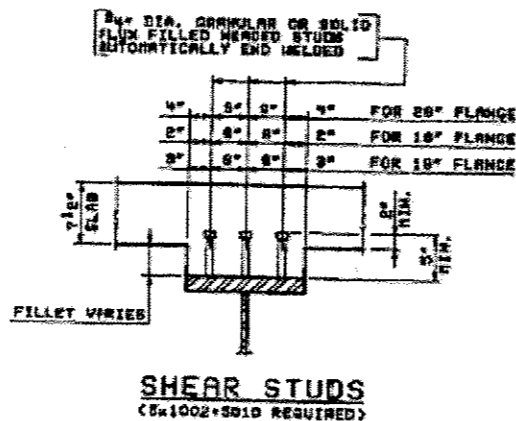
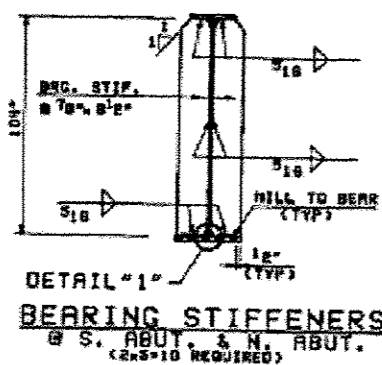


FOR INFORMATION ONLY

SHEET NO. 11 OF 20

| | | | | |
|-----------------------|--------|------------|------------------|--------------|
| ROUTE NO. | SECT. | COUNTY | SHEET NO. | TOTAL SHEETS |
| F.A. 742 | 33RB-1 | LEE & OGLE | 86 | 35 |
| FED. ROAD DIST. NO. 1 | | ILLINOIS | FED. AID PROJECT | |
| STY-DRF-742(25) | | | | |



MOMENT TABLE
(COMPOSITE IN POSITIVE MOMENT AREA ONLY)

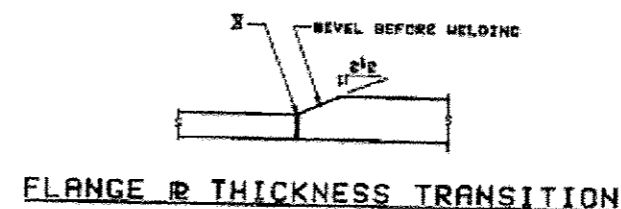
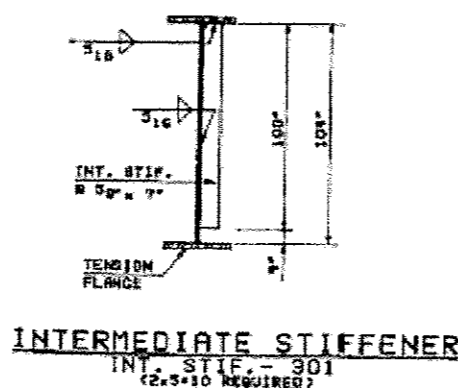
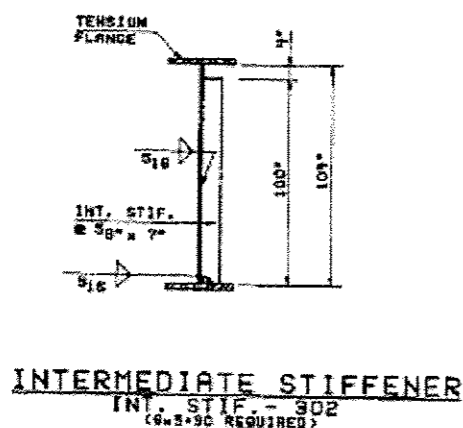
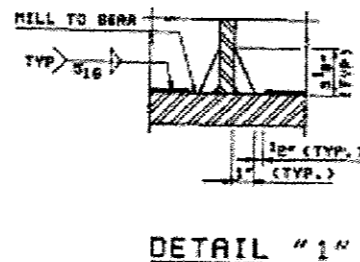
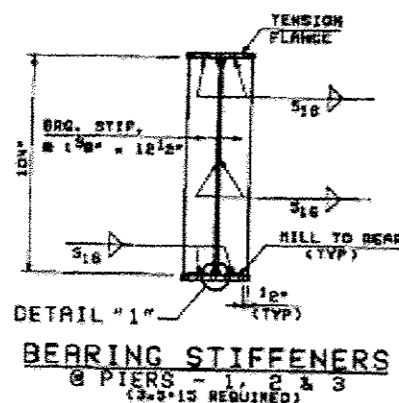
| | INTERIOR GIRDER MOMENT TABLE | | | |
|--------------------------|------------------------------|----------------|-------------------|--------|
| | D. 4 SP. 1 D. 5 SP. 4 | PIERS 1 & 3 | D. 3 SP. 2 & 3 | PIER 2 |
| I_x (IN ⁴) | 180785 | 89700 | 181940 | 488136 |
| I_y (IN ⁴) | 330024 | | 344408 | |
| S_x (IN ³) | 242337 | | 252235 | |
| S_y (IN ³) | 2287 | 7273 | 2616 | 7547 |
| S_x (IN ³) | 4436 | | 4676 | |
| S_y (IN ³) | 3869 | | 4107 | |
| M DL (FT-K) | 1.355 | 1.738 | 1.417 | 1.787 |
| M DL (FT-K) | 3928 | 12830 | 4018 | 14010 |
| M SOL (FT-K) | 0.350 | | 0.350 | |
| M SOL (FT-K) | 1118 | | 1192 | |
| M LL (FT-K) | 3372 | 4958 | 4152 | 5857 |
| M IMP (FT-K) | 480 | 610 | 501 | 616 |
| $5/8$ (M LL+I) (FT-K) | 6422 | 8772 | 7753 | 10005 |
| M_a (FT-K) | 14917 | 20289 | 16728 | 21220 |
| f_s DL NON-COMP (KSI) | 13.8 | 21.2 | 12.3 | 21.2 |
| f_s DL (COMP) (KSI) | 3.4 | | 3.2 | |
| f_s $5/8$ (LL+I) (KSI) | 17.4 | 14.5 | 20.0 | 15.1 |
| f_s (OVERLOAD) (KSI) | 39.7 | 32.7 | 36.6 | 36.3 |
| f_s (TOTAL) (KSI) | 43.1 | 40.4 | 47.6 | 47.2 |
| VR (K) | 89.1 | | 101.8 | |

