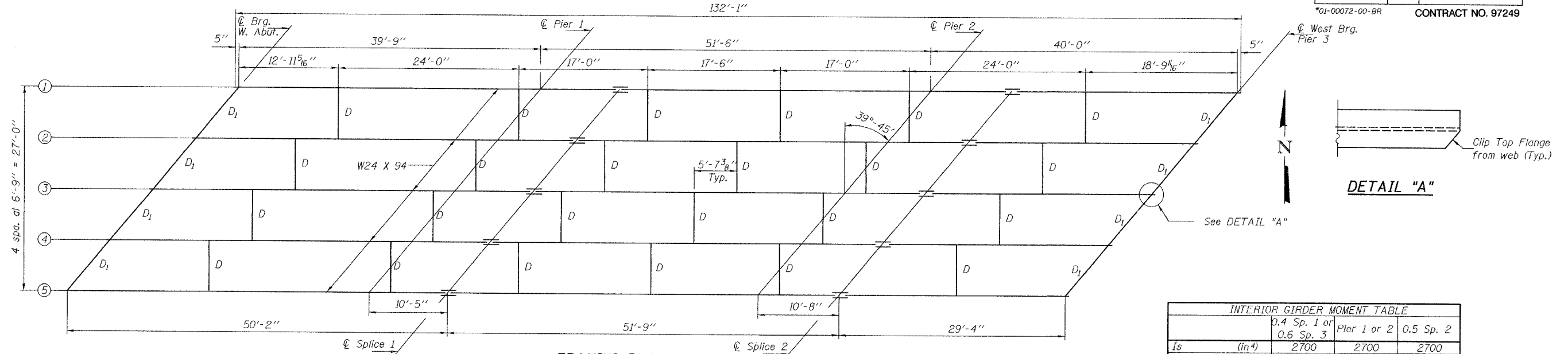


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                            |              |                  |                   |             |                          |
|----------------------------|--------------|------------------|-------------------|-------------|--------------------------|
| ROUTE NO.<br>F.A.S.<br>738 | SECTION<br># | COUNTY<br>Greene | SHEET NO.<br>28   | "SET"<br>12 | SHEET NO. 8<br>20 SHEETS |
| FED. ROAD DIST. NO. 7      |              | BILLINGS         | FED. AID PROJECT- |             |                          |

