

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS

Cape Cod Canal
Massachusetts

**BOURNE
HIGHWAY BRIDGE**

1976 Condition Report

CONTRACT NO. DACW 33-76-C-0005

AMMANN & WHITNEY
CONSULTING ENGINEERS
TWO WORLD TRADE CENTER
NEW YORK, N.Y.

NOVEMBER, 1976

BOURNE HIGHWAY BRIDGE
1976 CONDITION REPORT

Table of Contents

	<u>Page</u>
I. INTRODUCTION	1
II. IN-DEPTH FIELD INSPECTION	3
A. Inspection Procedures	3
B. Inspection Items	4
C. Data Obtained	7
III. STRESS ANALYSIS	13
A. Loadings	13
B. Computer Analysis and Design	13
IV. CONDITION EVALUATION	43
A. Steel Superstructure	43
B. Deck Slab	43
C. Bearings and Expansion Joints	45
D. Current Maintenance Procedures and Possible Improvement	46
E. Evaluation of the Paint System	48
V. REMEDIAL WORK	49
A. Required Remedial Work	49
B. Cost Estimates	54
VI. SUMMARY AND CONCLUSIONS	108

APPENDICES

I. Detailed Results of Field Inspection	I-1
II. Portland Cement Association's Report on Concrete Core Tests	II-1
III. Field Inspection Sketches (2 books, bound separately)	
IV. Field Inspection Photographs (2 books, bound separately)	
V. Computer Output (bound separately)	
VI. Computations (bound separately)	

FIGURES

Partners
MILTON BRUMER
EDWARD COHEN

EDWARD LAING
ALLEN CUSTEN
JACOB ELDAR
GEORGE GROSS

AMMANN & WHITNEY
CONSULTING ENGINEERS

TWO WORLD TRADE CENTER, NEW YORK, N. Y. 10048

(212) 938-8200

CABLE: AMMWHIT N.Y.
TELEX: 12-7978

DESIGN
AND
SUPERVISION
OF CONSTRUCTION
OF
BRIDGES
HIGHWAYS
AIRPORTS
BUILDINGS

November 12, 1976

Department of the Army
New England Division
Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

Attn: Mr. John W. Leslie
Chief, Engineering Division

Re: Contract No. DACW 33-76-C-0005
Inspection of Bourne Highway Bridge
Cape Code Canal, Massachusetts

Gentlemen:

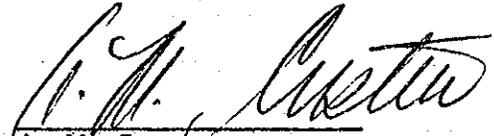
We are transmitting herewith, by messenger, the results of our inspection and evaluation of the subject structure as noted below:

"Bourne Highway Bridge, 1976 Condition Report"	- 10 copies
Field Inspection Sketches (bound separately)	- 4 copies
Field Inspection Photographs (bound separately)	- 4 copies
Computer Output (bound separately)	- 2 copies
Computations (bound separately)	- 2 copies

We appreciate having had the opportunity to work on this project and wish to acknowledge the cooperation and aid received from Corps of Engineers personnel, in particular, Mr. D. Levin and Mr. R. Harrington.

Very truly yours,

AMMANN & WHITNEY


A. M. Custen

FKC:mrm

BOURNE HIGHWAY BRIDGE

List of Figures

Figure No.

1. Location Map
2. Key Plan
3. Deck Sections
4. Deck Details
5. Trusses and Bracing - Spans 1, 2 and 3
6. Stress Sheet - Spans 1, 2 and 3
7. Trusses and Bracing - Span 4
8. Trusses and Bracing - Span 5
9. Trusses and Bracing - Span 6
10. Trusses and Bracing - Span 7
11. Mathematical Model - Main Span
12. Deck Deterioration
13. Core Locations
14. Bearing Positions
15. Stringer Repair
16. Sidewalk Channel Support and Repair
17. Anchor Bolt Repair
18. Top Lateral Bracing Repair
19. Bottom Lateral Bracing Repair
20. Expansion Joint Studies - 1
21. Expansion Joint Studies - 2

I. INTRODUCTION

The Bourne Highway Bridge which crosses the Cape Cod Canal in Southeast Massachusetts was constructed by the United States Government and opened to traffic in 1935. This bridge and the Sagamore Highway Bridge to the east are the only two highway bridges connecting Cape Cod with the mainland (see Figure 1). The average daily traffic for the Bourne Bridge in 1974 was 21,000 vehicles with peak traffic of 41,000 and 40,000 vehicles per day crossing in July and August, respectively.

The Bourne Bridge consists of a three-span continuous truss main span with four approach spans. The three-span continuous main span is composed of a 616-foot center span flanked on each side by a 396-foot span. The span lengths of the approach trusses vary from 208 feet to 270 feet (see Figure 2). The bridge has a 40-foot roadway with a 6-foot 8-inch sidewalk running full length on the west side (see Figures 3 to 10 inclusive for details).

To insure continuous safe functioning of the bridge, the New England Division (NED) of the Corps of Engineers inspects the bridge routinely, at regular intervals. The most recent inspections were made in 1971 and 1974 (see the 1971 Fay, Spofford and Thorndike, and 1974 NED Condition Reports).

On August 4, 1975, the NED of the Corps of Engineers contracted with Ammann & Whitney for performance of an in-depth inspection, evaluation and condition report of the Bourne Bridge. The scope of this work consisted of a detailed field inspection, complete stress analysis, condition evaluation, list of required repairs, conceptual remedial measures, special studies (such as maintenance procedures, paint system, etc.), cost estimates and a final report.

Ammann & Whitney initiated the field inspection on August 11, 1975. Because of severe winter weather, field work was discontinued on December 12, 1975. The field work was resumed on May 3, 1976 and was completed on June 26, 1976.

The theoretical stress analysis includes a computer analysis of the main span with a mathematical model of 194 joints and 548 members. The structure was evaluated by using current design criteria and loadings, taking into account all effects the physical defects discovered during the inspection have on the bridge components.

The results of the in-depth field inspection, stress analysis, condition evaluation, list of required repairs, conceptual remedial measures, cost estimates and special studies are

summarized in this report. The detailed results of the field inspection and the Portland Cement Association's report on the concrete core tests are included in this report as Appendices I and II, respectively. The field inspection sketches with field notes (Appendix III), field inspection photographs (Appendix IV), computer output (Appendix V) and computations (Appendix VI) are bound under separate covers.

II. IN-DEPTH FIELD INSPECTION

A. Inspection Procedures

The inspection of the Bourne Highway Bridge was performed with three teams, each team consisting of one Ammann & Whitney inspector and one rigger-painter from the firm of J.I. Hass, with one foreman supervising the activities of the rigger-painters of all three teams.

The bridge was rigged by J.I. Hass prior to the start of inspection. The rigging for the main span consisted of longitudinal cables running under the deck. Two scaffolds were used, one on the east half and one on the west half of the bridge. The inspection of the sidewalk, deck, stringers, floor beams and panel points was performed from the scaffolds; and as the inspection progressed, the scaffolds were moved along the cables for the full length of the bay being inspected. For the approach spans, the longitudinal cables running under the main span deck were continued for the full length of the bridge to permit inspection of the upper chords of the approach spans.

To permit lower chord inspection, two additional scaffolds were used on a set of cables running along the lower chord of the approach spans and main side spans so that the lower lateral bracing and lower chord and panel points could be inspected.

The inspection started at the south end of the south approach and proceeded northward.

The inspection of the approach spans on both the north and south ends was performed by two teams - one inspecting the east side and the other moving along the west side, inspecting the top chord, upper panel points, floor beams, stringers, upper lateral bracing system and underside of deck. The third team worked along the lower chord and panel points. Periodically, the teams changed positions, moving from upper to lower chords. On rainy or extremely windy days, the inspection was confined to the underside of the deck, working from the scaffolds with the lower chord team moving ahead of the other, inspecting the upper lateral bracing, catwalk, and the portion of the underside of the deck which was visible from the catwalk.

The arch (main) span was inspected by having one team under the roadway slab performing the underdeck inspection while the other two teams moved along the arch above the deck, one team working the west half and the other team, the east half.

The inspection of the bearings was performed during the Corps of Engineers' annual maintenance, at which time, the bearings were opened, cleaned and greased.

The equipment used by each inspection team included a chipping hammer, scraper, 6-foot rules, 6-inch scale and 1-inch micrometer. Two 35-mm cameras were used by the three teams to record the condition of the various members. The crew from J.I. Hass assisted the Ammann & Whitney inspectors in chipping and scraping corroded areas as well as in obtaining access to all portions of the structure in the easiest and safest way.

At the end of the inspection, certain badly corroded areas were sandblasted and re-inspected to determine the extent of corrosion.

B. Inspection Items

To facilitate inspection, standard field inspection sketches were prepared in the office in advance so that the inspectors could mark their comments thereon with minimal effort.

These sketches, which were based on the bridge contractor's original detailed shop drawings, cover all components of the bridge and are divided into the following nine types:

<u>Sketch Type</u>	<u>Description</u>	<u>Comment</u>
A	Truss	
B	Floor Beam and Stringer	
C	Deck, Sidewalk and Walkway	
D	Top Lateral Bracing	
E	Bottom Lateral Bracing	
F	Sway Bracing	
G	Wind Chord and Bracing	For main span only
H	Bearings	
I	On-Deck Inspection	

The following items were inspected:

1. Steel Work

a. Member misalignment (report misalignment and size).

b. All members, including inside and outside of laced box members - main material, stay plates, lacing, gussets, rivets, bolts, diaphragms.

(1) Damages, kinks, bows, loss of section, loose rivets, missing rivets (report location, extent and size).

(2) Cracks, checks, fractures, deformations (slippage) of multi-plate sections (report location, extent and size) (sandblast, if required).

(3) Corrosion (report degree of corrosion by notations):

C1 means under 1/32"

C2 means 1/32" to 1/16"

C3 means 1/16" to 1/8"

C4 means 1/8" and over

For rivet heads:

R1 means under 25%

R2 means 25-50%

R3 means 50-75%

R4 means 75-100%

R5 means loose

R6 means missing

For extent of corrosion:

E1 means less than 25%

E2 means 25-50%

E3 means 50-75%

E4 means 75-100%

c. Paint condition (report poor condition only).

2. Concrete Work

a. Cracking:

Degree	Hair line	D1
	1/16"-1/8"	D2
	1/8"-1/4"	D3
	1/4" and over	D4

(Report location, extent and degree)
Sketch direction of crack.

b. Leaching, water leaking.

(Report location and extent.)

c. Spalling, scaling.

(Report location, extent and thickness.)

d. Deterioration of reinforcement.

(Report location, extent and degree.)

3. Miscellaneous Inspections

Bearing inspections

Expansion Joint Inspections

On-Deck Inspections (with concrete coring)

4. Field Inspection Photographs

All field inspection photographs have been numbered in such a manner that they can be easily identified.

Example: A,B3,1-0,S,2

A - Sketch type that photo refers to,
can be from A to I.

B3 - Indicates at what bridge (S for Sagamore,
B for Bourne) photo was taken and in which
span. In this case, photo was taken in
Span No. 3 of Bourne Bridge.

1-0 - Indicates in what bay within the span the
photo was taken.

S - Direction you are looking as you view the
photo. (N - north, S - south, E - east,
W - west).

2 - Number of photo taken with the bay.

C. Data Obtained

The detailed results of the field inspection are given in the Field Inspection Sketches (Appendix III), Field Inspection Photographs (Appendix IV) and Detailed Results of Field Inspection (Appendix I). The general data obtained is described below:

1. Superstructure:

The most noticeable defect observed on the Bourne Bridge was the deterioration of the painting system. In all spans, paint blisters were common, with surface rusting and pitting underneath and, in many instances, trapped water.

Proper cleaning and painting are required to stop this condition.

In Span B1, the majority of the deterioration occurred near the center of the arch. The lacing of U15E-U16E was badly corroded as can be seen in Photo A,B1,15-16,DWN,1. The lacing of U13'E-U12'E was also badly corroded, as can be seen in Photo A,B1,13'-12',N,1.

In general, it was found that the members with the greatest amount of corrosion were located on the east side of the bridge.

The floor beams were in good condition, except at the expansion joints, where water leaking through the roadway joints caused considerable deterioration. The haunch at Panel Point 8 of Span B5 was heavily spalled with exposed rebars as shown in Photo B,B5,7-8,S,8. The floor beam stiffeners at this point were also corroded and knife-edged as can be seen in Photo B,B5,7-8,5,9A. The installation of a watertight roadway joint in lieu of the current expansion joint could prevent such damage and cut down on repairs.

The stringers, except for those in Span B4, were in good condition. Deterioration of the stringers was confined to the outside Stringers ST-1 and ST-9, usually at the floor beam connection. In Bay 3-4 of Span B4, Stringer ST-9 exhibited substantial metal loss as can be seen in Photo B-B4,3-4,E,4.

The same type of corrosion occurred to ST-9 in Bay 5-6 as can be seen in Photo B,B4,5-6,E,4 and ST-9 in Bay 7-8 as can be seen in Photo B,B4,7-8,E,9. Repair of these

stringers should have a high priority since the continuation of such deterioration could result in an unsafe condition in the future.

The sidewalk members were usually in good condition, except at manholes, where considerable corrosion was found. The sidewalk channel-supporting brackets were found to be severely corroded at Panel Point 10'. On both the east and west sides, the brackets were completely deteriorated along the column edge and, as a result of this, both brackets tend to bend inward as can be seen in Photo B,B1,11'-10',N,2. These areas require repair with Priority 1.

The upper lateral bracing gussets and angles together with the lower lateral bracing system were probably the members with the greatest amount of deterioration. Many upper lateral gusset plates are knife-edged as can be seen in Photo D,B7,4-5,S,1 and, in some cases, completely deteriorated as can be seen in Photo D,B2,5'-4',E,1. Both upper and lower bracing angles were severely deteriorated between the back-to-back legs which tended to push the legs apart, as can be seen in upper bracing Photo D,B4,6-7,W,3. In other cases, the result of the corrosion was complete deterioration to the edge of the horizontal leg, as can be seen in Photo E,B4,6-7,N,1 showing lower bracing.

In addition, the upper angles tended to sag due to their own weight or high compressive forces. The angles were frequently found resting on the walkway railing and vibrated whenever heavy traffic passed overhead.

In general, the lateral bracing system is in need of extensive remedial work.

Other areas in need of remedial work are the windchord struts at Panel Points 10 and 10'. These struts have heavily deteriorated lacing and rivets, which resulted from drainage water leaking through the expansion joints at these points.

It was decided before the inspection to select certain areas on the bridge and have them sandblasted and re-inspected upon completion of the original inspection.

The selected points were the result of conditions observed at these points during the field inspection and deemed to warrant closer inspection.

At the Bourne Bridge, the locations selected were:

- a. Northeast side of Panel Point 10 which included windchord to floor beam gusset - top plate, top surface; north face of floor beam; east end - top of cross strut at that location.
- b. South side, east corner of floor beam at Panel Point 0 in Span B4, Bay 0-1.

The conclusion drawn after the sandblasting of the above points was that it did not provide any additional useful information with respect to the extent of deterioration than was determined during the initial visual inspection.

2. Concrete Deck:

The condition of the underside of the concrete deck is poor, with most of the deterioration occurring in the area under the center two lanes. The portion of the deck between Stringers 1 and 2, and 8 and 9; i.e., the outboard stringers that were rebuilt using steel buckle plates for the bottom form, could not be inspected, since the concrete was not visible.

Consistent deterioration was found at the following locations:

- a. Floor beam and stringer ends where the concrete haunches are spalled.
- b. Between stringers - spalled areas with rebars exposed and, in some instances, corroded rebars.
- c. Along the upper flange of stringers - in some cases, for the full length between floor beams.
- d. Spalls along the sidewalk channel for almost its full length.
- e. Concrete under the sidewalk around the telephone manholes.
- f. Localized areas with spalled concrete and exposed rebars.

A complete description of the field inspection, bay by bay, with pertinent photographs are included with this report (see Appendices I and IV).

The structural significance at each of the above-noted locations a to f, is as follows:

- a. The loss of concrete at the haunches is not structurally significant.
- b. The loss of concrete at the bottom of the deck is very important since the bottom rebars do not have any bond.
- c. The loss of concrete is not structurally significant.
- d. The loss of concrete is not structurally significant; but repairs should be made to arrest further corrosion of bracing below.
- e. The loss of concrete is not structurally significant.
- f. The loss of concrete is quite important because bottom rebars do not have any bond and therefore, the particular section does not work as a reinforced concrete slab.

The summation sheet of repairs recommended in this report is included in Section V.

3. On Deck:

The railing verticals of the Bourne Bridge in the south approach spans were in good condition with respect to deterioration of the verticals. On the average, there are approximately 2 verticals in each bay which are pitted badly enough to consider replacing them. In Span 5, Bay 2-3 on the west side, there are approximately 8 verticals that appear to have been damaged by traffic and may need replacing. In the arch span, the verticals were found to be in the worst condition, with approximately 9 verticals per bay which are in bad enough condition (heavy pitting) to be replaced. In Span 1, it was found that the worst pitting occurred on the west side of the bridge. In the north approach spans as in the south approach spans, the degree of corrosion was considerably less, averaging about 2 badly corroded verticals per bay. All, or most of the verticals on the bridge had either peeling paint with spots less than 1/32 inch, or some rust staining.

The upper and lower channels, upper and lower pipe sections, and the vertical railing posts were in good condition with

no serious deterioration; but just like most railing verticals, there was flaking of the paint with spots less than 1/32 inch and rust stains along the entire bridge. The nuts for the bolts holding the posts were in good condition with approximately 50 percent having slight metal loss. Two bolts were found to be loose - in Span 1, Bay 10-11 on the west side and in Span 7, Bay 7-8, on the east side.

The sidewalk along with the curb was found to be in good condition with no apparent cracking or misalignment along the entire length of the bridge.

The scuppers were found to be in good condition with most having some debris around them on the deck surface. The scupper in Span 3, Bay 1-2, on the east side is completely blocked and was the only scupper found to be in this condition. There is some debris the curb line on the deck for the entire length of the bridge.

The light fixtures on Span 1 appeared to be in good condition when viewed from the deck, except for some minor blistering with surface rusting underneath the blisters. All of the light fixtures had layered rust at the lower end of the vertical plates making up the support between the vertical connection angle and the plate itself. This caused the corners to be pushed out, with the maximum expansion of rust being +1 inch. The light posts on the approach spans all had some surface rusting in spots with peeling paint, but no serious corrosion. A few of the light posts were missing 1 to 2 of the bolts that hold the cover plate on at the base of the light.

The deck had cracking in the asphalt surface over the full length of the bridge. Although the cracking did not occur in any one area, it did occur more frequently in the inside traffic lanes rather than in the truck lanes.

In summary, the only replacement needed on the deck of the Bourne Bridge is the replacement of the badly pitted, broken, or bent railing verticals. The remaining verticals and rail components as well as sections of the light posts should have the rust removed and a new coat of paint applied. The scuppers which are clogged should be cleaned of debris.

For more detailed information, see Appendix I.

4. Substructure:

The concrete areas around the bridge bearings were found to be in good condition. Hairline to 1/16-inch cracks and slight spalling were found on all piers but not to any significant extent. The southwest corner of the west pylon at Pier 6 exhibited the most spalling and had a hollow sound when hit with a hammer. This area should be repaired before any further spalling takes place.

III. STRESS ANALYSIS

A. Loadings

All dead loads (D) were computed from the original construction shop drawings, with all subsequent reconstruction and modifications taken into account. The live load (L), impact load (I), wind load (W), longitudinal force (LF) and wind on live load (WL) were based on the latest American Association of State Highway and Transportation Officials' "Standard Specifications for Highway Bridges". In addition, torsion due to eccentric live loads was also considered.

Four groups representing various combinations of loads were used in the stress analysis. The allowable unit stresses for each of the groups are as follows:

		<u>Percentage of Unit Stress</u>
Group I	D + L + L I	100%
Group II	D + W	125%
Group III	Group I + LF + 30% + WL	125%
Group IV	D + Torsion	100%

B. Computer Analysis and Design

In the computer analysis, a mathematical model of the main span consisting of 194 joints and 548 members was used (see Figure 11). The runs for the basic loads were performed at the McDonnell Douglas Automation Company's facility in St. Louis, Missouri. A combination program which was written especially for this project combines the basic loads into designated groups, selects the governing case and compares the maximum loads against the allowable loads. The combination runs and all approach truss analyses were made with Ammann & Whitney's in-house computer. The computer output is contained in Appendix V.

The maximum loads versus the allowable loads for the main span superstructure are summarized in Table A, and for the approach spans in Table B. The member numbers for the main span are given in Figure 11, while the member designations for the approach spans are shown in Figures 7 to 10 inclusive.

The governing load cases (1 through 11) in Table A are defined as follows:

MAIN SPAN TRUSS

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
BOTTOM CHORD								
1	-634	1	-893					
2	-635	1	-893					
3	-1083	1	-1634					
4	-1083	1	-1634					
5	-200	5	-1896		640	1	1865	
6	-199	5	-1896		641	1	1865	
7					1987	1	2202	
8					1989	1	2202	
9					2782	1	2652	4.9
10					3892	1	4896	
11					3847	1	4896	
12					1446	1	2321	
13					1317	1	1891	
14	-1332	1	-1916					
15	-1306	1	-1916					
16	-2600	1	-3166					
17	-2576	1	-3166					
18	-2577	1	-3166					
19	-2604	1	-3166					
20	-1310	1	-1916					
21	-1338	1	-1916					
22					1307	1	1891	
23					1430	1	2321	
24					3846	1	4896	
25					3851	1	4896	
26					2783	1	2652	4.9
27					1989	1	2202	
28					1987	1	2202	
29	-166	3	-1896		641	1	1865	
30	-186	3	-1896		639	1	1865	
31	-1084	1	-1634					
32	-1084	1	-1634					
33	-636	1	-893					
34	-635	1	-893					

-14-

MAIN SPAN TRUSS

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
TOP CHORD								
35	-46	7	-679		47	6	686	
36					1024	1	1435	
37					1024	1	1435	
38	-43	4	-1557		801	1	1529	
39	-42	4	-1557		800	1	1529	
40	-1408	1	-2015					
41	-1441	1	-2015					
42	-2607	1	-2485	4.9				
43	-2692	1	-2485	8.3				
44	-2399	1	-2178	10.1				
45	-2364	1	-2178	8.5				
46	-197	1	-1470		304	2	1424	
47	-211	3	-1470		320	2	1429	
48					2115	1	2361	
49					2089	1	2364	
50					2763	1	2846	
51					2762	1	2846	
52					2086	1	2364	
53					2111	1	2361	
54	-226	3	-1470		303	2	1429	
55	-210	3	-1470		298	1	1424	
56	-2372	1	-2178	8.9				
57	-2408	1	-2178	10.5				
58	-2701	1	-2485	10.8				
59	-2614	1	-2485	10.5				
60	-1445	1	-2015					
61	-1411	1	-2015					
62	-29	3	-1557		799	1	1529	
63	-23	4	-1557		801	1	1529	
64					1023	1	1435	
65					1023	1	1435	
66	-44	7	-679		45	6	686	

MAIN SPAN TRUSS

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
DIAGONAL								
67					945	1	1227	
68	-538	1	-893					
69	-195	2	-745		138	1	675	
70					580	1	785	
71	-1027	1	-1042					
72					1212	1	1257	
73	-1243	1	-1502					
74					966	1	1398	
75	-901	1	-1198					
76	-1081	1	-1166					
77					2529	1	3394	
78	-1556	1	-1666					
79					1944	1	2349	
80	-1198	1	-1285					
81					949	1	1233	
82	-422	1	-668					
83	-415	1	-668					
84					932	1	1233	
85	-1187	1	-1285					
86					1904	1	2349	
87	-1543	1	-1666					
88					2444	1	3394	
89	-1069	1	-1166					
90	-922	1	-1198					
91					986	1	1398	
92	-1259	1	-1502					
93					1223	1	1257	
94	-1036	1	-1042					
95					586	1	785	
96	-201	1	-745		131	1	675	
97	-531	1	-893					
98					931	1	1227	

MAIN SPAN TRUSS

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
VERTICAL								
99					157	1	388	
100	-16	11	-281					
101					286	1	412	
102	-21	11	-281					
103					285	1	419	
104	-31	11	-336					
105					208	1	847	
106	-140	1	-846					
107	-47	7	-1332					
108	-319	1	-1332					
109	-19	2	-745		118	1	733	
110	-199	1	-745					
111					1842	1	3845	
112					1572	1	4080	
113					1545	1	4126	
114					385	1	795	
115					116	1	636	
116	-145	1	-399		30	5	329	
117					47	1	345	
118	-411	1	-545					
119	-120	1	-285					
120	-593	1	-760					
121	-149	1	-285					
122	-593	1	-760					
123	-120	1	-285					
124	-411	1	-545					
125					47	1	345	
126	-145	1	-399		21	3	329	
127					385	1	636	
128					116	1	795	
129					1842	1	4126	
130					1572	1	4080	
131					1545	1	3849	
132	-20	2	-745		118	1	793	
133	-199	1	-745					

MAIN SPAN TRUSS

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
134	-47	7	-1332					
135	-319	1	-1332					
136					208	1	912	
137	-140	1	-846					
138	-30	11	-336					
139					285	1	419	
140	-21	1	-281					
141					286	1	412	
142	-16	11	-281					
143					157	1	388	

Note: Forces for members 144 thru 286 are similar to forces for members 1 thru 143.

MAIN SPAN BRACING

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
HORIZONTAL STRUT								
287	0	6	-416		0	0	338	
288	-9	11	-416		9	10	338	
289	-8	11	-416		8	10	338	
290	-8	11	-416		8	10	338	
291	-4	11	-416		4	10	338	
292	-1	11	-416		1	10	338	
293	-5	10	-416		5	11	338	
294	-9	10	-416		8	11	338	
295	-15	10	-416		14	11	338	
296	0	6	-1248		0	0	1014	
297	-7	10	-416		7	11	338	
298	-5	10	-240		4	11	233	
299	-2	11	-170		4	6	147	
300	-43	7	-416		48	6	379	
301	-43	6	-416		48	7	379	
302	-4	11	-416		5	10	338	
303	-5	11	-416		5	10	338	
304	-6	11	-416		7	10	338	
305	-6	11	-416		7	10	338	
306	-6	11	-416		7	10	338	
307	-5	11	-416		5	10	338	
308	-4	11	-416		5	10	338	
309	-42	7	-416		47	6	379	
310	-42	6	-416		47	7	379	
311	-2	11	-170		4	6	147	
312	-5	10	-240		4	11	233	
313	-7	10	-416		7	11	338	
314	0	6	-1248		0	0	1014	
315	-15	10	-416		14	11	338	
316	-9	10	-416		8	11	338	
317	-5	10	-416		5	11	338	
318	-1	11	-416		1	10	338	
319	-4	11	-416		4	10	338	
320	-8	11	-416		8	10	338	

MAIN SPAN BRACING

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
321	-8	11	-416		8	10	338	
322	-9	11	-416		9	10	338	
323	0	6	-416		0	0	338	

MAIN SPAN BRACING

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
DIAGONAL BOTTOM BRACING								
324	-17	10	-170		16	11	115	
325	-6	7	-170		6	6	115	
326	-15	10	-170		14	11	115	
327	-4	11	-170		4	10	115	
328	-17	7	-170		18	6	115	
329	-17	6	-170		18	7	115	
330	-23	7	-170		24	6	115	
331	-23	6	-170		24	7	115	
332	-36	7	-170		37	6	115	
333	-36	6	-170		37	7	115	
334	-58	7	-211		59	6	163	
335	-58	6	-211		59	7	163	
336	-96	7	-211		97	6	163	
337	-96	6	-211		97	7	163	
338	-138	7	-277		140	6	214	
339	-138	6	-277		140	7	214	
340	-184	7	-309		186	6	240	
341	-184	6	-309		186	7	240	
342	-249	6	-402		251	7	269	
343	-249	7	-402		251	6	269	
344	-95	6	-170		104	7	139	
345	-95	7	-170		104	6	139	
346	-2	11	-170		6	7	139	
347	-98	6	-170		98	7	139	
348	-98	7	-170		98	6	139	
349	-2	11	-170		6	6	139	
350	-23	6	-170		24	7	112	
351	-23	7	-170		24	6	112	
352	-18	6	-170		20	7	112	
353	-18	7	-170		20	6	112	
354	-7	6	-170		8	7	112	
355	-7	7	-170		8	6	112	
356	-5	10	-170		5	7	112	

MAIN SPAN BRACING

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
357	-4	10	-170		5	6	112	
358	-4	10	-170		4	6	112	
359	-5	10	-170		4	7	112	
360	-7	7	-170		8	6	112	
361	-7	6	-170		8	7	112	
362	-18	7	-170		19	6	112	
363	-18	6	-170		19	7	112	
364	-22	7	-170		24	6	112	
365	-22	6	-170		24	7	112	
366	-2	11	-170		6	7	139	
367	-96	6	-170		97	7	139	
368	-96	7	-170		97	6	139	
369	-2	11	-170		6	6	139	
370	-93	6	-170		102	7	139	
371	-93	7	-170		102	6	139	
372	-247	7	-402		249	6	269	
373	-247	6	-402		249	7	269	
374	-189	6	-309		191	7	240	
375	-189	7	-309		191	6	240	
376	-143	6	-277		144	7	214	
377	-143	7	-277		144	6	214	
378	-101	6	-211		102	7	163	
379	-101	7	-211		102	6	163	
380	-63	6	-211		64	7	163	
381	-63	7	-211		64	6	163	
382	-38	6	-170		39	7	115	
383	-38	7	-170		39	6	115	
384	-25	6	-170		26	7	115	
385	-25	7	-170		26	6	115	
386	-18	6	-170		19	7	115	
387	-18	7	-170		19	6	115	
388	-5	11	-170		6	10	115	
389	-17	10	-170		15	11	115	
390	-5	11	-170		5	10	115	
391	-18	10	-170		17	11	115	

MAIN SPAN BRACING

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
FLOOR BEAM								
392	-2	10	-1066		2	11	1106	
393	-5	10	-1066		6	6	1106	
394	-11	10	-1066		10	11	1106	
395	-9	10	-1066		9	11	1106	
396	-8	10	-1066		7	11	1106	
397	-4	10	-1066		6	6	1106	
398	-1	10	-1066		5	6	1106	
399	-1	11	-1066		9	6	1106	
400	0	11	-1066		4	6	1106	
401	-4	10	-1066		4	11	1106	

MAIN SPAN BRACING

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
STRUT TOP BRACING								
402	-70	6	-1066		1	10	1106	
403	-13	11	-416		14	10	338	
404	-7	11	-416		7	10	338	
405	-1	11	-416		2	10	338	
406	-3	10	-416		3	6	338	
407	-7	10	-416		7	11	338	
408	-7	10	-416		7	11	338	
409	-8	10	-416		7	11	338	
410	-7	10	-416		7	11	338	
411	-7	10	-416		7	11	338	
412	-3	10	-416		3	6	338	
413	-1	11	-416		2	10	338	
414	-7	11	-416		7	10	338	
415	-13	11	-416		14	10	338	
416	-70	6	-1066		1	10	1106	

MAIN SPAN BRACING

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
FLOOR BEAM								
417	-4	10	-1066		4	11	1106	
418	0	11	-1066		4	6	1106	
419	-1	11	-1066		9	6	1106	
420	-1	10	-1066		5	6	1106	
421	-4	10	-1066		6	6	1106	
422	-8	10	-1066		7	11	1106	
423	-9	10	-1066		9	11	1106	
424	-11	10	-1066		10	11	1106	
425	-5	10	-1066		6	6	1106	
426	-2	10	-1066		2	11	1106	

MAIN SPAN BRACING

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
DIAGONAL TOP BRACING								
427	-88	7	-170		88	6	115	
428	-88	6	-170		88	7	115	
429	-66	7	-170		66	6	115	
430	-66	6	-170		66	7	115	
431	-49	7	-170		50	6	115	
432	-49	6	-170		50	7	115	
433	-27	7	-170		27	6	115	
434	-27	6	-170		27	7	115	
435	-8	7	-170		9	6	115	
436	-11	11	-170		12	10	115	
437	-107	7	-170		108	6	107	.9
438	-107	6	-170		108	7	107	.9
439	-110	7	-170		111	6	107	3.7
440	-110	6	-170		111	7	107	3.7
441	-77	7	-170		78	6	107	
442	-77	6	-170		78	7	107	
443	-61	7	-170		62	6	113	
444	-61	6	-170		62	7	113	
445	-40	7	-170		41	6	113	
446	-40	6	-170		41	7	113	
447	-27	7	-170		28	6	113	
448	-27	6	-170		28	7	113	
449	-6	7	-170		7	6	113	
450	-6	6	-170		7	7	113	
451	-5	6	-170		6	7	113	
452	-5	11	-170		6	6	113	
453	-26	6	-170		27	7	113	
454	-26	7	-170		27	6	113	
455	-39	6	-170		40	7	113	
456	-39	7	-170		40	6	113	
457	-60	6	-170		61	7	113	
458	-60	7	-170		61	6	113	
459	-76	6	-170		77	7	107	

MAIN SPAN BRACING

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
460	-76	7	-170		77	6	107	
461	-109	6	-170		110	7	107	2.8
462	-109	7	-170		110	6	107	2.8
463	-107	6	-170		108	7	107	0.9
464	-107	7	-170		108	6	107	0.9
465	-9	11	-170		10	10	115	
466	-5	7	-170		6	6	115	
467	-24	6	-170		25	7	115	
468	-24	7	-170		25	6	115	
469	-47	6	-170		47	7	115	
470	-47	7	-170		47	6	115	
471	-63	6	-170		63	7	115	
472	-63	7	-170		63	6	115	
473	-85	6	-170		85	7	115	
474	-85	7	-170		85	6	115	

MAIN SPAN BRACING

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
DIAGONAL SWAY BRACING								
475	-97	6	-170		97	7	108	
476	-97	7	-170		97	6	108	
477	-12	6	-170		13	7	116	
478	-12	7	-170		13	6	116	
479	-21	6	-170		22	7	114	
480	-21	7	-170		22	6	114	
481	-32	6	-170		33	7	109	
482	-32	7	-170		33	6	109	
483	-25	6	-170		27	7	104	
484	-25	7	-170		27	6	104	
485	-147	6	-211		147	7	123	
486	-147	7	-211		147	6	123	
487	-108	6	-341		99	7	325	
488	-108	7	-341		99	6	325	
489	-107	6	-341		98	7	325	
490	-107	7	-341		98	6	325	
491	-147	6	-211		147	7	123	
492	-147	7	-211		147	6	123	
493	-25	6	-170		27	7	104	
494	-25	7	-170		27	6	104	
495	-32	6	-170		33	7	109	
496	-32	7	-170		33	6	109	
497	-21	6	-170		22	7	114	
498	-21	7	-170		22	6	114	
499	-15	6	-170		16	7	116	
500	-15	7	-170		16	6	116	
501	-94	7	-170		95	7	108	
502	-94	7	-170		95	6	108	

MAIN SPAN BRACING

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
VERTICAL PORTAL FRAME								
503	-125	7	-610		139	6	614	
504	-115	7	-610		128	6	614	
505	-93	7	-610		107	6	614	
506	-62	7	-610		76	6	614	
507	-62	6	-610		76	7	614	
508	-93	6	-610		107	7	614	
509	-115	6	-610		128	7	614	
510	-125	6	-610		139	7	614	
511	-30	6	-379		30	7	397	
512	-8	6	-379		8	7	397	
513	-7	6	-379		7	7	397	
514	0	11	-1957		0	10	2071	
515	-7	7	-379		7	6	397	
516	-8	7	-379		8	6	397	
517	-30	7	-379		30	6	397	
518	-159	6	-610		160	7	614	
519	-136	6	-610		137	7	614	
520	-110	6	-610		111	7	614	
521	-73	6	-610		74	7	614	
522	-73	7	-610		74	6	614	
523	-110	7	-610		111	6	614	
524	-136	7	-610		137	6	614	
525	-159	7	-610		160	6	614	
526	-125	7	-610		138	6	614	
527	-115	7	-610		128	6	614	
528	-93	7	-610		106	6	614	
529	-62	7	-610		75	6	614	
530	-62	6	-610		75	7	614	
531	-93	6	-610		106	7	614	
532	-115	6	-610		128	7	614	
533	-125	6	-610		138	7	614	
534	-30	6	-379		30	7	397	
535	-8	6	-379		8	7	397	

MAIN SPAN BRACING

Table A - Main Span Member Loads

Member	Tension Forces (Kips)				Compression Forces (Kips)			
	Axial Max.	Case	Axial Allow.	% Overstress	Axial Max.	Case	Axial Allow.	% Overstress
536	-7	6	-379		7	7	397	
537	0	11	-1957		0	10	2071	
538	-7	7	-379		7	6	397	
539	-8	7	-379		8	6	397	
540	-30	7	-379		30	6	397	
541	-158	6	-610		159	7	614	
542	-135	6	-610		136	7	614	
543	-109	6	-610		110	7	614	
544	-72	6	-610		73	7	614	
545	-72	7	-610		73	6	614	
546	-109	7	-610		110	6	614	
547	-135	7	-610		136	6	614	
548	-158	7	-610		159	6	614	

Table B-Approach Span Member Loads

SPAN B7 TRUSS MEMBERS

Member	Compression (Kips)					Tension (Kips)			
	Area (Sq.in.)	P	P/A (ksi)	Axial Allow (ksi)	% Overstress	P	P/A (ksi)	Axial Allow (ksi)	% Overstress
BOTTOM CHORD									
L0-L1	34.0	4.6	0.1	19.6		691.5	23.9	24.0	
L1-L2	34.0	4.6	0.1	19.6		693.6	24.0	24.0	
L2-L3	79.0	19.2	0.2	19.3		1562.4	23.2	24.0	
L3-L4	79.0	19.2	0.2	19.3		1563.9	23.2	24.0	
L4-L5	76.8	21.1	0.2	19.3		1540.4	23.5	24.0	
L5-L6	76.8	21.1	0.2	19.3		1538.9	23.5	24.0	
L6-L7	34.0	15.1	0.4	19.6		664.3	22.9	24.0	
L7-L8	34.0	15.0	0.4	19.6		662.5	22.9	24.0	
UPPER CHORD									
U0-U1	36.8	35.8	0.9	14.9		0	0	18.0	
U1-U2	63.8	1234.2	19.3	19.7		0	0	24.0	
U2-U3	63.8	1235.6	19.3	15.7		0	0	24.0	
U3-U4	86.3	1678.2	19.4	19.6		0	0	24.0	
U4-U5	86.3	1677.6	19.4	19.6		0	0	24.0	
U5-U6	61.5	1200.6	19.5	19.7		0	0	24.0	
U6-U7	61.5	1198.8	19.4	19.7		0	0	24.0	
U7-U8	36.8	29.8	0.8	14.9		0	0	18.0	
DIAGONALS									
L0-U1	67.7	994.9	14.6	17.3		0.0	0.0	24.0	
U1-L2	38.0	8.5	0.2	18.1		729.1	22.5	24.0	
L2-U3	34.0	480.9	14.1	18.2		0.0	0.0	24.0	
U3-L4	19.8	3.1	0.1	17.8		204.6	12.1	24.0	
L4-U5	19.8	0.6	0.0	17.5		202.8	12.0	24.0	
U5-L6	34.0	483.8	14.2	18.3		0.0	0.0	24.0	
L6-U7	41.6	5.9	0.1	17.7		757.3	21.4	24.0	
U7-L8	63.2	943.4	14.9	17.5		0.0	0.0	24.0	

Table B-Approach Span Member Loads

SPAN B7 TRUSS MEMBERS

Member	Compression (Kips)					Tension (Kips)			
	Area (Sq.in.)	P	P/A (ksi)	Axial Allow (ksi)	% Overstress	P	P/A (ksi)	Axial Allow (ksi)	% Overstress
VERTICALS									
L0-U0	19.8	88.8	4.4	19.2		0.0	0.0	24.0	
L1-U1	19.8	0.0	0.0	14.6		7.1	0.4	18.0	
L2-U2	19.8	188.8	9.5	19.5		0.0	0.0	24.0	
L3-U3	19.8	0.0	0.0	14.7		13.4	0.7	18.0	
L4-U4	19.8	187.0	9.4	19.6		0.0	0.0	24.0	
L5-U5	19.8	0.0	0.0	14.7		13.6	0.8	18.0	
L6-U6	19.8	187.7	9.4	19.4		0.0	0.0	24.0	
L7-U7	19.8	0.0	0.0	14.6		7.7	0.4	18.0	
L8-U8	19.8	87.9	4.4	19.0		0.0	0.0	24.0	

Table B-Approach Span Member Loads

SPAN B6 TRUSS MEMBERS

Member	Compression (Kips)				Tension (Kips)				
	Area (Sq.in.)	P	P/A (ksi)	Axial Allow (ksi)	% Overstress	P	P/A (ksi)	Axial Allow (ksi)	% Overstress
BOTTOM CHORD									
L0-L1	25.0	3.5	0.1	20.1		498.2	23.4	24.0	
L1-L2	25.0	3.5	0.1	20.1		500.0	23.5	24.0	
L2-L3	58.7	14.2	0.2	19.8		1228.2	24.6	24.0	2.5
L3-L4	58.7	14.2	0.2	19.8		1230.1	24.6	24.0	2.5
L4-L5	64.3	16.1	0.2	19.7		1358.6	24.8	24.0	3.3
L5-L6	64.3	16.1	0.2	19.7		1357.4	24.8	24.0	3.3
L6-L7	34.0	11.7	0.3	20.0		664.2	22.9	24.0	
L7-L8	34.0	11.7	0.3	20.0		660.7	22.8	24.0	
UPPER CHORD									
U0-U1	36.8	26.1	0.7	15.1		0.0	0.0	18.0	
U1-U2	45.8	924.9	20.1	20.2		0.0	0.0	24.0	
U2-U3	45.8	927.0	20.2	20.2		0.0	0.0	24.0	
U3-U4	70.5	1393.6	19.7	20.0		0.0	0.0	24.0	
U4-U5	70.5	1395.0	19.7	20.0		0.0	0.0	24.0	
U5-U6	57.5	1128.9	19.6	20.0		0.0	0.0	24.0	
U6-U7	57.5	1127.1	19.6	20.0		0.0	0.0	24.0	
U7-U8	36.8	23.9	0.6	15.1		0.0	0.0	18.0	
DIAGONALS									
L0-U1	50.8	764.7	15.0	17.8		0.0	0.0	24.0	
U1-L2	36.2	6.7	0.1	18.3		640.5	20.8	24.0	
L2-U3	26.8	447.7	16.7	19.0		0.0	0.0	24.0	
U3-L4	19.8	2.8	0.1	18.3		268.8	15.9	24.0	
L4-U5	19.8	0.0	0.0	14.2		60.1	3.5	18.0	
U5-L6	30.4	346.8	11.4	14.5		0.0	0.0	18.0	
L6-U7	34.0	4.1	0.1	19.2		603.3	20.8	24.0	
U7-L8	52.0	890.3	17.1	18.8		0.0	0.0	24.0	

Table B-Approach Span Member Loads

SPAN B6 TRUSS MEMBERS

Member	Compression (Kips)				Tension (Kips)				
	Area (Sq.in.)	P	P/A (ksi)	Axial Allow (ksi)	% Overstress	P	P/A (ksi)	Axial Allow (ksi)	% Overstress
VERTICALS									
L0-U0	19.8	77.0	3.8	14.4		0.0	0.0	18.0	
L1-U1	19.8	0.0	0.0	14.6		5.7	0.3	18.0	
L2-U2	19.8	165.1	8.3	14.7		0.0	0.0	18.0	
L3-U3	19.8	0.0	0.0	14.8		9.6	0.5	18.0	
L4-U4	19.8	164.1	8.2	14.9		0.0	0.0	18.0	
L5-U5	19.8	0.0	0.0	15.0		8.7	0.5	18.0	
L6-U6	19.8	166.9	8.4	15.0		0.0	0.0	18.0	
L7-U7	19.8	0.0	0.0	15.0		5.2	0.3	18.0	
L8-U8	19.8	78.3	3.9	15.1		0.0	0.0	18.0	

Table B-Approach Span Member Loads

SPAN B7 BRACING MEMBERS

Member	Compression (Kips)				Tension (Kips)				
	Area (Sq.in.)	P	P/A (ksi)	Axial Allow (ksi)	% Overstress	P	P/A (ksi)	Axial Allow (ksi)	% Overstress
U0-U2	6.10	57.53	11.09	18.0					
U2-U4	6.10	23.07	4.44	18.0					
U4-U6	6.10	10.89	2.10	18.0					
U6-U8	6.10	43.11	9.27	18.0					
L0-L2	6.10	65.86	12.70	18.0					
L2-L4	6.10	20.51	3.95	18.0					
L4-L6	6.10	8.86	1.70	18.0					
L6-L8	6.10	51.72	9.97	18.0					
L0-U0	6.10	58.01	11.18	18.0					
L2-U2	6.10	16.41	3.16	18.0					
L4-U4	6.10	8.19	1.57	18.0					
L6-U6	6.10	14.45	2.78	18.0					
L8-U8	6.10	52.02	10.03	18.0					

SPAN B6 BRACING MEMBERS

Table B-Approach Span Member Loads

Member	Compression (Kips)					Tension (Kips)			
	Area (Sq.in.)	P	P/A (ksi)	Axial Allow (ksi)	% Overstress	P	P/A (ksi)	Axial Allow (ksi)	% Overstress
U0-U2	6.10	44.75	8.63	18.0					
U2-U4	6.10	17.60	3.69	18.0					
U4-U6	6.10	10.03	1.93	18.0					
U6-U8	6.10	38.79	7.48	18.0					
L0-L2	6.10	54.66	10.54	18.0					
L2-L4	6.10	16.27	3.13	18.0					
L4-L6	6.10	7.84	1.51	18.0					
L6-L8	6.10	41.48	8.60	18.0					
L0-U0	6.10	51.11	9.85	18.0					
L2-U2	6.10	14.72	2.83	18.0					
L4-U4	6.10	7.27	1.40	18.0					
L6-U6	6.10	11.78	2.27	18.0					
L8-U8	6.10	41.51	8.00	18.0					

Table B-Approach Span Member Loads

SPAN B6 TRUSS MEMBERS

Member	Compression (Kips)					Tension (Kips)			
	Area (Sq.in.)	P	P/A (ksi)	Axial Allow (ksi)	% Overstress	P	P/A (ksi)	Axial Allow (ksi)	% Overstress
BOTTOM CHORD									
L0-L1	41.6	5.4	0.1	18.9		805.9	22.7	24.0	
L1-L2	41.6	5.3	0.1	18.9		807.6	22.8	24.0	
L2-L3	83.4	23.0	0.2	18.8		1678.9	23.6	24.0	
L3-L4	83.4	23.1	0.2	18.8		1679.8	23.6	24.0	
L4-L5	74.4	24.8	0.3	18.8		1526.5	24.1	24.0	0.4
L5-L6	74.4	24.8	0.3	18.8		1525.6	24.1	24.0	0.4
L6-L7	30.3	17.8	0.5	19.3		615.5	23.8	24.0	
L7-L8	30.3	17.8	0.5	19.3		614.6	23.8	24.0	
TOP CHORD									
U0-U1	36.7	48.8	1.3	19.6		0.0	0.0	24.0	
U1-U2	77.3	1387.0	17.9	19.3		0.0	0.0	24.0	
U2-U3	77.3	1387.9	17.9	19.3		0.0	0.0	24.0	
U3-U4	93.0	1735.3	18.6	19.1		0.0	0.0	24.0	
U4-U5	93.0	1734.4	18.6	19.1		0.0	0.0	24.0	
U5-U6	61.5	1148.2	18.6	19.3		0.0	0.0	24.0	
U6-U7	61.5	1147.0	18.6	19.3		0.0	0.0	24.0	
U7-U8	36.7	39.5	1.0	14.7		0.0	0.0	18.0	
DIAGONALS									
L0-U1	83.4	1139.4	13.6	16.3		0.0	0.0	24.0	
U1-L2	41.6	10.4	0.2	17.3		776.1	21.9	24.0	
L2-U3	33.9	447.3	13.1	17.3		0.0	0.0	24.0	
U3-L4	19.8	3.6	0.1	13.1		134.6	8.0	18.0	
L4-U5	26.7	1.2	0.0	13.5		312.9	13.7	18.0	
U5-L6	43.8	575.6	13.1	16.6		0.0	0.0	24.0	
L6-U7	45.2	7.2	0.1	15.7		829.7	21.5	24.0	
U7-L8	81.2	995.0	12.2	15.0		0.0	0.0	24.0	

Table B-Approach Span Member Loads

SPAN B5 BRACING MEMBERS

Member	Compression (Kips)				Tension (Kips)				
	Area (Sq.in.)	P	P/A (ksi)	Axial Allow (ksi)	% Overstress	P	P/A (ksi)	Axial Allow (ksi)	% Overstress
U0-U2	6.10	75.59	14.57	18.0					
U2-U4	6.10	30.53	5.88	18.0					
U4-U6	6.10	12.48	2.40	18.0					
U6-U8	6.10	61.72	11.90	18.0					
L0-L2	6.10	77.26	14.90	18.0					
L2-L4	6.10	25.96	5.00	18.0					
L4-L6	6.10	10.09	1.94	18.0					
L6-L8	6.10	61.69	11.89	18.0					
L0-U0	6.10	70.46	13.58	18.0					
L2-U2	6.10	16.66	3.21	18.0					
L4-U4	6.10	9.29	1.79	18.0					
L6-U6	6.10	15.22	2.93	18.0					
L8-U8	6.10	71.15	13.72	18.0					

Table B-Approach Span Member Loads

SPAN B4 TRUSS MEMBERS

Member	Compression (Kips)					Tension (Kips)			
	Area (Sq.in.)	P	P/A (ksi)	Axial Allow (ksi)	% Overstress	P	P/A (ksi)	Axial Allow (ksi)	% Overstress
BOTTOM CHORD									
L0-L1	25.0	6.3	0.2	19.8		468.9	22.0	24.0	
L1-L2	25.0	6.3	0.2	19.8		469.8	22.1	24.0	
L2-L3	56.5	19.8	0.3	19.4		1139.5	23.7	24.0	
L3-L4	56.5	19.9	0.3	19.4		1140.3	23.7	24.0	
L4-L5	61.0	21.9	0.3	19.4		1246.4	24.0	24.0	
L5-L6	61.0	21.9	0.3	19.4		1245.6	24.0	24.0	
L6-L7	30.4	15.9	0.5	19.7		607.0	23.4	24.0	
L7-L8	30.4	15.9	0.5	19.7		605.5	23.4	24.0	
TOP CHORD									
U0-U1	36.8	35.3	0.9	15.9		0.0	0.0	18.0	
U1-U2	45.8	862.1	18.8	19.8		0.0	0.0	24.0	
U2-U3	45.8	863.4	18.8	19.8		0.0	0.0	24.0	
U3-U4	63.8	1284.9	20.1	19.7	2.0	0.0	0.0	24.0	
U4-U5	63.8	1285.8	20.1	19.7	2.0	0.0	0.0	24.0	
U5-U6	50.3	1032.0	20.5	19.8	3.5	0.0	0.0	24.0	
U6-U7	50.3	1031.1	20.4	19.8	3.0	0.0	0.0	24.0	
U7-U8	36.8	31.9	0.8	15.9		0.0	0.0	18.0	
DIAGONALS									
L0-U1	65.5	821.8	12.5	15.6		0.0	0.0	24.0	
U1-L2	34.0	9.9	0.2	16.8		665.9	23.0	24.0	
L2-U3	34.0	461.8	13.5	17.2		0.0	0.0	24.0	
U3-L4	20.5	3.6	0.1	16.3		265.7	15.2	24.0	
L4-U5	19.8	0.3	0.0	13.3		68.9	4.0	18.0	
U5-L6	25.0	358.0	14.3	17.9		0.0	0.0	24.0	
L6-U7	34.0	6.0	0.1	18.0		614.4	21.2	24.0	
U7-L8	61.0	912.5	14.9	17.1		0.0	0.0	24.0	

Table B-Approach Span Member Loads

SPAN B4 TRUSS MEMBERS

Member	Compression (Kips)					Tension (Kips)			
	Area (Sq.in.)	P	P/A (ksi)	Axial Allow (ksi)	% Overstress	P	P/A (ksi)	Axial Allow (ksi)	% Overstress
VERTICALS									
L0-U0	19.8	91.0	4.5	16.8		0.0	0.0	24.0	
L1-U1	19.8	0.0	0.0	13.5		7.6	0.4	18.0	
L2-U2	19.8	185.1	9.3	17.9		0.0	0.0	24.0	
L3-U3	19.8	0.0	0.0	14.0		11.8	0.7	18.0	
L4-U4	19.8	185.9	9.3	18.5		0.0	0.0	24.0	
L5-U5	19.8	0.0	0.0	14.3		10.2	0.6	18.0	
L6-U6	19.8	187.8	9.4	18.9		0.0	0.0	24.0	
L7-U7	19.8	0.0	0.0	14.4		6.8	0.4	18.0	
L8-U8	19.8	88.2	4.4	18.9		0.0	0.0	24.0	

Table B-Approach Span Member Loads

SPAN B4 BRACING MEMBERS

Member	Compression (Kips)					Tension (Kips)			
	Area (Sq.in.)	P	P/A (ksi)	Axial Allow (ksi)	% Overstress	P	P/A (ksi)	Axial Allow (ksi)	% Overstress
U0-U2	6.10	57.70	11.12	18.0					
U2-U4	6.10	23.13	4.46	18.0					
U4-U6	6.10	13.26	2.55	18.0					
U6-U8	6.10	51.34	9.90	18.0					
L0-L2	6.10	74.40	14.34	18.0					
L2-L4	6.10	22.41	4.32	18.0					
L4-L6	6.10	9.54	1.83	18.0					
L6-L8	6.10	53.42	10.30	18.0					
L0-U0	6.10	69.37	13.37	18.0					
L2-U2	6.10	20.47	3.94	18.0					
L4-U4	6.10	8.74	1.68	18.0					
L6-U6	6.10	14.69	2.83	18.0					
L8-U8	6.10	55.12	10.63	18.0					

Loading Combination Case Members

<u>Case</u>	<u>Group</u>	<u>Forces</u>
1	I	D + L + I at 100%
2	III	Group I + LF + 0.3W + WL at 125% Transverse wind from east
3	III	Group I + LF + 0.3W + WL at 125% Transverse wind from west
4	III	Group I + LF + 0.3W + WL at 125% Longitudinal wind from south
5	III	Group I + LF + 0.3W + WL at 125% Longitudinal wind from north
6	II	D + W at 125% - Transverse wind from east
7	II	D + W at 125% - Transverse wind from west
8	II	D + W at 125% - Longitudinal wind from south
9	II	D + W at 125% - Longitudinal wind from north
10	IV	D + Torsion at 100% - Traffic at east lanes
11	IV	D + Torsion at 100% - Traffic at west lanes

The "% overstress" columns in Tables A and B indicate that most of the members are not overstressed. For the few members which are overstressed, the percentages of overstress are small. The theoretical stress analysis for the floor beams, stringers and deck slab also shows no overstress (see computations in Appendix IV). However, if loss of material of the component members uncovered during the inspection and modern detail criteria and practice are taken into consideration, various parts of the structure will require repair work and/or remedial measures (see Sections IV and V for compatibility between modern loadings and current code requirements).

IV. CONDITION EVALUATION

A. Steel Superstructure

The condition of the Bourne Bridge has deteriorated further since the 1971 and 1974 inspections. On the superstructure, the incidence and amount of corrosion have increased, so that many stay plates and lacing should be replaced. The general condition of the paint is poor. Inadequate cleaning of the steel prior to painting is evident, as noted by the large number of blisters with rusting underneath.

The method of rigging utilized for this inspection permitted full length observation of all stringers. The inspection showed that some stringers in Bays 3-4 and 7-8 of Span B4 were heavily deteriorated at the north connections. From the amount of metal loss, it is apparent that this corrosion has been occurring for a long period of time. The sidewalk channel support connections and the lateral bracing system of the approach spans are also badly corroded.

For the condition of the cable hangers and hanger connections, see Ammann & Whitney reports entitled, "Condition Report Covering the Hanger Cables" dated February 1974 and "Hanger Cables 1976 Condition Report."

B. Deck Slab

The number of spalls in the concrete deck have also increased since the last inspections; but the location and type of spalling are basically the same. In areas where spalls were patched, the patches are now beginning to fall out. It is obvious that this method of repair is a temporary rather than a permanent measure.

The general crack pattern at the underside of the deck slab is shown in Figure 12. Section AA indicates concrete spalling along the top flange of the floor beam; Section BB indicates concrete spalling along the top flange of the stringer; and Section CC indicates concrete spalling between the stringers, with the lower portion of the trussed rebars exposed. The spalling represented in Section CC is the most serious of the three types shown, with respect to structural integrity. For this type of spall, with the maximum positive bending moment occurring at the midspan between stringers (compression at the top and tension at the bottom of the slab), the slab cannot act as a reinforced concrete structure since the bottom reinforcing is not bonded to the concrete. Further, at the stringer flanges where maximum negative moment occurs under wheel loads (tension at top and compression at bottom of the slab), there is no concrete at the slab bottom to resist the compression load. However, since trussed rebars were used in the original slab construction (as opposed to the reinforcing bars used today),

the wheel loads at these locations are carried by the truss action of these trussed rebars.

It should be pointed out that the deck slab between the exterior stringer and the first interior stringer on both sides of the roadway was rebuilt several years ago by using buckle-plate construction. Therefore, the condition of the deck slab at these locations could not be visually inspected from below. Since the top surface of the deck has a bituminous wearing surface, the condition of the deck slab could not be visually inspected from the top either.

To properly evaluate the concrete condition of the deck slab, it was decided to take six 4-inch diameter cores for compressive strength tests, petrographic tests and chloride tests. Figure 13 shows the locations of these six cores. The tests were performed by the Portland Cement Association. Details of the test results are reported in Appendix II and are summarized in Table C.

TABLE C

Core Test Results

Core No.	Condition	Compressive Strength (psi)	<u>Pounds Chloride/Yd³ Concrete</u>	
			Top	Bottom
B1	Much honeycombing	-	2.42	3.25
B2	Honeycomb	1,320	0.07	0.07
B3	Good	4,130	0.07	3.32
B4	Large honeycomb	-	0.08	5.31
B5	One side good, other side honeycomb	-	0.25	7.32
B6	Relatively good	2,460	0.07	0.38

The test results indicate that the lightweight concrete was generally very poorly compacted, since several cores showed large amounts of honeycombing. The compressive strength for Core B2 was extremely low - 1,320 pounds per square inch.

Additionally, the chloride content in many of the cores was excessive. The measured values in Cores B1, B3, B4 and B5 were 3.25, 3.32, 5.31 and 7.32 pounds per cubic yard, respectively; whereas the generally acceptable limit of chlorine content is 1 to 1.3 pounds per cubic yard. This excessively high chloride content accelerates the deterioration of both the concrete and the rebars.

The effect on the stresses in the concrete slab due to the proposed increase in allowable (legal) loads on Massachusetts highways was also studied. Although the 1975 Massachusetts House Bill No. 5465 does not specify actual wheel loads and axle spacings, by using typical load types from AASHTO's (American Association of State Highway and Transportation Officials) 1974 "Geometric Highway Design - Urban" and "Manual for Maintenance Inspection of Bridges", it was estimated that the increase in stress will be approximately 10 percent. Studies indicate that if the deck slab is sound, this increase will not cause any overstress in the deck because of the conservative assumptions used in the original design. However, for areas where large portions of the bottom of the deck is spalled with exposed trussed rebars, the stresses in these rebars will increase from 53 percent overstress on the basis of present AASHTO wheel loads to about 69 percent overstress for the new loads. It is evident that even under present AASHTO requirements, the trussed rebar in such areas is highly overstressed, and this condition will be further aggravated under the proposed new loadings. Accordingly, as noted in Section V, it is recommended that immediate remedial work be carried out in such areas.

C. Bearings and Expansion Joints

All truss bearings were inspected and found to be in good condition and functioning properly, with the exception of anchor bolts which were bent at some locations. These anchor bolts should be repaired (see Section V). The position of all the bearings at the time of inspection, with recorded ambient temperature, is shown in Figure 14. A study of the movements of the bearings at extreme temperature conditions, as given by the AASHTO specifications, was made and found to be satisfactory.

There are eight expansion joints in the deck:

<u>Location</u>	<u>Span Length Participating in Expansion</u>
South Abutment	0
Pier 5	240 ft
Pier 3	666 ft
Span 1 at Panel Point 10	0
Span 1 at Panel Point 10'	0
Pier 4	1,252 ft
Pier 6	208 ft
North Abutment	0

The leakage of drainage water at these expansion joint locations is the major cause of the corrosion of the structural steel underneath. It is recommended that all of these joints be replaced by watertight construction as described in Section V.

D. Current Maintenance Procedures and Possible Improvement

The importance of a proper bridge maintenance program and the implementation of such a program cannot be overemphasized. It is understood from the Corps of Engineers that the maintenance program now in force consists of the following:

Annual Maintenance

1. Cleaning, greasing and aligning roller bearings.
2. Patching concrete curbs and sidewalks.
3. Patching bituminous concrete roadway paving.
4. Spot painting of structural steel.
5. Repairing expansion joints.

