

F.H.W.A. NO. 1	STATE MAINE	PROJECT NUMBER 003002.00	SHEET NO. 1	TOTAL SHEETS 24
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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



TRANSFER BRIDGE
FRENCHBORO
LONG ISLAND
HANCOCK COUNTY
PROJECT NO. 003002.00

CONVENTIONAL SIGNS	
COUNTY LINES	TRAVELLED WAY - PROPOSED
TOWN LINES	UNDERGROUND UTILITIES - EXISTING
PROPERTY LINES	UNDERGROUND UTILITIES - PROPOSED
R/W LINES - EXISTING	RAILROAD - SINGLE TRACK
R/W LINES - NEW - ACCESS CONTROL	RAILROAD - DOUBLE TRACK
R/W LINES - NEW - NO ACCESS CONTROL	UTILITY POLE - EXISTING
CULVERT - EXISTING	UTILITY POLE - JOINT OCCUPANCY
CULVERT - PROPOSED	PROPOSED UTILITY POLE - TEMPORARY
CURBING - EXISTING	PROPOSED UTILITY POLE - PERMANENT
CURBING - PROPOSED	TREES
TRAVELLED WAY - EXISTING	WOODS

SHEET NO.	INDEX OF SHEETS	DESCRIPTION
1	TITLE SHEET	
2	ESTIMATED QUANTITIES	
3	GENERAL PLAN	
4	FENDER & DOLPHIN MODIFICATIONS	
5	CROSS SECTIONS	
6	ABUTMENT	
7-12	BRIDGE	
13	TOWER MODIFICATIONS	
14	ACCESS LADDER	
15	MACHINERY HOUSE	
16-24	MECHANICAL-ELECTRICAL	

SPECIFICATIONS

DESIGN: Load Factor Design per AASHTO Standard Specifications for Highway Bridges 1983 and Interim Specifications 1984 and 1985.

CONTRACT: State of Maine, Department of Transportation, Standard Specifications, Highways and Bridges, Revisions of January 1984.

DESIGN LOADING

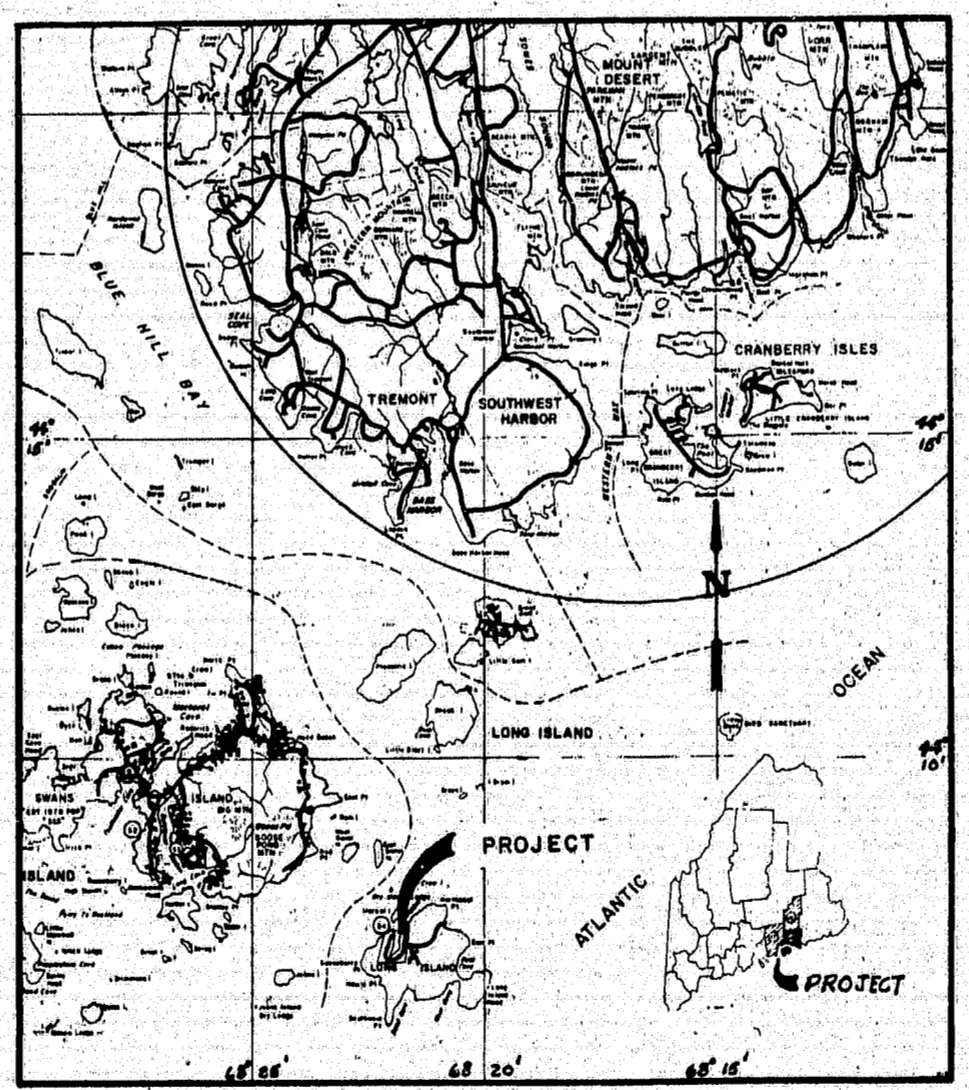
LIVE LOAD: ----- HS 20

MATERIALS

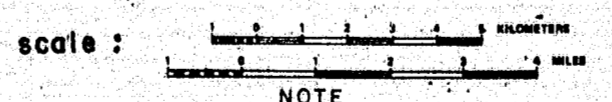
CONCRETE: ----- Class A
 REINFORCING STEEL: ----- ASTM A615 Grade 60
 STRUCTURAL STEEL: ----- All materials ASTM A36
 (GALVANIZED) except as noted.
 High Strength Bolts ----- ASTM A325
 (Galvanized)

BASIC DESIGN STRESSES

CONCRETE: ----- $f'_c = 3000$ psi
 REINFORCING STEEL: ----- $f_y = 60,000$ psi
 STRUCTURAL STEEL: ----- ASTM A36 $f_y = 36,000$ psi
 ----- ASTM A325 $f_v = 25,000$ psi



LOCATION MAP



NOTE
 All work contemplated under this contract to be governed by and in conformity with the STANDARD SPECIFICATIONS (revision of January 1984) and supplements thereto, except as modified on the plans and in the special provisions.

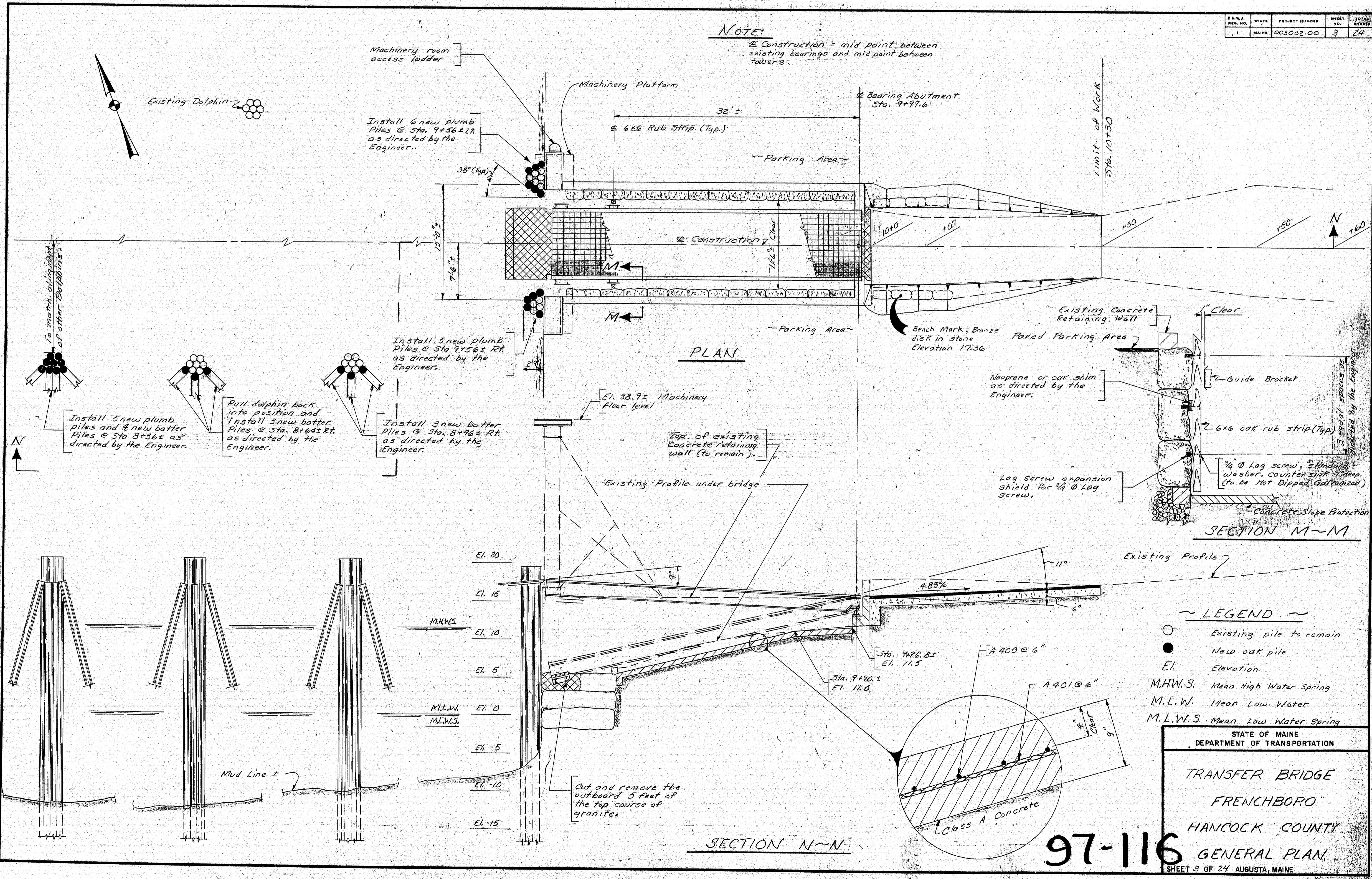
APPROVED:

 COMMISSIONER

 CHIEF ENGINEER

97-114

F.W.A. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	003002.00	3	24



NOTE:
 Construction = mid point between existing bearings and mid point between towers.

PLAN

SECTION M-M

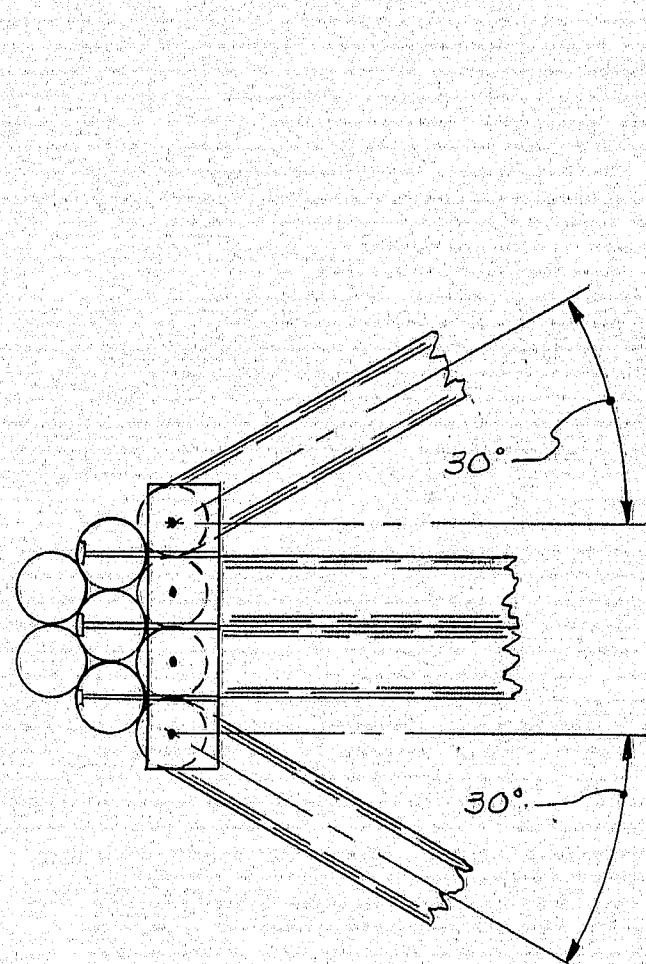
SECTION N-N

~ LEGEND ~
 ○ Existing pile to remain
 ● New oak pile
 El. Elevation
 M.H.W.S. Mean High Water Spring
 M.L.W. Mean Low Water
 M.L.W.S. Mean Low Water Spring

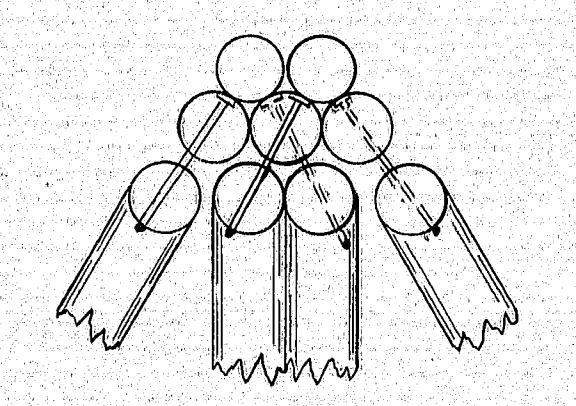
STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
 TRANSFER BRIDGE
 FRENCHBORO
 HANCOCK COUNTY
 97-116 GENERAL PLAN
 SHEET 3 OF 24 AUGUSTA, MAINE

PROJECT NUMBER	1126	DATE	2-28
DESIGN - DETAILED	BY	BY	BY
CHECKED	BY	BY	BY
FIELD CHANGES	BY	BY	BY
PLANS			

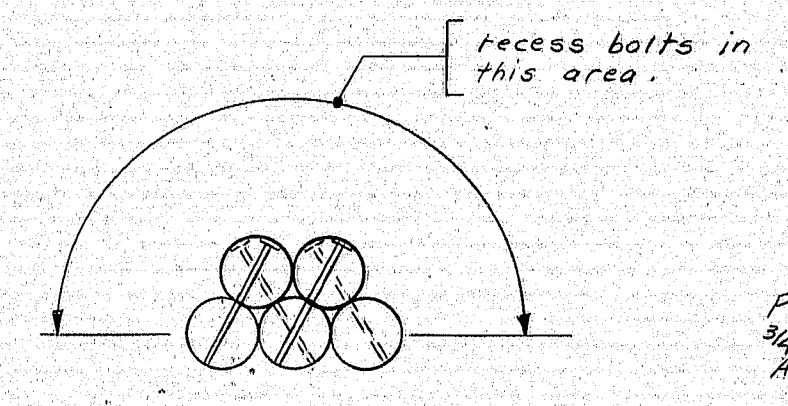
FED. AID PROJ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	003002.00	4	24



