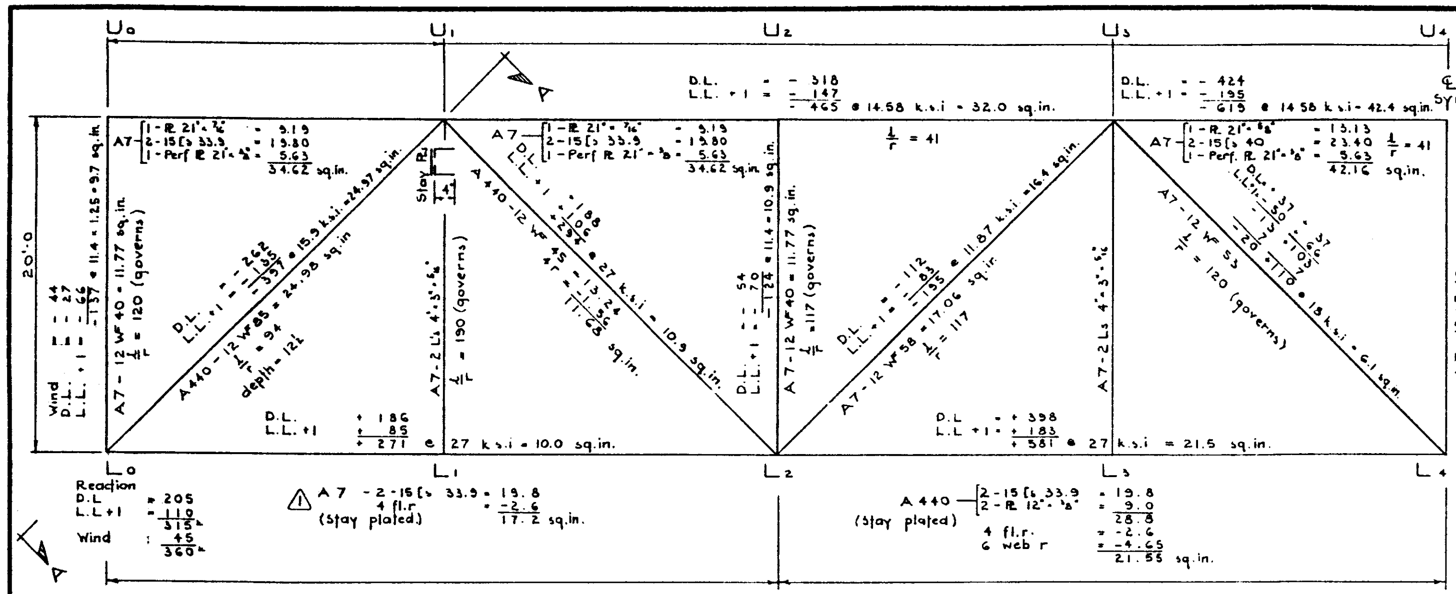
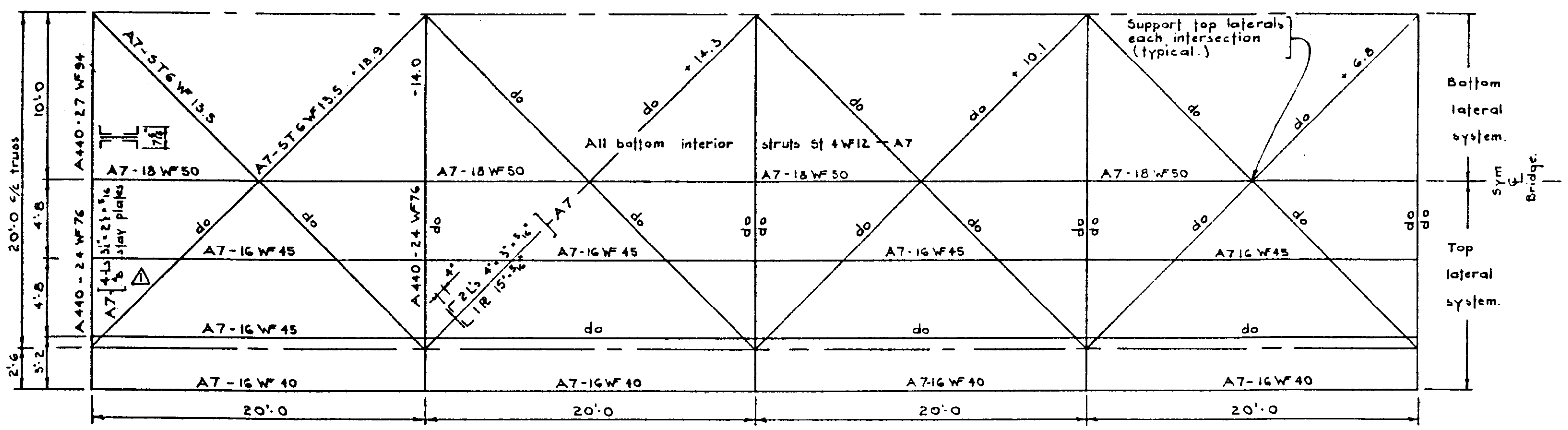