From observations and experience gained during the field inspection, it is recommended that the following items be added to the program:

I. On Deck:

1. Check roadway wearing surface for cracks. All cracks should be sealed.
2. Check all roadway drains to make sure they stay free of debris, especially during periods when cinders and sand are used during snow, or when roadway has iced up.
3. Check joint openings at roadway expansion joints to make sure they are working properly. Remove all debris that might obstruct moving parts.

II. Substructures:

Tops of concrete piers and abutments should be checked for cracking. All cracks should be sealed.

III. Superstructure:

A bi-annual check should be made of the areas behind the suspender ropes at the wind chord connection. A build-up of trapped sand, which in turn retains moisture, leads to rusting of rivet heads and suspenders at these locations. All such areas should be washed clean with fresh water.

An attempt should be made to control the build-up of pigeon guano on bridge members. This unsightly guano holds moisture and accelerates deterioration of the paint system and could be a hazard to the inspection crew's safety.

Where surface rust is discovered on steel members, such rust should be completely removed, and the member should be primed and given a finish coat. Painting over existing rust can only lead to more extensive repairs at a later date.

The vertical ladders at the exterior of the abutments and at the main piers of Span 1 leading to the catwalk below the bridge deck should be checked for rusted support brackets and ladder rungs.

E. Evaluation of the Paint System

To be sent as
supplement (as per 4
November 1976 phone
conversation between
NED and Ammann &
Whitney).

B. Cost Estimates

- 1A. Estimate of Cost for Repair of Steelwork, including railings, patching of concrete deck and miscellaneous maintenance work (see detailed list, Table D).

Based on a time-and-motion study to perform the necessary work and based on current labor and material prices for the area, total costs are as follows:

Bourne Bridge - \$1,200,000

- 1B. Expansion Joint Seals

Bourne Bridge - Expansion Joint Seals	
and Installation	\$130,000
Estimated Concrete Work	40,000
	<u> \$170,000</u>

2. Estimate of Cost for Replacement of Concrete Roadway Deck, including sidewalk.

Based on recent bid prices for similar work, total costs are as follows:

Bourne Bridge - \$4,700,000.

V. REMEDIAL WORK

A. Required Remedial Work

The remedial work required to correct the physical defects discovered during the inspection, and the recommended modifications required to meet current bridge design criteria and loadings, are listed in detail in Table D entitled "Summary of Recommended Repairs", included in this section.

Priorities have been assigned to all remedial work, based on the following criteria:

1. Highest priority has been assigned where remedial work is required to insure structural integrity.
2. Repairs to correct deterioration which could affect the structural integrity of the structure in the future.
3. Maintenance repairs to those items where structural adequacy has not been affected, but where aesthetics is important.
4. Defects which do not require remedial work at this time.

The major components requiring repair as well as recommended remedial procedures are briefly outlined below:

1. Steel Superstructure

a. Stringers

Certain stringer webs are heavily corroded at the end connections (for example, stringers in Bays 3-4 and 7-8 of Span 4, as shown in Field Inspection Sketches). Such deterioration will affect the safety of the structure and should be repaired immediately. It is recommended that the connections between the stringers and floor beams be reinforced by using splice plates and high-strength bolts. The repair method is shown schematically in Figure 15.

b. Sidewalk Channel Support

The brackets which support the sidewalk channels at the expansion ends of the arch are cracked (see Field Inspection Sketch B B1 11'-10', Sheet 2 of 2). In order to maintain the safety of the sidewalk,

these brackets should be repaired as soon as possible. In Figure 16, Sections AA through FF show a schematic repair method; Sections MM and NN show a method of temporary support for the channels.

c. Anchor Bolt Repairs

At Piers 3, 4 and 5, some bearing anchor bolts are bent. It is possible that these bent bolts could restrain the free movement of the structure due to temperature changes. At such locations, anchor bolts may be modified as shown in Figure 17, to permit freedom of motion.

d. Lateral Bracing System for the Approach Spans

Current AASHTO specifications have a requirement that the ratio of unbraced length to radius of gyration (slenderness ratio) of any tension members shall not exceed 240 (140 for compression members). The actual ratios of most of the members in the lateral bracing system exceed the allowable limit, with certain members having slenderness ratios as high as 313. These slender members vibrate under wind, and this vibration introduces fatigue stresses into the members and at the connections. The inspectors found that some of these members have sagged as much as 7 inches due to their own weight. It was further found during the inspection that the main material and connection gusset plates for these members have been badly corroded. It is recommended that the top lateral system be reinforced with channels, and that the bottom lateral system be reinforced with double angles, as shown in Figures 18 and 19, respectively. These recommendations will accomplish the following:

- (1) The slenderness ratios for all members will not exceed 240, maximum.
- (2) Added steel in the members will compensate for the area lost due to corrosion.
- (3) The corroded connection gusset plates will be reinforced.
- (4) Sagged members can be straightened and attached to the new channels or double angles after the new elements are properly connected at both ends.

Another important feature of these recommended schemes is that the new systems will be built around the existing systems, with the existing systems intact at all times. Accordingly, the wind-resisting capacity of the bridge will not be jeopardized at any time.

e. Other Repairs

Table D lists in detail all components requiring repair as a result of corrosion. These items include main material, gusset plates, stay plates, lacing, rivets, etc.

2. Concrete Deck Slab

a. High Priority Repair

As mentioned in Section IV, where a large area of concrete has spalled on the underside of the deck, such spalling will cause serious over-stress in the deck and should be repaired immediately.

b. Complete Deck Replacement

In Section IV, it is noted that the deck slab concrete is contaminated by a high percentage of chlorides, resulting from the use of salt in snow removal operations. More than 5 percent of the deck area is visibly spalled. Some of the concrete cylinder tests indicated that the condition of the deck concrete is poor (see Table C). Accordingly, it is recommended that the entire deck be replaced in the near future. A preliminary cost estimate for demolition of the existing deck and construction of a new deck has been included in the Repair Cost Estimates.

3. Expansion Joints

Because of the large movements occurring at the joints due to expansion and contraction, the number of commercial joint sealers available is limited. Accordingly, for this report, only two types of watertight expansion joint sealers were investigated, as noted below:

a. WABO Modular System by Watson-Bowman, Inc.

b. Transflex Expansion Joint Seals by General Tire.

The WABO System cannot be used since the vertical distance between the top of roadway at the curb to the top of the floor beam is 8-1/2 inches; whereas the minimum depth required for the WABO System for the required movement is 10-1/2 inches. However, the Transflex Expansion Joint Seals are compatible with the Bourne Bridge deck system.

The following Transflex Expansion Joint Seals are recommended:

<u>Location</u>	<u>Transflex Joint Seal Model No.</u>
South and North Abutments, Panel Points 10 and 10'	200A
Piers 5 and 6	400A
Pier 3	900
Pier 4	2 - 900 (see Note A)

Note A: At Pier 4, the total movement due to temperature changes is 15 inches. The maximum available size (Model No. 1300) permits only 13-inch movement; therefore, it is recommended that two Model No. 900 seals connected in series be used at this location (see Figures 20 and 21 for recommended joint seal details).

All seals should have snow plow protection provision. For seal Model No. 900 at Piers 3 and 4, neoprene and teflon sliding plates should also be provided between the seals and the seating angles to minimize slapping.

The approximate costs of the seals with snow plow protection, F.O.B. job site, are as follows:

<u>Model No.*</u>	<u>Price/lin.ft. (material)</u>	<u>Price/lin.ft. (installation)</u>
200A	\$ 60	\$ 25
400A	140	40
900	400	55 (\$75 for 2-900)
1300	700	

*With molded curb section, including sealing anchors.

4. Repairs at Deck Level and Above

a. Deck

Open cracks in the asphaltic concrete wearing surface should be filled with tar to prevent water from making its way into the top of the reinforced concrete deck.

b. Railing

Where rusted surfaces are found on railing members, they should be sandblasted, primed and given a finish coat. Badly rusted vertical bars should be replaced.

c. Light Standards

- (1) On the main span, the light fixtures with rusted clamp bolts should have the nuts and bolts replaced with new galvanized nuts and bolts. The members comprising the light fixture should be cleaned of rust spots; those spots should be prime painted, and then the entire unit given a finish coat.
- (2) The light standards on the approach spans require that rust spots be cleaned, then primed and given a finish coat.
- (3) At the abutment light standards, missing rivets and damaged lacing members require replacement. Rust spots on these standards should be sandblasted, primed and given a finish coat.

TABLE D

**Summary of
Recommended
Repairs**

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
A-TRUSS MEMBERS				See Cost	
SPAN B7				Estimates	
Panel Point L1W	Replace 4 bottom gusset rivets	2		in	I-1
L4E-U5E	Replace 1 lower lace	2		Section V	I-1
L8W-U8W	Repair upper middle stiffener plate	2			I-2
SPAN B5					
L3W-L4W	Replace south upper stay plate	2			I-3
L5E-L6E	Replace south upper stay plate	2			I-3
L6E-U7E	Repair deteriorated lacing	2	Approx Full Length		I-3
L6E-L7E	Repair deteriorated lacing	2	Approx Full Length		I-3
L5W-L6W	Repair deteriorated lacing	2	Approx 6 Span		I-3
L7E-L8E	Repair deteriorated lacing	2	Length		I-3
L6W-L7W	Replace north upper stay plate	2	Approx Full Length		I-4
L7W-L8W	Replace south upper stay plate	2			I-4
L7W-L8W	Repair <u>+25%</u> of lower laces	2			I-4
SPAN B4					
L2E-L3E	Replace north upper stay plate	2			I-6
L3E-L4E	Replace south upper stay plate	2			I-6
LOW-L1W	Repair <u>+50%</u> of laces	2			I-6
U7E-L8E	Repair cover plate	2			I-7
U1E-L2E	Repair <u>+40%</u> of laces	2			I-5
L6E-L7E	Replace 1 deteriorated lacing at				I-7
	north end	1			
U7W-L8W	Repair cover plate	2			I-7
L7E-L8E	Replace 1 deteriorated lacing at				I-7
	north and south ends	1			
L7W-L8W	Replace 1 deteriorated lacing at				I-7
	north end	1			
SPAN B6					
LOW-L1W	Repair <u>+10%</u> of laces	2			I-8

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
U3W-U4W	Repair vertical stiffener plate at north end	2			I-8
LOE-L1E	Replace south upper stay plate	2			I-8
Panel point L1E	Repair lower edge of east gusset	2			I-8
LOW-L1W	Replace south upper stay plate	2			I-8
L3W-L4W	Repair <u>+10%</u> of top and bottom laces	2			I-9
L4E-L5E	Replace 1 deteriorated lace	1			I-9
L5W-L6W	Replace 1 deteriorated lace	1			I-9
L4E-U5E	Repair <u>+20%</u> of laces	2			I-9
L5E-L6E	Repair <u>+40%</u> of lower laces	2			I-9
	Replace north and south upper stay plates	2			I-9
L5E-L6E	Repair <u>+30%</u> of upper laces	2			I-9

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
B-FLOOR BEAMS					
SPAN B7					
FB 8 S	Replace 1 top flange rivet at east end	2			I-11
SPAN B5					
FB 0 N	Replace 3 bottom flange rivets at east end	2			I-11
FB 1 N	Replace 1 top flange rivet at east end	2			I-12
FB 3 N	Replace 1 top flange rivet at east end	2			I-12
FB 6 N	Replace 3 bottom flange rivets at east end	2			I-12
FB 8 N	Repair all floor beam stiffeners	2			I-12
FB 7 N	Replace 1 bottom cover rivet	2			I-13
FB 8 S	Replace 5 bottom cover rivets	1			I-13
SPAN B4					
FB 0 N	Repair floor beam stiffener at west end	2			I-13
FB 1 S	Repair gap between top flange and deck	2			I-13
FB 0 S	Replace 1 top flange rivet at west end	2			I-13
FB 0 S	Repair 4 floor beam stiffeners	2			I-13
FB 0 S	Replace 1 top flange rivet at west end	1			I-13
FB 0 S	Repair web surface at west end	2			I-13
FB 0 S	Repair concrete haunch at east end	1			I-13
FB 0 S	Replace 3 rivets at east end	2			I-13
FB 0 S	Repair broken electrical conduit	2			I-13

-58-

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
FB 2 S	Repair floor beam stiffener at east end	2			I-14
	Replace 4 bottom flange rivets at east end	2			I-14
	Repair top surface of bottom flange at west end	2			I-14
FB 3 S	Repair floor beam stiffener at east end	2			I-14
FB 4 S	Replace 6 bottom flange rivets at east end	1			I-14
FB 6 S	Repair floor beam stiffener at east end	2			I-14
	Repair top surface of lower flange at east end	2			I-14
	Replace 2 lower flange rivets at east end	1			I-14
FB 7 S	Repair floor beam stiffener at east end	2			I-14
FB 7 N	Replace 1 top flange rivet at east end	2			I-15
FB 8 S	Repair floor beam stiffener at east end	2			I-15
	Replace 5 bottom flange rivets at east end	1			I-15
FB 8 N	Repair floor beam stiffener at east end	2			I-15
	Replace 5 floor beam stiffener rivets	1			I-15
	Repair horizontal haunch angles	2			I-15
SPAN B6					
FB 3 S	Replace 1 bottom flange rivet at east end	2			I-15
FB 6 S	Repair sidewalk clip angle at west end	2			I-16
FB 6 S	Replace 2 top flange rivets at east end	2			I-16
FB 8 S	Repair floor beam stiffener at west end	2			I-16

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
FB 8 N	Repair 4 floor beam stiffeners	1			I-16

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
B-STRINGERS					
SPAN B5					
Bay 5-6 ST-1	Repair top surface of bottom flange at south end	2			I-17
SPAN B4					
Bay 0-1 ST-1	Repair top surface of bottom flange	2			I-18
Bay 0-1 ST-9	Repair top surface of bottom flange	2			I-18
Bay 1-2 ST-1	Repair bottom flange and web at north end				I-18
Bay 1-2 ST-9	Repair bottom flange and web	1			I-18
Bay 2-3 ST-1	Repair bottom flange and web at north end	1			I-18
Bay 2-3 ST-9	Repair bottom flange	2			I-18
Bay 3-4 ST-1	Repair bottom flange and web at north end	1			I-19
Bay 3-4 ST-9	Repair underside of top flange	2			I-19
Bay 3-4 ST-9	Repair web and bottom flange at north end	1	Very badly deteriorated		I-19
Bay 4-5 ST-1	Repair bottom flange and web at north end	1			I-19
Bay 4-5 ST-9	Repair bottom flange and web at north end	1			I-19
Bay 5-6 ST-9	Repair bottom flange and web at north end	1			I-19
Bay 6-7 ST-1	Repair bottom flange at north end	1			I-20
Bay 6-7 ST-9	Repair bottom flange and web at north end	2			I-20
Bay 7-8 ST-1	Repair underside of top flange and top surface of bottom flange at north end	2			I-20
ST-9	Repair bottom flange and web at north end	1			I-20

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
SPAN B6					
Bay 2-3	ST-1	2			I-21
Bay 3-4	ST-1	2			I-21
		1			
Bay 4-5	ST-1	1			I-21
Bay 5-6	ST-9	2			I-21
		1			
Bay 6-7	ST-1	2			I-21
		2			
Bay 6-7	ST-9	2			I-21
		1			

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
C-DECK					
SPAN B7					
Bay 0-1	Sidewalk	Patch (2) SF Area	1		I-23
	ST1-2	Patch (1) SF Area	1		
	ST3-ST4	Patch (1) SF Area	1		
	ST5-ST6	Patch (6) SF Area	1		
Bay 1-2	ST5	Patch (10) SF Area	2		I-23
Bay 2-3	ST5-ST6	Patch (1) SF Area	1		I-23
Bay 3-4	ST6	Patch (15) SF Area	2		I-23
Bay 4-5	ST4	Patch (15) SF Area	2		I-23
Bay 6-7	Sidewalk	Replace (5) SF Area	1		I-23
	ST4-ST5	Replace (10) SF Area	1		
	ST5	Patch (10) SF Area	2		
Bay 7-8	ST4-ST5	Replace (5) SF Area	1		I-23
	ST7-ST8	Replace (5) SF Area	1		
	ST1	Replace (10) SF Area	1		
SPAN B5					
Bay 0-1	Sidewalk	Replace (3) SF Area	1		I-24
	Sidewalk	Replace (5) SF Area	1		
	ST4-ST5	Patch (8) SF Area	1		
Bay 1-2	ST7-8	Patch (4) SF Area	2		I-24
Bay 2-3	ST4-5	Patch (4) SF Area	1		I-24
	Sidewalk	Replace (5) SF Area	1		
Bay 3-4	ST3-4	Patch (5) SF Area	1		I-24
	ST4-5	Replace (5) SF Area	1		I-24
	ST6-7	Patch (5) SF Area	1		I-24
	ST5	Patch (20) SF Area	2		
Bay 4-5	ST5-6	Patch (5) SF Between Stringers	1		I-24
	Sidewalk	Patch (5) SF Area	1		
	ST2-3	Patch (4) SF Area	1		
Bay 5-6	ST2-3	Patch (4) SF Area	1		I-25
	ST7-8	Patch (4) SF Area	1		
Bay 6-7	ST3-4	Replace (15) SF Area	1		I-25
Bay 7-8	ST6	Patch (10) SF Area	2		I-25
	ST7-8	Replace (5) SF Area	1		

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
SPAN B4					
Bay 0-1 Sidewalk	Replace (5) SF Area	1			I-25
Bay 0-1 ST2-3	Patch (6) SF Area	1			I-25
Bay 1-2 ST6-7	Patch (5) SF Area	1			I-25
Bay 2-3 ST1-3	Patch (5) SF Area	1			I-25
Bay 2-3 ST2-4	Patch (5) SF Area	1			I-25
	Patch (10) SF Between Stringers	2			
Bay 3-4 ST2-4	Patch (10) SF Between Stringers	2			I-25
	Patch (5) SF Between Stringers	2			
Bay 4-5 ST3-4	Patch (1) SF Area	2			I-26
	Patch (10) SF Area	2			
Bay 5-6 ST3-4	Patch (5) SF Area	2			I-26
	Patch (10) SF Area	2			
	Patch (5) SF Area	1			
Bay 6-7 ST-4	Patch (8) SF Area	2			I-26
	Patch (5) SF Between Stringers	1			
Bay 7-8 ST2-4	Patch (10) SF Between Stringers	1			I-26
	Patch (5) SF Area	1			
	Patch (5) SF Area	1			
SPAN B6					
Bay 0-1 ST2-4	Patch (5) SF Area	2			I-26
	Patch (5) SF Area	2			
	Patch (2) SF Area	2			
Bay 1-2 ST3-4	Patch (2) SF Area	2			I-26
	Patch (2) SF Area	2			
Bay 2-3 ST2-4	Patch (5) SF Area	2			I-26
	Patch (2) SF Area	2			
Bay 3-4 ST4-5	Patch (5) Between Stringers	1			I-26
	Replace (5) SF Area	1			
	Patch (4) SF Area	1			
	Patch (4) SF Area	1			
	Patch (5) SF Area	2			
Bay 4-5 ST4-5	Replace (5) SF Area	1			I-26
	Patch (10) SF Area	2			
	Patch (10) SF Area	2			

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 5-6	ST7-8 Replace (2) SF Area	1			I-26
	ST5 Patch (10) SF Area	2			
	ST5-8 Patch (4) SF Area	1			
Bay 6-7	ST5-6 Patch (4) SF Area	1			I-27
	ST5-8 Patch (5) SF Area	2			
Bay 7-8	ST5 Patch (10) SF Area	2			I-27
	ST4-8 Patch (10) SF Area	2			

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
C-SIDEWALK SPAN B7					
Bay 7-8	Repair upper sidewalk bracing at north end	2			I-28
SPAN B5 Bay 7-8	Repair deteriorated upper sidewalk bracing around manhole	2			I-28
SPAN B6 Bay 3-4	Repair deteriorated upper sidewalk bracing	2			I-29
Bay 4-5	Repair deteriorated sidewalk bracing angles	2			I-29
Bay 5-6	Repair sidewalk upper bracing gusset at north end	2			I-29
Bay 6-7	Repair north end of west sidewalk channel	2			I-29
Bay 7-8	Repair lower flange of sidewalk channel at north end	2			I-29

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
D-TOP LATERAL BRACING					
SPAN B7					
Bay 0-1	Repair south east gusset	2			I-30
Bay 1-2	Repair sagging bracing angles	1			I-30
Bay 2-3	Repair northeast gusset	2			I-30
Bay 3-4	Replace 9 northeast gusset rivets	1			I-30
Bay 4-5	Replace 7 southeast gusset rivets	1			I-30
Bay 6-7	Repair west bracing angles	1			I-30
Bay 3-4	Replace 4 northeast gusset rivets	1			I-30
Bay 4-5	Repair sagging west bracing angles	1			I-30
Bay 4-5	Repair southeast gusset	1			I-30
Bay 6-7	Replace 3 southeast gusset rivets	1			I-30
Bay 6-7	Repair sagging bracing angles	1			I-31
Bay 6-7	Replace 2 southeast gusset rivets	2			I-31
Bay 6-7	Repair sagging east bracing angles	1			I-31
SPAN B5					
Bay 0-1	Replace 1 southwest gusset rivet	2			I-31
Bay 0-1	Replace 3 southeast gusset rivets	1			I-31
Bay 0-1	Repair sagging east bracing angles	1			I-31
Bay 0-1	Repair deteriorated west bracing angles	1			I-31
Bay 2-3	Repair southeast gusset	2			I-32
Bay 2-3	Replace 6 southeast gusset rivets	2			I-32
Bay 2-3	Repair sagging east bracing angles	1			I-32
Bay 3-4	Repair sagging bracing angles	1			I-32
Bay 4-5	Replace 2 southeast gusset rivets	1			I-32
Bay 4-5	Repair sagging bracing angles	1			I-32
Bay 6-7	Repair deteriorated and sagging bracing angles	1			I-32
Bay 7-8	Repair northeast gusset	1			I-32
Bay 7-8	Replace 1 northwest gusset rivet	2			I-32
Bay 7-8	Replace 3 northeast gusset rivets	1			I-32
Bay 7-8	Repair deteriorated bracing angles	1			I-32

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
SPAN B4					
Bay 0-1	Repair southwest gusset	2			I-33
	Replace 4 southwest gusset rivets	2			
	Repair deteriorated bracing angles	1			
Bay 1-2	Repair middle bracing gusset	2			I-33
	Repair northeast gusset	2			
	Replace 2 northeast gusset rivets	2			
	Repair deteriorated bracing angles	1			
Bay 2-3	Repair deteriorated bracing angles	2			I-34
Bay 3-4	Repair northeast gusset	2			I-34
	Replace all northeast gusset rivets	1			
	Replace 3 northwest gusset rivets	2			
	Repair deteriorated bracing angles	1			
Bay 4-5	Replace 1 southeast gusset rivet	2			I-34
Bay 5-6	Repair northeast gusset	2			I-35
	Replace all northeast gusset rivets	1			
	Repair deteriorated bracing angles	1			
Bay 6-7	Repair deteriorated bracing angles	1			I-35
Bay 7-8	Replace 5 northwest gusset rivets	1			I-35
	Replace 10 northeast gusset rivets	1			
	Repair deteriorated bracing angles	1			
SPAN B6					
Bay 0-1	Repair deteriorated and sagging bracing angles	1			I-36
Bay 1-2	Repair northeast gusset	2			I-36
	Replace 7 northeast gusset rivets	1			
	Repair east bracing angles	1			
Bay 2-3	Repair deteriorated and sagging bracing angles	1			I-36
Bay 3-4	Replace 3 northeast gusset rivets	1			I-37
	Repair deteriorated and sagging bracing	1			
Bay 4-5	Repair deteriorated and sagging bracing	1			I-37
Bay 5-6	Repair deteriorated connection angles of northeast gusset	1			I-37

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 5-6	Replace 11 northeast gusset rivets				
	Repair sagging bracing angles	1			
Bay 6-7	Replace 3 southeast gusset rivets	1			I-37
Bay 7-8	Repair connection angles of north-	2			I-38
	east gusset				
	Repair deteriorated and sagging	1			
	bracing				

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
E-BOTTOM LATERAL BRACING					
SPAN B7					
Bay 0-1	Repair east bracing angles	1	I-39		I-39
Bay 3-4	Replace 1 mid strut gusset rivet	2			I-39
Bay 7-8	Replace 5 middle gusset rivets	2			
Bay 7-8	Replace 8 gusset rivets at L4E	2			
Bay 7-8	Replace 5 gusset rivets at L4W	1			
Bay 7-8	Repair deteriorated west bracing angle	2			
SPAN B5					
Bay 0-1	Repair flanges of strut at L0	2			I-40
Bay 2-3	Replace 3 gusset rivets at LOE	1			
Bay 2-3	Repair deteriorated east bracing angle	1			
Bay 3-4	Replace 4 gusset rivets at L2E	1			I-40
Bay 3-4	Repair deteriorated east bracing angle	2			
Bay 4-5	Replace 1 middle gusset rivet at L3	2			I-41
Bay 4-5	Replace 1 gusset rivet at L4E	2			I-41
Bay 5-6	Repair deteriorated east bracing angles	1			
Bay 5-6	Replace 2 gusset rivets at L5E	2			I-41
Bay 6-7	Repair deteriorated lacing of strut at L6	2			
Bay 6-7	Replace 2 middle gusset rivets	2			I-42
Bay 7-8	Repair deteriorated bracing angles	1			I-42
SPAN B4					
Bay 0-1	Replace rivets of jacking girder at L0	1			I-42
Bay 0-1	Replace 8 gusset rivets at LOE	2			
Bay 0-1	Replace 5 gusset rivets at LOW	2			
Bay 0-1	Repair deteriorated bracing	1			

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 0-1	Repair deteriorated bottom flanges of strut at L1	2			I-42
Bay 1-2	Replace 2 gusset rivets at L2E	2			I-43
Bay 2-3	Repair bottom flange of strut at L2W	2			
	Repair bottom flange of strut at L3E	2			I-43
	Repair east deteriorated bracing angles	1			
	Repair 2 deteriorated laces of strut at L3	2			
	Replace 1 middle gusset rivet	1			
Bay 4-5	Repair bottom flange of strut at L4	2			I-44
Bay 5-6	Repair deteriorated bracing angles	1			I-45
Bay 6-7	Repair bottom flange of strut at L5	2			I-45
	Repair deteriorated east bracing angles	1			
	Repair south lower flange of strut at L7	2			
Bay 7-8	Repair deteriorated flanges of strut at L8	1			I-46
	Repair deteriorated bottom flange of at L7	2			
SPAN B6					
Bay 0-1	Replace 1 middle gusset rivet at L1	2			I-46
Bay 1-2	Repair deteriorated gusset at L2E	2			I-47
	Replace 1 gusset rivet at L2E	2			
	Repair deteriorated bottom flange of strut L2 at L2E	2			
Bay 3-4	Repair deteriorated bottom flange of strut L4 at L4W	2			I-47
	Repair deteriorated gusset at L4W	2			
	Replace 1 gusset rivet at L4W	2			
Bay 5-6	Replace 1 middle gusset rivet at L5	2			I-48
	Repair deteriorated lacing of strut at L5	2			
	Repair deteriorated gusset at L6E	1			
	Repair deteriorated bottom flange of strut at L6	2			

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 7-8	Repair deteriorated top flange of strut at L7E Repair deteriorated gusset at L8E Repair deteriorated east bracing angle Repair deteriorated top flange of strut L8	2 2 1 2			I-48

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
F-SWAY BRACING					
SPAN B4					
Bay 0-1 @ 0	Repair deteriorated lower west bracing	1			I-50
Bay 7-8 @ 8	Repair deteriorated middle gusset Repair deteriorated bracing angles	1 1			I-51
SPAN B6					
Bay 7-8 @ 8	Repair deteriorated upper west bracing angles	1			I-52

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
I-ON DECK INSPECTION					
DECK	Clean all clogged scupper covers	3			I-54
	Seal all cracks in asphalt pavement surface	3			
RAILING	Replace approximately 56 palings with excessive deterioration	3			I-56
LIGHTPOSTS	Replace 2 missing cover plate bolts on west side at panel point 0 of span B5	3			I-59

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
A-TRUSS MEMBERS Span B3					
LOW-L1E	Repair deteriorated lacing	2			I-60
LOW-UOW	Replace +5% of lacing	1			I-60
LOW-L1W	Replace +5% of lacing	1			I-60
U1W-L2W	Repair deteriorated lower lacing	2			I-61
L3W-U3W	Repair deteriorated lacing	2			I-61
L3E-L4E	Repair middle stiffener plate at north end	2			I-61
L4E-L5E	Repair middle stiffener plate at south end	2			I-61
L5E-L6E	Replace deteriorated upper stay plate at south end	2			I-61
L5W-U5W	Replace 4 deteriorated nuts for upper stay plate	2			I-62
U5E-L6E	Replace +90% of lower lacing	2			I-62
L7E-U7E	Replace 1 deteriorated nut at upper middle stiffener plate	2			I-62
L6W-U7W	Repair deteriorated lacing	2			I-62
L7W-U7W	Repair deteriorated lacing	2			I-62
L7E-L8E	Repair deteriorated lacing	2			I-63
U7E-L8E	Repair deteriorated lower lacing	2			I-63
L8E-U9E	Repair deteriorated lacing	2			I-63
L8E-L9E	Repair deteriorated upper lacing	2			I-63
L9E-U10E	Replace deteriorated north upper stay plate	1			I-63
L9E-U10E	Replace deteriorated south upper stay plate	1			I-63
L9E-U10E	Replace 3 flange rivets at south end	1			I-63
L8W-L9W	Repair deteriorated upper laces	2			I-63
L8W-L9W	Replace deteriorated south upper stay plate	1			I-64

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Span B1					
U9E-L10E	Repair deteriorated lacing	2			I-65
PP L10E	Replace 5 gusset rivets	2			I-65
L10E-U10E	Repair +40% of laces	2			I-65
L12E-L13E	Replace +10% of top lacing rivets	2			I-65
L11W-U11W	Replace 6 lacing rivets	2			I-65
L11W-L12W	Replace south upper stay plate	2			I-65
	Replace north upper and lower stay plates	2			I-65
	Repair shim plates at north end	2			I-65
L13E-U13E	Repair +70% of lacing	2			I-66
L11E-L12E	Replace south upper and lower stay plates	2			I-66
					I-66
U10E-U11E	Repair deteriorated lacing	1			I-66
L10E-U11E	Repair deteriorated lacing	1			I-66
L11E-L12E	Replace north upper stay plate	2			I-66
LE-U13E	Replace 7 top lacing rivets	2			I-66
U12E-U13E	Replace north upper stay plate	2			I-66
U13E-L14E	Repair +60% of lacing	2			I-67
L13E-L14E	Repair +50% of lacing	2			I-67
L14E-U14E	Repair +45% of lacing	2			I-67
L14E-L15E	Replace south upper and lower stay plates	2			I-67
					I-67
U13W-U14W	Replace deteriorated north stay plate	2			I-67
					I-67
L14W-L15W	Replace south upper and lower stay plates	2			I-67
					I-67
U14E-U15E	Replace 1 stay plate rivet	2			I-67
L14E-L15E	Replace north lower stay plate	2			I-68
L15E-L16E	Replace south upper and lower stay plates	2			I-68
					I-68
	Replace north lower stay plate	2			I-68
U15E-L16E	Replace deteriorated lacing	1	Laces are badly deteriorated		I-68
	Replace +40% of lacing rivets	1			I-68
U15E-U16E	Replace deteriorated north stay plate	2			I-68
					I-68
	Replace deteriorated lacing	2			I-68
					I-68

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
L16E-U16E	Repair +10% of lacing	2			I-68
L16E-U15'E	Repair deteriorated lower lacing	1			I-68
L14W-L15W	Replace north upper and lower stay plates	1			I-68
U15W-L16W	Replace +50% of lacing	1			I-68
L15W-L16W	Replace north and south lower and upper stay plates	1			I-68
L16W-L15'W	Replace north and south lower and upper stay plates	2			I-68
U16E-U15'E	Replace deteriorated north stay plate	2			I-69
U15'E-U14'E	Replace deteriorated south stay plate	2			I-69
L15'E-L14'E	Replace south upper and lower stay plates	1			I-69
U14'W-U15'W	Replace deteriorated north stay plate	2			I-69
L15'E-L14'E	Replace deteriorated north upper stay plate	2			I-69
U13'E-U12'E	Replace +60% of lacing	1	Laces are badly deteriorated		I-69
U13'E-L12'E	Replace deteriorated south stay plate	2			I-69
U13'E-L12'E	Replace deteriorated south lower stay plate	2			I-69
U15'W-L14'W	Repair +30% of lacing	2			I-69
L15'W-L14'W	Replace +60% of lacing rivets	1			I-69
U13'W-L12'W	Replace deteriorated north upper stay plate	2			I-69
U13'W-L12'W	Repair south middle stiffener plate	2			I-70
U13'W-L12'W	Replace deteriorated south lower stay plate	2			I-70
U12'E-U11'E	Replace +60 lower lacing rivets	2			I-70
U13'E-L12'E	Replace 1 deteriorated lacing	2			I-70
U13'E-L12'E	Replace deteriorated north lower stay plate	2			I-70
L12'E-L11'E	Replace south upper and lower stay plates	2			I-70

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
U12'E-U11'E	Repair +45% of lacing	2			I-71
L12'E-U11'E	Replace 2 deteriorated laces	2			I-71
L11'E-U11'E	Repair +35% of lacing	1			I-71
PP L12'W	Repair shim plates inside chord	2			I-71
L12'W-L11'W	Replace deteriorated south upper and lower stay plates	2			I-71
L11'E-L10'E	Replace deteriorated north upper stay plate	2			I-71
	Repair deteriorated north middle stiffener plate	2			I-71
	Replace 12 deteriorated laces	1			I-71
	Replace 3 top lacing rivets	2			I-71
L10'E-L9'E	Replace deteriorated south upper stay plate	2			I-72
	Replace 4 middle stiffener plate rivets	2			I-72
U11'W-L10'W	Replace deteriorated north lower stay plate	2			I-72
U10'E-U9'E	Replace 8 deteriorated laces	1			I-72
L10'E-L9'E	Replace deteriorated north upper stay plate	2			I-72

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
SPAN B2					
L9'E-L8'E	Replace deteriorated north upper stay plate	2			I-72
L8'E-L7'E	Replace 4 deteriorated lower laces	2			I-72
U9'W-U8'W	Replace 5 deteriorated laces	2			I-72
L6'E-L5'E	Replace 5 deteriorated upper stay plate rivets	1			I-73
L5'E-L4'E	Replace 6 deteriorated upper stay plate rivets	2			I-73
L1'W-L0'W	Replace <u>+10%</u> lower laces	1			I-74

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
B-FLOOR BEAMS					
SPAN B3					
FB 0 N	Replace 2 bottom flange rivets at east end	2			I-75
FB 1 N	Repair floor beam stiffener at west end	2			I-75
FB 1 N	Replace 3 bottom flange rivets at east end	2			I-75
FB 3 N	Repair floor beam stiffener at west end	2			I-75
FB 3 N	Replace 7 bottom flange rivets at east end	1			I-75
FB 4 N	Repair floor beam stiffener at west end	2			I-75
FB 4 N	Replace 6 bottom flange rivets at east end	1			I-75
FB 5 S	Repair top and bottom flanges at east end	2			I-75
FB 5 S	Replace 3 bottom flange rivets at east end	1			I-75
FB 5 N	Replace 6 bottom flange rivets at east end	1			I-75
FB 5 N	Repair floor beam stiffener at west end	2			I-75
FB 6 N	Replace 1 bottom cover rivet	2			I-75
FB 6 N	Repair 2 floor beam stiffeners	1			I-76
FB 7 S	Replace 7 bottom flange rivets at east end	1			I-76
FB 7 S	Replace 2 bottom flange rivets at east end	1			I-76
FB 7 N	Repair floor beam stiffener at west end	1			I-76
FB 8 N	Repair bottom flange at west end	2			I-76
FB 8 N	Repair floor beam stiffener at east end	2			I-76
FB 8 N	Replace 4 bottom flange rivets at east end	1			I-76

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
SPAN B1					
FB 9 N	Repair bottom flange at east end	2			I-76
FB 10 S	Replace deteriorated bottom flange and cover rivets	1			I-77
FB 10 N	Replace 1 missing bolt at south end of ST-1	1			I-77
	Replace 2 east clip angle rivets	1			I-77
	Replace 3 bottom flange rivets at west end	2			I-77
FB 11 S	Replace 1 deteriorated bottom cover rivet	2			I-77
	Repair web surface at west end	2			I-77
FB 11 N	Replace 6 bottom flange rivets at east end	2			I-77
	Repair floor beam stiffener angle at east end	2			I-77
	Replace 6 bottom flange rivets at west end	2			I-77
	Replace 5 bottom cover rivets at west end	1			I-77
FB 12 S	Replace 2 bottom flange rivets at west end	1			I-78
	Replace 1 top flange rivet at west end	2			I-78
	Repair floor beam stiffener at west end	2			I-78
	Replace 5 bottom flange rivets at east end	1			I-78
FB 13 N	Replace 1 bottom cover rivet at west end	2			I-78
FB 14 S	Repair floor beam stiffener at west end	2			I-78
FB 15 S	Repair web at west end	4			I-78
FB 16 S	Repair floor beam stiffener at west end	2			I-78
FB 15' S	Repair web at west end	2			I-79
	Replace 2 top flange rivets at west end	2			I-79

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
FB 14' S	Replace 1 bottom flange rivet at west end	2			I-79
	Replace 2 bottom flange rivets at east end	2			I-79
FB 13' S	Replace 7 bottom flange rivets at east end	1			I-79
	Repair top flange at east end	2			I-79
FB 13' N	Replace 4 bottom flange rivets at east end	2			I-79
FB 12' S	Replace 4 bottom flange rivets at east end	1			I-79
FB 12' N	Replace 12 bottom flange rivets at east end	1			I-79
FB 11' N	Repair floor beam stiffener at west end	2			I-80
FB 10' S	Repair web at east end	2			I-80
	Replace 3 bottom flange rivets at west end	2			I-80
FB 10' N	Replace 4 bottom flange rivets at east end	2			I-80
	Replace 4 bottom flange rivets at west end	1			I-80
FB 9' S	Replace 1 bottom cover rivet	2			I-80
	Repair web at west end	2			I-80
	Repair 2 floor beam stiffeners at west end	2			I-80

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
SPAN B2					
FB 8' S	Replace 5 lower flange rivets at east end	1			I-81
FB 7' S	Repair floor beam stiffener at west end	2			I-81
FB 6' S	Repair floor beam stiffeners at west end	2			I-81
FB 6' N	Replace 4 bottom flange rivets at east end	1			I-81
FB 5' S	Replace 3 bottom flange rivets at east end	1			I-81
FB 4' S	Replace 6 bottom flange rivets at east end	1			I-81
FB 4' N	Replace 7 bottom flange rivets at east end	1			I-81
FB 4' N	Repair top and bottom flanges at east end	2			I-81
FB 4' N	Replace 4 bottom flange rivets at west end	2			I-81
FB 3' S	Replace 2 bottom flange rivets at east end	2			I-81
FB 3' S	Repair floor beam stiffener at west end and east end	2			I-81
FB 2' S	Replace 6 bottom flange rivets at east end	2			I-81
FB 2' S	Repair floor beam stiffener at west end	2			I-82
FB 1' S	Replace 8 bottom flange rivets at east end	1			I-82
FB 1' S	Repair floor beam stiffener at east end	2			I-82
FB 1' S	Replace 2 bottom flange rivets at west end	2			I-82
FB 1' S	Replace 9 bottom flange rivets at east end	1			I-82
FB 1' S	Repair floor beam stiffener at east end	2			I-82

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
FB 0' S	Replace <u>+80%</u> of bottom flange rivets Repair 2 floor beam stiffeners Replace 3 bottom flange rivets at east end	1 2 1			I-82 I-82 I-82

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
B-STRINGERS					
SPAN B3					
Bay 8-9	ST-9	Repair underside of top flange	4		I-85
SPAN B1					
Bay 9-10	ST-1	Repair bottom flange at south end	2		I-85
Bay 9-10	ST-7	Repair deteriorated stiffener at north end	2		I-85
Bay 10-11	ST-9	Repair underside of top flange	4		I-85
Bay 16-15'	ST-1	Repair deteriorated top and bottom flanges	2		I-86
Bay 11'-10'	ST-4		2		I-86
Bay 11'-10'	ST-5	Replace 6 rivets at north end	2		I-86
Bay 10'-9'	ST-5	Repair underside of top flange	4		I-87
Bay 10'-9'	ST-5	Repair deteriorated bottom flange at north end	4		I-87
Bay 10'-9'	ST-6		4		I-87
Bay 10'-9'	ST-8	Replace 17 rivets at south support	1		I-87
SPAN B2					
Bay 4'-3'	ST-9	Repair underside of top flange	4		I-88
Bay 3'-2'	ST-9	Repair underside of top flange	4		I-88

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
C-DECK					
SPAN B3					
Bay 1-2 Sidewalk	Patch (2) SF Area	1			I-89
	ST4-8 Patch (5) SF Area	2			I-89
	ST4-5 Patch (4) SF Area	1			I-89
	ST5-6 Patch (2) SF Area	1			I-89
	ST5,6 & 7 Patch (20) SF Area	2			I-89
	ST4-6 Patch (2) SF Area	2			I-89
	ST7-8 Patch (2) SF Area	2			I-89
Bay 2-3 ST4 & 5	Patch (20) SF Area	2			I-89
	ST6-8 Patch (2) SF Area	2			I-89
	ST4-6 Patch (4) SF Area	2			I-89
Bay 3-4 ST4-5	Patch (2) SF Area	2			I-89
	Sidewalk Patch (4) SF Area	1			I-89
	ST4,5,6,7 Patch (20) SF Area	2			I-89
Bay 4-5 ST4-5	Patch (2) SF Area	2			I-89
	ST5-6 Patch (2) SF Area	2			I-89
	ST6-7 Patch (2) SF Area	1			I-89
	ST5,6,7,8 Patch (20) SF Area	2			I-89
Bay 5-6 ST5-6	Patch (30) SF Between Stringers	1			I-89
	ST4-8 Patch (5) SF Area	2			I-89
	ST5,6,7,8 Patch (30) SF Area	2			I-89
Bay 6-7 ST5-6	Patch (5) SF Area	1			I-90
	ST7-8 Patch (10) SF Area	2			I-90
Bay 7-8 ST7-8	Patch (5) SF Area	2			I-90
SPAN B3					
Bay 8-9 ST5	Patch (10) SF Area	2			I-90
Bay 9-10 ST3 & 4	Patch (20) SF Area	2			I-90
	Sidewalk Patch (5) SF Area	2			I-90
	ST7-8 Patch (10) SF Area	2			I-90
SPAN B1					
Bay 10-11 ST4-6	Patch (5) SF Area	1			I-90
Bay 11-12 ST2-3 & 5	Patch (20) SF Area	2			I-90
	Sidewalk Patch (10) SF Area	1			I-90

-85-

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 12-13	ST3,4,5,6 Patch (20) SF Area	2			I-90
	ST7-8 Patch (5) SF Between Stringers	1			I-90
	ST2-4 Patch (5) SF Area	2			I-90
	ST3-4 Patch (5) SF Area	2			I-90
Bay 13-14	ST5-6 Patch (10) SF Area	1			I-90
	ST4-8 Patch (5) SF Area	2			I-90
Bay 14-15	ST2-3 Patch (5) SF Area	1			I-91
	ST2,3,5 Patch (20) SF Area	2			I-91
	Sidewalk Patch (5) SF Area	1			I-91
Bay 15-16	ST4-6 Patch (10) SF Area	2			I-91
	ST5 Patch (10) SF Area	2			I-91
	ST5-6 Patch (5) SF Area	1			I-91
	ST4-5 Patch (30) SF Between Stringers	1			I-91
Bay 16-15'	Sidewalk Patch (4) SF Area	1			I-91
	ST4-7 Patch (5) SF Area	1			I-91
	ST3,4,5 Patch (20) SF Area	2			I-91
	ST4-5 Patch (4) SF Area	1			I-91
Bay 15'-14'	ST2-3 Patch (5) SF Area	2			I-91
	ST3 & 5 Patch (20) SF Area	2			I-91
	ST4-5 Patch (5) SF Area	1			I-91
	Sidewalk Patch (10) SF Area	2			I-91
Bay 14'-13'	Sidewalk Patch (4) SF Area	2			I-91
	ST4-5 Patch (5) SF Between Stringers	1			I-91
	ST5-6 Patch (5) SF Area	1			I-91
	ST3-5 Patch (20) SF Area	2			I-91
Bay 13'-12'	ST2-3 Patch (2) SF Area	1			I-91
	ST4-5 Patch (4) SF Area	1			I-91
	ST5 Patch (10) SF Area	2			I-91
	ST3-8 Patch (10) SF Area	2			I-91
	Sidewalk Patch (5) SF Area	2			I-91
Bay 12'-11'	ST3-8 Patch (5) SF Area	2			I-91
	ST4 & 5 Patch (10) SF Area	2			I-91
	Sidewalk Patch (5) SF Area	2			I-91
Bay 11'-10'	ST6-7 Patch (5) SF Area	2			I-91
	ST7 & 8 Patch (10) SF Area	2			I-91
	Sidewalk Patch (5) SF Area	1			I-91
Bay 10'-9'	ST4-5 Patch (4) SF Area	1			I-91
	Sidewalk Patch (5) SF Area	1			I-91

-86-

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
SPAN B2					
Bay 9'-8'	ST5-6 Patch (4) SF Area	2			I-92
	ST5 Patch (4) SF Area	2			I-92
Bay 8'-7'	ST3-4 Patch (5) SF Area	2			I-92
	Sidewalk Patch (2) SF Area	1			I-92
	ST5-6 Patch (5) SF Area	2			I-92
Bay 7'-6'	ST2-3 Patch (5) SF Area	2			I-92
	ST3-4 Patch (5) SF Area	2			I-92
Bay 6'-5'	ST2-3 Patch (5) SF Area	2			I-92
	Sidewalk Patch (2) SF Area	1			I-92
	ST5-6 Patch (5) SF Between Stringers	1			I-92
Bay 5'-4'	ST5-6 Patch (4) SF Area	1			I-92
	Sidewalk Patch (2) SF Area	1			I-92
Bay 3'-2'	ST7-8 Patch (4) SF Area	1			I-92
	ST2-3 Patch (5) SF Area	1			I-92
Bay 2'-1'	ST4-5 Patch (10) SF Area	1			I-92
	Sidewalk Patch (4) SF Area	2			I-92
Bay 1'-0'	ST2-3 Patch (5) SF Area	1			I-92
	ST4 & 5 Patch (10) SF Area	2			I-92
	Sidewalk Patch (4) SF Area	1			I-92

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
C-SIDEWALK SPAN B3					
Bay 0-1	Replace upper bracing gusset at south end	1			I-93
Bay 1-2	Replace 3 nuts at east sidewalk channel clip angle	1			I-93
Bay 4-5	Repair lower bracing and gusset at north end	2			I-93
Bay 5-6	Repair lower bracing at north end	2			I-93
Bay 6-7	Replace 4 nuts at north and south ends of bracing gussets	1			I-93
Bay 7-8	Repair deteriorated bracing gussets	2			I-93
Bay 8-9	Replace 3 deteriorated bracing angles	2			I-93
Bay 8-9	Replace 3 bracing gusset rivets at north end	1			I-93
Bay 8-9	Repair deteriorated bracing and bracing gusset at north end	2			I-93
Bay 8-9	Replace 3 deteriorated bracing angles	2			I-94
Bay 8-9	Repair 3 deteriorated bracing gussets	2			I-94
SPAN B1					
Bay 9-10	Repair deteriorated upper flange of west channel at south end	2			I-94
Bay 12-13	Repair deteriorated bracing gusset at north end	2			I-94
Bay 10'-9'	Repair deteriorated bracing around manhole	1			I-94
Bay 11'-10'	Repair sidewalk channel support brackets on both the east and west sides	1			I-94
Bay 9'-8'	Replace 3 clip angle rivets at north end	1			I-94

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 9'-8'	Repair deteriorated bracing at south end	2			I-94
	Repair deteriorated lower flange of east channel	2			
Bay 8'-7'	Replace 3 deteriorated bracing gussets	1			I-95
Bay 1'-0'	Repair 3 deteriorated bracing gussets at north end	1			I-95

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
C-WALKWAY					
SPAN B1					
Bay 9-10	Tighten loose grating sections	3			I-96
Bay 10'-11'	Tighten loose grating sections	3			I-96
Bay 11-12	Repair deteriorated north-south supporting angle	2			I-96
Bay 14'-13'	Repair deteriorated north-south supporting angle	2			I-96
SPAN B2					
Bay 9'-8'	Repair all deteriorated east-west supporting angles	2			I-96

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
D-TOP LATERAL BRACING					
SPAN B3					
Bay 0-1	Replace deteriorated southeast upper gusset	1			I-97
	Replace 20 southeast upper gusset rivets	1			
	Replace 9 southwest lower gusset rivets	9			
	Replace deteriorated southwest lower gusset	1			
Bay 1-2	Replace 13 southeast upper gusset rivets	1			I-97
	Repair deteriorated southeast lower gusset	1			
	Replace 8 southeast lower gusset rivets	1			
	Repair deteriorated southwest lower gusset	2			
	Repair deteriorated bracing U1W-U2E at U1W	2			
	Repair deteriorated lower flange of bracing U1E-U2W at U2W	1			
Bay 2-3	Replace 2 southwest lower gusset rivets	2			I-98
	Repair southeast upper gusset	2			
	Replace 9 southeast upper gusset rivets	2			
	Replace 6 northeast upper gusset rivets	2			
	Replace 5 northeast lower gusset rivets	1			
Bay 3-4	Repair northeast lower gusset	2			I-98
	Replace 2 northeast upper gusset rivets	2			
	Repair northwest lower gusset	2			

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 3-4	Replace 1 northeast lower gusset rivet Repair southeast upper gusset Replace 24 southeast upper gusset rivets Repair deteriorated southeast lower gusset Replace 15 southeast lower gusset rivets	1 1 1 1 1			I-98
Bay 4-5	Repair deteriorated southwest lower gusset Replace 12 northeast upper gusset rivets Repair deteriorated northeast lower gusset Repair deteriorated southeast upper gusset Replace 20 southeast upper gusset rivets Replace deteriorated southeast lower gusset Replace 11 southeast lower gusset rivets	2 2 2 1 1 1 1	Very badly deteriorated		I-99
SPAN B1					
Bay 9-10	Replace 9 lower flange rivets of strut at U10 Replace 2 lower gusset rivets at U10W	1 2			I-100
Bay 11-12	Replace 10 lower flange rivets of strut at U11 Replace 7 lower flange rivets of strut at U12	2 1			I-100
Bay 13-14	Replace 6 lower flange rivets of strut at U13 Repair deteriorated upper gusset at U14E Repair deteriorated lower flange of bracing U13W-U14E at U14E	1 1 2			I-100

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 13-14	Replace 2 lower gusset rivets at U14E	2			I-101
Bay 15-16	Replace 7 lower gusset rivets at U15E	2			I-101
Bay 16-15'	Replace 3 lower gusset rivets at U16E	2			I-102
Bay 14'-13'	Replace 1 upper gusset rivet at U15'W	2			I-102
Bay 12'-11'	Replace 1 upper gusset rivet at U14'W	2			I-102
Bay 12'-11'	Repair deteriorated lower flange of bracing U14'W-U13'E at U13'E	2			I-102
Bay 12'-11'	Replace 2 upper gusset rivets at U12'W	2			I-102
Bay 12'-11'	Replace 2 lower gusset rivets at U12'E	2			I-102
Bay 10'-9'	Replace 10 lacing rivets at strut U11'	2			I-103
Bay 10'-9'	Repair +50% lower laces of strut at U10'	1			I-103
Bay 10'-9'	Replace 10 lacing rivets at strut U10'	1			I-103
Bay 10'-9'	Repair deteriorated upper gusset at U10'E	2			I-103
SPAN B2					
Bay 5'-4'	Repair deteriorated northwest lower gusset	2			I-104
Bay 5'-4'	Repair deteriorated northeast upper gusset	1			I-104
Bay 5'-4'	Replace 26 northeast upper gusset rivets	1			I-104
Bay 5'-4'	Replace deteriorated northeast lower gusset	1	Very badly deteriorated		I-104
Bay 5'-4'	Replace 13 northeast lower gusset rivets	1			I-104
Bay 5'-4'	Repair deteriorated lower flange of bracing L5'W-L4'E at L4'E	2			I-104

-93-

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 5'-4'	Repair deteriorated southeast upper gusset	2			I-104
	Repair deteriorated southeast lower gusset	2			
	Replace 1 southeast lower gusset rivet	2			
	Replace 2 southeast upper gusset rivets	2			
Bay 4'-3'	Replace deteriorated northwest lower gusset	2			I-105
	Replace 3 northeast upper gusset rivets	2			
	Replace deteriorated northeast lower gusset	2			
	Replace 5 northeast lower gusset rivets	2			
	Repair deteriorated corner of southeast lower gusset	2			
	Replace 3 southeast lower gusset rivets	2			
Bay 3'-2'	Repair deteriorated northwest upper and lower gussets	2			I-105
	Replace 16 northeast upper gusset rivets	2			
	Repair deteriorated northeast upper gusset	2			
	Repair deteriorated northeast lower gusset	2			
	Replace 1 northeast lower gusset rivet	2			
	Repair deteriorated southeast lower gusset	2			
Bay 2'-1'	Replace 4 northwest lower gusset rivets	1			I-106
	Repair deteriorated northeast upper gusset	1			
	Replace 13 northeast upper gusset rivets	1			
	Repair deteriorated northeast lower				

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 2'-1'	Replace 1 northeast lower gusset rivet	1			I-106
	Repair deteriorated southeast lower gusset	2			
Bay 1'-0'	Replace 3 northwest upper gusset rivets	2			I-107
	Repair deteriorated northwest lower gusset	1			
	Repair deteriorated northeast upper and lower gussets	1			
	Replace +90% of northeast upper gusset rivets	1			
	Repair lower flange of bracing L1'W-L0'E at northeast gusset	2			

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
E-BOTTOM LATERAL BRACING					
SPAN B3					
Bay 0-1	Replace +75% of laces of strut at L0	1			I-109
Bay 2-3	Repair +25% of laces of strut L1	1			I-109
Bay 4-5	Replace 1 upper gusset rivet at L2E	2			
	Replace 1 upper gusset rivet at L3W	1			
	Replace 1 upper gusset rivet at L3E	2			
	Replace +10% of laces of strut at L4	1			I-110
	Repair deteriorated lower gusset at L4W	2			
	Replace 2 upper gusset rivets at L4W	1			
	Replace 4 lower gusset rivets at L4E	2			
Bay 6-7	Repair deteriorated lower gussets at L5E and L4E	1			
	Replace 4 upper gusset rivets at L6W	2			I-110
	Repair deteriorated upper gusset at L6W	2			
	Replace 6 lower gusset rivets at L6W	2			
	Repair deteriorated upper and lower gussets at L6E	1			
	Replace 3 lower gusset rivets at L6E	2			
	Repair deteriorated upper gussets at L7E	2			
	Replace 5 lower gusset rivets at L7E	2			
Bay 8-9	Replace 3 deteriorated laces of strut at L7	1			I-111
	Replace 1 deteriorated lace of strut at L8	1			
	Replace 3 upper gusset rivets at L8E	2			
	Repair deteriorated lower gusset at L8E	2			
Bay 8-9	Repair upper and lower flanges of bracing L7W-L8E	2			I-111
	Repair deteriorated upper gusset at L9E	2			

-96-

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 8-9 SPAN B1	Replace 2 deteriorated laces of strut at L9	1			I-111
Bay 9-10 Bay 11-12	Replace 16 deteriorated laces of strut at L10 Replace 6 upper gusset rivets at L10E Replace 6 deteriorated laces of bracing L9E-L10W Replace 6 deteriorated laces of bracing L9W-L10E	1 1 1			I-112
Bay 13-14	Replace <u>+80%</u> of lower flange rivets of strut at L12	1			I-113
Bay 16-15'	Replace 9 lower flange rivets of strut at L13 Replace 8 lower flange rivets of strut at L14	2 2			I-113
Bay 14'-13'	Repair <u>+75%</u> of laces of bracing L16E-L15'W Repair deteriorated lower gusset at gusset at L15'E	2 1			I-114
Bay 12'-11'	Repair deteriorated flanges of bracing L14'E-L13'W at L14'E Replace <u>+50%</u> of lower flange rivets of strut at L13'	2 1			I-114
Bay 10'-9'	Replace <u>+40%</u> of lower flange rivets of strut at L12' Replace <u>+20%</u> of laces of strut at L10'	1 1			I-115
SPAN B2 Bay 9'-8'	Replace 10 upper laces of strut at L9' Repair deteriorated upper gusset at L9'W	1 2			I-115

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 9'-8'	Repair deteriorated upper gusset at L9'E	2			I-115
	Replace 3 deteriorated laces of bracing L9'E-L8'W	2			
	Repair deteriorated upper gusset at L8'W	2			
	Replace 5 upper gusset rivets at L8'E	2			
	Replace 6 deteriorated laces of strut at L8'	1			
Bay 7'-6'	Replace 10 deteriorated laces of strut at L7'	1			I-115
	Replace 1 upper gusset rivet at L7'W	2			
	Repair deteriorated upper and lower gussets at L7'E	2			
	Replace 4 upper gusset rivets at L7'E	2			
	Replace deteriorated upper and lower gussets at L6'W	1			
	Replace 2 upper gusset rivets at L6'W	2			
	Replace 8 lower gusset rivets at L6'W	1			
	Replace deteriorated upper and lower gussets at L6'E	1			
	Replace 9 lower gusset rivets at L6'E	2			
Bay 5'-4'	Replace 13 deteriorated laces of strut at L5'	1			I-116
	Replace 16 upper gusset rivets at L5'E	1			
	Replace 17 lower gusset rivets at L5'E	1			
	Replace deteriorated upper gusset at L4'E	1	Very badly corroded		
	Replace 7 upper gusset rivets at L4'E	1			
	Repair deteriorated lower gusset at L4'E	1			

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 5'-4'	Replace 3 deteriorated laces of strut at L4'	2			I-116
Bay 3'-2'	Repair deteriorated lower gusset at L4'W	2			
	Replace 20 lower gusset rivets at L4'W	1			I-117
	Replace <u>+60%</u> of lower gusset rivets at L3'W	2			
	Replace 10 upper gusset rivets at L3'E	2			
	Replace 1 lower gusset rivet at L3'E	2			
	Repair deteriorated lower gusset at L13'E	2			
	Replace <u>+60%</u> of lower laces of strut at L3'	2			
	Repair <u>+60%</u> of laces of strut at L2'	1			
	Replace <u>+30%</u> of lower flange rivets of strut at L2'	1			
	Repair deteriorated upper gusset at L2'E	1			
	Replace <u>+50%</u> of upper gusset rivets at L2'E	1			
	Repair <u>+40%</u> of lower laces of strut at L1'	1			I-118
Bay 1'-0'	Replace 7 upper gusset rivets at L1'	2			
	Replace 15% of deteriorated laces of strut at L0'	1			

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
F-SWAY BRACING					
SPAN B3					
Bay 0-1 @ 0	Replace <u>+75%</u> of laces of lower west bracing	1			I-119
	Replace 1 lace of upper east bracing	1			
	Replace <u>+75%</u> of laces of upper west bracing	1			
Bay 4-5 @ 5	Repair all deteriorated laces of lower west bracing	1			I-119
	Repair <u>+50%</u> of laces of upper west bracing	1			
	Repair deteriorated middle gussets	2			
Bay 5-6 @ 6	Repair <u>+75%</u> of laces of upper east bracing	2			I-119
Bay 6-7 @ 7	Replace <u>+40%</u> of laces of upper east bracing	2			I-119
	Replace <u>+50%</u> of laces of upper west bracing	1			
Bay 7-8 @ 8	Replace 1 lower west gusset rivet	2			I-120
	Repair <u>+40%</u> of laces of upper east bracing	2			
	Replace <u>+60%</u> of laces of upper west bracing	1			
Bay 8-9 @ 9	Repair <u>+80%</u> of laces of upper east bracing	2			I-120
	Repair <u>+60%</u> of laces of upper west bracing	1			
SPAN B1					
Bay 9-10	Replace all deteriorated laces of lower east-west truss at L10	1			I-121
	Replace all deteriorated rivets of lower east-west truss at L10	1			
	Replace 2 deteriorated stay plates of lower east-west truss at L10	1			

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 10'-9'	Replace 50% of deteriorated laces of lower east-west truss at L10 Replace 25% deteriorated rivets of lower east-west truss at L10' Replace 1 deteriorated stay plate of lower east-west truss at L10'	1 1 1			I-121
SPAN B2					
Bay 9'-8'	Repair deteriorated flanges of upper east bracing Replace +40% of laces of upper east bracing Repair deteriorated upper east gussets Repair deteriorated upper west gussets Repair all stay plates of braces at middle gusset	1 1 2 2 2			I-121
Bay 8'-7'	Repair +20% of laces of upper east bracing Repair +5% of laces of upper west bracing Repair deteriorated upper west gussets	2 2 2			I-121
Bay 7'-6'	Replace 6 lower east gusset rivets Repair deteriorated flanges of upper east bracing	2 1			I-122
Bay 6'-5'	Repair +50% of laces of upper east bracing Replace +30% of laces of upper west bracing Repair deteriorated middle gussets	2 1 2			I-122
Bay 5'-4'	Replace 2 deteriorated laces of upper east bracing Replace 1 deteriorated lace of upper west bracing Replace 3 lacing rivets of upper west bracing	1 1 2			I-123

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 5'-4' Bay 1'-0'	Repair deteriorated middle gussets	2			I-123
	Repair <u>+50%</u> of laces of lower east bracing	2			I-123
	Repair deteriorated flanges of upper east bracing	2			
	Repair deteriorated upper east gussets	2			
	Replace <u>+45%</u> of laces of upper west bracing	1			
	Replace <u>+60%</u> of lacing rivets of upper west bracing	2			

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
G-WIND CHORD					
SPAN B1					
Bay 10-11	Replace deteriorated laces of strut at L10 Replace +50% of lacing rivets of strut at L10 Replace 8 lower gusset rivets at L10W Replace 20 upper gusset rivets at L10E Repair deteriorated lower gusset at L10E Replace +80% of rivets through wind chord channels at south end Repair upper and lower flanges of bracing L10W-L11E at L10W Repair deteriorated lower flange of bracing L10W-L11E	1 1 1 1 2 1 2 2			I-125
Bay 11-12	Replace 3 upper gusset rivets at L11E Repair deteriorated lower flange of bracing L10E-L11W at L11W Replace 5 lower gusset rivets at L12W Repair deteriorated lower flange of bracing L11E-L12W under catwalk Repair 7 deteriorated laces of bracing L11E-L12W	2 2 2 1 2			I-125
Bay 12-13	Repair deteriorated lower flange of bracing L12E-L13W under catwalk Replace 2 lacing rivets of bracing L12E-L13W	1 1			I-126
Bay 13-14	Replace 3 upper lacing rivets of east wind chord Replace 3 upper flange rivets of west wind chord Replace 3 lower gusset rivets at L13W	1 2 2 2			I-126

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 13-14	Repair deteriorated laces of bracing L13W-L14E	2			I-126
	Repair deteriorated lower flange of bracing L13W-L14E at L13W	2			
Bay 14-15	Repair deteriorated lower flange of bracing L13E-L14W under catwalk	2			I-127
	Replace +30% of laces of bracing L14E-L15W	2			
Bay 15-16	Replace 2 bottom flange rivets of west wind chord	2			I-127
	Replace 2 upper flange rivets of west wind chord	2			
	Replace 9 lower gusset rivets at L15W	2			
	Replace 2 lower gusset rivets at L16W	2			
	Repair deteriorated lower flange of bracing L15E-L16W	2			
	Replace 2 gusset rivets at bracing intersection	2			
	Replace +5% of laces of bracing L15W-L16E	2			
Bay 16-15'	Replace 10 upper gusset rivets at L16E	2			
	Repair deteriorated upper flange of bracing L16E-L15W at L16E	1			I-128
	Repair +60% of laces of bracing L16W-L15E	2			
	Replace 3 lower flange rivets of west wind chord	1			
Bay 15'-14'	Replace 8 upper flange rivets of west wind chord	2			
	Replace 7 lower gusset rivets at L14W	2			I-129
Bay 14'-13'	Repair deteriorated lower flange of bracing L15'E-L14'W	2			
	Replace +10% of laces of bracing L14'E-L13'W	1			I-129
	Replace 13 upper gusset rivets at L13'E	2			

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
Bay 13'-12'	Replace <u>+20%</u> of laces of bracing L13'W-L12'E	2			I-130
Bay 12'-11'	Replace 1 lower gusset rivet at L12'E	2			I-130
	Replace 6 upper gusset rivets at L11'E	1			
	Repair deteriorated lower flange of bracing L12'W-L11'E at L12'W	2			
Bay 11'-10'	Repair deteriorated upper and lower flanges of bracing L11'E-L10'W	1			I-130
	Replace <u>+5%</u> of laces of bracing L11'E-L10'W	2			
	Replace 3 upper gusset rivets at L10'W	2			
	Replace 5 lower gusset rivets at L10'W	1			
	Replace 8 west wind chord rivets at north end	1			
	Replace deteriorated laces of strut at L10'	1			
	Replace 40 lower lacing rivets of strut at L10'	1			
	Replace 40 upper lacing rivets of strut at L10'	1			
	Replace 14 rivets of north channel of strut at L10'	2			
	Replace 45 rivets of east wind chord at north end	1			
	Replace 4 upper flange rivets of east wind chord	2			
	Replace 6 lower gusset rivets at L10'W	2			
	Repair deteriorated lower flange of bracing L11'W-L10'E at L10'E	2			

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
H-BEARINGS					
South Abutment	Replace deteriorated styrofoam filler waterproofing	3			I-132
Pier 5	Replace deteriorated styrofoam filler waterproofing Straighten southeast anchor bolt	3 2			I-132
Pier 3	Straighten anchor bolts of all bearings at this pier Replace deteriorated anchor bolt cover at northeast bearing	2 3			I-132
Pier 2	Replace gaskets around inspection plates	3			I-132
Pier 4	Replace gaskets around inspection plates Straighten anchor bolts on east side of southeast bearing Straighten southeast anchor bolt of southwest bearing	3 3 2 2			I-133
North Abutment	Replace deteriorated styrofoam filler waterproofing	3			I-133
All piers	Repair cracks and spalling around bearing areas	3			I-133

Location	Repairs Recommended	Priority	Comments	Cost Estimate	Report Page Ref.
I-ON DECK INSPECTION	DECK	3			I-135
		3			
	RAILING	2			I-138
	LIGHTPOSTS	3			I-141
		3			
		3			

VI. SUMMARY AND CONCLUSIONS

The Bourne Bridge has continued to deteriorate since the 1971 and 1974 inspections. It is recommended that the required remedial work noted in Table D of Section V be performed as expeditiously as possible. On a priority basis, the following items requiring remedial work, where the structural integrity of the bridge is concerned, should be repaired immediately:

1. Stringers at floor beam connections.
2. Sidewalk channel supports.
3. Lateral bracing system for the approach spans.
4. Underside of concrete deck slab.

