



## BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS  
 Year of Construction 1959  
 Roadway Width 32.000  
 Center to Center Truss 38.833  
 Number of Spans 1  
 Live Load Distribution Factor 0.9370

Comments:

Truss I. D. 1 Truss Type: THROUGH

Span Length: Span 1  
191.333

Number of Panels: 8 Symmetry:

| Panel No. | Panel Code | Panel Length | Sub-Divided Panel Length | Vertical Height | Sub-Divided Vertical |
|-----------|------------|--------------|--------------------------|-----------------|----------------------|
| 1         | 7          | 23.917       | 0.000                    | 28.000          | 0.000                |
| 2         | 2          | 23.917       | 0.000                    | 33.250          | 0.000                |
| 3         | 2          | 23.917       | 0.000                    | 35.000          | 0.000                |
| 4         | 4          | 23.917       | 0.000                    | 35.000          | 0.000                |
| 5         | 3          | 23.917       | 0.000                    | 35.000          | 0.000                |
| 6         | 1          | 23.917       | 0.000                    | 33.250          | 0.000                |
| 7         | 1          | 23.917       | 0.000                    | 28.000          | 0.000                |
| 8         | 5          | 23.917       | 0.000                    | 0.000           | 0.000                |

Superimposed Dead Load:

Uniform Dead Load  
 (kips/ft)  
 Loaded Chord Unloaded Chord  
 0.355 0.000

Superimposed Dead Load:

| Loaded Chord Dist. | Loaded Chord Load | Unloaded Chord Dist. | Unloaded Chord Load |
|--------------------|-------------------|----------------------|---------------------|
| 0.000              | 28.160            | 0.000                | 0.000               |
| 23.917             | 62.790            | 0.000                | 0.000               |
| 47.833             | 52.440            | 0.000                | 0.000               |
| 71.750             | 54.970            | 0.000                | 0.000               |
| 95.667             | 53.790            | 0.000                | 0.000               |

|         |        |       |       |
|---------|--------|-------|-------|
| 119.583 | 54.970 | 0.000 | 0.000 |
| 143.500 | 52.440 | 0.000 | 0.000 |
| 167.417 | 62.790 | 0.000 | 0.000 |

Truss Members Selected:

L 0L 1  
L 0U 1  
U 1L 1  
U 1U 2  
L 1L 2  
U 1L 2  
U 2L 2  
U 2U 3  
L 2L 3  
U 2L 3  
U 3L 3  
L 3L 4  
U 3U 4  
U 3L 4  
L 3U 4  
U 4L 4  
L 4L 5  
U 4U 5  
L 4U 5  
U 4L 5  
U 5L 5  
L 5L 6  
U 5U 6  
L 5U 6  
U 6L 6  
L 6L 7  
U 6U 7  
L 6U 7  
U 7L 7  
L 7L 8  
U 7L 8

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.\*\*2, in.\*\*3, and in.\*\*4. Axial loads are shown in kips.

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. L 0L 1

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 14057.                      | 17530.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 23.917                     | 23.917                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 15.00  | 22.50 | 421.86                  | 743.54                  | 7.50 | 4.33 | 5.75 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 21.38 | 507.10                  | 595.25                  | 8.68 |

## Truss influence line - loaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 23.917 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 0.747  | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 23.917 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 0.747  | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |        |      |      |      |      |
|--------------------|--------|------|------|------|------|
|                    |        | INV. | OPER | POST | SPEC |
|                    |        | HS20 | 5C1  |      |      |
| Truss I. D.        | 1      |      |      |      |      |
| Truss Member I. D. | L 0L 1 |      |      |      |      |

Axial Dead Load  
Tension Compression

210.6 0.0

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 325.6         | 263.0                     | 199.2             | 389.4                         |
| OPER | 542.6         | 438.4                     | 332.0             | 649.1                         |

## Live Load Effect

Impact Factors: ten - .158 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|-------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 27.57 R      | 23.81              |       | 51.92               | 32.13       | 27.74              |       | 23.92              |
|           |           | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |
| OPER      | 5C1       | 27.75 R      | 23.96              |       | 74.92               | 0.00        | 0.00               |       | 0.00               |
|           |           | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 6.20          | HS123.99           | 223.2                |
| 5C1  | 11.96         | 0.00               | 478.6                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. L 0U 1

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 14277.                      | 17804.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 36.823                     | 36.823                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|-------|------|------|
| 25.78  | 41.21 | 2775.48                 | 2144.43                 | 21.40 | 8.21 | 7.21 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    |
|-------|-------------------------|-------------------------|-------|
| 41.21 | 2775.48                 | 2144.43                 | 21.40 |

## Truss influence line - loaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 23.917 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.151 | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 23.917 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.151 | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## RATING REPORT

## Rating Types and Vehicles

Structure I. D. HAM500

| INV. | OPER | POST | SPEC |
|------|------|------|------|
| HS20 | 5C1  |      |      |

|                    |        |
|--------------------|--------|
| Truss I. D.        | 1      |
| Truss Member I. D. | L 0U 1 |

| Axial Dead Load |             |
|-----------------|-------------|
| Tension         | Compression |
| 0.0             | 324.3       |

| Veh. | Axial Load Capacity |             | Available Capacity for LL+I |             |
|------|---------------------|-------------|-----------------------------|-------------|
|      | Tension             | Compression | Tension                     | Compression |
| INV. | 627.7               | 489.3       | 822.3                       | 294.7       |
| OPER | 1046.1              | 815.6       | 1370.4                      | 491.2       |

## Live Load Effect

Impact Factors: ten - .000 comp - .158

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live w/o imp. | Load Force | Loc. of Front Wheel | Lane w/imp. | Live w/o imp. | Load Force | Loc. of Conc. Load |
|-----------|-----------|--------------|---------------|------------|---------------------|-------------|---------------|------------|--------------------|
| INV.      | HS20      | 0.00         | R             | 0.00       | 0.00                | 0.00        | 0.00          | 0.00       | 0.00               |
|           |           | -42.45       | R             | -36.65     | 51.92               | -54.46      | -47.03        | 23.92      |                    |
| OPER      | 5C1       | 0.00         | R             | 0.00       | 0.00                | 0.00        | 0.00          | 0.00       | 0.00               |
|           |           | -42.72       | R             | -36.89     | 74.92               | 0.00        | 0.00          | 0.00       |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 5.41          | HS108.24           | 194.8                |
| 5C1  | 11.50         | 0.00               | 460.0                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 1L 1

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 5698.                       | 7105.     | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 28.000                     | 28.000                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|-------|------|------|
| 11.94  | 10.99 | 309.96                  | 40.08                   | -0.02 | 5.31 | 1.91 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 10.58 | 399.89                  | 27.38                   | 0.68 |

## Truss influence line - loaded chord:

|              |       |       |        |        |         |       |       |   |
|--------------|-------|-------|--------|--------|---------|-------|-------|---|
| X ordinates: | 0.000 | 0.000 | 23.917 | 47.833 | 191.333 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000 |        |        |         |       |       |   |
| Y ordinates: | 0.000 | 0.000 | 1.000  | 0.000  | 0.000   | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000 |        |        |         |       |       |   |

## Truss influence line - unloaded chord:

|              |       |         |       |       |       |       |       |   |
|--------------|-------|---------|-------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000   |       |       |       |       |       |   |
| Y ordinates: | 0.000 | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000   |       |       |       |       |       |   |

## RATING REPORT

## Rating Types and Vehicles

Structure I. D. HAM500

|      |      |      |      |
|------|------|------|------|
| INV. | OPER | POST | SPEC |
| HS20 | 5C1  |      |      |

|                    |        |
|--------------------|--------|
| Truss I. D.        | 1      |
| Truss Member I. D. | U 1L 1 |

|                 |             |
|-----------------|-------------|
| Axial Dead Load |             |
| Tension         | Compression |

|      |     |
|------|-----|
| 71.3 | 0.0 |
|------|-----|

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 161.1         | 52.1                      | 118.3             | 94.8                          |
| OPER | 268.5         | 86.8                      | 197.2             | 158.1                         |

