OKR3012187
OKLAHOMA DEPARTMENT OF TRANSPORTATION
ARKANSAS RIVER
INTERSTATE 40 BRIDGE
ENCLOSURE 2 OF 6

DESIGN DATA

DESIGN SPECIFICATIONS:

AASHTO LRFD Bridge Design Specifications, 1998 edition and 2000 Interims for Span 1, 2 and 3 (Including Pier 3)

AASHTO Bridge Design Specifications, 1996 edition and 1997 Interims for Span 4

DESIGN LOADING:

HL-93 for Spans 1, 2 and 3 (Including Pier 3)
HS-20 for Span 4

Oklahoma Overload (Strength-II Load Combination)

Operating Rating (LFD) HS-44

Design Dead Load includes an allowance of 80 psf for a future wearing surface.

UNIT STRESSES:

Class AA Concrete	f'c = 4,000 psi
Class A Concrete	f'c = 3,000 psi
Prestressed Beam Concrete	f'c = 10,000 psi f'ci = 7,000 psi
Reinforcing Steel (Grade 60)	Fy = 60,000 psi
Structural Steel (A36)	Fy = 36,000 psi

Prestressed Strand: 0.60 in. nominal diameter Type 270 K, 7-wire uncoated, low-relaxation strand conforming to AASHTO M203 (ASTM A416) and Supplement 1.

FOUNDATION PRESSURES

PIERS	PIER 1	PIER 2	PIER 3
DRILLED SHAFT DIAMETER	108"	108"	108"
MINIMUM DEPTH INTO ROCK •	27'	27'	27'
FACTORED REACTION (TONS/SHAFT) •	2290	2313 △1	1973 △1 △2
NOMINAL UNIT BEARING RESISTANCE (TSF) •	70	70	70
BEARING RESISTANCE FACTOR •	0.7	0.7	0.7
FACTORED BEARING RESISTANCE •	3117	3117	3117
NOMINAL UNIT FRICTION RESISTANCE (TSF) •	10	10	10
FRICTION RESISTANCE FACTOR •	0.45	0.45	0.45
FACTORED FRICTION RESISTANCE •	2290	2290	2290
DEPTH OF SANDSTONE NEGELECTED FOR FRICTION •	9.0'	9.0'	9.0'
TOTAL FACTORED RESISTANCE (TONS/SHAFT) •	5407	5407	5407

ABUTMENTS	ABUT. 1 HP 12 x 53	
MAXIMUM FACTORED PILE REACTION •	89.7	TONS PER PILE

STEEL PILING: All Abutment Piling shall be driven through the compacted fill. Steel Piling shall be driven to point bearing on solid foundation material at the approximate elevation shown on the Plans. If practical refusal is not obtained at this elevation, driving shall continue until the minimum required bearing of 128 tons is obtained. The length of steel piling shown on the Plans is for estimating purposes only.

Bearing capacity of the piles shall be determined by Engineering News-Record (ENR) Formula Method.

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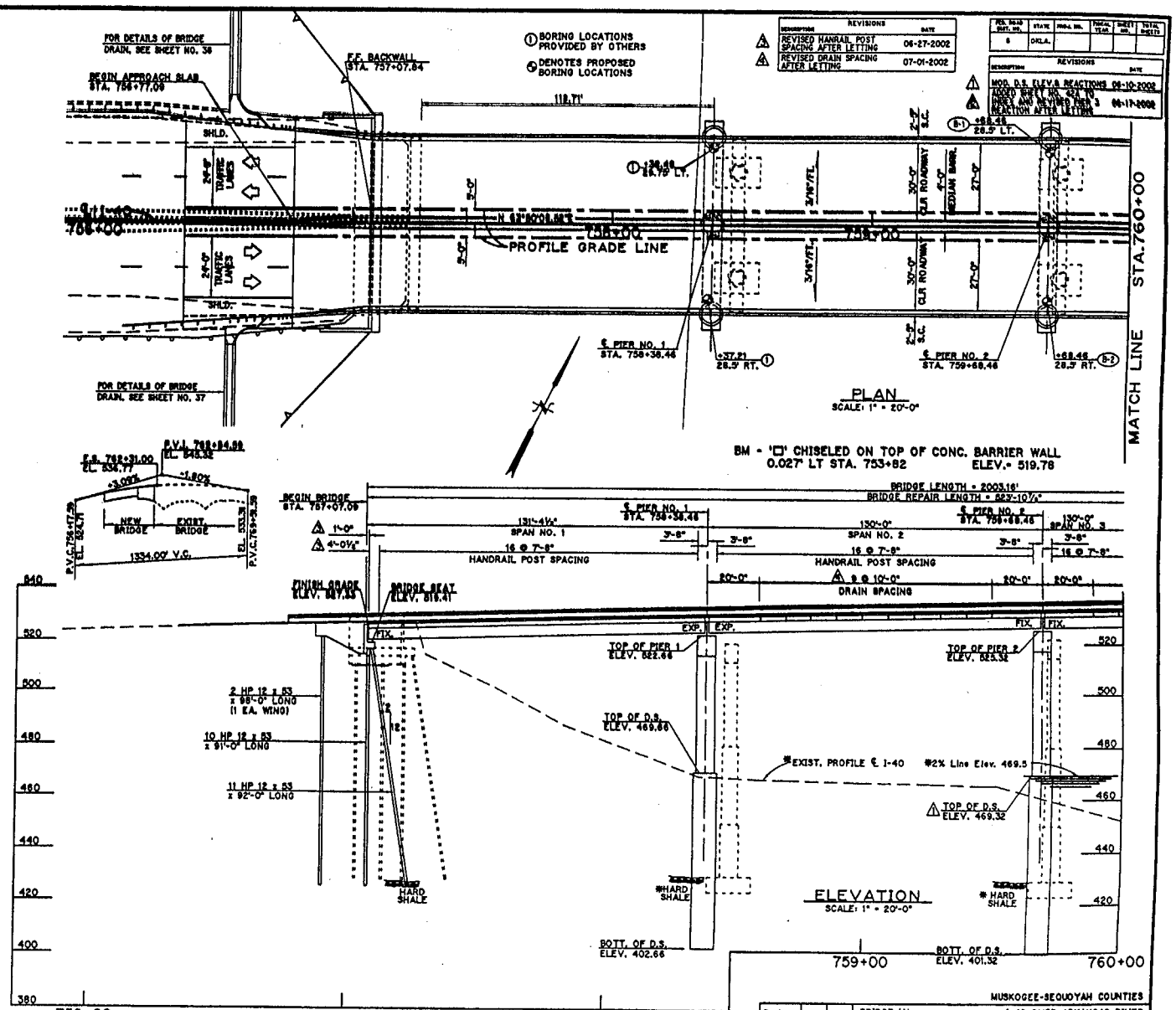

* INFORMATION DERIVED FROM F.A.P. NO. IR-40-6(187)291 BRIDGE REHAB. PLANS