Additionally, tests indicate that the deck slab concrete has been contaminated by a high percentage of chloride as a result of the continued use of salt in snow removal operations. At the present time, more than 5 percent of the deck area is visibly spalled, and this spalling will continue. Recent concrete cylinder tests indicated compressive strength of the cores as low as 1,320 pounds per square inch (for Core B2). Accordingly, it is recommended that the deck be completely replaced as soon as practicable by a deck designed to resist deterioration caused by the use of salt in snow removal procedure.

APPENDIX I

Detailed Results of Field Inspection

Approach Spans

**TRUSS
MEMBERS**

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B7	LOE-LIE	±10% Laces	1/16"		A B7 0-1 E	
	LOE-UOE	Outside north and south faces of flanges at laces	1/16" spots		A B7 0-1 E	
	PP LOE	Inside faces of gussets	1/16" spots		A B7 0-1 E	
	LIE-L2E	South upper stay plate underside All laces at intersection	1/16" over ±50% area 1/16" spots		A B7 0-1 E A B7 0-1 E	
	LOW-UOW	East outside channel face	1/32"-1/16" pitting full length		A B7 0-1 W	
	LOW-UIW	South lower stay plate top surface	1/16" pitting		A B7 0-1 W	
	PP LOW	Gusset faces	1/32"-1/16" spots		A B7 0-1 W	A, B7, 0-1, W, 3
	PP LIW	Lower gusset rivets	4 Rivets 50%		A B7 0-1 W	
	L2E-U3E	South lower stay plate top surface edge	1/16" over 25% area		A B7 2-3 E	
	L3E-U3E	Outside face of west channel at bottom	1/32"-1/16" pitting		A B7 2-3 E	
	PP L3E	Inside face of west gusset	1/16" pitting over ±50% area		A B7 2-3 E	
	PP L3	Inside face of west gusset	1/16" over ±75% area		A B7 2-3 E	
	L4E-U5E	First lower lacing at south end	±3" knife edge		A B7 4-5 E	A, B7, 4-5, S, 4

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B7	L4E-U5E	Inside surface of all lower laces	1/16" spots		A B7 4-5 E	
	U7E-L8E	Top and bottom laces	1/16" spots		A B7 7-8 E	
	L7E-L8E	Laces at north end	1/32"-1/8"		A B7 7-8 E	
	L8E-U8E	Outside face of channels	1/16" under blisters		A B7 7-8 E	
	PP U8W	Inside face of gussets	1/16" spots		A B7 7-8 W	
	L8W-U8W	Bottom edge of top middle stiffener plate	1/8" to knife edge		A B7 7-8 W	
	B5	LOE-UOE	Bottom stay plates both north and south	1/16" over $\pm 25\%$ area		A B5 0-1 E
		All laces	1/16" spots		A B5 0-1 E	
LOE-U1E		Upper laces	1/32"-1/16" spots		A B5 0-1 E	
LOE-L1E		All laces at channel flange	1/16" spots		A B5 0-1 E	
UOW-U1W		Top surface of all laces	1/32"-1/16" spots		A B5 0-1 W	
PP U1W		Inside surface of west gusset	1/16"-1/8" pitting spots		A B5 0-1 W	
PP U2E		Inside face of gussets	1/16" pitting spots		A B5 2-3 E	
L2E-U3E		$\pm 50\%$ lower laces	1/16" spots		A B5 2-3 E	
L3E-L4E		Top laces	1/16"-1/8" spots		A B5 2-3 E	
U4E		Outside face of west gusset	1/8" pitting over $\pm 75\%$ area		A B5 4-5 E	
U3E-L4E		North lower stay plate top surface	1/16" over $\pm 50\%$ area		A B5 4-5 E	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B5	L3W-L4W	South end, upper stay plate; south edge	1/8" to knife edge for ±4"		E B5 2-3 W	
	L4E-U5E	Outside and inside faces of channels	1/32"-1/16" spots		A B5 4-5 E	
	PP L5E	Inside face of gusset	1/16" spots		A B5 4-5 E	
	L5E-L6E	South upper stay plate south edge	knife edged		E B5 5-6 E	
	L4W-U5W	Top surface of top flanges between lacing rivets	1/16" spots		A B5 4-5 E	
	U5E-L6E	Middle stiffener plate at north end top surface	1/32"-1/8" over ±75% area		A B5 6-7 E	
	L6E-U6E	All laces	1/32"-1/8" pitting		A B5 6-7 E	
	L6E-U7E	Both top and bottom stay plate at south end top surface All laces	1/32"-1/8" over ±50% area 1/32" to knife edge		A B5 6-7 E A B5 6-7 E	
	L6E-L7E	All laces	1/32"-1/8"		A B5 6-7 E	
	L5W-L6W	Top surface of bottom lacings within ±5' of PP L6W	1/16"-1/8"		A B5 6-7 W	
	PP U6W	Inside surface of gussets	1/32"-1/16" over ±50% area		A B5 6-7 W	
	L7E-L8E	All laces	1/32" to knife edge		A B5 7-8 E	

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B5	PP L7E	East gusset outside face	1/16" spots		A B5 7-8 E	
	U7E-L8E	Top surface of north lower stay plate	1/16" over ±100% area		A B5 7-8 E	
		Top surface of south lower stay plate	1/16" over ±75% area		A B5 7-8 E	
	U7E-U8E	Fascia plate at north end lower portion	100% loss in spots		A B5 7-8 E	C, B5, 7-8, E, 10
	U7W-U8W	Fascia plate at north end lower portion	100% loss in spots		A B5 7-8 W	C, B5, 7-8, W, 11
	L6W-L7W	North upper stay plate underside	1/16"-1/8" to knife edge		A B5 7-8 W	
	L7W-L8W	South upper stay plate underside	1/16"-1/8" to knife edge		A B5 7-8 W	
	U7W-L8W	North upper stay plate top surface	1/16"-1/8" pitting		A B5 7-8 W	
	L7W-L8W	±25% lower laces	1/16"-1/8" to knife edge		A B5 7-8 W	
	L8W-U8W	South stay plate at bottom	1/16"-1/8" pitting		A B5 7-8 W	
B4	LOE-UOE	West gusset edge	1/16"-1/8" pitting		A B5 0-1 E	
		Inside channel surfaces	1/16"-1/8"		A B4 0-1 E	
	PP LOE	Inside gusset faces	1/16"-1/8" spots		A B4 0-1 E	
	LOE-U1E	±40% laces	1/16" spots		A B4 0-1 E	
	LOE-L1E	Channel surfaces	1/16"-1/8" spots		A B4 0-1 E	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B4	LOE-L1E	±70% Laces	1/16"-1/8" spots		A B4 0-1 E	
	L1E-U1E	Inside and outside channel surfaces	1/16"-1/8" spots		A B4 0-1 E	
	PP L1E	Inside surface of west gusset	1/16"-1/8" spots		A B4 0-1 E	
	L1E-L2E	±20% Top laces ±40% Bottom laces	1/16"-1/8" on edges 1/16"-1/8" on edges		A B4 0-1 E	
	PP UOW	Inside surfaces of both gussets	1/16" spots		A B4 0-1 W	
	LOW-UOW	West inside and east outside surface of channels	1/16"-1/8" spots		A B4 0-1 W	
	LOW-UOW	±20% Laces	1/16"-1/8" spots		A B4 0-1 W	
	PP LOW	Outside surface of east gusset	1/16"-1/8" spots		A B4 0-1 W	
	PP L1W	Outside surface of west gusset	1/16"-1/8" spots		A B4 0-1 W	
	L1W-U1W	Outside surface of west channel	1/16"-1/8" spots		A B4 0-1 W	
	U1E-L2E	±40% Laces	1/16"-1/8" along edges		A B4 1-2 E	
		North upper and lower stay plates top surface	1/16"-1/8" over ±50% area		A B4 1-2 E	
	L2E-U2E	East channel inside surface at bottom	1/16"-1/8"		A B4 1-2 E	
	L2E-U3E	West channel outside surface	1/16"-1/8" spots		A B4 1-2 E	
	PP L2E	Inside surfaces	1/16"-1/8" spots		A B4 1-2 E	
	L2W-U2W	East channel outside surface	1/16"-1/8" spots		A B4 1-2 E	

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B4	L2W-U3W	East channel outside surface ±20% Lower laces ±5% Upper laces	1/16"-1/8" spots 1/16"-1/8" 1/16"-1/8"		A B4 1-2 W A B4 3-4 W A B4 3-4 W	
	PP L3W	East gusset outside surface	1/16"-1/8" spots		A B4 3-4 W	
	L3W-L4W	±20% Lower laces ±5% Upper laces	1/16"-1/8" 1/16"-1/8"		A B4 3-4 W A B4 3-4 W	
	U3W-L4W	West channel inside surface	1/16"-1/8" spots		A B4 3-4 W	
	L4W-U4W	West channel outside surface	1/16"-1/8" spots		A B4 3-4 W	
	L4W-L5W	South upper stay plate	1/16"-1/8"		A B4 3-4 W	
	L2E-L3E	North upper stay plate underside	1/16"-1/8"		A B4 3-4 E	
	L2E-L3E	North end upper stay plate	Holes through plate		E B4 1-2 E	
	L3E-L4E	South end upper stay plate	Holes through plate		E B4 1-2 E	
	LOW-L1W	1 Lacing ±50% Laces	Knife Edge 1/16"-1/8"		E B4 0-1 W E B4 0-1 W	
	L3E-L4E	South upper stay plate underside	1/16"-1/8"		A B4 3-4 E	
	PP L3E	West gusset outside surface	1/16"-1/8"		A B4 3-4 E	
	U5E-L4E	±50% Lower laces	1/16"-1/8" at edges		A B4 3-4 E	
	L4E-U4E	West channel outside surface	1/16"-1/8" spots		A B4 3-4 E	
	L4E-U5E	West channel outside surface	1/16"-1/8" spots		A B4 3-4 E	
	PP U4E	West gusset outside face	1/16"-1/8" spots		A B4 3-4 E	

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note (1)	Sketch No. Reference	Photo No. Reference
B4	PP U4E	West gusset outside face	1/16"-1/8" spots		A B4 3-4 E	
	L4E-L5E	±10% Top laces	1/16"-1/8"		A B4 5-6 E	
	L5E-U5E	Channel surfaces	1/16"-1/8" spots		A B4 5-6 E	
	PP U4E	Inside surface of gusset	1/16" spots		A B4 5-6 E	
	L7E-U7E	West face of member	1/16" under heavy blistering			
	U7E-L8E	Cover plate edges		(1)	A B4 7-8 E	A, B4, 7-8, N, 6 A, B4, 7-8, N, 7
		North upper stay plate top surface	1/16" pitting over ±10% area		A B4 7-8 E	
		North lower stay plate top surface	1/16" pitting over ±75% area		A B4 7-8 E	
	L6E-L7E	North end, first lacing from L7E	30-50% loss		E B4 7-8 E	
	L7E-L8E	South end, first lacing from L7E	50-75% loss		E B4 7-8 E	
		North end, first lower lacing from L8E	100% loss		E B4 7-8 E	E, B4, 7-8, 5, 3
	L7W-L8W	North end, first lacing from L8W	±30% thickness loss		E B4 7-8 W	
	L8E-U8E	West channel outside face	1/16"-1/8" pitting under blisters over ±10% area		A B4 7-8 E	

NOTE (1) Layered rust between channel face and cover plates from ±1/8" to ±1/2". See inspection field notes.

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B4	U7W-L8W	Cover plate edges North upper stay plate top surface North lower stay plate top surface	1/16" pitting over ±75% area 1/16" pitting over ±50% area	(2)	A B4 7-8 W A B4 7-8 W A B4 7-8 W	A, B4, 7-8, N, 30
	L8W-U8W	East face.	1/16" pitting spots full length		A B4 7-8 W	
B6	LOE-UOE	±50% Laces South lower stay plate	1/16"-1/8" 1/16"-1/8" pitting over ±10% area		A B6 0-1 E A B6 0-1 E	
	PP LOE	Inside surfaces of gussets	1/16"-1/8" pitting spots		A B6 0-1 E	
	PP L1E	Gusset faces	1/16" spots		A B6 0-1 E	
	PP UOE	Inside and outside faces of gussets	1/16"-1/8" spots		A B6 0-1 E	
	LOW-L1W	±10% Laces	1/16" with 2 laces knife edged		A B6 0-1 W	
	PP L1W	East faces of both gussets	1/16"-1/8" spots		A B6 0-1 W	
	PP U2E	Gusset faces	1/32"-1/8" spots		A B6 1-2 E	
	PP L2E	Inside faces of gussets	1/32"-1/16" spots		A B6 1-2 E	
	U3W-U4W	North end vertical stiffener plate bottom edge	1/8"-1/4" pitting		A B6 3-4 W	
	LOE-L1E	South and upper stay plate	1/16" to knife edge		E B6 0-1 E	
	PP L1E	East vertical gusset, lower edge		(3)	E B6 0-1 E	

NOTE (2) Layered rust between channel face and cover plates from ±1/8" to ±3/4". See inspection field notes.

NOTE (3) Bottom edge bent away from shord by ±1/2" of layered rust.

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B6	L0W-L1W	South end upper stay plate	1/16" to knife edge		E B6 0-1 W	
	L3W-L4W	+10% Top and bottom laces	Knife-edged		E B6 3-4 W	
	L4E-L5E	+50% Laces	1/16"-1/8"		E B6 5-6 E	
		1 Lace	100% deteriorated		E B6 5-6 E	
	L5E-L6E	South end upper stay plate	Knife-edged		E B6 5-6 E	
		+50% Laces	1/8" spots		E B6 5-6 E	
L5W-L6W	1 Lace	+50% loss		E B6 5-6 W		

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B6	PP U4W	Inside face of both gussets and east face of east gusset	1/16"-1/8" pitting		A B6 3-4 W	
	PP L3E	West face of west gusset	1/16"-1/8" spots under blistering		A B6 3-4 E	
	L3E-U3E	Outside west face	1/16" under blisters full length		A B6 3-4 E	
	L4E-U5E	±20% Laces	1/16" to ragged edges		A B6 3-4 E	
	PP U6W	Inside face of gussets	1/16"-1/8" spots		A B6 5-6 W	
	L5E-L6E	±40% Bottom laces	1/16"-1/8" to ragged edges		A B6 5-6 E	
		North upper stay plate	1/16"-1/8" to knife edge		A B6 5-6 E	
	U5E-L6E	±30% Top laces	1/16"-1/8" to knife edge		A B6 5-6 E	
	PP U6E	West gusset outside surface	1/16"-1/8" spots		A B6 5-6 E	
	PP L6E	Inside surfaces of gussets Top surface of bottom gusset	1/16"-1/8" spots 1/16"-1/8" pitting over ±50% area		A B6 5-6 E A B6 5-6E	
	PP U7W	Inside face of gussets	1/16"-1/8" spots		A B6 7-8 W	
	L6E-L7E	±5% Laces	1/16"-1/8"		A B6 7-8 E	
	L7E-L8E	±20% Laces	1/16"-1/8"		A B6 7-8 E	
	PP L8E	West gusset outside face	1/8"-1/4" pitting, ±8" x ±10"		A B6 7-8 E	

**FLOOR BEAMS
& STRINGERS**

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note (1)	Sketch No. Reference	Photo No. Reference
	FLOOR BEAMS					
B7	FB 0 S	Web along edge of first stiffener at east end	1/8" pitting <u>+1"</u> wide		B B7 0-1	
	FB 0 N	Web, second panel from east	1/16" pitting over <u>+75%</u> area		B B7 0-1	
		3rd and 4th stiffeners from west	1/16" pitting		B B7 0-1	
	FB 0 N	Top surface of top flange at east end	1/8" pitting <u>+3"x+6"</u>		B B7 0-1	
	FB 1 S	Top flange		(1)	B B7 0-1	
	FB 1 N	Top surface of bottom flange at east end	1/8" pitting from end to 2nd stiffener		B B7 1-2	
	FB 2 N	Top surface of bottom flange at east end	1/16" pitting		B B7 2-3	B, B7, 2-3, E, 2
	FB 3 N	Top surface of bottom flange between 2nd and 3rd stiffeners from west end	1/16"-1/8" pitting		B B7 3-4	
	FB 4 S	East end, underside of top flange	1/16"		B B7 3-4	B, B7, 3-4, N, 2
	FB 5 N	East end, underside of top flange and top surface of bottom flange	1/16"		B B7 5-6	B, B7, 5-6, S, 2 B, B7, 5-6, S, 3
	FB 8 S	East end, underside of top flange	1/16"-1/8" with 1 rivet.thru OSL 50%		B B7 7-8	B, B7, 7-8, N, 1
B5	FB 0 N	East end lower flange rivets	3 Rivets 50%		B B5 0-1	

Note: (1) Very slight movement between deck slab and top flange of floor beam

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B5	FB 0 N	West end, edge of top flange	1/16"		B B5 0-1	B, B5, 0-1, S; 2
		West end top surface of lower flange between 2nd and 3rd stiffener from west	1/32"-1/16"		B B5 0-1	
	FB 1 N	East end, underside of top flange	1/16" with 1 rivet 50%		B B5 1-2	
	FB 2 N	East end, underside of top flange	1/16"-1/8"		B B5 2-3	
	FB 3 N	East end, underside of top flange	1/8" with 1 rivet 75%		B B5 3-4	
	FB 4 N	East end, top surface of lower flange	1/8"		B B5 3-4	
	FB 5 N	East end, top surface of lower flange	1/8"		B B5 5-6	
	FB 5 N	West end, top surface of upper flange	1/16"-1/8" pitting		B B5 5-6	
		Upper flange		(2)	B B5 5-6	
	FB 6 N	East end, top surface of lower flange	1/32"-1/8" pitting with +3 rivets 25-50%		B B5 5-6	
FB 8 N	All stiffeners	1/8" to knife edges		B B5 7-8	B, B5, 7-8, S, 9	
	Stiffener rivets	+8 Rivets 50% +10 Rivets 75%		B B5 7-8	B, B5, 7-8, S, 9A	
	Concrete haunch	Badly spalled with honeycombing and re-bars exposed, 1/16"-1/8" loss on rebars	(3)	B B5 7-8	B, B5, 7-8, S, 8	
	Horizontal haunch angles	1/16"-1/8" pitting		B B5 7-8		
	Web at west end	1/16"-1/8" pitting spots		B B5 7-8		

Note: (2) 1/16" gap between concrete deck and top flange, slight movement felt

Note: (3) See field inspection sheet

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference	
B5	FB 7 N	East end, underside of top flange and web	1/8" areas		B B5 7-8		
		Bottom cover rivets	1 Rivet 75%		B B5 7-8		
	FB 8 S	Top surface of bottom flange	1/16"-1/8" full length with 5 rivets 75%		B B5 7-8		
East end, underside of top flange and web		1/16"-1/8" pitting		B B5 7-8			
B4	FB 0 N	West end, top surface of top flange and top surface of bottom flange	1/32"-1/8" pitting		B B4 0-1		
		2nd Stiffener from west OSL at bottom	Knife edge		B B4 0-1		
		Top flange		(4)	B B4 0-1		
	FB 1 S	West end, top flange rivets	1 Rivet 50%		B B4 0-1		
	FB 0 S	4 stiffeners west of portal, OSL	1/16" to knife edge			B B4 0-1	
		West end, web surface	1/16"-1/8" pitting			B B4 0-1	
		West end upper flange	1/16"-1/8" with 1 rivet 75%			B B4 0-1	
		Horizontal haunch angles OSL	1/16"-1/8" pitting			B B4 0-1	
East end, web		Heavy pitting 1/8"-3/16"	(5)		B B4 0-1	B, B4, 0-1, N, 1	
	Concrete haunch	Spalled at east end with rebars exposed			B B4 0-1		
	East end rivets of connection angle to pp UOE gusset	3 Rivets 50%			B B4 0-1		
	Electrical conduit		(6)		B B4 0-1		

Note: (4) +3/8" gap between top flange and concrete deck

Note: (5) See sandblasting photos of this area

Note: (6) Conduit broken at couplings, see field inspection sheet

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B4	FB 2 S	First stiffener from east end OSL	+50% thickness loss on lower 4"		B B4 1-2	
		East end, top surface of lower flange	1/16" pitting with 4 rivets 50-75%		B B4 1-2	
		West end underside of top flange between ST-1 and ST-2	1/16"-1/8" for +24"		B B4 1-2	
		West end top surface of lower flange between ST-1 and ST-2	1/8"-1/4" pitting +2 1/2" x +4"		B B4 1-2	
	FB 3 S	East end top surface of bottom flange	1/32"-1/8" pitting		B B4 2-3	
		First stiffener from east end bottom of OSL	Knife edge		B B4 3-4	
	FB 4 S	Top stiffener of lower flange at ST-7 and east end	1/8" pitting		B B4 3-4	
		Web at east end	1/8" pitting spots		B B4 3-4	
		Lower flange rivets at east end	+6 Rivets 100%		B B4 3-4	
	FB 5 S	Web at east end and top surface of lower flange	1/32"-1/8" pitting		B B4 4-5	
		Underside of top flange and edge at ST-2	1/16"-1/8" for +30"		B B4 4-5	
	FB 6 S	Top surface of bottom flange between ST-1 and ST-2	1/16"-1/8" pitting		B B4 4-5	
		First stiffener from east, bottom of OSL	Knife edge		B B4 5-6	
		Web at east end in last panel	1/16"-1/8" pitting		B B4 5-6	
East end top surface of lower flange		1/16"-40% thickness loss with 2 rivets 75-100%		B B4 5-6		
Edge of bottom cover plate at ST-8		+60% thickness loss at edge		B B4 6-7		
FB 7 S	First stiffener from east, bottom of OSL	Knife edge		B B4 6-7		

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B4	FB 7 S	Top surface of bottom flange and underside of top flange	1/16"-1/8" pitting		B B4 6-7	
		West end, top surface of top flange	1/16"-1/8" for <u>+36"</u>		B B4 6-7	
	FB 7 N	East end top flange rivets	1 Rivet 50%		B B4 7-8	
	FB 8 S	First stiffener from east end at middle of OSL	Knife edge		B B4 7-8	
		East end underside of top flange and top surface of lower flange	1/16"-1/8" pitting		B B4 7-8	
		East end bottom flange rivets	<u>+5</u> Rivets 75-100%		B B4 7-8	
	FB 8 N	East end web surface	1/16"-1/8" pitting		B B4 7-8	
		First stiffener from east OSL	1/16"-1/8"		B B4 7-8	
		Fourth stiffener from east, OSL	Knife edged		B B4 7-8	
		West end top surface of top flange	1/16"-1/8"		B B4 7-8	
	Stiffeners at west end	1/16"-1/8" pitting with 5 rivets 50-75%		B B4 7-8		
	Horizontal haunch angles OSL	1/16" to knife edge		B B4 7-8		
B6	FB 0 S	First web panel at east end	1/32"-1/8" pitting over <u>+50%</u> of panel area		B B6 0-1	
		West end top surface of top flange and edge	1/16"-1/8" for <u>+48"</u>		B B6 0-1	
		Web surface at west end	1/16"-1/8" pitting		B B6 0-1	
	FB 1 S	First web panel from east	1/16"-1/8" Pitting		B B6 1-2	
	FB 3 S	West end, top surface of bottom flange	1/16"-1/8" pitting for <u>+10"</u>		B B6 2-3	
	East end bottom flange rivets	1 Rivet 75%		B B6 2-3		
	East end top surface of bottom flange	1/32"-1/8" pitting		B B6 2-3		

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B6	FB 4 S	Edge of top flange at east end Top surface of top flange at west end and top surface of lower flange	1/16"-1/8" for +24" 1/16"-1/8" pitting		B B6 3-4 B B6 3-4	
	FB 5 S	Top surface of top flange at west end	1/8" pitting		B B6 4-5	
	FB 5 N	West end of lower flange top surface	1/8" pitting		B B6 5-6	
	FB 6 S	Top surface of bottom flange at west end Top surface of horizontal leg of clip angle at west end East end underside of top flange First stiffener from east	1/32"-1/8" pitting		B B6 5-6	
			+1/4" pitting		B B6 5-6	
			1/16"-1/8" with 2 rivets 75-100% 1/16"-1/8" pitting		B B6 5-6 B B6 5-6	
	FB 7 S	West end top surface of lower flange East end top surface of lower flange and edge	1/16"-1/8" pitting		B B6 6-7	
			1/16"-1/8" pitting		B B6 6-7	
	FB 8 S	Third stiffener from west end, lower end of OSL Lower flange web leg in second panel from west	1/8"-3/16" pitting for +4"	(7)	B B6 7-8	
			1/16"-1/8" pitting		B B6 7-8	
FB 8 N	Web surface for full length Web stiffeners OSL All stiffeners	1/32"-1/8" pitting +4 knife edged with 1/16"-1/8" pitting to 100% loss 1/16"-1/8" pitting		B B6 7-8 2 B B6 7-8 2 B B6 7-8 2		

Note: (7) +3/8" layered rust between the stringer ST-1 web and the stiffener OSL for +5"

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
	<u>STRINGERS</u>					
B7 0-1	ST-1	Bottom east flange at south end top surface	1/16" pitting for <u>+3'</u>		B B7 0-1	
3-4 B5	ST-1	Bottom of web at south end	1/16"-1/8" pitting for <u>+7'</u>		B B7 0-1	
0-1	ST-1	Edge of upper flange	1/16" pitting for 1/2 span		B B5 0-1	
	ST-8	Top flange and web at south end	1/16" pitting		B B5 0-1	
	ST-9	Top flange and web at south end	1/16" pitting		B B5 1-2	
1-2	ST-9	Web at south end, east side	1/16" pitting		B B5 1-2	
3-4	ST-3	Edge of east bottom flange at approximately midspan	1/16"-1/8" pitting for <u>+6'</u>		B B5 3-4	
4-5	ST-3	Underside of west upper flange full length	1/32"-1/16" pitting		B B5 4-5	
	ST-9	Underside of west upper flange full length	1/16" pitting		B B5 4-5	
5-6	ST-1	Top surface of east bottom flange at south end	1/8"-3/16" pitting for <u>+5"</u>		B B5 5-6	
	ST-9	Top surface of bottom flange, south end, both sides	1/16"-1/8" pitting for <u>+36"</u>		B B5 5-6	
6-7	ST-9	Underside of top flange Top surface of bottom flange	1/16"-1/8" pitting 1/16" full length		B B5 6-7 B B5 6-7	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
7-8 B4 0-1	ST-3	Underside of top west flange at north end	1/16" pitting for <u>+5'</u>		B B5 7-8	
	ST-5	Top and bottom flanges	1/16"-1/8" for approx 1/2 span		B B5 7-8	
	ST-9	Underside of top west flange and top surface of east bottom flange	1/16"-1/8" pitting full length		B B5 7-8	
	ST-1	Top surface of bottom flange at south end	1/16"-1/8" for <u>+8'</u>		B B4 0-1	
		Top surface of bottom flange at north end	1/8"-1/4" pitting to knife edge for <u>+12"</u>		B B4 0-1	
		Underside of top flange	1/8" pitting full length		B B4 0-1	
	ST-9	East bottom flange top surface	1/8"-3/16" pitting full length		B B4 0-1	
		Underside of top flanges	1/16"-1/8" pitting full length		B B4 0-1	
		Lower flange on east side at north end	<u>+75%</u> thickness loss for <u>+12"</u>		B B4 0-1	
1-2	ST-1	Underside of top flange and top surface of bottom flange	1/16"-1/8" for full length		B B4 1-2	
		Bottom flange at north end and web	100% deterioration		B B4 1-2	B, B4, 1-2, W, 1 B, B4, 1-2, E, 2
	ST-9	West bottom flange and web	1/16"-1/4" pitting		B B4 1-2	B, B4, 1-2, SE, 3
2-3	ST-1	Bottom flange and web at north end	1/16"-1/8" to 100% deterioration		B B4 2-3	
		Underside of top flange	1/16"-1/8" for full length		B B4 2-3	
	ST-9	Underside of top flange on both sides	1/16"-1/8" pitting full length		B B4 2-3	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
2-3	ST-9	Top surface of east lower flange	1/16"-1/8" for full length		B B4 2-3	
		Top surface of west lower flange	1/16"-1/8" in spots		B B4 2-3	
3-4	ST-1	Bottom flange and web at north end	1/16"-1/8" pitting to knife edge		B B4 3-4	
		Underside of top flange	1/16"-1/8" pitting full length		B B4 3-4	
	ST-9	North end of bottom flange and web	Very heavy corrosion	(8)	B B4 3-4	B, B4, 3-4, E, 1 B, B4, 3-4, E, 2 B, B4, 3-4, NE, 3 B, B4, 3-4, E, 4 B, B4, 3-4, NW, 5 B, B4, 3-4, NW, 6 B, B4, 3-4, UP-N, 7
4-5	ST-1	Underside of top flange at north end	1/16"-1/8" pitting for +36"		B B4 4-5	
		Bottom flange at north end and web	Heavy pitting to 100% deterioration		B B4 4-5	B, B4, 4-5, E, 1 B, B4, 4-5, W, 2 B, B4, 4-5, E, 4
	ST-9	Top surface of bottom flange at north end and web	+40% thickness loss		B B4 4-5	
5-6	ST-1	Underside of top flange	1/16"-1/8" full length		B B4 5-6	
		Top surface of bottom flange at both ends and web	1/16"-1/8" pitting		B B4 5-6	
5-6	ST-9	Underside of top flange	1/16"-1/8" full length		B B4 5-6	
		Top surface of bottom flange and web at south end	1/16"-1/8" pitting for +24"		B B4 5-6	
		Top surface of bottom flange	1/16"-1/8" pitting at mid span for +5'		B B4 5-6	

Note: (8) See additional sketches SR 102 and SR 103

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
5-6	ST-9	Bottom flange at north end	1/16" to knife edge for +12"		B B4 5-6	
		Web at north end	Very heavy pitting for +12"		B B4 5-6	B, B4, 5-6, E, 4
6-7	ST-1	Top surface of bottom flange at north end	1/8"-3/16" pitting to ragged edge		B B4 6-7	
		Web at north end	1/16"-1/8" pitting for +24"		B B4 6-7	
	ST-9	Underside of top flange	1/16"-1/8" pitting length		B B4 6-7	
		East bottom flange at north end	1/8" to 50% loss for +10'		B B4 6-7	
		Bottom of web at north end	Heavy pitting to +80% thickness loss	(9)	B B4 6-7	B, B4, 6-7, N, 4
7-8	ST-1	Underside of top flange and top surface of bottom flange at north end	1/16"-3/16" pitting		B B4 7-8	
7-8	ST-9	Underside of east top flange at south end	1/16"-1/8" pitting for +6'		B B4 7-8	
		Bottom flange and web at north end	Very heavy corrosion	(10)	B B4 7-8	B, B4, 7-8, E, 9 B, B4, 7-8, W, 10 B, B4, 7-8, DOWN, 11
B6 0-1	ST-1	Top surface of bottom flange and web at north end	1/16"-1/8" pitting +8"		B B6 0-1	
		Underside of top flange along edge	1/16"-1/8" pitting full length		B B6 0-1	
1-2	ST-9	Top surface of bottom flange and web	1/16"-1/8" pitting for +15"		B B6 1-2	B, B6, 1-2, NW, 3

Note: (9) Layered rust between stringer web and stiffener angle

Note: (10) See field inspection sheet

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference	
2-3	ST-1	Edge of west bottom flange at south end	1/16"-1/8" pitting to ragged edge	(11)	B B6 2-3	B, B6, 2-3, E, 2	
		Top surface of bottom flange at north end	1/16"-1/8" pitting		B B6 2-3		
ST-9	Bottom flange and web at north end	1/16"-1/8" pitting	B B6 2-3				
3-4	ST-1	Underside of top flange	1/16"-1/8" pitting for +15'		B B6 3-4		
		East lower flange	1/8"-3/16" pitting for +36"		B B6 3-4		B, B6, 3-4, SW, 3
		North end, stringer web	Very heavy pitting and deterioration		B B6 3-4		B, B6, 3-4, E, 1 B, B6, 3-4, W, 2 B, B6, 3-4, UP, 5
4-5	ST-1	Middle third of lower flange and base of web	1/8"-3/16" pitting		B B6 4-5		
		Underside and edge of upper flange	1/16"-1/8" pitting		B B6 4-5		
	ST-9	Top surface of bottom flange at north end	1/16"-1/8" pitting for +12"		B B6 4-5		
		Underside of top flange	1/16"-1/8" full length		B B6 4-5		
5-6	ST-9	Top surface of bottom flange	1/16"-1/8" for +1/2	B B6 4-5			
		Edge of bottom flange at south end	1/8" to ragged edge for +8'	B B6 5-6	B, B6, 5-6, N, 2		
6-7	ST-1	Top surface of bottom flange and web	Heavy pitting to knife edge	B B6 5-6	B, B6, 5-6, N, 5		
		Bottom flange and web at north end	1/8"-1/4" pitting for +28"	B B6 6-7	B, B6, 6-7, W, 1		
			1/16"-1/8" pitting for +6"	B B6 6-7			

Note: (11) See field inspection sheet

Note: (12) See field inspection sheet

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
6-7	ST-9	Underside of top flange and top surface of bottom flange Bottom flange and web at north end	1/16"-1/8" pitting full length 1/16"-1/8" pitting to ragged edge		B B6 6-7 B B6 6-7	B, B6, 6-7, W, 3

**DECK , SIDEWALK
& WALKWAY**

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
		<u>DECK</u>				
B7 0-1		Underside of sidewalk at south end	+8"x24" spall with 3 rebars exposed		C B7 0-1	
		Mid span between ST-1 and ST-2	+6"x6" spall with 1 rebar exposed		C B7 0-1	
		Between ST-4 and ST-8 at south end	Hairline cracks		C B7 0-1	
1-2		Along top flange of ST-5	Spalling full length		C B7 1-2	
2-3		Sidewalk area	+1/8" cracks with some spalling		C B7 2-3	
3-4		Along top flange of ST-5 and ST-6	Slight spalling full length		C B7 3-4	
4-5		Along top flange of ST-4	Spalling full length		C B7 4-5	C, B7, 4-5, N, 3
5-6		Along top flanges of stringers	Slight spalling		C B7 5-6	
6-7		Underside of sidewalk	+24" spall with rebars exposed		C B7 6-7	
		Between ST-4 and ST-5	+18" spall with hollow sound and 2 rebars exposed		C B7 6-7	
		All stringers along top flange	Slight spalling		C B7 6-7	
7-8		Sidewalk area around manhole	Spalling around manhole and +24" spall with 2 rebars exposed		C B7 7-8	C, B7, 7-8, N, 5 C, B7, 7-8, W, 6
		Between ST-4 and ST-5 at south end	Spall with 2 rebars exposed		C B7 7-8	
		Along top flange of ST-6	Hollow sounding patched area		C B7 7-8	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note (1)	Sketch No. Reference	Photo No. Reference
7-8		Between ST-7 and ST-8	Spall with 3 rebars exposed		C B7 7-8	
B5 0-1		Haunch just above south floor beam above catwalk	Very hollow sounding with $\pm 1/4$ " cracks		C B5 0-1	
		South end of sidewalk area at transformer	Rebars exposed		C B5 0-1	C, B5, 0-1, W, 1
		North end of sidewalk area	± 18 " spalls with rebars exposed		C B5 0-1	C, B5, 0-1, S, 6
		Between ST-5 to ST-8	Hairline to $1/16$ " cracks		C B5 0-1	
		Between ST-4 and ST-6	Spalls with rebars exposed		C B5 0-1	
		Along top flange of ST-4	Spalling for $\pm 10'$		C B5 0-1	
		Between ST-6 and ST-8 at south end		(1)	C B5 1-2	
1-2		Sidewalk area along east channel at south end	Slight spalling		C B5 1-2	
2-3		Sidewalk area at north end	Spalls with rebars exposed		C B5 2-3	C, B5, 2-3, S, 1
		Along ST-4, ST-5 and ST-6	Slight spalling		B5 2-3	
		Between ST-4 and ST-5 at south end	Spall with 1 rebar		C B5 2-3	
3-4		Between ST-3 and ST-7	Spalls with rebars exposed		C B5 3-4	
4-5		Sidewalk area above bracing at north end	Honeycombing with rebar exposed		C B5 4-5	
		Along ST-2 and ST-3 top flange	Slight spalling		C B5 4-5	
		Along ST-5 and ST-6	Spalling with rebars exposed		C B5 4-5	

Note: (1) There is a ± 1 " gap between the top flange of the floor beam and the concrete above

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
5-6		All stringers along top flange	Some spalling, some spalls with rebars exposed		C B5 5-6	
		Between ST-5 and ST-7		(2)	C B5 5-6	
6-7		Between ST-2 and ST-4	Spalls with rebars exposed and honey-combing		C B5 6-7	C, B5, 6-7, W, 1
		Between ST-4 and ST-8	Hairline cracks with some leaching		C B5 6-7	
7-8		Sidewalk area around manhole	Badly spalled or hollow sounding with rebar exposed and 90-95% of rebar cross section corroded		C B5 7-8	C, B5, 7-8, S, 6
		Concrete above bracing	Spalled with rebars exposed		C B5 7-8	C, B5, 7-8, S, 7
		Along ST-3 to ST-8 top flanges	Spalling		C B5 7-8	
		Between ST-7 and ST-8 at north end	Spall with rebar exposed		C B5 7-8	C, B5, 7-8, N, 4
B4						
0-1		Sidewalk area and around spalling	Heavy spalling with rebars exposed		C B4 0-1	
		Along top flange of ST-5, ST-2 and ST-3	Slight spalling		C B4 0-1	
		Between ST-2 and ST-3 at south end	Spalled area with 2 rebars exposed		C B4 0-1	
1-2		Along ST-3 to ST-7	Slight spalling		C B4 1-2	
		Along sidewalk channel	Slight spalling		C B4 1-2	
2-3		Between ST-4 and ST-8	Some leaching		C B4 2-3	
3-4		Underside of deck	Slight leaching		C B4 3-4	

Note: (2) $\pm 3/16'' - 1/4''$ gap between top flange of floor beam and deck with squeaking noise

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
4-5		Along ST-4 and ST-8	Slight spalling with some leaching		C B4 4-5	
5-6		Along top flanges of stringers Between ST-5 and ST-6	Some spalling Spall with 2 rebars exposed		C B4 5-6 C B4 5-6	C, B4, 5-6, N, 1
		Sidewalk area along channel edges	Slight spalling full length		C B4 5-6	
6-7		Along top flanges of stringers Sidewalk area	Slight spalling Slight spalling		C B4 6-7 C B4 6-7	
7-8		North end between ST-3 and ST-4 Along stringers Sidewalk	Spalling Slight spalling Slight spalling		C B4 7-8 C B4 7-8 C B4 7-8	C, B4, 7-8, N, 4 C, B4, 7-8, N, 5
B6 0-1		Between all stringers	Hairline to 1/16" cracks		C B6 0-1	
1-2		Along all stringers Sidewalk area along channel edges	Slight spalling Slight spalling		C B6 1-2 C B6 1-2	
2-3		Sidewalk area along channel edges	Slight spalling		C B6 2-3	
3-4		Along all stringers Sidewalk area along channel edges	Some spalling Some spalling		C B6 3-4 C B6 3-4	C, B6, 3-4, SE, 4
4-5		Between ST-4 and ST-5	+10"x+24" spall with 2 rebars exposed and +6"x+10" spall with 2 rebars exposed		C B6 4-5	
5-6		Between ST-7 and ST-8 at south end Along all stringers	+11"x+23" spall with rebars exposed Some spalling		C B6 5-6 C B6 5-6	C, B6, 5-6, W, 1

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
6-7		Between ST-5 and ST-6 at south end	+9"x+20" spall with exposed		C B6 6-7	C, B6, 6-7, W, 2
7-8		Along stringer top flanges	Slight spalling		C B6 7-8	

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note (1)	Sketch No. Reference	Photo No. Reference
B7 7-8		<u>SIDEWALK</u> Bracing at north end	1/16"-3/16"		C B7 7-8	C, B7, 7-8, S, 4
B5 0-1		Underside of east channel lower flange North end, west channel	1/16"-1/8" pitting for +1/2 span 1/16"-1/8" at clip angle		C B5 0-1 C B5 0-1	
3-4		Underside of channel lower flange	1/16" pitting		C B5 3-4	
7-8		Sidewalk bracing around manhole Fascia plate between spans	Heavy corrosion 100% deterioration	(3)	C B5 7-8	C, B5, 7-8, S, 6 C, B5, 7-8, S, 7 C, B5, 7-8, E, 10 C, B5, 7-8, W, 11
B4 0-1		Top surface of bottom flange of west channel Bracing and bracing gussets around manhole	1/16"-1/8" pitting for +1/2 span 1/16"-1/8" pitting		C B4 0-1 C B4 0-1	
1-2		Underside of bottom flange of east channel	1/16"-1/8" pitting full length		C B4 1-2	
4-5		Underside of top flange of west channel	1/16"-1/8" pitting		C B4 4-5	
6-7		Underside of bottom flange of east channel	1/16"-1/8" pitting		C B4 6-7	
7-8		Underside of top flange of west channel	1/16"-1/8" pitting		C B4 7-8	

Note: (3) See field inspection form

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B6 0-1		Top gussets Underside and edge of west channel top flange	1/16"-1/8" 1/16"-1/8" for <u>+8'</u>		C B6 0-1 C B6 0-1	
3-4		Bracing angles Bracing gussets	1/8" to knife edges 1/16"-1/8" pitting	(4) (4)	C B6 3-4 C B6 3-4	C, B6, 3-4, SW, 6
4-5		Bracing angles at mid span	1/8" to knife edges		C B6 4-5	
5-6		Bracing gusset at north end Underside of top flange of west channel Bracing angles, horizontal legs	1/16" to knife edge 1/16"-1/8" pitting 1/16"-1/8"		C B6 5-6 C B6 5-6 C B6 5-6	C, B6, 5-6, S, 4
6-7		North end of west channel at clip angle Bracing gussets and angles Underside of top flange of west channel	1/16"-1/4" pitting 1/16"-1/8" pitting 1/16"-1/8" pitting full length		C B6 6-7 C B6 6-7 C B6 6-7	C, B6, 6-7, W, 4
7-8		Underside of top flange of west channel North end, lower flange on west side North end, clip angles Underside of lower flange of east channel	1/8" pitting full length 50-75% thickness loss 1/16"-1/8" pitting for <u>+1/2</u> span	(5)	C B6 7-8 C B6 7-8 C B6 7-8 C B6 7-8	

Note: (4) See field inspection sheet

Note: (5) Layered rust behind vertical legs of clip angles

**TOP LATERAL
BRACING**

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B 7 0-1	SE gusset	Top surface and west edge	1/16" to knife edge		D B7 0-1 S	
	Bracing			(1)	D B7 0-1 S	
1-2	NW gusset	Top surface	1/16"-1/8" over <u>+75%</u> area		D B7 1-2	
	NE gusset	Top surface	1/16"-1/8" over <u>+50%</u> area		D B7 1-2	
		Northeast edge	Knife edge for 1" width		D B7 1-2	
	Bracing	Gusset rivets West angles	9 Rivets 25-75%	(2)	D B7 1-2 D B7 1-2	
2-3	SW gusset	Top surface	1/16" over <u>+ 50%</u> area		D B7 2-3	D,B7,2-3,S,1
	SE gusset	Top surface	1/16"-1/8" spots		D B7 2-3	
		Gusset rivets	<u>+ 7 Rivets</u> 75-100%	(3)	D B7 2-3	
	Bracing	West angle inside back to back legs		(4)	D B7 2-3	
3-4	NE gusset	Top surface	1/16"-1/8" over <u>+50%</u> area		D B7 3-4	
	Bracing	Gusset rivets	<u>+ 4 Rivets</u> 50-75%	(5)	D B7 3-4	
4-5	SE gusset	Top surface West edge Gusset rivets	1/16"-1/8" spots Knifed to ragged <u>+ 3 Rivets</u> 50-75%		D B7 4-5 D B7 4-5	D,B7,4-5,S,2 D,B7,4-5,S,1
Note	(1) East bracing angle is deflected down <u>+2'</u>	west bracing angle is deflected down <u>+1"</u>				
	(2) <u>+3/8"</u> kink in angle at approximately mid span					
	(3) Back to back angles bowed out from each other <u>+1-1/2"</u> for <u>+28"</u>					
	(4) East bracing is deflected down <u>+7"</u> , west bracing is deflected <u>+3"</u>					
	(5) West angle is slightly bowed and resting on catwalk railing, east angle is deflected down <u>+4"</u>					

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
4-5	Bracing			(6)	D B7 4-5	D,B7,4-5,E,5
6-7	SW and SE gussets Bracing	Top surface Gusset rivets East angle	1/16" spots 2 Rivets 50%	(7)	D B7 6-7 D B7 6-7	D,B7,6-7,S,1 D,B7,6-7,S,2
7-8	Middle gusset NE and NW gussets Bracing	Top surface Top surface East & West angles inside back to back legs	1/16"-1/8" pitting 1/16"-1/8" spots 1/32"-1/16"		D B7 6-7 D B7 7-8 D B7 7-8	D,B7,7-8,S,3A D,B7,7-8,N,2 D,B7,7-8,S,7
B5						
0-1	SW gusset SE gusset Bracing	Top surface Gusset rivets Top surface Gusset rivets Southeast edge Horizontal legs of west angles Vertical legs of east angles at SE gusset	1/16" spots 1 Rivet 50% 1/16" 3 rivets 75% Knifed Ragged edge 1/8" to ragged edge	(8)	D B5 0-1 D B5 0-1 D B5 0-1 D B5 0-1 D B5 0-1 D B5 0-1 D B5 0-1	D,B5,0-1,E,4 D,B5,0-1,N,3
Note	(6) West angles resting on catwalk railing, east angles deflected \pm 6" downward (7) East angles deflected downward \pm 3" and bowed to the southwest \pm 1" (8) East angles deflected downward \pm 3"					

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
2-3	SW gusset	Top surface	1/16" spots		D B5 2-3	
	SE gusset	Top surface	1/16"-1/8" pitting to knife edges		D B5 2-3	
	Bracing	Gusset rivets East angles	<u>+ 6</u> Rivets 50-75%	(9)	D B5 2-3	
3-4	Bracing	Both east & west angles		(10)	D B5 3-4	
4-5	SE gusset	Top surface	1/16"-1/8"		D B5 4-5	
	Bracing	Gusset rivets East angles between back to back legs	2 Rivets 50% 1/16" for <u>+ 24"</u>	(11)	D B5 4-5	
5-6	Middle gusset	Top surface along connection angle	1/8" pitting		D B5 5-6	
	NE gusset	Top surface	1/16"-1/8" over <u>+75%</u> area		D B5 5-6	
6-7	SE and SW gussets	Top surface	1/16"-1/8"		D B5 6-7	
	Bracing	West angles inside back to back legs	1/16"	(12)	D B5 6-7	
7-8	NW gusset	Top surface	1/16" spots		D B5 7-8	
	NE gusset	Gusset rivets Top surface	1 Rivet 50% 1/8" to ragged edge		D B5 7-8	D,B5,7-8,N,2 D,B5,7-8,N,3
Note (9)	East angles deflected downward <u>+ 3"</u>					
(10)	East and west angles deflected downward <u>+ 2"</u>					
(11)	East angles deflected downward <u>+ 2"</u> , West angles "slapping" on catwalk railing					
(12)	Back to legs of west angles spread <u>+ 1-1/2"</u> by layered rust, east angles deflected downward <u>+ 2"</u>					

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference
7-8	NE gusset Bracing	Gusset rivets East angles inside back to back legs West angles, back to back legs	3 Rivets 75% 1/16" full length to ragged edges 25-50% thickness loss to knife edges full length	(13)	D B5 7-8 D B5 7-8 D B5 7-8	D,B5,7-8,E,1
	Middle gusset	Top surface	1/16" spots		D B5 7-8	
B4 0-1	SE gusset SW gusset Bracing	Top surface Top surface Gusset rivets East angles, upper horizontal leg edge West angles inside back to back legs Top horizontal leg edge of west angles	1/16" over 100% area 1/16" to knife edge + 4 Rivets 25-50% 1/8" pitting to 100% loss for full length Layered rust and 1/8" to knife edge full length 100% deterioration in spots for + 12'		D B4 0-1 D B4 0-1 D B4 0-1 D B4 0-1 D B4 0-1 D B4 0-1	
1-2	Middle gusset	Top surface along connection angle	1/8"-3/16" pitting		D B4 1-2	
	NE gusset	Top surface	1/16"-1/8" pitting over 100% area to knife edges		D B4 1-2	
	Bracing	Gusset rivets East angles, inside back to back legs at NE gusset East angles, upper horizontal leg edge West angles, inside back to back legs	2 Rivets 50% + 30% thickness loss 1/8" pitting to knife edge 1/16"-1/8" for + 70% length 1/8" to ragged edge for + 24"		D B4 1-2 D B4 1-2 D B4 1-2 D B4 1-2	

Note(13) Back to back legs have been pushed apart + 1" by layered rust

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference
2-3	Bracing	West angles inside back to back legs	1/16"-1/8"		D B4 2-3	
		East angles upper horizontal leg	1/16" pitting to ragged edge		D B4 2-3	
	Middle gusset	Top surface along connection angle	1/16"-1/8" pitting		D B4 2-3	
3-4	NE gusset	Top surface	1/16"-1/8" over 100% area to knife edge		D B4 3-4	
	NW gusset	All gusset rivets	Rivets 50-75%		D B4 3-4	
		Top surface	1/16"-1/8" over +50% area		D B4 3-4	
	Gusset rivets	3 Rivets 50%		D B4 3-4		
3-4	Bracing	West angles, upper horizontal leg	Ragged edge to 100% deterioration for + 16"		D B4 3-4	
		Inside west back to back legs	1/16"-1/8" for + 10'		D B4 3-4	
		East angles back to back legs edge	Ragged edge		D B4 3-4	
4-5	SE gusset	Top surface	1/16"-1/8" pitting		D B4 4-5	
		Gusset rivets	1 Rivet 50%		D B4 4-5	
	Bracing	West angles inside back to back legs	1/16"-1/8" for +1/4 length		D B4 4-5	
	Middle gusset	Top surface along connection angle	1/8" pitting		D B4 4-5	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
5-6	NE gusset Bracing	Top surface All gussets rivets Corners of connection angles East angles horizontal legs at NE gusset West angles inside back to back legs	1/16" spots to knife edge Rivets 50-75% Knife edge to 100% deterioration for $\pm 6"$ 1/16"-1/8" for $\pm 50\%$ length	(14)	D B4 5-6 D B4 5-6 D B4 5-6	D,B4,5-6,E,5 D,B4,5-6,E,3
6-7	SE gusset Bracing	Top surface West angles inside back to back legs	1/16" spots 1/16" pitting to pin holes	(15)	D B4 6-7 D B4 6-7	D,B4,6-7,W,3
7-8	NW gusset NE gusset Bracing	Gusset rivets Top surface Gusset rivets West angles upper horizontal leg edge West angles inside back to back legs East angles back to back horizontal legs at NE gusset Vertical leg of top angle at north end	5 Rivets 50-75% 1/16" over 100% area ± 10 Rivets 50-75% Ragged and knifed for $\pm 36"$ 1/16"-1/8" for $\pm 30\%$ length Pitting with 100% deterioration for $\pm 12"$ Knife edged		D B4 7-8 D B4 7-8 D B4 7-8 D B4 7-8 D B4 7-8	D,B4,7-8,E,12
Note (14)		Corners bent up $\pm 1/2"$ by layered rust				
(15)		Angles bowed apart by layered rust				

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B6 0-1	SE gusset	Top surface	1/16"-1/8" pitting spots		D B6 0-1	D,B6,1-2,E,4
	Bracing	West angles, upper horizontal leg	Knife edged to ragged for +70% of length		D B6 0-1	
		West angles inside back to back legs	1/16"-3/16" pitting		D B6 0-1	
1-2	Bracing Middle gusset	Top surface	1/16" spots	(16)	D B6 0-1 D B6 0-1	
		NE gusset	Top surface	1/16"-1/8" pitting over 100% of area	D B6 1-2	
	Bracing	Gusset rivets	+ 7 Rivets 50-75%	(17)	D B6 1-2	
Corners of connection angles				D B6 1-2		
2-3	SW gusset Bracing	East angles, back to back legs at NE gusset	1/8" to knife edge for + 12"		D B6 1-2	
		Top surface	1/16"-1/8" spots		D B6 2-3	
	Bracing	West angles, top horizontal leg at SW gusset	Knifed and ragged edge with 100% deterioration for +28"			
West angles inside back to back legs		1/16"-1/8" for 80% of length	(18)	D B6 2-3		
Note		East angles		(19)		
		<p>(16) East angle deflected downward +3" (17) Corners bent + 1/2" by layered rust (18) West angles have + 4" deflection with continuous vibration against catwalk railing (19) East angles have + 5" downward deflection</p>				

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference
3-4	NE gusset	Top surface	1/16"-1/8" over <u>+75%</u> area		D B6 3-4	
	NW gusset	Gusset rivets	+ 3 Rivets 50-75%		D B6 3-4	
		Top surface	1/16"-1/8" pitting over 100% area		D B6 3-4	
	Bracing	East angles, top horizontal leg at NE gusset	1/16"-1/8" pitting to knife edge		D B6 3-4	
	Bracing	West angles inside back to back legs	<u>+ 1/8"</u> for full length	(20)	D B6 3-4	
4-5	SW gusset	Top surface	1/16" spots		D B6 4-5	
	Bracing	East angles, upper horizontal leg at middle gusset	1/16"-1/8" to knife edge	(21)	D B6 4-5	
		West angles, inside back to back legs	1/16"-1/8" for full length		D B6 4-5	
5-6	NE gusset	North connection angle top surface at edge	50-75% thickness loss		D B6 5-6	D, B6, 5-6, E, 3
		Gusset rivets	+ 11 Rivets 50-75%		D B6 5-6	
	Bracing	East connection angle top surface East angles	25-50% thickness loss	(22)	D B6 5-6	
6-7	SE gusset	Top surface	1/16"-1/8" over <u>+75%</u> area		D B6 6-7	
		Gusset rivets	3 Rivets 75%		D B6 6-7	
		East angles, top horizontal leg	1/16"-1/8"		D B6 6-7	
	SW gusset	Top surface	1/16"-1/8" spots		D B6 6-7	
	Middle gusset	Top surface	1/16"-1/8" pitting over <u>+75%</u> area		D B6 6-7	

Note

(20) East angles deflected downward +4", West angles resting and banging on catwalk railing
 (21) Back to back angles are bowed apart +1-1/8" angles deflected down + 3-1/2"
 (22) East angles deflected downward + 4"

**BOTTOM LATERAL
BRACING**

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B7						
0-1	Gusset at LOE East bracing angles Strut at LO Mid strut gusset at LO West bracing angles	Top surface Inside back to back legs Top surface of top flange Top surface Rivets Inside back to back angles	1/16" over 100% area 1/16"-1/8" to knife edge 1/16" pitting full length 1/16"-1/8" 1 Rivet 50% 1/16" for <u>+50%</u> length		E B7 0-1 E E B7 0-1 E E B7 0-1 E E B7 0-1 E E B7 0-1 W	E, B7, 0-1, S, 2 E, B7, 0-1, S, 1
1-2	Gusset at L2E	Top surface	1/16" over 50% area		E B7 1-2 E	E, B7, 1-2, E, 2
3-4	Middle gusset at L3 Gusset at L3E Gusset at L4E Gusset at L4W	Gusset rivets Top surface Gusset rivets Top surface Gusset rivets	5 Rivets 50% 1/16" over 50% of area 8 Rivets 50% 1/16" over 75% of area 5 Rivets 50-75%		E B7 3-4 E E B7 3-4 E E B7 3-4 E E B7 3-4 E E B7 3-4 E	
6-7	East and West bracing angles	Inside back to back legs of angles	1/16"-1/8" full length		E B7 7-8 E	
7-8	East and West bracing angles West bracing angle at LSW	Inside back to back legs of angles Top horizontal angle	1/16"-1/8" for <u>±</u> 50% Knife edged		E B7 7-8 E E B7 7-8 W	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference	
B5 0-1	Strut at L0	South top flange at east end horizontal and vertical legs	Knife edge to 100%		E B5 0-1 E		
		Top surface of bottom flange	1/16" pitting full		E B5 0-1 W		
		Inside back to back legs	1/16"-1/8" full length		E B5 0-1 W		
		Top flange vertical legs	Knife edged full length		E B5 0-1 W		
		Gusset rivets	+ 3 Rivets 75%		E B5 0-1 E		
	2-3	East bracing angles	Edge of back to back legs	1/16" to 100% loss full length		E B5 0-1 E	
			Middle strut and strut at L1	Top surface of bottom flange	1/16" pitting full		E B5 0-1 W
		Gusset at L2E	Top surface	1/32"-1/16" over + 75% area		E B5 0-1 W E B5 2-3 E	
			Gusset rivets	4 Rivets 50-75%			
			East bracing	Edge of horizontal back to back legs	1/16" to knife edge for full length		E B5 2-3 E
Strut at L3	Top surface of bottom flange and underside of top flange	1/16"-1/8" pitting		E B5 2-3 E			

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
2-3	Strut at L3	Underside of bottom flange at L3E gusset	1/16"-1/8"		E B5 2-3 E	
	Middle gusset at L3	Gusset rivets	1 Rivet 50%		E B5 2-3 E	
3-4	Strut at L4	Top surface of top flange and top surface of bottom flange	1/16" pitting spots for full length		E B5 3-4 E	
	Gusset at L4	Gusset rivets	1 Rivet 50%		E B5 3-4 E	
4-5	East bracing angles	Edge of horizontal back-to-back angles	Ragged edge for <u>+1</u> " back for full length		E B5 3-4 E	
	West bracing angles	Top surface of horizontal legs	1/16" pitting full		E B5 5-6 W	
5-6	Gusset at L5E	Top surface	1/16" pitting over over 75% of area		E B5 5-6 E	
		Gusset rivets	2 Rivets 50%		E B5 5-6 E	
	Strut at L6	Top surface of bottom flange and top flange	1/16"-1/8" pitting		E B5 5-6 E	
		All laces	1/16" to knife edge		E B5 5-6 E	
	Bracing angles	Inside horizontal back-to-back legs	1/16" for full		E B5 5-6 E	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference	
6-7	East bracing angles	Inside back to back legs	1/16"-1/8"		E B5 7-8		
	Middle strut	Top surface of top flange	1/16" pitting full length		E B5 7-8		
	Middle gusset Strut at L7	Gusset rivets Top surface of bottom angle and top angle	2 Rivets 50% 1/16"-1/8" pitting		E B5 7-8 E B5 7-8		
7-8	Bracing angles	Inside back to back legs and edges	1/16"-1/8" to knife edges		E B5 7-8		
	Strut at L8	Top surface of upper and lower flanges	1/16" pitting full length		E B5 7-8		
B4							
0-1	Jacking beam at L0	Rivets	115 Rivets 25-75%		E B4 0-1 E		
	Gusset at LOE	Top surface Gusset rivets	1/16" over \pm 50% area \pm 8 Rivets 50%		E B4 0-1 E E B4 0-1 E		
	Gusset at LOW	Top surface Gusset rivets	1/16"-1/8" over \pm 50% \pm 5 Rivets 25-75%		E B4 0-1 W E B4 0-1 W		
	Bracing angles	East lower horizontal leg edge	Knife edge for \pm 40% length			E B4 0-1 W	
		West upper horizontal leg edge	1/16"-1/8" to knife edge for \pm 36"			E B4 0-1 W	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
0-1	Gusset at L1E and LLW Strut at L1	Top surface	1/16" over <u>+ 50%</u> area		E B4 0-1 E	
		Top surface of flanges	1/16" spots full length		E B4 0-1 E	
		Edges of bottom flanges at gusset at L1E	Knife edged		E B4 0-1 E	
		Edges of vertical legs of bottom angles at middle gusset	Knife edge for <u>+ 14"</u>		E B 0-1 E	
1-2	Gusset at L2E	Top surface	1/16"-1/8" over <u>+50%</u> area		E B4 1-2 E	
		Gusset rivets	2 Rivets 50%		E B4 1-2 E	
	Strut L2	Top surface of bottom flange	1/16"-1/8" spots		E B4 1-2 E	
		Edge of bottom angle at L2W	Knife edged to ragged		E B4 1-2 E	
Gusset at L2W	Top surface	1/16"-1/8: over <u>+50%</u> area		E B4 1-2 W		
	Bracing angles	Horizontal back to back legs	1/16" - 1/8"		E B4 1-2 E	
2-3	Gusset at L3E	Top surface	1/16"-1/8" over <u>+50%</u> area		E B4 1-2 E	
		Strut at L3	Edges of lower flanges at L3E	1/8" to knife edged		E B4 1-2 E

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
2-3	Bracing angles	East lower horizontal back to back leg	Knife edge to ragged for $\pm 7'$		E B4 1-2 E	
	Strut at L3	Top surface of lower and upper flanges	1/16"-1/8"		E B4 3-4 E	
		Inside lower back to back vertical legs at middle gusset	1/16"-1/8"		E B4 3-4 E	
	Middle gusset at L3	2 Laces	Knife edged		E B4 3-4 E	
		Top surface	1/16"-1/8" over $\pm 25\%$ area		E B 3-4 E	
	Bracing angles	Gusset rivets	1 Rivet 75%		E B4 3-4 E	
Strut at L4	Horizontal back to back legs	1/16"-1/8" full		E B4 3-4 E		
	Bottom flange edges at east and west ends	Knife edged to ragged		E B4 3-4 E		
4-5	Bracing	East horizontal back to back legs at L4E	Ragged edge for $\pm 70\%$ length for 1"-2" back		E B4 3-4 E	
		Inside back to back legs	1/16"-1/8"		E B4 3-4 E	
	Gusset at L4E	Top surface	1/16" over $\pm 50\%$ area		E B4 3-4 E	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
5-6	Strut at L5	Top surface of both flanges	1/16"-1/8" pitting to knife edge spots	(1)	E B4 5-6 W	
	Mid strut gusset at L6	Top surface of both plates	1/16"-1/8"		E B4 5-6 W	
	Gusset at L6E	Top surface	1/16" over \pm 50% area		E B4 5-6 E	
	Gusset at L5E	Top surface	1/16"-1/8" pitting over 100% area		E B4 5-6 E	
	Middle gusset	Top surface	1/16"-1/8" to knife edge for \pm 24"		E B4 5-6 E	
Strut at L5	Vertical back to back legs of bottom flange of middle gusset					
6-7	Bracing	East angles, lower horizontal leg	Knife edged to 100% deteriorated in spots for 50% of length		E B4 7-8 E	E, B4, 6-7 N, 1
	Strut at L7	South lower flange top surface	1/8"-3/16" pitting for \pm 50% length		E B4 7-8 E	E, B4, 6-7, E, 2
		Underside of lower flange at L7E along gusset edge	1/8" pitting \pm 2" wide		E B4 7-8 E	
		Lower flange edge at east and west ends	1/16"		E B4 7-8 E	
Note (1)	Vertical connection angles for strut appear to be pulling away from chord, see field inspection Sheet E B4 5-6 E 2 of 3.					