## Live Load Effect

Impact Factors: ten - .289 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|-------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 29.35        | R                  | 22.76 | 37.92               | 24.95       | 19.35              | 23.92 |                    |
|           |           | 0.00         | R                  | 0.00  | 0.00                | 0.00        | 0.00               | 0.00  |                    |
| OPER      | 5C1       | 22.43        | R                  | 17.40 | 35.92               | 0.00        | 0.00               | 0.00  |                    |
|           |           | 0.00         | R                  | 0.00  | 0.00                | 0.00        | 0.00               | 0.00  |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 4.03          | HS 80.63           | 145.1                |
| 5C1  | 8.79          | 0.00               | 351.6                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 1U 2

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 15011.                      | 18720.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 24.486                     | 24.486                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|-------|------|------|
| 25.75  | 34.10 | 2388.22                 | 1822.35                 | 21.05 | 8.37 | 7.31 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    |
|-------|-------------------------|-------------------------|-------|
| 34.10 | 2388.22                 | 1822.35                 | 21.05 |

## Truss influence line - loaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 47.833 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.105 | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 47.833 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.105 | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      | 1    |
| Truss Member I. D. | U    | 1U   | 2    |      |

|                 |             |
|-----------------|-------------|
| Axial Dead Load |             |
| Tension         | Compression |
| 0.0             | 306.6       |

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 519.4         | 425.7                     | 703.3             | 241.8                         |
| OPER | 865.6         | 709.5                     | 1172.2            | 403.0                         |

## Live Load Effect

Impact Factors: ten - .000 comp - .158

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force w/o imp. | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force w/o imp. | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|----------------|---------------------|-------------|--------------------|----------------|--------------------|
| INV.      | HS20      | 0.00 R       | 0.00               | 0.00           | 0.00                | 0.00        | 0.00               | 0.00           | 0.00               |
|           |           | -40.34 R     | -34.84             | 75.83          | -47.48              | -41.00      | 47.83              |                |                    |
| OPER      | 5C1       | 0.00 R       | 0.00               | 0.00           | 0.00                | 0.00        | 0.00               | 0.00           | 0.00               |
|           |           | -40.60 L     | -35.06             | 35.83          | 0.00                | 0.00        | 0.00               |                |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 5.09          | HS101.84           | 183.3                |
| 5C1  | 9.93          | 0.00               | 397.0                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. L 1L 2

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 14057.                      | 17530.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 23.917                     | 23.917                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 15.00  | 22.50 | 421.86                  | 743.54                  | 7.50 | 4.33 | 5.75 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 21.38 | 507.10                  | 595.25                  | 8.68 |

## Truss influence line - loaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 23.917 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 0.747  | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 23.917 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 0.747  | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      | 1    |
| Truss Member I. D. |      |      | L 1L | 2    |

Axial Dead Load  
Tension Compression

210.6 0.0

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 325.6         | 263.0                     | 199.2             | 389.4                         |
| OPER | 542.6         | 438.4                     | 332.0             | 649.1                         |

## Live Load Effect

Impact Factors: ten - .158 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|-------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 27.57 R      | 23.81              |       | 51.92               | 32.13       | 27.74              |       | 23.92              |
|           |           | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |
| OPER      | 5C1       | 27.75 R      | 23.96              |       | 74.92               | 0.00        | 0.00               |       | 0.00               |
|           |           | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 6.20          | HS123.99           | 223.2                |
| 5C1  | 11.96         | 0.00               | 478.6                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 1L 2

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 5684.                       | 7088.     | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 36.824                     | 36.824                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 12.19  | 17.00 | 475.00                  | 107.00                  | 0.00 | 5.29 | 2.51 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 16.99 | 659.28                  | 75.85                   | 0.91 |

## Truss influence line - loaded chord:

|              |       |        |        |         |       |       |       |   |
|--------------|-------|--------|--------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 23.917 | 47.833 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000  |        |         |       |       |       |   |
| Y ordinates: | 0.000 | -0.320 | 0.675  | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000  |        |         |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |        |         |       |       |       |   |
|--------------|-------|--------|--------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 23.917 | 47.833 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000  |        |         |       |       |       |   |
| Y ordinates: | 0.000 | -0.320 | 0.675  | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000  |        |         |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      |      |
| Truss Member I. D. |      |      |      |      |

|  |                          |
|--|--------------------------|
|  | Axial Dead Load          |
|  | Tension      Compression |
|  | 136.7          0.0       |

| Veh. | Axial Load Capacity<br>Tension      Compression | Available Capacity for LL+I<br>Tension      Compression |
|------|-------------------------------------------------|---------------------------------------------------------|
| INV. | 258.8      80.4                                 | 176.8      162.4                                        |
| OPER | 431.3      133.9                                | 294.6      270.6                                        |

## Live Load Effect

Impact Factors: ten - .176 comp - .300

| Rat. Typ. | Rat. Veh. | Truck Live Load Force<br>w/imp. | Loc. of Front Wheel | Lane Live Load Force<br>w/imp. | Loc. of Conc. Load |
|-----------|-----------|---------------------------------|---------------------|--------------------------------|--------------------|
| INV.      | HS20      | 25.02 R<br>-8.83 L              | 21.28<br>-6.79      | 75.83<br>-4.08                 | 47.83<br>23.92     |
| OPER      | 5C1       | 24.72 R<br>-6.07 L              | 21.02<br>-4.67      | 98.83<br>-27.08                | 0.00<br>0.00       |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 6.17          | HS123.33           | 222.0                |
| 5C1  | 11.92         | 0.00               | 476.7                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 2L 2

| RATIO/Inv.       | Inventory | Allowable stress (fs) (psi) |         |         |
|------------------|-----------|-----------------------------|---------|---------|
|                  |           | Operating                   | Posting | Special |
| Fy (tension)     | 18150.    | 24750.                      | 0.      | 0.      |
| Fy (compression) | 9563.     | 11925.                      | 0.      | 0.      |
| Fy (ultimate)    | 33000.    |                             |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 33.250                     | 33.250                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 12.12  | 19.10 | 533.00                  | 174.00                  | 0.00 | 5.28 | 3.02 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 19.10 | 708.48                  | 135.48                  | 0.77 |

## Truss influence line - loaded chord:

|              |       |        |        |         |       |       |       |   |
|--------------|-------|--------|--------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 47.833 | 71.750 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |
| Y ordinates: | 0.000 | 0.487  | -0.428 | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |        |         |       |       |       |   |
|--------------|-------|--------|--------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 23.917 | 47.833 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |
| Y ordinates: | 0.000 | 0.243  | -0.513 | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |

## RATING REPORT

## Rating Types and Vehicles

Structure I. D. HAM500

|      |      |      |      |
|------|------|------|------|
| INV. | OPER | POST | SPEC |
| HS20 | 5C1  |      |      |

|                    |        |
|--------------------|--------|
| Truss I. D.        | 1      |
| Truss Member I. D. | U 2L 2 |

|                 |             |
|-----------------|-------------|
| Axial Dead Load |             |
| Tension         | Compression |
| 0.0             | 43.0        |

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 290.9         | 151.9                     | 316.7             | 126.1                         |
| OPER | 484.8         | 253.2                     | 527.9             | 210.2                         |

