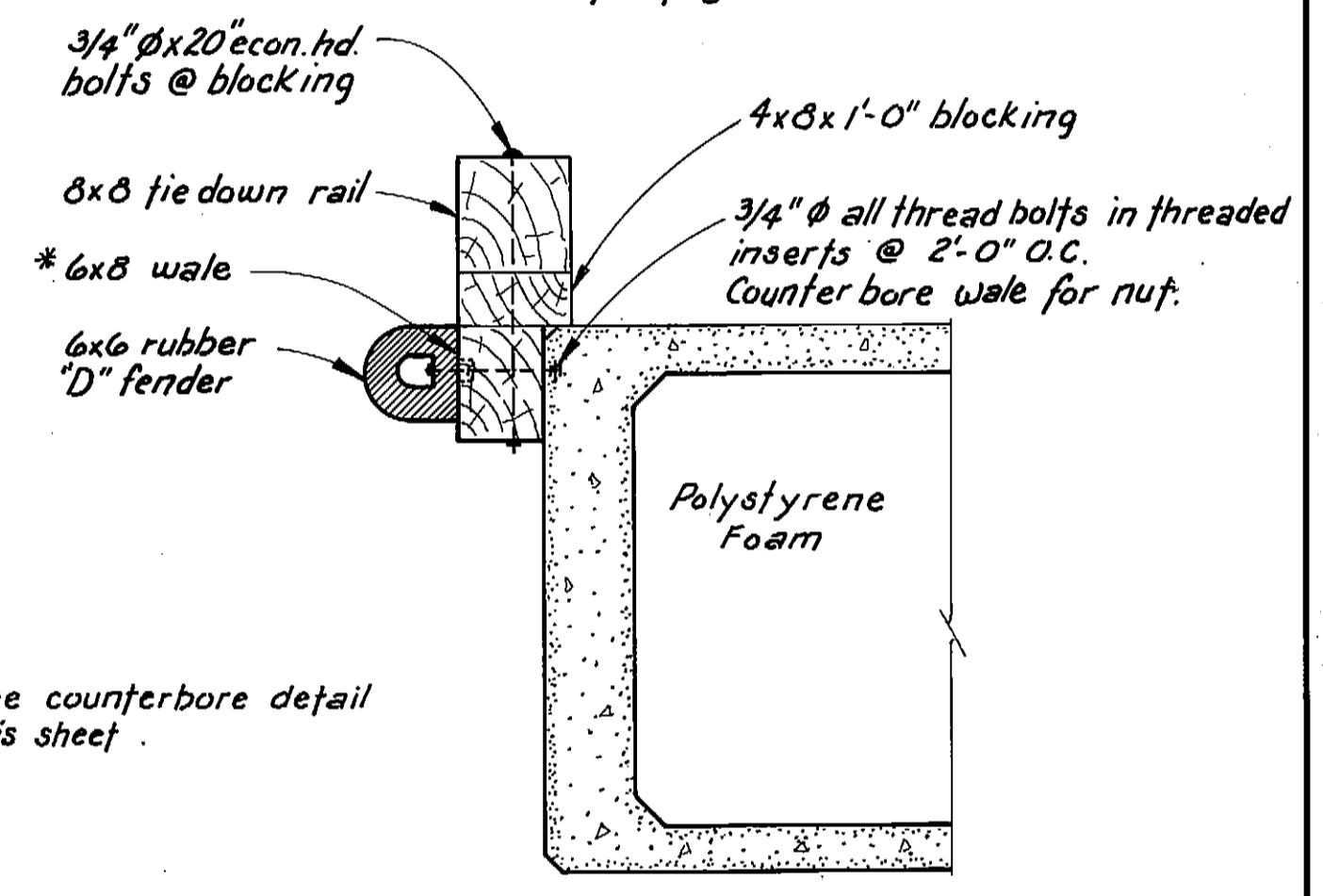


**6x8 WALE COUNTERBORE DETAIL**  
3" = 1'-0"



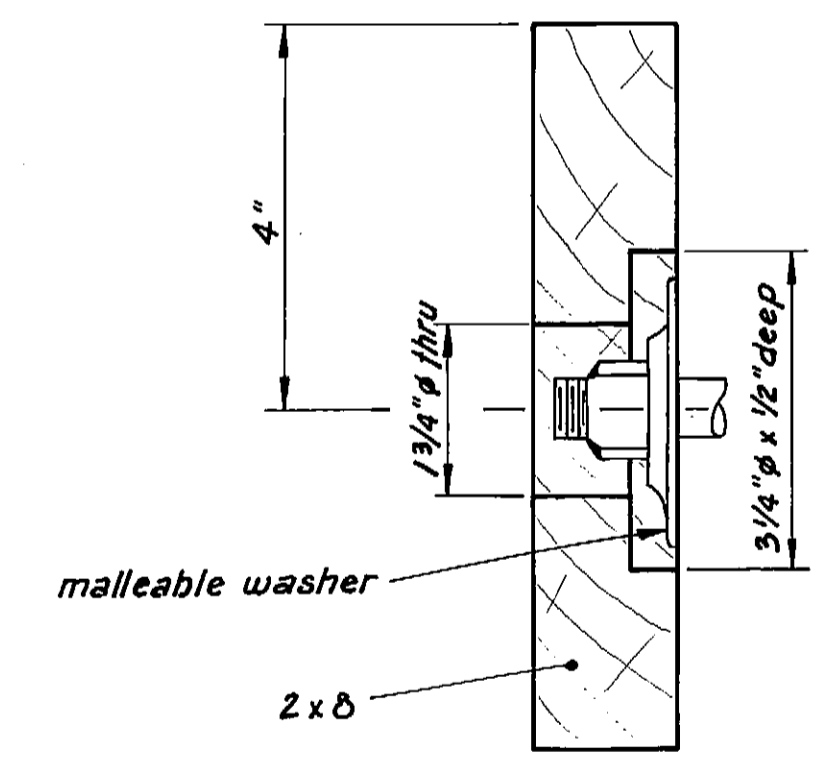
**SECTION M**  
1" = 1'-0"