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference	
7-8	Gusset at L8E	Top surface	1/16" over 100% area		E B4 7-8 E	E, B4, 7-8, N, 8	
	Mid strut	Top surface of both upper and lower flanges	1/16"-1/8" spots full length		E B4 7-8 E		
	Strut at L8	Vertical legs of flanges at laces	Knife edge to 100% deterioration in spots for full length		E B4 7-8 E	E, B4, 7-8, S, 1	
	Middle gusset	All laces	1/16"-1/8" pitting		E B4 7-8 E		
B6	Strut at L7	Top surface	1/16"-1/8" pitting		E B4 7-8 E		
		Vertical legs of lower flange at middle gusset	50-80% thickness loss for \pm 7"		E B4 7-8 E		
	0-1	East bracing angles	Inside horizontal back to back legs	1/16"-1/8" spots		E B6 0-1 E	
		Strut at L0	Top surface of flanges	1/16" pitting full length		E B6 0-1 W	
	Middle gusset	Top surface of lower plate	1/16"-1/8" pitting over \pm 75% of area		E B6 0-1 W		
		Gusset rivets	1 Rivet 50%		E B6 0-1 W		

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
1-2	Gusset at L2E	Top surface and north and south edge	1/16"-1/8" pitting to 100% deterioration		E B6 1-2 W	E, B6, 1-2, DWN, 5
	Strut at L2	Gusset rivets	1 Rivet 50%		E B6 1-2 W	
		Underside of lower flange at L2W along gusset edge and mid strut gusset edge	1/16"-1/8" pitting		E B6 1-2 W	
	Gusset at L2E	Underside of lower flange at L2E along gusset edge	30-50% thickness loss		E B6 1-2 E	E, B6, 1-2, DWN, 1 E, B6, 1-2, DWN, 2
		North and south edges	Spots of 50-100% loss		E B6 1-2 E	
2-3	West bracing angles	Inside horizontal back to back angles at L2E	1/16"-1/8" for \pm 12"		E B6 1-2 E	
	Gussets at L3E and L3W	Top surface	1/16" spots		E B6 3-4 W	
3-4	Gusset at L4W	Top surface	1/16"-1/8" pitting		E B6 3-4 W	
	Bracing angles	Top surface of horizontal leg	1/16"-1/8" pitting		E B6 3-4 W	
	Strut at L4	Top surface of horizontal legs	1/16"-1/8" pitting in spots		E B6 3-4 W	
Underside of lower flange at L4W along gusset edge		30-50% thickness loss		E B6 3-4 W		

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
3-4	Gusset at L4W	South edge under chord Gusset rivets	Knife edge 1 Rivet 50%		E B6 3-4 W E B6 3-4 W	
4-5	Bracing angles	Top surface of horizontal legs	1/16"-1/8" pitting full length		E B6 3-4 W	
5-6	Middle gusset at L5 Strut at L5	Top surface Gusset rivets 2 Laces at middle gusset Inside lower back to back angles at middle gusset	1/16" spots 1 Rivet 75% Knife edged 1/16"-1/8"		E B6 5-6 E E B6 5-6 E E B6 5-6 E E B6 5-6 E	
	Gusset at L6E Strut at L6	West and north edges East end, edge of lower horizontal leg	1/16"-1/8" to ragged edges Ragged edge		E B6 5-6 E E B6 5-6 E	
	Gusset at L6W	Top surface	1/16"-1/8" over +75% area		E B6 5-6 W	
7-8	Strut at L7	Top surface of bottom flange Top flange at east end	1/16"-1/8" in spots 1/16"-1/8" to knife edge		E B6 5-6 E E B6 7-8 E	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference
7-8	Gusset at L8E	Top surface	1/16"-1/8" over +75% area		E B6 7-8 E	
	East bracing angles	West edge Top horizontal leg at L8E	Knife edge for $\pm 6"$ 1/16"-1/8" to 100% loss for $\pm 4'$		E B6 7-8 E E B6 7-8 E	
	Strut at L8	Top surface of upper and lower flanges Edge of south top flange	1/16"-1/8" pitting in spots Ragged edge for $\pm 4'$		E B6 7-8 E E B6 7-8 E	
	Mid strut	Top surface of top flange	1/16"-1/8" spots		E B6 7-8 E	

**SWAY
BRACING**

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference
B7						
7-8	Lower east and west bracing	Inside back to back legs and top surface	1/16"-1/8"		F B7 7-8	
B5						
0-1	Upper east bracing	Top surface of angles	1/16" pitting full length		F B5 0-1	
6-7	Upper west bracing	Top surface of angles	1/16"-1/8" pitting		F B5 6-7	
		Inside back to back legs	1/16" full length		F B4 6-7	
	Lower west bracing	Top surface and inside back to back legs	1/16" full length		F B5 6-7	
7-8	Upper and lower east bracing	Inside back to back legs	1/16" full length		F B5 7-8	
	Lower west bracing	Top surface of angles	1/16" pitting		F B5 7-8	
B4						
0-1	Lower west bracing	Edges of horizontal legs	1/16"-1/8" to knife edges		F B4 0-1	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
0-1	Upper east bracing	Top surface of angles and inside of back to back legs	1/16" pitting		F B4 0-1	
	Upper east and west gussets	Lower edge and surface	1/16"-1/8" pitting		F B4 0-1	
	Middle gusset	All corners	+ 50% thickness loss		F B4 0-1	
1-2	All bracing angles	Inside back to back legs	1/32"-1/16" full length		F B4 1-2	
	Middle gusset	South face	1/32"-1/16" pitting		F B5 1-2	
3-4	Upper east bracing and lower west bracing	Top surface of angles	1/16"-1/8" pitting spots		F B4 3-4	
	Upper east and west gussets	Lower edge	1/16"-1/8" spots		F B4 3-4	
7-8	East and west lower bracing	Top surface and inside back to back legs	1/16"-1/8" for + 6' from lower end		F B4 7-8	
	All bracing angles	Vertical legs at middle gusset	Knife edged to ragged		F B4 7-8	F, B4, 7-8, S, 2
	Upper east bracing	Horizontal legs along edge	1/16"-1/8" with knifed and ragged edge for +90% length		F B4 7-8	F, B4, 7-8 DWN, 13
	Upper west bracing	Top surface and inside back to back legs	1/16"-1/8" for + 8'		F B4 7-8	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B6						
0-1	All bracing angles	Top surface of horizontal legs and inside back to back legs	1/92"-1/8" pitting		F B6 0-1	
	Upper east and west gussets and middle gusset	Surfaces	1/16" pitting spots		F B6 0-1	
1-2	All bracing angles	Inside back to back legs	1/32"-1/16" full length		F B6 1-2	
	Upper east and west gussets and middle gussets	Surfaces and edges	1/16"-1/8" spots		F B6 1-2	
3-4	Lower west bracing	Top surface of horizontal legs	1/16"-1/8" pitting		F B6 3-4	
	Lower east bracing	Top surface of horizontal legs	1/16"-1/8" pitting for \pm 3' at east end		F B6 3-4	
5-6	All bracing angles	Top surface of horizontal legs	1/32"-1/8"		F B6 5-6	
	Middle gusset	South side	1/16" spots		F B6 5-6	
7-8	Upper west bracing	Top surface of horizontal legs	1/8"-3/16" pitting		F B6 7-8	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
7-8	Lower east and west bracing and upper east bracing	Top surface of horizontal legs	1/32"-1/8" pitting		F B6 7-8	

**ON DECK
INSPECTION**

Span	Bay	Affected Area	Degree of Corrosion or Defect	Sketch No. Reference	Photo No. Reference
		<u>DECK</u>			
B5	0-1	Both lanes West scupper East scupper	1/32"-1/16" cracks + 20% of openings clogged + 30% of openings clogged	I B5 0-1 I B5 0-1 I B5 0-1	
	1-2	Both lanes West scupper East scupper	1/32"-1/16" cracks + 15% of openings clogged + 75% of openings clogged	I B5 1-2 I B5 1-2 I B5 1-2	
	2-3	Both lanes	1/32"-1/16" cracks	I B5 2-3	
	3-4	Both lanes	1/16" cracks + 6"-24" long	I B5 3-4	
	4-5	Both lanes West scupper East scupper	1/16" cracks + 4"-36" long + 50% of openings clogged + 10% of openings clogged	I B5 4-5 I B5 4-5 I B5 4-5	
	5-6	Both lanes	1/16" cracks + 4"-18" long	I B5 5-6	
	6-7	Both lanes	1/16" cracks + 6"-26" long	I B5 6-7	
	7-8	Both lanes	1/16" cracks + 3"-36" long	I B5 7-8	
B4	0-1	Both lanes	1/16" cracks + 1'-5' long	I B4 0-1	
	1-2	Both lanes	1/16" cracks + 1'-5' long	I B4 1-2	
	2-3	Both lanes	1/16" cracks	I B4 2-3	
	3-4	Both lanes	1/16" cracks + 2-1/2'-3' long	I B4 3-4	
	4-5	Both lanes	1/16" cracks + 1'-5' long	I B4 4-5	

Span	Bay	Affected Area	Degree of Corrosion or Defect	Sketch No. Reference	Photo No. Reference
B-4	5-6	Both lanes Northbound lane	1/16" cracks \pm 1'-5' long Depressed area in pavement \pm 24" in diameter and \pm 1/2 to \pm 3/4" deep	I B4 5-6 I B4 5-6	
	6-7	Both lanes West scupper	1/16" cracks \pm 1'-5' long \pm 50% of openings clogged	I B4 6-7 I B4 6-7	
	7-8	Both lanes West scupper East scupper	1/16" cracks \pm 1'-5-1/2' long \pm 25% of openings clogged \pm 50% of openings clogged	I B4 7-8 I B4 7-8 I B4 7-8	
B-6	0-1	Both lanes	1/16" cracks \pm 1'-5' long	I B6 0-1	
	1-2	Both lanes	1/16" cracks \pm 1'-4' long	I B6 1-2	
	2-3	Southbound lane	1/16" cracks \pm 1'-5' long	I B6 2-3	
	3-4	Both lanes	1/16" cracks \pm 1'-5' long	I B6 3-4	
	4-5	Both lanes West scupper East scupper	1/16" cracks \pm 1'-4-1/2' long \pm 50% of openings clogged \pm 25% of openings clogged	I B6 4-5 I B6 4-5 I B6 4-5	
	5-6	Both lanes	1/16" cracks \pm 6"-4' long	I B6 5-6	
	6-7	Both lanes	1/16" cracks \pm 1'-5' long	I B6 6-7	
	7-8	Both lanes East scupper	1/16" cracks \pm 1'-5' long \pm 25% of openings clogged	I B6 7-8 I B6 7-8	

Span	Bay	Affected Area	Degree of Corrosion or Defect	Sketch No. Reference	Photo No. Reference
		<u>RAILING</u>			
B7	0-1	West side	2 verticals to be replaced remaining verticals with minor cross sectional loss	I B7 0-1	
	1-2	Both sides	Minor cross section loss to verticals	I B7 1-2	
	2-3	West side	1 vertical to be replaced	I B7 2-3	
	3-4	West side	2 verticals to be replaced, remaining verticals with minor cross sectional loss	I B7 3-4	
	4-5	West side Both sides	1 vertical to be replaced Minor cross sectional loss to verticals	I B7 4-5 I B7 4-5	
	5-6	East side	1 vertical to be replaced	I B7 5-6	
	6-7	West side Both sides	1 vertical to be replaced Minor cross sectional loss to verticals	I B7 6-7 I B7 6-7	
	7-8	West side Both sides	1 vertical to be replaced Minor to medium cross sectional loss to verticals	I B7 7-8 I B7 7-8	
B5	0-1	West side Both sides	3 verticals to be replaced Minor cross section loss to verticals with 1/16" on posts and channels	I B5 0-1 I B5 0-1	
	1-2	West side East side	2 verticals to be replaced 2 verticals to be replaced	I B5 1-2 I B5 1-2	
	2-3	West side	+ 7 verticals* to be replaced that were bent outward	I B5 2-3	

Span	Bay	Affected Area	Degree of Corrosion or Defect	Sketch No. Reference	Photo No. Reference
B5	3-4	West side	2 verticals to be replaced, surface rust on all other members	I B5 3-4	
	4-5	West side	1 vertical to be replaced, surface rust on all other members	I B5 4-5	
	5-6	Both sides	1 vertical to be replaced on each side with surface rust on all other members	I B5 5-6	
	6-7	East side Both sides	1 vertical to be replaced Surface rusting on all members	I B5 6-7 I B5 6-7	
	7-8	West side	1 vertical to be replaced with surface rusting on all other members	I B5 7-8	
B4	0-1	West side Both sides	1 vertical to be replaced Surface rusting on <u>+</u> 25% of members	I B4 0-1 I B4 0-1	
	1-2	West side	2 verticals to be replaced, surface rusting on all members	I B4 1-2	
		East side	1 vertical to be replaced, surface rusting on all members	I B4 1-2	
	2-3	West side	2 verticals to be replaced, surface rusting on all members	I B4 2-3	
	3-4	West side	2 verticals to be replaced, surface rusting on all members	I B4 3-4	
	4-5	East side	1 vertical to be replaced, surface rusting on all members	I B4 4-5	

Span	Bay	Affected Area	Degree of Corrosion or Defect	Sketch No. Reference	Photo No. Reference
B4	5-6	West side	2 verticals to be replaced, surface rusting on all members	I B4 5-6	
	6-7	Both sides	1 vertical to be replaced, surface rusting on all members	I B4 6-7	
	7-8	West side	1 vertical to be replaced, surface rusting on all members	I B4 7-8	
B6	0-1	Both sides	Surface rusting on all members	I B6 0-1	
	1-2	Both sides	1 vertical to be replaced, surface rust on all members	I B6 1-2	
	2-3	West side	3 verticals to be replaced, surface rust on all members	I B6 2-3	
	3-4	West side	1 vertical to be replaced, surface rusting on all members	I B6 3-4	
	4-5	West side	2 verticals to be replaced, surface rusting on all members	I B6 4-5	
	5-6	West side	2 verticals to be replaced surface rusting on all members	I B6 5-6	
	6-7	West side	2 verticals to be replaced	I B6 6-7	
		East side	1 vertical to be replaced	I B6 6-7	
Both sides		Surface rusting on all members	I B6 6-7		
7-8	West side	2 verticals to be replaced, surface rusting on all members	I B6 7-8		

Span	Bay	Affected Area	Degree of Corrosion or Defect	Sketch No. Reference	Photo No. Reference
B5	@pp 0	<u>LIGHTPOSTS</u> East side West side	Random surface rusting on all surfaces Random surface rusting on all surfaces with 2 bolts missing from cover plate at base of lighpost		
B4	@pp 8'	East and West sides	Random surface rusting on all surfaces		

APPENDIX I

Detailed Results of Field Inspection

Main Span

A

**TRUSS
MEMBERS**

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B3	LOE-L1E	All laces	1/32"-1/8" to knife edges		A B3 0-1 E	
	PP UOE	Inside surfaces of gusset	1/32"-1/8" spots		A B3 0-1 E	
	L1E-L2E	South end top stay plate Lower laces	1/32"-1/8" 1/16"-1/8"		A B3 0-1 E A B3 0-1 E	
	L1E-U1E	Outside and inside faces of channels	1/16"-1/8"		A B3 0-1 E	
	LOW-UOW	+5% of laces	1/8"-3/16"		A B3 0-1 W	
	LOW-L1W	+5% of laces at LOW North end upper stay plate underside	+50% thickness loss 1/16"-1/8"		A B3 0-1 W A B3 0-1 W	
	L2E-U2E	All laces	1/16"-1/8"		A B3 2-3 E	
	U1E-L2E	North end middle stiffener plate top surface	1/16" over +75% of area		A B3 2-3 E	
	L2E-L3E	Lower laces	1/16"-1/8"		A B3 2-3 E	
	PP L2E	Lower gusset rivets	1 rivet 75%		A B3 2-3 E	
	L3E-U3E	+75% laces East and west outside faces of channels	1/16"-1/8" 1/16"-1/8"		A B3 2-3 E A B3 2-3 E	
	PP U2E	West face of west gusset	1/16"-1/8" spots		A B3 2-3 E	
	L1W-L2W	All laces North end upper stay plate top surface	1/16"-1/8" 1/16"-1/8" over +50% of area		A B3 2-3 W B 2-3 W	

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note (1)	Sketch No. Reference	Photo No. Reference
B3	U1W-L2W	Lower laces surfaces and edges	1/8"-3/16"	(1)	B 2-3 W	
		Upper laces surfaces and edges	1/16"-1/8"		B 2-3 W	
	L2W-U2W	North end, lower stay plate top surface	1/8" over <u>+75%</u> of area		B 2-3 W	
		North end, upper stay plate top surface	1/16"-1/8" over <u>+50%</u> of area		B 2-3 W	
	L2W-U3W	Channel faces	1/16"-1/8" full length		B 2-3 W	
	L2W-L3W	Top surface of upper and lower stay plates at south end	1/8" pitting over <u>+75%</u> of area		B 2-3 W	
	L3W-U3W	All laces	1/16"-1/8"		A B3 2-3 W	
	L3W-L4W	Faces of channels	1/16"-1/8" spots		A B3 2-3 W	
	PP U4E	All laces	1/16"-1/8" to knife edge		A B3 2-3 W	
	L4E-L5E	All laces	1/16"-1/8"		A B3 2-3 W	
	PP L5E	Outside face of west gusset	1/16" over <u>+75%</u> of area		A B3 4-5 E	
	L5E-L6E	North end, middle stiffener plate edge				
	South end middle stiffener plate top surface	1/8"-3/16" pitting over <u>+30%</u> of area	A B3 4-5 E			
	Bottom gusset south edge	Knife edge	A B3 4-5 E			
	South end upper stay plate, south edge	Knife edge	A B3 4-5 E			

Note: (1) Edge is bent up by layered rust +1/2".

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B3	L5W-U5W	Nuts for bolts thru upper stay plates	4 nuts 50%		A B3 4-5 W	
	L4W-U5W	South end upper stay plate	1/16"-1/8" over +50% of area		A B3 4-5 W	
	U5E-L6E	+90% of lower laces North end upper and lower stay plates	1/8"-3/16" 1/16"-1/8" over +50% of area		A B3 6-7 E A B3 6-7 E	
	L5E-L6E	All lower laces	1/16"-1/8"		A B3 6-7 E	
	L6E-U7E	South end upper and lower stay plates	1/16"-1/8" over 25% of area		A B3 6-7 E	
	PP L6E	Lower gusset rivets	+14 rivets 50-75%		A B3 6-7 E	
	L6E-L7E	Vertical stiffener at south end, both sides All laces	1/16"-1/8" over +75% of area 1/16"-1/8"		A B3 6-7 E A B3 6-7 E	
	L7E-U7E	Outside face of east channel All laces	1/16"-1/8" full length 1/16"-1/8"		A B3 6-7 E A B3 6-7 E	
	PP L7E	Outside face of west gusset	1/8"-3/16" spots		A B3 6-7 E	
	L7E-U7E	Nut for bolt thru middle stiffener plate at top	1 nut 50% corroded		A B3 6-7 E	
	L7E-L8E	South end upper stay plate top surface All laces	1/16"-1/8" over 50- 75% of area 1/16"-1/8"		A B3 6-7 E A B3 6-7 E	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B3	U5W-U6W	North end, top surface of stay plate	1/16"-1/8" over +50% of area		A B3 6-7 W	
	U5W-L6W	North end, middle stiffener plate top surface	1/16"-1/8" over +50% of area		A B3 6-7 W	
	L6W-U6W	Outside surface of east channel	1/16"-1/8" full length		A B3 6-7 W	
	PP U6W	Outside face of east gusset	1/16"-1/8" over +75% of area		A B3 6-7 W	
	L6W-U7W	All laces	1/16"-1/8"		A B3 6-7 W	
	L7W-U7W	All laces Top stay plates	1/16"-1/8" 1/16"-1/8" over 50% of area		A B3 6-7 W A B3 6-7 W	
	U7W-L8W	South end middle stiffener plate	1/16"-1/8" over +75% of area		A B3 6-7 W	
	L8E-U8E	Lower stay plates both surfaces	1/16"-1/8" over +50% of area		A B3 8-9 E	
	L7E-L8E	All laces	1/16"-1/8"		A B3 8-9 E	
	U7E-L8E	Lower laces North end upper and lower stay plates	1/16"-1/8" 1/16"-1/8" over +75% of area		A B3 8-9 E A B3 8-9 E	
	L8E-U9E	South end middle stiffener plate top surface All laces	1/8" over +50% of area 1/16"-1/8"		A B3 8-9 E A B3 8-9 E 1	
	L8E-L9E	All upper laces	1/16"-1/8"		B B3 8-9 E 1	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B3	PP L8E	Outside surface of east gusset	1/16"-1/8" spots		A B3 8-9 E 1	
	L8E-L9E	North end upper stay plate top surface	1/8"-3/16" over +75% of area		A B3 8-9 E 2	
	L9E-U10E	South end upper stay plate top surface and south edge South end flange rivets All upper laces All gusset surfaces Top surface of middle stiffener full length	1/8"-3/16" to knife edge 3 rivets 75% 1/16"-1/8" 1/16"-1/8" spots 1/16"-1/8"		A B3 8-9 E 2 A B3 8-9 E 2 A B3 8-9 E 2 A B3 8-9 E 2	
	U7W-L8W	North end upper and lower stay plate surfaces	1/16"-1/8" over 50% of area		A B3 8-9 W 1	
	PP L8W	Lower gusset rivets	4 rivets 50%		A B3 8-9 W 1	
	L7W-L8W	North end vertical stiffener plate	1/16"-1/8" over 75% of area		A B3 8-9 W 1	
	L8W-U8W	All laces	1/16"-1/8"		A B3 8-9 W 1	
	L8W-U9W	South end upper and lower stay plates South end middle stiffener plate top surface	1/16"-1/8" over 75% of area 1/16"-1/8" over 75% of area		A B3 8-9 W 1 A B3 8-9 W 1	
	L8W-L9W	South end upper stay plate edge All lower laces	1/16"-1/8" to 100% deterioration 1/16"-1/8"		A B3 8-9 W 1 A B3 8-9 W 1	
	PP L9W	All surfaces	1/16"-1/8" corroded spots		A B3 8-9 W 2	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1	U9E-L10E	All laces North end upper and lower stay plates	1/16"-1/8" 1/16"-1/8" over +50% of area		A B1 9-10 E A B1 9-10 E	
	L9E-L10E	Middle stiffener plate top surface, full length	1/16"-1/8"		A B1 9-10 E	
	L10E-L11E	All laces	1/16"-1/8"		A B1 9-10 E	
	PP L10E	Outside face of west gusset	1/16"-1/8" over +75% of area 5 rivets 50%		A B1 9-10 E A B1 9-10 E	
	L10E-U10E	+40% Laces	1/16" to +50% thickness loss		A B1 9-10 E	A,B1,9-10,N,1
	L12E-L13E	Top lacing rivets	+10% of rivets 50% loss		A B1 11-12 E 2	
	PP L12E	Inside surfaces of gussets	1/16"-1/8" spots		A B1 11-12 E 2	
	U11W-U12W	South end, east lower flange First three laces from south end	1/16"-1/8"	(2)	A B1 11-12 W 1 A B1 11-12 W 1	
	L11W-U11W	Lacing rivets on south side at upper end	6 rivets 25-50%		A B1 11-12 W 1	
	L10W-U11W	+40% laces between U11W and splice at north end	1/16"-1/8" spots		A B1 11-12 W 1	
	L11W-L12W	South end upper stay plate edges North end upper and lower stay plates North end, vertical legs of flanges	+30% thickness loss Knife edges to 100% deterioration	(3)	A B1 11-12 W 1 A B1 11-12 W 2 A B1 11-12 W 2	A,B1,11-12,S,2 A,B1,11-12,N,3 A,B1,11-12,UP-N,4

Notes:

(2) Edge of vertical leg bent out +3/8" by layered rust for +24".

(3) There are +1/8" fill plates which are bowed out 1/4"-1/2" by layered rust.

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1	PP L13E	All inside surfaces	1/16" spots		A B1 13-14 E	
	L13E-U13E	+70% Laces Inside faces of channels full length	1/32" to knife edge 1/16"-1/8" spots		A B1 13-14 E A B1 13-14 E	
	L10E-U10E	Outside face of west channel	1/16"-1/8" spots		A B1 9-10 E	
	L10W-U10W	Inside channel faces	Blistering full length		A B1 9-10 W	
	L11E-L12E	South end, upper and lower stay plates	1/16" to knife edge		A B1 11-12 E	
	U10E-U11E	Laces	1/16" to +75% thickness loss		A B1 11-12 E 1	
	L10E-U11E	Lower laces	1/16" to +75% thickness loss		A B1 11-12 E 1	
	L12E-U12E	Inside face of west channel All laces	1/16"-1/8" spots 1/16" spots		A B1 11-12 E 2 A B1 11-12 E 2	
	L11E-L12E	North end upper stay plate North end middle stiffener plate	1/16" to knife edge 1/16"-1/8" over +50% of area		A B1 11-12 E 2 A B1 11-12 E 2	
	L12E-U13E	Top lacing rivets	+7 rivets 50%		A B1 11-12 E 2	
	L12E-L13E	South end, middle stiffener plate top surface South end upper stay plate top surface	1/16"-1/8" over +75% of area 1/16"-1/8" over +25% of area		A B1 11-12 E 2 A B1 11-12 E 2	
	U12E-U13E	North end stay plate	1/16" to knife edge		A B1 13-14 E	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference	
B1	U13E-L14E	+60% Laces	1/16" to knife edge		A B1 13-14 E	A,B1,13-14,N,1	
	L13E-L14E	+50% Laces	1/16"-1/8"		A B1 13-14 E		
	L14E-U14E	Inside faces of channels +45% Laces	1/16"-1/8" spots 1/16" to +75% thickness loss		A B1 13-14 E A B1 13-14 E		
	PP L14E	Inside faces of gussets	1/16" spots		A B1 13-14 E		
	L14E-L15E	South end upper and lower stay plates	1/16" to knife edge		A B1 13-14 E		
	U12W-U13W	+20% Laces	1/16"-1/8" spots		A B1 13-14 W		
	U13W-U14W	North end stay plate south edge	Knife-edged to 1" back		A B1 13-14 W		A,B1,13-14,S,2
	U13W-L14W	North end middle stiffener plate top surface	1/8" to 50% thickness loss in spots		A B1 13-14 W		
	L14W-L15W	South end upper and lower stay plates	Knife-edged		A B1 13-14 W		
	U14E-U15E	North end stay plate	1/8" over +75% area 1 rivet 75%		A B1 15-16 E		
	L14E-U15E	+75% Laces	1/32"-1/8"		A B1 15-16 E		
	L14E-L15E	North end lower stay plate	Ragged edge		A B1 15-16 E		
	L15E-U15E	All laces	1/16"-1/8"		A B1 15-16 E		

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1	L15E-L16E	South end upper and lower stay plates	1/16" to knife edge	(4)	A B1 15-16 E	A,B1,15-16,DWN,1 A,B1,15-16,DWN,2 A,B1 15-16,DWN,3
		North end lower stay plate	Ragged edge		A B1 15-16 E	
	U15E-L16E	Laces	Badly corroded and missing laces		A B1 15-16 E	
		Lacing rivets	+40% rivets 50-75%		A B1 15-16 E	
	U15E-U16E	North end stay plate	1/16" to knife edge		A B1 15-16 E	
		Laces	1/16" to knife edge		A B1 15-16 E	
	L16E-U16E	+10% Laces	1/16"-1/8" to knife edges		A B1 15-16 E	
	L16E-U15'E	Lower laces	1/32" to +50% thickness loss		A B1 15-16 E	
		Top laces	1/16"-1/8"		A B1 15-16 E	
	PP L16E	Inside face of gussets	1/16" spots		A B1 15-16 E	
	L14W-L15W	North end, lower stay plate both edges	Knife-edged		A B1 15-16 W	
		North end, upper stay plate underside and edge	1/16"-1/8" to +50% thickness loss		A B1 15-16 W	
	U15W-L16W	+50% Laces	Knife-edged to 100% deteriorated		A B1 15-16 W	
	L15W-L16W	Lower stay plates at north and south ends	Knife-edged to 100%		A B1 15-16 W	
Top stay plates at north and south ends		1/16" pitting to +50%	A B1 15-16 W			
L16W-L15'W	South end upper and lower stay plates	Knife-edged	A B1 15-16 W			

Note: (4) See Field Inspection Sheets.

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1	L16W-U15'W	+25% Lower laces	1/16"-1/8"		A B1 15-16 W	
	L16W-L15'W	North end upper and lower stay plates +20% Laces	+75-95% thickness loss 1/16"-1/8"		A B1 15-16 W A B1 16-15' E	
	U16E-U15'E	North end stay plate south edge +60% Laces	Knife-edged 1/16"-1/8"		A B1 16-15' E A B1 16-15' E	
	L16E-U15'E	+40% Laces	1/16"-1/8"		A B1 16-15' E	
	L15'E-U15'E	+45% Laces	1/16"-1/8"		A B1 16-15' E	
	U15'E-U14'E	South end stay plate north edge +80% Laces	Knife-edged 1/16"-1/8"		A B1 16-15' E A B1 16-15' E	
	U15'E-L14'E	+40% Laces	1/16"-1/8"		A B1 16-15' E	
	L15'E-U15'E	+45% Laces	1/16"-1/8"		A B1 16-15' E	
	L15'E-L14'E	South end upper and lower stay plates +30% Laces	Knife-edged 1/32"-1/8"		A B1 16-15' E A B1 16-15' E	
	U14'W-U15'W	North end stay plate	Knife-edged		A B1 16-15' W	
	U16W-U15'W	+30% Laces	1/16"-1/8"		A B1 16-15' W	
	U15'W-U14'W	+30% Laces	1/16"-1/8"		A B1 16-15' W	
	U15'W-L14'W	+40% Laces	1/16"-1/8"		A B1 16-15' W	
	L15'W-L14'W	South end upper and lower stay plates	1/16"-1/8"		A B1 16-15' W	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1	L15'E-L14'E	North end upper stay plate north edge	Knife edge		A B1 14'-13' E	
	L14'E-U13'E	+25% Laces	1/16"-1/8"		A B1 14'-13' E	
	U13'E-U12'E	+60% Laces South end stay plate	Knife-edged to 100% deterioration Knife-edged		A B1 14'-13' E A B1 14'-13' E	A,B1,13'-12',N,1 A,B1,13'-12',N,2
	U13'E-L12'E	South end lower stay plate +30% Laces	Knife-edged 1/16" to +25% thickness loss		A B1 14'-13' E A B1 14'-13' E	
	U15'W-L14'W	Lacing rivets +30% Laces	+60% of rivets 25-75% 1/16"-1/8"		A B1 14'-13' W A B1 14'-13' W	
	L15'W-L14'W	North end upper stay plate	Knife-edged		A B1 14'-13' W	
	L13'W-U13'W	+40% Laces	1/16"-1/8"		A B1 14'-13' W	
	U13'W-L12'W	South end, middle stiffener plate, top edge South end, lower stay plate +20% Laces Lower lacing rivets	Knife-edged Knife-edged 1/16"-1/8" +60 rivets 25-50%		A B1 14'-13' W A B1 14'-13' W A B1 14'-13' W A B1 14'-13' W	
	PP L13'W	Inside faces of gusset	1/16" spots		A B1 14'-13' W	
	U12'E-U11'E	+20% Laces	1/16"-1/8" with 1 ragged lace		A B1 14'-13' W	
	U13'E-L12'E	North end lower stay plate	Knife-edge		A B1 12'-11' E1	
	L12'E-L11'E	South end upper and lower stay plates	Knife-edged		A B1 12'-11' E1	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1	L12'E-U12'E	+20% Laces	1/16"-1/8"	(5)	A B1 12'-11' E1	A,B1,12'-11',N,1 A,B1,12'-11',N,2
	U12'E-U11'E	+45% Laces	1/16" to +40% thickness loss		A B1 12'-11' E2	
	L12'E-U11'E	+20% Laces	1/16"-1/8" with 2 laces knife-edged		A B1 12'-11' E2	
	L11'E-U11'E	+35% Laces	1/32" to +75% thickness loss		A B1 12'-11' E2	
	PP L11'E	Inside surfaces of gussets	1/16" spots		A B1 12'-11' E2	
	PP L12'W	Inside surfaces of gussets Shim plates inside chord at splice	1/16"-1/8" pitting		A B1 12'-11' W1 A B1 12'-11' W1	
	L12'W-L11'W	South end upper and lower stay plates North end upper and lower stay plates	1/16"-3/16" pitting		A B1 12'-11' W1	
			1/16"-1/8"		A B1 12'-11' W2	
	L11'W-L10'W	South end upper and lower stay plates	1/16"-1/8"		A B1 12'-11' W2	
	L10'E-U10'E	+30% Laces	1/16"-1/8"		A B1 10'-9' E	
	U10'E-U9'E	+30% Laces	1/16"-1/8"		A B1 10'-9' E	
	PP L10'E	All surfaces	1/16"-1/8" spots		A B1 10'-9' E	
	L11'E-L10'E	North end upper stay plate North end middle stiffener plate +12 top and bottom laces Top lacing rivets +60% bottom laces	Knife edge		A B1 10'-9' E	
			Knife edges		A B1 10'-9' E	
1/8"-3/16"			A B1 10'-9' E			
3 rivets 50%			A B1 10'-9' E			
		1/16"-1/8"	A B1 10'-9' E			

Note: (5) +1/8" shim plates are bent outward +1/2" to +1" by layered rust and deteriorated 100%.

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1	L10'E-L9'E	South end top stay plate Middle stiffener plate top surface	Knife-edged 1/16"-1/8" 4 rivets 50%		A B1 10'-9' E A B1 10'-9' E	
	L10'W-U10'W	+40% Laces	1/16"-1/8"		A B1 10'-9' W	
	U11'W-U10'W	+20% Laces	1/16"-1/8"		A B1 10'-9' W	
	U10'W-U9'W	+30% Laces	1/16"-1/8"		A B1 10'-9' W	
	U11'W-L10'W	North end lower stay plate	Knifed and ragged edge		A B1 10'-9' W	
	L11'W-L10'W	North end lower stay plate top surface	1/16"-1/8"		A B1 10'-9' W	
	U10'E-U9'E	+8 Laces	Ragged edge		A B2 9'-8' E1	
	L10'E-L9'E	North end upper stay plate	Knife-edged		A B2 9'-8' E1	
B2	L9'E-L8'E	North end upper stay plate	Knife edge		A B2 9'-8' E2	
	L8'E-L7'E	+80% Laces +4 Lower laces	1/16"-1/8" Knife-edged		A B2 9'-8' E2 A B2 9'-8' E2	
	U9'W-U8'W	+5 Laces	1/16" to knife edges		A B2 9'-8' W1	
	L8'E-L7'E	+90% Laces	1/16"-1/8"		A B2 7'-6' E	
	L7'E-L6'E	+80% Laces	1/16"-1/8"		A B2 7'-6' E	
	PP U6'E	Outside face of west gusset	1/16"-1/8"		A B2 7'-6' E	
	U7'E-L6'E	+70% Laces	1/16"-1/8"		A B2 7'-6' E	

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B2	PP L6'E	Bottom gusset rivets	+9 rivets 50%		A B1 7'-6' E	
	PP U9'W	Northwest connection angle for vertical stiffener plate at chord splice		(6)	A B2 9'-8' W	
	PP U6'W	Inside face of east gusset	1/8" pitting		A B2 7'-6' W	
	L6'E-L5'E	North end top stay plate rivets	+5 rivets 50-75%		A B2 5'-4' E	
	L5'E-L4'E	South end top stay plate rivets +70% Lower laces	+6 rivets 50-75% 1/16"-1/8"		A B2 5'-4' E A B2 5'-4' E	
	U5'E-L4'E	North end lower stay plate	1/16"-1/8" over +25% of area		A B2 5'-4' E	
	L4'E-L3'E	+70% Lower laces	1/16"-1/8"		A B2 5'-4' E	
	PP L4'W	Lower gusset rivets	+20 rivets 50-75%		A B2 5'-4' W	
	PP L2'E	Inside surfaces of gussets	1/16" spots		A B2 3'-2' E	
	PP L3'E	Lower gusset north edge	Knife-edged to ragged		A B2 3'-2' E	
	PP L2'E	Inside faces of gussets	1/16" spots		A B2 3'-2' E	
	U3'E-L2'E	North end, middle stiffener plate		(7)	A B2 3'-2' E	
	L2'E-U1'E	+30% of laces South end, middle stiffener plate	1/16"-1/8" spots	(8)	A B2 3'-2' E A B2 3'-2' E	

- Notes:
- (6) Top corner of angle bent out +3/8" by layered rust.
 - (7) Lower east and upper west corners lifted +1/2" by layered rust.
 - (8) Lower east corner lifted +3/8" by layered rust.

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B2	L2'E-L1'E	+50% Lower laces	1/16"-1/8" spots	(9)	A B2 3'-2' E	
	PP U2'W	Inside faces of gussets	1/16" spots		A B2 3'-2' W	
	U3'W-L2'W	North end middle stiffener plate			A B2 3'-2' W	
	L1'W-L0'W	+10% Lower laces	1/16" to knife edges	(10)	A B2 1'-0' E	
	PP L0'E	Inside faces of gussets	1/16" spots under blisters		A B2 1'-0' E	
	PP U0'E	Inside faces of gussets	1/16"-1/8" spots		A B2 1'-0' E	
	U1'E-L1'E	North end, fill plate corners			A B2 1'-0' E	
L0'W-U0'W	+25% Laces	1/8" pitting spots	A B2 1'-0' W			

Notes: (9) Plate is slightly bowed downward $\pm 3/8"$; top west corner is lifted $\pm 3/8"$ by layered rust.
(10) Corners of both east and west faces bent outward $\pm 1/2"$ by layered rust.

**FLOOR BEAMS
& STRINGERS**

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note (1)	Sketch No. Reference	Photo No. Reference
		<u>FLOOR BEAMS</u>				
B3	FB 0 N	East end lower flange Rivets Third stiffener from west end at bottom of outstanding leg	1/16"-1/8" pitting +2 Rivets 75% +40% loss for +4"		B B3 0-1 B B3 0-1 B B3 0-1	
	FB 1 N	East end lower flange rivets Fourth stiffener from west end base of outstanding leg	+3 Rivets 75% +30-50% loss		B B3 1-2 B B3 1-2	
	FB 2 S	Top flange on east side		(1)	B B3 1-2	
	FB 3 S	East end upper flange surface and edge	1/16"-1/8"		B B3 2-3	
	FB 3 N	Top surface of bottom flange at east end Bottom flange rivets at east end Third stiffener from west, base of outstanding leg	1/16"-1/8" +7 Rivets 75% +25% thickness loss		B B3 3-4 B B3 3-4	
	FB 4 N	East end lower flange rivets East end, top and bottom flanges West end, top surface of top flange	+6 Rivets 75% 1/8"-3/16" pitting 1/16" pitting		B B3 4-5 B B3 4-5 B B3 4-5	
	FB 5 S	East end lower flange rivets	3 Rivets 75%		B B3 4-5	
	FB 5 N	East end top surface of bottom flange East end, bottom flange rivets West end top surface of top flange Third stiffener from west base of outstanding leg Bottom cover plate rivets	1/16"-1/8" pitting +6 Rivets 50-75% 1/16" +1/3 thickness loss 1 Rivet 50%		B B3 4-5 B B3 5-6 B B3 5-6 B B3 5-6 B B3 5-6	
	FB 6 S	East end, top surface of bottom flange and last panel of web	1/16"-1/8" pitting		B B3 5-6	
<u>Note:</u> (1) There is +1/8" gap between the top flange and deck						

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B3	FB 6 S	Top flange just west of portal		(2)	B B3 5-6	B, B3, 7-8, S, 1
	FB 6 N	Third stiffener from west at base of outstanding leg	100% deterioration	(3)	B B3 6-7	
		Fourth stiffener from west end at stringer web connection		(4)	B B3 6-7	
		West end, top surface of upper flange under timber insulation	1/16"		B B3 6-7	
		East end, bottom flange rivets	+7 Rivets 75%		B B3 6-7	
	FB 7 S	East end bottom flange rivets	2 Rivets 75%		B B3 6-7	
	FB 7 N	Third stiffener from west end, base of OSL	50-100% loss for +10"	(5)	B B3 7-8	
		Top surface of bottom flange at west end	1/8"-3/16" pitting for +8"		B B3 7-8	
		East end, top surface of bottom flange and last panel of web	1/16"-1/8" pitting		B B3 7-8	
	FB 8 S	East end, top surface of bottom flange	1/16"-1/8" pitting		B B3 7-8	
FB 8 N	First stiffener from east end at base of outstanding leg	Knife edge for +2"		B B3 8-9		
	East end, lower flange rivets	4 Rivets 50-75%		B B3 8-9		
FB 9 S	Underside of top flange at east end and last panel of web	1/16"-1/8" pitting		B B3 8-9		
B1	FB 9 N	Top and bottom flanges and web at west end	1/16"-1/8" pitting		B B1 9-10	
		East end, top surface of bottom flange	1/16"-1/4" pitting		B B1 9-10	

Note: (2) There is a +1/8" gap between the top flange and the concrete deck

Note: (3) There is +3/8" layered rust between the stiffener OSL and the stringer web

Note: (4) There is +3/16" layered rust between the stiffener OSL and the stringer web

Note: (5) There is +5/8" layered rust between the stiffener OSL and the stringer web

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference	
B1	FB 10 S	Bottom flange and cover plate rivets	All rivets 25-75%	(6)	B B1 9-10		
		Top surface of bottom flange	1/32"-1/8" pitting		B B1 9-10		
		East end, first web panel	1/16"-1/8" Pitting		B B1 9-10		
		West end upper flange	1/16"-1/8" pitting		B B1 9-10		
		Rivets at east and west ends					
	FB 10 N	Sliding connection at south end of ST-1	1 bolt missing		B B1 10-11 1		
		East end, last panel of web	1/32"-1/8" pitting		B B1 10-11 1		
		East clip angle for sidewalk channel at west end	1/16"-1/8" pitting		B B1 10-11 1		
		2 Rivets 75%					
		West end, bottom flange rivets	+3 Rivets 25-50%		B B1 10-11 1		
		All stringer supports	1/32"-1/16" spots		B B1 10-11 1		
	FB 11 S	Bottom cover rivets at west end Surface of web at west end First stiffener from west end edge of outstanding leg	1 Rivet 75%		B B1 10-11 2		
+1/4" pitting			B B1 10-11 2				
1/16"-1/8"			B B1 10-11 2				
FB 11 N	East end, bottom flange rivets First stiffener from east end base of OSL East end, top surface of bottom flange West end lower flange rivets Bottom cover rivets at west end	+6 Rivets 50-75%	B B1 11-12				
		Knife edged	B B1 11-12				
		1/16"-1/8" pitting	B B1 11-12				
		+6 Rivets 75%	B B1 11-12				
		+5 Rivets 50-75%	B B1 11-12				
FB 12 S	West end, bottom flange rivets Top surface of top flange at west end Top flange rivets at west end Top surface of bottom flange at east end Third stiffener from west end, base of outstanding leg	2 Rivets 75%	B B1 11-12				
		1/16"-1/8" pitting	B B1 11-12				
		1 Rivet 75%	B B1 11-12				
		1/16" pitting	B B1 11-12				
		+30% of thickness loss	B B1 12-13				

Note: (6) All rivets between the floor beam and the panel point gussets appear to be 50-100% corroded

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1	FB 12 S	Top surface of upper flange under timber insulation	1/16"		B B1 12-13	
		First stiffener from west, outstanding leg at gusset connection angles	1/16"-1/8"		B B1 12-13	
		East end lower flange rivets	5 Rivets 75%		B B1 12-13	
	FB 13 S	Top surface of bottom flange at east and west ends	1/16" pitting		B B1 12-13	
		First stiffener from west end at gusset plate	1/16"-1/8"		B B1 12-13	
	FB 13 N	Top surface of bottom flange at east and west ends	1/16" pitting		B B1 13-14	
		Bottom cover rivets at west end	1 Rivet 50%			
		Top surface of top flange at west end, under timber insulation	1/16"-1/8" pitting		B B1 13-14	
		First stiffener from west, outstanding leg at gusset	1/16"-1/8"		B B1 13-14	
			Third stiffener from west		(7)	B B1 13-14
	FB 14 N	East end top surface of bottom flange	1/16"-1/8" pitting		B B1 14-15	
	FB 15 S	West end web	1/32"-3/16" pitting		B B1 14-15	B, B1, 14-15, NE, 1
FB 16 S	First stiffener from west end, outstanding leg at gusset plate	+50% thickness loss for +4"		B B1 15-16		
	Top surface of upper and lower flanges	1/16" pitting		B B1 15-16		
FB 16 N	Underside of top flange at east end	1/16"-1/8" pitting		B B1 16-15'		
	Top surface of top flange at west end	1/16"-1/8" pitting		B B1 16-15'		

Note: (7) There is +1/2" of layered rust between the stiffener outstanding leg and stringer web for +4"

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1	FB 15' S	Web at west end Upper flange rivets at west end Top cover rivets Edge of upper flange at west side	1/8"-3/16" pitting 1 Rivet 50% 1 Rivet 50% 1/8"-3/16" for <u>+48"</u>		B B1 16-15' B B1 16-15' B B1 16-15' B B1 16-15'	
B1	FB 15' N	Top surface of bottom flange at west end	1/8"-3/16" spots		B B1 15'-14'	
	FB 14' S	Bottom flange rivets at west end Bottom flange rivets at east end	1 Rivet 50% 2 Rivets 50%		B B1 15'-14' B B1 15'-14'	
	FB 14' N	Top surface of lower flange at east and west ends	1/16"-1/8"			
B1	FB 13' S	Top surface of bottom flange at both ends Web at west end Bottom flange rivets at east end Underside of top flange at east end	1/16"-1/8" 1/16"-1/8" pitting +7 Rivets 50-75% 1/16"-3/16" pitting		B B1 14'-13' B B1 14'-13' B B1 14'-13' B B1 14'-13'	
	FB 13' N	Bottom flange rivets at east end Top surface of bottom flange at both ends Top surface of top flange at west end at clip angle	4 Rivets 50% 1/16"-1/8" pitting 1/16"-1/8" pitting		B B1 13'-12' B B1 13'-12' B B1 13'-12'	
	FB 12' S	Lower flange rivets at east end Top surface of bottom flange at east and west ends Web surface at west end	4 Rivets 75% 1/16"-1/8" pitting 1/16"-1/8" pitting		B B1 13'-12' B B1 13'-12' B B1 13'-12'	
	FB 12' N	Top of bottom flange and underside of top flange at east end Web at west end	1/16"-1/8" pitting 1/16"-3/16" pitting spots		B B1 12'-11' B B1 12'-11'	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference		
B1	FB 12' N	Top surface of bottom flange at both ends Bottom flange rivets at east end	1/16"-1/8" pitting <u>+12</u> Rivets 50-100%		B B1 12'-11'			
	FB 11' N	Top surface of top flange at clip angle First stiffener from west end, outstanding leg at gusset	1/16"-1/8" pitting <u>+30%</u> loss for <u>+5"</u>		B B1 11'-10' 1 B B1 11'-10' 1			
		FB 10' S	Web surface at east side All stringer supports Rivets of support for ST-8 Top and bottom flange surfaces Floor beam rivets at west end Outstanding leg of ST-1 support angle Sidewalk channel support	1/16"-3/16" pitting 1/16"-1/8" spots <u>+17</u> Rivets 50% 1/16"-1/8" 3 Rivets 50% <u>+30-50%</u> thickness loss	(8)	B B1 11'-10' 2 B B1 11'-10' 2 B B1 11'-10' 2 B B1 11'-10' 2 B B1 11'-10' 2	B, B1, 11'-10', NE, 1 B, B1, 11'-10', NW, 1A B, B1, 11'-10', NW, 1B B, B1, 11'-10', N, 2 B, B1, 11'-10', W, 3	
	FB 10' N		East end, lower flange rivets West end, lower flange rivets West end, top surface of top flange under timber insulation	<u>+4</u> Rivets 50-75% 4 Rivets 75% 1/16"-1/8"		B B1 10'-9' B B1 10'-9' B B1 10'-9'		
			FB 9' S	Bottom cover rivets Top flange and web at east end West end of web Top surface of lower flange at west end Third and fourth stiffeners from west end	1 Rivet 50% 1/16"-1/8" pitting <u>+3/16"</u> pitting spots 1/16"-1/8" pitting	(9)	B B1 10'-9' B B1 10'-9' B B1 10'-9' B B1 10'-9'	
				B2	FB 9' S	First stiffener from west end, base of outstanding leg	1/16"-1/8" for <u>+1 1/2"</u>	B B1 9'-8'

Note: (8) See field inspection sheet

Note: (9) There is +3/8" of layered rust between the stiffener outstanding leg and the stringer web for +3"

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference	
B2	FB 8' S	East end lower flange rivets	+5 Rivets 75-100%		B B2 9'-8'		
		East end, top surface of lower flange	1/16"-1/8" pitting		B B2 9'-8'		
		First stiffener from east end, outstanding leg	1/8" pitting		B B2 9'-8'		
			Third stiffener from west end		(10)	B B2 9'-8'	
	FB 7' S	Third stiffener from west end, base of outstanding leg	+30% thickness loss	(11)	B B2 9'-8'		
		Top and bottom flanges and web at east end	1/16"-1/8" pitting		B B2 8'-7'		
	FB 6' S	Bottom flange rivets at east end	Upper and lower flanges at east end	+4 Rivets 50-100%		B B2 7'-6'	
				1/8" pitting		B B2 7'-6'	
	FB 6' N	Bottom flange rivets at east end	+3 Rivets 50-100%		B B2 6'-5'		
FB 5' S	East end, bottom flange rivets	Top surface of bottom flange	+6 Rivets 50-100%		B B2 6'-5'		
		Top and bottom flanges	1/8" pitting spots 1/16"-1/8"		B B2 6'-5'		
FB 4' S	Bottom flange rivets at east end	Bottom and top flanges at east end	+7 Rivets 75-100%		B B2 5'-4'		
			1/8"-3/16" pitting		B B2 5'-4'		
	Bottom flange rivets at west end	+4 Rivets 50-75%		B B2 5'-4'			
FB 4' N	Bottom flange rivets at east end	2 Rivets 50%		B B2 5'-4'			
FB 3' S	Third stiffener from west, outstanding leg			(12)	B B2 4'-3'		
<u>Note:</u>	(10)	+ 3/8" of layered rust between stiffener outstanding leg and stringer web			for +4"		
<u>Note:</u>	(11)	+ 3/4" of layered rust between stiffener outstanding leg and stringer web			for +5"		
<u>Note:</u>	(12)	There is +1/2" of layered rust between the stiffener OSL and the stringer web			for +5" with stiffener metal loss 1/16"-1/8"		

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B2	FB 3' S	Top surface of top flange at west end along clip angle edge	1/8" pitting	(13)	B B2 4'-3'	
		First stiffener from east, outstanding leg			B B2 4'-3'	
		Bottom flange rivets at east end	+6 Rivets 50%		B B2 4'-3'	
		Top surface of bottom flange at east end	1/16"-1/8" pitting		B B2 4'-3'	
	FB 2' S	West end, top surface of bottom flange	1/16" pitting spots	(14)	B B2 3'-2'	
		Third stiffener from west, outstanding leg	Knife edged		B B2 3'-2'	
		East end, bottom flange rivets	+8 Rivets 50-75%		B B2 3'-2'	
		First stiffener from east			B B2 3'-2'	
	FB 1' S	Web at east end	1/16" pitting	(15)	B B2 3'-2'	
		West end, bottom flange rivets	2 Rivets 50%		B B2 3'-2'	
		West end, top surface of bottom flange	1/16"-1/8" pitting		B B2 2'-1'	
		East end, bottom flange rivets	+9 Rivets 75%		B B2 2'-1'	
FB 0' S	First stiffener from east end, outstanding leg at base	+30-50% thickness loss for +6"	(15)	B B2 2'-1'		
	Top surface of lower flange at east end	1/16"-1/8" pitting		B B2 2'-1'		
	Bottom flange rivets	+80% all rivets 25-75%		B B2 1'-0' 1		
	Top surface of bottom flange full length	1/16"-1/8"		B B2 1'-0' 1		
		First and sixth stiffeners from east, outstanding legs	Knife edged		B B2 1'-0' 1	
Note:	(13)	There is +1/2" of layered rust between the stiffener OSL and the stringer web for +4" with stiffener metal loss 1/8"-3/16"				
Note:	(14)	There is +1/2" layered rust between the stiffener outstanding leg and stringer web				
Note:	(15)	There is +1/2" layered rust between the stiffener outstanding leg and stringer web for +3"				

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B2	FB 0' S	Web at east west ends East end bottom flange rivets	1/16"-1/8" pitting <u>+3</u> Rivets 100%		B B2 1'-0' 1 B B2 1'-0' 1	
	FB 0' N	Web at east end and west end	1/16"-1/8" pitting spots		B B2 1'-0' 2	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B3		<u>STRINGERS</u>				
0-1	ST-9	Underside of top flange	1/16"-1/8" pitting full length		B B3 0-1	
1-2	ST-9	Underside of top flange	1/16"-1/8" pitting full length		B B3 1-2	
		Top surface of bottom flange	1/16" pitting full length		B B3 1-2	
2-3	ST-1	Top surface of bottom flange at south end	1/16"-1/8" for <u>+24"</u>		B B3 2-3	
	ST-9	Top surface of bottom flange	<u>+1/4"</u> pitting full length		B B3 2-3	
		Underside of top flange	1/16"-1/8" full length		B B3 2-3	
3-4	ST-9	Underside of top flange	1/32"-1/8" full length		B B3 3-4	
4-5	ST-9	Bottom and top flanges pitted	1/16"-1/8" full length		B B3 4-5	
5-6	ST-1	Bottom and top flanges pitted	1/16"-1/8" full length		B B3 5-6	
	ST-3	Top surface of bottom flange	1/16"-1/8" pitting in spots		B B3 5-6	
	ST-1	Web at south end	1/16"-1/8" pitting	(16)	B B3 5-6	B, B3, 5-6, SW, 1
6-7	ST-1	Top surface of east bottom flange	1/16"-1/8" pitting		B B3 6-7	
		Web at south end	1/8" pitting		B B3 6-7	B, B3, 6-7, SE, 1
B3						
7-8	ST-1	Underside of top flange	1/16"-1/8" pitting		B B3 7-8	