## Live Load Effect

Impact Factors: ten - .269 comp - .195

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force  | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|--------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 16.78 L      | 13.22              | 19.83  | 13.14               | 10.35       | 47.83              |       |                    |
|           |           | -15.90 R     | -13.30             | 99.75  | -16.25              | -13.59      | 71.75              |       |                    |
| OPER      | 5C1       | 11.86 R      | 9.34               | 59.83  | 0.00                | 0.00        | 0.00               |       |                    |
|           |           | -15.28 R     | -12.78             | 122.75 | 0.00                | 0.00        | 0.00               |       |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 7.76          | HS155.20           | 279.4                |
| 5C1  | 13.76         | 0.00               | 550.2                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 2U 3

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 15016.                      | 18726.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 23.981                     | 23.981                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|-------|------|------|
| 25.84  | 38.03 | 2805.75                 | 1967.05                 | 20.02 | 8.59 | 7.19 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    |
|-------|-------------------------|-------------------------|-------|
| 38.03 | 2805.75                 | 1967.05                 | 20.02 |

## Truss influence line - loaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 71.750 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.285 | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 71.750 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.285 | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## RATING REPORT

## Rating Types and Vehicles

Structure I. D. HAM500

|      |      |      |      |
|------|------|------|------|
| INV. | OPER | POST | SPEC |
| HS20 | 5C1  |      |      |

|                    |        |
|--------------------|--------|
| Truss I. D.        | 1      |
| Truss Member I. D. | U 2U 3 |

|                 |             |
|-----------------|-------------|
| Axial Dead Load |             |
| Tension         | Compression |
| 0.0             | 355.8       |

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 579.2         | 474.9                     | 792.7             | 261.4                         |
| OPER | 965.4         | 791.6                     | 1321.2            | 435.7                         |

## Live Load Effect

Impact Factors: ten - .000 comp - .158

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|-------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 0.00 R       | 0.00               | 0.00  | 0.00                | 0.00        | 0.00               | 0.00  | 0.00               |
|           |           | -46.49 L     | -40.14             | 57.75 | -55.22              | -47.68      | 71.75              |       |                    |
| OPER      | 5C1       | 0.00 R       | 0.00               | 0.00  | 0.00                | 0.00        | 0.00               | 0.00  | 0.00               |
|           |           | -46.69 L     | -40.32             | 55.75 | 0.00                | 0.00        | 0.00               |       |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 4.73          | HS 94.69           | 170.4                |
| 5C1  | 9.33          | 0.00               | 373.3                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. L 2L 3

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 14058.                      | 17531.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 23.917                     | 23.917                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 15.00  | 31.86 | 597.64                  | 999.10                  | 7.50 | 4.33 | 5.60 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 30.27 | 718.34                  | 800.48                  | 8.68 |

## Truss influence line - loaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 47.833 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 1.079  | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 47.833 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 1.079  | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |        |
|--------------------|------|------|------|--------|
|                    | INV. | OPER | POST | SPEC   |
|                    | HS20 | 5C1  |      |        |
| Truss I. D.        |      |      |      | 1      |
| Truss Member I. D. |      |      |      | L 2L 3 |

Axial Dead Load  
Tension Compression

299.4 0.0

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 461.0         | 372.5                     | 281.3             | 552.2                         |
| OPER | 768.3         | 620.8                     | 468.9             | 920.3                         |

## Live Load Effect

Impact Factors: ten - .158 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|-------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 39.41 R      | 34.03              |       | 75.83               | 46.38       | 40.05              |       | 47.83              |
|           |           | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |
| OPER      | 5C1       | 39.66 L      | 34.25              |       | 35.83               | 0.00        | 0.00               |       | 0.00               |
|           |           | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 6.07          | HS121.32           | 218.4                |
| 5C1  | 11.82         | 0.00               | 472.9                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 2L 3

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 4483.                       | 5590.     | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 40.958                     | 40.958                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 12.06  | 15.60 | 425.00                  | 95.80                   | 0.00 | 5.22 | 2.48 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 15.60 | 587.24                  | 67.82                   | 0.89 |

## Truss influence line - loaded chord:

|              |       |        |        |         |       |       |       |   |
|--------------|-------|--------|--------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 47.833 | 71.750 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |
| Y ordinates: | 0.000 | -0.385 | 0.654  | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |        |         |       |       |       |   |
|--------------|-------|--------|--------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 47.833 | 71.750 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |
| Y ordinates: | 0.000 | -0.385 | 0.654  | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      |      |
| Truss Member I. D. | U 2L | 3    |      |      |

Axial Dead Load  
Tension Compression

95.0 0.0

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 237.6         | 58.2                      | 180.6             | 115.2                         |
| OPER | 396.0         | 96.9                      | 301.0             | 191.9                         |

## Live Load Effect

Impact Factors: ten - .193 comp - .275

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force  | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|--------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 24.27 R      | 20.35              | 99.75  | 25.26               | 21.18       | 71.75              |       |                    |
|           |           | -13.33 L     | -10.45             | 19.83  | -10.15              | -7.96       | 47.83              |       |                    |
| OPER      | 5C1       | 23.32 R      | 19.56              | 122.75 | 0.00                | 0.00        | 0.00               |       |                    |
|           |           | -9.26 L      | -7.26              | -3.17  | 0.00                | 0.00        | 0.00               |       |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 7.15          | HS143.00           | 257.4                |
| 5C1  | 12.90         | 0.00               | 516.2                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 3L 3

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 9330.                       | 11635.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 35.000                     | 17.500                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 12.24  | 10.49 | 278.14                  | 25.49                   | 6.12 | 5.15 | 1.56 |

## Net Section Properties:

| Area | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|------|-------------------------|-------------------------|------|
| 9.91 | 253.85                  | 17.03                   | 7.09 |

## Truss influence line - loaded chord:

|              |       |        |        |         |       |       |       |   |
|--------------|-------|--------|--------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 71.750 | 95.667 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |
| Y ordinates: | 0.000 | 0.469  | -0.425 | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |        |         |       |       |       |   |
|--------------|-------|--------|--------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 47.833 | 71.750 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |
| Y ordinates: | 0.000 | 0.312  | -0.531 | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |        |
|--------------------|------|------|------|--------|
|                    | INV. | OPER | POST | SPEC   |
|                    | HS20 | 5C1  |      |        |
| Truss I. D.        |      |      |      | 1      |
| Truss Member I. D. |      |      |      | U 3L 3 |

Axial Dead Load  
Tension      Compression

0.0            13.7

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 150.9         | 81.4                      | 159.1             | 73.2                          |
| OPER | 251.5         | 135.7                     | 265.1             | 122.0                         |

## Live Load Effect

Impact Factors: ten - .239 comp - .215

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|-------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 17.04 L      | 13.76              |       | 43.75               | 14.41       | 11.63              |       | 71.75              |
|           |           | -15.73 R     | -12.94             |       | 123.67              | -14.58      | -12.00             |       | 95.67              |
| OPER      | 5C1       | 14.42 L      | 11.64              |       | 20.75               | 0.00        | 0.00               |       | 0.00               |
|           |           | -14.46 R     | -11.90             |       | 146.67              | 0.00        | 0.00               |       | 0.00               |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 4.66          | HS 93.13           | 167.6                |
| 5C1  | 8.44          | 0.00               | 337.6                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. L 3L 4

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 14057.                      | 17530.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 23.917                     | 23.917                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 15.00  | 37.50 | 703.12                  | 1139.26                 | 7.50 | 4.33 | 5.51 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 35.62 | 845.19                  | 913.36                  | 8.68 |

## Truss influence line - loaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 71.750 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000  |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 1.281  | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000  |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 71.750 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000  |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 1.281  | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000  |         |       |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      |      |
| Truss Member I. D. |      |      |      |      |

Axial Dead Load  
Tension Compression

354.9 0.0

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 542.6         | 438.4                     | 329.7             | 651.4                         |
| OPER | 904.3         | 730.7                     | 549.4             | 1085.6                        |

