SECTION 10A

TRUSS BRIDGES

10A-1 INTRODUCTION TO RATING TRUSS BRIDGES

This section covers the general policies and guidelines for rating all truss bridges. Due to the fact that the majority of truss bridges are structural steel, this section also covers the details necessary to rate steel truss bridges .

Steel truss members shall be rated using the policy and guidelines in subsections 10A-2 and 10A-3.

Steel stringer and floor beam members shall be rated using the policy and guidelines in subsections 10A-2 and 10A-3, along with the applicable policy and guidelines in Section 10.

Timber truss bridges shall be rated using the pertinent policies and guidelines in this section and Section 13.

Bridge decks shall be rated in accordance with Section 3.

Subsections 10A-3 and 10A-4 give guidelines and examples for rating steel truss bridges with the BARS computer program.

The types of bridges covered in detail by this section are:

A. SDT - Steel D Deck Truss
B. SLT - Steel Low Truss
C. STT - Steel Through Truss

10A-2 POLICIES AND GUIDELINES FOR RATING TRUSS BRIDGES

I. GENERAL

A. All truss bridge ratings shall be performed in accordance with Sections 1 of this manual, and the AASHTO code except where amended within this manual.

B. All structural steel members (truss members, floor beams, and stringers) shall be rated with the BARS computer program.

C. Treated timber members shall be rated using the applicable portions of this section and Section 13. Hand computations will be acceptable for rating timber truss members and timber floor beams.

D. Structural steel stringers and floor beams shall be rated using the applicable portions of this section and Section 10.

E Members designed by the working stress method shall be rated by the working stress method.

F. When design plans are available, giving design stresses, use the applicable inventory and operating stresses. Otherwise, the default values used in the BARS program for the applicable year of construction may be used. It is possible that the year of construction and the year of steel member fabrication are not coincident; e.g., when salvaged members have been utilized. In this case, the year of steel fabrication shall be used in determining allowable stresses.

G. Truss members shall be identified on all rating material using the standard notation as shown in the BARS Users' Manual and in the AASHTO MANUAL FOR MAINTENANCE INSPECTION OF BRIDGES.

H. The reduction in capacity of steel compression members with batten plate construction, as stipulated in the AASHTO MANUAL FOR MAINTENANCE INSPECTION OF BRIDGES, shall be used. However, this reduction does not need to be used due to the presence of lacing, perforated plates, or tie plates when lacing connects the flanges between the tie Plates.

II. MEMBERS REQUIRING RATING

A. Truss Members - A rating is required for all members that make up a truss, even though only the critical truss member is recorded on the Rating Summary Sheet. When a truss is symmetrical about its midspan centerline, then all the members on only one side of the centerline require a rating. A rating is not required for portal, or sway bracing, members.

B. Interior Floor Beams - A rating is required for the critical interior floor beam. In order to determine the critical floor beam, more than one interior floor beam may require analysis due to variations in cross-sectional size, grade of material, loads. or any other determining factor.

C. End Floor Beams - A rating is required for an end floor beam when its cross-sectional size is different from that used for the interior floor beams, or when it will give a lower rating value than an interior floor beam.

D. Interior Stringers - A rating is required for the critical interior stringer. In order to determine the critical stringer, more than one interior stringer may require analysis due to variations in cross-sectional size, grade of material, span length. loads, or any other determining factor.

E. Exterior Stringers - A rating is required for an exterior stringer when its cross-sectional size is different from that used for the interior stringers, or when it will give a lower rating value than interior stringer.

III. CALCULATIONS

A. A set of calculations, separate from computer output, shall be submitted with each rating. These calculations shall include: a diagram of the truss as modeled for analysis, with members labeled; derivations for member section properties, with supporting sketches; derivation of dead loads; derivation of live load distribution factors; and any other calculations or assumptions used for rating.

B. Live load distribution factors shall be calculated using the vehicle placement guidelines stipulated in Section 1.

C. Dead Loads

1. S

The final sum of all the individual weight components for dead load calculations may be rounded up to the next 5 pounds.

2. Dead loads supported by stringers, and applied after a cast-in-place concrete deck has cured, shall be distributed equally to all stringers. Possible examples include asphalt and curbs.

3. Dead loads supported by stringers, and applied before a cast-in-place concrete deck has cured (or applied when the deck is not cast-in-place concrete), shall be distributed to the applicable individual supporting stringer. Examples include stringer weight and deck, but not necessarily overlay. weight.

4. The method for applying dead loads due to utilities is left to the rater's discretion.

IV. REPORTING RATINGS

A. The rater and checker shall complete the rating documentation as described in Section 1 of this manual. In addition to Section 1, the following items shall be observed when filling out the Rating Summary Sheet.

1. Comment on the allowable stress used for inventory if different from the AASHTO allowable.

2. In the truss portion of the rating summary sheet the rating for only the most critical truss member shall be recorded. The critical truss member for one rating value (inventory, operating, posting, or color code) may be different from the truss member that is critical for another rating value. Therefore, the rater shall designate the most critical member and its rating, as appropriate, for each truss rating value entered on the Rating Summary Sheet.

10A-3GUIDELINES FOR USING THE BARS RATING PROGRAM

To effectively use BARS the rater must become familiar with the Data Preparation Instructions Manual, hereafter referred to as the BARS Manual. The following information for coding the BARS input forms is meant only to supplement the BARS Manual. The discussion for data input is arranged in the order which each card type should appear in the input file.

I. BARS INPUT

A. When creating a BARS input file all references to member descriptions, section codes, and span lengths shall be consistent amongst all card types.

l. For member descriptions and section codes, 01 (zero one) is not the same as bl (blank one). For example, if a member is identified as LOlUOl on card type 64, this designation (LOlUOl) must be used on all other applicable card types, whereas the designations LblUbl, LlbUOl, or any other combination inconsistent with LOlUOl, are not to be used.

2. For a given span length, the method used to input feet and inches must be consistent so that the decimal portion of the length is exactly the same on all card types in which the span length is referenced.

B. Card Type 01 - One card type 01 is required for each BATCH I.D. Leave columns 3 through 8 blank. Columns 9 through 14 CANNOT be left blank.

C. Card Type 03 - Got required for all ratings

1. Card type 03 is required when an Interstate structure requires a posting analysis. In this case, the Interstate posting vehicles shall be coded on card type 03 and referred to as "I3", "I3S2", and "I3-2" in columns l0 13. These load names must also be coded in columns 46 57 of card tome 01.

2. Card type 03 is ignored if the operating rating for all bridge members being rated is greater than or equal to 36.0 tons (the HS 20 gross weight), unless this program decision is overridden on card type 01.

D. Card Type 02 - Structure Header and Description

1. The year of construction defines the allowable stresses the program will use. Code in a value that produces the appropriate allowable stresses. If this value is different than the actual year of construction, note the actual year on card type 06.

2. The width entered in columns 59-68 is actual roadway width and may not be greater than the span length of any floor beam member which is being rated.

3. Columns 71-80 should be ignored if the HS 20 vehicle is used for determining the inventory and operating ratings.

E. Card Type 05 - Structure Location and Permanent Identification Factors.

1. Fill in columns 3 - 20.

2. Columns 66 - 73 shall contain the highway number.

3. Columns 74 - 80 shall contain the direction of traffic carried by the bridge if traffic is going in only one direction.

F. Card Type 06 - Comments. This card is used for comments and the following information is required. (see Rating Examples).

1. Project number and feature intersected.

2 Thickness and type of surfacing on deck. Note which legal loading applies. Colorado or Interstate Loading.

3. If a new bridge is being rated, note the structure number of the bridge being replaced; nearest city or town; parallel structure number, and note "SIMILAR" if the parallel structure is identical insofar as the rating for one structure is identical to the rating of the parallel structure .

4. Identify stringer and beam members chosen for rating; e.g., "BO1 = INT. BEAM (W36x150)". Truss members do not need to be identified. Note if yield stresses used were other than those built into the program. Note the actual year of construction if different from the year entered on card type 02.

G. Card Type 08 through Card Type 12 - Flexural Members

1. Designate floor beams and stringers by coding in column 9 a "B" or an "S", respectively. Stringers may not be coded as continuous members.

2. On card type 08, when entering data for a floor beam, code in the center-to-center spacing of floor beams for the value of "S" in columns 61 - 65. If it is an end floor beam, code an "X" in column 66. For stringers, code the distribution factor-as computed from the AASHTO manual for the value of "E" in columns 61 - 65.

3. For more information on card types 08 through 12, see subsection 10-3.

H. Card Type 60 - General Specifications For Truss Analysis

1. In some cases, it may be necessary to use columns 10 - 19 to override the allowable stresses designated by the date on card type 02. If so, the BARS rating output shall contain the correct operating allowable stresses. This output does not need to be corrected for the true inventory allowable stresses. However, the inventory stresses used in this case shall be noted on the Rating Summary Sheet under the comments section.

2. Do not enter the center-to-center truss spacing to allow the program to compute the truss live load distribution factor. Instead, calculate the distribution factor (E) as shown in subsection 1-3 and enter it directly in columns 30 _ 34.
3. Formally a rating is required for all truss members, even though only the critical member is recorded on the Rating Summary Sheet. When a truss is symmetrical about its midspan centerline, then all the members on only one side of the centerline require a rating.

I. Card Type 61 - Truss Geometry

1. For the purposes of column 14, a through truss is any truss where the bottom chord directly supports the bridge deck, and a deck truss is any truss where the top chord directly supports the bridge deck.

2. To prevent errors in processing, be certain that the sum of the panel lengths is exactly equal to the overall span length (or one-half overall span for a symmetrical truss) entered on card type 61. without any rounding errors.

J. Card Type 63 and 64 - Truss Member Section Properties

1. Card type 63 is used when the overall section properties of all truss members are known. Card type 64 is used when the overall section properties are not known, and the rater decides to have the program compute them. The input data for section properties shall be shown on the hand calculation sheets submitted with the rating.

2. The reduction of section properties due to bolt and rivet holes must be taken into account when analyzing members subject to tensile stresses. Therefore. the effective area of bolt and rivet holes, as computed according to AASHTO Specifications, shall be used when calculating a member's net area on card type 63, or shall be entered as one of the member's cross sectional elements on card type 64. bolt and rivet holes do not effect gross sectional properties. Consequently, they do not reduce a member's capacity for compression.

3. Defects, or reductions in a member's cross-section, usually due to corrosion or collision damage, reduce both gross and net section properties. Therefore, the affect of defects shall be taken into account for all members in which they occur. The section properties of defects shall be used when computing all of the member's section properties shown on card type 63. Or, on card type 64, the defects shall be entered as elements of the member's cross-section.

4. The BARS program considers all members to have pinned end conditions for- all calculations, except when determining the effective length factor (K). The entry in column 49 and 60 on card types 63 and 64, respectively, will only be used for determining "K". If the end of a member is restrained by only pin friction, then enter an "X" in column 49 or 60, and "K" will be set equal to 0.875. If the end of a member is partially restrained by a bolted or riveted connection, leave column 49 or 60 blank, and "K" will be set equal to 0.75. See Appendix of AASHTO Standard Specifications for Highway Bridges for columns.

5. The value of "F" is used to take into account the reduced strength of batten plate columns (see AASHTO Manual for Maintenance Inspection of Bridges - Formulas For Steel Columns). It only applies when members are subject to compressive forces. The governing center-to-center spacing of the batten plates, i.e. tie plates, on one or both sides of a member should be used in determining "F". It is not necessary to apply this reduction due to the presence of lacing bars, perforated plates, or the tie plates which have lacing between them. In these cases, the value of "F" should be left blank.

K. Card Type 65 - Superimposed Dead Loads on Trusses

1. When the unloaded chords (the chords that are not directly supporting the deck) of the trusses on each side of the bridge are not interconnected with portals, or sway bracing, it is acceptable to apply all of the bridge's dead load as point loads at the panel points on the loaded chord.

II. BARS OUTPUT

A. The impact values for tension and compression assigned to a truss member are the result of the program applying the appropriate portion of the span length, as determined from the member's influence diagram, into the AASHT0 impact formula. When LC is the length of the influence diagram that applies to compression, and LT is the length of the influence diagram that applies to tension, LC plus LT equal the total span length of the truss. LC is used in the impact formula for determining the value of impact for compression, and LT is used for determining the impact for tension.

B. The HS 20 inventory and operating rating values assigned to structural members on the BARS output are the result of the program multiplying the rating factors by 20 to give ratings relative to the HS 20 designation. The rating values to be entered on the Rating Summary Sheet must be in tons. Therefore, the HS 20 ratings reported by the program must be multiplied by 1.8 (where 36/20 = 1.8 and 36 = gross weight of HS 20 vehicle in tons) to obtain the corresponding ratings in tons; i.e., (HS 20 rating) X 1.8 = (rating in tons).

10A-4 TRUSS BRIDGE RATING EXAMPLE (**SLT**)

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STAFF BRIDGE DESIGN
WORK SHEET (01200) 30
REV JULY, 1981

PARALLEL STRUCTURE NUMBER ~~—~~

STRUCTURE TYPE SLT

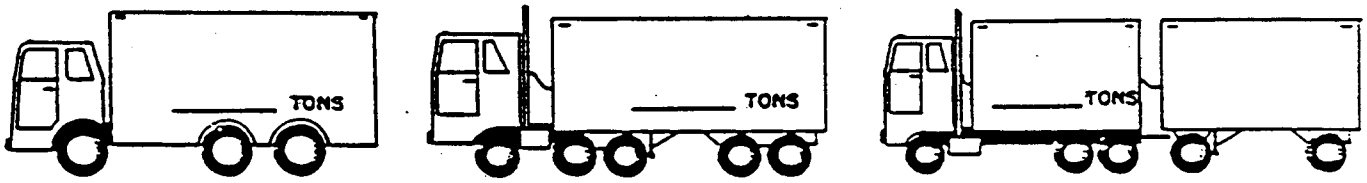
STATE HWY NO. 69

STRUCTURE NO. N-16-L

BATCH I.D. D75-085

COLORADO LEGAL LOADS
RATING SUMMARY (TONS)

	TRUSS	30 WF 108 INT. FLOOR BEAM	12 I 31.8 INT. STRINGER ~~OR GIRDER~~	STEEL PLANK SLAB
HS 20 (36 TONS) INVENTORY	L2-L3 20.4	37.1	42.7	34.6
HS 20 (36 TONS) OPERATING	L2-L3 38.0	55.0	67.3	46.8
TYPE 3 (27 TONS) OPERATING				
TYPE 3S2 (42.5 TONS) OPERATING				
TYPE 3-2 (42.5 TONS) OPERATING				
OVERLOAD COLOR CODE	see Subsection 200-6	see Subsection 200-6	see Subsection 200-6	



TYPE 3 TYPE 3S2 TYPE 3-2

COMMENTS: 5" ASPHALT OVERLAY

PROJECT NO. S-0038(10) Date Checker's Signature

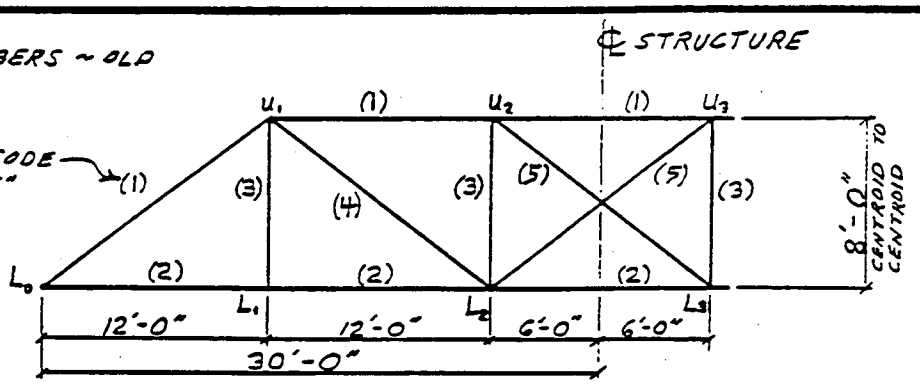
DATE: Date RATER: Rater's Signature

Bridge Work Sheet
(01200)1 October 1982

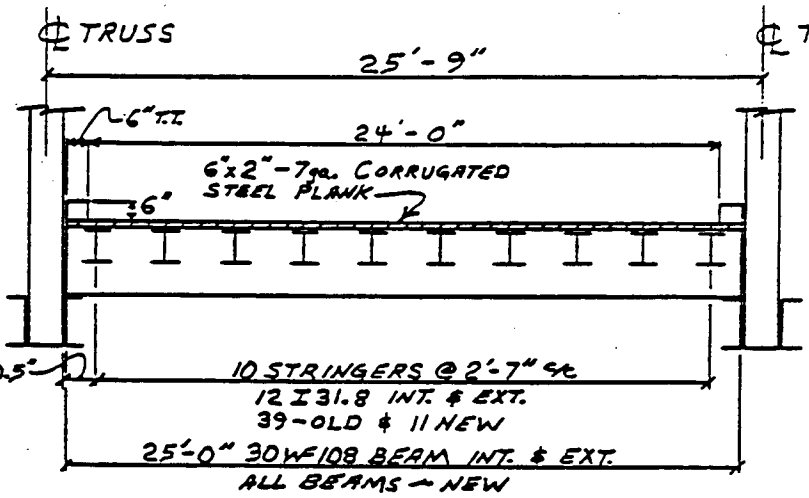
DESIGN COMPUTATIONS

ALL TRUSS MEMBERS ~ OLD

3/4" ϕ RIVETS



USED 1965 & 1920 AISC MANUALS FOR SECTION PROPERTIES



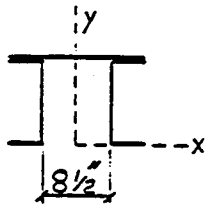
30 WF 108 (NEW)
A = 31.77
I_x = 4461.0
S_x = 2922

12 I 31.8 (OLD)
A = 9.26
I_x = 215.8
S_x = 36.0
b_f = 5.00"

USED PROJECT #S-0038(10) AS-CONSTRUCTED PLANS - 1965. NEW MEMBERS PER PROJECT #S-0038(10). OLD MEMBERS SALVAGED - COULD NOT FIND ANY PLANS. THEREFORE, TRUSS DATA FROM FIELD SURVEY - 10/2/85 CONDUCTED BY RON AKIN AND MARK LEONARD.