Note: (16) There is +1/2" of layered rust between the stringer web and the floor beam stiffener angle for +3 1/2"

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
7-8	ST-1	South end of web and underside of bottom flange	1/16"-1/8" pitting		B B3 7-8	
B3						
8-9	ST-1	Top surface of east bottom flange Underside of top flange	1/8" pitting 1/16"-1/8" pitting		B B3 8-9 B B3 8-9	
	ST-9	Underside of top flange Base of web	1/16"-3/16" pitting 1/16" pitting full length		B B3 8-9 B B3 8-9	
B1						
9-10	ST-1	Underside of top flange Top surface of bottom flange at south end	1/16"-1/8" pitting 3/16" pitting for +6"		B B1 9-10 B B1 9-10	
	ST-6 to ST-8	Top surface of bottom flange	1/16"-1/8" pitting full length		B B1 9-10	
	ST-7	Stiffener at north end	Knife edged		B B1 9-10	
10-11	ST-1	Top surface of bottom flange	1/16"-1/8" pitting		B B1 10-11	
	ST-4 to ST-9	Stringers, webs and bottom flanges at south end	1/16"-1/8" pitting		B B1 10-11 2	
	ST-9	Underside of top flange	1/16"-3/16" pitting full length		B B1 10-11 2	
11-12	ST-1	Top surface of bottom flange	1/16"-1/8" pitting full length		B B1 11-12	
	ST-5	Underside of top flange	1/16"-1/8" pitting full length		B B1 11-12	
12-13	ST-1	Underside of top flange Top surface of bottom flange	1/16" pitting full length 1/8" pitting full length		B B1 12-13 B B1 12-13	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
13-14	ST-9	Underside of top flange	1/16"-1/8" pitting for $\pm 1/2$ span		B B1 13-14	
	ST-1	Underside of top flange	1/16" pitting full length		B B1 13-14	
14-15	ST-1	Top surface of bottom flange and top flange edge	1/16"-1/8" full length		B B1 14-15	
	ST-9	Top and bottom flanges	1/16"-1/8" pitting full length		B B1 14-15	
15-16	ST-1	Underside of top flange and top surface of bottom flange	1/16"-1/8" pitting length		B B1 15-16	
16-15	ST-1, ST-4, ST-5	Top and bottom flanges	1/16"-3/16" pitting full length		B B1 16-15'	
	ST-9	South end of web and bottom flanges	1/16" pitting		B B1 16-15'	
15'-14'	ST-1	Top surface of bottom flange	1/16"-1/8" pitting full length		B B1 15'-14'	
13'-12'	ST-1	Underside of top flange	1/16"-1/8" pitting full length		B B1 13'-12'	
		Top surface of bottom flange	1/16"-1/8" pitting for $\pm 2/3$ length		B B1 13'-12'	
12'-11'	ST-1	Underside of top flange	1/16"-1/8" pitting		B B1 12'-11'	
		Top surface of bottom flange	1/16"-1/8" pitting		B B1 12'-11'	
	ST-6	Underside of top flange	1/16"-1/8" pitting		B B1 12'-11'	
	ST-9	Underside of top flange	1/16"-1/8" pitting full length		B B1 12'-11'	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
11'-10'	ST-1	Top surface of bottom flange	1/16"-1/8" pitting spots		B B1 11'-10'	
	All stringers	North end, both flanges	1/16"-1/8"		B B1 11'-10' 1	
	ST-5	Stringer rivets at north end	+6 Rivets 25-50%		B B1 11'-10' 1	
10'-9'	ST-1	Underside of top flange	1/8"-3/16" pitting full length		B B1 10'-9'	
		Top surface of bottom flange	1/16"-1/8" pitting		B B1 10'-9'	
	ST-5, ST-6	North end, top surface of bottom flange	+1/4" pitting for +24"		B B1 10'-9'	
	ST-4 to	South end, top surface of bottom flange	1/32"-1/8" pitting for +24"		B B10'-9'	
	ST-9	Top and bottom flanges at north end	1/32"-1/8" pitting for +8'		B B1 10'-9'	
B2 9'-8'	ST-1	Top and bottom flanges	1/16"-1/8" pitting for full length		B B2 9'-8'	
9'-8'	ST-5	Top surface of bottom flange at south end	1/16"-1/8" for +36"		B B2 9'-8'	
8'-7'	ST-1	Top surface of bottom flange	1/16"-1/8" pitting for +3/4 span		B B2 8'-7'	
7'-6'	ST-1	Top surface of bottom flange	1/16"-1/8" pitting full length		B B2 8'-7'	
	ST-9	Underside of top flange	1/16"-1/8" pitting full length		B B2 7'-6'	
		Top surface of bottom flange at north end	1/8" pitting for +18"		B B2 7'-6'	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
6'-5'	ST-1	Top and bottom flanges	1/16"-1/8" pitting for <u>+1/2</u> span		B B2 6'-5'	
	ST-9	Top and bottom flanges	1/16"-1/8" pitting for full length		B B2 6'-5'	
5'-4'	ST-9	Top surface of bottom flange	1/16"-1/8" pitting for <u>+24"</u>		B B2 5'-4'	
4'-3'	ST-1	Underside of top flange	1/8" pitting full length		B B2 4'-3'	
		Base of web at mid span and north end	1/16"-1/8" pitting for <u>+36"</u> and <u>+12"</u>		B B2 4'-3'	
	ST-9	Underside of upper flange	1/16"-1/32" pitting full length		B B2 4'-3'	
		Top surface of lower flange	1/16"-1/8" pitting full length		B B2 4'-3'	
3'-2'	ST-9	End two thirds of upper flange	1/8"-3/16" pitting		B B2 3'-2'	
2'-1'	ST-1	North end of bottom flange	1/16"-1/8" pitting for <u>+12"</u>		B B2 2'-1'	
		Edge of top flange	1/16"-1/8" pitting full length		B B2 2'-1'	
	ST-9	Underside of top flange	1/16"-1/8" pitting full length		B B2 2'-1'	
1'-0'	ST-1	Top and bottom flanges at north end	1/16"-1/8" for <u>+10'</u>		B B2 1'-0'	
		Bottom flange at north end	1/16"-1/8" for <u>+10'</u>		B B2 1'-0'	
	ST-5 to ST-9	Bottom flange at north end	1/16"-1/8" pitting		B B2 1'-0'	

**DECK , SIDEWALK
& WALKWAY**

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
		<u>DECK</u>				
B3 0-1		Along top flange of ST-4 to ST-8	Slight spalling full length		C B3 0-1	
1-2		Sidewalk area around bracing and bracing gussets	Honeycombing and slight spalling with rebar exposed		C B3 1-2	
		Along top flange of ST-4 to ST-8	Slight spalling full length		C B3 1-2	
		Between ST-4 and ST-5 at north end	+12"x12" spall with 4 rebars exposed		C B3 1-2	
		Between ST-5 and ST-6 at north end	+6"x6" spall with 2 rebars exposed		C B3 1-2	
2-3		Along top flange of ST-4 to ST-8	Slight spalling full length		C B3 2-3	
3-4		Sidewalk area at north end	Spall with 1 rebar exposed		C B3 3-4	
		Along top flange of ST-4 to ST-8	Slight spalling full length		C B3 3-4	
		Between ST-4 and ST-5 at south end	Spall with one rebar exposed		C B3 3-4	
4-5		Between ST-6 and ST-7	+6"x36" spall with 2 rebars exposed		C B3 4-5	
		Along ST-5 to ST-7 top flanges	Slight spalling full length		C B3 4-5	
5-6		Between ST-5 and ST-6 at north end	+3 1/2'x6' spall with 18 rebars exposed		C B3 5-6	
		All stringers along top flange	Slight spalling full length		C B3 5-6	
		Between ST-7 and ST-8 at north end	Honeycombed area with 2 rebars exposed		C B3 5-6	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
6-7		All stringers along top flange	Slight spalling full length		C B3 6-7	
		Between ST-5 and ST-8 at south end	Honeycombed areas with rebars exposed		C B3 6-7	
		Between ST-3 to ST-8	Hairline cracks with some leaching		C B3 6-7	
7-8		Between ST-3 to ST-8	Hairline cracks with some leaching		C B3 7-8	
8-9		All stringers along top flange	Slight spalling full length		C B3 8-9	
B1 9-10		Between ST-2 to ST-8	Hairline cracks with some leaching		C B1 9-10	
10-11		Between ST-4 and ST-5	Three spalls with rebars exposed		C B1 10-11	
		All stringers along top flanges	Slight spalling full length		C B1 10-11	
		Between ST-2 and ST-8	Hairline cracks with some leaching		C B1 10-11	
11-12		All stringers along top flanges	Slight spalling full length		C B1 11-12	
12-13		All stringers along top flanges	Slight spalling full length		C B1 12-13	
		Between ST-7 and ST-8 at south end	Spall with 2 rebars exposed		C B1 12-13	
		Between ST-2 and ST-4	Two spalls with rebars exposed		C B1 12-13	
13-14		All stringers along top flanges	Slight spalling full length		C B1 13-14	
		Between ST-5 and ST-6 at south end	Spall with 2 rebars exposed		C B1 13-14	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
14-15		Between ST-2 and ST-3 at south end All stringers along top flanges	Spalling with rebar exposed Slight spalling full length		C B1 14-15 C B1 14-15	
15-16		Between ST-4 and ST-5 at mid span Between ST-5 and ST-6 at south end	+3'x7' spall with re-bars exposed Spall with rebars exposed		C B1 15-16 C B1 15-16	
16-15'		Between ST-3 and ST-5 All stringers along top flanges	Spalls with rebars exposed Slight spalling		C B1 16-15' C B1 16-15'	
15'-14'		All stringers along top flanges	Slight spalling		C B1 15'-14'	
14'-13'		All stringers along top flanges Between ST-4 and ST-5	Slight spalling Spall with rebars exposed		C B1 14'-13' C B1 14'-13'	
13'-12'		Sidewalk area along channel edges Between ST-2 and ST-3 and ST-4 and ST-5	Spalling full length with rebars exposed Spalling with rebars exposed		C B1 13'-12' C B1 13'-12'	
12'-11'		Sidewalk area along channel edges All stringers along top flanges	Slight spalling full length Slight spalling		C B1 12'-11' C B1 12'-11'	
11'-10'		Sidewalk area along channel edges All stringers along top flanges	Slight spalling full length Slight spalling		C B1 11'-10' C B1 11'-10'	
10'-9'		Between ST-4 and ST-5 at north end	Spalling with 1 rebar exposed		C B1 10'-9'	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
10'-9'		Sidewalk area around manhole	Spalling with rebars		C B1 10'-9'	
7'-6'		All stringers along top flange	Slight spalling full length		C B2 7'-6'	
6'-5'		Sidewalk area at south end	Slight spalling with rebar exposed		C B2 6'-5'	
5'-4'		Sidewalk area along channel edges Between ST-4 and ST-5	Slight spalling +14"x30" spall with 4 rebars exposed		C B2 5'-4' C B2 5'-4'	
3'-2'		Between ST-7 and ST-8 at north end	Honeycombed area with rebars exposed		C B2 3'-2'	
		Between ST-2 and ST-3 at south end	Spalls with rebars exposed		C B2 3'-2'	
2'-1'		Between ST-4 and ST-5	Spall with rebars exposed		C B2 2'-1'	
1'-0'		Between ST-2 and ST-3 at south end	+18"x27" spall with 8 rebars exposed		C B2 1'-0'	
		Sidewalk area at north end, hole cut for transformer	Spalling with 3 rebars exposed		C B2 1'-0'	

Span &/ or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B3		<u>SIDEWALK</u>				
0-1		South end of west channel upper flange and bracing gusset Bolts through east sidewalk channel clip angle	Knife edged to 100% deteriorated 3 Nuts 75-100%		C B3 0-1 C B3 0-1	C, B3, 0-1, N, 1
1-2		Horizontal legs of clip angles at south end Lower bracing and gusset at north	1/16"-1/8" pitting 1/8"-3/16" pitting		C B3 1-2 C B3 1-2	
2-3		Underside of upper west flange of channel	1/16"-1/8" pitting full length		C B3 2-3	
4-5		Upper bracing at north end, horizontal leg	Knife edged		C B3 4-5	
5-6		North and south ends nuts for bolts holding bracing gussets Bracing gussets	4 Nuts 50-100% 1/16" pitting to knife edges		C B3 5-6 C B3 5-6	
6-7		3 of the 5 east-west braces, vertical legs Horizontal leg of east clip angle at north end Underside of bottom flange of east sidewalk channel Bracing gussets top surface	75-100% deterioration for +7" at east end 1/8" pitting, 5" x 7" area 1/8" pitting full length 1/8" pitting spots		C B3 6-7 C B3 6-7 C B3 6-7 C B3 6-7	
7-8		+3 bracing gussets Bracing gusset rivets on east side at north end Bracing and bracing gusset at north end	1/8" pitting spots 3 Rivets 75% Knife edged to 100% deteriorated		C B3 7-8 C B3 7-8 C B3 7-8	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note (1)	Sketch No. Reference	Photo No. Reference
7-8		Underside of bottom flange of east channel	1/16"-1/8" pitting full length		C B3 7-8	
8-9		3 of 5 east-west braces, vertical legs +3 Bracing gussets	50-100% deterioration for +7" at east end 1/16"-1/8" to knife edge		C B3 8-9 C B3 8-9	
B1 9-10		Top surface of lower flange of west channel Upper flange of west channel at south end	1/16"-1/8" pitting full length Knife to ragged edge for +14"		C B1 9-10 C B1 9-10	
10-11		Bracing gusset on east side at north end	1/16"-1/8" pitting		C B1 10-11	
12-13		Bracing gusset on east side at north end	+50% thickness loss		C B1 12-13	
13-14		1 east-west bracing vertical leg	1/16"-1/8" pitting for +7"		C B1 13-14	
14-15		Bracing gussets at north end	1/16"-1/8" pitting		C B1 14-15	
15-16		Bracing and bracing gussets at north end	1/16"-1/8" pitting		C B1 15-16	
11'-10'		Bracing and gussets at north end	1/16"-1/8" pitting		C B1 11'-10'	
10'-9'		Bracing around manhole	Heavy corrosion	(1)	C B1 10'-9'	
9'-8'		Clip angle on east side at north end horizontal leg Underside of east channel lower flange	3 Rivets 75% 1/8"-3/16" pitting		C B1 9'-8' C B2 9'-8'	

Note: (1) See field inspection sketch

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
9'-8'		Vertical leg of east-west bracing at south end	+30% thickness loss		C B2 9'-8'	
8'-7'		+3 Bracing gussets Underside of west channel top flange Underside of east channel lower flange	+50-100% loss 1/8" pitting 1/8" pitting		C B2 8'-7' C B2 8'-7' C B2 8'-7'	
4'-3'		Bracing gusset at north end	1/8" pitting		C B2 4'-3'	
1'-0'		2 bracing gussets at north end	1/16"-1/8" to knife edge 2 Rivets 50%		C B2 1'-0'	

Span &/or Bay	Member	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
		<u>WALKWAY</u>				
B3 6-7		East-west bracing support angle at south end	1/16"-1/8" pitting		C B3 6-7	
B1 9-10		Grating section at middle of span	3 Loose sections		C B1 9-10	
10-11		Grating sections	2 Loose sections		C B1 10-11	
11-12		North-south supporting angle on west side	Knife edged to 100% deteriorated in spots		C B1 11-12	
14'-13'		North-south supporting angle on west side	Knife edged full length		C B1 14'-13'	
12'-11'		Vertical leg of north-south supporting angle	1/16"-1/8"		C B1 12'-11'	
10'-9'		Horizontal leg of north-south supporting angle	1/32"-1/8"		C B1 10'-9'	
B2 9'-8'		All east-west supporting angles	Knife edged spots		C B2 9'-8'	
8'-7'		Horizontal legs of north-south supporting angles	1/16"-1/8" pitting		C B2 8'-7'	

**TOP LATERAL
BRACING**

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B3						
0-1	NW Lower gusset	Southeast corner		(1)	D B3 0-1	D,B3,0-1,N,6
	SW Lower gusset	Gusset rivets	+9 Rivets 50%		D B3 0-1	
	Bracing UOW-U1E	Top surface of upper flange	1/16"-1/8" pitting full length		D B3 0-1	
	SE Upper gusset	Top surface	1/16"-1/8" pitting to knife edges and 100% deterioration		D B3 0-1	D,B3,0-1,SE,5
		Gusset rivets Northwest corner	+20 Rivets 50-75%	(2)	D B3 0-1	D,B3,0-1,S,3
	SE Lower gusset	West edge	Knife-edged to 100% deterioration		D B3 0-1	D,B3,0-1,S,4
		Top surface	1/8" pitting		D B3 0-1	
1-2	SE Upper gusset	Top surface	1/16"-1/8" pitting		D B3 1-2	
		Gusset rivets	+13 Rivets 50-75%		D B3 1-2	
	SE Lower gusset	Top surface	1/16"-1/8" to knife edge		D B3 1-2	
		Gusset rivets	+8 Rivets to 50-100%		D B3 1-2	
	SW Lower gusset	East edge	1/8" to knife edge		D B3 1-2	
	Bracing U1W-U2E	Lower back-to-back legs at SW gusset	1/8"-3/16" loss for +18"		D B3 1-2	
	NW Lower gusset	Southeast corner		(3)	D B3 1-2	
	NW Upper gusset	Southeast corner	+50% loss		D B3 1-2	

- Notes:
- (1) Corner bent downward +1/2" by layered rust.
 - (2) Corner bent up +1/2" by layered rust.
 - (3) Southeast corner bent down +1" by layered rust.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference
B3						
1-2	Bracing U1E-U2W	Underside of lower flange at NW gusset	25-50% loss, 3" x 4" area		D B3 2-3	
2-3	NW Lower gusset			(3)	D B3 2-3	
	SW Lower gusset	Gusset rivets	2 Rivets 50%	(4)	D B3 2-3	
	SE Upper gusset	Top surface Gusset rivets	1/8"-1/4" pitting +9 Rivets 50-75%		D B3 2-3 D B3 2-3	
	NE Upper gusset	Gusset rivets	+6 Rivets 25-50%		D B3 2-3	
	NE Lower gusset	Gusset rivets	+5 Rivets 75-100%		D B3 2-3	
3-4	NW Lower gusset	East edge Southeast corner	+50% thickness loss	(5)	D B3 3-4 D B3 3-4	
	SW Lower gusset	Northeast corner		(6)	D B3 3-4	
	Bracing U3W-U4E	Underside of lower flange at SW gusset Lower back-to-back legs at SW gusset	1/8", approximately 4" x 4" 1/8" loss		D B3 3-4 D B3 3-4	
	NE Upper gusset	Top surface Gusset rivets	1/16"-1/8" pitting 2 Rivets 50%		D B3 3-4 D B3 3-4	
	NE Lower gusset	Top surface and edge Gusset rivets	1/16"-1/8" to knife edge 1 Rivet 75%		D B3 3-4 D B3 3-4	

Notes:

- (3) Corner bent down +1/2" by layered rust.
(4) Corner bent down +3/4" by layered rust.
(5) and (6) Corner bent down +1" by layered rust.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B3						
3-4	SE Upper gusset	Top surface Gusset rivets	1/8"-3/16" pitting over 75% area +24 Rivets 50-100%		D B3 3-4 D B3 3-4	
	SE Lower gusset	Top surface Gusset rivets	1/8"-3/16" pitting of +75% of area to knife edges +15 Rivets 50-100%		D B3 3-4 D B3 3-4	
4-5	SW Lower gusset	Top surface Northeast corner	1/16"-1/4" pitting +50% thickness loss for 3" x 3" area		D B3 3-4 D B3 4-5	
	NE Upper gusset	Top surface Gusset rivets	1/16"-1/8" pitting +12 Rivets 25-50%		D B3 4-5	
	NE Lower gusset	Top surface	1/32"-1/8" to knife edge		D B3 4-5	
	SE Upper gusset	Top surface	1/8" pitting to knife edge +20 Rivets 50-75%		D B3 4-5 D B3 4-5	
	SE Lower gusset	Top surface and edge Gusset rivets	Badly corroded, 100% loss +11 Rivets 50-75%		D B3 4-5 D B3 4-5	D,B3,4-5,SE,1
	Bracing U4E-U5W	Lower back-to-back legs at SE gusset	Knife-edged		D B3 4-5	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference
B1						
9-10	Strut at U10	North lower flange lacing rivets	+9 Rivets 50-75%		D B1 9-10	
	Gussets at U10E	All surfaces	1/16" pitting spots		D B1 9-10	
	Gussets at U10W	Lower gusset rivets Southeast upper and lower corners	2 Rivets 50%	(7)	D B1 9-10	
11-12	Strut at U11	North lower flange lacing rivets	+10 Rivets 50-75%		D B1 11-12	
	Gusset at U11W	Southeast and northeast upper corners		(8)	D B1 11-12	
	All laterals	Underside of lower flanges at gussets	1/16"-1/8" pitting		D B1 11-12	
	Strut at U12	North lower flange lacing rivets	+7 Rivets 50-75%		D B1 11-12	
	Gusset at U12W	Top surface of lower gusset	1/16"-1/8" pitting spots		D B1 11-12	
13-14	Strut at U13	North lower flange lacing rivets	+6 rivets 50-75%		D B1 13-14	
	Gussets at U13W and U12E	All surfaces	1/16"-1/8" pitting		D B1 13-14	

Notes: (7) and (8) Corners bent +3/8" by layered rust.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1						
13-14	Bracing U13E-U14W at U14W	Underside of lower flange	1/8" pitting for +6"		D B1 13-14	
	Gussets at U14E	Underside of upper gusset around lateral edge	+25-50% thickness loss		D B1 13-14	
	All bracings	Underside of lower flange at gussets	1/16"-1/8" pitting		D B1 13-14	
	Bracing U13W-U14E	Vertical legs of lower back-to-back legs at U14E	Knife-edged		D B1 13-14	
	Gussets at U14E	Lower gusset rivets	2 Rivets 50%		D B1 13-14	
15-16	Gussets at U15E	Lower gusset rivets Southwest corners	+7 Rivets 50%	(9)	D B1 15-16 D B1 15-16	
	Gussets at U15W	Upper and lower northeast corner		(10)	D B1 15-16	
	Gussets at U16E	Lower gusset rivets	3 Rivets 50%		D B1 15-16	
	Bracing U15W-U16E	+25 Laces Underside of lower flange at U16E	1/16"-1/8" spots 1/8" pitting		D B1 15-16 D B1 15-16	
	Bracing U16E-U15'W	Underside of lower flange at U16E	1/8" pitting		D B1 15-16	

Notes: (9) Upper corner lifted +1/2"; bottom corner bent down +3/8".
(10) Corners bent +3/8" by layered rust.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference
B1						
16-15'	Gussets at U15'W	Northeast corner of upper gusset Gusset rivets	1 Rivet 50%	(11)	D B1 16-15' D B1 16-15'	
14'-13'	Gussets at U14'W	Busset rivets Northeast corner of upper gusset	1 Rivet 50%	(12)	D B1 14'-13' D B1 14'-13'	
	Gussets at U13'W	Upper southeast corner		(13)	D B1 14'-13'	
	Gussets at U13'E	Southwest corners Underside of upper gusset	1/16"-1/8" spots	(14)	D B1 14'-13' D B1 14'-13'	
	Bracing U14'W-U13'E	Lower vertical legs of back-to-back angles at U13'E	Knife-edged to 100% deterioration		D B1 14'-13'	
12'-11'	Gussets at U12'W	Upper gusset rivets Upper northeast corner	2 Rivets 50%	(15)	D B1 12'-11' D B1 12'-11'	
	Gussets at U12'E	Lower gusset rivets	2 Rivets 50-75%		D B1 12'-11'	
	Gussets at U11'W	Lower gusset north-east corner		(16)	D B1 12'-11'	

Notes:

- (11), (12) and (13) Corner bent up $\pm 3/8$ " by layered rust.
(14) Lower corner bent $\pm 1/2$ "; upper corner bent $\pm 3/8$ " by layered rust.
(15) Upper corner lifted $\pm 3/8$ " by layered rust.
(16) Lower corner bent $\pm 1/2$ " by layered rust.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1						
12'-11'	Strut at U11'	+50% Lower laces Lacing rivets	1/16"-1/8" spots <u>+10</u> Rivets 50%		D B1 12'-11' D B1 12'-11'	
	Gussets at U11'E	Underside of top gusset Upper and lower southwest corners	1/16"-1/8" pitting spots	(17)	D B1 12'-11' D B1 12'-11'	
	Bracing U11'E-U10'W	Lower back-to-back legs at intersection	1/16"-1/8"		D B1 10'-9'	
11'-10'	Bracing U11'E-U10'W	Underside of lower flange at U10'W	1/16"-1/8" pitting		D B1 10'-9'	
10'-9'	Gussets at U10'W	All corners Underside of upper gusset	1/16"-1/8" spots	(18)	D B1 10'-9'	
	Strut at U10'	+50% Laces Lacing rivets	1/8" to knife edge <u>+10</u> Rivets 50-75%		D B1 10'-9'	D,B1,10'-9',E,4
	Gussets at U10'E	All corners Underside of upper gusset Underside of south side of upper gusset	1/16"-1/8" pitting <u>+30-50%</u> thickness loss	(18)	D B1 10'-9' D B1 10'-9'	
	Bracing U10'E-U9'W	Underside of lower flange	1/16"-1/8" pitting		D B1 10'-9'	

Notes: (17) Corners bent +1/2" by layered rust.
(18) Corners bent +3/8" by layered rust.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B2						
5'-4'	NW Lower gusset	East edge Southeast corner	Knife-edged to ragged	(19)	D B2 5'-4'	D,B2,5'-4',E,1
	NE Upper gusset	Top surface Gusset rivets	1/8"-1/4" pitting +26 Rivets 50-75%		D B2 5'-4' D B2 5'-4'	
	NE Lower gusset	Top surface Gusset rivets	Badly corroded with 100% deterioration +13 Rivets 50-100%		D B2 5'-4' D B2 5'-4'	
	Bracing U5'W-U6'E	Lower back-to-back legs at L6E	Knife-edged		D B2 5'-4'	
	SE Upper gusset	West edge	1/8"-1/4" pitting		D B2 5'-4'	
	SE Lower gusset	Northwest corner North edge	+30-50% thickness loss	(20)	D B2 5'-4' D B2 5'-4'	
		Gusset rivets	1 Rivet 50%		D B2 5'-4'	
	SE Upper gusset	Gusset rivets	2 Rivets 50%		D B2 5'-4'	
4'-3'	NW Lower gusset	East edge Southeast corner	1/16" to ragged +30-50% thickness loss	(21)	D B2 4'-3' D B2 4'-3'	
	Bracing U4'E-U3'W	+25% Laces	1/16"-1/8" spots		D B2 4'-3'	
	SW Upper gusset	Top surface	1/16"-1/8" pitting		D B2 4'-3'	

Notes: (19) Corner bent down +3/8" by layered rust.
(20) Corner bent down +1/2" by layered rust.
(21) Corner bent down +3/8" by layered rust.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B2						
4'-3'	SW Lower gusset	Northeast corner		(22)	D B2 4'-3'	
	NE Upper gusset	Top surface Gusset rivets	1/16"-1/8" pitting 3 Rivets 50%		D B2 4'-3'	
	NE Lower gusset	West edge and southwest corner Gusset rivets	Knife-edged 5 Rivets 50%	(23)	D B2 4'-3' D B2 4'-3'	
	NE Upper gusset	Corners of connection angles		(24)	D B2 4'-3'	
	SE Upper gusset	Top surface Northwest corner	1/16"-1/8" pitting	(25)	D B2 4'-3' D B2 4'-3'	
	SE Lower gusset	Northwest corner Gusset rivets	3 Rivets 50%	(26)	D B2 4'-3' D B2 4'-3'	D,B2,4'-3',E,1
3'-2'	NW Upper and lower gussets	Top surface and edge	1/32"-1/8" to knife edge		D B2 3'-2'	
	SW Upper and lower gussets	Top surface	1/16"-1/8" spots		D B2 3'-2'	
	NE Upper gusset	Gusset rivets North side of gusset Top surface	+16 Rivets 50-75% +30% thickness loss 1/16"-1/8" pitting		D B2 3'-2' D B2 3'-2' D B2 3'-2'	
<u>Notes:</u>	22) Corner bent down +3/4" by layered rust. 23) Corner bent down +1/2" by layered rust. 24) Corners bent up +1/2" by layered rust. 25) Corner bent up +1" by layered rust. 26) Corner bent down +1/2" by layered rust.					

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B2						
3'-2'	NE Lower gusset	Top surface Gusset rivets West edge	1/16"-1/8" pitting 1 Rivet 50% Knife-edged		D B2 3'-2' D B2 3'-2'	
	Bracing U3'W-U2'E	Underside of lower flange at NE gusset	1/16"-1/8" pitting		D B2 3'-2'	
		Top surface of upper flange	1/16"-1/8" pitting		D B2 3'-2'	
	SE Upper gusset	Top surface Corner of connection angle	1/16"-1/8" pitting	(27)	D B2 3'-2'	
2'-1'	SE Lower gusset	Northwest corner	+50% thickness loss	(28)	D B2 3'-2'	
	NW Upper gusset and Lower gusset	Top surface	1/16"-1/8" pitting over +75% of area		D B2 2'-1'	
	NW Lower gusset	Gusset rivets	+4 Rivets 75-100%		D B2 2'-1'	
	SW Lower gusset	Top surface Northeast corner	1/16"-1/8" spots	(29)	D B2 2'-1' D B2 2'-1'	
	NE Upper gusset	Top surface Corners of connection angles	1/8"-3/16" pitting	(30)	D B2 2'-1'	
		Gusset rivets	+13 Rivets 50-75%		D B2 2'-1'	

Notes:

- 27) Corner lifted +3/8" by layered rust.
 28) Corner bent down +1-1/4" by layered rust.
 (29) Corner bent +1/2" by layered rust.
 (30) Corners bent +1/2" to +3/4" by layered rust.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B2						
2'-1'	NE Lower gusset	West edge Gusset rivets	Knife-edged 1 Rivet 75%	(31)	D B2 2'-1' D B2 2'-1'	
	SE Upper gusset	Top surface Northwest corner	1/16"-1/8" pitting	(32)	D B2 2'-1' D B2 2'-1'	
1'-0'	SE Lower gusset	Northwest corner	+50% thickness loss	(33)	D B2 2'-1'	
	NW Upper gusset	Gusset rivets	3 Rivets 50%		D B2 1'-0'	
	NW Lower gusset	Top surface South and east edges	1/16"-1/8" pitting Knife-edged		D B2 1'-0' D B2 1'-0'	
	Bracing U1'E-U0'W	Top surface of upper flange at NW gusset +80% Laces	1/8" pitting spots 1/16"-1/8" spots		D B2 1'-0' D B2 1'-0'	
	NE Upper gusset	Top surface and west edge Gusset rivets	1/16" to knife edge +90% Rivets 25-75%		D B2 1'-0' D B2 1'-0'	D,B2,1'-0',E,2
	NE Lower gusset	Top surface and west edge	1/16" to knife edge		D B2 1'-0'	
	NE Upper and Lower gussets	Southwest corners		(34)	D B2 1'-0'	
Notes:	(31) Southeast corner bent down +1/2" by layered rust. (32) Corner bent +3/8" by layered rust. (33) Corner bent +1-1/4" by layered rust. (34) Corners bent +1/2" by layered rust.					

**BOTTOM LATERAL
BRACING**

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B3						
0-1	Strut at L0	+75% of top and bottom laces	+75-90% deteriorated		E B3 0-1	
	Bracing LOW-L1E	+10% Laces	1/16"-1/8" spots		E B3 0-1	
	Upper and lower gussets at LOW	Top surfaces	1/16"-1/8" pitting		E B3 0-1	
	Strut at L1	+25% Laces	25-50% loss		E B3 0-1	
2-3	Upper gusset at L2E	Gusset rivets	1 Rivet 50%		E B3 2-3	
	Upper gusset at L3W	Gusset rivets	1 Rivet 100%		E B3 2-3	
	Upper and lower gussets at L3E	Northwest and southwest corners		(1)	E B3 2-3	
	Upper gusset at L3E	Gusset rivets Top surface	1 Rivet 50% 1/32"-1/8" over 50% of area		E B3 2-3 E B3 2-3	
	Lower gusset at L3E	Top surface	1/32"-1/8" over 50% of area		E B3 2-3	
	Upper gusset at L2W	Top surface	1/16" pitting		E B3 2-3	
4-5	Strut at L4	+10% Laces	+50% thickness loss		E B3 4-5	
	Lower gusset at L4W	Top surface East edge	1/16"-1/8" pitting Knife-edged		E B3 4-5 E B3 4-5	

Note: (1) Corners bent $\pm 1/2$ " by layered rust.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B3						
4-5	Upper gusset at L4W	Gusset rivets	2 Rivets 50-75%		E B3 4-5	
	Upper gusset at L4E	Top surface Southwest and northwest corners	1/16"-1/8" pitting	(1)	E B3 4-5 E B3 4-5	
	Lower gusset at L4E	Gusset rivets Underside and west edge	+4 Rivets 50% +50% to ragged edge		E B3 4-5 E B3 4-5	
	Upper gusset at L5E	West edge	+50-100% thickness loss		E B3 4-5	
	Strut at L5	+50% Laces	1/8" loss		E B3 4-5	
	Bracing L5W-L6E	Top surface of flanges All laces	1/16"-1/8" pitting full length 1/16"-1/8" pitting		E B3 4-5 E B3 4-5.	
	Gussets at L5W	Top surfaces	1/16" pitting		E B3 4-5	
6-7	Upper gusset at L6W	Top surface Gusset rivets East edge	1/16"-1/8" over +75% of area 4 Rivets 50% Knifed and ragged		E B3 6-7 E B3 6-7 E B3 6-7	
	Lower gusset at L6W	Top surface Gusset rivets	1/16"-1/8" over +25% of area 6 Rivets 50-75%		E B3 6-7 E B3 6-7	

Note: (1) Corners bent $\pm 1/2$ " by layered rust.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B3						
6-7	Both upper and lower gussets at L6E	Top surfaces and west edges Gusset rivets	1/16"-1/8" over +75% of area and ragged edges 3 Rivets 50%		E B3 6-7 E B3 6-7	
	Upper gusset at L7E	Top surface and west edge	1/16"-1/8" over +75% of area to knife edge		E B3 6-7	
	Lower gusset at L7E	Top surface Gusset rivets	1/16"-1/8" over +75% of area +5 Rivets 50%		E B3 6-7 E B3 6-7	
	Strut at L7	First two bottom laces from east First top lace from east All bottom laces	Knife-edged Knife-edged 1/16"-1/8"		E B3 6-7 E B3 6-7 E B3 6-7	
	Lower gusset at L7W	Top surface	1/16"-1/8" over +75% of area		E B3 6-7	
8-9	Strut at L8	Inside and outside surfaces of channels One lace All laces	1/16"-1/8" spots 100% deteriorated 1/8" pitting		E B3 8-9 E B3 8-9 E B3 8-9	
	Upper gusset at L8E	Top surface Gusset rivets	1/8" over +75% of area 3 Rivets 50%		E B3 8-9 E B3 8-9	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference
B3						
8-9	Lower gusset at L8E	Top surface West edge	1/8" over <u>+50%</u> of area Ragged edge		E B3 8-9 E B3 8-9	
	Bracing L7W-L8E	Inside upper and lower back-to-back legs	1/8"-3/16" loss		E B3 8-9	
	Both upper and lower gussets at L8W	Top surfaces	1/16"-1/8" over <u>+75%</u> of area		E B3 8-9	
	Upper gusset at L9E	West edge	Knife-edged		E B3 8-9	
	Both upper and lower gussets	Top surface	1/16"-1/8" over <u>+75%</u> of area		E B3 8-9	
	Strut at L9	All laces First top and bottom laces from the east end	1/8"-3/16" pitting Knife-edged		E B3 8-9 E B3 8-9	
B1						
9-10	Strut at L10	<u>+16</u> Laces	Knife-edged to 100% deterioration		E B1 9-10	E,B1,9-10,E,2 E,B1,9-10,E,3 E,B1,9-10,E,4
		All laces	1/32"-1/8" loss		E B1 9-10	
	Upper and lower gussets at L10W	Top surface	1/16"-1/8" pitting		E B1 9-10	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference
B1						
9-10	Upper gusset at L10E	Gusset rivets	6 Rivets 50-75%		E B1 9-10	
	Bracing L9E-L10W	All laces +6 laces	1/16"-1/8" Knife-edged		E B1 9-10 E B1 9-10	
	Bracing L9W-L10E	All laces +6 laces	1/16"-1/8" Knife-edged		E B1 9-10 E B1 9-10	
11-12	All bracing	Laces and flanges	1/16" spots		E B1 11-12	
	Strut at L12	Lower flange rivets	+80% Rivets 50-75%		E B1 11-12	
13-14	Strut at L13	+30% laces	1/16"-1/8" spots		E B1 13-14	
	Gussets at L13E and L13W	All surfaces	1/16" spots		E B1 13-14	
	Bracing L13E-L14W	+60% laces	1/16"-1/8" spots		E B1 13-14	
	Strut at L13	Lower flange rivets	+9 Rivets 50%		E B1 13-14	
	Strut at L14	Lower flange rivets +20% laces	+8 Rivets 50% 1/16"-1/8"		E B1 13-14 E B1 13-14	
	All braces	Laces and flanges	1/16" spots		E B1 13-14	
14-15	Bracing L14E-L15W	+25% laces	1/16"-1/8" spots		E B1 13-14	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1						
15-16	Gussets at L15E and L15W	All surfaces	1/32"-1/16" spots		E B1 15-16	
	Gussets at L16E and L16W	All surfaces	1/32"-1/16" spots		E B1 15-16	
	Strut at L16	+75% bottom laces	1/16"-1/8"		E B1 15-16	
16-15'	Bracing L16E-L15'W	+75% Laces	1/16"-1/8" to ragged edges		E B1 15-16	
	Strut at L15'	+60% Laces	1/16"-1/8"		E B1 16-15'	
	Bottom gusset at L15'E	West edge	1/8" to knife edge		E B1 16-15'	
14'-13'	Bracing L14'E-L13'W	Upper and lower back-to-back legs at L14'E	1/16" to 50% thickness loss		E B1 14'-13'	
	Upper and lower gussets at L13'E	All surfaces	1/16"-1/8" spots		E B1 14'-13'	
	Strut at L13'	Lower flange rivets	+50% Rivets 50-75%		E B1 14'-13'	
	Bracing L14'E-L13'W	Surfaces of flanges	1/16"-1/8" pitting spots full length		E B1 14'-13'	
12'-11'	Strut at L12'	South lower flange rivets	+40% Rivets 50-75%		E B1 12'-11'	
	All bracing	Laces and flanges	1/16"-1/8" spots		E B1 12'-11'	
	All gussets	All surfaces	1/16"-1/8" spots		E B1 12'-11'	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1 10'-9'	Strut at L10'	All laces +20% Laces	1/16"-1/8" spots Knife-edged		E B1 10'-9' E B1 10'-9'	
	Bracing L10'W-L9'E	+60% Laces	1/16"-1/8" spots		E B1 10'-9'	
	Bracing L10'E-L9'W	+70% Laces	1/16"-1/8" spots		E B1 10'-9'	
B2 9'-8'	Strut at L9'	All laces +10 Upper laces	1/16"-1/8" Knifed to ragged edges		E B1 9'-8' E B1 9'-8'	
	Upper gusset at L9'W	East edge	Ragged edge		E B1 9'-8'	
	Upper gusset at L9'E	North edge	Knifed to ragged edge		E B1 9'-8'	
	Bracing L9'E-L8'W	+3 Laces	Knife-edged		E B1 9'-8'	
	Upper gusset at L8'W	Top surface East edge	1/16"-1/8" over 25% of area, knife-edged		E B1 9'-8'	
	Upper gusset at L8'E	Top surface Gusset rivets	1/16"-1/8" over 25% of area 5 Rivets 50%		E B1 9'-8' E B1 9'-8'	
	Strut at L8'	+6 Laces	Knife-edged to 100% deterioration		E B1 9'-8'	
7'-6'	Strut at L7'	+30% Laces +10 Laces	1/16"-1/8" spots Knife-edged to 100% deterioration		E B2 7'-6' E B2 7'-6'	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B2 7'-6'	Upper gusset at L7'W	Gusset rivets	1 Rivet 50%		E B2 7'-6'	E,B2,7'-6',W,1
	Upper and lower gussets at L7'E	West edges Top surfaces	Knife-edged 1/16"-1/8"		E B2 7'-6' E B2 7'-6'	
	Upper gusset at L7'E	Gusset rivets	4 Rivets 50%		E B2 7'-6'	
	Upper and lower gussets at L6'W	Top surface and east edge	1/8"-100% deterioration		E B2 7'-6'	
	Upper gusset at L6'W	Gusset rivets	2 Rivets 50%		E B2 7'-6'	
	Lower gusset at L6'W	Gusset rivets	8 Rivets 50-75%		E B2 7'-6'	
	Upper and lower gussets at L6'E	West edge Top surface	100% deterioration 1/16"-1/8" over 50% of area		E B2 7'-6' E B2 7'-6'	
5'-4'	Strut at L5'	+70% Laces +13 Laces	1/16"-1/8" spots Knifed-edged to ragged		E B2 5'-4' E B2 5'-4'	
	Upper gusset at L5'E	Gusset rivets Top surface	+16 Rivets 50-75% 1/16"-1/8" over +70% of area		E B2 5'-4' E B2 5'-4'	
	Lower gusset at L5'E	Gusset rivets Top surface	+17 Rivets 50-100% 1/16"-1/8" over +75% of area		E B2 5'-4' E B2 5'-4'	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B2						
5'-4'	Upper gusset at L4'E	Top surface and west edge	Knife-edged to 100% deterioration	(2)	E B2 5'-4'	E,B2,5'-4',E,2
		Gusset rivets	+7 Rivets 50-75%		E B2 5'-4'	
	Lower gusset at L4'E	Top surface	1/16"-1/8" over +50% of area		E B2 5'-4'	
		West edge	Knife-edged to ragged		E B2 5'-4'	
	Upper gusset at L4'E	Northwest and southwest corners			E B2 5'-4'	
	Strut at L4'	+3 Laces	Knife-edged		E B2 5'-4'	
3'-2'	Lower gusset at L4'W	Top surface	1/16"-1/8" over +75% of area	E B2 5'-4'		
		East edge	Ragged edge	E B2 5'-4'		
	Lower gusset at L3'W	Gusset rivets	+60% Rivets 25-50%	E B2 3'-2'		
		Upper gusset at L3'E	Gusset rivets	+10 Rivets 50-75%	E B2 3'-2'	
	Lower gusset at L3'E	Gusset rivets	1 Rivet 50%	E B2 3'-2'		
		Strut at L3'	+60% Lower laces	1/16"-1/8" to ragged edges	E B2 3'-2'	
	Inside surfaces of channels		1/16"-1/8" spots full length	E B2 3'-2'		

Note: (2) Corners bent up $\pm 1/2$ " by layered rust.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference
B2						
3'-2'	Strut at L2'	+60% Laces Lower south flange lacing rivets	1/16" to 70% loss +30% Rivets 50-75%		E B2 3'-2' E B2 3'-2'	
	Upper gusset at L2'E	Top surface and west edge Gusset rivets	1/16"-1/8" to 100% deterioration +50% Rivets 25-75%		E B2 3'-2' E B2 3'-2'	
1'-0'	Bracing L2'E-L1'W	Top surface of upper flanges at L1'W	1/8" pitting		E B2 1'-0'	
	Strut at L1'	+40% lower laces +30% upper laces	1/16" to 40% thickness loss 1/16"-1/8"		E B2 1'-0' E B2 1'-0'	
	Upper gusset at L1'	Gusset rivets	+7 Rivets 25-50%		E B2 1'-0'	
	Bracing L1'W-L0'E	+60% Laces	1/16"-1/8"		E B2 1'-0'	
	Strut at L0'	Channel surfaces +15% Laces All laces	1/16"-1/8" spots full length Knife-edged 1/16" to +75% thickness loss		E B2 1'-0' E B2 1'-0'	

**SWAY
BRACING**

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B3						
0-1	Lower west bracing	+75% Laces	50-75% loss		F B3 0-1	
	Upper east bracing	Lace at upper end	100% deteriorated		F B3 0-1	
	Upper west bracing	+75% Laces	75-100% deteriorated		F B3 0-1	
4-5	Lower west gussets	Inside faces	1/16"-1/8" pitting		F B3 4-5	
	Lower west bracing	All laces	1/8"-3/16" pitting		F B3 4-5	
	Upper west bracing	+50% Laces	1/8" to +50% loss		F B3 4-5	
	Middle gussets	South plate lower edge	Ragged for +5"	(1)	F B3 4-5	
		South plate inside and outside surfaces	1/8" pitting spots		F B3 4-5	
5-6	Lower west bracing	All laces	1/16"-1/8" spots		F B3 5-6	
	Lower west and east gussets	All surfaces	1/16"-1/8" spots		F B3 5-6	
	Lower east bracing	All laces	1/16"-1/8" spots		F B3 5-6	
	Upper east bracing	+75% laces	1/16" to knife edges		F B3 5-6	
	Middle gussets	Outside faces	1/16"-1/8" spots		F B3 5-6	
6-7	Lower west bracing	All laces	1/16"-1/8" spots		F B3 5-6	
	Upper east bracing	+40% Laces	Knife-edged		F B3 5-6	

Note: (1) All corners bent +3/4" by layered rust.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference
B3						
6-7	Upper west bracing	+50% Laces	1/8" to 100% deteriorated	(2)	F B3 6-7	
	Middle gussets	All corners	1/16"-1/8" pitting		F B3 6-7	
7-8	Lower west gussets	All surfaces Gusset rivets	1/16"-1/8" pitting 1 Rivet 50%		F B3 6-7 F B3 6-7	
	Lower west and east bracing	All laces	1/16"-1/8" spots		F B3 7-8	
	Lower east gussets	All surfaces	1/16"-1/8" spots		F B3 7-8	
	Upper east bracing	+40% Laces	1/16" to knife edge		F B3 7-8	
	Upper west bracing	+60% Laces	50-100% thickness loss		F B3 7-8	F,B3,7-8,S,2
	Middle gussets	All corners Outside surfaces	1/8" pitting	(3)	F B3 7-8 F B3 7-8	
8-9	Lower east bracing	+50% Laces	1/16"-1/8" pitting		F B3 8-9	
	Upper east bracing	+80% Laces	1/16" to knife edges		F B3 8-9	
	Upper west bracing	+60% Laces	1/8"-3/16" pitting		F B3 8-9	
	Upper west gussets	Inside surfaces	1/16"-1/8" pitting		F B3 8-9	
	Middle gussets	Lower corners		(3)	F B3 8-9	

Notes: (2) All corners bent +2" by layered rust.
(3) All corners bent $\pm 1/2$ " by layered rust.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1						
9-10	Lower east-west truss		Very heavy corrosion	(4)	F B1 9-10	F,B1,9-10,W,5 F,B1,9-10,E,6
10'-9'	Lower east-west truss		Very heavy corrosion	(4)	F B1 9-10	F,B1,10'-9',E,5
B2						
9'-8'	Upper east bracing	Horizontal legs of angles +40% Laces	Knifed to ragged edges Knife edge to 100% deterioration full length		F B2 9'-8' F B2 9'-8'	
	Upper east gussets	Inside surface and edges	+1/4" loss to knife edge		F B2 9'-8'	
	Upper west bracing	+50% Laces	1/16"-1/8" pitting		F B2 9'-8'	
	Upper west gussets	Inside surface and bottom edge	1/16"-1/8" to 100% deterioration		F B2 9'-8'	
	All bracing	Stay plates at middle gusset	1/16"-1/8" to knife edge		F B2 9'-8'	
8'-7'	Lower east bracing	+40% Laces	1/16"-1/8"		F B2 8'-7'	
	Upper east bracing	+20% Laces	1/16" to knife edge		F B2 8'-7'	
	Upper west bracing	+5% Laces	1/16" to knife edge		F B2 8'-7'	

Note: (4) See Field Inspection Sheet.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B2						
8'-7'	Upper west gussets	South gusset surface and lower edge	1/16"-1/8" to knife edge		F B2 8'-7'	
	Middle gussets	All corners Inside surfaces	1/16"-1/8" spots	(5)	F B2 8'-7' F B2 8'-7'	
7'-6'	Lower east gussets	Gusset rivets	+6 Rivets 25-50%		F B2 7'-6'	
	Upper east bracing	+80% Laces Horizontal leg of back-to-back angles	1/16"-1/8" pitting 1/8" to +70% thickness loss full length		F B2 7'-6' F B2 7'-6'	
	Middle gussets	Inside surfaces	1/16"-1/8" pitting		F B2 7'-6'	
6'-5'	All gussets	All surfaces	1/16"-1/8" spots		F B2 6'-5'	
	Upper east bracing	+50% Laces Inside back-to-back legs	1/16" to knife-edged 1/16"-1/8" full length		F B2 6'-5' F B2 6'-5'	
	Upper west bracing	+70% Laces +30% Laces	1/16"-1/8" pitting Knife edge to 100% deterioration		F B2 6'-5' F B2 6'-5'	
	Middle gussets	All corners	Ragged edges	(6)	F B2 6'-5'	

Notes: (5) Corners bent $\pm 1/2"$ - 1" by layered rust.
(6) Corners bent out $\pm 1/2"$ by layered rust.

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B2						
5'-4'	Upper east bracing	+60% Laces +2 Laces	1/16"-1/8" 100% deterioration		F B2 5'-4'	
	Upper west bracing	+40% Laces 1 Lace Lacing rivets	1/16"-1/8" 100% deterioration 3 Rivets 50%		F B2 5'-4' F B2 5'-4' F B2 5'-4'	
	Middle gussets	All corners of south plate All corners	1/16"-1/8" to knife edge	(7)	F B2 5'-4' F B2 5'-4'	
1'-0'	Lower west bracing	+90% Laces	1/16"-1/8" pitting		F B2 1'-0'	
	Lower east bracing	+50% Laces Inside back-to-back legs of angles	1/16" to knife edge 1/16"-1/8" full length		F B2 1'-0' F B2 1'-0'	
	Upper east bracing	+90% Laces Inside back-to-back legs	1/16"-1/8" 1/16" to knife edge		F B2 1'-0' F B2 1'-0'	
	Upper east gussets	Inside and outside faces	1/8"-1/4" pitting	(8)	F B2 1'-0'	
	Upper west bracing	+45% Laces All laces Lacing rivets	100% deterioration 1/16" to knife edge +60% Rivets 25-50%		F B2 1'-0' F B2 1'-0' F B2 1'-0'	
	Upper west gussets	Inside and outside faces West corners	1/16"-1/8" pitting	(9)	F B2 1'-0' F B2 1'-0'	
Notes:	(7) Corners $\pm 1/2"$ - $3/4"$ by layered rust. (8) Lower edge of north gusset bowed out from bracing angle by $\pm 3/4"$ of layered rust. (9) Corners bent out $\pm 1/2"$ by layered rust.					

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B2 1'-0'	Middle gussets	Inside surfaces All corners	1/16"-1/8" pitting	(10)	F B2 1'-0' F B2 1'-0'	

Note: (10) Corners bent out +1/2" by layered rust.

**WIND
CHORDS**

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
B1 10-11	Strut at L10 Lower gusset at L10W Upper gusset at L10E Lower gusset at L10E East and west wind chord Bracing L10W-L11E Bracing L10E-L11W South end of west wind chord Bracing L10W-L11E	+50-75% Laces Lacing rivets Gusset rivets Top surface Top surface Gusset rivets Gusset rivets West edge Between wind chord channels and gussets at L10E and L10W Inside upper and lower back to back legs at L10W Inside upper and lower back to back legs at L10E Rivets between wind chord channel and column Top surface of bottom flange, east side	+50% thickness loss +50% Rivets 50-90% + 8 Rivets 25-75% 1/16"-1/8" over +50% area 1/16"-1/8" over +75% area + 6 Rivets 75-100% +14 Rivets 25-50% Knife edged + 80% Rivets 25-50% 1/16" to knife edge 1/16"-1/8" loss + 50% Rivets 25-75% 1/8"-3/16" pitting		G B1 10-11 G B1 10-11 G B1 10-11 G B1 10-11 G B1 10-11 G B1 10-11 G B1 10-11 G B1 10-11 G B1 10-11 G B1 10-11 G B1 10-11 G B1 10-11	G, B1, 10-11, E, 1

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note (1)	Sketch No. Reference	Photo No. Reference
11-12	Upper gusset at L11E	Top surface	1/16"-1/8" over 50% area	(1)	G Bl 11-12 2	
		Gusset rivets	3 Rivets 50-75%		G Bl 11-12 2	
	Lower gusset at L11W	Top surface	1/16"-1/8" over 50% area		G Bl 11-12 2	
	Upper and lower gusset at L11W	Top surface	1/16"-1/8" over 50% area		G Bl 11-12 2	
	Bracing L10E-L11W	Inside lower back to back legs at L11W	1/16" to \pm 75% thickness loss			
	Lower gusset at L12W	Gusset rivets	5 Rivets 50%		G Bl 11-12 2	
	Upper gusset at L12W	Northeast corner			G Bl 11-12 2	
11-12	Bracing L11E-L12W	Edge of bottom flange under catwalk \pm 7 Laces	75-100% deteriorated 1 1/2"-2" back for \pm 40" long 1/16"-1/8" to knife edge		G Bl 11-12 2	G, Bl, 11-12, DWN, 1
					G Bl 11-12 2	G, Bl, 11-12, E, 5
12-13	Bracing L12E-L13W	North bottom flange below catwalk both legs	50-100% deteriorated 2 Rivets 75%		G Bl 11-12 2	
	Bracing L12W-L13E	\pm 50% Laces	1/16"-1/8" pitting		G Bl 11-12 2	G, Bl, 12-13, E, 1 G, Bl, 12-13, NE, 2
13-14	East wind chord	Top lacing rivets	\pm 3 Rivets 50%		G Bl 13-14	
	West wind chord	Top flange rivets	3 Rivets 50%		G Bl 13-14	
	Note (1) Corner bent up \pm 3/8" by layered rust					

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
14-15	West wind chord	Bottom flange rivets East cover plate, bottom edge	2 Rivets 50%	(2)	G Bl 13-14 G Bl 13-14	
13-14	Lower gusset at L14W Bracing L13W-L14E Bracing L13E-L14W	Gusset rivets Laces Lower flange at L13W Lower horizontal leg below catwalk Top surfaces of upper and lower flanges All laces	3 Rivets 50% 1/16"-1/8" pitting to ragged edges + 50% thickness loss 1/16" to knife edged 1/16"-1/8" pitting 1/16"-1/8" pitting		G Bl 13-14 G Bl 13-14 G Bl 13-14 G Bl 13-14 G Bl 13-14	G, Bl, 13-14, W, 3
14-15	Bracing L14E-L15W	+ 30% laces	Ragged edges		G Bl 13-14	G, Bl, 14-15, E, 2
15-16	Upper gusset at L15W West wind chord Lower gusset at L15W	Gusset rivets Upper flange rivets Gusset rivets Northeast corner	1 Rivet 75% 2 Rivets 50% + 9 Rivets 50%	(3)	G Bl 15-16 1 G Bl 15-16 1 G Bl 15-16 2 G Bl 15-16 2	
14-15	Bracing L14E-L15W	Underside of lower flange at L15W	1/16"-1/8" pitting		G Bl 15-16 2	
Note (2)	Edge slightly bowed	out + $\frac{1}{4}$ "	by layered rust underneath			
Note (3)	Corner bent down +	$\frac{3}{4}$ "	by layered rust			

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
15-16	Upper and lower gusset at L15E	Top surfaces	1/16"-1/8" pitting	(4)	G B1 15-16 2	
	Upper gusset at L16W	Southeast corner	1/16"-1/8" loss		G B1 15-16 2	
	Lower gusset at L16W	Gusset rivets	2 Rivets 50%		G B1 15-16 2	
	Bracing L15E-L16W	Top surface of south lower flange under catwalk	1/16" to knife edge		G B1 15-16 2	
		All laces	1/16-1/8" pitting		G B1 15-16 2	
		Gusset at bracing intersection	2 Rivets 50-75%		G B1 15-16 2	
	Bracing L15W-L16W	+ 5% laces	Ragged edges		G B1 15-16 2	
		Upper gusset at L16E	Top surface		1/16"-1/8" pitting over + 75% area	
		Gusset rivets	10 Rivets 50%		G B1 15-16 2	
	16-15'	Bracing L16E-L15W	Top flange at L16E		Knife edge to 100% deterioration	
+ 70% laces			1/16"-1/8" pitting	G B1 15-16 2		
Bracing L16W-L15E		+ 60% laces	1/16"-1/8" to knife edges	G B1 15-16 2	G, B1, 16-15', E, 1	
		West wind chord	Bottom flange rivets	3 Rivets 50-100%		G B1 16-15'
		Top flange rivets	8 Rivets 50%	G B1 16-15'		
East wind chord		All laces	1/16"-1/8" pitting	G B1 16-15'		
		All laces	1/16"-1/8" pitting	G B1 16-15'		
Note (4)	Corner bent + 1/2" by	layered rust				

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
16-15'	Lower gusset at L15'W	Top surface	1/16"-1/8" pitting over <u>±</u> 50% area		G Bl 16-15'1	
15'-14'	East and west wind chords	Inside and outside surfaces of channels and laces	1/16"-1/8" spots full		G Bl 15'-14'1	
	Upper gusset at L14W	Top surface	1/16"-1/8" over <u>±</u> 50% area		G Bl 15'-14'2	
	Lower gusset at L14E	Gusset rivet	<u>±</u> 7 Rivets 50%		G Bl 15'-14'2	
		Top surface	1/16"-1/8" over <u>±</u> 50% area		G Bl 15'-14'2	
	Bracing L15'E-L14'W	Edge of south lower flange	Ragged for <u>±</u> 50% length		G Bl 15'-14'2	
		Top surfaces of flanges	1/16"-1/8" pitting full length		G Bl 15'-14'2	
		All laces	1/16" spots		G Bl 15'-14'2	
14'-13'	Bracing L14'E-L13'W	Top surfaces of flanges	1/16"-1/8" pitting full length		G Bl 15'-14'2	
		<u>±</u> 40% laces	1/16"-1/8" spots		G Bl 15'-14'2	
	Bracing L14'W-L13'E	<u>±</u> 60% laces	1/16"-1/8" spots		G Bl 15'-14'2	
	Bracing L14'E-L13'W	<u>±</u> 10% laces	Knife edged		G Bl 14'-13'2	
	West wind chord	Top lacing rivets	1 Rivet 50%		G Bl 14'-13'1	
		All laces	1/16"-1/8" spots		G Bl 14'-13'1	
	East wind chord	All laces	1/16"-1/8" spots		G Bl 14'-13'1	
	Upper and lower gussets at L13'E	Top surface	1/16"-1/8" spots		G Bl 14'-13'2	

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note()	Sketch No. Reference	Photo No. Reference
14'-13'	Upper gusset at L13'E	Gusset rivets	+ 13 Rivets 50%		G Bl 14'-13'2	
13'-12'	Bracing L13'W-L12'E	+ 20% laces	Knife edged		G Bl 12'-11'2	
	Bracing L13'E-L12'W	Top surface of flanges	1/16"-1/8" spots		G Bl 12'-11'2	
12'-11'	East and west wind chords	Channel surfaces and laces	1/16"-1/8" spots		G Bl 12'-11'1	
	Lower gusset at L12'E	Top surface	1/16"-1/8" over +50% area		G Bl 12'-11'2	
	Lower gusset at L11'E	Gusset rivets Top surface	1 Rivet 50% 1/16"-1/8" over 25% area		G Bl 12'-11'2 G Bl 12'-11'2	
	Upper gusset at L11'E	Gusset rivets	+ 6 Rivets 50-75%		G Bl 12'-11'2	
	Bracing L12'E-L11'W	Top surface of flanges	1/16"-1/8" pitting spots		G Bl 12'-11'2	
	Bracing L12'W-L11'E	+ 40% laces Lower flange at L12'W	1/8" pitting Knife edge for +3 1/2"		G Bl 12'-11'2 G Bl 12'-11'2	
		Top surface of lower flange	1/16"-1/8" spots		G Bl 12'-11'2	
		+ 50% laces	1/16"-1/8" pitting		G Bl 12'-11'2	
11'-10'	West wind chord	West top flange		(5)	G Bl 11'-10'	
	Bracing L11'E-L10'W	Top surface of upper and lower flanges	1/16"-1/8" pitting to of 50-75% thickness loss	(6)	G Bl 11'-10'	
Note (5)	Wind chord is rubbing against the rivets of the diagonal. See field inspection sheet					
Note (6)	See field inspection sheet					

Span &/or Bay	Member and Location	Affected Area	Degree of Corrosion or % Loss of Metal	Other Defects See Note ()	Sketch No. Reference	Photo No. Reference
11'-10'	Bracing L11'E-L10'W	+ 5% laces	Knife edged		G Bl 11'-10'	G, Bl, 11'-10', E, 4
	Upper gusset at L10'W	Gusset rivets	+ 3 Rivets 50%		G Bl 11'-10'	
	Lower gusset at L10'W	Gusset rivets	+ 5 Rivets 50-75%		G Bl 11'-10'	
	West wind chord	North end of east channel web	+ 8 Rivets 75%		G Bl 11'-10'	
	Strut at L10'	+ 90% laces	1/8" to knife edge		G Bl 11'-10'	
		Bottom lacing rivets	+ 40 Rivets 25-50%		G Bl 11'-10'	
		Top lacing rivets	+ 40 Rivets 25-50%		G Bl 11'-10'	
		North face	1/16"-1/8" spots		G Bl 11'-10'	
	East wind chord	North end of west channel web	+ 14 Rivets 25-50%		G Bl 11'-10'	
		Upper flange rivets	+ 24 Rivets 75-100%		G Bl 11'-10'	
	Upper gusset at L10'E	Gusset rivets	4 Rivets 50%		G Bl 11'-10'	
		Top surface	+ 6 Rivets 50%		G Bl 11'-10'	
	Lower gusset at L10'W		1/16"-1/8" over +75% area		G Bl 11'-10'	
		Gusset rivets	+ 6 Rivets 50%		G Bl 11'-10'	
Bracing L11'W-L10'E	Lower flange at L10'E		1/8" to knife edge for +12"		G Bl 11'-10'	
	Upper and lower flange surfaces		1/16"-1/8" spots		G Bl 11'-10'	

BEARINGS

Location	East or West Bearing	North or South Bearing	Defect or Corrosion	Sketch No. Reference	Photo No. Reference
So. Abutment	East		Minor surface rusting, styrofoam filler slightly deteriorated	H B7 0-1 E	13
	West		Styrofoam filler slightly deteriorated	H B7 0-1 E	
Pier 5	East	North	Minor surface rusting, styrofoam filler slightly deteriorated	H B5 E	
	East	South	Southeast anchor bolt slightly bent	H B5 E	
	West	North	Styrofoam filler slightly deteriorated Top surfaces of pier - some hairline to 1/32" cracks with slight spalling at edge at both east and west bearing areas.	H B5 W	
Pier 3	East	South	Anchor bolts on west side of bearing bent <u>+2"</u> towards the south	H B5 E	
	West	South	Anchor bolts on east side of bearing bent <u>+1-1/2"</u> and <u>+2-1/4"</u> towards the south	H B5 E	4,5
	East	North	Northeast anchor bolt bent 3-7/8" towards the south. Anchor bolts on west side are bent <u>+2"</u> towards the south Cover for anchor bolt corroded 100% on one side	H B3 E	3
	West	North	Minor surface rusting Southeast anchor bolt bent 3-3/4" towards the south. Northwest anchor bolt bent 1-1/2" towards the north	H B3 W	6,7
Pier 2	East		Gaskets around inspection plates either missing or torn. Much water found in side	H B1 E	9

Location	East or West Bearing	North or South Bearing	Defect or Corrosion	Sketch No. Reference	Photo No. Reference
Pier 2	West		Gaskets around inspection plates either missing or torn. Much water found inside.	H B1 W	8
Pier 4	East	South	Minor surface rusting. Gaskets around inspection plates either missing or torn. Anchor bolts on east side bent 1-1/8" towards the north and 2-11/16" towards the south	H B2 E	11
	West	South	Minor surface rusting. Gaskets around inspection plates torn. Southeast anchor bolt bent 7/8" towards the north	H B2 W	10
No. Abutment	East		Styrofoam filler slightly deteriorated	H B6 E	
			<u>Condition of Concrete Around Bearing Areas</u>		
Pier 5	East		Hairline to 1/32" cracks with slight spalling on east edge of pier		
	West		1/32" to 1/16" cracks with slight spalling on west edge of pier		
Pier 3	East		Hairline to 1/32" cracks with slight spalling on east edge and top surface of pier		
	West		1/32" to 1/16" cracks with slight spalling on west edge of pier		
Pier 1	West		Patch on northwest corner beginning to unravel		
Pier 4	East		Hairline to 1/16" cracks with slight spalling at east edge of pier		

Location	East or West Bearing	North or South Bearing	Defect or Corrosion	Sketch No. Reference	Photo No. Reference
Pier 4	West		+1/4" crack at south edge of pier; +12" x +60" area appears ready to spall off		
Pier 6	East		Hairline cracks with slight spalling at south end east edges of pier		
	West		Hairline to 1/16" cracks. Southwest corner cracked and spalled with +36" x +48" area sounding hollow. Also leaching from existing cracks.		