TRUSS DESIGN

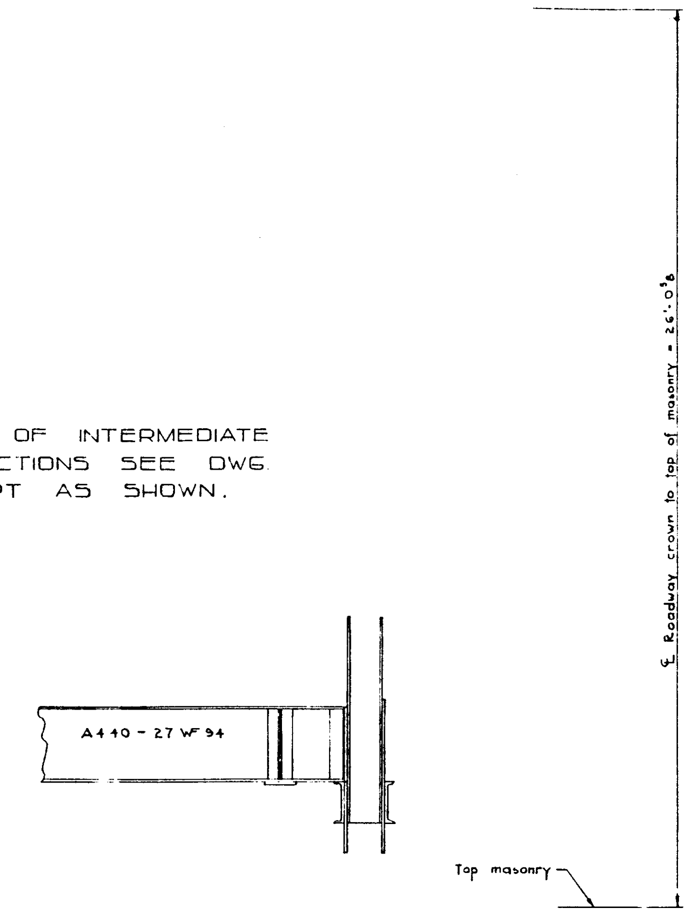
Scale: 3/16" = 1'-0



FLOOR SYSTEM AND TOP AND BOTTOM LATERALS

Scale: 3/16" = 1'-0

FOR DETAILS OF INTERMEDIATE AND END SECTIONS SEE DWG. S-729 EXCEPT AS SHOWN.



