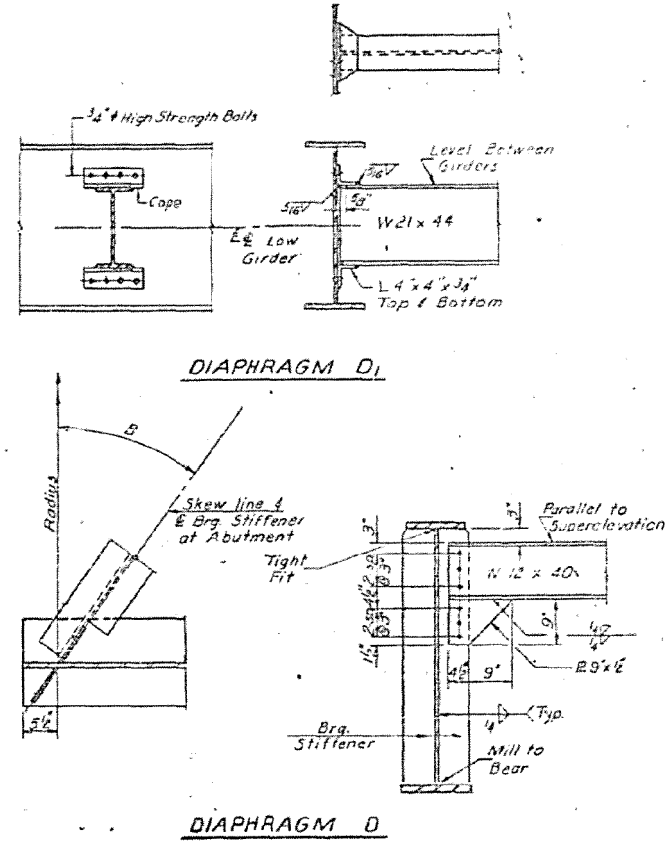
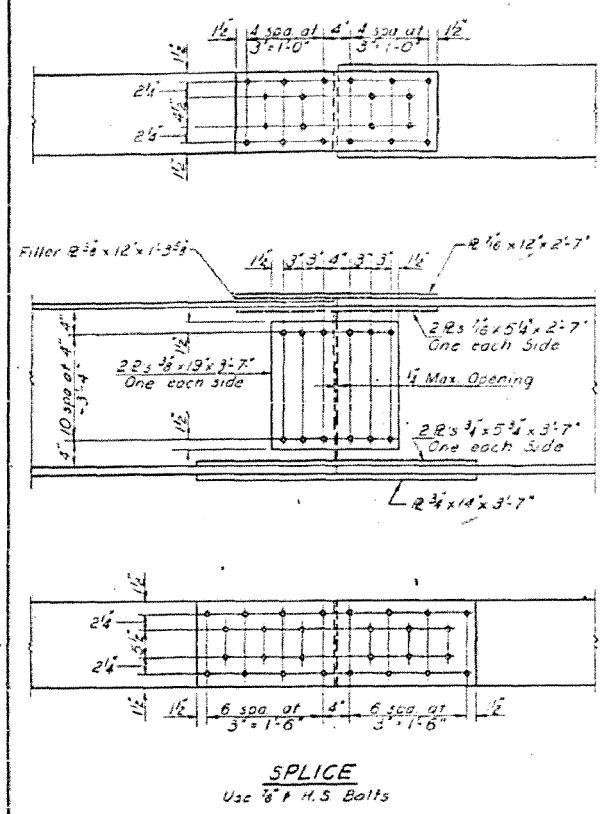


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|             |         |         |              |           |
|-------------|---------|---------|--------------|-----------|
| PROJECT NO. | SECTION | PROJECT | TOTAL SHEETS | SHEET NO. |
| 17          | 1       | SHELBY  | 20           | 12        |
| SHEETS      |         |         |              |           |



**ANGLE B**

| Girder    | E Brg. W. Abut. | E Brg. E. Abut. |
|-----------|-----------------|-----------------|
| Girder 1  | 35°13'47"       | 37°26'36"       |
| Girder 2  | 35°10'09"       | 37°22'33"       |
| Girder 3  | 35°06'32"       | 37°18'44"       |
| Girder 4  | 35°02'55"       | 37°14'49"       |
| Girder 5  | 34°59'19"       | 37°10'55"       |
| Girder 6  | 34°55'44"       | 37°07'02"       |
| Girder 7  | 34°53'57"       | 37°05'06"       |
| Girder 8  | 34°50'23"       | 37°01'14"       |
| Girder 9  | 34°46'50"       | 36°57'23"       |
| Girder 10 | 34°43'18"       | 36°53'34"       |
| Girder 11 | 34°39'47"       | 36°49'44"       |
| Girder 12 | 34°36'16"       | 36°45'56"       |