**ON DECK
INSPECTION**

Span	Bay	Affected Area	Degree of Corrosion or Defect	Sketch No. Reference	Photo No. Reference
		<u>DECK</u>			
B3	0-1	Both lanes East scupper West scupper	1/16" to 1/8" cracks \pm 6"-20" long \pm 15% of openings clogged with debris \pm 30% of openings clogged with debris	I B3 0-1 I B3 0-1 I B3 0-1	
	1-2	Both lanes East scupper West scupper	1/16" to 1/8" cracks \pm 6"-8' long, sealed with tar \pm 40% of openings clogged with debris \pm 100% of openings clogged with debris	I B3 1-2 I B3 1-2 I B3 1-2	6
	2-3	Both lanes	1/16" to 1/8" cracks \pm 4"-36" long sealed with tar	I B3 2-3	
	3-4	Both lanes	1/16" to 1/8" cracks \pm 4"-18" long	I B3 3-4	
	4-5	Both lanes East scupper	1/16" cracks \pm 10" long, sealed with tar \pm 20% of openings clogged with debris	I B3 4-5 I B3 4-5	
	5-6	Both lanes	1/16" cracks \pm 6"-13" long	I B3 5-6	
	6-7	Both lanes East scupper	1/16" to 1/8" cracks \pm 4"-18" long \pm 15% of openings clogged with debris	I B3 6-7 I B3 6-7	
	7-8	Both lanes	1/16" cracks \pm 5" long	I B3 7-8	
	8-9	Both lanes	1/16" cracks \pm 8" long	I B3 8-9	
B1	9-10	Northbound lane	1/8" to 1/4" sealed cracks \pm 18" long	I B3 9-10	
	10-11	Both inside lanes	1/8" to 1/4" cracks running full width	I B3 10-11	
	11-12	Southbound inside lane	1/8" short cracks	I B3 11-12	
	12-13	Both inside lanes	1/8" short cracks and longitudinal cracks along centerline of bridge	I B3 12-13	

Span	Bay	Affected Area	Degree of Corrosion or Defect	Sketch No. Reference	Photo No. Reference
B1	13-14	Both inside lanes	1/16" short cracks and longitudinal cracks along centerline of bridge	I B1 13-14	8
	14-15	Both inside lanes	1/8" short cracks \pm 15" long	I B1 14-15	
	15-16	Both inside lanes	1/16" short cracks \pm 12" long	I B1 15-16	
	16-15'	Both lanes	1/16" cracks \pm 3'-5' long	I B1 16-15'	
	15'-14'	Both lanes	1/16" sealed and unsealed cracks	I B1 15'-14'	
	14'-13'	Both lanes	Sealed cracks \pm 36" long	I B1 14'-13'	
	13'-12'	Both lanes	1/16" short cracks \pm 12" long, sealed	I B1 13'-12'	
	12'-11'	Northbound lanes Southbound lanes	1/16" short cracks \pm 12" long Sealed cracks \pm 12"-36" long	I B1 12'-11' I B1 12'-11'	
	11'-10'	Both lanes	Sealed cracks \pm 6"-36" long	I B1 11'-10'	
	10'-9'	Both lanes	Sealed cracks \pm 12"-36" long	I B1 10'-9'	
	B2	9'-8'	Both lanes	1/16" short cracks	
8'-7'		Both lanes	1/16" sealed and unsealed cracks \pm 6-48" long	I B2 8'-7'	
		East scupper	\pm 20% of openings clogged with debris	I B2 8'-7'	
		West scupper	\pm 50% of openings clogged with debris	I B2 8'-7'	
7'-6'		Both lanes	1/16" cracks \pm 6"-36" long sealed and unsealed	I B2 7'-6'	
		West scupper	\pm 90% of openings clogged	I B2 7'-6'	
6'-5'	Both lanes	1/16" cracks \pm 6"-36" long sealed and unsealed	I B2 6'-5'		

Span	Bay	Affected Area	Degree of Corrosion or Defect	Sketch No. Reference	Photo No. Reference
B2	5'-4'	Both lanes	1/16" cracks \pm 6"-30" long sealed and unsealed	I B2 5'-4'	
	4'-3'	Both lanes	1/16" cracks \pm 6"-36" long sealed and unsealed	I B2 4'-3'	
		Both scuppers	\pm 25% of openings clogged with debris	I B2 4'-3'	
	3'-2'	Both lanes	1/16" cracks \pm 6"-40" long sealed and unsealed	I B2 3'-2'	
	2'-1'	Both lanes	1/16" cracks \pm 6"-48" long sealed and unsealed	I B2 2'-1'	
		East scupper	\pm 10% of openings clogged with debris	I B2 2'-1'	
	1'-0'	Both lanes	1/16" cracks \pm 6"-36" long sealed and unsealed	I B2 1'-0'	

Span	Bay	Affected Area	Degree of Corrosion or Defect	Sketch No. Reference	Photo No. Reference
		<u>RAILING</u>			
B3	0-1	East side	1 vertical in need of repair	I B3 0-1	
		West side	2 verticals in need of repair	I B3 0-1	
	1-2	East & West side	1 vertical in need of repair	I B3 1-2	
	2-3	West side	5 verticals in need of repair	I B3 2-3	
		Both sides	Random surface rusting on all members	I B3 2-3	
	3-4	West side	1 vertical in need of repair	I B3 3-4	
		Both sides	Random surface rusting on all members	I B3 3-4	
	4-5	West side	3 vertical in need of repair	I B3 4-5	
		East side	1 vertical in need of repair	I B3 4-5	
		Both sides	Random surface rusting on all members	I B3 4-5	
5-6	West side	2 verticals in need of repair	I B3 5-6		
6-7	West side	2 verticals in need of repair	I B3 6-7		
	East side	1 verticle in need of repair	I B3 6-7		
7-8	Both sides	1 verticle in need of repair	I B3 7-8		
8-9	West side	6 verticals in need of repair	I B3 8-9		
	East side	1 vertical in need of repair	I B3 8-9		
B1	9-10	West side	6 verticals in need of repair	I B1 9-10	
		East side	2 verticals in need of repair	I B1 9-10	
	10-11	West side	9 verticals in need of repair	I B1 10-11	
	10-11	East side	6 verticals in need of repair	I B1 10-11	

Span	Bay	Affected Area	Degree of Corrosion or Defect	Sketch No. Reference	Photo No. Reference
B1	11-12	West side	7 verticals in need of repair	I B1 11-12	
		East side	2 verticals in need of repair	I B1 11-12	
	12-13	West side	6 verticals in need of repair	I B1 12-13	
	13-14	West side	3 verticals in need of repair	I B1 13-14	
		East side	2 verticals in need of repair	I B1 13-14	
	14-15	West side	4 verticals in need of repair	I B1 14-15	
		East side	1 vertical in need of repair	I B1 14-15	
	15-16	West side	8 verticals in need of repair	I B1 15-16	
		East side	1 vertical in need of repair	I B1 15-16	
	16'-15'	West side	11 verticals in need of repair	I B1 16-15'	
		East side	1 vertical in need of repair	I B1 16-15'	
	15'-14'	West side	4 verticals in need of repair	I B1 15'-14'	
		East side	1 vertical in need of repair	I B1 15'-14'	
	14'-13'	West side	7 verticals in need of repair	I B1 14'-13'	
East side		2 verticals in need of repair	I B1 14'-13'		
13'-12'	West side	10 verticals in need of repair	I B1 13'-12'		
	East side	2 verticals in need of repair	I B1 13'-12'		
12'-11'	West side	9 verticals in need of repair	I B1 12'-11'	3	
	East side	3 verticals in need of repair	I B1 12'-11'		
11'-10'	West side	4 verticals in need of repair	I B1 11'-10'		
	East side	2 verticals in need of repair	I B1 11'-10'		
10'-9'	West side	3 verticals in need of repair	I B1 10'9'		
	East side	6 verticals in need of repair	I B1 10'-9'		

Span	Bay	Affected Area	Degree of Corrosion or Defect	Sketch No. Reference	Photo No. Reference
B2	9'-8'	West side	3 verticals in need of repair	I B2 9'-8'	
		East side	7 verticals in need of repair	I B2 9'-8'	
	8'-7'	West side	3 verticals in need of repair	I B2 8'-7'	
		East side	2 verticals in need of repair	I B2 8'-7'	
	7'-6'	West side	5 verticals in need of repair	I B2 7'-6'	
	6'-5'	West side	2 verticals in need of repair	I B2 6'-5'	
		East side	4 verticals in need of repair	I B2 6'-5'	
	5'-4'	West side	1 vertical in need of repair	I B2 5'-4'	
	4'-3'	West side	2 verticals in need of repair	I B2 4'-3'	
	3'-2'	West side	2 verticals in need of repair	I B2 3'-2'	
East side		1 vertical in need of repair	I B2 3'-2'		
2'-1'	Both sides	1 vertical to be replaced	I B2 2'-1'		
1'-0'	West side	2 verticals to be replaced	I B2 1'-0'		
	East side	3 verticals to be replaced	I B2 1'-0'		
<p>General Note: The railing and supporting members exhibited random surface rusting throughout the entire length of the bridge.</p>					

Span	Bay	Affected Area	Degree of Corrosion or Defect	Sketch No. Reference	Photo No. Reference
		<u>LIGHTPOSTS</u>			
B3	@pp 0	West side East side	Random surface rusting on all members Random surface rusting on all members		
	@pp 5	West side East side	Random surface rusting on all members Random surface rusting on all members, 1 bolt missing cover plate at base of lightpost		
B1	@pp 13	West side East side	1/32"-1/16" spots on inside and outside faces, lower east corners of plates pushed out $\pm 1/2$ " by layered rust Random surface rusting on all members		
	@pp 16	West side East side	Random surface rusting Random surface rusting, lower west corner of south plate pushed out $\pm 1/2$ " by layered rust		
	@pp 13'	West side East side	Lower east corner of south plate pushed out ± 1 " by layered rust Random surface rusting, lower west corner of south plate pushed out $\pm 1-1/2$ " by layered rust, lower west corner of north plate pushed out $\pm 1/2$ " by layered rust		
B2	@pp 8'	West and east sides	Random surface rusting, 1 bolt missing from cover plate at base of lightpost		
	@pp 5'	West side East side	Random surface rusting, 1 bolt missing from cover plate at base of lightpost Random surface rusting on all members		

APPENDIX II

Portland Cement Association's Report on Concrete Core Tests

PORTLAND CEMENT ASSOCIATION

Old Orchard Road, Skokie, Illinois 60076 / Area Code 312 / 966-6200

AMMANN & WHITNEY

Research and Development
Construction Technology Laboratories

June 14, 1976

Dr. Fred Chang
Ammann & Whitney
Two World Trade Center
New York, N. Y. 10047

Dr. Chang:

During the last few days we have had several telephone conversations regarding concrete core from Cape Cod bridges. Since we have not had any correspondence, I record some of our discussion, a description of the cores, and the suggested testing program.

You indicated that the bridges were built in about 1936, and the concrete contained lightweight aggregate (Haydite). Some portions of the deck were topped with normal weight concrete, and some repairs were made with normal weight concrete. You requested tests for compressive strength, chloride content and a petrographic examination.

Twelve concrete cores, 4-in. in diameter were received June 10. Cores numbered "S" and "B" refer to the Sagamore and Bourne bridges, respectively.

The cores are described as follows:

- S-1 - 4-in. long, lightweight aggregate, some honeycomb.
- S-2 - 6-in. long, normal weight aggregate, very good condition, 3.5 in. asphalt.
- S-3 - 4-in. long, lightweight with 1-2 in. normal weight topping, relatively good condition, core bit kerf 1-in. deep in top.
- S-4 - 3-in. long, lightweight with 2-in. normal weight topping, lightweight much honeycomb.
- S-5 - 4.5-in. long, lightweight, poorly compacted, 4-in. asphalt.
- S-6 - Top 4-in. normal weight, good condition. Bottom 5-in. normal weight, very bad honeycomb.

JUN 16 1976

① A ✓ EC EI
DDB
ATR EP HNC

① PC See AUC!
② PS
④ H. H. H.

PORTLAND CEMENT ASSOCIATION

Dr. Fred Chang
Page 2
June 14, 1976

- B-1 - 2 cores, all lightweight, 4-in. long, much honeycomb, corroded steel.
- B-2 - 6 in., all lightweight, honeycomb, 2-in. asphalt.
- B-3 - 6 in., all lightweight, good condition, 2-in. asphalt.
- B-4 - 6 in., all lightweight, on large honeycomb, no asphalt.
- B-5 - 6 in., all lightweight, vertical epoxy filled joint, one side good, other side honeycomb (repair job), no asphalt.
- B-6 - 6 in., lightweight, including 2-in. lightweight topping, relatively good, 2-in. asphalt.

You requested the following tests:

Compressive strength:

- S-2, S-3, B-2, B-3, B-6

Petrographic examination:

- S-1, S-4, S-6, B-1

Chloride (top and bottom sections):

- S-5, S-6, B-1, B-4

Charges will be:

Compressive strength - \$50/core			
	5 x 50	=	\$250
Petrographic examination -			
	\$150/core		
	4 x 150	=	\$600
Chloride analysis - \$75/core (2 samples)			
	4 x 75	=	<u>\$300</u>
			\$1150

Dr. Fred Chang
Page 3
June 14, 1976

We will have a report for you in three weeks, sooner, if possible. Attached is a brochure, "Research and Engineering Service Capabilities, PCA/CTL."

Sincerely,



J. J. Shideler, Director
Administrative and Technical
Services

JJS/bl

Attachment

Copy to-
Allen Custen, Ammann & Whitney
W.E. Kunze
E. Hognestad
D.H. Campbell
J.R. Polky

CT-0230

PORTLAND CEMENT ASSOCIATION

Old Orchard Road, Skokie, Illinois 60076 / Area Code 312 / 966-6200

AMMANN & WHITNEY

Research and Development
Construction Technology Laboratories

JUL -2 1976

② CHANG
③ F.S.
AC

MBY EC EL
DE V 4 29
ATR EP FMG HMcL

June 30, 1976

see M.O. together

Dr. Fred Chang
Ammann & Whitney
Two World Trade Center
New York, N. Y. 10047

Dr. Chang:

Attached are reports by Dr. D. H. Campbell and M. F. Pistilli, giving results of petrographic (microscopic) examination, compressive strength, and chloride content of twelve concrete cores from the Cape Cod bridges. These reports, my letter of June 14, 1976, describing the cores and detailing the requested testing program, together with this brief summary constitute our report.

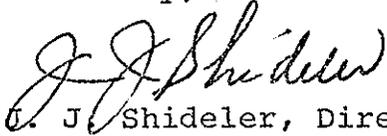
The petrographic report and tabulation of compressive strengths, indicate that the lightweight concrete was generally very poorly compacted, several cores had very large areas of honeycomb. Photographs of two cores are included to indicate the more extreme conditions (you stated that you had photographs of all cores so only three photographs are included in this report). The single all normal weight concrete core, S-2, was of very good quality with a compressive strength of 8140 psi. You indicated that this core was from some relatively recent repair work. Some rebar are severely corroded while others are in good shape.

Chloride analysis of four cores shows that the chloride content of Core B-1 was 0.84% in the top and 0.13% in the bottom, with the chloride expressed as calcium chloride dihydrate (CaCl₂·2H₂O). This particular core was in very poor condition. Cores B-4 and S-6 had considerable chloride in bottom with essentially none in the top. Core S-5 had an insignificant amount of chloride.

Dr. Fred Chang
June 30, 1976
Page -2-

If you have any questions, or if we can be of further service,
please call.

Sincerely,



J. J. Shideler, Director
Administrative and Technical
Services

JJS/rs

Copies to-
W. E. Kunze/E. Hognestad/D. H. Campbell/M. F. Pistilli

CT-0230/4110

Encl.



June 30, 1976

J. J. Shideler

C E N T E R

Twelve concrete cores taken from the Sagamore (S) and Bourne (B) Bridges in the Cape Cod area have been received from Dr. Fred Chang of Ammann & Whitney for determination of chlorides, compressive strength, and petrography. The latter two tests are subjects of this report.

Compressive strength tests were performed in accordance with ASTM C-42, tested in a wet condition and corrected for L/D. Compressive strengths were:

<u>Core No.</u>	<u>Strength(psi)</u>	<u>Coarse Agg.</u>	<u>Unit Wt.(pcf)</u>	<u>Condition</u>
B2	1320	Haydite	102.2	Honeycomb
B3	4130	Haydite	117.4	good
B6	2460	Haydite	109.6	relatively good
S2	8140	"trap"	154.6	very good
S3	3040	"trap"/Haydite	118.0	relatively good

The presence of honeycomb obviously decreases the compressive strength of the lightweight concrete, which is commonly of relatively lower strength. The unit weights generally correlate with core compressive strengths: weakest cores have low unit weights and abundant entrapped air or honeycomb.

Honeycomb (fig. 1) occurs in Cores S-1, S-4, S-5, S-6, B-1, B-2, B-4, and B-5 indicating various degrees of consolidation from grossly to moderately underconsolidated.

Core B-1 contains Haydite (a bloated silty shale) as coarse and fine aggregates. Traces of micaceous metasandstone also occur. The paste, as seen in thin section (20 microns thick), contains a few relatively coarse grains of unhydrated portland cement (UPC's). Hydration products, pseudomorphic after cement particles, are common, forming an overall texture of the paste in such a way as to suggest in-situ hydration of an initially, very low water/cement ratio

PORTLAND CEMENT ASSOCIATION

J. J. Shideler
June 30, 1976
Page -2-

paste. Many voids contain encrusted ettringite or calcite. Microcracks are common, passing thru aggregates.

Core S-6 contains a coarse aggregate of "traprock" which includes gabbro, dolerite, and basalt. Fine aggregates are quartz, microcline, aplite (very fine-grained granite), and metaquartzite. The rather strong paste contains abundant UPC's. Calcium hydroxide is common as coarsely crystalline fringes partially surrounding aggregates and as concentrations within the paste. Many of the residual unhydrated alite grains show prominent rims. The paste is locally intensely carbonated. Entrained air is approximately 2-3 percent. Honeycomb is abundant, some voids being as much as two centimeters long.

Core S-4 shows a gabbro-basalt aggregate topping over Haydite concrete, the contact between the two is partially open and is consequently weak. Microcracks occur in both concretes. Paste characteristics for each concrete are like those described above.

Core S-1 is Haydite concrete with abundant honeycomb and general characteristics like B-1.

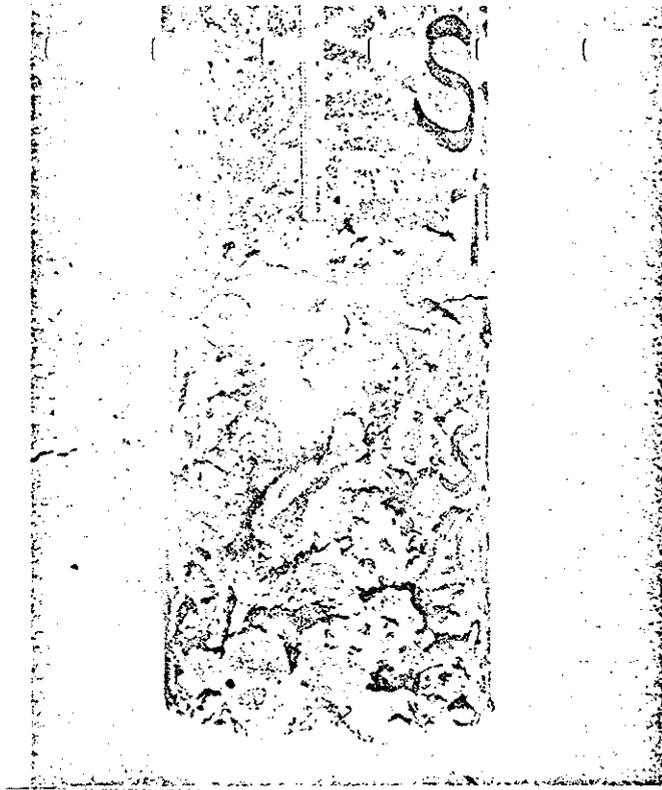
Intensely corroded rebar (fig. 1c) occurs in Cores S-6 and B-1 where the surrounding concrete contains deposits of iron oxide and numerous microcracks due to expansion of the oxidation products.

In terms of materials and type of application the Haydite concrete is obviously inadequate due to lack of consolidation, greatly facilitating cyclic freeze-thaw damage and paste deterioration via deicer chemicals. Petrographic observations of the paste revealing microcracks, some open or partially filled with ettringite, suggest continuing deterioration.

D. H. Campbell/rs
Senior Research Petrographer
Technical Services Section

CT-0230/4110

A



B



C

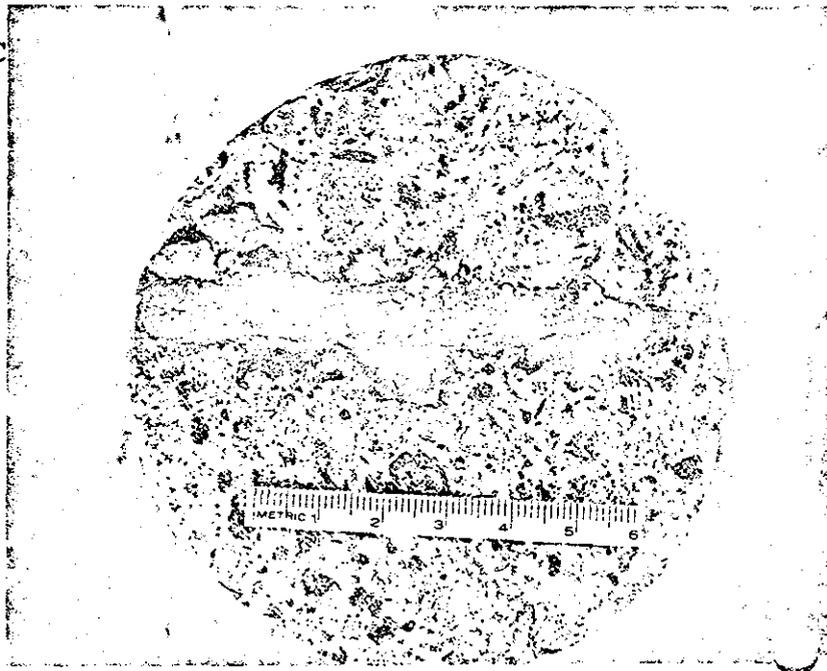


Fig.1 A--Core S-6 with honeycombed Haydite-aggregate concrete overlain by traprock-aggregate concrete. Six-centimeter scale. B--Core B-2 with abundant honeycombed Haydite-aggregate concrete. Compressive strength is 1320 psi. C--Core B-1 with intensely corroded rebar and adjacent corrosion products.

June 30, 1976

J. J. Shideler

C E N T E R

Re: Chloride content of the top and bottom portion of four concrete cores from the Sagamore and Bourne bridges near Cape Cod. (Dr. Fred Chang, Ammann & Whitney, Two World Trade Center, New York, New York).

Two cores, marked B-1 and B-4 were lightweight concrete from the Bourne bridge. Cores marked S-5 lightweight concrete and S-6 normal weight concrete were from the Sagamore bridge.

The chloride contents were determined by potentiometric titration with silver nitrate. The enclosed results are reported using three different expressions (all expressions being equivalent with respect to chloride). The cement content in the lightweight cores was assumed to have been 6-1/2 bags/yd³. The normal weight core was assumed to have had 6 bags/yd³.

Cores B-1, B-4 and S-6 had higher chloride in the bottom. Only core No. S-5 had insignificant chloride in both top and bottom portions.



M. F. Pistilli/rs
Research Chemist
Technical Services Section

CT-0230

CLORIDE ANALYSIS (EXPRESSED IN THREE FORMS)

CT-0230

Sample Core Identification	B-1 Lightweight Concrete		B-4 Lightweight Concrete		S-5 Lightweight Concrete		S-6 Normal weight Concrete	
	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom
% Chloride by weight of Dry concrete	0.087%	0.0117	0.003	0.191	0.003	0.003	0.002	0.067
Lbs. of Chloride [Cl ⁻]pcy	2.42 lbs.	3.25	0.08	5.31	0.08	0.08	0.08	2.51
Chloride as % Calcium Chloride Dihydrate by wt. of cement	0.84	1.13	0.03	1.84	0.03	0.03	0.02	0.93

PORTLAND CEMENT ASSOCIATION

Old Orchard Road, Skokie, Illinois 60076 / Area Code 312 / 966-6200

AMMANN & WHITNEY

AUG 27 1976

Research and Development
Construction Technology Laboratories

August 20, 1976

Dr. Fred Chang
Ammann & Whitney
Two World Trade Center
New York, New York 10047

①
②
Hog
See All

Dr. Chang:

Attached are two reports giving results of chloride analysis of concrete cores from the Cape Cod Bridges.

The report dated July 30, 1976 by M. F. Pistilli confirms previous data that appeared to be suspect in our report of June 30, 1976. These second samples were taken about 1 in. above or below the first samples so the reported values are about as would be expected.

In subsequent conversation you requested chloride determination on all other cores available for such tests. The report dated August 6, 1976 by J. R. Polky gives results of chloride analysis on slices from the upper and lower portions of the remaining eight cores. As indicated above, most of these samples were taken about an inch from the top and bottom surfaces, because some of the surface slices were used for other tests.

With respect to consideration of corrosion, the bottom portions of Cores B-3 and B-5 with 3.3 and 7.3 lbs. chloride/yd.³, respectively, have more than the recognized limit of 1 to 1.3 lbs./yd.³. Amounts of chloride in all other cores are considerably below this threshold level.

We do not have any suggestions for further tests, but if you have any questions or if we can be of further service, please call.

Sincerely,

J. J. Shideler
J. J. Shideler, Director
Administrative and Technical Services

JJS/jd
Attach.
CT-0230

Copy to- W. E. Kunze M. F. Pistilli
E. Hognestad J. R. Polky
L. M. Meyer



July 30, 1976

J. J. Shideler

C e n t e r

Re: Second determination of chloride content in Core No. S-5 and Core No. S-6. The determinations were made on specimens 1 inch above the previous determinations of the bottom portion.

	<u>S-5</u>	<u>S-6</u>
	<u>Lightweight Concrete</u> <u>1 inch above the bottom</u>	<u>Normal Weight Concrete</u> <u>1 inch above the bottom</u>
% chloride by weight of dry concrete	.002%	0.04%
Lbs. of chloride (Cl ⁻) pcy	0.06	1.46
Chloride as % calcium chloride dihydrate by weight of cement	0.02%	0.53%

M. F. PISTILLI
Research Chemist
Technical Services Section

CT-0230

jd

ANALYTICAL REPORT

Anal. Lab. No.

Date 8-6-76

Your Lot No.

Report No. CT-0230

Sample: 8 concrete cores from bridge decks

Submitted by:

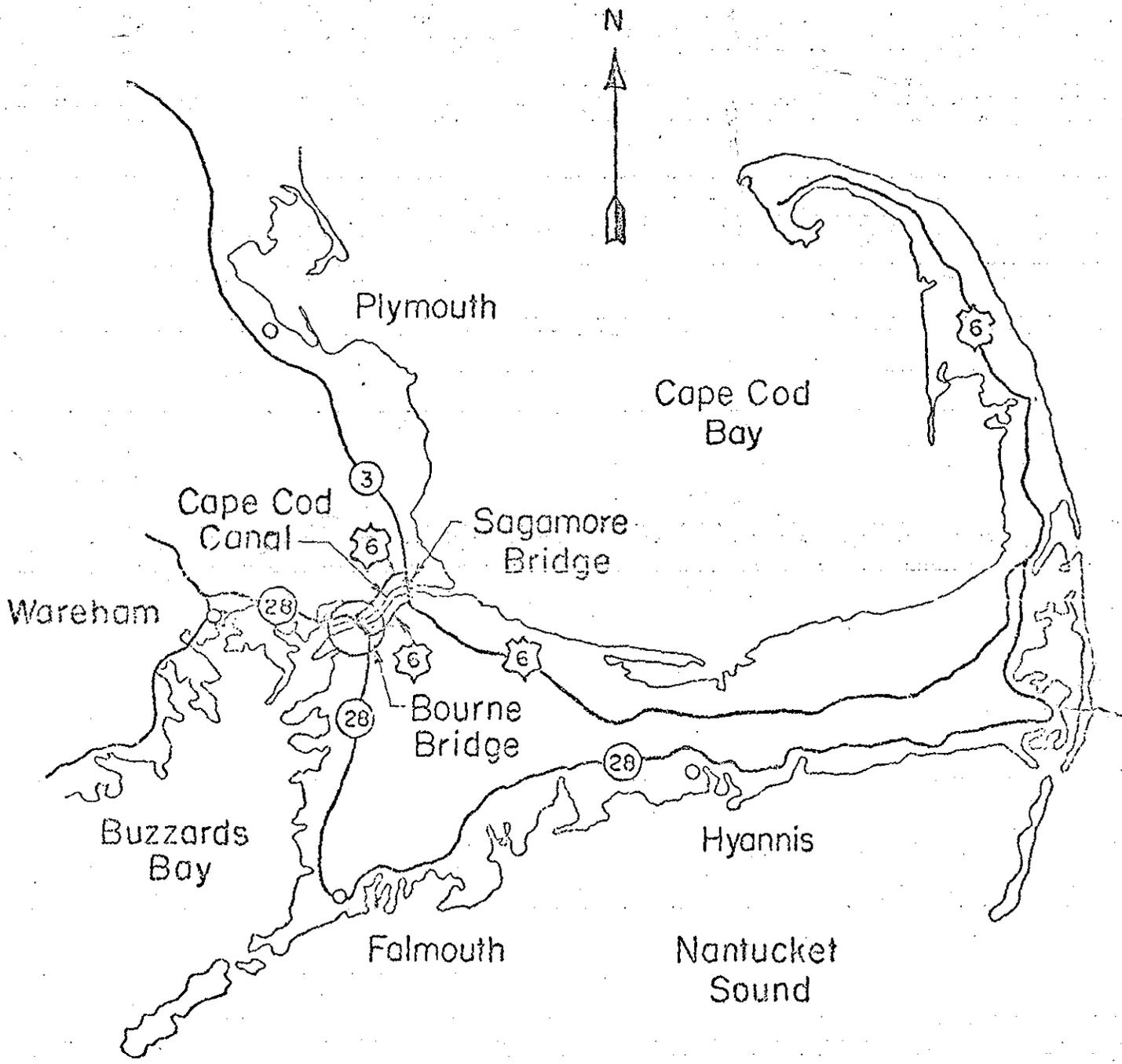
Analysis Desired: chloride from top and bottom cuts

Core	Weight % Chloride		Pounds Chloride/yd. ³ Concrete*	
	Top	Bottom	Top	Bottom
B-2	<.0018	<.0018	<.07	<.07
B-3	<.0018	0.0831	<.07	3.32
B-5	0.0062	0.183	0.25	7.32
B-6	<.0018	0.0094	<.07	0.38
S-1	0.0018	<.0018	0.07	<.07
S-2	<.0018	<.0018	<.07	<.07
S-3	<.0018	0.0160	<.07	0.64
S-4	<.0018	0.0079	<.07	0.32

*Assumed 4000 pounds concrete/yd.³.

John R. Polky
John R. Polky
8-6-76

FIG. 1



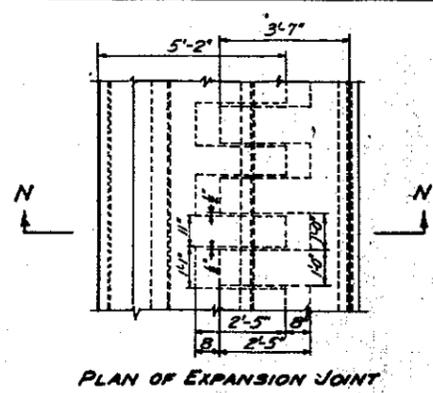
Scale: 1" = 7.1 Miles

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
CAPE COD CANAL, MASSACHUSETTS

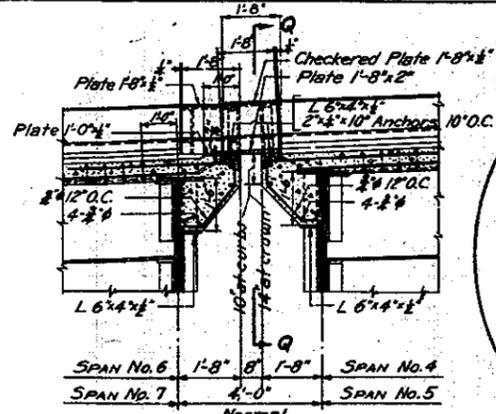
BOURNE HIGHWAY BRIDGE
1976 CONDITION REPORT

LOCATION MAP

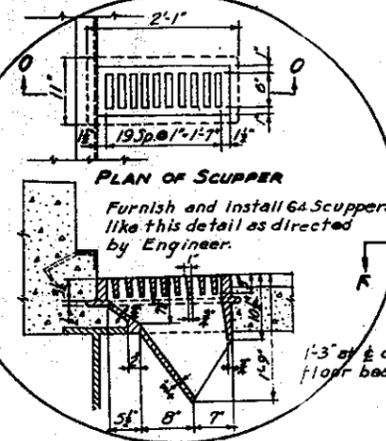
AMMANN & WHITNEY, N.Y., N.Y.



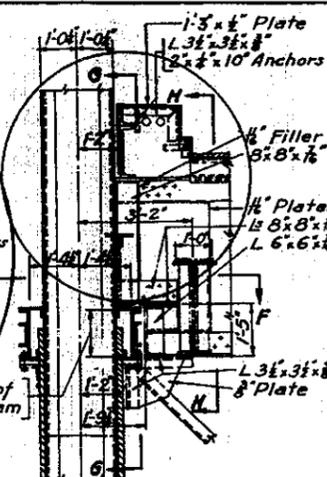
PLAN OF EXPANSION JOINT



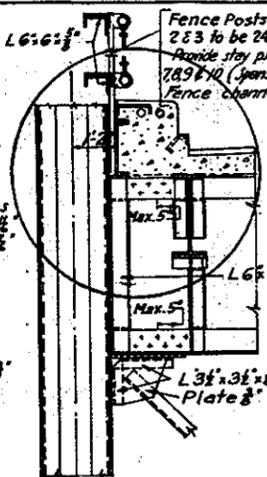
EXPANSION JOINT DETAILS
(BOURNE BRIDGE ONLY)



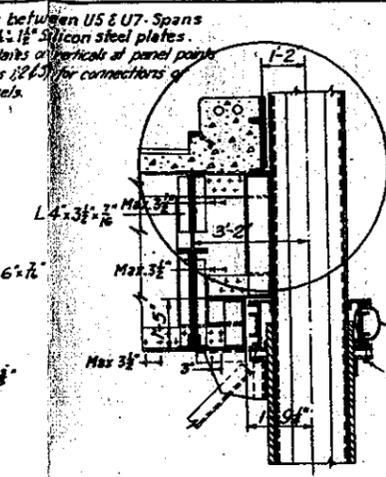
PLAN OF SCUPPER
Furnish and install 6 scuppers like this detail as directed by Engineer.



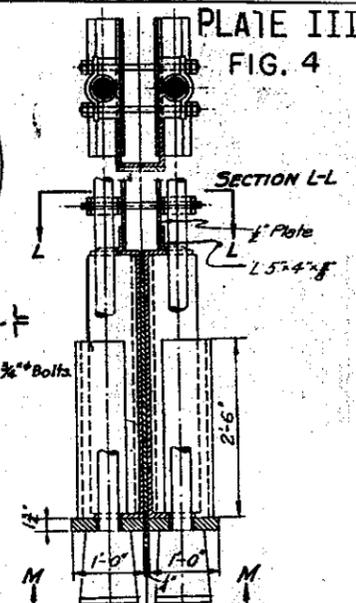
SECTION O-O



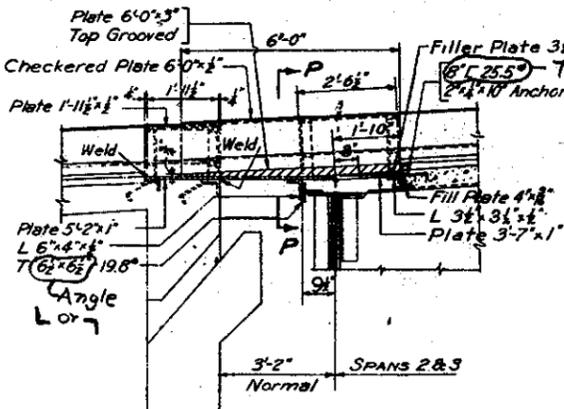
SECTION SPANS 2 & 3



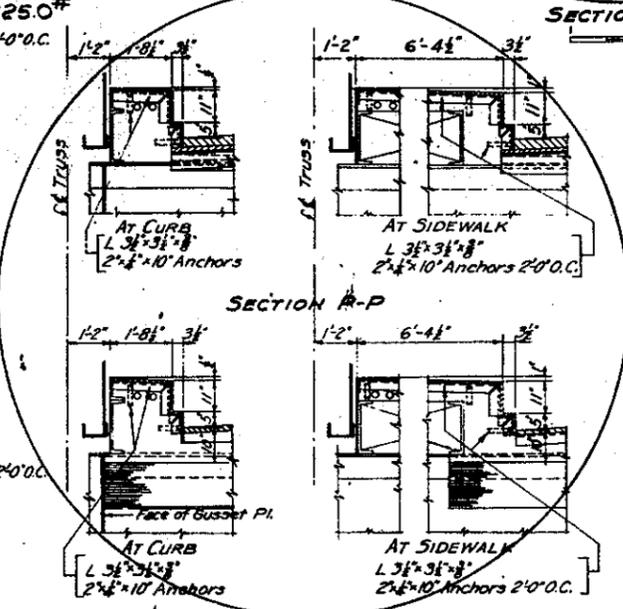
SECTION J-J



SECTION L-L

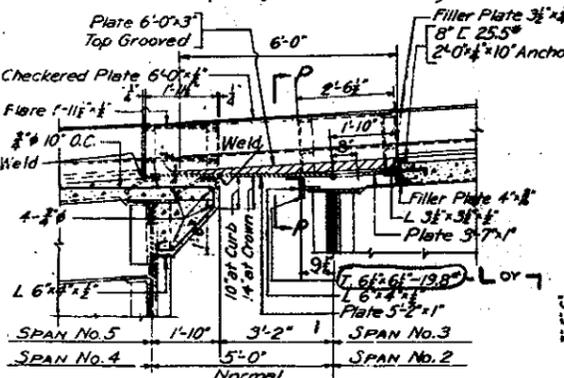


SECTION N-N
(At Sagamore Abutments)

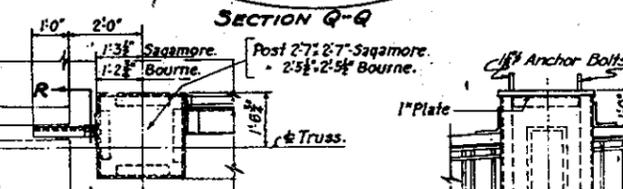


SECTION R-P

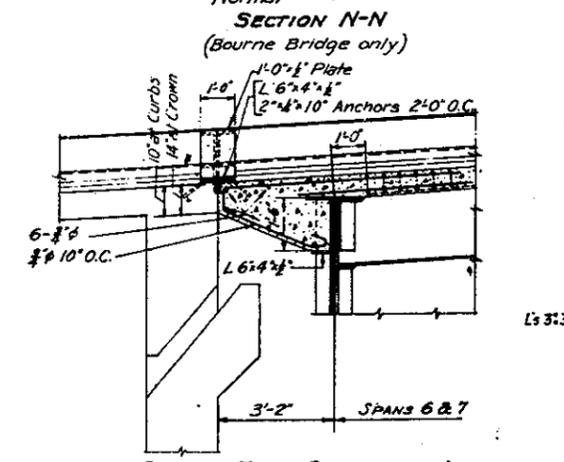
SECTION Q-Q



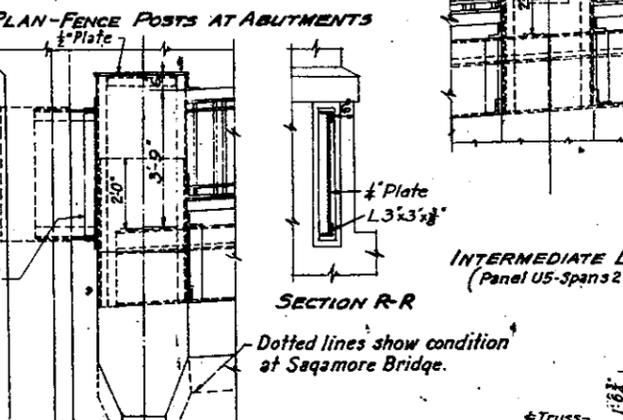
SECTION N-N
(Bourne Bridge only)



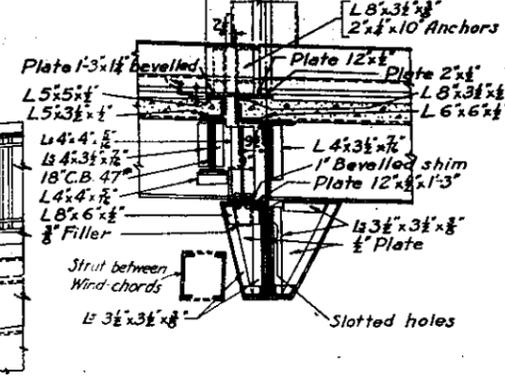
SECTION R-R



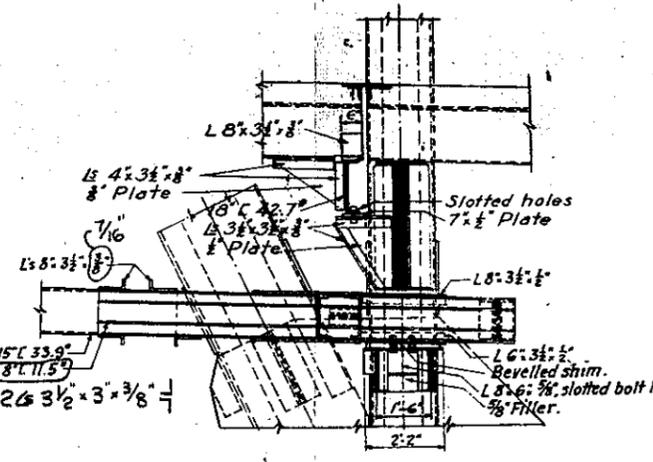
SECTION THRU DEFLECTION JOINTS
(At Bourne Abutments)



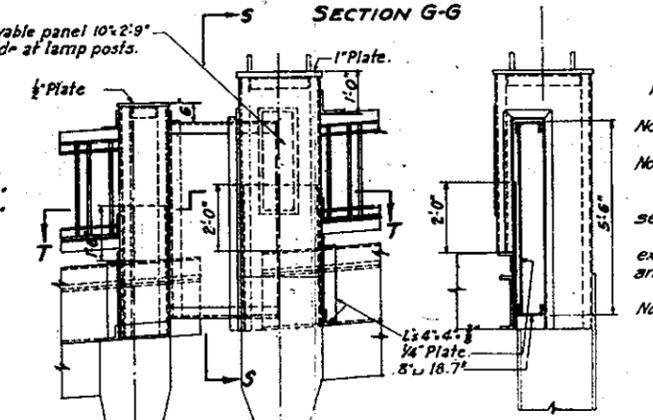
DETAIL OF FENCE POST AT ABUTMENTS



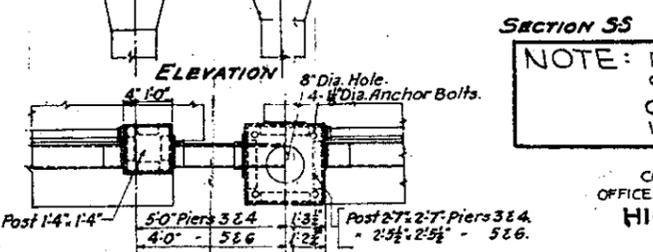
INTERMEDIATE LAMP POST BASE
(Panel US Spans 2 & 3)



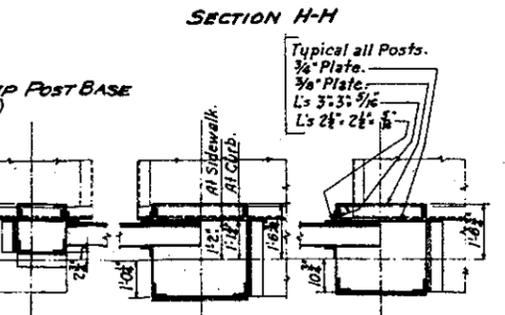
SECTION G-G



SECTION S-S

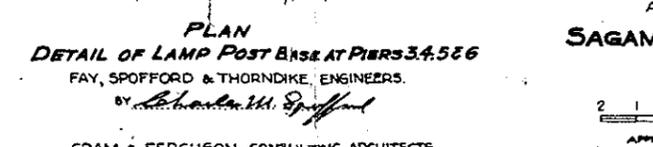


ELEVATION



SECTION H-H

SECTION T-T



PLAN
DETAIL OF LAMP POST BASE AT PIERS 34, 566

FAY, SPOFFORD & THORNDIKE, ENGINEERS.
BY *W. H. Spofford*

CRAM & FERGUSON, CONSULTING ARCHITECTS.
BY *W. H. Spofford*

Notes:-
For Spans 1, 2 and 3 see sheets No. 6 to 11 inclusive.
For Spans 4, 5, 6 and 7 see sheets No. 12 to 15 inclusive.
For Legend see sheet No. 4.
For Section F-F, J-J and K-K, see sheet No. 10.
For location of deflection and expansion joints see sheets No. 2 and 3.
For Elevation of Lamp post see Sheet No. 10

NOTE: FOR CIRCLED AREAS, SEE 1961 RENOVATIONS, CORPS. OF ENGR. DRAWING 1137, E-G-1, SHEETS 3 & 4.

WAR DEPARTMENT
CORPS OF ENGINEERS U. S. ARMY
OFFICE OF DISTRICT ENGINEER, BOSTON, MASS.
HIGHWAY BRIDGES
OVER CAPE COD CANAL
AT BOURNE, MASSACHUSETTS

SAGAMORE AND BOURNE BRIDGES
DECK DETAILS

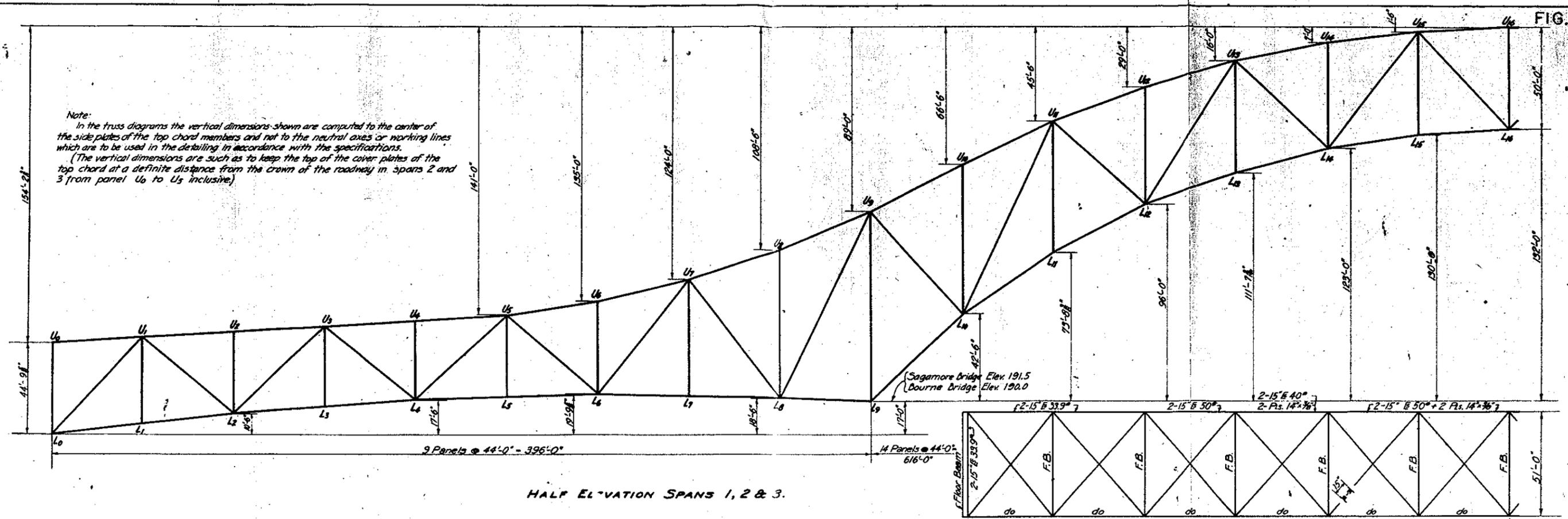
SCALE EXCEPT AS SHOWN
2 1 0 2 4 0 8 FT

APPROVED *W. H. Spofford*
LT. COL. CORPS OF ENGINEERS
DECEMBER 1933

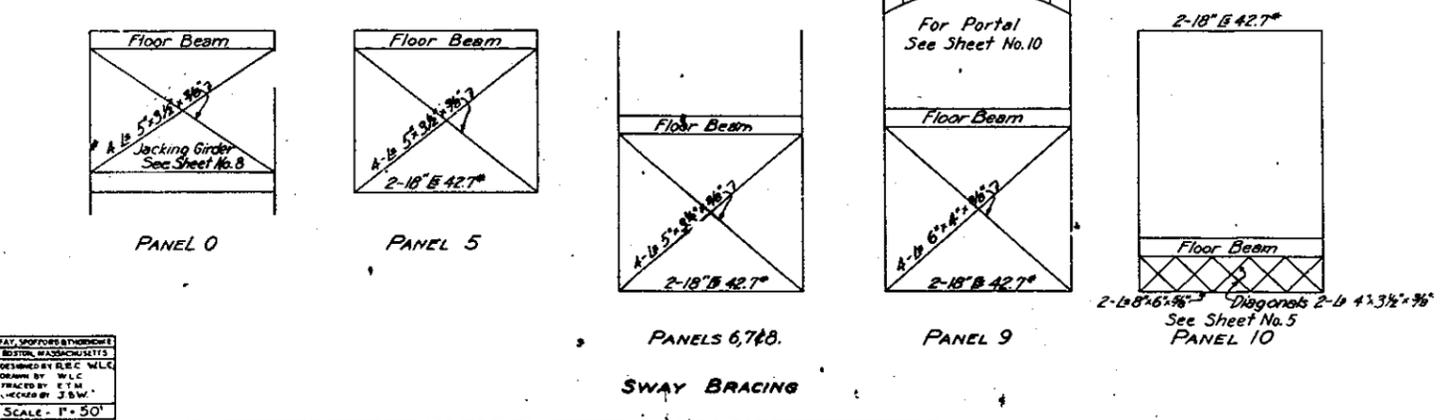
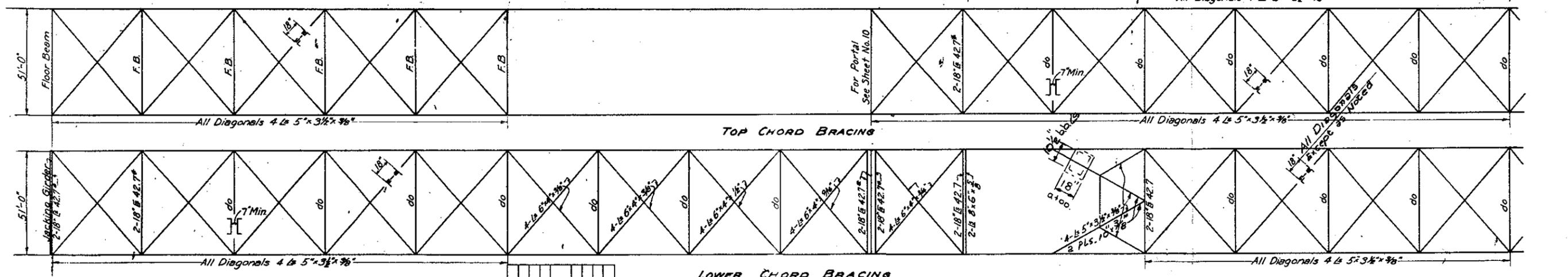
SUPERSTRUCTURE CONTRACT PLANS SHEET No. 5 OF 17

SCALE: 1/8" = 1'-0"

Note:
 In the truss diagrams the vertical dimensions shown are computed to the center of the side plates of the top chord members and not to the neutral axes or working lines which are to be used in the detailing in accordance with the specifications.
 (The vertical dimensions are such as to keep the top of the cover plates of the top chord at a definite distance from the crown of the roadway in spans 2 and 3 from panel U₀ to U₅ inclusive.)



HALF ELEVATION SPANS 1, 2 & 3.