BARS ENTRY DATA - CARD TYPE 64

SECTION (1)



H = 10 5/16 = 10.31"

2 - C10X20: $A = 5.86^{in^2}$ $I_x = 78.5^{in^4}$ $I_y = 2.8^{in^4}$
DISTANCE FROM OUTSIDE WEB TO CENTROID = 0.61"
$D_x = 8.5/2 + 0.61 = \pm 4.86"$
$D_y = 10/2 = 5"$

14" x 5/16" PL: $A = 4.37^{in^2}$ $I_x = 14(5/16)^3/12 = 0.036^{in^4}$
$D_x = 0$ $I_y = \frac{5}{16}(14)^3/12 = 71.46^{in^4}$
$D_y = 10 + 5/32 = 10.16"$

AREA REDUCTION: NO NEED FOR ~ COMPRESSION MEMBER

BOTTOM FLANGES CONNECTED W/ LACING

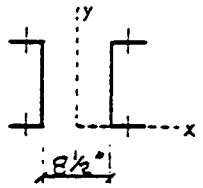
STAFF BRIDGE DESIGN	COLORADO DIVISION OF HIGHWAYS	Sheet 1 of 3
By: ML Date 10/29/84	Project No. S-0038 (10) RATING	
Chk'd: VGC Date 11-2-85	Structure No. N-16-L	075-085

Bridge Work Sheet
(01200)1 October 1982

DESIGN COMPUTATIONS

BARS ENTRY DATA - CARD TYPE 64 (CONT.)

SECTION (2)

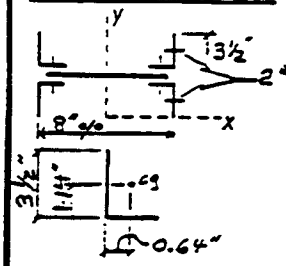


2 - C10x20 : SAME AS SECTION (1) EXCEPT $H = 10''$

AREA REDCT'N : $4_{HOLES}\,(3/4+1/8)\phi\ 7/16 = 1.53\ IN^2$
$7/16'' = t_f$ @ GAGE

14" x 5/16" BATTEN R's - No Reduction Required - TENSION MEMBER

SECTION (3)



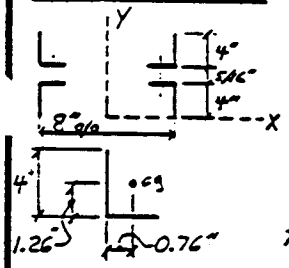
4- L 3½" x 2½" x 5/16" : $A = 1.78$ $I_x = 2.2$ $I_y = 0.94$
$D_x = 8.0/2 - 0.64 = \pm 3.36''$
$D_y = 3.5 - 1.14 = 2.36''$ (OR) $3.5 + 5/16 + 1.14 = 4.95$

7½" x 5/16" R : $A = 2.34$ $I_x = 7.5(5/16)^3/12 = 0.019$ $I_y = \frac{5}{16}(7.5)^3/12 = 10.99$
$D_x = 0$ $D_y = 3.5 + 5/32 = 3.66''$

AREA REDCT'N : $8_{HOLES}\,(3/4+1/8)\phi\ 5/16 = 2.19\ IN^2$

$H = 2(3.5) + 5/16 = 7.31''$

SECTION (4)

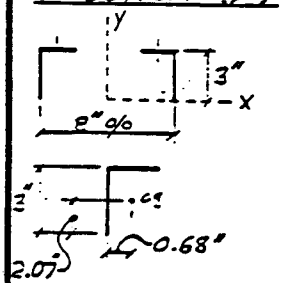


4- L 4"x3"x 5/16" : $A = 2.09$ $I_x = 3.4$ $I_y = 1.7$
$D_x = 8.0/2 - 0.76 = \pm 3.24''$
$D_y = 4 - 1.26 = 2.74''$
$= 4 + 5/16 + 1.26 = 5.57''$
$H = 4 + 5/16 + 4 = 8.31''$

AREA REDUCT'N : $4_{HOLES}\,(3/4+1/8)\phi\ 5/16 = 1.09\ IN^2$

7½" x 5/16" x 1'-0" BATTEN R's SPA. @ 3' $\Rightarrow 3(12)/8.31 \Rightarrow 4.33H = SPA.$ $\therefore F = 6$

SECTION (5)



2- L 3"x2½"x 5/16" : $A = 1.62$ $I_x = 1.42$ $I_y = 0.9$
$D_x = 8.0/2 - 0.68 = \pm 3.32''$
$D_y = 3 - 0.93 = 2.07''$
$H = 3''$

AREA REDUCTION: $2_{HOLES}\,(3/4+1/8)\phi\ 5/16 = 0.55\ IN^2$
← EITHER IN FLANGE OR WEB

7½ x 5/16 x 1'-0" BATTEN R's - No REDUCTION REQUIRED - TENSION MEMBER

ALLOWABLE STRESSES :

TRUSS & OLD STRINGERS — UNKNOWN. PLAQUE ON TRUSS DATED 1920 - FROM FIELD SURVEY. ∴ ASSUME 1920 - DATE OF FABRICATION. FROM BARS STRESS TABLE : ALLW STEEL STRESS = 16.0 KSI INV. & 22.5 KSI OPR.

BEAMS — STEEL 18 KSI INV (From S0038(10) PLANS) & 24.5 KSI OPR

STAFF BRIDGE DESIGN	COLORADO DIVISION OF HIGHWAYS		Sheet 2 of 5
By: ML Date 10/29/84	Project No.	RATING S-0038(10)	
Chk'd: VGC Date 11-2-85	Structure No.	N-16-L	D75-075

Bridge Work Sheet
(01200)1 October 1982

DESIGN COMPUTATIONS

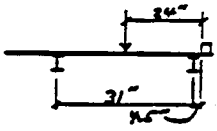
SUPERIMPOSED DEAD LOAD (NOTE: GUARD RAIL ON TRUSSES) (5" ASPHALT OVERLAY)

DECK: 6"x2" 7ga. Corrg. Steel Plank = 10.7 PSF (PER ARMCO CATALOG)
ASPHALT FILLER = 144 (1")$_{ave.}$ /12 = 12 PSF
PLANK + FILLER = 22.7 psF

INT. STRINGER : 12 I 31.8
OVERLAY = (5/12)(31/12) 144 = 155
DECK = 22.7 (31/12) = 59
214 PLF

L.L. D.F. = 31/(2)(4.5) = 0.574
SWAY BRACING SUPPORTED @ MID-SPAN BY STRINGERS E & F; HOWEVER, RESULTING POINT LOAD IS NEGLIGIBLE.

EXT. STRINGER : 12 I 31.8



OVERLAY = (5/12)(31/2(12) + 4.5/12) 144 = 100
DECK = 22.7(31/2(12)+ 10.5/12) = 49.2
CURB = 6 (6) 50 / 144 = 12.5
162 PLF

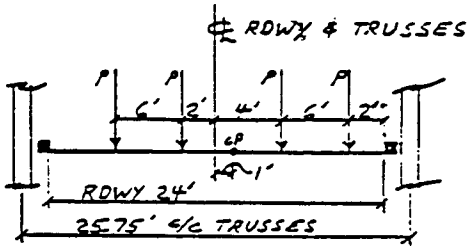
L.L. D.F. = (31-19.5) / 31 = 0.371
INT & EXT STRINGER — SAME SIZE. INT. STRINGER CONTROLS.
∴ NO NEED TO RATE EXT. STRINGER.

INT. BEAM : 30 WF 108
P = (214 + 31.8)^{PLF} 12' = 2.9^{K} / INT. STRINGER
= (162 + 31.8) 12 = 2.3^{K} / EXT. STRINGER

EXT. BEAM : 30 WF 108
SAME SIZE AS INT. BEAM. INT BEAM CONTROLS.
∴ NO NEED TO RATE EXT. BEAM.

TRUSS :
INT. STRINGERS = 214^{PLF} (12') 4 STRINGERS 5 BAYS = 51.4^{K}
EXT. STRINGERS = 162^{PLF} (12') 1 STRINGER 5 BAYS = 9.7
PER S0038(10) PLANS { SALVAGED STEEL = 43530 / 2 = 21.8
NEW STEEL = 26330 / 2 = 13.2
96.1 / 5 = 19.2^{K} / INT. PANEL POINT 96.1^{K} / TRUSS

P = WHEEL LOAD
CP = CENTROID OF WHEEL LOADS
L.L. D.F. = 4/(25.75/2 + 1.0)/25.75
= 2.155

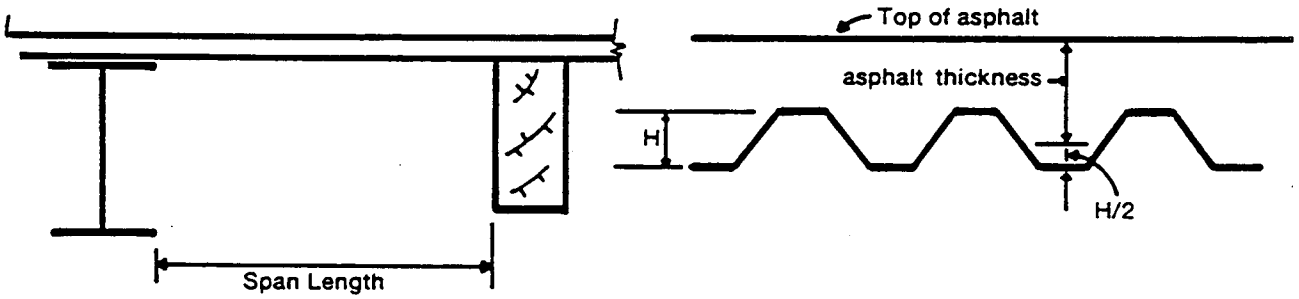


STAFF BRIDGE DESIGN	COLORADO DIVISION OF HIGHWAYS		Sheet 3 of 3
By: ML Date 10/29/84	Project No.	RATING S0032(10)	
Chk'd: MC Date 11-2-85	Structure No.	N-16-L	D75-085

DEPARTMENT OF HIGHWAYS
DIVISION OF HIGHWAYS
STATE OF COLORADO
DOH Form 711
July, 1985

CORRUGATED STEEL PLANK RATING

DESCRIPTION	INPUT	UNITS	CARD IMAGE COLS.
STRUCTURE NUMBER	,N,-,1,6,-,L,		1 - 7
RATER	,M,A,L		8 - 10
STATE HIGHWAY NUMBER	, ,6,9		11 - 13
BATCH I. D.	,D,7,5,0,8,5		14 - 19
COMMENTS	,Ø,V,E,R, ,T,U,R,K,E,Y , ,C,R,E,E,K, , , ,		20 - 40
SPAN LENGTH	,2,6.0,0	IN	41 - 44
SECTION MODULUS	, .,1,6,2	IN3/IN	45 - 48
WEIGHT OF PLANK	,1,0.7	PSF	49 - 51
INVENTORY STRESS	,2,0.0	KSI	52 - 54
OPERATING STRESS	,2,7.0	KSI	55 - 57
ASPHALT THICKNESS	, 6.0,0	IN	58 - 61



STEEL BRIDGE PLANK RATING

DATE: 85/03/14.

Rater's Signature & Date

Checker's Signature & Date

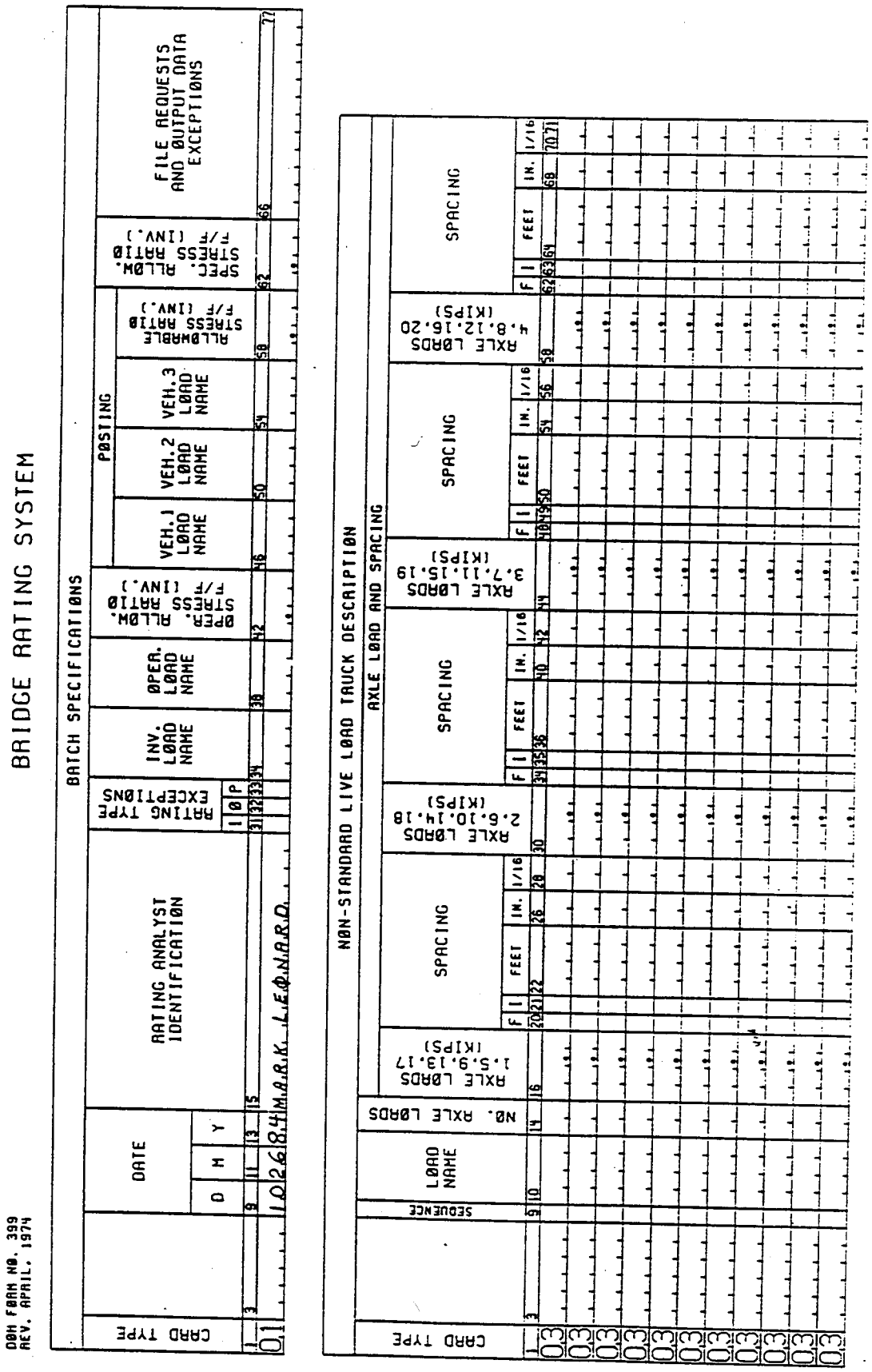
STRUCTURE NO: N-16-L
RATER: MAL
BATCH ID: D75085
STATE HWY NO: 69
COMMENT: OVER TURKEY CREEK

NET SPAN LENGTH (IN) = 26.00
SECTION MODULUS (IN3/IN) = .162
PLANK WEIGHT (PSF) = 10.7
INVENTORY STRESS (KSI) = 20.0
OPERATING STRESS (KSI) = 27.0
ASPHALT THICKNESS (IN) = 6.00

LL+I MOMENT (IN-K) = 3.328
(LL MOMENT BASED ON A WHEELPRINT 20IN X 20IN)
DL MOMENT (IN-K) = .039
INVENTORY LL+I MOMENT CAPACITY (IN-K) = 3.201
OPERATING LL+I MOMENT CAPACITY (IN-K) = 4.335

INVENTORY RATING (TONS) = 34.63

OPERATING RATING (TONS) = 46.89


BRIDGE RATING SYSTEM
DOH FORM NO. 399
REV. APRIL. 1974
BATCH SPECIFICATIONS
CARD TYPE
DATE
D M Y
RATING ANALYST IDENTIFICATION
RATING TYPE EXCEPTIONS
INV. LOAD NAME
OPER. LOAD NAME
OPER. RLLOW. STRESS RATIO F/F (INV.)
POSTING
VEH.1 LOAD NAME
VEH.2 LOAD NAME
VEH.3 LOAD NAME
ALLOWABLE STRESS RATIO F/F (INV.)
SPEC. RLLOW. STRESS RATIO F/F (INV.)
FILE REQUESTS AND OUTPUT DATA EXCEPTIONS
01
10268 4 MARK LEONARD
NON-STANDARD LIVE LOAD TRUCK DESCRIPTION
CARD TYPE
SEQUENCE
LOAD NAME
NO. AXLE LOADS
AXLE LOAD AND SPACING
AXLE LOADS 1.5,9,13,17 (KIPS)
SPACING F I FEET IN. 1/16
AXLE LOADS 2.6,10,14,18 (KIPS)
SPACING F I FEET IN. 1/16
AXLE LOADS 3.7,11,15,19 (KIPS)
SPACING F I FEET IN. 1/16
AXLE LOADS 4.8,12,16,20 (KIPS)
SPACING F I FEET IN. 1/16
03

DØH FØRM NØ. 321
FEBRUARY. 1973

BRIDGE RATING SYSTEM

STRUCTURE HEADER AND DESCRIPTION

CARD TYPE	BATCH ID	STRUCTURE BATCH SERIAL NUMBER	RATING ANALYST IDENTIFICATION	ENGR. ATTN.	STRUCTURE RATING EXCEPTIONS (I, 0, P)	ØVERRULE FILE REQUESTS AND ØUTPUT DATA EXCEPTIØNS	STRUCTURE TYPE	YEAR ØF CØNSTRUCTIØN	STRUCTURE LENGTH (F, I, FEET, IN., 1/16)	ROADWAY WIDTH (F, I, FEET, IN., 1/16)	NUMBER ØF SPANS	SP. LØAD MULT.	LIVE LØAD TRUCK DESIGNATIØN (INV., ØPER.)
02	075	085	MARK LEØNARD				SLT	20	6 1 10	24	1		