## Live Load Effect

Impact Factors: ten - .158 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force w/o imp. | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force w/o imp. | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|----------------|---------------------|-------------|--------------------|----------------|--------------------|
| INV.      | HS20      | 46.36 L      | 40.03              | 57.75          | 55.07               | 47.56       | 71.75              |                |                    |
|           |           | 0.00 R       | 0.00               | 0.00           | 0.00                | 0.00        | 0.00               |                |                    |
| OPER      | 5C1       | 46.57 L      | 40.21              | 55.75          | 0.00                | 0.00        | 0.00               |                |                    |
|           |           | 0.00 R       | 0.00               | 0.00           | 0.00                | 0.00        | 0.00               |                |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 5.99          | HS119.71           | 215.5                |
| 5C1  | 11.80         | 0.00               | 471.9                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 3U 4

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 15022.                      | 18734.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 23.917                     | 23.917                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|-------|------|------|
| 25.78  | 41.21 | 2775.48                 | 2144.43                 | 21.40 | 8.21 | 7.21 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    |
|-------|-------------------------|-------------------------|-------|
| 41.21 | 2775.48                 | 2144.43                 | 21.40 |

## Truss influence line - loaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 95.667 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.367 | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 95.667 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.367 | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## RATING REPORT

## Rating Types and Vehicles

Structure I. D. HAM500

|      |      |      |      |
|------|------|------|------|
| INV. | OPER | POST | SPEC |
| HS20 | 5C1  |      |      |

|                    |        |
|--------------------|--------|
| Truss I. D.        | 1      |
| Truss Member I. D. | U 3U 4 |

|                 |             |
|-----------------|-------------|
| Axial Dead Load |             |
| Tension         | Compression |
| 0.0             | 378.1       |

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 627.7         | 514.9                     | 854.5             | 288.0                         |
| OPER | 1046.1        | 858.1                     | 1424.2            | 480.0                         |

## Live Load Effect

Impact Factors: ten - .000 comp - .158

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force  | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|--------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 0.00 R       | 0.00               | 0.00   | 0.00                | 0.00        | 0.00               | 0.00  | 0.00               |
|           |           | -49.05 R     | -42.35             | 109.67 |                     | -58.75      | -50.73             | 95.67 |                    |
| OPER      | 5C1       | 0.00 R       | 0.00               | 0.00   | 0.00                | 0.00        | 0.00               | 0.00  | 0.00               |
|           |           | -48.61 R     | -41.97             | 111.67 |                     | 0.00        | 0.00               | 0.00  |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 4.90          | HS 98.05           | 176.5                |
| 5C1  | 9.88          | 0.00               | 395.0                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 3L 4

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 6622.                       | 8258.     | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 42.391                     | 21.196                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 12.24  | 10.49 | 278.14                  | 25.49                   | 6.12 | 5.15 | 1.56 |

## Net Section Properties:

| Area | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|------|-------------------------|-------------------------|------|
| 9.91 | 253.85                  | 17.03                   | 7.09 |

## Truss influence line - loaded chord:

|              |       |        |        |         |       |       |       |   |
|--------------|-------|--------|--------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 71.750 | 95.667 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |
| Y ordinates: | 0.000 | -0.454 | 0.606  | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |        |         |       |       |       |   |
|--------------|-------|--------|--------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 71.750 | 95.667 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |
| Y ordinates: | 0.000 | -0.454 | 0.606  | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      |      |
| Truss Member I. D. | U 3L | 4    |      |      |

Axial Dead Load  
Tension Compression

41.1 0.0

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 150.9         | 0.0                       | 126.2             | 0.0                           |
| OPER | 251.5         | 0.0                       | 210.3             | 0.0                           |

## Live Load Effect

Impact Factors: ten - .213 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force  | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|--------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 22.37 R      | 18.43              | 123.67 | 20.99               | 17.30       | 95.67              |       |                    |
|           |           | 0.00 R       | 0.00               | 0.00   | 0.00                | 0.00        | 0.00               |       |                    |
| OPER      | 5C1       | 20.57 R      | 16.95              | 146.67 | 0.00                | 0.00        | 0.00               |       |                    |
|           |           | 0.00 R       | 0.00               | 0.00   | 0.00                | 0.00        | 0.00               |       |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 5.64          | HS112.83           | 203.1                |
| 5C1  | 10.23         | 0.00               | 409.0                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. L 3U 4

| RATIO/Inv.       | Inventory | Allowable stress (fs) (psi) |         |         |
|------------------|-----------|-----------------------------|---------|---------|
|                  |           | Operating                   | Posting | Special |
| Fy (tension)     | 18150.    | 24750.                      | 0.      | 0.      |
| Fy (compression) | 6622.     | 8258.                       | 0.      | 0.      |
| Fy (ultimate)    | 33000.    |                             |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 42.391                     | 21.196                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 12.24  | 10.49 | 278.14                  | 25.49                   | 6.12 | 5.15 | 1.56 |

## Net Section Properties:

| Area | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|------|-------------------------|-------------------------|------|
| 9.91 | 253.85                  | 17.03                   | 7.09 |

## Truss influence line - loaded chord:

|              |       |        |        |         |       |       |       |   |
|--------------|-------|--------|--------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 71.750 | 95.667 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |
| Y ordinates: | 0.000 | 0.454  | -0.606 | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |        |         |       |       |       |   |
|--------------|-------|--------|--------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 71.750 | 95.667 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |
| Y ordinates: | 0.000 | 0.454  | -0.606 | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |        |         |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      |      |
| Truss Member I. D. |      |      |      |      |

|  |                          |
|--|--------------------------|
|  | Axial Dead Load          |
|  | Tension      Compression |
|  | 0.0            0.0       |

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 150.9         | 0.0                       | 150.9             | 0.0                           |
| OPER | 251.5         | 0.0                       | 251.5             | 0.0                           |

## Live Load Effect

Impact Factors: ten - .242 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|-------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 16.55 L      | 13.33              |       | 43.75               | 13.80       | 11.12              |       | 71.75              |
|           |           | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |
| OPER      | 5C1       | 14.00 L      | 11.28              |       | 20.75               | 0.00        | 0.00               |       | 0.00               |
|           |           | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 9.12          | HS182.36           | 328.2                |
| 5C1  | 17.96         | 0.00               | 718.5                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 4L 4

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 9330.                       | 11635.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 35.000                     | 17.500                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 12.24  | 10.49 | 278.14                  | 25.49                   | 6.12 | 5.15 | 1.56 |

## Net Section Properties:

| Area | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|------|-------------------------|-------------------------|------|
| 9.91 | 253.85                  | 17.03                   | 7.09 |

## Truss influence line - loaded chord:

|              |       |         |       |       |       |       |       |   |
|--------------|-------|---------|-------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000   |       |       |       |       |       |   |
| Y ordinates: | 0.000 | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000   |       |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |          |          |          |       |       |   |
|--------------|-------|--------|----------|----------|----------|-------|-------|---|
| X ordinates: | 0.000 | 71.750 | 1148.002 | 1435.002 | 2296.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000  |          |          |          |       |       |   |
| Y ordinates: | 0.000 | 0.000  | -1.000   | 0.000    | 0.000    | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000  |          |          |          |       |       |   |

## RATING REPORT

## Rating Types and Vehicles

Structure I. D. HAM500

|      |      |      |      |
|------|------|------|------|
| INV. | OPER | POST | SPEC |
| HS20 | 5C1  |      |      |

|                    |        |
|--------------------|--------|
| Truss I. D.        | 1      |
| Truss Member I. D. | U 4L 4 |

|                 |             |
|-----------------|-------------|
| Axial Dead Load |             |
| Tension         | Compression |

|      |     |
|------|-----|
| -5.7 | 5.7 |
|------|-----|

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 150.9         | 81.4                      | 154.3             | 78.0                          |
| OPER | 251.5         | 135.7                     | 257.1             | 130.0                         |