\* See counterbore detail this sheet.

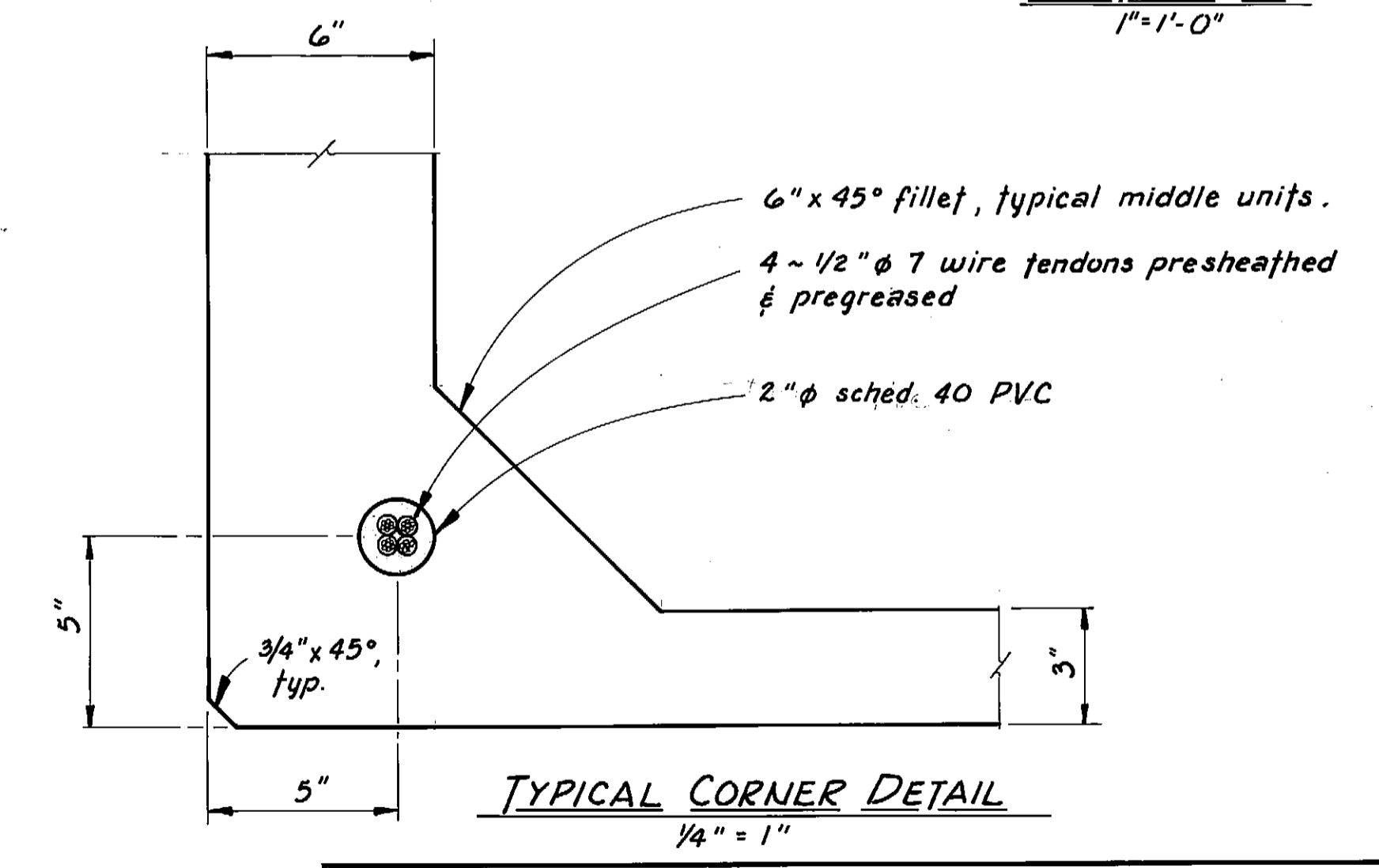


**SECTION K**  
1" = 1'-0"

**SECTION L**  
1" = 1'-0"

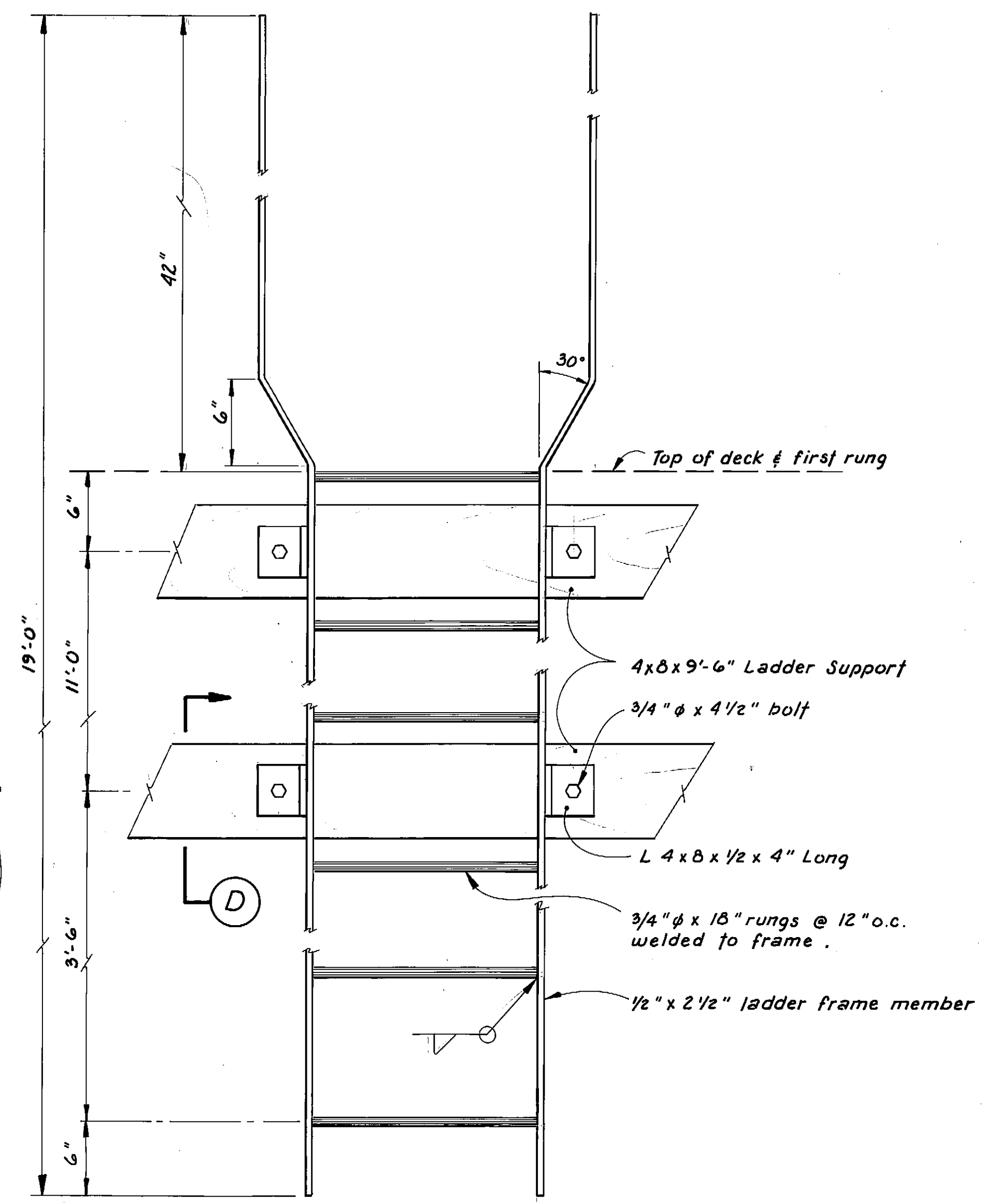
