

**BILL OF HARDWARE**

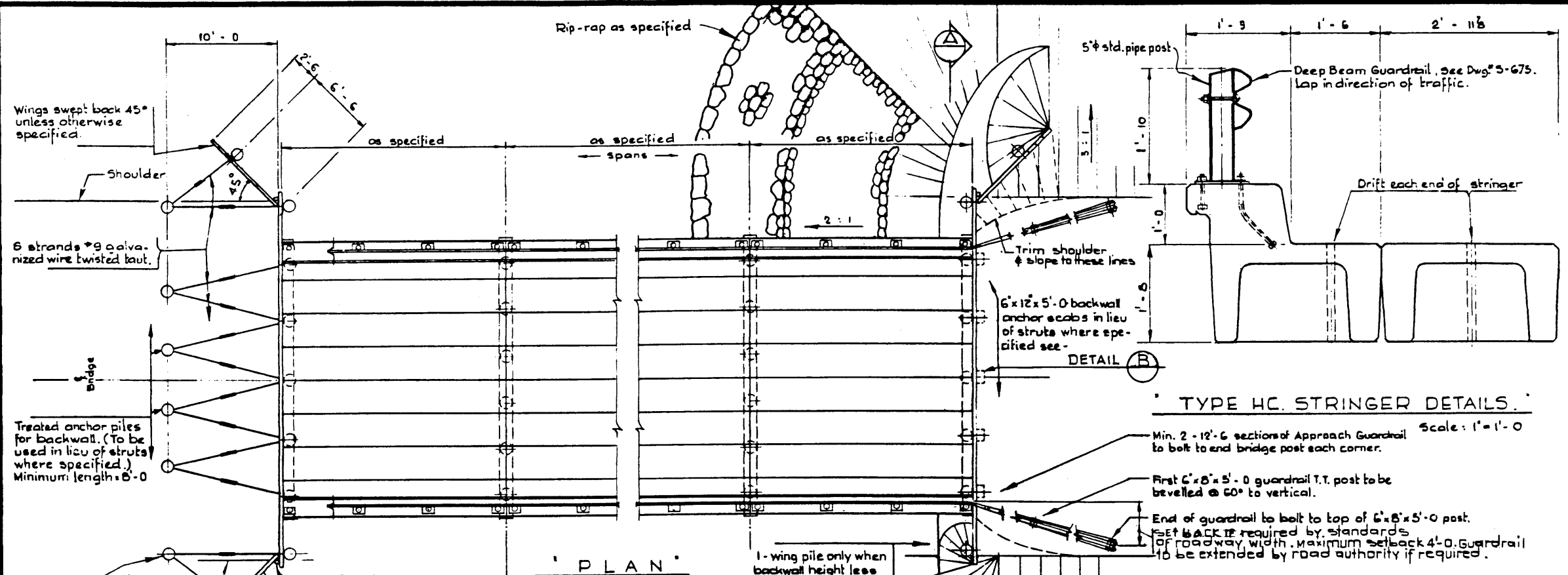
Mark	Size	Type	Washers	Placing & No. Required
1	3/4 x 22	Drifts		Caps & subcaps to piles
2	3/4 x 24	Headless Drifts		Stringer & curbs to caps 2 per stringer, 2 per curb
3	3/8 x 26	Machine Bolts	2 - 3/8 O.G.	Cap splice - 4 per splice
4	3/8 x 22			Double sway brace to cap
5	3/8 x 20			Single sway brace to cap
6	3/8 x 7	Flexbeam Bolts	1 - 3/8 Lock	Guardrail to Post
7	3/8 x 14			Guardrail splice - 6 per splice

**-GENERAL NOTES-**

- Pile splices to be driven a min. of 5'-0" below ground level.
- Piles to be driven to a min. of 20 tons bearing capacity.
- Wardened washers are to be placed between the stringer connectors to fill up any space. The 3/4" high tensile bolts are to be tightened to 300 Ft. lbs. torque.
- Connector holes, lifting hook pockets and dowel holes are to be filled with sand-cement grout except use hot-pour C150 asphalt in cold weather.
- For precast stringer units:
  - 20' MC: S-750 + S-751
  - 25' MC: S-751 + S-752
  - 33' MC: S-755 + S-755
  - 35' MC: S-756 + S-757
- For bridges with crown and for spans of 33' and 35' see Dwg. # S-862.
- For bridge fills see Dwg. # S-829.