## Live Load Effect

Impact Factors: ten - .289 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force w/o imp. | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force w/o imp. | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|----------------|---------------------|-------------|--------------------|----------------|--------------------|
| INV.      | HS20      | 29.35 R      | 22.76              | 109.67         | 24.95               | 19.35       | 95.67              |                |                    |
|           |           | 0.00 R       | 0.00               | 0.00           | 0.00                | 0.00        | 0.00               |                |                    |
| OPER      | 5C1       | 22.43 R      | 17.40              | 107.67         | 0.00                | 0.00        | 0.00               |                |                    |
|           |           | 0.00 R       | 0.00               | 0.00           | 0.00                | 0.00        | 0.00               |                |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 999.00        | HS999.00           | 999.0                |
| 5C1  | 999.00        | 999.00             | 999.0                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. L 4L 5

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 14057.                      | 17530.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 23.917                     | 23.917                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 15.00  | 37.50 | 703.12                  | 1139.26                 | 7.50 | 4.33 | 5.51 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 35.62 | 845.19                  | 913.36                  | 8.68 |

## Truss influence line - loaded chord:

|              |       |         |         |       |       |       |       |   |
|--------------|-------|---------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 119.583 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 1.281   | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |         |         |       |       |       |       |   |
|--------------|-------|---------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 119.583 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 1.281   | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      |      |
| Truss Member I. D. |      |      |      |      |

|       |                          |
|-------|--------------------------|
|       | Axial Dead Load          |
|       | Tension      Compression |
| 354.9 | 0.0                      |

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 542.6         | 438.4                     | 329.7             | 651.4                         |
| OPER | 904.3         | 730.7                     | 549.4             | 1085.6                        |

## Live Load Effect

Impact Factors: ten - .158 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|-------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 46.36 R      | 40.03              |       | 133.58              | 55.07       | 47.56              |       | 119.58             |
|           |           | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |
| OPER      | 5C1       | 46.57 R      | 40.21              |       | 135.58              | 0.00        | 0.00               |       | 0.00               |
|           |           | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 5.99          | HS119.71           | 215.5                |
| 5C1  | 11.80         | 0.00               | 471.9                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 4U 5

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 15022.                      | 18734.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 23.917                     | 23.917                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|-------|------|------|
| 25.78  | 41.21 | 2775.48                 | 2144.43                 | 21.40 | 8.21 | 7.21 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    |
|-------|-------------------------|-------------------------|-------|
| 41.21 | 2775.48                 | 2144.43                 | 21.40 |

## Truss influence line - loaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 95.667 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.367 | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |         |       |       |       |       |   |
|--------------|-------|--------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 95.667 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.367 | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |       |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      |      |
| Truss Member I. D. | U    | 4U   | 5    |      |

Axial Dead Load  
Tension Compression

0.0 378.1

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 627.7         | 514.9                     | 854.5             | 288.0                         |
| OPER | 1046.1        | 858.1                     | 1424.2            | 480.0                         |

## Live Load Effect

Impact Factors: ten - .000 comp - .158

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force  | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|--------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 0.00 R       | 0.00               | 0.00   | 0.00                | 0.00        | 0.00               | 0.00  | 0.00               |
|           |           | -49.05 R     | -42.35             | 109.67 |                     | -58.75      | -50.73             | 95.67 |                    |
| OPER      | 5C1       | 0.00 R       | 0.00               | 0.00   | 0.00                | 0.00        | 0.00               | 0.00  | 0.00               |
|           |           | -48.61 R     | -41.97             | 111.67 |                     | 0.00        | 0.00               | 0.00  |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 4.90          | HS 98.05           | 176.5                |
| 5C1  | 9.88          | 0.00               | 395.0                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. L 4U 5

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 6622.                       | 8258.     | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 42.391                     | 21.196                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 12.24  | 10.49 | 278.14                  | 25.49                   | 6.12 | 5.15 | 1.56 |

## Net Section Properties:

| Area | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|------|-------------------------|-------------------------|------|
| 9.91 | 253.85                  | 17.03                   | 7.09 |

## Truss influence line - loaded chord:

|              |       |        |         |         |       |       |       |   |
|--------------|-------|--------|---------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 95.667 | 119.583 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |         |       |       |       |   |
| Y ordinates: | 0.000 | 0.606  | -0.454  | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |         |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |         |         |       |       |       |   |
|--------------|-------|--------|---------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 95.667 | 119.583 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |         |       |       |       |   |
| Y ordinates: | 0.000 | 0.606  | -0.454  | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |         |       |       |       |   |

## RATING REPORT

## Rating Types and Vehicles

Structure I. D. HAM500

|      |      |      |      |
|------|------|------|------|
| INV. | OPER | POST | SPEC |
| HS20 | 5C1  |      |      |

|                    |        |
|--------------------|--------|
| Truss I. D.        | 1      |
| Truss Member I. D. | L 4U 5 |

|                 |             |
|-----------------|-------------|
| Axial Dead Load |             |
| Tension         | Compression |

|      |     |
|------|-----|
| 41.1 | 0.0 |
|------|-----|

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 150.9         | 0.0                       | 126.2             | 0.0                           |
| OPER | 251.5         | 0.0                       | 210.3             | 0.0                           |

## Live Load Effect

Impact Factors: ten - .213 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|-------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 22.37 L      | 18.43              | 67.67 | 20.99               | 17.30       | 95.67              |       |                    |
|           |           | 0.00 R       | 0.00               | 0.00  | 0.00                | 0.00        | 0.00               |       |                    |
| OPER      | 5C1       | 20.57 L      | 16.95              | 44.67 | 0.00                | 0.00        | 0.00               |       |                    |
|           |           | 0.00 R       | 0.00               | 0.00  | 0.00                | 0.00        | 0.00               |       |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 5.64          | HS112.83           | 203.1                |
| 5C1  | 10.23         | 0.00               | 409.0                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 4L 5

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 6622.                       | 8258.     | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 42.391                     | 21.196                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 12.24  | 10.49 | 278.14                  | 25.49                   | 6.12 | 5.15 | 1.56 |

## Net Section Properties:

| Area | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|------|-------------------------|-------------------------|------|
| 9.91 | 253.85                  | 17.03                   | 7.09 |

## Truss influence line - loaded chord:

|              |       |        |         |         |       |       |       |   |
|--------------|-------|--------|---------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 95.667 | 119.583 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |         |       |       |       |   |
| Y ordinates: | 0.000 | -0.606 | 0.454   | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |         |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |        |         |         |       |       |       |   |
|--------------|-------|--------|---------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 95.667 | 119.583 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |         |       |       |       |   |
| Y ordinates: | 0.000 | -0.606 | 0.454   | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |         |       |       |       |   |

## RATING REPORT

## Rating Types and Vehicles

Structure I. D. HAM500

|      |      |      |      |
|------|------|------|------|
| INV. | OPER | POST | SPEC |
| HS20 | 5C1  |      |      |

|                    |        |
|--------------------|--------|
| Truss I. D.        | 1      |
| Truss Member I. D. | U 4L 5 |

|                 |             |
|-----------------|-------------|
| Axial Dead Load |             |
| Tension         | Compression |

|     |     |
|-----|-----|
| 0.0 | 0.0 |
|-----|-----|

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 150.9         | 0.0                       | 150.9             | 0.0                           |
| OPER | 251.5         | 0.0                       | 251.5             | 0.0                           |

## Live Load Effect

Impact Factors: ten - .242 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force w/o imp. | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force w/o imp. | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|----------------|---------------------|-------------|--------------------|----------------|--------------------|
| INV.      | HS20      | 16.55 R      | 13.33              | 147.58         |                     | 13.80       | 11.12              | 119.58         |                    |
|           |           | 0.00 R       | 0.00               | 0.00           |                     | 0.00        | 0.00               | 0.00           |                    |
| OPER      | 5C1       | 14.00 R      | 11.28              | 170.58         |                     | 0.00        | 0.00               | 0.00           |                    |
|           |           | 0.00 R       | 0.00               | 0.00           |                     | 0.00        | 0.00               | 0.00           |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 9.12          | HS182.36           | 328.2                |
| 5C1  | 17.96         | 0.00               | 718.5                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 5L 5

