

NEW MATERIAL REQUIRED					
MARK	NO	SHAPE & SIZE	LOCATION	REF DWG	REMARKS
TOP CHORD STRENGTHENING					
TC1	4	CHANNEL C12x20.7 x 24'-8 1/8"	L0-U1-U2 U3-U4-L5	S-1483	
TC2	2	CHANNEL C12x20.7 x 11'-11 1/8"	U2-U3	"	
tp1	4	PLATE R 8 x 3/8 x 11 1/8"	L0 & L5	"	
tp2	72	PLATE R 2 1/2 x 3/8 x 8"		"	TACK WELD TO TC1 & TC2
tp3	4	PLATE R 8 x 3/8 x 1'-0 1/2"	U1 & U4	"	
tp4	4	PLATE CUT FROM R 10 x 3/8 x 2'-0"	U1 & U4	"	WELD TO TC1 SEE (P) DETAIL
tp5	4	PLATE R 8 x 3/8 x 1'-1"	U1 & U4	"	
tp6	4	PLATE R 8 x 3/8 x 1'-8"	U2 & U3	"	
tp7	4	PLATE R 8 x 3/8 x 1'-8"	U2 & U3	S-1483	
DIAGONAL STRENGTHENING					
DI	4	2 - ANGLES * L 2 1/2 x 2 1/2 x 1/2 x 12'-5 3/4"	U1 - L2 U4 - L3	S-1482	
da ^R L	16 16 OF EACH	* L 2 1/2 x 2 1/2 x 1/2 x 10 1/2"		"	SHOP BOLT TO DI
ta	16	TIE PLATE R 5 x 3/8 x 7 1/2"		S-1482	SHOP BOLT TO ONE ANGLE ONLY
STRINGER STRENGTHENING					
P1	42	PLATE R 4 1/4 x 1 x 11 1/4"	NEW STRINGER LINES	S-1482	NEW STRINGER TO FLOORBEAM CONNECTION
P2	84	PLATE R 4 1/4 x 3/4 x 2 1/2"	① ② ③ AND ④	"	
P3	84	PLATE R 4 1/4 x 1/4 x 5 1/4"	STRINGER LINE ①	"	
S1	12	SHIM PLATE R 4 1/4 x 1/8 x 11 1/4"	STRINGER LINE ①	"	
S2	12	SHIM PLATE R 4 1/4 x 1/2 x 11 1/4"	STRINGER LINE ②	"	
S3	12	SHIM PLATE R 4 1/4 x 3/4 x 11 1/4"	STRINGER LINE ③	"	
S4	6	SHIM PLATE R 4 1/4 x 1/8 x 11 1/4"	STRINGER LINE ④	"	
S7	12	S8 x 18.4 x 12'-8 3/4"	L0 - L1 L4 - L5	"	EXTERIOR BAYS
S8	2	S8 x 18.4 x 12'-8 3/4"	L0 - L1 L4 - L5	"	EXTERIOR BAYS
S9	18	S8 x 18.4 x 11'-11 1/2"	L1 - L2 L2 - L3 L3 - L4	"	INTERIOR BAYS
S10	3	S8 x 18.4 x 11'-11 1/2"	L1 - L2 L2 - L3 L3 - L4	"	INTERIOR BAYS
TB1	5	HANGER TIE BOLT: 3/4" x 2'-9LG A307 BOLT c/w HEX NUTS & WASHERS	MIDSPAN OF S8 & S10	"	STRINGER TO BOTTOM LATERAL CONNECTION
TC	245	TIMBER CLIP: STD CLIP c/w 1/2" x 3 1/2 LG LAG BOLT FOR 7" DECK OR 1/2" x 2 1/2 LG LAG BOLT FOR 6" DECK (2 - REQ'D PER TC CLIP)	TOP FLANGE OF NEW STRINGERS	S-1482	SUPPLIED BY DEPARTMENT

* NOTE: SUBSTITUTE L 3 1/2 x 2 1/2 x 3/8 IF L 2 1/2 x 2 1/2 x 1/2 NOT AVAILABLE

NEW MATERIAL REQUIRED					
MARK	NO	SHAPE & SIZE	LOCATION	REF DWG	REMARKS
BOTTOM CHORD STRENGTHENING					
b+1	4	ANCHOR BRACKET	L0 & L5	S-1481	SEE (S) DETAIL
b+2	1	JACKING SADDLE	L0	"	SEE (R) DETAIL
b+3	18	SUPPORT BRACKET	PANEL POINTS AND MIDWAY BETWEEN PANEL POINTS	"	SEE (Q) DETAIL
DYWIDAG BAR	10	BAR 1" x 11'-6"	SEE KEY DIAGRAM	"	
DYWIDAG BAR	2	BAR 1" x 6'-6"	SEE KEY DIAGRAM	"	
DYWIDAG COUPLER	10	1" x 7" DYWIDAG COUPLER	SEE KEY DIAGRAM	"	
DYWIDAG CONED NUT	4	1" DYWIDAG CONED NUT	L0 & L5	"	
DYWIDAG NUT	6	1" DYWIDAG LOCKING NUT	L0 & L5	S-1481	