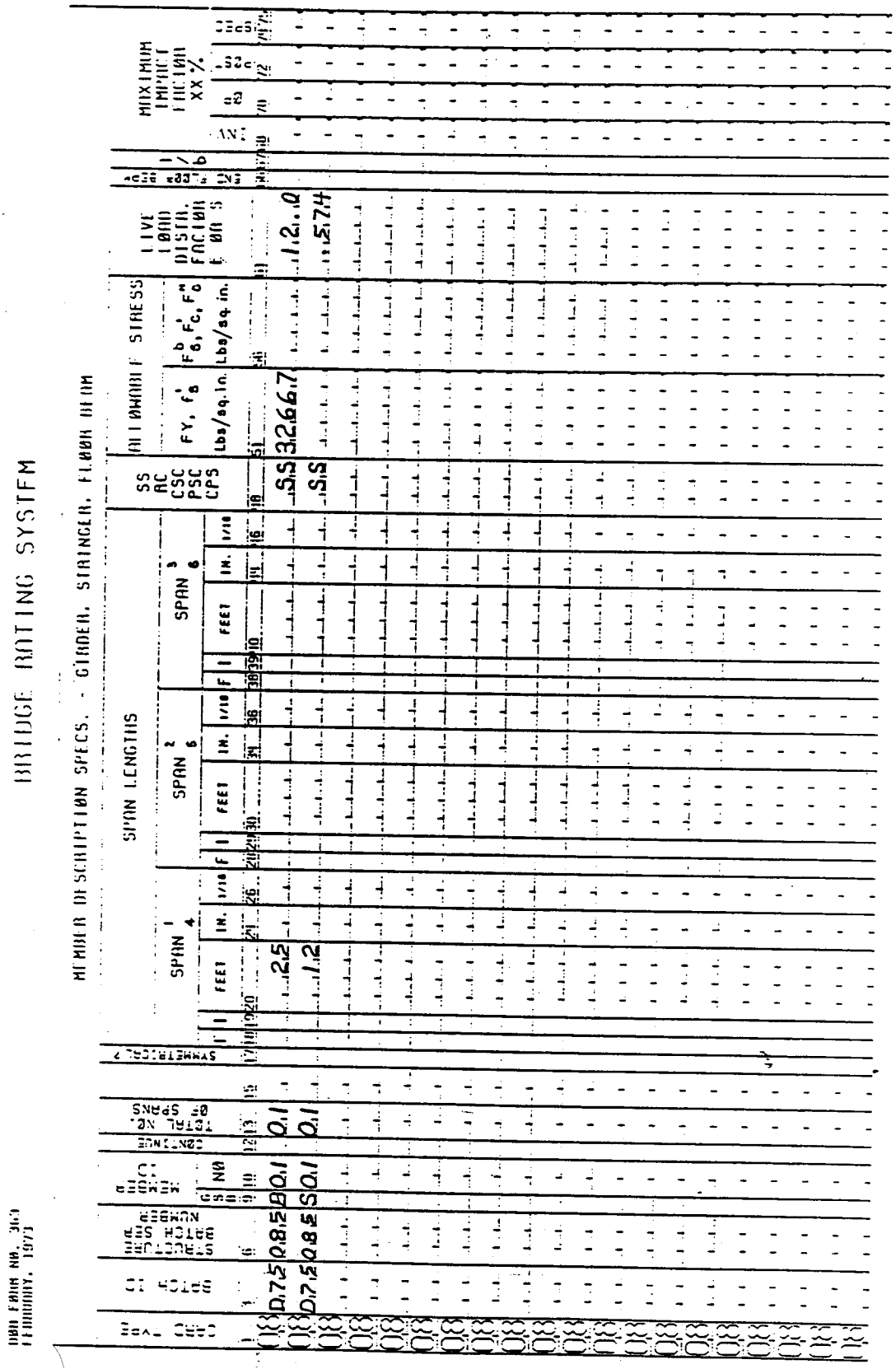
STRUCTURE LØCATIØN AND PERMANENT IDENTIFICATIØN FACTØRS

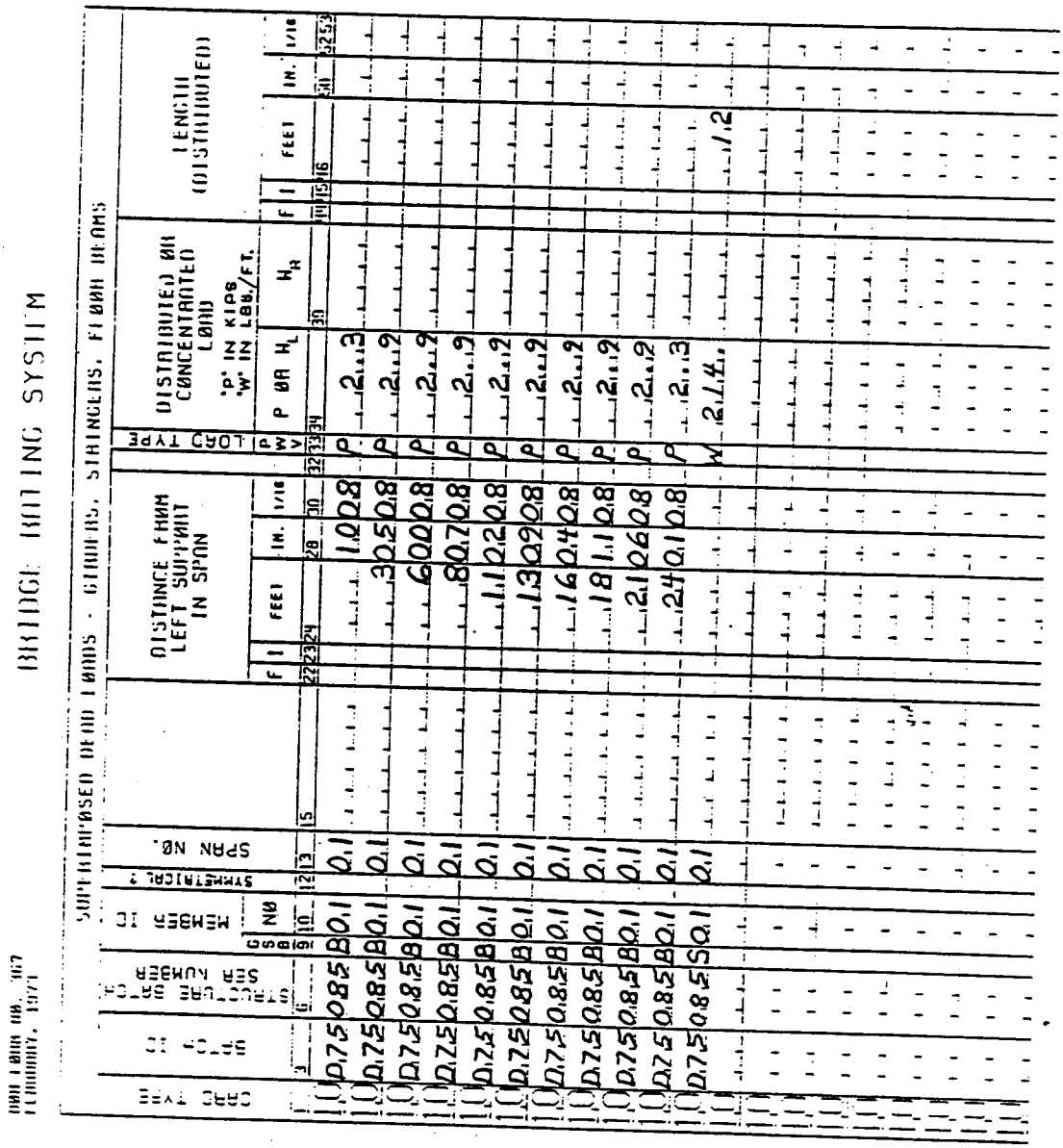
CARD TYPE	BATCH ID	STRUCTURE BATCH SER NUMBER	STRUCTURE NUMBER	DISTRICT	CØUNTY	CØNSTRUCTIØN: RØUTE	CØNSTRUCTIØN: SECTIØN	CØNSTRUCTIØN: STATIØN	MICRØFILM REEL NØ.: DESIGN PLANS	MICRØFILM REEL NØ.: CØMPUTATIØNS	MICRØFILM REEL NØ.: CØRRESPØNDENCE	KEY RØUTE ID.	MARKED RØUTE
05	075	085	N-16-L	2	055							S11-69	

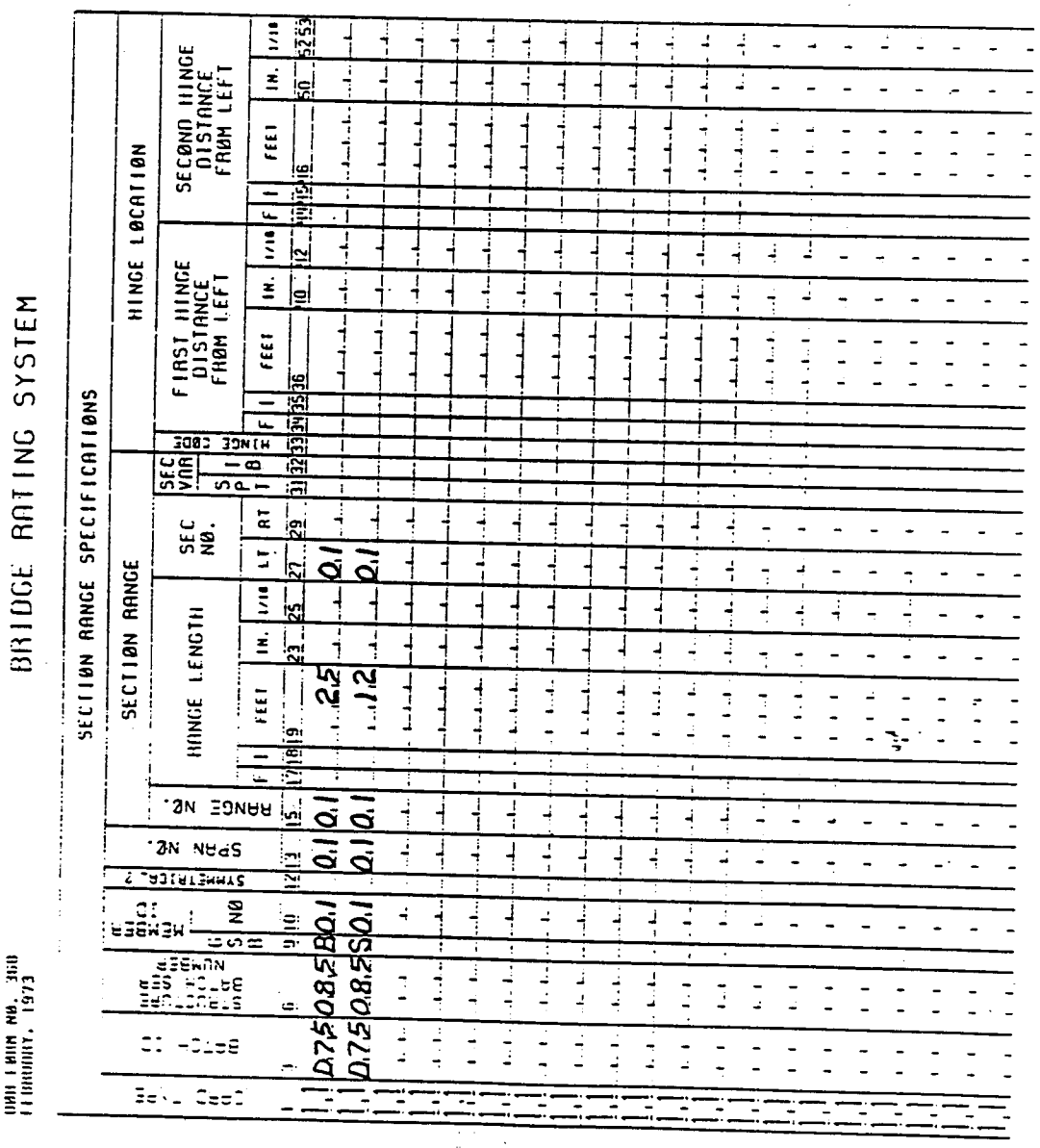
CØMMENTS

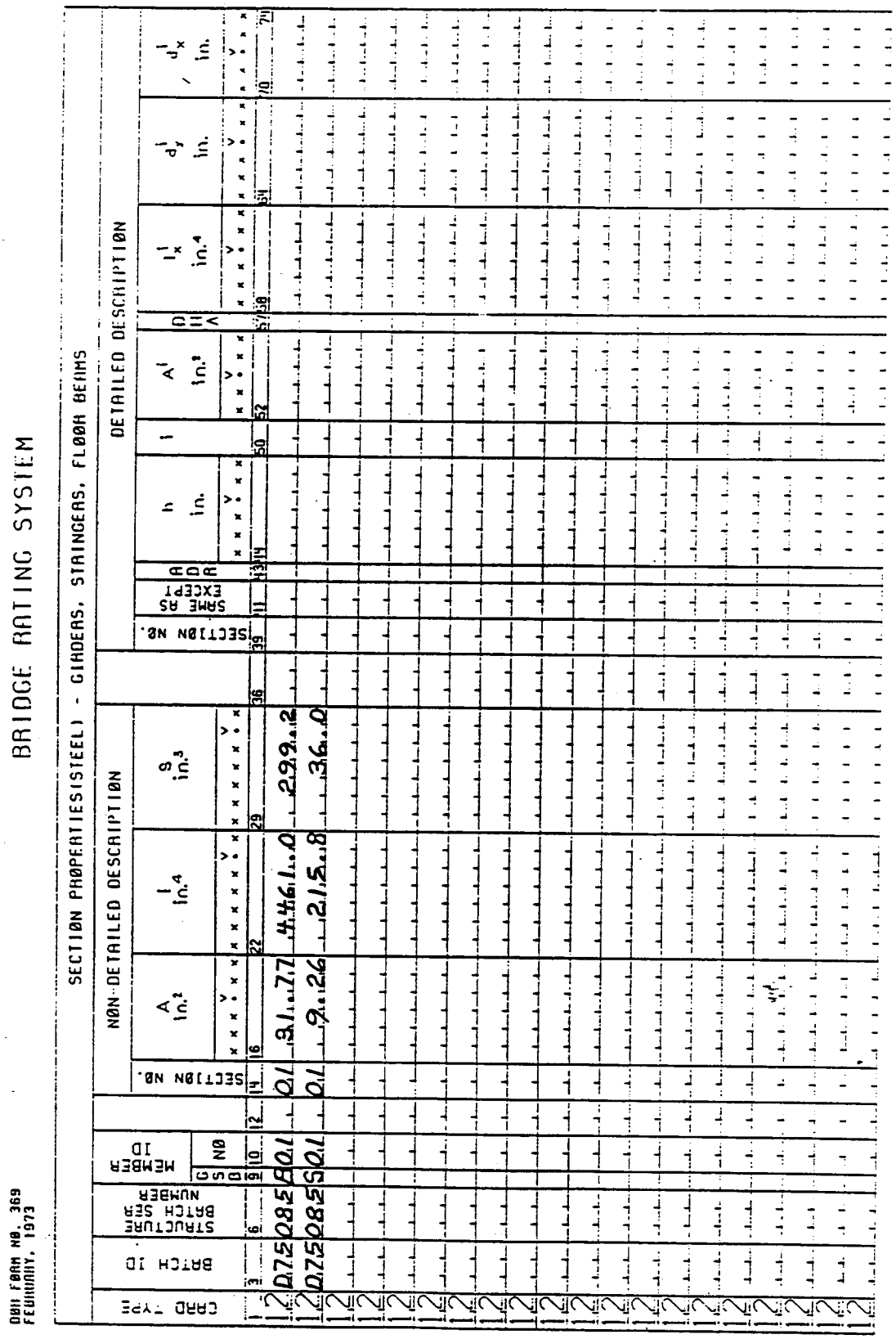
ANALYST REMARKS TØ BE DUPLICATED ØN SUMMARY ØF RATING

CARD TYPE	BATCH ID	BATCH SERIAL NUMBER	SEQ	
06	075	085	1	PRØJECT NØ. S-003B(10), ACTUAL YEAR ØF CØNSTRUCTIØN 1965
06	075	085	2	TRUSSES AND MØST STRINGERS SALVAGED FRØM BEAVER CREEK
06	075	085	3	ASSUME SALVAGED STEEL FABRICATED 1920 FØR ALLW. STRESSES
06	075	085	4	STRINGER SØL INT. I 12X31.8 (REUSED), FLØØR BEAM BØL INT. W30X108 (NEW)
06	075	085	5	RATED WITH 5 INCHES ASPHALT ØVERLAY AND CØLØRADØ TRUCKS
06	075	085	6	ØVER TURKEY CREEK NEAR FARISITA


BRIDGE RATING SYSTEM
MEMBER DESCRIPTION SPECS. - GIRDER, STRINGER, FLOOR BEAM
SPAN LENGTHS
SPAN 1
SPAN 2
SPAN 3
FEET
IN.
1/16
SYMMETRICAL ?
CONTINUE
TOTAL NO. OF SPANS
SS
AC
CSC
PSC
CPS
ALLOWABLE STRESS
FY, f'B
Lbs/sq.in.
LIVE LOAD DISTRIB. FACTION E OR S
MAXIMUM IMPACT FRACTION XX %
32667
12.0
5.74
0.75
0.85
0.1


BRIDGE RATING SYSTEM
SUPERIMPOSED DEAD LOADS - GIRDERS, STRINGERS, FLOOR BEAMS
CARD TYPE
SPEC. CODE
SEQUENCE NUMBER
MEMBER ID
SYMMETRICAL ?
SPAN NO.
DISTANCE FROM LEFT SUPPORT IN SPAN
FEET
IN.
LOAD TYPE
DISTRIBUTED OR CONCENTRATED LOAD
'P' IN KIPS
'W' IN LBS./FT.
P OR W
H_L
H_R
LENGTH (DISTRIBUTED)
FEET
IN.