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 9330.                       | 11635.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 35.000                     | 17.500                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 12.24  | 10.49 | 278.14                  | 25.49                   | 6.12 | 5.15 | 1.56 |

## Net Section Properties:

| Area | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|------|-------------------------|-------------------------|------|
| 9.91 | 253.85                  | 17.03                   | 7.09 |

## Truss influence line - loaded chord:

|              |       |        |         |         |       |       |       |   |
|--------------|-------|--------|---------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 95.667 | 119.583 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |         |       |       |       |   |
| Y ordinates: | 0.000 | -0.425 | 0.469   | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |        |         |         |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |         |         |         |       |       |       |   |
|--------------|-------|---------|---------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 119.583 | 143.500 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |         |       |       |       |   |
| Y ordinates: | 0.000 | -0.531  | 0.312   | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |         |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      |      |
| Truss Member I. D. |      |      |      |      |

|  |                          |
|--|--------------------------|
|  | Axial Dead Load          |
|  | Tension      Compression |
|  | 0.0          13.7        |

| Veh. | Axial Load Capacity<br>Tension      Compression | Available Capacity for LL+I<br>Tension      Compression |
|------|-------------------------------------------------|---------------------------------------------------------|
| INV. | 150.9      81.4                                 | 159.1      73.2                                         |
| OPER | 251.5      135.7                                | 265.1      122.0                                        |

## Live Load Effect

Impact Factors: ten - .239 comp - .215

| Rat. Typ. | Rat. Veh. | Truck Live Load Force<br>w/imp. | Loc. of Front Wheel | Lane Live Load Force<br>w/imp. | Loc. of Conc. Load |
|-----------|-----------|---------------------------------|---------------------|--------------------------------|--------------------|
| INV.      | HS20      | 17.04 R<br>-15.73 L             | 13.76<br>-12.94     | 147.58<br>67.67                | 119.58<br>95.67    |
| OPER      | 5C1       | 14.42 R<br>-14.46 L             | 11.64<br>-11.90     | 170.58<br>44.67                | 0.00<br>0.00       |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 4.66          | HS 93.12           | 167.6                |
| 5C1  | 8.44          | 0.00               | 337.6                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. L 5L 6

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 14058.                      | 17531.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 23.917                     | 23.917                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 15.00  | 31.86 | 597.64                  | 999.10                  | 7.50 | 4.33 | 5.60 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 30.27 | 718.34                  | 800.48                  | 8.68 |

## Truss influence line - loaded chord:

|              |       |         |         |       |       |       |       |   |
|--------------|-------|---------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 143.500 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 1.079   | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |         |         |       |       |       |       |   |
|--------------|-------|---------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 143.500 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 1.079   | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      |      |
| Truss Member I. D. |      |      |      |      |

|       |                          |
|-------|--------------------------|
|       | Axial Dead Load          |
|       | Tension      Compression |
| 299.4 | 0.0                      |

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 461.0         | 372.5                     | 281.3             | 552.2                         |
| OPER | 768.3         | 620.8                     | 468.9             | 920.3                         |

## Live Load Effect

Impact Factors: ten - .158 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force w/o imp. | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force w/o imp. | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|----------------|---------------------|-------------|--------------------|----------------|--------------------|
| INV.      | HS20      | 39.41 L      | 34.03              | 115.50         | 46.38               | 40.05       | 143.50             |                |                    |
|           |           | 0.00 R       | 0.00               | 0.00           | 0.00                | 0.00        | 0.00               |                |                    |
| OPER      | 5C1       | 39.66 R      | 34.25              | 155.50         | 0.00                | 0.00        | 0.00               |                |                    |
|           |           | 0.00 R       | 0.00               | 0.00           | 0.00                | 0.00        | 0.00               |                |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 6.07          | HS121.32           | 218.4                |
| 5C1  | 11.82         | 0.00               | 472.9                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 5U 6

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 15016.                      | 18726.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 23.981                     | 23.981                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|-------|------|------|
| 25.84  | 38.03 | 2805.75                 | 1967.05                 | 20.02 | 8.59 | 7.19 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    |
|-------|-------------------------|-------------------------|-------|
| 38.03 | 2805.75                 | 1967.05                 | 20.02 |

## Truss influence line - loaded chord:

|              |       |         |         |       |       |       |       |   |
|--------------|-------|---------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 119.583 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.285  | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |         |         |       |       |       |       |   |
|--------------|-------|---------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 119.583 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.285  | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      |      |
| Truss Member I. D. |      |      |      |      |

|  |                          |
|--|--------------------------|
|  | Axial Dead Load          |
|  | Tension      Compression |
|  | 0.0          355.8       |

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 579.2         | 474.9                     | 792.7             | 261.4                         |
| OPER | 965.4         | 791.6                     | 1321.2            | 435.7                         |

## Live Load Effect

Impact Factors: ten - .000 comp - .158

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force w/o imp. | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force w/o imp. | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|----------------|---------------------|-------------|--------------------|----------------|--------------------|
| INV.      | HS20      | 0.00 R       | 0.00               | 0.00           | 0.00                | 0.00        | 0.00               | 0.00           | 0.00               |
|           |           | -46.48 R     | -40.14             | 133.58         | -55.22              | -47.68      | 119.58             |                |                    |
| OPER      | 5C1       | 0.00 R       | 0.00               | 0.00           | 0.00                | 0.00        | 0.00               | 0.00           | 0.00               |
|           |           | -46.69 R     | -40.32             | 135.58         | 0.00                | 0.00        | 0.00               |                |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 4.73          | HS 94.69           | 170.4                |
| 5C1  | 9.33          | 0.00               | 373.3                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. L 5U 6

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 4483.                       | 5590.     | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 40.958                     | 40.958                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 12.06  | 15.60 | 425.00                  | 95.80                   | 0.00 | 5.22 | 2.48 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 15.60 | 587.24                  | 67.82                   | 0.89 |

## Truss influence line - loaded chord:

|              |       |         |         |         |       |       |       |   |
|--------------|-------|---------|---------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 119.583 | 143.500 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |         |       |       |       |   |
| Y ordinates: | 0.000 | 0.654   | -0.385  | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |         |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |         |         |         |       |       |       |   |
|--------------|-------|---------|---------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 119.583 | 143.500 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |         |       |       |       |   |
| Y ordinates: | 0.000 | 0.654   | -0.385  | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |         |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |        |      |      |      |      |
|--------------------|--------|------|------|------|------|
|                    |        | INV. | OPER | POST | SPEC |
|                    |        | HS20 | 5C1  |      |      |
| Truss I. D.        | 1      |      |      |      |      |
| Truss Member I. D. | L 5U 6 |      |      |      |      |

Axial Dead Load  
Tension Compression

95.0 0.0

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 237.6         | 58.2                      | 180.6             | 115.2                         |
| OPER | 396.0         | 96.9                      | 301.0             | 191.9                         |

## Live Load Effect

Impact Factors: ten - .193 comp - .275

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force  | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|--------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 24.27 L      | 20.35              | 91.58  | 25.26               | 21.18       | 119.58             |       |                    |
|           |           | -13.33 R     | -10.45             | 171.50 | -10.15              | -7.96       | 143.50             |       |                    |
| OPER      | 5C1       | 23.32 L      | 19.56              | 68.58  | 0.00                | 0.00        | 0.00               |       |                    |
|           |           | -9.26 R      | -7.26              | 194.50 | 0.00                | 0.00        | 0.00               |       |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 7.15          | HS143.00           | 257.4                |
| 5C1  | 12.90         | 0.00               | 516.2                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 6L 6

