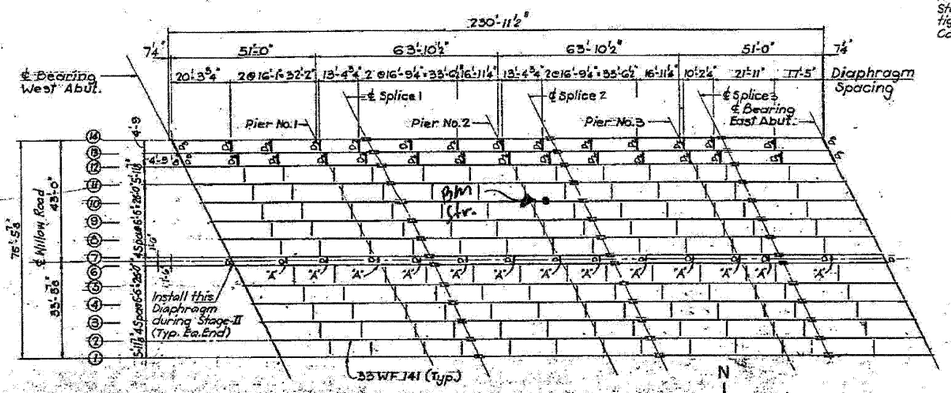
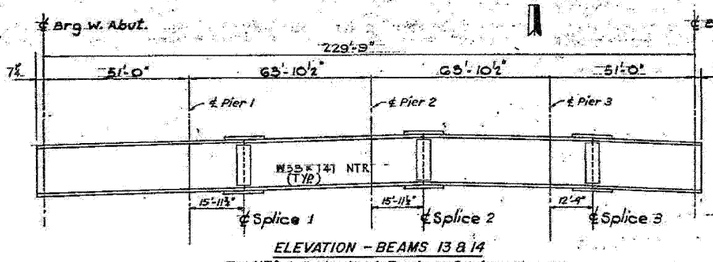
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEET	SHEET NO.	SHEET NO. 10 OF 22 SHEETS
I-94	1010.1 B-R+1012 I (B5)	COOK	110	66	
FED. ROAD	DIST. NO. 1	ILLINOIS			



FRAMING PLAN
(All Beams Existing Except 13 & 14)

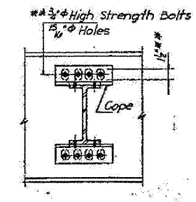


ELEVATION – BEAMS 13 & 14
NTR indicates Notch Toughness Requirements
* For Fabrication Only

TOP OF BEAM ELEVATION *

Location / Beam	℄ Brg. W. Abut.	℄ Pier 1	℄ Splice 1	℄ Pier 2	℄ Splice 2	℄ Pier 3	℄ Splice 3	℄ Brg. E. Abut.
13	634.731	635.078	635.187	635.329	635.376	635.251	635.218	635.101
14	634.614	634.969	635.081	635.232	635.283	635.169	635.139	635.029

** Use 13/16" × 1½" slotted holes in Bm. #6, Location "X" only. Provide ⅝" structural plate washers for slotted holes. Bolts shall be finger-tightened prior to the deck pour for Stage II Construction and then be fully tightened after the deck pour for Stage II Construction.



DIAPHRAGM D

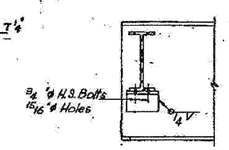
INTERIOR BEAM MOMENT TABLE

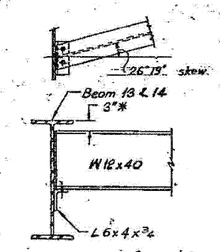
	0.4 Sp. 1 or 4	Pier 1 or 3	0.5 Sp. 2 or 3	Pier 2
I (in⁴)	7442.2	7442.2	7442.2	7442.2
S (in³)	446.8	446.8	446.8	446.8
ℓ (k/i)	0.97	0.97	0.97	0.97
M_{DL} ('k)	173.4	320.0	166.9	331.3
M_{LL} ('k)	308.0	258.0	319.8	276.7
Imp ('k)	86.0	70.0	83.2	71.9
M_{TOTAL} ('k)	567.4	648.0	569.9	679.9
fs (ksi)	15.24	17.40	15.31	18.26

INTERIOR BEAM REACTION TABLE

	Abut.	Pier 1 or 3	Pier 2
R_{DL} (k)	19.0	61.5	62.0
R_{LL} (k)	37.7	47.6	48.8
Imp (k)	10.5	10.0	9.8
R_{TOTAL} (k)	67.2	119.1	120.6

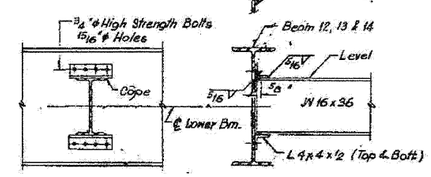
* May be varied to fit due to existing connections.



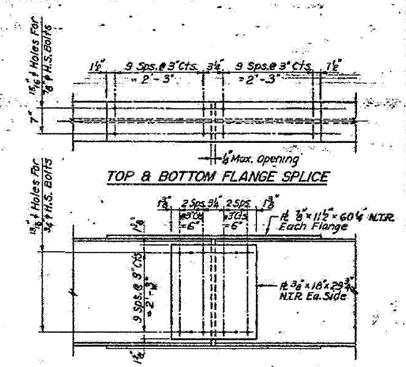


END DIAPHRAGM D_3
(Connection to Beam 12 Similar to Diaphragm D_1)

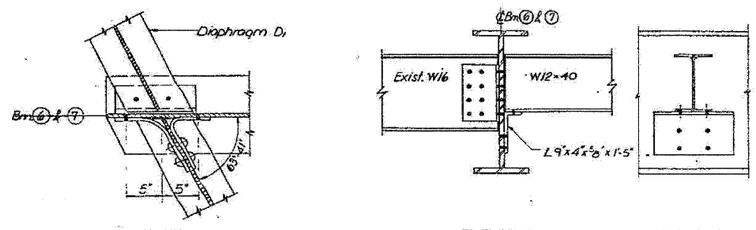
Note: Two Hardened washers shall be required over all 15/16" ϕ holes.



INTERIOR DIAPHRAGM D_2



WT. OF STRUCTURAL STEEL THIS SHEET = 75,730 Lbs.



PLAN ELEVATION SECTION

DETAIL OF CONNECTION – D_1 DIAPHRAGM

DESIGNED	E.M.M.
CHECKED	J.M.N.
DRAWN	J.N.
CHECKED	E.M.M.

Nakomotsuo, Rutkowski Wynn & Yi, Inc.
Consulting Engineers
205 West Wacker Drive, Suite 1300
Chicago, Illinois 60606
Tel (312) 444-9030

FRAMING PLAN
WILLOW ROAD OVER EDENS EXPRESSWAY
F.A. RTE. 99 SECTION 1010.1 B-R+1012 I (B5)
STA. 10+00 WILLOW ROAD (F.A. RTE. 99)
STA. 444+54 EDENS EXPRESSWAY (FAI-94)
COOK COUNTY
STRUCTURE NUMBER 016-0536

EXISTING PLAN INFORMATION 3 OF 6
STRUCTURE NO. 016-0536

FOR INFORMATION ONLY

benesch
alfred benesch & company
Engineers • Surveyors • Planners
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10032.13

SHEET NO. 14	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	94	1010.1-I-2	COOK	37	26
17 SHEETS			CONTRACT NO. 60J30		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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