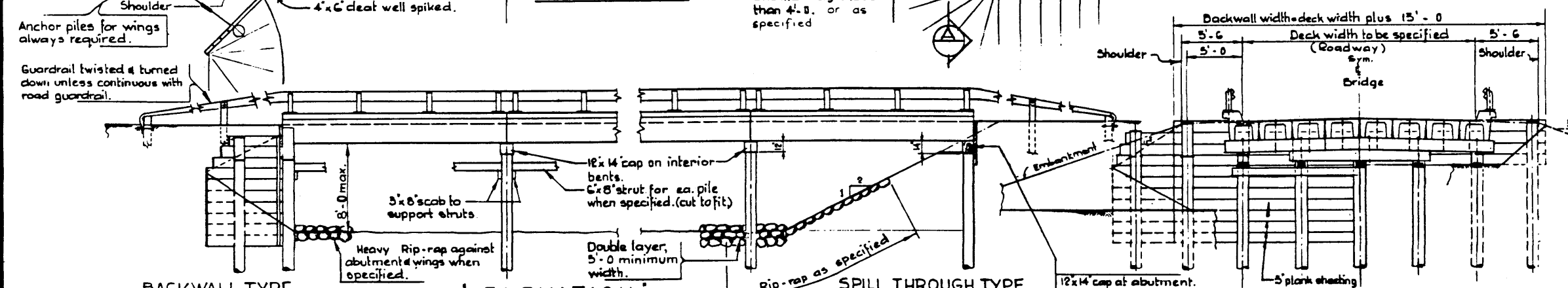
**TREATMENT OF TIMBER - IMPORTANT:**

- Pile tops under caps shall be coated with 3 applications of creosote oil and thoroughly covered with roofing pitch.
- Exposed pile tops shall be treated as in a.) and in addition shall be covered with 20 ga. galvanized sheet iron of a size 4" greater in diameter than the pile. Neatly trim iron, bend down and fasten to pile with galvanized roofing nails.
- Treated timber shall be carefully handled, so as to avoid breaking of outer fibers and bruising or penetrating the surface. Tools to be used only on ends of timber.
- All cuts and abrasions in treated timber shall, after careful trimming be coated with 2 applications of creosote and then be thoroughly covered with hot roofing pitch.
- Treated piles must not be dapped for sway bracing in the field.
- Bolt holes bored after treatment shall be carefully treated with creosote. Any unfilled holes shall be sealed with creosoted plugs.



**TYPE HC STRINGER DETAILS**

- Scale: 1" = 1'-0"
- Min. 2 - 12'-6" sections of Approach Guardrail Scale: 1" = 1'-0" to bolt to end bridge post each corner.
- First 6' x 8' x 5'-0" guardrail T.T. post to be bevelled @ 60° to vertical.
- End of guardrail to bolt to top of 6' x 8' x 5'-0" post.
- NET BACKUP required by standards of roadway width. Maximum setback 4'-0". Guardrail to be extended by road authority if required.



**BACKWALL TYPE ABUTMENT**

**ELEVATION**

**SPILL THROUGH TYPE ABUTMENT**

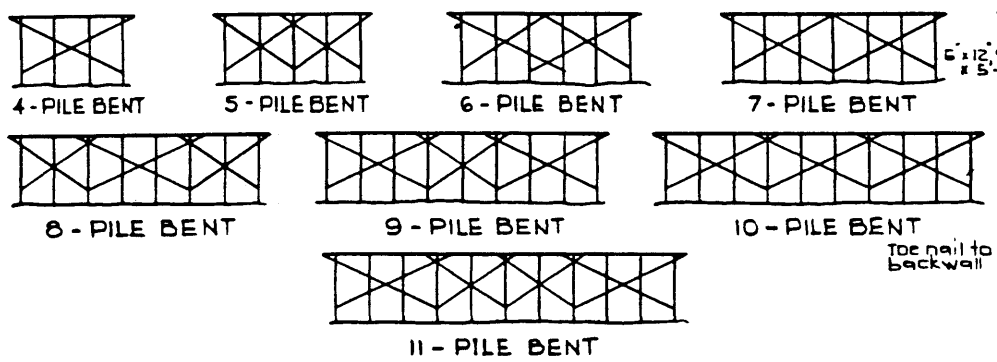
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**PILE SPACING**

(Spacing to be centre to centre)