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 9563.                       | 11925.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 33.250                     | 33.250                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 12.12  | 19.10 | 533.00                  | 174.00                  | 0.00 | 5.28 | 3.02 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 19.10 | 708.48                  | 135.48                  | 0.77 |

## Truss influence line - loaded chord:

|              |       |         |         |         |       |       |       |   |
|--------------|-------|---------|---------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 119.583 | 143.500 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000   |         |         |       |       |       |   |
| Y ordinates: | 0.000 | -0.428  | 0.487   | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000   |         |         |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |         |         |         |       |       |       |   |
|--------------|-------|---------|---------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 143.500 | 167.417 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000   |         |         |       |       |       |   |
| Y ordinates: | 0.000 | -0.513  | 0.243   | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000   |         |         |       |       |       |   |

## RATING REPORT

## Rating Types and Vehicles

Structure I. D. HAM500

|      |      |      |      |
|------|------|------|------|
| INV. | OPER | POST | SPEC |
| HS20 | 5C1  |      |      |

|                    |        |
|--------------------|--------|
| Truss I. D.        | 1      |
| Truss Member I. D. | U 6L 6 |

|                 |             |
|-----------------|-------------|
| Axial Dead Load |             |
| Tension         | Compression |
| 0.0             | 43.0        |

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 290.9         | 151.9                     | 316.7             | 126.1                         |
| OPER | 484.8         | 253.2                     | 527.9             | 210.2                         |

## Live Load Effect

Impact Factors: ten - .269 comp - .195

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|-------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 16.78 R      | 13.22              |       | 171.50              | 10.82       | 8.53               |       | 143.50             |
|           |           | -15.90 L     | -13.30             |       | 91.58               | -14.33      | -11.99             |       | 119.58             |
| OPER      | 5C1       | 11.86 L      | 9.34               |       | 131.50              | 0.00        | 0.00               |       | 0.00               |
|           |           | -15.28 L     | -12.78             |       | 68.58               | 0.00        | 0.00               |       | 0.00               |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 7.93          | HS158.63           | 285.5                |
| 5C1  | 13.76         | 0.00               | 550.2                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. L 6L 7

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 14057.                      | 17530.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 23.917                     | 23.917                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 15.00  | 22.50 | 421.86                  | 743.54                  | 7.50 | 4.33 | 5.75 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 21.38 | 507.10                  | 595.25                  | 8.68 |

## Truss influence line - loaded chord:

|              |       |         |         |       |       |       |       |   |
|--------------|-------|---------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 167.417 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 0.747   | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |         |         |       |       |       |       |   |
|--------------|-------|---------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 167.417 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 0.747   | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |

## RATING REPORT

## Rating Types and Vehicles

Structure I. D. HAM500

|      |      |      |      |
|------|------|------|------|
| INV. | OPER | POST | SPEC |
| HS20 | 5C1  |      |      |

|                    |        |
|--------------------|--------|
| Truss I. D.        | 1      |
| Truss Member I. D. | L 6L 7 |

|                 |             |
|-----------------|-------------|
| Axial Dead Load |             |
| Tension         | Compression |

|       |     |
|-------|-----|
| 210.6 | 0.0 |
|-------|-----|

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 325.6         | 263.0                     | 199.2             | 389.4                         |
| OPER | 542.6         | 438.4                     | 332.0             | 649.1                         |

## Live Load Effect

Impact Factors: ten - .158 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|-------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 27.57 L      | 23.81              |       | 139.42              | 32.13       | 27.74              |       | 167.42             |
|           |           | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |
| OPER      | 5C1       | 27.75 L      | 23.96              |       | 116.42              | 0.00        | 0.00               |       | 0.00               |
|           |           | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 6.20          | HS123.99           | 223.2                |
| 5C1  | 11.96         | 0.00               | 478.6                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 6U 7

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 15011.                      | 18720.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 24.486                     | 24.486                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|-------|------|------|
| 25.75  | 34.10 | 2388.22                 | 1822.35                 | 21.05 | 8.37 | 7.31 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    |
|-------|-------------------------|-------------------------|-------|
| 34.10 | 2388.22                 | 1822.35                 | 21.05 |

## Truss influence line - loaded chord:

|              |       |         |         |       |       |       |       |   |
|--------------|-------|---------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 143.500 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.105  | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |         |         |       |       |       |       |   |
|--------------|-------|---------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 143.500 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.105  | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |

## RATING REPORT

## Rating Types and Vehicles

Structure I. D. HAM500

|      |      |      |      |
|------|------|------|------|
| INV. | OPER | POST | SPEC |
| HS20 | 5C1  |      |      |

|                    |        |
|--------------------|--------|
| Truss I. D.        | 1      |
| Truss Member I. D. | U 6U 7 |

|                 |             |
|-----------------|-------------|
| Axial Dead Load |             |
| Tension         | Compression |
| 0.0             | 306.6       |

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 519.4         | 425.7                     | 703.3             | 241.8                         |
| OPER | 865.6         | 709.5                     | 1172.2            | 403.0                         |

## Live Load Effect

Impact Factors: ten - .000 comp - .158

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force  | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|--------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 0.00 R       | 0.00               | 0.00   | 0.00                | 0.00        | 0.00               | 0.00  | 0.00               |
|           |           | -40.34 L     | -34.84             | 115.50 | -47.48              | -41.00      | 143.50             |       |                    |
| OPER      | 5C1       | 0.00 R       | 0.00               | 0.00   | 0.00                | 0.00        | 0.00               | 0.00  | 0.00               |
|           |           | -40.60 R     | -35.06             | 155.50 | 0.00                | 0.00        | 0.00               |       |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 5.09          | HS101.85           | 183.3                |
| 5C1  | 9.93          | 0.00               | 397.0                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. L 6U 7

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 5684.                       | 7088.     | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 36.824                     | 36.824                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 12.19  | 17.00 | 475.00                  | 107.00                  | 0.00 | 5.29 | 2.51 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 16.99 | 659.28                  | 75.85                   | 0.91 |

## Truss influence line - loaded chord:

|              |       |         |         |         |       |       |       |   |
|--------------|-------|---------|---------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 143.500 | 167.417 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |         |       |       |       |   |
| Y ordinates: | 0.000 | 0.675   | -0.320  | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |         |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |         |         |         |       |       |       |   |
|--------------|-------|---------|---------|---------|-------|-------|-------|---|
| X ordinates: | 0.000 | 143.500 | 167.417 | 191.333 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |         |       |       |       |   |
| Y ordinates: | 0.000 | 0.675   | -0.320  | 0.000   | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |         |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      |      |
| Truss Member I. D. |      |      |      |      |

|  |                          |
|--|--------------------------|
|  | Axial Dead Load          |
|  | Tension      Compression |
|  | 136.7          0.0       |

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 258.8         | 80.4                      | 176.8             | 162.4                         |
| OPER | 431.3         | 133.9                     | 294.6             | 270.6                         |

## Live Load Effect

Impact Factors: ten - .176 comp - .300

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|-------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 25.02 L      | 21.28              |       | 115.50              | 28.66       | 24.38              |       | 143.50             |
|           |           | -8.83 R      | -6.79              |       | 195.42              | -7.04       | -5.42              |       | 167.42             |
| OPER      | 5C1       | 24.72 L      | 21.02              |       | 92.50               | 0.00        | 0.00               |       | 0.00               |
|           |           | -6.07 R      | -4.67              |       | 218.42              | 0.00        | 0.00               |       | 0.00               |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 6.17          | HS123.33           | 222.0                |
| 5C1  | 11.92         | 0.00               | 476.7                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 7L 7