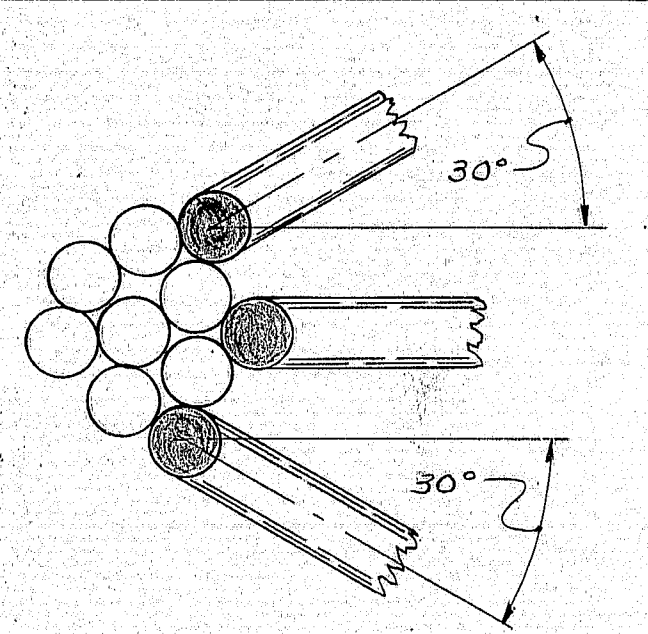
SECTION A2-A2



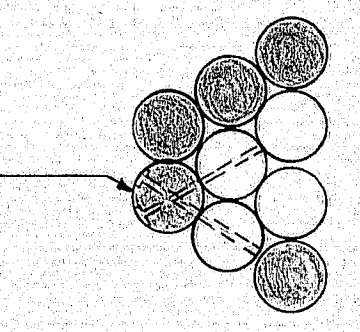
SECTION A3-A3



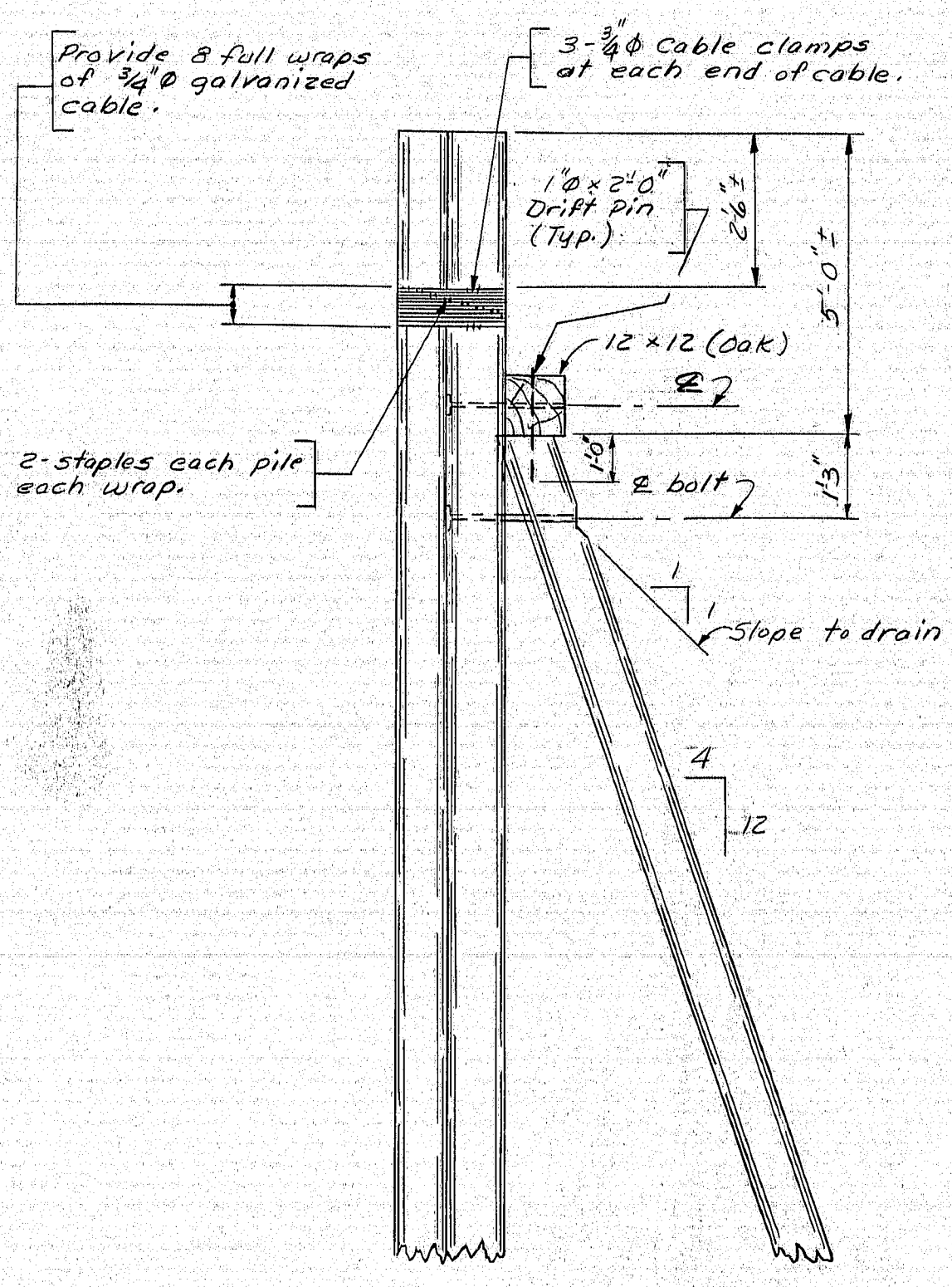
SECTION A1-A1



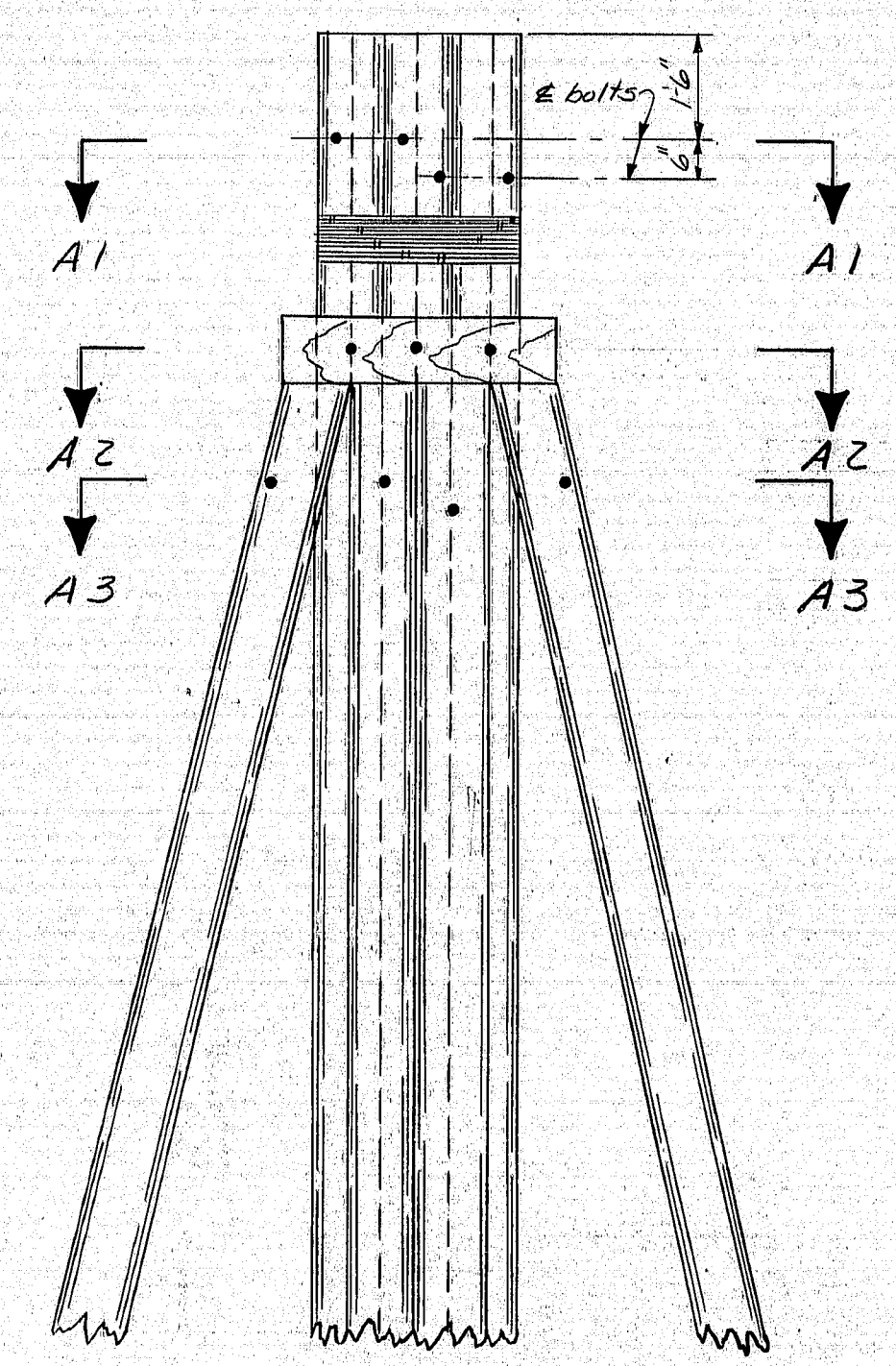
PLAN



PLAN



SIDE ELEVATION

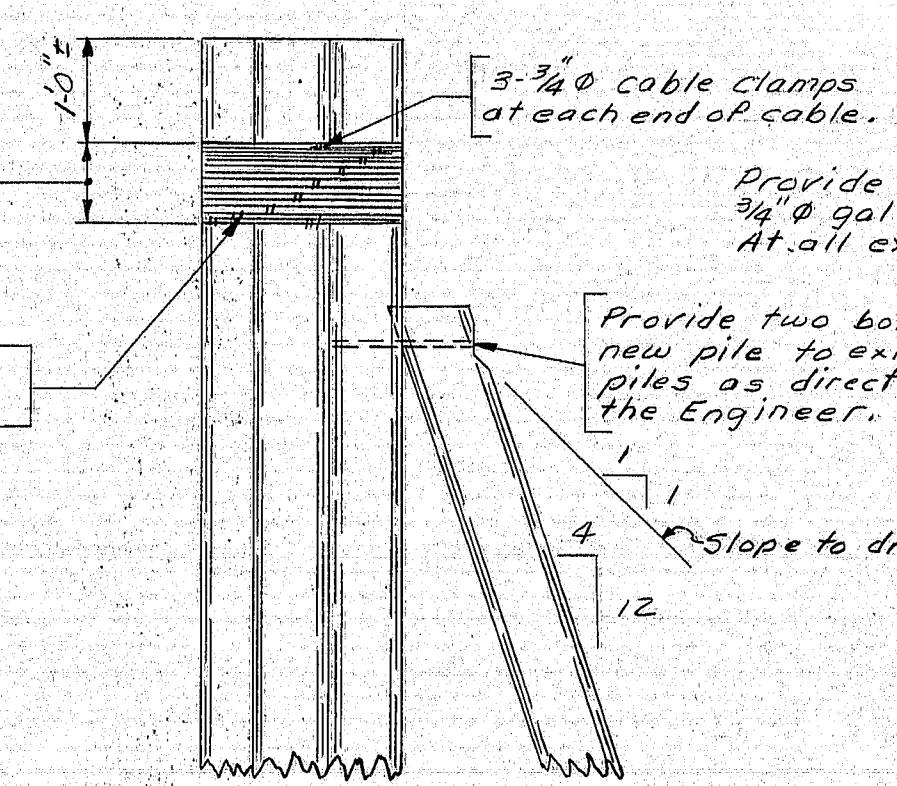


REAR ELEVATION

DOLPHIN Sta. 8+36± RIGHT

Provide 8 full wraps of 3/4" galvanized cable (Typ.) at all existing dolphins.

2 staples each pile each wrap.



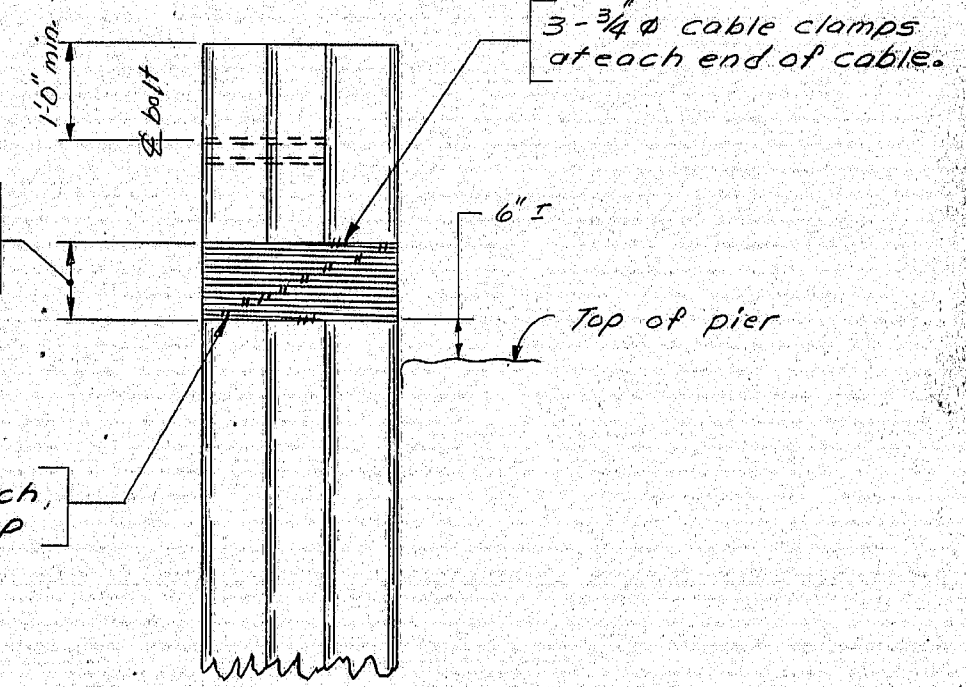
SIDE ELEVATION
DOLPHIN MODIFICATIONS

bolt this pile to the two adjacent with two bolts, as directed by the Engineer.

Provide 8 full wraps of 3/4" galvanized cable (Typ.) at all existing fenders.

Provide two bolts per new pile to existing piles as directed by the Engineer.

2 staples each pile each wrap.



SIDE ELEVATION
SOUTH FENDER MODIFICATIONS

- NOTES:
- 1) All piles are 55' long, untreated oak.
 - 2) All bolts 3/4" Ø, 2-cast iron washers and nut (galvanized)
 - 3) All surfaces to be wrapped shall be recessed one inch as directed by the Engineer.
 - 4) North Fender Modifications shall include the installation of 6 new plumb piles and cable wrapping as shown above in South Fender Modifications.