Notes:
 For General Elevations - see Sheets No. 2 and 3
 For Deck Sections and Details see Sheets No. 4 and 5
 For Stress Sheet see Sheet No. 7
 For Truss Details (Spans 1, 2 and 3) see Sheets No. 8 to 11 inclusive.
 For Truss Bearings (Spans 1, 2 and 3) see Sheet No. 16
 For Detail of Jacking Girder see Sheet No. 8
 All elevation are referred to a datum 100 feet below Mean Sea Level

WAR DEPARTMENT
 CORPS OF ENGINEERS U. S. ARMY
 OFFICE OF DISTRICT ENGINEER, BOSTON, MASS.
HIGHWAY BRIDGES
 OVER CAPE COD CANAL
 AT BOURNE, MASSACHUSETTS
SAGAMORE AND BOURNE BRIDGES
TRUSSES AND BRACING - SPANS 1, 2 AND 3
 SCALE
 20 10 0 20 40 60 80 FT.
 APPROVED
 LT. COL. CORPS OF ENGINEERS
 DECEMBER 1933
 SUPERSTRUCTURE CONTRACT PLANS SHEET No. 6 OF 17

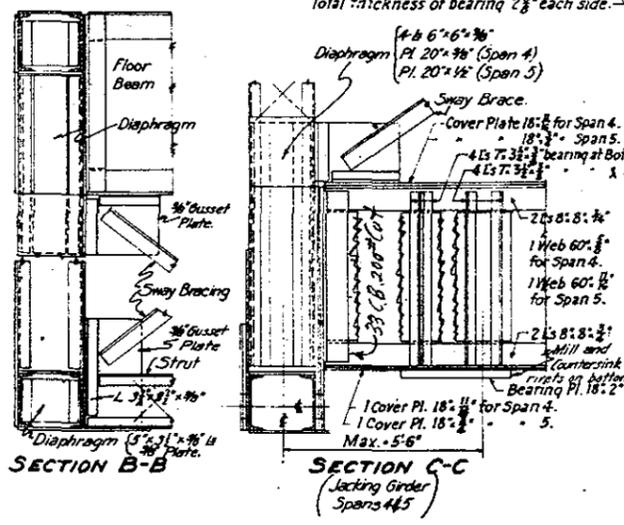
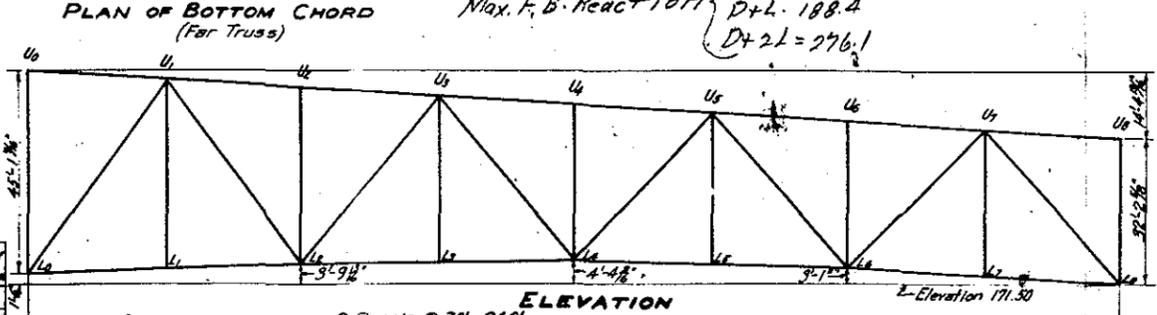
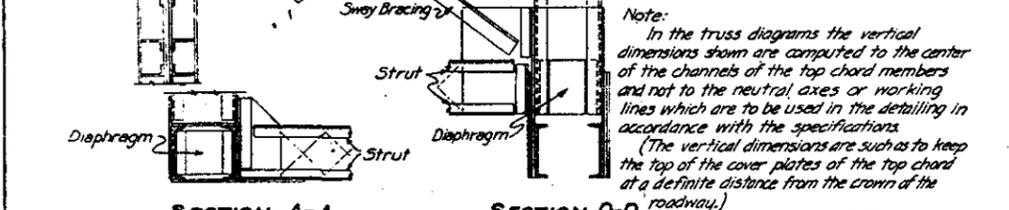
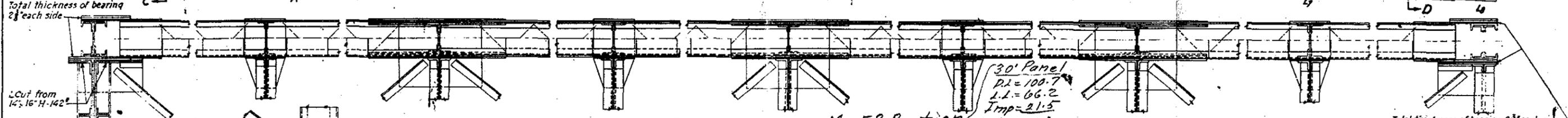
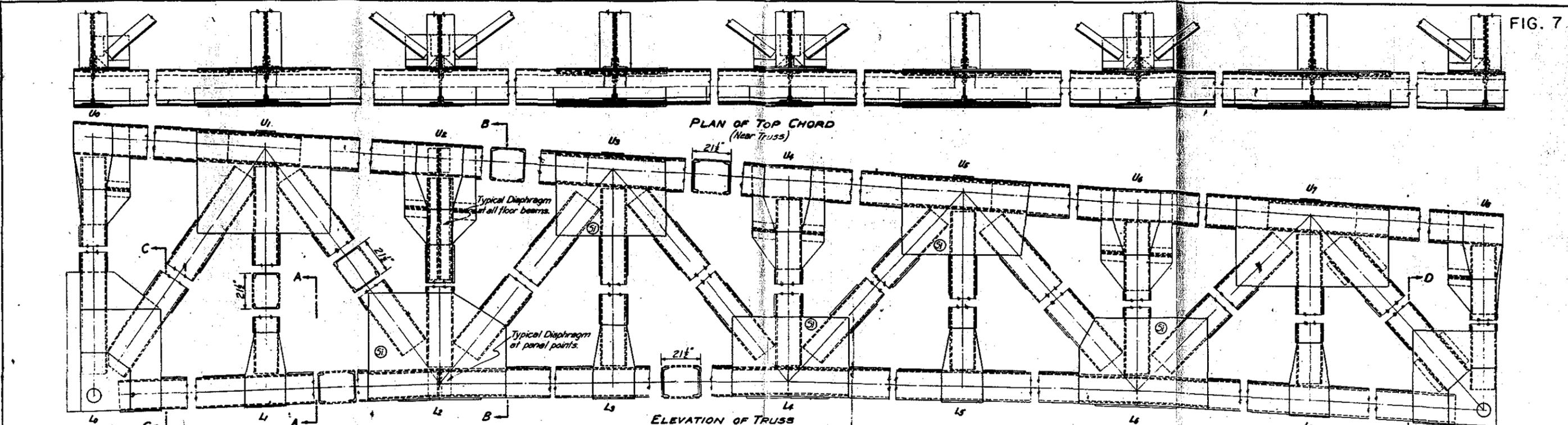
FAY, SPOFFORD & THORNDIKE, ENGINEERS
 BY *Charles W. Spofford*

SCALE - 1" = 50'

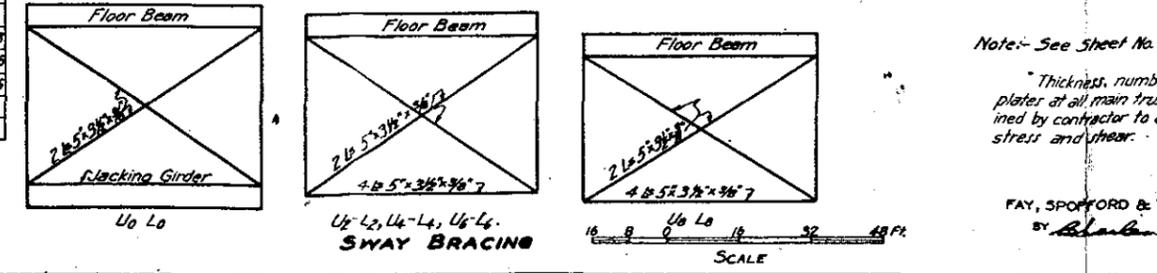
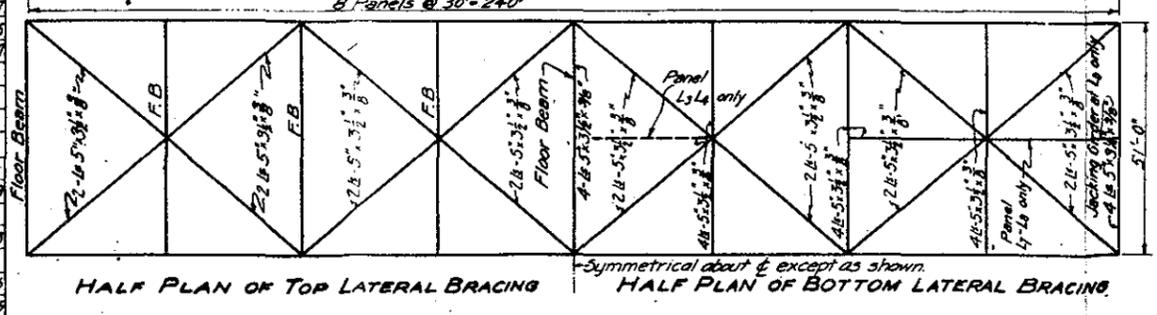
MEMBERS IN SPANS 2 AND 3

BAR	DEAD STRESS	LIVE STRESS			% I	IMR	LIVE & IMP	ERECTION DEAD + TRAV		WIND		D-L-I	D-2(L+I)-W	TOTAL ERECT		DESIGN STRESS BASED ON 32,400	LENGTH	MAKE-UP OF SECTIONS	ASSEMBLY	RADIUS OF GYRATION	AREA
		UNIF.	CONC.	TOTAL				A	B	COMP. STRUCT.	ERECTION			A	B						
LoLi	+411	+193	+50	+223	6	+13	+236	+1	+688	+152	+232	+216	+647	+963	+157	+808	210	4 Lb 6"x4"x1/2" 2 Webs 30"x1/2"	(S)	()	6.44 N. 381
LiLz	+411	+193	+30	+223	7	+13	+236	+1	+688	+152	+232	+216	+647	+1022	+234	+904	+1022	Same as LoLi	(S)	do	6.44 N. 381
LzLs	+646	+442	+64	+505	6	+28	+534	-312	+1512	+375	+631	+551	+1180	+2120	+319	+2063	+2120	4 Lb 6"x4"x1/2" 4 Webs 30"x1/2"	(S)	()	6.812 N. 66
LaLa	+646	+442	+64	+505	6	+28	+534	-312	+1512	+375	+631	+551	+1180	+2175	+379	+2157	+2175	Same as LzLs	(S)	do	6.812 N. 66
LaLs	-129	+417	+56	+473	6	+26	+499	+1240	+620	+1028	+892	+614	+1882	+2152	+1982	+2106	44.02	4 Lb 6"x4"x1/2" 4 Webs 30"x1/2"	(S)	()	6.94 N. 76
LaLs	-129	+417	+56	+473	6	+26	+499	+1240	+620	+1028	+892	+614	+1882	+2119	+1986	+2104	44.02	Same as LaLs	(S)	do	6.94 N. 76
LaLz	-1340	+132	+22	+154	7	+11	+165	+165	+405	+531	+506	+615	+1776	+2705	+469	+427	44.00	4 Lb 6"x4"x1/2" 4 Webs 30"x1/2"	(S)	()	6.96 N. 112
LaLz	-1340	+132	+22	+154	7	+11	+165	+165	+405	+531	+506	+615	+1776	+2705	+469	+427	44.00	4 Lb 6"x4"x1/2" 4 Webs 30"x1/2"	(S)	()	6.96 N. 112
LaLz	-2070	+51	+6	+56	10	+5	+62	-1781	+305	+55	+28	-255	-3475	-1908	-1177	-3475	44.03	4 Lb 8"x6"x1/2" 4 Webs 30"x1/2"	(S)	()	6.102 N. 1328
LaLz	-2070	+51	+6	+56	10	+5	+62	-1781	+305	+55	+28	-255	-3475	-1908	-1177	-3475	44.03	4 Lb 8"x6"x1/2" 4 Webs 30"x1/2"	(S)	()	6.102 N. 1328
LaLz	0	0	0	0	0	0	0	0	-45	-69	-49	0	-45	-69	-49	-69	44.08	1-C.P. 23" 4 Lb 6"x4"x1/2" 2 Webs 30"x1/2"	(S)	()	6.114 N. 459
LaLz	-651	+147	+11	+158	7	+10	+168	+96	-1225	-115	-426	-272	-1075	-1644	-330	-1497	44.08	1-C.P. 23" 4 Lb 6"x4"x1/2" 2 Webs 30"x1/2"	(S)	()	6.714 N. 593
LaLz	-651	+147	+11	+158	7	+10	+168	+96	-1225	-115	-426	-272	-1075	-1644	-330	-1497	44.08	Same as LaLz	(S)	do	6.714 N. 593
LaLz	-391	+308	+23	+331	7	+22	+352	+654	-1550	-284	-898	-591	-1000	-2031	-244	-2031	44.08	1-C.P. 23" 4 Lb 6"x4"x1/2" 2 Webs 30"x1/2"	(S)	()	6.109 N. 629
LaLz	-391	+308	+23	+331	7	+22	+352	+654	-1550	-284	-898	-591	-1000	-2031	-244	-2031	44.08	Same as LaLz	(S)	do	6.109 N. 629
LaLz	+794	+398	+29	+427	7	+28	+455	+1479	-653	-336	-1000	-653	-1249	-2127	-2488	-1308	44.81	1-C.P. 22" 4 Lb 6"x4"x1/2" 4 Webs 30"x1/2"	(S)	()	6.108 N. 814
LaLz	+794	+398	+29	+427	7	+28	+455	+1479	-653	-336	-1000	-653	-1249	-2127	-2488	-1308	44.81	Same as LaLz	(S)	do	6.108 N. 814
LaLz	+811	+407	+30	+437	7	+28	+464	+1511	-668	-340	-1077	-664	-1275	-2200	-2537	-1332	45.35	Same as LaLz	(S)	do	6.385 N. 814
LaLz	+811	+407	+30	+437	7	+28	+464	+1511	-668	-340	-1077	-664	-1275	-2200	-2537	-1332	45.35	Same as LaLz	(S)	do	6.385 N. 814
LaLz	+842	+456	+25	+481	5	+22	+503	+1856	+639	+179	+663	+575	+2345	+3028	+2519	+1014	46.65	1-C.P. 21" 4 Lb 6"x4"x1/2" 4 Webs 30"x1/2"	(S)	()	6.1232 N. 101.6
LaLz	+842	+456	+25	+481	5	+22	+503	+1856	+639	+179	+663	+575	+2345	+3028	+2519	+1014	46.65	Same as LaLz	(S)	do	6.1232 N. 101.6
LaLz	+1901	+471	+26	+497	9	+8	+520	+1915	+659	+184	+683	+387	+2421	+3125	+2598	+1046	48.15	Same as LaLz	(S)	do	6.1232 N. 101.6
LaLz	+1901	+471	+26	+497	9	+8	+520	+1915	+659	+184	+683	+387	+2421	+3125	+2598	+1046	48.15	Same as LaLz	(S)	do	6.1232 N. 101.6
LaLz	-601	+101	+11	+112	7	+17	+119	-2	-1003	-117	-225	-174	-964	-1443	-228	-1177	64.70	4 Lb 6"x4"x1/2" 2 Webs 30"x1/2"	(S)	()	6.299 N. 545
LaLz	-601	+101	+11	+112	7	+17	+119	-2	-1003	-117	-225	-174	-964	-1443	-228	-1177	64.70	Same as LaLz	(S)	do	6.299 N. 545
LaLz	+314	+212	+53	+264	6	+16	+280	+704	+117	+226	+174	+594	+1009	+99	+878	+1009	57.45	4 Lb 6"x4"x1/2" 2 Webs 30"x1/2"	(S)	()	6.44 N. 361
LaLz	+314	+212	+53	+264	6	+16	+280	+704	+117	+226	+174	+594	+1009	+99	+878	+1009	57.45	Same as LaLz	(S)	do	6.44 N. 361
LaLz	+8	+144	+22	+166	6	+10	+176	+298	-381	+119	+231	+167	+276	+858	+529	+658	60.98	4 Lb 6"x4"x1/2" 2 Webs 24"x1/2"	(S)	()	6.83 N. 301
LaLz	+8	+144	+22	+166	6	+10	+176	+298	-381	+119	+231	+167	+276	+858	+529	+658	60.98	Same as LaLz	(S)	do	6.83 N. 301
LaLz	-326	+111	+32	+143	7	+10	+153	+53	+108	+221	+162	+225	+215	+225	+215	+225	56.36	4 Lb 6"x4"x1/2" 2 Webs 24"x1/2"	(S)	()	6.85 N. 29.6
LaLz	-326	+111	+32	+143	7	+10	+153	+53	+108	+221	+162	+225	+215	+225	+215	+225	56.36	Same as LaLz	(S)	do	6.85 N. 29.6
LaLz	+705	+223	+49	+272	5	+14	+286	+572	+418	+69	+159	+104	+991	+1346	+731	+522	58.80	4 Lb 6"x4"x1/2" 2 Webs 27"x1/2"	(S)	()	6.328 N. 42.1
LaLz	+705	+223	+49	+272	5	+14	+286	+572	+418	+69	+159	+104	+991	+1346	+731	+522	58.80	Same as LaLz	(S)	do	6.328 N. 42.1
LaLz	-872	+16	+5	+21	8	+22	+22	+312	+1138	+154	+313	+226	+1252	+1771	+825	+1364	70.59	4 Lb 6"x4"x1/2" 4 Webs 30"x1/2"	(S)	()	6.744 N. 60.7
LaLz	-872	+16	+5	+21	8	+22	+22	+312	+1138	+154	+313	+226	+1252	+1771	+825	+1364	70.59	Same as LaLz	(S)	do	6.744 N. 60.7
LaLz	-648	+67	+7	+74	7	+5	+79	+163	+289	+224	+224	+224	+142	+129	+142	+129	71.61	4 Lb 6"x4"x1/2" 4 Webs 30"x1/2"	(S)	()	6.79 N. 64.2
LaLz	-648	+67	+7	+74	7	+5	+79	+163	+289	+224	+224	+224	+142	+129	+142	+129	71.61	Same as LaLz	(S)	do	6.79 N. 64.2
LaLz	+619	+258	+38	+315	6	+18	+333	+69	+991	+186	+338	+260	+952	+1470	+1251	+1470	101.53	4 Lb 6"x4"x1/2" 2 Webs 30"x1/2"	(S)	()	6.594 N. 48.4
LaLz	+619	+258	+38	+315	6	+18	+333	+69	+991	+186	+338	+260	+952	+1470	+1251	+1470	101.53	Same as LaLz	(S)	do	6.594 N. 48.4
LaLz	-85	0	0	0	0	0	0	0	+16	+17	+2	-1	+16	+18	+16	+17	42.19	2-15" E 33.9"	(S)	()	6.198 N. 15.5
LaLz	-85	0	0	0	0	0	0	0	+16	+17	+2	-1	+16	+18	+16	+17	42.19	Same as LaLz	(S)	do	6.198 N. 15.5
LaLz	-171	0	0	0	0	0	0	0	+30	+32	-2	-5	+30	+30	+32	+40	38.72	2-15" E 33.9"	(S)	()	6.198 N. 15.5
LaLz	-171	0	0	0	0	0	0	0	+30	+32	-2	-5	+30	+30	+32	+40	38.72	Same as LaLz	(S)	do	6.198 N. 15.5
LaLz	-175	0	0	0	0	0	0	0	+2	-1	-1	-1	-304	-432	-165	-182	57.86	2-15" E 40"	(S)	()	6.54 N. 11.5
LaLz	-175	0	0	0	0	0	0	0	+2	-1	-1	-1	-304	-432	-165	-182	57.86	Same as LaLz	(S)	do	6.54 N. 11.5
LaLz	+32	0	0	0	0	0	0	0	+32	+32	-29	-29	+32	+32	+32	+43	39.35	2-15" E 40"	(S)	()	6.54 N. 12.5
LaLz	+32	0	0	0	0	0	0	0	+32	+32	-29	-29	+32	+32	+32	+43	39.35	Same as LaLz	(S)	do	6.54 N. 12.5
LaLz	+63	+45	+5	+50	7	+3	+53	+138	+41	+85	+58	+169	+295	+223	+223	+223	44.20	2 Webs 24"x1/2" 4 Lb 6"x4"x1/2"	(S)	()	6.86 N. 342
LaLz	+63	+45	+5	+50	7	+3	+53	+138	+41	+85	+58	+169	+295	+223	+223	+223	44.20	Same as LaLz	(S)	do	6.86 N. 342
LaLz	+180	+55	+50	+104	24	+25	+129	+66	+184	+2	+2	+309	+437	+68	+186	+186	55.85	4 Webs 24"x1/2" 4 Lb 6"x4"x1/2"	(S)	()	6.80 N. 53.8
LaLz	+180	+55	+50	+104	24	+25	+129	+66	+184	+2	+2	+309	+437	+68	+186	+186	55.85	Same as LaLz	(S)	do	6.80 N. 53.8
LaLz	+124	+39	+61	+112	5	+2	+44	+122	+22	+16	+58	+29	+185	+312	+180	+51	72.00	4 Lb 6"x4"x1/2" 2 Webs 24"x1/2"	(S)	()	6.84 N. 30.1
LaLz	+124	+39	+61	+112	5	+2	+44	+122	+22	+16	+58	+29	+185	+312	+180	+51	72.00	Same as LaLz	(S)	do	6.84 N. 30.1
LaLz	+1305	+1	+1	+2	8	0	+2	+574	+286	+219	-1814	-2542	-708	-1465	-2542	-2542	93.00	4 Lb 6"x4"x1/2" 2 Webs 36"x1/2"	(S)	()	6.114 N. 195.8
LaLz	+1305	+1	+1	+2	8	0	+2	+574	+286	+219	-1814	-2542	-708	-1465	-2542	-2542	93.00	Same as LaLz	(S)	do	6.114 N. 195.8

MEMBERS IN



MEMBER	STRESSES IN KIPS				MAKE-UP OF SECTION	AREA	ASSEMBLY	RANGE OF GYRATION
	DEAD	LIVE + IMPACT	WIND	DESIGN STRESS				
U0 U1			-56	-56	2-18" B @ 42.7° Cover Pl. 21" x 9/16"	56.76		
U1 U2	-600	-239	-93	-1171	2-18" B @ 58° Cover Pl. 21" x 9/16"	42.76		1/2 6.7
U2 U3	-836	-358	-93	-1665	2-18" B @ 58° Cover Pl. 21" x 9/16" 2 Pl. 17 1/2" x 5/8"	65.76		1/2 6.5
U3 U4	686	-288	-93	-1355	2-18" B @ 42.7° Cover Pl. 21" x 9/16" 2 Pl. 17 1/2" x 5/8"	50.26		1/2 6.7
U4 U5			-56	-56	2-18" B @ 42.7° Cover Pl. 21" x 9/16"	56.76		
U5 U6	+310	+150		+587	2-18" B @ 42.7°	24.96	22.26	
L2 L3	+758	+317	+16	+1432	2-18" B @ 58° 2-Pl. 18" x 3/8"	56.46	45.98	1/2 5.9
L3 L4	+814	+343	+16	+1542	2-18" B @ 58° 2-Pl. 18" x 3/8"	60.96	49.76	1/2 6.3
L4 L5	+417	+175		+790	2-18" B @ 51.9°	30.36	26.76	1/2 6.3
L5 U6	-570	-247		-1090	2-18" B @ 58° 4-Pl. 18" x 3/8"	65.46		1/2 6.5
U1 L2	+448	+220		+891	2-18" B @ 58°	53.96	29.76	1/2 6.3
L2 U3	-289	-171		-631	2-18" B @ 58°	53.96		1/2 6.3
U3 L4	+157	+137		+491	2-15" B @ 35°	20.46	16.08	1/2 5.8
L4 U5	+60	+109		+382	2-15" B @ 33.9°	19.80	17.40	1/2 5.8
U5 L6	-194	-156		-506	2-18" B @ 42.7°	24.96		1/2 6.6
L6 U7	+426	+198		+833	2-18" B @ 58°	33.96	27.26	1/2 6.3
U7 L8	-620	-259		-1172	2-18" B @ 58° 4-Pl. 18" x 3/8"	60.96		1/2 6.5
U6 L7	-63	-112	-60	-347	2-15" B @ 33.9°	19.80		1/2 5.8
U6 L7	-1256	-112	-13	-362	2-15" B @ 33.9°	19.80		1/2 5.8
Rc	520	227	60					
Rc Gross	516	227	44					



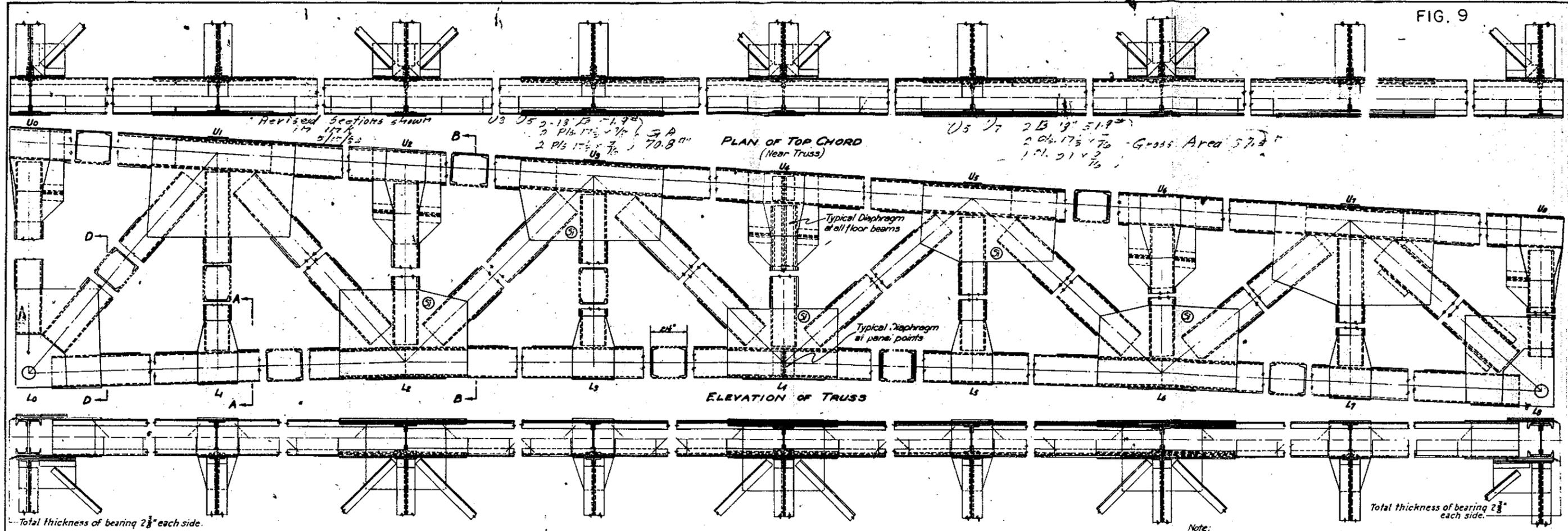
Notes:
 The stress in the column marked "Design Stress" equals for each member, the largest of the following two values: $\frac{1}{4}(D+L+I)$; $D+2(L+I)+W$. See Specifications.
 Material listed under "Make-up of Section" and marked (S) to be of silicon steel. Main truss gusset plates to be of carbon steel unless otherwise designated on the plans. All other material including rivets to be of carbon steel.

Note: See Sheet No. 14 for additional notes.

* Thickness, number and size of gusset plates at all main truss joints to be determined by contractor to carry flexure, direct stress and shear.

WAR DEPARTMENT
 CORPS OF ENGINEERS U.S. ARMY
 OFFICE OF DISTRICT ENGINEER BOSTON, MASS.
HIGHWAY BRIDGES
 OVER CAPE COD CANAL
 AT BOURNE, MASSACHUSETTS
BOURNE BRIDGE
TRUSSES AND BRACING-SPAN 4
 SCALE EXCEPT AS SHOWN
 2 1 0 2 4 6 8 FT.
 APPROVED: *[Signature]*
 LT. COL. CORPS OF ENGINEERS
 DECEMBER 1933
 SUPERSTRUCTURE CONTRACT PLANS SHEET NO. 15 OF 17

FAY, SPOFFORD & THORNDIKE, ENGINEERS
 51 BROADWAY, NEW YORK, N.Y.



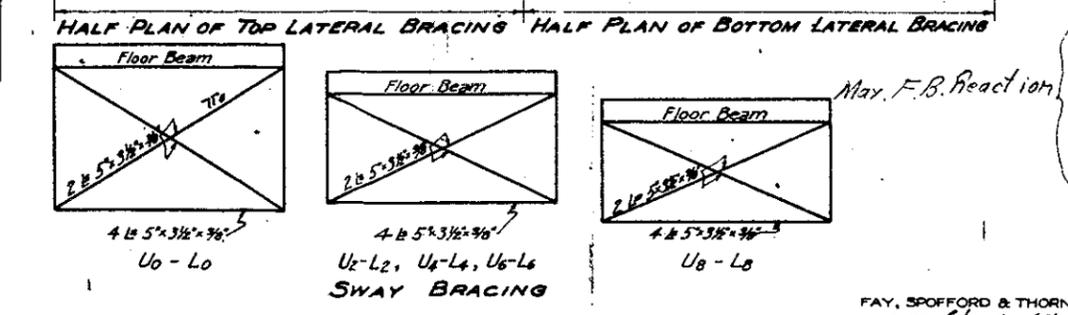
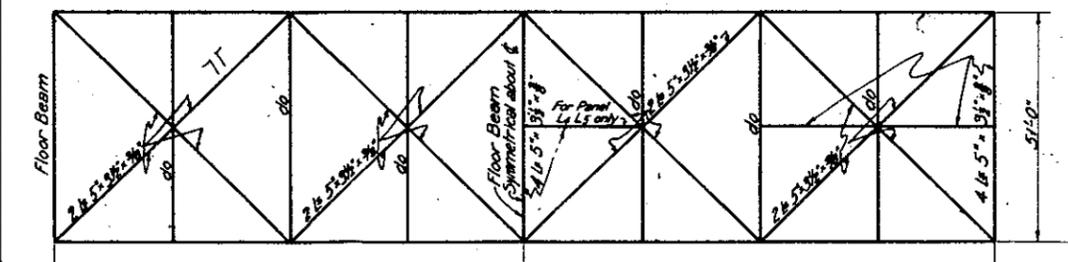
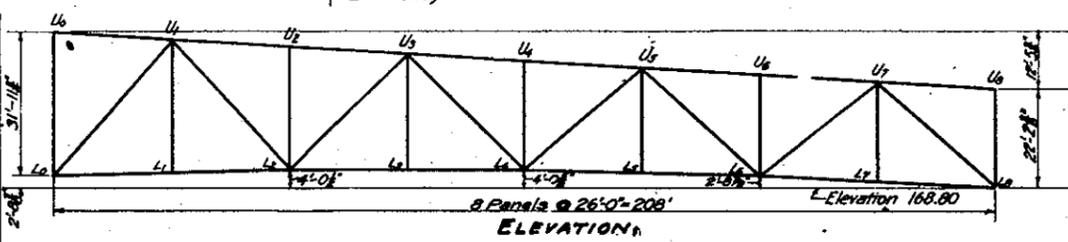
Total thickness of bearing $2\frac{1}{2}$ " each side.

Total thickness of bearing $2\frac{1}{2}$ " each side.

Note:
In the truss diagrams the vertical dimensions shown are computed to the center of the channels of the top chord members and not to the neutral axes or working lines which are to be used in the detailing in accordance with the specifications. (The vertical dimensions are such as to keep the top of the cover plates of the top chord at a definite distance from the crown of the roadway.)

MEMBER	STRESSES IN KIPS				MAKE-UP OF SECTION	AREA		ASSEMBLY	RADIUS OF CURVATURE
	DEAD	LIVE + IMPACT	WIND	DESIGN STRESS		GROSS	NET		
U ₀ -U ₁			-48	-48	2-18" E @ 42.7° Cover R 2 1/2"	36.8			15-6.8
U ₁ -U ₂	-651	-269	-63	-1252	2-18" E @ 58° Cover R 2 1/2"	45.8			15-6.3
U ₂ -U ₃	-981	-401	-63	-1846	2-18" E @ 58° Cover R 2 1/2" 2 R 10" @ 15° 2 R 10" @ 15°	70.5			15-6.3
U ₃ -U ₄	-791	-326	-63	-1506	2-18" E @ 58° Cover R 2 1/2" 2 R 10" @ 15°	57.0			15-6.3
U ₄ -U ₅			-48	-48	2-18" E @ 42.7° Cover R 2 1/2"	36.8			15-6.8
L ₀ -L ₁	+348	+144		+657	2-18" E @ 42.7°	25.0	20.5		
L ₁ -L ₂	+859	+355	+13	+1620	2-18" E @ 58° 2 R 10" @ 15°	58.7	50.4		
L ₂ -L ₃	+951	+393	+13	+1790	2-18" E @ 58° 4 R 10" @ 15°	64.3	55.0		
L ₃ -L ₄	+462	+192		+873	2-18" E @ 58°	34.0	27.0		
L ₄ -L ₅	-536	-242		-1038	2-18" E @ 58° 2 R 10" @ 15°	50.8			15-5.7
L ₅ -L ₆	+455	+220		+901	2-18" E @ 42.7° 2 R 10" @ 15°	36.2	31.1		
U ₂ -L ₂	-294	-174		-482	2-18" E @ 45.8°	24.8			15-6.3
U ₃ -L ₃	+175	+139		+453	2-15" E @ 33.9°	19.8	16.6		
L ₂ -U ₂	+43	-85		-316	2-15" E @ 33.9°	19.8	16.6		
U ₅ -L ₅	-219	-154		-527	2-18" E @ 51.9°	30.4			15-6.4
L ₄ -U ₄	+424	+209		+845	2-18" E @ 58°	34.0	27.0		
U ₁ -L ₁	-626	-282		-1210	2-18" E @ 58° 2 R 10" @ 15°	52.0			15-5.9
L ₁ -U ₁	-49	-84	-37	-254	2-15" E @ 33.9° L ₁ -U ₁	19.8			
L ₂ -U ₂	-101	-84	-9	-278	2-15" E @ 33.9° L ₂ -U ₂ , L ₃ -U ₃ , L ₄ -U ₄ , L ₅ -U ₅	19.8			15-5.6
Gross	448	205	37						
Net	448	205	27						

Notes:
The stress in the column marked "Design Stress" equals for each member, the largest of the following two values: $\frac{1}{2}(D+L+I)$; $D+2(L+I)+W$; See Specifications.
Material listed under "Make-up of Section" and marked (S) to be of silicon steel. Main Truss gusset plates to be of carbon steel unless otherwise designated on the plans. All other material including rivets to be of carbon steel.



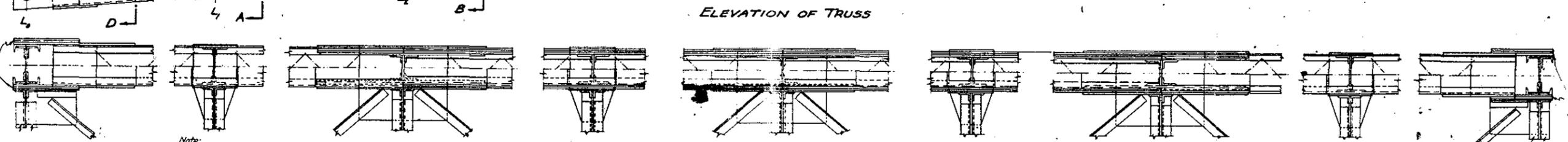
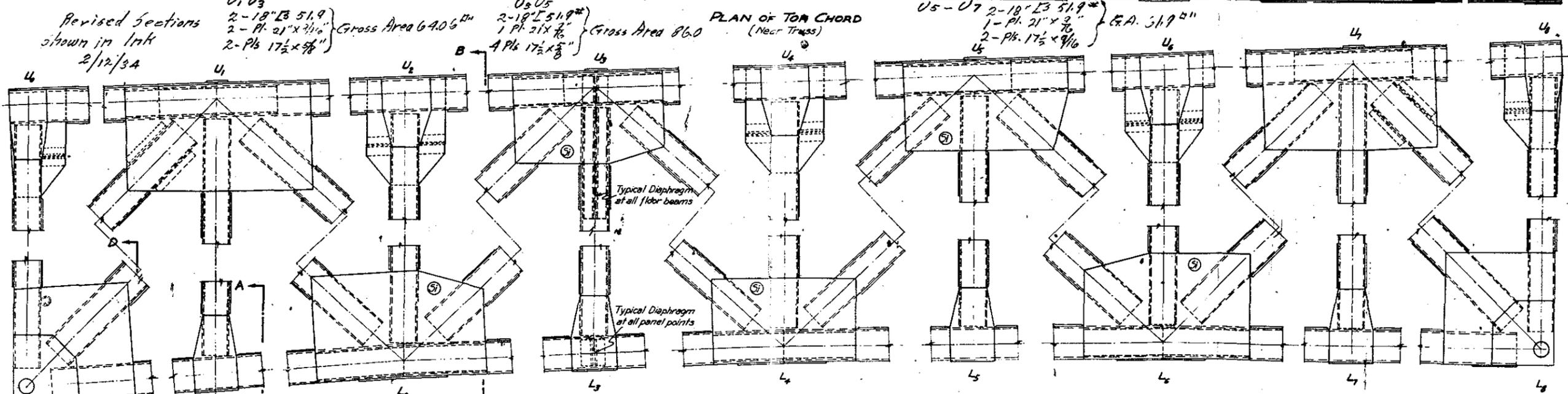
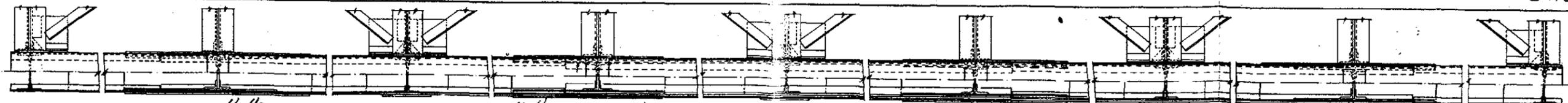
26' Panel
DL = 88.6
LL = 65.5
Imp = 21.7
DL + LL = 175.8
DL + LL + Imp = 263.

Max. F.B. Reaction
FAY, SPOFFORD & THORNDIKE, ENGINEERS
Charles W. Spofford

WAR DEPARTMENT
CORPS OF ENGINEERS U. S. ARMY
OFFICE OF DISTRICT ENGINEER, BOSTON, MASS.
HIGHWAY BRIDGES
OVER CAPE COD CANAL
AT BOURNE, MASSACHUSETTS
BOURNE BRIDGE
TRUSSES AND BRACING - SPAN 6
SCALE EXCEPT AS SHOWN
2 1 0 2 4 6 8 FT.
APPROVED [Signature]
LT. COL. CORPS OF ENGINEERS
DECEMBER 1933
SUPERSTRUCTURE CONTRACT PLANS SHEET No. 13 OF 17

FAY, SPOFFORD & THORNDIKE
ENGINEERS
BOSTON, MASSACHUSETTS
DESIGNED BY F.S.T.
DRAWN BY J.W. H.L.
TRACED BY H.L.L.
CHECKED BY C.H.L.
SCALE: 1/4" = 1'-0"

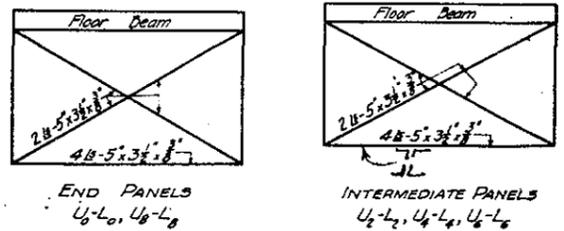
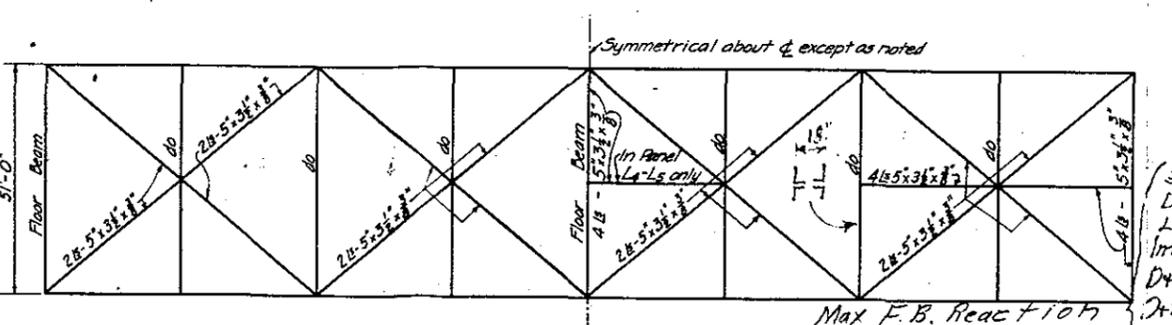
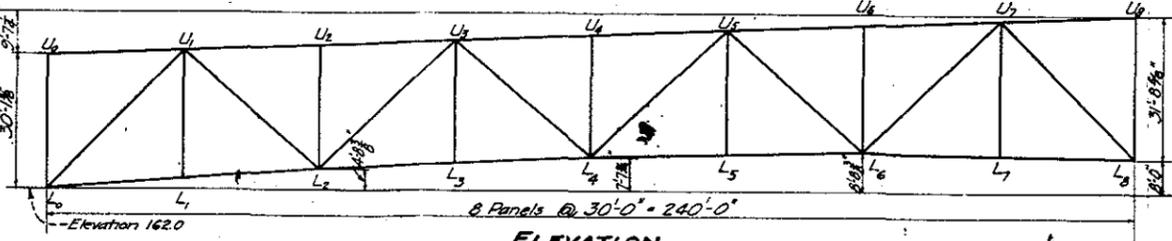
16 8 0 16 32 48 64 FT.
SCALE



Note: In the truss diagrams the vertical dimensions shown are computed to the center of the channels of the top chord members and not to the neutral axes or working lines which are to be used in the detailing in accordance with the specifications.
 (The vertical dimensions are such as to keep the top of the cover plates of the top chord at a definite distance from the crown of the roadway.)

MEMBER	STRESSES IN KIPS				MAKE-UP OF SECTION	AREA		ASSEMBLY	RADIUS OF GYRATION
	DEAD	LIVE + IMPACT	WIND	DESIGN STRESS		GROSS	NET		
U ₀ -U ₁	-885	-337	-74	-1633	2-18" I @ 42.7" Cover R 21 x 7/16 17 1/2	36.8			r _x = 6.5
U ₁ -U ₂	-1205	-461	-74	-2220	2-18" I @ 58" Cover R 21 x 7/16 2R 18 x 7/16	63.8			r _x = 6.5
U ₂ -U ₃	-863	-329	-74	-1595	2-18" I @ 58" Cover R 21 x 7/16 2R 18 x 7/16	61.5			r _x = 6.5
U ₃ -U ₄	+500	+191	+92	+922	2-18" I @ 58" 4R 18 x 7/16	34.0	29.8		r _x = 3.8
U ₄ -U ₅	+120	+428	+16	+2064	2-18" I @ 58" 2R 18 x 7/16	79.0	68.7		r _x = 5.6
U ₅ -U ₆	+1105	+425	+16	+2040	2-18" I @ 58" 2R 18 x 7/16	76.8	66.7		r _x = 5.6
U ₆ -U ₇	+478	+182	+80	+922	2-18" I @ 58" 2R 18 x 7/16	34.0	29.8		r _x = 3.8
L ₀ -L ₁	-722	-299	-1362	-299	2-18" I @ 58" 2R 18 x 7/16	67.7			r _x = 6.3
L ₁ -L ₂	+518	+235	+1004	+1004	2-18" I @ 45.8" 2R 15 x 7/16	38.0	32.0		r _x = 5.6
L ₂ -L ₃	-328	-186	-700	-700	2-18" I @ 58"	34.0			r _x = 5.6
L ₃ -L ₄	+115	+41	+415	+415	2-15" I @ 33.9"	19.8	17.4		r _x = 5.6
L ₄ -L ₅	+141	+21	+21	+21	2-15" I @ 33.9"	19.8	17.4		r _x = 5.6
L ₅ -L ₆	-329	-185	-698	-698	2-18" I @ 58"	34.0			r _x = 6.3
L ₆ -L ₇	+540	+236	+1035	+1035	2-18" I @ 51.9" 2R 15 x 7/16	41.6	35.7		r _x = 5.8
U ₇ -L ₈	-682	-282	-1286	-1286	2-18" I @ 58" 2R 18 x 7/16	63.2			r _x = 5.6
U ₆ -L ₇	-69	-112	-43	-336	2-15" I @ 33.9"	19.8			r _x = 5.6
U ₇ -L ₈	-137	-112	-10	-371	2-15" I @ 33.9"	19.8			r _x = 5.6
Gross	470	227	41		2-15" I @ 33.9" U ₁ -L ₁ , U ₂ -L ₂ , U ₅ -L ₅ , U ₇ -L ₇				
Net	470	227	43						

Notes: The stress in the column marked "Design Stress" equals for each member, the largest of the following two values: $\frac{1}{2}(D+L+I)$; $D+2(L+I)+W$. See specifications.
 Material listed under "Make-up of Section" and marked (S) to be of silicon steel. Main truss gusset plates to be of carbon steel unless otherwise designated on the plans. All other material including rivets to be of carbon steel.



SWAY BRACING
 Note: See Sheet No 14 for additional notes.

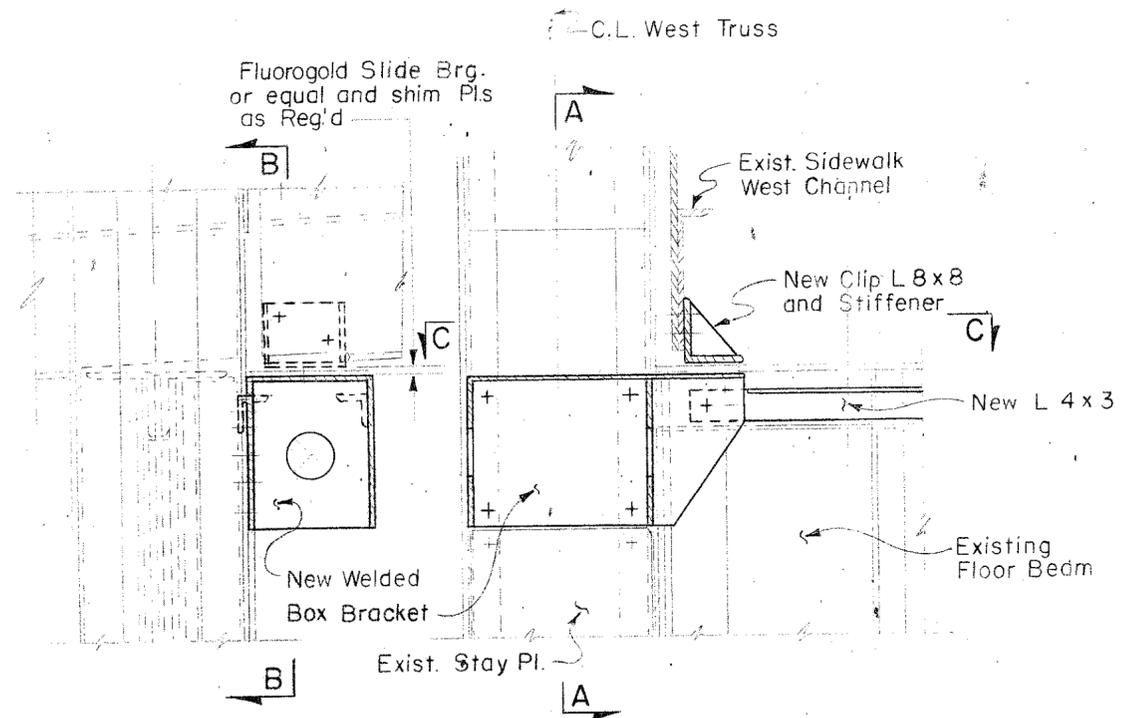
Thickness, number and size of gusset plates at all main truss joints to be determined by contractor to carry flexure, direct stress and shear.
 30' Panel
 D.L. = 100.7
 L.L. = 66.2
 Imp. = 21.5
 D+L = 166.9
 D+L = 216.1

SCALE 1" = 5'-0" EXCEPT AS SHOWN

SCALE 1" = 5'-0" EXCEPT AS SHOWN

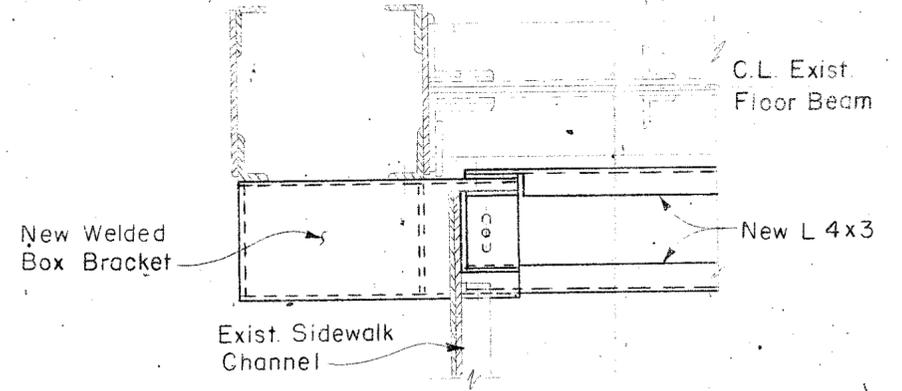
FAY, SPOFFORD & THORNDIKE, ENGINEERS
 BY *Richard M. Spofford*

WAR DEPARTMENT
 CORPS OF ENGINEERS U.S. ARMY
 OFFICE OF DISTRICT ENGINEER, BOSTON, MASS.
HIGHWAY BRIDGES
 OVER CAPE COD CANAL
 AT BOURNE, MASSACHUSETTS
BOURNE BRIDGE
TRUSSES AND BRACING-SPAN
 SCALE EXCEPT AS SHOWN
 2 1 0 2 4 6
 APPROVED *W. H. ...*
 LT. COL. CORPS OF ENGINEERS
 DECEMBER 1933
 SUPERSTRUCTURE CONTRACT PLANS SHEET No. 12 OF

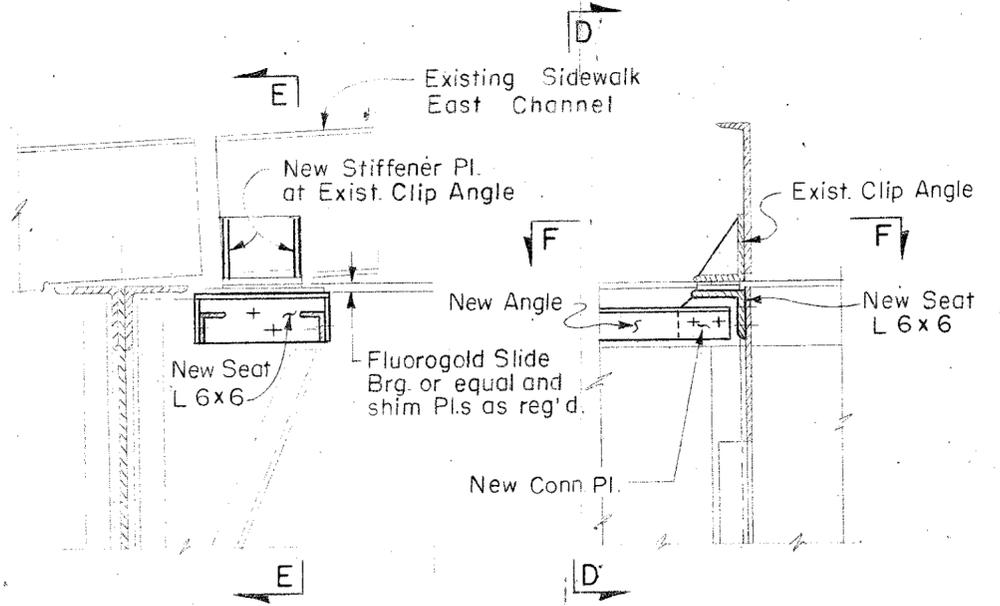


SECTION A-A
Scale $\frac{3}{4}'' = 1'-0''$

SECTION B-B
Scale $\frac{3}{4}'' = 1'-0''$

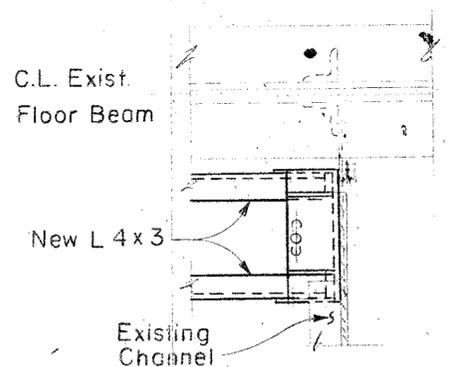


SECTION C-C
Scale $\frac{3}{4}'' = 1'-0''$

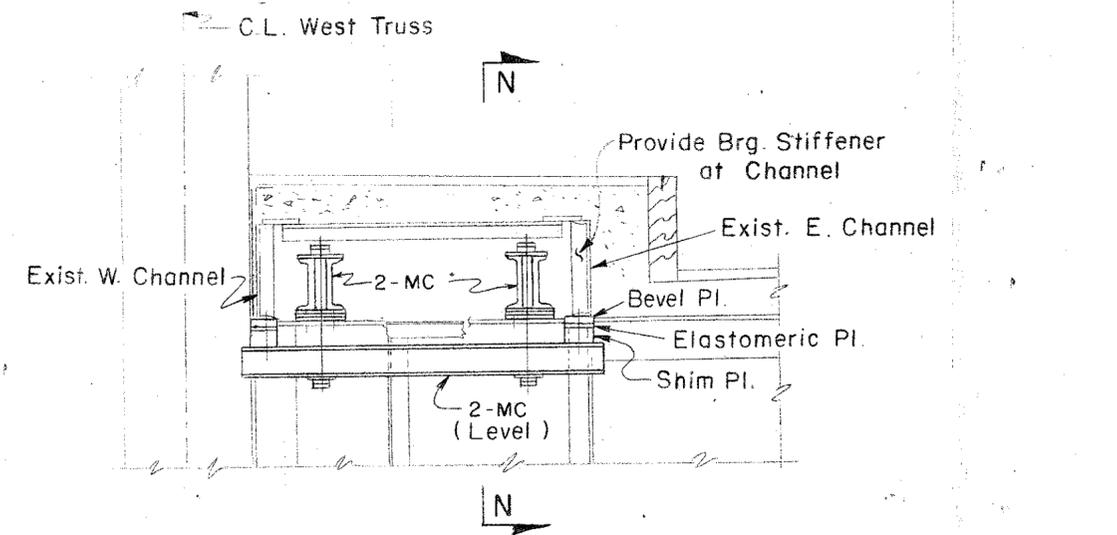


SECTION D-D
Scale $\frac{3}{4}'' = 1'-0''$

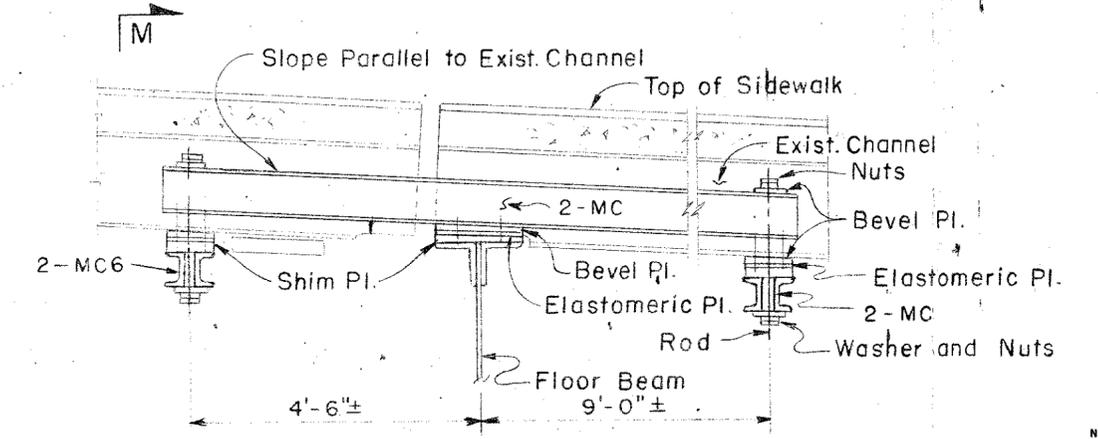
SECTION E-E
Scale $\frac{3}{4}'' = 1'-0''$



SECTION F-F
Scale $\frac{3}{4}'' = 1'-0''$

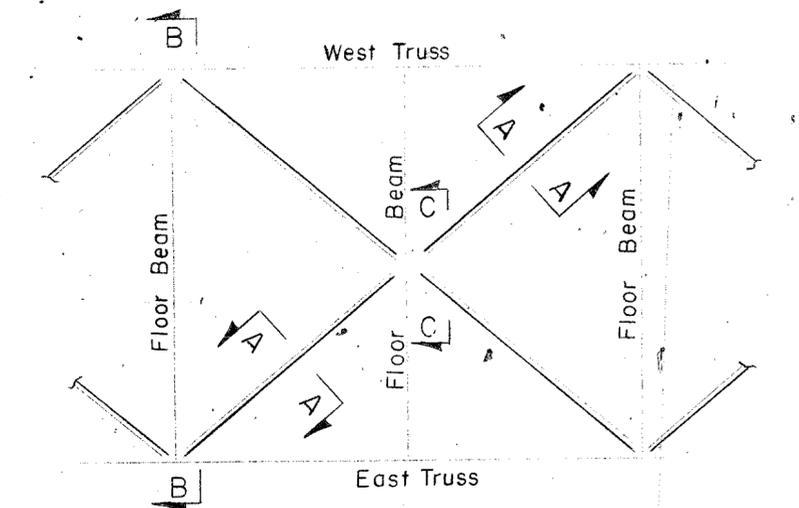


SECTION M-M
Scale $\frac{1}{2}'' = 1'-0''$

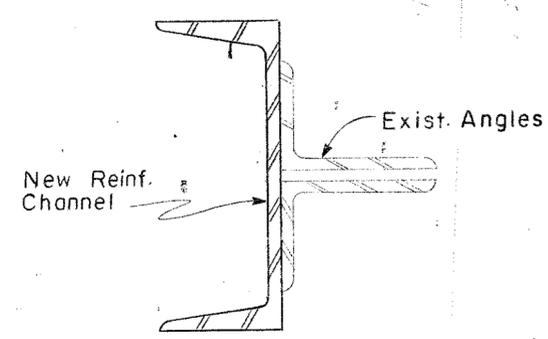


SECTION N-N
Scale $\frac{1}{2}'' = 1'-0''$

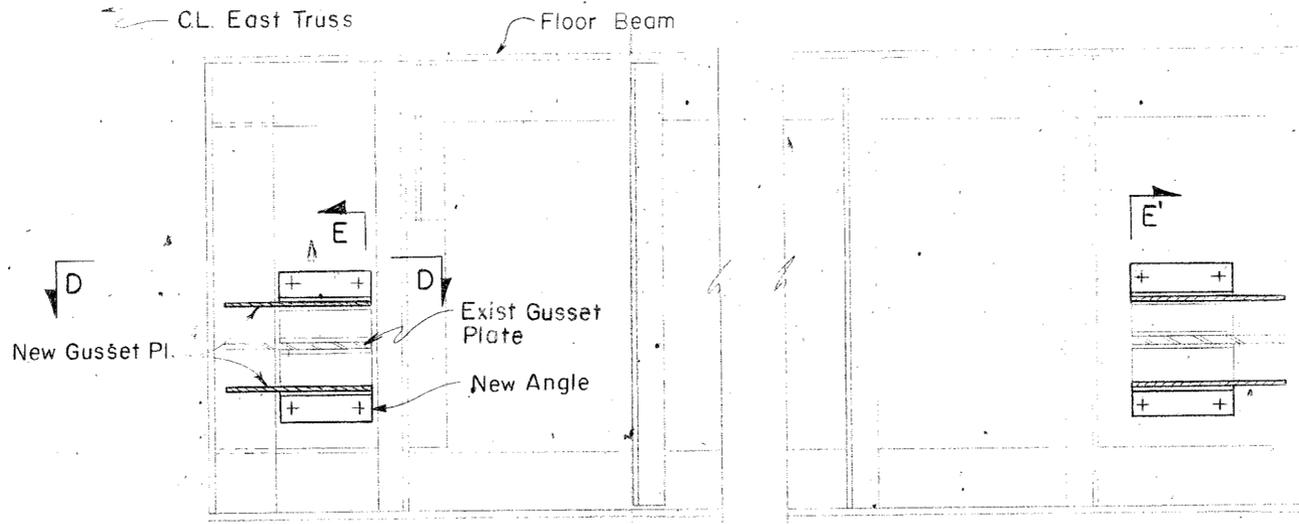
TEMPORARY SUPPORT OF CHANNELS



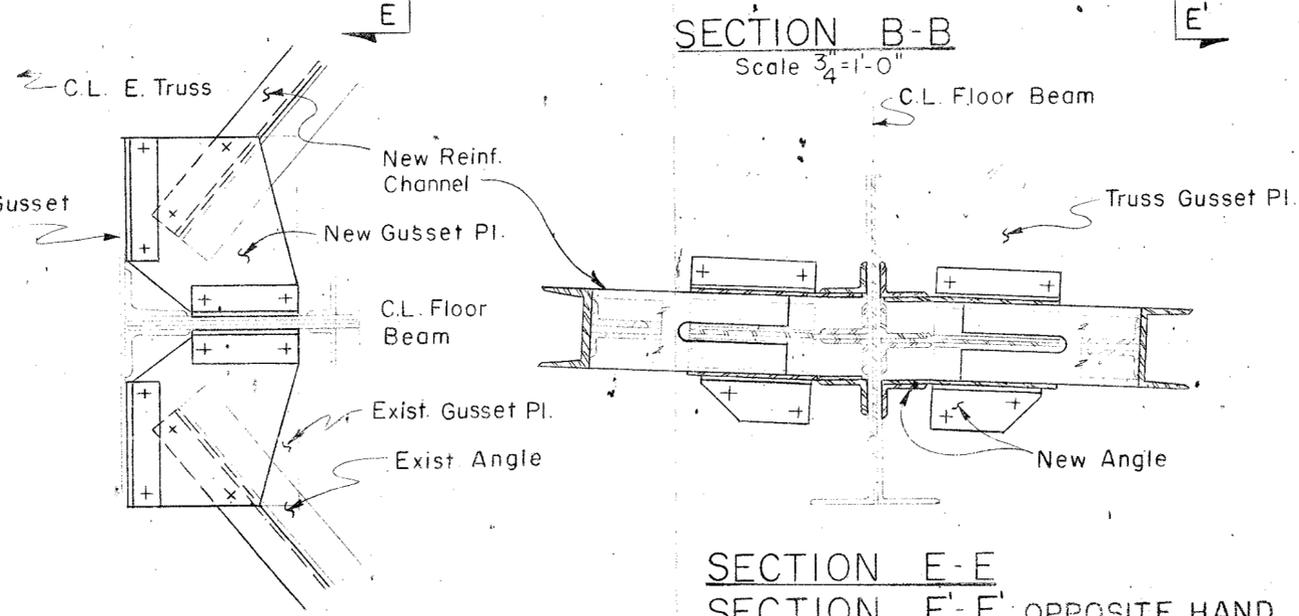
TYPICAL PLAN OF TOP LATERAL BRACING
Scale $\frac{1}{16} = 1'-0''$



SECTION A-A
Scale $3'' = 1'-0''$

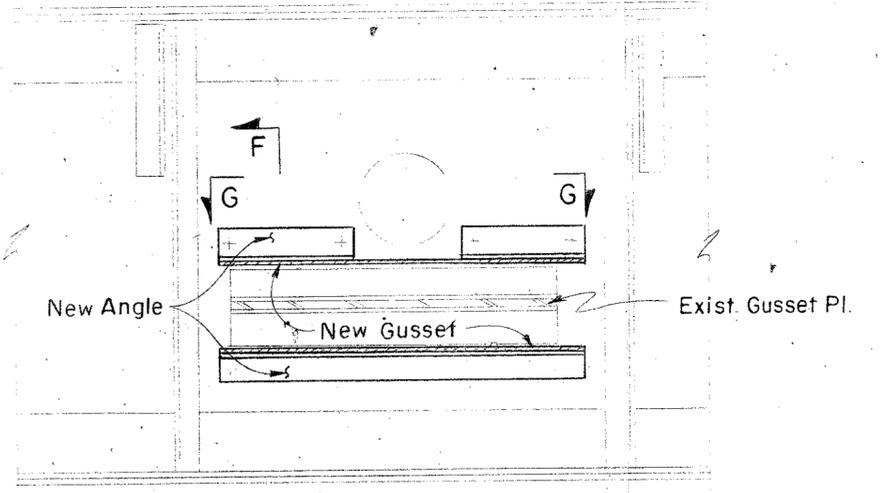


SECTION B-B
Scale $\frac{3}{4} = 1'-0''$

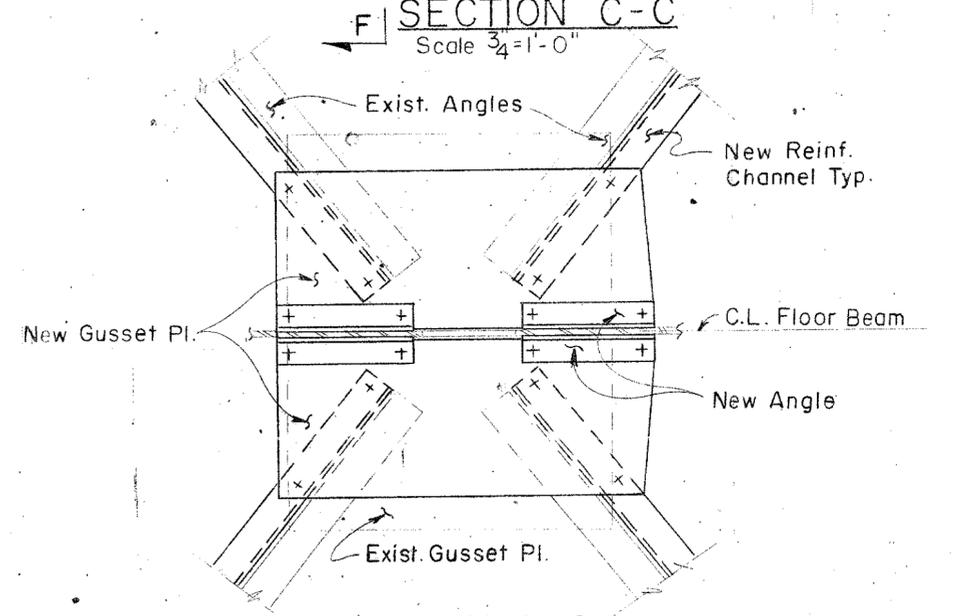


SECTION D-D
Scale $\frac{3}{4} = 1'-0''$

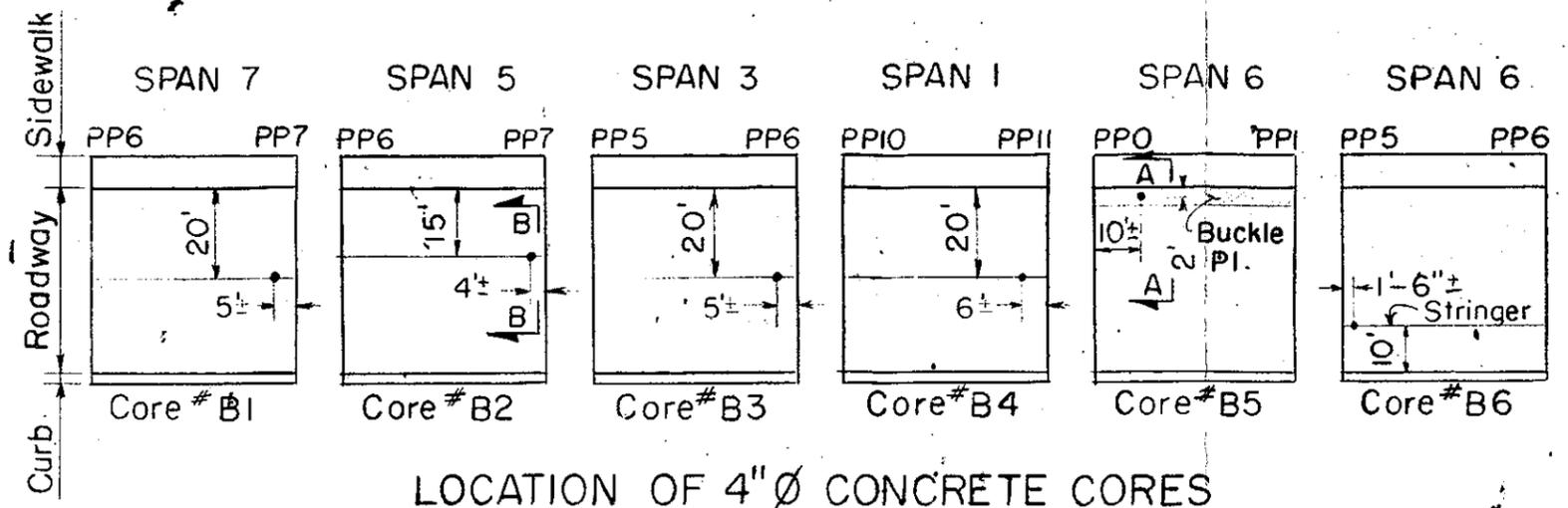
SECTION E-E
SECTION E'-E' OPPOSITE HAND
SECTION F-F SIMILAR
Scale $\frac{3}{4} = 1'-0''$



SECTION C-C
Scale $\frac{3}{4} = 1'-0''$

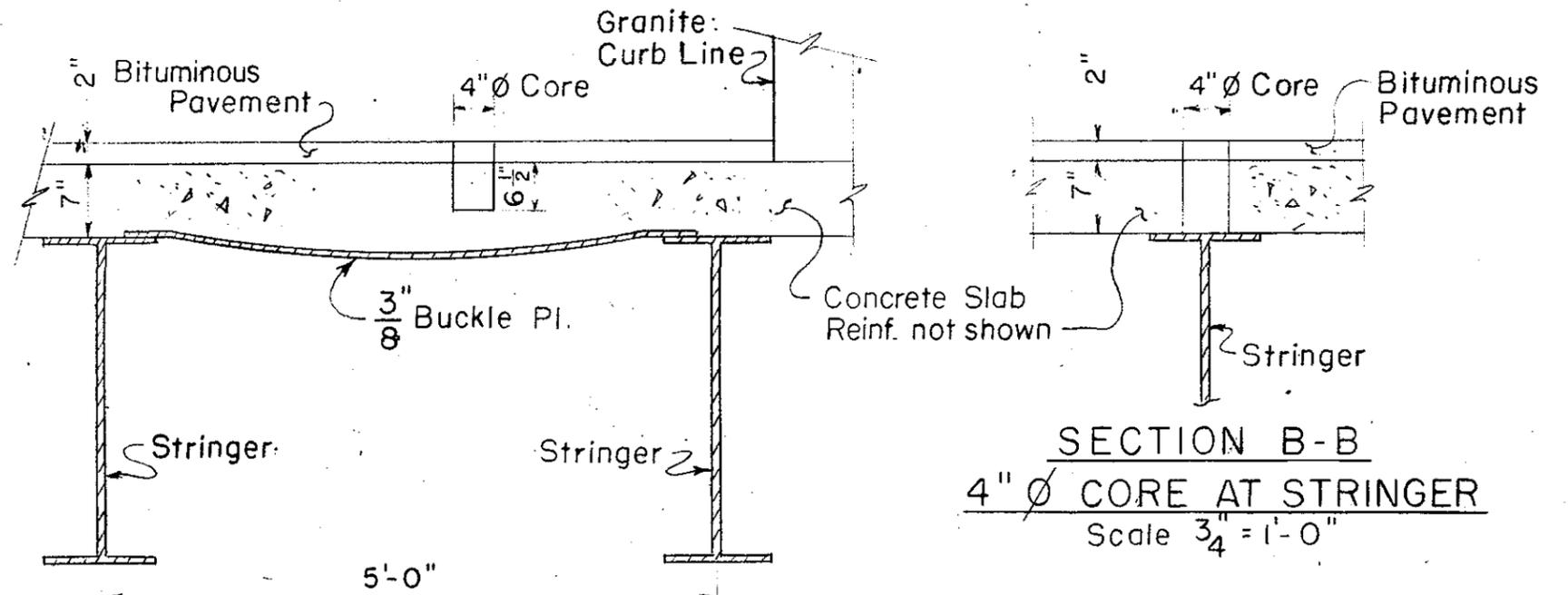


SECTION G-G
Scale $\frac{3}{4} = 1'-0''$



LOCATION OF 4" Ø CONCRETE CORES

Scale 1" = 40'-0"



SECTION A A
4" Ø CORE AT BUCKLE PL.