**INTERIOR GIRDER MOMENT TABLE**

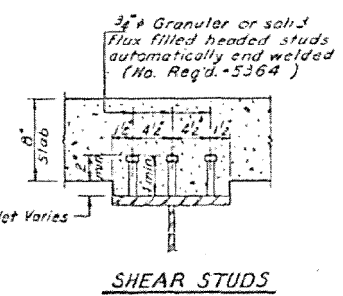
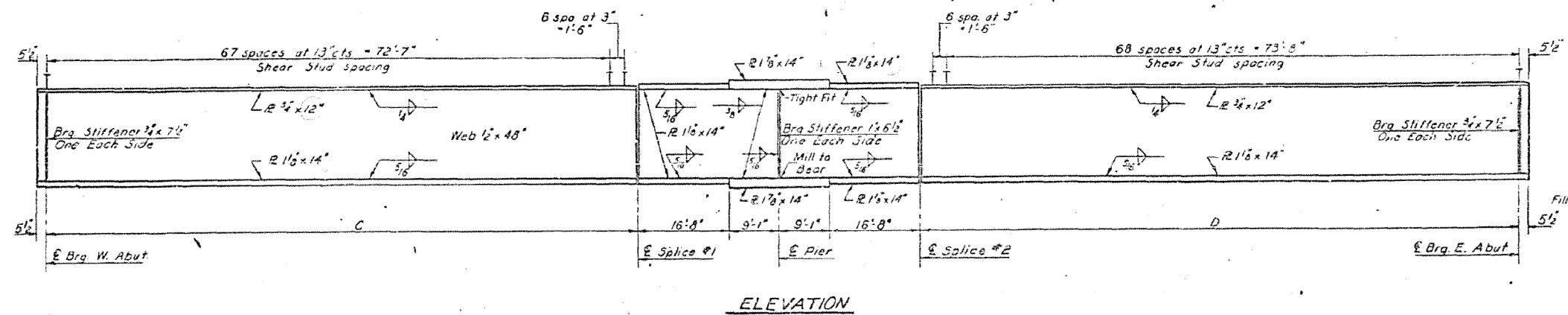
|   | 0.4 Sp. I | Pier  |
|---|-----------|-------|
| I <sub>s</sub> (in <sup>4</sup> )                 | 18884     | 37272 |
| I <sub>c</sub> (in <sup>4</sup> )                 | 5085      |       |
| S <sub>s</sub> (in <sup>3</sup> )                 | 871       | 1440  |
| S <sub>c</sub> (in <sup>3</sup> )                 | 1213      |       |
| Q (in <sup>2</sup> )                              | 1.013     | 1.494 |
| M <sub>s</sub> (in)                               | 667       | 2082  |
| F <sub>s</sub> (ksi)                              | 92        | 174   |
| S <sub>Q</sub> (in)                               | 0.480     |       |
| M <sub>s</sub> (in)                               | 384       |       |
| M <sub>c</sub> (in)                               | 954       | 759   |
| M <sub>tp</sub> (in)                              | 210       | 167   |
| TOTAL (in)  | 1548      | 926   |
| I <sub>s</sub> +I <sub>c</sub> (in <sup>4</sup> ) | 153       | 77    |
| I <sub>s</sub> TOTAL (in <sup>4</sup> )           | 245*      | 251*  |
| V.R. (in)   | 62.1      |       |

**INTERIOR GIRDER REACTION TABLE**

|                         | Abut. | Pier  |
|-------------------------|-------|-------|
| R <sub>g</sub> (in)     | 56.3  | 135.8 |
| R <sub>h</sub> (in)     | 46.1  | 77.0  |
| I <sub>mp</sub> (in)    | 10.3  | 16.9  |
| R <sub>total</sub> (in) | 113.3 | 207.7 |

I<sub>s</sub> and S<sub>s</sub> are the moment of inertia and section modulus of the steel section.  
I<sub>c</sub> and S<sub>c</sub> are the moment of inertia and section modulus of the composite section used in computing I<sub>s</sub>.  
V.R. is the maximum 4" impact shear range in span used to determine shear connector spacing.  
\* Primary Stresses only.

NOTE: Work this sheet with sheet # 15



|          |              |          |             |
|----------|--------------|----------|-------------|
| DESIGNED | Suresh Desai | EXAMINED | [Signature] |
| CHECKED  | J. Deice     | PASSED   | [Signature] |
| DRAWN    | R. P. Summer | APPROVED | [Signature] |
| CHECKED  | J. P.        |          |             |

Note: All structural steel shall be A.S.T.M. A-588 steel

**STRUCTURAL STEEL**  
F.A. RT.17 SEC.11B-1  
SHELBY COUNTY  
STATION 108+77.95