LEGEND

- Existing piles to remain
- New oak piles

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

TRANSFER BRIDGE
FRENCHBORO
HANCOCK COUNTY

FENDER & DOLPHIN MODIFICATION
SHEET 4 OF 24 AUGUSTA, MAINE

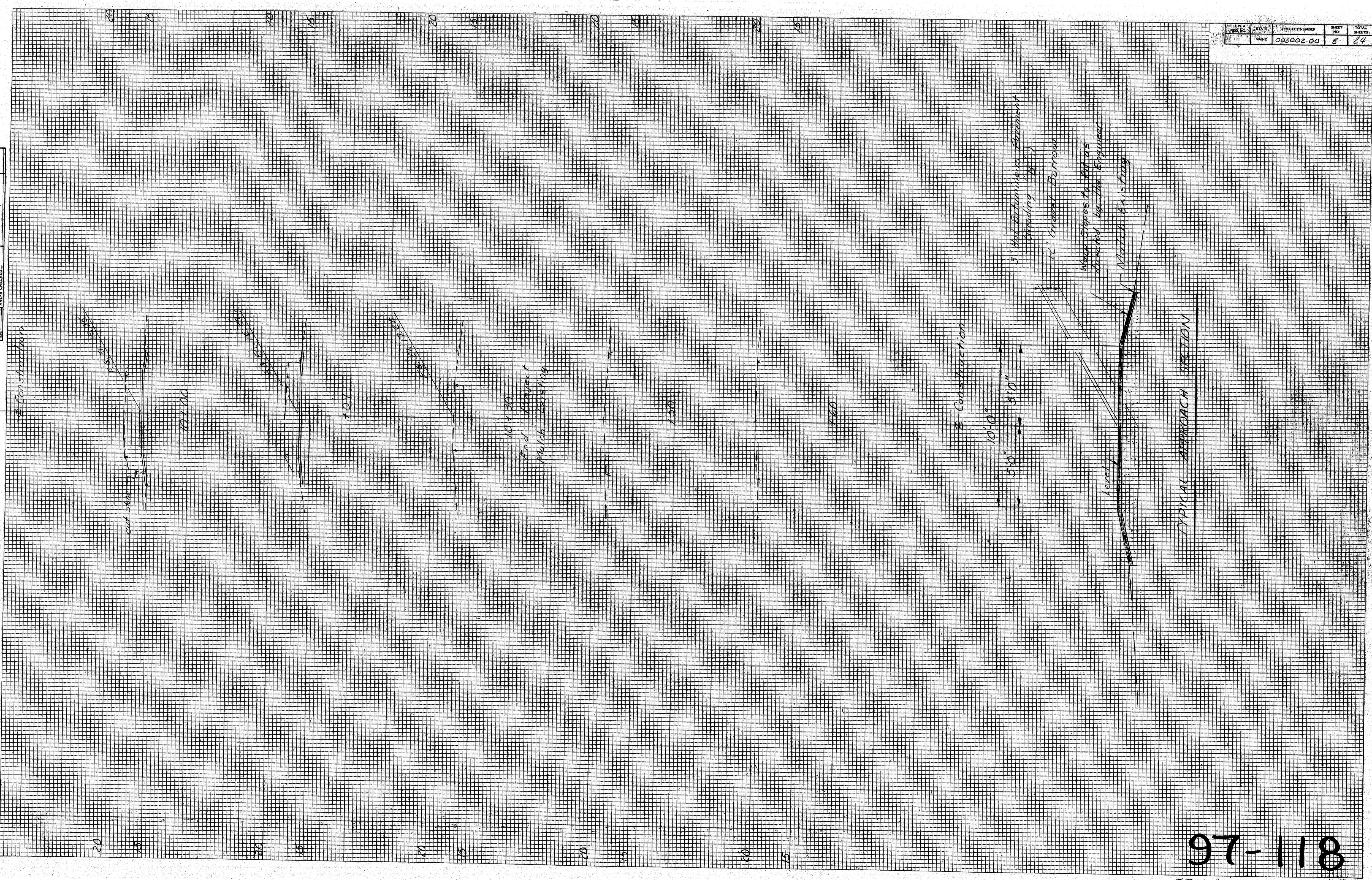
97-117

PROJECT DESIGN ENGINEER	DATE
DESIGN - RETAINED	7/28
CHECKED	8/27
FIELD CHANGES	8/27

BRUNING 44-132 45710-1

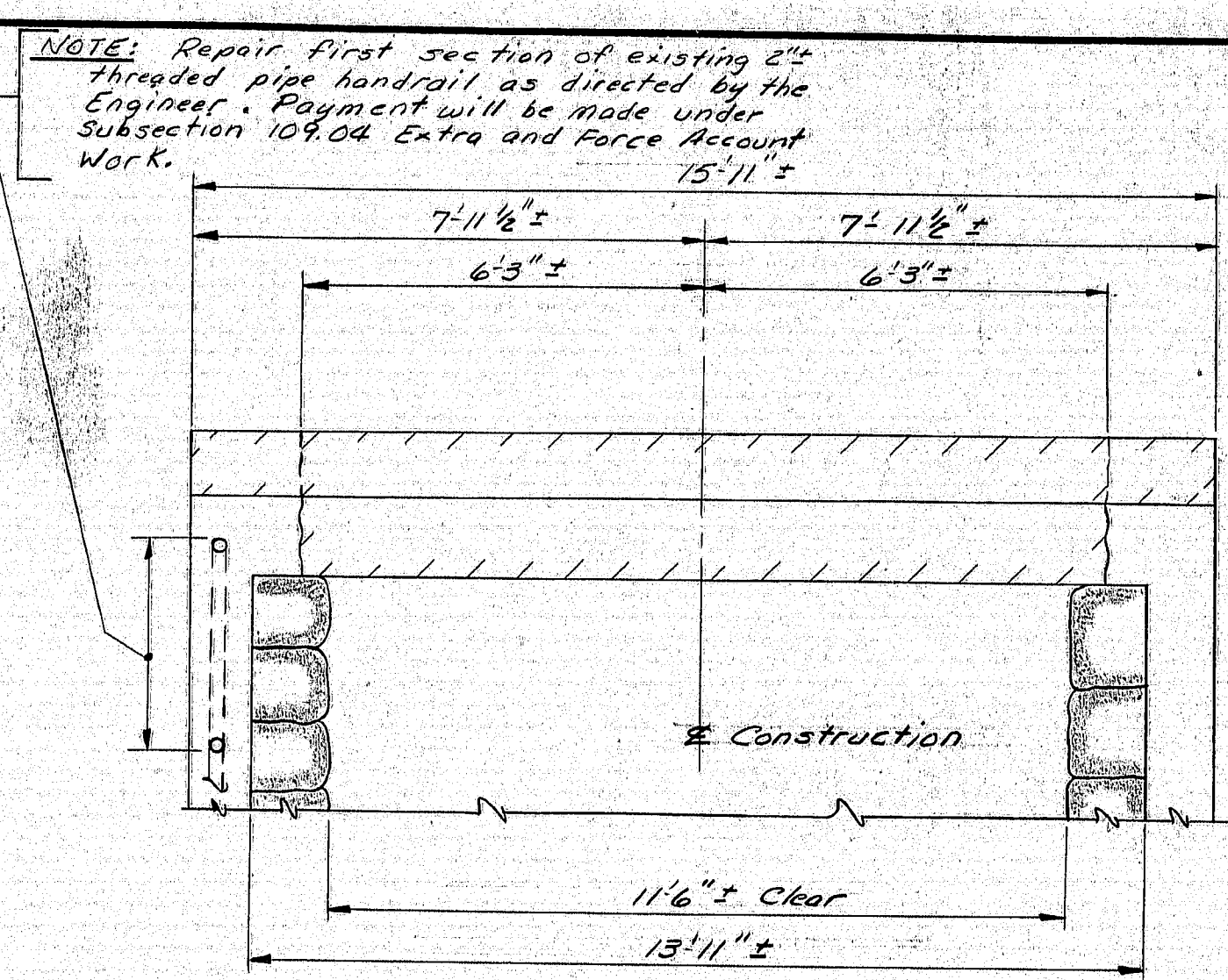
DATE	BY
REVISION	
APPROVED	
DATE	
PROJECT NUMBER	
SHEET NO.	
TOTAL SHEETS	

DATE	BY
REVISION	
APPROVED	
DATE	
PROJECT NUMBER	
SHEET NO.	
TOTAL SHEETS	

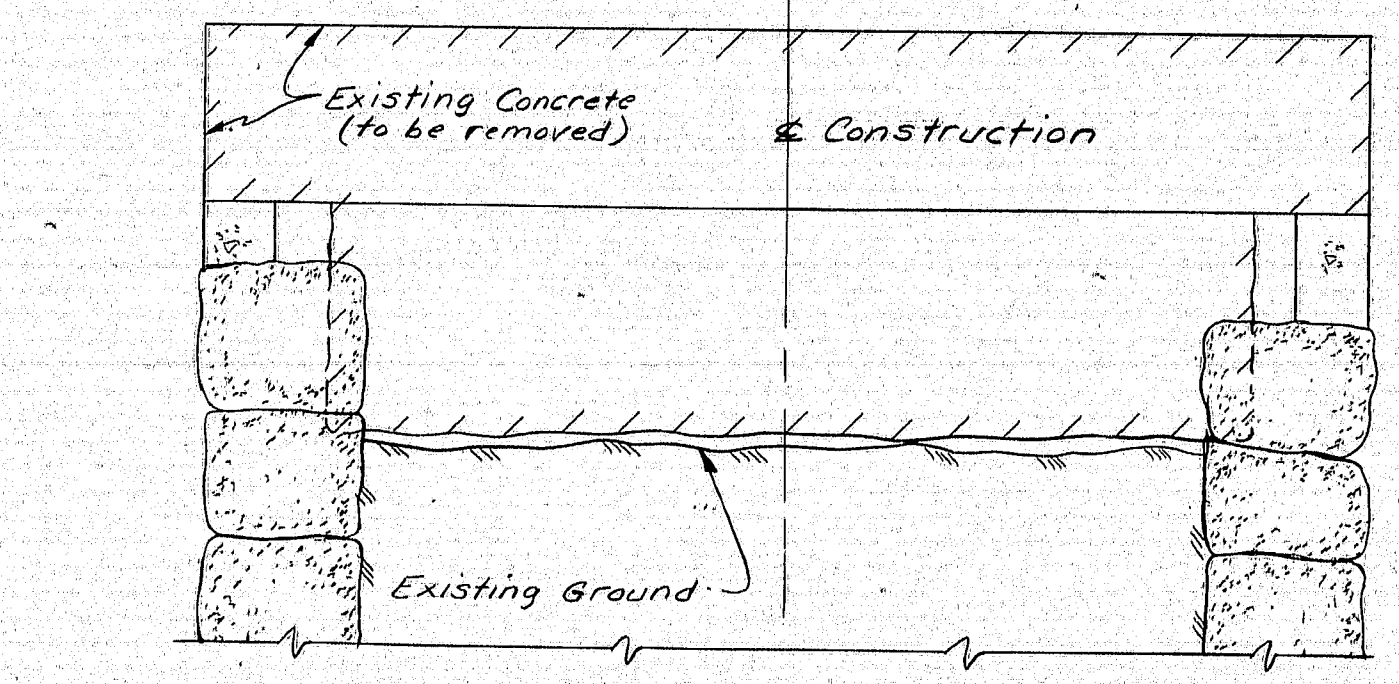


DATE	BY
REVISION	
APPROVED	
DATE	
PROJECT NUMBER	
SHEET NO.	
TOTAL SHEETS	

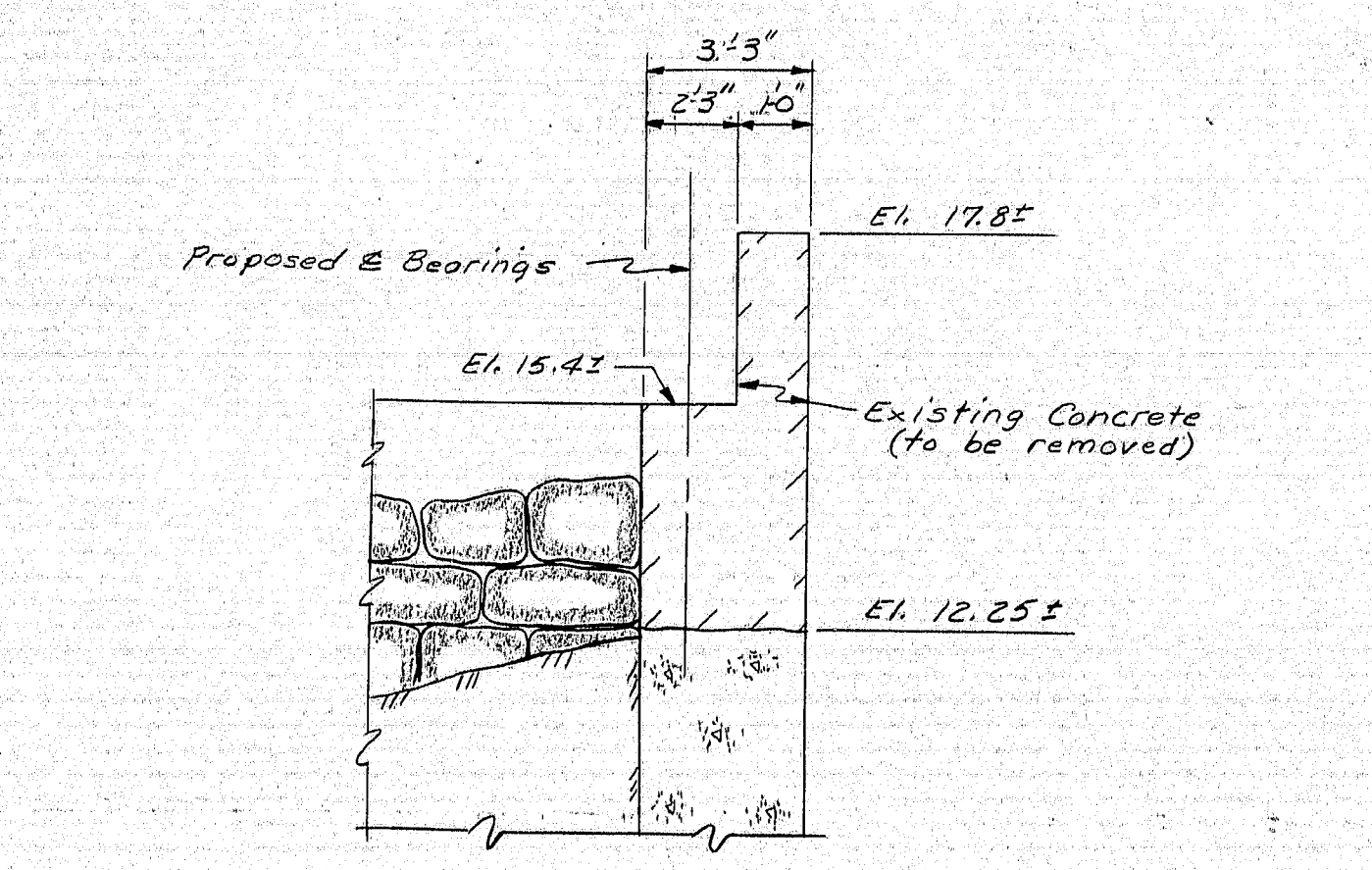
811-26
~ FRENCHBORO ~



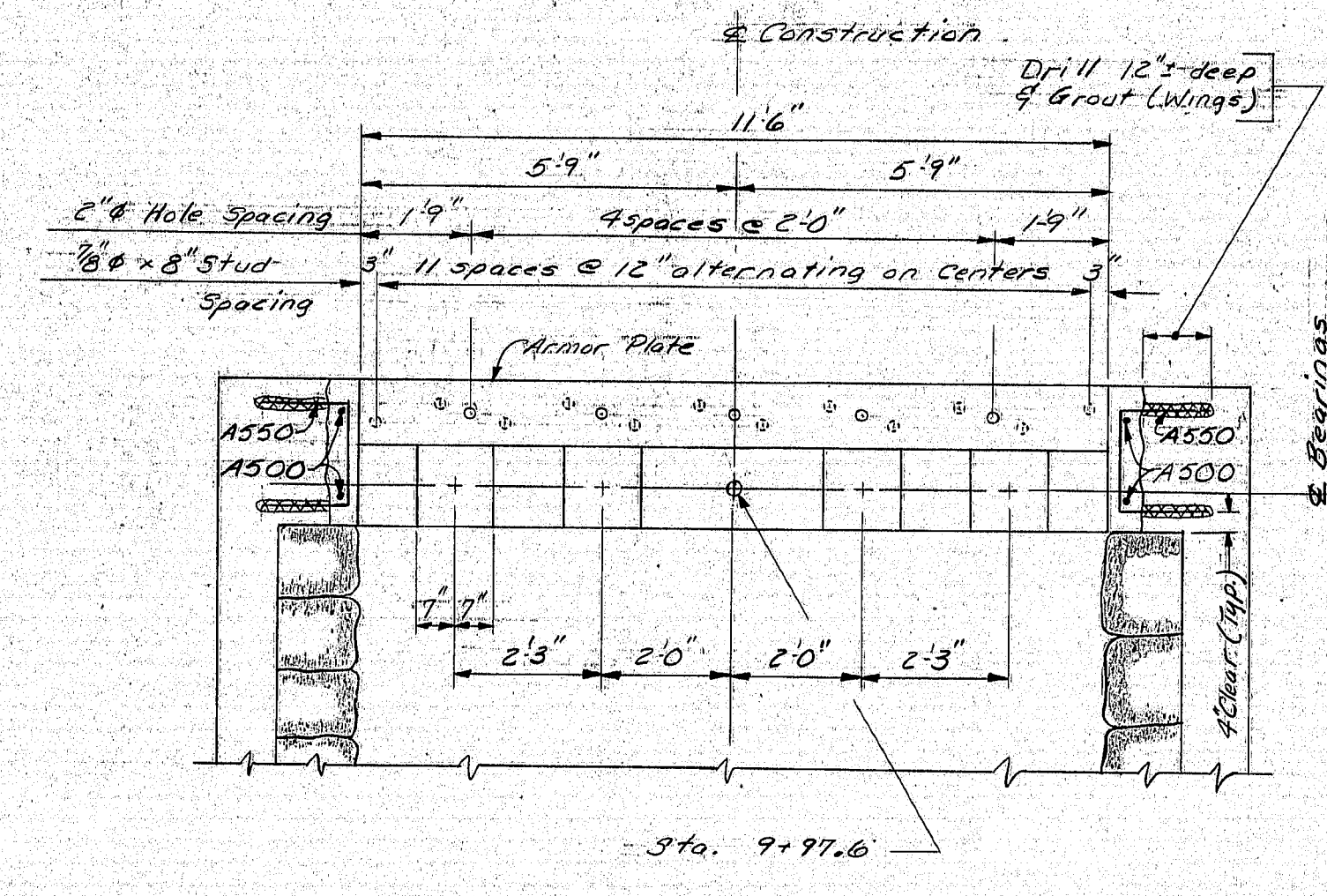
PLAN EXISTING ABUTMENT



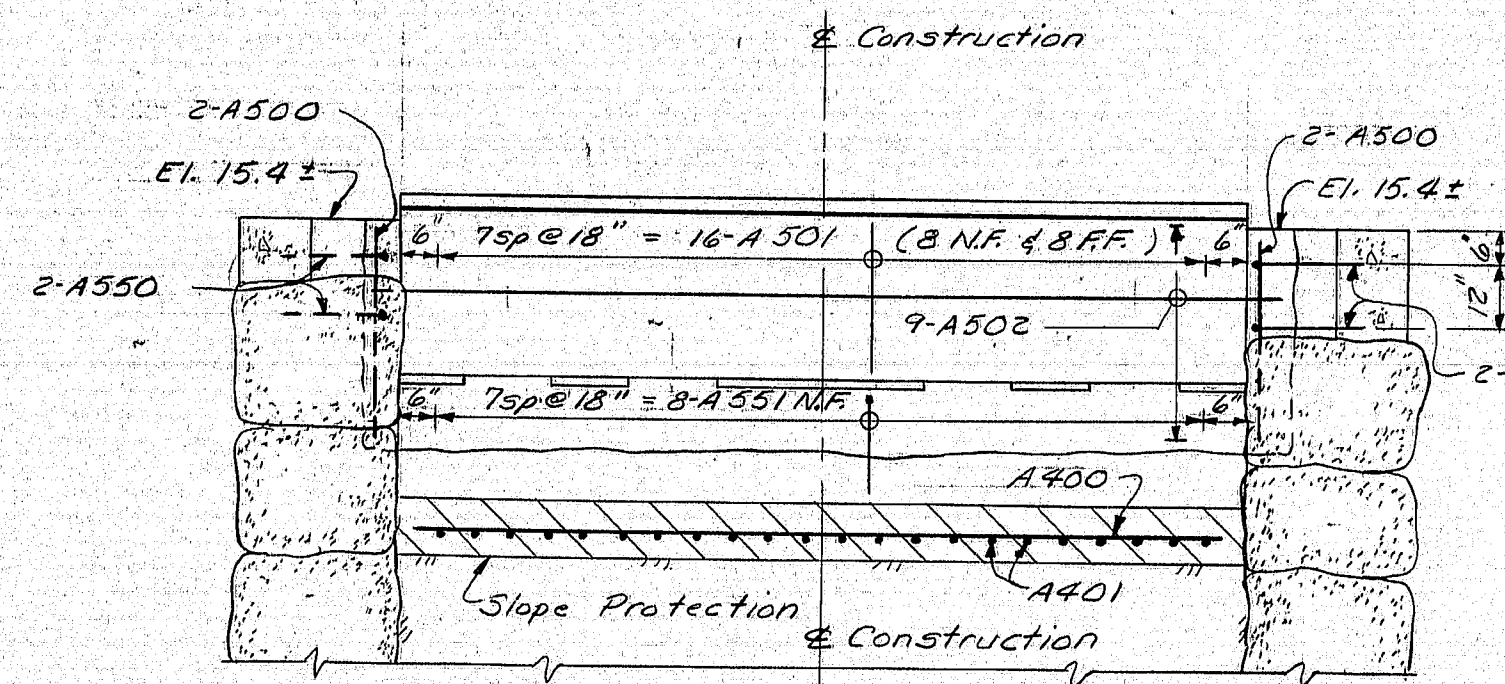
ELEVATION EXISTING ABUTMENT



TYPICAL ABUTMENT SECTION EXISTING



PLAN MODIFIED ABUTMENT

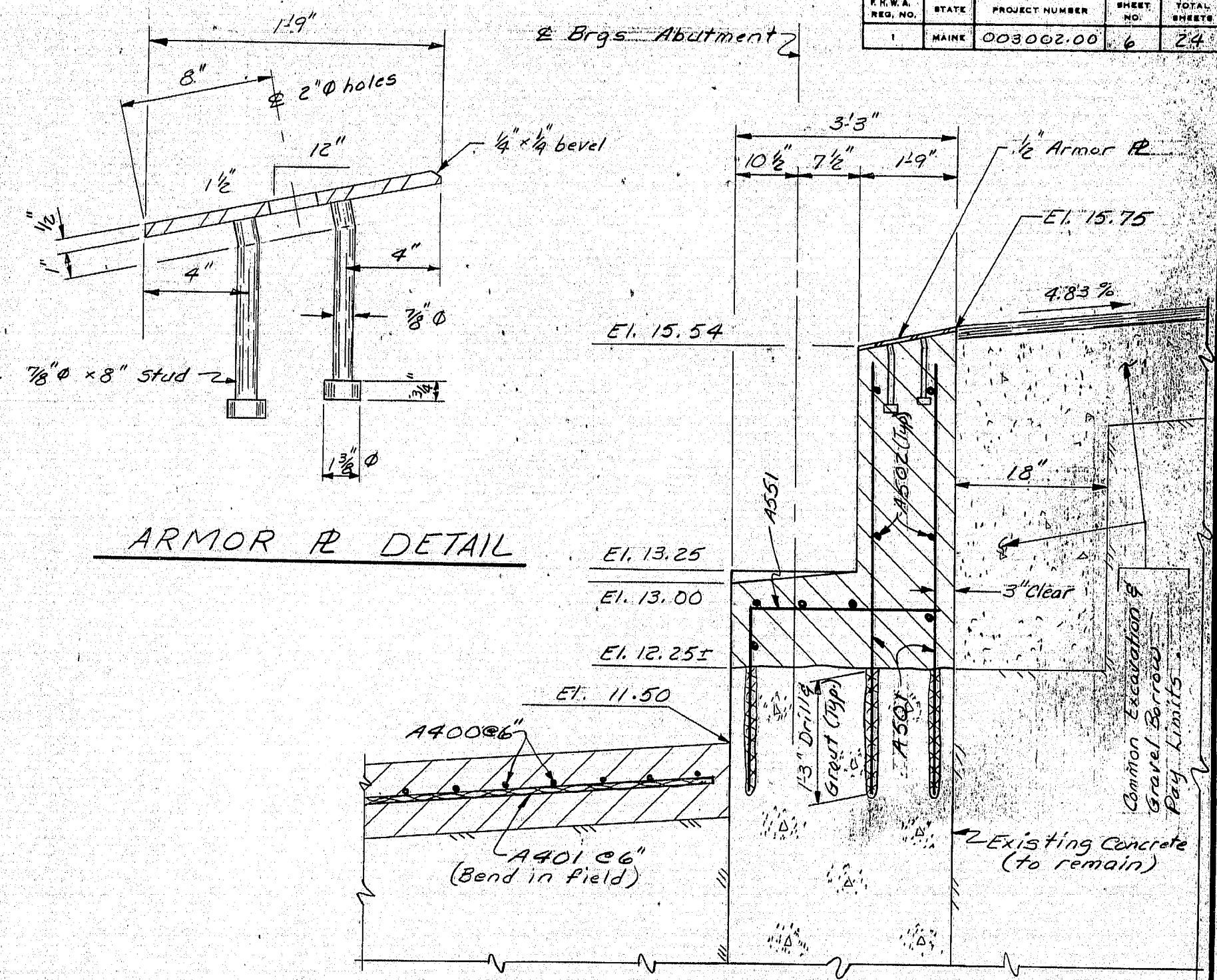


ELEVATION MODIFIED ABUTMENT

REINFORCING STEEL SCHEDULE

- STRAIGHT BARS -			
Mark	Quantity	Length	Location
A400	63	11'-0"	Slope Protection
A401	23	31'-0"	Slope Protection
A500	4	2'-8"	Wing Vertical
A501	16	4'-5"	Abutment Vertical
A502	9	12'-0"	Abutment Horizontal
- BENT BARS -			
A550	4	4'-5"	Wing Horizontal
A551	8	4'-7"	Breastwall
F550	4	14'-3"	Tower base
F551	8	10'-8"	" "
F552	4	14'-6"	" "

NOTES: Dimensions are out to out of bars. ASTM A615, Grade 60. F5, F5 = #5 bar (1/2" Ø). A4 = #4 bar (1/2" Ø).



ARMOR PLATE DETAIL

TYPICAL MODIFIED ABUTMENT SECTION

- ABUTMENT NOTES**
- Reinforcing steel shall have 3 inches cover unless otherwise indicated.
 - Protective coating for concrete surfaces shall be applied to all exposed concrete surfaces, new and old.
 - Remove the existing concrete backwall and bridge seat as shown on the plans. Payment will be made under Item 202.121 Removal of Existing Concrete.
 - All existing reinforcing steel shall be bent to fit into the new concrete as directed by the Engineer. Payment for this work will be considered incidental to Item 503.13, Reinforcing Steel Placing.
 - Existing reinforcing steel that has been exposed from concrete removal that will be on a finished surface shall be removed to 2 inches below the finished surface and the holes shall be filled with an approved Non-Shrink Grout. Payment for this work will be considered incidental to Item 503.13, Reinforcing Steel Placing.
 - All concrete for Abutment and Slope Protection will be paid for under Item 502.21, Structural Concrete Abutment and Retaining Walls.
 - Holes for grouting reinforcing steel shall be 1/2" to 2" diameter. Holes shall be filled with water for a minimum of two hours before grouting at which time all of the water shall be removed. The grouted areas shall be kept wet from time of initial set for a minimum of twelve hours, with burlap or other suitable means. The grout shall be used in accordance with the manufacturer's recommendations and shall be included on the department's list of approved Non-Shrink Grouts. No separate payment will be made for drilling and grouting, and all such work will be considered incidental to Item 503.13, Reinforcing Steel Placing.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

TRANSFER BRIDGE
FRENCH BORO
HANCOCK COUNTY

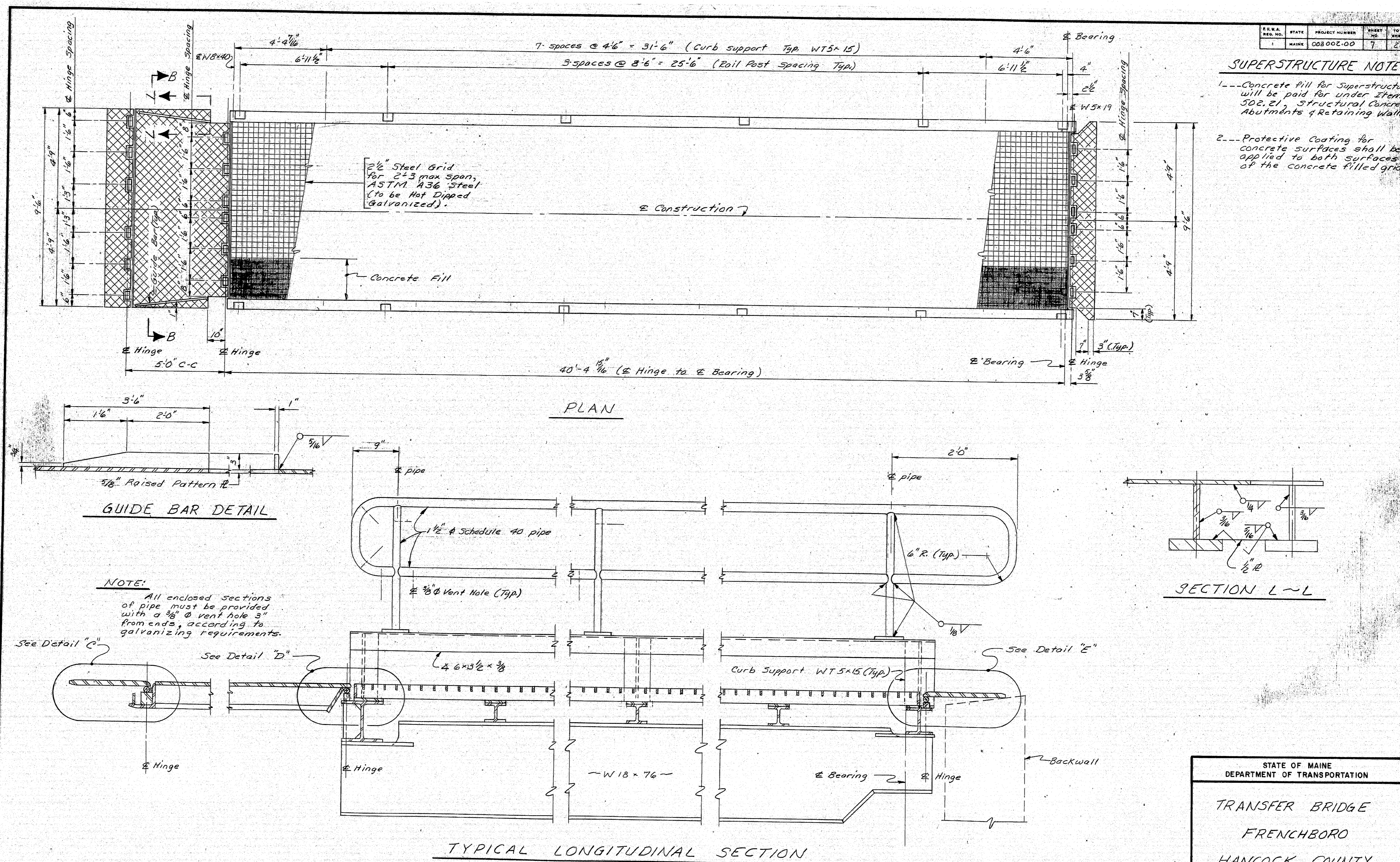
ABUTMENT

SHEET 6 OF 24 AUGUSTA, MAINE

97-119

PROJECT DESIGN ENGINEER: A/E/B
DESIGN-DETAILED: A/E/B
CHECKED: A/S
DATE: 2-27-97
PLANS
REVISIONS
FIELD CHANGES

BRUNING 44-132-027101



REV. NO.	DATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1		008002-00	7	24

SUPERSTRUCTURE NOTES

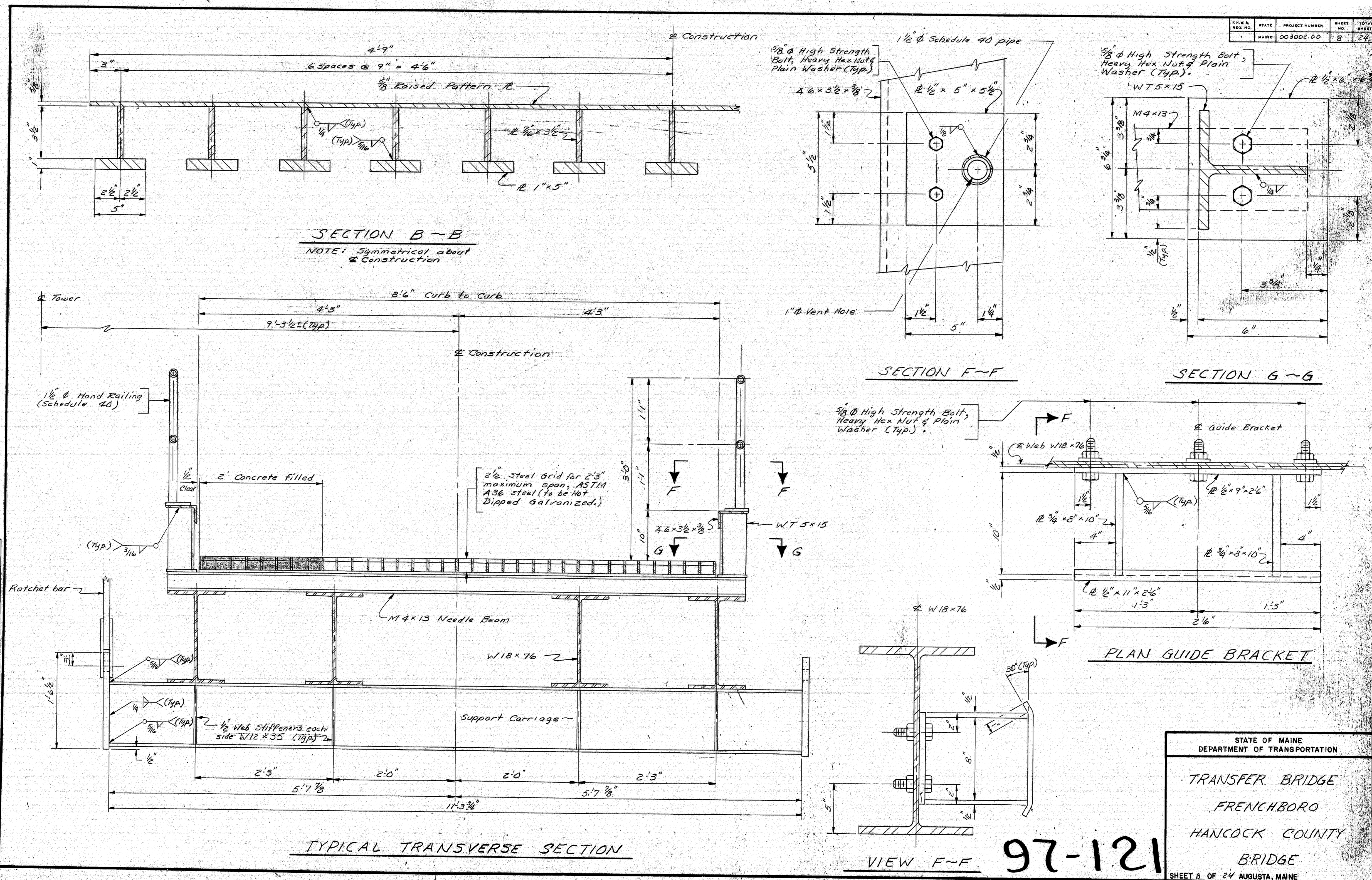
- Concrete fill for Superstructure will be paid for under Item 502.21, Structural Concrete Abutments & Retaining Walls.
- Protective coating for concrete surfaces shall be applied to both surfaces of the concrete filled grid.