BRIDGE RATING SYSTEM
SECTION RANGE SPECIFICATIONS
SECTION RANGE
HINGE LOCATION
HINGE LENGTH
SEC NO.
FIRST HINGE DISTANCE FROM LEFT
SECOND HINGE DISTANCE FROM LEFT
SPAN NO.
RANGE NO.
FEET
IN.
LT
RT


BRIDGE RATING SYSTEM
DBII FORM NO. 369
FEBRUARY, 1973
SECTION PROPERTIES(STEEL) - GIRDERS, STRINGERS, FLOOR BEAMS
CARD TYPE
BRIDGE ID
STRUCTURE BATCH SEQ NUMBER
MEMBER ID
ON
SUB
NON-DETAILED DESCRIPTION
SECTION NO.
A in.²
I in.⁴
S in.³
DETAILED DESCRIPTION
SECTION NO.
SAME AS EXCEPT
A
D
h in.
I
A¹ in.²
I¹x in.⁴
d¹y in.
d¹x in.
075085 01 01 31.77 4461.0 299.2
075085 01 01 9.26 215.8 36.0

DOH FORM NO. 373
FEBRUARY, 1973

BRIDGE RATING SYSTEM

GENERAL SPECIFICATIONS FOR TRUSS ANALYSIS

CARD TYPE	BATCH ID	STRUCTURE BATCH SERIAL NUMBER	TRUSS ID	YIELD- ALLOWABLE STRESS		LIVE LOAD DISTRIBUTION							MEMS TO BE RATED			CONTINUATION	EXCEPTED OR SELECTED MEMBERS																							
						C - C TRUSSES											MEMBER ID.				MEMBER ID.				MEMBER ID.				MEMBER ID.				MEMBER ID.				MEMBER ID.			
				Fy Lbs./Sq.In.	f_s^t Lbs./Sq.In.	F	I	FEET	IN.	1/16	FACTOR x.xxx		ALL	EXCEPTIONS	SELECTED		P.P. U L M	P.P. NO	P.P. U L M	P.P. NO	P.P. U L M	P.P. NO	P.P. U L M	P.P. NO	P.P. U L M	P.P. NO	P.P. U L M	P.P. NO	P.P. U L M	P.P. NO	P.P. U L M	P.P. NO	P.P. U L M	P.P. NO	P.P. U L M	P.P. NO	P.P. U L M	P.P. NO	P.P. U L M	P.P. NO
1	3	6	9	10	15	20	21	22	26	28	30	35	36	37	38	39	40	41	43	44	46	47	49	50	52	53	55	56	58	59	61	62	64	65	67	68	70	71	73	74 75
60	D75	0851	1								2.155		X																											
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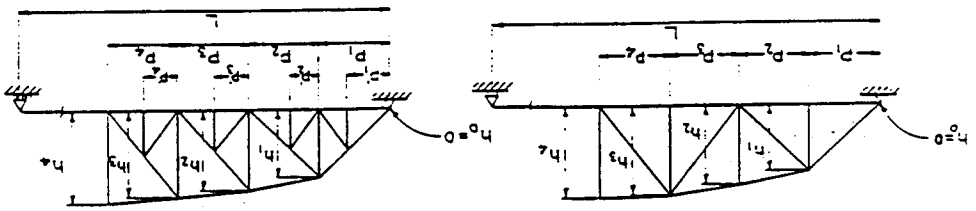


BRIDGE RATING SYSTEM

TRUSS GEOMETRY

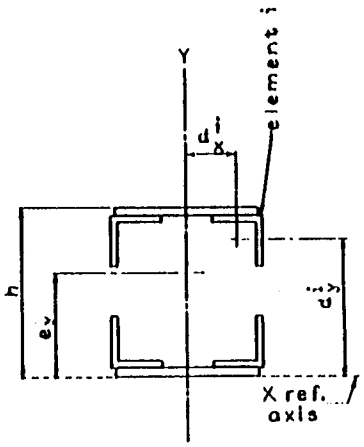
CARD TYPE	BATCH ID.	STRUCTURE BATCH SERIAL NUMBER	TRUSS ID.	PANEL NUMBER	PANEL CODE	TOTAL NO. PANELS	SYMMETRY	SPAN LENGTH L FEET	SPAN LENGTH L IN.	SPAN LENGTH L 1/16	END POST HGT. h_o FEET	END POST HGT. h_o IN.	END POST HGT. h_o 1/16	FULL PANEL LGT. P_i FEET	FULL PANEL LGT. P_i IN.	FULL PANEL LGT. P_i 1/16	SUBD. PANEL LGT. P'_i FEET	SUBD. PANEL LGT. P'_i IN.	SUBD. PANEL LGT. P'_i 1/16	VERTICAL HGT. h_i FEET	VERTICAL HGT. h_i IN.	VERTICAL HGT. h_i 1/16
01	075085	11		01	07	10	X	60						12						8		
01	075085	11		02	02									12						8		
01	075085	11		03	04									12						8		
01				04																		
01				05																		
01				06																		
01				07																		
01				08																		
01				09																		
01				10																		
01				11																		
01				12																		
01				13																		
01				14																		
01				15																		
01				16																		
01				17																		
01				18																		
01				19																		
01				20																		

ØBH FØRM NØ. 377
FEBRUARY, 1973

BRIDGE RATING SYSTEM

SECTIØN PRØPERTIES - STRUCTURAL STEEL TRUSS MEMBERS
DETAILED DESCRIPTIØN

CARD TYPE	BATCH ID.	STRUCTURE BATCH SERIAL NUMBER	TRUSS ID.	MEMBER ID P.P. U/L	MEMBER ID P.P. NØ	MEMBER ID P.P. U/L	MEMBER ID P.P. NØ	SECTIØN CØDE	SAME AS CØDE	h in.	MEMBER ELEMENT NØ. i	A^i in.^{2}	DHA	I_x^i in.^{4}	I_y^i in.^{4}	d_x^i in.	d_y^i in.	e_y in.	PINNED ENDS ?	F
1	3	8	9	10	11	13	14	18	19	20	28	28	33	34	40	46	51	56	60	61 62
01	D7.5	0.8.5	1	L	0.0	U	0.1	0.1		1.0.3.1	0.1	4.3.7		0.0.0.4	7.1.4.6	0.0.0	1.0.1.6			
01	D7.5	0.8.5	1	L	0.0	U	0.1	0.1			0.2	5.8.6		7.8.5.0	2.8.0	4.8.6	5.0.0			
01	D7.5	0.8.5	1	L	0.0	U	0.1	0.1			0.3	5.8.6		7.8.5.0	2.8.0	-4.8.6	5.0.0			
01	D7.5	0.8.5	1	U	0.1	U	0.2		0.1											
01	D7.5	0.8.5	1	U	0.2	U	0.3		0.1											
01	D7.5	0.8.5	1	L	0.0	L	0.1	0.2		1.0.0.0	0.1	5.8.6		7.8.5.0	2.8.0	4.8.6	5.0.0			
01	D7.5	0.8.5	1	L	0.0	L	0.1	0.2			0.2	5.8.6		7.8.5.0	2.8.0	-4.8.6	5.0.0			
01	D7.5	0.8.5	1	L	0.0	L	0.1	0.2			0.3	1.5.3	H				5.0.0			
01	D7.5	0.8.5	1	L	0.1	L	0.2		0.2											
01	D7.5	0.8.5	1	L	0.2	L	0.3		0.2											
01	D7.5	0.8.5	1	U	0.1	L	0.1	0.3		7.3.1	0.1	1.7.8		2.2.0	0.9.4	3.3.6	4.9.5			
01	D7.5	0.8.5	1	U	0.1	L	0.1	0.3			0.2	1.7.8		2.2.0	0.9.4	-3.3.6	4.9.5			
01	D7.5	0.8.5	1	U	0.1	L	0.1	0.3			0.3	1.7.8		2.2.0	0.9.4	3.3.6	2.3.6			
01	D7.5	0.8.5	1	U	0.1	L	0.1	0.3			0.4	1.7.8		2.2.0	0.9.4	-3.3.6	2.3.6			
01	D7.5	0.8.5	1	U	0.1	L	0.1	0.3			0.5	2.3.4		0.0.2	1.0.9.9		3.6.6			
01	D7.5	0.8.5	1	U	0.1	L	0.1	0.3			0.6	2.1.9	H				3.6.6			
01	D7.5	0.8.5	1	U	0.2	L	0.2		0.3											
01	D7.5	0.8.5	1	U	0.3	L	0.3		0.3											
01																				
01																				



Properties of i^{th} element

A^i = Area i

I_x^i = Inertia about x

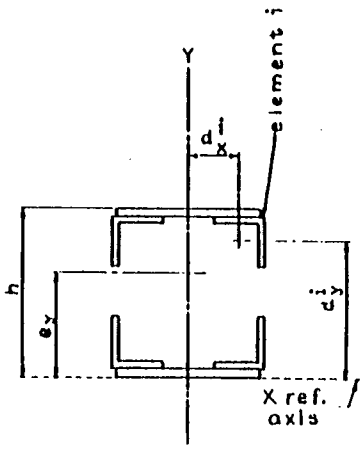
I_y^i = Inertia about y

DBH FBAN NØ. 377
FEBRUARY, 1973

BRIDGE RATING SYSTEM

SECTIØN PRØPERTIES - STRUCTURAL STEEL TRUSS MEMBERS
DETAILED DESCRIPTIØN

CARD TYPE	BATCH ID.	STRUCTURE BATCH SERIAL NUMBER	TRUSS ID.	MEMBER ID P.P. U/L	MEMBER ID P.P. NØ	MEMBER ID P.P. U/L	MEMBER ID P.P. NØ	SECTIØN CØDE	SAME AS CØDE	h in. xxx.xx	MEMBER ELEMENT NØ. i	A^i in.^{2} xxx.xx	DHA	I_x^i in.^{4} xxxx.xx	I_y^i in.^{4} xxxx.xx	d_x^i in. xx.xxx	d_y^i in. xx.xxx	e_y in. x.xxx	PINNED ENDS ?	F
1	3	8	9	10	11	13	14	18	19	20	28	29	33	34	40	49	51	58	60	61 62
0	07.5	08.5	1	U	01	L	02	04		8.31	01	2.09		3.40	1.70	3.24	5.57			06
0	07.5	08.5	1	U	01	L	02	04			02	2.09		3.40	1.70	-3.24	5.57			
0	07.5	08.5	1	U	01	L	02	04			03	2.09		3.40	1.70	3.24	2.74			
0	07.5	08.5	1	U	01	L	02	04			04	2.09		3.40	1.70	-3.24	2.74			
0	07.5	08.5	1	U	01	L	02	04			05	1.09	H				2.74			
0	07.5	08.5	1	L	02	U	03	05		3.00	01	1.62		1.42	0.90	3.32	2.07			
0	07.5	08.5	1	L	02	U	03	05			02	1.62		1.42	0.90	-3.32	2.07			
0	07.5	08.5	1	L	02	U	03	05			03	0.55	H				2.07			
0	07.5	08.5	1	U	02	L	03		05											

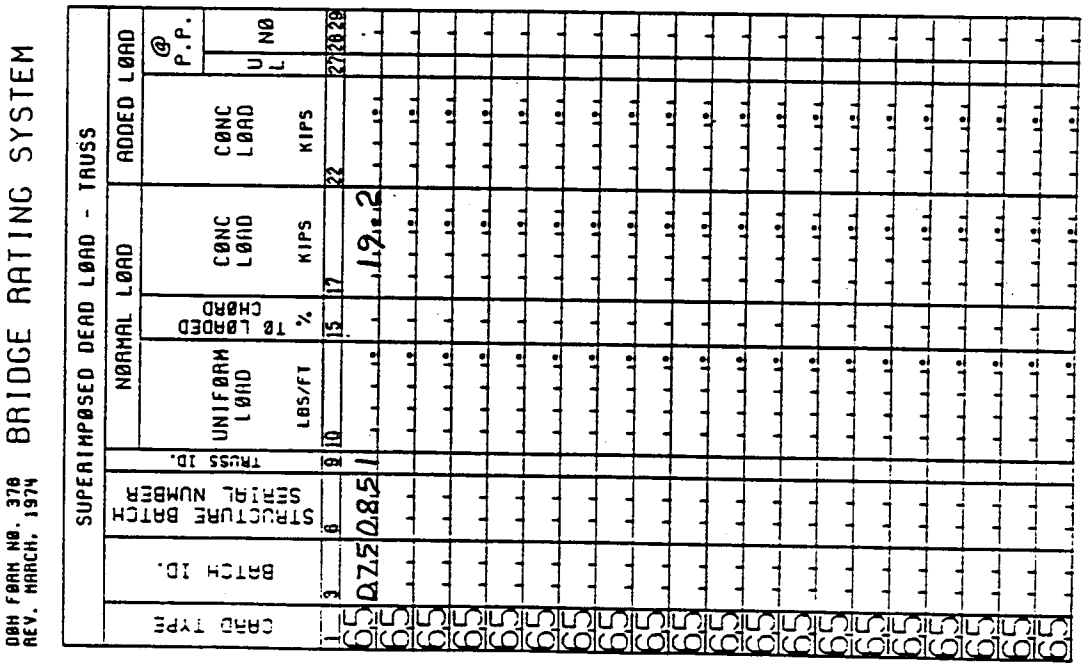


Properties of i^{th} element

A^i = Area i

I_x^i = Inertia about x

I_y^i = Inertia about y


BRIDGE RATING SYSTEM
DBH FORM NO. 370
REV. MARCH, 1974
SUPERIMPOSED DEAD LOAD - TRUSS
CARD TYPE
BATCH ID.
STRUCTURE BATCH SERIAL NUMBER
TRUSS ID.
NORMAL LOAD
UNIFORM LOAD LBS/FT
% LOADED TO CHORD
CONC LOAD KIPS
ADDED LOAD
CONC LOAD KIPS
@ P.P. U L NO
1 3 6 9 10 15 17 22 27 28 29
65
Q75 Q85 1 12.2

DØH FØRM NØ. 322
REV. APRIL. 1974

BRIDGE RATING SYSTEM

CØNTRØL CARDS FØR DATA UPDATING AND ANALYSIS INITIATIØN

CARD TYPE AA DD 99	BATCH I.D.	STRUCTURE BATCH SERIAL NUMBER	AA UPDATE ØR NEW / DD RECØRD NUMBER: 99 BATCH ID.	STRUCTURE BATCH SER NUMBER	DELETE(AA) TRANSFR(DD) AA ØNLY: ADD X b	SELT X b	PERM FILE ØLD NEW b	LIST b T P B	22 ... 80
1	3	6	9	12	15	16 17	18	21	22 ... 80
22	07	5085							

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*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*
A                                                                                                                     A
A                                                                                                                     A
S                                                                                                                     S
H                                                                                                                     H
T                                                                                                                     T
O                                                                                                                     O
*                                                                                                                     *
A                                                                                                                     A
A                                    AMERICAN ASSOCIATION OF STATE HIGHWAY                                            A
S                                        AND TRANSPORTATION OFFICIALS                                                 S
H                                                                                                                     H
T                                    A PROPRIETARY COMPUTER SOFTWARE PRODUCT                                          T
T                                                                                                                     T
O                                                                                                                     O
*                                                                                                                     *
A                                                                                                                     A
A                                                                                                                     A
S                                                                                                                     S
H                                                                                                                     H
T                                                                                                                     T
O                                                                                                                     O
*                                                                                                                     *
A                                                                                                                     A
A   AASHTOWAREtm   BBBBBBBBBBBB              AAAAAAA            RRRRRRRRRRR             SSSSSSSSSSSSS             A
S                  BBBBBBBBBBBBB            AAAAAAAAA           RRRRRRRRRRRR           SSSSSSSSSSSSSSS            S
H                  BBB        BBB          AA       AA          RRR       RRR         SSSS         SSSS          H
T                  BBB        BBB         AAA       AAA         RRR       RRR         SSS                        T
O                  BBB        BBB         AAA       AAA         RRR       RRR         SSSS                       O
*                  BBBBBBBBBBBB           AAA       AAA         RRRRRRRRRRR            SSSSSSSSSSSSS            *
A                  BBBBBBBBBBBBB          AAA       AAA         RRRRRRRRRR               SSSSSSSSSSSSS          A
A                  BBB        BBB         AAAAAAAAAAAAA         RRR    RRR                        SSSS          A
S                  BBB        BBB         AAAAAAAAAAAAA         RRR     RRR                        SSS          S
H                  BBB        BBB         AAA       AAA         RRR      RRR         SSSS         SSSS          H
T                  BBBBBBBBBBBBB          AAA       AAA         RRR       RRR         SSSSSSSSSSSSSS            T
O                  BBBBBBBBBBBB           AAA       AAA         RRR        RRR          SSSSSSSSSSSS             O
*                                                                                                                     *
A                                                                                                                     A
A                                                                                                                     A
S                                                                                                                     S
H                                                                                                                     H
T                                                                                                                     T
O                                                                                                                     O
*                                                                                                                     *
A                                                                                                                     A
A                                    BRIDGE ANALYSIS AND RATING SYSTEM                                                A
S                                                                                                                     S
H                          (C) COPYRIGHT 1994 BY THE AMERICAN ASSOCIATION OF STATE                                    H
T                          HIGHWAY AND TRANSPORTATION OFFICIALS, INC.                                                 T
O                          444 NORTH CAPITOL STREET, N.W., SUITE 249                                                  O
*                          WASHINGTON, D.C. 20001 U.S.A.                                                              *
A                          (202) 624-5800                                                                             A
A                                                                                                                     A
S                                    RELEASE 5.5  -  MOD 2.0                                                          S
H                                                                                                                     H
T                                       NOVEMBER 11, 1994                                                             T
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                                  RECORD                                                  REC.NO.
  01      080795MOHSENIM                                                                    100
  02D75085MARK LEONARD                       SLT20    611000    24    01                  100
  05D75085N-16-L  2055                                          SH-69                     200
  06D750851PROJECT NO. S-0038(10), ACTUAL YEAR OF CONSTRUCTION 1965                       300
  06D750852TRUSSES AND MOST STRINGERS SALVAGED FROM BEAVER CREEK                          400
  06D750853ASSUME SALVAGED STEEL FABRICATED 1920 FOR ALLW. STRESSES                       500
  06D750854STRINGER 1 INT. I12X31.8 (REUSED), FLOOR BEAM B01 W30X108 (NEW)                600
  06D750855RATED WITH 6 INCHES ASPHALT OVERLAY AND COLORADO TRUCKS                        700
  06D750856OVER TURKEY CREEK NEAR FARISITA                                                800
  08D75085B01 01       250000                SS32667     12.00                          900
  08D75085S01 01       120000                SS          0.574                         1000
  10D75085B01 01            10 8 P  2.3                                                 1100
  10D75085B01 01           3 5 8 P  3.3                                                 1200
  10D75085B01 01           6   8 P  3.3                                                 1300
  10D75085B01 01           8 7 8 P  3.3                                                 1400
  10D75085B01 01          11 2 8 P  3.3                                                 1500
  10D75085B01 01          13 9 8 P  3.3                                                 1600
  10D75085B01 01          16 4 8 P  3.3                                                 1700
  10D75085B01 01          1811 8 P  3.3                                                 1800
  10D75085B01 01          21 6 8 P  3.3                                                 1900
  10D75085B01 01          24 1 8 P  2.3                                                 2000
  10D75085S01 01              W 276.         120000                                     2100
  11D75085B01 0101    25000001                                                          2200
  11D75085S01 0101    12000001                                                          2300
  12D75085B01  01 31.77 4461.0  299.2                                                   2400
  12D75085S01  01  9.26  215.8   36.0                                                   2500
  60D750851                2.155 X                                                      2600
  61D7508510107T05X    600000              120000              80000                  2700
  61D7508510202                            120000              80000                  2800
  61D7508510304                            120000              80000                  2900
  64D750851L00L0102   10.0001 5.86   78.5  2.80 4.86  5.0                            3000
  64D750851L00L0102        02 5.86   78.5  2.80-4.86  5.0                            3100
  64D750851L00L0102        03 1.53H                5.0                               3200
  64D750851L00U0101   10.3101 4.37   .036 71.46     10.16                            3300
  64D750851L00U0101        02 5.86   78.5  2.8  4.86 5.00                           3400
  64D750851L00U0101        03 5.86   78.5  2.8 -4.86 5.00                           3500
  64D750851L01L02  02                                                               3600
  64D750851L02L03  02                                                               3700
  64D750851L02U0104    8.3101 2.09    3.4   1.7 3.24 5.57      6                    3800
  64D750851L02U0104        02 2.09    3.4   1.7-3.24 5.57                           3900
  64D750851L02U0104        03 2.09    3.4   1.7 3.24 2.74                           4000
  64D750851L02U0104        04 2.09    3.4   1.7-3.24 2.74                           4100
  64D750851L02U0104        05 1.09H                2.74                              4200
  64D750851L02U0305    3.0001 1.62   1.42  0.90 3.32 2.07                           4300
  64D750851L02U0305        02 1.62   1.42  0.90-3.32 2.07                          4400
  64D750851L02U0305        03 0.55H                2.07                              4500
  64D750851L03U02  05                                                               4600
  64D750851U01L0103    7.3101 1.78   2.20   .94 3.36 4.95                           4700
  64D750851U01L0103        02 1.78   2.20   .94-3.36 4.95                           4800
```