JACKING BEAM

Jacking load = 205
Moment - 205 × 2.5 = 520 FK
S req'd @ 19.2 - 1.5 = 219 cu.in.
A 440 - 27 WF 94 l/b = 26.6

END FLOOR BEAM

Shear D.L. = 14 k
L.L. + I = 54
68 k @ 15 k.s.i = 4.53 sq.in
Moment = 265 FK
By L.L. deflection use.
A 440 - 24 WF 76

INTERIOR FLOOR BEAM

Shear D.L. = 27 k
L.L. + I = 57
84 k @ 15 k.s.i. = 5.6 sq.in.
Moment D.L. = 26 FK
L.L. + I = 284
S req'd = 310 FK @ 27 k.s.i = 133. cu.in
Allowable L.L. deflection = 240/800 = 0.30 in.
A 440 - 24 WF 76 — web area = 10.5 sq.in.; section mod. = 175.4 cu.in.; L.L. defle = 0.304 in.

INTERIOR STRINGER

Shear D.L. = 4.6
L.L. + I = 23.0
27.6 k @ 11 k.s.i = 2.5 sq.in
Moment D.L. = 23.0
L.L. + I = 87.0
S req'd = 110.0 FK @ 18 k.s.i = 73.4 cu.in.
A7 - WF 45 — web area = 5.5 sq.in; section mod. = 72.4 cu.in

NOTE: Make centre stringer 18 WF 50 (flange hole for 3/4" ⌀ hanger bolt.)

EXTERIOR STRINGER

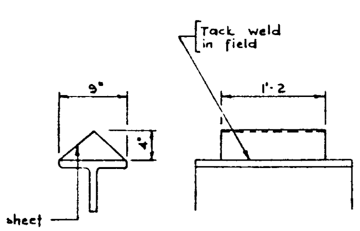
Shear D.L. = 2.3
L.L. + I = 23.0
25.3 @ 11 k.s.i. = 2.3 sq.in.
Moment D.L. = 11.3
L.L. + I = 87.0
S req'd = 98.3 @ 18 k.s.i. = 65.1 cu. in.
A7 - 16 WF 40 — web area = 4.9 sq.in.; section mod. = 64.4 cu.in.

BEARING

Reaction D.L. = 205
L.L. + I = 110
315 K
Bearing ℞ = 315 sq.in.
6" ⌀ rollers = 315/3.6 = 88 lin.in. req'd.
— A 373 & A7

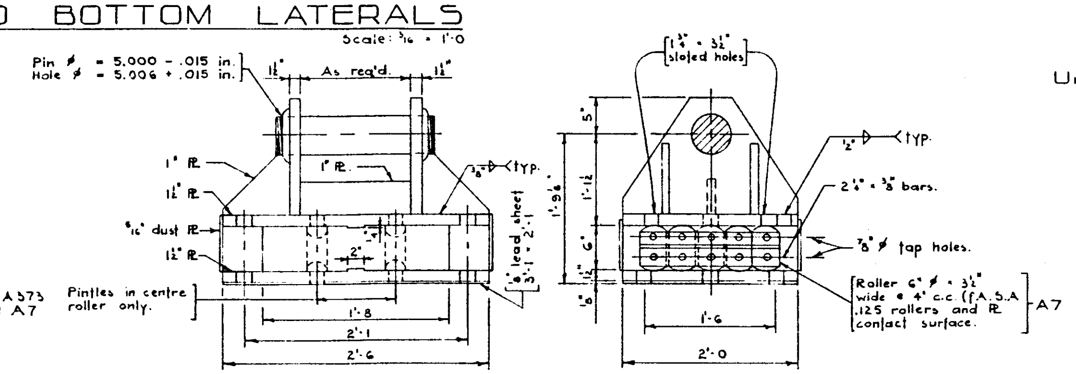
PIN BEARING

Bearing A req'd = 315/24 = 13.2 sq.in.
A supplied = 15.0 sq.in.
Shear A req'd = 315/(13.5×2) = 11.7 sq.in.
— A7



