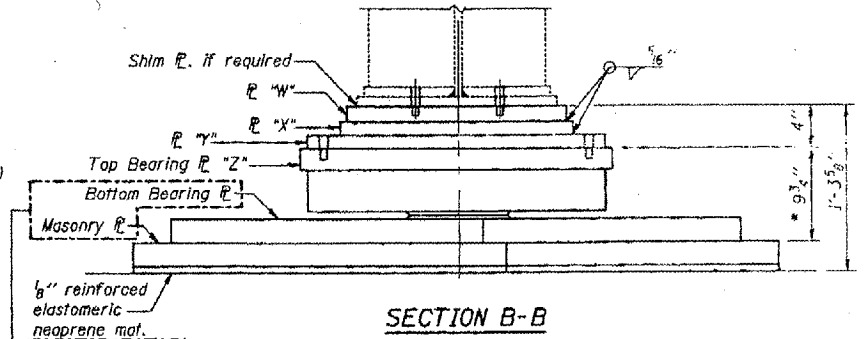
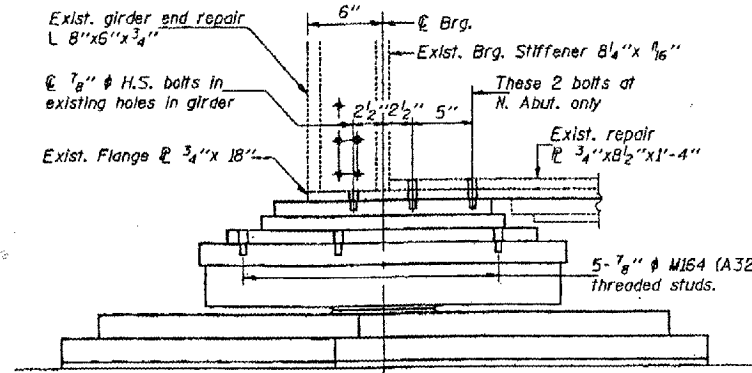
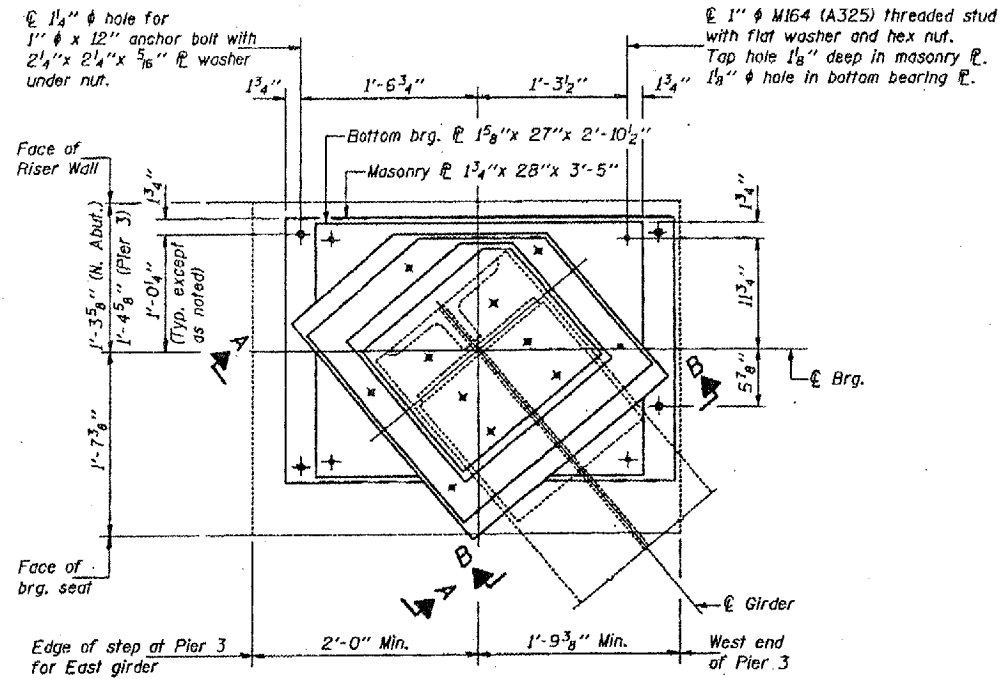


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONTRACT NO. 98989

VARIOUS ROUTES
VARIOUS COUNTIES
D9 BRIDGE PAINTING 2007-1
SHEET 12 OF 31



* Limit for pay item Seismic Isolation Bearing Assembly. Hardware for the attachment of Plate "Y" to Top Bearing Plate "Z" and for the attachment of the Bottom Bearing Plate to the Masonry Plate is included in Structural Steel.