```
  64D750851U01L0103        03 1.78   2.20   .94 3.36 2.36                              4900
  64D750851U01L0103        04 1.78   2.20   .94-3.36 2.36                              5000
                                     RECORD                                          REC.NO.
  64D750851U01L0103        05 2.34   .019 10.99      3.66                              5100
  64D750851U01L0103        06 2.19H                  3.66                              5200
  64D750851U01U02  01                                                                  5300

  64D750851U02L02  03                                                                  5400
  64D750851U02U03  01                                                                  5500
  64D750851U03L03  03                                                                  5600
  65D750851        19.2                                                                5700
  THE FOLLOWING STRUCTURES WERE SELECTED

  D75085
1


 MAIN -- NEW STRUCTURE I.D.= D75-085


0*** ERROR 2500700 ***  STRUCTURE ID  D75-085
                        TRUSS ID     1       TRUSS MEMBER ID  U 2U 3

   ERROR OPENING UNIT 51.  IT IS THE
           UNFORMATTED BINARY FILE HOLDING THE ERROR MESSAGE
           TEXT.

0*** WARNING  4404500 ***  STRUCTURE ID  D75-085
                           MEMBER ID        B 1
0*** WARNING  4404500 ***  STRUCTURE ID  D75-085
                           MEMBER ID        S 1
1
                     STRUCTURE I.D. = D75-085
```

```
*****************************************************************************************************************************
*                                              STRUCTURE HEADER AND DESCRIPTION                                             *
*****************************************************************************************************************************

   100-- 2    MARK LEONARD      EA/I/O/P =              FILE REQUESTS AND OUTPUT DATA EXCEPTIONS
                     TYPE =     SLT   YEAR =   20  LEN =   61.83 FT.       WIDTH =   24.00 FT.       1 SPANS SP.LOAD =
                     INV.LL.TRK.=       OP.LL.TRK.=


*****************************************************************************************************************************
*                                  STRUCTURE LOCATION AND PERMANENT IDENTIFICATION FACTORS                                  *
*****************************************************************************************************************************

   200-- 5    BRIDGE=N-16-L     DIST./CO.= 2   055  CONST. ROUTE =            CONST. SECT.=            CONST. STA.=   0+  .
              MICROFILM REEL NO.    DESIGN PLANS=           COMPUTATIONS=           CORRESPONDENCE=
                  ROUTE I.D.= SH-69      MARKED ROUTE =


*****************************************************************************************************************************
*                                                        COMMENTS                                                           *
*****************************************************************************************************************************

   300-- 6    1  PROJECT NO. S-0038(10), ACTUAL YEAR OF CONSTRUCTION 1965
   400-- 6    2  TRUSSES AND MOST STRINGERS SALVAGED FROM BEAVER CREEK
   500-- 6    3  ASSUME SALVAGED STEEL FABRICATED 1920 FOR ALLW. STRESSES
   600-- 6    4  STRINGER 1 INT. I12X31.8 (REUSED), FLOOR BEAM B01 W30X108 (NEW)
   700-- 6    5  RATED WITH 6 INCHES ASPHALT OVERLAY AND COLORADO TRUCKS
   800-- 6    6  OVER TURKEY CREEK NEAR FARISITA


*****************************************************************************************************************************
*                          MEMBER SPECIFICATIONS AND REQUIRED ANALYSIS-GIRDER,STRINGER AND FLOOR BEAM                       *
*****************************************************************************************************************************

          MEMBER SPANS  STIFF. SPAN 1     SPAN 2     SPAN 3   MATL   ALLOWABLE STRESS   LL DIST.  END  THRU  MAX  IMPACT  FACTOR
            ID       SYMM CODE (SPAN 4)   (SPAN 5)   (SPAN 6)  CODE     FY    FB FC* FC**  FACTOR  FL.BM DECK  INV  OP.  POST  SPEC

   900-- 8   B 1 `  1          25.000      0.000      0.000    SS  32667.00      0.00   12.000              .00  .00  .00   .00
  1000-- 8   S 1 `  1          12.000      0.000      0.000    SS      0.00      0.00    0.574              .00  .00  .00   .00


*****************************************************************************************************************************
*                                  SUPERIMPOSED DEAD LOADS-GIRDERS,STRINGERS AND FLOOR BEAMS                                *
*****************************************************************************************************************************

              MEMBER SYMM. SPAN   DISTANCE FR. LOAD          LOAD             LENGTH
                ID          NO.    LEFT SUPP.  TYPE  P OR W(L)     W(R)

  1100--10    B 1           1         0.875FT.   P        2.3       0.0         0.000FT.
  1200--10    B 1           1         3.458FT.   P        3.3       0.0         0.000FT.
  1300--10    B 1           1         6.042FT.   P        3.3       0.0         0.000FT.
  1400--10    B 1           1         8.625FT.   P        3.3       0.0         0.000FT.
  1500--10    B 1           1        11.208FT.   P        3.3       0.0         0.000FT.
  1600--10    B 1           1        13.792FT.   P        3.3       0.0         0.000FT.
  1700--10    B 1           1        16.375FT.   P        3.3       0.0         0.000FT.
  1800--10    B 1           1        18.958FT.   P        3.3       0.0         0.000FT.
  1900--10    B 1           1        21.542FT.   P        3.3       0.0         0.000FT.
  2000--10    B 1           1        24.125FT.   P        2.3       0.0         0.000FT.
  2100--10    S 1           1         0.000FT.   W      276.0       0.0        12.000FT.


*****************************************************************************************************************************
*                                                SECTION RANGE SPECIFICATIONS                                               *
*****************************************************************************************************************************

              MEMBER SYMM. SPAN  RANGE   RANGE     SECTION NO. SEC. VAR. HINGE   HINGE 1    HINGE 2        HYBRID GIRDER
                ID          NO.   NO.    LENGTH    LEFT RIGHT            CODE     DIST.      DIST.    CODE   FY    CODE   FY

  2200--11    B 1           1     1     25.000FT.   1    0                      0.000FT.   0.000FT.           0.           0.
  2300--11    S 1           1     1     12.000FT.   1    0                      0.000FT.   0.000FT.           0.           0.


*****************************************************************************************************************************
*                          SECTION PROPERTIES (STEEL OR TIMBER) - GIRDERS STRINGERS, FLOOR BEAMS                            *
*****************************************************************************************************************************

              MEMBER -- NON-DETAILED DESCRIPTION ---------------------- DETAILED DESCRIPTION -------------------
                ID   SEC.    A         I        S    CODE  SAME ADR      H   ELE     A         IX        DY        DX

  2400--12    B 1     1   31.77    4461.0     299.2        0    0     0.00   0   0.00         0.0       0.0       0.0
  2500--12    S 1     1    9.26     215.8      36.0        0    0     0.00   0   0.00         0.0       0.0       0.0


*****************************************************************************************************************************
*                                        GENERAL SPECIFICATIONS FOR TRUSS ANALYSIS                                          *
*****************************************************************************************************************************

                                                 LIVE LOAD DISTRIBUTION
                                ALLOWABLE STRESS         C-C TRUSSES   E"   TO BE RATED

  2600--60    TRUSS I.D.=1    FY=    0.  FS=    0.         0.000FT.    2.155     ALL

                                            *** EXCEPTED OR SELECTED MEMBERS ***
               MEMBER I.D.      MEMBER I.D.      MEMBER I.D.      MEMBER I.D.      MEMBER I.D.      MEMBER I.D.

  2600--60        0-  0            0-  0            0-  0            0-  0            0-  0            0-  0
```

****
* TRUSS GEOMETRY *
****

	TRUSS I.D.	PANEL NO.	PANEL CODE	P	P"	H	T/D	TOTAL PANELS	SYMMETRY	L	HO
							T	5	X	60.000FT.	0.000FT.
+ 2700--61	1	1	7	12.00FT.	0.00FT.	8.00FT.					
+ 2800--61	1	2	2	12.00FT.	0.00FT.	8.00FT.					
+ 2900--61	1	3	4	12.00FT.	0.00FT.	8.00FT.					

****
* SECTION PROPERTIES-STRUCTURAL STEEL TRUSS MEMBERS DETAILED DESCRIPTION *
****

TRUSS I.D.	MEMBER I.D.	SECTION CODE	SAME AS	H	I	A	D H	IX	IY	DX	DY	EY	PINNED ENDS F
5300--64	1	U 1-U 2	0	1	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0
4700--64	1	U 1-L 1	3	0	7.31	1	1.78	2.20	0.94	3.36	4.95	0.00	0
4800--64	1	U 1-L 1	3	0	0.00	2	1.78	2.20	0.94	-3.36	4.95	0.00	0
4900--64	1	U 1-L 1	3	0	0.00	3	1.78	2.20	0.94	3.36	2.36	0.00	0
5000--64	1	U 1-L 1	3	0	0.00	4	1.78	2.20	0.94	-3.36	2.36	0.00	0
5100--64	1	U 1-L 1	3	0	0.00	5	2.34	0.02	10.99	0.00	3.66	0.00	0
5200--64	1	U 1-L 1	3	0	0.00	6	2.19 H	0.00	0.00	0.00	3.66	0.00	0
3800--64	1	U 1-L 2	4	0	8.31	1	2.09	3.40	1.70	3.24	5.57	0.00	6
3900--64	1	U 1-L 2	4	0	0.00	2	2.09	3.40	1.70	-3.24	5.57	0.00	0
4000--64	1	U 1-L 2	4	0	0.00	3	2.09	3.40	1.70	3.24	2.74	0.00	0
4100--64	1	U 1-L 2	4	0	0.00	4	2.09	3.40	1.70	-3.24	2.74	0.00	0
4200--64	1	U 1-L 2	4	0	0.00	5	1.09 H	0.00	0.00	0.00	2.74	0.00	0
5500--64	1	U 2-U 3	0	1	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0
5400--64	1	U 2-L 2	0	3	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0
4600--64	1	U 2-L 3	0	5	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0
5600--64	1	U 3-L 3	0	3	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0
3300--64	1	L 0-U 1	1	0	10.31	1	4.37	0.04	71.46	0.00	10.16	0.00	0
3400--64	1	L 0-U 1	1	0	0.00	2	5.86	78.50	2.80	4.86	5.00	0.00	0
3500--64	1	L 0-U 1	1	0	0.00	3	5.86	78.50	2.80	-4.86	5.00	0.00	0
3000--64	1	L 0-L 1	2	0	10.00	1	5.86	78.50	2.80	4.86	5.00	0.00	0
3100--64	1	L 0-L 1	2	0	0.00	2	5.86	78.50	2.80	-4.86	5.00	0.00	0
3200--64	1	L 0-L 1	2	0	0.00	3	1.53 H	0.00	0.00	0.00	5.00	0.00	0
3600--64	1	L 1-L 2	0	2	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0
4300--64	1	L 2-U 3	5	0	3.00	1	1.62	1.42	0.90	3.32	2.07	0.00	0
4400--64	1	L 2-U 3	5	0	0.00	2	1.62	1.42	0.90	-3.32	2.07	0.00	0
4500--64	1	L 2-U 3	5	0	0.00	3	0.55 H	0.00	0.00	0.00	2.07	0.00	0
3700--64	1	L 2-L 3	0	2	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0

****
* SUPERIMPOSED DEAD LOAD - TRUSS *
****

5700--65 I.D.=1 W= 0.0 * TO CHORD= 0.00 NOR.P= 19.2 ADD.P= 0.0 P.P.I.D.= 0
1

```
1                                   SUMMARY OF RATING CALCULATIONS------STRUCTURE MEMBERL    2      BARS RELEASE 5.5
                                            INVENTORY AND/OR OPERATING ANALYSIS

       INPUT CODING --                                  STRUCTURE N-16-L                          D/P STR. I.D.--  D75-085
           DATE  8/ 7/95
+                                        INVENTORY                        OPERATING                   BY    MARK LEONARD

+                                      LIVE LOAD    RATING              LIVE LOAD    RATING

+                                       HS20      HS  11.34              HS20      HS  21.13




       STRUCTURE DESCRIPTION --                          LOCATION --                          MICROFILM REEL NUMBERS --
0          IDENTIFICATION    N-16-L                     DISTRICT        2                        DESIGN PLANS
           TYPE                 SLT                     COUNTY          055                      COMPUTATIONS
           YEAR OF CONSTR.   1920                       CONSTR. RTE.                             CORRESPONDENCE
           LENGTH              61.83 FEET               CONSTR. SEC.
           ROADWAY WIDTH       24.00 FEET               CONSTR. STA.       0+  .
           NUMBER OF SPANS      1                       KEY RTE.        SH-69
                                                        MARKED RTE.
0
                           ANALYST REMARKS --

                                        PROJECT NO. S-0038(10), ACTUAL YEAR OF CONSTRUCTION 1965
                                        TRUSSES AND MOST STRINGERS SALVAGED FROM BEAVER CREEK
                                        ASSUME SALVAGED STEEL FABRICATED 1920 FOR ALLW. STRESSES
                                        STRINGER 1 INT. I12X31.8 (REUSED), FLOOR BEAM B01 W30X108 (NEW)
                                        RATED WITH 6 INCHES ASPHALT OVERLAY AND COLORADO TRUCKS
                                        OVER TURKEY CREEK NEAR FARISITA

+    INVENTORY RATING SUMMARY --                                                  OPERATING RATING SUMMARY --
+
0

+      TRUSS ID.              1                                                   TRUSS ID.              1

+      CRITICAL MEMBER ID.    L 2 L 3                                             CRITICAL MEMBER ID.    L 2 L 3

+      LIVE LOAD DESIGNATION  HS20                                                LIVE LOAD DESIGNATION  HS20

0
+                        AXIAL FORCE                                                                  AXIAL FORCE

+                              (KIPS)                                                                       (KIPS)
+      MEMBER CAPACITY          163.0                                             MEMBER CAPACITY          229.3

+      DL EFFECT                 86.4                                             DL EFFECT                 86.4

0
+      CAPACITY FOR (LL+I)       76.6                                             CAPACITY FOR (LL+I)      142.9

+      ACTUAL (LL+I)            135.2                                             ACTUAL (LL+I)            135.2

+      INVENTORY RATING      HS 11.34                                             OPERATING RATING      HS 21.13
```

```
1                                   SUMMARY OF RATING CALCULATIONS------STRUCTURE MEMBER   B 1      BARS RELEASE 5.5
                                              INVENTORY AND/OR OPERATING ANALYSIS

       INPUT CODING --                                  STRUCTURE N-16-L                          D/P STR. I.D.--  D75-085

           DATE  8/ 7/95
+                                        INVENTORY                        OPERATING

           BY    MARK LEONARD          LIVE LOAD    RATING            LIVE LOAD    RATING

+                                         HS20      HS  20.59            HS20      HS  30.44




       STRUCTURE DESCRIPTION --                     LOCATION --                                MICROFILM REEL NUMBERS --
0          IDENTIFICATION    N-16-L                    DISTRICT       2                          DESIGN PLANS
           TYPE                 SLT                    COUNTY         055                        COMPUTATIONS
           YEAR OF CONSTR.   1920                      CONSTR. RTE.                              CORRESPONDENCE
           LENGTH              61.83 FEET              CONSTR. SEC.
           ROADWAY WIDTH       24.00 FEET              CONSTR. STA.       0+  .
           NUMBER OF SPANS      1                      KEY RTE.       SH-69
                                                       MARKED RTE.
0
                            ANALYST REMARKS --