PROJECT ENGINEER	DATE
DESIGN - DETAILED	7/27
REVISIONS	8/28
FIELD CHANGES	3-27
PLANS	

97-120

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
TRANSFER BRIDGE
FRENCHBORO
HANCOCK COUNTY
BRIDGE
SHEET 7 OF 24 AUGUSTA, MAINE

PROJECT NUMBER	ENGINEER	DATE
PLANS	DESIGN - DETAILED	11/18/12
	REVISIONS	2/15/13
	FIELD CHANGES	3/27/13



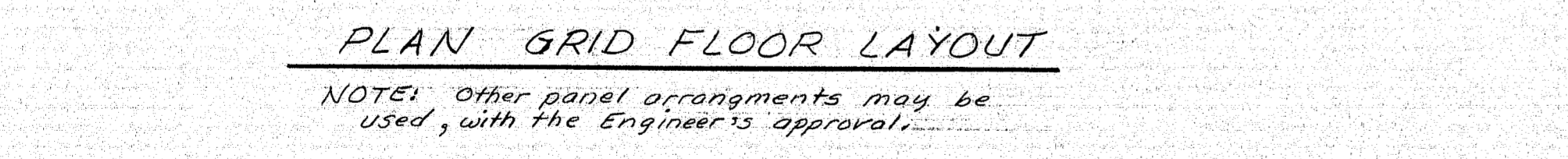
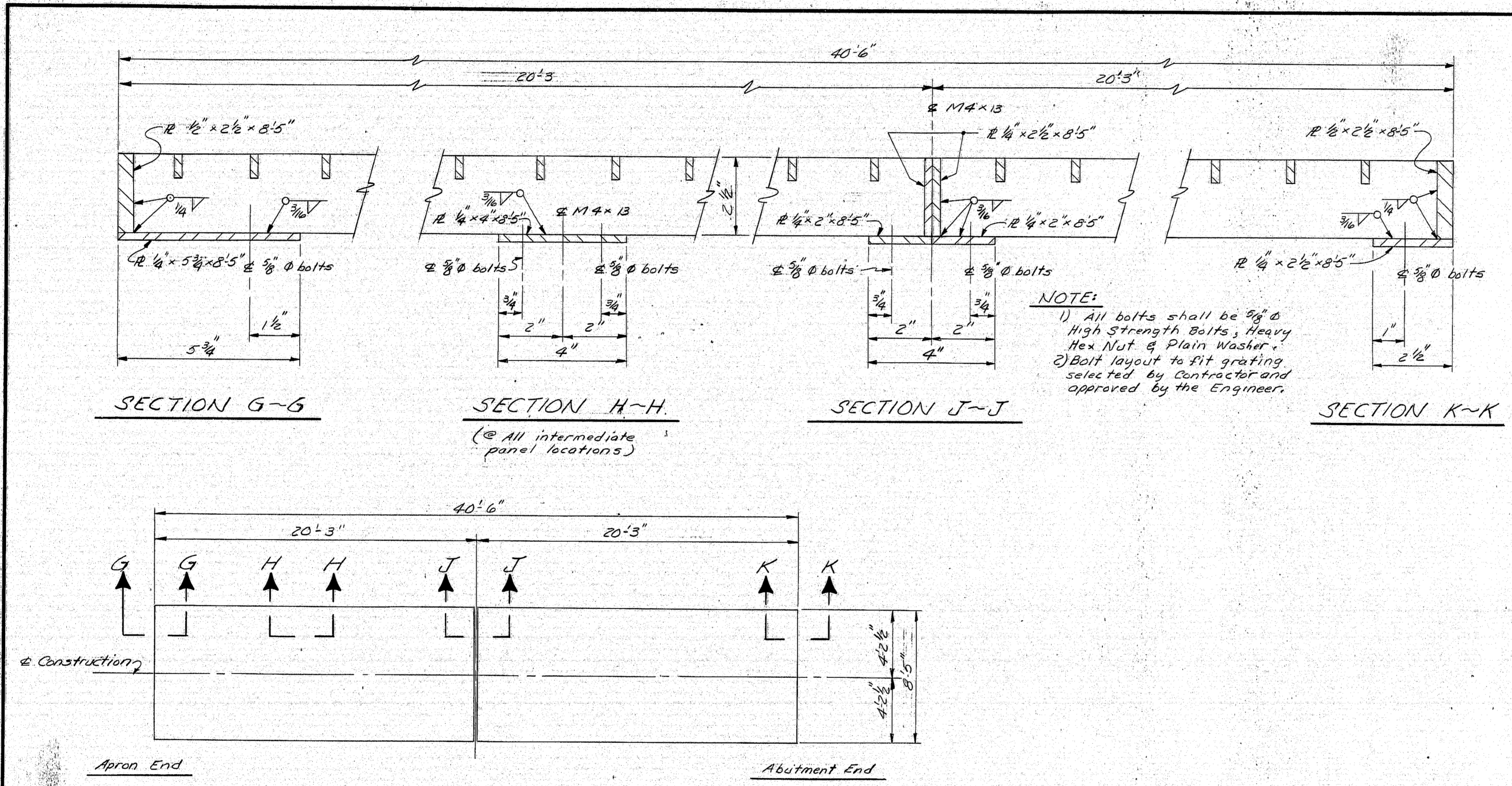
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

TRANSFER BRIDGE
FRENCHBORO
HANCOCK COUNTY
BRIDGE

97-121

SHEET 8 OF 24 AUGUSTA, MAINE

F.R.A.	STATE	PROJECT NUMBER	SHEET	TOTAL
1	MAINE	002002-00	9	27



PLAN GRID FLOOR LAYOUT
 NOTE: Other panel arrangements may be used, with the Engineer's approval.

PROJECT DESIGN ENGINEER	K/22
DESIGN - DETAILED	M/25
CHECKED	B/S
DATE	2-27
BY	B/S
REVISIONS	3-27
PLANS	

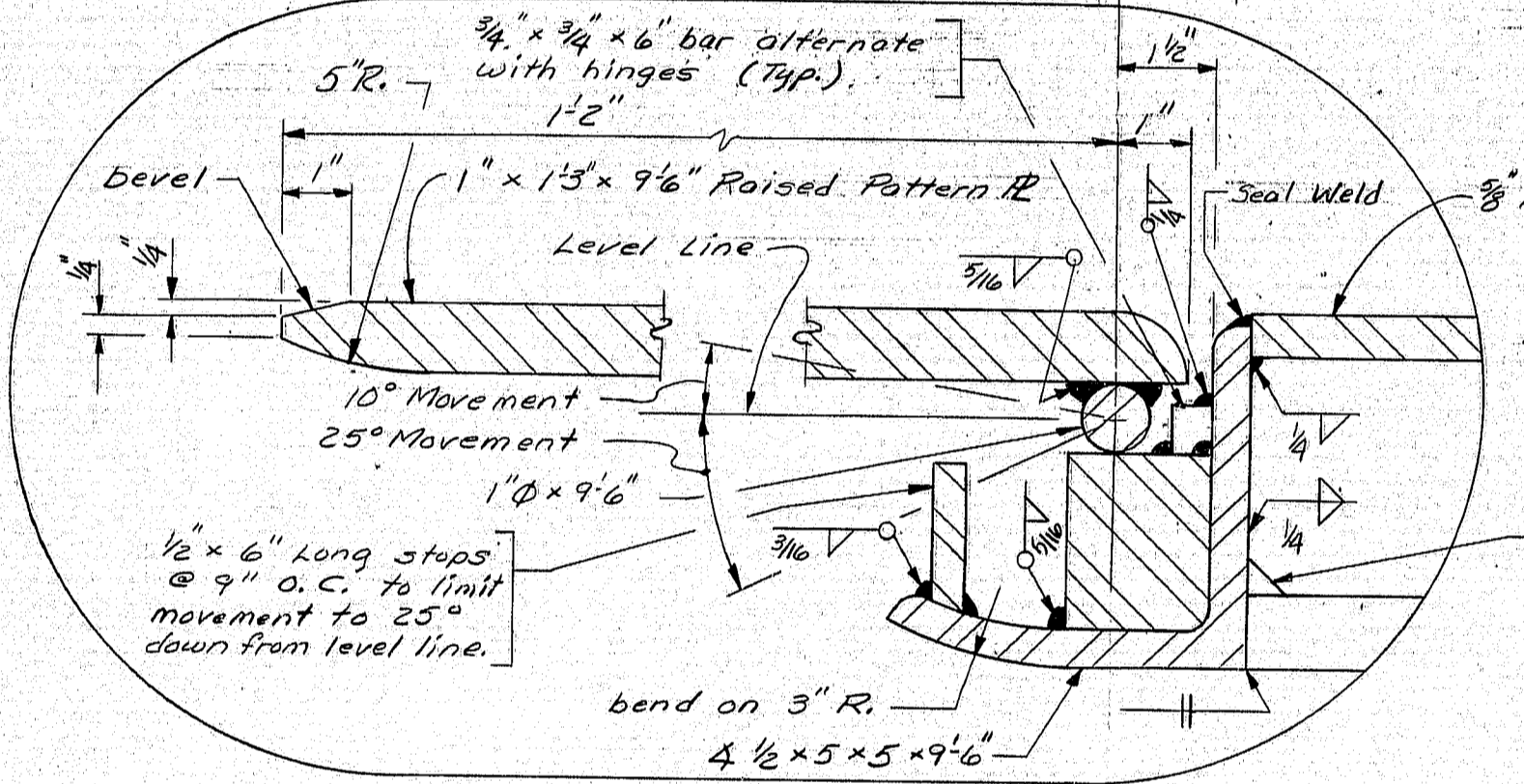
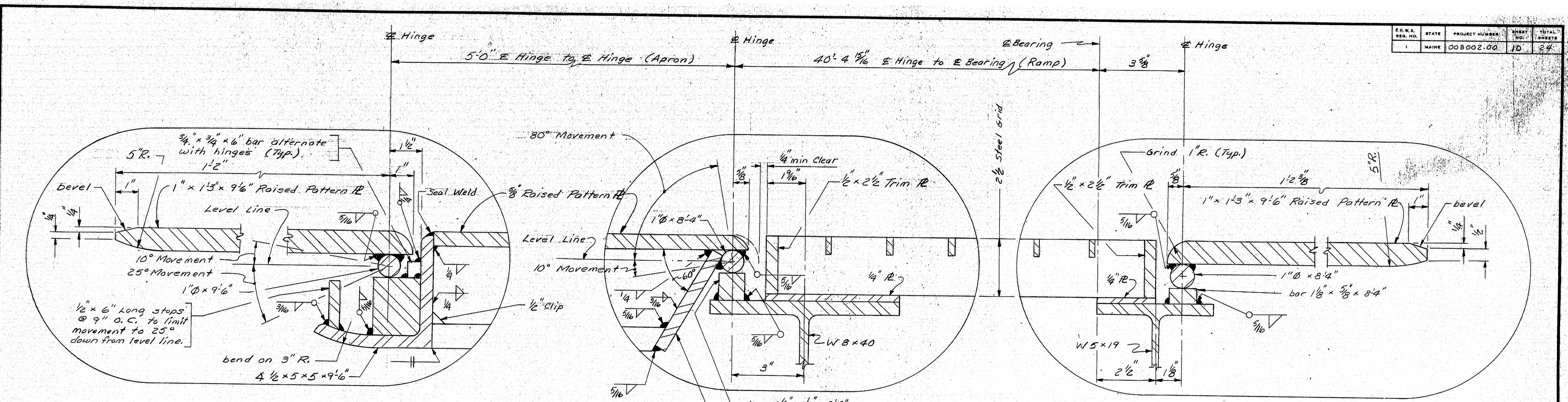
BRUNING 44132 40704

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
 TRANSFER BRIDGE
 FRENCHBORO
 HANCOCK COUNTY
 BRIDGE

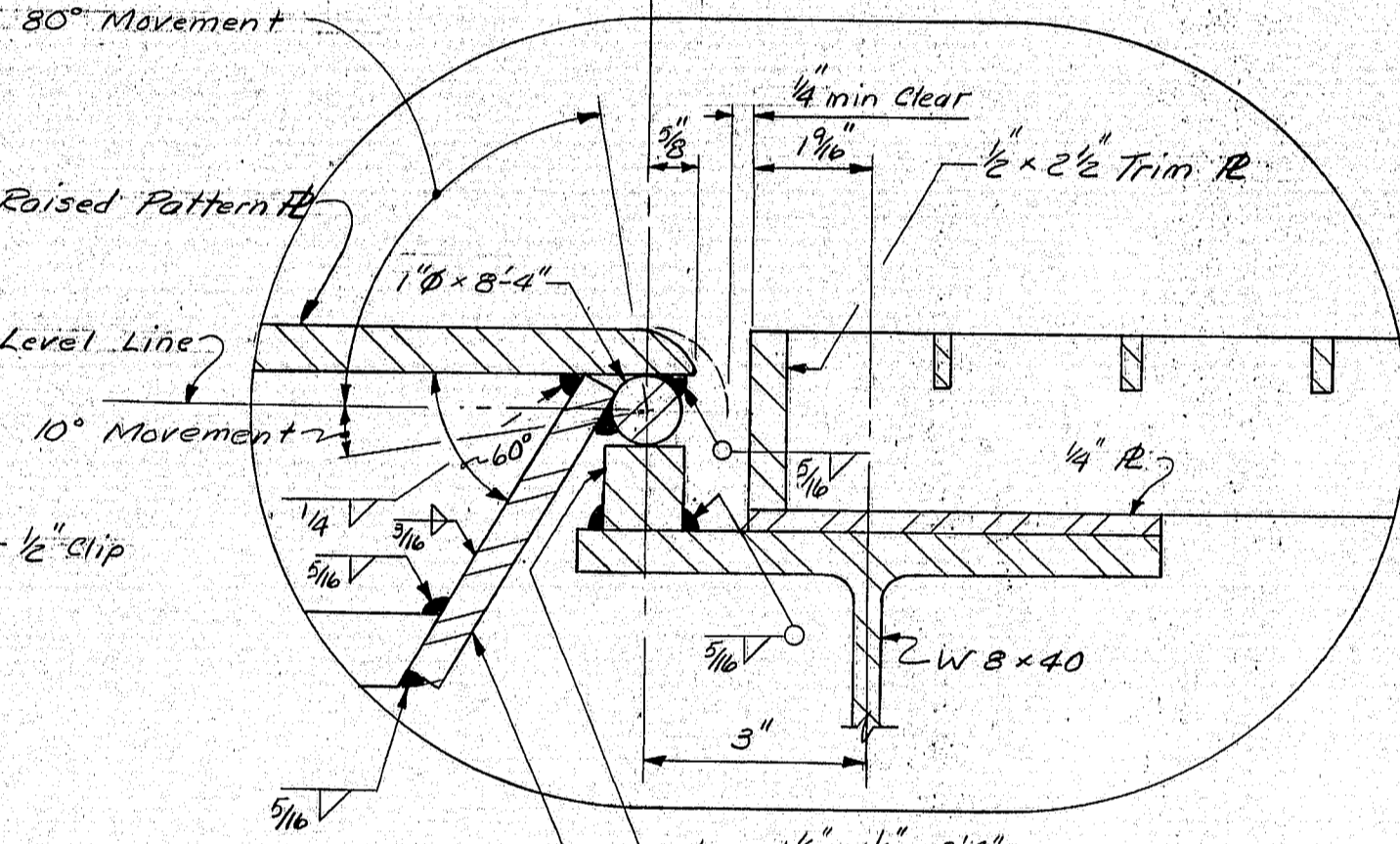
97-122

SHEET 9 OF 24 AUGUSTA, MAINE

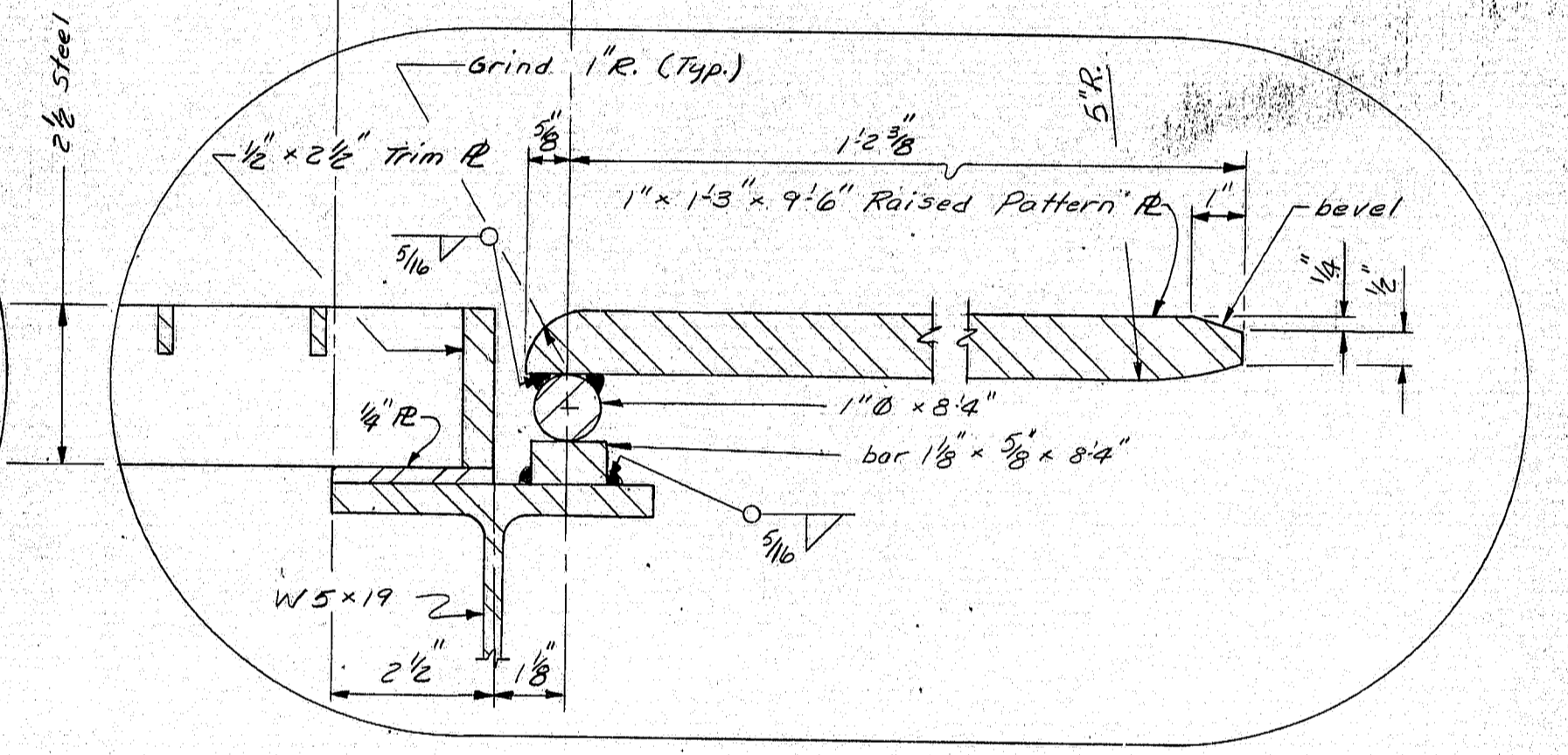
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
MAINE	008002.02	10	24