FIELD BOLT SUMMARY: (3% OVER ESTIMATE)				
QUANTITY	DIAMETER	LENGTH	MATERIAL	LOCATION
140	3/4"	2"	A325 STRUCTURAL BOLTS	DIAGONAL CONNECTIONS AND OPEN HOLES IN EXISTING (S3) AND (S6) STRINGER WEBS
30	3/4"	2 1/2"	"	BOTTOM CHORD CONNECTIONS
250	3/4"	2 3/4"	"	TOP CHORD CONNECTIONS
70	3/4"	3 1/4"	"	TOP CHORD CONNECTIONS
50	3/4"	4 1/4"	"	STRINGER CONNECTIONS AT NEW STRINGER LINE ①
50	3/4"	4 1/2"	"	STRINGER CONNECTIONS AT NEW STRINGER LINE ②
50	3/4"	4 3/4"	"	STRINGER CONNECTIONS AT NEW STRINGER LINE ③
30	3/4"	5 1/4"	A325 STRUCTURAL BOLTS	STRINGER CONNECTIONS AT NEW STRINGER LINES ④
180	3/4"		HARDENED BEVELLED WASHERS	STRINGER CONNECTIONS AT NEW STRINGER LINES ① ② ③ AND ④

GENERAL NOTES

- ALL DIMENSIONS ARE GIVEN IN IMPERIAL UNITS.
- QUANTITIES ARE FOR ONE SPAN.
- ALL REQUIREMENTS OF THE CURRENT BRIDGE BRANCH SPECIFICATION FOR THE SUPPLY OF STRUCTURAL STEEL FOR BRIDGES (SPEC B187M) SHALL BE MET.
- ALL STEEL SHALL CONFORM TO THE CURRENT REQUIREMENTS OF ASTM A36 OR CSA G40.21M-300W UNLESS NOTED OTHERWISE.
- ALL BOLTED CONNECTIONS SHALL BE MADE WITH 3/4 DIA HIGH TENSILE BOLTS, NUTS AND HARDENED WASHERS CONFORMING TO ASTM SPECIFICATION A325.
- ALL WELDING SHALL CONFORM TO CURRENT AWS SPECIFICATION D11.
- ALL HOLES SHALL BE 13/16 DIA UNLESS NOTED OTHERWISE.
- BOLT HEADS SHALL BE ON OUTSIDE OF MEMBERS UNLESS NOTED OTHERWISE.
- ALL STEEL SHALL BE BLAST CLEANED IN ACCORDANCE WITH THE CURRENT SSPC SPECIFICATION SP6 PRIOR TO PAINTING. PAINTING SHALL NOT COMMENCE UNTIL APPROVAL OF THE CLEANING HAS BEEN OBTAINED FROM THE ENGINEER.
- ONE COAT OF SHOP PRIMER CONFORMING TO THE CURRENT CSSB SPECIFICATION 1-8P-166M TYPE 111 SHALL BE APPLIED TO ALL NEW STEEL EXCEPT FOR CONTACT AREAS OR FOR DYWIDAG BARS, NUTS AND COUPLERS. DRY THICKNESS OF PAINT SHALL BE 1.5 TO 2.5 MILS.
- WORK SEQUENCE SHALL BE:
 1. STRENGTHEN TOP CHORDS AND END POSTS
 2. REPLACE DIAGONALS
 3. ADD NEW STRINGERS (DO NOT TORQUE BOLTS)
 4. POST-TENSION BOTTOM CHORD
 5. TORQUE BOLTS FOR NEW STRINGERS

APPROVED							
EXECUTIVE DIRECTOR BRIDGE ENGINEERING				A24 PONY TRUSS STRENGTHENING WITH STRINGER INSERTIONS MATERIAL LIST AND NOTES			
DATE: 87-12-16				DATE: 87-12-16			
REVISIONS							
DESIGNED	DRAWN	DATE	CHECKED	DATE	STREAM	LOCATION	HIGHWAY
D H O	W S	87-12-16					
R J R							
						SHEET	DRAWING
						4 of 5	S-1484