                                       PROJECT NO. S-0038(10), ACTUAL YEAR OF CONSTRUCTION 1965
                                       TRUSSES AND MOST STRINGERS SALVAGED FROM BEAVER CREEK
                                       ASSUME SALVAGED STEEL FABRICATED 1920 FOR ALLW. STRESSES
                                       STRINGER 1 INT. I12X31.8 (REUSED), FLOOR BEAM B01 W30X108 (NEW)
                                       RATED WITH 6 INCHES ASPHALT OVERLAY AND COLORADO TRUCKS
                                       OVER TURKEY CREEK NEAR FARISITA

+    INVENTORY RATING SUMMARY -                                                  OPERATING RATING SUMMARY
0
+      MEMBER ID.              B 1                                                MEMBER ID.              B 1

+      SPAN                     1                                                 1 SPAN                  1

+
 +     CRITICAL C.P. DIST.    11.8 FEET                                          CRITICAL C.P. DIST.    11.8 FEET

+      LIVE LOAD DESIGNATION  HS20.                                              LIVE LOAD DESIGNATION  HS20

0
                               SHEAR                                                                     SHEAR
                               (KIPS)                                                                    (KIPS)

+      MEMBER CAPACITY          448.0                                           MEMBER CAPACITY          610.9

+      DL EFFECT                107.2                                           DL EFFECT                107.2

0
+      CAPACITY FOR (LL+I)      340.7                                           CAPACITY FOR (LL+I)      503.6

+      ACTUAL (LL+I)            330.9                                           ACTUAL (LL+I)            330.9

0
+      INVENTORY RATING      HS 20.59                                           OPERATING RATING      HS 30.44
```

```
1                                   SUMMARY OF RATING CALCULATIONS------STRUCTURE MEMBER   S 1      BARS RELEASE 5.5
                                              INVENTORY AND/OR OPERATING ANALYSIS

        INPUT CODING --                                   STRUCTURE N-16-L                          D/P STR. I.D.--  D75-085

            DATE  8/ 7/95
+                                          INVENTORY                        OPERATING
            BY    MARK LEONARD
+                                       LIVE LOAD    RATING              LIVE LOAD    RATING

+                                         HS20      HS  23.71             HS20      HS  34.60




        STRUCTURE DESCRIPTION --                          LOCATION --                               MICROFILM REEL NUMBERS --
0           IDENTIFICATION    N-16-L                      DISTRICT        2                            DESIGN PLANS
            TYPE                SLT                       COUNTY          055                          COMPUTATIONS
            YEAR OF CONSTR.   1920                        CONSTR. RTE.                                 CORRESPONDENCE
            LENGTH              61.83 FEET                CONSTR. SEC.
            ROADWAY WIDTH       24.00 FEET                CONSTR. STA.       0+  .
            NUMBER OF SPANS      1                        KEY RTE.        SH-69
                                                          MARKED RTE.
0
                                ANALYST REMARKS --

                                              PROJECT NO. S-0038(10), ACTUAL YEAR OF CONSTRUCTION 1965
                                              TRUSSES AND MOST STRINGERS SALVAGED FROM BEAVER CREEK
                                              ASSUME SALVAGED STEEL FABRICATED 1920 FOR ALLW. STRESSES
                                              STRINGER 1 INT. I12X31.8 (REUSED), FLOOR BEAM B01 W30X108 (NEW)
                                              RATED WITH 6 INCHES ASPHALT OVERLAY AND COLORADO TRUCKS
                                              OVER TURKEY CREEK NEAR FARISITA

+    INVENTORY RATING SUMMARY --                                                  OPERATING RATING SUMMARY --
0
+      MEMBER ID.              S 1                                                MEMBER ID.              S 1

+      SPAN                     1                                                 SPAN                     1

+      CRITICAL C.P. DIST.     6.0 FEET                                           CRITICAL C.P. DIST.     6.0 FEET

+      LIVE LOAD DESIGNATION  HS20                                                LIVE LOAD DESIGNATION  HS20

0
+                              SHEAR                                                                      SHEAR
+                              (KIPS)                                                                     (KIPS)

+      MEMBER CAPACITY          48.                                                MEMBER CAPACITY          67.5

+      DL EFFECT                 5.5                                               DL EFFECT                 5.5

0
+      CAPACITY FOR (LL+I)      42.5                                               CAPACITY FOR (LL+I)      62.0

+      ACTUAL (LL+I)            35.8                                               ACTUAL (LL+I)            35.8

0
+      INVENTORY RATING     HS 23.71                                               OPERATING RATING     HS 34.60
```

```
1                          *** FINAL SUMMARY OF RATING RESULTS FOR --- STRUCTURE ID. D75-085     BARS RELEASE 5.5
                                          INVENTORY AND/OR OPERATING ANALYSIS
          INPUT CODING--                          STRUCTURE N-16-L                          D/P STR. ID--  D75-085

+                                          INVENTORY                    OPERATING
          DATE   8/ 7/95
+                                    LIVE LOAD    RATING               LIVE LOAD    RATING

+                                      HS20    HS  11.3                 HS20    HS  21.1

+         BY    MARK LEONARD


      STRUCTURE DESCRIPTION--                    LOCATION--                                MICROFILM REEL NUMBERS--

          IDENTIFICATION    N-16-L                   DISTRICT         2                        DESIGN PLANS
          TYPE                   SLT                 COUNTY           055                      COMPUTATIONS
          YEAR OF CONSTR.    1920                    CONSTR. RTE.                              CORRESPONDENCE
          LENGTH               61.83 FEET            CONSTR. SEC.
          ROADWAY WIDTH        24.00 FEET            CONSTR. STA.        0+  .
          NUMBER OF SPANS       1                    KEY RTE.          SH-69
                                                     MARKED RTE.

                           ANALYST REMARKS--

                             PROJECT NO. S-0038(10), ACTUAL YEAR OF CONSTRUCTION 1965
                             TRUSSES AND MOST STRINGERS SALVAGED FROM BEAVER CREEK
                             ASSUME SALVAGED STEEL FABRICATED 1920 FOR ALLW. STRESSES
                             STRINGER 1 INT. I12X31.8 (REUSED), FLOOR BEAM B01 W30X108 (NEW)
                             RATED WITH 6 INCHES ASPHALT OVERLAY AND COLORADO TRUCKS
                             OVER TURKEY CREEK NEAR FARISITA


+     INVENTORY RATING SUMMARY                                                  OPERATING RATING SUMMARY

+     CRITICAL MEMBER ID      L 2L 3                                            CRITICAL MEMBER ID      L 2L 3
+     LIVE LOAD DESIGNATION    HS20                                             LIVE LOAD DESIGNATION    HS20

+                          AXIAL FORCE                                                       AXIAL FORCE

+                             (KIPS)                                                            (KIPS)
+     MEMBER CAPACITY          163.0                                            MEMBER CAPACITY          229.3