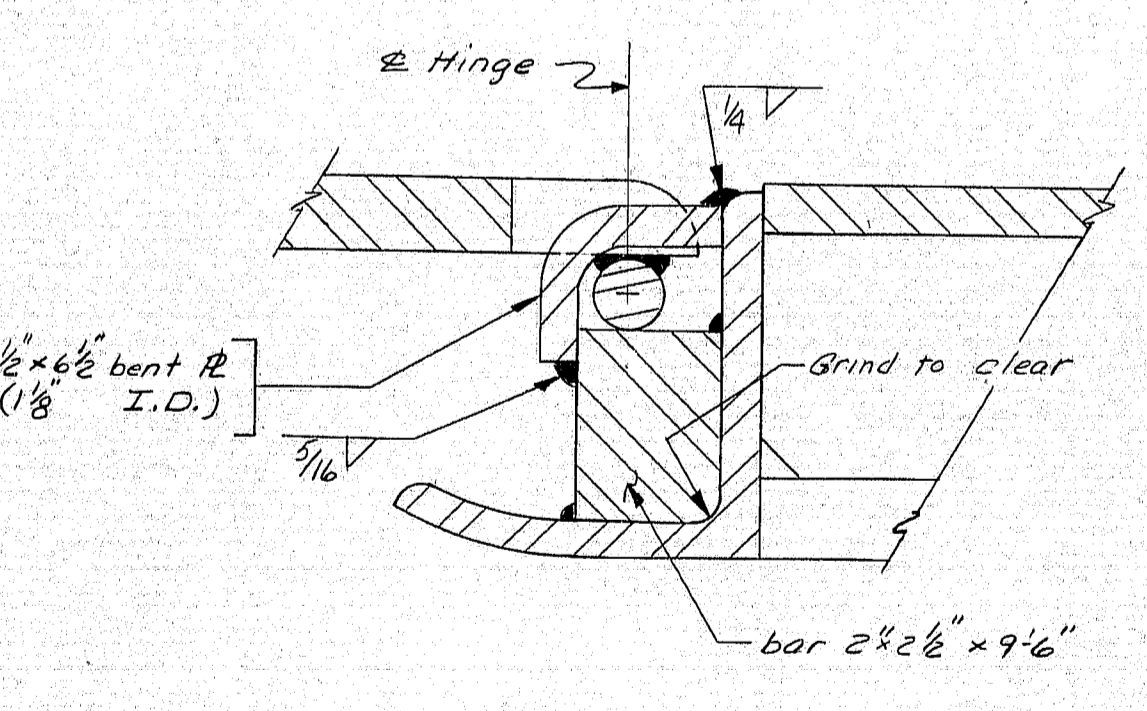
DETAIL "C"
(between hinges shown)



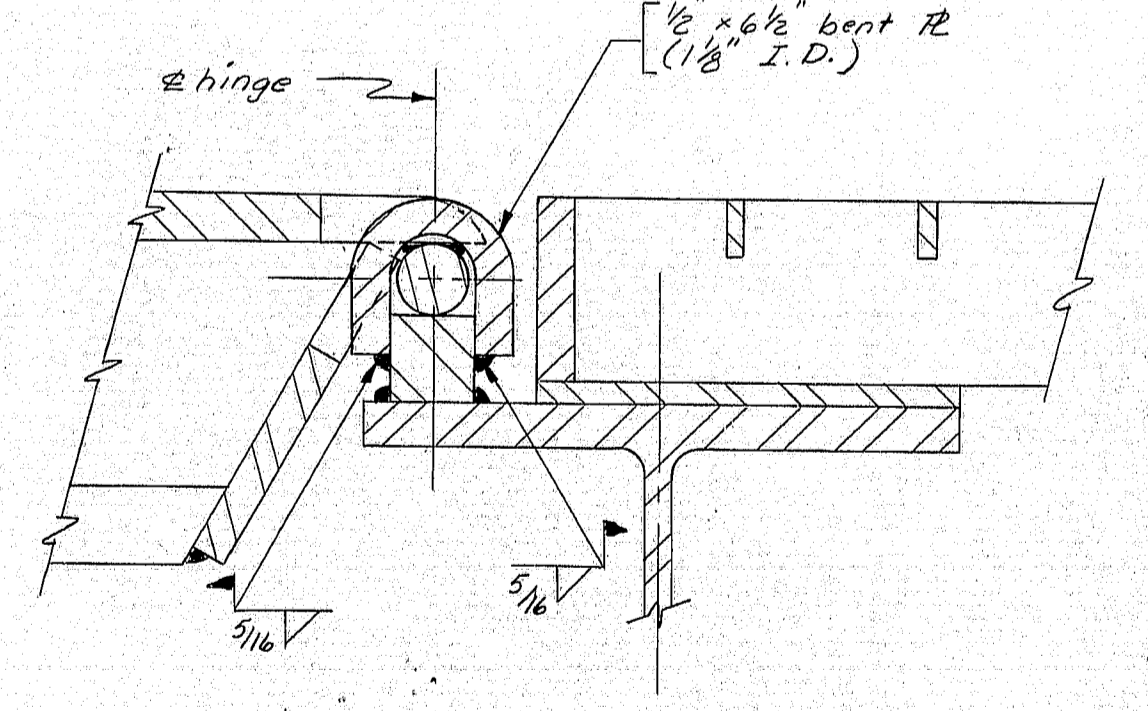
DETAIL "D"
(between hinges shown)



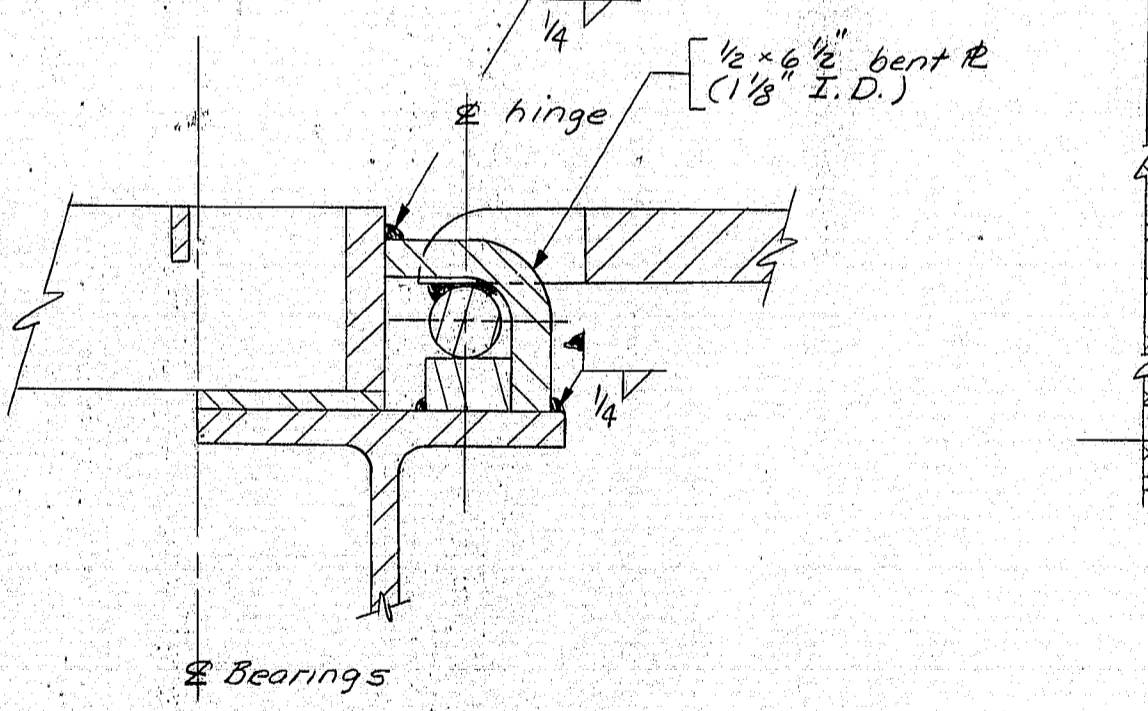
DETAIL "E"
(between hinges shown)



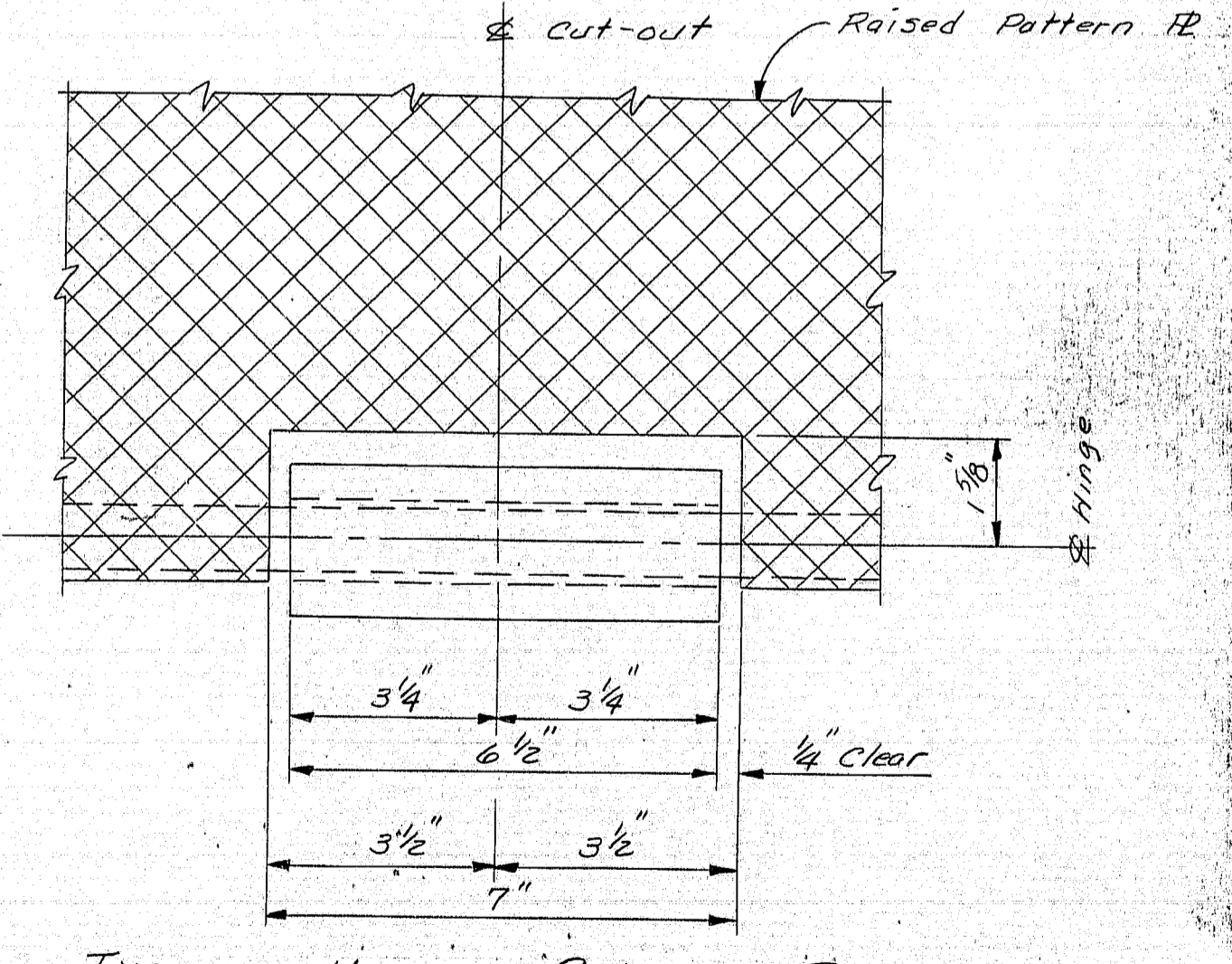
DETAIL "C"
(@ E Hinge shown)



DETAIL "D"
(@ E Hinge shown)



DETAIL "E"
(@ E Hinge shown)



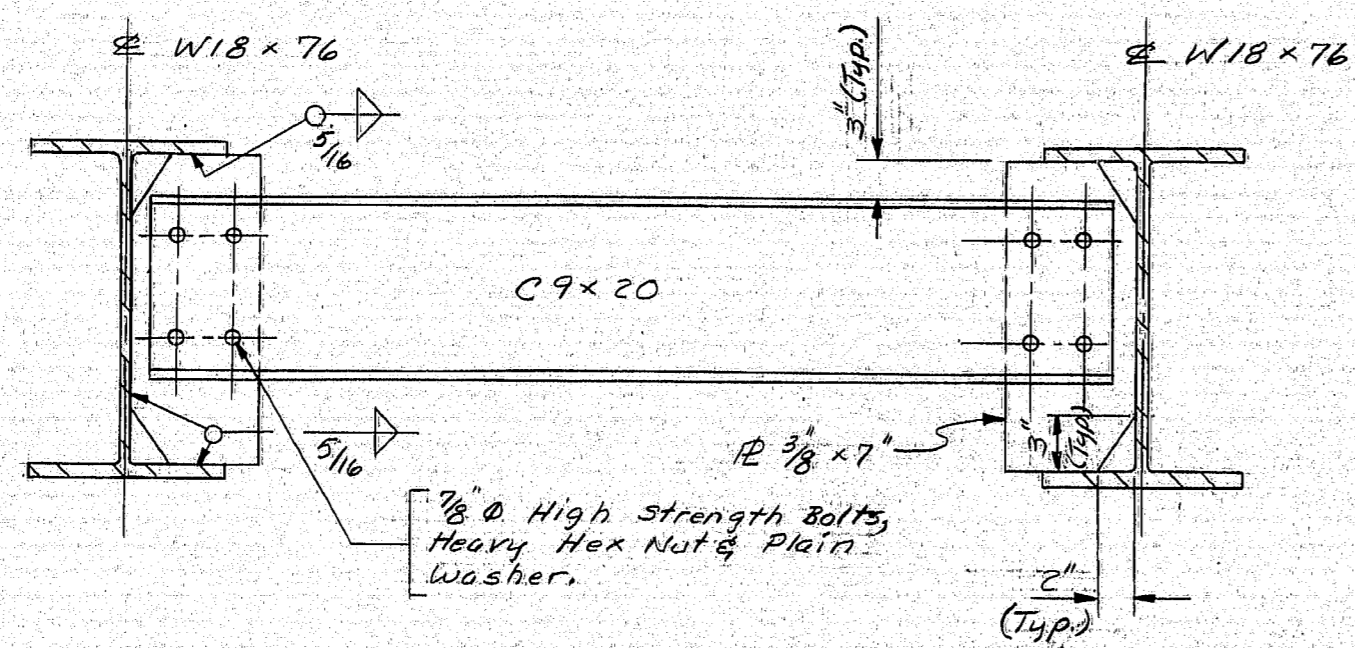
TYPICAL HINGE CUT-OUT DETAIL

PROJECT DESIGN ENGINEER	DATE
DESIGN-DRAWN	2-27
CHECKED	3-31
REVISIONS	
FIELD CHANGES	

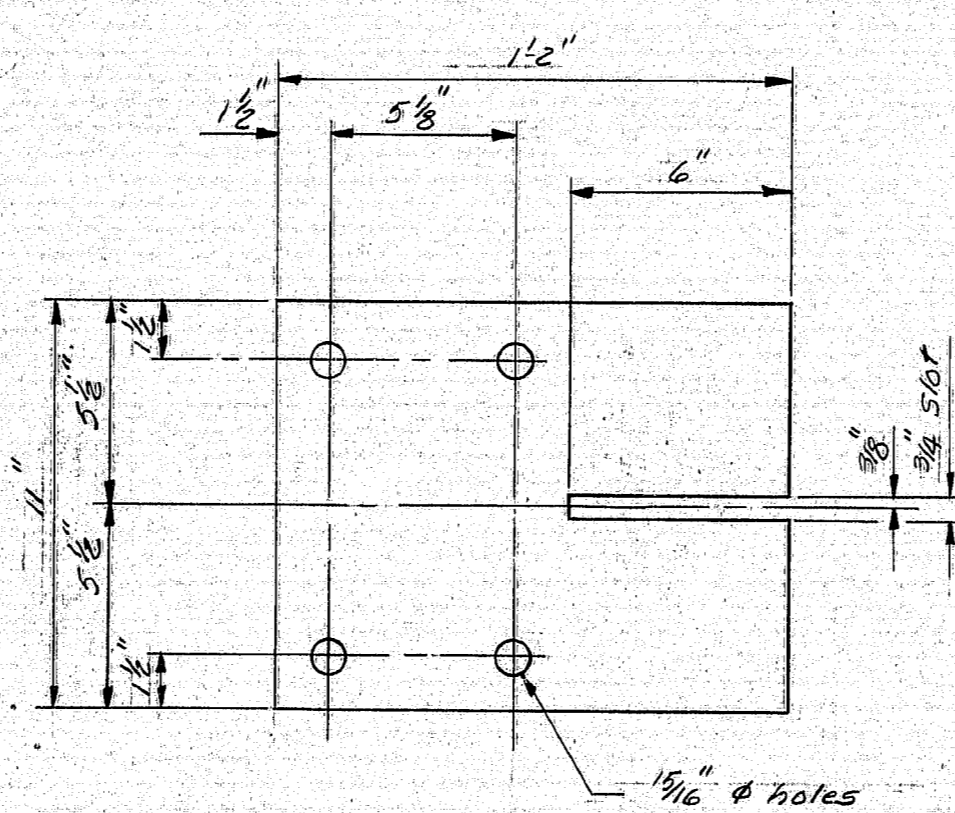
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
TRANSFER BRIDGE
FRENCHBORO
HANCOCK COUNTY
BRIDGE
SHEET 10 OF 24 AUGUSTA, MAINE

97-123

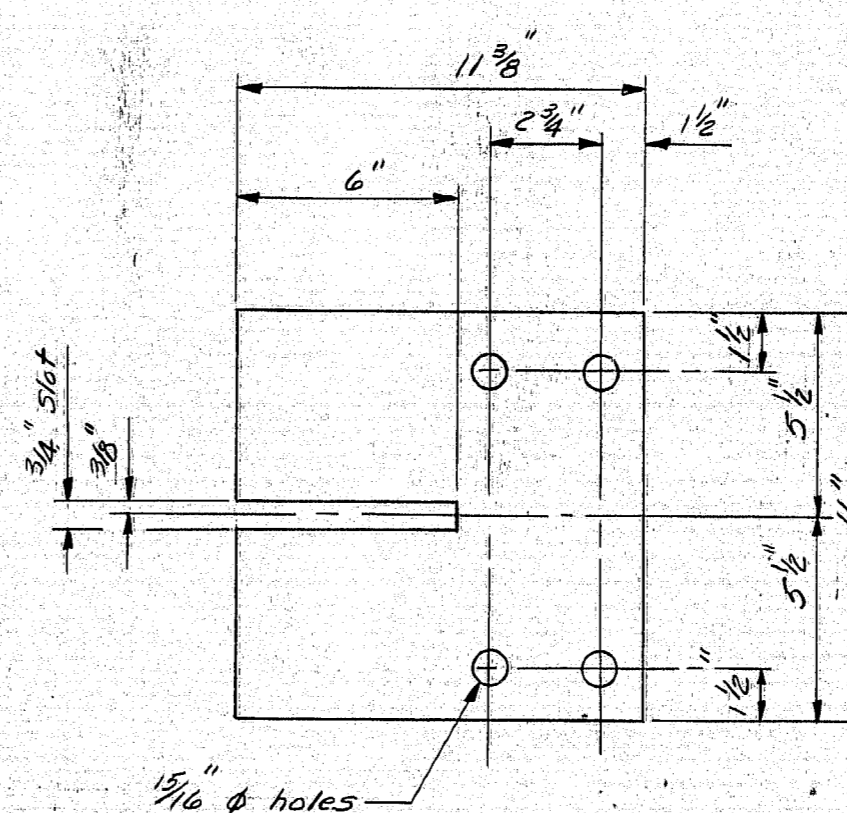
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
MAINE	003002.00	12	24