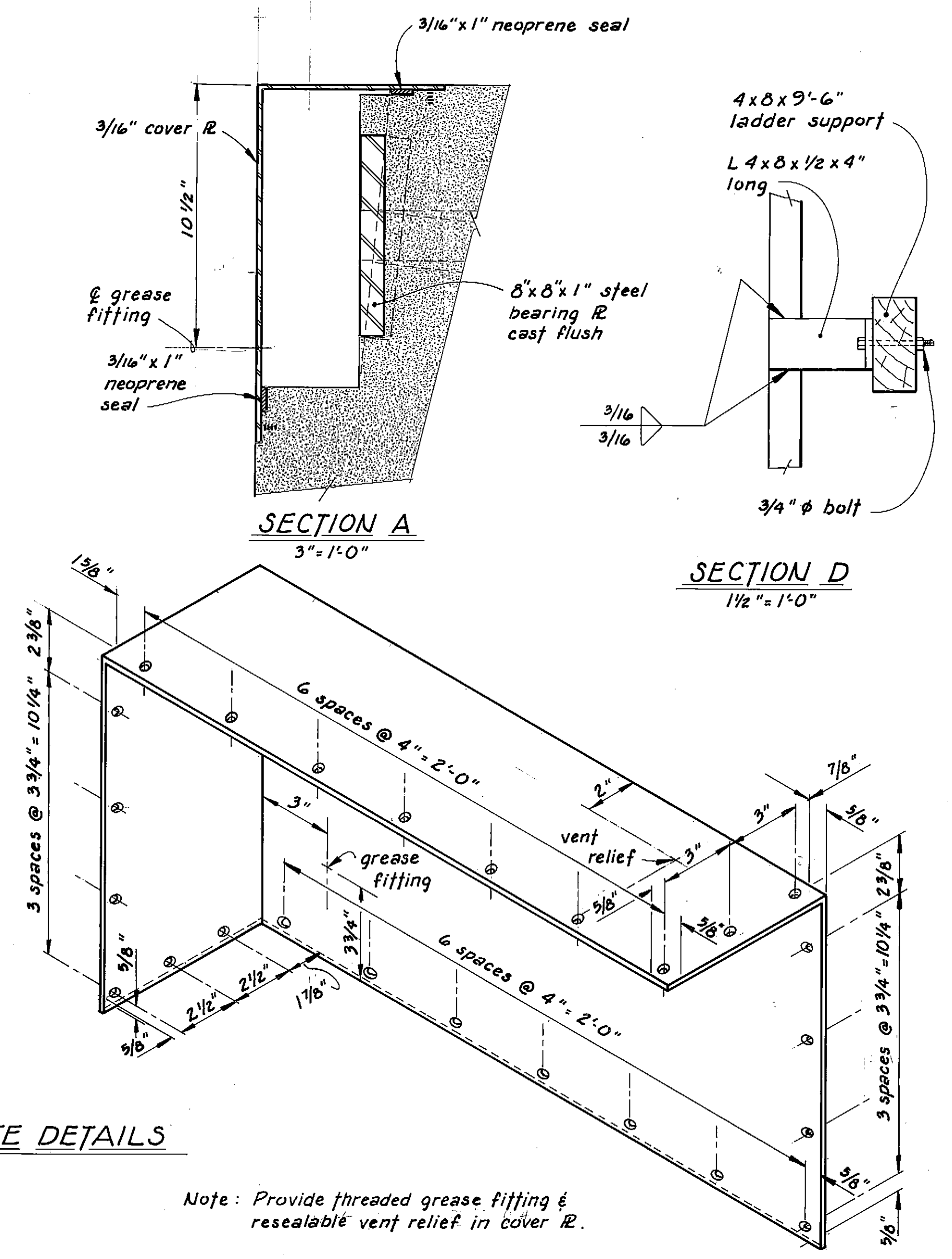
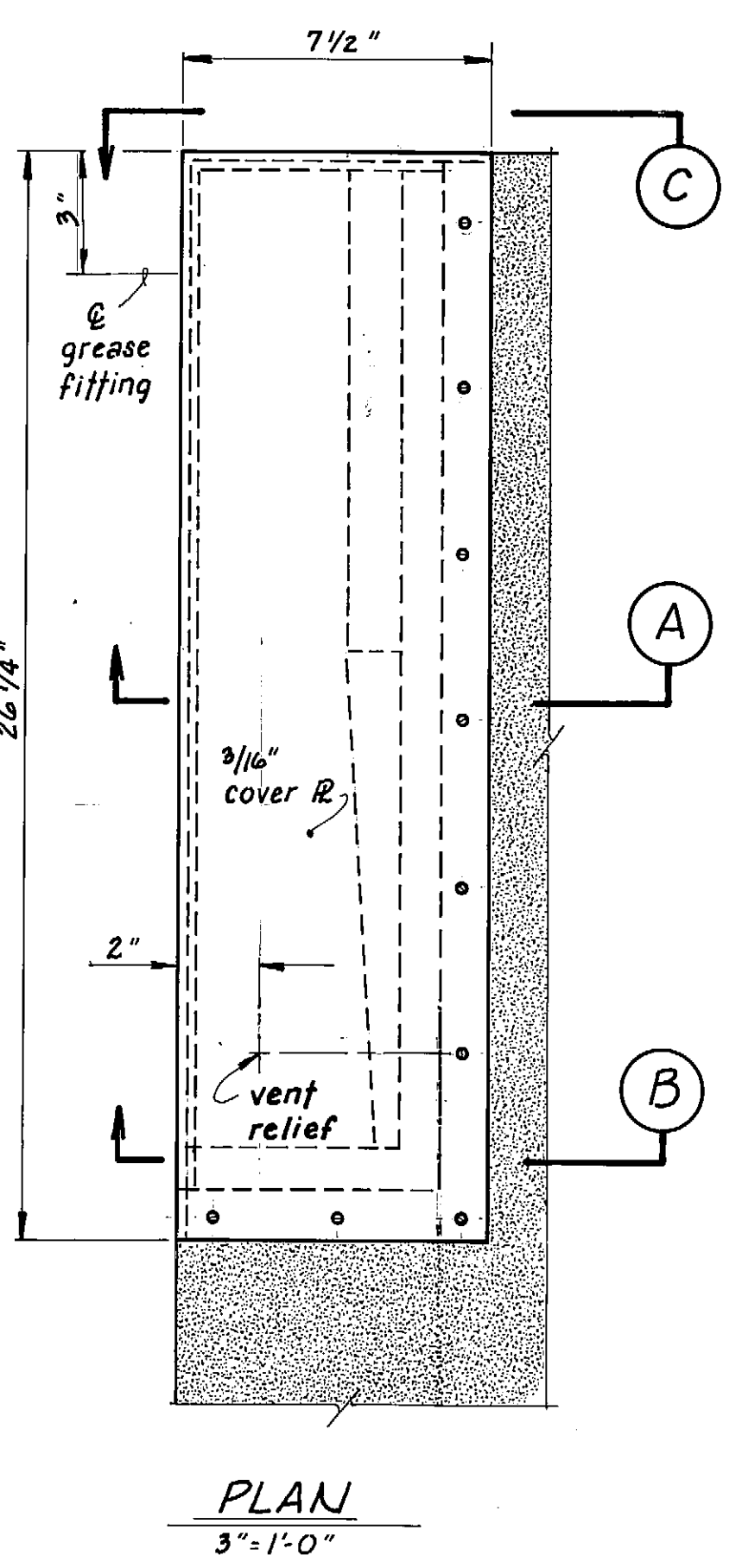
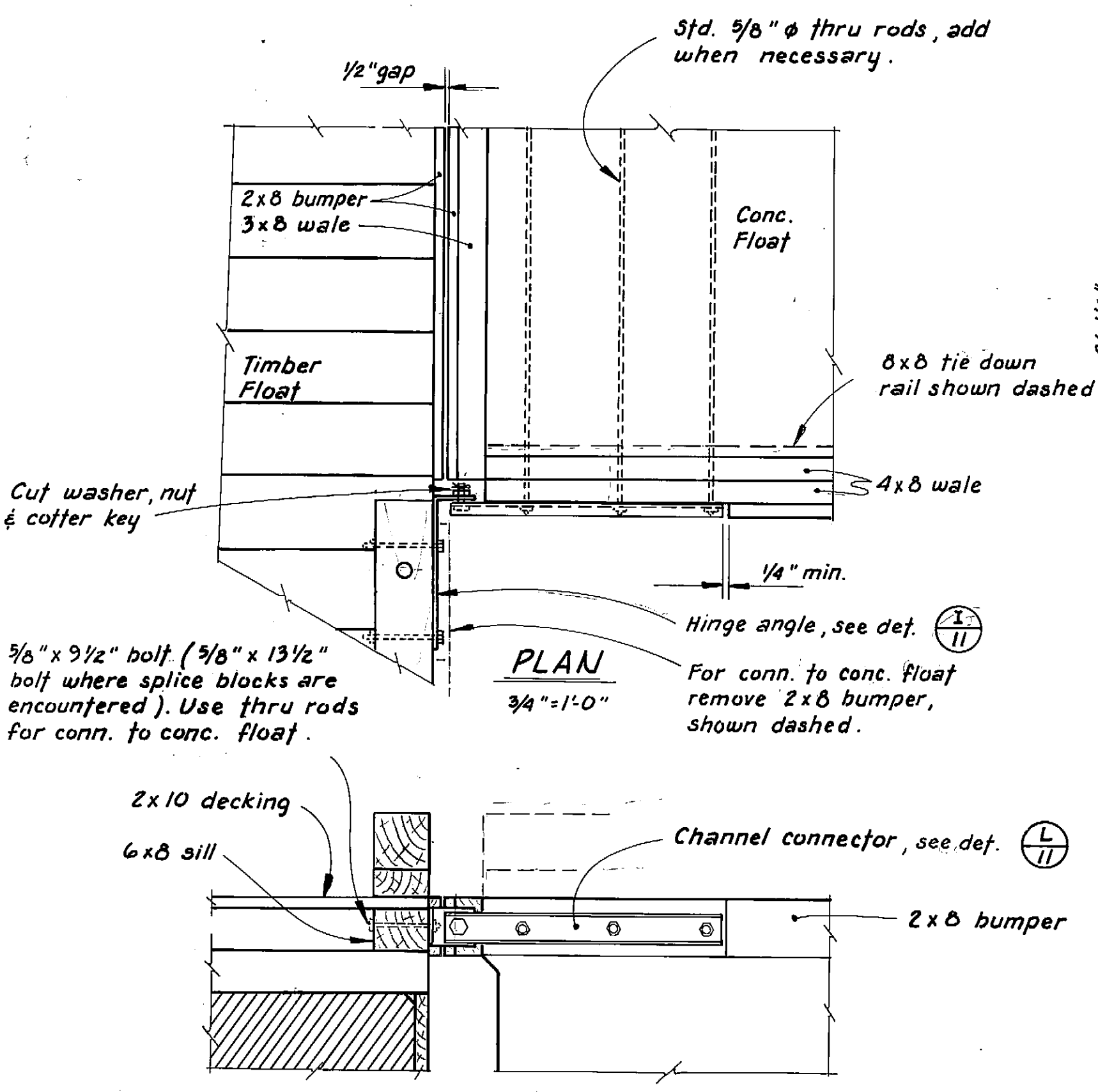
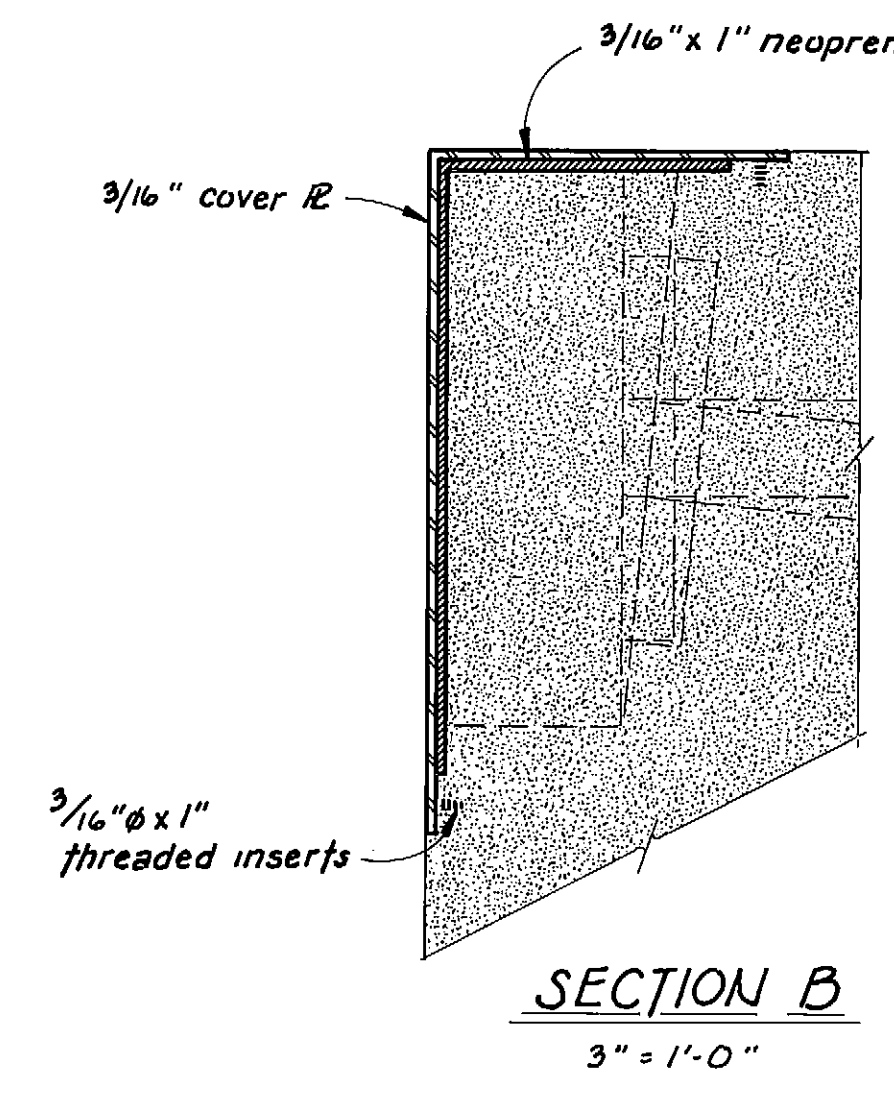