+     DL EFFECT                 86.4                                            DL EFFECT                 86.4

+     CAPACITY FOR (LL+I)       76.6                                            CAPACITY FOR (LL+I)      142.9

+     ACTUAL (LL+I)            135.2                                             ACTUAL (LL+I)            135.2

+     INVENTORY RATING      HS  11.34                                            OPERATING RATING      HS  21.13
```

1

DETAIL TRUSS DATA

DATE 08/07/95 D/P STRUCTURE I.D. D75-085
TRUSS I.D. 1
SPAN LENGTH (FT.) 60.000 C-C TRUSS = 0.000 FT. LL DIST. FACT. = 2.155

TRUSS GEOMETRY

UNIFORM DEAD LOAD
UPPER CHORD = 0.0 LBS/FT.
UPPER CHORD = 0.0 LBS/FT.

PANEL NO.	PANEL CODE	LENGTH TOTAL PANEL FT.	LENGTH LEFT SUBDIV. PANEL FT.	HEIGHT TOTAL VERTICAL FT.	HEIGHT TOTAL K-VERTICAL FT.	DEAD LOADS APPLIED TO PANEL POINTS LOWER CHORD X FT.	LOWER CHORD P KIPS	UPPER CHORD X FT.	UPPER CHORD P KIPS		
0				0.000		0.000	9.601				
1	7	12.000	0.000	8.000	0.000	12.000	19.200			U01L01	U01U02
2	2	12.000	0.000	8.000	0.000	24.000	19.200			U01L02	U01U02
3	4	12.000	0.000	8.000	0.000	36.000	19.200			U02L02	L02L03
4	1	12.000	0.000	8.000	0.000	48.000	19.200			U02U03	U02L03
5	5	12.000	0.000	0.000	0.000	60.000	9.600			L02U03	U03L03
0											

TRUCK LOAD USED FOR --

INVENTORY HS20

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DETAIL TRUSS MEMBER DATA

DATE 08/07/95 D/P STRUCTURE I.D. D75-085
TRUSS I.D. 1
TRUSS MEMBER I.D. L00L01

***** MEMBER PROPERTIES

EFFECT LEN.-X FT.	EFFECT LEN.-Y FT.	H IN.	GROSS SECTION AREA SQ.IN.	GROSS SECTION IX IN**4	GROSS SECTION IY IN**4	GROSS SECTION DY IN.	GROSS SECTION RX IN.	GROSS SECTION RY IN.	NET SECTION AREA SQ.IN.	NET SECTION IX IN**4	NET SECTION IY IN**4	NET SECTION DY IN.	E(Y) IN.	END COND.	FACT.
12.000	12.000	10.00	11.72	157	282	5.00	3.66	4.91	10.19	156	282	5.00	0.00	R	0.8

***** MEMBER INFLUENCE LINES

LOAD ON LOWER CHORD	X-DIST (FT.)	0.00	12.00	60.00	POS AREA	36.00		
	Y-ORDINATE	0.00	1.20	0.00	NEG AREA	0.00		
LOAD ON UPPER CHORD	X-DIST (FT.)	0.00	12.00	60.00	POS AREA	36.00		
	Y-ORDINATE	0.00	1.20	0.00	NEG AREA	0.00		

***** ALLOWABLE STRESS / MEMBER CAPACITY / AXIAL FORCE ON MEMBER DUE TO DEAD LOAD / AVAILABLE CAPACITY FOR LL+IMPACT

	TENS PSI	COMP PSI	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS
INVENTORY	16000.	12938.	163.0	151.6	57.6		105.4	209.2
OPERATING	22500.	15875.	229.3	186.1			171.7	243.7

***** LIVE LOAD AND RATING CALCULATIONS--IMPACT FACTOR = 0.000 (COMP.) = 0.270 (TENS.)

	LIVE LOAD	TRUCK LOAD LL+IMP KIPS	TRUCK LOAD LL KIPS	LOC.NO. 1 WHEEL FT.	DIR	LANE LOAD LL+IMP KIPS	LANE LOAD LL KIPS	LOC CONC LOAD FT.	RATING FACT.	RATING SAFE LOAD CAPACITY TONS	RATING VALUE
INV	HS20 T	95.3	75.0	40.000	R	61.1	48.1	12.000	1.107	39.8	HS 22.1
	C	0.0	0.0	0.000	`	0.0	0.0	0.000			
OPER	HS20 T	95.3	75.0	40.000	R	61.1	48.1	12.000	1.802	64.9	HS 36.0
	C	0.0	0.0	0.000	`	0.0	0.0	0.000			

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DETAIL TRUSS MEMBER DATA

DATE 08/07/95 D/P STRUCTURE I.D. D75-085
TRUSS I.D. 1
TRUSS MEMBER I.D. L00U01

***** MEMBER PROPERTIES

EFFECT LEN.-X FT.	EFFECT LEN.-Y FT.	H IN.	GROSS SECTION AREA SQ.IN.	GROSS SECTION IX IN**4	GROSS SECTION IY IN**4	GROSS SECTION DY IN.	GROSS SECTION RX IN.	GROSS SECTION RY IN.	NET SECTION AREA SQ.IN.	NET SECTION IX IN**4	NET SECTION IY IN**4	NET SECTION DY IN.	E(Y) IN.	END COND.	FACT.
14.422	14.422	10.31	16.09	241	353	3.91	3.88	4.69	16.09	241	353	3.91	0.00	R	0.8

***** MEMBER INFLUENCE LINES

LOAD ON LOWER CHORD	X-DIST (FT.)	0.00	12.00	60.00	POS AREA	0.00		
	Y-ORDINATE	0.00	-1.44	0.00	NEG AREA	43.27		
LOAD ON UPPER CHORD	X-DIST (FT.)	0.00	12.00	60.00	POS AREA	0.00		
	Y-ORDINATE	0.00	-1.44	0.00	NEG AREA	43.27		

***** ALLOWABLE STRESS / MEMBER CAPACITY / AXIAL FORCE ON MEMBER DUE TO DEAD LOAD / AVAILABLE CAPACITY FOR LL+IMPACT

	TENS PSI	COMP PSI	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS
INVENTORY	16000.	12875.	257.4	207.2	69.2		326.7	137.9
OPERATING	22500.	15813.	362.0	254.4			431.3	185.2

***** LIVE LOAD AND RATING CALCULATIONS--IMPACT FACTOR = 0.270 (COMP.) = 0.000 (TENS.)

TRUCK LOAD ---------- LANE LOAD ---------- RATING --------

	LIVE LOAD	LL+IMP KIPS	LL KIPS	LOC.NO. 1 WHEEL FT.	DIR	LL+IMP KIPS	LL KIPS	LOC CONC LOAD FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV	HS20 T	0.0	0.0	0.000	`	0.0	0.0	0.000			
	C	114.5	90.1	40.000	R	89.2	70.2	12.000	1.205	43.4	HS 24.1
OPER	HS20 T	0.0	0.0	0.000	`	0.0	0.0	0.000			
	C	114.5	90.1	40.000	R	89.2	70.2	12.000	1.618	58.2	HS 32.4

DETAIL TRUSS MEMBER DATA

DATE 08/07/95

D/P STRUCTURE I.D. D75-085
TRUSS I.D. 1
TRUSS MEMBER I.D. L01L02

***** MEMBER PROPERTIES

EFFECT LEN.-X FT.	EFFECT LEN.-Y FT.	H IN.	GROSS SECTION AREA SQ.IN.	GROSS SECTION IX IN**4	GROSS SECTION IY IN**4	GROSS SECTION DY IN.	GROSS SECTION RX IN.	GROSS SECTION RY IN.	NET SECTION AREA SQ.IN.	NET SECTION IX IN**4	NET SECTION IY IN**4	NET SECTION DY IN.	E(Y) IN.	END COND.	FACT.
12.000	12.000	10.00	11.72	157	282	5.00	3.66	4.91	10.19	156	282	5.00	0.00	R	0.8

***** MEMBER INFLUENCE LINES

LOAD ON LOWER CHORD	X-DIST (FT.)	0.00	12.00	60.00		POS AREA	36.00	
	Y-ORDINATE	0.00	1.20	0.00		NEG AREA	0.00	
LOAD ON UPPER CHORD	X-DIST (FT.)	0.00	12.00	60.00		POS AREA	36.00	
	Y-ORDINATE	0.00	1.20	0.00		NEG AREA	0.00	

***** ALLOWABLE STRESS / MEMBER CAPACITY / AXIAL FORCE ON MEMBER DUE TO DEAD LOAD / AVAILABLE CAPACITY FOR LL+IMPACT

	TENS PSI	COMP PSI	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS
INVENTORY	16000.	12938.	163.0	151.6	57.6		105.4	209.2
OPERATING	22500.	15875.	229.3	186.1			171.7	243.7

***** LIVE LOAD AND RATING CALCULATIONS--IMPACT FACTOR = 0.000 (COMP.) = 0.270 (TENS.)

	LIVE LOAD	TRUCK LOAD LL+IMP KIPS	TRUCK LOAD LL KIPS	LOC.NO. 1 WHEEL FT.	DIR	LANE LOAD LL+IMP KIPS	LANE LOAD LL KIPS	LOC CONC LOAD FT.	RATING FACT.	RATING CAPACITY TONS	RATING VALUE
INV	HS20 T	95.3	75.0	40.000	R	61.1	48.1	12.000	1.107	39.8	HS 22.1
	C	0.0	0.0	0.000	`	0.0	0.0	0.000			
OPER	HS20 T	95.3	75.0	40.000	R	61.1	48.1	12.000	1.802	64.9	HS 36.0
	C	0.0	0.0	0.000	`	0.0	0.0	0.000			

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DETAIL TRUSS MEMBER DATA

DATE 08/07/95

D/P STRUCTURE I.D. D75-085
TRUSS I.D. 1
TRUSS MEMBER I.D. L02L03

***** MEMBER PROPERTIES

EFFECT LEN.-X FT.	EFFECT LEN.-Y FT.	H IN.	GROSS SECTION AREA SQ.IN.	GROSS SECTION IX IN**4	GROSS SECTION IY IN**4	GROSS SECTION DY IN.	GROSS SECTION RX IN.	GROSS SECTION RY IN.	NET SECTION AREA SQ.IN.	NET SECTION IX IN**4	NET SECTION IY IN**4	NET SECTION DY IN.	E(Y) IN.	END COND.	FACT.
12.000	12.000	10.00	11.72	157	282	5.00	3.66	4.91	10.19	156	282	5.00	0.00	R	0.8

***** MEMBER INFLUENCE LINES

LOAD ON LOWER CHORD	X-DIST (FT.)	0.00	24.00	60.00		POS AREA	54.00	
	Y-ORDINATE	0.00	1.80	0.00		NEG AREA	0.00	
LOAD ON UPPER CHORD	X-DIST (FT.)	0.00	24.00	60.00		POS AREA	54.00	
	Y-ORDINATE	0.00	1.80	0.00		NEG AREA	0.00	

***** ALLOWABLE STRESS / MEMBER CAPACITY / AXIAL FORCE ON MEMBER DUE TO DEAD LOAD / AVAILABLE CAPACITY FOR LL+IMPACT

	TENS PSI	COMP PSI	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS
INVENTORY	16000.	12938.	163.0	151.6	86.4		76.6	238.0
OPERATING	22500.	15875.	229.3	186.1			142.9	272.5

***** LIVE LOAD AND RATING CALCULATIONS--IMPACT FACTOR = 0.000 (COMP.) = 0.270 (TENS.)

	LIVE LOAD	TRUCK LOAD LL+IMP KIPS	TRUCK LOAD LL KIPS	LOC.NO. 1 WHEEL FT.	DIR	LANE LOAD LL+IMP KIPS	LANE LOAD LL KIPS	LOC CONC LOAD FT.	RATING FACT.	RATING CAPACITY TONS	RATING VALUE
INV	HS20 T	135.2	106.5	10.001	L	91.6	72.1	24.000	0.567	20.4	HS 11.3
	C	0.0	0.0	0.000	`	0.0	0.0	0.000			
OPER	HS20 T	135.2	106.5	10.001	L	91.6	72.1	24.000	1.057	38.0	HS 21.1
	C	0.0	0.0	0.000	`	0.0	0.0	0.000			

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DETAIL TRUSS MEMBER DATA

DATE 08/07/95

D/P STRUCTURE I.D. D75-085
TRUSS I.D. 1
TRUSS MEMBER I.D. L02U03

***** MEMBER PROPERTIES

EFFECT LEN.-X FT.	EFFECT LEN.-Y FT.	H IN.	GROSS SECTION AREA SQ.IN.	GROSS SECTION IX IN**4	GROSS SECTION IY IN**4	GROSS SECTION DY IN.	GROSS SECTION RX IN.	GROSS SECTION RY IN.	NET SECTION AREA SQ.IN.	NET SECTION IX IN**4	NET SECTION IY IN**4	NET SECTION DY IN.	E(Y) IN.	END COND.	FACT.
14.422	14.422	3.00	3.24	2	37	0.93	0.94	3.40	2.69	2	37	0.93	0.00	R	0.8

***** MEMBER INFLUENCE LINES

LOAD ON	X-DIST (FT.)	0.00	24.00	36.00	60.00		POS AREA	10.82
LOWER CHORD	Y-ORDINATE	0.00	0.72	-0.72	0.00		NEG AREA	10.82
LOAD ON	X-DIST (FT.)	0.00	24.00	36.00	60.00		POS AREA	10.82
UPPER CHORD	Y-ORDINATE	0.00	0.72	-0.72	0.00		NEG AREA	10.82

***** ALLOWABLE STRESS / MEMBER CAPACITY / AXIAL FORCE ON MEMBER DUE TO DEAD LOAD / AVAILABLE CAPACITY FOR LL+IMPACT

	TENS PSI	COMP PSI	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS
INVENTORY	16000.	0.	43.0	0.0	0.0		43.0	0.0
OPERATING	22500.	0.	60.5	0.0			60.5	0.0

***** LIVE LOAD AND RATING CALCULATIONS--IMPACT FACTOR = 0.000 (COMP.) = 0.300 (TENS.)

		TRUCK LOAD				LANE LOAD			RATING		
LIVE LOAD		LL+IMP KIPS	LL KIPS	LOC.NO. 1 WHEEL FT.	DIR	LL+IMP KIPS	LL KIPS	LOC CONC LOAD FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV	HS20 T	45.8	35.2	-4.000	L	36.0	27.7	24.000	0.940	33.8	HS 18.8
	C	0.0	0.0	0.000	`	0.0	0.0	0.000			
OPER	HS20 T	45.8	35.2	-4.000	L	36.0	27.7	24.000	1.322	47.6	HS 26.4
	C	0.0	0.0	0.000	`	0.0	0.0	0.000			

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DETAIL TRUSS MEMBER DATA

DATE 08/07/95 D/P STRUCTURE I.D. D75-085
TRUSS I.D. 1
TRUSS MEMBER I.D. U01L01

***** MEMBER PROPERTIES

EFFECT LEN.-X FT.	EFFECT LEN.-Y FT.	H IN.	GROSS SECTION AREA SQ.IN.	GROSS SECTION IX IN**4	GROSS SECTION IY IN**4	GROSS SECTION DY IN.	GROSS SECTION RX IN.	GROSS SECTION RY IN.	NET SECTION AREA SQ.IN.	NET SECTION IX IN**4	NET SECTION IY IN**4	NET SECTION DY IN.	E(Y) IN.	END COND.	FACT.
8.000	8.000	7.31	9.46	20	95	3.65	1.48	3.17	7.27	20	95	3.65	0.00	R	0.8

***** MEMBER INFLUENCE LINES

LOAD ON	X-DIST (FT.)	0.00	0.00	12.00	24.00	60.00	POS AREA	12.00
LOWER CHORD	Y-ORDINATE	0.00	0.00	1.00	0.00	0.00	NEG AREA	0.00
LOAD ON	X-DIST (FT.)	0.00	60.00				POS AREA	0.00
UPPER CHORD	Y-ORDINATE	0.00	0.00				NEG AREA	0.00

***** ALLOWABLE STRESS / MEMBER CAPACITY / AXIAL FORCE ON MEMBER DUE TO DEAD LOAD / AVAILABLE CAPACITY FOR LL+IMPACT

	TENS PSI	COMP PSI	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS
INVENTORY	16000.	12500.	116.3	118.3	19.2		97.1	137.4
OPERATING	22500.	15375.	163.6	145.4			144.4	164.6

***** LIVE LOAD AND RATING CALCULATIONS--IMPACT FACTOR = 0.000 (COMP.) = 0.300 (TENS.)

		TRUCK LOAD				LANE LOAD			RATING		
LIVE LOAD		LL+IMP KIPS	LL KIPS	LOC.NO. 1 WHEEL FT.	DIR	LL+IMP KIPS	LL KIPS	LOC CONC LOAD FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV	HS20 T	44.8	34.5	-16.000	L	47.2	36.3	12.000	2.059	74.1	HS 41.2
	C	0.0	0.0	0.000	`	0.0	0.0	0.000			
OPER	HS20 T	44.8	34.5	-16.000	L	47.2	36.3	12.000	3.060	110.2	HS 61.2
	C	0.0	0.0	0.000	`	0.0	0.0	0.000			

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DETAIL TRUSS MEMBER DATA

DATE 08/07/95 D/P STRUCTURE I.D. D75-085
TRUSS I.D. 1
TRUSS MEMBER I.D. U01L02

***** MEMBER PROPERTIES

EFFECT LEN.-X FT.	EFFECT LEN.-Y FT.	H IN.	GROSS SECTION AREA SQ.IN.	GROSS SECTION IX IN**4	GROSS SECTION IY IN**4	GROSS SECTION DY IN.	GROSS SECTION RX IN.	GROSS SECTION RY IN.	NET SECTION AREA SQ.IN.	NET SECTION IX IN**4	NET SECTION IY IN**4	NET SECTION DY IN.	E(Y) IN.	END COND.	FACT.
14.422	14.422	8.31	8.36	30	94	4.16	1.90	3.36	7.27	27	94	3.94	0.00	R	0.8

***** MEMBER INFLUENCE LINES

LOAD ON	X-DIST (FT.)	0.00	12.00	24.00	60.00		POS AREA	24.34
LOWER CHORD	Y-ORDINATE	0.00	-0.36	1.08	0.00		NEG AREA	2.70
LOAD ON	X-DIST (FT.)	0.00	12.00	24.00	60.00		POS AREA	24.34
UPPER CHORD	Y-ORDINATE	0.00	-0.36	1.08	0.00		NEG AREA	2.70

***** ALLOWABLE STRESS / MEMBER CAPACITY / AXIAL FORCE ON MEMBER DUE TO DEAD LOAD / AVAILABLE CAPACITY FOR LL+IMPACT

	TENS PSI	COMP PSI	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS
INVENTORY	16000.	10375.	116.3	86.7	34.6		81.7	121.3
OPERATING	22500.	12750.	163.6	106.6			129.0	141.2

***** LIVE LOAD AND RATING CALCULATIONS--IMPACT FACTOR = 0.300 (COMP.) = 0.294 (TENS.)

TRUCK LOAD ---------- LANE LOAD ---------- RATING --------

	LIVE LOAD	LL+IMP KIPS	LL KIPS	LOC.NO. 1 WHEEL FT.	DIR	LL+IMP KIPS	LL KIPS	LOC CONC LOAD FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV	HS20 T	80.4	62.2	52.000	R	60.9	47.1	24.000	1.016	36.6	HS 20.3
	C	16.2	12.4	-16.000	L	15.6	12.0	12.000			
OPER	HS20 T	80.4	62.2	52.000	R	60.9	47.1	24.000	1.603	57.7	HS 32.1
	C	16.2	12.4	-16.000	L	15.6	12.0	12.000			

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DETAIL TRUSS MEMBER DATA

DATE 08/07/95

D/P STRUCTURE I.D. D75-085
TRUSS I.D. 1
TRUSS MEMBER I.D. U01U02

***** MEMBER PROPERTIES

			GROSS SECTION						NET SECTION					
EFFECT LEN.-X FT.	EFFECT LEN.-Y FT.	H IN.	AREA SQ.IN.	IX IN**4	IY IN**4	DY IN.	RX IN.	RY IN.	AREA SQ.IN.	IX IN**4	IY IN**4	DY IN.	E(Y) IN.	END COND.	FACT.
12.000	12.000	10.31	16.09	241	353	3.91	3.88	4.69	16.09	241	353	3.91	0.00	R	0.8

***** MEMBER INFLUENCE LINES

LOAD ON LOWER CHORD	X-DIST (FT.)	0.00	24.00	60.00		POS AREA	0.00
	Y-ORDINATE	0.00	-1.80	0.00		NEG AREA	54.00
LOAD ON UPPER CHORD	X-DIST (FT.)	0.00	24.00	60.00		POS AREA	0.00
	Y-ORDINATE	0.00	-1.80	0.00		NEG AREA	54.00

***** ALLOWABLE STRESS / MEMBER CAPACITY / AXIAL FORCE ON MEMBER DUE TO DEAD LOAD / AVAILABLE CAPACITY FOR LL+IMPACT

	TENS PSI	COMP PSI	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS
INVENTORY	16000.	13000.	257.4	209.2		86.4	343.8	122.8
OPERATING	22500.	15938.	362.0	256.4			448.4	170.0

***** LIVE LOAD AND RATING CALCULATIONS--IMPACT FACTOR = 0.270 (COMP.) = 0.000 (TENS.)

		TRUCK LOAD				LANE LOAD			RATING		
	LIVE LOAD	LL+IMP KIPS	LL KIPS	LOC.NO. 1 WHEEL FT.	DIR	LL+IMP KIPS	LL KIPS	LOC CONC LOAD FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV	HS20 T	0.0	0.0	0.000	`	0.0	0.0	0.000			
	C	135.2	106.5	10.001	L	91.6	72.1	24.000	0.908	32.7	HS 18.2
OPER	HS20 T	0.0	0.0	0.000	`	0.0	0.0	0.000			
	C	135.2	106.5	10.001	L	91.6	72.1	24.000	1.257	45.3	HS 25.1

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DETAIL TRUSS MEMBER DATA

DATE 08/07/95

D/P STRUCTURE I.D. D75-085
TRUSS I.D. 1
TRUSS MEMBER I.D. U02L02

***** MEMBER PROPERTIES

			GROSS SECTION						NET SECTION					
EFFECT LEN.-X FT.	EFFECT LEN.-Y FT.	H IN.	AREA SQ.IN.	IX IN**4	IY IN**4	DY IN.	RX IN.	RY IN.	AREA SQ.IN.	IX IN**4	IY IN**4	DY IN.	E(Y) IN.	END COND.	FACT.
8.000	8.000	7.31	9.46	20	95	3.65	1.48	3.17	7.27	20	95	3.65	0.00	R	0.8

***** MEMBER INFLUENCE LINES

LOAD ON LOWER CHORD	X-DIST (FT.)	0.00	24.00	36.00	60.00	POS AREA	6.00
	Y-ORDINATE	0.00	0.40	-0.40	0.00	NEG AREA	6.00
LOAD ON UPPER CHORD	X-DIST (FT.)	0.00	12.00	24.00	60.00	POS AREA	1.50
	Y-ORDINATE	0.00	0.20	-0.60	0.00	NEG AREA	13.50

***** ALLOWABLE STRESS / MEMBER CAPACITY / AXIAL FORCE ON MEMBER DUE TO DEAD LOAD / AVAILABLE CAPACITY FOR LL+IMPACT

	TENS PSI	COMP PSI	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS	TENS KIPS	COMP KIPS
INVENTORY	16000.	12500.	116.3	118.3		0.0	116.3	118.3
OPERATING	22500.	15375.	163.6	145.4			163.6	145.4

***** LIVE LOAD AND RATING CALCULATIONS--IMPACT FACTOR = 0.300 (COMP.) = 0.000 (TENS.)

		TRUCK LOAD				LANE LOAD			RATING		
	LIVE LOAD	LL+IMP KIPS	LL KIPS	LOC.NO. 1 WHEEL FT.	DIR	LL+IMP KIPS	LL KIPS	LOC CONC LOAD FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV	HS20 T	25.4	19.5	-4.000	L	19.9	15.3	24.000	4.581	164.9	HS 91.6
	C	25.4	19.5	64.000	R	19.9	15.3	36.000			
OPER	HS20 T	25.4	19.5	-4.000	L	19.9	15.3	24.000			
	C	25.4	19.5	64.000	R	19.9	15.3	36.000	5.726	206.1	HS114.5

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DETAIL TRUSS MEMBER DATA

DATE 08/07/95

D/P STRUCTURE I.D. D75-085
TRUSS I.D. 1
TRUSS MEMBER I.D. U02L03

***** MEMBER PROPERTIES

			GROSS SECTION						NET SECTION					
EFFECT LEN.-X FT.	EFFECT LEN.-Y FT.	H IN.	AREA SQ.IN.	IX IN**4	IY IN**4	DY IN.	RX IN.	RY IN.	AREA SQ.IN.	IX IN**4	IY IN**4	DY IN.	E(Y) IN.	END COND.	FACT.

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 14.422  14.422   3.00    3.24        2       37   0.93   0.94   3.40     2.69        2       37   0.93    0.00    R    0.8


 ***** MEMBER INFLUENCE LINES

 LOAD  ON         X-DIST (FT.)    0.00   24.00   36.00   60.00                  POS AREA    10.82
 LOWER CHORD      Y-ORDINATE      0.00   -0.72    0.72    0.00                  NEG AREA    10.82

 LOAD  ON         X-DIST (FT.)    0.00   24.00   36.00   60.00                  POS AREA    10.82
 UPPER CHORD      Y-ORDINATE      0.00   -0.72    0.72    0.00                  NEG AREA    10.82

 *****       ALLOWABLE STRESS  /  MEMBER CAPACITY  /  AXIAL FORCE ON MEMBER DUE TO DEAD LOAD  /  AVAILABLE CAPACITY FOR LL+IMPACT
---
              TENS      COMP       TENS     COMP                   TENS     COMP                            TENS     COMP
              PSI       PSI        KIPS     KIPS                   KIPS     KIPS                            KIPS     KIPS
 INVENTORY    16000.       0.       43.0      0.0                             0.0                             43.0      0.0
 OPERATING    22500.       0.       60.5      0.0                                                             60.5      0.0


 ***** LIVE LOAD AND RATING CALCULATIONS--IMPACT FACTOR = 0.000 (COMP.)  = 0.300 (TENS.)
                ----------- TRUCK LOAD -----------       ----------LANE LOAD-----------            --------- RATING --------
        LIVE    LL+IMP    LL           LOC.NO.  DIR     LL+IMP     LL          LOC CONC           RATING  SAFE LOAD  RATING
        LOAD                           1 WHEEL                                  LOAD               FACT.   CAPACITY  VALUE
                 KIPS     KIPS           FT.             KIPS     KIPS           FT.                        TONS

 INV    HS20 T    45.8     35.2          64.000   R        36.0     27.7          36.000             0.940     33.8    HS 18.8
             C     0.0      0.0           0.000   `         0.0      0.0           0.000

 OPER   HS20 T    45.8     35.2          64.000   R        36.0     27.7          36.000             1.322     47.6    HS 26.4
             C     0.0      0.0           0.000   `         0.0      0.0           0.000


1


                                                  DETAIL TRUSS MEMBER DATA
    DATE 08/07/95                                                                                  D/P STRUCTURE I.D.  D75-085
                                                                                                   TRUSS I.D.   1
                                                                                                   TRUSS MEMBER I.D.   U02U03
 ***** MEMBER PROPERTIES
                          -------------- GROSS SECTION ---------------      ------- NET SECTION ------
  EFFECT  EFFECT    H     AREA      IX       IY     DY     RX     RY      AREA      IX       IY     DY      E(Y)   END   FACT.
  LEN.-X  LEN.-Y                                                                                              COND.
    FT.     FT.    IN.    SQ.IN.  IN**4    IN**4   IN.    IN.    IN.     SQ.IN.  IN**4    IN**4   IN.      IN.

 12.000  12.000  10.31   16.09      241      353   3.91   3.88   4.69    16.09      241      353   3.91    0.00    R    0.8


 ***** MEMBER INFLUENCE LINES

 LOAD  ON         X-DIST (FT.)    0.00   36.00   60.00                  POS AREA     0.00
 LOWER CHORD      Y-ORDINATE      0.00   -1.80    0.00                  NEG AREA    54.00

 LOAD  ON         X-DIST (FT.)    0.00   36.00   60.00                  POS AREA     0.00
 UPPER CHORD      Y-ORDINATE      0.00   -1.80    0.00                  NEG AREA    54.00

 *****       ALLOWABLE STRESS  /  MEMBER CAPACITY  /  AXIAL FORCE ON MEMBER DUE TO DEAD LOAD  /  AVAILABLE CAPACITY FOR LL+IMPACT
---
              TENS      COMP       TENS     COMP                   TENS     COMP                            TENS     COMP
              PSI       PSI        KIPS     KIPS                   KIPS     KIPS                            KIPS     KIPS
 INVENTORY    16000.   13000.      257.4    209.2                           86.4                            343.8    122.8
 OPERATING    22500.   15938.      362.0    256.4                                                           448.4    170.0


 ***** LIVE LOAD AND RATING CALCULATIONS--IMPACT FACTOR = 0.270 (COMP.)  = 0.000 (TENS.)
                ----------- TRUCK LOAD -----------       ----------LANE LOAD-----------            --------- RATING --------
        LIVE    LL+IMP    LL           LOC.NO.  DIR     LL+IMP     LL          LOC CONC           RATING  SAFE LOAD  RATING
        LOAD                           1 WHEEL                                  LOAD               FACT.   CAPACITY  VALUE
                 KIPS     KIPS           FT.             KIPS     KIPS           FT.                        TONS

 INV    HS20 T     0.0      0.0           0.000   `         0.0      0.0           0.000
             C   134.2    105.6          50.560   R        91.6     72.1          36.000             0.915     32.9    HS 18.3

 OPER   HS20 T     0.0      0.0           0.000   `         0.0      0.0           0.000
             C   134.2    105.6          50.560   R        91.6     72.1          36.000             1.267     45.6    HS 25.3


1
                                                  DETAIL TRUSS MEMBER DATA
    DATE 08/07/95                                                                                  D/P STRUCTURE I.D.  D75-085
                                                                                                   TRUSS I.D.   1
                                                                                                   TRUSS MEMBER I.D.   U03L03
 ***** MEMBER PROPERTIES
                          -------------- GROSS SECTION ---------------      ------- NET SECTION ------
  EFFECT  EFFECT    H     AREA      IX       IY     DY     RX     RY      AREA      IX       IY     DY      E(Y)   END   FACT.
  LEN.-X  LEN.-Y                                                                                              COND.
    FT.     FT.    IN.    SQ.IN.  IN**4    IN**4   IN.    IN.    IN.     SQ.IN.  IN**4    IN**4   IN.      IN.

   8.000   8.000   7.31    9.46       20       95   3.65   1.48   3.17     7.27       20       95   3.65    0.00    R    0.8


 ***** MEMBER INFLUENCE LINES

 LOAD  ON         X-DIST (FT.)    0.00   24.00   36.00   60.00                  POS AREA     6.00
 LOWER CHORD      Y-ORDINATE      0.00   -0.40    0.40    0.00                  NEG AREA     6.00

 LOAD  ON         X-DIST (FT.)    0.00   36.00   48.00   60.00                  POS AREA     1.50
 UPPER CHORD      Y-ORDINATE      0.00   -0.60    0.20    0.00                  NEG AREA    13.50

 *****       ALLOWABLE STRESS  /  MEMBER CAPACITY  /  AXIAL FORCE ON MEMBER DUE TO DEAD LOAD  /  AVAILABLE CAPACITY FOR LL+IMPACT
---
              TENS      COMP       TENS     COMP                   TENS     COMP                            TENS     COMP
              PSI       PSI        KIPS     KIPS                   KIPS     KIPS                            KIPS     KIPS
 INVENTORY    16000.   12500.      116.3    118.3                             0.0                           116.3    118.2
 OPERATING    22500.   15375.      163.6    145.4                                                           163.6    145.4
```