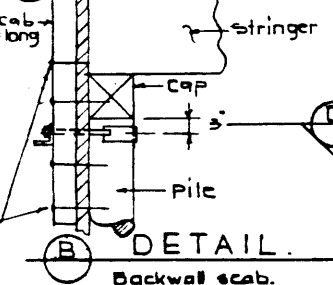
Clear Roadway	Slew	Cap length	20' Span Abutment		25' Span Abutment		20'-20' Span Pier		20'-25' Span Pier		25'-25' Span Pier	
			No. of Piles	Pile Sp.	No. of Piles	Pile Sp.	No. of Piles	Pile Sp.	No. of Piles	Pile Sp.	No. of Piles	Pile Sp.
21'	0°	24'	5	5'-3"	5	5'-3"	6	4'-2 3/4"	6	4'-2 3/4"	7	3'-6"
	15°	26'	6	5'-3 1/2"	5	5'-5 1/4"	6	4'-4 1/4"	6	4'-4 1/4"	7	3'-7 1/2"
	30°	29'	5	6'-0 1/2"	5	6'-8 1/4"	6	4'-10 1/4"	6	4'-10 1/4"	7	4'-0 1/2"
24'	0°	27'	5	6'-0"	6	4'-9 3/8"	6	4'-9 3/8"	7	4'-0"	8	3'-5 1/8"
	15°	28'	5	6'-2 1/2"	6	4'-11 1/8"	6	4'-11 1/8"	7	4'-1 1/8"	8	3'-6 1/8"
	30°	32'	5	6'-11 1/8"	6	5'-6 1/4"	6	5'-6 1/4"	7	4'-7 1/4"	8	3'-11 1/4"
27'	0°	30'	6	5'-4 1/2"	7	4'-6"	7	4'-6"	8	3'-10 1/2"	8	3'-10 1/2"
	15°	32'	6	5'-7 1/2"	7	4'-7 1/2"	7	4'-7 1/2"	8	3'-11 1/2"	8	3'-11 1/2"
	30°	36'	6	6'-2 1/2"	7	5'-2 1/2"	7	5'-2 1/2"	8	4'-5 1/4"	8	4'-5 1/4"
30'	0°	33'	6	6'-1"	7	5'-0"	8	4'-5 1/4"	8	4'-3 1/4"	9	3'-9"
	15°	35'	6	6'-2 1/2"	7	5'-2 1/2"	8	4'-5 1/4"	8	4'-5 1/4"	9	3'-10 1/4"
	30°	39'	6	6'-11 1/8"	7	5'-9 1/4"	8	4'-11 1/8"	8	4'-11 1/8"	9	4'-5 1/4"



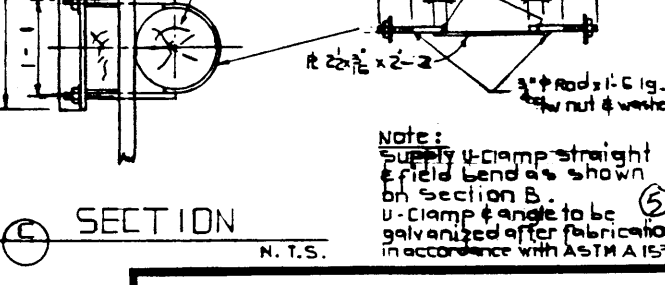
**SWAY BRACING LAYOUT**

Single storey bracing. Double storey bracing to be used when height is over 14'-0". All sway bracing 3" x 10" or 3" x 12" planks spiked and bolted to piles and cap.

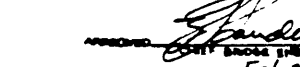
**DETAIL**



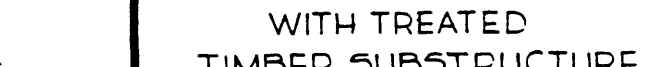
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**DETAIL**



**SECTION**



**STANDARD PRECAST BRIDGES WITH TREATED TIMBER SUBSTRUCTURE**

GOVERNMENT OF THE PROVINCE OF ALBERTA  
DEPARTMENT OF HIGHWAYS  
BRIDGE BRANCH, EDMONTON

FILE NO. \_\_\_\_\_ HWY. NO. \_\_\_\_\_  
SCALE 1/4" = 1'-0" DRAWN BY \_\_\_\_\_  
NO. \_\_\_\_\_ DATE \_\_\_\_\_ DESCRIPTION \_\_\_\_\_ BY \_\_\_\_\_  
REVISIONS \_\_\_\_\_  
STREAM \_\_\_\_\_ SHEET \_\_\_\_\_ OF \_\_\_\_\_

DESIGNED BY \_\_\_\_\_ DATE \_\_\_\_\_  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
DRAWN BY \_\_\_\_\_ DATE \_\_\_\_\_

*Handwritten signature and date: Feb 23, 1973*