TYPICAL DIAPHRAGM DETAIL



W.8 x 40 BEARING PLATE

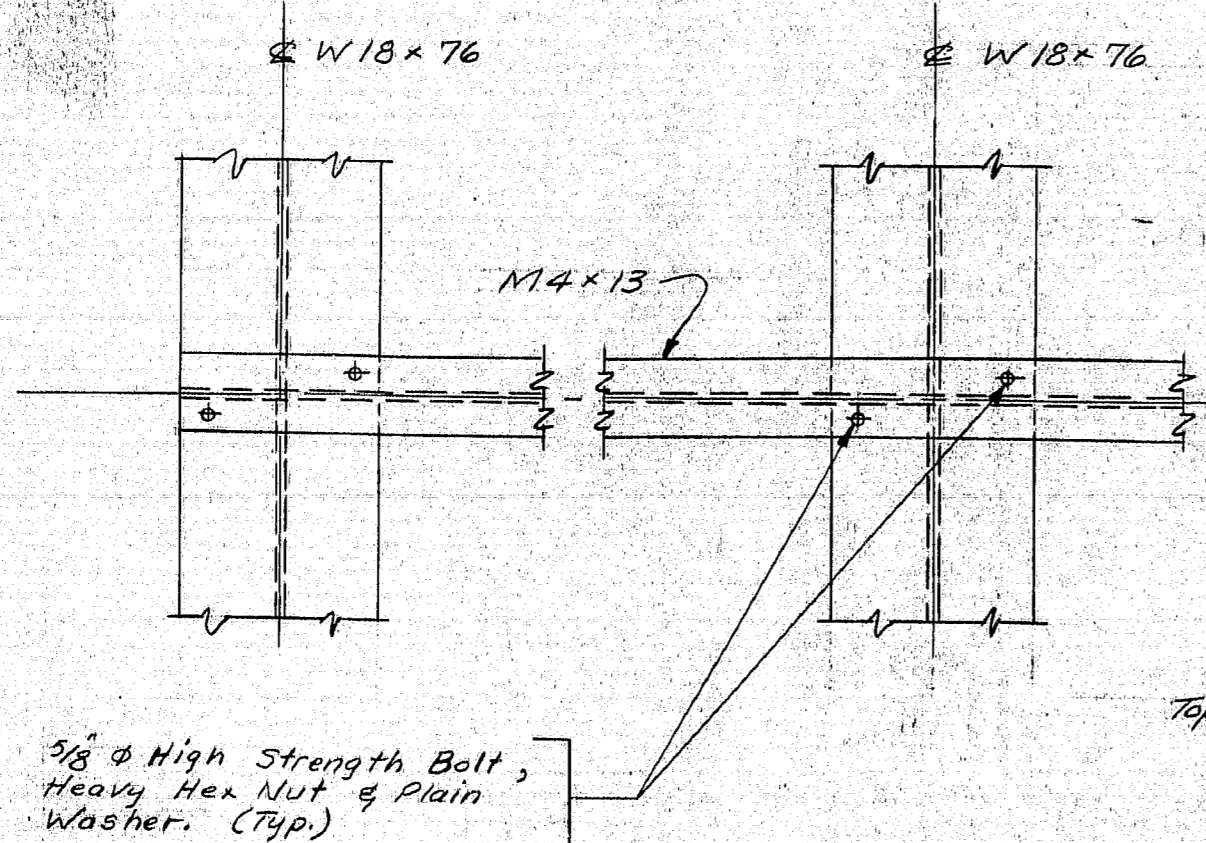


W5 x 9 BEARING PLATE

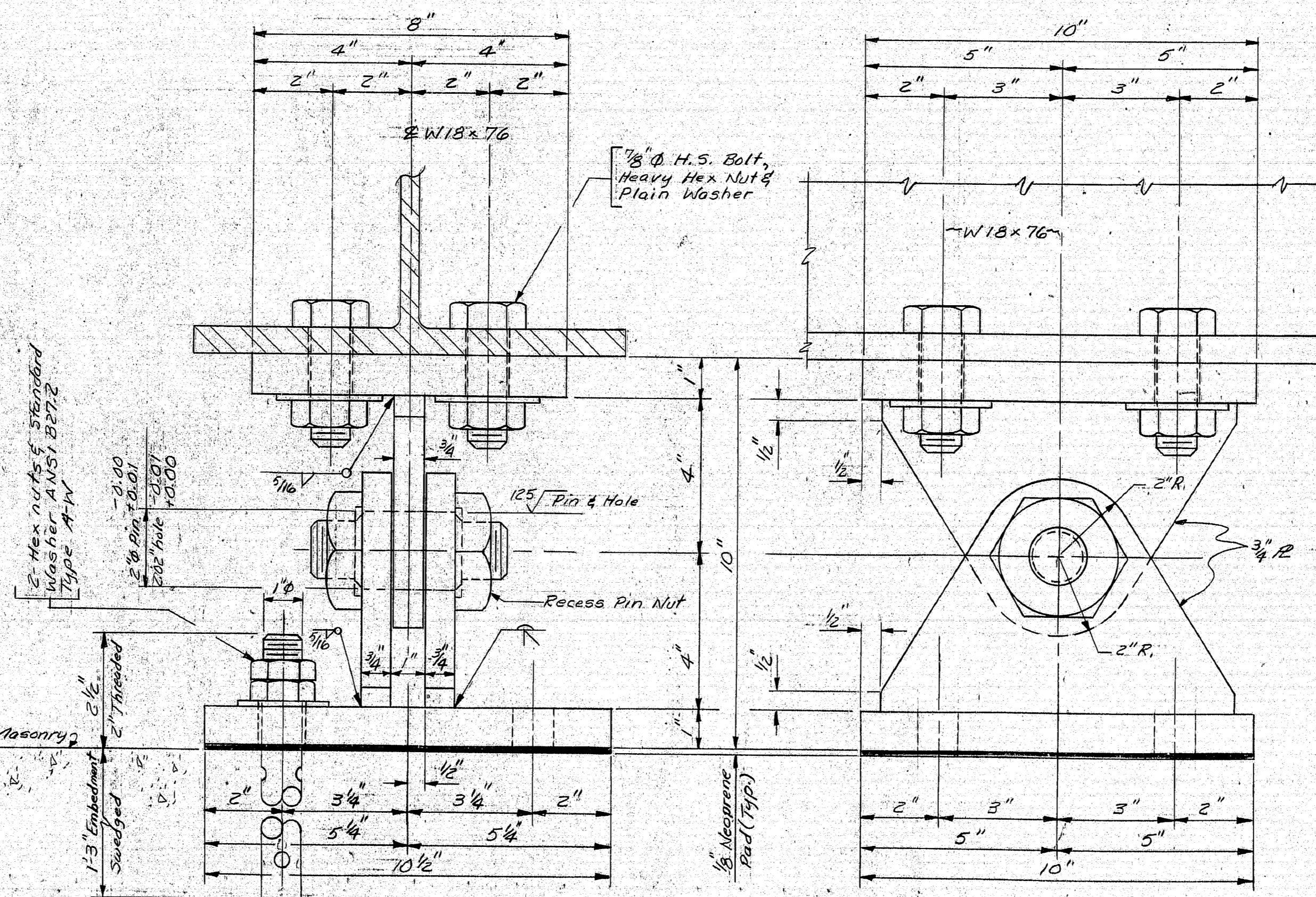
FABRICATION NOTES

1. All steel including anchor bolts shall be ASTM A36 and Hot Dipped Galvanized except for contact surfaces.
2. Coat all surfaces with 125 micro-inch finish with NEVER-SIEZE or approved equal.
3. All areas of galvanizing damaged during assembly or field welding, shall be touched up with a Zinc coating as recommended by the galvanizer and as approved by the Engineer.
4. Upset threads on bearing pins and anchor bolts after assembly.