***** LIVE LOAD AND RATING CALCULATIONS--IMPACT FACTOR = 0.300 (COMP.) = 0.300 (TENS.)

	LIVE LOAD	TRUCK LOAD LL+IMP KIPS	TRUCK LOAD LL KIPS	LOC.NO. 1 WHEEL FT.	DIR	LANE LOAD LL+IMP KIPS	LANE LOAD LL KIPS	LOC CONC LOAD FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV	HS20 T	25.4	19.5	64.000	R	19.9	15.3	36.000	4.579	164.9	HS 91.6
	C	25.4	19.5	-4.000	L	19.9	15.3	24.000			
OPER	HS20 T	25.4	19.5	64.000	R	19.9	15.3	36.000	6.440	231.8	HS128.8
	C	25.4	19.5	-4.000	L	19.9	15.3	24.000			

1

DETAIL DATA FOR FLEXURAL MEMBER

DATE 08/07/95

D/P STRUCTURE I.D. D75-085
MEMBER I.D.--B01
MATERIAL--SS
LL DIST. FACT. = 12.000

NO. SPANS = 1
NOT SYMMETRICAL

SPAN NO.	LENGTH FT.	RNG. NO.	LENGTH FT.	SEC.NO. LT	SEC.NO. RT	VAR CODE S T P	VAR CODE S T B	DL DUE TO MEM. WEIGHT W(LT) LBS/FT	DL DUE TO MEM. WEIGHT W(RT) LBS/FT
1	25.000	1	25.000	01	01			108.1	108.1

SUPERIMPOSED DISTRIBUTED DL(S) LENGTH DISTRIBUTED*** DIST. FROM LT SUPPORT***

SPAN NO.	W(LT) LBS/FT	W(RT) LBS/FT	* FT.	* FT.

SUPERIMPOSED CONCENTRATED DL(S) DIST. FROM LT SUPPORT****

SPAN NO.	P KIPS	* FT.
1	2.3	0.875
1	3.3	3.458
1	3.3	6.042
1	3.3	8.625
1	3.3	11.208
1	3.3	13.792
1	3.3	16.375
1	3.3	18.958
1	3.3	21.542
1	2.3	24.125

CHECK POINTS RATED--

SPAN NO.	DIS FRM LT SPRT FT.	FUNC M	FUNC VL	FUNC VR	SPAN NO.	DIS FRM LT SPRT FT.	FUNC M	FUNC VL	FUNC VR
1	0.000			X					
1	11.750	X							
1	25.000		X						

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1
                                        DETAIL DATA FOR FLEXURAL MEMBER

     DATE 08/07/95                                                                                  D/P STRUCTURE I.D.  D75-085
                                                                                                   MEMBER I.D.--S01
       NO. SPANS =  1                                                                                MATERIAL--SS

     NOT SYMMETRICAL                                                                                LL DIST. FACT. =  0.574
                                  VAR                    SUPERIMPOSED DISTRIBUTED DL(S)          SUPERIMPOSED CONCENTRATED DL(S)
                                 CODE    DL DUE TO        LENGTH DISTRIBUTED***************       DIST. FROM LT SUPPORT****
                                  S     MEM. WEIGHT       DIST. FROM LT SUPPORT***        *                                  *
 SPAN LENGTH RNG. LENGTH  SEC.NO. T T   W(LT)   W(RT)    SPAN   W(LT)   W(RT)     *       *             SPAN     P       *
  NO.  FT.   NO.    FT.   LT  RT  P B  LBS/FT  LBS/FT     NO.  LBS/FT  LBS/FT    FT.     FT.             NO.   KIPS     FT.
  1   12.000  1   12.000  01  01         31.5    31.5      1    276.0   276.0    0.000   12.000

CHECK POINTS RATED--
                                                    SPAN DIS FRM  FUNC     SPAN DIS FRM  FUNC
                                                     NO. LT SPRT  M VL VR   NO. LT SPRT  M VL VR
                                                           FT.                    FT.

                                                     1    0.000        X
                                                     1    6.000  X
                                                     1   12.000     X



1
                                        DETAIL DATA AT MOMENT CHECK POINT FOR              BARS RELEASE 5.5
                                          STRUCTURAL STEEL FLEXURAL MEMBER
     DATE 08/07/95                                                                                  D/P STRUCTURE I.D.  D75-085
                                                                                                   MEMBER I.D.--B01
                                                                                                   C.P. LOCATION
1.47
 *****  SECTION PROPERTIES IN RANGE  1 OF SPAN  1
                              ---NET AREA---                                  -----------SECTION  MODULUS-----------
                    GROSS      +       -          IX         IX      C        TOP       TOP     BOTTOM    BOTTOM
              H     AREA      BEND    BEND      + BEND     - BEND   (BOT)    + BEND    - BEND    + BEND    - BEND
             IN.   SQ.IN.    SQ.IN.  SQ.IN.      IN**4      IN**4    IN.      IN**3     IN**3     IN**3     IN**3
            0.00   31.77     31.77   31.77     4461.0     4461.0   14.91     299.2     299.2     299.2     299.2

 *****  INFLUENCE LINE (SIMPLE SPAN)                                    *****  ALLOWABLE  *****  MOMENT CAPACITY
                                                                          STRESS              TOP     TOP    BOTTOM  BOTTOM
       X-DIST (FT.)    0.000    11.750    25.000   POS AREA =                                + BEND  - BEND  + BEND  - BEND
       Y-ORDINATE      0.000     1.000     0.000                            PSI            FT-KIPS  FT-KIPS FT-KIPS FT-KIPS
`
                                                                  INVENTORY  17966.8          448.0   448.0   448.0   448.0
 *****  ORDINATES OF AND AREAS UNDER INFLUENCE LINE (CONTINUOUS SPAN)  OPERATING  24500.3     610.9   610.9   610.9   610.9
            SPAN     SPAN     SPAN     SPAN     SPAN     SPAN        POST VEH1      0.0       0.0     0.0     0.0     0.0
      T 0                                                           POST VEH2      0.0       0.0     0.0     0.0     0.0
      E 1                                                           POST VEH3      0.0       0.0     0.0     0.0     0.0
      N 2                                                           POST SPEC      0.0       0.0     0.0     0.0     0.0
      T 3
      H 4                                                           *****  TOTAL DL         *****  AVAIL.CAPAC.FOR LL+IMPACT
        5                                                                MOMENT EFFECT              TOP     TOP     BOT
BOT
      P 6                                                                                        +BEND   -BEND   +BEND   -
BEND
      O 7                                                                 FT-KIPS                F-KPS   F-KPS   F-KPS   F-
KPS
      I 8                                                                   107.2      INVENTORY  340.7   555.2   340.7
555.2
      N 9                                                                             OPERATING  503.6   718.1   503.6
718.1
      T 0                                                     AREA                    VEH. 1       0.0     0.0     0.0
0.0
                                                             TOTALS                   VEH. 2       0.0     0.0     0.0
0.0
   POS AREA      0.0      0.0      0.0      0.0      0.0      0.0      0.0           VEH. 3       0.0     0.0     0.0
0.0
   NEG AREA      0.0      0.0      0.0      0.0      0.0      0.0      0.0           SPECIAL      0.0     0.0     0.0
0.0

 *****  LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = 0.300 FOR +BEND AND = 0.000 FOR -BEND)
               ---------TRUCK LOAD----------------   -------LANE LOAD-------
      LIVE      LL+IMP    LL     LOC.NO.  DIR   AXLE   LL+IMP    LL    LOC.CONC  LOC.CONC          RATING  SAFE LOAD  RATING
      LOAD                       1 WHEEL        SPACE                     LOAD      LOAD 2            FACT.   CAPACITY   VALUE
                FT-KIPS FT-KIPS    FT.          FT.   FT-KIPS FT-KIPS    FT.       FT.                        TONS
 INV  HS20 +BEND   330.9   254.6    0.000   R    0.0      0.0     0.0    0.000                      1.030      37.1   HS 20.6
`
           -BEND     0.0     0.0    0.000   R    0.0      0.0     0.0    0.000      0.000

 OPER HS20 +BEND   330.9   254.6    0.000   R    0.0      0.0     0.0    0.000                      1.522      54.8   HS 30.4
`
           -BEND     0.0     0.0    0.000   R    0.0      0.0     0.0    0.000      0.000

 POST      +BEND     0.0     0.0    0.000                                                          0.000       0.0
           -BEND     0.0     0.0    0.000

 POST      +BEND     0.0     0.0    0.000                                                          0.000       0.0
           -BEND     0.0     0.0    0.000

 POST      +BEND     0.0     0.0    0.000                                                          0.000       0.0
           -BEND     0.0     0.0    0.000

 POST SPEC +BEND     0.0     0.0    0.000                                                          0.000       0.0
           -BEND     0.0     0.0    0.000
1
                                        DETAIL DATA AT MOMENT CHECK POINT FOR              BARS RELEASE 5.5
                                          STRUCTURAL STEEL FLEXURAL MEMBER
     DATE 08/07/95                                                                                  D/P STRUCTURE I.D.  D75-085
                                                                                                   MEMBER I.D.--S01
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                                                                                                    C.P. LOCATION
1.50
 *****  SECTION PROPERTIES IN RANGE  1 OF SPAN  1
                              ---NET AREA---                                   -----------SECTION  MODULUS-----------
                  GROSS        +        -          IX          IX        C        TOP        TOP      BOTTOM     BOTTOM
             H    AREA       BEND     BEND       + BEND      - BEND    (BOT)    + BEND     - BEND    + BEND     - BEND
            IN.  SQ.IN.     SQ.IN.  SQ.IN.       IN**4       IN**4     IN.      IN**3      IN**3     IN**3      IN**3
            0.00   9.26       9.26    9.26       215.8       215.8     5.99       36.0       36.0      36.0       36.0

 *****  INFLUENCE LINE (SIMPLE SPAN)                                           *****  ALLOWABLE  *****  MOMENT CAPACITY
                                                                                         STRESS                TOP      TOP     BOTTOM  BOTTOM
       X-DIST (FT.)     0.000     6.000     12.000   POS AREA =                                             + BEND  - BEND  + BEND  - BEND
       Y-ORDINATE       0.000     3.000      0.000                                      PSI           FT-KIPS   FT-KIPS FT-KIPS FT-KIPS
`
                                                                               INVENTORY  16000.0            48.0     48.0     48.0     48.0
 *****  ORDINATES OF AND AREAS UNDER INFLUENCE LINE (CONTINUOUS SPAN)  OPERATING  22500.0            67.5     67.5     67.5     67.5
             SPAN      SPAN      SPAN      SPAN      SPAN      SPAN            POST VEH1      0.0             0.0      0.0      0.0      0.0
      T 0                                                                      POST VEH2      0.0             0.0      0.0      0.0      0.0
      E 1                                                                      POST VEH3      0.0             0.0      0.0      0.0      0.0
      N 2                                                                      POST SPEC      0.0             0.0      0.0      0.0      0.0
      T 3


      H 4                                                                      *****  TOTAL DL        *****  AVAIL.CAPAC.FOR LL+IMPACT
        5                                                                             MOMENT EFFECT              TOP      TOP      BOT
BOT
      P 6                                                                                                      +BEND    -BEND    +BEND    -
BEND
      O 7                                                                               FT-KIPS                F-KPS    F-KPS    F-KPS    F-
KPS
      I 8                                                                                   5.5      INVENTORY    42.5     53.5     42.5
53.5
      N 9                                                                                            OPERATING    62.0     73.0     62.0
73.0
      T 0                                                                    AREA                    VEH. 1        0.0      0.0      0.0
0.0
                                                                            TOTALS                   VEH. 2        0.0      0.0      0.0
0.0
   POS AREA      0.0       0.0       0.0       0.0       0.0       0.0       0.0                       VEH. 3        0.0      0.0      0.0
0.0
   NEG AREA      0.0       0.0       0.0       0.0       0.0       0.0       0.0                       SPECIAL       0.0      0.0      0.0
0.0

 *****  LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = 0.300 FOR +BEND AND = 0.300 FOR -BEND)
                  ---------TRUCK LOAD----------------   -------LANE LOAD-------
      LIVE         LL+IMP   LL      LOC.NO.  DIR   AXLE   LL+IMP    LL     LOC.CONC  LOC.CONC          RATING  SAFE LOAD  RATING
      LOAD                          1 WHEEL        SPACE                    LOAD      LOAD 2            FACT.   CAPACITY   VALUE
                  FT-KIPS FT-KIPS    FT.            FT.   FT-KIPS FT-KIPS    FT.        FT.                       TONS
 INV  HS20 +BEND     35.8     27.6   -8.000   L    0.0     24.4    18.8    6.000                       1.186      42.7   HS 23.7
`
           -BEND      0.0      0.0    0.000   L    0.0      0.0     0.0    0.000      0.000

 OPER HS20 +BEND     35.8     27.6   -8.000   L    0.0     24.4    18.8    6.000                       1.730      62.3   HS 34.6
`
           -BEND      0.0      0.0    0.000   L    0.0      0.0     0.0    0.000      0.000

 POST      +BEND      0.0      0.0    0.000                                                            0.000       0.0
           -BEND      0.0      0.0    0.000

 POST      +BEND      0.0      0.0    0.000                                                            0.000       0.0
           -BEND      0.0      0.0    0.000

 POST      +BEND      0.0      0.0    0.000                                                            0.000       0.0
           -BEND      0.0      0.0    0.000

 POST SPEC +BEND      0.0      0.0    0.000                                                            0.000       0.0
           -BEND      0.0      0.0    0.000
1
                                                      SUMMARY OF SHEAR ANALYSIS
     DATE 08/07/95                                                                                D/P STRUCTURE I.D.  D75-085

                                        ---INVENTORY---  ---OPERATING---  --VEH. 1 --  --VEH. 2 --  --VEH. 3 --  --SPECIAL--
 MEMB.      SPAN DIS FRM L   DL    SDL    LL+I T  LL+I T   LL+I T  LL+I T   LL+I  LL+I   LL+I  LL+I   LL+I  LL+I   LL+I  LL+I
  ID  MATL  NO. LT SPRT R  SHEAR SHEAR  MAX.V L MIN.V L  MAX.V L MIN.V L  MAX.V MIN.V  MAX.V MIN.V  MAX.V MIN.V  MAX.V MIN.V
                   FT.      KIPS  KIPS   KIPS     KIPS    KIPS     KIPS    KIPS  KIPS   KIPS  KIPS   KIPS  KIPS   KIPS  KIPS

  B01  SS     1     0.000 R    1.4  15.5   51.6 T   0.0 T   51.6 T   0.0 T
              1    25.000 L   -1.4 -15.5    0.0 T -51.6 T    0.0 T -51.6 T

  S01  SS     1     0.000 L    0.2   1.7   11.9 T   0.0 T   11.9 T   0.0 T
              1     6.000 L    0.0   0.0    6.0 T   6.0 T    6.0 T   6.0 T
              1    12.000 L    0.2   1.7    0.0 T  12.1 T    0.0 T  12.1 T
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