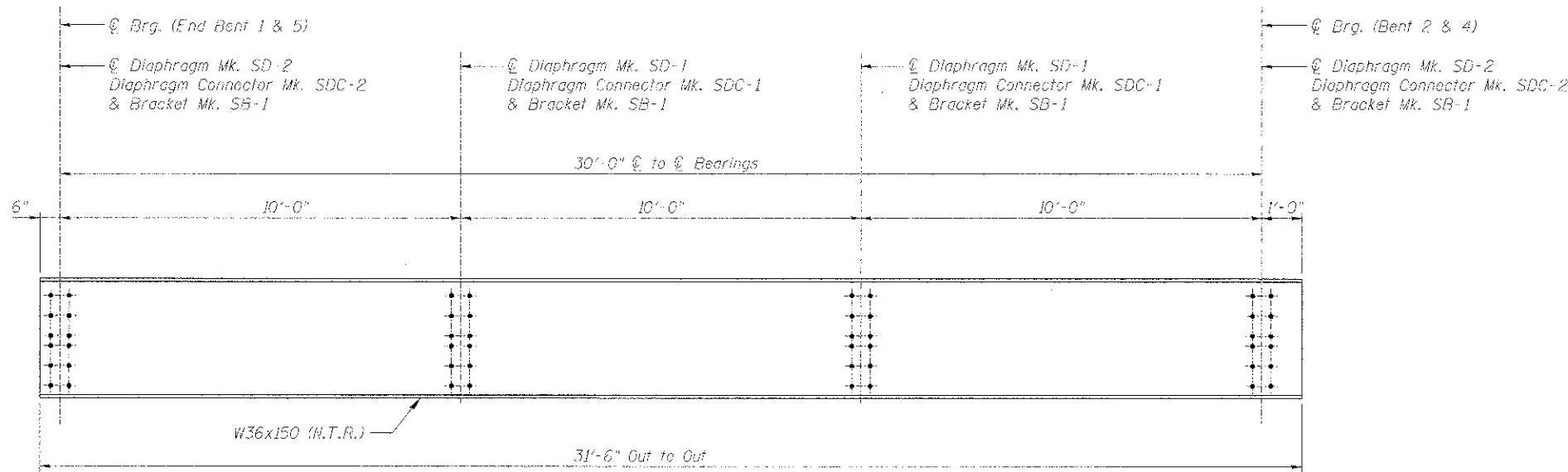


ELEVATION - BEAMS 1a, 2a, 3, 4a & 5a (SPANS 2 & 3)
 10 Req'd
 Est. Wt. = 27,270 LB. Each



ELEVATION - BEAMS 1 THRU 5 (SPANS 1 & 4)
 10 Req'd
 Est. Wt. = 4,730 LB. Each

MOMENT AND SHEAR PER BEAM

		MOMENT	
		Spans 1 & 4	Spans 2 & 3
Dead Load		170 k-ft	557 k-ft
Live Load	Alternate LL	394 k-ft	E80 1104 k-ft
Impact		195 k-ft	487 k-ft
	Total	759 k-ft	2,448 k-ft
Section - A709 Gr. 50W		W36x150	W40x431
Gross I Furnished		9,040 in ⁴	34,800 in ⁴
Net I Furnished		8,735 in ⁴	34,150 in ⁴
Net Section Modulus Furnished		487 in ³	1,654 in ³
Allowable Max. Stress in Flange		27.5 ksi	27.5 ksi
Actual stress in Flange	Tension	18.7 ksi	17.8 ksi
	Compression	18.1 ksi	17.5 ksi
Allowable Max. Deflection		0.57"	1.16"
Actual Max. Deflection Live Load + Impact		0.37"	1.09"
		SHEAR	
Dead Load		23 k	56 k
Live Load	Alternate LL	59 k	E80 81 k
Impact		29 k	36 k
	Total	111 k	173 k
Web Shear		4.9 ksi	3.1 ksi

Total estimated weight of structural steel = 499,840 Lbs. Quantity provided for information only.

BEARING ON MASONRY

	Spans 1 & 4	Spans 2 & 3
Total Reaction	111 k	173 k
Net Bearing Area Furnished	168 in ²	219 in ²
Average Bearing Stress	661 psi	790 psi

NOTE:

1. N.T.R. indicates Notch Toughness Requirements.
2. Holes are 1 1/8" for 3/4" H.S. Bolts.



STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

M.P. 37.71 BELVIDERE SUBDIVISION - STRUCTURE NO. 045-3168
 BEAM ELEVATION AND DESIGN DATA

FILE NAME =	USER NAME =	DESIGNED =	REVISIONS =
Per-BE-224-Beam-Data.dwg	rgm	JLS	
		CHECKED =	REVISIONS =
		LRB	
		DRAWN =	REVISIONS =
		RMG	
		CHECKED =	REVISIONS =
		LRB	

SHEET NO. UP-24 OF UP-52 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-0024-16-RP	KANE	451	284
			CONTRACT NO. 63598	
ILLINOIS FED. AID PROJECT				