PROJECT ENGINEER	DATE
DESIGN - DETAILED	1-87
CHECKED	3-87
FIELD CHANGES	



M4 x 13 BOLT LAYOUT DETAIL



BEARING PEDESTAL

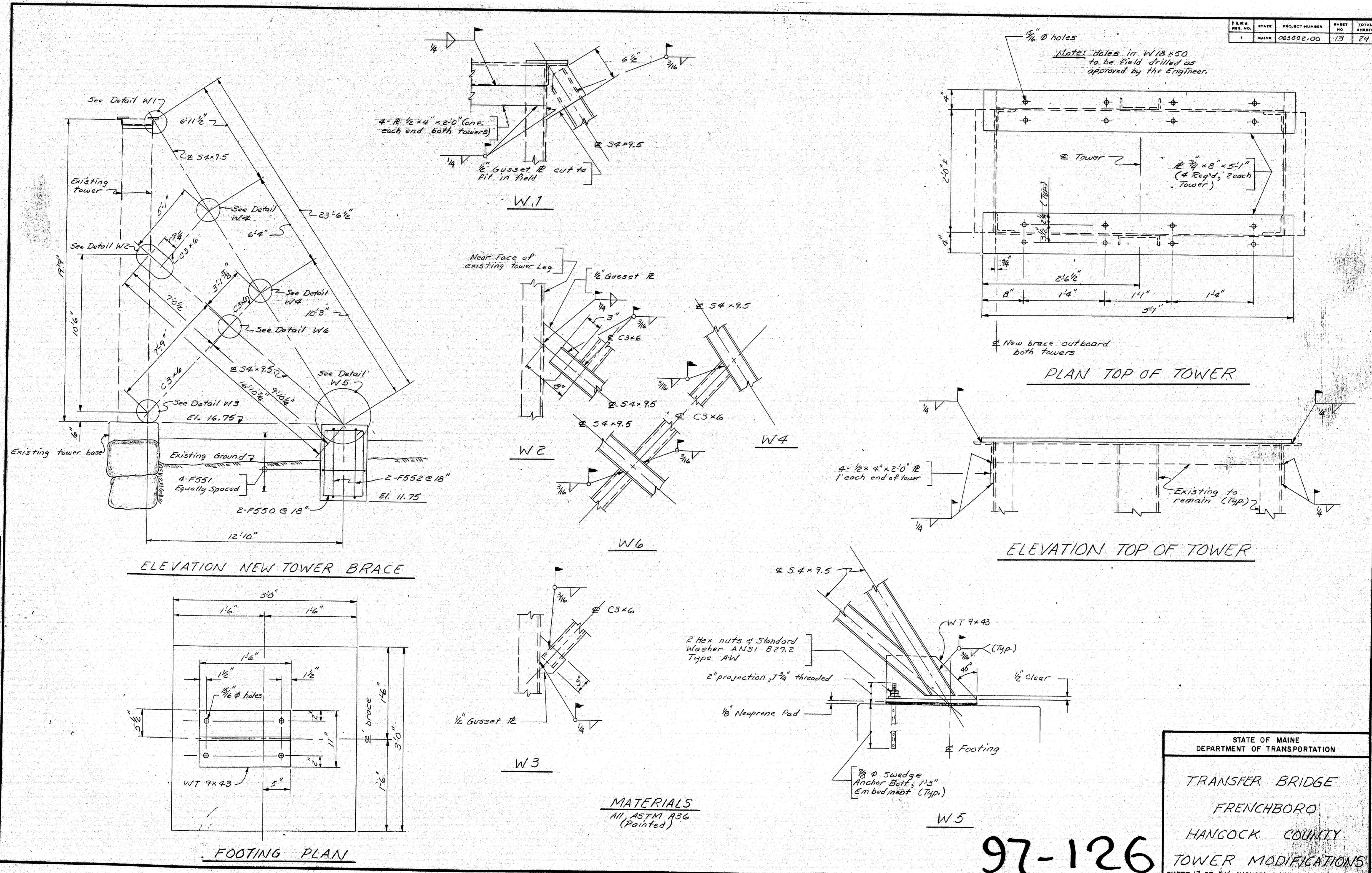
97-125

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

TRANSFER BRIDGE
FRENCHBORO
HANCOCK COUNTY
BRIDGE

SHEET 12 OF 24 AUGUSTA, MAINE

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
MAINE	003002-00	13	24



PROJECT DESIGN ENGINEER	DATE
BY: LAC	2-27
DESIGN DETAIL	
CHECKED	
REVISIONS	
FIELD CHANGES	

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION

TRANSFER BRIDGE
 FRENCHBORO
 HANCOCK COUNTY

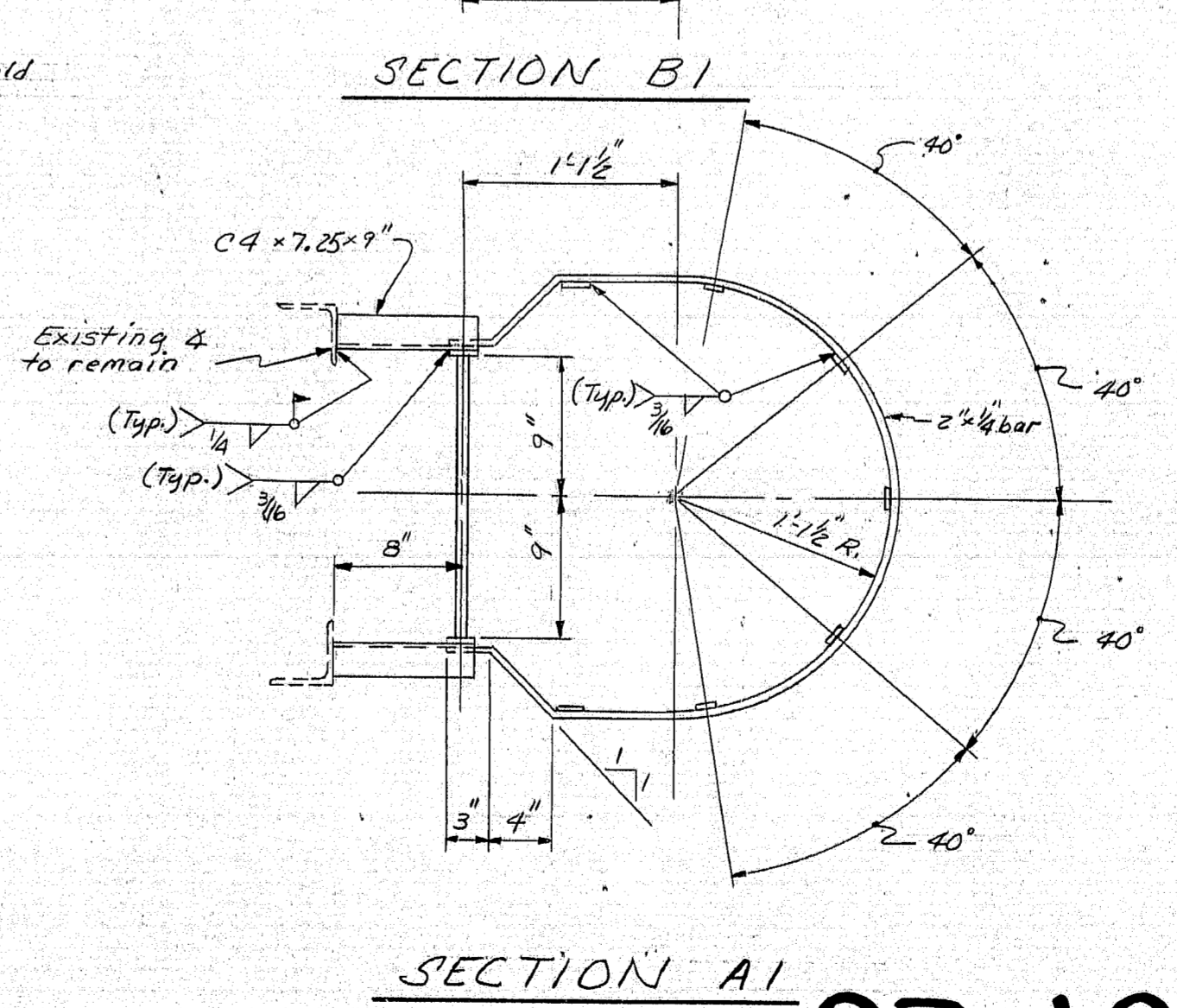
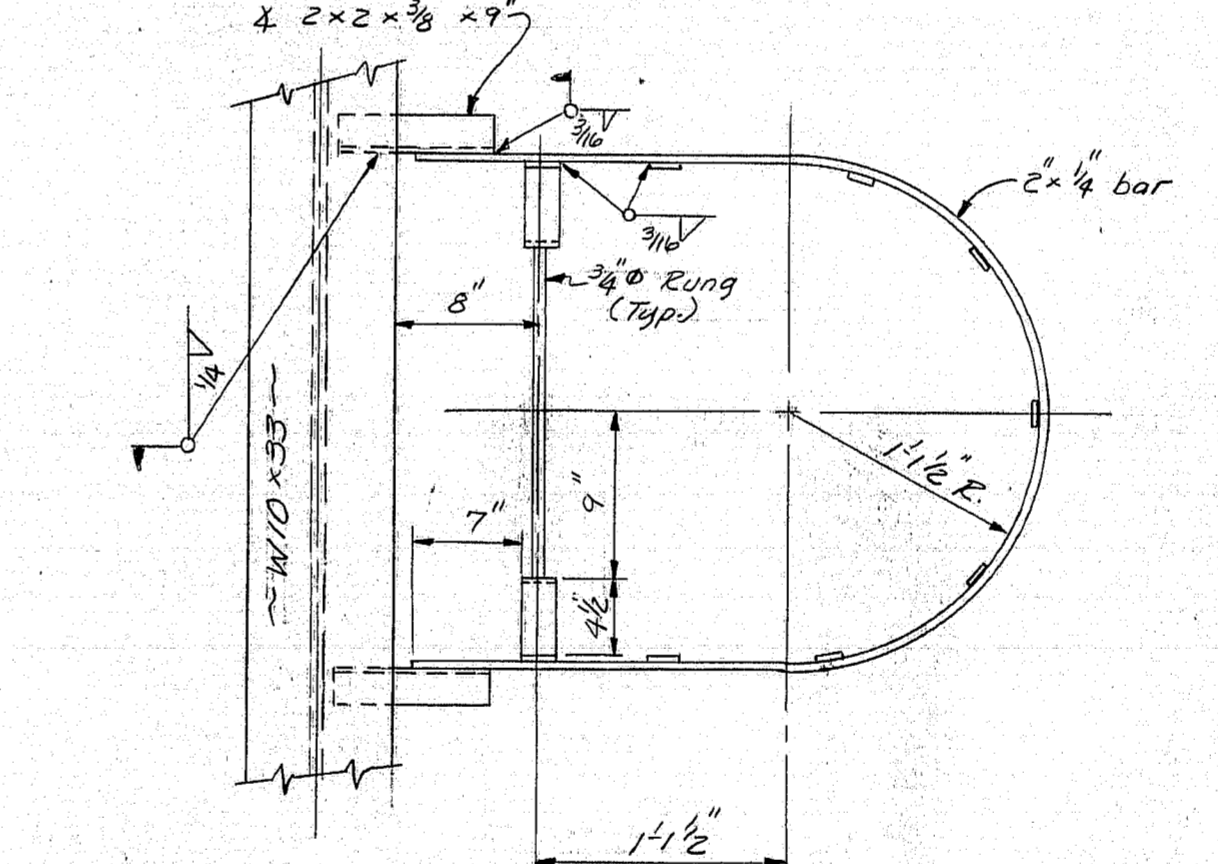
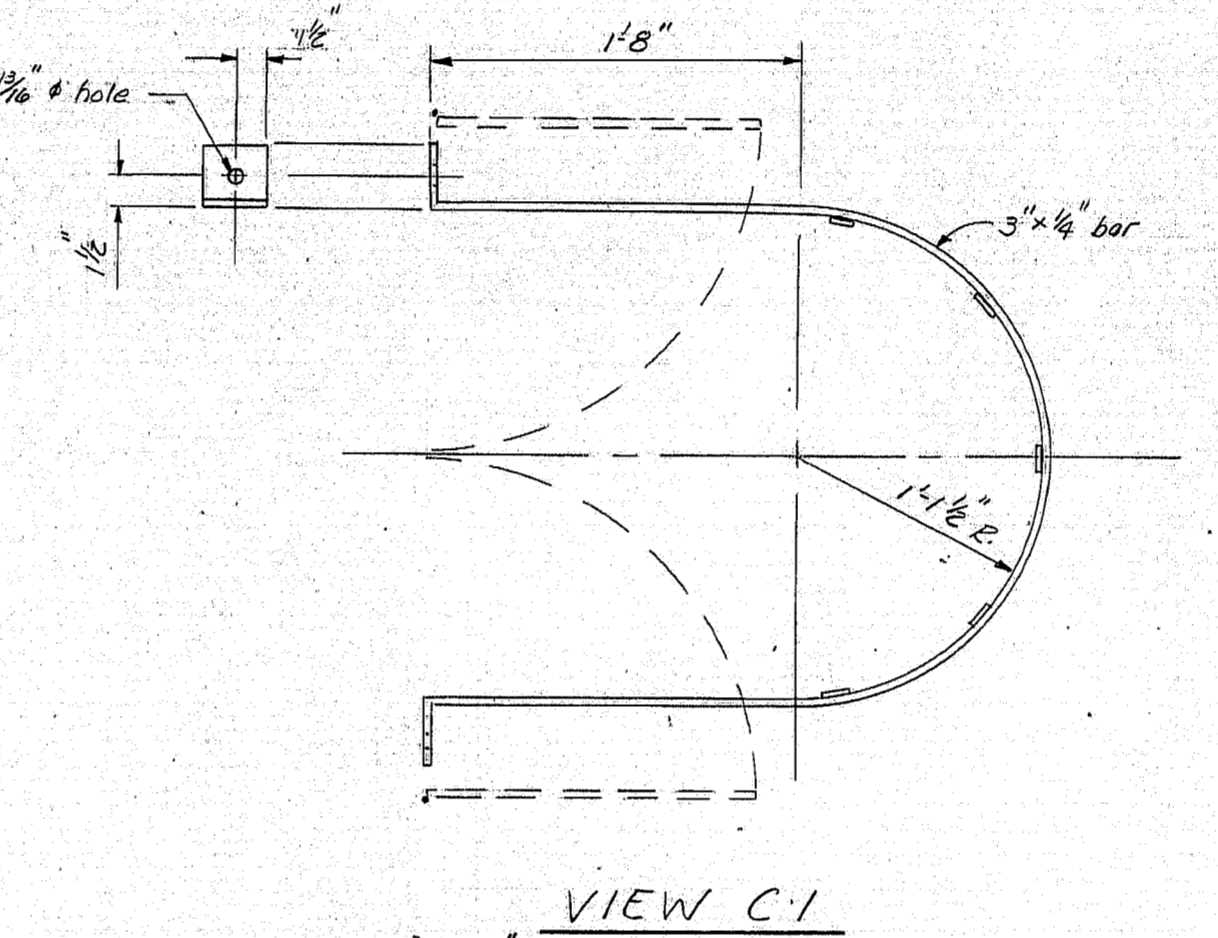
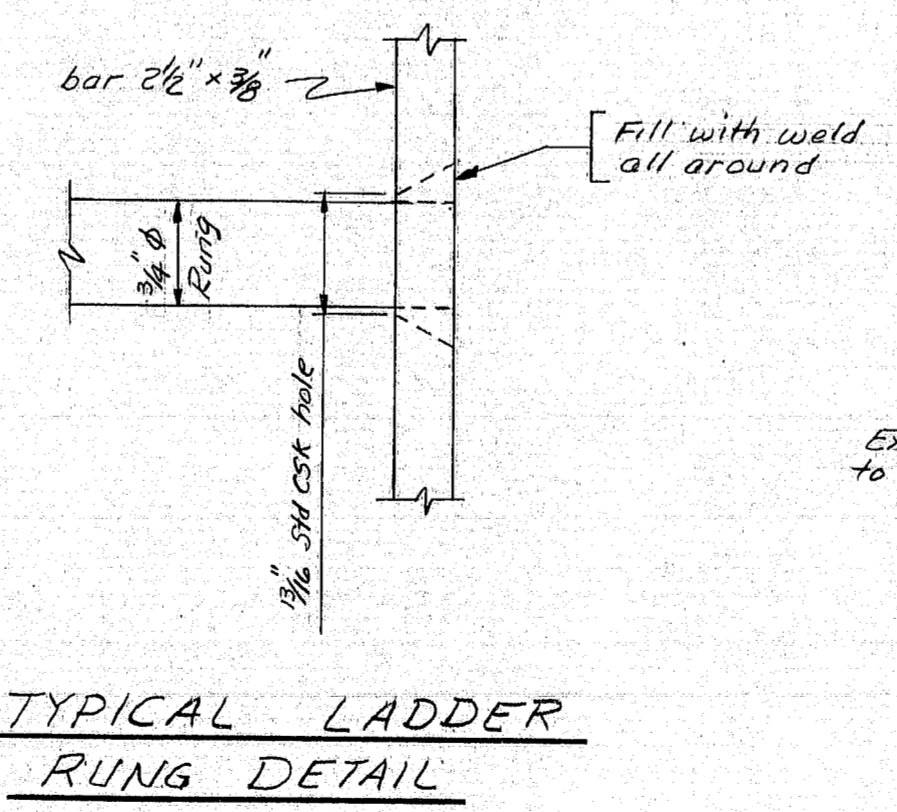
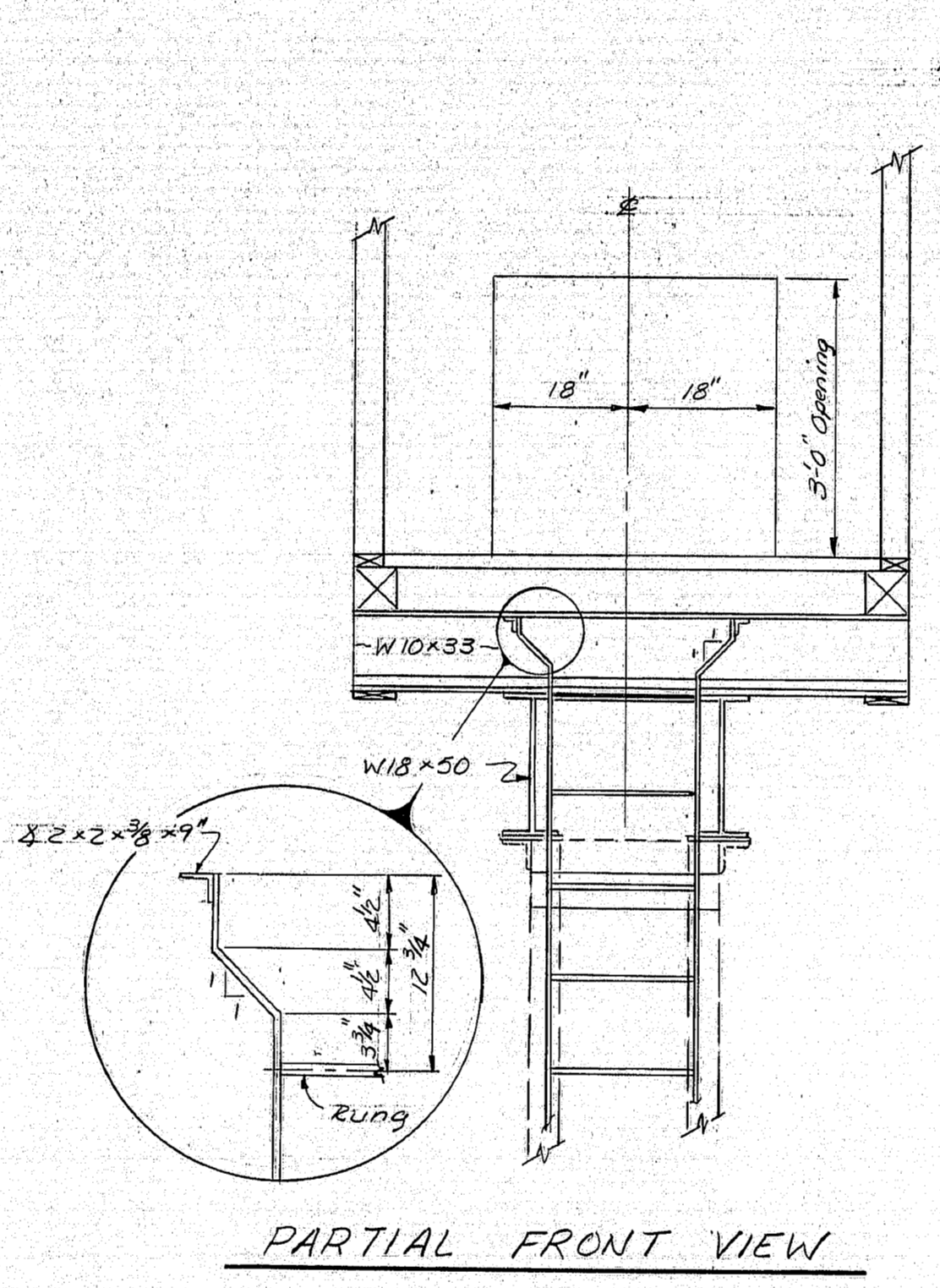
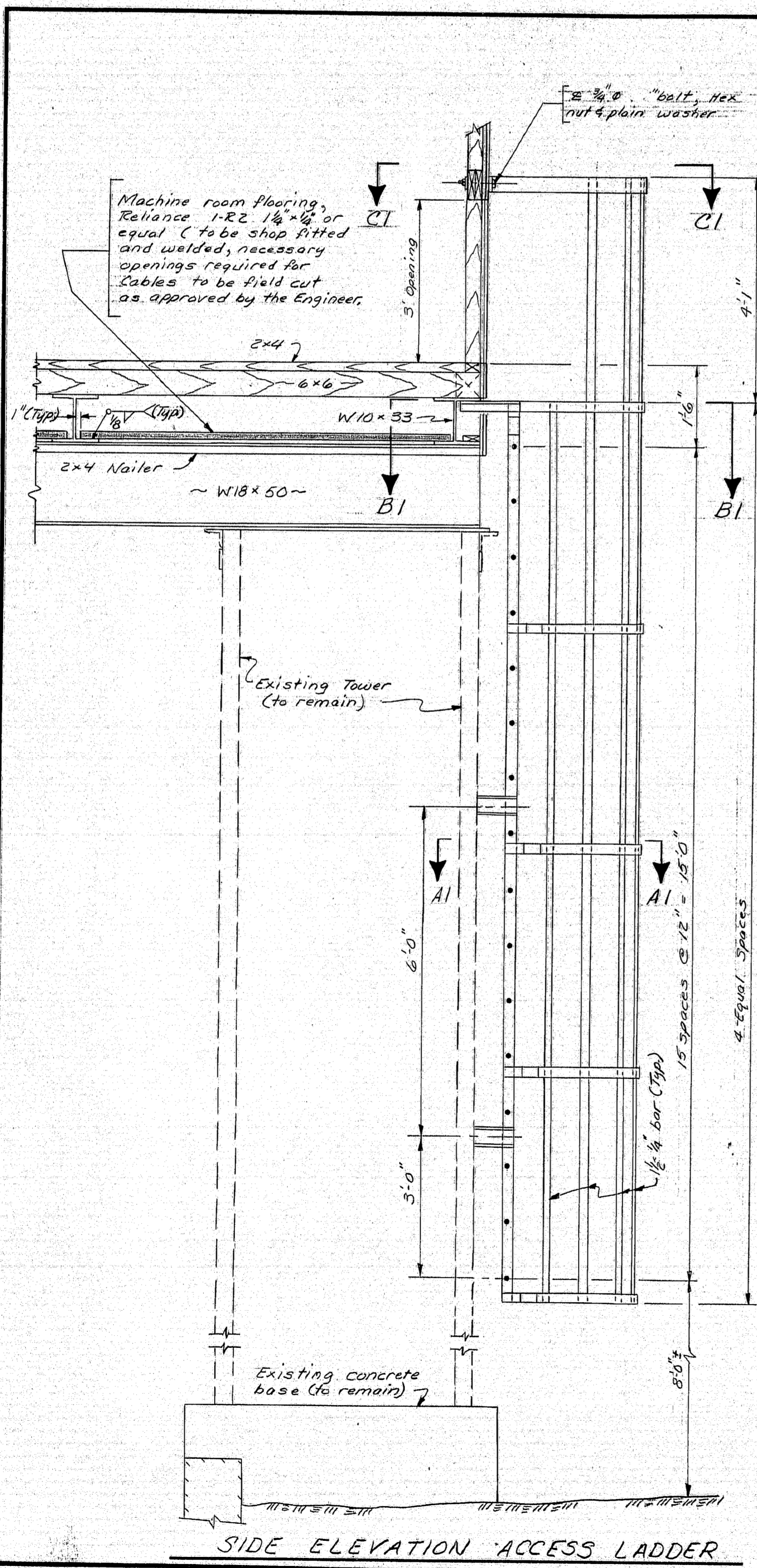
TOWER MODIFICATIONS

SHEET 13 OF 24 AUGUSTA, MAINE

97-126

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
MAINE	003002-00	14	24

PROJECT DESIGN ENGINEER	BY	DATE
PLANS	XX	5-97
DESIGN - DETAILED		
REVISIONS		
FIELD CHANGES		



MATERIALS
ASTM A36 (Painted)

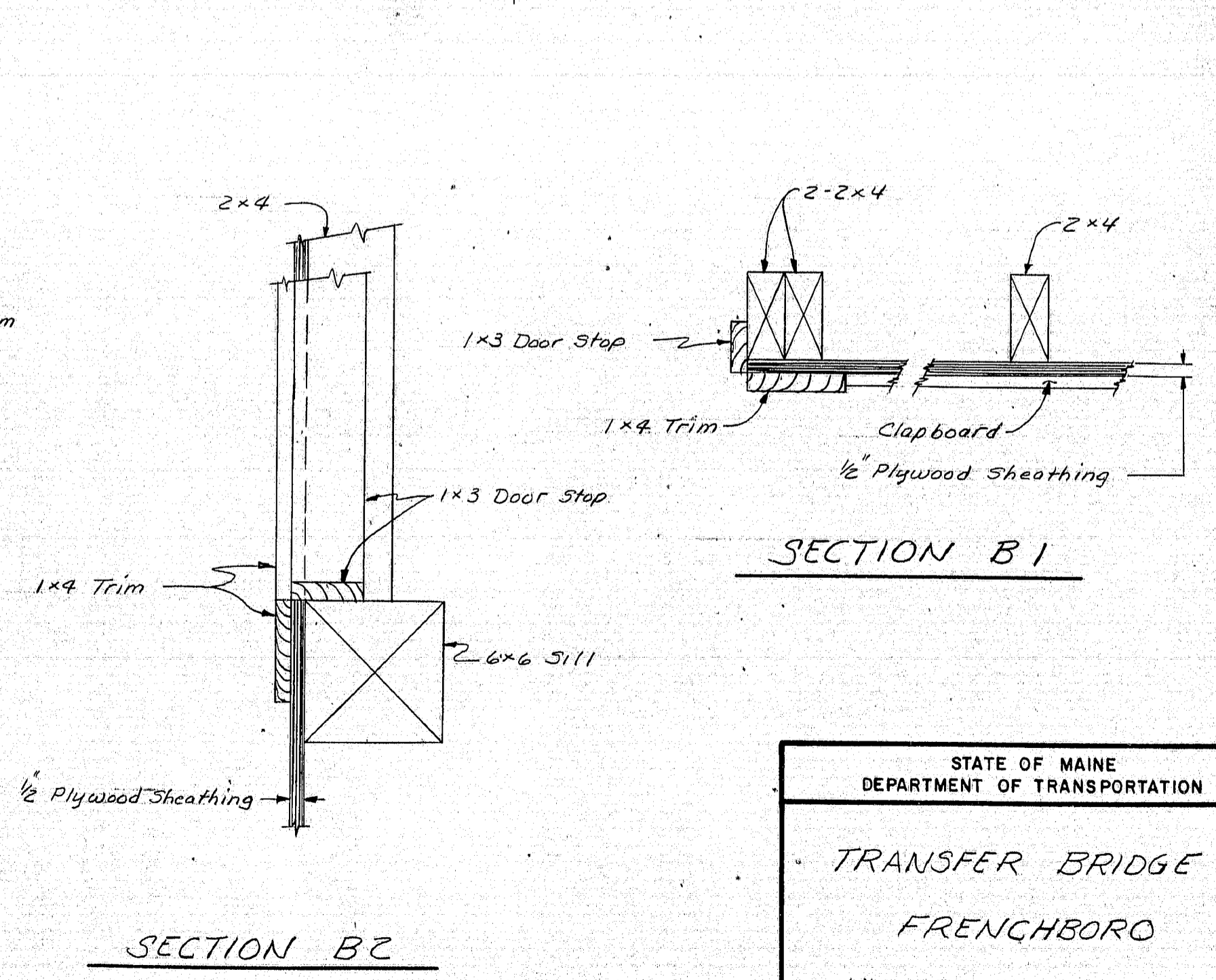
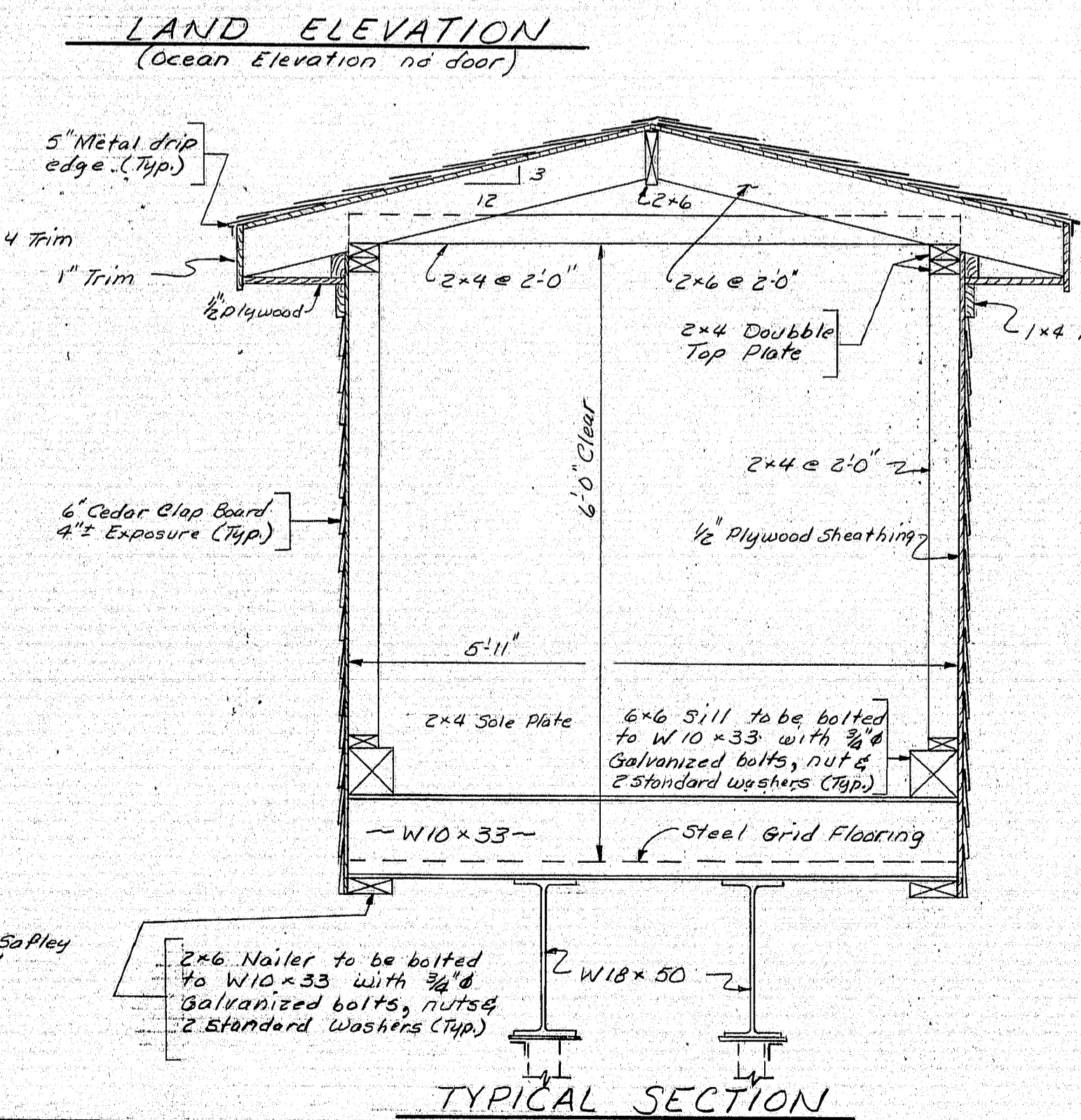
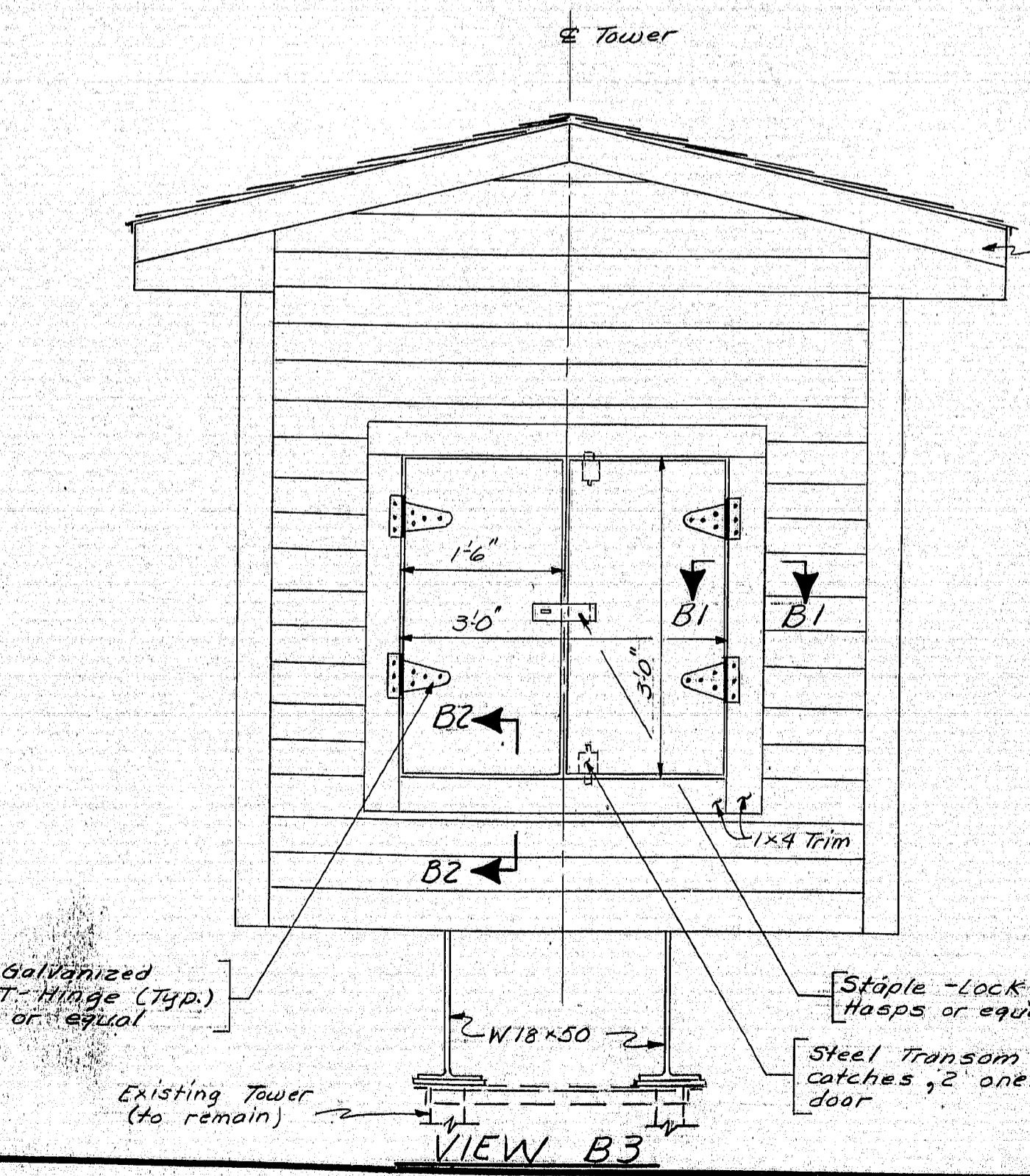
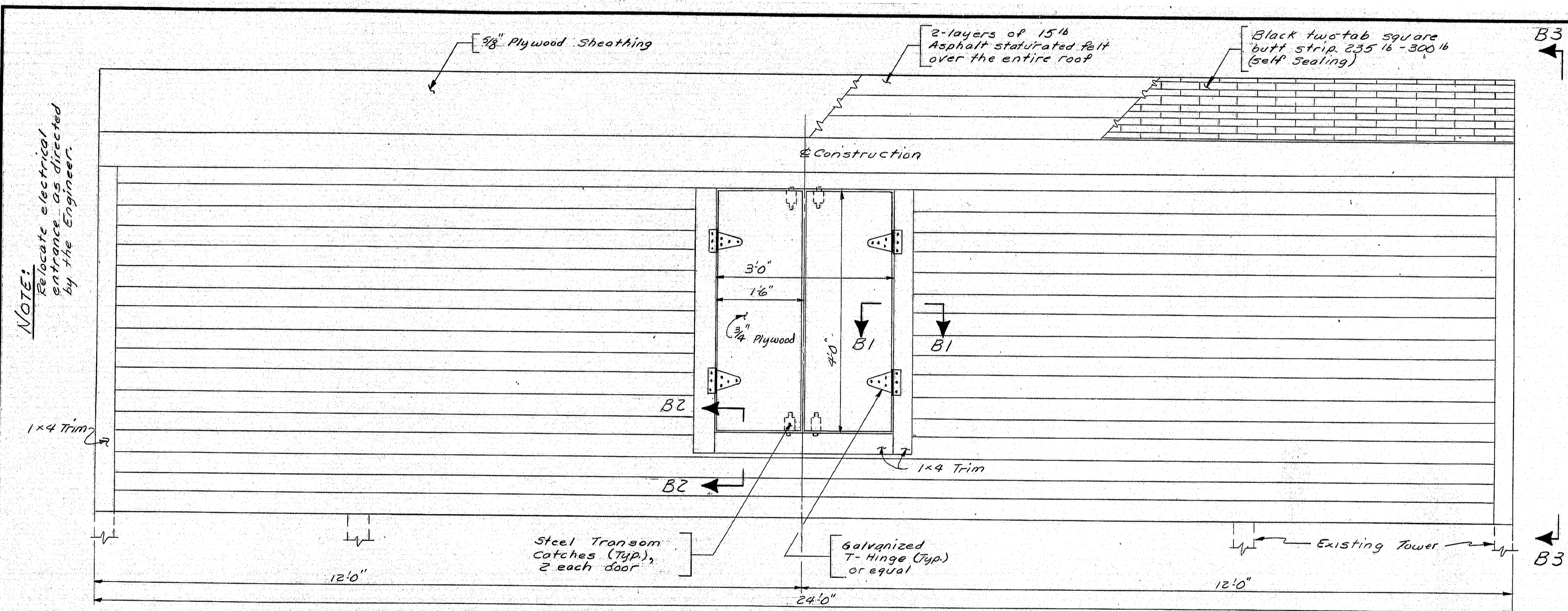
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