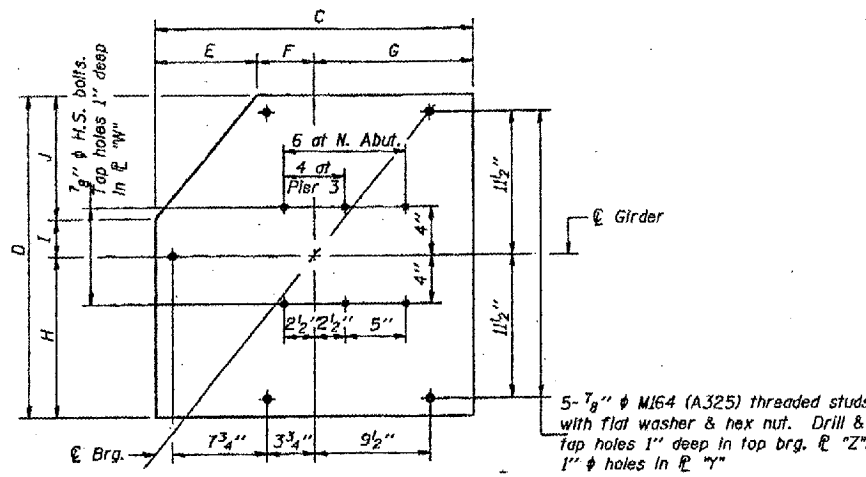


TABLE OF PLATE DIMENSIONS

Plate	t	C	D	E	F	G	H	I	J
W	1 $\frac{1}{2}$ "	1'-5"	1'-7"	1 $\frac{1}{4}$ "	6 $\frac{1}{4}$ "	9"	9 $\frac{1}{2}$ "	7 $\frac{1}{8}$ "	2 $\frac{1}{8}$ "
X	1 $\frac{1}{4}$ "	1'-8"	1'-8"	3 $\frac{9}{16}$ "	6 $\frac{1}{16}$ "	10"	10"	5 $\frac{5}{16}$ "	4 $\frac{3}{16}$ "
Y	1 $\frac{1}{4}$ "	2'-2"	2'-2"	8 $\frac{3}{8}$ "	4 $\frac{5}{8}$ "	1'-1"	1'-1"	3"	10"
Z	1 $\frac{1}{2}$ "	2'-6"	2'-2 $\frac{3}{4}$ "	10 $\frac{1}{4}$ "	4 $\frac{3}{4}$ "	1'-3"	1'-1 $\frac{3}{8}$ "	1 $\frac{3}{16}$ "	1'-0 $\frac{3}{16}$ "

Notes: All plates shall be AASHTO M 270, Grade 50. Seismic isolation assembly and all steel plates shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. All hardware shall be hot dip galvanized according to AASHTO M 232 and ASTM A 153. Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. See sheet 9 of IT for Anchor Bolt Installation.

VERTICAL REACTIONS
PER TYPE A BEARING

	N. Abut. & Pier 3 (N.)
R _{DL} (k)	109
R _{LL} (k)	98
R _{IMP} (k)	20
R _{TOTAL} (k)	227

NON-SEISMIC LATERAL EFFECTS
PER TYPE A BEARING

		N. Abut.	Pier 3 (N.)
Thermal Effects	Longitudinal Displ. (in)	2.46	2.46
	Longitudinal Force (k)	25.9	14.8
AASHTO Group Load Effects	Longitudinal Force (k)	13.7	13.7
	Transverse Force (k)	12.6	12.6
	Transverse Displ. (in)	0.48	0.48

FORCE-DEFLECTION CHARACTERISTICS
PER TYPE A BEARING

Longitudinal Load Case:	N. Abut. Pier 3 (N.)		Transverse Load Case:	N. Abut. & Pier 3 (N.)	
	N. Abut.	Pier 3 (N.)		N. Abut. & Pier 3 (N.)	N. Abut. & Pier 3 (N.)
K _d (k/in)	8.0	3.5	K _d (k/in)	12.0	
Δ_{max} (in)	2.72	2.72	Δ_{max} (in)	2.30	
F _{max} (k)	31.2	19.0	F _{max} (k)	37.0	
K _{err} (k/in)	11.5	7.0	K _{err} (k/in)	16.1	
EDC (k-in)	103	103	EDC (k-in)	87	
β	0.19	0.32	β	0.16	

BILL OF MATERIAL
(Total for 2 Structures)

Item	Unit	Total
Jack and Remove Existing Bearings	Each	8
Seismic Isolation Bearing Assembly, Type A	Each	8
Furnishing and Erecting Structural Steel	Pound	19,260

BRIDGES NO. 1 AND NO. 2
002-0003 002-0004
FOR INFORMATION ONLY

BEARING DETAILS
PIER 3 (N.) & NORTH ABUTMENT
F.A.I. RTE. 57 - SEC. (02-1B)I
ALEXANDER COUNTY
STATION 943+72.00