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 5837.                       | 7280.     | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 28.000                     | 28.000                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 11.94  | 11.80 | 310.00                  | 44.10                   | 0.00 | 5.13 | 1.93 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 11.51 | 415.42                  | 31.40                   | 0.77 |

## Truss influence line - loaded chord:

|              |       |         |         |         |         |       |       |   |
|--------------|-------|---------|---------|---------|---------|-------|-------|---|
| X ordinates: | 0.000 | 143.500 | 167.417 | 191.334 | 191.333 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000   |         |         |         |       |       |   |
| Y ordinates: | 0.000 | 0.000   | 1.000   | 0.000   | 0.000   | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000   |         |         |         |       |       |   |

## Truss influence line - unloaded chord:

|              |       |         |       |       |       |       |       |   |
|--------------|-------|---------|-------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000   |       |       |       |       |       |   |
| Y ordinates: | 0.000 | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000         | 0.000 | 0.000   |       |       |       |       |       |   |

## RATING REPORT

## Rating Types and Vehicles

Structure I. D. HAM500

|      |      |      |      |
|------|------|------|------|
| INV. | OPER | POST | SPEC |
| HS20 | 5C1  |      |      |

|                    |        |
|--------------------|--------|
| Truss I. D.        | 1      |
| Truss Member I. D. | U 7L 7 |

|                 |             |
|-----------------|-------------|
| Axial Dead Load |             |
| Tension         | Compression |

|      |     |
|------|-----|
| 71.3 | 0.0 |
|------|-----|

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 175.3         | 57.3                      | 132.5             | 100.1                         |
| OPER | 292.2         | 95.5                      | 220.9             | 166.8                         |

## Live Load Effect

Impact Factors: ten - .289 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force w/o imp. | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force w/o imp. | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|----------------|---------------------|-------------|--------------------|----------------|--------------------|
| INV.      | HS20      | 29.35 R      | 22.76              | 181.42         | 20.12               | 15.60       | 167.42             |                |                    |
|           |           | 0.00 R       | 0.00               | 0.00           | 0.00                | 0.00        | 0.00               |                |                    |
| OPER      | 5C1       | 22.43 R      | 17.40              | 179.42         | 0.00                | 0.00        | 0.00               |                |                    |
|           |           | 0.00 R       | 0.00               | 0.00           | 0.00                | 0.00        | 0.00               |                |                    |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 4.52          | HS 90.32           | 162.6                |
| 5C1  | 9.85          | 0.00               | 393.9                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. L 7L 8

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 14057.                      | 17530.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 23.917                     | 23.917                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|------|------|------|
| 15.00  | 22.50 | 421.86                  | 743.54                  | 7.50 | 4.33 | 5.75 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy   |
|-------|-------------------------|-------------------------|------|
| 21.38 | 507.10                  | 595.25                  | 8.68 |

## Truss influence line - loaded chord:

|              |       |         |         |       |       |       |       |   |
|--------------|-------|---------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 167.417 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 0.747   | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |         |         |       |       |       |       |   |
|--------------|-------|---------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 167.417 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |
| Y ordinates: | 0.000 | 0.747   | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      |      |
| Truss Member I. D. |      |      |      |      |

|  |                          |
|--|--------------------------|
|  | Axial Dead Load          |
|  | Tension      Compression |
|  | 210.6          0.0       |

| Veh. | Axial Tension | Load Capacity Compression | Available Tension | Capacity for LL+I Compression |
|------|---------------|---------------------------|-------------------|-------------------------------|
| INV. | 325.6         | 263.0                     | 199.2             | 389.4                         |
| OPER | 542.6         | 438.4                     | 332.0             | 649.1                         |

## Live Load Effect

Impact Factors: ten - .158 comp - .000

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|-------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 27.57 L      | 23.81              |       | 139.42              | 32.13       | 27.74              |       | 167.42             |
|           |           | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |
| OPER      | 5C1       | 27.75 L      | 23.96              |       | 116.42              | 0.00        | 0.00               |       | 0.00               |
|           |           | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 6.20          | HS123.99           | 223.2                |
| 5C1  | 11.96         | 0.00               | 478.6                |

## SECTION DATA ( ASD/LFD )

Structure I. D. HAM500

Truss I. D. 1  
 Truss Member I. D. U 7L 8

| RATIO/Inv.       | Allowable stress (fs) (psi) |           |         |         |
|------------------|-----------------------------|-----------|---------|---------|
|                  | Inventory                   | Operating | Posting | Special |
| Fy (tension)     | 18150.                      | 24750.    | 0.      | 0.      |
| Fy (compression) | 14277.                      | 17804.    | 0.      | 0.      |
| Fy (ultimate)    | 33000.                      |           |         |         |

## Member Properties:

| Effective Length<br>X (ft) | Effective Length<br>Y (ft) | Eccentricity<br>Y (in) | End<br>Cond. | Batton |
|----------------------------|----------------------------|------------------------|--------------|--------|
| 36.823                     | 36.823                     | 0.00                   | P            | 1.0    |

## Gross Section Properties:

| Height | Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    | Rx   | Ry   |
|--------|-------|-------------------------|-------------------------|-------|------|------|
| 25.78  | 41.21 | 2775.48                 | 2144.43                 | 21.40 | 8.21 | 7.21 |

## Net Section Properties:

| Area  | Moment of Inertia<br>Ix | Moment of Inertia<br>Iy | Dy    |
|-------|-------------------------|-------------------------|-------|
| 41.21 | 2775.48                 | 2144.43                 | 21.40 |

## Truss influence line - loaded chord:

|              |       |         |         |       |       |       |       |   |
|--------------|-------|---------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 167.417 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.151  | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |

## Truss influence line - unloaded chord:

|              |       |         |         |       |       |       |       |   |
|--------------|-------|---------|---------|-------|-------|-------|-------|---|
| X ordinates: | 0.000 | 167.417 | 191.333 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |
| Y ordinates: | 0.000 | -1.151  | 0.000   | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| .000 0.000   | 0.000 |         |         |       |       |       |       |   |

## RATING REPORT

Structure I. D. HAM500 Rating Types and Vehicles

|                    |      |      |      |      |
|--------------------|------|------|------|------|
|                    | INV. | OPER | POST | SPEC |
|                    | HS20 | 5C1  |      |      |
| Truss I. D.        |      |      |      |      |
| Truss Member I. D. |      |      |      |      |

|  |                          |
|--|--------------------------|
|  | Axial Dead Load          |
|  | Tension      Compression |
|  | 0.0          324.3       |

| Veh. | Axial Load Capacity<br>Tension      Compression | Available Capacity for LL+I<br>Tension      Compression |
|------|-------------------------------------------------|---------------------------------------------------------|
| INV. | 627.7      489.3                                | 822.3      294.7                                        |
| OPER | 1046.1      815.6                               | 1370.4      491.2                                       |

## Live Load Effect

Impact Factors: ten - .000 comp - .158

| Rat. Typ. | Rat. Veh. | Truck w/imp. | Live Load w/o imp. | Force | Loc. of Front Wheel | Lane w/imp. | Live Load w/o imp. | Force | Loc. of Conc. Load |
|-----------|-----------|--------------|--------------------|-------|---------------------|-------------|--------------------|-------|--------------------|
| INV.      | HS20      | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |
|           |           | -42.45 L     | -36.65             |       | 139.42              | -54.46      | -47.03             |       | 167.42             |
| OPER      | 5C1       | 0.00 R       | 0.00               |       | 0.00                | 0.00        | 0.00               |       | 0.00               |
|           |           | -42.72 L     | -36.89             |       | 116.42              | 0.00        | 0.00               |       | 0.00               |

| Veh. | Rating Factor | Axial Rating Value | Load Capacity (tons) |
|------|---------------|--------------------|----------------------|
| HS20 | 5.41          | HS108.24           | 194.8                |
| 5C1  | 11.50         | 0.00               | 460.0                |