TRANSFER BRIDGE
FRENCHBORO
HANCOCK COUNTY
ACCESS LADDER

97-127

SHEET 14 OF 24 AUGUSTA, MAINE

F.R.M.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	003002-00	15	24



PROJECT DESIGN ENGINEER	BY	DATE
PLANS	BYC	3-37
CHECKS		
REVISIONS		
FIELD CHANGES		

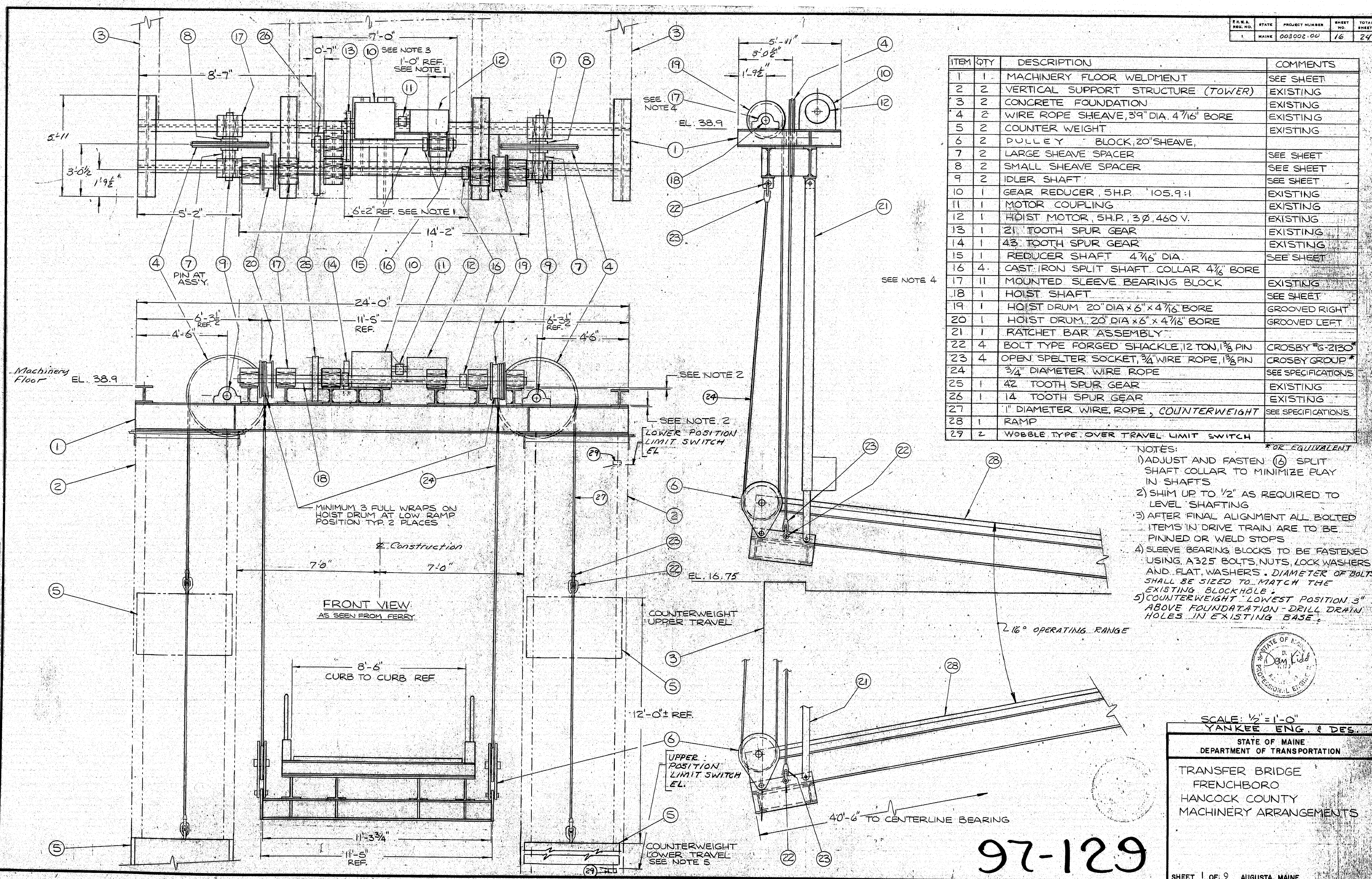
STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION

TRANSFER BRIDGE
 FRENCHBORO
 HANCOCK COUNTY
 MACHINERY HOUSE

SHEET 15 OF 24 AUGUSTA, MAINE

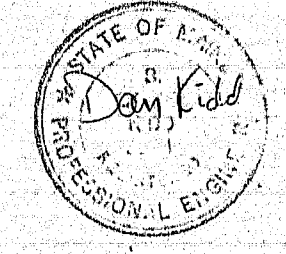
97-128

PROJECT ENGINEER	DATE
DESIGN - DETAILED	7/75
REVISIONS	
FIELD CHANGES	
PLANS	



ITEM	QTY	DESCRIPTION	COMMENTS
1	1	MACHINERY FLOOR WELDMENT	SEE SHEET
2	2	VERTICAL SUPPORT STRUCTURE (TOWER)	EXISTING
3	2	CONCRETE FOUNDATION	EXISTING
4	2	WIRE ROPE SHEAVE, 39" DIA. 4 7/16" BORE	EXISTING
5	2	COUNTER WEIGHT	EXISTING
6	2	PULLEY BLOCK, 20" SHEAVE,	
7	2	LARGE SHEAVE SPACER	SEE SHEET
8	2	SMALL SHEAVE SPACER	SEE SHEET
9	2	IDLER SHAFT	SEE SHEET
10	1	GEAR REDUCER, S.H.P. 105.9:1	EXISTING
11	1	MOTOR COUPLING	EXISTING
12	1	HOIST MOTOR, S.H.P., 3Ø, 460 V.	EXISTING
13	1	21 TOOTH SPUR GEAR	EXISTING
14	1	43 TOOTH SPUR GEAR	EXISTING
15	1	REDUCER SHAFT 4 7/16" DIA.	SEE SHEET
16	4	CAST IRON SPLIT SHAFT COLLAR 4 7/16" BORE	
17	11	MOUNTED SLEEVE BEARING BLOCK	EXISTING
18	1	HOIST SHAFT	SEE SHEET
19	1	HOIST DRUM 20" DIA x 6" x 4 7/16" BORE	GROOVED RIGHT
20	1	HOIST DRUM, 20" DIA x 6" x 4 7/16" BORE	GROOVED LEFT
21	1	RATCHET BAR ASSEMBLY	
22	4	BOLT TYPE FORGED SHACKLE 12 TON, 1 1/8" PIN	CROSBY "G-2130"
23	4	OPEN SPALTER SOCKET, 3/4" WIRE ROPE, 1 1/8" PIN	CROSBY GROUP
24		3/4" DIAMETER WIRE ROPE	SEE SPECIFICATIONS
25	1	42 TOOTH SPUR GEAR	EXISTING
26	1	14 TOOTH SPUR GEAR	EXISTING
27	1	1" DIAMETER WIRE ROPE, COUNTERWEIGHT	SEE SPECIFICATIONS
28	1	RAMP	
29	2	WOBBLE TYPE OVER TRAVEL LIMIT SWITCH	

NOTES:
 1) ADJUST AND FASTEN (2) SPLIT SHAFT COLLAR TO MINIMIZE PLAY IN SHAFTS
 2) SHIM UP TO 1/2" AS REQUIRED TO LEVEL SHAFTING
 3) AFTER FINAL ALIGNMENT ALL BOLTED ITEMS IN DRIVE TRAIN ARE TO BE PINNED OR WELD STOPS
 4) SLEEVE BEARING BLOCKS TO BE FASTENED USING A325 BOLTS, NUTS, LOCK WASHERS AND FLAT WASHERS. DIAMETER OF BOLTS SHALL BE SIZED TO MATCH THE EXISTING BLOCK HOLE
 5) COUNTERWEIGHT - LOWEST POSITION 3" ABOVE FOUNDATION - DRILL DRAIN HOLES IN EXISTING BASE.

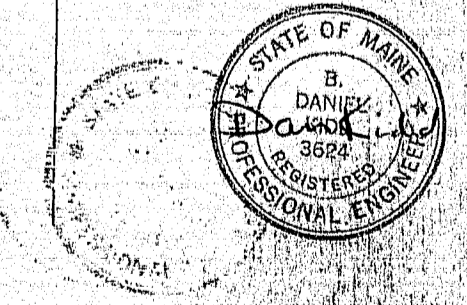
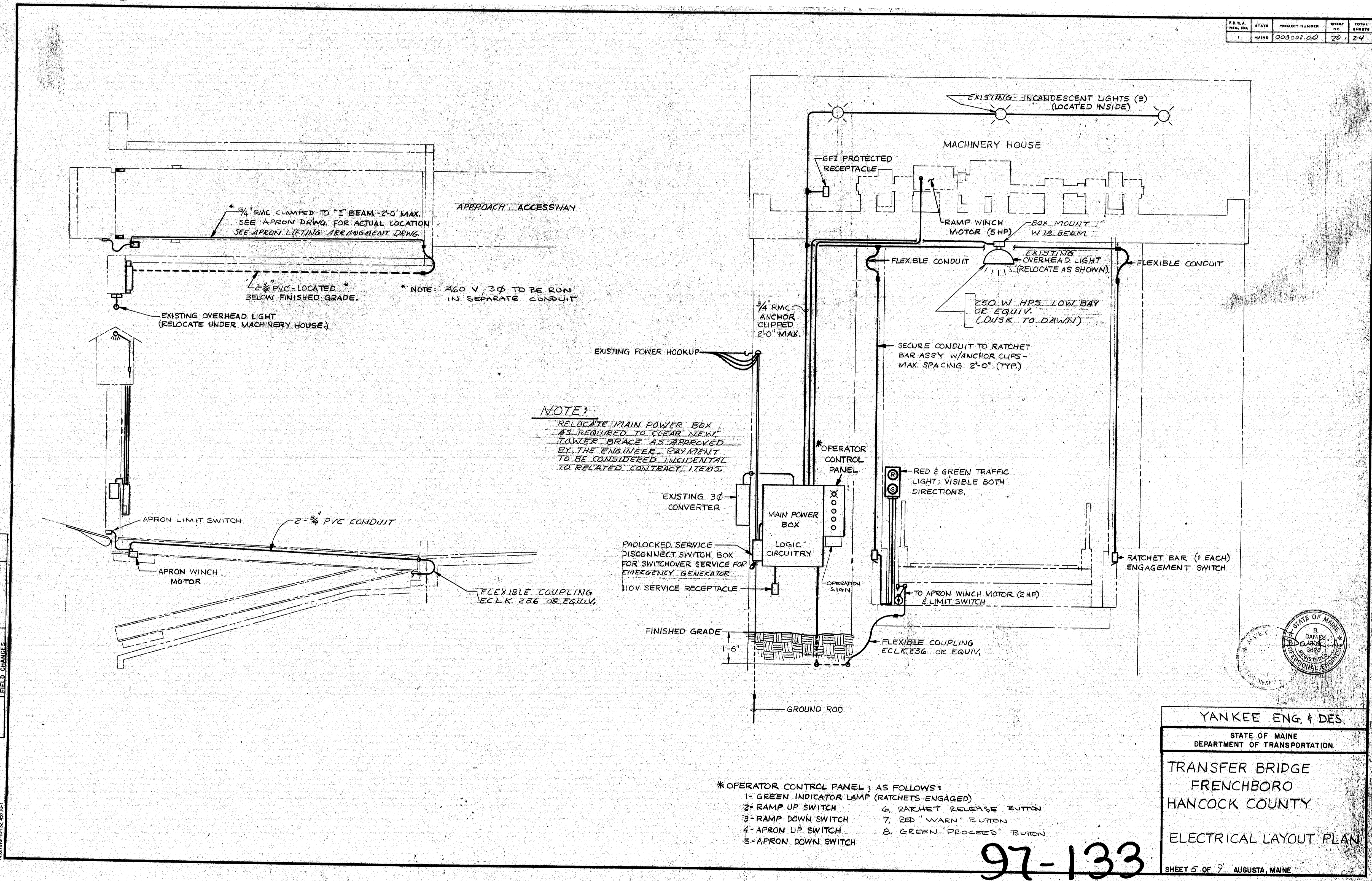


SCALE: 1/2" = 1'-0"
 YANKEE ENG. & DES.
 STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
 TRANSFER BRIDGE
 FRENCHBORO
 HANCOCK COUNTY
 MACHINERY ARRANGEMENTS

97-129

F.R.A. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	003002-00	20	24

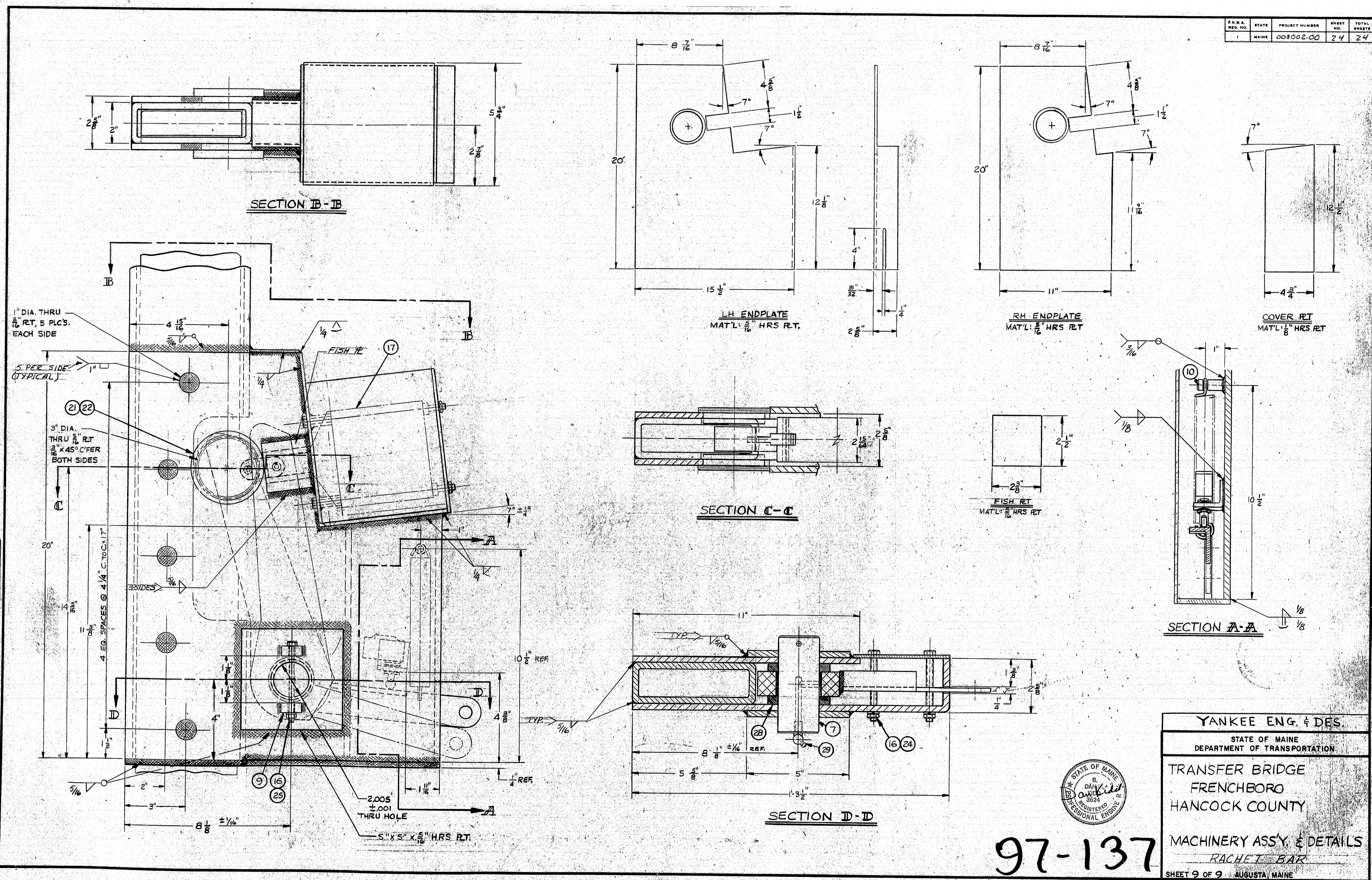
PROJECT NUMBER	BY	DATE
DESIGN - RETAINED	DVS	4/9/87
CHECKED		
REVISIONS		
FIELD CHANGES		
PLANS		



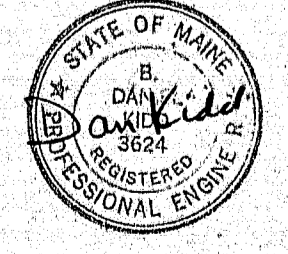
YANKEE ENG. & DES.
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
TRANSFER BRIDGE
FRENCHBORO
HANCOCK COUNTY
ELECTRICAL LAYOUT PLAN
SHEET 5 OF 9 AUGUSTA, MAINE

97-133

F.W.A. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	003002.00	24	24



PROJECT	REVISION	DATE
PLANS	CHECKED	11/15/48
	REVISIONS	
	FIELD CHANGES	



97-137

YANKEE ENG. & DES.
 STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
 TRANSFER BRIDGE
 FRENCHBORO
 HANCOCK COUNTY
 MACHINERY ASSY. & DETAILS
 RATCHET BAR
 SHEET 24 OF 24 AUGUSTA, MAINE