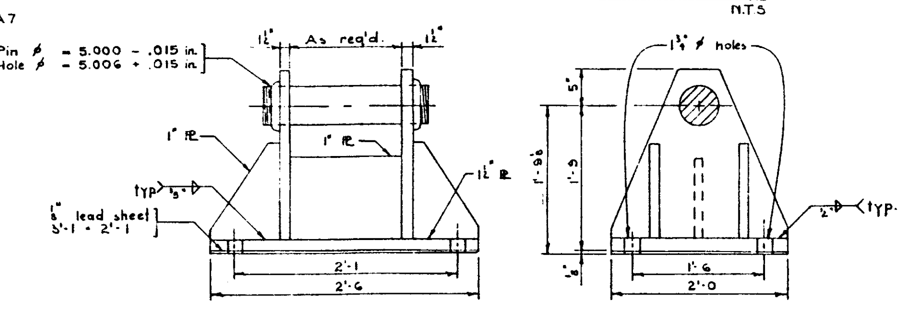
DEFLECTOR DETAIL

Scale: 1" = 1'-0



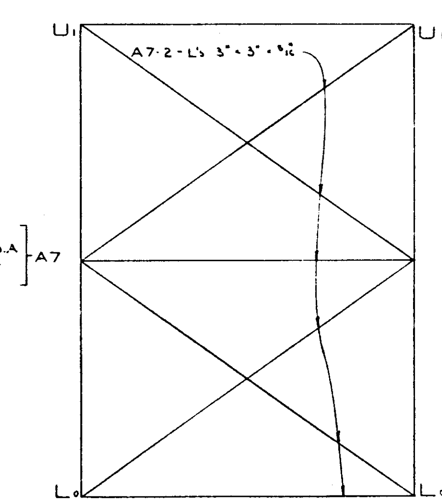
EXPANSION BEARING DETAILS

N.T.S.



FIXED BEARING DETAILS

N.T.S.



SECTION A-A

Scale: 3/16" = 1'-0

GENERAL NOTES

- Specification – A.A.S.H.O – 1957
- Live load – H 20 - S16 - 44
- Dead load – Asphalt and concrete 1,710
  Floor steel and connections 240
  Handrail 35
  Truss and bracing 575
  2,560 lbs./ft./truss.
- Wind load – 350 lbs/ft. for top chord.
  – 200 lbs./ft. for bottom chord.
- Structural steel – steel marked A7 shall conform to A.A.S.H.O - M94 - 57 I (A.S.T.M - A7 - 56 T.)
  Steel marked A440 shall conform to A.S.T.M - 440 but with allowable stresses as per A.A.S.H.O - M - 161 - 57 I (A.S.T.M - A - 242 - 55.)
- Connections:
  Shop all main components to have 7/8" ⌀ rivets; all bracing to have 3/4" rivets. } A7
  Field all main components to have 7/8" ⌀ high strength bolts. all bracing to have 3/4" ⌀ high strength bolts.
  Bolts, nuts and washers shall conform to A.S.T.M - A325 - 55 T.
- Gussets – 3/8" min. for main members.
  5/16" min. for bracing members only.
- Shop paint – all steel, except surfaces in contact with steel or concrete and machined surfaces to receive one coat red lead, iron oxide, oil alkyd type paint conforming to the requirements of the Canadian Government Specifications Board: Spec. 1-GP-140A.
- Camber – camber for full D.L. + ½ L.L.
- Bearings – welded using the metal arc process.
  Steel shall conform to A.A.S.H.O - M165 - 57 I (A.S.T.M. - A373 - 56T) where welding req'd.
- Steel in pins and rollers shall conform to A.A.S.H.O - M102 - 57 - I (A.S.T.M - A235 - 55) (Class C.I.)

NO.	DATE	DESCRIPTION	BY
4			
3			
2			
1	25 Nov. 1960	Change to stay plates "A7" for "A440"	H.H.H

REVISIONS

160' DECK TRUSS
STRESSES – SECTIONS – DETAILS
(A–440 AND A–7 STEEL)

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

FILE NO. ____ HWY. NO. Shown. ____
LOCATION ____ SCALE ____
STREAM ____ SHEET ____ OF ____

DWG. NO. S-731

DESIGNED BY Henry H. Hendrickson DATE 5 September 19 60
DETAILED BY Bogdan W. Gawicki DATE 3 October 19 60
CHECKED BY [signature] DATE October 12 19 60