INTERIOR GIRDER REACTION TABLE

| | S. ABUT. & N. ABUT. | PIERS 1 & 3 | PIER 2 |
|---------------|------------------------|----------------|--------|
| R DL (K) | 122.7 | 300.0 | 320.7 |
| R LL (K) | 78.2 | 191.4 | 204.3 |
| R IMP. (K) | 11.3 | 25.1 | 24.7 |
| R TOTAL (K) | 222.1 | 716.5 | 750.3 |

(1) M_a (APPLIED MOMENT) = $1.3[M DL + M SOL + 5/8 (M LL+I)]$
 (2) NON-COMPACT SECTION

I_x AND S_x ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_s (TOTAL AND OVERLOAD).
 I_y AND S_y ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING f_s (TOTAL AND OVERLOAD).
 VR IS THE MAXIMUM LL + IMPACT SHEAR RANGE IN SPAN.
 f_s (TOTAL) IS THE SUM OF THE STRESSES DUE TO $1.3[M DL + M SOL + 5/8 (M LL+I)]$
 f_s (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO $M DL + M SOL + 5/8 (M LL + I)$
 $M DL$ - MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.
 $M SOL$ - MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.
 $M LL$ - MOMENT DUE TO LIVE LOAD ON NON-COMPOSITE OR COMPOSITE SECTION
 I - LIVE LOAD IMPACT



NOTES:
 1. FOR GENERAL NOTES SEE DWG. NO. GD-02.
 2. CLIP ALL STIFFENER PLATES 1" HORIZONTALLY AND 3/4" VERTICALLY AT WELD TO FLANGE CONNECTION OF ALL MAIN GIRDERS.

| REVISION | DATE | DESCRIPTION |
|----------|------|-------------|
| | | |
| | | |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL DETAILS

GRAND DETOUR BRIDGE
OVER ROCK RIVER
F.A. RTE. 742 SECTION 33RB-1
STA. 1228+96 LEE & OGLE COUNTIES
STRUCTURE NUMBER 052-0063

STEINMANN-BOYNTON INC.
CONSULTING ENGINEERS - CHICAGO, ILLINOIS

| | | | |
|-------------------|--------------|--------------|--------------|
| DRAWING NO. GD-13 | SCALE N.T.S. | DATE 4-17-93 | SHEET NO. 35 |
|-------------------|--------------|--------------|--------------|

| | | | | |
|------------|-----------|---|---------------------------------------|--|
| DESIGNED - | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | EXISTING BRIDGE PLANS SN: 052-0063 | F.A.P. R.T.E. SECTION COUNTY TOTAL SHEETS SHEET NO. IL 2 D2 BRIDGE PAINTING 2014-1 LEE / OGLE 25 14 CONTRACT NO. 64J52 |
| DRAWN - | REVISED - | ILLINOIS | | |
| CHECKED - | REVISED - | | | |
| DATE - | REVISED - | | | |