Scale: 3/4" = 1'-0"

SECTION B-B
4" Ø CORE AT STRINGER

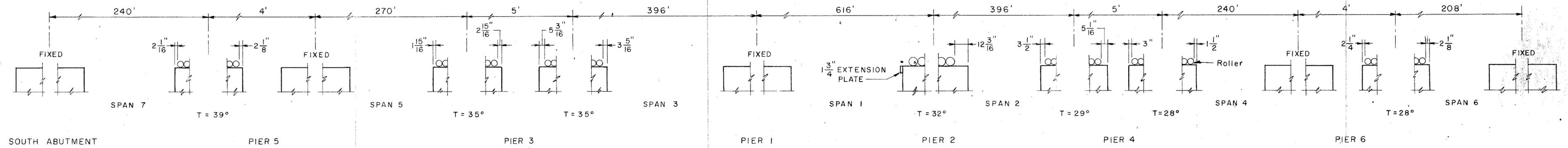
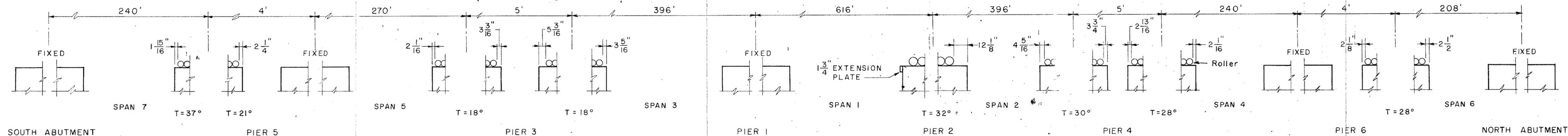
Scale 3/4" = 1'-0"

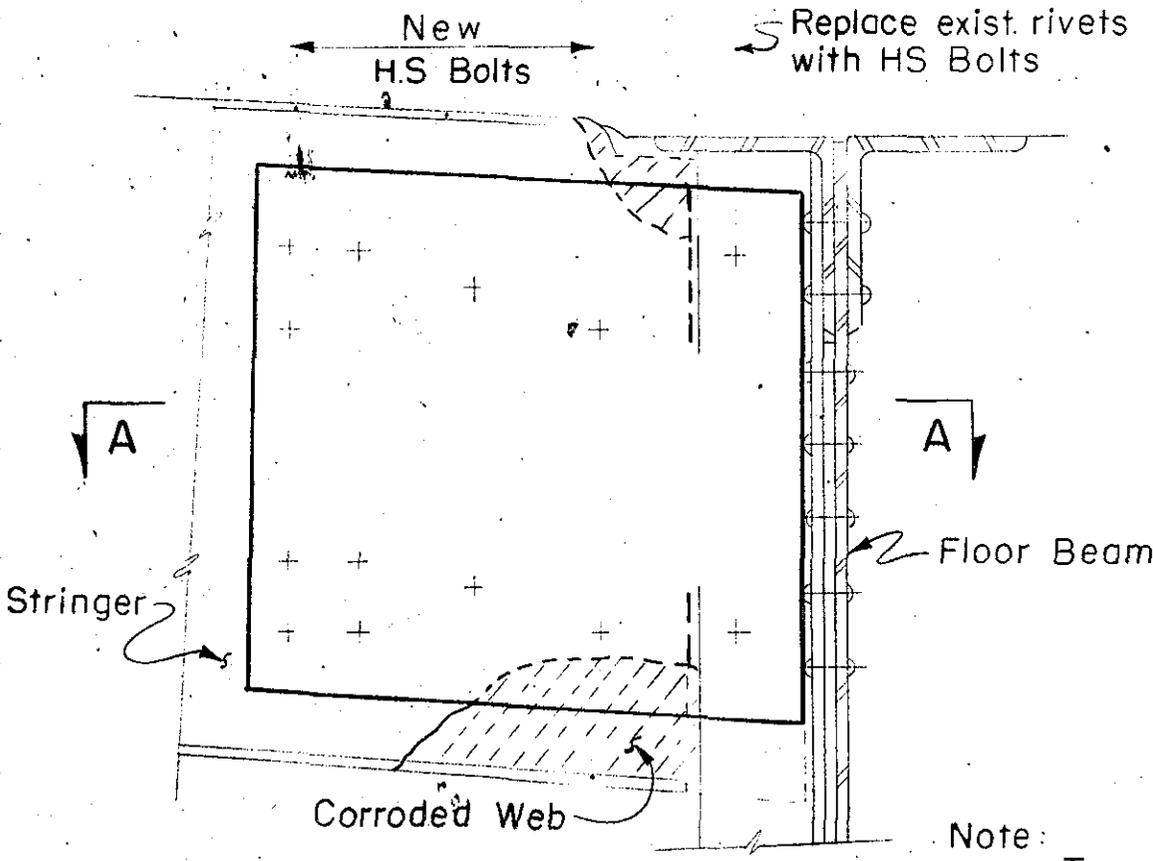
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
CARE COD CANAL, MASSACHUSETTS

BOURNE HIGHWAY BRIDGE
1976 CONDITION REPORT

CORE LOCATIONS

AMMANN & WHITNEY, N.Y., N.Y.

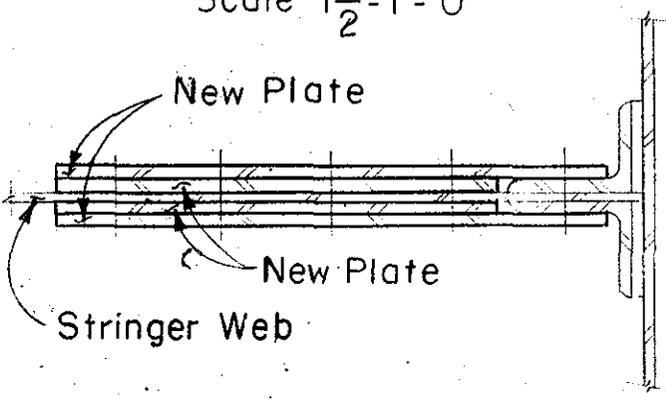




Note:
Temporary Support
for Stringer not
shown.

STRINGER ELEVATION

Scale $1\frac{1}{2}'' = 1'-0''$



SECTION A-A

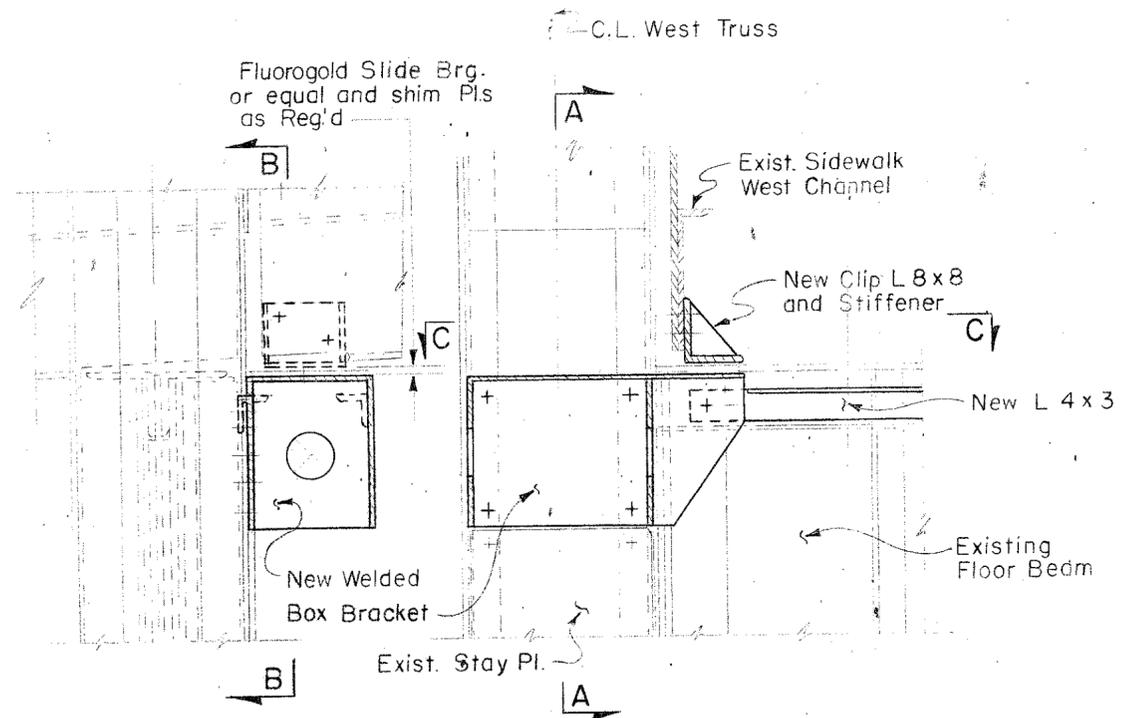
Scale $1\frac{1}{2}'' = 1'-0''$

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
CAPE COD CANAL, MASSACHUSETTS

BOURNE HIGHWAY BRIDGE
1976 CONDITION REPORT

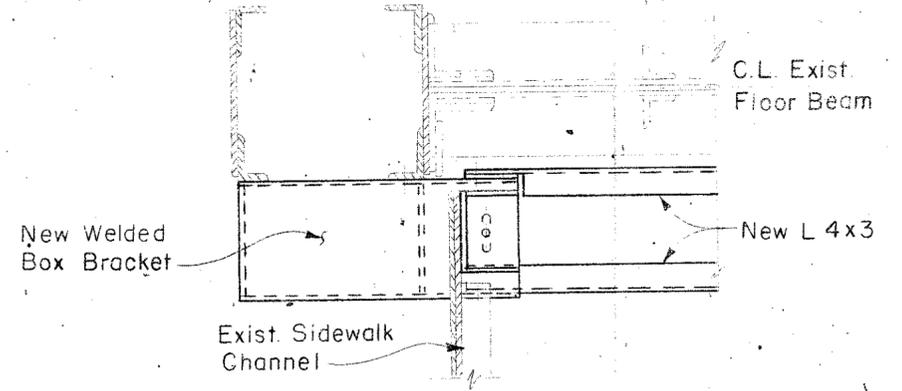
STRINGER REPAIR

AMMANN & WHITNEY, N.Y., N.Y.

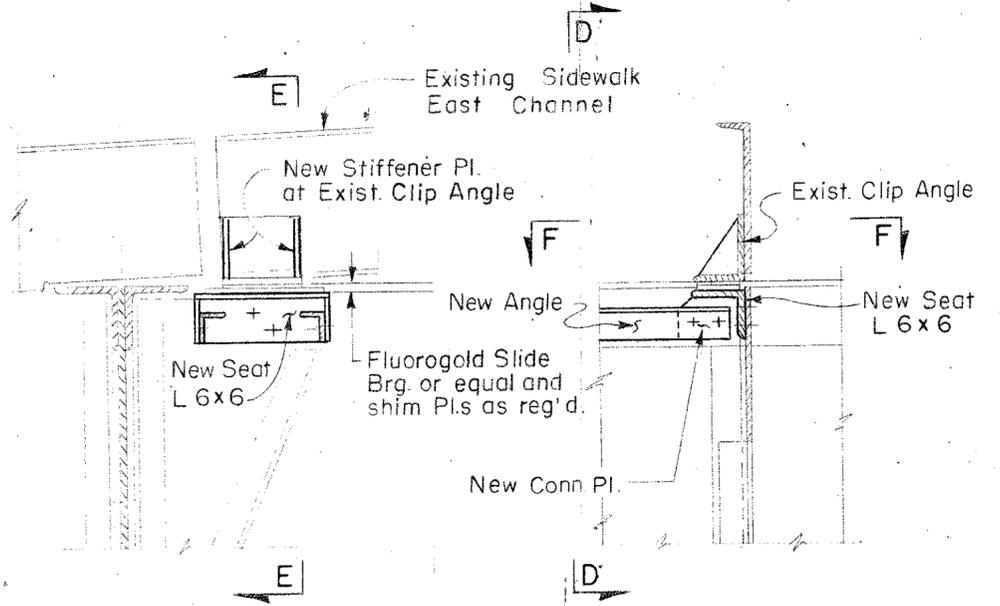


SECTION A-A
Scale $\frac{3}{4}'' = 1'-0''$

SECTION B-B
Scale $\frac{3}{4}'' = 1'-0''$

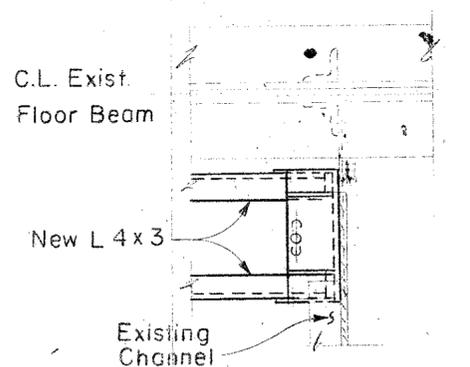


SECTION C-C
Scale $\frac{3}{4}'' = 1'-0''$

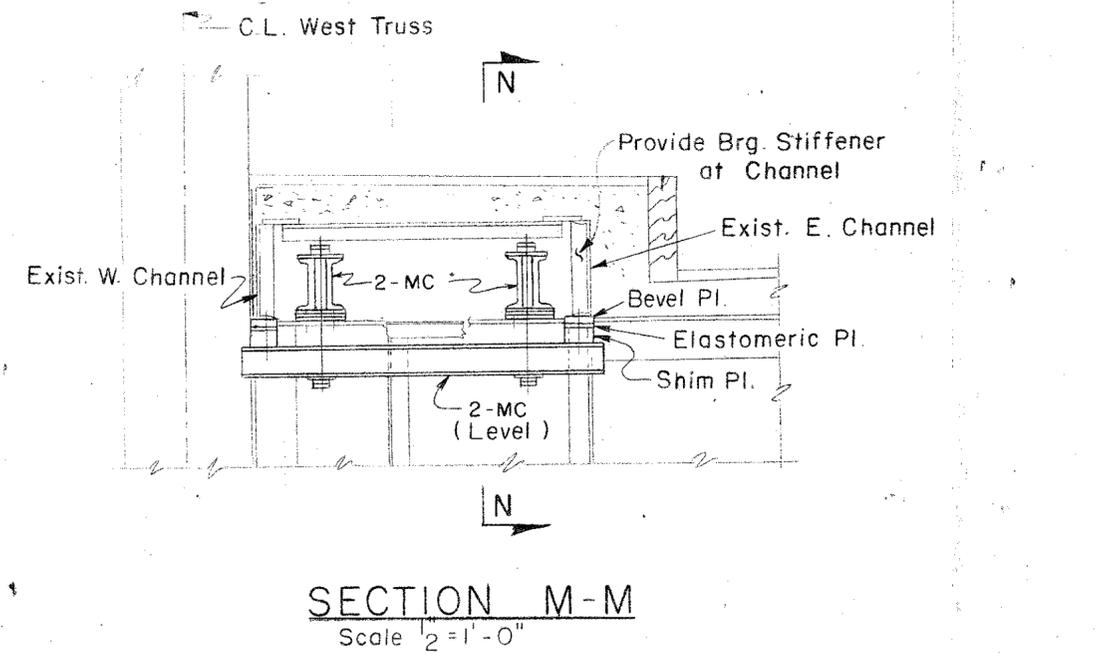


SECTION D-D
Scale $\frac{3}{4}'' = 1'-0''$

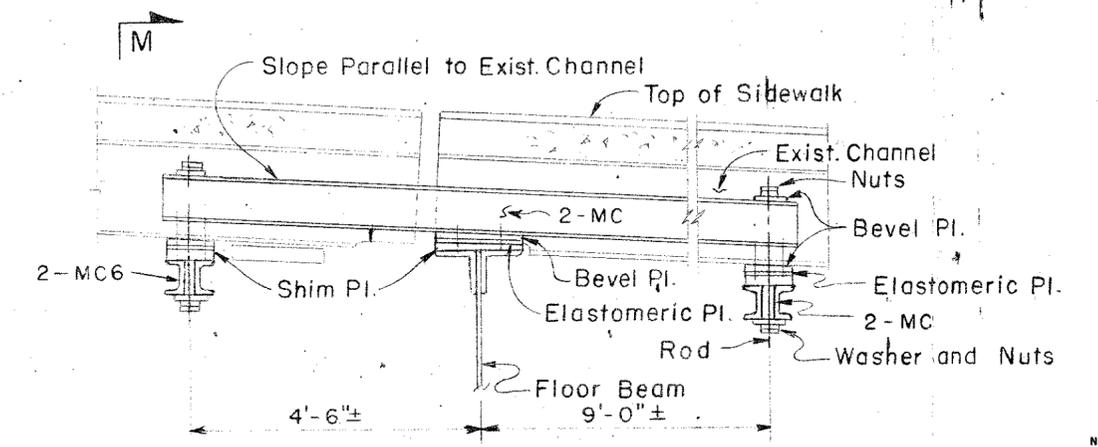
SECTION E-E
Scale $\frac{3}{4}'' = 1'-0''$



SECTION F-F
Scale $\frac{3}{4}'' = 1'-0''$

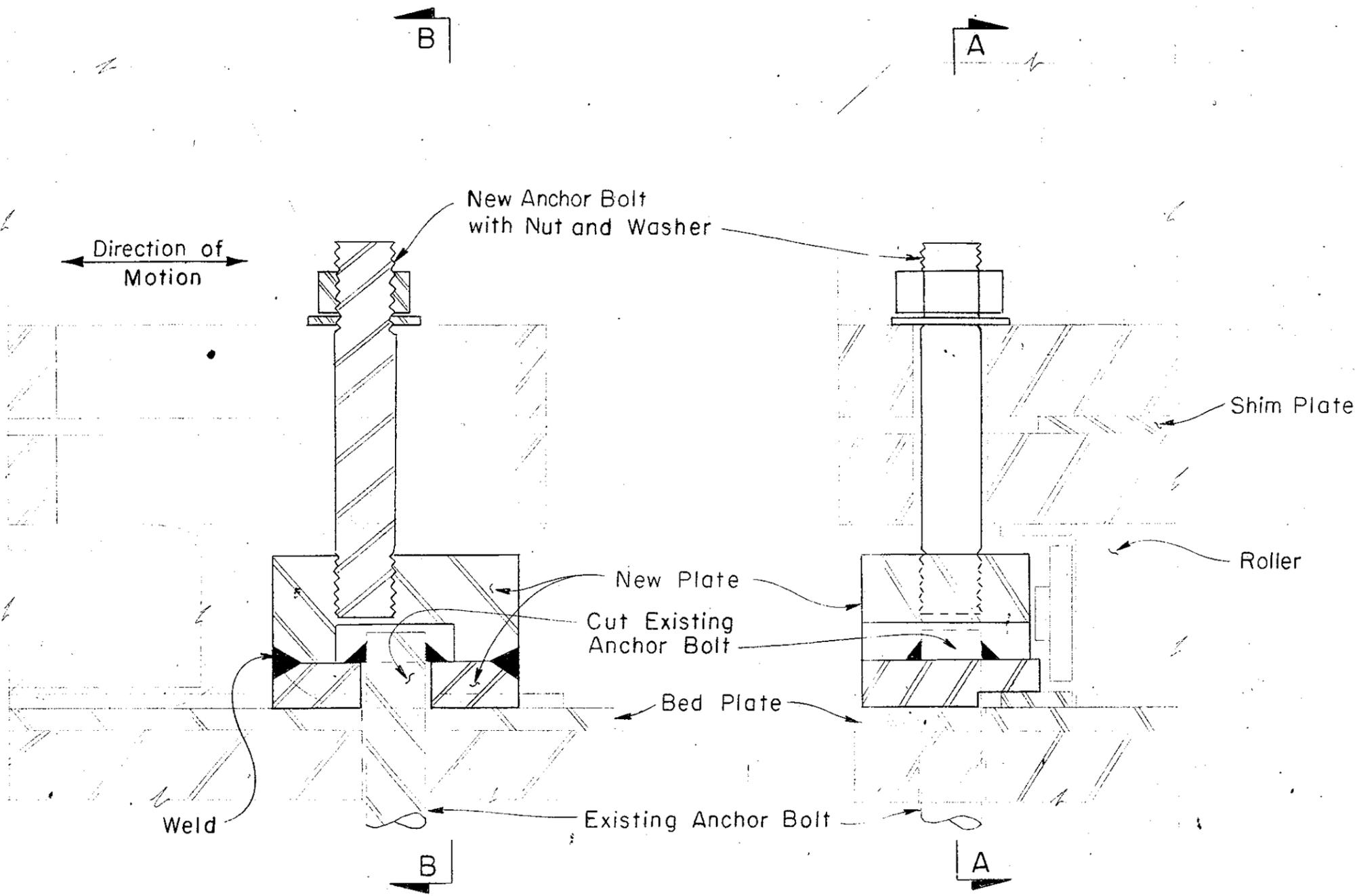


SECTION M-M
Scale $\frac{1}{2}'' = 1'-0''$



SECTION N-N
Scale $\frac{1}{2}'' = 1'-0''$

TEMPORARY SUPPORT OF CHANNELS



SECTION A-A

SECTION B-B

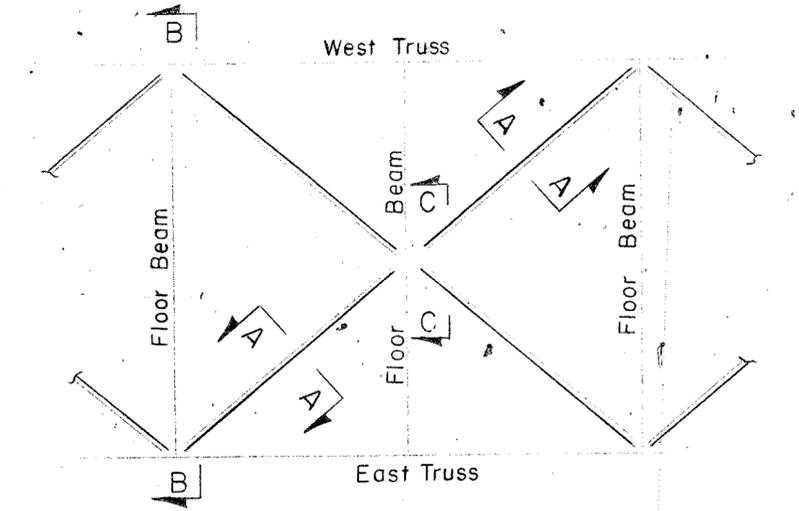
Scale $\frac{1}{4}'' = 1'-0''$

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
CAPE COD CANAL, MASSACHUSETTS

BOURNE HIGHWAY BRIDGE
1976 CONDITION REPORT

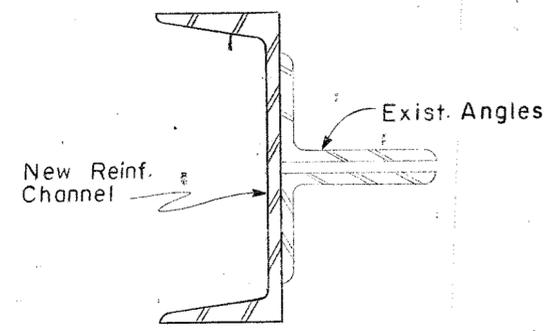
ANCHOR BOLT REPAIR

AMMANN & WHITNEY, N.Y., N.Y.



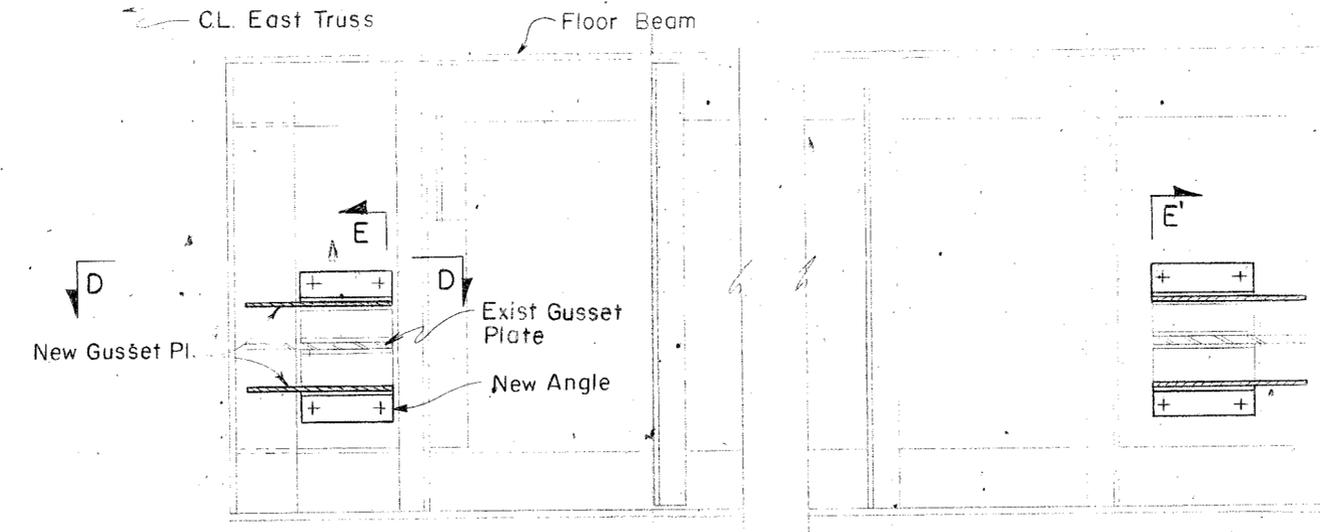
TYPICAL PLAN OF TOP LATERAL BRACING

Scale $\frac{1}{16} = 1'-0''$



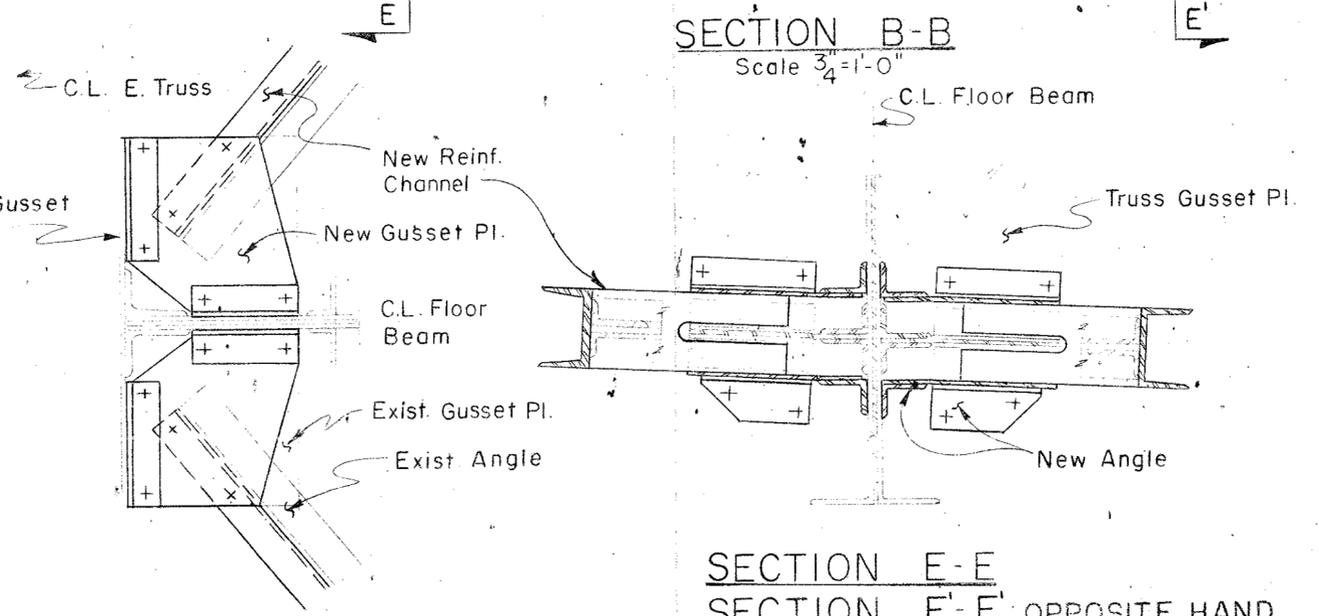
SECTION A-A

Scale $3'' = 1'-0''$



SECTION B-B

Scale $\frac{3}{4} = 1'-0''$



SECTION D-D

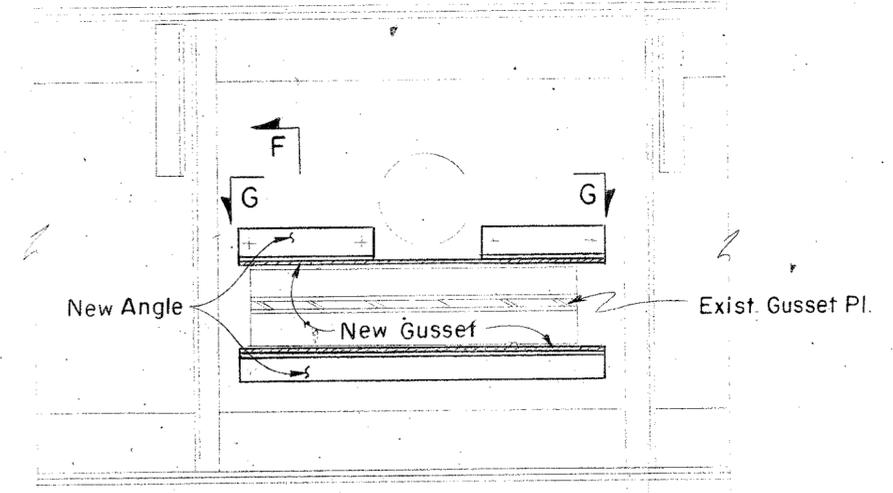
Scale $\frac{3}{4} = 1'-0''$

SECTION E-E

SECTION E-E OPPOSITE HAND

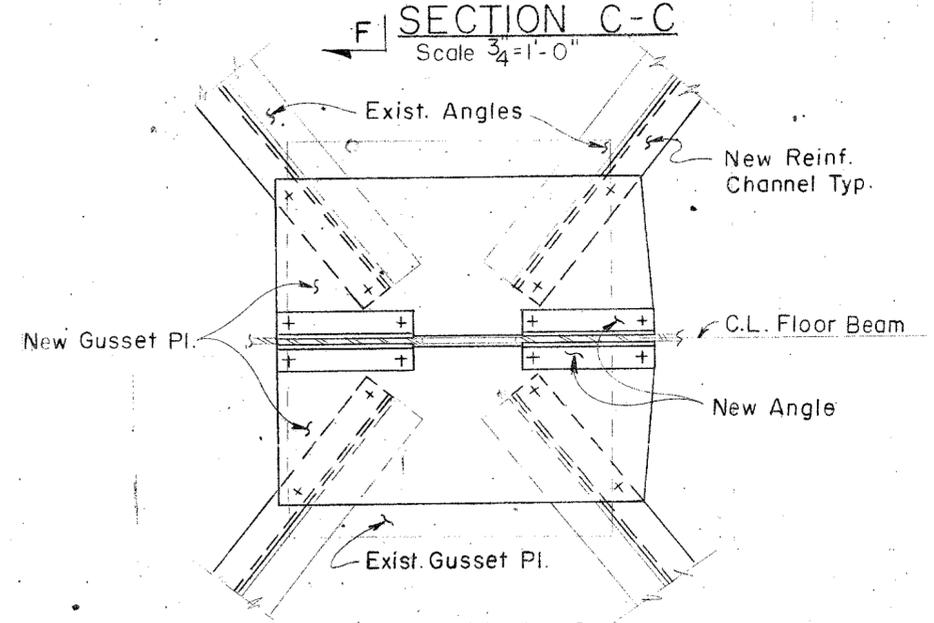
SECTION F-F SIMILAR

Scale $\frac{3}{4} = 1'-0''$



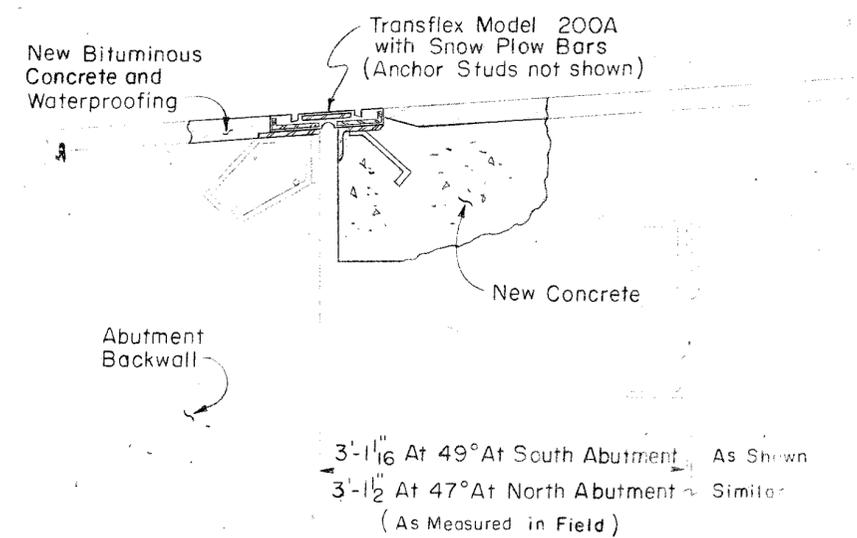
SECTION C-C

Scale $\frac{3}{4} = 1'-0''$

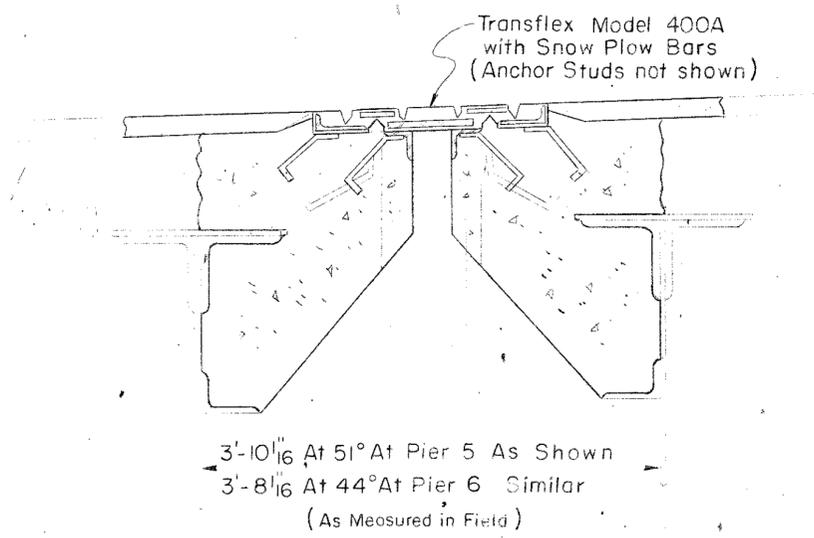


SECTION G-G

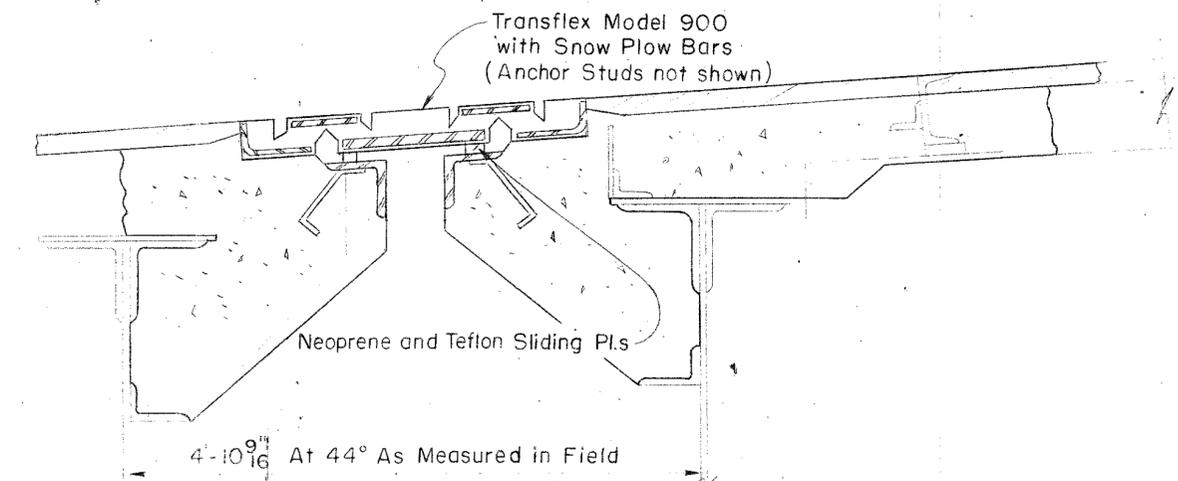
Scale $\frac{3}{4} = 1'-0''$



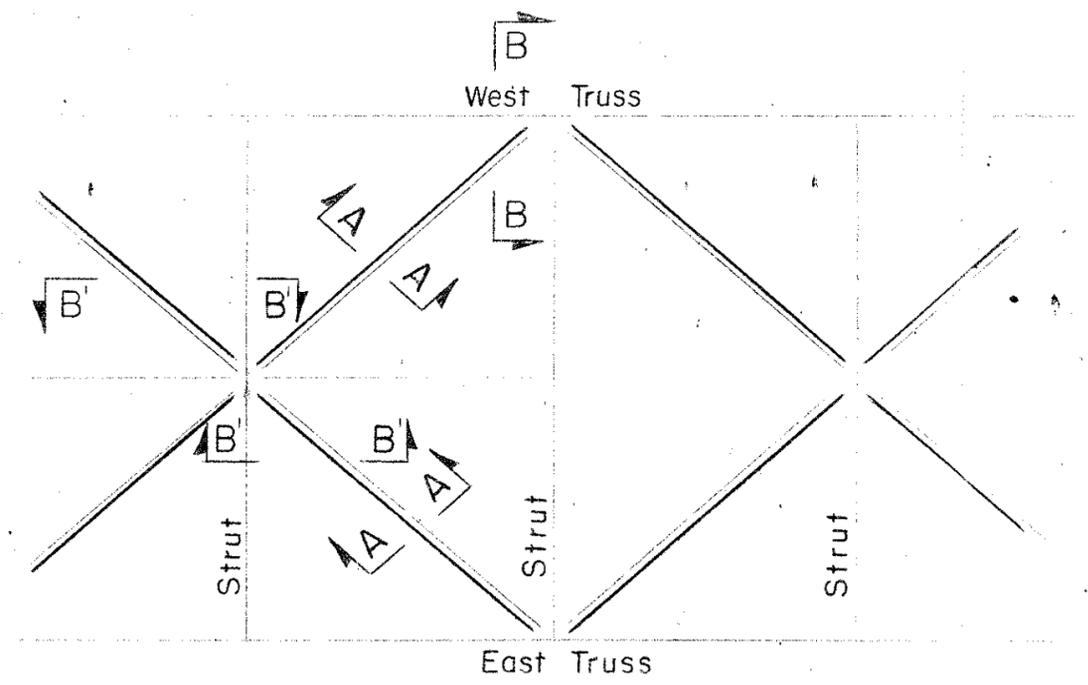
TRANSFLEX EXPANSION JOINT MODEL 200A
AT SOUTH AND NORTH ABUTMENTS
 Scale 1" = 1'-0"



TRANSFLEX EXPANSION JOINT MODEL 400A
AT PIERS 5 AND 6
 Scale 1" = 1'-0"

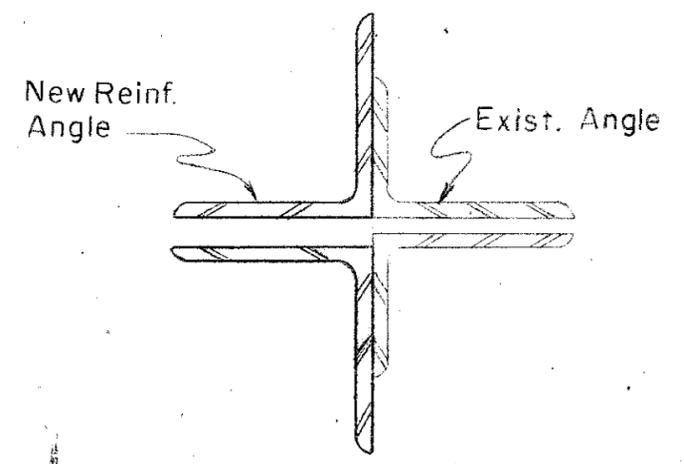


TRANSFLEX EXPANSION JOINT MODEL 900
AT PIER 3
 Scale 1" = 1'-0"



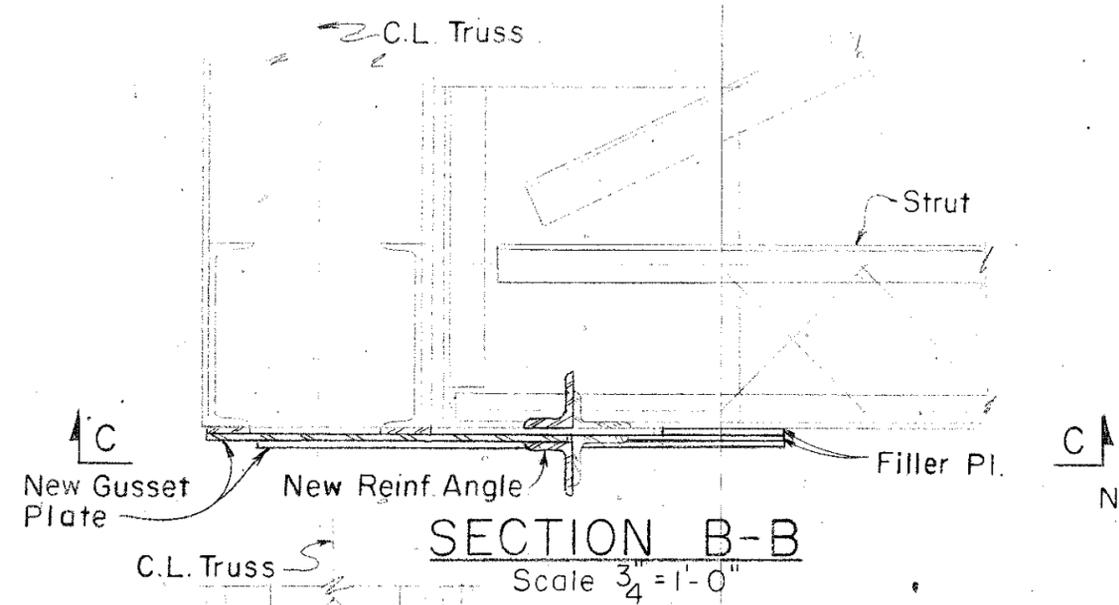
PARTIAL PLAN OF BOTTOM LATERAL BRACING

Scale $\frac{1}{16} = 1'-0''$



SECTION A A

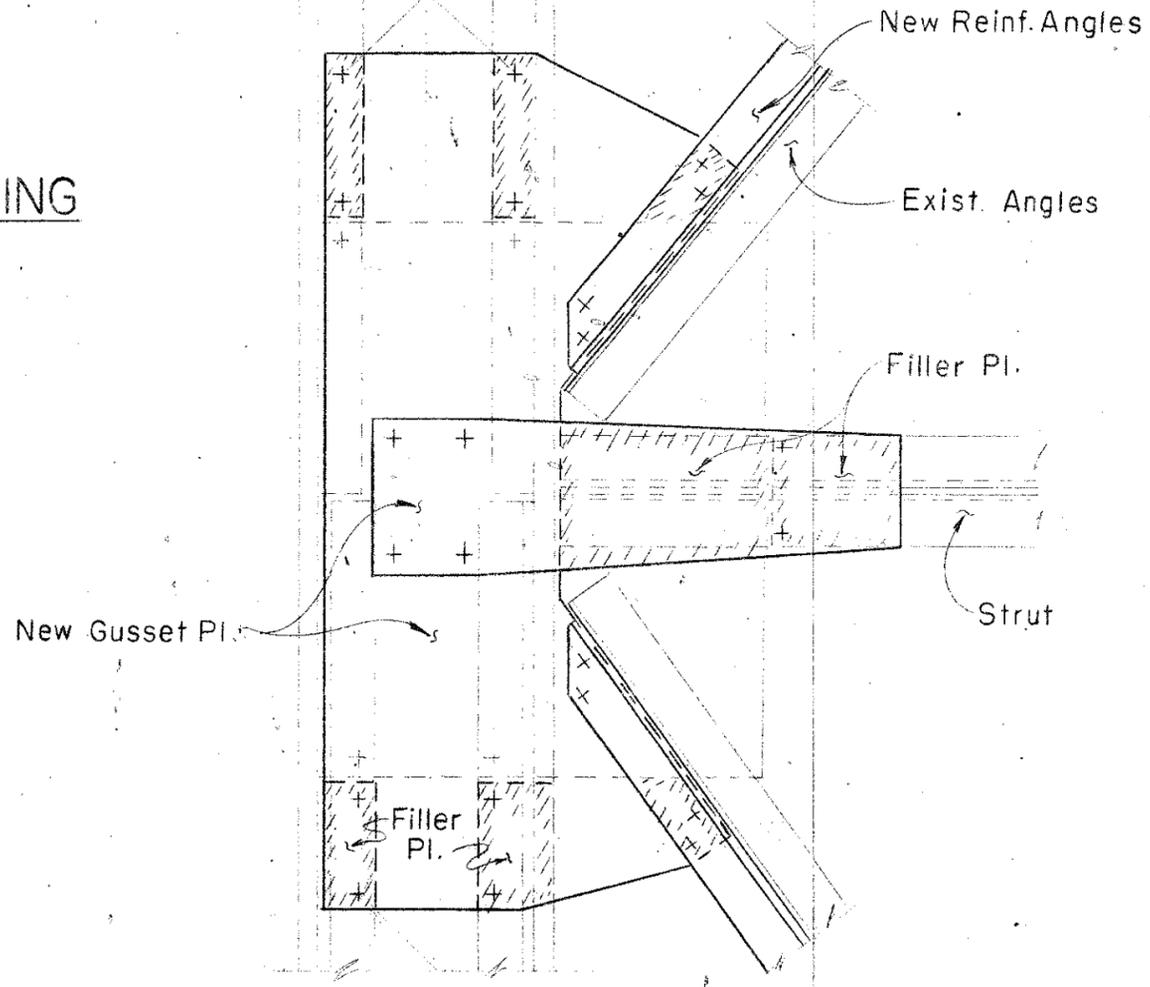
Scale $3'' = 1'-0''$



SECTION B-B

Scale $\frac{3}{4} = 1'-0''$

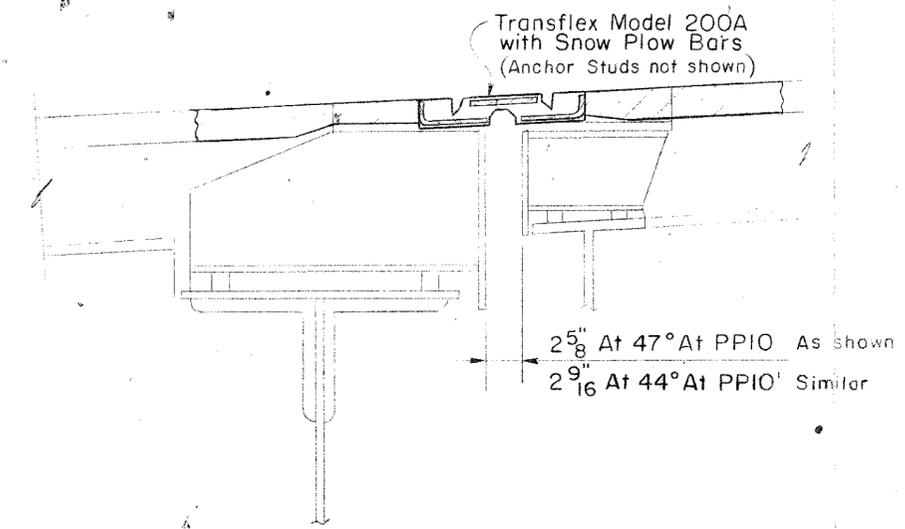
Note: Section B'-B' Similar to Section B-B



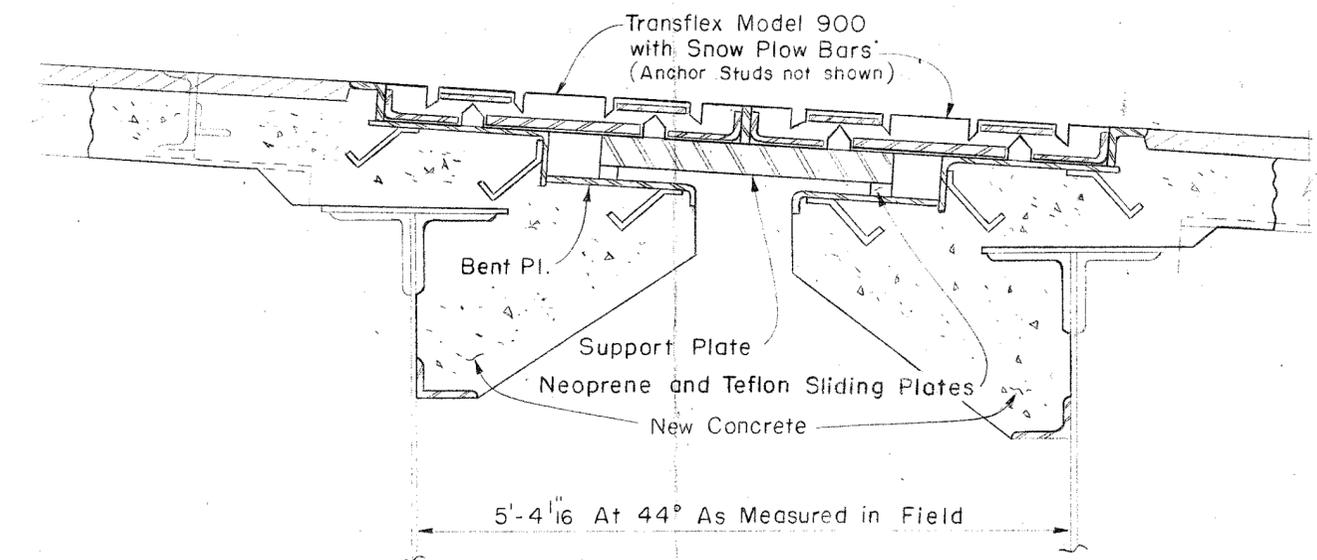
SECTION C-C

Scale $\frac{3}{4} = 1'-0''$

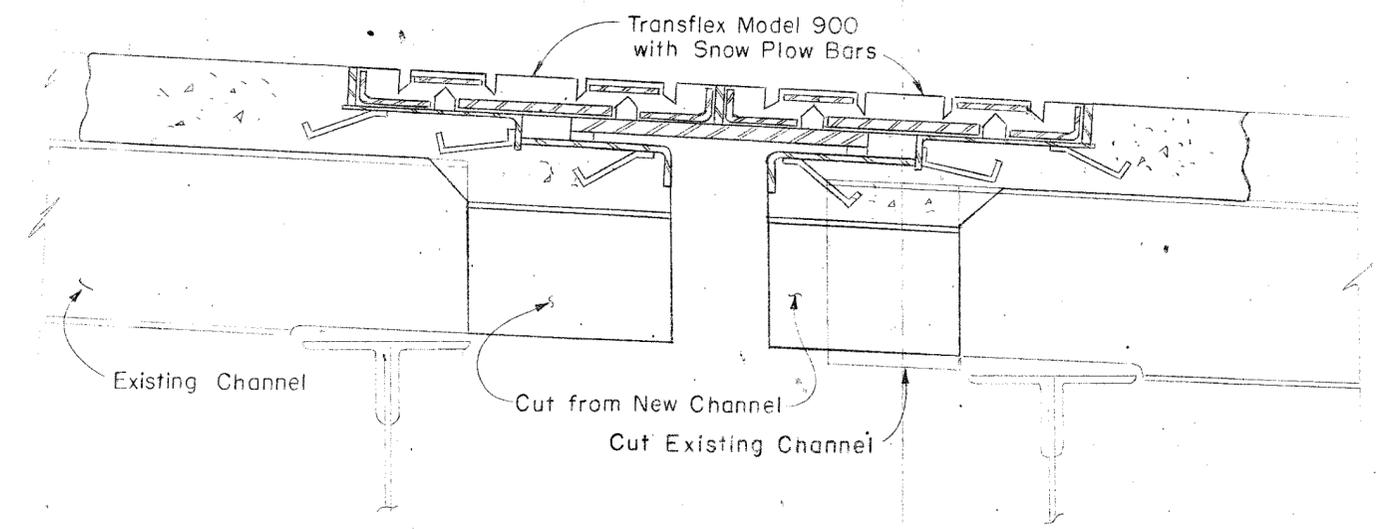
DEPARTMENT OF THE ARMY
 NEW ENGLAND DIVISION, CORPS OF ENGINEERS
 CAPE COD CANAL, MASSACHUSETTS
 BOURNE HIGHWAY BRIDGE
 1976 CONDITION REPORT
 BOTTOM LATERAL BRACING REPAIR
 AMMANN & WHITNEY, N.Y., N.Y.



TRANSFLEX EXPANSION JOINT MODEL 200A
AT PANEL POINTS 10 AND 10'
 Scale 1/2" = 1'-0"



TWO-TRANSFLEX EXPANSION JOINT MODEL 900
AT PIER 4
 Scale 1" = 1'-0"



TWO-TRANSFLEX EXPANSION JOINT MODEL 900
AT PIER 4 SIDEWALK
 Scale 1" = 1'-0"