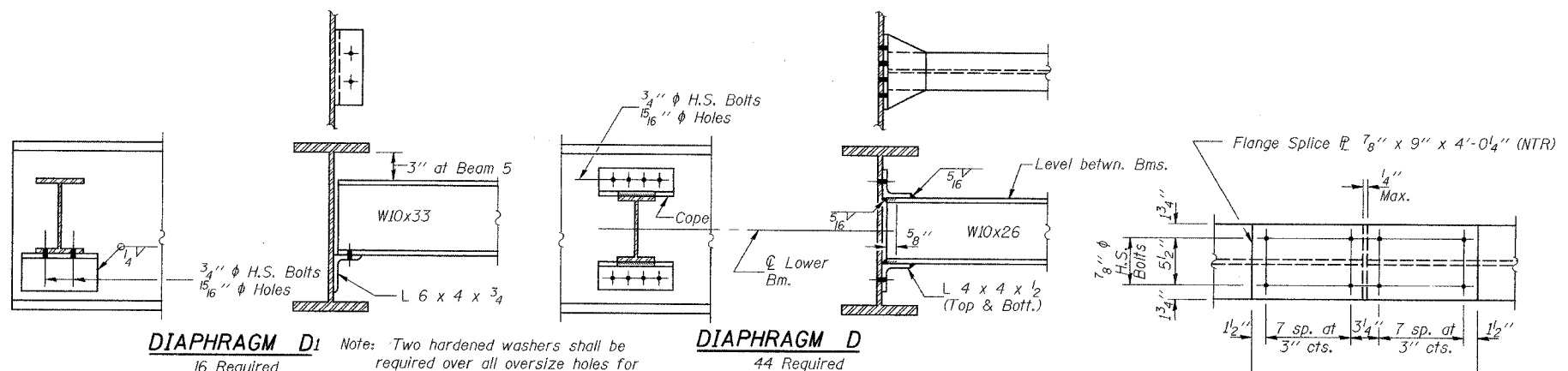
\*01-00072-00-BR  
CONTRACT NO. 97249



|                             | 0.4 Sp. 1 or 0.6 Sp. 3 | Pier 1 or 2 | 0.5 Sp. 2 |
|-----------------------------|------------------------|-------------|-----------|
| $I_s$ (in <sup>4</sup> )    | 2700                   | 2700        | 2700      |
| $S_s$ (in <sup>3</sup> )    | 222                    | 222         | 222       |
| $\phi$ (K/ft.)              | 1.15                   | 1.15        | 1.15      |
| $M\phi$ (K)                 | 122.4                  | 244.4       | 133.9     |
| $M\psi$ (K)                 | 222.6                  | 185.2       | 241.0     |
| $M$ (Imp) (K)               | 66.8                   | 54.2        | 68.2      |
| $S_3(M\psi+I)$ (K)          | 482.5                  | 399.0       | 515.3     |
| $M_a$ (K)                   | 786.4                  | 836.4       | 844.0     |
| $f_s\phi$ non-comp(k.s.i.)  | 6.6                    | 13.2        | 7.2       |
| $f_s S_3(M\psi+I)$ (k.s.i.) | 26.1                   | 21.6        | 27.9      |
| $f_s$ (Overload) (k.s.i.)   | 32.7                   | 34.8        | 35.1      |
| $f_s$ (Total) (k.s.i.)      | 42.5                   | 45.2        | 45.6      |

|                 | Abut. | Pier 1 or 2 |
|-----------------|-------|-------------|
| $R\phi$ (K)     | 16.8  | 58.5        |
| $R\psi$ (K)     | 32.0  | 41.3        |
| Imp. (K)        | 9.6   | 12.4        |
| $R$ (Total) (K) | 58.4  | 112.2       |

$I_s$  and  $S_s$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (Total & Overload).  
 $M_a$  (Applied Moment) =  $1.3EM\phi + S_3(M\psi+I)$ .  
 $f_s$  (Overload) is the sum of the stresses due to  $M\phi + S_3(M\psi+I)$ .  
 $f_s$  (Total) is the sum of the stresses due to  $1.3EM\phi + S_3(M\psi+I)$ .



**\*TOP OF BEAM ELEVATIONS**

| Loc.           | Bm. #1 | Bm. #2 | Bm. #3 | Bm. #4 | Bm. #5 |
|----------------|--------|--------|--------|--------|--------|
| W. Abut.       | 498.87 | 498.98 | 499.09 | 498.99 | 498.89 |
| Pier 1         | 498.77 | 498.88 | 498.99 | 498.89 | 498.79 |
| Splice 1       | 498.75 | 498.86 | 498.97 | 498.87 | 498.77 |
| Pier 2         | 498.71 | 498.82 | 498.93 | 498.83 | 498.73 |
| Splice 2       | 498.70 | 498.81 | 498.92 | 498.82 | 498.72 |
| W. brg. Pier 3 | 498.74 | 498.85 | 498.96 | 498.86 | 498.76 |

\* For Fabrication Only.

|          |     |
|----------|-----|
| DESIGNED | ABG |
| CHECKED  | ZBU |
| DRAWN    | SMS |
| CHECKED  | JFS |

January 21, 2005  
 EXAMINED *Thomas J. Domagala*  
 PASSED *Ralph E. Anderson*

NOTES: "NTR" denotes members to which Notch Toughness Requirements are applicable.  
 All splice plates shall be AASHTO M270 Grade 50W.

**FRAMING PLAN - UNIT 1**  
**F.A.S. 738 OVER**  
**HURRICANE CREEK**  
**SECTION 01-00072-00-BR**  
**GREENE COUNTY**  
**STA. 144+72.46**  
**STR. NO. 031-3005**