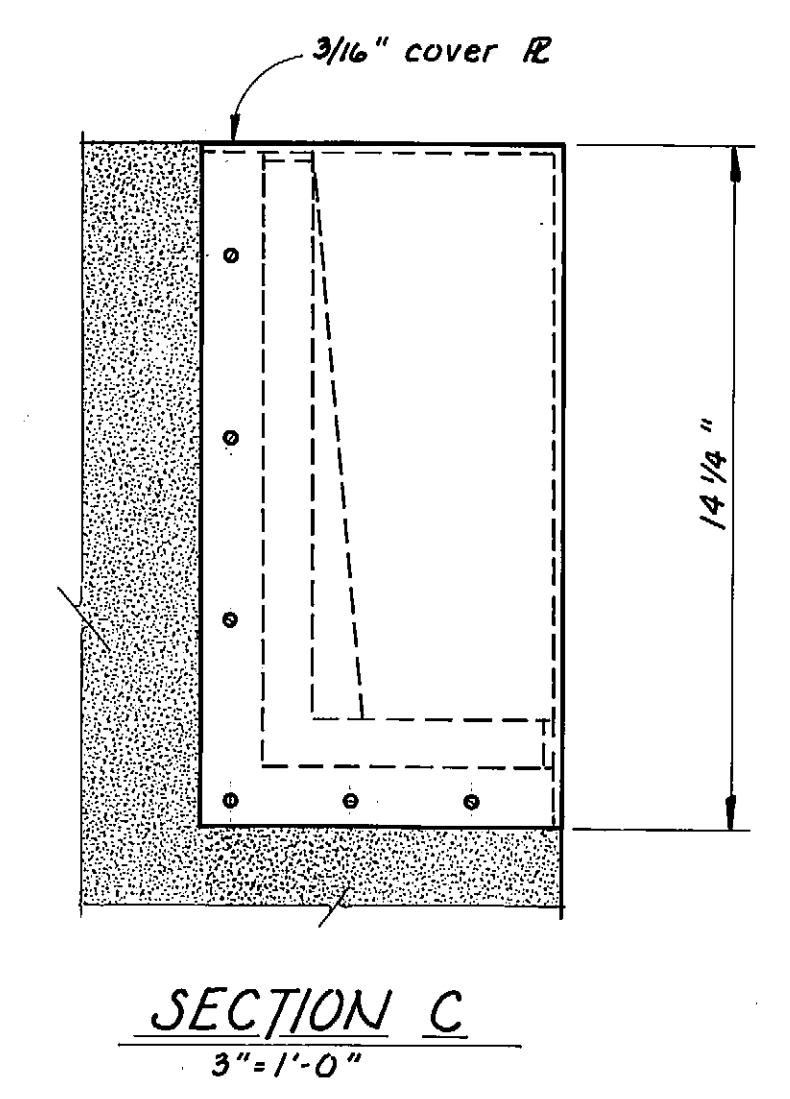
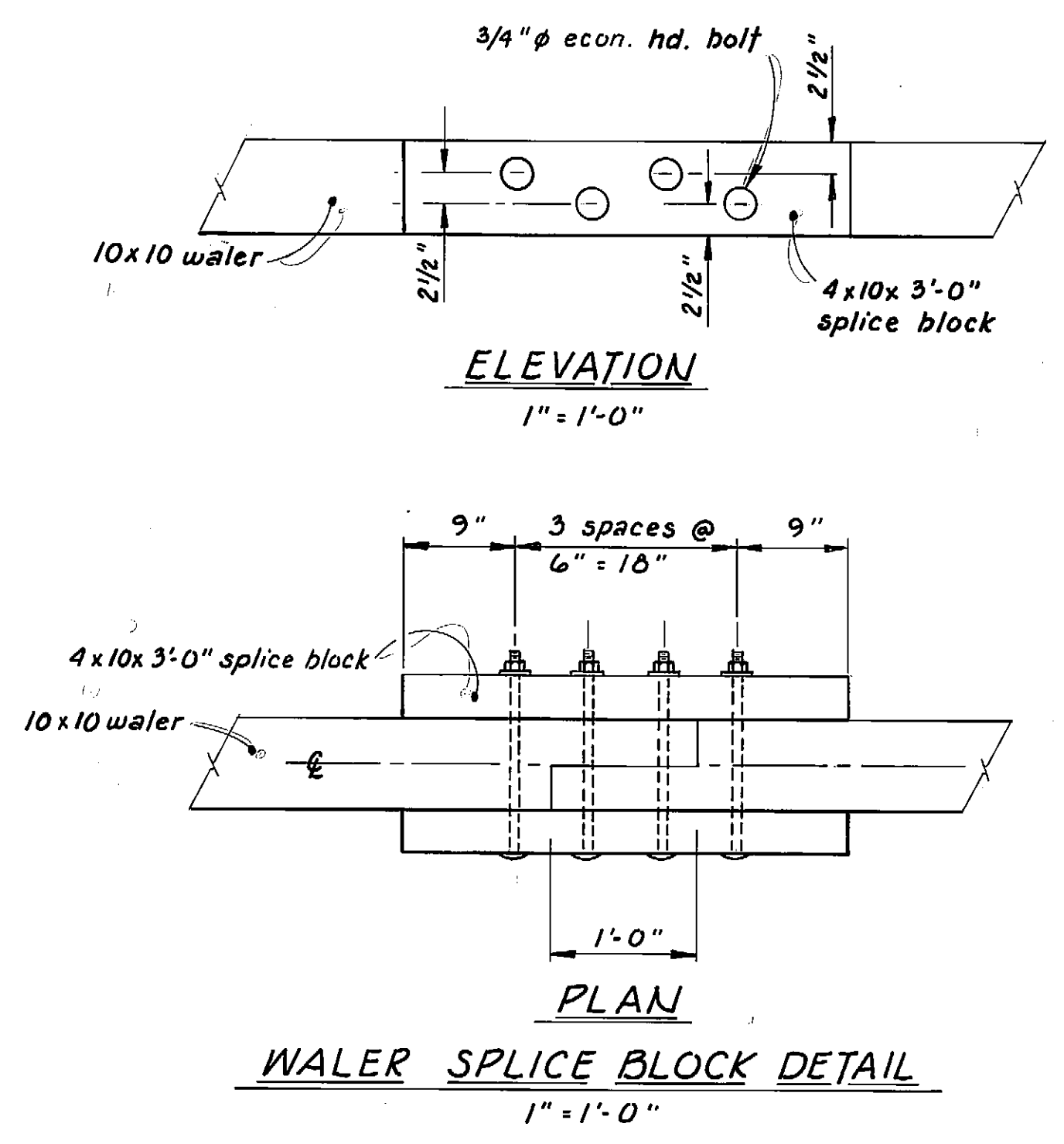


**2x8 BUMPER COUNTERBORE DETAIL**  
6" = 1'-0"



**TYPICAL CORNER DETAIL**  
1/4" = 1"

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		Kake	Alaska
<b>MISC. DETAILS</b>			
SCALE: As Noted	SURVEYED:	APPROVED:	
DESIGNED: JAL	DRAWN: TS		
CHECKED:	DATE: 9-81		
PROJECT NUMBER: K 93160	SHEET: 13 OF 14		



**END ANCHORAGE COVER PLATE DETAILS**  
3" = 1'-0"

Note: Provide threaded grease fitting & resealable vent relief in cover R.

**LADDER DETAILS**  
1 1/2" = 1'-0"

	DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION	
Kake	Alaska	
<b>MISC. DETAILS</b>		
SCALE: As Noted	SURVEYED:	APPROVED:
DESIGNED: JAL	DRAWN: TS	<b>Robert P. Beck</b>
CHECKED:	DATE: 8-81	CHIEF OF DESIGN
PROJECT NUMBER: K-93160	SHEET 14 OF 14	