JACK AND REMOVE EXISTING BEARINGS PROCEDURES

ROUTE NO.	SEC	COUNTY	TOTAL SHEETS	SHEET NO.
FAS RTE 1588	*	ADAMS	38	33
FED. ROAD DIST. NO. 7	ILLINOIS		PROJECT	

Location #2 Structure No. 001-3028
05-00189-00-BR

SHEET NO. 8 OF 13

1. Jacking and Cribbing shall be done after existing deck removal is completed.

2. The Contractor shall submit for approval by the Engineer plans for jacking and cribbing, prior to commencing any work at the bearings. The maximum dead load reaction with the deck removed (per bearing) at the east and west abutments = 3 kips. The minimum jack capacity at each beam shall be 6 kips at the east and west abutments.

3. Top of beam elevations shall be measured prior to jacking and shall remain the same after bearings are in place.

4. There shall be at least one jack per bearing and the jack shall be placed close to the bearing. The steel shall be raised a maximum of $\frac{1}{4}$" and shall be blocked in position until after the completion of the installation of new bearings.

5. Burn the existing anchor bolts flush with the concrete surface, grind smooth, and seal with epoxy. The rockers and top and bottom plates shall be removed. The top plate shall be removed using the air-arc method. Grind smooth all weld material remaining on the bottom flange. Cost of removing anchor bolts, rockers, top plates, and bottom plates shall be included with "Jack and Remove Existing Bearings."

6. Anchor bolts shall be set before bolting diaphragms over supports.

7. The new concrete abutment seats, elastomeric bearings, and end diaphragms shall be in place and the jacks lowered before the new concrete deck is poured.
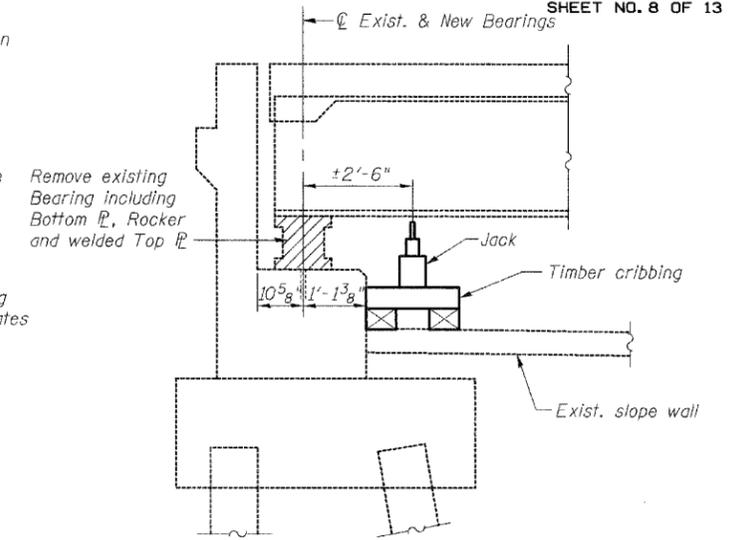
AT EAST AND WEST ABUTMENTS
(Dimensions at Rt L's)

EXISTING BEARING REMOVAL DETAIL

INTERIOR BEAM MOMENT TABLE

		0.4 Sp. 1 & 0.6 Sp. 3	Piers 1 & 2	0.5 Sp. 2
Is	(in⁴)	3,604	3,604	3,604
Ic (n)	(in⁴)	10,040		10,040
Ic (3n)	(in⁴)	7,325		7,325
Ss	(in³)	266	266	266
Sc (n)	(in³)	400		400
Sc (3n)	(in³)	360		360
$\bar{D}$	(k/')	0.68	0.96	0.68
M$\bar{D}$	('k)	88	193	64
s$\bar{D}$	(k/')	0.28		0.28
Ms$\bar{D}$	('k)	40		36
M$\frac{L}{}$	('k)	213	112	218
M (Imp)	('k)	64	33	63
$\frac{5}{3}$[M$\frac{L}{}$+M(Imp)]	('k)	462	242	468
Ma	('k)	767	565	739
fs$\bar{D}$ non-comp	(ksi)	4.0	8.7	2.9
fs$\bar{D}$(comp)	(ksi)	1.3		1.2
fs$\frac{5}{3}$($\frac{L}{}$+Imp)	(ksi)	13.9	10.9	14.1
fs (Overload)	(ksi)	19.2	19.6	18.1
fs (Total)	(ksi)	24.9	25.5	23.6
VR	(kips)	39.1		41.7

INTERIOR BEAM REACTION TABLE

		W. & E. Abuts.	Piers 1 & 2
R$\bar{D}$	(kips)	15.7	48.6
R$\frac{L}{}$	(kips)	27.5	33.5
Imp.	(kips)	8.2	7.7
R (Total)	(kips)	51.4	89.8

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)

VR is the maximum Live Load + Impact shear range in span.

Ma (Applied Moment)=1.3[M$\bar{D}$ + Ms$\bar{D}$ +$\frac{5}{3}$(M$\frac{L}{}$+ M(Imp))].

fs (Overload) is the sum of the stresses due to M$\bar{D}$ + Ms$\bar{D}$ +$\frac{5}{3}$(M$\frac{L}{}$+ M(Imp)).

fs (Total) is the sum of the stresses due to 1.3[M$\bar{D}$ + Ms$\bar{D}$ +$\frac{5}{3}$(M$\frac{L}{}$+ M(Imp))].

M$\bar{D}$ - Moment due to dead loads on non-composite section.

Ms$\bar{D}$ - Moment due to dead loads on composite section.

M$\frac{L}{}$ - Moment due to live load on non-composite or composite section.

M(Imp) - Moment due to live load impact on non-composite or composite section.

BILL OF MATERIAL

Item	Unit	Total
Jack and Remove Existing Bearings	Each	12

	BGJ					12/05
REV. NO.	DRAWN	CHKD.	APPD.	DESCRIPTION		DATE

F.A.S. RTE. 1588 OVER WALNUT CREEK
SECTION 05-00189-00-BR
Project RS-1588 (106)
ADAMS COUNTY

MOMENT & REACTION TABLES,
JACK AND REMOVE EXISTING BEARINGS
STRUCTURE NUMBER 001-3028
STATION 407+65